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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

IDC 01 00:13:03.6±2.2,7°05S×129°43E,h0km,mb3.7/1, mb1 3.6/3,mb1mx3.4/15,mbtmp3.4/3,Error ellipse: s-maj=142.5km s-min=31.7km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.67**	**160**	Pn	Pn	00 16 18.3	-0.7
	baz=342,slow=13						
WRA				Sn	Sn	00 18 39.8	-12
	0.5nm,0.3s,baz=338,slow=22,SNR=5.1						
ASAR	**Alice Springs**	**17.07**	**166**	P	Pn	00 17 04.5	+0.5
	baz=345,slow=11						
ASAR				S	Sn	00 20 03.0	-12
	0.1nm,0.3s,baz=338,slow=20,SNR=4.5						
MKAR	**Makanchi Array**	**67.96**	**327**	P	P	00 24 04.5	0.0
	0.4nm,0.5s,baz=126,slow=7.6,SNR=7.6						

*ISK **01** 00:21:32.0,40°35N×25°77E,h4km,MD2.5*
*ATH **01** 00:21:32.8,40°39N×25°77E,h28km±1km,MD3.1/6*
*CSEM **01** 00:21:32.9±0.2,40°38N×25°75E,h8km,MD2.5,Error ellipse: s-maj=4.7km s-min=3.8km az=93.0*
*ISCJB **01** 00:21:32.0±0.8,40°39N±0°02×25°70E±0°05,h8km±5km, Error ellipse: s-maj=6.3km s-min=4.1km az=171.6*
*DDA **01** 00:21:34.6,40°37N×25°94E,h7km,MD2.8*
ISC 01 00:21:33.2±1.0,40°38N±0°02×25°77E±0°03,h12km±9km, n31,σ0°949/54,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.46**	**39**	*e*PG	**Pg**	**00 21 41.5**	**-0.8**
ENEZ				*e*SG	**Sb**	**00 21 49.7**	**-0.4**
ENEZ	**Enez**	**0.46**	**39**	*e*Pg	**Pg**	**00 21 41.5**	**-0.8**
ENEZ				*e*Sg	**Sb**	**00 21 49.7**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.54**	**87**	*e*PG	**Pg**	**00 21 43.8**	**+0.1**
GELI				*e*SG	**Sg**	**00 21 51.4**	**+0.6**
GELI	**Tayfur-Gelibol**	**0.54**	**87**	*e*Pg	**Pg**	**00 21 43.8**	**+0.1**
GELI				*e*Sg	**Sg**	**00 21 51.4**	**+0.6**
ALN	**Alexandroupoli**	**0.56**	**22**	*e*PN	**Pg**	**00 21 44.2**	**0.0**
ALN				*e*SN	**Sg**	**00 21 51.7**	**+0.1**
ALN	**Alexandroupoli**	**0.56**	**22**	*e*Pn	**Pg**	**00 21 44.2**	**0.0**
ALN				*e*Sn	**Sg**	**00 21 51.7**	**+0.1**
BOZC	**Bozcaada**	**0.57**	**158**	*i* P	**Pg**	**00 21 44.7**	**+0.3**
BOZC				*i* S	**Sg**	**00 21 52.7**	**+0.7**
ERIK	**Erikli-Kesan**	**0.64**	**62**	*e*PG	**Pg**	**00 21 45.3**	**-0.3**
ERIK				*e*SG	**Sg**	**00 21 54.0**	**0.0**
ERIK	**Erikli-Kesan**	**0.64**	**62**	*e*Pg	**Pg**	**00 21 45.3**	**-0.3**
ERIK				*e*Sg	**Sg**	**00 21 54.0**	**0.0**
LIA	**Limnos Island**	**0.66**	**224**	*e*PN	**Pb**	**00 21 46.5**	**-0.1**
LIA				*e*SN	**Sb**	**00 21 55.9**	**+0.2**
LIA	**Limnos Island**	**0.66**	**224**	*e*Pn	**Pb**	**00 21 46.5**	**-0.1**
LIA				*e*Sn	**Sb**	**00 21 55.9**	**+0.2**
EZN	**Ezine**	**0.69**	**142**	*e*PG	**Pg**	**00 21 44.8**	**-1.9**
EZN				*e*SG	**Sg**	**00 21 55.7**	**0.0**
EZN	**Ezine**	**0.69**	**142**	*e*Pg	**Pg**	**00 21 44.8**	**-1.9**
EZN				*e*Sg	**Sg**	**00 21 55.7**	**0.0**
RDO	**Rodhopi**	**0.79**	**347**	*e*PN	**Pg**	**00 21 48.4**	**-0.1**
RDO				*e*SN	**Sg**	**00 21 59.0**	**+0.1**
RDO	**Rodhopi**	**0.79**	**347**	*e*Pn	**Pg**	**00 21 48.4**	**-0.1**
RDO				*e*Sn	**Sg**	**00 21 59.0**	**+0.1**
PRK	**Paraskevi**	**1.19**	**161**	*e*PN	**Pb**	**00 21 56.0**	**+0.3**
PRK				*e*SN	**Sg**	**00 22 11.7**	**+0.1**
PRK	**Paraskevi**	**1.19**	**161**	*e*Pn	**Pb**	**00 21 56.0**	**+0.3**
PRK				*e*Sn	**Sg**	**00 22 11.7**	**+0.1**
MFT	**Murefte**	**1.22**	**70**	*e*PN	**Pn**	**00 21 56.4**	**+0.2**
MFT	**Murefte**	**1.22**	**70**	*e*Pn	**Pn**	**00 21 56.4**	**+0.2**
AYVA	**Ayvalik**	**1.28**	**146**	*i* P	**Pg**	**00 21 57.8**	**0.0**
AYVA				*i* S	**Sb**	**00 22 13.8**	**+0.2**
AYVA	**Ayvalik**	**1.28**	**146**	*i* P	**Pg**	**00 21 57.8**	**0.0**
AYVA				*i* S	**Sb**	**00 22 13.8**	**+0.2**
GONE	**Gonen-Balikesi**	**1.50**	**102**	*e*PN	**Pb**	**00 22 01.2**	**+0.2**
GONE	**Gonen-Balikesi**	**1.50**	**102**	*e*Pn	**Pb**	**00 22 01.2**	**+0.2**
BALY	**Balya**	**1.55**	**114**	*i* P	**Pb**	**00 22 01.9**	**0.0**
BALY				*i* S	**Sb**	**00 22 21.6**	**+0.1**
BALY	**Balya**	**1.55**	**114**	*i* P	**Pb**	**00 22 01.9**	**0.0**
BALY				*i* S	**Sb**	**00 22 21.6**	**+0.1**
EDRB	**Edirne**	**1.64**	**26**	*e*PN	**Pb**	**00 22 03.6**	**+0.2**
EDRB	**Edirne**	**1.64**	**26**	*e*Pn	**Pb**	**00 22 03.6**	**+0.2**
NVR	**Nevrokopi**	**1.75**	**305**	*e*PN	**Pn**	**00 22 03.7**	**+0.3**
NVR				*e*SN	**Sn**	**00 22 25.0**	**-0.6**
NVR	**Nevrokopi**	**1.75**	**305**	*e*Pn	**Pn**	**00 22 03.7**	**+0.3**
NVR				*e*Sn	**Sn**	**00 22 25.0**	**-0.6**
CHOS	**Chios island**	**2.00**	**174**	*e*PN	**Pn**	**00 22 07.1**	**+0.3**
CHOS	**Chios island**	**2.00**	**174**	*e*Pn	**Pn**	**00 22 07.1**	**+0.3**

*ISK **01** 00:39:34.5,38°28N×28°69E,h10km,MD2.8*
*DDA **01** 00:39:34.9,38°31N×28°67E,h8km,MD3.0*
*CSEM **01** 00:39:34.9±0.2,38°28N×28°68E,h5km,MD3.0,Error ellipse: s-maj=4.2km s-min=3.6km az=38.0*
*ISCJB **01** 00:39:35.0±0.5,38°30N±0°03×28°68E±0°04,h8km±5km, Error ellipse: s-maj=5.0km s-min=3.8km az=142.6*
ISC 01 00:39:35.0±1.0,38°30N±0°02×28°66E±0°03,h10km±8km, n30,σ0°932/50,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.21**	**338**	*i* P	**Pg**	**00 39 39.5**	**0.0**
MANT				*i* S	**Sg**	**00 39 42.4**	**-0.1**
MANT	**Manisa**	**0.21**	**338**	*i* P	**Pg**	**00 39 39.5**	**0.0**
MANT				*i* S	**Sg**	**00 39 42.4**	**-0.1**
KHAL	**Karahalli**	**0.66**	**83**	*i* P	**Pg**	**00 39 47.7**	**-0.1**
KHAL				*i* S	**Sg**	**00 39 56.6**	**+0.1**
KHAL	**Karahalli**	**0.66**	**83**	*i* P	**Pg**	**00 39 47.7**	**-0.1**
KHAL				*i* S	**Sg**	**00 39 56.6**	**+0.1**
DNZL	**Cakiroluk**	**0.68**	**153**	*i* P	**Pg**	**00 39 48.1**	**0.0**
DNZL				*i* S	**Sb**	**00 39 58.8**	**+0.2**
DNZL	**Cakiroluk**	**0.68**	**153**	*i* P	**Pg**	**00 39 48.1**	**0.0**
DNZL				*i* S	**Sb**	**00 39 58.8**	**+0.2**
KHL	**Karahalli**	**0.68**	**87**	*e*PG	**Pg**	**00 39 48.0**	**-0.2**
KHL				*e*SG	**Sg**	**00 39 57.1**	**0.0**
KHL	**Karahalli**	**0.68**	**87**	*e*Pg	**Pg**	**00 39 48.0**	**-0.2**
KHL				*e*Sg	**Sg**	**00 39 57.1**	**0.0**
DEMI	**Demirci**	**0.75**	**4**	*i* P	**Pg**	**00 39 49.1**	**-0.4**
DEMI				*i* S	**Sb**	**00 40 00.4**	**-0.1**
DEMI	**Demirci**	**0.75**	**4**	*i* P	**Pg**	**00 39 49.1**	**-0.4**
DEMI				*i* S	**Sb**	**00 40 00.4**	**-0.1**
AKHS	**Akhisar**	**0.88**	**312**	*i* P	**Pg**	**00 39 51.8**	**-0.2**
AKHS				*i* S	**Sb**	**00 40 04.6**	**+0.3**
AKHS	**Akhisar**	**0.88**	**312**	*i* P	**Pg**	**00 39 51.8**	**-0.2**
AKHS				*i* S	**Sb**	**00 40 04.6**	**+0.3**
AKS	**Akhisar**	**0.88**	**312**	*e*PG	**Pb**	**00 39 52.5**	**+0.1**
AKS				*e*SG	**Sn**	**00 40 05.7**	**-0.7**
AKS	**Akhisar**	**0.88**	**312**	*e*Pg	**Pb**	**00 39 52.5**	**+0.1**
AKS				*e*Sg	**Sn**	**00 40 05.7**	**-0.7**
AYDN	**Tasoluk**	**0.88**	**224**	*i* P	**Pg**	**00 39 51.4**	**-0.6**
AYDN				*i* S	**Sb**	**00 40 05.1**	**+0.7**
AYDN	**Tasoluk**	**0.88**	**224**	*i* P	**Pg**	**00 39 51.4**	**-0.6**
AYDN				*i* S	**Sb**	**00 40 05.1**	**+0.7**
YER	**Yerkesik**	**1.20**	**194**	*e*PN	**Pg**	**00 39 57.5**	**-0.4**
YER				*e*SN	**Sn**	**00 40 14.3**	**+0.1**
YER	**Yerkesik**	**1.20**	**194**	*e*Pn	**Pg**	**00 39 57.6**	**-0.4**
YER				*e*Sn	**Sn**	**00 40 14.3**	**+0.1**
BLCB	**Balcova**	**1.27**	**275**	*e*PN	**Pb**	**00 39 59.1**	**0.0**
BLCB	**Balcova**	**1.27**	**275**	*e*Pn	**Pb**	**00 39 59.1**	**0.0**
DST	**Dursunbey**	**1.31**	**359**	*e*PN	**Pn**	**00 39 59.2**	**-0.2**
DST	**Dursunbey**	**1.31**	**359**	*e*Pn	**Pn**	**00 39 59.2**	**-0.2**
ALT	**Altintas**	**1.37**	**56**	*e*PN	**Pn**	**00 40 00.3**	**0.0**
ALT	**Altintas**	**1.37**	**56**	*e*Pn	**Pn**	**00 40 00.3**	**0.0**
BALB	**Balikesir**	**1.47**	**336**	*e*PN	**Pn**	**00 40 01.9**	**+0.3**
BALB	**Balikesir**	**1.47**	**336**	*e*Pn	**Pn**	**00 40 01.9**	**+0.3**
SHUT	**Suhut-Afyon**	**1.51**	**80**	*e*PN	**Pn**	**00 40 02.4**	**+0.1**
SHUT	**Suhut-Afyon**	**1.51**	**80**	*e*Pn	**Pn**	**00 40 02.4**	**+0.1**
BALY	**Balya**	**1.65**	**331**	*i* P	**Pg**	**00 40 07.1**	**+0.4**
BALY				*i* S	**Sb**	**00 40 26.9**	**+0.4**
BALY	**Balya**	**1.65**	**331**	*i* P	**Pg**	**00 40 07.1**	**+0.4**
BALY				*i* S	**Sb**	**00 40 26.9**	**+0.4**

*CSEM **01** 00:42:18.3,40°69N×30°60E,h26km,MD2.5,After ISK*
ISK 01 00:42:18.3,40°69N×30°60E,h26km,MD2.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPNC	**Sapanca-Adapaz**	**0.22**	**270**	*e*PG	Pb	00 42 24.6	+0.3
SPNC				*e*SG	Sb	00 42 29.4	+1.0
SPNC	**Sapanca-Adapaz**	**0.22**	**270**	*e*Pg	Pb	00 42 24.6	+0.3
SPNC				*e*Sg	Sb	00 42 29.4	+1.0
GULT	**Gulveren**	**0.26**	**194**	*e*PG	Pn	00 42 25.8	-0.8
GULT				*e*SG	Sb	00 42 30.3	+0.7
GULT	**Gulveren**	**0.26**	**194**	*e*Pg	Pn	00 42 25.8	-0.8
GULT				*e*Sg	Sb	00 42 30.3	+0.8
GPA	**Golpazari**	**0.45**	**209**	*e*PG	Pb	00 42 27.9	0.0
GPA				*e*SG	Sn	00 42 35.7	-0.8
GPA	**Golpazari**	**0.45**	**209**	*e*Pg	Pb	00 42 27.9	0.0
GPA				*e*Sg	Sn	00 42 35.7	-0.8
MDUB	**Mudurnu**	**0.51**	**115**	*e*PG	Pn	00 42 29.5	-0.5
MDUB				*e*SG	Sn	00 42 37.1	-0.9
MDUB	**Mudurnu**	**0.51**	**115**	*e*Pg	Pn	00 42 29.5	-0.5
MDUB				*e*Sg	Sn	00 42 37.1	-0.9
ADVT	**Abdulvahap**	**0.70**	**249**	*e*PG	Pn	00 42 32.6	+0.1
ADVT	**Abdulvahap**	**0.70**	**249**	*e*Pg	Pn	00 42 32.6	+0.1
YLV	**Yalova**	**0.94**	**263**	*e*PG	Pb	00 42 36.4	+0.3
YLV	**Yalova**	**0.94**	**263**	*e*Pg	Pb	00 42 36.4	+0.4
ARMT	**Armutlu**	**1.33**	**265**	*e*PN	Pn	00 42 41.3	+0.2
ARMT	**Armutlu**	**1.33**	**265**	*e*Pn	Pn	00 42 41.3	+0.1

*IDC **01** 00:42:39.7±1.1,30°25S×118°32E,h0km,mb3.7/4, mb1 4.1/8,mb1mx3.9/17,mbtmp4.0/8,ML4.1/3,Error ellipse: s-maj=36.0km s-min=23.3km az=114.0*
ISC 01 00:42:39.5±2.0,30°29S±0°07×118°30E±0°07,h5km±13km, n18,σ1°979/21,mb3.9/4,1C-2D,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLBR	**Kellerberrin**	**1.38**	**200**	⇑ *i*P	**Pg**	**00 43 06.0**	**0.0**
KLBR				*e*S	**Sb**	**00 43 23.0**	**-0.8**
	796nm,0.2s						
BLDU	**Ballidu**	**1.41**	**256**	⇓ *i*P	Pn	00 42 59.4	-6.4
BLDU				*e*S	Sb	00 43 11.9	-13
BLDU				*e*RG	Rg	00 43 19.0	
MORW	**Morawa**	**2.31**	**301**	⇓ *i*P	Pn	00 43 13.5	-4.7
MORW				*e*S	Sn	00 43 37.8	-9.2
	3μm,0.3s						
NWAO	**Narrogin (SRO)**	**2.79**	**199**	Pn	**Pn**	**00 43 24.9**	**+0.2**
	6.3nm,0.3s,baz=19,slow=15,SNR=54						
NWAO				Sn	**Sn**	**00 43 55.7**	**-3.0**
	54nm,0.3s,baz=93,slow=21,SNR=21						
NWAO				Lg	Lg	00 44 03.1	
	52nm,0.3s,baz=99,slow=21,SNR=29						
KMBL	**Kambalda**	**3.27**	**110**	*e*P	**Pb**	**00 43 37.3**	**-0.7**
KMBL				*e*S	**Sb**	**00 44 17.2**	**-0.9**
	231nm,0.6s						
MEEK	**Meekatharra**	**3.65**	**4**	*e*P	**Pn**	**00 43 37.6**	**+1.0**
MEEK				*e*S	**Sn**	**00 44 17.5**	**-2.6**
	377nm,0.4s						
RKGY	**Rocky Gully**	**4.45**	**194**	*e*P	**Pn**	**00 43 48.4**	**+0.7**
RKGY				*e*S	**Sn**	**00 44 37.6**	**-2.3**
	28nm,0.2s						
MBWA	**Marble Bar**	**9.18**	**8**	*e*P	**Pn**	**00 44 50.2**	**-2.4**
MBWA				*e*S	Sn	00 46 26.0	-10
FITZ	**Fitzroy Crossi**	**13.85**	**31**	Pn	**Pn**	**00 45 56.8**	**+0.3**
	1.2nm,0.3s,baz=220,slow=10,SNR=21						
FITZ				Sn	Sn	00 48 21.1	-10
	0.5nm,0.3s,baz=123,slow=21,SNR=7.2						
ASAR	**Alice Springs**	**15.39**	**68**	Pn	**Pn**	**00 46 17.5**	**+0.1**
	0.8nm,0.3s,baz=241,slow=10,SNR=51						
ASAR				Sn	Sn	00 48 59.6	-8.8
	0.2nm,0.3s,baz=246,slow=21,SNR=4.6						
WRA	**Warramunga Arr**	**17.79**	**58**	P	**Pn**	**00 46 47.0**	**-0.9**
	0.5nm,0.3s,baz=231,slow=13,SNR=25						
WRA				S	Sn	00 49 55.0	-12
	0.1nm,0.3s,baz=235,slow=26,SNR=3.2						
STKA	**Stephens Creek**	**20.01**	**101**	P	**Pn**	**00 47 14.4**	**-0.5**
	5.2nm,0.9s,baz=274,slow=18,SNR=2.2						
CTA	**Charters Tower**	**27.20**	**75**	P	**P**	**00 48 28.4**	**+4.2**
	8.0nm,0.7s,baz=261,slow=13,SNR=5.9						
QSPA	**South Pole Qui**	**59.82**	**180**	P	**P**	**00 52 47.2**	**+1.6**
	0.7nm,0.7s,baz=39,slow=14,SNR=4.3						
SONM	**Songino Array**	**78.50**	**352**	P	**P**	**00 54 42.1**	**+0.6**
	0.5nm,0.6s,baz=162,slow=6.1,SNR=3.0						
KURBB	**Kurchatov Arra**	**87.90**	**336**	P	**P**	**00 55 30.6**	**+0.9**
	0.1nm,0.3s,baz=157,slow=4.0,SNR=2.6						
TXAR	**Lajitas Array**	**143.72**	**81**	PKP	**PKPdf**	**01 02 15.2**	**-0.9**
	0.5nm,1.0s,baz=258,slow=4.5,SNR=3.8						
ULM	**Lac du Bonnet**	**147.58**	**42**	PKPbc	**PKPab**	**01 02 25.7**	**-1.0**
	0.9nm,0.5s,baz=288,slow=3.2,SNR=5.1						

*LDG **01** 00:57:03.6±0.3,38°70N×20°49E,h10km,Mb4.9/36, Ms3.4/6,Error ellipse: s-maj=13.7km s-min=6.7km az=28.0*
*IDC **01** 00:57:04.7±0.4,38°56N×20°39E,h0km,mb4.5/28, mb1 4.6/39,mb1mx4.6/41,mbtmp4.5/39,ML4.3/10, MS3.8/21,Ms1 3.9/21,ms1mx3.7/43,Error ellipse: s-maj=11.4km s-min=9.4km az=123.0*
*SZGRF **01** 00:57:04.2,38°13N×20°32E,h33km,Greece*
*ISCJB **01** 00:57:06.0±0.3,38°58N±0°01×20°26E±0°01,h16km±2km, mb4.7/110,MS4.0/26,Error ellipse: s-maj=2.0km s-min=1.4km az=31.4*
*BJI **01** 00:57:07.7,38°50N×20°40E,h31km,mB5.1/21,mb4.7/28, Ms4.9/14,Ms7 4.6/16*
*MOS **01** 00:57:07.0±1.2,38°59N×20°28E,h24km,mb4.8/57, MS3.9/30,Error ellipse: s-maj=4.7km s-min=2.8km az=85.0*
*THE **01** 00:57:07.8,38°52N×20°34E,h7km,ML4.9/18,Error ellipse: s-maj=1.3km s-min=0.5km az=255.0*
*ATH **01** 00:57:07.7,38°51N×20°43E,h22km,ML4.8*
*HLW **01** 00:57:07.2,38°56N×20°75E,h33km±26km,Md4.2,Ml4.7*
*NEIC **01** 00:57:07.6,38°51N×20°42E,h22km,mb4.8/48, ML4.8(ATH),After ATH.*
NEIC Felt at Nidhirion.
*CSEM **01** 00:57:07.8±0.1,38°53N×20°29E,h20km,mb4.7/40,Ms4.1, Mw4.5,Error ellipse: s-maj=2.9km s-min=1.9km az=39.0*
*BEO **01** 00:57:08.4±0.6,38°60N×20°03E,h16km±14km,ML4.9/1*
*PDG **01** 00:57:10.1±0.4,38°91N×20°19E,h2km±3km,MD4.9/10, ML4.9/10,Error ellipse: s-maj=3.8km s-min=2.8km az=90.0*
*TEH **01** 00:57:11.0,38°56N×20°37E,h35km,ML4.7*
ISC 01 00:57:07.3±0.5,38°52N±0°01×20°26E±0°01,h16km±2km, n1154,σ1°938/1279,mb4.7/110,MS4.1/26,122C-111D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.41**	**49**	P	**Pg**	**00 57 14.7**	**-1.0**
LKD2				S	**Sb**	**00 57 20.6**	**-1.6**
LKD2	**Lefkada island**	**0.41**	**49**	P	**Pg**	**00 57 14.7**	**-1.0**
LKD2				S	**Sb**	**00 57 20.6**	**-1.6**
LKD2	**Lefkada island**	**0.41**	**49**	*e*PB	**Pg**	**00 57 14.8**	**-1.0**
LKD2				*e*SB	**Sb**	**00 57 20.9**	**-1.3**
LKD2	**Lefkada island**	**0.41**	**49**	P	**Pg**	**00 57 14.7**	**-1.0**
LKD2				S	**Sb**	**00 57 20.6**	**-1.6**
VLS	**Valsamata**	**0.43**	**143**	P	**Pg**	**00 57 15.3**	**-0.6**
VLS				S	**Sb**	**00 57 21.3**	**-1.2**
VLS	**Valsamata**	**0.43**	**143**	P	**Pg**	**00 57 15.3**	**-0.6**
VLS				S	**Sb**	**00 57 21.3**	**-1.2**
VLS	**Valsamata**	**0.43**	**143**	P	**Pg**	**00 57 15.3**	**-0.6**
VLS				S	**Sb**	**00 57 21.3**	**-1.2**
VLS	**Valsamata**	**0.43**	**143**	*e*PB	**Pg**	**00 57 15.4**	**-0.5**
VLS				*e*SB	**Sb**	**00 57 21.6**	**-0.9**
VLS	**Valsamata**	**0.43**	**143**	P	**Pg**	**00 57 15.3**	**-0.6**
KFL	**Anninata**	**0.58**	**134**	P	**Pg**	**00 57 17.7**	**-1.0**
KFL				S	**Sb**	**00 57 26.2**	**-0.8**
KFL	**Anninata**	**0.58**	**134**	P	**Pg**	**00 57 17.7**	**-1.0**
KFL				S	**Sb**	**00 57 26.2**	**-0.8**
RGA	**Parga**	**0.81**	**5**	P	**Pb**	**00 57 23.0**	**+0.1**
RGA				S	**Sb**	**00 57 35.2**	**+1.6**
RGA	**Parga**	**0.81**	**5**	P	**Pb**	**00 57 23.0**	**+0.1**
RGA				S	**Sb**	**00 57 35.2**	**+1.6**
IGT	**Igoumenitsa**	**1.02**	**3**	P	**Pg**	**00 57 26.5**	**-0.5**
IGT				S	**Sn**	**00 57 41.8**	**+1.0

TIR	Tirane	2.84	354	eP	Pn	00 57 53.4 +1.5
PTL	Penteli	2.87	98	P	Pn	00 57 53.1 +0.7
PTL	Penteli	2.87	98	P	Pn	00 57 53.1 +0.7
PTL	Penteli	2.87	98	ePN	Pn	00 57 52.7 +0.3
PTL				eSN	Sn	00 58 25.5 -1.1
PTL	Penteli	2.87	98	ePn	Pn	00 57 52.7 +0.3
PTL	Penteli	2.87	98	P	Pn	00 57 53.1 +0.7
PTL				eSn	Sn	00 58 25.5 -1.1
AOS	Alonnisos	2.90	76	P	Pn	00 57 53.0 +0.3
AOS	Alonnisos	2.90	76	P	Pn	00 57 53.0 +0.3
AOS	Alonnisos	2.90	76	P	Pn	00 57 53.0 +0.3
GRG	Griva	2.94	33	P	Pn	00 57 53.8 +0.5
GRG				S	Sn	00 58 30.3 +2.0
GRG	Griva	2.94	33	P	Pn	00 57 53.8 +0.5
GRG				S	Sn	00 58 30.3 +2.0
GRG	Griva	2.94	33	P	Pn	00 57 53.8 +0.5
GRG				S	Sn	00 58 30.3 +2.0
GRG	Griva	2.94	33	P	Pn	00 57 53.8 +0.5
GRG				S	Sn	00 58 30.3 +2.0
THE	Thessaloniki	2.97	44	P	Pn	00 57 54.4 +0.7
THE				S	Sn	00 58 30.6 +1.7
THE	Thessaloniki	2.97	44	P	Pn	00 57 54.4 +0.7
THE				S	Sn	00 58 30.6 +1.7
THE	Thessaloniki	2.97	44	P	Pn	00 57 54.4 +0.7
THE				S	Sn	00 58 30.6 +1.7
THE	Thessaloniki	2.97	44	P	Pn	00 57 54.4 +0.7
THE				S	Sn	00 58 30.6 +1.7
HORT	Hortiatis	3.02	46	P	Pn	00 57 54.7 +0.2
HORT				S	Sn	00 58 32.6 +2.3
HORT	Hortiatis	3.02	46	P	Pn	00 57 54.7 +0.2
HORT				S	Sn	00 58 32.6 +2.3
HORT	Hortiatis	3.02	46	P	Pn	00 57 54.7 +0.2
HORT				S	Sn	00 58 32.6 +2.3
TAR1	Taranto	3.06	312	*i* Pn	Pn	00 57 56.1 +1.3
PLG	Polygyros	3.08	52	P	Pn	00 57 55.3 0.0
PLG	Polygyros	3.08	52	P	Pn	00 57 55.3 0.0
PLG	Polygyros	3.08	52	P	Pn	00 57 55.3 0.0
PLG	Polygyros	3.08	52	ePN	Pn	00 57 55.4 +0.1
PLG	Polygyros	3.08	52	ePn	Pn	00 57 55.4 +0.1
KYTH	Kithira	3.14	134	ePN	Pn	00 57 57.3 +1.3
KYTH	Kithira	3.14	134	ePn	Pn	00 57 57.3 +1.3
PHP	Peshkopia	3.17	2	*i* PN	Pn	00 57 58.2 +1.7
PHP				*i* SN	Sn	00 58 26.0 -7.9
PHP	Peshkopia	3.17	2	*i* Pn	Pn	00 57 58.2 +1.7
MRMA	Marmari	3.27	97	P	Pn	00 57 58.5 +0.7
MRMA	Marmari	3.27	97	P	Pn	00 57 58.5 +0.7
SOH	Sokhos	3.32	45	P	Pn	00 57 59.2 +0.7
SOH				S	Sn	00 58 38.1 +0.6
SOH	Sokhos	3.32	45	P	Pn	00 57 59.2 +0.7
SOH				S	Sn	00 58 38.1 +0.6
SOH	Sokhos	3.32	45	P	Pn	00 57 59.2 +0.7
SOH				S	Sn	00 58 38.1 +0.6
SOH	Sokhos	3.32	45	ePN	Pn	00 57 59.3 +0.7
SOH	Sokhos	3.32	45	P	Pn	00 57 59.2 +0.7
SOH				S	Sn	00 58 38.1 +0.6
VAY	Valandovo	3.32	32	*i* Pn	Pn	00 57 58.5 +0.1
VAY	Valandovo	3.32	32	*i* Pn	Pn	00 57 59.0 +0.6
KNT	Kendrikon	3.33	37	P	Pn	00 57 59.1 +0.4
KNT	Kendrikon	3.33	37	P	Pn	00 57 59.1 +0.4
KNT	Kendrikon	3.33	37	P	Pn	00 57 59.1 +0.4
KNT	Kendrikon	3.33	37	P	Pn	00 57 59.1 +0.4
OUR	Ouranopolis	3.41	57	P	Pn	00 58 00.3 +0.7
OUR				S	Sn	00 58 40.7 +1.1

ABTA Abfaltersbach 10.01 328 ⇑*i*Pn **Pn 00 59 30.3 -0.1**
ABTA Sn **Sn 01 01 18.6 -3.7**
AFSR Af'ar-Bala (A 10.02 81 *e*P Pn 00 59 34.0 +3.5
LZLA Zalla 10.19 194 *e*P **Pn 00 59 32.0 -0.8**
comp=E,89nm,0.7s,SNR=43
SMOL Smolenice 10.20 349 *e*P Pn 00 59 36.5 +3.6
SMOL *e* 01 01 20.9
SMOL Smolenice 10.20 349 *e*PN Pn 00 59 36.5 +3.6
SMOL *e*SN Sn 01 01 20.9 -6.0
SWA2 10.20 153 P **Pn 00 59 30.4 -2.6**
SWA2 S Sn 01 01 18.4 -8.7
SWA2 10.20 153 P **Pn 00 59 30.4 -2.6**
baz=155
SWA2 AMP 01 01 00.0
comp=N,220μm,0.7s,logA/T=5.5,baz=155
SWA2 S Sn 01 01 18.4 -8.7
baz=155
UZH **Uzhgorod 10.22 8** *e*P **Pn 00 59 34.1 +1.0**
UZH *e*S **Sn 01 01 28.1 +0.9**
UZH MLR MLR
comp=N,2μm,11.0s
UZH MLR MLR
comp=E,800nm,11.0s
UZH MLR MLR
comp=Z,1μm,11.0s
UZH Uzhgorod 10.22 8 *e*P **Pn 00 59 34.1 +1.0**
MOA Molln 10.30 337 ⇑*i*Pn **Pn 00 59 34.1 -0.2**
MOA *i* Sn **Sn 01 01 25.9 -3.4**
MOA Molln 10.30 337 ⇑*i*Pn **Pn 00 59 34.1 -0.2**
SNR=76
MOA ⇑*i*Sn **Sn 01 01 25.9 -3.4**
MOA Molln 10.30 337 ⇑*i*Pn **Pn 00 59 34.1 -0.2**
SULT Sultanhani-AKS 10.41 88 *e*P **Pn 00 59 37.4 +1.4**
BRTR Keskin Array B 10.47 79 Pn Pn 00 59 39.5 +2.8
BRTR Keskin Array B 10.47 79 Pn Pn 00 59 39.5 +2.8
comp=Z,2.0nm,0.3s,baz=261,slow=13,SNR=43
BRTR Keskin Array B 10.47 79 P **Pn** 00 59 39.5 +2.8
comp=Z,2.0nm,0.3s
KAMT Kaman 10.51 81 *e*P **Pn 00 59 37.9 +0.6**
CANT Cankiri 10.52 74 *e*P **Pn 00 59 36.9 -0.6**
KIS Kishinev 10.55 34 *e*P **Pn 00 59 40.0 +2.4**
KIS *e*S **Sn 01 01 33.0 -2.4**
KIS LRM MLR 01 04 44.0
comp=Z,1μm,12.0s
RJOB Jochberg 10.70 332 *e*Pn **Pn 00 59 39.6 -0.2**
RJOB *e*Sn Sn 01 01 34.0 -5.3
WTTA Wattenberg 10.79 327 ⇓*i*P **Pn 00 59 41.4 +0.3**
WTTA *i* 01 01 37.0
WTTA Wattenberg 10.79 327 ⇓*i*Pn **Pn 00 59 41.4 +0.3**
WTTA *i* Sn Sn 01 01 37.0 -4.5
WTTA Wattenberg 10.79 327 ⇓*i*Pn **Pn 00 59 41.4 +0.3**
SNR=40
WTTA ⇑*i*Sn Sn 01 01 37.0 -4.5
WTTA Wattenberg 10.79 327 *i* P **Pn 00 59 41.4 +0.3**
WATA Walderalm 10.87 327 ⇓*i*P **Pn 00 59 42.5 +0.3**
WATA *i* 01 01 39.9
WATA Walderalm 10.87 327 ⇓*i*Pn **Pn 00 59 42.5 +0.3**
WATA *i* Sn **Sn 01 01 39.9 -3.5**
WATA Walderalm 10.87 327 ⇓*i*Pn **Pn 00 59 42.5 +0.3**
SNR=38
WATA ⇓*i*Sn **Sn 01 01 39.9 -3.5**
WATA Walderalm 10.87 327 *i* P **Pn 00 59 42.5 +0.3**
NIE Niedzica 10.90 0 *e*P **Pn 00 59 44.1 +1.6**
NIE Niedzica 10.90 0 *e*P **Pn 00 59 44.9 +2.4**
NIE Niedzica 10.90 0 *e*P **Pn 00 59 44.9 +2.4**
FUORN Ofenpass-Fuorn 10.94 321 *e*Pn **Pn 00 59 44.6 +1.3**
FUORN Ofenpass-Fuorn 10.94 321 *e*Pn **Pn 00 59 44.6 +1.3**
FETA Feichten 11.01 324 ⇓*i*Pn **Pn 00 59 44.0 -0.1**
FETA *i* Sn **Sn 01 01 43.9 -3.0**
FETA Feichten 11.01 324 ⇓*i*Pn **Pn 00 59 44.0 -0.1**
FETA ⇑*i*Sn **Sn 01 01 43.9 -3.0**
FETA Feichten 11.01 324 ⇓*i*Pn **Pn 00 59 44.0 -0.1**
FETA Sn **Sn 01 01 43.9 -3.0**
SBF Sospel 11.04 303 *e*P **Pn 00 59 44.2 -0.3**
comp=Z,82nm,0.9s
SBF Sospel 11.04 303 *e*P **Pn 00 59 44.2 -0.3**
comp=Z,41nm,0.9s
CSS Prodhromos 11.07 105 *e*P **Pn 00 59 44.3 -0.5**
CSS Prodhromos 11.07 105 *e*Pn **Pn 00 59 44.8 -0.1**
CSS Prodhromos 11.07 105 *e*Pn **Pn 00 59 44.8 -0.1**
MOTA Moosalm 11.08 326 ⇓*i*P **Pn 00 59 46.1 +1.0**
MOTA *i* 01 01 45.1
MOTA Moosalm 11.08 326 ⇓*i*Pn **Pn 00 59 46.1 +1.0**
MOTA *i* Sn **Sn 01 01 45.1 -3.5**
MOTA Moosalm 11.08 326 ⇓*i*Pn **Pn 00 59 46.1 +1.0**
SNR=35
MOTA ⇑*i*Sn **Sn 01 01 45.1 -3.5**
MOTA Moosalm 11.08 326 *i* P **Pn 00 59 46.1 +1.0**
MOTA Sn **Sn 01 01 45.1 -3.5**
LFK Lefkose 11.11 103 *e*P **Pn 00 59 47.0 +1.6**
VRAC Vranov 11.11 347 Pn **Pn 00 59 45.1 -0.2**
VRAC Sn Sn 01 01 44.1 -4.9
VRAC Vranov 11.11 347 ⇑*i*P **Pn 00 59 45.7 +0.4**
VRAC Vranov 11.11 347 Pn **Pn 00 59 45.1 -0.2**
comp=Z,0.4nm,0.3s,baz=175,slow=12,SNR=8.9
VRAC Sn Sn 01 01 44.1 -4.9
comp=Z,1.5nm,0.3s,baz=164,slow=15,SNR=5.9
VRAC Vranov 11.11 347 P **Pn 00 59 45.1 -0.2**
comp=Z,2.0nm,0.3s
DAVOX Davos/Dischmat 11.24 321 Pn **Pn 00 59 48.4 +1.0**
DAVOX Sn **Sn 01 01 50.7 -2.0**
DAVOX Davos/Dischmat 11.24 321 Pn **Pn 00 59 48.4 +1.0**
comp=Z,2.5nm,0.3s,baz=139,slow=18,SNR=44
DAVOX Sn **Sn 01 01 50.7 -2.0**
comp=Z,4.7nm,0.3s,baz=66,slow=10.0,SNR=5.7
DAVOX LR LR 01 04 34.2
comp=Z,252nm,21.0s,baz=118,slow=40
DAVOX Davos/Dischmat 11.24 321 P **Pn 00 59 48.4 +1.0**
KWP Kalwaria Pacla 11.25 8 *e*P **Pn 00 59 49.4 +2.2**
KWP pmax pmax
comp=Z,37nm,1.1s
KWP Kalwaria Pacla 11.25 8 *e*Pn **Pn 00 59 49.4 +2.2**
comp=Z,37nm,1.1s
KWP Kalwaria Pacla 11.25 8 ⇓*i*P **Pn 00 59 49.5 +2.2**
KWP Kalwaria Pacla 11.25 8 *e*P **Pn 00 59 49.4 +2.2**
comp=Z,37nm,1.1s
CORM Corum 11.25 77 *e*P **Pn 00 59 47.5 +0.1**
NIG Nigde 11.28 88 *e*P **Pn 00 59 48.8 +0.8**
TREC Trest 11.31 344 *e*P **Pn 00 59 49.1 +1.0**
TREC *e*S Sn 01 01 46.5 -7.5
TREC MLR MLR
comp=Z,700nm,17.9s
TREC Trest 11.31 344 *e*P **Pn 00 59 49.1 +1.0**
TREC *e*S Sn 01 01 46.5 -7.5
TREC AMS AMS 01 05 10.0
comp=Z,700nm,17.9s
TREC Trest 11.31 344 *e*P **Pn 00 59 49.1 +1.0**
comp=Z,700nm,17.9s
TUE Stuetta 11.31 318 *e*Pn **Pn 00 59 48.9 +0.5**
TUE *e*Sn Sn 01 01 44.8 -10
TUE Stuetta 11.31 318 *e*Pn **Pn 00 59 48.8 +0.5**
RETA Reutte 11.34 325 ⇓*i*Pn **Pn 00 59 49.4 +0.8**
RETA *i* Sn **Sn 01 01 51.9 -3.0**
RETA Reutte 11.34 325 ⇓*i*Pn **Pn 00 59 49.3 +0.8**
SNR=24
RETA ⇑*i*Sn **Sn 01 01 51.9 -3.0**
RETA Reutte 11.34 325 ⇓*i*Pn **Pn 00 59 49.3 +0.8**
GEC2 GERESS Array S 11.36 337 *e*Pn **Pn 00 59 47.8 -1.0**
GEC2 *e*Sn Sn 01 01 49.0 -6.4
GEC2 GERESS Array S 11.36 337 *e*P **Pn 00 59 47.8 -1.0**
GEC2 *e* 01 01 49.0
GEC2 GERESS Array S 11.36 337 *e*P **Pn 00 59 47.8 -1.0**
GERES GERESS Array B 11.36 337 Pn **Pn 00 59 47.6 -1.2**
GERES Sn Sn 01 01 49.4 -6.0
GERES GERESS Array B 11.36 337 Pn **Pn 00 59 47.6 -1.2**
comp=Z,3.0nm,0.3s,baz=156,slow=14,SNR=89
GERES Sn Sn 01 01 49.4 -6.0
comp=Z,5.7nm,0.3s,baz=152,slow=23,SNR=11
GERES GERESS Array B 11.36 337 P **Pn 00 59 47.6 -1.2**
comp=Z,3.0nm,0.3s
OKC Ostrava-Krasne 11.42 353 *e*P **Pn 00 59 50.1 +0.5**
OKC *e*S Sn 01 01 50.2 -6.5
OKC MLR MLR
comp=Z,900nm,10.2s
OKC Ostrava-Krasne 11.42 353 *e*P **Pn 00 59 50.1 +0.5**
OKC *e*S Sn 01 01 50.2 -6.5
OKC AMS AMS 01 05 30.0
comp=Z,900nm,10.2s
OKC Ostrava-Krasne 11.42 353 *e*P **Pn 00 59 50.1 +0.5**
comp=Z,900nm,10.2s
MERS Mersin 11.42 94 *e*P **Pn 00 59 50.4 +0.7**
MORC Moravsky Berou 11.43 351 *e*P **Pn 00 59 51.3 +1.6**
MORC *e* 01 01 50.9
MORC Moravsky Berou 11.43 351 *e*Pn **Pn 00 59 51.3 +1.6**
MORC *e*Sn Sn 01 01 50.9 -6.1
MORC Moravsky Berou 11.43 351 ⇓*i*P **Pn 00 59 51.3 +1.6**
MORC Moravsky Berou 11.43 351 *e*Pn **Pn 00 59 51.1 +1.4**
DAVA Damuels 11.60 322 ⇓*i*Pn **Pn 00 59 52.9 +0.7**
DAVA Damuels 11.60 322 ⇓*i*Pn **Pn 00 59 52.9 +0.7**
SNR=10
DAVA Damuels 11.60 322 ⇓*i*Pn **Pn 00 59 52.9 +0.7**
LVV L'vov 11.62 12 *e*P Pn 00 59 59.6 +7.3
LVV MLR MLR
comp=N,200nm,13.6s
LVV MLR MLR
comp=E,200nm,13.6s
LVV MLR MLR
comp=Z,400nm,13.6s
FUR Furstenfeldbru 11.64 329 *e*Pn **Pn 00 59 52.1 -0.6**
FUR Furstenfeldbru 11.64 329 *e*P **Pn 00 59 52.1 -0.6**
FUR Furstenfeldbru 11.64 329 *e*P **Pn 00 59 52.1 -0.6**
KHC Kasperske Hory 11.65 338 *e*P **Pn 00 59 51.5 -1.2**
KHC *e* 01 02 00.6
KHC Kasperske Hory 11.65 338 *e*Pn **Pn 00 59 51.5 -1.2**
KHC *e*Sn **Sn 01 02 00.6 -1.8**
KHC Kasperske Hory 11.65 338 P **Pn 00 59 51.6 -1.2**
KHC *ex* x 00 59 59.0
KHC *ex* x 01 00 05.5
KHC *e*S Sn 01 01 55.2 -7.2
KHC AMS AMS 01 05 10.0
comp=Z,800nm,12.2s
KHC Kasperske Hory 11.65 338 *e*P **Pn 00 59 51.5 -1.2**
MBDF Montbardon 11.84 306 *e*P **Pn 00 59 56.7 +1.2**
comp=Z,141nm,1.0s
MBDF Montbardon 11.84 306 *e*P **Pn 00 59 56.7 +1.2**
comp=Z,71nm,1.0s
WET Wettzell 11.88 336 *e*Pn **Pn 00 59 54.5 -1.4**
WET *e*Sn Sn 01 02 00.3 -7.7
WET Wettzell 11.88 336 *e*P **Pn 00 59 54.5 -1.4**
WET *e* 01 02 00.3
WET Wettzell 11.88 336 *e*P **Pn 00 59 54.5 -1.4**
BNI Bardonecchia 12.05 307 *e*P Pn 01 00 01.6 +3.2
BNI *e* 01 02 12.4
BNI Bardonecchia 12.05 307 *e*Pn Pn 01 00 01.6 +3.2
BNI *e*Sn **Sn 01 02 12.3 -0.1**
DPC Dobruska-Polom 12.16 348 *e*P Pn 01 00 03.8 +4.1
DPC *e*S Sn 01 02 07.9 -7.0
DPC MLR MLR
comp=Z,1μm,12.1s
DPC Dobruska-Polom 12.16 348 *e*Pn Pn 01 00 03.6 +3.8
DPC Dobruska-Polom 12.16 348 *e*P Pn 01 00 03.8 +4.1
DPC *e*S Sn 01 02 07.9 -7.0
DPC AMS AMS 01 05 30.0
comp=Z,1μm,12.1s
PRU Pruhonice 12.18 342 *e*P **Pn 00 59 59.7 -0.2**
PRU *e*S Sn 01 02 21.7 +6.5
PRU MLR MLR
comp=Z,900nm,9.8s
PRU Pruhonice 12.18 342 *e*P **Pn 00 59 59.7 -0.2**
PRU *ex* x 01 02 21.7
PRU AMS AMS 01 05 40.0
comp=Z,900nm,9.8s
SIM Simferopol' 12.18 54 *ce*P Pn 01 00 03.1 +3.2
SIM *e*S **Sn 01 02 19.2 +4.0**
SIM pmax pmax
comp=Z,37nm,0.5s
SIM MLR MLR
comp=Z,350nm,16.2s
LPG La Plagne 12.22 309 *e*P **Pn 00 59 59.8 -1.1**
comp=Z,40nm,0.6s
LPG La Plagne 12.22 309 *e*P **Pn 00 59 59.8 -1.1**
comp=Z,20nm,0.6s
LPL La Plagne 12.24 309 *e*P Pn 00 59 59.3 -1.8
comp=Z,21nm,0.5s
LPL La Plagne 12.24 309 *e*P Pn 00 59 59.3 -1.8
comp=Z,11nm,0.5s
HMYD Mayadein 12.31 132 P Pn 00 59 58.1 -3.8
HMYD Mayadein 12.31 132 P Pn 00 59 58.1 -3.8
baz=133
SMRF Simiane la Rot 12.32 301 *e*P **Pn 01 00 04.5 +2.5**
comp=Z,70nm,1.1s
SMRF Simiane la Rot 12.32 301 *e*P **Pn 01 00 04.5 +2.5**
comp=Z,35nm,1.1s
HNAT Natroun 12.33 133 P Pn 00 59 58.2 -3.9
HNAT Natroun 12.33 133 P Pn 00 59 58.2 -3.9
baz=134
SENIN Lac Senin/Sane 12.37 313 *e*Pn **Pn 01 00 03.8 +1.1**
SENIN Lac Senin/Sane 12.37 313 *e*Pn **Pn 01 00 03.8 +1.1**
AWBH 12.46 142 P Pn 01 00 00.4 -3.5
AWBH 12.46 142 P Pn 01 00 00.3 -3.5
baz=144
ORIF Oris-en-Rattie 12.50 305 *e*P **Pn 01 00 05.7 +1.3**
comp=Z,65nm,1.0s
ORIF *e*R
comp=Z,428nm,21.0s
ORIF Oris-en-Rattie 12.50 305 *e*P **Pn 01 00 05.7 +1.3**
comp=Z,32nm,1.0s
ROTZ Rotzenmuhle 12.64 335 *e*Pn **Pn 01 00 04.9 -1.3**
ROTZ *e*Sn Sn 01 02 18.2 -8.4
PVCC Panska Ves 12.67 343 *e*P **Pn 01 00 06.7 0.0**
PVCC MLR MLR
comp=Z,1μm,12.1s
PVCC Panska Ves 12.67 343 *e*P **Pn 01 00 06.7 0.0**
PVCC AMS AMS 01 06 00.0
comp=Z,1μm,12.1s
KOT Kottamia 12.84 128 P Pn 01 00 04.9 -4.1
KOT S Sn 01 02 20.6 -11
KOT Kottamia 12.84 128 P Pn 01 00 05.0 -4.1
baz=130
KOT S Sn 01 02 20.6 -11
baz=130
FELD Feldberg im Sc 12.93 320 *e*P **Pn 01 00 09.5 -0.8**
NKC Novy Kostel 12.97 337 *e*P **Pn 01 00 10.9 +0.1**
NKC MLR MLR
comp=Z,700nm,13.1s
NKC Novy Kostel 12.97 337 *e*P **Pn 01 00 10.9 +0.1**
NKC AMS AMS 01 06 00.0
comp=Z,700nm,13.1s
STU Stuttgart 13.00 326 *e*Pn **Pn 01 00 10.4 -0.7**
STU Stuttgart 13.00 326 *e*P **Pn 01 00 10.8 -0.3**
STU *e* 01 02 29.7
STU Stuttgart 13.00 326 *e*Pn **Pn 01 00 10.8 -0.3**
STU *e*Sn Sn 01 02 29.7 -5.6
STU Stuttgart 13.00 326 *e*P **Pn 01 00 10.8 -0.3**
WERN Wernitzgruen 13.04 337 *e*Pn **Pn 01 00 11.6 -0.1**
BFO Black Forest 13.08 322 *e*Pn **Pn 01 00 11.0 -1.2**
BFO Black Forest 13.08 322 *e*P **Pn 01 00 13.2 +0.9**
BFO *e* 01 02 30.8
BFO Black Forest 13.08 322 *e*Pn **Pn 01 00 13.2 +0.9**
BFO *e*Sn Sn 01 02 30.8 -6.5
BFO Black Forest 13.08 322 *e*P **Pn 01 00 13.2 +0.9**
TANN Tannenbergstha 13.12 338 *e*Pn **Pn 01 00 12.9 0.0**
BRG Berggiesshubel 13.14 342 *e*P **Pn 01 00 12.9 -0.1**
comp=Z,4.7nm,0.9s
BRG *e* 01 00 25.0
comp=Z,17nm,1.2s
BRG *e* 01 02 58.3
comp=Z,17nm,1.2s
BRG
comp=N,737nm,10.1s
BRG
comp=E,383nm,10.6s
BRG
comp=Z,858nm,11.0s
BRG Berggiesshubel 13.14 342 *e*P **Pn 01 00 12.9 -0.1**
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG pmax pmax
comp=Z,17nm,1.2s
BRG pmax pmax
comp=Z,17nm,1.2s
BRG MLR MLR
comp=N,737nm,10.1s
BRG MLR MLR
comp=E,383nm,10.6s
BRG MLR MLR
comp=Z,858nm,11.0s
HFRF Wahat Farafira 13.19 147 P Pn 01 00 10.8 -3.1
HFRF Wahat Farafira 13.19 147 P Pn 01 00 10.8 -3.1
baz=148
CABF La Chapelle 13.20 312 *e*P **Pn 01 00 13.3 -0.7**
comp=Z,20nm,0.5s
CABF La Chapelle 13.20 312 *e*P **Pn 01 00 13.3 -0.7**
comp=Z,9.9nm,0.5s
WERD Werda 13.20 337 *e*Pn **Pn 01 00 13.7 -0.2**
AMAG Maghara 13.24 123 P Pn 01 00 10.2 -4.3
AMAG Maghara 13.24 123 P Pn 01 00 10.2 -4.3
baz=124
VIVF Saint-Julien-l 13.25 304 *e*P **Pn 01 00 15.2 +0.5**
comp=Z,54nm,1.3s
VIVF Saint-Julien-l 13.25 304 *e*P **Pn 01 00 15.2 +0.5**
comp=Z,27nm,1.3s
PLN Plauen 13.28 337 *e*Pn **Pn 01 00 15.3 +0.3**
MOF Molkenrain 13.36 319 *e*P **Pn 01 00 15.8 -0.3**
MOF Molkenrain 13.36 319 *e*P **Pn 01 00 15.8 -0.3**
RSH 13.38 120 P Pn 01 00 12.9 -3.6
RSH 13.38 120 P Pn 01 00 12.9 -3.6
baz=121
MMAI Mount Meron Ar 13.46 109 Pn Pn 01 00 14.0 -3.6
MMAI Sn Sn 01 02 37.3 -10
MMAI Mount Meron Ar 13.46 109 Pn Pn 01 00 14.0 -3.6
comp=Z,1.5nm,0.3s,baz=316,slow=13,SNR=6.9
MMAI Sn Sn 01 02 37.3 -10
comp=Z,1.8nm,0.3s,baz=295,slow=19,SNR=3.8
HINF Hinteralfeld 13.48 318 *e*P Pn 01 00 15.8 -2.0
comp=Z,14nm,0.4s
HINF Hinteralfeld 13.48 318 *e*P Pn 01 00 15.8 -2.0
comp=Z,6.8nm,0.4s
LASF Ste Croix 13.52 299 *e*P **Pn 01 00 19.0 +0.7**
comp=Z,114nm,1.5s
LASF Ste Croix 13.52 299 *e*P **Pn 01 00 19.0 +0.7**
comp=Z,57nm,1.5s
SUZ 13.52 126 P Pn 01 00 15.3 -3.1
SUZ 13.52 126 P Pn 01 00 15.3 -3.1
baz=127
KSDI Kefar Szold 13.57 108 Pn **Pn 01 00 15.9 -3.1**
KSDI Sn Sn 01 02 36.5 -13
ECH Echery 13.58 320 *e*P **Pn 01 00 19.5 +0.4**
ECH *e* 01 02 43.6
ECH pmax pmax
comp=Z,29nm,1.1s
ECH Echery 13.58 320 *e*Pn **Pn 01 00 19.5 +0.4**
comp=Z,29nm,1.1s
ECH *e*Sn Sn 01 02 43.6 -5.9
ECH Echery 13.58 320 *e*P **Pn 01 00 19.5 +0.4**
ECH Echery 13.58 320 *e*P **Pn 01 00 19.5 +0.4**
HAWK Haweek 13.58 102 *e*P Pn 01 00 12.7 -6.5
HAWK *e*P P 01 00 54.9 +27
HAWK *e*S Sn 01 01 53.8 -56
MOX Moxa 13.59 336 *e*Pn **Pn 01 00 19.3 +0.1**
MOX Moxa 13.59 336 *e*P **Pn 01 00 19.3 +0.1**
CDF Champ du Feu 13.65 321 *e*P **Pn 01 00 18.9 -1.2**
comp=Z,22nm,0.6s
CDF Champ du Feu 13.65 321 *e*P **Pn 01 00 18.9 -1.2**
comp=Z,11nm,0.6s
BRBR Barbar 13.69 107 *e*P **Pn 01 00 18.0 -2.8**
BRBR AML AML 01 00 41.4
comp=Z,19nm,0.5s
BRBR *e*S Sn 01 02 13.2 -40
KIEV Kiev 13.73 25 *e*P **Pn 01 00 21.1 0.0**
KIEV pmax pmax
comp=Z,11nm,0.8s
KIEV Kiev 13.73 25 *e*Pn **Pn 01 00 21.1 0.0**
comp=Z,11nm,0.8s
KIEV Kiev 13.73 25 *e*Pn **Pn 01 00 21.0 0.0**
comp=Z,11nm,0.8s
AKASG Malin Array Be 13.74 25 P **Pn 01 00 20.7 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 13.74 25 Pn **Pn 01 00 20.7 -0.5**
AKASG Sn S 01 03 07.4 -8.5
AKASG Malin Array Be 13.74 25 Pn **Pn 01 00 20.7 -0.5**
comp=Z,1.6nm,0.3s,baz=210,slow=12,SNR=7.8
AKASG Sn S 01 03 07.4 -8.5
comp=Z,0.4nm,0.3s,baz=212,slow=21,SNR=6.5
AKASG Malin Array Be 13.74 25 P **Pn 01 00 20.7 -0.5**
comp=Z,2.0nm,0.3s
CLL Collm 13.78 341 *e*Pn **Pn 01 00 22.0 +0.3**
CLL Collm 13.78 341 *e*P Pn 01 00 25.0 +3.3
CLL Collm 13.78 341 *e*pP Pn 01 00 25.0 +3.3
CLL *i* PP **P 01 00 32.0 +1.8**
comp=Z,38nm,1.6s
CLL *i* sPP 01 00 38.0
CLL *e* 01 02 50.0
CLL Lmax 01 06 00.0
HAU Haudompre 13.86 318 *e*P **Pn 01 00 21.8 -1.2**
comp=Z,21nm,0.4s
HAU *e*R
comp=Z,368nm,17.2s
KZIT Kziot 13.88 119 Pn Pn 01 00 18.6 -4.6
KZIT Sn Sn 01 02 41.5 -15
HMDT Nahal Hemdat 13.93 112 Pn Pn 01 00 20.4 -3.5
HMDT Sn Sn 01 02 45.3 -13
RTMI Retamim 13.99 118 Pn Pn 01 00 20.1 -4.7
RTMI Sn Sn 01 02 44.3 -15
YTIR Yattir 14.11 116 Pn Pn 01 00 22.7 -3.8
DSI Dead Sea 14.18 115 Pn Pn 01 00 23.9 -3.5
DSI Sn Sn 01 02 50.5 -14
HNKL Nakhl 14.21 123 P Pn 01 00 24.2 -3.6
HNKL Nakhl 14.21 123 P Pn 01 00 24.2 -3.6
baz=124
ANN Anapa 14.28 58 *e*P **Pn 01 00 27.0 -1.6**
ANN *e*S **Sn 01 03 02.9 -3.6**
ANN pmax pmax
comp=Z,25nm,1.0s
ANN MLR MLR
comp=E,107nm,8.0s
ANN MLR MLR
comp=Z,147nm,8.0s
UBBA Unterbreizbach 14.28 333 *e*Pn **Pn 01 00 29.6 +1.0**
MZDA Masada 14.31 116 Pn Pn 01 00 25.1 -4.1
MZDA Sn Sn 01 02 53.5 -14
PLDF La Plantade 14.38 306 *e*P **Pn 01 00 32.8 +2.6**
TNS Taunus Mts 14.41 328 *e*Pn **Pn 01 00 29.7 -0.8**
TNS Taunus Mts 14.41 328 *e*P **Pn 01 00 29.7 -0.8**
PAGF Fort de Pagny 14.53 318 *e*P **Pn 01 00 30.6 -1.5**
comp=Z,16nm,0.9s
ASUT 14.58 136 P **Pn 01 00 30.1 -2.7**
ASUT 14.58 136 P **Pn 01 00 30.1 -2.7**
baz=137
KRMI Paran Flat 14.58 121 Pn Pn 01 00 28.7 -4.2
KRMI Sn Sn 01 02 59.1 -15
SALA Sala 14.59 108 *e*P Pn 01 00 24.6 -8.5
ZFRI Zfri 14.62 118 Pn Pn 01 00 29.4 -4.0
ZFRI Sn Sn 01 03 00.3 -15
PRNI Paran 14.63 119 Pn Pn 01 00 29.1 -4.4
PRNI Sn Sn 01 03 00.1 -15
SFTF Sexfontaines 14.69 316 *e*P **Pn 01 00 33.4 -0.8**
comp=Z,45nm,0.8s
HRFI Mount Harif 14.84 120 Pn Pn 01 00 32.4 -4.1
HRFI Sn Sn 01 03 05.6 -15
LOR Lormes 14.85 311 *e*P Pn 01 00 34.7 -1.7
comp=Z,19nm,0.7s
LOR *e*R
comp=Z,171nm,22.5s
MEZF Maizieres J'vi 14.85 317 *e*P **Pn 01 00 36.3 -0.1**
comp=Z,308nm,1.4s
MBRI Mt Berech 14.91 121 Pn Pn 01 00 33.5 -4.0
MBRI Sn Sn 01 03 07.5 -15
AVF Avril sur Loir 14.92 309 *e*P Pn 01 00 35.5 -1.8
SSF Saint Saulge 14.95 310 *e*P **Pn 01 00 36.9 -0.9**
comp=Z,37nm,0.9s
ASF Jabal al Asfar 14.97 110 Pn **Pn 01 00 38.5 +0.3**
ASF Sn **Sn 01 03 20.2 -3.5**
ASF Jabal al Asfar 14.97 110 Pn **Pn 01 00 38.5 +0.3**
comp=Z,0.3nm,0.3s,baz=260,slow=18,SNR=5.4
ASF Sn **Sn 01 03 20.2 -3.5**
comp=Z,0.1nm,0.3s,baz=295,slow=19,SNR=1.9
ASF LR LR 01 06 58.5
comp=Z,103nm,21.2s,baz=311,slow=40
CAF Calviac 15.01 301 *e*P **Pn 01 00 37.6 -1.0**
comp=Z,50nm,1.3s
EIL Elat 15.02 122 Pn **Pn 01 00 36.1 -2.7**
EIL Sn Sn 01 03 11.1 -14
EIL Elat 15.02 122 Pn **Pn 01 00 36.1 -2.7**
comp=Z,0.8nm,0.3s,baz=284,slow=6.3,SNR=10
EIL Sn Sn 01 03 11.1 -14
comp=Z,1.6nm,0.3s,baz=250,slow=23,SNR=6.0
EIL Elat 15.02 122 Pn Pn 01 00 35.1 -3.7
EIL Sn Sn 01 03 09.6 -15
WLF Walferdange 15.04 322 P **P 01 00 47.1 +2.9**
comp=Z,66nm,1.4s
WLF Walferdange 15.04 322 *e*P **P 01 00 46.9 +2.7**
WLF pmax pmax
comp=Z,115nm,1.2s
WLF Walferdange 15.04 322 *e*P **P 01 00 46.9 +2.7**
comp=Z,115nm,1.2s
TR2 15.09 128 P **Pn 01 00 37.5 -2.3**
TR2 15.09 128 P **Pn 01 00 37.5 -2.3**
baz=129
BGF Bois d'Agland 15.12 308 *e*P **Pn 01 00 37.9 -2.2**

HKAT	Jabal Katrina	15.16	127	P		Pn	01 00 37.8	-3.1	
HKAT	Jabal Katrina	15.16	127	P		Pn	01 00 37.8	-3.1	
	baz=128								
RJF	Les Rejaudoux	15.50	302	*e*P		Pn	01 00 46.7	+1.7	
RJF				*e*R					
	comp=Z,329nm,21.8s								
RJF	Les Rejaudoux	15.50	302	*e*P		Pn	01 00 46.7	+1.7	
SOC	Sochi	15.52	65	*e*P		P	01 00 48.4	-1.2	
SOC				*e*S		Sn	01 03 42.8	+6.1	
SOC				pmax		pmax			
	comp=Z,23nm,0.9s								
SOC				MLR		MLR			
	comp=Z,176nm,11.0s								
SOC	Sochi	15.52	65	*e*P		P	01 00 48.4	-1.2	
	comp=Z,176nm,11.0s								
SUW	Suwalki	15.63	6	*e*P		Pn	01 00 48.1	+1.5	
SUW	Suwalki	15.63	6	*e*P		Pn	01 00 48.1	+1.5	
SUW	Suwalki	15.63	6	*e*P		Pn	01 00 47.1	+0.5	
SUW				*e*S		Sn	01 03 46.6	+7.3	
SUW				pmax		pmax			
	comp=Z,109nm,0.4s								
SUW	Suwalki	15.63	6	*e*Pn		Pn	01 00 47.1	+0.5	
	comp=Z,109nm,0.4s								
SUW				*e*P		P	01 00 50.6	-0.1	
SUW				*e*S		Sn	01 03 46.6	+7.3	
SUW	Suwalki	15.63	6	*e*Pn		Pn	01 00 47.1	+0.5	
	comp=Z,109nm,0.4s								
EPF	Esparros	15.74	293	*e*P		Pn	01 00 48.4	+0.1	
	comp=Z,46nm,1.5s								
MEM	Membach	15.76	325	P		P	01 00 55.3	+3.1	
	comp=Z,48nm,1.5s								
HHRG	Al Ghardaqah	15.85	131	P		Pn	01 00 48.1	-1.6	
HHRG	Al Ghardaqah	15.85	131	P		Pn	01 00 48.1	-1.6	
	baz=133								
HGN	Heimansgroeve	15.90	325	*e*P		P	01 00 56.9	+3.1	
	comp=Z,48nm,0.9s								
HGN				*e*X			01 01 04.1		
HGN				*e*S		PcP	01 05 43.2	-4.6	
HGN				*e*L		L	01 06 59.2		
	comp=Z,121nm,21.3s								
LFF	La Frestale	15.91	300	*e*P		Pn	01 00 51.1	+0.8	
BCLA	Clavier	15.95	323	P		P	01 00 56.0	+1.7	
GIVF	Givet	15.97	321	*e*P		Pn	01 00 54.0	+2.9	
	comp=Z,202nm,1.1s								
GIVF	Givet	15.97	321	*e*P		Pn	01 00 54.0	+2.9	
	comp=Z,101nm,1.1s								
DOU	Dourbes	16.08	321	P		P	01 00 58.7	+2.9	
	comp=Z,54nm,1.5s								
KBSD	Kabsdagh	16.11	89	*e*P		Pn	01 00 47.8	-5.3	
KBSD				AML		AML	01 01 59.2		
	comp=N,3.2nm,0.5s								
KBSD				AML		AML	01 01 59.5		
	comp=E,4.5nm,0.6s								
KBSD				AML		AML	01 01 59.5		
	comp=Z,6.9nm,0.6s								
KBSD				*e*S		x	01 02 02.5		
BAIF	Baives	16.25	320	*e*P		Pn	01 00 57.0	+2.4	
	comp=Z,96nm,0.8s								
BAIF	Baives	16.25	320	*e*P		Pn	01 00 57.0	+2.4	
	comp=Z,48nm,0.8s								
ETSF	Etsaut	16.38	292	*e*P		Pn	01 00 58.7	+2.3	
ETSF	Etsaut	16.38	292	*e*P		Pn	01 00 58.7	+2.3	
WTSB	Winterswijk	16.42	329	*e*P		P	01 01 02.3	+2.9	
	comp=Z,38nm,0.9s								
SNF	Seneffe	16.50	322	P		P	01 01 03.5	+3.1	
	comp=Z,48nm,1.7s								
MNK	Minsk	16.80	15⇑	*e*P		Pn	01 01 01.0	-0.6	
MNK				pmax		pmax			
	comp=Z,9µm,1.0s								
MNK	Minsk	16.80	15	*e*P		Pn	01 01 01.0	-0.6	
	comp=Z,9µm,1.0s								
MICGM	Minsk	16.81	16⇑	*e*P		Pn	01 01 01.0	-0.7	
SJPF	Ste Jean	16.89	293	*e*P		Pn	01 01 04.5	+1.6	
	comp=Z,25nm,0.8s								
SJPF	Ste Jean	16.89	293	*e*P		Pn	01 01 04.5	+1.6	
	comp=Z,13nm,0.8s								
NACGM	Naroch	16.97	13	*e*		Pn	01 01 02.0	-1.8	
BSD	Bornholm Skovb	16.99	349	*i* P		Pn	01 00 59.2	-4.8	
	comp=Z,57nm,1.0s								
MFF	Saint Martin d	17.04	305	*e*P		Pn	01 01 03.5	-1.1	
	comp=Z,119nm,1.4s								
IIGN	Ignalina	17.31	11	*e*P		Pn	01 01 07.6	-0.5	
IIGN				AMB		AMB	01 01 16.8		
	comp=Z,22nm,1.0s								
IIGN	Ignalina	17.31	11	*e*P		Pn	01 01 07.6	-0.5	
IIGN				AMB		AMB	01 01 16.8		
	comp=Z,22nm,1.0s								
IIGN	Ignalina	17.31	11	*e*P		Pn	01 01 07.6	-0.5	
	comp=Z,22nm,1.0s,SNR=50								
IDID	Didziasalis	17.36	12	*e*P		Pn	01 01 08.1	-0.6	
IDID				AMB		AMB	01 01 17.0		
	comp=Z,14nm,1.1s								
IDID	Didziasalis	17.36	12	*e*P		Pn	01 01 08.1	-0.6	
IDID				AMB		AMB	01 01 17.0		
	comp=Z,14nm,1.1s								
IDID	Didziasalis	17.36	12	*e*P		Pn	01 01 08.1	-0.6	
	comp=Z,14nm,1.1s,SNR=50								
ISAL	Salakas	17.51	11	*e*P		Pn	01 01 09.5	-1.0	
ISAL				AMB		AMB	01 01 19.1		
	comp=Z,22nm,1.4s								
ISAL	Salakas	17.51	11	*e*P		Pn	01 01 09.5	-1.0	
ISAL				AMB		AMB	01 01 19.1		
	comp=Z,22nm,1.4s								
ISAL	Salakas	17.51	11	*e*P		Pn	01 01 09.5	-1.0	
	comp=Z,22nm,1.4s,SNR=49								
KIV	Kislovodsk	17.70	65	*e*P		Pn	01 01 13.2	+0.2	
KIV				*e*S		Sn	01 04 29.3	-0.5	
KIV				pmax		pmax			
	comp=Z,20nm,0.9s								
KIV				MLR		MLR			
	comp=Z,90nm,14.0s								
KIV	Kislovodsk	17.70	65	*e*Pn		Pn	01 01 13.5	+0.5	
	comp=Z,29nm,0.9s								
KIV	Kislovodsk	17.70	65	*e*P		Pn	01 01 13.2	+0.2	
	comp=Z,20nm,0.9s								
KIV	Kislovodsk	17.70	65	*e*Pn		Pn	01 01 13.5	+0.5	
	comp=Z,29nm,0.9s								
IZAR	Zarasai	17.70	11	*e*P		Pn	01 01 11.4	-1.4	
IZAR				AMB		AMB	01 01 21.2		
	comp=Z,21nm,1.2s								
IZAR	Zarasai	17.70	11	*e*P		Pn	01 01 11.4	-1.4	
IZAR				AMB		AMB	01 01 21.2		
	comp=Z,21nm,1.2s								
LDF	La Druitiere	17.83	311	*e*P		Pn	01 01 14.3	-0.2	
LDF	La Druitiere	17.83	311	*e*P		Pn	01 01 14.3	-0.2	
ONI	Oni	18.07	70	P		Pn	01 01 18.0	+0.4	
ONI				S		S	01 04 58.8	+14	
GRR	Gorron	18.18	310	*e*P		Pn	01 01 18.3	-0.5	
	comp=Z,26nm,0.8s								
GRR	Gorron	18.18	310	*e*P		Pn	01 01 18.3	-0.5	
	comp=Z,13nm,0.8s								
VORD	Divnogorie	18.31	41	*e*P		Pn	01 01 18.6	-1.7	
VORD				pmax		pmax			
	comp=Z,10.0nm,1.2s								
VORD				pmax		pmax			
	comp=N,10.0nm,0.7s								
VORD				pmax		pmax			
	comp=E,20nm,0.9s								
VORD	Divnogorie	18.31	41	*e*P		Pn	01 01 18.6	-1.7	
	comp=E,10.0nm,0.7s								
VSR	Storozhevoye	18.39	40	*e*P		Pn	01 01 20.1	-1.2	
VSR				*e*S		Sn	01 04 40.4	-5.9	
VSR				pmax		pmax			
	comp=N,8.0nm,0.6s								
VSR				pmax		pmax			
	comp=E,7.0nm,0.6s								
VSR				pmax		pmax			
	comp=Z,10.0nm,0.6s								
VSR				smax		smax			
	comp=E,10.0nm,0.7s								
VSR				smax		smax			
	comp=N,50nm,1.4s								
VSR				smax		smax			
	comp=Z,9.0nm,1.4s								
VSR				MLR		MLR			
	comp=Z,990nm,12.0s								
VSR				MLR		MLR			
	comp=N,160nm,6.0s								
VSR				MLR		MLR			
	comp=E,750nm,12.0s								
VSR	Storozhevoye	18.39	40	*e*P		Pn	01 01 20.1	-1.2	
ZEI	Tsey	18.41	69	*e*P		P	01 01 22.5	+0.6	
ZEI				pmax		pmax			
	comp=Z,10.0nm,0.5s								
ZEI	Tsey	18.41	69	*e*P		P	01 01 22.5	+0.6	
	comp=Z,10.0nm,0.5s								
GOR	Gori	18.51	72	P		Pn	01 01 25.6	+2.6	
GOR				S		S	01 05 08.8	+15	
ESDC	Sonseca Array	18.83	281	P		P	01 01 27.3	+1.0	
ESDC	Sonseca Array	18.83	281	P		P	01 01 27.3	+1.0	
	comp=Z,1.2nm,0.3s,baz=76,slow=11,SNR=56								
ESDC				LR		LR	01 08 57.5		
	comp=Z,167nm,19.6s,baz=115,slow=38								
ESDC	Sonseca Array	18.83	281	P		P	01 01 27.3	+1.0	
ESLA	Sonseca Array	18.83	281	*e*P		P	01 01 27.5	+1.2	
	comp=Z,3.4nm,0.8s								
ESLA	Sonseca Array	18.83	281	*e*P		P	01 01 27.5	+1.2	
	comp=Z,3.4nm,0.8s								
TBLG	Delisi	18.97	73	*e*P		Pn	01 01 28.9	+0.3	
TBLG	Delisi	18.97	73	P		P	01 01 12.7	-15	
TBLG				S		Sn	01 04 59.0	-1.6	
TBLG	Delisi	18.97	73	P		Pn	01 01 28.9	+0.3	
TBLG				S		S	01 05 15.3	+12	
TBLG	Delisi	18.97	73	*e*P		Pn	01 01 28.9	+0.3	
TBLG				S		Sn	01 04 59.0	-1.6	
GNI	Garni	19.00	77	*e*P		Pn	01 01 29.0	0.0	
	comp=Z,19nm,0.7s								
GNI	Garni	19.00	77	P		P	01 01 28.1	-0.1	
	comp=Z,1.1nm,0.3s,baz=1.8,slow=3.1,SNR=12								
GNI				LR		LR	01 08 55.7		
	comp=Z,399nm,20.8s,baz=277,slow=38								
GNI	Garni	19.00	77	P		P	01 01 28.1	-0.1	
	SNR=11								
SGMF	Saint Gilles	19.17	308	*e*P		P	01 01 28.1	-1.7	
	comp=Z,150nm,1.4s								
SGMF	Saint Gilles	19.17	308	*e*P		P	01 01 28.1	-1.7	
	comp=Z,75nm,1.4s								
MUD	Monsted U'grnd	19.40	341	*i* P		Pn	01 01 35.3	+1.8	
	comp=Z,9.5nm,0.9s								
DGRG	David-gareji	19.45	73	P		P	01 01 33.8	+0.8	
DGRG				S		S	01 05 26.2	+14	
VRHR	Novokhopersk	19.61	43	*e*P		P	01 01 35.1	+0.5	
VRHR				*e*S		Sn	01 05 07.9	-7.8	
VRHR				pmax		pmax			
	comp=N,10.0nm,0.6s								
VRHR				pmax		pmax			
	comp=E,8.0nm,0.6s								
VRHR				pmax		pmax			
	comp=Z,30nm,0.6s								
VRHR				smax		smax			
	comp=N,60nm,1.5s								
VRHR				smax		smax			
	comp=E,20nm,1.5s								
VRHR				smax		smax			
	comp=Z,10.0nm,1.5s								
VRHR				MLR		MLR			
	comp=N,190nm,13.0s								
VRHR				MLR		MLR			
	comp=E,470nm,13.0s								
VRHR				MLR		MLR			
	comp=Z,780nm,13.0s								
VRHR	Novokhopersk	19.61	43	*e*P		P	01 01 35.1	+0.5	
ROSF	Rostrenen	19.64	308	*e*P		P	01 01 35.8	+0.8	
	comp=Z,94nm,1.2s								
ROSF	Rostrenen	19.64	308	*e*P		P	01 01 35.8	+0.8	
	comp=Z,47nm,1.2s								
OBN	Obninsk	19.92	28⇑	*i*P		P	01 01 37.5	-0.5	
OBN				*i* S		S	01 05 15.4	-6.0	
OBN				pmax		pmax			
	comp=Z,36nm,1.0s								
OBN				MLR		MLR			
	comp=Z,600nm,15.0s								
OBN	Obninsk	19.92	28	*e*P		P	01 01 37.6	-0.3	
	comp=Z,42nm,0.7s								
OBN	Obninsk	19.92	28	*i* P		P	01 01 37.5	-0.5	
	comp=Z,36nm,1.0s								
TAM	Tamanrasset	20.12	223	*e*P		P	01 01 42.8	+2.2	
TAM				pmax		pmax			
	comp=Z,59nm,1.6s								
TAM	Tamanrasset	20.12	223	*e*P		P	01 01 42.8	+2.2	
	comp=Z,59nm,1.6s								
TAM	Tamanrasset	20.12	223	*e*P		P	01 01 42.8	+2.2	
	comp=Z,59nm,1.6s								
BHD	Baghdad	20.21	98	*ex*		P	01 01 37.3	-4.0	
BHD				*ex*		x	01 05 15.3		
BHD				*ex*		x	01 05 46.8		
BHD				*i* x		x	01 08 06.5		
IAZR	Azarshahr	20.24	84	*e*P		P	01 01 41.1	-0.9	
IAZR	Azarshahr	20.24	84	*e*P		P	01 01 41.1	-0.9	
ITBZ	Tabriz	20.28	83	*e*P		P	01 01 41.1	-1.2	
ITBZ	Tabriz	20.28	83	*e*P		P	01 01 41.1	-1.2	
VSU	Vasula	20.40	10	*e*P		P	01 01 42.6	-0.5	
VSU				pmax		pmax			
	comp=Z,49nm,0.7s								
VSU	Vasula	20.40	10	*e*P		P	01 01 42.6	-0.5	
	comp=Z,49nm,0.7s								
MOS	Moscow	20.79	28	*e*P		P	01 01 47.7	+0.3	
MOS				*e*			01 01 52.4		
MOS				*e*			01 02 09.2		
MOS				*e*S		S	01 05 35.2	-3.4	
MOS				*e*			01 05 58.3		
MOS				*e*SS		SnSn	01 06 08.2	+9.5	
MOS				pmax		pmax			
	comp=Z,45nm,0.8s								
MOS	Moscow	20.79	28	*e*P		P	01 01 47.7	+0.3	
	comp=Z,45nm,0.8s								
PBRG	Braganca	20.87	288	*e*P		P	01 01 49.2	+0.7	
	comp=Z,63nm,1.8s								
IBST	Bostanabad	20.95	84	*e*P		P	01 01 47.4	-2.2	
IBST	Bostanabad	20.95	84	*e*P		P	01 01 47.4	-2.2	
IHRS	Heris	20.96	82	*e*P		P	01 01 47.8	-2.0	
IHRS	Heris	20.96	82	*e*P		P	01 01 47.8	-2.0	
MDT	Midelt	20.97	262	P		P	01 01 50.9	+1.2	
MDT	Midelt	20.97	262	P		P	01 01 50.9	+1.2	
	comp=Z,8.6nm,0.8s,baz=78,slow=9.1,SNR=11								
MDT				LR		LR	01 10 39.4		
	comp=Z,166nm,20.8s,baz=136,slow=39								
MDT	Midelt	20.97	262	P		P	01 01 50.9	+1.2	
MAK	Makhachkala	21.07	69	*e*P		P	01 01 49.3	-1.3	
MAK				*i*			01 02 08.6		
MAK				*e*S		S	01 05 38.4	-6.1	
MAK				pmax		pmax			
	comp=Z,164nm,1.5s								
MAK				MLR		MLR			
	comp=Z,214nm,15.0s								
MAK	Makhachkala	21.07	69	*e*P		P	01 01 49.3	-1.3	
	comp=Z,164nm,1.5s								
MVO	Moncorvo	21.09	286	*e*P		P	01 01 52.3	+1.4	
	comp=Z,55nm,2.4s								
IDHR	Dehrash	21.29	92	*e*P		P	01 01 51.4	-1.9	
IDHR	Dehrash	21.29	92	*e*P		P	01 01 51.4	-1.9	
PBAR	Barrancos	21.39	278	*e*P		P	01 01 51.0	-3.1	
	comp=Z,56nm,0.8s								
PMRV	Marv??o	21.49	281	*e*P		P	01 01 55.9	+0.7	
	comp=Z,97nm,1.6s								
PCBR	Castelo Branco	21.52	282	*e*P		P	01 01 55.5	+0.1	
	comp=Z,69nm,1.2s								
MTE	Manteigas	21.52	284	*e*P		P	01 01 56.2	+0.7	
	comp=Z,125nm,1.7s								
MTE	Manteigas	21.52	284	*e*P		P	01 01 56.5	+0.9	
	comp=Z,58nm,1.1s								
PESTR	Estremoz	21.71	280	*e*P		P	01 01 57.9	+0.3	
	comp=Z,76nm,2.0s								
SARR	Saratov	21.76	46	*c*P		P	01 01 56.9	-1.0	
SARR				*i* S		S	01 05 56.3	-1.6	
SARR				pmax		pmax			
	comp=Z,31nm,0.9s								
PVIS	Viseu	21.77	285	*e*P		P	01 01 58.4	+0.2	
HFS	Hagfors	22.04	351	P		P	01 01 59.9	-0.9	
HFS				S		S	01 05 58.9	-4.1	
HFS	Hagfors	22.04	351	P		P	01 01 59.9	-0.9	
	comp=Z,17nm,0.7s,baz=163,slow=11,SNR=54								
HFS				S		S	01 05 58.9	-4.1	
	comp=Z,6.8nm,0.9s,baz=158,slow=16,SNR=4.2								
HFS				LR		LR	01 11 24.9		
	comp=Z,132nm,18.2s,baz=169,slow=39								
PBEJ	Beja	22.06	278	*e*P		P	01 02 04.0	+2.7	
	comp=Z,87nm,2.0s								
PVAQ	Vaqueiros	22.06	276	*e*P		P	01 02 01.3	0.0	
	comp=Z,114nm,1.7s								
EVO	Evora	22.09	279	*e*P		P	01 02 01.9	+0.3	
	comp=Z,172nm,1.5s								
EVO				*e*R					
	comp=Z,239nm,20.8s								
EVOP	Sao Brissos	22.18	279	*e*P		P	01 02 01.9	-0.6	
	comp=Z,86nm,1.5s								
PMTG	Montargil	22.18	280	*e*P		P	01 02 02.7	+0.2	
	comp=Z,97nm,1.3s								
PTOM	Tomar	22.25	282	*e*P		P	01 02 04.1	+0.8	
	comp=Z,115nm,1.9s								
PTO	Porto	22.28	286	*e*P		P	01 02 04.8	+1.2	
	comp=Z,126nm,1.4s								
IKOM	Komasi	22.34	93	*e*P		P	01 02 01.9	-2.6	
IKOM	Komasi	22.34	93	*e*P		P	01 02 01.9	-2.6	
PNCL	Nicolau / Gran	22.56	278	*e*P		P	01 02 07.8	+1.2	
ESK	Eskdalemuir	23.05	324	*e*P		P	01 02 11.6	+0.1	
ESK				pmax		pmax			
	comp=Z,39nm,0.9s								
ESK	Eskdalemuir	23.05	324	*e*P		P	01 02 11.6	+0.1	
	comp=Z,39nm,0.9s								
ESK	Eskdalemuir	23.05	324	*e*P		P	01 02 11.6	+0.1	
	comp=Z,39nm,0.9s								
FINES	FINESS Array B	23.24	7	P		P	01 02 12.2	-1.1	
FINES				PcP		PcP	01 06 00.5	-0.2	
FINES				S		S	01 06 21.6	-3.0	
FINES	FINESS Array B	23.24	7	P		P	01 02 12.2	-1.1	
	comp=Z,18nm,0.6s,baz=165,slow=9.9,SNR=54								
FINES				PcP		PcP	01 06 00.5	-0.2	
	comp=Z,2.9nm,0.6s,baz=193,slow=2.0,SNR=4.7								
FINES				S		S	01 06 21.6	-3.0	
	comp=Z,6.3nm,0.9s,baz=184,slow=17,SNR=4.9								
FINES	FINESS Array B	23.24	7	P		P	01 02 12.3	-1.1	
	comp=Z,18nm,0.6s								
FINES	FINESS Array B	23.24	7	PcP		PcP	01 06 00.5	-0.2	
	comp=Z,3.0nm,0.6s								
NB2	NORSAR Subarra	23.25	349	P		P	01 02 12.1	-1.5	
	baz=153,slow=10								
NB2	NORSAR Subarra	23.25	349	P		P	01 02 12.1	-1.5	
	comp=Z,5.6nm,0.6s,baz=153,slow=10								
NB2	NORSAR Subarra	23.25	349	P		P	01 02 12.1	-1.5	
	baz=153,slow=9.8,SNR=38								
NOA	NORSAR Array B	23.25	349	P		P	01 02 13.1	-0.5	
NOA				PcP		PcP	01 06 00.9	+0.1	
NOA	NORSAR Array B	23.25	349	P		P	01 02 13.1	-0.5	
	comp=Z,8.2nm,0.8s,baz=161,slow=9.7,SNR=31								
NOA				PcP		PcP	01 06 00.9	+0.1	
	comp=Z,1.9nm,0.7s,baz=135,slow=2.5,SNR=3.9								
NOA				LR		LR	01 12 42.7		
	comp=Z,153nm,18.6s,baz=65,slow=40								
NOA	NORSAR Array B	23.25	349	P		P	01 02 13.1	-0.5	
	comp=Z,8.0nm,0.8s								
NOA	NORSAR Array B	23.25	349	PcP		PcP	01 06 00.9	+0.1	
IRAZ	Razeghan	23.86	88	*e*P		P	01 02 19.2	-0.9	
IRAZ	Razeghan	23.86	88	*e*P		P	01 02 19.2	-0.9	
KAF	Kangasniemi	23.92	7	*e*p		P	01 02 19.6	-0.4	
	comp=Z,25nm,0.5s								
MIB	Mutribah	23.97	103	*e*P		P	01 02 18.6	-2.2	
MIB				AMb		AMB	01 02 22.1		
	comp=Z,92nm,0.6s								
NAY	Al-Naaiem	24.16	104	*e*P		P	01 02 21.1	-1.6	
NAY				AMb		AMB	01 02 29.4		
	comp=Z,22nm,0.6s								
UMR	Umm Al-Rimmam	24.37	103	*e*P		P	01 02 22.7	-1.9	
UMR				AMb		AMB	01 02 30.4		
	comp=Z,74nm,0.6s								
RDF	Al-Radifah	24.55	105	*e*P		P	01 02 24.4	-1.9	
RDF				AMb		AMB	01 02 32.4		
	comp=Z,79nm,1.2s								
JOF	Joensuu	25.34	12	*e*p		P	01 02 32.5	-0.5	
	comp=Z,22nm,0.6s								
KLMR	Klimovskoe	25.40	22	*c i*P		P	01 02 33.3	-0.3	
KLMR				*e*			01 06 07.2		
KLMR				*e*S		S	01 06 57.8	-1.5	
KLMR				pmax		pmax			
	comp=Z,43nm,0.7s								
KLMR				MLR		MLR			
	comp=Z,887nm,15.0s								
KLMR	Klimovskoe	25.40	22	*i* P		P	01 02 33.3	-0.3	
	comp=Z,43nm,0.7s								
KLMR	Klimovskoe	25.40	22	*e*PcP		PcP	01 06 07.2	+1.8	
IPIR	Pirpir	25.50	94	*e*P		P	01 02 34.7	-0.5	
IPIR	Pirpir	25.50	94	*e*P		P	01 02 34.7	-0.5	
IKLH	Kolahrood	25.81	92	*e*P		P	01 02 39.0	+1.0	
IKLH	Kolahrood	25.81	92	*e*P		P	01 02 39.0	+1.0	
IGAR	Gharneh	26.51	94	*e*P		P	01 02 43.6	-0.6	
NSS	Namsos	26.51	352	*e*		P	01 02 35.7	-7.8	
IZEF	Zefreh	26.55	92	*e*P		P	01 02 42.3	-2.4	
IZEF	Zefreh	26.55	92	*e*P		P	01 02 42.3	-2.4	
MOR8	Moi Rana	27.90	355	*e*P		P	01 02 58.2	+2.1	
AKTK	Aktyubinsk	29.14	54	P		P	01 03 05.8	-1.5	
	comp=Z,3.0nm,0.4s								
AKTO	Aktyubinsk	29.14	54	P		P	01 03 05.8	-1.5	
AKTO				S		S	01 07 52.2	-6.4	
AKTO				pmax		pmax			
	comp=Z,3.0nm,0.4s								
AKTO				smax		smax			
	comp=N,1.0nm,0.5s								
AKTO				MLR		MLR			
	comp=Z,164nm,20.3s								
AKTO	Aktyubinsk	29.14	54	P		P	01 03 05.8	-1.5	
AKTO				S		S	01 07 52.2	-6.4	
AKTO	Aktyubinsk	29.14	54	P		P	01 03 05.8	-1.5	
	comp=Z,3.0nm,0.4s,baz=256,slow=8.9,SNR=15								
AKTO				S		S	01 07 52.2	-6.4	
	comp=Z,0.7nm,0.5s,baz=356,slow=19,SNR=2.4								
AKTO				LR		LR	01 17 00.9		
	comp=Z,164nm,20.3s,baz=92,slow=41								
AKTO	Aktyubinsk	29.14	54	P		P	01 03 05.8	-1.5	
TOA0	Torodi Ar. Sit	30.17	218	*e*P		P	01 03 17.3	+0.6	
TOA0	Torodi Ar. Sit	30.17	218	*e*P		P	01 03 17.3	+0.6	
TORD	Torodi Ar. Bea	30.17	218	P		P	01 03 17.4	+0.7	
TORD	Torodi Ar. Bea	30.17	218	P		P	01 03 17.4	+0.7	
	comp=Z,6.5nm,0.6s,baz=32,slow=8.2,SNR=52								
TORD				LR		LR	01 15 57.7		
	comp=Z,218nm,19.6s,baz=15,slow=37								
TORD	Torodi Ar. Bea	30.17	218	P		P	01 03 17.4	+0.7	
AB31	Akbulak array	30.22	56	*i* P		P	01 03 16.4	-0.5	
AB31				pmax		pmax			
	comp=Z,1.0nm,0.2s								
AB31	Akbulak array	30.22	56	*i* P		P	01 03 16.4	-0.5

BVAR Borovoye Array 37.06 50 P **P 01 04 15.8 -0.4**
comp=Z,4.2nm,0.5s,baz=269,slow=8.0,SNR=89
BVAR Borovoye Array 37.06 50 P **P 01 04 15.8 -0.4**
comp=Z,4.0nm,0.5s
KK31 Karatay Array 37.85 67 *i* P **P 01 04 22.0 -1.1**
KK31 pmax pmax
comp=Z,4.0nm,0.4s
KK31 Karatay Array 37.85 67 *i* P **P 01 04 22.0 -1.1**
comp=Z,4.0nm,0.4s
KKAR Karatay Array 37.85 67 *eP* **P 01 04 21.6 -1.5**
KKAR pmax pmax
comp=Z,12nm,0.7s
KKAR Karatay Array 37.85 67 *eP* **P 01 04 21.6 -1.5**
comp=Z,12nm,0.7s
KKAR Karatay Array 37.85 67 *eP* **P 01 04 21.6 -1.5**
comp=Z,12nm,0.7s
SCO Scoresbysund 38.80 339 *i* P **P 01 04 32.6 +1.9**
comp=Z,6.7nm,1.2s
DBIC Dimbokro 39.01 222 *eP* **P 01 04 33.2 +0.2**
comp=Z,24nm,1.3s
DBIC Dimbokro 39.01 222 P **P 01 04 33.5 +0.5**
comp=Z,5.7nm,0.6s,baz=11,slow=11,SNR=18
DBIC LR LR 01 21 25.6
comp=Z,287nm,19.3s,baz=16,slow=37
DBIC Dimbokro 39.01 222 *eP* **P 01 04 33.2 +0.2**
comp=Z,24nm,1.3s
KBL Kabul 39.04 80 *eP* **P 01 04 33.6 +0.2**
KBL pmax pmax
comp=Z,5.0nm,0.9s
KBL Kabul 39.04 80 *eP* **P 01 04 33.6 +0.2**
comp=Z,5.2nm,0.9s
KBL Kabul 39.04 80 *eP* **P 01 04 33.6 +0.2**
comp=Z,5.2nm,0.9s
LIC Lamto 39.47 222 *eP* **P 01 04 36.4 -0.5**
comp=Z,94nm,1.2s
LIC *eR*
comp=Z,402nm,21.2s
LIC Lamto 39.47 222 *eP* **P 01 04 36.4 -0.5**
comp=Z,47nm,1.2s
EKS2 Erkin-Say 40.29 67 *eP* **P 01 04 43.5 -0.2**
EKS2 pmax pmax
comp=Z,15nm,0.8s
EKS2 Erkin-Say 40.29 67 *eP* **P 01 04 43.5 -0.2**
comp=Z,15nm,0.8s
EKS2 Erkin-Say 40.29 67 *eP* **P 01 04 43.5 -0.2**
comp=Z,15nm,0.8s
AAK Ala-Archa 40.81 66 *ceP* **P 01 04 48.6 +0.6**
AAK pmax pmax
comp=Z,3.0nm,0.3s
AAK Ala-Archa 40.81 66 *eP* **P 01 04 48.6 +0.6**
comp=Z,3.0nm,0.3s
TKM2 Tokmak 2 41.53 66 *eP* **P 01 04 53.6 -0.4**
TKM2 pmax pmax
comp=Z,3.0nm,0.6s
TKM2 Tokmak 2 41.53 66 *eP* **P 01 04 53.6 -0.4**
comp=Z,2.7nm,0.6s
TKM2 Tokmak 2 41.53 66 *eP* **P 01 04 53.6 -0.4**
comp=Z,2.7nm,0.6s
DAG Danmarks Havn 41.92 347 *i* P **P 01 04 55.8 -0.7**
comp=Z,23nm,0.8s
KURK Kurchatov 42.24 54 *eP* **P 01 04 57.9 -1.5**
KURK pmax pmax
comp=Z,6.0nm,0.9s
KURK Kurchatov 42.24 54 *eP* **P 01 04 57.9 -1.5**
comp=Z,6.3nm,0.9s
KURK Kurchatov 42.24 54 *eP* **P 01 04 57.9 -1.5**
comp=Z,6.3nm,0.9s
KMBO Kilima Mbogo 42.44 154 *eP* **P 01 05 03.4 +1.7**
comp=Z,4.4nm,1.2s
KSH Kashi 42.70 70 *eP* **P 01 05 02.3 -1.2**
KSH pP pP 01 05 12.5 +3.9
KSH sP sP 01 05 16.6 +5.9
KSH PP **PP 01 06 45.8 +3.4**
KSH PcP **PcP 01 06 57.9 +2.8**
KSH S S 01 11 21.6 -4.7
KSH SS SS 01 14 23.9 -13
KSH ScS ScS 01 14 58.4 -5.8
KSH pmax pmax
comp=Z,1.0nm,0.9s
KSH pmax pmax
comp=Z,60nm,5.1s
KSH LR LR
comp=N,150nm,4.8s
KSH LR LR
comp=E,140nm,5.0s
KSH LR LR
comp=Z,270nm,5.9s
SUMG Summit 44.43 338 *eP* **P 01 05 18.5 +1.2**
SUMG pmax pmax
comp=Z,18nm,1.1s
SUMG Summit 44.43 338 *eP* **P 01 05 18.5 +1.2**
comp=Z,18nm,1.1s
SUMG Summit 44.43 338 *i* P **P 01 05 17.6 +0.3**
comp=Z,9.7nm,1.0s
SUMG Summit 44.43 338 *eP* **P 01 05 18.5 +1.2**
comp=Z,18nm,1.1s
NVS Novosibirsk 44.59 47 *eP* **P 01 05 16.8 -1.5**
NVS *eS* S 01 11 47.5 -5.8
NVS pmax pmax
comp=N,3.0nm,0.8s
NVS pmax pmax
comp=Z,13nm,0.8s
NVS pmax pmax
comp=E,10.0nm,1.0s
NVS smax smax
comp=N,6.0nm,1.1s
NVS smax smax
comp=E,7.0nm,1.7s
NVS Novosibirsk 44.59 47 *eP* **P 01 05 16.8 -1.5**
comp=E,6.0nm,1.1s
MK31 Makanchi Array 45.30 59 *i* P **P 01 05 22.5 -1.6**
MK31 pmax pmax
comp=Z,8.0nm,0.5s
MK31 Makanchi Array 45.30 59 *i* P **P 01 05 22.5 -1.6**
comp=Z,8.0nm,0.5s
MKAR Makanchi Array 45.30 59 P **P 01 05 22.6 -1.5**
MKAR S S 01 11 58.4 -5.5
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR smax smax
comp=N,1.0nm,0.9s
MKAR MLR MLR
comp=Z,130nm,19.9s
MKAR Makanchi Array 45.30 59 *eP* **P 01 05 22.7 -1.5**
MKAR S S 01 11 58.4 -5.5
MKAR Makanchi Array 45.30 59 P **P 01 05 22.6 -1.5**
comp=Z,2.5nm,0.4s,baz=276,slow=7.5,SNR=89
MKAR S S 01 11 58.4 -5.5
comp=Z,0.6nm,0.9s,baz=291,slow=12,SNR=3.6
MKAR LR LR 01 26 37.6
comp=Z,130nm,19.9s,baz=345,slow=39
MKAR Makanchi Array 45.30 59 *eP* **P 01 05 22.7 -1.4**
ZAA0 Zalesovo Array 45.62 48 *eP* **P 01 05 25.1 -1.4**
ZAA0 Zalesovo Array 45.62 48 *eP* **P 01 05 25.1 -1.4**
ZALV Zalesovo Beam 45.62 48 *eP* **P 01 05 25.1 -1.4**
ZALV pmax pmax
comp=Z,24nm,0.4s
ZALV Zalesovo Beam 45.62 48 P **P 01 05 25.1 -1.4**
ZALV S S 01 12 02.7 -5.4
ZALV Zalesovo Beam 45.62 48 P **P 01 05 25.1 -1.4**
comp=Z,24nm,0.4s,baz=275,slow=8.5,SNR=227
ZALV S S 01 12 02.7 -5.4
comp=Z,0.2nm,0.4s,baz=242,slow=9.3,SNR=3.5
ZALV LR LR 01 27 10.5
comp=Z,228nm,18.1s,baz=70,slow=40
ZALV Zalesovo Beam 45.62 48 *eP* **P 01 05 25.1 -1.4**
comp=Z,24nm,0.4s
WMQ Urumqi 49.77 61 *eP* **P 01 05 59.2 +0.2**
WMQ pP pP 01 06 08.5 +4.3
WMQ sP sP 01 06 11.8 +5.6
WMQ *eS* **S 01 13 04.5 -3.1**
WMQ sS sS 01 13 20.5 +4.3
WMQ pmax pmax
comp=Z,6.0nm,1.2s
WMQ pmax pmax
comp=Z,210nm,4.8s
WMQ LR LR
comp=N,230nm,21.4s
WMQ LR LR
comp=E,170nm,22.9s
WMQ LR LR
comp=Z,170nm,20.2s
DRLN Deer Lake 54.73 308 *eP* **P 01 06 36.6 +1.0**
DRLN Deer Lake 54.73 308 *eP* **P 01 06 36.6 +1.0**
MOY Mondy 55.67 48 *eP* **P 01 06 42.8 +0.2**
MOY Mondy 55.67 48 *eP* **P 01 06 42.8 +0.2**

TLY Talaya 57.21 47 *eP* **P 01 06 54.0 +0.6**
TLY pmax pmax
comp=Z,4.0nm,1.0s
TLY MLR MLR
comp=Z,151nm,15.0s
TLY Talaya 57.21 47 *eP* **P 01 06 54.0 +0.6**
comp=Z,151nm,15.0s
ZAK Zakamensk 57.49 49 *eP* **P 01 06 55.1 -0.4**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
ZAK Zakamensk 57.49 49 *eP* **P 01 06 55.1 -0.4**
comp=Z,4.0nm,1.5s
LSA Lhasa 58.05 76 *eP* **P 01 06 58.8 -1.4**
LSA Lhasa 58.05 76 *eP* **P 01 06 58.8 -1.4**
LSA Lhasa 58.05 76 *eP* **P 01 06 58.8 -1.4**
SCHQ Schefferville 58.07 317 *eP* **P 01 06 59.9 +0.5**
comp=Z,15nm,0.6s
SCHQ Schefferville 58.07 317 P **P 01 07 00.2 +0.8**
comp=Z,14nm,0.6s,baz=62,slow=6.2,SNR=75
SCHQ Schefferville 58.07 317 *eP* **P 01 06 59.9 +0.5**
comp=Z,15nm,0.6s
RES Resolute Bay 59.39 344 *eP* **P 01 07 09.5 +1.3**
comp=Z,4.2nm,1.0s
RES Resolute Bay 59.39 344 *eP* **P 01 07 09.5 +1.3**
comp=Z,4.2nm,1.0s
GTA Gaotai 59.84 62 *eP* **P 01 07 11.0 -1.1**
GTA pP pP 01 07 21.0 +3.6
GTA sP sP 01 07 25.1 +5.7
GTA pmax pmax
comp=Z,2.0nm,0.6s
BOD Bodaibo 60.23 38 *eP* **P 01 07 12.9 -1.3**
BOD pmax pmax
comp=Z,4.0nm,1.9s
BOD Bodaibo 60.23 38 *eP* **P 01 07 12.9 -1.3**
comp=Z,4.0nm,1.9s
SONM Songino Array 60.40 51 P **P 01 07 15.2 -0.6**
SONM Songino Array 60.40 51 P **P 01 07 15.2 -0.6**
comp=Z,2.6nm,0.8s,baz=291,slow=8.1,SNR=12
SONM LR LR 01 37 58.0
comp=Z,98nm,18.1s,baz=137,slow=41
SONM Songino Array 60.40 51 P **P 01 07 15.2 -0.6**
comp=Z,99nm,18.1s
ULN Ulaanbaatar 60.78 50 *eP* **P 01 07 17.7 -0.7**
comp=Z,5.6nm,0.9s
ULN Ulaanbaatar 60.78 50 *eP* **P 01 07 17.7 -0.7**
comp=Z,5.6nm,0.9s
LBTB Lobatse 63.39 175 *eP* **P 01 07 36.7 +0.8**
comp=Z,8.1nm,0.9s
LBTB Lobatse 63.39 175 P **P 01 07 36.4 +0.4**
comp=Z,5.9nm,0.8s,baz=340,slow=6.9,SNR=13
LBTB Lobatse 63.39 175 *eP* **P 01 07 36.7 +0.8**
comp=Z,8.1nm,0.9s
LZH Lanzhou 64.23 63 *eP* **P 01 07 41.8 +0.1**
LZH pP pP 01 07 50.0 +3.0
LZH sP sP 01 07 53.7 +4.7
LZH PP **PP 01 10 03.0 +0.3**
LZH *eS* **S 01 16 17.0 -1.7**
LZH sS **sS 01 16 28.1 +0.6**
LZH pmax pmax
comp=Z,12nm,1.1s
LZH pmax pmax
comp=Z,90nm,5.8s
LZH LR LR
comp=N,170nm,12.3s
LZH LR LR
comp=E,100nm,10.6s
LZH LR LR
comp=Z,170nm,13.6s
YAK Yakutsk 64.92 29 *eP* **P 01 07 44.2 -1.2**
YAK pmax pmax
comp=Z,13nm,0.6s
YAK Yakutsk 64.92 29 *eP* **P 01 07 44.4 -1.0**
comp=Z,15nm,0.6s
YAK Yakutsk 64.92 29 *eP* **P 01 07 44.4 -1.0**
comp=Z,15nm,0.6s
CD2 Chengdu 66.83 68 ⇓P **P 01 07 58.6 +0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 pmax pmax
comp=Z,120nm,7.0s
BOSA Boshof 66.94 175 *eP* **P 01 07 59.3 +0.4**
comp=Z,10.0nm,1.2s
BOSA Boshof 66.94 175 P **P 01 07 59.7 +0.8**
comp=Z,3.8nm,0.6s,baz=324,slow=6.5,SNR=8.9
BOSA LR LR 01 39 21.1
comp=Z,171nm,18.1s,baz=346,slow=38
BOSA Boshof 66.94 175 *eP* **P 01 07 59.3 +0.4**
comp=Z,10.0nm,1.2s
HHC Hu-ho-hao-te 67.01 55 *eP* **P 01 07 57.8 -1.7**
HHC pP pP 01 08 08.1 +3.3
HHC sP sP 01 08 12.1 +5.3
HHC PP **PP 01 10 26.9 +0.2**
HHC S S 01 16 46.7 -5.7
HHC sS sS 01 17 03.7 +2.5
HHC SS **SS 01 21 05.8 -4.7**
HHC pmax pmax
comp=Z,6.0nm,0.8s
HHC pmax pmax
comp=Z,90nm,5.2s
HHC LR LR
comp=N,160nm,15.2s
HHC LR LR
comp=E,220nm,15.5s
HHC LR LR
comp=Z,130nm,14.9s
RCBR Riachuelo 68.16 243 P **P 01 08 08.3 +1.4**
RCBR Riachuelo 68.16 243 P **P 01 08 08.3 +1.4**
comp=Z,7.5nm,0.9s,baz=83,slow=16,SNR=3.7
RCBR Riachuelo 68.16 243 P **P 01 08 08.3 +1.4**
KMI Kunming 69.21 74 P **P 01 08 16.7 +3.1**
KMI pmax pmax
comp=Z,3.0nm,0.6s
CMAR Chiang Mai Arr 70.04 82 P **P 01 08 17.6 -0.9**
CMAR Chiang Mai Arr 70.04 82 P **P 01 08 17.6 -0.9**
comp=Z,1.9nm,0.7s,baz=304,slow=7.5,SNR=9.5
CMAR LR LR 01 44 24.6
comp=Z,51nm,19.0s,baz=51,slow=41
CMAR Chiang Mai Arr 70.04 82 P **P 01 08 17.6 -0.9**
SUR Sutherland 70.54 180 *eP* **P 01 08 22.5 +1.2**
comp=Z,7.4nm,0.7s
SUR Sutherland 70.54 180 *eP* **P 01 08 22.5 +1.2**
comp=Z,7.4nm,0.7s
BILL Bilibino 70.73 13 *i* P **P 01 08 20.8 -1.2**
BILL *i* 01 08 31.8
BILL pmax pmax
comp=Z,4.0nm,1.1s
BILL Bilibino 70.73 13 *eP* **P 01 08 21.6 -0.4**
comp=Z,4.7nm,0.7s
BILL Bilibino 70.73 13 *eP* **P 01 08 21.6 -0.4**
comp=Z,4.7nm,0.7s
GYA Guiyang 71.40 71 *eP* **P 01 08 27.8 +0.9**
GYA pP pP 01 08 38.0 +5.7
GYA PP **PP 01 11 07.9 +2.8**
GYA S **S 01 17 41.5 -3.2**
GYA sS sS 01 17 58.4 +4.9
GYA SKS SKSac 01 18 23.0 -6.7
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,80nm,5.3s
INK Inuvik 71.69 350 *eP* **P 01 08 27.8 +0.1**
comp=Z,2.7nm,0.9s
INK Inuvik 71.69 350 *eP* **P 01 08 27.8 +0.1**
comp=Z,2.7nm,0.9s
YKA Yellowknife Ar 73.00 340 P **P 01 08 35.8 +0.1**
YKA Yellowknife Ar 73.00 340 P **P 01 08 35.8 +0.1**
comp=Z,2.1nm,0.8s,baz=37,slow=5.1,SNR=31
CN2 Changchun 73.80 47 *eP* **P 01 08 40.1 -0.6**
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,400nm,18.0s
COLD Coldfoot 74.33 356 *eP* **P 01 08 43.1 -0.3**
comp=Z,4.4nm,1.0s
FFC Flin Flon 74.79 329 *eP* **P 01 08 47.2 +0.9**
FFC pmax pmax
comp=Z,22nm,1.8s
FFC Flin Flon 74.79 329 *eP* **P 01 08 47.2 +0.9**
comp=Z,22nm,1.8s
ULM Lac du Bonnet 75.31 323 P **P 01 08 48.5 -0.8**
ULM Lac du Bonnet 75.31 323 P **P 01 08 48.5 -0.8**
comp=Z,9.2nm,0.9s,baz=53,slow=5.5,SNR=14
ILAR Eielson Array 76.55 354 P **P 01 08 56.9 +0.7**
ILAR Eielson Array 76.55 354 P **P 01 08 56.9 +0.7**
comp=Z,1.4nm,0.9s,baz=358,slow=4.1,SNR=14
USRK Ussuriysk Arra 77.18 43 P **P 01 08 59.5 -0.6**
comp=Z,3.9nm,0.6s,baz=279,slow=5.3,SNR=10
MCK McKinley 77.73 355 *eP* **P 01 09 02.9 0.0**
MCK pmax pmax
comp=Z,12nm,1.1s
MCK McKinley 77.73 355 *eP* **P 01 09 02.9 0.0**
comp=Z,12nm,1.1s
TRF Thorofare Moun 78.09 356 *eP* **P 01 09 04.8 -0.3**
comp=Z,13nm,1.4s
KSAR Wonju Array Be 79.26 51 P **P 01 09 11.0 -0.7**
KSRS Korea Array 79.27 51 P **P 01 09 11.0 -0.8**
comp=Z,4.3nm,0.6s,baz=308,slow=4.9,SNR=15
KSRS LR LR 01 48 11.0
comp=Z,98nm,18.4s,baz=305,slow=39
ECSD EROS Data Cent 80.20 319 *eP* **P 01 09 17.6 +0.8**
comp=Z,6.4nm,0.9s
WVT Waverly 80.40 309 *eP* **P 01 09 17.8 -0.1**
WVT pmax pmax
comp=Z,5.0nm,0.7s
WVT Waverly 80.40 309 *eP* **P 01 09 17.8 -0.1**
comp=Z,4.7nm,0.7s
YSS Yuzh-Sakhalins 80.61 36 *eP* **P 01 09 19.2 +0.3**
YSS pmax pmax
comp=Z,8.0nm,0.9s
YSS Yuzh-Sakhalins 80.61 36 *eP* **P 01 09 18.7 -0.2**
A22A Carney Farms, 80.70 327 ⇓P **P 01 09 20.0 +0.5**
baz=80,SNR=6.0
FVM French Village 80.73 311 *eP* **P 01 09 20.4 +0.6**
FVM pmax pmax
comp=Z,35nm,1.5s
FVM French Village 80.73 311 *eP* **P 01 09 20.4 +0.6**
comp=Z,35nm,1.5s
BRSD Miller 80.88 321 ⇑P **P 01 09 20.9 +0.4**
baz=81
C23A Lambert 81.30 326 ⇑P **P 01 09 22.7 +0.1**
baz=81
PLAL Pickwick Lake 81.30 308 *eP* **P 01 09 22.7 -0.1**
comp=Z,3.6nm,0.6s
PETK Petropavlovsk- 81.58 24 LR LR 01 51 18.9
comp=Z,88nm,19.4s,baz=116,slow=40
LRAL Lakeview Retre 81.90 306 *eP* **P 01 09 27.0 +1.0**
comp=Z,16nm,1.0s
D22A Cohagen 82.23 326 ⇓P **P 01 09 29.0 +1.4**
baz=82
A18A Metzger Ranch, 82.37 329 ⇑P **P 01 09 29.4 +1.1**
baz=82,SNR=5.3
B19A Brinkman Farms 82.38 329 ⇑P **P 01 09 29.6 +1.3**
baz=82
F24A Ekalaka 82.46 325 ⇓P **P 01 09 30.2 +1.4**
baz=82
C20A Veseth Ranch, 82.57 328 ⇑P **P 01 09 30.7 +1.4**
baz=82,SNR=6.7
BGNE Belgrade 82.65 318 ⇓P **P 01 09 31.0 +1.2**
baz=82
B18A Beardsley Farm 82.76 329 ⇓P **P 01 09 31.7 +1.3**
baz=82,SNR=5.6
F23A Volborg 82.98 325 ⇑P **P 01 09 32.1 +0.5**
baz=83
EGMT Eagleton 83.05 329 ⇓P **P 01 09 32.9 +1.1**
baz=83
D20A Manuel Ranch, 83.11 327 ⇓P **P 01 09 33.4 +1.2**
baz=83,SNR=5.3
B17A L&G Farms, Che 83.25 330 ⇑P **P 01 09 33.3 +0.5**
baz=83
G23A Biddle 83.38 325 ⇑P **P 01 09 33.9 +0.2**
baz=83
A15A Johnson Ranch, 83.45 331 ⇑P **P 01 09 34.1 +0.1**
baz=83
KSU1 Kansas State U 83.47 316 *eP* **P 01 09 35.3 +1.2**
comp=Z,8.2nm,0.6s
BDFB Brasilia 83.48 244 P **P 01 09 35.6 +1.1**
BDFB Brasilia 83.48 244 P **P 01 09 35.6 +1.1**
comp=Z,5.5nm,0.7s,baz=65,slow=6.0,SNR=7.1
BDFB LR LR 01 46 36.1
comp=Z,87nm,18.8s,baz=70,slow=36
E20A Meyer Farm, Mu 83.57 327 ⇑P **P 01 09 35.2 +0.6**
baz=83
RSSD Black Hills 83.58 323 *eP* **P 01 09 36.1 +1.3**
RSSD pmax pmax
comp=Z,3.0nm,0.8s
RSSD Black Hills 83.58 323 *eP* **P 01 09 36.1 +1.3**
comp=Z,3.1nm,0.8s
A14A Double T Ranch 83.71 331 ⇑P **P 01 09 35.9 +0.6**
baz=84
C17A Wharram Farm, 83.77 329 ⇑P **P 01 09 36.1 +0.6**
baz=84
B15A Bradely Ranch, 83.93 331 ⇓P **P 01 09 36.5 +0.1**
baz=84
C16A Fuhringer Ranc 84.02 330 ⇓P **P 01 09 37.2 +0.3**
baz=84
B14A Marquette Ranc 84.16 331 ⇓P **P 01 09 38.5 +0.8**
baz=84
F19A Roth Farm, Mol 84.43 327 ⇑P **P 01 09 40.3 +1.3**
baz=84,SNR=7.9
D16A Dana Ranch, Ca 84.57 329 ⇓P **P 01 09 40.3 +0.6**
baz=84
B13A Whitefish 84.60 332 ⇑P **P 01 09 40.2 +0.4**
baz=84
E17A Martinsdale 84.75 328 ⇑P **P 01 09 41.6 +0.9**
baz=84
C14A Swan Lake 84.83 331 ⇑P **P 01 09 41.2 +0.2**
baz=85
MIAR Mount Ida 84.93 311 *eP* **P 01 09 43.1 +1.5**
MIAR pmax pmax
comp=Z,11nm,0.9s
MIAR Mount Ida 84.93 311 *eP* **P 01 09 43.1 +1.5**
comp=Z,11nm,0.9s
E16A East Helena 85.02 329 ⇑P **P 01 09 42.1 +0.1**
baz=85
H20A Greybull 85.10 326 ⇑P **P 01 09 42.6 +0.2**
baz=85
F17A Fitzpatrick Pl 85.11 328 ⇑P **P 01 09 43.2 +0.7**
baz=85
SWMT Swartz Lake 85.14 331 *eP* **P 01 09 43.9 +1.3**
comp=Z,3.5nm,0.8s
C13A Hot Springs 85.22 331 ⇑P **P 01 09 42.9 0.0**
baz=85
SDV Santo Domingo 85.24 277 *eP* **P 01 09 45.1 +1.5**
comp=Z,13nm,1.4s
J22A Midwest 85.25 324 ⇓P **P 01 09 43.8 +0.5**
baz=85
D14A Greenough 85.30 330 ⇓P **P 01 09 44.4 +0.9**
baz=85
I21A Big Trails, Te 85.31 325 ⇓P **P 01 09 43.7 +0.1**
baz=85
CBKS Cedar Bluff 85.37 317 *eP* **P 01 09 45.0 +1.2**
CBKS pmax pmax
comp=Z,9.0nm,0.7s
CBKS Cedar Bluff 85.37 317 *eP* **P 01 09 45.0 +1.2**
comp=Z,8.9nm,0.7s
CBKS Cedar Bluff 85.37 317 ⇑P **P 01 09 44.9 +1.2**
baz=85
H19A Powell 85.39 326 ⇑P **P 01 09 45.5 +1.6**
baz=85,SNR=6.8
E15A Deer Lodge 85.50 329 ⇑P **P 01 09 46.0 +1.6**
baz=85
I20A Worland 85.58 325 ⇓P **P 01 09 45.7 +0.9**
baz=85,SNR=5.4
D13A Huson 85.66 331 ⇓P **P 01 09 45.4 +0.3**
baz=85
NEW Newport 85.66 333 *eP* **P 01 09 45.8 +0.8**
comp=Z,2.3nm,0.8s
MSO Missoula 85.68 330 ⇑P **P 01 09 45.4 +0.1**
baz=85
BOZ Bozeman (W) 85.72 328 *eP* **P 01 09 47.3 +1.7**
BOZ pmax pmax
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 85.72 328 *eP* **P 01 09 47.2 +1.7**
comp=Z,1.9nm,0.8s
E14A Clinton 85.84 330 ⇓P **P 01 09 46.7 +0.5**
baz=86
MJAR Matsushiro Arr 85.89 46 P **P 01 09 46.3 -0.1**
MJAR Matsushiro Arr 85.89 46 P **P 01 09 46.3 -0.1**
comp=Z,4.2nm,0.8s,baz=312,slow=5.2,SNR=7.9
MJA0 Matsu Arr-Jizo 85.92 45 *eP* **P 01 09 46.6 +0.1**
MJA0 pmax pmax
comp=Z,4.0nm,0.8s
F15A Butte 85.92 329 ⇑P **P 01 09 47.7 +1.1**
baz=86
D12A Red Ives Fores 86.03 331 ⇑P **P 01 09 47.5 +0.5**
baz=86
E13A Victor 86.09 330 ⇓P **P 01 09 48.0 +0.7**
baz=86
E12A Beaver Dam Sad 86.65 331 ⇑P **P 01 09 50.2 +0.2**
baz=86
F13A Darby 86.69 330 ⇑P **P 01 09 50.7 +0.4**
baz=86

J18A **Kendall Valley** 87.00 326 ⇓P P 01 09 52.9 +0.8
baz=87,SNR=7.2
F12A **Elk City** 87.08 331 ⇑P P 01 09 52.6 +0.4
baz=87
PDAR **Pinedale Array** 87.15 326 P P 01 09 52.8 0.0
PDAR **Pinedale Array** 87.15 326 P P 01 09 52.8 0.0
comp=Z,0.6nm,0.8s,baz=75,slow=5.2,SNR=6.3
PDAR LR LR 01 47 33.9
comp=Z,67nm,20.1s,baz=62,slow=35
G13A **Cobalt** 87.23 330 ⇑P P 01 09 53.1 +0.2
baz=87
J16A **Bone** 87.64 327 ⇑P P 01 09 56.0 +1.0
baz=87
H13A **Challis** 87.68 329 ⇑P P 01 09 56.2 +1.0
baz=87
N21A **Black Mountain** 87.81 323 ⇓P P 01 09 55.9 0.0
baz=88
WMOK **Wichita Mounta** 87.81 314 eP P 01 09 57.0 +1.2
WMOK pmax pmax
comp=Z,8.0nm,0.9s
WMOK **Wichita Mounta** 87.81 314 eP P 01 09 57.0 +1.2
comp=Z,7.9nm,0.9s
T28A **Walsh** 87.88 318 ⇑P P 01 09 57.0 +0.8
baz=88
N20A **Spence Gulch,** 88.10 324 ⇓P P 01 09 57.6 +0.2
baz=88
I13A **Wildhorse Cree** 88.16 329 ⇑P P 01 09 57.2 -0.3
baz=88
L16A **Fish Haven** 88.58 326 ⇑P P 01 09 59.7 +0.1
baz=88
O19A **Miners Draw (B** 88.92 324 ⇓P P 01 10 01.1 -0.1
baz=89
HWUT **Hardware Ranch** 88.97 326 eP P 01 10 01.9 +0.5
comp=Z,3.9nm,0.8s
Q22A **Crested Butte,** 89.00 322 ⇑P P 01 10 02.0 +0.3
baz=89
SDCO **Great Sand Dun** 89.16 320 ⇓P P 01 10 02.5 0.0
baz=89,SNR=5.1
N17A **Moffit Pass** 89.19 325 ⇓P P 01 10 02.4 -0.1
baz=89
U26A **Atchley Ranch,** 89.29 318 ⇑P P 01 10 03.4 +0.5
baz=89,SNR=5.9
M15A **Larsen Ranch,** 89.47 326 ⇓P P 01 10 03.9 +0.2
baz=89
U25A **Circle Dot Ran** 89.63 318 ⇓P P 01 10 05.6 +1.0
baz=89,SNR=5.8
O17A **Robinson Place** 89.74 325 ⇓P P 01 10 05.0 -0.1
baz=90
S22A **4UR Ranch, Cre** 89.83 321 ⇓P P 01 10 05.0 -0.6
baz=90
S21A **Coal Bank Pass** 90.37 321 ⇑P P 01 10 08.5 +0.4
baz=90,SNR=6.3
T22A **Edith** 90.43 320 ⇓P P 01 10 08.1 -0.3
baz=90
SRU **San Rafael** 90.52 324 ⇑P P 01 10 08.3 -0.3
baz=90
DUG **Dugway** 90.67 326 eP P 01 10 10.3 +1.0
DUG pmax pmax
comp=Z,5.0nm,1.2s
DUG **Dugway** 90.67 326 eP P 01 10 10.3 +1.0
comp=Z,4.8nm,1.2s
DUG **Dugway** 90.67 326 ⇓P P 01 10 08.7 -0.6
baz=90
R18A **Canyonlands Na** 90.80 323 ⇓P P 01 10 09.4 -0.6
baz=91
S19A **Harvey Farm, M** 90.95 322 ⇑P P 01 10 10.0 -0.7
baz=91,SNR=6.2
V23A **Ortiz Mt. (NFS** 91.05 319 ⇑P P 01 10 10.1 -1.2
baz=91
R17A **Hanksville Air** 91.16 324 ⇑P P 01 10 11.5 -0.1
baz=91
MSU **Marysvale** 91.76 325 eP P 01 10 15.7 +1.2
MSU pmax pmax
comp=Z,1.0nm,0.8s
MSU **Marysvale** 91.76 325 eP P 01 10 15.7 +1.2
comp=Z,1.0nm,0.8s
Z26A **Caprock** 91.78 316 ⇑P P 01 10 15.4 +0.9
baz=92,SNR=5.6
T18A **Mexican Hat** 91.79 322 ⇓P P 01 10 14.8 +0.2
baz=92
T17A **Navajo Res., N** 92.35 323 ⇑P P 01 10 17.2 +0.1
baz=92
125A **Gardner Draw,** 92.62 316 ⇑P P 01 10 18.0 -0.4
baz=92
SIV **San Ignacio** 93.22 252 P P 01 10 22.4 +1.2
SIV **San Ignacio** 93.22 252 P P 01 10 22.4 +1.2
comp=Z,1.8nm,0.8s,baz=27,slow=2,3,SNR=4.0
528A **Cox Ranch, San** 93.47 313 ⇑P P 01 10 21.7 -0.7
baz=93
U15A **North Rim** 93.51 323 ⇑P P 01 10 22.0 -0.7
baz=93
426A **McDonald Obser** 93.79 314 ⇑P P 01 10 23.3 -0.6
baz=94,SNR=7.2
527A **Woodward Ranch** 93.95 314 ⇑P P 01 10 24.5 -0.1
baz=94,SNR=6.8
324A **Moseley Ranch,** 94.00 316 ⇑P P 01 10 24.9 +0.1
baz=94,SNR=7.1
NVAR **Mina Array Bea** 94.47 329 P P 01 10 27.2 +0.2
NVAR **Mina Array Bea** 94.47 329 P P 01 10 27.2 +0.2
comp=Z,0.5nm,0.8s,baz=352,slow=2.1,SNR=4.7
TXAR **Lajitas Array** 94.59 313 P P 01 10 29.0 +1.5
TXAR **Lajitas Array** 94.59 313 P P 01 10 29.0 +1.5
comp=Z,2.1nm,0.9s,baz=58,slow=4.2,SNR=11
TXAR LR LR 01 54 57.3
comp=Z,60nm,18.4s,baz=180,slow=37
WRA **Warramunga Arr** 120.75 92 PKP PKPdf 01 15 57.6 -1.1
WRA **Warramunga Arr** 120.75 92 PKP PKPdf 01 15 57.6 -1.1
comp=Z,1.4nm,0.5s,baz=308,slow=2.1,SNR=7.2
AS31 **Alice Springs** 122.41 96 ePKPdf PKPdf 01 16 00.2 -1.7
ASAR **Alice Springs** 122.41 96 PKP PKPdf 01 16 01.4 -0.5
ASAR **Alice Springs** 122.41 96 PKP PKPdf 01 16 01.4 -0.5
comp=Z,1.9nm,0.6s,baz=315,slow=1.6,SNR=33

ISCJB ***01*** *01:00:23.3±1.5,20°43S±0°05×68°91W±0°07,h81km±13km, mb4.5/46, Error ellipse: s-maj=11.5km s-min=7.4km az=143.6*

IDC ***01*** *01:00:26.3±0.6,20°45S×69°00W,h94km±4km, mb4.1/12, mb1 4.3/13,mb1mx4.2/17,mbtmp4.2/13,MS3.0/2, Ms1 3.0/2,ms1mx2.7/19, Error ellipse: s-maj=18.0km s-min=14.5km az=28.0*

NEIC ***01*** *01:00:27.3±0.6,20°52S×68°87W,h105km±5km, mb4.6/40, Error ellipse: s-maj=9.1km s-min=6.0km az=71.0*

ISC 01 01:00:26.3±0.5,20°50S±0°07×69°00W±0°08,h97km±3km, h97km:pP-P,n357,σ0998/383,mb4.6/46,127C-109D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	4.27	11	ePn	Pn	01 01 33.1	+3.5
LCO	**Las Campanas**	8.62	190	ePn	Pn	01 02 36.8	+8.3
SIV	**San Ignacio**	8.76	61	P	**Pn**	**01 02 31.2**	**+0.9**
SIV	**San Ignacio**	8.76	61	P	**Pn**	**01 02 31.2**	**+0.9**
	27nm,0.3s,baz=260,slow=11,SNR=470						
CFAA	**Coronel Fontan**	11.09	177	P	**Pn**	**01 03 02.2**	**+0.5**
CFAA				S	Sn	01 04 52.3	-12
CFAA	**Coronel Fontan**	11.09	177	P	**Pn**	**01 03 02.2**	**+0.5**
	0.1nm,0.3s,baz=358,slow=16,SNR=9.3						
CFAA				S	Sn	01 04 52.3	-12
	0.1nm,0.3s,baz=24,slow=20,SNR=2.5						
CFAA				LR	LR	01 07 49.3	
	comp=Z,18nm,18.7s,baz=328,slow=40						
NNA	**Nana**	11.32	317	ePn	Pn	01 03 12.6	+7.5
NNA				S	**Sn**	**01 05 11.2**	**+1.5**
NNA	**Nana**	11.32	317	S	**Sn**	**01 05 11.2**	**+1.5**
	1.2nm,0.3s,baz=215,slow=18,SNR=2.8						
SAML	**Samuel**	12.78	27	ePn	**Pn**	**01 03 23.7**	**-0.8**
	12nm,1.1s						
TRQA	**Tornquist**	18.53	162	eP	P	**01 04 35.4**	**+0.3**
	136nm,2.2s						
PLCA	**Paso Flores**	20.22	183	eP	P	**01 04 53.1**	**-0.4**
	5.4nm,0.9s						
PLCA	**Paso Flores**	20.22	183	P	P	**01 04 52.7**	**-0.8**
	7.1nm,1.0s,baz=1.8,slow=13,SNR=8.2						
BDFB	**Brasilia**	20.52	80	P	P	**01 04 55.3**	**-1.7**
BDFB	**Brasilia**	20.52	80	P	P	**01 04 55.3**	**-1.7**
	3.4nm,0.4s,baz=247,slow=9.8,SNR=7.7						
BDFB				LR	LR	01 14 45.6	
	comp=Z,127nm,18.8s,baz=160,slow=42						
OTAV	**Otavalo**	22.59	335	eP	P	01 05 25.8	+6.5
	12nm,1.3s						
RCBR	**Riachuelo**	35.27	70	P	P	**01 07 11.9**	**-0.1**
RCBR	**Riachuelo**	35.27	70	P	P	**01 07 11.9**	**-0.1**
	7.1nm,1.0s,baz=261,slow=14,SNR=5.0						
OBIP	**Obispado Ponce**	38.37	4	eP	P	**01 07 38.2**	**+0.1**
	30nm,0.9s						
CELP	**Cerrillos**	38.41	4	eP	P	**01 07 37.5**	**-0.9**
SJG	**San Juan**	38.47	4	eP	P	**01 07 37.2**	**-1.8**
	25nm,0.8s						
SJG	**San Juan**	38.47	4	P	P	01 07 37.1	-1.8
	25nm,0.7s,baz=270,slow=19,SNR=14						
MPR	**Mayaguez**	38.51	3	eP	P	01 07 38.1	-1.1
	26nm,0.9s						
LRS	**Lares**	38.60	3	eP	P	01 07 39.3	-0.8
NHSC	**New Hope**	54.36	348	eP	P	01 09 44.0	+1.0
	61nm,1.0s						
HKT	**Hockley**	56.42	332	eP	P	01 09 58.3	+0.5
	4.4nm,1.1s						
SWET	**Sewanee**	57.69	344	eP	P	01 10 06.3	-0.4
	12nm,0.6s						
JCT	**Junction City**	58.70	329	eP	P	01 10 13.4	-0.5
	5.7nm,0.8s						
628A	**Black Gap, Mar**	59.47	326	⇓P	P	01 10 19.3	+0.1
	baz=60						
627A	**Terlingua Ranc**	59.70	325	⇓P	P	01 10 20.7	-0.3
	baz=60						
TXAR	**Lajitas Array**	59.76	325	P	P	01 10 20.9	-0.4
TXAR	**Lajitas Array**	59.76	325	P	P	01 10 20.9	-0.4
	1.1nm,0.7s,baz=151,slow=8.6,SNR=15						
626A	**Big Bend Ranch**	60.19	325	⇓P	P	01 10 24.5	+0.3
	baz=60,SNR=10						
428A	**Kincaid Ranch,**	60.34	327	⇓P	P	01 10 25.2	-0.1
	baz=61						
526A	**Mary Lane Ranc**	60.56	325	⇑P	P	01 10 26.7	0.0
	baz=61,SNR=9.7						
427A	**Hayter Ranch,**	60.81	326	⇓P	P	01 10 28.2	-0.3
	baz=61						
328A	**Wristen Ranch,**	60.93	327	⇑P	P	01 10 28.9	-0.3
	baz=61						
426A	**McDonald Obser**	61.00	326	⇓P	P	01 10 29.6	-0.2
	baz=61						
129A	**Stewart Farms,**	61.47	329	⇑P	P	01 10 32.4	-0.4
	baz=62						
FVM	**French Village**	61.56	341	eP	P	01 10 32.5	-0.7
	19nm,1.0s						
425A	**Indio Mountain**	61.60	325	⇑P	P	01 10 33.6	-0.2
	baz=62,SNR=10						
ACSO	**Alum Creek Sta**	61.80	348	eP	P	01 10 34.6	-0.1
	18nm,0.9s						
325A	**Bean Ranch, Si**	62.05	325	⇑P	P	01 10 36.5	-0.4
	baz=62,SNR=16						
226A	**Malaga, Loving**	62.14	326	⇑P	P	01 10 37.3	0.0
	baz=62						
Y29A	**Porterfield Fa**	62.38	330	⇑P	P	01 10 38.5	-0.4
	baz=63						
324A	**Moseley Ranch,**	62.38	325	⇓P	P	01 10 38.0	-1.0
	baz=63						
GDL2	**Guadalupe Moun**	62.38	326	eP	P	01 10 39.5	+0.5
225A	**Deer Hill, Car**	62.55	326	⇑P	P	01 10 39.8	-0.4
	baz=63						
126A	**Clayton Basin,**	62.56	327	⇑P	P	01 10 40.1	0.0
	baz=63						
ALLY	**Allegheny Colle**	62.69	351	eP	P	01 10 41.2	+0.5
	25nm,0.8s						
Z27A	**Tatum**	62.69	328	⇑P	P	01 10 40.2	-0.8
	baz=63						
SFIN	**Scholer Farm**	62.86	345	⇑P	P	01 10 40.4	-1.5
	baz=63						
224A	**Cornudas Mount**	62.90	325	⇑P	P	01 10 41.4	-1.0
	baz=63						
125A	**Gardner Draw,**	62.90	326	⇓P	P	01 10 41.3	-1.1
	baz=63						
MSTX	**Muleshoe**	63.00	329	⇑P	P	01 10 42.6	-0.4
	baz=63						
Y27A	**Causey**	63.12	328	⇓P	P	01 10 42.8	-1.0
	baz=64						
ERPA	**Erie**	63.12	351	eP	P	01 10 44.2	+0.7
	24nm,0.7s						
SNAA	**Sanae**	63.25	161	eP	P	01 10 39.5	-4.7
	5.8nm,0.8s						
Z25A	**Roswell**	63.42	327	⇓P	P	01 10 44.8	-1.0
	baz=64						
Z24A	**Sheeppen Canyo**	63.79	326	⇑P	P	01 10 48.0	-0.4
	baz=64						
Y25A	**Mesa, Roswell**	63.91	327	⇓P	P	01 10 48.4	-0.7
	baz=64						
X26A	**CR and CF Fran**	63.97	328	⇑P	P	01 10 49.0	-0.5
	baz=64						
W27A	**Bowe Ranch, En**	64.02	329	⇑P	P	01 10 49.6	-0.1
	baz=64						
220A	**Playas Peak, P**	64.41	323	⇑P	P	01 10 52.8	+0.4
	baz=65,SNR=7.9						
121A	**Cookes Peak, D**	64.47	324	⇓P	P	01 10 53.6	+0.8
	baz=65						
Z22A	**Elephant Butte**	64.58	325	⇑P	P	01 10 54.2	+0.7
	baz=65,SNR=8.3						
120A	**U Bar Ranch, L**	64.95	324	⇑P	P	01 10 56.7	+0.7
	baz=65,SNR=6.1						
V26A	**Teesequite Ra**	64.96	329	⇓P	P	01 10 55.5	-0.4
	baz=65						
Z21A	**St. Cloud Mine**	65.00	325	⇑P	P	01 10 57.2	+0.9
	baz=65,SNR=5.4						
X23A	**Hourglass Bar**	65.19	327	⇑P	P	01 10 57.6	+0.1
	baz=66						
Z20A	**Nine Sixteen R**	65.35	324	⇑P	P	01 10 59.5	+1.0
	baz=66,SNR=7.2						
V25A	**Rancho No Teng**	65.40	329	⇑P	P	01 10 58.7	-0.1
	baz=66						
U26A	**Atchley Ranch,**	65.42	330	⇓P	P	01 10 58.8	-0.1
	baz=66						
T27A	**Campo**	65.49	331	⇑P	P	01 10 59.1	-0.1
	baz=66						
Y21A	**Point of Rocks**	65.53	325	⇓P	P	01 11 00.8	+1.1
	baz=66						
LAZ	**Ladron**	65.55	326	eP	P	01 11 00.6	+0.8
	0.6nm,0.7s						
ANMO	**Albuquerque**	65.62	327	eP	P	01 11 00.7	+0.4
	1.9nm,0.9s						
V24A	**Rampart Ranch,**	65.63	328	⇓P	P	01 11 00.6	+0.2
	baz=66						
U25A	**Circle Dot Ran**	65.74	329	⇓P	P	01 11 01.4	+0.4
	baz=66						
Y20A	**Horse Springs,**	65.83	325	⇓P	P	01 11 02.4	+0.7
	baz=66						
X21A	**Alamocita Cree**	65.92	325	⇑P	P	01 11 03.2	+1.0
	baz=66						
T26A	**Comanche Natio**	65.98	330	⇑P	P	01 11 02.6	0.0
	baz=66						
TUC	**Tucson**	66.00	322	eP	P	01 11 03.3	+0.7
	2.7nm,0.9s						
S27A	**Las Animas**	66.08	331	⇓P	P	01 11 03.1	0.0
	baz=66						
S26A	**Kim**	66.29	331	⇑P	P	01 11 04.7	+0.2
	baz=67,SNR=5.5						
T25A	**Trinidad**	66.34	330	⇑P	P	01 11 05.2	+0.3
	baz=67						
Y19A	**Nutrioso**	66.35	324	⇑P	P	01 11 06.2	+1.2
	baz=67,SNR=16						
V22A	**San Miguel Ran**	66.60	327	⇓P	P	01 11 06.9	+0.3
	baz=67						
Y18A	**Canyon Day Jun**	66.65	323	⇓P	P	01 11 07.5	+0.7
	baz=67						
S25A	**Robets Cordova**	66.77	330	⇑P	P	01 11 07.8	+0.2
	baz=67						
W20A	**Ramah**	66.82	325	⇑P	P	01 11 08.3	+0.4
	baz=67						
R26A	**Arlington**	66.83	331	⇑P	P	01 11 07.8	-0.1
	baz=67						
V21A	**Milan**	66.89	327	⇑P	P	01 11 09.3	+0.9
	baz=67						
U22A	**Llaves**	66.93	327	⇓P	P	01 11 09.9	+1.2
	baz=67						
214A	**Organ Pipe Nat**	66.94	320	⇑P	P	01 11 09.7	+1.2
	baz=67,SNR=9.2						
X18A	**Snowflake**	67.16	324	⇑P	P	01 11 11.0	+0.9
	baz=68						
BGNE	**Belgrade**	67.26	337	⇑P	P	01 11 10.3	-0.1
	baz=68						
V20A	**Brimhall**	67.32	326	⇓P	P	01 11 11.4	+0.4
	baz=68						
SDCO	**Great Sand Dun**	67.34	329	eP	P	01 11 11.5	+0.2
	4.0nm,0.7s						
SDCO				ePcP	pP	01 11 35.2	-0.7
SDCO	**Great Sand Dun**	67.34	329	⇑P	P	01 11 11.7	+0.4
	baz=68,SNR=9.1						
U21A	**Nageezi**	67.38	327	⇑P	P	01 11 12.1	+0.6
	baz=68						
T22A	**Edith**	67.45	328	⇑P	P	01 11 13.1	+1.1
	baz=68						
114A	**Black Gap (USA**	67.54	321	⇑P	P	01 11 13.4	+1.1
	baz=68,SNR=6.4						
R24A	**Sanders Place,**	67.54	330	⇑P	P	01 11 13.0	+0.5
	baz=68						
U20A	**Newcomb**	67.78	326	⇑P	P	01 11 14.5	+0.6
	baz=68						
R23A	**Moffat**	67.85	329	⇓P	P	01 11 14.9	+0.4
	baz=68						
X16A	**Lo Mia Camp, P**	67.91	323	⇑P	P	01 11 15.8	+1.0
	baz=68,SNR=7.2						
O27A	**Beecher Island**	67.96	333	⇑P	P	01 11 15.5	+0.6
	baz=68						
V18A	**Ganado**	68.03	325	⇑P	P	01 11 15.6	0.0
	baz=68						
U19A	**Dine' College,**	68.08	326	⇑P	P	01 11 15.6	-0.3
	baz=68						
Q24A	**Divide**	68.15	330	⇓P	P	01 11 16.8	+0.4
	baz=68						
T19A	**Beclabito**	68.39	326	⇑P	P	01 11 18.1	+0.3
	baz=69,SNR=5.2						
S21A	**Coal Bank Pass**	68.40	328	⇑P	P	01 11 17.9	-0.1
	baz=69						
MVCO	**Mesa Verde**	68.41	327	eP	P	01 11 18.9	+1.0
	36nm,1.9s						
MVCO	**Mesa Verde**	68.41	327	⇓P	P	01 11 18.1	+0.1
	baz=69,SNR=5.3						
V17A	**Tonalea, Kykot**	68.43	324	⇓P	P	01 11 18.9	+0.9
	baz=69,SNR=10.0						
Y14A	**Wickenburg**	68.46	322	⇑P	P	01 11 18.8	+0.7
	baz=69						
U18A	**Rough Rock, Ch**	68.53	325	⇑P	P	01 11 19.4	+0.7
	baz=69						
DBIC	**Dimbokro**	68.53	74	eP	P	01 11 18.9	0.0
	6.7nm,0.8s						
DBIC				pP	PcP	01 11 43.2	-0.2
DBIC	**Dimbokro**	68.53	74	P	P	01 11 19.6	+0.7
	5.1nm,0.8s,baz=229,slow=5.9,SNR=10						
DBIC				pP	PcP	01 11 43.2	-0.2
	3.1nm,0.7s,baz=205,slow=10,SNR=2.2						
WUAZ	**Wupatki**	68.67	324	eP	P	01 11 20.9	+1.3
	14nm,0.9s						
WUAZ				ePcP	PcP	01 11 44.1	+0.3
WUAZ	**Wupatki**	68.67	324	⇑P	P	01 11 20.8	+1.3
	baz=69,SNR=9.8						
S20A	**Disappointment**	68.82	327	⇑P	P	01 11 21.4	+1.0
	baz=69,SNR=5.1						
GLA	**Glamis**	68.92	320	⇓P	P	01 11 22.1	+1.1
	baz=69						
U16A	**Tuba City**	69.00	324	⇑P	P	01 11 22.7	+1.1
	baz=69						
ISCO	**Idaho Springs**	69.03	331	⇑P	P	01 11 22.4	+0.6
	baz=69						
T18A	**Mexican Hat**	69.07	326	⇑P	P	01 11 22.5	+0.6
	baz=69,SNR=7.6						
U17A	**Shonto**	69.08	325	⇑P	P	01 11 22.7	+0.6
	baz=69						
R20A	**Redvale**	69.10	328	⇓P	P	01 11 23.3	+1.1
	baz=69,SNR=5.1						
S19A	**Harvey Farm, M**	69.15	327	⇑P	P	01 11 22.8	+0.3
	baz=70						
SMCO	**Snowmass**	69.18	329	eP	P	01 11 24.1	+1.2
SMCO				epP	pP	01 11 47.5	0.0
Y12C	**Blythe**	69.22	321	⇓P	P	01 11 23.9	+1.2
	baz=70						
DVTC	**Desert V Tower**	69.43	319	⇑P	P	01 11 25.9	+1.8
	baz=70						
T17A	**Navajo Res., N**	69.46	325	⇓P	P	01 11 25.7	+1.4
	baz=70,SNR=10						
O23A	**Lake Granby, G**	69.50	331	⇓P	P	01 11 25.4	+0.7
	baz=70						
S18A	**Hurst Farm, Bl**	69.55	326	⇑P	P	01 11 26.0	+1.0
	baz=70,SNR=10						
R19A	**Curley Farm, L**	69.63	327	⇓P	P	01 11 25.8	+0.4
	baz=70						
P21A	**Newcastle**	69.68	329	⇓P	P	01 11 26.8	+1.0
	baz=70,SNR=5.3						
QSPA	**South Pole Qui**	69.69	180	eP	P	01 11 26.2	+0.9
	20nm,1.4s						
BC3	**Big Chuckawall**	69.71	320	⇓P	P	01 11 26.9	+1.0
	baz=70,SNR=11						
O22A	**Kremmling**	69.76	330	⇓P	P	01 11 26.7	+0.4
	baz=70,SNR=5.9						
MONP	**Monument Peak**	69.78	319	⇑P	P	01 11 27.5	+1.0
	baz=70,SNR=5.7						
BAR	**Barrett**	69.80	318	eP	P	01 11 27.9	+1.6
	5.1nm,0.8s						
U15A	**North Rim**	69.85	324	⇓P	P	01 11 28.0	+1.1
	baz=70,SNR=10						
IRM	**Iron Mountain**	69.88	320	⇓P	P	01 11 27.6	+0.7
	baz=70,SNR=9.3						
S17A	**Black Ridge (B**	69.93	326	⇓P	P	01 11 28.2	+1.0
	baz=70						
R18A	**Canyonlands Na**	70.02	327	⇑P	P	01 11 27.8	0.0
	baz=70						
M24A	**Cheyenne**	70.02	332	⇑P	P	01 11 28.8	+1.1
	baz=70						
BELC	**Belle Mtn. Jos**	70.28	320	⇓P	P	01 11 30.5	+1.1
	baz=71						
PFO	**Pinyon Flat Ob**	70.29	319	⇓P	P	01 11 30.9	+1.5
	baz=71						
S16A	**Weppner Ranch,**	70.42	325	⇑P	P	01 11 31.3	+1.0
	baz=71						
R17A	**Hanksville Air**	70.47	326	⇓P	P	01 11 31.1	+0.6
	baz=71,SNR=12						
LDFC	**Landfair**	70.49	321	eP	P	01 11 32.4	+1.8
	13nm,1.0s						
P19A	**Cripple Cowboy**	70.51	328	⇓P	P	01 11 31.6	+0.7
	baz=71,SNR=9.8						
O20A	**White River Ci**	70.54	329	⇓P	P	01 11 31.7	+0.7
	baz=71						
GMRC	**Granite Mounta**	70.61	321	⇓P	P	01 11 32.6	+1.2
	baz=71,SNR=14						
SRU	**San Rafael**	70.89	327	eP	P	01 11 34.2	+1.2
	11nm,0.7s						
SRU	**San Rafael**	70.89	327	⇓P	P	01 11 33.6	+0.6
	baz=71,SNR=10						
HEC	**Hector,Ludlow**	71.05	320	⇓P	P	01 11 35.4	+1.4
	baz=71,SNR=6.0						
EYMN	**Ely**	71.06	344	eP	P	01 11 33.2	-0.5
	6.9nm,0.8s						
Q16A	**Castle Valley**	71.08	326	⇑P	P	01 11 35.0	+0.8
	baz=71,SNR=6.8						
N20A	**Spence Gulch,**	71.09	329	⇓P	P	01 11 35.1	+0.8
	baz=71						
O19A	**Miners Draw (B**	71.09	329	⇓P	P	01 11 34.9	+0.7
	baz=71						
P18A	**Preston Nutter**	71.14	327	⇑P	P	01 11 35.7	+1.0
	baz=72,SNR=11						
TUQ	**Turquoise Moun**	71.22	321	⇓P	P	01 11 36.2	+1.1
	baz=72,SNR=5.6						
CCUT	**Cedar City**	71.25	324	eP	P	01 11 37.3	+1.9
CCUT				epP	pP	01 12 01.0	+0.9
P17A	**Butcher Ranch,**	71.27	327	⇓P	P	01 11 36.1	+0.7
	baz=72						
M21A	**Separation Pea**	71.28	331	⇓P	P	01 11 36.2	+0.8
	baz=72						
MSU	**Marysvale**	71.31	325	eP	P	01 11 37.4	+1.8
MSU				epP	pP	01 12 00.7	+0.3
K23A	**Bowen Ranch, D**	71.42	332	⇑P	P	01 11 36.9	+0.8
	baz=72						
BFSC	**Mount Baldy Ra**	71.45	319	⇑P	P	01 11 37.3	+0.8
	baz=72						
ARUT	**Antelope Range**	71.46	324	eP	P	01 11 38.3	+1.8
	20nm,0.8s						
L21A	**Rawlins**	71.56	331	⇑P	P	01 11 37.4	+0.4
	baz=72						
N19A	**John Jarvie Ra**	71.58	329	⇑P	P	01 11 37.5	+0.4
	baz=72,SNR=6.3						
GSC	**Goldstone**	71.65	320	eP	P	01 11 39.3	+1.7
	26nm,1.8s						
PASC	**Pasadena Art C**	71.73	319	eP	P	01 11 35.3	-2.7
O17A	**Robinson Place**	71.81	328	⇑P	P	01 11 39.7	+1.0
	baz=72,SNR=10						
P16A	**Fountain Green**	71.85	327	⇑P	P	01 11 39.9	+1.1
	baz=72						
RSSD	**Black Hills**	71.86	334	eP	P	01 11 38.1	-0.7
	2.8nm,0.9s						
R13A	**O'Grain Ranch,**	72.03	324	⇓P	P	01 11 41.5	+1.5
	baz=72,SNR=5.7						
K21A	**Alcova**	72.04	331	⇑P	P	01 11 40.5	+0.6
	baz=72,SNR=8.0						
EDW2	**Edwards Air Fo**	72.08	319	⇑P	P	01 11 40.9	+0.7
	baz=72						
MPU	**Maple Can

	baz=73,SNR=5.6						
K20A	Yellowstone Ra	72.55	331	⇑P	P	01 11 42.7	-0.2
	baz=73						
MPMC	Manual Prospec	72.58	321	⇑P	P	01 11 43.6	+0.3
	baz=73,SNR=5.6						
L19A	Farson	72.59	330	⇓P	P	01 11 43.8	+0.6
	baz=73						
N16A	Rees Ranch, Co	72.69	328	⇑P	P	01 11 44.9	+1.0
	baz=73						
I22A	9 Mile Ranch,	72.70	333	⇓P	P	01 11 44.0	+0.2
	baz=73						
M17A	Scullys Gap (B	72.75	328	⇓P	P	01 11 44.7	+0.5
	baz=73						
L18A	Fontenelle, Gr	72.78	329	⇑P	P	01 11 44.7	+0.4
	baz=73,SNR=9.5						
DUG	Dugway	72.88	326	eP	P	01 11 46.5	+1.6
DUG	Dugway	72.88	326	⇓P	P	01 11 45.8	+1.0
	baz=73,SNR=8.2						
ISA	Isabella	72.90	320	eP	P	01 11 46.4	+1.4
ISA	Isabella	72.90	320	⇓P	P	01 11 46.2	+1.2
	baz=73,SNR=6.0						
K19A	Absolon Red Bu	72.92	330	⇑P	P	01 11 45.5	+0.4
	baz=73						
I21A	Big Trails, Te	72.99	332	⇑P	P	01 11 45.5	0.0
	baz=73,SNR=7.1						
G24A	Alzada	73.01	335	⇓P	P	01 11 45.5	0.0
	baz=73						
R11A	Troy Canyon, C	73.05	323	⇓P	P	01 11 47.3	+1.3
	baz=73,SNR=8.7						
GRAC	Grapevine Rang	73.14	321	⇑P	P	01 11 47.4	+1.0
	baz=74						
BW06	Boulder Array	73.20	330	eP	P	01 11 46.6	-0.2
	3.6nm,1.2s						
BW06	Boulder Array	73.20	330	⇓P	P	01 11 46.7	-0.2
	baz=74						
PDAR	Pinedale Array	73.20	330	P	P	01 11 47.0	+0.2
PDAR	Pinedale Array	73.20	330	P	P	01 11 47.0	+0.2
	1.0nm,0.7s,baz=140,slow=7.5,SNR=6.8						
PKM	Peak Mountain	73.22	318	⇑P	P	01 11 47.4	+0.3
	baz=74						
N15A	Stansbury Isla	73.24	327	⇓P	P	01 11 47.5	+0.5
	baz=74						
HWUT	Hardware Ranch	73.29	328	eP	P	01 11 47.5	+0.2
	9.5nm,0.8s						
K18A	Toltan Ranch,	73.33	330	⇓P	P	01 11 48.1	+0.5
	baz=74						
J19A	Crowheart	73.35	331	⇑P	P	01 11 48.2	+0.6
	baz=74						
MDND	Maddock	73.37	339	⇓P	P	01 11 47.8	+0.4
	baz=74						
VES	Vestal, Richgr	73.39	319	⇓P	P	01 11 48.4	+0.6
	baz=74						
F24A	Ekalaka	73.44	335	⇓P	P	01 11 48.3	+0.3
	baz=74						
L16A	Fish Haven	73.53	328	⇓P	P	01 11 49.1	+0.3
	baz=74,SNR=7.4						
M15A	Larsen Ranch,	73.62	327	⇓P	P	01 11 49.8	+0.5
	baz=74,SNR=9.1						
F23A	Volborg	73.73	334	⇑P	P	01 11 50.1	+0.5
	baz=74						
J18A	Kendall Valley	73.76	330	⇓P	P	01 11 50.4	+0.3
	baz=74,SNR=9.7						
H20A	Greybull	73.83	332	⇓P	P	01 11 50.3	-0.1
	baz=74						
K17A	Gardner Place,	73.84	329	⇑P	P	01 11 50.8	+0.3
	baz=74						
E24A	Baker	73.98	335	⇑P	P	01 11 50.9	-0.2
	baz=74						
L15A	Malad City	73.99	328	⇓P	P	01 11 51.8	+0.4
	baz=74,SNR=14						
HVU	Hansel Valley	74.02	327	eP	P	01 11 52.5	+0.9
I18A	Diamond G Ranc	74.04	330	⇑P	P	01 11 52.2	+0.5
	baz=74						
J17A	Brown Place, J	74.20	330	⇑P	P	01 11 53.5	+0.9
	baz=74,SNR=6.4						
K16A	Soda Springs	74.22	329	⇓P	P	01 11 53.8	+1.0
	baz=75,SNR=16						
REDW	Red Top Meadow	74.27	330	eP	P	01 11 54.1	+1.1
SNOW	Snow King Moun	74.30	330	eP	P	01 11 54.4	+1.1
	4.8nm,0.8s						
ULM	Lac du Bonnet	74.34	342	P	P	01 11 52.4	-0.6
ULM				pP	pP	01 12 16.7	-1.2
ULM	Lac du Bonnet	74.34	342	P	P	01 11 52.4	-0.6
	6.3nm,0.6s,baz=149,slow=6.5,SNR=9.8						
ULM				pP	pP	01 12 16.7	-1.2
	2.8nm,0.6s,baz=148,slow=7.8,SNR=3.0						
TPAW	Teton Pass	74.41	330	eP	P	01 11 54.8	+0.9
H19A	Powell	74.42	332	⇑P	P	01 11 54.1	+0.3
	baz=75						
L14A	Malta	74.44	327	⇑P	P	01 11 54.5	+0.4
	baz=75,SNR=8.2						
MOOW	Moose Ponds	74.51	330	eP	P	01 11 55.5	+1.0
ELK	Elko	74.55	325	eP	P	01 11 55.9	+1.1
I17A	Pilgrim Ck.	74.56	330	⇑P	P	01 11 56.1	+1.4
	baz=75,SNR=6.5						
J16A	Bone	74.56	329	⇑P	P	01 11 55.7	+0.9
	baz=75						
K15A	Arbon	74.57	328	⇑P	P	01 11 55.5	+0.7
	baz=75						
NVAR	Mina Array Bea	74.65	322	P	P	01 11 56.1	+0.7
NVAR				pP	pP	01 12 20.6	+0.3
NVAR	Mina Array Bea	74.65	322	P	P	01 11 56.1	+0.7
	4.0nm,0.9s,baz=156,slow=6.9,SNR=21						
NVAR				pP	pP	01 12 20.6	+0.3
	2.6nm,0.9s,baz=146,slow=7.9,SNR=5.9						
H18A	Shoshone NF, C	74.73	331	⇓P	P	01 11 56.2	+0.5
	baz=75,SNR=5.4						
FLWY	Flagg Ranch	74.74	330	eP	P	01 11 57.5	+1.7
C24A	Savage	74.83	336	⇑P	P	01 11 57.0	+1.0
	baz=75						
RLMT	Red Lodge	74.89	332	⇓P	P	01 11 57.3	+0.7
	baz=75						
I16A	Newdale	74.96	330	⇑P	P	01 11 57.8	+0.8
	baz=75						
LKWY	Lake	74.97	331	eP	P	01 11 59.1	+2.0
	3.6nm,0.6s						
SCHQ	Schefferville	75.04	1	P	P	01 11 57.2	+0.2
SCHQ	Schefferville	75.04	1	P	P	01 11 57.2	+0.2
	5.1nm,0.7s,baz=181,slow=4.8,SNR=11						
J15A	Blackfoot	75.06	329	⇑P	P	01 11 58.6	+1.1
	baz=75,SNR=7.2						
E21A	Keefer Ranch,	75.08	334	⇓P	P	01 11 58.0	+0.6
	baz=75						
G18A	Lazy EL Ranch,	75.18	332	⇑P	P	01 11 58.8	+0.6
	baz=76,SNR=5.9						
D22A	Cohagen	75.20	335	⇓P	P	01 11 59.0	+0.9
	baz=76,SNR=5.7						
F19A	Roth Farm, Mol	75.32	332	⇑P	P	01 11 59.4	+0.5
	baz=76,SNR=5.5						
D21A	La Casta Ranch	75.46	334	⇓P	P	01 12 00.5	+0.9
	baz=76,SNR=5.5						
E20A	Meyer Farm, Mu	75.49	333	⇓P	P	01 12 00.5	+0.7
	baz=76,SNR=6.9						
I15A	Monteview	75.53	329	⇓P	P	01 12 01.6	+1.5
	baz=76						
J14A	Carey	75.53	328	⇓P	P	01 12 01.3	+1.1
	baz=76,SNR=7.6						
C22A	Vida	75.57	335	⇓P	P	01 12 00.5	+0.3
	baz=76						
F18A	Big Timber	75.70	332	⇓P	P	01 12 01.7	+0.6
	baz=76,SNR=9.5						
E19A	Rath Farm, Rou	75.73	333	⇓P	P	01 12 01.9	+0.7
	baz=76,SNR=12						
B23A	Brockton	75.81	336	⇑P	P	01 12 01.4	-0.2
	baz=76						
J13A	Cove Ranch, Pi	75.91	328	⇓P	P	01 12 03.3	+0.9
	baz=76,SNR=5.2						
I14A	Mackay	75.94	329	⇓P	P	01 12 03.9	+1.2
	baz=76,SNR=5.7						
D20A	Manuel Ranch,	75.95	334	⇓P	P	01 12 02.9	+0.5
	baz=76,SNR=7.1						
C21A	Desert Coulee	76.11	335	⇑P	P	01 12 03.8	+0.5
	baz=76						
F17A	Fitzpatrick Pl	76.12	331	⇑P	P	01 12 04.8	+1.2
	baz=76,SNR=5.2						
G16A	Moss Hill, Enn	76.13	330	⇓P	P	01 12 04.0	+0.4
	baz=76						
HLID	Hailey	76.15	328	eP	P	01 12 05.5	+1.7
HLID	Hailey	76.15	328	⇑P	P	01 12 05.2	+1.4
	baz=76,SNR=14						
I13A	Wildhorse Cree	76.26	328	⇓P	P	01 12 05.8	+1.4
	baz=77,SNR=5.7						
D19A	Cripps Ranch,	76.32	333	⇑P	P	01 12 05.2	+0.6
	baz=77,SNR=6.3						
BOZ	Bozeman (W)	76.36	331	eP	P	01 12 04.8	-0.1
	2.7nm,1.0s						
BOZ	Bozeman (W)	76.36	331	⇑P	P	01 12 05.2	+0.3
	baz=77						
G15A	Dillon	76.40	330	⇑P	P	01 12 06.4	+1.2
	baz=77,SNR=5.3						
H14A	Leadore	76.41	329	⇓P	P	01 12 06.8	+1.5
	baz=77,SNR=5.3						
DLMT	Dillon	76.60	330	eP	P	01 12 07.8	+1.5
A22A	Carney Farms,	76.60	336	⇑P	P	01 12 06.8	+0.8
	baz=77						
E17A	Martinsdale	76.64	332	⇓P	P	01 12 07.3	+0.9
	baz=77,SNR=7.1						
I12A	Atlanta	76.68	328	⇓P	P	01 12 07.9	+1.1
	baz=77,SNR=6.3						
D18A	Linhart Farms,	76.74	333	⇓P	P	01 12 07.6	+0.7
	baz=77						
MFID	Camas Ranch	76.76	327	⇑P	P	01 12 08.1	+0.9
	baz=77						
H13A	Challis	76.80	329	⇓P	P	01 12 08.6	+1.2
	baz=77,SNR=9.9						
C19A	Slack Wire Ran	76.84	334	⇑P	P	01 12 07.3	-0.1
	baz=77						
F15A	Butte	76.91	330	⇓P	P	01 12 08.0	-0.1
	baz=77						
H12A	Diamond D Ranc	77.09	328	⇑P	P	01 12 10.1	+1.1
	baz=77,SNR=6.3						
D17A	Six Diamond Ra	77.09	332	⇑P	P	01 12 09.6	+0.6
	baz=77,SNR=6.6						
TOAQ	Torodi Ar. Sit	77.10	71	eP	P	01 12 09.4	-0.1
TORD	Torodi Ar. Bea	77.10	71	P	P	01 12 09.5	-0.1
TORD				pP	pP	01 12 35.2	+0.6
TORD	Torodi Ar. Bea	77.10	71	P	P	01 12 09.5	-0.1
	3.6nm,0.8s,baz=254,slow=5.3,SNR=33						
TORD				pP	pP	01 12 35.2	+0.6
	9.0nm,0.8s,baz=251,slow=5.0,SNR=13						
G13A	Cobalt	77.18	329	⇓P	P	01 12 10.8	+1.3
	baz=78,SNR=23						
A20A	Cobblestone Ra	77.29	335	⇓P	P	01 12 10.2	+0.3
	baz=78,SNR=5.5						
B19A	Brinkman Farms	77.37	334	⇑P	P	01 12 11.3	+0.9
	baz=78						
D16A	Dana Ranch, Ca	77.38	332	⇑P	P	01 12 11.5	+1.0
	baz=78						
E15A	Deer Lodge	77.41	331	⇓P	P	01 12 11.6	+0.9
	baz=78,SNR=6.4						
SYO	Syowa Base	77.47	160	⇑eP	P	01 12 10.0	-0.6
C17A	Wharram Farm,	77.49	333	⇑P	P	01 12 11.6	+0.5
	baz=78,SNR=5.3						
A19A	Klindworth Far	77.66	334	⇓P	P	01 12 11.9	-0.1
	baz=78						
B18A	Beardsley Farm	77.66	334	⇓P	P	01 12 12.3	+0.2
	baz=78						
F13A	Darby	77.73	329	⇓P	P	01 12 13.6	+1.0
	baz=78,SNR=17						
E14A	Clinton	77.80	330	⇑P	P	01 12 14.1	+1.1
	baz=78						
D15A	Lincoln	77.82	331	⇓P	P	01 12 14.2	+1.2
	baz=78						
C16A	Fuhringer Ranc	78.05	332	⇑P	P	01 12 14.7	+0.5
	baz=78						
E13A	Victor	78.14	330	⇑P	P	01 12 16.0	+1.2
	baz=78,SNR=6.8						
F12A	Elk City	78.15	329	⇑P	P	01 12 15.4	+0.5
	baz=78						
MSO	Missoula	78.31	330	⇓P	P	01 12 16.4	+0.7
	baz=79						
C15A	Salmond Ranch,	78.41	332	⇑P	P	01 12 17.3	+1.1
	baz=79,SNR=8.3						
A17A	Triple J Farms	78.48	333	⇑P	P	01 12 16.9	+0.4
	baz=79						
D13A	Huson	78.75	330	⇓P	P	01 12 18.9	+0.8
	baz=79,SNR=5.7						
B15A	Bradely Ranch,	78.80	332	⇑P	P	01 12 18.4	+0.1
	baz=79,SNR=6.4						
A16A	West Butte Ran	78.86	333	⇑P	P	01 12 19.3	+0.6
	baz=79						
C14A	Swan Lake	78.92	331	⇑P	P	01 12 19.8	+0.8
	baz=79						
D12A	Red Ives Fores	79.14	330	⇓P	P	01 12 20.9	+0.7
	baz=80						
B14A	Marquette Ranc	79.14	332	⇓P	P	01 12 20.9	+0.6
	baz=80						
C13A	Hot Springs	79.23	331	⇑P	P	01 12 21.5	+0.8
	baz=80						
B13A	Whitefish	79.69	331	⇑P	P	01 12 23.9	+0.7
	baz=80						
FFC	Flat Flon	80.06	341	eP	P	01 12 25.0	+0.1
	4.9nm,1.3s						
A13A	Flathead Natio	80.08	332	⇓P	P	01 12 26.3	+1.1
	baz=80						
C11A	Tepee Creek (N	80.13	330	⇓P	P	01 12 26.1	+0.5
	baz=80						
TSUM	Tsumeb	80.41	107	eP	P	01 12 28.7	+0.9
	4.3nm,0.9s						
A12A	Yaak River Nan	80.64	331	⇑P	P	01 12 29.3	+1.1
	baz=81						
OD2	Odessa Site #2	81.00	328	eP	P	01 12 30.9	+0.8
	23nm,1.2s						
OD2				e		01 12 54.9	
ETW	Entiat	81.94	328	eP	P	01 12 34.1	-1.1
	24nm,1.0s						
ETW				epP	pP	01 13 00.4	-0.2
BOSA	Boshof	83.99	118	pP	pP	01 13 12.6	+0.7
BOSA	Boshof	83.99	118	pP	pP	01 13 12.6	+0.7
	2.7nm,0.8s,baz=236,slow=4.0,SNR=2.5						
LBTB	Lobatse	85.52	115	eP	P	01 12 54.8	+0.7
	6.6nm,1.1s						
YKA	Yellowknife Ar	90.22	341	P	P	01 13 15.6	+0.2
YKA				pP	pP	01 13 40.4	-0.7
YKA	Yellowknife Ar	90.22	341	P	P	01 13 15.5	+0.2
	6.1nm,0.9s,baz=134,slow=4.7,SNR=56						
YKA				pP	pP	01 13 40.3	-0.7
	2.9nm,0.8s,baz=134,slow=4.6,SNR=7.9						
ARU	Arti	127.37	34	ePKPdf	PKPdf	01 19 19.7	+0.4
ABKAR	Akbulak array	130.47	42	ePKPdf	PKPdf	01 19 26.5	+1.1
ASAR	Alice Springs	130.76	208	PKP	PKPdf	01 19 26.4	-0.5
ASAR	Alice Springs	130.76	208	PKP	PKPdf	01 19 26.4	-0.5
	1.6nm,0.9s,baz=140,slow=2.0,SNR=7.5						
WRA	Warramunga Arr	133.77	211	PKP	PKPdf	01 19 32.5	-0.2
WRA	Warramunga Arr	133.77	211	PKP	PKPdf	01 19 32.5	-0.2
	0.9nm,0.7s,baz=146,slow=1.5,SNR=6.7						
ZAA0	Zalesovo Array	141.08	25	ePKPdf	PKPdf	01 19 45.8	+0.8
ZALV	Zalesovo Beam	141.08	25	PKP	PKPdf	01 19 45.8	+0.8
ZALV	Zalesovo Beam	141.08	25	PKP	PKPdf	01 19 45.8	+0.8
	3.4nm,0.7s,baz=305,slow=2.7,SNR=9.8						
EKS2	Erkin-Say	141.78	46	ePKPdf	PKPdf	01 19 47.2	+0.4
AAK	Ala-Archa	142.28	46	ePKPdf	PKPdf	01 19 47.6	-0.1
TKM2	Tokmak 2	142.89	45	ePKPdf	PKPdf	01 19 49.4	+0.6
KSH	Kashi	144.53	50	PKP	PKPdf	01 19 51.8	+0.1
KSH				PP	PP	01 23 13.3	+4.5
KSH				PKS	PKSdf	01 23 26.6	-0.8
KSH				SKS	SKSdf	01 26 42.3	-10
KSH				SKKS	SKKSac	01 29 42.4	-10
KSH				AMB	AMB		
	comp=Z,120nm,5.4s						
KSH				LR	LR		
	comp=N,37nm,7.3s						
KSH				LR	LR		
	comp=E,210nm,5.3s						
KSH				LR	LR		
	comp=Z,230nm,7.1s						
MK31	Makanchi Array	144.87	35	ePKPdf	PKPdf	01 19 52.0	+0.1
MKAR	Makanchi Array	144.87	35	PKP	PKPdf	01 19 52.1	+0.1
MKAR				pPKP	pPKPdf	01 20 17.9	-0.8
MKAR	Makanchi Array	144.87	35	PKP	PKPdf	01 19 52.1	+0.1
	comp=Z,5.8nm,0.8s,baz=313,slow=2.5,SNR=23						
MKAR				pPKP	pPKPdf	01 20 18.0	-0.8
	comp=Z,1.7nm,0.7s,baz=313,slow=4.3,SNR=4.2						
USRK	Ussuriysk Arra	150.61	328	PKPbc	PKPbc	01 20 07.8	+0.8
	comp=Z,8.3nm,0.9s,baz=84,slow=0.9,SNR=8.9						
MJAR	Matsushiro Arr	151.38	310	PKPbc	PKPbc	01 20 09.1	0.0
MJAR				pPKPbc	pPKPbc	01 20 34.3	-1.4
MJAR	Matsushiro Arr	151.38	310	PKPbc	PKPbc	01 20 09.1	0.0
	comp=Z,4.3nm,0.8s,baz=90,slow=1.2,SNR=8.3						
MJAR				pPKPbc	pPKPbc	01 20 34.3	-1.4
	comp=Z,1.9nm,0.7s,baz=93,slow=1.1,SNR=2.7						
SONM	Songino Array	152.47	7	PKP	PKPdf	01 20 05.3	+1.0
SONM				PKPbc	PKiKP	01 20 12.0	+0.5
SONM				pPKPbc	pPKPbc	01 20 37.2	-0.8
SONM	Songino Array	152.47	7	PKP	PKPdf	01 20 05.3	+1.0
	comp=Z,0.8nm,0.8s,baz=307,slow=0.7,SNR=4.8						
SONM				PKPbc	PKiKP	01 20 12.0	+0.5
	comp=Z,3.9nm,0.6s,baz=334,slow=1.7,SNR=24						
SONM				pPKPbc	pPKPbc	01 20 37.2	-0.8
	comp=Z,1.1nm,0.6s,baz=299,slow=1.1,SNR=3.8						
ULN	Ulaanbaatar	152.51	6	ePKPbc	PKPbc	01 20 11.2	-0.2
HHC	Hu-ho-hao-te	159.71	359	ePKP	PKPdf	01 20 09.1	-4.9
HHC				pPKP	PKPab	01 20 51.8	-1.2
HHC				sPKP		01 21 08.4	
HHC				PKS	PKSdf	01 23 41.7	-5.8
HHC				PP	PP	01 24 32.9	-0.8
HHC				SS	SS	01 44 25.0	-7.8
HHC				AMB	AMB		
	comp=Z,160nm,10.5s						
HHC				LR	LR		
	comp=N,75nm,20.9s						
HHC				LR	LR		
	comp=E,170nm,23.1s						
HHC				LR	LR		
	comp=Z,150nm,20.5s						
LZH	Lanzhou	163.25	20	ePKP	PKPdf	01 20 18.2	+0.3
LZH				pPKP	pPKPdf	01 20 50.0	+5.1
CD2	Chengdu	167.75	31	PKP	PKPdf	01 20 18.9	-2.8
CMAR	Chiang Mai Arr	168.45	98	PKP	PKPdf	01 20 23.2	+0.8
CMAR	Chiang Mai Arr	168.45	98	PKP	PKPdf	01 20 23.2	+0.8
	comp=Z,0.5nm,0.3s,baz=242,slow=1.9,SNR=5.4						
GYA	Guiyang	172.85	33	ePKP	PKPdf	01 20 23.0	-1.7
GYA				pPKP	pPKPdf	01 21 01.2	+9.5
GYA				sPKP		01 21 13.8	
GYA				PKPab	PKPab	01 21 51.7	+0.3
GYA				PKS	PKSdf	01 23 53.6	-3.6
GYA				PP	PP	01 25 43.0	+0.8
GYA				AMB	AMB		
	comp=Z,60nm,8.0s						

MEX 01 01:40:48.0±0.6, 16°82N×93°92W, h157km±10km, MD3.7, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TGIG		0.77	93	eP		Pn	01 41 10.8	-1.0
TGIG				*i* S		Sn	01 41 27.6	-2.4
PCIG		1.30	149	eP		Pn	01 41 15.2	-0.9
PCIG				eS		Sn	01 41 35.8	-1.9
CCIG	Comitan	1.80	107	eP		Pn	01 41 20.1	-1.4
CCIG				*i* S		Sn	01 41 44.6	-2.7
HUIG	Huatulco	2.34	244	eP		Pn	01 41 25.5	-2.1
HUIG				eS		Sn	01 41 57.1	-1.1
THIG		2.48	140	*i* S		Sn	01 41 59.0	-2.2
VHO	Vista Hermosa	2.70	276	*i* P		Pn	01 41 31.3	-0.9
VHO				*i* S		Sn	01 42 04.8	-1.5
UTMO	Huajuapan	3.84	286	eP		Pn	01 41 45.6	-1.1
UTMO				*i* S		Sn	01 42 29.8	-2.4
PNIG	Pinotepa	4.05	265	eP		Pn	01 41 48.5	-0.7
PNIG				eS		Sn	01 42 34.2	-2.6

*IDC **01** 01:43:12.7±5.9, 30°.96S×179°.63W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.9/14, mbtmp4.0/2, MS3.8/1, Ms1 3.8/1, ms1mx2.8/28, Error ellipse: s-maj=226.2km s-min=59.9km az=156.0*

*ISCJB **01** 01:43:55.3±2.5, 33°.0S±0°.1×179°.4E±0°.4, h400km, mb3.5/2, Error ellipse: s-maj=46.8km s-min=13.3km az=172.3*

ISC 01 01:43:56.6±2.2, 33°.1S±0°.1×179°.4E±0°.3, h400km, n14, σ0°89/13, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MWZ	Matawai	5.43	196	PN		Pn	01 45 24.6	+1.5
CNGZ	Carnagh Statio	5.45	190	PN		Pn	01 45 23.9	+0.7
URZ	Urewera	5.46	199	PN		Pn	01 45 24.4	+1.0
CKHZ	Cape Kidnapper	6.80	195	SN		S	01 47 00.5	-0.1
WPHZ	Waipukurau	7.34	198	SN		S	01 47 11.4	-0.3
MRZ	Mangatainoka R	8.13	201	PN		Pn	01 45 52.5	-0.5
OGWZ	Otaki Gorge	8.40	203	PN		Pn	01 45 55.4	-0.6
TUWZ	Tuamarina	9.37	206	PN		P	01 46 06.8	-0.2
THZ	Tophouse	10.06	209	PN		Pn	01 46 15.2	0.0
DSZ	Denniston Nort	10.52	213	PN		Pn	01 46 20.6	0.0
ASAR	Alice Springs	40.85	271	P		P	01 51 02.5	+0.8
	0.8nm,0.6s,baz=109,slow=8.1,SNR=10							
WRA	Warramunga Arr	42.09	277	P		P	01 51 12.2	+0.5
	1.7nm,0.3s,baz=114,slow=8.1,SNR=38							
NWAO	Narrogin (SRO)	51.41	252	LR		LR	02 11 22.4	
	comp=Z,95nm,20.4s,baz=256,slow=32							
FINES	FINESS Array B	146.84	337	PKPbc		PKPbc	02 02 50.3	-1.5
	1.5nm,0.9s,baz=42,slow=3.1,SNR=4.0							

*NEIC **01** 01:50:07.4±0.2, 4°.85N×127°.77E, h35km, mb5.1/51, Error ellipse: s-maj=7.4km s-min=4.6km az=63.0*

*BJI **01** 01:50:08.9, 4°.03N×128°.04E, h116km, mB5.1/28, mb4.8/49*

*MOS **01** 01:50:10.7±1.0, 4°.83N×127°.53E, h77km, mb5.2/47, Error ellipse: s-maj=10.8km s-min=5.8km az=108.5*

*IDC **01** 01:50:15.8±1.0, 4°.74N×127°.59E, h112km±8km, mb4.6/25, mb1 4.7/27, mb1mx4.7/28, mbtmp4.6/27, MS3.6/11, Ms1 3.6/11, ms1mx3.4/31, Error ellipse: s-maj=14.5km s-min=7.2km az=75.0*

*ISCJB **01** 01:50:15.5±0.4, 4°.82N±0°.02×127°.70E±0°.03, h122km±3km, mb4.9/118, Error ellipse: s-maj=5.7km s-min=3.4km az=162.0*

*MAN **01** 01:50:15, 4°.88N×127°.76E, h114km, mb5.5, ML4.5, MS4.8*

*TEH **01** 01:50:18.0, 4°.70N×127°.59E, h132km, ML5.2*

*DJA **01** 01:50:19, 4°.71N×127°.54E, h106km, mb5.2/15*

ISC 01 01:50:16.8±0.3, 4°.74N±0°.03×127°.65E±0°.05, h120km±2km, h120km; pP-P, n543, σ1°16/678, mb4.9/118, 88C-78D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SGSI	Sangihe	2.36	244	P		Pn	01 50 53.2	-1.6
MATI	Mati	2.60	328	eP		Pn	01 50 55.4	-2.4
DAV	Davao City (W)	3.10	318	P		Pn	01 51 04.0	-0.5
DAV				S		Sn	01 51 39.9	-1.3
DAV	Davao City (W)	3.10	318	P		Pn	01 51 05.2	+0.7
DAV	Davao City (W)	3.10	318	P		Pn	01 51 03.9	-0.5
	209nm,0.3s,baz=199,slow=1.5,SNR=10							
DAV				S		Sn	01 51 39.9	-1.3
	174nm,0.3s,baz=180,slow=20,SNR=21							
KCP	Kidapawan	3.41	312	eP		Pn	01 51 09.2	+0.7
KCP				*i* S		Sn	01 51 48.3	-0.1
TNTI	Ternate	3.95	184	P		Pn	01 51 17.4	+1.7
BUKP	Musuan	4.05	321	eP		Pn	01 51 15.9	-

JAY **Jayapura** 14.90 119 P P 01 53 47.8 +3.7
64nm,0.9s
BBKI **Banjar Baru** 15.17 238 P **P** 01 53 46.5 -0.6
107nm,1.0s
SBUM **Sibu** 15.57 262 P **Pn** 01 53 50.4 +0.5
SBUM **Sibu** 15.57 262 P **Pn** 01 53 50.3 +0.5
167nm,1.1s,2µm
STKI **Sintang** 16.81 254 P **P** 01 54 06.3 +1.0
64nm,1.1s,15µm
MTNI **Mataram** 17.54 221 P **Pn** 01 54 16.3 +2.4
140nm,0.9s
KSM **Kuching** 17.62 260 *eP* **P** 01 54 14.1 -0.1
72nm,1.0s
KSM **Kuching** 17.62 260 P **Pn** 01 54 14.7 -0.2
KSM **Kuching** 17.62 260 P **Pn** 01 54 15.1 +0.2
89nm,1.0s,1µm
KHKI **Kahang-Kahang** 17.71 223 P Pn 01 54 23.1 +7.1
BYJI **Banyuwangi** 18.48 226 P Pn 01 54 30.7 +5.6
JAGI **Jajag, Banyuwa** 18.80 226 P **Pn** 01 54 31.0 +2.1
108nm,1.2s
GUMO **Guam** 19.12 61 LR LR 02 00 33.2
comp=Z,89nm,18.2s,baz=203,slow=32
GMJI **Gumukmas** 19.18 228 P **Pn** 01 54 38.1 +4.7
96nm,1.1s
SJI **Sawahan** 20.12 232 P **P** 01 54 42.3 +0.8
41nm,1.1s
PWJI **Pagerwojo** 20.26 231 P Pn 01 54 48.2 +2.2
54nm,1.1s
BJII **Banjamegara** 21.55 236 P **P** 01 54 59.3 +2.5
66nm,1.6s
JOW **Kunigami** 21.98 1 LR LR 02 03 20.6
comp=Z,59nm,21.2s,baz=275,slow=36
QIZ **Qiongzhong** 22.45 311 P **P** 01 55 05.9 -0.1
QIZ S **S** 01 59 06.5 +2.5
QIZ pmax pmax
comp=Z,22nm,1.1s
FITZ **Fitzroy Crossi** 22.78 185 *eP* **P** 01 55 10.4 +1.2
comp=Z,181nm,1.2s
FITZ **Fitzroy Crossi** 22.78 185 *eP* **P** 01 55 10.0 +0.8
comp=Z,124nm,0.9s
FITZ **Fitzroy Crossi** 22.78 185 P **P** 01 55 08.9 -0.4
comp=Z,52nm,0.8s,baz=16,slow=10,SNR=36
LEM **Lembang** 23.06 240 P **P** 01 55 14.7 +2.5
comp=Z,77nm,1.0s
MYKOM **Kota Tinggi** 23.94 264 P **P** 01 55 20.3 +0.2
COEN **Coen** 24.13 141 *eP* **P** 01 55 21.3 -0.5
KGM **Kluang** 24.44 264 P **P** 01 55 26.2 +1.6
CGJI **Cibinong** 24.65 243 P **P** 01 55 26.6 +0.1
comp=Z,57nm,0.8s,comp=Z,6µm
WRAB **Tennant Creek** 25.38 165 *eP* **P** 01 55 33.0 -0.1
WRAB pmax pmax
comp=Z,72nm,0.9s
WRAB **Tennant Creek** 25.38 165 *eP* **P** 01 55 33.0 -0.1
comp=Z,72nm,0.9s
WRA **Warramunga Arr** 25.39 165 P **P** 01 55 33.0 -0.1
WRA S **S** 01 59 49.6 -1.4
WRA ScP **ScP** 02 02 31.9 +0.9
WRA **Warramunga Arr** 25.39 165 P **P** 01 55 33.0 -0.1
comp=Z,26nm,0.5s,baz=345,slow=11,SNR=143
WRA S **S** 01 59 49.6 -1.4
comp=Z,2.6nm,0.9s,baz=347,slow=19,SNR=3.0
WRA ScP **ScP** 02 02 31.9 +0.9
comp=Z,4.8nm,1.0s,baz=346,slow=3.3,SNR=8.0
WB2 **Warramunga Arr** 25.39 165 *eP* **P** 01 55 32.8 -0.4
FRIM **Kepong** 26.01 268 P **P** 01 55 38.9 +0.1
IPM **Ipoh** 26.54 271 *eP* **P** 01 55 43.4 -0.3
comp=Z,8.3nm,0.8s
IPM **Ipoh** 26.54 271 P **P** 01 55 43.7 +0.1
MBWA **Marble Bar** 26.88 197 *eP* **P** 01 55 46.4 -0.1
comp=Z,78nm,1.6s
NJ2 **Nanjing** 28.40 344 *eP* **P** 01 56 02.3 +2.4
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
JNU **Nakatsue** 28.40 6 *eP* **P** 01 55 59.3 -0.7
comp=Z,24nm,1.3s
JNU **Nakatsue** 28.40 6 P **P** 01 55 58.3 -1.7
comp=Z,22nm,0.9s,baz=254,slow=3.8,SNR=7.9
WHN **Wuhan** 28.57 335 P P 01 56 08.0 +6.5
AS31 **Alice Springs** 28.88 168 *eP* **P** 01 56 04.0 -0.3
AS31 *e*PcP **PcP** 01 59 11.0 0.0
ASAR **Alice Springs** 28.88 168 P **P** 01 56 04.5 +0.1
ASAR PcP **PcP** 01 59 11.4 +0.4
ASAR S **S** 02 00 46.2 +0.2
ASAR ScP **ScP** 02 02 42.6 +1.1
ASAR **Alice Springs** 28.88 168 P **P** 01 56 04.5 +0.1
comp=Z,19nm,0.5s,baz=4.0,slow=9.9,SNR=171
ASAR PcP **PcP** 01 59 11.4 +0.4
comp=Z,9.4nm,0.4s,baz=346,slow=2.3,SNR=22
ASAR S **S** 02 00 46.2 +0.2
comp=Z,2.2nm,0.8s,baz=353,slow=20,SNR=4.2
ASAR ScP **ScP** 02 02 42.6 +1.1
comp=Z,3.6nm,0.9s,baz=1.1,slow=3.1,SNR=12
GYA **Guiyang** 29.48 319 *eP* **P** 01 56 11.4 +1.6
GYA pP **pP** 01 56 38.0 +2.0
GYA sP **sP** 01 56 52.4 +2.5
GYA PP **PnPn** 01 57 13.8 +3.7
GYA S **S** 02 00 57.8 +2.1
GYA sS **sS** 02 01 43.2 +1.7
GYA ScP **ScP** 02 02 43.9 +0.3
GYA PcS **PcS** 02 02 56.5 +0.5
GYA ScS **ScS** 02 06 37.8 -0.8
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
ENH **Enshi** 30.64 328 *eP* **P** 01 56 21.2 +1.3
comp=Z,10nm,0.8s
CTA **Charters Tower** 30.71 144 *eP* **P** 01 56 21.0 +0.5
comp=Z,20nm,0.8s
CTAO **Charters Tower** 30.71 144 *eP* **P** 01 56 21.3 +0.8
CTAO pmax pmax
comp=Z,19nm,0.8s
CTAO **Charters Tower** 30.71 144 *eP* **P** 01 56 21.3 +0.8
comp=Z,19nm,0.8s
CMAR **Chiang Mai Arr** 31.18 298 P **P** 01 56 22.7 -2.1
CMAR PcP **PcP** 01 59 17.4 +0.4
CMAR ScP **ScP** 02 02 50.4 +1.2
CMAR **Chiang Mai Arr** 31.18 298 P **P** 01 56 22.7 -2.1
comp=Z,4.4nm,0.7s,baz=111,slow=8.3,SNR=22
CMAR PcP **PcP** 01 59 17.4 +0.4
comp=Z,1.9nm,0.7s,baz=89,slow=1.8,SNR=5.9
CMAR ScP **ScP** 02 02 50.4 +1.2
comp=Z,9.8nm,1.2s,baz=140,slow=1.7,SNR=15
CMAR LR LR 02 08 38.8
comp=Z,121nm,18.5s,baz=116,slow=35
CHTO **Chiang Mai** 31.32 299 *eP* **P** 01 56 25.4 -0.6
CHTO pmax pmax
comp=Z,11nm,0.7s
CHTO **Chiang Mai** 31.32 299 *eP* **P** 01 56 25.4 -0.6
comp=Z,11nm,0.7s
CHTO **Chiang Mai** 31.32 299 P **P** 01 56 25.8 -0.2
comp=Z,19nm,0.9s
KMI **Kunming** 31.35 313 P **P** 01 56 29.2 +2.8
KMI LR LR
comp=Z,140nm,33.9s
KSAR **Wonju Array Be** 32.55 0 P **P** 01 56 35.9 -0.6
KSAR PcP **PcP** 01 59 21.0 +0.6
KSAR ScP **ScP** 02 02 54.2 +0.9
KSRS **Korea Array** 32.56 0 P **P** 01 56 35.9 -0.6
comp=Z,14nm,0.8s,baz=176,slow=10.0,SNR=36
KSRS PcP **PcP** 01 59 21.0 +0.6
comp=Z,3.1nm,0.6s,baz=173,slow=2.4,SNR=9.1
KSRS ScP **ScP** 02 02 54.2 +0.9
comp=Z,1.6nm,0.7s,baz=180,slow=3.3,SNR=4.6
KSRS LR LR 02 09 34.1
comp=Z,29nm,18.4s,baz=180,slow=36
MAT **Matsushiro** 33.11 16 P **P** 01 56 40.0 -1.4
MJAR **Matsushiro Arr** 33.11 16 P **P** 01 56 39.8 -1.5
MJAR PcP **PcP** 01 59 22.6 +0.6
MJAR ScP **ScP** 02 02 56.2 +0.9
MJAR **Matsushiro Arr** 33.11 16 P **P** 01 56 39.8 -1.5
comp=Z,3.0nm,0.8s,baz=185,slow=11,SNR=8.0
MJAR PcP **PcP** 01 59 22.6 +0.6
comp=Z,6.3nm,0.7s,baz=191,slow=3.8,SNR=11
MJAR ScP **ScP** 02 02 56.2 +0.9
comp=Z,3.3nm,0.9s,baz=193,slow=5.4,SNR=5.0
MJAR LR LR 02 08 22.3
comp=Z,172nm,19.1s,baz=165,slow=33
XAN **Xi'an** 33.96 331 P **P** 01 56 48.7 -0.1
XAN pP **pP** 01 57 15.1 -0.2
XAN pmax pmax
comp=Z,8.0nm,0.7s
XAN pmax pmax
comp=Z,46nm,5.5s
XAN LR LR
comp=N,76nm,7.6s
XAN LR LR
comp=Z,37nm,7.2s
CD2 **Chengdu** 34.40 322 P **P** 01 56 53.0 +0.3
CD2 pP **pP** 01 57 19.2 0.0
CD2 sP **sP** 01 57 33.2 +0.1
CD2 S **S** 02 02 12.2 +0.2
CD2 PcS **PcS** 02 03 11.5 -1.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,280nm,5.5s
CD2 LR LR
comp=N,320nm,5.5s
CD2 LR LR
comp=Z,480nm,7.0s
FORT **Forest** 35.32 179 *eP* **P** 01 57 00.5 0.0
comp=Z,202nm,0.7s
FORT **Forest** 35.32 179⇑ *iP* **P** 01 57 01.0 +0.6
comp=Z,177nm,0.6s
BJT **Baijiatuau** 36.62 345 *eP* **P** 01 57 11.5 0.0
comp=Z,12nm,0.8s
BJI **Beijing** 36.64 345 P **P** 01 57 11.4 -0.2
BJI pP **pP** 01 57 38.6 +0.2
BJI sP **sP** 01 57 51.5 -0.6
BJI S **S** 02 02 49.3 +3.5
BJI pmax pmax
comp=Z,16nm,0.9s
KLBR **Kellerberrin** 37.34 194⇑ *iP* **P** 01 57 18.1 +0.5
comp=Z,18nm,0.5s
EIDS **Eidsvold** 37.59 144 *eP* **P** 01 57 19.8 -0.2
comp=Z,45nm,0.6s
LZH **Lanzhou** 38.12 328 *eP* **P** 01 57 26.6 +2.2
LZH pP **pP** 01 57 51.5 +0.2
LZH sP **sP** 01 58 02.3 -2.8
LZH PP **PnPn** 01 59 00.8 +3.9
LZH *e*S **ScP** 02 03 11.5 -2.4
LZH pmax pmax
comp=Z,19nm,1.1s
LZH pmax pmax
comp=Z,110nm,6.1s
LZH LR LR
comp=N,150nm,10.0s
LZH LR LR
comp=E,120nm,8.7s
LZH LR LR
comp=Z,180nm,11.6s
BBOO **Buckleboo** 38.18 169 *eP* **P** 01 57 25.3 +0.5
comp=Z,495nm,0.6s
BBOO *e*pP **pP** 01 57 50.9 -0.7
BBOO *e*PP **PP** 01 58 47.9 -6.7
BBOO *e*PcP **PcP** 01 59 36.9 -0.1
NWAO **Narrogin (SRO)** 38.74 194 *eP* **P** 01 57 28.7 -0.7
comp=Z,34nm,0.8s
HHC **Hu-ho-hao-te** 38.75 340 *eP* **P** 01 57 30.2 +0.7
HHC pP **pP** 01 58 01.4 +4.9
HHC PP **PnPn** 01 59 07.1 +2.9
HHC S **S** 02 03 18.9 +0.9
HHC sS sS 02 04 13.0 +8.2
HHC pmax pmax
comp=Z,13nm,1.1s
HHC pmax pmax
comp=Z,110nm,5.8s
STKA **Stephens Creek** 38.76 161 *eP* **P** 01 57 30.0 +0.5
comp=Z,15nm,0.7s
STKA *e*PcP **PcP** 01 59 39.0 +0.2
STKA PcP **PcP** 01 59 39.2 +0.3
STKA **Stephens Creek** 38.76 161⇑ *iP* **P** 01 57 30.2 +0.7
comp=Z,40nm,0.5s
STKA **Stephens Creek** 38.76 161 P **P** 01 57 30.2 +0.7
comp=Z,56nm,0.5s,baz=337,slow=8.1,SNR=194
STKA PcP **PcP** 01 59 39.2 +0.3
comp=Z,10nm,0.6s,baz=350,slow=5.7,SNR=4.2
STKA LR LR 02 12 11.9
comp=Z,131nm,20.2s,baz=24,slow=34
CN2 **Changchun** 38.95 357 *eP* P 01 57 35.6 +4.6
CN2 *e*pP pP 01 58 01.5 +3.5
CN2 PcP **PcP** 01 59 39.7 +0.5
CN2 *e*S **S** 02 03 25.7 +5.0
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
USRK **Ussuriysk Arra** 39.49 5 P **P** 01 57 35.7 +0.3
comp=Z,4.7nm,0.5s,baz=182,slow=7.5,SNR=14
USRK PcP **PcP** 01 59 40.8 -0.1
comp=Z,2.5nm,0.5s,baz=182,slow=2.1,SNR=5.7
MDJ **Mudanjiang** 39.76 2 P **P** 01 57 38.1 +0.4
MDJ pmax pmax
comp=Z,12nm,1.1s
MDJ pmax pmax
comp=Z,220nm,5.4s
SHL **Shillong** 40.04 305 *e*PKP **P** 01 57 40.1 -0.5
ASAJ **Asahikawa** 41.37 16 P **P** 01 57 50.9 -0.1
ASAJ **Asahikawa** 41.37 16 P **P** 01 57 50.9 -0.1
comp=Z,14nm,0.6s,baz=232,slow=9.5,SNR=12
ARMA **Armidale** 41.81 148 *eP* **P** 01 57 55.8 +0.9
comp=Z,91nm,0.7s
ARMA **Armidale** 41.81 148⇑ *iP* **P** 01 57 55.8 +0.9
LSA **Lhasa** 42.48 310 P **P** 01 57 59.7 -1.2
LSA pmax pmax
comp=Z,20nm,0.6s
LSA **Lhasa** 42.48 310 *eP* **P** 01 58 01.8 +1.0
LSA *e* 01 59 52.3
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA **Lhasa** 42.48 310 *eP* **P** 01 58 01.8 +1.0
comp=Z,6.4nm,0.7s
LSA *e*PcP **PcP** 01 59 52.3 +0.7
GTA **Gaotai** 42.73 328 *eP* **P** 01 58 03.0 +0.8
GTA pP **pP** 01 58 28.4 -1.2
GTA sP **sP** 01 58 41.3 -1.9
GTA PcP **PcP** 01 59 52.4 +0.6
GTA pmax pmax
comp=Z,13nm,0.9s
HABR **Khabarovsk** 44.03 7 *eP* **P** 01 58 10.6 -1.8
HABR *e**PP **pP** 01 58 37.9 -2.0
HABR *e* 01 59 55.2
HABR S **S** 02 04 33.3 -2.2
HABR pmax pmax
comp=E,15nm,1.2s
HABR pmax pmax
comp=Z,19nm,1.4s
HABR pmax pmax
comp=N,9.0nm,1.1s
YSS **Yuzh-Sakhalins** 44.04 15 *i* P **P** 01 58 13.4 +1.0
YSS pmax pmax
comp=Z,19nm,1.3s
YSS **Yuzh-Sakhalins** 44.04 15 *eP* **P** 01 58 12.6 +0.2
comp=Z,13nm,0.5s
TAPN **Taplejung** 44.18 305 *eP* **P** 01 58 14.7 +0.4
TAPN **Taplejung** 44.18 305 *eP* **P** 01 58 14.7 +0.4
ODAN **Odare** 44.25 304 *eP* **P** 01 58 15.0 +0.2
comp=Z,54nm,0.8s
ODAN **Odare** 44.25 304 *eP* **P** 01 58 15.0 +0.2
comp=Z,54nm,0.8s
KLR **Kul'dur** 44.47 4 *eP* P 01 58 12.1 -3.8
KLR *e* 01 58 40.9
CAN **Canberra** 44.61 155 *eP* **P** 01 58 18.4 +1.1
CAN pmax pmax
comp=Z,31nm,0.8s
CAN **Canberra** 44.61 155 *eP* **P** 01 58 18.4 +1.1
comp=Z,32nm,0.8s
CNB **Canberra Magne** 44.76 155 *eP* **P** 01 58 19.6 +1.1
comp=Z,114nm,1.0s
RAMN **Ramite** 44.94 304 *eP* **P** 01 58 20.8 +0.5
comp=Z,29nm,0.8s
RAMN **Ramite** 44.94 304 *eP* **P** 01 58 20.8 +0.5
comp=Z,29nm,0.8s
TOO **Toolangi** 45.25 160 *eP* **P** 01 58 23.9 +1.6
comp=Z,91nm,0.6s
JIRN **Jiri** 45.55 305 *eP* **P** 01 58 25.6 +0.4
comp=Z,38nm,0.8s
JIRN **Jiri** 45.55 305 *eP* **P** 01 58 25.6 +0.4
comp=Z,38nm,0.8s
GUN **Gumba** 45.90 305 *eP* **P** 01 58 28.3 +0.4
comp=Z,44nm,0.8s
GUN **Gumba** 45.90 305 *eP* **P** 01 58 28.3 +0.4
comp=Z,44nm,0.8s
PKI **Pulchoki** 46.16 304 *eP* **P** 01 58 29.5 -0.5
PKI **Pulchoki** 46.16 304 *eP* **P** 01 58 29.5 -0.5
PKI **Pulchoki** 46.16 304 *eP* **P** 01 58 29.5 -0.5
KKN **Kakani** 46.34 304 *eP* **P** 01 58 31.4 +0.1
KKN **Kakani** 46.34 304 *eP* **P** 01 58 31.4 +0.1
KKN **Kakani** 46.34 304 *eP* **P** 01 58 31.4 +0.1
DZM **Mont Dzumac** 46.38 127 *eP* **P** 01 58 31.2 -0.2
comp=Z,54nm,0.6s
DMN **Daman** 46.42 304 *eP* **P** 01 58 31.9 0.0
comp=Z,19nm,0.8s
DMN **Daman** 46.42 304 *eP* **P** 01 58 31.9 0.0
comp=Z,19nm,0.8s
ULN **Ulaanbaatar** 46.46 341 *eP* **P** 01 58 32.2 +0.4
comp=Z,10nm,0.8s
ULN *e*PcP **PcP** 02 00 04.7 +0.2
ULN *e*ScP **ScP** 02 03 47.4 +0.4
ULN **Ulaanbaatar** 46.46 341 P **P** 01 58 32.0 +0.2
comp=Z,15nm,1.1s
SONM **Songino Array** 46.65 340 P **P** 01 58 33.4 +0.1
SONM PcP **PcP** 02 00 04.7 -0.4
SONM ScP **ScP** 02 03 48.7 +0.9
SONM **Songino Array** 46.65 340 P **P** 01 58 33.4 +0.1
comp=Z,3.5nm,0.7s,baz=153,slow=8.6,SNR=17
SONM PcP **PcP** 02 00 04.7 -0.4
comp=Z,2.5nm,0.7s,baz=154,slow=4.7,SNR=3.8
SONM ScP **ScP** 02 03 48.7 +0.9
comp=Z,2.4nm,0.9s,baz=149,slow=5.3,SNR=5.6
SONM LR LR 02 18 17.1
comp=Z,64nm,18.9s,baz=3.2,slow=36
GKN **Gorkha** 46.95 304 *eP* **P** 01 58 35.7 -0.3
GKN **Gorkha** 46.95 304 *eP* **P** 01 58 35.7 -0.3
KOLN **Koldanda** 47.72 304 *eP* **P** 01 58 42.3 +0.3
KOLN **Koldanda** 47.72 304 *eP* **P** 01 58 42.3 +0.3
DANN **Dangsing** 47.80 304 *eP* **P** 01 58 43.0 +0.3
DANN **Dangsing** 47.80 304 *eP* **P** 01 58 43.0 +0.3
HYB **Hyderabad** 49.66 289 *i* P **P** 01 58 57.0 +0.3
ZAK **Zakamensk** 49.89 340 *eP* **P** 01 58 55.3 -2.8
ZAK *e* 02 00 13.6
ZAK pmax pmax
comp=Z,2.0nm,0.9s
TLY **Talaya** 50.88 341 *eP* **P** 01 59 06.4 +1.1
TLY pmax pmax
comp=Z,2.0nm,0.8s
MOY **Mondy** 51.77 339 *eP* **P** 01 59 13.1 +1.0
BHPL **Bhopal** 51.78 296 *e*PKP **P** 01 59 11.6 -1.0
WMQ **Urumqi** 52.44 324 P **P** 01 59 18.6 +1.4
WMQ PP **PP** 02 01 20.1 +2.9
WMQ *e*S **S** 02 06 35.0 +0.7
WMQ pmax pmax
comp=Z,34nm,1.0s
WMQ pmax pmax
comp=Z,230nm,5.6s
WMQ LR LR
comp=N,190nm,26.6s
WMQ LR LR
comp=E,200nm,25.4s
WMQ LR LR
comp=Z,160nm,24.5s
DDI **Dehra Dun** 53.15 305 *ex* **P** 01 59 21.5 -1.1
AYAN **Aya Nagar** 53.37 302 *e*PKP **P** 01 59 22.5 -1.6
BHGR **Bahadurgarh** 53.59 302 *e*PKP **P** 01 59 25.3 -0.4
BHGR AMb AMB 01 59 37.8
comp=Z,133nm,0.3s
KUDL **Kundal** 53.81 302 *e*PKP **P** 01 59 27.1 -0.4
KUDL AMb AMB 01 59 28.4
comp=Z,13nm,0.8s
KUDL *ex* x 01 59 56.0
BOD **Bodaibo** 54.01 351⇓ *iP* **P** 01 59 27.6 -0.7
BOD pmax pmax
comp=Z,68nm,1.0s
PETK **Petropavlovsk-** 54.16 22 P **P** 01 59 29.7 +0.2
PETK **Petropavlovsk-** 54.16 22 P **P** 01 59 29.7 +0.2
PETK **Petropavlovsk-** 54.16 22 P **P** 01 59 29.7 +0.2
comp=Z,21nm,0.6s,baz=185,slow=5.6,SNR=70
KHET **Khetri** 54.38 301 *e*PKP **P** 01 59 30.8 -0.8
KHET AMb AMB 01 59 33.4
comp=Z,7.4nm,0.8s
KHET *ex* x 01 59 57.8
MSVF **Nonsavu** 54.50 116 *eP* **P** 01 59 34.0 +1.3
MSVF pmax pmax
comp=Z,18nm,0.8s
MSVF **Nonsavu** 54.50 116 *eP* **P** 01 59 34.0 +1.3
comp=Z,18nm,0.8s
YAK **Yakutsk** 57.19 1 *eP* **P** 01 59 49.6 -1.3
YAK *e**PP pP 02 00 10.8 -8.9
YAK *e* 02 01 57.7
YAK *e*S **S** 02 07 38.1 +1.2
YAK *e* 02 09 32.3
YAK pmax pmax
comp=Z,13nm,0.7s
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,21nm,1.5s
YAK pmax pmax
comp=N,3.0nm,0.6s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK smax smax
comp=N,284nm,6.0s
YAK smax smax
comp=E,142nm,5.6s
YAK **Yakutsk** 57.19 1 *eP* **P** 01 59 50.7 -0.2
comp=E,28nm,0.6s
MK31 **Makanchi Array** 57.27 324 *ce*P **P** 01 59 52.3 +0.4
MK31 pmax pmax
comp=Z,11nm,0.4s
MK31 **Makanchi Array** 57.27 324 *eP* **P** 01 59 52.1 +0.2
MKAR **Makanchi Array** 57.27 324 *ce*P **P** 01 59 52.4 +0.5
MKAR pmax pmax
comp=Z,20nm,0.5s
MKAR **Makanchi Array** 57.27 324 P **P** 01 59 52.2 +0.3
MKAR PcP **PcP** 02 00 44.1 -0.7
MKAR ScP **ScP** 02 04 33.0 -0.7
MKAR P'P' 02 29 39.1
MKAR **Makanchi Array** 57.27 324 P **P** 01 59 52.2 +0.3
comp=Z,20nm,0.5s,baz=113,slow=8.0,SNR=380
MKAR PcP **PcP** 02 00 44.1 -0.7
comp=Z,7.0nm,0.7s,baz=130,slow=5.5,SNR=5.5
MKAR ScP **ScP** 02 04 33.0 -0.7
comp=Z,1.1nm,0.6s,baz=104,slow=5.9,SNR=5.4
MKAR LR LR 02 24 25.0
comp=Z,37nm,21.2s,baz=170,slow=36
MKAR PKPPKP **P'P'df** 02 29 39.1 -0.7
comp=Z,0.5nm,0.9s,baz=282,slow=4,SNR=4.2
KSH **Kashi** 57.99 314 P **P** 01 59 59.1 +1.9
KSH pP **pP** 02 00 28.4 +2.4
KSH sP **sP** 02 00 40.3 +1.0
KSH PP PP 02 02 12.2 +5.2
KSH S **S** 02 07 52.6 +4.0
KSH sS **sS** 02 08 41.3 +3.1
KSH ScS **ScS** 02 09 37.4 +1.9
KSH SS SS 02 11 49.1 +7.4
KSH pmax pmax
comp=Z,3.0nm,0.6s
KSH pmax pmax
comp=Z,140nm,4.5s
KSH LR LR
comp=N,44nm,6.1s
KSH LR LR
comp=E,210nm,5.3s
KSH LR LR
comp=Z,230nm,7.1s
KZA **Kyzart** 59.51 317 P **P** 02 00 09.5 +1.5
SNR=12
KZA P **P** 02 00 09.5 +1.5
SNR=12
TKM2 **Tokmak 2** 59.62 318 *eP* **P** 02 00 09.3 +0.8
TKM2 *e**PP **pP** 02 00 38.1 +0.7
TKM2 pmax pmax
comp=Z,11nm,1.0s
TKM2 **Tokmak 2** 59.62 318 *eP* **P** 02 00 09.2 +0.8
comp=Z,11nm,1.0s
TKM2 *ep*P **pP** 02 00 38.1 +0.7
TKM2 **Tokmak 2** 59.62 318 P **P** 02 00 09.3 +0.8
SNR=12
TKM2 P **P** 02 00 09.3 +0.8
SNR=12
KBK **Karagaybulak** 59.94 317 P **P** 02 00 11.7 +1.1
SNR=6.9
KBK P **P** 02 00 11.7 +1.1
SNR=6.9
ZAA0 **Zalesovo Array** 60.12 332 *eP* **P** 02 00 10.4 -1.0
ZALV **Zalesovo Beam** 60.12 332 P **P** 02 00 10.7 -0.7
ZALV **Zalesovo Beam** 60.12 332 P **P** 02 00 10.7 -0.7
ZALV P'P' 02 29 31.4
ZALV ⇑*e* 02 29 40.6
ZALV **Zalesovo Beam** 60.12 332 P **P** 02 00 10.7 -0.7
comp=Z,6.6nm,0.4s,baz=118,slow=7.0,SNR=57
ZALV LR LR 02 27 26.7

comp=Z,46nm,18.4s,baz=80,slow=37
ZALV PKPPKP **P'P'df** **02 29 31.4 -3.5**
comp=Z,0.2nm,0.3s,baz=353,slow=4.6,SNR=2.8
ZALV PKP2bc 02 29 40.6
comp=Z,0.5nm,0.4s,baz=320,slow=3.9,SNR=5.1
CHMS Chumysh 60.21 318 P **P** **02 00 12.6 +0.3**
SNR=5.8
CHMS P **P** **02 00 12.6 +0.3**
SNR=5.8
AAK Ala-Archa 60.24 317 *i* P **P** **02 00 12.3 -0.4**
AAK pmax pmax
comp=Z,6.0nm,0.6s
AAK Ala-Archa 60.24 317 *e*P **P** **02 00 13.3 +0.6**
comp=Z,15nm,0.6s
AAK Ala-Archa 60.24 317 P **P** **02 00 13.7 +1.0**
SNR=5.7
AAK P **P** **02 00 13.7 +1.0**
SNR=5.7
USP Ospenovka 60.49 318 P **P** **02 00 14.9 +0.6**
SNR=26
USP P **P** **02 00 14.9 +0.6**
SNR=26
AML Almayashu 60.59 316 P **P** **02 00 16.6 +1.2**
SNR=16
AML P **P** **02 00 16.6 +1.2**
SNR=16
EKS2 Erkin-Say 60.74 317 *e*P **P** **02 00 16.9 +0.9**
EKS2 *e**PP **pP** **02 00 46.3 +1.2**
EKS2 pmax pmax
comp=Z,13nm,0.9s
EKS2 Erkin-Say 60.74 317 *e*P **P** **02 00 16.9 +0.9**
comp=Z,13nm,0.9s
EKS2 *e*pP **pP** **02 00 46.3 +1.2**
EKS2 Erkin-Say 60.74 317 P **P** **02 00 17.1 +1.1**
SNR=16
EKS2 P **P** **02 00 17.1 +1.1**
SNR=16
FX1 Attu Island--F 60.76 30 P **P** **02 00 16.2 +0.4**
FX1 Attu Island--F 60.76 30 P **P** **02 00 16.2 +0.4**
comp=Z,6.1nm,0.5s,baz=174,slow=9.2,SNR=4.2
SEY Seymchan 60.85 13 *e*P **P** **02 00 15.5 -0.7**
KURK Kurchatov 61.40 327 *e*P **P** **02 00 20.2 +0.1**
KURK *e**PP **pP** **02 00 50.1 +0.8**
KURK pmax pmax
comp=Z,46nm,0.6s
KURK Kurchatov 61.40 327 *e*P **P** **02 00 20.1 +0.1**
comp=Z,46nm,0.6s
KURK *e*pP **pP** **02 00 50.0 +0.8**
NVS Novosibirsk 61.40 333⇑ *e*P **P** **02 00 18.4 -1.6**
NVS *e**PP pP 02 00 37.3 -12
NVS *e*S **S** **02 08 27.6 -3.8**
NVS pmax pmax
comp=N,5.0nm,0.7s
NVS pmax pmax
comp=E,7.0nm,0.7s
NVS pmax pmax
comp=Z,12nm,0.7s
NVS smax smax
comp=N,3.0nm,1.0s
NVS smax smax
comp=E,5.0nm,1.4s
KBL Kabul 61.65 307 *e*P **P** **02 00 22.4 0.0**
KBL *e**PP **pP** **02 00 51.8 +0.2**
KBL pmax pmax
comp=Z,6.0nm,0.7s
KBL Kabul 61.65 307 *e*P **P** **02 00 22.4 0.0**
comp=Z,5.8nm,0.7s
KBL *e*pP **pP** **02 00 51.8 +0.2**
RPZ Rata Peaks 62.06 146 *e*P **P** **02 00 25.0 +0.3**
comp=Z,45nm,0.9s
RPZ Rata Peaks 62.06 146 P **P** **02 00 24.8 +0.1**
comp=Z,31nm,0.6s,baz=218,slow=18,SNR=8.7
KK31 Karatay Array 63.13 316*ce*P **P** **02 00 32.0 +0.1**
KK31 pmax pmax
comp=Z,4.0nm,0.4s
KKAR Karatay Array 63.13 316 *e*P **P** **02 00 32.0 +0.1**
KKAR *e**PP **pP** **02 01 01.1 -0.1**
KKAR pmax pmax
comp=Z,11nm,0.9s
KKAR Karatay Array 63.13 316 *e*P **P** **02 00 31.9 +0.1**
comp=Z,11nm,0.9s
KKAR *e*pP **pP** **02 01 01.1 -0.1**
BVA0 Borovoye Array 66.99 326 *i* P **P** **02 00 56.6 0.0**
BVA0 pmax pmax
comp=Z,3.0nm,0.7s
BRVK Borovoye 67.06 326*ce*P **P** **02 00 57.1 0.0**
BRVK pmax pmax
comp=Z,25nm,0.9s
BRVK Borovoye 67.06 326 *e*P **P** **02 00 57.1 0.0**
comp=Z,27nm,0.8s
BILL Bilibino 68.35 15 *e*P **P** **02 01 05.7 +0.8**
BILL *i* 02 01 30.5
BILL pmax pmax
comp=Z,9.0nm,1.7s
BILL Bilibino 68.35 15 *e*P **P** **02 01 04.6 -0.3**
IDAH Dahanechah 68.79 303 *e*P **P** **02 01 09.1 +0.4**
IMON Monand 69.03 304 *e*P **P** **02 01 10.9 +0.8**
ISRO Mashad 69.66 307 *e*P **P** **02 01 13.4 -0.4**
ITEG Tejag 69.75 303 *e*P **P** **02 01 15.0 +0.5**
IKRD Kardeh 70.50 307 *e*P P 02 01 14.3 -4.7
ABKT Ailbek 70.99 308 P **P** **02 01 22.8 +1.1**
comp=Z,107nm,1.0s,SNR=10.0
AB31 Akbulak array 71.96 320*ce*P **P** **02 01 26.9 -0.3**
AB31 pmax pmax
comp=Z,5.0nm,0.4s
ABKAR Akbulak array 71.96 320 *e*P **P** **02 01 27.1 -0.1**
comp=Z,18nm,0.9s
ABKAR *e*pP **pP** **02 01 57.5 +0.3**
GAMB Gambell 73.11 24 *e*P **P** **02 01 34.0 +0.3**
comp=Z,11nm,0.8s
ICHK Chekchek 73.32 302 *e*P **P** **02 01 32.9 -3.1**
SVE Sverdlovsk 73.59 328 *e*P **P** **02 01 36.5 -0.2**
SVE pmax pmax
comp=Z,23nm,0.8s
IANJ Anjilo 74.03 305 *e*P **P** **02 01 39.6 -0.4**
IPAR Pars 74.31 300 *e*P **P** **02 01 42.5 +0.6**
ISHM Shahmirzad 74.56 306 *e*P **P** **02 01 43.7 +0.5**
ARU Arti 74.58 327*c i*P **P** **02 01 41.6 -0.9**
ARU *e**PP **pP** **02 02 11.4 -1.3**
ARU S **S** **02 11 06.9 -1.3**
ARU pmax pmax
comp=Z,13nm,0.6s
ARU Arti 74.58 327 *e*P **P** **02 01 41.6 -0.9**
comp=Z,14nm,0.6s
ARU *e*pP **pP** **02 02 11.3 -1.3**
ILAS Lasjerd 74.80 305 *e*P **P** **02 01 44.7 +0.2**
IFIR Firoozkooh 74.98 305 *e*P **P** **02 01 46.2 +0.6**
IKLH Kolahrood 75.78 303 *e*P **P** **02 01 50.5 +0.3**
IPIR Pirpir 76.32 302 *e*P **P** **02 01 53.7 +0.4**
IMHD Mahdasht 76.68 305 *e*P **P** **02 01 55.4 +0.3**
IRAZ Razeghan 77.27 305 *e*P **P** **02 01 58.5 0.0**
UMR Umm Al-Rimmam 78.93 299 *e*P **P** **02 02 07.1 -0.4**
UMR AMb AMB 02 02 08.3
comp=Z,70nm,1.3s
RDF Al-Radifah 79.07 298 *e*P **P** **02 02 08.2 0.0**
RDF AMb AMB 02 02 14.8
comp=Z,71nm,1.3s
IKOM Komasi 79.20 304 *e*P **P** **02 02 07.6 -1.5**
MIB Mutribah 79.26 299 *e*P **P** **02 02 09.0 -0.3**
MIB AMb AMB 02 02 10.1
comp=Z,82nm,0.9s
NAY Al-Naaiem 79.34 299 *e*P **P** **02 02 09.4 -0.4**
NAY AMb AMB 02 02 10.4
comp=Z,29nm,1.1s
IHRS Heris 79.72 308 *e*P **P** **02 02 11.7 -0.2**
IDHR Dehrash 80.14 304 *e*P **P** **02 02 12.6 -1.6**
IMRD Marand 80.78 308 *e*P **P** **02 02 17.7 +0.2**
RAYN Ar Rayn 80.94 293 P **P** **02 02 18.3 -0.2**
comp=Z,158nm,0.8s,SNR=14
DGRG David-gareji 81.10 311 P **P** **02 02 20.6 +1.6**
GNI Garni 81.55 310 *e*P **P** **02 02 22.2 +0.6**
comp=Z,9.5nm,1.0s
TBLG Delisi 81.58 311 *e*P **P** **02 02 22.4 +0.9**
TBLG Delisi 81.58 311 P **P** **02 02 22.4 +0.9**
GOR Gori 82.06 312 P **P** **02 02 24.9 +0.9**
ZEI Tsey 82.22 312 *e*P **P** **02 02 24.7 -0.4**
ZEI pmax pmax
comp=Z,9.0nm,0.7s
RC01 Rabbit Creek A 82.30 29 *e*P **P** **02 02 24.5 -0.3**
comp=Z,11nm,0.7s
OPO Ambohidratompo 82.49 251 P **P** **02 02 26.5 -0.4**
OPO Ambohidratompo 82.49 251 P **P** **02 02 26.5 -0.4**
comp=Z,3.0nm,0.8s,baz=104,slow=1.9,SNR=6.2
AKH Akhalkalaki 82.51 311 P **P** **02 02 27.9 +1.3**
ABPO Ambohimpanom 82.52 250 *e*P **P** **02 02 27.3 +0.3**
ABPO pmax pmax
comp=Z,5.0nm,0.8s
ABPO Ambohimpanom 82.52 250 *e*P **P** **02 02 27.3 +0.3**
comp=Z,5.0nm,0.8s
ONI Oni 82.55 312 P **P** **02 02 23.5 -3.1**
COLD Coldfoot 82.61 23 *e*P **P** **02 02 26.8 +0.5**
comp=Z,20nm,1.1s
MCK McKinley 82.86 26 *e*P **P** **02 02 27.1 -0.6**
MCK pmax pmax
comp=Z,32nm,1.1s
MCK McKinley 82.86 26 *e*P **P** **02 02 27.1 -0.6**
comp=Z,32nm,1.1s
KIV Kislovodsk 83.11 314 *e*P **P** **02 02 30.4 +0.9**
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV MLR MLR
comp=Z,49nm,20.0s
KIV Kislovodsk 83.11 314 *e*P **P** **02 02 30.2 +0.7**
comp=Z,5.3nm,0.8s
COLA College 83.40 25 *e*P **P** **02 02 29.5 -0.8**
COLA pmax pmax
comp=Z,3.0nm,0.7s
COLA College 83.40 25 *e*P **P** **02 02 29.5 -0.8**
comp=Z,3.3nm,0.7s
ILAR Eielson Array 83.81 25 P **P** **02 02 31.2 -1.3**
ILAR PKKPbc **PKKPbc** **02 20 48.4 -2.5**
ILAR Eielson Array 83.81 25 P **P** **02 02 31.2 -1.3**
comp=Z,4.3nm,0.8s,baz=248,slow=5.2,SNR=52
ILAR PKKPbc **PKKPbc** **02 20 48.4 -2.5**
comp=Z,0.2nm,0.8s,baz=120,slow=1.3,SNR=4.2
VRHR Novokhopersk 83.85 321 *e*P **P** **02 02 31.6 -1.3**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
VNDA Vanda 84.30 173 *e*P **P** **02 02 35.0 +0.3**
comp=Z,11nm,0.7s
PAX Paxson 84.39 27 *e*P **P** **02 02 35.5 -0.1**
PAX pmax pmax
comp=Z,21nm,1.3s
PAX Paxson 84.39 27 *e*P **P** **02 02 35.5 -0.1**
comp=Z,21nm,1.3s
KLMR Klimovskoe 84.98 331 *e*P **P** **02 02 36.5 -2.0**
KLMR *e* 02 02 58.8
KLMR *e**PP **pP** **02 03 07.2 -2.1**
KLMR pmax pmax
comp=Z,24nm,1.1s
VORD Divnogorie 85.32 321 *e*P **P** **02 02 38.6 -1.7**
VORD *e**PP **pP** **02 03 09.5 -1.7**
VORD pmax pmax
comp=Z,20nm,1.1s
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,20nm,0.4s
VSR Storozhevoye 85.39 321 *e*P **P** **02 02 39.7 -1.0**
VSR *e**PP **pP** **02 03 10.7 -0.8**
VSR pmax pmax
comp=N,3.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 86.77 325⇓ *e*P **P** **02 02 46.6 -0.8**
OBN pmax pmax
comp=Z,14nm,0.5s
OBN Obninsk 86.77 325 *e*P **P** **02 02 46.1 -1.3**
comp=Z,16nm,0.7s
JOF Joensuu 88.71 333 *ep* **P** **02 02 55.8 -0.7**
comp=Z,8.0nm,0.6s
INK Inuvik 88.89 22 *e*P **P** **02 02 56.4 -0.9**
comp=Z,6.5nm,1.1s
INK PKKPbc **PKKPdf** **02 20 35.0 +2.3**
INK Inuvik 88.89 22 PKKPbc PKKPbc 02 20 35.0 -3.7
comp=Z,1.1nm,0.5s,baz=346,slow=3.4,SNR=6.1
KEV Kevo 89.27 340 *ep* **P** **02 02 57.0 -1.9**
ARCES ARCESS Array B 89.83 340 P **P** **02 03 00.4 -1.2**
ARCES ARCESS Array B 89.83 340 P **P** **02 03 00.4 -1.2**
comp=Z,11nm,0.7s,baz=86,slow=6.6,SNR=46
BRTR Keskin Array B 90.09 310 P **P** **02 03 02.3 -1.4**
BRTR Keskin Array B 90.09 310 P **P** **02 03 02.3 -1.4**
comp=Z,2.2nm,0.8s,baz=99,slow=5.3,SNR=15
KMBO Kilima Mbogo 90.49 269 *e*P **P** **02 03 06.3 +0.1**
comp=Z,1.7nm,0.8s
KAF Kangasniemi 91.14 333 *ep* **P** **02 03 06.2 -1.6**
FINES FINESS Array B 91.38 332 P **P** **02 03 07.6 -1.3**
FINES FINESS Array B 91.38 332 P **P** **02 03 07.6 -1.3**
comp=Z,2.8nm,0.5s,baz=73,slow=4.2,SNR=32
FINES LR LR 02 51 52.8
comp=Z,65nm,19.6s,baz=131,slow=40
AKASG Malin Array Be 91.70 321*ce*P **P** **02 03 09.1 -1.6**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 91.70 321 P **P** **02 03 09.1 -1.6**
AKASG Malin Array Be 91.70 321 P **P** **02 03 09.1 -1.6**
comp=Z,3.7nm,0.5s,baz=69,slow=4.7,SNR=25
KIEV Kiev 91.71 321 *e*P **P** **02 03 08.9 -1.8**
KIEV pmax pmax
comp=Z,5.0nm,0.7s
KIEV Kiev 91.71 321 *e*P **P** **02 03 08.9 -1.8**
comp=Z,5.4nm,0.7s
TLCR 92.88 316⇓ *i*P **P** **02 03 14.8 -1.4**
TIRR Tirgusor 93.29 315⇓ *i*P **P** **02 03 17.3 -0.8**
CFR Carcaliu 93.36 316⇓ *i*P **P** **02 03 17.1 -1.3**
SYO Syowa Base 93.69 201⇓ *e*P **P** **02 03 18.6 -0.8**
TESR 94.13 317⇑ *i*P **P** **02 03 22.0 0.0**
VRI Vrincioaia 94.20 317⇑ *i*P **P** **02 03 22.0 -0.4**
PLOR Plostina 94.26 317⇑ *i*P **P** **02 03 21.8 -0.9**
QSPA South Pole Qui 94.64 180 P **P** **02 03 24.6 +0.6**
QSPA PKKPbc **PKKPdf** **02 20 21.5 -2.4**
QSPA South Pole Qui 94.64 180 P **P** **02 03 24.6 +0.6**
comp=Z,4.5nm,0.5s,baz=303,slow=1.2,SNR=35
QSPA PKKPbc **PKKPdf** **02 20 21.5 -2.4**
comp=Z,1.1nm,0.6s,baz=292,slow=3.5,SNR=5.3
MLR Muntele Rosu 94.82 316⇓ *i*P **P** **02 03 24.9 -0.4**
BURAR Bucovina Array 94.86 318⇓ *i*P **P** **02 03 24.4 -1.1**
BUR08 Bucovina Ar. S 94.87 318 *e*P **P** **02 03 24.6 -0.9**
HUMR Humele 95.69 315⇓ *i*P **P** **02 03 27.8 -1.3**
KWP Kalwaria Pacla 96.02 321⇓ *i*P **P** **02 03 30.1 -0.4**
UZH Uzhgorod 96.53 320 *e*P P 02 03 45.1 +12
UZH *e* 02 04 17.0
RES Resolute Bay 96.66 10 *e*P **P** **02 03 32.0 -0.9**
comp=Z,5.1nm,0.8s
DRGR 96.72 318⇑ *i*P **P** **02 03 33.0 -0.9**
GZR Gura Zlata 97.01 317⇑ *i*P **P** **02 03 35.0 -0.2**
YKA Yellowknife Ar 98.21 25 P **P** **02 03 39.6 -0.4**
YKA PKiKP **PKiKP** **02 08 12.2 +0.1**
YKA PKKPbc **PKKPbc** **02 20 10.3 -3.9**
YKA Yellowknife Ar 98.21 25 P **P** **02 03 39.6 -0.4**
comp=Z,1.0nm,0.7s,baz=299,slow=4.6,SNR=20
YKA PKiKP **PKiKP** **02 08 12.2 +0.1**
comp=Z,0.4nm,0.4s,baz=300,slow=1.9,SNR=12
YKA PKKPbc **PKKPbc** **02 20 10.3 -3.9**
comp=Z,0.3nm,0.6s,baz=115,slow=2.7,SNR=9.7
NB2 NORSAR Subarra 98.30 334 P **P** **02 03 38.6 -2.0**
comp=Z,3.9nm,0.9s,baz=67,slow=4.8
NOA NORSAR Array B 98.30 334 P **P** **02 03 38.9 -1.8**
NOA NORSAR Array B 98.30 334 P **P** **02 03 38.9 -1.8**
comp=Z,2.3nm,0.8s,baz=66,slow=4.5,SNR=6.4
NOA LR LR 02 51 14.0
comp=Z,40nm,20.5s,baz=355,slow=37
GERES GERESS Array B 101.87 322 P **Pdif** **02 03 56.4 -0.5**
GERES PKiKP **PKiKP** **02 08 19.4 +0.1**
GERES GERESS Array B 101.87 322 P **Pdif** **02 03 56.4 -0.5**
comp=Z,0.9nm,0.9s,baz=76,slow=7.0,SNR=5.0
GERES PKiKP **PKiKP** **02 08 19.4 +0.1**
comp=Z,0.2nm,0.5s,baz=72,slow=4.3,SNR=4.4
LBTB Lobatse 102.91 246 PKiKP **PKiKP** **02 08 22.5 +0.6**
LBTB Lobatse 102.91 246 PKiKP **PKiKP** **02 08 22.5 +0.6**
comp=Z,1.3nm,0.9s,baz=182,slow=9.0,SNR=4.8
BOSA Boshof 103.13 242 *e*Pdif **Pdif** **02 04 04.0 +1.0**
BOSA PKKPbc **PKKPbc** **02 19 59.6 +0.4**
BOSA Boshof 103.13 242 PKKPbc PKKPbc 02 19 59.6 +0.4
comp=Z,3.0nm,1.1s,baz=1.3,slow=8.1,SNR=3.9
AQU L'Aquila 104.38 316 *e*Pdif **Pdif** **02 04 07.9 -0.3**
SLMT Seeley Lake 105.53 38 *e*PKP 02 08 27.7
NVAR Mina Array Bea 105.55 48 Pdif **Pdif** **02 04 14.3 +0.6**
NVAR PKiKP **PKiKP** **02 08 28.3 +1.8**
NVAR Mina Array Bea 105.55 48 Pdif **Pdif** **02 04 14.3 +0.6**
comp=Z,0.7nm,0.9s,baz=284,slow=4.8,SNR=4.3
NVAR PKiKP **PKiKP** **02 08 28.3 +1.8**
comp=Z,0.5nm,0.6s,baz=273,slow=2.6,SNR=5.9
WLF Walferdange 106.02 325 *e*PKP **PKiKP** **02 08 26.7 -0.1**
HLID Hailey 106.44 42⇓ P **PKiKP** **02 08 28.2 +0.3**
baz=106
A17A Triple J Farms 106.44 36⇓ P **PKiKP** **02 08 28.3 +0.6**
baz=106
J13A Cove Ranch, Pi 106.67 42⇑ P **PKiKP** **02 08 28.8 +0.4**
baz=106
F15A Butte 106.75 39⇑ P **PKiKP** **02 08 28.9 +0.4**
baz=106
C17A Wharram Farm, 107.02 37⇑ P **PKiKP** **02 08 29.2 +0.4**
baz=107
BOZ Bozeman (W) 107.38 39⇑ P **PKiKP** **02 08 29.9 +0.3**
baz=107
A19A Klindworth Far 107.58 35⇑ P **PKiKP** **02 08 29.9 +0.1**
baz=107
DUG Dugway 108.88 45 *e*PKP **PKiKP** **02 08 33.7 +1.1**
LOHW Long Hollow 108.93 41 *e*PKP **PKiKP** **02 08 33.6 +0.9**
D22A Cohagen 109.97 36⇑ P **PKiKP** **02 08 34.9 +0.6**
baz=110
BW06 Boulder Array 110.00 41⇑ P **PKiKP** **02 08 34.8 0.0**
baz=110
PDAR Pinedale Array 110.00 41 PKiKP **PKiKP** **02 08 35.0 +0.3**
PDAR PKKPbc **PKKPbc** **02 19 37.5 -1.2**
PDAR PKKPab **PKKPab** **02 19 48.0 -1.9**
PDAR Pinedale Array 110.00 41 PKiKP **PKiKP** **02 08 35.0 +0.3**
comp=Z,0.5nm,0.4s,baz=123,slow=1.0,SNR=10
PDAR PKKPbc **PKKPbc** **02 19 37.5 -1.2**
comp=Z,0.1nm,0.5s,baz=113,slow=6.8,SNR=3.6
PDAR PKKPab **PKKPab** **02 19 48.0 -1.9**
comp=Z,0.7nm,0.8s,baz=120,slow=5.9,SNR=5.7
Y12C Blythe 110.01 52⇑ P **PKiKP** **02 08 35.6 +0.9**
baz=110
L18A Fontenelle, Gr 110.06 42⇓ P **PKiKP** **02 08 35.4 +0.5**
baz=110
H20A Greybull 110.19 39⇓ P **PKiKP** **02 08 35.3 +0.4**
baz=110
C23A Lambert 110.20 35⇑ P **PKiKP** **02 08 35.2 +0.5**
baz=110
I20A Worland 110.37 40⇑ P **PKiKP** **02 08 35.8 +0.6**
baz=110
L19A Farson 110.43 42⇑ P **PKiKP** **02 08 35.7 +0.1**
baz=110
K19A Absolon Red Bu 110.44 41⇑ P **PKiKP** **02 08 35.9 +0.4**
baz=110
J20A Shoshoni 110.68 40⇓ P **PKiKP** **02 08 36.4 +0.5**
baz=110
H21A Big Horn, Sher 110.72 39⇓ P **PKiKP** **02 08 36.2 +0.3**
baz=110
C24A Savage 110.78 35⇓ P **PKiKP** **02 08 36.6 +0.8**
baz=110
G22A Birney 110.89 38⇓ P **PKiKP** **02 08 36.3 +0.1**
baz=111
SRU San Rafael 110.94 45 *e*PKIKP **PKiKP** **02 08 36.6 +0.1**
SRU San Rafael 110.94 45 *e*PKP **PKiKP** **02 08 36.6 +0.1**
SRU San Rafael 110.94 45⇓ P **PKiKP** **02 08 36.9 +0.3**
baz=111
I21A Big Trails, Te 110.97 39⇑ P **PKiKP** **02 08 36.3 -0.2**
baz=111
R17A Hanksville Air 111.09 46⇓ P **PKiKP** **02 08 37.4 +0.6**
baz=111
N19A John Jarvie Ra 111.09 43⇑ P **PKiKP** **02 08 36.9 +0.1**
baz=111
L20A Wamsutter 111.15 41⇑ P **PKiKP** **02 08 36.7 -0.2**
baz=111
F23A Volborg 111.17 37⇓ P **PKiKP** **02 08 36.2 -0.4**
baz=111
Q18A Rafter H Ranch 111.22 45⇓ P **PKiKP** **02 08 36.9 -0.1**
baz=111
S17A Black Ridge (B 111.35 47⇓ P **PKiKP** **02 08 37.4 +0.1**
baz=111
O19A Miners Draw (B 111.39 43⇑ P **PKiKP** **02 08 37.8 +0.4**
baz=111
I22A 9 Mile Ranch, 111.44 39⇑ P **PKiKP** **02 08 37.0 -0.3**
baz=111
K21A Alcova 111.56 40⇑ P **PKiKP** **02 08 37.8 +0.1**
baz=111
T17A Navajo Res., N 111.61 47⇓ P **PKiKP** **02 08 39.0 +1.1**
baz=111
F24A Ekalaka 111.67 36⇓ P **PKiKP** **02 08 37.5 -0.1**
baz=111
J22A Midwest 111.68 39⇓ P **PKiKP** **02 08 37.5 -0.3**
baz=111
R18A Canyonlands Na 111.69 46⇓ P **PKiKP** **02 08 37.9 -0.1**
baz=111
U16A Tuba City 111.71 48⇓ P **PKiKP** **02 08 38.0 -0.1**
baz=112
N20A Spence Gulch, 111.74 43⇑ P **PKiKP** **02 08 38.4 +0.3**
baz=112
WUAZ Wupatki 111.78 49 *e*PKP **PKiKP** **02 08 39.2 +1.0**
WUAZ Wupatki 111.78 49⇓ P **PKiKP** **02 08 39.5 +1.3**
baz=112
P19A Cripple Cowboy 111.79 44⇑ P **PKiKP** **02 08 39.1 +0.9**
baz=112
Q19A Hogan Spring (111.89 45⇑ P **PKiKP** **02 08 39.2 +0.9**
baz=112
S18A Hurst Farm, Bl 111.91 46⇑ P **PKiKP** **02 08 39.0 +0.5**
baz=112
M21A Separation Pea 111.98 41⇓ P **PKiKP** **02 08 38.6 0.0**
baz=112
H24A Dirks Ranch, A 112.19 37⇑ P **PKiKP** **02 08 38.6 -0.1**
baz=112
T18A Mexican Hat 112.23 47⇓ P **PKiKP** **02 08 39.5 +0.5**
baz=112
N21A Black Mountain 112.27 42⇑ P **PKiKP** **02 08 39.6 +0.5**
baz=112
I24A Kuemmerle Ranc 112.61 38⇓ P **PKiKP** **02 08 39.5 0.0**
baz=112
RSSD Black Hills 112.83 38 *e*PKIKP **PKiKP** **02 08 39.7 -0.4**
RSSD Black Hills 112.83 38 *e*PKP **PKiKP** **02 08 39.7 -0.4**
N22A Wattenberg Ran 112.97 42⇑ P **PKiKP** **02 08 40.8 +0.4**
baz=113
S20A Disappointment 113.02 46⇑ P **PKiKP** **02 08 41.7 +1.0**
baz=113
P22A Eagle 113.33 43⇑ P **PKiKP** **02 08 41.3 +0.1**
baz=113
Y18A Canyon Day Jun 113.47 50⇓ P **PKiKP** **02 08 42.9 +1.4**
baz=113
S21A Coal Bank Pass 113.50 45⇑ P **PKiKP** **02 08 43.1 +1.4**
baz=113
Q22A Crested Butte, 113.57 44⇓ P **PKiKP** **02 08 43.0 +1.2**
baz=113
O23A Lake Granby, G 113.61 42⇓ P **PKiKP** **02 08 42.5 +0.8**
baz=113
ULM Lac du Bonnet 113.64 29 PKiKP **PKiKP** **02 08 40.5 -0.6**
ULM PKKPbc **PKKPab** **02 19 31.0 -2.4**
ULM Lac du Bonnet 113.64 29 PKiKP **PKiKP** **02 08 40.5 -0.6**
comp=Z,1.0nm,0.4s,baz=315,slow=2.6,SNR=4.7
ULM PKKPbc **PKKPab** **02 19 31.0 -2.4**
comp=Z,1.8nm,0.8s,baz=145,slow=3.4,SNR=3.8
X19A St. Johns 113.78 49⇓ P **PKiKP** **02 08 43.0 +0.9**
baz=114
ISCO Idaho Springs 114.01 43⇑ P PKPdf 02 08 43.0 +0.4
baz=114
W20A Ramah 114.08 48⇑ P PKPdf 02 08 43.6 +0.8
baz=114
U21A Nageezi 114.14 47⇑ P PKPdf 02 08 44.2 +1.4
baz=114
V21A Milan 114.43 47⇑ P PKPdf 02 08 44.6 +1.2
baz=114
R23A Moffat 114.64 44⇓ P PKPdf 02 08 45.1 +1.3
baz=114
Y20A Horse Springs, 114.68 49⇓ P PKPdf 02 08 45.4 +1.5
baz=114
Z20A Nine Sixteen R 114.84 50⇑ P PKPdf 02 08 45.6 +1.5
baz=115
X21A Alamocita Cree 114.90 49⇓ P PKPdf 02 08 45.8 +1.5
baz=115
T23A Casias Ranch, 115.03 45⇓ P **PKPdf** **02 08 46.1 +1.6**
baz=115
120A U Bar Ranch, L 115.04 51⇓ P **PKPdf** **02 08 46.0 +1.5**
baz=115
SDCO Great Sand Dun 115.07 44⇑ P **PKPdf** **02 08 45.4 +0.8**
baz=115
P25A Willow Gulch B 115.12 42⇓ P **PKPdf** **02 08 45.4 +0.8**
baz=115
Y21A Point of Rocks 115.17 49⇓ P **PKPdf** **02 08 46.4 +1.5**
baz=115
U23A El Rito 115.24 46⇑ P **PKPdf** **02 08 46.4 +1.5**
baz=115
Q25A Bedland, Calha 115.37 43⇓ P **PKPdf** **02 08 45.5 +0.5**
baz=115,SNR=5.1
220A Playas Peak, P 115.38 51⇓ P **PKPdf** **02 08 46.4 +1.2**
baz=115
Z21A St. Cloud Mine 115.47 50⇓ P **PKPdf** **02 08 46.7 +1.3**
baz=115
V23A Ortiz Mt. (NFS 115.51 47⇓ P **PKPdf** **02 08 46.8 +1.4**
baz=115
320A Kipp Ranch, An 115.61 52⇓ P **PKPdf** **02 08 47.0 +1.3**
baz=115

P26A	Davis Ranch, A	115.65	42	⇑P		PKPdf	02 08 46.2	+0.7
	baz=115,SNR=5.4							
121A	Cookes Peak, D	115.70	51	⇑P		PKPdf	02 08 47.3	+1.5
	baz=116							
R25A	Fountain Ranch	115.72	44	⇑P		PKPdf	02 08 46.2	+0.5
	baz=116							
Y22A	Socorro	115.73	49	⇑P		PKPdf	02 08 47.1	+1.3
	baz=116							
Z22A	Elephant Butte	116.03	49	⇑P		PKPdf	02 08 47.6	+1.2
	baz=116							
T25A	Trinidad	116.12	45	⇑P		PKPdf	02 08 47.5	+1.0
	baz=116							
V24A	Rampart Ranch,	116.18	46	⇓P		PKPdf	02 08 48.3	+1.5
	baz=116							
R26A	Arlington	116.22	43	⇓P		PKPdf	02 08 47.1	+0.5
	baz=116,SNR=6.0							
W24A	Lazy 6 Ranch,	116.32	47	⇑P		PKPdf	02 08 48.3	+1.3
	baz=116							
Y23A	Lovelace Mesa,	116.42	48	⇑P		PKPdf	02 08 48.0	+0.8
	baz=116							
U25A	Circle Dot Ran	116.48	45	⇓P		PKPdf	02 08 48.2	+0.9
	baz=116							
S26A	Kim	116.54	44	⇑P		PKPdf	02 08 47.9	+0.6
	baz=116							
V25A	Rancho No Teng	116.60	46	⇑P		PKPdf	02 08 48.5	+1.0
	baz=116,SNR=10							
R27A	Eads	116.67	43	⇓P		PKPdf	02 08 48.0	+0.5
	baz=116							
T26A	Comanche Natio	116.68	44	⇓P		PKPdf	02 08 48.4	+0.8
	baz=116,SNR=12							
Y24A	Capitan	116.88	48	⇓P		PKPdf	02 08 49.0	+0.9
	baz=117							
S27A	Las Animas	116.90	43	⇑P		PKPdf	02 08 48.7	+0.8
	baz=117,SNR=5.5							
U26A	Atchley Ranch,	116.95	45	⇓P		PKPdf	02 08 48.6	+0.4
	baz=117,SNR=5.2							
Z24A	Sheeppen Canyo	117.20	49	⇓P		PKPdf	02 08 49.9	+1.1
	baz=117							
V26A	Tequesquite Ra	117.21	46	⇓P		PKPdf	02 08 49.0	+0.4
	baz=117							
ESDC	Sonseca Array	117.30	320	PKP		PKPdf	02 08 47.6	-1.0
ESDC				PKKPbc		PKKPbc	02 19 12.8	-0.8
ESDC	Sonseca Array	117.30	320	PKP		PKPdf	02 08 47.6	-1.0
	comp=Z,0.1nm,0.3s,baz=23,slow=2.4,SNR=3.7							
ESDC				PKKPbc		PKKPbc	02 19 12.8	-0.8
	comp=Z,0.7nm,0.5s,baz=246,slow=3.5,SNR=5.8							
EYMN	Ely	117.32	29	ePKPdf		PKPdf	02 08 47.8	-0.5
T27A	Campo	117.34	44	⇓P		PKPdf	02 08 49.5	+0.7
	baz=117,SNR=6.7							
Y25A	Mesa, Roswell	117.43	48	⇑P		PKPdf	02 08 49.8	+0.7
	baz=117							
ECSD	EROS Data Cent	117.44	35	ePKPdf		PKPdf	02 08 48.3	-0.3
W26A	Owens Ranch, T	117.56	46	⇓P		PKPdf	02 08 49.9	+0.6
	baz=117							
224A	Cornudas Mount	117.63	50	⇓P		PKPdf	02 08 50.6	+1.1
	baz=117							
Z25A	Roswell	117.71	49	⇑P		PKPdf	02 08 50.5	+0.9
	baz=117							
T28A	Walsh	117.73	44	⇓P		PKPdf	02 08 49.8	+0.3
	baz=118,SNR=8.3							
X26A	CR and CF Fran	117.79	47	⇓P		PKPdf	02 08 50.1	+0.3
	baz=118							
MNTX	Cornudas Mount	117.90	50	ePKPdf		PKPdf	02 08 50.6	+0.7
MNTX	Cornudas Mount	117.90	50	⇑P		PKPdf	02 08 50.9	+1.0
	baz=118							
324A	Moseley Ranch,	117.93	51	⇓P		PKPdf	02 08 50.9	+0.8
	baz=118							
BGNE	Belgrade	117.94	38	⇓P		PKPdf	02 08 49.3	-0.4
	baz=118							
125A	Gardner Draw,	118.03	49	⇑P		PKPdf	02 08 50.9	+0.6
	baz=118,SNR=7.8							
W27A	Bowe Ranch, En	118.08	46	⇑P		PKPdf	02 08 51.2	+1.0
	baz=118							
225A	Deer Hill, Car	118.15	50	⇑P		PKPdf	02 08 51.3	+0.7
	baz=118							
Z26A	Caprock	118.26	48	⇓P		PKPdf	02 08 50.5	-0.1
	baz=118							
325A	Bean Ranch, Si	118.36	51	⇓P		PKPdf	02 08 51.1	+0.1
	baz=118							
CBKS	Cedar Bluff	118.42	41	ePKIKP		PKPdf	02 08 50.9	+0.2
CBKS	Cedar Bluff	118.42	41	ePKPdf		PKPdf	02 08 50.9	+0.2
CBKS	Cedar Bluff	118.42	41	⇑P		PKPdf	02 08 50.9	+0.2
	baz=118							
126A	Clayton Basin,	118.52	49	⇑P		PKPdf	02 08 51.5	+0.4
	baz=118							
SPMN	St. Paul	118.55	31	⇓P		PKPdf	02 08 50.8	+0.1
	baz=118							
Y27A	Causey	118.58	47	⇑P		PKPdf	02 08 52.1	+0.8
	baz=118,SNR=6.9							
425A	Indio Mountain	118.60	51	⇑P		PKPdf	02 08 51.9	+0.5
	baz=118,SNR=9.6							
226A	Malaga, Loving	118.72	49	⇑P		PKPdf	02 08 51.9	+0.4
	baz=118,SNR=5.9							
Z27A	Tatum	118.81	48	⇑P		PKPdf	02 08 52.0	+0.3
	baz=118,SNR=14							
MSTX	Muleshoe	118.82	47	⇑P		PKPdf	02 08 52.0	+0.3
	baz=119,SNR=5.8							
X28A	Dimmitt	118.97	46	⇓P		PKPdf	02 08 52.6	+0.6
	baz=119							
127A	Arkansas Junct	119.00	49	⇑P		PKPdf	02 08 52.5	+0.4
	baz=119							
326A	Caldwell Ranch	119.14	50	⇑P		PKPdf	02 08 52.6	+0.2
	baz=119							
AMTX	Amarillo	119.16	46	ePKPdf		PKPdf	02 08 52.4	+0.1
Y28A	McKinney Farm,	119.23	47	⇑P		PKPdf	02 08 53.1	+0.6
	baz=119							
X29A	Tulia	119.36	46	⇓P		PKPdf	02 08 53.3	+0.6
	baz=119							
426A	McDonald Obser	119.39	51	⇓P		PKPdf	02 08 53.5	+0.5
	baz=119,SNR=7.0							
SCHQ	Schefferville	119.43	10	PKP		PKPdf	02 08 52.2	+0.1
SCHQ				ePKPdf		PKPdf	02 08 52.3	+0.1
SCHQ				PKKPbc		PKKPbc	02 19 03.0	-3.5
SCHQ	Schefferville	119.43	10	PKP		PKPdf	02 08 52.2	+0.1
	comp=Z,9.8nm,0.5s,baz=2.6,slow=1.0,SNR=71							
SCHQ				PKKPbc		PKKPbc	02 19 03.0	-3.5
	comp=Z,0.6nm,0.5s,baz=84,slow=5.2,SNR=4.6							
526A	Mary Lane Ranc	119.61	52	⇑P		PKPdf	02 08 54.1	+0.7
	baz=119,SNR=12							
Y29A	Porterfield Fa	119.67	47	⇓P		PKPdf	02 08 54.1	+0.8
	baz=119							
427A	Hayter Ranch,	119.80	50	⇓P		PKPdf	02 08 54.4	+0.7
	baz=120,SNR=11							
626A	Big Bend Ranch	119.80	52	⇓P		PKPdf	02 08 53.9	+0.2
	baz=120,SNR=5.7							
Z29A	Hungry Hill Ra	119.94	47	⇓P		PKPdf	02 08 54.3	+0.5
	baz=120							
527A	Woodward Ranch	119.95	51	⇑P		PKPdf	02 08 54.7	+0.7
	baz=120,SNR=22							
328A	Wristen Ranch,	120.01	50	⇑P		PKPdf	02 08 54.5	+0.5
	baz=120,SNR=18							
129A	Stewart Farms,	120.13	48	⇑P		PKPdf	02 08 54.5	+0.3
	baz=120							
TXAR	Lajitas Array	120.26	52	PKP		PKPdf	02 08 55.1	+0.5
TXAR				PKKPbc		PKKPbc	02 19 01.5	-1.2
TXAR	Lajitas Array	120.26	52	PKP		PKPdf	02 08 55.1	+0.5
	comp=Z,3.8nm,0.7s,baz=260,slow=0.3,SNR=62							
TXAR				PKKPbc		PKKPbc	02 19 01.5	-1.2
	comp=Z,0.3nm,0.9s,baz=117,slow=7.3,SNR=3.5							
428A	Kincaid Ranch,	120.40	50	⇑P		PKPdf	02 08 56.0	+1.1
	baz=120,SNR=16							
627A	Terlingua Ranc	120.42	52	⇑P		PKPdf	02 08 55.4	+0.5
	baz=120,SNR=18							
528A	Cox Ranch, San	120.58	51	⇑P		PKPdf	02 08 55.9	+0.7
	baz=120,SNR=7.5							
628A	Black Gap, Mar	120.80	52	⇓P		PKPdf	02 08 56.2	+0.6
	baz=121							
MDT	Midelt	121.35	313	PKKPbc		PKKPbc	02 19 00.7	+1.9
MDT	Midelt	121.35	313	PKKPbc		PKKPbc	02 19 00.7	+1.9
	comp=Z,4.9nm,1.0s,baz=347,slow=5.6,SNR=4.5							
JCT	Junction City	122.71	49	ePKIKP		PKPdf	02 08 59.4	+0.2
JCT	Junction City	122.71	49	ePKPdf		PKPdf	02 08 59.4	+0.2
JCT	Junction City	122.71	49	⇓P		PKPdf	02 08 59.7	+0.5
	baz=122							
TORD	Torodi Ar. Bea	123.47	289	PKP		PKPdf	02 09 00.7	-0.2
TORD				PKKPbc		PKKPbc	02 18 50.2	+0.2
TORD				PKKP		PKKPdf	02 19 29.3	+0.8
TORD	Torodi Ar. Bea	123.47	289	PKP		PKPdf	02 09 00.7	-0.2
	comp=Z,5.6nm,0.7s,baz=56,slow=1.8,SNR=56							
TORD				PKKPbc		PKKPbc	02 18 50.2	+0.2
	comp=Z,1.6nm,0.8s,baz=279,slow=3.2,SNR=6.9							
TORD				PKKP		PKKPdf	02 19 29.3	+0.8
	comp=Z,0.4nm,0.6s,baz=281,slow=2.1,SNR=4.2							
FVM	French Village	124.72	36	ePKIKP		PKPdf	02 09 02.7	-0.1
FVM	French Village	124.72	36	ePKPdf		PKPdf	02 09 02.7	-0.1
AAM	Ann Arbor	125.22	28	ePKIKP		PKPdf	02 09 03.5	-0.1
AAM	Ann Arbor	125.22	28	ePKPdf		PKPdf	02 09 03.5	-0.1
OLIL	Olney	125.55	34	ePKPdf		PKPdf	02 09 05.0	+0.7
HKT	Hockley	125.93	48	ePKIKP		PKPdf	02 09 06.3	+1.1
HKT	Hockley	125.93	48	ePKPdf		PKPdf	02 09 06.3	+1.1
BLO	Bloomington	126.11	33	ePKIKP		PKPdf	02 09 05.7	+0.3
BLO	Bloomington	126.11	33	ePKPdf		PKPdf	02 09 05.7	+0.3
ACSO	Alum Creek Sta	127.14	29	ePKPdf		PKPdf	02 09 07.0	-0.3
WVT	Waverly	127.51	36	ePKIKP		PKPdf	02 09 08.1	0.0
WVT	Waverly	127.51	36	ePKPdf		PKPdf	02 09 08.1	0.0
PLAL	Pickwick Lake	128.14	38	ePKPdf		PKPdf	02 09 08.5	-0.9
LRAL	Lakeview Retre	130.10	39	ePKPdf		PKPdf	02 09 13.8	+0.6
TKL	Tuckaleechee C	130.16	34	ePKPdf		PKPdf	02 09 13.5	+0.2
TKL				SKPbc		SKPbc	02 12 25.9	+0.4
TKL	Tuckaleechee C	130.16	34	SKPbc		SKPbc	02 12 25.9	+0.4
	comp=Z,9.6nm,1.0s,baz=33,slow=14,SNR=8.2							
DBIC	Dimbokro	131.26	283	PKP		PKPdf	02 09 15.8	0.0
DBIC				ePKPdf		PKiKP	02 09 16.2	-0.6
DBIC				eSKP			02 12 30.5	
DBIC				PKKP		PKKPdf	02 19 13.9	+0.3
DBIC	Dimbokro	131.26	283	PKP		PKPdf	02 09 15.8	0.0
	comp=Z,4.5nm,0.8s,baz=127,slow=4.1,SNR=7.5							
DBIC				SKPbc		SKPab	02 12 30.5	0.0
	comp=Z,10nm,0.6s,baz=57,slow=4.4,SNR=31							
DBIC				PKKP		PKKPdf	02 19 13.9	+0.3
	comp=Z,1.0nm,0.4s,baz=227,slow=7.9,SNR=7.4							
KMSC	Kings Mountain	131.87	32	⇓P		PKPdf	02 09 16.8	+0.3
	baz=132							
PLCA	Paso Flores	140.60	158	PKPpre		PKPpre	02 09 27.4	
PLCA				ePKPdf		PKPdf	02 09 33.2	+0.6
PLCA	Paso Flores	140.60	158	PKhKP		PKPpre	02 09 27.4	
	comp=Z,3.6nm,0.9s,baz=193,slow=2.7,SNR=6.0							
JTS	JuntasAbangare	144.26	65	ePKPdf		PKPdf	02 09 39.3	-0.4
JTS	JuntasAbangare	144.26	65	PKP		PKPdf	02 09 39.3	-0.4
	comp=Z,52nm,0.7s,baz=342,slow=2.3,SNR=33							
TRQA	Tornquist	145.69	166	ePKPbc		PKPab	02 09 42.5	0.0
GTBY	Guantanamo Bay	146.81	42	ePKPbc		PKPbc	02 09 45.9	0.0
BCIP	Isla Barro Col	149.31	63	ePKPbc		PKPbc	02 09 52.8	+0.2
SDDR	Presa de Saban	149.94	38	ePKPbc		PKPbc	02 09 54.5	+0.4
SDDR				ePKPab		PKPab	02 10 00.2	+0.2
LCO	Las Campanas	150.24	146	ePKPdf		PKPdf	02 09 50.8	+1.2
LCO				ePKPbc		PKiKP	02 09 55.7	+0.1
LCO				ePKPab		PKPab	02 10 01.2	0.0
LRS	Lares	153.02	32	ePKPdf		PKPdf	02 09 53.7	0.0
LRS				ePKPbc		PKPbc	02 10 01.0	-0.1
LRS				ePKPab		PKPab	02 10 12.2	-0.6
CELP	Cerrillos	153.34	31	ePKPbc		PKPbc	02 10 02.0	+0.2
OTAV	Otavalo	153.46	80	ePKPdf		PKPdf	02 09 56.0	+0.9
OTAV				ePKPbc		PKiKP	02 10 04.3	+1.4
SJG	San Juan	153.53	31	PKP		PKPdf	02 09 52.2	-2.2
SJG				ePKPbc		PKiKP	02 10 02.5	+0.2
SJG				PKPbc		PKiKP	02 10 02.8	+0.5
SJG	San Juan	153.53	31	PKP		PKPdf	02 09 52.2	-2.2
	comp=Z,2.7nm,0.5s,baz=0.0,slow=20,SNR=45							
SJG				PKPbc		PKiKP	02 10 02.7	+0.5
	comp=Z,13nm,0.5s,baz=267,slow=3.6,SNR=10							
MTP	Monte Pirata	153.84	30	ePKPdf		PKPdf	02 09 55.3	+0.5
MTP				ePKPbc		PKiKP	02 10 03.0	+0.1
MTP				ePKPab		PKPab	02 10 16.5	+0.4
STVI	Saint Thomas	153.91	28	ePKPdf		PKPdf	02 09 55.2	+0.3
STVI				ePKPbc		PKiKP	02 10 03.1	+0.1
ATAH	Atahualpa	153.99	97	PKPbc		PKPbc	02 10 05.7	+1.8
ATAH	Atahualpa	153.99	97	PKPbc		PKPbc	02 10 05.7	+1.8
	comp=Z,25nm,0.7s,baz=226,slow=4.7,SNR=9.2							
NNA	Nana	154.73	108	ePKPdf		PKPdf	02 09 55.9	-0.4
NNA				ePKPbc		PKiKP	02 10 05.8	+0.9
NNA				ePKPab		PKPab	02 10 19.9	-0.4
ROSC	El Rosal	156.06	67	ePKPdf		PKPdf	02 09 59.0	+0.4
SDV	Santo Domingo	157.29	53	ePKPdf		PKPdf	02 09 59.9	0.0
SDV				ePKPab		PKPab	02 10 31.7	+0.2
LPAZ	La Paz	160.72	128	ePKPdf		PKPdf	02 10 05.5	+1.1
LPAZ				ePKPab		PKPab	02 10 48.4	+1.6
SIV	San Ignacio	165.91	143	PKPab		PKPab	02 11 09.4	+0.7
SIV	San Ignacio	165.91	143	PKPab		PKPab	02 11 09.4	+0.7
	comp=Z,4.0nm,0.9s,baz=234,slow=7.6,SNR=5.8							
SAML	Samuel	168.46	112	ePKPdf		PKPdf	02 10 10.8	+0.4
SAML				ePKPab		PKPab	02 11 20.2	0.0

IDC 01 02:02:14.9±0.9, 25°48S×70°03E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.8/22, mbtmp3.8/9, MS3.5/7, Ms1 3.5/7, ms1mx3.2/41, Error ellipse: s-maj=27.7km s-min=24.9km az=11.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BOSA	Boshof	39.83	255	P		P	P	02 09 50.7	+0.4
	3.1nm,1.1s,baz=158,slow=9.7,SNR=3.2								
LBTB	Lobatse	40.05	261	LR		LR		02 24 28.0	
	comp=Z,54nm,18.1s,baz=293,slow=33								
SUR	Sutherland	43.31	249	LR		LR		02 25 30.2	
	comp=Z,57nm,18.6s,baz=101,slow=32								
FITZ	Fitzroy Crossi	51.85	94	LR		LR		02 32 50.5	
	comp=Z,49nm,18.1s,baz=56,slow=35								
CMAR	Chiang Mai Arr	51.95	36	P		P		02 11 27.0	+1.1
	0.7nm,0.4s,baz=224,slow=6.3,SNR=4.0								
CMAR				LR		LR		02 30 46.3	
	comp=Z,17nm,18.5s,baz=170,slow=33								
ASAR	Alice Springs	57.61	103	P		P		02 12 07.2	+0.1
	0.4nm,0.6s,baz=245,slow=6.4,SNR=7.7								
WRA	Warramunga Arr	59.09	99	P		P		02 12 17.3	-0.2
	0.4nm,0.7s,baz=248,slow=7.9,SNR=2.8								
DAV	Davao City (W)	62.93	67	LR		LR		02 34 59.7	
	comp=Z,56nm,21.5s,baz=37,slow=31								
QSPA	South Pole Qui	64.65	180	P		P		02 12 54.1	-0.3
	2.8nm,1.1s,baz=284,slow=2.7,SNR=3.3								
MKAR	Makanchi Array	72.79	9	P		P		02 13 44.2	-0.8
	0.5nm,0.7s,baz=189,slow=5.9,SNR=6.9								
BRTR	Keskin Array B	73.22	331	P		P		02 13 48.2	+0.3
	0.5nm,0.7s,baz=159,slow=1.2,SNR=3.8								
TORD	Torodi Ar. Bea	76.80	292	P		P		02 14 08.9	0.0
	0.6nm,0.9s,baz=134,slow=4.1,SNR=2.8								
ZALV	Zalesovo Beam	80.13	9	P		P		02 14 26.1	-0.3
	0.4nm,0.5s,baz=199,slow=4.0,SNR=3.2								
KSRS	Korea Array	82.92	43	LR		LR		02 46 52.7	
	comp=Z,15nm,21.6s,baz=110,slow=32								
GERES	GERESS Array B	89.44	327	LR		LR		02 55 15.1	
	comp=Z,36nm,18.2s,baz=78,slow=36								

*ISCJB **01** 02:13:38.1±0.8, 38°92N±0°03×22°86E±0°04, h11km±6km, Error ellipse: s-maj=5.4km s-min=5.3km az=32.7*
*ATH **01** 02:13:38.2, 38°93N×22°82E, h9km±9km, MD2.7/3*
*CSEM **01** 02:13:38.0±0.1, 38°92N×22°86E, h15km, ML1.5/3, Error ellipse: s-maj=2.7km s-min=2.5km az=24.0*
*THE **01** 02:13:39.0, 38°89N×22°85E, h9km±4km, ML1.5/3, Error ellipse: s-maj=4.6km s-min=0.4km az=160.0*
ISC 01 02:13:38.2±1.0, 38°92N±0°02×22°84E±0°03, h13km±11km, n17, σ0°30/33, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAL	Atalanti	0.27	148	P		P	Pg	02 13 43.8	-0.1
ATAL	Atalanti	0.27	148	P		P	Pg	02 13 43.8	-0.1
LKR	Lokris	0.30	155	P		P	Pg	02 13 44.2	-0.2
LKR				S		S	Sg	02 13 48.3	-0.2
LKR	Lokris	0.30	155	ePG		P	Pg	02 13 44.2	-0.2
LKR				eSB		S	Sg	02 13 49.0	+0.5
LKR	Lokris	0.30	155	ePg		P	Pg	02 13 44.2	-0.2
LKR				S		S	Sg	02 13 48.3	-0.2
LKR				eSb		S	Sg	02 13 49.0	+0.5
NEO	Neokhori	0.49	38	ePB		P	Pg	02 13 47.9	+0.1
NEO				eSB		S	Sg	02 13 54.6	+0.3
NEO	Neokhori	0.49	38	ePb		P	Pg	02 13 47.9	+0.1
NEO				eSb		S	Sg	02 13 54.6	+0.3
MAKR	Makrakomi, Fth	0.56	279	P		P	Pb	02 13 49.8	-0.1
MAKR				S		S	Sb	02 13 58.3	+0.5
MAKR	Makrakomi, Fth	0.56	279	P		P	Pb	02 13 49.8	-0.1
MAKR				S		S	Sb	02 13 58.3	+0.5
DSF	Desfina	0.57	205	P		P	Pg	02 13 49.1	-0.2
DSF				S		S	Sg	02 13 57.2	+0.4
DSF	Desfina	0.57	205	P		P	Pg	02 13 49.1	-0.2
DSF				S		S	Sg	02 13 57.2	+0.4
MRKA	Markates	0.63	110	P		P	Pb	02 13 50.7	-0.4
MRKA				S		S	Sg	02 13 59.0	+0.3
MRKA	Markates	0.63	110	P		P	Pb	02 13 50.7	-0.4
MRKA				S		S	Sg	02 13 59.0	+0.3
KALE	Kalithea	0.76	226	P		P	Pg	02 13 53.1	+0.1
KALE				S		S	Sb	02 14 03.7	0.0
KALE	Kalithea	0.76	226	P		P	Pg	02 13 53.1	+0.1
KALE				S		S	Sb	02 14 03.7	0.0
THL	Klokotos Trika	0.90	315	ePB		P	Pg	02 13 55.2	-0.5
THL				eSB		S	Sg	02 14 07.5	0.0
THL	Klokotos Trika	0.90	315	ePb		P	Pg	02 13 55.2	-0.5
THL				eSb		S	Sg	02 14 07.5	0.0

*ISCJB **01** 02:22:23.0±0.8, 36°93N±0°05×28°27E±0°04, h2km±10km, Error ellipse: s-maj=8.3km s-min=5.0km az=10.3*
*CSEM **01** 02:22:23.0±0.2, 36°91N×28°28E, h5km, MD2.6, Error ellipse: s-maj=5.0km s-min=3.1km az=173.0*
*ISK **01** 02:22:24.3, 37°01N×28°20E, h11km, MD2.6*
*DDA **01** 02:22:24.1, 36°98N×28°23E, h7km, MD2.9*
ISC 01 02:22:23.0±1.2, 36°91N±0°04×28°25E±0°03, h5km±12km, n15, σ0°45/27, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.22	6	PG		P	Pg	02 22 27.5	+0.1
YER				SG		S	Sg	02 22 30.9	+0.5
YER	Yerkesik	0.22	6	iPg		P	Pg	02 22 27.5	+0.1
YER				iSg		S	Sg	02 22 30.9	+0.5
TURN	Turunc	0.28	98	iP		P	Pg	02 22 28.3	-0.2
TURN				iS		S	Sg	02 22 31.7	-0.5
TURN	Turunc	0.28	98	iP		P	Pg	02 22 28.3	-0.2
TURN				iS		S	Sg	02 22 31.7	-0.5
BDRM	Kayabasi	0.67	284	iP		P	Pg	02 22 36.1	+0.3
BDRM				iS		S	Sb	02 22 46.2	-0.5
BDRM	Kayabasi	0.67	284	iP		P	Pg	02 22 36.1	+0.3
BDRM				iS		S	Sb	02 22 46.2	-0.5
FETY	Fethiye	0.72	112	ePG		P	Pn	02 22 40.8	+0.9
BODT	Bodrum	0.77	282	ePG		P	Pg	02 22 37.9	+0.1
BODT				eSG		S	Sb	02 22 49.6	-0.1
BODT	Bodrum	0.77	282	ePg		P	Pg	02 22 37.9	+0.1
BODT				eSg		S	Sb	02 22 49.6	-0.1
AYDN	Tasoluk	0.81	338	iP		P	Pg	02 22 38.6	+0.1
AYDN				iS		S	Sg	02 22 48.2	-0.8
AYDN	Tasoluk	0.81	338	iP		P	Pg	02 22 38.6	+0.1
AYDN				iS		S	Sg	02 22 48.2	-0.8
DNZL	Cakiroluk	1.00	39	iP		P	Pb	02 22 43.0	0.0
DNZL				iS		S	Sg	02 22 55.7	+0.4
DNZL	Cakiroluk	1.00	39	iP		P	Pb	02 22 43.0	0.0
DNZL				iS		S	Sg	02 22 55.7	+0.4
KULA	Kula-Manisa	1.63	11	ePN		P	Pn	02 22 52.2	-0.3
KULA	Kula-Manisa	1.63	11	ePn		P	Pn	02 22 52.2	-0.3

*ISCJB **01** 02:32:11.8±0.7, 6°86N±0°07×72°93W±0°06, h173km±6km, mb3.6/6, Error ellipse: s-maj=12.2km s-min=10.0km az=151.7*
*IDC **01** 02:32:12.0±1.8, 6°68N×72°98W, h166km±20km, mb3.4/6, mb1 3.6/7, mb1mx3.3/20, mbtmp3.4/7, MS3.0/1, Ms1 3.0/1, ms1mx2.4/17, Error ellipse: s-maj=26.8km s-min=20.2km az=48.0*
*FUNV **01** 02:32:14.2, 6°93N×73°03W, h168km, MW3.6*
ISC 01 02:32:12.2±0.9, 6°90N±0°06×73°00W±0°07, h165km±7km, n27, σ1°53/34, mb3.9/6, 7D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.18	35	i/ePn		P	Pn	02 32 41.4	+1.3
CAPV				eS		S	Sn	02 33 01.9	+0.3
ROSC	El Rosal	2.42	213	P		P	Pn	02 32 53.3	-0.2
	79nm,0.3s,baz=86,slow=12,SNR=272								
ROSC				S		S	Sn	02 33 22.1	-3.4
	64nm,0.3s,baz=82,slow=19,SNR=9.6								
VIGV	El Vigia	2.52	40	i/iP		P	Pn	02 32 55.8	+1.4
VIGV				eS		S	Sn	02 33 26.2	-0.8
SOCV	Socops	2.53	57	eP		P	Pn	02 32 56.1	+1.7
SOCV				eS		S	Sn	02 33 26.9	-0.4
ELOV	Elorza	3.49	88	eP		P	Pn	02 33 07.4	+1.1
ELOV				eS		S	Sn	02 33 46.8	-1.7
VIRV	Villa del Rosa	3.63	9	eP		P	Pn	02 33 08.3	+0.2
VIRV

*LDG **01** 03:03:24.5±0.1,37.°06N×5.°39W,h2km,MI2.9/4,Error ellipse: s-maj=2.4km s-min=1.5km az=5.0*
*SFS **01** 03:03:25.0,37.°02N×5.°40W,h17km,ML2.8*
*INMG **01** 03:03:25.2±1.5,37.°08N×5.°40W,h13km±4km,ML2.6,Error ellipse: s-maj=2.5km s-min=1.8km az=23.0*

ISC 01 03:03:23.2±1.0,**37.°08N**±0.°02×**5.°35W**±0.°02,**h8**km±8km, **n107**,σ1§**21**/155,**2C**,**Spain**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIJA	**Lijar**	**0.18**	**193**	⇑Pg	**Pg**	**03 03 26.0**	**-0.9**
LIJA				Lg	Lg	03 03 28.4	
LIJA	**Lijar**	**0.18**	**193**	*i* P	**Pg**	**03 03 26.0**	**-0.9**
LIJA				Lg	Lg	03 03 28.4	
LIJA				*i* S	**Sg**	**03 03 28.4**	**-1.1**
EJIF	**Jimena Fronter**	**0.64**	**188**	⇑Pg	**Pg**	**03 03 35.8**	**+0.3**
	43nm,0.2s,SNR=18						
EJIF				Lg	Lg	03 03 45.9	
	223nm,0.4s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.64**	**188**	Pg	**Pg**	**03 03 35.8**	**+0.3**
	43nm,0.2s,SNR=18						
EJIF				Lg	Lg	03 03 45.9	
	223nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**0.70**	**138**	Pg	**Pg**	**03 03 37.1**	**+0.5**
	40nm,0.3s,SNR=63						
EMIJ				Lg	Lg	03 03 47.1	
	317nm,0.3s,SNR=17						
EMIJ	**Mijas**	**0.70**	**138**	Pg	**Pg**	**03 03 37.1**	**+0.5**
	40nm,0.3s,SNR=63						
EMIJ				Lg	Lg	03 03 47.1	
	317nm,0.3s,SNR=17						
EMAL	**Malaga-Limoner**	**0.81**	**113**	Pg	**Pg**	**03 03 39.4**	**+0.7**
EMAL				Lg	Lg	03 03 49.3	
EMAL	**Malaga-Limoner**	**0.81**	**113**	*eP*	**Pg**	**03 03 39.4**	**+0.7**
EMAL				Lg	Lg	03 03 49.3	
EMAL				*eS*	**Sg**	**03 03 49.3**	**+0.1**
CNIL	**Conil**	**0.91**	**219**	Pg	**Pn**	**03 03 43.0**	**+0.8**
CNIL				Lg	Lg	03 04 00.7	
CNIL	**Conil**	**0.91**	**219**	Pg	**Pn**	**03 03 43.0**	**+0.8**
CNIL				Lg	Lg	03 04 00.7	
ELOJ	**Sierra Loja**	**0.96**	**86**	Pg	**Pb**	**03 03 43.0**	**+0.9**
	40nm,0.3s,SNR=31						
ELOJ				Lg	Lg	03 03 57.0	
	40nm,0.2s,SNR=10						
ELOJ	**Sierra Loja**	**0.96**	**86**	Pg	**Pb**	**03 03 43.0**	**+0.9**
	40nm,0.3s,SNR=31						
ELOJ				Lg	Lg	03 03 57.0	
	40nm,0.2s,SNR=10						
ELUQ	**Luque**	**0.99**	**61**	Pg	**Pn**	**03 03 44.0**	**+0.6**
	38nm,0.2s,SNR=7.9						
ELUQ				Lg	Lg	03 03 59.0	
	151nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**0.99**	**61**	Pg	**Pn**	**03 03 44.0**	**+0.6**
	38nm,0.2s,SNR=7.9						
ELUQ				Lg	Lg	03 03 59.0	
	151nm,0.2s,SNR=7.9						
ERON	**Agron**	**1.24**	**92**	Pg	**Pb**	**03 03 47.9**	**+1.0**
	38nm,0.4s,SNR=7.9						
ERON				Lg	Lg	03 04 06.9	
	28nm,0.3s,SNR=7.9						
ERON	**Agron**	**1.24**	**92**	Pg	**Pb**	**03 03 47.9**	**+1.0**
	38nm,0.4s,SNR=7.9						
ERON				Lg	Lg	03 04 06.9	
	28nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**1.25**	**29**	Pn	**Pn**	**03 03 47.4**	**+0.5**
	0.9nm,0.2s,SNR=7.9						
EADA				Pn	**Pg**	**03 03 49.1**	**+2.0**
	13nm,0.2s,SNR=64						
EADA				Sn	**Sb**	**03 04 04.1**	**+1.0**
	25nm,0.2s,SNR=20						
EADA				Lg	Lg	03 04 05.3	
	343nm,0.4s,SNR=5.0						
EADA	**Adamuz**	**1.25**	**29**	Pn	**Pn**	**03 03 47.4**	**+0.5**
	0.9nm,0.2s,SNR=7.9						
EADA				Sn	**Sb**	**03 04 04.1**	**+1.0**
	25nm,0.2s,SNR=20						
EADA				Lg	Lg	03 04 05.3	
	343nm,0.4s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.25**	**303**	Pn	**Pn**	**03 03 46.7**	**-0.2**
	3.2nm,0.1s,SNR=68						
EMIN				Pg	**Pg**	**03 03 48.0**	**+0.8**
	10nm,0.1s,SNR=12						
EMIN				Lg	Lg	03 04 04.3	
	17nm,0.2s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.25**	**303**	Pn	**Pn**	**03 03 46.7**	**-0.2**
	3.2nm,0.1s,SNR=68						
ECOG	**Cogollos-Vega**	**1.44**	**82**	Pn	**Pb**	**03 03 50.8**	**+0.5**
	13nm,0.4s,SNR=11						
ECOG				Pg	**Pg**	**03 03 52.1**	**+1.3**
	38nm,0.2s,SNR=39						
ECOG				Lg	Lg	03 04 12.5	
	76nm,0.4s,SNR=5.0						
ECOG	**Cogollos-Vega**	**1.44**	**82**	Pn	**Pb**	**03 03 50.8**	**+0.5**
	13nm,0.4s,SNR=11						
EGUA	**Guajares**	**1.45**	**99**	Pg	**Pb**	**03 03 51.5**	**+1.1**
	54nm,0.3s,SNR=7.9						
EGUA				Lg	Lg	03 04 11.8	
	241nm,0.6s,SNR=7.9						
EGUA	**Guajares**	**1.45**	**99**	Pg	**Pb**	**03 03 51.5**	**+1.1**
	54nm,0.3s,SNR=7.9						
EGUA				Lg	Lg	03 04 11.8	
	241nm,0.6s,SNR=7.9						
PBAR	**Barrancos**	**1.73**	**310**	*e*Pn	**Pn**	**03 03 53.6**	**+0.2**
PBAR				*e*Sg	**Sg**	**03 04 19.0**	**+0.3**
PBAR				A	A	03 04 21.3	
	35nm,0.4s						
PBAR	**Barrancos**	**1.73**	**310**	Pn	**Pn**	**03 03 53.6**	**+0.2**
PBAR				Lg	Lg	03 04 19.0	
	35nm,0.4s						
PBAR	**Barrancos**	**1.73**	**310**	*e*Pn	**Pn**	**03 03 53.6**	**+0.2**
PBAR				Lg	Lg	03 04 19.0	
	35nm,0.4s						
EGRO	**El Granado**	**1.76**	**286**	Pn	**Pn**	**03 03 53.7**	**-0.2**
	0.6nm,0.1s,SNR=4.6						
EGRO				Pg	**Pb**	**03 03 55.9**	**+0.3**
	5.0nm,0.1s,SNR=74						
EGRO				Sn	**Sn**	**03 04 14.6**	**-1.8**
	10nm,0.3s,SNR=5.7						
EGRO				Lg	Lg	03 04 19.4	
	31nm,0.4s,SNR=5.0						
EGRO	**El Granado**	**1.76**	**286**	Pn	**Pn**	**03 03 53.7**	**-0.2**
	0.6nm,0.1s,SNR=4.6						
PVAQ	**Vaqueiros**	**1.91**	**280**	*e*Pn	**Pn**	**03 03 55.7**	**-0.3**
PVAQ				*e*Sn	**Sn**	**03 04 18.3**	**-1.9**
PVAQ				*e*Sg	**Sg**	**03 04 25.1**	**+0.4**
PVAQ				A	A	03 04 27.1	
	28nm,0.4s						
PVAQ	**Vaqueiros**	**1.91**	**280**	Pn	**Pn**	**03 03 55.7**	**-0.3**
PVAQ				Sn	**Sn**	**03 04 18.3**	**-1.9**
PVAQ				Lg	Lg	03 04 25.1	
	28nm,0.4s						
PVAQ	**Vaqueiros**	**1.91**	**280**	*e*Pn	**Pn**	**03 03 55.7**	**-0.3**
PVAQ				*e*Sn	**Sn**	**03 04 18.3**	**-1.9**
PVAQ				Lg	Lg	03 04 25.1	
	28nm,0.4s						
EQES	**Quesada**	**1.95**	**68**	Pn	**Pn**	**03 03 57.2**	**+0.5**
	0.3nm,0.1s,SNR=12						
EQES				Pg	**Pb**	**03 04 00.8**	**+1.7**
	4.9nm,0.2s,SNR=34						
EQES				Lg	Lg	03 04 28.1	
	35nm,0.3s,SNR=5.0						
EQES	**Quesada**	**1.95**	**68**	Pn	**Pn**	**03 03 57.2**	**+0.5**
	0.3nm,0.1s,SNR=12						
EBER	**Berja**	**1.98**	**95**	Pn	**Pn**	**03 03 57.8**	**+0.7**
	0.6nm,0.2s,SNR=7.9						
EBER				Pg	**Pg**	**03 04 02.2**	**+1.1**
	35nm,0.6s,SNR=20						
EBER	**Berja**	**1.98**	**95**	Pn	**Pn**	**03 03 57.8**	**+0.7**
	0.6nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**2.07**	**275**	*e*Pn	**Pn**	**03 03 57.9**	**-0.2**
PBDV				*e*Sg	**Sg**	**03 04 30.3**	**+0.8**
PBDV				A	A	03 04 46.9	
	23nm,0.5s						
PBDV	**Barranco-do-Ve**	**2.07**	**275**	Pn	**Pn**	**03 03 57.9**	**-0.2**
PBDV				Lg	Lg	03 04 30.3	
	23nm,0.5s						
PBDV	**Barranco-do-Ve**	**2.07**	**275**	*e*Pn	**Pn**	**03 03 57.9**	**-0.2**
PBDV				Lg	Lg	03 04 30.3	
	23nm,0.5s						
EBAD	**Badajoz**	**2.12**	**322**	Pn	**Pn**	**03 03 58.9**	**0.0**
	1.7nm,0.1s,SNR=4.7						
EBAD				Sn	**Sn**	**03 04 24.4**	**-1.1**
	4.9nm,0.2s,SNR=5.1						
EBAD				Lg	Lg	03 04 31.6	
	16nm,0.4s,SNR=4.9						
EBAD	**Badajoz**	**2.12**	**322**	Pn	**Pn**	**03 03 58.9**	**0.0**
	1.7nm,0.1s,SNR=4.7						
EBAD				Sn	**Sn**	**03 04 24.4**	**-1.1**
	4.9nm,0.2s,SNR=5.1						
EBAD				Lg	Lg	03 04 31.6	
	16nm,0.4s,SNR=4.9						
PBEJ	**Beja**	**2.21**	**296**	*e*Pn	**Pn**	**03 04 00.2**	**+0.1**
PBEJ				*e*Sg	**Sg**	**03 04 35.4**	**+1.3**
PBEJ				A	A	03 04 39.3	
	14nm,0.4s						
PBEJ	**Beja**	**2.21**	**296**	Pn	**Pn**	**03 04 00.2**	**+0.1**
PBEJ				Lg	Lg	03 04 35.4	
	7.0nm,0.4s						
PBEJ	**Beja**	**2.21**	**296**	*e*Pn	**Pn**	**03 04 00.2**	**+0.1**
PBEJ				*e*Sg	**Sg**	**03 04 35.4**	**+1.3**
	14nm,0.4s						
PCVE	**Castro Verde**	**2.21**	**285**	*e*Pn	**Pn**	**03 03 59.9**	**-0.2**
PCVE				*e*Sg	**Sg**	**03 04 35.3**	**+1.2**
PCVE				A	A	03 04 41.7	
	24nm,0.4s						
PCVE	**Castro Verde**	**2.21**	**285**	Pn	**Pn**	**03 03 59.9**	**-0.2**
PCVE				Lg	Lg	03 04 35.3	
	24nm,0.4s						
PCVE	**Castro Verde**	**2.21**	**285**	*e*Pn	**Pn**	**03 03 59.9**	**-0.2**
PCVE				Lg	Lg	03 04 35.3	
	24nm,0.4s						
EHUE	**Huescar**	**2.31**	**71**	Pn	**Pn**	**03 04 02.3**	**+0.7**
	1.5nm,0.2s,SNR=7.9						
EHUE				Lg	Lg	03 04 38.2	
	8.3nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.31**	**71**	Pn	**Pn**	**03 04 02.3**	**+0.7**
	1.5nm,0.2s,SNR=7.9						
EHUE				Lg	Lg	03 04 38.2	
	8.3nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**2.51**	**316**	*e*Pn	**Pn**	**03 04 05.0**	**+0.8**
PESTR				*e*Sg	**Sg**	**03 04 44.9**	**+1.1**
PESTR				A	A	03 04 50.5	
	25nm,0.6s						
PESTR	**Estremoz**	**2.51**	**316**	Pn	**Pn**	**03 04 05.0**	**+0.8**
PESTR				Lg	Lg	03 04 44.9	
	25nm,0.6s						
PESTR	**Estremoz**	**2.51**	**316**	*e*Pn	**Pn**	**03 04 05.0**	**+0.8**
PESTR				*e*Sg	**Sg**	**03 04 44.9**	**+1.1**
	25nm,0.6s						
ENIJ	**Nijar**	**2.52**	**92**	Pg	**Pg**	**03 04 11.4**	**-0.1**
	9.3nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**2.52**	**92**	Pg	**Pg**	**03 04 11.4**	**-0.1**
	9.3nm,0.3s,SNR=7.9						
EVO	**Evora**	**2.56**	**305**	*e*Pn	**Pn**	**03 04 05.8**	**+1.0**
EVO	**Evora**	**2.56**	**305**	*e*Pg	**Pg**	**03 04 12.2**	**+0.1**
EVO				*e*Sg	**Sg**	**03 04 46.2**	**+0.9**
	33nm,0.4s						
EVO	**Evora**	**2.56**	**305**	*e*Sn	**Sn**	**03 04 36.3**	**+0.2**
EVO	**Evora**	**2.56**	**305**	Sn	**Sn**	**03 04 36.3**	**+0.2**
EVO	**Evora**	**2.56**	**305**	*e*Sn	**Sn**	**03 04 36.3**	**+0.2**
EVOP	**Sao Brissos**	**2.63**	**304**	*e*Pn	**Pn**	**03 04 05.8**	**0.0**
EVOP	**Sao Brissos**	**2.63**	**304**	*e*Pg	**Pg**	**03 04 12.2**	**-1.3**
EVOP				*e*Sg	**Sg**	**03 04 46.2**	**-1.3**
	16nm,0.4s						
PNCL	**Nicolau / Gran**	**2.72**	**293**	*e*Pn	**Pn**	**03 04 07.2**	**+0.1**
PNCL				*e*Sg	**Sg**	**03 04 50.5**	**-0.1**
PNCL				A	A	03 04 59.9	
	21nm,0.8s						
PNCL	**Nicolau / Gran**	**2.72**	**293**	*e*Pn	**Pn**	**03 04 07.2**	**+0.1**
PNCL				*e*Sg	**Sg**	**03 04 50.5**	**-0.1**
	21nm,0.8s						
EVIA	**Vianos**	**2.74**	**55**	Pn	**Pn**	**03 04 08.8**	**+1.3**
	0.8nm,0.1s,SNR=7.9						
EVIA				Pg	**Pb**	**03 04 14.4**	**+2.0**
	8.3nm,0.3s,SNR=4.7						
EVIA				Sn	**Sn**	**03 04 40.3**	**-0.5**
	9.0nm,0.4s,SNR=4.7						
EVIA				Lg	Lg	03 04 50.5	
	62nm,0.6s,SNR=5.7						
EVIA	**Vianos**	**2.74**	**55**	Pn	**Pn**	**03 04 08.8**	**+1.3**
	0.8nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.78**	**272**	*e*Sn	**Sn**	**03 04 39.9**	**-1.7**
PFVI				A	A	03 04 59.8	
	23nm,0.7s						
PFVI	**Vila Bisbo**	**2.78**	**272**	Pn	**Pn**	**03 04 08.3**	**+0.4**
	2.2nm,0.1s,SNR=7.9						
PFVI				Sn	**Sn**	**03 04 39.5**	**-2.1**
	11nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.78**	**272**	Pn	**Pn**	**03 04 08.3**	**+0.4**
	2.2nm,0.1s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**03 04 39.9**	**-1.7**
	23nm,0.7s						
ESDC	**Sonseca Array**	**2.81**	**22**	Pn	**Pn**	**03 04 09.7**	**+1.3**
	2.1nm,0.2s,baz=203,slow=12,SNR=6.8						
ESDC				Pg	**Pg**	**03 04 17.5**	**+0.5**
	1.8nm,0.2s,baz=197,slow=12,SNR=8.3						
ESDC				Sn	**Sn**	**03 04 40.8**	**-1.7**
	0.7nm,0.3s,baz=203,slow=16,SNR=8.7						
ESDC				Lg	Lg	03 04 53.6	
	19nm,0.4s,baz=204,slow=29,SNR=22						
ESDC	**Sonseca Array**	**2.81**	**22**	Pn	**Pn**	**03 04 09.7**	**+1.3**
	2.1nm,0.2s,baz=203,slow=12,SNR=6.8						
ESDC	**Sonseca Array**	**2.81**	**22**	Pg	**Pg**	**03 04 17.5**	**+0.5**
	1.8nm,0.2s,SNR=8.3						
ESDC				Sn	**Sn**	**03 04 40.8**	**-1.7**
	0.7nm,0.3s,baz=203,SNR=8.7						
ESDC				Lg	Lg	03 04 53.6	
	19nm,0.4s,baz=204,SNR=22						
PMRV	**Marv??o**	**2.84**	**326**	*e*Sn	**Sn**	**03 04 43.2**	**+0.1**
PMRV				A	A	03 04 59.9	
	19nm,0.4s						
PMRV	**Marv??o**	**2.84**	**326**	Sn	**Sn**	**03 04 43.2**	**+0.1**
	19nm,0.4s						
PMRV	**Marv??o**	**2.84**	**326**	Sn	**Sn**	**03 04 43.2**	**+0.1**
	19nm,0.4s						
PMTG	**Montargil**	**3.01**	**312**	*e*Pn	**Pn**	**03 04 11.9**	**+0.8**
PMTG				*e*Sn	**Sn**	**03 04 47.1**	**-0.2**
PMTG				*e*Sg	**Sg**	**03 05 00.7**	**+0.8**
PMTG				A	A	03 05 10.0	
	21nm,0.6s						
PMTG	**Montargil**	**3.01**	**312**	*e*Pn	**Pn**	**03 04 11.9**	**+0.8**
PMTG				*e*Sn	**Sn**	**03 04 47.1**	**-0.2**
PMTG				*e*Sg	**Sg**	**03 05 00.7**	**+0.8**
	21nm,0.6s						
EPLA	**Plasencia**	**3.03**	**349**	Sn	**Sn**	**03 04 46.4**	**-1.5**
	3.3nm,0.3s,SNR=7.9						
EPLA				Lg	Lg	03 04 59.5	
	53nm,0.4s,SNR=14						
EPLA	**Plasencia**	**3.03**	**349**	Sn	**Sn**	**03 04 46.4**	**-1.5**
	3.3nm,0.3s,SNR=7.9						
EPLA				Lg	Lg	03 04 59.5	
	53nm,0.4s,SNR=14						
PCBR	**Castelo Branco**	**3.22**	**329**	*e*Sn	**Sn**	**03 04 50.8**	**-1.6**
PCBR				A	A	03 05 13.7	
	14nm,0.6s						
PCBR	**Castelo Branco**	**3.22**	**329**	Sn	**Sn**	**03 04 50.8**	**-1.6**
	6.8nm,0.6s						
PCBR	**Castelo Branco**	**3.22**	**329**	Sn	**Sn**	**03 04 50.8**	**-1.6**
	6.8nm,0.6s						
EMUR	**La Murta**	**3.36**	**76**	Pg	**Pg**	**03 04 26.8**	**-0.7**
	0.2nm,0.2s,SNR=7.9						
EMUR				Sn	**Sn**	**03 04 54.6**	**-1.4**
	2.3nm,0.4s,SNR=7.9						
EMUR				Lg	Lg	03 05 10.5	
	14nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**3.36**	**76**	Pg	**Pg**	**03 04 26.8**	**-0.7**
	0.2nm,0.2s,SNR=7.9						
EMUR				Sn	**Sn**	**03 04 54.6**	**-1.4**
	2.3nm,0.4s,SNR=7.9						
EMUR				Lg	Lg	03 05 10.5	
	14nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**3.39**	**61**	Pn	**Pn**	**03 04 16.7**	**+0.3**
	0.3nm,0.1s,SNR=7.0						
ETOB				Pg	**Pg**	**03 04 28.3**	**+0.1**
	5.1nm,0.4s,SNR=62						
ETOB				Sn	**Sn**	**03 04 56.9**	**+0.1**
	1.8nm,0.2s,SNR=6.6						
ETOB				Lg	Lg	03 05 11.4	
	48nm,0.6s,SNR=5.0						
ETOB	**Tobarra**	**3.39**	**61**	Pn	**Pn**	**03 04 16.7**	**+0.3**
	0.3nm,0.1s,SNR=7.0						
PMAFR	**Mafra**	**3.62**	**302**	*e*Sn	**Sn**	**03 05 02.1**	**-0.3**
PMAFR	**Mafra**	**3.62**	**302**	Sn	**Sn**	**03 05 01.3**	**-1.1**
	14nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**3.62**	**302**	Sn	**Sn**	**03 05 01.3**	**-1.1**
	14nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**3.68**	**14**	Pn	**Pn**	**03 04 21.6**	**+1.2**
	0.4nm,0.2s,SNR=7.9						
GUD				Pg	**Pg**	**03 04 32.1**	**-1.5**
	0.6nm,0.2s,SNR=5.5						
GUD				Sn	**Sn**	**03 04 58.6**	**-5.3**
	1.5nm,0.3s,SNR=7.9						
GUD				Lg	Lg	03 05 15.7	
	12nm,0.4s,SNR=7.3						
GUD	**Guadarrama**	**3.68**	**14**	Pn	**Pn**	**03 04 21.6**	**+1.2**
	0.4nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**3.73**	**333**	*e*Sg	**Sg**	**03 05 23.5**	**+0.6**
MTE				A	A	03 05 31.4	
	26nm,0.6s						
MTE	**Manteigas**	**3.73**	**333**	Lg	Lg	03 05 23.5	
	13nm,0.6s						
MTE	**Manteigas**	**3.73**	**333**	*e*Sg	**Sg**	**03 05 23.5**	**+0.6**
	26nm,0.6s						
MVO	**Moncorvo**	**4.28**	**343**	*e*Sg	**Sg**	**03 05 39.5**	**-1.1**
MVO				A	A	03 05 42.3	
	14nm,0.6s						
MVO	**Moncorvo**	**4.28**	**343**	Pn	**Pn**	**03 04 28.4**	**-0.1**
	0.4nm,0.1s,SNR=7.9						
MVO				Sn	**Sn**	**03 05 16.5**	**-2.2**
	1.1nm,0.1s,SNR=7.9						
MVO				Lg	Lg	03 05 38.6	
	30nm,0.5s,SNR=5.5						
MVO	**Moncorvo**	**4.28**	**343**	Pn	**Pn**	**03 04 28.5**	**-0.1**
	0.4nm,0.1s,SNR=7.9						
MVO				Sn	**Sn**	**03 05 16.5**	**-2.2**
	1.1nm,0.1s,SNR=7.9						
MVO				Lg	Lg	03 05 38.6	
	30nm,0.5s,SNR=5.5						
MVO				*e*Sg	**Sg**	**03 05 39.5**	**-1.1**
	14nm,0.6s						
ETOR	**Torete**	**4.53**	**34**	Pn	**Pn**	**03 04 33.6**	**+1.5**
	1.4nm,0.2s,SNR=7.1						
ETOR				Sn	**Sn**	**03 05 23.1**	**-1.9**
	3.0nm,0.2s,SNR=7.9						
ETOR				Lg	Lg	03 05 46.4	
	37nm,0.4s,SNR=5.6						
ETOR	**Torete**	**4.53**	**34**	Pn	**Pn**	**03 04 33.6**	**+1.5**
	1.4nm,0.2s,SNR=7.1						
ETOR				Sn	**Sn**	**03 05 23.1**	**-1.9**
	3.0nm,0.2s,SNR=7.9						
ETOR				Lg	Lg	03 05 46.3	
	37nm,0.4s,SNR=5.6						
EMOS	**Mosqueruela**	**5.03**	**48**	Sn	**Sn**	**03 05 34.9**	**-2.5**
	0.4nm,0.3s,SNR=7.9						
EMOS				Lg	Lg	03 06 02.1	
	1.4nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.03**	**48**	Sn	**Sn**	**03 05 34.9**	**-2.5**
	0.4nm,0.3s,SNR=7.9						
EMOS				Lg	Lg	03 06 02.1	
	1.4nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**5.88**	**47**	Lg	Lg	03 06 28.6	
	2.5nm,0.4s,SNR=7.9						
ERTA	**Horta de San J**	**5.88**	**47**	Lg	Lg	03 06 28.6	
	2.5nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**5.98**	**38**	Lg	Lg	03 06 32.9	
	34nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**5.98**	**38**	Lg	Lg	03 06 32.9	
	34nm,0.4s,SNR=7.9						
SJPF	**Ste Jean**	**6.80**	**26**	*e*Pn	**Pn**	**03 05 04.0**	**+0.8**
SJPF				*e*Sg	**Sg**	**03 06 58.1**	**-3.4**
	0.8nm,0.3s						
ETSF	**Etsaut**	**6.88**	**31**	*e*Pn	**Pn**	**03 05 04.8**	**+0.5**
ETSF				*e*Sg	**Sg**	**03 07 00.2**	**-3.6**
	2.3nm,0.6s						
EPF	**Esparros**	**7.37**	**35**	*e*Pn	**Pn**	**03 05 11.5**	**+0.5**
EPF				*e*Sg	**Sg**	**03 07 15.9**	**-3.8**
	1.6nm,0.4s						

*ATH **01** 03:04:40.3,33.°98N×26.°21E,h118km±9km*
*CSEM **01** 03:04:40.3,33.°98N×26.°21E,h118km,After ATH*
*IDC **01** 03:04:41.8±1.4,34.°17N×25.°85E,h0km,mb3.4/4, mb1 3.5/6,mb1mx3.3/25,mbtmp3.5/6,ML3.5/2,Error ellipse: s-maj=33.4km s-min=25.1km az=151.0*
*ISCJB **01** 03:04:43.1±0.8,33.°94N±0.°08×26.°09E±0.°09,h26km, mb3.3/4,Error ellipse: s-maj=14.9km s-min=5.8km az=40.9*

ISC 01 03:04:45.0±0.9,**34.°07N**±0.°07×**26.°11E**±0.°07,**h26**km,**n20**, σ1§**56**/27,**mb3.4**/4,**Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**1.05**	**5**	*e*P	**Pb**	**03 05 04.2**	**-0.3**
ZKR	**Zakros**	**1.05**	**5**	*e*P	**Pb**	**03 05 04.2**	**-0.3**
LAST	**Lasithi**	**1.21**	**335**	*e*P	**Pn**	**03 05 05.3**	**-1.0**
LAST				*e*S	**Sb**	**03 05 25.8**	**+3.3**
LAST	**Lasithi**	**1.21**	**335**	*e*P	**Pn**	**03 05 05.3**	**-1.0**
LAST				*e*S	**Sb**	**03 05 25.8**	**+3.3**
NPS	**Neapolis**	**1.26**	**341**	*e*P	**Pn**	**03 05 06.4**	**-0.6**
NPS	**Neapolis**	**1.26**	**341**	*e*P	**Pn**	**03 05 06.4**	**-0.6**
SIVA	**Sivas**	**1.43**	**312**	*e*P	**Pn**	**03 05 08.7**	**-0.6**
SIVA	**Sivas**	**1.43**	**312**	*e*P	**Pn**	**03 05 08.7**	**-0.6**
IDI	**Anoyia**	**1.58**	**321**	*e*P	**Pn**	**03 05 11.2**	**-0.2**
IDI				*e*S	**Sb**	**03 05 33.2**	**0.0**
IDI	**Anoyia**	**1.58**	**321**	*e*P	**Pn**	**03 05 11.3**	**-0.2**
IDI				*e*S	**Sb**	**03 05 33.2**	**0.0**
VAM	**Vamos**	**2.06**	**311**	*e*P	**Pn**	**03 05 17.2**	**-0.8**
VAM	**Vamos**	**2.06**	**311**	*e*P	**Pn**	**03 05 17.3**	**-0.8**
APE	**Apeiranthos**	**3.03**	**351**	*e*P	**Pn**	**03 05 30.9**	**-0.5**
APE				*e*S	**Sn**	**03 06 05.2**	**-1.6**
APE	**Apeiranthos**	**3.03**	**351**	*e*P	**Pn**	**03 05 30.9**	**-0.5**
APE				*e*S	**Sn**	**03 06 05.3**	**-1.6**
MMAI	**Mount Meron Ar**	**7.83**	**95**	Pn	**Pn**	**03 06 40.0**	**+2.7**
	0.9nm,0.3s,baz=270,slow=10,SNR=4.8						
MMAI				Sn	**Sn**	**03 08 01.5**	**-3.6**
	0.8nm,0.3

KONT	**Konya--Tatoy**	**1.50**	**45**	*e*Pn		**Pn**	**03 16 06.0**	**+1.7**	
FETY	**Fethiye**	**1.58**	**262**	*e*PN		**Pn**	**03 16 07.6**	**+2.2**	
FETY	**Fethiye**	**1.58**	**262**	*e*Pn		**Pn**	**03 16 07.6**	**+2.2**	
LADK	**Ladik-KONYA**	**1.69**	**38**	*e*PN		**Pn**	**03 16 08.3**	**+1.5**	
LADK	**Ladik-KONYA**	**1.69**	**38**	*e*Pn		**Pn**	**03 16 08.3**	**+1.5**	
SHUT	**Suhut-Afyon**	**1.71**	**347**	*e*PN		**Pn**	**03 16 07.2**	**+0.1**	
SHUT	**Suhut-Afyon**	**1.71**	**347**	*e*Pn		**Pn**	**03 16 07.2**	**+0.1**	
DNZL	**Cakiroluk**	**1.78**	**297**	*i* P		**Pn**	**03 16 09.7**	**+1.6**	
DNZL				*i* S		**Sn**	**03 16 31.5**	**+1.4**	
DNZL	**Cakiroluk**	**1.78**	**297**	*i* P		**Pn**	**03 16 09.7**	**+1.6**	
DNZL				*i* S		**Sn**	**03 16 31.5**	**+1.4**	
BOLV	**Bolvadin**	**1.83**	**358**	*i* P		**Pn**	**03 16 10.1**	**+1.3**	
BOLV				*i* S		**Sn**	**03 16 31.8**	**+0.5**	
BOLV	**Bolvadin**	**1.83**	**358**	*i* P		**Pn**	**03 16 10.1**	**+1.3**	
BOLV				*i* S		**Sn**	**03 16 31.8**	**+0.5**	
KDHN	**Kadinhani**	**1.84**	**27**	*i* P		**Pn**	**03 16 09.9**	**+1.0**	
KDHN				*i* S		**Sn**	**03 16 32.5**	**+0.9**	
KDHN	**Kadinhani**	**1.84**	**27**	*i* P		**Pn**	**03 16 09.9**	**+1.0**	
KDHN				*i* S		**Sn**	**03 16 32.5**	**+0.9**	
KHL	**Karahalli**	**1.87**	**321**	*e*PN		**Pn**	**03 16 09.4**	**+0.2**	
KHL	**Karahalli**	**1.87**	**321**	*e*Pn		**Pn**	**03 16 09.4**	**+0.2**	
KHAL	**Karahalli**	**1.92**	**321**	*i* P		**Pn**	**03 16 11.0**	**+1.0**	
KHAL				*i* S		**Sn**	**03 16 32.7**	**-0.7**	
KHAL	**Karahalli**	**1.92**	**321**	*i* P		**Pn**	**03 16 11.0**	**+1.0**	
TURN	**Turunc**	**1.95**	**270**	*i* P		Pn	03 16 15.7	+5.5	
TURN				*i* S		Sn	03 16 42.2	+8.3	
TURN	**Turunc**	**1.95**	**270**	*i* P		Pn	03 16 15.7	+5.5	
KIZT	**Kizilcal**	**2.10**	**18**	*e*PN		**Pn**	**03 16 13.5**	**+1.2**	
KIZT	**Kizilcal**	**2.10**	**18**	*e*Pn		**Pn**	**03 16 13.5**	**+1.2**	
YER	**Yerkesik**	**2.21**	**277**	*e*PN		**Pn**	**03 16 16.2**	**+2.4**	
YER	**Yerkesik**	**2.21**	**277**	*e*Pn		**Pn**	**03 16 16.2**	**+2.4**	
ALT	**Altintas**	**2.29**	**342**	*e*PN		**Pn**	**03 16 15.0**	**+0.2**	
ALT	**Altintas**	**2.29**	**342**	*e*Pn		**Pn**	**03 16 15.0**	**+0.2**	
LEF	**Lefka**	**2.32**	**139**	*e*PN		Pn	03 16 18.5	+3.4	
LEF	**Lefka**	**2.32**	**139**	*e*Pn		Pn	03 16 18.5	+3.4	
SULT	**Sultanhani-AKS**	**2.37**	**56**	*e*PN		**Pn**	**03 16 17.3**	**+1.4**	
SULT	**Sultanhani-AKS**	**2.37**	**56**	*e*Pn		**Pn**	**03 16 17.3**	**+1.4**	
KULA	**Kula-Manisa**	**2.49**	**312**	*e*PN		**Pn**	**03 16 18.2**	**+0.8**	
KULA	**Kula-Manisa**	**2.49**	**312**	*e*Pn		**Pn**	**03 16 18.3**	**+0.8**	
GDZ	**Gediz**	**2.52**	**331**	*i* P		**Pn**	**03 16 19.1**	**+1.1**	
GDZ				*i* S		**Sn**	**03 16 48.2**	**+0.4**	
GDZ	**Gediz**	**2.52**	**331**	*i* P		**Pn**	**03 16 19.1**	**+1.1**	
GDZ				*i* S		**Sn**	**03 16 48.2**	**+0.4**	
MANT	**Manisa**	**2.53**	**310**	*i* P		**Pn**	**03 16 19.5**	**+1.2**	
MANT				*i* S		**Sn**	**03 16 48.3**	**0.0**	
MANT	**Manisa**	**2.53**	**310**	*i* P		**Pn**	**03 16 19.5**	**+1.2**	
MANT				*i* S		**Sn**	**03 16 48.3**	**0.0**	
LFK	**Lefkose**	**2.58**	**128**	*e*PN		**Pn**	**03 16 21.8**	**+3.0**	
LFK	**Lefkose**	**2.58**	**128**	*e*Pn		**Pn**	**03 16 21.8**	**+3.0**	
SVRH	**Sivrihisar-ESK**	**2.59**	**8**	*e*PN		**Pn**	**03 16 19.3**	**+0.5**	
SVRH	**Sivrihisar-ESK**	**2.59**	**8**	*e*Pn		**Pn**	**03 16 19.3**	**+0.5**	
AYDN	**Tasoluk**	**2.63**	**288**	*i* P		**Pn**	**03 16 21.5**	**+2.1**	
AYDN				*i* S		Sn	03 16 41.3	-9.1	
AYDN	**Tasoluk**	**2.63**	**288**	*i* P		**Pn**	**03 16 21.5**	**+2.1**	
CSS	**Prodhromos**	**2.68**	**135**	*e*PN		**Pn**	**03 16 23.2**	**+3.2**	
CSS	**Prodhromos**	**2.68**	**135**	*e*Pn		**Pn**	**03 16 23.2**	**+3.2**	
MERS	**Mersin**	**2.80**	**89**	*e*PN		**Pn**	**03 16 24.7**	**+3.0**	
MERS	**Mersin**	**2.80**	**89**	*e*Pn		**Pn**	**03 16 24.7**	**+3.0**	
DEMI	**Demirci**	**2.83**	**320**	*i* P		**Pn**	**03 16 23.1**	**+1.0**	
DEMI				*i* S		**Sn**	**03 16 55.1**	**0.0**	
DEMI	**Demirci**	**2.83**	**320**	*i* P		**Pn**	**03 16 23.1**	**+1.0**	
DEMI				*i* S		**Sn**	**03 16 55.1**	**0.0**	
BDRM	**Kayabasi**	**2.88**	**275**	*i* P		**Pn**	**03 16 24.2**	**+1.5**	
BDRM				*i* S		**Sn**	**03 16 56.3**	**0.0**	
BDRM	**Kayabasi**	**2.88**	**275**	*i* P		**Pn**	**03 16 24.2**	**+1.5**	
BDRM				*i* S		**Sn**	**03 16 56.3**	**0.0**	
BODT	**Bodrum**	**2.99**	**274**	*e*PN		**Pn**	**03 16 25.5**	**+1.3**	
BODT	**Bodrum**	**2.99**	**274**	*e*Pn		**Pn**	**03 16 25.5**	**+1.3**	
AFSR	**Afˇar-Bala (A**	**3.02**	**32**	*e*PN		**Pn**	**03 16 25.8**	**+1.1**	
AFSR	**Afˇar-Bala (A**	**3.02**	**32**	*e*Pn		**Pn**	**03 16 25.8**	**+1.1**	
BORA	**Eskisehir**	**3.02**	**352**	*i* P		**Pn**	**03 16 25.6**	**+0.8**	
BORA				*i* S		**Sn**	**03 16 59.7**	**-0.2**	
BORA	**Eskisehir**	**3.02**	**352**	*i* P		**Pn**	**03 16 25.6**	**+0.8**	
BORA				*i* S		**Sn**	**03 16 59.7**	**-0.2**	
BBAL	**Bala**	**3.12**	**31**	*i* P		**Pn**	**03 16 27.0**	**+0.9**	
BBAL				*i* S		**Sn**	**03 17 02.7**	**+0.3**	
BBAL	**Bala**	**3.12**	**31**	*i* P		**Pn**	**03 16 27.0**	**+0.9**	
BBAL				*i* S		**Sn**	**03 17 02.7**	**+0.3**	
DURS	**Dursunbey**	**3.38**	**324**	*i* P		**Pn**	**03 16 30.4**	**+0.9**	
DURS				*i* S		**Sn**	**03 17 07.6**	**-0.9**	
DURS	**Dursunbey**	**3.38**	**324**	*i* P		**Pn**	**03 16 30.4**	**+0.9**	
DURS				*i* S		**Sn**	**03 17 07.6**	**-0.9**	
HNTI	**Hanita**	**5.09**	**137**	Sn		**Sn**	**03 17 47.9**	**-2.5**	
KSDI	**Kefar Szold**	**5.29**	**133**	Sn		**Sn**	**03 17 52.7**	**-2.4**	
AMAG	**Maghara**	**6.48**	**163**	P		**Pn**	**03 17 12.6**	**+0.7**	
	baz=159								
HMAT	**Matruh**	**6.64**	**211**	AMP			03 18 00.0		
	comp=E,10µm,0.9s,logA/T=4.0,baz=210								
HHAG	**Hagoal**	**6.97**	**172**	P		**Pn**	**03 17 18.2**	**-0.3**	
	baz=169								
HHAG				S		Sn	03 18 30.8	-5.6	
	baz=169								
KOT	**Kottamia**	**6.97**	**174**	P		**Pn**	**03 17 18.2**	**-0.4**	
KOT	**Kottamia**	**6.97**	**174**	P		**Pn**	**03 17 18.2**	**-0.4**	
	baz=171								
KOT				AMP			03 18 00.0		
	comp=E,20µm,0.3s,logA/T=4.8,baz=171								
KOT				S		**Sn**	**03 18 31.1**	**-5.2**	
	baz=171								
SUZ		**7.18**	**167**	P		**Pn**	**03 17 21.5**	**+0.1**	
	baz=164								
HKAT	**Jabal Katrina**	**8.70**	**163**	P		**Pn**	**03 17 43.7**	**+1.3**	
HKAT	**Jabal Katrina**	**8.70**	**163**	P		**Pn**	**03 17 43.7**	**+1.3**	
	baz=160								
AWBH		**8.73**	**192**	P		**Pn**	**03 17 41.9**	**-0.6**	
AWBH		**8.73**	**192**	P		**Pn**	**03 17 41.9**	**-0.6**	
	baz=192								
TR2		**8.77**	**164**	P		**Pn**	**03 17 44.0**	**+0.9**	
TR2		**8.77**	**164**	P		**Pn**	**03 17 44.0**	**+0.9**	
	baz=161								

ISCJB ***01*** *03:19:38.8±0.8, 42˚.78S±0˚.07×72˚.7W±0˚.1, h10km, mb3.7/5, Error ellipse: s-maj=15.3km s-min=6.0km az=39.5*
GUC ***01*** *03:19:38.2±0.7, 42˚.82S×72˚.66W, h3km±24km, ML3.3*
IDC ***01*** *03:19:39.0±1.1, 42˚.76S×72˚.56W, h0km, mb3.9/5, mb1 4.1/6, mb1mx4.0/15, mbtmp3.9/6, ML3.9/1, Error ellipse: s-maj=34.5km s-min=16.2km az=122.0*

ISC 01 03:19:40.3±0.9, 42.7S±0.1×72.9W±0.2, h10km, n11, σ1§30/10, mb3.8/5, 1C-2D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
HUNY	**Huinay**	**0.45**	**46**	⇑*i*P	Pg	03	19	47.4	-1.8
HUNY				AML	AML	03	19	57.4	
	comp=E,2µm,0.6s								
ILCA	**Isla Las Cabra**	**0.67**	**20**	⇓*i*P	**Pg**	**03**	**19**	**52.4**	**-1.0**
ILCA				*i* S	**Sb**	**03**	**20**	**03.8**	**+0.3**
ILCA				AML	AML	03	20	05.0	
	comp=E,1µm,0.4s								
QLLN	**Quelln**	**0.70**	**234**	⇓*i*P	**Pg**	**03**	**19**	**53.1**	**-0.8**
QLLN				*i* S	**Sb**	**03**	**20**	**03.6**	**-0.8**
QLLN				AML	AML	03	20	08.5	
	comp=N,5µm,0.6s								
PLCA	**Paso Flores**	**2.61**	**42**	Pn	**Pn**	**03**	**20**	**22.4**	**-0.2**
	comp=N,6.3nm,0.3s,baz=214,slow=15,SNR=97								
PLCA				Pg	Pb	03	20	25.1	-2.1
	comp=N,11nm,0.3s,baz=220,slow=17,SNR=114								
PLCA				Lg	Lg	03	21	01.0	
	comp=N,19nm,0.3s,baz=138,slow=12,SNR=15								
COYC	**Coyhaique**	**2.93**	**169**	AML	AML	03	21	17.3	
	comp=E,80nm,0.7s								
SIV	**San Ignacio**	**28.46**	**24**	P	**P**	**03**	**25**	**33.9**	**-1.7**
	comp=E,0.6nm,0.6s,baz=204,slow=9.6,SNR=4.4								
QSPA	**South Pole Qui**	**47.56**	**180**	P	**P**	**03**	**28**	**16.5**	**+0.7**
	comp=E,3.3nm,1.0s,baz=128,slow=6.3,SNR=6.1								
TXAR	**Lajitas Array**	**77.08**	**333**	P	**P**	**03**	**31**	**35.9**	**+2.2**
	comp=E,0.5nm,0.8s,baz=147,slow=7.5,SNR=5.7								
TORD	**Torodi Ar. Bea**	**87.78**	**70**	P	P	03	32	27.9	-1.9
	comp=E,0.4nm,0.8s,baz=218,slow=5.9,SNR=2.6								
PDAR	**Pinedale Array**	**91.25**	**334**	P	**P**	**03**	**32**	**46.5**	**+0.8**
	comp=E,0.5nm,0.8s,baz=143,slow=5.3,SNR=4.4								
AKTO	**Aktyubinsk**	**145.88**	**60**	PKPbc	**PKPdf**	**03**	**39**	**17.9**	**-0.8**
	comp=E,1.7nm,0.9s,baz=260,slow=2.3,SNR=5.9								

CSEM ***01*** *03:22:12.2±0.1, 37˚.09N×5˚.40W, h5km, ML3.9/23, Error ellipse: s-maj=2.2km s-min=1.3km az=8.0*
LDG ***01*** *03:22:13.4±0.1, 37˚.02N×5˚.41W, h2km, Ml3.7/4, Error ellipse: s-maj=2.9km s-min=1.9km az=5.0*
SFS ***01*** *03:22:13.0, 37˚.06N×5˚.40W, h4km, ML3.1*

MDD ***01*** *03:22:13.5±0.3, 37˚.03N×5˚.40W, h11km, mbLg3.1/34, Error ellipse: s-maj=3.1km s-min=2.2km az=17.0, PRXIMO*
IGIL ***01*** *03:22:14.6, 37˚.07N×5˚.41W, h4km, ML3.1*
INMG ***01*** *03:22:14.3±1.4, 37˚.06N×5˚.38W, h16km±3km, ML3.4, Error ellipse: s-maj=2.0km s-min=1.4km az=28.0*

ISC 01 03:22:11.6±1.0, 37.11N±0.02×5.37W±0.01, h9km±8km, n157, σ1§32/252, 2C, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
LIJA	**Lijar**	**0.20**	**188**	Pg	**Pg**	**03**	**22**	**15.4**	**-0.3**
LIJA	**Lijar**	**0.20**	**188**	*i* P	**Pg**	**03**	**22**	**15.4**	**-0.3**
EJIF	**Jimena Fronter**	**0.66**	**187**	⇑Pg	**Pg**	**03**	**22**	**24.4**	**+0.1**
	33nm,0.4s,SNR=18								
EJIF				Lg	Lg	03	22	33.8	
	234nm,0.4s,SNR=7.9								
EJIF	**Jimena Fronter**	**0.66**	**187**	Pg	**Pg**	**03**	**22**	**24.4**	**+0.1**
	33nm,0.4s,SNR=18								
EJIF				Lg	Lg	03	22	33.8	
	234nm,0.4s,SNR=7.9								
EMIJ	**Mijas**	**0.72**	**138**	Pg	**Pg**	**03**	**22**	**25.1**	**-0.4**
	14nm,0.2s,SNR=141								
EMIJ				Lg	Lg	03	22	36.5	
	218nm,0.4s,SNR=14								
EMIJ	**Mijas**	**0.72**	**138**	Pg	**Pg**	**03**	**22**	**25.1**	**-0.4**
	14nm,0.2s,SNR=141								
EMIJ				Lg	Lg	03	22	36.5	
	218nm,0.4s,SNR=14								
EMAL	**Malaga-Limoner**	**0.83**	**114**	Pg	**Pg**	**03**	**22**	**27.8**	**+0.3**
EMAL				Lg	Lg	03	22	40.4	
EMAL	**Malaga-Limoner**	**0.83**	**114**	*e*P	**Pg**	**03**	**22**	**27.8**	**+0.3**
EMAL				Lg	Lg	03	22	40.4	
EMAL				*e*S	**Sn**	**03**	**22**	**40.4**	**-1.3**
CNIL	**Conil**	**0.92**	**217**	Pg	**Pn**	**03**	**22**	**31.1**	**+0.5**
CNIL				Lg	Lg	03	22	52.2	
CNIL	**Conil**	**0.92**	**217**	*e*P	**Pn**	**03**	**22**	**31.1**	**+0.5**
CNIL				Lg	Lg	03	22	52.2	
ELOJ	**Sierra Loja**	**0.97**	**87**	Pg	**Pn**	**03**	**22**	**32.3**	**+0.8**
	11nm,0.3s,SNR=38								
ELOJ				Lg	Lg	03	22	46.9	
	174nm,0.3s,SNR=7.9								
ELOJ	**Sierra Loja**	**0.97**	**87**	Pg	**Pn**	**03**	**22**	**32.3**	**+0.8**
	11nm,0.3s,SNR=38								
ELOJ				Lg	Lg	03	22	46.9	
	174nm,0.3s,SNR=7.9								
ELUQ	**Luque**	**0.99**	**62**	⇑Pg	**Pn**	**03**	**22**	**32.2**	**+0.5**
	10.0nm,0.1s,SNR=18								
ELUQ				Lg	Lg	03	22	47.9	
	483nm,0.4s,SNR=7.9								
ELUQ	**Luque**	**0.99**	**62**	Pg	**Pn**	**03**	**22**	**32.2**	**+0.5**
	10.0nm,0.1s,SNR=18								
ELUQ				Lg	Lg	03	22	47.9	
	483nm,0.4s,SNR=7.9								
EMIN	**Mina Concepcio**	**1.23**	**303**	Pg	**Pg**	**03**	**22**	**35.5**	**+0.3**
	4.9nm,0.1s,SNR=166								
EMIN				Lg	Lg	03	22	53.6	
	372nm,0.4s,SNR=7.9								
EMIN	**Mina Concepcio**	**1.23**	**303**	Pg	**Pg**	**03**	**22**	**35.5**	**+0.3**
	4.9nm,0.1s,SNR=166								
EMIN				Lg	Lg	03	22	53.6	
	372nm,0.4s,SNR=7.9								
EADA	**Adamuz**	**1.23**	**30**	Pg	**Pg**	**03**	**22**	**36.1**	**+0.8**
	1.9nm,0.1s,SNR=340								
EADA				Lg	Lg	03	22	54.2	
	532nm,0.3s,SNR=7.9								
EADA	**Adamuz**	**1.23**	**30**	Pg	**Pg**	**03**	**22**	**36.1**	**+0.8**
	1.9nm,0.1s,SNR=340								
EADA				Lg	Lg	03	22	54.2	
	532nm,0.3s,SNR=7.9								
ERON	**Agron**	**1.25**	**93**	Pg	**Pg**	**03**	**22**	**36.9**	**+1.2**
	50nm,0.7s,SNR=7.9								
ERON				Lg	Lg	03	22	54.2	
	84nm,0.4s,SNR=7.9								
ERON	**Agron**	**1.25**	**93**	Pg	**Pg**	**03**	**22**	**36.9**	**+1.2**
	50nm,0.7s,SNR=7.9								
ERON				Lg	Lg	03	22	54.2	
	84nm,0.4s,SNR=7.9								
ECOG	**Cogollos-Vega**	**1.45**	**83**	Pg	**Pg**	**03**	**22**	**39.8**	**+0.4**
	142nm,0.5s,SNR=84								
ECOG				Lg	Lg	03	23	00.8	
	126nm,0.4s,SNR=7.9								
ECOG	**Cogollos-Vega**	**1.45**	**83**	Pg	**Pg**	**03**	**22**	**39.8**	**+0.4**
	142nm,0.5s,SNR=84								
ECOG				Lg	Lg	03	23	00.8	
	126nm,0.4s,SNR=7.9								
EGUA	**Guajares**	**1.47**	**100**	Pg	**Pg**	**03**	**22**	**40.6**	**+0.9**
	22nm,0.3s,SNR=7.9								
EGUA				Lg	Lg	03	23	01.2	
	211nm,0.1s,SNR=7.9								
EGUA	**Guajares**	**1.47**	**100**	Pg	**Pg**	**03**	**22**	**40.7**	**+0.9**
	22nm,0.3s,SNR=7.9								
EGUA				Lg	Lg	03	23	01.2	
	211nm,0.1s,SNR=7.9								
PBAR	**Barrancos**	**1.70**	**309**	*e*Pn	**Pn**	**03**	**22**	**42.1**	**+0.7**
PBAR				*e*Sg	**Sg**	**03**	**23**	**08.9**	**+2.6**
PBAR				A	A	03	23	12.6	
	197nm,0.8s								
PBAR	**Barrancos**	**1.70**	**309**	Pn	**Pn**	**03**	**22**	**42.1**	**+0.7**
PBAR				Lg	Lg	03	23	08.9	
	197nm,0.8s								
PBAR	**Barrancos**	**1.70**	**309**	Pn	**Pn**	**03**	**22**	**42.1**	**+0.7**
PBAR				*e*Sg	**Sg**	**03**	**23**	**08.9**	**+2.6**
	197nm,0.8s								
EGRO	**El Granado**	**1.74**	**285**	Pn	**Pn**	**03**	**22**	**42.6**	**+0.7**
	1.2nm,0.1s,SNR=7.9								
EGRO				Pg	**Pg**	**03**	**22**	**45.0**	**+0.1**
	4.3nm,0.1s,SNR=7.9								
EGRO				Sn	**Sb**	**03**	**23**	**05.5**	**-0.1**
	12nm,0.1s,SNR=7.9								
EGRO	**El Granado**	**1.74**	**285**	Pn	**Pn**	**03**	**22**	**42.6**	**+0.7**
	1.2nm,0.1s,SNR=7.9								
EGRO	**El Granado**	**1.74**	**285**	Pg	**Pg**	**03**	**22**	**45.0**	**+0.1**
	4.3nm,0.1s,SNR=7.9								
EGRO				Sn	**Sb**	**03**	**23**	**05.5**	**-0.1**
	12nm,0.1s,SNR=7.9								
PVAQ	**Vaqueiros**	**1.90**	**280**	*e*Pn	**Pn**	**03**	**22**	**44.5**	**+0.4**
PVAQ				*e*Sg	**Sg**	**03**	**23**	**13.0**	**+0.5**
PVAQ				A	A	03	23	16.1	
	148nm,0.5s								
PVAQ	**Vaqueiros**	**1.90**	**280**	Pn	**Pn**	**03**	**22**	**44.5**	**+0.4**
PVAQ				Lg	Lg	03	23	13.0	
	148nm,0.5s								
PVAQ	**Vaqueiros**	**1.90**	**280**	Pn	**Pn**	**03**	**22**	**44.5**	**+0.4**
PVAQ				*e*Sg	**Sg**	**03**	**23**	**13.0**	**+0.5**
	148nm,0.5s								
EQES	**Quesada**	**1.96**	**68**	Pn	**Pb**	**03**	**22**	**46.6**	**-0.9**
	2.3nm,0.2s,SNR=34								
EQES				Pg	**Pg**	**03**	**22**	**50.0**	**+0.9**
	9.1nm,0.1s,SNR=7.9								
EQES				Sn	**Sb**	**03**	**23**	**12.1**	**+0.1**
	6.0nm,0.1s,SNR=7.9								
EQES				Lg	Lg	03	23	17.7	
	87nm,0.2s,SNR=20								
EQES	**Quesada**	**1.96**	**68**	Pn	**Pb**	**03**	**22**	**46.6**	**-0.9**
	2.3nm,0.2s,SNR=34								
EQES	**Quesada**	**1.96**	**68**	Pg	**Pg**	**03**	**22**	**50.0**	**+0.9**
	9.1nm,0.1s,SNR=7.9								
EQES				Sn	**Sb**	**03**	**23**	**12.1**	**+0.1**
	6.0nm,0.1s,SNR=7.9								
EQES				Lg	Lg	03	23	17.7	
	87nm,0.2s,SNR=20								
EBER	**Berja**	**2.00**	**95**	Pg	**Pg**	**03**	**22**	**51.2**	**+1.4**
	21nm,0.4s,SNR=36								
EBER				Sn	**Sb**	**03**	**23**	**13.5**	**+0.3**
	22nm,0.3s,SNR=7.9								
EBER	**Berja**	**2.00**	**95**	Pg	**Pg**	**03**	**22**	**51.2**	**+1.4**
	21nm,0.4s,SNR=36								
EBER				Sn	**Sb**	**03**	**23**	**13.5**	**+0.3**
	22nm,0.3s,SNR=7.9								
PBDV	**Barranco-do-Ve**	**2.05**	**275**	*e*Pn	**Pn**	**03**	**22**	**46.9**	**+0.6**
PBDV				*e*Sn	**Sn**	**03**	**23**	**11.3**	**-0.7**
PBDV				*e*Sg	**Sg**	**03**	**23**	**19.0**	**+1.5**
PBDV				A	A	03	23	31.4	
	199nm,0.5s								
PBDV	**Barranco-do-Ve**	**2.05**	**275**	Pn	**Pn**	**03**	**22**	**46.9**	**+0.6**
PBDV				Sn	**Sn**	**03**	**23**	**11.3**	**-0.7**
PBDV				Lg	Lg	03	23	19.0	
	199nm,0.5s								
PBDV	**Barranco-do-Ve**	**2.05**	**275**	Pn	**Pn**	**03**	**22**	**46.9**	**+0.6**
PBDV				Sn	**Sn**	**03**	**23**	**11.3**	**-0.7**
PBDV				*e*Sg	**Sg**	**03**	**23**	**19.0**	**+1.5**
	199nm,0.5s								
EBAD	**Badajoz**	**2.10**	**322**	Pn	**Pn**	**03**	**22**	**47.2**	**+0.3**
	3.7nm,0.1s,SNR=16								
EBAD				Lg	Lg	03	23	21.5	
	151nm,0.2s,SNR=191								
EBAD	**Badajoz**	**2.10**	**322**	Pn	**Pn**	**03**	**22**	**47.2**	**+0.3**
	3.7nm,0.1s,SNR=16								
EBAD				Lg	Lg	03	23	21.5	
	151nm,0.2s,SNR=191								
PBEJ	**Beja**	**2.19**	**296**	*e*Pn	**Pn**	**03**	**22**	**48.7**	**+0.6**
PBEJ				*e*Sg	**Sg**	**03**	**23**	**21.8**	**-0.1**
PBEJ				A	A	03	23	31.6	
	88nm,0.6s								
PBEJ	**Beja**	**2.19**	**296**	Pn	**Pn**	**03**	**22**	**48.7**	**+0.6**
PBEJ				Lg	Lg	03	23	21.8	
	44nm,0.6s								
PBEJ	**Beja**	**2.19**	**296**	Pn	**Pn**	**03**	**22**	**48.7**	**+0.6**
PBEJ				*e*Sg	**Sg**	**03**	**23**	**21.8**	**-0.1**
	88nm,0.6s								
PCVE	**Castro Verde**	**2.19**	**285**	*e*Pn	**Pn**	**03**	**22**	**48.8**	**+0.6**
PCVE				*e*Sg	**Sg**	**03**	**23**	**22.9**	**+0.9**
PCVE				A	A	03	23	27.1	
	110nm,0.4s								
PCVE	**Castro Verde**	**2.19**	**285**	Pn	**Pn**	**03**	**22**	**48.8**	**+0.6**
PCVE				Lg	Lg	03	23	22.9	
	110nm,0.4s								
PCVE	**Castro Verde**	**2.19**	**285**	Pn	**Pn**	**03**	**22**	**48.8**	**+0.6**
PCVE				*e*Sg	**Sg**	**03**	**23**	**22.9**	**+0.9**
	110nm,0.4s								
EHUE	**Huescar**	**2.32**	**71**	Pn	**Pn**	**03**	**22**	**51.0**	**+1.0**
	2.4nm,0.1s,SNR=7.9								
EHUE				Lg	Lg	03	23	28.6	
	29nm,0.3s,SNR=7.9								
EHUE	**Huescar**	**2.32**	**71**	Pn	**Pn**	**03**	**22**	**51.0**	**+1.0**
	2.4nm,0.1s,SNR=7.9								
EHUE				Lg	Lg	03	23	28.6	
	29nm,0.3s,SNR=7.9								
PESTR	**Estremoz**	**2.48**	**316**	*e*Pn	**Pn**	**03**	**22**	**53.3**	**+1.1**
PESTR				*e*Sg	**Sg**	**03**	**23**	**31.8**	**+0.4**
PESTR				A	A	03	23	46.9	
	155nm,0.7s								
PESTR	**Estremoz**	**2.48**	**316**	Pn	**Pn**	**03**	**22**	**53.3**	**+1.1**
PESTR				Lg	Lg	03	23	31.8	
	155nm,0.7s								
PESTR	**Estremoz**	**2.48**	**316**	Pn	**Pn**	**03**	**22**	**53.3**	**+1.1**
PESTR				Lg	Lg	03	23	31.8	
	155nm,0.7s								
EVO	**Evora**	**2.53**	**305**	*e*Pn	**Pn**	**03**	**22**	**55.0**	**+2.2**
EVO	**Evora**	**2.53**	**305**	*e*Pg	**Pg**	**03**	**23**	**01.4**	**+1.3**
EVO				*e*Sg	**Sg**	**03**	**23**	**36.6**	**+3.7**
	237nm,0.5s								
EVO	**Evora**	**2.53**	**305**	*e*Pn	**Pn**	**03**	**22**	**54.1**	**+1.3**
EVO				*e*Sg	**Sg**	**03**	**23**	**34.3**	**+1.4**
EVO				A	A	03	23	42.3	
	98nm,0.3s								
EVO	**Evora**	**2.53**	**305**	Pn	**Pn**	**03**	**22**	**54.1**	**+1.3**
EVO				Lg	Lg	03	23	34.3	

EMUR					Lg	Lg	03 24 01.1								
	comp=N,16nm,0.4s,SNR=7.9														
ETOB	**Tobarra**	**3.39**	**62**	Pn	**Pn**	**03 23 05.7 +0.9**									
	comp=N,1.4nm,0.1s,SNR=34														
ETOB				Sn	**Sn**	**03 23 45.5 +0.4**									
	comp=N,4.4nm,0.1s,SNR=7.9														
ETOB				Lg	Lg	03 24 04.6									
	comp=N,14nm,0.3s,SNR=7.9														
ETOB	**Tobarra**	**3.39**	**62**	Pn	**Pn**	**03 23 05.7 +0.9**									
	comp=N,1.4nm,0.1s,SNR=34														
ETOB				Sn	**Sn**	**03 23 45.5 +0.4**									
	comp=N,4.4nm,0.1s,SNR=7.9														
ETOB				Lg	Lg	03 24 04.6									
	comp=N,14nm,0.3s,SNR=7.9														
PTOM	**Tomar**	**3.46**	**317**	*e*Pn	**Pn**	**03 23 07.0 +1.3**									
PTOM				*e*Sn	**Sn**	**03 23 47.5 +0.7**									
PTOM				*e*Sg	**Sg**	**03 24 03.5 +0.6**									
PTOM				A	A	03 24 12.2									
	comp=N,141nm,0.5s														
PTOM	**Tomar**	**3.46**	**317**	Pn	**Pn**	**03 23 07.0 +1.3**									
PTOM				Sn	**Sn**	**03 23 47.5 +0.7**									
PTOM				Lg	Lg	03 24 03.5									
	comp=N,71nm,0.5s														
PTOM	**Tomar**	**3.46**	**317**	Pn	**Pn**	**03 23 07.0 +1.3**									
PTOM				Sn	**Sn**	**03 23 47.5 +0.7**									
PTOM				*e*Sg	**Sg**	**03 24 03.5 +0.6**									
	comp=N,141nm,0.5s														
PMAFR	**Mafra**	**3.60**	**302**	*e*Pn	**Pn**	**03 23 08.7 +1.2**									
PMAFR				*e*Sn	**Sn**	**03 23 49.4 -0.8**									
PMAFR				A	A	03 24 20.8									
	comp=N,111nm,0.4s														
PMAFR	**Mafra**	**3.60**	**302**	Pn	**Pn**	**03 23 08.7 +1.2**									
	comp=N,3.6nm,0.1s,SNR=5.7														
PMAFR				Sn	**Sn**	**03 23 51.2 +1.0**									
	comp=N,8.2nm,0.1s,SNR=7.9														
PMAFR				Lg	Lg	03 24 10.0									
	comp=N,117nm,0.4s,SNR=7.9														
PMAFR	**Mafra**	**3.60**	**302**	Pn	**Pn**	**03 23 08.7 +1.2**									
	comp=N,3.6nm,0.1s,SNR=5.7														
PMAFR				Sn	**Sn**	**03 23 51.2 +1.0**									
	comp=N,8.2nm,0.1s,SNR=7.9														
PMAFR				Lg	Lg	03 24 10.0									
	comp=N,117nm,0.4s,SNR=7.9														
GUD	**Guadarrama**	**3.66**	**15**	Pn	**Pn**	**03 23 10.2 +1.7**									
	comp=N,0.5nm,0.1s,SNR=11														
GUD				Sn	**Sn**	**03 23 47.3 -4.5**									
	comp=N,13nm,0.3s,SNR=9.0														
GUD				Lg	Lg	03 24 05.9									
	comp=N,8.3nm,0.3s,SNR=7.9														
GUD	**Guadarrama**	**3.66**	**15**	Pn	**Pn**	**03 23 10.2 +1.7**									
	comp=N,0.5nm,0.1s,SNR=11														
GUD				Lg	Lg	03 24 05.9									
	comp=N,8.3nm,0.3s,SNR=7.9														
MTE	**Manteigas**	**3.70**	**333**	*e*Pn	**Pn**	**03 23 11.1 +2.1**									
MTE				*e*Sn	**Sn**	**03 23 53.2 +0.4**									
MTE				*e*Sg	**Sg**	**03 24 09.7 -0.8**									
MTE				A	A	03 24 13.9									
	comp=N,178nm,0.7s														
MTE	**Manteigas**	**3.70**	**333**	Pn	**Pn**	**03 23 11.1 +2.1**									
MTE				Sn	**Sn**	**03 23 53.2 +0.4**									
MTE				Lg	Lg	03 24 09.7									
	comp=N,89nm,0.7s														
MTE	**Manteigas**	**3.70**	**333**	Pn	**Pn**	**03 23 11.1 +2.1**									
MTE				Sn	**Sn**	**03 23 53.2 +0.4**									
MTE				*e*Sg	**Sg**	**03 24 09.7 -0.8**									
	comp=N,178nm,0.7s														
PVIS	**Viseu**	**4.11**	**332**	*e*Pn	**Pn**	**03 23 16.2 +1.6**									
PVIS				*e*Sn	**Sn**	**03 24 02.6 -0.2**									
PVIS				*e*Sg	**Sg**	**03 24 21.4 -2.1**									
PVIS				A	A	03 24 30.2									
	comp=N,49nm,0.8s														
PVIS	**Viseu**	**4.11**	**332**	Pn	**Pn**	**03 23 16.2 +1.6**									
PVIS				Sn	**Sn**	**03 24 02.6 -0.2**									
PVIS				Lg	Lg	03 24 21.4									
	comp=N,25nm,0.8s														
PVIS	**Viseu**	**4.11**	**332**	Pn	**Pn**	**03 23 16.2 +1.6**									
PVIS				Sn	**Sn**	**03 24 02.6 -0.2**									
PVIS				*e*Sg	**Sg**	**03 24 21.4 -2.1**									
	comp=N,49nm,0.8s														
MVO	**Moncorvo**	**4.25**	**343**	*e*Pn	**Pn**	**03 23 17.9 +1.3**									
MVO				*e*Sn	**Sn**	**03 24 06.3 -0.1**									
MVO				*e*Sg	**Sg**	**03 24 28.6 +0.4**									
MVO				A	A	03 24 31.4									
	comp=N,105nm,0.5s														
MVO	**Moncorvo**	**4.25**	**343**	Pn	**Pn**	**03 23 17.8 +1.2**									
	comp=N,0.6nm,0.1s,SNR=4.0														
MVO				Sn	**Sn**	**03 24 05.8 -0.6**									
	comp=N,2.2nm,0.1s,SNR=7.9														
MVO				Lg	Lg	03 24 28.7									
	comp=N,92nm,0.4s,SNR=7.9														
MVO	**Moncorvo**	**4.25**	**343**	*e*Pn	**Pn**	**03 23 17.9 +1.3**									
MVO				*e*Sn	**Sn**	**03 24 06.3 -0.1**									
MVO				*e*Sg	**Sg**	**03 24 28.6 +0.4**									
	comp=N,105nm,0.5s														
MVO				Lg	Lg	03 24 28.7									
	comp=N,92nm,0.4s,SNR=7.9														
ETOR	**Torete**	**4.52**	**34**	Pn	**Pn**	**03 23 21.9 +1.6**									
	comp=N,1.8nm,0.1s,SNR=19														
ETOR				Lg	Lg	03 24 37.1									
	comp=N,85nm,0.6s,SNR=7.9														
ETOR	**Torete**	**4.52**	**34**	Pn	**Pn**	**03 23 21.9 +1.6**									
	comp=N,1.8nm,0.1s,SNR=19														
ETOR				Lg	Lg	03 24 37.1									
	comp=N,85nm,0.6s,SNR=7.9														
PVRL	**Vila Real**	**4.55**	**337**	*e*Sn	**Sn**	**03 24 12.7 -0.9**									
PVRL				*e*Sg	**Sg**	**03 24 37.9 +0.4**									
PVRL				A	A	03 24 48.1									
	comp=N,61nm,0.5s														
PVRL	**Vila Real**	**4.55**	**337**	Sn	**Sn**	**03 24 12.7 -0.9**									
PVRL				Lg	Lg	03 24 37.9									
	comp=N,30nm,0.5s														
PVRL	**Vila Real**	**4.55**	**337**	*e*Sn	**Sn**	**03 24 12.7 -0.9**									
PVRL				*e*Sg	**Sg**	**03 24 37.9 +0.4**									
	comp=N,61nm,0.5s														
POLO	**Lamas de Olo**	**4.66**	**337**	*e*Pn	**Pn**	**03 23 23.6 +1.4**									
POLO				*e*Sn	**Sn**	**03 24 15.2 -1.2**									
POLO				*e*Sg	**Sg**	**03 24 39.8 -1.4**									
POLO				A	A	03 24 52.5									
	comp=N,28nm,0.6s														
POLO	**Lamas de Olo**	**4.66**	**337**	*e*Pn	**Pn**	**03 23 23.6 +1.4**									
POLO				*e*Sn	**Sn**	**03 24 15.2 -1.2**									
POLO				*e*Sg	**Sg**	**03 24 39.8 -1.4**									
	comp=N,28nm,0.6s														
PBRG	**Braganca**	**4.81**	**348**	*e*Pn	**Pn**	**03 23 26.1 +1.9**									
PBRG				*e*Sn	**Sn**	**03 24 19.7 -0.4**									
PBRG				*e*Sg	**Sg**	**03 24 43.0 -3.1**									
PBRG				A	A	03 24 49.4									
	comp=N,61nm,0.7s														
PBRG	**Braganca**	**4.81**	**348**	Pn	**Pn**	**03 23 26.1 +1.9**									
PBRG				Sn	**Sn**	**03 24 19.7 -0.4**									
PBRG				Lg	Lg	03 24 43.0									
	comp=N,30nm,0.7s														
PBRG	**Braganca**	**4.81**	**348**	Pn	**Pn**	**03 23 26.1 +1.9**									
PBRG				Sn	**Sn**	**03 24 19.7 -0.4**									
PBRG				*e*Sg	**Sg**	**03 24 43.0 -3.1**									
	comp=N,61nm,0.7s														
EMOS	**Mosqueruela**	**5.02**	**48**	Pn	**Pn**	**03 23 28.8 +1.5**									
	comp=N,0.1nm,0.1s,SNR=4.0														
EMOS				Sn	**Sn**	**03 24 25.4 -0.1**									
	comp=N,0.2nm,0.1s,SNR=7.9														
EMOS				Lg	Lg	03 24 53.8									
	comp=N,9.5nm,0.4s,SNR=7.9														
EMOS	**Mosqueruela**	**5.02**	**48**	Pn	**Pn**	**03 23 28.8 +1.5**									
	comp=N,0.1nm,0.1s,SNR=4.0														
EMOS				Sn	**Sn**	**03 24 25.4 -0.1**									
	comp=N,0.2nm,0.1s,SNR=7.9														
EMOS				Lg	Lg	03 24 53.8									
	comp=N,9.5nm,0.4s,SNR=7.9														
PCAB	**Cabril**	**5.04**	**337**	*e*Sg	**Sg**	**03 24 50.5 -2.8**									
PCAB				A	A	03 24 59.8									
	comp=N,77nm,0.5s														
PCAB	**Cabril**	**5.04**	**337**	Lg	Lg	03 24 50.5									
	comp=N,38nm,0.5s														
PCAB	**Cabril**	**5.04**	**337**	*e*Sg	**Sg**	**03 24 50.5 -2.8**									
	comp=N,77nm,0.5s														
PGAV	**Gavieira, Arco**	**5.35**	**336**	*e*Sn	**Sn**	**03 24 32.0 -1.3**									
PGAV				*e*Sg	**Sg**	**03 24 59.2 -4.0**									
PGAV				A	A	03 25 10.0									
	comp=N,49nm,0.5s														
PGAV	**Gavieira, Arco**	**5.35**	**336**	*e*Sn	**Sn**	**03 24 32.0 -1.3**									
ESAC	**San Caprasio**	**5.97**	**38**	Pn	**Pn**	**03 23 42.9 +2.7**									
	comp=N,0.7nm,0.1s,SNR=7.9														
ESAC	**San Caprasio**	**5.97**	**38**	Pn	**Pn**	**03 23 42.9 +2.7**									
	comp=N,0.7nm,0.1s,SNR=7.9														
EARI	**Arriondas**	**6.19**	**1**	Sn	**Sn**	**03 24 52.2 -1.9**									
	comp=N,0.2nm,0.1s,SNR=7.9														
EARI				Lg	Lg	03 25 32.9									
	comp=N,1.1nm,0.3s,SNR=7.9														
ELAN	**Lanestosa**	**6.30**	**13**	Sn	**Sn**	**03 24 53.4 -3.1**									
	comp=N,0.2nm,0.2s,SNR=7.9														
ELAN				Lg	Lg	03 25 35.3									
	comp=N,6.3nm,0.4s,SNR=7.9														
IEPA	**Eparoz**	**6.48**	**28**	Pn	Pn	03 23 51.0 +3.8									
	comp=N,0.2nm,0.2s,SNR=7.9														
IEPA	**Eparoz**	**6.48**	**28**	Pn	Pn	03 23 51.0 +3.8									
	comp=N,0.2nm,0.2s,SNR=7.9														
IELO	**Elcoad**	**6.55**	**28**	Pn	**Pn**	**03 23 50.2 +2.1**									
	comp=N,0.1nm,0.1s,SNR=7.9														
IELO	**Elcoad**	**6.55**	**28**	Pn	**Pn**	**03 23 50.2 +2.1**									
	comp=N,0.1nm,0.1s,SNR=7.9														
ELIZ	**Elizondo**	**6.73**	**25**	Pn	**Pn**	**03 23 53.5 +3.0**									
	comp=N,0.2nm,0.1s,SNR=7.9														
ELIZ	**Elizondo**	**6.73**	**25**	Pn	**Pn**	**03 23 53.5 +3.0**									
	comp=N,0.2nm,0.1s,SNR=7.9														
EALK	**Alkurruntz**	**6.79**	**25**	Pn	**Pn**	**03 23 53.1 +1.9**									
	comp=N,0.1nm,0.1s,SNR=7.9														
EALK				Sn	**Sn**	**03 25 07.8 -0.7**									
	SNR=7.9														
EALK	**Alkurruntz**	**6.79**	**25**	Pn	**Pn**	**03 23 53.1 +1.9**									
	comp=N,0.1nm,0.1s,SNR=7.9														
SJPF	**Ste Jean**	**6.79**	**27**	*e*Pn	**Pn**	**03 23 53.5 +2.2**									
SJPF				*e*Sg	**Sg**	**03 25 48.4 -1.0**									
	comp=N,15nm,0.6s														
SJPF	**Ste Jean**	**6.79**	**27**	Pn	**Pn**	**03 23 53.5 +2.2**									
SJPF				Lg	Lg	03 25 48.4									
	comp=N,3.8nm,0.6s														
ETSF	**Etsaut**	**6.86**	**31**	*e*Pn	**Pn**	**03 23 54.1 +1.7**									
ETSF				*e*Sg	**Sg**	**03 25 49.9 -1.9**									
	comp=N,9.5nm,0.5s														
ETSF	**Etsaut**	**6.86**	**31**	Pn	**Pn**	**03 23 54.1 +1.7**									
ETSF				Lg	Lg	03 25 49.9									
	comp=N,2.4nm,0.5s														
EBIE	**Bielsa**	**7.00**	**36**	Pn	**Pn**	**03 23 56.9 +2.4**									
	comp=N,0.1nm,0.1s,SNR=7.9														
EBIE	**Bielsa**	**7.00**	**36**	Pn	**Pn**	**03 23 56.9 +2.4**									
	comp=N,0.1nm,0.1s,SNR=7.9														
EMIR	**Miracle**	**7.17**	**46**	Pn	**Pn**	**03 23 59.3 +2.6**									
	comp=N,0.1nm,0.1s,SNR=7.9														
EMIR	**Miracle**	**7.17**	**46**	Pn	**Pn**	**03 23 59.3 +2.6**									
	comp=N,0.1nm,0.1s,SNR=7.9														
CSOR	**Sort**	**7.27**	**42**	Pn	**Pn**	**03 23 59.6 +1.6**									
	comp=N,0.1nm,0.1s,SNR=7.9														
CSOR	**Sort**	**7.27**	**42**	Pn	**Pn**	**03 23 59.6 +1.6**									
	comp=N,0.1nm,0.1s,SNR=7.9														
EPF	**Esparros**	**7.36**	**35**	*e*Pn	**Pn**	**03 24 01.1 +1.9**									
EPF				*e*Sg	**Sg**	**03 26 06.1 -1.6**									
	comp=N,13nm,0.6s														
EPF	**Esparros**	**7.36**	**35**	Pn	**Pn**	**03 24 01.1 +1.9**									
EPF				Lg	Lg	03 26 06.1									
	comp=N,3.2nm,0.6s														
CAF	**Calviac**	**9.62**	**33**	*e*Pn	**Pn**	**03 24 31.1 +0.9**									
CAF	**Calviac**	**9.62**	**33**	Pn	**Pn**	**03 24 31.1 +0.9**									
QUIF	**Quistinic**	**10.93**	**8**	*e*Pn	**Pn**	**03 24 48.6 +0.6**									
QUIF	**Quistinic**	**10.93**	**8**	Pn	**Pn**	**03 24 48.6 +0.6**									

WEL 01 03:31:51.0±0.4, 36°88S×179°60E, h5km, ML3.5/5, 1D, Error ellipse: s-maj=4.6km s-min=3.6km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.24**	**236**	P*	Pg	03 32 13.9	-0.9
MXZ				S*	Sg	03 32 30.4	-0.5
CNGZ	**Carnagh Statio**	**1.95**	**214**	⇓PN	Pn	03 32 24.8	0.0
MWZ	**Matawai**	**2.20**	**228**	PN	Pn	03 32 27.7	-0.6
MWZ				SN	Sn	03 32 55.2	-0.7
URZ	**Urewera**	**2.41**	**234**	PN	Pn	03 32 30.6	-0.5
URZ				SN	Sn	03 33 00.1	-0.9
PRGZ	**Paritu Road**	**2.45**	**213**	PN	Pn	03 32 30.7	-1.1
KNZ	**Kokohu**	**2.62**	**215**	PN	Pn	03 32 32.4	-1.7
MHGZ	**Mahia Peninsul**	**2.63**	**210**	PN	Pn	03 32 33.3	-0.9
KUZ	**Kuaotunu**	**3.12**	**271**	PN	Pn	03 32 39.3	-1.6
MCHZ	**McNeill Hill**	**3.43**	**221**	PN	Pn	03 32 44.0	-1.2
KAHZ	**Kahuranaki**	**3.61**	**216**	PN	Pn	03 32 45.3	-2.4
BHHZ	**Black Hill Sta**	**3.81**	**226**	PN	Pn	03 32 46.6	-3.9

*NEIC **01** 03:36:14.5, 19°.26N×66°.32W, h98km, MD3.5(RSPR), After RSPR.*

RSPR 01 03:36:14.5, 19°.26N×66°.32W, h98km±4km, MD3.5/5, 12C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBYP	**Canovanas**	**1.07**	**156**	⇑*e*P	Pn	03 36 35.1	-0.6
CBYP	**Canovanas**	**1.07**	**156**	⇑*e*P	Pn	03 36 35.1	-0.6
CBYP				*e*S	Sn	03 36 51.1	-0.4
LRS	**Lares**	**1.08**	**208**	*e*Pn	Pn	03 36 33.5	-2.2
SJG	**San Juan**	**1.15**	**172**	⇑*e*P	Pn	03 36 36.0	-0.4
SJG	**San Juan**	**1.15**	**172**	⇑*e*P	Pn	03 36 36.0	-0.4
CELP	**Cerrillos**	**1.20**	**192**	⇑*e*P	Pn	03 36 36.7	-0.4
CELP	**Cerrillos**	**1.20**	**192**	⇑*e*P	Pn	03 36 36.7	-0.4
LSP	**Las Mesas**	**1.30**	**214**	⇓*e*P	Pn	03 36 37.7	-0.6
LSP	**Las Mesas**	**1.30**	**214**	⇓*e*P	Pn	03 36 37.7	-0.6
MTP	**Monte Pirata**	**1.36**	**148**	⇑*e*P	Pn	03 36 38.5	-0.5
MTP	**Monte Pirata**	**1.36**	**148**	⇑*e*P	Pn	03 36 38.5	-0.5
MTP				*e*S	Sn	03 36 57.2	-0.3
CRPR	**Cabo Rojo, PR**	**1.45**	**211**	⇑*e*P	Pn	03 36 39.4	-0.6
CRPR	**Cabo Rojo, PR**	**1.45**	**211**	⇑*e*P	Pn	03 36 39.4	-0.6
CRPR				*e*S	Sn	03 36 59.3	-0.2
STVI	**Saint Thomas**	**1.57**	**125**	⇑*e*P	Pn	03 36 41.2	-0.4
STVI	**Saint Thomas**	**1.57**	**125**	⇑*e*P	Pn	03 36 41.2	-0.4
STVI				*e*S	Sn	03 37 01.8	-0.3

MAN 01 03:41:02, 10°.99N×124°.72E, h2km, mb4.4, ML3.3, MS3.2, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.12**	**301**	*e*P	Pg	03 41 05.2	+0.7
OCLP				*e*S	Sg	03 41 06.6	+0.4
PLP	**Palo**	**0.31**	**55**	⇓*e*P	Pg	03 41 09.0	+1.0
PLP				*i* S	Sg	03 41 12.7	+0.6
MSLP	**Maasin**	**0.86**	**171**	*e*P	Pn	03 41 20.5	-0.6
MSLP				*e*S	Sn	03 41 34.1	-0.2
TBP	**Tagbilaran**	**1.54**	**213**	*e*P	Pg	03 41 33.0	+1.5

*NNC **01** 04:01:39.5±5.4, 38°.95N×70°.12E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=40.5km s-min=34.9km az=10.0*

ISC 01 04:01:44.3±2.7, 39°.1N±0°.2×70°.21E±0°.09, h13km, n13, σ1§37/27, 3C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.00**	**3**	Pn	**Pn**	**04 02 47.4**	**+2.1**
	1.0nm,0.3s,baz=173,slow=12,SNR=69						
KK31				Pg	**Pb**	**04 02 56.3**	**+1.6**
	1.8nm,0.3s,baz=184,slow=19,SNR=3.7						
KK31				⇓Sn	**Sb**	**04 03 39.9**	**-3.1**
	9.7nm,0.6s						
KK31				⇓Lg	Lg	04 03 49.7	
	8.7nm,0.6s,baz=176,slow=28,SNR=5.2						
AML	**Almayashu**	**4.02**	**40**	P	**Pn**	**04 02 45.3**	**-0.6**
	SNR=32						
AML				P	**Pn**	**04 02 45.3**	**-0.6**
	SNR=32						
EKS2	**Erkin-Say**	**4.46**	**36**	P	**Pn**	**04 02 50.2**	**-1.6**
	SNR=8.0						
EKS2				P	**Pn**	**04 02 50.2**	**-1.6**
	SNR=8.0						
UCH	**Uchtor**	**4.52**	**45**	P	**Pn**	**04 02 53.0**	**+0.1**
	SNR=5.6						
UCH				P	**Pn**	**04 02 53.0**	**+0.1**
	SNR=5.6						
AAK	**Ala-Archa**	**4.79**	**41**	P	**Pn**	**04 02 55.7**	**-0.7**
	SNR=16						
AAK				P	**Pn**	**04 02 55.7**	**-0.7**
	SNR=16						
KZA	**Kyzart**	**4.85**	**51**	P	**Pn**	**04 02 57.8**	**+0.4**
	SNR=6.8						
KZA				P	**Pn**	**04 02 57.8**	**+0.4**
	SNR=6.8						
KBK	**Karagaybulak**	**5.05**	**44**	P	**Pn**	**04 02 59.6**	**-0.2**
	SNR=15						
KBK				P	**Pn**	**04 02 59.6**	**-0.2**
	SNR=15						
CHMS	**Chumysh**	**5.19**	**40**	P	**Pn**	**04 03 02.7**	**+1.1**
	SNR=5.5						
CHMS				P	**Pn**	**04 03 02.7**	**+1.1**
	SNR=5.5						
USP	**Ospenovka**	**5.27**	**36**	P	**Pn**	**04 03 01.7**	**-1.1**
	SNR=7.5						
USP				P	**Pn**	**04 03 01.7**	**-1.1**
	SNR=7.5						
TKM2	**Tokmak 2**	**5.58**	**45**	⇓Pn	**Pn**	**04 03 05.7**	**-1.5**
	5.3nm,0.4s						
TKM2				⇑Sn	**Sn**	**04 04 13.4**	**+2.2**
	4.6nm,0.8s						
TKM2	**Tokmak 2**	**5.58**	**45**	P	**Pn**	**04 03 08.2**	**+1.0**
	SNR=6.4						
TKM2				P	**Pn**	**04 03 08.2**	**+1.0**
	SNR=6.4						
AB31	**Akbulak array**	**12.53**	**327**	⇑Pn	**Pn**	**04 04 41.0**	**-1.2**
	0.2nm,0.2s,baz=152,slow=11,SNR=22						
AB31				⇓Sn	**Sn**	**04 07 02.5**	**+0.9**
	1.5nm,0.7s,baz=152,slow=22,SNR=3.6						
AKTO	**Aktyubinsk**	**14.24**	**327**	⇑Pn	**Pn**	**04 05 03.5**	**-2.1**
	0.4nm,0.8s						
AKTO				⇓Sn	**Sn**	**04 07 44.6**	**+1.4**
	0.2nm,0.8s						

IDC 01 04:06:01.2±4.9, 0.74S×131°.92E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.5/17, mbtmp3.5/3, ML3.7/1, Error ellipse: s-maj=321.1km s-min=26.5km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.23**	**173**	P	P	04 10 26.8	-0.4
	0.2nm,0.3s,baz=354,slow=12,SNR=4.7						
WRA				S	Sn	04 13 56.1	-8.4
	baz=347,slow=22,SNR=3.2						
ASAR	**Alice Springs**	**22.87**	**175**	P	P	04 11 06.8	+0.3
	1.7nm,0.6s,baz=358,slow=11,SNR=22						
MKAR	**Makanchi Array**	**64.17**	**324**	P	P	04 16 37.8	-0.1
	0.2nm,0.4s,baz=116,slow=8.2,SNR=6.1						

IDC 01 04:19:47.9±3.0, 1°.01N×127°.24E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, Error ellipse: s-maj=298.3km s-min=26.3km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.95**	**162**	P	P	04 24 42.5	-0.9
	0.2nm,0.3s,baz=340,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**25.37**	**166**	P	P	04 25 17.7	+0.7
	0.2nm,0.3s,baz=346,slow=11,SNR=5.7						
MKAR	**Makanchi Array**	**60.07**	**326**	P	P	04 29 56.9	-0.1
	0.2nm,0.5s,baz=119,slow=8.6,SNR=6.3						

*MDD **01** 04:31:42.7±2.2, 37°.16N×13°.13W, h0km, mb3.9/8, Error ellipse: s-maj=21.6km s-min=16.3km az=22.0, PRXIMO*
*INMG **01** 04:31:44.4±0.9, 36°.99N×13°.51W, h10km, ML2.6, Error ellipse: s-maj=6.0km s-min=5.4km az=8.0*
*

	7.1nm,0.1s							
EGRO	**El Granado**	**4.49**	**84**	S	**Sn**	**04 33 39.7**	**-2.7**
	6.1nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**4.49**	**84**	S	**Sn**	**04 33 39.7**	**-2.7**
	6.1nm,0.2s,SNR=7.9							
PESTR	**Estremoz**	**4.66**	**67**	*e*Pn	**Pn**	**04 32 54.3**	**+1.8**
PESTR				*e*Sn	**Sn**	**04 33 46.3**	**-0.3**
PESTR	**Estremoz**	**4.66**	**67**	P	**Pn**	**04 32 54.3**	**+1.8**
PESTR				S	**Sn**	**04 33 46.3**	**-0.3**
PESTR	**Estremoz**	**4.66**	**67**	P	**Pn**	**04 32 54.3**	**+1.8**
PESTR				S	**Sn**	**04 33 46.3**	**-0.3**
PBAR	**Barrancos**	**4.91**	**77**	*e*Pn	**Pn**	**04 32 57.8**	**+1.9**
PBAR				*e*Sn	**Sn**	**04 33 51.7**	**-1.0**
PBAR				A	A	04 34 00.6	
	3.1nm,0.2s						
PBAR	**Barrancos**	**4.91**	**77**	P	**Pn**	**04 32 57.8**	**+1.9**
PBAR				S	**Sn**	**04 33 51.7**	**-1.0**
	3.1nm,0.2s						
PBAR	**Barrancos**	**4.91**	**77**	P	**Pn**	**04 32 57.8**	**+1.9**
PBAR				S	**Sn**	**04 33 51.7**	**-1.0**
	3.1nm,0.2s						
PMRV	**Marv??o**	**5.01**	**62**	*e*Pn	**Pn**	**04 32 59.2**	**+1.9**
PMRV				*e*Sn	**Sn**	**04 33 55.0**	**-0.3**
PMRV				A	A	04 33 57.6	
	2.5nm,0.1s						
PMRV	**Marv??o**	**5.01**	**62**	P	**Pn**	**04 32 59.2**	**+1.9**
PMRV				S	**Sn**	**04 33 55.0**	**-0.3**
	2.5nm,0.1s						
PMRV	**Marv??o**	**5.01**	**62**	P	**Pn**	**04 32 59.2**	**+1.9**
PMRV				S	**Sn**	**04 33 55.0**	**-0.3**
	2.5nm,0.1s						
EBAD	**Badajoz**	**5.05**	**70**	S	**Sn**	**04 33 55.0**	**-1.4**
	3.9nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.05**	**70**	S	**Sn**	**04 33 55.0**	**-1.4**
	3.9nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.15**	**82**	P	**Pn**	**04 33 00.5**	**+1.3**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**04 33 56.8**	**-1.8**
	1.5nm,0.1s,SNR=26						
EMIN	**Mina Concepcio**	**5.15**	**82**	P	**Pn**	**04 33 00.5**	**+1.3**
	0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**04 33 56.8**	**-1.8**
	1.5nm,0.1s,SNR=26						
PVIS	**Viseu**	**5.36**	**48**	*e*Pn	**Pn**	**04 33 03.5**	**+1.3**
PVIS				*e*Sn	**Sn**	**04 34 03.5**	**-0.5**
PVIS	**Viseu**	**5.36**	**48**	P	**Pn**	**04 33 03.5**	**+1.3**
PVIS				S	**Sn**	**04 34 03.5**	**-0.5**
PVIS	**Viseu**	**5.36**	**48**	P	**Pn**	**04 33 03.5**	**+1.3**
PVIS				S	**Sn**	**04 34 03.5**	**-0.5**
PGAV	**Gavieira, Arco**	**6.04**	**37**	*e*Pn	**Pn**	**04 33 12.9**	**+1.3**
PGAV	**Gavieira, Arco**	**6.04**	**37**	*e*Pn	**Pn**	**04 33 12.9**	**+1.3**
MVO	**Moncorvo**	**6.15**	**48**	*e*Pn	**Pn**	**04 33 14.5**	**+1.4**
MVO				*e*Sn	**Sn**	**04 34 22.1**	**-1.5**
MVO	**Moncorvo**	**6.15**	**48**	P	**Pn**	**04 33 13.4**	**+0.3**
	0.9nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**04 34 21.2**	**-2.4**
	0.8nm,0.1s,SNR=4.0						
MVO	**Moncorvo**	**6.15**	**48**	P	**Pn**	**04 33 13.4**	**+0.3**
	0.9nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.15**	**48**	*e*Pn	**Pn**	**04 33 14.5**	**+1.4**
MVO				S	**Sn**	**04 34 21.2**	**-2.4**
	0.8nm,0.1s,SNR=4.0						
MVO				*e*Sn	Sb	04 34 22.1	-21
ECAL	**Calabor**	**6.82**	**44**	P	**Pn**	**04 33 23.0**	**+0.7**
	0.8nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**6.82**	**44**	P	**Pn**	**04 33 23.0**	**+0.7**
	0.8nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.83**	**79**	P	**Pn**	**04 33 22.8**	**+0.4**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**04 34 38.7**	**-1.5**
	1.9nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.83**	**79**	P	**Pn**	**04 33 22.8**	**+0.4**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**04 34 38.7**	**-1.5**
	1.9nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**7.58**	**68**	P	**Pn**	**04 33 33.6**	**+0.8**
	0.9nm,0.1s,baz=256,slow=13,SNR=5.2						
ESDC	**Sonseca Array**	**7.58**	**68**	P	**Pn**	**04 33 33.6**	**+0.8**
	0.9nm,0.1s,baz=256,slow=13,SNR=5.2						
EPON	**Pontenova**	**7.62**	**35**	P	**Pn**	**04 33 32.8**	**-0.4**
	0.4nm,0.1s,SNR=7.9						
EPON				S	**Sn**	**04 34 57.5**	**-2.1**
	0.9nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**7.62**	**35**	P	**Pn**	**04 33 32.8**	**-0.4**
	0.4nm,0.1s,SNR=7.9						
EPON				S	**Sn**	**04 34 57.5**	**-2.1**
	0.9nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**7.77**	**61**	S	**Sn**	**04 35 02.3**	**-1.2**
	0.5nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**7.77**	**61**	S	**Sn**	**04 35 02.3**	**-1.2**
	0.5nm,0.3s,SNR=7.9						
EQES	**Quesada**	**8.00**	**83**	S	**Sn**	**04 35 07.6**	**-1.4**
	0.8nm,0.2s,SNR=4.1						
EQES	**Quesada**	**8.00**	**83**	S	**Sn**	**04 35 07.6**	**-1.4**
	0.8nm,0.2s,SNR=4.1						

*MDD **01** 04:39:09.8±3.8,37.˚10N×13.˚10W,h0km,mb3.8/2,Error ellipse: s-maj=32.4km s-min=24.9km az=17.0,PRXIMO*
*INMG **01** 04:39:13.8±1.3,36.˚96N×13.˚37W,h10km,ML2.4, Error ellipse: s-maj=15.3km s-min=10.9km az=45.0*
*CSEM **01** 04:39:13.2±0.7,37.˚09N×12.˚82W,h10km, mb3.8/2, Error ellipse: s-maj=14.4km s-min=9.0km az=5.0*

ISC 01 04:39:12.4±4.3,37.˚1N±0.˚1×12.˚9W±0.˚2,h10km,n46, σ0s87/57,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.25**	**89**	*e*Sn	**Sn**	**04 40 42.0**	**-0.1**
PFVI				A	A	04 40 45.3	
	12nm,0.2s						
PFVI	**Vila Bisbo**	**3.25**	**89**	P	**Pn**	**04 40 02.4**	**-1.0**
	1.5nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**04 40 42.0**	**-0.1**
	13nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.25**	**89**	P	**Pn**	**04 40 02.4**	**-1.0**
	1.5nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**04 40 42.0**	**-0.1**
	13nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.34**	**82**	*e*Sn	**Sn**	**04 40 44.5**	**+0.1**
PTEO				A	A	04 40 47.2	
	15nm,0.3s						
PTEO	**Sao Teotonio**	**3.34**	**82**	S	**Sn**	**04 40 44.5**	**+0.1**
	7.3nm,0.3s						
PTEO	**Sao Teotonio**	**3.34**	**82**	S	**Sn**	**04 40 44.5**	**+0.1**
	7.3nm,0.3s						
PMAFR	**Mafra**	**3.38**	**56**	*e*Pn	**Pn**	**04 40 06.7**	**+1.6**
PMAFR				*e*Sn	**Sn**	**04 40 45.8**	**+0.5**
PMAFR				A	A	04 40 48.1	
	25nm,0.8s						
PMAFR	**Mafra**	**3.38**	**56**	P	**Pn**	**04 40 04.7**	**-0.5**
	1.3nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**04 40 43.8**	**-1.5**
	11nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**3.38**	**56**	P	**Pn**	**04 40 04.7**	**-0.5**
	1.3nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**3.38**	**56**	*e*Pn	**Pn**	**04 40 06.7**	**+1.6**
PMAFR				S	**Sn**	**04 40 43.8**	**-1.5**
	11nm,0.3s,SNR=7.9						
PMAFR				*e*Sn	**Sn**	**04 40 45.8**	**+0.5**
	25nm,0.8s						
MORF	**Marmelete**	**3.39**	**86**	*e*Sn	**Sn**	**04 40 45.8**	**+0.2**
MORF				A	A	04 40 47.2	
	13nm,0.9s						
MORF	**Marmelete**	**3.39**	**86**	S	**Sn**	**04 40 45.8**	**+0.2**
	13nm,0.9s						
MORF	**Marmelete**	**3.39**	**86**	S	**Sn**	**04 40 45.8**	**+0.2**
	13nm,0.9s						
PNCL	**Nicolau / Gran**	**3.59**	**73**	*e*Sn	**Sn**	**04 40 50.5**	**-0.1**
PNCL	**Nicolau / Gran**	**3.59**	**73**	*e*Sn	**Sn**	**04 40 50.5**	**-0.1**
PCVE	**Castro Verde**	**3.89**	**81**	*e*Sn	**Sn**	**04 40 57.9**	**-0.1**
PCVE				A	A	04 41 00.7	
	5.4nm,0.8s						
PCVE	**Castro Verde**	**3.89**	**81**	S	**Sn**	**04 40 57.9**	**-0.1**
	5.4nm,0.8s						
PCVE	**Castro Verde**	**3.89**	**81**	S	**Sn**	**04 40 57.9**	**-0.1**
	5.4nm,0.8s						
PBDV	**Barranco-do-Ve**	**3.96**	**87**	*e*Sn	**Sn**	**04 40 59.1**	**-0.6**
PBDV				A	A	04 41 00.3	
	6.1nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.96**	**87**	S	**Sn**	**04 40 59.1**	**-0.6**
	6.1nm,0.5s						
PBDV	**Barranco-do-Ve**	**3.96**	**87**	S	**Sn**	**04 40 59.1**	**-0.6**
	6.1nm,0.5s						
PBEJ	**Beja**	**4.09**	**76**	*e*Sn	**Sn**	**04 41 03.1**	**+0.3**
PBEJ	**Beja**	**4.09**	**76**	S	**Sn**	**04 41 03.1**	**+0.3**
PBEJ	**Beja**	**4.09**	**76**	S	**Sn**	**04 41 03.1**	**+0.3**
EVO	**Evora**	**4.10**	**69**	*e*Sn	**Sn**	**04 41 03.4**	**+0.2**
EVO				A	A	04 41 04.8	
	5.1nm,0.3s						
EVO	**Evora**	**4.10**	**69**	S	**Sn**	**04 41 03.4**	**+0.2**
	5.1nm,0.3s						
EVO	**Evora**	**4.10**	**69**	S	**Sn**	**04 41 03.4**	**+0.2**
	5.1nm,0.3s						
PVAQ	**Vaqueiros**	**4.13**	**85**	*e*Sn	**Sn**	**04 41 03.6**	**-0.3**
PVAQ				A	A	04 41 08.2	
	5.2nm,0.5s						
PVAQ	**Vaqueiros**	**4.13**	**85**	S	**Sn**	**04 41 03.6**	**-0.3**
	5.2nm,0.5s						
PVAQ	**Vaqueiros**	**4.13**	**85**	S	**Sn**	**04 41 03.6**	**-0.3**
	5.2nm,0.5s						
PMTG	**Montargil**	**4.15**	**61**	*e*Pn	**Pn**	**04 40 16.9**	**+1.1**
PMTG				*e*Sn	**Sn**	**04 41 05.3**	**+0.9**
PMTG				A	A	04 41 06.0	
	2.1nm,0.1s						
PMTG	**Montargil**	**4.15**	**61**	*e*Pn	**Pn**	**04 40 16.9**	**+1.1**
PMTG				*e*Sn	**Sn**	**04 41 05.3**	**+0.9**
	2.1nm,0.1s						
EGRO	**El Granado**	**4.33**	**83**	S	**Sn**	**04 41 08.4**	**-0.2**
	3.6nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.33**	**83**	S	**Sn**	**04 41 08.4**	**-0.2**
	3.6nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**4.53**	**66**	*e*Sn	**Sn**	**04 41 13.5**	**-0.2**
PESTR				A	A	04 41 22.6	
	2.7nm,0.8s						
PESTR	**Estremoz**	**4.53**	**66**	S	**Sn**	**04 41 13.5**	**-0.2**
	2.7nm,0.8s						
PESTR	**Estremoz**	**4.53**	**66**	S	**Sn**	**04 41 13.5**	**-0.2**
	2.7nm,0.8s						
PBAR	**Barrancos**	**4.75**	**76**	*e*Sn	**Sn**	**04 41 19.3**	**0.0**
PBAR				A	A	04 41 25.1	
	3.0nm,1.2s						
PBAR	**Barrancos**	**4.75**	**76**	S	**Sn**	**04 41 19.3**	**0.0**
	3.0nm,1.2s						
PBAR	**Barrancos**	**4.75**	**76**	S	**Sn**	**04 41 19.3**	**0.0**
	3.0nm,1.2s						
PMRV	**Marv??o**	**4.89**	**60**	*e*Pn	**Pn**	**04 40 27.0**	**+1.0**
PMRV				*e*Sn	**Sn**	**04 41 21.4**	**-1.3**
PMRV				A	A	04 41 24.6	
	2.3nm,0.4s						
PMRV	**Marv??o**	**4.89**	**60**	P	**Pn**	**04 40 27.0**	**+1.0**
PMRV				S	**Sn**	**04 41 21.4**	**-1.3**
	2.3nm,0.4s						
PMRV	**Marv??o**	**4.89**	**60**	P	**Pn**	**04 40 27.0**	**+1.0**
PMRV				S	**Sn**	**04 41 21.4**	**-1.3**
	2.3nm,0.4s						
EMIN	**Mina Concepcio**	**4.99**	**81**	S	**Sn**	**04 41 24.3**	**-0.6**
	0.8nm,0.1s,SNR=6.5						
EMIN	**Mina Concepcio**	**4.99**	**81**	S	**Sn**	**04 41 24.3**	**-0.6**
	0.8nm,0.1s,SNR=6.5						
MVO	**Moncorvo**	**6.07**	**47**	S	**Sn**	**04 41 48.2**	**-3.7**
	1.0nm,0.2s,SNR=7.9						

*ISCJB **01** 04:42:58.6±0.3,37.˚14N±0.˚02×5.˚39W±0.˚02,h5km±2km, Error ellipse: s-maj=3.4km s-min=2.2km az=9.6*
*CSEM **01** 04:42:59.9±0.1,37.˚08N×5.˚38W,h8km, ML3.7/18, Error ellipse: s-maj=2.3km s-min=1.5km az=3.0*
*MDD **01** 04:43:01.0±0.3,37.˚03N×5.˚39W,h10km±2km, mbLg3.1/23, Error ellipse: s-maj=3.7km s-min=2.4km az=5.0,PRXIMO*
*LDG **01** 04:43:00.9±0.1,37.˚02N×5.˚41W,h2km, Ml3.2/4, Error ellipse: s-maj=2.7km s-min=1.7km az=2.0*
*IGIL **01** 04:43:02.1,37.˚03N×5.˚40W,h7km, ML3.1*
*INMG **01** 04:43:02.8±1.6,37.˚07N×5.˚39W,h22km±4km, ML3.0, Error ellipse: s-maj=3.4km s-min=2.0km az=1.0*

ISC 01 04:42:59.3±0.9,37.˚06N±0.˚02×5.˚35W±0.˚02,h11km±7km, n111,σ1s07/174,3D,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.16**	**197**	||Pg	**Pg**	**04 43 02.9**	**-0.1**
LIJA				Lg	Lg	04 43 05.8	
LIJA	**Lijar**	**0.16**	**197**	*i* P	**Pg**	**04 43 02.9**	**-0.1**
LIJA				Lg	Lg	04 43 05.8	
LIJA				*i* S	**Sg**	**04 43 05.8**	**+0.3**
EJIF	**Jimena Fronter**	**0.61**	**189**	Pg	**Pb**	**04 43 12.0**	**0.0**
	52nm,0.4s,SNR=7.9						
EJIF				Lg	Lg	04 43 20.0	
	152nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.61**	**189**	Pg	**Pb**	**04 43 12.0**	**0.0**
	52nm,0.4s,SNR=7.9						
EJIF				Lg	Lg	04 43 20.0	
	152nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**0.67**	**137**	Pg	**Pb**	**04 43 12.9**	**-0.2**
	26nm,0.2s,SNR=115						
EMIJ				Lg	Lg	04 43 21.7	
	51nm,0.2s,SNR=9.8						
EMIJ	**Mijas**	**0.67**	**137**	Pg	**Pb**	**04 43 12.9**	**-0.2**
	26nm,0.2s,SNR=115						
EMIJ				Lg	Lg	04 43 21.7	
	51nm,0.2s,SNR=9.8						
EMAL	**Malaga-Limoner**	**0.79**	**111**	||Pg	**Pn**	**04 43 16.1**	**-0.3**
EMAL				Lg	Lg	04 43 27.2	
EMAL	**Malaga-Limoner**	**0.79**	**111**	*i* P	**Pn**	**04 43 16.1**	**-0.3**
EMAL				Lg	Lg	04 43 27.2	
EMAL				*e*S	**Sn**	**04 43 27.2**	**-1.0**
CNIL	**Conil**	**0.89**	**220**	Pg	**Pn**	**04 43 18.4**	**+0.7**
CNIL				Lg	Lg	04 43 28.3	
CNIL	**Conil**	**0.89**	**220**	*i* P	**Pn**	**04 43 18.4**	**+0.7**
CNIL				Lg	Lg	04 43 28.3	
CNIL				*e*S	**Sg**	**04 43 28.3**	**+0.2**
ELUQ	**Luque**	**1.00**	**59**	||Pg	**Pn**	**04 43 20.0**	**+0.7**
	158nm,0.3s,SNR=18						
ELUQ				Lg	Lg	04 43 36.6	
	320nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**1.00**	**59**	Pg	**Pn**	**04 43 20.0**	**+0.7**
	158nm,0.3s,SNR=18						
ELUQ				Lg	Lg	04 43 36.6	
	320nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**1.27**	**29**	Pg	**Pg**	**04 43 23.7**	**0.0**
	18nm,0.2s,SNR=177						
EADA				Lg	Lg	04 43 42.6	
	174nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**1.27**	**29**	Pg	**Pg**	**04 43 23.7**	**0.0**
	18nm,0.2s,SNR=177						
EADA				Lg	Lg	04 43 42.6	
	174nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.27**	**304**	Pg	**Pn**	**04 43 23.1**	**+0.1**
	21nm,0.2s,SNR=132						
EMIN				Lg	Lg	04 43 41.2	
	116nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.27**	**304**	Pg	**Pn**	**04 43 23.1**	**+0.1**
	21nm,0.2s,SNR=132						
EMIN				Lg	Lg	04 43 41.2	
	116nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**1.45**	**98**	Pg	**Pg**	**04 43 27.8**	**+0.7**
	13nm,0.2s,SNR=7.9						
EGUA				Lg	Lg	04 43 50.0	
	478nm,0.5s,SNR=7.9						
EGUA	**Guajares**	**1.45**	**98**	Pg	**Pg**	**04 43 27.8**	**+0.7**
	13nm,0.2s,SNR=7.9						
EGUA				Lg	Lg	04 43 50.0	
	478nm,0.5s,SNR=7.9						
PBAR	**Barrancos**	**1.75**	**310**	*e*Pn	**Pn**	**04 43 29.7**	**+0.2**
PBAR				*e*Sg	**Sg**	**04 43 56.0**	**+0.5**
PBAR				A	A	04 43 59.8	
	84nm,0.4s						
PBAR	**Barrancos**	**1.75**	**310**	Pn	**Pn**	**04 43 29.7**	**+0.2**
PBAR				Lg	Lg	04 43 56.0	
	84nm,0.4s						
PBAR	**Barrancos**	**1.75**	**310**	Pn	**Pn**	**04 43 29.7**	**+0.2**
PBAR				*e*Sg	**Sg**	**04 43 56.0**	**+0.5**
	84nm,0.4s						
EGRO	**El Granado**	**1.77**	**286**	Pn	**Pn**	**04 43 30.3**	**+0.5**
	0.4nm,0.1s,SNR=13						
EGRO				Pg	**Pg**	**04 43 33.8**	**+0.5**
	3.2nm,0.1s,SNR=7.9						
EGRO				Lg	Lg	04 43 56.3	
	132nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**1.77**	**286**	Pn	**Pn**	**04 43 30.3**	**+0.5**
	0.4nm,0.1s,SNR=13						
PVAQ	**Vaqueiros**	**1.92**	**281**	*e*Pn	**Pn**	**04 43 32.4**	**+0.4**
PVAQ				*e*Sn	**Sn**	**04 43 54.8**	**-1.3**
PVAQ				*e*Sg	**Sg**	**04 44 01.4**	**+0.2**
PVAQ				A	A	04 44 03.7	
	105nm,0.3s						
PVAQ	**Vaqueiros**	**1.92**	**281**	Pn	**Pn**	**04 43 32.4**	**+0.4**
PVAQ				Sn	**Sn**	**04 43 54.8**	**-1.3**
PVAQ				Lg	Lg	04 44 01.4	
	105nm,0.3s						
PVAQ	**Vaqueiros**	**1.92**	**281**	Pn	**Pn**	**04 43 32.4**	**+0.4**
PVAQ				Sn	**Sn**	**04 43 54.8**	**-1.3**
PVAQ				*e*Sg	**Sg**	**04 44 01.4**	**+0.2**
	105nm,0.3s						
EQES	**Quesada**	**1.96**	**67**	Pn	**Pn**	**04 43 33.7**	**+1.1**
	0.8nm,0.1s,SNR=42						
EQES				Lg	Lg	04 44 05.4	
	124nm,0.3s,SNR=7.9						
EQES	**Quesada**	**1.96**	**67**	Pn	**Pn**	**04 43 33.7**	**+1.1**
	0.8nm,0.1s,SNR=42						
EQES				Lg	Lg	04 44 05.4	
	124nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.98**	**94**	Pn	**Pb**	**04 43 35.0**	**-0.4**
	0.1nm,0.1s,SNR=7.9						
EBER				Pg	**Pg**	**04 43 38.8**	**+1.6**
	4.9nm,0.2s,SNR=18						
EBER				Lg	Lg	04 44 06.2	
	45nm,0.4s,SNR=7.9						
EBER	**Berja**	**1.98**	**94**	Pn	**Pb**	**04 43 35.0**	**-0.4**
	0.1nm,0.1s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**2.07**	**276**	*e*Pn	**Pn**	**04 43 34.2**	**+0.2**
PBDV				*e*Sn	**Sn**	**04 43 58.4**	**-1.4**
PBDV				*e*Sg	**Sg**	**04 44 06.0**	**0.0**
PBDV				A	A	04 44 08.4	
	108nm,0.7s						
PBDV	**Barranco-do-Ve**	**2.07**	**276**	Pn	**Pn**	**04 43 34.2**	**+0.2**
PBDV				Sn	**Sn**	**04 43 58.4**	**-1.4**
PBDV				Lg	Lg	04 44 06.0	
	108nm,0.7s						
PBDV	**Barranco-do-Ve**	**2.07**	**276**	Pn	**Pn**	**04 43 34.2**	**+0.2**
PBDV				Sn	**Sn**	**04 43 58.4**	**-1.4**
PBDV				*e*Sg	**Sg**	**04 44 06.0**	**0.0**
	108nm,0.7s						
EBAD	**Badajoz**	**2.15**	**323**	Pn	**Pn**	**04 43 35.4**	**+0.3**
	2.9nm,0.1s,SNR=7.1						
EBAD				Sn	**Sn**	**04 44 02.4**	**+0.7**
	36nm,0.2s,SNR=6.4						
EBAD				Lg	Lg	04 44 07.9	
	115nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.15**	**323**	Pn	**Pn**	**04 43 35.4**	**+0.3**
	2.9nm,0.1s,SNR=7.1						
EBAD				Sn	**Sn**	**04 44 02.4**	**+0.7**
	36nm,0.2s,SNR=6.4						
EBAD				Lg	Lg	04 44 07.9	
	115nm,0.2s,SNR=7.9						
EALB	**Alboran**	**2.17**	**120**	Pn	**Pb**	**04 43 37.6**	**-1.0**
	4.8nm,0.1s,SNR=7.9						
EALB	**Alboran**	**2.17**	**120**	Pn	**Pb**	**04 43 37.6**	**-1.0**
	4.8nm,0.1s,SNR=7.9						
PCVE	**Castro Verde**	**2.22**	**286**	*e*Pn	**Pn**	**04 43 36.5**	**+0.4**
PCVE				*e*Sg	**Sg**	**04 44 09.2**	**-1.5**
PCVE				A	A	04 44 14.9	
	66nm,0.5s						
PCVE	**Castro Verde**	**2.22**	**286**	Pn	**Pn**	**04 43 36.5**	**+0.4**
PCVE				Lg	Lg	04 44 09.2	
	66nm,0.5s						
PCVE	**Castro Verde**	**2.22**	**286**	Pn	**Pn**	**04 43 36.5**	**+0.4**
PCVE				*e*Sg	**Sg**	**04 44 09.2**	**-1.5**
	66nm,0.5s						
EHUE	**Huescar**	**2.32**	**70**	Pn	**Pn**	**04 43 38.6**	**+1.1**
	2.2nm,0.2s,SNR=7.9						
EHUE				Lg	Lg	04 44 15.4	
	30nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.32**	**70**	Pn	**Pn**	**04 43 38.6**	**+1.1**
	2.2nm,0.2s,SNR=7.9						
EHUE				Lg	Lg	04 44 15.4	
	30nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**2.52**	**91**	Lg	Lg	04 44 24.5	
	SNR=7.9						
ENIJ	**Nijar**	**2.52**	**91**	Lg	Lg	04 44 24.5	
	SNR=7.9						
PESTR	**Estremoz**	**2.53**	**316**	*e*Pn	**Pn**	**04 43 40.8**	**+0.4**
PESTR				*e*Sn	**Sn**	**04 44 11.5**	**+0.3**
PESTR				*e*Sg	**Sg**	**04 44 20.3**	**-0.4**
PESTR				A	A	04 44 34.5	
	55nm,0.5s						
PESTR	**Estremoz**	**2.53**	**316**	Pn	**Pn**	**04 43 40.8**	**+0.4**
PESTR				Sn	**Sn**	**04 44 11.5**	**+0.3**
PESTR				Lg	Lg	04 44 20.3	
	55nm,0.5s						
PESTR	**Estremoz**	**2.53**	**316**	Pn	**Pn**	**04 43 40.8**	**+0.4**
PESTR				Sn	**Sn**	**04 44 11.5**	**+0.3**
PESTR				*e*Sg	**Sg**	**04 44 20.3**	**-0.4**
	55nm,0.5s						
EVO	**Evora**	**2.58**	**306**	*e*Pn	**Pn**	**04 43 42.2**	**+1.3**
EVO	**Evora**	**2.58**	**306**	*e*Pg	**Pg**	**04 43 49.1**	**+0.4**
EVO				*e*Sg	**Sg**	**04 44 20.3**	**-1.8**
	68nm,0.3s						
EVO	**Evora**	**2.58**	**306**	*e*Pn	**Pn**	**04 43 41.4**	**+0.5**
EVO				*e*Sg	**Sg**	**04 44 21.9**	**-0.2**
EVO				A	A	04 44 30.6	
	52nm,0.3s						
EVO	**Evora**	**2.58**	**306**	Pn	**Pn**	**04 43 41.4**	**+0.5**
EVO				Lg	Lg	04 44 21.9	
	52nm,0.3s						
EVO	**Evora**	**2.58**	**306**	Pn	**Pn**	**04 43 41.4**	**+0.5**
EVO				*e*Sg	**Sg**	**04 44 21.9**	**-0.2**
	52nm,0.3s						
EVOP	**Sao Brissos**	**2.65**	**305**	*e*Pn	**Pn**	**04 43 42.2**	**+0.3**
EVOP	**Sao Brissos**	**2.65**	**305**	*e*Pg	**Pg**	**04 43 49.1**	**-0.9**
EVOP				*e*Sg	**Sb**	**04 44 20.3**	**+1.2**
	34nm,

PMTG				*e*Sg	**Sg**	04 44 35.1	-1.7		
PMTG				A	A	04 44 48.7			
	53nm,0.6s								
PMTG	**Montargil**	**3.03**	**312**	*e*Pn	**Pn**	**04 43 48.6**	**+1.4**		
PMTG				*e*Sg	**Sg**	**04 44 35.1**	**-1.7**		
	53nm,0.6s								
EPLA	**Plasencia**	**3.06**	**349**	Pg	**Pg**	**04 43 57.8**	**-0.2**		
	1.8nm,0.1s,SNR=7.9								
EPLA				Lg	Lg	04 44 36.5			
	27nm,0.2s,SNR=19								
EPLA	**Plasencia**	**3.06**	**349**	Pg	**Pg**	**04 43 57.8**	**-0.2**		
	1.8nm,0.1s,SNR=7.9								
EPLA				Lg	Lg	04 44 36.5			
	27nm,0.2s,SNR=19								
ALMR	**Almeirim**	**3.30**	**310**	*e*P	**Pn**	**04 43 52.2**	**+1.3**		
ALMR				*e*S	**Sn**	**04 44 29.1**	**-1.0**		
ALMR				AML	AML	04 44 34.1			
	comp=N,65nm,0.3s								
ALMR	**Almeirim**	**3.30**	**310**	*e*P	**Pn**	**04 43 52.2**	**+1.3**		
ALMR				*e*S	**Sn**	**04 44 29.1**	**-1.0**		
ALMR	**Almeirim**	**3.30**	**310**	Pn	**Pn**	**04 43 52.2**	**+1.3**		
ALMR					Sn	**04 44 29.1**	**-1.0**		
ALMR	**Almeirim**	**3.30**	**310**	*e*P	**Pn**	**04 43 52.2**	**+1.3**		
ALMR				*e*S	**Sn**	**04 44 29.1**	**-1.0**		
EMUR	**La Murta**	**3.36**	**75**	Pg	**Pg**	**04 44 03.4**	**-0.3**		
	comp=N,0.7nm,0.2s,SNR=7.9								
EMUR				Lg	Lg	04 44 48.7			
	comp=N,14nm,0.3s,SNR=4.8								
EMUR	**La Murta**	**3.36**	**75**	Pg	**Pg**	**04 44 03.4**	**-0.3**		
	comp=N,0.7nm,0.2s,SNR=7.9								
EMUR				Lg	Lg	04 44 48.7			
	comp=N,14nm,0.3s,SNR=4.8								
ETOB	**Tobarra**	**3.40**	**61**	Pn	**Pn**	**04 43 53.1**	**+0.7**		
	comp=N,0.8nm,0.2s,SNR=16								
ETOB					Sn	**04 44 32.9**	**+0.2**		
	comp=N,7.6nm,0.2s,SNR=5.9								
ETOB				Lg	Lg	04 44 51.8			
	comp=N,18nm,0.3s,SNR=7.9								
ETOB	**Tobarra**	**3.40**	**61**	Pn	**Pn**	**04 43 53.1**	**+0.7**		
	comp=N,0.8nm,0.2s,SNR=16								
ETOB					Sn	**04 44 32.9**	**+0.2**		
	comp=N,7.6nm,0.2s,SNR=5.9								
ETOB				Lg	Lg	04 44 51.8			
	comp=N,18nm,0.3s,SNR=7.9								
PMAFR	**Mafra**	**3.64**	**303**	Pn	**Pn**	**04 43 56.4**	**+0.8**		
	comp=N,1.8nm,0.1s,SNR=7.9								
PMAFR					Sn	**04 44 39.3**	**+0.8**		
	comp=N,21nm,0.1s,SNR=6.5								
PMAFR				Lg	Lg	04 44 58.5			
	comp=N,96nm,0.4s,SNR=7.9								
PMAFR	**Mafra**	**3.64**	**303**	Pn	**Pn**	**04 43 56.4**	**+0.8**		
	comp=N,1.8nm,0.1s,SNR=7.9								
PMAFR					Sn	**04 44 39.3**	**+0.8**		
	comp=N,21nm,0.1s,SNR=6.5								
PMAFR				Lg	Lg	04 44 58.5			
	comp=N,96nm,0.4s,SNR=7.9								
GUD	**Guadarrama**	**3.70**	**14**	Pn	**Pn**	**04 43 58.5**	**+2.0**		
	comp=N,0.4nm,0.2s,SNR=7.2								
GUD					Sn	**04 44 41.0**	**+0.8**		
	comp=N,14nm,0.4s,SNR=6.5								
GUD				Lg	Lg	04 44 56.7			
	comp=N,37nm,0.4s,SNR=7.9								
GUD	**Guadarrama**	**3.70**	**14**	Pn	**Pn**	**04 43 58.5**	**+2.0**		
	comp=N,0.4nm,0.2s,SNR=7.2								
GUD					Sn	**04 44 41.0**	**+0.8**		
	comp=N,14nm,0.4s,SNR=6.5								
GUD				Lg	Lg	04 44 56.7			
	comp=N,37nm,0.4s,SNR=7.9								
MVO	**Moncorvo**	**4.31**	**343**	Pn	**Pn**	**04 44 06.0**	**+1.2**		
	comp=N,0.4nm,0.1s,SNR=7.9								
MVO					Sn	**04 44 54.4**	**-0.7**		
	comp=N,5.6nm,0.3s,SNR=7.9								
MVO				Lg	Lg	04 45 17.4			
	comp=N,10nm,0.5s,SNR=7.9								
MVO	**Moncorvo**	**4.31**	**343**	Pn	**Pn**	**04 44 06.0**	**+1.2**		
	comp=N,0.4nm,0.1s,SNR=7.9								
MVO					Sn	**04 44 54.3**	**-0.7**		
	comp=N,5.6nm,0.3s,SNR=7.9								
MVO				Lg	Lg	04 45 17.4			
	comp=N,10nm,0.5s,SNR=7.9								
ETOR	**Torete**	**4.55**	**33**	Pn	**Pn**	**04 44 09.6**	**+1.4**		
	comp=N,4.4nm,0.2s,SNR=8.7								
ETOR				Lg	Lg	04 45 27.4			
	comp=N,24nm,0.3s,SNR=7.9								
ETOR	**Torete**	**4.55**	**33**	Pn	**Pn**	**04 44 09.6**	**+1.4**		
	comp=N,4.4nm,0.2s,SNR=8.7								
ETOR				Lg	Lg	04 45 27.4			
	comp=N,24nm,0.3s,SNR=7.9								
ECAL	**Calabor**	**5.00**	**348**	Lg	Lg	04 45 39.8			
	comp=N,36nm,0.5s,SNR=7.9								
ECAL	**Calabor**	**5.00**	**348**	Lg	Lg	04 45 39.8			
	comp=N,36nm,0.5s,SNR=7.9								
EMOS	**Mosqueruela**	**5.04**	**48**	Pn	**Pn**	**04 44 16.4**	**+1.3**		
	comp=N,0.1nm,0.1s,SNR=7.9								
EMOS				Pg	**Pg**	**04 44 35.7**	**-0.3**		
	comp=N,0.8nm,0.3s,SNR=6.4								
EMOS					Sn	**04 45 14.5**	**+1.1**		
	comp=N,0.3nm,0.1s,SNR=7.9								
EMOS				Lg	Lg	04 45 40.6			
	comp=N,0.9nm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**	**5.04**	**48**	Pn	**Pn**	**04 44 16.4**	**+1.3**		
	comp=N,0.1nm,0.1s,SNR=7.9								
IELO	**Elcoad**	**6.59**	**27**	Pn	**Pn**	**04 44 38.6**	**+2.5**		
	SNR=7.9								
IELO	**Elcoad**	**6.59**	**27**	Pn	**Pn**	**04 44 38.6**	**+2.5**		
	SNR=7.9								
EALK	**Alkurruntz**	**6.82**	**24**	Pn	**Pn**	**04 44 41.0**	**+1.8**		
	SNR=7.9								
EALK					Sn	**04 45 55.2**	**-1.7**		
	SNR=7.9								
EALK	**Alkurruntz**	**6.82**	**24**	Pn	**Pn**	**04 44 41.0**	**+1.8**		
	SNR=7.9								
SJPF	**Ste Jean**	**6.83**	**26**	*e*Pn	**Pn**	**04 44 40.4**	**+1.1**		
SJPF				*e*Sg	**Sg**	**04 46 36.4**	**-2.0**		
	comp=N,2.0nm,0.4s								
SJPF	**Ste Jean**	**6.83**	**26**	Pn	**Pn**	**04 44 40.4**	**+1.1**		
SJPF				*e*Sg	**Sg**	**04 46 36.4**	**-2.0**		
	comp=N,1.0nm,0.4s								
ETSF	**Etsaut**	**6.90**	**31**	*e*Pn	**Pn**	**04 44 41.7**	**+1.3**		
ETSF				*e*Sg	**Sg**	**04 46 38.5**	**-2.1**		
	comp=N,1.4nm,0.3s								
ETSF	**Etsaut**	**6.90**	**31**	Pn	**Pn**	**04 44 41.7**	**+1.3**		
ETSF				Lg	Lg	04 46 38.5			
	comp=N,0.3nm,0.3s								
EBIE	**Bielsa**	**7.03**	**35**	Pn	**Pn**	**04 44 43.0**	**+0.6**		
	comp=N,1.8nm,0.4s,SNR=9.3								
EBIE					Sn	**04 46 00.7**	**-1.7**		
	SNR=7.9								
EBIE	**Bielsa**	**7.03**	**35**	Pn	**Pn**	**04 44 43.0**	**+0.6**		
	comp=N,1.8nm,0.4s,SNR=9.3								
CSOR	**Sort**	**7.29**	**41**	Pn	**Pn**	**04 44 46.9**	**+1.0**		
	SNR=7.9								
CSOR	**Sort**	**7.29**	**41**	Pn	**Pn**	**04 44 46.9**	**+1.0**		
	SNR=7.9								
EPF	**Esparros**	**7.39**	**34**	*e*Pn	**Pn**	**04 44 48.4**	**+1.3**		
EPF				*e*Sn	**Sn**	**04 46 08.2**	**-2.8**		
EPF				*e*Sg	**Sg**	**04 46 53.9**	**-2.6**		
	comp=N,3.2nm,0.5s								
EPF	**Esparros**	**7.39**	**34**	Pn	**Pn**	**04 44 48.4**	**+1.3**		
EPF				Lg	Lg	04 46 53.9			
	comp=N,0.8nm,0.5s								
CLLI	**Llivia**	**7.82**	**44**	Pn	**Pn**	**04 44 54.4**	**+1.3**		
	SNR=7.9								
CLLI	**Llivia**	**7.82**	**44**	Pn	**Pn**	**04 44 54.4**	**+1.3**		
	SNR=7.9								
CAF	**Calviac**	**9.65**	**33**	*e*Pn	**Pn**	**04 45 18.7**	**+0.6**		
CAF	**Calviac**	**9.65**	**33**	Pn	**Pn**	**04 45 18.7**	**+0.6**		

*DDA **01** 04:50:54.6,37°.51N×37°.00E,h7km,MD3.1*
*ISCJB **01** 04:50:55.6±0.6,37°.49N±0°.03×37°.03E±0°.03,h8km±5km, Error ellipse: s-maj=4.7km s-min=4.6km az=4.8*
*ISK **01** 04:50:55.1,37°.50N×37°.04E,h6km,MD2.6*
*CSEM **01** 04:50:55.5±0.1,37°.50N×37°.01E,h5km,MD2.6,Error ellipse: s-maj=3.4km s-min=2.8km az=100.0*
ISC 01 04:50:55.4±1.0,37°.51N±0°.03×37°.00E±0°.03,h7km±8km, n30,σ0°44/41,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRS	**Kahramanmaras**	**0.08**	**264**	PG	**Pg**	**04 50 57.2**	**-0.1**
KMRS	**Kahramanmaras**	**0.08**	**264**	*i* Pg	**Pg**	**04 50 57.3**	**-0.1**
GAZ	**Gaziantep**	**0.38**	**153**	*e*Pg	**Pg**	**04 51 02.8**	**0.0**
GAZ				*e*SG	**Sg**	**04 51 07.8**	**0.0**
GAZ	**Gaziantep**	**0.38**	**153**	*e*Pg	**Pg**	**04 51 02.8**	**0.0**
GAZ				*e*Sg	**Sg**	**04 51 07.8**	**0.0**
GZT	**Gaziantep**	**0.48**	**109**	*i* P	**Pg**	**04 51 04.4**	**-0.3**
GZT				*i* S	**Sg**	**04 51 10.9**	**0.0**
KUZU	**Kuzuini**	**0.74**	**175**	*i* P	**Pg**	**04 51 09.6**	**0.0**
KUZU				*i* S	**Sg**	**04 51 19.7**	**+0.4**
KUZU	**Kuzuini**	**0.74**	**175**	*i* P	**Pg**	**04 51 09.6**	**0.0**
KUZU				*i* S	**Sg**	**04 51 19.7**	**+0.4**
KOZT	**Kozan**	**0.93**	**268**	*e*PG	**Pb**	**04 51 14.0**	**+0.1**
KOZT				*e*SG	**Sn**	**04 51 28.7**	**+0.1**
KOZT	**Kozan**	**0.93**	**268**	*e*Pg	**Pb**	**04 51 14.0**	**+0.1**
AKCD	**Akcadag**	**1.07**	**43**	*i* P	**Pg**	**04 51 15.7**	**-0.3**
AKCD				*i* S	**Sg**	**04 51 29.7**	**-0.2**
AKCD	**Akcadag**	**1.07**	**43**	*i* P	**Pg**	**04 51 15.7**	**-0.3**
AKCD				*i* S	**Sg**	**04 51 29.7**	**-0.2**
CEYT	**Ceyhan**	**1.12**	**244**	*e*PN	**Pb**	**04 51 17.3**	**+0.3**
CEYT	**Ceyhan**	**1.12**	**244**	*e*Pn	**Pb**	**04 51 17.3**	**+0.3**
COBT	**Iskenderun**	**1.16**	**211**	*e*P	**Pg**	**04 51 17.1**	**-0.5**
COBT				*i* S	**Sg**	**04 51 31.7**	**-0.9**
COBT	**Iskenderun**	**1.16**	**211**	*e*P	**Pg**	**04 51 17.1**	**-0.5**
COBT				*i* S	**Sg**	**04 51 31.7**	**-0.9**
PINB	**Pinarbasi**	**1.25**	**338**	*i* P	**Pn**	**04 51 20.2**	**+0.6**
PINB				*i* S	**Sn**	**04 51 36.4**	**-0.4**
PINB	**Pinarbasi**	**1.25**	**338**	*i* P	**Pn**	**04 51 20.2**	**+0.6**
PINB				*i* S	**Sn**	**04 51 36.4**	**-0.4**
MYA	**Malataya**	**1.39**	**54**	*e*PN	**Pn**	**04 51 21.3**	**0.0**
MYA	**Malataya**	**1.39**	**54**	*e*Pn	**Pn**	**04 51 21.3**	**0.0**
URFA	**Urfa**	**1.45**	**92**	*e*PN	**Pn**	**04 51 21.8**	**-0.3**
URFA	**Urfa**	**1.45**	**92**	*e*Pn	**Pn**	**04 51 21.8**	**-0.3**
DARE	**Darende-Malaty**	**1.57**	**24**	*e*PN	Pn	04 51 17.1	-6.7
BNN	**Bunyan**	**1.61**	**326**	*e*PN	**Pb**	**04 51 25.5**	**-0.1**
BNN	**Bunyan**	**1.61**	**326**	*e*Pn	**Pb**	**04 51 25.5**	**-0.1**
NIG	**Nigde**	**1.98**	**288**	*e*PN	**Pn**	**04 51 30.0**	**+0.4**
NIG	**Nigde**	**1.98**	**288**	*e*Pn	**Pn**	**04 51 30.0**	**+0.4**
SVRC	**Sivrice-ELAZID**	**2.02**	**64**	*e*PN	**Pn**	**04 51 30.9**	**+0.9**
SVRC	**Sivrice-ELAZID**	**2.02**	**64**	*e*Pn	**Pn**	**04 51 30.9**	**+0.9**
ILIC	**ilic-Erzincan**	**2.29**	**32**	*e*PN	**Pn**	**04 51 34.5**	**+0.7**
ILIC	**ilic-Erzincan**	**2.29**	**32**	*e*Pn	**Pn**	**04 51 34.5**	**+0.7**

*ISCJB **01** 04:53:03.4±1.9,21°.96N±0°.06×102°.4E±0°.1,h10km,Error ellipse: s-maj=16.6km s-min=4.9km az=155.1*
*PLV **01** 04:53:03.4±0.7,22°.02N×102°.35E,h17km±5.5km,MD3.0*
*BJI **01** 04:53:06.5,21°.88N×102°.56E,h26km,ML3.4/6*
ISC 01 04:53:06.9±2.5,21°.92N±0°.08×102°.4E±0°.2,h10km,n5, σ1°00/10,Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBV	**Dienbien**	**0.76**	**134**	*e*Pg	**Pg**	**04 53 20.8**	**-0.7**
DBV				*e*Sg	**Sg**	**04 53 32.2**	**+0.7**
TGV	**Tuan Giao**	**0.97**	**110**	*e*Pg	**Pb**	**04 53 24.7**	**-1.0**
TGV				*e*Sg	**Sb**	**04 53 38.8**	**+0.2**
SLVN	**Son La**	**1.48**	**113**	*e*Pg	**Pn**	**04 53 33.8**	**+0.1**
SLVN				*e*Sg	**Sn**	**04 53 55.3**	**+2.1**
KMI	**Kunming**	**3.20**	**5**	Pg	**Pb**	**04 54 04.2**	**+0.2**
KMI				Sg	**Sg**	**04 54 49.8**	**0.0**
KMI				smax	smax		
	comp=N,53nm,1.5s						
KMI				smax	smax		
	comp=E,51nm,0.9s						
GYA	**Guiyang**	**5.94**	**40**	*e*Pn	**Pn**	**04 54 35.3**	**+0.2**
GYA				Sn	**Sn**	**04 55 42.7**	**-0.6**
GYA				Sg	Sb	04 56 13.5	+12
GYA				smax	smax		
	comp=N,50nm,1.1s						
GYA				smax	smax		
	comp=E,60nm,0.9s						

*ISCJB **01** 04:57:57.0±0.7,31°.32S±0°.03×68°.9W±0°.1,h115km±9km, mb3.9/9,Error ellipse: s-maj=14.3km s-min=4.9km az=178.0*
*NEIC **01** 04:57:57.6±0.5,31°.35S×68°.87W,h107km±5km,mb4.0/6, MD3.8(GUC),Error ellipse: s-maj=9.8km s-min=4.8km az=86.0*
*GUC **01** 04:57:57.1±0.7,31°.31S×69°.19W,h154km±24km,MD3.8, ML4.0*
*IDC **01** 04:57:58.2±0.8,31°.45S×68°.88W,h110km±6km,mb3.6/4, mb1 3.5/6,mb1mx3.4/15,mbtmp3.4/6,Error ellipse: s-maj=28.9km s-min=25.4km az=66.0*
ISC 01 04:57:58.0±0.5,31°.32S±0°.04×68°.91W±0°.07,h112km±5km, h112km:pP-P,n58,σ1°18/89,mb3.9/9,2C-14D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.79**	**274**	⇓*i*P	**Pn**	**04 58 28.1**	**-0.5**
CMCH				*i* S	**Sn**	**04 58 51.8**	**-0.1**
CMCH	**Combarbala**	**1.79**	**274**	⇓*i*P	**Pn**	**04 58 28.1**	**-0.5**
CMCH				*i* S	**Sn**	**04 58 51.8**	**-0.1**
CMCH				AML	AML	04 58 56.1	
	comp=N,9μm,0.7s						
PTCH	**Petorca**	**1.96**	**241**	⇓*i*P	**Pn**	**04 58 30.4**	**-0.1**
PTCH				*i* S	**Sn**	**04 58 55.3**	**-0.1**
PTCH	**Petorca**	**1.96**	**241**	⇓*i*P	**Pn**	**04 58 30.4**	**-0.1**
PTCH				*i* S	**Sn**	**04 58 55.3**	**-0.1**
PTCH				AML	AML	04 58 57.7	
	comp=N,2μm,0.2s						
JACH	**Jahuel**	**1.97**	**226**	⇓*i*P	**Pn**	**04 58 31.5**	**+0.7**
JACH				S	**Sn**	**04 58 58.0**	**+2.3**
JACH	**Jahuel**	**1.97**	**226**	⇓*i*P	**Pn**	**04 58 31.5**	**+0.7**
JACH				*i* S	**Sn**	**04 58 58.0**	**+2.3**
TLL	**Tololo Astrono**	**1.99**	**305**	*e*P	**Pn**	**04 58 31.5**	**+0.2**
TLL				*i* S	**Sn**	**04 58 56.9**	**+0.3**
TLL	**Tololo Astrono**	**1.99**	**305**	*e*P	**Pn**	**04 58 31.5**	**+0.2**
TLL				*i* S	**Sn**	**04 58 56.9**	**+0.3**
TLL				AML	AML	04 59 04.0	
	comp=N,1μm,0.6s						
CHNG	**Los Chungos**	**2.28**	**255**	⇓*i*P	**Pn**	**04 58 33.5**	**-1.0**
CHNG				S	**Sn**	**04 59 00.1**	**-2.5**
CHNG	**Los Chungos**	**2.28**	**255**	⇓*i*P	**Pn**	**04 58 33.5**	**-1.0**
CHNG				*i* S	**Sn**	**04 59 00.1**	**-2.5**
CHNG				AML	AML	04 59 08.3	
	comp=E,610nm,0.3s						
FCH	**Farellones**	**2.31**	**210**	AML	AML	04 59 16.1	
	comp=E,638nm,0.3s						
PEL	**Peldehue**	**2.36**	**219**	⇓*i*P	**Pn**	**04 58 35.5**	**-0.1**
PEL				*i* S	**Sn**	**04 59 04.7**	**+0.2**
PEL				AML	AML	04 59 09.7	
	comp=E,654nm,0.4s						
ROCH	**El Roble**	**2.42**	**227**	⇓*i*P	**Pn**	**04 58 36.0**	**-0.7**
ROCH				*i* S	**Sn**	**04 59 06.2**	**-0.2**
ROCH				AML	AML	04 59 08.2	
	comp=N,636nm,0.2s						
CLCH	**Cerro Calan**	**2.48**	**213**	*e*P	**Pn**	**04 58 37.6**	**+0.3**
CLCH				*i* S	**Sn**	**04 59 08.5**	**+1.0**
CLCH				AML	AML	04 59 14.2	
	comp=E,528nm,0.3s						
STL	**Santa Lucia**	**2.56**	**214**	*i* S	**Sn**	**04 59 09.7**	**+0.4**
STL				AML	AML	04 59 14.8	
	comp=N,86nm,0.4s						
SAN	**Santiago**	**2.59**	**214**	P	Px	04 59 00.0	
SAN				*i* S	**Sn**	**04 59 09.9**	**-0.1**
PCH	**Pirque**	**2.66**	**210**	*e*P	**Pn**	**04 58 40.2**	**+0.5**
PCH	**Pirque**	**2.66**	**210**	*e*P	**Pn**	**04 58 40.2**	**+0.5**
ANTU	**Antumapu**	**2.67**	**213**	⇓*i*P	**Pn**	**04 58 39.9**	**+0.2**
ANTU				*i* S	**Sn**	**04 59 12.3**	**+0.4**
ANTU	**Antumapu**	**2.67**	**213**	⇓*i*P	**Pn**	**04 58 39.9**	**+0.2**
ANTU				*i* S	**Sn**	**04 59 12.3**	**+0.4**
ANTU				AML	AML	04 59 14.8	
	comp=N,400nm,0.3s						
LMEL	**Las Melosas**	**2.74**	**203**	AML	AML	04 59 22.5	
	comp=N,336nm,0.2s						
LCO	**Las Campanas**	**2.77**	**326**	⇑*i*P	**Pn**	**04 58 41.2**	**-0.2**
LCO	**Las Campanas**	**2.77**	**326**	⇑*i*P	**Pn**	**04 58 41.2**	**-0.2**
LCO				AML	AML	04 59 17.9	
	comp=E,588nm,0.4s						
TACH	**Talagante**	**2.88**	**216**	⇓*i*P	**Pn**	**04 58 41.8**	**-0.7**
TACH	**Talagante**	**2.88**	**216**	⇓*i*P	**Pn**	**04 58 41.8**	**-0.7**
VACH	**Vallenar**	**3.17**	**329**	*e*P	**Pn**	**04 58 45.6**	**-0.8**
VACH				*i* S	**Sn**	**04 59 22.3**	**-1.4**
VACH	**Vallenar**	**3.17**	**329**	*e*P	**Pn**	**04 58 45.6**	**-0.8**
VACH				*i* S	**Sn**	**04 59 22.3**	**-1.4**
CPCH	**Copiapo**	**4.15**	**342**	*i* P	**Pn**	**04 58 59.0**	**-0.4**
CPCH	**Copiapo**	**4.15**	**342**	*i* P	**Pn**	**04 58 59.0**	**-0.4**
CDCH	**Caldera**	**4.56**	**338**	*e*P	**Pn**	**04 59 04.5**	**-0.3**
CDCH	**Caldera**	**4.56**	**338**	*e*P	**Pn**	**04 59 04.5**	**-0.3**
TRQA	**Tornquist**	**8.81**	**142**	*e*Pn	**Pn**	**05 00 01.3**	**-1.2**
	comp=E,31nm,0.7s						
PLCA	**Paso Flores**	**9.48**	**188**	P	**Pn**	**05 00 10.6**	**-1.0**
PLCA				S	**Sn**	**05 01 50.9**	**-5.4**
PLCA	**Paso Flores**	**9.48**	**188**	P	**Pn**	**05 00 10.6**	**-1.0**
	comp=E,0.2nm,0.3s,baz=360,slow=15,SNR=4.7						
PLCA				S	**Sn**	**05 01 50.9**	**-5.4**
	comp=E,0.3nm,0.3s,baz=118,slow=14,SNR=3.5						
LPAZ	**La Paz**	**14.98**	**3**	*e*P	**Pn**	**05 01 25.9**	**+1.3**
	comp=E,5.6nm,0.8s						
SIV	**San Ignacio**	**16.86**	**27**	P	**P**	**05 01 47.8**	**+0.3**
SIV	**San Ignacio**	**16.86**	**27**	P	**P**	**05 01 47.8**	**+0.3**
	comp=E,0.1nm,0.3s,baz=185,slow=8.5,SNR=6.7						
SAML	**Samuel**	**22.89**	**15**	*e*P	**P**	**05 02 52.4**	**+0.2**
	comp=E,4.6nm,1.4s						
SNAA	**Sanae**	**53.09**	**159**	*e*P	**P**	**05 07 01.1**	**-2.3**
	comp=E,3.7nm,1.0s						
TXAR	**Lajitas Array**	**68.79**	**328**	P	**P**	**05 08 51.5**	**+1.4**
TXAR				pP	**pP**	**05 09 18.9**	**+0.8**
TXAR	**Lajitas Array**	**68.79**	**328**	P	**P**	**05 08 51.5**	**+1.4**
	comp=E,0.1nm,0.6s,baz=129,slow=8.4,SNR=3.0						
TXAR				pP	**pP**	**05 09 18.9**	**+0.8**
	comp=E,0.4nm,0.8s,baz=145,slow=4.6,SNR=3.4						
WVT	**Waverly**	**69.41**	**344**	*e*P	**P**	**05 08 53.5**	**-0.1**
	comp=E,3.5nm,0.6s						
WMOK	**Wichita Mounta**	**71.47**	**334**	*e*P	**P**	**05 09 07.6**	**+1.4**
	comp=E,3.3nm,1.0s						
DBIC	**Dimbokro**	**71.81**	**70**	P	**P**	**05 09 09.4**	**+0.6**
DBIC	**Dimbokro**	**71.81**	**70**	P	**P**	**05 09 09.4**	**+0.6**
	comp=E,0.9nm,0.6s,baz=210,slow=9.3,SNR=5.5						
BOSA	**Boshof**	**78.94**	**117**	P	**P**	**05 09 49.7**	**+0.1**
BOSA	**Boshof**	**78.94**	**117**	P	**P**	**05 09 49.7**	**+0.1**
	comp=E,1.9nm,1.0s,baz=240,slow=8.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**80.80**	**69**	P	**P**	**05 10 00.1**	**+0.5**
TORD				pP	**pP**	**05 10 28.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**80.80**	**69**	P	**P**	**05 10 00.1**	**+0.5**
	comp=E,2.2nm,0.9s,baz=254,slow=4.9,SNR=12						
TORD				pP	**pP**	**05 10 28.9**	**+0.6**
	comp=E,0.7nm,0.7s,baz=282,slow=5.7,SNR=2.8						
LBTB	**Lobatse**	**81.00**	**114**	*e*P	**P**	**05 10 00.8**	**+0.1**
	comp=E,1.5nm,0.7s						
WRA	**Warramunga Arr**	**124.35**	**207**	PKP	**PKPdf**	**05 16 43.8**	**-0.5**
WRA	**Warramunga Arr**	**124.35**	**207**	PKP	**PKPdf**	**05 16 43.8**	**-0.5**
	comp=E,0.4nm,0.5s,baz=158,slow=1.4,SNR=3.4						
AAK	**Ala-Archa**	**148.89**	**58**	*e*PKPbc	**PKPbc**	**05 17 33.6**	**+0.9**
AAK				*e*PKPab	**PKPab**	**05 17 37.7**	**+0.8**
ZALV	**Zalesovo Beam**	**150.56**	**32**	PKPbc	**PKPbc**	**05 17 36.9**	**+0.8**
ZALV				pPKPbc	**pPKPbc**	**05 18 06.6**	**+0.2**
ZALV	**Zalesovo Beam**	**150.56**	**32**	PKPbc	**PKPbc**	**05 17 36.9**	**+0.8**
	comp=E,2.3nm,0.4s,baz=310,slow=3.0,SNR=21						
ZALV				pPKPbc	**pPKPbc**	**05 18 06.6**	**+0.2**
	comp=E,1.0nm,0.6s,baz=313,slow=2.7,SNR=3.6						
MK31	**Makanchi Array**	**153.02**	**47**	*e*PKPbc	**PKPbc**	**05 17 42.0**	**+0.1**
MK31				*e*PKPab	**PKPab**	**05 17 54.2**	**+0.4**
MKAR	**Makanchi Array**	**153.02**	**47**	PKPbc	**PKPbc**	**05 17 42.1**	**+0.2**
MKAR				PKPab	**PKPab**	**05 17 54.2**	**+0.4**
MKAR				pPKPbc	**pPKPbc**	**05 18 11.6**	**-0.8**
MKAR				pPKPab	**pPKPab**	**05 18 22.9**	**-0.4**
MKAR	**Makanchi Array**	**153.02**	**47**	PKPbc	**PKPbc**	**05 17 42.1**	**+0.2**
	comp=E,0.8nm,0.7s,baz=289,slow=2.0,SNR=9.9						
MKAR				PKPab	**PKPab**	**05 17 54.2**	**+0.4**
	comp=E,0.8nm,0.6s,baz=292,slow=4.3,SNR=9.9						
MKAR				pPKPbc	**pPKPbc**	**05 18 11.6**	**-0.8**
	comp=E,0.3nm,0.7s,baz=342,slow=3.1,SNR=2.2						
MKAR				pPKPab	**pPKPab**	**05 18 22.9**	**-0.4**
	comp=E,0.6nm,0.7s,baz=289,slow=4.0,SNR=4.3						

IDC 01 05:05:22.7±3.4,18°.20S×175°.48W,h197km±33km, mb3.5/3,mb1 3.7/4,mb1mx3.3/18,mbtmp3.5/4,Error ellipse: s-maj=49.7km s-min=23.1km az=152.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.55**	**40**	P	Pn	05 06 44.3	0.0
	3.6nm,0.3s,baz=234,slow=17,SNR=3.1						
AFI				S	Sn	05 07 42.4	-6.2
	8.0nm,0.3s,baz=64,slow=17,SNR=6.2			

comp=Z,70nm,18.2s,baz=201,slow=36
PDAR Pinedale Array 93.14 46 LR LR 05 54 45.3
comp=Z,30nm,20.0s,baz=79,slow=31
TXAR Lajitas Array 93.36 61 P P 05 20 16.8 -1.9
TXAR Lajitas Array 93.36 61 P P 05 20 16.8 -1.9
0.2nm,0.6s,baz=184,slow=6.1,SNR=3.3
TXAR LR LR 05 51 58.8
comp=Z,46nm,21.9s,baz=190,slow=29
YKA Yellowknife Ar 97.45 27 P P 05 20 36.1 -0.4
YKA Yellowknife Ar 97.45 27 P P 05 20 36.1 -0.4
0.1nm,0.6s,baz=258,slow=4.4,SNR=3.1
ZALV Zalesovo Beam 101.91 323 P Pdif 05 20 55.6 -1.0
ZALV Zalesovo Beam 101.91 323 P Pdif 05 20 55.6 -1.0
0.2nm,0.4s,baz=107,slow=5.0,SNR=3.5
MKAR Makanchi Array 101.98 315 P Pdif 05 20 58.1 +1.0
MKAR Makanchi Array 101.98 315 P Pdif 05 20 58.1 +1.0
0.4nm,0.9s,baz=100,slow=5.5,SNR=4.1
GERES GERESS Array B 143.63 336 PKP PKPdf 05 26 38.6 +0.6
GERES GERESS Array B 143.63 336 PKP PKPdf 05 26 38.6 +0.6
0.2nm,0.5s,baz=53,slow=3.9,SNR=2.5
TORD Torodi Ar. Bea 169.91 249 PKP PKPdf 05 27 10.7 -0.9
TORD Torodi Ar. Bea 169.91 249 PKP PKPdf 05 27 10.7 -0.9
0.6nm,1.0s,baz=180,slow=1.9,SNR=3.6

IDC 01 05:12:55.5±17.0, 56.06S×24.59W, h0km, mb3.8/1, mb1 3.8/1, mb1mx3.6/11, mbtmp3.8/1, MS3.6/1, Ms1 3.4/1, ms1mx3.0/11, Error ellipse: s-maj=1127.0km s-min=72.3km az=140.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**44.57**	**73**	LR	LR	05 35 52.3	
	comp=Z,58nm,18.1s,baz=339,slow=31						
TORD	**Torodi Ar. Bea**	**72.37**	**27**	P		05 24 23.1	0.0
	0.4nm,0.4s,baz=206,slow=6.3,SNR=7.4						
YKA	**Yellowknife Ar**	**137.16**	**317**	PKP	PKPdf	05 32 18.4	-0.5
	0.2nm,0.9s,baz=127,slow=2.7,SNR=3.2						
ILAR	**Eielson Array**	**151.21**	**311**	PKPbc	PKPbc	05 32 48.9	-0.2
	0.1nm,0.4s,baz=125,slow=2.2,SNR=5.8						

*ISK **01** 05:29:49.9, 40.71N×30.62E, h9km, MD3.1*
*ISCJB **01** 05:29:50.1±0.5, 40.73N±0.03×30.61E±0.03, h7km±3km, Error ellipse: s-maj=4.5km s-min=3.5km az=24.7*
*DDA **01** 05:29:50.2, 40.71N×30.54E, h10km, MD3.2*
*CSEM **01** 05:29:50.5±0.1, 40.70N×30.61E, h8km, MD3.1, Error ellipse: s-maj=3.2km s-min=2.3km az=33.0*
ISC 01 05:29:50.7±0.9, 40.71N±0.02×30.60E±0.02, h14km±6km, n93, σ0.78/114, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPNC	**Sapanca-Adapaz**	**0.23**	**264**	PG		**Pg**	**05 29 55.2 -0.5**
SPNC				SG		**Sg**	**05 29 59.5 +0.4**
SPNC	**Sapanca-Adapaz**	**0.23**	**264**	*i* Pg		**Pg**	**05 29 55.2 -0.5**
SPNC				*i* Sg		**Sg**	**05 29 59.5 +0.4**
GULT	**Gulveren**	**0.28**	**194**	PG		**Pg**	**05 29 56.3 -0.5**
GULT				SG		**Sg**	**05 30 00.9 0.0**
GULT	**Gulveren**	**0.28**	**194**	*i* Pg		**Pg**	**05 29 56.3 -0.5**
GULT				*i* Sg		**Sg**	**05 30 00.9 0.0**
GPA	**Golpazari**	**0.47**	**208**	*e*PG		**Pg**	**05 29 59.1 -1.1**
GPA	**Golpazari**	**0.47**	**208**	*e*Pg		**Pg**	**05 29 59.1 -1.1**
MDUB	**Mudurnu**	**0.51**	**117**	*e*PG		**Pg**	**05 30 00.3 -0.6**
MDUB				*e*SG		**Sg**	**05 30 07.8 +0.1**
MDUB	**Mudurnu**	**0.51**	**117**	*e*Pg		**Pg**	**05 30 00.3 -0.6**
MDUB				*e*Sg		**Sg**	**05 30 07.8 +0.1**
ADVT	**Abdulvahap**	**0.71**	**248**	*e*PG		**Pg**	**05 30 03.4 -1.2**
ADVT	**Abdulvahap**	**0.71**	**248**	*e*Pg		**Pg**	**05 30 03.4 -1.2**
HRT	**Hereke**	**0.72**	**279**	*e*PG		**Pb**	**05 30 04.6 -0.5**
HRT	**Hereke**	**0.72**	**279**	*e*Pg		**Pb**	**05 30 04.6 -0.5**
CAVI	**Cavuskoy**	**0.77**	**229**	*e*PG		**Pg**	**05 30 04.9 -0.8**
CAVI	**Cavuskoy**	**0.77**	**229**	*e*Pg		**Pg**	**05 30 04.9 -0.8**
BORA	**Eskisehir**	**0.83**	**188**	*i* P		**Pg**	**05 30 06.2 -0.7**
BORA				*i* S		**Sg**	**05 30 18.6 +0.4**
BORA	**Eskisehir**	**0.83**	**188**	*i* P		**Pg**	**05 30 06.3 -0.7**
BORA				*i* S		**Sb**	**05 30 18.6 +0.4**
SILT	**Sile**	**0.85**	**302**	*e*PG		**Pb**	**05 30 07.5 +0.2**
SILT	**Sile**	**0.85**	**302**	*e*Pg		**Pb**	**05 30 07.5 +0.2**
KDZE	**Karadeniz Ereo**	**0.88**	**46**	*e*PG		**Pg**	**05 30 06.7 -1.0**
KDZE	**Karadeniz Ereo**	**0.88**	**46**	*e*Pg		**Pg**	**05 30 06.7 -1.0**
YLV	**Yalova**	**0.95**	**262**	*e*PG		**Pg**	**05 30 07.8 -1.3**
YLV	**Yalova**	**0.95**	**262**	*e*Pg		**Pg**	**05 30 07.8 -1.3**
ESKT	**Eskisehir**	**1.20**	**171**	*e*PN		**Pb**	**05 30 13.3 0.0**
ESKT	**Eskisehir**	**1.20**	**171**	*e*Pn		**Pb**	**05 30 13.3 0.0**
SEYT	**Eskypehyr**	**1.20**	**171**	*i* P		**Pb**	**05 30 13.3 0.0**
SEYT				*i* S		**Sg**	**05 30 29.1 -0.5**
SEYT	**Eskypehyr**	**1.20**	**171**	*i* P		**Pb**	**05 30 13.3 0.0**
SEYT				*i* S		**Sg**	**05 30 29.1 -0.5**
ISK	**Istanbul-Kandi**	**1.22**	**287**	*e*PN		**Pb**	**05 30 13.6 0.0**
ISK	**Istanbul-Kandi**	**1.22**	**287**	*e*Pn		**Pb**	**05 30 13.6 0.0**
ULDT	**Uludag**	**1.25**	**244**	*i* P		**Pn**	**05 30 13.4 -0.6**
ULDT				*i* S		**Sb**	**05 30 30.3 -0.1**
ULDT	**Uludag**	**1.25**	**244**	*i* P		**Pn**	**05 30 13.4 -0.6**
KLYT	**Kilyos**	**1.30**	**295**	*e*PN		**Pn**	**05 30 14.7 +0.2**
KLYT	**Kilyos**	**1.30**	**295**	*e*Pn		**Pn**	**05 30 14.7 +0.2**
ARMT	**Armutlu**	**1.33**	**264**	*e*PN		**Pn**	**05 30 14.9 0.0**
ARMT	**Armutlu**	**1.33**	**264**	*e*Pn		**Pn**	**05 30 14.9 0.0**
MDNY	**Mudanya-Bursa**	**1.35**	**256**	*e*PN		**Pn**	**05 30 14.8 -0.4**
MDNY	**Mudanya-Bursa**	**1.35**	**256**	*e*Pn		**Pn**	**05 30 14.8 -0.4**
SVRH	**Sivrihisar-ESK**	**1.44**	**150**	*e*PN		**Pb**	**05 30 17.6 +0.1**
SVRH	**Sivrihisar-ESK**	**1.44**	**150**	*e*Pn		**Pb**	**05 30 17.6 +0.1**
ORLT	**Orhaneli**	**1.46**	**244**	*e*PN		**Pn**	**05 30 17.1 +0.3**
ORLT	**Orhaneli**	**1.46**	**244**	*e*Pn		**Pn**	**05 30 17.1 +0.3**
BGKT	**Bogazkoy**	**1.47**	**289**	*e*PN		**Pb**	**05 30 17.6 -0.1**
BGKT	**Bogazkoy**	**1.47**	**289**	*e*Pn		**Pb**	**05 30 17.6 -0.1**
SAFT	**Safranbolu**	**1.66**	**71**	*e*PN		**Pn**	**05 30 19.7 +0.2**
SAFT	**Safranbolu**	**1.66**	**71**	*e*Pn		**Pn**	**05 30 19.7 +0.2**
CTKS	**Kestanelik-??a**	**1.67**	**289**	*e*PN		**Pn**	**05 30 20.2 +0.7**
CTKS	**Kestanelik-??a**	**1.67**	**289**	*e*Pn		**Pn**	**05 30 20.3 +0.7**
ALT	**Altintas**	**1.69**	**193**	*e*PN		**Pn**	**05 30 16.5 +0.5**
ALT	**Altintas**	**1.69**	**193**	*i* Pn		Pn	05 30 16.4 -3.6
ALT				*i* S		Sn	05 30 35.2 -6.3
ALT	**Altintas**	**1.69**	**193**	*e*Pn		**Pn**	**05 30 20.5 +0.5**
ELBA	**Catalca**	**1.70**	**286**	*i* P		**Pn**	**05 30 20.7 +0.7**
ELBA				*i* S		**Sn**	**05 30 42.0 +0.4**
ELBA	**Catalca**	**1.70**	**286**	*i* P		**Pn**	**05 30 20.7 +0.7**
ELBA				*i* S		**Sn**	**05 30 42.0 +0.4**
KCTX	**Karacabey (Bur**	**1.77**	**256**	*e*PN		**Pb**	**05 30 22.1 -0.9**
KCTX	**Karacabey (Bur**	**1.77**	**256**	*e*Pn		**Pb**	**05 30 22.1 -0.9**
DST	**Dursunbey**	**1.88**	**235**	*e*PN		**Pn**	**05 30 23.5 +1.0**
DST	**Dursunbey**	**1.88**	**235**	*e*Pn		**Pn**	**05 30 23.5 +1.0**
SLVT	**Silivri**	**1.89**	**287**	*e*PN		**Pn**	**05 30 23.1 +0.6**
SLVT	**Silivri**	**1.89**	**287**	*e*Pn		**Pn**	**05 30 23.1 +0.6**
CTYL	**Yal??k??y-??at**	**1.91**	**294**	*e*PN		**Pn**	**05 30 23.8 +1.0**
CTYL	**Yal??k??y-??at**	**1.91**	**294**	*e*Pn		**Pn**	**05 30 23.8 +1.0**
DURS	**Dursunbey**	**1.97**	**237**	*i* P		**Pn**	**05 30 23.1 -0.7**
DURS				*i* S		**Sn**	**05 30 47.4 -0.9**
DURS	**Dursunbey**	**1.97**	**237**	*i* P		**Pn**	**05 30 23.1 -0.7**
DURS				*i* S		**Sn**	**05 30 47.4 -0.9**
BOLV	**Bolvadin**	**2.01**	**172**	*i* P		**Pn**	**05 30 23.9 -0.4**
BOLV				*i* S		**Sg**	**05 30 54.2 -1.0**
BOLV	**Bolvadin**	**2.01**	**172**	*i* P		**Pn**	**05 30 23.9 -0.4**
KIZT	**Kizilcal**	**2.07**	**151**	*e*PN		**Pn**	**05 30 26.1 +0.9**
KIZT	**Kizilcal**	**2.07**	**151**	*e*Pn		**Pn**	**05 30 26.1 +0.9**
EDC	**Edincik**	**2.12**	**261**	*e*PN		**Pn**	**05 30 26.4 +0.6**
EDC	**Edincik**	**2.12**	**261**	*e*Pn		**Pn**	**05 30 26.4 +0.6**
SHUT	**Suhut-Afyon**	**2.15**	**181**	*e*PN		**Pn**	**05 30 27.1 +0.8**
SHUT	**Suhut-Afyon**	**2.15**	**181**	*e*Pn		**Pn**	**05 30 27.1 +0.8**
DEMI	**Demirci**	**2.21**	**222**	*i* P		**Pb**	**05 30 31.0 +0.5**
DEMI				*i* S		**Sg**	**05 31 00.7 -1.0**
DEMI	**Demirci**	**2.21**	**222**	*i* P		**Pb**	**05 30 31.0 +0.5**
CRLT	**Corlu**	**2.21**	**282**	*e*PN		**Pn**	**05 30 28.1 +1.1**
CRLT	**Corlu**	**2.21**	**282**	*e*Pn		**Pn**	**05 30 28.1 +1.1**
BALT	**Daday**	**2.26**	**68**	*i* P		**Pb**	**05 30 30.8 -0.6**
BALT				*i* S		**Sn**	**05 30 55.6 +0.1**
BALT	**Daday**	**2.26**	**68**	*i* P		**Pb**	**05 30 30.8 -0.6**
BALT				*i* S		**Sn**	**05 30 55.6 +0.1**
GONE	**Gonen-Balikesi**	**2.33**	**254**	*e*PN		**Pn**	**05 30 29.5 +1.0**
GONE	**Gonen-Balikesi**	**2.33**	**254**	*e*Pn		**Pn**	**05 30 29.5 +1.0**
BALB	**Balikesir**	**2.34**	**244**	*e*PN		**Pn**	**05 30 29.6 +0.8**
BALB	**Balikesir**	**2.34**	**244**	*e*Pn		**Pn**	**05 30 29.6 +0.8**
BALY	**Balya**	**2.48**	**248**	*i* P		**Pb**	**05 30 35.4 +0.3**
BALY				*i* S		**Sb**	**05 31 06.7 +1.2**
BALY	**Balya**	**2.48**	**248**	*i* P		**Pb**	**05 30 35.4 +0.3**
BALY				*i* S		**Sb**	**05 31 06.7 +1.2**
KHAL	**Karahalli**	**2.49**	**201**	*i* P		**Pb**	**05 30 36.5 +1.2**
KHAL				*i* S		**Sg**	**05 31 09.6 -1.1**
KHL	**Karahalli**	**2.52**	**200**	*e*PN		**Pn**	**05 30 32.8 +1.4**
KHL	**Karahalli**	**2.52**	**200**	*e*Pn		**Pn**	**05 30 32.8 +1.4**
MFT	**Murefte**	**2.52**	**273**	*e*PN		**Pn**	**05 30 32.6 +1.2**
MFT	**Murefte**	**2.52**	**273**	*e*Pn		**Pn**	**05 30 32.6 +1.2**
KULA	**Kula-Manisa**	**2.66**	**215**	*e*PN		**Pn**	**05 30 34.5 +1.3**
KULA	**Kula-Manisa**	**2.66**	**215**	*e*Pn		**Pn**	**05 30 34.5 +1.3**
LADK	**Ladik-KONYA**	**2.85**	**151**	*e*PN		**Pn**	**05 30 36.7 +0.8**
LADK	**Ladik-KONYA**	**2.85**	**151**	*e*Pn		**Pn**	**05 30 36.7 +0.8**
EDRB	**Edirne**	**3.12**	**293**	*e*PN		**Pn**	**05 30 41.1 +1.7**
EDRB	**Edirne**	**3.12**	**293**	*e*Pn		**Pn**	**05 30 41.2 +1.7**
TIRR	**Tirgusor**	**4.08**	**337**	*i*P		**Pn**	**05 30 53.8 +1.1**

*NEIC **01** 05:30:50.4, 36.93S×177.19E, h12km, ML4.5(WEL), After WEL.*
WEL 01 05:30:51.8±0.2, 37.02S×177.19E, h33km, ML4.4/13, 2C-1D, Error ellipse: s-maj=2.0km s-min=1.7km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.51**	**180**	P*		Pb	05 31 00.8 -1.7
WIZ				S*		Sb	05 31 07.8 -2.0
WIZ				S*		Sn	05 31 08.1 -2.2
WIZ	**White Island**	**0.51**	**180**	P*		Pb	05 31 00.8 -1.7
MYRZ	**Mayor Island**	**0.80**	**251**	↑P*		Pn	05 31 06.2 -0.5
MYRZ				S*		Sn	05 31 16.9 -0.6
OPRZ	**Ohinepanea**	**0.96**	**211**	P*		Pn	05 31 08.0 -1.0
OPRZ				S*		Sn	05 31 21.1 -0.5
OPRZ	**Ohinepanea**	**0.96**	**211**	P*		Pn	05 31 08.0 -1.0
TGRZ	**Tauranga**	**1.02**	**226**	↓P*		Pn	05 31 09.2 -0.6
TGRZ	**Tauranga**	**1.02**	**226**	P*		Pn	05 31 09.2 -0.6
MXZ	**Matakaoa Point**	**1.04**	**122**	P*		Pn	05 31 09.4 -0.7
MXZ				S*		Sn	05 31 23.2 -0.3
MXZ	**Matakaoa Point**	**1.04**	**122**	P*		Pn	05 31 09.4 -0.7
MARZ	**Manawahe**	**1.05**	**203**	P*		Pn	05 31 09.6 -0.6
MARZ	**Manawahe**	**1.05**	**203**	P*		Pn	05 31 09.6 -0.6
LIRZ	**Lichensteins R**	**1.17**	**213**	P*		Pn	05 31 11.8 -0.1
KUZ	**Kuaotunu**	**1.21**	**283**	PN		Pn	05 31 11.4 -0.9
KUZ				SN		Sn	05 31 25.7 -1.8
KUZ	**Kuaotunu**	**1.21**	**283**	P*		Pn	05 31 11.4 -0.9
URZ	**Urewera**	**1.24**	**183**	↑P*		Pn	05 31 12.4 -0.4
URZ	**Urewera**	**1.24**	**183**	*e*Pn		Pn	05 31 12.5 -0.3
OMRZ	**Omania**	**1.26**	**211**	P*		Pn	05 31 13.2 0.0
MWZ	**Matawai**	**1.34**	**168**	P*		Pn	05 31 13.6 -0.6
PUZ	**Puketiti**	**1.35**	**141**	PN		Pb	05 31 15.8 -0.8
TOZ	**Tahuroa Road**	**1.52**	**242**	P*		Pn	05 31 16.2 -0.4
MKAZ	**Moumakai**	**1.62**	**266**	PN		Pn	05 31 17.8 -0.1
MKAZ	**Moumakai**	**1.62**	**266**	Pn		Pn	05 31 17.9 -0.1
CNGZ	**Carngh Statio**	**1.67**	**151**	PN		Pb	05 31 21.6 -0.3
OUZ	**Omahuta**	**3.42**	**301**	*e*Pn		Pn	05 31 44.0 +1.2

*NIED **01** 05:43:00, 35.40N×140.10E, h53km, Mw3.9 Best double couple: M0 9.25000×10^14 NP1: ϕs 158.00000°, δ51.00000°, λ-81.00000°. NP2: ϕs 324.00000°, δ39.00000°, λ-101.00000°.*
*ISCJB **01** 05:43:40.0±0.4, 35.35N±0.04×140.08E±0.04, h68km±3km, mb3.6/11, Error ellipse: s-maj=7.1km s-min=4.6km az=42.1*
*IDC **01** 05:43:40.9±1.0, 35.30N×140.02E, h64km±8km, mb3.4/11, mb1 3.7/11, mb1mx3.5/24, mbtmp3.4/11, MS2.9/3, Ms1 2.9/3, ms1mx2.6/18, Error ellipse: s-maj=18.5km s-min=17.8km az=45.0*
*JMA **01** 05:43:40.5±0.2, 35.41N×140.08E, h64km±2km, M3.7 Broadband fault plane solution: P waves. NP1: ϕs 334.00000°, δ52.00000°, λ-109.00000°. NP2: ϕs 184.00000°, δ42.00000°, λ-67.00000°. Principal axes: T Plg5.0000°, Azm78.0000°; N Plg15.0000°, Azm347.0000°; P Plg74.0000°, Azm186.0000°;*
JMA Felt II J1.
ISC 01 05:43:40.9±0.6, 35.38N±0.04×140.08E±0.04, h63km±5km, n31, σ0.84/45, mb3.6/11, 4C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.11**	**67**	↓P		**Pn**	**05 43 50.8 +0.5**
KTR	**Katsuura**	**0.30**	**139**	↓P		**Pn**	**05 43 51.2 -0.1**
KTR				S		**Sn**	**05 43 59.0 +0.2**
TATJ	**Tateyama 2**	**0.38**	**204**	↓P		**Pn**	**05 43 52.4 +0.5**
TATJ				*e*S		**Sn**	**05 44 00.1 +0.2**
BSO3	**Boso 3**	**0.67**	**148**	↓P		**Pn**	**05 43 54.6 -0.1**
BSO3				*e*S		**Sn**	**05 44 04.7 -0.1**
JOD2	**Odawara 2**	**0.82**	**262**	↑P		**Pn**	**05 43 56.3 -0.4**
JOD2				*e*S		**Sn**	**05 44 07.5 -0.9**
JIM2	**Oshima 3**	**0.84**	**219**	P		**Pn**	**05 43 56.4 -0.7**
JIM2				*e*S		**Sn**	**05 44 08.0 -1.0**
BSO1	**Boso 1**	**1.03**	**134**	P		**Pn**	**05 43 58.3 -0.6**
BSO1				*e*S		**Sn**	**05 44 12.2 -0.2**
JRY	**Ryogami san**	**1.15**	**304**	↑P		**Pn**	**05 44 01.0 0.0**
JRY				*e*S		**Sn**	**05 44 16.3 +0.2**
JAG	**Ashikaga**	**1.16**	**334**	↓P		**Pn**	**05 44 00.7 -0.5**
JAG				*e*S		**Sn**	**05 44 15.5 -0.8**
JIZS	**Izushimoda**	**1.18**	**237**	↑P		**Pn**	**05 44 01.0 -0.4**
JIZS				*e*S		**Sn**	**05 44 16.0 -0.7**
JYN	**Shimob**	**1.26**	**276**	↑P		**Pn**	**05 44 02.2 -0.3**
JYN				*e*S		**Sn**	**05 44 17.5 -1.1**
JMY	**Miyakejima3**	**1.38**	**200**	P		**Pn**	**05 44 03.8 -0.3**
JMY				*e*S		**Sn**	**05 44 21.7 +0.2**
MJAR	**Matsushiro Arr**	**1.91**	**308**	P		**Pn**	**05 44 11.4 +0.2**
	44nm,0.3s,baz=157,slow=13,SNR=341						
MJAR				S		**Sn**	**05 44 35.2 +1.0**
	41nm,0.3s,baz=140,slow=28,SNR=14						
MAT	**Matsushiro**	**1.91**	**308**	P		**Pn**	**05 44 11.4 +0.2**
MAT				S		**Sn**	**05 44 34.7 +0.4**
JNU	**Nakatsue**	**7.94**	**256**	P		**Pn**	**05 45 36.0 +2.4**
	0.5nm,0.3s,baz=60,slow=14,SNR=5.0						
ASAJ	**Asahikawa**	**8.94**	**12**	P		**Pn**	**05 45 44.9 -2.3**
	0.4nm,0.3s,baz=166,slow=17,SNR=2.7						
KSRS	**Korea Array**	**10.01**	**286**	P		Pn	05 46 05.3 +3.4
	0.7nm,0.3s,baz=102,slow=13,SNR=6.1						
KSRS				LR	LR	05 49 44.1	
	comp=Z,64nm,20.0s,baz=110,slow=36						
JOW	**Kunigami**	**13.21**	**233**	LR	LR	05 51 58.5	
	comp=Z,62nm,18.2s,baz=308,slow=38						
PETK	**Petropavlovsk-**	**21.66**	**30**	LR	LR	05 56 26.9	
	comp=Z,25nm,19.1s,baz=115,slow=35						
ZALV	**Zalesovo Beam**	**42.26**	**314**	P		**P**	**05 51 27.3 -0.5**
	0.3nm,0.4s,baz=117,slow=8.4,SNR=2.7						
ZALV				PcP		**PcP**	**05 53 20.2 -0.4**
	0.6nm,0.4s,baz=98,slow=2.9,SNR=5.0						
MKAR	**Makanchi Array**	**44.10**	**303**	P		**P**	**05 51 43.3 +0.4**
	0.4nm,0.5s,baz=83,slow=9.6,SNR=12						
MKAR				pP		**pP**	**05 51 59.3 +0.5**
	0.6nm,0.7s,baz=91,slow=10,SNR=3.9						
KURBB	**Kurchatov Arra**	**46.19**	**309**	P		**P**	**05 51 59.2 0.0**
	1.7nm,0.8s,baz=81,slow=7.6,SNR=18						
ILAR	**Eielson Array**	**51.47**	**32**	P		**P**	**05 52 40.1 +0.6**
	0.8nm,0.9s,baz=257,slow=5.8,SNR=7.1						
ILAR				pP		**pP**	**05 52 55.4 -0.4**
	0.4nm,0.8s,baz=267,slow=6.1,SNR=2.5						
WRA	**Warramunga Arr**	**55.28**	**187**	P		**P**	**05 53 06.6 -1.3**
	1.7nm,0.8s,baz=2.9,slow=7.8,SNR=21						
ASAR	**Alice Springs**	**59.01**	**187**	P		**P**	**05 53 34.0 -0.2**
	0.4nm,0.6s,baz=2.6,slow=7.1,SNR=4.7						
YKA	**Yellowknife Ar**	**65.78**	**29**	P		**P**	**05 54 19.2 +0.3**
	0.5nm,0.8s,baz=301,slow=6.6,SNR=10						
FINES	**FINESS Array B**	**69.77**	**332**	P		**P**	**05 54 42.5 -1.5**
	1.5nm,0.8s,baz=356,slow=5.9,SNR=4.8						
FINES				pP		**pP**	**05 55 01.5 +0.5**
	1.3nm,0.7s,baz=75,slow=8.1,SNR=2.1						
NVAR	**Mina Array Bea**	**76.85**	**52**	P		**P**	**05 55 28.1 +1.6**
	0.5nm,0.7s,baz=294,slow=4.7,SNR=4.4						
PDAR	**Pinedale Array**	**79.60**	**45**	P		**P**	**05 55 42.1 +0.5**
	0.3nm,0.8s,baz=331,slow=3.5,SNR=2.5						
TXAR	**Lajitas Array**	**91.99**	**52**	P		**P**	**05 56 44.0 +0.9**
	0.1nm,0.6s,baz=298,slow=1.9,SNR=2.6						
TORD	**Torodi Ar. Bea**	**117.70**	**313**	PKP		**PKPdf**	**06 02 19.8 -0.7**
	0.6nm,1.0s,baz=0.5,slow=1.6,SNR=3.1						

*ISCJB **01** 05:52:04.5±0.4, 42.32N±0.02×13.48E±0.04, h9km±4km, Error ellipse: s-maj=5.3km s-min=3.1km az=149.1*
*ROM **01** 05:52:04.1±0.1, 42.31N×13.47E, h7km±1km, Md2.7/16, Ml2.1/10, Error ellipse: s-maj=1.8km s-min=1.0km az=61.0*
*CSEM **01** 05:52:04.7±0.1, 42.33N×13.48E, h2km, ML2.5/10, Error ellipse: s-maj=3.3km s-min=2.0km az=61.0*
ISC 01 05:52:04.7±0.8, 42.32N±0.02×13.47E±0.02, h7km±5km, n36, σ0.62/60, 6D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQU	**L'Aquila**	**0.06**	**310**	↓*e*Pg		**Pg**	**05 52 06.4 -0.1**
AQU				Sg		**Sg**	**05 52 07.9 +0.1**
	3µm,0.3s						
AQU	**L'Aquila**	**0.06**	**310**	↓*e*Pg		**Pg**	**05 52 06.4 -0.1**
AQU				Sg		**Sg**	**05 52 07.9 +0.1**
	3µm,0.3s						
FAGN	**Fagnano**	**0.10**	**119**	Pg		**Pg**	**05 52 07.0 -0.1**
FAGN				Sg		**Sg**	**05 52 09.0 +0.3**
	2µm,0.3s						
FAGN	**Fagnano**	**0.10**	**119**	Pg		**Pg**	**05 52 07.0 -0.1**
FAGN				Sg		**Sg**	**05 52 09.0 +0.3**
	2µm,0.3s						
CAMP	**Campotosto**	**0.23**	**349**	Pg		**Pg**	**05 52 09.5 +0.2**
CAMP				Sg		**Sg**	**05 52 13.1 +0.8**
	139nm,0.9s						
CAMP	**Campotosto**	**0.23**	**349**	Pg		**Pg**	**05 52 09.5 +0.2**
CAMP				Sg		**Sg**	**05 52 13.1 +0.8**
	139nm,0.9s						
PTQR	**Pietraquaria**	**0.30**	**189**	↓*i*Pg		**Pg**	**05 52 10.6 0.0**
PTQR				Sg		**Sg**	**05 52 15.4 +0.9**
	56nm,0.3s						
PTQR	**Pietraquaria**	**0.30**	**189**	↓*i*Pg		**Pg**	**05 52 10.6 0.0**
PTQR				Sg		**Sg**	**05 52 15.4 +0.9**
	56nm,0.3s						
LNSS	**Leonessa**	**0.43**	**313**	Pg		**Pg**	**05 52 13.0 0.0**
LNSS				Sg		**Sb**	**05 52 20.7 -0.6**
	287nm,0.7s						
LNSS	**Leonessa**	**0.43**	**313**	Pg		**Pg**	**05 52 13.0 0.0**
LNSS				Sg		**Sb**	**05 52 20.7 -0.6**
	287nm,0.7s						
VVLD	**Villa Vallelon**	**0.46**	**165**	Pg		**Pg**	**05 52 13.2 -0.4**
	161nm,0.4s						
VVLD	**Villa Vallelon**	**0.46**	**165**	Pg		**Pg**	**05 52 13.2 -0.4**
	161nm,0.4s						
GUAR	**Guarcino**	**0.53**	**192**	Pg		**Pb**	**05 52 15.9 -0.5**
	85nm,0.4s						
GUAR	**Guarcino**	**0.53**	**192**	Pg		**Pb**	**05 52 15.9 -0.5**
	85nm,0.4s						
NRCA	**Norcia**	**0.58**	**334**	↓*e*Pg		**Pg**	**05 52 15.5 -0.4**
NRCA				Sg		**Sb**	**05 52 24.7 -1.0**
	35nm,0.5s						
NRCA	**Norcia**	**0.58**	**334**	↓*e*Pg		**Pg**	**05 52 15.5 -0.4**
NRCA				Sg		**Sb**	**05 52 24.7 -1.0**
	35nm,0.5s						
MNS	**Montasola**	**0.58**	**277**	Pg		**Pg**	**05 52 15.6 -0.4**
	103nm,1.0s						
MNS	**Montasola**	**0.58**	**277**	Pg		**Pg**	**05 52 15.6 -0.4**
	103nm,1.0s						
LPEL	**Lama dei Pelig**	**0.60**	**116**	Pg		**Pg**	**05 52 15.8 -0.4**
LPEL				Sg		**Sb**	**05 52 25.0 -1.2**
	230nm,0.6s						
LPEL	**Lama dei Pelig**	**0.60**	**116**	Pg		**Pg**	**05 52 15.8 -0.4**
LPEL				Sg		**Sb**	**05 52 25.0 -1.2**
	230nm,0.6s						
MTCE	**Montecelio**	**0.61**	**242**	Pg		**Pg**	**05 52 16.8 +0.3**
MTCE				Sg		**Sb**	**05 52 26.2 -0.3**
	52nm,0.4s						
MTCE	**Montecelio**	**0.61**	**242**	Pg		**Pg**	**05 52 16.8 +0.3**
MTCE				Sg		**Sb**	**05 52 26.2 -0.3**
	52nm,0.4s						
SDI	**San Donato**	**0.66**	**157**	Pg		**Pg**	**05 52

PBDV					S		Sn	06 06 03.3	-0.5
	13nm,0.8s								
PBDV	**Barranco-do-Ve**	**4.08**	**88**	P			**Pn**	**06 05 17.0**	**+1.0**
PBDV					S		**Sn**	**06 06 03.3**	**-0.5**
	13nm,0.8s								
PBEJ	**Beja**	**4.20**	**77**	*e*Pn			**Pn**	**06 05 19.1**	**+1.6**
PBEJ				*e*Sn			**Sn**	**06 06 07.0**	**+0.4**
PBEJ				A			A	06 06 08.2	
	4.6nm,0.5s								
PBEJ	**Beja**	**4.20**	**77**	P			**Pn**	**06 05 19.1**	**+1.6**
PBEJ				S			**Sn**	**06 06 07.0**	**+0.4**
	2.3nm,0.5s								
PBEJ	**Beja**	**4.20**	**77**	P			**Pn**	**06 05 19.1**	**+1.6**
PBEJ				S			**Sn**	**06 06 07.0**	**+0.4**
	2.3nm,0.5s								
EVO	**Evora**	**4.21**	**70**	*e*Pn			**Pn**	**06 05 19.1**	**+1.5**
EVO				*e*Sn			**Sn**	**06 06 05.7**	**-1.1**
EVO				A			A	06 06 10.1	
	5.8nm,0.2s								
EVO	**Evora**	**4.21**	**70**	P			**Pn**	**06 05 19.1**	**+1.5**
EVO				S			**Sn**	**06 06 05.7**	**-1.1**
	5.8nm,0.2s								
EVO	**Evora**	**4.21**	**70**	P			**Pn**	**06 05 19.1**	**+1.5**
EVO				S			**Sn**	**06 06 05.7**	**-1.1**
	5.8nm,0.2s								
PMTG	**Montargil**	**4.24**	**62**	*e*Pn			**Pn**	**06 05 19.8**	**+1.7**
PMTG				*e*Sn			**Sn**	**06 06 08.8**	**+1.1**
PMTG				A			A	06 06 13.8	
	5.3nm,0.8s								
PMTG	**Montargil**	**4.24**	**62**	*e*Pn			**Pn**	**06 05 19.8**	**+1.7**
PMTG				*e*Sn			**Sn**	**06 06 08.8**	**+1.1**
	5.3nm,0.8s								
PVAQ	**Vaqueiros**	**4.26**	**85**	*e*Pn			**Pn**	**06 05 19.1**	**+0.8**
PVAQ				*e*Sn			**Sn**	**06 06 07.5**	**-0.5**
PVAQ				A			A	06 06 11.6	
	5.6nm,0.2s								
PVAQ	**Vaqueiros**	**4.26**	**85**	P			**Pn**	**06 05 19.1**	**+0.8**
PVAQ				S			**Sn**	**06 06 07.5**	**-0.5**
	5.6nm,0.2s								
PVAQ	**Vaqueiros**	**4.26**	**85**	P			**Pn**	**06 05 19.1**	**+0.8**
PVAQ				S			**Sn**	**06 06 07.5**	**-0.5**
	5.6nm,0.2s								
EGRO	**El Granado**	**4.45**	**84**	P			**Pn**	**06 05 22.7**	**+1.8**
	0.6nm,0.1s,SNR=4.0								
EGRO				S			**Sn**	**06 06 10.7**	**-2.0**
	27nm,0.4s,SNR=7.9								
EGRO	**El Granado**	**4.45**	**84**	P			**Pn**	**06 05 22.7**	**+1.8**
	0.6nm,0.1s,SNR=4.0								
EGRO				S			**Sn**	**06 06 10.7**	**-2.0**
	27nm,0.4s,SNR=7.9								
PESTR	**Estremoz**	**4.63**	**67**	*e*Pn			**Pn**	**06 05 24.7**	**+1.3**
PESTR				*e*Sn			**Sn**	**06 06 16.6**	**-0.6**
PESTR				A			A	06 06 23.1	
	2.9nm,0.3s								
PESTR	**Estremoz**	**4.63**	**67**	P			**Pn**	**06 05 24.7**	**+1.3**
PESTR				S			**Sn**	**06 06 16.6**	**-0.6**
	2.9nm,0.3s								
PESTR	**Estremoz**	**4.63**	**67**	P			**Pn**	**06 05 24.7**	**+1.3**
PESTR				S			**Sn**	**06 06 16.6**	**-0.6**
	2.9nm,0.3s								
PBAR	**Barrancos**	**4.87**	**76**	*e*Pn			**Pn**	**06 05 28.5**	**+1.8**
PBAR				*e*Sn			**Sn**	**06 06 22.5**	**-0.6**
PBAR				A			A	06 06 25.4	
	3.3nm,0.7s								
PBAR	**Barrancos**	**4.87**	**76**	P			**Pn**	**06 05 28.5**	**+1.8**
PBAR				S			**Sn**	**06 06 22.5**	**-0.6**
	3.3nm,0.7s								
PBAR	**Barrancos**	**4.87**	**76**	P			**Pn**	**06 05 28.5**	**+1.8**
PBAR				S			**Sn**	**06 06 22.5**	**-0.6**
	3.3nm,0.7s								
PMRV	**Marv??o**	**4.98**	**62**	*e*Pn			**Pn**	**06 05 30.1**	**+1.8**
PMRV				*e*Sn			**Sn**	**06 06 25.4**	**-0.5**
PMRV				A			A	06 06 28.8	
	4.1nm,0.6s								
PMRV	**Marv??o**	**4.98**	**62**	P			**Pn**	**06 05 30.1**	**+1.8**
PMRV				S			**Sn**	**06 06 25.4**	**-0.5**
	4.1nm,0.6s								
PMRV	**Marv??o**	**4.98**	**62**	P			**Pn**	**06 05 30.1**	**+1.8**
PMRV				S			**Sn**	**06 06 25.4**	**-0.5**
	4.1nm,0.6s								
EBAD	**Badajoz**	**5.02**	**70**	P			**Pn**	**06 05 30.6**	**+1.8**
	SNR=7.9								
EBAD				S			**Sn**	**06 06 26.0**	**-0.9**
	1.9nm,0.1s,SNR=7.9								
EBAD	**Badajoz**	**5.02**	**70**	P			**Pn**	**06 05 30.6**	**+1.8**
	SNR=7.9								
EBAD				S			**Sn**	**06 06 26.0**	**-0.9**
	1.9nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**5.11**	**82**	S			**Sn**	**06 06 25.7**	**-3.2**
	1.2nm,0.1s,SNR=7.9								
EMIN	**Mina Concepcio**	**5.11**	**82**	S			**Sn**	**06 06 25.7**	**-3.2**
	1.2nm,0.1s,SNR=7.9								
PVIS	**Viseu**	**5.35**	**47**	*e*Pn			**Pn**	**06 05 34.1**	**+0.8**
PVIS				*e*Sn			**Sn**	**06 06 34.2**	**-0.8**
PVIS	**Viseu**	**5.35**	**47**	P			**Pn**	**06 05 34.1**	**+0.8**
PVIS				S			**Sn**	**06 06 34.2**	**-0.8**
PVIS	**Viseu**	**5.35**	**47**	P			**Pn**	**06 05 34.1**	**+0.8**
PVIS				S			**Sn**	**06 06 34.2**	**-0.8**
PGAV	**Gavieira, Arco**	**6.04**	**36**	*e*Pn			**Pn**	**06 05 43.7**	**+0.9**
PGAV				*e*Sn			**Sn**	**06 06 49.4**	**-2.6**
PGAV	**Gavieira, Arco**	**6.04**	**36**	*e*Pn			**Pn**	**06 05 43.7**	**+0.9**
PGAV				*e*Sn			**Sn**	**06 06 49.4**	**-2.6**
MVO	**Moncorvo**	**6.14**	**48**	*e*Pn			**Pn**	**06 05 44.1**	**-0.1**
MVO				*e*Sn			**Sn**	**06 06 52.6**	**-1.9**
MVO				A			A	06 07 02.8	
	4.4nm,0.3s								
MVO	**Moncorvo**	**6.14**	**48**	S			**Sn**	**06 06 53.0**	**-1.5**
	0.6nm,0.1s,SNR=7.5								
MVO	**Moncorvo**	**6.14**	**48**	*e*Pn			**Pn**	**06 05 44.1**	**-0.1**
MVO				*e*Sn			**Sn**	**06 06 52.6**	**-1.9**
	4.4nm,0.3s								
MVO				S			Sb	06 06 53.0	-21
	0.6nm,0.1s,SNR=7.5								
EADA	**Adamuz**	**6.79**	**79**	P			**Pn**	**06 05 53.6**	**+0.5**
	SNR=7.9								
EADA				S			**Sn**	**06 07 08.4**	**-2.1**
	0.4nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**6.79**	**79**	P			**Pn**	**06 05 53.6**	**+0.5**
	SNR=7.9								
EADA				S			**Sn**	**06 07 08.4**	**-2.1**
	0.4nm,0.1s,SNR=7.9								

IDC 01 06:09:19.2±2.8, 49°56S×109°91E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/12, mbtmp3.7/2, Error ellipse: s-maj=161.0km s-min=49.7km az=120.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**31.96**	**45**	P	P	06 15 47.4	+0.5
	0.7nm,0.8s,baz=209,slow=9.4,SNR=4.6						
WRA	**Warramunga Arr**	**35.41**	**42**	P	P	06 16 16.5	-0.3
	1.2nm,0.8s,baz=206,slow=8.1,SNR=5.6						
NVAR	**Mina Array Bea**	**144.15**	**89**	PKP	PKPdf	06 28 56.9	+0.2
	0.1nm,0.3s,baz=197,slow=2.8,SNR=2.6						
TXAR	**Lajitas Array**	**147.52**	**116**	PKPbc	PKPbc	06 29 05.9	+0.7
	0.4nm,0.9s,baz=175,slow=4.5,SNR=3.2						
YKA	**Yellowknife Ar**	**152.59**	**45**	PKPbc	PKPbc	06 29 14.2	-2.1
	0.1nm,0.6s,baz=286,slow=2.8,SNR=3.5						

IDC 01 06:43:05.3±7.1, 22°75S×13°25W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/16, mbtmp4.0/4, MS3.6/3, Ms1 3.5/3, ms1mx3.1/20, Error ellipse: s-maj=183.3km s-min=40.6km az=60.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**33.52**	**276**	LR	LR	07 00 56.7	
	comp=Z,106nm,18.1s,baz=197,slow=32						
BOSA	**Boshof**	**35.08**	**108**	P	P	06 50 00.3	-0.1
	2.6nm,0.9s,baz=292,slow=7.6,SNR=4.8						
BOSA				LR	LR	07 01 15.9	
	comp=Z,60nm,18.9s,baz=345,slow=31						
TORD	**Torodi Ar. Bea**	**38.57**	**24**	P	P	06 50 29.9	-0.2
	1.7nm,0.7s,baz=200,slow=8.5,SNR=10						
PLCA	**Paso Flores**	**51.03**	**235**	LR	LR	07 09 50.0	
	comp=Z,71nm,18.6s,baz=50,slow=31						
GERES	**GERESS Array B**	**75.23**	**18**	P	P	06 54 49.6	-0.2
	0.7nm,0.7s,baz=204,slow=7.6,SNR=4.0						
BRTR	**Keskin Array B**	**76.01**	**35**	P	P	06 54 54.8	+0.3
	1.0nm,0.8s,baz=216,slow=6.9,SNR=6.8						

WEL 01 06:50:36.7±0.7, 36°71S×178°19E, h12km, ML3.5/4, 2D, Error ellipse: s-maj=6.2km s-min=4.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.86**	**174**	P*	Pg	06 50 51.4	-2.0
MXZ				S*	Sg	06 51 02.9	-1.8
MWZ	**Matawai**	**1.71**	**198**	P*	Pn	06 51 05.2	-1.2
MWZ				S*	Sn	06 51 26.2	-2.1
URZ	**Urewera**	**1.77**	**209**	⇓P*	Pn	06 51 05.4	-1.9
URZ				S*	Sn	06 51 25.0	-4.7
KUZ	**Kuaotunu**	**1.98**	**268**	⇓PN	Pn	06 51 09.2	-0.9
KUZ				SN	Sn	06 51 32.9	-2.0
TOZ	**Tahuroa Road**	**2.38**	**244**	P*	Pn	06 51 14.9	-0.6
MKAZ	**Moumakai**	**2.46**	**260**	PN	Pn	06 51 16.3	-0.4
NMHZ	**Naumai**	**2.63**	**204**	PN	Pn	06 51 18.2	-0.9

*NIED **01** 07:08:00.27°.20N×128°.40E, h50km, Mw4.0 Best double couple: M₀1.31000×10¹⁵ NP1:φ₁125.00000°, δ72.00000°, λ70.00000°. NP2:φ₂354.00000°, δ26.00000°, λ136.00000°.*
*MOS **01** 07:08:58.6±1.0, 27°.17N×128°.35E, h68km, mb4.4/19, Error ellipse: s-maj=15.5km s-min=9.4km az=104.0*
*ISCJB **01** 07:08:58.3±0.3, 27°.19N±0°.04×128°.42E±0°.05, h65km±3km, mb4.1/26, Error ellipse: s-maj=9.4km s-min=3.7km az=42.5*
*IDC **01** 07:08:58.5±0.8, 27°.20N×128°.40E, h47km±9km, mb3.8/18, mb1 3.9/19, mb1mx3.9/25, mbtmp3.8/19, ML3.2/1, MS2.8/2, Ms1 2.8/2, ms1mx2.5/34, Error ellipse: s-maj=18.4km s-min=16.0km az=90.0*
*NEIC **01** 07:08:59.8±0.6, 27°.12N×128°.41E, h64km±5km, mb4.1/4, Error ellipse: s-maj=9.9km s-min=7.2km az=110.0*
NEIC Recorded [1 JMA] on Iheya-shima, Okinawa and Yoron-jima.
*JMA **01** 07:08:59.3, 27°.20N×128°.43E, h55km±1km, M4.2*
JMA Felt I J1.

ISC 01 07:08:59.3±0.6, 27°.15N±0°.04×128°.47E±0°.04, h57km±5km, n81, σ1°13/105, mb4.1/26, 3C-1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.36**	**209**	P	**Pn**	**07 09 09.7**	**0.0**
JOW				S	**Sn**	**07 09 17.6**	**+0.4**
JOW	**Kunigami**	**0.36**	**209**	P	**Pn**	**07 09 09.7**	**0.0**
JOW				S	**Sn**	**07 09 17.3**	**+0.2**
JOW	**Kunigami**	**0.36**	**209**	P	**Pn**	**07 09 09.7**	**0.0**
	4μm,0.3s,baz=64,slow=9.7,SNR=7855						
JOW				S	**Sn**	**07 09 17.6**	**+0.4**
	2μm,0.3s,baz=99,slow=27,SNR=5.4						
JIH	**Iheya**	**0.46**	**255**	P	**Pn**	**07 09 10.3**	**-0.3**
JIH				S	**Sn**	**07 09 18.2**	**-0.6**
JTK	**Tokunoshima**	**0.76**	**34**	P	**Pn**	**07 09 14.1**	**-0.1**
JTK				S	**Sn**	**07 09 24.5**	**-0.5**
NAH1	**Naha**	**1.18**	**217**	P	**Pn**	**07 09 20.2**	**+0.7**
NAH1				*e*S	**Sn**	**07 09 35.8**	**+1.2**
JJT2	**Tamagusuku 2**	**1.20**	**213**	P	**Pn**	**07 09 20.6**	**+0.8**
JAGN	**Aguni-jima**	**1.23**	**243**	P	**Pn**	**07 09 20.2**	**-0.1**
JAGN				S	**Sn**	**07 09 35.9**	**0.0**
JAM	**Amami Oshima**	**1.61**	**38**	P	**Pn**	**07 09 25.6**	**+0.2**
JAM				S	**Sn**	**07 09 44.9**	**-0.1**
JKE	**Kume jima 2**	**1.72**	**242**	P	**Pn**	**07 09 26.6**	**-0.2**
JKE				*e*S	**Sn**	**07 09 48.0**	**+0.3**
JZK	**Kikaishima**	**1.77**	**49**	P	**Pn**	**07 09 28.3**	**+0.8**
JZK				S	**Sn**	**07 09 50.2**	**+1.3**
JMZ	**Minamidaito 2**	**2.80**	**118**	P	**Pn**	**07 09 41.1**	**-0.5**
JMZ				*e*S	**Sn**	**07 10 10.8**	**-3.4**
JNN	**Nakanoshima**	**2.95**	**24**	P	**Pn**	**07 09 43.5**	**-0.2**
JNN				S	**Sn**	**07 10 17.0**	**-0.9**
JOGS	**Gusukube**	**3.64**	**230**	P	**Pn**	**07 09 53.1**	**-0.1**
JMJ	**Miyako jima 2**	**3.69**	**232**	P	**Pn**	**07 09 53.1**	**-0.7**
JTJ	**Tarama**	**4.21**	**234**	P	**Pn**	**07 09 59.9**	**-1.1**
JIJ	**Ishigaki jima**	**4.79**	**236**	P	**Pn**	**07 10 06.9**	**-2.0**
IRIF	**Iriomote-Funau**	**5.11**	**238**	P	**Pn**	**07 10 11.5**	**-1.8**
JNU	**Nakatsue**	**6.30**	**19**	P	**Pn**	**07 10 31.2**	**+1.6**
JNU				S	**Sn**	**07 11 39.6**	**-0.7**
JNU	**Nakatsue**	**6.30**	**19**	P	**Pn**	**07 10 31.2**	**+1.6**
	2.6nm,0.3s,baz=160,slow=10,SNR=33						
JNU				S	**Sn**	**07 11 39.6**	**-0.7**
	0.4nm,0.3s,baz=220,slow=18,SNR=2.0						
JNU				LR	LR	07 13 06.9	
	comp=Z,115nm,18.6s,baz=231,slow=40						
KSAR	**Wonju Array Be**	**10.27**	**357**	P	**Pn**	**07 11 25.7**	**+1.8**
KSRS	**Korea Array**	**10.28**	**358**	P	**Pn**	**07 11 25.7**	**+1.7**
	0.2nm,0.3s,baz=178,slow=14,SNR=7.7						
KSRS				LR	LR	07 16 10.2	
	comp=Z,320nm,18.7s,baz=168,slow=42						
MJAR	**Matsushiro Arr**	**12.49**	**39**	P	**Pn**	**07 11 55.3**	**+1.1**
MJAR	**Matsushiro Arr**	**12.49**	**39**	P	**Pn**	**07 11 55.3**	**+1.1**
	0.1nm,0.3s,baz=233,slow=9.0,SNR=2.5						
GTA	**Gaotai**	**26.77**	**304**	*e*P	**P**	**07 14 34.0**	**0.0**
GTA				pP	pP	07 14 38.3	-10
GTA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SONM	**Songino Array**	**26.90**	**326**	P	**P**	**07 14 36.0**	**+1.0**
SONM	**Songino Array**	**26.90**	**326**	P	**P**	**07 14 36.0**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=140,slow=10.0,SNR=15						
CMAR	**Chiang Mai Arr**	**28.50**	**259**	P	**P**	**07 14 50.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**28.50**	**259**	P	**P**	**07 14 50.0**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=47,slow=7.9,SNR=5.4						
PETK	**Petropavlovsk-**	**33.80**	**32**	P	**P**	**07 15 35.7**	**0.0**
PETK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PETK	**Petropavlovsk-**	**33.80**	**32**	P	**P**	**07 15 35.7**	**0.0**
PETK	**Petropavlovsk-**	**33.80**	**32**	P	**P**	**07 15 35.7**	**0.0**
	comp=Z,4.4nm,0.8s,baz=224,slow=8.3,SNR=4.9						
MK31	**Makanchi Array**	**41.09**	**311**	*e*P	**P**	**07 16 36.8**	**-0.6**
MK31	**Makanchi Array**	**41.09**	**311**	*e*P	**P**	**07 16 36.8**	**-0.6**
MKAR	**Makanchi Array**	**41.09**	**311**	P	**P**	**07 16 36.9**	**-0.5**
MKAR						07 18 36.2	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**41.09**	**311**	P	**P**	**07 16 36.9**	**-0.5**
MKAR				PcP	**PcP**	**07 18 36.2**	**+0.1**
MKAR				ScP	**ScP**	**07 22 23.4**	**+2.3**
MKAR	**Makanchi Array**	**41.09**	**311**	P	**P**	**07 16 36.9**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=98,slow=9.7,SNR=20						
MKAR				PcP	**PcP**	**07 18 36.2**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=77,slow=3.5,SNR=4.0						
MKAR				ScP	**ScP**	**07 22 23.4**	**+2.3**
	comp=Z,0.2nm,0.7s,baz=104,slow=5.3,SNR=3.5						
ZALV	**Zalesovo Beam**	**41.65**	**322**	P	**P**	**07 16 40.4**	**-1.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**41.65**	**322**	P	**P**	**07 16 40.4**	**-1.5**
ZALV	**Zalesovo Beam**	**41.65**	**322**	P	**P**	**07 16 40.4**	**-1.5**
	comp=Z,1.4nm,0.5s,baz=107,slow=8.8,SNR=11						
KURK	**Kurchatov**	**44.30**	**316**	*ce*P	**P**	**07 17 02.6**	**-0.7**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**44.30**	**316**	P	**P**	**07 17 03.1**	**-0.2**
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**44.34**	**316**	P	**P**	**07 17 03.1**	**-0.5**
	comp=Z,3.6nm,0.3s,baz=103,slow=8.8,SNR=17						
BILL	**Bilibino**	**46.73**	**18**	*e*P	**P**	**07 17 22.9**	**+0.6**
BILL				pmax	pmax		
	comp=Z,11nm,2.4s						
WRA	**Warramunga Arr**	**47.16**	**172**	P	**P**	**07 17 26.5**	**+0.3**
WRA	**Warramunga Arr**	**47.16**	**172**	P	**P**	**07 17 26.5**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=353,slow=8.2,SNR=5.5						
KKAR	**Karatay Array**	**49.06**	**305**	*e*P	**P**	**07 17 41.3**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KKAR	**Karatay Array**	**49.06**	**305**	*e*P	**P**	**07 17 41.3**	**+0.6**
	comp=Z,0.9nm,0.6s						
BVAR	**Borovoye Array**	**49.73**	**318**	P	**P**	**07 17 44.4**	**-1.2**
BVAR						07 19 07.5	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**49.73**	**318**	P	**P**	**07 17 44.4**	**-1.2**
BVAR				PcP	**PcP**	**07 19 07.5**	**+1.6**
BVAR	**Borovoye Array**	**49.73**	**318**	P	**P**	**07 17 44.4**	**-1.2**
	comp=Z,2.0nm,0.6s,baz=74,slow=8.3,SNR=18						
BVAR				PcP	**PcP**	**07 19 07.5**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=97,slow=3.6,SNR=7.6						
BRVK	**Borovoye**	**49.80**	**318**	⇓*e*P	**P**	**07 17 44.6**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ASAR	**Alice Springs**	**50.79**	**174**	P	**P**	**07 17 54.0**	**0.0**
ASAR				pP	**pP**	**07 18 07.9**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=353,slow=6.3,SNR=5.4						
ABKAR	**Akbulak array**	**56.18**	**313**	*e*P	**P**	**07 18 32.9**	**-0.3**
	comp=Z,0.7nm,0.3s						
ARU	**Arti**	**56.80**	**321**	*c i*P	**P**	**07 18 35.7**	**-1.8**
ARU						07 20 40.3	
ARU				S	**S**	**07 26 26.7**	**+0.4**
ARU				SS	**SS**	**07 30 08.8**	**-5.8**
ARU				pmax	pmax		
	comp=Z,12nm,2.5s						
AKTO	**Aktyubinsk**	**57.34**	**314**	P	**P**	**07 18 41.2**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
AKTO	**Aktyubinsk**	**57.34**	**314**	P	**P**	**07 18 41.2**	**-0.2**
AKTO	**Aktyubinsk**	**57.34**	**314**	P	**P**	**07 18 41.2**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=84,slow=12,SNR=5.2						
ILAR	**Eielson Array**	**63.53**	**28**	P	**P**	**07 19 23.2**	**-0.1**
ILAR	**Eielson Array**	**63.53**	**28**	P	**P**	**07 19 23.2**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=288,slow=10,SNR=17						
SPB4	**Spitsbergen Ar**	**67.97**	**348**	*e*P	**P**	**07 19 52.0**	**+0.2**
ARCES	**ARCESS Array B**	**69.23**	**338**	P	**P**	**07 19 59.4**	**-0.3**
ARCES	**ARCESS Array B**	**69.23**	**338**	P	**P**	**07 19 59.4**	**-0.3**
	comp=Z,6.0nm,1.0s,baz=64,slow=8.2,SNR=5.2						
JOF	**Joensuu**	**69.34**	**331**	*e*p	**P**	**07 20 00.1**	**-0.4**
	comp=Z,1.8nm,0.4s						
FINES	**FINESS Array B**	**72.17**	**330**	P	**P**	**07 20 17.0**	**-0.7**
FINES	**FINESS Array B**	**72.17**	**330**	P	**P**	**07 20 17.0**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=57,slow=5.7,SNR=28						
AKASG	**Malin Array Be**	**74.97**	**319**	*ce*P	**P**	**07 20 33.2**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**74.97**	**319**	P	**P**	**07 20 33.2**	**-1.1**
AKASG	**Malin Array Be**	**74.97**	**319**	P	**P**	**07 20 33.2**	**-1.1**
	comp=Z,1.1nm,0.4s,baz=55,slow=7.2,SNR=5.6						
BR131	**Keskin Array S**	**76.64**	**308**	*e*P	**P**	**07 20 44.1**	**-0.1**
	comp=Z,1.5nm,0.7s						
BRTR	**Keskin Array B**	**76.64**	**308**	P	**P**	**07 20 44.1**	**-0.1**
BRTR	**Keskin Array B**	**76.64**	**308**	P	**P**	**07 20 44.1**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=104,slow=5.0,SNR=12						
YKA	**Yellowknife Ar**	**77.60**	**25**	P	**P**	**07 20 49.8**	**+0.8**
YKA	**Yellowknife Ar**	**77.60**	**25**	P	**P**	**07 20 49.8**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=303,slow=5.7,SNR=33						
NB2	**NORSAR Subarra**	**78.58**	**334**	P	**P**	**07 20 53.6**	**-0.9**
	comp=Z,1.9nm,0.6s,baz=52,slow=5.9						
NOA	**NORSAR Array B**	**78.58**	**334**	P	**P**	**07 20 53.7**	**-0.9**
NOA	**NORSAR Array B**	**78.58**	**334**	P	**P**	**07 20 53.7**	**-0.9**
	comp=Z,3.7nm,0.7s,baz=52,slow=5.6,SNR=12						
FFC	**Flin Flon**	**87.67**	**27**	*i* P	**P**	**07 21 42.8**	**+1.3**
PDAR	**Pinedale Array**	**92.31**	**39**	P	**P**	**07 22 03.5**	**-0.3**
PDAR	**Pinedale Array**	**92.31**	**39**	P	**P**	**07 22 03.5**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=349,slow=0.9,SNR=4.9						

IDC 01 07:16:25.1±1.2, 13°92N×121°98E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.7/4, Error ellipse: s-maj=26.7km s-min=11.9km az=23.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.02**	**280**	Pg	Pg	07 16 44.9	+0.1
	126nm,0.3s,baz=94,slow=3.0,SNR=7.5						
TGY				Lg	Lg	07 16 58.9	
	175nm,0.3s,baz=154,slow=22,SNR=15						
WRA	**Warramunga Arr**	**35.78**	**160**	P	P	07 23 26.1	-0.1
	0.8nm,0.5s,baz=336,slow=9.6,SNR=7.7						
SONM	**Songino Array**	**36.21**	**342**	P	P	07 23 30.1	+0.3
	0.8nm,0.7s,baz=156,slow=9.7,SNR=8.1						
ASAR	**Alice Springs**	**39.14**	**163**	P	P	07 23 54.6	0.0
	0.9nm,0.6s,baz=340,slow=6.9,SNR=19						
MKAR	**Makanchi Array**	**46.60**	**323**	P	P	07 24 54.0	-0.9
	0.3nm,0.6s,baz=130,slow=8.3,SNR=4.6						

*IDC **01** 07:44:48.8±3.5, 36°.25N×70°.59E, h137km±31km, mb3.5/14, mb1 3.7/17, mb1mx3.5/29, mbtmp3.6/17, MS2.5/1, Ms1 2.5/1, ms1mx2.1/9, Error ellipse: s-maj=20.0km s-min=14.2km az=1.0*
*MOS **01** 07:44:49.1±1.3, 36°.37N×70°.64E, h148km, mb3.9/10, Error ellipse: s-maj=16.6km s-min=8.2km az=85.7*
*ISCJB **01** 07:44:52.5±0.4, 36°.63N±0°.03×70°.72E±0°.06, h188km, mb3.6/13, Error ellipse: s-maj=6.5km s-min=4.4km az=156.0*
*NNC **01** 07:44:53.7±1.7, 36°.81N×70°.41E, h168km±18km, mb3.4, mpv4.7, Error ellipse: s-maj=14.0km s-min=8.8km az=23.0*

ISC 01 07:44:53.8±0.6, 36°.67N±0°.06×70°.64E±0°.07, h188km, n64, σ2°.03/75, mb3.7/13, 10C-5D, Hindu Kush region

| Code | Station Name |

comp=Z,0.4nm,0.3s,baz=221,slow=15,SNR=25
GKN **Gorkha** **14.64 122** *e*P **Pn** **07 48 11.6 -0.6**
GKN *e*S Sn 07 50 37.0 -19
AB31 **Akbulak array** **14.80 332** ⇑Pn **Pn** **07 48 13.0 -0.8**
comp=Z,3.5nm,0.3s,baz=145,slow=12,SNR=340
AB31 Sn **Sn** **07 50 53.4 -5.6**
comp=Z,2.9nm,0.5s,baz=152,slow=23,SNR=9.7
KURBB **Kurchatov Arra** **15.06 20** P **Pn** **07 48 16.0 -1.0**
comp=Z,0.3nm,0.3s,baz=209,slow=10,SNR=43
KURK **Kurchatov** **15.16 20** ⇑Pn **P** **07 48 18.5 -0.5**
comp=Z,4.3nm,0.8s
KURK **Kurchatov** **15.16 20**⇑ *e*P **P** **07 48 21.7 +2.7**
KURK pmax pmax
comp=Z,5.0nm,0.7s
DMN **Daman** **15.21 122** *e*P **Pn** **07 48 17.8 -1.5**
KKN **Kakani** **15.21 121** *e*P **Pn** **07 48 17.6 -1.7**
PKI **Pulchoki** **15.44 122** *e*P **Pn** **07 48 20.9 -1.3**
GUN **Gumba** **15.55 120** *e*P **Pn** **07 48 21.0 -2.6**
JIRN **Jiri** **15.92 120** *e*P **P** **07 48 24.8 -3.2**
comp=Z,16nm,0.4s
VOSK **Vostochnaya** **16.05 1** ⇑Pn **Pn** **07 48 29.1 0.0**
comp=Z,2.8nm,0.5s
ZRNK **Zerenda** **16.32 356** ⇓Pn **Pn** **07 48 31.9 -0.5**
comp=Z,3.7nm,0.6s
BVA0 **Borovoye Array** **16.36 359** Pn **Pn** **07 48 32.5 -0.2**
comp=Z,0.4nm,0.5s,baz=170,slow=14,SNR=45
BVAR **Borovoye Array** **16.36 359** P **Pn** **07 48 32.6 -0.1**
BVAR pmax pmax
comp=Z,2.0nm,0.3s
BVAR **Borovoye Array** **16.36 359** P **Pn** **07 48 32.6 -0.1**
comp=Z,1.7nm,0.3s,baz=165,slow=9.7,SNR=39
BRVK **Borovoye** **16.39 359** ⇓P **P** **07 48 32.4 -0.1**
comp=Z,8.9nm,0.7s
BRVK **Borovoye** **16.39 359**⇑ *i*P **Pn** **07 48 34.0 +0.9**
BRVK pmax pmax
comp=Z,5.0nm,0.6s
AKTO **Aktyubinsk** **16.49 330** ⇑Pn **P** **07 48 32.2 -1.5**
comp=Z,1.6nm,0.8s
AKTO ⇓Sn **S** **07 51 34.9 -1.3**
comp=Z,1.8nm,0.8s
AKTO **Aktyubinsk** **16.49 330** P **Pn** **07 48 35.2 +0.8**
AKTO S **S** **07 51 30.8 -5.3**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO **Aktyubinsk** **16.49 330** P **Pn** **07 48 35.2 +0.8**
comp=Z,0.8nm,0.3s,baz=137,slow=13,SNR=29
AKTO S **S** **07 51 30.8 -5.3**
comp=Z,0.3nm,0.3s,baz=322,slow=19,SNR=3.7
RAMN **Ramite** **16.65 121** *e*P **Pn** **07 48 36.1 -0.7**
TAPN **Taplejung** **17.18 110** *e*P **P** **07 48 39.9 -1.9**
ZALV **Zalesovo Beam** **19.88 25** P **Pn** **07 49 13.5 -1.0**
ZALV S **S** **07 52 49.8 +6.1**
ZALV pmax pmax
comp=Z,15nm,0.5s
ZALV smax smax
comp=N,1.0nm,0.7s
ZALV **Zalesovo Beam** **19.88 25** P **Pn** **07 49 13.5 -1.0**
comp=N,15nm,0.5s,baz=218,slow=10,SNR=126
ZALV S **S** **07 52 49.8 +6.1**
comp=N,0.7nm,0.7s,baz=214,slow=23,SNR=2.2
NVS **Novosibirsk** **20.13 21** *e*P Pn 07 49 14.9 -2.5
GNI **Garni** **20.57 288** P **P** **07 49 19.7 +1.5**
comp=N,5.6nm,0.5s,baz=342,slow=3.2,SNR=6.5
ARU **Arti** **21.38 341** *d i*P **P** **07 49 30.8 +4.4**
ARU 07 49 58.8
ARU S Sn 07 53 23.3 -11
ARU pmax pmax
comp=Z,7.0nm,1.0s
SONM **Songino Array** **28.48 56** P P 07 50 34.7 +3.4
comp=Z,0.1nm,0.3s,baz=267,slow=8.7,SNR=2.2
BRTR **Keskin Array B** **29.11 287** P **P** **07 50 37.6 +0.5**
comp=Z,0.8nm,0.7s,baz=97,slow=9.7,SNR=5.6
AKASG **Malin Array Be** **32.62 309** *ce*P **P** **07 51 10.0 +2.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG **Malin Array Be** **32.62 309** P **P** **07 51 08.9 +1.4**
comp=Z,0.8nm,0.4s,baz=85,slow=7.0,SNR=4.9
JOF **Joensuu** **35.58 330** *e*p P 07 51 36.3 +3.5
FINES **FINESS Array B** **37.18 326** P **P** **07 51 49.5 +3.2**
comp=Z,1.5nm,0.4s,baz=118,slow=8.5,SNR=22
ARCES **ARCESS Array B** **40.88 338** P **P** **07 52 19.5 +2.6**
comp=Z,1.7nm,0.5s,baz=116,slow=7.3,SNR=12
NB2 **NORSAR Subarra** **44.07 323** P **P** **07 52 44.8 +2.0**
comp=Z,1.9nm,0.6s,baz=96,slow=7.9
NOA **NORSAR Array B** **44.07 323** P **P** **07 52 45.0 +2.2**
comp=Z,2.6nm,0.7s,baz=97,slow=8.0,SNR=7.9
TORD **Torodi Ar. Bea** **65.44 268** P **P** **07 55 15.7 -1.1**
comp=Z,1.4nm,0.5s,baz=46,slow=5.5,SNR=17
TORD sP sP 07 56 02.3 -19
comp=Z,0.2nm,0.5s,baz=38,slow=5.9,SNR=1.5
ILAR **Eielson Array** **74.69 16** P **P** **07 56 15.1 +2.8**
comp=Z,1.6nm,1.2s,baz=292,slow=4.3,SNR=7.3
BOSA **Boshof** **77.69 220** P **P** **07 56 29.5 -0.2**
comp=Z,1.5nm,0.8s,baz=18,slow=3.2,SNR=3.7
YKA **Yellowknife Ar** **81.09 2** P P 07 56 50.7 +3.2
comp=Z,0.3nm,0.5s,baz=347,slow=5.4,SNR=9.4
YKA pP pP 07 57 26.0 -7.2
comp=Z,0.5nm,0.8s,baz=347,slow=5.6,SNR=4.2
YKA sP sP 07 57 42.6 -11
comp=Z,0.1nm,0.6s,baz=351,slow=5.3,SNR=2.1
WRA **Warramunga Arr** **82.32 122** P **P** **07 56 54.1 -0.5**
comp=Z,0.5nm,0.7s,baz=330,slow=4.7,SNR=4.4
ASAR **Alice Springs** **84.59 125** P **P** **07 57 05.5 -0.6**
comp=Z,0.3nm,0.7s,baz=309,slow=4.2,SNR=6.0

IDC 01 07:51:59.3±1.2, 4.69S×153.11E, h78km±7km, mb3.4/5, mb1 3.6/5, mb1mx3.3/16, mbtmp3.4/5, Error ellipse: s-maj=56.1km s-min=21.0km az=114.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.75**	**229**	P		P	P	07 57 04.6	-0.1
	1.5nm,0.5s,baz=54,slow=10,SNR=23								
ASAR	**Alice Springs**	**26.44**	**223**	P		P	P	07 57 28.5	-0.6
	0.6nm,0.4s,baz=56,slow=8.6,SNR=16								
ASAR				PcP		PcP	PcP	08 00 52.2	-0.6
	0.7nm,0.9s,baz=50,slow=2.0,SNR=4.5								
STKA	**Stephens Creek**	**29.12**	**200**	P		P	P	07 57 53.8	+0.9
	2.5nm,1.0s,baz=8.1,slow=7.1,SNR=2.4								
MKAR	**Makanchi Array**	**80.44**	**319**	P		P	P	08 04 03.6	+0.9
	0.3nm,0.6s,baz=96,slow=7.0,SNR=5.1								
MKAR				pP		pP	pP	08 04 23.5	0.0
	0.4nm,0.6s,baz=100,slow=7.5,SNR=3.5								
ILAR	**Eielson Array**	**81.94**	**22**	P		P	P	08 04 10.3	+0.2
	0.3nm,1.0s,baz=254,slow=5.0,SNR=4.1								
ILAR				pP		pP	pP	08 04 30.6	-0.4
	0.6nm,0.7s,baz=245,slow=5.6,SNR=4.9								
BVAR	**Borovoye Array**	**89.34**	**323**	pP		pP	pP	08 05 07.8	-0.4
	1.7nm,0.7s,baz=74,slow=5.2,SNR=8.0								
TORD	**Torodi Ar. Bea**	**150.56**	**288**	PKPbc		PKPbc	PKPbc	08 11 42.2	-1.1
	1.1nm,0.5s,baz=90,slow=2.3,SNR=14								
TORD				pPKPbc		pPKPbc	pPKPbc	08 12 05.2	0.0
	0.5nm,0.7s,baz=86,slow=1.7,SNR=2.0								

*IDC **01** 08:15:00.5±0.9, 35.25N×141.37E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.6/26, mbtmp3.7/9, ML3.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.2/41, Error ellipse: s-maj=26.6km s-min=20.4km az=81.0*

*ISCJB **01** 08:15:02.4±0.7, 35.17N±0.04×141.43E±0.07, h27km, mb3.6/7, Error ellipse: s-maj=7.9km s-min=5.6km az=20.7*

*JMA **01** 08:15:03.2±0.2, 35.19N×141.36E, h36km±3km, M2.9*

ISC 01 08:15:03.9±0.9, 35.20N±0.05×141.37E±0.07, h27km, n18, σt 34/21, mb3.5/7, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.64**	**211**	P		P	**Pb**	**08 15 15.5**	**-0.6**
BSO1				*e*S		**Sb**	**Sb**	**08 15 22.2**	**-2.2**
CHOJ	**Chosi**	**0.65**	**320**	P		P	**Pb**	**08 15 16.1**	**-0.7**
BSO3	**Boso 3**	**0.81**	**241**	P		P	**Pb**	**08 15 18.6**	**-0.7**
BSO3				*e*S		**Sn**	**Sn**	**08 15 30.5**	**+0.1**
BSO4	**Boso 4**	**0.87**	**256**	*e*S		**Sb**	**Sb**	**08 15 30.3**	**-1.4**
JYT	**Yasato**	**1.40**	**317**	P		P	**Pn**	**08 15 27.2**	**-0.5**
JHO	**Hitachi**	**1.55**	**335**	P		P	**Pn**	**08 15 28.9**	**-0.9**
JHO				*e*S		**Sn**	**Sn**	**08 15 48.5**	**-0.5**
JIM2	**Oshima 3**	**1.67**	**254**	P		P	**Pn**	**08 15 30.1**	**-1.3**
MJAR	**Matsushiro Arr**	**2.90**	**298**	Pn		P	**Pn**	**08 15 48.3**	**0.0**
	2.5nm,0.3s,baz=125,slow=11,SNR=19								
MAT	**Matsushiro**	**2.90**	**298**	P		P	**Pn**	**08 15 49.5**	**+1.2**
MAT				S		**Sn**	**Sn**	**08 16 25.0**	**+2.7**
ASAJ	**Asahikawa**	**8.95**	**6**	Pn		P	**Pn**	**08 17 08.6**	**-2.8**
	1.1nm,0.3s,baz=248,slow=5.4,SNR=7.0								
KSRS	**Korea Array**	**11.08**	**286**	LR		LR		08 21 55.6	
	comp=Z,77nm,18.9s,baz=100,slow=37								
ZALV	**Zalesovo Beam**	**43.14**	**314**	P		P	**P**	**08 23 02.0**	**+0.1**
	0.3nm,0.4s,baz=107,slow=9.8,SNR=2.9								
MKAR	**Makanchi Array**	**45.08**	**304**	P		P	**P**	**08 23 17.4**	**-0.2**
	0.4nm,0.8s,baz=90,slow=9.2,SNR=5.1								
KURBB	**Kurchatov Arra**	**47.12**	**309**	P		P	**P**	**08 23 33.9**	**+0.4**
	0.5nm,0.3s,baz=88,slow=7.9,SNR=4.9								
ILAR	**Eielson Array**	**51.06**	**32**	P		P	**P**	**08 24 04.0**	**+0.5**
	0.2nm,0.7s,baz=266,slow=6.5,SNR=5.6								
WRA	**Warramunga Arr**	**55.24**	**188**	P		P	**P**	**08 24 34.5**	**-0.2**
	3.7nm,1.1s,baz=5.0,slow=7.5,SNR=6.0								
ASAR	**Alice Springs**	**58.97**	**188**	P		P	**P**	**08 25 02.9**	**+1.8**
	0.9nm,0.6s,baz=16,slow=12,SNR=10								
PDAR	**Pinedale Array**	**78.98**	**45**	P		P	**P**	**08 27 06.7**	**+1.1**
	0.3nm,0.7s,baz=242,slow=3.8,SNR=2.9								

IDC 01 08:17:26.1±2.2, 6.89S×129.25E, h0km, mb3.1/1, mb1 3.5/4, mb1mx3.4/16, mbtmp3.3/4, ML3.4/3, Error ellipse: s-maj=92.3km s-min=29.2km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.68**	**197**	Pn		Pn	Pn	08 20 12.8	-1.5
	0.2nm,0.3s,baz=22,slow=16,SNR=3.1								
FITZ				Sn		Sn		08 22 10.2	-15
	0.3nm,0.3s,baz=33,slow=19,SNR=3.0								
WRA	**Warramunga Arr**	**13.88**	**160**	Pn		Pn		08 20 44.5	+0.2
	0.3nm,0.3s,baz=344,slow=13,SNR=8.0								
WRA				Sn		Sn		08 23 08.7	-11
	0.5nm,0.3s,baz=340,slow=21,SNR=8.9								
ASAR	**Alice Springs**	**17.27**	**165**	P		P		08 21 29.9	-0.5
	0.1nm,0.3s,baz=338,slow=10,SNR=7.5								
ASAR				S		Sn		08 24 27.1	-15
	0.1nm,0.3s,baz=19,slow=30,SNR=3.4								
MKAR	**Makanchi Array**	**67.73**	**327**	P		P		08 28 25.6	0.0
	0.1nm,0.4s,baz=125,slow=7.7,SNR=4.4								

IDC 01 08:18:24.1±2.6, 26.66N×142.46E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/22, mbtmp3.7/4, MS3.3/1, Ms1 3.3/1, ms1mx2.2/37, Error ellipse: s-maj=109.8km s-min=17.3km az=71.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.50**	**331**	Pn		Pn	Pn	08 18 38.6	+0.1
	63nm,0.3s,baz=281,slow=22,SNR=4.8								
CBIJ				Sn		Sn		08 18 47.0	-1.0
	159nm,0.3s,baz=290,slow=21,SNR=9.4								
FX1	**Attu Island--F**	**34.79**	**33**	LR		LR		08 39 28.4	
	comp=Z,44nm,19.4s,baz=51,slow=36								
WRA	**Warramunga Arr**	**46.99**	**190**	P		P		08 26 55.9	-1.2
	2.1nm,0.5s,baz=12,slow=8.7,SNR=6.7								
MKAR	**Makanchi Array**	**50.94**	**310**	P		P		08 27 28.2	+1.0
	0.1nm,0.5s,baz=73,slow=9.7,SNR=2.8								
KURBB	**Kurchatov Arra**	**53.52**	**315**	P		P		08 27 47.1	+0.8
	0.2nm,0.5s,baz=92,slow=7.6,SNR=2.9								
FINES	**FINESS Array B**	**78.45**	**334**	P		P		08 30 26.3	-0.3
	1.5nm,0.8s,baz=64,slow=4.4,SNR=5.1								

IDC 01 08:25:04.1±2.9, 49.59S×122.27E, h0km, mb4.0/4, mb1 4.2/4, mb1mx4.0/11, mbtmp4.0/4, MS3.6/5, Ms1 3.5/5, ms1mx3.2/21, Error ellipse: s-maj=73.4km s-min=47.6km az=155.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.07**	**345**	LR		LR	LR	08 34 11.8	
	comp=Z,143nm,18.8s,baz=341,slow=32								
STKA	**Stephens Creek**	**22.86**	**46**	P		P		08 30 09.8	+0.8
	3.6nm,0.8s,baz=194,slow=7.9,SNR=3.8								
STKA				LR		LR		08 37 54.9	
	comp=Z,86nm,19.3s,baz=204,slow=34								
ASAR	**Alice Springs**	**27.44**	**24**	P		P		08 30 51.2	-0.4
	2.4nm,0.8s,baz=206,slow=8.8,SNR=14								
WRA	**Warramunga Arr**	**31.11**	**22**	P		P		08 31 23.8	-0.5
	0.8nm,1.0s,baz=197,slow=8.0,SNR=3.4								
WRA				LR		LR		08 42 37.5	
	comp=Z,106nm,19.6s,baz=185,slow=34								
FITZ	**Fitzroy Crossi**	**31.53**	**6**	LR		LR		08 43 00.9	
	comp=Z,78nm,20.1s,baz=172,slow=34								
QSPA	**South Pole Qui**	**40.53**	**180**	LR		LR		08 48 45.6	
	comp=Z,157nm,21.3s,baz=141,slow=35								
CMAR	**Chiang Mai Arr**	**70.83**	**337**	P		P		08 36 23.1	+0.6
	1.0nm,0.9s,baz=182,slow=4.8,SNR=6.1								
YKA	**Yellowknife Ar**	**146.89**	**45**	PKPbc		PKPdf		08 44 45.9	+0.7
	0.6nm,0.6s,baz=271,slow=2.9,SNR=15								

IDC 01 08:48:41.1±1.9, 0.52S×132.11E, h0km, mb3.9/7, mb1 4.0/9, mb1mx3.8/21, mbtmp3.9/9, ML4.1/2, MS3.5/1, Ms1 3.5/1, ms1mx2.1/30, Error ellipse: s-maj=107.8km s-min=12.9km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.60**	**200**	P		P	Pn	08 53 01.6	+1.4
	0.5nm,0.3s,baz=30,slow=11,SNR=3.3								
WRA	**Warramunga Arr**	**19.43**	**174**	P		Pn		08 53 10.6	+0.2
	0.5nm,0.3s,baz=353,slow=12,SNR=13								
WRA				S		Sn		08 56 42.7	-6.3
	0.1nm,0.3s,baz=355,slow=23,SNR=4.7								
ASAR	**Alice Springs**	**23.08**	**176**	P		P		08 53 49.9	+1.3
	5.3nm,0.8s,baz=355,slow=11,SNR=26								
ASAR				S		S		08 58 00.6	-0.3
	0.2nm,0.7s,baz=354,slow=26,SNR=2.5								
MJAR	**Matsushiro Arr**	**37.31**	**8**	LR		LR		09 07 56.2	
	comp=Z,79nm,20.9s,baz=160,slow=31								
SONM	**Songino Array**	**53.11**	**339**	P		P		08 57 59.7	-1.0
	0.6nm,0.9s,baz=142,slow=8.2,SNR=3.8								
MKAR	**Makanchi Array**	**64.11**	**324**	P		P		08 59 16.7	-0.5
	0.9nm,0.6s,baz=114,slow=8.1,SNR=13								
ZALV	**Zalesovo Beam**	**66.82**	**332**	P		P		08 59 34.8	+0.2
	0.4nm,0.5s,baz=72,slow=4.7,SNR=3.0								
AAK	**Ala-Archa**	**67.10**	**317**	P		P		08 59 37.3	+0.4
	1.0nm,0.3s,baz=135,slow=4.3,SNR=3.8								
KURBB	**Kurchatov Arra**	**68.21**	**326**	P		P		08 59 43.6	+0.1
	0.8nm,0.5s,baz=125,slow=5.5,SNR=11								
BVAR	**Borovoye Array**	**73.80**	**326**	P		P		09 00 17.7	+0.3
	0.4nm,0.5s,baz=133,slow=8.1,SNR=3.4								

PRE 01 08:49:08.6±1.1, 33.24S×19.03E, h5km, ML1.5, 1D, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CER	**Ceres**	**0.26**	**119**	⇓ *i*P		Pg		08 49 14.2	+0.6
CER				*e*S		Sg		08 49 17.1	0.0
CER				AML		AML		08 49 18.8	
	comp=Z,15nm,0.1s								
ELIM	**Elim**	**1.48**	**156**	*e*P		Pb		08 49 36.7	0.0
ELIM				*e*S		Sg		08 49 56.2	-0.1
ELIM				AML		AML		08 49 57.9	
	comp=Z,7.3nm,0.3s								
CVNA	**Calvinia**	**1.86**	**20**	*e*P		Pb		08 49 42.5	-0.8
CVNA				*e*S		Sn		08 50 05.5	+0.2
CVNA				AML		AML		08 50 07.8	
	comp=Z,7.1nm,0.3s								

*ISCJB **01** 08:49:28.3±0.9, 29.7N±0.1×90.38E±0.07, h8km, mb3.6/9, Error ellipse: s-maj=19.2km s-min=7.4km az=12.8*

*IDC **01** 08:49:29.1±1.1, 29.71N×90.33E, h0km, mb3.6/9, mb1 3.7/10, mb1mx3.5/27, mbtmp3.5/10, ML2.9/1, Error ellipse: s-maj=43.0km s-min=20.0km az=55.0*

ISC 01 08:49:30.3±1.2, 29.7N±0.2×90.45E±0.09, h8km, n11, σt 9s4/12, mb3.9/9, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**0.61**	**93**	Pg		**Pg**	**Pg**	**08 49 41.5**	**-0.7**
LSA				Sg		**Sg**	**Sg**	**08 49 50.3**	**0.0**
LSA				smax		smax	smax		
	comp=N,470nm,0.4s								
LSA				smax		smax	smax		
	comp=E,2μm,0.5s								
MKAR	**Makanchi Array**	**18.18**	**342**	P		P		**08 53 44.0**	**+0.6**
	comp=E,0.0nm,0.3s,baz=156,slow=13,SNR=4.9								
SONM	**Songino Array**	**21.86**	**30**	P		P		**08 54 25.2**	**+1.7**
	comp=E,0.5nm,0.8s,baz=202,slow=14,SNR=4.5								
KURBB	**Kurchatov Arra**	**22.71**	**340**	P		P		**08 54 31.3**	**-1.1**
	comp=E,0.8nm,0.9s,baz=126,slow=5.9,SNR=4.6								
FINES	**FINESS Array B**	**52.16**	**327**	P		P		**08 58 41.8**	**+0.8**
	comp=E,1.3nm,0.9s,baz=74,slow=14,SNR=3.6								
HFS	**Hagfors**	**58.20**	**325**	P		P		**08 59 24.5**	**-0.2**
	comp=E,1.8nm,0.7s,baz=114,slow=7.2,SNR=4.2								
NOA	**NORSAR Array B**	**59.33**	**326**	P		P		**08 59 31.9**	**-0.6**
	comp=E,0.8nm,0.9s,baz=85,slow=6.9,SNR=2.6								
GERES	**GERESS Array B**	**59.86**	**312**	P		P		**08 59 36.0**	**-0.5**
	comp=E,0.5nm,0.5s,baz=80,slow=9.6,SNR=4.0								
WRA	**Warramunga Arr**	**65.01**	**134**	P		P		**09 00 11.6**	**+0.4**
	comp=E,0.7nm,0.8s,baz=327,slow=6.6,SNR=4.7								
ASAR	**Alice Springs**	**67.54**	**137**	P		P		**09 00 28.3**	**+0.9**
	comp=E,0.6nm,0.8s,baz=310,slow=5.9,SNR=4.0								
ILAR	**Eielson Array**	**75.84**	**22**	P		P		**09 01 16.1**	**-0.7**
	comp=E,0.2nm,0.7s,baz=311,slow=4.9,SNR=4.1								

JMA 01 09:06:16.4±0.4, 41.41N×148.02E, h0km, M3.8, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.58**	**320**	P		P	Pn	09 07 00.8	+1.4
NEM2				*e*S		Sn	Sn	09 07 33.1	+1.6
JAK	**Akkeshi**	**2.93**	**304**	P		P	Pn	09 07 05.5	+1.2
JAK				*e*S		Sn	Sn	09 07 42.0	+1.8
JAR	**Ashorobuto**	**3.67**	**302**	P		P	Pn	09 07 15.9	+1.5
JAR				*e*S		Sn	Sn	09 07 59.7	+1.3
JCH	**Churui**	**3.67**	**291**	P		P	Pn	09 07 16.2	+1.8
JCH				*e*S		Sn	Sn	09 07 59.5	+1.1
JNBK	**Urakawa-nobuka**	**4.03**	**284**	P		P	Pn	09 07 21.6	+2.3
JNBK				*e*S		Sn	Sn	09 08 09.4	+2.2
JOT	**Ohata**	**5.24**	**272**	*e*S		Sn	Sn	09 08 35.0	-2.2
JNB	**Noboribetsu**	**5.31**	**284**	*e*S		Sn	Sn	09 08 38.4	-0.5
JOM	**Ohasama**	**5.49**	**252**	P		P	Pn	09 07 37.6	-1.8
JOM				*e*S		Sn	Sn	09 08 36.5	-6.6
JMK	**Ichinoseki**	**5.76**	**247**	P		P	Pn	09 07 40.8	-2.3
JMK				*e*S		Sn	Sn	09 08 41.7	-8.1

*ISCJB **01** 09:07:45.0±0.4, 23.75N±0.02×122.47E±0.02, h17km±4km, Error ellipse: s-maj=3.9km s-min=2.4km az=162.2*

*TAP **01** 09:07:45.1, 23.77N×122.39E, h11km, ML3.4, D*

*JMA **01** 09:07:46.8±0.2, 23.97N×122.46E, h23km, M2.7*

ISC 01 09:07:43.8±1.2, 23.77N±0.03×122.47E±0.02, h9km±10km, n45, σt 9s55/88, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.82**	**285**	*e*P		**Pb**	**Pb**	**09 08 00.5**	**+0.3**
	baz=285								
HWA				S		**Sb**	**Sb**	**09 08 11.0**	**-0.3**
	baz=285								
YOJ	**Yonaguni jima**	**0.85**	**36**	P		**Pg**	**Pg**	**09 08 00.1**	**-0.2**
YOJ				S		**Sg**	**Sg**	**09 08 09.6**	**-1.8**
TWD	**Chiawan**	**0.85**	**292**	*i* P		**Pg**	**Pg**	**09 08 00.9**	**+0.6**
	baz=293								
TWD				*i* S		**Sb**	**Sb**	**09 08 12.5**	**0.0**
	baz=293								
ENA	**Nanau**	**0.94**	**315**	*i* P		**Pg**	**Pg**	**09 08 02.3**	**+0.4**
	baz=317								
ENA				*i* S		**Sn**	**Sn**	**09 08 15.6**	**-1.0**
	baz=317								
ESL	**Shilin**	**0.95**	**273**	*i* P		**Pg**	**Pg**	**09 08 02.3**	**+0.3**
	baz=272								
ESL				S		**Sg**	**Sg**	**09 08 14.6**	**+0.2**
	baz=272								
TWC	**Suao**	**1.01**	**326**	P		**Pg**	**Pg**	**09 08 03.1**	**-0.2**
	baz=329								
TWC				*e*S		**Sg**	**Sg**	**09 08 15.5**	**-0.9**
	baz=329								
EHY	**Hungye**	**1.08**	**256**	*i* P		**Pb**	**Pb**	**09 08 05.0**	**+0.3**
	baz=254								
EHY				S		**Sb**	**Sb**	**09 08 19.0**	**0.0**
	baz=254								
TWF1	**Yuli**	**1.15**	**249**	P		**Pb**	**Pb**	**09 08 06.2**	**+0.3**
	baz=247								
TWF1				S		**Sb**	**Sb**	**09 08 21.1**	**+0.3**
	baz=247								
WHF	**Hehuan Shan**	**1.16**	**289**	*i* P		**Pb**	**Pb**	**09 08 05.9**	**-0.4**
	baz=289								
WHF				S		**Sb**	**Sb**	**09 08 20.8**	**-0.9**
	baz=289								
ILA	**Ilan**	**1.19**	**327**	*e*P		**Pg**	**Pg**	**09 08 07.2**	**+0.4**
	baz=329								
ILA				*e*S		**Sn**	**Sn**	**09 08 23.3**	**+0.3**
	baz=329								
ENTT	**Nioudou**	**1.20**	**317**	P		**Pn**	**Pn**	**09 08 07.0**	**+0.2**
	baz=319								
ENTT				S		**Sg**	**Sg**	**09 08 22.6**	**+0.1**
	baz=319								
TWE	**Neicheng**	**1.20**	**323**	*e*P		**Pb**	**Pb**	**09 08 06.8**	**0.0**
	baz=325								
TWE				*e*S		**Sn**	**Sn**	**09 08 23.2**	**0.0**
	baz=325								
NNS	**Nan Shan**	**1.20**	**304**	P		**Pb**	**Pb**	**09 08 06.8**	**-0.1**
	baz=305								
NNS				*e*S		**Sb**	**Sb**	**09 08 21.9**	**-0.7**
	baz=305								
CHKT	**Chengkung**	**1.21**	**237**	*e*P		**Pn**	**Pn**	**09 08 07.1**	**+0.2**
	baz=234								
CHKT				*e*S		**Sb**	**Sb**	**09 08 21.7**	**-0.9**
	baz=234								
HATJ	**Hateruma jima**	**1.26**	**76**	P		**Pb**	**Pb**	**09 08 08.7**	**+0.9**
HATJ				*e*S		**Sb**	**Sb**	**09 08 23.7**	**-0.4**
TWT	**Tachien**	**1.28**	**293**	*e*P		**Pn**	**Pn**	**09 08 08.3**	**+0.3**
	baz=292								
TWT				*e*S		**Sb**	**Sb**	**09 08 24.6**	**-0.2**
	baz=

NSY	**Sanyi**	**1.69**	**293**	*eP*	**Pn**	**09 08 13.7**	**+0.1**
	baz=293								
NSY				*eS*	**Sn**	**09 08 35.2**	**-0.1**
	baz=293								
WGK	**Gukeng**	**1.75**	**268**	*eP*	**Pn**	**09 08 14.7**	**+0.4**
	baz=267								
WGK				*eS*	**Sn**	**09 08 37.0**	**+0.3**
	baz=267								
CHN4	**Tsaushan**	**1.77**	**257**	*eP*	**Pb**	**09 08 16.7**	**+0.3**
	baz=255								
CHN4				*eS*	**Sn**	**09 08 37.9**	**+0.6**
	baz=255								
WTP	**Ta-pu**	**1.78**	**253**	*eP*	**Pb**	**09 08 16.6**	**0.0**
	baz=252								
WTP				*eS*	**Sn**	**09 08 38.1**	**+0.5**
	baz=252								
ECL	**Taimali**	**1.81**	**230**	*eP*	**Pn**	**09 08 15.7**	**+0.4**
	baz=228								
ECL				*eS*	**Sn**	**09 08 36.9**	**-1.4**
	baz=228								
SGST	**Jiashian**	**1.86**	**249**	*eP*	**Pn**	**09 08 16.7**	**+0.8**
	baz=247								
SGST				*eS*	**Sn**	**09 08 39.0**	**-0.5**
	baz=247								
CHN1	**Nanshi**	**1.87**	**252**	*eP*	**Pb**	**09 08 18.4**	**+0.2**
	baz=251								
CHN1				*eS*	**Sn**	**09 08 40.2**	**+0.4**
	baz=251								
TWK	**Hsinying**	**1.88**	**255**	*eP*	**Pn**	**09 08 16.6**	**+0.4**
	baz=253								
TWK				*eS*	**Sn**	**09 08 39.8**	**-0.3**
	baz=253								
CHY	**Chiayi**	**1.89**	**262**	*eP*	**Pb**	**09 08 18.5**	**-0.1**
	baz=261								
CHY				*eS*	**Sn**	**09 08 40.6**	**+0.3**
	baz=261								
LAY	**Lan-yu**	**1.91**	**206**	*eP*	**Pn**	**09 08 15.8**	**-0.8**
	baz=204								
SSD	**Sandimen**	**1.97**	**239**	*eP*	**Pn**	**09 08 18.3**	**+0.9**
	baz=237								
SSD				*eS*	**Sn**	**09 08 41.6**	**-0.5**
	baz=237								
TWM1	**Shoushan**	**2.10**	**244**	*eP*	**Pn**	**09 08 19.5**	**+0.3**
	baz=242								
TWM1				*eS*	**Sn**	**09 08 45.0**	**-0.4**
	baz=242								
JTJ	**Tarama**	**2.22**	**66**	*eS*	**Sn**	**09 08 48.8**	**+0.4**

*IDC **01** 09:08:50.9±0.7, 11°.98N×125°.59E, h0km, mb3.9/13, mb1 4.0/13, mb1mx3.9/21, mbtmp3.9/13, MS2.7/3, Ms1 2.8/3, ms1mx2.7/33, Error ellipse: s-maj=39.9km s-min=16.0km az=73.0*

*ISCJB **01** 09:08:55.6±0.6, 12°.19N±0°.06×125°.7E±0°.1, h36km, mb3.9/15, MS2.7/2, Error ellipse: s-maj=15.9km s-min=8.4km az=15.6*

*NEIC **01** 09:08:56.3±0.4, 11°.93N×125°.53E, h35km, mb4.4/2, Error ellipse: s-maj=22.9km s-min=9.1km az=70.0*

NEIC Felt [III PIVS] at Can-Avid.

*MAN **01** 09:08:57, 12°.14N×125°.44E, h23km, mb4.0, ML3.6, MS3.6*

MAN INTENSITY III - CAN-AVID EASTERN SAMAR.

ISC 01 09:08:56.8±0.6, **12°.10N**±0°.07×**125°.6E**±0°.1, **h36**km, **n38, σ1**§**01/38, mb4.0**/15, **Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**1.45**	**224**	*eP*	**Pn**	**09 09 21.3**	**+0.7**
MSLP	**Maasin**	**2.10**	**201**	*eP*	**Pn**	**09 09 31.3**	**+1.9**
TBP	**Tagbilaran**	**2.96**	**216**	*eP*	**Pn**	**09 09 43.6**	**+2.3**
OTRP	**Odiongan**	**3.55**	**275**	*eP*	**Pn**	**09 09 49.1**	**-0.2**
CAUP	**Cauayan**	**6.07**	**323**	*eP*	**Pn**	**09 10 25.2**	**+1.2**
JOW	**Kunigami**	**14.86**	**9**	LR	LR	09 17 24.6	
	comp=Z,23nm,19.0s,baz=128,slow=34						
KSAR	**Wonju Array Be**	**25.31**	**4**	P	**P**	**09 14 21.5**	**+1.4**
KSRS	**Korea Array**	**25.33**	**4**	P	**P**	**09 14 21.5**	**+1.3**
	1.1nm,0.9s,baz=29,slow=39,SNR=3.6						
KSRS				LR	LR	09 25 20.3	
	comp=Z,17nm,18.5s,baz=115,slow=39						
CMAR	**Chiang Mai Arr**	**26.50**	**287**	LR	LR	09 27 24.5	
	comp=Z,22nm,18.0s,baz=225,slow=42						
USRK	**Ussuriysk Arra**	**32.45**	**9**	P	**P**	**09 15 23.3**	**-0.2**
	1.3nm,0.7s,baz=223,slow=6.8,SNR=4.1						
WRA	**Warramunga Arr**	**32.98**	**165**	P	**P**	**09 15 25.6**	**-2.8**
WRA	**Warramunga Arr**	**32.98**	**165**	P	**P**	**09 15 25.6**	**-2.8**
	0.2nm,0.4s,baz=345,slow=8.8,SNR=8.7						
ASAR	**Alice Springs**	**36.46**	**167**	P	**P**	**09 15 57.4**	**-1.1**
ASAR	**Alice Springs**	**36.46**	**167**	P	**P**	**09 15 57.4**	**-1.1**
	1.7nm,0.4s,baz=344,slow=7.1,SNR=47						
SONM	**Songino Array**	**39.10**	**339**	P	**P**	**09 16 21.0**	**+0.4**
SONM				PcP	**PcP**	**09 18 30.0**	**0.0**
SONM	**Songino Array**	**39.10**	**339**	P	**P**	**09 16 21.0**	**+0.4**
	0.3nm,0.6s,baz=156,slow=8.8,SNR=3.8						
SONM				PcP	**PcP**	**09 18 30.0**	**0.0**
	0.2nm,0.5s,baz=107,slow=1.5,SNR=2.8						
MK31	**Makanchi Array**	**50.20**	**322**	*eP*	**P**	**09 17 49.6**	**+0.4**
MKAR	**Makanchi Array**	**50.20**	**322**	P	**P**	**09 17 49.6**	**+0.4**
MKAR	**Makanchi Array**	**50.20**	**322**	P	**P**	**09 17 49.6**	**+0.4**
	0.9nm,0.6s,baz=116,slow=8.8,SNR=11						
ZALV	**Zalesovo Beam**	**52.73**	**331**	P	**P**	**09 18 07.7**	**-0.2**
ZALV	**Zalesovo Beam**	**52.73**	**331**	P	**P**	**09 18 07.7**	**-0.2**
	0.5nm,0.3s,baz=115,slow=6.0,SNR=3.7						
KURK	**Kurchatov**	**54.22**	**325**	*eP*	**P**	**09 18 18.7**	**-0.1**
	4.2nm,0.8s						
KURBB	**Kurchatov Arra**	**54.22**	**325**	P	**P**	**09 18 18.9**	**0.0**
	2.8nm,0.7s,baz=126,slow=7.3,SNR=17						
BVAR	**Borovoye Array**	**59.82**	**325**	P	**P**	**09 18 58.8**	**+0.3**
BVAR	**Borovoye Array**	**59.82**	**325**	P	**P**	**09 18 58.8**	**+0.3**
	baz=126,slow=7.5,SNR=1.6						
ABKAR	**Akbulak array**	**65.09**	**319**	*eP*	**P**	**09 19 33.4**	**-0.4**
	0.5nm,0.2s						
ILAR	**Eielson Array**	**78.07**	**26**	P	**P**	**09 20 51.9**	**+0.2**
ILAR	**Eielson Array**	**78.07**	**26**	P	**P**	**09 20 51.9**	**+0.2**
	0.4nm,0.8s,baz=243,slow=5.5,SNR=7.1						
ARCES	**ARCESS Array B**	**82.27**	**340**	P	**P**	**09 21 14.3**	**+0.1**
ARCES	**ARCESS Array B**	**82.27**	**340**	P	**P**	**09 21 14.3**	**+0.1**
	1.7nm,0.7s,baz=90,slow=6.1,SNR=5.2						
BRTR	**Keskin Array B**	**83.90**	**309**	P	**P**	**09 21 22.6**	**-0.9**
BRTR	**Keskin Array B**	**83.90**	**309**	P	**P**	**09 21 22.6**	**-0.9**
	0.3nm,0.3s,baz=134,slow=5.3,SNR=2.4						
FINES	**FINESS Array B**	**83.99**	**332**	P	**P**	**09 21 22.9**	**-0.4**
FINES	**FINESS Array B**	**83.99**	**332**	P	**P**	**09 21 22.9**	**-0.4**
	2.1nm,0.9s,baz=67,slow=4.7,SNR=8.2						
YKA	**Yellowknife Ar**	**92.34**	**24**	P	**P**	**09 22 03.7**	**+0.4**
YKA	**Yellowknife Ar**	**92.34**	**24**	P	**P**	**09 22 03.7**	**+0.4**
	0.1nm,0.5s,baz=301,slow=4.4,SNR=5.8						
PLCA	**Paso Flores**	**148.12**	**156**	PKPbc	**PKPbc**	**09 28 39.3**	**+0.1**
PLCA	**Paso Flores**	**148.12**	**156**	PKPbc	**PKPbc**	**09 28 39.3**	**+0.1**
	0.4nm,0.4s,baz=229,slow=6.7,SNR=3.5						

*ISK **01** 09:22:16.5, 40°.12N×41°.17E, h7km, MD2.6*

*ISCJB **01** 09:22:17.6±0.6, 40°.09N±0°.03×41°.13E±0°.03, h3km±6km, Error ellipse: s-maj=5.5km s-min=3.7km az=170.7*

*DDA **01** 09:22:17.3, 40°.08N×41°.13E, h7km, MD2.9*

*CSEM **01** 09:22:17.5±0.2, 40°.10N×41°.13E, h5km, MD2.6, Error ellipse: s-maj=4.1km s-min=3.4km az=139.0*

ISC 01 09:22:17.3±1.0, **40°.11N**±0°.03×**41°.14E**±0°.02, **h8**km±10km, **n19, σ**§**40/38, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.27**	**139**	*e*PG	**Pg**	**09 22 22.2**	**-0.4**
EZM				*e*SG	**Sg**	**09 22 26.2**	**0.0**
ERZM	**Erzurum**	**0.27**	**139**	*i* P	**Pg**	**09 22 22.6**	**-0.1**
ERZM				*i* S	**Sg**	**09 22 26.3**	**0.0**
ERZM	**Erzurum**	**0.27**	**139**	*i* P	**Pg**	**09 22 22.6**	**-0.1**
ERZM				*i* S	**Sg**	**09 22 26.3**	**0.0**
KOPT	**Kop Dagi**	**0.50**	**260**	*i* P	**Pg**	**09 22 27.2**	**+0.2**
KOPT				*i* S	**Sb**	**09 22 35.3**	**-0.8**
KOPT	**Kop Dagi**	**0.50**	**260**	*i* P	**Pg**	**09 22 27.2**	**+0.2**
KOPT				*i* S	**Sb**	**09 22 35.3**	**-0.8**
HOMI	**Horasan**	**0.59**	**96**	*i* P	**Pg**	**09 22 29.0**	**+0.2**
HOMI				*i* S	**Sb**	**09 22 38.5**	**-0.2**
BAYT	**Ayd¯–ntepe-Bay**	**0.81**	**291**	*e*PG	**Pg**	**09 22 32.8**	**-0.2**
BAYT				*e*SG	**Sb**	**09 22 45.2**	**+0.1**
BAYT	**Ayd¯–ntepe-Bay**	**0.81**	**291**	*e*Pg	**Pg**	**09 22 32.8**	**-0.2**
BAYT				*e*Sg	**Sb**	**09 22 45.2**	**+0.1**
DDEM	**Demirkent**	**0.91**	**31**	*i* P	**Pb**	**09 22 35.8**	**+0.3**
DDEM				*i* S	**Sn**	**09 22 50.5**	**+0.5**
DDEM	**Demirkent**	**0.91**	**31**	*i* P	**Pb**	**09 22 35.8**	**+0.3**
DDEM				*i* S	**Sn**	**09 22 50.5**	**+0.5**
DBAD	**Bademkaya**	**1.01**	**25**	*i* P	**Pb**	**09 22 37.1**	**0.0**
DBAD				*i* S	**Sn**	**09 22 51.9**	**-0.4**
DAGI	**Agillar**	**1.14**	**31**	*i* P	**Pg**	**09 22 38.8**	**-0.3**
DAGI				*i* S	**Sg**	**09 22 54.0**	**+0.1**
ARTV	**Artvin**	**1.23**	**29**	*i* P	**Pn**	**09 22 41.2**	**+0.1**
ARTV				*i* S	**Sn**	**09 22 58.3**	**+0.2**
ARTV	**Artvin**	**1.23**	**29**	*i* P	**Pn**	**09 22 41.2**	**+0.1**
ARTV				*i* S	**Sn**	**09 22 58.3**	**+0.2**
KELT	**Kelkit**	**1.44**	**272**	*i* P	**Pn**	**09 22 43.4**	**-0.5**
KELT				*i* S	**Sg**	**09 23 04.0**	**+0.3**
KELT	**Kelkit**	**1.44**	**272**	*i* P	**Pn**	**09 22 43.4**	**-0.5**
KELT				*i* S	**Sg**	**09 23 04.0**	**+0.3**
PTK	**Pertek**	**1.81**	**229**	*e*PN	**Pn**	**09 22 49.8**	**+0.7**
PTK				*e*SN	**Sb**	**09 23 13.2**	**-0.6**
PTK	**Pertek**	**1.81**	**229**	*e*Pn	**Pn**	**09 22 49.8**	**+0.7**
PTK				*e*Sn	**Sb**	**09 23 13.2**	**-0.6**

*ATH **01** 09:23:29.6, 39°.58N×20°.02E, h4km±3km, MD3.3/10*

*CSEM **01** 09:23:31.3±0.3, 39°.50N×20°.13E, h0km±1km, ML2.7/7, Error ellipse: s-maj=4.6km s-min=3.3km az=80.0*

*THE **01** 09:23:32.9, 39°.47N×20°.25E, h0km, ML2.7/7, Error ellipse: s-maj=1.7km s-min=0.5km az=284.0*

ISC 01 09:23:31.5±1.2, **39°.51N**±0°.02×**20°.16E**±0°.04, **h6**km±8km, **n47, σ0§97/75, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.14**	**78**	P	**Pg**	**09 23 34.7**	**+0.4**
IGT				S	**Sg**	**09 23 36.0**	**-0.2**
IGT	**Igoumenitsa**	**0.14**	**78**	P	**Pg**	**09 23 34.7**	**+0.4**
IGT				S	**Sg**	**09 23 36.0**	**-0.2**
RGA	**Parga**	**0.24**	**140**	P	**Pg**	**09 23 36.1**	**0.0**
RGA				S	**Sg**	**09 23 39.4**	**+0.1**
RGA	**Parga**	**0.24**	**140**	P	**Pg**	**09 23 36.1**	**0.0**
RGA				S	**Sg**	**09 23 39.4**	**+0.1**
JAN	**Janina**	**0.56**	**74**	P	**Pg**	**09 23 42.0**	**-0.2**
JAN				S	**Sg**	**09 23 50.2**	**+0.8**
JAN	**Janina**	**0.56**	**74**	*e*PG	**Pg**	**09 23 42.0**	**-0.2**
JAN				*e*SG	**Sg**	**09 23 50.2**	**+0.8**
JAN	**Janina**	**0.56**	**74**	P	**Pg**	**09 23 42.0**	**-0.2**
JAN				S	**Sg**	**09 23 50.2**	**+0.8**
LKD2	**Lefkada island**	**0.81**	**151**	P	**Pg**	**09 23 47.0**	**0.0**
LKD2				S	**Sb**	**09 23 58.4**	**-0.9**
LKD2	**Lefkada island**	**0.81**	**151**	*e*PB	**Pg**	**09 23 47.1**	**0.0**
LKD2				*e*SG	**Sn**	**09 24 00.6**	**-1.3**
LKD2	**Lefkada island**	**0.81**	**151**	P	**Pg**	**09 23 47.0**	**0.0**
LKD2				S	**Sb**	**09 23 58.4**	**-0.9**
LKD2				*e*Sg	**Sn**	**09 24 00.6**	**-1.3**
NEST	**Nestorio**	**1.14**	**37**	P	**Pn**	**09 23 53.8**	**-0.3**
NEST				S	**Sn**	**09 24 10.7**	**+0.6**
NEST	**Nestorio**	**1.14**	**37**	P	**Pn**	**09 23 53.8**	**-0.3**
NEST				S	**Sn**	**09 24 10.7**	**+0.6**
VLS	**Valsamata**	**1.37**	**166**	P	**Pg**	**09 23 57.4**	**-0.2**
VLS	**Valsamata**	**1.37**	**166**	*e*PB	**Pg**	**09 23 57.5**	**-0.2**
VLS				*e*SB	**Sg**	**09 24 17.8**	**+2.4**
VLS	**Valsamata**	**1.37**	**166**	*e*Pb	**Pg**	**09 23 57.5**	**-0.2**
VLS				*e*Sb	**Sg**	**09 24 17.8**	**+2.4**
EVR	**Evrytania**	**1.41**	**114**	P	**Pb**	**09 23 57.9**	**-0.4**
EVR	**Evrytania**	**1.41**	**114**	*e*PN	**Pb**	**09 23 58.2**	**-0.1**
EVR	**Evrytania**	**1.41**	**114**	P	**Pb**	**09 23 57.9**	**-0.4**
EVR	**Evrytania**	**1.41**	**114**	*e*Pn	**Pb**	**09 23 58.2**	**-0.1**
THL	**Klokotos Trika**	**1.44**	**87**	P	**Pb**	**09 23 57.9**	**-0.8**
THL				S	**Sg**	**09 24 18.3**	**+0.7**
THL	**Klokotos Trika**	**1.44**	**87**	*e*PG	**Pb**	**09 23 57.9**	**-0.8**
THL	**Klokotos Trika**	**1.44**	**87**	P	**Pb**	**09 23 57.9**	**-0.8**
THL				S	**Sg**	**09 24 18.3**	**+0.7**
KZN	**Kozani**	**1.48**	**57**	P	**Pg**	**09 23 59.7**	**-0.1**
KZN				S	**Sg**	**09 24 20.0**	**+1.1**
KZN	**Kozani**	**1.48**	**57**	*e*PN	**Pg**	**09 23 58.2**	**-0.5**
KZN				*e*SB	**Sg**	**09 24 20.2**	**+1.3**
KZN	**Kozani**	**1.48**	**57**	*e*Pn	**Pn**	**09 23 58.2**	**-0.5**
KZN	**Kozani**	**1.48**	**57**	P	**Pg**	**09 23 59.7**	**-0.1**
KZN				*e*Sb	**Sg**	**09 24 20.2**	**+1.3**
FNA	**Florina**	**1.58**	**36**	P	**Pg**	**09 24 02.1**	**+0.3**
FNA	**Florina**	**1.58**	**36**	P	**Pg**	**09 24 02.1**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.61**	**107**	P	**Pb**	**09 24 01.1**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.61**	**107**	P	**Pb**	**09 24 01.1**	**-0.5**
RLS	**Riolos of Patr**	**1.77**	**144**	*e*PB	**Pg**	**09 24 05.1**	**-0.3**
RLS	**Riolos of Patr**	**1.77**	**144**	*e*Pb	**Pg**	**09 24 05.1**	**-0.3**
LIT	**Litokhoron**	**1.89**	**71**	P	**Pb**	**09 24 05.5**	**-0.9**
LIT				S	**Sb**	**09 24 30.1**	**-0.3**
LIT	**Litokhoron**	**1.89**	**71**	*e*PN	**Pb**	**09 24 05.6**	**-0.9**
LIT	**Litokhoron**	**1.89**	**71**	P	**Pb**	**09 24 05.5**	**-0.9**
LIT				S	**Sb**	**09 24 30.1**	**-0.3**
GUR	**Goura**	**2.32**	**132**	*e*PB	**Pb**	**09 24 12.1**	**-1.6**
GUR	**Goura**	**2.32**	**132**	*e*Pb	**Pb**	**09 24 12.1**	**-1.6**
XOR	**Xorichti**	**2.35**	**92**	P	**Pn**	**09 24 11.7**	**+1.0**
XOR				S	**Sn**	**09 24 41.2**	**+1.2**
XOR	**Xorichti**	**2.35**	**92**	P	**Pn**	**09 24 11.7**	**+1.0**
XOR				S	**Sn**	**09 24 41.2**	**+1.2**
SOH	**Sokhos**	**2.78**	**61**	*e*PB	**Pb**	**09 24 19.0**	**-2.6**
SOH	**Sokhos**	**2.78**	**61**	*e*Pb	**Pb**	**09 24 19.0**	**-2.6**
DID	**Didima**	**3.13**	**129**	*e*PN	**Pn**	**09 24 23.5**	**+2.1**
DID	**Didima**	**3.13**	**129**	*e*Pn	**Pn**	**09 24 23.5**	**+2.1**
STON	**Ston**	**3.84**	**332**	*e*Pn	**Pn**	**09 24 32.2**	**+1.1**
STON				Sn	**Sn**	**09 25 16.9**	**+0.4**
STON	**Ston**	**3.84**	**332**	*e*Pn	**Pn**	**09 24 32.2**	**+1.1**
STON				Sn	**Sn**	**09 25 16.9**	**+0.3**
NVLJ	**Novalja**	**6.41**	**324**	*e*Pn	**Pn**	**09 25 06.7**	**+0.3**
NVLJ				Sn	**Sn**	**09 26 19.2**	**-0.5**
NVLJ	**Novalja**	**6.41**	**324**	*e*Pn	**Pn**	**09 25 06.6**	**+0.3**
NVLJ				Sn	**Sn**	**09 26 19.2**	**-0.5**

*IDC **01** 09:32:43.0±0.4, 37°.91N×142°.39E, h0km, mb5.1/33, mb1 5.2/36, mb1mx5.2/36, mbtmp5.1/36, ML4.3/2, MS4.5/33, Ms1 4.5/33, ms1mx4.3/54, Error ellipse: s-maj=10.8km s-min=7.8km az=122.0*

*JMA **01** 09:32:45.8±0.2, 37°.87N×142°.50E, h33km±2km, M5.2*

JMA Felt II J1.

*MOS **01** 09:32:46.6±0.8, 38°.10N×142°.38E, h27km, mb5.4/121, MS4.9/31, Error ellipse: s-maj=6.2km s-min=4.2km az=106.1*

*ISCJB **01** 09:32:46.3±0.6, 37°.89N±0°.02×142°.43E±0°.02, h30km±4km, mb5.2/302, MS4.8/71, Error ellipse: s-maj=3.8km s-min=2.2km az=166.1*

*BJI **01** 09:32:47.2, 37°.85N×142°.13E, h31km, mB5.1/40, mb5.2/68, Ms4.9/70, Ms7 4.8/67*

*NEIC **01** 09:32:48.7±0.4, 37°.88N×142°.40E, h38km±3km, mb5.1/169, MW5.0(NIED), Error ellipse: s-maj=3.4km s-min=2.2km az=147.0*

NEIC Felt at Ogawara. Recorded [2 JMA] in Fukushima, Iwate and Miyagi; [1 JMA] in Ibaraki, Tochigi and Yamagata.

*SZGRF **01** 09:32:50.3, 38°.42N×143°.34E, h33km, mb5.3, MS5.0, Off east coast of Honshu, Japan*

*NIED **01** 09:33:00, 37°.90N×142°.60E, h26km, Mw5.0 Best double couple: M₀3.41000×10¹⁶ NP1:φ₁=27.00000°, δ62.00000°, λ103.00000°. NP2:φ₂=180.00000°, δ31.00000°, λ66.00000°.*

*DJA **01** 09:33:06, 38°.08N×142°.51E, h216km, mb5.0/12*

ISC 01 09:32:48.1±0.3, **37°.94N**±0°.03×**142°.40E**±0°.03, **h30**km±1km, **h29**km:**pP-P, n1102,** σ§**07**/1206, **mb5.2**/301, **MS4.8**/71, **261C-212D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.97**	**302**	⇓P	**Pn**	**09 33 05.1**	**-0.6**
JIO				*e*S	**Sb**	**09 33 18.8**	**0.0**
JMM	**Marumori**	**1.27**	**267**	⇓P	**Pn**	**09 33 08.9**	**-0.9**
JMM				*e*S	**Sn**	**09 33 25.5**	**-0.3**
OFUJ	**Ofunato**	**1.28**	**334**	⇓P	**Pn**	**09 33 09.0**	**-0.9**
JFK	**Kawauchi**	**1.34**	**245**	⇓P	**Pn**	**09 33 09.2**	**-1.5**
JFK				*e*S	**Sn**	**09 33 26.0**	**-1.5**
JMK	**Ichinoseki**	**1.37**	**318**	⇓P	**Pn**	**09 33 11.0**	**-0.2**
JOU	**Okura**	**1.43**	**288**	⇓P	**Pn**	**09 33 12.1**	**+0.1**
ONAJ	**Iwakimizuishiy**	**1.52**	**237**	⇓P	**Pn**	**09 33 11.8**	**-1.5**
JFT	**Otama**	**1.69**	**256**	⇓P	**Pn**	**09 33 15.5**	**0.0**
JFT				S	**Sn**	**09 33 37.0**	**+0.9**
JOM	**Ohasama**	**1.76**	**331**	⇓P	**Pn**	**09 33 16.6**	**+0.1**
JOM				*e*S	**Sb**	**09 33 39.9**	**-1.5**
JYS	**Shirataka**	**1.86**	**279**	P	**Pn**	**09 33 18.0**	**+0.1**
JYK	**Kaneyama**	**1.88**	**302**	⇓P	**Pn**	**09 33 18.4**	**+0.3**
JRG	**Rokugo**	**2.01**	**317**	P	**Pn**	**09 33 20.4**	**+0.5**
JSB	**Shiboa**	**2.19**	**245**	P	**Pn**	**09 33 22.9**	**+0.4**
JFY	**Yanaizu**	**2.20**	**257**	P	**Pn**	**09 33 22.8**	**+0.2**
JYA	**Atsumi**	**2.21**	**288**	⇓P	**Pn**	**09 33 23.2**	**+0.5**
JYW	**Yuwa**	**2.34**	**314**	P	**Pn**	**09 33 25.7**	**+1.2**
JNS	**Sasagawa**	**2.44**	**268**	P	**Pn**	**09 33 26.1**	**+0.2**
JANG	**Nango**	**2.53**	**345**	⇑P	**Pn**	**09 33 26.5**	**-0.6**
JAH	**Hinai**	**2.63**	**329**	⇑P	**Pn**	**09 33 29.7**	**+1.2**
JKT	**Katashina**	**2.77**	**246**	P	**Pn**	**09 33 31.6**	**+1.1**
JHK	**Hiroka**	**2.77**	**257**	P	**Pn**	**09 33 30.7**	**+0.3**
JAG	**Ashikaga**	**2.79**	**238**	P	**Pn**	**09 33 31.3**	**+0.6**
JRY	**Ryogami san**	**3.39**	**237**	P	**Pn**	**09 33 39.1**	**+0.1**
MJAR	**Matsushiro Arr**	**3.62**	**249**	Pn	**Pn**	**09 33 43.0**	**+0.9**
MJAR				Sn	**Sb**	**09 34 29.6**	**-5.3**
MJAR	**Matsushiro Arr**	**3.62**	**249**	Pn	**Pn**	**09 33 43.0**	**+0.9**
	17nm,0.3s,baz=74,slow=12,SNR=164						
MJAR				Sn	**Sb**	**09 34 29.6**	**-5.3**
	36nm,0.3s,baz=106,slow=9.5,SNR=4.9						
MJAR				LR	LR	09 35 18.9	
	comp=Z,9μm,18.7s,baz=70,slow=44						
MAJO	**Matsushiro**	**3.62**	**249**	*e*P	**Pn**	**09 33 43.3**	**+1.1**
MAJO	**Matsushiro**	**3.62**	**249**	*e*Pn	**Pn**	**09 33 43.3**	**+1.1**
MAT	**Matsushiro**	**3.62**	**249**	P	**Pn**	**09 33 43.0**	**+0.9**
MAT				S	**Sn**	**09 34 23.2**	**-0.7**
MAT	**Matsushiro**	**3.62**	**249**	P	**Pn**	**09 33 43.1**	**+0.9**
JNG	**Nsakai**	**3.76**	**247**	P	**Pn**	**09 33 45.3**	**+1.2**
JNT	**Takato**	**3.98**	**240**	P	**Pn**	**09 33 48.7**	**+1.5**
ERM	**Erimo**	**4.12**	**8**	*e*P	**Pn**	**09 33 47.6**	**-1.3**
ERM	**Erimo**	**4.12**	**8**	*e*Pn	**Pn**	**09 33 47.6**	**-1.3**
ERM	**Erimo**	**4.12**	**8**	Pn	**Pn**	**09 33 47.7**	**-1.2**
	1μm,0.6s,SNR=27						
JGN	**Niukaw**	**4.41**	**249**	P	**Pn**	**09 33 55.7**	**+2.7**
ASAJ	**Asahikawa**	**6.18**	**1**	*e*Pn	**Pn**	**09 34 16.4**	**-0.8**
ASAJ				*e*Sn	Sn	09 35 32.7	+5.9
ASAJ	**Asahikawa**	**6.18**	**1**	Pn	**Pn**	**09 34 16.8**	**-0.4**
	7.8nm,0.3s,baz=227,slow=18,SNR=69						
ASAJ				Sn	**Sn**	**09 35 29.3**	**+2.5**
	7.2nm,0.3s,baz=136,slow=30,SNR=2.4						
ASAJ				LR	LR	09 37 16.3	
	comp=Z,6μm,22.0s,baz=350,slow=44						
YUK	**Yuzh-Kuril'sk**	**6.63**	**22**	*c i* P	Pn	09 34 20.0	-3.4
YUK				*i* S	**Sn**	**09 35 32.5**	**-5.4**
YUK				pmax	pmax		
	comp=Z,374nm,0.3s						
YUK				pmax	pmax		
	comp=N,72nm,0.3s						
YUK				pmax	pmax		
	comp=E,76nm,0.3s						
YUK				pmax	pmax		
	comp=Z,27μm,0.3s						
YUK				MLR	MLR		
	comp=E,480nm,14.0s						
YUK				MLR	MLR		
	comp=Z,2μm,16.0s						
YUK				MLR	MLR		
	comp=N,1μm,16.0s						
KUR	**Kuril'sk**	**8.36**	**28**	P	Pn	09 34 36.0	-11
KUR				pmax	pmax		
	comp=Z,170nm,0.6s						
KUR				pmax	pmax		
	comp=N,110nm,0.8s						
KUR				pmax	pmax		
	comp=E,90nm,0.6s						
KUR				MLR	MLR		
	comp=N,6μm,16.0s						
KUR				MLR	MLR		
	comp=E,6μm,16.0s						
KUR				MLR	MLR		
	comp=Z,4μm,16.0s						
YSS	**Yuzh-Sakhalins**	**9.02**	**2**	⇓*e*P	**Pn**	**09 34 55.8**	**-0.3**
YSS				*e*S	**Sn**	**09 36 35.0**	**-1.6**
YSS				pmax	pmax		
	comp=N,160nm,1.0s						
YSS				pmax	pmax		
	comp=Z,150nm,1.0s						
YSS				smax	smax		
	comp=N,90nm,1.2s						
YSS				smax	smax		
	comp=E,70nm,1.2s						
YSS				MLR	MLR		
	comp=N,2μm,18.0s						
YSS				MLR	MLR		
	comp=Z,3μm,18.0s						
YSS	**Yuzh-Sakhalins**	**9.02**	**2**	*e*Pn	**Pn**	**09 34 55.4**	**-0.7**
	comp=Z,152nm,0.8s						
VLA	**Vladivostok**	**9.52**	**306**	⇓*i* P	Pn	09 35 07.4	+4.3
VLA				*e*S	Sn	09 36 57.1	+8.0
VLA				pmax	pmax		
	comp=Z,279nm,1.1s						
USRK	**Ussuriysk Arra**	**10.03**	**312**	Pn	**Pn**	**09 35 12.5**	**+2.4**
	comp=Z,3.5nm,0.3s,baz=120,slow=14,SNR=41

comp=Z,2μm,16.0s
SKR Severo-Kuril's 16.05 33 *e*P Pn 09 36 14.5 -17
SKR MLR MLR
comp=E,3μm,18.0s
SKR MLR MLR
comp=Z,3μm,18.0s
JOW Kunigami 16.25 231 *e*P **Pn 09 36 32.1 -2.1**
comp=Z,55nm,1.1s
JOW Kunigami 16.25 231 Pn **P 09 36 38.0 +1.0**
comp=Z,1.2nm,0.3s,baz=11,slow=8.2,SNR=3.2
DL2 Dalian 16.31 280 P **Pn 09 36 35.1 +0.3**
DL2 S **Sn 09 39 37.7 +2.9**
DL2 pmax pmax
comp=Z,80nm,1.0s
DL2 pmax pmax
comp=Z,280nm,6.6s
DL2 LR LR
comp=N,530nm,11.9s
DL2 LR LR
comp=E,600nm,20.2s
DL2 LR LR
comp=Z,1μm,20.6s
PEA0B Petropavlovsk- 18.52 30 *e*P **Pn 09 37 02.1 -0.1**
PETK Petropavlovsk- 18.52 30 P **Pn 09 37 02.0 -0.1**
PETK pmax pmax
comp=Z,1.0nm,0.3s
PETK MLR MLR
comp=Z,755nm,18.2s
PETK Petropavlovsk- 18.52 30 P **Pn 09 37 02.0 -0.1**
PETK S **S 09 40 32.8 +1.5**
PETK Petropavlovsk- 18.52 30 P **Pn 09 37 02.0 -0.1**
comp=Z,0.6nm,0.3s,baz=206,slow=9.9,SNR=14
PETK S **S 09 40 32.8 +1.5**
comp=Z,0.1nm,0.3s,baz=299,slow=22,SNR=3.5
PETK LR LR 09 44 53.3
comp=Z,755nm,18.2s,baz=217,slow=39
SSE Sheshan 18.74 255 P P 09 36 58.3 -6.2
SSE S **Sn 09 40 31.5 -2.3**
SSE pmax pmax
comp=Z,63nm,1.2s
SSE pmax pmax
comp=Z,220nm,8.9s
SSE LR LR
comp=N,1μm,15.4s
SSE LR LR
comp=E,1μm,15.4s
SSE LR LR
comp=Z,2μm,14.0s
PET Petropavlovsk 18.84 32 *e*P **Pn 09 37 05.6 -0.4**
PET *e*S **Sn 09 40 36.3 +0.5**
PET pmax pmax
comp=Z,400nm,12.6s
PET pmax pmax
comp=Z,58nm,1.5s
PET pmax pmax
comp=Z,28nm,0.8s
PET MLR MLR
comp=Z,1μm,19.0s
PET Petropavlovsk 18.84 32 *e*P **Pn 09 37 05.7 -0.3**
comp=Z,76nm,1.3s
HIA Hailar 19.85 312 *e*P **Pn 09 37 17.6 -0.7**
comp=Z,55nm,0.8s
NJ2 Nanjing 20.14 260 *e*P **P 09 37 18.7 -1.0**
NJ2 pP **pP 09 37 25.4 -2.2**
NJ2 sP **sP 09 37 30.5 -0.9**
NJ2 pmax pmax
comp=Z,60nm,1.0s
NJ2 pmax pmax
comp=Z,370nm,4.6s
NJ2 LR LR
comp=N,1μm,16.7s
NJ2 LR LR
comp=E,2μm,15.3s
NJ2 LR LR
comp=Z,2μm,14.2s
TIA Tai'an 20.23 273 ⇑P **P 09 37 19.2 -1.5**
TIA pmax pmax
comp=Z,100nm,0.8s
TIA pmax pmax
comp=Z,420nm,14.2s
TIA LR LR
comp=N,1μm,11.8s
TIA LR LR
comp=E,2μm,16.4s
TIA LR LR
comp=Z,3μm,15.6s
BJI Beijing 20.47 284 P **P 09 37 21.4 -1.8**
BJI S **S 09 41 07.3 -3.5**
BJI pmax pmax
comp=Z,56nm,0.9s
BJI pmax pmax
comp=Z,200nm,4.3s
BJI LR LR
comp=N,1μm,15.8s
BJI LR LR
comp=E,510nm,16.9s
BJI LR LR
comp=Z,610nm,22.6s
BJT Baijiatuan 20.48 284 *e*P **P 09 37 21.4 -2.0**
comp=Z,74nm,0.7s
CLNS Chul'man 22.19 334 *e*P **P 09 37 40.2 -1.5**
CLNS *e**PP **pP 09 37 45.4 -4.3**
CLNS *e* 09 37 54.6
CLNS *e*S S 09 41 37.0 -7.3
CLNS *e* 09 41 41.9
CLNS pmax pmax
comp=N,19nm,0.9s
CLNS pmax pmax
comp=Z,56nm,0.9s
CLNS pmax pmax
comp=E,24nm,1.3s
CLNS pmax pmax
comp=E,63nm,1.0s
CLNS pmax pmax
comp=N,86nm,1.2s
CLNS pmax pmax
comp=Z,65nm,1.0s
CLNS smax smax
comp=E,253nm,16.0s
CLNS smax smax
comp=N,149nm,11.2s
CLNS MLR MLR
comp=N,2μm,17.0s
CLNS MLR MLR
comp=Z,2μm,14.0s
CLNS MLR MLR
comp=E,551nm,17.0s
NACB Ninganchiao 22.42 238 *e*P **P 09 37 42.1 -2.3**
comp=E,24nm,0.8s
SSLB Suanglung 23.11 239 *e*P **P 09 37 49.8 -1.9**
comp=E,117nm,1.3s
YULB Yu-li 23.15 237 *e*P **P 09 37 50.4 -1.7**
comp=E,20nm,0.9s
TPUB Ta-pu 23.66 238 *e*P **P 09 37 54.8 -2.2**
comp=E,222nm,1.3s
TWG Pinlang 23.70 237 *e*P **P 09 37 56.3 -1.1**
comp=E,74nm,0.8s
HHC Hu-ho-hao-te 23.95 287 *e*P **P 09 37 56.9 -2.8**
HHC pP **pP 09 38 06.2 -2.0**
HHC sP **sP 09 38 10.3 -1.6**
HHC PP **PnPn 09 38 31.4 +2.8**
HHC S **S 09 42 09.2 -5.3**
HHC sS **sS 09 42 24.3 -4.3**
HHC SS **SnSn 09 43 00.1 +4.8**
HHC pmax pmax
comp=Z,34nm,1.2s
HHC pmax pmax
comp=Z,310nm,5.8s
HHC LR LR
comp=N,800nm,12.2s
HHC LR LR
comp=E,1μm,12.1s
HHC LR LR
comp=Z,2μm,13.7s
QZH Quanzhou 24.01 244 ⇑*i*P **P 09 37 59.7 -0.6**
QZH S **S 09 42 17.0 +1.6**
QZH pmax pmax
comp=Z,90nm,0.9s
QZH LR LR
comp=N,1μm,13.2s
QZH LR LR
comp=E,1μm,14.7s
QZH LR LR
comp=Z,2μm,16.0s
WHN Wuhan 24.27 261 P **P 09 38 02.1 -0.5**
WHN S **S 09 42 20.8 +1.2**
WHN pmax pmax
comp=Z,200nm,1.0s
WHN LR LR
comp=N,1μm,10.5s
WHN LR LR
comp=E,5μm,15.2s
WHN LR LR
comp=Z,5μm,15.7s
GUMO Guam 24.35 174 S **S 09 42 27.9 +7.0**
comp=Z,72nm,0.9s,baz=341,slow=17,SNR=1.6
GUMO LR LR 09 47 41.5
comp=Z,645nm,18.9s,baz=184,slow=37
CIT Chita 24.59 314 *e*P **P 09 38 05.9 +0.5**
CIT *e* 09 38 18.5
CIT *e* 09 38 39.7
CIT pmax pmax
comp=Z,1μm,1.3s
BTO Baotou 25.13 286 *e*P P 09 38 02.0 -8.5
YAK Yakutsk 25.37 346 *e*P **P 09 38 11.2 -1.1**
YAK *e**PP **pP 09 38 22.0 +1.1**
YAK *e* 09 38 44.4
YAK *e*S **S 09 42 39.0 +2.3**
YAK *e**SS **sS 09 42 51.9 +1.1**
YAK *e*SS **SnSn 09 43 27.6 -2.1**
YAK pmax pmax
comp=Z,218nm,1.1s
YAK pmax pmax
comp=N,114nm,1.2s
YAK pmax pmax
comp=E,42nm,1.4s
YAK pmax pmax
comp=Z,119nm,1.7s
YAK pmax pmax
comp=E,30nm,1.2s
YAK pmax pmax
comp=N,111nm,1.5s
YAK smax smax
comp=N,576nm,3.1s
YAK smax smax
comp=E,141nm,2.0s
YAK MLR MLR
comp=E,799nm,17.0s
YAK MLR MLR
comp=Z,2μm,17.0s
YAK MLR MLR
comp=N,1μm,17.0s
YAK Yakutsk 25.37 346 *e*P **P 09 38 11.6 -0.7**
comp=N,222nm,1.0s
SEY Seymchan 25.76 11⇑*e*P **P 09 38 16.4 +0.6**
FX1 Attu Island--F 26.01 45 P **P 09 38 18.9 +0.7**
FX1 Attu Island--F 26.01 45 P **P 09 38 18.9 +0.7**
comp=N,40nm,0.9s,baz=230,slow=8.9,SNR=6.5
FX1 LR LR 09 45 50.4
comp=N,470nm,21.1s,baz=258,slow=30
BOD Bodaibo 27.20 326⇓*i*P **P 09 38 28.2 -0.7**
BOD pmax pmax
comp=Z,62nm,1.1s
XAN Xi'an 27.28 272 P **P 09 38 28.5 -1.4**
XAN pP **pP 09 38 38.8 +0.3**
XAN S **S 09 43 09.7 +2.2**
XAN pmax pmax
comp=Z,11nm,0.9s
XAN pmax pmax
comp=Z,68nm,5.9s
XAN LR LR
comp=N,480nm,14.8s
XAN LR LR
comp=E,190nm,15.9s
XAN LR LR
comp=Z,270nm,15.9s
ULN Ulaanbaatar 27.51 303 *e*P **P 09 38 32.4 +0.4**
comp=Z,50nm,0.9s
ULN Ulaanbaatar 27.51 303 P **P 09 38 32.6 +0.6**
SNR=26
ULN mb 09 38 34.3
SNR=58
ULN Ulaanbaatar 27.51 303 P **P 09 38 32.2 +0.2**
comp=Z,63nm,1.2s,comp=Z,677nm
SONM Songino Array 27.95 302 P **P 09 38 36.3 +0.5**
SONM Songino Array 27.95 302 P **P 09 38 36.3 +0.5**
comp=Z,33nm,0.9s,baz=109,slow=9.1,SNR=131
SONM LR LR 09 50 05.6
comp=Z,1μm,18.9s,baz=275,slow=37
ENH Enshi 28.20 264 *e*P **P 09 38 37.2 -1.0**
comp=Z,128nm,0.9s
GZH Guangzhou 28.93 248 P **P 09 38 43.7 -0.9**
GZH S **S 09 43 36.4 +2.9**
GZH LR LR
comp=N,2μm,16.4s
GZH LR LR
comp=E,2μm,15.1s
GZH LR LR
comp=Z,4μm,16.6s
IRK Irkutsk 30.09 311⇑*i*P **P 09 38 54.4 -0.3**
IRK *e* 09 39 07.2
IRK *e* 09 41 54.6
IRK pmax pmax
comp=Z,61nm,1.8s
ZAK Zakamensk 30.34 307 *e*P **P 09 38 56.6 -0.4**
ZAK *e* 09 41 56.9
ZAK pmax pmax
comp=Z,37nm,1.1s
TLY Talaya 30.34 310 *e*P **P 09 38 56.1 -0.9**
TLY pmax pmax
comp=Z,37nm,1.0s
TLY MLR MLR
comp=Z,2μm,16.0s
TLY Talaya 30.34 310 *e*P **P 09 38 56.9 -0.1**
comp=Z,37nm,1.0s
TLY Talaya 30.34 310 P **P 09 38 57.7 +0.7**
SNR=20
TLY mb 09 38 59.4
SNR=31
TLY Talaya 30.34 310 P **P 09 38 57.9 +0.9**
comp=Z,210nm,0.9s,SNR=16
LZH Lanzhou 30.70 279 *e*P **P 09 39 00.8 +0.4**
LZH pP **pP 09 39 10.9 +1.9**
LZH sP **sP 09 39 15.0 +2.4**
LZH S **S 09 44 03.1 +1.7**
LZH sS **sS 09 44 16.0 +0.4**
LZH SS **ScP 09 45 38.1 -0.2**
LZH pmax pmax
comp=Z,37nm,1.1s
LZH pmax pmax
comp=Z,130nm,4.1s
LZH LR LR
comp=N,620nm,13.3s
LZH LR LR
comp=E,2μm,16.1s
LZH LR LR
comp=Z,2μm,15.8s
MOY Mondy 31.97 309 *e*P **P 09 39 11.3 -0.1**
MOY pmax pmax
comp=Z,50nm,1.5s
GYA Guiyang 32.15 260⇑*i*P **P 09 39 11.8 -1.4**
GYA pP **pP 09 39 21.3 -0.6**
GYA PP **PnPn 09 40 17.8 -1.6**
GYA S **S 09 44 19.9 -4.2**
GYA sS **sS 09 44 35.8 -2.6**
GYA ScP **ScP 09 45 38.9 -4.3**
GYA SS **SnSn 09 46 12.5 -3.2**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,100nm,6.0s
GYA LR LR
comp=N,280nm,14.6s
GYA LR LR
comp=E,750nm,18.6s
GYA LR LR
comp=Z,1μm,18.0s
CD2 Chengdu 32.46 269 ⇑P **P 09 39 16.0 +0.2**
CD2 pP **pP 09 39 25.0 +0.5**
CD2 sP **sP 09 39 29.0 +0.9**
CD2 S **S 09 44 27.3 -1.5**
CD2 sS **sS 09 44 42.5 -0.6**
CD2 PcS **PcS 09 45 46.9 -0.8**
CD2 SS **SnSn 09 46 23.6 +0.5**
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 LR LR
comp=N,1μm,13.8s
CD2 LR LR
comp=E,1μm,16.1s
CD2 LR LR
comp=Z,1μm,16.2s
BILL Bilibino 32.94 16*c i*P **P 09 39 18.0 -1.6**
BILL *i* 09 40 26.4
BILL *i* 09 42 02.4
BILL pmax pmax
comp=Z,43nm,1.0s
BILL MLR MLR
comp=Z,500nm,18.0s
BILL Bilibino 32.94 16 *e*P **P 09 39 18.5 -1.1**
comp=Z,45nm,1.1s
GTA Gaotai 33.05 286 P **P 09 39 20.8 -0.3**
GTA pP **pP 09 39 30.0 +0.3**
GTA sP **sP 09 39 37.0 +3.7**
GTA PcP **PcP 09 42 04.7 +0.6**
GTA S **S 09 44 38.8 +0.7**
GTA sS **sS 09 44 56.8 +4.4**
GTA pmax pmax
comp=Z,84nm,1.3s
GTA pmax pmax
comp=Z,190nm,6.2s
GTA LR LR
comp=N,580nm,15.7s
GTA LR LR
comp=E,1μm,18.1s
GTA LR LR
comp=Z,2μm,18.1s
QIZ Qiongzhong 34.01 246 P **P 09 39 29.1 -0.3**
QIZ S **S 09 44 52.1 -0.9**
QIZ sS **sS 09 45 08.0 +0.7**
QIZ pmax pmax
comp=Z,16nm,1.5s
QIZ LR LR
comp=N,650nm,19.6s
QIZ LR LR
comp=E,310nm,18.7s
QIZ LR LR
comp=Z,1μm,15.9s
KMI Kunming 35.87 261 P **P 09 39 44.8 -0.9**
KMI pP **pP 09 39 53.8 -0.6**
KMI sP **sP 09 39 58.4 +0.4**
KMI PP **PP 09 41 08.3 +0.9**
KMI S **S 09 45 20.7 -1.3**
KMI sS **sS 09 45 36.6 +0.3**
KMI SS **SnSn 09 47 42.5 -3.7**
KMI pmax pmax
comp=Z,47nm,1.1s
KMI pmax pmax
comp=Z,140nm,3.1s
KMI LR LR
comp=N,830nm,16.7s
KMI LR LR
comp=E,910nm,16.7s
KMI LR LR
comp=Z,1μm,14.3s
GAMB Gambell 37.54 32 *e*P **P 09 39 59.2 +0.1**
comp=Z,8.9nm,1.1s
MYLDM Lahad Datu 39.20 220 P P 09 40 18.0 +4.4
comp=Z,89nm,1.0s
TNA Tin City 39.68 30 *e*P **P 09 40 18.3 +1.2**
comp=Z,37nm,1.1s
WMQ Urumqi 41.14 296 P **P 09 40 30.1 +0.6**
WMQ pP **pP 09 40 40.0 +1.7**
WMQ sP **sP 09 40 44.0 +2.1**
WMQ PcP **PcP 09 42 30.0 +1.5**
WMQ S **S 09 46 42.0 +1.2**
WMQ sS **sS 09 46 58.0 +2.7**
WMQ SS **SS 09 49 40.0 -3.8**
WMQ pmax pmax
comp=Z,110nm,1.0s
WMQ pmax pmax
comp=Z,530nm,3.6s
WMQ LR LR
comp=N,720nm,12.2s
WMQ LR LR
comp=E,840nm,12.6s
WMQ LR LR
comp=Z,890nm,20.8s
ZAA0 Zalesovo Array 41.89 312 *e*P **P 09 40 35.2 -0.2**
ZAA0 *e* 09 40 49.1
ZALV Zalesovo Beam 41.89 312 P **P 09 40 35.7 +0.3**
ZALV 09 42 30.1
ZALV pmax pmax
comp=Z,56nm,0.9s
ZALV pmax pmax
comp=Z,18nm,0.8s
ZALV MLR MLR
comp=Z,1μm,19.1s
ZALV Zalesovo Beam 41.89 312 P **P 09 40 35.7 +0.3**
ZALV PcP **PcP 09 42 30.1 -0.6**
ZALV Zalesovo Beam 41.89 312 P **P 09 40 35.7 +0.3**
comp=Z,56nm,0.9s,baz=90,slow=7.4,SNR=182
ZALV PcP **PcP 09 42 30.1 -0.6**
comp=Z,18nm,0.8s,baz=93,slow=3.3,SNR=7.5
ZALV LR LR 09 58 43.0
comp=Z,1μm,19.1s,baz=76,slow=37
CHTO Chiang Mai 42.27 256 *e*P **P 09 40 38.6 -0.4**
CHTO pmax pmax
comp=Z,21nm,1.0s
CHTO Chiang Mai 42.27 256 *e*P **P 09 40 38.6 -0.4**
comp=Z,21nm,1.0s
CHTO Chiang Mai 42.27 256 P **P 09 40 38.9 -0.1**
SNR=5.6
CHTO Chiang Mai 42.27 256 P **P 09 40 39.1 +0.1**
comp=Z,26nm,1.2s
CM31 Chiang Mai Arr 42.48 255 *e*P **P 09 40 41.4 +0.7**
comp=Z,4.7nm,0.6s
CMAR Chiang Mai Arr 42.48 255 P **P 09 40 41.0 +0.3**
CMAR S **S 09 47 05.2 +4.2**
CMAR Chiang Mai Arr 42.48 255 P **P 09 40 41.0 +0.3**
comp=Z,8.5nm,0.8s,baz=48,slow=5.8,SNR=16
CMAR S **S 09 47 05.2 +4.2**
comp=Z,0.3nm,0.3s,baz=312,slow=54,SNR=2.8
CMAR LR LR 09 59 36.1
comp=Z,319nm,19.8s,baz=59,slow=38
NVS Novosibirsk 42.79 313⇑*i*P **P 09 40 41.9 -0.8**
NVS pmax pmax
comp=Z,70nm,1.1s
NVS pmax pmax
comp=N,7.0nm,0.6s
NVS pmax pmax
comp=E,52nm,1.1s
LSA Lhasa 42.91 275 P **P 09 40 44.2 -0.4**
LSA pP **pP 09 40 57.0 +3.5**
LSA pmax pmax
comp=Z,10.0nm,0.9s
LSA Lhasa 42.91 275 *e*P **P 09 40 45.2 +0.6**
LSA pmax pmax
comp=Z,58nm,1.1s
LSA Lhasa 42.91 275 *e*P **P 09 40 45.2 +0.6**
comp=Z,58nm,1.1s
IMP Imphal 42.96 267 *ex* **P 09 40 46.0 +1.4**
SHL Shillong 44.20 269 *e*PKP **P 09 40 54.0 -0.7**
SHL *ex* x 09 47 30.0
MK31 Makanchi Array 44.31 301*ce*P **P 09 40 55.0 -0.1**
MK31 pmax pmax
comp=Z,31nm,0.7s
MK31 Makanchi Array 44.31 301 *e*P **P 09 40 55.0 -0.1**
MKAR Makanchi Array 44.31 301*ce*P **P 09 40 55.2 0.0**
MKAR pmax pmax
comp=Z,24nm,0.8s
MKAR Makanchi Array 44.31 301 *e*P **P 09 40 55.2 0.0**
MKAR S **S 09 47 28.4 +1.2**
MKAR Makanchi Array 44.31 301 P **P 09 40 55.2 0.0**
comp=Z,24nm,0.8s,baz=87,slow=9.3,SNR=167
MKAR S **S 09 47 28.4 +1.2**
comp=Z,0.2nm,0.7s,baz=1.3,slow=39,SNR=2.1
MKAR LR LR 10 00 54.9
comp=Z,264nm,18.7s,baz=83,slow=38
SVW2 Sparrevohn 44.33 38 *e*P **P 09 40 56.2 +1.1**
comp=Z,31nm,1.2s
SBUM Sibu 44.85 225 P **P 09 41 00.1 +0.3**
comp=Z,24nm,1.0s
RSO Redoubt South 45.71 39 *e*P **P 09 41 07.1 +0.8**
RSO *e* 09 41 16.6
KDAK Kodiak Island 45.91 43 *e*P **P 09 41 06.8 -0.7**
comp=Z,81nm,0.8s
KDAK *e* 09 41 16.3
KDAK S **S 09 47 53.5 +3.6**
KDAK Kodiak Island 45.91 43 P **P 09 41 07.0 -0.6**
comp=Z,544nm,0.8s,SNR=7.8
KDAK Kodiak Island 45.91 43 P **P 09 41 06.9 -0.7**
comp=Z,73nm,0.8s,baz=256,slow=2.2,SNR=22
KDAK S **S 09 47 53.5 +3.6**
comp=Z,10nm,0.9s,baz=20,slow=19,SNR=1.7
KDAK LR LR 10 00 13.5
comp=Z,528nm,20.4s,baz=254,slow=36
KURK Kurchatov 46.00 308 P **P 09 41 08.9 +0.5**

KURK pmax pmax
comp=Z,81nm,0.7s
KURK Kurchatov 46.00 308 *e*P **P 09 41 08.1 -0.3**
comp=Z,123nm,0.9s
KURK Kurchatov 46.00 308 P **P 09 41 08.6 +0.1**
SNR=35
KURK Kurchatov 46.00 308 P **P 09 41 08.1 -0.3**
comp=Z,829nm,0.9s
SPU Mount Spurr 46.04 38 *e*P **P 09 41 08.9 +0.2**
KURBB Kurchatov Arra 46.07 307 P **P 09 41 08.9 -0.1**
comp=Z,81nm,0.7s,baz=82,slow=8.2,SNR=191
TAPN Taplejung 46.66 274 *e*P **P 09 41 14.3 0.0**
comp=Z,40nm,0.7s
TAPN Taplejung 46.66 274 *e*P **P 09 41 14.3 0.0**
comp=Z,40nm,0.7s
KSM Kuching 46.74 227 *e*P **P 09 41 15.3 +0.6**
comp=Z,30nm,0.8s
KSM Kuching 46.74 227 P **P 09 41 15.8 +1.1**
comp=Z,42nm,1.0s
TRF Thorofare Moun 46.85 35 *e*P **P 09 41 14.6 -0.6**
comp=Z,13nm,0.9s
COLD Coldfoot 46.98 29 *e*P **P 09 41 16.0 0.0**
comp=Z,7.9nm,1.1s
COLD *e* 09 41 25.6
ODAN Odare 47.14 273 *e*P **P 09 41 17.8 -0.2**
comp=Z,81nm,0.8s
ODAN Odare 47.14 273 *e*P **P 09 41 17.8 -0.2**
comp=Z,81nm,0.8s
RC01 Rabbit Creek A 47.17 38 *e*P **P 09 41 17.2 -0.3**
comp=Z,51nm,1.3s
RC01 *e* 09 41 26.2
PMG Port Moresby 47.30 174 P **P 09 41 20.5 +1.5**
PMG S **S 09 48 12.3 +1.7**
PMG Port Moresby 47.30 174 P **P 09 41 20.5 +1.5**
comp=Z,23nm,0.9s,baz=197,slow=3.9,SNR=4.0
PMG S **S 09 48 12.3 +1.7**
comp=Z,7.5nm,0.7s,baz=308,slow=18,SNR=2.5
PMR Palmer 47.44 37 *e*P **P 09 41 18.8 -0.7**
PMR pmax pmax
comp=Z,47nm,1.3s
PMR Palmer 47.44 37 *e*P **P 09 41 18.8 -0.7**
comp=Z,47nm,1.3s
MCK McKinley 47.45 34 *e*P **P 09 41 19.2 -0.5**
MCK pmax pmax
comp=Z,66nm,1.8s
MCK McKinley 47.45 34 *e*P **P 09 41 19.2 -0.5**
comp=Z,66nm,1.8s
KAPI Kappang 47.64 211 *e*P **P 09 41 20.9 -0.7**
comp=Z,104nm,1.1s
KAPI S **S 09 48 18.3 +2.8**
KAPI Kappang 47.64 211 S **S 09 48 18.3 +2.8**
comp=Z,5.5nm,0.8s,baz=214,slow=19,SNR=1.5
JIRN Jiri 47.72 275 *e*P **P 09 41 22.8 +0.1**
JIRN Jiri 47.72 275 *e*P **P 09 41 22.8 +0.1**
RAMN Ramite 47.72 274 *e*P **P 09 41 22.4 -0.2**
comp=Z,67nm,0.7s
RAMN Ramite 47.72 274 *e*P **P 09 41 22.4 -0.2**
comp=Z,67nm,0.7s
SML Sawmill 47.80 37 *e*P **P 09 41 22.2 -0.3**
SML pmax pmax
comp=Z,18nm,1.5s
SML Sawmill 47.80 37 *e*P **P 09 41 22.2 -0.3**
comp=Z,18nm,1.5s
GUN Gumba 47.85 275 *e*P **P 09 41 23.7 +0.1**
comp=Z,71nm,0.3s
COLA College 47.90 33 *e*P **P 09 41 22.8 -0.3**
COLA pmax pmax
comp=Z,13nm,0.9s
COLA College 47.90 33 *e*P **P 09 41 22.8 -0.3**
comp=Z,13nm,0.9s
ILAR Eielson Array 48.31 33 P **P 09 41 25.4 -0.9**
ILAR Eielson Array 48.31 33 P **P 09 41 25.4 -0.9**
comp=Z,12nm,0.8s,baz=267,slow=6.4,SNR=123
PKI Pulchoki 48.37 275 *e*P **P 09 41 27.3 -0.4**
PKI Pulchoki 48.37 275 *e*P **P 09 41 27.3 -0.4**
PKI Pulchoki 48.37 275 *e*P **P 09 41 27.3 -0.4**
KKN Kakani 48.37 276 *e*P **P 09 41 27.6 0.0**
comp=Z,100nm,0.7s
KKN Kakani 48.37 276 *e*P **P 09 41 27.6 0.0**
KKN pmax pmax
comp=Z,100nm,0.7s
KKN Kakani 48.37 276 *e*P **P 09 41 27.6 0.0**
comp=Z,100nm,0.7s
DMN Daman 48.59 275 *e*P **P 09 41 29.1 -0.2**
DMN Daman 48.59 275 *e*P **P 09 41 29.1 -0.2**
GKN Gorkha 48.78 276 *e*P **P 09 41 30.4 -0.2**
comp=Z,181nm,1.1s
GKN Gorkha 48.78 276 *e*P **P 09 41 30.4 -0.2**
comp=Z,181nm,1.1s
PAX Paxson 49.05 35 *e*P **P 09 41 31.7 -0.4**
PAX pmax pmax
comp=Z,25nm,1.5s
PAX Paxson 49.05 35 *e*P **P 09 41 31.7 -0.4**
comp=Z,25nm,1.5s
DIV Divide 49.09 38 *e*P **P 09 41 32.4 0.0**
comp=Z,38nm,1.0s
DANN Dangsing 49.31 277 *e*P **P 09 41 35.1 +0.2**
comp=Z,153nm,0.5s
DANN Dangsing 49.31 277 *e*P **P 09 41 35.1 +0.2**
comp=Z,153nm,0.4s
DOT Dot Lake 49.62 34 *e*P **P 09 41 34.9 -1.5**
comp=Z,8.2nm,1.2s
ULHL Ulahol 49.65 297 P **P 09 41 37.5 +0.4**
SNR=8.2
ULHL P **P 09 41 37.5 +0.4**
SNR=8.2
BMRM Bremner River 49.67 38 *e*P **P 09 41 37.1 +0.3**
comp=Z,93nm,1.6s
KOLN Koldanda 49.70 276 *e*P **P 09 41 37.7 0.0**
comp=Z,15nm,0.3s
MENT Mentasta 49.85 35 *e*P **P 09 41 38.4 +0.3**
TKM2 Tokmak 2 49.89 298 *e*P **P 09 41 39.7 +0.8**
TKM2 pmax pmax
comp=Z,53nm,1.1s
TKM2 Tokmak 2 49.89 298 *e*P **P 09 41 39.7 +0.8**
comp=Z,53nm,1.1s
TKM2 Tokmak 2 49.89 298 P **P 09 41 39.8 +0.8**
SNR=51
TKM2 P **P 09 41 39.8 +0.8**
SNR=51
VOSK Vostochnaya 50.27 311 P **P 09 41 40.4 -1.0**
VOSK pmax pmax
comp=Z,87nm,1.2s
IPM Ipoh 50.28 239 *e*P **P 09 41 41.1 -0.8**
comp=Z,28nm,1.0s
KBK Karagaybulak 50.43 298 P **P 09 41 43.6 +0.6**
SNR=20
KBK P **P 09 41 43.6 +0.6**
SNR=20
CHMS Chumysh 50.46 298 P **P 09 41 43.3 +0.2**
SNR=6.3
CHMS P **P 09 41 43.3 +0.2**
SNR=6.3
USP Ospenovka 50.55 299 P **P 09 41 43.9 +0.1**
SNR=14
USP P **P 09 41 43.9 +0.1**
SNR=14
BVA0 Borovoye Array 50.55 312 P **P 09 41 42.6 -0.9**
BVA0 pmax pmax
comp=Z,10.0nm,1.5s
BVAR Borovoye Array 50.55 312 P **P 09 41 43.4 -0.1**
BVAR 09 43 00.8
BVAR S **S 09 48 58.3 +2.6**
BVAR pmax pmax
comp=Z,17nm,0.8s
BVAR pmax pmax
comp=Z,9.0nm,0.7s
BVAR Borovoye Array 50.55 312 P **P 09 41 43.4 -0.1**
BVAR PcP **PcP 09 43 00.8 -0.2**
BVAR S **S 09 48 58.3 +2.6**
BVAR Borovoye Array 50.55 312 P **P 09 41 43.4 -0.1**
comp=Z,17nm,0.8s,baz=79,slow=7.9,SNR=79
BVAR PcP **PcP 09 43 00.8 -0.2**
comp=Z,9.1nm,0.7s,baz=81,slow=4.7,SNR=4.6
BVAR S **S 09 48 58.3 +2.6**
comp=Z,0.2nm,0.4s,baz=344,slow=21,SNR=2.3
BRVK Borovoye 50.60 312 *c i*P **P 09 41 43.7 -0.2**
BRVK pmax pmax
comp=Z,40nm,1.0s
BRVK Borovoye 50.60 312 *e*P **P 09 41 43.4 -0.6**
comp=Z,32nm,0.9s
BRVK Borovoye 50.60 312 P **P 09 41 44.1 +0.2**
comp=Z,214nm,0.9s,SNR=17
BRVK Borovoye 50.60 312 P **P 09 41 44.2 +0.2**
SNR=15
FRU Bishkek 50.60 298 *i* P **P 09 41 42.5 -1.7**
FRU pmax pmax
comp=Z,80nm,1.9s
AAK Ala-Archa 50.75 298 *e*P **P 09 41 45.3 -0.2**
AAK pmax pmax
comp=Z,66nm,1.0s
AAK Ala-Archa 50.75 298 *e*P **P 09 41 45.3 -0.2**
comp=Z,66nm,1.0s
AAK Ala-Archa 50.75 298 P **P 09 41 45.9 +0.4**
SNR=8.6
AAK Ala-Archa 50.75 298 P **P 09 41 45.6 +0.2**
SNR=5.5
AAK P **P 09 41 45.6 +0.2**
SNR=5.5
KSH Kashi 50.76 294 P P 09 41 49.5 +4.0
KSH pP pP 09 41 59.5 +5.1
KSH sP sP 09 42 02.4 +4.4
KSH PcP **PcP 09 43 04.6 +2.4**
KSH PP PP 09 43 47.8 +6.3
KSH S **S 09 49 03.9 +4.7**
KSH sS sS 09 49 19.5 +5.5
KSH ScS **ScS 09 51 33.7 -0.5**
KSH SS **SS 09 52 34.9 +1.4**
KSH pmax pmax
comp=Z,33nm,0.9s
KSH pmax pmax
comp=Z,190nm,4.8s
KSH LR LR
comp=N,820nm,15.2s
KSH LR LR
comp=E,1μm,16.0s
KSH LR LR
comp=Z,1μm,15.8s
EGAK Eagle 50.76 33 *e*P **P 09 41 44.2 -0.8**
comp=Z,158nm,2.7s
EKS2 Erkin-Say 51.24 298 *e*P **P 09 41 49.2 +0.1**
EKS2 pmax pmax
comp=Z,19nm,0.6s
EKS2 Erkin-Say 51.24 298 *e*P **P 09 41 49.2 +0.1**
comp=Z,19nm,0.6s
EKS2 Erkin-Say 51.24 298 P **P 09 41 49.3 +0.2**
SNR=10
EKS2 P **P 09 41 49.3 +0.2**
SNR=10
COEN Coen 51.62 179 *e*P **P 09 41 51.2 -0.7**
comp=Z,81nm,0.7s
INK Inuvik 53.23 27 *e*P **P 09 42 03.2 0.0**
comp=Z,21nm,1.2s
INK Inuvik 53.23 27 P **P 09 42 03.3 0.0**
comp=Z,7.5nm,0.6s,baz=294,slow=6.8,SNR=40
KK31 Karatay Array 53.35 300 *ce*P **P 09 42 04.2 -0.4**
KK31 pmax pmax
comp=Z,67nm,1.0s
KKAR Karatay Array 53.35 300 *e*P **P 09 42 04.5 -0.1**
KKAR pmax pmax
comp=Z,49nm,0.9s
KKAR Karatay Array 53.35 300 *e*P **P 09 42 04.5 -0.1**
comp=Z,49nm,0.9s
ASOR Ausora 53.81 281 *e*PKP **P 09 42 07.9 -0.2**
KKR Kurukshetra 53.99 282 *ex* x 09 41 58.5
AGRA Agra 54.39 279 *e*PKP **P 09 42 10.7 -1.6**
AGRA AMb AMB 09 42 12.7
comp=Z,35nm,0.4s
AYAN Aya Nagar 54.44 281 *e*PKP **P 09 42 11.5 -1.2**
AYAN AMb AMB 09 42 13.2
comp=Z,23nm,1.2s
BHGR Bahadurgarh 54.48 281 *e*PKP **P 09 42 11.8 -1.2**
SVE Sverdlovsk 54.99 318 ⇓ *i*P **P 09 42 16.7 +0.4**
SVE *e*S S 09 50 04.1 +7.9
SVE *e* 09 55 37.5
SVE pmax pmax
comp=Z,88nm,1.1s
SVE MLR MLR
comp=Z,2μm,16.0s
KUDL Kundal 55.09 281 *e*PKP **P 09 42 16.3 -1.1**
KHET Khetri 55.65 281 *e*PKP **P 09 42 20.7 -0.8**
KHET AMb AMB 09 42 22.9
comp=Z,28nm,1.1s
SOKR Solikamsk 56.09 322 *c i*P **P 09 42 24.3 +0.2**
SOKR pmax pmax
comp=Z,30nm,1.3s
SOKR MLR MLR
comp=Z,480nm,16.0s
ARU Arti 56.20 318 *c i*P **P 09 42 24.8 -0.2**
ARU 09 44 28.6
ARU 09 45 49.4
ARU PPP PPP
ARU S **S 09 50 15.1 +2.8**
ARU SS **SS 09 53 59.8 +1.3**
ARU pmax pmax
comp=Z,105nm,1.7s
ARU MLR MLR
comp=Z,2μm,17.0s
ARU Arti 56.20 318 *e*P **P 09 42 24.9 0.0**
comp=Z,52nm,0.9s
ARU *e* 09 42 34.6
ARU Arti 56.20 318 P **P 09 42 24.5 -0.5**
comp=Z,354nm,1.0s,SNR=20
DLBC Dease Lake 57.43 39 *e*P **P 09 42 35.2 +1.4**
DLBC *e* 09 42 45.1
DLBC Dease Lake 57.43 39 P **P 09 42 34.9 +1.1**
comp=Z,15nm,0.9s,baz=293,slow=8.1,SNR=14
KBL Kabul 57.82 291 *e*P **P 09 42 36.5 -0.6**
KBL *e* 09 42 46.7
KBL pmax pmax
comp=Z,53nm,0.9s
KBL Kabul 57.82 291 *e*P **P 09 42 36.5 -0.6**
comp=Z,53nm,0.9s
KBL *e* 09 42 46.7
CTA Charters Tower 57.83 176 LR LR 10 05 33.0
comp=Z,133nm,19.0s,baz=236,slow=34
FITZ Fitzroy Crossi 57.92 199 *e*P **P 09 42 36.9 -0.7**
comp=Z,23nm,0.9s
FITZ *e* 09 42 47.2
FITZ S **S 09 50 40.5 +4.8**
FITZ Fitzroy Crossi 57.92 199 *e*P **P 09 42 36.8 -0.7**
comp=Z,29nm,0.8s
FITZ Fitzroy Crossi 57.92 199 P **P 09 42 37.0 -0.5**
comp=Z,23nm,1.0s,baz=14,slow=8.2,SNR=15
FITZ S **S 09 50 40.5 +4.8**
comp=Z,2.7nm,0.9s,baz=80,slow=18,SNR=1.7
FITZ LR LR 10 08 38.7
comp=Z,148nm,18.4s,baz=28,slow=37
AB31 Akbulak array 57.96 310 *ce*P **P 09 42 36.7 -0.8**
AB31 pmax pmax
comp=Z,24nm,0.6s
WRAB Tennant Creek 58.06 189 *e*P **P 09 42 36.8 -1.6**
WRAB pmax pmax
comp=Z,59nm,0.9s
WRAB Tennant Creek 58.06 189 *e*P **P 09 42 36.8 -1.6**
comp=Z,59nm,0.9s
WRAB Tennant Creek 58.06 189 P **P 09 42 36.0 -2.4**
comp=Z,377nm,0.8s,SNR=19
WB2 Warramunga Arr 58.07 189 *e*P **P 09 42 36.4 -2.1**
WB2 *e* 09 42 46.5
WRA Warramunga Arr 58.07 189 P **P 09 42 36.8 -1.7**
WRA Warramunga Arr 58.07 189 P **P 09 42 36.8 -1.7**
comp=Z,51nm,0.8s,baz=7.1,slow=7.1,SNR=156
WRA LR LR 10 06 49.0
comp=Z,294nm,21.3s,baz=5.0,slow=35
HYB Hyderabad 59.01 268 *i* P **P 09 42 43.0 -2.3**
HYB *e*PcP **PcP 09 43 32.0 -2.1**
ALE Alert 59.16 4 P **P 09 42 45.0 -0.4**
comp=Z,238nm,1.1s,SNR=17
KBS Kingsbay 59.90 350 *d i*P **P 09 42 51.3 +0.7**
KBS pmax pmax
comp=Z,89nm,2.5s
KBS Kingsbay 59.90 350 *e*P **P 09 42 51.1 +0.5**
comp=Z,31nm,0.8s
RES Resolute Bay 61.53 15 *e*P **P 09 43 00.9 -0.8**
comp=Z,54nm,1.0s
RES Resolute Bay 61.53 15 P **P 09 43 00.6 -1.1**
comp=Z,33nm,0.8s,baz=310,slow=6.8,SNR=99
RES LR LR 10 14 59.1
comp=Z,159nm,18.0s,baz=285,slow=41
AS31 Alice Springs 61.79 189 *e*P **P 09 43 02.8 -1.2**
AS31 *e* 09 43 12.7
ASAR Alice Springs 61.79 189 P **P 09 43 02.8 -1.3**
ASAR S **S 09 51 29.7 +4.3**
ASAR ⇑ *e* 10 12 23.6
ASAR P'P'ab P'P'ab 10 12 30.3 +5.7
ASAR Alice Springs 61.79 189 P **P 09 43 02.8 -1.3**
comp=Z,16nm,0.7s,baz=16,slow=6.5,SNR=147
ASAR S **S 09 51 29.7 +4.3**
comp=Z,0.4nm,0.9s,baz=169,slow=20,SNR=3.4
ASAR PKP2bc 10 12 23.6
comp=Z,2.6nm,1.0s,baz=158,slow=2.7,SNR=9.7
ASAR PKP2ab 10 12 30.3
comp=Z,1.2nm,0.9s,baz=180,slow=3.6,SNR=4.5
POO Poona 62.11 272 ⇓ *i*P **P 09 43 05.0 -1.5**
comp=Z,50nm,1.0s
APA Apatity 62.19 336 ⇑ *i*P **P 09 43 06.0 -0.2**
APA *e*S **S 09 51 30.0 +0.6**
APA pmax pmax
comp=Z,47nm,1.0s
APA MLR MLR
comp=Z,1μm,19.0s
MBWA Marble Bar 62.53 204 *e*P **P 09 43 08.1 -0.9**
comp=Z,37nm,1.1s
MBWA *e* 09 43 18.4
MBWA Marble Bar 62.53 204 *e*P **P 09 43 07.7 -1.3**
YKA Yellowknife Ar 62.63 31 P **P 09 43 08.6 -0.7**
YKA P'P' 10 12 12.9
YKA Yellowknife Ar 62.63 31 P **P 09 43 08.5 -0.7**
comp=Z,7.4nm,0.9s,baz=300,slow=6.6,SNR=86
YKA PKPPKP P'P'df 10 12 12.9 -6.0
comp=Z,0.6nm,0.9s,baz=124,slow=3.0,SNR=6.4
KEV Kevo 62.88 339 *e*p **P 09 43 11.0 +0.3**
KLMR Klimovskoe 63.41 328 *e*P P 09 43 08.4 -6.0
KLMR *e* 09 43 49.3
KLMR pmax pmax
comp=Z,62nm,1.5s
KLMR pmax pmax
comp=Z,91nm,4.1s
KLMR MLR MLR
comp=Z,1μm,19.0s
ARCES ARCESS Array B 63.43 339 P **P 09 43 14.4 -0.1**
ARCES ARCESS Array B 63.43 339 P **P 09 43 14.4 -0.1**
comp=Z,20nm,1.0s,baz=37,slow=12,SNR=8.6
ARCES LR LR 10 13 48.4
comp=Z,420nm,21.0s,baz=40,slow=39
EIDS Eidsvold 63.50 171 *e*P **P 09 43 14.5 -0.9**
comp=Z,10nm,0.7s
DZM Mont Dzumac 63.83 155 *e*S **S 09 51 53.2 +2.1**
comp=Z,159nm,27.1s
DZM *e*LR LR 10 02 24.5
comp=Z,928nm,22.0s
ABKT Ailbek 64.08 299 P **P 09 43 19.0 -0.3**
comp=Z,205nm,0.9s,SNR=12
QLP Quilpie 64.20 178 *e*P **P 09 43 18.5 -1.5**
RMQ Roma 64.36 174 *e*P **P 09 43 20.5 -0.5**
comp=Z,38nm,0.8s
DAG Danmarks Havn 64.94 355 ⇑ *i*P **P 09 43 23.5 -0.7**
comp=Z,210nm,0.9s
JOF Joensuu 65.53 332 *e*p **P 09 43 27.9 -0.4**
comp=Z,22nm,0.7s
JCW Jim Creek 66.25 47 *e*P **P 09 43 33.3 0.0**
JCW *e* 09 43 43.4
MOS Moscow 66.99 324 *e*P **P 09 43 36.7 -1.0**
MOS *e* 09 44 02.8
MOS pmax pmax
comp=Z,115nm,1.6s
ETW Entiat 67.48 47 *e*P **P 09 43 41.2 0.0**
ETW *e* 09 43 51.6
VRHR Novokhopersk 67.54 318 *e*P **P 09 43 39.7 -1.6**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,30nm,0.8s
VRHR MLR MLR
comp=Z,980nm,16.0s
VRHR MLR MLR
comp=N,180nm,8.0s
VRHR MLR MLR
comp=E,5μm,16.0s
PUL Pulkovo 67.81 330 ⇓ *e*P **P 09 43 43.1 +0.3**
PUL pmax pmax
comp=Z,143nm,1.2s
OBN Obninsk 67.84 323 *c i*P **P 09 43 42.5 -0.6**
OBN *e* 09 44 08.7
OBN *e* 09 46 12.6
OBN pmax pmax
comp=Z,70nm,1.2s
OBN MLR MLR
comp=Z,900nm,17.0s
OBN Obninsk 67.84 323 *e*P **P 09 43 42.8 -0.3**
comp=Z,62nm,1.1s
KAF Kangasniemi 67.86 333 *e*p **P 09 43 42.9 -0.2**
HOOD Mount Hood Mea 67.91 49 *e*P **P 09 43 44.5 +0.5**
comp=Z,30nm,1.1s
HOOD *e* 09 43 54.7
FRIS Frissel Point 68.23 50 P **P 09 43 46.1 +0.1**
FINES FINESS Array B 68.38 332 P **P 09 43 46.0 -0.3**
FINES FINESS Array B 68.38 332 P **P 09 43 46.0 -0.3**
comp=Z,50nm,0.9s,baz=53,slow=7.9,SNR=70
FINES LR LR 10 17 48.3
comp=Z,567nm,18.4s,baz=210,slow=40
CROR Criterion Ridg 68.49 49 P **P 09 43 47.7 +0.2**
OD2 Odessa Site #2 68.52 46 *e*P **P 09 43 47.3 -0.3**
OD2 *e* 09 43 57.5
HAWA Hanford 68.59 47 *e*P **P 09 43 47.6 -0.4**
comp=Z,2.9nm,0.8s
HAWA *e* 09 43 58.3
VSR Storozhevoye 68.77 319 *e*P **P 09 43 48.4 -0.6**
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,40nm,0.8s
VSR MLR MLR
comp=N,680nm,16.0s
VSR MLR MLR
comp=E,1μm,16.0s
VSR MLR MLR
comp=Z,2μm,16.0s
VORD Divnogorie 68.84 319 *e*P **P 09 43 48.6 -0.9**
VORD pmax pmax
comp=Z,30nm,0.8s
VORD pmax pmax
comp=N,40nm,1.0s
VORD pmax pmax
comp=E,30nm,0.6s
VORD MLR MLR
comp=Z,2μm,15.0s
VORD MLR MLR
comp=N,1μm,20.0s
VORD MLR MLR
comp=E,1μm,16.0s
NEW Newport 68.94 45 *e*P **P 09 43 49.8 -0.4**
comp=E,17nm,1.1s
NEW *e* 09 43 59.9
NEW Newport 68.94 45 ⇓ P **P 09 43 49.8 -0.4**
baz=69,SNR=11
VIPM Ingram Point 68.97 50 P **P 09 43 50.8 +0.2**
VIPM Ingram Point 68.97 50 P **P 09 43 50.8 +0.2**
YBH Yreka Blue Hor 69.17 53 LR LR 10 09 37.4
comp=E,116nm,18.6s,baz=304,slow=32
A12A Yaak River Ran 69.37 44 ⇓ P **P 09 43 53.1 +0.2**
baz=69,SNR=5.9
STKA Stephens Creek 69.46 181 *e*P **P 09 43 52.5 -0.8**
comp=E,1.9nm,0.8s
STKA Stephens Creek 69.46 181 *e*P **P 09 43 51.7 -1.6**
comp=E,7.6nm,0.8s
STKA Stephens Creek 69.46 181 P **P 09 43 52.6 -0.7**
comp=E,8.8nm,0.8s,baz=342,slow=7.8,SNR=13
STKA LR LR 10 12 01.2
comp=E,162nm,21.9s,baz=20,slow=34
C11A Tepee Creek (N 69.66 45 ⇑ P **P 09 43 54.5 -0.2**
baz=70
FORT Forrest 69.66 193 *e*P **P 09 43 53.7 -0.8**
comp=E,46nm,0.7s
FORT *e* 09 44 05.4
FORT Forrest 69.66 193 *e*P **P 09 43 53.8 -0.8**
comp=E,34nm,0.6s
SUMG Summit 69.78 0 *e*P **P 09 43 55.6 +0.2**
SUMG *e* 09 44 05.9
SUMG pmax pmax
comp=Z,46nm,1.0s
SUMG Summit 69.78 0 *e*P **P 09 43 55.6 +0.2**
comp=Z,46nm,1.0s
SUMG *e* 09 44 05.9
SUMG Summit 69.78 0 ⇑ *i*P **P 09 43 55.7 +0.3**
comp=Z,30nm,1.0s
A13A Flathead Natio 70.05 43 ⇑ P **P 09 43 56.9 -0.2**
baz=70
VSU Vasula 70.07 330 *c i*P **P 09 43 56.6 -0.3**
VSU pmax pmax
comp=Z,87nm,1.1s
C12B Naegeli Ranch, 70.17 45 ⇑ P **P 09 43 57.5 -0.3**
baz=70
WALA Waterton Lakes 70.24 43 *e*P **P 09 43 58.0 -0.3**
comp=Z,0.5nm,0.9s

WALA e 09 44 08.1
B13A Whitefish 70.34 44 ⇓P P **09 43 58.8 0.0**
baz=70,SNR=23
LBCM Butte Creek Ri 70.52 53 P P **09 44 00.2 0.0**
A14A Double T Ranch 70.56 43 ⇓P P **09 43 59.9 -0.4**
baz=70,SNR=9.7
DGRG David-gareji 70.67 308 P P **09 44 02.8 +1.9**
C13A Hot Springs 70.68 44 ⇑P P **09 44 00.8 -0.2**
baz=70,SNR=5.3
BMO Blue Mountains 70.74 48 eP P **09 44 01.2 -0.2**
comp=Z,7.5nm,1.0s
BMO e 09 44 11.6
JTMT Jette 70.80 44 eP P **09 44 02.0 +0.2**
JTMT e 09 44 12.1
ZEI Tsey 70.84 310 eP P **09 44 00.8 -1.4**
ZEI pmax pmax
comp=Z,20nm,0.9s
E12A Beaver Dam Sad 70.85 46 ⇑P P **09 44 01.9 -0.3**
baz=71,SNR=12
KIV Kislovodsk 70.90 311 eP P **09 44 02.3 -0.1**
KIV e 09 46 36.3
KIV eS S **09 53 15.6 -0.3**
KIV pmax pmax
comp=Z,135nm,1.1s
KIV pmax pmax
comp=Z,67nm,4.2s
KIV MLR MLR
comp=Z,597nm,18.0s
KIV Kislovodsk 70.90 311 eP P **09 44 03.3 +0.9**
comp=Z,118nm,1.0s
KIV Kislovodsk 70.90 311 P P **09 44 02.9 +0.5**
SNR=23
KIV Kislovodsk 70.90 311 P P **09 44 02.7 +0.3**
comp=Z,673nm,0.9s,SNR=22
TBLG Delisi 70.91 308 eP P **09 44 02.3 -0.1**
TBLG Delisi 70.91 308 P P **09 44 02.3 -0.1**
A15A Johnson Ranch, 70.92 42 ⇑P P **09 44 01.8 -0.6**
baz=71,SNR=12
B14A Marquette Ranc 70.99 43 ⇑P P **09 44 02.6 -0.4**
baz=71,SNR=13
C14A Swan Lake 71.08 44 ⇑P P **09 44 03.3 -0.2**
baz=71,SNR=6.4
D13A Huson 71.08 45 ⇑P P **09 44 02.8 -0.6**
baz=71,SNR=6.7
SWMT Swartz Lake 71.10 44 eP P **09 44 03.2 -0.3**
SWMT e 09 44 13.3
GOR Gori 71.15 309 P P **09 44 04.6 +0.7**
ONI Oni 71.21 310 P P **09 44 04.8 +0.5**
OHCM Honcut 71.27 55 eP P **09 44 04.3 -0.2**
SCO Scoresbysund 71.29 355 *i* P P **09 44 04.4 +0.2**
comp=Z,10nm,1.0s
B15A Bradely Ranch, 71.41 43 ⇑P P **09 44 05.0 -0.4**
baz=71,SNR=21
F12A Elk City 71.41 46 ⇑P P **09 44 05.2 -0.4**
baz=71,SNR=8.1
WBK Wadi Bani Khal 71.48 285 P P **09 44 07.1 +1.0**
SNR=20
MSO Missoula 71.53 45 eP P **09 44 05.3 -0.9**
comp=Z,6.3nm,1.3s
MSO e 09 44 15.5
MSO Missoula 71.53 45 ⇓P P **09 44 05.4 -0.7**
baz=71
SLMT Seeley Lake 71.53 44 eP P **09 44 05.5 -0.7**
SLMT e 09 44 16.3
A16A West Butte Ran 71.54 42 ⇑P P **09 44 05.5 -0.7**
baz=71
E13A Victor 71.61 45 ⇓P P **09 44 05.7 -1.0**
baz=71
D14A Greenough 71.62 44 ⇑P P **09 44 06.1 -0.6**
baz=71,SNR=7.8
BANOM Banah 71.66 289 P P **09 44 07.7 +0.5**
SNR=10
C15A Salmond Ranch, 71.70 43 ⇓P P **09 44 07.1 -0.1**
baz=72,SNR=12
GNI Garni 71.79 307 eP P **09 44 08.7 +0.8**
comp=Z,31nm,1.0s
GNI Garni 71.79 307 P P **09 44 09.5 +1.5**
SNR=7.6
B16A M & M Farms, S 71.80 42 ⇓P P **09 44 07.3 -0.4**
baz=72,SNR=6.8
AKH Akhalkalaki 71.86 309 P P **09 44 09.0 +0.7**
F13A Darby 71.92 46 ⇓P P **09 44 07.5 -1.0**
baz=72
SMDO Samad 71.93 285 P P **09 44 09.4 +0.5**
SNR=12
A17A Triple J Farms 72.02 42 ⇓P P **09 44 08.4 -0.7**
baz=72,SNR=13
E14A Clinton 72.02 45 ⇑P P **09 44 08.5 -0.7**
baz=72
IZAR Zarasai 72.06 328 eP P **09 44 08.7 -0.4**
IZAR AMB AMB 09 44 09.8
comp=Z,17nm,1.0s
IZAR Zarasai 72.06 328 eP P **09 44 08.7 -0.4**
IZAR AMB AMB 09 44 09.8
comp=Z,17nm,1.0s
IDID Didziasalis 72.14 327 eP P **09 44 09.0 -0.6**
IDID AMB AMB 09 44 11.4
comp=Z,19nm,1.0s
IDID Didziasalis 72.14 327 eP P **09 44 09.0 -0.6**
IDID AMB AMB 09 44 11.4
comp=Z,19nm,1.0s
C16A Fuhringer Ranc 72.15 43 ⇓P P **09 44 09.4 -0.5**
baz=72,SNR=15
D15A Lincoln 72.19 44 ⇑P P **09 44 09.4 -0.8**
baz=72
MICGM Minsk 72.19 326⇑ eP P **09 44 09.0 -0.8**
HOQ Hoqain 72.20 286 P P **09 44 10.6 +0.2**
SNR=13
MNK Minsk 72.21 326⇑ eP P **09 44 09.0 -0.9**
MNK pmax pmax
comp=Z,270nm,0.8s
ISAL Salakas 72.23 328 eP P **09 44 09.7 -0.3**
ISAL AMB AMB 09 44 12.0
comp=Z,35nm,1.0s
ISAL Salakas 72.23 328 eP P **09 44 09.7 -0.3**
ISAL AMB AMB 09 44 12.0
comp=Z,35nm,1.0s
JMDO Jabal Madar 72.28 285 P P **09 44 11.0 +0.1**
SNR=16
IIGN Ignalina 72.34 327 eP P **09 44 10.3 -0.4**
IIGN AMB AMB 09 44 12.7
comp=Z,22nm,1.0s
IIGN Ignalina 72.34 327 eP P **09 44 10.3 -0.4**
IIGN AMB AMB 09 44 12.7
comp=Z,22nm,1.0s
H12A Diamond D Ranc 72.35 47 ⇑P P **09 44 10.4 -0.8**
baz=72
B17A L&G Farms, Che 72.36 42 ⇓P P **09 44 10.6 -0.5**
baz=72,SNR=14
G13A Cobalt 72.38 46 ⇑P P **09 44 10.4 -1.0**
baz=72,SNR=9.3
WCN Washoe City 72.39 54 eP P **09 44 11.3 -0.3**
WCN pmax pmax
comp=Z,13nm,1.2s
WCN Washoe City 72.39 54 eP P **09 44 11.3 -0.3**
comp=Z,13nm,1.2s
WCN Washoe City 72.39 54 ⇑P P **09 44 11.4 -0.3**
baz=72,SNR=7.1
HATD Hatta, Dubai 72.40 288 P P **09 44 11.7 +0.1**
SNR=10
NACGM Naroch 72.40 327 eP P 09 44 07.0 -4.1
MFID Camas Ranch 72.44 48 eP P **09 44 11.4 -0.2**
comp=Z,9.6nm,0.9s
MFID Camas Ranch 72.44 48 ⇓P P **09 44 11.5 -0.2**
baz=72,SNR=12
F14A Wisdom 72.45 45 ⇑P P **09 44 11.2 -0.6**
baz=72
A18A Metzger Ranch, 72.48 41 ⇓P P **09 44 11.1 -0.7**
baz=72,SNR=13
E15A Deer Lodge 72.49 44 ⇓P P **09 44 11.3 -0.7**
baz=72,SNR=12
FFC Flin Flon 72.52 33 eP P **09 44 11.2 -0.6**
FFC e 09 44 20.6
FFC pmax pmax
comp=Z,34nm,1.0s
FFC Flin Flon 72.52 33 eP P **09 44 11.2 -0.6**
comp=Z,34nm,1.0s
FFC e 09 44 20.6
FFC Flin Flon 72.52 33 P P **09 44 11.4 -0.4**
comp=Z,186nm,0.9s,SNR=15
ASHO Ashiyiah 72.53 288 P P **09 44 12.5 +0.1**
SNR=10
I12A Atlanta 72.63 48 ⇑P P **09 44 12.6 -0.3**
baz=72
NAZ Nazwa, Dubai 72.66 288 P P **09 44 13.5 +0.4**
SNR=6.1

H13A Challis 72.68 47 ⇑P P **09 44 12.7 -0.5**
baz=72,SNR=21
D16A Dana Ranch, Ca 72.72 44 ⇑P P **09 44 12.8 -0.5**
baz=72,SNR=6.3
BSY Bisya 72.75 286 P P **09 44 13.9 +0.1**
SNR=11
HRY Holter Researc 72.76 44 eP P **09 44 13.2 -0.3**
C17A Wharram Farm, 72.78 43 ⇓P P **09 44 12.7 -0.9**
baz=73,SNR=5.9
B18A Beardsley Farm 72.84 42 ⇓P P **09 44 13.6 -0.3**
baz=73,SNR=6.5
SOC Sochi 72.88 312 *c iP* P **09 44 12.6 -1.5**
SOC eS S **09 53 34.3 -4.1**
SOC pmax pmax
comp=Z,52nm,1.2s
SOC MLR MLR
comp=Z,686nm,16.0s
F15A Butte 72.92 45 ⇓P P **09 44 14.3 -0.4**
baz=73,SNR=19
ARQ Aragi 72.94 286 P P **09 44 15.3 +0.5**
SNR=16
E16A East Helena 72.95 44 ⇑P P **09 44 14.4 -0.3**
baz=73,SNR=8.8
LRM Limekiln Ridge 72.95 45 eP P **09 44 14.9 0.0**
LRM e 09 44 24.4
A19A Klindworth Far 73.04 41 ⇓P P **09 44 14.9 -0.3**
baz=73,SNR=19
EGMT Eagleton 73.08 42 eP P **09 44 14.9 -0.5**
comp=Z,22nm,1.0s
EGMT e 09 44 25.9
EGMT Eagleton 73.08 42 ⇓P P **09 44 14.8 -0.5**
baz=73,SNR=11
D17A Six Diamond Ra 73.11 43 ⇑P P **09 44 15.1 -0.6**
baz=73,SNR=5.8
I13A Wildhorse Cree 73.15 47 ⇑P P **09 44 15.9 -0.1**
baz=73,SNR=8.4
DLMT Dillon 73.15 45 eP P **09 44 15.7 -0.2**
comp=Z,14nm,0.9s
H14A Leore 73.16 46 ⇑P P **09 44 15.3 -0.7**
baz=73
HLID Hailey 73.19 48 eP P **09 44 16.0 -0.2**
comp=Z,8.6nm,1.0s
HLID e 09 44 26.1
HLID Hailey 73.19 48 ⇓P P **09 44 16.1 -0.1**
baz=73,SNR=15
B19A Brinkman Farms 73.23 41 ⇑P P **09 44 15.9 -0.4**
baz=73,SNR=15
G15A Dillon 73.33 45 ⇑P P **09 44 16.4 -0.7**
baz=73,SNR=17
MCMT McKenzie Canyo 73.33 46 eP P **09 44 16.6 -0.6**
comp=Z,1.6nm,1.0s
BMN Battle Mountai 73.34 52 eP P **09 44 17.7 +0.6**
BMN pmax pmax
comp=Z,11nm,0.9s
BMN Battle Mountai 73.34 52 eP P **09 44 17.7 +0.6**
comp=Z,11nm,0.9s
J13A Cove Ranch, Pi 73.42 48 ⇑P P **09 44 17.6 0.0**
baz=73,SNR=14
F16A Kennard Place, 73.44 45 ⇑P P **09 44 17.2 -0.4**
baz=73,SNR=16
E17A Martinsdale 73.45 44 ⇓P P **09 44 17.6 -0.1**
baz=73,SNR=10
ANN Anapa 73.47 314 eP P **09 44 17.2 -0.4**
ANN eS **SKiKP** **09 53 49.6 +3.7**
ANN pmax pmax
comp=Z,63nm,1.3s
ANN MLR MLR
comp=N,518nm,17.0s
ANN MLR MLR
comp=E,357nm,17.0s
ANN MLR MLR
comp=Z,439nm,17.0s
A20A Cobblestone Ra 73.50 40 ⇑P P **09 44 17.2 -0.6**
baz=73,SNR=7.1
BOZ Bozeman (W) 73.52 45 eP P **09 44 17.9 -0.2**
BOZ e 09 44 28.1
BOZ pmax pmax
comp=Z,10.0nm,0.9s
BOZ Bozeman (W) 73.52 45 eP P **09 44 17.9 -0.2**
comp=Z,10nm,0.9s
BOZ e 09 44 28.1
BOZ Bozeman (W) 73.52 45 ⇓P P **09 44 17.9 -0.2**
baz=73,SNR=18
I14A Mackay 73.53 47 ⇓P P **09 44 18.3 +0.1**
baz=73,SNR=34
H15A Lima 73.57 46 ⇑P P **09 44 17.9 -0.6**
baz=73
HFS Hagfors 73.59 336 LR LR 10 19 49.1
comp=Z,983nm,18.1s,baz=38,slow=38
C19A Slack Wire Ran 73.63 42 ⇓P P **09 44 18.5 -0.1**
baz=73,SNR=25
NB2 NORSAR Subarra 73.65 338 P P **09 44 17.9 -0.6**
baz=38,slow=5.9
NB2 NORSAR Subarra 73.65 338 P P **09 44 17.9 -0.6**
comp=Z,44nm,1.0s,baz=38,slow=5.9
NOA NORSAR Array B 73.65 338 P P **09 44 18.1 -0.3**
NOA NORSAR Array B 73.65 338 P P **09 44 18.1 -0.3**
comp=Z,23nm,0.8s,baz=39,slow=5.8,SNR=57
G16A Moss Hill, Enn 73.68 45 ⇓P P **09 44 18.6 -0.5**
baz=74,SNR=12
B20A Solberg Farm, 73.72 41 ⇑P P **09 44 18.5 -0.6**
baz=74,SNR=13
NVAR Mina Array Bea 73.82 54 P P **09 44 19.9 -0.2**
NVAR Mina Array Bea 73.82 54 P P **09 44 19.9 -0.2**
comp=Z,7.5nm,0.9s,baz=286,slow=6.4,SNR=45
J14A Carey 73.85 47 ⇑P P **09 44 20.4 +0.2**
baz=74
E18A Harlowton 73.89 43 ⇓P P **09 44 20.2 0.0**
baz=74,SNR=8.0
F17A Fitzpatrick Pl 73.90 44 ⇑P P **09 44 20.2 -0.2**
baz=74,SNR=10
A21A Bergtoll Ranch 73.93 40 ⇑P P **09 44 20.0 -0.4**
baz=74,SNR=13
I15A Monteview 74.04 46 ⇓P P **09 44 21.1 -0.1**
baz=74
AKASG Malin Array Be 74.06 323 P P **09 44 20.4 -0.5**
AKASG pmax pmax
comp=Z,14nm,0.5s
AKASG MLR MLR
comp=Z,632nm,19.6s
AKASG Malin Array Be 74.06 323 P P **09 44 20.4 -0.5**
AKASG Malin Array Be 74.06 323 P P **09 44 20.4 -0.5**
comp=Z,14nm,0.5s,baz=45,slow=6.0,SNR=69
AKASG LR LR 10 19 37.8
comp=Z,632nm,19.6s,baz=40,slow=38
AKBB Malin Array Si 74.06 323 eP P **09 44 20.4 -0.6**
AKBB Malin Array Si 74.06 323 eP P **09 44 20.4 -0.6**
KIEV Kiev 74.07 323 eP P **09 44 20.5 -0.5**
KIEV pmax pmax
comp=Z,50nm,0.9s
KIEV Kiev 74.07 323 eP P **09 44 20.5 -0.5**
comp=Z,50nm,0.9s
D19A Cripps Ranch, 74.08 42 ⇑P P **09 44 21.0 -0.3**
baz=74,SNR=12
QLMT Earthquake Lak 74.13 45 eP P **09 44 22.1 +0.3**
QLMT e 09 44 31.8
C20A Veseth Ranch, 74.19 41 ⇓P P **09 44 21.7 -0.1**
baz=74,SNR=13
PTRM Twissleman Ran 74.19 57 eP P **09 44 22.4 +0.3**
G17A Pierce Place, 74.21 45 ⇓P P **09 44 22.2 +0.1**
baz=74,SNR=11
B21A Ellsworth Farm 74.25 40 ⇓P P **09 44 21.7 -0.5**
baz=74,SNR=17
MTUM Tungsten Hills 74.28 55 eP P **09 44 22.9 +0.1**
H16A Russell Place, 74.31 45 ⇓P P **09 44 22.9 0.0**
baz=74,SNR=8.2
ELK Elko 74.37 50 eP P **09 44 23.4 +0.1**
F18A Big Timber 74.41 44 ⇑P P **09 44 23.2 -0.1**
baz=74,SNR=16
J15A Blackfoot 74.43 47 ⇓P P **09 44 23.9 +0.4**
baz=74
A22A Carney Farms, 74.44 39 ⇑P P **09 44 22.5 -0.8**
baz=74,SNR=21
YMR Madison River 74.49 45 eP P **09 44 24.0 +0.1**
comp=Z,9.9nm,1.0s
GCMT Greycliff 74.51 44 eP P **09 44 23.8 -0.1**
comp=Z,11nm,1.0s
GCMT e 09 44 35.1
D20A Manuel Ranch, 74.52 42 ⇑P P **09 44 23.6 -0.2**
baz=74,SNR=16
K14A Jones Ranch, D 74.52 48 ⇑P P **09 44 24.3 +0.3**
baz=74,SNR=12
SMMC Simmler 74.53 57 ⇑P P **09 44 24.1 0.0**
baz=74
SUW Suwalki 74.55 328 eP P **09 44 23.2 -0.5**
SUW Suwalki 74.55 328 eP P **09 44 23.2 -0.5**
SUW Suwalki 74.55 328 eP P **09 44 22.6 -1.1**

SUW pmax pmax
comp=Z,77nm,1.1s
SUW Suwalki 74.55 328 eP P **09 44 22.6 -1.1**
comp=Z,77nm,1.1s
E19A Rath Farm, Rou 74.57 43 ⇓P P **09 44 24.1 0.0**
baz=74,SNR=13
C21A Desert Coulee 74.59 41 ⇓P P **09 44 24.0 -0.2**
baz=74,SNR=6.9
I16A Newdale 74.69 46 ⇑P P **09 44 25.6 +0.7**
baz=74,SNR=37
YFT Old Faithful 74.70 45 eP P **09 44 26.8 +1.6**
comp=Z,14nm,0.9s
L14A Malta 74.79 48 ⇑P P **09 44 25.8 +0.2**
baz=75,SNR=14
VES Vestal, Richgr 74.83 56 ⇑P P **09 44 24.8 -0.9**
baz=75,SNR=8.5
B22A Reddig Ranch S 74.85 40 ⇓P P **09 44 25.1 -0.6**
baz=75,SNR=6.2
F19A Roth Farm, Mol 74.87 43 ⇓P P **09 44 25.5 -0.4**
baz=75,SNR=12
LKWY Lake 74.87 45 eP P **09 44 28.1 +2.0**
LKWY pmax pmax
comp=Z,9.0nm,0.8s
LKWY Lake 74.87 45 eP P **09 44 28.1 +2.0**
comp=Z,8.5nm,0.8s
H17A Grant Village 74.88 45 ⇑P P **09 44 27.7 +1.5**
baz=75,SNR=22
E20A Meyer Farm, Mu 74.89 42 ⇑P P **09 44 26.0 0.0**
baz=75,SNR=11
SFJD Kangerlussuaq 74.92 5 P P **09 44 25.3 -0.4**
SFJD Kangerlussuaq 74.92 5⇑ *iP* P **09 44 25.2 -0.4**
comp=Z,12nm,0.8s
SFJD Kangerlussuaq 74.92 5 P P **09 44 25.3 -0.4**
comp=Z,13nm,0.7s,baz=359,slow=6.5,SNR=7.9
A23A Redstone 74.98 39 ⇑P P **09 44 25.8 -0.6**
baz=75
J16A Bone 74.98 47 ⇓P P **09 44 27.1 +0.3**
baz=75,SNR=11
FLWY Flagg Ranch 75.00 46 eP P **09 44 28.0 +1.1**
comp=Z,24nm,1.4s
DCID1 Drake Creek 75.03 46 eP P **09 44 27.9 +0.9**
comp=Z,26nm,1.0s
RRI2 Red Ridge 75.11 46 eP P **09 44 27.9 +0.4**
comp=Z,17nm,1.1s
D21A La Casta Ranch 75.13 41 ⇑P P **09 44 26.9 -0.4**
baz=75,SNR=8.9
RLMT Red Lodge 75.15 44 eP P **09 44 27.8 +0.1**
comp=Z,9.4nm,1.1s
RLMT Red Lodge 75.15 44 ⇓P P **09 44 27.7 0.0**
baz=75,SNR=8.7
I17A Pilgrim Ck. 75.17 46 ⇑P P **09 44 28.9 +1.0**
baz=75,SNR=17
MOOW Moose Ponds 75.19 46 eP P **09 44 28.3 +0.4**
comp=Z,14nm,1.1s
H18A Shoshone NF, C 75.21 45 ⇑P P **09 44 28.2 +0.1**
baz=75,SNR=8.6
HVU Hansel Valley 75.22 48 eP P **09 44 28.4 +0.3**
HVU pmax pmax
comp=Z,11nm,0.9s
HVU Hansel Valley 75.22 48 eP P **09 44 28.4 +0.3**
comp=Z,11nm,0.9s
TPAW Teton Pass 75.23 46 eP P **09 44 28.8 +0.6**
comp=Z,11nm,0.9s
TPAW e 09 44 38.8
SIM Simferopol' 75.23 316 *c iP* P **09 44 27.7 -0.2**
SIM pmax pmax
comp=Z,41nm,0.9s
SIM MLR MLR
comp=Z,430nm,16.6s
B23A Brockton 75.25 39 ⇓P P **09 44 27.4 -0.5**
baz=75,SNR=29
C22A Vida 75.27 40 ⇓P P **09 44 27.1 -1.0**
baz=75,SNR=5.2
K16A Soda Springs 75.27 47 ⇑P P **09 44 28.8 +0.4**
baz=75,SNR=24
L15A Malad City 75.32 48 ⇓P P **09 44 28.4 -0.2**
baz=75,SNR=7.8
ISA Isabella 75.33 56 eP P **09 44 27.5 -1.3**
ISA pmax pmax
comp=Z,9.0nm,1.2s
ISA Isabella 75.33 56 eP P **09 44 27.5 -1.3**
comp=Z,9.4nm,1.2s
ISA Isabella 75.33 56 ⇑P P **09 44 27.4 -1.3**
baz=75,SNR=6.0
LOHW Long Hollow 75.35 46 eP P **09 44 29.1 +0.2**
comp=Z,6.4nm,1.0s
SNOW Snow King Moun 75.36 46 eP P **09 44 29.8 +0.8**
comp=Z,12nm,0.9s
SNOW e 09 44 39.9
REDW Red Top Meadow 75.36 46 eP P **09 44 29.5 +0.5**
comp=Z,13nm,1.0s
ARVC Arvin 75.42 57 ⇓P P **09 44 28.3 -0.8**
baz=75
E21A Keefer Ranch, 75.43 42 ⇑P P **09 44 28.9 -0.2**
baz=75
A24A Westby 75.44 39 ⇑P P **09 44 28.4 -0.7**
baz=75
J17A Brown Place, J 75.44 46 ⇑P P **09 44 29.4 0.0**
baz=75,SNR=11
D22A Cohagen 75.50 41 ⇓P P **09 44 29.1 -0.4**
baz=75,SNR=16
C23A Lambert 75.59 40 ⇑P P **09 44 29.4 -0.5**
baz=75,SNR=11
H19A Powell 75.59 44 ⇑P P **09 44 30.2 +0.1**
baz=75,SNR=8.9
R11A Troy Canyon, C 75.59 53 ⇓P P **09 44 30.0 -0.3**
baz=75,SNR=19
AHID Auburn Hatcher 75.59 47 eP P **09 44 30.3 +0.1**
comp=Z,12nm,1.1s
M15A Larsen Ranch, 75.61 48 ⇑P P **09 44 30.2 -0.1**
baz=75,SNR=17
DGMT Dagmar 75.65 39 eP P **09 44 30.0 -0.2**
comp=Z,38nm,1.1s
DGMT e 09 44 39.9
DGMT Dagmar 75.65 39 ⇑P P **09 44 29.6 -0.7**
baz=75,SNR=7.0
G20A Bridger 75.67 43 ⇑P P **09 44 29.6 -0.9**
baz=75,SNR=5.7
K17A Gardner Place, 75.71 47 ⇓P P **09 44 30.4 -0.6**
baz=76
FRB Frobisher Bay 75.72 14 P P **09 44 29.6 -0.6**
FRB Frobisher Bay 75.72 14 P P **09 44 29.6 -0.6**
comp=Z,28nm,0.7s,baz=336,slow=6.3,SNR=67
MPMC Manual Prospec 75.74 55 ⇓P P **09 44 30.6 -0.6**
baz=76,SNR=11
OSI Osito Adit 75.79 57 eP P **09 44 31.5 +0.2**
comp=Z,11nm,0.8s
OSI Osito Adit 75.79 57 ⇓P P **09 44 31.0 -0.3**
baz=76
L16A Fish Haven 75.87 48 ⇑P P **09 44 31.8 -0.1**
baz=76,SNR=6.6
FURC Furnace Creek, 75.91 55 ⇑P P **09 44 31.7 -0.2**
baz=76,SNR=13
N15A Stansbury Isla 75.92 49 ⇑P P **09 44 32.2 +0.1**
baz=76,SNR=13
LRMC Laurel Mountai 75.96 56 ⇑P P **09 44 31.6 -0.8**
baz=76,SNR=7.0
MIB Mutribah 75.99 297 eP P **09 44 31.5 -1.0**
MIB AMb AMB 09 44 32.8
comp=Z,97nm,1.1s
I19A Meeteetse 75.99 45 ⇑P P **09 44 32.4 -0.1**
baz=76,SNR=9.8
D23A Lindsay 75.99 41 ⇑P P **09 44 32.2 -0.1**
baz=76,SNR=27
HWUT Hardware Ranch 76.04 48 eP P **09 44 32.8 0.0**
comp=Z,27nm,1.2s
HWUT e 09 44 42.7
E22A Miles City 76.09 41 ⇑P P **09 44 32.3 -0.5**
baz=76,SNR=6.5
EDW2 Edwards Air Fo 76.11 57 ⇑P P **09 44 32.8 -0.4**
baz=76,SNR=8.1
L17A Cokeville 76.14 47 ⇓P P **09 44 33.1 -0.3**
baz=76,SNR=9.3
C24A Savage 76.15 40 ⇓P P **09 44 32.7 -0.5**
baz=76,SNR=12
DUG Dugway 76.17 50 eP P **09 44 33.6 0.0**
DUG e 09 44 44.1
DUG pmax pmax
comp=Z,15nm,1.0s
DUG Dugway 76.17 50 eP P **09 44 33.6 0.0**
comp=Z,15nm,1.0s
DUG e 09 44 44.1
DUG Dugway 76.17 50 ⇓P P **09 44 33.5 -0.1**
baz=76,SNR=13
G21A Lodge Grass 76.21 43 ⇑P P **09 44 32.8 -0.8**
baz=76,SNR=6.8
H20A Greybull 76.25 44 ⇑P P **09 44 33.5 -0.4**
baz=76,SNR=6.5

K18A	**Toltan Ranch,**	**76.28**	**46**	⇓P		**P**	**09 44 34.2**	**0.0**
	baz=76,SNR=9.9								
RDF	**Al-Radifah**	**76.35**	**296**	*eP*		**P**	**09 44 34.0**	**-0.5**
RDF				AMb		AMB	09 44 35.6		
	comp=Z,218nm,1.1s								
F22A	**Rosebud**	**76.36**	**42**	⇓P		**P**	**09 44 33.8**	**-0.5**
	baz=76,SNR=9.2								
NAY	**Al-Naaiem**	**76.38**	**296**	*eP*		**P**	**09 44 33.6**	**-1.1**
NAY				AMb		AMB	09 44 35.1		
	comp=Z,73nm,1.4s								
E23A	**Ismay**	**76.38**	**41**	⇓P		**P**	**09 44 34.4**	**-0.1**
	baz=76,SNR=14								
J19A	**Crowheart**	**76.45**	**45**	⇑P		**P**	**09 44 35.0**	**-0.1**
	baz=76,SNR=24								
PD01	**Pinedale Array**	**76.46**	**46**	*eP*		**P**	**09 44 34.4**	**-0.9**
PD01				*e*			09 44 45.1		
MWC	**Mount Wilson**	**76.46**	**57**	*eP*		**P**	**09 44 34.5**	**-0.8**
MWC				pmax		pmax			
	comp=Z,13nm,1.4s								
MWC	**Mount Wilson**	**76.46**	**57**	*eP*		**P**	**09 44 34.5**	**-0.8**
	comp=Z,13nm,1.4s								
PD02	**Pinedale Array**	**76.47**	**46**	*eP*		**P**	**09 44 34.2**	**-1.1**
BW06	**Boulder Array**	**76.48**	**46**	*eP*		**P**	**09 44 34.1**	**-1.2**
	comp=Z,6.2nm,0.9s								
BW06				*e*			09 44 44.2		
BW06	**Boulder Array**	**76.48**	**46**	⇑P		**P**	**09 44 34.6**	**-0.7**
	baz=76,SNR=11								
PDAR	**Pinedale Array**	**76.48**	**46**	P		**P**	**09 44 34.6**	**-0.7**
PDAR	**Pinedale Array**	**76.48**	**46**	P		**P**	**09 44 34.6**	**-0.7**
	comp=Z,6.7nm,0.8s,baz=272,slow=2.5,SNR=52								
D24A	**Glendive**	**76.48**	**40**	⇑P		**P**	**09 44 34.8**	**-0.2**
	baz=76,SNR=23								
I20A	**Worland**	**76.53**	**44**	⇑P		**P**	**09 44 35.5**	**0.0**
	baz=76,SNR=11								
N16A	**Rees Ranch, Co**	**76.57**	**48**	⇑P		**P**	**09 44 35.8**	**-0.1**
	baz=76,SNR=5.6								
GSC	**Goldstone**	**76.64**	**56**	*eP*		**P**	**09 44 36.0**	**-0.2**
GSC				pmax		pmax			
	comp=Z,13nm,1.3s								
GSC	**Goldstone**	**76.64**	**56**	*eP*		**P**	**09 44 36.0**	**-0.2**
	comp=Z,13nm,1.3s								
M17A	**Scullys Gap (B**	**76.65**	**48**	⇑P		**P**	**09 44 35.8**	**-0.5**
	baz=76,SNR=12								
H21A	**Big Horn, Sher**	**76.68**	**43**	⇓P		**P**	**09 44 35.7**	**-0.7**
	baz=76,SNR=16								
G22A	**Birney**	**76.70**	**43**	⇓P		**P**	**09 44 35.7**	**-0.7**
	baz=76,SNR=7.4								
R13A	**O'Grain Ranch,**	**76.70**	**52**	⇓P		**P**	**09 44 36.4**	**-0.2**
	baz=76,SNR=7.8								
KIS	**Kishinev**	**76.71**	**320**	*eP*		**P**	**09 44 34.0**	**-2.2**
KIS				MLR		MLR			
	comp=N,1μm,19.0s								
KIS				MLR		MLR			
	comp=E,1μm,19.0s								
KIS				MLR		MLR			
	comp=Z,1μm,19.0s								
KIS				MLR		MLR			
	comp=Z,1μm,19.0s								
KIS	**Kishinev**	**76.71**	**320**	*eP*		**P**	**09 44 34.0**	**-2.2**
KIS				*eL*		L	10 13 20.0		
KIS				LRM		MLR	10 20 44.0		
	comp=Z,1μm,19.0s								
L18A	**Fontenelle, Gr**	**76.74**	**47**	⇓P		**P**	**09 44 36.5**	**-0.3**
	baz=76,SNR=12								
JLU	**Jordanelle**	**76.74**	**49**	*eP*		**P**	**09 44 37.0**	**+0.2**
	comp=Z,11nm,1.1s								
JLU				*e*			09 44 47.5		
F23A	**Volborg**	**76.84**	**42**	⇓P		**P**	**09 44 36.5**	**-0.6**
	baz=77,SNR=26								
K19A	**Absolon Red Bu**	**76.84**	**46**	⇑P		**P**	**09 44 36.0**	**-1.3**
	baz=77,SNR=8.9								
E24A	**Baker**	**76.86**	**41**	⇓P		**P**	**09 44 36.7**	**-0.5**
	baz=77								
P15A	**Leamington**	**76.88**	**50**	⇑P		**P**	**09 44 37.1**	**-0.5**
	baz=77,SNR=10								
N17A	**Moffit Pass**	**76.89**	**48**	⇓P		**P**	**09 44 37.3**	**-0.4**
	baz=77,SNR=18								
J20A	**Shoshoni**	**76.93**	**45**	⇓P		**P**	**09 44 37.4**	**-0.4**
	baz=77,SNR=15								
MPU	**Maple Canyon**	**77.00**	**49**	*eP*		**P**	**09 44 38.3**	**0.0**
	comp=Z,17nm,1.0s								
MPU				*e*			09 44 47.9		
L19A	**Farson**	**77.01**	**46**	⇓P		**P**	**09 44 37.8**	**-0.6**
	baz=77,SNR=5.4								
M18A	**Lyman**	**77.03**	**47**	⇓P		**P**	**09 44 38.0**	**-0.5**
	baz=77								
I21A	**Big Trails, Te**	**77.08**	**44**	⇓P		**P**	**09 44 38.3**	**-0.3**
	baz=77,SNR=21								
H22A	**Clearmont**	**77.08**	**43**	⇓P		**P**	**09 44 37.7**	**-0.9**
	baz=77,SNR=7.1								
LVV	**L'vov**	**77.11**	**324**	*eP*		**P**	**09 44 35.8**	**-2.6**
BEL	**Belsk**	**77.11**	**327**	*eP*		**P**	**09 44 38.8**	**+0.4**
BEL	**Belsk**	**77.11**	**327**	*eP*		**P**	**09 44 38.8**	**+0.4**
BEL	**Belsk**	**77.11**	**327**	*eP*		**P**	**09 44 38.8**	**+0.4**
TUQ	**Turquoise Moun**	**77.13**	**55**	⇑P		**P**	**09 44 38.6**	**-0.4**
	baz=77,SNR=5.1								
BBRC	**Big Bear Solar**	**77.19**	**57**	⇓P		**P**	**09 44 38.5**	**-1.0**
	baz=77								
G23A	**Biddle**	**77.19**	**42**	⇓P		**P**	**09 44 38.4**	**-0.8**
	baz=77,SNR=13								
HEC	**Hector,Ludlow**	**77.24**	**56**	⇓P		**P**	**09 44 38.7**	**-0.8**
	baz=77,SNR=5.7								
K20A	**Yellowstone Ra**	**77.24**	**46**	⇓P		**P**	**09 44 38.4**	**-1.1**
	baz=77,SNR=7.0								
F24A	**Ekalaka**	**77.26**	**41**	⇓P		**P**	**09 44 39.0**	**-0.5**
	baz=77,SNR=12								
ARUT	**Antelope Range**	**77.27**	**52**	*eP*		**P**	**09 44 39.3**	**-0.5**
ARUT				pmax		pmax			
	comp=Z,14nm,1.1s								
ARUT	**Antelope Range**	**77.27**	**52**	*eP*		**P**	**09 44 39.3**	**-0.5**
	comp=Z,14nm,1.1s								
J21A	**Lysite**	**77.29**	**45**	⇑P		**P**	**09 44 39.2**	**-0.7**
	baz=77,SNR=12								
LEOM	**Leova**	**77.36**	**320**	⇑*iP*		**P**	**09 44 39.8**	**-0.1**
O17A	**Robinson Place**	**77.42**	**49**	⇑P		**P**	**09 44 40.6**	**0.0**
	baz=77,SNR=9.4								
I22A	**9 Mile Ranch,**	**77.47**	**44**	⇓P		**P**	**09 44 40.4**	**-0.4**
	baz=77,SNR=10								
CCUT	**Cedar City**	**77.47**	**52**	*eP*		**P**	**09 44 40.8**	**-0.2**
	comp=Z,11nm,1.1s								
CCUT				*e*			09 44 51.9		
M19A	**Rock Springs**	**77.51**	**47**	⇑P		**P**	**09 44 40.4**	**-0.7**
	baz=77								
N18A	**Larsen Ranch,**	**77.55**	**48**	⇓P		**P**	**09 44 40.7**	**-0.7**
	baz=77								
MSU	**Marysvale**	**77.61**	**51**	*eP*		**P**	**09 44 42.0**	**+0.3**
MSU	**Marysvale**	**77.61**	**51**	*eP*		**P**	**09 44 42.0**	**+0.3**
G24A	**Alzada**	**77.62**	**42**	⇓P		**P**	**09 44 40.5**	**-1.1**
	baz=77,SNR=5.2								
TMUT	**Trail Mountain**	**77.70**	**50**	*eP*		**P**	**09 44 42.5**	**+0.2**
	comp=Z,6.9nm,1.0s								
GMRC	**Granite Mounta**	**77.70**	**56**	⇓P		**P**	**09 44 41.6**	**-0.6**
	baz=78,SNR=5.2								
J22A	**Midwest**	**77.78**	**44**	⇑P		**P**	**09 44 41.9**	**-0.7**
	baz=78								
O18A	**Roosevelt**	**77.80**	**48**	⇑P		**P**	**09 44 42.8**	**+0.1**
	baz=78,SNR=10								
KWP	**Kalwaria Pacla**	**77.85**	**325**	*eP*		**P**	**09 44 43.0**	**+0.4**
KWP	**Kalwaria Pacla**	**77.85**	**325**	*eP*		**P**	**09 44 43.0**	**+0.4**
KWP	**Kalwaria Pacla**	**77.85**	**325**	*eP*		**P**	**09 44 42.9**	**+0.3**
KWP				pmax		pmax			
	comp=Z,87nm,1.0s								
KWP	**Kalwaria Pacla**	**77.85**	**325**	*eP*		**P**	**09 44 42.9**	**+0.3**
	comp=Z,87nm,1.0s								
KWP	**Kalwaria Pacla**	**77.85**	**325**	⇓*iP*		**P**	**09 44 43.5**	**+0.9**
K21A	**Alcova**	**77.86**	**45**	⇑P		**P**	**09 44 42.4**	**-0.7**
	baz=78,SNR=12								
P17A	**Butcher Ranch,**	**77.87**	**49**	⇓P		**P**	**09 44 43.0**	**-0.2**
	baz=78,SNR=13								
LDFC	**Landfall**	**77.88**	**55**	*eP*		**P**	**09 44 43.1**	**-0.1**
	comp=Z,21nm,1.1s								
N19A	**John Jarvie Ra**	**77.89**	**47**	⇑P		**P**	**09 44 42.4**	**-0.8**
	baz=78								
PFO	**Pinyon Flat Ob**	**77.89**	**57**	⇑P		**P**	**09 44 42.7**	**-0.6**
	baz=78,SNR=5.1								
109C	**Camp Elliot, M**	**77.90**	**58**	⇓P		**P**	**09 44 42.5**	**-0.7**
	baz=78								
TLCR		**77.93**	**318**	⇑*iP*		**P**	**09 44 43.3**	**+0.2**
H24A	**Dirks Ranch, A**	**77.94**	**42**	⇑P		**P**	**09 44 42.3**	**-1.0**
	baz=78,SNR=10.0								
Q16A	**Castle Valley**	**77.96**	**50**	⇓P		**P**	**09 44 43.7**	**0.0**
	baz=78,SNR=9.2								
P18A	**Preston Nutter**	**78.07**	**49**	⇓P		**P**	**09 44 44.2**	**-0.2**
	baz=78,SNR=9.8								
BUR08	**Bucovina Ar. S**	**78.07**	**322**	*eP*		**P**	**09 44 44.0**	**0.0**
M20A	**Sweetwater, Wa**	**78.08**	**46**	⇓P		**P**	**09 44 44.3**	**0.0**
	baz=78								
BURAR	**Bucovina Array**	**78.08**	**322**	⇓*iP*		**P**	**09 44 44.7**	**+0.6**
TESR		**78.14**	**321**	⇓*iP*		**P**	**09 44 45.5**	**+1.2**
R16A	**Teasdale**	**78.17**	**51**	⇓P		**P**	**09 44 45.4**	**+0.5**
	baz=78,SNR=28								
SRU	**San Rafael**	**78.23**	**49**	*eP*		**P**	**09 44 45.0**	**-0.2**
SRU				*e*			09 44 55.6		
SRU				pmax		pmax			
	comp=Z,17nm,0.9s								
SRU	**San Rafael**	**78.23**	**49**	*eP*		**P**	**09 44 45.0**	**-0.2**
	comp=Z,17nm,0.9s								
SRU				*e*			09 44 55.6		
SRU	**San Rafael**	**78.23**	**49**	⇓P		**P**	**09 44 44.9**	**-0.3**
	baz=78								
L21A	**Rawlins**	**78.23**	**46**	⇓P		**P**	**09 44 44.5**	**-0.7**
	baz=78,SNR=8.1								
K22A	**Casper**	**78.26**	**45**	⇑P		**P**	**09 44 44.5**	**-0.8**
	baz=78,SNR=6.2								
CFR	**Carcaliu**	**78.29**	**319**	⇓*iP*		**P**	**09 44 45.2**	**+0.1**
O19A	**Miners Draw (B**	**78.30**	**48**	⇑P		**P**	**09 44 44.8**	**-0.7**
	baz=78,SNR=6.8								
BAR	**Barrett**	**78.31**	**58**	*eP*		**P**	**09 44 45.2**	**-0.3**
	comp=Z,11nm,1.1s								
BAR				*e*			09 44 55.2		
MDND	**Maddock**	**78.32**	**37**	⇓P		**P**	**09 44 44.7**	**-0.6**
	baz=78								
ULM	**Lac du Bonnet**	**78.32**	**34**	*eP*		**P**	**09 44 44.1**	**-1.1**
	comp=Z,16nm,1.1s								
ULM				*e*			09 44 54.5		
ULM	**Lac du Bonnet**	**78.32**	**34**	P		**P**	**09 44 44.0**	**-1.1**
	comp=Z,8.8nm,0.8s,baz=305,slow=5.7,SNR=17								
ULM				LR		LR	10 21 33.5		
	comp=Z,119nm,19.1s,baz=296,slow=37								
MONP	**Monument Peak**	**78.36**	**57**	⇑P		**P**	**09 44 45.4**	**-0.6**
	baz=78,SNR=5.1								
PETR		**78.38**	**320**	⇓*iP*		**P**	**09 44 47.1**	**+1.5**
IRM	**Iron Mountain**	**78.42**	**56**	⇑P		**P**	**09 44 45.5**	**-0.5**
	baz=78,SNR=8.4								
S16A	**Weppner Ranch,**	**78.46**	**51**	⇑P		**P**	**09 44 46.5**	**+0.1**
	baz=78,SNR=12								
N20A	**Spence Gulch,**	**78.46**	**47**	⇑P		**P**	**09 44 46.3**	**-0.2**
	baz=78,SNR=8.9								
Q18A	**Rafter H Ranch**	**78.47**	**49**	⇑P		**P**	**09 44 45.7**	**-0.7**
	baz=78								
M21A	**Separation Pea**	**78.47**	**46**	⇑P		**P**	**09 44 45.7**	**-0.8**
	baz=78,SNR=6.9								
I24A	**Kuemmerle Ranc**	**78.50**	**43**	⇑P		**P**	**09 44 45.3**	**-1.2**
	baz=78								
RWWY	**Rawlins**	**78.50**	**46**	*eP*		**P**	**09 44 46.0**	**-0.7**
	comp=Z,9.8nm,0.8s								
BC3	**Big Chuckawall**	**78.53**	**56**	⇑P		**P**	**09 44 46.2**	**-0.6**
	baz=78,SNR=8.2								
VRI	**Vrincioaia**	**78.54**	**320**	⇑*iP*		**P**	**09 44 47.4**	**+0.9**
R17A	**Hanksville Air**	**78.56**	**50**	⇑P		**P**	**09 44 46.6**	**-0.3**
	baz=78,SNR=14								
PLOR	**Plostina**	**78.59**	**320**	⇑*iP*		**P**	**09 44 47.1**	**+0.3**
TIRR	**Tirgusor**	**78.63**	**318**	*eP*		**P**	**09 44 47.1**	**+0.1**
TIRR				pmax		pmax			
	comp=Z,20nm,1.0s								
TIRR	**Tirgusor**	**78.63**	**318**	*eP*		**P**	**09 44 47.1**	**+0.1**
	comp=Z,20nm,1.0s								
TIRR	**Tirgusor**	**78.63**	**318**	⇓*iP*		**P**	**09 44 47.2**	**+0.2**
RSSD	**Black Hills**	**78.64**	**42**	*eP*		**P**	**09 44 46.3**	**-1.1**
RSSD				*e*			09 44 56.9		
RSSD				pmax		pmax			
	comp=Z,9.0nm,0.9s								
RSSD	**Black Hills**	**78.64**	**42**	*eP*		**P**	**09 44 46.3**	**-1.1**
	comp=Z,9.1nm,0.9s								
RSSD				*e*			09 44 56.9		
W13A	**Hualapai Mount**	**78.66**	**54**	⇑P		**P**	**09 44 47.0**	**-0.6**
	baz=78,SNR=8.0								
L22A	**Ellis Ranch, M**	**78.72**	**45**	⇓P		**P**	**09 44 47.1**	**-0.7**
	baz=78								
OJC	**Ojcow**	**78.72**	**327**	*i* P		**P**	**09 44 47.1**	**-0.4**
OJC	**Ojcow**	**78.72**	**327**	*eP*		**P**	**09 44 47.4**	**0.0**
OJC				pmax		pmax			
	comp=Z,63nm,1.0s								
OJC	**Ojcow**	**78.72**	**327**	*eP*		**P**	**09 44 47.4**	**0.0**
	comp=Z,63nm,1.0s								
SWSC	**Sam W. Stewart**	**78.74**	**57**	⇓P		**P**	**09 44 47.1**	**-0.7**
	baz=78,SNR=5.9								
UZH	**Uzhgorod**	**78.75**	**324**	⇑*iP*		**P**	**09 44 47.5**	**-0.1**
UZH				*i*			09 44 58.5		
UZH				*e*			09 47 48.3		
UZH				*i*			09 54 39.5		
P19A	**Cripple Cowboy**	**78.81**	**48**	⇓P		**P**	**09 44 47.9**	**-0.5**
	baz=79,SNR=15								
BR131	**Keskin Array S**	**78.83**	**312**	*eP*		**P**	**09 44 47.8**	**-0.6**
	comp=Z,28nm,1.2s								
BRTR	**Keskin Array B**	**78.83**	**312**	P		**P**	**09 44 48.3**	**-0.1**
BRTR				PP		**PP**	**09 47 47.0**	**+0.5**
BRTR	**Keskin Array B**	**78.83**	**312**	P		**P**	**09 44 48.3**	**-0.1**
	comp=Z,19nm,1.1s,baz=84,slow=3.8,SNR=45								
BRTR				PP		**PP**	**09 47 47.0**	**+0.5**
	comp=Z,4.4nm,1.1s,baz=55,slow=5.0,SNR=3.8								
U15A	**North Rim**	**78.84**	**52**	⇑P		**P**	**09 44 48.8**	**+0.1**
	baz=79,SNR=12								
BMR	**Baia Mare**	**78.87**	**323**	⇓*iP*		**P**	**09 44 49.3**	**+1.0**
O20A	**White River Ci**	**78.92**	**47**	⇓P		**P**	**09 44 48.3**	**-0.7**
	baz=79,SNR=7.6								
N21A	**Black Mountain**	**78.94**	**47**	⇑P		**P**	**09 44 48.6**	**-0.5**
	baz=79,SNR=6.0								
S17A	**Black Ridge (B**	**79.00**	**51**	⇑P		**P**	**09 44 48.8**	**-0.5**
	baz=79,SNR=15								
TRPA	**Tarpa**	**79.00**	**324**	⇓*iP*		**P**	**09 44 49.9**	**+1.0**
TRPA	**Tarpa**	**79.00**	**324**	⇑P		**P**	**09 44 49.5**	**+0.6**
M22A	**Cedar Creek Ra**	**79.04**	**46**	⇓P		**P**	**09 44 49.0**	**-0.7**
	baz=79,SNR=7.3								
L23A	**Garrett**	**79.07**	**45**	⇓P		**P**	**09 44 48.7**	**-1.1**
	baz=79,SNR=8.5								
R18A	**Canyonlands Na**	**79.07**	**50**	⇑P		**P**	**09 44 49.0**	**-0.8**
	baz=79,SNR=10								
Y12C	**Blythe**	**79.08**	**56**	⇓P		**P**	**09 44 49.2**	**-0.5**
	baz=79,SNR=8.7								
NIE	**Niedzica**	**79.08**	**326**	*eP*		**P**	**09 44 50.0**	**+0.6**
NIE	**Niedzica**	**79.08**	**326**	⇑*eP*		**P**	**09 44 50.2**	**+0.7**
Q19A	**Hogan Spring (**	**79.08**	**49**	⇓P		**P**	**09 44 49.0**	**-0.8**
	baz=79,SNR=17								
DOPR	**Dopca**	**79.15**	**321**	⇓*iP*		**P**	**09 44 50.9**	**+1.0**
ISR	**Istrita**	**79.15**	**320**	⇓*iP*		**P**	**09 44 51.1**	**+1.2**
MLR	**Muntele Rosu**	**79.20**	**320**	⇓*iP*		**P**	**09 44 50.6**	**+0.3**
MLR	**Muntele Rosu**	**79.20**	**320**	LR		LR	10 22 47.7		
	comp=Z,186nm,19.4s,baz=50,slow=38								
P20A	**De Beque**	**79.25**	**48**	⇓P		**P**	**09 44 50.1**	**-0.6**
	baz=79								
GLA	**Glamis**	**79.31**	**56**	⇑P		**P**	**09 44 50.6**	**-0.4**
	baz=79								
T17A	**Navajo Res., N**	**79.40**	**51**	⇑P		**P**	**09 44 50.7**	**-1.0**
	baz=79								
SECR		**79.45**	**320**	⇑*iP*		**P**	**09 44 52.7**	**+1.2**
S18A	**Hurst Farm, BI**	**79.46**	**50**	⇑P		**P**	**09 44 51.3**	**-0.7**
	baz=79,SNR=14								
RUE	**Ruedersdorf**	**79.48**	**331**	*eP*		**P**	**09 44 51.7**	**+0.2**
	comp=Z,56nm,1.3s								
M23A	**Laramie**	**79.49**	**45**	⇑P		**P**	**09 44 51.4**	**-0.7**
	baz=79								
R19A	**Curley Farm, L**	**79.51**	**49**	⇓P		**P**	**09 44 51.7**	**-0.6**
	baz=79,SNR=13								
N22A	**Wattenberg Ran**	**79.52**	**46**	⇓P		**P**	**09 44 52.0**	**-0.3**
	baz=79,SNR=5.3								
L24A	**Wheatland**	**79.54**	**44**	⇓P		**P**	**09 44 51.8**	**-0.4**
	baz=79								
PV10	**Paradox Valley**	**79.59**	**49**	*eP*		**P**	**09 44 52.7**	**0.0**
	comp=Z,614nm,0.9s								
BSEG	**Bad Segeberg**	**79.61**	**334**	*eP*		**P**	**09 44 52.4**	**+0.3**
	comp=Z,73nm,1.0s								
BSEG	**Bad Segeberg**	**79.61**	**334**	*eP*		**P**	**09 44 52.4**	**+0.3**
BSEG				pmax		pmax			
	comp=Z,73nm,1.0s								
Q20A	**Ridgley Place,**	**79.66**	**48**	⇑P		**P**	**09 44 52.4**	**-0.6**
	baz=79,SNR=11								
PV04	**Paradox Valley**	**79.66**	**49**	*eP*		**P**	**09 44 53.3**	**+0.2**
OKC	**Ostrava-Krasne**	**79.72**	**327**	⇑*iP*		**P**	**09 44 53.0**	**+0.1**
OKC				MLR		MLR			
	comp=Z,800nm,15.2s								
OKC	**Ostrava-Krasne**	**79.72**	**327**	⇑*iP*		**P**	**09 44 53.0**	**+0.1**
OKC				AMS		AMS	10 23 00.0		
	comp=Z,800nm,15.2s								
KSP	**Ksiaz**	**79.74**	**329**	⇑*eP*		**P**	**09 44 52.8**	**-0.2**
KSP				*e*			09 45 02.6		
KSP				MLR		MLR			
	comp=Z,1μm,20.5s								
N23A	**Red Feather La**	**79.75**	**46**	⇓P		**P**	**09 44 53.5**	**-0.1**
	baz=80,SNR=14								
U17A	**Shonto**	**79.75**	**51**	⇑P		**P**	**09 44 53.3**	**-0.2**
	baz=80								
U16A	**Tuba City**	**79.75**	**52**	⇑P		**P**	**09 44 53.5**	**+0.1**
	baz=80,SNR=20								
AGMN	**Agassiz Nation**	**79.75**	**35**	*eP*		**P**	**09 44 51.6**	**-1.5**
	comp=Z,15nm,1.0s								
AGMN				*e*			09 45 01.8		
P21A	**Newcastle**	**79.78**	**48**	⇑P		**P**	**09 44 53.6**	**-0.2**
	baz=80,SNR=5.2								
DRGR		**79.88**	**323**	⇑*iP*		**P**	**09 44 54.3**	**+0.4**
T18A	**Mexican Hat**	**79.89**	**51**	⇓P		**P**	**09 44 53.3**	**-0.9**
	baz=80,SNR=11								
O22A	**Kremmling**	**79.89**	**47**	⇑P		**P**	**09 44 54.1**	**-0.2**
	baz=80,SNR=6.5								
S19A	**Harvey Farm, M**	**79.94**	**50**	⇓P		**P**	**09 44 54.0**	**-0.6**
	baz=80,SNR=17								
Y14A	**Wickenburg**	**79.95**	**55**	⇑P		**P**	**09 44 54.0**	**-0.5**
	baz=80,SNR=16								
M24A	**Cheyenne**	**79.99**	**45**	⇑P		**P**	**09 44 54.8**	**0.0**
	baz=80,SNR=8.5								
WUAZ	**Wupatki**	**79.99**	**53**	*eP*		**P**	**09 44 54.8**	**-0.1**
	comp=Z,17nm,1.0s								
WUAZ	**Wupatki**	**79.99**	**53**	⇓P		**P**	**09 44 54.7**	**-0.1**
	baz=80,SNR=11								
L25A	**Engebretsen Ra**	**80.00**	**44**	⇑P		**P**	**09 44 54.3**	**-0.4**
	baz=80								
MORC	**Moravsky Berou**	**80.03**	**327**	*eP*		**P**	**09 44 54.8**	**+0.2**
MORC				pmax		pmax			
	comp=Z,34nm,1.0s								
MORC	**Moravsky Berou**	**80.03**	**327**	*eP*		**P**	**09 44 54.8**	**+0.2**
	comp=Z,34nm,1.0s								
MORC	**Moravsky Berou**	**80.03**	**327**	⇓*iP*		**P**	**09 44 55.2**	**+0.6**
PV01	**Paradox Valley**	**80.03**	**49**	*eP*		**P**	**09 44 54.8**	**-0.2**
	comp=Z,2μm,1.4s								
K26A	**Motz Farm, Whi**	**80.06**	**43**	⇑P		**P**	**09 44 54.2**	**-0.8**
	baz=80,SNR=6.8								
DPC	**Dobruska-Polom**	**80.11**	**328**	⇑*iP*		**P**	**09 44 55.5**	**+0.5**
DPC				MLR		MLR			
	comp=Z,500nm,17.6s								
DPC	**Dobruska-Polom**	**80.11**	**328**	*eP*		**P**	**09 44 55.5**	**+0.5**
	comp=Z,82nm,1.5s								
DPC	**Dobruska-Polom**	**80.11**	**328**	⇑*iP*		**P**	**09 44 55.5**	**+0.5**
DPC				AMS		AMS	10 23 20.0		
	comp=Z,500nm,17.6s								
R20A	**Redvale**	**80.11**	**49**	⇓P		**P**	**09 44 55.2**	**-0.3**
	baz=80,SNR=12								
UPC	**Upice**	**80.11**	**329**	⇑*iP*		**P**	**09 44 55.0**	**0.0**
UPC	**Upice**	**80.11**	**329**	⇑*iP*		**P**	**09 44 55.0**	**0.0**
P22A	**Eagle**	**80.14**	**47**	⇓P		**P**	**09 44 55.5**	**-0.2**
	baz=80,SNR=17								
Q21A	**Lamborn Mesa,**	**80.16**	**48**	⇑P		**P**	**09 44 55.5**	**-0.3**
	baz=80,SNR=6.2								
113A	**Mohawk Valley,**	**80.19**	**56**	⇓P		**P**	**09 44 55.0**	**-0.7**
	baz=80,SNR=12								
O23A	**Lake Granby, G**	**80.21**	**46**	⇑P		**P**	**09 44 56.2**	**+0.1**
	baz=80,SNR=12								
V17A	**Tonalea, Kykot**	**80.29**	**52**	⇓P		**P**	**09 44 56.5**	**0.0**
	baz=80,SNR=23								
SMCO	**Snowmass**	**80.29**	**48**	*eP*		**P**	**09 44 56.7**	**+0.1**
	comp=Z,30nm,1.7s								
LOT	**Lotru**	**80.32**	**321**	⇓*iP*		**P**	**09 44 56.6**	**+0.3**
U18A	**Rough Rock, Ch**	**80.35**	**51**	⇑P		**P**	**09 44 56.5**	**-0.2**
	baz=80,SNR=14								
S20A	**Disappointment**	**80.35**	**49**	⇑P		**P**	**09 44 56.3**	**-0.5**
	baz=80,SNR=7.7								
PSZ	**Piszkesteto**	**80.37**	**325**	*eP*		**P**	**09 44 56.8**	**+0.3**
PSZ				pmax		pmax			
	comp=Z,53nm,1.1s								
PSZ	**Piszkesteto**	**80.37**	**325**	*eP*		**P**	**09 44 56.8**	**+0.3**
	comp=Z,53nm,1.

M26A McRoberts Ranc 80.92 44 ⇑P P 09 44 58.8 -0.8
baz=81
SMOL Smolenice 81.03 327 eP P 09 45 00.8 +0.9
SMOL Smolenice 81.03 327 eP P 09 45 00.8 +0.9
RAYN Ar Rayn 81.03 293 P P 09 45 00.5 0.0
comp=Z,196nm,0.9s,SNR=14
BRSD Miller 81.04 40 ⇑P P 09 44 59.3 -0.9
baz=81
R22A Saguache, Gunn 81.04 48 ⇓P P 09 45 00.8 +0.2
baz=81,SNR=12
BUD Budapest 81.09 325 ⇑P P 09 45 00.7 +0.4
X17A Forest Lakes 81.10 53 ⇑P P 09 45 00.9 0.0
baz=81,SNR=15
PRU Pruhonice 81.12 329 eP P 09 45 00.7 +0.3
PRU MLR MLR
comp=Z,700nm,20.9s
PRU Pruhonice 81.12 329⇑eP P 09 45 00.7 +0.3
PRU AMS AMS 10 23 00.0
comp=Z,700nm,20.9s
U20A Newcomb 81.20 51 ⇑P P 09 45 00.9 -0.4
baz=81,SNR=6.4
BZS Buzias 81.25 322⇑iP P 09 45 00.9 -0.3
NEUB Neuenburg 81.25 331 eP P 09 45 00.9 -0.1
comp=Z,52nm,1.1s
P24A Kohler Place, 81.26 46 ⇓P P 09 45 01.3 -0.3
baz=81
TREC Trest 81.26 328⇑iP P 09 45 01.4 +0.2
TREC MLR MLR
comp=Z,600nm,15.2s
TREC Trest 81.26 328⇑iP P 09 45 01.4 +0.2
TREC AMS AMS 10 23 40.0
comp=Z,600nm,15.2s
CLZ Clausthal 81.27 332 eP P 09 45 01.3 +0.1
comp=Z,49nm,1.2s
CLZ Clausthal 81.27 332 eP P 09 45 01.3 +0.1
CLZ pmax pmax
comp=Z,49nm,1.2s
V19A Window Rock 81.31 51 ⇓P P 09 45 02.2 +0.2
baz=81,SNR=6.1
S22A 4UR Ranch, Cre 81.32 49 ⇓P P 09 45 02.1 0.0
baz=81,SNR=18
214A Organ Pipe Nat 81.32 56 ⇑P P 09 45 01.6 -0.3
baz=81
ZST Bratislava 81.41 326 eP P 09 45 01.4 -0.6
ZST Bratislava 81.41 326 eP P 09 45 01.4 -0.6
PKSG 81.45 325 ⇑P P 09 45 02.3 +0.2
Q24A Divide 81.49 47 ⇓P P 09 45 02.5 -0.5
baz=81
X18A Snowflake 81.52 53 ⇑P P 09 45 02.7 -0.4
baz=81,SNR=5.7
TANN Tannenbergstha 81.61 330 eP P 09 45 02.6 -0.5
comp=Z,23nm,1.4s
V20A Brimhall 81.61 51 ⇓P P 09 45 03.1 -0.4
baz=81,SNR=12
R23A Moffat 81.62 48 ⇓P P 09 45 03.7 +0.1
baz=81,SNR=16
WERD Werda 81.65 330 eP P 09 45 03.0 -0.2
comp=Z,13nm,1.1s
PLN Plauen 81.68 330 eP P 09 45 03.1 -0.2
comp=Z,153nm,1.5s
U21A Nageezi 81.70 50 ⇓P P 09 45 03.8 -0.2
baz=82,SNR=8.8
N27A Anderson Farm, 81.70 44 ⇓P P 09 45 03.1 -0.7
baz=82
PKST T"s 81.71 325 ⇑P P 09 45 03.4 -0.2
GUNZ Gunzen 81.71 330 eP P 09 45 03.4 -0.1
comp=Z,25nm,1.2s
WERN Wernitzgruen 81.75 330 eP P 09 45 03.9 +0.1
comp=Z,20nm,1.1s
MOX Moxa 81.76 331 eP P 09 45 03.6 -0.2
comp=Z,28nm,1.4s
MOX Moxa 81.76 331 eP P 09 45 03.6 -0.2
MOX pmax pmax
comp=Z,28nm,1.4s
T22A Edith 81.76 49 ⇑P P 09 45 04.3 -0.1
baz=82,SNR=12
NKC Novy Kostel 81.76 330⇑iP P 09 45 03.7 -0.1
NKC Novy Kostel 81.76 330⇑iP P 09 45 03.7 -0.1
IBBN Ibbenburen 81.83 334 eP P 09 45 03.8 -0.3
comp=Z,59nm,1.3s
ISP Isparta 81.92 312 eP P 09 45 04.7 -0.2
ISP pmax pmax
comp=Z,13nm,0.9s
ISP Isparta 81.92 312 eP P 09 45 04.7 -0.2
comp=Z,13nm,0.9s
ISP Isparta 81.92 312⇓iP P 09 45 04.8 -0.2
Y18A Canyon Day Jun 81.95 53 ⇑P P 09 45 05.3 0.0
baz=82,SNR=14
EYMN Ely 81.95 33 eP P 09 45 03.4 -1.5
comp=Z,39nm,1.4s
X19A St. Johns 82.00 52 ⇓P P 09 45 05.5 -0.1
baz=82,SNR=19
R24A Sanders Place, 82.01 47 ⇓P P 09 45 05.6 0.0
baz=82
W20A Ramah 82.03 51 ⇓P P 09 45 05.5 -0.3
baz=82,SNR=7.8
SOP Sopron 82.04 326 ⇑P P 09 45 05.9 +0.6
Q25A Bedland, Calha 82.04 46 ⇑P P 09 45 05.1 -0.6
baz=82,SNR=5.0
MMAI Mount Meron Ar 82.08 306 LR LR 10 25 23.1
comp=Z,222nm,18.7s,baz=50,slow=38
PKS9 Tamasi 82.10 325 ⇑P P 09 45 05.1 -0.5
SDCO Great Sand Dun 82.10 48 eP P 09 45 06.0 -0.2
comp=Z,8.3nm,1.1s
SDCO Great Sand Dun 82.10 48 ⇑P P 09 45 06.0 -0.2
baz=82,SNR=9.6
CSS Prodhromos 82.12 308 eP P 09 45 06.2 +0.2
comp=Z,25nm,0.7s
CONA Conrad Observa 82.15 327 iP P 09 45 06.5 +0.5
comp=Z,32nm,1.2s
CONA Conrad Observa 82.15 327 iP P 09 45 06.5 +0.5
comp=Z,32nm,1.2s,SNR=18
KHC Kasperske Hory 82.18 329⇑iP P 09 45 06.1 +0.1
KHC e 09 45 17.0
KHC MLR MLR
comp=Z,800nm,17.8s
KHC Kasperske Hory 82.18 329 eP P 09 45 06.1 +0.1
comp=Z,29nm,1.0s
KHC Kasperske Hory 82.18 329⇑iP P 09 45 06.1 +0.1
KHC epP pP 09 45 17.0 +1.5
KHC AMS AMS 10 24 00.0
comp=Z,800nm,17.8s
U22A Llaves 82.21 50 ⇑P P 09 45 06.6 -0.1
baz=82,SNR=7.6
PKSM Moragy 82.22 324 ⇑P P 09 45 05.6 -0.6
ROTZ Rotzenmuhle 82.23 330 eP P 09 45 06.5 +0.2
comp=Z,28nm,1.3s
T23A Casias Ranch, 82.26 49 ⇓P P 09 45 07.0 0.0
baz=82,SNR=6.9
Y19A Nutrioso 82.33 53 ⇓P P 09 45 07.0 -0.4
baz=82
S24A Houchin Ranch, 82.34 48 ⇑P P 09 45 07.5 0.0
baz=82,SNR=6.3
GEC2 GERESS Array S 82.35 329 eP P 09 45 06.7 -0.3
comp=Z,15nm,1.1s
GEC2 GERESS Array S 82.35 329 eP P 09 45 06.7 -0.3
GEC2 pmax pmax
comp=Z,15nm,1.1s
GERES GERESS Array B 82.35 329 P P 09 45 06.7 -0.3
GERES PKKPbc PKKPbc 10 03 33.0 -0.1
GERES GERESS Array B 82.35 329 P P 09 45 06.7 -0.3
comp=Z,7.5nm,0.8s,baz=35,slow=4.9,SNR=24
GERES PKKPbc PKKPbc 10 03 33.0 -0.1
comp=Z,0.9nm,0.6s,baz=202,slow=10,SNR=3.4
GERES LR LR 10 24 40.5
comp=Z,580nm,19.7s,baz=17,slow=38
TUC Tucson 82.42 55 eP P 09 45 07.2 -0.5
TUC pmax pmax
comp=Z,16nm,1.6s
TUC Tucson 82.42 55 eP P 09 45 07.2 -0.5
comp=Z,16nm,1.6s
X20A Quemado 82.42 52 ⇑P P 09 45 08.2 +0.4
baz=82,SNR=10
Q26A Hugo 82.45 46 ⇓P P 09 45 07.5 -0.3
baz=82
WET Wettzell 82.45 329 eP P 09 45 07.5 0.0
comp=Z,20nm,1.2s
WET Wettzell 82.45 329 eP P 09 45 07.5 0.0
WET pmax pmax
comp=Z,20nm,1.2s
V22A San Miguel Ran 82.49 50 ⇓P P 09 45 08.0 -0.1
baz=82
R25A Fountain Ranch 82.54 47 ⇑P P 09 45 07.5 -0.8
baz=82,SNR=6.2
RHK3 Tenkes 82.64 324 ⇑P P 09 45 07.3 -1.2
U23A El Rito 82.64 49 ⇑P P 09 45 09.2 +0.2
baz=82,SNR=40

GRF Grafenberg Arr 82.67 330 eP P 09 45 09.0 +0.4
comp=Z,42nm,1.0s
GRF eL L 10 25 01.1
comp=Z,568nm,19.1s
GRF Grafenberg Arr 82.67 330 eP P 09 45 09.0 +0.4
GRF pmax pmax
comp=Z,42nm,1.0s
GRF MLR MLR
comp=Z,600nm,19.1s
GRFO Grafenberg 82.68 330 eP P 09 45 09.2 +0.6
GRFO pmax pmax
comp=Z,30nm,1.0s
GRFO Grafenberg 82.68 330 eP P 09 45 09.2 +0.6
comp=Z,30nm,1.0s
BUG Bochum--Univer 82.72 334 eP P 09 45 08.3 -0.4
comp=Z,27nm,1.1s
ECSD EROS Data Cent 82.72 39 eP P 09 45 07.9 -1.1
comp=Z,14nm,0.9s
ECSD e 09 45 18.5
T24A Torres, Weston 82.82 48 ⇑P P 09 45 10.3 +0.3
baz=83,SNR=9.4
ARSA Arzberg 82.82 327 iP P 09 45 09.5 +0.1
ARSA Arzberg 82.82 327 iP P 09 45 09.5 +0.1
SNR=8.5
MOA Molln 82.90 328⇑iP P 09 45 09.9 +0.1
comp=Z,18nm,1.2s
MOA Molln 82.90 328⇑iP P 09 45 09.9 +0.1
comp=Z,18nm,1.2s
Y20A Horse Springs, 82.91 52 ⇓P P 09 45 10.6 +0.2
baz=83,SNR=20
R26A Arlington 82.92 46 ⇓P P 09 45 09.3 -1.0
baz=83,SNR=7.9
X21A Alamocita Cree 82.92 52 ⇓P P 09 45 10.4 -0.1
baz=83,SNR=12
V23A Ortiz Mt. (NFS 83.04 50 ⇓P P 09 45 11.7 +0.7
baz=83,SNR=14
U24A Moreno Valley 83.14 49 ⇓P P 09 45 11.8 +0.2
baz=83,SNR=7.1
T25A Trinidad 83.15 48 ⇓P P 09 45 11.2 -0.4
baz=83,SNR=9.1
NVR Nevrokopi 83.19 318 P P 09 45 11.5 0.0
NVR Nevrokopi 83.19 318 P P 09 45 11.5 0.0
Y21A Point of Rocks 83.28 52 ⇓P P 09 45 12.5 +0.1
baz=83,SNR=11
TNS Taunus Mts 83.30 332 eP P 09 45 11.4 -0.5
comp=Z,19nm,1.2s
TNS Taunus Mts 83.30 332 eP P 09 45 11.4 -0.5
TNS pmax pmax
comp=Z,19nm,1.2s
R27A Eads 83.30 46 ⇑P P 09 45 11.3 -0.9
baz=83
Z20A Nine Sixteen R 83.30 53 ⇑P P 09 45 12.3 -0.1
baz=83,SNR=22
LAZ Ladron 83.35 51 eP P 09 45 12.9 +0.2
comp=Z,9.1nm,1.3s
LAZ e 09 45 23.6
ANMO Albuquerque 83.40 50 eP P 09 45 12.9 0.0
comp=Z,13nm,1.1s
ANMO e 09 45 23.5
GROS Grobnik 83.44 326 iP P 09 45 12.2 -0.5
W23A Werner Place, 83.45 50 ⇓P P 09 45 13.4 +0.2
baz=83,SNR=10
SOKA Soboth 83.48 327⇑iP P 09 45 12.7 -0.2
comp=Z,36nm,1.2s
SOKA Soboth 83.48 327⇑iP P 09 45 12.7 -0.2
comp=Z,36nm,1.2s
RJOB Jochberg 83.60 328 eP P 09 45 13.6 +0.1
comp=Z,32nm,1.0s
V24A Rampart Ranch, 83.60 49 ⇑P P 09 45 14.3 +0.3
baz=83,SNR=20
T26A Comanche Natio 83.61 47 ⇓P P 09 45 12.9 -0.9
baz=83,SNR=9.4
BGNE Belgrade 83.63 41 ⇓P P 09 45 12.5 -1.2
baz=83,SNR=5.8
120A U Bar Ranch, L 83.64 53 ⇓P P 09 45 14.0 -0.1
baz=83,SNR=8.4
U25A Circle Dot Ran 83.66 48 ⇓P P 09 45 13.8 -0.3
baz=83,SNR=8.2
Z21A St. Cloud Mine 83.75 52 ⇑P P 09 45 14.6 -0.1
baz=84,SNR=17
Y22A Socorro 83.77 52 ⇓P P 09 45 14.5 -0.2
baz=84,SNR=9.5
BEBN Eben Emael 83.81 334 P P 09 45 14.0 -0.4
PMOR Pomariorio Ree 83.83 114 eT T 11 17 20.2
comp=Z,17nm,0.2s
KNT Kendrikon 83.83 319 P P 09 45 15.3 +0.6
KNT Kendrikon 83.83 319 P P 09 45 15.3 +0.6
KNT Kendrikon 83.83 319 P P 09 45 15.3 +0.6
BNM Barren Site 83.84 51 eP P 09 45 15.2 0.0
comp=Z,8.3nm,1.1s
BNM e 09 45 25.4
MEM Membach 83.85 334 P P 09 45 14.3 -0.3
W24A Lazy 6 Ranch, 83.87 50 ⇑P P 09 45 15.7 +0.4
baz=84,SNR=20
FUR Furstenfeldbru 83.88 330 eP P 09 45 14.9 +0.1
comp=Z,283nm,2.4s
FUR Furstenfeldbru 83.88 330 eP P 09 45 14.9 +0.1
FUR pmax pmax
comp=Z,283nm,2.4s
VAY Valandovo 83.89 319 iP P 09 45 14.6 -0.4
KBA Koelnbreinsper 83.89 328⇑iP P 09 45 14.5 -0.6
KBA pmax pmax
comp=Z,19nm,1.1s
KBA Koelnbreinsper 83.89 328⇑iP P 09 45 14.5 -0.6
comp=Z,19nm,1.1s
KBA Koelnbreinsper 83.89 328⇑iP P 09 45 14.5 -0.6
comp=Z,19nm,1.1s,SNR=8.0
V25A Rancho No Teng 83.92 49 ⇑P P 09 45 15.4 -0.1
baz=84,SNR=14
SKO Skopje 84.00 320 iP P 09 45 16.7 +1.2
U26A Atchley Ranch, 84.05 48 ⇑P P 09 45 15.4 -0.8
baz=84,SNR=8.8
PLG Polygyros 84.11 318 P P 09 45 15.9 -0.3
PLG Polygyros 84.11 318 P P 09 45 15.9 -0.3
PLG Polygyros 84.11 318 P P 09 45 15.9 -0.3
MYKA Terra Mystica 84.11 327⇓iP P 09 45 15.0 -1.1
comp=Z,10.0nm,1.0s
MYKA Terra Mystica 84.11 327⇓iP P 09 45 15.0 -1.1
comp=Z,10.0nm,1.0s
220A Playas Peak, P 84.13 54 ⇑P P 09 45 16.2 -0.4
baz=84,SNR=15
121A Cookes Peak, D 84.19 53 ⇑P P 09 45 16.8 -0.1
baz=84,SNR=17
LJU Ljubljana 84.19 326 eP P 09 45 15.5 -0.9
STU Stuttgart 84.20 331 eP P 09 45 16.2 -0.2
comp=Z,46nm,1.3s
STU Stuttgart 84.20 331 eP P 09 45 16.6 +0.2
STU pmax pmax
comp=Z,26nm,1.0s
STU Stuttgart 84.20 331 eP P 09 45 16.6 +0.2
comp=Z,26nm,1.0s
Z22A Elephant Butte 84.22 52 ⇑P P 09 45 16.7 -0.4
baz=84,SNR=16
SCHQ Schefferville 84.25 16 eP P 09 45 16.1 -0.5
comp=Z,22nm,1.0s
SCHQ Schefferville 84.25 16 P P 09 45 16.4 -0.2
comp=Z,13nm,0.9s,baz=1.4,slow=5.4,SNR=20
SCHQ LR LR 10 23 57.5
comp=Z,158nm,18.3s,baz=6.1,slow=36
BCLA Clavier 84.26 334 P P 09 45 16.5 -0.1
X24A Lazy VL Ranch, 84.29 50 ⇓P P 09 45 17.5 0.0
baz=84,SNR=12
Y23A Lovelace Mesa, 84.33 51 ⇑P P 09 45 17.3 -0.4
baz=84
PPT2 Papeete2 84.36 117 eLR LR 10 11 45.6
comp=Z,427nm,24.5s
PPT2 eT T 11 17 56.9
comp=Z,4.4nm,0.3s
W25A X Bar L Ranch, 84.43 49 ⇑P P 09 45 18.1 0.0
baz=84,SNR=24
V26A Tequesquite Ra 84.44 48 ⇑P P 09 45 17.6 -0.5
baz=84
WTTA Wattenberg 84.45 329⇑iP P 09 45 17.7 -0.3
WTTA pmax pmax
comp=Z,11nm,0.9s
WTTA Wattenberg 84.45 329⇑iP P 09 45 17.7 -0.3
comp=Z,11nm,0.9s
WTTA Wattenberg 84.45 329⇑iP P 09 45 17.7 -0.3
comp=Z,11nm,0.9s
ABTA Abfaltersbach 84.50 328⇓iP P 09 45 17.3 -0.8
comp=Z,12nm,1.1s
ABTA Abfaltersbach 84.50 328⇓iP P 09 45 17.3 -0.8
comp=Z,12nm,1.1s
320A Kipp Ranch, An 84.51 54 ⇑P P 09 45 18.1 -0.4
baz=84,SNR=6.9
SNF Seneffe 84.53 335 P P 09 45 17.6 -0.4
comp=Z,54nm,3.7s

221A Mesquite Ranch 84.54 53 ⇓P P 09 45 18.3 -0.3
baz=84
122A Conniff Cattle 84.57 52 ⇓P P 09 45 18.8 -0.1
baz=84,SNR=8.0
WLF Walferdange 84.59 333 P P 09 45 17.9 -0.4
comp=Z,26nm,2.5s
MOTA Moosalm 84.60 329⇓iP P 09 45 18.3 -0.5
MOTA pmax pmax
comp=Z,15nm,0.9s
MOTA Moosalm 84.60 329⇓iP P 09 45 18.2 -0.5
comp=Z,15nm,0.9s
MOTA Moosalm 84.60 329⇓iP P 09 45 18.2 -0.5
comp=Z,15nm,0.9s
RETA Reutte 84.63 329⇓iP P 09 45 18.8 +0.1
comp=Z,40nm,1.2s
RETA Reutte 84.63 329⇓iPcP P 09 45 18.8 +0.1
comp=Z,40nm,1.2s
CBKS Cedar Bluff 84.64 44 eP P 09 45 17.8 -1.1
CBKS pmax pmax
comp=Z,12nm,0.9s
CBKS Cedar Bluff 84.64 44 eP P 09 45 17.8 -1.1
comp=Z,12nm,0.9s
CBKS Cedar Bluff 84.64 44 ⇓P P 09 45 17.4 -1.5
baz=84
Z23A Rita Site, Whi 84.68 52 ⇓P P 09 45 18.8 -0.5
baz=84,SNR=5.2
GIVF Givet 84.69 334⇑iP P 09 45 18.2 -0.7
comp=Z,81nm,1.4s
NIS1 Nisyros Isl. 84.70 313 P P 09 45 18.4 -0.8
NIS1 Nisyros Isl. 84.70 313 P P 09 45 18.4 -0.8
Y24A Capitan 84.72 51 ⇓P P 09 45 19.2 -0.4
baz=84,SNR=5.6
DOU Dourbes 84.77 334 P P 09 45 18.9 -0.4
X25A Clemmons Ranch 84.78 50 ⇓P P 09 45 19.8 -0.1
baz=85
BFO Black Forest 84.89 331 eP P 09 45 19.7 -0.3
comp=Z,48nm,1.2s
BFO Black Forest 84.89 331 eP P 09 45 19.7 -0.3
BFO pmax pmax
comp=Z,48nm,1.2s
BFO Black Forest 84.89 331 eP P 09 45 19.6 -0.3
comp=Z,34nm,1.0s
BFO Black Forest 84.89 331 P P 09 45 19.8 -0.3
comp=Z,177nm,0.9s,SNR=9.0
FNA Florina 84.90 319 P P 09 45 19.2 -1.0
FNA Florina 84.90 319 P P 09 45 19.2 -1.0
FNA Florina 84.90 319 P P 09 45 19.2 -1.0
222A Williams Famil 84.91 53 ⇑P P 09 45 20.1 -0.4
baz=85,SNR=9.3
W26A Owens Ranch, T 84.93 49 ⇓P P 09 45 20.6 +0.1
baz=85
BAIF Baives 84.94 334 eP P 09 45 19.5 -0.6
comp=Z,30nm,1.0s
XOR Xorichti 84.97 317 P P 09 45 19.6 -0.9
XOR Xorichti 84.97 317 P P 09 45 19.6 -0.9
FETA Feichten 85.02 329⇓iP P 09 45 20.4 -0.4
comp=Z,20nm,1.1s
FETA Feichten 85.02 329⇓iP P 09 45 20.4 -0.4
comp=Z,20nm,1.1s,SNR=13
Z24A Sheeppen Canyo 85.17 51 ⇓P P 09 45 21.5 -0.3
baz=85
CDF Champ du Feu 85.22 332⇑iP P 09 45 21.2 -0.5
comp=Z,68nm,1.1s
DLF Lyons Farm 85.23 342 eP P 09 45 21.9 +0.4
X26A CR and CF Fran 85.28 49 ⇓P P 09 45 21.9 -0.4
baz=85,SNR=7.2
NEST Nestorio 85.34 319 P P 09 45 22.4 0.0
W27A Bowe Ranch, En 85.37 48 ⇓P P 09 45 22.6 -0.2
baz=85
ECH Echery 85.43 332 eP P 09 45 22.0 -0.7
ECH pmax pmax
comp=Z,16nm,1.0s
ECH Echery 85.43 332 eP P 09 45 22.0 -0.7
comp=Z,16nm,1.0s
ECH Echery 85.43 332 eP P 09 45 22.1 -0.7
FUORN Ofenpass-Fuorn 85.53 329 eP P 09 45 23.4 0.0
comp=Z,41nm,0.9s
ATAL Atalanti 85.55 317 P P 09 45 22.3 -1.1
ATAL Atalanti 85.55 317 P P 09 45 22.3 -1.1
DAVOX Davos/Dischmat 85.55 329 LR LR 10 27 07.4
comp=Z,784nm,19.0s,baz=82,slow=38
Z25A Roswell 85.60 51 ⇓P P 09 45 23.7 -0.2
baz=85,SNR=10
MEH Mehetia 85.61 117 eT T 11 19 31.2
comp=Z,67nm,0.3s
X27A F and S Farms, 85.64 49 ⇓P P 09 45 23.9 -0.2
baz=85,SNR=11
MOF Molkenrain 85.74 332 eP P 09 45 23.9 -0.4
HINF Hinteralfeld 85.88 332 eP P 09 45 23.9 -1.0
comp=Z,51nm,1.3s
HAU Haudompre 85.91 332⇑iP P 09 45 24.2 -0.8
comp=Z,26nm,0.9s
HAU eR
comp=Z,427nm,20.8s
224A Cornudas Mount 85.92 52 ⇑P P 09 45 25.0 -0.6
baz=86,SNR=13
TUE Stuetta 86.02 330 eP P 09 45 24.9 -0.9
comp=Z,32nm,1.4s
Z26A Caprock 86.05 50 ⇓P P 09 45 25.4 -0.8
baz=86,SNR=12
125A Gardner Draw, 86.06 51 ⇑P P 09 45 25.6 -0.6
baz=86,SNR=13
KSU1 Kansas State U 86.11 42 eP P 09 45 24.9 -1.3
comp=Z,17nm,0.8s
Y27A Causey 86.12 49 ⇑P P 09 45 26.0 -0.5
baz=86
SFTF Sexfontaines 86.22 333⇑iP P 09 45 26.0 -0.5
comp=Z,96nm,1.1s
MNTX Cornudas Mount 86.26 52 eP P 09 45 26.3 -0.7
comp=Z,6.2nm,1.1s
MNTX e 09 45 37.0
MNTX Cornudas Mount 86.26 52 ⇑P P 09 45 26.4 -0.7
baz=86,SNR=9.3
X28A Dimmitt 86.26 48 ⇓P P 09 45 26.5 -0.6
baz=86
CPRX Cap Rock 86.29 50 eP P 09 45 26.5 -0.9
comp=Z,5.7nm,0.8s
MSTX Muleshoe 86.30 49 ⇓P P 09 45 26.6 -0.8
baz=86
AMTX Amarillo 86.31 48 eP P 09 45 26.7 -0.7
comp=Z,23nm,0.9s
AMTX e 09 45 37.3
AMTX Amarillo 86.31 48 ⇓P P 09 45 27.0 -0.3
baz=86,SNR=12
324A Moseley Ranch, 86.37 53 ⇓P P 09 45 26.8 -1.0
baz=86,SNR=6.3
Z27A Tatum 86.49 50 ⇑P P 09 45 27.4 -0.9
baz=86
GDL2 Guadalupe Moun 86.55 51 eP P 09 45 27.6 -1.1
GDL2 e 09 45 38.8
X29A Tulia 86.60 48 ⇑P P 09 45 28.4 -0.5
baz=86
Y28A McKinney Farm, 86.65 49 ⇑P P 09 45 28.1 -1.0
baz=86
325A Bean Ranch, Si 86.74 52 ⇑P P 09 45 28.9 -0.7
baz=86,SNR=6.4
226A Malaga, Loving 86.81 51 ⇑P P 09 45 29.4 -0.5
baz=87,SNR=5.2
IDI Anoyia 86.94 313 eP P 09 45 28.9 -1.6
comp=Z,38nm,1.2s
425A Indio Mountain 87.13 53 ⇑P P 09 45 31.1 -0.4
baz=87,SNR=8.1
CABF La Chapelle 87.17 332 eP P 09 45 30.6 -0.8
Z29A Hungry Hill Ra 87.43 49 ⇑P P 09 45 32.3 -0.6
baz=87
LOR Lormes 87.43 333⇑iP P 09 45 31.9 -0.6
comp=Z,59nm,1.1s
LOR eR
comp=Z,252nm,20.0s
FLN La Foliniere 87.60 336 eP P 09 45 32.6 -0.6
comp=Z,115nm,1.3s
LDF La Druitiere 87.63 336⇑iP P 09 45 32.8 -0.6
comp=Z,38nm,1.0s
SSF Saint Saulge 87.74 333⇑iP P 09 45 33.4 -0.5
comp=Z,27nm,1.0s
LPL La Plagne 87.84 331 eP P 09 45 34.3 -0.5
comp=Z,22nm,0.9s
LPG La Plagne 87.85 331 eP P 09 45 34.6 -0.3
comp=Z,15nm,0.8s
HYF Humbligny 87.86 334 eP P 09 45 34.4 -0.2
AVF Avril sur Loir 88.02 333 eP P 09 45 34.9 -0.4
comp=Z,87nm,1.1s
GRR Gorron 88.05 336⇑iP P 09 45 35.1 -0.3
comp=Z,83nm,1.1s
328A Wristen Ranch, 88.07 51 ⇓P P 09 45 35.2 -0.7
baz=88
427A Hayter Ranch, 88.07 52 ⇑P P 09 45 35.3 -0.6

baz=88
WMOK Wichita Mounta 88.09 46 *e*P **P** 09 45 35.4 -0.5
WMOK *e* 09 45 45.9
WMOK pmax pmax
comp=Z,8.0nm,0.9s
WMOK Wichita Mounta 88.09 46 *e*P **P** 09 45 35.4 -0.5
comp=Z,8.2nm,0.9s
WMOK *e* 09 45 45.9
526A Mary Lane Ranc 88.19 53 ⇓P **P** 09 45 35.9 -0.7
baz=88,SNR=8.2
TBI Tubuai 88.32 121 *e*LR LR 10 13 24.3
comp=Z,288nm,22.8s
TBI *e*T T 11 22 49.3
comp=Z,45nm,0.3s
626A Big Bend Ranch 88.51 53 ⇓P **P** 09 45 37.1 -0.9
baz=88
428A Kincaid Ranch, 88.60 51 ⇑P **P** 09 45 38.2 -0.3
baz=88,SNR=6.4
ORIF Oris-en-Rattie 88.67 331 *e*P **P** 09 45 37.5 -1.0
comp=Z,63nm,1.6s
ORIF *e*R
comp=Z,424nm,21.5s
HDIL Hopedale 88.68 37 *e*P **P** 09 45 38.2 -0.4
comp=Z,30nm,1.0s
HDIL *e* 09 45 48.8
SGMF Saint Gilles 88.69 337 *e*P **P** 09 45 38.1 -0.3
comp=Z,26nm,0.9s
ROSF Rostrenen 88.83 338 *e*P **P** 09 45 38.7 -0.4
TCF Toulx Ste Croi 88.86 334 *e*P **P** 09 45 39.1 -0.2
TUL1 Tulsa 88.90 44 ⇓P **P** 09 45 38.9 -0.8
baz=89
528A Cox Ranch, San 88.93 52 ⇑P **P** 09 45 39.8 -0.3
baz=89,SNR=5.6
SBF Sospel 88.93 329 *e*P **P** 09 45 38.4 -1.4
TXAR Lajitas Array 88.95 53 P **P** 09 45 39.4 -0.8
TXAR PKKPbc **PKKPbc** 10 03 18.6 +1.3
TXAR Lajitas Array 88.95 53 P **P** 09 45 39.4 -0.8
comp=Z,3.4nm,0.8s,baz=297,slow=3.3,SNR=43
TXAR PKKPbc **PKKPbc** 10 03 18.6 +1.3
comp=Z,0.3nm,0.7s,baz=155,slow=6.6,SNR=4.6
TXAR LR LR 10 18 32.8
comp=Z,119nm,21.8s,baz=5.0,slow=31
627A Terlingua Ranc 89.05 53 ⇓P **P** 09 45 39.9 -0.8
baz=89
QUIF Quistinic 89.18 338 *e*P **P** 09 45 39.7 -1.0
VIVF Saint-Julien-l 89.18 331 *e*P **P** 09 45 40.5 -0.4
628A Black Gap, Mar 89.34 52 ⇑P **P** 09 45 41.1 -0.8
baz=89
PGF Pioggiola 89.37 328 *e*P **P** 09 45 42.0 +0.1
comp=Z,89nm,1.3s
MFF Saint Martin d 89.39 335 ⇑*i*P **P** 09 45 41.6 -0.1
comp=Z,85nm,1.2s
SADO Sadowa 89.53 28 P **P** 09 45 41.3 -1.1
SADO Sadowa 89.53 28 P **P** 09 45 41.3 -1.1
comp=Z,12nm,1.0s,baz=339,slow=5.0,SNR=3.1
SLM Saint Louis 89.72 38 *e*P **P** 09 45 43.2 -0.3
SLM pmax pmax
comp=Z,11nm,0.7s
SLM Saint Louis 89.72 38 *e*P **P** 09 45 43.2 -0.3
comp=Z,11nm,0.7s
LMR La Mourre 89.75 329 *e*P **P** 09 45 42.7 -0.8
AAM Ann Arbor 89.80 32 *e*P **P** 09 45 43.7 0.0
AAM pmax pmax
comp=Z,24nm,1.0s
AAM Ann Arbor 89.80 32 *e*P **P** 09 45 43.7 0.0
comp=Z,24nm,1.0s
SFIN Scholer Farm 89.84 36 ⇓P **P** 09 45 42.9 -1.1
baz=90
RJF Les Rejaudoux 89.95 334 ⇑*i*P **P** 09 45 44.3 -0.1
comp=Z,20nm,0.9s
RJF *e*R
comp=Z,326nm,17.2s
CAF Calviac 90.08 333 ⇑*i*P **P** 09 45 45.2 +0.1
comp=Z,30nm,1.0s
FVM French Village 90.13 39 *e*P **P** 09 45 45.1 -0.3
FVM pmax pmax
comp=Z,17nm,1.1s
FVM French Village 90.13 39 *e*P **P** 09 45 45.1 -0.3
comp=Z,17nm,1.1s
JCT Junction City 90.54 50 *e*P **P** 09 45 46.6 -0.9
JCT *e* 09 45 56.6
JCT pmax pmax
comp=Z,7.0nm,0.8s
JCT Junction City 90.54 50 *e*P **P** 09 45 46.6 -0.9
comp=Z,7.5nm,0.8s
JCT *e* 09 45 56.5
JCT Junction City 90.54 50 ⇓P **P** 09 45 46.4 -1.1
baz=90
LFF La Frestale 90.54 334 *e*P **P** 09 45 47.1 0.0
comp=Z,107nm,1.3s
OLIL Olney 90.68 37 *e*P **P** 09 45 47.7 -0.2
comp=Z,27nm,1.0s
MIAR Mount Ida 91.13 43 *e*P **P** 09 45 49.6 -0.5
MIAR *e* 09 46 00.1
MIAR pmax pmax
comp=Z,19nm,0.9s
MIAR Mount Ida 91.13 43 *e*P **P** 09 45 49.6 -0.5
comp=Z,19nm,0.9s
MIAR *e* 09 46 00.1
ERPA Erie 91.46 30 *e*P **P** 09 45 51.7 +0.2
comp=Z,31nm,1.2s
ACSO Alum Creek Sta 91.79 33 *e*P **P** 09 45 52.6 -0.4
comp=Z,17nm,1.0s
ETSF Etsaut 92.78 334 *e*P **P** 09 45 56.7 -1.0
OXF Oxford 93.35 41 *e*P **P** 09 45 59.4 -0.9
OXF pmax pmax
comp=Z,17nm,1.0s
OXF Oxford 93.35 41 *e*P **P** 09 45 59.4 -0.9
comp=Z,17nm,1.0s
SWET Sewanee 94.53 38 *e*P **P** 09 46 04.6 -1.2
comp=Z,8.8nm,1.1s
SWET *e* 09 46 15.3
KEST Kesra 94.77 323 P **P** 09 46 04.9 -2.1
KEST Kesra 94.77 323 P **P** 09 46 04.9 -2.1
comp=Z,2.2nm,0.9s,baz=47,slow=8.7,SNR=3.0
KEST LR LR 10 33 55.2
comp=Z,349nm,18.3s,baz=334,slow=39
TKL Tuckaleechee C 95.20 36 P **P** 09 46 08.0 -0.9
TKL Tuckaleechee C 95.20 36 P **P** 09 46 08.0 -0.9
ESDC Sonseca Array 96.82 334 P **P** 09 46 15.3 -0.9
ESDC PP **PP** 09 50 13.4 +3.1
ESDC Sonseca Array 96.82 334 P **P** 09 46 15.3 -0.9
comp=Z,2.1nm,1.0s,baz=1.7,slow=4.1,SNR=4.4
ESDC PP **PP** 09 50 13.4 +3.1
comp=Z,2.6nm,1.0s,baz=25,slow=7.8,SNR=4.6
ESDC LR LR 10 35 09.4
comp=Z,384nm,18.6s,baz=40,slow=39
RKT Rikitea 98.38 113 *e*SP SP 09 59 10.1 -4.1
comp=Z,116nm,36.5s
RKT *e*LR LR 10 18 18.8
comp=Z,349nm,23.8s
EVO Evora 99.17 337 ⇑*i*P **Pdif** 09 46 30.6 +3.9
comp=Z,243nm,1.6s
EVO *e*R
comp=Z,532nm,20.8s
TORD Torodi Ar. Bea 117.24 316 PKP **PKPdf** 09 51 29.0 -2.0
TORD PP PP 09 52 32.0 -8.8
TORD PKKPbc **PKKPbc** 10 01 54.8 +1.2
TORD Torodi Ar. Bea 117.24 316 PKP **PKPdf** 09 51 29.0 -2.0
comp=Z,2.2nm,1.0s,baz=348,slow=2.6,SNR=8.1
TORD PP PP 09 52 32.0 -8.8
comp=Z,1.5nm,0.9s,baz=26,slow=7.7,SNR=3.8
TORD PKKPbc **PKKPbc** 10 01 54.8 +1.2
comp=Z,0.8nm,0.9s,baz=237,slow=2.1,SNR=3.2
SDV Santo Domingo 124.13 41 *e*PKPdf **PKPdf** 09 51 43.5 -1.0
LBTB Lobatse 125.51 264 *e*PKPdf **PKPdf** 09 51 46.2 -0.4
LBTB *e* 09 51 56.5
DBIC Dimbokro 126.15 318 PKP **PKPdf** 09 51 47.0 -1.1
DBIC Dimbokro 126.15 318 PKP **PKPdf** 09 51 47.0 -1.1
comp=Z,8.4nm,1.0s,baz=17,slow=5.1,SNR=5.5
OTAV Otavalo 126.56 55 *e*PKPdf **PKPdf** 09 51 49.6 +0.1
LIC Lamto 126.62 318 *e*PKIKP **PKPdf** 09 51 47.5 -1.5
LIC *e*R
comp=Z,66nm,1.4s
comp=Z,352nm,20.0s
BOSA Boshof 127.50 260 *e*PKPdf **PKPdf** 09 51 49.4 -0.9
BOSA Boshof 127.50 260 PKP **PKPdf** 09 51 49.5 -0.9
comp=Z,4.6nm,1.0s,baz=121,slow=3.2,SNR=4.8
SAML Samuel 143.06 45 *e*PKPdf PKPab 09 52 14.4 -0.4
LPAZ La Paz 145.56 60 *e*PKPdf **PKPdf** 09 52 23.4 -1.2
LCO Las Campanas 151.11 82 *e*PKPbc **PKPbc** 09 52 38.0 -0.8
PLCA Paso Flores 154.45 107 *e*PKPdf **PKPdf** 09 52 36.6 -0.5
PLCA PKPab **PKPab** 09 52 59.4 -0.6
PLCA Paso Flores 154.45 107 PKPab **PKPab** 09 52 59.4 -0.6
comp=Z,9.3nm,1.0s,baz=250,slow=5.5,SNR=12
BDFB Brasilia 155.96 25 PKPab **PKPab** 09 53 06.1 -0.8

BDFB Brasilia 155.96 25 PKPab **PKPab** 09 53 06.1 -0.8
comp=Z,4.6nm,0.9s,baz=27,slow=2.7,SNR=4.5

*ISCJB **01** 09:34:55.2±0.5, 23°.37N±0°.02×122°.00E±0°.02, h23km±3km, Error ellipse: s-maj=4.1km s-min=2.6km az=43.7*
*TAP **01** 09:34:55.4, 23°.37N×122°.03E, h27km, ML3.2, D*
*JMA **01** 09:34:56.2±0.3, 23°.36N×122°.13E, h14km, M2.6*
ISC 01 09:34:55.4±1.2, 23°.37N±0°.03×121°.96E±0°.03, h24km±13km, **n39,σ0°62/74, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
EHY	**Hungye**	**0.60**	**283**	*i* P		**Pn**		**09 35 08.0**	**-0.5**
	baz=281								
EHY				*i* S		**Sn**		09 35 17.1	-0.5
	baz=281								
CHKT	**Chengkung**	**0.61**	**244**	P		**Pb**		**09 35 07.7**	**+0.2**
	baz=246								
CHKT				*e*S		**Sb**		09 35 15.5	-0.1
	baz=246								
TWF1	**Yuli**	**0.61**	**269**	*i* P		**Pn**		**09 35 08.2**	**-0.4**
	baz=268								
TWF1				*i* S		**Sn**		09 35 17.8	0.0
	baz=268								
ESL	**Shilin**	**0.66**	**312**	P		**Pb**		**09 35 08.4**	**+0.2**
	baz=309								
ESL				*e*S		**Sb**		09 35 17.0	0.0
	baz=309								
HWA	**Hwalien**	**0.69**	**332**	*e*P		**Pb**		**09 35 08.5**	**-0.3**
	baz=327								
HWA				S		**Sn**		09 35 19.1	-0.6
	baz=327								
TWD	**Chiawan**	**0.78**	**335**	P		**Pb**		**09 35 10.5**	**+0.1**
	baz=331								
TWD				*e*S		**Sb**		09 35 19.8	-0.7
	baz=331								
ELDTW	**Lidau**	**0.89**	**259**	P		**Pb**		**09 35 12.0**	**-0.2**
	baz=258								
ELDTW				*e*S		**Sb**		09 35 22.7	-1.0
	baz=258								
TTN	**Taitung**	**0.97**	**231**	P		**Pn**		**09 35 13.6**	**+0.1**
	baz=232								
TTN				S		**Sn**		09 35 27.5	+1.0
	baz=232								
TWG	**Pinlang**	**0.98**	**237**	*e*P		**Pb**		**09 35 13.6**	**-0.2**
	baz=237								
TWG				*e*S		**Sb**		09 35 25.7	-0.6
	baz=237								
WHF	**Hehuan Shan**	**1.00**	**321**	*i* P		**Pn**		**09 35 14.1**	**-0.3**
	baz=317								
WHF				S		**Sb**		09 35 26.4	-0.9
	baz=317								
ENA	**Nanau**	**1.07**	**349**	*e*P		**Pn**		**09 35 15.1**	**+0.1**
	baz=346								
ENA				*e*S		**Sb**		09 35 28.7	-0.2
	baz=346								
SMLT	**Sun Moon Lake**	**1.10**	**298**	*e*P		**Pb**		**09 35 16.0**	**+0.2**
	baz=296								
SMLT				*e*S		**Sn**		09 35 30.4	+0.4
	baz=296								
STYT	**Tauyuan**	**1.13**	**260**	*e*P		**Pb**		**09 35 16.2**	**-0.1**
	baz=259								
STYT				*e*S		**Sb**		09 35 30.5	0.0
	baz=259								
TWT	**Tachien**	**1.14**	**321**	*e*P		**Pb**		**09 35 16.7**	**+0.2**
	baz=317								
TWT				*e*S		**Sb**		09 35 30.3	-0.6
	baz=317								
TYC	**Yuchr**	**1.15**	**298**	*e*P		**Pb**		**09 35 16.7**	**+0.2**
	baz=296								
TYC				*e*S		**Sn**		09 35 31.9	+1.0
	baz=296								
NNS	**Nan Shan**	**1.20**	**333**	*e*P		**Pn**		**09 35 16.5**	**-0.3**
	baz=330								
NNS				*e*S		**Sn**		09 35 32.0	-0.3
	baz=330								
CHN5	**Tsauling**	**1.20**	**281**	P		**Pb**		**09 35 18.3**	**+0.8**
	baz=280								
CHN5				*e*S		**Sb**		09 35 34.0	+1.3
	baz=280								
ECL	**Taimali**	**1.21**	**231**	*e*P		**Pn**		**09 35 16.9**	**+0.2**
	baz=232								
ECL				*e*S		**Sn**		09 35 30.1	-2.3
	baz=232								
TWC	**Suao**	**1.24**	**355**	*e*P		**Pn**		**09 35 17.5**	**+0.2**
	baz=352								
TWC				*e*S		**Sb**		09 35 33.5	-0.1
	baz=352								
WTP	**Ta-pu**	**1.25**	**265**	*e*P		**Pb**		**09 35 18.9**	**+0.6**
	baz=264								
WTP				*e*S		**Sb**		09 35 34.0	+0.1
	baz=264								
CHN4	**Tsaushan**	**1.26**	**269**	P		**Pb**		**09 35 19.2**	**+0.7**
	baz=269								
CHN4				*e*S		**Sb**		09 35 35.8	+1.6
	baz=269								
SGST	**Jiashian**	**1.30**	**258**	*e*P		**Pn**		**09 35 18.0**	**-0.1**
	baz=257								
SGST				*e*S		**Sb**		09 35 35.7	+0.2
	baz=257								
ENTT	**Nioudou**	**1.32**	**344**	*e*P		**Pn**		**09 35 18.3**	**0.0**
	baz=341								
ENTT				*e*S		**Sn**		09 35 35.3	+0.1
	baz=341								
CHN1	**Nanshi**	**1.33**	**262**	*e*P		**Pb**		**09 35 20.5**	**+0.8**
	baz=262								
CHN1				*e*S		**Sb**		09 35 36.6	+0.3
	baz=262								
TWK	**Hsinying**	**1.36**	**266**	*e*P		**Pb**		**09 35 20.2**	**0.0**
	baz=265								
TWK				*e*S		**Sn**		09 35 36.4	+0.1
	baz=265								
TWE	**Neicheng**	**1.37**	**349**	*e*P		**Pn**		**09 35 18.9**	**-0.2**
	baz=346								
TWE				*e*S		**Sn**		09 35 36.8	+0.3
	baz=346								
SSD	**Sandimen**	**1.37**	**243**	*e*P		**Pb**		**09 35 20.4**	**0.0**
	baz=244								
SSD				*e*S		**Sb**		09 35 37.5	-0.1
	baz=244								
LAY	**Lan-yu**	**1.38**	**196**	*e*P		**Pn**		**09 35 19.2**	**+0.1**
	baz=198								
LAY				*e*S		**Sn**		09 35 37.1	+0.5
	baz=198								
NSK	**Sanguang**	**1.41**	**337**	*e*P		**Pn**		**09 35 20.2**	**+0.5**
	baz=334								
NSK				*e*S		**Sn**		09 35 37.0	-0.7
	baz=334								
YOJ	**Yonaguni jima**	**1.45**	**41**	P		**Pn**		**09 35 20.7**	**+0.6**
YOJ				*e*S		**Sb**		09 35 38.9	-0.8
TWQ1	**Liyutan**	**1.46**	**312**	*e*P		**Pb**		**09 35 22.6**	**+0.7**
	baz=310								
TWQ1				*e*S		**Sb**		09 35 40.9	+0.8
	baz=310								
CHN3	**Shinhua**	**1.50**	**259**	*e*P		**Pb**		**09 35 21.9**	**-0.7**
	baz=259								
TWM1	**Shoushan**	**1.52**	**249**	*e*P		**Pn**		**09 35 21.1**	**-0.1**
	baz=249								
TWM1				*e*S		**Sb**		09 35 41.2	-0.6
	baz=249								
NSTT	**Nanjuang**	**1.53**	**325**	*e*P		**Pn**		**09 35 20.6**	**-0.7**
	baz=323								
NSTT				*e*S		**Sn**		09 35 40.3	-0.2
	baz=323								
HATJ	**Hateruma jima**	**1.82**	**68**	*e*S		**Sn**		**09 35 46.8**	**-0.8**
IRIF	**Iriomote-Funau**	**1.88**	**59**	P		**Pn**		**09 35 27.0**	**+0.9**
IRIF				*e*S		**Sn**		09 35 49.0	-0.1
JKRS	**Kuro-shima**	**2.06**	**65**	S		**Sn**		**09 35 53.4**	**-0.2**
JIJ	**Ishigaki jima**	**2.23**	**63**	P		**Pn**		**09 35 31.7**	**+0.9**
JIJ				*e*S		**Sn**		09 35 56.4	-1.2
JTJ	**Tarama**	**2.81**	**63**	*e*S		**Sn**		**09 36 11.9**	**0.0**

IDC 01 09:54:21.0±10.0, 6°.19S×129°.41E, h372km±134km, **mb2.5/1, mb1 2.9/3, mb1mx2.6/15, mbtmp2.7/3, Error ellipse: s-maj=103.5km s-min=49.6km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
FITZ	**Fitzroy Crossi**	**12.39**	**197**	S		S		09 59 18.2	-4.6
	0.3nm,0.3s,baz=90,slow=14,SNR=2.4								
WRA	**Warramunga Arr**	**14.48**	**161**	P		P		09 57 28.9	-0.1
	0.3nm,0.3s,baz=342,slow=12,SNR=14								
WRA				S		S		10 00 05.5	+0.8
	0.1nm,0.3s,baz=333,slow=20,SNR=2.9								

ASAR Alice Springs 17.90 166 P P 09 58 05.8 0.0
0.6nm,0.3s,baz=345,slow=12,SNR=47
MKAR Makanchi Array 67.23 327 P P 10 04 36.4 0.0
0.1nm,0.5s,baz=112,slow=7.2,SNR=2.1

*ISK **01** 09:55:36.6, 37°.27N×28°.22E, h7km, MD2.8*
*ISCJB **01** 09:55:37.0±0.5, 37°.22N±0°.04×28°.21E±0°.03, h10km±5km, Error ellipse: s-maj=6.5km s-min=4.4km az=18.6*
*CSEM **01** 09:55:37.1±0.1, 37°.23N×28°.22E, h10km, MD2.8, Error ellipse: s-maj=3.2km s-min=2.5km az=33.0*
ISC 01 09:55:37.0±0.8, 37°.24N±0°.03×28°.23E±0°.03, h12km±6km, **n22,σ0°49/38, Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
YER	**Yerkesik**	**0.12**	**157**	*e*PG		**Pg**		**09 55 39.8**	**-0.2**
YER				*e*SG		**Sg**		09 55 42.5	+0.2
YER	**Yerkesik**	**0.12**	**157**	*e*Pg		**Pg**		**09 55 39.8**	**-0.2**
YER				*e*Sg		**Sg**		09 55 42.5	+0.2
TURN	**Turunc**	**0.47**	**141**	*i* P		**Pg**		**09 55 45.6**	**-0.7**
TURN				*i* S		**Sg**		09 55 51.9	-0.7
TURN	**Turunc**	**0.47**	**141**	*i* P		**Pg**		**09 55 45.6**	**-0.7**
TURN				*i* S		**Sg**		09 55 51.9	-0.7
AYDN	**Tasoluk**	**0.50**	**327**	*i* P		**Pg**		**09 55 47.0**	**+0.1**
AYDN				*i* S		**Sb**		09 55 54.1	-1.1
AYDN	**Tasoluk**	**0.50**	**327**	*i* P		**Pg**		**09 55 47.0**	**+0.1**
AYDN				*i* S		**Sb**		09 55 54.1	-1.1
BDRM	**Kayabasi**	**0.65**	**255**	*i* P		**Pg**		**09 55 49.2**	**-0.4**
BDRM				*i* S		**Sg**		09 55 58.5	+0.4
BDRM	**Kayabasi**	**0.65**	**255**	*i* P		**Pg**		**09 55 49.2**	**-0.4**
BDRM				*i* S		**Sg**		09 55 58.5	+0.4
BODT	**Bodrum**	**0.75**	**257**	*e*PG		**Pg**		**09 55 51.4**	**-0.2**
BODT				*e*SG		**Sb**		09 56 02.8	+0.5
BODT	**Bodrum**	**0.75**	**257**	*e*Pg		**Pg**		**09 55 51.4**	**-0.2**
BODT				*e*Sg		**Sb**		09 56 02.8	+0.5
DNZL	**Cakiroluk**	**0.79**	**55**	*i* P		**Pb**		**09 55 52.6**	**-0.2**
DNZL				*i* S		**Sb**		09 56 04.3	+0.7
DNZL	**Cakiroluk**	**0.79**	**55**	*i* P		**Pb**		**09 55 52.6**	**-0.2**
DNZL				*i* S		**Sb**		09 56 04.3	+0.7
FETY	**Fethiye**	**0.91**	**131**	*e*PG		**Pb**		**09 55 55.0**	**+0.2**
FETY				*e*SG		**Sn**		09 56 08.8	0.0
FETY	**Fethiye**	**0.91**	**131**	*e*Pg		**Pb**		**09 55 55.0**	**+0.2**
FETY				*e*Sg		**Sn**		09 56 08.8	0.0
KULA	**Kula-Manisa**	**1.32**	**15**	*e*PN		**Pb**		**09 56 01.6**	**-0.1**
KULA	**Kula-Manisa**	**1.32**	**15**	*e*Pn		**Pb**		**09 56 01.6**	**-0.1**
IZM	**Izmir**	**1.39**	**327**	*e*PN		**Pb**		**09 56 02.5**	**-0.4**
IZM				*e*SN		**Sg**		09 56 21.2	-0.4
IZM	**Izmir**	**1.39**	**327**	*e*Pn		**Pb**		**09 56 02.5**	**-0.4**
IZM				*e*Sn		**Sg**		09 56 21.2	-0.4
KHL	**Karahalli**	**1.49**	**43**	*e*PN		**Pb**		**09 56 04.9**	**+0.2**
KHL	**Karahalli**	**1.49**	**43**	*e*Pn		**Pb**		**09 56 04.9**	**+0.2**
AKS	**Akhisar**	**1.67**	**349**	*e*PN		**Pn**		**09 56 06.7**	**+0.6**
AKS	**Akhisar**	**1.67**	**349**	*e*Pn		**Pn**		**09 56 06.7**	**+0.6**

IDC 01 10:10:10.1±6.4, 20°.78S×178°.89W, h624km±73km, **mb3.0/8, mb1 3.2/8, mb1mx3.0/18, mbtmp3.0/8, Error ellipse: s-maj=39.0km s-min=29.2km az=90.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
CTA	**Charters Tower**	**32.64**	**265**	P		P		10 15 53.5	+0.3
	1.8nm,0.4s,baz=82,slow=15,SNR=5.3								
STKA	**Stephens Creek**	**36.92**	**244**	P		P		10 16 28.7	+0.2
	2.7nm,1.1s,baz=83,slow=8.1,SNR=4.9								
ASAR	**Alice Springs**	**43.65**	**257**	P		P		10 17 22.1	+0.3
	1.5nm,0.5s,baz=97,slow=7.7,SNR=34								
ASAR				PcP		PcP		10 18 55.0	+0.2
	0.4nm,0.7s,baz=109,slow=3.5,SNR=4.7								
WRA	**Warramunga Arr**	**43.74**	**263**	P		P		10 17 22.0	-0.6
	0.6nm,0.3s,baz=97,slow=7.6,SNR=36								
QSPA	**South Pole Qui**	**69.29**	**180**	P		P		10 20 16.2	-0.2
	0.7nm,0.2s,baz=282,slow=1.3,SNR=3.6								
MJAR	**Matsushiro Arr**	**69.95**	**324**	P		P		10 20 20.4	-0.1
	0.9nm,0.6s,baz=155,slow=6.1,SNR=4.1								
ILAR	**Eielson Array**	**88.77**	**13**	P		P		10 21 57.8	-0.7
	0.3nm,0.7s,baz=221,slow=5.7,SNR=6.9								
PDAR	**Pinedale Array**	**89.73**	**44**	P		P		10 22 04.8	+1.1
	0.2nm,0.6s,baz=220,slow=2.4,SNR=2.9								
AKASG	**Malin Array Be**	**142.85**	**330**	PKP		PKPdf		10 28 31.6	-2.1
	1.8nm,0.5s,baz=44,slow=4.2,SNR=9.2								
BRTR	**Keskin Array B**	**146.41**	**311**	PKPbc		PKPbc		10 28 43.3	+0.3
	0.7nm,0.6s,baz=136,slow=5.4,SNR=4.9								

IDC 01 10:12:25.9±5.1, 29°.57S×177°.52W, h0km, **mb3.7/2, mb1 4.0/2, mb1mx3.7/14, mbtmp3.7/2, MS3.7/1, Ms1 3.6/1, ms1mx3.0/22, Error ellipse: s-maj=283.8km s-min=74.6km az=166.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
STKA	**Stephens Creek**	**35.07**	**256**	LR	LR			10 32 38.4	
	comp=Z,120nm,19.8s,baz=24,slow=35								
ASAR	**Alice Springs**	**43.57**	**266**	P		P		10 20 31.8	-0.1
	0.2nm,0.3s,baz=104,slow=7.2,SNR=5.8								
WRA	**Warramunga Arr**	**44.49**	**271**	P		P		10 20 39.1	-0.2
	1.1nm,0.3s,baz=110,slow=8.2,SNR=32								
FINES	**FINESS Array B**	**144.51**	**341**	PKP		PKPdf		10 32 03.0	-0.6
	1.5nm,0.6s,baz=53,slow=3.1,SNR=6.8								

*NIED **01** 10:19:00, 42°.30N×144°.60E, h26km, Mw4.1 Best double couple: M0 1.34000×10^15 NP1:φ0 23.00000°, δ63.00000°, λ119.00000°. NP2:φ0 152.00000°, δ39.00000°, λ46.00000°.*
*IDC **01** 10:19:10.2±0.8, 42°.17N×144°.56E, h0km, mb4.0/17, mb1 4.1/21, mb1mx4.0/31, mbtmp3.9/21, ML3.7/3, MS3.4/2, Ms1 3.4/2, ms1mx2.8/38, Error ellipse: s-maj=22.2km s-min=14.4km az=173.0*
*BJI **01** 10:19:14.6, 42°.29N×144°.74E, h45km, mB5.1/16, mb4.4/25, Ms4.6/8, Ms7 4.2/10*
*MOS **01** 10:19:14.6±1.5, 42°.25N×144°.49E, h47km, mb4.4/17, Error ellipse: s-maj=9.4km s-min=6.9km az=101.8*
*JMA **01** 10:19:15.3, 42°.31N×144°.56E, h36km±1km, M4.0*
JMA Felt I J1.
*ISCJB **01** 10:19:15.6±0.6, 42°.32N±0°.04×144°.53E±0°.05, h48km±4km, mb4.2/38, MS3.8/5, Error ellipse: s-maj=8.2km s-min=4.6km az=138.5*
*NEIC **01** 10:19:16.6±0.8, 42°.28N×144°.55E, h42km±6km, mb4.5/10, MW4.0(NIED), Error ellipse: s-maj=9.3km s-min=6.5km az=138.0*
NEIC Recorded [1 JMA] in eastern and southeastern Hokkaido.
*SKHL **01** 10:19:17.3±2.1, 42°.26N×144°.50E, h69km±13km, mb5.6/1, Ms2.7/1*
ISC 01 10:19:16.9±0.6, 42°.32N±0°.05×144°.56E±0°.04, h44km±3km, **n104,σ1°56/137, mb4.3/38, MS3.9/5, 7C-2D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
JAK	**Akkeshi**	**0.69**	**8**	⇑P		**Pn**		**10 19 28.6**	**-1.6**
JAK				*e*S		**Sn**		**10 19 39.3**	**-0.5**
JOB	**Onbets**	**0.80**	**318**	P		**Pn**		**10 19 30.4**	**-1.3**
JOB				*e*S		**Sn**		**10 19 42.5**	**+0.1**
JCH	**Churui**	**0.94**	**289**	⇓P		**Pn**		**10 19 31.9**	**-1.7**
JCH				*e*S		**Sn**		**10 19 45.0**	**-0.8**
ERM	**Erimo**	**1.08**	**254**	*e*PN		**Pn**		**10 19 35.3**	**-0.3**
ERM				*e*				10 19 49.0	
ERM	**Erimo**	**1.08**	**254**	*e*Pn		**Pn**		**10 19 35.2**	**-0.3**
ERM				*e*Sn		**Sn**		**10 19 49.0**	**-0.4**
ERM	**Erimo**	**1.08**	**254**	*e*P		**Pn**		**10 19 35.4**	**-0.2**
JEM	**Erimo**	**1.08**	**254**	P		**Pn**		**10 19 34.7**	**-0.9**
JAR	**Ashorobuto**	**1.14**	**330**	⇑P		**Pn**		**10 19 34.8**	**-1.6**
JAR				*e*S		**Sn**		**10 19 50.0**	**-0.8**
JNK	**Nakash**	**1.27**	**5**	P		**Pn**		**10 19 36.5**	**-1.7**
JNK				*e*S		**Sn**		**10 19 52.4**	**-1.7**
JNBK	**Urakawa-nobuka**	**1.34**	**269**	P		**Pn**		**10 19 38.1**	**-1.0**
NEM2	**Nemuro 2**	**1.36**	**39**	P		**Pn**		**10 19 38.4**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**1.96**	**29**	*i* PN		**Pn**		**

YUK				smax	smax				
	comp=E,2μm,0.4s								
YUK				smax	smax				
	comp=N,2μm,0.4s								
YUK				MLR	MLR				
	comp=N,341nm,13.0s								
YUK				MLR	MLR				
	comp=Z,393nm,13.0s								
YUK	**Yuzh-Kuril'sk**	**1.96**	**29**⇑	*i*P		**Pn**		**10 19 47.5**	**-0.2**
YUK				AMB	AMB	10 19 54.1			
	comp=Z,253nm,0.2s								
YUK				AMB	AMB	10 19 54.1			
	comp=Z,361nm,0.2s								
YUK				AMB	AMB	10 19 54.1			
	comp=Z,599nm,0.2s								
YUK				*i* S		**Sn**		**10 20 11.7**	**+0.6**
YUK				A	A	10 20 15.8			
	comp=Z,2μm,0.4s								
YUK				A	A	10 20 15.8			
	comp=Z,2μm,0.4s								
YUK				AMS	AMS	10 21 08.1			
	comp=Z,341nm,13.0s								
YUK				AMS	AMS	10 21 08.1			
	comp=Z,393nm,13.0s								
ASAJ	**Asahikawa**	**2.30**	**322**	*e*Pn		**Pn**		**10 19 53.1**	**+0.8**
ASAJ				Sn		**Sn**		**10 20 23.9**	**+4.5**
ASAJ	**Asahikawa**	**2.30**	**322**	Pn		**Pn**		**10 19 52.9**	**+0.5**
	comp=Z,36nm,0.3s,baz=148,slow=12,SNR=179								
ASAJ				Sn		**Sn**		**10 20 23.9**	**+4.5**
	comp=Z,46nm,0.3s,baz=90,slow=20,SNR=14								
KUR	**Kuril'sk**	**3.77**	**38**	*e*PN		Pn		10 20 03.0	-9.5
KUR				pmax	pmax				
	comp=Z,160nm,0.8s								
YSS	**Yuzh-Sakhalins**	**4.81**	**345**⇑	*e*PN		**Pn**		**10 20 29.0**	**+2.2**
YSS				*e*S		**Sn**		**10 21 21.2**	**0.0**
YSS				smax	smax				
	comp=E,30nm,0.8s								
YSS	**Yuzh-Sakhalins**	**4.81**	**345**	*e*Pn		**Pn**		**10 20 27.5**	**+0.8**
YSS	**Yuzh-Sakhalins**	**4.81**	**345**⇑	*e*P		**Pn**		**10 20 29.0**	**+2.2**
YSS				*e*S		**Sn**		**10 21 21.2**	**0.0**
YSS				A	A	10 21 25.3			
	comp=E,30nm,0.8s								
MAJO	**Matsushiro**	**7.57**	**223**	*e*PN		**Pn**		**10 21 04.4**	**-0.3**
MAJO	**Matsushiro**	**7.57**	**223**	*e*Pn		**Pn**		**10 21 04.4**	**-0.3**
MJAR	**Matsushiro Arr**	**7.57**	**223**	Pn		**Pn**		**10 21 04.0**	**-0.7**
MJAR	**Matsushiro Arr**	**7.57**	**223**	Pn		**Pn**		**10 21 04.0**	**-0.7**
	comp=E,0.5nm,0.3s,baz=30,slow=15,SNR=7.3								
HABR	**Khabarovsk**	**9.09**	**316**	*e*PN		**Pn**		**10 21 22.8**	**-2.5**
HABR				pmax	pmax				
	comp=Z,36nm,2.0s								
HABR				pmax	pmax				
	comp=E,93nm,3.0s								
HABR				pmax	pmax				
	comp=N,43nm,2.0s								
HABR				MLR	MLR				
	comp=Z,122nm,16.0s								
USRK	**Ussuriysk Arra**	**9.36**	**286**	Pn		**Pn**		**10 21 27.7**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=96,slow=14,SNR=2.4								
USRK				LR	LR	10 25 04.2			
	comp=Z,109nm,18.4s,baz=23,slow=38								
KLR	**Kul'dur**	**11.30**	**312**	*e*PN		**Pn**		**10 21 56.8**	**+1.2**
KSRS	**Korea Array**	**13.66**	**255**	Pn		Pn		10 22 24.2	-3.8
	comp=Z,0.2nm,0.3s,baz=65,slow=13,SNR=8.3								
KSAR	**Wonju Array Be**	**13.70**	**255**	Pn		Pn		10 22 24.1	-4.2
PETK	**Petropavlovsk-**	**13.93**	**35**	P		**Pn**		**10 22 29.7**	**-1.8**
PETK	**Petropavlovsk-**	**13.93**	**35**	Pn		**Pn**		**10 22 29.7**	**-1.8**
PETK	**Petropavlovsk-**	**13.93**	**35**	Pn		**Pn**		**10 22 29.7**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=189,slow=14,SNR=2.8								
CN2	**Changchun**	**14.05**	**283**	*e*P		**Pn**		**10 22 32.8**	**-0.4**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
SEY	**Seymchan**	**21.16**	**10**	*ce*P		**P**		**10 23 55.7**	**-2.3**
YAK	**Yakutsk**	**21.65**	**341**	*e*P		**P**		**10 23 58.7**	**-4.5**
YAK				pmax	pmax				
	comp=N,3.0nm,1.0s								
YAK				pmax	pmax				
	comp=Z,11nm,1.0s								
NJ2	**Nanjing**	**22.82**	**252**	*e*P		**P**		**10 24 16.2**	**+0.2**
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
HHC	**Hu-ho-hao-te**	**24.64**	**278**	*e*P		**P**		**10 24 30.5**	**-2.9**
HHC				pP		**pP**		**10 24 44.8**	**-0.2**
HHC				sP		**sP**		**10 24 52.2**	**+2.0**
HHC				PP		**PnPn**		**10 25 08.7**	**+2.4**
HHC				S		**S**		**10 28 46.1**	**-5.7**
HHC				sS		**sS**		**10 29 09.0**	**-2.2**
HHC				pmax	pmax				
	comp=Z,7.0nm,0.7s								
HHC				pmax	pmax				
	comp=Z,220nm,5.5s								
HHC				LR	LR				
	comp=N,190nm,10.8s								
HHC				LR	LR				
	comp=E,220nm,11.8s								
HHC				LR	LR				
	comp=Z,170nm,10.3s								
BOD	**Bodaibo**	**24.71**	**319**	*e*P		**P**		**10 24 29.8**	**-3.9**
WHN	**Wuhan**	**26.86**	**254**	⇑P		P		10 25 04.7	+11
ULN	**Ulaanbaatar**	**26.86**	**295**	*e*P		**P**		**10 24 53.1**	**-0.4**
	comp=Z,7.3nm,0.3s								
SONM	**Songino Array**	**27.31**	**295**	P		**P**		**10 24 58.4**	**+1.0**
SONM	**Songino Array**	**27.31**	**295**	P		**P**		**10 24 58.4**	**+1.0**
	comp=Z,3.5nm,0.7s,baz=79,slow=8.6,SNR=26								
TLY	**Talaya**	**29.09**	**303**	*e*P		**P**		**10 25 13.5**	**+0.4**
TLY				pmax	pmax				
	comp=Z,2.0nm,0.9s								
TLY				MLR	MLR				
	comp=Z,35nm,15.0s								
TLY	**Talaya**	**29.09**	**303**	*e*P		**P**		**10 25 14.1**	**+0.9**
	comp=Z,2.1nm,0.8s								
ZAK	**Zakamensk**	**29.30**	**300**	*e*P		**P**		**10 25 14.4**	**-0.7**
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.0s								
LZH	**Lanzhou**	**31.93**	**273**	*e*P		**P**		**10 25 40.0**	**+1.5**
LZH				pP		**pP**		**10 25 52.3**	**+2.1**
LZH				sP		**sP**		**10 25 57.2**	**+1.8**
LZH				PP		**PnPn**		**10 26 46.1**	**+1.7**
LZH				*e*S		**S**		**10 30 49.0**	**+2.3**
LZH				sS		**sS**		**10 31 07.0**	**+0.7**
LZH				pmax	pmax				
	comp=Z,16nm,1.1s								
LZH				pmax	pmax				
	comp=Z,78nm,4.0s								
LZH				LR	LR				
	comp=N,470nm,13.5s								
LZH				LR	LR				
	comp=E,390nm,9.2s								
LZH				LR	LR				
	comp=Z,720nm,14.8s								
GTA	**Gaotai**	**33.67**	**280**	*e*P		**P**		**10 25 54.6**	**+0.9**
GTA				pmax	pmax				
	comp=Z,4.0nm,0.8s								
CD2	**Chengdu**	**34.37**	**264**	P		**P**		**10 25 59.0**	**-0.7**
CD2				pP		**pP**		**10 26 12.1**	**+0.6**
CD2				sP		**sP**		**10 26 18.1**	**+1.4**
CD2				S		**S**		**10 31 21.0**	**-3.5**
CD2				sS		**sS**		**10 31 43.2**	**-0.9**
CD2				SS		**SnSn**		**10 33 32.2**	**-4.8**
CD2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
CD2				pmax	pmax				
	comp=N,160nm,5.0s								
CD2				LR	LR				
	comp=N,320nm,5.0s								
CD2				LR	LR				
	comp=Z,310nm,5.8s								
GYA	**Guiyang**	**34.72**	**255**	*e*P		**P**		**10 26 03.6**	**+0.7**
GYA				pmax	pmax				
	comp=Z,10.0nm,0.8s								
KMI	**Kunming**	**38.35**	**257**	P		**P**		**10 26 35.1**	**+1.2**
KMI				pmax	pmax				
	comp=Z,8.0nm,0.9s								
ZAA0	**Zalesovo Array**	**40.37**	**308**	*e*P		**P**		**10 26 49.7**	**-0.4**
ZALV	**Zalesovo Beam**	**40.37**	**308**	P		**P**		**10 26 49.8**	**-0.3**
ZALV								10 28 53.4	
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.4s								
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ZALV	**Zalesovo Beam**	**40.37**	**308**	P		**P**		**10 26 49.8**	**-0.3**
ZALV				PcP		**PcP**		**10 28 53.4**	**+0.8**
ZALV	**Zalesovo Beam**	**40.37**	**308**	P		**P**		**10 26 49.8**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=85,slow=8.0,SNR=12								
ZALV				PcP		**PcP**		**10 28 53.4**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=89,slow=3.0,SNR=4.3								

WMQ	**Urumqi**	**40.87**	**292**	*e*P		**P**		**10 26 55.4**	**+0.9**
WMQ				pP		**pP**		**10 27 05.5**	**-0.9**
WMQ				pmax	pmax				
	comp=Z,9.0nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,150nm,4.4s								
WMQ				LR	LR				
	comp=Z,200nm,21.2s								
MK31	**Makanchi Array**	**43.58**	**298**	*e*P		**P**		**10 27 16.1**	**-0.3**
MK31	**Makanchi Array**	**43.58**	**298**	*e*P		**P**		**10 27 16.1**	**-0.3**
MKAR	**Makanchi Array**	**43.58**	**298**	P		**P**		**10 27 16.3**	**-0.1**
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
MKAR				MLR	MLR				
	comp=Z,89nm,18.2s								
MKAR	**Makanchi Array**	**43.58**	**298**	*e*P		**P**		**10 27 16.4**	**-0.1**
MKAR	**Makanchi Array**	**43.58**	**298**	P		**P**		**10 27 16.3**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=83,slow=11,SNR=12								
MKAR				LR	LR	10 47 01.0			
	comp=Z,89nm,18.2s,baz=237,slow=38								
ILAR	**Eielson Array**	**43.76**	**35**	P		**P**		**10 27 18.2**	**+0.5**
ILAR	**Eielson Array**	**43.76**	**35**	P		**P**		**10 27 18.2**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=260,slow=5.5,SNR=14								
KURK	**Kurchatov**	**44.77**	**304**	*e*P		**P**		**10 27 24.9**	**-0.9**
KURK								10 29 08.1	
KURK				pmax	pmax				
	comp=Z,18nm,2.0s								
KURK	**Kurchatov**	**44.77**	**304**	*e*P		**P**		**10 27 24.9**	**-0.9**
	comp=Z,18nm,2.0s								
KURK				PcP		**PcP**		**10 29 08.1**	**+0.7**
KURBB	**Kurchatov Arra**	**44.85**	**304**	P		**P**		**10 27 26.3**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=74,slow=8.9,SNR=18								
KURBB				PcP		**PcP**		**10 29 08.1**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=81,slow=3.6,SNR=4.3								
CMAR	**Chiang Mai Arr**	**45.29**	**253**	P		**P**		**10 27 30.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**45.29**	**253**	P		**P**		**10 27 30.9**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=46,slow=6.8,SNR=4.4								
INK	**Inuvik**	**48.59**	**29**	*e*P		**P**		**10 27 55.9**	**+0.4**
	comp=Z,0.9nm,0.4s								
INK	**Inuvik**	**48.59**	**29**	P		**P**		**10 27 56.3**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=267,slow=11,SNR=14								
BVAR	**Borovoye Array**	**48.95**	**310**	P		**P**		**10 27 58.6**	**+0.1**
BVAR				pmax	pmax				
	comp=Z,2.0nm,0.3s								
BVAR	**Borovoye Array**	**48.95**	**310**	P		**P**		**10 27 58.6**	**+0.1**
BVAR	**Borovoye Array**	**48.95**	**310**	P		**P**		**10 27 58.6**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=82,slow=10,SNR=24								
BRVK	**Borovoye**	**49.00**	**310**	*e*P		**P**		**10 27 59.0**	**+0.1**
BRVK				pmax	pmax				
	comp=Z,2.0nm,0.5s								
BRVK	**Borovoye**	**49.00**	**310**	*e*P		**P**		**10 27 59.0**	**+0.1**
	comp=Z,1.6nm,0.5s								
TKM2	**Tokmak 2**	**49.41**	**295**	*e*P		**P**		**10 28 02.5**	**+0.1**
TKM2				pmax	pmax				
	comp=Z,3.0nm,0.7s								
TKM2	**Tokmak 2**	**49.41**	**295**	*e*P		**P**		**10 28 02.5**	**+0.1**
	comp=Z,2.5nm,0.7s								
KSH	**Kashi**	**50.61**	**291**	*e*P		P		10 28 16.1	+4.6
KSH				pP		pP		10 28 28.1	+4.3
KSH				sP		sP		10 28 33.7	+4.9
KSH				PcP		**PcP**		**10 29 31.8**	**+3.2**
KSH				PP		PP		10 30 12.9	+5.4
KSH				S		**S**		**10 35 26.9**	**+3.8**
KSH				sS		sS		10 35 48.0	+4.5
KSH				ScS		**ScS**		**10 37 59.4**	**+0.7**
KSH				SS		**SS**		**10 38 58.5**	**+1.2**
KSH				pmax	pmax				
	comp=Z,1.0nm,0.2s								
KSH				pmax	pmax				
	comp=Z,100nm,4.8s								
KSH				LR	LR				
	comp=N,230nm,5.2s								
KSH				LR	LR				
	comp=E,86nm,6.0s								
KSH				LR	LR				
	comp=Z,250nm,6.2s								
SVE	**Sverdlovsk**	**52.88**	**317**	*e*P		**P**		**10 28 28.7**	**+0.7**
SVE				pmax	pmax				
	comp=Z,8.0nm,0.7s								
ARU	**Arti**	**54.09**	**317**	*d* iP		**P**		**10 28 35.8**	**-1.1**
ARU				S		**S**		**10 36 09.1**	**-0.8**
ARU				SS		**SKiKP**		**10 39 46.5**	**+1.9**
ARU				pmax	pmax				
	comp=Z,10.0nm,1.2s								
ARU	**Arti**	**54.09**	**317**	*e*P		**P**		**10 28 37.1**	**+0.2**
	comp=Z,9.4nm,1.1s								
RES	**Resolute Bay**	**56.88**	**16**	*e*P		**P**		**10 28 56.5**	**-0.1**
	comp=Z,2.3nm,0.8s								
AKTO	**Aktyubinsk**	**57.03**	**310**	P		**P**		**10 28 57.8**	**-0.3**
AKTO				pmax	pmax				
	comp=Z,1.0nm,0.5s								
AKTO	**Aktyubinsk**	**57.03**	**310**	P		**P**		**10 28 57.8**	**-0.3**
AKTO	**Aktyubinsk**	**57.03**	**310**	P		**P**		**10 28 57.8**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=54,slow=12,SNR=4.3								
YKA	**Yellowknife Ar**	**58.04**	**33**	P		**P**		**10 29 05.4**	**+0.4**
YKA	**Yellowknife Ar**	**58.04**	**33**	P		**P**		**10 29 05.4**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=305,slow=6.7,SNR=14								
JOF	**Joensuu**	**62.46**	**332**	*ep*		**P**		**10 29 36.4**	**+1.3**
FINES	**FINESS Array B**	**65.28**	**332**	P		**P**		**10 29 53.2**	**-0.5**
FINES	**FINESS Array B**	**65.28**	**332**	P		**P**		**10 29 53.2**	**-0.5**
	comp=Z,3.9nm,0.6s,baz=42,slow=6.9,SNR=24								
ASAR	**Alice Springs**	**66.38**	**191**	P		**P**		**10 29 58.9**	**-2.3**
ASAR	**Alice Springs**	**66.38**	**191**	P		**P**		**10 29 58.9**	**-2.3**
	comp=Z,0.1nm,0.6s,baz=7.0,slow=8.4,SNR=3.3								
BOZ	**Bozeman (W)**	**69.28**	**47**	*e*P		**P**		**10 30 20.8**	**+1.3**
BOZ				pmax	pmax				
	comp=Z,47nm,2.9s								
BOZ	**Bozeman (W)**	**69.28**	**47**	*e*P		**P**		**10 30 20.8**	**+1.3**
	comp=Z,47nm,2.9s								
NVAR	**Mina Array Bea**	**69.95**	**56**	P		**P**		**10 30 25.2**	**+1.3**
NVAR	**Mina Array Bea**	**69.95**	**56**	P		**P**		**10 30 25.2**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=295,slow=6.2,SNR=6.6								
NB2	**NORSAR Subarra**	**70.23**	**338**	P		**P**		**10 30 24.5**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=34,slow=6.5								
NOA	**NORSAR Array B**	**70.23**	**338**	P		**P**		**10 30 24.6**	**-0.3**
NOA	**NORSAR Array B**	**70.23**	**338**	P		**P**		**10 30 24.6**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=35,slow=6.2,SNR=7.6								
HFS	**Hagfors**	**70.26**	**336**	P		**P**		**10 30 24.2**	**-0.9**
HFS	**Hagfors**	**70.26**	**336**	P		**P**		**10 30 24.2**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=51,slow=7.8,SNR=16								
PDAR	**Pinedale Array**	**72.28**	**48**	P		**P**		**10 30 38.8**	**+0.8**
PDAR	**Pinedale Array**	**72.28**	**48**	P		**P**		**10 30 38.8**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=304,slow=0.9,SNR=5.6								
PV10	**Paradox Valley**	**75.52**	**51**	*e*P		**P**		**10 30 58.8**	**+1.8**
	comp=Z,40nm,0.8s								
TXAR	**Lajitas Array**	**85.03**	**54**	P		**P**		**10 31 48.2**	**+0.1**
TXAR	**Lajitas Array**	**85.03**	**54**	P		**P**		**10 31 48.2**	**+0.1**
	comp=Z,0.4nm,0.9s,baz=296,slow=4.4,SNR=4.3								

JMA 01 10:23:05.2±0.1, 36.77N×141.30E, h36km±2km, M1.3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.52**	**310**	S	Sn	10 23 23.9	0.0
JHO	**Hitachi**	**0.61**	**255**	P	Pn	10 23 16.9	-0.6
JHO				S	Sn	10 23 25.6	-0.4
JFK	**Kawauchi**	**0.69**	**330**	P	Pn	10 23 18.2	-0.3
JFK				S	Sn	10 23 27.3	-0.7
JFT	**Otama**	**1.07**	**314**	P	Pn	10 23 24.7	+1.0
JFT				*e*S	Sn	10 23 38.5	+1.1

NIED ***01*** *10:23:00, 37.90N×142.50E, h26km, Mw3.8 Best double couple: M0 5.70000×10^14 NP1: φ 29.00000°, δ 60.00000°, λ 110.00000° NP2: φ 173.00000°, δ 36.00000°, λ 59.00000°.*
IDC ***01*** *10:23:48.8±0.8, 37.82N×142.51E, h0km, mb3.9/14, mb1 4.0/15, mb1mx3.9/26, mbtmp3.9/15, ML3.5/1, Error ellipse: s-maj=23.0km s-min=17.8km az=91.0*
JMA ***01*** *10:23:52.6±0.2, 37.88N×142.47E, h36km±2km, M4.0*
NEIC ***01*** *10:23:55.5±1.3, 37.87N×142.59E, h48km±11km, mb4.1/2, Error ellipse: s-maj=14.8km s-min=10.1km az=124.0*
ISC 01 10:23:50.8±2.3, 37.84N±0.06×142.45E±0.07, h12km±13km, n51, σ 0°83/55, mb3.9/16, 2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.06**	**306**	⇓P	**Pg**	**10 24 11.3**	**+0.1**
JIO				S	**Sb**	**10 24 24.7**	**-0.1**
JMM	**Marumori**	**1.31**	**271**	⇓P	**Pb**	**10 24 15.2**	**-0.1**
JMM				*e*S	**Sb**	**10 24 31.5**	**-0.6**
JFK	**Kawauchi**	**1.34**	**250**	P	**Pb**	**10 24 15.5**	**-0.3**
JFK				*e*S	**Sb**	**10 24 32.7**	**-0.2**

JMK	**Ichinoseki**	**1.47**	**319**	P		**Pn**		**10 24 17.2**	**+0.1**
JOU	**Okura**	**1.50**	**291**	P		**Pb**		**10 24 18.5**	**-0.1**
JFT	**Otama**	**1.70**	**260**	P		**Pb**		**10 24 21.9**	**-0.2**
JFT				*e*S		**Sb**		**10 24 43.2**	**-0.3**
JOM	**Ohasama**	**1.86**	**331**	P		**Pn**		**10 24 22.9**	**+0.4**
JOM				*e*S		**Sn**		**10 24 45.7**	**-0.2**
JYS	**Shirataka**	**1.92**	**282**	P		**Pb**		**10 24 24.9**	**-0.8**
JYK	**Kaneyama**	**1.96**	**304**	P		**Pn**		**10 24 25.0**	**+1.1**
JRG	**Rokugo**	**2.10**	**318**	P		**Pn**		**10 24 27.0**	**+1.2**
JANG	**Nango**	**2.63**	**344**	P		**Pn**		**10 24 33.6**	**+0.5**
MJAR	**Matsushiro Arr**	**3.62**	**250**	Pn		Pn		10 24 50.5	+3.8
MJAR				Sn		**Sb**		**10 25 36.4**	**-2.4**
MJAR	**Matsushiro Arr**	**3.62**	**250**	Pn		Pn		10 24 50.6	+3.8
	2.6nm,0.3s,baz=78,slow=14,SNR=19								
MJAR				Sn		**Sb**		**10 25 36.4**	**-2.4**
	2.5nm,0.3s,baz=320,slow=18,SNR=4.2								
MAJO	**Matsushiro**	**3.62**	**250**	*e*Pn		**Pn**		**10 24 49.6**	**+2.8**
MAT	**Matsushiro**	**3.62**	**250**	P		Pn		10 24 50.7	+3.9
MAT				S		**Sb**		**10 25 37.3**	**-1.5**
ASAJ	**Asahikawa**	**6.27**	**1**	Pn		**Pn**		**10 25 23.8**	**+0.7**
ASAJ				Sn		**Sn**		**10 26 35.6**	**+1.0**
ASAJ	**Asahikawa**	**6.27**	**1**	Pn		**Pn**		**10 25 23.8**	**+0.7**
	1.1nm,0.3s,baz=213,slow=6.6,SNR=6.9								
ASAJ				Sn		**Sn**		**10 26 35.6**	**+1.0**
	0.8nm,0.3s,baz=350,slow=18,SNR=2.3								
USRK	**Ussuriysk Arra**	**10.12**	**312**	Pn		Pn		10 26 19.8	+3.9
	0.2nm,0.3s,baz=123,slow=14,SNR=17								
KSRS	**Korea Array**	**11.52**	**273**	Pn		Pn		10 26 42.1	+7.0
	0.1nm,0.3s,baz=88,slow=14,SNR=5.5								
KSAR	**Wonju Array Be**	**11.55**	**272**	Pn		Pn		10 26 42.1	+6.6
ULN	**Ulaanbaatar**	**27.59**	**303**	*e*P		**P**		**10 29 38.6**	**+0.6**
	2.8nm,1.0s								
SONM	**Songino Array**	**28.03**	**302**	P		**P**		**10 29 42.2**	**+0.4**
SONM	**Songino Array**	**28.03**	**302**	P		**P**		**10 29 42.2**	**+0.4**
	1.0nm,0.6s,baz=111,slow=8.0,SNR=6.6								
ZALV	**Zalesovo Beam**	**41.98**	**312**	P		**P**		**10 31 42.0**	**+0.5**
ZALV	**Zalesovo Beam**	**41.98**	**312**	P		**P**		**10 31 42.0**	**+0.5**
	1.2nm,0.5s,baz=93,slow=8.6,SNR=6.3								
MK31	**Makanchi Array**	**44.39**	**302**	*e*P		**P**		**10 32 01.6**	**+0.5**
MKAR	**Makanchi Array**	**44.39**	**302**	P		**P**		**10 32 01.6**	**+0.4**
MKAR	**Makanchi Array**	**44.39**	**302**	P		**P**		**10 32 01.6**	**+0.4**
	0.8nm,0.7s,baz=86,slow=10.0,SNR=9.4								
KURK	**Kurchatov**	**46.08**	**308**	*e*P		**P**		**10 32 14.7**	**+0.2**
	3.2nm,0.8s								
KURBB	**Kurchatov Arra**	**46.16**	**308**	P		**P**		**10 32 15.2**	**+0.1**
	3.0nm,0.6s,baz=81,slow=8.0,SNR=34								
ILAR	**Eielson Array**	**48.37**	**33**	P		**P**		**10 32 32.1**	**0.0**
ILAR	**Eielson Array**	**48.37**	**33**	P		**P**		**10 32 32.1**	**0.0**
	0.6nm,0.7s,baz=262,slow=6.0,SNR=11								
INK	**Inuvik**	**53.29**	**27**	P		**P**		**10 33 09.4**	**+0.4**
INK	**Inuvik**	**53.29**	**27**	P		**P**		**10 33 09.4**	**+0.4**
	0.4nm,0.4s,baz=276,slow=5.6,SNR=4.6								
WRA	**Warramunga Arr**	**57.98**	**189**	P		**P**		**10 33 42.8**	**-0.5**
WRA	**Warramunga Arr**	**57.98**	**189**	P		**P**		**10 33 42.8**	**-0.5**
	1.0nm,0.6s,baz=7.1,slow=7.1,SNR=11								
ASAR	**Alice Springs**	**61.71**	**189**	P		**P**		**10 34 08.9**	**+0.1**
ASAR	**Alice Springs**	**61.71**	**189**	P		**P**		**10 34 08.9**	**+0.1**
	0.3nm,0.7s,baz=14,slow=6.9,SNR=5.9								
YKA	**Yellowknife Ar**	**62.70**	**31**	P		**P**		**10 34 14.1**	**-1.0**
YKA	**Yellowknife Ar**	**62.70**	**31**	P		**P**		**10 34 14.1**	**-1.0**
	0.2nm,0.5s,baz=300,slow=6.1,SNR=4.7								
FINES	**FINESS Array B**	**68.48**	**332**	P		**P**		**10 34 52.4**	**0.0**
FINES	**FINESS Array B**	**68.48**	**332**	P		**P**		**10 34 52.4**	**0.0**
	2.0nm,0.7s,baz=20,slow=4.4,SNR=3.0								
HFS	**Hagfors**	**73.69**	**336**	P		**P**		**10 35 24.6**	**+0.5**
HFS	**Hagfors**	**73.69**	**336**	P		**P**		**10 35 24.6**	**+0.5**
	8.1nm,1.2s,baz=27,slow=9.7,SNR=5.9								
NB2	**NORSAR Subarra**	**73.75**	**338**	P		**P**		**10 35 24.4**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=39,slow=6.2								
NOA	**NORSAR Array B**	**73.75**	**338**	P		**P**		**10 35 24.4**	**-0.1**
NOA	**NORSAR Array B**	**73.75**	**338**	P		**P**		**10 35 24.4**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=38,slow=6.0,SNR=4.3								
AKASG	**Malin Array Be**	**74.16**	**323**	P		**P**		**10 35 26.5**	**-0.5**
AKASG	**Malin Array Be**	**74.16**	**323**	P

ARUZ Aruch 1.37 96⇑ *i*P Pn 10 27 42.3 -1.4
ARUZ ⇓ *i*S Sn 10 28 02.1 +0.4
DYDN Diyadin 1.39 130 *i* P Pn 10 27 42.6 -1.4
DYDN *i* S Sg 10 28 02.8 -0.7
DYDN Diyadin 1.39 130 *i* P Pn 10 27 42.6 -1.4
DYDN *i* S Sg 10 28 02.8 -0.7
VRTB Varto-Mus 1.45 207 *e*PN Pn 10 27 44.1 -0.7
VRTB Varto-Mus 1.45 207 *e*Pn Pn 10 27 44.1 -0.7
KOPT Kop Dagi 1.46 253 *i* P Pn 10 27 45.0 0.0
KOPT *i* S Sg 10 28 08.1 +2.4
KOPT Kop Dagi 1.46 253 *i* P Pn 10 27 45.0 0.0
KOPT *i* S Sg 10 28 08.1 +2.4
AMBZ Amberd 1.49 92⇑ *i*P Pn 10 27 44.6 -0.8
AMBZ ⇓ *i*S Sg 10 28 07.2 +0.5
VRNZ Vardanashen 1.49 105⇓ *i*P Pg 10 27 46.0 -1.4
VRNZ ⇓ *i*S Sb 10 28 04.7 -0.5
PAAR P'arak'ar 1.61 100⇑ *i*P Pg 10 27 48.0 -1.6
PAAR ⇑ *i*S Sg 10 28 12.3 +1.8
BAYT Ayd¯–ntepe-Bay 1.66 269 *e*PN Pn 10 27 47.3 -0.4
BAYT Ayd¯–ntepe-Bay 1.66 269 *e*Pn Pn 10 27 47.3 -0.4
ERE Yerevan 1.67 99 *e*P Pn 10 27 43.0 -4.8
ERE *e*S Sn 10 28 07.0 -2.2
STEZ Stepenevan 1.68 70⇑ *i*P Pn 10 27 46.0 -2.0
STEZ ⇑ S Sg 10 28 13.0 +0.2
BNGL BINGOL 1.74 211 *i* P Pn 10 27 48.7 -0.2
BNGL *i* S Sb 10 28 13.4 +0.8
CLDR Caldiran 1.79 136 *e*PN Pn 10 27 49.6 0.0
CLDR Caldiran 1.79 136 *e*Pn Pn 10 27 49.6 0.0
KAPZ Kaputan 1.83 93⇓ *i*P Pb 10 27 50.6 -1.6
KAPZ ⇓ *i*S Sb 10 28 14.9 -0.1
GNI Garni 1.88 98 *e*PN Pn 10 27 50.5 -0.2
GNI Garni 1.88 98⇑ *i*P Pn 10 27 50.8 0.0
GNI ⇑ *i*S Sg 10 28 20.1 +0.9
GNI Garni 1.88 98 *e*Pn Pn 10 27 51.0 +0.2
GNI *e*S Sg 10 28 26.8 +7.6
GNI Garni 1.88 98 Pn Pb 10 27 52.1 -1.0
342nm,0.3s,baz=294,slow=4.3,SNR=435
GNI LR LR 10 28 33.9
comp=Z,855nm,20.5s,baz=231,slow=40
GNI Garni 1.88 98 *e*Pn Pn 10 27 51.0 +0.2
BNGB Bing¶ll 1.93 221 *e*PN Pb 10 27 52.1 -1.7
TATV Tatvan 1.94 181 *i* P Pn 10 27 51.6 0.0
TATV *i* S Sg 10 28 21.4 +0.4
TATV Tatvan 1.94 181 *i* P Pn 10 27 51.6 0.0
TATV *i* S Sg 10 28 21.4 +0.4
MACK Trabzon 2.00 285 *i* P Pn 10 27 52.3 +0.1
MACK *i* S Sb 10 28 20.5 +0.8
MACK Trabzon 2.00 285 *i* P Pn 10 27 52.3 +0.1
MACK *i* S Sb 10 28 20.5 +0.8
KTUT Trabzon 2.01 286 *e*PN Pn 10 27 52.9 +0.5
KTUT Trabzon 2.01 286 *e*Pn Pn 10 27 52.9 +0.5
VANB Van 2.03 155 *e*PN Pn 10 27 52.7 -0.1
VANB Van 2.03 155 *e*Pn Pn 10 27 52.7 -0.1
GOR Gori 2.05 41 P Pg 10 27 55.8 -2.3
GOR S Sg 10 28 23.5 -1.1
TVAN Van 2.10 156 *i* P Pn 10 27 54.3 +0.6
TVAN *i* S Sg 10 28 27.2 +1.1
TVAN Van 2.10 156 *i* P Pn 10 27 54.3 +0.6
BINT Bingol 2.11 222 *e*Pn Pn 10 27 52.1 -1.8
VANT Van 2.15 160 *e*PN Pn 10 27 54.6 0.0
VANT Van 2.15 160 *e*Pn Pn 10 27 54.6 0.0
GUMT Gumushane 2.16 271 *e*PN Pn 10 27 54.4 -0.2
GUMT Gumushane 2.16 271 *e*Pn Pn 10 27 54.4 -0.2
ERZN Erzincan 2.17 247 *e*PN Pb 10 27 54.7 0.0
TBLG Delisi 2.24 54 PN Pn 10 27 56.3 +0.8
TBLG S Sg 10 28 28.1 -2.5
TBLG Delisi 2.24 54 P Pn 10 27 56.3 +0.8
TBLG S Sg 10 28 28.1 -2.5
TBLG Delisi 2.24 54 P Pn 10 27 56.3 +0.8
TBLG S Sg 10 28 28.1 -2.5
ONI Oni 2.31 21 P Pn 10 27 57.4 +0.9
ONI S Sg 10 28 31.8 -1.1
KELT Kelkit 2.36 264 *i* P Pn 10 27 57.1 -0.3
KELT *i* S Sb 10 28 28.5 -1.8
KELT Kelkit 2.36 264 *i* P Pn 10 27 57.1 -0.3
KELT *i* S Sb 10 28 28.5 -1.8
EZC Erzincan 2.37 254 *e*PN Pn 10 27 57.7 +0.2
EZC Erzincan 2.37 254 *e*Pn Pn 10 27 57.7 +0.2
DGRG David-gareji 2.52 66 P Pn 10 28 00.8 +1.3
ZEI Tsey 2.61 27 *e*PN Pn 10 28 02.1 +1.3
ZEI pmax pmax
comp=Z,781nm,0.7s
ZEI Tsey 2.61 27 *e*Pn Pn 10 28 02.1 +1.3
comp=Z,781nm,0.7s
VADZ Vardenis 2.64 95 *e*P Pb 10 28 04.0 -2.0
VADZ *e*S Sg 10 28 45.0 +1.5
BEST Besiri 2.68 198 *i* P Pn 10 28 02.4 +0.8
BEST *i* S Sg 10 28 42.7 -2.1
PTK Pertek 2.74 236 *e*PN Pn 10 28 02.4 -0.2
PTK Pertek 2.74 236 *e*Pn Pn 10 28 02.4 -0.2
ESPY Espiye-Giresun 2.77 281 *e*PN Pn 10 28 03.0 +0.2
ESPY Espiye-Giresun 2.77 281 *e*Pn Pn 10 28 03.0 +0.2
DIYA Diyarbakir 3.04 215 *i* P Pn 10 28 07.2 +0.5
DIYA *i* S Sg 10 28 53.6 -2.9
DIYA Diyarbakir 3.04 215 *i* P Pn 10 28 07.2 +0.5
ILIC ilic-Erzincan 3.05 252 *e*PN Pn 10 28 07.3 +0.6
ILIC ilic-Erzincan 3.05 252 *e*Pn Pn 10 28 07.3 +0.6
GRSN GIRESUNGRSN 3.11 280 *i* P Pb 10 28 10.2 -3.8
GRSN *i* S Sb 10 28 50.2 -1.7
GRSN GIRESUNGRSN 3.11 280 *i* P Pb 10 28 10.2 -3.8
SVRC Sivrice-ELAZID 3.11 229 *e*PN Pn 10 28 08.8 +1.1
SVRC Sivrice-ELAZID 3.11 229 *e*Pn Pn 10 28 08.8 +1.1
IMRD Marand 3.14 122 *e*Pn Pb 10 28 13.7 -0.8
IMRD *e* 10 28 19.9
comp=Z,15μm,0.3s
SUSE Susehri 3.15 267 *i* P Pb 10 28 12.8 -1.9
SUSE *i* S Sg 10 28 58.4 -1.6
SUSE Susehri 3.15 267 *i* P Pb 10 28 12.8 -1.9
KEMA Kemaliye 3.17 249 *i* P Pb 10 28 12.7 -2.2
KEMA *i* S Sg 10 28 59.2 -1.3
KEMA Kemaliye 3.17 249 *i* P Pb 10 28 12.7 -2.2
ELZG Elazig 3.23 234 *i* P Pn 10 28 09.2 -0.1
ELZG *i* S Sg 10 29 01.2 -1.2
ELZG Elazig 3.23 234 *i* P Pn 10 28 09.2 -0.1
CUKT Cukurca 3.35 162 *e*PN Pn 10 28 11.7 +0.7
CUKT Cukurca 3.35 162 *e*Pn Pn 10 28 11.7 +0.7
KIV Kislovodsk 3.52 4 *e*PN Pn 10 28 15.0 +1.8
KIV *e*S Sn 10 28 54.1 -0.6
KIV pmax pmax
comp=Z,177nm,0.8s
KIV MLR MLR
comp=Z,101nm,8.0s
KIV Kislovodsk 3.52 4 *e*Pn Pn 10 28 15.2 +2.1
KIV Kislovodsk 3.52 4 *e*Pn Pn 10 28 15.0 +1.8
comp=Z,177nm,0.8s
KIV *e*Sn Sn 10 28 54.1 -0.6
comp=Z,101nm,8.0s
SOC Sochi 3.68 329*c* *i*PN Pn 10 28 15.6 +0.2
SOC *e* 10 28 58.8
SOC pmax pmax
comp=Z,206nm,0.8s
SOC smax smax
comp=N,1μm,0.9s
SOC smax smax
comp=E,679nm,0.9s
SOC MLR MLR
comp=Z,1μm,12.0s
SOC Sochi 3.68 329 *i* Pn Pn 10 28 15.6 +0.2
comp=Z,206nm,0.8s
SOC *e*Sn Sn 10 28 58.8 +0.2
comp=Z,1μm,12.0s
MYA Malataya 3.68 236 *e*PN Pn 10 28 16.0 +0.5
MYA Malataya 3.68 236 *e*Pn Pn 10 28 16.0 +0.5
MALT Malatya 3.69 236 *e*PN Pn 10 28 17.0 +1.4
MALT Malatya 3.69 236 *e*Pn Pn 10 28 17.0 +1.4
ITBZ Tabriz 3.70 125 *e*Pn Pb 10 28 24.5 +0.4
ITBZ *e* 10 28 37.0
comp=Z,3μm,0.4s
IAZR Azarshahr 3.97 133 *e*Pn Pb 10 28 25.0 -3.8
IAZR *e* 10 28 40.6
comp=Z,3μm,0.2s
AKCD Akcadag 4.02 239 *i* P Pn 10 28 20.2 0.0
AKCD *i* S Sg 10 29 24.4 -3.5
AKCD Akcadag 4.02 239 *i* P Pn 10 28 20.2 0.0
URFA Urfa 4.05 223 *e*PN Pn 10 28 21.5 +0.9
URFA Urfa 4.05 223 *e*Pn Pn 10 28 21.5 +0.9
IHRS Heris 4.24 119 *e*Pn Pb 10 28 31.0 -2.2
IHRS *e* 10 28 47.6
comp=Z,3μm,0.3s
IHRS *e*Sg Sg 10 29 32.2 -2.6
ERBA Erbaa 4.24 275 *i* P Pb 10 28 29.4 -3.8
ERBA *i* S Sg 10 29 31.1 -3.8
IBST Bostanabad 4.50 126 *e*Pn Pb 10 28 33.4 -4.3
IBST *e* 10 28 50.5
comp=Z,1μm,0.5s
MAK Makhachkala 4.63 55 *e*PN Pn 10 28 31.9 +3.6
MAK *e*PPP PPP 10 28 46.5
MAK *e*S Sn 10 29 26.7 +4.8
MAK *e*SS SbSb 10 29 39.6 -0.9
MAK pmax pmax
comp=Z,24nm,0.3s
MAK MLR MLR
comp=Z,1μm,10.0s
MAK Makhachkala 4.63 55 *e*Pn Pn 10 28 31.9 +3.6
comp=Z,24nm,0.3s
MAK Makhachkala 4.63 55 *e*Pb Pg 10 28 46.5 -0.8
MAK *e*Sn Sn 10 29 26.7 +4.8
MAK *e*Sb SbSb 10 29 39.6 -0.9
comp=Z,1μm,10.0s
KVT Kavak 4.80 280 *e*PN Pn 10 28 32.1 +1.3
KVT Kavak 4.80 280 *e*Pn Pn 10 28 32.1 +1.3
ISRB Sarab 4.92 120 *e*Pn Pb 10 28 40.4 -4.4
ISRB *e* 10 29 00.7
comp=Z,1μm,0.3s
KMRS Kahramanmaras 5.14 237 *e*PN Pn 10 28 36.5 +1.0
KMRS Kahramanmaras 5.14 237 *e*Pn Pn 10 28 36.5 +1.0
GAZ Gaziantep 5.15 232 *e*PN Pn 10 28 37.5 +1.8
GAZ Gaziantep 5.15 232 *e*Pn Pn 10 28 37.5 +1.8
BNN Bunyan 5.24 254 *e*PN Pn 10 28 38.7 +1.8
BNN Bunyan 5.24 254 *e*Pn Pn 10 28 38.7 +1.8
DIKM Dikmen 5.47 285 *e*PN Pn 10 28 42.0 +2.1
DIKM Dikmen 5.47 285 *e*Pn Pn 10 28 42.0 +2.1
ANN Anapa 5.65 322 *e*P Pn 10 28 45.1 +2.8
ANN *e*S Sn 10 29 51.3 +4.3
ANN pmax pmax
comp=N,59nm,0.8s
ANN pmax pmax
comp=E,39nm,0.8s
ANN pmax pmax
comp=Z,136nm,0.8s
ANN MLR MLR
comp=E,492nm,12.0s
ANN MLR MLR
comp=Z,735nm,12.0s
BYBT Boyabat 5.80 283 *e*PN Pn 10 28 46.3 +1.8
BYBT Boyabat 5.80 283 *e*Pn Pn 10 28 46.3 +1.8
KOZT Kozan 5.86 242 *e*PN Pn 10 28 47.2 +1.9
KOZT Kozan 5.86 242 *e*Pn Pn 10 28 47.2 +1.9
CORM Corum 5.88 270 *e*PN Pn 10 28 47.6 +1.9
CORM Corum 5.88 270 *e*Pn Pn 10 28 47.6 +1.9
BR131 Keskin Array S 6.69 267 *e*Pn Pn 10 29 00.1 +3.2
comp=Z,15nm,0.7s
BRTR Keskin Array B 6.69 267 Pn Pn 10 28 59.5 +2.6
BRTR Keskin Array B 6.69 267 Pn Pn 10 28 59.5 +2.6
comp=Z,0.2nm,0.3s,baz=90,slow=11,SNR=15
BRTR LR LR 10 31 55.2
comp=Z,787nm,21.7s,baz=131,slow=42
BRTR Keskin Array B 6.69 267 Pn Pn 10 28 59.5 +2.6
SUDU Sudak 6.98 312⇑ *i*P Pn 10 29 00.6 -0.1
SUDU *e*S Sn 10 30 20.4 +0.5
SUDU pmax pmax
comp=Z,124nm,0.9s
SUDU smax smax
comp=N,71nm,0.8s
SUDU smax smax
comp=E,125nm,0.9s
SUDU Sudak 6.98 312 *i* P Pn 10 29 00.6 -0.1
comp=E,124nm,0.9s
SUDU *e*S Sn 10 30 20.4 +0.5
comp=E,71nm,0.8s
ALU Alushta 7.21 309⇑ *e*P Pn 10 29 03.0 -0.8
ALU *e*S Sn 10 30 24.1 -1.4
ALU Alushta 7.21 309 *e*P Pn 10 29 03.0 -0.8
ALU *e*S Sn 10 30 24.1 -1.4
YAL Yalta 7.26 306⇑ *i*P Pn 10 29 04.3 -0.1
YAL *e*S Sn 10 30 26.2 -0.5
YAL pmax pmax
comp=Z,56nm,0.9s
YAL smax smax
comp=N,65nm,0.8s
YAL smax smax
comp=E,50nm,0.9s
YAL Yalta 7.26 306 *i* P Pn 10 29 04.3 -0.1
comp=E,56nm,0.9s
YAL *e*S Sn 10 30 26.2 -0.5
comp=E,65nm,0.8s
BHD Baghdad 7.35 166 *ex* Pg 10 29 34.8 -4.7
BHD *i* x x 10 31 21.8
BHD *i* x x 10 32 20.8
BHD *i* x x 10 32 44.1
SIM Simferopol' 7.53 309 *e*P Pn 10 29 08.7 +0.5
SIM *e*S Sn 10 30 34.1 +0.7
SIM pmax pmax
comp=Z,62nm,0.9s
SIM smax smax
comp=N,52nm,0.9s
SIM smax smax
comp=E,48nm,1.0s
SIM Simferopol' 7.53 309 *e*P Pn 10 29 08.7 +0.5
comp=E,62nm,0.9s
SIM *e*S Sn 10 30 34.1 +0.7
comp=E,52nm,0.9s
SEV Sevastopol' 7.59 305⇑ *e*P Pn 10 29 09.9 +0.9
SEV *e*S Sn 10 30 36.7 +1.9
SEV pmax pmax
comp=Z,3.0nm,0.3s
SEV smax smax
comp=N,30nm,0.8s
SEV smax smax
comp=E,8.0nm,0.9s
SEV Sevastopol' 7.59 305 *e*P Pn 10 29 09.9 +0.9
comp=E,3.0nm,0.3s
SEV *e*S Sn 10 30 36.7 +1.9
comp=E,30nm,0.8s
ASF Jabal al Asfar 9.34 210 Pn Pn 10 29 35.3 +2.1
ASF Jabal al Asfar 9.34 210 Pn Pn 10 29 35.3 +2.1
comp=E,0.3nm,0.3s,baz=82,slow=8.8,SNR=3.3
VRHR Novokhopersk 10.66 358 *e*P Pn 10 29 54.0 +2.9
VRHR pmax pmax
comp=Z,5.0nm,0.4s
VRHR pmax pmax
comp=N,1.0nm,0.2s
VRHR pmax pmax
comp=E,3.0nm,0.4s
VORD Divnogorie 10.73 350 *e*P Pn 10 29 51.6 -0.4
VORD pmax pmax
comp=Z,5.0nm,0.7s
VORD pmax pmax
comp=N,9.0nm,1.0s
VORD pmax pmax
comp=E,9.0nm,1.0s
VORD Divnogorie 10.73 350 *e*P Pn 10 29 51.6 -0.4
comp=E,5.0nm,0.7s
TLCR 10.98 300⇑ *i*P Pn 10 29 53.0 -2.5
VSR Storozhevoye 10.99 350 *e*P Pn 10 29 55.6 0.0
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=E,1.0nm,0.3s
VSR Storozhevoye 10.99 350 *e*P Pn 10 29 55.6 0.0
TIRR Tirgusor 11.02 296 *e*P Pn 10 29 56.0 0.0
TIRR *e* 10 31 56.7
TIRR Tirgusor 11.02 296 *e*Pn Pn 10 29 56.0 0.0
TIRR *e*Sn Sn 10 31 56.7 -2.4
TIRR Tirgusor 11.02 296⇓ *i*P Pn 10 29 56.8 +0.8
TIRR Tirgusor 11.02 296 *e*P Pn 10 29 56.0 0.0
CFR Carcaliu 11.43 299⇑ *i*P Pn 10 30 01.6 0.0
CFR Carcaliu 11.43 299⇑ *i*P Pn 10 30 01.6 0.0
ISR Istrita 12.49 297⇓ *i*P Pn 10 30 16.8 +0.7
ISR Istrita 12.49 297⇓ *i*P Pn 10 30 16.8 +0.7
VRI Vrincioaia 12.60 301⇑ *i*P Pn 10 30 17.3 -0.3
VRI Vrincioaia 12.60 301⇑ *i*P Pn 10 30 17.3 -0.3
PLOR Plostina 12.64 300⇓ *i*P Pn 10 30 19.5 +1.2
PLOR Plostina 12.64 300⇓ *i*P Pn 10 30 19.5 +1.2
TESR 12.88 303⇑ *i*P Pn 10 30 20.7 -0.8
TESR 12.88 303⇑ *i*P Pn 10 30 20.7 -0.8
MLR Muntele Rosu 13.00 298 Pn Pn 10 30 24.5 +1.3
MLR Muntele Rosu 13.00 298⇑ *i*P Pn 10 30 24.9 +1.7
MLR Muntele Rosu 13.00 298 Pn Pn 10 30 24.5 +1.3
comp=E,0.1nm,0.3s,baz=110,slow=5.7,SNR=10
MLR Muntele Rosu 13.00 298 P Pn 10 30 24.5 +1.3
AKASG Malin Array Be 13.73 323 P Pn 10 30 31.8 -1.2
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKASG Malin Array Be 13.73 323 P Pn 10 30 31.8 -1.2
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKASG Malin Array Be 13.73 323 Pn Pn 10 30 31.8 -1.2
AKASG Sn Sn 10 32 58.8 -6.5
AKASG Malin Array Be 13.73 323 Pn Pn 10 30 31.8 -1.2
comp=Z,3.4nm,0.3s,baz=137,slow=14,SNR=22
AKASG Sn Sn 10 32 58.8 -6.5
comp=Z,0.2nm,0.3s,baz=136,slow=24,SNR=5.4
AKASG Malin Array Be 13.73 323 P Pn 10 30 31.8 -1.2
comp=Z,3.0nm,0.3s
AKBB Malin Array Si 13.73 323 *e*P Pn 10 30 34.3 +1.3
AKBB Malin Array Si 13.73 323 *e*P Pn 10 30 34.3 +1.3
AKBB Malin Array Si 13.73 323 *e*P Pn 10 30 34.3 +1.3
AKBB Malin Array Si 13.73 323 *e*P Pn 10 30 34.3 +1.3
KIEV Kiev 13.73 323 *e*P Pn 10 30 31.6 -1.4
KIEV Kiev 13.73 323 *e*P Pn 10 30 31.6 -1.4
KIEV *e* 10 32 58.5
KIEV Kiev 13.73 323 *e*Pn Pn 10 30 31.6 -1.4
KIEV *e*Sn Sn 10 32 58.5 -6.9
KIEV Kiev 13.73 323 *e*P Pn 10 30 31.6 -1.4
BURAR Bucovina Array 14.22 306⇓ *i*P Pn 10 30 41.0 +1.2
BUR08 Bucovina Ar. S 14.24 306 *e*Pn Pn 10 30 41.7 +1.6
BUR08 Bucovina Ar. S 14.24 306 *e*Pn Pn 10 30 41.7 +1.6
IDI Anoyia 14.69 255 *e*Pn Pn 10 30 46.2 -0.1
IDI Anoyia 14.69 255 *e*Pn Pn 10 30 46.2 -0.1
AKTO Aktyubinsk 14.84 43 P Pn 10 30 46.2 -2.0
AKTO MLR MLR
comp=Z,250nm,18.6s
AKTO Aktyubinsk 14.84 43 Pn Pn 10 30 46.2 -2.0
AKTO Aktyubinsk 14.84 43 Pn Pn 10 30 46.2 -2.0
comp=Z,0.4nm,0.3s,baz=226,slow=12,SNR=12
AKTO LR LR 10 38 15.6
comp=Z,250nm,18.6s,baz=231,slow=44
GZR Gura Zlata 15.13 295⇓ *i*P Pn 10 30 54.0 +1.8
OBN Obninsk 15.16 347⇓ *i*P Pn 10 30 52.4 -0.1
OBN *e*S Sn 10 33 39.9 -0.2
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN Obninsk 15.16 347 Pn Pn 10 30 52.2 -0.2
comp=Z,18nm,0.4s
OBN Obninsk 15.16 347 Pn Pn 10 30 52.2 -0.2
comp=Z,18nm,0.4s
DRGR 15.53 301⇓ *i*P Pn 10 30 57.4 0.0
LVV L'vov 15.91 312 *e*P P 10 31 06.4 +0.5
LVV *e*S Sn 10 34 03.4 +5.1
LVV L'vov 15.91 312 *e*P P 10 31 06.4 +0.5
TRPA Tarpa 16.08 305⇑ *i*P P 10 31 08.3 +0.6
TRPA Tarpa 16.08 305⇑ *e*Pn Pn 10 31 08.9 +4.5
TRPA Tarpa 16.08 305⇑ *e*P Pn 10 31 08.9 +4.5
UZH Uzhgorod 16.42 307 *i* P Pn 10 31 01.7 -7.0
KWP Kalwaria Pacla 16.58 310 *e*P Pn 10 31 10.2 -0.7
KWP pmax pmax
comp=Z,49nm,0.8s
KWP Kalwaria Pacla 16.58 310 *e*P Pn 10 31 10.2 -0.7
comp=Z,49nm,0.8s
PSZ Piszkesteto 17.69 302 *e*P P 10 31 26.1 +0.4
PSZ pmax pmax
comp=Z,12nm,1.0s
PSZ Piszkesteto 17.69 302 *e*P P 10 31 26.1 +0.4
comp=Z,12nm,1.0s
PSZ Piszkesteto 17.69 302⇑ *i*P P 10 31 25.9 +0.2
PSZ Piszkesteto 17.69 302⇓ *e* Pn 10 31 25.8 +1.0
PSZ Piszkesteto 17.69 302 *e*P P 10 31 26.1 +0.4
comp=Z,12nm,1.0s
NACGM Naroch 17.78 330 *e* Pn 10 31 20.0 -5.8
NIE Niedzica 17.92 307 *e*P P 10 31 28.1 -0.1
NIE Niedzica 17.92 307 *e*P P 10 31 28.7 +0.5
NIE Niedzica 17.92 307 *e*P P 10 31 28.7 +0.5
IDID Didziasalis 18.11 330 *e*P Pn 10 31 26.6 -3.2
IDID Didziasalis 18.11 330 *e*P Pn 10 31 26.6 -3.2
IDID Didziasalis 18.11 330 *e*P Pn 10 31 26.6 -3.2
SNR=34
PKSM Moragy 18.13 296⇓ *i*P P 10 31 31.0 +0.6
PKSM Moragy 18.13 296⇓ *e* Pn 10 31 32.1 +2.0
PKSM Moragy 18.13 296⇓ *e*P Pn 10 31 32.1 +2.0
IIGN Ignalina 18.33 330 *e*P Pn 10 31 29.0 -3.5
IIGN AMB AMB 10 31 35.9
comp=Z,7.6nm,1.3s
IIGN Ignalina 18.33 330 *e*P Pn 10 31 29.0 -3.5
IIGN AMB AMB 10 31 35.9
comp=Z,7.6nm,1.3s
RHK3 Tenkes 18.34 295 *e*P Pn 10 31 31.2 -1.6
RHK3 Tenkes 18.34 295 *e*P Pn 10 31 31.2 -1.6
PKS9 Tamasi 18.44 297⇓ *e* Pn 10 31 30.7 -3.3
VYHS Vyhne 18.53 304 *e*P Pn 10 31 34.7 -0.4
VYHS pmax pmax
comp=Z,64nm,3.7s
VYHS Vyhne 18.53 304 *e*P Pn 10 31 34.7 -0.4
VYHS Vyhne 18.53 304 *e*P Pn 10 31 34.7 -0.4
comp=Z,64nm,3.7s
OJC Ojcow 18.54 309 *e*P P 10 31 34.0 -0.9
OJC Ojcow 18.54 309 *e*P P 10 31 34.0 -0.9
OJC Ojcow 18.54 309 *e*Pn P 10 31 33.8 -1.1
comp=Z,14nm,0.8s
OJC Ojcow 18.54 309 *e*P P 10 31 34.0 -0.9
PKSG 18.54 300⇓ *e* Pn 10 31 37.0 +1.9
PKSG 18.54 300⇓ *e*P Pn 10 31 37.0 +1.9
IZAR Zarasai 18.62 331 *e*P P 10 31 32.2 -3.6
IZAR AMB AMB 10 31 41.7
comp=Z,11nm,0.9s
IZAR Zarasai 18.62 331 *e*P P 10 31 32.2 -3.6
IZAR AMB AMB 10 31 41.7
comp=Z,11nm,0.9s
SUW Suwalki 18.70 323 *e*P P 10 31 35.6 -1.0
SUW pmax pmax
comp=Z,37nm,0.7s
SUW Suwalki 18.70 323 *e*P P 10 31 35.6 -1.0
comp=Z,37nm,0.7s
SUW Suwalki 18.70 323 *e*P P 10 31 35.6 -1.0
comp=Z,37nm,0.7s
PKST T"'s 18.74 299⇓ *e* Pn 10 31 39.8 +2.2
PKST T"'s 18.74 299⇓ *e*P Pn 10 31 39.8 +2.2
ARU Arti 19.20 28 *i* P Pn 10 31 42.9 -0.2
ARU S Sn 10 35 18.3 +0.3
ARU pmax pmax
comp=Z,11nm,1.7s
ARU Arti 19.20 28 *e*P Pn 10 31 43.2 +0.1
comp=Z,9.9nm,0.8s
ARU Arti 19.20 28 *i* P Pn 10 31 42.9 -0.2
comp=Z,11nm,1.7s
OKC Ostrava-Krasne 19.39 307 *e*P P 10 31 44.3 +0.1
OKC Ostrava-Krasne 19.39 307 *e*P P 10 31 44.3 +0.1
OKC *e*pP pP 10 31 53.3 +5.5
OKC Ostrava-Krasne 19.39 307 *e*P P 10 31 44.3 +0.1
ZST Bratislava 19.57 302 *e*P Pn 10 31 47.6 0.0
ZST pmax pmax
comp=Z,33nm,1.9s
ZST Bratislava 19.57 302 *e*P Pn 10 31 47.6 0.0
ZST Bratislava 19.57 302 *e*P Pn 10 31 47.6 0.0
comp=Z,33nm,1.9s
MORC Moravsky Berou 19.74 306 *e*P Pn 10 31 48.7 -0.9
MORC pmax pmax
comp=Z,10.0nm,1.1s
MORC Moravsky Berou 19.74 306 *e*P Pn 10 31 48.7 -0.9
comp=Z,10nm,1.1s
MORC Moravsky Berou 19.74 306⇓ *i*P Pn 10 31 49.1 -0.5
MORC Moravsky Berou 19.74 306 *e*P Pn 10 31 48.6 -1.0
SOP Sopron 19.81 300⇓ *e* Pn 10 31 50.4 0.0
SOP Sopron 19.81 300⇓ *e*P Pn 10 31 50.4 0.0
VRAC Vranov 20.18 305 P Pn 10 31 53.6 -1.3
VRAC Vranov 20.18 305⇓ *i*P Pn 10 31 54.5 -0.4
VRAC Vranov 20.18 305 P Pn 10 31 53.6 -1.3
comp=Z,4.8nm,0.9s,baz=97,slow=8.1,SNR=3.8
VRAC Vranov 20.18 305 P Pn 10 31 53.6 -1.3
comp=Z,5.0nm,0.9s
SVE Sverdlovsk 20.27 30 *e*P Pn 10 31 56.2 +0.4
SVE pmax pmax
comp=Z,26nm,1.0s
SVE Sverdlovsk 20.27 30 *e*P Pn 10 31 56.2 +0.4
comp=Z,26nm,1.0s
CONA Conrad Observa 20.32 300 *i* P Pn 10 31 56.0 -0.6
comp=Z,31nm,1.0s
CONA Conrad Observa 20.32 300 *i* P Pn 10 31 56.0 -0.6
comp=Z,31nm,1.0s,SNR=19
CONA Conrad Observa 20.32 300 *i* P Pn 10 31 56.0 -0.6
comp=Z,31nm,1.0s
KLMR Klimovskoe 20.50 356*d* *i*P P 10 31 55.5 -0.8
KLMR *e*S S 10 35 44.4 -0.8
KLMR pmax pmax
comp=Z,33nm,1.4s
KLMR MLR MLR

	comp=Z,191nm,7.0s								
KLMR	**Klimovskoe**	**20.50**	**356**	*i*	P		**P**	**10 31 55.5**	**-0.8**
	comp=Z,33nm,1.4s								
VSU	**Vasula**	**20.59**	**336**⇑	*e*	P		**P**	**10 31 57.1**	**-0.1**
VSU					pmax		pmax		
	comp=Z,9.0nm,0.5s								
VSU	**Vasula**	**20.59**	**336**	*e*	P		**P**	**10 31 57.1**	**-0.1**
	comp=Z,9.0nm,0.5s								
DPC	**Dobruska-Polom**	**20.67**	**307**	*e*	P		**P**	**10 31 58.8**	**+0.6**
DPC				*e*				10 32 07.1	
DPC	**Dobruska-Polom**	**20.67**	**307**	*e*	Pn		Pn	10 31 59.2	-1.3
	comp=Z,12nm,0.9s								
DPC	**Dobruska-Polom**	**20.67**	**307**	*e*	P		**P**	**10 31 58.8**	**+0.6**
DPC				*e*	pP		Pn	10 32 07.1	+6.6
DPC	**Dobruska-Polom**	**20.67**	**307**	*e*	P		**P**	**10 31 58.8**	**+0.6**
DPC	**Dobruska-Polom**	**20.67**	**307**	*e*	Pn		Pn	10 31 59.2	-1.4
	comp=Z,12nm,0.9s								
SOKA	**Soboth**	**20.67**	**297**⇑	*i*	P		Pn	10 31 59.4	-1.2
	comp=Z,28nm,1.2s								
SOKA	**Soboth**	**20.67**	**297**⇑	*i*	Pn		Pn	10 31 59.4	-1.2
	comp=Z,28nm,1.2s								
SOKA	**Soboth**	**20.67**	**297**⇑	*i*	P		Pn	10 31 59.4	-1.2
	comp=Z,28nm,1.2s								
KSP	**Ksiaz**	**20.85**	**309**	*e*	P		Pn	10 32 00.9	-1.7
KSP	**Ksiaz**	**20.85**	**309**	*e*	P		Pn	10 32 00.9	-1.7
KSP	**Ksiaz**	**20.85**	**309**	*e*	P		**P**	**10 32 00.7**	**+0.6**
KSP	**Ksiaz**	**20.85**	**309**	*e*	P		**P**	**10 32 00.7**	**+0.6**
TREC	**Trest**	**20.88**	**304**	*e*	P		Pn	10 32 01.7	-1.3
TREC	**Trest**	**20.88**	**304**	*e*	P		Pn	10 32 01.7	-1.3
TREC	**Trest**	**20.88**	**304**	*e*	P		Pn	10 32 01.7	-1.3
UPC	**Upice**	**20.90**	**308**	*e*	P		**P**	**10 32 01.5**	**+0.8**
UPC	**Upice**	**20.90**	**308**	*e*	P		**P**	**10 32 01.5**	**+0.8**
UPC	**Upice**	**20.90**	**308**	*e*	P		**P**	**10 32 01.5**	**+0.8**
KKAR	**Karatay Array**	**21.16**	**74**	*e*	P		**P**	**10 32 05.5**	**+1.9**
KKAR					pmax		pmax		
	comp=Z,12nm,0.7s								
KKAR	**Karatay Array**	**21.16**	**74**	*e*	P		**P**	**10 32 05.5**	**+1.9**
	comp=Z,12nm,0.7s								
KKAR	**Karatay Array**	**21.16**	**74**	*e*	P		**P**	**10 32 05.5**	**+1.9**
	comp=Z,12nm,0.7s								
SOKR	**Solikamsk**	**21.19**	**21**	*d*	*i*	P		10 32 08.2	+4.5
SOKR					pmax		pmax		
	comp=Z,20nm,1.0s								
MOA	**Molln**	**21.36**	**300**⇓	*i*	P		**P**	**10 32 06.6**	**+0.9**
	comp=Z,12nm,1.2s								
MOA	**Molln**	**21.36**	**300**⇓	*i*	Pn		**P**	**10 32 06.6**	**+0.9**
	comp=Z,12nm,1.2s								
MOA	**Molln**	**21.36**	**300**⇓	*i*	P		**P**	**10 32 06.6**	**+0.9**
	comp=Z,12nm,1.2s								
PRU	**Pruhonice**	**21.65**	**305**	*e*	P		**P**	**10 32 09.5**	**+0.7**
PRU				*e*				10 32 13.6	
PRU	**Pruhonice**	**21.65**	**305**	*e*	P		**P**	**10 32 09.5**	**+0.7**
PRU				*e*	pP		**pP**	**10 32 13.6**	**+1.2**
PRU	**Pruhonice**	**21.65**	**305**		P		**P**	**10 32 09.5**	**+0.7**
AQU	**L'Aquila**	**21.73**	**285**	*e*	P		**P**	**10 32 10.9**	**+1.1**
	comp=Z,24nm,0.9s								
PVCC	**Panska Ves**	**21.79**	**307**	*e*	P		**P**	**10 32 09.8**	**-0.4**
PVCC	**Panska Ves**	**21.79**	**307**	*e*	P		**P**	**10 32 09.8**	**-0.4**
PVCC	**Panska Ves**	**21.79**	**307**		P		**P**	**10 32 09.8**	**-0.4**
KBA	**Koelnbreinsper**	**21.87**	**297**⇑	*i*	P		**P**	**10 32 13.0**	**+1.7**
KBA					pmax		pmax		
	comp=Z,30nm,1.0s								
KBA	**Koelnbreinsper**	**21.87**	**297**⇑	*i*	P		**P**	**10 32 12.9**	**+1.7**
	comp=Z,30nm,1.0s								
KBA	**Koelnbreinsper**	**21.87**	**297**⇑	*i*	pP		**P**	**10 32 12.9**	**+1.7**
	comp=Z,30nm,1.0s,SNR=16								
KBA	**Koelnbreinsper**	**21.87**	**297**		P		**P**	**10 32 12.9**	**+1.7**
	comp=Z,30nm,1.0s,SNR=16								
GEC2	**GERESS Array S**	**21.92**	**302**	*e*	P		**P**	**10 32 14.6**	**+2.9**
	comp=Z,11nm,0.9s								
GEC2	**GERESS Array S**	**21.92**	**302**	*e*	P		**P**	**10 32 14.6**	**+2.9**
GEC2					pmax		pmax		
	comp=Z,11nm,0.9s								
GERES	**GERESS Array B**	**21.92**	**302**		P		**P**	**10 32 11.8**	**+0.1**
GERES	**GERESS Array B**	**21.92**	**302**		P		**P**	**10 32 11.8**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=99,slow=8.4,SNR=13								
GERES					LR		LR	10 40 43.1	
	comp=Z,93nm,18.6s,baz=104,slow=37								
KHC	**Kasperske Hory**	**22.06**	**303**	*e*	P		**P**	**10 32 13.6**	**+0.4**
KHC					pmax		pmax		
	comp=Z,54nm,2.1s								
KHC	**Kasperske Hory**	**22.06**	**303**	*e*	P		**P**	**10 32 13.6**	**+0.4**
	comp=Z,54nm,2.1s								
KHC	**Kasperske Hory**	**22.06**	**303**	*e*	P		**P**	**10 32 13.4**	**+0.2**
KHC	**Kasperske Hory**	**22.06**	**303**		P		**P**	**10 32 13.4**	**+0.2**
BRG	**Berggiesshubel**	**22.27**	**307**	*e*	P		**P**	**10 32 15.9**	**+0.5**
	comp=Z,6.1nm,1.1s								
BRG	**Berggiesshubel**	**22.27**	**307**	*e*	P		**P**	**10 32 16.2**	**+0.8**
	comp=Z,6.0nm,1.1s								
BRG	**Berggiesshubel**	**22.27**	**307**	*e*	P		**P**	**10 32 15.9**	**+0.5**
BRG					pmax		pmax		
	comp=Z,6.0nm,1.1s								
WET	**Wettzell**	**22.51**	**303**	*e*	P		**P**	**10 32 18.8**	**+0.8**
	comp=Z,14nm,1.3s								
WET	**Wettzell**	**22.51**	**303**	*e*	P		**P**	**10 32 18.8**	**+0.8**
WET					pmax		pmax		
	comp=Z,14nm,1.3s								
BRVK	**Borovoye**	**22.77**	**47**⇑	*e*	P		**P**	**10 32 24.7**	**+4.0**
BRVK					pmax		pmax		
	comp=Z,16nm,1.3s								
BRVK	**Borovoye**	**22.77**	**47**	*e*	P		P	10 32 28.0	+7.3
	comp=Z,111nm,0.8s								
BVAR	**Borovoye Array**	**22.82**	**47**		P		**P**	**10 32 25.0**	**+3.8**
BVAR					pmax		pmax		
	comp=Z,3.0nm,0.7s								
BVAR					MLR		MLR		
	comp=Z,144nm,20.3s								
BVAR	**Borovoye Array**	**22.82**	**47**		P		**P**	**10 32 25.0**	**+3.8**
BVAR	**Borovoye Array**	**22.82**	**47**		P		**P**	**10 32 25.0**	**+3.8**
	comp=Z,3.1nm,0.7s,baz=243,slow=9.8,SNR=15								
BVAR					LR		LR	10 42 25.8	
	comp=Z,144nm,20.3s,baz=248,slow=40								
RUE	**Ruedersdorf**	**22.88**	**311**	*e*	P		**P**	**10 32 21.9**	**+0.1**
	comp=Z,48nm,1.1s								
RUE	**Ruedersdorf**	**22.88**	**311**	*e*	P		**P**	**10 32 22.3**	**+0.5**
	comp=Z,46nm,1.0s								
CLL	**Collm**	**22.96**	**308**	*e*	P		**P**	**10 32 23.8**	**+1.1**
	comp=Z,22nm,0.9s								
CLL	**Collm**	**22.96**	**308**⇓	*i*	P		**P**	**10 32 24.1**	**+1.4**
CLL				*e*				10 32 28.0	
CLL					pmax		pmax		
	comp=Z,22nm,0.9s								
CLL	**Collm**	**22.96**	**308**⇓	*i*	(P)		**P**	**10 32 24.1**	**+1.4**
	comp=Z,22nm,0.9s								
CLL				*e*				10 32 28.0	
CLL				*e*				10 32 37.0	
NKC	**Novy Kostel**	**23.02**	**305**	*e*	P		**P**	**10 32 23.9**	**+0.5**
WATA	**Walderalm**	**23.09**	**298**⇑	*i*	P		**P**	**10 32 24.2**	**-0.1**
WATA					pmax		pmax		
	comp=Z,26nm,1.2s								
WATA	**Walderalm**	**23.09**	**298**⇑	*i*	P		**P**	**10 32 24.2**	**-0.1**
	comp=Z,26nm,1.2s								
WATA	**Walderalm**	**23.09**	**298**⇑	*i*	sP		**P**	**10 32 24.2**	**-0.1**
	comp=Z,26nm,1.2s,SNR=8.1								
WATA	**Walderalm**	**23.09**	**298**		P		**P**	**10 32 24.2**	**-0.1**
	comp=Z,26nm,1.2s,SNR=8.1								
WERD	**Werda**	**23.16**	**306**	*e*	P			10 32 31.6	+6.8
	comp=Z,16nm,1.5s								
FINES	**FINESS Array B**	**23.25**	**340**		P		**P**	**10 32 26.3**	**+0.8**
FINES	**FINESS Array B**	**23.25**	**340**		P		**P**	**10 32 26.3**	**+0.8**
	comp=Z,3.8nm,0.6s,baz=136,slow=11,SNR=10								
MOTA	**Moosalm**	**23.41**	**298**⇑	*i*	P		**P**	**10 32 27.1**	**-0.4**
MOTA					pmax		pmax		
	comp=Z,21nm,0.8s								
MOTA	**Moosalm**	**23.41**	**298**⇑	*i*	P		**P**	**10 32 27.1**	**-0.4**
	comp=Z,21nm,0.8s								
MOTA	**Moosalm**	**23.41**	**298**⇑	*i*	pP		**P**	**10 32 27.1**	**-0.4**
	comp=Z,21nm,0.8s,SNR=15								
MOTA	**Moosalm**	**23.41**	**298**		P		**P**	**10 32 27.1**	**-0.4**
	comp=Z,21nm,0.8s,SNR=15								
EKS2	**Erkin-Say**	**23.58**	**74**	*e*	P		**P**	**10 32 30.6**	**+1.4**
EKS2					pmax		pmax		
	comp=Z,99nm,2.7s								
EKS2	**Erkin-Say**	**23.58**	**74**	*e*	P		**P**	**10 32 30.6**	**+1.4**
	comp=Z,99nm,2.7s								
FETA	**Feichten**	**23.64**	**297**⇑	*i*	P		**P**	**10 32 29.8**	**+0.1**
	comp=Z,12nm,0.7s								
FETA	**Feichten**	**23.64**	**297**⇑	*i*	sP		**P**	**10 32 29.8**	**+0.1**
	comp=Z,12nm,0.7s,SNR=12								
FETA	**Feichten**	**23.64**	**297**		P		**P**	**10 32 29.8**	**+0.1**
	comp=Z,12nm,0.7s,SNR=12								
GRF	**Grafenberg Arr**	**23.68**	**303**	*e*	P		**P**	**10 32 30.5**	**+0.6**
	comp=Z,16nm,0.9s								
GRF	**Grafenberg Arr**	**23.68**	**303**	*e*	P		**P**	**10 32 30.5**	**+0.6**
GRF					pmax		pmax		
	comp=Z,16nm,0.9s								
GRFO	**Grafenberg**	**23.68**	**303**	*e*	P		**P**	**10 32 30.8**	**+0.8**
GRFO					pmax		pmax		
	comp=Z,22nm,1.1s								
GRFO	**Grafenberg**	**23.68**	**303**	*e*	P		**P**	**10 32 30.8**	**+0.8**
	comp=Z,22nm,1.1s								
FUORN	**Ofenpass-Fuorn**	**23.93**	**296**	*e*	P		**P**	**10 32 34.2**	**+1.5**
	comp=Z,27nm,1.1s								
AAK	**Ala-Archa**	**24.11**	**74**	*e*	P		**P**	**10 32 36.6**	**+2.3**
AAK					pmax		pmax		
	comp=Z,21nm,0.8s								
AAK	**Ala-Archa**	**24.11**	**74**	*e*	P		**P**	**10 32 36.6**	**+2.3**
	comp=Z,22nm,0.8s								
AAK	**Ala-Archa**	**24.11**	**74**		LR		LR	10 42 35.7	
	comp=Z,169nm,19.3s,baz=269,slow=38								
DAVOX	**Davos/Dischmat**	**24.20**	**296**		P		**P**	**10 32 35.9**	**+0.8**
DAVOX	**Davos/Dischmat**	**24.20**	**296**		P		**P**	**10 32 35.9**	**+0.8**
	comp=Z,13nm,0.8s,baz=116,slow=9.2,SNR=16								
DAVA	**Damuels**	**24.24**	**297**⇑	*i*	P		**P**	**10 32 35.1**	**-0.3**
	comp=Z,15nm,0.7s								
DAVA	**Damuels**	**24.24**	**297**⇑	*i*	pP		**P**	**10 32 35.1**	**-0.3**
	comp=Z,15nm,0.7s								
DAVA	**Damuels**	**24.24**	**297**		P		**P**	**10 32 35.1**	**-0.3**
	comp=Z,15nm,0.7s								
TUE	**Stuetta**	**24.55**	**295**	*e*	P		**P**	**10 32 38.9**	**+0.5**
	comp=Z,26nm,1.2s								
CLZ	**Clausthal**	**24.69**	**308**	*e*	P		**P**	**10 32 40.3**	**+1.0**
	comp=Z,15nm,1.2s								
CLZ	**Clausthal**	**24.69**	**308**	*e*	P		**P**	**10 32 40.3**	**+1.0**
CLZ					pmax		pmax		
	comp=Z,15nm,1.2s								
STU	**Stuttgart**	**24.84**	**301**	*e*	P		**P**	**10 32 41.3**	**+0.6**
	comp=Z,19nm,1.0s								
STU	**Stuttgart**	**24.84**	**301**	*e*	P		**P**	**10 32 41.1**	**+0.4**
STU					pmax		pmax		
	comp=Z,16nm,0.9s								
STU	**Stuttgart**	**24.84**	**301**	*e*	P		**P**	**10 32 41.1**	**+0.4**
	comp=Z,16nm,0.9s								
TKM2	**Tokmak 2**	**24.89**	**73**	*e*	P		**P**	**10 32 43.9**	**+2.4**
TKM2					pmax		pmax		
	comp=Z,7.0nm,0.9s								
TKM2	**Tokmak 2**	**24.89**	**73**	*e*	P		**P**	**10 32 43.9**	**+2.4**
	comp=Z,6.9nm,0.9s								
KSH	**Kashi**	**25.72**	**81**	*e*	P		**P**	**10 32 48.4**	**-0.5**
KSH					PP		**PnPn**	**10 33 26.7**	**+1.4**
KSH					PcP		**PcP**	**10 36 20.8**	**+2.0**
KSH					S		**S**	**10 37 13.6**	**-3.9**
KSH					SS		**SnSn**	**10 38 16.4**	**+4.3**
KSH					pmax		pmax		
	comp=Z,110nm,4.9s								
KSH					LR		LR		
	comp=N,150nm,4.9s								
KSH					LR		LR		
	comp=E,90nm,4.9s								
KSH					LR		LR		
	comp=Z,270nm,5.4s								
SENIN	**Lac Senin/Sane**	**25.97**	**295**	*e*	P		**P**	**10 32 52.7**	**+1.5**
	comp=Z,73nm,2.0s								
KEST	**Kesra**	**26.28**	**270**		P		**P**	**10 32 54.1**	**+0.2**
KEST	**Kesra**	**26.28**	**270**		P		**P**	**10 32 54.1**	**+0.2**
	comp=Z,3.5nm,0.8s,baz=80,slow=6.1,SNR=6.9								
HFS	**Hagfors**	**26.52**	**328**		P		**P**	**10 32 55.5**	**-0.3**
HFS	**Hagfors**	**26.52**	**328**		P		**P**	**10 32 55.5**	**-0.3**
	comp=Z,3.5nm,0.6s,baz=133,slow=11,SNR=12								
HFS					LR		LR	10 44 38.8	
	comp=Z,214nm,19.6s,baz=274,slow=39								
KURBB	**Kurchatov Arra**	**27.08**	**56**		P		**P**	**10 33 02.1**	**+1.2**
	comp=Z,2.0nm,0.9s,baz=266,slow=9.2,SNR=8.8								
KURBB					LR		LR	10 44 10.7	
	comp=Z,111nm,20.6s,baz=275,slow=37								
KURK	**Kurchatov**	**27.15**	**56**⇑	*e*	P		**P**	**10 33 05.4**	**+3.9**
KURK					pmax		pmax		
	comp=Z,6.0nm,1.0s								
KURK	**Kurchatov**	**27.15**	**56**	*e*	P		**P**	**10 33 02.5**	**+1.0**
APA	**Apatity**	**27.61**	**353**⇓	*i*	P		**P**	**10 33 09.0**	**+3.5**
APA					pmax		pmax		
	comp=Z,65nm,1.4s								
APA					MLR		MLR		
	comp=Z,1μm,19.0s								
NOA	**NORSAR Array B**	**28.05**	**328**		P		**P**	**10 33 08.5**	**-1.0**
NOA	**NORSAR Array B**	**28.05**	**328**		P		**P**	**10 33 08.5**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=125,slow=8.9,SNR=3.7								
NOA					LR		LR	10 45 46.7	
	comp=Z,151nm,21.1s,baz=110,slow=40								
MK31	**Makanchi Array**	**29.39**	**64**	*e*	P		P	10 33 25.8	+4.2
MK31	**Makanchi Array**	**29.39**	**64**	*e*	P		P	10 33 25.8	+4.2
MKAR	**Makanchi Array**	**29.39**	**64**		P		**P**	**10 33 23.1**	**+1.5**
MKAR					pmax		pmax		
	comp=Z,1.0nm,0.7s								
MKAR	**Makanchi Array**	**29.39**	**64**	*e*	P		P	10 33 26.6	+5.1
MKAR	**Makanchi Array**	**29.39**	**64**		P		**P**	**10 33 23.1**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=279,slow=7.7,SNR=8.8								
ARCES	**ARCESS Array B**	**30.47**	**348**		P		**P**	**10 33 30.8**	**-0.1**
ARCES	**ARCESS Array B**	**30.47**	**348**		P		**P**	**10 33 30.8**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=146,slow=9.8,SNR=3.0								
ARCES					LR		LR	10 45 44.8	
	comp=Z,100nm,18.2s,baz=1.0,slow=36								
ZALV	**Zalesovo Beam**	**31.37**	**50**		P		**P**	**10 33 39.7**	**+0.7**
ZALV					pmax		pmax		
	comp=Z,1.0nm,0.6s								
ZALV					MLR		MLR		
	comp=Z,100nm,18.4s								
ZALV	**Zalesovo Beam**	**31.37**	**50**		P		**P**	**10 33 39.6**	**+0.7**
ZALV	**Zalesovo Beam**	**31.37**	**50**		P		**P**	**10 33 39.6**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=271,slow=7.3,SNR=5.9								
ZALV					LR		LR	10 47 24.0	
	comp=Z,100nm,18.4s,baz=77,slow=38								
WMQ	**Urumqi**	**33.50**	**69**	*e*	P		**P**	**10 34 00.4**	**+2.5**
WMQ					pmax		pmax		
	comp=Z,7.0nm,0.6s								
WMQ					LR		LR		
	comp=N,390nm,20.7s								
WMQ					LR		LR		
	comp=E,180nm,20.6s								
WMQ					LR		LR		
	comp=Z,110nm,16.3s								
ESDC	**Sonseca Array**	**35.11**	**284**		P		**P**	**10 34 10.5**	**-1.4**
ESDC	**Sonseca Array**	**35.11**	**284**		P		**P**	**10 34 10.5**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=69,slow=7.6,SNR=3.8								
ESDC	**Sonseca Array**	**35.11**	**284**		P		**P**	**10 34 10.5**	**-1.4**
ZAK	**Zakamensk**	**42.82**	**55**	*e*	P		P	10 35 10.7	-5.6
ZAK					pmax		pmax		
	comp=Z,1.0nm,1.6s								
TORD	**Torodi Ar. Bea**	**44.74**	**244**		P		**P**	**10 35 30.6**	**-1.3**
TORD	**Torodi Ar. Bea**	**44.74**	**244**		P		**P**	**10 35 30.6**	**-1.3**
	comp=Z,3.2nm,1.1s,baz=49,slow=5.8,SNR=9.9								
TORD	**Torodi Ar. Bea**	**44.74**	**244**		P		**P**	**10 35 30.6**	**-1.3**
SONM	**Songino Array**	**45.39**	**58**		P		**P**	**10 35 38.4**	**+1.4**
SONM	**Songino Array**	**45.39**	**58**		P		**P**	**10 35 38.4**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=277,slow=9.3,SNR=4.6								
SONM					LR		LR	10 56 43.1	
	comp=Z,173nm,18.2s,baz=254,slow=39								
SONM	**Songino Array**	**45.39**	**58**		P		**P**	**10 35 38.4**	**+1.4**
	comp=Z,173nm,18.2s								
ULN	**Ulaanbaatar**	**45.81**	**58**	*e*	P		**P**	**10 35 42.1**	**+1.8**
	comp=Z,2.9nm,0.8s								
ULN	**Ulaanbaatar**	**45.81**	**58**	*e*	P		**P**	**10 35 42.1**	**+1.8**
	comp=Z,2.9nm,0.8s								
LZH	**Lanzhou**	**47.65**	**74**	*e*	P		**P**	**10 35 53.2**	**-1.7**
LZH					pP		**pP**	**10 35 57.3**	**-1.6**
LZH					sP		**sP**	**10 36 00.2**	**-0.3**
LZH					pmax		pmax		
	comp=Z,12nm,1.0s								
CD2	**Chengdu**	**49.92**	**81**		P		**P**	**10 36 11.9**	**-0.4**
CD2					pP		**pP**	**10 36 16.4**	**+0.1**
CD2					sP		**sP**	**10 36 18.9**	**+1.0**
CD2					S		**S**	**10 43 20.9**	**-1.4**
CD2					SS		**SS**	**10 46 49.6**	**-5.3**
CD2					pmax		pmax		
	comp=Z,10.0nm,0.6s								
CD2					pmax		pmax		
	comp=Z,90nm,5.4s								
CD2					LR		LR		
	comp=N,140nm,5.5s								
CD2					LR		LR		
	comp=Z,260nm,6.2s								
HHC	**Hu-ho-hao-te**	**51.23**	**65**	*e*	P		**P**	**10 36 20.4**	**-1.7**
HHC					sP		**sP**	**10 36 27.5**	**-0.2**
HHC					PcP		**PcP**	**10 37 35.4**	**-1.9**
HHC					PP		**PP**	**10 38 18.2**	**-0.6**
HHC					S		**S**	**10 43 38.3**	**-2.1**
HHC					SS		**SS**	**10 47 11.4**	**-4.1**
HHC					pmax		pmax		
	comp=Z,7.0nm,1.0s								
HHC					pmax		pmax		
	comp=Z,150nm,5.8s								
HHC					LR		LR		
	comp=N,190nm,13.2s								
HHC					LR		LR		
	comp=E,200nm,12.4s								
HHC					LR		LR		
	comp=Z,120nm,13.5s								
KMI	**Kunming**	**52.10**	**88**		P		**P**	**10 36 31.1**	**+2.2**
KMI					pmax		pmax		
	comp=Z,16nm,0.6s								
CMAR	**Chiang Mai Arr**	**53.00**	**97**		P		**P**	**10 36 36.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**53.00**	**97**		P		**P**	**10 36 36.1**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=296,slow=8.2,SNR=7.6								
CMAR					LR		LR	11 01 02.2	
	comp=Z,40nm,19.4s,baz=175,slow=38								
CMAR	**Chiang Mai Arr**	**53.00**	**97**		P		**P**	**10 36 36.2**	**+0.8**
	comp=Z,40nm,19.4s								
DBIC	**Dimbokro**	**53.85**	**244**		P		**P**	**10 36 40.1**	**-1.5**
DBIC	**Dimbokro**	**53.85**	**244**		P		**P**	**10 36 40.1**	**-1.5**
	comp=Z,1.3nm,0.4s,baz=52,slow=8.4,SNR=5.7								
DBIC	**Dimbokro**	**53.85**	**244**		P		**P**	**10 36 40.1**	**-1.5**
	comp=Z,1.0nm,0.4s								
YAK	**Yakutsk**	**54.10**	**36**	*e*	P		P	10 36 47.3	+4.5
YAK					pmax		pmax		
	comp=Z,4.0nm,0.6s								
LIC	**Lamto**	**54.29**	**244**	*e*	P		P	10 36 40.8	-4.0
GYA	**Guiyang**	**54.37**	**84**	*e*	P		**P**	**10 36 47.4**	**+1.9**
GYA					pmax		pmax		
	comp=Z,10.0nm,1.0s								
CN2	**Changchun**	**59.22**	**57**	*e*	P		**P**	**10 37 19.3**	**-0.2**
CN2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
SEY	**Seymchan**	**62.95**	**29**⇓	*e*	P		P	10 37 48.4	+3.9
KSRS	**Korea Array**	**64.04**	**62**		LR		LR	11 05 47.4	
	comp=Z,50nm,18.7s,baz=253,slow=36								
SCHQ	**Schefferville**	**67.53**	**324**		P		**P**	**10 38 13.5**	**-0.9**
SCHQ	**Schefferville**	**67.53**	**324**		P		**P**	**10 38 13.5**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=27,slow=6.8,SNR=4.6								
SCHQ	**Schefferville**	**67.53**	**324**		P		**P**	**10 38 13.5**	**-0.9**
BOSA	**Boshof**	**70.51**	**196**		P		**P**	**10 38 33.0**	**-0.2**
BOSA	**Boshof**	**70.51**	**196**		P		**P**	**10 38 33.0**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=14,slow=8.3,SNR=3.0								
BOSA	**Boshof**	**70.51**	**196**		P		**P**	**10 38 33.0**	**-0.2**
	comp=Z,2.0nm,0.9s								
MJAR	**Matsushiro Arr**	**71.34**	**58**		LR		LR	11 12 36.1	
	comp=Z,82nm,19.2s,baz=180,slow=38								
COLA	**College**	**74.71**	**4**	*e*	P		**P**	**10 38 59.1**	**+1.4**
COLA					pmax		pmax		
	comp=Z,2.0nm,0.6s								
COLA	**College**	**74.71**	**4**	*e*	P		**P**	**10 38 59.1**	**+1.4**
	comp=Z,1.8nm,0.6s								
COLA	**College**	**74.71**	**4**	*e*	P		**P**	**10 38 59.1**	**+1.4**
	comp=Z,1.8nm,0.6s								
YKA	**Yellowknife Ar**	**75.74**	**349**		P		**P**	**10 39 03.2**	**-0.4**
YKA	**Yellowknife Ar**	**75.74**	**349**		P		**P**	**10 39 03.2**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=16,slow=6.4,SNR=6.5								
YKA	**Yellowknife Ar**	**75.74**	**349**		P		**P**	**10 39 03.2**	**-0.4**
	comp=Z,1.0nm,0.9s								
FFC	**Flin Flon**	**80.39**	**340**	*i*	P		P	10 39 34.3	+4.7

MEX 01 10:51:37.6±0.5, 15°.96N×97°.73W, h17km±255km, MD3.5,
Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.57**	**318**	*e*	P		Pg	10 51 47.3	-1.8
PNIG				*e*	S		Sg	10 51 54.3	-2.5
VHO	**Vista Hermosa**	**1.46**	**41**	*e*	P		Pn	10 52 00.2	-3.2
VHO				*i*	S		Sn	10 52 17.1	-5.3
HUIG	**Huatulco**	**1.57**	**97**	*e*	P		Pn	10 52 00.5	-4.2
HUIG				*e*	S		Sn	10 52 19.7	-5.1
UTMO	**Huajuapan**

ERZM	**Erzurum**	**0.93**	**234**	*i* P	**Pg**	**11 07 42.8**	**+0.2**
ERZM				*i* S	**Sg**	**11 07 54.5**	**-0.1**
EZM	**Erzurum**	**0.93**	**234**	*e*PG	**Pg**	**11 07 42.9**	**-0.9**
AGRB	**Hanur-Agry**	**1.01**	**150**	*e*PG	**Pg**	**11 07 43.9**	**-0.4**
AGRB				*e*SG	**Sn**	**11 07 60.0**	**-1.1**
AGRB	**Hanur-Agry**	**1.01**	**150**	*e*Pg	**Pg**	**11 07 43.9**	**-0.4**
AGRB				*e*Sg	**Sn**	**11 08 00.0**	**-1.1**
DBOC	**Borcka**	**1.02**	**330**	*i* P	**Pg**	**11 07 43.8**	**-0.8**
DBOC				*i* S	**Sg**	**11 07 56.6**	**-1.2**
DBOC	**Borcka**	**1.02**	**330**	*i* P	**Pg**	**11 07 43.8**	**-0.8**
DBOC				*i* S	**Sg**	**11 07 56.6**	**-1.2**
TUTA	**Tutak**	**1.11**	**161**	*i* P	**Pg**	**11 07 45.7**	**-0.5**
TUTA				*i* S	**Sb**	**11 08 01.5**	**-0.5**
TUTA	**Tutak**	**1.11**	**161**	*i* P	**Pg**	**11 07 45.7**	**-0.5**
TUTA				*i* S	**Sb**	**11 08 01.5**	**-0.5**
BCA	**Borcka**	**1.13**	**332**	*e*PN	**Pn**	**11 07 46.4**	**-1.3**
BCA	**Borcka**	**1.13**	**332**	*e*Pn	**Pn**	**11 07 46.4**	**-1.3**
VNNZ	**Vanand**	**1.19**	**107**	*e*P	Pn	11 07 55.2	+6.6
VNNZ				*e*S	Sn	11 08 13.2	+7.8
AKSZ	**Araks**	**1.21**	**102**	*e*P	Pn	11 07 53.1	+4.1
AKSZ				*e*S	**Sn**	**11 08 10.4**	**+4.5**
AKH	**Akhalkalaki**	**1.29**	**42**	P	**Pb**	**11 07 50.0**	**0.0**
AKH				S	**Sn**	**11 08 07.9**	**-0.2**
PZAR	**Pazar-Rize**	**1.31**	**304**	*e*PN	**Pg**	**11 07 50.2**	**+0.2**
PZAR	**Pazar-Rize**	**1.31**	**304**	*e*Pn	**Pg**	**11 07 50.2**	**+0.2**
ARUZ	**Aruch**	**1.35**	**97**	*e*P	Pg	11 07 55.7	+5.0
ARUZ				*e*S	Sn	11 08 17.9	+8.5
DYDN	**Diyadin**	**1.38**	**131**	*i* P	**Pg**	**11 07 51.0**	**-0.3**
DYDN				*i* S	**Sb**	**11 08 08.8**	**-0.8**
DYDN	**Diyadin**	**1.38**	**131**	*i* P	**Pg**	**11 07 51.0**	**-0.3**
DYDN				*i* S	**Sb**	**11 08 08.8**	**-0.8**
VRTB	**Varto-Mus**	**1.46**	**208**	*e*PN	**Pg**	**11 07 52.8**	**-0.1**
VRTB	**Varto-Mus**	**1.46**	**208**	*e*Pn	**Pg**	**11 07 52.8**	**-0.1**
AMBZ	**Amberd**	**1.47**	**92**	*e*P	Pg	11 07 58.4	+5.4
AMBZ				*e*S	Sg	11 08 18.3	+6.2
KOPT	**Kop Dagi**	**1.48**	**253**	*i* P	**Pg**	**11 07 53.0**	**-0.2**
KOPT				*i* S	**Sg**	**11 08 14.5**	**+2.2**
KOPT	**Kop Dagi**	**1.48**	**253**	*i* P	**Pg**	**11 07 53.0**	**-0.2**
KOPT				*i* S	**Sg**	**11 08 14.5**	**+2.2**
PAAR	**P'arak'ar**	**1.59**	**100**	*e*P	Pg	11 08 01.4	+6.0
PAAR				*e*S	Sg	11 08 26.5	+10
STEZ	**Stepenevan**	**1.66**	**70**⇑	*e*P	**Pg**	**11 07 56.0**	**-0.7**
STEZ				⇑S	**Sg**	**11 08 21.0**	**+2.8**
BAYT	**Ayd¯–ntepe-Bay**	**1.68**	**269**	*e*PN	**Pb**	**11 07 55.9**	**-0.7**
BAYT	**Ayd¯–ntepe-Bay**	**1.68**	**269**	*e*Pn	**Pb**	**11 07 55.9**	**-0.7**
CLDR	**Caldiran**	**1.79**	**137**	*e*PN	**Pb**	**11 07 57.4**	**-1.1**
CLDR	**Caldiran**	**1.79**	**137**	*e*Pn	**Pb**	**11 07 57.4**	**-1.1**
KAPZ	**Kaputan**	**1.81**	**93**	*e*P	Pg	11 08 03.3	+3.7
KAPZ				*e*S	Sg	11 08 32.5	+9.1
GNI	**Garni**	**1.86**	**99**	*e*PN	**Pb**	**11 07 58.8**	**-0.9**
GNI	**Garni**	**1.86**	**99**⇑	*i*P	**Pg**	**11 07 59.5**	**-1.1**
GNI				⇑*i*S	**Sg**	**11 08 28.3**	**+3.5**
GNI	**Garni**	**1.86**	**99**	*e*Pn	**Pb**	**11 07 58.8**	**-0.9**
BNGB	**Bing¯‖**	**1.94**	**222**	*e*PN	**Pb**	**11 07 60.0**	**-1.0**
MACK	**Trabzon**	**2.01**	**285**	*i* P	**Pb**	**11 08 01.8**	**-0.4**
MACK				*i* S	**Sn**	**11 08 24.8**	**-0.9**
MACK	**Trabzon**	**2.01**	**285**	*i* P	**Pb**	**11 08 01.8**	**-0.4**
MACK				*i* S	**Sn**	**11 08 24.8**	**-0.9**
KTUT	**Trabzon**	**2.03**	**286**	*e*PN	**Pb**	**11 08 00.7**	**-1.7**
KTUT	**Trabzon**	**2.03**	**286**	*e*Pn	**Pb**	**11 08 00.7**	**-1.7**
GOR	**Gori**	**2.03**	**41**	P	Pg	11 08 06.3	+2.5
GOR				S	**Sg**	**11 08 34.4**	**+4.3**
TVAN	**Van**	**2.09**	**156**	*i* P	**Pb**	**11 08 02.5**	**-1.2**
TVAN				*e*S	Sg	11 08 42.3	+10
TVAN	**Van**	**2.09**	**156**	*i* P	**Pb**	**11 08 02.5**	**-1.2**
BINT	**Bingol**	**2.13**	**223**	*e*Pn	**Pn**	**11 08 00.0**	**-1.5**
GUMT	**Gumushane**	**2.18**	**271**	*e*PN	**Pb**	**11 08 03.3**	**-1.8**
GUMT	**Gumushane**	**2.18**	**271**	*e*Pn	**Pb**	**11 08 03.3**	**-1.8**
ERZN	**Erzincan**	**2.19**	**248**	*e*PN	**Pb**	**11 08 03.2**	**-2.0**
TBLG	**Delisi**	**2.22**	**54**	P	**Pg**	**11 08 06.7**	**-0.7**
TBLG				S	**Sg**	**11 08 38.9**	**+2.8**
TBLG	**Delisi**	**2.22**	**54**	P	**Pg**	**11 08 06.7**	**-0.7**
ONI	**Oni**	**2.29**	**21**	P	**Pg**	**11 08 07.1**	**-1.7**
ONI				S	**Sg**	**11 08 39.6**	**+1.1**
KELT	**Kelkit**	**2.38**	**264**	*i* P	**Pb**	**11 08 07.2**	**-1.3**
KELT				*i* S	**Sn**	**11 08 35.6**	**+0.7**
KELT	**Kelkit**	**2.38**	**264**	*i* P	**Pb**	**11 08 07.2**	**-1.3**
KELT				*i* S	**Sn**	**11 08 35.6**	**+0.7**
EZC	**Erzincan**	**2.39**	**254**	*e*Pn	**Pn**	**11 08 03.3**	**-1.9**
DGRG	**David-gareji**	**2.50**	**66**	P	**Pb**	**11 08 09.4**	**-1.2**
DGRG				S	**Sg**	**11 08 47.1**	**+1.7**
PTK	**Pertek**	**2.76**	**236**	*e*PN	**Pn**	**11 08 11.4**	**+1.2**
PTK	**Pertek**	**2.76**	**236**	*e*Pn	**Pn**	**11 08 11.5**	**+1.2**
ESPY	**Espiye-Giresun**	**2.78**	**281**	*e*PN	**Pn**	**11 08 11.6**	**+1.2**
ESPY	**Espiye-Giresun**	**2.78**	**281**	*e*Pn	**Pn**	**11 08 11.6**	**+1.2**
ILIC	**ilic-Erzincan**	**3.07**	**252**	*e*PN	**Pn**	**11 08 15.8**	**+1.4**
ILIC	**ilic-Erzincan**	**3.07**	**252**	*e*Pn	**Pn**	**11 08 15.9**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.13**	**230**	*e*PN	**Pn**	**11 08 17.2**	**+1.8**
SVRC	**Sivrice-ELAZID**	**3.13**	**230**	*e*Pn	**Pn**	**11 08 17.2**	**+1.8**
SUSE	**Susehri**	**3.17**	**267**	*i* P	**Pb**	**11 08 22.7**	**+0.7**
SUSE				*i* S	**Sb**	**11 09 02.7**	**+1.6**
RSDY	**Resadiye-TOKAT**	**3.83**	**271**	*e*PN	**Pn**	**11 08 26.6**	**+1.9**
RSDY	**Resadiye-TOKAT**	**3.83**	**271**	*e*Pn	**Pn**	**11 08 26.7**	**+1.9**
BHD	**Baghdad**	**7.36**	**167**	*ex*	**Pg**	**11 09 43.0**	**-2.8**
BHD				*ex*	x	11 11 29.8	

*NSSP **01** 11:11:28.9, 40.42N×42.28E, h5km, Ms2.8*
*ISK **01** 11:11:29.9, 40.43N×42.35E, h5km, MD3.4*
*DDA **01** 11:11:30.7, 40.42N×42.36E, h11km, MD3.4*
*CSEM **01** 11:11:31.2±0.2, 40.43N×42.33E, h2km, MD3.4, Error ellipse: s-maj=4.8km s-min=3.7km az=31.0*
*TIF **01** 11:11:32.1, 40.47N×42.12E, h16km±4km*

ISC 01 11:11:31.4±1.0, **40.44N**±0.02×**42.34E**±0.01, **h8**km±9km, **n74**, σ1**8**30/104, **3C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
HOMI	**Horasan**	**0.51**	**220**	*i* P		**Pg**	**11 11 40.4**	**-0.9**
HOMI				*i* S		**Sg**	**11 11 47.8**	**-0.2**
KARS	**Kars**	**0.60**	**71**	*e*PG		**Pg**	**11 11 42.6**	**-0.4**
KARS				*e*SG		**Sb**	**11 11 52.2**	**-0.6**
KARS	**Kars**	**0.60**	**71**	*e*Pg		**Pg**	**11 11 42.6**	**-0.4**
KARS				*e*Sg		**Sb**	**11 11 52.2**	**-0.6**
DDEM	**Demirkent**	**0.64**	**316**	*i* P		**Pg**	**11 11 43.4**	**-0.3**
DDEM				*i* S		**Sb**	**11 11 53.5**	**-0.4**
DDEM	**Demirkent**	**0.64**	**316**	*i* P		**Pg**	**11 11 43.4**	**-0.3**
DDEM				*i* S		**Sb**	**11 11 53.5**	**-0.4**
DAGI	**Agillar**	**0.72**	**334**	*i* P		**Pg**	**11 11 45.0**	**-0.2**
DAGI				*i* S		**Sb**	**11 11 55.5**	**-0.7**
DBAD	**Bademkaya**	**0.76**	**320**	*i* P		**Pg**	**11 11 45.6**	**-0.4**
DBAD				*i* S		**Sn**	**11 11 58.7**	**-1.4**
DBAD	**Bademkaya**	**0.76**	**320**	*i* P		**Pg**	**11 11 45.6**	**-0.4**
DBAD				*i* S		**Sn**	**11 11 58.7**	**-1.4**
DIGO	**Kars**	**0.79**	**91**	*i* P		**Pg**	**11 11 45.9**	**-0.8**
DIGO				*i* S		**Sg**	**11 11 56.9**	**-0.1**
DIGO	**Kars**	**0.79**	**91**	*i* P		**Pg**	**11 11 45.9**	**-0.8**
DIGO				*i* S		**Sg**	**11 11 56.9**	**-0.1**
ARTV	**Artvin**	**0.81**	**338**	*i* P		**Pg**	**11 11 46.7**	**-0.3**
ARTV				*i* S		**Sg**	**11 11 58.3**	**+0.7**
ARTV	**Artvin**	**0.81**	**338**	*i* P		**Pg**	**11 11 46.7**	**-0.3**
ARTV				*i* S		**Sg**	**11 11 58.3**	**+0.7**
ERZM	**Erzurum**	**0.91**	**235**	*i* P		**Pg**	**11 11 48.5**	**-0.4**
ERZM				*i* S		**Sg**	**11 12 00.7**	**-0.1**
ERZM	**Erzurum**	**0.91**	**235**	*i* P		**Pg**	**11 11 48.5**	**-0.4**
ERZM				*i* S		**Sg**	**11 12 00.7**	**-0.1**
EZM	**Erzurum**	**0.91**	**235**	*e*PG		**Pg**	**11 11 48.2**	**-0.7**
AGRB	**Hanur-Agry**	**0.99**	**149**	*e*PG		**Pg**	**11 11 49.5**	**-0.9**
AGRB				*e*SG		**Sb**	**11 12 04.2**	**0.0**
AGRB	**Hanur-Agry**	**0.99**	**149**	*e*Pg		**Pg**	**11 11 49.6**	**-0.9**
AGRB				*e*Sg		**Sb**	**11 12 04.2**	**0.0**
DBOC	**Borcka**	**1.04**	**331**	*i* P		**Pg**	**11 11 50.5**	**-0.9**
DBOC				*i* S		**Sg**	**11 12 04.4**	**-0.5**
DBOC	**Borcka**	**1.04**	**331**	*i* P		**Pg**	**11 11 50.5**	**-0.9**
DBOC				*i* S		**Sg**	**11 12 04.4**	**-0.5**
TUTA	**Tutak**	**1.09**	**160**	*i* P		**Pb**	**11 11 51.5**	**-1.1**
TUTA				*i* S		**Sn**	**11 12 08.0**	**-0.6**
TUTA	**Tutak**	**1.09**	**160**	*i* P		**Pb**	**11 11 51.5**	**-1.1**
TUTA				*i* S		**Sn**	**11 12 08.0**	**-0.6**
BCA	**Borcka**	**1.15**	**332**	*e*PN		**Pb**	**11 11 52.1**	**-1.3**
BCA	**Borcka**	**1.15**	**332**	*e*Pn		**Pb**	**11 11 52.1**	**-1.3**
VNNZ	**Vanand**	**1.19**	**106**	*e*P		Pg	11 12 00.2	+6.1
VNNZ				*e*S		Sn	11 12 19.1	+8.5
AKSZ	**Araks**	**1.21**	**101**	*e*P		Pg	11 12 00.8	+6.2
AKSZ				*e*S		Sn	11 12 21.5	+10
AKH	**Akhalkalaki**	**1.31**	**42**	P		**Pn**	**11 11 55.7**	**-0.4**
AKH				S		**Sn**	**11 12 13.7**	**-0.2**
PZAR	**Pazar-Rize**	**1.32**	**305**	*e*PN		**Pg**	**11 11 56.2**	**-0.5**
PZAR	**Pazar-Rize**	**1.32**	**305**	*e*Pn		**Pg**	**11 11 56.2**	**-0.5**
ARUZ	**Aruch**	**1.35**	**96**	*e*P		Pg	11 12 01.1	+3.8
ARUZ				*e*S		**Sg**	**11 12 20.1**	**+5.3**
DYDN	**Diyadin**	**1.37**	**130**	*i* P		**Pn**	**11 11 56.1**	**-0.8**
DYDN				*i* S		**Sg**	**11 12 16.8**	**+1.4**
DYDN	**Diyadin**	**1.37**	**130**	*i* P		**Pn**	**11 11 56.1**	**-0.8**
DYDN				*i* S		**Sg**	**11 12 16.8**	**+1.4**
VRTB	**Varto-Mus**	**1.44**	**208**	*e*PN		**Pg**	**11 11 58.4**	**-0.7**
VRTB	**Varto-Mus**	**1.44**	**208**	*e*Pn		**Pg**	**11 11 58.4**	**-0.7**
KOPT	**Kop Dagi**	**1.47**	**254**	*i* P		**Pb**	**11 11 58.9**	**-0.1**
KOPT				*i* S		**Sg**	**11 12 19.9**	**+1.3**
KOPT	**Kop Dagi**	**1.47**	**254**	*i* P		**Pb**	**11 11 58.9**	**-0.1**
KOPT				*i* S		**Sg**	**11 12 19.9**	**+1.3**
AMBZ	**Amberd**	**1.47**	**91**	*e*P		Pg	11 12 05.4	+5.8
AMBZ				*e*S		**Sg**	**11 12 24.2**	**+5.5**
PAAR	**P'arak'ar**	**1.59**	**100**	*e*P		Pg	11 12 08.0	+6.1
PAAR				*e*S		Sg	11 12 29.9	+7.5
STEZ	**Stepenevan**	**1.67**	**70**⇑	*e*P		**Pn**	**11 12 01.0**	**+0.1**
STEZ				⇑*e*S		**Sg**	**11 12 26.0**	**+1.0**
BAYT	**Ayd¯–ntepe-Bay**	**1.68**	**269**	*e*PN		**Pb**	**11 12 01.8**	**-0.7**
BAYT	**Ayd¯–ntepe-Bay**	**1.68**	**269**	*e*Pn		**Pb**	**11 12 01.8**	**-0.7**
CLDR	**Caldiran**	**1.77**	**136**	*e*PN		**Pb**	**11 12 03.1**	**-1.1**
CLDR	**Caldiran**	**1.77**	**136**	*e*Pn		**Pb**	**11 12 03.1**	**-1.1**
KAPZ	**Kaputan**	**1.81**	**93**	*e*P		Pg	11 12 10.2	+4.2
KAPZ				*e*S		Sg	11 12 37.6	+8.1
GNI	**Garni**	**1.86**	**98**	*e*PN		**Pb**	**11 12 04.6**	**-1.1**
GNI	**Garni**	**1.86**	**98**‖	*i*P		**Pb**	**11 12 05.3**	**-0.4**
GNI				‖*i*S		**Sg**	**11 12 33.0**	**+1.8**
GNI	**Garni**	**1.86**	**98**	*e*Pn		**Pb**	**11 12 04.6**	**-1.1**
BNGB	**Bing¯‖**	**1.93**	**222**	*e*PN		**Pb**	**11 12 05.9**	**-0.8**
VANB	**Van**	**2.01**	**156**	*e*PN		**Pb**	**11 12 06.5**	**-1.7**
VANB	**Van**	**2.01**	**156**	*e*Pn		**Pb**	**11 12 06.5**	**-1.7**
KTUT	**Trabzon**	**2.03**	**287**	*e*PN		**Pn**	**11 12 06.2**	**+0.4**
KTUT	**Trabzon**	**2.03**	**287**	*e*Pn		**Pn**	**11 12 06.2**	**+0.4**
GOR	**Gori**	**2.05**	**40**	P		**Pb**	**11 12 09.6**	**+0.8**
GOR				S		**Sg**	**11 12 40.7**	**+3.5**
TVAN	**Van**	**2.08**	**156**	*i* P		**Pb**	**11 12 09.0**	**-0.4**
TVAN				*e*S		Sg	11 12 47.0	+8.9
TVAN	**Van**	**2.08**	**156**	*i* P		**Pb**	**11 12 09.0**	**-0.4**
BINT	**Bingol**	**2.11**	**223**	*e*Pn		**Pn**	**11 12 05.9**	**-1.1**
GUMT	**Gumushane**	**2.18**	**272**	*e*PN		**Pn**	**11 12 08.8**	**+0.8**
GUMT	**Gumushane**	**2.18**	**272**	*e*Pn		**Pn**	**11 12 08.8**	**+0.8**
TBLG	**Delisi**	**2.23**	**54**	P		**Pb**	**11 12 11.7**	**-0.2**
TBLG				S		**Sg**	**11 12 45.2**	**+2.2**
TBLG	**Delisi**	**2.23**	**54**	P		**Pb**	**11 12 11.7**	**-0.2**
ONI	**Oni**	**2.31**	**21**	P		**Pb**	**11 12 12.8**	**-0.5**
ONI				S		**Sg**	**11 12 44.1**	**-1.5**
KELT	**Kelkit**	**2.37**	**264**	*i* P		**Pb**	**11 12 13.0**	**-1.4**
KELT				*i* S		**Sn**	**11 12 41.0**	**+0.9**
KELT	**Kelkit**	**2.37**	**264**	*i* P		**Pb**	**11 12 13.0**	**-1.4**
KELT				*i* S		**Sn**	**11 12 41.0**	**+0.9**
DGRG	**David-gareji**	**2.52**	**65**	P		**Pb**	**11 12 14.6**	**-1.2**
DGRG				S		**Sg**	**11 12 52.2**	**+0.1**
PTK	**Pertek**	**2.75**	**237**	*e*PN		**Pn**	**11 12 17.5**	**+1.7**
PTK	**Pertek**	**2.75**	**237**	*e*Pn		**Pn**	**11 12 17.5**	**+1.7**
ESPY	**Espiye-Giresun**	**2.79**	**281**	*e*PN		**Pn**	**11 12 17.6**	**+1.4**
ESPY	**Espiye-Giresun**	**2.79**	**281**	*e*Pn		**Pn**	**11 12 17.6**	**+1.4**
ILIC	**ilic-Erzincan**	**3.06**	**252**	*e*PN		**Pn**	**11 12 21.3**	**+1.3**
ILIC	**ilic-Erzincan**	**3.06**	**252**	*e*Pn		**Pn**	**11 12 21.3**	**+1.3**
SVRC	**Sivrice-ELAZID**	**3.12**	**230**	*e*PN		**Pn**	**11 12 22.4**	**+1.5**
SVRC	**Sivrice-ELAZID**	**3.12**	**230**	*e*Pn		**Pn**	**11 12 22.5**	**+1.5**
SUSE	**Susehri**	**3.17**	**267**	*i* P		**Pb**	**11 12 28.0**	**0.0**
SUSE				*e*S		**Sb**	**11 13 08.8**	**+2.0**
RSDY	**Resadiye-TOKAT**	**3.82**	**271**	*e*PN		**Pn**	**11 12 32.2**	**+1.7**
RSDY	**Resadiye-TOKAT**	**3.82**	**271**	*e*Pn		**Pn**	**11 12 32.2**	**+1.7**

KRSC 01 11:14:22.1±0.8, **50.57N**×**158.35E**, **h78**km±78km, **ML3.6, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ASAK	**Asacha**	**1.84**	**351**	S		Sn	11 15 17.9	+3.4
RUS	**Russkaya**	**1.87**	**3**	P		Pn	11 14 54.8	+2.7
RUS				S		Sn	11 15 18.9	+3.9
MTVR	**Mutnovka**	**1.92**	**357**	P		Pn	11 14 55.1	+2.1
MTVR				S		Sn	11 15 19.5	+3.0
UGLR	**Uglovaya**	**2.66**	**6**	*e*P		Pn	11 15 05.8	+2.9
NLC	**Nalytchevo**	**2.68**	**13**	*e*S		Sn	11 15 36.4	+2.0
SMAR	**Somma**	**2.71**	**6**	*e*P		Pn	11 15 05.9	+2.1
KOK	**Koryaka**	**2.73**	**4**	P		Pn	11 15 06.6	+2.7
SDLR	**Sedlovina**	**2.73**	**7**	*e*P		Pn	11 15 06.5	+2.6
SDLR				S		Sn	11 15 38.1	+2.1
MKZ	**Mys Kozlova**	**4.49**	**26**	*e*P		Pn	11 15 31.0	+3.4
MKZ				*e*S		Sn	11 16 21.3	+2.8
KBTR	**Krutoberegovo**	**6.25**	**24**	P		Pn	11 15 54.3	+2.8
KBTR				S		Sn	11 17 03.5	+2.1

*ISK **01** 11:14:52.7, 40.45N×42.32E, h16km, MD2.9*
*DDA **01** 11:14:53.0, 40.42N×42.35E, h7km, MD3.0*
*ISCJB **01** 11:14:54.0±0.5, 40.44N±0.03×42.34E±0.04, h25km±9km, Error ellipse: s-maj=4.7km s-min=4.7km az=161.9*
*CSEM **01** 11:14:53.3±0.2, 40.42N×42.34E, h20km, MD2.9, Error ellipse: s-maj=4.4km s-min=3.7km az=7.0*

ISC 01 11:14:53.2±1.0, **40.44N**±0.03×**42.34E**±0.03, **h17**km±8km, **n21**, σ0**63**/36, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
HOMI	**Horasan**	**0.51**	**220**	*i* P		**Pg**	**11 15 03.0**	**-0.6**
HOMI				*i* S		**Sg**	**11 15 10.2**	**-0.3**
KARS	**Kars**	**0.60**	**71**	*e*PG		**Pb**	**11 15 05.0**	**-0.3**
KARS				*e*SG		**Sb**	**11 15 14.6**	**+1.1**
KARS	**Kars**	**0.60**	**71**	*e*Pg		**Pb**	**11 15 05.0**	**-0.3**
KARS				*e*Sg		**Sb**	**11 15 14.6**	**+1.1**
DDEM	**Demirkent**	**0.64**	**316**	*i* P		**Pg**	**11 15 05.7**	**-0.2**
DDEM				*i* S		**Sg**	**11 15 14.4**	**0.0**
DDEM	**Demirkent**	**0.64**	**316**	*i* P		**Pg**	**11 15 05.7**	**-0.2**
DDEM				*i* S		**Sg**	**11 15 14.4**	**0.0**
DAGI	**Agillar**	**0.72**	**334**	*i* P		**Pb**	**11 15 07.5**	**+0.2**
DAGI				*i* S		**Sb**	**11 15 17.8**	**+0.8**
DIGO	**Kars**	**0.79**	**91**	*i* P		**Pb**	**11 15 08.1**	**-0.6**
DIGO				*i* S		**Sg**	**11 15 19.2**	**-0.1**
DIGO	**Kars**	**0.79**	**91**	*i* P		**Pb**	**11 15 08.1**	**-0.6**
DIGO				*i* S		**Sg**	**11 15 19.2**	**-0.1**
ARTV	**Artvin**	**0.81**	**338**	*i* P		**Pg**	**11 15 09.2**	**+0.1**
ARTV				*i* S		**Sn**	**11 15 21.0**	**-0.8**
ARTV	**Artvin**	**0.81**	**338**	*i* P		**Pg**	**11 15 09.2**	**+0.1**
ARTV				*i* S		**Sn**	**11 15 21.0**	**-0.8**
ERZM	**Erzurum**	**0.91**	**235**	*i* P		**Pg**	**11 15 10.9**	**-0.2**
ERZM				*i* S		**Sn**	**11 15 23.9**	**-0.5**
ERZM	**Erzurum**	**0.91**	**235**	*i* P		**Pg**	**11 15 10.9**	**-0.2**
ERZM				*i* S		**Sn**	**11 15 23.9**	**-0.5**
EZM	**Erzurum**	**0.92**	**235**	*e*PG		**Pg**	**11 15 10.9**	**-0.2**
EZM				*e*SG		**Sn**	**11 15 24.0**	**-0.4**
AGRB	**Hanur-Agry**	**1.00**	**149**	*e*PG		**Pg**	**11 15 12.1**	**-0.5**
AGRB	**Hanur-Agry**	**1.00**	**149**	*e*Pg		**Pg**	**11 15 12.1**	**-0.5**
TUTA	**Tutak**	**1.10**	**160**	*i* P		**Pn**	**11 15 14.0**	**0.0**
TUTA				*i* S		**Sg**	**11 15 30.5**	**+1.6**
TUTA	**Tutak**	**1.10**	**160**	*i* P		**Pn**	**11 15 14.0**	**0.0**
TUTA				*i* S		**Sg**	**11 15 30.5**	**+1.6**
BCA	**Borcka**	**1.14**	**332**	*e*PN		**Pn**	**11 15 14.4**	**-0.1**
BCA	**Borcka**	**1.14**	**332**	*e*Pn		**Pn**	**11 15 14.4**	**-0.1**
BAYT	**Ayd¯–ntepe-Bay**	**1.68**	**269**	*e*PN		**Pn**	**11 15 22.1**	**+0.2**
BAYT	**Ayd¯–ntepe-Bay**	**1.68**	**269**	*e*Pn		**Pn**	**11 15 22.1**	**+0.2**

*NNC **01** 11:25:37.0±0.2, 42.96N×73.84E, h0km, mb4.7, mpv4.5, Error ellipse: s-maj=3.3km s-min=1.2km az=8.0*
*ISCJB **01** 11:25:36.2±0.6, 42.86N±0.02×73.75E±0.03, h12km±3km, mb4.0/22, MS3.1/6, Error ellipse: s-maj=3.7km s-min=3.0km az=36.9*
*KNET **01** 11:25:37.9±0.5, 42.73N×73.90E, h14km±3km, ml4.2, Error ellipse: s-maj=4.2km s-min=2.3km az=134.0*
*IDC **01** 11:25:37.9±0.6, 42.83N×73.92E, h0km, mb3.9/14, mb1 4.2/19, mb1mx4.0/32, mbtmp4.1/19, ML4.5/5, MS3.2/5, Ms1 3.2/5, ms1mx2.8/45, Error ellipse: s-maj=9.6km s-min=5.5km az=32.0*
*MOS **01** 11:25:38.8±1.9, 42.89N×73.85E, h24km, mb4.1/14, Error ellipse: s-maj=7.5km s-min=5.6km az=98.8*
MOS Felt (III-IV) at Merke.
*NEIC **01** 11:25:38.5±0.4, 42.77N×73.92E, h10km, mb4.5/8, Error ellipse: s-maj=7.9km s-min=6.1km az=223.0*
NEIC Felt at Bishkek.
*BJI **01** 11:25:41.1, 42.81N×74.28E, h15km, mB4.6/2, mb3.8/6, ML4.1/7, Ms4.0/2, Ms7 3.5/1*

ISC 01 11:25:39.5±0.6, **42.77N**±0.03×**73.90E**±0.02, **h14**km±3km,

n127, σ1**9**99/169, **mb4.0**/22, **MS3.0**/6, **24C-22D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
EKS2	**Erkin-Say**	**0.14**	**219**	*e*PG		**Pg**	**11 25 41.3**	**-1.9**
EKS2	**Erkin-Say**	**0.14**	**219**	*e*Pg		**Pg**	**11 25 41.3**	**-1.9**
EKS2				*e*Sg		**Sg**	**11 25 43.8**	**-1.9**
EKS2	**Erkin-Say**	**0.14**	**219**	⇓P		**Pg**	**11 25 41.3**	**-1.9**
	28μm,0.1s							
EKS2				P			11 25 41.3	
EKS2				⇑S		**Sg**	**11 25 43.6**	**-2.1**
	206μm,0.2s							
AAK	**Ala-Archa**	**0.46**	**107**	*e*PG		**Pg**	**11 25 47.8**	**-0.8**
AAK				*e*			11 25 54.7	
AAK	**Ala-Archa**	**0.46**	**107**	*e*Pg		**Pg**	**11 25 47.8**	**-0.8**
AAK				Lg		Lg	11 25 54.6	
AAK				*e*Sg		**Sg**	**11 25 54.7**	**-0.2**
AAK	**Ala-Archa**	**0.46**	**107**	P		**Pg**	**11 25 48.0**	**-0.7**
	SNR=2130							
AAK				⇑P		**Pg**	**11 25 48.0**	**-0.7**
	3μm,0.3s,SNR=2130							
AAK				⇓S		**Sg**	**11 25 54.7**	**-0.2**
	38μm,0.3s							
AAK	**Ala-Archa**	**0.46**	**107**	Pg		**Pg**	**11 25 47.7**	**-1.0**
	958nm,0.3s,baz=249,slow=3.9,SNR=7919							
AAK				Lg		Lg	11 25 54.6	
	4μm,0.3s,baz=13,slow=19,SNR=260							
FRU	**Bishkek**	**0.53**	**83**	*i* PG		**Pg**	**11 25 49.0**	**-1.0**
FRU				*i*			11 25 57.0	
FRU				pmax		pmax		
	comp=Z,3μm,0.5s							
FRU				smax		smax		
	comp=E,18μm,0.6s							
AML	**Almayashu**	**0.66**	**193**	⇑P		**Pg**	**11 25 50.3**	**-2.0**
	comp=E,3μm,0.2s,SNR=7076							
AML				P		**Pg**	**11 25 50.4**	**-2.0**
	SNR=7076							
AML				⇓S		**Sg**	**11 25 59.1**	**-2.0**

	comp=Z,6.8nm,0.5s								
VOSK				⇓Sn		**Sn**	**11 29 54.3**	**-4.0**	
	comp=Z,12nm,0.7s								
VOSK				⇑Lg		Lg	11 30 53.1		
	comp=Z,88nm,1.0s								
VOSK	**Vostochnaya**	**10.15**	**350**	P		**Pn**	**11 28 02.1**	**-2.6**	
VOSK				pmax	pmax				
	comp=Z,12nm,0.4s								
BVA0	**Borovoye Array**	**10.53**	**348**	⇑Pn		**Pn**	**11 28 07.1**	**-2.8**	
	comp=Z,1.4nm,0.5s,baz=158,slow=13,SNR=52								
BVA0				⇓Sn		**Sn**	**11 30 03.8**	**-3.8**	
	comp=Z,3.1nm,0.6s,baz=166,slow=26,SNR=7.6								
BVA0				⇓Lg		Lg	11 31 04.3		
	comp=Z,13nm,0.8s,baz=157,slow=27,SNR=4.5								
BVA0	**Borovoye Array**	**10.53**	**348**	*i* P		**Pn**	**11 28 07.1**	**-2.8**	
BVA0				*i*			11 30 02.1		
BVA0				pmax	pmax				
	comp=Z,2.0nm,0.3s								
BVA0				smax	smax				
	comp=N,2.0nm,0.4s								
BVA0				pmax	pmax				
	comp=N,14nm,0.9s								
BVAR	**Borovoye Array**	**10.53**	**348**	P		**Pn**	**11 28 07.4**	**-2.5**	
BVAR							11 30 04.2		
BVAR				pmax	pmax				
	comp=Z,5.0nm,0.3s								
BVAR				smax	smax				
	comp=N,7.0nm,0.3s								
BVAR				MLR	MLR				
	comp=Z,34nm,18.8s								
BVAR	**Borovoye Array**	**10.53**	**348**	Pn		**Pn**	**11 28 07.4**	**-2.5**	
BVAR				Sn		**Sn**	**11 30 04.2**	**-3.4**	
BVAR				Lg	Lg		11 31 10.7		
BVAR	**Borovoye Array**	**10.53**	**348**	Pn		**Pn**	**11 28 07.4**	**-2.5**	
	comp=Z,4.6nm,0.3s,baz=154,slow=11,SNR=39								
BVAR				Sn		**Sn**	**11 30 04.2**	**-3.4**	
	comp=Z,6.8nm,0.3s,baz=162,slow=25,SNR=7.1								
BVAR				Lg	Lg		11 31 10.7		
	comp=Z,5.1nm,0.3s,baz=158,slow=23,SNR=4.1								
BVAR				LR	LR		11 32 42.3		
	comp=Z,34nm,18.8s,baz=46,slow=40								
BRVK	**Borovoye**	**10.57**	**348**	⇓Pn		**Pn**	**11 28 07.5**	**-3.0**	
	comp=Z,9.3nm,0.5s								
BRVK				⇓Sn		**Sn**	**11 30 04.8**	**-3.9**	
	comp=Z,34nm,0.8s								
BRVK				⇓Lg		Lg	11 31 05.8		
	comp=Z,294nm,1.3s								
BRVK	**Borovoye**	**10.57**	**348**	P		**Pn**	**11 28 07.5**	**-3.0**	
BRVK							11 30 02.6		
BRVK				pmax	pmax				
	comp=Z,9.0nm,0.5s								
BRVK				smax	smax				
	comp=N,34nm,0.8s								
BRVK				pmax	pmax				
	comp=N,294nm,1.3s								
BRVK	**Borovoye**	**10.57**	**348**	*e*Pn		**Pn**	**11 28 07.7**	**-2.8**	
	comp=N,9.8nm,0.4s								
BRVK				*e*Sn		**Sn**	**11 30 05.8**	**-2.9**	
ZRNK	**Zerenda**	**10.70**	**344**	⇓Pn		**Pn**	**11 28 09.3**	**-2.9**	
	comp=N,22nm,0.5s								
ZRNK				⇑Sn		**Sn**	**11 30 08.0**	**-3.8**	
	comp=N,11nm,0.5s								
ZRNK				⇓Lg		Lg	11 31 10.8		
	comp=N,173nm,0.9s								
ZRNK	**Zerenda**	**10.70**	**344**	*i* P		**Pn**	**11 28 10.0**	**-2.3**	
ZRNK				pmax	pmax				
	comp=Z,30nm,0.4s								
AB31	**Akbulak array**	**11.66**	**309**	Pn		**Pn**	**11 28 22.6**	**-2.8**	
	comp=Z,16nm,0.5s,baz=108,slow=14,SNR=148								
AB31				⇓Sn		**Sn**	**11 30 32.5**	**-2.9**	
	comp=Z,2.9nm,0.3s,baz=115,slow=24,SNR=3.6								
AB31				⇓Lg	Lg		11 31 41.9		
	comp=Z,25nm,0.6s								
AB31	**Akbulak array**	**11.66**	**309**	*i* P		**Pn**	**11 28 22.6**	**-2.8**	
AB31				pmax	pmax				
	comp=Z,34nm,0.5s								
ABKAR	**Akbulak array**	**11.66**	**309**	*e*Pn		**Pn**	**11 28 22.7**	**-2.7**	
	comp=Z,22nm,0.5s								
ZAA0	**Zalesovo Array**	**13.32**	**29**	*e*Pn		**Pn**	**11 28 48.2**	**+0.3**	
ZAA0				*e*Sn		Sn	11 31 07.6	-8.1	
ZALV	**Zalesovo Beam**	**13.32**	**29**	P		**Pn**	**11 28 47.9**	**-0.1**	
ZALV							11 31 07.1		
ZALV				pmax	pmax				
	comp=Z,3.0nm,0.3s								
ZALV				smax	smax				
	comp=N,2.0nm,0.3s								
ZALV	**Zalesovo Beam**	**13.32**	**29**	Pn		**Pn**	**11 28 47.9**	**-0.1**	
ZALV				Sn		Sn	11 31 07.1	-8.6	
ZALV				Lg	Lg		11 32 35.0		
ZALV	**Zalesovo Beam**	**13.32**	**29**	Pn		**Pn**	**11 28 47.9**	**-0.1**	
	comp=N,2.5nm,0.3s,baz=224,slow=14,SNR=20								
ZALV				Sn		Sn	11 31 07.1	-8.6	
	comp=N,2.2nm,0.3s,baz=222,slow=20,SNR=6.7								
ZALV				Lg	Lg		11 32 35.0		
	baz=204,slow=27,SNR=1.9								
AKTO	**Aktyubinsk**	**13.32**	**311**	⇓Pn		**Pn**	**11 28 45.0**	**-3.1**	
	comp=N,7.4nm,1.0s								
AKTO				⇑Sn		**Sn**	**11 31 13.1**	**-2.8**	
	comp=N,2.1nm,0.6s								
AKTO				⇑Lg	Lg		11 32 34.6		
	comp=N,6.2nm,0.9s								
AKTO	**Aktyubinsk**	**13.32**	**311**	P		**Pn**	**11 28 45.6**	**-2.5**	
AKTO							11 31 07.9		
AKTO				pmax	pmax				
	comp=Z,4.0nm,0.3s								
AKTO				smax	smax				
	comp=N,2.0nm,0.3s								
AKTO	**Aktyubinsk**	**13.32**	**311**	Pn		**Pn**	**11 28 45.6**	**-2.5**	
AKTO				Sn	Sn		11 31 07.9	-8.1	
AKTO				Lg	Lg		11 32 43.5		
AKTO	**Aktyubinsk**	**13.32**	**311**	Pn		**Pn**	**11 28 45.6**	**-2.5**	
	comp=N,4.1nm,0.3s,baz=118,slow=14,SNR=82								
AKTO				Sn	Sn		11 31 07.9	-8.1	
	comp=N,1.5nm,0.3s,baz=18,slow=20,SNR=4.5								
AKTO				Lg	Lg		11 32 43.5		
	comp=N,0.5nm,0.3s,baz=176,slow=17,SNR=3.7								
NVS	**Novosibirsk**	**13.54**	**24**	*e*P		**Pn**	**11 28 52.8**	**+1.8**	
NVS				*e*S		Sn	11 31 12.9	-8.3	
SVE	**Sverdlovsk**	**16.43**	**334**	⇑*e*P		**Pn**	**11 29 25.2**	**-4.2**	
SVE				*e*S		Sn	11 32 18.7	-13	
SVE				pmax	pmax				
	comp=Z,12nm,0.9s								
DANN	**Dangsing**	**16.45**	**148**	*e*P		**P**	**11 29 33.8**	**+0.8**	
	comp=Z,26nm,0.7s								
DANN	**Dangsing**	**16.45**	**148**	*e*P		**P**	**11 29 33.8**	**+0.8**	
	comp=Z,26nm,0.7s								
ARU	**Arti**	**16.85**	**330**	*d* P		**Pn**	**11 29 30.5**	**-4.2**	
ARU				S		**Sn**	**11 32 36.4**	**-5.2**	
ARU				pmax	pmax				
	comp=Z,11nm,0.7s								
ARU	**Arti**	**16.85**	**330**	*e*P		**Pn**	**11 29 30.0**	**-4.7**	
	comp=Z,11nm,0.6s								
GKN	**Gorkha**	**17.11**	**146**	*e*P		**Pn**	**11 29 37.6**	**-0.9**	
GKN	**Gorkha**	**17.11**	**146**	*e*P		**Pn**	**11 29 37.6**	**-0.9**	
DMN	**Daman**	**17.66**	**145**	*e*P		**Pn**	**11 29 44.1**	**-1.2**	
DMN	**Daman**	**17.66**	**145**	*e*P		**Pn**	**11 29 44.1**	**-1.2**	
GUN	**Gumba**	**17.73**	**143**	*e*P		**Pn**	**11 29 43.9**	**-2.4**	
GUN	**Gumba**	**17.73**	**143**	*e*P		**Pn**	**11 29 43.9**	**-2.4**	
PKI	**Pulchoki**	**17.82**	**145**	*e*P		**Pn**	**11 29 45.8**	**-1.6**	
PKI	**Pulchoki**	**17.82**	**145**	*e*P		**Pn**	**11 29 45.8**	**-1.6**	
PKI	**Pulchoki**	**17.82**	**145**	*e*P		**Pn**	**11 29 45.8**	**-1.6**	
JIRN	**Jiri**	**18.08**	**143**	*e*P		**Pn**	**11 29 48.9**	**-1.8**	
	comp=Z,11nm,0.5s								
JIRN	**Jiri**	**18.08**	**143**	*e*P		**Pn**	**11 29 48.9**	**-1.8**	
	comp=Z,11nm,0.5s								
RAMN	**Ramite**	**18.88**	**143**	*e*P		**P**	**11 29 59.1**	**-0.6**	
	comp=Z,24nm,0.7s								
RAMN	**Ramite**	**18.88**	**143**	*e*P		**P**	**11 29 59.1**	**-0.6**	
	comp=Z,24nm,0.7s								
TAPN	**Taplejung**	**19.05**	**139**	*e*P		**Pn**	**11 30 02.0**	**-0.4**	
	comp=Z,23nm,0.8s								
TAPN	**Taplejung**	**19.05**	**139**	*e*P		**Pn**	**11 30 02.0**	**-0.4**	
	comp=Z,23nm,0.8s								
ODAN	**Odare**	**19.31**	**141**	*e*P		**Pn**	**11 30 05.0**	**-0.5**	
	comp=Z,19nm,0.6s								
ODAN	**Odare**	**19.31**	**141**	*e*P		**Pn**	**11 30 05.0**	**-0.5**	
	comp=Z,19nm,0.6s								
MAK	**Makhachkala**	**19.33**	**280**	*e*P		**Pn**	**11 30 06.2**	**+0.9**	
MAK				MLR		MLR			
	comp=Z,119nm,11.0s								
GTA	**Gaotai**	**19.80**	**91**	*e*P		**Pn**	**11 30 10.8**	**-0.3**	
GTA				pP		**pP**	**11 30 15.5**	**+2.1**	
GTA				sP		**sP**	**11 30 18.5**	**+3.4**	
GTA				pmax	pmax				
	comp=Z,4.0nm,1.1s								
MOY	**Mondy**	**20.34**	**55**	*e*P		Pn	11 30 17.5	0.0	
ZAK	**Zakamensk**	**21.48**	**59**	*e*P		**P**	**11 30 28.7**	**+1.0**	
ZAK				pmax	pmax				
	comp=Z,5.0nm,1.0s								
TLY	**Talaya**	**21.95**	**56**	*e*P		**P**	**11 30 35.2**	**+2.6**	
TLY				pmax	pmax				
	comp=Z,1.0nm,0.6s								
TLY				MLR	MLR				
	comp=Z,45nm,14.0s								
GNI	**Garni**	**21.96**	**273**	*e*P		**P**	**11 30 36.1**	**+3.2**	
	comp=Z,21nm,0.9s								
GNI	**Garni**	**21.96**	**273**	P		**P**	**11 30 35.0**	**+2.0**	
	comp=Z,6.4nm,0.6s,baz=28,slow=7.4,SNR=8.9								
GNI				LR	LR		11 40 39.5		
	comp=Z,31nm,19.1s,baz=171,slow=41								
KIV	**Kislovodsk**	**22.66**	**284**	*e*P		**P**	**11 30 41.0**	**+0.7**	
KIV				pmax	pmax				
	comp=Z,13nm,1.0s								
KIV				MLR	MLR				
	comp=Z,28nm,14.0s								
KIV	**Kislovodsk**	**22.66**	**284**	P		**P**	**11 30 39.0**	**-1.4**	
	comp=Z,9.0nm,0.6s								
SONM	**Songino Array**	**23.31**	**66**	P		**P**	**11 30 45.1**	**-1.9**	
SONM	**Songino Array**	**23.31**	**66**	P		**P**	**11 30 45.1**	**-1.9**	
	comp=Z,0.7nm,0.9s,baz=275,slow=8.9,SNR=7.5								
SONM				LR	LR		11 40 57.2		
	comp=Z,52nm,19.2s,baz=112,slow=40								
VRHR	**Novokhopersk**	**23.41**	**302**	*e*P		**P**	**11 30 51.0**	**+3.2**	
VRHR				pmax	pmax				
	comp=N,10.0nm,0.7s								
VRHR				pmax	pmax				
	comp=Z,50nm,0.7s								
VRHR				pmax	pmax				
	comp=E,9.0nm,0.3s								
VORD	**Divnogorie**	**24.85**	**301**	*e*P		**P**	**11 30 58.3**	**-3.0**	
VORD				pmax	pmax				
	comp=Z,2.0nm,0.6s								
VORD				pmax	pmax				
	comp=N,4.0nm,0.7s								
VORD				pmax	pmax				
	comp=E,7.0nm,0.8s								
VSR	**Storozhevoye**	**24.96**	**302**	*e*P		**P**	**11 31 06.9**	**+4.6**	
VSR				pmax	pmax				
	comp=N,2.0nm,0.7s								
VSR				pmax	pmax				
	comp=E,8.0nm,0.7s								
VSR				pmax	pmax				
	comp=Z,5.0nm,0.7s								
BRTR	**Keskin Array B**	**30.22**	**278**	P		**P**	**11 31 51.5**	**+1.8**	
BRTR	**Keskin Array B**	**30.22**	**278**	P		**P**	**11 31 51.5**	**+1.8**	
	comp=Z,1.3nm,0.9s,baz=65,slow=7.0,SNR=6.9								
AKASG	**Malin Array Be**	**31.22**	**300**	*ce*P		**P**	**11 31 58.5**	**+0.2**	
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.7s								
VSU	**Vasula**	**32.99**	**315**	⇑*e*P		**P**	**11 32 13.3**	**-0.4**	
VSU				pmax	pmax				
	comp=Z,28nm,2.2s								
FINES	**FINESS Array B**	**33.80**	**320**	P		**P**	**11 32 20.1**	**-0.7**	
FINES	**FINESS Array B**	**33.80**	**320**	P		**P**	**11 32 20.1**	**-0.7**	
	comp=Z,3nm,0.7s,baz=123,slow=9.4,SNR=8.5								
ARCES	**ARCESS Array B**	**36.36**	**334**	P		**P**	**11 32 43.1**	**+0.4**	
ARCES	**ARCESS Array B**	**36.36**	**334**	P		**P**	**11 32 43.1**	**+0.4**	
	comp=Z,5.3nm,0.9s,baz=73,slow=4.2,SNR=4.6								
YAK	**Yakutsk**	**37.64**	**40**	*e*P		**P**	**11 32 53.6**	**0.0**	
YAK				pmax	pmax				
	comp=Z,7.0nm,0.7s								
NB2	**NORSAR Subarra**	**40.93**	**319**	P		**P**	**11 33 20.5**	**-0.7**	
	comp=Z,2.1nm,0.9s,baz=87,slow=8.6								
NOA	**NORSAR Array B**	**40.93**	**319**	P		**P**	**11 33 21.3**	**+0.1**	
NOA	**NORSAR Array B**	**40.93**	**319**	P		**P**	**11 33 21.3**	**+0.1**	
	comp=Z,0.9nm,0.6s,baz=90,slow=8.3,SNR=4.6								
NOA				LR	LR		11 50 51.1		
	comp=Z,60nm,18.7s,baz=100,slow=37								
GERES	**GERESS Array B**	**41.43**	**300**	P		**P**	**11 33 27.7**	**+2.1**	
GERES	**GERESS Array B**	**41.43**	**300**	P		**P**	**11 33 27.7**	**+2.1**	
	comp=Z,0.8nm,0.6s,baz=64,slow=7.6,SNR=6.2								
JNU	**Nakatsue**	**45.20**	**83**	LR		LR	11 54 04.6		
	comp=Z,84nm,18.9s,baz=308,slow=38								
ESDC	**Sonseca Array**	**56.65**	**295**	P		**P**	**11 35 24.3**	**+2.1**	
ESDC	**Sonseca Array**	**56.65**	**295**	P		**P**	**11 35 24.3**	**+2.1**	
	comp=Z,0.5nm,0.6s,baz=55,slow=6.8,SNR=5.1								
ILAR	**Eielson Array**	**68.14**	**18**	P		**P**	**11 36 38.0**	**-0.6**	
ILAR	**Eielson Array**	**68.14**	**18**	P		**P**	**11 36 38.0**	**-0.6**	
	comp=Z,0.7nm,0.7s,baz=318,slow=5.0,SNR=8.9								
TORD	**Torodi Ar. Bea**	**68.15**	**268**	P		**P**	**11 36 40.5**	**+1.1**	
TORD	**Torodi Ar. Bea**	**68.15**	**268**	P		**P**	**11 36 40.5**	**+1.1**	
	comp=Z,1.4nm,0.9s,baz=48,slow=5.9,SNR=6.1								
YKA	**Yellowknife Ar**	**74.86**	**4**	P		**P**	**11 37 18.9**	**-0.3**	
YKA	**Yellowknife Ar**	**74.86**	**4**	P		**P**	**11 37 18.9**	**-0.3**	
	comp=Z,0.5nm,0.7s,baz=352,slow=5.9,SNR=14								
SCHQ	**Schefferville**	**77.17**	**338**	P		**P**	**11 37 34.6**	**+2.1**	
SCHQ	**Schefferville**	**77.17**	**338**	P		**P**	**11 37 34.6**	**+2.1**	
	comp=Z,1.6nm,0.7s,baz=53,slow=5.1,SNR=3.4								
WRA	**Warramunga Arr**	**83.55**	**125**	P		**P**	**11 38 06.1**	**-1.1**	
WRA	**Warramunga Arr**	**83.55**	**125**	P		**P**	**11 38 06.1**	**-1.1**	
	comp=Z,0.4nm,0.4s,baz=332,slow=4.8,SNR=11								
ASAR	**Alice Springs**	**86.13**	**127**	P		**P**	**11 38 19.1**	**-1.0**	
ASAR	**Alice Springs**	**86.13**	**127**	P		**P**	**11 38 19.1**	**-1.0**	
	comp=Z,0.8nm,0.7s,baz=325,slow=4.8,SNR=11								

*NNC **01** 11:36:42.2±2.1, 42.58N×73.87E, h0km, mb2.8, mpv2.8, Error ellipse: s-maj=38.2km s-min=10.8km az=174.0*
*KNET **01** 11:36:43.6, 42.77N×73.80E, h18km, ml2.5*
ISC 01 11:36:42.3±1.1, 42.84N±0.05×73.74E±0.04, h10km, n12, σ0s58/23, 2C, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EKS2	**Erkin-Say**	**0.18**	**171**	P		**Pg**	**11 36 47.3**	**+1.1**
	SNR=7415							
EKS2				P		**Pg**	**11 36 47.3**	**+1.1**
	SNR=7415							
AAK	**Ala-Archa**	**0.59**	**110**	P		**Pg**	**11 36 53.9**	**+0.1**
	SNR=53							
AAK				P		**Pg**	**11 36 53.9**	**+0.1**
	SNR=53							
USP	**Ospenovka**	**0.70**	**52**	P		**Pb**	**11 36 57.5**	**+0.9**
	SNR=64							
USP				P		**Pb**	**11 36 57.5**	**+0.9**
	SNR=64							
AML	**Almayashu**	**0.71**	**183**	P		**Pg**	**11 36 56.4**	**+0.4**
	SNR=279							
AML				P		**Pg**	**11 36 56.4**	**+0.4**
	SNR=279							
CHMS	**Chumysh**	**0.76**	**78**	P		**Pg**	**11 36 57.5**	**+0.5**
	SNR=16							
CHMS				P		**Pg**	**11 36 57.5**	**+0.5**
	SNR=16							
UCH	**Uchtor**	**0.84**	**137**	P		**Pg**	**11 36 58.2**	**-0.3**
	SNR=13							
UCH				P		**Pg**	**11 36 58.2**	**-0.3**
	SNR=13							
KBK	**Karagaybulak**	**0.91**	**101**	P		**Pg**	**11 36 59.8**	**0.0**
	SNR=38							
KBK				P		**Pg**	**11 36 59.8**	**0.0**
	SNR=38							
KZA	**Kyzart**	**1.35**	**124**	P		**Pn**	**11 37 07.4**	**-0.2**
	SNR=24							
KZA				P		**Pn**	**11 37 07.4**	**-0.2**
	SNR=24							
TKM2	**Tokmak 2**	**1.37**	**86**	⇑P		**Pn**	**11 37 07.6**	**0.0**
	2.9nm,0.1s							
TKM2				⇑S		**Sn**	**11 37 24.8**	**-1.2**
	19nm,0.2s							
TKM2	**Tokmak 2**	**1.37**	**86**	P		**Pn**	**11 37 07.7**	**+0.1**
	SNR=12							
TKM2				P		**Pn**	**11 37 07.7**	**+0.1**
	SNR=12							
ULHL	**Ulahol**	**1.94**	**107**	P		**Pb**	**11 37 17.7**	**-0.2**
	SNR=121							
ULHL				P		**Pb**	**11 37 17.7**	**-0.2**
	SNR=121							
KK31	**Karatay Array**	**2.38**	**277**	Pg		**Pg**	**11 37 27.3**	**-0.6**
	0.6nm,0.2s,baz=102,slow=14,SNR=27							
KK31				Lg		Lg	11 38 02.3	
	22nm,0.5s,baz=101,slow=28,SNR=34							

IDC 01 11:45:02.8±4.8, 5.75S×147.57E, h201km±45km, mb3.2/2, mb1 3.3/4, mb1mx3.0/17, mbtmp3.2/4, Error ellipse: s-maj=77.2km s-min=41.8km az=127.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.66**	**186**	P		Pn	11 46 00.8	+0.3
	9.6nm,0.3s,baz=4.4,slow=13,SNR=56							
PMG				S		S	11 46 46.2	+1.0
	6.7nm,0.3s,baz=190,slow=18,SNR=7.4							
WRA	**Warramunga Arr**	**19.10**	**221**	P		P	11 49 10.2	-0.4
	0.3nm,0.3s,baz=46,slow=9.6,SNR=13							
ASAR	**Alice Springs**	**22.15**	**215**	P		P	11 49 43.0	+0.5
	0.9nm,0.7s,baz=50,slow=8.0,SNR=11							
FITZ	**Fitzroy Crossi**	**24.68**	**238**	P		P	11 50 05.5	-0.1
	1.8nm,0.5s,baz=67,slow=7.7,SNR=3.3							
TORD	**Torodi Ar. Bea**	**145.58**	**285**	PKPbc		PKPdf	12 04 17.9	-0.3
	0.2nm,0.4s,baz=58,slow=3.4,SNR=5.1							

*ISK **01** 11:50:42.0, 40.49N×42.27E, h2km, MD2.7*
*DDA **01** 11:50:44.0, 40.42N×42.34E, h7km, MD3.1*
*CSEM **01** 11:50:44.0±0.1, 40.43N×42.35E, h2km, MD3.1, Error ellipse: s-maj=3.3km s-min=2.6km az=34.0*
ISC 01 11:50:44.3±1.1, 40.43N±0.02×42.35E±0.02, h6km±11km, n21, σ0s60/41, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOMI	**Horasan**	**0.51**	**222**	*i* P		**Pg**	**11 50 53.7**	**-0.4**
HOMI				*i* S		**Sg**	**11 51 01.0**	**+0.1**
KARS	**Kars**	**0.59**	**70**	*e*PG		**Pg**	**11 50 55.2**	**-0.4**
KARS				*e*SG		**Sb**	**11 51 05.1**	**-0.7**
KARS	**Kars**	**0.59**	**70**	*e*Pg		**Pg**	**11 50 55.2**	**-0.4**
KARS				*e*Sg		**Sb**	**11 51 05.1**	**-0.7**
DDEM	**Demirkent**	**0.65**	**316**	*i* P		**Pg**	**11 50 56.5**	**-0.3**
DDEM				*i* S		**Sg**	**11 51 04.8**	**-0.5**
DDEM	**Demirkent**	**0.65**	**316**	*i* P		**Pg**	**11 50 56.5**	**-0.3**
DDEM				*i* S		**Sg**	**11 51 04.8**	**-0.5**
DAGI	**Agillar**	**0.73**	**333**	*i* P		**Pg**	**11 50 58.2**	**-0.1**
DAGI				*i* S		**Sg**	**11 51 08.4**	**+0.6**
DBAD	**Bademkaya**	**0.77**	**320**	*i* P		**Pg**	**11 50 59.0**	**-0.1**
DBAD				*i* S		**Sg**	**11 51 09.8**	**+0.6**
DBAD	**Bademkaya**	**0.77**	**320**	*i* P		**Pg**	**11 50 59.0**	**-0.1**
DBAD				*i* S		**Sg**	**11 51 09.8**	**+0.6**
DIGO	**Kars**	**0.78**	**91**	*i* P		**Pg**	**11 50 59.0**	**-0.3**
DIGO				*i* S		**Sg**	**11 51 09.7**	**+0.2**
DIGO	**Kars**	**0.78**	**91**	*i* P		**Pg**	**11 50 59.0**	**-0.3**
DIGO				*i* S		**Sg**	**11 51 09.7**	**+0.2**
ARTV	**Artvin**	**0.82**	**337**	*i* P		**Pg**	**11 50 59.8**	**-0.3**
ARTV				*i* S		**Sg**	**11 51 11.9**	**+1.1**
ARTV	**Artvin**	**0.82**	**337**	*i* P		**Pg**	**11 50 59.8**	**-0.3**
ARTV				*i* S		**Sg**	**11 51 11.9**	**+1.1**
ERZM	**Erzurum**	**0.92**	**236**	*i* P		**Pg**	**11 51 01.5**	**-0.4**
ERZM				*i* S		**Sg**	**11 51 13.5**	**-0.3**
ERZM	**Erzurum**	**0.92**	**236**	*i* P		**Pg**	**11 51 01.5**	**-0.4**
ERZM				*i* S		**Sg**	**11 51 13.5**	**-0.3**
EZM	**Erzurum**	**0.92**	**236**	*e*PG		**Pg**	**11 51 00.4**	**-1.5**
AGRB	**Hanur-Agry**	**0.98**	**150**	*e*PG		**Pg**	**11 51 03.5**	**+0.4**
AGRB				*e*SG		**Sn**	**11 51 19.0**	**-0.2**
AGRB	**Hanur-Agry**	**0.98**	**150**	*e*Pg		**Pg**	**11 51 03.5**	**+0.4**
AGRB				*e*Sg		**Sn**	**11 51 19.0**	**-0.2**
TUTA	**Tutak**	**1.08**	**161**	*i* P		**Pg**	**11 51 04.9**	**-0.2**
TUTA				*i* S		**Sb**	**11 51 20.3**	**+0.2**
TUTA	**Tutak**	**1.08**	**161**	*i* P		**Pg**	**11 51 04.9**	**-0.2**
TUTA				*i* S		**Sb**	**11 51 20.3**	**+0.2**
KOPT	**Kop Dagi**	**1.48**	**255**	*i* P		**Pn**	**11 51 11.9**	**+0.2**
KOPT				*i* S		**Sg**	**11 51 33.1**	**+1.3**
KOPT	**Kop Dagi**	**1.48**	**255**	*i* P		**Pn**	**11 51 11.9**	**+0.2**
KOPT				*i* S		**Sg**	**11 51 33.1**	**+1.3**

IDC 01 12:07:51.4±3.2, 46.31N×152.51E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.3/24, mbtmp3.4/4, ML3.0/1, Error ellipse: s-maj=73.4km s-min=51.1km az=8.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PETK	**Petropavlovsk-**	**7.59**	**24**	Pn		Pn	12 09 43.0	-0.3
	0.2nm,0.3s,baz=183,slow=12,SNR=7.1							
YKA	**Yellowknife Ar**	**51.53**	**36**	P		P	12 16 58.4	-0.1
	0.3nm,0.7s,baz=291,slow=6.9,SNR=4.5							
FINES	**FINESS Array B**	**64.26**	**335**	P		P	12 18 27.6	-0.3
	0.7nm,0.5s,baz=38,slow=9.6,SNR=5.2							
TXAR	**Lajitas Array**	**78.08**	**60**	P		P	12 19 52.6	+0.3
	0.1nm,0.4s,baz=301,slow=6.2,SNR=4.8							

*ISCJB **01** 12:15:16.5±0.6, 78.31N±0.06×7.2E±0.2, h10km, mb3.4/4, MS3.2/5, Error ellipse: s-maj=8.7km s-min=5.8km az=168.7*
*CSEM **01** 12:15:16.9±0.5, 78.35N×7.36E, h10km, ML3.4, Error ellipse: s-maj=23.2km s-min=11.4km az=170.0*
*IDC **01** 12:15:20.1±1.3, 78.30N×7.51E, h0km, mb3.4/4, mb1 3.7/6, mb1mx3.4/26, mbtmp3.6/6, ML3.

KURBB	**Kurchatov Arra**	37.02	95	LR	LR	12 42 41.4		
	comp=Z,39nm,18.2s,baz=290,slow=44							
MKAR	**Makanchi Array**	41.43	93	P	**P**	**12 23 09.7**	**+2.6**	
	comp=Z,0.7nm,0.7s,baz=337,slow=7.2,SNR=11							
AAK	**Ala-Archa**	43.85	103	LR	LR	12 42 56.7		
	comp=Z,43nm,21.7s,baz=319,slow=38							
SONM	**Songino Array**	45.24	70	P	**P**	**12 23 40.7**	**+2.7**	
	comp=Z,0.2nm,0.7s,baz=330,slow=13,SNR=2.3							
TXAR	**Lajitas Array**	65.73	297	P	**P**	**12 26 03.9**	**-1.6**	
	comp=Z,0.4nm,0.8s,baz=33,slow=4.3,SNR=4.5							

*NSSP **01** 12:27:15.2, 40°.38N×43°.30E, h5km, Ms3.6*
*ISK **01** 12:27:16.2, 40°.46N×42°.33E, h5km, ML3.6*
*DDA **01** 12:27:16.8, 40°.43N×42°.36E, h3km, MD3.7*
*CSEM **01** 12:27:17.6±0.2, 40°.45N×42°.35E, h2km, ML3.6, Error ellipse: s-maj=4.3km s-min=3.3km az=26.0*
*TIF **01** 12:27:19.2, 40°.50N×42°.06E, h23km±3km*

ISC 01 12:27:16.7±1.0, 40°.47N±0°.02×42°.31E±0°.02, h10km±9km, n84, σ1.954/111, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.52**	**217**	*i* P	**Pg**	**12 27 36.7**	**-0.2**
HOMI				*i* S	**Sg**	**12 27 34.7**	**+0.6**
DDEM	**Demirkent**	**0.60**	**315**	*i* P	**Pb**	**12 27 30.0**	**+0.6**
DDEM				*i* S	**Sn**	**12 27 39.9**	**-1.5**
DDEM	**Demirkent**	**0.60**	**315**	*i* P	**Pb**	**12 27 30.0**	**+0.6**
DDEM				*i* S	**Sn**	**12 27 39.9**	**-1.5**
KARS	**Kars**	**0.61**	**74**	PG	**Pb**	**12 27 29.0**	**-0.5**
KARS				*e*SG	**Sb**	**12 27 38.2**	**0.0**
KARS	**Kars**	**0.61**	**74**	*i* Pg	**Pb**	**12 27 29.0**	**-0.5**
KARS				*e*Sg	**Sb**	**12 27 38.2**	**0.0**
DAGI	**Agillar**	**0.68**	**334**	*i* P	**Pn**	**12 27 31.4**	**-1.2**
DAGI				*i* S	**Sn**	**12 27 42.6**	**-0.7**
ARTV	**Artvin**	**0.78**	**338**	*i* P	**Pn**	**12 27 33.2**	**-0.8**
ARTV				*i* S	**Sn**	**12 27 44.9**	**-0.9**
ARTV	**Artvin**	**0.78**	**338**	*i* P	**Pn**	**12 27 33.2**	**-0.8**
ARTV				*i* S	**Sn**	**12 27 44.9**	**-0.9**
DIGO	**Kars**	**0.81**	**93**	*i* P	**Pb**	**12 27 31.9**	**-1.2**
DIGO				*i* S	**Sb**	**12 27 43.3**	**-0.9**
DIGO	**Kars**	**0.81**	**93**	*i* P	**Pb**	**12 27 31.9**	**-1.2**
DIGO				*i* S	**Sb**	**12 27 43.3**	**-0.9**
ERZM	**Erzurum**	**0.92**	**233**	*i* P	**Pb**	**12 27 34.9**	**+0.1**
ERZM				*i* S	**Sg**	**12 27 42.3**	**-4.0**
ERZM	**Erzurum**	**0.92**	**233**	*i* P	**Pb**	**12 27 34.9**	**+0.1**
ERZM				*i* S	**Sg**	**12 27 42.3**	**-4.0**
EZM	**Erzurum**	**0.92**	**233**	PG	**Pb**	**12 27 35.0**	**+0.1**
DBOC	**Borcka**	**1.01**	**331**	*i* P	**Pn**	**12 27 36.9**	**-0.1**
DBOC				*i* S	**Sn**	**12 27 51.3**	**+0.1**
DBOC	**Borcka**	**1.01**	**331**	*i* P	**Pn**	**12 27 36.9**	**-0.1**
DBOC				*i* S	**Sn**	**12 27 51.3**	**+0.1**
AGRB	**Hanur-Agry**	**1.03**	**149**	*e*PG	**Pb**	**12 27 35.9**	**-0.9**
AGRB	**Hanur-Agry**	**1.03**	**149**	*e*Pg	**Pb**	**12 27 35.9**	**-0.9**
BCA	**Borcka**	**1.11**	**332**	*e*PN	**Pn**	**12 27 38.6**	**+0.3**
BCA	**Borcka**	**1.11**	**332**	*e*Pn	**Pn**	**12 27 38.7**	**+0.3**
TUTA	**Tutak**	**1.13**	**160**	*i* P	**Pn**	**12 27 38.1**	**-0.7**
TUTA				*i* S	**Sn**	**12 27 53.4**	**-1.2**
GMRZ	**Gyumri**	**1.21**	**73**	*e*P	Pg	12 27 46.0	+6.1
PZAR	**Pazar-Rize**	**1.29**	**304**	*e*PN	**Pg**	**12 27 42.4**	**+0.9**
PZAR	**Pazar-Rize**	**1.29**	**304**	*e*Pn	**Pg**	**12 27 42.4**	**+0.9**
AKH	**Akhalkalaki**	**1.30**	**43**	P	**Pg**	**12 27 42.1**	**+0.4**
AKH				S	**Sg**	**12 27 60.0**	**+1.4**
DYDN	**Diyadin**	**1.40**	**131**	*i* P	**Pb**	**12 27 42.1**	**-1.0**
DYDN				*i* S	**Sg**	**12 28 01.0**	**-0.8**
KOPT	**Kop Dagi**	**1.46**	**253**	*i* P	**Pg**	**12 27 45.4**	**+0.6**
KOPT				*i* S	**Sg**	**12 28 06.8**	**+3.1**
KOPT	**Kop Dagi**	**1.46**	**253**	*i* P	**Pg**	**12 27 45.4**	**+0.6**
KOPT				*i* S	**Sg**	**12 28 06.8**	**+3.1**
VRTB	**Varto-Mus**	**1.46**	**207**	*e*PN	**Pg**	**12 27 45.1**	**+0.3**
VRTB	**Varto-Mus**	**1.46**	**207**	*e*Pn	**Pg**	**12 27 45.1**	**+0.3**
BAYT	**Ayd¯–ntepe-Bay**	**1.66**	**268**	*e*PN	**Pb**	**12 27 48.0**	**+0.5**
BAYT	**Ayd¯–ntepe-Bay**	**1.66**	**268**	*e*Pn	**Pb**	**12 27 48.0**	**+0.5**
CLDR	**Caldiran**	**1.81**	**136**	*e*PN	**Pb**	**12 27 49.5**	**-0.6**
CLDR	**Caldiran**	**1.81**	**136**	*e*Pn	**Pb**	**12 27 49.5**	**-0.6**
GNI	**Garni**	**1.88**	**99**	*e*PN	**Pb**	**12 27 50.7**	**-0.6**
GNI	**Garni**	**1.88**	**99**	*e*Pn	**Pb**	**12 27 50.7**	**-0.6**
BNGB	**Bing¶ll**	**1.94**	**221**	*e*PN	**Pb**	**12 27 51.4**	**-0.8**
TATV	**Tatvan**	**1.96**	**181**	*i* P	**Pg**	**12 27 52.9**	**-1.3**
TATV				*i* S	**Sg**	**12 28 19.0**	**-0.6**
TATV	**Tatvan**	**1.96**	**181**	*i* S	**Sg**	**12 28 19.0**	**-0.6**
MACK	**Trabzon**	**1.99**	**285**	*i* P	**Pg**	**12 27 54.3**	**-0.6**
MACK				*i* S	**Sg**	**12 28 21.0**	**+0.3**
MACK	**Trabzon**	**1.99**	**285**	*i* P	**Pg**	**12 27 54.3**	**-0.6**
MACK				*i* S	**Sg**	**12 28 21.0**	**+0.3**
KTUT	**Trabzon**	**2.00**	**286**	*e*PN	**Pb**	**12 27 52.7**	**-0.5**
KTUT	**Trabzon**	**2.00**	**286**	*e*Pn	**Pb**	**12 27 52.7**	**-0.5**
GOR	**Gori**	**2.04**	**41**	P	**Pg**	**12 27 55.5**	**-0.2**
GOR				S	**Sg**	**12 28 24.5**	**+2.4**
VANB	**Van**	**2.04**	**156**	*e*PN	**Pb**	**12 27 53.1**	**-0.9**
VANB	**Van**	**2.04**	**156**	*e*Pn	**Pb**	**12 27 53.1**	**-0.9**
TVAN	**Van**	**2.11**	**156**	*i* P	**Pg**	**12 27 55.8**	**-1.4**
TVAN				*e*S	**Sg**	**12 28 29.2**	**+4.6**
TVAN	**Van**	**2.11**	**156**	*i* P	**Pg**	**12 27 55.8**	**-1.4**
GUMT	**Gumushane**	**2.16**	**271**	*e*PN	**Pb**	**12 27 54.9**	**-1.1**
GUMT	**Gumushane**	**2.16**	**271**	*e*Pn	**Pb**	**12 27 54.9**	**-1.1**
VANT	**Van**	**2.17**	**160**	*e*PN	**Pb**	**12 27 54.7**	**-1.5**
VANT	**Van**	**2.17**	**160**	*e*Pn	**Pb**	**12 27 54.7**	**-1.5**
ERZN	**Erzincan**	**2.17**	**247**	*e*PN	**Pb**	**12 27 54.8**	**-1.4**
TBLG	**Delisi**	**2.23**	**55**	P	**Pb**	**12 27 56.3**	**-0.8**
TBLG				S	**Sg**	**12 28 30.7**	**+2.4**
TBLG	**Delisi**	**2.23**	**55**	P	**Pb**	**12 27 56.3**	**-0.8**
ONI	**Oni**	**2.29**	**22**	P	**Pb**	**12 27 58.0**	**-0.2**
ONI				S	**Sg**	**12 28 31.4**	**+1.1**
KELT	**Kelkit**	**2.36**	**263**	*i* P	**Pb**	**12 27 57.4**	**-2.0**
KELT				*i* S	**Sb**	**12 28 27.2**	**-1.5**
KELT	**Kelkit**	**2.36**	**263**	*i* P	**Pb**	**12 27 57.4**	**-2.0**
KELT				*i* S	**Sb**	**12 28 27.2**	**-1.5**
DGRG	**David-gareji**	**2.52**	**66**	P	**Pb**	**12 28 00.9**	**-1.1**
DGRG				S	**Sb**	**12 28 32.8**	**-0.3**
BEST	**Besiri**	**2.69**	**198**	*i* P	**Pb**	**12 28 03.3**	**-1.8**
BEST				*i* S	**Sg**	**12 28 43.6**	**+0.3**
PTK	**Pertek**	**2.75**	**236**	*e*PN	**Pn**	**12 28 03.2**	**+2.2**
PTK	**Pertek**	**2.75**	**236**	*e*Pn	**Pn**	**12 28 03.2**	**+2.2**
ESPY	**Espiye-Giresun**	**2.76**	**281**	*e*PN	**Pb**	**12 28 03.5**	**-2.7**
ESPY	**Espiye-Giresun**	**2.76**	**281**	*e*Pn	**Pb**	**12 28 03.5**	**-2.7**
ILIC	**ilic-Erzincan**	**3.05**	**252**	*e*PN	**Pn**	**12 28 07.3**	**+2.2**
ILIC	**ilic-Erzincan**	**3.05**	**252**	*e*Pn	**Pn**	**12 28 07.3**	**+2.2**
GRSN	**GIRESUNGRSN**	**3.11**	**280**	*i* P	**Pb**	**12 28 11.1**	**-1.0**
GRSN				*i* S	**Sb**	**12 28 48.1**	**-2.0**
GRSN	**GIRESUNGRSN**	**3.11**	**280**	*i* P	**Pb**	**12 28 11.1**	**-1.0**
GRSN				*i* S	**Sb**	**12 28 48.1**	**-2.0**
SVRC	**Sivrice-ELAZID**	**3.12**	**229**	*e*PN	**Pn**	**12 28 08.6**	**+2.4**
SVRC	**Sivrice-ELAZID**	**3.12**	**229**	*e*Pn	**Pn**	**12 28 08.6**	**+2.4**
SUSE	**Susehri**	**3.15**	**267**	*i* P	**Pb**	**12 28 14.2**	**+1.3**
SUSE				*i* S	**Sg**	**12 28 55.5**	**-2.4**
KEMA	**Kemaliye**	**3.17**	**249**	*i* P	**Pb**	**12 28 14.3**	**+1.0**
KEMA				*e*S	**Sb**	**12 28 51.5**	**-0.4**
ELZG	**Elazig**	**3.24**	**234**	*i* P	**Pn**	**12 28 10.1**	**+2.3**
ELZG				*e*S	**Sg**	**12 29 02.5**	**+1.8**
ELZG	**Elazig**	**3.24**	**234**	*i* P	**Pn**	**12 28 10.1**	**+2.3**
MARD	**Mardin**	**3.37**	**201**	*i* P	**Pb**	**12 28 18.4**	**+1.8**
MARD				*i* S	**Sn**	**12 28 53.0**	**+3.5**
CUKT	**Cukurca**	**3.37**	**162**	*e*PN	**Pn**	**12 28 11.7**	**+2.2**
CUKT	**Cukurca**	**3.37**	**162**	*e*Pn	**Pn**	**12 28 11.7**	**+2.2**
MYA	**Malataya**	**3.69**	**236**	*e*PN	Pn	12 28 16.9	+3.0
MYA	**Malataya**	**3.69**	**236**	*e*Pn	Pn	12 28 16.9	+3.0
MALT	**Malatya**	**3.70**	**236**	*e*PN	Pn	12 28 17.5	+3.5
MALT	**Malatya**	**3.70**	**236**	*e*Pn	Pn	12 28 17.5	+3.5
RSDY	**Resadiye-TOKAT**	**3.81**	**271**	*e*PN	Pn	12 28 18.6	+3.2
RSDY	**Resadiye-TOKAT**	**3.81**	**271**	*e*Pn	Pn	12 28 18.6	+3.2
URFA	**Urfa**	**4.07**	**223**	*e*PN	Pn	12 28 21.9	+2.9
URFA	**Urfa**	**4.07**	**223**	*e*Pn	Pn	12 28 21.9	+2.9

*ISCJB **01** 12:28:37.8±0.6, 40°.42N±0°.03×21°.84E±0°.04, h9km±7km, Error ellipse: s-maj=5.7km s-min=5.2km az=144.0*
*CSEM **01** 12:28:37.7±0.1, 40°.41N×21°.85E, h8km, ML1.8/5, Error ellipse: s-maj=3.9km s-min=3.0km az=29.0*
*THE **01** 12:28:38.0, 40°.41N×21°.85E, h10km±1km, ML1.8/5, Error ellipse: s-maj=1.9km s-min=0.4km az=218.0*
*ATH **01** 12:28:38.8, 40°.34N×21°.90E, h5km±4km, MD3.0/4*

ISC 01 12:28:37.8±1.1, 40°.41N±0°.03×21°.87E±0°.03, h9km±9km, n17, σ0°.23/30, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.13**	**214**	*e*P	**Pg**	**12 28 40.6**	**-0.2**
KZN				*e*SG	**Sg**	**12 28 43.2**	**+0.3**
KZN	**Kozani**	**0.13**	**214**	P	**Pg**	**12 28 40.6**	**-0.2**
KZN				S	**Sg**	**12 28 43.1**	**+0.2**
FNA	**Florina**	**0.52**	**315**	P	**Pg**	**12 28 48.0**	**0.0**
FNA				S	**Sg**	**12 28 55.0**	**+0.1**
FNA	**Florina**	**0.52**	**315**	P	**Pg**	**12 28 48.0**	**0.0**
FNA				S	**Sg**	**12 28 55.0**	**+0.1**
LIT	**Litokhoron**	**0.57**	**123**	P	**Pg**	**12 28 48.8**	**-0.1**
LIT				S	**Sb**	**12 28 57.9**	**-0.3**
LIT	**Litokhoron**	**0.57**	**123**	*e*PB	**Pg**	**12 28 48.8**	**-0.1**
LIT	**Litokhoron**	**0.57**	**123**	P	**Pg**	**12 28 48.8**	**-0.1**
LIT				S	**Sb**	**12 28 57.9**	**-0.3**
NEST	**Nestorio**	**0.62**	**270**	P	**Pg**	**12 28 49.8**	**-0.1**
NEST				S	**Sg**	**12 28 58.5**	**+0.4**
NEST	**Nestorio**	**0.62**	**270**	P	**Pg**	**12 28 49.8**	**-0.1**
NEST				S	**Sg**	**12 28 58.5**	**+0.4**
GRG	**Griva**	**0.68**	**37**	P	**Pg**	**12 28 50.8**	**-0.1**
GRG				S	**Sb**	**12 29 01.1**	**-0.3**
GRG	**Griva**	**0.68**	**37**	P	**Pg**	**12 28 50.8**	**-0.1**
GRG				S	**Sb**	**12 29 01.1**	**-0.3**
THL	**Klokotos Trika**	**0.86**	**172**	P	**Pg**	**12 28 54.0**	**-0.3**
THL				S	**Sb**	**12 29 06.4**	**0.0**
THL	**Klokotos Trika**	**0.86**	**172**	*e*PB	**Pg**	**12 28 54.2**	**-0.1**
THL	**Klokotos Trika**	**0.86**	**172**	*e*Pb	**Pg**	**12 28 54.2**	**-0.1**
THL				S	**Sb**	**12 29 06.4**	**0.0**
PLG	**Polygyros**	**1.21**	**91**	*e*PB	**Pg**	**12 29 01.3**	**+0.3**
PLG	**Polygyros**	**1.21**	**91**	*e*Pb	**Pg**	**12 29 01.3**	**+0.3**

*ISK **01** 12:36:35.5, 40°.47N×42°.32E, h5km, MD2.9*
*ISCJB **01** 12:36:36.1±0.5, 40°.44N±0°.02×42°.36E±0°.03, h8km±5km, Error ellipse: s-maj=4.4km s-min=3.9km az=138.9*
*DDA **01** 12:36:36.2, 40°.42N×42°.35E, h7km, MD3.0*
*CSEM **01** 12:36:36.0±0.2, 40°.42N×42°.33E, h5km, MD2.9, Error ellipse: s-maj=4.7km s-min=3.9km az=31.0*

ISC 01 12:36:36.4±1.1, 40°.43N±0°.02×42°.34E±0°.02, h8km±13km, n29, σ0°.75/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.51**	**221**	*i* P	**Pg**	**12 36 45.9**	**-0.5**
HOMI				*i* S	**Sg**	**12 36 53.3**	**+0.1**
KARS	**Kars**	**0.59**	**71**	*e*PG	**Pg**	**12 36 48.0**	**+0.1**
KARS				*e*SG	**Sg**	**12 36 56.5**	**+0.8**
KARS	**Kars**	**0.59**	**71**	*e*Pg	**Pg**	**12 36 48.0**	**+0.1**
KARS				*e*Sg	**Sg**	**12 36 56.5**	**+0.8**
DDEM	**Demirkent**	**0.64**	**316**	*i* P	**Pg**	**12 36 49.0**	**+0.1**
DDEM				*i* S	**Sb**	**12 36 58.8**	**-0.4**
DDEM	**Demirkent**	**0.64**	**316**	*i* P	**Pg**	**12 36 49.0**	**+0.1**
DDEM				*i* S	**Sb**	**12 36 58.8**	**-0.4**
DAGI	**Agillar**	**0.72**	**333**	*i* P	**Pg**	**12 36 50.6**	**+0.2**
DAGI				*i* S	**Sg**	**12 37 00.6**	**+0.8**
DBAD	**Bademkaya**	**0.76**	**320**	*i* P	**Pg**	**12 36 51.1**	**0.0**
DBAD				*i* S	**Sg**	**12 37 01.7**	**+0.6**
DBAD	**Bademkaya**	**0.76**	**320**	*i* P	**Pg**	**12 36 51.2**	**0.0**
DBAD				*i* S	**Sg**	**12 37 01.7**	**+0.6**
DIGO	**Kars**	**0.79**	**91**	*i* P	**Pg**	**12 36 51.2**	**-0.4**
DIGO				*i* S	**Sg**	**12 37 00.1**	**-1.7**
DIGO	**Kars**	**0.79**	**91**	*i* P	**Pg**	**12 36 51.2**	**-0.4**
DIGO				*i* S	**Sg**	**12 37 00.1**	**-1.7**
ARTV	**Artvin**	**0.81**	**337**	*i* P	**Pg**	**12 36 52.0**	**-0.1**
ARTV				*i* S	**Sg**	**12 37 02.4**	**-0.3**
ARTV	**Artvin**	**0.81**	**337**	*i* P	**Pg**	**12 36 52.0**	**-0.1**
ARTV				*i* S	**Sg**	**12 37 02.4**	**-0.3**
ERZM	**Erzurum**	**0.92**	**235**	*i* P	**Pg**	**12 36 53.7**	**-0.4**
ERZM				*i* S	**Sg**	**12 37 05.5**	**-0.5**
ERZM	**Erzurum**	**0.92**	**235**	*i* P	**Pg**	**12 36 53.7**	**-0.4**
ERZM				*i* S	**Sg**	**12 37 05.5**	**-0.5**
EZM	**Erzurum**	**0.92**	**235**	*e*PG	**Pg**	**12 36 53.8**	**-0.4**
AGRB	**Hanur-Agry**	**0.99**	**150**	*e*PG	**Pg**	**12 36 55.4**	**-0.1**
AGRB	**Hanur-Agry**	**0.99**	**150**	*e*Pg	**Pg**	**12 36 55.4**	**-0.1**
TUTA	**Tutak**	**1.09**	**161**	*i* P	**Pg**	**12 36 57.2**	**-0.2**
TUTA				*i* S	**Sg**	**12 37 12.0**	**+0.4**
TUTA	**Tutak**	**1.09**	**161**	*i* P	**Pg**	**12 36 57.2**	**-0.2**
TUTA				*i* S	**Sg**	**12 37 12.0**	**+0.4**
BCA	**Borcka**	**1.15**	**332**	*e*PN	**Pg**	**12 36 57.0**	**-1.5**
BCA	**Borcka**	**1.15**	**332**	*e*Pn	**Pg**	**12 36 57.0**	**-1.5**
VRTB	**Varto-Mus**	**1.45**	**209**	*e*PN	**Pn**	**12 37 03.3**	**+0.2**
VRTB	**Varto-Mus**	**1.45**	**209**	*e*Pn	**Pn**	**12 37 03.3**	**+0.2**
KOPT	**Kop Dagi**	**1.47**	**254**	*i* P	**Pg**	**12 37 04.4**	**-0.3**
KOPT				*i* S	**Sg**	**12 37 25.5**	**+1.6**
KOPT	**Kop Dagi**	**1.47**	**254**	*i* P	**Pg**	**12 37 04.4**	**-0.3**
KOPT				*i* S	**Sg**	**12 37 25.5**	**+1.6**
BAYT	**Ayd¯–ntepe-Bay**	**1.68**	**269**	*e*PN	**Pn**	**12 37 06.1**	**-0.3**
BAYT	**Ayd¯–ntepe-Bay**	**1.68**	**269**	*e*Pn	**Pn**	**12 37 06.1**	**-0.3**
GNI	**Garni**	**1.85**	**98**	*e*PN	**Pn**	**12 37 09.8**	**+1.1**
GNI	**Garni**	**1.85**	**98**	*e*Pn	**Pn**	**12 37 09.8**	**+1.1**

GUC 01 12:40:36.0±0.9, 31°.28S×69°.72W, h5km±7km, MD3.8, ML3.2, 3C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.10**	**275**	⇑*i*P	Pg	12 40 56.2	-1.0
CMCH				*i* S	Sg	12 41 11.8	+0.2
CMCH				AML	AML	12 41 12.3	
	comp=E,3μm,0.3s						
PTCH	**Petorca**	**1.42**	**226**	*i* S	Sb	12 41 21.2	-0.4
PTCH				AML	AML	12 41 25.0	
	comp=N,1μm,0.4s						
TLL	**Tololo Astrono**	**1.45**	**320**	*e*P	Pn	12 41 02.6	-0.6
TLL				*i* S	Sb	12 41 22.6	-0.2
TLL				AML	AML	12 41 26.2	
	comp=N,428nm,0.6s						
CHNG	**Los Chungos**	**1.63**	**248**	*e*P	Pn	12 41 04.8	-0.6
CHNG				*i* S	Sn	12 41 26.6	-0.2
CHNG				AML	AML	12 41 27.7	
	comp=N,439nm,0.3s						
ROCH	**El Roble**	**2.01**	**213**	⇓*i*P	Pn	12 41 10.7	-0.2
ROCH				*i* S	Sn	12 41 37.1	+0.4
ROCH				AML	AML	12 41 40.2	
	comp=E,354nm,0.4s						
PEL	**Peldehue**	**2.03**	**203**	⇑*i*P	Pn	12 41 11.3	+0.3
PEL				*i* S	Sb	12 41 38.5	-0.6
PEL				AML	AML	12 41 42.7	
	comp=E,322nm,0.6s						
FCH	**Farellones**	**2.10**	**193**	*e*P	Pg	12 41 17.2	+0.5
FCH				*i* S	Sg	12 41 45.2	+0.9
FCH				AML	AML	12 41 52.1	
	comp=E,138nm,0.3s						
CLCH	**Cerro Calan**	**2.22**	**198**	*e*P	Pn	12 41 14.5	+0.9
CLCH				*i* S	Sb	12 41 44.8	+0.2
CLCH				AML	AML	12 41 49.2	
	comp=E,123nm,0.3s						
LCO	**Las Campanas**	**2.41**	**339**	AML	AML	12 41 52.9	
	comp=E,147nm,0.2s						
PCH	**Pirque**	**2.43**	**196**	⇑*i*P	Pn	12 41 17.1	+0.6
PCH				*e*S	Sb	12 41 48.9	-1.8
LMEL	**Las Melosas**	**2.59**	**189**	*e*P	Pn	12 41 19.9	+1.0
LMEL				AML	AML	12 42 01.7	
	comp=N,85nm,0.2s						

*ISCJB **01** 12:43:41.7±0.6, 40°.40N±0°.03×42°.37E±0°.04, h13km±7km, Error ellipse: s-maj=5.9km s-min=4.5km az=166.5*
*ISK **01** 12:43:41.6, 40°.41N×42°.41E, h23km, MD2.8*
*DDA **01** 12:43:41.6, 40°.41N×42°.38E, h7km, MD3.0*
*CSEM **01** 12:43:41.4±0.2, 40°.40N×42°.34E, h10km, MD2.8, Error ellipse: s-maj=4.0km s-min=3.3km az=18.0*

ISC 01 12:43:41.8±1.0, 40°.42N±0°.02×42°.38E±0°.03, h15km±10km, n21, σ0°.50/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.52**	**225**	*i* P	**Pg**	**12 43 51.8**	**-0.5**
HOMI				*i* S	**Sg**	**12 43 59.1**	**-0.2**
KARS	**Kars**	**0.57**	**68**	*e*PG	**Pb**	**12 43 53.8**	**+0.3**
KARS				*e*SG	**Sb**	**12 44 02.1**	**+0.7**
KARS	**Kars**	**0.57**	**68**	*e*Pg	**Pb**	**12 43 53.8**	**+0.3**
KARS				*e*Sg	**Sb**	**12 44 02.1**	**+0.7**
DDEM	**Demirkent**	**0.67**	**315**	*i* P	**Pg**	**12 43 54.7**	**-0.3**
DDEM				*i* S	**Sg**	**12 44 04.3**	**+0.3**
DDEM	**Demirkent**	**0.67**	**315**	*i* P	**Pg**	**12 43 54.7**	**-0.3**
DDEM				*i* S	**Sg**	**12 44 04.3**	**+0.3**
DAGI	**Agillar**	**0.75**	**332**	*i* P	**Pg**	**12 43 56.1**	**-0.3**
DAGI				*i* S	**Sg**	**12 44 06.3**	**0.0**
DIGO	**Kars**	**0.76**	**90**	*i* P	**Pb**	**12 43 56.8**	**0.0**
DIGO				*i* S	**Sb**	**12 44 07.6**	**+0.7**
DIGO	**Kars**	**0.76**	**90**	*i* P	**Pb**	**12 43 56.8**	**0.0**
DIGO				*i* S	**Sb**	**12 44 07.6**	**+0.7**
ARTV	**Artvin**	**0.84**	**336**	*i* P	**Pb**	**12 43 57.8**	**-0.4**
ARTV				*i* S	**Sg**	**12 44 09.5**	**+0.3**
ARTV	**Artvin**	**0.84**	**336**	*i* P	**Pb**	**12 43 57.7**	**-0.4**
ARTV				*i* S	**Sg**	**12 44 09.5**	**+0.3**
EZM	**Erzurum**	**0.94**	**237**	*e*PG	**Pg**	**12 43 59.9**	**0.0**
EZM				*e*SG	**Sn**	**12 44 13.1**	**-0.7**
AGRB	**Hanur-Agry**	**0.96**	**151**	*e*PG	**Pb**	**12 44 00.1**	**-0.2**
AGRB				*e*SG	**Sg**	**12 44 13.1**	**0.0**
AGRB	**Hanur-Agry**	**0.96**	**151**	*e*Pg	**Pb**	**12 44 00.1**	**-0.2**
AGRB				*e*Sg	**Sg**	**12 44 13.1**	**0.0**
BCA	**Borcka**	**1.18**	**331**	*e*PN	**Pn**	**12 44 03.4**	**-0.3**
BCA				*e*SN	**Sb**	**12 44 19.1**	**+0.3**
BCA	**Borcka**	**1.18**	**331**	*e*Pn	**Pn**	**12 44 03.4**	**-0.3**
BCA				*e*Sn	**Sb**	**12 44 19.1**	**+0.3**
VRTB	**Varto-Mus**	**1.45**	**210**	*e*PN	**Pn**	**12 44 07.1**	**-0.4**
VRTB	**Varto-Mus**	**1.45**	**210**	*e*Pn	**Pn**	**12 44 07.1**	**-0.4**
KOPT	**Kop Dagi**	**1.50**	**255**	*i* P	**Pb**	**12 44 09.8**	**+0.4**
KOPT				*i* S	**Sg**	**12 44 32.1**	**+1.9**
KOPT	**Kop Dagi**	**1.50**	**255**	*i* P	**Pb**	**12 44 09.8**	**+0.4**
BAYT	**Ayd¯–ntepe-Bay**	**1.71**	**270**	*e*PN	**Pn**	**12 44 11.1**	**-0.1**
BAYT	**Ayd¯–ntepe-Bay**	**1.71**	**270**	*e*Pn	**Pn**	**12 44 11.1**	**-0.1**

*ISCJB **01** 12:51:04.1±1.0, 43°.23N±0°.09×146°.26E±0°.10, h90km±6km, mb3.2/5, Error ellipse: s-maj=15.3km s-min=10.6km az=153.9*
*JMA **01** 12:51:06.2±0.1, 43°.26N×146°.19E, h78km±1km, M3.5*
*IDC **01** 12:51:07.0±2.3, 45°.44N×145°.56E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.4/23, mbtmp3.4/6, ML3.3/1, MS2.4/1, Ms1 2.4/1, ms1mx2.1/36, Error ellipse: s-maj=63.6km s-min=20.3km az=150.0*

ISC 01 12:51:04.7±1.3, 43°.21N±0°.10×146°.28E±0°.09, h82km±8km, n16, σ0°.76/24, mb3.3/5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.42**	**292**	P	Pn	**12 51 18.6**	**+0.5**
NEM2				*e*S	**Sn**	**12 51 27.8**	**-0.1**
JRA	**Rausu**	**1.11**	**311**	P	**Pn**	**12 51 25.4**	**+0.2**
JRA				*e*S	**Sn**	**12 51 40.3**	**-0.3**
JAK	**Akkeshi**	**1.18**	**260**	P	**Pn**	**12 51 26.6**	**+0.5**
JAK				*e*S	**Sn**	**12 51 42.0**	**-0.1**
JNK	**Nakash**	**1.20**	**289**	P	**Pn**	**12 51 26.3**	**0.0**
JNK				*e*S	**Sn**	**12 51 41.0**	**-1.5**
JOB	**Onbets**	**1.82**	**261**	P	**Pn**	**12 51 35.1**	**+0.8**
JOB				*e*S	**Sn**	**12 51 56.7**	**0.0**
JAR	**Ashorobuto**	**1.84**	**274**	P	**Pn**	**12 51 35.4**	**+0.9**
JAR				*e*S	**Sn**	**12 51 57.0**	**-0.1**
JTKR	**Abashiri--Toko**	**1.88**	**295**	P	**Pn**	**12 51 35.7**	**+0.6**
JTKR				*e*S	**Sn**	**12 51 58.7**	**+0.5**
JCH	**Churui**	**2.23**	**255**	P	**Pn**	**12 51 40.2**	**+0.5**
JCH				*e*S	**Sn**	**12 52 05.4**	**-1.0**
JMP	**Maruseppu**	**2.27**	**292**	P	**Pn**	**12 51

BDRM				*i* S	**Sg**	**13 14 35.4**	**+0.4**
FETY	**Fethiye**	**0.73**	**113**	*e*PG	**Pb**	**13 14 29.7**	**+1.0**
FETY				*e*SG	**Sb**	**13 14 39.7**	**+0.8**
FETY	**Fethiye**	**0.73**	**113**	*e*Pg	**Pb**	**13 14 29.7**	**+1.0**
FETY				*e*Sg	**Sb**	**13 14 39.7**	**+0.8**
BODT	**Bodrum**	**0.77**	**280**	*e*PG	**Pg**	**13 14 28.4**	**0.0**
BODT				*e*SG	**Sb**	**13 14 39.9**	**-0.1**
BODT	**Bodrum**	**0.77**	**280**	*e*Pg	**Pg**	**13 14 28.4**	**0.0**
BODT				*e*Sg	**Sb**	**13 14 39.9**	**-0.1**
AYDN	**Tasoluk**	**0.79**	**338**	*i* P	**Pg**	**13 14 28.7**	**-0.1**
AYDN				*i* S	**Sg**	**13 14 38.9**	**-0.2**
AYDN	**Tasoluk**	**0.79**	**338**	*i* P	**Pg**	**13 14 28.7**	**-0.1**
AYDN				*i* S	**Sg**	**13 14 38.9**	**-0.2**
DNZL	**Cakiroluk**	**0.99**	**39**	*i* P	**Pb**	**13 14 33.0**	**-0.3**
DNZL				*i* S	**Sb**	**13 14 46.6**	**0.0**
DNZL	**Cakiroluk**	**0.99**	**39**	*i* P	**Pb**	**13 14 33.0**	**-0.3**
DNZL				*i* S	**Sb**	**13 14 46.6**	**0.0**
GCAM	**G?zlcaml?**	**1.12**	**314**	*i* P	**Pg**	**13 14 34.8**	**-0.4**
GCAM				*i* S	**Sg**	**13 14 49.0**	**-0.7**
GCAM	**G?zlcaml?**	**1.12**	**314**	*i* P	**Pg**	**13 14 34.8**	**-0.4**
GCAM				*i* S	**Sg**	**13 14 49.0**	**-0.7**
KULA	**Kula-Manisa**	**1.62**	**11**	*e*PN	**Pn**	**13 14 42.8**	**+0.1**
KULA	**Kula-Manisa**	**1.62**	**11**	*e*Pn	**Pn**	**13 14 42.8**	**+0.1**
KHL	**Karahalli**	**1.72**	**35**	*e*PN	**Pb**	**13 14 45.2**	**-0.4**
KHL	**Karahalli**	**1.72**	**35**	*e*Pn	**Pb**	**13 14 45.2**	**-0.4**

*ISK **01** 13:19:24.8, 40°.47N×42°.28E, h12km, MD2.8*
*ISCJB **01** 13:19:25.3±0.5, 40°.44N±0°.02×42°.30E±0°.03, h7km±5km, Error ellipse: s-maj=4.3km s-min=4.1km az=13.7*
*DDA **01** 13:19:25.2, 40°.42N×42°.31E, h7km, MD3.0*
*CSEM **01** 13:19:25.3±0.2, 40°.43N×42°.30E, h10km, MD2.8, Error ellipse: s-maj=5.3km s-min=4.7km az=17.0*

ISC 01 13:19:25.4±1.0, **40°.42N**±0°.03×**42°.33E**±0°.02, **h12**km±10km, **n23**, σ0**89**/41, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.49**	**221**	*i* P	**Pb**	**13 19 35.3**	**-0.9**
HOMI				*i* S	**Sg**	**13 19 41.1**	**-0.6**
KARS	**Kars**	**0.61**	**70**	*e*PG	**Pg**	**13 19 37.5**	**+0.3**
KARS				*e*SG	**Sg**	**13 19 46.2**	**+0.9**
KARS	**Kars**	**0.61**	**70**	*e*Pg	**Pg**	**13 19 37.5**	**+0.3**
KARS				*e*Sg	**Sb**	**13 19 46.6**	**-0.1**
DDEM	**Demirkent**	**0.65**	**317**	*i* P	**Pb**	**13 19 37.8**	**-0.9**
DDEM				*i* S	**Sb**	**13 19 46.6**	**-1.1**
DDEM	**Demirkent**	**0.65**	**317**	*i* P	**Pb**	**13 19 37.8**	**-0.9**
DDEM				*i* S	**Sb**	**13 19 46.6**	**-1.1**
DAGI	**Agillar**	**0.73**	**335**	*i* P	**Pb**	**13 19 39.6**	**-0.5**
DAGI				*i* S	**Sb**	**13 19 49.3**	**-0.8**
DIGO	**Kars**	**0.80**	**90**	*i* P	**Pg**	**13 19 40.6**	**-0.2**
DIGO				*i* S	**Sg**	**13 19 51.9**	**+0.6**
DIGO	**Kars**	**0.80**	**90**	*i* P	**Pg**	**13 19 40.6**	**-0.2**
DIGO				*i* S	**Sg**	**13 19 51.9**	**+0.6**
ARTV	**Artvin**	**0.82**	**338**	*i* P	**Pb**	**13 19 41.2**	**-0.5**
ARTV				*i* S	**Sb**	**13 19 52.8**	**-0.1**
ARTV	**Artvin**	**0.82**	**338**	*i* P	**Pb**	**13 19 41.2**	**-0.5**
ARTV				*i* S	**Sb**	**13 19 52.8**	**-0.1**
ERZM	**Erzurum**	**0.90**	**235**	*i* P	**Pb**	**13 19 43.1**	**0.0**
ERZM				*i* S	**Sb**	**13 19 54.1**	**-1.1**
ERZM	**Erzurum**	**0.90**	**235**	*i* P	**Pb**	**13 19 43.1**	**0.0**
ERZM				*i* S	**Sb**	**13 19 54.1**	**-1.1**
EZM	**Erzurum**	**0.90**	**236**	*e*PG	**Pb**	**13 19 42.9**	**-0.2**
EZM				*e*SG	**Sb**	**13 19 54.9**	**-0.3**
AGRB	**Hanur-Agry**	**0.98**	**149**	*e*PG	**Pg**	**13 19 42.6**	**-1.8**
AGRB	**Hanur-Agry**	**0.98**	**149**	*e*Pg	**Pn**	**13 19 45.6**	**+0.4**
TUTA	**Tutak**	**1.08**	**160**	*i* P	**Pn**	**13 19 46.6**	**0.0**
TUTA				*i* S	**Sn**	**13 20 03.1**	**+1.4**
TUTA	**Tutak**	**1.08**	**160**	*i* P	**Pn**	**13 19 46.6**	**0.0**
TUTA				*i* S	**Sn**	**13 20 03.1**	**+1.4**
BCA	**Borcka**	**1.16**	**333**	*e*PN	**Pb**	**13 19 46.6**	**-0.7**
BCA	**Borcka**	**1.16**	**333**	*e*Pn	**Pb**	**13 19 46.6**	**-0.7**
BCA				*e*Sn	**Sb**	**13 20 01.8**	**-0.5**
KOPT	**Kop Dagi**	**1.46**	**255**	*i* P	**Pg**	**13 19 53.8**	**+0.4**
KOPT				*i* S	**Sg**	**13 20 14.5**	**+2.1**
KOPT	**Kop Dagi**	**1.46**	**255**	*i* P	**Pg**	**13 19 53.8**	**+0.4**
KOPT				*i* S	**Sg**	**13 20 14.5**	**+2.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.67**	**270**	*e*PN	**Pn**	**13 19 54.0**	**-0.6**
BAYT	**Ayd¨–ntepe-Bay**	**1.67**	**270**	*e*Pn	**Pn**	**13 19 54.0**	**-0.6**

*JMA **01** 13:20:07.8±0.1, 29°.33N×130°.65E, h30km, M3.4*
*ISCJB **01** 13:20:08.7±0.7, 29°.36N±0°.04×130°.57E±0°.09, h53km±7km, mb3.5/9, Error ellipse: s-maj=14.1km s-min=5.1km az=22.4*
*IDC **01** 13:20:10.0±1.6, 29°.39N×130°.45E, h44km±14km, mb3.3/9, mb1 3.5/12, mb1mx3.4/25, mbtmp3.3/12, ML3.0/1, Error ellipse: s-maj=25.4km s-min=9.6km az=110.0*

ISC 01 13:20:10.2±1.3, **29°.38N**±0°.05×**130°.50E**±0°.10, **h48**km±12km, **n20**, σ0**75**/26, **mb3.5**/9, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.71**	**311**	P	**Pn**	**13 20 23.3**	**-0.7**
JNN				*e*S	**Sn**	**13 20 34.9**	**+0.9**
JKC	**Kuchinoerabu**	**1.11**	**346**	P	**Pn**	**13 20 29.0**	**-0.4**
JKC				*e*S	**Sn**	**13 20 44.2**	**+0.6**
JAM	**Amami Oshima**	**1.24**	**219**	P	**Pn**	**13 20 30.4**	**-0.7**
JAM				*e*S	**Sn**	**13 20 48.0**	**+1.3**
JTN	**Tanegashima 3**	**1.34**	**18**	P	**Pn**	**13 20 31.5**	**-1.0**
JTSR	**Tashiro 2**	**1.82**	**12**	P	**Pn**	**13 20 38.8**	**-0.3**
JTSR				*e*S	**Sn**	**13 21 01.2**	**+0.2**
JTK	**Tokunoshima**	**2.09**	**221**	P	**Pn**	**13 20 42.8**	**0.0**
JSU	**Suzuyama**	**2.12**	**359**	P	**Pn**	**13 20 42.8**	**-0.6**
JNAR	**Kushima--Naru**	**2.24**	**17**	P	**Pn**	**13 20 44.7**	**-0.1**
JOW	**Kunigami**	**3.21**	**218**	P	**Pn**	**13 20 56.7**	**-1.4**
JOW	2.9nm,0.3s,baz=105,slow=18,SNR=7.9			S	**Sn**	**13 21 35.0**	**-0.1**
JNU	4.1nm,0.3s,baz=131,slow=19,SNR=4.1 **Nakatsue**	**3.75**	**5**	P	**Pn**	**13 21 05.3**	**-0.2**
JNU	1.7nm,0.3s,baz=196,slow=9.9,SNR=24			S	**Sn**	**13 21 48.4**	**0.0**
MJAR	1.7nm,0.3s,baz=178,slow=17,SNR=3.9 **Matsushiro Arr**	**9.64**	**40**	P	**Pn**	**13 22 26.1**	**-0.2**
SONM	0.3nm,0.3s,baz=255,slow=13,SNR=4.9 **Songino Array**	**26.18**	**321**	P	**P**	**13 25 40.7**	**+0.4**
MKAR	1.1nm,0.8s,baz=138,slow=9.4,SNR=9.6 **Makanchi Array**	**41.04**	**309**	P	**P**	**13 27 49.6**	**+0.7**
ZALV	0.3nm,0.4s,baz=88,slow=11,SNR=8.7 **Zalesovo Beam**	**41.05**	**320**	P	**P**	**13 27 48.2**	**-0.6**
ASAR	0.3nm,0.3s,baz=106,slow=11,SNR=2.5 **Alice Springs**	**52.84**	**176**	P	**P**	**13 29 21.4**	**+0.4**
FINES	0.4nm,1.0s,baz=4.7,slow=15,SNR=3.5 **FINESS Array B**	**71.12**	**331**	P	**P**	**13 31 22.4**	**-0.9**
AKASG	3.1nm,1.0s,baz=62,slow=5.8,SNR=6.4 **Malin Array Be**	**74.44**	**320**	P	**P**	**13 31 42.8**	**-0.4**
YKA	0.4nm,0.3s,baz=62,slow=5.7,SNR=3.8 **Yellowknife Ar**	**74.83**	**26**	P	**P**	**13 31 45.6**	**+0.4**
NOA	0.1nm,0.5s,baz=302,slow=5.9,SNR=3.2 **NORSAR Array B**	**77.37**	**334**	P	**P**	**13 31 58.6**	**-1.2**
NVAR	0.4nm,0.7s,baz=53,slow=5.5,SNR=2.4 **Mina Array Bea**	**86.89**	**47**	P	**P**	**13 32 51.4**	**+1.0**
	0.1nm,0.4s,baz=311,slow=5.5,SNR=3.0						

*ISCJB **01** 13:20:29.2±0.5, 40°.45N±0°.03×42°.35E±0°.03, h5km±5km, Error ellipse: s-maj=4.5km s-min=4.2km az=140.7*
*ISK **01** 13:20:29.3, 40°.45N×42°.33E, h18km, MD2.8*
*DDA **01** 13:20:29.2, 40°.42N×42°.34E, h7km, MD2.8*
*CSEM **01** 13:20:29.3±0.2, 40°.43N×42°.33E, h10km, MD2.8, Error ellipse: s-maj=4.3km s-min=3.8km az=27.0*

ISC 01 13:20:29.6±1.0, **40°.44N**±0°.02×**42°.35E**±0°.02, **h10**km±10km, **n21**, σ0**58**/36, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.52**	**221**	*i* P	**Pg**	**13 20 39.0**	**-0.7**
HOMI				*i* S	**Sg**	**13 20 46.6**	**0.0**
KARS	**Kars**	**0.59**	**71**	*e*PG	**Pg**	**13 20 40.3**	**-0.7**
KARS				*e*SG	**Sg**	**13 20 48.6**	**-0.2**
KARS	**Kars**	**0.59**	**71**	*e*Pg	**Pg**	**13 20 41.7**	**+0.7**
DDEM	**Demirkent**	**0.65**	**315**	*i* P	**Pg**	**13 20 42.1**	**0.0**
DDEM				*i* S	**Sg**	**13 20 51.3**	**+0.7**
DDEM	**Demirkent**	**0.65**	**315**	*i* P	**Pg**	**13 20 42.1**	**0.0**
DDEM				*i* S	**Sg**	**13 20 51.3**	**+0.7**
DAGI	**Agillar**	**0.72**	**333**	*i* P	**Pg**	**13 20 43.6**	**0.0**
DAGI				*i* S	**Sg**	**13 20 53.7**	**+0.7**
DIGO	**Kars**	**0.78**	**91**	*i* P	**Pg**	**13 20 44.4**	**-0.3**
DIGO				*i* S	**Sg**	**13 20 55.6**	**+0.6**
DIGO	**Kars**	**0.78**	**91**	*i* P	**Pg**	**13 20 44.4**	**-0.3**
DIGO				*i* S	**Sg**	**13 20 55.6**	**+0.6**
ARTV	**Artvin**	**0.81**	**337**	*i* P	**Pg**	**13 20 45.2**	**-0.2**
ARTV				*i* S	**Sb**	**13 20 57.2**	**+0.1**
ARTV	**Artvin**	**0.81**	**337**	*i* P	**Pg**	**13 20 45.2**	**-0.2**
ARTV				*i* S	**Sb**	**13 20 57.2**	**+0.1**
ERZM	**Erzurum**	**0.92**	**235**	*i* P	**Pg**	**13 20 47.2**	**-0.2**
ERZM				*i* S	**Sb**	**13 20 59.6**	**-0.6**
ERZM	**Erzurum**	**0.92**	**235**	*i* P	**Pg**	**13 20 47.2**	**-0.2**
ERZM				*i* S	**Sb**	**13 20 59.6**	**-0.6**
EZM	**Erzurum**	**0.92**	**235**	*e*PG	**Pg**	**13 20 47.3**	**-0.1**
AGRB	**Hanur-Agry**	**0.99**	**150**	*e*PG	**Pg**	**13 20 48.6**	**0.0**
AGRB	**Hanur-Agry**	**0.99**	**150**	*e*Pg	**Pg**	**13 20 49.1**	**+0.4**
TUTA	**Tutak**	**1.09**	**161**	*i* P	**Pb**	**13 20 50.3**	**-0.4**
TUTA				*i* S	**Sn**	**13 21 07.0**	**+0.5**
TUTA	**Tutak**	**1.09**	**161**	*i* P	**Pb**	**13 20 50.3**	**-0.4**
TUTA				*i* S	**Sn**	**13 21 07.0**	**+0.5**
BCA	**Borcka**	**1.15**	**332**	*e*PN	**Pb**	**13 20 50.5**	**-1.0**
BCA				*e*SN	**Sb**	**13 21 06.4**	**-0.2**
BCA	**Borcka**	**1.15**	**332**	*e*Pn	**Pb**	**13 20 50.8**	**-0.8**
KOPT	**Kop Dagi**	**1.48**	**254**	*i* P	**Pn**	**13 20 56.7**	**+0.2**
KOPT				*i* S	**Sg**	**13 21 19.0**	**+1.8**
KOPT	**Kop Dagi**	**1.48**	**254**	*i* P	**Pn**	**13 20 56.7**	**+0.2**

IDC 01 13:27:46.3±3.7, **10°.29S**×**161°.40E**, **h85**km±25km, **mb3.9**/13, **mb1 4.0**/13, **mb1mx3.9**/19, **mbtmp3.8**/13, **MS3.1**/3, **Ms1 3.1**/3, **ms1mx2.8**/23, **Error ellipse: s-maj=33.3km s-min=18.4km az=121.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.66**	**301**	P	**Pn**	**13 28 13.1**	**-0.9**
HNR	430nm,0.3s,baz=155,slow=4.6,SNR=294			S	**Sn**	**13 28 35.1**	**+0.2**
CTA	974nm,0.3s,baz=268,slow=10,SNR=17 **Charters Tower**	**17.55**	**235**	P	**Pn**	**13 31 48.8**	**+3.2**
CTA	0.3nm,0.3s,baz=60,slow=11,SNR=5.3			LR	LR	**13 36 33.0**	
WRA	comp=Z,20nm,19.1s,baz=232,slow=30 **Warramunga Arr**	**27.79**	**247**	P	P	**13 33 28.3**	**+0.7**
STKA	1.9nm,0.6s,baz=75,slow=9.4,SNR=13 **Stephens Creek**	**28.24**	**218**	LR	LR	**13 43 51.0**	
GUMO	comp=Z,122nm,19.6s,baz=204,slow=34 **Guam**	**28.84**	**325**	LR	LR	**13 43 23.3**	
ASAR	comp=Z,31nm,18.2s,baz=51,slow=32 **Alice Springs**	**29.40**	**240**	P	P	**13 33 42.2**	**+0.4**
FITZ	0.4nm,0.4s,baz=61,slow=9.7,SNR=9.1 **Fitzroy Crossi**	**35.48**	**253**	P	P	**13 34 33.8**	**-1.1**
MJAR	5.1nm,0.7s,baz=59,slow=10.0,SNR=4.7 **Matsushiro Arr**	**51.44**	**336**	P	P	**13 36 41.9**	**-1.0**
ASAJ	0.7nm,0.4s,baz=160,slow=8.3,SNR=6.4 **Asahikawa**	**56.77**	**344**	P	P	**13 37 22.1**	**+0.6**
KSRS	8.3nm,0.7s,baz=127,slow=5.1,SNR=9.5 **Korea Array**	**56.92**	**328**	P	P	**13 37 22.6**	**0.0**
USRK	0.8nm,0.7s,baz=153,slow=7.1,SNR=4.5 **Ussuriysk Arra**	**60.44**	**336**	P	P	**13 37 47.1**	**+0.2**
CMAR	2.8nm,0.7s,baz=118,slow=6.3,SNR=6.6 **Chiang Mai Arr**	**67.91**	**295**	P	P	**13 38 35.4**	**-0.9**
SONM	0.3nm,0.3s,baz=128,slow=5.8,SNR=4.7 **Songino Array**	**75.57**	**325**	P	P	**13 39 22.5**	**+0.5**
ILAR	3.3nm,0.5s,baz=142,slow=6.2,SNR=38 **Eielson Array**	**84.20**	**20**	P	P	**13 40 07.8**	**-0.1**
NVAR	0.7nm,0.6s,baz=256,slow=5.3,SNR=12 **Mina Array Bea**	**88.83**	**51**	P	P	**13 40 31.4**	**-0.1**
MKAR	0.5nm,0.8s,baz=224,slow=6.9,SNR=4.2 **Makanchi Array**	**90.07**	**318**	P	P	**13 40 36.2**	**-0.6**
YKA	0.3nm,0.4s,baz=89,slow=6.0,SNR=4.7 **Yellowknife Ar**	**96.28**	**28**	P	P	**13 41 04.9**	**0.0**
	0.5nm,0.8s,baz=257,slow=4.6,SNR=10						

*ISCJB **01** 13:29:29.4±0.5, 31°.72N±0°.05×104°.49E±0°.05, h9km, mb3.9/7, MS2.8/1, Error ellipse: s-maj=7.9km s-min=5.1km az=136.6*
*IDC **01** 13:29:29.8±0.8, 31°.80N×104°.50E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.8/27, mbtmp3.8/10, ML3.4/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/36, Error ellipse: s-maj=30.5km s-min=16.9km az=58.0*
*BJI **01** 13:29:31.2, 31°.72N×104°.46E, h16km, mb4.1/3, ML3.7/22, Ms3.6/5, Ms7 3.6/5*

ISC 01 13:29:31.1±0.6, **31°.74N**±0°.04×**104°.46E**±0°.05, **h9**km, **n17**, σ2**10**/22, **mb3.8**/7, **1D**, **Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.02**	**216**	⇓P*g*	**Pg**	**13 29 48.9**	**-1.8**
CD2				Sg	**Sg**	**13 30 02.7**	**-1.3**
CD2	comp=N,8μm,0.5s			*s*max	*s*max		
CD2	comp=E,8μm,0.6s			*s*max	*s*max		
LZH	**Lanzhou**	**4.37**	**353**	*e*Pn	**Pn**	**13 30 39.7**	**+1.9**
LZH				Sg	**Sg**	**13 31 49.5**	**-1.9**
LZH	comp=N,72nm,0.7s			*s*max	*s*max		
LZH	comp=E,74nm,0.6s			*s*max	*s*max		
LZH	comp=N,380nm,6.2s			LR	LR		
LZH	comp=E,460nm,7.5s			LR	LR		
LZH	comp=Z,440nm,6.3s			LR	LR		
XAN	**Xi'an**	**4.40**	**57**	Pn	**Pn**	**13 30 39.1**	**+1.0**
XAN				Sn	**Sn**	**13 31 28.5**	**-1.0**
XAN				Sg	**Sg**	**13 31 48.4**	**-4.0**
XAN	comp=N,190nm,0.7s			*s*max	*s*max		
XAN	comp=E,92nm,0.9s			*s*max	*s*max		
XAN	comp=N,200nm,7.1s			LR	LR		
XAN	comp=E,120nm,8.1s			LR	LR		
GYA	**Guiyang**	**5.60**	**159**	Pn	**Pn**	**13 30 55.7**	**+0.9**
GYA				Sn	**Sn**	**13 31 53.9**	**-5.4**
GYA				Sg	**Sb**	**13 32 18.9**	**+2.4**
GYA	comp=N,150nm,0.7s			*s*max	*s*max		
GYA	comp=E,100nm,0.9s			*s*max	*s*max		
GTA	**Gaotai**	**8.54**	**335**	*e*P*n*	Pn	13 31 42.0	+7.0
GTA				pP	Px	13 31 46.4	
GTA				sP		13 31 49.4	
GTA	comp=Z,3.0nm,1.1s			pmax	pmax		
WHN	**Wuhan**	**8.56**	**95**	*e*P	**Pn**	**13 31 37.6**	**+2.4**
WHN				*e*S	**Sn**	**13 33 12.5**	**+0.6**
WHN	comp=Z,870nm,5.6s			LR	LR		
CMAR	**Chiang Mai Arr**	**14.13**	**202**	Pn	**Pn**	**13 32 54.2**	**+2.7**
SONM	comp=Z,0.1nm,0.3s,baz=12,slow=11,SNR=6.7 **Songino Array**	**16.14**	**5**	Pn	**Pn**	**13 33 18.6**	**+0.3**
KSRS	comp=Z,0.1nm,0.3s,baz=179,slow=12,SNR=10 **Korea Array**	**20.12**	**67**	P	**P**	**13 34 05.7**	**+0.5**
MKAR	comp=Z,4.0nm,0.7s,baz=257,slow=10,SNR=19 **Makanchi Array**	**22.71**	**318**	P	**P**	**13 34 32.5**	**-0.6**
ZALV	comp=Z,1.6nm,0.9s,baz=114,slow=12,SNR=9.8 **Zalesovo Beam**	**26.29**	**333**	P	**P**	**13 35 05.8**	**-0.9**
KURBB	comp=Z,0.4nm,0.4s,baz=138,slow=9.1,SNR=3.8 **Kurchatov Arra**	**26.92**	**321**	LR	LR	**13 47 36.6**	
BRTR	comp=Z,28nm,20.3s,baz=340,slow=40 **Keskin Array B**	**56.69**	**299**	P	**P**	**13 39 16.5**	**+1.3**
FINES	comp=Z,0.7nm,0.7s,baz=75,slow=6.7,SNR=5.4 **FINESS Array B**	**57.21**	**326**	P	**P**	**13 39 17.5**	**-0.8**
WRA	comp=Z,0.9nm,0.7s,baz=48,slow=2.8,SNR=8.1 **Warramunga Arr**	**58.83**	**147**	P	**P**	**13 39 30.2**	**0.0**
ASAR	comp=Z,2.8nm,0.5s,baz=341,slow=7.8,SNR=58 **Alice Springs**	**61.88**	**149**	P	**P**	**13 39 51.0**	**0.0**
YKA	comp=Z,1.0nm,0.5s,baz=337,slow=6.7,SNR=30 **Yellowknife Ar**	**81.00**	**17**	P	**P**	**13 41 45.2**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=328,slow=5.1,SNR=13						

MEX 01 13:41:01.8±0.7, **14°.98N**×**93°.19W**, **h70**km±11km, **MD4.0, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.72**	**358**	*i* P	Pn	13 41 15.6	-1.3
PCIG				*i* S	Sn	13 41 26.7	-1.4
THIG		**0.90**	**95**	*i* P	Pn	13 41 17.7	-1.4
THIG				*e*S	Sn	13 41 29.6	-2.3
CCIG	**Comitan**	**1.64**	**38**	*i* P	Pn	13 41 28.2	-0.7
CCIG				*i* S	Sn	13 41 47.4	-2.0
TGIG		**1.79**	**2**	*e*P	Pn	13 41 29.2	-1.4
TGIG				*i* S	Sn	13 41 50.1	-2.5
HUIG	**Huatulco**	**2.92**	**286**	*i* P	Pn	13 41 44.6	-1.3
HUIG				*i* S	Sn	13 42 17.7	-2.2

*ISCJB **01** 13:48:26.8±0.4, 15°.15N±0°.03×61°.09W±0°.08, h153km±2km, mb3.5/11, Error ellipse: s-maj=13.0km s-min=4.3km az=162.6*
*TRN **01** 13:48:26.4, 15°.17N×60°.99W, h149km, MD3.6, M2.8(FDF)*
*IDC **01** 13:48:27.0±0.4, 15°.09N×61°.21W, h141km±3km, mb3.3/11, mb1 3.6/12, mb1mx3.4/23, mbtmp3.3/12, Error ellipse: s-maj=15.5km s-min=5.5km az=80.0*

ISC 01 13:48:27.9±0.7, **15°.13N**±0°.04×**61°.12W**±0°.09, **h150**km±5km, **n43**, σ0**86**/62, **mb3.7**/11, **8C-7D**, **Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSTT	**Stowe**	**0.22**	**303**	⇑*e*P	**Pn**	**13 48 48.5**	**+0.3**
DSTT				*e*S	**Sn**	**13 49 03.2**	**-0.5**
DLPL	**La Plaine**	**0.24**	**328**	⇓*i*P	**Pn**	**13 48 48.0**	**-0.3**
DLPL				*e*S	**Sn**	**13 49 03.3**	**-0.6**
DFBT	**Forest Bistro**	**0.26**	**296**	*e*P	**Pn**	**13 48 48.5**	**+0.2**
DFBT				*e*S	**Sn**	**13 49 03.4**	**-0.4**
DSHT	**Scott's Head**	**0.26**	**289**	*e*P	**Pn**	**13 48 48.6**	**+0.3**
DSHT				*e*S	**Sn**	**13 49 03.4**	**-0.5**
DBCT	**Belle View Cho**	**0.26**	**303**	⇑*e*P	**Pn**	**13 48 48.8**	**+0.4**
DBCT				*e*S	**Sn**	**13 49 04.4**	**+0.4**
DPMT	**Pointe Michel**	**0.28**	**298**	*e*P	**Pn**	**13 48 48.8**	**+0.4**
DPMT				*e*S	**Sn**	**13 49 04.0**	**+0.1**
MDN	**Morne-Daniel**	**0.33**	**306**	*e*P	**Pn**	**13 48 49.0**	**+0.5**
MDN				*i* S	**Sn**	**13 49 04.4**	**+0.1**
FDF	**Fort de France**	**0.39**	**185**	⇑*e*P	**Pn**	**13 48 48.4**	**-0.5**
FDF				⇑*e*S	**Sn**	**13 49 04.5**	**-0.4**
BIM	**Bigot**	**0.61**	**176**	*e*P	**Pn**	**13 48 49.4**	**-0.5**
BIM	**Bigot**	**0.61**	**176**	*e*P	**Pn**	**13 48 49.4**	**-0.5**
BIM				*e*S	**Sn**	**13 49 06.7**	**0.0**
MVM	**Montagne Vaucl**	**0.61**	**159**	⇓*e*P	**Pn**	**13 48 49.3**	**-0.6**
MGG	**Marie-Galante**	**0.81**	**346**	⇑*i*P	**Pn**	**13 48 50.8**	**-0.4**
TBG	**Guadaloupe-3**	**0.88**	**325**	*e*P	**Pn**	**13 48 51.3**	**-0.4**
PHG	**Guadaloupe-2**	**1.02**	**330**	⇓*i*P	**Pn**	**13 48 52.8**	**-0.2**
HMG	**Houelmont**	**1.02**	**327**	⇓*i*P	**Pn**	**13 48 52.8**	**-0.1**
HMG				⇓*e*S	**Sn**	**13 49 11.5**	**-0.5**
DOG	**Dongo Capester**	**1.02**	**332**	*e*P	**Pn**	**13 48 52.5**	**-0.4**
SCG	**Saint Claude**	**1.05**	**329**	⇓*i*P	**Pn**	**13 48 53.0**	**-0.2**
BCG	**Bois Riant Cap**	**1.07**	**333**	⇑*i*P	**Pn**	**13 48 53.1**	**-0.2**
LZG	**Guadaloupe-1**	**1.19**	**328**	⇓*i*P	**Pn**	**13 48 54.2**	**-0.1**
SLB	**Belfond**	**1.29**	**177**	⇑*i*P	**Pn**	**13 48 55.7**	**+0.3**
SLB				*e*S	**Sn**	**13 49 15.8**	**-0.8**
SEG	**Port Louis**	**1.32**	**344**	*e*P	**Pn**	**13 48 55.5**	**-0.2**
MCLT	**Moule a Chique**	**1.42**	**173**	*e*P	**Pn**	**13 48 55.8**	**-0.9**
MCLT				*e*S	**Sn**	**13 49 17.8**	**-1.0**
SVV	**Soufriere Volc**	**1.80**	**183**	*e*P	**Pn**	**13 49 01.3**	**+0.5**
SVV				*e*S	**Sn**	**13 49 27.3**	**+1.2**
BHS	**Barnard House**	**1.82**	**180**	*e*P	**Pn**	**13 49 01.3**	**+0.3**
BHS				*e*S	**Sn**	**13 49 27.2**	**+0.8**
SVB	**Belmont**	**1.85**	**184**	*e*P	**Pn**	**13 49 00.6**	**-0.8**
SVB				*e*S	**Sn**	**13 49 27.5**	**+0.4**
BPA	**Boggy Peak**	**2.04**	**340**	⇑*e*P	**Pn**	**13 49 03.0**	**-0.5**
BPA				*e*S	**Sn**	**13 49 29.2**	**-1.7**
SKI	**Saint Kitts**	**2.69**	**325**	*e*P	**Pn**	**13 49 11.1**	**-0.3**
SKI				*e*S	**Sn**	**13 49 44.2**	**-0.8**
TOSP	**Speyside**	**3.85**	**171**	*e*P	**Pn**	**13 49 25.9**	**-0.3**
TOSP				*e*S	**Sn**	**13 50 08.5**	**-3.0**
SJG	**San Juan**	**5.66**	**302**	P	**Pn**	**13 49 49.7**	**-0.4**
SJG	1.5nm,0.3s,baz=90,slow=12,SNR=4.3			S	**Sn**	**13 50 56.0**	**+1.6**
ROSC	2.6nm,0.3s,baz=90,slow=23,SNR=12 **El Rosal**	**16.52**	**233**	P	**Pn**	**13 52 13.4**	**+1.9**
SCHQ	1.8nm,0.3s,baz=84,slow=22,SNR=5.4 **Schefferville**	**39.87**	**355**	P	**P**	**13 55 47.7**	**+1.0**
TXAR	0.9nm,0.7s,baz=185,slow=11,SNR=3.5 **Lajitas Array**	**41.61**	**297**	P	**P**	**13 56 00.3**	**-1.2**
ULM	0.2nm,0.4s,baz=119,slow=6.5,SNR=9.4 **Lac du Bonnet**	**44.91**	**329**	P	**P**	**13 56 26.7**	**-0.7**
FRB	1.5nm,0.4s,baz=141,slow=9.7,SNR=3.7 **Frobisher Bay**	**48.84**	**356**	P	**P**	**13 56 58.5**	**+0.8**
PDAR	1.3nm,0.8s,baz=135,slow=5.7,SNR=3.8 **Pinedale Array**	**49.66**	**314**	P	**P**	**13 57 04.4**	**-0.3**
NVAR	0.7nm,0.5s,baz=124,slow=9.9,SNR=10

FETY	**Fethiye**	**0.94**	**129**	*e*PG	**Pb**	**14 18 00.9**	**-0.9**
FETY	**Fethiye**	**0.94**	**129**	*e*Pg	**Pb**	**14 18 01.0**	**-0.9**
MANT	**Manisa**	**1.29**	**13**	*i*P	**Pn**	**14 18 08.2**	**+0.1**
MANT				*i*S	**Sn**	**14 18 26.0**	**-0.2**
MANT	**Manisa**	**1.29**	**13**	*i*P	**Pn**	**14 18 08.2**	**+0.1**
MANT				*i*S	**Sn**	**14 18 26.0**	**-0.2**
KHAL	**Karahalli**	**1.54**	**42**	*i*P	**Pn**	**14 18 11.2**	**-0.2**
KHAL				*i*S	**Sn**	**14 18 33.2**	**+1.0**
KHAL	**Karahalli**	**1.54**	**42**	*i*P	**Pn**	**14 18 11.2**	**-0.2**
KHAL				*i*S	**Sn**	**14 18 33.2**	**+1.0**

*ISK **01** 14:19:25.3, 40˚.51N×42˚.35E, h7km, MD2.9*
*TIF **01** 14:19:25.6, 40˚.51N×42˚.32E, h11km±3km*
*DDA **01** 14:19:25.4, 40˚.50N×42˚.39E, h7km, MD3.2*
*CSEM **01** 14:19:25.6±0.2, 40˚.48N×42˚.36E, h8km, MD2.9, Error ellipse: s-maj=4.3km s-min=3.4km az=26.0*

ISC 01 14:19:26.2±1.1, 40˚.49N±0˚.02×42˚.38E±0˚.02, h7km±10km, n30, σ0§76/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARS	**Kars**	**0.56**	**75**	*e*PG	**Pg**	**14 19 36.7**	**-0.2**
KARS				*e*SG	**Sb**	**14 19 45.5**	**-1.1**
KARS	**Kars**	**0.56**	**75**	*e*Pg	**Pg**	**14 19 36.7**	**-0.2**
KARS				*e*Sg	**Sb**	**14 19 45.5**	**-1.1**
HOMI	**Horasan**	**0.57**	**219**	*i*P	**Pg**	**14 19 36.4**	**-0.7**
HOMI				*i*S	**Sg**	**14 19 44.2**	**-0.4**
DDEM	**Demirkent**	**0.62**	**311**	*i*P	**Pg**	**14 19 37.8**	**-0.4**
DDEM				*i*S	**Sg**	**14 19 46.9**	**+0.5**
DDEM	**Demirkent**	**0.62**	**311**	*i*P	**Pg**	**14 19 37.8**	**-0.4**
DDEM				*i*S	**Sg**	**14 19 46.9**	**+0.5**
DAGI	**Agillar**	**0.69**	**330**	*i*P	**Pg**	**14 19 39.2**	**-0.2**
DAGI				*i*S	**Sg**	**14 19 49.0**	**+0.7**
DBAD	**Bademkaya**	**0.74**	**316**	*i*P	**Pg**	**14 19 39.8**	**-0.6**
DBAD				*i*S	**Sg**	**14 19 50.3**	**+0.2**
DBAD	**Bademkaya**	**0.74**	**316**	*i*P	**Pg**	**14 19 39.8**	**-0.6**
DBAD				*i*S	**Sg**	**14 19 50.3**	**+0.2**
DIGO	**Kars**	**0.77**	**95**	*i*P	**Pg**	**14 19 40.1**	**-0.8**
DIGO				*i*S	**Sg**	**14 19 50.6**	**-0.3**
DIGO	**Kars**	**0.77**	**95**	*i*P	**Pg**	**14 19 40.1**	**-0.8**
DIGO				*i*S	**Sg**	**14 19 50.6**	**-0.3**
ARTV	**Artvin**	**0.78**	**334**	*i*P	**Pg**	**14 19 40.9**	**-0.2**
ARTV				*i*S	**Sg**	**14 19 51.0**	**-0.2**
ARTV	**Artvin**	**0.78**	**334**	*i*P	**Pg**	**14 19 40.9**	**-0.2**
ARTV				*i*S	**Sg**	**14 19 51.0**	**-0.2**
ERZM	**Erzurum**	**0.97**	**233**	*i*P	**Pg**	**14 19 44.4**	**-0.3**
ERZM				*i*S	**Sb**	**14 19 58.7**	**+0.2**
ERZM	**Erzurum**	**0.97**	**233**	*i*P	**Pg**	**14 19 44.4**	**-0.3**
ERZM				*i*S	**Sb**	**14 19 58.7**	**+0.2**
EZM	**Erzurum**	**0.97**	**234**	*e*PG	**Pg**	**14 19 44.5**	**-0.3**
EZM				*e*SG	**Sb**	**14 19 58.3**	**-0.3**
AGRB	**Hanur-Agry**	**1.02**	**152**	*e*PG	**Pg**	**14 19 45.8**	**0.0**
AGRB	**Hanur-Agry**	**1.02**	**152**	*e*Pg	**Pg**	**14 19 45.8**	**0.0**
BCA	**Borcka**	**1.11**	**330**	*e*PN	**Pg**	**14 19 46.4**	**-1.1**
BCA	**Borcka**	**1.11**	**330**	*e*Pn	**Pg**	**14 19 46.4**	**-1.1**
TUTA	**Tutak**	**1.13**	**163**	*i*P	**Pg**	**14 19 47.2**	**-0.7**
TUTA				*i*S	**Sn**	**14 20 04.1**	**-0.6**
TUTA	**Tutak**	**1.13**	**163**	*i*P	**Pg**	**14 19 47.2**	**-0.7**
TUTA				*i*S	**Sn**	**14 20 04.1**	**-0.6**
AKH	**Akhalkalaki**	**1.25**	**42**	P	**Pb**	**14 19 50.0**	**-0.2**
AKH				S	**Sn**	**14 20 08.5**	**+1.0**
KOPT	**Kop Dagi**	**1.51**	**253**	*i*P	**Pn**	**14 19 53.7**	**-0.3**
KOPT				*i*S	**Sg**	**14 20 16.9**	**+2.1**
KOPT	**Kop Dagi**	**1.51**	**253**	*i*P	**Pn**	**14 19 53.7**	**-0.3**
KOPT				*i*S	**Sg**	**14 20 16.9**	**+2.1**
BAYT	**Ayd¯–ntepe-Bay**	**1.71**	**268**	*e*PN	**Pn**	**14 19 55.9**	**-0.7**
BAYT	**Ayd¯–ntepe-Bay**	**1.71**	**268**	*e*Pn	**Pn**	**14 19 55.9**	**-0.7**
GNI	**Garni**	**1.84**	**100**	*e*PN	**Pn**	**14 19 59.0**	**+0.6**
GNI	**Garni**	**1.84**	**100**	*e*Pn	**Pn**	**14 19 59.0**	**+0.6**
ONI	**Oni**	**2.25**	**21**	P	**Pg**	**14 20 09.4**	**0.0**
ONI				S	**Sg**	**14 20 39.5**	**+1.0**
DGRG	**David-gareji**	**2.47**	**66**	P	**Pb**	**14 20 11.8**	**+0.9**
DGRG				S	**Sg**	**14 20 46.9**	**+1.5**

*ISK **01** 14:21:48.4, 36˚.25N×36˚.12E, h5km, MD2.8*
*DDA **01** 14:21:48.7, 36˚.05N×36˚.11E, h6km, MD3.1*
*CSEM **01** 14:21:48.2±0.6, 36˚.07N×36˚.11E, h8km, MD2.8, Error ellipse: s-maj=14.7km s-min=8.9km az=179.0*

ISC 01 14:21:47.2±2.0, 36˚.0N±0˚.1×36˚.08E±0˚.05, h13km±6km, n14, σ0§61/23, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAYL	**Yayladag**	**0.03**	**36**	*i*P	**Pg**	**14 21 49.3**	**-0.5**
YAYL				*i*S	**Sg**	**14 21 51.7**	**+0.2**
YAYL	**Yayladag**	**0.03**	**36**	*i*P	**Pg**	**14 21 49.3**	**-0.5**
YAYL				*i*S	**Sg**	**14 21 51.7**	**+0.2**
HTY	**Hatay**	**0.12**	**21**	*e*PG	**Pg**	**14 21 50.6**	**+0.1**
HTY				*e*SG	**Sg**	**14 21 54.2**	**+1.4**
HTY	**Hatay**	**0.12**	**21**	*e*Pg	**Pg**	**14 21 50.6**	**+0.1**
KRTS	**Karatas**	**0.80**	**315**	*e*PG	**Pg**	**14 22 02.9**	**+0.1**
KRTS				*e*SG	**Sg**	**14 22 13.1**	**-0.3**
KRTS	**Karatas**	**0.80**	**315**	*e*Pg	**Pg**	**14 22 02.9**	**+0.1**
KRTS				*e*Sg	**Sg**	**14 22 13.1**	**-0.3**
KUZU	**Kuzuini**	**1.11**	**46**	*i*P	**Pn**	**14 22 09.1**	**+0.6**
KUZU				*i*S	**Sb**	**14 22 22.5**	**-0.1**
KUZU	**Kuzuini**	**1.11**	**46**	*i*P	**Pn**	**14 22 09.1**	**+0.6**
KUZU				*i*S	**Sb**	**14 22 22.5**	**-0.1**
GAZ	**Gaziantep**	**1.48**	**38**	*e*PN	**Pn**	**14 22 13.9**	**+0.3**
GAZ	**Gaziantep**	**1.48**	**38**	*e*Pn	**Pn**	**14 22 13.9**	**+0.3**
KOZT	**Kozan**	**1.48**	**352**	*e*PN	**Pn**	**14 22 13.7**	**0.0**
KOZT				*e*SN	**Sn**	**14 22 31.8**	**-1.1**
KOZT	**Kozan**	**1.48**	**352**	*e*Pn	**Pn**	**14 22 13.7**	**0.0**
KOZT				*e*Sn	**Sn**	**14 22 31.8**	**-1.1**
MERS	**Mersin**	**1.52**	**305**	*e*PN	**Pg**	**14 22 17.2**	**+0.7**
MERS	**Mersin**	**1.52**	**305**	*e*Pn	**Pg**	**14 22 17.2**	**+0.7**

IDC 01 14:30:55.8±4.0, 6˚.23S×154˚.51E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/17, mbtmp3.5/6, MS3.0/1, Ms1 3.0/1, ms1mx2.3/20, Error ellipse: s-maj=108.9km s-min=29.1km az=109.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.87**	**233**	P	P	14 36 11.4	+0.1
	0.5nm,0.5s,baz=58,slow=9.6,SNR=9.5						
ASAR	**Alice Springs**	**26.33**	**227**	P	P	14 36 33.1	-0.6
	0.4nm,0.7s,baz=56,slow=9.6,SNR=6.7						
FITZ	**Fitzroy Crossi**	**30.53**	**245**	LR	LR	14 50 34.3	
	comp=Z,27nm,19.6s,baz=211,slow=39						
CMAR	**Chiang Mai Arr**	**60.03**	**295**	P	P	14 41 05.8	+0.8
	0.8nm,0.6s,baz=115,slow=5.1,SNR=7.5						
SONM	**Songino Array**	**68.44**	**327**	P	P	14 41 59.3	-0.6
	0.2nm,0.6s,baz=152,slow=3.9,SNR=4.3						
MKAR	**Makanchi Array**	**82.52**	**319**	P	P	14 43 19.8	-0.9
	0.2nm,0.4s,baz=96,slow=6.1,SNR=4.0						
KURBB	**Kurchatov Arra**	**85.97**	**322**	P	P	14 43 39.0	+0.9
	0.2nm,0.5s,baz=96,slow=4.9,SNR=4.2						

IDC 01 14:34:35.1±3.4, 22˚.47N×144˚.15E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.3/24, mbtmp3.6/4, Error ellipse: s-maj=160.4km s-min=25.5km az=82.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.23**	**194**	P	P	14 42 38.4	+0.1
	0.6nm,0.9s,baz=16,slow=8.8,SNR=3.6						
ASAR	**Alice Springs**	**46.93**	**193**	P	P	14 43 07.4	-0.3
	0.2nm,0.8s,baz=16,slow=14,SNR=3.5						
KURBB	**Kurchatov Arra**	**57.58**	**317**	P	P	14 44 26.6	-0.1
	0.4nm,0.5s,baz=94,slow=7.7,SNR=9.0						
FINES	**FINESS Array B**	**82.87**	**335**	P	P	14 47 01.4	0.0
	0.6nm,0.4s,baz=66,slow=4.8,SNR=6.7						

*SZGRF **01** 14:51:59.3, 43˚.90N×8˚.53E, h10km, mb4.1, Corsica, France*
*ROM **01** 14:52:00.6±0.1, 43˚.99N×8˚.68E, h11km, Ml3.9/44, Error ellipse: s-maj=3.6km s-min=1.5km az=14.0*
*PRU **01** 14:52:00.1, 44˚.07N×8˚.86E, h0km*
*IDC **01** 14:52:00.1±0.8, 44˚.18N×8˚.63E, h0km, mb3.9/8, mb1 4.0/12, mb1mx3.8/26, mbtmp3.9/12, ML4.0/4, MS3.4/1, Ms1 3.4/1, ms1mx2.2/51, Error ellipse: s-maj=25.2km s-min=11.1km az=126.0*

*ZUR **01** 14:52:00.1, 44˚.01N×8˚.66E, h6km±1km, ML3.6/12*
*GEN **01** 14:52:01.5, 44˚.05N×8˚.68E, h9km, ML4.0*
*NEIC **01** 14:52:01.3±1.3, 44˚.02N×8˚.64E, h12km±10km, ML4.1(LDG), ML4.0(VIE), ML3.6(ZUR), Error ellipse: s-maj=4.5km s-min=3.2km az=155.0*
*LDG **01** 14:52:01.9±0.1, 44˚.02N×8˚.66E, h6km, Md3.7/3, Ml4.1/28, Error ellipse: s-maj=2.1km s-min=1.2km az=178.0*
*ISCJB **01** 14:52:01.4±0.3, 44˚.03N±0˚.01×8˚.69E±0˚.01, h27km±2km, mb3.9/7, MS3.3/1, Error ellipse: s-maj=2.4km s-min=1.6km az=168.0*
*CSEM **01** 14:52:01.1±0.1, 44˚.04N×8˚.69E, h10km, ML4.6/11, Error ellipse: s-maj=2.5km s-min=1.5km az=172.0*
*STR **01** 14:52:02.0±0.3, 44˚.00N×8˚.70E, h5km, Ml3.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 01 14:52:00.8±0.9, 44˚.02N±0˚.02×8˚.67E±0˚.01, h15km±7km, n511, σ1§59/656, mb3.9/7, 68C-33D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINB	**Finale Ligure**	**0.29**	**303**	*i*Pg	**Pb**	**14 52 07.4**	**-0.3**
FINB				Sg	**Sb**	**14 52 11.8**	**-0.6**
FINB	**Finale Ligure**	**0.29**	**303**	*i*Pg	**Pb**	**14 52 07.4**	**-0.3**
FINB				Sg	**Sb**	**14 52 11.8**	**-0.6**
RORO	**Rocca Rossa**	**0.44**	**283**	Pg	**Pb**	**14 52 10.2**	**-0.1**
	6µm,0.3s						
RORO	**Rocca Rossa**	**0.44**	**283**	Pg	**Pb**	**14 52 10.2**	**-0.1**
	6µm,0.3s						
RORO				S	**Sb**	**14 52 16.2**	**-0.5**
PCP	**Piancastagn**	**0.53**	**351**	*i*Pg	**Pg**	**14 52 11.0**	**-0.4**
	6µm,0.3s						
PCP	**Piancastagn**	**0.53**	**351**	P	**Pg**	**14 52 11.0**	**-0.4**
PCP				S	**Sg**	**14 52 17.4**	**-1.1**
IMI	**Imperia**	**0.57**	**260**	Pg	**Pb**	**14 52 12.9**	**+0.4**
IMI	**Imperia**	**0.57**	**260**	P	**Pb**	**14 52 12.9**	**+0.4**
IMI				S	**Sb**	**14 52 20.5**	**+0.1**
NEGI	**Seborga**	**0.72**	**257**	P	**Pn**	**14 52 15.5**	**-0.9**
NEGI				S	**Sb**	**14 52 24.9**	**+0.3**
SC2M	**Scurtabo**	**0.73**	**58**	Pg	**Pb**	**14 52 15.1**	**-0.2**
	13µm,0.3s						
SC2M	**Scurtabo**	**0.73**	**58**	P	**Pb**	**14 52 15.0**	**-0.2**
SC2M				S	**Sg**	**14 52 24.1**	**-0.8**
SAOF	**Saorge**	**0.80**	**268**	Pg	**Pn**	**14 52 17.0**	**-0.6**
SAOF				Sg	**Sn**	**14 52 29.1**	**-0.1**
SAOF	**Saorge**	**0.80**	**268**	Pg	**Pn**	**14 52 17.0**	**-0.6**
SAOF				Sg	**Sn**	**14 52 29.1**	**-0.1**
ROTM	**Rocchetta Tana**	**0.86**	**345**	P	**Pn**	**14 52 18.1**	**-0.3**
ROTM				S	**Sg**	**14 52 29.1**	**+0.2**
AUTN	**L'Aution**	**0.90**	**269**	Pg	**Pn**	**14 52 19.2**	**+0.2**
AUTN				Sg	**Sn**	**14 52 31.3**	**-0.5**
AUTN	**L'Aution**	**0.90**	**269**	Pg	**Pn**	**14 52 19.2**	**+0.2**
AUTN				Sg	**Sn**	**14 52 31.3**	**-0.5**
SBF	**Sospel**	**0.90**	**261**	*e*Pg	**Pb**	**14 52 18.3**	**+0.1**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**14 52 31.5**	**-0.2**
	6µm,0.3s,SNR=1.0						
SBF	**Sospel**	**0.90**	**261**	*e*Pg	**Pb**	**14 52 18.3**	**+0.1**
SBF				*e*Sn	**Sn**	**14 52 31.5**	**-0.2**
SBF	**Sospel**	**0.90**	**261**	*e*Pg	**Pb**	**14 52 18.3**	**+0.1**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**14 52 31.5**	**-0.2**
	3µm,0.3s,SNR=1.0						
CODM	**Codolo**	**0.93**	**66**	P	**Pg**	**14 52 18.2**	**-0.6**
CODM				S	**Sg**	**14 52 29.7**	**-1.3**
BOB	**Bobbio (Coli)**	**0.94**	**36**	Pg	**Pg**	**14 52 18.7**	**-0.3**
	3µm,0.5s						
BOB	**Bobbio (Coli)**	**0.94**	**36**	Pg	**Pg**	**14 52 18.7**	**-0.3**
	3µm,0.5s						
REVF	**Revere**	**0.98**	**254**	Pg	**Pn**	**14 52 21.1**	**+1.1**
REVF				Sg	**Sn**	**14 52 35.2**	**+1.6**
REVF	**Revere**	**0.98**	**254**	Pg	**Pn**	**14 52 21.1**	**+1.1**
REVF				Sg	**Sn**	**14 52 35.2**	**+1.6**
STV	**Sant Anna di V**	**0.99**	**284**	Pg	**Pn**	**14 52 20.0**	**-0.2**
	5µm,0.4s						
STV	**Sant Anna di V**	**0.99**	**284**	P	**Pn**	**14 52 20.0**	**-0.2**
STV				S	**Sg**	**14 52 32.3**	**-0.7**
GROG	**Isola di Gorgo**	**1.07**	**123**	Pg	**Pg**	**14 52 20.0**	**-1.4**
	2µm,0.5s						
GROG	**Isola di Gorgo**	**1.07**	**123**	Pg	**Pg**	**14 52 20.0**	**-1.4**
	2µm,0.5s						
MVIF	**Mont Vial**	**1.10**	**264**	Pn	**Pn**	**14 52 23.0**	**+1.2**
MVIF				Sg	**Sn**	**14 52 38.8**	**+2.1**
MVIF	**Mont Vial**	**1.10**	**264**	Pn	**Pn**	**14 52 23.0**	**+1.2**
MVIF				Sg	**Sn**	**14 52 38.8**	**+2.1**
GRAM	**Graiana**	**1.11**	**64**	P	**Pb**	**14 52 21.4**	**-0.3**
GRAM				S	**Sb**	**14 52 35.2**	**-0.8**
DOI	**San Damiano**	**1.13**	**296**	Pg	**Pb**	**14 52 21.5**	**-0.6**
	4µm,0.4s						
DOI	**San Damiano**	**1.13**	**296**	Pg	**Pb**	**14 52 21.5**	**-0.6**
	4µm,0.4s						
MONC	**Moncucco Torin**	**1.18**	**334**	Pg	**Pg**	**14 52 24.6**	**+1.0**
	7µm,0.5s						
MONC	**Moncucco Torin**	**1.18**	**334**	Pg	**Pg**	**14 52 24.6**	**+1.0**
	7µm,0.5s						
PZZ	**Stroppo**	**1.22**	**294**	Pg	**Pn**	**14 52 23.0**	**-0.4**
	4µm,0.4s						
VLC	**Villacollemand**	**1.25**	**83**	Pg	**Pn**	**14 52 23.2**	**-0.5**
VLC				Sg	**Sb**	**14 52 38.3**	**-1.6**
	2µm,0.8s						
VLC	**Villacollemand**	**1.25**	**83**	*e*Pn	**Pn**	**14 52 23.2**	**-0.5**
VLC	**Villacollemand**	**1.25**	**83**	Pg	**Pn**	**14 52 23.2**	**-0.5**
VLC				Sg	**Sb**	**14 52 38.3**	**-1.6**
	2µm,0.8s						
CRDM	**Cardoso**	**1.31**	**89**	P	**Pn**	**14 52 24.0**	**-0.5**
CRDM				S	**Sb**	**14 52 40.4**	**-1.2**
CALN	**Calern**	**1.31**	**259**	Pn	**Pg**	**14 52 27.2**	**+1.1**
CALN				Sg	**Sg**	**14 52 45.7**	**+2.5**
CALN	**Calern**	**1.31**	**259**	Pn	**Pg**	**14 52 27.2**	**+1.1**
CALN				Sg	**Sg**	**14 52 45.7**	**+2.5**
ERBM	**Eremo**	**1.32**	**72**	Pg	**Pg**	**14 52 25.8**	**-0.4**
ERBM				Sg	**Sg**	**14 52 43.8**	**+0.4**
	3µm,0.5s						
ERBM	**Eremo**	**1.32**	**72**	Pg	**Pg**	**14 52 25.8**	**-0.4**
ERBM				Sg	**Sg**	**14 52 43.8**	**+0.4**
	3µm,0.5s						
MAIM	**Mastiano**	**1.32**	**94**	P	**Pn**	**14 52 24.1**	**-0.5**
MAIM				S	**Sb**	**14 52 40.0**	**-2.0**
BDI	**Bagni Di Lucca**	**1.39**	**87**	Pg	**Pn**	**14 52 25.2**	**-0.5**
	2µm,0.3s						
BDI	**Bagni Di Lucca**	**1.39**	**87**	Pg	**Pn**	**14 52 25.2**	**-0.5**
	2µm,0.3s						
PRMA	**PARMA**	**1.40**	**57**	Pg	**Pg**	**14 52 27.9**	**+0.2**
	2µm,0.5s						
PRMA	**PARMA**	**1.40**	**57**	Pg	**Pg**	**14 52 27.9**	**+0.2**
	2µm,0.5s						
SURF	**Saint Ours**	**1.41**	**290**	Pn	**Pn**	**14 52 26.0**	**-0.1**
SURF	**Saint Ours**	**1.41**	**290**	Pn	**Pn**	**14 52 26.0**	**-0.1**
GSCL	**Gusciola**	**1.42**	**76**	Pg	**Pb**	**14 52 26.4**	**-0.6**
GSCL	**Gusciola**	**1.42**	**76**	Pg	**Pb**	**14 52 26.4**	**-0.6**
PGF	**Pioggiola**	**1.49**	**171**	*e*Pn	**Pn**	**14 52 26.2**	**-0.8**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**14 52 44.9**	**-1.3**
	299nm,0.3s						
PGF	**Pioggiola**	**1.49**	**171**	*e*Pn	**Pn**	**14 52 26.2**	**-0.8**
PGF				*e*Sn	**Sn**	**14 52 44.9**	**-1.3**
PGF	**Pioggiola**	**1.49**	**171**	*e*Pn	**Pn**	**14 52 26.2**	**-0.8**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**14 52 44.9**	**-1.3**
	149nm,0.3s						
MBDF	**Montbardon**	**1.53**	**298**	*e*Pn	**Pn**	**14 52 27.4**	**-0.3**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**14 52 47.1**	**-0.3**
	3µm,0.5s,SNR=1.0						
MBDF	**Montbardon**	**1.53**	**298**	*e*Pn	**Pn**	**14 52 27.4**	**-0.3**
MBDF				*e*Sn	**Sn**	**14 52 47.1**	**-0.3**
MBDF	**Montbardon**	**1.53**	**298**	*e*Pn	**Pn**	**14 52 27.4**	**-0.3**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**14 52 47.1**	**-0.3**
	1µm,0.5s,SNR=1.0						
TRAV	**Traversella**	**1.63**	**337**	P	**Pn**	**14 52 28.7**	**-0.3**
TRAV				S	**Sn**	**14 52 47.4**	**-2.4**
NOVE	**Novellara**	**1.66**	**61**	Pg	**Pg**	**14 52 32.4**	**-0.3**
	7µm,1.2s						
NOVE	**Novellara**	**1.66**	**61**	Pg	**Pg**	**14 52 32.4**	**-0.3**
	7µm,1.2s						
ZCCA	**Zocca**	**1.69**	**78**	Pn	**Pg**	**14 52 32.0**	**-1.4**
	2µm,0.9s						
ZCCA	**Zocca**	**1.69**	**78**	Pn	**Pg**	**14 52 32.0**	**-1.4**
	2µm,0.9s						
LMR	**La Mourre**	**1.71**	**247**	*e*Pn	**Pn**	**14 52 29.4**	**-0.6**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**14 52 49.6**	**-1.9**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**14 52 54.9**	**-0.9**
	373nm,0.3s,SNR=1.0						
LMR	**La Mourre**	**1.71**	**247**	*e*Pn	**Pn**	**14 52 29.4**	**-0.6**
LMR				*e*Sn	**Sn**	**14 52 49.6**	**-1.9**
LMR				*e*Sg	**Sg**	**14 52 54.9**	**-0.9**
	756nm,0.4s						
ASQU	**Asqua**	**2.27**	**94**	Pn	**Pn**	**14 52 37.6**	**-0.1**
	325nm,0.6s						
ASQU	**Asqua**	**2.27**	**94**	Pn	**Pn**	**14 52 37.6**	**-0.1**
	325nm,0.6s						
SFI	**Santa Sofia**	**2.30**	**92**	Pn	**Pn**	**14 52 37.7**	**-0.4**
	505nm,1.0s						
SFI	**Santa Sofia**	**2.30**	**92**	Pn	**Pn**	**14 52 37.7**	**-0.4**
	505nm,1.0s						
CMPO	**Campotto Po**	**2.32**	**75**	Pn	**Pb**	**14 52 41.5**	**-0.8**
ROVR	**Rover¯¤ Verone**	**2.36**	**46**	Pn	**Pn**	**14 52 39.5**	**+0.4**
	886nm,0.3s						
ROVR	**Rover¯¤ Verone**	**2.36**	**46**	Pn	**Pn**	**14 52 39.5**	**+0.4**
	886nm,0.3s						
OSPF	**L'Ospedale**	**2.38**	**171**	Pn	**Pn**	**14 52 39.7**	**-0.4**
OSPF	**L'Ospedale**	**2.38**	**171**	Pn	**Pn**	**14 52 39.7**	**+0.4**
CRE	**Caprese Michel**	**2.41**	**98**	Pn	**Pn**	**14 52 40.0**	**+0.3**
	201nm,0.5s						
CRE	**Caprese Michel**	**2.41**	**98**	Pn	**Pn**	**14 52 40.0**	**+0.3**
	201nm,0.5s						
GRN	**Grenoble**	**2.42**	**301**	Pn	**Pb**	**14 52 42.1**	**-1.9**
GRN	**Grenoble**	**2.42**	**301**	Pn	**Pb**	**14 52 42.1**	**-1.9**
MABI	**Malga Bissina**	**2.42**	**32**	Pn	**Pn**	**14 52 40.6**	**+0.6**
	269nm,0.4s						
MABI	**Malga Bissina**	**2.42**	**32**	Pn	**Pn**	**14 52 40.6**	**+0.6**
	269nm,0.4s						
FUSIO	**Fusio**	**2.44**	**360**	*e*P	**Pn**	**14 52 40.1**	**-0.1**
FUSIO	**Fusio**	**2.44**	**360**	*e*P	**Pn**	**14 52 40.1**	**-0.1**
	611nm,0.6s						
FUSIO	**Fusio**	**2.44**	**360**	*e*P	**Pn**	**14 52 40.1**	**-0.1**
OG26	**St.-Nazaire-De**	**2.48**	**284**	Pn	**Pn**	**14 52 42.5**	**+1.8**
OG26	**St.-Nazaire-De**	**2.48**	**284**	Pn	**Pn**	**14 52 42.5**	**+1.8**
LKBD	**Leukerbad**	**2.48**	**343**	*e*P	**Pn**	**14 52 42.5**	**+1.7**
LKBD	**Leukerbad**	**2.48**	**343**	*e*P	**Pn**	**14 52 42.5**	**+1.7**
	361nm,0.6s						
LKBD	**Leukerbad**	**2.48**	**343**	*e*P	**Pn**	**14 52 42.5**	**+1.7**
GRYON	**Gryon**	**2.49**	**334**	*e*P	**Pn**	**14 52 43.1**	**+2.2**
GRYON	**Gryon**	**2.49**	**334**	*e*P	**Pn**	**14 52 43.1**	**+2.2**
	196nm,0.6s						
GRYON	**Gryon**	**2.49**	**334**	*e*P	**Pn**	**14 52 43.1**	**+2.2**
TUE	**Stuetta**	**2.50**	**11**	Pn	**Pn**	**14 52 42.7**	**+1.6**
	216nm,0.5s						
TUE	**Stuetta**	**2.50**	**11**	*e*Pn	**Pn**	**14 52 42.5**	**+1.4**
TUE	**Stuetta**	**2.50**	**11**	*e*Pn	**Pn**	**14 52 42.5**	**+1.4**
VDL	**Val di Lei**	**2.53**	**12**	*i*P	**Pn**	**14 52 43.1**	**+1.7**
VDL	**Val di Lei**	**2.53**	**12**	*i*P	**Pn**	**14 52 43.1**	**+1.7**
	790nm,0.7s						
VDL	**Val di Lei**	**2.53**	**12**	*i*P	**Pn**	**14 52 43.1**	**+1.7**
BERNI	**Berninapass**	**2.58**	**21**	*i*P	**Pn**	**14 52 43.5**	**+1.3**
BERNI	**Berninapass**	**2.58**	**21**	*i*P	**Pn**	**14 52 43.5**	**+1.3**
	486nm,0.5s						
BERNI	**Berninapass**	**2.58**	**21**	*i*P	**Pn**	**14 52 43.5**	**+1.3**
PARC	**Parchiule**	**2.61**	**97**	Pn	**Pn**	**14 52 42.6**	**+0.2**
	206nm,0.7s						
PARC	**Parchiule**	**2.61**	**97**	Pn	**Pn**	**14 52 42.6**	**+0.2**
	206nm,0.7s						
AIGLE	**Aigle**	**2.62**	**333**	*i*P	**Pn**	**14 52 44.6**	**+2.0**
AIGLE	**Aigle**	**2.62**	**333**	*i*P	**Pn**	**14 52 44.6**	**+2.0**
	790nm,0.9s						
AIGLE	**Aigle**	**2.62**	**333**	*i*P	**Pn**	**14 52 44.6**	**+2.0**
BADI	**Badiali**	**2.64**	**100**	Pn	**Pn**	**14 52 42.9**	**+0.1**
	273nm,0.6s						
BADI	**Badiali**	**2.64**	**100**	Pn	**Pn**	**14 52 42.9**	**+0.1**
	273nm,0.6s						
OG01	**Vacheresse**	**2.71**	**329**	Pn	**Pn**	**14 52 45.9**	**+2.1**
OG01	**Vacheresse**	**2.71**	**329**	Pn	**Pn**	**14 52 45.9**	**+2.1**
BRMO	**Bormio**	**2.74**	**25**	Pn	**Pn**	**14 52 45.7**	**+1.4**

	120nm,0.6s								
BRMO	Bormio	2.74	25	Pn	Pn	14 52 45.7	+1.4		
	120nm,0.6s								
WIMIS	Wimmis	2.75	345	⇑*iP*	Pn	14 52 45.8	+1.5		
WIMIS	Wimmis	2.75	345	⇑*iP*	Pn	14 52 45.8	+1.5		
	1um,0.7s								
WIMIS	Wimmis	2.75	345	⇑*iP*	Pn	14 52 45.8	+1.5		
HASLI	Hasliberg/Brie	2.77	353	*eP*	Pn	14 52 46.5	+1.9		
HASLI	Hasliberg/Brie	2.77	353	*eP*	Pn	14 52 46.5	+1.9		
	812nm,0.9s								
HASLI	Hasliberg/Brie	2.77	353	*eP*	Pn	14 52 46.5	+1.9		
FUORN	Ofenpass-Fuorn	2.84	23	⇓*iP*	Pn	14 52 46.5	+0.8		
FUORN	Ofenpass-Fuorn	2.84	23	⇓*iP*	Pn	14 52 46.5	+0.8		
FUORN	Ofenpass-Fuorn	2.84	23	⇓*iP*	Pn	14 52 46.5	+0.8		
LLS	Linth-Limmern	2.84	5	*eP*	Pn	14 52 46.9	+1.2		
LLS	Linth-Limmern	2.84	5	*eP*	Pn	14 52 46.9	+1.2		
	375nm,0.6s								
PIEI	Pieia	2.84	98	Pn	Pn	14 52 45.8	+0.2		
	106nm,0.7s								
PIEI	Pieia	2.84	98	Pn	Pn	14 52 45.8	+0.2		
	106nm,0.7s								
BNALP	Bannalp	2.86	357	*eP*	Pn	14 52 47.8	+1.9		
BNALP	Bannalp	2.86	357	*eP*	Pn	14 52 47.8	+1.9		
	455nm,0.6s								
BNALP	Bannalp	2.86	357	*eP*	Pn	14 52 47.8	+1.9		
DAVOX	Davos/Dischmat	2.89	17	⇑*iP*	Pn	14 52 48.5	+2.1		
DAVOX				Lg	Lg	14 53 32.6			
DAVOX	Davos/Dischmat	2.89	17	⇑*iP*	Pn	14 52 48.5	+2.1		
DAVOX	Davos/Dischmat	2.89	17	Pn	Pn	14 52 48.6	+2.2		
	23nm,0.3s,baz=200,slow=7.2,SNR=190								
DAVOX				Lg	Lg	14 53 32.6			
	22nm,0.3s,baz=322,slow=21,SNR=4.9								
DAVOX	Davos/Dischmat	2.89	17	⇑*iP*	Pn	14 52 48.5	+2.1		
DAVOX				Lg	Lg	14 53 32.6			
CGRP	Cima Grappa	2.90	49	Pn	Pn	14 52 47.0	+0.5		
	512nm,0.7s								
CGRP	Cima Grappa	2.90	49	Pn	Pn	14 52 47.0	+0.5		
	512nm,0.7s								
CTI	Castel Tesino	2.93	45	⇑*iPn*	Pn	14 52 47.4	+0.5		
	667nm,0.3s								
CTI	Castel Tesino	2.93	45	⇑*iPn*	Pn	14 52 47.4	+0.5		
	667nm,0.3s								
VIVF	Saint-Julien-I	2.98	288	*ePn*	Pn	14 52 47.8	+0.3		
	SNR=1.0								
VIVF				*eSg*	Sg	14 53 34.9	-1.7		
	247nm,0.5s								
VIVF	Saint-Julien-I	2.98	288	*ePn*	Pn	14 52 47.8	+0.3		
VIVF				*eSg*	Sg	14 53 34.9	-1.7		
VIVF	Saint-Julien-I	2.98	288	*ePn*	Pn	14 52 47.8	+0.3		
	SNR=1.0								
VIVF				*eSg*	Sg	14 53 34.9	-1.7		
	123nm,0.5s								
OG35	Corcelles	2.99	314	Pn	Pn	14 52 48.9	+1.3		
FSSB	Fossombrone	2.99	95	Pn	Pn	14 52 49.2	+1.6		
	373nm,0.5s								
FSSB	Fossombrone	2.99	95	Pn	Pn	14 52 49.2	+1.6		
	373nm,0.5s								
TORNY	Torny/Romont	3.01	337	⇑*iP*	Pn	14 52 49.4	+1.5		
TORNY	Torny/Romont	3.01	337	⇑*iP*	Pn	14 52 49.4	+1.5		
TORNY	Torny/Romont	3.01	337	⇑*iP*	Pn	14 52 49.4	+1.5		
ASS	Assisi	3.05	107	Pn	Pn	14 52 48.9	+0.4		
	44nm,0.4s								
ASS	Assisi	3.05	107	Pn	Pn	14 52 48.9	+0.4		
	44nm,0.4s								
APPI	Appiano	3.06	35	Pn	Pn	14 52 49.8	+1.2		
	415nm,0.4s								
APPI	Appiano	3.06	35	Pn	Pn	14 52 49.8	+1.2		
	415nm,0.4s								
PLONS	Plons/SG	3.07	9	*eP*	Pn	14 52 51.0	+2.2		
PLONS	Plons/SG	3.07	9	*eP*	Pn	14 52 51.0	+2.2		
PLONS	Plons/SG	3.07	9	*eP*	Pn	14 52 51.0	+2.2		
ARVD	Arcevia	3.14	98	Pn	Pn	14 52 50.4	+0.7		
	63nm,0.4s								
ARVD	Arcevia	3.14	98	Pn	Pn	14 52 50.4	+0.7		
	63nm,0.4s								
CABF	La Chapelle	3.17	326	*ePn*	Pn	14 52 50.9	+0.8		
	SNR=1.0								
CABF				*eSn*	Sn	14 53 25.8	-1.9		
	222nm,0.6s,SNR=1.0								
CABF	La Chapelle	3.17	326	*ePn*	Pn	14 52 50.9	+0.8		
CABF				*eSn*	Sn	14 53 25.8	-1.9		
CABF	La Chapelle	3.17	326	*ePn*	Pn	14 52 50.9	+0.8		
	SNR=1.0								
CABF				*eSn*	Sn	14 53 25.8	-1.9		
	111nm,0.6s,SNR=1.0								
SNTG	Esanatoglia	3.19	102	Pn	Pn	14 52 50.8	+0.4		
	39nm,0.3s								
SNTG	Esanatoglia	3.19	102	Pn	Pn	14 52 50.8	+0.4		
	39nm,0.3s								
SSB	Saint Sauveur	3.20	295	Pn	Pn	14 52 50.9	+0.3		
SSB	Saint Sauveur	3.20	295	Pn	Pn	14 52 50.9	+0.3		
CESI	CESI - Serrava	3.24	107	Pn	Pn	14 52 51.8	+0.7		
	24nm,0.5s								
CESI	CESI - Serrava	3.24	107	Pn	Pn	14 52 51.8	+0.7		
	24nm,0.5s								
AGOR	Agordo	3.29	45	Pn	Pn	14 52 53.0	+1.2		
	251nm,0.4s								
LIENZ	Kamor/St.Gall	3.33	10	⇑*iP*	Pn	14 52 53.9	+1.5		
LIENZ	Kamor/St.Gall	3.33	10	⇑*iP*	Pn	14 52 53.9	+1.5		
LIENZ	Kamor/St.Gall	3.33	10	⇑*iP*	Pn	14 52 53.9	+1.5		
FETA	Feichten	3.34	25	⇓*iPn*	Pn	14 52 54.4	+1.9		
FETA				*i* Sn	Sn	14 53 33.1	+1.2		
FETA	Feichten	3.34	25	⇓*iPn*	Pn	14 52 54.4	+1.9		
	SNR=31								
FETA				⇑*iSn*	Sn	14 53 33.1	+1.2		
FETA	Feichten	3.34	25	⇓*iPn*	Pn	14 52 54.4	+1.9		
FETA				*i* Sn	Sn	14 53 33.1	+1.2		
DAVA	Damuels	3.38	14	*i* Pn	Pn	14 52 55.4	+2.3		
DAVA				*i* Sn	Sn	14 53 35.4	+2.4		
DAVA	Damuels	3.38	14	*i* Pn	Pn	14 52 55.4	+2.3		
	SNR=37								
DAVA				⇑*iSn*	Sn	14 53 35.4	+2.4		
DAVA	Damuels	3.38	14	*i* Pn	Pn	14 52 55.4	+2.3		
DAVA				*i* Sn	Sn	14 53 35.4	+2.4		
BALST	Balsthal	3.39	349	⇑*iP*	Pn	14 52 54.4	+1.3		
BALST	Balsthal	3.39	349	⇑*iP*	Pn	14 52 54.4	+1.3		
BALST	Balsthal	3.39	349	⇑*iP*	Pn	14 52 54.4	+1.3		
WILA	Wila	3.40	3	⇑*iP*	Pn	14 52 55.3	+2.0		
WILA	Wila	3.40	3	⇑*iP*	Pn	14 52 55.3	+2.0		
WILA	Wila	3.40	3	⇑*iP*	Pn	14 52 55.3	+2.0		
NRCA	Norcia	3.45	109	Pn	Pn	14 52 54.8	+0.8		
	20nm,0.4s								
NRCA	Norcia	3.45	109	Pn	Pn	14 52 54.8	+0.8		
	20nm,0.4s								
LASF	Ste Croix	3.47	273	*ePn*	Pn	14 52 54.4	+0.2		
	SNR=1.0								
LASF				*eSn*	Sn	14 53 32.7	-2.3		
LASF				*eSg*	Sg	14 53 49.6	-2.6		
	105nm,0.4s								
LASF	Ste Croix	3.47	273	*ePn*	Pn	14 52 54.4	+0.2		
LASF				*eSn*	Sn	14 53 32.7	-2.3		
LASF				*eSg*	Sg	14 53 49.6	-2.6		
LASF	Ste Croix	3.47	273	*ePn*	Pn	14 52 54.4	+0.2		
	SNR=1.0								
LASF				*eSn*	Sn	14 53 32.7	-2.3		
LASF				*eSg*	Sg	14 53 49.6	-2.6		
	52nm,0.4s								
LNSS	Leonessa	3.49	112	Pn	Pn	14 52 55.8	+1.2		
	208nm,0.8s								
LNSS	Leonessa	3.49	112	Pn	Pn	14 52 55.8	+1.2		
	208nm,0.8s								
WEIN	Weingarten	3.52	4	⇑*iP*	Pn	14 52 55.7	+0.8		
WEIN	Weingarten	3.52	4	⇑*iP*	Pn	14 52 55.7	+0.8		
WEIN	Weingarten	3.52	4	⇑*iP*	Pn	14 52 55.7	+0.8		
BOURR	Bourrignon	3.52	344	*eP*	Pn	14 52 55.6	+0.6		
BOURR	Bourrignon	3.52	344	*eP*	Pn	14 52 55.6	+0.6		
BOURR	Bourrignon	3.52	344	*eP*	Pn	14 52 55.6	+0.6		
SULZ	Cheisacher	3.53	354	⇑*iP*	Pn	14 52 56.7	+1.6		
SULZ	Cheisacher	3.53	354	⇑*iP*	Pn	14 52 56.7	+1.6		
SULZ	Cheisacher	3.53	354	⇑*iP*	Pn	14 52 56.7	+1.6		
BBS	Basel-Blauen	3.54	347	Pn	Pn	14 52 56.4	+1.2		
LOMF	Lomont	3.58	340	Pn	Pn	14 52 56.8	+1.1		
LOMF	Lomont	3.58	340	Pn	Pn	14 52 56.8	+1.1		
AOI	Ancona	3.60	96	Pn	Pn	14 52 58.1	+2.0		
AOI	Ancona	3.60	96	Pn	Pn	14 52 58.1	+2.0		
MOTA	Moosalm	3.74	26	*i* Pn	Pn	14 53 00.4	+2.3		
MOTA				*i* Sn	Sn	14 53 43.9	+2.0		
MOTA	Moosalm	3.74	26	*i* Pn	Pn	14 53 00.4	+2.3		
	SNR=99								
MOTA				⇑*iSn*	Sn	14 53 43.9	+2.0		
MOTA	Moosalm	3.74	26	*i* Pn	Pn	14 53 00.4	+2.3		
MOTA				*i* Sn	Sn	14 53 43.9	+2.0		
SLE	Schleitheim	3.75	358	⇓*iP*	Pn	14 52 58.4	+0.3		
SLE	Schleitheim	3.75	358	⇓*iP*	Pn	14 52 58.4	+0.3		
SLE	Schleitheim	3.75	358	⇓*iP*	Pn	14 52 58.4	+0.3		
RETA	Reutte	3.77	22	⇓*iPn*	Pn	14 53 00.1	+1.8		
RETA				*i* Sn	Sn	14 53 44.3	+1.8		
RETA	Reutte	3.77	22	⇓*iPn*	Pn	14 53 00.1	+1.8		
	SNR=7.9								
RETA				⇑*iSn*	Sn	14 53 44.3	+1.8		
RETA	Reutte	3.77	22	⇓*iPn*	Pn	14 53 00.1	+1.8		
RETA				*i* Sn	Sn	14 53 44.3	+1.8		
AQU	L'Aquila	3.84	114	*ePn*	Pn	14 53 02.3	+3.0		
AQU	L'Aquila	3.84	114	⇑*iP*	Pn	14 53 02.8	+3.5		
AQU	L'Aquila	3.84	114	*ePn*	Pn	14 53 02.3	+3.0		
AQU	L'Aquila	3.84	114	⇑*iP*	Pn	14 53 02.8	+3.5		
ABTA	Abfaltersbach	3.85	43	*i* Pn	Pn	14 53 01.3	+1.8		
ABTA				*i* Sn	Sn	14 53 43.9	-0.5		
ABTA	Abfaltersbach	3.85	43	*i* Pn	Pn	14 53 01.3	+1.8		
	SNR=60								
ABTA				⇓*iSn*	Sn	14 53 43.9	-0.5		
ABTA	Abfaltersbach	3.85	43	*i* Pn	Pn	14 53 01.3	+1.8		
ABTA				*i* Sn	Sn	14 53 43.9	-0.5		
WTTA	Wattenberg	3.86	32	⇑*iPn*	Pn	14 53 01.6	+1.9		
WTTA				*i* Sn	Sn	14 53 46.2	+1.4		
WTTA	Wattenberg	3.86	32	⇑*iPn*	Pn	14 53 01.6	+1.9		
	SNR=72								
WTTA				⇓*iSn*	Sn	14 53 46.2	+1.4		
WTTA	Wattenberg	3.86	32	⇑*iPn*	Pn	14 53 01.6	+1.9		
WTTA				*i* Sn	Sn	14 53 46.2	+1.4		
FVI	Forni Avoltri	3.88	47	Pn	Pn	14 53 01.2	+1.3		
FVI				Sn	Sn	14 53 44.6	-0.7		
	157nm,0.6s								
FVI	Forni Avoltri	3.88	47	Pn	Pn	14 53 01.2	+1.3		
FVI				Sn	Sn	14 53 44.6	-0.7		
	157nm,0.6s								
GEPF	Gemona	3.89	53	Pn	Pn	14 53 01.0	+1.1		
	107nm,0.4s								
FELD	Feldberg im Sc	3.89	353	Pn	Pn	14 53 00.1	0.0		
WATA	Walderalm	3.90	31	⇓*iPn*	Pn	14 53 02.1	+1.9		
WATA				*i* Sn	Sn	14 53 47.6	+1.9		
WATA	Walderalm	3.90	31	⇓*iPn*	Pn	14 53 02.1	+1.9		
	SNR=51								
WATA				⇓*iSn*	Sn	14 53 47.6	+1.9		
WATA	Walderalm	3.90	31	⇓*iPn*	Pn	14 53 02.1	+1.9		
WATA				*i* Sn	Sn	14 53 47.6	+1.9		
VINO	Villanova	3.96	54	Pn	Pn	14 53 00.9	0.0		
	161nm,0.8s								
VINO	Villanova	3.96	54	Pn	Pn	14 53 00.9	0.0		
	161nm,0.8s								
MOF	Molkenrain	3.98	345	Pn	Pn	14 53 02.0	+0.7		
MOF	Molkenrain	3.98	345	Pn	Pn	14 53 02.0	+0.7		
TRI	Trieste	4.00	63	Pn	Pn	14 53 00.9	-0.5		
	74nm,0.2s								
TRI	Trieste	4.00	63	*ePn*	Pn	14 53 01.2	-0.2		
TRI	Trieste	4.00	63	*ePn*	Pn	14 53 01.2	-0.2		
HINF	Hinteralfeld	4.01	342	*ePn*	Pn	14 53 01.8	+0.2		
	SNR=1.0								
HINF	Hinteralfeld	4.01	342	*ePn*	Pn	14 53 01.8	+0.2		
HINF	Hinteralfeld	4.01	342	*ePn*	Pn	14 53 01.8	+0.2		
	SNR=1.0								
SABO	M.te Sabotino	4.01	59	Pn	Pn	14 53 02.8	+1.1		
	290nm,0.4s								
SABO	M.te Sabotino	4.01	59	Pn	Pn	14 53 02.8	+1.1		
	290nm,0.4s								
LBL	Lubilhac	4.06	289	Pn	Pn	14 53 03.5	+1.2		
LBL	Lubilhac	4.06	289	Pn	Pn	14 53 03.5	+1.2		
PLDF	La Plantade	4.08	300	Pn	Pn	14 53 03.3	+0.7		
PLDF	La Plantade	4.08	300	Pn	Pn	14 53 03.3	+0.7		
PTCC	Patocco-Chiusa	4.08	53	Pn	Pn	14 53 03.3	+0.6		
	47nm,0.2s								
PTCC	Patocco-Chiusa	4.08	53	Pn	Pn	14 53 03.3	+0.6		
	47nm,0.2s								
SPAK	Spaichingen-Ko	4.09	1	Pn	Pn	14 53 03.3	+0.5		
SKDS	Skadanscina	4.10	66	*i* Pn	Pn	14 53 02.3	-0.6		
SKDS				*i* Sn	Sn	14 53 47.6	-3.0		
SKDS									
	comp=Z,84nm,0.3s								
LIBD	Limburg	4.20	350	Pn	Pn	14 53 04.2	0.0		
CADS	Cadrg	4.21	57	*i* Pn	Pn	14 53 05.3	+0.9		
CADS				*eSn*	Sn	14 53 51.9	-1.5		
VOY	Vojsko	4.22	60	*ePn*	Pn	14 53 04.2	-0.3		
VOY				*eSn*	Sn	14 53 51.8	-1.7		
SMF	Signal de Mont	4.30	309	*ePn*	Pn	14 53 07.0	+1.4		
	SNR=1.0								
SMF				*eSn*	Sn	14 53 53.2	-2.3		
	comp=Z,126nm,0.6s,SNR=1.0								
SMF	Signal de Mont	4.30	309	*ePn*	Pn	14 53 07.0	+1.4		
SMF				*eSn*	Sn	14 53 53.2	-2.3		
SMF	Signal de Mont	4.30	309	*ePn*	Pn	14 53 07.0	+1.4		
	SNR=1.0								
SMF				*eSn*	Sn	14 53 53.2	-2.3		
	comp=Z,63nm,0.6s,SNR=1.0								
HAU	Haudompre	4.30	339	*ePn*	Pn	14 53 06.0	+0.3		
	SNR=1.0								
HAU	Haudompre	4.30	339	*ePn*	Pn	14 53 06.0	+0.3		
HAU	Haudompre	4.30	339	*ePn*	Pn	14 53 06.0	+0.3		
	SNR=1.0								
BFO	Black Forest	4.32	357	*ePn*	Pn	14 53 05.8	-0.1		
BFO				*eSn*	Sn	14 53 55.7	-0.3		
BFO	Black Forest	4.32	357	*ePn*	Pn	14 53 05.8	-0.1		
BFO	Black Forest	4.32	357	*ePn*	Pn	14 53 05.8	-0.1		
ECH	Echery	4.33	347	*ePn*	Pn	14 53 06.1	0.0		
ECH	Echery	4.33	347	Pn	Pn	14 53 06.3	+0.3		
ECH	Echery	4.33	347	Pn	Pn	14 53 06.3	+0.3		
MYKA	Terra Mystica	4.37	52	⇑*iPn*	Pn	14 53 07.7	+1.0		
MYKA				*i* Sn	Sn	14 53 56.8	-0.6		
MYKA	Terra Mystica	4.37	52	⇑*iPn*	Pn	14 53 07.7	+1.0		
MYKA				⇑*iSn*	Sn	14 53 56.8	-0.6		
MYKA	Terra Mystica	4.37	52	⇑*iPn*	Pn	14 53 07.7	+1.0		
MYKA				*i* Sn	Sn	14 53 56.8	-0.6		
PYM	Petit Puy Mans	4.38	295	Pn	Pn	14 53 07.7	+0.9		
PYM	Petit Puy Mans	4.38	295	Pn	Pn	14 53 07.7	+0.9		
AGO	Saint Agoulin	4.42	299	Pn	Pn	14 53 08.0	+0.7		
AGO	Saint Agoulin	4.42	299	Pn	Pn	14 53 08.0	+0.7		
NVLJ	Novalja	4.49	81	*ePn*	Pn	14 53 08.6	+0.4		
NVLJ				*eSn*	Sn	14 53 56.5	-3.6		
NVLJ	Novalja	4.49	81	*ePn*	Pn	14 53 08.5	+0.4		
NVLJ				*eSn*	Sn	14 53 56.4	-3.6		
KBA	Koelnbreinsper	4.49	45	⇓*iPn*	Pn	14 53 09.8	+1.4		
KBA				*i* Sn	Sn	14 54 00.7	+0.2		
KBA	Koelnbreinsper	4.49	45	⇓*iPn*	Pn	14 53 09.8	+1.4		
	SNR=9.0								
KBA				⇑*iSn*	Sn	14 54 00.7	+0.2		
KBA	Koelnbreinsper	4.49	45	⇓*iPn*	Pn	14 53 09.8	+1.4		
KBA				*i* Sn	Sn	14 54 00.6	+0.2		
CDF	Champ du Feu	4.50	348	*ePn*	Pn	14 53 08.2	-0.2		
	SNR=1.0								
CDF				*eSn*	Sn	14 53 56.9	-3.6		
	comp=Z,61nm,0.5s								
CDF	Champ du Feu	4.50	348	*ePn*	Pn	14 53 08.2	-0.2		
CDF				*eSn*	Sn	14 53 56.9	-3.6		
CDF	Champ du Feu	4.50	348	*ePn*	Pn	14 53 08.2	-0.2		
	SNR=1.0								
CDF				*eSn*	Sn	14 53 56.9	-3.6		
	comp=Z,30nm,0.5s								
EJON	La Jonquera	4.50	252	P	Pn	14 53 08.2	-0.2		
	comp=Z,1.0nm,0.1s,SNR=18								
FUR	Furstenfeldbru	4.53	23	*ePn*	Pn	14 53 09.7	+0.9		
FUR				*eSn*	Sn	14 53 59.7	-1.4		
THEF	They Montfort	4.61	337	Pn	Pn	14 53 11.3	+1.5		
THEF	They Montfort	4.61	337	Pn	Pn	14 53 11.3	+1.5		
LJU	Ljubljana	4.62	62	*eSn*	Sn	14 54 02.4	-1.0		
AVF	Avril sur Loir	4.66	308	*ePn*	Pn	14 53 11.1	+0.6		
	SNR=1.0								
AVF				*eSg*	Sg	14 54 26.7	-3.6		
	comp=Z,95nm,0.8s								
AVF	Avril sur Loir	4.66	308	*ePn*	Pn	14 53 11.1	+0.6		
AVF				*eSg*	Sg	14 54 26.7	-3.6		
AVF	Avril sur Loir	4.66	308	*ePn*	Pn	14 53 11.1	+0.6		
	SNR=1.0								
AVF				*eSg*	Sg	14 54 26.7	-3.6		
	comp=Z,47nm,0.8s								
LOR	Lormes	4.68	316	*ePn*	Pn	14 53 11.4	+0.5		
	baz=135,SNR=1.0								
LOR				*eSn*	Sn	14 54 01.9	-3.0		
	comp=Z,82nm,0.5s								
LOR	Lormes	4.68	316	*ePn*	Pn	14 53 11.4	+0.5		
LOR				*eSn*	Sn	14 54 01.9	-3.0		
LOR	Lormes	4.68	316	*ePn*	Pn	14 53 11.4	+0.5		
	baz=135,SNR=1.0								
LOR				*eSn*	Sn	14 54 01.9	-3.0		
	comp=Z,41nm,0.5s								
RJOB	Jochberg	4.71	36	*ePn*	Pn	14 53 13.1	+1.9		
RJOB				*eSn*	Sn	14 54 06.9	+1.4		
VISS	Visnje	4.73	66	*i* Pn	Pn	14 53 11.7	+0.1		
VISS				*eSn*	Sn	14 54 03.4	-2.7		
VISS									
	comp=Z,24nm,0.2s								
SSF	Saint Saulge	4.74	312	*ePn*	Pn	14 53 12.1	+0.5		
	SNR=1.0								
SSF				*eSn*	Sn	14 54 03.2	-2.9		
	comp=Z,48nm,0.5s								
SSF	Saint Saulge	4.74	312	*ePn*	Pn	14 53 12.1	+0.5		
SSF				*eSn*	Sn	14 54 03.2	-2.9		
SSF	Saint Saulge	4.74	312	*ePn*	Pn	14 53 12.1	+0.5		
	SNR=1.0								
SSF				*eSn*	Sn	14 54 03.2	-2.9		
	comp=Z,24nm,0.5s								
STU	Stuttgart	4.77	4	*ePn*	Pn	14 53 12.5	+0.4		
STU	Stuttgart	4.77	4	*ePn*	Pn	14 53 12.1	0.0		
STU	Stuttgart	4.77	4	*ePn*	Pn	14 53 12.1	0.0		
CAF	Calviac	4.81	283	*ePn*	Pn	14 53 13.2	+0.5		
	SNR=1.0								
CAF				*eSn*	Sn	14 54 04.7	-3.4		
	comp=Z,32nm,0.5s,SNR=1.0								
CAF	Calviac	4.81	283	*ePn*	Pn	14 53 13.2	+0.5		
CAF				*eSn*	Sn	14 54 04.7	-3.4		
CAF	Calviac	4.81	283	*ePn*	Pn	14 53 13.2	+0.5		
	SNR=1.0								
BGF	Bois d'Agland	4.83	304	*ePn*	Pn	14 53 13.7	+0.8		
	SNR=1.0								
BGF				*eSn*	Sn	14 54 05.0	-3.5		
	comp=Z,94nm,0.5s								
BGF	Bois d'Agland	4.83	304	*ePn*	Pn	14 53 13.7	+0.8		
BGF				*eSn*	Sn	14 54 05.0	-3.5		
BGF	Bois d'Agland	4.83	304	*ePn*	Pn	14 53 13.7	+0.8		
	SNR=1.0								
TCF	Toulx Ste Croi	5.10	299	*ePn*	Pn	14 53 17.2	+0.6		
	SNR=1.0								
TCF				*eSn*	Sn	14 54 11.7	-3.5		
	comp=Z,61nm,0.7s								
TCF	Toulx Ste Croi	5.10	299	*ePn*	Pn	14 53 17.2	+0.6		
TCF				*eSn*	Sn	14 54 11.7	-3.5		
TCF	Toulx Ste Croi	5.10	299	*ePn*	Pn	14 53 17.2	+0.6		
	SNR=1.0								
CFON	Fontmartina	5.10	246	P	Pn	14 53 18.2	+1.5		
	comp=Z,4.1nm,0.1s,SNR=9.6								
VALF	Valcebollere	5.12	254	Pn	Pn	14 53 17.8	+0.8		
VALF	Valcebollere	5.12	254	Pn	Pn	14 53 17.8	+0.8		
CLLI	Llivia	5.12	255	P	Pn	14 53 18.2	+1.1		
	comp=Z,4.4nm,0.2s,SNR=18								
CLLI				S	Sn	14 54 14.8	-1.2		
	comp=Z,2.9nm,0.2s,SNR=17								
MEZF	Maizieres J'vi	5.14	332	*eP*	Pn	14 53 19.8	+2.7		
	baz=152								
MEZF				*eSg*	Sg	14 54 42.0	-3.7		
	comp=Z,153nm,0.6s								
MEZF	Maizieres J'vi	5.14	332	*eP*	Pn	14 53 19.8	+2.7		
MEZF				*eSg*	Sg	14 54 42.0	-3.7		
MEZF	Maizieres J'vi	5.14	332	*eP*	Pn	14 53 19.8	+2.7		
	baz=152								
MEZF				*eSg*	Sg	14 54 42.0	-3.7		
	comp=Z,77nm,0.6s								
SOKA	Soboth	5.22	57	⇑*iPn*	Pn	14 53 19.0	+0.7		
SOKA				*i* Sn	Sn	14 54 16.7	-1.4		
SOKA	Soboth	5.22	57	⇑*iPn*	Pn	14 53 19.0	+0.7		
SOKA				⇓*iSn*	Sn	14 54 16.7	-1.4

	comp=Z,11nm,0.4s								
ETSF	**Etsaut**	**6.81**	**264**	*e*P		Pn	14 53 44.6	+4.5
ETSF				*e*Sn		**Sn**	**14 54 52.4**	**-4.9**
GUNZ	**Gunzen**	**6.82**	**20**	*e*Sn		Sn	14 54 52.1	-5.5
MEM	**Membach**	**6.84**	**346**	PN		**Pn**	**14 53 41.6**	**+1.2**
MEM	**Membach**	**6.84**	**346**	Pn		**Pn**	**14 53 41.6**	**+1.2**
ERTA	**Horta de San J**	**6.88**	**246**	P		**Pn**	**14 53 43.9**	**+2.9**
	comp=Z,0.6nm,0.3s,SNR=7.9								
WERD	**Werda**	**6.89**	**20**	*e*Pn		**Pn**	**14 53 39.8**	**-1.4**
TANN	**Tannenbergstha**	**6.90**	**21**	*e*Pn		**Pn**	**14 53 39.9**	**-1.5**
MOX	**Moxa**	**6.93**	**16**	*e*Sn		Sn	14 54 54.5	-5.6
ESAC	**San Caprasio**	**7.09**	**254**	P		**Pn**	**14 53 46.4**	**+2.4**
	comp=Z,1.9nm,0.2s,SNR=7.9								
SNF	**Seneffe**	**7.15**	**337**	PN		Pn	14 53 47.7	+3.0
SNF	**Seneffe**	**7.15**	**337**	Pn		Pn	14 53 47.6	+3.0
PRU	**Pruhonice**	**7.20**	**32**	*e*PN		**Pn**	**14 53 44.8**	**-0.5**
PRU				*e*SN		**Sn**	**14 55 01.6**	**-5.1**
PRU	**Pruhonice**	**7.20**	**32**	Pn		**Pn**	**14 53 44.8**	**-0.5**
IELO	**Elcoad**	**7.30**	**264**	P		**Pn**	**14 53 49.7**	**+2.8**
	comp=Z,0.3nm,0.2s,SNR=7.9								
IEPA	**Eparoz**	**7.34**	**264**	P		**Pn**	**14 53 49.6**	**+2.2**
	comp=Z,0.3nm,0.2s,SNR=7.9								
EORO	**Oroz-Betelu**	**7.35**	**265**	P		**Pn**	**14 53 50.5**	**+3.0**
	comp=Z,0.3nm,0.2s,SNR=7.9								
PKSM	**Moragy**	**7.39**	**69**	⇑*e*Pn		**Pn**	**14 53 49.0**	**+1.0**
PKSM				*e*Sn		**Sn**	**14 55 07.3**	**-4.2**
PKSM	**Moragy**	**7.39**	**69**	⇑*e*P		**Pn**	**14 53 49.0**	**+1.0**
EIBI	**Ibiza**	**7.42**	**230**	P		Pn	14 53 51.4	+3.0
	comp=Z,6.0nm,0.2s,SNR=13								
IZUN	**Zunzarren**	**7.46**	**265**	P		**Pn**	**14 53 52.0**	**+3.0**
	comp=Z,0.1nm,0.1s,SNR=7.9								
VRAC	**Vranov**	**7.60**	**43**	Pn		**Pn**	**14 53 50.4**	**-0.4**
VRAC	**Vranov**	**7.60**	**43**	Pn		**Pn**	**14 53 50.4**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=227,slow=12,SNR=2.0								
VRAC	**Vranov**	**7.60**	**43**	Pn		**Pn**	**14 53 50.4**	**-0.4**
LDF	**La Druitiere**	**7.61**	**310**	*e*Pn		**Pn**	**14 53 51.2**	**+0.1**
	SNR=1.0								
LDF	**La Druitiere**	**7.61**	**310**	*e*Pn		**Pn**	**14 53 51.2**	**+0.1**
LDF	**La Druitiere**	**7.61**	**310**	*e*Pn		**Pn**	**14 53 51.2**	**+0.1**
	SNR=1.0								
BRG	**Berggiesshubel**	**7.73**	**26**	PN		**Pn**	**14 53 52.6**	**-0.1**
BRG				PG			14 54 25.4	
BRG				SG			14 56 07.9	
	comp=Z,7.9nm,0.9s								
CLL	**Collm**	**7.86**	**20**	*e*Pn		**Pn**	**14 53 53.4**	**-1.0**
CLL	**Collm**	**7.86**	**20**	*i* Pn		**Pn**	**14 53 53.5**	**-1.0**
CLL				*e*Sn		**Sn**	**14 55 19.0**	**-4.0**
CLL				*e*Sb		Sb	14 55 35.0	-15
CLL				*e*			14 56 32.0	
FLN	**La Foliniere**	**7.91**	**310**	*e*Pn		**Pn**	**14 53 55.5**	**+0.4**
	baz=132,SNR=1.0								
FLN				*e*Sn		**Sn**	**14 55 19.0**	**-5.2**
	comp=Z,15nm,0.6s								
FLN	**La Foliniere**	**7.91**	**310**	*e*Pn		**Pn**	**14 53 55.5**	**+0.4**
FLN				*e*Sn		**Sn**	**14 55 19.0**	**-5.2**
FLN	**La Foliniere**	**7.91**	**310**	*e*Pn		**Pn**	**14 53 55.5**	**+0.4**
	baz=132,SNR=1.0								
GRR	**Gorron**	**7.92**	**307**	*e*Pn		**Pn**	**14 53 55.1**	**-0.2**
	SNR=1.0								
GRR				*e*Sn		**Sn**	**14 55 19.6**	**-5.0**
	comp=Z,17nm,0.5s,SNR=1.0								
GRR	**Gorron**	**7.92**	**307**	*e*Pn		**Pn**	**14 53 55.1**	**-0.2**
GRR				*e*Sn		**Sn**	**14 55 19.6**	**-5.0**
GRR	**Gorron**	**7.92**	**307**	*e*Pn		**Pn**	**14 53 55.1**	**-0.2**
	SNR=1.0								
DPC	**Dobruska-Polom**	**8.20**	**37**	*e*PN		**Pn**	**14 53 58.5**	**-0.7**
DPC	**Dobruska-Polom**	**8.20**	**37**	Pn		**Pn**	**14 53 58.5**	**-0.7**
KEST	**Kesra**	**8.29**	**176**	Pn		Pn	14 54 04.3	+3.8
KEST	**Kesra**	**8.29**	**176**	Pn		Pn	14 54 04.3	+3.8
	comp=Z,0.9nm,0.3s,baz=290,slow=4.6,SNR=16								
IVAS	**Ivanjica**	**8.32**	**89**	*e*Pn		**Pn**	**14 54 01.5**	**+0.6**
MORC	**Moravsky Berou**	**8.37**	**43**	⇓*i*P		**Pn**	**14 54 02.4**	**+0.9**
MORC	**Moravsky Berou**	**8.37**	**43**	⇓*i*P		**Pn**	**14 54 02.4**	**+0.9**
ETOR	**Torete**	**8.55**	**252**	P		**Pn**	**14 54 06.2**	**+2.2**
	comp=Z,2.1nm,0.3s,SNR=7.9								
GRUS	**Gruza**	**8.70**	**87**	*e*Pn		**Pn**	**14 54 05.9**	**0.0**
PSZ	**Piszkesteto**	**8.74**	**60**	*ep*Pn		Pn	14 54 17.7	+11
ELAN	**Lanestosa**	**8.81**	**269**	P		**Pn**	**14 54 08.0**	**+0.5**
	comp=Z,0.8nm,0.4s,SNR=7.9								
SGMF	**Saint Gilles**	**8.87**	**302**	*e*Pn		**Pn**	**14 54 08.3**	**0.0**
	SNR=1.0								
SGMF	**Saint Gilles**	**8.87**	**302**	*e*Pn		**Pn**	**14 54 08.3**	**0.0**
SGMF	**Saint Gilles**	**8.87**	**302**	*e*Pn		**Pn**	**14 54 08.3**	**0.0**
	SNR=1.0								
SELS	**Selova**	**9.07**	**91**	*e*Pn		**Pn**	**14 54 13.5**	**+2.4**
BZS	**Buzias**	**9.34**	**76**	⇓*i*P		**Pn**	**14 54 17.1**	**+2.3**
BZS	**Buzias**	**9.34**	**76**	⇓*i*P		**Pn**	**14 54 17.1**	**+2.3**
ETOB	**Tobarra**	**9.37**	**239**	P		**Pn**	**14 54 16.7**	**+1.5**
	comp=Z,0.3nm,0.2s,SNR=7.9								
EMUR	**La Murta**	**9.70**	**234**	P		**Pn**	**14 54 21.5**	**+1.7**
	comp=Z,0.8nm,0.3s,SNR=7.9								
GUD	**Guadarrama**	**10.07**	**255**	P		**Pn**	**14 54 27.6**	**+2.6**
	comp=Z,3.3nm,0.5s,SNR=7.9								
EARI	**Arriondas**	**10.09**	**271**	P		**Pn**	**14 54 26.5**	**+1.5**
	comp=Z,0.5nm,0.2s,SNR=6.1								
GZR	**Gura Zlata**	**10.14**	**77**	⇑*i*P		**Pn**	**14 54 27.6**	**+1.8**
GZR	**Gura Zlata**	**10.14**	**77**	⇑*i*P		**Pn**	**14 54 27.6**	**+1.8**
DRGR		**10.26**	**69**	⇑*i*P		Pn	14 54 31.9	+4.5
ESDC	**Sonseca Array**	**10.37**	**250**	Pn		**Pn**	**14 54 30.2**	**+1.2**
ESDC	**Sonseca Array**	**10.37**	**250**	Pn		**Pn**	**14 54 30.2**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=61,slow=14,SNR=5.2								
ESDC	**Sonseca Array**	**10.37**	**250**	Pn		**Pn**	**14 54 30.2**	**+1.2**
ESDC	**Sonseca Array**	**10.37**	**250**	P		**Pn**	**14 54 30.6**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=60,slow=14,SNR=5.5								
EVO	**Evora**	**13.68**	**252**	*e*Pn		**Pn**	**14 55 13.5**	**-0.6**
EVOP	**Sao Brissos**	**13.76**	**252**	*e*Pn		**Pn**	**14 55 13.5**	**-1.7**
HFS	**Hagfors**	**16.43**	**9**	Pn		**P**	**14 55 53.1**	**0.0**
HFS	**Hagfors**	**16.43**	**9**	Pn		**P**	**14 55 53.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=195,slow=17,SNR=4.6								
HFS	**Hagfors**	**16.43**	**9**	Pn		**P**	**14 55 53.2**	**0.0**
FINES	**FINESS Array B**	**20.27**	**25**	P		**P**	**14 56 35.0**	**-0.4**
FINES	**FINESS Array B**	**20.27**	**25**	P		**P**	**14 56 35.0**	**-0.4**
	comp=Z,1.9nm,0.4s,baz=206,slow=9.9,SNR=22								
FINES	**FINESS Array B**	**20.27**	**25**	P		**P**	**14 56 35.0**	**-0.4**
KAF	**Kangasniemi**	**20.87**	**24**	*ep*		**P**	**14 56 41.1**	**-0.8**
	comp=Z,7.5nm,0.6s								
KAF	**Kangasniemi**	**20.87**	**24**	*e*P		**P**	**14 56 41.1**	**-0.8**
	comp=Z,7.5nm,0.6s								
ARCES	**ARCESS Array B**	**26.99**	**13**	P		**P**	**14 57 40.1**	**-1.5**
ARCES	**ARCESS Array B**	**26.99**	**13**	P		**P**	**14 57 40.1**	**-1.5**
	comp=Z,9.6nm,1.1s,baz=210,slow=9.1,SNR=5.8								
ARCES				LR		LR	15 10 16.1		
	comp=Z,76nm,19.4s,baz=219,slow=41								
TORD	**Torodi Ar. Bea**	**31.34**	**193**	P		**P**	**14 58 22.8**	**+2.2**
TORD	**Torodi Ar. Bea**	**31.34**	**193**	P		**P**	**14 58 22.8**	**+2.2**
	comp=Z,1.1nm,0.7s,baz=11,slow=9.4,SNR=3.4								
TORD	**Torodi Ar. Bea**	**31.34**	**193**	P		**P**	**14 58 22.8**	**+2.2**
DBIC	**Dimbokro**	**39.04**	**202**	P		P	14 59 30.6	+3.7
DBIC	**Dimbokro**	**39.04**	**202**	P		P	14 59 30.6	+3.7
	comp=Z,1.5nm,0.7s,baz=320,slow=13,SNR=3.6								
DBIC	**Dimbokro**	**39.04**	**202**	P		P	14 59 30.6	+3.7
SCHQ	**Schefferville**	**47.99**	**311**	P		**P**	**15 00 39.7**	**+1.0**
SCHQ	**Schefferville**	**47.99**	**311**	P		**P**	**15 00 39.7**	**+1.0**
	comp=Z,3.2nm,1.0s,baz=92,slow=9.1,SNR=4.6								
SCHQ	**Schefferville**	**47.99**	**311**	P		**P**	**15 00 39.7**	**+1.0**
MKAR	**Makanchi Array**	**49.99**	**59**	P		**P**	**15 00 54.4**	**+0.2**
MKAR	**Makanchi Array**	**49.99**	**59**	P		**P**	**15 00 54.4**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=294,slow=6.1,SNR=5.0								
MKAR	**Makanchi Array**	**49.99**	**59**	P		**P**	**15 00 54.4**	**+0.2**
YKA	**Yellowknife Ar**	**64.56**	**335**	P		**P**	**15 02 37.3**	**+0.6**
YKA	**Yellowknife Ar**	**64.56**	**335**	P		**P**	**15 02 37.3**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=43,slow=6.3,SNR=15								
YKA	**Yellowknife Ar**	**64.56**	**335**	P		**P**	**15 02 37.3**	**+0.6**
TXAR	**Lajitas Array**	**84.37**	**306**	P		**P**	**15 04 34.2**	**+1.7**
TXAR	**Lajitas Array**	**84.37**	**306**	P		**P**	**15 04 34.2**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=42,slow=3.8,SNR=9.1								
TXAR	**Lajitas Array**	**84.37**	**306**	P		**P**	**15 04 34.2**	**+1.7**

*ISCJB **01** 14:58:31.7±0.5, 40.°43N±0.°02×42.°33E±0.°03, h8km±5km, Error ellipse: s-maj=4.2km s-min=3.9km az=145.3*
*ISK **01** 14:58:31.3, 40.°45N×42.°31E, h6km, MD2.8*
*DDA **01** 14:58:31.4, 40.°42N×42.°34E, h7km, MD2.9*
*CSEM **01** 14:58:31.4±0.2, 40.°41N×42.°31E, h5km, MD2.8, Error ellipse: s-maj=3.7km s-min=3.1km az=15.0*

ISC 01 14:58:31.6±1.1, 40.°42N±0.°02×42.°33E±0.°02, h8km±10km, n23, σ0°49/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOMI	**Horasan**	**0.50**	**221**	*i* P	**Pg**	**14 58 41.3**	**0.0**
HOMI				*i* S	**Sg**	**14 58 48.1**	**+0.2**
KARS	**Kars**	**0.60**	**70**	*e*PG	**Pg**	**14 58 43.5**	**+0.2**
KARS				*e*SG	**Sb**	**14 58 52.7**	**-0.6**
KARS	**Kars**	**0.60**	**70**	*e*Pg	**Pg**	**14 58 43.5**	**+0.2**
KARS				*e*Sg	**Sb**	**14 58 52.7**	**-0.6**
DDEM	**Demirkent**	**0.65**	**317**	*i* P	**Pg**	**14 58 44.0**	**-0.1**
DDEM				*i* S	**Sg**	**14 58 53.0**	**+0.5**
DDEM	**Demirkent**	**0.65**	**317**	*i* P	**Pg**	**14 58 44.0**	**-0.1**
DDEM				*i* S	**Sg**	**14 58 53.0**	**+0.5**
DAGI	**Agillar**	**0.73**	**334**	*i* P	**Pg**	**14 58 46.0**	**+0.4**
DAGI				*i* S	**Sb**	**14 58 55.9**	**-0.9**
DIGO	**Kars**	**0.79**	**90**	*i* P	**Pg**	**14 58 46.9**	**0.0**
DIGO				*i* S	**Sg**	**14 58 57.4**	**+0.1**
DIGO	**Kars**	**0.79**	**90**	*i* P	**Pg**	**14 58 46.9**	**0.0**
DIGO				*i* S	**Sg**	**14 58 57.4**	**+0.1**
ARTV	**Artvin**	**0.82**	**338**	*i* P	**Pb**	**14 58 47.7**	**-0.6**
ARTV				*i* S	**Sb**	**14 58 59.3**	**-0.3**
ARTV	**Artvin**	**0.82**	**338**	*i* P	**Pb**	**14 58 47.7**	**-0.6**
ARTV				*i* S	**Sb**	**14 58 59.3**	**-0.3**
ERZM	**Erzurum**	**0.90**	**235**	*i* P	**Pb**	**14 58 49.6**	**-0.1**
ERZM				*i* S	**Sb**	**14 59 01.7**	**-0.4**
ERZM	**Erzurum**	**0.90**	**235**	*i* P	**Pb**	**14 58 49.6**	**-0.1**
ERZM				*i* S	**Sb**	**14 59 01.7**	**-0.4**
EZM	**Erzurum**	**0.91**	**236**	*e*PG	**Pg**	**14 58 49.4**	**+0.4**
EZM				*e*SG	**Sb**	**14 59 01.7**	**-0.4**
AGRB	**Hanur-Agry**	**0.99**	**149**	*e*PG	**Pg**	**14 58 51.1**	**+0.5**
AGRB				*e*SG	**Sn**	**14 59 06.6**	**+0.4**
AGRB	**Hanur-Agry**	**0.99**	**149**	*e*Pg	**Pg**	**14 58 51.1**	**+0.5**
TUTA	**Tutak**	**1.08**	**160**	*i* P	**Pg**	**14 58 52.4**	**-0.1**
TUTA				*i* S	**Sg**	**14 59 05.6**	**-1.0**
TUTA	**Tutak**	**1.08**	**160**	*i* P	**Pg**	**14 58 52.4**	**-0.1**
TUTA				*i* S	**Sg**	**14 59 05.6**	**-1.0**
BCA	**Borcka**	**1.15**	**332**	*e*PN	**Pb**	**14 58 53.5**	**-0.4**
BCA	**Borcka**	**1.15**	**332**	*e*Pn	**Pb**	**14 58 53.5**	**-0.4**
BAYT	**Ayd¨–ntepe-Bay**	**1.67**	**270**	*e*PN	**Pn**	**14 59 01.8**	**+0.3**
BAYT	**Ayd¨–ntepe-Bay**	**1.67**	**270**	*e*Pn	**Pn**	**14 59 01.8**	**+0.3**
GNI	**Garni**	**1.86**	**98**	*e*PN	**Pn**	**14 59 04.9**	**+0.9**
GNI	**Garni**	**1.86**	**98**	*e*Pn	**Pn**	**14 59 04.9**	**+0.9**

WEL 01 14:59:16.8±0.3, 35.°79S×177.°90E, h204km±7km, ML3.5/5, Error ellipse: s-maj=6.6km s-min=6.1km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.81**	**170**	PN	Pn	14 59 53.8	+0.2
MXZ				SN	S	15 00 22.4	+0.5
PUZ	**Puketiti**	**2.30**	**173**	PN	Pn	14 59 58.6	-0.1
PUZ				SN	S	15 00 30.8	-0.2
URZ	**Urewera**	**2.55**	**194**	PN	Pn	15 00 01.7	+0.3
URZ				SN	S	15 00 36.1	+0.3
MWZ	**Matawai**	**2.56**	**187**	PN	Pn	15 00 01.9	+0.3
MRZ	**Mangatainoka R**	**5.20**	**200**	PN	Pn	15 00 30.8	-2.9

*NSSP **01** 15:06:29.6, 40.°37N×42.°27E, h5km, Ms3.4*
*ISK **01** 15:06:30.8, 40.°45N×42.°34E, h5km, MD3.4, ML3.4*
*TIF **01** 15:06:31.4, 40.°43N×42.°31E, h11km±2km*
*DDA **01** 15:06:31.6, 40.°44N×42.°36E, h12km, MD3.5*
*CSEM **01** 15:06:32.1±0.2, 40.°48N×42.°39E, h2km, MD3.4, Error ellipse: s-maj=5.2km s-min=3.4km az=37.0*

ISC 01 15:06:32.2±1.0, 40.°44N±0.°02×42.°34E±0.°01, h7km±9km, n83, σ1°06/122, 1C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOMI	**Horasan**	**0.52**	**220**	*i* P	**Pg**	**15 06 41.4**	**-0.9**
HOMI				*i* S	**Sg**	**15 06 49.2**	**+0.1**
KARS	**Kars**	**0.59**	**72**	PG	**Pg**	**15 06 43.4**	**-0.2**
KARS				SG	**Sb**	**15 06 53.1**	**-0.4**
KARS	**Kars**	**0.59**	**72**	*i* Pg	**Pg**	**15 06 43.4**	**-0.2**
DDEM	**Demirkent**	**0.64**	**315**	*i* P	**Pg**	**15 06 44.5**	**+0.1**
DDEM				*i* S	**Sg**	**15 06 53.6**	**+0.8**
DDEM	**Demirkent**	**0.64**	**315**	*i* P	**Pg**	**15 06 44.5**	**+0.1**
DDEM				*i* S	**Sg**	**15 06 53.6**	**+0.8**
DAGI	**Agillar**	**0.71**	**333**	*i* P	**Pg**	**15 06 46.1**	**+0.2**
DAGI				*i* S	**Sb**	**15 06 57.1**	**0.0**
DIGO	**Kars**	**0.79**	**92**	*i* P	**Pg**	**15 06 46.4**	**-1.0**
DIGO				*i* S	**Sg**	**15 06 57.3**	**-0.3**
DIGO	**Kars**	**0.79**	**92**	*i* P	**Pg**	**15 06 46.4**	**-1.0**
DIGO				*i* S	**Sg**	**15 06 57.3**	**-0.3**
ARTV	**Artvin**	**0.80**	**337**	*i* P	**Pg**	**15 06 47.8**	**+0.1**
ARTV				*i* S	**Sg**	**15 06 57.6**	**-0.5**
ARTV	**Artvin**	**0.80**	**337**	*i* P	**Pg**	**15 06 47.8**	**+0.1**
ARTV				*i* S	**Sg**	**15 06 57.6**	**-0.5**
ERZM	**Erzurum**	**0.92**	**235**	*i* P	**Pg**	**15 06 49.5**	**-0.4**
ERZM				*i* S	**Sg**	**15 07 00.5**	**-1.4**
ERZM	**Erzurum**	**0.92**	**235**	*i* P	**Pg**	**15 06 49.5**	**-0.4**
ERZM				*i* S	**Sg**	**15 07 00.5**	**-1.4**
EZM	**Erzurum**	**0.92**	**235**	*e*PG	**Pg**	**15 06 49.5**	**-0.4**
AGRB	**Hanur-Agry**	**1.00**	**150**	*e*PG	**Pg**	**15 06 50.7**	**-0.7**
AGRB	**Hanur-Agry**	**1.00**	**150**	*e*Pg	**Pg**	**15 06 50.7**	**-0.7**
DBOC	**Borcka**	**1.04**	**331**	*i* P	**Pg**	**15 06 51.3**	**-0.8**
DBOC				*i* S	**Sg**	**15 07 05.9**	**+0.4**
DBOC	**Borcka**	**1.04**	**331**	*i* P	**Pg**	**15 06 51.3**	**-0.8**
DBOC				*i* S	**Sg**	**15 07 05.9**	**+0.4**
TUTA	**Tutak**	**1.10**	**161**	*i* P	**Pg**	**15 06 52.6**	**-0.7**
TUTA				*i* S	**Sn**	**15 07 09.5**	**-0.3**
TUTA	**Tutak**	**1.10**	**161**	*i* P	**Pg**	**15 06 52.6**	**-0.7**
TUTA				*i* S	**Sn**	**15 07 09.5**	**-0.3**
BCA	**Borcka**	**1.14**	**332**	*e*PN	**Pg**	**15 06 53.3**	**-0.7**
BCA	**Borcka**	**1.14**	**332**	*e*Pn	**Pg**	**15 06 53.3**	**-0.7**
GMRZ	**Gyumri**	**1.19**	**72**	*e*P	Pg	15 06 50.0	-5.0
AKH	**Akhalkalaki**	**1.30**	**42**	P	**Pn**	**15 06 57.0**	**0.0**
AKH				S	**Sn**	**15 07 14.8**	**+0.2**
PZAR	**Pazar-Rize**	**1.32**	**304**	*e*PN	**Pn**	**15 06 56.6**	**-0.4**
PZAR	**Pazar-Rize**	**1.32**	**304**	*e*Pn	**Pn**	**15 06 56.6**	**-0.4**
DYDN	**Diyadin**	**1.37**	**131**	*i* P	**Pn**	**15 06 57.3**	**-0.6**
DYDN				*i* S	**Sb**	**15 07 16.2**	**+0.1**
DYDN	**Diyadin**	**1.37**	**131**	*i* P	**Pn**	**15 06 57.3**	**-0.6**
DYDN				*i* S	**Sb**	**15 07 16.2**	**+0.1**
VRTB	**Varto-Mus**	**1.45**	**208**	*e*PN	**Pn**	**15 06 58.7**	**-0.3**
VRTB	**Varto-Mus**	**1.45**	**208**	*e*Pn	**Pn**	**15 06 58.7**	**-0.3**
KOPT	**Kop Dagi**	**1.48**	**254**	*i* P	**Pb**	**15 07 00.2**	**+0.1**
KOPT				*i* S	**Sg**	**15 07 21.7**	**+2.1**
KOPT	**Kop Dagi**	**1.48**	**254**	*i* P	**Pb**	**15 07 00.2**	**+0.1**
KOPT				*i* S	**Sg**	**15 07 21.7**	**+2.1**
ERE	**Yerevan**	**1.65**	**99**	*e*P	Pn	15 06 57.0	-4.6
ERE				*e*S	**Sn**	**15 07 21.0**	**-2.1**
STEZ	**Stepenevan**	**1.66**	**70**	*e*P	**Pn**	**15 07 01.0**	**-0.8**
STEZ				*e*S	**Sg**	**15 07 27.0**	**+1.5**
STEZ	**Stepenevan**	**1.66**	**70**	⇓*i*P	**Pn**	**15 07 01.9**	**+0.1**
STEZ				⇓*i*S	**Sn**	**15 07 23.4**	**0.0**
BAYT	**Ayd¨–ntepe-Bay**	**1.68**	**269**	*e*PN	**Pn**	**15 07 02.7**	**+0.5**
BAYT	**Ayd¨–ntepe-Bay**	**1.68**	**269**	*e*Pn	**Pn**	**15 07 02.7**	**+0.5**
BNGL	**BİNGOL**	**1.75**	**212**	*i* P	**Pb**	**15 07 04.2**	**-0.5**
BNGL				*e*S	**Sb**	**15 07 26.7**	**-0.3**
CLDR	**Caldiran**	**1.78**	**136**	*e*PN	**Pn**	**15 07 03.8**	**+0.3**
CLDR	**Caldiran**	**1.78**	**136**	*e*Pn	**Pn**	**15 07 03.8**	**+0.3**
GNI	**Garni**	**1.86**	**98**	*e*PN	**Pb**	**15 07 05.8**	**-0.7**
GNI	**Garni**	**1.86**	**98**	⇑*i*P	**Pb**	**15 07 06.4**	**-0.1**
GNI				⇓*i*S	**Sg**	**15 07 34.3**	**+2.4**
GNI	**Garni**	**1.86**	**98**	*e*Pn	**Pb**	**15 07 05.8**	**-0.7**
TATV	**Tatvan**	**1.94**	**182**	*e*P	**Pb**	**15 07 05.0**	**-0.4**
TATV				*e*S	**Sb**	**15 07 33.0**	**+0.7**
TATV	**Tatvan**	**1.94**	**182**	*e*P	**Pb**	**15 07 07.5**	**-0.4**
TATV				*e*S	**Sb**	**15 07 33.0**	**+0.7**
BNGB	**Bing¨¶l**	**1.94**	**222**	*e*PN	**Pn**	**15 07 06.3**	**+0.7**
VANB	**Van**	**2.02**	**156**	*e*PN	**Pn**	**15 07 07.7**	**+1.0**
VANB	**Van**	**2.02**	**156**	*e*Pn	**Pn**	**15 07 07.7**	**+1.0**
MACK	**Trabzon**	**2.02**	**285**	*i* P	**Pb**	**15 07 09.2**	**0.0**
MACK				*i* S	**Sb**	**15 07 34.9**	**+0.3**
MACK	**Trabzon**	**2.02**	**285**	*i* P	**Pb**	**15 07 09.2**	**0.0**
MACK				*i* S	**Sb**	**15 07 34.9**	**+0.3**
KTUT	**Trabzon**	**2.03**	**286**	*e*PN	**Pn**	**15 07 07.4**	**+0.6**
KTUT	**Trabzon**	**2.03**	**286**	*e*Pn	**Pn**	**15 07 07.4**	**+0.6**
GOR	**Gori**	**2.04**	**40**	P	**Pg**	**15 07 11.0**	**-0.2**
GOR				S	**Sg**	**15 07 39.8**	**+2.2**
TVAN	**Van**	**2.08**	**156**	*i* P	**Pb**	**15 07 10.8**	**+0.4**
TVAN				*i* S	Sg	15 07 54.8	+15
TVAN	**Van**	**2.08**	**156**	*i* P	**Pb**	**15 07 10.8**	**+0.4**
GUMT	**Gumushane**	**2.19**	**271**	*e*PN	**Pn**	**15 07 09.9**	**+0.9**
GUMT	**Gumushane**	**2.19**	**271**	*e*Pn	**Pn**	**15 07 09.9**	**+0.9**
ERZN	**Erzincan**	**2.19**	**248**	*e*PN	**Pn**	**15 07 09.7**	**+0.7**
TBLG	**Delisi**	**2.22**	**54**	P	**Pb**	**15 07 12.5**	**-0.2**
TBLG				S	**Sg**	**15 07 45.3**	**+1.8**
TBLG	**Delisi**	**2.22**	**54**	P	**Pb**	**15 07 12.5**	**-0.2**
ONI	**Oni**	**2.30**	**21**	P	**Pb**	**15 07 12.7**	**-1.4**
ONI				S	**Sg**	**15 07 46.0**	**0.0**
KELT	**Kelkit**	**2.38**	**264**	*i* P	**Pb**	**15 07 15.0**	**-0.5**
KELT				*i* S	**Sb**	**15 07 44.1**	**-1.0**
KELT	**Kelkit**	**2.38**	**264**	*i* P	**Pb**	**15 07 15.0**	**-0.5**
KELT				*i* S	**Sb**	**15 07 44.1**	**-1.0**
VADZ	**Vardenis**	**2.62**	**95**	*e*P	**Pg**	**15 07 21.0**	**-1.3**
VADZ				*e*S	**Sg**	**15 08 00.0**	**+3.8**
BEST	**Besiri**	**2.68**	**198**	*i* P	**Pb**	**15 07 18.7**	**-1.9**
BEST				*e*S	**Sb**	**15 07 52.8**	**-0.9**
PTK	**Pertek**	**2.75**	**237**	*e*PN	**Pn**	**15 07 17.6**	**+0.7**
PTK	**Pertek**	**2.75**	**237**	*e*Pn	**Pn**	**15 07 17.6**	**+0.7**
ESPY	**Espiye-Giresun**	**2.79**	**281**	*e*PN	**Pn**	**15 07 18.4**	**+1.2**
ESPY	**Espiye-Giresun**	**2.79**	**281**	*e*Pn	**Pn**	**15 07 18.4**	**+1.2**
ILIC	**ilic-Erzincan**	**3.07**	**252**	*e*PN	**Pn**	**15 07 22.8**	**+1.7**
ILIC	**ilic-Erzincan**	**3.07**	**252**	*e*Pn	**Pn**	**15 07 22.8**	**+1.7**
SVRC	**Sivrice-ELAZID**	**3.13**	**230**	*e*PN	**Pn**	**15 07 23.5**	**+1.5**
SVRC	**Sivrice-ELAZID**	**3.13**	**230**	*e*Pn	**Pn**	**15 07 23.5**	**+1.5**
GRSN	**GİRESUNGRSN**	**3.14**	**280**	*i* P	**Pb**	**15 07 26.1**	**-2.2**
GRSN				*i* S	**Sn**	**15 07 58.2**	**-1.5**
GRSN	**GIRESUNGRSN**	**3.14**	**280**	*i* P	**Pb**	**15 07 26.1**	**-2.2**
GRSN				*i* S	**Sn**	**15 07 58.2**	**-1.5**
SUSE	**Susehri**	**3.17**	**267**	*i* P	**Pb**	**15 07 29.3**	**+0.3**
SUSE				*e*S	**Sb**	**15 08 09.3**	**+1.4**
KEMA	**Kemaliye**	**3.19**	**250**	*i* P	**Pb**	**15 07 29.4**	**+0.3**
KEMA

534nm,26.9s
R18A **Canyonlands Na** **73.00 1** ⇑P **P** **15 29 37.8 +2.1**
baz=73
NVAR **Mina Array Bea** **73.31 354** P **P** **15 29 39.2 +1.7**
NVAR **Mina Array Bea** **73.31 354** P **P** **15 29 39.2 +1.7**
2.4nm,0.9s,baz=167,slow=7.2,SNR=5.9
NVAR LR LR 15 55 29.5
comp=Z,353nm,18.1s,baz=191,slow=31
RCBR **Riachuelo** **74.81 86** LR LR 15 59 46.5
comp=Z,107nm,19.7s,slow=34
PDAR **Pinedale Array** **77.38 1** P **P** **15 30 01.6 +0.7**
PDAR **Pinedale Array** **77.38 1** P **P** **15 30 01.6 +0.7**
3.9nm,1.2s,baz=184,slow=4.5,SNR=5.8
PDAR LR LR 15 59 18.9
comp=Z,199nm,18.1s,baz=2.9,slow=32
PD01 **Pinedale Array** **77.39 1** *e*P **P** **15 30 01.1 +0.2**
PD02 **Pinedale Array** **77.39 1** P **P** **15 30 01.3 +0.4**
MAW **Mawson** **77.66 178** LR LR 16 01 47.6
comp=Z,293nm,19.8s,baz=177,slow=34
HLID **Hailey** **78.20 358** *e*P **P** **15 30 04.7 -0.7**
10.0nm,1.2s
F13A **Darby** **80.43 358** ⇓P **P** **15 30 20.3 +2.9**
baz=81
D17A **Six Diamond Ra** **81.75 0** ⇑P **P** **15 30 27.0 +2.6**
baz=82
C13A **Hot Springs** **82.32 358** ⇓P P 15 30 31.0 +3.6
baz=83
C14A **Swan Lake** **82.39 358** ⇓P **P** **15 30 30.2 +2.5**
baz=83
STKA **Stephens Creek** **84.51 235** LR LR 16 02 26.7
comp=Z,273nm,18.6s,baz=71,slow=32
ULM **Lac du Bonnet** **85.95 10** LR LR 16 05 24.2
comp=Z,127nm,20.7s,baz=348,slow=33
CTA **Charters Tower** **88.29 247** LR LR 16 06 02.6
comp=Z,249nm,18.2s,baz=232,slow=33
YKA **Yellowknife Ar** **97.16 359** P **P** **15 31 37.3 -0.3**
YKA **Yellowknife Ar** **97.16 359** P **P** **15 31 37.3 -0.3**
0.0nm,0.4s,baz=172,slow=4.8,SNR=2.8
NWAO **Narrogin (SRO)** **98.50 220** LR LR 16 04 18.4
comp=Z,62nm,19.4s,baz=104,slow=28
AKASG **Malin Array Be** **147.57 49** PKPbc **PKPbc** **15 37 48.7 -1.1**
AKASG **Malin Array Be** **147.57 49** PKPbc **PKPbc** **15 37 48.7 -1.1**
0.6nm,0.6s,baz=298,slow=3.3,SNR=2.1
CMAR **Chiang Mai Arr** **148.46 246** PKPbc **PKPbc** **15 37 52.2 -0.9**
CMAR **Chiang Mai Arr** **148.46 246** PKPbc **PKPbc** **15 37 52.2 -0.9**
1.5nm,0.7s,baz=185,slow=1.5,SNR=11
SONM **Songino Array** **149.18 306** PKPbc **PKPbc** **15 37 54.5 +0.2**
SONM **Songino Array** **149.18 306** PKPbc **PKPbc** **15 37 54.5 +0.2**
1.1nm,1.0s,baz=132,slow=2.1,SNR=2.8
TLY **Talaya** **149.89 315** *e*PKPab **PKPab** **15 37 59.1 -2.2**

*SZGRF **01** 15:20:28.0, 17°.58S×174°.09W, h33km, Tonga Islands*
*ISCJB **01** 15:20:45.0±0.4, 17°.05S±0°.10×174°.62W±0°.08, h172km, mb4.3/21, Error ellipse: s-maj=15.7km s-min=8.5km az=147.1*
*BJI **01** 15:20:44.5, 17°.00S×174°.50W, h163km, mB5.0/5, mb4.7/7*
*IDC **01** 15:20:50.0±0.9, 17°.17S×174°.52W, h208km±8km, mb4.1/20, mb1 4.2/21, mb1mx4.2/25, mbtmp4.1/21, Error ellipse: s-maj=17.8km s-min=10.8km az=148.0*
ISC 01 15:20:46.1±0.5, **17°.1S**±0°.1×**174°.63W**±0°.09, **h172**km, **n91**, σ1°**09**/89, **mb4.2**/21, **17C-14D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.16**	**42**	P	**Pn**	**15 21 49.8**	**+0.7**
AFI	45nm,0.3s,baz=49,slow=1.9,SNR=19			S	**Sn**	**15 22 34.2**	**-4.1**
	171nm,0.3s,baz=195,slow=22,SNR=15						
RAR	**Rarotonga**	**14.63**	**109**	P	**Pn**	**15 24 05.3**	**+0.3**
	1.0nm,0.3s,baz=276,slow=11,SNR=4.3						
ARMA	**Armidale**	**33.49**	**240**	*e*P	**P**	**15 27 10.0**	**+0.7**
CMSA	**Cobar Meteorol**	**38.71**	**241**	*e*P	**P**	**15 27 53.7**	**+0.2**
	41nm,0.6s						
QLP	**Quilpie**	**39.21**	**249**	*e*P	**P**	**15 27 57.9**	**+0.2**
COEN	**Coen**	**40.72**	**268**	*e*P	Px	15 28 31.1	
	63nm,1.5s						
STKA	**Stephens Creek**	**42.20**	**241**	*e*P	**P**	**15 28 22.8**	**+0.7**
	5.7nm,0.9s						
STKA	**Stephens Creek**	**42.20**	**241**	P	**P**	**15 28 23.2**	**+1.0**
	6.9nm,0.8s,baz=103,slow=11,SNR=18						
WRA	**Warramunga Arr**	**48.34**	**258**	P	**P**	**15 29 10.4**	**-0.2**
	1.8nm,0.3s,baz=97,slow=7.3,SNR=93						
WRA				S	**S**	**15 35 53.5**	**-4.3**
	0.5nm,1.1s,baz=289,slow=38,SNR=3.1						
ASAR	**Alice Springs**	**48.49**	**253**	P	**P**	**15 29 11.9**	**+0.1**
	42nm,0.6s,baz=88,slow=8.7,SNR=1061						
ASAR				pP	pP	15 29 57.0	+6.8
	2.2nm,0.6s,baz=89,slow=8.0,SNR=0.9						
ASAR				S	**S**	**15 35 54.8**	**-5.3**
	2.2nm,1.1s,baz=88,slow=16,SNR=5.8						
MJAR	**Matsushiro Arr**	**69.45**	**321**	P	**P**	**15 31 36.4**	**+0.6**
	4.8nm,0.9s,baz=168,slow=6.4,SNR=8.3						
ASAJ	**Asahikawa**	**72.33**	**329**	P	**P**	**15 31 53.7**	**+0.8**
	12nm,0.8s,baz=54,slow=16,SNR=7.1						
QSPA	**South Pole Qui**	**73.00**	**180**	P	**P**	**15 31 56.6**	**-0.1**
	3.5nm,0.9s,baz=39,slow=2.0,SNR=8.3						
QSPA				pP	pP	15 32 45.4	+7.2
	4.5nm,0.8s,baz=50,slow=2.5,SNR=3.9						
PETK	**Petropavlovsk-**	**73.85**	**343**	P	**P**	**15 32 02.1**	**+0.5**
	13nm,0.7s,baz=124,slow=9.0,SNR=20						
YBH	**Yreka Blue Hor**	**75.62**	**37**	P	**P**	**15 32 12.8**	**+0.6**
	8.6nm,0.8s,baz=194,slow=1.4,SNR=20						
NVAR	**Mina Array Bea**	**76.34**	**42**	P	**P**	**15 32 16.8**	**+0.3**
	4.3nm,0.8s,baz=223,slow=9.1,SNR=18						
KSRS	**Korea Array**	**76.52**	**316**	P	**P**	**15 32 19.6**	**+2.4**
	4.8nm,0.9s,baz=130,slow=6.2,SNR=18						
KDAK	**Kodiak Island**	**76.77**	**12**	P	**P**	**15 32 18.4**	**+0.3**
	13nm,0.8s,baz=19,slow=3.9,SNR=4.6						
ELK	**Elko**	**79.59**	**42**	P	**P**	**15 32 33.5**	**-0.9**
	2.2nm,0.9s,baz=238,slow=4.7,SNR=7.2						
TXAR	**Lajitas Array**	**82.51**	**56**	P	**P**	**15 32 50.2**	**+0.3**
	2.3nm,0.9s,baz=214,slow=8.6,SNR=16						
DLBC	**Dease Lake**	**83.66**	**22**	P	**P**	**15 32 55.3**	**+0.2**
	3.7nm,1.1s,baz=269,slow=7.9,SNR=5.4						
PDAR	**Pinedale Array**	**84.28**	**42**	P	**P**	**15 32 58.2**	**-0.6**
	2.7nm,0.8s,baz=214,slow=3.7,SNR=16						
ILAR	**Eielson Array**	**84.29**	**12**	P	**P**	**15 32 57.4**	**-0.6**
	4.0nm,0.6s,baz=230,slow=6.0,SNR=96						
INK	**Inuvik**	**90.15**	**14**	P	**P**	**15 33 25.6**	**-0.6**
	3.4nm,0.9s,baz=200,slow=5.5,SNR=11						
CMAR	**Chiang Mai Arr**	**92.02**	**289**	P	**P**	**15 33 38.1**	**+2.1**
	1.8nm,0.8s,baz=97,slow=2.4,SNR=17						
YKA	**Yellowknife Ar**	**92.08**	**24**	P	**P**	**15 33 34.6**	**-0.6**
	0.7nm,0.8s,baz=237,slow=4.4,SNR=13						
YKA				pP	pP	15 34 28.4	+10
	0.1nm,0.4s,baz=236,slow=6.4,SNR=2.0						
SONM	**Songino Array**	**95.29**	**318**	P	**P**	**15 33 51.9**	**+1.4**
	0.1nm,0.4s,baz=68,slow=43,SNR=2.8						
MKAR	**Makanchi Array**	**111.13**	**314**	PKiKP	**PKiKP**	**15 38 58.0**	**-1.2**
	1.0nm,0.7s,baz=132,slow=0.4,SNR=8.3						
ARCES	**ARCESS Array B**	**126.06**	**351**	PKP	**PKPdf**	**15 39 26.9**	**-0.3**
	6.0nm,0.9s,baz=25,slow=4.6,SNR=5.7						
FINES	**FINESS Array B**	**133.28**	**347**	PKP	**PKPdf**	**15 39 40.6**	**-0.4**
	3.0nm,0.9s,baz=27,slow=2.4,SNR=8.3						
NRDL	**Niedersach Rie**	**144.44**	**355**	*e*PKPbc	PKPbc	15 40 00.4	-0.1
KWP	**Kalwaria Pacla**	**144.60**	**340**	⇓*i*P	PKPbc	15 40 01.6	+0.4
IBBN	**Ibbenburen**	**144.77**	**357**	*e*PKPbc	PKPbc	15 40 01.6	0.0
OJC	**Ojcow**	**144.93**	**344**	*e*PKP	PKPbc	15 40 02.0	-0.2
CLZ	**Clausthal**	**145.06**	**355**	*e*PKPbc	**PKPdf**	**15 40 02.8**	**0.0**
CLL	**Collm**	**145.29**	**352**	⇑*i*PKP	**PKPdf**	**15 40 03.0**	**-0.1**
	comp=Z,39nm,0.9s						
CLL				*e*		15 40 08.0	
BURAR	**Bucovina Array**	**145.43**	**336**	⇑*i*P	**PKPab**	**15 40 05.3**	**+1.0**
NIE	**Niedzica**	**145.52**	**343**	*e*PKP	**PKPbc**	**15 40 04.1**	**0.0**
UPC	**Upice**	**145.55**	**348**	*e*PKP	**PKPab**	**15 40 04.5**	**-0.1**
BRG	**Berggiesshubel**	**145.57**	**350**	*i* PKP	**PKPbc**	**15 40 04.1**	**0.0**
	comp=Z,20nm,1.0s						
BRG	**Berggiesshubel**	**145.57**	**350**	*e*PKPbc	**PKPbc**	**15 40 04.2**	**0.0**
DPC	**Dobruska-Polom**	**145.63**	**348**	*e*PKP	**PKPab**	**15 40 05.0**	**0.0**
BUG	**Bochum--Univer**	**145.66**	**358**	*e*PKPbc	**PKPbc**	**15 40 04.1**	**-0.3**
OKC	**Ostrava-Krasne**	**145.71**	**345**	*e*PKP	**PKPab**	**15 40 04.9**	**-0.3**
TESR		**145.73**	**334**	⇓*i*P	**PKPab**	**15 40 05.9**	**+0.5**
TLCR		**145.76**	**330**	⇓*i*P	**PKPab**	**15 40 05.4**	**-0.1**
PVCC	**Panska Ves**	**145.80**	**350**	*e*PKP	**PKPbc**	**15 40 04.6**	**-0.3**
MORC	**Moravsky Berou**	**145.91**	**346**	⇓*i*P	**PKPab**	**15 40 05.7**	**-0.3**
TRPA	**Tarpa**	**145.96**	**339**	⇑*i*P	**PKPbc**	**15 40 05.6**	**+0.2**
TRPA	**Tarpa**	**145.96**	**339**	⇓*e*	**PKPab**	**15 40 05.8**	**-0.4**
CFR	**Carcaliu**	**146.09**	**331**	⇑*i*P	**PKPbc**	**15 40 05.8**	**-0.1**
MOX	**Moxa**	**146.12**	**353**	*e*PKPbc	**PKPbc**	**15 40 05.7**	**-0.1**
VRI	**Vrincioaia**	**146.20**	**333**	⇑*i*P	**PKPab**	**15 40 06.9**	**-0.4**
TANN	**Tannenbergstha**	**146.23**	**352**	*e*PKPbc	**PKPbc**	**15 40 06.3**	**0.0**
PLOR	**Plostina**	**146.25**	**333**	⇑*i*P	**PKPbc**	**15 40 06.4**	**0.0**
PRU	**Pruhonice**	**146.32**	**349**	*e*PKP	**PKPbc**	**15 40 06.6**	**+0.2**
NKC	**Novy Kostel**	**146.41**	**352**	*e*PKP	**PKPbc**	**15 40 06.9**	**+0.2**
TIRR	**Tirgusor**	**146.49**	**329**	⇓*i*P	**PKPbc**	**15 40 07.4**	**+0.3**
VRAC	**Vranov**	**146.56**	**347**	⇑*i*P	**PKPab**	**15 40 09.5**	**+1.0**
BRTR	**Keskin Array B**	**146.65**	**318**	PKPbc	**PKPbc**	**15 40 08.1**	**+0.1**
	comp=Z,6.5nm,0.8s,baz=129,slow=2.8,SNR=25						
VYHS	**Vyhne**	**146.77**	**344**	*e*PKP	**PKPbc**	**15 40 07.9**	**+0.1**
MLR	**Muntele Rosu**	**146.84**	**333**	⇑*i*P	**PKPbc**	**15 40 08.9**	**+0.7**
ISR	**Istrita**	**146.87**	**332**	⇓*i*P	**PKPbc**	**15 40 08.9**	**+0.7**
ROTZ	**Rotzenmuhle**	**146.90**	**352**	*e*PKPbc	**PKPbc**	**15 40 08.5**	**+0.4**
PSZ	**Piszkesteto**	**146.99**	**342**	⇓*i*P	**PKPbc**	**15 40 08.7**	**+0.2**
PSZ	**Piszkesteto**	**146.99**	**342**	⇓*e*	**PKPbc**	**15 40 11.2**	**+2.7**
DRGR		**147.05**	**338**	⇓*i*P	**PKPbc**	**15 40 09.0**	**+0.3**
GRF	**Grafenberg Arr**	**147.10**	**353**	*e*PKPbc	**PKPab**	**15 40 10.5**	**-0.1**
KHC	**Kasperske Hory**	**147.31**	**350**	*e*PKP	**PKPbc**	**15 40 09.1**	**+0.2**
KHC				*ex*	x	15 40 12.1	
ZST	**Bratislava**	**147.49**	**345**	*e*PKP	**PKPbc**	**15 40 10.5**	**+0.8**
GEC2	**GERESS Array S**	**147.57**	**350**	*e*PKPbc	**PKPbc**	**15 40 10.1**	**0.0**
GERES	**GERESS Array B**	**147.57**	**350**	PKPbc	**PKPbc**	**15 40 10.3**	**+0.2**
	comp=Z,4.0nm,0.7s,baz=22,slow=3.0,SNR=25						
CONA	**Conrad Observa**	**148.03**	**347**	⇑*i*PKPbc	**PKPbc**	**15 40 11.8**	**+0.5**
	comp=Z,12nm,0.7s						
GZR	**Gura Zlata**	**148.21**	**336**	⇓*i*P	**PKPbc**	**15 40 11.9**	**0.0**
STU	**Stuttgart**	**148.21**	**355**	*e*PKPbc	**PKPbc**	**15 40 12.1**	**+0.4**
MOA	**Molln**	**148.43**	**349**	⇓*i*PKPbc	**PKPbc**	**15 40 12.3**	**0.0**
	comp=Z,8.7nm,1.2s						
BZS	**Buzias**	**148.45**	**338**	⇓*i*P	**PKPbc**	**15 40 12.4**	**0.0**
FUR	**Furstenfeldbru**	**148.59**	**352**	*e*PKPbc	**PKPbc**	**15 40 13.2**	**+0.5**
BFO	**Black Forest**	**148.71**	**356**	*e*PKPbc	**PKPbc**	**15 40 13.4**	**+0.4**
RJOB	**Jochberg**	**148.79**	**350**	*e*PKPbc	**PKPbc**	**15 40 13.4**	**+0.1**
PKSM	**Moragy**	**148.90**	**342**	⇓*i*P	**PKPbc**	**15 40 13.4**	**-0.1**
PKSM	**Moragy**	**148.90**	**342**	⇑*e*PP	**PKPbc**	**15 40 13.2**	**-0.3**
RETA	**Reutte**	**149.32**	**353**	⇑*i*PKPbc	**PKPbc**	**15 40 14.5**	**-0.1**
	comp=Z,7.9nm,0.8s						
KBA	**Koelnbreinsper**	**149.34**	**349**	⇑*i*PKPbc	**PKPbc**	**15 40 14.0**	**-0.8**
	comp=Z,5.6nm,0.6s						
SOKA	**Soboth**	**149.39**	**347**	⇑*i*PKPbc	**PKPbc**	**15 40 14.1**	**-0.7**
	comp=Z,8.6nm,1.0s						
WTTA	**Wattenberg**	**149.43**	**352**	⇑*i*PKPbc	**PKPbc**	**15 40 14.9**	**-0.2**
	comp=Z,16nm,0.6s						
MYKA	**Terra Mystica**	**149.72**	**349**	⇑*i*PKPbc	**PKPbc**	**15 40 14.7**	**-0.9**
	comp=Z,7.7nm,0.6s						
FETA	**Feichten**	**149.79**	**353**	⇑*i*PKPbc	**PKPbc**	**15 40 15.8**	**-0.1**
	comp=Z,14nm,1.0s						
ABTA	**Abfaltersbach**	**149.80**	**350**	⇑*i*PKPbc	**PKPbc**	**15 40 15.2**	**-0.6**
	comp=Z,14nm,0.6s						
ESDC	**Sonseca Array**	**156.04**	**18**	PKPab	**PKPab**	**15 40 48.1**	**0.0**
	comp=Z,1.9nm,0.8s,baz=315,slow=4.9,SNR=5.7						
TORD	**Torodi Ar. Bea**	**174.74**	**137**	PKP	**PKPdf**	**15 40 34.4**	**-1.7**
	comp=Z,0.9nm,1.0s,baz=0.2,slow=1.3,SNR=6.2						

IDC 01 15:21:17.3±1.0, **35°.14S**×**111°.21W**, **h0**km, **mb4.0**/4, **mb1 4.3**/4, **mb1mx4.0**/14, **mbtmp4.0**/4, **Error ellipse: s-maj=47.5km s-min=29.5km az=71.0, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**32.34**	**112**	P	P	15 27 48.4	+0.1
	3.7nm,1.0s,baz=263,slow=9.4,SNR=4.1						
QSPA	**South Pole Qui**	**55.06**	**180**	P	P	15 30 50.3	-0.4
	0.8nm,0.2s,baz=106,slow=12,SNR=3.3						
NVAR	**Mina Array Bea**	**73.49**	**354**	P	P	15 32 51.9	+0.1
	0.8nm,0.9s,baz=190,slow=4.6,SNR=2.6						
PDAR	**Pinedale Array**	**77.54**	**1**	P	P	15 33 14.7	-0.3
	0.9nm,0.8s,baz=161,slow=5.7,SNR=3.7						
CMAR	**Chiang Mai Arr**	**148.54**	**246**	PKPbc	PKPbc	15 41 06.4	-0.2
	0.5nm,0.5s,baz=180,slow=3.4,SNR=4.0						
SONM	**Songino Array**	**149.41**	**306**	PKPbc	PKPbc	15 41 07.4	-0.6
	0.7nm,0.9s,baz=155,slow=3.2,SNR=4.4						

IDC 01 15:32:27.8±8.5, **19°.42S**×**177°.70W**, **h558**km±92km, **mb2.8**/5, **mb1 3.0**/5, **mb1mx2.8**/18, **mbtmp2.8**/5, **Error ellipse: s-maj=99.5km s-min=42.8km az=156.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.89**	**263**	P	P	15 38 25.4	+0.3
	6.3nm,1.0s,baz=70,slow=13						
STKA	**Stephens Creek**	**38.52**	**243**	P	P	15 39 02.7	-0.4
	1.1nm,0.6s,baz=85,slow=12,SNR=1.6						
WRA	**Warramunga Arr**	**45.04**	**261**	P	P	15 39 54.1	-0.4
	0.2nm,0.3s,baz=96,slow=7.8,SNR=18						
ASAR	**Alice Springs**	**45.05**	**256**	P	P	15 39 54.6	0.0
	0.4nm,0.7s,baz=90,slow=9.4,SNR=17						
ASAR				PcP	PcP	15 41 22.9	-0.6
	0.2nm,0.4s,baz=108,slow=3.8,SNR=5.7						
TXAR	**Lajitas Array**	**86.24**	**57**	P	P	15 44 11.0	-0.1
	0.3nm,0.8s,baz=224,slow=7.0,SNR=3.8						
GERES	**GERESS Array B**	**149.24**	**345**	PKPbc	PKPbc	15 51 13.7	-0.2
	0.1nm,0.3s,baz=1.9,slow=2.9,SNR=4.5						

*DJA **01** 15:39:11, 0°.83S×133°.32E, h15km, MLv4.6/6*
IDC 01 15:39:06.8±1.0, **0°.85S**×**133°.64E**, **h0**km, **mb3.8**/7, **mb1 4.0**/10, **mb1mx3.9**/19, **mbtmp3.9**/10, **ML3.8**/2, **Error ellipse: s-maj=39.3km s-min=13.2km az=81.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**14.47**	**253**	Pn	Pn	15 42 31.3	-1.7
	1.2nm,0.3s,baz=112,slow=5.9,SNR=4.8						
FITZ	**Fitzroy Crossi**	**18.86**	**204**	P	Pn	15 43 29.6	+0.5
	0.3nm,0.3s,baz=52,slow=13,SNR=2.8						
WRA	**Warramunga Arr**	**18.99**	**178**	P	P	15 43 29.5	-0.6
	0.3nm,0.3s,baz=360,slow=12,SNR=16						
WRA				S	Sn	15 46 55.8	-8.4
	0.1nm,0.3s,baz=6.2,slow=23,SNR=4.8						
ASAR	**Alice Springs**	**22.69**	**179**	P	P	15 44 10.2	+0.1
	1.7nm,0.9s,baz=12,slow=11,SNR=23						
ASAR				S	S	15 48 20.7	+1.1
	2.3nm,1.1s,baz=4.0,slow=27,SNR=4.5						
STKA	**Stephens Creek**	**31.77**	**167**	P	P	15 45 33.0	+0.2
	4.3nm,1.1s,baz=343,slow=9.0,SNR=3.6						
CMAR	**Chiang Mai Arr**	**39.13**	**301**	P	P	15 46 36.7	+0.3
	0.5nm,0.9s,baz=129,slow=8.5,SNR=4.2						
SONM	**Songino Array**	**53.98**	**338**	P	P	15 48 32.6	0.0
	0.2nm,0.3s,baz=132,slow=4.0,SNR=2.5						
MKAR	**Makanchi Array**	**65.26**	**324**	P	P	15 49 49.8	-0.7
	2.5nm,0.7s,baz=115,slow=8.0,SNR=27						
ZALV	**Zalesovo Beam**	**67.83**	**331**	P	P	15 50 07.6	+1.0
	0.7nm,0.6s,baz=129,slow=6.9,SNR=4.1						
ILAR	**Eielson Array**	**86.27**	**25**	P	P	15 51 50.0	-0.3
	0.6nm,0.8s,baz=253,slow=4.7,SNR=7.7						

SKHL 01 15:50:03.7±1.0, **48°.99N**×**142°.51E**, **h10**km, **mb3.7**/2, **1D, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGL	**Uglegorsk**	**0.30**	**287**	⇓*i*Pg	Pg	15 50 10.3	+0.5
UGL				AMB	AMB	15 50 11.8	
	320nm,0.4s						
UGL				AMB	AMB	15 50 11.8	
	360nm,0.4s						
UGL				*e*Sg	Sg	15 50 14.5	+0.6
UGL				A	A	15 50 17.0	
	690nm,0.4s						
UGL				A	A	15 50 17.0	
	3μm,0.4s						
UGL				A	A	15 50 17.0	
	710nm,0.4s						
TYV	**Tymovskoe**	**1.88**	**3**	*e*Pg	Pg	15 50 41.3	+1.6
TYV				AMB	AMB	15 50 44.0	
	7.0nm,0.8s						
TYV				AMB	AMB	15 50 44.0	
	11nm,0.8s						
TYV				*e*Sg	Sg	15 51 11.0	+6.9
TYV				A	A	15 51 16.0	
	16nm,0.9s						
TYV				A	A	15 51 16.0	
	25nm,0.9s						
YSS	**Yuzh-Sakhalins**	**2.04**	**175**	*e*Pg	Pg	15 50 44.0	+1.1
YSS				*e*Sg	Sg	15 51 13.0	+3.6
YSS				A	A	15 51 15.0	
	28nm,0.3s						
GRNR	**Gornyy**	**4.32**	**297**	*e*Sg	Sg	15 52 25.5	+3.0
GRNR				A	A	15 52 26.0	
	10.0nm,0.5s						
NKL	**Nikolayevsk**	**4.32**	**345**	*e*Pg	Pg	15 51 29.5	+3.1
NKL				*e*Sg	Sg	15 52 28.3	+5.9
NKL				A	A	15 52 30.0	
	42nm,0.8s						

EKMR **Ekimchan** **7.28** **308** *e*Sg Sg 15 54 04.0 +6.7
EKMR A A 15 54 05.0
6.0nm,0.8s

IDC 01 15:59:31.9±1.9, **6°.08N**×**125°.89E**, **h0**km, **mb3.4**/4, **mb1 3.5**/4, **mb1mx3.3**/21, **mbtmp3.4**/4, **Error ellipse: s-maj=167.7km s-min=22.8km az=66.0, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.17**	**162**	P	P	16 05 17.7	+0.5
	0.4nm,0.5s,baz=343,slow=10,SNR=6.1						
ASAR	**Alice Springs**	**30.59**	**165**	P	P	16 05 47.2	-0.4
	0.2nm,0.4s,baz=339,slow=7.0,SNR=11						
MKAR	**Makanchi Array**	**55.16**	**325**	P	P	16 09 06.5	+0.2
	0.2nm,0.7s,baz=117,slow=4.2,SNR=2.3						
KURBB	**Kurchatov Arra**	**59.32**	**327**	P	P	16 09 35.3	-0.3
	0.5nm,0.9s,baz=127,slow=6.8,SNR=4.9						

*ISK **01** 16:04:44.8, 40°.42N×42°.32E, h9km, MD2.8*
*ISCJB **01** 16:04:45.3±0.5, 40°.42N±0°.02×42°.33E±0°.03, h9km±5km, Error ellipse: s-maj=4.2km s-min=3.8km az=158.3*
*DDA **01** 16:04:45.0, 40°.43N×42°.35E, h7km, MD3.1*
*CSEM **01** 16:04:45.0±0.1, 40°.41N×42°.31E, h10km, MD2.8, Error ellipse: s-maj=3.3km s-min=2.7km az=39.0*
ISC 01 16:04:45.2±1.0, **40°.44N**±0°.02×**42°.32E**±0°.02, **h10**km±10km, **n25**, σ0°**32**/44, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOMI	**Horasan**	**0.50**	**219**	*i* P	**Pg**	**16 04 54.8**	**-0.2**
HOMI				*i* S	**Sg**	**16 05 01.9**	**+0.3**
KARS	**Kars**	**0.61**	**71**	*e*Pg	**Pg**	**16 04 57.4**	**+0.3**
KARS				*e*Sg	**Sb**	**16 05 06.6**	**-0.2**
KARS	**Kars**	**0.61**	**71**	*e*Pg	**Pg**	**16 04 57.4**	**+0.3**
KARS				*e*Sg	**Sb**	**16 05 06.6**	**-0.2**
DDEM	**Demirkent**	**0.63**	**317**	*i* P	**Pb**	**16 04 58.0**	**-0.3**
DDEM				*i* S	**Sb**	**16 05 07.3**	**0.0**
DDEM	**Demirkent**	**0.63**	**317**	*i* P	**Pb**	**16 04 58.0**	**-0.3**
DDEM				*i* S	**Sb**	**16 05 07.3**	**0.0**
DAGI	**Agillar**	**0.71**	**335**	*i* P	**Pb**	**16 04 59.6**	**-0.2**
DAGI				*i* S	**Sb**	**16 05 09.6**	**-0.1**
DBAD	**Bademkaya**	**0.75**	**321**	*i* P	**Pb**	**16 05 00.2**	**-0.2**
DBAD				*i* S	**Sn**	**16 05 13.3**	**-0.2**
DBAD	**Bademkaya**	**0.75**	**321**	*i* P	**Pb**	**16 05 00.2**	**-0.2**
DBAD				*i* S	**Sn**	**16 05 13.3**	**-0.2**
ARTV	**Artvin**	**0.81**	**339**	*i* P	**Pb**	**16 05 01.2**	**-0.2**
ARTV				*i* S	**Sg**	**16 05 11.9**	**+0.6**
ARTV	**Artvin**	**0.81**	**339**	*i* P	**Pb**	**16 05 01.2**	**-0.2**
ARTV				*i* S	**Sg**	**16 05 11.9**	**+0.6**
DIGO	**Kars**	**0.81**	**91**	*i* P	**Pg**	**16 05 00.3**	**-0.5**
DIGO				*i* S	**Sg**	**16 05 11.5**	**+0.1**
DIGO	**Kars**	**0.81**	**91**	*i* P	**Pg**	**16 05 00.3**	**-0.5**
DIGO				*i* S	**Sg**	**16 05 11.5**	**+0.1**
ERZM	**Erzurum**	**0.90**	**234**	*i* P	**Pb**	**16 05 03.0**	**-0.1**
ERZM				*i* S	**Sb**	**16 05 15.2**	**0.0**
ERZM	**Erzurum**	**0.90**	**234**	*i* P	**Pb**	**16 05 03.0**	**-0.1**
ERZM				*i* S	**Sb**	**16 05 15.2**	**0.0**
EZM	**Erzurum**	**0.90**	**234**	*e*PG	**Pb**	**16 05 03.2**	**+0.1**
EZM				*e*SG	**Sb**	**16 05 15.1**	**-0.2**
AGRB	**Hanur-Agry**	**1.00**	**149**	*e*PG	**Pg**	**16 05 03.9**	**-0.6**
AGRB	**Hanur-Agry**	**1.00**	**149**	*e*Pg	**Pg**	**16 05 03.9**	**-0.6**
DBOC	**Borcka**	**1.03**	**332**	*i* P	**Pg**	**16 05 05.0**	**-0.1**
DBOC				*i* S	**Sg**	**16 05 18.2**	**-0.3**
DBOC	**Borcka**	**1.03**	**332**	*i* P	**Pg**	**16 05 05.0**	**-0.1**
DBOC				*i* S	**Sg**

comp=E,1.4nm,0.6s,baz=210,slow=8.6,SNR=8.3
ASF Jabal al Asfar 28.18 280 P **P 16 13 48.9 -2.1**
comp=E,2.3nm,0.8s,baz=319,slow=7.3,SNR=3.2
CMAR Chiang Mai Arr 29.08 110 P **P 16 14 00.9 +1.9**
comp=E,0.4nm,0.5s,baz=299,slow=8.1,SNR=5.8
FINES FINESS Array B 41.31 330 P **P 16 15 44.9 +1.4**
comp=E,1.8nm,0.9s,baz=20,slow=4.6,SNR=3.5
ARCES ARCESS Array B 45.51 340 P **P 16 16 18.9 +1.6**
comp=E,13nm,1.2s,baz=121,slow=11,SNR=4.2
TORD Torodi Ar. Bea 64.95 270 P **P 16 18 37.4 -0.8**
comp=E,0.6nm,0.7s,baz=49,slow=6.1,SNR=4.0
YKA Yellowknife Ar 86.24 2 P **P 16 20 40.5 +1.2**
comp=E,0.2nm,0.6s,baz=349,slow=5.3,SNR=6.9

*IDC **01** 16:15:30.6±0.8, 9.13S×118.96E, h74km±5km, mb3.7/11, mb1 3.8/12, mb1mx3.6/23, mbtmp3.7/12, MS3.2/2, Ms1 3.2/2, ms1mx2.7/25, Error ellipse: s-maj=44.4km s-min=13.1km az=60.0*
*DJA **01** 16:15:30, 9.52S×118.94E, h20km, MLv4.9/12*
ISC 01 16:15:30.5±0.6, 9°23S±0.06×119°01E±0.04, h78km±6km, n37, σ2°05/41, mb3.9/10, Sumba region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.35**	**109**	P		**Pn**	**16 15 55.3**	**+1.5**
WSI				S		**Sn**	**16 16 13.8**	**+2.5**
MMRI	**Maumere**	**3.25**	**80**	P		Pn	16 16 23.4	+4.2
MMRI				S		**Sn**	**16 17 01.4**	**+4.6**
KHKI	**Kahang-Kahang**	**3.47**	**284**	P		**Pn**	**16 16 23.4**	**+1.2**
KHKI				S		**Sn**	**16 17 07.4**	**+5.3**
IGBI	**Denpasar**	**3.83**	**276**	P		**Pn**	**16 16 29.8**	**+2.6**
IGBI				S		**Sn**	**16 17 09.6**	**-1.5**
KAPI	**Kappang**	**4.25**	**10**	P		**Pn**	**16 16 34.8**	**+1.9**
	3.2nm,0.3s,baz=213,slow=7.4,SNR=16							
KAPI				S		**Sn**	**16 17 20.7**	**-0.6**
	20nm,0.3s,baz=353,slow=22,SNR=26							
NBBI	**Negara**	**4.42**	**281**	P		Pn	16 16 41.4	+6.2
JAGI	**Jajag, Banyuwa**	**4.86**	**279**	P		**Pn**	**16 16 43.2**	**+2.0**
BLJI	**Banyuglugur**	**5.55**	**285**	P		**Pn**	**16 16 53.6**	**+3.0**
	108nm,0.5s,2µm0.7nm							
GMJI	**Gumukmas**	**5.58**	**279**	P		Pn	16 16 56.7	+5.7
	114nm,0.8s,0.7nm							
TTSI	**Tana Toraja**	**6.19**	**8**	P		Pn	16 17 10.3	+11
	24nm,0.8s,0.1nm							
KDI	**Kendari**	**6.35**	**35**	P		Pn	16 17 09.7	+8.2
FITZ	**Fitzroy Crossi**	**10.92**	**145**	*eP*		**Pn**	**16 18 02.2**	**-1.8**
	13nm,0.5s							
FITZ				*eS*		Sn	16 19 57.2	-7.3
FITZ	**Fitzroy Crossi**	**10.92**	**145**	P		**Pn**	**16 18 02.8**	**-1.2**
	2.0nm,0.3s,baz=349,slow=7.7,SNR=14							
FITZ				S		Sn	16 19 57.4	-7.1
	2.6nm,0.3s,baz=185,slow=21,SNR=11							
FITZ				LR		LR	16 22 59.8	
	comp=Z,126nm,18.4s,baz=4.7,slow=41							
MBWA	**Marble Bar**	**11.88**	**177**	*eP*		Pn	16 18 12.5	-4.6
MBWA				*eS*		Sn	16 20 09.4	-19
MEEK	**Meekatharra**	**17.32**	**181**	*eP*		**Pn**	**16 19 26.5**	**-0.9**
	66nm,1.2s							
MEEK				*eS*		Sn	16 22 19.8	-20
WRA	**Warramunga Arr**	**18.25**	**127**	P		**Pn**	**16 19 39.2**	**+0.4**
	0.4nm,0.3s,baz=307,slow=14,SNR=23							
WRA				S		S	16 22 51.6	-10
	0.5nm,0.3s,baz=286,slow=21,SNR=6.0							
MORW	**Morawa**	**19.93**	**188**	*eP*		**Pn**	**16 20 01.3**	**+2.7**
	27nm,0.9s							
MORW				*eS*		S	16 23 22.0	-14
ASAR	**Alice Springs**	**20.23**	**137**	P		Pn	16 20 00.9	-1.3
	9.7nm,0.5s,baz=309,slow=10,SNR=180							
ASAR				S		**S**	**16 23 38.5**	**-3.9**
	0.7nm,0.5s,baz=305,slow=22,SNR=5.9							
NWAO	**Narrogin (SRO)**	**23.64**	**184**	P		**P**	**16 20 36.4**	**+1.5**
	4.0nm,0.8s,baz=64,slow=22,SNR=2.6							
NWAO				S		**S**	**16 24 41.0**	**-2.8**
	12nm,1.1s,baz=354,slow=14,SNR=2.6							
STKA	**Stephens Creek**	**30.77**	**140**	*eP*		**P**	**16 21 40.0**	**+1.2**
	3.9nm,0.6s							
STKA	**Stephens Creek**	**30.77**	**140**	P		**P**	**16 21 40.4**	**+1.6**
	3.7nm,0.6s,baz=316,slow=11,SNR=17							
CMAR	**Chiang Mai Arr**	**33.89**	**324**	P		**P**	**16 22 07.2**	**+1.0**
	0.4nm,0.5s,baz=158,slow=7.0,SNR=6.2							
KSRS	**Korea Array**	**47.18**	**10**	LR		LR	16 48 46.8	
	comp=Z,22nm,19.3s,baz=125,slow=42							
TAPN	**Taplejung**	**47.35**	**321**	*eP*		**P**	**16 23 54.7**	**-2.6**
	5.8nm,0.6s							
RAMN	**Ramite**	**47.76**	**320**	*eP*		**P**	**16 24 00.4**	**0.0**
JIRN	**Jiri**	**48.52**	**320**	*eP*		**P**	**16 24 05.1**	**-1.3**
	7.0nm,0.5s							
GUN	**Gumba**	**48.89**	**320**	*eP*		**P**	**16 24 08.1**	**-1.1**
	8.9nm,0.6s							
GKN	**Gorkha**	**49.75**	**319**	*eP*		**P**	**16 24 14.2**	**-1.3**
	5.3nm,0.4s							
DANN	**Dangsing**	**50.55**	**319**	*eP*		**P**	**16 24 20.5**	**-1.3**
	15nm,0.6s							
SONM	**Songino Array**	**57.90**	**350**	P		**P**	**16 25 14.8**	**+0.2**
	1.3nm,0.5s,baz=168,slow=8.6,SNR=31							
SONM				pP		**pP**	**16 25 34.2**	**-0.2**
	0.9nm,0.6s,baz=165,slow=8.2,SNR=4.6							
MKAR	**Makanchi Array**	**64.66**	**333**	P		**P**	**16 25 59.5**	**-0.7**
	1.1nm,0.6s,baz=148,slow=6.5,SNR=20							
MKAR				pP		**pP**	**16 26 20.1**	**-0.2**
	0.6nm,0.6s,baz=146,slow=7.3,SNR=3.8							
AAK	**Ala-Archa**	**65.67**	**325**	P		**P**	**16 26 06.2**	**-0.8**
	0.8nm,0.6s,baz=175,slow=3.0,SNR=3.6							
AAK				pP		**pP**	**16 26 26.6**	**-0.5**
	1.3nm,0.8s,baz=185,slow=6.1,SNR=3.6							
KURBB	**Kurchatov Arra**	**69.17**	**334**	P		**P**	**16 26 27.7**	**-0.9**
	1.1nm,0.6s,baz=141,slow=5.6,SNR=16							
ZALV	**Zalesovo Beam**	**69.25**	**339**	P		**P**	**16 26 28.3**	**-0.8**
	2.9nm,0.6s,baz=139,slow=4.9,SNR=14							
ZALV				pP		**pP**	**16 26 46.9**	**-2.5**
	0.9nm,0.5s,baz=149,slow=5.8,SNR=3.0							
BVAR	**Borovoye Array**	**74.50**	**332**	P		**P**	**16 27 01.0**	**+0.4**
	0.5nm,0.6s,baz=136,slow=7.2,SNR=4.5							
AKTO	**Aktyubinsk**	**79.41**	**325**	P		**P**	**16 27 28.0**	**-0.2**
	0.5nm,0.5s,baz=64,slow=12,SNR=2.9							
AKTO				pP		**pP**	**16 27 46.6**	**-2.3**
	1.1nm,0.6s,baz=101,slow=2.7,SNR=4.0							
TORD	**Torodi Ar. Bea**	**118.50**	**280**	PKP		**PKPdf**	**16 34 10.7**	**+0.3**
	0.3nm,0.5s,baz=50,slow=1.6,SNR=3.5							

*DJA **01** 16:36:12, 9.75S×116.93E, h10km, MLv4.6/11*
*IDC **01** 16:36:14.3±0.8, 9.87S×117.12E, h55km±7km, mb3.6/7, mb1 3.8/10, mb1mx3.7/17, mbtmp3.6/10, MS3.2/3, Ms1 3.2/3, ms1mx2.7/25, Error ellipse: s-maj=18.4km s-min=11.3km az=64.0*
ISC 01 16:36:11.7±0.6, 10°01S±0.07×116°97E±0.05, h25km, n27, σ2°60/23, mb4.0/8, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MTNI	**Mataram**	**1.57**	**330**	P		**Pn**	**16 36 38.3**	**+0.2**
KHKI	**Kahang-Kahang**	**2.11**	**321**	P		**Pn**	**16 36 47.2**	**+1.7**
NBBI	**Negara**	**2.83**	**305**	P		**Pb**	**16 36 59.6**	**-2.0**
JAGI	**Jajag, Banyuwa**	**3.17**	**299**	P		**Pn**	**16 37 01.8**	**+1.7**
WSI	**Waingapu**	**3.30**	**84**	P		Px	16 37 28.5	
GMJI	**Gumukmas**	**3.88**	**296**	P		**Pn**	**16 37 12.8**	**+3.0**
BLJI	**Banyuglugur**	**4.02**	**304**	P		**Pn**	**16 37 14.3**	**+2.6**
KRKI	**Karangkates**	**4.82**	**292**	P		Pn	16 37 28.8	+6.0
MMRI	**Maumere**	**5.38**	**76**	P		Pb	**16 37 46.3**	**+1.2**
PWJI	**Pageriwojo**	**5.47**	**291**	P		Pn	16 37 38.4	+6.8
BKSI	**Bulukumba**	**5.61**	**34**	P		Pn	16 37 37.4	+3.8
SJI	**Sawahan**	**5.61**	**293**	P		Pb	16 37 43.9	-5.2
KAPI	**Kappang**	**5.68**	**29**	P		**Pn**	**16 37 35.4**	**+0.8**
	5.1nm,0.3s,baz=208,slow=7.3,SNR=13							
KAPI				S		**Sn**	**16 38 36.4**	**-2.7**
	6.9nm,0.3s,baz=68,slow=23,SNR=11							
KAPI				LR		LR	16 40 09.7	
	comp=Z,164nm,18.2s,baz=42,slow=43							
FITZ	**Fitzroy Crossi**	**11.64**	**135**	P		**Pn**	**16 38 55.7**	**-0.6**
	1.0nm,0.3s,baz=337,slow=9.8,SNR=8.0							
FITZ				S		Sn	16 40 55.5	-10
	0.9nm,0.3s,baz=246,slow=16,SNR=4.9							
FITZ				LR		LR	16 42 56.1	
	comp=Z,111nm,19.2s,baz=294,slow=35							
WRA	**Warramunga Arr**	**19.45**	**122**	P		**P**	**16 40 36.2**	**-0.5**
	0.3nm,0.3s,baz=300,slow=12,SNR=12							
WRA				S		S	16 44 05.1	-10
	0.1nm,0.3s,baz=294,slow=21,SNR=4.7							
ASAR	**Alice Springs**	**21.11**	**132**	P		**P**	**16 40 55.4**	**+0.6**
	4.8nm,0.7s,baz=312,slow=9.6,SNR=25							
ASAR				S		**S**	**16 44 45.5**	**-3.2**
	1.3nm,0.8s,baz=302,slow=22,SNR=4.5							
NWAO	**Narrogin (SRO)**	**22.81**	**179**	P		P	16 41 20.9	+8.2
	3.2nm,0.3s,baz=342,slow=12,SNR=6.8							
NWAO				S		**S**	**16 45 17.7**	**-2.9**
	4.1nm,0.3s,baz=288,slow=20,SNR=8.7							
CTA	**Charters Tower**	**29.96**	**113**	LR		LR	16 54 21.5	
	comp=Z,54nm,18.5s,baz=53,slow=36							
STKA	**Stephens Creek**	**31.52**	**137**	P		**P**	**16 42 32.4**	**+0.5**
	1.8nm,0.5s,baz=322,slow=3.8,SNR=20							
CMAR	**Chiang Mai Arr**	**33.41**	**328**	P		**P**	**16 42 47.2**	**-1.4**
	0.6nm,0.8s,baz=150,slow=6.6,SNR=5.4							
CMAR				pP		pP	16 43 02.4	+6.3
	0.4nm,0.7s,baz=161,slow=9.2,SNR=2.8							
KSRS	**Korea Array**	**48.32**	**12**	P		**P**	**16 44 49.6**	**-1.5**
	0.9nm,0.7s,baz=191,slow=9.6,SNR=5.1							
KSRS				pP		**pP**	**16 45 03.9**	**+5.1**
	0.6nm,0.6s,baz=193,slow=8.9,SNR=3.0							
SONM	**Songino Array**	**58.35**	**352**	P		**P**	**16 46 03.0**	**-1.8**
	0.1nm,0.3s,baz=218,slow=35,SNR=4.1							
SONM				pP		**pP**	**16 46 17.1**	**+4.4**
	0.7nm,0.5s,baz=168,slow=7.9,SNR=6.3							
MKAR	**Makanchi Array**	**64.46**	**334**	P		**P**	**16 46 43.2**	**-2.9**
	0.3nm,0.5s,baz=144,slow=6.4,SNR=5.0							
MKAR				pP		**pP**	**16 46 58.4**	**+4.3**
	1.2nm,0.7s,baz=148,slow=6.3,SNR=9.7							
KURBB	**Kurchatov Arra**	**69.00**	**335**	pP		pP	16 47 26.6	+3.7
	0.3nm,0.3s,baz=149,slow=5.3,SNR=3.0							
ZALV	**Zalesovo Beam**	**69.29**	**340**	pP		pP	16 47 28.1	+3.5
	0.7nm,0.5s,baz=142,slow=5.4,SNR=4.5							
BOSA	**Boshof**	**86.77**	**242**	P		**P**	**16 48 55.1**	**+0.7**
	1.7nm,0.9s,baz=169,slow=9.6,SNR=3.5							
BOSA				pP		pP	16 49 11.6	+9.0
	1.9nm,0.8s,baz=29,slow=6.4,SNR=2.7							
BRTR	**Keskin Array B**	**91.24**	**310**	pP		pP	16 49 29.4	+5.9
	1.2nm,1.0s,baz=90,slow=5.4,SNR=5.6							

*ISCJB **01** 16:36:36.4±0.6, 36.95N±0.04×28.26E±0.03, h7km±6km, Error ellipse: s-maj=7.6km s-min=4.2km az=14.7*
*ISK **01** 16:36:36.6, 36.96N×28.24E, h6km, MD2.6*
*DDA **01** 16:36:36.5, 36.99N×28.25E, h7km, MD3.2*
*CSEM **01** 16:36:36.7±0.3, 36.96N×28.26E, h2km, MD2.6, Error ellipse: s-maj=5.6km s-min=4.0km az=13.0*
ISC 01 16:36:36.4±1.0, 36°94N±0.03×28°27E±0.02, h8km±8km, n20, σ0°66/38, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.20**	**2**	*i* P	PG	**Pg**	**16 36 40.7**	**+0.3**
YER					SG	**Sg**	**16 36 43.7**	**+0.5**
YER	**Yerkesik**	**0.20**	**2**	*i* Pg	P	**Pg**	**16 36 40.7**	**+0.3**
YER					*i* Sg	**Sg**	**16 36 43.7**	**+0.5**
TURN	**Turunc**	**0.27**	**104**	*i* P	P	**Pg**	**16 36 41.0**	**-0.8**
TURN					*i* S	**Sg**	**16 36 44.3**	**-1.1**
TURN	**Turunc**	**0.27**	**104**	*i* P	P	**Pg**	**16 36 41.0**	**-0.8**
TURN					*i* S	**Sg**	**16 36 44.3**	**-1.1**
BDRM	**Kayabasi**	**0.68**	**281**	*i* P	P	**Pg**	**16 36 48.8**	**-0.6**
BDRM					*i* S	**Sg**	**16 36 58.7**	**-0.5**
BDRM	**Kayabasi**	**0.68**	**281**	*i* P	P	**Pg**	**16 36 48.8**	**-0.6**
BDRM					*i* S	**Sg**	**16 36 58.7**	**+0.5**
FETY	**Fethiye**	**0.72**	**115**	*e*PG		**Pb**	**16 36 52.0**	**+0.8**
FETY				*e*SG		**Sb**	**16 37 02.2**	**+1.0**
FETY	**Fethiye**	**0.72**	**115**	*e*Pg		**Pb**	**16 36 52.0**	**+0.8**
FETY				*e*Sg		**Sb**	**16 37 02.2**	**+1.0**
BODT	**Bodrum**	**0.78**	**279**	*e*PG		**Pg**	**16 36 51.4**	**0.0**
BODT				*e*SG		**Sb**	**16 37 02.4**	**-0.6**
BODT	**Bodrum**	**0.78**	**279**	*e*Pg		**Pg**	**16 36 51.4**	**0.0**
BODT				*e*Sg		**Sb**	**16 37 02.4**	**-0.6**
AYDN	**Tasoluk**	**0.79**	**337**	*i* P		**Pg**	**16 36 51.2**	**-0.3**
AYDN				*i* S		**Sg**	**16 37 01.5**	**-0.3**
AYDN	**Tasoluk**	**0.79**	**337**	*i* P		**Pg**	**16 36 51.2**	**-0.3**
AYDN				*i* S		**Sg**	**16 37 01.5**	**-0.3**
DNZL	**Cakiroluk**	**0.97**	**39**	*i* P		**Pb**	**16 36 55.5**	**-0.1**
DNZL				*i* S		**Sg**	**16 37 07.6**	**-0.1**
DNZL	**Cakiroluk**	**0.97**	**39**	*i* P		**Pb**	**16 36 55.5**	**-0.1**
DNZL				*i* S		**Sg**	**16 37 07.6**	**-0.1**
MANT	**Manisa**	**1.56**	**8**	*i* P		**Pg**	**16 37 06.1**	**-0.4**
MANT				*i* S		**Sn**	**16 37 24.1**	**-1.2**
MANT	**Manisa**	**1.56**	**8**	*i* P		**Pg**	**16 37 06.1**	**-0.4**
MANT				*i* S		**Sn**	**16 37 24.1**	**-1.2**
KULA	**Kula-Manisa**	**1.60**	**11**	*e*PN		**Pb**	**16 37 06.0**	**-0.3**
KULA	**Kula-Manisa**	**1.60**	**11**	*e*Pn		**Pb**	**16 37 06.0**	**-0.3**
KHAL	**Karahalli**	**1.73**	**34**	*i* P		**Pn**	**16 37 07.4**	**+0.6**
KHAL				*i* S		**Sn**	**16 37 29.4**	**+0.3**
KHAL	**Karahalli**	**1.73**	**34**	*i* P		**Pn**	**16 37 07.4**	**+0.6**
KHAL				*i* S		**Sn**	**16 37 29.4**	**+0.3**

IDC 01 16:47:50.8±2.9, 0°39S×133°48E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/17, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=143.1km s-min=27.9km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.45**	**178**	P		P	16 52 18.4	-0.7
	0.2nm,0.3s,baz=357,slow=11,SNR=15							
ASAR	**Alice Springs**	**23.14**	**179**	P		P	16 52 59.4	+0.5
	0.8nm,0.4s,baz=0.7,slow=11,SNR=28							
MKAR	**Makanchi Array**	**64.81**	**324**	P		P	16 58 31.4	-0.1
	0.2nm,0.6s,baz=108,slow=8.3,SNR=4.0							

*DDA **01** 17:01:43.8, 38.02N×27.03E, h8km, MD3.0*
*ISCJB **01** 17:01:44.0±0.5, 38.01N±0.02×26.99E±0.03, h8km±3km, Error ellipse: s-maj=4.0km s-min=3.0km az=172.5*
*ISK **01** 17:01:44.0, 38.03N×27.02E, h8km, MD2.9*
*ATH **01** 17:01:44.3, 37.99N×26.97E, h22km±1km, MD3.2/4*
*CSEM **01** 17:01:44.3±0.2, 38.02N×26.98E, h8km, MD3.2, Error ellipse: s-maj=3.8km s-min=2.9km az=81.0*
ISC 01 17:01:44.3±0.9, 38°02N±0.02×27°02E±0.02, h10km±8km, n45, σ0°60/81, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.34**	**205**	*e*PB		**Pg**	**17 01 50.9**	**-0.2**
SMG				*e*SB		**Sg**	**17 01 56.2**	**+0.6**
SMG	**Samos**	**0.34**	**205**	*e*Pb		**Pg**	**17 01 50.9**	**-0.2**
SMG				*e*Sb		**Sg**	**17 01 56.2**	**+0.6**
GCAM	**G?zelcaml?**	**0.36**	**151**	*i* P		**Pg**	**17 01 51.6**	**+0.2**
GCAM				*i* S		**Sg**	**17 01 56.3**	**+0.1**
GCAM	**G?zelcaml?**	**0.36**	**151**	*i* P		**Pg**	**17 01 51.6**	**+0.2**
GCAM				*i* S		**Sg**	**17 01 56.3**	**+0.1**
BLCB	**Balcova**	**0.37**	**3**	PG		**Pg**	**17 01 51.2**	**-0.5**
BLCB				SG		**Sg**	**17 01 57.4**	**+0.8**
BLCB	**Balcova**	**0.37**	**3**	*i* Pg		**Pg**	**17 01 51.2**	**-0.5**
BLCB				*i* Sg		**Sg**	**17 01 57.4**	**+0.8**
IZM	**Izmir**	**0.43**	**27**	PG		**Pg**	**17 01 52.4**	**-0.4**
IZM				SG		**Sb**	**17 01 59.2**	**-1.3**
IZM	**Izmir**	**0.43**	**27**	*i* Pg		**Pg**	**17 01 52.4**	**-0.4**
IZM				*i* Sg		**Sb**	**17 01 59.3**	**-1.3**
URLA	**Izmir**	**0.48**	**316**	*i* P		**Pg**	**17 01 53.5**	**-0.2**
URLA				*i* S		**Sg**	**17 01 59.6**	**-0.4**
URLA	**Izmir**	**0.48**	**316**	*i* P		**Pg**	**17 01 53.5**	**-0.2**
URLA				*i* S		**Sg**	**17 01 59.6**	**-0.4**
AYDN	**Tasoluk**	**0.77**	**117**	*i* P		**Pg**	**17 01 59.5**	**+0.3**
AYDN				*i* S		**Sg**	**17 02 09.2**	**-0.1**
AYDN	**Tasoluk**	**0.77**	**117**	*i* P		**Pg**	**17 01 59.5**	**+0.3**
AYDN				*i* S		**Sg**	**17 02 09.2**	**-0.1**
CHOS	**Chios island**	**0.84**	**296**	*e*PN		**Pg**	**17 02 00.3**	**-0.3**
CHOS				*e*SN		**Sg**	**17 02 11.7**	**+0.1**
CHOS	**Chios island**	**0.84**	**296**	*e*Pn		**Pg**	**17 02 00.3**	**-0.3**
CHOS				*e*Sn		**Sg**	**17 02 11.7**	**+0.1**
BODT	**Bodrum**	**0.98**	**166**	*e*PG		**Pg**	**17 02 02.9**	**-0.3**
BODT				*e*SG		**Sn**	**17 02 17.9**	**0.0**
BODT	**Bodrum**	**0.98**	**166**	*e*Pg		**Pg**	**17 02 02.9**	**-0.3**
BODT				*e*Sg		**Sn**	**17 02 18.0**	**0.0**
BDRM	**Kayabasi**	**1.01**	**160**	*i* P		**Pg**	**17 02 03.2**	**-0.5**
BDRM				*i* S		**Sg**	**17 02 16.3**	**-0.5**
BDRM	**Kayabasi**	**1.01**	**160**	*i* P		**Pg**	**17 02 03.2**	**-0.5**
BDRM				*i* S		**Sg**	**17 02 16.3**	**-0.5**
AKHS	**Akhisar**	**1.07**	**36**	*i* P		**Pg**	**17 02 04.2**	**-0.7**
AKHS				*i* S		**Sb**	**17 02 19.1**	**+0.3**
AKHS	**Akhisar**	**1.07**	**36**	*i* P		**Pg**	**17 02 04.2**	**-0.7**
AKHS				*i* S		**Sb**	**17 02 19.1**	**+0.3**
AKS	**Akhisar**	**1.07**	**36**	*e*PG		**Pg**	**17 02 04.7**	**-0.2**
AKS	**Akhisar**	**1.07**	**36**	*e*Pg		**Pg**	**17 02 04.7**	**-0.2**
MANT	**Manisa**	**1.30**	**68**	*i* P		**Pg**	**17 02 09.7**	**+0.3**
MANT				*i* S		**Sb**	**17 02 24.1**	**-1.8**
MANT	**Manisa**	**1.30**	**68**	*i* P		**Pg**	**17 02 09.7**	**+0.3**
MANT				*i* S		**Sb**	**17 02 24.1**	**-1.8**
AYVA	**Ayvalik**	**1.32**	**349**	*e*P		**Pn**	**17 02 08.4**	**-0.3**
AYVA				*i* S		**Sn**	**17 02 28.0**	**+1.7**
AYVA	**Ayvalik**	**1.32**	**349**	*e*P		**Pn**	**17 02 08.4**	**-0.3**
AYVA				*i* S		**Sn**	**17 02 28.0**	**+1.7**
YER	**Yerkesik**	**1.34**	**131**	*e*PN		**Pb**	**17 02 09.6**	**+0.1**
YER	**Yerkesik**	**1.34**	**131**	*e*Pn		**Pb**	**17 02 09.6**	**+0.1**
PRK	**Paraskevi**	**1.36**	**335**	*e*PN		**Pg**	**17 02 10.4**	**-0.1**
PRK				*e*SN		**Sg**	**17 02 29.0**	**+0.9**
PRK	**Paraskevi**	**1.36**	**335**	*e*Pn		**Pg**	**17 02 10.4**	**-0.1**
PRK				*e*Sn		**Sg**	**17 02 29.0**	**+0.9**
KULA	**Kula-Manisa**	**1.39**	**68**	*e*PN		**Pb**	**17 02 10.4**	**0.0**
KULA	**Kula-Manisa**	**1.39**	**68**	*e*Pn		**Pb**	**17 02 10.4**	**0.0**
APE	**Apeiranthos**	**1.51**	**232**	*e*PN		**Pb**	**17 02 13.0**	**+0.5**
APE	**Apeiranthos**	**1.51**	**232**	*e*Pn		**Pn**	**17 02 11.1**	**-0.4**
APE				*e*SN		**Sn**	**17 02 31.9**	**+0.7**
APE	**Apeiranthos**	**1.51**	**232**	*e*Pn		**Pn**	**17 02 11.1**	**-0.4**
APE				*e*Sn		**Sn**	**17 02 31.9**	**+0.7**
DNZL	**Cakiroluk**	**1.64**	**101**	*e*P		**Pn**	**17 02 14.0**	**+0.7**
DNZL				*e*S		**Sg**	**17 02 37.4**	**+0.3**
DNZL	**Cakiroluk**	**1.64**	**101**	*e*P		**Pn**	**17 02 14.0**	**+0.7**
DNZL				*e*S		**Sg**	**17 02 37.4**	**+0.3**
DEMI	**Demirci**	**1.68**	**52**	*i* P		**Pb**	**17 02 15.4**	**0.0**
DEMI				*i* S		**Sn**	**17 02 35.4**	**-0.1**
DEMI	**Demirci**	**1.68**	**52**	*i* P		**Pb**	**17 02 15.4**	**0.0**
DEMI				*i* S		**Sn**	**17 02 35.4**	**-0.1**
BALY	**Balya**	**1.79**	**15**	*i* P		**Pn**	**17 02 15.2**	**0.0**
BALY				*i* S		**Sn**	**17 02 37.7**	**-0.3**
BALY	**Balya**	**1.79**	**15**	*i* P		**Pn**	**17 02 15.2**	**0.0**
BALY				*i* S		**Sn**	**17 02 37.7**	**-0.3**
KHAL	**Karahalli**	**1.98**	**79**	*e*P		**Pb**	**17 02 21.0**	**+0.4**
KHAL				*e*S		**Sn**	**17 02 43.2**	**+0.2**
KHAL	**Karahalli**	**1.98**	**79**	*e*P		**Pb**	**17 02 21.0**	**+0.4**
KHAL				*e*S		**Sn**	**17 02 43.2**	**+0.2**
KHL	**Karahalli**	**2.00**	**80**	*e*PN		**Pn**	**17 02 19.0**	**+0.8**
KHL	**Karahalli**	**2.00**	**80**	*e*Pn		**Pn**	**17 02 19.0**	**+0.8**

*JMA **01** 17:04:00.9±0.2, 37.48N×134.97E, h396km±2km, M3.3*
*ISCJB **01** 17:04:01.5±0.3, 37.57N±0.07×134.85E±0.08, h385km±4km, mb3.4/16, Error ellipse: s-maj=12.0km s-min=8.9km az=157.9*
*IDC **01** 17:04:02.1±0.7, 37.55N×134.82E, h381km±8km, mb3.1/16, mb1 3.4/20, mb1mx3.3/26, mbtmp3.1/20, Error ellipse: s-maj=12.3km s-min=10.4km az=71.0*
ISC 01 17:04:02.1±0.7, 37°57N±0.09×134°86E±0.08, h380km±7km, n37, σ0°72/45, mb3.7/21, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**1.94**	**174**	P		**Pn**	**17 04 55.7**	**-0.2**
JKSM	**Kasumi**	**1.98**	**185**	P		**Pn**	**17 04 55.9**	**-0.2**
JSZ	**Suzu**	**1.99**	**93**	P		**Pn**	**17 04 56.2**	**+0.1**
JSZ				S		**S**	**17 05 39.2**	**-0.4**
JTT	**Ttatey**	**2.20**	**115**	P		**Pn**	**17 04 57.8**	**+0.3**
JTT				*e*S		**S**	**17 05 42.4**	**+0.3**
JWT	**Wachi**	**2.32**	**169**	P		Pn	**17 04 58.4**	**+0.1**
JWT				S		**S**	**17 05 43.1**	**-0.8**
MAT	**Matsushiro**	**2.87**	**110**	P		**Pn**	**17 05 02.5**	**-0.1**
MAT				S		**S**	**17 05 52.2**	**+0.7**
MJAR	**Matsushiro Arr**	**2.87**	**110**	P		**Pn**	**17 05 02.9**	**+0.2**
	4.3nm,0.3s,baz=286,slow=9.5,SNR=58							
MJAR				S		**S**	**17 05 52.9**	**+1.4**
	0.3nm,0.3

VHO				*e*S	**Sn**	17 45 13.0	**0.0**
HUIG	**Huatulco**	**4.17**	**110**	*i* P	**Pn**	17 44 47.7	**+0.9**
HUIG				*i* S	**Sn**	17 45 34.3	**0.0**
TEIG	**Tepich**	**11.66**	**73**	P	Pn	17 46 33.2	+3.9
	0.8nm,0.3s,baz=186,slow=18,SNR=4.1						
TEIG				S	**Sn**	17 48 33.6	**-4.5**
	0.6nm,0.3s,baz=29,slow=19,SNR=3.8						
TXAR	**Lajitas Array**	**12.44**	**346**	P	**Pn**	17 46 43.2	**+3.1**
	0.0nm,0.3s,baz=163,slow=13,SNR=3.3						
ANMO	**Albuquerque**	**18.49**	**344**	P	**Pn**	17 47 59.4	**+0.8**
	0.1nm,0.3s,baz=162,slow=12,SNR=3.6						
TKL	**Tuckaleechee C**	**23.42**	**35**	P	**P**	17 48 48.4	**-2.2**
	3.9nm,0.7s,baz=194,slow=10,SNR=9.0						
TKL				LR	LR	18 00 12.5	
	comp=Z,8.3nm,19.6s,baz=294,slow=43						
NVAR	**Mina Array Bea**	**26.40**	**327**	P	**P**	17 49 20.1	**+2.1**
	1.5nm,0.8s,baz=143,slow=8.1,SNR=9.6						
NVAR				pP		17 49 43.2	+13
	0.6nm,0.7s,baz=152,slow=11,SNR=5.0						
PDAR	**Pinedale Array**	**26.66**	**344**	P	**P**	17 49 22.6	**+2.3**
	0.5nm,0.7s,baz=176,slow=6.1,SNR=1.6						
SCHQ	**Schefferville**	**45.39**	**27**	P	**P**	17 51 58.6	**-0.8**
	0.8nm,0.5s,baz=236,slow=12,SNR=7.2						
YKA	**Yellowknife Ar**	**46.31**	**351**	P	**P**	17 52 05.9	**-0.6**
	0.7nm,0.7s,baz=159,slow=7.3,SNR=9.8						
INK	**Inuvik**	**55.22**	**346**	P	**P**	17 53 14.4	**+0.9**
	0.9nm,0.6s,baz=134,slow=11,SNR=5.3						
ILAR	**Eielson Array**	**56.83**	**338**	P	**P**	17 53 24.5	**-0.5**
	1.0nm,1.1s,baz=144,slow=4.3,SNR=4.8						

*ISCJB **01** 17:43:47.4±0.7,36°.93N±0°.04×28°.25E±0°.03,h4km±6km, Error ellipse: s-maj=7.3km s-min=4.3km az=12.4*
*DDA **01** 17:43:47.9,36°.99N×28°.23E,h7km, MD3.0*
*CSEM **01** 17:43:47.8±0.3,36°.94N×28°.24E, h2km, MD2.3, Error ellipse: s-maj=6.2km s-min=3.9km az=14.0*
*ISK **01** 17:43:48.0,36°.99N×28°.22E,h14km, MD2.3*
ISC 01 17:43:47.1±1.1,36°.92N±0°.04×28°.24E±0°.03,h8km±9km, n20,σ0°70/36,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.22**	**9**	PG	**Pg**	**17 43 52.0**	**+0.4**
YER				SG	**Sg**	**17 43 55.1**	**+0.5**
YER	**Yerkesik**	**0.22**	**9**	*i* Pg	**Pg**	**17 43 52.0**	**+0.4**
YER				*i* Sg	**Sg**	**17 43 55.1**	**+0.5**
TURN	**Turunc**	**0.29**	**99**	*i* P	**Pg**	**17 43 52.2**	**-0.7**
TURN				*i* S	**Sg**	**17 43 55.7**	**-1.2**
TURN	**Turunc**	**0.29**	**99**	*i* P	**Pg**	**17 43 52.2**	**-0.7**
TURN				*i* S	**Sg**	**17 43 55.7**	**-1.2**
BDRM	**Kayabasi**	**0.65**	**283**	*i* P	**Pg**	**17 43 59.9**	**+0.2**
BDRM				*i* S	**Sb**	**17 44 09.6**	**-0.4**
BDRM	**Kayabasi**	**0.65**	**283**	*i* P	**Pg**	**17 43 59.9**	**+0.2**
BDRM				*i* S	**Sb**	**17 44 09.6**	**-0.4**
FETY	**Fethiye**	**0.73**	**112**	*e*Pg	**Pb**	**17 44 03.6**	**+1.5**
FETY	**Fethiye**	**0.73**	**112**	*e*Pg	**Pb**	**17 44 03.6**	**+1.5**
BODT	**Bodrum**	**0.76**	**281**	*e*PG	**Pb**	**17 44 02.6**	**+0.1**
BODT				*e*SG	**Sb**	**17 44 13.2**	**+0.2**
BODT	**Bodrum**	**0.76**	**281**	*e*Pg	**Pb**	**17 44 02.6**	**+0.1**
BODT				*e*Sg	**Sb**	**17 44 13.2**	**+0.2**
AYDN	**Tasoluk**	**0.80**	**339**	*i* P	**Pg**	**17 44 02.4**	**0.0**
AYDN				*i* S	**Sb**	**17 44 12.8**	**-1.3**
AYDN	**Tasoluk**	**0.80**	**339**	*i* P	**Pg**	**17 44 02.4**	**0.0**
AYDN				*i* S	**Sb**	**17 44 12.8**	**-1.3**
DNZL	**Cakiroluk**	**1.00**	**40**	*i* P	**Pb**	**17 44 06.8**	**0.0**
DNZL				*i* S	**Sb**	**17 44 20.6**	**+0.3**
DNZL	**Cakiroluk**	**1.00**	**40**	*i* P	**Pb**	**17 44 06.8**	**0.0**
DNZL				*i* S	**Sb**	**17 44 20.6**	**+0.3**
GCAM	**G?zelcaml?**	**1.12**	**315**	*i* P	**Pn**	**17 44 08.9**	**-0.1**
GCAM				*i* S	**Sb**	**17 44 22.8**	**-0.6**
GCAM	**G?zelcaml?**	**1.12**	**315**	*i* P	**Pn**	**17 44 08.9**	**-0.1**
GCAM				*i* S	**Sb**	**17 44 22.8**	**-0.6**
ELL	**Elmali**	**1.35**	**97**	*e*PN	**Pb**	**17 44 13.5**	**+0.8**
ELL	**Elmali**	**1.35**	**97**	*e*Pn	**Pb**	**17 44 13.5**	**+0.8**
KHAL	**Karahalli**	**1.76**	**34**	*i* P	**Pb**	**17 44 20.0**	**+0.4**
KHAL				*i* S	**Sn**	**17 44 40.7**	**+0.1**
KHAL	**Karahalli**	**1.76**	**34**	*i* P	**Pb**	**17 44 20.0**	**+0.4**
KHAL				*i* S	**Sn**	**17 44 40.7**	**+0.1**

*IDC **01** 17:47:09.7±2.9, 10°.23N×125°.86E,h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, MS2.9/1, Ms1 2.9/1, ms1mx2.0/28, Error ellipse: s-maj=233.9km s-min=28.3km az=64.0*
*ISCJB **01** 17:47:14.7±0.8, 10°.38N±0°.05×126°.29E±0°.07, h51km, mb3.5/4, Error ellipse: s-maj=9.7km s-min=6.5km az=158.8*
*MAN **01** 17:47:16, 10°.36N×126°.15E, h49km, mb4.9, ML3.8, MS3.9*
ISC 01 17:47:16.4±1.1,10°.38N±0°.05×126°.20E±0°.09,h51km,n16, σ1°18/19,mb3.5/4,2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.34**	**260**	*e*P	**Pn**	**17 47 37.1**	**-1.6**
MSLP				*e*S	**Sn**	**17 47 55.9**	**+0.4**
BESP	**Borongan**	**1.43**	**329**	*e*P	**Pn**	**17 47 40.7**	**+0.8**
PLP	**Palo**	**1.43**	**303**	⇓*e*P	**Pn**	**17 47 39.3**	**-0.8**
PLP				*i* S	**Sn**	**17 47 59.4**	**+1.6**
BUTP	**Butuan**	**1.51**	**202**	*e*P	**Pn**	**17 47 40.3**	**-0.9**
BUTP				*e*S	**Sn**	**17 48 00.5**	**+0.8**
OCLP	**Ormoc**	**1.70**	**293**	*e*P	**Pn**	**17 47 44.8**	**+1.1**
TBP	**Tagbilaran**	**2.40**	**254**	*e*P	**Pn**	**17 47 54.1**	**+0.9**
CGP	**Cagayan de Oro**	**2.42**	**218**	⇓*e*P	**Pn**	**17 47 53.5**	**0.0**
CGP				*e*S	**Sn**	**17 48 21.7**	**-0.3**
BUKP	**Musuan**	**2.72**	**204**	*e*P	**Pn**	**17 47 58.7**	**+0.9**
DAV	**Davao City (W)**	**3.34**	**191**	LR	LR	17 49 41.0	
	comp=Z,162nm,18.9s,baz=71,slow=48						
MATI	**Mati**	**3.41**	**179**	*e*P	**Pn**	**17 48 09.0**	**+1.8**
GUIM	**Jordan**	**3.56**	**274**	*e*P	**Pn**	**17 48 09.8**	**+0.7**
PAGZ	**Pagadian**	**3.75**	**228**	*e*P	**Pn**	**17 48 14.0**	**+2.2**
WRA	**Warramunga Arr**	**31.18**	**165**	P	**P**	**17 53 29.6**	**-1.3**
	0.4nm,0.6s,baz=344,slow=9.5,SNR=4.6						
ASAR	**Alice Springs**	**34.66**	**168**	P	**P**	**17 54 00.5**	**-0.8**
	0.4nm,0.6s,baz=349,slow=7.5,SNR=17						
STKA	**Stephens Creek**	**44.53**	**161**	P	**P**	**17 55 23.3**	**+0.1**
	1.5nm,0.9s,baz=340,slow=12,SNR=6.7						
MKAR	**Makanchi Array**	**51.90**	**323**	P	**P**	**17 56 19.4**	**-0.6**
	0.1nm,0.3s,baz=120,slow=7.9,SNR=2.9						

*ISCJB **01** 17:47:51.0±0.7,32°.82N±0°.08×138°.33E±0°.07, h318km±4km, mb3.0/8, Error ellipse: s-maj=13.5km s-min=8.9km az=154.3*
*JMA **01** 17:47:50.4±0.4,32°.81N×138°.28E, h328km, M2.9*
*IDC **01** 17:47:51.7±1.9,32°.75N×138°.11E,h310km±15km,mb2.9/8, mb1 3.1/11,mb1mx3.0/27,mbtmp2.9/11, Error ellipse: s-maj=21.6km s-min=19.5km az=164.0*
ISC 01 17:47:52.1±1.0,32°.87N±0°.10×138°.27E±0°.07,h312km±7km, n29,σ1°41/39,mb3.1/8,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**1.16**	**338**	P	**Pn**	**17 48 35.6**	**+1.4**
TTO4	**TONANKAI O.B.S**	**1.29**	**332**	P	**Pn**	**17 48 36.0**	**+1.1**
TTO2	**TONANKAI O.B.S**	**1.35**	**310**	P	**Pn**	**17 48 36.3**	**+1.1**
TTO1	**TONANKAI O.B.S**	**1.46**	**301**	P	**Pn**	**17 48 36.7**	**+0.9**
JIE	**Ise**	**2.00**	**320**	P	**Pn**	**17 48 40.5**	**+0.5**
JIE				*e*S	**S**	**17 49 18.3**	**+0.2**
HMMJ	**Hamamatsu 2**	**2.04**	**347**	P	**Pn**	**17 48 41.0**	**+0.8**
JKN2	**Miekihoku**	**2.16**	**310**	P	**Pn**	**17 48 41.2**	**0.0**
JKN2				*e*S	**S**	**17 49 17.3**	**-3.0**
JOD2	**Odawara 2**	**2.48**	**16**	P	**Pn**	**17 48 45.3**	**+1.4**
JWY	**Kouya**	**2.61**	**302**	P	**Pn**	**17 48 45.4**	**+0.2**
BSO3	**Boso 3**	**2.68**	**43**	*e*S	**S**	**17 49 27.3**	**-0.7**
BSO4	**Boso 4**	**2.73**	**38**	*e*S	**S**	**17 49 29.7**	**+0.7**
BSO1	**Boso 1**	**2.87**	**51**	P	**Pn**	**17 48 46.4**	**-0.4**
BSO1				*e*S	**S**	**17 49 30.7**	**0.0**
JHU	**Hanno**	**3.09**	**15**	P	**Pn**	**17 48 49.2**	**-0.3**
JHU				*e*S	**S**	**17 49 34.9**	**-0.6**
JRY	**Ryogami san**	**3.18**	**9**	P	**Pn**	**17 48 51.7**	**+1.2**
JRY				S	**S**	**17 49 38.7**	**+1.5**
MJAR	**Matsushiro Arr**	**3.67**	**359**	P	**Pn**	**17 48 55.5**	**+0.2**
	1.1nm,0.3s,baz=142,slow=24,SNR=15						
MJAR				S	**S**	**17 49 48.0**	**+1.9**
	0.3nm,0.3s,baz=50,slow=28,SNR=4.4						
MAT	**Matsushiro**	**3.67**	**359**	P	**Pn**	**17 48 56.0**	**+0.6**
MAT				S	**S**	**17 49 47.6**	**+1.5**
JAG	**Ashikaga**	**3.68**	**15**	P	**Pn**	**17 48 55.1**	**-0.4**
JAG				S	**S**	**17 49 43.3**	**-3.0**
JYT	**Yasato**	**3.71**	**25**	P	**Pn**	**17 48 54.9**	**-0.9**
JYT				*e*S	**S**	**17 49 43.4**	**-3.4**

JHO	**Hitachi**	**4.18**	**26**	P	**Pn**	**17 49 00.0**	**-0.9**
JHO				S	**S**	**17 49 52.7**	**-3.4**
KSRS	**Korea Array**	**9.63**	**301**	P	**Pn**	**17 50 05.7**	**+0.1**
	0.5nm,0.3s,baz=110,slow=13,SNR=27						
USRK	**Ussuriysk Arra**	**12.33**	**338**	P	**Pn**	**17 50 38.6**	**+0.4**
	0.4nm,0.3s,baz=160,slow=11,SNR=11						
SONM	**Songino Array**	**28.28**	**311**	P	**P**	**17 53 17.1**	**-0.4**
	1.0nm,0.6s,baz=119,slow=10,SNR=10						
ZALV	**Zalesovo Beam**	**42.95**	**316**	P	**P**	**17 55 20.6**	**-0.2**
	0.3nm,0.3s,baz=90,slow=8.1,SNR=2.3						
MKAR	**Makanchi Array**	**44.28**	**305**	P	**P**	**17 55 30.4**	**-1.1**
	0.4nm,0.3s,baz=86,slow=9.7,SNR=20						
WRA	**Warramunga Arr**	**52.65**	**185**	P	**P**	**17 56 33.7**	**-1.3**
	0.9nm,1.1s,baz=0.2,slow=7.5,SNR=4.6						
ILAR	**Eielson Array**	**54.38**	**31**	P	**P**	**17 56 47.8**	**+0.7**
	0.3nm,0.7s,baz=277,slow=6.0,SNR=4.5						
INK	**Inuvik**	**59.26**	**26**	P	**P**	**17 57 22.0**	**+1.1**
	0.5nm,0.7s,baz=204,slow=2.7,SNR=2.8						
YKA	**Yellowknife Ar**	**59.69**	**28**	P	**P**	**17 58 22.8**	**+0.8**
	0.1nm,0.3s,baz=298,slow=6.7,SNR=3.2						
TXAR	**Lajitas Array**	**94.73**	**51**	P	**P**	**18 00 39.8**	**+1.1**
	0.2nm,0.6s,baz=310,slow=3.4,SNR=2.6						

IDC 01 17:52:32.8±1.4,16°.13N×145°.84E,h221km±11km,mb3.1/9, mb1 3.3/10,mb1mx3.2/24,mbtmp3.1/10,Error ellipse: s-maj=24.3km s-min=13.3km az=90.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.69**	**201**	P	Pn	17 53 21.4	+1.2
	9.6nm,0.3s,baz=0.2,slow=24,SNR=5.6						
GUMO				S	S	17 53 57.5	+0.4
	20nm,0.3s,baz=174,slow=23,SNR=8.7						
CTA	**Charters Tower**	**35.99**	**179**	P	P	17 59 13.8	+0.9
	28nm,1.3s,baz=8.4,slow=8.8,SNR=2.5						
WRA	**Warramunga Arr**	**37.58**	**198**	P	P	17 59 25.9	-0.4
	1.0nm,0.5s,baz=30,slow=8.9,SNR=18						
FITZ	**Fitzroy Crossi**	**39.41**	**211**	P	P	17 59 41.4	-0.1
	1.3nm,0.3s,baz=34,slow=7.3,SNR=5.6						
ASAR	**Alice Springs**	**41.23**	**197**	P	P	17 59 56.0	-0.5
	0.3nm,0.6s,baz=13,slow=5.9,SNR=7.9						
CMAR	**Chiang Mai Ar**	**44.74**	**280**	P	P	18 00 24.7	0.0
	0.6nm,0.6s,baz=72,slow=6.4,SNR=7.0						
SONM	**Songino Array**	**45.24**	**323**	P	P	18 00 28.3	-0.1
	0.3nm,1.0s,baz=116,slow=6.6,SNR=2.3						
STKA	**Stephens Creek**	**47.90**	**185**	P	P	18 00 48.9	0.0
	0.6nm,0.4s,baz=0.4,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**60.35**	**315**	P	P	18 02 18.6	0.0
	1.3nm,0.4s,baz=91,slow=8.3,SNR=48						
KDAK	**Kodiak Island**	**61.43**	**32**	P	P	18 02 25.9	+0.2
	14nm,1.1s,baz=202,slow=5.4,SNR=2.7						
ILAR	**Eielson Array**	**65.89**	**26**	P	P	18 02 53.7	-0.9
	0.8nm,1.2s,baz=251,slow=5.6,SNR=3.0						
YKA	**Yellowknife Ar**	**80.19**	**28**	P	P	18 04 18.5	+0.2
	0.2nm,0.5s,baz=284,slow=4.9,SNR=3.3						

*ISCJB **01** 18:02:02.0±1.2,38°.15N±0°.05×20°.20E±0°.06,h16km±8km, Error ellipse: s-maj=9.9km s-min=5.9km az=137.6*
*THE **01** 18:02:01.3,38°.10N×20°.21E,h5km, ML2.7/5, Error ellipse: s-maj=1.1km s-min=0.6km az=48.0*
*CSEM **01** 18:02:02.8±0.5,38°.26N×20°.31E, h8km, MD3.2, Error ellipse: s-maj=13.0km s-min=6.3km az=47.0*
*ATH **01** 18:02:04.3,38°.14N×20°.45E, h16km±1km, MD3.2/11*
ISC 01 18:02:02.4±1.2,38°.15N±0°.04×20°.29E±0°.05,h18km±2km, n39,σ1°02/61,1D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.24**	**83**	P	**Pg**	**18 02 07.5**	**-0.5**
VLS				S	**Sb**	**18 02 11.7**	**+0.1**
VLS	**Valsamata**	**0.24**	**83**	⇓*i*PB	**Pg**	**18 02 07.7**	**-0.3**
VLS				*e*SB	**Sg**	**18 02 11.5**	**-0.3**
VLS	**Valsamata**	**0.24**	**83**	P	**Pg**	**18 02 07.5**	**-0.5**
VLS				S	**Sb**	**18 02 11.7**	**+0.1**
KFL	**Anninata**	**0.40**	**95**	P	**Pg**	**18 02 09.9**	**-0.7**
KFL				S	**Sb**	**18 02 17.1**	**+0.4**
LKD2	**Lefkada island**	**0.70**	**24**	P	**Pg**	**18 02 15.7**	**-0.6**
LKD2				S	**Sb**	**18 02 27.1**	**+1.7**
LKD2	**Lefkada island**	**0.70**	**24**	*e*PB	**Pg**	**18 02 16.2**	**-0.1**
LKD2				*e*SN	**Sb**	**18 02 27.2**	**+1.8**
LKD2	**Lefkada island**	**0.70**	**24**	P	**Pg**	**18 02 15.7**	**-0.6**
LKD2	**Lefkada island**	**0.70**	**24**	*e*Pb	**Pg**	**18 02 16.2**	**-0.1**
LKD2				*e*Sn	**Sb**	**18 02 27.2**	**+1.8**
RLS	**Riolos of Patr**	**0.93**	**95**	P	**Pg**	**18 02 19.7**	**-0.9**
RLS	**Riolos of Patr**	**0.93**	**95**	*e*PN	**Pg**	**18 02 19.9**	**-0.7**
RLS				*e*SN	**Sg**	**18 02 31.1**	**-1.8**
RLS	**Riolos of Patr**	**0.93**	**95**	P	**Pg**	**18 02 19.7**	**-0.9**
EFP	**Efpalio**	**1.30**	**77**	P	**Pn**	**18 02 26.3**	**+0.7**
EFP				S	**Sg**	**18 02 45.7**	**+1.1**
EFP	**Efpalio**	**1.30**	**77**	*e*PN	**Pn**	**18 02 26.3**	**+0.7**
EFP				*e*SN	**Sb**	**18 02 42.8**	**+1.1**
EFP	**Efpalio**	**1.30**	**77**	P	**Pn**	**18 02 26.3**	**+0.7**
EFP				*e*Sn	**Sb**	**18 02 42.8**	**+0.1**
EFP				S	**Sg**	**18 02 45.7**	**+1.1**
LAKA	**Lakka**	**1.33**	**85**	P	**Pn**	**18 02 26.4**	**+0.3**
LAKA				S	**Sg**	**18 02 46.3**	**+0.7**
LAKA	**Lakka**	**1.33**	**85**	P	**Pn**	**18 02 26.4**	**+0.3**
LAKA				S	**Sg**	**18 02 46.3**	**+0.7**
IGT	**Igoumenitsa**	**1.38**	**1**	P	**Pn**	**18 02 27.3**	**+0.5**
IGT				S	**Sg**	**18 02 47.0**	**-0.2**
IGT	**Igoumenitsa**	**1.38**	**1**	P	**Pn**	**18 02 27.3**	**+0.5**
IGT				S	**Sg**	**18 02 47.0**	**-0.2**
EVR	**Evrytania**	**1.42**	**57**	*e*PN	**Pg**	**18 02 29.2**	**-0.6**
EVR	**Evrytania**	**1.42**	**57**	*e*Pn	**Pg**	**18 02 29.2**	**-0.6**
ITM	**Ithomi**	**1.62**	**126**	*e*PN	**Pg**	**18 02 33.2**	**-0.4**
ITM	**Ithomi**	**1.62**	**126**	*e*Pn	**Pg**	**18 02 33.2**	**-0.4**
GUR	**Goura**	**1.64**	**97**	P	**Pn**	**18 02 30.6**	**+0.3**
GUR				S	**Sb**	**18 02 53.8**	**+1.5**
GUR	**Goura**	**1.64**	**97**	*e*PN	**Pb**	**18 02 31.9**	**-0.1**
GUR	**Goura**	**1.64**	**97**	P	**Pn**	**18 02 30.6**	**+0.3**
GUR	**Goura**	**1.64**	**97**	*e*Pn	**Pb**	**18 02 31.9**	**-0.1**
GUR				S	**Sb**	**18 02 53.8**	**+1.5**
PYL	**PYLOS**	**1.70**	**137**	*e*PN	**Pb**	**18 02 34.2**	**+1.2**
PYL	**PYLOS**	**1.70**	**137**	*e*Pn	**Pb**	**18 02 34.3**	**+1.2**
THL	**Klokotos Trika**	**1.96**	**43**	*e*PN	**Pb**	**18 02 38.1**	**+0.7**
LTK	**Loutraki**	**2.12**	**93**	*e*PB	**Pn**	**18 02 38.9**	**+2.1**
LTK	**Loutraki**	**2.12**	**93**	*e*Pb	**Pn**	**18 02 38.9**	**+2.1**
DID	**Didima**	**2.42**	**104**	*e*PN	**Pb**	**18 02 44.0**	**-1.4**
DID	**Didima**	**2.42**	**104**	*e*Pn	**Pb**	**18 02 44.0**	**-1.4**
VLI	**Veliai**	**2.55**	**123**	*e*PN	**Pb**	**18 02 47.2**	**-0.3**
VLI	**Veliai**	**2.55**	**123**	*e*Pn	**Pb**	**18 02 47.2**	**-0.3**
STON	**Ston**	**5.12**	**338**	*i* Pn	**Pn**	**18 03 17.8**	**-0.2**
STON				Sn	**Sn**	**18 04 15.0**	**-1.5**
STON	**Ston**	**5.12**	**338**	*i* Pn	**Pn**	**18 03 17.7**	**-0.2**
STON				Sn	**Sn**	**18 04 15.0**	**-1.5**
NVLJ	**Novalja**	**7.59**	**329**	*e*Pn	**Sn**	**18 03 53.5**	**+1.4**
NVLJ				Sn	**Sn**	**18 05 15.6**	**-2.0**
NVLJ	**Novalja**	**7.59**	**329**	*e*Pn	**Pn**	**18 03 53.4**	**+1.4**
NVLJ				Sn	**Sn**	**18 05 15.5**	**-2.0**

*IDC **01** 18:18:14.6±1.6,52°.31N×178°.51E,h150km±13km, mb3.4/17,mb1 3.6/19,mb1mx3.4/32,mbtmp3.4/19, Error ellipse: s-maj=22.6km s-min=9.5km az=171.0*
*NEIC **01** 18:18:17.1,52°.16N×178°.47E,h173km, MG3.2(AEIC), After AEIC.*
ISC 01 18:18:15.6±0.6,52°.5N±0°.1×178°.48E±0°.04,h150km,n39, σ1°45/39,mb3.6/17,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSPA	**Little Sitkin**	**0.51**	**173**	P	**Pn**	**18 18 39.8**	**+2.8**
CEAP	**Semis' Anvil P**	**0.82**	**124**	P	**Pn**	**18 18 41.5**	**+2.5**
CESW	**Semis' Southwe**	**0.87**	**129**	P	**Pn**	**18 18 41.2**	**+1.9**
CERB	**Semis' Cerberu**	**0.89**	**126**	P	**Pn**	**18 18 42.6**	**+3.1**
CERAA	**Semis' Rag'd T**	**0.93**	**126**	P	**Pn**	**18 18 41.7**	**+1.9**
AMKA	**Amchitka**	**1.20**	**154**	P	**Pn**	**18 18 42.8**	**+0.7**
AMKA				S	**Sn**	**18 19 02.5**	**+0.1**
GANE	**Gareloi Northe**	**1.81**	**110**	P	**Pn**	**18 18 49.8**	**+1.3**
TASE	**Tanaga Southea**	**2.24**	**105**	P	**Pn**	**18 18 55.0**	**+1.5**
TAFP	**Tanaga Falls P**	**2.25**	**103**	P	**Pn**	**18 18 55.0**	**+1.3**
TAFP				S	**Sn**	**18 19 24.8**	**+1.8**
SMY	**Shemya**	**2.68**	**278**	P	**Pn**	**18 19 00.8**	**+1.9**
SMY				S	**Sn**	**18 19 35.0**	**+2.6**
KIMD	**Kanaga Island**	**2.74**	**103**	P	**Pn**	**18 19 00.1**	**+0.5**
FX1	**Attu Island--F**	**3.26**	**280**	P	**Pn**	**18 19 06.7**	**+0.4**
	7.7nm,0.3s,baz=86,slow=5.1,SNR=97						
FX1				S	**Sn**	**18 19 45.4**	**0.0**
	73nm,0.3s,baz=244,slow=23,SNR=52						
PETK	**Petropavlovsk-**	**12.59**	**281**	P	**Pn**	**18 21 11.8**	**+2.4**
	0.2nm,0.3s,baz=163,slow=7.0,SNR=3.5						
PETK				S	**Sn**	**18 23 26.2**	**-2.2**
	0.4nm,0.3s,baz=208,slow=31,SNR=5.7						
KDAK	**Kodiak Island**	**17.30**	**61**	P	**P**	**18 22 06.5**	**-0.5**
	0.7nm,0.3s,baz=105,slow=14,SNR=7.9						
ILAR	**Eielson Array**	**21.50**	**42**	P	**P**	**18 22 51.5**	**-0.7**
	0.4nm,0.4s,baz=244,slow=8.8,SNR=16						
INK	**Inuvik**	**27.57**	**37**	P	**P**	**18 23 48.6**	**+0.6**
	0.9nm,0.5s,baz=216,slow=5.3,SNR=6.1						
YKA	**Yellowknife Ar**	**35.72**	**47**	P	**P**	**18 24 59.7**	**+0.4**
	0.9nm,0.7s,baz=284,slow=8.4,SNR=17						
KSRS	**Korea Array**	**37.97**	**267**	P	**P**	**18 25 18.6**	**0.0**
	0.5nm,0.7s,baz=56,slow=9.2,SNR=4.3						
SONM	**Songino Array**	**44.66**	**294**	P	**P**	**18 26 13.2**	**+0.1**
	0.8nm,0.5s,baz=57,slow=7.4,SNR=13						
NVAR	**Mina Array Bea**	**45.08**	**82**	P	**P**	**18 26 16.3**	**-0.4**
	0.9nm,0.6s,baz=292,slow=7.9,SNR=8.4						
PDAR	**Pinedale Array**	**47.58**	**72**	P	P	18 26 34.5	-1.6
	0.5nm,0.6s,baz=309,slow=3.9,SNR=4.8						
ULM	**Lac du Bonnet**	**50.49**	**56**	P	P	18 26 57.0	-0.9
	1.0nm,0.4s,baz=307,slow=8.5,SNR=3.8						
KURBB	**Kurchatov Arra**	**57.15**	**312**	P	P	18 27 45.6	-0.6
	1.1nm,0.2s,baz=39,slow=7.3,SNR=11						
MKAR	**Makanchi Array**	**58.03**	**306**	P	P	18 27 51.4	-1.1
	0.4nm,0.3s,baz=47,slow=6.6,SNR=20						
BVAR	**Borovoye Array**	**58.96**	**318**	P	**P**	**18 27 58.7**	**-0.1**
	1.8nm,0.5s,baz=48,slow=6.6,SNR=16						
TXAR	**Lajitas Array**	**60.14**	**80**	P	**P**	**18 28 06.0**	**-1.4**
	0.4nm,0.6s,baz=300,slow=5.8,SNR=7.3						
SCHQ	**Schefferville**	**60.18**	**37**	P	P	18 28 06.2	-0.9
	1.6nm,0.8s,baz=355,slow=17,SNR=5.3						
AAK	**Ala-Archa**	**64.87**	**308**	P	**P**	**18 28 38.9**	**+0.3**
	0.2nm,0.5s,baz=96,slow=3.6,SNR=5.2						
CMAR	**Chiang Mai Arr**	**69.24**	**273**	P	**P**	**18 29 05.8**	**-0.5**
	0.3nm,0.3s,baz=29,slow=8.0,SNR=5.5						
TAPN	**Taplejung**	**69.26**	**288**	*e*P	**P**	**18 29 06.3**	**-0.4**
	4.4nm,0.7s						
GUN	**Gumba**	**69.89**	**290**	*e*P	**P**	**18 29 10.5**	**-0.1**
	11nm,0.4s						
JIRN	**Jiri**	**69.90**	**289**	*e*P	**P**	**18 29 10.8**	**+0.1**
KKN	**Kakani**	**70.33**	**290**	*e*P	**P**	**18 29 12.7**	**-0.4**
PKI	**Pulchoki**	**70.42**	**290**	*e*P	**P**	**18 29 13.4**	**-0.4**
GKN	**Gorkha**	**70.54**	**291**	*e*P	**P**	**18 29 13.7**	**-0.6**
DMN	**Daman**	**70.57**	**290**	*e*P	**P**	**18 29 13.6**	**-1.0**
DANN	**Dangsing**	**70.77**	**292**	*e*P	**P**	**18 29 14.8**	**-1.1**
WRA	**Warramunga Arr**	**81.67**	**221**	P	**P**	**18 30 14.7**	**-2.2**
	0.4nm,0.6s,baz=34,slow=6.2,SNR=4.9						
ASAR	**Alice Springs**	**85.18**	**220**	P	**P**	**18 30 33.3**	**-1.6**
	0.5nm,1.1s,baz=24,slow=5.3,SNR=4.5						

IDC 01 18:28:00.3±2.1,0°.43S×132°.90E,h0km,mb3.7/3, mb1 4.0/4,mb1mx3.6/17,mbtmp3.8/4,ML3.8/1,Error ellipse: s-maj=119.5km s-min=23.7km az=72.0,Irian Jaya region

| Code | Station

ILIN	**Lien**	**4.01**	**200**	*e*Pn	**Pn**	**18 41 30.1**	**+1.1**
IALA	**Alasht**	**4.23**	**127**	*e*Pn	**Pn**	**18 41 31.1**	**-1.0**
IALA				*e*		18 41 32.2	
	comp=Z,1μm,0.1s						
IALA	**Alasht**	**4.23**	**127**	*e*Pn	**Pn**	**18 41 31.1**	**-1.0**
IDHR	**Dehrash**	**4.39**	**205**	*e*Pn	**Pn**	**18 41 35.0**	**+0.8**
IDHR	**Dehrash**	**4.39**	**205**	*e*Pn	**Pn**	**18 41 35.0**	**+0.8**
IFIR	**Firoozkooh**	**4.49**	**132**	*e*Pn	**Pn**	**18 41 36.2**	**+0.5**
IFIR				*e*		18 41 38.9	
	comp=Z,483nm,0.1s						
IFIR	**Firoozkooh**	**4.49**	**132**	*e*Pn	**Pn**	**18 41 36.2**	**+0.5**
IGLO	**Ghaloghah**	**4.68**	**116**	*e*Pn	**Pn**	**18 41 38.2**	**+0.1**
IGLO				*e*		18 42 36.6	
	comp=Z,935nm,0.0s						
ISHM	**Shahmirzad**	**4.71**	**127**	*e*Pn	**Pn**	**18 41 38.8**	**+0.1**
ISHM				*e*		18 42 37.3	
	comp=Z,706nm,0.1s						
ISHM	**Shahmirzad**	**4.71**	**127**	*e*Pn	**Pn**	**18 41 38.8**	**+0.1**
IANJ	**Anjilo**	**5.32**	**126**	*e*Pn	**Pn**	**18 41 46.9**	**-0.1**
IANJ	**Anjilo**	**5.32**	**126**	*e*Pn	**Pn**	**18 41 46.9**	**-0.1**
ISFR	**Sfrayin**	**7.59**	**100**	*e*Pn	**Pn**	**18 42 17.5**	**-0.7**
ISFR				*e*		18 43 46.0	
	comp=Z,336nm,0.1s						
ISFR	**Sfrayin**	**7.59**	**100**	*e*Pn	**Pn**	**18 42 17.5**	**-0.7**
IPAY	**Payeh**	**8.53**	**102**	*e*Pn	**Pn**	**18 42 30.2**	**-0.8**
IPAY				*e*		18 42 31.4	
	comp=Z,184nm,0.1s						
IPAY	**Payeh**	**8.53**	**102**	*e*Pn	**Pn**	**18 42 30.2**	**-0.8**

*ISCJB **01** 18:50:20.5±0.7,36°.84N±0°.03×27°.67E±0°.03,h13km±4km, Error ellipse: s-maj=5.1km s-min=4.7km az=11.1*
*ISK **01** 18:50:20.6,37°.30N×27°.63E,h5km,MD2.7*
*ATH **01** 18:50:20.4,36°.85N×27°.65E,h29km±3km,MD3.3/5*
*CSEM **01** 18:50:20.5±0.2,36°.84N×27°.66E,h12km,MD3.1,Error ellipse: s-maj=4.5km s-min=4.1km az=47.0*
*DDA **01** 18:50:21.0,36°.91N×27°.69E,h6km,MD3.1*

ISC 01 18:50:20.5±1.0,**36°.89N**±0°.03×**27°.58E**±0°.02,**h18**km±6km, **n33,σ0°84/50,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.26**	**313**	*i* P	**Pg**	**18 50 26.5**	**+0.1**
BDRM				*i* S	**Sg**	**18 50 30.7**	**+0.4**
BDRM	**Kayabasi**	**0.26**	**313**	*i* P	**Sg**	**18 50 26.5**	**+0.1**
BDRM				*i* S	**Sg**	**18 50 30.7**	**+0.4**
BODT	**Bodrum**	**0.34**	**300**	PG	**Pb**	**18 50 27.8**	**-0.4**
BODT				SG	**Sb**	**18 50 33.5**	**+0.2**
BODT	**Bodrum**	**0.34**	**300**	*i* Pg	**Pb**	**18 50 27.8**	**-0.4**
BODT				*i* Sg	**Sb**	**18 50 33.5**	**+0.2**
YER	**Yerkesik**	**0.54**	**63**	*e*PG	**Pb**	**18 50 32.1**	**+0.5**
YER				*e*SG	**Sb**	**18 50 39.6**	**+0.6**
YER	**Yerkesik**	**0.54**	**63**	*e*Pg	**Pb**	**18 50 32.1**	**+0.5**
YER				*e*Sg	**Sb**	**18 50 39.7**	**+0.6**
TURN	**Turunc**	**0.74**	**91**	*i* P	Pg	18 50 29.9	-5.2
TURN				*i* S	Sg	18 50 37.6	-7.3
ARG	**Arkhangelos**	**0.76**	**152**	*e*PN	**Pg**	**18 50 34.8**	**-0.6**
ARG				*e*SN	**Sb**	**18 50 46.2**	**+0.9**
ARG	**Arkhangelos**	**0.76**	**152**	*e*Pn	**Pg**	**18 50 34.8**	**-0.6**
ARG				*e*Sn	**Sb**	**18 50 46.2**	**+0.9**
AYDN	**Tasoluk**	**0.79**	**12**	*i* P	**Pb**	**18 50 36.1**	**+0.3**
AYDN				*i* S	**Sb**	**18 50 46.6**	**+0.5**
AYDN	**Tasoluk**	**0.79**	**12**	*i* P	**Pb**	**18 50 36.1**	**+0.3**
AYDN				*i* S	**Sb**	**18 50 46.6**	**+0.5**
GCAM	**G?zelcaml?**	**0.89**	**336**	*i* P	**Pn**	**18 50 38.2**	**+0.1**
GCAM				*i* S	**Sn**	**18 50 51.2**	**+0.7**
GCAM	**G?zelcaml?**	**0.89**	**336**	*i* P	**Pn**	**18 50 38.2**	**+0.1**
GCAM				*i* S	**Sn**	**18 50 51.2**	**+0.7**
SMG	**Samos**	**1.06**	**321**	*e*PN	**Pn**	**18 50 41.0**	**+0.4**
SMG				*e*SN	**Sn**	**18 50 55.9**	**+1.0**
SMG	**Samos**	**1.06**	**321**	*e*Pn	**Pn**	**18 50 41.0**	**+0.4**
SMG				*e*Sn	**Sn**	**18 50 55.9**	**+1.0**
FETY	**Fethiye**	**1.16**	**102**	*e*PN	Pg	18 50 46.3	+3.4
FETY	**Fethiye**	**1.16**	**102**	*e*Pn	Pg	18 50 46.3	+3.4
DNZL	**Cakiroluk**	**1.35**	**53**	*i* P	**Pg**	**18 50 47.4**	**+0.7**
DNZL				*i* S	**Sg**	**18 51 04.5**	**+0.2**
DNZL	**Cakiroluk**	**1.35**	**53**	*i* P	**Pg**	**18 50 47.4**	**+0.7**
DNZL				*i* S	**Sg**	**18 51 04.5**	**+0.2**
KARP	**Karpathos**	**1.40**	**198**	*e*PN	**Pn**	**18 50 45.7**	**+0.4**
KARP				*e*SN	**Sn**	**18 51 03.5**	**+0.1**
KARP	**Karpathos**	**1.40**	**198**	*e*Pn	**Pn**	**18 50 45.7**	**+0.4**
KARP				*e*Sn	**Sn**	**18 51 03.5**	**+0.1**
BLCB	**Balcova**	**1.58**	**341**	*e*PN	Pn	18 50 43.4	-4.3
APE	**Apeiranthos**	**1.73**	**277**	*e*PN	**Pb**	**18 50 51.8**	**0.0**
APE	**Apeiranthos**	**1.73**	**277**	*e*PN	**Pb**	**18 50 50.8**	**-1.0**
APE				*e*SN	**Sn**	**18 51 12.0**	**+0.5**
APE	**Apeiranthos**	**1.73**	**277**	*e*Pn	**Pb**	**18 50 50.8**	**-1.0**
APE				*e*Sn	**Sn**	**18 51 12.0**	**+0.5**
ELL	**Elmali**	**1.79**	**94**	*e*PN	**Pg**	**18 50 55.0**	**0.0**
ELL	**Elmali**	**1.79**	**94**	*e*Pn	**Pg**	**18 50 55.1**	**0.0**
KULA	**Kula-Manisa**	**1.80**	**25**	*e*PN	**Pn**	**18 50 48.4**	**-2.4**
KULA	**Kula-Manisa**	**1.80**	**25**	*e*Pn	**Pn**	**18 50 48.4**	**-2.4**
CHOS	**Chios island**	**1.98**	**320**	*e*PN	**Pb**	**18 50 54.4**	**-1.6**
CHOS	**Chios island**	**1.98**	**320**	*e*Pn	**Pb**	**18 50 54.4**	**-1.6**
KHAL	**Karahalli**	**2.06**	**44**	*e*P	**Pb**	**18 50 56.3**	**-1.2**
KHAL				*e*S	**Sn**	**18 51 56.3**	**-0.5**
KHAL	**Karahalli**	**2.06**	**44**	*e*P	**Pb**	**18 50 56.3**	**-1.2**

*THE **01** 19:14:53.1,36°.90N×27°.71E,h0km,ML2.7/4, Error ellipse: s-maj=1.0km s-min=0.5km az=57.0*
*DDA **01** 19:14:53.7,36°.94N×27°.68E,h7km,MD3.3*
*CSEM **01** 19:14:53.9±0.2,36°.90N×27°.64E,h8km,MD3.0,Error ellipse: s-maj=3.6km s-min=3.4km az=47.0*
*ISK **01** 19:14:53.7,36°.90N×27°.66E,h8km,MD3.0*
*ATH **01** 19:14:53.4,36°.89N×27°.68E,h27km±3km,MD3.3/5*
*ISCJB **01** 19:14:54.2±0.6,36°.90N±0°.02×27°.66E±0°.03,h13km±4km, Error ellipse: s-maj=3.8km s-min=3.4km az=169.0*

ISC 01 19:14:53.8±1.0,**36°.90N**±0°.02×**27°.65E**±0°.02,**h10**km±9km, **n50,σ0°56/83,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.31**	**301**	PG	**Pg**	**19 15 00.3**	**+0.2**
BODT				SG	**Sb**	**19 15 06.0**	**-0.7**
BODT	**Bodrum**	**0.31**	**301**	*i* Pg	**Pg**	**19 15 00.3**	**+0.2**
BODT				*i* Sg	**Sb**	**19 15 06.0**	**-0.7**
NIS1	**Nisyros Isl.**	**0.48**	**231**	P	**Pg**	**19 15 03.5**	**+0.3**
NIS1				S	**Sb**	**19 15 12.2**	**+0.7**
NIS1	**Nisyros Isl.**	**0.48**	**231**	P	**Pg**	**19 15 03.5**	**+0.3**
NIS1				S	**Sb**	**19 15 12.2**	**+0.7**
YER	**Yerkesik**	**0.56**	**65**	*e*PG	**Pg**	**19 15 04.9**	**+0.2**
YER				*e*SG	**Sg**	**19 15 12.6**	**+0.5**
YER	**Yerkesik**	**0.56**	**65**	*e*Pg	**Pg**	**19 15 04.9**	**+0.2**
YER				*e*Sg	**Sg**	**19 15 12.6**	**+0.5**
TURN	**Turunc**	**0.77**	**92**	*i* P	Pg	19 15 02.3	-6.3
TURN				*i* S	Sg	19 15 09.9	-8.8
AYDN	**Tasoluk**	**0.78**	**14**	*i* P	**Pg**	**19 15 08.5**	**-0.4**
AYDN				*i* S	**Sg**	**19 15 18.0**	**-1.0**
AYDN	**Tasoluk**	**0.78**	**14**	*i* P	**Pg**	**19 15 08.5**	**-0.4**
AYDN				*i* S	**Sg**	**19 15 18.0**	**-1.0**
ARG	**Arkhangelos**	**0.79**	**150**	P	**Pg**	**19 15 08.1**	**-0.9**
ARG				S	**Sb**	**19 15 20.4**	**+0.1**
ARG	**Arkhangelos**	**0.79**	**150**	*e*PN	**Pg**	**19 15 08.0**	**-0.9**
ARG				*e*SN	**Sb**	**19 15 20.1**	**-0.2**
ARG	**Arkhangelos**	**0.79**	**150**	P	**Pg**	**19 15 08.1**	**-0.9**
ARG				*e*Sn	**Sb**	**19 15 20.1**	**-0.2**
ARG				S	**Sb**	**19 15 20.4**	**+0.1**
GCAM	**G?zelcaml?**	**0.86**	**338**	*i* P	**Pg**	**19 15 10.4**	**0.0**
GCAM				*i* S	**Sb**	**19 15 22.5**	**0.0**
GCAM	**G?zelcaml?**	**0.86**	**338**	*i* P	**Pg**	**19 15 10.4**	**0.0**
GCAM				*i* S	**Sb**	**19 15 22.5**	**0.0**
SMG	**Samos**	**1.03**	**322**	P	**Pg**	**19 15 13.2**	**-0.4**
SMG				S	**Sn**	**19 15 29.4**	**+0.5**
SMG	**Samos**	**1.03**	**322**	*e*PN	**Pn**	**19 15 14.2**	**-0.2**
SMG				*e*SN	**Sn**	**19 15 28.5**	**-0.4**
SMG	**Samos**	**1.03**	**322**	P	**Pg**	**19 15 13.2**	**-0.4**
SMG	**Samos**	**1.03**	**322**	*e*Pn	**Pn**	**19 15 14.2**	**-0.2**
SMG				*e*Sn	**Sn**	**19 15 28.5**	**-0.4**
SMG				S	**Sn**	**19 15 29.4**	**+0.5**
FETY	**Fethiye**	**1.19**	**103**	*e*PN	**Pn**	**19 15 16.9**	**+0.4**
FETY	**Fethiye**	**1.19**	**103**	*e*Pn	**Pn**	**19 15 16.9**	**+0.4**
DNZL	**Cakiroluk**	**1.36**	**54**	*i* P	**Pg**	**19 15 19.9**	**-0.2**
DNZL				*i* S	**Sg**	**19 15 38.4**	**+0.6**
DNZL	**Cakiroluk**	**1.36**	**54**	*i* P	**Pg**	**19 15 19.9**	**-0.2**
DNZL				*i* S	**Sg**	**19 15 38.4**	**+0.6**
KARP	**Karpathos**	**1.41**	**196**	P	**Pn**	**19 15 18.9**	**-0.6**
KARP				S	**Sn**	**19 15 38.5**	**+0.3**
KARP	**Karpathos**	**1.41**	**196**	*e*PN	**Pn**	**19 15 19.0**	**-0.6**
KARP				*e*SN	**Sn**	**19 15 38.2**	**0.0**
KARP	**Karpathos**	**1.41**	**196**	*e*Pn	**Pn**	**19 15 19.0**	**-0.6**
KARP				*e*Sn	**Sn**	**19 15 38.2**	**0.0**
KARP				S	**Sn**	**19 15 38.5**	**+0.3**
IZM	**Izmir**	**1.52**	**349**	*e*PN	**Pn**	**19 15 21.5**	**+0.3**
IZM	**Izmir**	**1.52**	**349**	*e*Pn	**Pn**	**19 15 21.5**	**+0.3**
BLCB	**Balcova**	**1.56**	**342**	*e*PN	**Pb**	**19 15 22.4**	**-0.3**
BLCB	**Balcova**	**1.56**	**342**	*e*Pn	**Pb**	**19 15 22.4**	**-0.3**
URLA	**Izmir**	**1.68**	**330**	*e*P	**Pb**	**19 15 25.2**	**+0.4**
URLA				*e*S	**Sn**	**19 15 44.5**	**-0.4**
URLA	**Izmir**	**1.68**	**330**	*e*P	**Pb**	**19 15 25.2**	**+0.4**
URLA				*e*S	**Sn**	**19 15 44.5**	**-0.4**
APE	**Apeiranthos**	**1.70**	**276**	*e*PN	**Pn**	**19 15 24.4**	**+0.8**
APE	**Apeiranthos**	**1.70**	**276**	P	**Pn**	**19 15 23.1**	**-0.5**
APE				S	**Sb**	**19 15 47.1**	**+0.4**
APE	**Apeiranthos**	**1.70**	**276**	*e*PB	**Pn**	**19 15 23.1**	**-0.5**
APE				*e*SN	**Sn**	**19 15 46.0**	**+0.5**
APE	**Apeiranthos**	**1.70**	**276**	P	**Pn**	**19 15 23.1**	**-0.5**
APE	**Apeiranthos**	**1.70**	**276**	*e*Pn	**Pn**	**19 15 24.4**	**+0.8**
APE				*e*Sn	**Sn**	**19 15 46.0**	**+0.5**
APE				S	**Sb**	**19 15 47.1**	**+0.4**
MANT	**Manisa**	**1.74**	**24**	*i* P	**Pn**	**19 15 23.9**	**-0.5**
MANT				*i* S	**Sn**	**19 15 46.1**	**-0.7**
MANT	**Manisa**	**1.74**	**24**	*i* P	**Pn**	**19 15 23.9**	**-0.5**
MANT				*i* S	**Sn**	**19 15 46.1**	**-0.7**
KULA	**Kula-Manisa**	**1.80**	**26**	*e*PN	**Pb**	**19 15 26.4**	**-0.5**
KULA	**Kula-Manisa**	**1.80**	**26**	*e*Pn	**Pb**	**19 15 26.4**	**-0.5**
ELL	**Elmali**	**1.82**	**94**	*e*PN	**Pn**	**19 15 25.9**	**+0.5**
ELL	**Elmali**	**1.82**	**94**	*e*Pn	**Pn**	**19 15 25.9**	**+0.5**
CHOS	**Chios island**	**1.95**	**320**	*e*PB	**Pn**	**19 15 27.3**	**+0.3**
CHOS				*e*SN	**Sn**	**19 15 52.1**	**+0.5**
CHOS	**Chios island**	**1.95**	**320**	*e*Pb	**Pn**	**19 15 27.3**	**+0.3**
CHOS				*e*Sn	**Sn**	**19 15 52.1**	**+0.5**
KHL	**Karahalli**	**2.06**	**46**	*e*PN	**Pn**	**19 15 29.4**	**+0.8**
KHL	**Karahalli**	**2.06**	**46**	*e*Pn	**Pn**	**19 15 29.4**	**+0.8**
ZKR	**Zakros**	**2.13**	**213**	*e*PN	**Pn**	**19 15 29.5**	**+0.1**
ZKR	**Zakros**	**2.13**	**213**	*e*Pn	**Pn**	**19 15 29.5**	**+0.1**
SUTC	**Sutluce-Ispart**	**2.74**	**77**	*e*PN	**Pn**	**19 15 39.5**	**+1.5**
SUTC	**Sutluce-Ispart**	**2.74**	**77**	*e*Pn	**Pn**	**19 15 39.5**	**+1.5**

PRE 01 19:16:46.5±1.5,**7°.60S×30°.77E,h10**km,**ML3.7, Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIG	**Kigali**	**5.65**	**353**	*e*P	Pn	19 18 13.6	+2.7
KIG				*e*S	Sn	19 19 13.1	-2.9
KIG				AML	AML	19 19 42.2	
	comp=Z,103nm,0.5s						
MBAR	**Mbarara**	**6.96**	**360**	*e*P	Pn	19 18 29.0	+0.2
MBAR				*e*S	Sn	19 19 45.6	-2.6
KMBO	**Kilima Mbogo**	**9.12**	**45**	*e*P	Pn	19 18 59.6	+1.0
KMBO				*e*S	Sn	19 20 37.3	-4.4
MSNA	**Messina**	**14.68**	**183**	*e*S	Sn	19 22 51.4	-5.8
MSNA				AML	AML	19 24 53.2	
	comp=Z,7.0nm,0.6s						

*ISCJB **01** 19:20:29.0±1.7,36°.87N±0°.10×27°.66E±0°.05,h12km±6km, Error ellipse: s-maj=16.3km s-min=6.3km az=11.7*
*ISK **01** 19:20:29.6,37°.10N×27°.65E,h2km,MD2.3*
*DDA **01** 19:20:29.1,36°.92N×27°.71E,h7km,MD2.9*
*CSEM **01** 19:20:30.1±0.5,36°.95N×27°.65E,h10km,MD2.9,Error ellipse: s-maj=10.6km s-min=5.9km az=8.0*

ISC 01 19:20:29.8±1.3,**36°.98N**±0°.07×**27°.63E**±0°.03,**h13**km±9km, **n15,σ0°56/26,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.17**	**299**	*i* P	**Pg**	**19 20 34.3**	**+0.5**
BDRM				*i* S	**Sb**	**19 20 38.7**	**+0.4**
BDRM	**Kayabasi**	**0.17**	**299**	*i* P	**Pg**	**19 20 34.3**	**+0.5**
BDRM				*i* S	**Sb**	**19 20 38.7**	**+0.4**
BODT	**Bodrum**	**0.27**	**288**	*e*PG	**Pg**	**19 20 35.4**	**-0.1**
BODT				*e*SG	**Sb**	**19 20 41.1**	**0.0**
BODT	**Bodrum**	**0.27**	**288**	*e*Pg	**Pg**	**19 20 35.4**	**-0.1**
BODT				*e*Sg	**Sb**	**19 20 41.1**	**0.0**
YER	**Yerkesik**	**0.54**	**73**	*e*PG	**Pb**	**19 20 40.9**	**-0.3**
YER				*e*SG	**Sb**	**19 20 48.1**	**-0.8**
YER	**Yerkesik**	**0.54**	**73**	*e*Pg	**Pb**	**19 20 40.9**	**-0.3**
YER				*e*Sg	**Sb**	**19 20 48.1**	**-0.8**
AYDN	**Tasoluk**	**0.71**	**16**	*i* P	**Pb**	**19 20 44.0**	**0.0**
AYDN				*i* S	**Sb**	**19 20 54.2**	**+0.5**
AYDN	**Tasoluk**	**0.71**	**16**	*i* P	**Pb**	**19 20 44.0**	**0.0**
AYDN				*i* S	**Sb**	**19 20 54.2**	**+0.5**
TURN	**Turunc**	**0.78**	**98**	*i* P	Pg	19 20 37.9	-7.0
TURN				*i* S	Sg	19 20 45.2	-10
GCAM	**G?zelcaml?**	**0.79**	**336**	*i* P	**Pn**	**19 20 46.1**	**-0.5**
GCAM				*i* S	**Sn**	**19 20 58.6**	**+0.4**
GCAM	**G?zelcaml?**	**0.79**	**336**	*i* P	**Pn**	**19 20 46.1**	**-0.5**
GCAM				*i* S	**Sn**	**19 20 58.6**	**+0.4**
FETY	**Fethiye**	**1.21**	**106**	*e*PN	**Pg**	**19 20 54.2**	**+1.1**
FETY	**Fethiye**	**1.21**	**106**	*e*Pn	**Pg**	**19 20 54.2**	**+1.1**
DNZL	**Cakiroluk**	**1.33**	**57**	*e*P	**Pn**	**19 20 53.6**	**-0.6**
DNZL				*i* S	**Sg**	**19 21 12.3**	**-0.4**
DNZL	**Cakiroluk**	**1.33**	**57**	*e*P	**Pn**	**19 20 53.6**	**-0.6**
DNZL				*i* S	**Sg**	**19 21 12.3**	**-0.4**

IDC 01 19:31:24.0±2.0,**1°.48N×126°.37E,h0**km,**mb3.2**/3, **mb1 3.4**/3,**mb1mx3.2**/17,**mbtmp3.2**/3,**Error ellipse: s-maj=169.9km s-min=25.4km az=65.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.68**	**160**	P	P	19 36 27.2	0.0
	0.4nm,0.6s,baz=339,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**26.04**	**164**	P	P	19 36 59.0	-0.2
	0.3nm,0.5s,baz=344,slow=7.3,SNR=7.0						
MKAR	**Makanchi Array**	**59.20**	**326**	P	P	19 41 27.2	+0.1
	0.2nm,0.4s,baz=115,slow=7.8,SNR=6.7						

*ISCJB **01** 19:34:13.3±0.7,29°.84N±0°.06×139°.1E±0°.2,h388km, mb3.1/5, Error ellipse: s-maj=20.3km s-min=7.3km az=10.8*
*IDC **01** 19:34:15.9±2.5,30°.00N×139°.20E,h415km±32km,mb2.9/5, mb1 2.9/7,mb1mx2.7/24,mbtmp2.7/7,Error ellipse: s-maj=65.7km s-min=17.2km az=71.0*
*JMA **01** 19:34:16.9±0.3,30°.38N×139°.50E,h455km,M3.4*

ISC 01 19:34:14.4±1.0,**29°.93N**±0°.08×**139°.3E**±0°.2,**h388**km,**n17, σ1°92/20,mb2.9/5,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**4.92**	**17**	P	**Pn**	**19 35 36.7**	**+2.4**
BSO1				*e*S	**S**	**19 36 41.7**	**+2.3**
JIE	**Ise**	**4.95**	**335**	P	Pn	19 35 38.8	+3.6
BSO3	**Boso 3**	**4.97**	**12**	P	**Pn**	**19 35 37.6**	**+2.5**
BSO3				*e*S	**S**	**19 36 41.4**	**+0.7**
HMMJ	**Hamamatsu 2**	**5.08**	**345**	P	**Pn**	**19 35 39.3**	**+2.7**
JOD2	**Odawara 2**	**5.32**	**358**	P	**Pn**	**19 35 40.8**	**+1.7**
JNY	**Yasuok**	**5.54**	**348**	P	**Pn**	**19 35 44.1**	**+2.5**
JHU	**Hanno**	**5.90**	**0**	P	**Pn**	**19 35 46.2**	**+0.8**
JHU				*e*S	**S**	**19 36 57.4**	**-2.1**
JRY	**Ryogami san**	**6.08**	**357**	P	**Pn**	**19 35 48.8**	**+1.5**
JYT	**Yasato**	**6.32**	**7**	P	**Pn**	**19 35 50.5**	**+0.5**
JYT				*e*S	**S**	**19 37 05.5**	**-2.5**
MJAR	**Matsushiro Arr**	**6.65**	**353**	P	**Pn**	**19 35 54.7**	**+1.0**
	0.3nm,0.3s,baz=171,slow=11,SNR=6.7						
JHO	**Hitachi**	**6.75**	**9**	P	**Pn**	**19 35 55.5**	**+0.7**
JHO				*e*S	**S**	**19 37 13.6**	**-3.1**
KSRS	**Korea Array**	**12.06**	**311**	P	**P**	**19 36 55.6**	**+0.6**
	0.1nm,0.3s,baz=125,slow=10,SNR=5.6						
MKAR	**Makanchi Array**	**46.71**	**308**	P	P	19 42 04.4	-1.8
	0.1nm,0.6s,baz=81,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**49.81**	**186**	P	**P**	**19 42 29.0**	**-0.8**
	0.2nm,0.3s,baz=15,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**53.54**	**186**	P	**P**	**19 42 57.1**	**+0.1**
	0.1nm,0.3s,baz=24,slow=11,SNR=5.4						
STKA	**Stephens Creek**	**61.51**	**178**	P	**P**	**19 43 51.1**	**-0.5**
	2.8nm,1.0s,baz=343,slow=14,SNR=3.2						
FINES	**FINESS Array B**	**74.27**	**333**	P	**P**	**19 45 08.5**	**-1.4**
	3.9nm,1.1s,baz=76,slow=5.9,SNR=4.2						

*NIED **01** 19:42:00,34°.50N×137°.50E,h320km,Mw4.0 Best double couple: $M_0$1.13000×10^{15} NP1:φ$_s$203.00000°, δ71.00000°,λ62.00000°. NP2:φ$_s$81.00000°,δ33.00000°, λ143.00000°.*
*ISCJB **01** 19:42:57.7±0.4,34°.47N±0°.06×137°.42E±0°.08, h318km±2km,mb3.5/12,Error ellipse: s-maj=12.3km s-min=9.0km az=37.6*
*IDC **01** 19:42:57.5±1.0,34°.35N×137°.49E,h302km±7km,mb3.3/12, mb1 3.5/16,mb1mx3.4/29,mbtmp3.3/16,Error ellipse: s-maj=15.7km s-min=13.4km az=162.0*
*JMA **01** 19:42:58.1±0.1,34°.49N×137°.47E,h316km±1km,M3.9*

ISC 01 19:42:58.6±0.7,**34°.47N**±0°.06×**137°.44E**±0°.08,**h312**km±5km, **n41,σ0°77/50,mb3.8/19,9C,Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAA	**Atsumi**	**0.29**	**305**	⇑P	**Pn**	**19 43 38.5**	**+0.4**
JAA				S	**S**	**19 44 09.4**	**-0.2**
TTO5	**TONANKAI O.B.S**	**0.32**	**132**	P	**Pn**	**19 43 38.5**	**+0.4**
TTO5				*e*S	**S**	**19 44 10.5**	**+1.0**
TK04	**Tokai 4**	**0.37**	**102**	P	**Pn**	**19 43 38.8**	**+0.6**
TK04				S	**S**	**19 44 11.3**	**+1.6**
HMMJ	**Hamamatsu 2**	**0.46**	**31**	⇑P	**Pn**	**19 43 38.4**	**0.0**
HMMJ				S	**S**	**19 44 09.5**	**-0.6**
TK02	**Tokai 2**	**0.58**	**153**	P	**Pn**	**19 43 39.0**	**+0.4**
TK02				S	**S**	**19 44 10.9**	**+0.5**
JIE	**Ise**	**0.61**	**263**	⇑P	**Pn**	**19 43 39.1**	**+0.3**
JIE				*e*S	**S**	**19 44 10.7**	**-0.2**
JAO	**Obara**	**0.81**	**350**	⇑P	**Pn**	**19 43 39.6**	**+0.1**
JNY	**Yasuok**	**0.96**	**21**	⇑P	**Pn**	**19 43 40.1**	**0.0**
JNY				S	**S**	**19 44 12.9**	**-0.3**
JKN2	**Miekihoku**	**0.99**	**257**	⇑P	**Pn**	**19 43 40.3**	**+0.1**
TTO1	**TONANKAI O.B.S**	**1.00**	**213**	P	**Pn**	**19 43 40.5**	**+0.5**
JEG	**Eigenji**	**1.09**	**308**	⇑P	**Pn**	**19 43 41.0**	**+0.4**
JGM	**Miyama**	**1.36**	**335**	⇑P	**Pn**	**19 43 42.3**	**+0.2**
JGM				S	**S**	**19 44 16.5**	**-0.3**
JWZ	**Kozaga**	**1.71**	**237**	⇑P	**Pn**	**19 43 44.0**	**-0.3**
MAT	**Matsushiro**	**2.17**	**17**	P	**Pn**	**19 43 47.5**	**-0.2**
MAT				S	**S**	**19 44 25.7**	**-1.2**
MJAR	**Matsushiro Arr**	**2.17**	**17**	P	**Pn**	**19 43 47.3**	**-0.3**
	4.6nm,0.3s,baz=186,slow=10,SNR=106						
MJAR				S	**S**	**19 44 25.6**	**-1.3**
	2.4nm,0.3s,baz=193,slow=15,SNR=10.0						
JUN	**Nakatsue**	**5.62**	**258**	P	**Pn**	**19 44 23.9**	**+0.1**
	0.5nm,0.3s,baz=53,slow=7.7,SNR=8.4						
KSRS	**Korea Array**	**8.27**	**294**	P	**Pn**	**19 44 56.5**	**+1.1**
	0.6nm,0.3s,baz=107,slow=13,SNR=27						
CBIJ	**Chichi jima**	**8.40**	**150**	S	S	19 46 22.5	-11
	36nm,0.3s,baz=288,slow=22,SNR=4.0						
ASAJ	**Asahikawa**	**10.43**	**21**	P	**Pn**	**19 45 21.5**	**-0.2**
	0.9nm,0.3s,baz=232,slow=10,SNR=17						
ASAJ				S	S	19 47 11.2	-7.7
	0.5nm,0.3s,baz=259,slow=7.2,SNR=4.0						
SONM	**Songino Array**	**26.72**	**309**	P	**P**	**19 48 11.3**	**+1.3**
	2.0nm,0.5s,baz=121,slow=10,SNR=17						
ZALV	**Zalesovo Beam**	**41.33**	**315**	P	**P**	**19 50 14.4**	**+0.2**
	0.7nm,0.3s,baz=104,slow=6.9,SNR=5.0						
MKAR	**Makanchi Array**	**42.80**	**304**	P	**P**	**19 50 26.6**	**+0.4**
	1.6nm,0.5s,baz=85,slow=10,SNR=51						
TAPN	**Taplejung**	**42.90**	**275**	*e*P	**P**	**19 50 27.0**	**-0.6**
	4.2nm,0.4s						
ODAN	**Odare**	**43.35**	**274**	*e*P	**P**	**19 50 29.7**	**-1.4**
RAMN	**Ramite**	**43.97**	**275**	*e*P	**P**	**19 50 34.3**	**-1.7**
JIRN	**Jiri**	**44.04**	**276**	*e*P	**P**	**19 50 36.6**	**-0.1**
	18n

0.6nm,1.1s,baz=248,slow=5.0,SNR=4.1

*ISK **01** 20:07:20.6,37.˚51N×35.˚69E,h17km,MD2.4*
*DDA **01** 20:07:20.4,37.˚53N×35.˚73E,h8km,MD3.1*
*ISCJB **01** 20:07:21.1±0.6,37.˚52N±0.˚03×35.˚69E±0.˚04,h11km±5km, Error ellipse: s-maj=5.8km s-min=4.9km az=12.9*
*CSEM **01** 20:07:21.0±0.1,37.˚52N×35.˚68E,h15km,MD2.4, Error ellipse: s-maj=3.2km s-min=2.7km az=31.0*

ISC 01 20:07:21.2±0.9, 37.˚51N±0.˚03×35.˚69E±0.˚03, h16km±5km, n19, σ0.˚36/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.12**	**104**	Pg	**Pg**	**20 07 24.9**	**+0.1**
KOZT				Sg	**Sg**	**20 07 27.2**	**0.0**
KOZT	**Kozan**	**0.12**	**104**	*i* Pg	**Pg**	**20 07 24.9**	**+0.1**
KOZT				*i* Sg	**Sg**	**20 07 27.2**	**0.0**
CEYT	**Ceyhan**	**0.50**	**174**	*e*PG	**Pg**	**20 07 30.9**	**-0.3**
CEYT				*e*SG	**Sb**	**20 07 38.5**	**-0.1**
CEYT	**Ceyhan**	**0.50**	**174**	*e*Pg	**Pg**	**20 07 30.9**	**-0.3**
CEYT				*e*Sg	**Sb**	**20 07 38.5**	**-0.1**
GULE	**Gulek**	**0.76**	**253**	*i* P	**Pb**	**20 07 36.1**	**0.0**
GULE				*i* S	**Sb**	**20 07 46.6**	**+0.3**
GULE	**Gulek**	**0.76**	**253**	*i* P	**Pb**	**20 07 36.1**	**0.0**
GULE				*i* S	**Sb**	**20 07 46.6**	**+0.3**
KMRS	**Kahramanmaras**	**0.96**	**90**	*e*PG	**Pb**	**20 07 39.5**	**0.0**
KMRS				*e*SG	**Sn**	**20 07 53.3**	**-0.2**
KMRS	**Kahramanmaras**	**0.96**	**90**	*e*Pg	**Pb**	**20 07 39.5**	**0.0**
KMRS				*e*Sg	**Sn**	**20 07 53.3**	**-0.2**
NIG	**Nigde**	**1.04**	**305**	*e*PG	**Pb**	**20 07 40.9**	**-0.1**
NIG	**Nigde**	**1.04**	**305**	*e*Pg	**Pb**	**20 07 40.9**	**-0.1**
PINB	**Pinarbasi**	**1.30**	**26**	*i* P	**Pn**	**20 07 44.3**	**-0.6**
PINB				*i* S	**Sb**	**20 08 01.8**	**-0.1**
PINB	**Pinarbasi**	**1.30**	**26**	*i* P	**Pn**	**20 07 44.3**	**-0.6**
PINB				*i* S	**Sb**	**20 08 01.8**	**-0.1**
KUZU	**Kuzuini**	**1.33**	**123**	*e*P	**Pn**	**20 07 44.8**	**-0.3**
KUZU				*i* S	**Sb**	**20 08 03.4**	**+0.8**
KUZU	**Kuzuini**	**1.33**	**123**	*e*P	**Pn**	**20 07 44.8**	**-0.3**
KUZU				*i* S	**Sb**	**20 08 03.4**	**+0.8**
BNN	**Bunyan**	**1.35**	**5**	*e*PN	**Pn**	**20 07 45.3**	**-0.2**
BNN	**Bunyan**	**1.35**	**5**	*e*Pn	**Pn**	**20 07 45.3**	**-0.2**
AVNT	**Avonos**	**1.43**	**333**	*e*P	**Pn**	**20 07 47.1**	**+0.5**
AVNT				*i* S	**Sb**	**20 08 05.8**	**+0.2**
AVNT	**Avonos**	**1.43**	**333**	*e*P	**Pn**	**20 07 47.1**	**+0.5**
AVNT				*i* S	**Sb**	**20 08 05.8**	**+0.2**
GZT	**Gaziantep**	**1.50**	**95**	*i* P	**Pn**	**20 07 48.1**	**+0.5**
GZT				*i* S	**Sn**	**20 08 07.5**	**+0.5**

PRE 01 20:09:09.8±0.4, 26.˚41S×27.˚50E, h2km, ML1.4, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERPM	**east rand prop**	**0.67**	**84**	*e*P	Pg	20 09 23.3	+0.4
ERPM				*e*S	Sg	20 09 32.4	+0.7
ERPM				AML	AML	20 09 34.5	
	comp=Z,6.7nm,0.2s						
LBTB	**Lobatse**	**2.21**	**309**	*e*P	Pn	20 09 48.3	+0.6
LBTB				*e*S	Sn	20 10 16.5	+0.8
LBTB				AML	AML	20 10 22.5	
	comp=Z,3.7nm,0.2s						
BOSA	**Boshof**	**2.96**	**222**	*e*P	Pn	20 09 58.6	+0.5
BOSA				*e*S	Sn	20 10 34.6	+0.2
BOSA				AML	AML	20 10 42.6	
	comp=Z,0.9nm,0.7s						

*NEIC **01** 20:13:28.0, 19.˚17N×64.˚61W, h35km, MD2.7(RSPR), After RSPR.*

RSPR 01 20:13:46.3, 19.˚17N×64.˚61W, h35km±8km, MD2.7/4, 15C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABV	**Anegada**	**0.51**	**149**	⇑*e*P	Pn	20 13 55.5	-1.5
ABV				*e*S	Sn	20 14 03.4	-1.2
ABV	**Anegada**	**0.51**	**149**	⇑*e*P	Pn	20 13 55.5	-1.5
ABV				*e*S	Sn	20 14 03.4	-1.2
ABVI	**Anegada Island**	**0.51**	**149**	⇑*e*P	Pn	20 13 55.5	-1.5
ABVI				*e*S	Sn	20 14 03.4	-1.2
TBVI	**Tortola**	**0.75**	**181**	⇑*e*P	Pn	20 13 59.1	-1.3
TBVI				*e*S	Sn	20 14 09.4	-1.0
TBVI	**Tortola**	**0.75**	**181**	⇑*e*P	Pn	20 13 59.1	-1.3
TBVI				*e*S	Sn	20 14 09.4	-1.0
TBVI	**Tortola**	**0.75**	**181**	⇑*e*P	Pn	20 13 59.6	-0.7
TBVI				*e*S	Sn	20 14 09.4	-1.0
STVI	**Saint Thomas**	**0.88**	**202**	⇑*e*P	Pn	20 14 00.8	-1.3
STVI	**Saint Thomas**	**0.88**	**202**	⇑*e*P	Pn	20 14 00.8	-1.3
STVI				*e*S	Sn	20 14 12.0	-1.6
STVI	**Saint Thomas**	**0.88**	**202**	⇑*e*P	Pn	20 14 00.8	-1.3
STVI				*e*S	Sn	20 14 12.1	-1.5
MTP	**Monte Pirata**	**1.39**	**220**	⇑*e*P	Pn	20 14 08.3	-0.9
MTP	**Monte Pirata**	**1.39**	**220**	⇑*e*P	Pn	20 14 08.3	-0.9
MTP				*e*S	Sn	20 14 24.9	-1.4
MTP	**Monte Pirata**	**1.39**	**220**	⇑*e*P	Pn	20 14 08.3	-0.9
MTP				*e*S	Sn	20 14 24.9	-1.4
HUMP	**Col San Antoni**	**1.56**	**229**	⇑*e*P	Pn	20 14 10.5	-1.0
HUMP	**Col San Antoni**	**1.56**	**229**	⇑*e*P	Pn	20 14 10.5	-1.0
HUMP				*e*S	Sn	20 14 29.3	-1.2
HUMP	**Col San Antoni**	**1.56**	**229**	⇑*e*P	Pn	20 14 10.5	-1.0
HUMP				*e*S	Sn	20 14 29.3	-1.2

*NNC **01** 20:17:48.5±3.1, 42.˚73N×85.˚08E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=35.1km s-min=20.6km az=78.0*
*IDC **01** 20:17:48.2±1.4, 43.˚40N×86.˚95E, h0km, mb3.8/4, mb1 3.7/10, mb1mx3.5/31, mbtmp3.5/10, ML3.3/6, MS2.8/1, Ms1 2.8/1, ms1mx2.0/56, Error ellipse: s-maj=26.6km s-min=16.8km az=34.0*
*ISCJB **01** 20:17:51.5±0.8, 43.˚65N±0.˚07×86.˚89E±0.˚06, h29km, mb3.8/4, Error ellipse: s-maj=10.3km s-min=6.1km az=14.5*

ISC 01 20:17:53.0±1.0, 43.˚59N±0.˚09×87.˚07E±0.˚05, h29km, n15, σ1.˚89/22, mb3.8/4, 6C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**0.51**	**63**	Pg	**Pb**	**20 18 02.6**	**-1.0**
WMQ				Sg	**Sn**	**20 18 13.6**	**+1.3**
WMQ				smax	smax		
	comp=N,370nm,0.3s						
WMQ				smax	smax		
	comp=E,910nm,0.3s						
MK31	**Makanchi Array**	**4.65**	**315**	⇑Pn	**Pn**	**20 19 01.3**	**-0.1**
	comp=E,0.9nm,0.3s,baz=130,slow=14,SNR=77						
MK31				⇓Pg	**Pb**	**20 19 11.6**	**-2.2**
	comp=E,1.5nm,0.3s,baz=131,slow=16,SNR=17						
MK31				⇓Sn	**Sn**	**20 19 58.1**	**+3.8**
	comp=E,3.4nm,0.3s						
MK31				⇑Lg	Lg	20 20 11.5	
	comp=E,30nm,0.6s,baz=142,slow=29,SNR=17						
MKAR	**Makanchi Array**	**4.65**	**315**	Pn	**Pn**	**20 19 01.3**	**-0.1**
	comp=E,1.3nm,0.3s,baz=132,slow=15,SNR=51						
MKAR				Sn	**Sn**	**20 19 58.5**	**+4.2**
	comp=E,4.0nm,0.3s,baz=114,slow=24,SNR=5.4						
MKAR				Lg	Lg	20 20 14.4	
	comp=E,7.3nm,0.3s,baz=137,slow=29,SNR=12						
TKM2	**Tokmak 2**	**8.40**	**269**	⇑Pg	**Pn**	**20 19 54.3**	**+1.3**
	comp=E,1.4nm,0.5s						
TKM2				⇑Lg	Lg	20 21 29.7	
	comp=E,4.7nm,0.7s						
KURBB	**Kurchatov Arra**	**9.12**	**323**	⇓Sn	**Sn**	**20 21 45.5**	**+1.3**
	comp=E,0.5nm,0.5s						
KURBB				⇓Lg	Lg	20 22 37.4	
	comp=E,3.4nm,0.8s						
KURBB	**Kurchatov Arra**	**9.12**	**323**	Pn	**Pn**	**20 20 01.1**	**-1.5**
	comp=E,0.2nm,0.3s,baz=133,slow=13,SNR=26						
KURBB				Sn	**Sn**	**20 21 44.5**	**+0.2**
	comp=E,0.1nm,0.3s,baz=88,slow=29,SNR=2.2						
KURBB				Lg	Lg	20 22 39.5	
	comp=E,0.2nm,0.3s,baz=142,slow=34,SNR=6.4						
KURK	**Kurchatov**	**9.15**	**324**	⇑Pn	**Pn**	**20 20 01.3**	**-1.7**
	comp=E,3.0nm,1.1s						
KURK				⇑Sn	**Sn**	**20 21 45.9**	**+0.9**
	comp=E,1.2nm,0.5s						
KURK				⇓Lg	Lg	20 22 38.8	
	comp=E,9.2nm,0.7s						
AAK	**Ala-Archa**	**9.25**	**268**	Pn	**Pn**	**20 20 02.1**	**-2.4**
	comp=E,0.1nm,0.3s,baz=81,slow=13,SNR=4.5						
AAK				Lg	Lg	20 22 40.2	
	comp=E,0.2nm,0.3s,baz=244,slow=18,SNR=1.7						
ZALV	**Zalesovo Beam**	**10.47**	**353**	Pn	**Pn**	**20 20 20.6**	**-0.4**
	comp=E,0.6nm,0.3s,baz=179,slow=12,SNR=12						
ZALV				Sn	**Sn**	**20 22 16.2**	**-1.1**
	comp=E,0.6nm,0.3s,baz=162,slow=28,SNR=6.8						
SONM	**Songino Array**	**14.15**	**66**	Pn	**Pn**	**20 21 13.8**	**+2.3**
	comp=E,0.1nm,0.3s,baz=257,slow=16,SNR=2.4						
SONM				Lg	Lg	20 25 20.7	
	comp=E,0.1nm,0.3s,baz=250,slow=25,SNR=3.6						
BVAR	**Borovoye Array**	**14.53**	**316**	Pn	**Pn**	**20 21 14.8**	**-1.7**
	comp=E,0.1nm,0.3s,baz=116,slow=13,SNR=3.8						
BVAR				LR	LR	20 27 01.7	
	comp=E,35nm,19.2s,baz=300,slow=38						
FINES	**FINESS Array B**	**39.48**	**319**	P	**P**	**20 25 21.6**	**+1.2**
	comp=E,2.1nm,0.9s,baz=56,slow=7.4,SNR=5.1						
ARCES	**ARCESS Array B**	**40.10**	**331**	P	**P**	**20 25 26.5**	**+1.0**
	comp=E,7.3nm,1.1s,baz=106,slow=8.8,SNR=2.8						
NOA	**NORSAR Array B**	**46.63**	**320**	P	**P**	**20 26 17.6**	**-0.7**
	comp=E,0.5nm,0.6s,baz=76,slow=7.8,SNR=2.5						
WRA	**Warramunga Arr**	**76.66**	**135**	P	**P**	**20 29 40.4**	**-0.7**
	comp=E,0.3nm,0.6s,baz=335,slow=6.3,SNR=3.1						

IDC 01 20:18:03.8±8.1, 3.˚24S×98.˚93E, h0km, mb3.4/6, mb1 3.4/6, mb1mx3.3/23, mbtmp3.4/6, Error ellipse: s-maj=179.1km s-min=101.7km az=135.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**21.56**	**0**	P	P	20 22 55.6	+0.6
	0.4nm,0.8s,baz=199,slow=12,SNR=5.3						
SONM	**Songino Array**	**51.28**	**6**	P	P	20 27 09.3	-0.4
	0.1nm,0.4s,baz=184,slow=7.9,SNR=2.7						
MKAR	**Makanchi Array**	**51.94**	**346**	P	P	20 27 13.4	-1.1
	0.2nm,0.4s,baz=156,slow=9.0,SNR=4.1						
KURBB	**Kurchatov Arra**	**56.44**	**345**	P	P	20 27 46.8	-0.4
	0.2nm,0.4s,baz=160,slow=7.1,SNR=4.9						
ZALV	**Zalesovo Beam**	**58.19**	**350**	P	P	20 27 59.1	-0.4
	0.7nm,0.4s,baz=163,slow=7.2,SNR=7.6						
BVAR	**Borovoye Array**	**60.98**	**341**	P	P	20 28 20.4	+1.5
	0.3nm,0.5s,baz=123,slow=11,SNR=4.1						

*IGIL **01** 20:19:00.9, 36.˚01N×4.˚94W, h19km, ML2.3*
*INMG **01** 20:19:02.8±1.5, 36.˚08N×5.˚12W, h18km±8km, ML2.4, Error ellipse: s-maj=3.5km s-min=3.1km az=15.0*
*CSEM **01** 20:19:02.9±0.3, 36.˚17N×5.˚12W, h20km, ML2.4, Error ellipse: s-maj=7.6km s-min=3.0km az=172.0*
*SFS **01** 20:19:02.0, 35.˚90N×5.˚05W, h41km, ML4.1*
*MDD **01** 20:19:02.1±0.8, 36.˚02N×4.˚99W, h24km±4km, mbLg2.4/31, Error ellipse: s-maj=7.2km s-min=3.5km az=2.0, PRXIMO*

ISC 01 20:19:00.4±1.4, 35.˚99N±0.˚05×4.˚98W±0.˚02, h33km±7km, n104, σ1.˚47/174, 2C-1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMIJ	**Mijas**	**0.60**	**16**	⇓P	**Pb**	**20 19 12.2**	**-0.5**
	23nm,0.2s,SNR=18						
EMIJ				S	**Sb**	**20 19 19.6**	**-1.5**
	303nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.61**	**320**	P	**Pn**	**20 19 14.4**	**+1.6**
	9.4nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**20 19 22.7**	**+1.2**
	25nm,0.1s,SNR=4.0						
EJIF	**Jimena Fronter**	**0.61**	**320**	P	**Pn**	**20 19 14.4**	**+1.6**
	9.4nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**20 19 22.7**	**+1.2**
	25nm,0.1s,SNR=4.0						
EMAL	**Malaga-Limoner**	**0.89**	**30**	⇑P	**Pn**	**20 19 16.2**	**-0.5**
EMAL				S	**Sb**	**20 19 26.3**	**-2.8**
EMAL	**Malaga-Limoner**	**0.89**	**30**	*i* P	**Pn**	**20 19 16.2**	**-0.5**
EMAL				*e*S	**Sb**	**20 19 26.3**	**-2.8**
LIJA	**Lijar**	**0.98**	**340**	P	**Pb**	**20 19 21.2**	**+2.2**
LIJA				S	**Sb**	**20 19 34.0**	**+2.3**
LIJA	**Lijar**	**0.98**	**340**	P	**Pb**	**20 19 21.2**	**+2.2**
LIJA				*e*S	**Sb**	**20 19 34.0**	**+2.3**
ELOJ	**Sierra Loja**	**1.34**	**30**	P	**Pb**	**20 19 24.5**	**-0.5**
	2.7nm,0.2s,SNR=6.9						
ELOJ				S	**Sn**	**20 19 41.0**	**+1.3**
	7.3nm,0.2s						
ELOJ	**Sierra Loja**	**1.34**	**30**	P	**Pb**	**20 19 24.5**	**-0.5**
	2.7nm,0.2s,SNR=6.9						
ELOJ				S	**Sn**	**20 19 41.0**	**+1.3**
	7.3nm,0.2s						
ERON	**Agron**	**1.40**	**42**	P	**Pn**	**20 19 24.4**	**+0.6**
	1.9nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**20 19 41.5**	**+0.3**
	14nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**1.42**	**53**	P	**Pn**	**20 19 23.7**	**-0.3**
	6.5nm,0.1s,SNR=7.9						
EGUA				S	**Sn**	**20 19 40.8**	**-0.8**
	46nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.58**	**91**	P	**Pn**	**20 19 27.5**	**+1.4**
	SNR=7.9						
EALB				S	**Sn**	**20 19 46.1**	**+0.7**
	17nm,0.2s,SNR=7.1						
ELUQ	**Luque**	**1.67**	**20**	P	**Pb**	**20 19 30.3**	**-0.4**
	2.6nm,0.1s,SNR=7.9						
ELUQ				S	**Sn**	**20 19 48.6**	**+0.7**
	8.7nm,0.3s,SNR=7.9						
ELUQ	**Luque**	**1.67**	**20**	P	**Pb**	**20 19 30.3**	**-0.4**
	2.6nm,0.1s,SNR=7.9						
ELUQ				S	**Sn**	**20 19 48.6**	**+0.7**
	8.7nm,0.3s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.72**	**41**	P	**Pb**	**20 19 31.2**	**-0.3**
	1.9nm,0.1s,SNR=8.1						
ECOG				S	**Sb**	**20 19 52.1**	**-0.7**
	7.6nm,0.2s						
ECOG	**Cogollos-Vega**	**1.72**	**41**	P	**Pb**	**20 19 31.2**	**-0.3**
	1.9nm,0.1s,SNR=8.1						
ECOG				S	**Sb**	**20 19 52.1**	**-0.7**
	7.6nm,0.2s						
EBER	**Berja**	**1.92**	**61**	P	**Pn**	**20 19 31.4**	**+0.4**
	1.8nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**20 19 54.1**	**+0.1**
	7.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.20**	**8**	P	**Pn**	**20 19 36.6**	**+1.9**
	1.6nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**20 20 01.6**	**+0.8**
	3.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**2.20**	**8**	P	**Pn**	**20 19 36.6**	**+1.9**
	1.6nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**20 20 01.6**	**+0.8**
	3.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.23**	**323**	P	**Pn**	**20 19 36.0**	**+0.8**
	2.4nm,0.2s,SNR=22						
EMIN				S	**Sn**	**20 20 00.2**	**-1.5**
	1.5nm,0.1s						
EMIN	**Mina Concepcio**	**2.23**	**323**	P	**Pn**	**20 19 36.0**	**+0.8**
	2.4nm,0.2s,SNR=22						
EMIN				S	**Sn**	**20 20 00.2**	**-1.5**
	1.5nm,0.1s						
EQES	**Quesada**	**2.37**	**40**	P	**Pb**	**20 19 40.1**	**-2.5**
	1.8nm,0.1s,SNR=19						
EQES				S	**Sn**	**20 20 06.3**	**+1.1**
	1.8nm,0.2s						
EQES	**Quesada**	**2.37**	**40**	P	**Pb**	**20 19 40.1**	**-2.5**
	1.8nm,0.1s,SNR=19						
EQES				S	**Sn**	**20 20 06.3**	**+1.1**
	1.8nm,0.2s						
ENIJ	**Nijar**	**2.44**	**65**	P	**Pn**	**20 19 39.9**	**+1.8**
	1.9nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**20 20 06.2**	**-0.6**
	2.6nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**2.44**	**65**	P	**Pn**	**20 19 39.9**	**+1.8**
	1.9nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**2.53**	**308**	⇑P	**Pn**	**20 19 40.1**	**+0.8**
	6.5nm,0.1s,SNR=18						
EGRO				S	**Sn**	**20 20 07.4**	**-1.6**
	1.5nm,0.1s						
EGRO	**El Granado**	**2.53**	**308**	P	**Pn**	**20 19 40.1**	**+0.8**
	6.5nm,0.1s,SNR=18						
EGRO				S	**Sn**	**20 20 07.4**	**-1.6**
	1.5nm,0.1s						
PVAQ	**Vaqueiros**	**2.61**	**304**	*e*Pn	**Pn**	**20 19 41.2**	**+0.8**
PVAQ				*e*Sn	**Sn**	**20 20 09.3**	**-1.7**
PVAQ				A	A	20 20 11.0	
	9.9nm,0.3s						
PVAQ	**Vaqueiros**	**2.61**	**304**	P	**Pn**	**20 19 41.2**	**+0.8**
PVAQ				S	**Sn**	**20 20 09.3**	**-1.7**
	9.9nm,0.3s						
PVAQ	**Vaqueiros**	**2.61**	**304**	P	**Pn**	**20 19 41.2**	**+0.8**
PVAQ				S	**Sn**	**20 20 09.3**	**-1.7**
	9.9nm,0.3s						
EHUE	**Huescar**	**2.65**	**46**	P	**Pn**	**20 19 43.8**	**+2.9**
	0.3nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	**20 20 12.1**	**+0.2**
	0.8nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.65**	**46**	P	**Pn**	**20 19 43.8**	**+2.9**
	0.3nm,0.1s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**2.68**	**299**	*e*Pn	**Pn**	**20 19 42.2**	**+0.8**
PBDV				*e*Sn	**Sn**	**20 20 11.7**	**-1.0**
PBDV				A	A	20 20 15.0	
	9.0nm,0.5s						
PBDV	**Barranco-do-Ve**	**2.68**	**299**	P	**Pn**	**20 19 42.2**	**+0.8**
PBDV				S	**Sn**	**20 20 11.7**	**-1.0**
	9.0nm,0.5s						
PBDV	**Barranco-do-Ve**	**2.68**	**299**	P	**Pn**	**20 19 42.2**	**+0.8**
PBDV				S	**Sn**	**20 20 11.7**	**-1.0**
	9.0nm,0.5s						
PCVE	**Castro Verde**	**2.95**	**305**	*e*Pn	**Pn**	**20 19 45.8**	**+0.8**
PCVE				*e*Sn	**Sn**	**20 20 18.4**	**-0.9**
PCVE				A	A	20 20 28.5	
	5.0nm,0.5s						
PCVE	**Castro Verde**	**2.95**	**305**	P	**Pn**	**20 19 45.8**	**+0.8**
PCVE				S	**Sn**	**20 20 18.4**	**-0.9**
	5.0nm,0.5s						
PCVE	**Castro Verde**	**2.95**	**305**	P	**Pn**	**20 19 45.8**	**+0.8**
PCVE				S	**Sn**	**20 20 18.4**	**-0.9**
	5.0nm,0.5s						
PBEJ	**Beja**	**3.08**	**312**	*e*Sn	**Sn**	**20 20 22.2**	**-0.2**
PBEJ				A	A	20 20 23.0	
	5.7nm,0.5s						
PBEJ	**Beja**	**3.08**	**312**	S	**Sn**	**20 20 22.2**	**-0.2**
	2.8nm,0.5s						
PBEJ	**Beja**	**3.08**	**312**	S	**Sn**	**20 20 22.2**	**-0.2**
	2.8nm,0.5s						
MESJ	**Messejana**	**3.19**	**306**	*e*P	**Pn**	**20 19 48.9**	**+0.7**
MESJ				*e*S	**Sn**	**20 20 23.8**	**-1.3**
MESJ				AML	AML	20 20 24.8	
	comp=N,10.0nm,0.3s						
MESJ	**Messejana**	**3.19**	**306**	*e*P	**Pn**	**20 19 48.9**	**+0.7**
MESJ				*e*S	**Sn**	**20 20 23.8**	**-1.3**
MESJ	**Messejana**	**3.19**	**306**	P	**Pn**	**20 19 48.9**	**+0.7**
MESJ				S	**Sn**	**20 20 23.8**	**-1.3**
MESJ	**Messejana**	**3.19**	**306**	P	**Pn**	**20 19 48.9**	**+0.7**
MESJ				S	**Sn**	**20 20 23.8**	**-1.3**
EBAD	**Badajoz**	**3.20**	**330**	P	**Pn**	**20 19 49.4**	**+0.9**
	comp=N,0.9nm,0.1s,SNR=16						
EBAD				S	**Sn**	**20 20 24.3**	**-1.2**
	comp=N,14nm,0.2s						
EBAD	**Badajoz**	**3.20**	**330**	P	**Pn**	**20 19 49.4**	**+0.9**
	comp=N,0.9nm,0.1s,SNR=16						
EBAD				S	**Sn**	**20 20 24.3**	**-1.2**
	comp=N,14nm,0.2s						
MORF	**Marmelete**	**3.23**	**295**	*e*Pn	**Pn**	**20 19 50.1**	**+1.2**
MORF				*e*Sn	**Sn**	**20 20 25.2**	**-1.1**
MORF				A	A	20 20 28.5	
	comp=N,7.5nm,0.2s						
MORF	**Marmelete**	**3.23**	**295**	P	**Pn**	**20 19 49.5**	**+0.6**
MORF				S	**Sn**	**20 20 24.7**	**-1.6**
MORF	**Marmelete**	**3.23**	**295**	P	**Pn**	**20 19 49.5**	**+0.6**
MORF	**Marmelete**	**3.23**	**295**	*e*Pn	**Pn**	**20 19 50.1**	**+1.2**
MORF				S	**Sn**	**20 20 24.7**	**-1.6**
MORF				*e*Sn	**Sn**	**20 20 25.2**	**-1.1**
	comp=N,7.5nm,0.2s						
PFVI	**Vila Bisbo**	**3.30**	**291**	*e*Pn	**Pn**	**20 19 50.9**	**+1.1**
PFVI				*e*Sn	**Sn**	**20 20 26.6**	**-1.3**
PFVI				A	A	20 20 44.2	
	comp=N,22nm,0.8s						
PFVI	**Vila Bisbo**	**3.30**	**291**	*e*Pn	**Pn**	**20 19 50.9**	**+1.1**
PFVI				S	**Sn**	**20 20 26.2**	**-1.7**
	comp=N,4.6nm,0.2s,SNR=4.0						
PFVI				*e*Sn	**Sn**	**20 20 26.6**	**-1.3**
	comp=N,22nm,0.8s						
EVIA	**Vianos**	**3.30**	**36**	P	**Pn**	**20 19 52.5**	**+2.5**
	comp=N,0.7nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**20 20 28.2**	**0.0**
	comp=N,1.3nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**3.30**	**36**	P	**Pn**	**20 19 52.5**	**+2.5**
	comp=N,0.7nm,0.1s,SNR=7.9						
EVIA				S	**Sn**	**20 20 28.2**	**0.0**
	comp=N,1.3nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**3.38**	**298**	*e*Pn	**Pn**	**20 19 52.5**	**+1.6**
PTEO				*e*Sn	**Sn**	**20 20 29.2**	**-0.7**
PTEO				A	A	20 20 37.3	
	comp=N,19nm,0.8s						
PTEO	**Sao Teotonio**	**3.38**	**298**	P	**Pn**	**20 19 52.5**	**+1.6**
PTEO				S	**Sn**	**20 20 29.2**	**-0.7**
	comp=N,9.6nm,0.8s						
PTEO	**Sao Teotonio**	**3.38**	**298**	P	**Pn**	**20 19 52.5**	**+1.6**
PTEO				S	**Sn**	**20 20 29.2**	**-0.7**
	comp=N,9.6nm,0.8s						
EVO	**Evora**	**3.51**	**317**	*e*Pn	**Pn**	**20 19 52.9**	**+0.2**
EVO				*e*Sn	**Sn**	**20 20 31.4**	**-1.6**
EVO				A	A	20 20 33.6	
	comp=N,6.8nm,0.3s						
EVO	**Evora**	**3.51**	**317**	P	**Pn**	**20 19 52.9**	**+0.2**
EVO				S	**Sn**	**20 20 31.4**	**-1.6**
	comp=N,6.8nm,0.3s						
EVO	**Evora**	**3.51**	**317**	P	**Pn**	**20 19 52.9**	**+0.2**
EVO				S	**Sn**	**20 20 31.4**	**-1.6**
	comp=N,6.8nm

	comp=N,0.4nm,0.3s,SNR=7.9								
EMOS				S		**Sn**	**20 21 23.3**	**-2.4**	
	comp=N,0.2nm,0.3s,SNR=7.9								
EMOS	**Mosqueruela**	**5.63**	**38**	P		**Pn**	**20 20 24.9**	**+2.9**	
	comp=N,0.4nm,0.3s,SNR=7.9								
ECAL	**Calabor**	**6.10**	**348**	P		**Pn**	**20 20 30.2**	**+1.8**	
	comp=N,1.4nm,0.2s,SNR=7.9								
ECAL				S		**Sn**	**20 21 34.9**	**-2.2**	
	comp=N,0.7nm,0.2s,SNR=7.9								
ECAL	**Calabor**	**6.10**	**348**	P		**Pn**	**20 20 30.2**	**+1.8**	
	comp=N,1.4nm,0.2s,SNR=7.9								
ECAL				S		**Sn**	**20 21 34.9**	**-2.2**	
	comp=N,0.7nm,0.2s,SNR=7.9								
ELOB	**Lobios**	**6.34**	**339**	P		**Pn**	**20 20 32.5**	**+0.8**	
	comp=N,0.8nm,0.2s,SNR=7.9								
ELOB				S		Sn	20 21 39.2	-3.8	
	comp=N,1.5nm,0.2s,SNR=7.9								
ELOB	**Lobios**	**6.34**	**339**	P		**Pn**	**20 20 32.5**	**+0.8**	
	comp=N,0.8nm,0.2s,SNR=7.9								
EARI	**Arriondas**	**7.31**	**359**	P		**Pn**	**20 20 46.6**	**+1.8**	
	comp=N,0.2nm,0.3s,SNR=7.9								
EARI				S		Sn	20 22 03.0	-3.7	
	comp=N,0.4nm,0.3s,SNR=7.9								
EARI	**Arriondas**	**7.31**	**359**	P		**Pn**	**20 20 46.7**	**+1.8**	
	comp=N,0.2nm,0.3s,SNR=7.9								
ELAN	**Lanestosa**	**7.33**	**9**	P		**Pn**	**20 20 47.2**	**+2.0**	
	comp=N,0.4nm,0.1s,SNR=7.7								
ELAN				S		Sn	20 22 03.4	-3.8	
	comp=N,0.2nm,0.2s								
ELAN	**Lanestosa**	**7.33**	**9**	P		**Pn**	**20 20 47.2**	**+2.0**	
	comp=N,0.4nm,0.1s,SNR=7.7								
IEPA	**Eparoz**	**7.37**	**22**	P		Pn	20 20 49.5	+3.8	
	comp=N,0.8nm,0.3s,SNR=7.9								
IEPA				S		**Sn**	**20 22 07.2**	**-1.0**	
	comp=N,0.2nm,0.2s,SNR=7.9								
IEPA	**Eparoz**	**7.37**	**22**	P		Pn	20 20 49.5	+3.8	
	comp=N,0.8nm,0.3s,SNR=7.9								
IEPA				S		**Sn**	**20 22 07.2**	**-1.0**	
	comp=N,0.2nm,0.2s,SNR=7.9								
IZUN	**Zunzarren**	**7.39**	**21**	P		Pn	20 20 49.0	+3.0	
	comp=N,0.3nm,0.1s,SNR=7.9								
IZUN	**Zunzarren**	**7.39**	**21**	P		Pn	20 20 49.0	+3.0	
	comp=N,0.3nm,0.1s,SNR=7.9								
STS	**Santiago**	**7.42**	**339**	S		**Sn**	**20 22 07.3**	**-2.1**	
	comp=N,1.4nm,0.1s,SNR=5.5								
STS	**Santiago**	**7.42**	**339**	S		**Sn**	**20 22 07.3**	**-2.1**	
	comp=N,1.4nm,0.1s,SNR=5.5								
IELO	**Elcoad**	**7.43**	**22**	P		**Pn**	**20 20 48.9**	**+2.2**	
	comp=N,0.3nm,0.2s,SNR=7.9								
IELO				S		**Sn**	**20 22 07.8**	**-2.0**	
	comp=N,0.2nm,0.1s,SNR=7.9								
IELO	**Elcoad**	**7.43**	**22**	P		**Pn**	**20 20 48.8**	**+2.2**	
	comp=N,0.3nm,0.2s,SNR=7.9								
ELIZ	**Elizondo**	**7.65**	**19**	P		Pn	20 20 53.1	+3.6	
	comp=N,0.7nm,0.1s,SNR=7.9								
ELIZ				S		Sn	20 22 10.1	-4.9	
	comp=N,0.3nm,0.2s,SNR=7.9								
ELIZ	**Elizondo**	**7.65**	**19**	P		Pn	20 20 53.1	+3.6	
	comp=N,0.7nm,0.1s,SNR=7.9								
EALK	**Alkurruntz**	**7.71**	**19**	P		Pn	20 20 54.0	+3.7	
	comp=N,0.2nm,0.2s,SNR=7.9								
EALK				S		**Sn**	**20 22 14.4**	**-1.9**	
	comp=N,1.3nm,0.3s,SNR=7.9								
EALK	**Alkurruntz**	**7.71**	**19**	P		Pn	20 20 54.0	+3.7	
	comp=N,0.2nm,0.2s,SNR=7.9								
EBIE	**Bielsa**	**7.78**	**29**	P		Pn	20 20 54.8	+3.3	
	comp=N,0.2nm,0.2s,SNR=7.9								
EBIE	**Bielsa**	**7.78**	**29**	P		Pn	20 20 54.8	+3.3	
	comp=N,0.2nm,0.2s,SNR=7.9								
EMIR	**Miracle**	**7.79**	**39**	S		Sn	20 22 12.3	-6.3	
	SNR=7.9								

NIED ***01*** *20:24:00, 23°.70N×125°.50E, h20km, Mw4.1 Best double couple: M0 1.79000×10^15 NP1:φs=90.00000°, δs=85.00000°, λ=-18.00000°. NP2:φs=182.00000°, δ=72.00000°, λ=-175.00000°.*

IDC ***01*** *20:24:31.6±0.8, 23°.59N×125°.66E, h0km, mb3.8/13, mb1 3.9/17, mb1mx3.8/28, mbtmp3.9/17, ML3.7/4, MS3.1/3, Ms1 3.1/3, ms1mx2.8/44, Error ellipse: s-maj=21.4km s-min=15.7km az=87.0*

NEIC ***01*** *20:24:33.0±0.6, 23°.57N×125°.58E, h10km, mb4.5/7, MW4.1(NIED), Error ellipse: s-maj=11.1km s-min=7.3km az=148.0*

JMA ***01*** *20:24:35.6±0.2, 23°.69N×125°.53E, h77km, M3.7*

ISC 01 20:24:35.4±2.9, 23°.62N±0°.07×125°.64E±0°.05, h27km±20km, n77, σ1$70/92, mb4.0/21, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.15**	**350**	P	**Pn**	**20 24 55.6**	**-0.3**
JOGS				*eS*	**Sb**	**20 25 10.3**	**-1.0**
JMJ	**Miyako jima 2**	**1.23**	**345**	P	**Pn**	**20 24 56.2**	**-0.7**
JMJ				*eS*	**Sn**	**20 25 12.0**	**-0.7**
JTJ	**Tarama**	**1.33**	**320**	P	**Pn**	**20 24 57.3**	**-0.9**
JTJ				S	**Sn**	**20 25 13.9**	**-1.1**
JIJ	**Ishigaki jima**	**1.55**	**299**	P	**Pn**	**20 25 00.2**	**-1.2**
JIJ				S	**Sn**	**20 25 18.2**	**-2.4**
JKRS	**Kuro-shima**	**1.61**	**293**	P	**Pn**	**20 25 01.2**	**-0.9**
JKRS				S	**Sn**	**20 25 19.9**	**-2.1**
HATJ	**Hateruma jima**	**1.73**	**285**	P	**Pn**	**20 25 02.6**	**-1.2**
HATJ				*eS*	**Sn**	**20 25 22.5**	**-2.5**
IRIF	**Iriomote-Funau**	**1.88**	**293**	P	**Pn**	**20 25 04.9**	**-1.0**
IRIF				*eS*	**Sn**	**20 25 26.2**	**-2.6**
YOJ	**Yonaguni jima**	**2.54**	**290**	P	**Pn**	**20 25 12.6**	**-2.4**
YOJ				*eS*	**Sn**	**20 25 41.5**	**-3.5**
JKE	**Kume jima 2**	**2.89**	**21**	P	**Pn**	**20 25 18.7**	**-1.0**
JKE				S	**Sn**	**20 25 51.8**	**-1.8**
JJT2	**Tamagusuku 2**	**3.16**	**37**	P	**Pn**	**20 25 22.9**	**-0.5**
JJT2				*eS*	**Sn**	**20 25 56.6**	**-3.6**
NAH1	**Naha**	**3.18**	**36**	P	**Pn**	**20 25 22.8**	**-0.9**
NAH1				*eS*	**Sn**	**20 25 59.2**	**-1.5**
JAGN	**Aguni-jima**	**3.29**	**26**	P	**Pn**	**20 25 23.6**	**-1.7**
JAGN				*eS*	**Sn**	**20 26 00.8**	**-2.8**
YULB	**Yu-li**	**3.99**	**268**	*ePn*	Pn	20 25 31.7	-3.2
YULB				*eSn*	**Sn**	**20 26 16.0**	**-4.8**
JOW	**Kunigami**	**3.99**	**36**	*ePn*	**Pn**	**20 25 33.5**	**-1.4**
JOW				Pn	**Pn**	**20 25 34.1**	**-0.8**
JOW				Sn	**Sn**	**20 26 16.9**	**-4.0**
JOW	**Kunigami**	**3.99**	**36**	P	**Pn**	**20 25 33.8**	**-1.1**
JOW				S	**Sn**	**20 26 17.1**	**-3.8**
JOW	**Kunigami**	**3.99**	**36**	Pn	**Pn**	**20 25 34.1**	**-0.8**
	34nm,0.3s,baz=201,slow=11,SNR=79						
JOW					Sn	**Sn**	**20 26 16.9**	**-4.0**
	11nm,0.3s,baz=99,slow=27,SNR=2.9						
JIH	**Iheya**	**4.00**	**31**	P	**Pn**	**20 25 33.8**	**-1.2**
JIH				*eS*	**Sn**	**20 26 16.5**	**-4.6**
YHNB	**Yeheng**	**4.03**	**286**	*ePn*	**Pn**	**20 25 34.3**	**-1.2**
YHNB				*eSn*	Sn	20 26 15.4	-6.4
TWG	**Pinlang**	**4.27**	**260**	*ePn*	Pn	20 25 34.7	-4.1
TWG				*eSn*	Sn	20 26 20.6	-7.2
SSLB	**Suanglung**	**4.29**	**273**	*ePn*	**Pn**	**20 25 36.5**	**-2.6**
SSLB				*eSn*	Sn	20 26 21.8	-6.6
TPUB	**Ta-pu**	**4.61**	**267**	*ePn*	Pn	20 25 40.1	-3.3
TPUB				*eSn*	**Sn**	**20 26 32.6**	**-3.5**
JTK	**Tokunoshima**	**5.11**	**35**	P	**Pn**	**20 25 48.7**	**-1.6**
JTK				*eS*	Sn	20 26 42.5	-6.0
JMZ	**Minamidaito 2**	**5.53**	**66**	P	Pn	20 25 52.7	-3.4
JMZ				*eS*	Sn	20 26 51.0	-7.8
JAM	**Amami Oshima**	**5.96**	**36**	P	**Pn**	**20 26 00.0**	**-1.9**
JAM				S	Sn	20 27 02.9	-6.4
JNU	**Nakatsue**	**10.53**	**25**	Pn	**Pn**	**20 27 04.2**	**-0.5**
JNU				Sn	**Sn**	**20 28 59.0**	**-2.8**
JNU	**Nakatsue**	**10.53**	**25**	Pn	**Pn**	**20 27 04.2**	**-0.5**
	0.3nm,0.3s,baz=196,slow=7.4,SNR=5.5						
JNU					Sn	**Sn**	**20 28 59.0**	**-2.8**
	0.2nm,0.3s,baz=231,slow=14,SNR=1.6						
JNU					LR	LR	20 31 21.3	
	comp=Z,110nm,18.1s,baz=60,slow=39						
KSAR	**Wonju Array Be**	**13.91**	**7**	Pn	**Pn**	**20 27 51.5**	**+0.6**
KSRS	**Korea Array**	**13.93**	**8**	Pn	**Pn**	**20 27 51.5**	**+0.4**
	0.1nm,0.3s,baz=190,slow=14,SNR=8.9						
KSRS					LR	LR	20 33 04.2	
	comp=Z,40nm,21.2s,baz=200,slow=37						
MJAR	**Matsushiro Arr**	**16.84**	**37**	Pn	**P**	**20 28 30.4**	**-0.8**
MJAR	**Matsushiro Arr**	**16.84**	**37**	Pn	**P**	**20 28 30.4**	**-0.8**
	0.1nm,0.3s,baz=219,slow=12,SNR=2.7						
USRK	**Ussuriysk Arra**	**21.18**	**13**	P	**P**	**20 29 20.2**	**+1.4**
	1.1nm,0.5s,baz=187,slow=8.8,SNR=6.5						
ASAJ	**Asahikawa**	**24.73**	**30**	P	**P**	**20 29 54.0**	**-0.6**
ASAJ	**Asahikawa**	**24.73**	**30**	P	**P**	**20 29 54.0**	**-0.6**
	8.5nm,0.9s,baz=256,slow=4.2,SNR=4.5						
CMAR	**Chiang Mai Arr**	**25.42**	**263**	P	**P**	**20 30 01.9**	**+0.8**
	1.3nm,0.8s,baz=65,slow=7.9,SNR=14						
SONM	**Songino Array**	**28.61**	**332**	P	**P**	**20 30 29.3**	**-0.4**
SONM	**Songino Array**	**28.61**	**332**	P	**P**	**20 30 29.3**	**-0.4**
	0.4nm,0.5s,baz=146,slow=10,SNR=5.1						
SONM					LR	LR	20 42 53.1	
	comp=Z,69nm,18.2s,baz=62,slow=38						
TAPN	**Taplejung**	**34.35**	**284**	*eP*	**P**	**20 31 21.2**	**+0.6**
	8.6nm,0.6s						
TAPN	**Taplejung**	**34.35**	**284**	*eP*	**P**	**20 31 21.2**	**+0.6**
	8.6nm,0.6s						
ODAN	**Odare**	**34.66**	**283**	*eP*	**P**	**20 31 24.2**	**+1.0**
	7.6nm,0.5s						
ODAN	**Odare**	**34.66**	**283**	*eP*	**P**	**20 31 24.2**	**+1.0**
	7.6nm,0.5s						
JIRN	**Jiri**	**35.69**	**285**	*eP*	**P**	**20 31 32.8**	**+0.6**
	4.3nm,0.5s						
JIRN	**Jiri**	**35.69**	**285**	*eP*	**P**	**20 31 32.8**	**+0.6**
	4.3nm,0.5s						
GUN	**Gumba**	**35.95**	**285**	*eP*	**P**	**20 31 35.2**	**+0.8**
GUN	**Gumba**	**35.95**	**285**	*eP*	**P**	**20 31 35.2**	**+0.8**
KKN	**Kakani**	**36.48**	**285**	*eP*	**P**	**20 31 39.4**	**+0.6**
KKN	**Kakani**	**36.48**	**285**	*eP*	**P**	**20 31 39.4**	**+0.6**
DMN	**Daman**	**36.65**	**285**	*eP*	**P**	**20 31 40.6**	**+0.3**
DMN	**Daman**	**36.65**	**285**	*eP*	**P**	**20 31 40.6**	**+0.3**
GKN	**Gorkha**	**37.04**	**286**	*eP*	**P**	**20 31 43.7**	**+0.2**
GKN	**Gorkha**	**37.04**	**286**	*eP*	**P**	**20 31 43.7**	**+0.2**
DANN	**Dangsing**	**37.80**	**286**	*eP*	**P**	**20 31 50.6**	**+0.5**
	8.5nm,0.7s						
DANN	**Dangsing**	**37.80**	**286**	*eP*	**P**	**20 31 50.6**	**+0.5**
	8.5nm,0.7s						
MK31	**Makanchi Array**	**41.60**	**315**	*eP*	**P**	**20 32 20.8**	**-0.3**
MKAR	**Makanchi Array**	**41.60**	**315**	P	**P**	**20 32 21.3**	**+0.1**
MKAR	**Makanchi Array**	**41.60**	**315**	P	**P**	**20 32 21.3**	**+0.1**
	0.4nm,0.4s,baz=100,slow=9.5,SNR=12						
ZALV	**Zalesovo Beam**	**42.97**	**325**	P	**P**	**20 32 31.2**	**-1.0**
ZALV	**Zalesovo Beam**	**42.97**	**325**	P	**P**	**20 32 31.2**	**-1.0**
	0.8nm,0.5s,baz=115,slow=8.0,SNR=5.8						
WRAB	**Tennant Creek**	**44.12**	**168**	*eP*	**P**	**20 32 41.0**	**-0.8**
	5.0nm,1.0s						
WRA	**Warramunga Arr**	**44.12**	**168**	P	**P**	**20 32 41.2**	**-0.6**
WRA	**Warramunga Arr**	**44.12**	**168**	P	**P**	**20 32 41.2**	**-0.6**
	2.5nm,0.4s,baz=347,slow=8.9,SNR=42						
KURK	**Kurchatov**	**45.16**	**319**	P	**P**	**20 32 49.8**	**0.0**
KURBB	**Kurchatov Arra**	**45.19**	**319**	P	**P**	**20 32 49.8**	**-0.2**
	1.9nm,0.6s,baz=108,slow=8.1,SNR=19						
TKM2	**Tokmak 2**	**45.33**	**308**	*eP*	**P**	**20 32 49.7**	**-1.8**
	2.5nm,0.6s						
AAK	**Ala-Archa**	**46.09**	**307**	P	**P**	**20 32 59.0**	**+1.5**
AAK	**Ala-Archa**	**46.09**	**307**	P	**P**	**20 32 59.0**	**+1.5**
	0.2nm,0.3s,baz=101,slow=5.2,SNR=3.7						
ASAR	**Alice Springs**	**47.69**	**170**	P	**P**	**20 33 09.8**	**-0.1**
ASAR	**Alice Springs**	**47.69**	**170**	P	**P**	**20 33 09.8**	**-0.1**
	0.8nm,0.6s,baz=355,slow=14,SNR=12						
BVAR	**Borovoye Array**	**50.70**	**320**	P	**P**	**20 33 33.2**	**+0.5**
BVAR	**Borovoye Array**	**50.70**	**320**	P	**P**	**20 33 33.2**	**+0.5**
	0.7nm,0.5s,baz=104,slow=8.3,SNR=8.3						
ABKAR	**Akbulak array**	**56.74**	**314**	*eP*	**P**	**20 34 17.6**	**+0.6**
	1.9nm,0.6s						
FINES	**FINESS Array B**	**73.96**	**330**	P	**P**	**20 36 09.6**	**+1.3**
FINES	**FINESS Array B**	**73.96**	**330**	P	**P**	**20 36 09.6**	**+1.3**
	1.1nm,0.6s,baz=70,slow=8.3,SNR=6.3						
BRTR	**Keskin Array B**	**76.76**	**308**	P	**P**	**20 36 25.8**	**+0.9**
BRTR	**Keskin Array B**	**76.76**	**308**	P	**P**	**20 36 25.8**	**+0.9**
	0.4nm,0.9s,baz=111,slow=2.0,SNR=2.7						
YKA	**Yellowknife Ar**	**81.86**	**24**	P	P	20 36 55.8	+3.6
YKA	**Yellowknife Ar**	**81.86**	**24**	P	P	20 36 55.8	+3.6
	0.2nm,0.8s,baz=297,slow=4.8,SNR=3.4						

SZGRF ***01*** *20:30:35.2, 17°.99S×178°.32W, h600km, Fiji Islands region*

ISCJB ***01*** *20:31:37.6±0.2, 17°.59S±0°.09×178°.87W±0°.05, h547km, mb4.5/72, Error ellipse: s-maj=12.6km s-min=4.0km az=153.4*

MOS ***01*** *20:31:37.8±1.1, 17°.60S×178°.80W, h545km, mb4.5/25, Error ellipse: s-maj=14.8km s-min=9.8km az=143.8*

IDC ***01*** *20:31:37.6±1.0, 17°.76S×178°.66W, h543km±11km, mb3.9/18, mb1 4.1/19, mb1mx4.0/23, mbtmp3.9/19, Error ellipse: s-maj=19.5km s-min=8.4km az=149.0*

NEIC ***01*** *20:31:40.2±0.7, 17°.72S×178°.82W, h572km±8km, mb4.4/44, Error ellipse: s-maj=14.4km s-min=5.9km az=149.0*

ISC 01 20:31:37.7±0.4, 17°.62S±0°.09×178°.72W±0°.07, h547km, n424, σ1$10/440, mb4.4/72, 109C-114D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.09**	**267**	*eP*	P	20 32 57.5	+4.4
MSVF	**Nonsavu**	**3.09**	**267**	*eP*	P	20 32 57.5	+4.4
AFI	**Afiamalu**	**7.63**	**62**	P	P	**20 33 30.9**	**-0.9**
AFI				S	**S**	**20 35 03.0**	**-2.4**
AFI	**Afiamalu**	**7.63**	**62**	P	**P**	**20 33 30.9**	**-0.9**
	16nm,0.3s,baz=82,slow=20,SNR=20						
AFI				S	**S**	**20 35 03.0**	**-2.4**
	1.3nm,0.3s,baz=32,slow=23,SNR=1.9						
DZM	**Mont Dzumac**	**14.65**	**250**	*eP*	**P**	**20 34 41.1**	**-2.7**
DZM	**Mont Dzumac**	**14.65**	**250**	*eP*	**P**	**20 34 42.7**	**-1.0**
	30nm,0.6s						
NOUC	**Port Laguerre**	**14.78**	**250**	*eP*	**P**	**20 34 45.2**	**+0.2**
RPZ	**Rata Peaks**	**27.42**	**196**	P	**P**	**20 36 38.3**	**-1.4**
RPZ	**Rata Peaks**	**27.42**	**196**	P	**P**	**20 36 38.3**	**-1.4**
	7.3nm,0.6s,baz=305,slow=2.2,SNR=3.3						
EIDS	**Eidsvold**	**29.09**	**249**	*eP*	**P**	**20 36 54.5**	**-0.1**
	28nm,0.8s						
ARMA	**Armidale**	**29.84**	**239**	*eP*	**P**	**20 37 01.9**	**+0.9**
	32nm,0.6s						
ARMA	**Armidale**	**29.84**	**239**	*eP*	**P**	**20 37 02.0**	**+0.9**
CTA	**Charters Tower**	**33.21**	**260**	P	**P**	**20 37 30.4**	**+0.5**
CTA	**Charters Tower**	**33.21**	**260**	*eP*	**P**	**20 37 30.3**	**+0.5**
	16nm,0.8s						
CTA	**Charters Tower**	**33.21**	**260**	P	**P**	**20 37 30.4**	**+0.5**
	20nm,0.8s,baz=97,slow=12,SNR=9.1						
CTAO	**Charters Tower**	**33.21**	**260**	*eP*	**P**	**20 37 29.9**	**0.0**
CTAO				*pmax*	*pmax*		
	comp=Z,17nm,0.7s						
CTAO	**Charters Tower**	**33.21**	**260**	*eP*	**P**	**20 37 29.9**	**0.0**
	comp=Z,17nm,0.7s						
CNB	**Canberra Magne**	**33.37**	**232**	*eP*	**P**	**20 37 31.9**	**+0.8**
	comp=Z,236nm,0.6s						
PMG	**Port Moresby**	**34.12**	**279**	P	**P**	**20 37 38.7**	**+1.1**
	comp=Z,4.1nm,0.9s						
PMG	**Port Moresby**	**34.12**	**279**	P	**P**	**20 37 38.7**	**+1.1**
	comp=Z,48nm,0.8s,baz=116,slow=5.1,SNR=9.6						
TOO	**Toolangi**	**37.13**	**230**	*eP*	**P**	**20 38 02.8**	**+0.5**
	comp=Z,249nm,0.6s						
MOO	**Moorlands**	**38.11**	**222**	*eP*	**P**	**20 38 10.5**	**+0.4**
	comp=Z,76nm,0.8s						
STKA	**Stephens Creek**	**38.51**	**241**	*eP*	**P**	**20 38 14.5**	**+0.9**
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**38.51**	**241**	*eP*	**P**	**20 38 14.6**	**+0.9**
	comp=Z,11nm,0.6s						
STKA	**Stephens Creek**	**38.51**	**241**	P	**P**	**20 38 14.6**	**+0.9**
	comp=Z,24nm,0.5s,baz=90,slow=9.3,SNR=98						
BBOO	**Buckleboo**	**43.29**	**241**	*eP*	**P**	**20 38 51.9**	**+0.4**
	comp=Z,910nm,0.8s						
WB2	**Warramunga Arr**	**44.39**	**259**	*eP*	**P**	**20 38 59.4**	**-0.8**
WRAB	**Tennant Creek**	**44.39**	**259**	*eP*	**P**	**20 38 59.3**	**-0.9**
WRAB				*pmax*	*pmax*		
	comp=Z,18nm,0.7s						
WRAB	**Tennant Creek**	**44.39**	**259**	*eP*	**P**	**20 38 59.3**	**-0.9**
	comp=Z,18nm,0.7s						
WRA	**Warramunga Arr**	**44.40**	**259**	P	**P**	**20 38 59.7**	**-0.6**
WRA				ScP	**ScP**	**20 43 32.9**	**+0.5**
WRA				S	**S**	**20 44 55.2**	**-0.4**
WRA	**Warramunga Arr**	**44.40**	**259**	P	**P**	**20 38 59.7**	**-0.6**
	comp=Z,10.0nm,0.5s,baz=93,slow=7.0,SNR=128						
WRA				ScP	**ScP**	**20 43 32.9**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=88,slow=4.2,SNR=4.8						
WRA				S	**S**	**20 44 55.2**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=94,slow=13,SNR=3.4						
AS31	**Alice Springs**	**44.59**	**254**	*eP*	**P**	**20 39 01.9**	**+0.1**
ASAR	**Alice Springs**	**44.59**	**254**	P	**P**	**20 39 01.8**	**0.0**
ASAR				ScP	**ScP**	**20 43 34.1**	**+0.9**
ASAR				S	**S**	**20 44 56.4**	**-1.9**
ASAR	**Alice Springs**	**44.59**	**254**	P	**P**	**20 39 01.8**	**0.0**
	comp=Z,125nm,0.6s,baz=88,slow=8.2,SNR=1301						
ASAR				ScP	**ScP**	**20 43 34.1**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=93,slow=4.4,SNR=5.6						
ASAR				S	**S**	**20 44 56.4**	**-1.9**
	comp=Z,0.8nm,0.8s,baz=89,slow=14,SNR=4.3						
FORT	**Forrest**	**49.87**	**244**	*eP*	**P**	**20 39 40.7**	**-0.5**
	comp=Z,48nm,0.6s						
FORT	**Forrest**	**49.87**	**244**	*eP*	**P**	**20 39 41.0**	**-0.2**
	comp=Z,33nm,0.5s						

FITZ	**Fitzroy Crossi**	**52.79**	**260**	P		P		**20 40 03.2**	**+0.7**
FITZ	**Fitzroy Crossi**	**52.79**	**260**	*eP*		P		**20 40 03.1**	**+0.6**
	comp=Z,30nm,1.8s								
FITZ	**Fitzroy Crossi**	**52.79**	**260**	P		P		**20 40 03.2**	**+0.7**
	comp=Z,5.7nm,0.6s,baz=90,slow=7.1,SNR=8.8								
KLBR	**Kellerberrin**	**58.70**	**243**	*eP*		P		**20 40 42.5**	**-0.8**
	comp=Z,14nm,0.6s								
NWAO	**Narrogin (SRO)**	**59.09**	**242**	P		P		**20 40 46.0**	**+0.1**
NWAO	**Narrogin (SRO)**	**59.09**	**242**	P		P		**20 40 46.0**	**+0.1**
	comp=Z,3.6nm,0.5s,baz=112,slow=11,SNR=4.1								
MJAR	**Matsushiro Arr**	**67.50**	**323**	P		P		**20 41 40.4**	**+0.8**
MJAR	**Matsushiro Arr**	**67.50**	**323**	P		P		**20 41 40.4**	**+0.8**
	comp=Z,4.1nm,0.7s,baz=160,slow=6.6,SNR=14								
ASAJ	**Asahikawa**	**70.89**	**332**	P		P		20 42 02.5	+2.8
ASAJ	**Asahikawa**	**70.89**	**332**	P		P		20 42 02.5	+2.8
	comp=Z,3.4nm,0.5s,baz=153,slow=11,SNR=3.1								
KSM	**Kuching**	**72.36**	**277**	*eP*		P		**20 42 08.3**	**-0.6**
	comp=Z,19nm,0.8s								
YSS	**Yuzh-Sakhalins**	**73.03**	**334**	*eP*		P		**20 42 11.9**	**-0.1**
YSS				*pmax*	*pmax*				
	comp=Z,33nm,1.7s								
PETK	**Petropavlovsk-**	**73.33**	**345**	P		P		**20 42 14.7**	**+1.0**
PETK				*pmax*	*pmax*				
	comp=Z,12nm,0.7s								
PETK	**Petropavlovsk-**	**73.33**	**345**	P		P		**20 42 14.7**	**+1.0**
PETK	**Petropavlovsk-**	**73.33**	**345**	P		P		**20 42 14.7**	**+1.0**
	comp=Z,12nm,0.7s,baz=138,slow=8.6,SNR=8.6								
KSRS	**Korea Array**	**74.29**	**318**	P		P		**20 42 21.4**	**+2.0**
	comp=Z,0.4nm,0.5s,baz=126,slow=5.7,SNR=4.5								
KSAR	**Wonju Array Be**	**74.31**	**318**	P		P		**20 42 21.4**	**+1.9**
BSC	**Santa Cruz Isl**	**76.13**	**47**	⇓P		P		**20 42 31.3**	**+1.5**
	baz=76								
OSI	**Osito Adit**	**77.10**	**47**	⇓P		P		**20 42 36.7**	**+1.5**
	baz=77								
MWC	**Mount Wilson**	**77.36**	**48**	*eP*		P		**20 42 37.7**	**+0.9**
MWC				*pmax*	*pmax*				
	comp=Z,11nm,0.8s								
MWC	**Mount Wilson**	**77.36**	**48**	*eP*		P		**20 42 37.7**	**+0.9**
	comp=Z,11nm,0.8s								
VES	**Vestal, Richgr**	**77.50**	**46**	⇓P		P		**20 42 38.0**	**+0.8**
	baz=78								
MURC	**Murrieta**	**77.65**	**49**	⇑P		P		**20 42 39.4**	**+1.2**
	baz=78								
BFSC	**Mount Baldy Ra**	**77.65**	**48**	⇑P		P		**20 42 38.9**	**+0.6**
	baz=78								
EDW2	**Edwards Air Fo**	**77.75**	**47**	⇓P		P		**20 42 40.0**	**+1.3**
	baz=78								
ISA	**Isabella**	**77.83**	**46**	*eP*		P		**20 42 40.4**	**+1.3**
ISA				*pmax*	*pmax*				
	comp=Z,13nm,0.9s								
ISA	**Isabella**	**77.83**	**46**	*eP*		P		**20 42 40.4**	**+1.3**
	comp=Z,13nm,0.9s								
ISA	**Isabella**	**77.83**	**46**	⇑P		P		**20 42 40.4**	**+1.3**
	baz=78								
MONP	**Monument Peak**	**77.85**	**50**	⇑P		P		**20 42 40.7**	**+1.2**
	baz=78								
DVTC	**Desert V Tower**	**77.97**	**50**	⇑P		P		**20 42 41.4**	**+1.5**
	baz=78								
PFO	**Pinyon Flat Ob**	**78.19**	**49**	⇑P		P	

MFID Camas Ranch 83.64 41 ⇓P P 20 43 10.1 +1.0
baz=84,SNR=5.7
TRF Thorofare Moun 83.79 12 eP P 20 43 08.7 -0.7
comp=Z,21nm,0.8s
T17A Navajo Res., N 83.87 48 ⇓P P 20 43 11.9 +1.5
baz=84
V18A Ganado 83.91 50 ⇑P P 20 43 12.0 +1.2
baz=84
DUG Dugway 83.98 45 ⇑P P 20 43 11.8 +0.9
baz=84
R16A Teasdale 83.98 47 ⇓P P 20 43 12.4 +1.3
baz=84
MAW Mawson 84.03 200 P P 20 43 10.3 -0.2
MAW Mawson 84.03 200 P P 20 43 10.3 -0.2
comp=Z,13nm,1.2s,baz=158,slow=11,SNR=3.7
OD2 Odessa Site #2 84.08 36 eP P 20 43 12.1 +1.0
121A Cookes Peak, D 84.14 53 ⇓P P 20 43 13.4 +1.5
baz=84
S17A Black Ridge (B 84.16 48 ⇓P P 20 43 13.1 +1.3
baz=84
I12A Atlanta 84.27 41 ⇓P P 20 43 13.3 +1.0
baz=85
U18A Rough Rock, Ch 84.27 49 ⇓P P 20 43 13.5 +1.0
baz=85
MCK McKinley 84.33 13 eP P 20 43 12.0 +0.1
MCK pmax pmax
comp=Z,11nm,0.8s
MCK McKinley 84.33 13 eP P 20 43 12.0 +0.1
comp=Z,10nm,0.8s
X20A Quemado 84.45 51 ⇑P P 20 43 14.8 +1.4
baz=85
222A Williams Famil 84.48 54 ⇓P P 20 43 14.8 +1.3
baz=85
Q16A Castle Valley 84.49 46 ⇑P P 20 43 15.0 +1.5
baz=85
R17A Hanksville Air 84.58 47 ⇑P P 20 43 15.7 +1.8
baz=85
T18A Mexican Hat 84.59 48 ⇑P P 20 43 15.2 +1.2
baz=85
HLID Hailey 84.60 41 eP P 20 43 15.2 +1.3
comp=Z,5.5nm,0.8s
HLID Hailey 84.60 41 ⇑P P 20 43 15.1 +1.3
baz=85,SNR=9.5
GYA Guiyang 84.64 300 eP P 20 43 14.7 +0.3
GYA pP pP 20 45 06.3 -6.6
GYA sP sP 20 45 57.8 -11
GYA PP PP 20 46 39.7 -0.9
GYA pmax pmax
comp=Z,10.0nm,1.0s
TMUT Trail Mountain 84.64 46 eP P 20 43 14.3 -0.1
comp=Z,5.5nm,0.8s
J13A Cove Ranch, Pi 84.67 41 ⇑P P 20 43 15.5 +1.3
baz=85,SNR=11
U19A Dine' College, 84.70 49 ⇑P P 20 43 15.6 +1.0
baz=85
H12A Diamond D Ranc 84.83 40 ⇑P P 20 43 15.7 +0.7
baz=85,SNR=13
M15A Larsen Ranch, 84.83 44 ⇓P P 20 43 15.8 +0.7
baz=85
Y21A Point of Rocks 84.84 52 ⇑P P 20 43 17.0 +1.6
baz=85
SRU San Rafael 85.03 46 eP P 20 43 16.6 +0.5
SRU pmax pmax
comp=Z,5.0nm,0.7s
SRU San Rafael 85.03 46 eP P 20 43 16.6 +0.5
comp=Z,5.5nm,0.7s
SRU San Rafael 85.03 46 ⇑P P 20 43 16.9 +0.8
baz=85
J14A Carey 85.05 42 ⇑P P 20 43 17.6 +1.5
baz=85,SNR=9.7
Z22A Elephant Butte 85.06 53 ⇑P P 20 43 17.6 +1.3
baz=85
L15A Malad City 85.14 43 ⇓P P 20 43 16.9 +0.4
baz=86
F12A Elk City 85.21 39 ⇑P P 20 43 17.2 +0.5
baz=86,SNR=20
H13A Challis 85.21 40 ⇑P P 20 43 17.8 +1.0
baz=86,SNR=6.0
Q18A Rafter H Ranch 85.30 47 ⇓P P 20 43 17.8 +0.5
baz=86
Y22A Socorro 85.35 52 ⇑P P 20 43 18.8 +1.0
baz=86
DOT Dot Lake 85.36 15 eP P 20 43 17.8 +0.8
comp=Z,8.2nm,0.8s
E12A Beaver Dam Sad 85.36 38 ⇑P P 20 43 17.5 0.0
baz=86
O17A Robinson Place 85.38 45 ⇓P P 20 43 19.1 +1.3
baz=86,SNR=8.7
S19A Harvey Farm, M 85.39 48 ⇓P P 20 43 18.6 +0.7
baz=86
I14A Mackay 85.39 41 ⇓P P 20 43 19.3 +1.6
baz=86,SNR=11
NEW Newport 85.45 36 eP P 20 43 18.3 +0.6
comp=Z,4.3nm,0.8s
NEW Newport 85.45 36 ⇑P P 20 43 18.1 +0.4
baz=86
P18A Preston Nutter 85.46 46 ⇑P P 20 43 19.0 +0.7
baz=86
324A Moseley Ranch, 85.47 55 ⇓P P 20 43 19.4 +1.0
baz=86
G13A Cobalt 85.49 40 ⇑P P 20 43 18.9 +0.8
baz=86,SNR=5.7
R19A Curley Farm, L 85.54 48 ⇓P P 20 43 19.3 +0.7
baz=86
425A Indio Mountain 85.60 56 ⇓P P 20 43 20.4 +1.4
baz=86,SNR=7.3
ILAR Eielson Array 85.67 13 P P 20 43 17.7 -0.7
ILAR Eielson Array 85.67 13 P P 20 43 17.7 -0.7
comp=Z,2.4nm,0.5s,baz=222,slow=5.0,SNR=62
224A Cornudas Mount 85.69 55 ⇑P P 20 43 20.6 +1.2
baz=86,SNR=6.3
C11A Tepee Creek (N 85.71 37 ⇓P P 20 43 19.9 +0.9
baz=86
L16A Fish Haven 85.77 44 ⇑P P 20 43 20.2 +0.6
baz=86,SNR=6.0
J15A Blackfoot 85.78 42 ⇑P P 20 43 21.2 +1.6
baz=86,SNR=8.6
F13A Darby 85.78 39 ⇓P P 20 43 19.9 +0.4
baz=86,SNR=11
H14A Leadore 85.78 41 ⇑P P 20 43 20.8 +1.2
baz=86,SNR=7.5
626A Big Bend Ranch 85.80 57 ⇑P P 20 43 21.4 +1.6
baz=86,SNR=12
D12A Red Ives Fores 85.82 38 ⇑P P 20 43 19.8 +0.2
baz=86
U21A Nageezi 85.88 50 ⇑P P 20 43 21.2 +0.9
baz=86,SNR=11
G14A Jackson 86.04 40 ⇑P P 20 43 21.8 +1.0
baz=86
K16A Soda Springs 86.05 43 ⇓P P 20 43 22.1 +1.2
baz=86,SNR=5.4
TXAR Lajitas Array 86.09 58 P P 20 43 23.0 +1.7
TXAR Lajitas Array 86.09 58 P P 20 43 23.0 +1.7
comp=Z,7.0nm,0.8s,baz=217,slow=6.1,SNR=57
C12B Naegeli Ranch, 86.09 37 ⇓P P 20 43 21.2 +0.4
baz=86
BILL Bilibino 86.12 354 deP P 20 43 21.3 +0.9
BILL pmax pmax
comp=Z,5.0nm,0.8s
ANMO Albuquerque 86.15 52 eP P 20 43 22.4 +0.8
comp=Z,4.6nm,1.1s
E13A Victor 86.20 39 ⇑P P 20 43 21.5 +0.1
baz=86
H15A Lima 86.23 41 ⇓P P 20 43 22.9 +1.1
baz=87,SNR=10
J16A Bone 86.24 42 ⇓P P 20 43 23.0 +1.2
baz=87,SNR=16
225A Deer Hill, Car 86.25 55 ⇑P P 20 43 23.0 +0.9
baz=86,SNR=5.9
426A McDonald Obser 86.31 56 ⇑P P 20 43 23.8 +1.3
baz=87
S21A Coal Bank Pass 86.31 49 ⇓P P 20 43 23.4 +0.9
baz=87,SNR=5.3
627A Terlingua Ranc 86.36 58 ⇓P P 20 43 24.2 +1.6
baz=87,SNR=13
D13A Huson 86.37 38 ⇑P P 20 43 22.2 0.0
baz=87
F14A Wisdom 86.38 40 ⇑P P 20 43 23.0 +0.6
baz=87
K17A Gardner Place, 86.44 43 ⇓P P 20 43 23.8 +1.0
baz=87
N18A Larsen Ranch, 86.46 45 ⇑P P 20 43 23.9 +1.0
baz=87
RRI2 Red Ridge 86.47 42 eP P 20 43 24.2 +1.2
comp=Z,16nm,0.8s
Y24A Capitan 86.50 53 ⇓P P 20 43 24.2 +0.9
baz=87,SNR=9.7
O19A Miners Draw (B 86.53 46 ⇓P P 20 43 23.7 +0.5
baz=87
BSMT Bassoo Peak 86.56 37 eP P 20 43 23.8 +0.5
G15A Dillon 86.60 40 ⇓P P 20 43 24.4 +1.0
baz=87,SNR=9.6
E14A Clinton 86.60 39 ⇑P P 20 43 23.9 +0.5
baz=87,SNR=7.9
I16A Newdale 86.61 42 ⇓P P 20 43 24.9 +1.4
baz=87,SNR=13
DLMT Dillon 86.63 40 eP P 20 43 24.2 +0.7
comp=Z,7.3nm,0.8s
A12A Yaak River Ran 86.63 36 ⇓P P 20 43 24.2 +0.8
baz=87
T22A Edith 86.68 50 ⇓P P 20 43 24.4 +0.3
baz=87
V23A Ortiz Mt. (NFS 86.68 51 ⇑P P 20 43 25.2 +1.1
baz=87
TPAW Teton Pass 86.77 42 eP P 20 43 25.0 +0.6
comp=Z,5.7nm,0.9s
628A Black Gap, Mar 86.77 58 ⇓P P 20 43 26.0 +1.5
baz=87,SNR=8.4
REDW Red Top Meadow 86.77 43 eP P 20 43 25.4 +1.1
comp=Z,12nm,1.0s
R21A Cimarron 86.79 48 ⇓P P 20 43 25.8 +1.2
baz=87,SNR=7.3
226A Malaga, Loving 86.79 55 ⇓P P 20 43 25.5 +1.0
baz=87
Z25A Roswell 86.79 54 ⇑P P 20 43 25.7 +1.1
baz=87
HHC Hu-ho-hao-te 86.86 315 eP P 20 43 22.9 -1.8
HHC pP pP 20 45 14.6 -9.4
HHC sP sP 20 46 06.6 -13
HHC PP PP 20 46 55.2 -2.8
HHC SKS SKSac 20 52 58.9 -0.8
HHC S S 20 53 14.4 -2.9
HHC sS sS 20 56 35.1 -15
HHC SS SS 20 59 13.2 -3.4
HHC pmax pmax
comp=Z,8.0nm,0.8s
HHC pmax pmax
comp=Z,120nm,5.1s
J17A Brown Place, J 86.86 43 ⇑P P 20 43 25.9 +1.1
baz=87
427A Hayter Ranch, 86.88 56 ⇑P P 20 43 26.3 +1.3
baz=87,SNR=5.7
SNOW Snow King Moun 86.88 43 eP P 20 43 26.5 +1.6
comp=Z,15nm,1.1s
F15A Butte 86.92 40 ⇓P P 20 43 25.5 +0.5
baz=87
D14A Greenough 86.92 38 ⇑P P 20 43 24.8 -0.1
baz=87
K18A Toltan Ranch, 86.97 44 ⇑P P 20 43 26.3 +1.0
baz=87,SNR=8.3
IMW Indian Meadow 86.97 42 eP P 20 43 26.5 +1.1
comp=Z,9.9nm,0.8s
Q21A Lamborn Mesa, 86.97 48 ⇓P P 20 43 26.6 +1.2
baz=87
CHMT Chamberlain Mo 86.99 39 eP P 20 43 25.5 +0.2
B13A Whitefish 87.02 37 ⇑P P 20 43 25.6 +0.5
baz=87
MOOW Moose Ponds 87.02 42 eP P 20 43 26.7 +1.2
comp=Z,4.3nm,1.1s
S22A 4UR Ranch, Cre 87.04 49 ⇑P P 20 43 26.9 +1.1
baz=87,SNR=6.4
W24A Lazy 6 Ranch, 87.04 52 ⇑P P 20 43 26.7 +0.9
baz=87
M19A Rock Springs 87.04 45 ⇑P P 20 43 26.4 +0.7
baz=87
LOHW Lost Hollow 87.05 42 eP P 20 43 26.7 +1.0
comp=Z,4.3nm,0.8s
G16A Moss Hill, Enn 87.05 41 ⇓P P 20 43 26.4 +0.9
baz=87,SNR=5.5
O20A White River Ci 87.06 46 ⇑P P 20 43 26.4 +0.7
baz=87
Y25A Mesa, Roswell 87.07 53 ⇓P P 20 43 26.5 +0.6
baz=87
QLMT Earthquake Lak 87.10 41 eP P 20 43 27.8 +1.9
528A Cox Ranch, San 87.11 57 ⇑P P 20 43 27.4 +1.3
baz=87
E15A Deer Lodge 87.12 39 ⇓P P 20 43 25.9 +0.1
baz=87
C14A Swan Lake 87.13 38 ⇓P P 20 43 26.2 +0.4
baz=88
H16A Russell Place, 87.15 41 ⇓P P 20 43 27.7 +1.6
baz=88,SNR=15
L19A Farson 87.18 44 ⇓P P 20 43 27.2 +0.9
baz=88,SNR=6.8
COLD Coldfoot 87.19 11 eP P 20 43 26.4 +1.0
comp=Z,5.8nm,0.8s
FLWY Flagg Ranch 87.21 42 eP P 20 43 28.1 +1.8
comp=Z,72nm,2.1s
I17A Pilgrim Ck. 87.21 42 ⇓P P 20 43 27.9 +1.5
baz=88,SNR=5.4
J18A Kendall Valley 87.24 43 ⇑P P 20 43 27.5 +0.9
baz=88,SNR=25
A13A Flathead Natio 87.33 37 ⇑P P 20 43 27.2 +0.5
baz=88
BW06 Boulder Array 87.34 44 eP P 20 43 27.7 +0.7
comp=Z,15nm,1.4s
BW06 Boulder Array 87.34 44 ⇓P P 20 43 27.5 +0.4
baz=88,SNR=9.2
PDAR Pinedale Array 87.34 44 P P 20 43 27.3 +0.2
PDAR Pinedale Array 87.34 44 P P 20 43 27.3 +0.2
comp=Z,4.0nm,0.5s,baz=215,slow=3.3,SNR=35
V24A Rampart Ranch, 87.35 51 ⇓P P 20 43 28.0 +0.7
baz=88
N20A Spence Gulch, 87.35 46 ⇓P P 20 43 27.9 +0.7
baz=88
Z26A Caprock 87.36 54 ⇑P P 20 43 27.9 +0.7
baz=88,SNR=5.2
428A Kincaid Ranch, 87.40 57 ⇓P P 20 43 28.7 +1.3
baz=88
F16A Kennard Place, 87.43 40 ⇑P P 20 43 28.3 +1.1
baz=88
H17A Grant Village 87.43 42 ⇓P P 20 43 29.7 +2.2
baz=88,SNR=7.2
KMI Kunming 87.44 297 P P 20 43 26.2 -1.7
KMI pmax pmax
comp=Z,4.0nm,2.0s
Q22A Crested Butte, 87.45 48 ⇓P P 20 43 28.8 +1.1
baz=88
D15A Lincoln 87.49 39 ⇓P P 20 43 28.2 +0.6
baz=88
SMCO Snowmass 87.54 48 eP P 20 43 29.9 +1.6
comp=Z,10nm,1.4s
328A Wrden Ranch, 87.55 56 ⇑P P 20 43 28.9 +0.8
baz=88
I18A Diamond G Ranc 87.60 43 ⇓P P 20 43 28.9 +0.6
baz=88
127A Arkansas Junct 87.61 55 ⇑P P 20 43 29.2 +0.8
baz=88
LKWY Lake 87.62 42 eP P 20 43 31.1 +2.7
LKWY pmax pmax
comp=Z,28nm,1.5s
LKWY Lake 87.62 42 eP P 20 43 31.1 +2.7
comp=Z,28nm,1.5s
M20A Sweetwater, Wa 87.69 45 ⇑P P 20 43 28.8 +0.1
baz=88
B14A Marquette Ranc 87.70 37 ⇑P P 20 43 28.6 +0.2
baz=88
C15A Salmond Ranch, 87.80 38 ⇓P P 20 43 29.7 +0.8
baz=88
L20A Wamsutter 87.81 45 ⇑P P 20 43 29.6 +0.4
baz=88
N21A Black Mountain 87.83 46 ⇓P P 20 43 30.0 +0.6
baz=88
K19A Absolon Red Bu 87.84 44 ⇓P P 20 43 29.5 +0.2
baz=88,SNR=5.9
V25A Rancho No Teng 87.88 51 ⇓P P 20 43 30.2 +0.5
baz=88
J19A Crowheart 87.90 43 ⇓P P 20 43 30.3 +0.7
baz=88,SNR=5.3
A14A Double T Ranch 87.92 37 ⇓P P 20 43 30.0 +0.6
baz=88
SDCO Great Sand Dun 88.00 49 ⇓P P 20 43 31.1 +0.8
baz=88
F17A Fitzpatrick Pl 88.08 40 ⇓P P 20 43 31.0 +0.7
baz=88
B15A Bradely Ranch, 88.09 38 ⇑P P 20 43 30.1 -0.2
baz=88
K20A Yellowstone Ra 88.10 44 ⇓P P 20 43 30.9 +0.4
baz=88
O22A Kremmling 88.25 47 ⇓P P 20 43 32.3 +0.9
baz=88
M21A Separation Pea 88.30 45 ⇓P P 20 43 32.2 +0.6
baz=89
A15A Johnson Ranch, 88.31 37 ⇓P P 20 43 31.6 +0.3
baz=89
C16A Fuhringer Ranc 88.32 38 ⇓P P 20 43 31.6 +0.3
baz=89
G18A Lazy EL Ranch, 88.49 41 ⇑P P 20 43 33.4 +1.2
baz=89
CMAR Chiang Mai Arr 88.51 290 P P 20 43 34.6 +1.9
CMAR Chiang Mai Arr 88.51 290 P P 20 43 34.6 +1.9
comp=Z,1.3nm,0.9s,baz=114,slow=2.6,SNR=10
H19A Powell 88.57 42 ⇓P P 20 43 33.8 +1.2
baz=89,SNR=5.0
J20A Shoshoni 88.57 44 ⇓P P 20 43 33.7 +1.1
baz=89,SNR=11
N22A Wattenberg Ran 88.58 46 ⇓P P 20 43 34.1 +1.2
baz=89,SNR=6.1
RLMT Red Lodge 88.59 42 eP P 20 43 34.3 +1.5
comp=Z,6.7nm,1.1s
RLMT Red Lodge 88.59 42 ⇑P P 20 43 34.1 +1.3
baz=89
B16A M & M Farms, S 88.63 38 ⇓P P 20 43 33.1 +0.4
baz=89
D17A Six Diamond Ra 88.64 39 ⇑P P 20 43 33.6 +0.6
baz=89
CD2 Chengdu 88.67 303 P P 20 43 33.2 -0.1
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 pmax pmax
comp=Z,120nm,6.2s
O23A Lake Granby, G 88.71 47 ⇑P P 20 43 34.8 +1.2
baz=89
129A Stewart Farms, 88.76 55 ⇑P P 20 43 34.5 +0.8
baz=89
I20A Worland 88.80 43 ⇑P P 20 43 34.3 +0.6
baz=89
C17A Wharram Farm, 88.82 39 ⇑P P 20 43 34.2 +0.5
baz=89
A16A West Butte Ran 88.95 37 ⇓P P 20 43 34.7 +0.4
baz=89
N23A Red Feather La 88.97 46 ⇑P P 20 43 35.9 +1.2
baz=89
L22A Ellis Ranch, M 89.11 45 ⇑P P 20 43 35.9 +0.7
baz=89
B17A L&G Farms, Che 89.11 38 ⇓P P 20 43 35.5 +0.6
baz=89
H20A Greybull 89.12 43 ⇓P P 20 43 35.7 +0.6
baz=89
F19A Roth Farm, Mol 89.12 41 ⇑P P 20 43 35.9 +0.8
baz=89
A17A Triple J Farms 89.47 38 ⇓P P 20 43 37.4 +0.7
baz=90
JCT Junction City 89.63 58 ⇓P P 20 43 38.7 +0.9
baz=90
D19A Cripps Ranch, 89.75 40 ⇑P P 20 43 39.2 +1.3
baz=90
B18A Beardsley Farm 89.76 38 ⇑P P 20 43 39.2 +1.3
baz=90
C19A Slack Wire Ran 89.90 39 ⇑P P 20 43 40.0 +1.4
baz=90
A18A Metzger Ranch, 89.96 38 ⇓P P 20 43 39.5 +0.6
baz=90
D20A Manuel Ranch, 90.17 40 ⇓P P 20 43 41.1 +1.2
baz=90
B19A Brinkman Farms 90.28 39 ⇓P P 20 43 41.4 +1.0
baz=91
LZH Lanzhou 90.48 308 eP P 20 43 42.2 +0.5
LZH pP pP 20 45 36.1 -5.9
LZH sP sP 20 46 26.5 -10
LZH pmax pmax
comp=Z,19nm,1.0s
M25A Palm-Egli Farm 90.50 46 ⇑P P 20 43 42.8 +1.2
baz=91
C20A Veseth Ranch, 90.52 40 ⇑P P 20 43 42.7 +1.3
baz=91
A19A Klindworth Far 90.61 38 ⇑P P 20 43 42.7 +0.8
baz=91
D21A La Casta Ranch 90.86 40 ⇑P P 20 43 44.3 +1.2
baz=91
A20A Cobblestone Ra 91.08 39 ⇑P P 20 43 45.0 +0.9
baz=91
C21A Desert Coulee 91.12 40 ⇓P P 20 43 45.0 +0.7
baz=91
H24A Dirks Ranch, A 91.47 43 ⇑P P 20 43 46.3 +0.4
baz=92
RSSD Black Hills 91.56 44 eP P 20 43 49.5 +2.9
RSSD pmax pmax
comp=Z,13nm,1.3s
RSSD Black Hills 91.56 44 eP P 20 43 49.5 +2.9
comp=Z,13nm,1.3s
INK Inuvik 91.69 15 P P 20 43 46.2 0.0
INK Inuvik 91.69 15 P P 20 43 46.2 0.0
comp=Z,5.4nm,1.0s,baz=244,slow=5.3,SNR=13
A21A Bergtoll Ranch 91.72 39 ⇓P P 20 43 47.6 +0.7
baz=92
B22A Reddig Ranch S 91.99 40 ⇓P P 20 43 49.2 +0.9
baz=92
C23A Lambert 92.29 40 ⇑P P 20 43 50.9 +1.3
baz=93
D24A Glendive 92.55 41 ⇓P P 20 43 51.6 +0.8
baz=93
C24A Savage 92.65 41 ⇓P P 20 43 52.3 +1.1
baz=93
B23A Brockton 92.67 40 ⇑P P 20 43 52.7 +1.4
baz=93
DGMT Dagmar 93.16 40 ⇑P P 20 43 54.8 +1.2
baz=94
YKA Yellowknife Ar 94.19 25 P P 20 43 57.8 -0.1
YKA Yellowknife Ar 94.19 25 P P 20 43 57.8 -0.1
comp=Z,1.8nm,0.8s,baz=246,slow=4.4,SNR=29
ZALV Zalesovo Beam 107.83 322 PKiKP PKiKP 20 49 01.9 -1.0
ZALV Zalesovo Beam 107.83 322 PKiKP PKiKP 20 49 01.9 -1.0
comp=Z,0.3nm,0.5s,baz=151,slow=3.3,SNR=2.6
MKAR Makanchi Array 108.72 314 PKiKP PKiKP 20 49 04.1 -0.7
MKAR Makanchi Array 108.72 314 PKiKP PKiKP 20 49 04.1 -0.7
comp=Z,0.3nm,0.5s,baz=90,slow=0.4,SNR=8.1
KSH Kashi 112.67 306 ePKP PKiKP 20 49 17.9 +5.2
KSH PP PP 20 50 16.4 +5.7
KSH sPKP 20 51 57.8
KSH PKS PKSdf 20 52 52.2 +2.8
KSH SKS SKSdf 20 55 42.8 +10
KSH SS SS 21 05 16.9 +5.1
KSH AMB AMB
comp=Z,80nm,4.0s
SPITS Spitsbergen Ar 118.96 356 PKP PKPdf 20 49 23.2 -0.3
SPITS Spitsbergen Ar 118.96 356 PKP PKPdf 20 49 23.2 -0.3
comp=Z,18nm,1.3s,baz=281,slow=40,SNR=5.2
ARCES ARCESS Array B 125.98 350 PKP PKPdf 20 49 36.0 -1.1
ARCES ARCESS Array B 125.98 350 PKP PKPdf 20 49 36.0 -1.1
comp=Z,4.3nm,0.9s,baz=3.4,slow=27,SNR=4.1
FINES FINESS Array B 132.83 344 PKP PKPdf 20 49 49.8 -0.5
FINES SKPbc SKPab 20 52 27.9 -1.3
FINES FINESS Array B 132.83 344 PKhKP PKPpre 20 49 44.1
comp=Z,2.2nm,1.0s,baz=194,slow=15,SNR=3.7
FINES PKP PKPdf 20 49 49.8 -0.5
comp=Z,1.5nm,0.6s,baz=46,slow=5.5,SNR=7.5
FINES SKPbc SKPab 20 52 27.9 -1.3
comp=Z,2.2nm,0.8s,baz=336,slow=4.2,SNR=3.6
AKASG Malin Array Be 140.17 332 PKHKP PKPpre 20 49 57.2
AKASG 20 50 05.3
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 140.17 332 PKhKP PKPpre 20 49 57.1
comp=Z,0.6nm,0.4s,baz=37,slow=4.1,SNR=4.6
AKASG PKP PKiKP 20 50 05.3 -1.6
comp=Z,0.6nm,0.4s,baz=47,slow=2.6,SNR=5.0
KWP Kalwaria Pacla 143.69 336 ePKP PKPdf 20 50 10.2 -0.3
KWP Kalwaria Pacla 143.69 336 ePKP PKPdf 20 50 10.2 -0.3
KWP Kalwaria Pacla 143.69 336 ePKiKP PKPdf 20 50 10.2 -0.3
RUE Ruedersdorf 143.85 347 ePKPbc PKPdf 20 50 10.4 -0.2
BURAR Bucovina Array 144.22 332 i/P PKPab 20 50 13.0 +1.3
TESR 144.36 329 i/P PKPab 20 50 13.1 +1.0
BRTR Keskin Array B 144.37 315 PKP PKPab 20 50 12.3 -0.3
BRTR SKPbc SKiKP 20 52 60.0 -0.6
BRTR Keskin Array B 144.37 315 PKP PKPab 20 50 12.3 -0.3
comp=Z,2.0nm,0.7s,baz=118,slow=2.5,SNR=16
BRTR SKPbc SKiKP 20 52 60.0 -0.6
comp=Z,0.4nm,0.7s,baz=117,slow=4.5,SNR=3.4
CFR Carcaliu 144.53 327 i/P PKPab 20 50 12.9 +0.2
NIE Niedzica 144.75 338 ePKP PKPab 20 50 13.1 -0.4
NIE Niedzica 144.75 338 ePKiKP PKPab 20 50 13.9 +0.4
KSP Ksiaz 144.75 343 ePKP PKPab 20 50 13.7 +0.3
KSP Ksiaz 144.75 343 ePKP PKPab 20 50 13.7 +0.3
KSP Ksiaz 144.75 343 ePKiKP PKPab 20 50 13.6 +0.2
VRI Vrincioaia 144.78 329 i/P PKPab 20 50 13.2 -0.5
TRPA Tarpa 144.96 335 i/P PKPab 20 50 14.1 -0.2
CLZ Clausthal 145.10 350 ePKPbc PKPab 20 50 14.4 -0.4
CLZ Clausthal 145.10 350 ePKiKP PKPab 20 50 14.4 -0.4
CLL Collm 145.12 347 ePKPbc PKPab 20 50 14.2 -0.6

CLL	**Collm**	**145.12**	**347**	*i* PKIKP	**PKPab**	**20 50 14.2**	**-0.6**
CLL				pmax	pmax		
	comp=Z,13nm,0.7s						
CLL	**Collm**	**145.12**	**347**	*i* PKPbc	**PKPab**	**20 50 14.2**	**-0.6**
	comp=Z,13nm,0.7s						
CLL				*e*SKPbc	**SKiKP**	**20 53 01.0**	**-0.5**
UPC	**Upice**	**145.13**	**344**	*i* PKP2	**PKPab**	**20 50 14.8**	**-0.1**
UPC	**Upice**	**145.13**	**344**	*i* PKP	**PKPab**	**20 50 14.8**	**-0.1**
UPC				*ex*	x	20 50 16.2	
DPC	**Dobruska-Polom**	**145.19**	**343**	*i* PKP2	**PKPab**	**20 50 15.1**	**-0.1**
DPC	**Dobruska-Polom**	**145.19**	**343**	*i* PKP	**PKPab**	**20 50 15.1**	**-0.1**
DPC				*ex*	x	20 50 16.6	
BRG	**Berggiesshubel**	**145.32**	**346**	*e*PKP	**PKPab**	**20 50 14.9**	**-0.7**
	comp=Z,7.8nm,0.8s						
BRG	**Berggiesshubel**	**145.32**	**346**	*e*PKPbc	**PKPab**	**20 50 14.9**	**-0.7**
BRG	**Berggiesshubel**	**145.32**	**346**	*e*PKIKP	**PKPab**	**20 50 14.9**	**-0.7**
BRG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MORC	**Moravsky Berou**	**145.35**	**341**	⇓*i* P	**PKPab**	**20 50 15.4**	**-0.4**
FBE	**Freiberg**	**145.41**	**347**	*e*PKPbc	**PKPab**	**20 50 15.5**	**-0.4**
MLR	**Muntele Rosu**	**145.44**	**329**	⇓*i* P	**PKPab**	**20 50 16.5**	**+0.1**
PVCC	**Panska Ves**	**145.49**	**345**	*i* PKP2	**PKPab**	**20 50 15.7**	**-0.6**
PVCC	**Panska Ves**	**145.49**	**345**	*i* PKP	**PKPab**	**20 50 15.7**	**-0.6**
MMAI	**Mount Meron Ar**	**145.74**	**303**	PKPbc	**PKPab**	**20 50 17.3**	**-0.7**
MMAI	**Mount Meron Ar**	**145.74**	**303**	PKPbc	**PKPab**	**20 50 17.3**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=72,slow=4.7,SNR=7.3						
DRGR		**145.95**	**333**	⇓*i* P	**PKPab**	**20 50 17.0**	**-1.3**
PRU	**Pruhonice**	**145.99**	**345**	*i* PKP2	**PKPab**	**20 50 17.1**	**-1.2**
PRU	**Pruhonice**	**145.99**	**345**	*i* PKP	**PKPab**	**20 50 17.1**	**-1.2**
PRU				*ex*	x	20 50 19.2	
VYHS	**Vyhne**	**146.04**	**339**	*e*PKP2	**PKPbc**	**20 50 16.9**	**+0.3**
VYHS	**Vyhne**	**146.04**	**339**	*e*PKP	**PKPbc**	**20 50 16.8**	**+0.2**
VRAC	**Vranov**	**146.05**	**342**	⇑*i* P	**PKPab**	**20 50 17.1**	**-1.5**
TANN	**Tannenbergstha**	**146.08**	**347**	*e*PKPbc	**PKPbc**	**20 50 17.2**	**+0.5**
WERD	**Werda**	**146.08**	**347**	*e*PKPbc	**PKPbc**	**20 50 17.1**	**+0.5**
GUNZ	**Gunzen**	**146.15**	**347**	*e*PKPbc	**PKPbc**	**20 50 17.4**	**+0.5**
NKC	**Novy Kostel**	**146.25**	**347**	*i* PKP2	**PKPab**	**20 50 17.9**	**-1.4**
NKC	**Novy Kostel**	**146.25**	**347**	*i* PKP	**PKPab**	**20 50 17.9**	**-1.4**
ROTZ	**Rotzenmuhle**	**146.74**	**347**	*e*PKPbc	**PKPbc**	**20 50 19.0**	**+0.6**
ZST	**Bratislava**	**146.88**	**341**	*e*PKP2	**PKPbc**	**20 50 19.8**	**+1.0**
ZST	**Bratislava**	**146.88**	**341**	*e*PKP	**PKPbc**	**20 50 19.8**	**+1.0**
TNS	**Taunus Mts**	**146.97**	**352**	*e*PKPbc	**PKPbc**	**20 50 19.6**	**+0.5**
TNS	**Taunus Mts**	**146.97**	**352**	*e*PKP2	**PKPbc**	**20 50 19.6**	**+0.5**
GRF	**Grafenberg Arr**	**147.01**	**348**	*e*PKPbc	**PKPbc**	**20 50 20.1**	**+0.9**
GRF	**Grafenberg Arr**	**147.01**	**348**	*e*PKP2	**PKPbc**	**20 50 20.1**	**+0.9**
KHC	**Kasperske Hory**	**147.02**	**345**	*i* PKP2	**PKPbc**	**20 50 19.9**	**+0.6**
KHC	**Kasperske Hory**	**147.02**	**345**	*i* PKP	**PKPbc**	**20 50 19.9**	**+0.6**
KHC				*ex*	x	20 50 23.2	
GEC2	**GERESS Array S**	**147.26**	**345**	*e*PKPbc	**PKPbc**	**20 50 20.4**	**+0.4**
GEC2	**GERESS Array S**	**147.26**	**345**	*e*PKP2	**PKPbc**	**20 50 20.4**	**+0.4**
GERES	**GERESS Array B**	**147.26**	**345**	PKPbc	**PKPbc**	**20 50 20.2**	**+0.3**
GERES	**GERESS Array B**	**147.26**	**345**	PKPbc	**PKPbc**	**20 50 20.3**	**+0.3**
	comp=Z,4.6nm,0.5s,baz=28,slow=3.3,SNR=53						
BZS	**Buzias**	**147.34**	**333**	⇓*i* P	**PKPbc**	**20 50 20.5**	**+0.3**
CONA	**Conrad Observa**	**147.50**	**342**	⇓*i* PKIKP	**PKiKP**	**20 50 21.3**	**-0.9**
	comp=Z,5.9nm,0.6s						
WLF	**Walferdange**	**147.79**	**354**	*e*PKPbc	**PKPbc**	**20 50 22.2**	**+1.0**
PKSM	**Moragy**	**148.06**	**337**	⇓*i* P	**PKPbc**	**20 50 22.1**	**+0.2**
FUR	**Furstenfeldbru**	**148.46**	**347**	*e*PKPbc	**PKPbc**	**20 50 23.8**	**+0.9**
FUR	**Furstenfeldbru**	**148.46**	**347**	*e*PKP2	**PKPbc**	**20 50 23.8**	**+0.9**
KBA	**Koelnbreinsper**	**148.98**	**344**	⇑*i* PKPbc	**PKPbc**	**20 50 24.0**	**-0.5**
	comp=Z,3.8nm,0.4s						
WTTA	**Wattenberg**	**149.23**	**346**	⇑*i* PKiKP	**PKiKP**	**20 50 25.2**	**-0.8**
	comp=Z,10.0nm,0.5s						
MOTA	**Moosalm**	**149.27**	**347**	⇑*i* PKPbc	**PKPbc**	**20 50 24.9**	**-0.3**
	comp=Z,15nm,1.2s						
ABTA	**Abfaltersbach**	**149.50**	**345**	⇑*i* PKPbc	**PKPbc**	**20 50 25.1**	**-0.5**
	comp=Z,8.5nm,0.6s						
FETA	**Feichten**	**149.66**	**347**	⇑*i* PKiKP	**PKiKP**	**20 50 26.1**	**-0.6**
	comp=Z,9.1nm,1.1s						
VISS	**Visnje**	**149.72**	**341**	*i* PKPbc	**PKPbc**	**20 50 26.2**	**+0.2**
BOJS	**Bojanci**	**149.85**	**340**	*i* PKPdf	**PKPbc**	**20 50 23.8**	**-2.5**
BOJS				*i* PKPbc	**PKiKP**	**20 50 26.9**	**-0.1**
BOJS				*i* PKPab	**PKPab**	**20 50 38.3**	**+4.1**
JAVS	**Javornik**	**149.87**	**342**	*i* PKPbc	**PKPbc**	**20 50 26.4**	**-0.1**
ESDC	**Sonseca Array**	**157.56**	**11**	PKPab	**PKPab**	**20 51 07.3**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=339,slow=3.2,SNR=4.0						

*IDC **01** 20:33:45.7±0.7, 10.92N×124.91E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.1/24, mbtmp4.1/16, MS3.6/17, Ms1 3.6/17, ms1mx3.5/45, Error ellipse: s-maj=27.2km s-min=15.5km az=72.0*

*MAN **01** 20:33:46, 10.96N×124.76E, h2km, mb5.2, ML4.2, MS4.4 MAN INTENSITY III - ALBUERA LEYTE.*

*ISCJB **01** 20:33:48.0±0.6, 11.00N±0.03×124.80E±0.04, h20km±5km, mb4.3/28, MS3.6/14, Error ellipse: s-maj=6.9km s-min=5.8km az=10.6*

*NEIC **01** 20:33:47.1±0.4, 10.88N×124.89E, h10km, mb4.9/9, Error ellipse: s-maj=12.1km s-min=7.9km az=53.0*

NEIC Felt [III PIVS] at Albuera and [I PIVS] at La Paz.

*BJI **01** 20:33:50.5, 10.46N×125.11E, h86km, mB4.9/3, mb4.2/10, Ms4.4/2, Ms7 4.0/2*

ISC 01 20:33:46.4±1.5, 10.98N±0.03×124.78E±0.04, h2km±10km, n91, σ0.98/82, mb4.3/28, MS3.6/14, 2C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.18**	**292**	*e*P	**Pg**	**20 33 50.7**	**+0.7**
PLP	**Palo**	**0.27**	**47**	⇑*e*P	**Pb**	**20 33 53.4**	**-0.5**
PLP				*i* S	**Sb**	**20 33 58.3**	**-0.6**
CNP	**Catarman**	**1.52**	**356**	*e*P	**Pn**	**20 34 14.4**	**-0.2**
TBP	**Tagbilaran**	**1.57**	**215**	*e*P	**Pg**	**20 34 16.2**	**-0.4**
TBP				*e*S	**Sn**	**20 34 33.8**	**-2.5**
MMPH	**Masbate**	**1.78**	**320**	⇑*e*P	**Pn**	**20 34 17.3**	**-0.8**
MMPH				*e*S	**Sg**	**20 34 43.6**	**+0.1**
RCP	**Roxas**	**2.08**	**286**	⇓*e*P	**Pb**	**20 34 23.4**	**-1.4**
RCP				*e*S	**Sb**	**20 34 49.8**	**-1.4**
BUTP	**Butuan**	**2.17**	**157**	*e*P	**Pb**	**20 34 24.6**	**-1.8**
GUIM	**Jordan**	**2.18**	**261**	*e*P	**Pn**	**20 34 24.2**	**+0.5**
CGP	**Cagayan de Oro**	**2.51**	**182**	⇓*e*P	**Pn**	**20 34 29.3**	**+1.1**
CGP				*i* S	**Sb**	**20 35 03.5**	**-0.2**
OTBP	**Odiongan**	**3.03**	**297**	*e*P	**Pn**	**20 34 37.0**	**+1.6**
BUKP	**Musuan**	**3.10**	**175**	*e*P	**Pn**	**20 34 38.2**	**+1.9**
PAGZ	**Pagadian**	**3.41**	**204**	*e*P	**Pn**	**20 34 41.6**	**+1.0**
DAV	**Davao City (W)**	**3.97**	**168**	Pn	Pb	20 34 52.4	-4.7
DAV				Sn	**Sb**	**20 35 46.5**	**+1.0**
DAV	**Davao City (W)**	**3.97**	**168**	Pn	Pb	20 34 52.4	-4.7
	32nm,0.3s,baz=342,slow=11,SNR=6.1						
DAV				Sn	**Sb**	**20 35 46.5**	**+1.0**
	17nm,0.3s,baz=86,slow=9.0,SNR=1.3						
DAV				LR	LR	20 36 42.4	
	comp=Z,1μm,18.7s,baz=64,slow=46						
BUSP	**Coron**	**4.61**	**283**	*e*P	**Pn**	**20 34 57.6**	**+0.6**
TGY	**Tagaytay City**	**4.87**	**310**	Pn	Pn	20 35 05.0	+4.2
TGY	**Tagaytay City**	**4.87**	**310**	Pn	Pn	20 35 05.0	+4.2
	38nm,0.3s,baz=210,slow=7.7,SNR=3.9						
ENPP	**El Nido**	**5.26**	**273**	*e*P	**Pn**	**20 35 06.6**	**+0.5**
JOW	**Kunigami**	**16.11**	**11**	LR	LR	20 43 14.6	
	comp=Z,209nm,20.3s,baz=329,slow=35						
KAPI	**Kappang**	**16.66**	**198**	LR	LR	20 45 54.4	
	comp=Z,132nm,18.1s,baz=320,slow=44						
GUMO	**Guam**	**19.80**	**80**	LR	LR	20 44 28.6	
	comp=Z,171nm,18.7s,baz=238,slow=33						
JNU	**Nakatsue**	**22.74**	**13**	LR	LR	20 47 16.0	
	comp=Z,109nm,18.4s,baz=242,slow=36						
KMI	**Kunming**	**25.18**	**307**	P	**P**	**20 39 15.0**	**+1.3**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KMI				LR	LR		
	comp=N,220nm,10.6s						
KMI				LR	LR		
	comp=E,220nm,13.9s						
KMI				LR	LR		
	comp=Z,180nm,20.1s						
CMAR	**Chiang Mai Arr**	**26.05**	**290**	P	**P**	**20 39 22.5**	**+1.1**
CMAR	**Chiang Mai Arr**	**26.05**	**290**	P	**P**	**20 39 22.5**	**+1.1**
	comp=Z,2.0nm,1.1s,baz=98,slow=6.1,SNR=11						
CMAR				LR	LR	20 51 01.1	
	comp=Z,56nm,19.1s,baz=136,slow=40						
KSAR	**Wonju Array Be**	**26.49**	**6**	P	**P**	**20 39 26.1**	**+0.9**
KSRS	**Korea Array**	**26.51**	**6**	P	**P**	**20 39 26.1**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=181,slow=9.6,SNR=8.6						
KSRS				LR	LR	20 49 31.3	
	comp=Z,135nm,18.6s,baz=193,slow=36						
XAN	**Xi'an**	**27.15**	**330**	P	**P**	**20 39 33.8**	**+2.6**
XAN				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MJAR	**Matsushiro Arr**	**28.19**	**23**	P	**P**	**20 39 39.3**	**-1.2**
MJAR	**Matsushiro Arr**	**28.19**	**23**	P	**P**	**20 39 39.3**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=213,slow=15,SNR=3.3						
MJAR				LR	LR	20 50 15.8	
	comp=Z,159nm,18.0s,baz=225,slow=35						
WRA	**Warramunga Arr**	**32.14**	**163**	P	**P**	**20 40 13.3**	**-2.2**
WRA	**Warramunga Arr**	**32.14**	**163**	P	**P**	**20 40 13.3**	**-2.2**
	comp=Z,1.0nm,0.6s,baz=339,slow=9.0,SNR=1.9						
USRK	**Ussuriysk Arra**	**33.68**	**9**	P	**P**	**20 40 27.6**	**-1.1**
	comp=Z,2.9nm,0.7s,baz=197,slow=8.1,SNR=9.0						
USRK				LR	LR	20 52 46.5	
	comp=Z,106nm,20.7s,baz=340,slow=34						
ASAR	**Alice Springs**	**35.57**	**166**	P	**P**	**20 40 43.8**	**-1.6**
ASAR	**Alice Springs**	**35.57**	**166**	P	**P**	**20 40 43.8**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=343,slow=7.9,SNR=4.1						
GTA	**Gaotai**	**35.97**	**326**	*e*P	**P**	20 40 52.1	+3.3
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ASAJ	**Asahikawa**	**36.42**	**22**	LR	LR	20 55 52.1	
	comp=Z,122nm,18.4s,baz=192,slow=36						
TAPN	**Taplejung**	**38.43**	**300**	*e*P	**P**	**20 41 10.4**	**+0.3**
TAPN	**Taplejung**	**38.43**	**300**	*e*P	**P**	**20 41 10.4**	**+0.3**
ODAN	**Odare**	**38.56**	**300**	*e*P	**P**	**20 41 11.5**	**+0.4**
	comp=Z,40nm,1.0s						
ODAN	**Odare**	**38.56**	**300**	*e*P	**P**	**20 41 11.5**	**+0.4**
	comp=Z,40nm,1.0s						
RAMN	**Ramite**	**39.26**	**299**	*e*P	**P**	**20 41 17.3**	**+0.3**
RAMN	**Ramite**	**39.26**	**299**	*e*P	**P**	**20 41 17.3**	**+0.3**
ULN	**Ulaanbaatar**	**39.67**	**341**	*e*P	**P**	**20 41 21.0**	**+1.0**
	comp=Z,12nm,1.2s						
JIRN	**Jiri**	**39.81**	**300**	*e*P	**P**	**20 41 22.1**	**+0.4**
	comp=Z,38nm,1.1s						
JIRN	**Jiri**	**39.81**	**300**	*e*P	**P**	**20 41 22.1**	**+0.4**
	comp=Z,38nm,1.1s						
SONM	**Songino Array**	**39.86**	**341**	P	**P**	**20 41 22.8**	**+1.3**
SONM	**Songino Array**	**39.86**	**341**	P	**P**	**20 41 22.8**	**+1.3**
	comp=Z,5.3nm,1.2s,baz=161,slow=8.2,SNR=16						
SONM				LR	LR	20 57 16.1	
	comp=Z,106nm,21.8s,baz=161,slow=35						
GUN	**Gumba**	**40.15**	**300**	*e*P	**P**	**20 41 25.2**	**+0.7**
GUN	**Gumba**	**40.15**	**300**	*e*P	**P**	**20 41 25.2**	**+0.7**
HNR	**Honiara**	**40.43**	**119**	LR	LR	20 56 05.9	
	comp=Z,59nm,19.7s,baz=256,slow=33						
PKI	**Pulchoki**	**40.45**	**300**	*e*P	**P**	**20 41 27.3**	**+0.3**
PKI	**Pulchoki**	**40.45**	**300**	*e*P	**P**	**20 41 27.3**	**+0.3**
KKN	**Kakani**	**40.62**	**300**	*e*P	**P**	**20 41 28.6**	**+0.3**
KKN	**Kakani**	**40.62**	**300**	*e*P	**P**	**20 41 28.6**	**+0.3**
DMN	**Daman**	**40.72**	**300**	*e*P	**P**	**20 41 29.5**	**+0.4**
	comp=Z,19nm,1.0s						
DMN	**Daman**	**40.72**	**300**	*e*P	**P**	**20 41 29.5**	**+0.4**
	comp=Z,19nm,1.0s						
GKN	**Gorkha**	**41.23**	**300**	*e*P	**P**	**20 41 33.4**	**+0.2**
GKN	**Gorkha**	**41.23**	**300**	*e*P	**P**	**20 41 33.4**	**+0.2**
KOLN	**Koldanda**	**42.05**	**299**	*e*P	**P**	**20 41 40.5**	**+0.5**
	comp=Z,11nm,1.0s						
KOLN	**Koldanda**	**42.05**	**299**	*e*P	**P**	**20 41 40.5**	**+0.5**
	comp=Z,11nm,1.0s						
DANN	**Dangsing**	**42.07**	**300**	*e*P	**P**	**20 41 40.6**	**+0.4**
	comp=Z,40nm,1.2s						
DANN	**Dangsing**	**42.07**	**300**	*e*P	**P**	**20 41 40.6**	**+0.4**
	comp=Z,40nm,1.2s						
NWAO	**Narrogin (SRO)**	**44.25**	**189**	LR	LR	21 05 15.0	
	comp=Z,40nm,18.1s,baz=64,slow=43						
STKA	**Stephens Creek**	**45.56**	**160**	P	**P**	**20 42 08.0**	**+0.2**
STKA	**Stephens Creek**	**45.56**	**160**	P	**P**	**20 42 08.0**	**+0.2**
	comp=Z,3.3nm,0.9s,baz=339,slow=5.9,SNR=3.2						
PETK	**Petropavlovsk-**	**49.61**	**25**	LR	LR	21 00 21.2	
	comp=Z,56nm,21.5s,baz=62,slow=32						
MK31	**Makanchi Array**	**50.58**	**323**	*e*P	**P**	**20 42 47.1**	**+0.5**
MKAR	**Makanchi Array**	**50.58**	**323**	P	**P**	**20 42 47.1**	**+0.5**
MKAR	**Makanchi Array**	**50.58**	**323**	P	**P**	**20 42 47.1**	**+0.5**
	comp=Z,3.3nm,0.9s,baz=124,slow=8.4,SNR=22						
ZALV	**Zalesovo Beam**	**53.31**	**332**	P	**P**	**20 43 06.7**	**0.0**
ZALV	**Zalesovo Beam**	**53.31**	**332**	P	**P**	**20 43 06.7**	**0.0**
	comp=Z,1.8nm,0.8s,baz=111,slow=6.5,SNR=11						
AAK	**Ala-Archa**	**53.79**	**315**	*e*P	**P**	**20 43 12.2**	**+1.4**
	comp=Z,25nm,1.4s						
EKS2	**Erkin-Say**	**54.30**	**315**	*e*P	**P**	**20 43 15.0**	**+0.6**
KURK	**Kurchatov**	**54.66**	**326**	P	**P**	**20 43 17.3**	**+0.6**
KURBB	**Kurchatov Arra**	**54.66**	**326**	P	**P**	**20 43 17.3**	**+0.6**
	comp=Z,13nm,1.1s,baz=124,slow=6.8,SNR=33						
BVAR	**Borovoye Array**	**60.25**	**326**	P	**P**	**20 43 56.3**	**+0.1**
BVAR	**Borovoye Array**	**60.25**	**326**	P	**P**	**20 43 56.3**	**+0.1**
	comp=Z,5.4nm,1.0s,baz=125,slow=7.4,SNR=15						
ABKAR	**Akbulak array**	**65.39**	**319**	*e*P	**P**	**20 44 29.9**	**-0.5**
	comp=Z,8.0nm,1.1s						
AKTO	**Aktyubinsk**	**66.84**	**320**	P	**P**	**20 44 40.4**	**+0.6**
AKTO	**Aktyubinsk**	**66.84**	**320**	P	**P**	**20 44 40.4**	**+0.6**
	comp=Z,2.8nm,0.8s,baz=112,slow=6.9,SNR=4.7						
ARU	**Arti**	**67.83**	**327**	*e*P	**P**	**20 44 44.4**	**-1.5**
	comp=Z,15nm,1.1s						
ILAR	**Eielson Array**	**79.44**	**26**	LR	LR	21 18 27.3	
	comp=Z,63nm,19.6s,baz=298,slow=34						
INK	**Inuvik**	**84.16**	**21**	P	**P**	**20 46 19.6**	**+0.8**
INK	**Inuvik**	**84.16**	**21**	P	**P**	**20 46 19.6**	**+0.8**
	comp=Z,1.7nm,1.0s,baz=252,slow=6.4,SNR=3.1						
AKASG	**Malin Array Be**	**85.09**	**321**	P	**P**	**20 46 23.8**	**-0.1**
AKASG	**Malin Array Be**	**85.09**	**321**	P	**P**	**20 46 23.7**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=76,slow=3.9,SNR=4.2						
MLR	**Muntele Rosu**	**88.37**	**316**	LR	LR	21 28 34.9	
	comp=Z,23nm,18.6s,baz=63,slow=37						
NOA	**NORSAR Array B**	**91.47**	**333**	LR	LR	21 31 10.1	
	comp=Z,59nm,18.3s,baz=90,slow=38						
YKA	**Yellowknife Ar**	**93.70**	**24**	P	**P**	**20 47 04.4**	**-0.1**
YKA	**Yellowknife Ar**	**93.70**	**24**	P	**P**	**20 47 04.4**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=306,slow=4.3,SNR=4.1						

*ISCJB **01** 20:41:52.8±0.5, 37.20N±0.04×71.86E±0.09, h142km, mb3.6/2, Error ellipse: s-maj=10.9km s-min=4.2km az=157.5*

*IDC **01** 20:41:55.8±13.0, 37.14N×72.44E, h221km±130km, mb3.2/2, mb1 3.2/5, mb1mx2.9/27, mbtmp3.2/5, Error ellipse: s-maj=98.2km s-min=42.2km az=168.0*

*NNC **01** 20:42:00.3±4.3, 38.07N×71.96E, h0km, mb4.4, mpv4.2, Error ellipse: s-maj=32.6km s-min=26.2km az=1.0*

ISC 01 20:41:52.6±0.7, 37.23N±0.04×72.07E±0.08, h142km, n32, σ2.5 15/36, 2C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.82**	**52**	⇑*i* Pn	**Pn**	**20 42 49.7**	**-0.7**
KSH				Sn	Sn	20 43 28.3	-6.9
KSH				smax	smax		
	comp=N,110nm,0.4s						
KSH				smax	smax		
	comp=E,130nm,0.8s						
AML	**Almayashu**	**5.05**	**14**	P	Pn	20 43 09.8	+3.0
	SNR=487						
AML				P	Pn	20 43 09.8	+3.0
	SNR=487						
UCH	**Uchtor**	**5.33**	**20**	P	**Sn**	**20 44 11.5**	**0.0**
	SNR=15						
UCH				P	**Sn**	**20 44 11.5**	**0.0**
	SNR=15						
KZA	**Kyzart**	**5.42**	**26**	P	**Pn**	**20 43 14.3**	**+2.5**
	SNR=9.7						
KZA				P	**Pn**	**20 43 14.3**	**+2.5**
	SNR=9.7						
EKS2	**Erkin-Say**	**5.58**	**13**	P	**Pn**	**20 43 16.2**	**+2.6**
	SNR=31						
EKS2				P	**Pn**	**20 43 16.2**	**+2.6**
	SNR=31						
THN	**Thein Dam**	**5.65**	**147**	*e*PKP	Pn	20 43 19.2	+4.7
THN				*e*S	**Sn**	**20 44 23.8**	**+5.3**
AAK	**Ala-Archa**	**5.71**	**18**	P	Pn	20 43 18.5	+3.1
	SNR=32						
AAK				P	Pn	20 43 18.5	+3.1
	SNR=32						
KBK	**Karagaybulak**	**5.85**	**21**	P	Pn	20 43 20.6	+3.3
	SNR=6.0						
KBK				P	Pn	20 43 20.6	+3.3
	SNR=6.0						
ULHL	**Ulahol**	**5.95**	**31**	P	**Pn**	**20 43 20.7**	**+2.1**
	SNR=10.0						
ULHL				P	**Pn**	**20 43 20.7**	**+2.1**
	SNR=10.0						
KK31	**Karatay Array**	**5.98**	**349**	Pn	Pn	20 43 21.8	+2.9
	comp=E,17nm,0.5s,baz=158,slow=11,SNR=351						
KK31				Sn	**Sn**	**20 44 25.5**	**-0.9**
	comp=E,5.7nm,0.3s,baz=167,slow=22,SNR=9.9						
CHMS	**Chumysh**	**6.11**	**19**	P	Pn	20 43 23.4	+2.7
	SNR=7.2						
CHMS				P	Pn	20 43 23.4	+2.7
	SNR=7.2						
TKM2	**Tokmak 2**	**6.29**	**24**	⇓Pn	**Pn**	**20 43 24.6**	**+1.4**
	comp=E,14nm,0.6s						
TKM2				⇓Sn	**Sn**	**20 44 31.3**	**-2.8**
	comp=E,5.8nm,0.7s						
TKM2				⇑Lg	Lg	20 44 58.6	
	comp=E,10.0nm,0.8s						
TKM2	**Tokmak 2**	**6.29**	**24**	P	**Pn**	**20 43 25.6**	**+2.4**
	SNR=19						
TKM2				P	**Pn**	**20 43 25.6**	**+2.4**
	SNR=19						
USP	**Ospenovka**	**6.31**	**16**	P	**Pn**	**20 43 25.4**	**+2.1**
	SNR=15						
USP				P	**Pn**	**20 43 25.4**	**+2.1**
	SNR=15						
KHET	**Khetri**	**9.66**	**160**	*e*PKP	**Pn**	**20 44 09.3**	**+1.1**
KHET				*e*S	Sn	20 45 46.3	-8.9
KHET				AML	AML	20 45 58.2	
	comp=N,3.1nm,0.3s						
KHET				AML	AML	20 46 00.2	
	comp=E,3.5nm,0.2s						
KUDL	**Kundal**	**9.80**	**156**	*e*PKP	**Pn**	**20 44 11.8**	**+1.8**
KUDL				*e*S	Sn	20 45 51.4	-7.0
KUDL				AML	AML	20 46 02.0	
	comp=N,3.4nm,0.5s						
KUDL				AML	AML	20 46 02.1	
	comp=E,5.0nm,0.5s						
SONA	**Sohna**	**9.90**	**153**	*e*PKP	**Pn**	**20 44 13.6**	**+2.2**
SONA				*e*S	**Sn**	**20 45 57.4**	**-3.5**
SONA				AML	AML	20 46 02.6	
	comp=E,13nm,0.5s						
SONA				AML	AML	20 46 02.7	
	comp=N,5.9nm,0.4s						
AGRA	**Agra**	**11.14**	**152**	*e*S	**Sn**	**20 46 28.3**	**-2.5**
AGRA				AML	AML	20 46 36.7	
	comp=N,63nm,0.3s						
AGRA				AML	AML	20 46 37.6	
	comp=E,54nm,0.2s						
MKAR	**Makanchi Array**	**12.20**	**35**	P	**Pn**	**20 44 40.9**	**-0.7**
	comp=E,0.1nm,0.3s,baz=226,slow=19,SNR=4.3						
DANN	**Dangsing**	**13.22**	**129**	*e*P	**Pn**	**20 44 55.4**	**+0.2**
KOLN	**Koldanda**	**13.54**	**131**	*e*P	**Pn**	**20 45 00.1**	**+0.9**
	comp=E,4.6nm,0.4s						
GKN	**Gorkha**	**14.02**	**127**	*e*P	**Pn**	**20 45 06.7**	**+1.5**
KKN	**Kakani**	**14.58**	**126**	*e*P	**P**	**20 45 14.8**	**-0.1**
DMN	**Daman**	**14.59**	**127**	*e*P	**Pn**	**20 45 14.6**	**+2.1**
PKI	**Pulchoki**	**14.81**	**127**	*e*P	**P**	**20 45 17.4**	**-0.2**
GUN	**Gumba**	**14.88**	**125**	*e*P	**P**	**20 45 19.0**	**+0.6**
AB31	**Akbulak array**	**14.89**	**328**	Pn	**P**	**20 45 17.6**	**-0.3**
	comp=E,1.6nm,0.5s,baz=135,slow=12,SNR=31						
AB31				⇓Sn	**Sn**	**20 47 57.1**	**-3.7**
	comp=E,1.3nm,0.7s,baz=134,slow=25,SNR=4.8						
JIRN	**Jiri**	**15.26**	**125**	*e*P	**P**	**20 45 23.9**	**+1.3**
AKTO	**Aktyubinsk**	**16.00**	**327**	P	**P**	**20 45 36.9**	**0.0**
	comp=E,0.8nm,0.3s,baz=134,slow=7.9,SNR=7.3						
ZALV	**Zalesovo Beam**	**18.90**	**24**	P	**P**	**20 45 59.4**	**-2.5**
	comp=E,1.9nm,0.3s,baz=223,slow=11,SNR=41						
BRTR	**Keskin Array B**	**30.04**	**287**	P	**P**	**20 47 47.5**	**-0.8**
	comp=E,0.3nm,0.5s,baz=102,slow=8.0,SNR=3.8						
TORD	**Torodi Ar. Bea**	**66.59**	**269**	P	P	20 52 24.3	-3.6
	comp=E,0.7nm,0.4s,baz=48,slow=6.0,SNR=20						

*ISCJB **01** 20:45:14.7±0.

TBP			*e*S	**Sg**	**21 06 09.5**	**-0.7**
GUIM	**Jordan**	**2.16 260**	*e*P	**Pn**	**21 05 53.3**	**-1.1**
BUTP	**Butuan**	**2.20 157**	*e*P	**Pn**	**21 05 55.8**	**+0.9**
CGP	**Cagayan de Oro**	**2.54 181**	⇓*e*P	**Sn**	**21 06 32.7**	**+2.5**
CGP			*i* S	**Sn**	**21 06 32.7**	**+2.5**
BUKP	**Musuan**	**3.13 174**	*i* P	**Pn**	**21 06 08.7**	**+1.0**
PAGZ	**Pagadian**	**3.42 203**	*e*P	**Pn**	**21 06 12.3**	**+0.6**
DAV	**Davao City (W)**	**4.00 168**	Pn	**Pb**	**21 06 28.8**	**-0.4**
	30nm,0.3s,baz=134,slow=13,SNR=5.1					
DAV			Sn	**Sg**	**21 07 25.0**	**-2.7**
	34nm,0.3s,baz=276,slow=7.3,SNR=1.9					
ASAR	**Alice Springs**	**35.61 166**	P	**P**	**21 12 15.8**	**-0.3**
	0.3nm,0.5s,baz=341,slow=7.9,SNR=4.3					
CTA	**Charters Tower**	**37.45 146**	LR	LR	21 25 17.1	
	comp=Z,245nm,20.8s,baz=180,slow=32					
SONM	**Songino Array**	**39.82 341**	P	**P**	**21 12 52.4**	**+0.7**
	0.7nm,0.9s,baz=158,slow=9.4,SNR=5.3					
NWAO	**Narrogin (SRO)**	**44.28 189**	LR	LR	21 33 42.8	
	comp=Z,33nm,20.6s,baz=28,slow=38					
MKAR	**Makanchi Array**	**50.54 323**	P	**P**	**21 14 18.5**	**+1.8**
	0.5nm,0.7s,baz=134,slow=8.4,SNR=6.7					
NOA	**NORSAR Array B**	**91.44 333**	LR	LR	22 06 11.5	
	comp=Z,24nm,18.5s,baz=0.0,slow=40					

IDC 01 21:20:11.9±1.2, 1°.62N×122°.53E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/20, mbtmp3.4/5, Error ellipse: s-maj=152.8km s-min=21.4km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.36**	**152**	P	P	21 25 30.5	-1.4
	0.6nm,0.7s,baz=332,slow=10,SNR=9.6						
ASAR	**Alice Springs**	**27.46**	**157**	P	P	21 26 01.8	+1.9
	0.8nm,1.0s,baz=341,slow=14,SNR=4.2						
SONM	**Songino Array**	**48.11**	**345**	P	P	21 28 54.3	+0.6
	0.3nm,0.7s,baz=158,slow=8.0,SNR=2.6						
MKAR	**Makanchi Array**	**57.00**	**328**	P	P	21 29 59.0	-0.5
	0.1nm,0.3s,baz=129,slow=7.6,SNR=3.3						
KURBB	**Kurchatov Arra**	**61.34**	**330**	P	P	21 30 28.9	-0.6
	0.6nm,0.9s,baz=115,slow=5.5,SNR=3.1						

MAN 01 21:22:28, 10°.93N×124°.77E, h1km, mb4.6, ML3.5, MS3.5, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.20**	**309**	*e*P	Pg	21 22 31.9	0.0
PLP	**Palo**	**0.32**	**41**⇑	*e*P	Pg	21 22 34.6	+0.5
PLP				*i* S	Sg	21 22 39.6	+1.4
MSLP	**Maasin**	**0.79**	**174**	*e*P	Pb	21 22 44.6	0.0
MSLP				*e*S	Sn	21 23 00.2	+1.4
TBP	**Tagbilaran**	**1.52**	**216**	*e*P	Pg	21 22 57.8	+0.6
TBP				*e*S	Sg	21 23 20.7	+3.9
BUKP	**Musuan**	**3.04**	**175**	*e*P	Pn	21 23 19.5	+2.1

*CRAAG **01** 21:37:07.0, 32°.85N×0°.66E, Ml4.2*
*MDD **01** 21:37:08.5±3.6, 33°.07N×0°.31E, h0km, mb4.1/7, Error ellipse: s-maj=38.0km s-min=19.2km az=15.0, PRXIMO SOLUCIN POBRE OKGL: problema de tiempo?*
*CSEM **01** 21:37:11.8±1.1, 33°.33N×0°.28E, h10km, mb4.1/7, Error ellipse: s-maj=25.1km s-min=13.2km az=13.0*
ISC 01 21:37:10.3±3.4, 33°.2N±0°.2×0°.31E±0°.08, h17km±16km, n32, σ1s49/42, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJGS	**Djebel Guires**	**2.38**	**9**	P	**Sn**	**21 38 16.0**	**-1.4**
OJGS	**Djebel Guires**	**2.38**	**9**	P	**Sn**	**21 38 16.0**	**-1.4**
OJGS	**Djebel Guires**	**2.38**	**9**	P	**Sn**	**21 38 16.0**	**-1.4**
ETRT	**Tiaret**	**2.38**	**20**	P	**Pn**	**21 37 50.0**	**+1.3**
ETRT	**Tiaret**	**2.38**	**20**	P	**Pn**	**21 37 50.0**	**+1.3**
ETRT	**Tiaret**	**2.38**	**20**	P	**Pn**	**21 37 50.0**	**+1.3**
EANR	**'Ain N'Sour**	**2.87**	**13**	P	**Pn**	**21 37 54.0**	**-1.3**
EANR	**'Ain N'Sour**	**2.87**	**13**	P	**Pn**	**21 37 54.0**	**-1.3**
EANR	**'Ain N'Sour**	**2.87**	**13**	P	**Pn**	**21 37 54.0**	**-1.3**
OKGL	**Djebel Kef Gue**	**2.90**	**5**	P	**Pg**	**21 38 05.1**	**-0.7**
	96nm,0.5s,SNR=7.9						
OKGL				S	**Sb**	**21 38 39.8**	**+3.1**
	496nm,0.5s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**2.90**	**5**	P	Pg	21 38 14.0	+8.2
OKGL	**Djebel Kef Gue**	**2.90**	**5**	P	Pg	21 38 14.0	+8.2
OKGL				S	**Sb**	**21 38 39.8**	**+3.1**
	496nm,0.5s,SNR=7.9						
ECHA	**Ech Chlef**	**3.12**	**16**	P	**Pn**	**21 37 59.0**	**+0.4**
ECHA	**Ech Chlef**	**3.12**	**16**	P	**Pn**	**21 37 59.0**	**+0.4**
ECHF	**Ech Chlef**	**3.12**	**15**	P	**Pn**	**21 37 59.0**	**+0.3**
ECHF	**Ech Chlef**	**3.12**	**15**	P	**Pn**	**21 37 59.0**	**+0.3**
EBNR	**Beni Rached**	**3.29**	**17**	P	Pn	21 37 57.0	-4.1
EBNR	**Beni Rached**	**3.29**	**17**	P	Pn	21 37 57.0	-4.1
EBER	**Berja**	**4.57**	**326**	S	**Sn**	**21 39 11.8**	**+0.2**
	1.4nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.57**	**326**	S	**Sn**	**21 39 11.8**	**+0.2**
	1.4nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**4.85**	**345**	P	**Pn**	**21 38 21.8**	**-0.8**
	2.2nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	**21 39 15.7**	**-2.7**
	2.1nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**4.85**	**345**	P	**Pn**	**21 38 21.8**	**-0.8**
	2.2nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	**21 39 15.7**	**-2.7**
	2.1nm,0.4s,SNR=7.9						
EGUA	**Guajares**	**4.86**	**320**	P	**Pn**	**21 38 22.5**	**-0.2**
	26nm,0.6s,SNR=7.9						
EGUA				S	**Sn**	**21 39 17.2**	**-1.4**
	13nm,0.5s,SNR=7.9						
EGUA	**Guajares**	**4.86**	**320**	P	**Pn**	**21 38 22.5**	**-0.2**
	26nm,0.6s,SNR=7.9						
EGUA				S	**Sn**	**21 39 17.2**	**-1.4**
	13nm,0.5s,SNR=7.9						
EHUE	**Huescar**	**5.23**	**334**	P	**Pn**	**21 38 27.7**	**0.0**
	0.6nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**21 39 26.8**	**-0.8**
	SNR=7.9						
EHUE	**Huescar**	**5.23**	**334**	P	**Pn**	**21 38 27.7**	**0.0**
	0.6nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**21 39 26.8**	**-0.8**
	SNR=7.9						
EQES	**Quesada**	**5.40**	**330**	P	**Pn**	**21 38 32.0**	**+1.8**
	1.3nm,0.4s,SNR=7.9						
EQES				S	**Sn**	**21 39 33.5**	**+1.4**
	1.3nm,0.3s,SNR=7.9						
EQES	**Quesada**	**5.40**	**330**	P	**Pn**	**21 38 32.0**	**+1.8**
	1.3nm,0.4s,SNR=7.9						
EQES				S	**Sn**	**21 39 33.5**	**+1.4**
	1.3nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**5.69**	**345**	P	**Pn**	**21 38 33.6**	**-0.5**
	1.2nm,0.2s,SNR=8.4						
ETOB				S	**Sn**	**21 39 36.8**	**-2.2**
	2.0nm,0.5s,SNR=7.4						
ETOB	**Tobarra**	**5.69**	**345**	P	**Pn**	**21 38 33.6**	**-0.5**
	1.2nm,0.2s,SNR=8.4						
ETOB				S	**Sn**	**21 39 36.8**	**-2.2**
	2.0nm,0.5s,SNR=7.4						
EVIA	**Vianos**	**5.94**	**338**	P	**Pn**	**21 38 36.1**	**-1.4**
	2.0nm,0.3s,SNR=7.9						
EVIA				S	**Sn**	**21 39 44.2**	**-0.9**
	9.2nm,0.6s,SNR=7.9						
EVIA	**Vianos**	**5.94**	**338**	P	**Pn**	**21 38 36.1**	**-1.4**
	2.0nm,0.3s,SNR=7.9						
EVIA				S	**Sn**	**21 39 44.2**	**-0.9**
	9.2nm,0.6s,SNR=7.9						

*ISK **01** 21:38:20.9, 37°.08N×28°.29E, h26km, MD2.5*
*ISCJB **01** 21:38:21.4±0.7, 36°.93N±0°.04×28°.26E±0°.03, h3km±10km, Error ellipse: s-maj=7.0km s-min=4.3km az=13.3*
*CSEM **01** 21:38:21.5±0.2, 36°.92N×28°.27E, h2km, MD2.5, Error ellipse: s-maj=4.3km s-min=2.7km az=13.0*
*DDA **01** 21:38:22.2, 36°.97N×28°.22E, h7km, MD2.8*
ISC 01 21:38:21.1±1.0, 36°.92N±0°.04×28°.26E±0°.03, h11km±8km, n16, σ0s43/31, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.21**	**5**	PG	**Pg**	**21 38 26.0**	**+0.3**
YER				SG	**Sg**	**21 38 29.2**	**+0.3**
YER	**Yerkesik**	**0.21**	**5**	*i* Pg	**Pg**	**21 38 26.0**	**+0.3**
YER				*i* Sg	**Sg**	**21 38 29.2**	**+0.3**
TURN	**Turunc**	**0.28**	**100**	*i* P	**Pg**	**21 38 26.6**	**-0.2**
TURN				*i* S	**Sg**	**21 38 29.9**	**-0.8**
TURN	**Turunc**	**0.28**	**100**	*i* P	**Pg**	**21 38 26.6**	**-0.2**
TURN				*i* S	**Sg**	**21 38 29.9**	**-0.8**
BDRM	**Kayabasi**	**0.67**	**283**	*i* P	**Pg**	**21 38 33.7**	**-0.4**
BDRM				*i* S	**Sb**	**21 38 44.1**	**0.0**
BDRM	**Kayabasi**	**0.67**	**283**	*i* P	**Pg**	**21 38 33.7**	**-0.4**
BDRM				*i* S	**Sb**	**21 38 44.1**	**0.0**
FETY	**Fethiye**	**0.72**	**113**	*e*PG	**Pg**	**21 38 35.6**	**+0.5**
FETY				*e*SG	**Sn**	**21 38 48.3**	**0.0**
FETY	**Fethiye**	**0.72**	**113**	*e*Pg	**Pg**	**21 38 35.6**	**+0.5**
BODT	**Bodrum**	**0.77**	**281**	*e*PG	**Pb**	**21 38 37.0**	**+0.4**
BODT				*e*SG	**Sb**	**21 38 47.8**	**+0.7**
BODT	**Bodrum**	**0.77**	**281**	*e*Pg	**Pb**	**21 38 37.0**	**+0.4**
BODT				*e*Sg	**Sb**	**21 38 47.8**	**+0.7**
AYDN	**Tasoluk**	**0.80**	**338**	*i* P	**Pb**	**21 38 36.8**	**-0.3**
AYDN				*i* S	**Sg**	**21 38 46.7**	**-0.4**
AYDN	**Tasoluk**	**0.80**	**338**	*i* P	**Pb**	**21 38 36.8**	**-0.3**
AYDN				*i* S	**Sg**	**21 38 46.7**	**-0.4**
DNZL	**Cakiroluk**	**0.99**	**39**	*i* P	**Pb**	**21 38 40.7**	**+0.3**
DNZL				*i* S	**Sn**	**21 38 54.6**	**-0.6**
DNZL	**Cakiroluk**	**0.99**	**39**	*i* P	**Pb**	**21 38 40.7**	**+0.3**
DNZL				*i* S	**Sn**	**21 38 54.6**	**-0.6**
GCAM	**G?zelcaml?**	**1.13**	**314**	*i* P	**Pg**	**21 38 42.9**	**0.0**
GCAM				*e*S	**Sn**	**21 38 58.3**	**0.0**
GCAM	**G?zelcaml?**	**1.13**	**314**	*i* P	**Pg**	**21 38 42.9**	**0.0**
GCAM				*e*S	**Sn**	**21 38 58.3**	**0.0**

PRE 01 21:41:12.0±0.9, 26°.43S×27°.50E, h2km, ML2.1, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.13**	**53**	*e*P	Pg	21 41 14.8	0.0
KLOF				*e*S	Sg	21 41 16.7	+0.1
KLOF				AML	AML	21 41 20.2	
	comp=Z,619nm,0.2s						
ERPM	**east rand prop**	**0.67**	**83**	*e*P	Pg	21 41 25.7	+0.4
ERPM				*e*S	Sg	21 41 34.5	+0.4
ERPM				AML	AML	21 41 36.4	
	comp=Z,30nm,0.2s						
BFSD	**Buffelsfontein**	**0.77**	**235**	*e*P	Pg	21 41 27.1	0.0
BFSD				*e*S	Sg	21 41 38.1	+0.9
BFSD				AML	AML	21 41 43.0	
	comp=Z,44nm,0.2s						
LBTB	**Lobatse**	**2.22**	**309**	*e*P	Pn	21 41 50.3	+0.4
LBTB				*e*S	Sn	21 42 18.5	+0.4
LBTB				AML	AML	21 42 21.3	
	comp=Z,8.8nm,0.2s						
BOSA	**Boshof**	**2.95**	**222**	*e*P	Pn	21 42 00.6	+0.5
BOSA				*e*S	Sn	21 42 35.6	-0.6
BOSA				AML	AML	21 42 41.8	
	comp=Z,4.7nm,0.3s						

*ISCJB **01** 21:52:13.3±0.9, 36°.91N±0°.07×28°.28E±0°.05, h11km±9km, Error ellipse: s-maj=10.3km s-min=6.2km az=7.5*
*DDA **01** 21:52:14.5, 36°.98N×28°.25E, h7km, MD2.8*
ISC 01 21:52:13.6±1.3, 36°.91N±0°.07×28°.27E±0°.05, h7km±20km, n5, σ0s44/10, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.23**	**2**	*e*PG	**Pg**	**21 52 18.4**	**+0.2**
YER				*e*SG	**Sg**	**21 52 21.6**	**+0.2**
TURN	**Turunc**	**0.27**	**97**	*i* P	**Pg**	**21 52 18.9**	**0.0**
TURN				*i* S	**Sg**	**21 52 22.3**	**-0.2**
BDRM	**Kayabasi**	**0.68**	**284**	*e*P	**Pg**	**21 52 27.0**	**+0.3**
BDRM				*i* S	**Sb**	**21 52 37.2**	**-0.3**
BODT	**Bodrum**	**0.78**	**282**	*e*PG	**Pb**	**21 52 30.0**	**+0.4**
BODT				*e*SG	**Sg**	**21 52 38.3**	**-0.6**
AYDN	**Tasoluk**	**0.82**	**338**	*i* P	**Pg**	**21 52 29.2**	**-0.1**
AYDN				*i* S	**Sg**	**21 52 39.3**	**-0.6**

*IDC **01** 21:52:43.0±1.0, 0°.20S×132°.68E, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.0/18, mbtmp4.0/9, ML4.0/1, MS3.6/9, Ms1 3.6/9, ms1mx3.2/30, Error ellipse: s-maj=54.3km s-min=17.1km az=72.0*
*ISCJB **01** 21:52:46.1±0.5, 0°.26S±0°.04×132°.54E±0°.07, h33km, mb3.9/10, MS3.7/7, Error ellipse: s-maj=9.6km s-min=6.0km az=172.9*
*DJA **01** 21:52:46, 0°.40S×132°.43E, h10km, MLv4.4/8*
*NEIC **01** 21:52:48.0±0.5, 0°.27S×132°.59E, h35km, mb3.9/5, Error ellipse: s-maj=25.7km s-min=7.1km az=77.0*
ISC 01 21:52:47.8±0.7, 0°.33S±0°.06×132°.60E±0°.09, h33km, n39, σ1s76/31, mb3.9/10, MS3.5/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.44**	**248**	P	Pn	21 53 08.1	-3.5
SWI				S	**Sn**	**21 53 26.8**	**-2.6**
FAKI	**Fak Fak**	**2.60**	**188**	P	**Pn**	**21 53 29.5**	**+2.0**
FAKI				S	**Sn**	**21 53 59.3**	**+1.4**
MSAI	**Masohi**	**4.74**	**231**	P	Pn	21 54 00.5	+3.5
LBMI	**Labuha**	**5.11**	**267**	P	Pn	21 54 05.4	+3.3
KDI	**Kendari**	**10.61**	**250**	P	**Pn**	**21 55 18.0**	**+0.5**
	24nm,0.9s						
GUMO	**Guam**	**18.41**	**41**	LR	LR	22 02 10.4	
	comp=Z,122nm,20.8s,baz=156,slow=31						
FITZ	**Fitzroy Crossi**	**18.94**	**201**	*e*P	**P**	**21 57 06.5**	**+0.3**
	5.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.94**	**201**	LR	LR	22 04 21.7	
	comp=Z,53nm,21.7s,baz=31,slow=37						
WRAB	**Tennant Creek**	**19.56**	**175**	*e*P	**Pn**	**21 57 13.8**	**-0.6**
	15nm,1.1s						
WRAB				S	**S**	**22 00 50.8**	**-1.3**
WRA	**Warramunga Arr**	**19.57**	**175**	P	**Pn**	**21 57 13.9**	**-0.6**
WRA				S	**S**	**22 00 46.9**	**-5.5**
WRA	**Warramunga Arr**	**19.57**	**175**	P	**Pn**	**21 57 13.9**	**-0.6**
	0.5nm,0.3s,baz=354,slow=11,SNR=29						
WRA				S	**S**	**22 00 46.8**	**-5.5**
	0.1nm,0.3s,baz=355,slow=23,SNR=4.8						
JAGI	**Jajag, Banyuwa**	**20.08**	**246**	P	Pn	21 57 22.0	+1.3
	52nm,1.1s						
SBUM	**Sibu**	**20.56**	**278**	P	Pn	21 57 34.3	+8.0
PBKI	**Pangkalan Bun**	**21.06**	**263**	P	**P**	**21 57 29.8**	**+0.5**
AS31	**Alice Springs**	**23.23**	**177**	*e*P	**P**	**21 57 52.6**	**+0.3**
ASAR	**Alice Springs**	**23.23**	**177**	P	**P**	**21 57 53.1**	**+0.8**
ASAR	**Alice Springs**	**23.23**	**177**	P	**P**	**21 57 53.1**	**+0.8**
	24nm,0.9s,baz=353,slow=8.4,SNR=56						
CTA	**Charters Tower**	**23.75**	**147**	LR	LR	22 08 33.2	
	comp=Z,184nm,18.8s,baz=232,slow=40						
JOW	**Kunigami**	**27.32**	**352**	LR	LR	22 07 23.5	
	comp=Z,122nm,18.6s,baz=122,slow=32						
STKA	**Stephens Creek**	**32.51**	**166**	*e*P	**P**	**21 59 16.1**	**+0.5**
	0.9nm,0.9s						
STKA	**Stephens Creek**	**32.51**	**166**	P	**P**	**21 59 16.8**	**+1.2**
	3.5nm,0.7s,baz=306,slow=5.5,SNR=7.3						
STKA				LR	LR	22 12 24.9	
	comp=Z,99nm,21.8s,baz=24,slow=36						
JNU	**Nakatsue**	**33.31**	**357**	LR	LR	22 11 20.9	
	comp=Z,96nm,18.4s,baz=178,slow=34						
KSRS	**Korea Array**	**37.84**	**354**	LR	LR	22 12 56.3	
	comp=Z,74nm,20.2s,baz=16,slow=32						
CMAR	**Chiang Mai Arr**	**37.98**	**301**	P	**P**	**22 00 03.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**37.98**	**301**	P	**P**	**22 00 03.0**	**+0.1**
	0.2nm,0.3s,baz=110,slow=6.1,SNR=4.3						
ASAJ	**Asahikawa**	**45.14**	**10**	LR	LR	22 18 45.2	
	comp=Z,107nm,18.3s,baz=5.5,slow=35						
SONM	**Songino Array**	**53.11**	**338**	P	**P**	**22 02 03.1**	**+0.8**
SONM	**Songino Array**	**53.11**	**338**	P	**P**	**22 02 03.2**	**+0.8**
	1.0nm,1.1s,baz=164,slow=4.2,SNR=3.9						
MK31	**Makanchi Array**	**64.24**	**324**	*e*P	**P**	**22 03 19.5**	**-0.2**
MKAR	**Makanchi Array**	**64.24**	**324**	P	**P**	**22 03 19.6**	**-0.1**
MKAR	**Makanchi Array**	**64.24**	**324**	P	**P**	**22 03 19.6**	**-0.1**
	0.8nm,0.8s,baz=117,slow=7.1,SNR=8.7						
ZALV	**Zalesovo Beam**	**66.89**	**332**	P	**P**	**22 03 35.3**	**-1.3**
ZALV	**Zalesovo Beam**	**66.89**	**332**	P	**P**	**22 03 35.3**	**-1.3**
	0.4nm,0.5s,baz=99,slow=3.6,SNR=3.0						
KURK	**Kurchatov**	**68.32**	**326**	*e*P	**P**	**22 03 45.1**	**-0.6**
	1.6nm,0.8s						
KURBB	**Kurchatov Arra**	**68.32**	**326**	P	**P**	**22 03 45.7**	**0.0**
	1.3nm,0.9s,baz=119,slow=5.7,SNR=8.7						
ABKAR	**Akbulak array**	**78.99**	**320**	*e*P	**P**	**22 04 46.8**	**-1.6**
	0.7nm,0.6s						
ILAR	**Eielson Array**	**86.25**	**25**	P	**P**	**22 05 25.4**	**-0.4**
ILAR	**Eielson Array**	**86.25**	**25**	P	**P**	**22 05 25.4**	**-0.4**
	0.7nm,0.8s,baz=238,slow=5.4,SNR=5.0						
FINES	**FINESS Array B**	**98.14**	**332**	LR	LR	22 53 27.7	
	comp=Z,78nm,18.3s,baz=313,slow=37						

*IDC **01** 21:57:38.9±1.1, 30°.37S×118°.31E, h0km, mb3.6/2, mb1 4.1/6, mb1mx3.8/15, mbtmp4.0/6, ML1.7/1, Error ellipse: s-maj=40.4km s-min=15.9km az=116.0*
ISC 01 21:57:39.4±1.6, 30°.30S±0°.05×118°.32E±0°.06, h11km±11km, n18, σ2s49/23, 1C-1D, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLBR	**Kellerberrin**	**1.38**	**200**⇑	*i*P	**Pg**	**21 58 05.5**	**-0.4**
KLBR				*e*S	**Sg**	**21 58 22.5**	**-1.3**
	2µm,0.3s						
BLDU	**Ballidu**	**1.42**	**257**⇓	*i*P	Pn	21 57 58.7	-6.5
BLDU				*e*S	Sb	21 58 11.1	-13
BLDU				*e*RG	Rg	21 58 17.5	
MORW	**Morawa**	**2.33**	**301**	*e*P	Pn	21 58 12.8	-4.9
MORW				*e*S	Sn	21 58 37.0	-9.3
	2µm,0.3s						
NWAO	**Narrogin (SRO)**	**2.78**	**199**	Pn	**Pn**	**21 58 24.4**	**+0.5**
	6.1nm,0.3s,baz=14,slow=12,SNR=64						
NWAO				Sn	**Sn**	**21 58 55.0**	**-2.4**
	50nm,0.3s,baz=100,slow=23,SNR=20						
NWAO				Lg	Lg	21 59 03.9	
	72nm,0.3s,baz=95,slow=22,SNR=27						
NWAO				Rg	Rg	21 59 18.4	
	268nm,0.5s,baz=254,slow=22,SNR=6.8						
KMBL	**Kambalda**	**3.25**	**110**	*e*P	**Pb**	**21 58 37.0**	**-0.1**
KMBL				*e*S	**Sb**	**21 59 17.8**	**+1.1**
	386nm,0.5s						
MEEK	**Meekatharra**	**3.65**	**4**	*e*P	**Pn**	**21 58 36.6**	**+0.6**
MEEK				*e*S	**Sn**	**21 59 17.0**	**-2.1**
	166nm,0.3s						
RKGY	**Rocky Gully**	**4.45**	**194**	*e*P	**Pn**	**21 58 47.8**	**+1.0**
RKGY				*e*S	**Sn**	**21 59 35.5**	**-3.1**
FORT	**Forrest**	**8.42**	**96**	*e*P	Pn	21 59 46.5	+5.1
FORT				*e*S	**Sn**	**22 01 21.2**	**+4.8**
	27nm,0.4s						
MBWA	**Marble Bar**	**9.19**	**8**	*e*P	**Pn**	**21 59 50.6**	**-1.4**
MBWA				*e*S	Sn	22 01 27.2	-8.2
FITZ	**Fitzroy Crossi**	**13.85**	**30**	Pn	**Pn**	**22 00 56.3**	**+0.6**
	0.7nm,0.3s,baz=212,slow=9.0,SNR=12						
FITZ				Sn	Sn	22 03 19.6	-10
	0.1nm,0.3s,baz=297,slow=21,SNR=1.2						
ASAR	**Alice Springs**	**15.38**	**68**	Pn	**Pn**	**22 01 17.0**	**+0.5**
	0.7nm,0.3s,baz=242,slow=10,SNR=29						
ASAR				Sn	**Sn**	**22 04 02.4**	**-4.6**
	0.4nm,0.3s,baz=247,slow=22,SNR=13						
ASAR				Lg	Lg	22 05 50.9	
	0.1nm,0.3s,baz=240,slow=26,SNR=3.9						
WRA	**Warramunga Arr**	**17.78**	**58**	P	**Pn**	**22 01 46.9**	**-0.1**
	0.4nm,0.3s,baz=230,slow=13,SNR=12						
WRA				S	**Sn**	**22 05 00.1**	**-5.2**
	0.3nm,0.3s,baz=232,slow=21,SNR=6.4						
STKA	**Stephens Creek**	**20.00**	**100**	P	Pn	22 02 18.7	+4.9
	0.6nm,0.3s,baz=279,slow=11,SNR=12						
STKA				S	**S**	**22 05 53.6**	**-3.3**
	0.2nm,0.3s,baz=92,slow=14,SNR=3.4						
STKA				Lg	Lg	22 08 19.2	
	0.1nm,0.3s,baz=334,slow=17,SNR=2.3						
SONM	**Songino Array**	**78.51**	**352**	P	**P**	**22 09 42.5**	**+2.0**
	0.4nm,0.7s,baz=185,slow=3.7,SNR=3.7						
KURBB	**Kurchatov Arra**	**87.91**	**336**	P	**P**	**22 10 29.4**	**+0.6**
	0.3nm,0.7s,baz=157,slow=5.6,SNR=3.2						
YKA	**Yellowknife Ar**	**133.37**	**31**	PKP	**PKPdf**	**22 16 56.5**	**+1.7**
	0.1nm,0.6s,baz=302,slow=2.3,SNR=3.6						
TXAR	**Lajitas Array**	**143.71**	**81**	PKP	**PKPdf**	**22 17 16.6**	**+1.7**
	0.4nm,0.9s,baz=321,slow=20,SNR=3.8						
ULM	**Lac du Bonnet**	**147.58**	**42**	PKPbc	**PKPab**	**22 17 25.3**	**-0.4**
	2.3nm,0.6s,baz=300,slow=3.3,SNR=4.3						

IDC 01 22:12:01.1±3.5, 22°.08N×144°.02E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.3/25, mbtmp3.6/5, Error ellipse: s-maj=143.3km s-min=32.6km az=79.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.82**	**193**	P	P	22 20 00.8	-0.2
	0.3nm,0.7s,baz=6.8,slow=7.4,SNR=3.2						
MKAR	**Makanchi Array**	**55.01**	**312**	P	P	22 21 34.1	-0.4
	0.2nm,0.8s,baz=100,slow=7.5,SNR=1.7						
KURBB	**Kurchatov Arra**	**57.78**	**317**	P	P	22 21 54.5	+0.5
	0.3nm,0.5s,baz=91,slow=7.4,SNR=5.0						
BVAR	**Borovoye Array**	**62.89**	**319**	P	P	22 22 29.5	+0.4
	0.5nm,0.3s,baz=94,slow=8.3,SNR=11						
FINES	**FINESS Array B**	**83.17**	**335**	P	P	22 24 28.1	-0.9
	1.4nm,0.9s,baz=40,slow=3.2,SNR=4.4						

CASC 01 22:23:40.6±2.5, 8°.91N×82°.85W, h13km±16km, MD3.5, 1C-1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.20**	**128**	*i*P	Pb	22 23 46.0	-0.3
BRU2				*i* S	Sb	22 23 50.1	0.0
TBS2

AKTO				⇑Lg		Lg	22 56 29.0	
	2.7nm,1.2s							
AKTO	**Aktyubinsk**	**10.52**	**342**	Pn		**Pn**	**22 53 27.5**	**+2.1**
	1.4nm,0.3s,baz=155,slow=7.7,SNR=24							
AKTO				Sn		**Sn**	**22 55 22.2**	**-0.7**
	0.4nm,0.3s,baz=236,slow=21,SNR=2.4							
AKTO				Lg		Lg	22 56 33.8	
	0.3nm,0.3s,baz=252,slow=9.7,SNR=2.0							
ZRNK	**Zerenda**	**13.12**	**16**	⇓Pn		**Pn**	**22 53 58.7**	**-2.1**
	0.7nm,0.4s							
ZRNK				⇓Sn		**Sn**	**22 56 28.1**	**+1.7**
	1.1nm,0.5s							
ZRNK				⇑Lg		Lg	22 57 50.3	
	5.1nm,1.0s							
DGRG	**David-gareji**	**13.33**	**280**	P		**Pn**	**22 54 04.3**	**+0.5**
VOSK	**Vostochnaya**	**13.40**	**21**	⇓Pn		**Pn**	**22 54 01.8**	**-2.8**
	1.1nm,0.8s							
VOSK				⇑Sn		**Sn**	**22 56 35.3**	**+2.1**
	3.3nm,1.2s							
VOSK				⇓Lg		Lg	22 57 58.3	
	8.7nm,1.2s							
BVA0	**Borovoye Array**	**13.51**	**20**	⇓Pn		**Pn**	**22 54 04.9**	**-1.3**
	0.7nm,1.1s,baz=211,slow=12,SNR=16							
BVA0				⇑Sn		**Sn**	**22 56 37.2**	**+1.3**
	0.6nm,1.0s							
BVA0				⇓Lg		Lg	22 58 01.2	
	1.8nm,1.1s							
BVAR	**Borovoye Array**	**13.51**	**20**	Pn		**Pn**	**22 54 06.7**	**+0.5**
	0.5nm,0.3s,baz=217,slow=10,SNR=17							
BVAR				Sn		**Sn**	**22 56 31.4**	**-4.6**
	0.2nm,0.3s,baz=213,slow=19,SNR=3.1							
BVAR				Lg		Lg	22 58 13.1	
	0.0nm,0.3s,baz=190,slow=24,SNR=2.1							
BRVK	**Borovoye**	**13.51**	**19**	⇑Pn		**Pn**	**22 54 03.7**	**-2.5**
	1.6nm,0.6s							
BRVK				⇓Sn		**Sn**	**22 56 36.8**	**+0.8**
	3.4nm,0.7s							
BRVK				⇓Lg		Lg	22 58 02.9	
	16nm,1.3s							
TBLG	**Delisi**	**13.80**	**281**	P		P	22 54 30.4	+12
ONI	**Oni**	**14.76**	**285**	P		P	22 54 33.2	+3.8
KURBB	**Kurchatov Arra**	**14.85**	**42**	⇓Pn		**Pn**	**22 54 21.9**	**-2.4**
	0.1nm,0.5s							
KURBB				⇓Lg		Lg	22 58 44.0	
	1.8nm,0.9s							
KURBB	**Kurchatov Arra**	**14.85**	**42**	Pn		**Pn**	**22 54 22.2**	**-2.2**
	0.1nm,0.3s,baz=244,slow=13,SNR=6.2							
KURBB				Sn		**Sn**	**22 57 12.6**	**+4.1**
	0.0nm,0.3s,baz=166,slow=29,SNR=1.6							
KURBB				Lg		Lg	22 58 55.7	
	0.0nm,0.3s,baz=245,slow=30,SNR=4.2							
KURK	**Kurchatov**	**14.95**	**42**	⇑Pn		**Pn**	**22 54 24.0**	**-1.8**
	1.1nm,0.9s							
KURK				⇓Lg		Lg	22 58 47.3	
	8.5nm,1.2s							
MK31	**Makanchi Array**	**15.32**	**59**	Pn		**Pn**	**22 54 28.8**	**-2.0**
	1.4nm,0.6s,baz=249,slow=13,SNR=11							
MK31				⇓Lg		Lg	22 58 52.0	
	4.0nm,1.1s,baz=269,slow=25,SNR=3.8							
MKAR	**Makanchi Array**	**15.32**	**59**	Pn		**Pn**	**22 54 28.9**	**-2.0**
	0.1nm,0.3s,baz=250,slow=14,SNR=16							
MKAR				Lg		Lg	22 59 07.0	
	0.0nm,0.3s,baz=250,slow=26,SNR=2.7							
KIV	**Kislovodsk**	**15.41**	**290**	⇓Pn		**Pn**	**22 54 28.0**	**-4.0**
	7.0nm,1.0s							
KIV				⇓Sn		**Sn**	**22 57 21.1**	**-1.4**
	14nm,1.4s							
ZALV	**Zalesovo Beam**	**19.92**	**40**	P		**Pn**	**22 55 27.1**	**-0.7**
	0.8nm,0.3s,baz=245,slow=11,SNR=4.8							
AKASG	**Malin Array Be**	**25.51**	**305**	P		**P**	**22 56 25.0**	**+2.2**
	0.4nm,0.4s,baz=112,slow=7.7,SNR=3.6							
MLR	**Muntele Rosu**	**27.37**	**293**	P		**P**	**22 56 43.4**	**+3.6**
	0.4nm,0.7s,baz=36,slow=2.1,SNR=5.2							
FINES	**FINESS Array B**	**30.64**	**326**	P		**P**	**22 57 09.5**	**+1.0**
	1.4nm,0.8s,baz=119,slow=12,SNR=5.0							
SONM	**Songino Array**	**31.66**	**62**	P		**P**	**22 57 18.6**	**+0.7**
	0.2nm,0.4s,baz=294,slow=1.4,SNR=3.2							
TORD	**Torodi Ar. Bea**	**59.78**	**261**	P		**P**	**23 00 59.5**	**-0.4**
	0.6nm,0.8s,baz=56,slow=8.4,SNR=4.4							
YKA	**Yellowknife Ar**	**77.34**	**359**	P		**P**	**23 02 50.1**	**+1.3**
	0.3nm,0.8s,baz=355,slow=6.3,SNR=5.6							
WRA	**Warramunga Arr**	**89.44**	**117**	P		**P**	**23 03 50.2**	**-1.4**
	0.3nm,0.7s,baz=327,slow=4.6,SNR=3.3							

*IDC **01** 22:52:00.8±3.3,28°.04N×52°.49E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.3/25,mbtmp3.5/4,Error ellipse: s-maj=94.5km s-min=35.1km az=146.0*
*ISCJB **01** 22:52:04.5±2.0,27°.8N±0°.1×52°.6E±0°.1,h49km±24km, mb3.5/4,Error ellipse: s-maj=26.4km s-min=16.0km az=29.0*
*CSEM **01** 22:52:05.2±0.9,27°.71N×52°.59E,h15km,ML4.2/1,Error ellipse: s-maj=30.6km s-min=17.6km az=24.0*
*OMAN **01** 22:52:06.8±2.2,27°.87N×52°.82E,h147km±67km,Error ellipse: s-maj=55.2km s-min=27.3km az=61.0*

ISC 01 22:52:05.7±3.9,27°.9N±0°.2×52°.6E±0°.2,h41km±46km,n22, σ0°61/28,mb3.5/4,5C-3D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**3.85**	**119**	P	**Pn**	**22 53 03.2**	**+0.8**
	SNR=19						
BANOM				⇑S	**Sn**	**22 53 45.6**	**-0.8**
BANOM	**Banah**	**3.85**	**119**	P	**Pn**	**22 53 03.2**	**+0.8**
	SNR=19						
BANOM				S	**Sn**	**22 53 45.6**	**-0.8**
NAZ	**Nazwa, Dubai**	**3.98**	**135**	P	**Pn**	**22 53 05.2**	**+1.0**
	SNR=12						
NAZ				ml		22 53 05.4	
	SNR=9.9						
NAZ	**Nazwa, Dubai**	**3.98**	**135**	P	**Pn**	**22 53 04.6**	**+0.4**
ASUD	**Al Ashush, Dub**	**4.06**	**142**	P	**Pn**	**22 53 05.8**	**+0.5**
FAQ	**Al Faqa, Dubai**	**4.12**	**138**	P	**Pn**	**22 53 06.4**	**+0.3**
HATD	**Hatta, Dubai**	**4.40**	**133**	⇑P	**Pn**	**22 53 10.0**	**+0.1**
HATD				⇓S	**Sn**	**22 54 00.7**	**+0.8**
HATD	**Hatta, Dubai**	**4.40**	**133**	P	**Pn**	**22 53 10.1**	**+0.1**
HATD				S	**Sn**	**22 54 00.7**	**+0.8**
ASHO	**Ashiyiah**	**4.45**	**135**	P	**Pn**	**22 53 10.8**	**+0.1**
	SNR=40						
ASHO				ml		22 53 11.5	
	SNR=4.1						
ASHO				⇑S	**Sn**	**22 54 01.1**	**-0.1**
ASHO	**Ashiyiah**	**4.45**	**135**	P	**Pn**	**22 53 10.7**	**0.0**
	SNR=40						
ASHO				S	**Sn**	**22 54 01.1**	**-0.1**
ARQ	**Araqi**	**5.74**	**141**	⇓P	**Pn**	**22 53 27.6**	**-0.9**
ARQ	**Araqi**	**5.74**	**141**	P	**Pn**	**22 53 27.6**	**-0.9**
HOQ	**Hoqain**	**6.03**	**134**	⇑P	**Pn**	**22 53 31.9**	**-0.5**
HOQ	**Hoqain**	**6.03**	**134**	P	**Pn**	**22 53 31.9**	**-0.5**
BSY	**Bisya**	**6.59**	**140**	⇓P	**Pn**	**22 53 39.8**	**-0.3**
BSYO	**Bisya**	**6.63**	**139**	P	**Pn**	**22 53 39.8**	**-0.8**
SMDO	**Samad**	**6.88**	**133**	⇑P	**Pn**	**22 53 44.0**	**-0.1**
SMDO	**Samad**	**6.88**	**133**	P	**Pn**	**22 53 44.0**	**-0.1**
ZALV	**Zalesovo Beam**	**35.16**	**33**	P	**P**	**22 58 55.4**	**+0.1**
	0.4nm,0.5s,baz=246,slow=7.2,SNR=2.8						
FINES	**FINESS Array B**	**37.96**	**340**	P	**P**	**22 59 18.3**	**-0.8**
	1.6nm,0.8s,baz=142,slow=9.6,SNR=3.7						
TORD	**Torodi Ar. Bea**	**49.52**	**264**	P	**P**	**23 00 53.2**	**+0.7**
	0.2nm,0.6s,baz=64,slow=7.9,SNR=3.7						
YKA	**Yellowknife Ar**	**89.38**	**354**	P	**P**	**23 04 57.7**	**+0.1**
	0.1nm,0.6s,baz=5.5,slow=5.0,SNR=4.7						

PRE 01 23:16:38.3±0.8,1°.32S×29°.44E,h10km,ML2.5,Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIG	**Kigali**	**0.90**	**136**	*e*P	Pg	23 16 55.2	-0.7
KIG				*e*S	Sb	23 17 08.6	+0.1
KIG				AML	AML	23 17 14.5	
	comp=Z,79nm,0.5s						
MBAR	**Mbarara**	**1.48**	**61**	*e*P	Pb	23 17 06.4	+0.2
MBAR				*e*S	Sg	23 17 25.9	-0.5
KMBO	**Kilima Mbogo**	**7.82**	**89**	*e*S	Sn	23 19 57.6	-3.8

IDC 01 23:24:49.7±1.9,3°.71S×143°.41E,h0km,mb3.4/3, mb1 3.9/4,mb1mx3.6/15,mbtmp3.6/4,ML4.0/1,Error ellipse: s-maj=88.3km s-min=27.9km az=106.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.40**	**208**	P	Pn	23 29 04.7	-1.8
	0.5nm,0.3s,baz=36,slow=13,SNR=22						
ASAR	**Alice Springs**	**21.86**	**204**	P	P	23 29 45.2	+1.0
	1.8nm,0.4s,baz=31,slow=11,SNR=15						
MKAR	**Makanchi Array**	**73.48**	**321**	P	P	23 36 24.3	+0.1
	0.1nm,0.6s,baz=99,slow=6.7,SNR=3.5						
ILAR	**Eielson Array**	**84.82**	**24**	P	P	23 37 25.8	-0.1
	0.3nm,0.9s,baz=269,slow=5.4,SNR=3.9						

IDC 01 23:57:32.5±3.7,19°.92S×173°.49W,h0km,mb3.6/3, mb1 4.0/4,mb1mx3.7/18,mbtmp3.7/4,Error ellipse: s-maj=141.6km s-min=29.4km az=136.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.20**	**16**	Pn	Pn	23 59 06.2	+0.7
	5.6nm,0.3s,baz=316,slow=11,SNR=4.7						
AFI				Sn	Sn	23 59 58.5	-19
	11nm,0.3s,baz=39,slow=22,SNR=3.6						
ASAR	**Alice Springs**	**48.77**	**256**	P	P	00 06 19.0	-0.6
	0.6nm,0.8s,baz=81,slow=9.0,SNR=5.1						
WRA	**Warramunga Arr**	**48.87**	**261**	P	P	00 06 20.5	0.0
	0.2nm,0.3s,baz=97,slow=8.1,SNR=8.2						
ILAR	**Eielson Array**	**86.88**	**11**	P	P	00 10 17.8	-0.8
	0.4nm,0.5s,baz=232,slow=6.3,SNR=15						
BRTR	**Keskin Array B**	**149.47**	**316**	PKPbc	PKPbc	00 17 24.9	+0.7
	0.7nm,1.0s,baz=9.5,slow=1.8,SNR=4.4						

*ISCJB **02** 00:02:21.7±0.6,31°.76N±0°.04×104°.23E±0°.08,h14km, mb3.5/4,Error ellipse: s-maj=10.2km s-min=4.9km az=20.2*
*IDC **02** 00:02:21.4±3.4,31°.50N×103°.86E,h0km,mb3.5/5, mb1 3.5/6,mb1mx3.4/25,mbtmp3.5/6,ML3.3/1,Error ellipse: s-maj=74.3km s-min=33.7km az=3.0*

ISC 02 00:02:23.9±0.7,31°.68N±0°.05×104°.14E±0°.07,h14km,n10, σ1°53/14,mb3.5/4,1C,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.84**	**203**	⇑Pg	**Pg**	**00 02 39.9**	**-0.2**
CD2				Sg	**Sn**	**00 02 53.4**	**-0.1**
CD2				smax	smax		
	comp=N,850nm,0.5s						
CD2				smax	smax		
	comp=E,800nm,0.8s						
LZH	**Lanzhou**	**4.40**	**357**	*e*Pg	**Pg**	**00 03 48.9**	**+0.7**
LZH				Sg	**Sg**	**00 04 45.4**	**+0.2**
LZH				smax	smax		
	comp=N,33nm,0.6s						
LZH				smax	smax		
	comp=E,31nm,0.7s						
LZH				LR	LR		
	comp=N,90nm,4.0s						
LZH				LR	LR		
	comp=E,110nm,5.0s						
LZH				LR	LR		
	comp=Z,140nm,5.1s						
XAN	**Xi'an**	**4.66**	**58**	Pn	**Pn**	**00 03 32.3**	**-1.6**
XAN				Pg	**Pb**	**00 03 47.1**	**+1.6**
XAN				Sn	**Sn**	**00 04 24.5**	**-3.3**
XAN				Sg	**Sb**	**00 04 43.9**	**+2.4**
XAN				smax	smax		
	comp=N,50nm,0.7s						
XAN				smax	smax		
	comp=E,24nm,0.6s						
CMAR	**Chiang Mai Arr**	**13.98**	**201**	Pn	**Pn**	**00 05 42.9**	**+1.2**
	comp=E,0.6nm,0.3s,baz=20,slow=11,SNR=3.1						
SONM	**Songino Array**	**16.22**	**5**	Pn	**P**	**00 06 14.8**	**+0.2**
	comp=E,0.1nm,0.3s,baz=186,slow=10,SNR=2.7						
KSRS	**Korea Array**	**20.39**	**67**	P	Pn	00 07 02.7	+0.3
	comp=E,0.6nm,0.5s,baz=256,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**22.57**	**318**	P	**P**	**00 07 23.3**	**-0.4**
	comp=E,0.3nm,0.6s,baz=127,slow=10,SNR=3.2						
ZALV	**Zalesovo Beam**	**26.22**	**334**	P	**P**	**00 07 58.0**	**-0.2**
	comp=E,0.8nm,0.8s,baz=128,slow=11,SNR=3.9						
BRTR	**Keskin Array B**	**56.48**	**299**	P	**P**	**00 12 05.2**	**-0.5**
	comp=E,0.5nm,0.8s,baz=109,slow=6.7,SNR=3.7						
FINES	**FINESS Array B**	**57.11**	**326**	P	**P**	**00 12 08.7**	**-0.9**
	comp=E,2.8nm,1.1s,baz=69,slow=7.7,SNR=6.4						

*DJA **02** 00:05:08,6°.31S×130°.69E,h185km,MLv4.2/7*

IDC 02 00:04:55.7±2.1,6°.28S×130°.08E,h0km,mb4.0/1, mb1 4.3/4,mb1mx3.8/16,mbtmp4.1/4,ML4.3/3,Error ellipse: s-maj=92.3km s-min=26.7km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.53**	**200**	Pn	Pn	00 07 56.9	+1.5
	1.9nm,0.3s,baz=27,slow=12,SNR=17						
FITZ				Sn	Sn	00 10 06.3	-9.4
	1.4nm,0.3s,baz=156,slow=20,SNR=5.8						
WRA	**Warramunga Arr**	**14.20**	**163**	Pn	Pn	00 08 17.2	-1.0
	1.4nm,0.3s,baz=343,slow=13,SNR=48						
WRA				Sn	Sn	00 10 41.5	-15
	2.1nm,0.3s,baz=341,slow=22,SNR=12						
ASAR	**Alice Springs**	**17.68**	**168**	P	Pn	00 09 03.0	-0.6
	0.9nm,0.3s,baz=352,slow=11,SNR=20						
MKAR	**Makanchi Array**	**67.67**	**327**	P	P	00 15 54.8	0.0
	0.6nm,0.4s,baz=122,slow=6.8,SNR=20						

*ISCJB **02** 00:40:03.6±0.6,36°.94N±0°.04×28°.25E±0°.03,h5km±7km, Error ellipse: s-maj=6.6km s-min=4.2km az=20.9*
*ISK **02** 00:40:03.8,37°.01N×28°.26E,h14km,MD2.6*
*CSEM **02** 00:40:03.8±0.4,36°.97N×28°.27E,h2km,MD2.6,Error ellipse: s-maj=8.6km s-min=5.7km az=19.0*
*DDA **02** 00:40:04.0,36°.97N×28°.22E,h7km,MD2.9*

ISC 02 00:40:03.1±1.1,36°.93N±0°.03×28°.25E±0°.02,h4km±10km, n22,σ0°63/38,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.21**	**8**	PG	**Pg**	**00 40 07.0**	**-0.2**
YER				*e*SG	**Sg**	**00 40 10.7**	**+0.8**
YER	**Yerkesik**	**0.21**	**8**	*i* Pg	**Pg**	**00 40 07.0**	**-0.2**
YER				*e*Sg	**Sg**	**00 40 10.7**	**+0.8**
TURN	**Turunc**	**0.29**	**101**	*i* P	**Pg**	**00 40 08.0**	**-0.7**
TURN				*i* S	**Sg**	**00 40 11.6**	**-0.9**
TURN	**Turunc**	**0.29**	**101**	*i* P	**Pg**	**00 40 08.0**	**-0.7**
TURN				*i* S	**Sg**	**00 40 11.6**	**-0.9**
BDRM	**Kayabasi**	**0.66**	**282**	*i* P	**Pg**	**00 40 15.8**	**+0.1**
BDRM				*i* S	**Sb**	**00 40 26.5**	**-0.2**
BDRM	**Kayabasi**	**0.66**	**282**	*i* P	**Pg**	**00 40 15.8**	**+0.1**
BDRM				*i* S	**Sb**	**00 40 26.5**	**-0.2**
FETY	**Fethiye**	**0.73**	**113**	*e*PG	**Pb**	**00 40 19.2**	**+0.8**
FETY				*e*SG	**Sb**	**00 40 29.8**	**+1.0**
FETY	**Fethiye**	**0.73**	**113**	*e*Pg	**Pb**	**00 40 19.2**	**+0.8**
FETY				*e*Sg	**Sb**	**00 40 29.8**	**+1.0**
BODT	**Bodrum**	**0.76**	**280**	*e*PG	**Pb**	**00 40 19.4**	**+0.4**
BODT				*e*SG	**Sb**	**00 40 29.9**	**+0.2**
BODT	**Bodrum**	**0.76**	**280**	*e*Pg	**Pb**	**00 40 19.4**	**+0.4**
BODT				*e*Sg	**Sb**	**00 40 29.9**	**+0.2**
AYDN	**Tasoluk**	**0.79**	**338**	*i* P	**Pg**	**00 40 18.4**	**+0.2**
AYDN				*i* S	**Sg**	**00 40 28.5**	**0.0**
AYDN	**Tasoluk**	**0.79**	**338**	*i* P	**Pg**	**00 40 18.4**	**+0.2**
AYDN				*i* S	**Sg**	**00 40 28.5**	**0.0**
DNZL	**Cakiroluk**	**0.99**	**40**	*i* P	**Pg**	**00 40 22.5**	**+0.4**
DNZL				*i* S	**Sn**	**00 40 38.2**	**-0.3**
DNZL	**Cakiroluk**	**0.99**	**40**	*i* P	**Pg**	**00 40 22.5**	**+0.4**
DNZL				*i* S	**Sn**	**00 40 38.2**	**-0.3**
ELL	**Elmali**	**1.34**	**97**	*e*PN	**Pn**	**00 40 29.1**	**+0.3**
ELL	**Elmali**	**1.34**	**97**	*e*Pn	**Pn**	**00 40 29.1**	**+0.3**
KULA	**Kula-Manisa**	**1.62**	**12**	*e*PN	**Pn**	**00 40 31.2**	**-1.3**
KULA	**Kula-Manisa**	**1.62**	**12**	*e*Pn	**Pn**	**00 40 31.2**	**-1.3**
KHL	**Karahalli**	**1.72**	**36**	*e*PN	**Pn**	**00 40 33.0**	**-0.9**
KHL	**Karahalli**	**1.72**	**36**	*e*Pn	**Pn**	**00 40 33.1**	**-0.9**
KHAL	**Karahalli**	**1.75**	**34**	*e*P	**Pb**	**00 40 36.3**	**+0.5**
KHAL				*e*S	**Sb**	**00 40 58.0**	**-0.1**
KHAL	**Karahalli**	**1.75**	**34**	*e*P	**Pb**	**00 40 36.3**	**+0.5**
KHAL				*e*S	**Sb**	**00 40 58.0**	**-0.1**

PRE 02 00:59:55.7±1.3,26°.43S×27°.48E,h2km,ML1.7,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.14**	**58**	*e*P	Pg	00 59 58.8	0.0
KLOF				*e*S	Sg	01 00 01.0	+0.2
KLOF				AML	AML	01 00 04.2	
	comp=Z,247nm,0.1s						
ERPM	**east rand prop**	**0.69**	**83**	*e*P	Pg	01 00 10.0	+0.7
ERPM				*e*S	Sg	01 00 18.4	0.0
ERPM				AML	AML	01 00 25.8	
	comp=Z,7.7nm,0.2s						
LBTB	**Lobatse**	**2.20**	**309**	*e*P	Pn	01 00 34.0	+0.6
LBTB				*e*S	Sn	01 01 01.9	+0.6
LBTB				AML	AML	01 01 05.7	
	comp=Z,7.9nm,0.3s						
BOSA	**Boshof**	**2.94**	**222**	*e*P	Pn	01 00 43.4	-0.2
BOSA				*e*S	Sn	01 01 20.4	+0.8
BOSA				AML	AML	01 01 28.8	
	comp=Z,2.2nm,0.6s						

*ISCJB **02** 01:04:34.3±0.2,43°.27N±0°.02×0°.61W±0°.02,h13km±2km, Error ellipse: s-maj=2.9km s-min=2.2km az=151.6*
*CSEM **02** 01:04:35.4±0.1,43°.24N×0°.61W,h10km,ML2.5/17,Error ellipse: s-maj=2.0km s-min=1.5km az=152.0*
*MDD **02** 01:04:36.4±0.3,43°.20N×0°.63W,h5km±4km,mbLg2.0/23, Error ellipse: s-maj=3.1km s-min=2.0km az=179.0, PRXIMO*
*STR **02** 01:04:36.9±0.2,43°.04N×0°.66W,h5km,Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **02** 01:04:36.2±0.1,43°.20N×0°.63W,h2km,Md2.7/3,Ml2.5/10, Error ellipse: s-maj=1.2km s-min=1.0km az=154.0*

ISC 02 01:04:35.5±0.8,43°.23N±0°.02×0°.61W±0°.01,h14km±5km, n114,σ0°89/175,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.16**	**203**	Pg	**Pg**	**01 04 39.2**	**-0.3**
ATE				Sg	**Sg**	**01 04 40.9**	**-1.2**
ATE	**Arette**	**0.16**	**203**	Pg	**Pg**	**01 04 39.2**	**-0.3**
ATE				Sg	**Sg**	**01 04 40.9**	**-1.2**
REYF	**Montagne du Re**	**0.23**	**135**	Pg	**Pg**	**01 04 40.9**	**+0.3**
REYF				Sg	**Sg**	**01 04 44.3**	**+0.3**
REYF	**Montagne du Re**	**0.23**	**135**	Pg	**Pg**	**01 04 40.9**	**+0.3**
REYF				Sg	**Sg**	**01 04 44.3**	**+0.3**
ORDF	**Ordiarp**	**0.24**	**265**	Pg	**Pg**	**01 04 41.5**	**+0.8**
ORDF				Sg	**Sb**	**01 04 46.0**	**+0.3**
ORDF	**Ordiarp**	**0.24**	**265**	Pg	**Pg**	**01 04 41.5**	**+0.8**
ORDF				Sg	**Sb**	**01 04 46.0**	**+0.3**
LARF	**Larrau**	**0.34**	**235**	Pg	**Pg**	**01 04 42.3**	**-0.1**
LARF				Sg	**Sg**	**01 04 46.3**	**-0.8**
LARF	**Larrau**	**0.34**	**235**	Pg	**Pg**	**01 04 42.3**	**-0.1**
LARF				Sg	**Sg**	**01 04 46.3**	**-0.8**
ETSF	**Etsaut**	**0.34**	**173**	*e*Pg	**Pg**	**01 04 41.7**	**-0.8**
	SNR=1.0						
ETSF				*e*Sg	**Sg**	**01 04 45.0**	**-2.1**
	330nm,0.2s						
ETSF	**Etsaut**	**0.34**	**173**	Pg	**Pg**	**01 04 41.7**	**-0.8**
ETSF				*e*Sg	**Sg**	**01 04 45.0**	**-2.1**
	165nm,0.2s						
SJPF	**Ste Jean**	**0.46**	**255**	*e*Pg	**Pg**	**01 04 44.6**	**-0.1**
	SNR=1.0						
SJPF				*e*Sg	**Sg**	**01 04 50.6**	**-0.3**
	60nm,0.3s						
SJPF	**Ste Jean**	**0.46**	**255**	Pg	**Pg**	**01 04 44.6**	**-0.1**
SJPF				*e*Sg	**Sg**	**01 04 50.6**	**-0.3**
	30nm,0.3s						
OSSF	**Osses**	**0.47**	**273**	Pg	**Pg**	**01 04 44.8**	**-0.1**
OSSF	**Osses**	**0.47**	**273**	Pg	**Pg**	**01 04 44.8**	**-0.1**
LABF	**Labassere**	**0.54**	**110**	Pg	**Pb**	**01 04 47.2**	**+0.4**
LABF				Sg	**Sb**	**01 04 54.7**	**+0.3**
LABF	**Labassere**	**0.54**	**110**	Pg	**Pb**	**01 04 47.2**	**+0.4**
LABF				Sg	**Sb**	**01 04 54.7**	**+0.3**
VIEF	**Viey**	**0.58**	**127**	Pg	**Pg**	**01 04 47.0**	**0.0**
VIEF				Sg	**Sg**	**01 04 54.2**	**-0.6**
VIEF	**Viey**	**0.58**	**127**	Pg	**Pg**	**01 04 47.0**	**0.0**
VIEF				Sg	**Sg**	**01 04 54.2**	**-0.6**
IELO	**Elcoad**	**0.60**	**230**	Pg	**Pg**	**01 04 46.7**	**-0.6**
	5.4nm,0.1s,SNR=7.9						
IELO				Lg	Lg	01 04 54.3	
	48nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.60**	**230**	Pg	**Pg**	**01 04 46.7**	**-0.6**
	5.4nm,0.1s,SNR=7.9						
IELO				Lg	Lg	01 04 54.3	
	48nm,0.1s,SNR=7.9						
EORO	**Oroz-Betelu**	**0.61**	**236**	Pg	**Pg**	**01 04 47.1**	**-0.4**
	1.8nm,0.1s,SNR=4.0						
EORO				Lg	Lg	01 04 54.3	
	5.7nm,0.0s,SNR=7.9						
EORO	**Oroz-Betelu**	**0.61**	**236**	Pg	**Pg**	**01 04 47.1**	**-0.4**
	1.8nm,0.1s,SNR=4.0						
EORO				Lg	Lg	01 04 54.3	
	5.7nm,0.0s,SNR=7.9						
EALK	**Alkurruntz**	**0.65**	**269**	Pg	**Pg**	**01 04 48.1**	**-0.2**
	1.3nm,0.1s,SNR=27						
EALK				Lg	Lg	01 04 56.5	
	6.0nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.65**	**269**	Pg	**Pg**	**01 04 48.1**	**-0.2**
	1.3nm,0.1s,SNR=27						
EALK				Lg	Lg	01 04 56.5	
	6.0nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.66**	**227**	Pg	**Pg**	**01 04 48.8**	**+0.4**
	5.1nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	01 04 56.8	
	27nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.66**	**227**	Pg	**Pg**	**01 04 48.8**	**+0.4**
	5.1nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	01 04 56.8	
	27nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.67**	**264**	Pg	**Pg**	**01 04 48.3**	**-0.3**
	1.7nm,0.2s,SNR=22						
ELIZ				Lg	Lg	01

	2.0nm,0.1s,SNR=4.0								
EARA					Lg	Lg	01 05 02.0		
	6.2nm,0.1s,SNR=7.9								
SALF	**Salau**	**1.41**	**109**		Pg	**Pg**	**01 05 03.8**	**+1.3**	
SALF	**Salau**	**1.41**	**109**		Pg	**Pg**	**01 05 03.8**	**+1.3**	
ESAC	**San Caprasio**	**1.52**	**176**		Pn	**Pn**	**01 05 01.5**	**-0.8**	
	0.8nm,0.2s,SNR=7.9								
ESAC					Pg	**Pb**	**01 05 03.6**	**+0.1**	
	33nm,0.2s,SNR=38								
ESAC					Lg	Lg	01 05 21.7		
	16nm,0.1s,SNR=18								
ESAC	**San Caprasio**	**1.52**	**176**		Pn	**Pn**	**01 05 01.5**	**-0.8**	
	0.8nm,0.2s,SNR=7.9								
CSOR	**Sort**	**1.55**	**123**		Pg	**Pb**	**01 05 05.0**	**+1.0**	
	1.4nm,0.1s,SNR=37								
CSOR					Lg	Lg	01 05 26.6		
	2.4nm,0.1s,SNR=7.8								
CSOR	**Sort**	**1.55**	**123**		Pg	**Pb**	**01 05 05.0**	**+1.0**	
	1.4nm,0.1s,SNR=37								
CSOR					Lg	Lg	01 05 26.6		
	2.4nm,0.1s,SNR=7.8								
LFF	**La Frestale**	**1.96**	**29**	*e*	Pn	**Pn**	**01 05 09.2**	**+0.8**	
	SNR=1.0								
LFF	**La Frestale**	**1.96**	**29**	*e*	Pg	**Pg**	**01 05 13.7**	**+0.5**	
	SNR=1.0								
LFF					*e*Sg	**Sg**	**01 05 39.1**	**+0.4**	
	8.7nm,0.2s,SNR=1.0								
LFF	**La Frestale**	**1.96**	**29**		Pn	**Pn**	**01 05 09.2**	**+0.8**	
LFF	**La Frestale**	**1.96**	**29**		Pg	**Pg**	**01 05 13.7**	**+0.5**	
LFF					*e*Sg	**Sg**	**01 05 39.1**	**+0.4**	
	4.3nm,0.2s,SNR=1.0								
CLLI	**Llivia**	**2.05**	**111**		Pn	**Pb**	**01 05 13.3**	**+0.7**	
	0.0nm,0.1s,SNR=4.0								
CLLI					Pg	**Pg**	**01 05 15.6**	**+0.8**	
	0.7nm,0.2s,SNR=7.9								
CLLI					Lg	Lg	01 05 42.1		
	0.9nm,0.2s,SNR=7.9								
CLLI	**Llivia**	**2.05**	**111**		Pn	**Pb**	**01 05 13.3**	**+0.7**	
	SNR=4.0								
EMIR	**Miracle**	**2.06**	**129**		Pg	**Pg**	**01 05 14.4**	**-0.6**	
	3.7nm,0.1s,SNR=19								
EMIR					Lg	Lg	01 05 40.6		
	7.4nm,0.2s,SNR=7.9								
EMIR	**Miracle**	**2.06**	**129**		Pg	**Pg**	**01 05 14.4**	**-0.6**	
	3.7nm,0.1s,SNR=19								
EMIR					Lg	Lg	01 05 40.6		
	7.4nm,0.2s,SNR=7.9								
ELAN	**Lanestosa**	**2.06**	**271**		Pg	**Pb**	**01 05 14.3**	**+1.6**	
	0.2nm,0.1s,SNR=7.5								
ELAN					Sn	**Sb**	**01 05 37.8**	**-0.4**	
	0.4nm,0.1s,SNR=7.9								
ELAN	**Lanestosa**	**2.06**	**271**		Pg	**Pb**	**01 05 14.3**	**+1.6**	
	0.2nm,0.1s,SNR=7.5								
ELAN					Sn	**Sb**	**01 05 37.8**	**-0.4**	
	0.4nm,0.1s,SNR=7.9								
EPOB	**Poblet**	**2.26**	**146**		Pn	**Pn**	**01 05 13.3**	**+0.7**	
	0.1nm,0.1s,SNR=7.9								
EPOB					Pg	**Pb**	**01 05 17.5**	**+1.3**	
	0.7nm,0.1s,SNR=14								
EPOB					Lg	Lg	01 05 46.2		
	1.7nm,0.1s,SNR=7.6								
EPOB	**Poblet**	**2.26**	**146**		Pn	**Pn**	**01 05 13.3**	**+0.7**	
	0.1nm,0.1s,SNR=7.9								
ERTA	**Horta de San J**	**2.38**	**162**		Pn	**Pn**	**01 05 14.4**	**+0.2**	
	0.1nm,0.1s,SNR=4.0								
ERTA					Pg	**Pb**	**01 05 19.6**	**+1.4**	
	0.8nm,0.2s,SNR=15								
ERTA					Sn	**Sn**	**01 05 42.5**	**-0.7**	
	0.6nm,0.1s,SNR=7.9								
ERTA					Lg	Lg	01 05 49.8		
	5.6nm,0.2s,SNR=9.6								
ERTA	**Horta de San J**	**2.38**	**162**		Pn	**Pn**	**01 05 14.4**	**+0.2**	
	0.1nm,0.1s,SNR=4.0								
CAF	**Calviac**	**2.57**	**48**	*e*	Pn	**Pn**	**01 05 16.9**	**+0.1**	
	SNR=1.0								
CAF					*e*Sn	**Sn**	**01 05 47.5**	**-0.3**	
	SNR=1.0								
CAF					*e*Sg	**Sg**	**01 05 58.4**	**+0.4**	
	4.8nm,0.3s								
CAF	**Calviac**	**2.57**	**48**		Pn	**Pn**	**01 05 16.9**	**+0.1**	
CAF					Sn	**Sn**	**01 05 47.5**	**-0.3**	
CAF					*e*Sg	**Sg**	**01 05 58.4**	**+0.4**	
	2.4nm,0.3s								
RJF	**Les Rejaudoux**	**2.57**	**36**	*e*	Pn	**Pn**	**01 05 17.2**	**+0.4**	
	SNR=1.0								
RJF	**Les Rejaudoux**	**2.57**	**36**	*e*	Pg	**Pg**	**01 05 24.4**	**-0.5**	
RJF					*e*Sn	**Sn**	**01 05 47.6**	**-0.4**	
	SNR=1.0								
RJF					*e*Sg	**Sg**	**01 05 58.2**	**0.0**	
	5.7nm,0.2s,SNR=1.0								
RJF	**Les Rejaudoux**	**2.57**	**36**		Pn	**Pn**	**01 05 17.2**	**+0.4**	
RJF	**Les Rejaudoux**	**2.57**	**36**		Pg	**Pg**	**01 05 24.4**	**-0.5**	
RJF					Sn	**Sn**	**01 05 47.6**	**-0.4**	
RJF					*e*Sg	**Sg**	**01 05 58.2**	**0.0**	
	2.8nm,0.2s,SNR=1.0								
ETOR	**Torete**	**2.64**	**204**		Pn	**Pn**	**01 05 18.6**	**+0.7**	
	2.6nm,0.1s,SNR=13								
ETOR					Sn	**Sn**	**01 05 50.0**	**+0.3**	
	5.1nm,0.1s,SNR=7.9								
ETOR	**Torete**	**2.64**	**204**		Pn	**Pn**	**01 05 18.6**	**+0.7**	
	2.6nm,0.1s,SNR=13								
ETOR					Sn	**Sn**	**01 05 50.0**	**+0.3**	
	5.1nm,0.1s,SNR=7.9								
CFON	**Fontmartina**	**2.69**	**122**		Pn	**Pn**	**01 05 20.9**	**+2.4**	
	0.6nm,0.1s,SNR=6.9								
CFON					Lg	Lg	01 06 01.4		
	5.1nm,0.2s,SNR=7.0								
CFON	**Fontmartina**	**2.69**	**122**		Pn	**Pn**	**01 05 20.9**	**+2.4**	
	0.6nm,0.1s,SNR=6.9								
CFON					Lg	Lg	01 06 01.4		
	5.1nm,0.2s,SNR=7.0								
EJON	**La Jonquera**	**2.69**	**106**		Lg	Lg	01 06 03.8		
	0.4nm,0.1s,SNR=7.9								
EJON	**La Jonquera**	**2.69**	**106**		Lg	Lg	01 06 03.8		
	0.4nm,0.1s,SNR=7.9								
EMOS	**Mosqueruela**	**2.87**	**178**		Pn	**Pn**	**01 05 22.9**	**+1.8**	
	0.1nm,0.1s,SNR=7.9								
EMOS					Lg	Lg	01 06 01.9		
	0.9nm,0.1s,SNR=7.9								
EMOS	**Mosqueruela**	**2.87**	**178**		Pn	**Pn**	**01 05 22.9**	**+1.8**	
	0.1nm,0.1s,SNR=7.9								
EMOS					Lg	Lg	01 06 01.9		
	0.9nm,0.1s,SNR=7.9								
LASF	**Ste Croix**	**3.35**	**74**	*e*	Pn	**Pn**	**01 05 27.7**	**+0.2**	
LASF	**Ste Croix**	**3.35**	**74**	*e*	Pg	**Pg**	**01 05 38.7**	**-1.0**	
LASF					*e*Sn	**Sn**	**01 06 06.2**	**-1.0**	
	1.8nm,0.3s								
LASF	**Ste Croix**	**3.35**	**74**		Pn	**Pn**	**01 05 27.7**	**+0.2**	
LASF	**Ste Croix**	**3.35**	**74**		Pg	**Pg**	**01 05 38.7**	**-1.0**	
LASF					*e*Sn	**Sn**	**01 06 06.2**	**-1.0**	
	0.9nm,0.3s								
EARI	**Arriondas**	**3.36**	**273**		Pn	**Pn**	**01 05 30.1**	**+2.5**	
	0.0nm,0.1s,SNR=7.9								
EARI					Sn	**Sn**	**01 06 07.4**	**0.0**	
	0.1nm,0.1s,SNR=7.9								
EARI	**Arriondas**	**3.36**	**273**		Pn	**Pn**	**01 05 30.1**	**+2.5**	
	SNR=7.9								
EARI					Sn	**Sn**	**01 06 07.4**	**0.0**	
	0.1nm,0.1s,SNR=7.9								
MFF	**Saint Martin d**	**3.38**	**5**	*e*	Pn	**Pn**	**01 05 27.8**	**-0.2**	
	SNR=1.0								
MFF					*e*Sg	**Sg**	**01 06 23.5**	**-0.7**	
	5.1nm,0.4s,SNR=1.0								
MFF	**Saint Martin d**	**3.38**	**5**		Pn	**Pn**	**01 05 27.8**	**-0.2**	
MFF					*e*Sg	**Sg**	**01 06 23.5**	**-0.7**	
	2.5nm,0.4s,SNR=1.0								
TCF	**Toulx Ste Croi**	**3.66**	**32**	*e*	Pn	**Pn**	**01 05 32.1**	**+0.4**	
TCF	**Toulx Ste Croi**	**3.66**	**32**	*e*	Pg	**Pg**	**01 05 44.6**	**-1.0**	
TCF					*e*Sn	**Sn**	**01 06 12.6**	**-2.1**	
	SNR=1.0								
TCF					*e*Sg	**Sg**	**01 06 31.6**	**-1.3**	
	2.1nm,0.2s,SNR=1.0								
TCF	**Toulx Ste Croi**	**3.66**	**32**		Pn	**Pn**	**01 05 32.1**	**+0.4**	
TCF	**Toulx Ste Croi**	**3.66**	**32**		Pg	**Pg**	**01 05 44.6**	**-1.0**	
TCF					Sn	**Sn**	**01 06 12.6**	**-2.1**	
TCF					*e*Sg	**Sg**	**01 06 31.6**	**-1.3**	
	1.0nm,0.2s,SNR=1.0								
GUD	**Guadarrama**	**3.70**	**227**		Pn	**Pn**	**01 05 33.1**	**+0.7**	
	0.2nm,0.1s,SNR=7.9								
GUD					Sn	**Sn**	**01 06 13.7**	**-2.2**	
	0.2nm,0.1s,SNR=7.9								
GUD	**Guadarrama**	**3.70**	**227**		Pn	**Pn**	**01 05 33.1**	**+0.7**	
	0.2nm,0.1s,SNR=7.9								
GUD					Sn	**Sn**	**01 06 13.7**	**-2.2**	
	0.2nm,0.1s,SNR=7.9								
BGF	**Bois d'Agland**	**4.13**	**35**	*e*	Pn	**Pn**	**01 05 39.1**	**+0.8**	
BGF					*e*Sg	**Sg**	**01 06 47.0**	**-1.2**	
	9.8nm,0.4s								
BGF	**Bois d'Agland**	**4.13**	**35**		Pn	**Pn**	**01 05 39.1**	**+0.8**	
BGF					*e*Sg	**Sg**	**01 06 47.0**	**-1.2**	
	4.9nm,0.4s								
VIVF	**Saint-Julien-l**	**4.14**	**65**	*e*	Pn	**Pn**	**01 05 38.9**	**+0.5**	
VIVF					*e*Sg	**Sg**	**01 06 46.8**	**-1.7**	
	0.5nm,0.2s								
VIVF	**Saint-Julien-l**	**4.14**	**65**		Pn	**Pn**	**01 05 38.9**	**+0.5**	
VIVF					*e*Sg	**Sg**	**01 06 46.8**	**-1.7**	
	0.2nm,0.2s								
ESDC	**Sonseca Array**	**4.36**	**216**		Pn	**Pn**	**01 05 41.7**	**+0.3**	
	0.1nm,0.3s,baz=34,slow=14,SNR=3.6								
ESDC	**Sonseca Array**	**4.36**	**216**		Pn	**Pn**	**01 05 41.7**	**+0.3**	
	0.1nm,0.3s,baz=34,slow=14,SNR=3.6								
AVF	**Avril sur Loir**	**4.53**	**37**	*e*	Pn	**Pn**	**01 05 43.9**	**+0.2**	
	SNR=1.0								
AVF					*e*Sn	**Sn**	**01 06 34.6**	**-1.6**	
	1.0nm,0.3s,SNR=1.0								
AVF	**Avril sur Loir**	**4.53**	**37**		Pn	**Pn**	**01 05 43.9**	**+0.2**	
AVF					*e*Sn	**Sn**	**01 06 34.6**	**-1.6**	
	0.5nm,0.3s,SNR=1.0								
ETOB	**Tobarra**	**4.64**	**189**		Pn	**Pn**	**01 05 46.0**	**+0.7**	
	0.0nm,0.1s,SNR=4.0								
ETOB	**Tobarra**	**4.64**	**189**		Pn	**Pn**	**01 05 46.0**	**+0.7**	
	SNR=4.0								
ECAL	**Calabor**	**4.70**	**256**		Pn	**Pn**	**01 05 47.3**	**+1.1**	
	0.2nm,0.1s,SNR=7.9								
ECAL					Sn	**Sn**	**01 06 39.8**	**-0.7**	
	0.5nm,0.2s,SNR=7.9								
ECAL	**Calabor**	**4.70**	**256**		Pn	**Pn**	**01 05 47.3**	**+1.1**	
	0.2nm,0.1s,SNR=7.9								
ECAL					Sn	**Sn**	**01 06 39.8**	**-0.7**	
	0.5nm,0.2s,SNR=7.9								
SSF	**Saint Saulge**	**4.81**	**36**	*e*	Pn	**Pn**	**01 05 48.1**	**+0.6**	
SSF	**Saint Saulge**	**4.81**	**36**		Pn	**Pn**	**01 05 48.1**	**+0.6**	
QUIF	**Quistinic**	**5.01**	**340**	*e*	Pn	**Pn**	**01 05 50.0**	**-0.3**	
	SNR=1.0								
QUIF	**Quistinic**	**5.01**	**340**		Pn	**Pn**	**01 05 50.0**	**-0.3**	
MVO	**Moncorvo**	**5.19**	**249**		Pn	**Pn**	**01 05 53.5**	**+0.6**	
	0.2nm,0.1s,SNR=7.9								
MVO					Sn	**Sn**	**01 06 51.2**	**-1.5**	
	0.2nm,0.1s,SNR=4.0								
MVO	**Moncorvo**	**5.19**	**249**		Pn	**Pn**	**01 05 53.5**	**+0.6**	
	0.2nm,0.1s,SNR=7.9								
MVO					Sn	**Sn**	**01 06 51.2**	**-1.5**	
	0.2nm,0.1s,SNR=4.0								
SGMF	**Saint Gilles**	**5.20**	**346**	*e*	Pn	**Pn**	**01 05 53.0**	**+0.1**	
	SNR=1.0								
SGMF	**Saint Gilles**	**5.20**	**346**		Pn	**Pn**	**01 05 53.0**	**+0.1**	
ROSF	**Rostrenen**	**5.43**	**341**	*e*	Pn	**Pn**	**01 05 56.5**	**+0.4**	
	SNR=1.0								
ROSF	**Rostrenen**	**5.43**	**341**		Pn	**Pn**	**01 05 56.5**	**+0.4**	

ISCJB ***02*** *01:11:55.7±0.5,38°.58N±0°.04×38°.88E±0°.04,h7km±7km, Error ellipse: s-maj=7.5km s-min=4.1km az=157.5*
ISK ***02*** *01:11:55.0,38°.57N×38°.89E,h4km,MD2.7*
DDA ***02*** *01:11:55.8,38°.53N×38°.88E,h7km,MD2.8*
CSEM ***02*** *01:11:55.6±0.1,38°.56N×38°.89E,h8km,MD2.7,Error ellipse: s-maj=4.6km s-min=2.9km az=145.0*

ISC 02 01:11:55.8±1.0,**38°.57N**±0°.03×**38°.89E**±0°.03,**h8**km±8km, **n21,σ0966/33,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.11**	**136**	*i* P		**Pg**	**01 11 58.6**	**+0.1**
ELZG				*i* S		**Sg**	**01 11 59.9**	**-0.4**
ELZG	**Elazig**	**0.11**	**136**	*i* P		**Pg**	**01 11 58.6**	**+0.1**
ELZG				*i* S		**Sg**	**01 11 59.9**	**-0.4**
SVRC	**Sivrice-ELAZID**	**0.38**	**121**	PG		**Pg**	**01 12 03.1**	**-0.3**
SVRC				*e*SG		**Sg**	**01 12 09.0**	**+0.6**
SVRC	**Sivrice-ELAZID**	**0.38**	**121**	*i* Pg		**Pg**	**01 12 03.1**	**-0.3**
SVRC				*e*Sg		**Sg**	**01 12 09.0**	**+0.6**
MYA	**Malataya**	**0.44**	**236**	*e*PG		**Pg**	**01 12 04.4**	**-0.1**
MYA				*e*SG		**Sg**	**01 12 11.1**	**+0.9**
MYA	**Malataya**	**0.44**	**236**	*e*Pg		**Pg**	**01 12 04.4**	**-0.1**
MYA				*e*Sg		**Sg**	**01 12 11.1**	**+0.9**
MALT	**Malatya**	**0.45**	**234**	*e*PG		**Pg**	**01 12 04.1**	**-0.4**
MALT				*e*SG		**Sg**	**01 12 11.1**	**+0.7**
MALT	**Malatya**	**0.45**	**234**	*e*Pg		**Pg**	**01 12 04.1**	**-0.4**
MALT				*e*Sg		**Sg**	**01 12 11.1**	**+0.7**
PTK	**Pertek**	**0.51**	**51**	*e*PG		**Pg**	**01 12 05.5**	**-0.2**
PTK				*e*SG		**Sb**	**01 12 13.3**	**-1.4**
PTK	**Pertek**	**0.51**	**51**	*e*Pg		**Pg**	**01 12 05.5**	**-0.2**
PTK				*e*Sg		**Sb**	**01 12 13.3**	**-1.4**
AKCD	**Akcadag**	**0.81**	**250**	*i* P		**Pg**	**01 12 10.6**	**-0.8**
AKCD				*i* S		**Sb**	**01 12 22.6**	**-0.7**
AKCD	**Akcadag**	**0.81**	**250**	*i* P		**Pg**	**01 12 10.6**	**-0.8**
AKCD				*i* S		**Sb**	**01 12 22.6**	**-0.7**
ILIC	**ilic-Erzincan**	**0.91**	**344**	*e*PG		**Pg**	**01 12 13.2**	**-0.2**
ILIC	**ilic-Erzincan**	**0.91**	**344**	*e*Pg		**Pg**	**01 12 13.2**	**-0.2**
URFA	**Urfa**	**1.13**	**183**	*e*PN		**Pg**	**01 12 17.2**	**-0.4**
URFA	**Urfa**	**1.13**	**183**	*e*Pn		**Pg**	**01 12 17.2**	**-0.4**
ERZN	**Erzincan**	**1.20**	**32**	*e*PN		**Pn**	**01 12 19.4**	**+0.3**
EZC	**Erzincan**	**1.23**	**17**	*e*Pn		**Pg**	**01 12 19.4**	**-0.1**
BNGB	**Bing ¶ll**	**1.46**	**73**	*e*PN		**Pg**	**01 12 23.7**	**-0.1**
BAYT	**Ayd¨–ntepe-Bay**	**2.06**	**28**	*e*PN		**Pn**	**01 12 31.9**	**+1.0**
BAYT	**Ayd¨–ntepe-Bay**	**2.06**	**28**	*e*Pn		**Pn**	**01 12 31.9**	**+1.0**

IDC ***02*** *01:28:52.5±0.7,37°.62N×21°.00E,h0km,mb3.9/16, mb1 3.9/22,mb1mx3.8/32,mbtmp3.8/22,ML3.7/4,MS2.8/3, Ms1 2.8/3,ms1mx2.4/41,Error ellipse: s-maj=17.2km s-min=12.9km az=144.0*
CSEM ***02*** *01:28:54.7±0.3,37°.45N×20°.70E,h20km,mb4.1/10,Error ellipse: s-maj=8.5km s-min=4.3km az=35.0*
ATH ***02*** *01:28:55.7,37°.59N×20°.89E,h20km±1km,ML3.7*
THE ***02*** *01:28:56.5,37°.61N×20°.93E,h0km±3km,ML3.8/23,Error ellipse: s-maj=3.8km s-min=0.9km az=220.0*
MOS ***02*** *01:28:56.1±1.1,37°.70N×20°.87E,h33km,mb4.2/11,Error ellipse: s-maj=14.7km s-min=8.2km az=77.9*

ISC 02 01:28:56.7±1.0,**37°.62N**±0°.03×**20°.87E**±0°.03,**h31**km±7km, **n254,σ1984/275,mb3.9/17,20C-13D,Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.49**	**352**	P		**Pb**	**01 29 06.1**	**-0.9**
KFL				S		**Sb**	**01 29 14.3**	**+0.2**
KFL	**Anninata**	**0.49**	**352**	P		**Pb**	**01 29 06.1**	**-0.9**
KFL				S		**Sb**	**01 29 14.3**	**+0.2**
VLS	**Valsamata**	**0.60**	**338**	P		**Pb**	**01 29 07.9**	**-0.8**
VLS				S		**Sn**	**01 29 17.8**	**+0.1**
VLS	**Valsamata**	**0.60**	**338**	*e*PN		**Pb**	**01 29 08.0**	**-0.8**
VLS				*e*SN		**Sn**	**01 29 17.9**	**+0.2**
VLS	**Valsamata**	**0.60**	**338**	P		**Pb**	**01 29 07.9**	**-0.8**
VLS				S		**Sn**	**01 29 17.8**	**+0.1**
RLS	**Riolos of Patr**	**0.64**	**47**	P		**Pb**	**01 29 08.2**	**-1.2**
RLS				S		**Sb**	**01 29 17.4**	**-0.7**
RLS	**Riolos of Patr**	**0.64**	**47**	*e*PN		**Pb**	**01 29 08.2**	**-1.2**
RLS	**Riolos of Patr**	**0.64**	**47**	P		**Pb**	**01 29 08.2**	**-1.2**
RLS				S		**Sb**	**01 29 17.4**	**-0.7**
ITM	**Ithomi**	**0.95**	**118**	P		**Pn**	**01 29 13.5**	**-0.4**
ITM	**Ithomi**	**0.95**	**118**	*e*PN		**Pn**	**01 29 13.7**	**-0.2**
ITM	**Ithomi**	**0.95**	**118**	P		**Pn**	**01 29 13.5**	**-0.4**
UPR	**University Cam**	**0.98**	**47**	P		**Pb**	**01 29 15.2**	**+0.1**
UPR	**University Cam**	**0.98**	**47**	*e*PN		**Pb**	**01 29 15.2**	**+0.1**
UPR	**University Cam**	**0.98**	**47**	P		**Pb**	**01 29 15.2**	**+0.1**
PYL	**PYLOS**	**1.00**	**136**	P		**Pn**	**01 29 14.0**	**-0.7**
PYL				S		**Sn**	**01 29 29.5**	**+1.7**
PYL	**PYLOS**	**1.00**	**136**	*e*PN		**Pn**	**01 29 13.8**	**-0.9**
PYL				*e*SN		**Sn**	**01 29 28.1**	**+0.3**
PYL	**PYLOS**	**1.00**	**136**	*e*Pn		**Pn**	**01 29 13.8**	**-0.9**
PYL				*e*Sn		**Sn**	**01 29 28.1**	**+0.3**
PYL				S		**Sn**	**01 29 29.5**	**+1.7**
LAKA	**Lakka**	**1.07**	**55**	P		**Pn**	**01 29 15.7**	**+0.1**
LAKA	**Lakka**	**1.07**	**55**	P		**Pn**	**01 29 15.7**	**+0.1**
EFP	**Efpalio**	**1.14**	**45**	P		**Pn**	**01 29 16.8**	**+0.2**
EFP	**Efpalio**	**1.14**	**45**	*e*PN		**Pb**	**01 29 17.4**	**-0.5**
EFP				*e*SN		**Sb**	**01 29 34.2**	**+1.8**
EFP	**Efpalio**	**1.14**	**45**	P		**Pn**	**01 29 16.8**	**+0.2**
EFP	**Efpalio**	**1.14**	**45**	*e*Pn		**Pb**	**01 29 17.4**	**-0.5**
EFP				*e*Sn		**Sb**	**01 29 34.2**	**+1.8**
LKD2	**Lefkada island**	**1.18**	**352**	P		**Pb**	**01 29 18.3**	**-0.1**
LKD2				S		**Sb**	**01 29 37.0**	**+3.7**
LKD2	**Lefkada island**	**1.18**	**352**	*e*PB		**Pb**	**01 29 17.8**	**-0.6**
LKD2				*e*SN		**Sb**	**01 29 36.0**	**+2.7**
LKD2	**Lefkada island**	**1.18**	**352**	*e*Pb		**Pb**	**01 29 17.8**	**-0.6**
LKD2	**Lefkada island**	**1.18**	**352**	P		**Pb**	**01 29 18.3**	**-0.1**
LKD2				*e*Sn		**Sb**	**01 29 36.0**	**+2.7**
LKD2				S		**Sb**	**01 29 37.0**	**+3.7**
TRIZ	**Trizonia**	**1.20**	**52**	P		**Pn**	**01 29 17.6**	**+0.2**
TRIZ	**Trizonia**	**1.20**	**52**	P		**Pn**	**01 29 17.6**	**+0.2**
GUR	**Goura**	**1.20**	**75**	P		**Pn**	**01 29 17.6**	**+0.1**
GUR	**Goura**	**1.20**	**75**	*e*PB		**Pn**	**01 29 17.7**	**+0.2**
GUR				*e*SN		**Sb**	**01 29 34.7**	**+0.5**
GUR	**Goura**	**1.20**	**75**	*e*Pb		**Pn**	**01 29 17.7**	**+0.2**
GUR				*e*Sn		**Sb**	**01 29 34.7**	**+0.5**
VLX	**Vlachokerasia**	**1.22**	**102**	P		**Pb**	**01 29 18.3**	**-1.0**
VLX				S		**Sb**	**01 29 35.7**	**+0.9**
VLX	**Vlachokerasia**	**1.22**	**102**	*e*PN		**Pb**	**01 29 18.2**	**-1.0**
VLX				*e*SN		**Sb**	**01 29 35.6**	**+0.8**
VLX	**Vlachokerasia**	**1.22**	**102**	P		**Pb**	**01 29 18.3**	**-1.0**
VLX				S		**Sb**	**01 29 35.7**	**+0.9**
KALE	**Kalithea**	**1.26**	**52**	P		**Pn**	**01 29 18.7**	**+0.5**
KALE				S		**Sb**	**01 29 39.0**	**+3.2**
KALE	**Kalithea**	**1.26**	**52**	P		**Pn**	**01 29 18.7**	**+0.5**
KALE				S		**Sb**	**01 29 39.0**	**+3.2**
EVR	**Evrytania**	**1.48**	**29**	P		**Pb**	**01 29 23.9**	**+0.2**
EVR	**Evrytania**	**1.48**	**29**	*e*PN		**Pb**	**01 29 23.3**	**-0.4**
EVR	**Evrytania**	**1.48**	**29**	*e*Pn		**Pb**	**01 29 23.3**	**-0.4**
EVR	**Evrytania**	**1.48**	**29**	P		**Pb**	**01 29 23.9**	**+0.2**
DSF	**Desfina**	**1.52**	**58**	P		**Pb**	**01 29 23.5**	**-0.8**
DSF	**Desfina**	**1.52**	**58**	P		**Pb**	**01 29 23.5**	**-0.8**
DESF	**Desfina**	**1.53**	**58**	P		**Pn**	**01 29 22.6**	**+0.7**
DESF	**Desfina**	**1.53**	**58**	P		**Pn**	**01 29 22.6**	**+0.7**
MAKR	**Makrakomi, Fth**	**1.70**	**35**	P		**Pb**	**01 29 27.6**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.70**	**35**	P		**Pb**	**01 29 27.6**	**+0.2**
LTK	**Loutraki**	**1.71**	**76**	P		**Pb**	**01 29 26.7**	**-0.7**
LTK	**Loutraki**	**1.71**	**76**	*e*PN		**Pb**	**01 29 26.8**	**-0.7**
LTK	**Loutraki**	**1.71**	**76**	P		**Pb**	**01 29 26.7**	**-0.7**
VLI	**Veliai**	**1.88**	**118**	P		**Pb**	**01 29 29.7**	**-0.7**
VLI	**Veliai**	**1.88**	**118**	*e*PN		**Pb**	**01 29 29.5**	**-0.9**
VLI	**Veliai**	**1.88**	**118**	*e*Pn		**Pb**	**01 29 29.5**	**-0.9**
DID	**Didima**	**1.88**	**93**	P		**Pn**	**01 29 28.2**	**+1.4**
DID	**Didima**	**1.88**	**93**	*e*PN		**Pb**	**01 29 28.4**	**-2.0**
DID	**Didima**	**1.88**	**93**	P		**Pn**	**01 29 28.2**	**+1.4**
IGT	**Igoumenitsa**	**1.95**	**348**	P		**Pb**	**01 29 29.6**	**-2.0**
IGT	**Igoumenitsa**	**1.95**	**348**	P		**Pb**	**01 29 29.6**	**-2.0**
LKR	**Lokris**	**1.96**	**58**	P		**Pb**	**01 29 30.5**	**-1.3**
LKR	**Lokris**	**1.96**	**58**	P		**Pb**	**01 29 30.5**	**-1.3**
ATAL	**Atalanti**	**2.00**	**57**	P		**Pb**	**01 29 31.1**	**-1.3**
ATAL	**Atalanti**	**2.00**	**57**	P		**Pb**	**01 29 31.1**	**-1.3**
JAN	**Janina**	**2.03**	**359**	P		**Pb**	**01 29 32.7**	**-0.2**
JAN	**Janina**	**2.03**	**359**	*e*PN		**Pb**	**01 29 32.1**	**-0.8**
JAN	**Janina**	**2.03**	**359**	*e*Pn		**Pb**	**01 29 32.1**	**-0.8**
JAN	**Janina**	**2.03**	**359**	P		**Pb**	**01 29 32.7**	**-0.2**
NAIG	**Nisos Aigina**	**

PLOR	**Plostina**	**9.28**	**26**⇑	*i*P		**Pn**	**01 31 11.5**	**+3.1**
VRI	**Vrincioaia**	**9.32**	**26**⇑	*i*P		Pn	01 31 12.6	+3.7
VRI	**Vrincioaia**	**9.32**	**26**⇑	*i*P		Pn	01 31 12.6	+3.7
VISS	**Visnje**	**9.33**	**333**	*i* Pn		**Pn**	**01 31 11.1**	**+2.1**
VISS				*i* Sn		**Sn**	**01 32 48.1**	**-4.7**
KEST	**Kesra**	**9.45**	**262**	Pn		**Pn**	**01 31 13.2**	**+2.5**
	baz=318,slow=12,SNR=4.8							
KEST				Sn		**Sn**	**01 32 52.6**	**-3.4**
	0.0nm,0.3s,baz=11,slow=16,SNR=2.1							
KEST				LR		LR	01 35 24.6	
	comp=Z,31nm,20.6s,baz=346,slow=41							
GROS	**Grobnik**	**9.69**	**337**	*i* Pn		**Pn**	**01 31 15.1**	**+1.1**
GROS				*i* Sn		**Sn**	**01 32 56.0**	**-5.7**
JAVS	**Javornik**	**9.70**	**331**	*i* Pn		**Pn**	**01 31 16.7**	**+2.6**
JAVS				*i* Sn		**Sn**	**01 32 56.4**	**-5.6**
VOY	**Vojsko**	**9.88**	**330**	*e*Pn		**Pn**	**01 31 17.6**	**+1.0**
VOY				*e*Sn		**Sn**	**01 33 02.7**	**-3.8**
SOKA	**Soboth**	**10.03**	**336**⇓	*i*Pn		**Pn**	**01 31 18.4**	**-0.3**
SOKA	**Soboth**	**10.03**	**336**	Pn		**Pn**	**01 31 18.4**	**-0.3**
BRTR	**Keskin Array B**	**10.20**	**74**	Pn		**Pn**	**01 31 22.1**	**+1.0**
	0.0nm,0.3s,baz=275,slow=12,SNR=2.9							
BRTR	**Keskin Array B**	**10.20**	**74**	P		**Pn**	**01 31 22.1**	**+1.0**
PSZ	**Piszkesteto**	**10.31**	**356**⇓	*i*P		**Pn**	**01 31 23.8**	**+1.3**
PSZ	**Piszkesteto**	**10.31**	**356**⇓	*i*P		**Pn**	**01 31 23.8**	**+1.3**
BURAR	**Bucovina Array**	**10.48**	**16**⇓	*i*P		**Pn**	**01 31 27.7**	**+2.8**
BURAR	**Bucovina Array**	**10.48**	**16**⇓	*i*P		**Pn**	**01 31 27.7**	**+2.8**
MOA	**Molln**	**11.31**	**337**⇓	*i*Pn		**Pn**	**01 31 35.9**	**-0.2**
MOA	**Molln**	**11.31**	**337**	Pn		**Pn**	**01 31 35.9**	**-0.2**
DAVOX	**Davos/Dischmat**	**12.24**	**322**	Sn		**Sn**	**01 34 03.2**	**-1.2**
	0.2nm,0.3s,baz=143,slow=20,SNR=4.6							
GERES	**GERESS Array B**	**12.37**	**337**	Pn		**Pn**	**01 31 52.5**	**+1.9**
	0.1nm,0.3s,baz=158,slow=13,SNR=6.2							
GERES				Sn		**Sn**	**01 34 03.4**	**-4.0**
	0.1nm,0.3s,baz=164,slow=22,SNR=4.7							
GERES	**GERESS Array B**	**12.37**	**337**	P		**Pn**	**01 31 52.5**	**+1.9**
KHC	**Kasperske Hory**	**12.66**	**338**	*e*P		Pn	01 31 59.0	+4.5
KHC	**Kasperske Hory**	**12.66**	**338**	*e*P		Pn	01 31 59.0	+4.5
MMAI	**Mount Meron Ar**	**12.72**	**107**	Pn		**Pn**	**01 31 54.4**	**-1.1**
	0.2nm,0.3s,baz=304,slow=10,SNR=2.3							
AKASG	**Malin Array Be**	**14.37**	**22**	P		**Pn**	**01 32 17.0**	**-0.8**
AKASG	**Malin Array Be**	**14.37**	**22**	Pn		**Pn**	**01 32 17.0**	**-0.8**
	0.4nm,0.3s,baz=206,slow=12,SNR=3.2							
CLL	**Collm**	**14.78**	**340**	*e*P		**Pn**	**01 32 21.0**	**-2.3**
IIGN	**Ignalina**	**18.10**	**10**	*e*P		**Pn**	**01 33 04.2**	**-1.3**
IIGN	**Ignalina**	**18.10**	**10**	*e*P		**Pn**	**01 33 04.2**	**-1.3**
IDID	**Didziasalis**	**18.14**	**11**	*e*P		**Pn**	**01 33 02.1**	**-3.9**
IDID	**Didziasalis**	**18.14**	**11**	*e*P		**Pn**	**01 33 02.1**	**-3.9**
ISAL	**Salakas**	**18.30**	**10**	*e*P		**P**	**01 33 04.0**	**-4.0**
ISAL	**Salakas**	**18.30**	**10**	*e*P		**P**	**01 33 04.0**	**-4.0**
ZEI	**Tsey**	**18.30**	**66**	*e*P		**Pn**	**01 33 10.2**	**+1.8**
ZEI				pmax		pmax		
	comp=Z,3.0nm,1.0s							
ZEI	**Tsey**	**18.30**	**66**	*e*P		**Pn**	**01 33 10.2**	**+1.8**
	comp=Z,3.0nm,1.0s							
IZAR	**Zarasai**	**18.49**	**10**	*e*P		**P**	**01 33 06.1**	**-3.9**
IZAR	**Zarasai**	**18.49**	**10**	*e*P		**P**	**01 33 06.1**	**-3.9**
GNI	**Garni**	**18.74**	**75**	P		**Pn**	**01 33 15.4**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=298,slow=18,SNR=3.0							
GNI				LR		LR	01 40 05.4	
	comp=Z,29nm,18.7s,baz=4.5,slow=36							
GNI	**Garni**	**18.74**	**75**	P		**Pn**	**01 33 15.4**	**+1.7**
	comp=Z,29nm,18.7s							
ESDC	**Sonseca Array**	**19.49**	**284**	P		**Pn**	**01 33 23.9**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=82,slow=10,SNR=3.5							
OBN	**Obninsk**	**20.49**	**26**⇑	*e*P		**P**	**01 33 32.1**	**+0.3**
OBN				pmax		pmax		
	comp=Z,9.0nm,0.6s							
OBN				MLR		MLR		
	comp=Z,100nm,14.0s							
OBN	**Obninsk**	**20.49**	**26**	*e*P		**P**	**01 33 32.1**	**+0.3**
	comp=Z,100nm,14.0s							
MDT	**Midelt**	**21.34**	**265**	P		**P**	**01 33 41.4**	**0.0**
	comp=Z,4.2nm,0.8s,baz=4.9,slow=13,SNR=2.8							
HFS	**Hagfors**	**22.99**	**351**	P		**P**	**01 33 58.0**	**-0.5**
	comp=Z,2.3nm,0.5s,baz=168,slow=10,SNR=16							
HFS	**Hagfors**	**22.99**	**351**	P		**P**	**01 33 58.0**	**-0.5**
	comp=Z,2.0nm,0.5s							
FINES	**FINESS Array B**	**24.07**	**6**	P		**P**	**01 34 08.2**	**-0.7**
	comp=Z,6.2nm,1.1s,baz=180,slow=11,SNR=17							
FINES				LR		LR	01 42 47.0	
	comp=Z,45nm,18.5s,baz=356,slow=35							
FINES	**FINESS Array B**	**24.07**	**6**	P		**P**	**01 34 08.2**	**-0.7**
	comp=Z,45nm,18.5s							
NB2	**NORSAR Subarra**	**24.21**	**349**	P		**P**	**01 34 10.1**	**-0.3**
	comp=Z,5.9nm,1.2s,baz=161,slow=9.3							
NB2	**NORSAR Subarra**	**24.21**	**349**	P		**P**	**01 34 10.1**	**-0.3**
	comp=Z,5.9nm,1.2s,baz=161,slow=9.1,SNR=4.7							
NOA	**NORSAR Array B**	**24.21**	**349**	P		**P**	**01 34 10.6**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=154,slow=9.2,SNR=12							
NOA	**NORSAR Array B**	**24.21**	**349**	P		**P**	**01 34 10.6**	**+0.2**
	comp=Z,3.0nm,0.8s							
KAF	**Kangasniemi**	**24.75**	**6**	*e*p		**P**	**01 34 15.8**	**+0.7**
JOF	**Joensuu**	**26.12**	**11**	*e*p		**P**	**01 34 27.8**	**+0.3**
JOF	**Joensuu**	**26.12**	**11**	*e*P		**P**	**01 34 27.8**	**+0.3**
AKTK	**Aktyubinsk**	**29.30**	**52**	P		**P**	**01 34 55.9**	**-0.2**
	comp=Z,2.0nm,0.9s							
AKTO	**Aktyubinsk**	**29.30**	**52**	P		**P**	**01 34 55.9**	**-0.3**
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.9s							
AKTO	**Aktyubinsk**	**29.30**	**52**	P		**P**	**01 34 55.9**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=261,slow=8.9,SNR=10.0							
TORD	**Torodi Ar. Bea**	**29.78**	**220**	P		**P**	**01 35 01.9**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=33,slow=9.3,SNR=14							
ARCES	**ARCESS Array B**	**32.07**	**3**	P		**P**	**01 35 20.3**	**-0.1**
	comp=Z,3.0nm,1.0s,baz=178,slow=12,SNR=3.0							
ARCES	**ARCESS Array B**	**32.07**	**3**	P		**P**	**01 35 20.3**	**-0.1**
	comp=Z,3.0nm,1.0s							
DBIC	**Dimbokro**	**38.68**	**224**	P		**P**	**01 36 19.0**	**+1.2**
	comp=Z,2.4nm,0.6s,baz=9.1,slow=8.3,SNR=5.1							
MKAR	**Makanchi Array**	**45.35**	**58**	P		**P**	**01 37 11.2**	**-0.8**
MKAR							01 38 51.5	
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**45.35**	**58**	P		**P**	**01 37 11.2**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=273,slow=7.3,SNR=18							
MKAR				PcP		**PcP**	**01 38 51.5**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=274,slow=2.8,SNR=3.7							
MKAR	**Makanchi Array**	**45.35**	**58**	P		**P**	**01 37 11.2**	**-0.8**
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**45.35**	**58**	PcP		**PcP**	**01 38 51.5**	**+0.4**
	comp=Z,1.0nm,0.8s							
ZALV	**Zalesovo Beam**	**45.85**	**48**	P		**P**	**01 37 15.4**	**-0.4**
ZALV				pmax		pmax		
	comp=Z,2.0nm,0.5s							
ZALV	**Zalesovo Beam**	**45.85**	**48**	P		**P**	**01 37 15.4**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=275,slow=8.3,SNR=10							
ZALV	**Zalesovo Beam**	**45.85**	**48**	P		**P**	**01 37 15.4**	**-0.4**
	comp=Z,2.0nm,0.5s							
SCHQ	**Schefferville**	**59.05**	**318**	P		**P**	**01 38 54.7**	**+1.1**
	comp=Z,2.2nm,1.0s,baz=61,slow=9.4,SNR=3.4							
SONM	**Songino Array**	**60.59**	**50**	P		**P**	**01 39 05.3**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=305,slow=10,SNR=2.4							
SONM	**Songino Array**	**60.59**	**50**	P		**P**	**01 39 05.3**	**+0.9**
CMAR	**Chiang Mai Arr**	**69.69**	**82**	P		**P**	**01 40 03.1**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=304,slow=7.9,SNR=7.3							
CMAR	**Chiang Mai Arr**	**69.69**	**82**	P		**P**	**01 40 03.2**	**-0.6**
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**74.00**	**340**	P		**P**	**01 40 29.3**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=33,slow=5.1,SNR=11							
YKA	**Yellowknife Ar**	**74.00**	**340**	P		**P**	**01 40 29.3**	**+0.4**
ULM	**Lac du Bonnet**	**76.31**	**324**	P		**P**	**01 40 42.6**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=82,slow=1.4,SNR=4.1							
ULM	**Lac du Bonnet**	**76.31**	**324**	P		**P**	**01 40 42.6**	**+0.2**
	comp=Z,2.0nm,0.6s							
ILAR	**Eielson Array**	**77.48**	**355**	P		**P**	**01 40 50.0**	**+1.2**
	comp=Z,0.4nm,0.9s,baz=0.4,slow=2.9,SNR=4.5							
ILAR	**Eielson Array**	**77.48**	**355**	P		**P**	**01 40 50.0**	**+1.2**

PRU 02 01:31:34.9, 49.84N×18.52E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.24**	**270**	*e*PG		Pg	01 31 39.8	+0.3
OKC				*e*SG		Sg	01 31 42.5	-0.1
	comp=Z,8.9nm,0.4s							
DPC	**Dobruska-Polom**	**1.50**	**291**	*e*P		Pn	01 32 02.3	-0.9
DPC	**Dobruska-Polom**	**1.50**	**291**	*e*PG		Pn	01 32 02.3	-0.9
DPC				*e*SG		Sg	01 32 23.0	-0.2

IDC 02 01:43:56.9±4.7, 22.81S×178.60W, h0km, mb4.1/3,

mb1 4.3/3, mb1mx3.9/16, mbtmp4.1/3, Error ellipse: s-maj=168.1km s-min=61.4km az=143.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**36.32**	**247**	P		P	01 51 01.4	-1.3
	0.6nm,0.3s,baz=87,slow=12,SNR=8.5							
ASAR	**Alice Springs**	**43.49**	**259**	P		P	01 52 02.2	-0.1
	1.3nm,0.5s,baz=92,slow=7.9,SNR=16							
WRA	**Warramunga Arr**	**43.77**	**265**	P		P	01 52 05.5	+0.8
	1.5nm,0.3s,baz=99,slow=8.1,SNR=96							
BRTR	**Keskin Array B**	**147.92**	**309**	PKPbc		PKPbc	02 03 43.9	-0.7
	0.5nm,0.9s,baz=9.5,slow=4.4,SNR=3.9							

*ISCJB **02** 01:46:30.6±0.4, 31°.78N±0°.03×105°.02E±0°.04, h14km, mb3.8/11, MS2.9/2, Error ellipse: s-maj=5.3km s-min=4.0km az=34.2*

*IDC **02** 01:46:30.6±0.8, 31°.81N×104°.98E, h0km, mb3.9/11, mb1 4.0/14, mb1mx3.9/29, mbtmp3.8/14, ML3.7/3, MS3.1/3, Ms1 3.1/3, ms1mx2.8/38, Error ellipse: s-maj=34.1km s-min=14.9km az=54.0*

*BJI **02** 01:46:31.7, 31°.85N×105°.02E, h18km, mb3.9/4, ML3.9/20, Ms3.9/9, Ms7 3.7/10*

ISC 02 01:46:32.9±0.5, 31°.89N±0°.04×104°.97E±0°.05, h14km, n22, σ1°75/31, mb3.7/11, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CD2	**Chengdu**	**1.42**	**227**	⇑Pg		**Pn**	**01 46 56.9**	**-1.4**
CD2				Sg		**Sn**	**01 47 15.8**	**-1.1**
CD2				smax		smax		
	comp=N,8μm,0.8s							
CD2				smax		smax		
	comp=E,7μm,0.7s							
XAN	**Xi'an**	**3.96**	**56**	Pn		**Pn**	**01 47 32.7**	**-0.5**
XAN				Pg		**Pg**	**01 47 46.5**	**-2.2**
XAN				Sn		**Sn**	**01 48 20.1**	**+0.6**
XAN				Sg		**Sg**	**01 48 40.2**	**+0.2**
XAN				smax		smax		
	comp=N,170nm,0.9s							
XAN				smax		smax		
	comp=E,62nm,1.0s							
XAN				LR		LR		
	comp=N,640nm,6.7s							
XAN				LR		LR		
	comp=E,120nm,5.5s							
XAN				LR		LR		
	comp=Z,280nm,5.8s							
LZH	**Lanzhou**	**4.29**	**348**	Pn		**Pn**	**01 47 40.3**	**+2.4**
LZH				Pg		Pg	01 47 51.8	-3.3
LZH				Sn		**Sn**	**01 48 32.3**	**+4.4**
LZH				Sg		**Sg**	**01 48 46.4**	**-4.3**
LZH				smax		smax		
	comp=N,560nm,1.3s							
LZH				smax		smax		
	comp=E,310nm,1.2s							
LZH				LR		LR		
	comp=N,2μm,4.1s							
LZH				LR		LR		
	comp=E,670nm,4.2s							
LZH				LR		LR		
	comp=Z,1μm,5.1s							
GYA	**Guiyang**	**5.61**	**164**	Pn		**Pn**	**01 47 55.5**	**-0.5**
GYA				Pg		Pb	01 48 13.9	+3.2
GYA				Sn		**Sn**	**01 48 57.0**	**-3.3**
GYA				Sg		**Sb**	**01 49 21.6**	**+3.7**
GYA				smax		smax		
	comp=N,200nm,0.9s							
GYA				smax		smax		
	comp=E,270nm,0.9s							
KMI	**Kunming**	**7.02**	**197**	Pn		**Pn**	**01 48 15.4**	**-0.1**
KMI				Sn		**Sn**	**01 49 35.1**	**-0.1**
KMI				smax		smax		
	comp=N,52nm,0.8s							
KMI				smax		smax		
	comp=E,42nm,0.8s							
KMI				LR		LR		
	comp=N,160nm,6.4s							
KMI				LR		LR		
	comp=E,480nm,6.2s							
KMI				LR		LR		
	comp=Z,280nm,7.5s							
WHN	**Wuhan**	**8.15**	**97**	*e*P		**Pn**	**01 48 30.2**	**-0.5**
WHN				*e*S		**Sn**	**01 50 03.6**	**+1.0**
WHN				LR		LR		
	comp=N,1μm,5.5s							
WHN				LR		LR		
	comp=E,810nm,5.6s							
WHN				LR		LR		
	comp=Z,1μm,4.9s							
GTA	**Gaotai**	**8.60**	**332**	*e*P		**Pn**	**01 48 37.0**	**0.0**
GTA				pP		Px	01 48 41.4	
GTA				sP			01 48 44.5	
GTA				pmax		pmax		
	comp=Z,4.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**14.44**	**204**	Pn		**Pn**	**01 49 56.1**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=19,slow=11,SNR=4.9							
SONM	**Songino Array**	**15.96**	**4**	Pn		**P**	**01 50 19.0**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=182,slow=8.7,SNR=2.6							
SONM				Lg		Lg	01 55 09.6	
	comp=Z,0.1nm,0.3s,baz=176,slow=29,SNR=4.0							
SONM				LR		LR	01 57 02.7	
	comp=Z,101nm,19.1s,baz=236,slow=39							
KSRS	**Korea Array**	**19.66**	**67**	P		**P**	**01 51 01.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=258,slow=10,SNR=4.8							
MKAR	**Makanchi Array**	**22.89**	**317**	P		**P**	**01 51 36.9**	**+0.8**
	comp=Z,3.2nm,0.9s,baz=119,slow=9.9,SNR=20							
MKAR				LR		LR	02 00 43.3	
	comp=Z,23nm,20.2s,baz=180,slow=37							
ZALV	**Zalesovo Beam**	**26.35**	**333**	P		**P**	**01 52 08.1**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=132,slow=8.9,SNR=4.7							
AAK	**Ala-Archa**	**26.39**	**303**	LR		LR	02 03 35.1	
	comp=Z,70nm,18.4s,baz=303,slow=39							
KURBB	**Kurchatov Arra**	**27.07**	**321**	P		**P**	**01 52 14.8**	**0.0**
	comp=Z,0.9nm,0.9s,baz=128,slow=9.5,SNR=9.7							
AKTO	**Aktyubinsk**	**39.15**	**312**	P		**P**	**01 54 01.2**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=82,slow=15,SNR=7.1							
BRTR	**Keskin Array B**	**57.00**	**299**	P		**P**	**01 56 18.8**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=90,slow=5.3,SNR=3.9							
FINES	**FINESS Array B**	**57.33**	**326**	P		**P**	**01 56 20.5**	**+0.4**
	comp=Z,3.1nm,0.9s,baz=74,slow=10,SNR=3.1							
AKASG	**Malin Array Be**	**57.39**	**313**	P		**P**	**01 56 20.4**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=68,slow=6.7,SNR=3.7							
WRA	**Warramunga Arr**	**58.72**	**147**	P		**P**	**01 56 29.7**	**-0.7**
	comp=Z,3.2nm,0.6s,baz=340,slow=7.9,SNR=45							
ASAR	**Alice Springs**	**61.79**	**150**	P		**P**	**01 56 50.9**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=332,slow=5.9,SNR=14							
NOA	**NORSAR Array B**	**64.40**	**327**	P		**P**	**01 57 08.8**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=94,slow=4.8,SNR=2.8							
GERES	**GERESS Array B**	**67.53**	**314**	P		**P**	**01 57 29.0**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=79,slow=7.1,SNR=4.8							

*IDC **02** 01:54:30.4±1.8, 59°.71N×153°.57W, h112km±30km, mb3.4/3, mb1 3.4/6, mb1mx3.1/27, mbtmp3.3/6, Error ellipse: s-maj=35.0km s-min=18.1km az=112.0*

*NEIC **02** 01:54:32.9, 59°.65N×153°.26W, h125km, MG3.2(AEIC), After AEIC.*

ISC 02 01:54:31.1±0.8, 59°.71N±0°.04×153°.36W±0°.05, h134km±5km, n74, σ1°09/88, mb3.8/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OPT	**Oil Point**	**0.09**	**129**	P		**Pn**	**01 54 49.4**	**+0.2**
OPT				S		**Sn**	**01 55 02.5**	**-0.5**
AUNW	**Augustine NWes**	**0.33**	**190**	P		**Pn**	**01 54 50.0**	**+0.2**
AUW	**Augustine West**	**0.34**	**190**	P		**Pn**	**01 54 50.1**	**+0.3**
AUE	**Augustine Isla**	**0.35**	**181**	P		**Pn**	**01 54 50.1**	**+0.3**
ILW	**Iliamna West**	**0.37**	**18**	P		**Pn**	**01 54 50.0**	**-0.1**
ILW				S		**Sn**	**01 55 04.2**	**-0.5**
INE	**Iliamna NE**	**0.39**	**23**	P		**Pn**	**01 54 50.2**	**0.0**
INE				S		**Sn**	**01 55 04.7**	**0.0**
RSO	**Redoubt South**	**0.82**	**22**	P		**Pn**	**01 54 53.5**	**+0.5**
RSO				S		**Sn**	**01 55 09.5**	**-0.2**
RDN	**Redoubt North**	**0.86**	**20**	P		**Pn**	**01 54 54.0**	**+0.7**
HOM	**Homer**	**0.87**	**92**	P		**Pn**	**01 54 53.3**	**+0.2**
NCT	**North Crescent**	**0.89**	**14**	P		**Pn**	**01 54 53.8**	**+0.3**
NCT				S		**Sn**	**01 55 09.4**	**-1.0**
FOSS	**Fourpeaked Sta**	**0.93**	**191**	P		**Pn**	**01 54 53.8**	**+0.1**
FOSS				S		**Sn**	**01 55 10.4**	**-0.4**
DFR	**Drift River**	**0.95**	**20**	P		**Pn**	**01 54 54.4**	**+0.4**
FOPK	**Fourpeaked Vol**	**0.95**	**184**	P		**Pn**	**01 54 54.0**	**+0.1**
FOPK				S		**Sn**	**01 55 10.5**	**-0.7**
KAPH	**Katmai Pasha**	**1.22**	**205**	P		**Pn**	**01 54 56.9**	**+0.3**
BRLK	**Bradley Lake**	**1.25**	**86**	P		**Pn**	**01 54 57.0**	**+0.2**
BRLK				S		**Sn**	**01 55 15.6**	**-0.8**
CKL	**Chakachamna La**	**1.58**	**18**	P		**Pn**	**01 55 01.2**	**+0.8**
KAKN	**Katmai Knife C**	**1.67**	**213**	P		**Pn**	**01 55 01.6**	**+0.2**
SPCG	**Spurr Capps Gl**	**1.72**	**22**	P		**Pn**	**01 55 02.8**	**+0.8**
SPCG				S		**Sn**	**01 55 25.9**	**+0.1**
KCE	**Katmai Mt Cerb**	**1.74**	**214**	P		**Pn**	**01 55 03.0**	**+0.7**
SLKM	**Skilak Lake**	**1.77**	**62**	P		**Pn**	**01 55 03.4**	**+0.9**
KELA	**Mount Kelaz**	**1.77**	**225**	P		**Pn**	**01 55 02.6**	**0.0**
STLK	**Strandline Lak**	**1.95**	**22**	P		**Pn**	**01 55 05.5**	**+0.8**
KDAK	**Kodiak Island**	**1.97**	**168**	P		**Pn**	**01 55 04.2**	**-0.6**
KDAK				S		**Sn**	**01 55 28.8**	**-1.9**
KDAK	**Kodiak Island**	**1.97**	**168**	P		**Pn**	**01 55 04.2**	**-0.6**
	4.6nm,0.3s,baz=43,slow=3.8,SNR=32							
KDAK				S		**Sn**	**01 55 28.8**	**-1.9**
	65nm,0.3s,baz=125,slow=19,SNR=59							
SEW	**Seward**	**2.01**	**77**	P		**Pn**	**01 55 05.9**	**+0.6**
FIB	**Fire Island**	**2.15**	**46**	P		**Pn**	**01 55 08.6**	**+1.6**
SUA	**Susitna One**	**2.19**	**35**	P		**Pn**	**01 55 08.5**	**+0.9**
RC01	**Rabbit Creek A**	**2.27**	**51**	P		**Pn**	**01 55 09.1**	**+0.6**
RC01				S		**Sn**	**01 55 36.6**	**-0.7**
SKT	**Skwentna**	**2.45**	**21**	P		**Pn**	**01 55 11.4**	**+0.7**
PMR	**Palmer**	**2.81**	**46**	P		**Pn**	**01 55 15.0**	**-0.3**
SML	**Sawmill**	**3.25**	**47**	P		**Pn**	**01 55 20.7**	**-0.2**
PPLA	**Purkeypile**	**3.25**	**10**	P		**Pn**	**01 55 22.6**	**+1.4**
TT01	**Tatalina**	**3.46**	**339**	P		**Pn**	**01 55 23.3**	**-0.4**
SCM	**Sheep Creek Mo**	**3.65**	**52**	P		**Pn**	**01 55 26.3**	**0.0**
VLZ	**Valdez**	**3.77**	**65**	P		**Pn**	**01 55 28.7**	**+1.0**
EYAK	**Cordova Ski Ar**	**3.90**	**74**	P		**Pn**	**01 55 29.8**	**+0.3**
DIV	**Divide**	**4.02**	**66**	P		**Pn**	**01 55 32.3**	**+1.0**
TRF	**Thorofare Moun**	**4.04**	**20**	P		**Pn**	**01 55 31.0**	**-0.5**
KLU	**Klutina**	**4.08**	**61**	P		**Pn**	**01 55 32.2**	**+0.2**
GOAT	**Goat Mountain**	**4.41**	**75**	P		**Pn**	**01 55 37.2**	**+1.0**
DHY	**Denali Highway**	**4.44**	**38**	P		**Pn**	**01 55 36.8**	**-0.1**
BMRM	**Bremner River**	**4.53**	**70**	P		**Pn**	**01 55 38.8**	**+0.8**
MCK	**McKinley**	**4.56**	**26**	P		**Pn**	**01 55 38.6**	**+0.4**
HARP	**HAARP**	**4.82**	**52**	P		**Pn**	**01 55 42.1**	**+0.3**
PAX	**Paxson**	**5.01**	**46**	P		**Pn**	**01 55 44.8**	**+0.4**
VRDI	**Verde Repeater**	**5.13**	**68**	P		**Pn**	**01 55 46.9**	**+0.8**
NEA	**Nenana**	**5.29**	**20**	P		**Pn**	**01 55 47.8**	**-0.1**
BARK	**Barkley Ridge**	**5.49**	**78**	P		**Pn**	**01 55 52.0**	**+1.3**
CCB	**Clear Creek Bu**	**5.60**	**25**	P		**Pn**	**01 55 51.6**	**-0.4**
KIAG	**Kiagna River**	**5.60**	**73**	P		**Pn**	**01 55 53.1**	**+0.7**
COLA	**College**	**5.79**	**24**	P		**Pn**	**01 55 53.1**	**-1.4**
MDM	**Murphy Dome**	**5.79**	**22**	P		**Pn**	**01 55 54.1**	**-0.5**
ILAR	**Eielson Array**	**5.91**	**28**	P		**Pn**	**01 55 55.9**	**-0.5**
ILAR				S		**Sn**	**01 56 58.4**	**-4.5**
ILAR	**Eielson Array**	**5.91**	**28**	P		**Pn**	**01 55 55.9**	**-0.5**
	2.4nm,0.3s,baz=217,slow=13,SNR=216							
ILAR				S		**Sn**	**01 56 58.4**	**-4.5**
	1.7nm,0.3s,baz=212,slow=28,SNR=8.6							
IL1	**Eielson Array**	**5.91**	**28**	P		**Pn**	**01 55 55.9**	**-0.5**
BARN	**Barnard Glacie**	**5.96**	**72**	P		**Pn**	**01 55 59.1**	**+1.9**
RKAV	**Rock Avalanche**	**6.06**	**79**	P		**Pn**	**01 56 00.5**	**+2.1**
TABL	**Table Mountain**	**6.16**	**78**	P		**Pn**	**01 56 01.3**	**+1.4**
IM3	**Indian Mountai**	**6.30**	**359**	P		**Pn**	**01 56 02.2**	**+0.7**
BCA3	**Beaver Creek A**	**6.50**	**54**	P		**Pn**

FETY					*e*SG	**Sb**	02 13 08.1	+0.1
FETY	**Fethiye**	**0.76**	**117**		*e*Pg	**Pg**	02 12 57.1	-0.1
FETY					*e*Sg	**Sb**	02 13 08.1	+0.1
ARG	**Arkhangelos**	**0.78**	**187**		*e*PN	**Pg**	02 12 56.7	-0.7
ARG					*e*SN	**Sb**	02 13 08.8	+0.5
ARG	**Arkhangelos**	**0.78**	**187**		*e*Pn	**Pg**	02 12 56.7	-0.7
ARG					*e*Sn	**Sb**	02 13 08.8	+0.5
DNZL	**Cakiroluk**	**0.95**	**42**		*i* P	**Pb**	02 13 00.2	-0.8
DNZL					*i* S	**Sn**	02 13 15.8	+0.4
DNZL	**Cakiroluk**	**0.95**	**42**		*i* P	**Pb**	02 13 00.2	-0.8
DNZL					*i* S	**Sn**	02 13 15.8	+0.4
GCAM	**G?zelcaml?**	**1.07**	**312**		*i* P	**Pg**	02 13 03.1	+0.1
GCAM					*i* S	**Sn**	02 13 19.5	+1.4
GCAM	**G?zelcaml?**	**1.07**	**312**		*i* P	**Pg**	02 13 03.1	+0.1
GCAM					*i* S	**Sn**	02 13 19.5	+1.4
SMG	**Samos**	**1.33**	**303**		*e*PN	**Pg**	02 13 07.4	-0.5
SMG					*e*SN	**Sg**	02 13 25.4	+0.2
SMG	**Samos**	**1.33**	**303**		*e*Pn	**Pg**	02 13 07.4	-0.5
SMG					*e*Sn	**Sg**	02 13 25.4	+0.2
ELL	**Elmali**	**1.36**	**100**		*e*PN	**Pg**	02 13 08.3	-0.2
ELL	**Elmali**	**1.36**	**100**		*e*Pn	**Pg**	02 13 08.3	-0.2
KSL	**Kastellorizon**	**1.37**	**127**		*e*PN	**Pg**	02 13 08.4	-0.3
MANT	**Manisa**	**1.52**	**9**		*i* P	**Pb**	02 13 10.5	-0.2
MANT					*i* S	**Sg**	02 13 33.0	+1.6
MANT	**Manisa**	**1.52**	**9**		*i* P	**Pb**	02 13 10.5	-0.2
MANT					*i* S	**Sg**	02 13 33.0	+1.6
KULA	**Kula-Manisa**	**1.56**	**12**		*e*PN	**Pb**	02 13 10.8	-0.4
KULA	**Kula-Manisa**	**1.56**	**12**		*e*Pn	**Pb**	02 13 10.9	-0.4
IZM	**Izmir**	**1.61**	**331**		*e*PN	**Pb**	02 13 11.7	-0.3
IZM	**Izmir**	**1.61**	**331**		*e*Pn	**Pb**	02 13 11.7	-0.3
KHL	**Karahalli**	**1.68**	**37**		*e*PN	**Pb**	02 13 12.8	-0.5
KHL	**Karahalli**	**1.68**	**37**		*e*Pn	**Pb**	02 13 12.8	-0.5
KARP	**Karpathos**	**1.68**	**212**		*e*PN	**Pb**	02 13 12.4	-0.9
KARP					*e*SN	**Sb**	02 13 34.8	+0.4
KARP	**Karpathos**	**1.68**	**212**		*e*Pn	**Pb**	02 13 12.4	-0.9
KARP					*e*Sn	**Sb**	02 13 34.8	+0.4
BLCB	**Balcova**	**1.69**	**326**		*e*PN	**Pb**	02 13 12.8	-0.6
BLCB	**Balcova**	**1.69**	**326**		*e*Pn	**Pb**	02 13 12.8	-0.6
KHAL	**Karahalli**	**1.70**	**35**		*i* P	**Pb**	02 13 12.9	-0.8
KHAL					*i* S	**Sg**	02 13 37.2	+0.1
KHAL	**Karahalli**	**1.70**	**35**		*i* P	**Pb**	02 13 12.9	-0.8
KHAL					*i* S	**Sg**	02 13 37.2	+0.1
AKHS	**Akhisar**	**1.92**	**350**		*i* P	**Pn**	02 13 14.9	0.0
AKHS					*i* S	**Sn**	02 13 38.6	-0.4
AKHS	**Akhisar**	**1.92**	**350**		*i* P	**Pn**	02 13 14.9	0.0
AKHS					*i* S	**Sn**	02 13 38.6	-0.4
AKS	**Akhisar**	**1.92**	**350**		*e*PN	**Pb**	02 13 15.9	-1.4
AKS	**Akhisar**	**1.92**	**350**		*e*Pn	**Pb**	02 13 15.9	-1.4
BCK	**Bucak**	**1.94**	**75**		*e*PN	**Pb**	02 13 16.4	-1.2
BCK	**Bucak**	**1.94**	**75**		*e*Pn	**Pb**	02 13 16.4	-1.2
ISP	**Isparta**	**2.00**	**65**		*e*PN	**Pb**	02 13 17.3	-1.5
ISP	**Isparta**	**2.00**	**65**		*e*Pn	**Pb**	02 13 17.3	-1.5
DEMI	**Demirci**	**2.09**	**10**		*i* P	**Pn**	02 13 17.5	+0.2
DEMI					*i* S	**Sn**	02 13 40.9	-2.4
DEMI	**Demirci**	**2.09**	**10**		*i* P	**Pn**	02 13 17.5	+0.2
DEMI					*i* S	**Sn**	02 13 40.9	-2.4
APE	**Apeiranthos**	**2.17**	**273**		*e*PN	**Pb**	02 13 20.9	-0.7
APE	**Apeiranthos**	**2.17**	**273**		*e*PB	**Pn**	02 13 19.1	+0.7
APE	**Apeiranthos**	**2.17**	**273**		*e*Pb	**Pn**	02 13 19.1	+0.7
APE	**Apeiranthos**	**2.17**	**273**		*e*Pn	**Pb**	02 13 20.9	-0.7
CHOS	**Chios island**	**2.23**	**310**		*e*PN	**Pn**	02 13 20.1	+0.9
CHOS	**Chios island**	**2.23**	**310**		*e*Pn	**Pn**	02 13 20.1	+0.9
SUTC	**Sutluce-Ispart**	**2.26**	**77**		*e*PN	**Pb**	02 13 21.2	-2.0
SUTC	**Sutluce-Ispart**	**2.26**	**77**		*e*Pn	**Pb**	02 13 21.2	-2.0
SHUT	**Suhut-Afyon**	**2.41**	**49**		*e*PN	**Pn**	02 13 23.1	+1.3
SHUT	**Suhut-Afyon**	**2.41**	**49**		*e*Pn	**Pn**	02 13 23.1	+1.3
ALT	**Altintas**	**2.54**	**35**		*e*PN	**Pn**	02 13 24.8	+1.2
ALT	**Altintas**	**2.54**	**35**		*e*Pn	**Pn**	02 13 24.8	+1.2
NPS	**Neapolis**	**2.73**	**232**		*e*PN	**Pn**	02 13 27.7	+1.5
NPS	**Neapolis**	**2.73**	**232**		*e*Pn	**Pn**	02 13 27.7	+1.5
BALY	**Balya**	**2.79**	**350**		*i* P	**Pn**	02 13 27.8	+0.9
BALY	**Balya**	**2.79**	**350**		*i* P	**Pn**	02 13 27.8	+0.9
IDI	**Anoyia**	**3.20**	**239**		*e*PN	**Pn**	02 13 34.9	+2.3
IDI	**Anoyia**	**3.20**	**239**		*e*Pn	**Pn**	02 13 34.9	+2.3

DDA ***02*** *02:14:42.4, 40°.35N×25°.84E, h18km, MD3.1*
CSEM ***02*** *02:14:43.8±0.1, 40°.32N×25°.80E, h2km, MD3.0, Error ellipse: s-maj=3.2km s-min=3.0km az=87.0*
ISK ***02*** *02:14:43.5, 40°.33N×25°.89E, h5km, MD3.0*
ISCJB ***02*** *02:14:43.6±0.5, 40°.32N±0°.02×25°.80E±0°.03, h8km±3km, Error ellipse: s-maj=3.4km s-min=3.4km az=16.6*
ATH ***02*** *02:14:43.6, 40°.33N×25°.83E, h29km, MD3.2/7*
THE ***02*** *02:14:44.5, 40°.34N×25°.82E, h14km±1km, ML2.2/4, Error ellipse: s-maj=1.6km s-min=0.9km az=335.0*

ISC 02 02:14:43.8±1.1, 40°.33N±0°.02×25°.85E±0°.02, h13km±9km, n87, σ0°79/114, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.47**	**29**	PG	**Pg**	**02 14 53.4**	**+0.4**
ENEZ				SG	**Sb**	**02 15 01.2**	**+0.6**
ENEZ	**Enez**	**0.47**	**29**	*i* Pg	**Pg**	**02 14 53.4**	**+0.4**
ENEZ				*i* Sg	**Sb**	**02 15 01.2**	**+0.6**
GELI	**Tayfur-Gelibol**	**0.48**	**82**	*e*PG	**Pg**	**02 14 53.7**	**+0.5**
GELI				*e*SG	**Sb**	**02 15 00.7**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.48**	**82**	*e*Pg	**Pg**	**02 14 53.7**	**+0.5**
GELI				*e*Sg	**Sb**	**02 15 00.6**	**-0.3**
BOZC	**Bozcaada**	**0.51**	**163**	*i* P	**Pg**	**02 14 54.0**	**+0.2**
BOZC				*i* S	**Sb**	**02 15 01.4**	**-0.4**
ALN	**Alexandroupoli**	**0.59**	**14**	P	**Pg**	**02 14 55.4**	**+0.1**
ALN				S	**Sb**	**02 15 03.9**	**-0.2**
ALN	**Alexandroupoli**	**0.59**	**14**	*e*PN	**Pg**	**02 14 55.4**	**+0.1**
ALN				*e*SN	**Sb**	**02 15 04.2**	**+0.1**
ALN	**Alexandroupoli**	**0.59**	**14**	P	**Pg**	**02 14 55.4**	**+0.1**
ALN				S	**Sb**	**02 15 03.9**	**-0.2**
ALN				*e*Sn	**Sb**	**02 15 04.2**	**+0.1**
ERIK	**Erikli-Kesan**	**0.61**	**56**	*e*PG	**Pg**	**02 14 55.6**	**-0.1**
ERIK	**Erikli-Kesan**	**0.61**	**56**	*e*Pg	**Pg**	**02 14 55.6**	**-0.1**
EZN	**Ezine**	**0.62**	**144**	*e*PG	**Pg**	**02 14 55.9**	**0.0**
EZN	**Ezine**	**0.62**	**144**	*e*Pg	**Pg**	**02 14 55.9**	**0.0**
LIA	**Limnos Island**	**0.67**	**230**	P	**Pb**	**02 14 57.1**	**-0.2**
LIA				S	**Sb**	**02 15 06.7**	**+0.2**
LIA	**Limnos Island**	**0.67**	**230**	*e*PN	**Pb**	**02 14 57.2**	**-0.1**
LIA				*e*SN	**Sb**	**02 15 06.5**	**0.0**
LIA	**Limnos Island**	**0.67**	**230**	P	**Pb**	**02 14 57.1**	**-0.2**
LIA				*e*Sn	**Sb**	**02 15 06.5**	**0.0**
LPK	**Lapseki**	**0.69**	**86**	*e*PG	**Pg**	**02 14 57.4**	**+0.1**
LPK	**Lapseki**	**0.69**	**86**	*e*Pg	**Pg**	**02 14 57.4**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.07**	**70**	*e*PG	**Pg**	**02 15 04.8**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.07**	**70**	*e*Pg	**Pg**	**02 15 04.8**	**+0.3**
SART	**Tekirdag**	**1.07**	**70**	*i* P	**Pb**	**02 15 02.0**	**-2.2**
SART				*i* S	**Sb**	**02 15 18.0**	**-0.2**
SART	**Tekirdag**	**1.07**	**70**	*i* P	**Pb**	**02 15 02.0**	**-2.2**
SART				*i* S	**Sb**	**02 15 18.0**	**-0.2**
KRBG	**Karabiga-Canak**	**1.10**	**86**	*e*PG	**Pg**	**02 15 05.3**	**+0.2**
KRBG	**Karabiga-Canak**	**1.10**	**86**	*e*Pg	**Pg**	**02 15 05.3**	**+0.2**
PRK	**Paraskevi**	**1.13**	**163**	P	**Pn**	**02 15 05.2**	**0.0**
PRK				S	**Sn**	**02 15 20.7**	**+0.1**
PRK	**Paraskevi**	**1.13**	**163**	*e*PN	**Pn**	**02 15 05.4**	**+0.2**
PRK				*e*SN	**Sn**	**02 15 20.6**	**0.0**
PRK	**Paraskevi**	**1.13**	**163**	P	**Pn**	**02 15 05.2**	**0.0**
PRK				S	**Sn**	**02 15 20.7**	**+0.1**
AYVA	**Ayvalik**	**1.21**	**147**	*i* P	**Pn**	**02 15 05.7**	**-0.6**
AYVA				*i* S	**Sn**	**02 15 22.4**	**-0.1**
AYVA	**Ayvalik**	**1.21**	**147**	*i* P	**Pn**	**02 15 05.7**	**-0.6**
AYVA				*i* S	**Sn**	**02 15 22.4**	**-0.1**
KAVA	**Kavala**	**1.22**	**304**	P	**Pb**	**02 15 06.7**	**0.0**
KAVA				S	**Sb**	**02 15 21.9**	**-0.4**
KAVA	**Kavala**	**1.22**	**304**	P	**Pb**	**02 15 06.7**	**0.0**
KAVA				S	**Sb**	**02 15 21.9**	**-0.4**
GONE	**Gonen-Balikesi**	**1.43**	**101**	*e*PN	**Pg**	**02 15 11.0**	**-0.3**
GONE	**Gonen-Balikesi**	**1.43**	**101**	*e*Pn	**Pg**	**02 15 11.0**	**-0.3**
OUR	**Ouranopolis**	**1.43**	**271**	P	**Pn**	**02 15 08.9**	**-0.5**
OUR	**Ouranopolis**	**1.43**	**271**	P	**Pn**	**02 15 08.9**	**-0.5**
TKR	**Tekirdag**	**1.44**	**62**	*e*PN	**Pg**	**02 15 11.6**	**+0.2**
TKR	**Tekirdag**	**1.44**	**62**	*e*Pn	**Pg**	**02 15 11.6**	**+0.2**
BALY	**Balya**	**1.48**	**113**	*i* P	**Pb**	**02 15 11.1**	**0.0**
BALY				*i* S	**Sg**	**02 15 31.2**	**-0.2**
BALY	**Balya**	**1.48**	**113**	*i* P	**Pb**	**02 15 11.1**	**0.0**
BALY				*i* S	**Sg**	**02 15 31.2**	**-0.2**
EDC	**Edincik**	**1.54**	**89**	*e*PN	**Pg**	**02 15 13.2**	**-0.1**
EDC	**Edincik**	**1.54**	**89**	*e*Pn	**Pg**	**02 15 13.2**	**-0.1**
BNT	**Bandirma**	**1.58**	**88**	*e*PN	**Pb**	**02 15 12.2**	**-0.6**
BNT	**Bandirma**	**1.58**	**88**	*e*Pn	**Pb**	**02 15 12.2**	**-0.6**
CRLT	**Corlu**	**1.64**	**60**	*e*PN	**Pb**	**02 15 14.3**	**+0.5**
CRLT	**Corlu**	**1.64**	**60**	*e*Pn	**Pb**	**02 15 14.3**	**+0.5**
EDRB	**Edirne**	**1.66**	**24**	*e*PN	**Pb**	**02 15 14.0**	**-0.2**
EDRB	**Edirne**	**1.66**	**24**	*e*Pn	**Pb**	**02 15 14.0**	**-0.2**
BALB	**Balikesir**	**1.70**	**113**	*e*PN	**Pb**	**02 15 15.3**	**+0.4**
BALB	**Balikesir**	**1.70**	**113**	*e*Pn	**Pb**	**02 15 15.3**	**+0.4**
NVR	**Nevrokopi**	**1.82**	**305**	*e*PN	**Pn**	**02 15 15.0**	**+0.2**
NVR				*e*SN	**Sn**	**02 15 37.5**	**-0.3**
NVR	**Nevrokopi**	**1.82**	**305**	*e*Pn	**Pn**	**02 15 15.0**	**+0.2**
NVR				*e*Sn	**Sn**	**02 15 37.5**	**-0.3**
KCTX	**Karacabey (Bur**	**1.92**	**91**	*e*PN	**Pb**	**02 15 17.7**	**-0.8**
KCTX	**Karacabey (Bur**	**1.92**	**91**	*e*Pn	**Pb**	**02 15 17.7**	**-0.8**
CHOS	**Chios island**	**1.95**	**175**	P	**Pn**	**02 15 16.9**	**+0.4**
CHOS	**Chios island**	**1.95**	**175**	*e*PN	**Pn**	**02 15 17.0**	**+0.4**
CHOS	**Chios island**	**1.95**	**175**	*e*Pn	**Pn**	**02 15 17.0**	**+0.4**
SOH	**Sokhos**	**1.97**	**285**	*e*PB	**Pn**	**02 15 17.0**	**+0.2**
SOH	**Sokhos**	**1.97**	**285**	*e*Pb	**Pn**	**02 15 17.0**	**+0.2**
SLVT	**Silivri**	**2.00**	**63**	*e*PN	**Pb**	**02 15 19.8**	**-0.2**
SLVT	**Silivri**	**2.00**	**63**	*e*Pn	**Pb**	**02 15 19.8**	**-0.2**
DURS	**Dursunbey**	**2.14**	**109**	*i* P	**Pn**	**02 15 20.2**	**+1.0**
DURS				*i* S	**Sn**	**02 15 46.0**	**+0.3**
DURS	**Dursunbey**	**2.14**	**109**	*i* P	**Pn**	**02 15 20.2**	**+1.0**
DURS				*i* S	**Sn**	**02 15 46.0**	**+0.3**
BLCB	**Balcova**	**2.15**	**154**	*e*PN	**Pb**	**02 15 22.2**	**-0.3**
BLCB	**Balcova**	**2.15**	**154**	*e*Pn	**Pb**	**02 15 22.2**	**-0.3**
CTYL	**Yal??k??y-??at**	**2.17**	**57**	*e*PN	**Pb**	**02 15 22.2**	**-0.7**
CTYL	**Yal??k??y-??at**	**2.17**	**57**	*e*Pn	**Pb**	**02 15 22.2**	**-0.7**
CTKS	**Kestanelik-??a**	**2.21**	**65**	*e*PN	**Pb**	**02 15 22.7**	**-0.8**
CTKS	**Kestanelik-??a**	**2.21**	**65**	*e*Pn	**Pb**	**02 15 22.7**	**-0.8**
IZM	**Izmir**	**2.22**	**150**	*e*PN	**Pb**	**02 15 23.0**	**-0.7**
IZM	**Izmir**	**2.22**	**150**	*e*Pn	**Pb**	**02 15 23.0**	**-0.7**
DST	**Dursunbey**	**2.25**	**108**	*e*PN	**Pb**	**02 15 23.2**	**-0.9**
DST	**Dursunbey**	**2.25**	**108**	*e*Pn	**Pb**	**02 15 23.3**	**-0.9**
ARMT	**Armutlu**	**2.31**	**83**	*e*PN	**Pb**	**02 15 24.0**	**-1.2**
ARMT	**Armutlu**	**2.31**	**83**	*e*Pn	**Pb**	**02 15 24.0**	**-1.2**
MDNY	**Mudanya-Bursa**	**2.32**	**88**	*e*PN	**Pb**	**02 15 24.0**	**-1.3**
MDNY	**Mudanya-Bursa**	**2.32**	**88**	*e*Pn	**Pb**	**02 15 24.0**	**-1.3**
BGKT	**Bogazkoy**	**2.38**	**68**	*e*PN	**Pb**	**02 15 25.1**	**-1.3**
BGKT	**Bogazkoy**	**2.38**	**68**	*e*Pn	**Pb**	**02 15 25.1**	**-1.3**
ISK	**Istanbul-Kandi**	**2.54**	**72**	*e*PN	**Pb**	**02 15 27.5**	**-1.8**
ISK	**Istanbul-Kandi**	**2.54**	**72**	*e*Pn	**Pb**	**02 15 27.5**	**-1.8**
YLV	**Yalova**	**2.69**	**84**	*e*PN	**Pb**	**02 15 29.9**	**-2.0**
YLV	**Yalova**	**2.69**	**84**	*e*Pn	**Pb**	**02 15 29.9**	**-2.0**
SMG	**Samos**	**2.73**	**163**	*e*PN	**Pn**	**02 15 27.7**	**+0.5**
SMG	**Samos**	**2.73**	**163**	*e*Pn	**Pn**	**02 15 27.7**	**+0.5**
KULA	**Kula-Manisa**	**2.83**	**129**	*e*PN	**Pn**	**02 15 31.2**	**+2.5**
KULA	**Kula-Manisa**	**2.83**	**129**	*e*Pn	**Pn**	**02 15 31.2**	**+2.5**
ALT	**Altintas**	**3.52**	**110**	*e*PN	**Pn**	**02 15 40.2**	**+1.9**
ALT	**Altintas**	**3.52**	**110**	*e*Pn	**Pn**	**02 15 40.2**	**+1.9**

IDC 02 02:17:55.9±10.0, 36°.98N×70°.28E, h195km±60km, mb3.0/1, mb1 2.6/4, mb1mx2.5/27, mbtmp2.6/4, 3C, Error ellipse: s-maj=277.1km s-min=42.3km az=141.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.12**	**2**	⇑Pn	Pn	02 19 28.7	+4.2
	0.2nm,0.4s,baz=179,slow=12,SNR=9.0						
KK31				⇑Pg	Px	02 19 38.9	
	0.3nm,0.4s,baz=179,slow=13,SNR=5.6						
KK31				⇑Lg	Lg	02 20 36.5	
	2.1nm,0.7s,baz=187,slow=24,SNR=7.7						
AAK	**Ala-Archa**	**6.51**	**29**	P	Pn	02 19 29.6	-0.2
	0.3nm,0.3s,baz=187,slow=4.7,SNR=6.0						
AAK				S	Sn	02 20 42.1	-2.1
	0.3nm,0.3s,baz=136,slow=23,SNR=9.5						
MKAR	**Makanchi Array**	**13.26**	**39**	P	Pn	02 20 57.2	+0.6
	0.1nm,0.3s,baz=215,slow=12,SNR=3.6						
ZALV	**Zalesovo Beam**	**19.73**	**26**	P	P	02 22 10.2	-0.2
	0.2nm,0.3s,baz=203,slow=14,SNR=3.1						
TORD	**Torodi Ar. Bea**	**65.16**	**268**	P	P	02 28 16.3	0.0
	0.6nm,1.1s,baz=54,slow=6.8,SNR=5.0						

ATH ***02*** *02:21:51.6, 37°.02N×28°.51E, h28km±2km, MD3.3/6*
ISCJB ***02*** *02:21:52.7±0.6, 36°.95N±0°.02×28°.26E±0°.03, h24km±4km, Error ellipse: s-maj=4.2km s-min=3.5km az=168.2*
DDA ***02*** *02:21:53.0, 36°.96N×28°.26E, h7km, MD3.0*
CSEM ***02*** *02:21:53.1±0.2, 36°.98N×28°.25E, h2km, MD3.1, Error ellipse: s-maj=5.6km s-min=4.5km az=167.0*
ISK ***02*** *02:21:54.2, 37°.14N×28°.18E, h14km, MD3.1*

ISC 02 02:21:53.3±0.9, 36°.98N±0°.02×28°.27E±0°.02, h9km±7km, n57, σ1°14/82, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.15**	**5**	PG	**Pg**	**02 21 57.1**	**+0.4**
YER				SG	**Sg**	**02 22 00.6**	**+1.1**
YER	**Yerkesik**	**0.15**	**5**	*i* Pg	**Pg**	**02 21 57.1**	**+0.4**
YER				*i* Sg	**Sg**	**02 22 00.2**	**+1.1**
TURN	**Turunc**	**0.29**	**111**	*i* P	**Pg**	**02 21 57.5**	**-1.6**
TURN				*i* S	**Sg**	**02 22 01.3**	**-1.7**
TURN	**Turunc**	**0.29**	**111**	*i* P	**Pg**	**02 21 57.5**	**-1.6**
TURN				*i* S	**Sg**	**02 22 01.3**	**-1.7**
BDRM	**Kayabasi**	**0.66**	**278**	*i* P	**Pg**	**02 22 05.5**	**-0.7**
BDRM				*i* S	**Sb**	**02 22 16.2**	**-0.3**
BDRM	**Kayabasi**	**0.66**	**278**	*i* P	**Pg**	**02 22 05.5**	**-0.7**
BDRM				*i* S	**Sb**	**02 22 16.2**	**-0.3**
FETY	**Fethiye**	**0.74**	**117**	*e*PG	**Pn**	**02 22 11.3**	**+1.2**
AYDN	**Tasoluk**	**0.75**	**336**	*i* P	**Pg**	**02 22 07.8**	**0.0**
AYDN				*i* S	**Sg**	**02 22 18.1**	**+0.6**
AYDN	**Tasoluk**	**0.75**	**336**	*i* P	**Pg**	**02 22 07.8**	**0.0**
AYDN				*i* S	**Sg**	**02 22 18.1**	**+0.6**
ARG	**Arkhangelos**	**0.77**	**189**	*e*PN	**Pg**	**02 22 08.1**	**-0.1**
ARG				*e*SN	**Sn**	**02 22 21.3**	**-0.8**
ARG	**Arkhangelos**	**0.77**	**189**	*e*Pn	**Pg**	**02 22 08.1**	**-0.1**
ARG				*e*Sn	**Sn**	**02 22 21.3**	**-0.8**
BODT	**Bodrum**	**0.77**	**276**	*e*PG	**Pg**	**02 22 08.1**	**-0.1**
BODT				*e*SG	**Sg**	**02 22 18.7**	**+0.5**
BODT	**Bodrum**	**0.77**	**276**	*e*Pg	**Pg**	**02 22 08.1**	**-0.1**
BODT				*e*Sg	**Sg**	**02 22 18.7**	**+0.5**
DNZL	**Cakiroluk**	**0.94**	**41**	*i* P	**Pg**	**02 22 11.5**	**0.0**
DNZL				*i* S	**Sn**	**02 22 25.6**	**-1.1**
DNZL	**Cakiroluk**	**0.94**	**41**	*i* P	**Pg**	**02 22 11.5**	**0.0**
DNZL				*i* S	**Sn**	**02 22 25.6**	**-1.1**
GCAM	**G?zelcaml?**	**1.09**	**311**	*i* P	**Pb**	**02 22 13.6**	**-0.9**
GCAM				*i* S	**Sn**	**02 22 29.9**	**-0.2**
GCAM	**G?zelcaml?**	**1.09**	**311**	*i* P	**Pb**	**02 22 13.6**	**-0.9**
GCAM				*i* S	**Sn**	**02 22 29.9**	**-0.2**
ELL	**Elmali**	**1.34**	**99**	*e*PN	**Pg**	**02 22 20.9**	**+1.9**
ELL	**Elmali**	**1.34**	**99**	*e*Pn	**Pg**	**02 22 20.9**	**+1.9**
SMG	**Samos**	**1.35**	**303**	*e*PN	**Pb**	**02 22 18.5**	**-0.4**
SMG				*e*SN	**Sg**	**02 22 38.4**	**+1.5**
SMG	**Samos**	**1.35**	**303**	*e*Pn	**Pb**	**02 22 18.5**	**-0.4**
SMG				*e*Sn	**Sg**	**02 22 38.4**	**+1.5**
MANT	**Manisa**	**1.53**	**9**	*i* P	**Pb**	**02 22 21.8**	**-0.2**
MANT				*i* S	**Sg**	**02 22 44.1**	**+1.6**
MANT	**Manisa**	**1.53**	**9**	*i* P	**Pb**	**02 22 21.8**	**-0.2**
MANT				*i* S	**Sg**	**02 22 44.1**	**+1.6**
KULA	**Kula-Manisa**	**1.56**	**11**	*e*PN	**Pn**	**02 22 20.1**	**-1.4**
KULA	**Kula-Manisa**	**1.56**	**11**	*e*Pn	**Pn**	**02 22 20.1**	**-1.4**
IZM	**Izmir**	**1.62**	**331**	*e*PN	**Pn**	**02 22 20.6**	**-1.6**
IZM	**Izmir**	**1.62**	**331**	*e*Pn	**Pn**	**02 22 20.6**	**-1.6**
KORT	**Korkueli**	**1.67**	**89**	*i* P	**Pg**	**02 22 25.7**	**+0.4**
KORT				*i* S	**Sg**	**02 22 51.7**	**+4.7**
KORT	**Korkueli**	**1.67**	**89**	*i* P	**Pg**	**02 22 25.7**	**+0.4**
KHL	**Karahalli**	**1.67**	**36**	*e*PN	**Pn**	**02 22 23.1**	**+0.2**
KHL	**Karahalli**	**1.67**	**36**	*e*Pn	**Pn**	**02 22 23.1**	**+0.2**
KARP	**Karpathos**	**1.69**	**212**	*e*PN	**Pb**	**02 22 23.6**	**-1.0**
KARP				*e*SN	**Sb**	**02 22 46.2**	**+0.3**
KARP	**Karpathos**	**1.69**	**212**	*e*Pn	**Pb**	**02 22 23.6**	**-1.0**
KARP				*e*Sn	**Sb**	**02 22 46.3**	**+0.3**
KHAL	**Karahalli**	**1.69**	**35**	*i* P	**Pb**	**02 22 24.2**	**-0.6**
KHAL				*i* S	**Sb**	**02 22 46.4**	**+0.1**
KHAL	**Karahalli**	**1.69**	**35**	*i* P	**Pb**	**02 22 24.2**	**-0.6**
KHAL				*i* S	**Sb**	**02 22 46.4**	**+0.1**
BLCB	**Balcova**	**1.71**	**326**	*e*PN	**Pn**	**02 22 22.0**	**-1.3**
BLCB	**Balcova**	**1.71**	**326**	*e*Pn	**Pn**	**02 22 22.0**	**-1.3**
BCK	**Bucak**	**1.91**	**75**	*e*PN	**Pb**	**02 22 27.7**	**-0.8**
BCK	**Bucak**	**1.91**	**75**	*e*Pn	**Pb**	**02 22 27.7**	**-0.8**
AKS	**Akhisar**	**1.93**	**349**	*e*PN	**Pn**	**02 22 25.0**	**-1.4**
AKS	**Akhisar**	**1.93**	**349**	*e*Pn	**Pn**	**02 22 25.0**	**-1.4**
ISP	**Isparta**	**1.98**	**64**	*e*PN	**Pb**	**02 22 29.0**	**-0.7**
ISP	**Isparta**	**1.98**	**64**	*e*Pn	**Pb**	**02 22 29.0**	**-0.7**
APE	**Apeiranthos**	**2.19**	**273**	*e*PN	**Pn**	**02 22 30.8**	**+0.8**
APE	**Apeiranthos**	**2.19**	**273**	*e*Pn	**Pn**	**02 22 30.8**	**+0.8**
SUTC	**Sutluce-Ispart**	**2.24**	**76**	*e*PN	**Pb**	**02 22 32.4**	**-1.7**
SUTC	**Sutluce-Ispart**	**2.24**	**76**	*e*Pn	**Pb**	**02 22 32.4**	**-1.7**
CHOS	**Chios island**	**2.25**	**309**	*e*PN	**Pn**	**02 22 31.5**	**+0.7**
CHOS	**Chios island**	**2.25**	**309**	*e*Pn	**Pn**	**02 22 31.5**	**+0.7**
SHUT	**Suhut-Afyon**	**2.40**	**48**	*e*PN	**Pn**	**02 22 33.4**	**+0.5**
SHUT	**Suhut-Afyon**	**2.40**	**48**	*e*Pn	**Pn**	**02 22 33.4**	**+0.5**
ALT	**Altintas**	**2.53**	**35**	*e*PN	**Pn**	**02 22 35.1**	**+0.3**
ALT	**Altintas**	**2.53**	**35**	*e*Pn	**Pn**	**02 22 35.1**	**+0.3**
NPS	**Neapolis**	**2.75**	**232**	*e*PN	**Pn**	**02 22 39.3**	**+1.6**
NPS	**Neapolis**	**2.75**	**232**	*e*Pn	**Pn**	**02 22 39.3**	**+1.6**
IDI	**Anoyia**	**3.21**	**239**	*e*PN	**Pn**	**02 22 45.3**	**+1.2**
IDI	**Anoyia**	**3.21**	**239**	*e*Pn	**Pn**	**02 22 45.3**	**+1.2**

ATH ***02*** *02:24:37.0, 37°.12N×28°.87E, h8km, MD3.1/3*
DDA ***02*** *02:24:44.6, 36°.97N×28°.18E, h7km, MD2.5*
ISCJB ***02*** *02:24:45.1±0.7, 37°.00N±0°.03×28°.20E±0°.03, h4km±5km, Error ellipse: s-maj=5.2km s-min=4.3km az=148.8*
ISK ***02*** *02:24:45.4, 37°.14N×28°.19E, h11km, MD3.0*
CSEM ***02*** *02:24:45.4±0.2, 37°.03N×28°.16E, h8km, MD3.0, Error ellipse: s-maj=5.8km s-min=4.8km az=1.0*

**ISC 02 02:24:45.4±0.9, 37°.05N±0°.03×28°.18E±0°.02,

PUK	**Puka**	**1.67**	**359**	*i* Pn	**Pg**	**02 36 20.2**	**+1.7**
	SNR=40						
ULC	**Ulcinj**	**1.67**	**342**	⇓*i* Pn	**Pg**	**02 36 18.1**	**-0.5**
ULC				*e*Sn	**Sg**	**02 36 42.4**	**+2.1**
ULC	**Ulcinj**	**1.67**	**342**	⇓*i* Pn	**Pg**	**02 36 18.1**	**-0.5**
ULC				*e*Sn	**Sg**	**02 36 42.4**	**+2.1**
LKD2	**Lefkada island**	**1.68**	**160**	P	**Pb**	**02 36 17.1**	**-0.7**
LKD2	**Lefkada island**	**1.68**	**160**	*e*PB	**Pb**	**02 36 16.9**	**-0.9**
LKD2				*e*SB	**Sg**	**02 36 41.8**	**+1.5**
LKD2	**Lefkada island**	**1.68**	**160**	*e*Pb	**Pb**	**02 36 16.9**	**-0.9**
LKD2				*e*Sb	**Sg**	**02 36 41.8**	**+1.5**
THL	**Klokotos Trika**	**1.79**	**116**	P	**Pb**	**02 36 18.8**	**-1.0**
THL	**Klokotos Trika**	**1.79**	**116**	*e*PN	**Pb**	**02 36 19.6**	**-0.2**
THL				*e*SN	**Sg**	**02 36 45.4**	**+1.3**
THL	**Klokotos Trika**	**1.79**	**116**	P	**Pb**	**02 36 18.8**	**-1.0**
THL	**Klokotos Trika**	**1.79**	**116**	*e*Pn	**Pb**	**02 36 19.6**	**-0.2**
THL				*e*Sn	**Sg**	**02 36 45.4**	**+1.3**
SKO	**Skopje**	**1.96**	**35**	*e*Pn	**Pg**	**02 36 24.0**	**-0.1**
SKO				*e*Sg	**Sg**	**02 36 50.2**	**+0.6**
SKO	**Skopje**	**1.96**	**35**	*e*Pn	**Pg**	**02 36 24.5**	**+0.4**
SKO				*e*Sg	**Sg**	**02 36 50.7**	**+1.1**
LIT	**Litokhoron**	**1.98**	**97**	P	**Pb**	**02 36 22.9**	**-0.1**
LIT	**Litokhoron**	**1.98**	**97**	*e*PG	**Pb**	**02 36 22.9**	**-0.1**
LIT				*e*SN	**Sg**	**02 36 50.4**	**+0.4**
LIT	**Litokhoron**	**1.98**	**97**	P	**Pb**	**02 36 22.9**	**-0.1**
LIT				*e*Sn	**Sg**	**02 36 50.4**	**+0.4**
TAR1	**Taranto**	**2.02**	**275**	*e*Pn	**Pg**	**02 36 26.7**	**+1.4**
EVR	**Evrytania**	**2.05**	**134**	*e*PN	**Pb**	**02 36 23.6**	**-0.7**
EVR	**Evrytania**	**2.05**	**134**	*e*Pn	**Pb**	**02 36 23.6**	**-0.7**
BUM	**Brajici-Budva**	**2.08**	**338**	⇑*i* Pn	**Pb**	**02 36 24.8**	**0.0**
BUM				*e*Sn	**Sg**	**02 36 52.1**	**-1.2**
BUM	**Brajici-Budva**	**2.08**	**338**	⇑*i* Pn	**Pb**	**02 36 24.8**	**0.0**
BUM				*e*Sn	**Sg**	**02 36 52.1**	**-1.2**
TTG	**Podgorica**	**2.12**	**346**	⇑*i* Pn	**Pb**	**02 36 25.0**	**-0.3**
TTG				*e*Sn	**Sg**	**02 36 53.9**	**-0.6**
PDG	**Podgorica**	**2.12**	**346**	⇑*i* Pn	**Pb**	**02 36 25.0**	**-0.4**
PDG				*e*Sn	**Sg**	**02 36 53.9**	**-0.7**
VAY	**Valandovo**	**2.22**	**64**	*e*Pn	**Pb**	**02 36 26.2**	**-0.8**
VAY				*e*Sg	**Sb**	**02 36 53.7**	**-1.1**
VAY	**Valandovo**	**2.22**	**64**	*e*Pn	**Pb**	**02 36 26.6**	**-0.4**
VAY				*e*Sg	**Sb**	**02 36 54.2**	**-0.6**
PVY	**Plav**	**2.22**	**1**	⇑*i* Pn	**Pg**	**02 36 28.1**	**-1.0**
PVY				*e*Sn	**Sg**	**02 36 57.3**	**-0.6**
PVY	**Plav**	**2.22**	**1**	⇑*i* Pn	**Pg**	**02 36 28.1**	**-1.0**
PVY				*e*Sn	**Sg**	**02 36 57.3**	**-0.6**
VLS	**Valsamata**	**2.25**	**167**	*e*PB	**Pn**	**02 36 24.9**	**+0.5**
VLS	**Valsamata**	**2.25**	**167**	*e*Pb	**Pn**	**02 36 24.9**	**+0.5**
HCY	**Herceg Novi**	**2.34**	**333**	⇑*i* Pn	**Pb**	**02 36 27.8**	**-1.3**
HCY				*e*Sn	**Sb**	**02 36 57.7**	**-0.6**
HCY	**Herceg Novi**	**2.34**	**333**	⇑*i* Pn	**Pb**	**02 36 27.8**	**-1.3**
HCY				*e*Sn	**Sb**	**02 36 57.7**	**-0.6**
BAI	**Bari**	**2.43**	**289**	*e*Pn	**Pn**	**02 36 27.5**	**+0.7**
BEY	**Berane**	**2.50**	**359**	⇑*i* Pn	**Pb**	**02 36 31.7**	**-0.2**
BEY				*e*Sn	**Sb**	**02 37 03.8**	**+0.8**
IVA	**Berane**	**2.50**	**359**	⇑*i* Pn	**Pb**	**02 36 31.7**	**-0.2**
IVA				*e*Sn	**Sb**	**02 37 03.8**	**+0.8**
SG1	**Sgolgore (BA)**	**2.52**	**282**	*e*Pn	**Pn**	**02 36 28.9**	**+0.8**
NKY	**Niksic**	**2.54**	**344**	⇑*i* Pn	**Pb**	**02 36 31.7**	**-0.9**
NKY				*e*Sn	**Sb**	**02 37 03.6**	**-0.6**
NKY	**Niksic**	**2.54**	**344**	⇑*i* Pn	**Pb**	**02 36 31.7**	**-0.9**
NKY				*e*Sn	**Sb**	**02 37 03.6**	**-0.6**
SOH	**Sokhos**	**2.65**	**79**	*e*PB	**Pb**	**02 36 32.3**	**-2.1**
SOH	**Sokhos**	**2.65**	**79**	*e*Pb	**Pb**	**02 36 32.3**	**-2.1**
PLG	**Polygyros**	**2.69**	**89**	*e*PN	**Pn**	**02 36 32.0**	**+1.6**
PLG	**Polygyros**	**2.69**	**89**	*e*Pn	**Pn**	**02 36 32.0**	**+1.6**
BRY	**Bratogost**	**2.74**	**338**	*e*Pn	**Pb**	**02 36 33.9**	**-2.1**
BRY				*e*Sn	**Sb**	**02 37 07.3**	**-2.6**
BRY	**Bratogost**	**2.74**	**338**	*e*Pn	**Pb**	**02 36 33.9**	**-2.1**
BRY				*e*Sn	**Sb**	**02 37 07.3**	**-2.6**
NEO	**Neokhori**	**2.75**	**112**	*e*PB	**Pb**	**02 36 33.9**	**-2.2**
NEO	**Neokhori**	**2.75**	**112**	*e*Pb	**Pb**	**02 36 33.9**	**-2.2**
UPM	**Unac-Piva**	**2.93**	**345**	⇑*i* Pn	**Pb**	**02 36 37.1**	**-2.3**
UPM				*e*Sn	**Sb**	**02 37 13.4**	**-2.2**
UPM	**Unac-Piva**	**2.93**	**345**	⇑*i* Pn	**Pb**	**02 36 37.1**	**-2.3**
UPM				*e*Sn	**Sb**	**02 37 13.4**	**-2.2**
STON	**Ston**	**3.01**	**327**	*e*Pn	**Pn**	**02 36 34.1**	**-0.7**
STON				Sn	**Sn**	**02 37 10.1**	**-1.1**
STON	**Ston**	**3.01**	**327**	*e*Pn	**Pn**	**02 36 34.0**	**-0.7**
STON				Sn	**Sn**	**02 37 10.0**	**-1.1**
NVR	**Nevrokopi**	**3.14**	**71**	*e*PN	**Pn**	**02 36 38.3**	**+1.7**
NVR	**Nevrokopi**	**3.14**	**71**	*e*Pn	**Pn**	**02 36 38.3**	**+1.7**
IVAS	**Ivanjica**	**3.21**	**3**	*e*Pn	**Pb**	**02 36 42.3**	**-1.7**
ZAPS	**Zavoj**	**3.54**	**34**	*e*Pn	Pn	02 36 45.1	+3.0
GRUS	**Gruza**	**3.56**	**9**	*e*Pn	**Pn**	**02 36 44.6**	**+2.2**
DIVS	**Divibare**	**3.73**	**1**	*e*Pn	Pb	02 36 48.0	-4.8
NVLJ	**Novalja**	**5.62**	**320**	*e*Pn	**Pn**	**02 37 12.4**	**+1.8**
NVLJ				Sn	**Sn**	**02 38 15.0**	**-0.4**
NVLJ	**Novalja**	**5.62**	**320**	*e*Pn	**Pn**	**02 37 12.3**	**+1.8**
NVLJ				Sn	**Sn**	**02 38 15.0**	**-0.4**

IDC 02 02:36:25.7±2.6, 22°.35S×68°.75W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.7/15, mbtmp4.0/3, ML4.5/1, Error ellipse: s-maj=97.7km s-min=51.5km az=176.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIV	**San Ignacio**	**9.62**	**50**	Pn	Pn	02 38 46.0	+0.3
	2.4nm,0.3s,baz=250,slow=12,SNR=48						
TORD	**Torodi Ar. Bea**	**77.50**	**70**	P	P	02 48 23.4	-0.4
	0.4nm,0.4s,baz=255,slow=5.8,SNR=9.8						
YKA	**Yellowknife Ar**	**92.03**	**341**	P	P	02 49 35.5	-0.6
	0.2nm,0.5s,baz=134,slow=4.5,SNR=8.5						
MKAR	**Makanchi Array**	**146.22**	**37**	PKPbc	PKPab	02 56 08.7	-0.2
	0.4nm,0.6s,baz=302,slow=3.2,SNR=4.2						

*ISCJB **02** 02:39:30.9±0.6, 36°.92N±0°.05×28°.28E±0°.03, h8km±6km, Error ellipse: s-maj=8.0km s-min=4.1km az=18.0*
*DDA **02** 02:39:30.9, 36°.98N×28°.30E, h7km, MD2.8*
*ISK **02** 02:39:31.1, 36°.97N×28°.29E, h13km, MD2.4*
*CSEM **02** 02:39:31.0±0.3, 36°.94N×28°.29E, h5km, MD2.4, Error ellipse: s-maj=7.0km s-min=4.4km az=20.0*

ISC 02 02:39:31.2±1.1, 36°.94N±0°.03×28°.30E±0°.03, h7km±9km, n20, σ0°75/36, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.20**	**357**	PG	**Pg**	**02 39 35.2**	**0.0**
YER				SG	**Sg**	**02 39 38.5**	**+0.7**
YER	**Yerkesik**	**0.20**	**357**	*i* Pg	**Pg**	**02 39 35.2**	**0.0**
YER				*i* Sg	**Sg**	**02 39 38.6**	**+0.7**
TURN	**Turunc**	**0.25**	**105**	*i* P	**Pg**	**02 39 35.5**	**-0.7**
TURN				*i* S	**Sg**	**02 39 39.3**	**-0.3**
TURN	**Turunc**	**0.25**	**105**	*i* P	**Pg**	**02 39 35.5**	**-0.7**
TURN				*i* S	**Sg**	**02 39 39.3**	**-0.3**
BDRM	**Kayabasi**	**0.69**	**281**	*i* P	**Pg**	**02 39 43.0**	**-1.6**
BDRM				*i* S	**Sg**	**02 39 54.3**	**+0.7**
BDRM	**Kayabasi**	**0.69**	**281**	*i* P	**Pg**	**02 39 43.0**	**-1.6**
BDRM				*i* S	**Sg**	**02 39 54.3**	**+0.7**
FETY	**Fethiye**	**0.70**	**115**	*e*PG	**Pg**	**02 39 45.5**	**+0.8**
FETY				*e*SG	**Sb**	**02 39 55.8**	**+0.2**
FETY	**Fethiye**	**0.70**	**115**	*e*Pg	**Pg**	**02 39 45.5**	**+0.8**
FETY				*e*Sg	**Sb**	**02 39 55.8**	**+0.2**
AYDN	**Tasoluk**	**0.80**	**335**	*i* P	**Pg**	**02 39 45.9**	**-0.6**
AYDN				*i* S	**Sg**	**02 39 56.6**	**-0.2**
AYDN	**Tasoluk**	**0.80**	**335**	*i* P	**Pg**	**02 39 45.9**	**-0.6**
AYDN				*i* S	**Sg**	**02 39 56.6**	**-0.2**
BODT	**Bodrum**	**0.80**	**279**	*e*PG	**Pg**	**02 39 47.1**	**+0.5**
BODT				*e*SG	**Sg**	**02 39 58.2**	**+1.3**
BODT	**Bodrum**	**0.80**	**279**	*e*Pg	**Pg**	**02 39 47.1**	**+0.5**
BODT				*e*Sg	**Sg**	**02 39 58.3**	**+1.3**
DNZL	**Cakiroluk**	**0.96**	**38**	*i* P	**Pg**	**02 39 49.8**	**+0.2**
DNZL				*i* S	**Sn**	**02 40 05.6**	**+0.3**
DNZL	**Cakiroluk**	**0.96**	**38**	*i* P	**Pg**	**02 39 49.8**	**+0.2**
DNZL				*i* S	**Sn**	**02 40 05.6**	**+0.3**
ELL	**Elmali**	**1.31**	**98**	*e*PN	**Pn**	**02 39 55.1**	**-0.9**
ELL	**Elmali**	**1.31**	**98**	*e*Pn	**Pn**	**02 39 55.1**	**-0.9**
KULA	**Kula-Manisa**	**1.60**	**10**	*e*PN	**Pn**	**02 39 59.4**	**-0.6**
KULA	**Kula-Manisa**	**1.60**	**10**	*e*Pn	**Pn**	**02 39 59.4**	**-0.6**
KHAL	**Karahalli**	**1.71**	**33**	*i* P	**Pn**	**02 40 02.3**	**+0.7**
KHAL				*i* S	**Sb**	**02 40 24.5**	**-0.5**
KHAL	**Karahalli**	**1.71**	**33**	*i* P	**Pn**	**02 40 02.3**	**+0.7**
KHAL				*i* S	**Sb**	**02 40 24.5**	**-0.5**

PRE 02 02:40:13.8±0.8, 26°.37S×27°.61E, h2km, ML1.2, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERPM	**east rand prop**	**0.57**	**87**	*e*P	Pg	02 40 24.5	-0.4
ERPM				*e*S	Sg	02 40 33.3	+0.7
ERPM				AML	AML	02 40 34.1	
	comp=Z,6.8nm,0.4s						
LBTB	**Lobatse**	**2.26**	**306**	*e*P	Pn	02 40 53.7	+1.3
LBTB				*e*S	Sn	02 41 21.2	+0.2
LBTB				AML	AML	02 41 24.7	
	comp=Z,1.7nm,0.5s						
BOSA	**Boshof**	**3.06**	**223**	*e*P	Pn	02 41 04.2	+0.8
BOSA				*e*S	Sn	02 41 40.6	-0.1
BOSA				AML	AML	02 41 48.0	
	comp=Z,0.7nm,0.6s						

MAN 02 02:43:35, 11°.03N×124°.75E, h34km, mb3.8, ML2.6, MS2.2, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.14**	**280**	*e*P	Pb	02 43 42.7	+1.5
OCLP				*e*S	Sb	02 43 45.2	-0.3
PLP	**Palo**	**0.26**	**58**	⇑*i* P	Pb	02 43 45.4	+3.0
PLP				*i* S	Sb	02 43 50.0	+2.6
MSLP	**Maasin**	**0.89**	**173**	*e*P	Pb	02 43 55.6	+3.5
MSLP				*e*S	Sb	02 44 05.2	+1.4

*NEIC **02** 02:59:31.9, 18°.65N×67°.04W, h72km, MD2.6(RSPR), After RSPR.*

RSPR 02 02:59:31.9, 18°.65N×67°.04W, h72km, 6C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.19**	**200**	⇓*e*P	Pn	02 59 42.3	-0.5
AGPR	**Aguadilla, PR**	**0.19**	**200**	⇓*e*P	Pn	02 59 42.3	-0.5
AGPR				*e*S	Sn	02 59 50.4	-0.3
CRPR	**Cabo Rojo, PR**	**0.64**	**186**	⇓*e*P	Pn	02 59 45.8	-0.6
CRPR	**Cabo Rojo, PR**	**0.64**	**186**	⇓*e*P	Pn	02 59 45.8	-0.6
CRPR				*e*S	Sn	02 59 56.6	-0.4
CBYP	**Canovanas**	**1.19**	**108**	⇓*e*P	Pn	02 59 52.5	-0.4
CBYP	**Canovanas**	**1.19**	**108**	⇓*e*P	Pn	02 59 52.5	-0.4
CBYP				*e*S	Sn	03 00 08.5	-0.2
HUMP	**Col San Antoni**	**1.24**	**114**	⇓*e*P	Pn	02 59 53.2	-0.3
HUMP	**Col San Antoni**	**1.24**	**114**	⇓*e*P	Pn	02 59 53.2	-0.3
HUMP				*e*S	Sn	03 00 09.3	-0.5
MTP	**Monte Pirata**	**1.52**	**111**	⇑*e*P	Pn	02 59 56.6	-0.5
MTP	**Monte Pirata**	**1.52**	**111**	⇑*e*P	Pn	02 59 56.6	-0.5
MTP				*e*S	Sn	03 00 15.5	-0.8

PRE 02 02:59:56.7±0.8, 26°.43S×27°.37E, h2km, ML2.3, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.23**	**71**	*e*P	Pg	03 00 01.9	+0.4
KLOF				*e*S	Sg	03 00 04.2	-0.5
KLOF				AML	AML	03 00 06.0	
	comp=Z,600nm,0.4s						
ERPM	**east rand prop**	**0.79**	**84**	*e*P	Pg	03 00 12.4	+0.3
ERPM				*e*S	Sg	03 00 23.1	+0.5
ERPM				AML	AML	03 00 24.5	
	comp=Z,31nm,0.4s						
LBTB	**Lobatse**	**2.13**	**311**	*e*P	Pn	03 00 34.4	+0.9
LBTB				*e*S	Sn	03 01 00.9	+0.4
LBTB				AML	AML	03 01 06.5	
	comp=Z,29nm,0.3s						
BOSA	**Boshof**	**2.87**	**220**	*e*P	Pn	03 00 44.2	+0.5
BOSA				*e*S	Sn	03 01 19.0	+0.1
BOSA				AML	AML	03 01 26.2	
	comp=Z,10.0nm,0.3s						

GUC 02 03:01:11.5±0.6, 32°.31S×72°.37W, h27km±3km, MD3.6, ML3.5, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.85**	**61**	*e*P	Pn	03 01 26.5	-1.2
CHNG				*i* S	Sb	03 01 38.5	-0.2
CHNG				AML	AML	03 01 40.8	
	comp=E,3μm,0.4s						
IHA	**Instituto Hidr**	**0.95**	**139**	*e*P	Pn	03 01 28.4	-0.6
IHA				*i* S	Sb	03 01 41.3	-0.2
PTCH	**Petorca**	**1.22**	**88**	*e*P	Pn	03 01 32.9	+0.1
PTCH				*i* S	Sb	03 01 49.1	-0.4
PTCH				AML	AML	03 01 51.0	
	comp=E,2μm,0.3s						
ROCH	**El Roble**	**1.33**	**120**	*e*P	Pn	03 01 34.3	-0.2
ROCH				*i* S	Sb	03 01 52.4	-0.6
ROCH				AML	AML	03 01 55.9	
	comp=N,899nm,0.4s						
CMCH	**Combarbala**	**1.62**	**46**	*e*P	Pn	03 01 39.3	+0.9
CMCH				*i* S	Sb	03 02 00.8	-0.3
PEL	**Peldehue**	**1.65**	**121**	*e*P	Pn	03 01 39.9	+1.1
PEL				*i* S	Sb	03 02 01.0	-0.8
PEL				AML	AML	03 02 02.8	
	comp=N,2μm,0.5s						
SAN	**Santiago**	**1.84**	**129**	AML	AML	03 02 12.1	
	comp=N,546nm,0.5s						
CLCH	**Cerro Calan**	**1.89**	**126**	*e*P	Pn	03 01 43.5	+1.4
CLCH				*i* S	Sb	03 02 07.9	-0.8
CLCH				AML	AML	03 02 09.2	
	comp=N,926nm,0.5s						
ANTU	**Antumapu**	**1.93**	**131**	AML	AML	03 02 10.9	
	comp=E,569nm,0.3s						
OVCH	**Ovalle**	**1.97**	**31**	AML	AML	03 02 25.1	
	comp=N,741nm,0.6s						
FCH	**Farellones**	**2.03**	**121**	AML	AML	03 02 45.6	
	comp=N,328nm,0.6s						
PCH	**Pirque**	**2.04**	**131**	⇓*i* P	Pb	03 01 46.6	-1.5
PCH				*i* S	Sb	03 02 12.3	-0.9
LMEL	**Las Melosas**	**2.38**	**131**	*e*P	Pn	03 01 50.4	+1.4
LMEL				*i* S	Sn	03 02 19.9	+2.4
LMEL				AML	AML	03 02 29.9	
	comp=N,284nm,0.3s						
TLL	**Tololo Astrono**	**2.52**	**33**	AML	AML	03 02 37.6	
	comp=E,360nm,0.4s						

*NIED **02** 03:02:00, 40°.30N×143°.80E, h11km, Mw4.3 Best double couple: M0 2.95000×10^15 NP1:φs 39.00000°, δ69.00000°, λ121.00000°. NP2:φs 160.00000°, δ37.00000°, λ37.00000°.*
*IDC **02** 03:02:43.1±0.7, 40°.27N×143°.93E, h0km, mb3.9/17, mb1 4.1/22, mb1mx4.0/29, mbtmp3.9/22, ML3.5/5, MS3.3/4, Ms1 3.3/4, ms1mx2.9/42, Error ellipse: s-maj=17.9km s-min=14.2km az=135.0*
*JMA **02** 03:02:44.4±0.3, 40°.31N×143°.85E, h19km±5km, M4.3*
*BJI **02** 03:02:44.5, 40°.31N×143°.60E, h12km, mB4.9/11, mb4.5/24, Ms4.2/4, Ms7 3.9/5*
*ISCJB **02** 03:02:44.3±1.1, 40°.31N±0°.02×143°.89E±0°.04, h21km±7km, mb4.2/49, MS3.7/5, Error ellipse: s-maj=6.3km s-min=3.1km az=30.5*
*MOS **02** 03:02:45.3±0.8, 40°.28N×143°.87E, h29km, mb4.6/26, Error ellipse: s-maj=10.2km s-min=6.9km az=110.7*
*NEIC **02** 03:02:45.8±2.4, 40°.32N×143°.88E, h16km±14km, mb4.6/11, MW4.3(NIED), Error ellipse: s-maj=8.7km s-min=5.3km az=119.0*

ISC 02 03:02:46.9±0.8, 40°.31N±0°.04×143°.88E±0°.06, h26km±4km, n126, σ1°18/150, mb4.3/49, MS3.6/5, 4C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.59**	**257**	P	**Pn**	**03 03 11.6**	**-1.8**
JTH				*e*S	**Sn**	**03 03 31.3**	**-1.9**
MIYJ	**Miyakonagasawa**	**1.74**	**246**	P	**Pn**	**03 03 14.2**	**-1.4**
MIYJ				*e*S	**Sn**	**03 03 35.7**	**-1.3**
ERM	**Erimo**	**1.79**	**342**	*e*P	**Pn**	**03 03 14.8**	**-1.4**
ERM				*e*		03 03 38.3	
ERM	**Erimo**	**1.79**	**342**	*e*Pn	**Pn**	**03 03 14.8**	**-1.4**
ERM				*e*Sn	**Sn**	**03 03 38.3**	**+0.2**
JEM	**Erimo**	**1.79**	**342**	P	**Pn**	**03 03 15.0**	**-1.2**
JEM				*e*S	**Sn**	**03 03 37.6**	**-0.5**
JANG	**Nango**	**1.81**	**273**	P	**Pn**	**03 03 14.9**	**-1.6**
JANG				*e*S	**Sn**	**03 03 38.3**	**-0.3**
JNBK	**Urakawa-nobuka**	**2.15**	**337**	P	**Pn**	**03 03 20.2**	**-0.9**
JOM	**Ohasama**	**2.16**	**248**	P	**Pn**	**03 03 20.5**	**-0.8**
JOM				*e*S	**Sn**	**03 03 46.7**	**-0.5**

JTM	**Tenmabayashi**	**2.20**	**284**	P	**Pn**	**03 03 21.2**	**-0.6**
JCH	**Churui**	**2.34**	**351**	P	**Pn**	**03 03 22.8**	**-0.9**
JCH				*e*S	**Sn**	**03 03 50.4**	**-1.2**
JOT	**Ohata**	**2.40**	**297**	P	**Pn**	**03 03 23.7**	**-0.9**
JMK	**Ichinoseki**	**2.46**	**237**	P	**Pn**	**03 03 24.4**	**-1.0**
JMK				*e*S	**Sn**	**03 03 52.8**	**-1.8**
JAH	**Hinai**	**2.49**	**268**	P	**Pn**	**03 03 25.5**	**-0.3**
JRG	**Rokugo**	**2.66**	**251**	P	**Pn**	**03 03 27.9**	**-0.2**
JRG				*e*S	**Sn**	**03 03 59.5**	**-0.1**
JKB	**Kayabe**	**2.67**	**307**	P	**Pn**	**03 03 27.6**	**-0.7**
JKB				*e*S	**Sn**	**03 03 59.1**	**-0.7**
JAK	**Akkeshi**	**2.76**	**13**	P	**Pn**	**03 03 28.2**	**-1.2**
JAK				*e*S	**Sn**	**03 03 59.4**	**-2.5**
JAR	**Ashorobuto**	**2.99**	**358**	P	**Pn**	**03 03 31.2**	**-1.5**
JAR				*e*S	**Sn**	**03 04 05.1**	**-2.6**
JYK	**Kaneyama**	**3.05**	**244**	P	**Pn**	**03 03 33.2**	**-0.4**
JOU	**Okura**	**3.16**	**233**	P	**Pn**	**03 03 33.8**	**-1.2**
JOU				S	**Sn**	**03 04 10.3**	**-1.6**
NEM2	**Nemuro 2**	**3.36**	**24**	P	**Pn**	**03 03 36.3**	**-1.4**
NEM2				*e*S	**Sn**	**03 04 13.5**	**-3.2**
JTKR	**Abashiri--Toko**	**3.66**	**0**	P	**Pn**	**03 03 40.9**	**-1.0**
JTKR				*e*S	**Sn**	**03 04 22.3**	**-1.9**
JHR	**Hokuryu**	**3.79**	**336**	P	**Pn**	**03 03 44.8**	**+1.1**
JHR				*e*S	**Sn**	**03 04 28.1**	**+0.7**
ASAJ	**Asahikawa**	**3.92**	**346**	*e*Pn	**Pn**	**03 03 45.1**	**-0.4**
ASAJ				Sn	**Sn**	**03 04 32.4**	**+1.7**
ASAJ	**Asahikawa**	**3.92**	**346**	Pn	**Pn**	**03 03 45.5**	**0.0**
	2.8nm,0.3s,baz=221,slow=18,SNR=9.4						
ASAJ				Sn	**Sn**	**03 04 32.4**	**+1.7**
	5.1nm,0.3s,baz=91,slow=28,SNR=6.4						
ASAJ				LR	LR	03 06 12.3	
	comp=Z,616nm,18.1s,baz=326,slow=53						
MJAR	**Matsushiro Arr**	**5.83**	**232**	Pn	**Pn**	**03 04 11.8**	**+0.1**
MJAR				Sn	**Sn**	**03 05 20.2**	**+2.5**
MJAR	**Matsushiro Arr**	**5.83**	**232**	Pn	**Pn**	**03 04 11.8**	**+0.1**
	2.5nm,0.3s,baz=40,slow=11,SNR=27						
MJAR				Sn	**Sn**	**03 05 20.2**	**+2.5**
	baz=49,slow=32,SNR=1.9						
MAJO	**Matsushiro**	**5.83**	**232**	*e*P	**Pn**	**03 04 11.8**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,27nm,0.5s						
MAJO	**Matsushiro**	**5.83**	**232**	*e*Pn	**Pn**	**03 04 11.8**	**+0.1**
	comp=Z,27nm,0.5s						
MAT	**Matsushiro**	**5.83**	**232**	P	**Pn**	**03 04 11.9**	**+0.2**
MAT				S	**Sn**	**03 05 16.1**	**-1.6**
YSS	**Yuzh-Sakhalins**	**6.70**	**353**	*e*P	**Pn**	**03 04 26.0**	**+2.5**
YSS	**Yuzh-Sakhalins**	**6.70**	**353**	*e*Pn	**Pn**	**03 04 22.7**	**-0.9**
YSS				*e*Sn	**Sn**	**03 05 39.0**	**0.0**
USRK	**Ussuriysk Arra**	**9.63**	**298**	Pn	**Pn**	**03 05 05.8**	**+2.0**
	comp=Z,1.6nm,0.3s,baz=98,slow=15,SNR=39						
USRK				LR	LR	03 08 16.8	
	comp=Z,105nm,19.2s,baz=301,slow=34						
HABR	**Khabarovsk**	**10.32**	**325**	*e*P	**Pn**	**03 05 11.4**	**-1.8**
HABR				pmax	pmax		
	comp=E,35nm,2.2s						
HABR				pmax	pmax		
	comp=N,30nm,2.2s						
HABR				pmax	pmax		
	comp=Z,41nm,2.2s						
HABR				MLR	MLR		
	comp=Z,85nm,14.0s						
MDJ	**Mudanjiang**	**11.40**	**297**	P	**Pn**	**03 05 28.9**	**+0.9**
MDJ				pmax	pmax		
	comp=Z,17nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,73nm,4.0s						
MDJ	**Mudanjiang**	**11.40**	**297**	*e*Pn	**Pn**	**03 05 28.7**	**+0.6**
	comp=Z,15nm,0.9s						
KLR	**Kul'dur**	**12.39**	**320**	*e*P	**Pn**	**03 05 38.8**	**-2.8**
KLR				pmax	pmax		
	comp=Z,30nm,1.2s						
KLR				MLR	MLR		
	comp=Z,1μm,13.0s						
JNU	**Nakatsue**	**12.65**	**240**	*e*Pn	**Pn**	**03 05 43.6**	**-1.6**
JNU	**Nakatsue**	**12.65**	**240**	Pn	**Pn**	**03 05 44.1**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=86,slow=14,SNR=3.6						
KSRS	**Korea Array**	**12.76**	**262**	Pn	**Pn**	**03 05 48.4**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=73,slow=17,SNR=3.5						
KSRS				LR	LR	03 10 01.6	
	comp=Z,99nm,19.5s,baz=150,slow=34						
KSAR	**Wonju Array Be**	**12.79**	**262**	Pn	**Pn**

comp=Z,9.7nm,0.8s
ILAR Eielson Array 45.70 34 P **P** 03 11 06.3 **+0.9**
ILAR Eielson Array 45.70 34 P **P** 03 11 06.3 **+0.9**
comp=Z,0.7nm,0.8s,baz=263,slow=5.5,SNR=7.3
TKM2 Tokmak 2 49.83 297 *eP* **P** 03 11 38.5 **+0.5**
TKM2 pmax pmax
comp=Z,7.0nm,0.8s
TKM2 Tokmak 2 49.83 297 *eP* **P** 03 11 38.5 **+0.5**
comp=Z,7.4nm,0.8s
BVA0 Borovoye Array 49.85 311 *i* P P 03 11 46.9 +9.2
BVA0 pmax pmax
comp=Z,1.0nm,0.9s
BRVK Borovoye 49.90 311 *eP* **P** 03 11 37.7 **-0.4**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BRVK Borovoye 49.90 311 *eP* **P** 03 11 38.5 **+0.4**
comp=Z,6.6nm,0.8s
INK Inuvik 50.60 28 P **P** 03 11 42.1 **-0.9**
INK Inuvik 50.60 28 P **P** 03 11 42.1 **-0.9**
comp=Z,0.8nm,0.7s,baz=290,slow=4.8,SNR=2.9
AAK Ala-Archa 50.69 297 *eP* **P** 03 11 42.8 **-1.6**
AAK pmax pmax
comp=Z,11nm,0.8s
AAK Ala-Archa 50.69 297 *eP* **P** 03 11 42.8 **-1.6**
comp=Z,11nm,0.8s
EKS2 Erkin-Say 51.17 297 *eP* **P** 03 11 47.8 **-0.1**
EKS2 pmax pmax
comp=Z,2.0nm,0.8s
EKS2 Erkin-Say 51.17 297 *eP* **P** 03 11 47.8 **-0.1**
comp=Z,2.4nm,0.8s
KK31 Karatay Array 53.20 299 *ceP* **P** 03 12 02.4 **-0.5**
KK31 pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 53.20 299 *eP* **P** 03 12 02.6 **-0.3**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 53.20 299 *eP* **P** 03 12 02.6 **-0.3**
comp=Z,2.3nm,0.8s
ARU Arti 55.22 318 *d iP* **P** 03 12 16.1 **-1.2**
ARU 03 14 21.7
ARU S **S** 03 19 58.9 **-0.1**
ARU SS SS 03 23 44.9 +2.2
ARU pmax pmax
comp=Z,8.0nm,1.7s
AB31 Akbulak array 57.34 309 *ceP* **P** 03 12 32.8 **+0.2**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 57.34 309 *eP* **P** 03 12 32.8 **+0.2**
comp=Z,4.8nm,0.7s
AKTO Aktyubinsk 57.95 311 P **P** 03 12 37.0 **+0.1**
AKTO pmax pmax
comp=Z,2.0nm,2.5s
RES Resolute Bay 58.95 15 P **P** 03 12 44.0 **+0.6**
RES Resolute Bay 58.95 15 P **P** 03 12 44.0 **+0.6**
comp=Z,1.1nm,0.8s,baz=312,slow=4.8,SNR=2.8
YKA Yellowknife Ar 60.01 32 P **P** 03 12 51.6 **+0.6**
YKA Yellowknife Ar 60.01 32 P **P** 03 12 51.6 **+0.6**
comp=Z,0.2nm,0.6s,baz=301,slow=6.3,SNR=4.6
WRA Warramunga Arr 60.59 190 P **P** 03 12 54.6 **-0.8**
WRA Warramunga Arr 60.59 190 P **P** 03 12 54.6 **-0.8**
comp=Z,0.6nm,0.5s,baz=8.0,slow=6.9,SNR=13
JOF Joensuu 63.90 332 *ep* **P** 03 13 17.7 **+0.1**
ASAR Alice Springs 64.32 190 P **P** 03 13 20.2 **-0.1**
ASAR Alice Springs 64.32 190 P **P** 03 13 20.2 **-0.1**
comp=Z,0.5nm,0.9s,baz=347,slow=8.1,SNR=3.3
VRHR Novokhopersk 66.56 318 *eP* **P** 03 13 34.0 **-0.5**
VRHR pmax pmax
comp=N,2.0nm,0.3s
VRHR pmax pmax
comp=E,1.0nm,0.3s
VRHR pmax pmax
comp=Z,2.0nm,0.3s
OBN Obninsk 66.63 323 P **P** 03 13 35.0 **+0.1**
OBN *e* 03 13 47.8
OBN 03 14 05.0
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,100nm,15.0s
FINES FINESS Array B 66.82 332 P **P** 03 13 36.1 **+0.2**
FINES FINESS Array B 66.82 332 P **P** 03 13 36.1 **+0.2**
comp=Z,3.2nm,0.7s,baz=46,slow=8.2,SNR=10
VSR Storozhevoye 67.74 319 *eP* P 03 13 35.6 -6.4
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,3.0nm,0.6s
VSR pmax pmax
comp=Z,5.0nm,0.6s
KIV Kislovodsk 70.22 311 *eP* **P** 03 13 57.4 **-0.2**
KIV pmax pmax
comp=Z,12nm,1.1s
KIV Kislovodsk 70.22 311 *eP* **P** 03 13 57.5 **-0.2**
comp=Z,8.1nm,0.8s
ZEI Tsey 70.22 310 *eP* **P** 03 13 57.4 **-0.5**
ZEI pmax pmax
comp=Z,3.0nm,0.8s
NVAR Mina Array Bea 71.51 55 P **P** 03 14 06.9 **+1.2**
NVAR Mina Array Bea 71.51 55 P **P** 03 14 06.9 **+1.2**
comp=Z,0.2nm,0.5s,baz=292,slow=4.8,SNR=3.3
NB2 NORSAR Subarra 71.90 338 P **P** 03 14 07.7 **+0.2**
comp=Z,1.9nm,0.9s,baz=37,slow=6.2
NOA NORSAR Array B 71.90 338 P **P** 03 14 07.5 **0.0**
NOA NORSAR Array B 71.90 338 P **P** 03 14 07.5 **0.0**
comp=Z,2.6nm,0.8s,baz=38,slow=6.0,SNR=8.3
AKASG Malin Array Be 72.88 323 P **P** 03 14 13.5 **+0.1**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 72.88 323 P **P** 03 14 13.5 **+0.1**
AKASG Malin Array Be 72.88 323 P **P** 03 14 13.5 **+0.1**
comp=Z,3.0nm,0.7s,baz=44,slow=6.1,SNR=10.0
PDAR Pinedale Array 74.01 47 P **P** 03 14 21.2 **+0.6**
PDAR Pinedale Array 74.01 47 P **P** 03 14 21.2 **+0.6**
comp=Z,0.3nm,0.6s,baz=323,slow=2.4,SNR=2.7
BUR08 Bucovina Ar. S 76.91 322 *eP* **P** 03 14 37.2 **+0.3**
BRTR Keskin Array B 78.11 312 P **P** 03 14 44.1 **+0.3**
BRTR Keskin Array B 78.11 312 P **P** 03 14 44.1 **+0.3**
comp=Z,0.2nm,0.4s,baz=52,slow=2.4,SNR=3.1
GERES GERESS Array B 80.92 329 P **P** 03 14 59.7 **+0.8**
GERES GERESS Array B 80.92 329 P **P** 03 14 59.7 **+0.8**
comp=Z,0.4nm,0.6s,baz=347,slow=4.1,SNR=4.8
LOR Lormes 85.83 334 *eP* **P** 03 15 24.7 **+0.6**
comp=Z,6.8nm,0.8s
LPG La Plagne 86.34 331 *eP* **P** 03 15 26.9 **-0.1**
comp=Z,13nm,1.1s
AVF Avril sur Loir 86.41 334 *eP* **P** 03 15 27.7 **+0.7**
comp=Z,9.5nm,0.8s

NEIC ***02*** *03:15:33.0, 19°.10N×65°.32W, h14km, MD3.4(RSPR), After RSPR.*
RSPR 02 03:15:33.0, 19°.10N×65°.32W, h14km±4km**, MD3.3**/12**, 29C-5D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.82**	**155**	*e*P	Pg	03 15 47.2	-1.8
STVI	**Saint Thomas**	**0.82**	**155**	*e*P	Pg	03 15 47.2	-1.8
STVI				*e*S	Sg	03 15 58.2	-1.5
STVI	**Saint Thomas**	**0.82**	**155**	*e*P	Pg	03 15 47.2	-1.8
STVI				*e*S	Sg	03 15 58.2	-1.5
TBVI	**Tortola**	**0.95**	**135**	*i*P	Pb	03 15 48.6	-2.6
TBVI				*e*S	Sb	03 16 01.3	-2.4
TBVI	**Tortola**	**0.95**	**135**	*i* Pu	Pb	03 15 48.6	-2.6
TBVI				*e*S	Sb	03 16 01.3	-2.4
TBVI	**Tortola**	**0.95**	**135**	*i*P	Pb	03 15 48.6	-2.6
TBVI				*e*S	Sb	03 16 01.3	-2.4
CBYP	**Canovanas**	**0.96**	**212**	*e*P	Pb	03 15 49.2	-2.4
CBYP	**Canovanas**	**0.96**	**212**	*e*Pg	Pb	03 15 48.8	-2.8
CBYP				*e*S	Sb	03 16 02.0	-2.3
CBYP	**Canovanas**	**0.96**	**212**	*e*P	Pb	03 15 49.2	-2.4
MTP	**Monte Pirata**	**1.02**	**192**	*e*P	Pb	03 15 49.8	-2.6
MTP	**Monte Pirata**	**1.02**	**192**	*e*Pg	Pb	03 15 49.8	-2.7
MTP				*e*S	Sb	03 16 03.5	-2.2
MTP	**Monte Pirata**	**1.02**	**192**	*e*P	Pb	03 15 49.8	-2.6
MTP				*e*S	Sb	03 16 02.8	-2.8
HUMP	**Col San Antoni**	**1.07**	**208**	*e*P	Pb	03 15 50.7	-2.7
HUMP	**Col San Antoni**	**1.07**	**208**	*e*P	Pb	03 15 50.7	-2.7
HUMP				*e*S	Sb	03 16 04.4	-2.9
HUMP	**Col San Antoni**	**1.07**	**208**	*e*P	Pb	03 15 50.7	-2.7
HUMP				*e*S	Sb	03 16 04.4	-2.9
CPD	**Cerro la Pandu**	**1.20**	**208**	*e*P	Pn	03 15 52.1	-3.2
CPD	**Cerro la Pandu**	**1.20**	**208**	*e*P	Pn	03 15 52.1	-3.2
CPD	**Cerro la Pandu**	**1.20**	**208**	*e*P	Pn	03 15 52.8	-2.5
SJG	**San Juan**	**1.25**	**219**	*e*P	Pn	03 15 52.6	-3.5
SJG				*e*S	Sb	03 16 08.4	-4.1
SJG	**San Juan**	**1.25**	**219**	*e*Pn	Pn	03 15 52.4	-3.7
SJG				*e*S	Sb	03 16 08.6	-3.9
SJG	**San Juan**	**1.25**	**219**	*e*P	Pn	03 15 52.6	-3.5
SJG				*e*S	Sb	03 16 08.4	-4.1
CDVI	**St. Croix**	**1.44**	**158**	*e*Pn	Pn	03 15 57.6	-1.0
CELP	**Cerrillos**	**1.57**	**230**	*e*P	Pn	03 15 57.2	-3.2
CELP				*e*S	Sn	03 16 16.5	-4.0
CELP	**Cerrillos**	**1.57**	**230**	*e*Pn	Pn	03 15 57.2	-3.2
CELP				*e*S	Sn	03 16 16.5	-4.0
CELP	**Cerrillos**	**1.57**	**230**	*e*P	Pn	03 15 57.2	-3.2
CELP				*e*S	Sn	03 16 16.5	-4.0
OBIP	**Obispado Ponce**	**1.61**	**229**	*e*P	Pn	03 15 57.8	-3.1
OBIP	**Obispado Ponce**	**1.61**	**229**	*e*P	Pn	03 15 57.8	-3.1
OBIP				*e*S	Sn	03 16 17.3	-4.2
OBIP	**Obispado Ponce**	**1.61**	**229**	*e*P	Pn	03 15 57.8	-3.1
OBIP				*e*S	Sn	03 16 17.3	-4.2
LRS	**Lares**	**1.65**	**241**	*e*P	Pn	03 15 59.1	-2.5
LRS	**Lares**	**1.65**	**241**	*e*P	Pn	03 15 59.1	-2.5
LRS	**Lares**	**1.65**	**241**	*e*P	Pn	03 15 59.8	-1.8
AGPR	**Aguadilla, PR**	**1.81**	**250**	*e*P	Pn	03 16 00.9	-2.8
AGPR	**Aguadilla, PR**	**1.81**	**250**	*e*Pn	Pn	03 16 01.0	-2.7
AGPR				*e*S	Sn	03 16 24.6	-1.8
AGPR	**Aguadilla, PR**	**1.81**	**250**	*e*P	Pn	03 16 00.9	-2.8
AGPR				*e*S	Sn	03 16 22.4	-4.0
GBPR	**Guanica, Bosqu**	**1.85**	**233**	*e*P	Pn	03 16 01.8	-2.5
GBPR				*e*S	Sn	03 16 24.1	-3.4
GBPR	**Guanica, Bosqu**	**1.85**	**233**	*e*P	Pn	03 16 01.8	-2.5
GBPR				*e*S	Sn	03 16 24.1	-3.4
GBPR	**Guanica, Bosqu**	**1.85**	**233**	*e*P	Pn	03 16 01.8	-2.5
GBPR				*e*S	Sn	03 16 24.7	-2.8
LSP	**Las Mesas**	**1.91**	**242**	*e*P	Pn	03 16 02.6	-2.5
LSP	**Las Mesas**	**1.91**	**242**	*e*P	Pn	03 16 02.6	-2.5
LSP	**Las Mesas**	**1.91**	**242**	*e*P	Pn	03 16 02.6	-2.5
CRPR	**Cabo Rojo, PR**	**2.01**	**238**	*e*P	Pn	03 16 04.2	-2.3
CRPR	**Cabo Rojo, PR**	**2.01**	**238**	*e*Pn	Pn	03 16 04.1	-2.4
CRPR				*e*S	Sn	03 16 29.6	-1.9
CRPR	**Cabo Rojo, PR**	**2.01**	**238**	*e*P	Pn	03 16 04.2	-2.3
CRPR				*e*S	Sn	03 16 27.8	-3.6
SDDR	**Presa de Saban**	**5.64**	**270**	*e*Pn	Pn	03 16 55.0	-1.6

ISCJB ***02*** *03:17:07.3±1.4, 18°.8N±0°.2×65°.25W±0°.07, h89km±23km, Error ellipse: s-maj=31.1km s-min=6.0km az=162.7*
RSPR ***02*** *03:17:08.1, 18°.78N×65°.23W, h92km±3km, MD3.5/10*
NEIC ***02*** *03:17:08.1, 18°.78N×65°.23W, h92km, MD3.5(RSPR), After RSPR.*
ISC 02 03:17:08.9±2.0, 18°.9N±0°.2×65°.30W±0°.07, h62km±46km**, n33, σ0°71/53, 8C-18D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.66**	**150**	*e*P	Pn	**03 17 22.2**	**-0.6**
STVI	**Saint Thomas**	**0.66**	**150**	*e*Pg	Pn	**03 17 22.1**	**-0.6**
STVI				*e*S	Sn	**03 17 33.1**	**+0.2**
STVI	**Saint Thomas**	**0.66**	**150**	*e*P	Pn	**03 17 22.2**	**-0.6**
STVI				*e*S	Sn	**03 17 33.6**	**+0.7**
TBVI	**Tortola**	**0.82**	**128**	*e*P	Pn	**03 17 24.2**	**-0.5**
TBVI				*e*S	Sn	**03 17 36.4**	**0.0**
TBVI	**Tortola**	**0.82**	**128**	*e*P	Pn	**03 17 24.2**	**-0.5**
TBVI				*e*S	Sn	**03 17 36.4**	**0.0**
TBVI	**Tortola**	**0.82**	**128**	*e*P	Pn	**03 17 24.2**	**-0.5**
TBVI				*e*S	Sn	**03 17 36.4**	**0.0**
CBYP	**Canovanas**	**0.84**	**219**	*e*Pg	Pn	**03 17 24.3**	**-0.7**
MTP	**Monte Pirata**	**0.86**	**196**	*e*P	Pn	**03 17 25.0**	**-0.2**
MTP	**Monte Pirata**	**0.86**	**196**	*e*Pg	Pn	**03 17 25.2**	**0.0**
MTP				*e*S	Sn	**03 17 37.0**	**-0.2**
MTP	**Monte Pirata**	**0.86**	**196**	*e*P	Pn	**03 17 25.0**	**-0.2**
MTP				*e*S	Sn	**03 17 38.8**	**+1.6**
ABV	**Anegada**	**0.94**	**102**	*e*P	Pn	**03 17 25.9**	**-0.3**
ABV				*e*S	Sn	**03 17 39.8**	**+0.8**
ABV	**Anegada**	**0.94**	**102**	*e*P	Pn	**03 17 25.9**	**-0.3**
ABV				*e*S	Sn	**03 17 39.8**	**+0.8**
ABVI	**Anegada Island**	**0.94**	**102**	*e*P	Pn	**03 17 25.9**	**-0.2**
ABVI				*e*S	Sn	**03 17 39.8**	**+0.8**
HUMP	**Col San Antoni**	**0.94**	**214**	*e*P	Pn	**03 17 26.0**	**-0.2**
HUMP	**Col San Antoni**	**0.94**	**214**	*e*P	Pn	**03 17 26.0**	**-0.2**
HUMP	**Col San Antoni**	**0.94**	**214**	*e*P	Pn	**03 17 26.4**	**+0.2**
CPD	**Cerro la Pandu**	**1.06**	**214**	*e*P	Pn	**03 17 27.2**	**-0.6**
CPD	**Cerro la Pandu**	**1.06**	**214**	*e*P	Pn	**03 17 27.2**	**-0.6**
CPD				*e*S	Sn	**03 17 42.2**	**+0.3**
CPD	**Cerro la Pandu**	**1.06**	**214**	*e*P	Pn	**03 17 27.2**	**-0.6**
CPD				*e*S	Sn	**03 17 42.2**	**+0.3**
SJG	**San Juan**	**1.14**	**225**	*e*P	Pn	**03 17 28.1**	**-0.8**
SJG				*e*S	Sn	**03 17 44.8**	**+1.0**
SJG	**San Juan**	**1.14**	**225**	*e*Pg	Pn	**03 17 27.9**	**-1.0**
SJG				*e*S	Sn	**03 17 43.5**	**-0.3**
SJG	**San Juan**	**1.14**	**225**	*e*P	Pn	**03 17 28.1**	**-0.8**
SJG				*e*S	Sn	**03 17 44.8**	**+1.0**
CELP	**Cerrillos**	**1.48**	**235**	*e*P	Pn	**03 17 33.0**	**-0.3**
CELP	**Cerrillos**	**1.48**	**235**	*e*P	Pn	**03 17 33.0**	**-0.3**
CELP	**Cerrillos**	**1.48**	**235**	*e*P	Pn	**03 17 33.5**	**+0.1**
OBIP	**Obispado Ponce**	**1.52**	**235**	*e*P	Pn	**03 17 33.5**	**-0.4**
OBIP	**Obispado Ponce**	**1.52**	**235**	*e*P	Pn	**03 17 33.5**	**-0.4**
OBIP				*e*S	Sn	**03 17 52.8**	**+0.1**
OBIP	**Obispado Ponce**	**1.52**	**235**	*e*P	Pn	**03 17 33.5**	**-0.4**
OBIP				*e*S	Sn	**03 17 52.8**	**+0.1**
LRS	**Lares**	**1.59**	**247**	*e*P	Pn	**03 17 34.5**	**-0.4**
LRS	**Lares**	**1.59**	**247**	*e*Pn	Pn	**03 17 33.1**	**-1.9**
LRS				*e*S	Sn	**03 17 54.5**	**-0.2**
LRS	**Lares**	**1.59**	**247**	*e*P	Pn	**03 17 34.5**	**-0.4**
AGPR	**Aguadilla, PR**	**1.78**	**256**	*e*Pn	Pn	**03 17 36.8**	**-0.6**
AGPR				*e*S	Sn	**03 17 59.7**	**+0.7**
LSP	**Las Mesas**	**1.85**	**247**	*e*Pn	Pn	**03 17 38.0**	**-0.5**
LSP				*e*S	Sn	**03 18 03.1**	**+2.3**

IDC ***02*** *03:24:40.6±0.6, 27°.23S×176°.43W, h0km, mb4.5/14, mb1 4.6/15, mb1mx4.6/17, mbtmp4.4/15, ML4.3/1, MS4.0/13, Ms1 4.0/13, ms1mx3.7/37, Error ellipse: s-maj=22.2km s-min=18.3km az=138.0*
ISCJB ***02*** *03:24:44.7±0.6, 27°.27S±0°.06×176°.5W±0°.1, h34km, mb4.4/16, MS4.0/12, Error ellipse: s-maj=15.1km s-min=7.7km az=22.1*
NEIC ***02*** *03:24:47.8±1.3, 27°.35S×176°.51W, h53km±10km, mb4.5/5, Error ellipse: s-maj=11.8km s-min=8.8km az=98.0*
ISC 02 03:24:45.6±0.6, 27°.31S±0°.08×176°.3W±0°.1, h34km**, n76,** σ1º**05/64, mb4.5/16, MS4.0/12, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.38**	**215**	*e*Pn	Pn	**03 25 23.5**	**+1.3**
RAO				*e*Sn	Sn	**03 25 50.8**	**+0.5**
MSVF	**Nonsavu**	**10.84**	**330**	*e*Pn	Pn	**03 27 19.8**	**+1.3**
	68nm,1.3s						
AFI	**Afiamalu**	**14.00**	**19**	Pn	Pn	03 27 53.9	-7.7
AFI				Sn	Sn	03 30 18.2	-18
AFI	**Afiamalu**	**14.00**	**19**	Pn	Pn	03 27 53.9	-7.7
	6.1nm,0.3s,baz=130,slow=1.4,SNR=7.9						
AFI				Sn	Sn	03 30 18.2	-18
	3.6nm,0.3s,baz=246,slow=18,SNR=3.4						
RAR	**Rarotonga**	**16.28**	**72**	Pn	Pn	03 28 23.1	-8.6
RAR	**Rarotonga**	**16.28**	**72**	Pn	Pn	03 28 23.1	-8.6
	2.1nm,0.3s,baz=290,slow=3.9,SNR=5.1						
RAR				LR	LR	03 33 29.6	
	comp=Z,540nm,18.1s,baz=71,slow=32						
DZM	**Mont Dzumac**	**16.48**	**285**	*e*P	**P**	**03 28 39.4**	**+2.7**
	54nm,1.2s						
DZM				*e*LR	LR	03 32 26.4	
	1µm,23.4s						
DZM	**Mont Dzumac**	**16.48**	**285**	*e*P	**P**	**03 28 37.2**	**+0.5**
	35nm,1.0s						
KHZ	**Kahutara**	**17.19**	**206**	*e*Pn	**Pn**	**03 28 41.4**	**-1.5**
	32nm,0.8s						
RPZ	**Rata Peaks**	**19.28**	**209**	P	**P**	**03 29 06.7**	**-0.7**
RPZ	**Rata Peaks**	**19.28**	**209**	P	**P**	**03 29 06.7**	**-0.7**
	1.0nm,0.3s,baz=8.3,slow=7.6,SNR=4.8						
TBI	**Tubuai**	**24.60**	**87**	*e*LR	LR	03 35 57.3	
	552nm,28.8s						
PPT2	**Papeete2**	**26.51**	**74**	*e*LR	LR	03 36 46.2	
	622nm,26.8s						
HNR	**Honiara**	**28.58**	**304**	LR	LR	03 40 40.3	
	comp=Z,358nm,18.5s,baz=175,slow=34						
CTA	**Charters Tower**	**34.90**	**274**	P	**P**	**03 31 34.6**	**+0.5**
CTA	**Charters Tower**	**34.90**	**274**	P	**P**	**03 31 34.6**	**+0.5**
	12nm,0.6s,baz=90,slow=12,SNR=11						
CTA				LR	LR	03 44 08.0	
	comp=Z,542nm,19.9s,baz=50,slow=34						
CTAO	**Charters Tower**	**34.90**	**274**	*e*P	**P**	**03 31 33.8**	**-0.3**
STKA	**Stephens Creek**	**36.69**	**253**	*e*P	**P**	**03 31 48.3**	**-1.1**
STKA	**Stephens Creek**	**36.69**	**253**	P	**P**	**03 31 49.9**	**+0.5**
	1.0nm,0.4s,baz=88,slow=6.6,SNR=8.0						
STKA				LR	LR	03 45 55.1	
	comp=Z,370nm,18.1s,baz=278,slow=35						
COEN	**Coen**	**39.96**	**281**	*e*P	**P**	**03 32 16.6**	**-0.4**
ASAR	**Alice Springs**	**44.82**	**263**	P	**P**	**03 32 55.2**	**-1.4**
ASAR	**Alice Springs**	**44.82**	**263**	P	**P**	**03 32 55.2**	**-1.4**
	2.6nm,0.8s,baz=95,slow=6.9,SNR=23						
WB2	**Warramunga Arr**	**45.53**	**268**	*e*P	**P**	**03 33 00.4**	**-1.8**
WRAB	**Tennant Creek**	**45.53**	**268**	*e*P	**P**	**03 33 00.8**	**-1.4**
	4.9nm,0.8s						
WRA	**Warramunga Arr**	**45.54**	**268**	P	**P**	**03 33 00.8**	**-1.5**
WRA	**Warramunga Arr**	**45.54**	**268**	P	**P**	**03 33 00.8**	**-1.5**
	4.6nm,0.7s,baz=106,slow=7.7,SNR=22						
WRA				LR	LR	03 50 11.2	
	comp=Z,148nm,21.6s,baz=115,slow=34						
FITZ	**Fitzroy Crossi**	**53.90**	**267**	*e*P	**P**	**03 34 04.9**	**-1.0**
	4.8nm,0.8s						
GUMO	**Guam**	**55.40**	**312**	LR	LR	03 55 05.2	
	comp=Z,141nm,19.5s,baz=98,slow=33						
QSPA	**South Pole Qui**	**62.79**	**180**	*e*P	P	03 35 09.2	+1.7
	17nm,0.9s						
QSPA	**South Pole Qui**	**62.79**	**180**	P	**P**	**03 35 09.0**	**+1.5**
	16nm,0.9s,baz=30,slow=3.7,SNR=34						
PMSA	**Palmer Station**	**74.47**	**156**	LR	LR	04 04 55.2	
	comp=Z,81nm,19.6s,baz=204,slow=32						
MAW	**Mawson**	**75.70**	**200**	LR	LR	04 10 11.4	
	comp=Z,154nm,18.5s,baz=334,slow=36						
MJAR	**Matsushiro Arr**	**76.57**	**324**	P	**P**	**03 36 32.1**	**-0.4**
MJAR	**Matsushiro Arr**	**76.57**	**324**	P	**P**	**03 36 32.1**	**-0.4**
	9.2nm,1.0s,baz=170,slow=6.2,SNR=16						
KSRS	**Korea Array**	**82.97**	**318**	P	**P**	**03 37 08.4**	**+1.4**
	7.5nm,1.0s,baz=138,slow=6.1,SNR=17						
KSRS				LR	LR	04 11 00.1	
	comp=Z,50nm,18.3s,baz=159,slow=34						
KSAR	**Wonju Array Be**	**82.99**	**318**	P	**P**	**03 37 08.4**	**+1.3**
PETK	**Petropavlovsk-**	**83.21**	**345**	P	**P**	**03 37 07.5**	**-0.4**
PETK	**Petropavlovsk-**	**83.21**	**345**	P	**P**	**03 37 07.5**	**-0.4**
	7.4nm,0.9s,baz=152,slow=6.7,SNR=3.6						
PLCA	**Paso Flores**	**83.53**	**133**	LR	LR	04 08 24.0	
	comp=Z,90nm,18.6s,baz=260,slow=31						
YBH	**Yreka Blue Hor**	**84.71**	**37**	LR	LR	04 08 55.1	
	comp=Z,55nm,19.4s,baz=270,slow=31						
NVAR	**Mina Array Bea**	**84.98**	**42**	P	**P**	**03 37 18.8**	**+1.1**
NVAR	**Mina Array Bea**	**84.98**	**42**	P	**P**	**03 37 18.8**	**+1.1**
	2.5nm,0.9s,baz=220,slow=7.4,SNR=12						
USRK	**Ussuriysk Arra**	**85.41**	**326**	P	**P**	**03 37 20.1**	**+0.8**
	1.1nm,0.5s,baz=174,slow=1.9,SNR=5.7						
TXAR	**Lajitas Array**	**89.49**	**56**	P	**P**	**03 37 40.6**	**+1.1**
TXAR	**Lajitas Array**	**89.49**	**56**	P	**P**	**03 37 40.6**	**+1.1**
	0.3nm,0.8s,baz=238,slow=7.2,SNR=4.2						
CFAA	**Coronel Fontan**	**89.88**	**126**	LR	LR	04 09 11.7	
	comp=Z,14nm,19.1s,baz=349,slow=30						
ENH	**Enshi**	**91.08**	**304**	*e*P	**P**	**03 37 47.5**	**+0.6**
PDAR	**Pinedale Array**	**92.89**	**43**	P	**P**	**03 37 55.8**	**+0.6**
PDAR	**Pinedale Array**	**92.89**	**43**	P	**P**	**03 37 55.8**	**+0.6**
	0.7nm,0.8s,baz=186,slow=2.8,SNR=5.2						
DLBC	**Dease Lake**	**93.72**	**22**	LR	LR	04 12 12.4	
	comp=Z,94nm,21.5s,baz=298,slow=30						
CMAR	**Chiang Mai Arr**	**93.77**	**289**	P	**P**	**03 38 01.1**	**+1.6**
CMAR	**Chiang Mai Arr**	**93.77**	**289**	P	**P**	**03 38 01.1**	**+1.6**
	0.9nm,0.3s,baz=148,slow=2.7,SNR=6.2						
ILAR	**Eielson Array**	**94.60**	**12**	P	**P**	**03 38 01.6**	**-0.6**
ILAR	**Eielson Array**	**94.60**	**12**	P	**P**	**03 38 01.6**	**-0.6**
	0.8nm,1.0s,baz=224,slow=6.1,SNR=4.4						
ZALV	**Zalesovo Beam**	**116.67**	**319**	PKP	**PKPdf**	**03 43 24.9**	**-0.8**
ZALV	**Zalesovo Beam**	**116.67**	**319**	PKP	**PKPdf**	**03 43 24.9**	**-0.8**
	1.0nm,0.6s,baz=352,slow=2.9,SNR=2.9						
MK31	**Makanchi Array**	**116.88**	**311**	*e*PKPdf	**PKPdf**	**03 43 26.1**	**-0.4**
MKAR	**Makanchi Array**	**116.88**	**311**	PKP	**PKPdf**	**03 43 25.2**	**-1.2**
MKAR	**Makanchi Array**	**116.88**	**311**	PKP	**PKPdf**	**03 43 25.2**	**-1.2**
	1.2nm,0.9s,baz=67,slow=2.6,SNR=7.6						
FINES	**FINESS Array B**	**142.70**	**342**	PKPpre	PKPpre	03 44 10.5	
FINES	**FINESS Array B**	**142.70**	**342**	PKhKP	PKPpre	03 44 10.5	
	1.3nm,0.5s,baz=58,slow=2.7,SNR=11						
NB2	**NORSAR Subarra**	**145.89**	**353**	PKP	**PKPab**	**03 44 20.6**	**-0.8**
	comp=Z,15nm,1.1s,baz=5.7,slow=2.9						
NOA	**NORSAR Array B**	**145.89**	**353**	PKPbc	**PKPbc**	**03 44 19.9**	**-0.9**
NOA	**NORSAR Array B**	**145.89**	**353**	PKPbc	**PKPbc**	**03 44 19.9**	**-0.9**
	comp=Z,9.3nm,1.0s,baz=10,slow=4.3,SNR=14						
AKASG	**Malin Array Be**	**149.61**	**327**	PKPbc	**PKPbc**	**03 44 30.8**	**-0.4**
AKASG	**Malin Array Be**	**149.61**	**327**	PKPbc	**PKPbc**	**03 44 30.8**	**-0.4**
	comp=Z,6.3nm,0.7s,baz=42,slow=3.8,SNR=18						
KIEV	**Kiev**	**149.62**	**327**	*e*PKPbc	**PKPbc**	**03 44 30.6**	**-0.7**
SUW	**Suwalki**	**149.69**	**337**	*e*PKPbc	**PKPbc**	**03 44 31.4**	**+0.1**
BR131	**Keskin Array S**	**152.24**	**304**	*e*PKPbc	**PKPbc**	**03 44 37.6**	**-0.2**
BRTR	**Keskin Array B**	**152.24**	**304**	PKPbc	**PKPbc**	**03 44 37.8**	**-0.3**
BRTR				PKPab	**PKPab**	**03 44 46.1**	**-1.8**
BRTR	**Keskin Array B**	**152.24**	**304**	PKPbc	**PKPbc**	**03 44 37.8**	**-0.3**
	comp=Z,1.2nm,0.9

QSPA	**South Pole Qui**	**63.16**	**180**	P		**P**	**03 39 25.1**	**-0.4**
	12nm,1.0s,baz=30,slow=3.7,SNR=16							
QSPA				LR		LR	04 04 37.4	
	comp=Z,221nm,18.9s,baz=62,slow=34							
MJAR	**Matsushiro Arr**	**76.20**	**324**	P		**P**	**03 40 48.4**	**+2.5**
MJAR	**Matsushiro Arr**	**76.20**	**324**	P		**P**	**03 40 48.4**	**+2.5**
	5.2nm,0.9s,baz=167,slow=6.0,SNR=10							
KSRS	**Korea Array**	**82.61**	**319**	P		P	03 41 23.8	+3.0
	4.3nm,1.0s,baz=144,slow=6.2,SNR=10							
KSAR	**Wonju Array Be**	**82.62**	**319**	P		P	03 41 23.8	+2.9
NVAR	**Mina Array Bea**	**84.80**	**42**	P		**P**	**03 41 34.0**	**+1.7**
NVAR	**Mina Array Bea**	**84.80**	**42**	P		**P**	**03 41 34.0**	**+1.7**
	1.3nm,0.8s,baz=224,slow=9.0,SNR=7.8							
ENH	**Enshi**	**90.77**	**304**	*eP*		P	03 42 04.1	+3.1
PDAR	**Pinedale Array**	**92.71**	**43**	P		**P**	**03 42 11.4**	**+1.5**
PDAR	**Pinedale Array**	**92.71**	**43**	P		**P**	**03 42 11.4**	**+1.5**
	0.5nm,0.8s,baz=191,slow=3.0,SNR=3.6							
CMAR	**Chiang Mai Arr**	**93.53**	**289**	P		**P**	**03 42 13.9**	**0.0**
CMAR	**Chiang Mai Arr**	**93.53**	**289**	P		**P**	**03 42 13.9**	**0.0**
	1.0nm,0.3s,baz=108,slow=2.9,SNR=1.9							
ILAR	**Eielson Array**	**94.27**	**12**	P		**P**	**03 42 17.1**	**+0.8**
ILAR	**Eielson Array**	**94.27**	**12**	P		**P**	**03 42 17.1**	**+0.8**
	0.8nm,1.0s,baz=217,slow=5.3,SNR=5.2							
ZALV	**Zalesovo Beam**	**116.31**	**319**	PKP		**PKPdf**	**03 47 40.8**	**+0.2**
ZALV	**Zalesovo Beam**	**116.31**	**319**	PKP		**PKPdf**	**03 47 40.8**	**+0.2**
	0.7nm,0.5s,baz=150,slow=1.2,SNR=3.0							
MKAR	**Makanchi Array**	**116.53**	**311**	PKP		**PKPdf**	**03 47 41.1**	**-0.2**
MKAR	**Makanchi Array**	**116.53**	**311**	PKP		**PKPdf**	**03 47 41.1**	**-0.2**
	0.8nm,0.9s,baz=64,slow=2.8,SNR=6.6							
FINES	**FINESS Array B**	**142.31**	**342**	PKPpre		PKPpre	03 48 26.2	
FINES	**FINESS Array B**	**142.31**	**342**	PKhKP		PKPpre	03 48 26.2	
	1.0nm,0.5s,baz=90,slow=3.8,SNR=6.1							
NB2	**NORSAR Subarra**	**145.51**	**353**	PKP		**PKPab**	**03 48 36.8**	**+1.3**
	comp=Z,1.6nm,0.8s,baz=11,slow=4.3							
NOA	**NORSAR Array B**	**145.51**	**353**	PKPbc		**PKPab**	**03 48 36.2**	**+0.7**
NOA	**NORSAR Array B**	**145.51**	**353**	PKPbc		**PKPab**	**03 48 36.2**	**+0.7**
	comp=Z,4.7nm,0.9s,baz=11,slow=4.4,SNR=11							
AKASG	**Malin Array Be**	**149.23**	**327**	PKPbc		**PKPbc**	**03 48 46.5**	**+0.7**
AKASG	**Malin Array Be**	**149.23**	**327**	PKPbc		**PKPbc**	**03 48 46.5**	**+0.7**
	comp=Z,3.4nm,0.7s,baz=41,slow=3.3,SNR=9.8							
KIEV	**Kiev**	**149.24**	**327**	*e*PKPbc		**PKPbc**	**03 48 46.9**	**+1.1**
BRTR	**Keskin Array B**	**151.92**	**305**	PKPbc		**PKPbc**	**03 48 53.6**	**+0.8**
BRTR				PKPab		**PKPab**	**03 49 01.3**	**-0.8**
BRTR	**Keskin Array B**	**151.92**	**305**	PKPbc		**PKPbc**	**03 48 53.6**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=126,slow=3.7,SNR=3.8							
BRTR				PKPab		**PKPab**	**03 49 01.3**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=125,slow=4.1,SNR=5.0							
MLR	**Muntele Rosu**	**154.25**	**322**	PKPab		**PKPab**	**03 49 13.1**	**+1.4**
MLR	**Muntele Rosu**	**154.25**	**322**	PKPab		**PKPab**	**03 49 13.1**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=279,slow=1.6,SNR=3.7							
TORD	**Torodi Ar. Bea**	**166.18**	**173**	PKPab		**PKPab**	**03 50 03.2**	**-0.8**
TORD	**Torodi Ar. Bea**	**166.18**	**173**	PKPab		**PKPab**	**03 50 03.2**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=194,slow=3.2,SNR=9.5							

DJA 02 03:33:40.8±1.6, 0°N±6°×12°2E±°, h146km±11km, M3.5/3, MLv3.5/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.42**	**296**	P	Pn	03 34 02.4	+1.1
MRSI				S	Sn	03 34 19.4	+2.5
APSI	**Ampana**	**1.37**	**209**	P	Pn	03 34 09.8	+1.1
APSI				S	Sn	03 34 31.3	+1.3
LUWI	**Luwuk**	**1.40**	**161**	P	Pn	03 34 09.1	+0.1
LUWI				S	Sn	03 34 32.3	+1.7

*NEIC **02** 03:41:54.4, 38°18S×175°83E, h198km, MG4.3(WEL), After WEL.*

WEL 02 03:41:55.3±0.3, 38°23S×175°90E, h192km±2km, ML4.3/19, 21C-4D, Error ellipse: s-maj=3.1km s-min=2.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WATZ	**Wairara**	**0.50**	**196**	PN	Pn	03 42 21.8	+0.2
WATZ				*e*S	Sn	03 42 42.3	+0.3
RATZ	**Rangitukua**	**0.64**	**189**	⇑PN	Pn	03 42 22.1	-0.1
RATZ	**Rangitukua**	**0.64**	**189**	⇑Pn	Pn	03 42 22.1	-0.1
HATZ	**Hinemaiaia**	**0.68**	**167**	PN	Pn	03 42 22.2	-0.1
HATZ	**Hinemaiaia**	**0.68**	**167**	Pn	Pn	03 42 22.2	-0.1
RITZ	**Rihia Road**	**0.75**	**183**	PN	Pn	03 42 23.0	+0.3
RITZ	**Rihia Road**	**0.75**	**183**	Pn	Pn	03 42 23.0	+0.3
KATZ	**Kakaramea**	**0.76**	**192**	PN	Pn	03 42 23.0	+0.1
KATZ	**Kakaramea**	**0.76**	**192**	Pn	Pn	03 42 23.0	+0.1
HIZ	**Hauiti**	**0.87**	**251**	⇑PN	Pn	03 42 23.7	+0.3
KRVZ	**Karewarewa**	**0.89**	**193**	PN	Pn	03 42 23.6	-0.1
KRVZ	**Karewarewa**	**0.89**	**193**	Pn	Pn	03 42 23.6	-0.1
TWVZ	**Taurewa**	**0.92**	**203**	PN	Pn	03 42 23.6	-0.2
TWVZ				SN	Sn	03 42 45.7	-0.4
TWVZ	**Taurewa**	**0.92**	**203**	Pn	Pn	03 42 23.6	-0.2
TWVZ				Sn	Sn	03 42 45.7	-0.4
WTVZ	**West Tongariro**	**0.92**	**195**	⇑PN	Pn	03 42 23.6	-0.2
WTVZ				SN	Sn	03 42 45.7	-0.4
WTVZ	**West Tongariro**	**0.92**	**195**	Pn	Pn	03 42 23.6	-0.2
WTVZ				Sn	Sn	03 42 45.8	-0.4
OTVZ	**Oturere**	**0.95**	**191**	PN	Pn	03 42 24.0	-0.1
OTVZ	**Oturere**	**0.95**	**191**	Pn	Pn	03 42 24.0	-0.1
URZ	**Urewera**	**0.95**	**92**	PN	Pn	03 42 23.4	-0.5
URZ				SN	Sn	03 42 44.7	-1.3
URZ	**Urewera**	**0.95**	**92**	Pn	Pn	03 42 23.4	-0.5
NGZ	**Ngauruhoe**	**0.97**	**194**	PN	Pn	03 42 24.0	-0.2
NGZ	**Ngauruhoe**	**0.97**	**194**	Pn	Pn	03 42 24.0	-0.2
WPVZ	**Whakapapa**	**1.01**	**196**	⇑PN	Pn	03 42 24.3	-0.2
WPVZ	**Whakapapa**	**1.01**	**196**	Pn	Pn	03 42 24.3	-0.2
BKZ	**Black Stump Fm**	**1.04**	**154**	PN	Pn	03 42 24.1	-0.6
BKZ				SN	Sn	03 42 45.8	-1.7
BKZ	**Black Stump Fm**	**1.04**	**154**	Pn	Pn	03 42 24.1	-0.6
TUVZ	**Tukino**	**1.05**	**191**	⇑PN	Pn	03 42 24.6	-0.2
TUVZ	**Tukino**	**1.05**	**191**	Pn	Pn	03 42 24.6	-0.2
FWVZ	**Far West T-bar**	**1.06**	**195**	PN	Pn	03 42 24.6	-0.3
FWVZ	**Far West T-bar**	**1.06**	**195**	Pn	Pn	03 42 24.6	-0.3
TRVZ	**Turoa**	**1.10**	**194**	PN	Pn	03 42 25.1	-0.2
TRVZ	**Turoa**	**1.10**	**194**	Pn	Pn	03 42 25.1	-0.2
NMHZ	**Naumai**	**1.12**	**141**	PN	Pn	03 42 26.0	+0.8
NMHZ				SN	Sn	03 42 48.8	+0.3
NMHZ	**Naumai**	**1.12**	**141**	Pn	Pn	03 42 26.1	+0.8
NMHZ				Sn	Sn	03 42 48.8	+0.3
WNVZ	**Wahianoa**	**1.12**	**192**	PN	Pn	03 42 25.1	-0.3
WNVZ	**Wahianoa**	**1.12**	**192**	Pn	Pn	03 42 25.1	-0.3
PKVZ	**Pokaka**	**1.14**	**202**	⇓PN	Pn	03 42 25.2	-0.2
PKVZ				SN	Sn	03 42 48.5	-0.4
PKVZ	**Pokaka**	**1.14**	**202**	Pn	Pn	03 42 25.2	-0.2
PKVZ				Sn	Sn	03 42 48.5	-0.4
RAHZ	**Arahi**	**1.15**	**127**	PN	Pn	03 42 26.1	+0.7
RAHZ	**Arahi**	**1.15**	**127**	Pn	Pn	03 42 26.1	+0.7
MOVZ	**Moawhango**	**1.18**	**186**	⇑PN	Pn	03 42 25.1	-0.6
MOVZ	**Moawhango**	**1.18**	**186**	Pn	Pn	03 42 25.1	-0.6
MTVZ	**Mangateitei**	**1.20**	**196**	PN	Pn	03 42 25.6	-0.2
MTVZ	**Mangateitei**	**1.20**	**196**	Pn	Pn	03 42 25.6	-0.2
BHHZ	**Black Hill Sta**	**1.26**	**174**	PN	Pn	03 42 25.8	-0.6
VRZ	**Vera Road**	**1.27**	**225**	PN	Pn	03 42 26.2	-0.1
VRZ	**Vera Road**	**1.27**	**225**	Pn	Pn	03 42 26.1	-0.1
MWZ	**Matawai**	**1.28**	**95**	⇓PN	Pn	03 42 26.3	-0.2
MWZ	**Matawai**	**1.28**	**95**	Pn	Pn	03 42 26.3	-0.2
MCHZ	**McNeill Hill**	**1.36**	**153**	⇑PN	Pn	03 42 27.6	+0.5
MCHZ	**McNeill Hill**	**1.36**	**153**	Pn	Pn	03 42 27.6	+0.5
KNZ	**Kokohu**	**1.60**	**120**	PN	Pn	03 42 29.3	+0.1
KNZ	**Kokohu**	**1.60**	**120**	Pn	Pn	03 42 29.3	+0.1
WAZ	**Wanganui**	**1.68**	**205**	PN	Pn	03 42 29.3	-0.7
WAZ	**Wanganui**	**1.68**	**205**	Pn	Pn	03 42 29.3	-0.7
CKHZ	**Cape Kidnapper**	**1.69**	**148**	PN	Pn	03 42 30.4	+0.3
CKHZ	**Cape Kidnapper**	**1.69**	**148**	Pn	Pn	03 42 30.4	+0.3
PNHZ	**Pukenui**	**1.70**	**172**	⇑PN	Pn	03 42 29.6	-0.7
PNHZ	**Pukenui**	**1.70**	**172**	Pn	Pn	03 42 29.6	-0.7
PRGZ	**Paritu Road**	**1.70**	**115**	PN	Pn	03 42 30.4	+0.1
PRGZ	**Paritu Road**	**1.70**	**115**	Pn	Pn	03 42 30.4	+0.1
KAHZ	**Kahuranaki**	**1.74**	**154**	⇑PN	Pn	03 42 30.7	+0.1
KAHZ	**Kahuranaki**	**1.74**	**154**	Pn	Pn	03 42 30.7	+0.1
MHGZ	**Mahia Peninsul**	**1.82**	**121**	PN	Pn	03 42 31.7	+0.4
MHGZ	**Mahia Peninsul**	**1.82**	**121**	Pn	Pn	03 42 31.8	+0.4
TSZ	**Takapari Road**	**1.83**	**179**	PN	Pn	03 42 30.7	-0.8
TSZ	**Takapari Road**	**1.83**	**179**	Pn	Pn	03 42 30.7	-0.8
CNGZ	**Carnagh Statio**	**1.83**	**99**	PN	Pn	03 42 31.9	+0.4
CNGZ	**Carnagh Statio**	**1.83**	**99**	Pn	Pn	03 42 31.9	+0.4
PUZ	**Puketiti**	**1.86**	**86**	PN	Pn	03 42 31.3	-0.5
PUZ				SN	Sn	03 42 58.8	-1.4
PUZ	**Puketiti**	**1.86**	**86**	Pn	Pn	03 42 31.3	-0.6
WPHZ	**Waipukurau**	**1.88**	**167**	⇑PN	Pn	03 42 31.4	-0.6
WPHZ	**Waipukurau**	**1.88**	**167**	Pn	Pn	03 42 31.4	-0.6
MXZ	**Matakaoa Point**	**2.02**	**71**	PN	Pn	03 42 33.3	-0.1
MXZ	**Matakaoa Point**	**2.02**	**71**	Pn	Pn	03 42 33.3	-0.1
DVHZ	**Dannevirke**	**2.08**	**174**	⇑PN	Pn	03 42 32.8	-1.3
DVHZ	**Dannevirke**	**2.08**	**174**	Pn	Pn	03 42 32.8	-1.3
PRHZ	**Porangahau**	**2.11**	**165**	⇑PN	Pn	03 42 33.6	-0.9
PRHZ	**Porangahau**	**2.11**	**165**	Pn	Pn	03 42 33.6	-0.9
POWZ	**Post Office Ro**	**2.16**	**183**	⇑PN	Pn	03 42 33.6	-1.4
POWZ	**Post Office Ro**	**2.16**	**183**	Pn	Pn	03 42 33.6	-1.4
MRZ	**Mangatainoka R**	**2.44**	**186**	⇓PN	Pn	03 42 35.9	-2.1
MRZ				SN	Sn	03 43 07.7	-3.8
MRZ	**Mangatainoka R**	**2.44**	**186**	Pn	Pn	03 42 35.9	-2.1
BFZ	**Birch Farm**	**2.46**	**174**	PN	Pn	03 42 36.6	-1.6
BFZ	**Birch Farm**	**2.46**	**174**	Pn	Pn	03 42 36.6	-1.6
TIWZ	**Tintock**	**2.54**	**180**	PN	Pn	03 42 37.4	-1.9
TIWZ	**Tintock**	**2.54**	**180**	Pn	Pn	03 42 37.4	-1.9
OGWZ	**Otaki Gorge**	**2.65**	**192**	⇑PN	Pn	03 42 38.5	-1.8
OGWZ	**Otaki Gorge**	**2.65**	**192**	Pn	Pn	03 42 38.5	-1.8
HOWZ	**Holdsworth Sta**	**2.68**	**186**	⇑PN	Pn	03 42 38.5	-2.3
HOWZ	**Holdsworth Sta**	**2.68**	**186**	Pn	Pn	03 42 38.5	-2.3
KIW	**Kapiti Island**	**2.74**	**196**	⇑PN	Pn	03 42 39.1	-2.3
KIW	**Kapiti Island**	**2.74**	**196**	Pn	Pn	03 42 39.1	-2.3
TMWZ	**Te Maipa**	**2.87**	**180**	PN	Pn	03 42 40.8	-2.2
TMWZ	**Te Maipa**	**2.87**	**180**	Pn	Pn	03 42 40.8	-2.2
MTW	**Mount Morrison**	**2.94**	**186**	⇑PN	Pn	03 42 41.2	-2.6
MTW	**Mount Morrison**	**2.94**	**186**	Pn	Pn	03 42 41.2	-2.6
CAW	**Cannon Point**	**2.94**	**192**	PN	Pn	03 42 41.5	-2.4
CAW	**Cannon Point**	**2.94**	**192**	Pn	Pn	03 42 41.5	-2.4
DUWZ	**D'Urville Isla**	**2.99**	**210**	PN	Pn	03 42 41.8	-2.6
DUWZ	**D'Urville Isla**	**2.99**	**210**	Pn	Pn	03 42 41.8	-2.6
PAWZ	**Paruwai Farm**	**3.17**	**187**	PN	Pn	03 42 43.9	-2.7
PAWZ	**Paruwai Farm**	**3.17**	**187**	Pn	Pn	03 42 43.9	-2.7
TRWZ	**Traveller**	**3.17**	**183**	PN	Pn	03 42 43.9	-2.6
TRWZ	**Traveller**	**3.17**	**183**	Pn	Pn	03 42 43.9	-2.6
SNZO	**South Karori**	**3.21**	**196**	⇑PN	Pn	03 42 44.3	-2.7
SNZO	**South Karori**	**3.21**	**196**	Pn	Pn	03 42 44.3	-2.7
MSWZ	**Moikau Station**	**3.22**	**189**	⇑PN	Pn	03 42 44.3	-2.9
MSWZ	**Moikau Station**	**3.22**	**189**	Pn	Pn	03 42 44.3	-2.9
TCW	**Tory Channel**	**3.23**	**202**	⇑PN	Pn	03 42 44.6	-2.6
TCW	**Tory Channel**	**3.23**	**202**	Pn	Pn	03 42 44.6	-2.6
BHW	**Baring Head**	**3.27**	**194**	PN	Pn	03 42 45.0	-2.7
BHW	**Baring Head**	**3.27**	**194**	Pn	Pn	03 42 45.0	-2.7
PLWZ	**Palliser**	**3.37**	**188**	PN	Pn	03 42 45.9	-3.2
PLWZ	**Palliser**	**3.37**	**188**	Pn	Pn	03 42 45.9	-3.2
TUWZ	**Tuamarina**	**3.53**	**205**	PN	Pn	03 42 47.9	-3.0
TUWZ	**Tuamarina**	**3.53**	**205**	Pn	Pn	03 42 47.9	-3.0
NNZ	**Nelson**	**3.56**	**212**	PN	Pn	03 42 48.3	-3.0
NNZ	**Nelson**	**3.56**	**212**	Pn	Pn	03 42 48.3	-3.0
BSWZ	**Blackbirch Sta**	**3.81**	**203**	PN	Pn	03 42 51.6	-2.8
BSWZ	**Blackbirch Sta**	**3.81**	**203**	Pn	Pn	03 42 51.6	-2.8
THZ	**Tophouse**	**4.21**	**212**	⇓PN	Pn	03 42 56.4	-3.1
THZ	**Tophouse**	**4.21**	**212**	Pn	Pn	03 42 56.4	-3.1

*ATH **02** 03:53:32.3, 36°17N×27°41E, h11km±1km, MD3.0/4*
*ISCJB **02** 03:53:33.5±0.8, 36°04N±0°04×27°54E±0°05, h11km±6km, Error ellipse: s-maj=9.0km s-min=4.1km az=136.8*
*CSEM **02** 03:53:33.8±0.3, 36°00N×27°57E, h15km, ML2.2/1, Error ellipse: s-maj=8.9km s-min=4.4km az=133.0*
*THE **02** 03:53:34.4, 35°94N×27°65E, h25km±15km, ML2.2/1, Error ellipse: s-maj=19.0km s-min=1.2km az=138.0*
*ISK **02** 03:53:35.2, 36°08N×27°77E, h6km, MD3.0*
*DDA **02** 03:53:35, 36°19N×27°59E, h27km, MD2.9*

ISC 02 03:53:34.2±1.0, 35°93N±0°05×27°62E±0°04, h25km±12km, n23, σ0°80/34, 1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.50**	**55**	P	**Pb**	**03 53 43.5**	**-1.0**
ARG				S	**Sb**	**03 53 51.5**	**+0.1**
ARG	**Arkhangelos**	**0.50**	**55**	*i* PB	**Pb**	**03 53 43.5**	**-1.0**
ARG				*e*SB	**Sb**	**03 53 51.9**	**+0.5**
ARG	**Arkhangelos**	**0.50**	**55**	P	**Pb**	**03 53 43.5**	**-1.0**
ARG				S	**Sb**	**03 53 51.5**	**+0.1**
ARG				*e*Sb	Sb	03 53 51.9	+0.5
KARP	**Karpathos**	**0.53**	**225**	P	**Pb**	**03 53 44.6**	**-0.4**
KARP				S	**Sb**	**03 53 53.6**	**+1.3**
KARP	**Karpathos**	**0.53**	**225**	*e*PG	**Pb**	**03 53 44.7**	**-0.3**
KARP				*e*SB	**Sn**	**03 53 54.2**	**-0.3**
KARP	**Karpathos**	**0.53**	**225**	*e*Pg	**Pb**	**03 53 44.7**	**-0.3**
KARP				S	**Sb**	**03 53 53.6**	**+1.3**
KARP				*e*Sb	Sb	03 53 54.2	+1.9
BDRM	**Kayabasi**	**1.15**	**353**	*i* P	Pn	03 53 52.8	-1.9
BDRM				*i* S	**Sn**	**03 54 09.3**	**-0.3**
BDRM	**Kayabasi**	**1.15**	**353**	*i* P	Pn	03 53 52.8	-1.9
BDRM				*i* S	**Sn**	**03 54 09.3**	**-0.3**
BODT	**Bodrum**	**1.16**	**348**	*e*Pn	**Pb**	**03 53 56.1**	**+0.5**
BODT				*e*Sn	**Sn**	**03 54 09.8**	**-0.2**
TURN	**Turunc**	**1.23**	**40**	*i* P	Pn	03 53 50.7	-5.2
TURN				*i* S	Sb	03 54 04.9	-7.4
YER	**Yerkesik**	**1.32**	**24**	*e*PN	Pn	03 53 55.2	-2.0
YER				*e*SN	**Sn**	**03 54 13.4**	**-0.6**
YER	**Yerkesik**	**1.32**	**24**	*e*Pn	**Pn**	**03 53 57.1**	**-0.1**
YER				*e*Sn	**Sb**	**03 54 14.1**	**-0.4**
FETY	**Fethiye**	**1.38**	**59**	*e*PN	Pn	03 53 55.7	-2.3
FETY				*e*SN	**Sn**	**03 54 15.0**	**-0.4**
FETY	**Fethiye**	**1.38**	**59**	*e*Pn	**Pn**	**03 53 58.7**	**+0.8**
FETY				*e*Sn	**Sn**	**03 54 15.0**	**-0.4**
AYDN	**Tasoluk**	**1.74**	**7**	*i* P	Pn	03 54 01.1	-1.9
AYDN				*i* S	**Sn**	**03 54 23.5**	**-1.0**
AYDN	**Tasoluk**	**1.74**	**7**	*i* P	Pn	03 54 01.1	-1.9
AYDN				*i* S	**Sn**	**03 54 23.5**	**-1.0**
NPS	**Neapolis**	**1.76**	**249**	P	**Pn**	**03 54 03.3**	**+0.1**
NPS				S	**Sn**	**03 54 23.8**	**-1.1**
NPS	**Neapolis**	**1.76**	**249**	*e*PN	**Pn**	**03 54 03.3**	**+0.1**
NPS				*e*SN	**Sb**	**03 54 27.2**	**-0.4**
NPS	**Neapolis**	**1.76**	**249**	P	**Pn**	**03 54 03.3**	**+0.1**
NPS				S	**Sn**	**03 54 23.8**	**-1.1**
NPS				*e*Sn	Sn	03 54 27.2	+2.3
SMG	**Samos**	**1.89**	**341**	*e*PB	Pn	03 54 02.4	-2.5
SMG	**Samos**	**1.89**	**341**	*e*Pb	Pn	03 54 02.4	-2.5
DNZL	**Cakiroluk**	**2.10**	**33**	*i* P	**Pn**	**03 54 09.0**	**+1.0**
DNZL				*i* S	**Sn**	**03 54 34.8**	**+1.4**
DNZL	**Cakiroluk**	**2.10**	**33**	*i* P	**Pn**	**03 54 09.0**	**+1.0**
DNZL				*i* S	**Sn**	**03 54 34.8**	**+1.4**

IDC 02 03:56:32.8±2.6, 7°30S×128°36E, h0km, mb3.3/1, mb1 3.6/3, mb1mx3.4/15, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=285.6km s-min=32.8km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.85**	**156**	Pn	Pn	03 59 49.0	-1.6
	0.4nm,0.3s,baz=333,slow=14,SNR=7.4						
WRA				Sn	Sn	04 02 09.8	-15
	1.0nm,0.3s,baz=333,slow=21,SNR=9.1						
ASAR	**Alice Springs**	**17.13**	**162**	P	P	04 00 35.2	-0.4
	0.2nm,0.3s,baz=339,slow=9.3,SNR=7.2						
ASAR				S	Sn	04 03 32.8	-12
	0.2nm,0.3s,baz=356,slow=27,SNR=4.1						
MKAR	**Makanchi Array**	**67.59**	**328**	P	P	04 07 31.4	0.0
	0.1nm,0.3s,baz=114,slow=7.0,SNR=4.1						

MAN 02 04:08:33, 11°05N×124°70E, h29km, mb4.0, ML2.8, MS2.5, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.09**	**269**	*e*P	Pb	04 08 39.4	+1.3
OCLP				*e*S	Sb	04 08 42.0	+0.3
PLP	**Palo**	**0.29**	**67**	⇓*e*P	Pn	04 08 42.1	+0.7
PLP				*i* S	Sn	04 08 46.6	-0.2
MSLP	**Maasin**	**0.93**	**170**	*e*P	Pb	04 08 50.6	+0.1
MSLP				*e*S	Sb	04 09 03.9	+1.5

*CASC **02** 04:12:53.4±2.1, 12°60N×89°50W, h6km±20km, MD4.1, ML4.2, mb4.6(NEIC)*
*ISCJB **02** 04:12:55.4±0.7, 12°63N±0°05×89°38W±0°05, h58km±4km, mb4.5/37, MS3.8/4, Error ellipse: s-maj=10.3km s-min=5.1km az=36.2*
*IDC **02** 04:12:56.0±2.1, 12°84N×89°25W, h41km±19km, mb3.9/12, mb1 4.2/14, mb1mx4.0/25, mbtmp3.9/14, ML3.5/2, MS3.5/5, Ms1 3.5/5, ms1mx3.1/27, Error ellipse: s-maj=30.7km s-min=10.9km az=42.0*
*NEIC **02** 04:12:59.0±0.8, 12°78N×89°31W, h72km±8km, mb4.6/33, Error ellipse: s-maj=11.9km s-min=6.4km az=62.0*
NEIC Felt at Ilopango and San Salvador.

ISC 02 04:12:55.2±1.0, 12°58N±0°05×89°50W±0°05, h43km±8km, n328, σ19°15/344, mb4.6/37, MS3.6/4, 116C-108D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**1.12**	**23**	⇑*i* P	**Pn**	**04 13 14.1**	**-0.5**
LFRS				*e*S	**Sn**	**04 13 28.2**	**-0.6**
SNET	**Serv Nac Est T**	**1.13**	**14**	*i* P	**Pn**	**04 13 12.6**	**-2.0**
SNET				AML	AML	04 13 42.1	
	comp=E,5μm,0.5s						
BOQS	**Boqueron**	**1.17**	**11**	*i* P	**Pn**	**04 13 15.6**	**+0.3**
SNVI	**San Vicente**	**1.21**	**32**	*i* P	**Pn**	**04 13 15.6**	**-0.3**
SNVI				*e*S	**Sn**	**04 13 34.4**	**+3.2**
LBRS	**Las Brisas**	**1.23**	**21**	*i* P	**Pn**	**04 13 16.3**	**+0.2**
SBLS	**San Blas**	**1.25**	**355**	⇑*i* P	**Pn**	**04 13 16.1**	**-0.4**
SBLS				*e*S	**Sn**	**04 13 33.0**	**+0.7**
SNJE	**San Jose**	**1.28**	**356**	*i* P	**Pn**	**04 13 16.7**	**-0.1**
RTR	**El Retiro**	**1.31**	**354**	*i* P	**Pn**	**04 13 17.1**	**-0.2**
VSM	**San Miguel**	**1.46**	**55**	*e*P	**Pn**	**04 13 18.9**	**+0.5**
BLLM	**Bellamira**	**1.50**	**55**	*i* P	**Pn**	**04 13 19.8**	**+0.1**
RBDL	**Robledal**	**1.53**	**353**	⇑*i* P	**Pn**	**04 13 20.4**	**+0.2**
CAHU	**Cacacuatique**	**1.73**	**47**	*i* P	**Pn**	**04 13 23.6**	**+0.6**
PCG	**Pacaya**	**2.10**	**329**	*e*P	**Pn**	**04 13 30.0**	**+2.0**
NBG	**Las Nubes**	**2.15**	**338**	*e*P	**Pn**	**04 13 30.2**	**+1.3**
FUG	**Fuego 3**	**2.27**	**325**	*e*P	**Pn**	**04 13 30.6**	**+0.3**
MRL	**Marmol**	**2.48**	**356**	*e*P	**Pn**	**04 13 34.7**	**+1.5**
TGUH	**Tegucigalpa,Un**	**2.62**	**56**	*e*Pn	**Pn**	**04 13 35.1**	**+0.1**
TGUH				*e*S	Sn	04 14 12.9	+7.3
TP2	**Tecpan 2**	**2.64**	**326**	*e*P	**Pn**	**04 13 36.0**	**+0.4**
JTS	**JuntasAbangare**	**5.01**	**117**	*e*Pn	**Pn**	**04 14 08.1**	**+0.2**
JTS				S	**Sn**	**04 15 04.3**	**-0.3**
JTS	**JuntasAbangare**	**5.01**	**117**	P	**Pn**	**04 14 08.4**	**+0.5**
	comp=E,2.0nm,0.3s,baz=311,slow=17,SNR=8.0						
JTS				S	**Sn**	**04 15 04.3**	**-0.3**
	comp=E,2.1nm,0.3s,baz=269,slow=20,SNR=2.9						
JTS				LR	LR	04 16 29.7	
	comp=E,195nm,19.0s,baz=299,slow=44					

	baz=25,SNR=13							
Z25A	Roswell	24.85	328	⇑P		P	04 18 14.2	+0.3
	baz=25,SNR=7.7							
Y26A	Elida	24.93	331	⇑P		P	04 18 14.8	+0.2
	baz=25							
W29A	Amraillo	24.99	336	⇑P		P	04 18 15.4	+0.4
	baz=25							
SIUC	Southern Illin	25.03	1	eP		P	04 18 15.3	+0.1
	comp=E,30nm,0.8s							
X27A	F and S Farms,	25.20	333	⇑P		P	04 18 17.2	+0.3
	baz=25							
Z24A	Sheeppen Canyo	25.23	328	⇓P		P	04 18 18.1	+0.7
	baz=25,SNR=5.4							
FVM	French Village	25.31	358	eP		P	04 18 18.5	+0.7
	comp=E,15nm,0.7s							
W28A	Vega	25.34	335	⇓P		P	04 18 18.8	+0.6
	baz=25,SNR=5.0							
Y25A	Mesa, Roswell	25.35	329	⇓P		P	04 18 19.2	+0.9
	baz=25,SNR=8.6							
X26A	CR and CF Fran	25.44	332	⇑P		P	04 18 20.2	+1.0
	baz=25							
320A	Kipp Ranch, An	25.61	320	⇑P		P	04 18 22.5	+1.8
	baz=26,SNR=6.5							
Z23A	Rita Site, Whi	25.64	326	⇓P		P	04 18 22.1	+1.2
	baz=26							
Y24A	Capitan	25.73	328	⇑P		P	04 18 22.5	+0.6
	baz=26,SNR=6.6							
V28A	Channing	25.77	336	⇓P		P	04 18 22.5	+0.4
	baz=26							
SLM	Saint Louis	25.96	359	eP		P	04 18 22.9	-0.6
	comp=E,35nm,0.8s							
121A	Cookes Peak, D	25.98	323	⇓P		P	04 18 25.1	+1.0
	baz=26							
220A	Playas Peak, P	25.99	321	⇓P		P	04 18 26.2	+2.0
	baz=26,SNR=20							
Z22A	Elephant Butte	26.04	325	⇓P		P	04 18 25.5	+0.9
	baz=26							
OLIL	Olney	26.07	3	eP		P	04 18 25.2	+0.5
	comp=E,24nm,1.1s							
W25A	X Bar L Ranch,	26.29	332	⇑P		P	04 18 27.9	+1.0
	baz=26,SNR=6.4							
Z21A	St. Cloud Mine	26.48	324	⇓P		P	04 18 30.0	+1.3
	baz=26							
120A	U Bar Ranch, L	26.50	322	⇓P		P	04 18 30.8	+2.0
	baz=26							
Y22A	Socorro	26.55	326	⇓P		P	04 18 30.4	+1.1
	baz=27							
W24A	Lazy 6 Ranch,	26.74	330	⇓P		P	04 18 32.0	+1.1
	baz=27,SNR=6.3							
V25A	Rancho No Teng	26.87	332	⇑P		P	04 18 32.6	+0.5
	baz=27,SNR=6.5							
Z20A	Nine Sixteen R	26.87	323	⇓P		P	04 18 33.7	+1.5
	baz=27							
U26A	Atchley Ranch,	26.95	334	⇓P		P	04 18 33.0	+0.1
	baz=27,SNR=10.0							
Y21A	Point of Rocks	26.99	325	⇓P		P	04 18 35.8	+2.4
	baz=27,SNR=6.0							
W23A	Werner Place,	27.06	329	⇓P		P	04 18 35.2	+1.3
	baz=27							
V24A	Rampart Ranch,	27.09	331	⇑P		P	04 18 34.8	+0.7
	baz=27							
KSU1	Kansas State U	27.15	348	eP		P	04 18 33.5	-0.9
	comp=E,30nm,1.1s							
U25A	Circle Dot Ran	27.25	333	⇓P		P	04 18 36.8	+1.3
	baz=27							
Y20A	Horse Springs,	27.32	324	⇓P		P	04 18 37.5	+1.3
	baz=27							
X21A	Alamocita Cree	27.38	326	⇑P		P	04 18 38.2	+1.5
	baz=27							
V23A	Ortiz Mt. (NFS	27.54	330	⇑P		P	04 18 39.5	+1.3
	baz=28							
CBKS	Cedar Bluff	27.66	343	eP		P	04 18 39.1	+0.1
	comp=E,24nm,1.4s							
CBKS	Cedar Bluff	27.66	343	⇓P		P	04 18 38.6	-0.4
	baz=28							
TUC	Tucson	27.69	319	eP		P	04 18 45.2	+5.8
T25A	Trinidad	27.86	334	⇓P		P	04 18 42.1	+1.0
	baz=28							
S26A	Kim	27.89	336	⇑P		P	04 18 41.6	+0.4
	baz=28							
U23A	El Rito	28.01	330	⇑P		P	04 18 43.2	+0.8
	baz=28,SNR=10							
V22A	San Miguel Ran	28.04	329	⇑P		P	04 18 43.4	+0.8
	baz=28							
T24A	Torres, Weston	28.09	333	⇓P		P	04 18 44.3	+1.2
	baz=28							
Y18A	Canyon Day Jun	28.20	322	⇑P		P	04 18 45.3	+1.3
	baz=28							
R27A	Eads	28.20	337	⇑P		P	04 18 44.2	+0.2
	baz=28							
S24A	Houchin Ranch,	28.63	333	⇓P		P	04 18 48.7	+0.7
	baz=29							
R25A	Fountain Ranch	28.67	335	⇑P		P	04 18 48.6	+0.5
	baz=29							
X18A	Snowflake	28.67	323	⇓P		P	04 18 48.8	+0.5
	baz=29							
KSCO	Kaye Shedlock'	28.78	338	⇑P		P	04 18 49.3	+0.2
	baz=29,SNR=5.5							
U21A	Nageezi	28.82	329	⇑P		P	04 18 50.7	+1.2
	baz=29							
SDCO	Great Sand Dun	28.85	333	⇑P		P	04 18 50.7	+0.8
	baz=29							
SDMD	Soldier's Deli	28.98	21	eP		P	04 18 50.7	0.0
	comp=E,8.7nm,0.6s							
Q25A	Bedland, Calha	29.31	336	⇓P		P	04 18 54.2	+0.3
	baz=29							
R23A	Moffat	29.36	333	⇓P		P	04 18 55.3	+0.8
	baz=29							
S22A	4UR Ranch, Cre	29.45	331	⇑P		P	04 18 55.9	+0.7
	baz=30							
U19A	Dine' College,	29.53	326	⇑P		P	04 18 56.7	+0.8
	baz=30							
P26A	Davis Ranch, A	29.53	338	⇓P		P	04 18 57.1	+1.3
	baz=30							
O27A	Beecher Island	29.78	340	⇓P		P	04 18 58.7	+0.8
	baz=30							
S21A	Coal Bank Pass	29.85	330	⇑P		P	04 18 59.3	+0.5
	baz=30							
V17A	Tonalea, Kykot	29.93	324	⇑P		P	04 19 00.7	+1.3
	baz=30							
WUAZ	Wupatki	30.20	323	⇓P		P	04 19 03.2	+1.4
	baz=30							
P23A	Jefferson	30.35	334	⇑P		P	04 19 04.3	+1.0
	baz=30							
N27A	Anderson Farm,	30.36	340	⇑P		P	04 19 03.8	+0.8
	baz=30							
Q22A	Crested Butte,	30.39	333	⇑P		P	04 19 05.2	+1.5
	baz=30							
U16A	Tuba City	30.49	324	⇓P		P	04 19 05.8	+1.4
	baz=30							
T18A	Mexican Hat	30.51	327	⇓P		P	04 19 06.0	+1.5
	baz=30							
S19A	Harvey Farm, M	30.58	328	⇑P		P	04 19 06.2	+1.0
	baz=31							
N26A	Koester Ranch,	30.61	339	⇓P		P	04 19 05.8	+0.5
	baz=31							
ISCO	Idaho Springs	30.61	335	⇑P		P	04 19 05.9	+0.4
	baz=31							
T17A	Navajo Res., N	30.91	326	⇑P		P	04 19 09.4	+1.3
	baz=31							
PV04	Paradox Valley	30.96	330	eP		P	04 19 10.0	+1.5
S18A	Hurst Farm, Bl	30.99	327	⇑P		P	04 19 09.7	+0.9
	baz=31							
O23A	Lake Granby, G	31.09	335	⇓P		P	04 19 10.7	+1.0
	baz=31							
N24A	Carr	31.21	337	⇑P		P	04 19 11.8	+1.2
	baz=31							
O22A	Kremmling	31.31	334	⇑P		P	04 19 12.0	+0.3
	baz=31							
S17A	Black Ridge (B	31.38	326	⇑P		P	04 19 13.1	+1.0
	baz=31							
Q19A	Hogan Spring (	31.58	330	⇓P		P	04 19 14.6	+0.7
	baz=32							
ECSD	EROS Data Cent	31.64	350	eP		P	04 19 12.8	-1.4
	comp=E,16nm,1.5s							
M24A	Cheyenne	31.74	338	⇑P		P	04 19 16.3	+1.0
	baz=32							
R17A	Hanksville Air	31.91	327	⇑P		P	04 19 18.1	+1.4
	baz=32							
BAR	Barrett	31.91	313	eP		P	04 19 18.4	+1.7
	comp=E,10nm,1.5s							
O20A	White River Ci	32.03	332	⇓P		P	04 19 18.7	+0.8
	baz=32							
SRU	San Rafael	32.33	329	⇓P		P	04 19 21.5	+1.0
	baz=32							
P18A	Preston Nutter	32.58	329	⇓P		P	04 19 24.0	+1.1
	baz=33							
N20A	Spence Gulch,	32.60	333	⇓P		P	04 19 23.9	+1.0
	baz=33							
L23A	Garrett	32.63	337	⇓P		P	04 19 23.5	+0.4
	baz=33							
O18A	Roosevelt	32.96	330	⇓P		P	04 19 27.1	+1.2
	baz=33							
N19A	John Jarvie Ra	33.06	332	⇑P		P	04 19 27.7	+0.8
	baz=33							
L21A	Rawlins	33.15	335	⇑P		P	04 19 28.4	+0.7
	baz=33							
O17A	Robinson Place	33.26	330	⇑P		P	04 19 29.7	+1.1
	baz=33							
GSC	Goldstone	33.48	317	⇓P		P	04 19 31.4	+0.9
	baz=34							
R13A	O'Grain Ranch,	33.53	324	⇑P		P	04 19 32.2	+1.1
	baz=34							
P15A	Leamington	33.58	327	⇑P		P	04 19 32.5	+1.1
	baz=34							
O16A	Springville	33.65	329	⇑P		P	04 19 33.3	+1.2
	baz=34							
SAML	Samuel	33.79	128	eP		P	04 19 32.1	-1.2
	comp=E,3.7nm,1.0s							
RSSD	Black Hills	33.82	341	eP		P	04 19 33.4	0.0
	comp=E,16nm,1.8s							
J22A	Midwest	34.04	338	⇓P		P	04 19 36.2	+0.9
	baz=34							
J21A	Lysite	34.35	337	⇓P		P	04 19 38.9	+0.9
	baz=34							
MPMC	Manual Prospec	34.37	318	⇑P		P	04 19 39.9	+1.5
	baz=34							
I22A	9 Mile Ranch,	34.45	338	⇑P		P	04 19 38.4	-0.5
	baz=34							
K19A	Absolon Red Bu	34.48	335	⇓P		P	04 19 40.3	+1.1
	baz=34							
H24A	Dirks Ranch, A	34.54	341	⇑P		P	04 19 39.9	+0.3
	baz=34,SNR=8.3							
R11A	Troy Canyon, C	34.59	322	⇑P		P	04 19 41.6	+1.4
	baz=35							
J20A	Shoshoni	34.60	336	⇑P		P	04 19 41.5	+1.3
	baz=35							
I21A	Big Trails, Te	34.68	337	⇑P		P	04 19 42.0	+1.1
	baz=35							
PDAR	Pinedale Array	34.73	334	P		P	04 19 41.6	+0.2
PDAR				PcP		PcP	04 22 15.9	+1.4
PDAR	Pinedale Array	34.73	334	P		P	04 19 41.6	+0.2
	comp=E,0.5nm,0.8s,baz=113,slow=11,SNR=3.5							
PDAR				PcP		PcP	04 22 15.9	+1.4
	comp=E,0.4nm,0.6s,baz=146,slow=6.2,SNR=4.1							
BW06	Boulder Array	34.74	334	⇑P		P	04 19 42.7	+1.3
	baz=35							
K18A	Toltan Ranch,	34.84	333	⇓P		P	04 19 43.0	+0.7
	baz=35							
GRAC	Grapevine Rang	34.85	319	⇓P		P	04 19 43.7	+1.4
	baz=35							
J19A	Crowheart	34.93	335	⇑P		P	04 19 43.5	+0.5
	baz=35							
L16A	Fish Haven	34.99	331	⇓P		P	04 19 43.9	+0.3
	baz=35							
G24A	Alzada	35.02	342	⇓P		P	04 19 44.4	+0.7
	baz=35							
M15A	Larsen Ranch,	35.06	329	⇑P		P	04 19 45.0	+0.8
	baz=35							
I20A	Worland	35.12	336	⇑P		P	04 19 45.6	+1.0
	baz=35							
H21A	Big Horn, Sher	35.29	338	⇓P		P	04 19 46.9	+0.9
	baz=35							
L15A	Malad City	35.44	330	⇑P		P	04 19 47.8	+0.3
	baz=35							
F24A	Ekalaka	35.50	342	⇓P		P	04 19 48.5	+0.7
	baz=36							
H20A	Greybull	35.52	337	⇑P		P	04 19 48.6	+0.5
	baz=36							
I19A	Meeteetse	35.54	336	⇓P		P	04 19 48.8	+0.5
	baz=36							
F23A	Volborg	35.69	341	⇑P		P	04 19 49.5	+0.1
	baz=36							
J17A	Brown Place, J	35.72	333	⇑P		P	04 19 50.9	+1.1
	baz=36							
REDW	Red Top Meadow	35.78	333	eP		P	04 19 51.0	+0.5
	comp=E,4.7nm,0.6s							
SNOW	Snow King Moun	35.82	333	eP		P	04 19 51.8	+1.1
	comp=E,6.7nm,0.6s							
L14A	Malta	35.89	329	⇓P		P	04 19 51.7	+0.4
	baz=36							
AGMN	Agassiz Nation	36.00	353	eP		P	04 19 51.0	-0.9
	comp=E,8.0nm,0.7s							
ELK	Elko	36.01	326	P		P	04 19 53.7	+1.3
ELK	Elko	36.01	326	P		P	04 19 53.7	+1.3
	comp=E,0.8nm,0.7s,baz=156,slow=11,SNR=5.0							
F22A	Rosebud	36.02	340	⇑P		P	04 19 53.2	+1.0
	baz=36							
K15A	Arbon	36.03	331	⇓P		P	04 19 52.9	+0.4
	baz=36							
E24A	Baker	36.10	343	⇑P		P	04 19 53.2	+0.3
	baz=36							
MDND	Maddock	36.16	348	⇓P		P	04 19 53.9	+0.6
	baz=36							
G20A	Bridger	36.23	337	⇓P		P	04 19 54.7	+0.6
	baz=36							
K14A	Jones Ranch, D	36.23	330	⇓P		P	04 19 54.7	+0.5
	baz=36							
NVAR	Mina Array Bea	36.30	320	P		P	04 19 57.5	+2.5
NVAR				PcP		PcP	04 22 21.0	+1.8
NVAR	Mina Array Bea	36.30	320	P		P	04 19 57.5	+2.5
	comp=E,3.4nm,0.8s,baz=134,slow=8.4,SNR=40							
NVAR				PcP		PcP	04 22 21.0	+1.8
	comp=E,1.0nm,0.7s,baz=137,slow=4.1,SNR=6.0							
H18A	Shoshone NF, C	36.34	335	⇑P		P	04 19 55.9	+0.7
	baz=36							
J15A	Blackfoot	36.53	332	⇓P		P	04 19 57.4	+0.7
	baz=36							
RLMT	Red Lodge	36.55	336	⇑P		P	04 19 57.6	+0.6
	baz=36							
D24A	Glendive	36.61	343	⇑P		P	04 19 58.2	+0.9
	baz=37							
D23A	Lindsay	36.92	342	⇓P		P	04 20 00.8	+0.9
	baz=37							
E21A	Keefer Ranch,	36.96	340	⇑P		P	04 20 01.0	+0.8
	baz=37							
J14A	Carey	36.98	330	⇓P		P	04 20 01.3	+0.7
	baz=37							
F19A	Roth Farm, Mol	37.04	337	⇓P		P	04 20 01.4	+0.4
	baz=37							
D22A	Cohagen	37.20	341	⇑P		P	04 20 02.6	+0.3
	baz=37,SNR=9.6							
E20A	Meyer Farm, Mu	37.29	339	⇓P		P	04 20 03.8	+0.7
	baz=37							
J13A	Cove Ranch, Pi	37.36	330	⇓P		P	04 20 03.7	-0.1
	baz=37							
F18A	Big Timber	37.38	337	⇑P		P	04 20 04.7	+0.9
	baz=37							
I14A	Mackay	37.41	331	⇓P		P	04 20 05.0	+0.8
	baz=37							
C23A	Lambert	37.48	343	⇑P		P	04 20 05.0	+0.3
	baz=37,SNR=6.0							
E19A	Rath Farm, Rou	37.49	338	⇑P		P	04 20 05.1	+0.3
	baz=38							
H15A	Lima	37.56	333	⇓P		P	04 20 06.5	+0.9
	baz=38							
C22A	Vida	37.64	342	⇑P		P	04 20 06.7	+0.7
	baz=38,SNR=6.1							
G16A	Moss Hill, Enn	37.68	334	⇑P		P	04 20 07.1	+0.6
	baz=38							
I13A	Wildhorse Cree	37.72	331	⇑P		P	04 20 07.9	+1.0
	baz=38							
F17A	Fitzpatrick Pl	37.75	336	⇑P		P	04 20 07.4	+0.3
	baz=38							
D20A	Manuel Ranch,	37.80	339	⇓P		P	04 20 07.8	+0.5
	baz=38,SNR=5.8							
DGMT	Dagmar	37.81	344	eP		P	04 20 07.1	-0.3
	comp=E,19nm,0.8s							
DGMT	Dagmar	37.81	344	⇓P		P	04 20 07.8	+0.4
	baz=38,SNR=7.8							
MCMT	McKenzie Canyo	37.82	333	eP		P	04 20 09.6	+1.8
	comp=E,2.1nm,0.8s							
H14A	Leadore	37.89	332	⇑P		P	04 20 09.0	+0.7
	baz=38							
ULM	Lac du Bonnet	37.92	353	eP		P	04 20 06.5	-1.8
	comp=E,90nm,2.5s							
ULM	Lac du Bonnet	37.92	353	P		P	04 20 06.4	-1.8
	comp=E,5.5nm,0.7s,baz=171,slow=8.4,SNR=9.4							
G15A	Dillon	37.92	333	⇑P		P	04 20 09.1	+0.5
	baz=38							
E18A	Harlowton	38.00	337	⇓P		P	04 20 09.9	+0.7
	baz=38							
B23A	Brockton	38.02	343	⇑P		P	04 20 10.0	+0.8
	baz=38							
F16A	Kennard Place,	38.05	335	⇑P		P	04 20 10.0	+0.5
	baz=38							
C21A	Desert Coulee	38.09	341	⇑P		P	04 20 09.9	+0.2
	baz=38							
I12A	Atlanta	38.12	330	⇑P		P	04 20 11.0	+0.8
	baz=38							
D19A	Cripps Ranch,	38.12	338	⇓P		P	04 20 10.1	0.0
	baz=38							
B22A	Reddig Ranch S	38.17	342	⇑P		P	04 20 11.0	+0.6
	baz=38							
A24A	Westby	38.17	345	⇓P		P	04 20 11.2	+0.8
	baz=38							
MFID	Camas Ranch	38.20	328	⇓P		P	04 20 10.8	0.0
	baz=38							
H13A	Challis	38.27	331	⇑P		P	04 20 12.2	+0.7
	baz=38							
C20A	Veseth Ranch,	38.29	340	⇑P		P	04 20 12.1	+0.6
	baz=38							
A23A	Redstone	38.44	344	⇓P		P	04 20 13.3	+0.6
	baz=38							
F15A	Butte	38.46	334	⇑P		P	04 20 13.1	0.0
	baz=38							
D18A	Linhart Farms,	38.49	338	⇑P		P	04 20 13.7	+0.5
	baz=38							
H12A	Diamond D Ranc	38.54	331	⇑P		P	04 20 14.1	+0.3
	baz=38							
C19A	Slack Wire Ran	38.67	339	⇑P		P	04 20 15.0	+0.4
	baz=39							
E16A	East Helena	38.67	335	⇓P		P	04 20 15.2	+0.5
	baz=39							
A22A	Carney Farms,	38.77	343	⇑P		P	04 20 16.5	+1.1
	baz=39,SNR=5.7							
D17A	Six Diamond Ra	38.78	337	⇑P		P	04 20 16.2	+0.5
	baz=39							
B20A	Solberg Farm,	38.93	340	⇑P		P	04 20 17.5	+0.7
	baz=39							
D16A	Dana Ranch, Ca	39.02	336	⇑P		P	04 20 18.2	+0.5
	baz=39							
A21A	Bergtoll Ranch	39.06	342	⇓P		P	04 20 18.6	+0.7
	baz=39							
C17A	Wharram Farm,	39.21	337	⇓P		P	04 20 19.5	+0.3
	baz=39							
F13A	Darby	39.23	332	⇓P		P	04 20 19.9	+0.4
	baz=39							
B19A	Brinkman Farms	39.25	340	⇓P		P	04 20 20.1	+0.6
	baz=39,SNR=5.2							
A20A	Cobblestone Ra	39.28	341	⇓P		P	04 20 20.3	+0.5
	baz=39,SNR=5.7							
E14A	Clinton	39.34	334	⇑P		P	04 20 21.1	+0.6
	baz=39							
D15A	Lincoln	39.42	335	⇓P		P	04 20 21.7	+0.6
	baz=39							
B18A	Beardsley Farm	39.49	339	⇓P		P	04 20 22.4	+0.9
	baz=40							
A19A	Klindworth Far	39.59	340	⇓P		P	04 20 22.9	+0.5
	baz=40							
F12A	Elk City	39.63	332	⇑P		P	04 20 23.1	+0.3
	baz=40,SNR=7.1							
E13A	Victor	39.66	333	⇑P		P	04 20 23.4	+0.3
	baz=40							
C16A	Fuhringer Ranc	39.73	336	⇓P		P	04 20 24.0	+0.4
	baz=40							
MSO	Missoula	39.86	334	⇓P		P	04 20 24.9	+0.2
	baz=40							
D14A	Greenough	39.87	334	⇓P		P	04 20 24.6	-0.2
	baz=40							
SIV	San Ignacio	39.96	135	P		P	04 20 25.8	0.0
SIV	San Ignacio	39.96	135	P		P	04 20 25.8	0.0
	comp=E,3.1nm,1.0s,baz=316,slow=9.1,SNR=8.0							
C15A	Salmond Ranch,	40.05	336	⇑P		P	04 20 26.5	+0.2
	baz=40							
B16A	M & M Farms, S	40.21	337	⇑P		P	04 20 27.6	+0.1
	baz=40							
E12A	Beaver Dam Sad	40.27	332	⇑P		P	04 20 27.7	-0.4
	baz=40							
A17A	Triple J Farms	40.28	338	⇑P		P	04 20 28.5	+0.4
	baz=40							
D13A	Huson	40.29	334	⇑P		P	04 20 28.4	+0.3
	baz=40							
D12A	Red Ives Fores	40.65	333	⇑P		P	04 20 31.3	+0.1
	baz=41							
C13A	Hot Springs	40.79	334	⇓P		P	04 20 33.1	+0.8
	baz=41							
A15A	Johnson Ranch,	41.07	337	⇓P		P	04 20 35.2	+0.5
	baz=41							
B13A	Whitefish	41.28	335	⇓P		P	04 20 36.9	+0.5
	baz=41							
A14A	Double T Ranch	41.33	336	⇓P		P	04 20 37.3	+0.5
	baz=41							
C11A	Tepee Creek (N	41.65	333	⇑P		P	04 20 39.6	+0.3
	baz=42							
A13A	Flathead Natio	41.70	335	⇓P		P	04 20 40.1	+0.3
	baz=42							
NEW	Newport	42.35	333	⇑P		P	04 20 46.1	+1.0
	baz=42							
LCO	Las Campanas	45.17	157	eP		P	04 21 09.9	+1.7
	comp=E,52nm,1.8s							
SCHQ	Schefferville	45.75	18	eP		P	04 21 10.6	-1.6
	comp=E,9.1nm,0.8s							
SCHQ	Schefferville	45.75	18	P		P	04 21 10.1	-2.0
	comp=E,8.6nm,0.7s,baz=222,slow=7.1,SNR=26							
BDFB	Brasilia	49.72	123	LR		LR	04 44 43.4	
	comp=E,76nm,18.6s,baz=99,slow=38							
YKA	Yellowknife Ar	52.97	346	P		P	04 22 06.3	-0.8
YKA	Yellowknife Ar	52.97	346	P		P	04 22 06.3	-0.8
	comp=E,3.7nm,0.9s,baz=144,slow=7.6,SNR=47							
RES	Resolute Bay	62.16	358	P		P	04 23 10.3	-1.3
RES	Resolute Bay	62.16	358	P		P	04 23 10.3	-1.3
	comp=E,2.0nm,0.7s,baz=182,slow=8.6,SNR=6.4							
ILAR	Eielson Array	65.09	337	P		P	04 23 30.4	-0.7
ILAR	Eielson Array	65.09	337	P		P	04 23 30.4	-0.7
	comp=E,1.8nm,1.0s,baz=140,slow=3.8,SNR=11							
TORD	Torodi Ar. Bea	88.34	77	P		P	04 25 40.9	-2.2
TORD	Torodi Ar. Bea	88.34	77	P		P	04 25 40.9	-2.2
	comp=E,0.6nm,0.8s,baz=296,slow=6.0,SNR=7.5							
CN2	Changchun	115.47	333	ePKP		PKPdf	04 31 32.7	+0.1
MKAR	Makanchi Array	120.44	7	PKP		PKPdf	04 31 42.5	+0.3
MKAR	Makanchi Array	120.44	7	PKP		PKPdf	04 31 42.5	+0.3
	comp=E,0.4nm,0.9s,baz=0.0,slow=1.4,SNR=3.0							
HHC	Hu-ho-hao-te	123.37	341	ePKP		PKPdf	04 31 46.8	-1.3
HHC				sPKP			04 31 58.5	
HHC				PP		PP	04 33 30.0	+2.0
HHC				SS		SS	04 50 11.6	+1.1
HHC				AMB		AMB		
	comp=Z,90nm,8.3s							
HHC				LR		LR		
	comp=N,130nm,16.7s							
HHC				LR		LR		
	comp=E,220nm,15.5s							
HHC				LR		LR		
	comp=Z,160nm,17.8s							
WMQ	Urumqi	123.81	2	ePKP		PKPdf	04 31 45.8	-3.0
KSH	Kashi	126.43	14	ePKP		PKPdf	04 31 54.4	+0.4

BJI ***02*** *04:13:33.5,37°.82N×20°.04E,h54km,mB4.9/11,mb4.8/15, Ms5.1/7,Ms7 4.8/8*
CSEM ***02*** *04:13:34.4±0.1,37°.55N×20°.84E,h20km,mb4.4/22, Error ellipse: s-maj=4.3km s-min=3.0km az=39.0*
ATH ***02*** *04:13:34.1,37°.61N×20°.95E,h17km±1km, ML3.9*
THE ***02*** *04:13:34.4,37°.62N×20°.95E,h0km±3km,ML4.0/23, Error ellipse: s-maj=3.7km s-min=0.8km az=227.0*
NEIC ***02*** *04:13:34.1,37°.61N×20°.95E,h17km,mb4.5/13, ML3.9(ATH), After ATH.*
NEIC Felt at Ambelokipoi, Kalamakion and Planos, Greece.
IDC ***02*** *04:13:36.7±2.0,37°.60N×21°.03E,h41km±19km,mb3.8/18, mb1 3.9/26,mb1mx3.8/35,mbtmp3.8/26,ML3.7/7,MS3.4/3, Ms1 3.4/3,ms1mx2.7/38, Error ellipse: s-maj=15.8km s-min=11.9km az=153.0*
MOS ***02*** *04:13:37.2±1.1,37°.83N×20°.88E,h55km,mb4.4/19, Error ellipse: s-maj=10.9km s-min=5.5km az=69.6*
PDG ***02*** *04:13:37.5±0.3,37°.86N×20°.65E,h20km±3km,ML3.8/10, Error ellipse: s-maj=3.5km s-min=1.9km az=90.0*
HLW ***02*** *04:13:38.9,37°.55N×21°.75E,h21km±18km,Md4.2,Ml4.0*

ISC 02 04:13:35.0±0.8,37°.62N±0°.02×20°.91E±0°.02,h29km±6km, n492,σ1s51/543,mb4.3/44,MS3.6/5,20C-20D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.50**	**349**	P		**Pb**		**04 13 44.3**	**-1.0**
KFL				S		**Sb**		**04 13 52.1**	**-0.3**
KFL	**Anninata**	**0.50**	**349**	P		**Pb**		**04 13 44.3**	**-1.0**
KFL				S		**Sb**		**04 13 52.1**	**-0.3**
VLS	**Valsamata**	**0.61**	**335**	P		**Pb**		**04 13 46.0**	**-1.1**
VLS				S		**Sb**		**04 13 55.7**	**+0.2**
VLS	**Valsamata**	**0.61**	**335**	*e*PB		**Pb**		**04 13 46.1**	**-1.1**
VLS				*e*SN		**Sb**		**04 13 55.8**	**+0.2**
VLS	**Valsamata**	**0.61**	**335**	*e*Pb		**Pb**		**04 13 46.1**	**-1.1**
VLS				S		**Sb**		**04 13 55.7**	**+0.2**
RLS	**Riolos of Patr**	**0.62**	**45**	P		**Pb**		**04 13 46.4**	**-0.9**
RLS				S		**Sb**		**04 13 54.5**	**-1.2**
RLS	**Riolos of Patr**	**0.62**	**45**	*e*PN		**Pb**		**04 13 46.4**	**-0.9**
RLS				*e*SN		**Sb**		**04 13 54.3**	**-1.4**
RLS	**Riolos of Patr**	**0.62**	**45**	*e*Pn		**Pb**		**04 13 46.4**	**-0.9**
RLS				*e*Sn		**Sb**		**04 13 54.3**	**-1.4**
RLS				S		**Sn**		**04 13 56.2**	**-0.6**
ITM	**Ithomi**	**0.92**	**118**	P		**Pb**		**04 13 51.5**	**-0.9**
ITM				S		**Sb**		**04 14 03.6**	**-0.7**
ITM	**Ithomi**	**0.92**	**118**	*e*PN		**Pb**		**04 13 51.5**	**-0.9**
ITM				*e*SN		**Sb**		**04 14 03.4**	**-0.9**
ITM	**Ithomi**	**0.92**	**118**	P		**Pb**		**04 13 51.5**	**-0.9**
ITM				S		**Sb**		**04 14 03.6**	**-0.7**
UPR	**University Cam**	**0.96**	**46**	P		**Pn**		**04 13 52.8**	**+0.3**
UPR	**University Cam**	**0.96**	**46**	*e*Pn		**Pn**		**04 13 52.6**	**+0.1**
UPR				*e*SN		**Sn**		**04 14 04.8**	**-0.4**
UPR	**University Cam**	**0.96**	**46**	P		**Pn**		**04 13 52.8**	**+0.3**
UPR				*e*Sn		**Sn**		**04 14 04.8**	**-0.4**
UPR				S		**Sb**		**04 14 06.9**	**+1.6**
PYL	**PYLOS**	**0.98**	**137**	P		**Pb**		**04 13 52.4**	**-1.0**
PYL	**PYLOS**	**0.98**	**137**	*e*PN		**Pb**		**04 13 52.6**	**-0.8**
PYL				*e*SN		**Sb**		**04 14 05.2**	**-0.8**
PYL	**PYLOS**	**0.98**	**137**	P		**Pb**		**04 13 52.4**	**-1.0**
PYL				*e*Sn		**Sb**		**04 14 05.2**	**-0.8**
PYL				S		**Sn**		**04 14 06.6**	**+0.8**
LAKA	**Lakka**	**1.04**	**54**	P		**Pb**		**04 13 53.8**	**-0.7**
LAKA	**Lakka**	**1.04**	**54**	P		**Pb**		**04 13 53.8**	**-0.7**
LAKA				S		**Sn**		**04 14 09.6**	**+2.2**
EFP	**Efpalio**	**1.12**	**44**	P		**Pb**		**04 13 55.0**	**-0.8**
EFP	**Efpalio**	**1.12**	**44**	*e*PN		**Pb**		**04 13 54.9**	**-0.8**
EFP				*e*SN		**Sn**		**04 14 10.5**	**+1.2**
EFP	**Efpalio**	**1.12**	**44**	P		**Pb**		**04 13 55.0**	**-0.8**
EFP				*e*Sn		**Sn**		**04 14 10.5**	**+1.2**
EFP				S		**Sb**		**04 14 11.5**	**+1.4**
GUR	**Goura**	**1.18**	**74**	P		**Pn**		**04 13 55.5**	**-0.1**
GUR	**Goura**	**1.18**	**74**	*e*PN		**Pb**		**04 13 56.0**	**-0.8**
GUR				*e*SN		**Sn**		**04 14 11.8**	**+1.0**
GUR	**Goura**	**1.18**	**74**	P		**Pn**		**04 13 55.5**	**-0.1**
GUR	**Goura**	**1.18**	**74**	*e*Pn		**Pb**		**04 13 56.0**	**-0.8**
GUR				*e*Sn		**Sn**		**04 14 11.8**	**+1.0**
GUR				S		**Sb**		**04 14 14.0**	**+2.3**
TRIZ	**Trizonia**	**1.18**	**51**	P		**Pb**		**04 13 55.9**	**-0.9**
TRIZ	**Trizonia**	**1.18**	**51**	P		**Pb**		**04 13 55.9**	**-0.9**
LKD2	**Lefkada island**	**1.18**	**350**	P		**Pb**		**04 13 56.0**	**-0.8**
LKD2	**Lefkada island**	**1.18**	**350**	*e*PN		**Pb**		**04 13 56.3**	**-0.5**
LKD2				*e*SN		**Sb**		**04 14 13.4**	**+1.6**
LKD2	**Lefkada island**	**1.18**	**350**	P		**Pb**		**04 13 56.0**	**-0.8**
LKD2	**Lefkada island**	**1.18**	**350**	*e*Pn		**Pb**		**04 13 56.3**	**-0.5**
LKD2				*e*Sn		**Sb**		**04 14 13.4**	**+1.6**
VLX	**Vlachokerasia**	**1.20**	**102**	P		**Pn**		**04 13 56.0**	**+0.1**
VLX				S		**Sb**		**04 14 14.2**	**+2.0**
VLX	**Vlachokerasia**	**1.20**	**102**	*e*PN		**Pb**		**04 13 56.2**	**-0.9**
VLX				*e*SN		**Sb**		**04 14 11.4**	**-0.8**
VLX	**Vlachokerasia**	**1.20**	**102**	*e*Pn		**Pb**		**04 13 56.2**	**-0.9**
VLX				*e*Sn		**Sb**		**04 14 11.4**	**-0.8**
VLX				S		**Sn**		**04 14 14.1**	**+2.9**
KALE	**Kalithea**	**1.24**	**51**	P		**Pb**		**04 13 56.8**	**-1.0**
KALE				S		**Sb**		**04 14 14.9**	**+1.5**
KALE	**Kalithea**	**1.24**	**51**	P		**Pb**		**04 13 56.8**	**-1.0**
KALE				S		**Sb**		**04 14 14.9**	**+1.5**
DYR	**Agios Nikonas**	**1.42**	**127**	P		**Pb**		**04 14 00.8**	**-0.1**
DYR				S		**Sb**		**04 14 20.4**	**+1.7**
EVR	**Evrytania**	**1.47**	**28**	P		**Pb**		**04 14 01.9**	**+0.1**
EVR	**Evrytania**	**1.47**	**28**	*e*PN		**Pb**		**04 14 01.8**	**0.0**
EVR				*e*SN		**Sb**		**04 14 21.8**	**+1.6**
EVR	**Evrytania**	**1.47**	**28**	*e*Pn		**Pb**		**04 14 01.8**	**0.0**
EVR				*e*Sn		**Sb**		**04 14 21.8**	**+1.6**
DSF	**Desfina**	**1.50**	**58**	P		**Pb**		**04 14 01.6**	**-0.6**
DSF	**Desfina**	**1.50**	**58**	P		**Pb**		**04 14 01.6**	**-0.6**
DSF				S		**Sb**		**04 14 23.1**	**+2.2**
DESF	**Desfina**	**1.50**	**58**	P		**Pn**		**04 14 00.4**	**+0.3**
DESF	**Desfina**	**1.50**	**58**	P		**Pn**		**04 14 00.4**	**+0.3**
LTK	**Loutraki**	**1.68**	**76**	P		**Pb**		**04 14 04.9**	**-0.3**
LTK	**Loutraki**	**1.68**	**76**	*e*PN		**Pb**		**04 14 05.0**	**-0.3**
LTK				*e*SN		**Sb**		**04 14 26.7**	**+0.8**
LTK	**Loutraki**	**1.68**	**76**	P		**Pb**		**04 14 04.9**	**-0.3**
LTK				S		**Sb**		**04 14 26.7**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.69**	**34**	P		**Pb**		**04 14 05.8**	**+0.4**
MAKR	**Makrakomi, Fth**	**1.69**	**34**	P		**Pb**		**04 14 05.8**	**+0.4**
RGA	**Parga**	**1.75**	**346**	P		**Pb**		**04 14 05.4**	**-1.1**
RGA	**Parga**	**1.75**	**346**	P		**Pb**		**04 14 05.4**	**-1.1**
DIDY	**Didyma**	**1.83**	**94**	P		**Pb**		**04 14 06.4**	**-1.6**
DIDY	**Didyma**	**1.83**	**94**	P		**Pb**		**04 14 06.4**	**-1.6**
DID	**Didima**	**1.85**	**93**	P		**Pb**		**04 14 06.5**	**-1.6**
DID	**Didima**	**1.85**	**93**	*e*PN		**Pb**		**04 14 06.6**	**-1.6**
DID				*e*SN		**Sb**		**04 14 29.9**	**-1.1**
DID	**Didima**	**1.85**	**93**	*e*Pn		**Pb**		**04 14 06.6**	**-1.6**
DID				*e*Sn		**Sb**		**04 14 29.9**	**-1.1**
DID				S		**Sn**		**04 14 30.8**	**+3.5**
VLI	**Veliai**	**1.85**	**119**	P		**Pb**		**04 14 07.3**	**-0.9**
VLI	**Veliai**	**1.85**	**119**	*e*PN		**Pb**		**04 14 07.6**	**-0.6**
VLI	**Veliai**	**1.85**	**119**	P		**Pb**		**04 14 07.3**	**-0.9**
VLI	**Veliai**	**1.85**	**119**	*e*Pn		**Pb**		**04 14 07.6**	**-0.6**
LKR	**Lokris**	**1.94**	**57**	P		**Pb**		**04 14 08.7**	**-1.0**
LKR	**Lokris**	**1.94**	**57**	*e*PN		**Pb**		**04 14 08.7**	**-1.0**
LKR	**Lokris**	**1.94**	**57**	P		**Pb**		**04 14 08.7**	**-1.0**
IGT	**Igoumenitsa**	**1.96**	**347**	P		**Pn**		**04 14 07.8**	**+1.5**
IGT	**Igoumenitsa**	**1.96**	**347**	P		**Pn**		**04 14 07.8**	**+1.5**
ATAL	**Atalanti**	**1.98**	**57**	P		**Pb**		**04 14 09.3**	**-1.0**
ATAL	**Atalanti**	**1.98**	**57**	P		**Pb**		**04 14 09.3**	**-1.0**
JAN	**Janina**	**2.03**	**359**	P		**Pb**		**04 14 09.8**	**-1.5**
JAN	**Janina**	**2.03**	**359**	P		**Pb**		**04 14 09.8**	**-1.5**
NAIG	**Nisos Aigina**	**2.05**	**85**	*e*PB		**Pn**		**04 14 09.0**	**+1.5**
NAIG	**Nisos Aigina**	**2.05**	**85**	*e*Pb		**Pn**		**04 14 09.0**	**+1.5**
THL	**Klokotos Trika**	**2.12**	**24**	P		**Pb**		**04 14 11.1**	**-1.7**
THL	**Klokotos Trika**	**2.12**	**24**	*e*PN		**Pb**		**04 14 11.7**	**-1.1**
THL	**Klokotos Trika**	**2.12**	**24**	P		**Pb**		**04 14 11.1**	**-1.7**
THL	**Klokotos Trika**	**2.12**	**24**	*e*Pn		**Pb**		**04 14 11.7**	**-1.1**
KYTH	**Kithira**	**2.17**	**128**	P		**Pb**		**04 14 12.6**	**-1.0**
KYTH	**Kithira**	**2.17**	**128**	*e*PN		**Pb**		**04 14 12.6**	**-1.0**
KYTH	**Kithira**	**2.17**	**128**	P		**Pb**		**04 14 12.6**	**-1.0**
ATH	**Athens Observa**	**2.25**	**80**	P		**Pb**		**04 14 12.5**	**-2.5**
ATH	**Athens Observa**	**2.25**	**80**	*e*PN		**Pb**		**04 14 12.4**	**-2.5**
ATH	**Athens Observa**	**2.25**	**80**	*e*Pn		**Pb**		**04 14 12.4**	**-2.5**
SRN	**Sarande**	**2.36**	**343**	P		**Pn**		**04 14 13.5**	**+1.7**
SRN	**Sarande**	**2.36**	**343**	P		**Pn**		**04 14 13.5**	**+1.7**
MRKA	**Markates**	**2.37**	**62**	P		**Pb**		**04 14 14.4**	**-2.6**
MRKA	**Markates**	**2.37**	**62**	P		**Pb**		**04 14 14.4**	**-2.6**
PTL	**Penteli**	**2.38**	**79**	P		**Pn**		**04 14 13.7**	**+1.7**
PTL	**Penteli**	**2.38**	**79**	*e*PN		**Pn**		**04 14 13.8**	**+1.7**
PTL	**Penteli**	**2.38**	**79**	*e*Pn		**Pn**		**04 14 13.8**	**+1.7**
ERET	**Eretria**	**2.43**	**69**	P		**Pb**		**04 14 15.5**	**-2.5**
ERET	**Eretria**	**2.43**	**69**	P		**Pb**		**04 14 15.5**	**-2.5**
NEO	**Neokhori**	**2.47**	**46**	P		**Pn**		**04 14 15.6**	**+2.2**
NEO	**Neokhori**	**2.47**	**46**	*e*PN		**Pn**		**04 14 15.7**	**+2.3**
NEO	**Neokhori**	**2.47**	**46**	P		**Pn**		**04 14 15.6**	**+2.2**
XOR	**Xorichti**	**2.50**	**45**	P		**Pn**		**04 14 15.9**	**+2.2**
XOR	**Xorichti**	**2.50**	**45**	P		**Pn**		**04 14 15.9**	**+2.2**
SKIA	**Skiathos**	**2.53**	**52**	P		**Pn**		**04 14 16.6**	**+2.4**
SKIA	**Skiathos**	**2.53**	**52**	P		**Pn**		**04 14 16.6**	**+2.4**
KZN	**Kozani**	**2.76**	**14**	P		**Pn**		**04 14 20.1**	**+2.7**
KZN	**Kozani**	**2.76**	**14**	*e*PN		Pb		04 14 20.4	-3.3
KZN	**Kozani**	**2.76**	**14**	P		**Pn**		**04 14 20.1**	**+2.7**
KZN	**Kozani**	**2.76**	**14**	*e*Pn		Pb		04 14 20.4	-3.3
LIT	**Litokhoron**	**2.76**	**26**	P		**Pn**		**04 14 19.5**	**+2.1**
LIT	**Litokhoron**	**2.76**	**26**	*e*PN		**Pn**		**04 14 19.7**	**+2.3**
LIT	**Litokhoron**	**2.76**	**26**	P		**Pn**		**04 14 19.5**	**+2.1**
MRMA	**Marmari**	**2.78**	**80**	P		**Pn**		**04 14 19.2**	**+1.6**
MRMA	**Marmari**	**2.78**	**80**	P		**Pn**		**04 14 19.2**	**+1.6**
NEST	**Nestorio**	**2.79**	**2**	P		**Pb**		**04 14 21.5**	**-2.7**
NEST	**Nestorio**	**2.79**	**2**	P		**Pb**		**04 14 21.5**	**-2.7**
AOS	**Alonnisos**	**2.80**	**56**	P		**Pn**		**04 14 19.9**	**+2.1**
AOS	**Alonnisos**	**2.80**	**56**	P		**Pn**		**04 14 19.9**	**+2.1**
VLO	**Vlora**	**3.05**	**339**	*i* PG		Pb		04 14 25.2	-3.3
VLO	**Vlora**	**3.05**	**339**	*i* Pg		Pb		04 14 25.2	-3.3
FNA	**Florina**	**3.18**	**6**	P		**Pn**		**04 14 25.4**	**+2.3**
FNA	**Florina**	**3.18**	**6**	P		**Pn**		**04 14 25.4**	**+2.3**
PLG	**Polygyros**	**3.38**	**35**	P		**Pn**		**04 14 27.7**	**+1.8**
PLG	**Polygyros**	**3.38**	**35**	*e*PN		**Pn**		**04 14 27.5**	**+1.6**
PLG	**Polygyros**	**3.38**	**35**	P		**Pn**		**04 14 27.7**	**+1.8**
THE	**Thessaloniki**	**3.40**	**27**	P		**Pn**		**04 14 28.1**	**+2.0**
THE	**Thessaloniki**	**3.40**	**27**	P		**Pn**		**04 14 28.1**	**+2.0**
BIA	**Bitola**	**3.41**	**5**	*i* Pn		**Pn**		**04 14 28.3**	**+2.1**
BIA	**Bitola**	**3.41**	**5**	*i* Pn		**Pn**		**04 14 28.3**	**+2.1**
HORT	**Hortiatis**	**3.42**	**29**	P		**Pn**		**04 14 28.5**	**+2.0**
HORT	**Hortiatis**	**3.42**	**29**	P		**Pn**		**04 14 28.5**	**+2.0**
VAM	**Vamos**	**3.45**	**129**	P		**Pn**		**04 14 29.0**	**+2.2**
VAM	**Vamos**	**3.45**	**129**	*e*PN		**Pn**		**04 14 28.4**	**+1.6**
VAM	**Vamos**	**3.45**	**129**	*e*Pn		**Pn**		**04 14 28.4**	**+1.6**
VAM	**Vamos**	**3.45**	**129**	P		**Pn**		**04 14 29.0**	**+2.2**
GRG	**Griva**	**3.52**	**19**	P		**Pn**		**04 14 29.6**	**+1.8**
GRG	**Griva**	**3.52**	**19**	P		**Pn**		**04 14 29.6**	**+1.8**
OUR	**Ouranopolis**	**3.61**	**41**	P		**Pn**		**04 14 31.2**	**+2.2**
OUR	**Ouranopolis**	**3.61**	**41**	P		**Pn**		**04 14 31.2**	**+2.2**
SOH	**Sokhos**	**3.71**	**30**	P		**Pn**		**04 14 32.8**	**+2.3**
SOH	**Sokhos**	**3.71**	**30**	*e*PN		**Pn**		**04 14 32.8**	**+2.3**
SOH	**Sokhos**	**3.71**	**30**	P		**Pn**		**04 14 32.8**	**+2.3**
APE	**Apeiranthos**	**3.72**	**97**	*e*P		**Pn**		**04 14 29.7**	**-0.9**
APE	**Apeiranthos**	**3.72**	**97**	P		**Pn**		**04 14 31.3**	**+0.7**
APE	**Apeiranthos**	**3.72**	**97**	P		**Pn**		**04 14 31.3**	**+0.7**
TIR	**Tirane**	**3.81**	**348**	*i* PN		Pb		04 14 38.0	-3.5
TIR				*i* SN		Sn		04 15 07.2	-8.3
TIR	**Tirane**	**3.81**	**348**	*e*P		**Pn**		**04 14 33.3**	**+1.6**
TIR	**Tirane**	**3.81**	**348**	*e*Pn		**Pn**		**04 14 33.3**	**+1.6**
TIR	**Tirane**	**3.81**	**348**	*e*P		**Pn**		**04 14 33.3**	**+1.6**
KNT	**Kendrikon**	**3.85**	**23**	P		**Pn**		**04 14 34.5**	**+2.1**
KNT	**Kendrikon**	**3.85**	**23**	P		**Pn**		**04 14 34.5**	**+2.1**
VAY	**Valandovo**	**3.91**	**19**	*i* Pn		**Pn**		**04 14 34.7**	**+1.6**
VAY	**Valandovo**	**3.91**	**19**	*i* Pn		**Pn**		**04 14 35.1**	**+2.0**
IDI	**Anoyia**	**3.96**	**125**	*e*Pn		**Pn**		**04 14 34.6**	**+0.7**
IDI	**Anoyia**	**3.96**	**125**	P		**Pn**		**04 14 34.6**	**+0.7**
IDI	**Anoyia**	**3.96**	**125**	P		**Pn**		**04 14 34.6**	**+0.7**
LIA	**Limnos Island**	**4.04**	**54**	P		**Pn**		**04 14 36.7**	**+1.8**
LIA	**Limnos Island**	**4.04**	**54**	P		**Pn**		**04 14 36.7**	**+1.8**
TAR1	**Taranto**	**4.05**	**317**	*e*Pn		**Pn**		**04 14 36.4**	**+1.4**
TAR1				*e*Sn		**Sn**		**04 15 20.4**	**-0.9**
SRS	**Serrai**	**4.06**	**30**	P		**Pn**		**04 14 37.0**	**+1.8**
SRS	**Serrai**	**4.06**	**30**	P		**Pn**		**04 14 37.0**	**+1.8**
PHP	**Peshkopia**	**4.07**	**355**	*i* PN		**Pb**		**04 14 47.2**	**+1.2**
PHP				*i* SN		**Sn**		**04 15 18.3**	**-3.8**
PHP	**Peshkopia**	**4.07**	**355**	P		**Pn**		**04 14 37.2**	**+1.8**
PHP	**Peshkopia**	**4.07**	**355**	P		**Pn**		**04 14 37.2**	**+1.8**
CHOS	**Chios island**	**4.13**	**78**	P		**Pn**		**04 14 37.8**	**+1.5**
CHOS	**Chios island**	**4.13**	**78**	*e*PN		**Pn**		**04 14 38.0**	**+1.7**
CHOS	**Chios island**	**4.13**	**78**	*e*Pn		**Pn**		**04 14 38.0**	**+1.7**
SKO	**Skopje**	**4.36**	**5**	*i* Pn		**Pn**		**04 14 41.5**	**+2.1**
SKO	**Skopje**	**4.36**	**5**	*i* Pn		**Pn**		**04 14 41.9**	**+2.6**
NVR	**Nevrokopi**	**4.37**	**31**	P		**Pn**		**04 14 41.1**	**+1.7**
NVR	**Nevrokopi**	**4.37**	**31**	P		**Pn**		**04 14 41.1**	**+1.7**
KAVA	**Kavala**	**4.38**	**39**	P		**Pn**		**04 14 41.0**	**+1.5**
KAVA	**Kavala**	**4.38**	**39**	P		**Pn**		**04 14 41.0**	**+1.5**
NPS	**Neapolis**	**4.46**	**120**	P		**Pn**		**04 14 42.6**	**+1.9**
NPS	**Neapolis**	**4.46**	**120**	P		**Pn**		**04 14 42.6**	**+1.9**
PUK	**Puka**	**4.48**	**350**	*i* PN		Px		04 14 56.8	
MMB	**Musomiste**	**4.52**	**28**	*i* P		**Pn**		**04 14 43.7**	**+2.2**
MMB	**Musomiste**	**4.52**	**28**	*i* P		**Pn**		**04 14 43.7**	**+2.2**
ULC	**Ulcinj**	**4.52**	**344**	⇑*i* PN		**Pn**		**04 14 42.2**	**+0.7**
ULC				*e*SN		**Sn**		**04 14 51.6**	**-1.5**
ULC	**Ulcinj**	**4.52**	**344**	⇑*e*PN		**Pn**		**04 14 42.2**	**+0.7**
ULC				*e*Sn		**Sn**		**04 15 31.6**	**-1.5**
KKB	**Krupnik**	**4.56**	**21**	*i* P		Pn		04 14 45.2	+3.2
KKB	**Krupnik**	**4.56**	**21**	*i* P		Pn		04 14 45.2	+3.2
SG1	**Sgolgore (BA)**	**4.59**	**316**	*e*Pn		**Pn**		**04 14 44.8**	**+2.2**
SG1				*e*Sn		**Sn**		**04 15 34.7**	**-0.3**
CUC	**Castrocucco**	**4.63**	**302**	*e*Pn		**Pn**		**04 14 45.2**	**+2.1**
CUC				*e*S		**Sn**		**04 15 40.9**	**+5.0**
CUC	**Castrocucco**	**4.63**	**302**	*e*Pn		**Pn**		**04 14 45.2**	**+2.1**
CUC				*e*S		**Sn**		**04 15 40.9**	**+5.0**
BAI	**Bari**	**4.68**	**319**	*e*Pn		**Pn**		**04 14 44.4**	**+0.8**
BAI				*e*Sn		**Sn**		**04 15 34.3**	**-2.6**
SMG	**Samos**	**4.70**	**87**	P		**Pn**		**04 14 45.7**	**+1.7**
SMG	**Samos**	**4.70**	**87**	*e*PN		**Pn**		**04 14 46.2**	**+2.2**
SMG	**Samos**	**4.70**	**87**	P		**Pn**		**04 14 45.7**	**+1.7**
SMG	**Samos**	**4.70**	**87**	*e*Pn		**Pn**		**04 14 46.2**	**+2.2**
EZN	**Ezine**	**4.77**	**61**	P		**Pn**		**04 14 43.6**	**-1.3**
BCI	**Bajram Curri**	**4.78**	**352**	*i* PN		**Pb**		**04 14 56.4**	**-1.7**
BCI				*i* SN		**Sn**		**04 15 39.3**	**-0.3**
BLCB	**Balcova**	**4.90**	**79**	*e*P		Pn		04 14 42.5	-4.2
BUM	**Brajici-Budva**	**4.92**	**342**	⇓*i* PN		**Pn**		**04 14 48.3**	**+1.2**
BUM				*e*Sn		**Sn**		**04 15 40.9**	**-2.2**
BUM	**Brajici-Budva**	**4.92**	**342**	⇓*i* PN		**Pn**		**04 14 48.3**	**+1.2**
BUM				*e*Sn		**Sn**		**04 15 40.9**	**-2.2**
ZKR	**Zakros**	**4.96**	**119**	*e*PN		**Pn**		**04 14 50.0**	**+2.5**
ZKR	**Zakros**	**4.96**	**119**	*e*Pn		**Pn**		**04 14 50.0**	**+2.5**
TTG	**Podgorica**	**4.96**	**346**	⇑*i* PN		**Pn**		**04 14 48.6**	**+1.0**
TTG				*e*Sn		**Sn**		**04 15 42.0**	**-2.0**
PDG	**Podgorica**	**4.97**	**346**	⇑*i* PN		**Pn**		**04 14 48.6**	**+1.0**
PDG				*e*Sn		**Sn**		**04 15 42.0**	**-2.0**
CDT	**Castel del Mon**	**4.98**	**315**	*e*Pn		**Pn**		**04 14 48.5**	**+0.6**
CDT				*e*Sn		**Sn**		**04 15 42.2**	**-2.4**
RZN	**Rozhen**	**5.01**	**35**	*i* P		**Pn**		**04 14 50.7**	**+2.3**
RZN	**Rozhen**	**5.01**	**35**	*i* P		**Pn**		**04 14 50.7**	**+2.3**
PVY	**Plav**	**5.02**	**352**	⇓*i* PN		**Pn**		**04 14 50.1**	**+1.5**
PVY				*e*Sn		**Sn**		**04 15 44.1**	**-1.5**
PVY	**Plav**	**5.02**	**352**	⇓*i* PN		**Pn**		**04 14 50.0**	**+1.5**
PVY				*e*Sn		**Sn**		**04 15 44.1**	**-1.5**
IZM	**Izmir**	**5.08**	**79**	*e*P		**Pn**		**04 14 50.9**	**+1.8**
ENEZ	**Enez**	**5.12**	**51**	*e*P		**Pn**		**04 14 50.0**	**+0.2**
BODT	**Bodrum**	**5.13**	**94**	*e*P		**Pn**		**04 14 50.9**	**+1.0**
GELI	**Tayfur-Gelibol**	**5.14**	**56**	*e*P		**Pn**		**04 14 51.1**	**+1.0**
ALN	**Alexandroupoli**	**5.15**	**49**	*e*PN		**Pn**		**04 14 52.1**	**+1.9**
ALN	**Alexandroupoli**	**5.15**	**49**	*e*Pn		**Pn**		**04 14 52.1**	**+1.9**
HCY	**Herceg Novi**	**5.16**	**340**	*e*Pn		**Pn**		**04 14 51.5**	**+1.2**
HCY				*e*Sn		**Sn**		**04 15 46.6**	**-2.3**
HCY	**Herceg Novi**	**5.16**	**340**	*e*Pn		**Pn**		**04 14 51.5**	**+1.2**
HCY				*e*Sn		**Sn**		**04 15 46.6**	**-2.3**
IVA	**Berane**	**5.30**	**352**	⇑*i* PN		**Pn**		**04 14 53.8**	**+1.5**
IVA				*e*Sn		**Sn**		**04 15 51.5**	**-0.9**
BEY	**Berane**	**5.30**	**352**	⇑*i* PN		**Pn**		**04 14 53.8**	**+1.5**
BEY				*e*Sn		**Sn**		**04 15 51.5**	**-0.9**
ERIK	**Erikli-Kesan**	**5.31**	**53**	*e*P		**Pn**		**04 14 53.4**	**+1.0**
KDZ	**Kurdzhali**	**5.32**	**39**	*i* P		**Pn**		**04 14 53.0**	**+0.6**
KDZ	**Kurdzhali**	**5.32**	**39**	*i* P		**Pn**		**04 14 53.0**	**+0.6**
LPK	**Lapseki**	**5.32**	**57**	*e*P		**Pn**		**04 14 52.3**	**-0.1**
PLD	**Plovdiv**	**5.34**	**32**	*i* P		Pb		04 15 01.9	-5.7
NKY	**Niksic**	**5.39**	**345**	⇓*i* PN		**Pn**		**04 14 54.8**	**+1.3**
NKY				*e*Sn		**Sn**		**04 15 52.5**	**-2.1**
NKY	**Niksic**	**5.39**	**345**	⇓*i* PN		**Pn**		**04 14 54.8**	**+1.3**
WDD	**Wield Dalam**	**5.42**	**253**	*e*Pn		**Pn**		**04 14 54.5**	**+0.7**
WDD				*e*S		**Sn**		**04 15 54.4**	**-0.8**
WDD	**Wield Dalam**	**5.42**	**253**	*e*Pn		**Pn**		**04 14 54.5**	**+0.7**
WDD				*e*S		**Sn**		**04 15 54.4**	**-0.8**
BRY	**Bratogost**	**5.58**	**342**	*e*Pn		**Pn**		**04 14 57.2**	**+1.1**
BRY				*e*Sn		**Sn**		**04 15 56.0**	**-3.3**
BRY	**Bratogost**	**5.58**	**342**	*e*Pn		**Pn**		**04 14 57.2**	**+1.1**
KRBG	**Karabiga-Canak**	**5.69**	**59**	*e*P		**Pn**		**04 14 57.1**	**-0.5**
RKY	**Sarkoy-Tekirda**	**5.75**	**56**	*e*P		**Pn**		**04 15 00.1**	**+1.7**
UPM	**Unac-Piva**	**5.78**	**345**	⇑*i* PN		**Pn**		**04 15 00.4**	**+1.4**
UPM				*e*Sn		**Sn**		**04 16 02.1**	**-2.3**
UPM	**Unac-Piva**	**5.78**	**345**	⇑*i* PN		**Pn**		**04 15 00.4**	**+1.4**
STON	**Ston**	**5.79**	**336**	*e*Pn		**Pn**		**04 14 58.4**	**-0.5**
STON				Sn		**Sn**		**04 16 01.4**	**-2.8**
STON	**

comp=Z,0.7nm,0.3s,baz=206,slow=11,SNR=4.5
AKASG **Malin Array Be** 14.36 22 P Pn 04 16 55.8 -0.3
HINF **Hinteralfeld** 14.49 319 *e*P Pn 04 16 55.6 -2.4
comp=Z,5.5nm,0.6s
CDF **Champ du Feu** 14.66 322 *e*P Pn 04 16 59.5 -0.9
CLL **Collm** 14.79 340 *e*PP P 04 17 10.0 +2.4
HAU **Haudompre** 14.87 319 *e*P Pn 04 17 03.8 +0.6
comp=Z,6.5nm,0.6s
SUW **Suwalki** 16.47 5 *e*P Pn 04 17 24.1 +0.3
SUW **Suwalki** 16.47 5 *e*P Pn 04 17 24.1 +0.3
SUW **Suwalki** 16.47 5 *e*P Pn 04 17 23.5 -0.3
SUW pmax pmax
comp=Z,71nm,0.8s
SUW **Suwalki** 16.47 5 *e*Pn Pn 04 17 23.5 -0.3
comp=Z,71nm,0.8s
SUW **Suwalki** 16.47 5 *e*Pn Pn 04 17 23.5 -0.3
comp=Z,71nm,0.8s
KIV **Kislovodsk** 17.64 62 *e*P P 04 17 40.7 +1.3
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV MLR MLR
comp=Z,28nm,13.0s
KIV **Kislovodsk** 17.64 62 *e*P P 04 17 40.7 +1.3
comp=Z,28nm,13.0s
NACGM **Naroch** 17.74 11 *e* Pn 04 17 36.0 -3.7
ONI **Oni** 17.93 67 P P 04 17 44.1 +1.5
ZEI **Tsey** 18.28 66 *e*P P 04 17 49.1 +2.5
ZEI pmax pmax
comp=Z,6.0nm,1.1s
ZEI **Tsey** 18.28 66 *e*P P 04 17 49.1 +2.5
comp=Z,6.0nm,1.1s
VORD **Divnogorie** 18.67 39 *e*P P 04 17 49.9 -0.6
VORD pmax pmax
comp=N,4.0nm,0.5s
VORD pmax pmax
comp=E,10.0nm,0.5s
VORD pmax pmax
comp=Z,7.0nm,0.5s
GNI **Garni** 18.71 75 *e*Pn Pn 04 17 53.2 +1.4
comp=Z,7.0nm,1.0s
GNI **Garni** 18.71 75 P Pn 04 17 52.7 +0.9
comp=Z,0.3nm,0.3s,baz=11,slow=8.4,SNR=3.0
GNI LR LR 04 24 31.2
comp=Z,36nm,20.4s,baz=272,slow=35
GNI **Garni** 18.71 75 *e*P Pn 04 17 53.2 +1.4
comp=Z,7.0nm,1.0s
VSR **Storozhevoye** 18.76 38 *e*P P 04 17 50.5 -1.1
VSR pmax pmax
comp=Z,5.0nm,0.4s
VSR pmax pmax
comp=N,1.0nm,0.2s
VSR pmax pmax
comp=E,2.0nm,0.4s
DGRG **David-gareji** 19.23 71 P P 04 17 54.4 -2.5
ESDC **Sonseca Array** 19.52 284 P Pn 04 18 01.3 -0.2
ESDC **Sonseca Array** 19.52 284 P Pn 04 18 01.3 -0.2
comp=E,0.1nm,0.3s,baz=78,slow=12,SNR=7.9
ESDC **Sonseca Array** 19.52 284 P Pn 04 18 01.3 -0.2
ESLA **Sonseca Array** 19.52 284 *e*P P 04 18 00.4 +0.3
ESLA **Sonseca Array** 19.52 284 *e*P P 04 18 00.4 +0.3
BHD **Baghdad** 19.59 96 *ex* x 04 18 15.0
BHD *ex* x 04 22 06.5
VRHR **Novokhopersk** 19.93 41 *e*P P 04 18 03.5 -0.8
VRHR pmax pmax
comp=N,10.0nm,0.3s
VRHR pmax pmax
comp=Z,30nm,0.3s
VRHR pmax pmax
comp=E,4.0nm,0.2s
OBN **Obninsk** 20.48 26 P P 04 18 10.0 -0.2
OBN pmax pmax
comp=Z,13nm,0.5s
OBN MLR MLR
comp=Z,100nm,15.0s
OBN **Obninsk** 20.48 26 P P 04 18 10.0 -0.2
comp=Z,100nm,15.0s
VSU **Vasula** 21.20 8⇑ *i*P P 04 18 18.1 +0.1
VSU pmax pmax
comp=Z,61nm,0.8s
VSU **Vasula** 21.20 8 *i* P P 04 18 18.1 +0.1
comp=Z,61nm,0.8s
MOS **Moscow** 21.34 27 *e*P P 04 18 19.3 -0.3
MOS **Moscow** 21.34 27 *e*P P 04 18 19.3 -0.3
MDT **Midelt** 21.37 265 P P 04 18 21.6 +1.3
MDT **Midelt** 21.37 265 P P 04 18 21.6 +1.3
comp=Z,3.3nm,0.8s,baz=71,slow=12,SNR=2.5
MDT **Midelt** 21.37 265 P P 04 18 21.6 +1.3
HFS **Hagfors** 23.00 351 P P 04 18 36.4 -0.8
HFS **Hagfors** 23.00 351 P P 04 18 36.4 -0.8
comp=Z,6.1nm,0.7s,baz=170,slow=11,SNR=28
HFS **Hagfors** 23.00 351 P P 04 18 36.4 -0.8
FINES **FINESS Array B** 24.06 6 P P 04 18 47.2 -0.3
FINES **FINESS Array B** 24.06 6 P P 04 18 47.2 -0.3
comp=Z,1.8nm,0.4s,baz=186,slow=11,SNR=18
FINES LR LR 04 29 26.7
comp=Z,104nm,18.7s,baz=142,slow=39
FINES **FINESS Array B** 24.06 6 P P 04 18 47.2 -0.3
comp=Z,104nm,18.7s
NAO01 **NORSAR Array S** 24.09 348 *e*P P 04 18 47.9 +0.1
NAO01 **NORSAR Array S** 24.09 348 *e*P P 04 18 47.9 +0.1
NB2 **NORSAR Subarra** 24.22 348 P P 04 18 48.4 -0.6
comp=Z,3.6nm,0.8s,baz=161,slow=9.3
NB2 **NORSAR Subarra** 24.22 348 P P 04 18 48.4 -0.6
comp=Z,3.6nm,0.8s,baz=161,slow=9.1,SNR=4.2
NOA **NORSAR Array B** 24.22 348 P P 04 18 50.0 +0.9
NOA **NORSAR Array B** 24.22 348 P P 04 18 50.0 +0.9
comp=Z,3.1nm,0.8s,baz=152,slow=9.5,SNR=14
NOA **NORSAR Array B** 24.22 348 P P 04 18 50.0 +0.9
comp=Z,3.0nm,0.8s
KAF **Kangasniemi** 24.74 6 *e*p P 04 18 53.8 +0.1
KLMR **Klimovskoe** 26.05 21 *e*P P 04 19 03.3 -2.2
KLMR pmax pmax
comp=Z,45nm,2.4s
JOF **Joensuu** 26.11 11 *e*p P 04 19 05.9 -0.2
AKTK **Aktyubinsk** 29.27 52 P P 04 19 34.6 +0.1
comp=Z,2.0nm,0.5s
AKTO **Aktyubinsk** 29.27 52 P P 04 19 34.6 +0.1
AKTO pmax pmax
comp=Z,2.0nm,0.5s
AKTO **Aktyubinsk** 29.27 52 P P 04 19 34.6 +0.1
AKTO **Aktyubinsk** 29.27 52 P P 04 19 34.6 +0.1
comp=Z,2.0nm,0.5s,baz=257,slow=7.1,SNR=9.9
AKTO **Aktyubinsk** 29.27 52 P P 04 19 34.6 +0.1
TORD **Torodi Ar. Bea** 29.80 220 P P 04 19 40.4 +1.0
TORD **Torodi Ar. Bea** 29.80 220 P P 04 19 40.4 +1.0
comp=Z,2.7nm,0.7s,baz=33,slow=9.4,SNR=42
TORD **Torodi Ar. Bea** 29.80 220 P P 04 19 40.4 +1.0
ABKAR **Akbulak array** 30.30 55 *e*P P 04 19 43.8 +0.1
comp=Z,1.2nm,0.5s
ABKAR **Akbulak array** 30.30 55 *e*P P 04 19 43.8 +0.1
comp=Z,1.2nm,0.5s
ARCES **ARCESS Array B** 32.07 3 P P 04 19 58.7 -0.3
ARCES **ARCESS Array B** 32.07 3 P P 04 19 58.7 -0.3
comp=Z,2.7nm,0.8s,baz=194,slow=11,SNR=7.3
ARCES LR LR 04 34 52.4
comp=Z,140nm,20.3s,baz=83,slow=40
ARCES **ARCESS Array B** 32.07 3 P P 04 19 58.7 -0.3
comp=Z,140nm,20.3s
BRVK **Borovoye** 37.18 49⇑ *e*P P 04 20 43.9 +0.6
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK **Borovoye** 37.18 49 *e*P P 04 20 43.9 +0.6
comp=Z,4.0nm,1.0s
BVAR **Borovoye Array** 37.24 49 P P 04 20 43.7 -0.1
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR **Borovoye Array** 37.24 49 P P 04 20 43.7 -0.1
BVAR **Borovoye Array** 37.24 49 P P 04 20 43.7 -0.1
comp=Z,1.9nm,0.6s,baz=234,slow=40,SNR=13
BVAR **Borovoye Array** 37.24 49 P P 04 20 43.7 -0.1
comp=Z,2.0nm,0.6s
KKAR **Karatay Array** 37.74 66 *e*P P 04 20 48.3 +0.1
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR **Karatay Array** 37.74 66 *e*P P 04 20 48.3 +0.1
comp=Z,0.9nm,0.4s
KKAR **Karatay Array** 37.74 66 *e*P P 04 20 48.3 +0.1
comp=Z,0.9nm,0.4s
DBIC **Dimbokro** 38.70 224 *e*P P 04 20 57.1 +0.7
comp=Z,4.6nm,0.7s
DBIC **Dimbokro** 38.70 224 P P 04 20 57.5 +1.1
comp=Z,4.9nm,0.7s,baz=6.8,slow=8.9,SNR=7.2
DBIC **Dimbokro** 38.70 224 *e*P P 04 20 57.2 +0.7
comp=Z,4.6nm,0.7s
LIC **Lamto** 39.16 224⇑ *i*P P 04 21 01.3 +0.9
comp=Z,25nm,0.8s

EKS2 **Erkin-Say** 40.18 66 *e*P P 04 21 09.0 +0.2
EKS2 pmax pmax
comp=Z,3.0nm,0.8s
EKS2 **Erkin-Say** 40.18 66 *e*P P 04 21 09.0 +0.2
comp=Z,2.6nm,0.8s
EKS2 **Erkin-Say** 40.18 66 *e*P P 04 21 09.0 +0.2
comp=Z,2.6nm,0.8s
AAK **Ala-Archa** 40.70 66 *e*P P 04 21 14.8 +1.6
AAK pmax pmax
comp=Z,8.0nm,0.9s
AAK **Ala-Archa** 40.70 66 *e*P P 04 21 14.8 +1.6
comp=Z,8.2nm,0.9s
AAK **Ala-Archa** 40.70 66 *e*P P 04 21 14.8 +1.6
comp=Z,8.2nm,0.9s
KURK **Kurchatov** 42.36 53⇑ *e*P P 04 21 27.7 +1.3
KURK *i* *PP pP 04 21 40.6 +5.6
KURK pmax pmax
comp=Z,4.0nm,1.7s
KURK **Kurchatov** 42.36 53 *e*P P 04 21 27.7 +1.3
comp=Z,4.0nm,1.7s
KSH **Kashi** 42.52 70 *e*P P 04 21 28.1 +0.1
KSH pP pP 04 21 39.5 +2.8
KSH sP sP 04 21 45.7 +5.5
KSH PP **PP** **04 23 09.0 +2.3**
KSH PcP **PcP** **04 23 22.9 +2.6**
KSH S **S** **04 27 46.0 -2.6**
KSH ScS **ScS** **04 31 24.0 -3.6**
KSH pmax pmax
comp=Z,1.0nm,0.2s
KSH pmax pmax
comp=Z,140nm,5.0s
KSH LR LR
comp=N,88nm,4.5s
KSH LR LR
comp=E,180nm,5.0s
KSH LR LR
comp=Z,220nm,6.4s
MK31 **Makanchi Array** 45.33 58 *e*P P 04 21 49.3 -1.1
MK31 **Makanchi Array** 45.33 58 *e*P P 04 21 49.3 -1.1
MK31 **Makanchi Array** 45.33 58 *e*P P 04 21 49.3 -1.1
MKAR **Makanchi Array** 45.33 58 *ce*P P 04 21 49.7 -0.7
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR **Makanchi Array** 45.33 58 *e*P P 04 21 49.4 -0.9
MKAR **Makanchi Array** 45.33 58 P P 04 21 49.7 -0.7
comp=Z,1.0nm,0.3s,baz=272,slow=7.7,SNR=32
MKAR **Makanchi Array** 45.33 58 *e*P P 04 21 49.4 -0.9
ZAA0 **Zalesovo Array** 45.83 48 *e*P P 04 21 53.5 -0.7
ZAA0 **Zalesovo Array** 45.83 48 *e*P P 04 21 53.5 -0.7
ZALV **Zalesovo Beam** 45.83 48 P P 04 21 53.9 -0.3
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV **Zalesovo Beam** 45.83 48 P P 04 21 53.9 -0.3
ZALV **Zalesovo Beam** 45.83 48 P P 04 21 53.9 -0.3
comp=Z,3.3nm,0.4s,baz=273,slow=8.2,SNR=18
ZALV **Zalesovo Beam** 45.83 48 P P 04 21 53.9 -0.3
WMQ **Urumqi** 49.76 61 *e*P P 04 22 26.4 +1.5
WMQ pmax pmax
comp=Z,7.0nm,0.6s
DANN **Dangsing** 52.66 81 *e*P P 04 22 47.1 0.0
comp=Z,15nm,0.6s
DANN **Dangsing** 52.66 81 *e*P P 04 22 47.1 0.0
comp=Z,15nm,0.6s
DANN **Dangsing** 52.66 81 *e*P P 04 22 47.1 0.0
comp=Z,15nm,0.6s
KOLN **Koldanda** 52.80 81 *e*P P 04 22 47.0 -1.0
comp=Z,3.6nm,0.3s
GKN **Gorkha** 53.51 80 *e*P P 04 22 52.5 -0.7
comp=Z,7.8nm,0.4s
DMN **Daman** 54.06 81 *e*P P 04 22 57.1 -0.2
comp=Z,6.7nm,0.3s
DMN **Daman** 54.06 81 *e*P P 04 22 57.1 -0.2
comp=Z,6.7nm,0.3s
DMN **Daman** 54.06 81 *e*P P 04 22 57.1 -0.2
comp=Z,6.7nm,0.3s
GUN **Gumba** 54.52 80 *e*P P 04 23 00.3 -0.5
comp=Z,8.2nm,0.3s
GUN **Gumba** 54.52 80 *e*P P 04 23 00.3 -0.5
comp=Z,8.2nm,0.3s
GUN **Gumba** 54.52 80 *e*P P 04 23 00.3 -0.5
comp=Z,8.2nm,0.3s
JIRN **Jiri** 54.88 80 *e*P P 04 23 03.1 -0.4
comp=Z,4.8nm,0.4s
JIRN **Jiri** 54.88 80 *e*P P 04 23 03.1 -0.4
comp=Z,4.8nm,0.4s
JIRN **Jiri** 54.88 80 *e*P P 04 23 03.1 -0.4
comp=Z,4.8nm,0.4s
RAMN **Ramite** 55.54 81 *e*P P 04 23 08.0 -0.1
comp=Z,17nm,0.6s
RAMN **Ramite** 55.54 81 *e*P P 04 23 08.0 -0.1
comp=Z,17nm,0.6s
RAMN **Ramite** 55.54 81 *e*P P 04 23 08.0 -0.1
comp=Z,17nm,0.6s
ODAN **Odare** 56.20 80 *e*P P 04 23 12.8 0.0
comp=Z,5.8nm,0.4s
ODAN **Odare** 56.20 80 *e*P P 04 23 12.8 0.0
comp=Z,5.8nm,0.4s
ODAN **Odare** 56.20 80 *e*P P 04 23 12.8 0.0
comp=Z,5.8nm,0.4s
TAPN **Taplejung** 56.22 80 *e*P P 04 23 12.6 -0.4
comp=Z,3.3nm,0.3s
TAPN **Taplejung** 56.22 80 *e*P P 04 23 12.6 -0.4
comp=Z,3.3nm,0.3s
TAPN **Taplejung** 56.22 80 *e*P P 04 23 12.6 -0.4
comp=Z,3.3nm,0.3s
SCHQ **Schefferville** 59.08 318 P P 04 23 33.1 +0.8
comp=Z,1.4nm,0.8s,baz=4.8,slow=11,SNR=2.3
SONM **Songino Array** 60.57 50 P P 04 23 42.5 -0.3
SONM **Songino Array** 60.57 50 P P 04 23 42.5 -0.3
comp=Z,0.6nm,0.6s,baz=286,slow=8.2,SNR=4.4
SONM **Songino Array** 60.57 50 P P 04 23 42.5 -0.3
LZH **Lanzhou** 64.18 63 *e*P P 04 24 08.3 +1.1
LZH pP pP 04 24 22.5 +6.3
LZH pmax pmax
comp=Z,18nm,1.1s
BOSA **Boshof** 66.02 176 P P 04 24 20.7 +1.8
comp=Z,2.0nm,1.0s
BOSA **Boshof** 66.02 176 P P 04 24 20.7 +1.8
comp=Z,2.0nm,1.0s
CD2 **Chengdu** 66.69 68 P P 04 24 24.0 +0.6
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 pmax pmax
comp=Z,120nm,5.8s
HHC **Hu-ho-hao-te** 67.09 55 *e*P P 04 24 25.1 -0.8
HHC pP pP 04 24 38.2 +3.3
HHC sP sP 04 24 43.4 +5.1
HHC PP **PP** **04 26 53.7 +0.2**
HHC S S 04 33 13.1 -5.0
HHC SS **SS** **04 37 34.8 -1.9**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,120nm,7.5s
HHC LR LR
comp=N,150nm,14.3s
HHC LR LR
comp=E,170nm,13.1s
HHC LR LR
comp=Z,160nm,13.1s
KMI **Kunming** 68.96 74 P P 04 24 40.3 +2.3
KMI pmax pmax
comp=Z,4.0nm,0.5s
CMAR **Chiang Mai Arr** 69.66 82 P P 04 24 40.6 -1.5
CMAR **Chiang Mai Arr** 69.66 82 P P 04 24 40.6 -1.5
comp=Z,1.4nm,0.3s,baz=305,slow=8.4,SNR=7.3
CMAR **Chiang Mai Arr** 69.66 82 P P 04 24 40.6 -1.5
GYA **Guiyang** 71.21 71 P P 04 24 52.0 +0.3
GYA pP PcP 04 25 07.4 -4.1
GYA PP **PP** **04 27 32.0 +2.5**
GYA S S 04 34 03.9 -3.3
GYA SKS SKSac 04 34 45.2 -7.7
GYA SS **SS** **04 38 40.0 -0.9**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.6s
GYA LR LR
comp=N,480nm,18.6s
GYA LR LR
comp=E,350nm,19.6s
GYA LR LR
comp=Z,420nm,19.0s
YKA **Yellowknife Ar** 74.02 340 P P 04 25 08.5 +1.0
YKA **Yellowknife Ar** 74.02 340 P P 04 25 08.5 +1.0
comp=Z,0.4nm,0.7s,baz=36,slow=5.5,SNR=7.1
YKA **Yellowknife Ar** 74.02 340 P P 04 25 08.5 +1.0
NJ2 **Nanjing** 76.83 60 *e*P P 04 25 23.2 -1.0
NJ2 pmax pmax
comp=Z,30nm,1.0s
USRK **Ussuriysk Arra** 77.48 43 P P 04 25 28.5 +0.9
comp=Z,3.0nm,0.6s,baz=139,slow=41,SNR=3.4
ILAR **Eielson Array** 77.49 355 P P 04 25 28.4 +1.1
ILAR **Eielson Array** 77.49 355 P P 04 25 28.4 +1.1
comp=Z,0.2nm,0.5s,baz=27,slow=2.5,SNR=5.8
ILAR **Eielson Array** 77.49 355 P P 04 25 28.5 +1.1
KSAR **Wonju Array Be** 79.43 51 P P 04 25 39.0 +0.5
KSAR **Wonju Array Be** 79.43 51 P P 04 25 39.0 +0.5
KSRS **Korea Array** 79.44 51 P P 04 25 39.0 +0.4
comp=Z,0.5nm,0.2s,baz=270,slow=2.5,SNR=4.2
WRA **Warramunga Arr** 120.21 93 PKP PKPdf 04 32 22.7 -0.9
WRA **Warramunga Arr** 120.21 93 PKP PKPdf 04 32 22.7 -0.9
comp=Z,0.5nm,0.6s,baz=77,slow=1.7,SNR=6.9
WRA **Warramunga Arr** 120.21 93 PKIKP PKPdf 04 32 22.7 -0.9
ASAR **Alice Springs** 121.81 97 PKP PKPdf 04 32 24.9 -1.6
ASAR **Alice Springs** 121.81 97 PKP PKPdf 04 32 24.9 -1.6
comp=Z,0.3nm,0.5s,baz=102,slow=1.6,SNR=3.8
ASAR **Alice Springs** 121.81 97 PKIKP PKPdf 04 32 24.9 -1.6

ISK ***02*** *04:14:58.1, 37.˚85N×30.˚17E, h16km, MD2.9*
CSEM ***02*** *04:14:59.1±0.2, 37.˚86N×30.˚22E, h15km, MD2.9, Error ellipse: s-maj=6.1km s-min=4.3km az=55.0*
DDA ***02*** *04:15:00, 37.˚83N×30.˚20E, h7km, MD2.9*

ISC 02 04:14:58.9±0.9, 37.˚85N±0.˚03×30.˚18E±0.˚03, h15km±8km, n25, σ0°52/36, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISP	**Isparta**	**0.27**	**96**	PG	**Pg**	**04 15 04.5**	**-0.3**
ISP				*e*SG	**Sg**	**04 15 09.5**	**+0.6**
ISP	**Isparta**	**0.27**	**96**	⇓ *i*P	**Pg**	**04 15 04.4**	**-0.3**
ISP	**Isparta**	**0.27**	**96**	*i* Pg	**Pg**	**04 15 04.5**	**-0.3**
ISP				*e*SG	**Sg**	**04 15 09.5**	**+0.6**
BCK	**Bucak**	**0.51**	**140**	PG	**Pg**	**04 15 08.9**	**-0.1**
BCK				*e*SG	**Sb**	**04 15 16.5**	**-0.2**
BCK	**Bucak**	**0.51**	**140**	*i* Pg	**Pg**	**04 15 08.9**	**-0.1**
BCK				*e*Sg	**Sb**	**04 15 16.5**	**-0.2**
KHL	**Karahalli**	**0.70**	**312**	*e*PG	**Pg**	**04 15 11.8**	**-0.7**
KHL				*e*SG	**Sg**	**04 15 22.2**	**+0.4**
KHL	**Karahalli**	**0.70**	**312**	*e*Pg	**Pg**	**04 15 11.8**	**-0.7**
KHL				*e*Sg	**Sg**	**04 15 22.2**	**+0.4**
KHAL	**Karahalli**	**0.75**	**314**	*i* P	**Pn**	**04 15 14.6**	**-0.4**
KHAL				*i* S	**Sn**	**04 15 26.5**	**+0.4**
KHAL	**Karahalli**	**0.75**	**314**	*i* P	**Pn**	**04 15 14.6**	**-0.4**
SUTC	**Sutluce-Ispart**	**0.75**	**120**	*e*PG	**Pg**	**04 15 13.3**	**-0.2**
SUTC	**Sutluce-Ispart**	**0.75**	**120**	*e*Pg	**Pg**	**04 15 13.4**	**-0.2**
SHUT	**Suhut-Afyon**	**0.76**	**23**	*e*PG	**Pg**	**04 15 13.3**	**-0.3**
SHUT	**Suhut-Afyon**	**0.76**	**23**	*e*Pg	**Pg**	**04 15 13.4**	**-0.3**
KORT	**Korkueli**	**0.86**	**171**	*e*P	**Pb**	**04 15 15.2**	**-0.3**
KORT				*i* S	**Sn**	**04 15 28.5**	**-0.4**
KORT	**Korkueli**	**0.86**	**171**	*e*P	**Pb**	**04 15 15.2**	**-0.3**
KORT				*i* S	**Sn**	**04 15 28.5**	**-0.4**
DNZL	**Cakiroluk**	**0.91**	**260**	*e*P	**Pn**	**04 15 18.3**	**+1.1**
DNZL				*i* S	**Sn**	**04 15 30.7**	**+0.5**
DNZL	**Cakiroluk**	**0.91**	**260**	*e*P	**Pn**	**04 15 18.3**	**+1.1**
DNZL				*i* S	**Sn**	**04 15 30.7**	**+0.5**
ANTB	**Antalya**	**1.02**	**158**	*e*PG	**Pg**	**04 15 18.4**	**-0.2**
ANTB	**Antalya**	**1.02**	**158**	*e*Pg	**Pg**	**04 15 18.4**	**-0.2**
BOLV	**Bolvadin**	**1.06**	**35**	*e*P	**Pg**	**04 15 20.2**	**+0.9**
BOLV	**Bolvadin**	**1.06**	**35**	*e*P	**Pg**	**04 15 20.2**	**+0.9**
ALT	**Altintas**	**1.20**	**357**	*e*PN	**Pn**	**04 15 20.7**	**-0.5**
ALT	**Altintas**	**1.20**	**357**	*e*Pn	**Pn**	**04 15 20.7**	**-0.5**
ESKT	**Eskisehir**	**1.75**	**17**	*e*PN	**Pn**	**04 15 28.6**	**-0.1**
ESKT	**Eskisehir**	**1.75**	**17**	*e*Pn	**Pn**	**04 15 28.6**	**-0.1**

PRE 02 04:24:33.3±1.3, 0.˚37N×30.˚13E, h10km, ML4.1, 1C, Uganda

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBAR	**Mbarara**	**1.14**	**148**	⇑ *i*P	Pb	04 24 54.6	-0.8
MBAR				*e*S	Sg	04 25 10.8	+0.3
KIG	**Kigali**	**2.32**	**182**	*e*P	Pn	04 25 11.7	-0.2
KIG				*e*S	Sn	04 25 41.8	+1.2
KIG				AML	AML	04 25 49.3	
	comp=Z,956nm,0.4s						
KMBO	**Kilima Mbogo**	**7.28**	**102**	*e*P	Pn	04 26 22.1	+2.0

CASC ***02*** *04:41:00.5±2.1, 12.˚33N×89.˚54W, h0km±8km, MD3.9*
ISCJB ***02*** *04:41:04.8±0.9, 12.˚43N±0.˚08×89.˚54W×0.˚06, h47km, mb3.6/5, Error ellipse: s-maj=11.8km s-min=6.2km az=29.2*
IDC ***02*** *04:41:11.5±3.1, 12.˚65N×89.˚14W, h85km±33km, mb3.3/5, mb1 3.6/7, mb1mx3.4/22, mbtmp3.4/7, Error ellipse: s-maj=48.5km s-min=20.7km az=42.0*

ISC 02 04:41:06.0±1.3, 12.˚5N±0.˚1×89.˚57W±0.˚06, h47km, n26, σ1°53/26, mb3.6/5, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**1.27**	**23**	*i* P	**Pn**	**04 41 26.0**	**-1.4**
SNET	**Serv Nac Est T**	**1.27**	**15**	*e*P	Pn	04 41 23.9	-3.5
BOQS	**Boqueron**	**1.31**	**12**	*e*P	**Pn**	**04 41 26.9**	**-1.1**
SNVI	**San Vicente**	**1.35**	**31**	*e*P	**Pn**	**04 41 26.9**	**-1.7**
LBRS	**Las Brisas**	**1.38**	**22**	*e*P	**Pn**	**04 41 28.1**	**-0.8**
SBLS	**San Blas**	**1.38**	**358**	*e*P	**Pn**	**04 41 28.0**	**-1.0**
SNJE	**San Jose**	**1.41**	**358**	*e*P	**Pn**	**04 41 27.9**	**-1.6**
RTR	**El Retiro**	**1.44**	**357**	*e*P	**Pn**	**04 41 28.9**	**-0.9**
VSM	**San Miguel**	**1.59**	**52**	*e*P	**Pn**	**04 41 30.8**	**-1.2**
BLLM	**Bellamira**	**1.63**	**53**	*e*P	**Pn**	**04 41 31.8**	**-0.5**
RBDL	**Robledal**	**1.66**	**356**	*e*P	**Pn**	**04 41 32.2**	**-0.6**
CAHU	**Cacacuatique**	**1.86**	**45**	*e*P	**Pn**	**04 41 35.5**	**-0.1**
CNCH	**Conchagua**	**1.88**	**64**	*e*P	**Pn**	**04 41 35.3**	**-0.5**
MTO2	**Montecristo 2**	**1.95**	**6**	*e*P	**Pn**	**04 41 36.1**	**-0.7**
MTO2				*e*S	Sn	04 42 04.8	+4.6
FUG	**Fuego 3**	**2.34**	**328**	*e*P	**Pn**	**04 41 42.0**	**-0.1**
MRL	**Marmol**	**2.60**	**357**	*e*P	Pn	04 41 49.1	+3.4
TP2	**Tecpan 2**	**2.72**	**329**	*e*P	**Pn**	**04 41 48.9**	**+1.4**
TGUH	**Tegucigalpa,Un**	**2.75**	**54**	*e*P	**Pn**	**04 41 47.1**	**-0.4**
TGUH				*e*S	**Sn**	**04 42 21.9**	**+2.4**
JTS	**JuntasAbangare**	**5.01**	**115**	P	**Pn**	**04 42 19.6**	**+0.9**
	1.4nm,0.3s,baz=319,slow=16,SNR=8.0						
JTS				S	**Sn**	**04 43 15.1**	**-0.2**
	1.6nm,0.3s,baz=305,slow=20,SNR=4.1						
CMIG	**Matias Romero**	**6.91**	**313**	P	**Pn**	**04 42 46.8**	**+2.0**
	0.3nm,0.3s,baz=118,slow=11,SNR=5.2						
CMIG				S	**Sn**	**04 43 58.5**	**-3.5**
	0.2nm,0.3s,baz=28,slow=16,SNR=3.5						
TEIG	**Tepich**	**7.83**	**9**	P	**Pn**	**04 42 59.4**	**+2.0**
	0.6nm,0.3s,baz=258,slow=7.2,SNR=6.1						
TXAR	**Lajitas Array**	**21.31**	**324**	P	**P**	**04 45 52.0**	**+3.0**
	2.0nm,0.7s,baz=147,slow=11,SNR=12						
TKL	**Tuckaleechee C**	**23.69**	**12**	P	**P**	**04 46 14.1**	**+0.6**
	2.8nm,1.0s,baz=160,slow=15,SNR=4.1						
NVAR	**Mina Array Bea**	**36.36**	**320**	P	P	04 48 09.8	+3.9
	0.3nm,0.7s,baz=146,slow=9.8,SNR=5.3						
SCHQ	**Schefferville**	**45.90**	**18**	P	**P**	**04 49 22.4**	**-1.3**
	1.5nm,0.6s,baz=227,slow=9.6,SNR=6.6						
YKA	**Yellowknife Ar**	**53.09**	**346**	P	**P**	**04 50 18.3**	**-0.1**
	0.3nm,0.6s,baz=146,slow=7.5,SNR=7.0						

ISCJB ***02*** *05:21:44.9±0.6, 36.˚99N±0.˚03×28.˚22E±0.˚03, h7km±5km, Error ellipse: s-maj=5.2km s-min=4.4km az=4.9*
DDA ***02*** *05:21:44.6, 36.˚97N×28.˚20E, h7km, ML3.2*
CSEM ***02*** *05:21:45.5±0.1, 37.˚02N×28.˚22E, h10km, MD3.2, Error ellipse: s-maj=3.1km s-min=2.6km az=178.0*
ISK ***02*** *05:21:45.1, 37.˚03N×28.˚21E, h12km, MD3.2*
ATH ***02*** *05:21:46.9, 37.˚01N×28.˚22E, h46km, MD3.4/7*

ISC 02 05:21:44.2±1.1, 36.˚98N±0.˚02×28.˚23E±0.˚02, h2km±10km, n55, σ1°06/68, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.16**	**17**	PG	**Pg**	**05 21 48.0**	**+0.8**
YER				SG	**Sg**	**05 21 51.4**	**+2.0**
YER	**Yerkesik**	**0.16**	**17**	*i* Pg	**Pg**	**05 21 48.1**	**+0.8**
YER				*i* Sg	**Sg**	**05 21 51.4**	**+2.0**
TURN	**Turunc**	**0.32**	**110**	*i* P	**Pg**	**05 21 48.8**	**-1.6**
TURN				*i* S	**Sg**	**05 21 52.4**	**-2.2**
TURN	**Turunc**	**0.32**	**110**	*i* P	**Pg**	**05 21 48.8**	**-1.6**
TURN				*i* S	**Sg**	**05 21 52.4**	**-2.2**
BDRM	**Kayabasi**	**0.63**	**278**	*e*P	**Pg**	**05 21 56.7**	**+0.4**
BDRM	**Kayabasi**	**0.63**	**278**	*e*P	**Pg**	**05 21 56.7**	**+0.4**

AYDN	**Tasoluk**	**0.73**	**338**	*i* P		**Pb**	**05 21 59.1**	**-0.5**
AYDN				*i* S		**Sb**	**05 22 09.0**	**-1.1**
AYDN	**Tasoluk**	**0.73**	**338**	*i* P		**Pb**	**05 21 59.1**	**-0.5**
AYDN				*i* S		**Sb**	**05 22 09.0**	**-1.1**
BODT	**Bodrum**	**0.74**	**276**	*e*PG		**Pg**	**05 21 59.2**	**+0.9**
BODT				*e*SG		**Sb**	**05 22 10.8**	**+0.6**
BODT	**Bodrum**	**0.74**	**276**	*e*Pg		**Pg**	**05 21 59.2**	**+0.9**
BODT				*e*Sg		**Sb**	**05 22 10.8**	**+0.6**
FETY	**Fethiye**	**0.77**	**117**	*e*PG		**Pb**	**05 22 00.8**	**+0.5**
FETY	**Fethiye**	**0.77**	**117**	*e*Pg		**Pb**	**05 22 00.8**	**+0.5**
DNZL	**Cakiroluk**	**0.96**	**43**	*e*P		**Pg**	**05 22 03.0**	**+0.4**
DNZL				*i* S		**Sn**	**05 22 22.1**	**+2.9**
DNZL	**Cakiroluk**	**0.96**	**43**	*e*P		**Pg**	**05 22 03.0**	**+0.4**
GCAM	**G?zelcaml?**	**1.06**	**312**	*e*P		**Pn**	**05 22 05.5**	**-0.6**
GCAM	**G?zelcaml?**	**1.06**	**312**	*e*P		**Pn**	**05 22 05.5**	**-0.6**
SMG	**Samos**	**1.32**	**304**	*e*P		**Pb**	**05 22 09.3**	**-0.4**
SMG				*e*S		**Sn**	**05 22 26.3**	**-1.5**
SMG	**Samos**	**1.32**	**304**	*e*P		**Pb**	**05 22 09.3**	**-0.4**
SMG				*e*S		**Sn**	**05 22 26.3**	**-1.5**
ELL	**Elmali**	**1.37**	**99**	*e*PN		**Pb**	**05 22 11.2**	**+0.6**
ELL	**Elmali**	**1.37**	**99**	*e*Pn		**Pb**	**05 22 11.2**	**+0.6**
KSL	**Kastellorizon**	**1.38**	**127**	*e*P		**Pb**	**05 22 11.1**	**+0.5**
MANT	**Manisa**	**1.53**	**10**	*i* P		**Pg**	**05 22 13.7**	**+0.2**
MANT	**Manisa**	**1.53**	**10**	*i* P		**Pg**	**05 22 13.7**	**+0.2**
KULA	**Kula-Manisa**	**1.57**	**13**	*e*PN		**Pb**	**05 22 13.0**	**-0.9**
KULA	**Kula-Manisa**	**1.57**	**13**	*e*Pn		**Pb**	**05 22 13.0**	**-0.9**
IZM	**Izmir**	**1.60**	**332**	*e*PN		**Pn**	**05 22 12.8**	**-0.7**
IZM	**Izmir**	**1.60**	**332**	*e*Pn		**Pn**	**05 22 12.8**	**-0.7**
KARP	**Karpathos**	**1.67**	**211**	*e*P		**Pn**	**05 22 14.9**	**+0.4**
KARP				*e*S		**Sn**	**05 22 36.0**	**-0.5**
KARP	**Karpathos**	**1.67**	**211**	*e*P		**Pn**	**05 22 14.9**	**+0.4**
KARP				*e*S		**Sn**	**05 22 36.0**	**-0.5**
BLCB	**Balcova**	**1.68**	**327**	*e*PN		**Pn**	**05 22 14.3**	**-0.3**
BLCB	**Balcova**	**1.68**	**327**	*e*Pn		**Pn**	**05 22 14.3**	**-0.3**
KHL	**Karahalli**	**1.69**	**37**	*e*PN		**Pb**	**05 22 14.9**	**-1.1**
KHL	**Karahalli**	**1.69**	**37**	*e*Pn		**Pb**	**05 22 14.9**	**-1.1**
KORT	**Korkueli**	**1.70**	**89**	*i* P		**Pg**	**05 22 18.1**	**+1.3**
KORT	**Korkueli**	**1.70**	**89**	*i* P		**Pg**	**05 22 18.1**	**+1.3**
KHAL	**Karahalli**	**1.71**	**36**	*i* P		**Pb**	**05 22 15.6**	**-0.8**
KHAL	**Karahalli**	**1.71**	**36**	*i* P		**Pb**	**05 22 15.6**	**-0.8**
AKS	**Akhisar**	**1.92**	**350**	*e*PN		**Pn**	**05 22 17.6**	**-0.3**
AKS	**Akhisar**	**1.92**	**350**	*e*Pn		**Pn**	**05 22 17.6**	**-0.3**
BCK	**Bucak**	**1.95**	**75**	*e*PN		**Pb**	**05 22 19.3**	**-1.1**
BCK	**Bucak**	**1.95**	**75**	*e*Pn		**Pb**	**05 22 19.3**	**-1.1**
APE	**Apeiranthos**	**2.16**	**273**	*e*P		**Pb**	**05 22 22.5**	**-1.5**
APE	**Apeiranthos**	**2.16**	**273**	*e*P		**Pb**	**05 22 22.5**	**-1.5**
CHOS	**Chios island**	**2.22**	**310**	*e*P		**Pn**	**05 22 22.6**	**+0.6**
CHOS	**Chios island**	**2.22**	**310**	*e*P		**Pn**	**05 22 22.6**	**+0.6**
SUTC	**Sutluce-Ispart**	**2.27**	**77**	*e*PN		**Pn**	**05 22 23.3**	**+0.6**
SUTC	**Sutluce-Ispart**	**2.27**	**77**	*e*Pn		**Pn**	**05 22 23.3**	**+0.6**
ZKR	**Zakros**	**2.48**	**222**	*e*P		**Pn**	**05 22 26.8**	**+1.3**
ZKR	**Zakros**	**2.48**	**222**	*e*P		**Pn**	**05 22 26.8**	**+1.3**
ALT	**Altintas**	**2.55**	**35**	*e*PN		**Pn**	**05 22 26.8**	**+0.2**
ALT	**Altintas**	**2.55**	**35**	*e*Pn		**Pn**	**05 22 26.8**	**+0.2**
GONE	**Gonen-Balikesi**	**3.09**	**352**	*e*PN		**Pn**	**05 22 33.9**	**+0.1**
GONE	**Gonen-Balikesi**	**3.09**	**352**	*e*Pn		**Pn**	**05 22 33.9**	**+0.1**
IDI	**Anoyia**	**3.19**	**239**	*e*P		**Pn**	**05 22 36.8**	**+1.5**
IDI	**Anoyia**	**3.19**	**239**	*e*P		**Pn**	**05 22 36.8**	**+1.5**

IDC ***02*** *05:27:13.9±1.2,35°.56S×70°.97W,h0km,mb4.2/4, mb1 4.4/6,mb1mx4.1/14,mbtmp4.0/6,ML3.0/2,Error ellipse: s-maj=38.0km s-min=32.2km az=65.0*

ISCJB ***02*** *05:27:28.9±0.4,34°.68S±0°.03×70°.76W±0°.06,h112km±3km, mb4.1/7,Error ellipse: s-maj=9.1km s-min=4.2km az=22.2*

NEIC ***02*** *05:27:29.4,34°.67S×70°.79W,h112km,mb4.5/7,After GUC.*

GUC ***02*** *05:27:29.4±0.4,34°.67S×70°.79W,h112km±2km,mL4.4*

ISC 02 05:27:30.0±0.7,34°.67S±0°.04×70°.77W±0°.05,h109km±5km, n63,σ0°75/103,mb4.0/7,12C-16D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CACH	**El Canelo**	**0.57**	**15**	⇓*i*P		**Pn**	**05 27 46.9**	**-0.6**
CACH				*i* S		**Sn**	**05 28 00.9**	**+0.5**
CACH	**El Canelo**	**0.57**	**15**	⇓*i*P		**Pn**	**05 27 46.9**	**-0.6**
CACH				⇓*i*S		**Sn**	**05 28 00.9**	**+0.5**
CHCH	**Chadas Angostu**	**0.74**	**8**	⇓*i*P		**Pn**	**05 27 48.1**	**-0.6**
CHCH	**Chadas Angostu**	**0.74**	**8**	⇓*i*P		**Pn**	**05 27 48.1**	**-0.6**
LNV	**Longovilo**	**0.89**	**323**	⇑*i*P		**Pn**	**05 27 49.6**	**-0.4**
LNV				*i* S		**Sn**	**05 28 04.6**	**-0.4**
LNV	**Longovilo**	**0.89**	**323**	⇑*i*P		**Pn**	**05 27 49.6**	**-0.4**
LNV				*i* S		**Sn**	**05 28 04.6**	**-0.4**
LMEL	**Las Melosas**	**0.95**	**30**	*i* P		**Pn**	**05 27 50.6**	**-0.2**
LMEL				*i* S		**Sn**	**05 28 06.8**	**+0.4**
LMEL	**Las Melosas**	**0.95**	**30**	*i* P		**Pn**	**05 27 50.6**	**-0.2**
LMEL				*i* S		**Sn**	**05 28 06.8**	**+0.4**
LMEL				AML	AML		05 28 07.5	
	comp=N,13μm,0.3s							
TACH	**Talagante**	**1.02**	**352**	*i* P		**Pn**	**05 27 51.1**	**-0.3**
TACH				*i* S		**Sn**	**05 28 07.4**	**-0.1**
TACH	**Talagante**	**1.02**	**352**	*i* P		**Pn**	**05 27 51.1**	**-0.3**
TACH				*i* S		**Sn**	**05 28 07.4**	**-0.1**
PCH	**Pirque**	**1.07**	**12**	⇓*i*P		**Pn**	**05 27 51.7**	**-0.3**
PCH				*i* S		**Sn**	**05 28 08.6**	**+0.1**
PCH	**Pirque**	**1.07**	**12**	⇓*i*P		**Pn**	**05 27 51.7**	**-0.3**
PCH				*i* S		**Sn**	**05 28 08.6**	**+0.1**
SJCH	**San Jose de Ma**	**1.08**	**19**	*i* P		**Pn**	**05 27 51.1**	**-1.1**
SJCH				*i* S		**Sn**	**05 28 08.1**	**-0.7**
SJCH	**San Jose de Ma**	**1.08**	**19**	*i* P		**Pn**	**05 27 51.1**	**-1.1**
SJCH				*i* S		**Sn**	**05 28 08.1**	**-0.7**
SJCH				AML	AML		05 28 10.2	
	comp=E,9μm,0.3s							
ANTU	**Antumapu**	**1.10**	**6**	⇓*i*P		**Pn**	**05 27 52.2**	**-0.2**
ANTU				*i* S		**Sn**	**05 28 09.3**	**+0.2**
ANTU	**Antumapu**	**1.10**	**6**	⇓*i*P		**Pn**	**05 27 52.2**	**-0.2**
ANTU				*i* S		**Sn**	**05 28 09.3**	**+0.2**
ANTU				AML	AML		05 28 11.3	
	comp=N,9μm,0.2s							
FSR	**Penalolen**	**1.21**	**10**	⇑*i*P		**Pn**	**05 27 53.3**	**-0.2**
FSR				*i* S		**Sn**	**05 28 11.2**	**+0.1**
FSR	**Penalolen**	**1.21**	**10**	⇑*i*P		**Pn**	**05 27 53.3**	**-0.2**
FSR				*i* S		**Sn**	**05 28 11.2**	**+0.1**
FSR				AML	AML		05 28 12.0	
	comp=N,4μm,0.4s							
SAN	**Santiago**	**1.22**	**4**	⇓*i*P		**Pn**	**05 27 53.2**	**-0.3**
SAN				*i* S		**Sn**	**05 28 11.3**	**0.0**
SAN	**Santiago**	**1.22**	**4**	⇓*i*P		**Pn**	**05 27 53.2**	**-0.3**
SAN				*i* S		**Sn**	**05 28 11.3**	**0.0**
SAN				AML	AML		05 28 12.8	
	comp=N,8μm,0.5s							
STL	**Santa Lucia**	**1.23**	**5**	*e*P		**Pn**	**05 27 53.3**	**-0.5**
STL				*i* S		**Sn**	**05 28 11.5**	**-0.2**
STL				AML	AML		05 28 12.6	
	comp=E,2μm,0.2s							
CLCH	**Cerro Calan**	**1.28**	**9**	⇑*i*P		**Pn**	**05 27 54.2**	**-0.1**
CLCH				*i* S		**Sn**	**05 28 13.0**	**+0.2**
CLCH				AML	AML		05 28 14.1	
	comp=N,18μm,0.4s							
LNCH	**Linares**	**1.36**	**210**	⇑*i*P		**Pn**	**05 27 54.8**	**-0.3**
LNCH				*i* S		**Sn**	**05 28 13.8**	**-0.2**
LNCH	**Linares**	**1.36**	**210**	⇑*i*P		**Pn**	**05 27 54.8**	**-0.3**
LNCH				*i* S		**Sn**	**05 28 13.8**	**-0.2**
CTCH	**Constitucion**	**1.50**	**243**	*i* P		**Pn**	**05 27 56.3**	**-0.4**
CTCH				*i* S		**Sn**	**05 28 16.7**	**-0.3**
CTCH	**Constitucion**	**1.50**	**243**	*i* P		**Pn**	**05 27 56.3**	**-0.4**
CTCH				*i* S		**Sn**	**05 28 16.7**	**-0.3**
PEL	**Peldehue**	**1.52**	**3**	⇓*i*P		**Pn**	**05 27 57.0**	**-0.1**
PEL				*e*S		**Sn**	**05 28 17.6**	**-0.1**
PEL				AML	AML		05 28 19.6	
	comp=N,23μm,0.6s							
ROCH	**El Roble**	**1.71**	**353**	⇑*i*P		**Pn**	**05 27 59.3**	**-0.2**
ROCH				*i* S		**Sn**	**05 28 22.4**	**+0.5**
ROCH				AML	AML		05 28 25.3	
	comp=N,6μm,0.5s							
CNCO	**Chanco**	**1.79**	**233**	*e*P		**Pn**	**05 28 00.0**	**-0.3**
CNCO				*i* S		**Sn**	**05 28 23.0**	**-0.3**
CNCO	**Chanco**	**1.79**	**233**	*e*P		**Pn**	**05 28 00.0**	**-0.3**
CNCO				*i* S		**Sn**	**05 28 23.0**	**-0.3**
PTCH	**Petorca**	**2.40**	**357**	⇓*i*P		**Pn**	**05 28 08.0**	**-0.2**
PTCH				*i* S		**Sn**	**05 28 37.7**	**+0.2**
PTCH	**Petorca**	**2.40**	**357**	⇓*i*P		**Pn**	**05 28 08.0**	**-0.2**
PTCH				*i* S		**Sn**	**05 28 37.7**	**+0.2**
PTCH				AML	AML		05 28 45.7	
	comp=N,3μm,0.3s							
CHNG	**Los Chungos**	**2.84**	**347**	⇑*i*P		**Pn**	**05 28 13.9**	**0.0**
CHNG				*i* S		**Sn**	**05 28 47.2**	**-0.5**
CHNG	**Los Chungos**	**2.84**	**347**	⇑*i*P		**Pn**	**05 28 13.9**	**0.0**
CHNG				*i* S		**Sn**	**05 28 47.2**	**-0.5**
CHNG				AML	AML		05 28 49.3	
	comp=N,1μm,0.8s							
CMCH	**Combarbala**	**3.49**	**357**	⇓*e*P		**Pn**	**05 28 21.5**	**-1.1**
CMCH				*i* S		**Sn**	**05 29 02.1**	**-1.2**
CMCH	**Combarbala**	**3.49**	**357**	⇓*e*P		**Pn**	**05 28 21.5**	**-1.1**
CMCH				*i* S		**Sn**	**05 29 02.1**	**-1.2**
CFAA	**Coronel Fontan**	**3.72**	**36**	Pn		**Pn**	**05 28 25.1**	**-0.6**
CFAA				Sn		**Sn**	**05 29 09.6**	**+0.8**
CFAA	**Coronel Fontan**	**3.72**	**36**	Pn		**Pn**	**05 28 25.1**	**-0.6**
	comp=N,1.1nm,0.3s,baz=208,slow=14,SNR=121							
CFAA				Sn		**Sn**	**05 29 09.6**	**+0.8**
	comp=N,4.7nm,0.3s,baz=8.4,slow=12,SNR=11							
OVCH	**Ovalle**	**4.07**	**355**	⇑*i*P		**Pn**	**05 28 30.2**	**-0.1**
OVCH	**Ovalle**	**4.07**	**355**	⇑*i*P		**Pn**	**05 28 30.2**	**-0.1**
TLL	**Tololo Astrono**	**4.49**	**360**	*i* P		**Pn**	**05 28 36.0**	**-0.2**
TLL				*i* S		**Sn**	**05 29 27.1**	**-0.5**
TLL	**Tololo Astrono**	**4.49**	**360**	*i* P		**Pn**	**05 28 36.0**	**-0.2**
TLL				*i* S		**Sn**	**05 29 27.1**	**-0.5**
LCO	**Las Campanas**	**5.64**	**1**	*e*Pn		**Pn**	**05 28 49.8**	**-2.0**
	comp=N,38nm,0.6s							
LCO				*e*Sn		**Sn**	**05 29 52.6**	**-2.8**
PLCA	**Paso Flores**	**6.05**	**178**	Pn		Pn	05 28 33.3	-24
	comp=N,0.1nm,0.3s,baz=194,slow=3.1,SNR=3.0							
TRQA	**Tornquist**	**7.86**	**118**	*e*Pn		**Pn**	**05 29 19.3**	**-2.3**
	comp=N,23nm,0.8s							
LPAZ	**La Paz**	**18.46**	**8**	*e*P		**Pn**	**05 31 40.0**	**+0.6**
	comp=N,2.7nm,0.4s							
EFI	**East Falkland**	**19.31**	**156**	*e*P		**P**	**05 31 45.5**	**-0.8**
	comp=N,17nm,0.5s							
SIV	**San Ignacio**	**20.54**	**28**	P		**P**	**05 31 59.5**	**-0.5**
SIV	**San Ignacio**	**20.54**	**28**	P		**P**	**05 31 59.5**	**-0.5**
	comp=N,1.2nm,0.5s,baz=241,slow=12,SNR=7.3							
JCT	**Junction City**	**70.34**	**334**	*e*P		**P**	**05 38 32.4**	**+0.4**
	comp=N,11nm,1.2s							
TXAR	**Lajitas Array**	**70.83**	**330**	P		**P**	**05 38 36.8**	**+1.7**
TXAR	**Lajitas Array**	**70.83**	**330**	P		**P**	**05 38 36.8**	**+1.7**
	comp=N,1.5nm,0.6s,baz=152,slow=7.0,SNR=12							
CPRX	**Cap Rock**	**74.17**	**332**	*e*P		**P**	**05 38 55.3**	**+0.5**
	comp=N,5.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**83.46**	**69**	P		**P**	**05 39 46.3**	**+0.5**
TORD	**Torodi Ar. Bea**	**83.46**	**69**	P		**P**	**05 39 46.3**	**+0.5**
	comp=N,1.9nm,0.8s,baz=271,slow=4.0,SNR=13							
PDAR	**Pinedale Array**	**84.83**	**332**	P		**P**	**05 39 53.1**	**+0.6**
PDAR	**Pinedale Array**	**84.83**	**332**	P		**P**	**05 39 53.1**	**+0.6**
	comp=N,1.0nm,0.7s,baz=158,slow=4.1,SNR=10							
NVAR	**Mina Array Bea**	**85.03**	**324**	P		**P**	**05 39 55.3**	**+1.8**
NVAR	**Mina Array Bea**	**85.03**	**324**	P		**P**	**05 39 55.3**	**+1.8**
	comp=N,1.0nm,0.7s,baz=144,slow=6.3,SNR=12							
MCMT	**McKenzie Canyo**	**87.85**	**331**	*e*P		**P**	**05 40 06.1**	**-1.0**
	comp=N,0.9nm,0.6s							
AAK	**Ala-Archa**	**151.89**	**63**	*e*PKPdf		**PKPdf**	**05 47 04.3**	**-1.4**
AAK				*e*PKPbc		**PKiKP**	**05 47 13.2**	**+0.7**
AAK				*e*PKPab		**PKPab**	**05 47 20.7**	**-1.1**
MKAR	**Makanchi Array**	**156.39**	**51**	PKPab		**PKPab**	**05 47 40.4**	**-0.3**
MKAR	**Makanchi Array**	**156.39**	**51**	PKPab		**PKPab**	**05 47 40.4**	**-0.3**
	comp=N,0.6nm,0.6s,baz=300,slow=4.1,SNR=8.2							

ISCJB ***02*** *05:27:59.8±0.4,38°.98N±0°.02×20°.50E±0°.03,h17km±4km, mb3.7/7,Error ellipse: s-maj=4.5km s-min=2.2km az=147.3*

CSEM ***02*** *05:27:59.8±0.2,38°.95N×20°.51E,h10km,ML3.4,Error ellipse: s-maj=5.9km s-min=2.7km az=58.0*

ATH ***02*** *05:27:59.6,38°.98N×20°.57E,h15km±1km,ML3.4*

THE ***02*** *05:28:00.2,38°.99N×20°.63E,h0km±5km,mL3.6/17,Error ellipse: s-maj=5.3km s-min=1.0km az=101.0*

PDG ***02*** *05:28:01.3±0.2,39°.21N×20°.42E,h1km±1km,ML3.5/10, Error ellipse: s-maj=1.5km s-min=0.9km az=90.0*

IDC ***02*** *05:28:07.2±2.4,39°.15N×20°.52E,h78km±26km,mb3.5/7, mb1 3.4/11,mb1mx3.3/28,mbtmp3.3/11,Error ellipse: s-maj=24.9km s-min=17.8km az=129.0*

ISC 02 05:28:00.3±0.8,38°.97N±0°.02×20°.58E±0°.02,h16km±5km, n193,σ1°29/234,mb3.6/7,16C-9D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.19**	**162**	P		**Pg**	**05 28 04.6**	**-0.3**
LKD2				S		**Sg**	**05 28 08.4**	**+0.5**
LKD2	**Lefkada island**	**0.19**	**162**	*e*PB		**Pg**	**05 28 04.8**	**-0.1**
LKD2				*e*SB		**Sg**	**05 28 08.1**	**+0.2**
LKD2	**Lefkada island**	**0.19**	**162**	*e*Pb		**Pg**	**05 28 04.8**	**-0.1**
LKD2				*e*Sb		**Sg**	**05 28 08.1**	**+0.2**
LKD2				S		**Sg**	**05 28 08.4**	**+0.5**
RGA	**Parga**	**0.40**	**333**	P		**Pg**	**05 28 07.6**	**-0.8**
RGA				S		**Sb**	**05 28 14.4**	**-0.5**
RGA	**Parga**	**0.40**	**333**	P		**Pg**	**05 28 07.6**	**-0.8**
RGA				S		**Sb**	**05 28 14.4**	**-0.5**
IGT	**Igoumenitsa**	**0.60**	**341**	P		**Pg**	**05 28 10.5**	**-1.6**
IGT				S		**Sg**	**05 28 19.7**	**-0.4**
IGT	**Igoumenitsa**	**0.60**	**341**	P		**Pg**	**05 28 10.5**	**-1.6**
IGT				S		**Sg**	**05 28 19.7**	**-0.4**
JAN	**Janina**	**0.72**	**17**	P		**Pg**	**05 28 12.6**	**-1.8**
JAN				S		**Sb**	**05 28 23.9**	**-0.3**
JAN	**Janina**	**0.72**	**17**	*e*PN		**Pg**	**05 28 13.1**	**-1.3**
JAN				*e*SN		**Sb**	**05 28 23.9**	**-0.3**
JAN	**Janina**	**0.72**	**17**	P		**Pg**	**05 28 12.6**	**-1.8**
JAN				S		**Sb**	**05 28 23.9**	**-0.3**
VLS	**Valsamata**	**0.79**	**180**	P		**Pg**	**05 28 14.7**	**-1.0**
VLS				S		**Sn**	**05 28 28.3**	**0.0**
VLS	**Valsamata**	**0.79**	**180**	*e*PB		**Pg**	**05 28 14.7**	**-1.0**
VLS				*e*SN		**Sg**	**05 28 26.8**	**+0.7**
VLS	**Valsamata**	**0.79**	**180**	P		**Pg**	**05 28 14.7**	**-1.0**
VLS				*e*Sn		**Sg**	**05 28 26.8**	**+0.7**
VLS				S		**Sn**	**05 28 28.3**	**0.0**
KFL	**Anninata**	**0.87**	**169**	P		**Pg**	**05 28 16.2**	**-1.0**
KFL	**Anninata**	**0.87**	**169**	P		**Pg**	**05 28 16.2**	**-1.0**
EVR	**Evrytania**	**0.96**	**93**	P		**Pb**	**05 28 17.1**	**-1.5**
EVR	**Evrytania**	**0.96**	**93**	*e*PB		**Pb**	**05 28 17.2**	**-1.4**
EVR				*e*SN		**Sg**	**05 28 31.9**	**+0.5**
EVR	**Evrytania**	**0.96**	**93**	P		**Pb**	**05 28 17.1**	**-1.5**
SRN	**Sarande**	**1.02**	**334**	*e*PN		**Pb**	**05 28 18.2**	**-1.4**
SRN				*i* SN		**Sn**	**05 28 36.9**	**+3.0**
SRN	**Sarande**	**1.02**	**334**	P		**Pb**	**05 28 18.0**	**-1.6**
SRN	**Sarande**	**1.02**	**334**	P		**Pb**	**05 28 18.0**	**-1.6**
SRN				*i* Sn		**Sn**	**05 28 36.9**	**+3.0**
RLS	**Riolos of Patr**	**1.14**	**142**	P		**Pb**	**05 28 20.5**	**-1.2**
RLS	**Riolos of Patr**	**1.14**	**142**	*e*PB		**Pb**	**05 28 20.5**	**-1.2**
RLS				*e*SN		**Sn**	**05 28 38.3**	**+1.3**
RLS	**Riolos of Patr**	**1.14**	**142**	P		**Pb**	**05 28 20.5**	**-1.2**
RLS				*e*Sn		**Sn**	**05 28 38.3**	**+1.3**
UPR	**University Cam**	**1.16**	**126**	*e*PN		**Pn**	**05 28 21.3**	**-0.7**
UPR	**University Cam**	**1.16**	**126**	*e*Pn		**Pn**	**05 28 21.3**	**-0.7**
EFP	**Efpalio**	**1.17**	**117**	P		**Pn**	**05 28 20.3**	**-1.7**
EFP	**Efpalio**	**1.17**	**117**	*e*PB		**Pn**	**05 28 21.1**	**-0.9**
EFP				*e*SN		**Sn**	**05 28 38.6**	**+1.0**
EFP	**Efpalio**	**1.17**	**117**	P		**Pn**	**05 28 20.3**	**-1.7**
EFP	**Efpalio**	**1.17**	**117**	*e*Pb		**Pn**	**05 28 21.1**	**-0.9**
EFP				*e*Sn		**Sn**	**05 28 38.6**	**+1.0**
LSK	**Leskovik**	**1.18**	**1**	*e*PN		**Pb**	**05 28 22.2**	**-0.2**
LSK				*i* SN		**Sn**	**05 28 41.5**	**+3.4**
LSK	**Leskovik**	**1.18**	**1**	*e*Pn		**Pb**	**05 28 22.2**	**-0.2**
LSK				*i* Sn		**Sn**	**05 28 41.5**	**+3.4**
MAKR	**Makrakomi, Fth**	**1.21**	**87**	P		**Pn**	**05 28 21.6**	**-1.0**
MAKR	**Makrakomi, Fth**	**1.21**	**87**	P		**Pn**	**05 28 21.6**	**-1.0**
THL	**Klokotos Trika**	**1.26**	**61**	P		**Pn**	**05 28 22.4**	**-0.9**
THL	**Klokotos Trika**	**1.26**	**61**	*e*PN		**Pn**	**05 28 22.9**	**-0.4**
THL				*e*SN		**Sg**	**05 28 40.7**	**-0.4**
THL	**Klokotos Trika**	**1.26**	**61**	P		**Pn**	**05 28 22.4**	**-0.9**
THL	**Klokotos Trika**	**1.26**	**61**	*e*Pn		**Pn**	**05 28 22.9**	**-0.4**
THL				*e*Sn		**Sg**	**05 28 40.7**	**-0.4**
NEST	**Nestorio**	**1.49**	**14**	P		**Pn**	**05 28 26.7**	**+0.1**
NEST	**Nestorio**	**1.49**	**14**	P		**Pn**	**05 28 26.7**	**+0.1**
TRIZ	**Trizonia**	**1.31**	**117**	P		**Pn**	**05 28 23.0**	**-1.0**
TRIZ	**Trizonia**	**1.31**	**117**	P		**Pn**	**05 28 23.0**	**-1.0**
LAKA	**Lakka**	**1.31**	**123**	P		**Pn**	**05 28 22.9**	**-1.1**
LAKA	**Lakka**	**1.31**	**123**	P		**Pn**	**05 28 22.9**	**-1.1**
KALE	**Kalithea**	**1.35**	**115**	P		**Pn**	**05 28 23.6**	**-1.0**
KALE	**Kalithea**	**1.35**	**115**	P		**Pn**	**05 28 23.6**	**-1.0**
NEST	**Nestorio**	**1.49**	**14**	P		**Pn**	**05 28 26.7**	**+0.1**
NEST	**Nestorio**	**1.49**	**14**	P		**Pn**	**05 28 26.7**	**+0.1**
DSF	**Desfina**	**1.62**	**109**	P		**Pn**	**05 28 28.6**	**+0.3**
DSF	**Desfina**	**1.62**	**109**	P		**Pn**	**05 28 28.6**	**+0.3**
KZN	**Kozani**	**1.62**	**34**	P		**Pn**	**05 28 28.5**	**+0.1**
KZN	**Kozani**	**1.62**	**34**	*e*PN		**Pn**	**05 28 29.0**	**+0.6**
KZN	**Kozani**	**1.62**	**34**	P		**Pn**	**05 28 28.5**	**+0.1**
KZN	**Kozani**	**1.62**	**34**	*e*Pn		**Pn**	**05 28 29.0**	**+0.6**
DESF	**Desfina**	**1.62**	**109**	P		**Pn**	**05 28 27.9**	**-0.4**
DESF	**Desfina**	**1.62**	**109**	P		**Pn**	**05 28 27.9**	**-0.4**
VLO	**Vlora**	**1.72**	**331**	*e*PN		Pg	05 28 42.3	+9.0
VLO				*i* SN		**Sg**	**05 28 57.8**	**+2.1**
GUR	**Goura**	**1.72**	**126**	P		**Pn**	**05 28 29.8**	**0.0**
GUR	**Goura**	**1.72**	**126**	*e*PN		**Pn**	**05 28 31.2**	**+1.4**
GUR	**Goura**	**1.72**	**126**	P		**Pn**	**05 28 29.8**	**0.0**
GUR	**Goura**	**1.72**	**126**	*e*Pn		**Pn**	**05 28 31.2**	**+1.4**
LIT	**Litokhoron**	**1.86**	**52**	P		**Pb**	**05 28 33.2**	**-0.7**
LIT	**Litokhoron**	**1.86**	**52**	*e*PN		**Pb**	**05 28 33.2**	**-0.7**
LIT	**Litokhoron**	**1.86**	**52**	P		**Pb**	**05 28 33.2**	**-0.7**
LKR	**Lokris**	**1.91**	**99**	P		**Pn**	**05 28 33.6**	**+1.3**
LKR	**Lokris**	**1.91**	**99**	*e*PN		**Pb**	**05 28 34.1**	**-0.8**
LKR				*e*SN		**Sb**	**05 28 59.0**	**+0.5**
LKR	**Lokris**	**1.91**	**99**	P		**Pn**	**05 28 33.6**	**+1.3**
LKR	**Lokris**	**1.91**	**99**	*e*Pn		**Pb**	**05 28 34.1**	**-0.8**
LKR				*e*Sn		**Sb**	**05 28 59.0**	**+0.5**
FNA	**Florina**	**1.91**	**18**	P		**Pb**	**05 28 34.5**	**-0.4**
FNA	**Florina**	**1.91**	**18**	P		**Pb**	**05 28 34.5**	**-0.4**
ATAL	**Atalanti**	**1.92**	**97**	P		**Pb**	**05 28 34.2**	**-0.8**
ATAL	**Atalanti**	**1.92**	**97**	P		**Pb**	**05 28 34.2**	**-0.8**
ITM	**Ithomi**	**2.08**	**149**	*e*PN		**Pb**	**05 28 37.3**	**-0.3**
NEO	**Neokhori**	**2.08**	**80**	P		**Pn**	**05 28 36.0**	**+1.4**
NEO	**Neokhori**	**2.08**	**80**	*e*PN		**Pn**	**05 28 36.2**	**+1.6**
NEO				*e*SN		**Sb**	**05 29 02.9**	**-0.5**
NEO	**Neokhori**	**2.08**	**80**	*e*Pn		**Pn**	**05 28 36.2**	**+1.6**
NEO				*e*Sn		**Sb**	**05 29 02.9**	**-0.5**
LTK	**Loutraki**	**2.09**	**116**	*e*PN		**Pb**	**05 28 37.5**	**-0.5**
LTK	**Loutraki**	**2.09**	**116**	*e*Pn		**Pb**	**05 28 37.5**	**-0.5**

IDID	**Didziasalis**	**16.87**	**12**	*e*P		Px	05 32 11.6	
IDID	**Didziasalis**	**16.87**	**12**	*e*P		Px	05 32 11.6	
ISAL	**Salakas**	**17.02**	**11**	*e*P		P	05 32 08.5	+9.2
ISAL	**Salakas**	**17.02**	**11**	*e*P		P	05 32 08.5	+9.2
IZAR	**Zarasai**	**17.21**	**11**	*e*P		**P**	**05 32 02.7**	**+1.3**
IZAR	**Zarasai**	**17.21**	**11**	*e*P		**P**	**05 32 02.7**	**+1.3**
IZAR	**Zarasai**	**17.21**	**11**	*e*P		**P**	**05 32 02.7**	**+1.3**
HFS	**Hagfors**	**21.63**	**351**	P		**P**	**05 32 49.0**	**-0.6**
	0.9nm,0.4s,baz=158,slow=12,SNR=8.3							
FINES	**FINESS Array B**	**22.76**	**7**	P		**P**	**05 33 00.8**	**-0.9**
	2.4nm,0.7s,baz=175,slow=9.6,SNR=5.2							
NB2	**NORSAR Subarra**	**22.86**	**348**	P		**P**	**05 33 01.7**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=155,slow=11							
NB2	**NORSAR Subarra**	**22.86**	**348**	P		**P**	**05 33 01.7**	**-1.0**
	comp=Z,0.9nm,0.5s,SNR=3.7							
NOA	**NORSAR Array B**	**22.86**	**348**	P		**P**	**05 33 02.2**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=162,slow=11,SNR=5.7							
TORD	**Torodi Ar. Bea**	**30.68**	**218**	P		**P**	**05 34 15.9**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=33,slow=9.5,SNR=8.3							
ARCES	**ARCESS Array B**	**30.74**	**3**	P		**P**	**05 34 12.8**	**-1.7**
	comp=Z,9.7nm,1.1s,baz=1.9,slow=15,SNR=3.5							
MKAR	**Makanchi Array**	**44.85**	**59**	P		**P**	**05 36 12.6**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=270,slow=6.0,SNR=7.2							
ZALV	**Zalesovo Beam**	**45.13**	**49**	P		**P**	**05 36 14.7**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=271,slow=7.7,SNR=5.7							

PRE 02 05:31:15.3±1.2, 26°22S×28°25E, h2km, ML1.8, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ERPM	**east rand prop**	**0.12**	**185**	*e*P		Pg	05 31 15.7	-2.3
ERPM				*e*S		Sg	05 31 16.1	-3.8
ERPM				AML		AML	05 31 17.6	
	comp=Z,458nm,0.1s							
LBTB	**Lobatse**	**2.68**	**296**	*e*P		Pn	05 32 00.8	+1.1
LBTB				*e*S		Sn	05 32 32.7	-0.2
LBTB				AML		AML	05 32 40.3	
	comp=Z,6.6nm,0.5s							
BOSA	**Boshof**	**3.58**	**227**	*e*P		Pn	05 32 13.8	+1.8
BOSA				*e*S		Sn	05 32 54.9	0.0
BOSA				AML		AML	05 33 05.4	
	comp=Z,2.8nm,0.6s							

DDA ***02*** *06:40:16.3, 36°.94N×28°.81E, h7km, MD2.9*
ISK ***02*** *06:40:17.3, 36°.86N×28°.69E, h16km, MD2.7*
CSEM ***02*** *06:40:17.6±0.3, 36°.98N×28°.76E, h15km, MD2.9, Error ellipse: s-maj=7.6km s-min=4.7km az=27.0*
ISCJB ***02*** *06:40:18.0±0.6, 36°.96N±0°.05×28°.77E±0°.05, h20km±12km, Error ellipse: s-maj=8.3km s-min=5.4km az=31.2*

ISC 02 06:40:17.4±1.0, 36°.97N±0°.03×28°.77E±0°.03, h11km±9km, n17, σ0°65/28, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TURN	**Turunc**	**0.17**	**233**	*e*P		Pb	06 40 26.2	+3.7
TURN				*e*S		Sg	06 40 32.9	+9.2
FETY	**Fethiye**	**0.42**	**143**	*e*PG		**Pg**	**06 40 25.6**	**-0.1**
FETY				*e*SG		**Sg**	**06 40 31.6**	**+0.3**
FETY	**Fethiye**	**0.42**	**143**	*e*Pg		**Pg**	**06 40 25.6**	**-0.1**
FETY				*e*Sg		**Sg**	**06 40 31.6**	**+0.3**
YER	**Yerkesik**	**0.42**	**293**	*e*PG		**Pg**	**06 40 26.3**	**+0.6**
YER				*e*SG		**Sb**	**06 40 32.9**	**-0.4**
YER	**Yerkesik**	**0.42**	**293**	*e*Pg		**Pg**	**06 40 26.3**	**+0.6**
YER				*e*Sg		**Sb**	**06 40 32.9**	**-0.4**
DNZL	**Cakiroluk**	**0.75**	**17**	*e*P		**Pg**	**06 40 31.4**	**-0.5**
DNZL				*e*S		**Sg**	**06 40 42.7**	**+1.0**
DNZL	**Cakiroluk**	**0.75**	**17**	*e*P		**Pg**	**06 40 31.4**	**-0.5**
DNZL				*e*S		**Sg**	**06 40 42.7**	**+1.0**
ELL	**Elmali**	**0.94**	**103**	*e*PG		**Pn**	**06 40 36.5**	**-0.1**
ELL				*e*SG		**Sn**	**06 40 50.8**	**+0.7**
ELL	**Elmali**	**0.94**	**103**	*e*Pg		**Pn**	**06 40 36.5**	**-0.1**
ELL				*e*Sg		**Sn**	**06 40 50.8**	**+0.7**
AYDN	**Tasoluk**	**0.99**	**314**	*e*P		**Pb**	**06 40 35.6**	**-0.9**
AYDN				*e*S		**Sg**	**06 40 48.6**	**-0.7**
AYDN	**Tasoluk**	**0.99**	**314**	*e*P		**Pb**	**06 40 35.6**	**-0.9**
AYDN				*e*S		**Sg**	**06 40 48.6**	**-0.7**
BDRM	**Kayabasi**	**1.06**	**275**	*e*P		**Pb**	**06 40 37.2**	**-0.6**
BDRM				*e*S		**Sn**	**06 40 53.5**	**+0.5**
BDRM	**Kayabasi**	**1.06**	**275**	*e*P		**Pb**	**06 40 37.2**	**-0.6**
BDRM				*e*S		**Sn**	**06 40 53.5**	**+0.5**
BODT	**Bodrum**	**1.17**	**275**	*e*PN		**Pb**	**06 40 39.0**	**-0.6**
BODT	**Bodrum**	**1.17**	**275**	*e*Pn		**Pb**	**06 40 39.0**	**-0.6**
KULA	**Kula-Manisa**	**1.54**	**357**	*e*PN		**Pn**	**06 40 45.6**	**+0.8**
KULA	**Kula-Manisa**	**1.54**	**357**	*e*Pn		**Pn**	**06 40 45.6**	**+0.8**

IDC 02 07:07:06.2±1.4, 0°.49N×66°.96E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/23, mbtmp3.8/8, MS3.6/10, Ms1 3.6/10, ms1mx3.5/24, Error ellipse: s-maj=44.3km s-min=23.6km az=56.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ATD	**Arta Tunnel**	**26.33**	**296**	LR		LR	07 21 32.5	
	comp=Z,65nm,18.7s,baz=156,slow=33							
OPO	**Ambohidratompo**	**27.13**	**225**	LR		LR	07 21 39.3	
	comp=Z,122nm,18.2s,baz=164,slow=32							
CMAR	**Chiang Mai Arr**	**36.13**	**59**	P		P	07 14 11.2	+0.7
	0.8nm,0.3s,baz=243,slow=10.0,SNR=10							
CMAR				LR		LR	07 27 58.8	
	comp=Z,59nm,19.4s,baz=65,slow=35							
MKAR	**Makanchi Array**	**48.03**	**14**	P		P	07 15 47.0	-0.3
	0.3nm,0.9s,baz=199,slow=7.6,SNR=2.2							
BOSA	**Boshof**	**49.28**	**231**	LR		LR	07 33 42.9	
	comp=Z,70nm,19.0s,baz=166,slow=32							
BRTR	**Keskin Array B**	**49.47**	**326**	P		P	07 15 57.7	-1.0
	1.0nm,0.8s,baz=134,slow=8.3,SNR=5.5							
ZALV	**Zalesovo Beam**	**55.29**	**13**	P		P	07 16 41.0	-0.3
	0.3nm,0.3s,baz=198,slow=4.6,SNR=2.8							
ZALV				LR		LR	07 42 15.4	
	comp=Z,37nm,18.2s,baz=269,slow=38							
SONM	**Songino Array**	**58.23**	**30**	P		P	07 17 01.8	-0.8
	0.9nm,1.0s,baz=232,slow=6.3,SNR=6.0							
TORD	**Torodi Ar. Bea**	**65.82**	**284**	LR		LR	07 44 60.0	
	comp=Z,90nm,19.0s,baz=330,slow=34							
KSRS	**Korea Array**	**66.96**	**49**	LR		LR	07 46 22.2	
	comp=Z,18nm,19.0s,baz=345,slow=35							
WRA	**Warramunga Arr**	**68.97**	**112**	P		P	07 18 13.8	-0.1
	2.7nm,0.9s,baz=284,slow=6.1,SNR=11							
ASAR	**Alice Springs**	**69.17**	**115**	P		P	07 18 15.0	-0.2
	1.0nm,0.8s,baz=287,slow=6.1,SNR=7.7							
NOA	**NORSAR Array B**	**73.66**	**335**	LR		LR	07 50 34.2	
	comp=Z,24nm,19.9s,baz=90,slow=35							
ARCES	**ARCESS Array B**	**74.25**	**346**	LR		LR	07 53 38.6	
	comp=Z,150nm,21.1s,baz=276,slow=38							
STKA	**Stephens Creek**	**77.24**	**123**	P		P	07 19 02.1	-0.5
	1.7nm,0.9s,baz=292,slow=5.4,SNR=2.1							
STKA				LR		LR	07 48 38.6	
	comp=Z,61nm,20.6s,baz=21,slow=32							
TXAR	**Lajitas Array**	**149.02**	**344**	PKPbc		PKPbc	07 26 58.8	+1.5
	1.0nm,0.8s,baz=19,slow=5.7,SNR=5.3							

IDC 02 07:40:33.8±28.0, 30°21S×178°38W, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.8/15, mbtmp3.9/4, ML3.3/1, MS4.0/1, Ms1 4.0/1, ms1mx2.9/25, Error ellipse: s-maj=512.8km s-min=70.4km az=83.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RPZ	**Rata Peaks**	**15.89**	**209**	Pn		Pn	07 44 19.0	+0.3
	0.1nm,0.3s,baz=34,slow=15,SNR=3.1							
STKA	**Stephens Creek**	**34.20**	**257**	P		P	07 47 20.4	-0.7
	1.8nm,0.9s,baz=117,slow=9.0,SNR=4.2							
ASAR	**Alice Springs**	**42.79**	**267**	P		P	07 48 33.3	-0.1
	0.3nm,0.5s,baz=103,slow=7.2,SNR=5.0							
WRA	**Warramunga Arr**	**43.76**	**272**	P		P	07 48 41.5	+0.2
	0.5nm,0.3s,baz=110,slow=8.1,SNR=15							
ATAH	**Atahualpa**	**95.00**	**101**	LR		LR	08 24 54.4	
	comp=Z,66nm,21.2s,baz=286,slow=28							

IDC 02 07:56:26.2±1.7, 4°.95N×125°.90E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/21, mbtmp3.6/5, Error ellipse: s-maj=112.7km s-min=20.6km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**22.91**	**181**	P		P	08 01 30.7	-1.1
	1.9nm,0.7s,baz=359,slow=16,SNR=2.5							
WRA	**Warramunga Arr**	**26.09**	**162**	P		P	08 02 02.5	+0.6
	1.1nm,0.4s,baz=343,slow=10.0,SNR=5.8							
ASAR	**Alice Springs**	**29.49**	**165**	P		P	08 02 32.8	+0.4
	0.4nm,0.8s,baz=355,slow=9.3,SNR=4.4							
MKAR	**Makanchi Array**	**56.09**	**325**	P		P	08 06 07.5	+0.2
	0.3nm,0.6s,baz=129,slow=6.7,SNR=4.7							
KURBB	**Kurchatov Array**	**60.27**	**327**	P		P	08 06 36.2	-0.3
	0.5nm,0.7s,baz=124,slow=6.4,SNR=5.7							

IDC 02 08:16:21.1±0.9, 42°.82S×72°.44W, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.9/15, mbtmp4.1/4, MS2.8/1, Ms1 2.8/1, ms1mx2.5/21, Error ellipse: s-maj=50.6km s-min=16.8km az=117.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PLCA	**Paso Flores**	**2.52**	**35**	Pn		Pn	08 17 04.5	+1.0
	11nm,0.3s,baz=216,slow=16,SNR=114							
PLCA				Lg		Lg	08 17 41.5	
	17nm,0.3s,baz=286,slow=20,SNR=11							
USHA	**Ushuaia**	**12.30**	**169**	LR		LR	08 24 49.2	
	comp=Z,40nm,19.1s,baz=224,slow=41							
SIV	**San Ignacio**	**28.46**	**23**	P		P	08 22 16.0	-1.8
	1.1nm,0.8s,baz=207,slow=9.0,SNR=4.5							
QSPA	**South Pole Qui**	**47.43**	**180**	P		P	08 24 57.1	-0.1
	4.6nm,0.9s,baz=138,slow=3.2,SNR=9.3							
PDAR	**Pinedale Array**	**91.50**	**334**	P		P	08 29 29.1	-0.2
	0.7nm,0.9s,baz=154,slow=6.9,SNR=5.0							
BVAR	**Borovoye Array**	**153.36**	**54**	PKPbc		PKPbc	08 36 21.1	+0.7
	0.1nm,0.4s,baz=325,slow=1.8,SNR=2.4							
BVAR				PKPab		PKPab	08 36 31.4	-1.2
	0.6nm,0.9s,baz=286,slow=2.6,SNR=3.7							
MKAR	**Makanchi Array**	**161.66**	**69**	PKP		PKPdf	08 36 21.9	-1.6
	0.2nm,0.7s,baz=29,slow=3.3,SNR=2.3							
MKAR				PKPab		PKPab	08 37 08.2	-0.5
	0.5nm,0.9s,baz=259,slow=4.4,SNR=4.6							
KSRS	**Korea Array**	**163.55**	**258**	PKP		PKPdf	08 36 24.7	-0.9
	0.7nm,0.4s,baz=218,slow=34,SNR=4.7							
SONM	**Songino Array**	**174.92**	**9**	PKP		PKPdf	08 36 32.1	-0.4
	0.6nm,1.1s,baz=90,slow=39,SNR=3.6							
SONM				PKPab		PKPab	08 38 08.4	+1.2
	0.2nm,0.4s,baz=50,slow=2.3,SNR=2.7							

DJA ***02*** *08:16:41, 0°.61S×127°.50E, h27km, MLv4.0/8*
IDC 02 08:16:39.9±1.7, 1°.09S×127°.74E, h0km, mb3.7/3, mb1 4.0/6, mb1mx3.7/19, mbtmp3.9/6, ML3.9/3, Error ellipse: s-maj=50.8km s-min=24.2km az=63.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KAPI	**Kappang**	**8.87**	**244**	Pn		Pn	08 18 50.5	+0.9
	5.6nm,0.3s,baz=82,slow=12,SNR=6.1							
FITZ	**Fitzroy Crossi**	**17.03**	**187**	P		Pn	08 20 39.6	-0.1
	0.2nm,0.3s,baz=0.0,slow=10,SNR=1.8							
WRA	**Warramunga Arr**	**19.82**	**161**	P		P	08 21 12.0	-0.3
	0.2nm,0.3s,baz=341,slow=13,SNR=51							
ASAR	**Alice Springs**	**23.22**	**166**	P		P	08 21 48.3	-0.6
	1.7nm,0.6s,baz=345,slow=11,SNR=43							
STKA	**Stephens Creek**	**33.30**	**158**	P		P	08 23 20.0	+0.5
	1.5nm,0.7s,baz=328,slow=13,SNR=2.9							
MKAR	**Makanchi Array**	**62.08**	**326**	P		P	08 27 02.4	-0.3
	0.2nm,0.4s,baz=123,slow=6.9,SNR=4.4							

BJI ***02*** *08:36:44.9, 27°.22N×66°.21E, h13km, mB5.1/37, mb4.9/60, Ms5.1/58, Ms7 4.8/52*
IDC ***02*** *08:36:44.8±0.5, 27°.09N×66°.33E, h0km, mb4.6/34, mb1 4.7/35, mb1mx4.7/36, mbtmp4.6/35, ML4.5/1, MS4.5/29, Ms1 4.5/29, ms1mx4.4/39, Error ellipse: s-maj=9.9km s-min=8.0km az=8.0*
ISCJB ***02*** *08:36:45.7±0.2, 27°.08N±0°.02×66°.35E±0°.02, h16km, mb4.9/181, MS4.7/58, Error ellipse: s-maj=3.5km s-min=2.3km az=178.5*
TEH ***02*** *08:36:48.0, 27°.30N×66°.42E, h10km, ML5.0*
MOS ***02*** *08:36:48.8±1.0, 27°.21N×66°.37E, h33km, mb5.1/84, MS4.5/26, Error ellipse: s-maj=6.2km s-min=4.0km az=109.2*
NEIC ***02*** *08:36:51.0±0.2, 27°.23N×66°.32E, h35km, mb5.1/65, Error ellipse: s-maj=6.1km s-min=4.5km az=0.0*
NEIC Felt at Karachi and Hyderabad.
SZGRF ***02*** *08:36:54.5, 27°.54N×65°.99E, h33km, mb5.3, MS4.3, Pakistan*
DJA ***02*** *08:37:00, 27°.09N×66°.64E, h107km, mb5.0/10*
ISC 02 08:36:48.1±0.4, 27°.18N±0°.04×66°.45E±0°.03, h15km±1km, h15km:pP-P, n514, σ1s76/601, mb5.0/181, MS4.7/60, 39C-13D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THW	**Thamme Wali**	**7.23**	**38**	P		**Pn**	**08 38 33.6**	**+0.3**
KBL	**Kabul**	**7.67**	**16**	*e*P		**Pn**	**08 38 39.9**	**+0.5**
KBL				*e*			08 40 10.7	
KBL	**Kabul**	**7.67**	**16**	*e*Pn		**Pn**	**08 38 39.9**	**+0.5**
KBL				*e*Sn		**Sn**	**08 40 10.7**	**+4.6**
CEP	**Cherat**	**8.12**	**34**	P		**Pn**	**08 38 45.9**	**+0.3**
CEP				S		**Sn**	**08 40 17.0**	**-0.2**
WBK	**Wadi Bani Khal**	**8.18**	**238**	P		Pn	08 38 42.6	-3.6
	SNR=64							
WBK				P		P	08 38 43.0	
	SNR=47							
SMDO	**Samad**	**8.65**	**244**	P		**Pn**	**08 38 49.8**	**-3.0**
	SNR=46							
SMDO				P			08 38 50.1	
	SNR=47							
CHCP	**Chirah Chowk**	**8.73**	**41**	P		**Pn**	**08 38 54.3**	**+0.5**
JMDO	**Jabal Madar**	**8.97**	**240**	P		**Pn**	**08 38 54.4**	**-2.7**
	SNR=75							
JMDO				P			08 38 54.6	
	SNR=74							
HOQ	**Hoqain**	**9.01**	**249**	P		Pn	08 38 54.3	-3.4
	SNR=21							
HOQ				P			08 38 55.9	
	SNR=22							
BANOM	**Banah**	**9.18**	**264**	P		**Pn**	**08 38 58.0**	**-2.0**
	SNR=9.4							
BANOM				P			08 38 58.7	
	SNR=20							
BSY	**Bisya**	**9.48**	**244**	P		**Pn**	**08 39 02.7**	**-1.5**
	SNR=63							
THN	**Thein Dam**	**9.60**	**55**	*e*PKP		**Pn**	**08 39 05.1**	**-0.6**
THN				*ex*		**Sn**	**08 40 49.6**	**-3.6**
BHK	**Bhakra**	**9.67**	**62**	*e*PKP		**Pn**	**08 39 06.8**	**+0.1**
BHK				*ex*		**Sn**	**08 40 59.0**	**+4.0**
ARQ	**Araqi**	**9.77**	**249**	P		**Pn**	**08 39 07.6**	**-0.5**
	SNR=27							
DLH	**Dalhousie**	**9.83**	**55**	*e*PKP		**Pn**	**08 39 09.0**	**-0.1**
DLH				*ex*		**Sn**	**08 40 59.0**	**-0.4**
NAZ	**Nazwa, Dubai**	**9.94**	**260**	P		**Pn**	**08 39 10.9**	**+0.5**
	SNR=21							
SDNR	**Sundarnagar**	**10.13**	**62**	*e*PKP		**Pn**	**08 39 13.0**	**-0.1**
SDNR				*ex*		**Sn**	**08 41 04.0**	**-2.5**
SMLA	**Simla**	**10.16**	**65**	*i* P		**Pn**	**08 39 13.6**	**+0.3**
SMLA				*i* x		**Sn**	**08 41 05.5**	**-1.4**
SMLA				⇓			08 41 07.9	
	comp=E,9μm,0.5s							
SMLA				⇓			08 41 11.1	
	comp=N,9μm,0.4s							
IBAF	**Bafgh**	**10.46**	**297**	*e*P		**Pn**	**08 39 17.5**	**-0.2**
IMYA	**Miami**	**10.61**	**331**	*e*P		**Pn**	**08 39 19.3**	**-0.4**
DDI	**Dehra Dun**	**10.65**	**70**	*ex*		**Sn**	**08 41 20.0**	**+0.8**
ISRO	**Mashad**	**10.87**	**329**	*e*P		**Pn**	**08 39 22.7**	**-0.4**
POO	**Poona**	**10.98**	**140**	⇑ *i*P		**Pn**	**08 39 23.0**	**-1.7**
	comp=N,17nm,0.9s							
IPAY	**Payeh**	**11.20**	**327**	*e*P		**Pn**	**08 39 27.5**	**-0.4**
IAKL	**Akhelmad**	**11.44**	**327**	*e*P		**Pn**	**08 39 30.7**	**-0.5**
AKL	**Akola**	**11.61**	**121**	*e*PKP		**Pn**	**08 39 34.5**	**+1.2**
AKL				AMb		AMB	08 39 39.3	
	comp=Z,75nm,1.1s							
AKL				*i* x		x	08 43 09.5	
IKRD	**Kardeh**	**11.70**	**327**	*e*P		Pn	08 39 27.6	-7.0
ISRV	**Sarvestan**	**11.96**	**284**	*e*P		**Pn**	**08 39 37.0**	**-1.4**
IPAR	**Pars**	**12.08**	**286**	*e*P		**Pn**	**08 39 38.4**	**-1.6**
KAD	**Karad**	**12.15**	**142**	*e*PKP		**Pn**	**08 39 38.8**	**-1.9**
KAD				*ex*		x	08 41 55.8	
PTH	**Pithoragarh**	**12.35**	**76**	*e*PKP		**Pn**	**08 39 45.0**	**+1.5**
PTH				*ex*		x	08 41 58.0	
LATR	**Latur**	**12.76**	**131**	*e*PKP		**Pn**	**08 39 47.2**	**-1.8**
JBP	**Jabalpur**	**12.89**	**105**	⇓ *i*P		**Pn**	**08 39 49.8**	**-0.9**
JBP				*ex*		x	08 41 59.5	
NGP	**Nagpur**	**12.97**	**115**	*e*PKP		**Pn**	**08 39 52.5**	**+0.7**
NGP				AMb		AMB	08 39 55.6	
	comp=Z,94nm,1.8s							
NGP				*ex*		x	08 42 10.9	
IZEF	**Zefreh**	**13.49**	**298**	*e*P		**Pn**	**08 39 57.1**	**-2.1**
IANJ	**Anjilo**	**13.52**	**311**	*e*P		**Pn**	**08 39 57.6**	**-2.0**
ALBI	**Allahabad**	**13.91**	**94**	*ex*		Pn	08 40 00.0	-4.7
IFIR	**Firoozkooh**	**14.41**	**309**	*e*P		**Pn**	**08 40 13.5**	**+1.7**
KSH	**Kashi**	**14.64**	**30**	P		Pn	08 40 07.5	-7.2
KSH				pP		P	08 40 12.9	-8.1
KSH				sP			08 40 15.7	
KSH				PP		**PnPn**	**08 40 20.4**	**-2.4**
KSH				S		Sn	08 42 44.9	-12
KSH				sS		S	08 42 50.5	-25
KSH				SS		**SnSn**	**08 43 00.9**	**-8.6**
KSH				PcP		**PcP**	**08 45 29.1**	**+1.5**
KSH				ScS		**ScS**	**08 52 36.9**	**-1.7**
KSH				pmax		pmax		
	comp=Z,24nm,1.3s							
KSH				pmax		pmax		
	comp=Z,280nm,3.4s							
KSH				LR		LR		
	comp=N,6μm,14.1s							
KSH				LR		LR		
	comp=E,8μm,11.8s							
KSH				LR		LR		
	comp=Z,5μm,20.5s							
KSH	**Kashi**	**14.64**	**30**	P		Pn	08 40 08.7	-6.0
KSH				LR		LR		
	comp=N,3μm,8.8s							
KSH				LR		LR		
	comp=E,4μm,10.5s							
HYB	**Hyderabad**	**14.81**	**128**	*i* P		**Pn**	**08 40 17.0**	**-0.2**
HYB				*e*			08 40 20.0	
HYB				*e*S		**Sn**	**08 43 06.0**	**+4.9**
HYB				*e*			08 43 23.0	
HYB				LR		LR	08 46 28.0	
	comp=E,3.4nm,16.0s							
RBK	**Rabkut**	**14.86**	**232**	P		Pn	**08 40 15.3**	**-2.5**
	SNR=19							
IDMV	**Damavand**	**14.88**	**308**	*e*P		**P**	**08 40 23.8**	**-0.1**
KOLN	**Koldanda**	**15.23**	**84**	*e*P		**Pn**	**08 40 20.1**	**-2.8**
	comp=E,54nm,0.3s							
KOLN				*e*S		**Sn**	**08 43 05.2**	**-6.3**
KOLN	**Koldanda**	**15.23**	**84**	*e*P		**Pn**	**08 40 20.1**	**-2.8**
	comp=E,54nm,0.3s							
KOLN				*e*S		**Sn**	**08 43 05.2**	**-6.3**
DANN	**Dangsing**	**15.37**	**82**	*e*P		**Pn**	**08 40 21.2**	**-3.5**
	comp=E,773nm,1.2s							
DANN	**Dangsing**	**15.37**	**82**	*e*P		**Pn**	**08 40 21.2**	**-3.5**
	comp=E,773nm,1.2s							
ABTO	**Aybut**	**15.61**	**234**	P		Pn	**08 40 23.8**	**-3.8**
	SNR=21							
AML	**Almayashu**	**16.05**	**20**	P		Pn	**08 40 31.3**	**-2.2**
	SNR=88							
AML				P		Pn	**08 40 31.3**	**-2.2**
	SNR=88							
GKN	**Gorkha**	**16.14**	**83**	*e*P		**Pn**	**08 40 31.1**	**-3.6**
	comp=E,165nm,0.6s							
GKN	**Gorkha**	**16.14**	**83**	*e*P		**Pn**	**08 40 31.1**	**-3.6**
	comp=E,165nm,0.6s							
KK31	**Karatay Array**	**16.23**	**11**	*ce*P		**Pn**	**08 40 34.1**	**-1.4**
KK31				pmax		pmax		
	comp=Z,27nm,0.8s							
KKAR	**Karatay Array**	**16.23**	**11**	*e*P		**Pn**	**08 40 33.9**	**-1.6**
KKAR				*e*			08 43 39.8	
KKAR	**Karatay Array**	**16.23**	**11**	*e*Pn		**Pn**	**08 40 33.9**	**-1.6**
KKAR				*e*Sn		**Sn**	**08 43 39.8**	**+4.6**
IRAZ	**Razeghan**	**16.32**	**304**	*e*P		**Pn**	**08 40 34.2**	**-2.7**
QRN	**Al-Qurain**	**16.45**	**280**	*e*P		**Pn**	**08 40 34.9**	**-3.5**
QRN				AMb		AMB	08 40 40.2	
	comp=Z,111nm,0.9s							
KZA	**Kyzart**	**16.52**	**24**	P		**P**	**08 40 43.8**	**+1.6**
	SNR=19							
KZA				P		**P**	**08 40 43.8**	**+1.6**
	SNR=19							
EKS2	**Erkin-Say**	**16.56**	**19**	*e*P		**Pn**	**08 40 38.7**	**-1.1**
EKS2				*e*			08 43 39.1	
EKS2				pmax		pmax		
	comp=Z,74nm,1.1s							
EKS2	**Erkin-Say**	**16.56**	**19**	*e*Pn		**Pn**	**08 40 38.6**	**-1.1**
	comp=Z,74nm,1.1s							
EKS2				*e*Sn		**Sn**	**08 43 39.1**	**-4.3**
EKS2	**Erkin-Say**	**16.56**	**19**	P		**Pn**	**08 40 38.7**	**-1.1**
	SNR=35							
EKS2				P		**Pn**	**08 40 38.7**	**-1.1**
	SNR=35							
DMN	**Daman**	**16.57**	**84**	*e*P		**Pn**	**08 40 36.4**	**-3.8**
	comp=Z,399nm,1.2s							
DMN	**Daman**	**16.57**	**84**	*e*P		**Pn**	**08 40 36.4**	**-3.8**
	comp=Z,399nm,1.2s							
KBD	**Kabd**	**16.66**	**281**	*e*P		**Pn**	**08 40 37.9**	**-3.2**
KBD				AMb		AMB	08 40 48.0	
	comp=Z,43nm,0.9s							
KKN	**Kakani**	**16.72**	**84**	*e*P		**Pn**	**08 40 38.2**	**-3.8**
KKN		

TKM2 P **Pn** **08 40 49.5 -0.7**
SNR=41
JIRN **Jiri** **17.53 84** *e*P **Pn** **08 40 49.5 -2.9**
comp=Z,260nm,0.6s
JIRN **Jiri** **17.53 84** *e*P **Pn** **08 40 49.5 -2.9**
comp=Z,260nm,0.6s
RAMN **Ramite** **17.95 86** *e*P **Pn** **08 40 54.1 -3.3**
comp=Z,149nm,0.6s
RAMN *e*S Sn 08 44 07.3 -10
RAMN **Ramite** **17.95 86** *e*P **Pn** **08 40 54.1 -3.3**
comp=Z,149nm,0.6s
RAMN *e*S Sn 08 44 07.3 -10
AAA **Alma-Ata** **18.17 25** *e*P **P** **08 41 01.1 +1.0**
AAA *e*S **S** **08 44 26.8 -1.0**
AAA pmax pmax
comp=Z,500nm,2.1s
AAA smax smax
comp=E,1μm,6.8s
AAA MLR MLR
comp=Z,8μm,15.0s
VIS **Vishakhapatnam** **18.20 118** *i* P Pn 08 40 52.8 -7.5
VIS *i* S Sn 08 44 12.5 -11
ODAN **Odare** **18.66 86** *e*P **P** **08 41 03.7 -2.0**
ODAN *e*S Sn 08 44 24.0 -11
ODAN **Odare** **18.66 86** *e*P **P** **08 41 03.7 -2.0**
ODAN *e*S Sn 08 44 24.0 -11
TAPN **Taplejung** **18.90 85** *e*P **P** **08 41 06.3 -2.2**
TAPN *e*S Sn 08 44 28.4 -12
TAPN **Taplejung** **18.90 85** *e*P **P** **08 41 06.3 -2.2**
TAPN *e*S Sn 08 44 28.4 -12
RAYN **Ar Rayn** **19.28 264** P **P** **08 41 10.9 -1.5**
comp=Z,220nm,0.9s,SNR=8.8
BHD **Baghdad** **20.00 293** *ex* P 08 41 15.0 -5.1
BHD *ex* x 08 44 55.1
BHD *ex* x 08 47 24.0
BHD *ex* x 08 48 18.3
LSA **Lhasa** **21.85 78** P **P** **08 41 42.3 +1.6**
LSA pP **pP** **08 41 46.2 +1.1**
LSA pmax pmax
comp=Z,70nm,1.0s
LSA **Lhasa** **21.85 78** *e*P **P** **08 41 42.3 +1.6**
LSA pmax pmax
comp=Z,123nm,1.1s
LSA **Lhasa** **21.85 78** *e*P **P** **08 41 42.3 +1.6**
comp=Z,123nm,1.1s
GNI **Garni** **22.15 311** *e*P **P** **08 41 43.0 -0.5**
comp=Z,118nm,1.0s
GNI S **S** **08 45 47.1 -0.1**
GNI Lg Lg 08 48 32.0
GNI **Garni** **22.15 311** P **P** **08 41 46.2 +2.7**
SNR=20
GNI **Garni** **22.15 311** P **P** **08 41 42.8 -0.7**
comp=Z,69nm,0.9s,baz=39,slow=1.8,SNR=20
GNI S **S** **08 45 47.1 -0.1**
comp=Z,1.7nm,0.4s,baz=127,slow=20,SNR=1.6
GNI Lg Lg 08 48 32.0
comp=Z,1.3nm,0.3s,baz=209,slow=19,SNR=2.0
DGRG **David-gareji** **22.41 315** P **P** **08 41 45.5 -0.6**
DGRG S Sn 08 46 01.0 -3.5
AGT **Agartala** **22.61 93** *e*PKP **P** **08 41 50.0 +1.7**
AGT *ex* x 08 42 40.0
AB31 **Akbulak array** **22.61 349** *ce*P **P** **08 41 48.2 +0.1**
AB31 pmax pmax
comp=Z,36nm,0.5s
ABKAR **Akbulak array** **22.61 349** *e*P **P** **08 41 48.0 0.0**
comp=Z,30nm,0.5s
SHL **Shillong** **22.83 88** *e*PKP **P** **08 41 52.0 +1.1**
SHL *ex* x 08 46 00.0
TBLG **Delisi** **22.96 315** P **P** **08 41 55.3 +3.4**
TBLG S **S** **08 45 59.0 -2.6**
TBLG **Delisi** **22.96 315** P **P** **08 41 55.3 +3.4**
TBLG S **S** **08 45 59.0 -2.6**
MK31 **Makanchi Array** **23.23 28** *ce*P **P** **08 41 53.1 -1.4**
MK31 pmax pmax
comp=Z,36nm,0.6s
MK31 **Makanchi Array** **23.23 28** *e*P **P** **08 41 53.1 -1.4**
MKAR **Makanchi Array** **23.23 28** P **P** **08 41 53.7 -0.9**
MKAR pmax pmax
comp=Z,13nm,0.6s
MKAR MLR MLR
comp=Z,644nm,19.1s
MKAR **Makanchi Array** **23.23 28** P **P** **08 41 53.7 -0.9**
MKAR S **S** **08 46 08.5 +2.5**
MKAR Lg Lg 08 49 15.2
MKAR **Makanchi Array** **23.23 28** P **P** **08 41 53.7 -0.9**
comp=Z,13nm,0.6s,baz=212,slow=11,SNR=80
MKAR S **S** **08 46 08.5 +2.5**
comp=Z,1.4nm,1.0s,baz=209,slow=15,SNR=1.7
MKAR Lg Lg 08 49 15.2
comp=Z,1.7nm,1.1s,baz=169,slow=23,SNR=2.5
MKAR LR LR 08 51 11.6
comp=Z,644nm,19.1s,baz=225,slow=37
GOR **Gori** **23.50 315** P **P** **08 42 00.7 +3.4**
AKH **Akhalkalaki** **23.60 313** P **P** **08 41 58.4 0.0**
AKH S **S** **08 46 14.2 +1.8**
WMQ **Urumqi** **23.87 40** P **P** **08 42 01.2 +0.3**
WMQ sP **sP** **08 42 10.2 +2.7**
WMQ S **S** **08 46 13.0 -3.5**
WMQ sS **sS** **08 46 20.0 -4.2**
WMQ pmax pmax
comp=Z,130nm,1.3s
WMQ pmax pmax
comp=Z,440nm,3.5s
WMQ LR LR
comp=N,4μm,17.3s
WMQ LR LR
comp=E,2μm,16.2s
WMQ LR LR
comp=Z,3μm,18.6s
ZEI **Tsey** **24.05 316** *e*P **P** **08 42 02.1 -0.7**
ZEI pmax pmax
comp=Z,8.0nm,0.9s
AKTO **Aktyubinsk** **24.10 347** P **P** **08 42 03.1 +0.1**
AKTO S **S** **08 46 22.6 +2.7**
AKTO pmax pmax
comp=Z,18nm,0.7s
AKTO smax smax
comp=N,3.0nm,1.0s
AKTO MLR MLR
comp=Z,712nm,19.2s
AKTO **Aktyubinsk** **24.10 347** P **P** **08 42 03.1 +0.1**
AKTO S **S** **08 46 22.6 +2.7**
AKTO Lg Lg 08 49 34.2
AKTO **Aktyubinsk** **24.10 347** P **P** **08 42 03.1 +0.1**
comp=Z,18nm,0.7s,baz=163,slow=11,SNR=15
AKTO S **S** **08 46 22.6 +2.7**
comp=Z,3.1nm,1.0s,baz=156,slow=19,SNR=2.3
AKTO Lg Lg 08 49 34.2
comp=Z,0.6nm,0.6s,baz=257,slow=16,SNR=1.8
AKTO LR LR 08 53 36.1
comp=Z,712nm,19.1s,baz=329,slow=42
ONI **Oni** **24.23 315** P **P** **08 42 04.2 -0.1**
ONI S **S** **08 46 25.4 +3.2**
IMP **Imphal** **24.80 89** *ex* **P** **08 42 13.0 +3.3**
IMP *ex* x 08 46 57.0
KURBB **Kurchatov Arra** **25.16 18** P **P** **08 42 12.7 +0.2**
comp=Z,24nm,0.7s,baz=210,slow=8.8,SNR=35
KURBB S **S** **08 46 43.0 +6.0**
comp=Z,0.7nm,0.8s,baz=216,slow=20,SNR=2.5
KURBB Lg Lg 08 50 11.1
comp=Z,0.2nm,0.3s,baz=236,slow=28,SNR=5.9
KURBB LR LR 08 53 20.2
comp=Z,3μm,19.1s,baz=215,slow=39
KURK **Kurchatov** **25.27 18** *e*P **P** **08 42 14.6 +1.1**
KURK S **S** **08 46 43.0 +4.4**
KURK pmax pmax
comp=Z,71nm,1.1s
KURK **Kurchatov** **25.27 18** *e*P **P** **08 42 14.6 +1.1**
comp=Z,72nm,1.1s
KURK S **S** **08 46 43.0 +4.4**
KURK Lg Lg 08 50 11.1
KURK **Kurchatov** **25.27 18** P **P** **08 42 15.1 +1.6**
SNR=10
KURK **Kurchatov** **25.27 18** P **P** **08 42 14.2 +0.7**
comp=Z,192nm,0.8s,SNR=13
KIV **Kislovodsk** **25.44 317** *e*P **P** **08 42 15.5 +0.2**
KIV *e*S **S** **08 46 42.8 +1.1**
KIV pmax pmax
comp=Z,65nm,1.1s
KIV MLR MLR
comp=Z,169nm,15.0s
KIV **Kislovodsk** **25.44 317** *e*P **P** **08 42 16.6 +1.3**
comp=Z,61nm,0.9s
KIV **Kislovodsk** **25.44 317** P **P** **08 42 16.8 +1.5**
SNR=22

KIV **Kislovodsk** **25.44 317** P **P** **08 42 16.7 +1.5**
comp=Z,361nm,1.1s,SNR=7.6
VOSK **Vostochnaya** **25.74 6** P **P** **08 42 18.3 +0.5**
VOSK pmax pmax
comp=Z,51nm,1.0s
ZRNK **Zerenda** **25.81 4** *i* P **P** **08 42 18.8 +0.3**
ZRNK pmax pmax
comp=Z,48nm,1.1s
BVA0 **Borovoye Array** **25.98 5** P **P** **08 42 20.8 +0.8**
BVA0 pmax pmax
comp=Z,7.0nm,1.0s
BVAR **Borovoye Array** **25.98 5** P **P** **08 42 20.6 +0.5**
BVAR pmax pmax
comp=Z,25nm,0.8s
BVAR MLR MLR
comp=Z,2μm,19.1s
BVAR **Borovoye Array** **25.98 5** P **P** **08 42 20.6 +0.5**
BVAR S S 08 46 59.9 +10
BVAR Lg Lg 08 50 35.3
BVAR **Borovoye Array** **25.98 5** P **P** **08 42 20.6 +0.5**
comp=Z,25nm,0.8s,baz=172,slow=11,SNR=61
BVAR S S 08 46 59.9 +10
comp=Z,1.0nm,0.8s,baz=224,slow=10,SNR=1.9
BVAR Lg Lg 08 50 35.3
comp=Z,0.2nm,0.4s,baz=148,slow=30,SNR=3.0
BVAR LR LR 08 54 29.0
comp=Z,2μm,19.1s,baz=192,slow=41
BRVK **Borovoye** **26.01 5** *c i*P **P** **08 42 21.1 +0.9**
BRVK pmax pmax
comp=Z,41nm,1.0s
BRVK **Borovoye** **26.01 5** *e*P **P** **08 42 20.4 +0.1**
comp=Z,51nm,0.8s
BRVK **Borovoye** **26.01 5** P **P** **08 42 21.4 +1.2**
comp=Z,227nm,0.9s,SNR=21
BRVK **Borovoye** **26.01 5** P **P** **08 42 22.0 +1.8**
SNR=19
ASF **Jabal al Asfar** **26.11 288** P **P** **08 42 18.1 -3.4**
ASF S **S** **08 46 54.5 +1.9**
ASF Lg Lg 08 50 30.2
ASF **Jabal al Asfar** **26.11 288** P **P** **08 42 18.1 -3.4**
comp=Z,2.5nm,0.6s,baz=92,slow=9.2,SNR=3.7
ASF S **S** **08 46 54.5 +1.9**
comp=Z,0.9nm,0.3s,baz=132,slow=15,SNR=2.4
ASF Lg Lg 08 50 30.2
comp=Z,0.8nm,0.3s,baz=9.3,slow=18,SNR=2.5
ASF LR LR 08 54 22.1
comp=Z,611nm,21.0s,baz=140,slow=41
SOC **Sochi** **27.09 314** *e*P **P** **08 42 28.5 -1.6**
SOC *e* 08 43 12.2
SOC *e*S **S** **08 47 09.4 +1.7**
SOC pmax pmax
comp=Z,41nm,0.9s
SOC MLR MLR
comp=Z,355nm,15.0s
ATD **Arta Tunnel** **27.10 240** P **P** **08 42 32.4 +1.9**
ATD S **S** **08 47 13.2 +5.0**
ATD **Arta Tunnel** **27.10 240** P **P** **08 42 32.4 +1.9**
comp=Z,4.6nm,0.3s,baz=113,slow=12,SNR=4.8
ATD S **S** **08 47 13.2 +5.0**
comp=Z,3.9nm,0.3s,baz=253,slow=19,SNR=2.7
ATD LR LR 08 54 10.3
comp=Z,410nm,21.6s,baz=54,slow=39
EIL **Elat** **27.77 283** P **P** **08 42 33.5 -3.0**
EIL S **S** **08 47 25.6 +6.9**
EIL **Elat** **27.77 283** P **P** **08 42 33.5 -3.0**
comp=Z,3.8nm,0.7s,baz=90,slow=7.1,SNR=2.6
EIL S **S** **08 47 25.6 +6.9**
comp=Z,3.4nm,0.7s,baz=48,slow=19,SNR=2.3
ANN **Anapa** **29.11 315** *e*P **P** **08 42 46.0 -2.1**
ANN *e*S **S** **08 47 35.4 -4.0**
ANN pmax pmax
comp=Z,35nm,1.2s
ARU **Arti** **29.77 351** *d i*P **P** **08 42 53.8 -0.1**
ARU 08 43 47.5
ARU S **S** **08 47 51.1 +1.6**
ARU pmax pmax
comp=Z,21nm,2.5s
ARU MLR MLR
comp=Z,1μm,19.0s
SVE **Sverdlovsk** **29.92 354** *e*P P 08 42 59.8 +4.7
SVE *e* 08 43 50.8
SVE *e* 08 49 53.8
SVE pmax pmax
comp=Z,33nm,1.6s
SVE MLR MLR
comp=Z,1μm,12.0s
BRTR **Keskin Array B** **29.93 303** P **P** **08 42 53.2 -2.5**
BRTR S **S** **08 47 54.6 +1.9**
BRTR **Keskin Array B** **29.93 303** P **P** **08 42 53.2 -2.5**
comp=Z,0.4nm,0.5s,baz=106,slow=7.5,SNR=3.3
BRTR S **S** **08 47 54.6 +1.9**
comp=Z,0.2nm,0.3s,baz=106,slow=11,SNR=2.3
BRTR LR LR 08 56 31.3
comp=Z,476nm,21.1s,baz=311,slow=40
ZAA0 **Zalesovo Array** **29.98 22** *e*P **P** **08 42 56.1 +0.4**
ZALV **Zalesovo Beam** **29.98 22** P **P** **08 42 55.9 +0.2**
ZALV pmax pmax
comp=Z,13nm,0.5s
ZALV MLR MLR
comp=Z,2μm,20.2s
ZALV **Zalesovo Beam** **29.98 22** P **P** **08 42 55.9 +0.2**
ZALV **Zalesovo Beam** **29.98 22** P **P** **08 42 55.9 +0.2**
comp=Z,13nm,0.5s,baz=220,slow=9.6,SNR=32
ZALV LR LR 08 56 27.4
comp=Z,2μm,20.2s,baz=218,slow=39
NVS **Novosibirsk** **30.23 19** *e*P **P** **08 42 58.5 +0.6**
NVS pmax pmax
comp=N,7.0nm,0.5s
NVS pmax pmax
comp=Z,10.0nm,0.5s
NVS pmax pmax
comp=E,6.0nm,0.7s
GTA **Gaotai** **30.27 58** *e*P **P** **08 43 00.1 +1.5**
GTA pP **pP** **08 43 04.4 +1.1**
GTA sP **sP** **08 43 07.8 +2.5**
GTA S **S** **08 48 00.0 +2.1**
GTA sS **sS** **08 48 07.9 +2.2**
GTA SS **ScP** **08 49 41.7 +0.8**
GTA pmax pmax
comp=Z,11nm,1.1s
GTA pmax pmax
comp=Z,140nm,7.4s
GTA LR LR
comp=N,2μm,19.2s
GTA LR LR
comp=E,1μm,15.7s
GTA LR LR
comp=Z,1μm,16.9s
VRHR **Novokhopersk** **30.41 328** *e*P **P** **08 43 01.3 +1.8**
VRHR pmax pmax
comp=N,8.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,9.0nm,0.7s
CHTO **Chiang Mai** **30.98 99** *e*P **P** **08 43 05.9 +1.0**
CHTO pmax pmax
comp=Z,56nm,1.5s
CHTO **Chiang Mai** **30.98 99** *e*P **P** **08 43 05.9 +1.0**
comp=Z,56nm,1.5s
CHTO **Chiang Mai** **30.98 99** P **P** **08 43 06.3 +1.3**
SNR=12
CHTO **Chiang Mai** **30.98 99** P **P** **08 43 05.9 +1.0**
comp=Z,28nm,1.3s
CM31 **Chiang Mai Arr** **31.11 99** *e*P **P** **08 43 07.5 +1.4**
CMAR **Chiang Mai Arr** **31.11 99** P **P** **08 43 06.8 +0.7**
CMAR **Chiang Mai Arr** **31.11 99** P **P** **08 43 06.8 +0.7**
comp=Z,4.5nm,0.5s,baz=291,slow=9.3,SNR=13
CMAR LR LR 08 57 28.6
comp=Z,741nm,18.3s,baz=290,slow=40
SIM **Simferopol'** **31.31 313** P **P** **08 43 08.0 +0.4**
SIM pmax pmax
comp=Z,20nm,0.8s
VSR **Storozhevoye** **31.66 327** *e*P P 08 43 02.3 -8.3
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
KMI **Kunming** **32.57 85** P **P** **08 43 21.6 +2.4**
KMI pP **pP** **08 43 24.2 +0.3**
KMI sP **sP** **08 43 25.5 -0.3**
KMI PP **PnPn** **08 44 29.7 +3.0**
KMI S **S** **08 48 35.9 +1.5**
KMI SS **SnSn** **08 50 31.9 +3.3**

KMI pmax pmax
comp=Z,7.0nm,0.8s
KMI LR LR
comp=N,1μm,14.3s
KMI LR LR
comp=E,1μm,16.3s
KMI LR LR
comp=Z,1μm,14.6s
CD2 **Chengdu** **32.73 74** ⇓P **P** **08 43 21.3 +1.0**
CD2 pP **pP** **08 43 25.7 +0.7**
CD2 sP **sP** **08 43 28.3 +1.4**
CD2 PP **PnPn** **08 44 30.3 +1.8**
CD2 S **S** **08 48 36.4 0.0**
CD2 SS **SnSn** **08 50 33.4 +1.3**
CD2 pmax pmax
comp=Z,50nm,0.7s
CD2 pmax pmax
comp=Z,120nm,4.2s
CD2 LR LR
comp=N,5μm,20.1s
CD2 LR LR
comp=E,1μm,13.2s
CD2 LR LR
comp=Z,2μm,12.7s
LZH **Lanzhou** **32.89 65** *e*P **P** **08 43 23.6 +1.8**
LZH pP **pP** **08 43 28.5 +2.0**
LZH sP **sP** **08 43 30.7 +2.3**
LZH PP **PnPn** **08 44 29.6 -1.0**
LZH *e*S **S** **08 48 40.4 +1.3**
LZH sS **sS** **08 48 46.2 -0.7**
LZH pmax pmax
comp=Z,22nm,1.1s
LZH pmax pmax
comp=Z,160nm,6.0s
LZH LR LR
comp=N,800nm,12.8s
LZH LR LR
comp=E,1μm,15.0s
LZH LR LR
comp=Z,1μm,15.3s
SOKR **Solikamsk** **33.06 351** ⇑*i*P P 08 43 27.5 +4.8
SOKR pmax pmax
comp=Z,30nm,1.4s
SOKR MLR MLR
comp=Z,1μm,21.0s
TIRR **Tirgusor** **34.96 310** *e*P **P** **08 43 38.2 -1.2**
TIRR pmax pmax
comp=Z,11nm,0.9s
TIRR **Tirgusor** **34.96 310** *e*P **P** **08 43 38.2 -1.2**
comp=Z,11nm,0.9s
TIRR **Tirgusor** **34.96 310** ⇑*i*P **P** **08 43 39.9 +0.5**
MOS **Moscow** **35.30 332** *e*P **P** **08 43 40.6 -1.7**
MOS *e* 08 44 58.6
MOS pmax pmax
comp=Z,46nm,1.0s
OBN **Obninsk** **35.35 330** ⇑*e*P **P** **08 43 42.5 -0.1**
OBN *i* 08 43 57.9
OBN *e* 08 45 15.4
OBN *e*S **S** **08 49 18.3 +2.1**
OBN *e* 08 52 01.4
OBN pmax pmax
comp=Z,46nm,1.7s
OBN **Obninsk** **35.35 330** *e*P **P** **08 43 42.6 -0.1**
comp=Z,10nm,0.4s
CFR **Carcaliu** **35.36 311** ⇑*i*P **P** **08 43 41.7 -1.2**
MOY **Mondy** **35.66 37** *e*P **P** **08 43 47.2 +1.6**
GYA **Guiyang** **35.79 82** P **P** **08 43 47.3 +0.3**
GYA PP **PP** **08 45 08.0 -0.3**
GYA PcP **PcP** **08 46 17.8 +3.2**
GYA S **S** **08 49 23.2 -0.7**
GYA ScP **ScP** **08 50 01.5 +1.2**
GYA SS **SnSn** **08 51 44.8 -1.7**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,100nm,4.1s
GYA LR LR
comp=N,840nm,13.0s
GYA LR LR
comp=E,650nm,14.0s
GYA LR LR
comp=Z,990nm,13.3s
ZAK **Zakamensk** **36.34 40** *e*P **P** **08 43 52.0 +0.6**
ZAK pmax pmax
comp=Z,8.0nm,1.2s
ISR **Istrita** **36.42 310** ⇑*i*P **P** **08 43 53.0 +0.9**
VRI **Vrincioaia** **36.51 311** ⇑*i*P **P** **08 43 52.9 +0.1**
PLOR **Plostina** **36.55 311** ⇑*i*P **P** **08 43 53.7 +0.5**
AKASG **Malin Array Be** **36.71 320** P **P** **08 43 53.2 -1.1**
AKASG **08 45 16.5**
AKASG **08 46 15.9**
AKASG pmax pmax
comp=Z,6.0nm,0.7s
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG **Malin Array Be** **36.71 320** P **P** **08 43 53.2 -1.1**
AKASG PP **PnPn** **08 45 16.5 -1.3**
AKASG PcP **PcP** **08 46 15.9 -0.8**
AKASG **Malin Array Be** **36.71 320** P **P** **08 43 53.2 -1.1**
comp=Z,6.1nm,0.7s,baz=117,slow=7.0,SNR=11
AKASG PP **PnPn** **08 45 16.5 -1.3**
comp=Z,0.3nm,0.4s,baz=108,slow=8.8,SNR=2.4
AKASG PcP **PcP** **08 46 15.9 -0.8**
comp=Z,1.3nm,0.6s,baz=110,slow=3.1,SNR=3.3
AKBB **Malin Array Si** **36.71 320** *e*P **P** **08 43 53.1 -1.3**
AKBB **Malin Array Si** **36.71 320** *e*P **P** **08 43 53.0 -1.3**
KIEV **Kiev** **36.71 320** *e*P **P** **08 43 53.0 -1.4**
KIEV pmax pmax
comp=Z,18nm,1.1s
KIEV **Kiev** **36.71 320** *e*P **P** **08 43 53.0 -1.4**
comp=Z,18nm,1.1s
TESR **36.75 312** ⇑*i*P P 08 44 01.7 +6.9
MLR **Muntele Rosu** **36.93 310** P **P** **08 43 56.4 -0.1**
MLR **Muntele Rosu** **36.93 310** ⇑*i*P **P** **08 43 57.1 +0.6**
MLR **Muntele Rosu** **36.93 310** P **P** **08 43 56.4 -0.1**
comp=Z,4.2nm,1.0s,baz=79,slow=4.6,SNR=18
XAN **Xi'an** **36.98 69** P **P** **08 43 57.7 +0.7**
XAN pP **pP** **08 44 03.4 +1.6**
XAN S **S** **08 49 43.2 +1.3**
XAN pmax pmax
comp=Z,8.0nm,0.9s
XAN LR LR
comp=N,1μm,28.1s
XAN LR LR
comp=E,310nm,24.1s
XAN LR LR
comp=Z,290nm,17.4s
TLY **Talaya** **37.12 39** *e*P **P** **08 43 58.4 +0.5**
TLY *e* 08 45 44.9
TLY *e*S S 08 49 36.1 -7.4
TLY pmax pmax
comp=Z,11nm,1.1s
TLY MLR MLR
comp=Z,1μm,19.0s
TLY **Talaya** **37.12 39** *e*P **P** **08 43 59.5 +1.6**
comp=Z,12nm,0.9s
TLY **Talaya** **37.12 39** P **P** **08 44 00.3 +2.4**
SNR=5.5
SONM **Songino Array** **37.26 46** P **P** **08 43 59.9 +0.6**
SONM PP **PP** **08 45 24.5 +0.3**
SONM **Songino Array** **37.26 46** P **P** **08 43 59.9 +0.6**
comp=Z,5.4nm,0.8s,baz=249,slow=8.5,SNR=32
SONM PP **PP** **08 45 24.5 +0.3**
comp=Z,2.4nm,0.9s,baz=248,slow=12,SNR=2.0
SONM LR LR 09 01 19.9
comp=Z,1μm,20.2s,baz=256,slow=39
VOIR **37.52 310** ⇑*i*P **P** **08 44 02.2 +0.7**
ULN **Ulaanbaatar** **37.69 46** *e*P **P** **08 44 04.4 +1.5**
comp=Z,8.2nm,0.9s
ULN **Ulaanbaatar** **37.69 46** P **P** **08 44 04.9 +2.0**
SNR=5.7
ULN **Ulaanbaatar** **37.69 46** P **P** **08 44 04.6 +1.7**
comp=Z,10nm,1.4s,comp=Z,334nm
ENH **Enshi** **37.70 75** *e*P **P** **08 44 04.5 +1.4**
comp=Z,22nm,0.9s
BURAR **Bucovina Array** **38.02 314** ⇑*i*P **P** **08 44 05.2 -0.5**
BUR08 **Bucovina Ar. S** **38.04 314** *e*P **P** **08 44 05.1 -0.8**
BTO **Baotou** **38.19 58** *e*P **P** **08 44 08.7 +1.5**
KLMR **Klimovskoe** **38.28 339** *c i*P **P** **08 44 06.7 -0.8**
KLMR *e* 08 45 36.1
KLMR *e* 08 46 23.1
KLMR *e*S **S** **08 49 57.1 -3.7**
KLMR pmax pmax
comp=Z,100nm,1.3s
KLMR pmax pmax

KLMR MLR MLR
comp=Z,431nm,5.2s
comp=Z,1μm,13.0s
GZR Gura Zlata 39.07 309⇑ *i*P P 08 44 19.8 +5.3
HHC Hu-ho-hao-te 39.38 58 *e*P **P 08 44 19.4 +2.2**
HHC pmax pmax
comp=Z,22nm,1.3s
HHC pmax pmax
comp=Z,210nm,6.4s
HHC LR LR
comp=N,850nm,13.7s
HHC LR LR
comp=E,680nm,19.6s
HHC LR LR
comp=Z,950nm,20.0s
PSI Prapat 39.40 122 P **P 08 44 20.5 +2.9**
comp=Z,34nm,1.2s
DRGR 39.44 312⇑ *i*P **P 08 44 17.1 -0.4**
LVV L'vov 39.46 317 *e*P **P 08 44 17.8 +0.2**
KMBO Kilima Mbogo 39.77 230 *e*P **P 08 44 22.2 +1.4**
comp=Z,36nm,1.7s
KMBO Kilima Mbogo 39.77 230 P P 08 44 25.2 +4.4
SNR=6.1
TRPA Tarpa 39.89 314 *e*P **P 08 44 20.9 -0.3**
BZS Buzias 39.91 310⇑ *i*P **P 08 44 20.3 -1.1**
NACGM Naroch 39.92 325 *e* **P 08 44 19.0 -2.3**
UZH Uzhgorod 40.19 314 *e*P **P 08 44 21.2 -2.4**
UZH *i* 08 46 31.6
UZH *i* 08 53 51.0
KWP Kalwaria Pacla 40.21 316 *e*P **P 08 44 24.5 +0.6**
KWP Kalwaria Pacla 40.21 316 *e*P **P 08 44 24.5 +0.6**
KWP Kalwaria Pacla 40.21 316 *e*P **P 08 44 23.3 -0.6**
KWP pmax pmax
comp=Z,39nm,0.9s
KWP Kalwaria Pacla 40.21 316 *e*P **P 08 44 23.3 -0.6**
comp=Z,38nm,0.9s
KWP Kalwaria Pacla 40.21 316⇓ *i*P **P 08 44 24.0 +0.1**
KOLS Kolonicke sedl 40.28 315 *e*P **P 08 44 25.8 +1.3**
KOLS pmax pmax
comp=Z,34nm,1.5s
KOLS Kolonicke sedl 40.28 315 *e*P **P 08 44 25.8 +1.3**
QIZ Qiongzhong 40.56 92 P **P 08 44 27.3 +0.1**
QIZ S **S 08 50 37.5 +1.3**
QIZ pmax pmax
comp=Z,18nm,1.7s
QIZ pmax pmax
comp=Z,130nm,6.3s
QIZ LR LR
comp=N,1μm,22.6s
QIZ LR LR
comp=E,350nm,20.0s
QIZ LR LR
comp=Z,690nm,14.5s
CRVS Cervenica-Dubn 40.79 314 *e*P **P 08 44 28.6 -0.1**
CRVS pmax pmax
comp=Z,33nm,1.3s
CRVS Cervenica-Dubn 40.79 314 *e*P **P 08 44 28.6 -0.1**
PSZ Piszkesteto 41.56 313 *e*P **P 08 44 35.3 +0.2**
PSZ pmax pmax
comp=Z,25nm,1.1s
PSZ Piszkesteto 41.56 313 *e*P **P 08 44 35.3 +0.2**
comp=Z,25nn,1.1s
PSZ Piszkesteto 41.56 313⇑ *i*P **P 08 44 34.9 -0.2**
PSZ Piszkesteto 41.56 313⇓ *i*P **P 08 44 34.5 -0.6**
NIE Niedzica 41.65 315 *e*P **P 08 44 36.1 +0.3**
NIE Niedzica 41.65 315 *e*P **P 08 44 36.9 +1.1**
VSU Vasula 41.70 330 *e*P **P 08 44 34.9 -1.0**
VSU pmax pmax
comp=Z,55nm,1.2s
PKS2 Kecel 41.73 310 *e*P **P 08 44 37.2 +0.9**
WHN Wuhan 41.84 74 P **P 08 44 39.0 +1.5**
WHN S **S 08 50 56.0 +1.2**
WHN pmax pmax
comp=Z,81nm,0.7s
WHN LR LR
comp=N,3μm,13.4s
WHN LR LR
comp=E,1μm,14.0s
WHN LR LR
comp=Z,2μm,14.2s
PKSM Moragy 42.06 310⇑ *i*P **P 08 44 38.4 -0.7**
PKSM Moragy 42.06 310⇓ *i*P **P 08 44 39.5 +0.4**
OJC Ojcow 42.18 316 *e*P **P 08 44 40.0 0.0**
OJC Ojcow 42.18 316 *e*P **P 08 44 40.1 0.0**
RHK3 Tenkes 42.28 309 *e*P **P 08 44 40.3 -0.6**
PKS9 Tamasi 42.38 310 *e*P **P 08 44 41.1 -0.6**
VYHS Vyhne 42.38 313 *e*P **P 08 44 41.4 -0.3**
VYHS pmax pmax
comp=Z,10.0nm,1.2s
VYHS Vyhne 42.38 313 *e*P **P 08 44 41.4 -0.3**
PKSG 42.45 312⇑ P **P 08 44 42.0 -0.2**
JOF Joensuu 42.49 337 *e*p **P 08 44 42.6 +0.3**
PKST T"s 42.66 311 *e*P **P 08 44 43.0 -1.0**
BJT Baijiatuau 42.83 60 *e*P **P 08 44 47.5 +2.0**
comp=Z,15nn,0.4s
BJI Beijing 42.84 59 P **P 08 44 46.6 +1.1**
BJI S **S 08 51 11.3 +2.0**
BJI SS **SS 08 54 15.0 -5.5**
BJI pmax pmax
comp=Z,24nm,0.8s
BJI pmax pmax
comp=Z,140nm,4.8s
BJI LR LR
comp=N,1μm,20.1s
BJI LR LR
comp=E,960nm,21.7s
BJI LR LR
comp=Z,860nm,20.9s
OKC Ostrava-Krasne 43.12 315 *e*P **P 08 44 47.2 -0.5**
OKC Ostrava-Krasne 43.12 315 *e*P **P 08 44 47.2 -0.5**
BEHE Becsehely 43.38 310⇓ P **P 08 44 49.1 -0.7**
ZST Bratislava 43.45 312 *e*P **P 08 44 49.7 -0.7**
ZST pmax pmax
comp=Z,14nm,1.1s
ZST pmax pmax
comp=Z,7.0nm,0.5s
ZST Bratislava 43.45 312 *e*P **P 08 44 49.7 -0.7**
MORC Moravsky Berou 43.49 315 *e*P **P 08 44 49.7 -1.0**
MORC pmax pmax
comp=Z,13nm,0.8s
MORC Moravsky Berou 43.49 315 *e*P **P 08 44 49.7 -1.0**
comp=Z,13nm,0.8s
MORC Moravsky Berou 43.49 315⇑ *i*P **P 08 44 50.3 -0.4**
CUC Castrocucco 43.54 300 *e*P **P 08 44 51.3 0.0**
comp=Z,46nm,0.8s
FINES FINESS Array B 43.57 333 P P **08 44 50.4 -0.6**
FINES FINESS Array B 43.57 333 P P **08 44 50.4 -0.6**
comp=Z,6.2nm,0.5s,baz=126,slow=8.2,SNR=35
FINES LR LR 09 07 40.2
comp=Z,546nm,19.0s,baz=16,slow=43
SOP Sopron 43.72 312⇓ P **P 08 44 51.7 -0.9**
KAF Kangasniemi 43.85 334 *e*p **P 08 44 53.2 -0.1**
CONA Conrad Observa 44.23 312⇑ *i*P **P 08 44 56.2 -0.5**
comp=Z,14nm,1.1s
CONA Conrad Observa 44.23 312⇑ *i*P **P 08 44 56.2 -0.5**
comp=Z,14nm,1.1s
ARSA Arzberg 44.35 311 *i* P **P 08 44 57.5 -0.1**
comp=Z,33nm,1.2s
ARSA Arzberg 44.35 311 *i* P **P 08 44 57.5 -0.1**
comp=Z,33nn,1.2s,SNR=8.5
DPC Dobruska-Polom 44.38 315 *e*P **P 08 44 57.9 0.0**
DPC *e* 08 45 03.5
DPC Dobruska-Polom 44.38 315 *e*P **P 08 44 57.9 0.0**
DPC *e*pP **pP 08 45 03.5 +0.8**
KSP Ksiaz 44.50 316 *e*P **P 08 44 59.2 +0.4**
SOKA Soboth 44.60 310⇑ *i*P **P 08 44 59.4 -0.3**
comp=Z,28nm,1.2s
SOKA Soboth 44.60 310⇑ *i*P **P 08 44 59.4 -0.3**
comp=Z,28nn,1.2s
UPC Upice 44.61 315 *e*P **P 08 44 59.4 -0.2**
UPC *e* 08 45 04.9
UPC Upice 44.61 315 *e*P **P 08 44 59.4 -0.2**
UPC *e*pP **pP 08 45 04.9 +0.4**
TREC Trest 44.70 314 *e*P **P 08 44 59.8 -0.6**
TREC Trest 44.70 314 *e*P **P 08 44 59.8 -0.6**
APA Apatity 45.08 343⇑ *i*P **P 08 45 06.0 +2.9**
APA pmax pmax
comp=Z,26nm,1.0s
APA MLR MLR
comp=Z,4μm,12.0s
BOD Bodaibo 45.12 34 *e*P **P 08 45 03.4 -0.2**
BOD pmax pmax
comp=Z,10.0nm,1.2s
MOA Molln 45.27 312 *i* P **P 08 45 04.5 -0.6**
comp=Z,22nm,1.2s
MOA Molln 45.27 312 *i* P **P 08 45 04.5 -0.6**
comp=Z,22nm,1.2s,SNR=6.7
PRU Pruhonice 45.43 315 *e*P **P 08 45 05.5 -0.7**
PRU Pruhonice 45.43 315 *e*P **P 08 45 05.5 -0.7**
NJ2 Nanjing 45.45 71 *e*P **P 08 45 07.8 +1.2**
NJ2 pP **pP 08 45 09.6 -1.8**
NJ2 PP **PP 08 46 52.3 -0.6**
NJ2 S **S 08 51 48.0 +0.4**
NJ2 pmax pmax
comp=Z,20nm,0.9s
NJ2 pmax pmax
comp=Z,330nm,3.8s
NJ2 LR LR
comp=N,3μm,20.6s
NJ2 LR LR
comp=E,540nm,23.0s
NJ2 LR LR
comp=Z,730nm,20.4s
PVCC Panska Ves 45.51 315 *e*P **P 08 45 06.2 -0.6**
PVCC Panska Ves 45.51 315 *e*P **P 08 45 06.2 -0.6**
GEC2 GERESS Array S 45.79 313 *e*P **P 08 45 08.1 -1.1**
comp=Z,26nm,1.1s
GEC2 GERESS Array S 45.79 313 *e*P **P 08 45 08.1 -1.1**
GEC2 pmax pmax
comp=Z,26nm,1.1s
GERES GERESS Array B 45.79 313 P **P 08 45 08.1 -1.1**
GERES GERESS Array B 45.79 313 P **P 08 45 08.1 -1.1**
comp=Z,13nm,1.0s,baz=98,slow=6.9,SNR=51
KBA Koelnbreinsper 45.80 310 *i* P **P 08 45 08.9 -0.4**
KBA pmax pmax
comp=Z,49nm,0.8s
KBA Koelnbreinsper 45.80 310 *i* P **P 08 45 08.9 -0.4**
comp=Z,49nn,0.8s
KBA Koelnbreinsper 45.80 310 *i* P **P 08 45 08.9 -0.4**
comp=Z,49nn,0.8s,SNR=9.9
KHC Kasperske Hory 45.91 313 *e*P **P 08 45 08.8 -1.3**
KHC pmax pmax
comp=Z,14nm,1.0s
KHC Kasperske Hory 45.91 313 *e*P **P 08 45 08.8 -1.3**
comp=Z,14nn,1.0s
KHC Kasperske Hory 45.91 313 *e*P **P 08 45 08.7 -1.3**
KHC *es*P sP 08 45 27.5 +11
BRG Berggiesshubel 45.97 316 *i* P **P 08 45 10.8 +0.4**
comp=Z,44nm,1.1s
BRG *e* 09 11 50.9
comp=Z,18nm,1.7s
BRG pmax pmax
comp=N,481nm,15.8s
BRG MLR MLR
comp=E,548nm,14.9s
BRG MLR MLR
comp=Z,792nm,19.3s
BRG Berggiesshubel 45.97 316 *e*P **P 08 45 10.5 +0.1**
comp=Z,44nn,1.1s
BRG Berggiesshubel 45.97 316 *i* P **P 08 45 10.8 +0.4**
BRG pmax pmax
comp=Z,44nm,1.1s
BRG pmax pmax
comp=Z,18nm,1.7s
BRG MLR MLR
comp=N,481nm,15.8s
BRG MLR MLR
comp=E,548nm,14.9s
BRG MLR MLR
comp=Z,792nm,19.3s
HIA Hailar 46.20 47 *e*P **P 08 45 13.3 +1.0**
comp=Z,15nn,1.0s
RJOB Jochberg 46.24 311 *e*P **P 08 45 11.6 -1.1**
comp=Z,20nn,1.3s
ABTA Abfaltersbach 46.33 310⇓ *i*P **P 08 45 12.7 -0.8**
comp=Z,40nn,1.0s
ABTA Abfaltersbach 46.33 310⇓ *i*P **P 08 45 12.7 -0.8**
comp=Z,40nn,1.0s,SNR=13
CLL Collm 46.63 316 *e*P **P 08 45 15.3 -0.3**
comp=Z,17nn,1.0s
CLL Collm 46.63 316 *i* P **P 08 45 15.3 -0.3**
CLL *i* 08 45 22.6
CLL pmax pmax
comp=Z,17nn,1.0s
CLL MLR MLR
comp=Z,400nn,20.6s
CLL Collm 46.63 316 *i* P **P 08 45 15.3 -0.3**
comp=Z,17nn,1.0s
CLL *e* 08 45 20.0
CLL *i* pP **pP 08 45 22.6 +2.1**
CLL LmH 09 07 00.0
comp=N,800nn,19.9s
CLL LmH 09 07 00.0
comp=E,100nn,18.5s
CLL LmV 09 10 00.0
comp=Z,400nn,20.6s
NKC Novy Kostel 46.80 315 *e*P **P 08 45 17.0 0.0**
NKC Novy Kostel 46.80 315 *e*P **P 08 45 17.0 0.0**
TANN Tannenbergstha 46.82 315 *e*P **P 08 45 16.8 -0.4**
comp=Z,14nn,1.2s
ROTZ Rotzenmuhle 46.89 314 *e*P **P 08 45 17.5 -0.2**
comp=Z,18nn,1.2s
WTTA Wattenberg 46.98 310⇑ *i*P **P 08 45 17.3 -1.3**
WTTA pmax pmax
comp=Z,36nn,0.9s
WTTA Wattenberg 46.98 310⇑ *i*P **P 08 45 17.3 -1.3**
comp=Z,36nn,0.9s
WTTA Wattenberg 46.98 310⇑ *i*P **P 08 45 17.3 -1.3**
comp=Z,36nn,0.9s,SNR=7.2
MOTA Moosalm 47.35 310⇑ *i*P **P 08 45 19.7 -1.8**
MOTA pmax pmax
comp=Z,38nn,0.9s
MOTA Moosalm 47.35 310⇑ *i*P **P 08 45 19.7 -1.8**
comp=Z,38nn,0.9s
MOTA Moosalm 47.35 310⇑ *i*P **P 08 45 19.7 -1.8**
comp=Z,38nn,0.9s,SNR=11
MOX Moxa 47.39 315 *e*P **P 08 45 21.5 -0.1**
comp=Z,64nn,1.1s
MOX Moxa 47.39 315 *e*P **P 08 45 21.5 -0.1**
MOX pmax pmax
comp=Z,64nn,1.1s
GRF Grafenberg Arr 47.51 314 *e*P **P 08 45 22.6 0.0**
comp=Z,57nn,1.1s
GRF *e*L L 09 09 21.7
comp=Z,329nn,20.7s
GRF Grafenberg Arr 47.51 314 *e*P **P 08 45 22.6 0.0**
GRF pmax pmax
comp=Z,57nn,1.1s
GRF MLR MLR
comp=Z,300nn,20.7s
SSE Sheshan 47.57 72 P **P 08 45 21.9 -1.3**
SSE S **S 08 52 20.6 +2.6**
SSE pmax pmax
comp=Z,11nn,0.8s
SSE pmax pmax
comp=Z,140nn,3.7s
SSE LR LR
comp=N,2μm,21.9s
SSE LR LR
comp=E,320nn,21.9s
SSE LR LR
comp=Z,360nn,23.3s
FETA Feichten 47.58 310 *i* P **P 08 45 21.9 -1.3**
comp=Z,70nn,1.1s
FETA Feichten 47.58 310 *i* P **P 08 45 21.9 -1.3**
comp=Z,70nn,1.1s,SNR=14
RETA Reutte 47.59 311 *i* P **P 08 45 21.6 -1.6**
comp=Z,31nn,1.3s
RETA Reutte 47.59 311 *i* P **P 08 45 21.6 -1.6**
comp=Z,31nn,1.3s,SNR=6.3
DAVA Damuels 48.17 310⇑ *i*P **P 08 45 26.5 -1.4**
comp=Z,66nn,1.4s
DAVA Damuels 48.17 310⇑ *i*P **P 08 45 26.5 -1.4**
comp=Z,66nn,1.4s,SNR=8.5
CLZ Clausthal 48.34 316 *e*P **P 08 45 28.6 -0.3**
comp=Z,43nn,1.2s
CLZ Clausthal 48.34 316 *e*P **P 08 45 28.6 -0.3**
CLZ pmax pmax
comp=Z,43nn,1.2s
SNY Shenyang 48.45 57⇑ P **P 08 45 30.5 +0.6**
SNY pmax pmax
comp=Z,13nn,0.4s
TUE Stuetta 48.49 309 *e*P **P 08 45 28.9 -1.5**
comp=Z,23nn,0.8s
ARCES ARCESS Array B 48.55 342 P **P 08 45 30.2 -0.1**
ARCES ARCESS Array B 48.55 342 P **P 08 45 30.2 -0.1**
comp=Z,9.2nm,0.7s,baz=134,slow=8.7,SNR=17
ARCES LR LR 09 08 02.3
comp=Z,649nm,20.3s,baz=127,slow=39
NRDL Niedersach Rie 48.59 317 *e*P **P 08 45 30.7 0.0**
comp=Z,34nn,1.1s
PGF Pioggiola 48.68 304 *e*P **P 08 45 30.1 -1.7**
BSEG Bad Segeberg 48.70 319 *e*P **P 08 45 30.9 -0.7**
comp=Z,57nm,1.3s
BSEG Bad Segeberg 48.70 319 *e*P **P 08 45 30.9 -0.7**
BSEG pmax pmax
comp=Z,57nn,1.3s
KEST Kesra 48.87 295 *e*P P 08 45 37.1 +3.8
KEST Kesra 48.87 295 P **P 08 45 32.4 -0.9**
comp=Z,2.8nm,0.8s,baz=90,slow=5.1,SNR=3.5
TOD Tromm 49.07 313 *e*P **P 08 45 34.3 -0.3**
TOD Tromm 49.07 313 *e*P **P 08 45 34.3 -0.3**
OPO Ambohidratompo 49.17 204 P **P 08 45 34.8 -1.0**
OPO Ambohidratompo 49.17 204 P **P 08 45 34.8 -1.0**
comp=Z,4.4nm,1.1s,baz=42,slow=4.2,SNR=3.5
KSM Kuching 49.17 114 P P 08 45 42.1 +6.3
comp=Z,32nn,1.1s
BFO Black Forest 49.28 312 *e*P **P 08 45 35.0 -1.2**
BFO pmax pmax
comp=Z,12nm,1.1s
BFO Black Forest 49.28 312 *e*P **P 08 45 35.0 -1.2**
comp=Z,12nn,1.1s
TNS Taunus Mts 49.35 314 *e*P **P 08 45 36.5 -0.3**
comp=Z,59nn,1.4s
TNS Taunus Mts 49.35 314 *e*P **P 08 45 36.5 -0.3**
TNS pmax pmax
comp=Z,59nn,1.4s
LANF Langenberg 49.67 312 *e*P **P 08 45 39.6 +0.4**
LANF Langenberg 49.67 312 *e*P **P 08 45 39.6 +0.4**
LANF Langenberg 49.67 312 *e*P **P 08 45 39.6 +0.4**
CN2 Changchun 49.79 54 *e*P **P 08 45 40.0 -0.1**
CN2 *e*pP **pP 08 45 48.0 +3.0**
CN2 *e*S **S 08 52 46.1 -2.8**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=N,800nm,16.0s
CN2 LR LR
comp=E,900nm,16.0s
CN2 LR LR
comp=Z,1μm,18.0s
BBS Basel-Blauen 49.79 310 *e*P **P 08 45 38.8 -1.3**
BBS Basel-Blauen 49.79 310 *e*P **P 08 45 38.8 -1.3**
SBF Sospel 49.80 306 *e*P **P 08 45 39.0 -1.3**
comp=Z,133nm,0.8s
NB2 NORSAR Subarra 49.90 328 P **P 08 45 39.0 -1.8**
comp=Z,5.0nm,0.6s,baz=108,slow=7.9
NOA NORSAR Array B 49.90 328 P **P 08 45 39.6 -1.2**
NOA NORSAR Array B 49.90 328 P **P 08 45 39.6 -1.2**
comp=Z,11nm,0.9s,baz=108,slow=7.5,SNR=22
NOA LR LR 09 10 50.6
comp=Z,277nm,18.1s,baz=105,slow=41
ABH Alteburg 49.90 314 *e*P **P 08 45 40.9 0.0**
CDF Champ du Feu 49.99 312 *e*P **P 08 45 40.1 -1.6**
comp=Z,30nn,1.1s
IBBN Ibbenburen 50.00 317 *e*P **P 08 45 41.2 -0.3**
comp=Z,63nn,1.2s
ECH Echery 50.06 311 *e*P **P 08 45 40.8 -1.4**
ECH pmax pmax
comp=Z,24nn,1.0s
ECH Echery 50.06 311 *e*P **P 08 45 40.8 -1.4**
comp=Z,24nn,1.0s
ECH Echery 50.06 311 *e*P **P 08 45 40.9 -1.2**
MOF Molkenrain 50.06 311 *e*P P 08 45 47.4 +5.2
MOF Molkenrain 50.06 311 *e*P P 08 45 47.4 +5.2
MOF Molkenrain 50.06 311 *e*P P 08 45 47.4 +5.2
SBUM Sibu 50.20 111 P P 08 45 49.9 +6.3
comp=Z,26nn,1.1s
RUP Ruppelstein 50.20 313 *e*P **P 08 45 43.2 -0.1**
RUP Ruppelstein 50.20 313 *e*P **P 08 45 43.2 -0.1**
BUG Bochum--Univer 50.21 316 *e*P **P 08 45 43.0 -0.2**
comp=Z,49nn,1.2s
HINF Hinteralfeld 50.25 311 *e*P **P 08 45 42.0 -1.6**
comp=Z,12nn,0.6s
LOMF Lomont 50.25 310 *e*P **P 08 45 42.1 -1.6**
LOMF Lomont 50.25 310 *e*P **P 08 45 42.1 -1.6**
LOMF Lomont 50.25 310 *e*P **P 08 45 42.1 -1.6**
MBDF Montbardon 50.27 307 *e*P **P 08 45 42.2 -1.7**
comp=Z,63nn,0.7s
LPG La Plagne 50.28 308 *e*P **P 08 45 42.8 -1.4**
comp=Z,63nn,1.1s
LPL La Plagne 50.29 308 *e*P **P 08 45 42.8 -1.4**
comp=Z,61nn,0.9s
BNI Bardonecchia 50.33 307 *e*P **P 08 45 43.2 -1.2**
BNI pmax pmax
comp=Z,34nn,0.9s
BNI Bardonecchia 50.33 307 *e*P **P 08 45 43.2 -1.2**
comp=Z,34nn,0.9s
LMR La Mourre 50.49 305 *e*P **P 08 45 43.8 -1.6**
comp=Z,55nn,1.1s
CLNS Chul'man 50.52 37 *e*P **P 08 45 44.5 -1.0**
CLNS *e**PP pP 08 45 57.6 +7.2
CLNS *e* 08 47 01.4
CLNS *e* 08 47 39.1
CLNS *e*PPP PPP 08 48 37.1
CLNS *e*S **S 08 52 53.1 -5.8**
CLNS *e*SS **SS 08 56 33.6 +1.0**
CLNS pmax pmax
comp=Z,7.0nm,1.0s
CLNS pmax pmax
comp=N,3.0nm,1.0s
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS pmax pmax
comp=N,3.0nm,0.8s
CLNS pmax pmax
comp=Z,4.0nm,0.8s
CLNS pmax pmax
comp=E,4.0nm,1.1s
CLNS smax smax
comp=E,147nm,14.1s
CLNS smax smax
comp=N,306nm,16.2s
CLNS MLR MLR
comp=E,1μm,15.0s
CLNS MLR MLR
comp=N,315nm,16.0s
CLNS MLR MLR
comp=Z,2μm,15.0s
HAU Haudompre 50.59 311 *e*P **P 08 45 45.1 -1.1**
HAU *e*R
comp=Z,450nm,20.0s
CABF La Chapelle 50.74 309 *e*P **P 08 45 46.8 -0.6**
comp=Z,166nn,1.3s
WLF Walferdange 50.79 313 P **P 08 45 47.0 -0.6**
comp=Z,22nn,1.4s
WLF Walferdange 50.79 313 *e*P **P 08 45 47.5 -0.1**
comp=Z,56nn,1.4s
THEF They Montfort 50.84 311 *e*P **P 08 45 47.0 -1.1**
THEF They Montfort 50.84 311 *e*P **P 08 45 47.0 -1.1**
THEF They Montfort 50.84 311 *e*P **P 08 45 47.0 -1.1**
ORIF Oris-en-Rattie 50.90 307 *e*P **P 08 45 47.9 -0.7**
comp=Z,91nn,1.5s
ORIF *e*R
comp=Z,734nn,22.0s
MEM Membach 50.94 314 P **P 08 45 48.5 -0.3**
comp=Z,14nn,1.0s
PAGF Fort de Pagny 51.02 312 *e*P **P 08 45 48.9 -0.5**
comp=Z,8.1nm,0.8s
BCLA Clavier 51.38 314 P **P 08 45 51.5 -0.4**
SFTF Sexfontaines 51.48 311 *e*P **P 08 45 52.0 -0.8**
comp=Z,71nn,0.9s
GIVF Givet 51.67 314 *e*P **P 08 45 53.4 -0.8**
comp=Z,83nn,1.2s
DOU Dourbes 51.82 314 P **P 08 45 55.4 +0.1**
comp=Z,17nn,1.7s
UCC Uccle 51.99 315 P **P 08 45 57.4 +0.8**
SNF Seneffe 52.03 314 P **P 08 45 56.6 -0.2**
comp=Z,38nn,2.0s
BAIF Baives 52.06 314 *e*P **P 08 45 57.2 +0.1**
comp=Z,134nn,1.4s
KSAR Wonju Array Be 52.11 62 P **P 08 45 57.9 +0.2**
KSRS Korea Array 52.14 62 P **P 08 45 57.9 0.0**
comp=Z,13nn,0.6s,baz=270,slow=7.3,SNR=49
KSRS LR LR 09 11 04.4
comp=Z,415nm,18.1s,baz=94,slow=39
LASF Ste Croix 52.38 306 *e*P **P 08 45 58.6 -1.0**
comp=Z,99nn,1.1s
PLDF La Plantade 52.46 309 *e*P **P 08 45 59.4 -0.9**
PLDF La Plantade 52.46 309 *e*P **P 08 45 59.4 -0.9**
PLDF La Plantade 52.46 309 *e*P **P 08 45 59.4 -0.9**
SSF Saint Saulge 52.51 310 *e*P **P 08 45 59.4 -1.1**
comp=Z,72nn,1.2s
AVF Avril sur Loir 52.62 310 *e*P **P 08 46 00.1 -1.2**
comp=Z,24nn,0.9s
MDJ Mudanjiang 52.74 53 P P **08 46 01.7 -0.5**
MDJ pP **pP 08 46 04.8 -2.3**
MDJ PP **PP 08 48 00.7 -0.7**

MDJ					S	**S**	**08 53 29.3**	**-0.4**
MDJ					SS	**SS**	**08 57 08.6**	**+0.5**
MDJ					pmax	pmax		
	comp=Z,12nm,1.3s							
MDJ					pmax	pmax		
	comp=Z,130nm,4.4s							
MDJ					LR	LR		
	comp=N,1μm,17.1s							
MDJ					LR	LR		
	comp=E,430nm,18.2s							
MDJ					LR	LR		
	comp=Z,890nm,17.7s							
AGO	**Saint Agoulin**	**52.80**	**309**	*e*P	**P**		**08 46 01.9**	**-0.8**
AGO	**Saint Agoulin**	**52.80**	**309**	*e*P	**P**		**08 46 01.9**	**-0.8**
PYM	**Petit Puy Mans**	**52.90**	**308**	*e*P	**P**		**08 46 04.9**	**+1.4**
PYM	**Petit Puy Mans**	**52.90**	**308**	*e*P	**P**		**08 46 04.9**	**+1.4**
PYM	**Petit Puy Mans**	**52.90**	**308**	*e*P	**P**		**08 46 04.9**	**+1.4**
BGF	**Bois d'Agland**	**52.98**	**309**	*e*P	**P**		**08 46 02.9**	**-1.1**
	comp=Z,18nm,0.6s							
TCF	**Toulx Ste Croi**	**53.43**	**309**	*e*P	**P**		**08 46 06.2**	**-1.2**
CAF	**Calviac**	**53.61**	**307**	*e*P	**P**		**08 46 07.8**	**-0.9**
	comp=Z,74nm,1.1s							
YAK	**Yakutsk**	**53.85**	**31**	*e*P	P		08 46 05.9	-4.2
YAK					pmax	pmax		
	comp=E,12nm,1.4s							
YAK					pmax	pmax		
	comp=Z,27nm,1.0s							
YAK					pmax	pmax		
	comp=N,3.0nm,0.9s							
YAK					MLR	MLR		
	comp=Z,544nm,15.0s							
YAK					MLR	MLR		
	comp=E,454nm,14.0s							
YAK					MLR	MLR		
	comp=N,140nm,11.0s							
YAK	**Yakutsk**	**53.85**	**31**	*e*P	**P**		**08 46 10.6**	**+0.5**
	comp=N,57nm,1.0s							
RJF	**Les Rejaudoux**	**53.97**	**308**	*e*P	**P**		**08 46 10.5**	**-0.8**
RJF				*e*R				
	comp=N,419nm,22.2s							
KLR	**Kul'dur**	**54.04**	**47**	*e*P	**P**		**08 46 08.8**	**-3.0**
KLR					pmax	pmax		
	comp=E,28nm,1.6s							
KLR					pmax	pmax		
	comp=Z,80nm,1.6s							
KLR					MLR	MLR		
	comp=E,500nm,12.0s							
KLR					MLR	MLR		
	comp=Z,3μm,12.0s							
USRK	**Ussuriysk Arra**	**54.49**	**54**	P	**P**		**08 46 15.3**	**+0.3**
	comp=Z,4.1nm,0.8s,baz=260,slow=7.4,SNR=8.6							
USRK					LR	LR	09 13 47.2	
	comp=Z,1μm,18.2s,baz=245,slow=41							
VLA	**Vladivostok**	**54.51**	**55**	*e*P	**P**		**08 46 15.6**	**+0.4**
VLA					pmax	pmax		
	comp=Z,14nm,0.6s							
LFF	**La Frestale**	**54.54**	**307**	*e*P	**P**		**08 46 14.7**	**-0.8**
LDF	**La Druitiere**	**54.91**	**312**	*e*P	**P**		**08 46 17.3**	**-0.8**
	comp=Z,42nm,1.0s							
TAM	**Tamanrasset**	**54.94**	**280**	*e*P	**P**		**08 46 19.3**	**+0.4**
TAM					pmax	pmax		
	comp=Z,8.0nm,0.9s							
TAM	**Tamanrasset**	**54.94**	**280**	*e*P	**P**		**08 46 19.2**	**+0.4**
	comp=Z,8.4nm,0.9s							
EPF	**Esparros**	**55.01**	**305**	*e*P	**P**		**08 46 18.2**	**-0.8**
	comp=Z,17nm,0.8s							
FLN	**La Foliniere**	**55.14**	**312**	*e*P	**P**		**08 46 18.6**	**-1.1**
	comp=E,66nm,1.0s							
FLN				*e*R				
	comp=Z,503nm,21.5s							
JNU	**Nakatsue**	**55.26**	**67**	*e*P	**P**		**08 46 22.1**	**+1.1**
	comp=Z,10nm,1.0s							
JNU	**Nakatsue**	**55.26**	**67**	P	**P**		**08 46 21.4**	**+0.5**
	comp=Z,12nm,0.7s,baz=287,slow=3.9,SNR=9.3							
ETSF	**Etsaut**	**55.68**	**305**	*e*P	**P**		**08 46 22.0**	**-1.8**
	comp=Z,76nm,0.9s							
SJPF	**Ste Jean**	**56.14**	**305**	*e*P	**P**		**08 46 26.1**	**-0.9**
	comp=Z,16nm,0.7s							
HABR	**Khabarovsk**	**56.26**	**48**	*e*P	**P**		**08 46 26.6**	**-1.1**
HABR							08 47 23.7	
HABR				*e*			08 48 31.0	
HABR				*e*S	**S**		**08 54 17.1**	**+0.2**
HABR				*e**SS	**sS**		**08 54 21.7**	**-3.4**
HABR				*e*			08 56 15.2	
HABR				SS	**SS**		**08 58 04.5**	**+1.2**
HABR				pmax	pmax			
	comp=E,22nm,1.5s							
HABR				pmax	pmax			
	comp=N,20nm,1.5s							
HABR				pmax	pmax			
	comp=Z,27nm,1.2s							
HABR				MLR	MLR			
	comp=Z,704nm,15.0s							
SGMF	**Saint Gilles**	**56.55**	**312**	*e*P	**P**		**08 46 28.9**	**-0.9**
	comp=Z,54nm,0.9s							
KBS	**Kingsbay**	**56.92**	**349**	*e*P	**P**		**08 46 32.8**	**+0.8**
QUIF	**Quistinic**	**56.98**	**311**	*e*P	**P**		**08 46 32.2**	**-0.7**
ROSF	**Rostrenen**	**57.02**	**312**	*e*P	**P**		**08 46 32.4**	**-0.8**
	comp=Z,40nm,0.9s							
ESDC	**Sonseca Array**	**58.71**	**302**	P	**P**		**08 46 43.8**	**-1.5**
ESDC	**Sonseca Array**	**58.71**	**302**	P	**P**		**08 46 43.8**	**-1.5**
	comp=Z,4.8nm,0.9s,baz=64,slow=7.0,SNR=10							
MJAR	**Matsushiro Arr**	**60.40**	**62**	P	**P**		**08 46 57.5**	**+0.5**
MJAR	**Matsushiro Arr**	**60.40**	**62**	P	**P**		**08 46 57.5**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=286,slow=4.8,SNR=8.0							
MJAR					LR	LR	09 15 26.4	
	comp=Z,232nm,19.4s,baz=280,slow=38							
KAPI	**Kappang**	**60.60**	**114**	LR	LR		09 15 41.6	
	comp=Z,374nm,22.0s,baz=65,slow=38							
MVO	**Moncorvo**	**60.72**	**304**	*e*P	**P**		**08 47 01.2**	**+2.1**
PCBR	**Castelo Branco**	**61.33**	**303**	*e*P	**P**		**08 47 02.4**	**-0.8**
	comp=Z,58nm,1.5s							
YSS	**Yuzh-Sakhalins**	**61.61**	**49**⇑	*e*P	**P**		**08 47 04.0**	**-0.9**
YSS				*e*			08 47 10.5	
YSS				MLR	MLR			
	comp=Z,1μm,18.0s							
YSS				MLR	MLR			
	comp=N,600nm,16.0s							
TOA0	**Torodi Ar. Sit**	**61.79**	**271**	*e*P	**P**		**08 47 05.5**	**-1.1**
TORD	**Torodi Ar. Bea**	**61.79**	**271**	P	**P**		**08 47 05.3**	**-1.3**
TORD	**Torodi Ar. Bea**	**61.79**	**271**	P	**P**		**08 47 05.3**	**-1.3**
	comp=N,14nm,0.9s,baz=62,slow=6.6,SNR=42							
TORD					LR	LR	09 17 24.0	
	comp=N,716nm,18.2s,baz=25,slow=40							
EVO	**Evora**	**62.03**	**301**	*e*P	**P**		**08 47 07.5**	**-0.4**
	comp=N,70nm,2.2s							
DAG	**Danmarks Havn**	**62.63**	**345**	*i* P	**P**		**08 47 10.9**	**-0.4**
	comp=N,68nm,0.7s							
SEY	**Seymchan**	**64.34**	**30**	*e*P	**P**		**08 47 23.2**	**+0.4**
LBTB	**Lobatse**	**65.15**	**221**	*e*P	**P**		**08 47 28.2**	**-0.5**
	comp=N,6.7nm,0.7s							
TSUM	**Tsumeb**	**66.10**	**231**	*e*P	**P**		**08 47 34.1**	**-0.9**
	comp=N,10nm,1.0s							
BOSA	**Boshof**	**68.11**	**219**	P	**P**		**08 47 45.6**	**-1.9**
BOSA	**Boshof**	**68.11**	**219**	P	**P**		**08 47 45.6**	**-1.9**
	comp=N,3.4nm,0.6s,baz=50,slow=7.8,SNR=11							
BOSA					LR	LR	09 16 42.1	
	comp=N,332nm,20.5s,baz=166,slow=35							
SUMG	**Summit**	**68.64**	**342**	*e*P	**P**		**08 47 50.6**	**-0.1**
SUMG					pmax	pmax		
	comp=Z,7.0nm,0.7s							
SUMG	**Summit**	**68.64**	**342**	*e*P	**P**		**08 47 50.6**	**-0.1**
	comp=Z,7.1nm,0.7s							
SUMG	**Summit**	**68.64**	**342**	*i* P	**P**		**08 47 50.2**	**-0.5**
	comp=Z,8.2nm,0.7s							
BILL	**Bilibino**	**68.66**	**23**	P	**P**		**08 47 51.0**	**+0.6**
BILL				*e*			08 47 59.2	
BILL				*e*			08 48 09.3	
BILL							08 48 14.0	
BILL				pmax	pmax			
	comp=Z,15nm,1.2s							
BILL				MLR	MLR			
	comp=Z,1μm,18.0s							
BILL	**Bilibino**	**68.66**	**23**	*e*P	**P**		**08 47 51.7**	**+1.3**
	comp=Z,14nm,1.1s							
PETK	**Petropavlovsk-**	**69.46**	**40**	P	**P**		**08 47 54.8**	**-0.8**
PETK				pmax	pmax			
	comp=Z,4.0nm,0.7s							
PETK				MLR	MLR			
	comp=Z,498nm,20.0s							
PETK	**Petropavlovsk-**	**69.46**	**40**	P	**P**		**08 47 54.8**	**-0.8**
PETK	**Petropavlovsk-**	**69.46**	**40**	P	**P**		**08 47 54.8**	**-0.8**
	comp=Z,3.8nm,0.7s,baz=298,slow=3.1,SNR=2.9							
PETK					LR	LR	09 20 50.5	
	comp=Z,498nm,20.0s,baz=291,slow=38							
DBIC	**Dimbokro**	**70.37**	**267**	*e*P	**P**		**08 48 01.8**	**0.0**
	comp=Z,12nm,0.8s							
DBIC	**Dimbokro**	**70.37**	**267**	P	**P**		**08 48 00.8**	**-1.0**
	comp=Z,7.9nm,0.6s,baz=36,slow=6.2,SNR=13							
DBIC					LR	LR	09 20 42.5	
	comp=Z,359nm,21.1s,baz=44,slow=38							
LIC	**Lamto**	**70.72**	**267**	*e*P	**P**		**08 48 03.2**	**-0.7**
	comp=Z,16nm,0.6s							
LIC				*e*R				
	comp=Z,483nm,18.2s							
FITZ	**Fitzroy Crossi**	**72.92**	**121**	LR	LR		09 20 37.6	
	comp=Z,235nm,21.6s,baz=312,slow=36							
NWAO	**Narrogin (SRO)**	**76.83**	**138**	LR	LR		09 20 05.1	
	comp=Z,132nm,20.5s,baz=190,slow=34							
GAMB	**Gambell**	**78.56**	**23**	*e*P	**P**		**08 48 49.6**	**+1.0**
	comp=Z,14nm,1.2s							
TNA	**Tin City**	**78.62**	**20**	*e*P	**P**		**08 48 52.0**	**+3.1**
	comp=Z,6.2nm,1.0s							
WRA	**Warramunga Arr**	**80.71**	**118**	P	**P**		**08 49 00.6**	**-0.4**
WRA	**Warramunga Arr**	**80.71**	**118**	P	**P**		**08 49 00.6**	**-0.4**
	comp=Z,10nm,0.9s,baz=319,slow=4.7,SNR=17							
WRA					LR	LR	09 29 29.1	
	comp=Z,163nm,19.4s,baz=235,slow=39							
WRAB	**Tennant Creek**	**80.71**	**118**	*e*P	**P**		**08 49 01.1**	**+0.1**
WRAB					pmax	pmax		
	comp=Z,38nm,1.3s							
WRAB	**Tennant Creek**	**80.71**	**118**	*e*P	**P**		**08 49 01.1**	**+0.1**
	comp=Z,38nm,1.3s							
WRAB	**Tennant Creek**	**80.71**	**118**	P	**P**		**08 49 01.0**	**+0.1**
	comp=Z,105nm,1.3s,SNR=8.5							
WB2	**Warramunga Arr**	**80.72**	**118**	*e*P	**P**		**08 49 01.0**	**0.0**
COLD	**Coldfoot**	**81.93**	**14**	*e*P	**P**		**08 49 08.2**	**+1.5**
	comp=Z,34nm,1.2s							
AS31	**Alice Springs**	**82.42**	**121**	*e*P	**P**		**08 49 09.7**	**-0.4**
ASAR	**Alice Springs**	**82.42**	**121**	P	**P**		**08 49 09.6**	**-0.5**
ASAR	**Alice Springs**	**82.42**	**121**	P	**P**		**08 49 09.6**	**-0.5**
	comp=Z,5.3nm,0.6s,baz=306,slow=5.2,SNR=31							
INK	**Inuvik**	**83.65**	**7**	*e*P	**P**		**08 49 16.3**	**+0.7**
	comp=Z,42nm,1.3s							
COLA	**College**	**84.45**	**14**	*e*P	**P**		**08 49 20.8**	**+1.0**
COLA					pmax	pmax		
	comp=Z,15nm,1.3s							
COLA	**College**	**84.45**	**14**	*e*P	**P**		**08 49 20.8**	**+1.0**
	comp=Z,15nm,1.3s							
ILAR	**Eielson Array**	**84.75**	**14**	P	**P**		**08 49 20.6**	**-0.7**
ILAR				PP	**PP**		**08 52 37.2**	**+0.6**
ILAR	**Eielson Array**	**84.75**	**14**	P	**P**		**08 49 20.6**	**-0.7**
	comp=Z,2.6nm,0.9s,baz=327,slow=4.1,SNR=19							
ILAR				PP	**PP**		**08 52 37.2**	**+0.6**
	comp=Z,1.9nm,1.1s,baz=311,slow=5.9,SNR=6.9							
ILAR					LR	LR	09 31 52.7	
	comp=Z,596nm,21.2s,baz=110,slow=39							
EGAK	**Eagle**	**85.85**	**11**	*e*P	**P**		**08 49 28.0**	**+1.2**
	comp=Z,29nm,1.4s							
PAX	**Paxson**	**86.63**	**14**	*e*P	**P**		**08 49 32.5**	**+1.7**
PAX					pmax	pmax		
	comp=Z,14nm,1.2s							
PAX	**Paxson**	**86.63**	**14**	*e*P	**P**		**08 49 32.5**	**+1.7**
	comp=Z,14nm,1.2s							
DAWY	**Dawson**	**86.82**	**11**	*e*P	**P**		**08 49 32.5**	**+0.8**
PMR	**Palmer**	**86.98**	**16**	*e*P	**P**		**08 49 31.7**	**-0.7**
PMR					pmax	pmax		
	comp=Z,13nm,0.8s							
PMR	**Palmer**	**86.98**	**16**	*e*P	**P**		**08 49 31.7**	**-0.7**
	comp=Z,13nm,0.8s							
SML	**Sawmill**	**87.00**	**16**	*e*P	**P**		**08 49 34.2**	**+1.6**
SML					pmax	pmax		
	comp=Z,4.0nm,0.7s							
SML	**Sawmill**	**87.00**	**16**	*e*P	**P**		**08 49 34.1**	**+1.6**
	comp=Z,3.6nm,0.7s							
RC01	**Rabbit Creek A**	**87.26**	**17**	*e*P	**P**		**08 49 35.7**	**+1.9**
	comp=Z,10nm,0.7s							
SCHQ	**Schefferville**	**89.01**	**335**	P	**P**		**08 49 40.8**	**-1.4**
SCHQ	**Schefferville**	**89.01**	**335**	P	**P**		**08 49 40.8**	**-1.4**
	comp=Z,2.3nm,0.9s,baz=84,slow=9.2,SNR=2.1							
SCHQ					LR	LR	09 28 56.4	
	comp=Z,226nm,19.0s,baz=70,slow=35							
YKA	**Yellowknife Ar**	**90.64**	**0**	P	**P**		**08 49 49.0**	**-0.7**
YKA	**Yellowknife Ar**	**90.64**	**0**	P	**P**		**08 49 48.9**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=351,slow=4.8,SNR=36							
STKA	**Stephens Creek**	**92.55**	**125**	*e*P	**P**		**08 50 00.3**	**+1.4**
STKA	**Stephens Creek**	**92.55**	**125**	P	**P**		**08 49 58.2**	**-0.7**
	comp=Z,2.3nm,0.7s,baz=319,slow=3.1,SNR=3.5							
STKA					LR	LR	09 38 54.2	
	comp=Z,202nm,18.4s,baz=210,slow=40							
MAW	**Mawson**	**94.53**	**181**	LR	LR		09 27 04.4	
	comp=Z,216nm,19.5s,baz=343,slow=32							
DZM	**Mont Dzumac**	**108.25**	**106**	*e*LR	LR		09 27 16.3	
	comp=Z,246nm,23.2s							
NVAR	**Mina Array Bea**	**114.58**	**4**	PKP	PKPdf		08 55 27.7	-0.5
NVAR	**Mina Array Bea**	**114.58**	**4**	PKP	PKPdf		08 55 27.7	-0.5
	comp=Z,0.3nm,0.6s,baz=222,slow=1.1,SNR=4.5							
TXAR	**Lajitas Array**	**123.01**	**350**	PKP	**PKPdf**		**08 55 44.1**	**-0.4**
TXAR	**Lajitas Array**	**123.01**	**350**	PKP	**PKPdf**		**08 55 44.1**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=101,slow=0.9,SNR=6.9							
PPT2	**Papeete2**	**145.45**	**82**	*e*LR	LR		09 44 28.9	
	comp=Z,171nm,25.0s							
TBI	**Tubuai**	**147.37**	**91**	*e*LR	LR		09 45 23.4	
	comp=Z,176nm,24.0s							

ISCJB ***02*** *08:57:18.8±0.3, 40.°68S±0.°03×175.°15E±0.°04, h75km±4km, mb3.6/2, Error ellipse: s-maj=5.9km s-min=3.3km az=33.4*
WEL ***02*** *08:57:21.2±0.1, 40.°62S×175.°11E, h46km±1km, ML4.2/19, Error ellipse: s-maj=0.7km s-min=0.4km az=90.0, reported intensity MM 5.*
WEL Felt from Wanganui to Wellington, and from Nelson to Wairarapa, maximum.
IDC ***02*** *08:57:22.1±8.3, 40.°74S×174.°73E, h65km±65km, mb3.3/2, mb1 3.6/3, mb1mx3.4/12, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=57.0km s-min=33.1km az=57.0*

ISC 02 08:57:19.6±0.9, 40.°65S±0.°03×175.°10E±0.°03, h63km±6km, n88, σ1s05/95, 15C-9D, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OGWZ	**Otaki Gorge**	**0.17**	**162**	⇓P	N	**Pn**	**08 57 29.0**	**-0.3**
OGWZ				S	N	**Sn**	**08 57 35.1**	**-1.2**
KIW	**Kapiti Island**	**0.25**	**215**	⇓P	N	**Pn**	**08 57 29.3**	**-0.5**
KIW				S	N	**Sn**	**08 57 35.3**	**-1.8**
MRZ	**Mangatainoka R**	**0.36**	**92**	⇑P	N	**Pn**	**08 57 30.7**	**+0.2**
MRZ				S	N	**Sn**	**08 57 37.8**	**-0.7**
HOWZ	**Holdsworth Sta**	**0.40**	**128**	⇑P	N	**Pn**	**08 57 31.3**	**+0.4**
HOWZ				S	N	**Sn**	**08 57 39.8**	**+0.7**
CAW	**Cannon Point**	**0.46**	**183**	⇑P	N	**Pn**	**08 57 32.1**	**+0.7**
POWZ	**Post Office Ro**	**0.57**	**63**	⇑P	N	**Pn**	**08 57 32.8**	**+0.3**
POWZ				S	N	**Sn**	**08 57 40.5**	**-1.5**
MTW	**Mount Morrison**	**0.59**	**149**	⇑P	N	**Pn**	**08 57 33.4**	**+0.6**
TIWZ	**Tintock**	**0.61**	**102**	⇑P	N	**Pn**	**08 57 33.6**	**+0.6**
TIWZ				S	N	**Sn**	**08 57 43.1**	**+0.2**
WEL	**Wellington**	**0.68**	**202**	P	N	**Pn**	**08 57 34.9**	**+1.1**
SNZO	**South Karori**	**0.72**	**204**	⇑P	N	**Pn**	**08 57 35.2**	**+0.9**
TMWZ	**Te Maipa**	**0.75**	**127**	P	N	**Pn**	**08 57 35.4**	**+0.7**
PAWZ	**Paruwai Farm**	**0.77**	**161**	P	N	**Pn**	**08 57 36.8**	**+2.0**
MSWZ	**Moikau Station**	**0.77**	**172**	P	N	**Pn**	**08 57 35.7**	**+0.8**
BHW	**Baring Head**	**0.77**	**193**	P	N	**Pn**	**08 57 36.1**	**+1.1**
TCW	**Tory Channel**	**0.84**	**228**	⇑P	N	**Pn**	**08 57 36.4**	**+0.6**
TRWZ	**Traveller**	**0.87**	**149**	P	N	**Pn**	**08 57 38.4**	**+2.3**
BFZ	**Birch Farm**	**0.87**	**92**	P	N	**Pn**	**08 57 36.3**	**+0.1**
TSZ	**Takapari Road**	**0.89**	**48**	P	N	**Pn**	**08 57 36.6**	**+0.3**
DVHZ	**Dannevirke**	**0.89**	**67**	⇑P	N	**Pn**	**08 57 36.5**	**+0.2**
WAZ	**Wanganui**	**0.90**	**354**	⇑P	N	**Pn**	**08 57 36.8**	**+0.3**
DUWZ	**D'Urville Isla**	**0.91**	**260**	⇑P	N	**Pn**	**08 57 36.5**	**-0.1**
PLWZ	**Palliser**	**0.92**	**173**	P	N	**Pn**	**08 57 37.6**	**+0.8**
PNHZ	**Pukenui**	**1.12**	**49**	⇓P	N	**Pn**	**08 57 39.5**	**+0.1**
TUWZ	**Tuamarina**	**1.17**	**228**	⇑P	N	**Pn**	**08 57 40.9**	**+0.9**
WPHZ	**Waipukurau**	**1.18**	**61**	P	N	**Pn**	**08 57 40.4**	**+0.2**
PRHZ	**Porangahau**	**1.23**	**72**	P	N	**Pn**	**08 57 41.1**	**+0.3**
CMWZ	**Cape Campbell**	**1.28**	**211**	P	N	**Pn**	**08 57 43.1**	**+1.6**
MTVZ	**Mangateitei**	**1.30**	**13**	⇓P	N	**Pn**	**08 57 42.1**	**+0.4**
MOVZ	**Moawhango**	**1.34**	**22**	⇓P	N	**Pn**	**08 57 42.3**	**0.0**
BHHZ	**Black Hill Sta**	**1.38**	**33**	P	N	**Pn**	**08 57 43.0**	**+0.2**
WNVZ	**Wahianoa**	**1.38**	**16**	⇓P	N	**Pn**	**08 57 43.3**	**+0.4**
TRVZ	**Turoa**	**1.40**	**14**	P	N	**Pn**	**08 57 43.8**	**+0.6**
BSWZ	**Blackbirch Sta**	**1.41**	**221**	P	N	**Pn**	**08 57 44.2**	**+1.1**
NNZ	**Nelson**	**1.42**	**246**	P	N	**Pn**	**08 57 43.7**	**+0.4**
FWVZ	**Far West T-bar**	**1.44**	**14**	P	N	**Pn**	**08 57 44.2**	**+0.4**
TUVZ	**Tukino**	**1.45**	**17**	P	N	**Pn**	**08 57 44.4**	**+0.6**
RAEZ	**Rainy Point**	**1.47**	**338**	⇑P	N	**Pn**	**08 57 44.9**	**+1.0**
PXZ	**Pawanui**	**1.48**	**66**	P	N	**Pn**	**08 57 44.6**	**+0.5**
WPVZ	**Whakapapa**	**1.49**	**13**	P	N	**Pn**	**08 57 44.8**	**+0.5**
NGZ	**Ngauruhoe**	**1.52**	**15**	⇑P	N	**Pn**	**08 57 45.6**	**+0.7**
DFE	**Dawson Falls**	**1.53**	**330**	P	N	**Pn**	**08 57 45.6**	**+0.8**
OTVZ	**Oturere**	**1.55**	**16**	⇓P	N	**Pn**	**08 57 45.9**	**+0.7**
VRZ	**Vera Road**	**1.55**	**350**	P	N	**Pn**	**08 57 45.2**	**+0.2**
WTVZ	**West Tongariro**	**1.58**	**14**	⇓P	N	**Pn**	**08 57 46.2**	**+0.6**
NEZ	**North Egmont**	**1.58**	**330**	P	N	**Pn**	**08 57 46.4**	**+0.8**
NRZ	**Ngariki Road**	**1.59**	**325**	P	N	**Pn**	**08 57 46.6**	**+1.0**
TWVZ	**Taurewa**	**1.60**	**9**	P	N	**Pn**	**08 57 46.1**	**+0.3**
KAHZ	**Kahuranaki**	**1.61**	**58**	P	N	**Pn**	**08 57 46.0**	**+0.1**
KRVZ	**Karewarewa**	**1.61**	**15**	⇓P	N	**Pn**	**08 57 46.6**	**+0.6**
DREZ	**Durham Road**	**1.62**	**334**	P	N	**Pn**	**08 57 46.9**	**+1.0**
NWEZ	**Newall Road**	**1.67**	**325**	P	N	**Pn**	**08 57 47.7**	**+1.1**
MHEZ	**Mangahewa**	**1.68**	**339**	⇑P	N	**Pn**	**08 57 48.1**	**+1.2**
PKE	**Pukeiti**	**1.69**	**329**	P	N	**Pn**	**08 57 47.8**	**+0.8**
MCHZ	**McNeill Hill**	**1.72**	**46**	P	N	**Pn**	**08 57 47.3**	**-0.1**
KATZ	**Kakaramea**	**1.74**	**15**	P	N	**Pn**	**08 57 48.3**	**+0.6**
RITZ	**Rihia Road**	**1.77**	**19**	P	N	**Pn**	**08 57 49.6**	**+1.5**
BKZ	**Black Stump Fm**	**1.83**	**36**	P	N	**Pn**	**08 57 48.6**	**-0.3**
QRZ	**Quartz Range**	**1.96**	**264**	P	N	**Pn**	**08 57 50.5**	**-0.1**
THZ	**Tophouse**	**2.00**	**236**	P	N	**Pn**	**08 57 51.5**	**+0.4**
WATZ	**Wairara**	**2.00**	**14**	P	N	**Pn**	**08 57 51.4**	**+0.2**
NMHZ	**Naumai**	**2.03**	**41**	P	N	**Pn**	**08 57 51.3**	**-0.3**
KHZ	**Kahutara**	**2.12**	**213**	P	N	**Pn**	**08 57 53.2**	**+0.5**
HIZ	**Hauiti**	**2.15**	**355**	P	N	**Pn**	**08 57 53.6**	**+0.5**
RAHZ	**Arahi**	**2.31**	**42**	P	N	**Pn**	**08 57 54.5**	**-0.9**
PRRZ	**Plateau Road**	**2.37**	**25**	P	N	**Pn**	**08 57 55.5**	**-0.7**
RRRZ	**Republican Roa**	**2.56**	**26**	*e*P	N	**Pn**	**08 57 57.5**	**-1.2**
MHGZ	**Mahia Peninsul**	**2.63**	**56**	P	N	**Pn**	**08 57 58.6**	**-1.1**
DSZ	**Denniston Nort**	**2.72**	**245**	P	N	**Pn**	**08 58 00.8**	**-0.1**
PRGZ	**Paritu Road**	**2.75**	**52**	P	N	**Pn**	**08 57 59.8**	**-1.6**
URZ	**Urewera**	**2.85**	**34**	P	N	**Pn**	**08 58 00.7**	**-2.0**
TOZ	**Tahuroa Road**	**2.94**	**6**	P	N	**Pn**	**08 58 03.6**	**-0.2**
MWZ	**Matawai**	**2.98**	**40**	P	N	**Pn**	**08 58 02.8**	**-1.7**
LTZ	**Lake Taylor**	**3.00**	**224**	P	N	**Pn**	**08 58 04.7**	**-0.2**
MKAZ	**Moumakai**	**3.54**	**1**	P	N	**Pn**	**08 58 12.2**	**+0.1**
MQZ	**McQueen's Vall**	**3.55**	**210**	P	N	**Pn**	**08 58 10.6**	**-1.6**
MXZ	**Matakaoa Point**	**3.97**	**40**	P	N	**Pn**	**08 58 16.2**	**-1.7**
WVZ	**Waitaha Valley**	**4.06**	**232**	P	N	**Pn**	**08 58 18.9**	**-0.3**
RPZ	**Rata Peaks**	**4.29**	**223**	P	P	**Pn**	**08 58 22.4**	**0.0**
	0.8nm,0.3s,baz=31,slow=19,SNR=8.8							
RPZ				S		**Sn**	**08 59 07.5**	**-3.6**
	6.4nm,0.3s,baz=146,slow=21,SNR=18							
WCZ	**Waipu Caves**	**4.74**	**353**	PN	P	**Pn**	**08 58 31.5**	**+3.0**
FOZ	**Fox Glacier**	**4.97**	**232**	PN	P	**Pn**	**08 58 29.9**	**-1.7**
LBZ	**Lake Benmore**	**5.21**	**223**	PN	P	**Pn**	**08 58 34.2**	**-0.7**
ODZ	**Otahua Downs**	**5.48**	**215**	PN	P	**Pn**	**08 58 36.7**	**-1.8**
JCZ	**Jackson Bay**	**5.81**	**232**	PN	P	**Pn**	**08 58 41.9**	**-1.3**
CTZ	**Chatham Island**	**6.88**	**119**	PN	P	**Pn**	**08 58 58.1**	**+0.4**
ASAR	**Alice Springs**	**38.38**	**283**	P	P		**09 04 35.0**	**+0.1**
	0.3nm,0.3s,baz=121,slow=7.0,SNR=14							
WRA	**Warramunga Arr**	**40.34**	**288**	P	**P**		**09 04 51.4**	**+0.2**
	0.5nm,0.4s,baz=126,slow=8.0,SNR=11							
YKA	**Yellowknife Ar**	**117.11**	**29**	PKP	**PKPdf**		**09 15 57.6**	**+1.3**
	0.3nm,0.9s,baz=236,slow=1.4,SNR=3.7							
TORD	**Torodi Ar. Bea**	**152.00**	**194**	PKPbc	**PKPbc**		**09 17 10.2**	**+2.2**
	1.1nm,0.4s,baz=160,slow=3.5,SNR=28							

MOS ***02*** *09:04:30.8±0.9, 4.°48S×102.°75E, h36km,

WRA S S 09 16 35.1 -6.1
comp=Z,0.3nm,0.7s,baz=248,slow=15,SNR=2.6
WRAB Tennant Creek 34.39 119 eP **P 09 11 16.7 +0.1**
WRAB pmax pmax
comp=Z,12nm,0.7s
WRAB Tennant Creek 34.39 119 eP **P 09 11 16.6 +0.1**
comp=Z,12nm,0.7s
WRAB Tennant Creek 34.39 119 P **P 09 11 16.8 +0.1**
comp=Z,112nm,0.8s,SNR=13
WB2 Warramunga Arr 34.39 119 eP **P 09 11 16.2 -0.5**
ODAN Odare 34.65 336 eP **P 09 11 19.0 +0.1**
comp=Z,24nm,0.5s
ODAN Odare 34.65 336 eP **P 09 11 19.0 +0.1**
comp=Z,24nm,0.5s
TAPN Taplejung 34.95 336 eP **P 09 11 22.0 +0.4**
comp=Z,44nm,0.9s
TAPN Taplejung 34.95 336 eP **P 09 11 22.0 +0.4**
comp=Z,44nm,0.9s
RAMN Ramite 35.06 335 eP **P 09 11 23.1 +0.6**
comp=Z,14nm,0.3s
ENH Enshi 35.36 10 eP **P 09 11 23.6 -1.2**
comp=Z,12nm,0.7s
CD2 Chengdu 35.40 2 P **P 09 11 27.2 +2.1**
CD2 pP **pP 09 11 38.9 +0.9**
CD2 sP **sP 09 11 44.0 +0.3**
CD2 S **S 09 16 58.4 +1.8**
CD2 sS **sS 09 17 18.1 0.0**
CD2 SS **SnSn 09 19 18.4 -0.9**
CD2 pmax pmax
comp=Z,150nm,4.5s
CD2 LR LR
comp=N,420nm,5.5s
CD2 LR LR
comp=E,310nm,7.1s
CD2 LR LR
comp=Z,230nm,6.4s
AS31 Alice Springs 35.56 125 eP **P 09 11 27.1 +0.5**
ASAR Alice Springs 35.56 125 P **P 09 11 27.4 +0.7**
ASAR PcP **PcP 09 13 55.4 +0.3**
ASAR S **S 09 16 56.5 -2.8**
ASAR Alice Springs 35.56 125 P **P 09 11 27.4 +0.7**
comp=Z,4.9nm,0.7s,baz=297,slow=7.5,SNR=80
ASAR PcP **PcP 09 13 55.4 +0.3**
comp=Z,1.6nm,0.7s,baz=307,slow=2.5,SNR=8.1
ASAR S **S 09 16 56.5 -2.8**
comp=Z,0.4nm,0.7s,baz=297,slow=14,SNR=3.0
JIRN Jiri 35.85 335 eP **P 09 11 29.7 +0.2**
JIRN Jiri 35.85 335 eP **P 09 11 29.7 +0.2**
PKI Pulchoki 36.12 333 eP **P 09 11 32.0 +0.3**
PKI Pulchoki 36.12 333 eP **P 09 11 32.0 +0.3**
PKI Pulchoki 36.12 333 eP **P 09 11 32.0 +0.3**
GUN Gumba 36.21 334 eP **P 09 11 32.8 +0.3**
comp=Z,89nm,0.4s
DMN Daman 36.29 333 eP **P 09 11 33.4 +0.4**
comp=Z,15nm,0.3s
KKN Kakani 36.37 334 eP **P 09 11 34.1 +0.4**
comp=Z,41nm,0.4s
GKN Gorkha 36.84 333 eP **P 09 11 38.2 +0.6**
comp=Z,34nm,0.4s
KOLN Koldanda 37.12 331 eP **P 09 11 40.8 +0.7**
comp=Z,89nm,0.8s
KOLN Koldanda 37.12 331 eP **P 09 11 40.8 +0.7**
comp=Z,89nm,0.8s
DANN Dangsing 37.53 332 eP **P 09 11 44.1 +0.4**
comp=Z,105nm,0.6s
DANN Dangsing 37.53 332 eP **P 09 11 44.1 +0.4**
comp=Z,105nm,0.6s
XAN Xi'an 38.96 8 P **P 09 11 54.3 -1.0**
XAN pmax pmax
comp=Z,7.0nm,0.8s
NJ2 Nanjing 39.64 22 eP **P 09 12 02.2 +1.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
LZH Lanzhou 40.56 1 eP **P 09 12 08.9 +0.2**
LZH pP **pP 09 12 19.3 -2.4**
LZH sP **sP 09 12 24.4 -3.0**
LZH PP **PnPn 09 13 46.0 -1.2**
LZH eS **S 09 18 19.2 +4.4**
LZH sS **sS 09 18 36.1 -0.5**
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,260nm,6.0s
LZH LR LR
comp=N,280nm,14.0s
LZH LR LR
comp=E,360nm,15.2s
LZH LR LR
comp=Z,510nm,16.3s
GTA Gaotai 43.94 357 eP **P 09 12 36.2 +0.1**
GTA pmax pmax
comp=Z,14nm,0.7s
CTA Charters Tower 45.09 114 eP **P 09 12 45.8 +0.2**
comp=Z,21nm,0.8s
QLP Quilpie 45.28 123 eP **P 09 12 48.1 +1.1**
STKA Stephens Creek 45.41 131 eP **P 09 12 49.3 +1.4**
comp=Z,5.0nm,0.6s
STKA Stephens Creek 45.41 131 eP **P 09 12 49.1 +1.2**
comp=Z,19nm,0.6s
STKA Stephens Creek 45.41 131 P **P 09 12 49.3 +1.4**
comp=Z,24nm,0.6s,baz=306,slow=7.4,SNR=90
HHC Hu-ho-hao-te 46.03 9 eP **P 09 12 54.5 +1.8**
HHC pP **pP 09 13 07.0 +1.1**
HHC sP **sP 09 13 12.4 +0.8**
HHC S **S 09 19 36.5 +1.8**
HHC sS **sS 09 19 56.7 -0.1**
HHC ScS **ScS 09 22 43.5 -0.8**
HHC SS SS 09 22 53.1 -7.3
HHC pmax pmax
comp=Z,13nm,0.4s
HHC pmax pmax
comp=Z,210nm,5.8s
HHC LR LR
comp=N,150nm,14.3s
HHC LR LR
comp=E,230nm,16.6s
HHC LR LR
comp=Z,170nm,15.5s
JNU Nakatsue 46.14 33 eP **P 09 12 53.0 -0.6**
BJT Baijiatuan 46.18 14 eP **P 09 12 53.1 -0.6**
comp=Z,14nm,0.6s
BJI Beijing 46.20 14 P **P 09 12 53.3 -0.6**
BJI pmax pmax
comp=Z,22nm,0.7s
BJI pmax pmax
comp=Z,100nm,5.2s
KSAR Wonju Array Be 48.04 27 P **P 09 13 07.0 -1.3**
KSAR PcP **PcP 09 14 34.9 -0.8**
KSRS Korea Array 48.07 27 P **P 09 13 07.0 -1.5**
comp=Z,3.0nm,0.5s,baz=224,slow=7.3,SNR=14
KSRS PcP **PcP 09 14 34.9 -0.8**
comp=Z,1.5nm,0.9s,baz=224,slow=4.9,SNR=4.2
CMSA Cobar Meteorol 48.39 129 eP **P 09 13 12.7 +1.6**
comp=Z,63nm,0.7s
WMQ Urumqi 50.12 346 P **P 09 13 24.7 +0.5**
WMQ sP **sP 09 13 43.0 -0.2**
WMQ pmax pmax
comp=Z,76nm,1.0s
WMQ pmax pmax
comp=Z,380nm,7.2s
KBL Kabul 50.24 324 eP **P 09 13 26.1 +0.7**
KBL pmax pmax
comp=Z,5.0nm,0.6s
KBL Kabul 50.24 324 eP **P 09 13 26.1 +0.7**
comp=Z,4.6nm,0.6s
KSH Kashi 50.38 333 P **P 09 13 25.1 -1.2**
KSH pP **pP 09 13 38.1 -1.6**
KSH sP **sP 09 13 43.5 -1.8**
KSH PcP **PcP 09 14 44.9 +0.6**
KSH PP **PP 09 15 23.8 +1.4**
KSH S **S 09 20 30.8 -5.5**
KSH sS **sS 09 20 57.7 -0.9**
KSH ScS **ScS 09 23 10.7 -2.8**
KSH SS **SS 09 24 06.5 -4.3**
KSH pmax pmax
comp=Z,8.0nm,0.6s
KSH pmax pmax
comp=Z,130nm,8.0s
KSH LR LR
comp=N,160nm,5.5s
KSH LR LR
comp=E,280nm,5.6s
KSH LR LR
comp=Z,280nm,5.6s
SONM Songino Array 52.39 3 P **P 09 13 41.0 -0.2**
SONM PcP **PcP 09 14 51.1 -0.5**
SONM Songino Array 52.39 3 P **P 09 13 41.0 -0.2**
comp=Z,29nm,0.6s,baz=183,slow=9.2,SNR=288
SONM PcP **PcP 09 14 51.1 -0.5**
comp=Z,4.2nm,0.6s,baz=191,slow=4.2,SNR=8.5
CN2 Changchun 52.45 21 eP **P 09 13 39.6 -1.9**
CN2 epP **pP 09 13 51.5 -3.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
ULN Ulaanbaatar 52.46 4 eP **P 09 13 41.4 -0.4**
comp=Z,13nm,0.9s
MJAR Matsushiro Arr 52.77 36 P **P 09 13 41.6 -2.5**
MJAR PcP **PcP 09 14 52.3 -0.8**
MJAR Matsushiro Arr 52.77 36 P **P 09 13 41.6 -2.5**
comp=Z,4.7nm,0.8s,baz=219,slow=7.9,SNR=18
MJAR PcP **PcP 09 14 52.3 -0.8**
comp=Z,1.1nm,0.7s,baz=221,slow=6.1,SNR=3.2
TKM2 Tokmak 2 53.33 335 *i* P **P 09 13 47.8 -0.6**
TKM2 pmax pmax
comp=Z,14nm,0.5s
AAK Ala-Archa 53.56 334 eP **P 09 13 49.5 -0.5**
AAK pmax pmax
comp=Z,11nm,0.6s
AAK Ala-Archa 53.56 334 eP **P 09 13 49.5 -0.5**
comp=Z,11nm,0.6s
EKS2 Erkin-Say 53.90 334 eP **P 09 13 52.7 +0.3**
EKS2 pmax pmax
comp=Z,16nm,0.7s
EKS2 Erkin-Say 53.90 334 eP **P 09 13 52.7 +0.3**
comp=Z,16nm,0.7s
MK31 Makanchi Array 54.32 343 ceP **P 09 13 54.5 -0.8**
MK31 pmax pmax
comp=Z,12nm,0.4s
MK31 Makanchi Array 54.32 343 eP **P 09 13 54.6 -0.6**
MKAR Makanchi Array 54.32 343 P **P 09 13 54.6 -0.7**
MKAR Makanchi Array 54.32 343 P **P 09 13 54.6 -0.7**
MKAR Makanchi Array 54.32 343 P **P 09 13 54.6 -0.7**
comp=Z,66nm,1.0s,baz=148,slow=8.2,SNR=186
MDJ Mudanjiang 54.70 23 P **P 09 13 59.2 +1.2**
MDJ pmax pmax
comp=Z,5.0nm,1.4s
MDJ pmax pmax
comp=Z,160nm,5.7s
ZAK Zakamensk 54.84 0 eP **P 09 13 58.0 -1.1**
ZAK pmax pmax
comp=Z,5.0nm,0.8s
USRK Ussuriysk Arra 55.34 25 P **P 09 14 01.4 -1.3**
comp=Z,12nm,0.7s,baz=217,slow=5.4,SNR=38
KK31 Karatay Array 55.73 332 ceP **P 09 14 04.9 -0.6**
KK31 pmax pmax
comp=Z,2.0nm,0.3s
KKAR Karatay Array 55.73 332 eP **P 09 14 05.3 -0.2**
KKAR pmax pmax
comp=Z,3.0nm,0.6s
KKAR Karatay Array 55.73 332 eP **P 09 14 05.3 -0.2**
comp=Z,3.2nm,0.6s
MOY Mondy 56.14 359 eP **P 09 14 08.5 +0.1**
TLY Talaya 56.14 1 eP **P 09 14 07.4 -0.9**
TLY pmax pmax
comp=Z,11nm,0.7s
TLY Talaya 56.14 1 eP **P 09 14 08.9 +0.6**
comp=Z,12nm,0.7s
TLY Talaya 56.14 1 P **P 09 14 08.8 +0.5**
comp=Z,113nm,0.7s,SNR=6.8
KURK Kurchatov 58.92 342 eP **P 09 14 27.2 -0.6**
KURK pmax pmax
comp=Z,25nm,1.0s
KURK Kurchatov 58.92 342 eP **P 09 14 27.2 -0.6**
comp=Z,25nm,1.0s
HABR Khabarovsk 60.03 24 eP **pP 09 14 45.9 -3.2**
HABR e*SP sP 09 14 51.9 -2.8
HABR *e* 09 15 17.9
HABR 09 16 44.5
HABR e*SS sS 09 23 04.1 -3.3
HABR *e* 09 24 17.9
HABR SS **SS 09 26 38.0 -4.2**
HABR pmax pmax
comp=N,36nm,2.8s
HABR pmax pmax
comp=E,33nm,1.8s
HABR pmax pmax
comp=Z,56nm,2.8s
HABR MLR MLR
comp=Z,68nm,16.0s
ZAA0 Zalesovo Array 60.29 348 eP **P 09 14 36.1 -1.1**
ZALV Zalesovo Beam 60.29 348 P **P 09 14 36.2 -1.0**
ZALV Zalesovo Beam 60.29 348 P **P 09 14 36.2 -1.0**
ZALV Zalesovo Beam 60.29 348 P **P 09 14 36.2 -1.0**
comp=Z,28nm,0.5s,baz=159,slow=5.7,SNR=127
NVS Novosibirsk 61.46 347 eP **P 09 14 43.6 -1.5**
NVS pmax pmax
comp=N,5.0nm,0.6s
NVS pmax pmax
comp=E,5.0nm,0.6s
NVS pmax pmax
comp=Z,7.0nm,0.6s
YSS Yuzh-Sakhalins 62.40 30 ⇑eP **P 09 14 52.0 +0.4**
YSS pmax pmax
comp=Z,30nm,1.0s
NAY Al-Naaiem 62.92 306 eP **P 09 14 56.4 +0.9**
NAY AMb AMB 09 14 57.2
comp=Z,22nm,0.8s
BOD Bodaibo 62.96 7 eP **P 09 14 53.0 -2.1**
BOD pmax pmax
comp=Z,12nm,0.8s
MIB Mutribah 63.06 307 eP **P 09 14 57.5 +1.1**
MIB AMb AMB 09 14 58.4
comp=Z,28nm,0.9s
VOSK Vostochnaya 63.14 339 P **P 09 14 55.1 -1.4**
VOSK pmax pmax
comp=Z,7.0nm,0.4s
BVA0 Borovoye Array 63.60 339 P **P 09 14 57.6 -1.9**
BVA0 pmax pmax
comp=Z,2.0nm,0.7s
BRVK Borovoye 63.66 339 eP **P 09 14 58.9 -1.0**
BRVK pmax pmax
comp=Z,9.0nm,0.4s
BRVK Borovoye 63.66 339 eP **P 09 14 58.9 -1.0**
comp=Z,8.7nm,0.4s
ZRNK Zerenda 64.05 338 *i* P **P 09 15 01.1 -1.3**
ZRNK pmax pmax
comp=Z,9.0nm,0.8s
AB31 Akbulak array 65.24 331 ceP **P 09 15 09.7 -0.6**
AB31 pmax pmax
comp=Z,8.0nm,0.4s
ABKAR Akbulak array 65.24 331 eP **P 09 15 09.5 -0.8**
comp=Z,9.9nm,0.5s
MAW Mawson 68.39 195 LR LR 09 41 46.2
comp=Z,98nm,18.0s,baz=219,slow=32
YAK Yakutsk 69.68 13 eP **P 09 15 36.1 -1.9**
YAK pmax pmax
comp=Z,16nm,0.8s
ARU Arti 70.70 336 *c* *i* P **P 09 15 42.7 -1.7**
ARU S **S 09 24 54.8 -0.2**
ARU pmax pmax
comp=Z,11nm,1.2s
ZEI Tsey 70.97 318 eP **P 09 15 47.0 +0.3**
ZEI pmax pmax
comp=Z,6.0nm,0.5s
PETK Petropavlovsk- 73.76 31 P **P 09 16 01.0 -1.8**
PETK Petropavlovsk- 73.76 31 P **P 09 16 01.0 -1.8**
PETK Petropavlovsk- 73.76 31 P **P 09 16 01.0 -1.8**
comp=Z,6.7nm,0.9s,baz=248,slow=7.4,SNR=2.8
VRHR Novokhopersk 76.01 325 eP **P 09 16 15.3 -0.5**
VRHR pmax pmax
comp=N,7.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=E,3.0nm,0.4s
BR131 Keskin Array S 77.06 312 eP **P 09 16 22.4 +0.1**
comp=E,4.0nm,0.7s
BRTR Keskin Array B 77.06 312 P **P 09 16 22.2 0.0**
BRTR Keskin Array B 77.06 312 P **P 09 16 22.2 0.0**
comp=E,4.8nm,0.7s,baz=125,slow=6.9,SNR=28
VORD Divnogorie 77.29 325 eP **P 09 16 22.4 -0.6**
VORD pmax pmax
comp=N,9.0nm,0.6s
VORD pmax pmax
comp=E,2.0nm,0.6s
VORD pmax pmax
comp=Z,6.0nm,0.6s
VSR Storozhevoye 77.47 325 eP **P 09 16 23.6 -0.4**
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,6.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
OBN Obninsk 80.45 328 P **P 09 16 40.0 -0.2**
OBN SS SS 09 32 02.0 +6.4
OBN pmax pmax
comp=Z,6.0nm,0.4s
TIRR Tirgusor 82.10 316 ⇓*i*P **P 09 16 50.0 +0.8**
LEOM Leova 82.72 318 ⇑*i*P Px 09 17 15.6
AKASG Malin Array Be 83.20 322 *ce*P **P 09 16 54.5 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 83.20 322 P **P 09 16 54.6 -0.2**
AKASG Malin Array Be 83.20 322 P **P 09 16 54.6 -0.2**
comp=Z,3.1nm,0.7s,baz=90,slow=4.7,SNR=7.8
VRI Vrincioaia 83.59 317 ⇑*i*P **P 09 16 58.3 +1.3**
MLR Muntele Rosu 84.05 317 ⇓*i*P **P 09 17 00.8 +1.3**
BURAR Bucovina Array 85.00 318 ⇑*i*P **P 09 17 05.8 +1.6**
BUR08 Bucovina Ar. S 85.02 319 eP **P 09 17 05.8 +1.5**
JOF Joensuu 85.75 334 ep **P 09 17 08.4 +0.9**
BZS Buzias 87.05 316 ⇓*i*P **P 09 17 14.5 +0.2**
KOLS Kolonicke sedl 87.19 319 eP **P 09 17 15.7 +0.8**
KOLS pmax pmax
comp=Z,7.0nm,0.8s
KOLS Kolonicke sedl 87.19 319 eP **P 09 17 15.7 +0.8**
FINES FINESS Array B 87.69 332 P **P 09 17 17.1 +0.1**
FINES FINESS Array B 87.69 332 P **P 09 17 17.1 +0.1**
comp=Z,2.7nm,0.4s,baz=100,slow=5.9,SNR=25
CRVS Cervenica-Dubn 87.71 319 eP **P 09 17 17.5 +0.1**
CRVS pmax pmax
comp=Z,10.0nm,1.7s
CRVS Cervenica-Dubn 87.71 319 eP **P 09 17 17.5 +0.1**
KAF Kangasniemi 87.75 333 ep **P 09 17 17.6 +0.4**
PKSM Moragy 89.19 316 ⇓*i*P **P 09 17 25.5 +1.1**
VYHS Vyhne 89.37 319 eP **P 09 17 25.5 +0.3**
VYHS pmax pmax
comp=Z,19nm,2.1s
VYHS Vyhne 89.37 319 eP **P 09 17 25.5 +0.3**
ARCES ARCESS Array B 89.87 340 P **P 09 17 27.1 0.0**
ARCES ARCESS Array B 89.87 340 P **P 09 17 27.1 0.0**
comp=Z,7.0nm,0.9s,baz=92,slow=6.4,SNR=4.3
NOA NORSAR Array B 94.75 331 P **P 09 17 49.5 -0.4**
NOA NORSAR Array B 94.75 331 P **P 09 17 49.5 -0.4**
comp=Z,0.6nm,0.6s,baz=119,slow=3.7,SNR=2.5
YKA Yellowknife Ar 116.11 18 PKP **PKPdf 09 23 09.3 -1.9**
YKA Yellowknife Ar 116.11 18 PKP **PKPdf 09 23 09.3 -1.9**
comp=Z,0.2nm,0.7s,baz=321,slow=2.8,SNR=4.8
A13A Flathead Natio 125.83 29 ⇑P **PKPdf 09 23 30.8 +0.3**
baz=126
A14A Double T Ranch 126.28 29 ⇓P **PKPdf 09 23 31.6 +0.2**
baz=126
A17A Triple J Farms 127.57 27 ⇑P **PKPdf 09 23 33.8 0.0**
baz=127
SCHQ Schefferville 129.27 352 PKP **PKPdf 09 23 36.5 -0.2**
SCHQ Schefferville 129.27 352 PKP **PKPdf 09 23 36.5 -0.2**
comp=Z,0.8nm,0.3s,baz=0.0,slow=4.0,SNR=7.3
NVAR Mina Array Bea 129.89 42 PKP **PKPdf 09 23 38.8 +0.1**
NVAR Mina Array Bea 129.89 42 PKP **PKPdf 09 23 38.8 +0.1**
comp=Z,0.8nm,0.5s,baz=296,slow=2.5,SNR=11
C23A Lambert 130.84 25 ⇑P **PKPdf 09 23 41.2 +1.2**
baz=131
D22A Cohagen 130.93 26 ⇑P **PKPdf 09 23 41.3 +1.1**
baz=131
E22A Miles City 131.58 26 ⇓P **PKPdf 09 23 42.3 +0.9**
baz=131
MPMC Manual Prospec 131.67 44 ⇑P **PKPdf 09 23 42.5 +0.4**
baz=131
H20A Greybull 132.09 29 ⇑P **PKPdf 09 23 43.1 +0.5**
baz=132
PDAR Pinedale Array 132.52 32 PKP **PKPdf 09 23 42.9 -0.7**
PDAR Pinedale Array 132.52 32 PKP **PKPdf 09 23 42.9 -0.7**
comp=Z,0.4nm,0.5s,baz=142,slow=1.2,SNR=5.7
GSC Goldstone 132.53 45 ⇑P **PKPdf 09 23 44.7 +1.0**
baz=132
O18A Roosevelt 133.97 35 ⇑P **PKPdf 09 23 46.8 +0.5**
baz=134
O19A Miners Draw (B 134.44 34 ⇓P **PKPdf 09 23 47.3 +0.1**
baz=134
U15A North Rim 134.98 41 ⇑P **PKPdf 09 23 49.5 +1.0**
baz=135
N21A Black Mountain 135.01 33 ⇑P **PKPdf 09 23 48.2 -0.1**
baz=135
Z27A Tatum 142.68 37 ⇑P **PKPdf 09 24 02.1 -0.3**
baz=142
326A Caldwell Ranch 143.56 40 ⇑P PKPab 09 24 00.8 +0.4
baz=143
Z29A Hungry Hill Ra 143.61 36 ⇑P PKPbc 09 24 01.0 -0.4
baz=143
426A McDonald Obser 143.94 41 ⇑P PKPab 09 24 01.8 -0.3
baz=144
427A Hayter Ranch, 144.23 40 ⇓P **PKPab 09 24 03.2 +0.2**
baz=144
328A Wristen Ranch, 144.25 39 ⇑P **PKPab 09 24 03.0 0.0**
baz=144
527A Woodward Ranch 144.56 41 ⇑P **PKPab 09 24 04.4 0.0**
baz=144
TUL1 Tulsa 144.57 26 ⇑P **PKPab 09 24 03.2 -0.8**
baz=144
626A Big Bend Ranch 144.59 43 ⇑P **PKPab 09 24 04.3 -0.1**
baz=144
BDFB Brasilia 144.63 235 PKP **PKPdf 09 24 06.7 +0.4**
BDFB Brasilia 144.63 235 PKP **PKPdf 09 24 06.7 +0.4**
comp=Z,3.5nm,0.5s,baz=108,slow=3.2,SNR=6.3
428A Kincaid Ranch, 144.78 40 ⇑P PKPbc 09 24 05.6 +0.5
baz=144
TXAR Lajitas Array 145.04 42 PKP **PKPab 09 24 06.1 0.0**
TXAR Lajitas Array 145.04 42 PKP **PKPab 09 24 06.1 0.0**
comp=Z,7.7nm,0.6s,baz=258,slow=1.8,SNR=93
528A Cox Ranch, San 145.09 41 ⇑P **PKPab 09 24 06.2 0.0**
baz=145
627A Terlingua Ranc 145.15 42 ⇑P **PKPbc 09 24 06.3 -0.1**
baz=145
628A Black Gap, Mar 145.46 42 ⇑P **PKPdf 09 24 07.2 0.0**
baz=145
JCT Junction City 146.73 37 ⇓P **PKPbc 09 24 10.6 -0.5**
baz=146

CASC 02 09:23:27.6±2.8, 9.51N×83.34W, h3km±12km, MD3.7, 3C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.42**	**276**	⇑*i*P		Pg	09 23 36.2	0.0
URSC	**Ursasca**	**0.54**	**307**	⇓*i*P		Pg	09 23 38.2	-0.1
QCR	**Quepos**	**0.82**	**264**	⇑*e*P		Pg	09 23 43.3	-0.1
QCR				*e*S		Sg	09 23 54.6	+0.5
SJS	**Escuela Geolog**	**0.82**	**301**	*e*P		Pg	09 23 43.6	0.0
SJS				*e*S		Sg	09 23 54.4	-0.1
BRU2	**Volcan**	**0.96**	**138**	*i* P		Pg	09 23 45.9	-0.3
TBS2		**0.98**	**137**	*e*P		Pg	09 23 46.1	-0.6
CASO	**Castillo**	**1.65**	**304**	*i* P		Pn	09 23 57.7	0.0
CASO				*i* S		Sn	09 24 19.8	+0.3
JCR	**Jicaral**	**1.78**	**281**	⇑*e*P		Pn	09 23 59.6	+0.2
JCR				*e*S		Sb	09 24 23.6	-0.3
PTEN	**Parque Tenorio**	**2.02**	**306**	*i* P		Pn	09 24 03.1	+0.4
PTEN				*i* S		Sb	09 24 30.3	-0.4
CUI	**Cuipilapa**	**2.13**	**302**	*i* P		Pn	09 24 05.3	+1.1
GPS1	**Guardaparques**	**2.34**	**303**	*i* P		Pn	09 24 08.1	+0.9
NY14	**Universidad de**	**2.44**	**298**	*i* P		Pn	09 24 09.7	+1.3
GBS2	**Las Lilas**	**2.46**	**302**	*i* S		Sb	09 24 42.9	-0.5
PTP	**Ponta Puerca**	**19.25**	**61**	*e*P		x	09 23 53.6	

IDC 02 09:36:53.9±3.0, 2.96N×96.00E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/23, mbtmp3.9/6, Error ellipse: s-maj=129.8km s-min=20.2km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.98**	**123**	P		P	09 45 03.4	0.0
	1.6nm,0.5s,baz=301,slow=9.1,SNR=20							
MKAR	**Makanchi Array**	**45.26**	**347**	P		P	09 45 13.6	+0.4
	0.9nm,0.4s,baz=160,slow=8.8,SNR=28							
ASAR	**Alice Springs**	**45.41**	**128**	P		P	09 45 14.5	-0.3
	0.4nm,0.5s,baz=297,slow=8.1,SNR=5.7							
SONM	**Songino Array**	**45.59**	**10**	P		P	09 45 15.8	-0.2
	0.4nm,0.4s,baz=190,slow=8.8,SNR=7.1							
KURBB	**Kurchatov Arra**	**49.73**	**345**	P		P	09 45 47.7	-0.2
	0.8nm,0.5s,baz=168,slow=7.1,SNR=6.2							
ZALV	**Zalesovo Beam**	**51.65**	**352**	P		P	09 46 01.5	-0.8
	0.8nm,0.4s,baz=162,slow=7.1,SNR=5.4							

NEIC ***02*** *10:04:00.2, 16°.91N×95°.31W, h105km, MD4.0(MEX), After MEX.*

MEX 02 10:03:59.8±1.3, 16°.92N×95°.32W, h109km±13km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.45**	**68**	*i* P	Pn	10 04 14.9	-1.3
CMIG				*i* S	Sn	10 04 26.1	-2.4
CMIG	**Matias Romero**	**0.45**	**68**	*i* P	Pn	10 04 14.9	-1.3
CMIG				*i* S	Sn	10 04 26.1	-2.4
VHO	**Vista Hermosa**	**1.36**	**276**	*i* P	Pn	10 04 24.8	-0.3
VHO				*i* S	Sn	10 04 43.0	-1.2
VHO	**Vista Hermosa**	**1.36**	**276**	*i* P	Pn	10 04 24.8	-0.3
VHO				*i* S	Sn	10 04 43.0	-1.2
HUIG	**Huatulco**	**1.37**	**213**	*i* P	Pn	10 04 23.1	-2.0
HUIG				*i* S	Sn	10 04 43.3	-0.9
HUIG	**Huatulco**	**1.37**	**213**	*i* P	Pn	10 04 23.1	-2.0
HUIG				*i* S	Sn	10 04 43.3	-0.9
TGIG		**2.11**	**94**	*eP*	Pn	10 04 33.6	-0.7
TGIG				*i* S	Sn	10 04 59.0	-1.6
TGIG		**2.11**	**94**	*eP*	Pn	10 04 33.6	-0.7
TGIG				*i* S	Sn	10 04 59.0	-1.6
PCIG		**2.36**	**121**	*eP*	Pn	10 04 37.5	+0.1
PCIG				*i* S	Sn	10 05 05.4	-0.7
PCIG		**2.36**	**121**	*eP*	Pn	10 04 37.0	-0.3
PCIG				*i* S	Sn	10 05 05.4	-0.7
PNIG	**Pinotepa**	**2.74**	**259**	*eP*	Pn	10 04 40.1	-2.3
PNIG				*eS*	Sn	10 05 12.6	-2.5
PNIG	**Pinotepa**	**2.74**	**259**	*eP*	Pn	10 04 40.1	-2.3
PNIG				*eS*	Sn	10 05 12.6	-2.5
CCIG	**Comitan**	**3.12**	**101**	*eP*	Pn	10 04 46.9	-0.7
CCIG				*eS*	Sn	10 05 23.3	-1.2
CCIG	**Comitan**	**3.12**	**101**	*eP*	Pn	10 04 46.9	-0.7
CCIG				*eS*	Sn	10 05 23.3	-1.2

IDC 02 10:08:57.3±1.9, 2°.01N×127°.80E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/17, mbtmp3.5/4, Error ellipse: s-maj=131.6km s-min=24.8km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.74**	**164**	P	P	10 14 01.6	+0.4
	1.4nm,0.5s,baz=344,slow=11,SNR=15						
ASAR	**Alice Springs**	**26.21**	**167**	P	P	10 14 33.1	-0.9
	0.2nm,0.5s,baz=342,slow=7.3,SNR=6.4						
STKA	**Stephens Creek**	**36.16**	**160**	P	P	10 16 01.8	+0.2
	0.7nm,0.4s,baz=340,slow=8.5,SNR=5.5						
MKAR	**Makanchi Array**	**59.57**	**325**	P	P	10 19 02.9	+0.1
	0.1nm,0.4s,baz=115,slow=8.2,SNR=4.9						

IDC 02 10:24:56.4±3.5, 5°.62S×150°.59E, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.2/16, mbtmp3.2/3, ML2.5/1, Error ellipse: s-maj=141.1km s-min=42.0km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.07**	**222**	Pn	Pn	10 26 14.8	+1.1
	1.1nm,0.3s,baz=42,slow=12,SNR=3.8						
PMG				Sn	Sn	10 27 09.0	-4.0
	1.9nm,0.3s,baz=48,slow=16,SNR=3.9						
WRA	**Warramunga Arr**	**21.27**	**227**	P	P	10 29 44.4	-0.2
	0.4nm,0.6s,baz=53,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**24.08**	**220**	P	P	10 30 14.0	+0.1
	0.3nm,0.6s,baz=55,slow=9.6,SNR=4.1						
TORD	**Torodi Ar. Bea**	**148.44**	**286**	PKPbc	PKPbc	10 44 45.3	-0.9
	0.3nm,0.6s,baz=77,slow=3.0,SNR=4.0						

NIED ***02*** *10:28:00, 42°.60N×144°.10E, h59km, Mw3.6 Best double couple: M₀3.24000×10¹⁴ NP1:φ₁186.00000°, δ52.00000°, λ73.00000°. NP2:φ₂33.00000°, δ41.00000°, λ110.00000°.*
IDC ***02*** *10:28:45.8±1.3, 42°.41N×144°.18E, h0km, mb3.5/6, mb1 3.7/9, mb1mx3.5/25, mbtmp3.4/9, ML2.9/3, Error ellipse: s-maj=30.8km s-min=19.5km az=1.0*
ISCJB ***02*** *10:28:52.8±0.6, 42°.54N±0°.05×144°.16E±0°.06, h62km±5km, mb3.4/6, Error ellipse: s-maj=9.6km s-min=5.7km az=143.7*
JMA ***02*** *10:28:53.6±0.1, 42°.59N×144°.11E, h65km±1km, MS3.5 JMA Felt II J1.*

ISC 02 10:28:53.3±1.0, 42°.51N±0°.06×144°.15E±0°.06, h57km±8km, n24, σ0°98/34, mb3.5/6, 1C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOB	**Onbets**	**0.46**	**329**	⇓P	**Pn**	**10 29 05.0**	**+0.4**
JOB				*eS*	**Sn**	**10 29 13.0**	**+0.2**
JCH	**Churui**	**0.59**	**281**	⇑P	**Pn**	**10 29 06.6**	**+0.5**
JCH				*eS*	**Sn**	**10 29 15.5**	**+0.1**
JAK	**Akkeshi**	**0.63**	**39**	⇓P	**Pn**	**10 29 06.8**	**+0.3**
JAR	**Ashorobuto**	**0.84**	**340**	⇓P	**Pn**	**10 29 08.9**	**-0.2**
JAR				*eS*	**Sn**	**10 29 19.7**	**-1.0**
JEM	**Erimo**	**0.89**	**237**	P	**Pn**	**10 29 10.7**	**+1.0**
JNBK	**Urakawa-nobuka**	**1.06**	**258**	P	**Pn**	**10 29 12.3**	**+0.3**
JNBK				*eS*	**Sn**	**10 29 25.6**	**-0.3**
JNK	**Nakash**	**1.15**	**21**	P	**Pn**	**10 29 12.9**	**-0.4**
JNK				*eS*	**Sn**	**10 29 27.0**	**-1.1**
JFR	**Furan**	**1.32**	**300**	⇓P	**Pn**	**10 29 15.1**	**-0.4**
JBT2	**Biratori 2**	**1.35**	**282**	⇓P	**Pn**	**10 29 15.4**	**-0.4**
NEM2	**Nemuro 2**	**1.45**	**53**	P	**Pn**	**10 29 16.7**	**-0.5**
NEM2				*eS*	**Sn**	**10 29 32.8**	**-2.3**
JTKR	**Abashiri--Toko**	**1.47**	**353**	P	**Pn**	**10 29 17.9**	**+0.4**
JTKR				*eS*	**Sn**	**10 29 35.6**	**-0.1**
JRA	**Rausu**	**1.59**	**26**	P	**Pn**	**10 29 19.8**	**+0.6**
JRA				*eS*	**Sn**	**10 29 38.5**	**-0.2**
JMP	**Maruseppu**	**1.61**	**339**	⇓P	**Pn**	**10 29 19.3**	**-0.1**
JMP				*eS*	**Sn**	**10 29 38.3**	**-0.8**
JKK2	**Kamakawa 2**	**1.71**	**323**	⇓P	**Pn**	**10 29 20.9**	**+0.2**
JAB	**Ashibetsu**	**1.73**	**306**	⇓P	**Pn**	**10 29 22.0**	**+1.0**
ASAJ	**Asahikawa**	**1.97**	**325**	Pn	**Pn**	**10 29 23.8**	**-0.4**
	8.4nm,0.3s,baz=186,slow=10,SNR=43						
ASAJ				Sn	**Sn**	**10 29 48.9**	**+1.0**
	24nm,0.3s,baz=81,slow=31,SNR=19						
MJAR	**Matsushiro Arr**	**7.52**	**220**	Pn	**Pn**	**10 30 37.5**	**-2.9**
	0.1nm,0.3s,baz=33,slow=13,SNR=2.4						
USRK	**Ussuriysk Arra**	**9.02**	**285**	Pn	**Pn**	**10 30 59.1**	**-1.5**
	0.1nm,0.3s,baz=106,slow=14,SNR=2.5						
SONM	**Songino Array**	**26.95**	**294**	P	**P**	**10 34 29.0**	**-0.4**
	0.9nm,0.8s,baz=78,slow=8.7,SNR=4.6						
MKAR	**Makanchi Array**	**43.22**	**298**	P	**P**	**10 36 47.5**	**-1.1**
	0.1nm,0.4s,baz=77,slow=8.5,SNR=3.3						
ILAR	**Eielson Array**	**43.78**	**35**	P	**P**	**10 36 53.1**	**+0.3**
	0.5nm,0.4s,baz=276,slow=8.1,SNR=16						
NVAR	**Mina Array Bea**	**70.09**	**56**	P	**P**	**10 40 01.1**	**+1.4**
	0.2nm,0.7s,baz=286,slow=6.5,SNR=3.6						
PDAR	**Pinedale Array**	**72.38**	**48**	P	**P**	**10 40 13.9**	**+0.6**
	0.4nm,0.5s,baz=2.9,slow=1.8,SNR=5.5						
TXAR	**Lajitas Array**	**85.16**	**54**	P	**P**	**10 41 24.3**	**+0.8**
	0.3nm,0.6s,baz=283,slow=5.2,SNR=2.8						

DDA ***02*** *10:30:50.6, 36°.98N×28°.16E, h7km, MD2.9*

ISC 02 10:30:48.6±2.8, 36°.9N±0°.1×28°.2E±0°.1, h12km, n4, σ0°58/8, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.28**	**12**	*ePG*	**Pg**	**10 30 54.6**	**+0.2**
YER				*eSG*	**Sg**	**10 30 57.4**	**-0.8**
TURN	**Turunc**	**0.31**	**88**	*i* P	**Pg**	**10 30 55.0**	**+0.1**
TURN				*i* S	**Sg**	**10 30 58.7**	**-0.5**
AYDN	**Tasoluk**	**0.84**	**342**	*i* P	**Pb**	**10 31 05.2**	**0.0**
AYDN				*i* S	**Sg**	**10 31 15.3**	**-0.5**
DNZL	**Cakiroluk**	**1.06**	**39**	*i* P	**Pg**	**10 31 09.4**	**+0.3**
DNZL				*i* S	**Sn**	**10 31 24.8**	**+0.5**

ISCJB ***02*** *10:31:18.8±0.5, 68°.77N±0°.03×16°.8W±0°.2, h11km, mb3.6/5, MS3.4/3, Error ellipse: s-maj=9.0km s-min=4.2km az=1.4*
CSEM ***02*** *10:31:19.5±0.1, 68°.85N×16°.41W, h20km, ML3.6, Error ellipse: s-maj=7.0km s-min=2.2km az=79.0*
REY ***02*** *10:31:21.0, 68°.69N×16°.34W, h10km, ML3.4, ML3.6*
IDC ***02*** *10:31:21.9±1.2, 68°.58N×16°.83W, h0km, mb3.6/5, mb1 3.7/8, mb1mx3.5/28, mbtmp3.6/8, ML3.4/3, MS3.4/4, Ms1 3.4/4, ms1mx2.9/41, Error ellipse: s-maj=27.7km s-min=23.4km az=26.0*

ISC 02 10:31:20.1±0.8, 68°.84N±0°.06×16°.83W±0°.07, h11km, n44, σ1°55/56, mb3.6/5, MS3.1/3, Iceland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGRI	**Grimsey**	**2.35**	**192**	P	**Pn**	**10 31 57.4**	**-1.1**
IGRI				S	**Sn**	**10 32 25.0**	**-2.2**
SCO	**Scoresbysund**	**2.44**	**315**	*i* P	**Pn**	**10 31 59.5**	**-0.2**
SCO	**Scoresbysund**	**2.44**	**315**	*eP*	**Pn**	**10 31 59.5**	**-0.2**
ILEI	**Leirhofn**	**2.44**	**177**	P	**Pn**	**10 31 58.0**	**-1.8**
ILEI				S	**Sn**	**10 32 27.2**	**-2.4**
IFLA	**Flatey**	**2.71**	**189**	P	**Pn**	**10 32 02.6**	**-0.9**
IFLA				S	**Sn**	**10 32 34.6**	**-1.7**
IBRE	**Brettingsstaoi**	**2.76**	**189**	P	**Pn**	**10 32 03.0**	**-1.1**
IBRE				S	**Sn**	**10 32 35.4**	**-1.9**
IHED	**Heoinshofoi**	**2.77**	**184**	P	**Pn**	**10 32 03.0**	**-1.3**
IHED				S	**Sn**	**10 32 36.1**	**-1.6**
IGIL	**Gilhagi**	**2.78**	**176**	P	**Pn**	**10 32 02.6**	**-1.8**
IGIL				S	**Sn**	**10 32 35.6**	**-2.2**
ISIG	**Siglufjorour**	**2.83**	**197**	P	**Pn**	**10 32 04.5**	**-0.6**
IDIM	**Dimmadals¯¡s**	**2.89**	**181**	P	**Pn**	**10 32 04.7**	**-1.2**
IDIM				S	**Sn**	**10 32 38.9**	**-1.7**
IGRA	**Granastaoir**	**2.94**	**186**	P	**Pn**	**10 32 05.6**	**-1.1**
IGRA				S	**Sn**	**10 32 40.5**	**-1.4**
IHLA	**Hella**	**2.97**	**192**	P	**Pn**	**10 32 06.2**	**-0.8**
IHLA				S	**Sn**	**10 32 41.2**	**-1.3**
ISKI	**Skildingah¯‡ls**	**2.98**	**182**	P	**Pn**	**10 32 06.1**	**-1.1**
ISKI				S	**Sn**	**10 32 41.5**	**-1.4**
IGHS	**Grjothals**	**2.99**	**178**	P	**Pn**	**10 32 06.3**	**-1.1**
IGHS				S	**Sn**	**10 32 41.7**	**-1.5**
IHRN	**Hraun**	**3.02**	**206**	P	**Pn**	**10 32 08.2**	**+0.5**
IKVO	**Krokottuvotn**	**3.14**	**180**	P	**Pn**	**10 32 08.3**	**-1.1**
IKVO				S	**Sn**	**10 32 45.3**	**-1.5**
IREN	**Reynihlio**	**3.20**	**181**	P	**Pn**	**10 32 09.5**	**-0.8**
IREN				S	**Sn**	**10 32 47.4**	**-1.0**
IGRS	**Grimsstaoir**	**3.22**	**175**	P	**Pn**	**10 32 08.9**	**-1.6**
IGRS				S	**Sn**	**10 32 47.1**	**-1.8**
ISVA	**Svartarkot**	**3.52**	**183**	P	**Pn**	**10 32 14.2**	**-0.4**
ISVA				S	**Sn**	**10 32 56.0**	**-0.1**
IASK	**Askja**	**3.80**	**179**	P	**Pn**	**10 32 17.9**	**-0.6**
IASK				S	**Sn**	**10 33 03.4**	**+0.2**
IADA	**Aoalbol**	**3.87**	**172**	P	**Pn**	**10 32 17.5**	**-1.9**
IADA				S	**Sn**	**10 33 03.5**	**-1.2**
IMKO	**Mokollar**	**3.88**	**177**	P	**Pn**	**10 32 18.5**	**-1.1**
IHVA	**Hvannstoosfjol**	**3.92**	**174**	P	**Pn**	**10 32 18.3**	**-1.8**
IGLU	**Glumsstadir**	**3.93**	**169**	P	**Pn**	**10 32 18.7**	**-1.6**
IGLU				S	**Sn**	**10 33 05.0**	**-1.3**
IVSH	**V-Sauoahnukur**	**4.07**	**173**	P	**Pn**	**10 32 20.5**	**-1.7**
IKRE	**Kreppuhraun**	**4.07**	**177**	P	**Pn**	**10 32 21.1**	**-1.2**
IASB	**¯sbjarnarst**	**4.47**	**206**	P	**Pn**	**10 32 29.5**	**+1.8**
BORG	**Borgarnes**	**4.47**	**206**	Pn	**Pn**	**10 32 29.7**	**+2.1**
	6.2nm,0.3s,baz=29,slow=7.3,SNR=40						
DAG	**Danmarks Havn**	**8.00**	**357**	*i* P	**Pn**	**10 33 14.3**	**-1.6**
DAG				*eS*	Sn	10 34 38.4	-7.8
DAG	**Danmarks Havn**	**8.00**	**357**	*eP*	**Pn**	**10 33 14.4**	**-1.5**
	SNR=46						
SUMG	**Summit**	**8.05**	**308**	*i* P	**Pn**	**10 33 17.4**	**+0.3**
SUMG				*eS*	**Sn**	**10 34 43.4**	**-4.7**
SUMG	**Summit**	**8.05**	**308**	*eP*	**Pn**	**10 33 17.4**	**+0.3**
SPITS	**Spitsbergen Ar**	**13.00**	**30**	Pn	**Pn**	**10 34 25.4**	**+1.0**
	baz=219,slow=15,SNR=7.7						
NOA	**NORSAR Array B**	**14.09**	**110**	Pn	**Pn**	**10 34 40.0**	**+0.7**
	0.1nm,0.3s,baz=312,slow=12,SNR=2.7						
HFS	**Hagfors**	**15.59**	**109**	LR	LR	10 39 54.5	
	comp=Z,122nm,18.8s,baz=252,slow=33						
FINES	**FINESS Array B**	**19.10**	**92**	P	**Pn**	**10 35 45.4**	**+2.2**
	0.2nm,0.3s,baz=309,slow=12,SNR=2.5						
RES	**Resolute Bay**	**23.34**	**319**	LR	LR	10 44 28.9	
	comp=Z,66nm,20.2s,baz=121,slow=33						
GERES	**GERESS Array B**	**25.02**	**127**	P	**P**	**10 36 45.5**	**+1.7**
	2.4nm,0.9s,baz=325,slow=6.7,SNR=9.1						
VRAC	**Vranov**	**25.47**	**123**	LR	LR	10 47 52.4	
	comp=Z,57nm,19.4s,baz=28,slow=39						
YKA	**Yellowknife Ar**	**36.64**	**310**	P	P	10 38 30.3	+4.5
	1.0nm,0.9s,baz=36,slow=7.8,SNR=8.2						
KURBB	**Kurchatov Arra**	**45.84**	**62**	P	P	10 39 46.6	+5.1
	0.7nm,0.9s,baz=327,slow=7.8,SNR=3.8						
MKAR	**Makanchi Array**	**50.40**	**62**	P	P	10 40 21.9	+5.0
	0.3nm,0.7s,baz=356,slow=6.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**56.91**	**158**	P	**P**	**10 41 05.9**	**+1.1**
	0.9nm,0.9s,baz=331,slow=9.4,SNR=4.0						
KSRS	**Korea Array**	**70.84**	**29**	LR	LR	11 19 53.6	
	comp=Z,60nm,18.2s,baz=12,slow=41						

NIED ***02*** *10:38:00, 23°.80N×121°.10E, h23km, Mw4.0 Best double couple: M₀9.84000×10¹⁴ NP1:φ₁219.00000°, δ84.00000°, λ129.00000°. NP2:φ₂316.00000°, δ40.00000°, λ9.00000°.*
IDC ***02*** *10:38:22.6±0.9, 24°.26N×121°.89E, h0km, mb3.5/8, mb1 3.7/8, mb1mx3.6/23, mbtmp3.5/8, MS3.1/2, Ms1 3.1/2, ms1mx2.4/32, Error ellipse: s-maj=37.4km s-min=17.5km az=64.0*
BJI ***02*** *10:38:23.1, 23°.79N×121°.21E, h14km, ML3.9/5*
JMA ***02*** *10:38:27.2±0.4, 23°.82N×121°.14E, h0km, MS3.8*
TAP ***02*** *10:38:27.5, 24°.01N×121°.01E, h16km, ML4.3, B*
ISCJB ***02*** *10:38:28.5±0.2, 24°.01N±0°.01×121°.03E±0°.01, h11km±2km, mb3.4/8, MS3.3/1, Error ellipse: s-maj=2.5km s-min=1.5km az=42.9*

ISC 02 10:38:27.2±0.8, 23°.98N±0°.01×121°.11E±0°.02, h15km±6km, n83, σ1°26/137, mb3.5/8, 13C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMLT	**Sun Moon Lake**	**0.21**	**243**	⇓*i*P	**Pg**	**10 38 32.1**	**0.0**
	baz=209						
SMLT				S	**Sg**	**10 38 35.6**	**+0.1**
	baz=209						
WHF	**Hehuan Shan**	**0.22**	**41**	⇑P	**Pb**	**10 38 34.5**	**+1.3**
	baz=69						
WHF				*eS*	**Sb**	**10 38 39.0**	**+1.8**
	baz=69						
TYC	**Yuchr**	**0.24**	**252**	⇓*i*P	**Pg**	**10 38 32.2**	**-0.3**
	baz=224						
TYC				*eS*	**Sg**	**10 38 35.4**	**-0.6**
	baz=224						
TWT	**Tachien**	**0.28**	**13**	⇓*i*P	**Pb**	**10 38 33.9**	**-0.2**
	baz=30						
TWT				*eS*	**Sg**	**10 38 37.7**	**+0.3**
	baz=30						
ESL	**Shilin**	**0.34**	**119**	⇑*i*P	**Pn**	**10 38 37.0**	**-0.8**
	baz=116						
ESL				S	**Sn**	**10 38 43.5**	**-0.9**
	baz=116						
ESF	**Shoufeng Towns**	**0.38**	**107**	*eP*	**Pn**	**10 38 37.4**	**-0.9**
	baz=107						
ESF				S	**Sn**	**10 38 44.6**	**-0.8**
	baz=107						
WNT	**Mingjian**	**0.40**	**255**	⇑*i*P	**Pg**	**10 38 35.5**	**+0.2**
	baz=245						
WNT				*i* S	**Sb**	**10 38 41.7**	**-0.3**
	baz=245						
TCU	**Taichung**	**0.43**	**293**	⇑*i*P	**Pg**	**10 38 35.8**	**0.0**
	baz=295						
TCU				S	**Sg**	**10 38 41.7**	**0.0**
	baz=295						
HWA	**Hwalien**	**0.46**	**90**	P	**Pn**	**10 38 39.2**	**-0.1**
	baz=93						
HWA				*eS*	**Sn**	**10 38 46.8**	**-0.5**
	baz=93						
TWD	**Chiawan**	**0.46**	**77**	P	**Pn**	**10 38 38.6**	**-0.7**
	baz=90						
TWD				*i* S	**Sn**	**10 38 45.8**	**-1.4**
	baz=90						
TWQ1	**Liyutan**	**0.48**	**320**	⇓*i*P	**Pg**	**10 38 36.7**	**-0.1**
	baz=339						
TWQ1				*i* S	**Sg**	**10 38 43.7**	**+0.5**
	baz=339						
EHY	**Hungye**	**0.51**	**157**	⇑*i*P	**Pn**	**10 38 39.4**	**-0.7**
	baz=142						
NNS	**Nan Shan**	**0.52**	**28**	⇓*i*P	**Pb**	**10 38 38.4**	**+0.2**
	baz=38						
NNS				*eS*	**Sg**	**10 38 44.7**	**+0.2**
	baz=38						
NSY	**Sanyi**	**0.54**	**324**	P	**Pb**	**10 38 38.3**	**-0.1**
	baz=333						
NSY				*i* S	**Sb**	**10 38 46.2**	**+0.2**
	baz=333						
ALS	**Alishan**	**0.54**	**211**	⇓P	**Pb**	**10 38 38.9**	**+0.2**
	baz=190						
ALS				*eS*	**Sb**	**10 38 47.5**	**+1.0**
	baz=190						
CHN5	**Tsauling**	**0.55**	**226**	⇑*i*P	**Pg**	**10 38 38.6**	**0.0**
	baz=216						
CHN5				*eS*	**Sb**	**10 38 46.8**	**+0.4**
	baz=216						
WGK	**Gukeng**	**0.58**	**240**	⇑*i*P	**Pg**	**10 38 38.9**	**+0.3**
	baz=230						
WGK				*eS*	**Sb**	**10 38 47.6**	**+0.4**
	baz=230						
TWF1	**Yuli**	**0.65**	**164**	⇑*i*P	**Pn**	**10 38 41.7**	**-0.3**
	baz=149						
TWF1				*eS*	**Sn**	**10 38 52.5**	**+0.4**
	baz=149						
NSTT	**Nanjuang**	**0.65**	**352**	⇓*i*P	**Pb**	**10 38 40.5**	**+0.1**
	baz=7.0						
NSTT				*eS*	**Sg**	**10 38 48.9**	**+0.1**
	baz=7.0						
NSK	**Sanguang**	**0.73**	**18**	⇓*i*P	**Pb**	**10 38 41.9**	**+0.2**
	baz=34						
NSK				*eS*	**Sg**	**10 38 50.7**	**-0.4**
	baz=34						
ENA	**Nanau**	**0.73**	**52**	*eP*	**Pn**	**10 38 42.9**	**-0.2**
	baz=58						
ENA				*eS*	**Sn**	**10 38 53.7**	**-0.4**
	baz=58						
CHN2	**Minshiung**	**0.73**	**232**	P	**Pg**	**10 38 41.7**	**+0.2**
	baz=225						
CHN2				S	**Sb**	**10 38 52.3**	**+0.7**
	baz=225						
WTCT	**Ta-ch'eng**	**0.77**	**261**	*eP*	**Pg**	**10 38 41.3**	**-0.8**
	baz=257						
WTCT				*eS*	**Sg**	**10 38 51.5**	**-0.7**
	baz=257						
ENTT	**Nioudou**	**0.78**	**32**	⇑*i*P	**Pb**	**10 38 43.1**	**+0.5**
	baz=32						
ENTT				*eS*	**Sn**	**10 38 55.7**	**+0.5**
	baz=32						
CHN4	**Tsaushan**	**0.79**	**217**	*eP*	**Pb**	**10 38 43.0**	**+0.3**
	baz=210						
CHN4				*eS*	**Sn**	**10 38 55.2**	**-0.2**
	baz=210						
CHY	**Chiayi**	**0.79**	**233**	P	**Pg**	**10 38 42.3**	**-0.3**
	baz=225						
CHY				*i* S	**Sb**	**10 38 53.4**	**+0.1**
	baz=225						
ELDTW	**Lidau**	**0.79**	**186**	⇑P	**Pb**	**10 38 43.5**	**+0.6**
	baz=185						
ELDTW				*eS*	**Sn**	**10 38 55.0**	**-0.8**
	baz=185						
HSN	**Hsinchu**	**0.83**	**351**	*eP*	**Pn**	**10 38 44.2**	**-0.3**
	baz=1.0						
HSN				*eS*	**Sn**	**10 38 57.2**	**+0.8**
	baz=1.0						
WTP	**Ta-pu**	**0.86**	**212**	*eP*	**Pb**	**10 38 43.8**	**-0.2**
	baz=205						
WTP				*eS*	**Sn**	**10 38 57.2**	**-0.1**
	baz=205						
STYT	**Tauyuan**	**0.88**	**202**	⇓*i*P	**Pb**	**10 38 44.5**	**+0.2**
	baz=195						
STYT				S	**Sg**	**10 38 56.9**	**+1.2**
	baz=195						
WSF	**Szhu**	**0.88**	**247**	P	**Pb**	**10 38 43.3**	**-0.9**
	baz=241						
WSF				*eS*	**Sb**	**10 38 55.2**	**-0.6**
	baz=241						
TWE	**Neicheng**	**0.90**	**35**	⇑*i*P	**Pn**	**10 38 45.6**	**+0.2**
	baz=37						
TWE				*eS*	**Sn**	**10 39 00.1**	**+2.0**
	baz=37						
CHKT	**Chengkung**	**0.91**	**165**	*eP*	**Pn**	**10 38 46.6**	**+1.1**
	baz=160						
CHKT				*eS*	**Sn**	**10 39 01.6**	**+3.1**
	baz=160						
TWK	**Hsinying**	**0.91**	**219**	P	**Pb**	**10 38 44.6**	**-0.2**
	baz=212						
TWK				*eS*	**Sg**	**10 38 57.7**	**+0.8**
	baz=212						
TWC	**Suao**	**0.92**	**47**	P	**Pn**	**10 38 46.2**	**+0.4**
	baz=52						
TWC				*eS*	**Sn**	**10 38 58.8**	**0.0**
	baz=52						
CHN1	**Nanshi**	**0.95**	**214**	⇑P	**Pb**	**10 38 45.6**	**+0.1**
	baz=209						
CHN1				*eS*	**Sn**	**10 38 59.5**	**-0.1**
	baz=209						
ILA	**Ilan**	**0.98**	**37**	*eP*	**Pn**	**10 38 47.4**	**+0.9**
	baz=40						
ILA				*eS*	**Sn**	**10 39 02.9**	**+2.8**
	baz=40						
NCU	**National Centr**	**0.99**	**4**	P	**Pn**	**10 38 47.5**	**+0.8**
	baz=10.0						
NCU				*eS*	**Sn**	**10 39 02.2**	**+1.8**
	baz=10.0						
SGST	**Jiashian**	**1.02**	**208**	P	**Pn**	**10 38 47.4**	**+0.4**
	baz=213						
SGST				*eS*	**Sn**	**10 39 02.8**	**+1.7**
	baz=213						
CHN8	**Yiju**	**1.04**	**233**	*eP*	**Pb**	**10 38 46.3**	**-0.6**
	baz=226						
CHN8				*eS*	**Sb**	**10 39 00.7**	**+0.4**
	baz=226						
TWA	**Mucha**	**1.09**	**23**	*eP*	**Pg**	**10 38 48.9**	**+0.6**
	baz=28						
TWA				*eS*	**Sn**	**10 39 05.8**	**+3.0**
	baz=28						
TAP1	**Taipei**	**1.12**	**20**	*eP*	**Pg**	**10 38 49.6**	**+0.7**
	baz=26						
CHN3	**Shinhua**	**1.13**	**217**	*eP*	**Pg**	**10 38 49.1**	**+0.1**
	baz=222						
CHN3				*eS*	**Sg**	**10 39 06.1**	**+2.3**
	baz=222						
TWS1	**Kuangyinshan**	**1.15**	**14**	*eP*	**Pg**	**10 38 51.3**	**+1.8**
	baz=6.0						
TWS1				*eS*	**Sg**	**10 39 06.9**	**+2.4**
	baz=6.0						
TWG	**Pinlang**	**1.16**	**182**	⇓*eP*	**Pg**	**10 38 50.3**	**+0.7**
	baz=171						
TWG				*eS*	**Sg**	**10 39 06.9**	**+2.3**
	baz=171						
SCLT	**Jiali**	**1.16**	**226**	P	**Pn**	**10 38 49.0**	**0.0**

HEN	**Hengchun** baz=185	**2.00**	**190**	*eP*		**Pb**	**10 39 03.0**	**-0.3**
TWK1	**Hengchun** baz=199	**2.05**	**188**	*eP*		**Pn**	**10 39 01.8**	**+0.6**
IRIF	**Iriomote-Funau**	**2.42**	**81**	P		**Pb**	**10 39 08.9**	**-1.7**
IRIF				*eS*		**Sb**	**10 39 39.7**	**-0.6**
HATJ	**Hateruma jima**	**2.47**	**88**	*eS*		**Sb**	**10 39 40.9**	**-0.7**
KNM	**Kinmen** baz=279	**2.48**	**281**	*eP*		**Pn**	**10 39 06.8**	**-0.3**
QZH	**Quanzhou**	**2.48**	**293**	Pn		**Pn**	**10 39 06.5**	**-0.7**
QZH	comp=N,1μm,0.4s			smax	smax			
QZH	comp=E,700nm,0.4s			smax	smax			
JKRS	**Kuro-shima**	**2.66**	**84**	P		**Pb**	**10 39 12.5**	**-2.2**
JKRS				*eS*		**Sb**	**10 39 46.0**	**-1.2**
JIJ	**Ishigaki jima**	**2.80**	**82**	P		**Pn**	**10 39 13.6**	**+2.0**
JIJ				*eS*		**Sn**	**10 39 47.7**	**+2.6**
JTJ	**Tarama**	**3.34**	**78**	P		Pb	10 39 22.8	-3.5
JTJ				*eS*		**Sb**	**10 40 03.1**	**-3.8**
JOGS	**Gusukube**	**4.00**	**78**	P		Pn	10 39 32.4	+4.4
JOGS				*eS*		**Sb**	**10 40 20.3**	**-5.3**
WHN	**Wuhan**	**8.88**	**319**	P		Pn	10 40 40.0	+4.9
KSRS	**Korea Array** comp=E,0.1nm,0.3s,baz=208,slow=14,SNR=2.6	**14.64**	**22**	Pn		Pn	10 41 49.1	-4.8
KSRS	comp=E,36nm,19.3s,baz=175,slow=36			LR		LR	10 46 56.2	
CMAR	**Chiang Mai Arr** comp=E,0.7nm,0.5s,baz=67,slow=7.9,SNR=4.8	**21.37**	**259**	P		**P**	**10 43 19.0**	**+4.6**
SONM	**Songino Array** comp=E,0.3nm,0.3s,baz=140,slow=9.1,SNR=3.2	**26.53**	**337**	P		**P**	**10 44 03.9**	**-0.6**
SONM	comp=E,78nm,18.6s,baz=308,slow=40			LR		LR	10 55 53.3	
MKAR	**Makanchi Array** comp=E,0.6nm,0.5s,baz=109,slow=10,SNR=14	**38.43**	**316**	P		**P**	**10 45 47.7**	**-0.7**
ZALV	**Zalesovo Beam** comp=E,1.4nm,0.7s,baz=109,slow=7.8,SNR=5.0	**40.38**	**327**	P		**P**	**10 46 03.7**	**-0.7**
KURBB	**Kurchatov Array** comp=E,0.5nm,0.8s,baz=114,slow=8.7,SNR=3.4	**42.22**	**320**	P		**P**	**10 46 19.3**	**-0.4**
WRA	**Warramunga Arr** comp=E,0.4nm,0.4s,baz=345,slow=8.4,SNR=7.8	**45.52**	**162**	P		**P**	**10 46 44.2**	**-2.3**
ASAR	**Alice Springs** comp=E,0.7nm,0.8s,baz=340,slow=6.6,SNR=11	**48.97**	**164**	P		**P**	**10 47 11.9**	**-1.4**
ASAR	comp=E,0.3nm,0.7s,baz=342,slow=2.9,SNR=5.0			PcP		**PcP**	**10 48 36.0**	**-1.4**
YKA	**Yellowknife Ar** comp=E,0.1nm,0.6s,baz=314,slow=5.0,SNR=3.0	**83.18**	**23**	P		P	10 50 46.3	-6.3

*CSEM **02** 10:38:49.9, 36.39N×22.02E, h23km, MD3.8, After ATH*
ATH 02 10:38:49.9, 36.39N±22.02E, h23km, MD3.8/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.55**	**336**	*e*PN	Pb	10 39 01.2	+0.2
PYL	**PYLOS**	**0.55**	**336**	*e*Pn	Pb	10 39 01.2	+0.2
ITM	**Ithomi**	**0.79**	**355**	*e*PN	Pb	10 39 05.2	+0.1
ITM				*e*SN	Sn	10 39 44.5	+28
ITM	**Ithomi**	**0.79**	**355**	*e*Pn	Pb	10 39 05.2	+0.1
ITM				*e*Sn	Sn	10 39 44.5	+28
VLI	**Veliai**	**0.81**	**66**	*e*PN	Pn	10 39 05.7	-0.2
VLI	**Veliai**	**0.81**	**66**	*e*Pn	Pn	10 39 05.7	-0.2
KYTH	**Kithira**	**0.83**	**97**	*e*PN	Pn	10 39 06.1	-0.1
KYTH	**Kithira**	**0.83**	**97**	*e*Pn	Pn	10 39 06.1	-0.1
VLX	**Vlachokerasia**	**1.02**	**16**	*e*PN	Pb	10 39 09.7	+0.6
VLX	**Vlachokerasia**	**1.02**	**16**	*e*Pn	Pb	10 39 09.7	+0.6

IDC 02 10:53:41.0±2.3, 6.04S×127.02E, h0km, mb3.3/1, mb1 3.7/3, mb1mx3.4/17, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=324.4km s-min=29.3km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=334,slow=13,SNR=12	**15.55**	**153**	Pn	Pn	10 57 23.6	+1.9
ASAR	**Alice Springs** 0.1nm,0.3s,baz=338,slow=10,SNR=10	**18.74**	**160**	P	P	10 58 00.5	-1.0
MKAR	**Makanchi Array** 0.3nm,0.9s,baz=129,slow=5.9,SNR=3.3	**65.82**	**328**	P	P	11 04 28.3	0.0

IDC 02 11:09:22.0±1.1, 46.65N×155.78E, h0km, mb3.4/7, mb1 3.6/9, mb1mx3.5/24, mbtmp3.5/9, ML3.4/2, Error ellipse: s-maj=29.4km s-min=22.3km az=119.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-** 0.5nm,0.3s,baz=181,slow=12,SNR=3.7	**6.58**	**10**	Pn	Pn	11 10 56.0	-3.9
ASAJ	**Asahikawa** 0.7nm,0.3s,baz=66,slow=10.0,SNR=3.7	**9.62**	**259**	Pn	Pn	11 11 43.4	+1.9
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=31,slow=15,SNR=4.4	**16.54**	**239**	Pn	Pn	11 13 15.2	-0.1
KSRS	**Korea Array** 0.4nm,0.5s,baz=67,slow=9.1,SNR=3.1	**22.54**	**256**	P	P	11 14 23.9	+0.6
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=45,slow=8.9,SNR=3.2	**44.15**	**307**	P	P	11 17 30.2	-1.7
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=68,slow=7.5,SNR=3.1	**48.60**	**299**	P	P	11 18 07.3	+0.1
YKA	**Yellowknife Ar** 0.0nm,0.3s,baz=291,slow=7.0,SNR=2.4	**49.90**	**37**	P	P	11 18 16.8	+0.1
FINES	**FINESS Array B** 0.5nm,0.4s,baz=51,slow=7.3,SNR=2.6	**64.89**	**336**	P	P	11 20 03.1	+0.6
WRA	**Warramunga Arr** 0.8nm,1.1s,baz=23,slow=6.9,SNR=2.2	**69.06**	**202**	P	P	11 20 29.1	-0.4
ASAR	**Alice Springs** 0.8nm,1.0s,baz=9.1,slow=5.1,SNR=4.3	**72.74**	**201**	P	P	11 20 52.0	+0.2

IDC 02 11:09:45.4±5.5, 23.39S×179.11W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/16, mbtmp4.1/3, Error ellipse: s-maj=233.1km s-min=60.2km az=150.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs** 1.5nm,0.4s,baz=91,slow=7.1,SNR=66	**42.93**	**260**	P	P	11 17 45.9	-0.4
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=104,slow=7.7,SNR=13	**43.26**	**265**	P	P	11 17 49.2	+0.2
CMAR	**Chiang Mai Arr** 0.5nm,0.3s,baz=140,slow=3.8,SNR=4.3	**90.12**	**290**	P	P	11 22 47.0	-0.9
BRTR	**Keskin Array B** 0.7nm,0.6s,baz=78,slow=2.7,SNR=5.4	**147.91**	**308**	PKPbc	PKPbc	11 29 32.9	-0.1

GUC 02 11:44:41.8±0.9, 26.20S×69.25W, h90km±34km, ML3.9, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**1.52**	**221**	↑*i*P	Pn	11 45 07.9	+0.1
CPCH				*i* S	Sn	11 45 28.2	+0.7
CPCH	comp=N,3μm,0.1s			AML	AML	11 45 29.7	
CDCH	**Caldera**	**1.65**	**238**	↓*i*P	Pn	11 45 10.4	+0.9
CDCH				*i* S	Sn	11 45 31.2	+0.7
VACH	**Vallenar**	**2.72**	**209**	↑*i*P	Pn	11 45 24.2	+0.6
VACH				*i* S	Sn	11 45 55.7	0.0
VACH	comp=N,483nm,0.0s			AML	AML	11 45 59.5	
ANCH	**Antofagasta**	**2.73**	**337**	*e*P	Pn	11 45 24.3	+0.6
ANCH				*i* S	Sn	11 45 55.9	+0.1
TLL	**Tololo Astrono**	**4.18**	**199**	↑*i*P	Pn	11 45 43.2	-0.4
TLL				*i* S	Sn	11 46 31.0	-0.6
TLL	comp=N,28nm,0.4s			AML	AML	11 46 57.6	

IDC 02 11:45:36.0±3.6, 9.77S×117.05E, h0km, mb2.9/2, mb1 3.2/3, mb1mx3.1/17, mbtmp3.0/3, Error ellipse: s-maj=256.4km s-min=26.4km az=48.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=296,slow=12,SNR=6.2	**19.52**	**123**	P	P	11 50 05.0	-0.1
ASAR	**Alice Springs** 0.3nm,0.3s,baz=308,slow=8.7,SNR=11	**21.21**	**133**	P	P	11 50 23.7	+0.1
MKAR	**Makanchi Array** 0.1nm,0.6s,baz=143,slow=5.0,SNR=2.8	**64.29**	**334**	P	P	11 56 13.2	0.0

IDC 02 11:47:34.3±0.9, 55.36S×27.87W, h0km, mb4.0/6, mb1 4.0/6, mb1mx3.9/14, mbtmp4.0/6, MS3.6/2, Ms1 3.5/2, ms1mx3.1/14, Error ellipse: s-maj=30.8km s-min=24.7km az=12.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui** 0.9nm,0.4s,baz=165,slow=0.6,SNR=3.8	**34.89**	**180**	P	P	11 54 27.1	-0.2
CFAA	**Coronel Fontan** 0.2nm,0.4s,baz=131,slow=10,SNR=4.2	**36.94**	**293**	P	P	11 54 44.1	-0.7
BDFB	**Brasilia** 2.8nm,0.6s,baz=139,slow=11,SNR=3.3	**42.57**	**331**	P	P	11 55 32.2	+0.3
BDFB	comp=Z,78nm,18.7s,baz=153,slow=31			LR	LR	12 09 45.8	
BOSA	**Boshof** 1.5nm,0.5s,baz=219,slow=8.5,SNR=5.3	**46.18**	**77**	P	P	11 55 59.6	-1.2
BOSA	comp=Z,62nm,18.0s,baz=341,slow=31			LR	LR	12 11 44.9	
LBTB	**Lobatse** 1.9nm,0.8s,baz=230,slow=7.9,SNR=3.5	**49.18**	**74**	P	P	11 56 24.7	+0.6
TORD	**Torodi Ar. Bea** 1.5nm,0.8s,baz=198,slow=6.2,SNR=13	**72.64**	**30**	P	P	11 59 03.4	-0.2
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=128,slow=2.4,SNR=6.5	**135.40**	**319**	PKP	PKPdf	12 06 53.1	-1.4
ILAR	**Eielson Array** 3.0nm,0.7s,baz=128,slow=2.4,SNR=59	**149.37**	**313**	PKPbc	PKPbc	12 07 23.7	+0.1
SONM	**Songino Array** 1.5nm,0.6s,baz=230,slow=2.5,SNR=14	**151.06**	**86**	PKPbc	PKPbc	12 07 28.4	0.0

IDC 02 12:13:40.3±2.9, 0.29S×133.17E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, ML2.9/1, Error ellipse: s-maj=150.1km s-min=26.1km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.0nm,0.3s,baz=356,slow=11,SNR=4.3	**19.57**	**177**	P	P	12 18 10.0	+0.1
ASAR	**Alice Springs** 0.6nm,0.8s,baz=1.9,slow=11,SNR=11	**23.25**	**178**	P	P	12 18 49.5	0.0
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=104,slow=8.3,SNR=3.3	**64.54**	**324**	P	P	12 24 19.2	-0.1

IDC 02 12:16:58.5±2.6, 5.63S×130.76E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.5/15, mbtmp3.5/4, ML3.6/3, MS3.6/1, Ms1 3.6/1, ms1mx2.4/18, Error ellipse: s-maj=118.0km s-min=28.5km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=23,slow=9.7,SNR=3.7	**13.37**	**202**	Pn	Pn	12 20 09.1	-0.6
FITZ	0.3nm,0.3s,baz=115,slow=20,SNR=3.9			Sn	Sn	12 22 22.8	-16
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=350,slow=13,SNR=8.9	**14.65**	**167**	Pn	Pn	12 20 27.6	+0.4
WRA	0.3nm,0.3s,baz=349,slow=21,SNR=7.4			Sn	Sn	12 22 55.4	-15
ASAR	**Alice Springs** 0.2nm,0.3s,baz=345,slow=10,SNR=12	**18.19**	**171**	P	Pn	12 21 12.5	-0.2
ASAR	0.1nm,0.3s,baz=358,slow=27,SNR=3.2			S	Sn	12 24 20.4	-16
USRK	**Ussuriysk Arra** comp=Z,57nn,19.8s,baz=187,slow=34	**49.61**	**1**	LR	LR	12 45 12.7	
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=116,slow=7.7,SNR=6.0	**67.50**	**326**	P	P	12 27 56.5	+0.1

*ATH **02** 12:52:34.5, 36.29N×29.06E, h26km, MD3.6/4*
*ISCJB **02** 12:52:35.3±1.1, 35.78N±0.05×29.23E±0.05, h25km±8km, Error ellipse: s-maj=10.0km s-min=5.0km az=145.5*
*CSEM **02** 12:52:35.8±0.5, 35.80N×29.31E, h26km±4km, MD3.6, Error ellipse: s-maj=10.9km s-min=5.1km az=145.0*
*DDA **02** 12:52:36.5, 35.94N×29.23E, h6km, MD3.1*
*ISK **02** 12:52:38.4, 35.94N×29.16E, h32km, MD2.9*
ISC 02 12:52:35.6±1.4, 35.81N±0.06×29.31E±0.04, h29km±12km, n25, σ1.00/49, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.41**	**33**	*e*PB	**Pb**	**12 52 44.0**	**-0.6**
FETY	**Fethiye**	**0.85**	**348**	*e*PG	**Pn**	**12 52 51.6**	**0.0**
FETY				*e*SG	**Sb**	**12 53 02.5**	**-0.3**
FETY	**Fethiye**	**0.85**	**348**	*e*Pg	**Pn**	**12 52 51.7**	**0.0**
FETY				*e*Sg	**Sb**	**12 53 02.6**	**-0.3**
TURN	**Turunc**	**1.21**	**332**	*i* P	**Pb**	**12 52 58.0**	**+0.1**
TURN				*i* S	**Sb**	**12 53 13.8**	**+0.7**
TURN	**Turunc**	**1.21**	**332**	*i* P	**Pb**	**12 52 58.0**	**+0.1**
TURN				*i* S	**Sb**	**12 53 13.8**	**+0.7**
KORT	**Korkueli**	**1.46**	**35**	*i* P	**Pn**	**12 52 59.7**	**-0.5**
KORT				*i* S	**Sb**	**12 53 20.7**	**+0.3**
KORT	**Korkueli**	**1.46**	**35**	*i* P	**Pn**	**12 52 59.7**	**-0.5**
KORT				*i* S	**Sb**	**12 53 20.7**	**+0.3**
KARP	**Karpathos**	**1.77**	**262**	*e*PN	**Pn**	**12 53 04.9**	**+0.6**
KARP				*e*SN	**Sn**	**12 53 27.0**	**+1.1**
KARP	**Karpathos**	**1.77**	**262**	*e*Pn	**Pn**	**12 53 04.9**	**+0.6**
KARP				*e*Sn	**Sn**	**12 53 27.0**	**+1.1**
DNZL	**Cakiroluk**	**1.89**	**354**	*i* P	**Pb**	**12 53 11.0**	**+1.3**
DNZL				*i* S	**Sb**	**12 53 33.8**	**+0.8**
DNZL	**Cakiroluk**	**1.89**	**354**	*i* P	**Pb**	**12 53 11.0**	**+1.3**
DNZL				*i* S	**Sb**	**12 53 33.8**	**+0.8**
BODT	**Bodrum**	**2.04**	**308**	*e*PN	**Pn**	**12 53 09.1**	**+1.0**
BODT				*e*SN	**Sn**	**12 53 31.4**	**-1.3**
BODT	**Bodrum**	**2.04**	**308**	*e*Pn	**Pn**	**12 53 09.1**	**+1.0**
BODT				*e*Sn	**Sn**	**12 53 31.4**	**-1.3**
SUTC	**Sutluce-Ispart**	**2.15**	**39**	*e*PN	**Pb**	**12 53 13.3**	**-0.7**
SUTC				*e*SN	**Sn**	**12 53 37.7**	**+2.2**
SUTC	**Sutluce-Ispart**	**2.15**	**39**	*e*Pn	**Pb**	**12 53 13.3**	**-0.7**
SUTC				*e*Sn	**Sn**	**12 53 37.7**	**+2.2**
AYDN	**Tasoluk**	**2.18**	**329**	*i* P	**Pb**	**12 53 13.3**	**-1.2**
AYDN				*i* S	**Sn**	**12 53 35.1**	**-1.0**
AYDN	**Tasoluk**	**2.18**	**329**	*i* P	**Pb**	**12 53 13.3**	**-1.2**
AYDN				*i* S	**Sn**	**12 53 35.1**	**-1.0**
NPS	**Neapolis**	**3.06**	**261**	*e*PN	**Pn**	**12 53 23.0**	**+0.9**
NPS				*e*SN	**Sn**	**12 53 56.6**	**-1.3**
NPS	**Neapolis**	**3.06**	**261**	*e*Pn	**Pn**	**12 53 23.0**	**+0.9**
NPS				*e*Sn	**Sn**	**12 53 56.6**	**-1.3**
LAST	**Lasithi**	**3.19**	**260**	*e*PN	**Pn**	**12 53 25.1**	**+1.1**
LAST				*e*SN	**Sn**	**12 54 00.3**	**-0.8**
LAST	**Lasithi**	**3.19**	**260**	*e*Pn	**Pn**	**12 53 25.1**	**+1.1**
LAST				*e*Sn	**Sn**	**12 54 00.3**	**-0.8**
KDHN	**Kadinhani**	**3.52**	**39**	*i* P	**Pn**	**12 53 28.5**	**+0.1**
KDHN				*i* S	**Sn**	**12 54 08.0**	**-1.2**
KDHN	**Kadinhani**	**3.52**	**39**	*i* P	**Pn**	**12 53 28.5**	**+0.1**
KDHN				*i* S	**Sn**	**12 54 08.0**	**-1.2**
IDI	**Anoyia**	**3.64**	**263**	*e*PN	**Pn**	**12 53 30.0**	**-0.1**
IDI				*e*SN	**Sn**	**12 54 10.9**	**-1.3**
IDI	**Anoyia**	**3.64**	**263**	*e*Pn	**Pn**	**12 53 30.0**	**-0.1**
IDI				*e*Sn	**Sn**	**12 54 10.9**	**-1.3**

MEX 02 13:09:57.7±0.6, 15.94N×96.43W, h48km±8km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.35**	**119**	*i* P	Pn	13 10 05.4	-1.8
HUIG				*i* S	Sn	13 10 12.3	-1.6
VHO	**Vista Hermosa**	**1.16**	**345**	*i* P	Pn	13 10 15.9	-1.9
VHO				*i* S	Sn	13 10 30.4	-2.3
PNIG	**Pinotepa**	**1.69**	**286**	*i* P	Pn	13 10 22.8	-2.1
PNIG				*i* S	Sn	13 10 43.7	-1.7
CMIG	**Matias Romero**	**1.87**	**52**	*e*P	Pn	13 10 26.6	-0.7
CMIG				*e*S	Sn	13 10 48.3	-1.4
UTMO	**Huajuapan**	**2.29**	**325**	*i* P	Pn	13 10 32.6	-0.7
UTMO				*i* S	Sn	13 10 59.0	-1.6
PCIG		**3.10**	**94**	*e*P	Pn	13 10 43.8	-0.4
PCIG				*e*S	Sn	13 11 18.3	-1.6
TGIG		**3.28**	**75**	*i* P	Pn	13 10 45.5	-1.2
TGIG				*i* S	Sn	13 11 23.2	-1.4
CCIG	**Comitan**	**4.14**	**85**	*i* P	Pn	13 10 57.2	-1.5
CCIG				*i* S	Sn	13 11 43.5	-2.4

*ATH **02** 13:20:39.1, 38.92N×27.23E, h54km, MD2.8/3*
*DDA **02** 13:20:43.3, 38.84N×26.91E, h7km, MD2.6*
*CSEM **02** 13:20:43.3±0.4, 38.78N×26.77E, h30km, MD2.6, Error ellipse: s-maj=11.5km s-min=8.5km az=107.0*

ISC 02 13:20:43.3±1.1, 38.82N±0.03×26.92E±0.03, h26km±13km, n19, σ1.24/32, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.52**	**210**	*i* P	**Pb**	**13 20 53.8**	**-0.1**
URLA				*i* S	**Sn**	**13 21 03.4**	**+0.3**
URLA	**Izmir**	**0.52**	**210**	*i* P	**Pb**	**13 20 53.8**	**-0.1**
URLA				*i* S	**Sn**	**13 21 03.4**	**+0.3**
AYVA	**Ayvalik**	**0.53**	**340**	*i* P	**Pb**	**13 20 53.5**	**-0.4**
AYVA				*i* S	**Sb**	**13 21 00.8**	**-0.3**
AYVA	**Ayvalik**	**0.53**	**340**	*i* P	**Pb**	**13 20 53.5**	**-0.4**
AYVA				*i* S	**Sb**	**13 21 00.8**	**-0.3**
PRK	**Paraskevi**	**0.67**	**310**	*e*P	**Pb**	**13 20 55.9**	**-0.4**
PRK				*e*S	**Sn**	**13 21 06.9**	**+0.2**
PRK	**Paraskevi**	**0.67**	**310**	*e*P	**Pb**	**13 20 55.9**	**-0.4**
PRK				*e*S	**Sn**	**13 21 06.9**	**+0.2**
CHOS	**Chios island**	**0.80**	**238**	*e*P	**Pb**	**13 20 59.8**	**+1.1**
CHOS				*e*S	**Sn**	**13 21 12.5**	**+2.3**
CHOS	**Chios island**	**0.80**	**238**	*e*P	**Pb**	**13 20 59.8**	**+1.1**
CHOS				*e*S	**Sn**	**13 21 12.5**	**+2.3**
BALY	**Balya**	**1.07**	**30**	*i* P	**Pb**	**13 21 04.0**	**+0.8**
BALY				*i* S	**Sb**	**13 21 19.0**	**+2.2**
BALY	**Balya**	**1.07**	**30**	*i* P	**Pb**	**13 21 04.0**	**+0.8**
BALY				*i* S	**Sb**	**13 21 19.0**	**+2.2**
SMG	**Samos**	**1.11**	**184**	*e*P	**Pn**	**13 21 00.9**	**-2.2**
SMG	**Samos**	**1.11**	**184**	*e*P	**Pn**	**13 21 00.9**	**-2.2**
BOZC	**Bozcaada**	**1.23**	**327**	*i* P	**Pb**	**13 21 06.8**	**+1.0**
BOZC				*i* S	**Sb**	**13 21 22.6**	**+1.4**
DEMI	**Demirci**	**1.42**	**80**	*i* P	**Pb**	**13 21 10.3**	**+1.2**
DEMI				*i* S	**Sb**	**13 21 27.2**	**+0.5**
DEMI	**Demirci**	**1.42**	**80**	*i* P	**Pb**	**13 21 10.3**	**+1.2**
DEMI				*i* S	**Sb**	**13 21 27.2**	**+0.5**
DURS	**Dursunbey**	**1.44**	**56**	*i* P	**Pb**	**13 21 08.6**	**-0.8**
DURS				*i* S	**Sb**	**13 21 27.3**	**0.0**
DURS	**Dursunbey**	**1.44**	**56**	*i* P	**Pb**	**13 21 08.6**	**-0.8**
DURS				*i* S	**Sb**	**13 21 27.3**	**0.0**
ALN	**Alexandroupoli**	**2.19**	**342**	*e*P	Pn	13 21 13.5	-4.5
ALN	**Alexandroupoli**	**2.19**	**342**	*e*P	Pn	13 21 13.5	-4.5

*MOS **02** 13:42:03.3±1.1, 53.20N×156.79E, h238km, mb3.7/3, Error ellipse: s-maj=29.8km s-min=15.2km az=55.3*
*KRSC **02** 13:42:03.3±0.6, 52.86N×157.54E, h256km±46km, ML4.1*
*ISCJB **02** 13:42:05.0±0.5, 52.87N±0.08×157.6E±0.2, h248km±3km, mb3.2/7, Error ellipse: s-maj=19.2km s-min=7.0km az=38.9*
*IDC **02** 13:42:04.4±0.6, 53.16N×156.74E, h235km±4km, mb2.9/7, mb1 3.2/7, mb1mx3.0/24, mbtmp2.9/7, Error ellipse: s-maj=29.1km s-min=13.6km az=135.0*
ISC 02 13:42:04.9±0.7, 52.99N±0.09×157.28E±0.1, h244km±6km, n34, σ1.9/27/48, mb3.4/7, 1C, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**0.28**	**64**	PN	**Pn**	**13 42 36.5**	**0.0**
PETK				S	**S**	**13 43 01.0**	**-0.3**
PETK	comp=Z,13nm,0.3s			pmax	pmax		
PETK	comp=N,1.0nm,0.3s			smax	smax		
PETK	**Petropavlovsk-** comp=N,13nm,0.3s,baz=188,slow=2.9,SNR=332	**0.28**	**64**	P	**Pn**	**13 42 36.5**	**0.0**
PETK	comp=N,0.6nm,0.3s,baz=220,slow=13,SNR=2.4			S	**S**	**13 43 01.0**	**-0.3**
ASAK	**Asacha**	**0.71**	**148**	*e*P	**Pn**	**13 42 38.5**	**+0.5**
ASAK				*e*S	**S**	**13 43 03.5**	**-0.3**
MTVR	**Mutnovka**	**0.75**	**132**	*e*P	**Pn**	**13 42 38.9**	**+0.7**
MTVR				*e*S	**S**	**13 43 05.4**	**+1.2**
PET	**Petropavlovsk**	**0.83**	**87**	*e*PN	**Pn**	**13 42 38.6**	**+0.3**
PET				*e*S	**S**	**13 43 04.3**	**-0.2**
PET	comp=Z,124nm,0.6s			pmax	pmax		
PET	comp=N,86nm,0.7s			smax	smax		
PET	**Petropavlovsk**	**0.83**	**87**	*e*P	**Pn**	**13 42 38.8**	**+0.5**
PET				*e*S	**S**	**13 43 04.2**	**-0.2**
KOK	**Koryaka**	**0.87**	**69**	*e*P	**Pn**	**13 42 39.4**	**+0.8**
AVH	**Avacha**	**0.92**	**72**	*e*P	**Pn**	**13 42 39.5**	**+0.6**
RUS	**Russkaya**	**0.93**	**126**	PN	**Pn**	**13 42 38.5**	**-0.3**
RUS				S	**S**	**13 43 04.8**	**-0.7**
RUS	**Russkaya**	**0.93**	**126**	*e*P	**Pn**	**13 42 38.5**	**-0.3**
RUS				*e*S	**S**	**13 43 04.8**	**-0.7**
SMAR	**Somma**	**0.96**	**73**	*e*P	**Pn**	**13 42 40.1**	**+0.9**
UGLR	**Uglovaya**	**0.96**	**76**	*e*P	**Pn**	**13 42 39.9**	**+0.8**
SDLR	**Sedlovina**	**1.01**	**73**	*e*P	**Pn**	**13 42 40.0**	**+0.6**
NLC	**Nalytchevo**	**1.26**	**81**	PN	**Pn**	**13 42 41.5**	**+0.7**
NLC				S	**S**	**13 43 09.4**	**+0.5**
NLC	**Nalytchevo**	**1.26**	**81**	*e*P	**Pn**	**13 42 41.5**	**+0.7**
NLC				*e*S	**S**	**13 43 09.4**	**+0.5**
SPN	**Mys Shipunski**	**1.66**	**85**	PN	**Pn**	**13 42 43.3**	**-0.5**
SPN				S	**S**	**13 43 12.4**	**-2.0**
SPN	**Mys Shipunski**	**1.66**	**85**	*e*P	**Pn**	**13 42 43.3**	**-0.5**
SPN				*e*S	**S**	**13 43 12.4**	**-2.0**
TUMR	**Tumrok**	**2.85**	**35**	*e*P	Pn	13 42 56.2	+0.8
MKZ	**Mys Kozlova**	**3.07**	**57**	PN	**Pn**	**13 42 58.0**	**+0.4**
MKZ				S	**S**	**13 43 37.5**	**-1.8**
MKZ	**Mys Kozlova**	**3.07**	**57**	*e*P	**Pn**	**13 42 58.0**	**+0.4**
MKZ				*e*S	**S**	**13 43 37.5**	**-1.8**
KMNR	**Kamenistaya**	**3.27**	**31**	P	Pn	13 43 00.7	+0.8
SRKR	**Sorokina**	**4.31**	**30**	*e*P	Pn	13 43 14.2	+2.2
SRKR				*e*S	**S**	**13 44 07.3**	**+2.0**
KBTR	**Krutoberegovo**	**4.56**	**43**	PN	**Pn**	**13 43 15.9**	**+1.0**
KBTR				S	**S**	**13 44 08.2**	**-2.4**
KBTR	**Krutoberegovo**	**4.56**	**43**	*e*P	**Pn**	**13 43 15.9**	**+1.0**
KBTR			

WRA Warramunga Arr 54.96 95 P P 14 14 04.7 -0.1
0.7nm,0.9s,baz=249,slow=7.3,SNR=3.4
KSRS Korea Array 82.74 40 LR LR 14 49 51.4
comp=Z,26nm,19.2s,baz=120,slow=33
YKA Yellowknife Ar 145.60 7 PKPbc PKPdf 14 24 10.3 -0.8
0.6nm,1.0s,baz=331,slow=3.5,SNR=6.3

IDC 02 14:15:48.2±8.9,55.87S×145.77E,h0km,mb3.6/2, mb1 3.6/4,mb1mx3.4/16,mbtmp3.5/4,ML3.6/1,Error ellipse: s-maj=124.9km s-min=47.0km az=28.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.77**	**159**	Pn	Pn	14 16 49.0	+1.3
	0.6nm,0.3s,baz=350,slow=12,SNR=3.5						
PMG				Sn	Sn	14 17 33.3	+0.4
	0.7nm,0.3s,baz=192,slow=9.2,SNR=5.6						
WRA	**Warramunga Arr**	**17.86**	**217**	P	P	14 20 00.0	+0.9
	0.2nm,0.3s,baz=43,slow=12,SNR=12						
ASAR	**Alice Springs**	**21.06**	**212**	P	P	14 20 33.0	-1.1
	0.3nm,0.3s,baz=44,slow=9.3,SNR=22						
STKA	**Stephens Creek**	**26.16**	**188**	P	P	14 21 24.2	-0.3
	2.4nm,0.9s,baz=24,slow=12,SNR=3.7						

IDC ***02*** *14:32:31.5±2.7,20.24S×177.82W,h479km±5.37km,mb3.3/7, mb1 3.5/8,mb1mx3.3/19,mbtmp3.4/8, Error ellipse: s-maj=34.3km s-min=16.5km az=141.0*

ISC 02 14:32:35.8±1.1,20.4S±0.2×177.9W±0.2,h534km,n12, σ0s76/11,mb4.0/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.66**	**43**	P	P	14 34 33.6	-6.4
	3.6nm,0.3s,baz=221,slow=20,SNR=4.9						
AFI				S	S	14 36 07.5	-14
	4.8nm,0.3s,baz=246,slow=19,SNR=6.1						
QRZ	**Quartz Range**	**21.98**	**200**	PN	**P**	**14 36 51.1**	**+0.7**
NNZ	**Nelson**	**22.08**	**198**	PN	**P**	**14 36 50.9**	**-0.3**
THZ	**Tophouse**	**22.72**	**198**	PN	**P**	**14 36 56.6**	**-0.4**
KHZ	**Kahutara**	**23.15**	**196**	PN	**P**	**14 37 00.2**	**-0.5**
RPZ	**Rata Peaks**	**25.05**	**199**	P	**P**	**14 37 16.9**	**-0.8**
	5.1nm,0.7s,baz=52,slow=19,SNR=3.5						
STKA	**Stephens Creek**	**37.97**	**244**	P	**P**	**14 39 08.9**	**+0.8**
	2.3nm,0.5s,baz=77,slow=9.3,SNR=12						
ASAR	**Alice Springs**	**44.68**	**257**	P	**P**	**14 40 01.4**	**0.0**
	4.3nm,0.7s,baz=86,slow=8.9,SNR=118						
WRA	**Warramunga Arr**	**44.76**	**262**	P	**P**	**14 40 01.3**	**-0.7**
	1.6nm,0.3s,baz=96,slow=7.7,SNR=156						
FITZ	**Fitzroy Crossi**	**53.18**	**262**	P	**P**	**14 41 04.6**	**+0.2**
	1.8nm,0.6s,baz=79,slow=6.8,SNR=3.1						
NVAR	**Mina Array Bea**	**80.84**	**43**	P	**P**	**14 43 55.2**	**+0.9**
	0.2nm,0.5s,baz=229,slow=8.2,SNR=4.3						
ILAR	**Eielson Array**	**88.16**	**13**	P	**P**	**14 44 28.4**	**-0.9**
	0.3nm,0.5s,baz=220,slow=5.9,SNR=5.3						

MOS ***02*** *14:43:56.3±1.1,21.79S×179.41W,h583km,mb4.6/13, Error ellipse: s-maj=12.2km s-min=10.8km az=164.9*
BJI ***02*** *14:43:56.2,21.76S×178.86W,h604km,mB5.0/22, mb4.8/33*
ISCJB ***02*** *14:43:57.2±0.6,21.88S±0.05×179.50W±0.04, h592km±8km,mb4.8/73, Error ellipse: s-maj=8.3km s-min=4.7km az=164.6*
NEIC ***02*** *14:43:57.8±0.2,21.79S×179.43W,mb4.8/27, Error ellipse: s-maj=9.2km s-min=6.0km az=156.0*
IDC ***02*** *14:43:57.2±1.2,21.75S×179.39W,h582km±13km, mb4.0/18,mb1 4.2/20,mb1mx4.1/22,mbtmp4.0/20, Error ellipse: s-maj=12.8km s-min=10.3km az=150.0*

ISC 02 14:43:57.9±0.3,21.90S±0.05×179.44W±0.05, h592km±3km,h593km;pP-P,n453,σ1s11/515,mb4.9/73, 137C-117D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.77**	**330**	*e*P	**P**	**14 45 28.8**	**+0.2**
MSVF	**Nonsavu**	**4.77**	**330**	*e*P	**P**	**14 45 28.8**	**+0.2**
RAO	**Raoul Island**	**7.45**	**170**	*e*P	**P**	**14 45 50.4**	**-1.2**
	474nm,0.6s						
AFI	**Afiamalu**	**10.78**	**44**	*e*P	P	14 46 20.6	-3.9
AFI				*e*S	S	14 48 13.4	-11
AFI				S	S	14 48 15.0	-10
AFI	**Afiamalu**	**10.78**	**44**	P	P	14 46 20.5	-3.9
	4.1nm,0.3s,baz=342,slow=15,SNR=5.2						
AFI				S	S	14 48 15.0	-10
	10nm,0.3s,baz=173,slow=18,SNR=7.0						
DZM	**Mont Dzumac**	**13.10**	**267**	*e*LR	LR	14 49 09.3	
	1µm,25.4s						
DZM	**Mont Dzumac**	**13.10**	**267**	*e*P	**P**	**14 46 47.8**	**-0.1**
NOUC	**Port Laguerre**	**13.23**	**266**	*e*P	**P**	**14 46 48.1**	**-1.1**
BKZ	**Black Stump Fm**	**17.57**	**191**	PN	**P**	**14 47 28.3**	**-1.5**
RAR	**Rarotonga**	**18.30**	**92**	P	**P**	**14 47 35.5**	**-1.2**
RAR	**Rarotonga**	**18.30**	**92**	P	**P**	**14 47 35.4**	**-1.2**
	1.7nm,0.3s,baz=229,slow=9.5,SNR=4.7						
MRZ	**Mangatainoka R**	**19.18**	**192**	PN	**P**	**14 47 43.2**	**-1.2**
MRZ				SN	**S**	**14 50 43.8**	**-4.1**
QRZ	**Quartz Range**	**20.06**	**198**	PN	**P**	**14 47 54.0**	**+1.7**
THZ	**Tophouse**	**20.83**	**196**	*e*PN	**P**	**14 47 59.5**	**+0.2**
THZ				SN	**S**	**14 51 10.0**	**-4.1**
DSZ	**Denniston Nort**	**21.12**	**198**	PN	**P**	**14 48 02.9**	**+1.0**
KHZ	**Kahutara**	**21.29**	**194**	*e*PN	**P**	**14 48 02.6**	**-0.7**
LTZ	**Lake Taylor**	**21.95**	**197**	*e*PN	**P**	**14 48 10.2**	**+0.9**
RPZ	**Rata Peaks**	**23.15**	**198**	P	**P**	**14 48 21.5**	**+1.6**
RPZ	**Rata Peaks**	**23.15**	**198**	P	**P**	**14 48 21.5**	**+1.6**
	8.9nm,0.9s,baz=3.1,slow=3.1,SNR=4.3						
EIDS	**Eidsvold**	**27.20**	**257**	*e*P	**P**	**14 48 56.5**	**+0.6**
	20nm,0.4s						
ARMA	**Armidale**	**27.26**	**246**	*e*P	**P**	**14 48 58.2**	**+1.8**
	58nm,0.8s						
ARMA	**Armidale**	**27.26**	**246**	*e*P	**P**	**14 48 58.3**	**+1.8**
CNB	**Canberra Magne**	**30.34**	**237**	*e*P	**P**	**14 49 24.7**	**+1.7**
	419nm,0.7s						
CAN	**Canberra**	**30.63**	**237**	*e*P	**P**	**14 49 26.9**	**+1.5**
CAN				pmax	pmax		
	comp=Z,58nm,1.0s						
CAN	**Canberra**	**30.63**	**237**	*e*P	**P**	**14 49 26.9**	**+1.5**
	comp=Z,58nm,1.0s						
CTA	**Charters Tower**	**32.05**	**267**	P	**P**	**14 49 38.2**	**+0.6**
CTA	**Charters Tower**	**32.05**	**267**	⇓*i*P	**P**	**14 49 38.2**	**+0.6**
	comp=Z,46nm,0.4s						
CTA	**Charters Tower**	**32.05**	**267**	P	**P**	**14 49 38.2**	**+0.6**
	comp=Z,55nm,0.4s,baz=93,slow=12,SNR=43						
CTAO	**Charters Tower**	**32.05**	**267**	*e*P	**P**	**14 49 38.3**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,100nm,0.8s						
CTAO	**Charters Tower**	**32.05**	**267**	*e*P	**P**	**14 49 38.3**	**+0.6**
	comp=Z,100nm,0.8s						
TOO	**Toolangi**	**34.00**	**235**	*e*P	**P**	**14 49 54.7**	**+0.9**
	comp=Z,212nm,0.6s						
PMG	**Port Moresby**	**34.39**	**286**	*e*P	**P**	**14 49 57.2**	**-0.1**
	comp=Z,127nm,1.1s						
PMG	**Port Moresby**	**34.39**	**286**	P	**P**	**14 49 57.2**	**-0.1**
	comp=Z,150nm,1.1s,comp=Z,2µm						
PMG	**Port Moresby**	**34.39**	**286**	P	**P**	**14 49 57.3**	**-0.1**
	baz=95,slow=6.4						
STKA	**Stephens Creek**	**35.98**	**246**	*e*P	**P**	**14 50 11.5**	**+1.1**
	comp=Z,15nm,0.9s						
STKA				ScP	**ScP**	**14 55 11.4**	**+0.5**
STKA	**Stephens Creek**	**35.98**	**246**	⇓*i*P	**P**	**14 50 11.6**	**+1.2**
	comp=Z,33nm,0.6s						
STKA	**Stephens Creek**	**35.98**	**246**	P	**P**	**14 50 11.5**	**+1.1**
	comp=Z,36nm,0.5s,baz=91,slow=9.5,SNR=189						
STKA				ScP	**ScP**	**14 55 11.4**	**+0.5**
	comp=Z,5.2nm,1.0s,baz=45,slow=5.7,SNR=3.9						
COEN	**Coen**	**36.37**	**276**	*e*P	**P**	**14 50 14.0**	**+0.4**
	comp=Z,777nm,1.1s						
BBOO	**Buckleboo**	**40.73**	**245**	*e*P	**P**	**14 50 49.0**	**+0.3**
	comp=Z,1µm,0.8s						
BBOO	**Buckleboo**	**40.73**	**245**	⇓*i*P	**P**	**14 50 49.0**	**+0.3**
	comp=Z,210nm,0.3s						
AS31	**Alice Springs**	**42.91**	**258**	*e*P	**P**	**14 51 06.0**	**+0.1**
ASAR	**Alice Springs**	**42.91**	**258**	P	**P**	**14 51 06.2**	**+0.2**
ASAR				PcP	**PcP**	**14 52 42.8**	**-0.2**
ASAR				ScP	**ScP**	**14 55 39.1**	**+0.8**
ASAR				S	**S**	**14 56 47.1**	**-2.0**
ASAR	**Alice Springs**	**42.91**	**258**	P	**P**	**14 51 06.2**	**+0.2**
	comp=Z,83nm,0.9s,baz=97,slow=7.9,SNR=876						
ASAR				PcP	**PcP**	**14 52 42.8**	**-0.2**
	comp=Z,5.2nm,0.7s,baz=106,slow=4.5,SNR=5.5						
ASAR				ScP	**ScP**	**14 55 39.1**	**+0.8**
	comp=Z,3.0nm,0.8s,baz=113,slow=4.4,SNR=6.2						
ASAR				S	**S**	**14 56 47.1**	**-2.0**
	comp=Z,6.8nm,1.0s,baz=96,slow=15,SNR=14						
WB2	**Warramunga Arr**	**43.09**	**264**	*e*P	**P**	**14 51 06.9**	**-0.5**
WRAB	**Tennant Creek**	**43.09**	**264**	*e*P	**P**	**14 51 06.8**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,100nm,0.9s						
WRAB	**Tennant Creek**	**43.09**	**264**	*e*P	**P**	**14 51 06.8**	**-0.5**
	comp=Z,100nm,0.9s						
WRA	**Warramunga Arr**	**43.10**	**264**	P	**P**	**14 51 06.8**	**-0.6**
WRA				ScP	**ScP**	**14 55 40.0**	**+1.0**
WRA				S	**S**	**14 56 49.7**	**-2.2**
WRA	**Warramunga Arr**	**43.10**	**264**	P	**P**	**14 51 06.8**	**-0.6**
	comp=Z,26nm,0.3s,baz=96,slow=7.8,SNR=595						
WRA				ScP	**ScP**	**14 55 40.0**	**+1.0**
	comp=Z,7.4nm,1.2s,baz=90,slow=4.3,SNR=7.6						
WRA				S	**S**	**14 56 49.7**	**-2.2**
	comp=Z,1.9nm,0.9s,baz=98,slow=12,SNR=4.4						
JAY	**Jayapura**	**43.25**	**291**	P	**P**	**14 51 08.5**	**-0.1**
	comp=Z,147nm,0.8s,comp=Z,7µm						
SMPI	**Sarmi**	**45.24**	**290**	P	**P**	**14 51 24.3**	**+0.4**
	comp=Z,153nm,0.9s						
FORT	**Forrest**	**47.52**	**248**	*e*P	**P**	**14 51 40.7**	**-0.2**
	comp=Z,181nm,1.1s						
FORT	**Forrest**	**47.52**	**248**	*e*P	**P**	**14 51 40.8**	**-0.1**
	comp=Z,89nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.53**	**264**	⇓*i*P	**P**	**14 52 10.7**	**+0.3**
	comp=Z,37nm,0.3s						
SWI	**Sorong**	**52.33**	**287**	P	**P**	**14 52 15.7**	**-0.5**
	comp=Z,356nm,0.9s,comp=Z,3µmcomp=Z,1.2nm						
SWI	**Sorong**	**52.33**	**287**	P	**P**	**14 52 15.7**	**-0.5**
	comp=Z,356nm,0.9s,comp=Z,3µm						
AAI	**Ambon**	**53.87**	**282**	P	**P**	**14 52 27.4**	**+0.3**
KLBR	**Kellerberrin**	**56.26**	**246**	*e*P	**P**	**14 52 43.4**	**-0.1**
	comp=Z,46nm,0.9s						
VNDA	**Vanda**	**56.41**	**185**	*e*P	**P**	**14 52 46.2**	**+2.5**
MTNI	**Mataram**	**63.12**	**271**	P	**P**	**14 53 29.2**	**0.0**
	comp=Z,73nm,0.7s,comp=Z,14µm						
GMJI	**Gumukmas**	**65.77**	**271**	P	P	14 53 50.7	+4.8
PWJI	**Pagerwojo**	**67.38**	**270**	P	**P**	**14 53 55.8**	**0.0**
	comp=Z,96nm,0.6s						
SJI	**Sawahan**	**67.51**	**271**	P	**P**	**14 53 57.2**	**+0.5**
	comp=Z,71nm,1.3s						
PCJI	**Pacitan**	**67.90**	**270**	P	**P**	**14 53 59.2**	**+0.2**
	comp=Z,356nm,0.6s						
QSPA	**South Pole Qui**	**68.18**	**180**	*e*P	**P**	**14 54 01.0**	**+1.1**
	comp=Z,13nm,0.9s						
QSPA				pP	**pP**	**14 56 01.7**	**+2.9**
QSPA	**South Pole Qui**	**68.18**	**180**	P	**P**	**14 54 00.9**	**+1.1**
	comp=Z,13nm,0.9s,baz=33,slow=1.7,SNR=20						
QSPA				pP	**pP**	**14 56 01.7**	**+2.9**
	comp=Z,2.5nm,0.8s,baz=68,slow=8.7,SNR=2.8						
TGJI	**Tegal**	**70.27**	**270**	P	**P**	**14 54 13.1**	**-0.1**
	comp=Z,72nm,1.3s,comp=Z,8µmcomp=Z,264µm						
MJAR	**Matsushiro Arr**	**70.55**	**325**	P	**P**	**14 54 13.6**	**-0.8**
MJAR	**Matsushiro Arr**	**70.55**	**325**	P	**P**	**14 54 13.6**	**-0.8**
	comp=Z,9.7nm,0.6s,baz=154,slow=5.7,SNR=43						
MAT	**Matsushiro**	**70.56**	**325**	P	**P**	**14 54 13.6**	**-0.7**
LEM	**Lembang**	**71.69**	**270**	P	**P**	**14 54 22.1**	**+0.5**
	comp=Z,155nm,0.9s						
YULB	**Yu-li**	**73.16**	**304**	*e*P	**P**	**14 54 28.0**	**-1.7**
	comp=Z,7.4nm,0.5s						
TPUB	**Ta-pu**	**73.62**	**304**	*e*P	**P**	**14 54 31.0**	**-1.3**
	comp=Z,100nm,1.1s						
SSLB	**Suanglung**	**73.64**	**305**	*e*P	**P**	**14 54 31.0**	**-1.5**
	comp=Z,23nm,0.6s						
YHNB	**Yeheng**	**73.81**	**306**	*e*P	**P**	**14 54 32.8**	**-0.7**
	comp=Z,26nm,0.9s						
YSS	**Yuzh-Sakhalins**	**76.55**	**334**	*e*P	**P**	**14 54 48.4**	**+0.4**
YSS				pmax	pmax		
	comp=Z,39nm,1.8s						
KSRS	**Korea Array**	**77.06**	**320**	P	**P**	**14 54 51.5**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=141,slow=6.6,SNR=10						
KSAR	**Wonju Array Be**	**77.07**	**320**	P	**P**	**14 54 51.5**	**+0.4**
PETK	**Petropavlovsk-**	**77.28**	**346**	P	**P**	**14 54 51.4**	**-0.5**
PETK				pmax	pmax		
	comp=Z,14nm,0.7s						
PETK	**Petropavlovsk-**	**77.28**	**346**	P	**P**	**14 54 51.4**	**-0.5**
PETK	**Petropavlovsk-**	**77.28**	**346**	P	**P**	**14 54 51.4**	**-0.5**
	comp=Z,14nm,0.7s,baz=134,slow=5.8,SNR=23						
KSI	**Kapahiang**	**77.49**	**271**	P	**P**	**14 54 53.7**	**-0.3**
	comp=Z,89nm,1.0s,comp=Z,4µm						
USRK	**Ussuriysk Arra**	**79.37**	**327**	P	**P**	**14 55 03.3**	**+0.1**
	comp=Z,12nm,1.0s,baz=116,slow=4.4,SNR=14						
SCI	**San Clemente I**	**79.69**	**48**	⇓P	**P**	**14 55 05.7**	**+0.5**
	baz=80						
NJ2	**Nanjing**	**79.75**	**311**	*e*P	**P**	**14 55 06.4**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
PKM	**Peak Mountain**	**79.92**	**46**	⇑P	**P**	**14 55 07.3**	**+0.7**
	baz=80						
CIS	**Catalina Islan**	**80.03**	**48**	⇑P	**P**	**14 55 07.5**	**+0.5**
	baz=80						
QIZ	**Qiongzhong**	**80.22**	**295**	P	**P**	**14 55 10.3**	**+2.1**
QIZ				S	**S**	**15 04 28.0**	**+2.1**
QIZ				pmax	pmax		
	comp=Z,22nm,1.7s						
MDJ	**Mudanjiang**	**80.90**	**326**	P	**P**	**14 55 11.7**	**+0.5**
MDJ				S	**S**	**15 04 27.3**	**-4.5**
MDJ				SS	**SS**	**15 10 03.1**	**-1.2**
MDJ				pmax	pmax		
	comp=Z,13nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,66nm,4.6s						
VES	**Vestal, Richgr**	**80.96**	**46**	⇓P	**P**	**14 55 11.9**	**+0.2**
	baz=81						
MURC	**Murrieta**	**80.97**	**48**	⇑P	**P**	**14 55 12.2**	**+0.3**
	baz=81						
HABR	**Khabarovsk**	**81.00**	**331**	*e*P	**P**	**14 55 09.6**	**-2.0**
HABR				*e**PP	**pP**	**14 57 15.8**	**-0.7**
HABR				*e*		14 58 25.6	
HABR				*e*S	**S**	**15 04 30.3**	**-2.3**
HABR				*e*SS	**SS**	**15 10 03.1**	**-2.5**
HABR				*e*SSS	SSS	15 13 38.3	
BFSC	**Mount Baldy Ra**	**81.01**	**48**	⇑P	**P**	**14 55 12.2**	**0.0**
	baz=81						
MONP	**Monument Peak**	**81.13**	**49**	⇑P	**P**	**14 55 13.3**	**+0.4**
	baz=81						
EDW2	**Edwards Air Fo**	**81.15**	**47**	⇓P	**P**	**14 55 13.1**	**+0.3**
	baz=81,SNR=9.7						
DVTC	**Desert V Tower**	**81.23**	**50**	⇓P	**P**	**14 55 13.6**	**+0.3**
	baz=81						
ISA	**Isabella**	**81.26**	**46**	*e*P	**P**	**14 55 13.7**	**+0.3**
ISA				pmax	pmax		
	comp=Z,27nm,1.4s						
ISA	**Isabella**	**81.26**	**46**	*e*P	**P**	**14 55 13.7**	**+0.3**
	comp=Z,26nm,1.4s						
ISA	**Isabella**	**81.26**	**46**	⇑P	**P**	**14 55 13.7**	**+0.3**
	baz=81,SNR=13						
PFO	**Pinyon Flat Ob**	**81.50**	**49**	⇑P	**P**	**14 55 15.0**	**+0.3**
	baz=82						
SWSC	**Sam W. Stewart**	**81.60**	**50**	⇓P	**P**	**14 55 15.5**	**+0.5**
	baz=82						
LRMC	**Laurel Mountai**	**81.69**	**47**	⇑P	**P**	**14 55 15.9**	**+0.3**
	baz=82						
RRX	**Edison Barstow**	**81.82**	**47**	⇓P	**P**	**14 55 16.5**	**+0.3**
	baz=82						
MNSI	**Mandailing Nat**	**81.93**	**274**	P	**P**	**14 55 15.9**	**-1.3**
	comp=Z,36nm,0.7s						
CWC	**Cottonwood Cre**	**81.97**	**46**	⇓P	**P**	**14 55 17.4**	**+0.4**
	baz=82						
BELC	**Belle Mtn. Jos**	**82.03**	**49**	⇑P	**P**	**14 55 17.8**	**+0.4**
	baz=82,SNR=7.6						
MPMC	**Manual Prospec**	**82.15**	**46**	⇑P	**P**	**14 55 18.4**	**+0.4**
	baz=82						
MLAC	**Mammoth Lakes**	**82.15**	**44**	⇑P	**P**	**14 55 18.8**	**+0.8**
	baz=82						
GSC	**Goldstone**	**82.19**	**47**	*e*P	**P**	**14 55 18.1**	**0.0**
GSC				pmax	pmax		
	comp=Z,19nm,1.3s						
GSC	**Goldstone**	**82.19**	**47**	*e*P	**P**	**14 55 18.1**	**0.0**
	comp=Z,19nm,1.3s						
GSC	**Goldstone**	**82.19**	**47**	⇓P	**P**	**14 55 18.3**	**+0.2**
	baz=82,SNR=5.9						
YBH	**Yreka Blue Hor**	**82.21**	**39**	P	**P**	**14 55 18.8**	**+0.7**
YBH	**Yreka Blue Hor**	**82.21**	**39**	P	**P**	**14 55 18.8**	**+0.7**
	comp=Z,6.0nm,0.7s,baz=206,slow=1.8,SNR=19						
TIN	**Tinemaha**	**82.22**	**45**	⇓P	**P**	**14 55 18.7**	**+0.4**
	baz=82						
BC3	**Big Chuckawall**	**82.22**	**49**	⇑P	**P**	**14 55 19.2**	**+0.8**
	baz=82						
HEC	**Heor,Ludlow**	**82.25**	**48**	⇑P	**P**	**14 55 18.6**	**+0.1**
	baz=82,SNR=6.8						
GLA	**Glamis**	**82.35**	**50**	⇓P	**P**	**14 55 19.8**	**+0.9**
	baz=82						
WCN	**Washoe City**	**82.54**	**42**	*e*P	**P**	**14 55 20.1**	**+0.2**
WCN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WCN	**Washoe City**	**82.54**	**42**	*e*P	**P**	**14 55 20.1**	**+0.2**
	comp=Z,9.7nm,1.1s						
WCN	**Washoe City**	**82.54**	**42**	⇓P	**P**	**14 55 20.3**	**+0.4**
	baz=83						
CN2	**Changchun**	**82.60**	**323**	*e*P	**P**	**14 55 19.3**	**-0.5**
CN2				*e*S	**S**	**15 04 48.0**	**-0.8**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
GMRC	**Granite Mounta**	**82.69**	**48**	⇓P	**P**	**14 55 21.0**	**+0.3**
	baz=83,SNR=5.2						
IRM	**Iron Mountain**	**82.71**	**49**	⇑P	**P**	**14 55 21.3**	**+0.6**
	baz=83,SNR=8.3						
GRAC	**Grapevine Rang**	**82.75**	**45**	⇓P	**P**	**14 55 21.4**	**+0.6**
	baz=83						
FURC	**Furnace Creek,**	**82.80**	**46**	⇑P	**P**	**14 55 21.1**	**+0.1**
	baz=83						
TUQ	**Turquoise Moun**	**82.86**	**47**	⇓P	**P**	**14 55 21.7**	**+0.1**
	baz=83,SNR=7.0						
SHOC	**Shoshone**	**82.87**	**47**	⇑P	**P**	**14 55 21.7**	**+0.2**
	baz=83						
Y12C	**Blythe**	**82.93**	**49**	⇑P	**P**	**14 55 22.5**	**+0.8**
	baz=83						
113A	**Mohawk Valley,**	**82.95**	**51**	⇓P	**P**	**14 55 22.6**	**+0.7**
	baz=83,SNR=6.6						
NVAR	**Mina Array Bea**	**82.95**	**44**	P	**P**	**14 55 22.1**	**0.0**
NVAR				pP	**pP**	**14 57 27.0**	**-0.7**
NVAR	**Mina Array Bea**	**82.95**	**44**	P	**P**	**14 55 22.1**	**0.0**
	comp=Z,7.1nm,0.9s,baz=223,slow=8.4,SNR=36						
NVAR				pP	**pP**	**14 57 27.0**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=220,slow=8.9,SNR=7.1						
KLR	**Kul'dur**	**83.05**	**330**	*e*P	P	14 55 18.7	-3.3
214A	**Organ Pipe Nat**	**83.23**	**52**	⇑P	**P**	**14 55 23.8**	**+0.5**
	baz=83						
LDFC	**Landfair**	**83.23**	**48**	*e*P	**P**	**14 55 24.1**	**+0.8**
PSI	**Prapat**	**83.29**	**276**	P	**P**	**14 55 23.4**	**-0.7**
	comp=Z,27nm,1.3s						
PDMCI	**Parker Dam,Lak**	**83.49**	**49**	⇑P	**P**	**14 55 25.3**	**+0.8**
	baz=84						
114A	**Black Gap (USA**	**83.58**	**51**	⇑P	**P**	**14 55 25.7**	**+0.7**
	baz=84						
Z14A	**Wintersburg**	**83.85**	**51**	⇓P	**P**	**14 55 27.1**	**+0.8**
	baz=84,SNR=5.1						
GSI	**Gunungsitoli**	**83.97**	**274**	P	**P**	**14 55 28.7**	**+1.3**
W13A	**Hualapai Mount**	**84.09**	**49**	⇑P	**P**	**14 55 28.2**	**+0.5**
	baz=84						
Y14A	**Wickenburg**	**84.11**	**50**	⇓P	**P**	**14 55 28.3**	**+0.7**
	baz=84						
R11A	**Troy Canyon, C**	**84.68**	**45**	⇑P	**P**	**14 55 30.7**	**+0.2**
	baz=85						
TUC	**Tucson**	**84.89**	**52**	*e*P	**P**	**14 55 32.4**	**+0.9**
TUC				pmax	pmax		
	comp=Z,22nm,1.4s						
TUC	**Tucson**	**84.89**	**52**	*e*P	**P**	**14 55 32.4**	**+0.9**
	comp=Z,22nm,1.4s						
SYO	**Syowa Base**	**85.07**	**193**	⇑*e*X	P	14 55 26.2	-5.4
X16A	**Lo Mia Camp, P**	**85.47**	**50**	⇓P	**P**	**14 55 34.9**	**+0.5**
	baz=86						
R13A	**O'Grain Ranch,**	**85.66**	**46**	⇑P	**P**	**14 55 35.7**	**+0.5**
	baz=86						
ENH	**Enshi**	**85.72**	**305**	*e*P	**P**	**14 55 36.0**	**+0.5**
	comp=Z,39nm,1.3s						
ARUT	**Antelope Range**	**85.81**	**47**	*e*P	**P**	**14 55 36.7**	**+0.8**
ARUT				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ARUT	**Antelope Range**	**85.81**	**47**	*e*P	**P**	**14 55 36.7**	**+0.8**
	comp=Z,7.9nm,1.2s						
X17A	**Forest Lakes**	**85.88**	**51**	⇑P	**P**	**14 55 37.0**	**+0.5**
	baz=86						
U15A	**North Rim**	**85.89**	**48**	⇓P	**P**	**14 55 37.1**	**+0.6**
	baz=86						
BJI	**Beijing**	**85.95**	**316**	P	**P**	**14 55 35.9**	**-0.4**
BJI				pmax	pmax		
	comp=Z,15nm,0.7s						
WUAZ	**Wupatki**	**86.06**	**49**	⇑P	**P**	**14 55 37.7**	**+0.5**
	baz=86						
Y18A	**Canyon Day Jun**	**86.16**	**51**	⇓P	**P**	**14 55 38.4**	**+0.7**
	baz=86						
GYA	**Guiyang**	**86.18**	**300**	*e*P	**P**	**14 55 38.4**	**+0.5**
GYA				pP	**pP**	**14 57 45.6**	**+0.7**
GYA				sP	**sP**	**14 58 43.0**	**-1.2**
GYA				PP	**PP**	**14 59 13.2**	**+3.1**
GYA				SKS	**SKSac**	**15 05 07.8**	**-0.7**
GYA				S	**S**	**15 05 25.3**	**+0.9**
GYA				sS	**sS**	**15 09 08.5**	**-2.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.8s						
220A	**Playas Peak, P**	**86.37**	**54**	⇑P	**P**	**14 55 39.8**	**+1.1**
	baz=86,SNR=10						
U16A	**Tuba City**	**86.55**	**49**

baz=88
R17A Hanksville Air 87.98 47 ⇓P **P 14 55 46.6 +0.5**
baz=88
Y21A Point of Rocks 87.99 52 ⇓P **P 14 55 47.2 +0.8**
baz=88,SNR=10
X21A Alamocita Cree 88.12 52 ⇓P **P 14 55 47.5 +0.6**
baz=88,SNR=6.3
Z22A Elephant Butte 88.17 53 ⇓P **P 14 55 47.6 +0.5**
baz=88,SNR=7.7
L14A Malta 88.17 43 ⇑P **P 14 55 47.0 +0.1**
baz=88
HLID Hailey 88.25 41 ⇑P **P 14 55 47.7 +0.4**
baz=88,SNR=10
V20A Brimhall 88.27 50 ⇓P **P 14 55 47.7 +0.1**
baz=88
J13A Cove Ranch, Pi 88.31 41 ⇓P **P 14 55 48.0 +0.5**
baz=88,SNR=14
O16A Springville 88.35 45 ⇓P **P 14 55 48.2 +0.4**
baz=88,SNR=6.4
M15A Larsen Ranch, 88.38 44 ⇑P **P 14 55 47.8 -0.1**
baz=88,SNR=6.6
SRU San Rafael 88.45 47 ⇑P **P 14 55 48.6 +0.2**
baz=89
324A Moseley Ranch, 88.45 55 ⇑P **P 14 55 48.6 +0.1**
baz=88,SNR=11
K14A Jones Ranch, D 88.48 43 ⇓P **P 14 55 48.6 +0.3**
baz=89
Y22A Socorro 88.48 52 ⇓P **P 14 55 49.0 +0.5**
baz=89
P17A Butcher Ranch, 88.49 46 ⇓P **P 14 55 48.8 +0.3**
baz=89
U20A Newcomb 88.50 50 ⇑P **P 14 55 48.8 +0.2**
baz=89
H12A Diamond D Ranc 88.52 40 ⇓P **P 14 55 48.6 +0.1**
baz=89,SNR=14
R18A Canyonlands Na 88.52 47 ⇓P **P 14 55 48.6 -0.1**
baz=89,SNR=10
W21A San Fidel 88.53 51 ⇑P **P 14 55 49.1 +0.3**
baz=89
425A Indio Mountain 88.54 56 ⇓P **P 14 55 49.4 +0.5**
baz=89,SNR=9.2
I13A Wildhorse Cree 88.62 41 ⇓P **P 14 55 49.5 +0.5**
baz=89
MNTX Cornudas Mount 88.65 55 ⇑P **P 14 55 49.8 +0.6**
baz=89,SNR=13
626A Big Bend Ranch 88.66 57 ⇓P **P 14 55 50.0 +0.6**
baz=89,SNR=9.6
J14A Carey 88.68 42 ⇑P **P 14 55 50.0 +0.8**
baz=89
L15A Malad City 88.70 43 ⇓P **P 14 55 49.3 0.0**
baz=89,SNR=9.1
224A Cornudas Mount 88.71 55 ⇓P **P 14 55 50.3 +0.6**
baz=89,SNR=9.6
Q18A Rafter H Ranch 88.71 47 ⇑P **P 14 55 49.5 +0.1**
baz=89,SNR=6.2
Z23A Rita Site, Whi 88.71 53 ⇑P **P 14 55 50.1 +0.5**
baz=89
S19A Harvey Farm, M 88.73 48 ⇓P **P 14 55 49.6 -0.1**
baz=89
N16A Rees Ranch, Co 88.74 45 ⇓P **P 14 55 50.0 +0.4**
baz=89
KMI Kunming 88.80 298 P **P 14 55 51.3 +1.0**
KMI pP **pP 14 57 59.3 +1.1**
KMI S **S 15 05 45.0 -3.9**
KMI pmax pmax
comp=Z,13nm,1.4s
325A Bean Ranch, Si 88.81 56 ⇑P **P 14 55 50.3 +0.1**
baz=89,SNR=10
O17A Robinson Place 88.85 46 ⇓P **P 14 55 50.7 +0.5**
baz=89,SNR=26
V21A Milan 88.86 51 ⇑P **P 14 55 50.5 +0.1**
baz=89
H13A Challis 88.89 40 ⇓P **P 14 55 50.4 +0.3**
baz=89,SNR=9.2
P18A Preston Nutter 88.89 46 ⇑P **P 14 55 50.6 +0.1**
baz=89,SNR=5.6
LPM Los Pinos Moun 88.90 52 *e*P **P 14 55 51.1 +0.6**
comp=Z,9.5nm,1.4s
R19A Curley Farm, L 88.91 48 ⇑P **P 14 55 50.5 0.0**
baz=89
526A Mary Lane Ranc 88.92 57 ⇓P **P 14 55 51.1 +0.5**
baz=89,SNR=7.6
TXAR Lajitas Array 88.93 58 P **P 14 55 51.0 +0.4**
TXAR pP **pP 14 57 58.9 +0.3**
TXAR Lajitas Array 88.93 58 P **P 14 55 51.0 +0.4**
comp=Z,5.7nm,0.9s,baz=223,slow=5.1,SNR=30
TXAR pP **pP 14 57 58.9 +0.3**
comp=Z,0.9nm,0.8s,baz=264,slow=5.0,SNR=3.5
K15A Arbon 88.96 43 ⇑P **P 14 55 50.7 +0.2**
baz=89,SNR=8.0
I14A Mackay 89.04 41 ⇓P **P 14 55 51.3 +0.4**
baz=89,SNR=11
U21A Nageezi 89.14 50 ⇓P **P 14 55 51.7 +0.1**
baz=89,SNR=9.3
N17A Moffit Pass 89.16 45 ⇓P **P 14 55 51.8 +0.1**
baz=89,SNR=5.3
G13A Cobalt 89.19 40 ⇓P **P 14 55 51.7 +0.2**
baz=89
627A Terlingua Ranc 89.20 58 ⇑P **P 14 55 52.1 +0.2**
baz=89
Q19A Hogan Spring (89.23 47 ⇓P **P 14 55 51.9 +0.1**
baz=89,SNR=6.7
426A McDonald Obser 89.23 57 ⇓P **P 14 55 52.5 +0.3**
baz=89,SNR=8.3
225A Deer Hill, Car 89.25 55 ⇓P **P 14 55 52.6 +0.4**
baz=89,SNR=8.2
PLCA Paso Flores 89.28 134 P **P 14 55 53.2 +1.1**
PLCA Paso Flores 89.28 134 P **P 14 55 53.2 +1.1**
comp=Z,7.4nm,1.1s,baz=233,slow=5.8,SNR=11
S20A Disappointment 89.31 49 ⇑P **P 14 55 52.7 +0.3**
baz=89
CM31 Chiang Mai Arr 89.33 290 *e*P **P 14 55 54.2 +1.7**
comp=Z,25nm,1.1s
CMAR Chiang Mai Arr 89.33 290 P **P 14 55 54.1 +1.6**
CMAR pP **pP 14 57 59.5 -1.1**
CMAR PP **PP 14 59 37.1 +2.3**
CMAR Chiang Mai Arr 89.33 290 P **P 14 55 54.1 +1.6**
comp=Z,16nm,0.9s,baz=130,slow=3.1,SNR=98
CMAR pP **pP 14 57 59.5 -1.1**
comp=Z,1.4nm,1.1s,baz=114,slow=3.5,SNR=4.9
CMAR PP **PP 14 59 37.1 +2.3**
comp=Z,0.7nm,0.9s,baz=130,slow=7.0,SNR=5.0
527A Woodward Ranch 89.33 57 ⇑P **P 14 55 52.7 +0.2**
baz=89
X23A Hourglass Bar 89.35 52 ⇑P **P 14 55 52.6 0.0**
baz=89
HHC Hu-ho-hao-te 89.38 315 *e*P **P 14 55 52.5 +0.1**
HHC pP **pP 14 58 00.5 0.0**
HHC sP **sP 14 58 56.4 -3.2**
HHC PP **PP 14 59 37.8 +2.8**
HHC SKS **SKSac 15 05 26.2 -0.4**
HHC S **S 15 05 51.2 -2.0**
HHC sS **sS 15 09 38.5 -3.3**
HHC SS **SS 15 12 09.4 +1.9**
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,200nm,5.9s
J15A Blackfoot 89.39 42 ⇑P **P 14 55 53.4 +0.9**
baz=90,SNR=8.0
Z24A Sheeppen Canyo 89.39 54 ⇑P **P 14 55 53.0 +0.2**
baz=90
H14A Leadore 89.45 41 ⇓P **P 14 55 53.1 +0.3**
baz=90,SNR=6.1
CHTO Chiang Mai 89.46 290 *e*P **P 14 55 54.4 +1.2**
CHTO pmax pmax
comp=Z,23nm,1.0s
CHTO Chiang Mai 89.46 290 *e*P **P 14 55 54.4 +1.2**
comp=Z,23nm,1.0s
CHTO Chiang Mai 89.46 290 P **P 14 55 54.3 +1.1**
comp=Z,30nm,1.1s
R20A Redvale 89.47 48 ⇓P **P 14 55 53.2 +0.1**
baz=90
F13A Darby 89.50 39 ⇑P **P 14 55 53.1 +0.1**
baz=90
C11A Tepee Creek (N 89.53 37 ⇓P **P 14 55 53.3 +0.4**
baz=90
M17A Scullys Gap (B 89.53 44 ⇓P **P 14 55 53.0 -0.3**
baz=90,SNR=5.4
326A Caldwell Ranch 89.55 56 ⇑P **P 14 55 53.1 -0.3**
baz=90
Y24A Capitan 89.61 53 ⇑P **P 14 55 54.0 +0.2**
baz=90,SNR=6.9
628A Black Gap, Mar 89.61 58 ⇑P **P 14 55 54.0 +0.2**
baz=90
125A Gardner Draw, 89.62 54 ⇓P **P 14 55 53.9 +0.1**
baz=90

S21A Coal Bank Pass 89.63 49 ⇑P **P 14 55 54.2 +0.3**
baz=90
K16A Soda Springs 89.63 43 ⇓P **P 14 55 54.2 +0.5**
baz=90,SNR=7.2
I15A Monteview 89.67 42 ⇑P **P 14 55 54.4 +0.6**
baz=90
P19A Cripple Cowboy 89.75 47 ⇑P **P 14 55 54.5 +0.2**
baz=90
427A Hayter Ranch, 89.80 57 ⇑P **P 14 55 55.0 +0.4**
baz=90,SNR=17
J16A Bone 89.84 43 ⇓P **P 14 55 55.1 +0.5**
baz=90,SNR=12
Z25A Roswell 89.85 54 ⇓P **P 14 55 55.1 +0.2**
baz=90
MCMT McKenzie Canyo 89.88 41 P **P 14 55 54.6 -0.3**
comp=Z,1.6nm,0.9s
V23A Ortiz Mt. (NFS 89.88 51 ⇑P **P 14 55 55.4 +0.3**
baz=90
H15A Lima 89.89 41 ⇓P **P 14 55 55.4 +0.5**
baz=90,SNR=5.6
M18A Lyman 89.90 45 ⇓P **P 14 55 55.1 0.0**
baz=90,SNR=6.7
T22A Edith 89.95 50 ⇓P **P 14 55 55.7 +0.3**
baz=90
ILAR Eielson Array 89.97 13 P **P 14 55 53.1 -1.4**
ILAR pP **pP 14 58 05.7 +2.9**
ILAR PP **PP 14 59 40.5 +1.6**
ILAR Eielson Array 89.97 13 P **P 14 55 53.1 -1.4**
comp=Z,0.7nm,1.0s,baz=216,slow=4.4,SNR=8.8
ILAR pP **pP 14 58 05.7 +2.9**
comp=Z,0.1nm,0.8s,baz=318,slow=31,SNR=2.6
ILAR PP **PP 14 59 40.5 +1.6**
comp=Z,0.3nm,0.9s,baz=255,slow=6.5,SNR=4.1
O19A Miners Draw (B 89.97 46 ⇓P **P 14 55 55.2 -0.1**
baz=90,SNR=5.4
528A Cox Ranch, San 89.98 57 ⇓P **P 14 55 55.7 +0.2**
baz=90
K17A Gardner Place, 90.01 43 ⇓P **P 14 55 56.0 +0.5**
baz=90
R21A Cimarron 90.13 48 ⇑P **P 14 55 56.2 0.0**
baz=90,SNR=6.6
Y25A Mesa, Roswell 90.16 53 ⇓P **P 14 55 56.4 +0.1**
baz=90
L18A Fontenelle, Gr 90.17 44 ⇑P **P 14 55 56.6 +0.4**
baz=90
W24A Lazy 6 Ranch, 90.20 52 ⇑P **P 14 55 56.5 -0.1**
baz=90
I16A Newdale 90.22 42 ⇑P **P 14 55 56.7 +0.3**
baz=90,SNR=5.5
N19A John Jarvie Ra 90.23 46 ⇓P **P 14 55 56.4 -0.1**
baz=90
G15A Dillon 90.27 41 ⇓P **P 14 55 56.7 +0.1**
baz=90
BILL Bilibino 90.29 355 P **P 14 55 56.0 +0.1**
BILL pmax pmax
comp=Z,7.0nm,1.3s
428A Kincaid Ranch, 90.30 57 ⇑P **P 14 55 57.1 +0.2**
baz=90
S22A 4UR Ranch, Cre 90.34 49 ⇓P **P 14 55 57.5 +0.2**
baz=90,SNR=6.8
Z26A Caprock 90.41 54 ⇑P **P 14 55 57.5 +0.1**
baz=90
CD2 Chengdu 90.42 303 P **P 14 55 56.9 -0.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,170nm,7.1s
J17A Brown Place, J 90.45 43 ⇓P **P 14 55 58.1 +0.6**
baz=91
A12A Yaak River Ran 90.47 36 ⇓P **P 14 55 57.9 +0.6**
baz=91
328A Wristen Ranch, 90.48 56 ⇓P **P 14 55 58.1 +0.3**
baz=91
O20A White River Ci 90.49 47 ⇓P **P 14 55 58.0 +0.3**
baz=91
K18A Toltan Ranch, 90.52 44 ⇓P **P 14 55 58.2 +0.4**
baz=91,SNR=8.1
V24A Rampart Ranch, 90.53 52 ⇑P **P 14 55 58.2 +0.1**
baz=91
M19A Rock Springs 90.54 45 ⇓P **P 14 55 58.0 +0.1**
baz=91
R22A Saguache, Gunn 90.61 49 ⇑P **P 14 55 58.7 +0.2**
baz=91
F15A Butte 90.62 40 ⇓P **P 14 55 58.7 +0.5**
baz=91
L19A Farson 90.70 44 ⇓P **P 14 55 58.6 -0.1**
baz=91,SNR=7.4
G16A Moss Hill, Enn 90.72 41 ⇓P **P 14 55 58.9 +0.2**
baz=91
P21A Newcastle 90.74 47 ⇑P **P 14 55 59.1 +0.1**
baz=91
H16A Russell Place, 90.79 41 ⇑P **P 14 55 59.4 +0.3**
baz=91
Q22A Crested Butte, 90.80 48 ⇑P **P 14 55 59.4 0.0**
baz=91
Y26A Elida 90.81 54 ⇑P **P 14 55 59.3 +0.1**
baz=91
N20A Spence Gulch, 90.81 46 ⇑P **P 14 55 59.3 0.0**
baz=91,SNR=5.3
J18A Kendall Valley 90.81 43 ⇓P **P 14 55 59.2 -0.1**
baz=91,SNR=14
I17A Pilgrim Ck. 90.82 42 ⇑P **P 14 55 59.5 +0.3**
baz=91
PD01 Pinedale Array 90.88 44 *e*P **P 14 55 58.6 -0.9**
BW06 Boulder Array 90.89 44 ⇑P **P 14 55 59.6 0.0**
baz=91
PD02 Pinedale Array 90.89 44 *e*P **P 14 55 58.6 -1.0**
PDAR Pinedale Array 90.89 44 P **P 14 55 59.0 -0.6**
PDAR pP **pP 14 58 08.1 +0.2**
PDAR Pinedale Array 90.89 44 P **P 14 55 59.0 -0.6**
comp=Z,3.0nm,0.9s,baz=206,slow=3.6,SNR=18
PDAR pP **pP 14 58 08.1 +0.2**
comp=Z,0.1nm,0.5s,baz=88,slow=40,SNR=1.9
W25A X Bar L Ranch, 90.90 52 ⇑P **P 14 55 59.5 -0.2**
baz=91
Z27A Tatum 91.00 54 ⇑P **P 14 55 59.9 -0.2**
baz=91
H17A Grant Village 91.05 42 ⇑P **P 14 56 01.2 +0.9**
baz=91
V25A Rancho No Teng 91.06 52 ⇑P **P 14 56 00.3 -0.2**
baz=91
M20A Sweetwater, Wa 91.17 45 ⇑P **P 14 56 01.3 +0.4**
baz=91
R23A Moffat 91.25 49 ⇓P **P 14 56 01.5 +0.1**
baz=91
N21A Black Mountain 91.27 46 ⇓P **P 14 56 01.7 +0.3**
baz=91
Y27A Causey 91.28 54 ⇓P **P 14 56 01.7 +0.3**
baz=91
L20A Wamsutter 91.31 45 ⇑P **P 14 56 01.9 +0.4**
baz=91
K19A Absolon Red Bu 91.38 44 ⇓P **P 14 56 01.7 -0.1**
baz=92
S24A Houchin Ranch, 91.43 50 ⇓P **P 14 56 02.3 0.0**
baz=92
J19A Crowheart 91.46 43 ⇑P **P 14 56 02.3 +0.2**
baz=92
U25A Circle Dot Ran 91.46 51 ⇓P **P 14 56 02.0 -0.3**
baz=92
C15A Salmond Ranch, 91.56 38 ⇓P **P 14 56 02.6 +0.2**
baz=92
O22A Kremmling 91.65 47 ⇑P **P 14 56 03.2 0.0**
baz=92
F17A Fitzpatrick Pl 91.76 41 ⇓P **P 14 56 03.9 +0.5**
baz=92
T25A Trinidad 91.78 51 ⇓P **P 14 56 04.0 +0.2**
baz=92
L21A Rawlins 91.93 45 ⇑P **P 14 56 04.3 -0.1**
baz=92
U26A Atchley Ranch, 91.94 51 ⇑P **P 14 56 04.4 -0.2**
baz=92
S25A Robets Cordova 92.00 50 ⇑P **P 14 56 04.9 +0.1**
baz=92
N22A Wattenberg Ran 92.00 47 ⇓P **P 14 56 05.1 +0.3**
baz=92
J20A Shoshoni 92.12 44 ⇓P **P 14 56 05.6 +0.5**
baz=92
M22A Cedar Creek Ra 92.19 46 ⇓P **P 14 56 06.2 +0.6**
baz=92
R25A Fountain Ranch 92.32 50 ⇑P **P 14 56 06.0 -0.2**
baz=92
F18A Big Timber 92.33 41 ⇑P **P 14 56 06.4 +0.4**
baz=92
D17A Six Diamond Ra 92.36 40 ⇑P **P 14 56 06.4 +0.2**
baz=92
I20A Worland 92.38 43 ⇓P **P 14 56 06.3 0.0**
baz=92
LZH Lanzhou 92.56 308 *e*P **P 14 56 08.6 +1.3**

LZH pP **pP 14 58 14.6 -1.2**
LZH pmax pmax
comp=Z,14nm,1.0s
C17A Wharram Farm, 92.56 39 ⇓P **P 14 56 06.9 0.0**
baz=93
S26A Kim 92.67 50 ⇓P **P 14 56 07.7 0.0**
baz=93
A16A West Butte Ran 92.74 38 ⇑P **P 14 56 07.8 0.0**
baz=93
F19A Roth Farm, Mol 92.78 41 ⇑P **P 14 56 07.7 -0.3**
baz=93
I21A Big Trails, Te 92.84 44 ⇓P **P 14 56 08.0 -0.4**
baz=93
B17A L&G Farms, Che 92.87 39 ⇑P **P 14 56 08.1 -0.2**
baz=93
YAK Yakutsk 92.91 339 *i* P **P 14 56 07.5 -0.5**
YAK pmax pmax
comp=Z,11nm,0.6s
T27A Campo 92.97 51 ⇑P **P 14 56 09.1 0.0**
baz=93
R26A Arlington 92.98 50 ⇑P **P 14 56 08.9 -0.3**
baz=93
P25A Willow Gulch B 93.00 49 ⇑P **P 14 56 09.6 +0.4**
baz=93
L23A Garrett 93.11 46 ⇑P **P 14 56 10.1 +0.3**
baz=93
A17A Triple J Farms 93.25 38 ⇓P **P 14 56 10.1 0.0**
baz=93
I22A 9 Mile Ranch, 93.40 44 ⇑P **P 14 56 11.2 +0.2**
baz=94
R27A Eads 93.43 50 ⇑P **P 14 56 10.9 -0.3**
baz=94
D19A Cripps Ranch, 93.44 40 ⇑P **P 14 56 11.7 +0.7**
baz=94
C19A Slack Wire Ran 93.62 40 ⇑P **P 14 56 12.3 +0.6**
baz=94
C20A Veseth Ranch, 94.23 40 ⇓P **P 14 56 15.1 +0.6**
baz=94
H24A Dirks Ranch, A 95.02 44 ⇑P **P 14 56 18.3 +0.1**
baz=95
SONM Songino Array 95.93 319 P **P 14 56 22.3 0.0**
SONM PP **PP 15 00 29.6 +4.3**
SONM Songino Array 95.93 319 P **P 14 56 22.3 0.0**
comp=Z,0.4nm,0.5s,baz=117,slow=4.7,SNR=3.6
SONM PP **PP 15 00 29.6 +4.3**
comp=Z,1.0nm,1.1s,baz=125,slow=6.9,SNR=3.7
ZALV Zalesovo Beam 110.73 321 *i* PKIKP **PKiKP 15 01 22.2 -1.7**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 110.73 321 PKiKP **PKiKP 15 01 22.2 -1.7**
ZALV Zalesovo Beam 110.73 321 PKiKP **PKiKP 15 01 22.2 -1.7**
comp=Z,0.6nm,0.5s,baz=302,slow=3.2,SNR=3.8
MKAR Makanchi Array 111.17 313 *i* PKIKP **PKiKP 15 01 23.6 -1.5**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR pmax pmax
comp=Z,1.0nm,1.0s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 111.17 313 PKiKP **PKiKP 15 01 23.6 -1.5**
MKAR PP PP 15 02 10.2 -6.5
MKAR PKKPbc **PKKPbc 15 12 22.9 -1.0**
MKAR PKKPab **PKKPab 15 12 34.4 +0.4**
MKAR Makanchi Array 111.17 313 PKiKP **PKiKP 15 01 23.6 -1.5**
comp=Z,0.5nm,0.5s,baz=75,slow=3.4,SNR=7.8
MKAR PP PP 15 02 10.2 -6.5
comp=Z,0.7nm,1.0s,baz=98,slow=6.0,SNR=3.7
MKAR PKKPbc **PKKPbc 15 12 22.9 -1.0**
comp=Z,0.4nm,0.6s,baz=274,slow=3.8,SNR=6.5
MKAR PKKPab **PKKPab 15 12 34.4 +0.4**
comp=Z,0.6nm,0.8s,baz=293,slow=4.6,SNR=6.1
KURK Kurchatov 114.10 317 *i* PKIKP PKPdf 15 01 29.0 -1.4
KURK 15 02 40.9
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURK pmax pmax
comp=Z,1.0nm,1.0s
KURK Kurchatov 114.10 317 PKiKP PKPdf 15 01 29.0 -1.4
KURK PP **PP 15 02 40.9 +4.0**
KURBB Kurchatov Arra 114.15 317 PKiKP PKPdf 15 01 29.0 -1.5
comp=Z,1.0nm,0.5s,baz=112,slow=1.7,SNR=9.3
KURBB PP **PP 15 02 40.9 +3.6**
comp=Z,1.4nm,0.9s,baz=94,slow=6.8,SNR=4.3
KSH Kashi 114.58 305 *e*PKP PKPdf 15 01 31.1 -0.8
KSH PP **PP 15 02 45.9 +5.1**
KSH sPKP 15 04 47.5
KSH SKS **SKSdf 15 07 45.7 -2.9**
KSH SKKS **SKKSac 15 08 35.5 -5.1**
KSH SS **SS 15 17 53.4 +2.6**
KSH AMB AMB
comp=Z,92nm,4.7s
KKAR Karatay Array 119.06 308 *e*PKIKP **PKPdf 15 01 39.2 -1.1**
KKAR Karatay Array 119.06 308 *e*PKPdf **PKPdf 15 01 39.2 -1.1**
BVAR Borovoye Array 119.27 319 PKIKP **PKPdf 15 01 39.3 -1.0**
BVAR pmax pmax
comp=Z,2.0nm,0.4s
BVAR Borovoye Array 119.27 319 PKP **PKPdf 15 01 39.3 -1.0**
BVAR Borovoye Array 119.27 319 PKP **PKPdf 15 01 39.3 -1.0**
comp=Z,2.4nm,0.4s,baz=120,slow=2.3,SNR=14
AKTO Aktyubinsk 127.20 317 PKIKP **PKPdf 15 01 55.3 -0.3**
AKTO pmax pmax
comp=Z,1.0nm,0.7s
AKTO Aktyubinsk 127.20 317 PKP **PKPdf 15 01 55.3 -0.3**
AKTO Aktyubinsk 127.20 317 PKP **PKPdf 15 01 55.3 -0.3**
comp=Z,1.3nm,0.7s,baz=322,slow=1.2,SNR=5.0
ARCES ARCESS Array B 130.03 349 PKP **PKPdf 15 01 59.5 -1.0**
ARCES ARCESS Array B 130.03 349 PKP **PKPdf 15 01 59.5 -1.0**
comp=Z,14nm,1.1s,baz=0.0,slow=0.9,SNR=5.6
FINES FINESS Array B 136.71 342 PKPpre PKPpre 15 01 59.8
FINES PKP **PKPdf 15 02 13.2 +0.1**
FINES SKPbc **SKPbc 15 04 51.0 +0.1**
FINES FINESS Array B 136.71 342 PKhKP PKPpre 15 01 59.8
comp=Z,2.6nm,0.8s,baz=29,slow=4.0,SNR=4.8
FINES PKP **PKPdf 15 02 13.2 +0.1**
comp=Z,1.1nm,0.4s,baz=5.7,slow=1.4,SNR=8.4
FINES SKPbc **SKPbc 15 04 51.0 +0.1**
comp=Z,1.2nm,0.5s,baz=48,slow=2.1,SNR=4.3
NB2 NORSAR Subarra140.18 352 PKP **SKPbc 15 05 00.4 -0.1**
comp=Z,0.6nm,0.6s,baz=17,slow=2.6
NOA NORSAR Array B 140.18 352 PKPpre PKPpre 15 02 12.1
NOA SKPbc **SKPbc 15 05 00.5 -0.1**
NOA NORSAR Array B 140.18 352 PKhKP PKPpre 15 02 12.1
comp=Z,1.2nm,0.8s,baz=16,slow=4.2,SNR=6.7
NOA SKPbc **SKPbc 15 05 00.5 -0.1**
comp=Z,0.8nm,0.6s,baz=15,slow=4.2,SNR=3.6
AKASG Malin Array Be 143.55 329 PKIKP PKPab 15 02 23.2 -1.5
AKASG 15 04 39.2
AKASG pmax pmax
comp=Z,8.0nm,0.3s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 143.55 329 PKP PKPab 15 02 23.2 -1.5
AKASG pPKP pPKPdf 15 04 39.2 -3.9
AKASG Malin Array Be 143.55 329 PKP PKPab 15 02 23.2 -1.5
comp=Z,8.2nm,0.3s,baz=43,slow=4.2,SNR=64
AKASG pPKP pPKPdf 15 04 39.2 -3.9
comp=Z,0.5nm,0.3s,baz=148,slow=14,SNR=2.4
AKBB Malin Array Si 143.55 329 *e*PKIKP PKPpre 15 02 23.0
AKBB Malin Array Si 143.55 329 *e*PKPpre PKPpre 15 02 23.0
KIEV Kiev 143.56 329 *e*PKHKP PKPpre 15 02 22.6
KIEV Kiev 143.56 329 *e*PKPpre PKPpre 15 02 22.6
SUW Suwalki 143.64 337 *e*PKP PKPbc 15 02 24.1 -0.8
SUW Suwalki 143.64 337 *e*PKP PKPbc 15 02 24.1 -0.8
SUW Suwalki 143.64 337 *e*PKIKP PKPbc 15 02 24.1 -0.8
SIM Simferopol' 144.16 318 *i* PKIKP **PKPdf 15 02 27.0 -0.1**
SIM pmax pmax
comp=Z,18nm,0.9s
LVV L'vov 146.54 332 *e*PKIKP **PKPbc 15 02 32.6 -1.0**
BR131 Keskin Array S 146.74 310 *e*PKPdf **PKPdf 15 02 32.4 +0.5**
BRTR Keskin Array B 146.74 310 PKP **PKPdf 15 02 32.1 +0.3**
BRTR PKPbc **PKPbc 15 02 34.0 -0.7**
BRTR Keskin Array B 146.74 310 PKP **PKPdf 15 02 32.1 +0.3**
comp=Z,5.1nm,0.6s,baz=138,slow=4.0,SNR=29
BRTR PKPbc **PKPbc 15 02 34.0 -0.7**
comp=Z,5.1nm,0.6s,baz=141,slow=4.8,SNR=28
BUR08 Bucovina Ar. S 147.56 328 *e*PKPbc **PKPbc 15 02 36.6 +0.2**
BURAR Bucovina Array 147.58 328 ⇑*i*P **PKPbc 15 02 37.5 +1.0**
TESR 147.59 325 ⇑*i*P **PKPbc 15 02 36.8 +0.4**
CFR Carcaliu 147.60 322 ⇑*i*P **PKPbc 15 02 35.7 -0.8**
KOLS Kolonicke sedl 147.97 333 *e*PKP2 **PKPbc 15 02 37.7 +0.4**
KOLS Kolonicke sedl 147.97 333 *e*PKP **PKPbc 15 02 37.7 +0.4**
UZH Uzhgorod 148.19 332 *i* PKP2 **PKPbc 15 02 38.0 +0.2**
CRVS Cervenica-Dubn 148.33 333 *e*PKP2 **PKPbc 15 02 38.2 0.0**
CRVS Cervenica-Dubn 148.33 333 *e*PKP **PKPbc 15 02 38.2 0.0**
TRPA Tarpa 148.46 331 ⇑*i*P **PKPbc 15 02 38.3 -0.2**

KSP	Ksiaz	148.59	341	*e*PKP	PKPbc	15 02 39.0	+0.2
KSP	Ksiaz	148.59	341	*e*PKP	PKPbc	15 02 39.0	+0.2
MLR	Muntele Rosu	148.62	325	⇑*i*P	PKPbc	15 02 38.4	-0.8
OKC	Ostrava-Krasne	148.85	338	*e*PKHKP	PKPpre	15 02 39.1	
OKC				*e*		15 02 46.3	
OKC	Ostrava-Krasne	148.85	338	⇑*e*PKP	PKPbc	15 02 39.1	-0.3
OKC				*e*PKPAB	PKPab	15 02 46.3	+0.5
UPC	Upice	148.97	341	*e*PKHKP	PKPbc	15 02 39.9	+0.2
UPC	Upice	148.97	341	⇑*e*PKP	PKPbc	15 02 39.9	+0.2
DPC	Dobruska-Polom	149.01	340	*e*PKP2	PKPbc	15 02 40.1	+0.2
DPC	Dobruska-Polom	149.01	340	⇑*e*PKP	PKPbc	15 02 40.1	+0.2
DPC				*e*PKPAB	PKPab	15 02 47.0	+0.4
CLL	Collm	149.08	345	⇓*i*PKHKP	PKPbc	15 02 39.6	-0.3
CLL				*i*	PKPab	15 02 46.3	-0.4
CLL				pmax	pmax		
	comp=Z,131nm,1.0s						
CLL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CLL	Collm	149.08	345	⇓*i*PKPbc	PKPbc	15 02 39.6	-0.3
	comp=Z,13nm,1.0s						
CLL				⇑*i*PKPab	PKPab	15 02 46.3	-0.4
	comp=Z,6.0nm,0.7s						
MORC	Moravsky Berou	149.11	338	⇑*i*P	PKPbc	15 02 38.8	-1.4
VOIR		149.13	325	⇑*i*P	PKPbc	15 02 40.1	-0.3
BRG	Berggiesshubel	149.24	343	*i* PKP	PKPbc	15 02 39.8	-0.5
	comp=Z,10nm,1.1s						
BRG				*e*		15 02 47.2	
	comp=Z,15nm,1.3s						
BRG				*e*		15 05 02.3	
	comp=Z,54nm,2.1s						
BRG	Berggiesshubel	149.24	343	*i* PKHKP	PKPbc	15 02 39.8	-0.5
BRG				*e*	PKPab	15 02 47.2	-0.2
BRG				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BRG				pmax	pmax		
	comp=Z,15nm,1.3s						
BRG				pmax	pmax		
	comp=Z,55nm,2.1s						
DRGR		149.36	329	⇑*i*P	PKPbc	15 02 40.2	-0.7
PVCC	Panska Ves	149.38	342	*e*PKHKP	PKPbc	15 02 41.1	+0.4
PVCC	Panska Ves	149.38	342	⇑*e*PKP	PKPbc	15 02 41.1	+0.4
VYHS	Vyhne	149.71	336	*e*PKHKP	PKPbc	15 02 41.5	-0.1
VYHS	Vyhne	149.71	336	*e*PKP	PKPbc	15 02 41.5	-0.1
ISP	Isparta	149.72	308	PKHKP	PKPbc	15 02 37.3	-4.8
ISP	Isparta	149.72	308	PKPdf	PKPbc	15 02 37.3	-4.8
VRAC	Vranov	149.83	339	⇓*i*P	PKPbc	15 02 41.1	-0.7
PRU	Pruhonice	149.87	342	*e*PKHKP	PKPbc	15 02 41.9	0.0
PRU				*e*		15 02 50.4	
PRU	Pruhonice	149.87	342	⇑*e*PKP	PKPbc	15 02 41.9	0.0
PRU				*e*PKPAB	PKPab	15 02 50.4	+0.3
GZR	Gura Zlata	150.33	327	⇑*i*P	PKPbc	15 02 42.6	-0.6
BZS	Buzias	150.74	329	⇑*i*P	PKPbc	15 02 43.6	-0.4
KHC	Kasperske Hory	150.92	342	*e*PKIKP	PKPbc	15 02 44.1	-0.3
KHC				*e*		15 02 54.7	
KHC				*e*		15 05 00.0	
KHC	Kasperske Hory	150.92	342	⇑*e*PKP	PKPbc	15 02 44.1	-0.3
KHC				*e*PKPAB	PKPab	15 02 54.7	+0.2
KHC				*e*pPKP	pPKPdf	15 05 00.0	+4.4
GERES	GERESS Array B	151.14	342	PKPbc	PKPbc	15 02 44.3	-0.7
GERES				pPKP	pPKPdf	15 04 53.6	-2.4
GERES	GERESS Array B	151.14	342	PKPbc	PKPbc	15 02 44.3	-0.7
	comp=Z,1.7nm,0.4s,baz=48,slow=2.0,SNR=11						
GERES				pPKP	pPKPdf	15 04 53.6	-2.4
	comp=Z,0.3nm,0.4s,baz=247,slow=38,SNR=2.7						
CONA	Conrad Observa	151.27	338	⇑*i*P	PKPbc	15 02 44.8	-0.4
CONA				⇑*i*P	PKPab	15 02 56.6	+0.5
CONA	Conrad Observa	151.27	338	⇑*i*PKPbc	PKPbc	15 02 44.8	-0.4
	comp=Z,6.1nm,0.8s						
CONA				⇑*i*PKPab	PKPab	15 02 56.6	+0.5
	comp=Z,7.8nm,0.8s						
PKSM	Moragy	151.63	333	⇑*i*P	PKPbc	15 02 45.5	-0.5
TORD	Torodi Ar. Bea	171.23	187	PKPab	PKPab	15 04 23.4	-0.5
TORD				pPKPab	pPKPab	15 06 34.0	+0.9
TORD	Torodi Ar. Bea	171.23	187	PKPab	PKPab	15 04 23.4	-0.5
	comp=Z,0.5nm,0.9s,baz=177,slow=3.9,SNR=4.2						
TORD				pPKPab	pPKPab	15 06 34.0	+0.9
	comp=Z,0.1nm,0.5s,baz=75,slow=36,SNR=1.5						

KOLN	Koldanda	12.97	146	*e*P	Pn	14 56 35.6	+0.2
	comp=E,5.2nm,0.3s						
GKN	Gorkha	13.25	142	*e*P	Pn	14 56 39.6	+0.3
	comp=E,16nm,0.3s						
KKN	Kakani	13.75	140	*e*P	Pn	14 56 45.6	-0.5
	comp=E,5.4nm,0.5s						
DMN	Daman	13.81	141	*e*P	Pn	14 56 46.8	-0.2
	comp=E,5.1nm,0.3s						
GUN	Gumba	13.96	138	*e*P	Pn	14 56 48.4	-0.6
	comp=E,7.4nm,0.3s						
PKI	Pulchoki	13.99	140	*e*P	Pn	14 56 49.8	+0.3
	comp=E,6.2nm,0.3s						
VOSK	Vostochnaya	14.26	349	⇓Pn	Pn	14 56 52.1	-0.6
	comp=E,2.2nm,0.9s						
JIRN	Jiri	14.32	138	*e*P	Pn	14 56 53.8	-0.2
	comp=E,10nm,0.3s						
BVA0	Borovoye Array	14.64	348	⇑Pn	Pn	14 56 57.4	-0.4
	comp=E,0.4nm,0.6s,baz=159,slow=11,SNR=21						
BVAR	Borovoye Array	14.64	348	Pn	P	14 57 03.4	-0.3
	comp=E,0.9nm,0.3s,baz=155,slow=9.2,SNR=21						
ZRNK	Zerenda	14.82	345	⇓Pn	Pn	14 57 01.7	+1.4
	comp=E,0.8nm,0.6s						
RAMN	Ramite	15.11	138	*e*P	Pn	14 57 02.4	-2.1
	comp=E,12nm,0.3s						
AB31	Akbulak array	15.21	318	Pn	Pn	14 57 02.5	-2.9
	comp=E,0.7nm,0.4s,baz=126,slow=14,SNR=24						
TAPN	Taplejung	15.39	134	*e*P	Pn	14 57 06.5	-1.7
	comp=E,3.9nm,0.3s						
ODAN	Odare	15.60	136	*e*P	Pn	14 57 08.8	-2.1
	comp=E,6.9nm,0.4s						
ZALV	Zalesovo Beam	16.48	20	Pn	Pn	14 57 18.7	-3.0
	comp=E,0.1nm,0.3s,baz=224,slow=10,SNR=3.6						
AKTO	Aktyubinsk	16.92	319	Pn	Pn	14 57 26.7	-0.6
	comp=E,0.2nm,0.3s,baz=114,slow=16,SNR=3.7						
GTA	Gaotai	18.98	80	*e*P	Pn	14 57 54.0	+1.2
GTA				pP	pP	14 57 58.3	-3.1
GTA				sP	sP	14 58 01.2	-4.9
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SONM	Songino Array	24.18	58	P	P	14 58 47.0	+0.5
	comp=Z,0.5nm,0.6s,baz=250,slow=10,SNR=5.2						
BRTR	Keskin Array B	32.11	285	P	P	14 59 58.7	+1.3
	comp=Z,1.0nm,0.7s,baz=90,slow=8.5,SNR=6.0						
FINES	FINESS Array B	37.61	323	P	P	15 00 44.1	-0.2
	comp=Z,0.5nm,0.5s,baz=120,slow=8.3,SNR=4.7						
NB2	NORSAR Subarra	44.69	321	P	P	15 01 41.9	-0.6
	comp=Z,1.7nm,0.9s,baz=91,slow=7.9						
NOA	NORSAR Array B	44.69	321	P	P	15 01 42.9	+0.3
	comp=Z,0.7nm,0.8s,baz=91,slow=8.1,SNR=3.7						
TORD	Torodi Ar. Bea	69.20	270	P	P	15 04 37.1	+0.4
	comp=Z,0.7nm,0.5s,baz=44,slow=5.6,SNR=8.5						
ILAR	Eielson Array	71.59	18	P	P	15 04 49.8	-0.8
	comp=Z,0.4nm,0.8s,baz=318,slow=4.9,SNR=3.2						
YKA	Yellowknife Ar	78.74	5	P	P	15 05 32.0	+0.3
	comp=Z,0.4nm,0.4s,baz=347,slow=5.7,SNR=8.1						
WRA	Warramunga Arr	80.37	125	P	P	15 05 43.0	+1.8
	comp=Z,0.3nm,0.9s,baz=321,slow=4.4,SNR=3.3						
ASAR	Alice Springs	82.83	128	P	P	15 05 55.9	+1.8
	comp=Z,0.3nm,0.8s,baz=323,slow=4.6,SNR=3.7						

IDC 02 14:55:45.9±3.5,1°.05S×133°.01E,h0km,mb3.7/2, mb1 3.8/3,mb1mx3.3/17,mbtmp3.6/3,ML3.5/1,MS2.6/1, Ms1 2.6/1,ms1mx2.5/30,Error ellipse: s-maj=117.3km s-min=29.5km az=89.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.43	203	LR	LR	15 06 57.1	
	comp=Z,21nm,20.4s,baz=180,slow=36						
WRA	Warramunga Arr	18.83	176	P	Pn	15 00 08.5	+0.6
	0.1nm,0.3s,baz=356,slow=11,SNR=7.5						
WRA				S	Sn	15 03 40.3	+1.1
	0.0nm,0.3s,baz=351,slow=24,SNR=3.5						
ASAR	Alice Springs	22.50	178	P	P	15 00 48.0	+0.8
	1.3nm,0.7s,baz=356,slow=11,SNR=19						
STKA	Stephens Creek	31.72	166	P	P	15 02 10.2	-1.3
	1.3nm,0.6s,baz=344,slow=8.8,SNR=4.1						

ISK 02 15:01:13.9,37°.85N×27°.56E,h7km,MD3.4
DDA 02 15:01:14.1,37°.84N×27°.56E,h7km,MD3.6
CSEM 02 15:01:14.6±0.1,37°.84N×27°.54E,h5km,MD3.6,Error ellipse: s-maj=2.3km s-min=1.8km az=102.0
THE 02 15:01:15.9,37°.85N×27°.45E,h0km,ML3.5/3,Error ellipse: s-maj=0.8km s-min=0.4km az=60.0
ATH 02 15:01:15.1,37°.83N×27°.48E,h5km,MD3.6/14
ISC 02 15:01:14.7±1.0,37.85N±0.02×27.55E±0.02,h6km±9km, n119,σ1§01/144,1C-1D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	G?zelcaml?	0.29	239	*i* P	Pg	15 01 20.4	0.0
GCAM				*i* S	Sg	15 01 24.3	+0.1
GCAM	G?zelcaml?	0.29	239	*i* P	Pg	15 01 20.4	0.0
AYDN	Tasoluk	0.32	126	*i* P	Pg	15 01 20.8	-0.2
AYDN				*i* S	Sg	15 01 24.8	-0.4
SMG	Samos	0.58	256	P	Pg	15 01 25.9	0.0
SMG				S	Sg	15 01 34.2	+0.8
SMG	Samos	0.58	256	*e*PB	Pg	15 01 26.3	+0.4
SMG				*e*SB	Sg	15 01 34.3	+0.8
SMG	Samos	0.58	256	P	Pg	15 01 25.9	0.0
SMG	Samos	0.58	256	*e*Pb	Pg	15 01 26.3	+0.4
SMG				*e*Sb	Sg	15 01 34.3	+0.8
IZM	Izmir	0.59	338	PG	Pg	15 01 26.4	+0.3
IZM				*e*SG	Sg	15 01 33.8	0.0
IZM	Izmir	0.59	338	*i* Pg	Pg	15 01 26.4	+0.3
IZM				*e*Sg	Sg	15 01 33.8	0.0
BLCB	Balcova	0.67	323	PG	Pg	15 01 27.9	+0.4
BLCB				*e*SG	Sg	15 01 36.7	+0.5
BLCB	Balcova	0.67	323	*i* Pg	Pg	15 01 27.9	+0.4
BLCB				*e*Sg	Sg	15 01 36.7	+0.5
BODT	Bodrum	0.81	194	*e*PG	Pg	15 01 29.3	-0.9
BODT	Bodrum	0.81	194	*e*Pg	Pg	15 01 29.3	-0.9
AKHS	Akhisar	1.05	11	*i* P	Pg	15 01 34.5	-0.3
AKHS				*i* S	Sb	15 01 49.1	-0.2
AKHS	Akhisar	1.05	11	*i* P	Pg	15 01 34.5	-0.3
AKHS				*i* S	Sb	15 01 49.1	-0.2
AKS	Akhisar	1.05	11	*e*PG	Pg	15 01 34.6	-0.2
AKS	Akhisar	1.05	11	*e*Pg	Pg	15 01 34.6	-0.2
KULA	Kula-Manisa	1.10	53	*e*PN	Pg	15 01 34.8	-0.9
KULA	Kula-Manisa	1.10	53	*e*Pn	Pg	15 01 34.8	-0.9
NIS1	Nisyros Isl.	1.28	193	P	Pn	15 01 39.0	-0.2
NIS1				S	Sn	15 01 57.4	+0.7
NIS1	Nisyros Isl.	1.28	193	P	Pn	15 01 39.0	-0.2
NIS1				S	Sn	15 01 57.4	+0.7
CHOS	Chios island	1.29	295	P	Pn	15 01 38.7	-0.7
CHOS				S	Sb	15 01 56.6	+0.2
CHOS	Chios island	1.29	295	*e*PB	Pn	15 01 39.2	-0.2
CHOS				*e*SB	Sn	15 01 57.2	+0.1
CHOS	Chios island	1.29	295	P	Pn	15 01 38.7	-0.7
CHOS	Chios island	1.29	295	*e*Pb	Pn	15 01 39.2	-0.2
CHOS				S	Sb	15 01 56.6	+0.2
CHOS				*e*Sb	Sn	15 01 57.2	+0.1
ARG	Arkhangelos	1.70	164	P	Pb	15 01 45.8	-0.5
ARG				S	Sg	15 02 08.9	-0.3
ARG	Arkhangelos	1.70	164	*e*PG	Pb	15 01 46.6	+0.3
ARG				*e*SB	Sg	15 02 11.2	+2.0
ARG	Arkhangelos	1.70	164	P	Pb	15 01 45.8	-0.5
ARG	Arkhangelos	1.70	164	*e*Pg	Pb	15 01 46.6	+0.3
ARG				S	Sg	15 02 08.9	-0.3
ARG				*e*Sb	Sg	15 02 11.2	+2.0
PRK	Paraskevi	1.72	325	P	Pn	15 01 45.4	+0.3
PRK				S	Sn	15 02 07.9	+0.5
PRK	Paraskevi	1.72	325	*e*PG	Pb	15 01 46.2	-0.4
PRK				*e*SB	Sg	15 02 10.7	+0.9
PRK	Paraskevi	1.72	325	P	Pn	15 01 45.4	+0.3
PRK	Paraskevi	1.72	325	*e*Pg	Pb	15 01 46.2	-0.4
PRK				S	Sn	15 02 07.9	+0.5
PRK				*e*Sb	Sg	15 02 10.7	+0.9
FETY	Fethiye	1.72	134	*e*PN	Pn	15 01 45.2	-0.1
FETY	Fethiye	1.72	134	*e*Pn	Pn	15 01 45.2	-0.1
APE	Apeiranthos	1.79	245	*e*PN	Pn	15 01 46.5	+0.4
APE	Apeiranthos	1.79	245	P	Pn	15 01 45.8	-0.4
APE	Apeiranthos	1.79	245	*e*PN	Pb	15 01 48.1	+0.2
APE				*e*SN	Sg	15 02 12.5	+0.4
APE	Apeiranthos	1.79	245	⇑*i*P	Pb	15 01 48.1	+0.2
APE	Apeiranthos	1.79	245	S	Sg	15 02 15.2	+3.1
APE	Apeiranthos	1.79	245	P	Pn	15 01 45.8	-0.4
APE	Apeiranthos	1.79	245	*e*Pn	Pn	15 01 46.6	+0.4
BALB	Balikesir	1.81	8	*e*PN	Pn	15 01 45.8	-0.6
BALB	Balikesir	1.81	8	*e*Pn	Pn	15 01 45.8	-0.6
DST	Dursunbey	1.94	25	*e*PN	Pn	15 01 48.3	0.0

DST	Dursunbey	1.94	25	*e*Pn	Pn	15 01 48.3	0.0
ELL	Elmali	2.18	120	*e*PN	Pn	15 01 52.1	+0.4
ELL	Elmali	2.18	120	*e*Pn	Pn	15 01 52.1	+0.4
EZN	Ezine	2.19	335	*e*PN	Pn	15 01 51.8	+0.1
EZN	Ezine	2.19	335	*e*Pn	Pn	15 01 51.8	+0.1
GONE	Gonen-Balikesi	2.19	3	*e*PN	Pn	15 01 52.0	+0.3
GONE	Gonen-Balikesi	2.19	3	*e*Pn	Pn	15 01 52.0	+0.3
THR1	Thera Island	2.23	229	P	Pn	15 01 52.0	-0.3
THR1	Thera Island	2.23	229	P	Pn	15 01 52.0	-0.3
KARP	Karpathos	2.32	188	*e*PN	Pn	15 01 52.3	-1.2
KARP	Karpathos	2.32	188	*e*Pn	Pn	15 01 52.3	-1.2
KSL	Kastellorizon	2.35	136	*e*PN	Pb	15 01 58.2	+0.7
ISP	Isparta	2.35	90	*e*PN	Pn	15 01 54.4	+0.4
ISP	Isparta	2.35	90	P	Pn	15 01 53.9	-0.1
ISP	Isparta	2.35	90	⇓*i*P	Pb	15 01 56.3	-1.3
ISP	Isparta	2.35	90	S	Sg	15 02 34.2	+3.9
ISP	Isparta	2.35	90	P	Pn	15 01 53.9	-0.1
ISP	Isparta	2.35	90	*e*Pn	Pn	15 01 54.4	+0.4
ORLT	Orhaneli	2.43	25	*e*PN	Pn	15 01 55.4	+0.4
ORLT	Orhaneli	2.43	25	*e*Pn	Pn	15 01 55.4	+0.4
SHUT	Suhut-Afyon	2.47	73	*e*PN	Pn	15 01 56.2	+0.6
SHUT	Suhut-Afyon	2.47	73	*e*Pn	Pn	15 01 56.2	+0.6
KCTX	Karacabey (Bur	2.49	14	*e*PN	Pn	15 01 55.9	+0.1
KCTX	Karacabey (Bur	2.49	14	*e*Pn	Pn	15 01 55.9	+0.1
KRBG	Karabiga-Canak	2.55	356	*e*PN	Pn	15 01 56.8	+0.3
KRBG	Karabiga-Canak	2.55	356	*e*Pn	Pn	15 01 56.8	+0.3
LPK	Lapseki	2.59	347	*e*PN	Pn	15 01 57.5	+0.3
LPK	Lapseki	2.59	347	*e*Pn	Pn	15 01 57.5	+0.3
GELI	Tayfur-Gelibol	2.68	342	*e*PN	Pn	15 01 58.6	+0.3
GELI	Tayfur-Gelibol	2.68	342	*e*Pn	Pn	15 01 58.7	+0.3
MDNY	Mudanya-Bursa	2.72	22	*e*PN	Pn	15 01 59.5	+0.6
MDNY	Mudanya-Bursa	2.72	22	*e*Pn	Pn	15 01 59.5	+0.6
LIA	Limnos Island	2.75	319	*e*PN	Pb	15 02 02.6	-1.7
LIA	Limnos Island	2.75	319	*e*Pn	Pb	15 02 02.6	-1.7
ARMT	Armutlu	2.90	20	*e*PN	Pn	15 02 01.3	-0.1
ARMT	Armutlu	2.90	20	*e*Pn	Pn	15 02 01.3	-0.1
ERIK	Erikli-Kesan	2.93	344	*e*PN	Pn	15 02 02.1	+0.3
ERIK	Erikli-Kesan	2.93	344	*e*Pn	Pn	15 02 02.1	+0.3
ZKR	Zakros	2.93	202	*e*PN	Pb	15 02 05.0	-2.4
ZKR	Zakros	2.93	202	*e*Pn	Pb	15 02 05.0	-2.4
CAVI	Cavuskoy	2.95	37	*e*PN	Pn	15 02 02.2	+0.1
CAVI	Cavuskoy	2.95	37	*e*Pn	Pn	15 02 02.3	+0.1
NPS	Neapolis	3.02	212	*e*PN	Pb	15 02 06.2	-2.6
NPS	Neapolis	3.02	212	*e*Pn	Pb	15 02 06.2	-2.6
ENEZ	Enez	3.08	340	*e*PN	Pn	15 02 05.1	+1.2
ENEZ	Enez	3.08	340	*e*Pn	Pn	15 02 05.1	+1.2
LAST	Lasithi	3.16	212	*e*PB	Pn	15 02 06.8	+1.7
LAST	Lasithi	3.16	212	*e*Pb	Pn	15 02 06.8	+1.7
NAIG	Nisos Aigina	3.22	270	*e*PB	Pn	15 02 07.4	+1.6
NAIG	Nisos Aigina	3.22	270	*e*Pb	Pn	15 02 07.4	+1.6
ALN	Alexandroupoli	3.26	340	P	Pn	15 02 05.8	-0.5
ALN	Alexandroupoli	3.26	340	*e*PB	Pn	15 02 08.7	+2.4
ALN				*e*SN	Sb	15 02 50.7	-2.1
ALN	Alexandroupoli	3.26	340	P	Pn	15 02 05.8	-0.5
ALN	Alexandroupoli	3.26	340	*e*Pb	Pn	15 02 08.7	+2.4
IDI	Anoyia	3.33	221	*e*PN	Pn	15 02 06.8	-0.7
IDI	Anoyia	3.33	221	*e*Pn	Pn	15 02 06.8	-0.7
HRT	Hereke	3.39	28	*e*PN	Pn	15 02 08.2	0.0
HRT	Hereke	3.39	28	*e*Pn	Pn	15 02 08.2	0.0
ISK	Istanbul-Kandi	3.42	20	*e*PN	Pn	15 02 09.1	+0.6
ISK	Istanbul-Kandi	3.42	20	*e*Pn	Pn	15 02 09.1	+0.6
DID	Didima	3.44	266	*e*PN	Pn	15 02 07.5	-1.4
DID	Didima	3.44	266	*e*Pn	Pn	15 02 07.5	-1.4
GULT	Gulveren	3.46	41	*e*PN	Pn	15 02 09.8	+0.6
GULT	Gulveren	3.46	41	*e*Pn	Pn	15 02 09.8	+0.6
KLYT	Kilyos	3.59	18	*e*PN	Pn	15 02 11.3	+0.5
KLYT	Kilyos	3.59	18	*e*Pn	Pn	15 02 11.3	+0.5
VAM	Vamos	3.63	229	*e*PN	Pn	15 02 14.4	+2.9
VAM	Vamos	3.63	229	*e*Pn	Pn	15 02 14.4	+2.9
SILT	Sile	3.67	26	*e*PN	Pn	15 02 12.7	+0.7
SILT	Sile	3.67	26	*e*Pn	Pn	15 02 12.7	+0.7
VLI	Veliai	3.85	254	*e*PB	Pb	15 02 18.8	-4.2
VLI	Veliai	3.85	254	*e*Pb	Pb	15 02 18.8	-4.2
NVR	Nevrokopi	4.51	322	*e*PN	Pn	15 02 23.4	-0.2
NVR	Nevrokopi	4.51	322	*e*Pn	Pn	15 02 23.4	-0.2

IDC 02 15:04:47.1±1.0,6°.13S×150°.38E,h0km,mb4.3/8, mb1 4.5/10,mb1mx4.3/17,mbtmp4.3/10,ML3.6/2,MS3.9/12, Ms1 3.9/12,ms1mx3.7/30,Error ellipse: s-maj=39.9km s-min=17.3km az=115.0
ISCJB 02 15:04:50.1±0.6,6°.24S×150°.42E±0°.08,h33km, mb4.2/10,MS3.9/10,Error ellipse: s-maj=13.5km s-min=8.5km az=34.8
NEIC 02 15:04:53.1±1.7,6°.26S×150°.41E,h44km±15km,mb4.6/4, Error ellipse: s-maj=12.6km s-min=11.9km az=189.0
ISC 02 15:04:52.2±0.7,6°.21S±0°.09×150°.4E±0°.1,h33km,n47, σ1§36/44,mb4.2/10,MS3.9/10,1C,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.52	225	*e*P	Pn	15 05 59.3	+0.9
PMG				S	Sn	15 06 49.6	+0.3
PMG	Port Moresby	4.52	225	Pn	Pn	15 05 59.6	+1.2
	25nm,0.3s,baz=55,slow=6.8,SNR=75						
PMG				Sn	Sn	15 06 49.6	-0.3
	23nm,0.3s,baz=91,slow=17,SNR=11						
HNR	Honiara	9.99	109	LR	LR	15 10 17.4	
	comp=Z,498nm,20.1s,baz=177,slow=33						
COEN	Coen	10.48	222	*e*P	Pn	15 07 19.9	-0.4
CTA	Charters Tower	14.38	196	Pn	Pn	15 08 13.6	+0.1
CTA	Charters Tower	14.38	196	Pn	Pn	15 08 13.6	+0.1
	0.2nm,0.3s,baz=6.3,slow=9.2,SNR=3.5						
CTA				LR	LR	15 13 46.0	
	comp=Z,317nm,18.2s,baz=179,slow=37						
EIDS	Eidsvold	19.07	178	*e*P	P	15 09 11.3	-0.6
	46nm,1.3s						
EIDS	Eidsvold	19.07	178	*e*P	P	15 09 11.1	-0.9
	100nm,0.9s						
RMQ	Roma	20.23	184	*e*P	P	15 09 24.3	-0.4
	63nm,0.8s						
GUMO	Guam	20.42	344	LR	LR	15 15 17.6	
	comp=Z,298nm,19.8s,baz=95,slow=31						
WRAB	Tennant Creek	20.72	227	*e*P	P	15 09 29.4	-0.7
	45nm,0.6s						
WB2	Warramunga Arr	20.73	227	*e*P	P	15 09 30.1	-0.1
WRA	Warramunga Arr	20.73	227	P	P	15 09 30.1	-0.2
WRA				ScP	ScP	15 17 18.8	+5.1
WRA	Warramunga Arr	20.73	227	P	P	15 09 30.1	-0.2
	44nm,0.7s,baz=52,slow=11,SNR=208						
WRA				ScP	ScP	15 17 18.8	+5.1
	1.1nm,1.0s,baz=43,slow=2.6,SNR=4.9						
QLP	Quilpie	21.10	195	⇑*i*P	P	15 09 33.3	-0.8
DZM	Mont Dzumac	22.11	137	*e*P	P	15 09 44.1	-1.0
AS31	Alice Springs	23.52	221	*e*P	P	15 09 59.1	-0.5
ASAR	Alice Springs	23.52	221	P	P	15 09 58.9	-0.8
ASAR	Alice Springs	23.52	221	P	P	15 09 58.9	-0.8
	4.8nm,0.5s,baz=55,slow=9.0,SNR=80						
ARMA	Armidale	24.11	177	*e*P	P	15 10 04.3	-0.9
STKA	Stephens Creek	26.83	197	*e*P	P	15 10 28.6	-1.1
	4.3nm,1.1s						
STKA	Stephens Creek	26.83	197	*e*P	P	15 10 28.0	-1.7
	8.0nm,0.8s						
STKA	Stephens Creek	26.83	197	P	P	15 10 28.6	-1.1
	11nm,0.8s,baz=19,slow=11,SNR=14						
STKA				LR	LR	15 21 50.0	
	comp=Z,304nm,18.8s,baz=24,slow=38						
FITZ	Fitzroy Crossi	26.89	242	*e*P	P	15 10 30.6	+0.2
	12nm,0.6s						
FITZ	Fitzroy Crossi	26.89	242	*e*P	P	15 10 30.5	+0.1
	22nm,0.6s						
FITZ	Fitzroy Crossi	26.89	242	P	P	15 10 30.5	+0.1
	7.9nm,0.6s,baz=84,slow=5.1,SNR=16						
FITZ				LR	LR	15 21 55.3	
	comp=Z,117nm,18.1s,baz=56,slow=38						
FORT	Forrest

MKAR	**Makanchi Array**	**79.83**	**320**	P	**P**	**15 16 57.3**	**-0.2**
MKAR	**Makanchi Array**	**79.83**	**320**	P	**P**	**15 16 57.3**	**-0.2**
	0.2nm,0.7s,baz=90,slow=9.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**81.01**	**327**	P	**P**	**15 17 03.1**	**-0.5**
ZALV	**Zalesovo Beam**	**81.01**	**327**	P	**P**	**15 17 03.1**	**-0.5**
	0.2nm,0.3s,baz=104,slow=2.4,SNR=2.9						
ZALV				LR	LR	15 53 20.3	
	comp=Z,114nm,18.2s,baz=72,slow=36						
MAW	**Mawson**	**83.36**	**203**	LR	LR	15 52 16.2	
	comp=Z,105nm,18.2s,baz=235,slow=34						
ILAR	**Eielson Array**	**84.36**	**23**	P	**P**	**15 17 19.8**	**-1.1**
ILAR	**Eielson Array**	**84.36**	**23**	P	**P**	**15 17 19.8**	**-1.1**
	0.5nm,0.6s,baz=244,slow=5.3,SNR=6.5						
NVAR	**Mina Array Bea**	**94.83**	**52**	P	**P**	**15 18 12.7**	**+1.3**
NVAR	**Mina Array Bea**	**94.83**	**52**	P	**P**	**15 18 12.7**	**+1.3**
	0.8nm,0.8s,baz=237,slow=12,SNR=5.7						
GERES	**GERESS Array B**	**123.96**	**327**	PKP	**PKPdf**	**15 23 47.8**	**+0.4**
GERES	**GERESS Array B**	**123.96**	**327**	PKP	**PKPdf**	**15 23 47.8**	**+0.4**
	0.4nm,0.4s,baz=66,slow=3.2,SNR=4.2						
TORD	**Torodi Ar. Bea**	**148.41**	**285**	PKPbc	**PKPbc**	**15 24 36.7**	**+0.2**
TORD	**Torodi Ar. Bea**	**148.41**	**285**	PKPbc	**PKPbc**	**15 24 36.7**	**+0.2**
	1.5nm,0.3s,baz=93,slow=2.4,SNR=54						

ZUR 02 15:06:16.9, 46°35N×7°58E, h6km±2km, ML0.8/4, 1C-3D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKBD	**Leukerbad**	**0.05**	**45**	*e*Pg	Pg	15 06 18.6	+0.1
	49nm,0.2s						
LKBD				*i* Sg	Sg	15 06 19.6	0.0
	49nm,0.2s						
LKBD2	**Leukerbad 2**	**0.05**	**65**	⇓*i*Pg	Pg	15 06 18.8	+0.2
SENIN	**Lac Senin/Sane**	**0.20**	**273**	⇓*i*Pg	Pg	15 06 20.9	-0.2
	54nm,0.2s						
SENIN				*i* Sg	Sg	15 06 23.9	0.0
	54nm,0.2s						
DIX	**Grande Dixence**	**0.30**	**204**	⇑*i*Pg	Pg	15 06 23.2	+0.1
	18nm,0.1s						
DIX				*e*Sg	Sg	15 06 27.5	+0.2
	18nm,0.1s						
MMK	**Mattmark**	**0.40**	**139**	⇓*i*Pg	Pg	15 06 25.1	0.0
	18nm,0.1s						
MMK				*e*Sg	Sg	15 06 30.2	-0.4
	18nm,0.1s						

CASC 02 15:16:09.4±2.3, 8°19N×83°40W, h6km±45km, MD4.1,1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.92**	**49**	*e*P	Pg	15 16 26.9	-0.5
TBS2		**0.95**	**51**	*e*P	Pb	15 16 28.3	-0.2
BUS	**Buena Vista**	**1.40**	**345**	*e*P	Pn	15 16 34.8	-1.3
QCR	**Quepos**	**1.44**	**328**	⇓*e*P	Pn	15 16 35.2	-0.9
QCR				*e*S	Sb	15 16 54.9	-0.5
URSC	**Urasca**	**1.68**	**347**	*e*P	Pn	15 16 38.8	-0.8
LAJ	**Bijagual**	**1.81**	**337**	*e*P	Pn	15 16 40.5	-0.9
JCR	**Jicaral**	**2.36**	**314**	*e*P	Pn	15 16 48.3	-0.5

KRSC 02 15:20:55.9±1.0, 52°84N×159°45E, h36km±36km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.34**	**349**	*e*P	Pn	15 21 04.1	-0.1
NLC				*i* S	Sn	15 21 10.2	-0.6
SPN	**Mys Shipunski**	**0.43**	**53**	*e*P	Pn	15 21 05.4	0.0
SPN				*i* S	Sn	15 21 12.4	+0.1
PET	**Petropavlovsk**	**0.52**	**291**	*e*P	Pn	15 21 06.4	-0.3
PET				*i* S	Sn	15 21 14.2	-0.1
UGLR	**Uglovaya**	**0.53**	**315**	*e*P	Pn	15 21 07.0	-0.1
UGLR				*i* S	Sn	15 21 15.6	+0.7
SDLR	**Sedlovina**	**0.56**	**322**	*e*P	Pn	15 21 07.1	-0.5
SDLR				*i* S	Sn	15 21 15.1	-0.6
SMAR	**Somma**	**0.58**	**318**	*e*P	Pn	15 21 07.5	-0.5
SMAR				*i* S	Sn	15 21 15.7	-0.7
AVH	**Avacha**	**0.60**	**315**	*e*P	Pn	15 21 08.3	+0.1
AVH				*i* S	Sn	15 21 17.5	+0.7
KOK	**Koryaka**	**0.67**	**313**	*e*P	Pn	15 21 09.1	0.0
KOK				*i* S	Sn	15 21 19.2	+0.8
RUS	**Russkaya**	**0.70**	**235**	*e*P	Pn	15 21 09.1	-0.2
RUS				*i* S	Sn	15 21 18.9	+0.1
MTVR	**Mutnovka**	**0.85**	**246**	*e*P	Pn	15 21 11.7	+0.2
MTVR				*i* S	Sn	15 21 23.2	+0.3
ASAK	**Asacha**	**1.05**	**245**	*e*P	Pn	15 21 14.9	+0.7
ASAK				*i* S	Sn	15 21 29.3	+1.7
KII	**Karymskiy**	**1.20**	**360**	P	Pn	15 21 16.7	+0.5
KII				*i* S	Sn	15 21 32.2	+0.9
MKZ	**Mys Kozlova**	**2.19**	**37**	P	Pn	15 21 30.3	+0.6
MKZ				*i* S	Sn	15 21 55.1	-0.4
TUMR	**Tumrok**	**2.48**	**9**	*e*P	Pn	15 21 37.1	+3.2
KMNR	**Kamenistaya**	**2.96**	**9**	P	Pn	15 21 42.2	+1.8

IDC 02 15:32:10.9±6.6, 19°49S×70°40W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.6/15, mbtmp3.6/2, Error ellipse: s-maj=289.1km s-min=67.3km az=21.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**78.02**	**71**	P	P	15 44 11.9	+0.1
	0.6nm,0.7s,baz=248,slow=6.7,SNR=4.1						
YKA	**Yellowknife Ar**	**88.83**	**341**	P	P	15 45 06.4	0.0
	0.2nm,0.6s,baz=133,slow=5.2,SNR=5.1						
MKAR	**Makanchi Array**	**144.78**	**33**	PKP	PKPbc	15 51 49.1	+0.4
	0.4nm,0.7s,baz=332,slow=3.6,SNR=5.7						

*ISK **02** 15:33:36.4, 37°.63N×35°.57E, h9km, MD3.2*
*DDA **02** 15:33:36.6, 37°.61N×35°.65E, h7km, MD3.0*
*ISCJB **02** 15:33:37.2±0.6, 37°.60N±0°.03×35°.59E±0°.04, h11km±6km, Error ellipse: s-maj=6.1km s-min=4.7km az=31.8*
*CSEM **02** 15:33:37.0±0.1, 37°.59N×35°.58E, h12km, MD3.2, Error ellipse: s-maj=4.1km s-min=3.5km az=45.0*

ISC 02 15:33:37.3±1.0, 37°60N±0°.03×35°58E±0°.03, h11km±8km, n35, σ0°72/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.23**	**120**	*e*PG	**Pg**	**15 33 42.0**	**-0.1**
KOZT				*e*SG	**Sg**	**15 33 46.0**	**+0.7**
KOZT	**Kozan**	**0.23**	**120**	*e*Pg	**Pg**	**15 33 42.0**	**-0.1**
KOZT				*e*Sg	**Sg**	**15 33 46.0**	**+0.7**
CEYT	**Ceyhan**	**0.60**	**167**	*e*PG	**Pg**	**15 33 48.9**	**0.0**
CEYT				*e*SG	**Sb**	**15 33 59.2**	**+1.0**
CEYT	**Ceyhan**	**0.60**	**167**	*e*Pg	**Pg**	**15 33 48.9**	**0.0**
ANDN	**Andirin**	**0.61**	**91**	*i* P	Pg	15 33 41.7	-7.5
ANDN				*i* S	Sg	15 33 50.2	-7.0
GULE	**Gulek**	**0.71**	**244**	*i* P	**Pb**	**15 33 51.5**	**-0.2**
GULE				*i* S	**Sb**	**15 34 02.8**	**+1.3**
GULE	**Gulek**	**0.71**	**244**	*i* P	**Pb**	**15 33 51.5**	**-0.2**
GULE				*i* S	**Sb**	**15 34 02.8**	**+1.3**
NIG	**Nigde**	**0.92**	**304**	*e*PG	**Pg**	**15 33 54.4**	**-0.7**
NIG	**Nigde**	**0.92**	**304**	*e*Pg	**Pg**	**15 33 54.4**	**-0.7**
KRTS	**Karatas**	**1.03**	**189**	*e*PG	**Pg**	**15 33 56.9**	**-0.3**
KRTS	**Karatas**	**1.03**	**189**	*e*Pg	**Pg**	**15 33 56.9**	**-0.3**
KMRS	**Kahramanmaras**	**1.06**	**94**	*e*PG	**Pg**	**15 33 56.8**	**-0.8**
KMRS	**Kahramanmaras**	**1.06**	**94**	*e*Pg	**Pg**	**15 33 56.8**	**-0.8**
MERS	**Mersin**	**1.11**	**230**	*e*PN	**Pg**	**15 33 58.0**	**-0.6**
MERS	**Mersin**	**1.11**	**230**	*e*Pn	**Pg**	**15 33 58.0**	**-0.6**
COBT	**Iskenderun**	**1.20**	**153**	*i* P	**Pb**	**15 33 59.0**	**-1.2**
COBT	**Iskenderun**	**1.20**	**153**	*i* P	**Pb**	**15 33 59.0**	**-1.2**
PINB	**Pinarbasi**	**1.26**	**31**	*i* P	**Pn**	**15 34 00.4**	**-0.7**
PINB				*i* S	**Sn**	**15 34 19.3**	**+1.1**
PINB	**Pinarbasi**	**1.26**	**31**	*i* P	**Pn**	**15 34 00.4**	**-0.7**
PINB				*i* S	**Sn**	**15 34 19.3**	**+1.1**
BNN	**Bunyan**	**1.27**	**10**	*e*PN	**Pn**	**15 34 00.3**	**-0.8**
BNN	**Bunyan**	**1.27**	**10**	*e*Pn	**Pn**	**15 34 00.3**	**-0.8**
AVNT	**Avonos**	**1.31**	**335**	*i* P	**Pg**	**15 34 01.9**	**-0.6**
AVNT				*i* S	**Sn**	**15 34 20.0**	**+0.7**
AVNT	**Avonos**	**1.31**	**335**	*i* P	**Pg**	**15 34 01.9**	**-0.6**
AVNT				*i* S	**Sn**	**15 34 20.0**	**+0.7**
GAZ	**Gaziantep**	**1.37**	**107**	*e*PN	**Pn**	**15 34 02.4**	**0.0**
GAZ	**Gaziantep**	**1.37**	**107**	*e*Pn	**Pn**	**15 34 02.4**	**0.0**
KUZU	**Kuzuini**	**1.45**	**124**	*i* P	**Pn**	**15 34 02.6**	**-0.9**
KUZU				*i* S	**Sn**	**15 34 22.2**	**-0.3**
KUZU	**Kuzuini**	**1.45**	**124**	*i* P	**Pn**	**15 34 02.6**	**-0.9**
KUZU				*i* S	**Sn**	**15 34 22.2**	**-0.3**
SULT	**Sultanhani-AKS**	**1.74**	**291**	*e*PN	**Pn**	**15 34 06.8**	**-0.7**
SULT	**Sultanhani-AKS**	**1.74**	**291**	*e*Pn	**Pn**	**15 34 06.8**	**-0.7**
YOZ	**Yozgat**	**2.05**	**354**	*e*PN	**Pn**	**15 34 11.7**	**-0.1**
YOZ	**Yozgat**	**2.05**	**354**	*e*Pn	**Pn**	**15 34 11.7**	**-0.1**
MALT	**Malatya**	**2.37**	**71**	*e*PN	**Pn**	**15 34 16.7**	**+0.6**
MALT	**Malatya**	**2.37**	**71**	*e*Pn	**Pn**	**15 34 16.7**	**+0.6**
CORM	**Corum**	**2.68**	**344**	*e*PN	**Pn**	**15 34 20.6**	**+0.1**
CORM	**Corum**	**2.68**	**344**	*e*Pn	**Pn**	**15 34 20.6**	**+0.1**

*JMA **02** 15:37:17.8±0.3, 34°.31N×137°.51E, h325km±3km, M2.7*
*ISCJB **02** 15:37:18.1±0.6, 34°.32N±0°.08×137°.48E±0°.08, h321km±5km, mb2.8/4, Error ellipse: s-maj=13.3km s-min=9.7km az=162.8*
*IDC **02** 15:37:18.3±1.5, 34°.24N×137°.48E, h303km±35km, mb2.7/4, mb1 2.9/5, mb1mx2.7/25, mbtmp2.7/5, Error ellipse: s-maj=84.5km s-min=16.8km az=63.0*

ISC 02 15:37:19.2±0.9, 34°34N±0°.09×137°47E±0°.07, h315km±7km, n25, σ0°70/32, mb2.9/4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK04	**Tokai 4**	**0.34**	**82**	P	**Pn**	**15 37 59.8**	**+0.8**
TK02	**Tokai 2**	**0.46**	**148**	P	**Pn**	**15 37 59.6**	**+0.4**
HMMJ	**Hamamatsu 2**	**0.56**	**22**	P	**Pn**	**15 37 59.7**	**+0.1**
HMMJ				*e*S	**S**	**15 38 31.2**	**-0.6**
JIE	**Ise**	**0.63**	**275**	P	**Pn**	**15 37 59.9**	**+0.1**
JNY	**Yasuok**	**1.07**	**17**	P	**Pn**	**15 38 01.6**	**+0.1**
JGM	**Miyama**	**1.49**	**336**	P	**Pn**	**15 38 04.1**	**+0.3**
JWY	**Kouya**	**1.56**	**266**	P	**Pn**	**15 38 04.1**	**-0.2**
JOD2	**Odawara 2**	**1.62**	**55**	P	**Pn**	**15 38 04.9**	**+0.3**
JWZ	**Kozaga**	**1.67**	**242**	P	**Pn**	**15 38 04.4**	**-0.6**
JWT	**Wachi**	**1.95**	**300**	P	**Pn**	**15 38 06.7**	**-0.1**
JRY	**Ryogami san**	**2.05**	**35**	P	**Pn**	**15 38 08.1**	**+0.5**
JRY				*e*S	**S**	**15 38 47.9**	**+1.6**
JHU	**Hanno**	**2.12**	**44**	P	**Pn**	**15 38 08.1**	**-0.1**
JHU				*e*S	**S**	**15 38 46.6**	**-0.7**
JKG	**Kaga**	**2.15**	**335**	P	**Pn**	**15 38 08.4**	**+0.1**
MAT	**Matsushiro**	**2.28**	**15**	P	**Pn**	**15 38 09.4**	**0.0**
MAT				S	**S**	**15 38 48.4**	**-1.3**
MAT	**Matsushiro**	**2.28**	**15**	P	**Pn**	**15 38 09.5**	**0.0**
MJAR	**Matsushiro Arr**	**2.28**	**15**	P	**Pn**	**15 38 09.4**	**-0.1**
	2.2nm,0.3s,baz=192,slow=9.9,SNR=41						
MJAR				S	**S**	**15 38 48.3**	**-1.4**
	0.1nm,0.3s,baz=195,slow=17,SNR=4.8						
BSO4	**Boso 4**	**2.45**	**74**	P	**Pn**	**15 38 10.8**	**0.0**
BSO4				*e*S	**S**	**15 38 53.1**	**+1.0**
BSO3	**Boso 3**	**2.55**	**79**	P	**Pn**	**15 38 10.8**	**-0.7**
BSO3				*e*S	**S**	**15 38 52.9**	**-0.5**
JAI	**Aioi**	**2.56**	**259**	P	**Pn**	**15 38 11.3**	**-0.7**
JHO	**Hitachi**	**3.40**	**47**	P	**Pn**	**15 38 16.5**	**-1.3**
JHS	**Saijyo**	**3.65**	**282**	P	**Pn**	**15 38 22.4**	**-0.1**
MKAR	**Makanchi Array**	**42.89**	**304**	P	**P**	**15 44 47.8**	**+0.5**
	0.4nm,0.5s,baz=87,slow=9.2,SNR=9.4						
BVAR	**Borovoye Array**	**50.05**	**313**	P	**P**	**15 45 43.1**	**+0.7**
	0.2nm,0.3s,baz=90,slow=1.4,SNR=3.4						
WRA	**Warramunga Arr**	**54.06**	**184**	P	**P**	**15 46 11.4**	**-0.5**
	0.3nm,0.3s,baz=360,slow=7.5,SNR=15						
ASAR	**Alice Springs**	**57.78**	**184**	P	**P**	**15 46 37.9**	**-0.3**
	0.1nm,0.5s,baz=23,slow=12,SNR=4.6						

*DDA **02** 15:38:42.6, 39°.49N×35°.32E, h7km, MD2.9*
*ISK **02** 15:38:43.4, 39°.54N×35°.37E, h5km, MD2.6*
*CSEM **02** 15:38:43.3±0.3, 39°.49N×35°.37E, h2km, MD2.9, Error ellipse: s-maj=7.1km s-min=5.6km az=51.0*

ISC 02 15:38:43.2±1.2, 39°48N±0°.03×35°37E±0°.03, h1km±14km, n22, σ0°64/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOZ	**Yozgat**	**0.16**	**347**	*e*PG	**Pg**	**15 38 46.5**	**+0.2**
YOZ				*e*SG	**Sg**	**15 38 47.9**	**-0.6**
YOZ	**Yozgat**	**0.16**	**347**	*e*Pg	**Pg**	**15 38 46.5**	**+0.2**
YOZ				*e*Sg	**Sg**	**15 38 47.9**	**-0.6**
CDAG	**Cicekdag**	**0.78**	**281**	*i* P	**Pg**	**15 38 57.1**	**-1.1**
CDAG				*i* S	**Sg**	**15 39 09.0**	**+0.6**
CDAG	**Cicekdag**	**0.78**	**281**	*i* P	**Pg**	**15 38 57.1**	**-1.1**
CDAG				*i* S	**Sg**	**15 39 09.0**	**+0.6**
AVNT	**Avonos**	**0.81**	**210**	*i* P	**Pg**	**15 38 57.7**	**-1.0**
AVNT				*i* S	**Sg**	**15 39 09.7**	**+0.5**
AVNT	**Avonos**	**0.81**	**210**	*i* P	**Pg**	**15 38 57.7**	**-1.0**
AVNT				*i* S	**Sg**	**15 39 09.7**	**+0.5**
CORM	**Corum**	**0.90**	**321**	*e*PG	**Pg**	**15 38 59.8**	**-0.6**
CORM				*e*SG	**Sg**	**15 39 12.9**	**+0.9**
CORM	**Corum**	**0.90**	**321**	*e*Pg	**Pg**	**15 38 59.8**	**-0.6**
CORM				*e*Sg	**Sg**	**15 39 12.9**	**+0.9**
PINB	**Pinarbasi**	**1.14**	**135**	*i* P	**Pg**	**15 39 05.4**	**+0.4**
PINB				*i* S	**Sb**	**15 39 21.6**	**+0.4**
PINB	**Pinarbasi**	**1.14**	**135**	*i* P	**Pg**	**15 39 05.4**	**+0.4**
PINB				*i* S	**Sb**	**15 39 21.6**	**+0.4**
KAMT	**Kaman**	**1.29**	**265**	*e*PN	**Pg**	**15 39 08.2**	**+0.4**
KAMT	**Kaman**	**1.29**	**265**	*e*Pn	**Pg**	**15 39 08.2**	**+0.4**
SCER	**sogukcermik**	**1.41**	**74**	*i* P	**Pn**	**15 39 09.5**	**-0.6**
SCER	**sogukcermik**	**1.41**	**74**	*i* P	**Pn**	**15 39 09.5**	**-0.6**
BBAL	**Bala**	**1.74**	**273**	*i* P	**Pn**	**15 39 15.0**	**+0.4**
BBAL	**Bala**	**1.74**	**273**	*i* P	**Pn**	**15 39 15.0**	**+0.4**
AFSR	**Af˘ar-Bala (A**	**1.78**	**270**	*e*PN	**Pn**	**15 39 15.4**	**+0.2**
AFSR	**Af˘ar-Bala (A**	**1.78**	**270**	*e*Pn	**Pn**	**15 39 15.4**	**+0.2**
ELDT	**Eldivan**	**1.80**	**305**	*i* P	**Pb**	**15 39 17.1**	**+0.1**
ELDT	**Eldivan**	**1.80**	**305**	*i* P	**Pb**	**15 39 17.1**	**+0.1**
SULT	**Sultanhani-AKS**	**1.93**	**229**	*e*PN	**Pb**	**15 39 18.8**	**-0.5**
SULT	**Sultanhani-AKS**	**1.93**	**229**	*e*Pn	**Pb**	**15 39 18.8**	**-0.5**

*ISCJB **02** 15:42:51.9±0.2, 47°.12N±0°.01×9°.49E±0°.01, h10km±1km, Error ellipse: s-maj=1.9km s-min=1.7km az=174.1*
*GEN **02** 15:42:51.8, 47°.19N×9°.50E, h0km, ML2.6*
*ZUR **02** 15:42:52.5, 47°.15N×9°.53E, h-1km±2km, ML2.8/17*
*CSEM **02** 15:42:52.7±0.1, 47°.12N×9°.48E, h10km, ML3.0/25, Error ellipse: s-maj=2.4km s-min=1.7km az=174.0*
*VIE **02** 15:42:52.2±0.5, 47°.12N×9°.48E, h8km, mb2.2/10, ML3.1/12, Error ellipse: s-maj=3.1km s-min=1.9km az=58.0 4 km WSW of Vaduz felt 3-4 ems98 in Vorarlberg*
*LDG **02** 15:42:53.4±0.1, 47°.13N×9°.55E, h2km, Md3.0/2, Ml3.0/22, Error ellipse: s-maj=1.5km s-min=1.3km az=84.0*
*LEDBW **02** 15:42:53.9±0.2, 47°.16N±0°.01×9°.555E±0°.007, h10km±2km, ML3.0, Error ellipse: s-maj=4.4km s-min=2.4km az=176.0*
*BGR **02** 15:42:53.8±0.6, 47°.16N×9°.53E, h10km, ML2.9/11, Error ellipse: s-maj=6.7km s-min=3.3km az=26.0*
*ROM **02** 15:42:53.9±1.6, 47°.04N×9°.27E, h5km, Md2.4/4, Ml2.1/3, Error ellipse: s-maj=18.5km s-min=8.1km az=142.0*
*STR **02** 15:42:54.8±0.5, 47°.16N×9°.43E, h5km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*PRU **02** 15:42:56.4, 47°.31N×9°.70E, h10km*

ISC 02 15:42:52.8±0.8, 47°13N±0°.01×9°49E±0°.01, h14km±6km, n183, σ1°13/309, 19C-21D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLONS	**Plons/SG**	**0.11**	**223**	⇑*i*Pg	**Pg**	**15 42 55.8**	**-0.3**
	5μm,0.2s						
PLONS				*i* Sg	**Pg**	**15 42 55.8**	**-0.3**
	5μm,0.2s						
LIENZ	**Kamor/St.Gall**	**0.17**	**1**	⇑*i*Pg	**Pb**	**15 42 58.4**	**+0.6**
	3μm,0.3s						
DAVA	**Damuels**	**0.31**	**59**	*e*Pg	**Pg**	**15 42 58.6**	**-0.7**
DAVA				*e*Sg	**Sg**	**15 43 03.0**	**-0.7**
DAVA	**Damuels**	**0.31**	**59**	⇑*e*Pg	**Pg**	**15 42 58.3**	**-0.9**
	117nm,0.1s,SNR=62						
DAVA				⇓*e*Sg	**Sg**	**15 43 02.5**	**-1.3**
	835nm,0.2s						
DAVA	**Damuels**	**0.31**	**59**	Pg	**Pg**	**15 42 58.6**	**-0.7**
DAVA				Sg	**Sg**	**15 43 03.0**	**-0.7**
LLS	**Linth-Limmern**	**0.43**	**230**	*e*Pg	**Pg**	**15 43 01.5**	**+0.1**
	1μm,0.2s						
LLS				*e*Sg	**Sg**	**15 43 08.3**	**+1.0**
	1μm,0.2s						
DAVOX	**Davos/Dischmat**	**0.44**	**142**	Pg	**Pn**	**15 43 05.6**	**+0.7**
DAVOX	**Davos/Dischmat**	**0.44**	**142**	*e*Pg	**Pg**	**15 43 01.5**	**-0.1**
	2μm,0.4s						
DAVOX				*e*Sg	**Sg**	**15 43 08.3**	**+0.8**
	2μm,0.4s						
DAVOX	**Davos/Dischmat**	**0.44**	**142**	Pg	**Pn**	**15 43 05.6**	**+0.7**
WILA	**Wila**	**0.49**	**306**	⇓*i*Pg	**Pb**	**15 43 03.3**	**+0.1**
	2μm,0.3s						
WILA				*i* Sg	**Sb**	**15 43 11.1**	**+0.9**
	2μm,0.3s						
WEIN	**Weingarten**	**0.53**	**320**	⇓*i*Pg	**Pb**	**15 43 03.8**	**0.0**
	700nm,0.4s						
WEIN				*i* Sg	**Sb**	**15 43 11.9**	**+0.6**
	700nm,0.4s						
MUO	**Muotathal**	**0.60**	**255**	*e*Pg	**Pb**	**15 43 05.5**	**+0.3**
	1μm,0.6s						
OBER	**Oberstdorf**	**0.62**	**63**	⇑P*	**Pg**	**15 43 04.7**	**-0.2**
OBER				S*	**Sg**	**15 43 12.4**	**-0.6**
OBER	**Oberstdorf**	**0.62**	**63**	⇑Pg	**Pg**	**15 43 04.7**	**-0.2**
OBER				Sg	**Sg**	**15 43 12.4**	**-0.6**
OBER	**Oberstdorf**	**0.62**	**63**	Pb	**Pg**	**15 43 04.7**	**-0.2**
OBER				Sb	**Sg**	**15 43 12.4**	**-0.6**
VDL	**Val di Lei**	**0.65**	**182**	⇑*i*Pg	**Pg**	**15 43 05.6**	**+0.2**
	138nm,0.4s						
SISB	**Singen-Schiene**	**0.66**	**328**	⇑P*	**Pb**	**15 43 06.4**	**+0.3**
SISB				S*	**Sb**	**15 43 16.1**	**+0.9**
SISB	**Singen-Schiene**	**0.66**	**328**	⇑Pg	**Pb**	**15 43 06.4**	**+0.3**
SISB				Sg	**Sb**	**15 43 16.1**	**+0.9**
SISB	**Singen-Schiene**	**0.66**	**328**	Pb	**Pb**	**15 43 06.4**	**+0.3**
SISB				Sb	**Sb**	**15 43 16.1**	**+0.9**
TUE	**Stuetta**	**0.66**	**188**	⇑*i*Pg	**Pg**	**15 43 05.9**	**+0.1**
TUE				Sg	**Sg**	**15 43 14.6**	**+0.1**
	44nm,0.7s						
TUE	**Stuetta**	**0.66**	**188**	⇑*i*Pg	**Pg**	**15 43 05.9**	**+0.1**
TUE				Sg	**Sg**	**15 43 14.6**	**+0.1**
	44nm,0.7s						
ZUR	**Degenried**	**0.66**	**292**	⇓*i*Pg	**Pb**	**15 43 06.6**	**+0.5**
	840nm,0.3s						
STEIN	**Stein am Rhein**	**0.69**	**322**	*e*Pg	**Pb**	**15 43 06.9**	**+0.4**
	257nm,0.4s						
UBR	**Ueberruh**	**0.69**	**37**	⇑*i*P*	**Pg**	**15 43 06.3**	**0.0**
UBR	**Ueberruh**	**0.69**	**37**	⇑*i*Pg	**Pg**	**15 43 06.3**	**0.0**
UBR	**Ueberruh**	**0.69**	**37**	Pb	**Pg**	**15 43 06.3**	**0.0**
FUORN	**Ofenpass-Fuorn**	**0.74**	**133**	⇑*i*Pg	**Pg**	**15 43 07.0**	**-0.1**
	236nm,0.4s						
TRULL	**Truellikon**	**0.76**	**314**	*e*Pg	**Pb**	**15 43 08.1**	**+0.4**
	630nm,0.2s						
FLACH	**Flaach**	**0.77**	**306**	*e*Pg	**Pn**	**15 43 10.2**	**+1.0**
	980nm,0.2s						
BNALP	**Bannalp**	**0.77**	**251**	*e*Pg	**Pb**	**15 43 08.5**	**+0.4**
	651nm,0.3s						
FETA	**Feichten**	**0.85**	**97**	*e*Pg	**Pg**	**15 43 08.5**	**-0.8**
	5.5nm,0.2s,SNR=13						
FETA				⇓*e*Sg	**Sg**	**15 43 20.1**	**-0.5**
	24nm,0.4s						
FETA	**Feichten**	**0.85**	**97**	Pg	**Pg**	**15 43 08.5**	**-0.8**
	5.5nm,0.2s,SNR=13						
FETA				Sg	**Sg**	**15 43 20.1**	**-0.5**
	24nm,0.4s						
FUSIO	**Fusio**	**0.88**	**220**	⇑*i*Pg	**Pb**	**15 43 10.6**	**+0.7**
	321nm,0.2s						
BRMO	**Bormio**	**0.89**	**137**	Pg	**Pb**	**15 43 10.5**	**+0.4**
	48nm,0.7s						
SLE	**Schleitheim**	**0.93**	**314**	⇓*i*Pg	**Pb**	**15 43 08.5**	**-2.2**
	924nm,0.5s						
RETA	**Reutte**	**0.94**	**67**	⇓*e*Pg	**Pg**	**15 43 11.1**	**+0.1**
	6.6nm,0.1s,SNR=6.0						
RETA				⇓*e*Sg	**Sb**	**15 43 23.9**	**+0.6**
	81nm,0.3s						
GUT	**Gutenstein**	**0.98**	**345**	P*	**Pb**	**15 43 11.4**	**-0.1**
GUT				PmP		15 43 12.9	
GUT				S*	**Sg**	**15 43 25.0**	**+0.6**
GUT				SmS		15 43 26.9	
GUT	**Gutenstein**	**0.98**	**345**	Pg	**Pg**	**15 43 12.0**	**+0.4**
GUT				Sg	**Sg**	**15 43 25.0**	**+0.6**
GUT	**Gutenstein**	**0.98**	**345**	Pb	**Pb**	**15 43 11.4**	**-0.1**
SPAK	**Spaichingen-Ko**	**1.08**	**334**	Pg	**Pg**	**15 43 14.8**	**+1.1**
SPAK	**Spaichingen-Ko**	**1.08**	**334**	P	**Pg**	**15 43 14.8**	**+1.1**
SPAK				S	**Sn**	**15 43 29.0**	**+0.4**
SPAK	**Spaichingen-Ko**	**1.08**	**334**	Pg	**Pg**	**15 43 14.6**	**+0.9**
SPAK				Sg	**Sn**	**15 43 28.9**	**+0.4**
MSS	**Messtetten**	**1.11**	**341**	Px	**Sn**	**15 43 32.9**	**+3.7**
MSS				x	x	15 43 47.

LBG	**Lerchenberg**	**1.61**	**343**	Sn	**Sn**	**15 43 40.5**	**-0.8**
LBG				S	**Sg**	**15 43 44.4**	**-0.1**
LIBD	**Limburg**	**1.63**	**309**	Pg	**Pg**	**15 43 24.7**	**+0.6**
LIBD				Sg	**Sg**	**15 43 46.0**	**+0.7**
MOF	**Molkenrain**	**1.75**	**295**	P	**Pn**	**15 43 23.9**	**+1.1**
MOF	**Molkenrain**	**1.75**	**295**	Pn	**Pn**	**15 43 23.8**	**+1.0**
MOF				Sg	**Sg**	**15 43 49.5**	**+0.3**
MOF	**Molkenrain**	**1.75**	**295**	Pn	**Pn**	**15 43 23.9**	**+1.1**
MOF	**Molkenrain**	**1.75**	**295**	Pn	**Pn**	**15 43 23.8**	**+1.0**
MOF				Sg	**Sg**	**15 43 49.5**	**+0.3**
LOMF	**Lomont**	**1.83**	**278**	P	**Pn**	**15 43 25.2**	**+1.4**
LOMF	**Lomont**	**1.83**	**278**	P	**Pn**	**15 43 25.2**	**+1.4**
ECH	**Echery**	**1.91**	**306**	P	**Pn**	**15 43 25.8**	**+0.8**
ECH	**Echery**	**1.91**	**306**	Pn	**Pn**	**15 43 25.5**	**+0.5**
ECH	**Echery**	**1.91**	**306**	P	**Pn**	**15 43 25.8**	**+0.8**
ECH	**Echery**	**1.91**	**306**	Pn	**Pn**	**15 43 25.5**	**+0.5**
HINF	**Hinteralfeld**	**1.92**	**292**	*e*Pn	**Pn**	**15 43 25.7**	**+0.7**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**15 43 49.5**	**+0.6**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**15 43 55.1**	**+0.8**
	12nm,0.2s,SNR=1.0						
HINF	**Hinteralfeld**	**1.92**	**292**	*e*Pn	**Pn**	**15 43 25.7**	**+0.7**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**15 43 49.5**	**+0.6**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**15 43 55.1**	**+0.8**
	5.8nm,0.2s,SNR=1.0						
CDF	**Champ du Feu**	**1.97**	**312**	*e*Pn	**Pn**	**15 43 26.3**	**+0.5**
	SNR=1.0						
CDF	**Champ du Feu**	**1.97**	**312**	*e*Pg	**Pg**	**15 43 30.5**	**0.0**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**15 43 50.2**	**-0.1**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**15 43 55.9**	**-0.2**
	34nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**1.97**	**312**	*e*Pn	**Pn**	**15 43 26.3**	**+0.5**
	SNR=1.0						
CDF	**Champ du Feu**	**1.97**	**312**	*e*Pg	**Pg**	**15 43 30.5**	**0.0**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**15 43 50.2**	**-0.1**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**15 43 55.9**	**-0.2**
	17nm,0.3s,SNR=1.0						
TRAV	**Traversella**	**2.02**	**217**	P	**Pn**	**15 43 27.2**	**+0.8**
TRAV				S	**Sn**	**15 43 50.7**	**-0.8**
ABTA	**Abfaltersbach**	**2.11**	**99⇓**	*e*Pg	**Pg**	**15 43 32.7**	**-0.5**
	7.8nm,0.4s,SNR=9.1						
ABTA				⇑Sg	**Sg**	**15 44 00.8**	**+0.3**
	7.3nm,0.3s						
ABTA	**Abfaltersbach**	**2.11**	**99**	Pg	**Pg**	**15 43 32.7**	**-0.5**
	7.8nm,0.4s,SNR=9.1						
ABTA				Sg	**Sg**	**15 44 00.8**	**+0.3**
	7.3nm,0.3s						
SIND	**Sindeldorf**	**2.22**	**2**	P	**Pn**	**15 43 28.9**	**-0.3**
SIND				Pg	**Pg**	**15 43 35.0**	**-0.4**
SIND	**Sindeldorf**	**2.22**	**2**	P	**Pn**	**15 43 28.9**	**-0.3**
SIND	**Sindeldorf**	**2.22**	**2**	P	**Pg**	**15 43 35.0**	**-0.4**
HAU	**Haudompre**	**2.30**	**294**	*e*Pg	**Pg**	**15 43 37.3**	**+0.5**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**15 43 58.6**	**+0.2**
HAU				*e*Sg	**Sg**	**15 44 07.2**	**+0.5**
	21nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**2.30**	**294**	*e*Pg	**Pg**	**15 43 37.3**	**+0.5**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**15 43 58.6**	**+0.2**
HAU				*e*Sg	**Sg**	**15 44 07.2**	**+0.5**
	10nm,0.3s,SNR=1.0						
RJOB	**Jochberg**	**2.33**	**74**	*e*Sg	**Sg**	**15 44 06.7**	**-0.9**
LSD	**Lago del Serru**	**2.33**	**225**	P	**Pb**	**15 43 33.4**	**-1.4**
CABF	**La Chapelle**	**2.39**	**259**	*e*Pn	**Pn**	**15 43 32.7**	**+1.1**
	SNR=1.0						
CABF	**La Chapelle**	**2.39**	**259**	*e*Pg	**Pg**	**15 43 38.7**	**+0.1**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**15 43 58.6**	**+0.2**
CABF				*e*Sg	**Sg**	**15 44 10.0**	**+0.5**
	26nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**2.39**	**259**	*e*Pn	**Pn**	**15 43 32.7**	**+1.1**
	SNR=1.0						
CABF	**La Chapelle**	**2.39**	**259**	*e*Pg	**Pg**	**15 43 38.7**	**+0.1**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**15 44 10.0**	**+0.5**
	13nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**2.50**	**231**	*e*Pn	**Pn**	**15 43 34.3**	**+1.1**
	SNR=1.0						
LPL	**La Plagne**	**2.50**	**231**	*e*Pg	**Pg**	**15 43 40.9**	**+0.2**
LPL				*e*Sg	**Sg**	**15 44 13.4**	**+0.3**
	13nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**2.50**	**231**	*e*Pn	**Pn**	**15 43 34.3**	**+1.1**
	SNR=1.0						
LPL	**La Plagne**	**2.50**	**231**	*e*Pg	**Pg**	**15 43 40.9**	**+0.2**
LPL				*e*Sg	**Sg**	**15 44 13.4**	**+0.3**
	6.4nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**2.50**	**230**	*e*Pn	**Pn**	**15 43 34.4**	**+1.1**
	SNR=1.0						
LPG	**La Plagne**	**2.50**	**230**	*e*Pg	**Pg**	**15 43 40.5**	**-0.2**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**15 44 14.2**	**+1.1**
	11nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**2.50**	**230**	*e*Pn	**Pn**	**15 43 34.4**	**+1.1**
	SNR=1.0						
LPG	**La Plagne**	**2.50**	**230**	*e*Pg	**Pg**	**15 43 40.5**	**-0.2**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**15 44 14.2**	**+1.1**
	5.3nm,0.4s,SNR=1.0						
RSP	**Reno Superiore**	**2.51**	**219**	P	**Pn**	**15 43 34.0**	**+0.7**
THEF	**They Montfort**	**2.61**	**296**	Pn	**Pn**	**15 43 35.8**	**+1.3**
THEF	**They Montfort**	**2.61**	**296**	Pn	**Pn**	**15 43 35.8**	**+1.3**
KBA	**Koelnbreinsper**	**2.63**	**90**	*e*Pg	**Pg**	**15 43 42.4**	**-0.9**
KBA				*e*Sg	**Sg**	**15 44 16.4**	**-1.0**
KBA	**Koelnbreinsper**	**2.63**	**90**	⇑Pg	**Pg**	**15 43 41.9**	**-1.4**
	7.7nm,0.3s						
KBA				⇑Sg	**Sg**	**15 44 16.5**	**-1.0**
	11nm,0.4s						
KBA	**Koelnbreinsper**	**2.63**	**90**	Pg	**Pg**	**15 43 41.9**	**-1.4**
	7.7nm,0.3s						
KBA				Sg	**Sg**	**15 44 16.5**	**-1.0**
	11nm,0.4s						
PCP	**Piancastagn**	**2.67**	**195**	P	**Pn**	**15 43 37.0**	**+1.6**
GRF	**Grafenberg Arr**	**2.81**	**24**	*e*Sg	**Sg**	**15 44 22.5**	**-0.6**
PAGF	**Fort de Pagny**	**2.91**	**301**	*e*Pn	**Pn**	**15 43 39.6**	**+1.0**
	baz=122						
PAGF	**Fort de Pagny**	**2.91**	**301**	*e*Pg	**Pg**	**15 43 47.9**	**-0.6**
	baz=124						
PAGF				*e*Sg	**Sg**	**15 44 25.2**	**-1.0**
	2.1nm,0.3s						
PAGF	**Fort de Pagny**	**2.91**	**301**	*e*Pn	**Pn**	**15 43 39.6**	**+1.0**
	baz=122						
PAGF				*e*Sg	**Sg**	**15 44 25.2**	**-1.0**
	1.0nm,0.3s						
WET	**Wettzell**	**3.04**	**47**	*e*Pn	**Pn**	**15 43 40.2**	**-0.2**
WET				*e*Sg	**Sb**	**15 44 26.4**	**+2.8**
MBDF	**Montbardon**	**3.06**	**219**	*e*P	**Pb**	**15 43 44.6**	**-2.5**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**15 44 16.9**	**-0.4**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**15 44 31.0**	**0.0**
	11nm,0.6s,SNR=1.0						
MBDF	**Montbardon**	**3.06**	**219**	*e*P	**Pb**	**15 43 44.6**	**-2.5**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**15 44 16.9**	**-0.4**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**15 44 31.0**	**0.0**
	5.6nm,0.6s,SNR=1.0						
TNS	**Taunus Mts**	**3.17**	**348**	*e*Sg	**Sg**	**15 44 34.1**	**-0.6**
SFTF	**Sexfontaines**	**3.19**	**291**	*e*Pn	**Pn**	**15 43 43.9**	**+1.4**
	baz=108						
SFTF	**Sexfontaines**	**3.19**	**291**	*e*Pg	**Pg**	**15 43 53.2**	**-0.7**
	baz=112						
SFTF				*e*Sn	**Sn**	**15 44 19.7**	**-0.7**
SFTF				*e*Sg	**Sg**	**15 44 34.6**	**-0.7**
	7.8nm,0.3s						
SFTF	**Sexfontaines**	**3.19**	**291**	*e*Pn	**Pn**	**15 43 43.9**	**+1.4**
	baz=108						
SFTF				*e*Sn	**Sn**	**15 44 19.7**	**-0.7**
SFTF				*e*Sg	**Sg**	**15 44 34.6**	**-0.7**
	3.9nm,0.3s						
GEC2	**GERESS Array S**	**3.31**	**57**	*e*Pn	**Pn**	**15 43 44.7**	**+0.5**
GEC2				*e*Pg	**Pg**	**15 43 55.3**	**-0.9**
MOA	**Molln**	**3.32**	**76**	*e*Sg	**Sg**	**15 44 37.1**	**-2.2**
ORIF	**Oris-en-Rattie**	**3.35**	**230**	*e*P	Pb	15 43 48.8	-3.1
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**3.35**	**230**	*e*Pg	**Pg**	**15 43 56.5**	**-0.4**
ORIF				*e*Sg	**Sg**	**15 44 39.8**	**-0.4**
	7.2nm,0.4s						
ORIF	**Oris-en-Rattie**	**3.35**	**230**	*e*P	Pb	15 43 48.8	-3.1
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**3.35**	**230**	*e*Pg	**Pg**	**15 43 56.5**	**-0.4**
ORIF				*e*Sg	**Sg**	**15 44 39.8**	**-0.4**
	3.6nm,0.4s						
WLF	**Walferdange**	**3.37**	**320**	*e*Sg	**Sg**	**15 44 39.7**	**-1.4**
KHC	**Kasperske Hory**	**3.39**	**52**	*e*PN	**Pn**	**15 43 45.7**	**+0.4**
KHC				*e*PG	**Pb**	**15 43 54.5**	**+1.8**
KHC				*e*SN	**Sn**	**15 44 23.1**	**-2.3**
KHC				*e*SG	**Sb**	**15 44 37.0**	**+3.2**
	comp=Z,13nm,0.4s						
KHC	**Kasperske Hory**	**3.39**	**52**	Pn	**Pn**	**15 43 45.7**	**+0.4**
SBF	**Sospel**	**3.57**	**205**	*e*P	Pn	15 43 51.5	+3.7
	SNR=1.0						
SBF	**Sospel**	**3.57**	**205**	*e*Pg	**Pg**	**15 43 59.9**	**-1.2**
SBF				*e*Sn	**Sn**	**15 44 28.6**	**-1.2**
	8.3nm,0.3s						
SBF	**Sospel**	**3.57**	**205**	*e*P	Pn	15 43 51.5	+3.7
	SNR=1.0						
SBF	**Sospel**	**3.57**	**205**	*e*Pg	**Pg**	**15 43 59.9**	**-1.2**
SBF				*e*Sn	**Sn**	**15 44 28.6**	**-1.2**
	4.2nm,0.3s						
NKC	**Novy Kostel**	**3.67**	**31**	*e*SG	**Sb**	**15 44 45.3**	**+3.4**
	comp=Z,8.2nm,0.3s						
MOX	**Moxa**	**3.79**	**21**	*e*Pg	**Pg**	**15 44 04.5**	**-0.8**
MOX				*e*Sn	**Sn**	**15 44 33.6**	**-1.5**
MOX				*e*Sg	**Sg**	**15 44 53.8**	**-0.6**
TANN	**Tannenbergstha**	**3.83**	**30**	*e*Pg	**Pg**	**15 44 04.7**	**-1.5**
TANN				*e*Sn	**Sn**	**15 44 34.4**	**-1.8**
TANN				*e*Sg	**Sg**	**15 44 54.0**	**-1.7**
LOR	**Lormes**	**3.84**	**274**	*e*Pn	**Pn**	**15 43 51.3**	**-0.1**
	baz=95						
LOR	**Lormes**	**3.84**	**274**	*e*Pg	**Pg**	**15 44 04.9**	**-1.4**
	baz=96						
LOR				*e*Sg	**Sg**	**15 44 53.7**	**-2.3**
	5.7nm,0.2s,SNR=1.0						
LOR	**Lormes**	**3.84**	**274**	*e*Pn	**Pn**	**15 43 51.3**	**-0.1**
	baz=95						
LOR	**Lormes**	**3.84**	**274**	*e*Pg	**Pg**	**15 44 04.9**	**-1.4**
	baz=96						
LOR				*e*Sg	**Sg**	**15 44 53.7**	**-2.3**
	2.8nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**3.90**	**265**	*e*Pn	**Pn**	**15 43 52.8**	**+0.5**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**15 44 36.0**	**-1.9**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**15 44 57.1**	**-0.9**
	5.7nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**3.90**	**265**	*e*Pn	**Pn**	**15 43 52.8**	**+0.5**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**15 44 36.0**	**-1.9**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**15 44 57.1**	**-0.9**
	2.8nm,0.2s,SNR=1.0						
VIVF	**Saint-Julien-l**	**4.05**	**238**	*e*Pg	**Pg**	**15 44 09.0**	**-1.4**
VIVF				*e*Sg	**Sg**	**15 45 02.1**	**-0.7**
	8.2nm,0.5s,SNR=1.0						
VIVF	**Saint-Julien-l**	**4.05**	**238**	*e*Pg	**Pg**	**15 44 09.0**	**-1.4**
VIVF				*e*Sg	**Sg**	**15 45 02.1**	**-0.7**
	4.1nm,0.5s,SNR=1.0						
SSF	**Saint Saulge**	**4.09**	**271**	*e*Pn	**Pn**	**15 43 55.4**	**+0.6**
	SNR=1.0						
SSF	**Saint Saulge**	**4.09**	**271**	*e*Pn	**Pn**	**15 43 55.4**	**+0.6**
	SNR=1.0						
AVF	**Avril sur Loir**	**4.21**	**268**	*e*Pn	**Pn**	**15 43 57.9**	**+1.3**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**15 44 43.8**	**-1.8**
AVF				*e*Sg	**Sg**	**15 45 06.1**	**-1.9**
	2.7nm,0.4s,SNR=1.0						
AVF	**Avril sur Loir**	**4.21**	**268**	*e*Pn	**Pn**	**15 43 57.9**	**+1.3**
	SNR=1.0						
AVF				*e*Sn	**Sn**	**15 44 43.8**	**-1.8**
AVF				*e*Sg	**Sg**	**15 45 06.1**	**-1.9**
	1.4nm,0.4s,SNR=1.0						
GIVF	**Givet**	**4.29**	**316**	*e*Pn	**Pn**	**15 43 58.8**	**+1.2**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**15 44 46.6**	**-0.9**
	5.0nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**4.34**	**210**	*e*P	Pn	15 44 02.5	+4.2
LMR				*e*Sn	**Sn**	**15 44 47.8**	**-0.8**
	15nm,0.8s,SNR=1.0						
LMR	**La Mourre**	**4.34**	**210**	*e*P	Pn	15 44 02.5	+4.2
LMR				*e*Sn	**Sn**	**15 44 47.8**	**-0.8**
	7.3nm,0.8s,SNR=1.0						
PRU	**Pruhonice**	**4.41**	**48**	*e*SG	**Sg**	**15 45 09.5**	**-4.8**
BAIF	**Baives**	**4.57**	**312**	*e*Pn	**Pn**	**15 44 01.7**	**+0.3**
BGF	**Bois d'Agland**	**4.59**	**265**	*e*Pn	**Pn**	**15 44 01.9**	**+0.1**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**15 44 53.1**	**-1.8**
BGF				*e*Sg	**Sg**	**15 45 19.3**	**-0.8**
	8.0nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**4.59**	**265**	*e*Pn	**Pn**	**15 44 01.9**	**+0.1**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**15 44 53.1**	**-1.8**
BGF				*e*Sg	**Sg**	**15 45 19.3**	**-0.8**
	4.0nm,0.3s,SNR=1.0						
BRG	**Berggiesshubel**	**4.76**	**36**	PG	**Pg**	**15 44 21.3**	**-2.5**
BRG				SG	**Sg**	**15 45 21.7**	**-3.7**
	3.2nm,0.5s						
CLL	**Collm**	**4.78**	**28**	*e*Pg	**Pg**	**15 44 24.0**	**-0.1**
CLL				*e*Sg	**Sg**	**15 45 24.0**	**-2.0**
TCF	**Toulx Ste Croi**	**5.08**	**263**	*e*Pn	**Pn**	**15 44 09.1**	**+0.7**
CAF	**Calviac**	**5.62**	**250**	*e*Sg	**Sg**	**15 45 51.1**	**-1.9**
	3.6nm,0.6s,SNR=1.0						
CAF	**Calviac**	**5.62**	**250**	*e*Sg	**Sg**	**15 45 51.1**	**-1.9**
	1.8nm,0.3s,SNR=1.0						
FLN	**La Foliniere**	**6.89**	**287**	*e*Pn	**Pn**	**15 44 34.7**	**+1.4**
	SNR=1.0						
FLN	**La Foliniere**	**6.89**	**287**	*e*Pn	**Pn**	**15 44 34.7**	**+1.4**
	SNR=1.0						
GRR	**Gorron**	**7.09**	**284**	*e*Pn	**Pn**	**15 44 36.3**	**+0.3**
GRR	**Gorron**	**7.09**	**284**	*e*Pn	**Pn**	**15 44 36.3**	**+0.3**
ETSF	**Etsaut**	**8.28**	**243**	*e*Sn	**Sn**	**15 46 21.8**	**-3.9**
	25nm,0.4s,SNR=1.0						

IDC 02 15:44:42.0±2.6, 11°.69N×125°.86E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/21, mbtmp3.6/5, MS4.0/1, Ms1 4.0/1, ms1mx2.6/27, 1D, Error ellipse: s-maj=235.7km s-min=19.9km az=65.0, Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.00**	**239**	*i*P	Pn	15 45 06.5	+3.2
WRA	**Warramunga Arr**	**32.52**	**165**	P	P	15 51 14.0	-0.7
	0.3nm,0.7s,baz=346,slow=9.2,SNR=3.6						
ASAR	**Alice Springs**	**36.01**	**167**	P	P	15 51 44.6	-0.4
	0.7nm,0.9s,baz=350,slow=7.2,SNR=9.7						
STKA	**Stephens Creek**	**45.87**	**161**	P	P	15 53 07.0	+0.8
	1.0nm,0.6s,baz=330,slow=12,SNR=2.9						
PETK	**Petropavlovsk-**	**48.53**	**25**	LR	LR	16 14 10.0	
	comp=Z,145nm,19.1s,baz=225,slow=36						
MKAR	**Makanchi Array**	**50.66**	**322**	P	P	15 53 43.0	-0.2
	0.6nm,0.6s,baz=115,slow=8.1,SNR=8.4						
KURBB	**Kurchatov Arra**	**54.69**	**325**	P	P	15 54 12.7	-0.1
	0.4nm,0.4s,baz=125,slow=7.5,SNR=5.4						

IDC 02 15:48:17.6±6.7, 7°.22N×93°.71E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/24, mbtmp3.6/5, Error ellipse: s-maj=337.2km s-min=21.7km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**40.63**	**348**	P	P	15 55 59.2	-0.2
	0.3nm,0.7s,baz=166,slow=7.3,SNR=4.0						
KURBB	**Kurchatov Arra**	**45.08**	**346**	P	P	15 56 34.2	-1.1
	0.5nm,0.5s,baz=174,slow=7.3,SNR=4.0						
ZALV	**Zalesovo Beam**	**47.15**	**353**	P	P	15 56 52.4	+0.8
	0.2nm,0.3s,baz=172,slow=5.4,SNR=2.8						
WRA	**Warramunga Arr**	**48.24**	**125**	P	P	15 57 00.3	-0.3
	0.6nm,1.1s,baz=305,slow=8.6,SNR=4.5						
ASAR	**Alice Springs**	**49.83**	**129**	P	P	15 57 12.9	0.0
	0.3nm,0.8s,baz=305,slow=7.6,SNR=3.7						

*NIED **02** 16:03:00, 42°.90N×145°.50E, h35km, Mw4.0 Best double couple: M₀1.31000×10¹⁵ NP1:φs29.00000°, δ71.00000°, λ81.00000°. NP2:φs235.00000°, δ21.00000°, λ115.00000°.*
*ISCJB **02** 16:03:14.4±1.0, 42°.86N±0°.08×145°.48E±0°.08, h48km±6km, mb3.8/13, MS3.6/2, Error ellipse: s-maj=14.1km s-min=7.6km az=148.2*
*MOS **02** 16:03:14.6±0.9, 42°.72N×145°.51E, h60km, mb4.2/9, Error ellipse: s-maj=19.9km s-min=13.1km az=102.9*
*JMA **02** 16:03:15.3±0.1, 42°.89N×145°.48E, h44km±1km, M3.8*
JMA Felt I J1.
*IDC **02** 16:03:16.0±1.5, 42°.99N×145°.37E, h38km±7km, mb3.6/13, mb1 3.8/15, mb1mx3.7/26, mbtmp3.6/15, ML2.7/2, MS3.2/5, Ms1 3.3/5, ms1mx3.0/27, Error ellipse: s-maj=35.8km s-min=15.3km az=159.0*

ISC 02 16:03:15.4±0.8, 42°.9N±0°.1×145°.47E±0°.08, h39km±3km, n29, σ0s65/35, mb3.8/13, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.52**	**22**	P	**Pn**	**16 03 26.2**	**-0.1**
NEM2				*e*S	**Sn**	**16 03 33.8**	**-0.2**
JAK	**Akkeshi**	**0.58**	**281**	P	**Pn**	**16 03 27.4**	**+0.2**
JAK				*e*S	**Sn**	**16 03 36.1**	**+0.6**
JNK	**Nakash**	**0.89**	**322**	P	**Pn**	**16 03 31.4**	**0.0**
JNK				*e*S	**Sn**	**16 03 42.4**	**-0.7**
JRA	**Rausu**	**1.08**	**347**	P	**Pn**	**16 03 34.2**	**+0.2**
JRA				*e*S	**Sn**	**16 03 48.1**	**+0.4**
JOB	**Onbets**	**1.20**	**271**	P	**Pn**	**16 03 35.8**	**+0.2**
JAR	**Ashorobuto**	**1.31**	**289**	P	**Pn**	**16 03 37.5**	**+0.3**
JAR				*e*S	**Sn**	**16 03 53.4**	**0.0**
ASAJ	**Asahikawa**	**2.43**	**301**	Pn	**Pn**	**16 03 54.4**	**+2.0**
	27nm,0.3s,baz=140,slow=12,SNR=155						
ASAJ				Lg	Lg	16 04 27.1	
	9.0nm,0.3s,baz=350,slow=22,SNR=5.9						
YSS	**Yuzh-Sakhalins**	**4.50**	**336**	*e*PN	Pn	16 04 25.0	+4.1
YSS				*e*		16 05 25.0	
MJAR	**Matsushiro Arr**	**8.45**	**224**	Pn	**Pn**	**16 05 14.9**	**-0.3**
	0.3nm,0.3s,baz=28,slow=13,SNR=10						
MJAR				LR	LR	16 08 06.8	
	comp=Z,71nm,19.6s,baz=130,slow=34						
USRK	**Ussuriysk Arra**	**9.87**	**282**	Pn	**Pn**	**16 05 35.0**	**+0.4**
	0.2nm,0.3s,baz=92,slow=18,SNR=2.8						
USRK				LR	LR	16 09 30.6	
	comp=Z,99nm,18.9s,baz=201,slow=38						
KLR	**Kul'dur**	**11.44**	**308**	*e*PN	Pn	16 06 04.8	+8.7
KSRS	**Korea Array**	**14.46**	**254**	LR	LR	16 11 57.1	
	comp=Z,44nm,21.9s,baz=75,slow=36						
SONM	**Songino Array**	**27.69**	**294**	P	**P**	**16 09 00.0**	**+0.3**
	1.7nm,0.7s,baz=78,slow=8.4,SNR=9.1						
SONM				pP	**pP**	**16 09 10.1**	**-0.4**
	1.1nm,0.7s,baz=79,slow=7.7,SNR=4.3						
SONM				LR	LR	16 20 14.5	
	comp=Z,74nm,18.1s,baz=180,slow=37						
ZALV	**Zalesovo Beam**	**40.55**	**308**	P	**P**	**16 10 50.8**	**+0.2**
ZALV						16 12 52.7	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**40.55**	**308**	P	**P**	**16 10 50.8**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=86,slow=4.5,SNR=3.1						
ZALV				PcP	**PcP**	**16 12 52.7**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=77,slow=2.4,SNR=4.8						
ILAR	**Eielson Array**	**42.91**	**36**	P	**P**	**16 11 10.4**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=267,slow=7.5,SNR=7.0						
ILAR				pP	**pP**	**16 11 22.0**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=280,slow=8.6,SNR=5.5						
MKAR	**Makanchi Array**	**43.90**	**298**	P	**P**	**16 11 18.1**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**43.90**	**298**	P	**P**	**16 11 18.1**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=80,slow=9.0,SNR=14						
CMAR	**Chiang Mai Arr**	**46.10**	**253**	P	**P**	**16 11 36.1**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=48,slow=8.0,SNR=5.1						
INK	**Inuvik**	**47.76**	**30**	P	**P**	**16 11 48.4**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=302,slow=4.9,SNR=3.8						
RES	**Resolute Bay**	**56.14**	**16**	P	**P**	**16 12 49.9**	**-0.5**
	comp=Z,3.5nm,0.8s,baz=312,slow=6.7,SNR=19						
YKA	**Yellowknife Ar**	**57.20**	**33**	P	**P**	**16 12 58.0**	**0.0**
	comp=Z,0.2nm,0.5s,baz=303,slow=6.7,SNR=4.6						
FINES	**FINESS Array B**	**65.08**	**333**	P	**P**	**16 13 51.0**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=44,slow=8.1,SNR=12						
NVAR	**Mina Array Bea**	**69.08**	**57**	P	**P**	**16 14 18.5**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=287,slow=6.3,SNR=4.1						
NVAR				LR	LR	16 40 52.1	
	comp=Z,85nm,18.9s,baz=285,slow=33						
NB2	**NORSAR Subarra**	**69.96**	**338**	P	**P**	**16 14 21.8**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=36,slow=6.2						
NOA	**NORSAR Array B**	**69.96**	**338**	P	**P**	**16 14 22.1**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=34,slow=6.1,SNR=8.8						
NOA				pP	**pP**	**16 14

1.0nm,0.6s,baz=113,slow=5.3,SNR=3.2
NB2 NORSAR Subarra 145.84 354 PKP **PKPab 16 29 06.6 +0.9**
comp=Z,6.2nm,1.4s,baz=17,slow=2.6
NOA NORSAR Array B 145.84 354 PKPbc **PKPab 16 29 06.4 +0.7**
NOA NORSAR Array B 145.84 354 PKPbc **PKPab 16 29 06.4 +0.7**
comp=Z,1.3nm,0.7s,baz=15,slow=4.4,SNR=6.1
AKASG Malin Array Be 149.77 328 PKPbc **PKPbc 16 29 16.8 +0.7**
AKASG Malin Array Be 149.77 328 PKPbc **PKPbc 16 29 16.8 +0.7**
comp=Z,2.0nm,0.7s,baz=40,slow=3.6,SNR=8.8
BRTR Keskin Array B 152.55 305 PKPbc **PKPbc 16 29 23.8 +0.5**
BRTR PKPab **PKPab 16 29 34.3 +0.6**
BRTR Keskin Array B 152.55 305 PKPbc **PKPbc 16 29 23.8 +0.5**
comp=Z,0.8nm,0.9s,baz=138,slow=4.2,SNR=3.0
BRTR PKPab **PKPab 16 29 34.3 +0.6**
comp=Z,1.0nm,0.7s,baz=103,slow=3.6,SNR=5.9
TORD Torodi Ar. Bea 165.82 170 PKP **PKPdf 16 29 33.7 +1.5**
TORD PKPab **PKPab 16 30 32.8 +1.5**
TORD Torodi Ar. Bea 165.82 170 PKP **PKPdf 16 29 33.7 +1.5**
comp=Z,0.8nm,1.0s,baz=310,slow=1.8,SNR=3.5
TORD PKPab **PKPab 16 30 32.8 +1.5**
comp=Z,1.7nm,1.0s,baz=185,slow=3.8,SNR=5.8

IDC 02 16:11:08.6±2.1, 6°54S×129°58E, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=81.5km s-min=28.3km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.12**	**198**	Pn	Pn	16 14 03.5	+0.8
	0.1nm,0.3s,baz=15,slow=16,SNR=2.3						
FITZ				Sn	Sn	16 16 02.1	-17
	0.4nm,0.3s,baz=65,slow=23,SNR=6.2						
WRA	**Warramunga Arr**	**14.10**	**161**	Pn	Pn	16 14 29.6	-0.3
	0.3nm,0.3s,baz=339,slow=13,SNR=16						
WRA				Sn	Sn	16 16 53.0	-14
	0.3nm,0.3s,baz=338,slow=20,SNR=6.1						
ASAR	**Alice Springs**	**17.53**	**167**	P	Pn	16 15 14.1	-0.6
	0.1nm,0.3s,baz=348,slow=12,SNR=11						
MKAR	**Makanchi Array**	**67.61**	**327**	P	P	16 22 07.3	0.0
	0.1nm,0.4s,baz=117,slow=6.8,SNR=5.7						

*ISCJB **02** 16:19:35.8±0.3, 40.82N±0.02×27.76E±0.02, h7km±3km, Error ellipse: s-maj=3.6km s-min=2.6km az=168.7*
*DDA **02** 16:19:35.8, 40.78N×27.78E, h3km, MD3.1*
*ISK **02** 16:19:35.5, 40.80N×27.77E, h12km, MD3.0*
*CSEM **02** 16:19:36.0±0.1, 40.81N×27.76E, h10km, MD3.0, Error ellipse: s-maj=2.8km s-min=2.2km az=163.0*
*THE **02** 16:19:36.7, 40.72N×27.84E, h20km±5km, ML3.0/2, Error ellipse: s-maj=5.8km s-min=0.8km az=101.0*
ISC 02 16:19:36.2±0.8, 40.80N±0.02×27.77E±0.02, h16km±7km, n10, σ0§74/137, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKR	**Tekirdag**	**0.26**	**317**	*e*PG	**Pg**	**16 19 41.8**	**0.0**
TKR				*e*SG	**Sg**	**16 19 45.8**	**+0.1**
TKR	**Tekirdag**	**0.26**	**317**	*e*Pg	**Pg**	**16 19 41.8**	**0.0**
TKR				*e*Sg	**Sg**	**16 19 45.8**	**+0.1**
CRLT	**Corlu**	**0.33**	**356**	*e*PG	**Pg**	**16 19 43.0**	**0.0**
CRLT				*e*SG	**Sb**	**16 19 48.6**	**-0.2**
CRLT	**Corlu**	**0.33**	**356**	*e*Pg	**Pg**	**16 19 43.0**	**0.0**
CRLT				*e*Sg	**Sb**	**16 19 48.6**	**-0.2**
MFT	**Murefte**	**0.37**	**268**	*e*PG	**Pg**	**16 19 42.4**	**-1.4**
MFT				*e*SG	**Sg**	**16 19 49.4**	**+0.4**
MFT	**Murefte**	**0.37**	**268**	*e*Pg	**Pg**	**16 19 42.4**	**-1.4**
MFT				*e*Sg	**Sg**	**16 19 49.4**	**+0.4**
BNT	**Bandirma**	**0.46**	**165**	*e*PG	**Pg**	**16 19 45.4**	**0.0**
BNT	**Bandirma**	**0.46**	**165**	*e*Pg	**Pg**	**16 19 45.4**	**0.0**
SART	**Tekirdag**	**0.46**	**256**	*i* P	**Pg**	**16 19 45.1**	**-0.3**
SART				*i* S	**Sb**	**16 19 52.6**	**-0.1**
SART	**Tekirdag**	**0.46**	**256**	*i* P	**Pg**	**16 19 45.1**	**-0.3**
SART				*i* S	**Sb**	**16 19 52.6**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.46**	**256**	*e*PG	**Pg**	**16 19 45.0**	**-0.5**
RKY	**Sarkoy-Tekirda**	**0.46**	**256**	*e*Pg	**Pg**	**16 19 45.0**	**-0.5**
SLVT	**Silivri**	**0.54**	**38**	*e*PG	**Pg**	**16 19 46.9**	**-0.1**
SLVT	**Silivri**	**0.54**	**38**	*e*Pg	**Pg**	**16 19 46.9**	**-0.1**
KRBG	**Karabiga-Canak**	**0.54**	**221**	*e*PG	**Pg**	**16 19 46.6**	**-0.3**
KRBG	**Karabiga-Canak**	**0.54**	**221**	*e*Pg	**Pg**	**16 19 46.6**	**-0.3**
ELBA	**Catalca**	**0.61**	**55**	*i* P	**Pg**	**16 19 48.1**	**-0.1**
ELBA				*i* S	**Sb**	**16 19 57.3**	**+0.5**
ELBA	**Catalca**	**0.61**	**55**	*i* P	**Pg**	**16 19 48.1**	**-0.1**
ELBA				*i* S	**Sb**	**16 19 57.3**	**+0.5**
KCTX	**Karacabey (Bur**	**0.70**	**140**	*e*PG	**Pb**	**16 19 49.8**	**-0.2**
KCTX	**Karacabey (Bur**	**0.70**	**140**	*e*Pg	**Pb**	**16 19 49.8**	**-0.2**
CTKS	**Kestanelik-??a**	**0.71**	**52**	*e*PG	**Pg**	**16 19 49.5**	**-0.5**
CTKS	**Kestanelik-??a**	**0.71**	**52**	*e*Pg	**Pg**	**16 19 49.5**	**-0.5**
GONE	**Gonen-Balikesi**	**0.76**	**185**	*e*PG	**Pg**	**16 19 50.8**	**-0.2**
GONE	**Gonen-Balikesi**	**0.76**	**185**	*e*Pg	**Pg**	**16 19 50.8**	**-0.2**
CTYL	**Yal??k??y-??at**	**0.78**	**30**	*e*PG	**Pg**	**16 19 50.5**	**-0.9**
CTYL	**Yal??k??y-??at**	**0.78**	**30**	*e*Pg	**Pg**	**16 19 50.5**	**-0.9**
BGKT	**Bogazkoy**	**0.85**	**63**	*e*PG	**Pg**	**16 19 52.3**	**-0.4**
BGKT	**Bogazkoy**	**0.85**	**63**	*e*Pg	**Pg**	**16 19 52.3**	**-0.4**
LPK	**Lapseki**	**0.88**	**241**	*e*PG	**Pg**	**16 19 52.4**	**-0.9**
LPK	**Lapseki**	**0.88**	**241**	*e*Pg	**Pg**	**16 19 52.4**	**-0.9**
MDNY	**Mudanya-Bursa**	**0.95**	**117**	*e*PG	**Pn**	**16 19 54.7**	**-0.3**
MDNY	**Mudanya-Bursa**	**0.95**	**117**	*e*Pg	**Pn**	**16 19 54.7**	**-0.3**
ERIK	**Erikli-Kesan**	**0.96**	**263**	*e*PG	**Pg**	**16 19 53.9**	**-0.9**
ERIK	**Erikli-Kesan**	**0.96**	**263**	*e*Pg	**Pg**	**16 19 53.9**	**-0.9**
ISK	**Istanbul-Kandi**	**1.01**	**75**	*e*PG	**Pb**	**16 19 54.9**	**-0.5**
ISK	**Istanbul-Kandi**	**1.01**	**75**	*e*Pg	**Pb**	**16 19 54.9**	**-0.5**
BUY	**Buyukada**	**1.03**	**87**	*i* P	**Pb**	**16 19 55.1**	**-0.5**
BUY				*i* S	**Sg**	**16 20 09.5**	**+0.1**
BUY	**Buyukada**	**1.03**	**87**	*i* P	**Pb**	**16 19 55.1**	**-0.5**
BUY				*i* S	**Sg**	**16 20 09.5**	**+0.1**
KLYT	**Kilyos**	**1.06**	**65**	*e*PG	**Pb**	**16 19 56.0**	**-0.3**
KLYT	**Kilyos**	**1.06**	**65**	*e*Pg	**Pb**	**16 19 56.0**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.06**	**248**	*e*PG	**Pb**	**16 19 55.5**	**-0.8**
GELI	**Tayfur-Gelibol**	**1.06**	**248**	*e*Pg	**Pb**	**16 19 55.5**	**-0.8**
BALY	**Balya**	**1.07**	**186**	*i* P	**Pn**	**16 19 57.0**	**+0.4**
BALY				*i* S	**Sn**	**16 20 12.6**	**+1.5**
BALY	**Balya**	**1.07**	**186**	*i* P	**Pn**	**16 19 57.0**	**+0.4**
BALY				*i* S	**Sn**	**16 20 12.6**	**+1.5**
GEMT	**Gemlik**	**1.14**	**108**	*e*PN	**Pb**	**16 19 57.1**	**-0.5**
GEMT	**Gemlik**	**1.14**	**108**	*e*Pn	**Pb**	**16 19 57.1**	**-0.5**
BALB	**Balikesir**	**1.17**	**176**	*e*PN	**Pg**	**16 19 58.5**	**-0.1**
BALB	**Balikesir**	**1.17**	**176**	*e*Pn	**Pg**	**16 19 58.5**	**-0.1**
ENEZ	**Enez**	**1.23**	**267**	*e*PN	**Pn**	**16 19 58.5**	**-0.2**
ENEZ	**Enez**	**1.23**	**267**	*e*Pn	**Pn**	**16 19 58.6**	**-0.2**
ULDT	**Uludag**	**1.23**	**122**	*i* P	**Pn**	**16 19 59.1**	**+0.1**
ULDT				*i* S	**Sb**	**16 20 13.0**	**-2.0**
ULDT	**Uludag**	**1.23**	**122**	*i* P	**Pn**	**16 19 59.1**	**+0.1**
ULDT				*i* S	**Sb**	**16 20 13.0**	**-2.0**
YLV	**Yalova**	**1.24**	**100**	*e*PN	**Pb**	**16 19 59.3**	**-0.1**
YLV	**Yalova**	**1.24**	**100**	*e*Pn	**Pb**	**16 19 59.3**	**-0.1**
EDRB	**Edirne**	**1.30**	**324**	*e*PN	**Pn**	**16 19 59.5**	**-0.2**
EDRB	**Edirne**	**1.30**	**324**	*e*Pn	**Pn**	**16 19 59.5**	**-0.2**
ALN	**Alexandroupoli**	**1.31**	**275**	P	**Pn**	**16 19 59.7**	**-0.2**
ALN				S	**Sn**	**16 20 17.9**	**+0.9**
ALN	**Alexandroupoli**	**1.31**	**275**	P	**Pn**	**16 19 59.7**	**-0.2**
ALN				S	**Sn**	**16 20 17.9**	**+0.9**
DURS	**Dursunbey**	**1.32**	**156**	*i* P	**Pg**	**16 20 01.3**	**-0.3**
DURS				*i* S	**Sg**	**16 20 19.0**	**+0.3**
DURS	**Dursunbey**	**1.32**	**156**	*i* P	**Pg**	**16 20 01.3**	**-0.3**
DURS				*i* S	**Sg**	**16 20 19.0**	**+0.3**
DST	**Dursunbey**	**1.36**	**151**	*e*PN	**Pb**	**16 20 01.3**	**-0.1**
DST	**Dursunbey**	**1.36**	**151**	*e*Pn	**Pb**	**16 20 01.3**	**-0.1**
HRT	**Hereke**	**1.44**	**89**	*e*PN	**Pn**	**16 20 01.8**	**0.0**
HRT	**Hereke**	**1.44**	**89**	*e*Pn	**Pn**	**16 20 01.8**	**0.0**
SILT	**Sile**	**1.46**	**76**	*e*PN	**Pn**	**16 20 02.3**	**+0.3**
SILT	**Sile**	**1.46**	**76**	*e*Pn	**Pn**	**16 20 02.3**	**+0.3**
EZN	**Ezine**	**1.47**	**229**	*e*PN	**Pn**	**16 20 02.6**	**+0.5**
EZN	**Ezine**	**1.47**	**229**	*e*Pn	**Pn**	**16 20 02.6**	**+0.5**
ADVT	**Abdulvahap**	**1.54**	**103**	*e*PN	**Pb**	**16 20 04.0**	**-0.5**
ADVT	**Abdulvahap**	**1.54**	**103**	*e*Pn	**Pb**	**16 20 04.0**	**-0.5**
BOZC	**Bozcaada**	**1.62**	**234**	*i* P	**Pb**	**16 20 05.2**	**+0.9**
BOZC				*i* S	**Sb**	**16 20 27.2**	**+1.1**
CAVI	**Cavuskoy**	**1.69**	**110**	*e*PN	**Pn**	**16 20 06.0**	**+0.9**
CAVI	**Cavuskoy**	**1.69**	**110**	*e*Pn	**Pn**	**16 20 06.1**	**+0.9**
AYVA	**Ayvalik**	**1.71**	**209**	*i* P	**Pb**	**16 20 07.8**	**+0.6**
AYVA				*i* S	**Sg**	**16 20 30.0**	**-1.1**
AYVA	**Ayvalik**	**1.71**	**209**	*i* P	**Pb**	**16 20 07.8**	**+0.6**
AYVA				*i* S	**Sg**	**16 20 30.0**	**-1.1**
JMB	**Yambol**	**1.89**	**332**	P	**Pn**	**16 20 08.3**	**+0.5**
JMB				S	**Sn**	**16 20 33.0**	**+1.7**
JMB	**Yambol**	**1.89**	**332**	P	**Pn**	**16 20 08.3**	**+0.5**
JMB				S	**Sn**	**16 20 33.0**	**+1.7**
DEMI	**Demirci**	**1.90**	**157**	*i* P	**Pg**	**16 20 12.1**	**-0.6**
DEMI				*i* S	**Sg**	**16 20 36.9**	**-0.6**
DEMI	**Demirci**	**1.90**	**157**	*i* P	**Pg**	**16 20 12.1**	**-0.6**
DEMI				*i* S	**Sg**	**16 20 36.9**	**-0.6**
AKHS	**Akhisar**	**1.92**	**179**	*i* P	**Pb**	**16 20 10.8**	**-0.1**
AKHS				*i* S	**Sb**	**16 20 35.9**	**+1.2**
AKHS	**Akhisar**	**1.92**	**179**	*i* P	**Pb**	**16 20 10.8**	**-0.1**
AKHS				*i* S	**Sb**	**16 20 35.9**	**+1.2**
PRK	**Paraskevi**	**1.93**	**217**	P	**Pn**	**16 20 07.9**	**-0.5**
PRK				S	**Sn**	**16 20 32.1**	**-0.3**
PRK	**Paraskevi**	**1.93**	**217**	P	**Pn**	**16 20 07.9**	**-0.5**
PRK				S	**Sn**	**16 20 32.1**	**-0.3**
GULT	**Gulveren**	**2.12**	**99**	*e*PN	**Pn**	**16 20 12.1**	**+1.0**
GULT	**Gulveren**	**2.12**	**99**	*e*Pn	**Pn**	**16 20 12.1**	**+1.0**
GDZ	**Gediz**	**2.16**	**142**	*i* P	**Pg**	**16 20 16.3**	**-1.3**
GDZ				*i* S	**Sg**	**16 20 43.8**	**-1.8**
GDZ	**Gediz**	**2.16**	**142**	*i* P	**Pg**	**16 20 16.3**	**-1.3**
LIA	**Limnos Island**	**2.17**	**246**	P	**Pn**	**16 20 11.4**	**-0.3**
LIA				S	**Sn**	**16 20 38.3**	**0.0**
LIA	**Limnos Island**	**2.17**	**246**	P	**Pn**	**16 20 11.4**	**-0.3**
LIA				S	**Sn**	**16 20 38.3**	**0.0**
BORA	**Eskisehir**	**2.25**	**113**	*e*P	**Pb**	**16 20 17.2**	**+0.7**
BORA	**Eskisehir**	**2.25**	**113**	*e*P	**Pb**	**16 20 17.2**	**+0.7**
HENT	**Hendek**	**2.38**	**88**	*i* P	**Pb**	**16 20 17.3**	**-1.4**
HENT	**Hendek**	**2.38**	**88**	*i* P	**Pb**	**16 20 17.3**	**-1.4**
KULA	**Kula-Manisa**	**2.39**	**163**	*e*PN	**Pn**	**16 20 16.1**	**+1.3**
KULA	**Kula-Manisa**	**2.39**	**163**	*e*Pn	**Pn**	**16 20 16.1**	**+1.3**
MANT	**Manisa**	**2.39**	**165**	*i* P	**Pn**	**16 20 15.2**	**+0.3**
MANT	**Manisa**	**2.39**	**165**	*i* P	**Pn**	**16 20 15.2**	**+0.3**
IZM	**Izmir**	**2.43**	**189**	*e*PN	**Pn**	**16 20 16.6**	**+1.2**
IZM	**Izmir**	**2.43**	**189**	*e*Pn	**Pn**	**16 20 16.6**	**+1.2**
KAVA	**Kavala**	**2.47**	**276**	P	**Pn**	**16 20 16.2**	**+0.3**
KAVA	**Kavala**	**2.47**	**276**	P	**Pn**	**16 20 16.2**	**+0.3**
BLCB	**Balcova**	**2.48**	**193**	*e*PN	**Pn**	**16 20 17.1**	**+1.2**
BLCB	**Balcova**	**2.48**	**193**	*e*Pn	**Pn**	**16 20 17.1**	**+1.2**

IDC 02 16:45:25.2±1.1, 6°08S×150°41E, h0km, mb3.9/8, mb1 4.1/9, mb1mx3.9/17, mbtmp3.9/9, ML2.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/20, Error ellipse: s-maj=43.8km s-min=18.6km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.61**	**224**	Pn	Pn	16 46 38.2	+2.0
	3.2nm,0.3s,baz=53,slow=5.5,SNR=14						
PMG				Sn	Sn	16 47 28.2	-2.4
	7.8nm,0.3s,baz=101,slow=21,SNR=7.4						
WRA	**Warramunga Arr**	**20.82**	**227**	P	P	16 50 08.3	-0.3
	7.8nm,0.6s,baz=52,slow=11,SNR=30						
ASAR	**Alice Springs**	**23.62**	**221**	P	P	16 50 37.3	-1.0
	1.9nm,0.9s,baz=53,slow=8.3,SNR=11						
STKA	**Stephens Creek**	**26.95**	**197**	P	P	16 51 08.7	+0.1
	1.7nm,0.6s,baz=6.4,slow=5.9,SNR=4.3						
STKA				LR	LR	17 01 27.5	
	comp=Z,64nm,18.1s,baz=205,slow=36						
FITZ	**Fitzroy Crossi**	**26.96**	**242**	P	P	16 51 08.8	0.0
	3.1nm,0.7s,baz=62,slow=8.7,SNR=3.1						
SONM	**Songino Array**	**66.17**	**329**	P	P	16 56 16.4	+1.6
	0.2nm,0.5s,baz=140,slow=4.7,SNR=2.6						
MKAR	**Makanchi Array**	**79.73**	**320**	P	P	16 57 33.8	-1.4
	0.2nm,0.6s,baz=102,slow=8.7,SNR=3.3						
ILAR	**Eielson Array**	**84.24**	**23**	P	P	16 57 56.9	-1.6
	0.8nm,0.8s,baz=254,slow=5.9,SNR=6.7						
NVAR	**Mina Array Bea**	**94.75**	**52**	P	P	16 58 50.7	+1.4
	0.6nm,0.8s,baz=269,slow=6.2,SNR=4.7						
GERES	**GERESS Array B**	**123.86**	**327**	PKP	PKPdf	17 04 25.8	+0.2
	0.4nm,0.6s,baz=90,slow=2.2,SNR=5.8						
TORD	**Torodi Ar. Bea**	**148.39**	**285**	PKPbc	PKPbc	17 05 14.3	-0.5
	2.3nm,0.7s,baz=60,slow=3.0,SNR=13						

IDC 02 17:12:45.1±1.6, 14.72N×147.82E, h0km, mb3.7/6, mb1 3.9/7, mb1mx3.6/23, mbtmp3.7/7, ML3.7/1, Error ellipse: s-maj=40.0km s-min=22.0km az=91.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.08**	**249**	Pn	Pn	17 13 34.1	-0.9
	10.0nm,0.3s,baz=0.0,slow=20,SNR=3.4						
GUMO				Sn	Sn	17 14 11.8	-0.8
	33nm,0.3s,baz=5.2,slow=22,SNR=6.9						
WRA	**Warramunga Arr**	**36.91**	**201**	P	P	17 19 56.0	+0.1
	0.9nm,0.8s,baz=28,slow=9.1,SNR=7.3						
ASAR	**Alice Springs**	**40.51**	**200**	P	P	17 20 26.0	-0.1
	0.3nm,0.4s,baz=21,slow=6.9,SNR=16						
CMAR	**Chiang Mai Arr**	**46.88**	**282**	P	P	17 21 18.2	+0.7
	0.3nm,0.7s,baz=62,slow=8.3,SNR=3.3						
SONM	**Songino Array**	**47.51**	**323**	P	P	17 21 22.1	-0.1
	0.2nm,0.5s,baz=126,slow=5.1,SNR=2.4						
MKAR	**Makanchi Array**	**62.69**	**315**	P	P	17 23 12.2	+0.3
	0.6nm,0.5s,baz=90,slow=8.1,SNR=16						
FINES	**FINESS Array B**	**91.32**	**336**	P	P	17 25 50.9	-1.6
	2.2nm,1.1s,baz=22,slow=9.0,SNR=3.6						

IDC 02 17:28:34.9±31.0, 24.21S×174.46W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/16, mbtmp4.2/4, Error ellipse: s-maj=566.8km s-min=152.6km az=79.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.53**	**269**	P	P	17 35 43.0	+0.6
	5.1nm,0.8s,baz=90,slow=12,SNR=3.7						
STKA	**Stephens Creek**	**39.32**	**249**	P	P	17 36 05.1	-0.7
	0.9nm,0.8s,baz=72,slow=9.6,SNR=6.2						
ASAR	**Alice Springs**	**46.97**	**260**	P	P	17 37 07.7	-0.2
	1.1nm,0.4s,baz=91,slow=7.6,SNR=67						
WRA	**Warramunga Arr**	**47.43**	**265**	P	P	17 37 11.5	-0.1
	1.5nm,0.3s,baz=101,slow=8.6,SNR=5.5						

IDC 02 17:35:04.6±4.3, 6.11S×128.57E, h381km±52km, mb2.5/2, mb1 2.7/4, mb1mx2.6/15, mbtmp2.5/4, Error ellipse: s-maj=84.2km s-min=13.3km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.85**	**158**	P	P	17 38 15.5	-0.8
	0.3nm,0.3s,baz=336,slow=12,SNR=4.4						
WRA				S	S	17 40 53.7	-1.3
	0.1nm,0.3s,baz=333,slow=20,SNR=2.9						
ASAR	**Alice Springs**	**18.19**	**164**	P	P	17 38 52.4	+0.2
	0.1nm,0.3s,baz=344,slow=11,SNR=10.0						
ASAR				S	S	17 42 01.6	+1.0
	0.2nm,0.3s,baz=346,slow=25,SNR=9.5						
CMAR	**Chiang Mai Arr**	**38.08**	**310**	P	P	17 41 48.9	+0.2
	0.4nm,0.6s,baz=133,slow=7.0,SNR=4.3						
MKAR	**Makanchi Array**	**66.71**	**327**	P	P	17 45 15.7	-0.4
	0.2nm,0.7s,baz=136,slow=8.0,SNR=3.0						

IDC 02 17:48:44.0±27.0, 21.73S×173.06W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/19, mbtmp4.1/4, Error ellipse: s-maj=498.3km s-min=150.9km az=77.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.97**	**265**	P	P	17 56 04.7	+0.9
	7.1nm,0.9s,baz=80,slow=10,SNR=5.8						
STKA	**Stephens Creek**	**41.46**	**246**	P	P	17 56 31.3	-1.4
	1.7nm,0.9s,baz=85,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**48.74**	**257**	P	P	17 57 30.6	-0.2
	0.5nm,0.5s,baz=100,slow=7.0,SNR=12						
WRA	**Warramunga Arr**	**49.00**	**262**	P	P	17 57 33.0	+0.1
	1.0nm,0.3s,baz=98,slow=8.4,SNR=42						

*ISK **02** 17:48:56.2, 41.31N×40.65E, h5km, MD2.9*
*ISCJB **02** 17:48:57.3±0.7, 41.29N±0.04×40.72E±0.03, h12km±4km, Error ellipse: s-maj=7.7km s-min=3.4km az=169.4*
*DDA **02** 17:48:57.3, 41.17N×40.75E, h7km, MD3.0*
*CSEM **02** 17:48:57.3±0.3, 41.27N×40.72E, h10km, MD2.9, Error ellipse: s-maj=8.1km s-min=3.1km az=168.0*
ISC 02 17:48:57.3±1.0, 41.29N±0.04×40.71E±0.02, h16km±6km, n40, σ0§85/64, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PZAR	**Pazar-Rize**	**0.18**	**127**	*e*PG	**Pg**	**17 49 01.6**	**0.0**
PZAR				*e*SG	**Sg**	**17 49 05.1**	**+0.4**
PZAR	**Pazar-Rize**	**0.18**	**127**	*e*Pg	**Pg**	**17 49 01.7**	**0.0**
PZAR				*e*Sg	**Sg**	**17 49 05.1**	**+0.4**
BCA	**Borcka**	**0.70**	**77**	*e*PG	**Pb**	**17 49 11.1**	**-0.1**
BCA				*e*SG	**Sb**	**17 49 21.1**	**+0.5**
BCA	**Borcka**	**0.70**	**77**	*e*Pg	**Pb**	**17 49 11.1**	**-0.1**
BCA				*e*Sg	**Sb**	**17 49 21.1**	**+0.5**
DBOC	**Borcka**	**0.72**	**85**	*i* P	**Pg**	**17 49 11.1**	**-0.4**
DBOC				*i* S	**Sg**	**17 49 20.9**	**-0.2**
DBOC	**Borcka**	**0.72**	**85**	*i* P	**Pg**	**17 49 11.1**	**-0.4**
DBOC				*i* S	**Sg**	**17 49 20.9**	**-0.2**
KTUT	**Trabzon**	**0.77**	**248**	*e*PG	**Pg**	**17 49 11.1**	**-1.3**
KTUT	**Trabzon**	**0.77**	**248**	*e*Pg	**Pg**	**17 49 11.1**	**-1.3**
MACK	**Trabzon**	**0.79**	**245**	*i* P	**Pb**	**17 49 12.9**	**+0.3**
MACK				*i* S	**Sb**	**17 49 23.4**	**+0.4**
MACK	**Trabzon**	**0.79**	**245**	*i* P	**Pb**	**17 49 12.9**	**+0.3**
MACK				*i* S	**Sb**	**17 49 23.4**	**+0.4**
DBAD	**Bademkaya**	**0.79**	**109**	*i* P	**Pg**	**17 49 11.9**	**-0.8**
DBAD				*i* S	**Sg**	**17 49 21.7**	**-1.5**
DBAD	**Bademkaya**	**0.79**	**109**	*i* P	**Pg**	**17 49 11.9**	**-0.8**
DBAD				*i* S	**Sg**	**17 49 21.7**	**-1.5**
DDEM	**Demirkent**	**0.88**	**116**	*i* P	**Pg**	**17 49 13.7**	**-0.7**
DDEM				*i* S	**Sg**	**17 49 24.9**	**-1.1**
DDEM	**Demirkent**	**0.88**	**116**	*i* P	**Pg**	**17 49 13.7**	**-0.7**
DDEM				*i* S	**Sg**	**17 49 24.9**	**-1.1**
ARTV	**Artvin**	**0.92**	**96**	*i* P	**Pg**	**17 49 14.6**	**-0.7**
ARTV				*i* S	**Sg**	**17 49 26.7**	**-0.8**
ARTV	**Artvin**	**0.92**	**96**	*i* P	**Pg**	**17 49 14.6**	**-0.7**
ARTV				*i* S	**Sg**	**17 49 26.7**	**-0.8**
DAGI	**Agillar**	**0.93**	**102**	*i* P	**Pg**	**17 49 14.5**	**-0.9**
DAGI				*i* S	**Sg**	**17 49 26.7**	**-1.0**
BAYT	**Ayd¯–ntepe-Bay**	**0.99**	**206**	*e*PG	**Pg**	**17 49 15.3**	**-1.2**
BAYT	**Ayd¯–ntepe-Bay**	**0.99**	**206**	*e*Pg	**Pg**	**17 49 15.3**	**-1.2**
GUMT	**Gumushane**	**1.25**	**229**	*e*PN	**Pn**	**17 49 19.4**	**-0.7**
GUMT	**Gumushane**	**1.25**	**229**	*e*Pn	**Pn**	**17 49 19.4**	**-0.7**
KOPT	**Kop Dagi**	**1.28**	**187**	*i* P	**Pg**	**17 49 22.1**	**+0.2**
KOPT				*i* S	**Sb**	**17 49 36.5**	**-0.8**
KOPT	**Kop Dagi**	**1.28**	**187**	*i* P	**Pg**	**17 49 22.1**	**+0.2**
KOPT				*i* S	**Sb**	**17 49 36.5**	**-0.8**
EZM	**Erzurum**	**1.47**	**160**	*e*PN	**Pb**	**17 49 24.5**	**+0.2**
ERZM	**Erzurum**	**1.47**	**160**	*i* P	**Pg**	**17 49 25.5**	**-0.1**
ERZM				*i* S	**Sn**	**17 49 41.8**	**-0.4**
ERZM	**Erzurum**	**1.47**	**160**	*i* P	**Pg**	**17 49 25.5**	**-0.1**
ERZM				*i* S	**Sn**	**17 49 41.8**	**-0.4**
HOMI	**Horasan**	**1.54**	**143**	*i* P	**Pn**	**17 49 25.1**	**+0.9**
HOMI				*i* S	**Sn**	**17 49 44.6**	**+0.6**
ESPY	**Espiye-Giresun**	**1.54**	**257**	*e*PN	**Pn**	**17 49 25.0**	**+0.9**
ESPY	**Espiye-Giresun**	**1.54**	**257**	*e*Pn	**Pn**	**17 49 25.0**	**+0.9**
KELT	**Kelkit**	**1.58**	**225**	*i* P	**Pn**	**17 49 25.5**	**+0.7**
KELT				*i* S	**Sn**	**17 49 45.8**	**+0.7**
KELT	**Kelkit**	**1.58**	**225**	*i* P	**Pn**	**17 49 25.5**	**+0.7**
KELT				*i* S	**Sn**	**17 49 45.8**	**+0.7**
EZC	**Erzincan**	**1.85**	**214**	*e*P

898nm,1.8s
BCIP LR LR
comp=Z,6µm,20.0s
SDV Santo Domingo 23.14 15 eP P 17 58 25.8 -1.4
comp=Z,2µm,2.2s
CCHI Chillan 23.24 171⇑iP P 17 58 29.1 +1.3
JTS JuntasAbangare 25.17 340 eP P 17 58 46.1 +0.1
comp=Z,123nm,1.3s
JTS JuntasAbangare 25.17 340 P P 17 58 49.6 +3.6
comp=Z,186nm,0.7s,SNR=8.5
JTS JuntasAbangare 25.17 340 P P 17 58 47.2 +1.2
comp=Z,9.1nm,0.7s,baz=133,slow=5.2,SNR=7.6
JTS LR LR 18 08 29.6
comp=Z,15µm,18.3s,baz=170,slow=36
LPA La Plata 27.08 145 ceP P 17 59 06.0 +2.9
LPA S S **18 03 41.0 +2.0**
LPA SSS SSS 18 05 07.0
LPA SCS **ScS 18 09 50.0 -2.7**
PLCA Paso Flores 27.52 170 eP P 17 59 07.3 +0.3
comp=Z,87nm,1.0s
PLCA Paso Flores 27.52 170 P P 17 59 07.4 +0.3
comp=Z,70nm,1.2s,baz=343,slow=10,SNR=36
PLCA LR LR 18 07 55.0
comp=Z,8µm,18.8s,baz=231,slow=32
TRQA Tornquist 27.58 155 eP P 17 59 07.5 -0.2
comp=Z,445nm,1.8s
BDFB Brasilia 27.72 98 P P 17 59 09.2 0.0
BDFB Brasilia 27.72 98 P P 17 59 09.2 0.0
comp=Z,17nm,0.8s,baz=263,slow=13,SNR=22
BDFB LR LR 18 10 44.8
comp=Z,28µm,18.9s,baz=267,slow=38
SPB Sao Paulo 29.31 114 eP P 17 59 22.7 -0.4
comp=Z,63nm,0.9s
TGUH Tegucigalpa,Un 29.47 339 eP P 17 59 23.8 -0.7
GRGR Grenville 29.57 31 PFAKE 17 59 40.0 +15
GRGR LR LR
comp=Z,15µm,22.0s
BBGH Gun Hill 31.50 33 PFAKE 17 59 50.0 +7.5
BBGH LR LR
comp=Z,24µm,22.0s
MTDJ Mount Denham 31.66 358 eP P 17 59 43.6 -0.4
FDF Fort de France 32.06 29 PFAKE 18 00 00.0 +13
FDF LR LR
comp=Z,18µm,20.0s
LSP Las Mesas 32.96 17 eP P 17 59 55.1 -0.3
OBIP Obispado Ponce 32.97 18 eP P 17 59 54.9 -0.5
comp=Z,92nm,0.9s
MPR Mayaguez 32.98 17 eP P 17 59 55.8 +0.3
comp=Z,125nm,0.5s
CELP Cerrillos 33.01 18 eP P 17 59 55.9 +0.2
LRS Lares 33.14 17 eP P 17 59 57.0 +0.2
SJG San Juan 33.18 18 eP P 17 59 56.1 -1.0
comp=Z,157nm,1.4s
SJG San Juan 33.18 18 P P 17 59 56.6 -0.5
comp=Z,45nm,0.8s,baz=270,slow=5.7,SNR=10
AOPR Arecibo Observ 33.22 17 eP P 17 59 57.5 -0.1
comp=Z,49nm,0.9s
HUMP Col San Antoni 33.30 19 eP P 17 59 59.8 +1.6
comp=Z,47nm,1.2s
MTP Monte Pirata 33.35 19 eP P 17 59 57.5 -1.2
comp=Z,36nm,0.8s
RPN Rapa Nui 33.38 241 LR LR 18 09 42.9
comp=Z,11µm,21.6s,baz=59,slow=30
CBYP Canovanas 33.42 19 eP P 17 59 58.3 -1.0
comp=Z,66nm,0.9s
CAM4 Nova Friburgo 33.45 110⇑iP P 18 00 00.0 +0.2
CAM4 i 18 00 04.0
CAM4 i 18 00 08.5
CAM4 i 18 00 14.1
CAM4 i 18 00 20.9
CAM4 i 18 00 24.7
CAM4 i 18 00 30.5
STVI Saint Thomas 33.78 20 eP P 18 00 00.6 -1.9
ANWB Willy Bob 34.36 26 eP P 18 00 06.4 -1.1
comp=Z,300nm,1.1s
ANWB LR LR
comp=Z,9µm,20.0s
CMIG Matias Romero 35.47 329 P P 18 00 17.2 +0.2
CMIG Matias Romero 35.47 329 P P 18 00 17.2 +0.2
comp=Z,2.2nm,0.5s,baz=140,slow=6.0,SNR=10
CMIG LR LR 18 13 30.3
comp=Z,7µm,18.4s,baz=133,slow=34
TEIG Tepich 35.55 341 eP P 18 00 18.1 +0.5
comp=Z,395nm,1.8s
TEIG Tepich 35.55 341 P P 18 00 17.6 -0.1
comp=Z,24nm,0.6s,baz=112,slow=3.6,SNR=11
TEIG LR LR 18 14 33.3
comp=Z,8µm,20.3s,baz=162,slow=36
EFI East Falkland 40.79 162 eP P 18 01 02.5 +1.0
EFI pmax pmax
comp=Z,91nm,1.1s
EFI MLR MLR
comp=Z,6µm,20.0s
EFI East Falkland 40.79 162 eP P 18 01 02.5 +1.0
comp=Z,90nm,1.1s
EFI LR LR
comp=Z,6µm,20.0s
RCBR Riachuelo 40.80 83 eP P 18 01 02.3 +0.2
comp=Z,212nm,1.2s
RCBR Riachuelo 40.80 83 P P 18 01 02.4 +0.2
comp=Z,67nm,0.9s,baz=252,slow=8.6,SNR=26
USHA Ushuaia 41.61 173 P P 18 01 08.2 +0.1
USHA Ushuaia 41.61 173 P P 18 01 08.2 +0.1
comp=Z,42nm,0.9s,baz=320,slow=4.1,SNR=9.9
BRAL Brewton 45.51 347 PFAKE 18 01 50.0 +10
BRAL LR LR
comp=Z,3µm,19.0s
KVTX Kingsville 45.84 333 eP P 18 01 42.2 -0.3
comp=Z,111nm,0.7s
HKT Hockley 47.13 337 eP P 18 01 53.3 +0.8
HKT pmax pmax
comp=Z,393nm,2.4s
HKT Hockley 47.13 337 eP P 18 01 53.2 +0.8
comp=Z,393nm,2.4s
BBSR BB Station 47.13 14 PFAKE 18 02 00.0 +7.4
BBSR LR LR
comp=Z,4µm,21.0s
GOGA Godfrey 47.23 352 eP P 18 01 53.2 -0.2
GOGA pmax pmax
comp=Z,38nm,1.0s
GOGA Godfrey 47.23 352 eP P 18 01 53.1 -0.2
comp=Z,38nm,1.0s
LRAL Lakeview Retre 47.45 348 eP P 18 01 53.4 -1.7
comp=Z,26nm,0.9s
VBMS Vicksburg 47.49 344 eP P 18 01 53.2 -2.2
JSC Jenkinsville 47.85 355 eP P 18 01 57.7 -0.4
JSC Jenkinsville 47.85 355 eP P 18 01 57.7 -0.4
NATX Nacogdoches 48.34 339 eP P 18 02 03.6 +1.6
CNNC Cliffs of the 48.61 359 P P 18 02 00.7 -3.3
CNNC LR LR
comp=Z,5µm,22.0s
KMSC Kings Mountain 48.71 355 ⇓P P 18 02 04.3 -0.4
baz=49
JCT Junction City 49.21 333 eP P 18 02 06.9 -1.9
JCT pmax pmax
comp=Z,109nm,1.8s
JCT Junction City 49.21 333 eP P 18 02 06.9 -1.9
comp=Z,109nm,1.8s
JCT Junction City 49.21 333 ⇓P P 18 02 08.7 -0.1
baz=49
SWET Sewanee 49.37 350 eP P 18 02 08.8 -1.1
comp=Z,328nm,2.1s
CPCT Cooper Cave 49.38 351 eP P 18 02 08.2 -1.8
OXF Oxford 49.40 346 eP P 18 02 10.1 +0.1
OXF pmax pmax
comp=Z,200nm,1.6s
OXF Oxford 49.40 346 eP P 18 02 10.1 +0.1
comp=Z,200nm,1.6s
TKL Tuckaleechee C 49.48 352 eP P 18 02 08.9 -1.8
PLAL Pickwick Lake 49.55 348 eP P 18 02 09.2 -2.0
comp=Z,115nm,1.7s
628A Black Gap, Mar 49.81 330 ⇑P P 18 02 14.4 +1.0
baz=50,SNR=10.0
627A Terlingua Ranc 50.03 329 ⇑P P 18 02 15.6 +0.5
baz=50
TXAR Lajitas Array 50.07 329 P P 18 02 15.0 -0.4
TXAR Lajitas Array 50.07 329 P P 18 02 15.0 -0.4
comp=Z,2.2nm,0.7s,baz=150,slow=8.9,SNR=21
TXAR LR LR 18 22 17.5
comp=Z,7µm,18.2s,baz=25,slow=35
RFTA Plano 50.19 338 P P 18 02 17.3 +1.2
528A Cox Ranch, San 50.32 330 ⇓P P 18 02 17.1 -0.2
baz=50,SNR=6.8
528A ⇑S S **18 09 27.6 -0.4**
baz=50
528A ⇑S S **18 09 27.6 -0.4**
baz=50
TZTN Tazewell 50.33 353 eP P 18 02 16.6 -0.5
comp=Z,68nm,1.1s
UALR University of 50.40 343 eP P 18 02 17.0 -0.7
comp=Z,159nm,1.6s
626A Big Bend Ranch 50.49 329 ⇓P P 18 02 18.1 -0.5
baz=51,SNR=25
626A ⇓S S **18 09 31.0 +0.7**
baz=51
626A ⇓S S **18 09 31.0 +0.7**
baz=51
626A ⇓S S **18 09 31.0 +0.7**
baz=51
MIAR Mount Ida 50.55 342 eP P 18 02 18.4 -0.4
MIAR pmax pmax
comp=Z,33nm,0.8s
MIAR Mount Ida 50.55 342 eP P 18 02 18.4 -0.4
comp=Z,33nm,0.8s
WVT Waverly 50.61 348 eP P 18 02 16.4 -2.8
WVT pmax pmax
comp=Z,38nm,1.2s
WVT Waverly 50.61 348 eP P 18 02 16.4 -2.8
comp=Z,38nm,1.2s
BLA Blacksburg 50.69 356 eP P 18 02 19.2 -0.7
BLA pmax pmax
comp=Z,46nm,0.9s
BLA MLR MLR
comp=Z,7µm,21.0s
BLA Blacksburg 50.69 356 eP P 18 02 19.1 -0.7
comp=Z,46nm,0.9s
BLA LR LR
comp=Z,7µm,21.0s
VWCC Virginia Weste 50.70 357 eP P 18 02 19.5 -0.4
VWCC epP pP **18 02 30.1 +0.1**
428A Kincaid Ranch, 50.74 331 ⇑P P 18 02 20.7 +0.3
baz=51,SNR=5.3
428A ⇑S S **18 09 34.4 +0.6**
baz=51
428A ⇑S S **18 09 34.4 +0.6**
baz=51
428A ⇑S S **18 09 34.4 +0.6**
baz=51
526A Mary Lane Ranc 50.88 329 ⇓P P 18 02 21.2 -0.4
baz=51,SNR=7.2
427A Hayter Ranch, 51.18 330 ⇑P P 18 02 23.5 -0.3
baz=51,SNR=6.6
328A Wristen Ranch, 51.34 331 ⇓P P 18 02 24.7 -0.2
baz=52,SNR=12
426A McDonald Obser 51.34 329 ⇑P P 18 02 24.7 -0.4
baz=52,SNR=14
CBN Corbin 51.56 359 eP P 18 02 24.9 -1.4
comp=Z,71nm,0.9s
CBN LR LR
comp=Z,4µm,20.0s
327A Balmorhea Ranc 51.66 330 ⇓P P 18 02 27.4 +0.1
baz=52
PMSA Palmer Station 51.82 173 P P 18 02 27.2 -0.7
PMSA Palmer Station 51.82 173 P P 18 02 27.2 -0.7
comp=Z,28nm,0.9s,baz=13,slow=9.8,SNR=3.5
326A Caldwell Ranch 51.85 330 ⇑P P 18 02 28.8 +0.1
baz=52,SNR=9.7
425A Indio Mountain 51.91 329 ⇑P P 18 02 29.2 -0.1
baz=52,SNR=13
227A Benet, Jal 52.09 331 ⇑P P 18 02 30.4 -0.1
baz=52
325A Bean Ranch, Si 52.38 329 ⇓P P 18 02 32.4 -0.4
baz=53,SNR=18
Z29A Hungry Hill Ra 52.42 333 ⇓P P 18 02 32.3 -0.7
baz=53
SIUC Southern Illin 52.43 347 eP P 18 02 31.1 -1.7
comp=Z,275nm,1.8s
TUL1 Tulsa 52.51 340 ⇓P P 18 02 32.9 -0.5
baz=53,SNR=6.7
WMOK Wichita Mounta 52.51 337 eP P 18 02 32.0 -1.5
WMOK pmax pmax
comp=Z,30nm,1.2s
WMOK Wichita Mounta 52.51 337 eP P 18 02 32.0 -1.5
comp=Z,30nm,1.2s
226A Malaga, Loving 52.52 330 ⇑P P 18 02 33.9 +0.2
baz=53,SNR=8.3
127A Arkansas Junct 52.68 331 ⇓P P 18 02 34.4 -0.5
baz=53
324A Moseley Ranch, 52.70 329 ⇑P P 18 02 34.2 -0.9
baz=53,SNR=9.8
Z28A Tucker Farm, M 52.75 333 ⇑P P 18 02 34.5 -0.8
baz=53
GDL2 Guadalupe Moun 52.76 330 eP P 18 02 34.9 -0.6
SDMD Soldier's Deli 52.76 360 eP P 18 02 35.5 +0.3
comp=Z,56nm,0.8s
MNTX Cornudas Mount 52.85 329 eP P 18 02 35.2 -0.9
comp=Z,128nm,2.0s
MNTX Cornudas Mount 52.85 329 ⇓P P 18 02 35.0 -1.1
baz=53,SNR=13
225A Deer Hill, Car 52.91 330 ⇑P P 18 02 36.3 -0.4
baz=53,SNR=12
Y29A Porterfield Fa 52.92 334 ⇓P P 18 02 36.3 -0.3
baz=53
FVM French Village 52.95 346 eP P 18 02 34.9 -1.8
FVM pmax pmax
comp=Z,213nm,1.8s
FVM French Village 52.95 346 eP P 18 02 34.9 -1.8
comp=Z,213nm,1.8s
126A Clayton Basin, 52.96 331 ⇑P P 18 02 36.7 -0.2
baz=53
Z27A Tatum 53.14 332 ⇑P P 18 02 37.7 -0.6
baz=53
OLIL Olney 53.19 349 eP P 18 02 37.0 -1.3
comp=Z,470nm,1.8s
CPRX Cap Rock 53.21 331 eP P 18 02 39.1 +0.3
comp=Z,96nm,1.0s
Y28A McKinney Farm, 53.21 333 ⇑P P 18 02 38.1 -0.7
baz=53
224A Cornudas Mount 53.23 329 ⇑P P 18 02 38.2 -0.8
baz=53,SNR=15
125A Gardner Draw, 53.28 330 ⇑P P 18 02 39.1 -0.3
baz=54
BLO Bloomington 53.33 350 eP P 18 02 38.3 -1.2
BLO pmax pmax
comp=Z,61nm,0.7s
BLO Bloomington 53.33 350 eP P 18 02 38.3 -1.2
comp=Z,61nm,0.7s
MVL Millersville 53.35 0 eP P 18 02 39.0 -0.6
comp=Z,451nm,2.3s
Z26A Caprock 53.46 331 ⇑P P 18 02 40.7 0.0
baz=54,SNR=9.5
MSTX Muleshoe 53.49 333 ⇑P P 18 02 40.2 -0.7
baz=54
Y27A Causey 53.60 332 ⇑P P 18 02 41.0 -0.7
baz=54,SNR=8.3
223A Chaparral, Ant 53.63 328 ⇓P P 18 02 41.3 -0.6
baz=54
X28A Dimmitt 53.71 334 ⇑P P 18 02 41.5 -1.0
baz=54
AMTX Amarillo 53.80 334 eP P 18 02 43.7 +0.6
AMTX LR LR
comp=Z,3µm,22.0s
AMTX Amarillo 53.80 334 ⇓P P 18 02 42.1 -1.0
baz=54
Z25A Roswell 53.81 331 ⇑P P 18 02 43.1 -0.1
baz=54
ACSO Alum Creek Sta 53.91 354 eP P 18 02 42.3 -1.3
comp=Z,70nm,0.8s
ACSO LR LR
comp=Z,7µm,19.0s
Y26A Elida 53.93 332 ⇑P P 18 02 43.7 -0.4
baz=54
W29A Amraillo 53.99 335 ⇑P P 18 02 43.9 -0.5
baz=54
SSPA Standing Stone 54.00 359 eP P 18 02 44.0 -0.3
comp=Z,43nm,0.8s
123A Bell Site, Whi 54.05 329 ⇑P P 18 02 45.0 +0.1
baz=54
222A Williams Famil 54.05 328 ⇑P P 18 02 45.1 0.0
baz=54
Z24A Sheeppen Canyo 54.16 330 ⇓P P 18 02 45.1 -0.8
baz=54,SNR=16
320A Kipp Ranch, An 54.21 326 ⇑P P 18 02 46.2 0.0
baz=54
X27A F and S Farms, 54.21 333 ⇓P P 18 02 45.8 -0.4
baz=54
221A Mesquite Ranch 54.33 327 ⇑P P 18 02 47.3 +0.3
baz=54
Y25A Mesa, Roswell 54.33 331 ⇓P P 18 02 46.4 -0.6
baz=54,SNR=8.6
W28A Vega 54.34 334 ⇑P P 18 02 46.7 -0.3
baz=55
PAL Palisades 54.41 2 eP P 18 02 46.8 -0.4
PAL pmax pmax
comp=Z,41nm,0.9s
PAL Palisades 54.41 2 eP P 18 02 46.8 -0.4
comp=Z,41nm,0.9s
X26A CR and CF Fran 54.45 332 ⇓P P 18 02 47.3 -0.6
baz=55,SNR=8.6
122A Conniff Cattle 54.47 328 ⇓P P 18 02 48.4 +0.3
baz=55
Z23A Rita Site, Whi 54.53 329 ⇓P P 18 02 48.4 -0.2
baz=55
V29A Stinnett 54.59 335 ⇑P P 18 02 48.5 -0.3
baz=55
SFIN Scholer Farm 54.61 350 ⇓P P 18 02 46.4 -2.4
baz=55,SNR=9.2
220A Playas Peak, P 54.65 327 ⇑P P 18 02 49.2 -0.2
baz=55,SNR=8.0
Y24A Capitan 54.69 331 ⇑P P 18 02 49.5 -0.2
baz=55
121A Cookes Peak, D 54.74 328 ⇑P P 18 02 50.6 +0.5
baz=55,SNR=15
YLE Yale 54.77 3 eP P 18 02 50.2 +0.4
comp=Z,177nm,0.8s
V28A Channing 54.77 334 ⇑P P 18 02 49.9 -0.3
baz=55
X25A Clemmons Ranch 54.81 332 ⇑P P 18 02 49.8 -0.8
baz=55
W26A Owens Ranch, T 54.88 333 ⇓P P 18 02 50.5 -0.5
baz=55
Z22A Elephant Butte 54.89 329 ⇓P P 18 02 51.0 -0.2
baz=55,SNR=5.7
ALLY Alegheny Colle 55.09 357 eP P 18 02 51.5 -0.8
comp=Z,79nm,1.0s
HDIL Hopedale 55.18 348 eP P 18 02 51.4 -1.5
comp=Z,61nm,1.0s
120A U Bar Ranch, L 55.20 327 ⇑P P 18 02 53.4 0.0
baz=55,SNR=8.5
X24A Lazy VL Ranch, 55.21 331 ⇑P P 18 02 53.2 -0.2
baz=55
Z21A St. Cloud Mine 55.30 328 ⇓P P 18 02 54.5 +0.3
baz=56,SNR=9.6
W25A X Bar L Ranch, 55.30 332 ⇑P P 18 02 53.5 -0.6
baz=56,SNR=7.5
Y22A Socorro 55.44 329 ⇑P P 18 02 55.3 +0.2
baz=56
BNM Barren Site 55.44 330 eP P 18 02 55.8 +0.6
comp=Z,76nm,1.8s
BRYW Bryant College 55.46 5 eP P 18 02 55.0 +0.1
comp=Z,386nm,1.4s
Y22D IRIS PASSCAL I 55.53 329 ⇑P P 18 02 55.9 +0.2
baz=56
BINY Binghamton 55.55 1 eP P 18 02 55.6 +0.1
comp=Z,75nm,0.9s
BINY LR LR
comp=Z,4µm,21.0s
ERPA Erie 55.55 357 eP P 18 02 54.4 -1.2
comp=Z,80nm,1.0s
ERPA LR LR
comp=Z,3µm,19.0s
LPM Los Pinos Moun 55.58 330 eP P 18 02 56.7 +0.6
X23A Hourglass Bar 55.58 330 ⇑P P 18 02 56.2 0.0
baz=56
Z20A Nine Sixteen R 55.62 327 ⇑P P 18 02 57.3 +0.8
baz=56,SNR=14
LENM Lemitar 55.63 329 eP P 18 02 57.7 +1.2
KSU1 Kansas State U 55.68 341 eP P 18 02 55.9 -0.6
comp=Z,92nm,1.4s
W24A Lazy 6 Ranch, 55.72 331 ⇓P P 18 02 56.6 -0.6
baz=56
QUA2 Belchertown 55.76 4 eP P 18 02 57.0 0.0
comp=Z,29nm,0.9s
Y21A Point of Rocks 55.85 329 ⇓P P 18 02 58.6 +0.4
baz=56,SNR=7.5
V25A Rancho No Teng 55.88 333 ⇓P P 18 02 57.9 -0.4
baz=56,SNR=19
LAZ Ladron 55.90 330 eP P 18 02 58.5 0.0
comp=Z,100nm,2.0s
RKT Rikitea 55.90 251 eS S 18 10 42.1 -2.1
comp=Z,10µm,25.8s
RKT eSS SS **18 14 31.7 +1.3**
comp=Z,2µm,28.2s
RKT eLR LR 18 19 24.9
comp=Z,10µm,25.5s,baz=84
T28A Walsh 55.90 335 ⇑P P 18 02 57.9 -0.4
baz=56
U26A Atchley Ranch, 55.96 334 ⇑P P 18 02 58.4 -0.4
baz=56,SNR=8.3
ANMO Albuquerque 56.00 330 eP P 18 02 59.0 -0.2
comp=Z,29nm,1.1s
ANMO LR LR
comp=Z,3µm,20.0s
ANMO Albuquerque 56.00 330 P P 18 02 58.5 -0.6
comp=Z,9.8nm,1.0s,baz=148,slow=9.8,SNR=17
AAM Ann Arbor 56.03 354 eP P 18 02 58.1 -0.8
AAM pmax pmax
comp=Z,184nm,1.8s
AAM MLR MLR
comp=Z,8µm,19.0s
AAM Ann Arbor 56.03 354 eP P 18 02 58.1 -0.8
comp=Z,184nm,1.8s
AAM LR LR
comp=Z,8µm,19.0s
W23A Werner Place, 56.03 331 ⇓P P 18 02 59.2 -0.2
baz=56
HRV Adam Dziewonsk 56.04 4 eP P 18 02 59.3 +0.2
HRV pmax pmax
comp=Z,94nm,1.3s
HRV Adam Dziewonsk 56.04 4 eP P 18 02 59.2 +0.2
comp=Z,94nm,1.3s
V24A Rampart Ranch, 56.09 332 ⇓P P 18 02 59.1 -0.7
baz=56
T27A Campo 56.10 335 ⇑P P 18 02 58.9 -0.8
baz=56
Y20A Horse Springs, 56.13 328 ⇑P P 18 03 00.4 +0.3
baz=56,SNR=12
TRY Troy 56.14 3 eP P 18 03 00.4 +0.7
TUC Tucson 56.19 325 eP P 18 03 00.4 0.0
TUC pmax pmax
comp=Z,234nm,2.5s
TUC Tucson 56.19 325 eP P 18 03 00.3 0.0
comp=Z,234nm,2.5s
X21A Alamcita Cree 56.25 329 ⇑P P 18 03 01.5 +0.5
baz=56,SNR=17
U25A Circle Dot Ran 56.26 333 ⇑P P 18 03 00.3 -0.7
baz=56,SNR=6.8
W22A Albuquerque 56.30 330 ⇑P P 18 03 01.6 +0.3
baz=56
CBKS Cedar Bluff 56.48 338 eP P 18 03 01.9 -0.4
CBKS pmax pmax
comp=Z,56nm,0.8s
CBKS MLR MLR
comp=Z,2µm,22.0s
CBKS Cedar Bluff 56.48 338 eP P 18 03 01.9 -0.4
comp=Z,56nm,0.8s
CBKS LR LR
comp=Z,2µm,22.0s
CBKS Cedar Bluff 56.48 338 ⇑P P 18 03 02.1 -0.2
baz=57,SNR=6.4
V23A Ortiz Mt. (NFS 56.52 331 ⇑P P 18 03 03.2 +0.3
baz=57
T26A Comanche Natio 56.56 334 ⇓P P 18 03 02.8 -0.3
baz=57
Y19A Nutrioso 56.62 328 ⇓P P 18 03 04.0 +0.4
baz=57,SNR=6.6
U24A Moreno Valley 56.65 332 ⇓P P 18 03 04.2 +0.3
baz=57
X20A Quemado 56.69 329 ⇑P P 18 03 04.6 +0.5
baz=57,SNR=6.0
S27A Las Animas 56.70 335 ⇓P P 18 03 03.9 -0.2
baz=57
W21A San Fidel 56.72 330 ⇓P P 18 03 04.7 +0.4
baz=57
ACCN Adirondack Com 56.79 3 eP P 18 03 04.8 +0.5
comp=Z,641nm,2.3s
T25A Trinidad 56.88 334 ⇑P P 18 03 05.2 -0.2
baz=57,SNR=6.0
S26A Kim 56.89 335 ⇓P P 18 03 05.1 -0.2
baz=57,SNR=19
Y18A Canyon Day Jun 56.89 327 ⇑P P 18 03 05.4 -0.1
baz=57
FFD Franklin Falls 56.99 4 eP P 18 03 06.0 +0.3
comp=Z,72nm,1.0s
V22A San Miguel Ran 57.00 331 ⇓P P 18 03 06.5 +0.2
baz=57,SNR=15
U23A El Rito 57.00 332 ⇓P P 18 03 06.3 0.0
baz=57
X19A St. Johns 57.01 328 ⇓P P 18 03 06.2 -0.1
baz=57

T24A Torres, Weston 57.10 333 ⇑P P 18 03 07.1 0.0
baz=57
W20A Ramah 57.15 329 ⇓P P 18 03 07.8 +0.5
baz=57,SNR=7.8
R27A Eads 57.18 336 ⇓P P 18 03 07.1 -0.3
baz=57
HNH Hanover 57.19 4 eP P 18 03 09.0 +1.9
V21A Milan 57.27 330 ⇑P P 18 03 08.2 0.0
baz=58
S25A Robets Cordova 57.33 334 ⇑P P 18 03 08.4 -0.2
baz=58,SNR=6.7
U22A Llaves 57.35 331 ⇑P P 18 03 09.3 +0.6
baz=58,SNR=11
X18A Snowflake 57.43 327 ⇓P P 18 03 09.3 0.0
baz=58
MDV Middlebury 57.43 3 eP P 18 03 09.1 +0.3
R26A Arlington 57.45 335 ⇑P P 18 03 09.2 -0.2
baz=58,SNR=9.1
T23A Casias Ranch, 57.51 332 ⇑P P 18 03 09.7 -0.3
baz=58
W19A Sanders 57.59 328 ⇑P P 18 03 10.3 -0.1
baz=58
S24A Houchin Ranch, 57.65 333 ⇑P P 18 03 10.7 -0.2
baz=58,SNR=6.2
V20A Brimhall 57.66 329 ⇓P P 18 03 10.9 -0.1
baz=58
R25A Fountain Ranch 57.67 334 ⇑P P 18 03 10.8 -0.1
baz=58
114A Black Gap (USA 57.70 324 ⇓P P 18 03 11.7 +0.7
baz=58,SNR=8.0
X17A Forest Lakes 57.73 327 ⇑P P 18 03 12.0 +0.5
baz=58
KSCO Kaye Shedlock' 57.73 336 ⇑P P 18 03 11.0 -0.3
baz=58
LBNH Lisbon 57.74 4 eP P 18 03 11.5 +0.4
LBNH pmax pmax
comp=Z,115nm,1.4s
LBNH Lisbon 57.74 4 eP P 18 03 11.5 +0.4
comp=Z,115nm,1.4s
W18A Petrified Fore 57.77 328 ⇓P P 18 03 11.8 +0.1
baz=58
U21A Nageezi 57.77 331 ⇓P P 18 03 11.6 -0.1
baz=58
SDCO Great Sand Dun 57.86 333 eP P 18 03 12.2 -0.2
comp=Z,240nm,2.2s
SDCO Great Sand Dun 57.86 333 ⇓P P 18 03 12.3 -0.1
baz=58,SNR=15
V19A Window Rock 57.89 329 ⇑P P 18 03 12.7 +0.1
baz=58
T22A Edith 57.89 332 ⇑P P 18 03 13.1 +0.5
baz=58
LONY Lake Ozonia 57.99 2 eP P 18 03 12.5 -0.3
comp=Z,131nm,1.5s
Q26A Hugo 58.02 335 ⇓P P 18 03 13.5 +0.2
baz=58
S23A Nye Farm, Mont 58.05 333 ⇑P P 18 03 14.1 +0.4
baz=58
R24A Sanders Place, 58.09 334 ⇑P P 18 03 14.4 +0.5
baz=58
X16A Lo Mia Camp, P 58.14 326 ⇓P P 18 03 14.5 +0.2
baz=58
U20A Newcomb 58.15 330 ⇓P P 18 03 14.2 -0.2
baz=58,SNR=5.3
T21A Navajo Lake 58.17 331 ⇑P P 18 03 14.8 +0.3
baz=58
Z14A Wintersburg 58.19 324 ⇓P P 18 03 15.0 +0.6
baz=58
113A Mohawk Valley, 58.23 323 ⇓P P 18 03 15.3 +0.7
baz=58
FRNY Flat Rock 58.24 3 eP P 18 03 14.7 +0.2
comp=Z,86nm,0.8s
W17A Winslow 58.25 327 ⇑P P 18 03 15.8 +0.8
baz=58
WVL Waterville 58.25 6 eP P 18 03 15.0 +0.4
comp=Z,63nm,1.1s
BGNE Belgrade 58.27 341 ⇓P P 18 03 14.0 -0.8
baz=58,SNR=9.1
Q25A Bedland, Calha 58.31 335 ⇓P P 18 03 15.3 -0.1
baz=58
V18A Ganado 58.33 328 ⇑P P 18 03 15.5 -0.1
baz=58
MSNY Massena 58.37 1 eP P 18 03 14.8 -0.5
comp=Z,535nm,0.8s
R23A Moffat 58.37 333 ⇓P P 18 03 15.8 -0.2
baz=59,SNR=8.0
U19A Dine' College, 58.42 329 ⇑P P 18 03 16.0 -0.3
baz=59
S22A 4UR Ranch, Cre 58.46 332 ⇓P P 18 03 16.7 +0.1
baz=59,SNR=10
P26A Davis Ranch, A 58.49 336 ⇑P P 18 03 16.3 -0.3
baz=59
GLMI Grayling 58.62 353 P P 18 03 16.4 -0.8
GLMI LR LR
comp=Z,9μm,19.0s
Y14A Wickenburg 58.64 325 ⇓P P 18 03 17.6 0.0
baz=59
O27A Beecher Island 58.70 337 ⇑P P 18 03 18.0 0.0
baz=59
V17A Tonalea, Kykot 58.71 328 ⇑P P 18 03 18.7 +0.5
baz=59,SNR=11
Q24A Divide 58.73 334 ⇓P P 18 03 18.4 0.0
baz=59
T19A Beclabito 58.76 330 ⇓P P 18 03 18.1 -0.4
baz=59
P25A Willow Gulch B 58.78 335 ⇓P P 18 03 18.6 -0.1
baz=59
MVCO Mesa Verde 58.80 330 eP P 18 03 18.1 -0.8
comp=Z,34nm,1.0s
MVCO Mesa Verde 58.80 330 ⇓P P 18 03 19.1 +0.2
baz=59,SNR=12
R22A Saguache, Gunn 58.82 332 ⇑P P 18 03 19.1 0.0
baz=59
S21A Coal Bank Pass 58.83 331 ⇓P P 18 03 18.9 -0.3
baz=59,SNR=9.6
U18A Rough Rock, Ch 58.85 329 ⇓P P 18 03 19.4 +0.2
baz=59
WUAZ Wupatki 58.93 327 eP P 18 03 20.1 +0.3
comp=Z,80nm,1.4s
WUAZ Wupatki 58.93 327 ⇑P P 18 03 20.3 +0.5
baz=59,SNR=5.4
Q23A Hartsel 58.97 334 ⇑P P 18 03 20.1 0.0
baz=59
GLA Glamis 59.05 323 eP P 18 03 22.1 +1.6
GLA Glamis 59.05 323 eP P 18 03 22.1 +1.6
GLA Glamis 59.05 323 ⇓P P 18 03 20.7 +0.2
baz=59
O26A Horse Wrangler 59.06 336 ⇑P P 18 03 20.7 +0.1
baz=59
P24A Kohler Place, 59.09 335 ⇑P P 18 03 20.7 -0.1
baz=59
OGNE Ogallala 59.19 338 eP P 18 03 20.2 -1.1
comp=Z,99nm,1.3s
OGNE Ogallala 59.19 338 ⇓P P 18 03 21.3 0.0
baz=59
S20A Disappointment 59.23 331 ⇑P P 18 03 22.1 +0.2
baz=59,SNR=22
N27A Anderson Farm, 59.25 337 ⇓P P 18 03 21.6 -0.2
baz=60
O25A Wiggins 59.27 336 ⇑P P 18 03 22.1 +0.1
baz=60
U16A Tuba City 59.28 328 ⇑P P 18 03 22.3 +0.1
baz=60
R21A Cimarron 59.29 332 ⇑P P 18 03 22.5 +0.2
baz=60,SNR=8.7
P23A Jefferson 59.36 334 ⇓P P 18 03 23.1 +0.2
baz=60
Y12C Blythe 59.37 323 ⇓P P 18 03 23.1 +0.4
baz=60
U17A Shonto 59.39 328 ⇓P P 18 03 23.3 +0.3
baz=60
Q22A Crested Butte, 59.41 333 ⇑P P 18 03 23.5 +0.4
baz=60
T18A Mexican Hat 59.41 329 ⇓P P 18 03 23.1 0.0
baz=60,SNR=22
R20A Redvale 59.53 331 ⇑P P 18 03 24.5 +0.6
baz=60,SNR=12
N26A Koester Ranch, 59.53 337 ⇓P P 18 03 23.8 0.0
baz=60
DVTC Desert V Tower 59.53 321 ⇑P P 18 03 24.4 +0.5
baz=60
S19A Harvey Farm, M 59.54 330 ⇓P P 18 03 24.0 +0.1
baz=60,SNR=19
SWSC Sam W. Stewart 59.55 322 ⇓P P 18 03 24.4 +0.5
baz=60
PDMCI Parker Dam,Lak 59.55 324 ⇓P P 18 03 24.2 +0.4
baz=60
PV01 Paradox Valley 59.58 331 eP P 18 03 25.9 +1.7
comp=Z,4μm,1.2s

ISCO Idaho Springs 59.62 334 eP P 18 03 26.0 +1.4
ISCO pmax pmax
comp=Z,311nm,2.8s
ISCO Idaho Springs 59.62 334 eP P 18 03 26.0 +1.4
comp=Z,311nm,2.8s
ISCO Idaho Springs 59.62 334 ⇑P P 18 03 24.6 0.0
baz=60
O24A Longmont 59.67 335 ⇓P P 18 03 24.7 0.0
baz=60
Q21A Lamborn Mesa, 59.68 332 ⇑P P 18 03 25.2 +0.2
baz=60
SMCO Snowmass 59.69 333 eP P 18 03 25.4 +0.1
comp=Z,55nm,1.3s
T17A Navajo Res., N 59.77 329 ⇓P P 18 03 25.9 +0.3
baz=60,SNR=25
M27A Reverse DX Ran 59.83 338 ⇑P P 18 03 25.8 +0.1
baz=60
BC3 Big Chuckawall 59.84 323 ⇓P P 18 03 26.2 +0.2
baz=60
N25A Grover 59.86 336 ⇑P P 18 03 26.0 0.0
baz=60
MONP Monument Peak 59.89 321 ⇑P P 18 03 26.5 0.0
baz=60
BAR Barrett 59.90 321 eP P 18 03 28.0 +1.7
S18A Hurst Farm, BI 59.91 330 ⇓P P 18 03 26.7 +0.1
baz=60,SNR=18
ECSD EROS Data Cent 59.94 343 eP P 18 03 25.1 -1.3
ECSD LR LR
comp=Z,72nm,1.1s
comp=Z,3μm,22.0s
PV04 Paradox Valley 59.94 331 eP P 18 03 26.5 -0.2
P22A Eagle 59.94 333 ⇓P P 18 03 26.8 0.0
baz=60,SNR=6.1
W13A Hualapai Mount 59.98 325 ⇓P P 18 03 27.6 +0.5
baz=60,SNR=9.1
IRM Iron Mountain 60.03 323 ⇓P P 18 03 27.6 +0.4
baz=60,SNR=14
R19A Curley Farm, L 60.03 331 ⇑P P 18 03 27.3 -0.1
baz=60
M26A McRoberts Ranc 60.05 337 ⇑P P 18 03 27.4 0.0
baz=60
O23A Lake Granby, G 60.09 334 ⇑P P 18 03 27.6 -0.2
baz=60,SNR=5.4
Q20A Ridgley Place, 60.11 332 ⇑P P 18 03 27.8 0.0
baz=60
U15A North Rim 60.11 327 ⇑P P 18 03 28.4 +0.4
baz=60,SNR=8.6
NEE2 Needles Airpor 60.16 324 ⇓P P 18 03 28.1 +0.1
baz=60
N24A Carr 60.18 336 ⇓P P 18 03 28.5 +0.2
baz=60
P21A Newcastle 60.19 333 ⇓P P 18 03 28.8 +0.3
baz=60
S17A Black Ridge (B 60.27 329 ⇑P P 18 03 29.0 +0.1
baz=60
L27A T5 Ranch, Ells 60.28 338 ⇑P P 18 03 29.2 +0.3
baz=60
109C Camp Elliot, M 60.30 321 ⇓P P 18 03 29.2 +0.1
baz=60
O22A Kremmling 60.32 334 ⇓P P 18 03 29.5 +0.1
baz=60,SNR=6.6
M25A Palm-Egli Farm 60.37 336 ⇓P P 18 03 29.4 -0.1
baz=61
SPMN St. Paul 60.39 347 ⇑P P 18 03 27.9 -1.5
baz=61,SNR=8.0
PFO Pinyon Flat Ob 60.41 322 eP P 18 03 31.5 +1.5
comp=Z,98nm,1.7s
PFO Pinyon Flat Ob 60.41 322 ⇓P P 18 03 29.7 -0.2
baz=61
R18A Canyonlands Na 60.41 330 ⇑P P 18 03 29.6 -0.3
baz=61
BELC Belle Mtn. Jos 60.41 323 ⇓P P 18 03 30.4 +0.5
baz=61,SNR=7.4
PQI Presecige Isle 60.51 7 eP P 18 03 30.4 +0.3
comp=Z,54nm,0.4s
COWI Conover 60.51 350 eP P 18 03 30.4 +0.2
COWI LR LR
comp=Z,248nm,2.1s
comp=Z,6μm,20.0s
L26A Underwood Farm 60.52 338 ⇑P P 18 03 30.6 +0.1
baz=61
Q19A Hogan Spring (60.56 331 ⇑P P 18 03 31.0 +0.2
baz=61
P20A De Beque 60.59 332 ⇓P P 18 03 31.4 +0.3
baz=61
LDFC Landfair 60.66 324 eP P 18 03 32.6 +1.0
N23A Red Feather La 60.67 335 ⇓P P 18 03 32.1 +0.3
baz=61
M24A Cheyenne 60.70 336 ⇑P P 18 03 32.3 +0.4
baz=61
S16A Weppner Ranch, 60.73 329 ⇑P P 18 03 32.1 -0.1
baz=61,SNR=6.6
O21A Pagoda 60.76 333 ⇓P P 18 03 32.8 +0.4
baz=61
GMRC Granite Mounta 60.76 324 ⇓P P 18 03 32.9 +0.6
baz=61,SNR=8.8
N22A Wattenberg Ran 60.81 334 ⇑P P 18 03 32.6 -0.1
baz=61
PHWY Pilot Hill 60.82 335 eP P 18 03 33.4 +0.6
comp=Z,50nm,1.4s
R17A Hanksville Air 60.83 330 ⇑P P 18 03 32.4 -0.3
baz=61,SNR=7.0
MURC Murrieta 60.85 322 ⇓P P 18 03 33.2 +0.3
baz=61
P19A Cripple Cowboy 60.97 332 ⇓P P 18 03 33.5 -0.2
baz=61,SNR=11
O20A White River Ci 61.04 333 ⇓P P 18 03 34.4 +0.3
baz=61
M23A Laramie 61.06 335 ⇓P P 18 03 34.1 -0.3
baz=61,SNR=7.2
Q18A Rafter H Ranch 61.09 331 ⇑P P 18 03 34.4 0.0
baz=61,SNR=5.3
R16A Teasdale 61.11 329 ⇓P P 18 03 34.8 0.0
baz=61
K26A Motz Farm, Whi 61.14 338 ⇑P P 18 03 34.9 +0.2
baz=61
BBRC Big Bear Solar 61.14 322 ⇓P P 18 03 35.7 +0.6
baz=61
HEC Hector,Ludlow 61.19 323 ⇓P P 18 03 35.8 +0.6
baz=61
N21A Black Mountain 61.23 334 ⇑P P 18 03 36.2 +0.7
baz=61
L24A Wheatland 61.23 336 ⇑P P 18 03 35.4 0.0
baz=62
SCI San Clemente I 61.26 320 ⇓P P 18 03 35.9 +0.4
baz=61
BRSD Miller 61.27 342 ⇑P P 18 03 34.9 -0.5
baz=62
SRU San Rafael 61.28 330 eP P 18 03 35.2 -0.7
SRU pmax pmax
comp=Z,39nm,1.2s
SRU San Rafael 61.28 330 eP P 18 03 35.2 -0.7
comp=Z,39nm,1.2s
SRU San Rafael 61.28 330 ⇓P P 18 03 35.8 0.0
baz=62,SNR=11
K25A Mack Ranch, Ha 61.31 337 ⇑P P 18 03 36.1 +0.2
baz=62
M22A Cedar Creek Ra 61.37 335 ⇑P P 18 03 36.3 -0.1
baz=62
TUQ Turquoise Moun 61.38 324 ⇑P P 18 03 36.8 +0.3
baz=62
Q16A Castle Valley 61.44 330 ⇑P P 18 03 37.4 +0.5
baz=62
TRIS Tristan da Cun 61.45 125 eP P 18 03 36.8 -0.1
comp=Z,187nm,0.3s
CIS Catalina Islan 61.45 321 ⇓P P 18 03 36.9 0.0
baz=62
R15A Junction 61.45 328 ⇓P P 18 03 37.2 +0.2
baz=62
CCUT Cedar City 61.52 327 eP P 18 03 38.2 +0.7
comp=Z,401nm,2.6s
P18A Preston Nutter 61.55 331 ⇓P P 18 03 38.1 +0.2
baz=62,SNR=9.0
BFSC Mount Baldy Ra 61.56 322 ⇑P P 18 03 37.7 -0.1
baz=62
O19A Miners Draw (B 61.57 332 ⇑P P 18 03 37.4 -0.3
baz=62,SNR=9.2
FMP Fort Macarthur 61.59 321 ⇓P P 18 03 38.0 +0.2
baz=62
L23A Garrett 61.60 336 ⇑P P 18 03 37.9 -0.1
baz=62
RRX Edison Barstow 61.62 323 ⇓P P 18 03 38.7 +0.7
baz=62
N20A Spence Gulch, 61.62 333 ⇓P P 18 03 38.0 -0.1
baz=62,SNR=9.7
MSU Marysvale 61.63 329 eP P 18 03 38.3 0.0
MSU Marysvale 61.63 329 eP P 18 03 38.3 0.0
P17A Butcher Ranch, 61.67 330 ⇓P P 18 03 38.2 -0.2
baz=62,SNR=6.3
ARUT Antelope Range 61.73 327 eP P 18 03 39.5 +0.6
ARUT pmax pmax
comp=Z,81nm,1.3s
ARUT Antelope Range 61.73 327 eP P 18 03 39.5 +0.6
comp=Z,81nm,1.3s
TMUT Trail Mountain 61.76 330 eP P 18 03 39.1 0.0
comp=Z,142nm,2.0s
K24A Anderson Ranch 61.77 337 ⇓P P 18 03 39.0 0.0
baz=62
MWC Mount Wilson 61.80 321 eP P 18 03 41.8 +2.4
MWC pmax pmax
comp=Z,76nm,1.3s
MWC Mount Wilson 61.80 321 eP P 18 03 41.8 +2.4
comp=Z,76nm,1.3s
GSC Goldstone 61.80 323 eP P 18 03 41.5 +2.2
GSC pmax pmax
comp=Z,113nm,1.8s
GSC Goldstone 61.80 323 eP P 18 03 41.5 +2.2
comp=Z,113nm,1.8s
GSC Goldstone 61.80 323 ⇑P P 18 03 39.6 +0.3
baz=62
L22A Ellis Ranch, M 61.83 335 ⇓P P 18 03 39.9 +0.4
baz=62
PASC Pasadena Art C 61.84 321 eP P 18 03 41.3 +1.8
comp=Z,50nm,1.1s
M21A Separation Pea 61.86 334 ⇑P P 18 03 39.7 -0.1
baz=62,SNR=9.5
SHOC Shoshone 61.91 324 ⇑P P 18 03 40.4 +0.4
baz=62
O18A Roosevelt 61.95 331 ⇑P P 18 03 40.6 +0.3
baz=62
DECC Green Verdugo 61.98 321 ⇑P P 18 03 41.0 +0.5
baz=62
N19A John Jarvie Ra 62.07 332 ⇓P P 18 03 40.8 -0.3
baz=62,SNR=22
K23A Bowen Ranch, D 62.11 336 ⇑P P 18 03 40.9 -0.4
baz=62
M20A Sweetwater, Wa 62.12 334 ⇑P P 18 03 41.5 +0.1
baz=62,SNR=5.5
L21A Rawlins 62.16 334 ⇑P P 18 03 41.5 -0.3
baz=62,SNR=14
EDW2 Edwards Air Fo 62.20 322 ⇓P P 18 03 42.0 0.0
baz=62,SNR=8.4
P16A Fountain Green 62.22 330 ⇓P P 18 03 42.4 +0.2
baz=62
J24A Dixon Ranch, L 62.23 337 ⇑P P 18 03 42.5 +0.4
baz=62
O17A Robinson Place 62.23 331 ⇑P P 18 03 42.9 +0.6
baz=62,SNR=7.7
R13A O'Grain Ranch, 62.30 327 ⇑P P 18 03 43.9 +1.1
baz=62,SNR=14
BLG Laguna Peak 62.33 321 ⇑P P 18 03 42.8 0.0
baz=62
K22A Casper 62.38 335 ⇑P P 18 03 43.0 -0.2
baz=63,SNR=5.5
LRMC Laurel Mountai 62.44 323 ⇓P P 18 03 44.2 +0.6
baz=63
OSI Osito Adit 62.46 321 ⇑P P 18 03 43.7 0.0
baz=63
P15A Leamington 62.49 329 ⇑P P 18 03 44.3 +0.4
baz=63
MPU Maple Canyon 62.52 330 eP P 18 03 45.4 +1.2
comp=Z,79nm,1.7s
M19A Rock Springs 62.55 333 ⇓P P 18 03 43.6 -0.7
baz=63
L20A Wamsutter 62.61 334 ⇑P P 18 03 44.4 -0.3
baz=63
BSC Santa Cruz Isl 62.61 320 ⇑P P 18 03 44.9 +0.2
baz=63
J23A Dilts Ranch, B 62.63 337 ⇑P P 18 03 44.6 -0.2
baz=63
FURC Furnace Creek, 62.65 324 ⇓P P 18 03 45.1 +0.3
baz=63
DAU Daniels Canyon 62.65 331 eP P 18 03 45.5 +0.3
DAU Daniels Canyon 62.65 331 eP P 18 03 45.5 +0.3
K21A Alcova 62.66 335 ⇑P P 18 03 44.9 -0.2
baz=63,SNR=14
I24A Kuemmerle Ranc 62.67 338 ⇑P P 18 03 44.9 0.0
baz=63
RSSD Black Hills 62.68 338 eP P 18 03 43.8 -1.4
RSSD pmax pmax
comp=Z,85nm,1.7s
RSSD Black Hills 62.68 338 eP P 18 03 43.8 -1.4
comp=Z,85nm,1.7s
EYMN Ely 62.72 349 PFAKE 18 04 00.0 +15
EYMN LR LR
comp=Z,4μm,21.0s
MPMC Manual Prospec 62.72 323 ⇓P P 18 03 45.7 +0.1
baz=63,SNR=7.2
N17A Moffit Pass 62.87 331 ⇑P P 18 03 46.5 -0.1
baz=63,SNR=11
ARVC Arvin 62.87 322 ⇑P P 18 03 46.8 +0.4
baz=63
JLU Jordanelle 62.89 331 eP P 18 03 46.7 0.0
comp=Z,74nm,1.3s
M18A Lyman 62.90 332 ⇑P P 18 03 46.2 -0.5
baz=63
DAC Darwin (Calif) 62.93 323 PFAKE 18 04 00.0 +13
DAC LR LR
comp=Z,4μm,19.0s
SBC Santa Barbara 62.95 321 ⇑P P 18 03 45.8 -1.1
baz=63
J22A Midwest 63.00 336 ⇓P P 18 03 46.6 -0.6
baz=63
ISA Isabella 63.03 322 eP P 18 03 49.7 +2.2
ISA pmax pmax
comp=Z,179nm,2.2s
ISA Isabella 63.03 322 eP P 18 03 49.7 +2.2
comp=Z,179nm,2.2s
ISA Isabella 63.03 322 ⇓P P 18 03 48.1 +0.6
baz=63,SNR=6.7
I23A Meade Ranch, G 63.07 337 ⇓P P 18 03 47.5 -0.2
baz=63
N16A Rees Ranch, Co 63.11 331 ⇑P P 18 03 48.5 +0.4
baz=63,SNR=7.9
L19A Farson 63.12 333 ⇑P P 18 03 48.0 -0.2
baz=63,SNR=5.8
O15A The Old Anders 63.13 330 ⇑P P 18 03 48.8 +0.6
baz=63
K20A Yellowstone Ra 63.14 334 ⇑P P 18 03 47.5 -0.7
baz=63,SNR=7.6
M17A Scullys Gap (B 63.21 332 ⇑P P 18 03 48.5 -0.2
baz=63,SNR=12
DUG Dugway 63.24 330 eP P 18 03 49.4 +0.5
DUG pmax pmax
comp=Z,115nm,1.5s
DUG MLR MLR
comp=Z,4μm,20.0s
DUG Dugway 63.24 330 eP P 18 03 49.4 +0.5
comp=Z,115nm,1.5s
DUG LR LR
comp=Z,4μm,20.0s
DUG Dugway 63.24 330 ⇓P P 18 03 48.8 -0.1
baz=63,SNR=7.4
L18A Fontenelle, Gr 63.28 333 ⇓P P 18 03 48.7 -0.5
baz=64
R11A Troy Canyon, C 63.29 326 ⇑P P 18 03 50.0 +0.7
baz=64,SNR=18
GRAC Grapevine Rang 63.31 324 ⇑P P 18 03 49.8 +0.5
baz=64
PKM Peak Mountain 63.32 321 ⇓P P 18 03 50.1 +0.5
baz=64
CWC Cottonwood Cre 63.33 323 ⇑P P 18 03 50.2 +0.6
baz=64
J21A Lysite 63.33 335 ⇑P P 18 03 49.2 -0.3
baz=64,SNR=10
H24A Dirks Ranch, A 63.40 338 ⇓P P 18 03 49.1 -0.7
baz=64,SNR=7.9
I22A 9 Mile Ranch, 63.41 336 ⇑P P 18 03 50.3 +0.4
baz=64
K19A Absolon Red Bu 63.49 334 ⇑P P 18 03 49.6 -1.0
baz=64,SNR=7.8
VES Vestal, Richgr 63.51 322 ⇑P P 18 03 51.1 +0.6
baz=64
H23A Clabaugh Cattl 63.56 337 ⇑P P 18 03 49.8 -1.0
baz=64
J20A Shoshoni 63.60 335 ⇓P P 18 03 50.9 -0.3
baz=64,SNR=8.4
N15A Stansbury Isla 63.63 330 ⇓P P 18 03 51.5 +0.1
baz=64
I21A Big Trails, Te 63.66 336 ⇓P P 18 03 51.0 -0.6
baz=64,SNR=15
SMMC Simmler 63.71 321 ⇑P P 18 03 52.7 +0.7
baz=64
HWUT Hardware Ranch 63.73 331 eP P 18 03 51.7 -0.4
HWUT LR LR
comp=Z,6μm,19.0s

BW06 Boulder Array 63.75 333 *e*P **P 18 03 51.8 -0.5**
BW06 LR LR
comp=Z,4µm,20.0s
BW06 Boulder Array 63.75 333 ⇑P **P 18 03 51.6 -0.7**
baz=64,SNR=8.8
PDAR Pinedale Array 63.75 333 P **P 18 03 51.2 -1.1**
PDAR ⇑*e* 18 32 52.7
PDAR Pinedale Array 63.75 333 P **P 18 03 51.2 -1.1**
comp=Z,6.6nm,1.0s,baz=125,slow=8.6,SNR=25
PDAR LR LR 18 31 29.2
comp=Z,4µm,20.8s,baz=146,slow=36
PDAR PKP2bc 18 32 52.7
comp=Z,0.9nm,1.0s,baz=260,slow=5.4,SNR=3.9
PD02 Pinedale Array 63.76 333 *e*P **P 18 03 51.1 -1.3**
PD01 Pinedale Array 63.77 333 *e*P **P 18 03 50.7 -1.7**
L17A Cokeville 63.80 332 ⇓P **P 18 03 52.3 -0.4**
baz=64
TIN Tinemaha 63.84 324 ⇑P **P 18 03 53.7 +0.8**
baz=64
G24A Alzada 63.85 338 ⇓P **P 18 03 52.3 -0.5**
baz=64
K18A Toltan Ranch, 63.86 333 ⇑P **P 18 03 53.1 +0.1**
baz=64,SNR=11
RCTC Rector, Farmer 63.92 322 ⇓P **P 18 03 53.6 +0.3**
baz=64
J19A Crowheart 63.94 334 ⇓P **P 18 03 53.0 -0.4**
baz=64
H22A Clearmont 63.95 337 ⇑P **P 18 03 53.0 -0.4**
baz=64
AGMN Agassiz Nation 63.99 346 *e*P **P 18 03 52.8 -0.7**
comp=Z,94nm,1.1s
AGMN LR LR
comp=Z,5µm,21.0s
M15A Larsen Ranch, 64.03 331 ⇓P **P 18 03 54.1 0.0**
baz=64,SNR=12
G23A Biddle 64.10 338 ⇓P **P 18 03 53.8 -0.6**
baz=64,SNR=5.9
I20A Worland 64.11 335 ⇑P **P 18 03 54.1 -0.5**
baz=64,SNR=7.0
H21A Big Horn, Sher 64.24 336 ⇓P **P 18 03 54.7 -0.7**
baz=64
MTUM Tungsten Hills 64.24 324 *e*P **P 18 03 57.9 +2.3**
J18A Kendall Valley 64.31 333 ⇑P **P 18 03 55.4 -0.6**
baz=64,SNR=12
F24A Ekalaka 64.31 339 ⇓P **P 18 03 55.1 -0.7**
baz=64,SNR=6.1
K17A Gardner Place, 64.34 333 ⇓P **P 18 03 55.8 -0.3**
baz=64
L15A Malad City 64.42 331 ⇓P **P 18 03 56.1 -0.5**
baz=65,SNR=9.2
AHID Auburn Hatcher 64.43 332 *e*P **P 18 03 58.1 +1.4**
AHID LR LR
comp=Z,5µm,21.0s
HVU Hansel Valley 64.43 331 *e*P **P 18 03 56.8 +0.1**
HVU pmax pmax
comp=Z,30nm,1.0s
HVU Hansel Valley 64.43 331 *e*P **P 18 03 56.8 +0.1**
comp=Z,30nm,1.0s
G22A Birney 64.45 337 ⇑P **P 18 03 56.1 -0.6**
baz=65
H20A Greybull 64.50 336 ⇑P **P 18 03 56.2 -0.8**
baz=65,SNR=8.3
I19A Meeteetse 64.54 335 ⇓P **P 18 03 57.3 -0.2**
baz=65
MDND Maddock 64.55 343 ⇓P **P 18 03 56.8 -0.3**
baz=65,SNR=11
F23A Volborg 64.55 338 ⇑P **P 18 03 56.7 -0.6**
baz=65
MLAC Mammoth Lakes 64.59 324 ⇓P **P 18 03 57.7 -0.2**
baz=65
I18A Diamond G Ranc 64.61 334 ⇑P **P 18 03 57.4 -0.5**
baz=65,SNR=7.4
K16A Soda Springs 64.70 332 ⇑P **P 18 03 58.2 -0.3**
baz=65,SNR=13
J17A Brown Place, J 64.73 333 ⇓P **P 18 03 58.6 -0.1**
baz=65
REDW Red Top Meadow 64.79 333 *e*P **P 18 03 57.9 -1.3**
G21A Lodge Grass 64.81 337 ⇑P **P 18 03 58.2 -0.8**
baz=65,SNR=5.8
NVAR Mina Array Bea 64.84 325 P **P 18 03 59.7 +0.2**
NVAR ⇑*e* 18 32 51.5
NVAR Mina Array Bea 64.84 325 P **P 18 03 59.7 +0.2**
comp=Z,5.0nm,0.8s,baz=142,slow=6.2,SNR=28
NVAR PKP2bc 18 32 51.5
comp=Z,1.6nm,1.2s,baz=249,slow=1.3,SNR=5.0
L14A Malta 64.85 331 ⇓P **P 18 03 59.0 -0.4**
baz=65,SNR=8.3
ELK Elko 64.87 328 *e*P **P 18 03 59.6 -0.1**
E24A Baker 64.88 339 ⇓P **P 18 03 59.0 -0.4**
baz=65
LOHW Long Hollow 64.88 333 *e*P **P 18 03 59.0 -0.7**
F22A Rosebud 64.91 338 ⇑P **P 18 03 59.1 -0.6**
baz=65
TPAW Teton Pass 64.94 333 *e*P **P 18 03 59.7 -0.5**
RRI2 Red Ridge 64.99 333 *e*P **P 18 03 59.9 -0.6**
K15A Arbon 65.02 331 ⇓P **P 18 04 00.5 0.0**
baz=65
MOOW Moose Ponds 65.05 333 *e*P **P 18 04 01.0 +0.2**
H19A Powell 65.06 335 ⇑P **P 18 04 00.6 -0.1**
baz=65
J16A Bone 65.06 332 ⇑P **P 18 04 00.8 -0.1**
baz=65,SNR=11
I17A Pilgrim Ck. 65.12 334 ⇓P **P 18 04 01.5 +0.3**
baz=65
DCID1 Drake Creek 65.12 333 *e*P **P 18 04 01.1 -0.1**
comp=Z,37nm,0.9s
E23A Ismay 65.18 339 ⇑P **P 18 04 00.7 -0.7**
baz=65
G20A Bridger 65.20 336 ⇓P **P 18 04 00.8 -0.8**
baz=65,SNR=5.2
K14A Jones Ranch, D 65.21 331 ⇑P **P 18 04 01.3 -0.5**
baz=65,SNR=7.6
F21A Absaloka Mine, 65.27 337 ⇓P **P 18 04 01.5 -0.5**
baz=66
FLWY Flagg Ranch 65.30 334 *e*P **P 18 04 03.0 +0.6**
H18A Shoshone NF, C 65.34 335 ⇑P **P 18 04 02.2 -0.5**
baz=66
E22A Miles City 65.36 338 ⇑P **P 18 04 02.1 -0.4**
baz=66,SNR=6.1
D24A Glendive 65.37 340 ⇑P **P 18 04 02.7 +0.1**
baz=66,SNR=7.6
I16A Newdale 65.48 333 ⇑P **P 18 04 03.5 0.0**
baz=66,SNR=8.0
H17A Grant Village 65.50 334 ⇓P **P 18 04 04.5 +0.7**
baz=66
J15A Blackfoot 65.53 332 ⇑P **P 18 04 03.5 -0.4**
baz=66,SNR=9.2
RLMT Red Lodge 65.54 335 *e*P **P 18 04 03.5 -0.4**
RLMT Red Lodge 65.54 335 ⇑P **P 18 04 03.3 -0.6**
baz=66,SNR=12
SAO San Andreas Ge 65.55 322 P **P 18 04 04.9 +1.0**
SAO San Andreas Ge 65.55 322 P **P 18 04 04.9 +1.0**
LKWY Lake 65.56 334 *e*P **P 18 04 05.1 +1.0**
LKWY pmax pmax
comp=Z,28nm,1.0s
LKWY Lake 65.56 334 *e*P **P 18 04 05.1 +1.0**
comp=Z,28nm,1.0s
F20A Billings 65.65 336 ⇓P **P 18 04 04.5 0.0**
baz=66
YFT Old Faithful 65.65 334 *e*P **P 18 04 06.5 +1.7**
comp=Z,32nm,1.0s
BMN Battle Mountai 65.67 327 PFAKE 18 04 20.0 +15
BMN LR LR
comp=Z,3µm,22.0s
D23A Lindsay 65.72 339 ⇑P **P 18 04 04.8 0.0**
baz=66,SNR=7.1
BBTS Babate 65.75 67 P **P 18 04 06.7 +1.2**
BBTS Babate 65.75 67 P **P 18 04 06.7 +1.2**
comp=Z,34nm,0.7s,baz=74,slow=1.0,SNR=4.4
CMB Columbia Colle 65.76 323 *e*P **P 18 04 07.3 +2.0**
CMB Columbia Colle 65.76 323 *e*P **P 18 04 07.3 +2.0**
C24A Savage 65.76 340 ⇓P **P 18 04 05.3 +0.2**
baz=66
YNR Norris Junctio 65.80 334 *e*P **P 18 04 07.8 +2.1**
comp=Z,27nm,1.1s
ULM Lac du Bonnet 65.82 347 *e*P **P 18 04 04.0 -1.3**
comp=Z,36nm,0.7s
ULM Lac du Bonnet 65.82 347 P **P 18 04 04.3 -1.0**
comp=Z,47nm,0.9s,baz=164,slow=6.2,SNR=57
G18A Lazy EL Ranch, 65.82 335 ⇑P **P 18 04 05.3 -0.4**
baz=66,SNR=15
E21A Keefer Ranch, 65.86 337 ⇓P **P 18 04 05.6 -0.2**
baz=66
YMR Madison River 65.88 334 *e*P **P 18 04 07.8 +1.6**
comp=Z,82nm,1.3s
J14A Carey 65.97 331 ⇑P **P 18 04 07.3 +0.6**
baz=66,SNR=22

F19A Roth Farm, Mol 66.01 336 ⇑P **P 18 04 06.7 -0.1**
baz=66,SNR=18
I15A Monteview 66.02 332 ⇓P **P 18 04 07.7 +0.7**
baz=66
H16A Russell Place, 66.03 334 ⇑P **P 18 04 07.7 +0.6**
baz=66,SNR=13
D22A Cohagen 66.05 338 ⇑P **P 18 04 07.2 +0.2**
baz=66,SNR=23
QLMT Earthquake Lak 66.21 334 *e*P **P 18 04 09.4 +1.1**
E20A Meyer Farm, Mu 66.23 337 ⇑P **P 18 04 08.4 +0.3**
baz=66,SNR=15
C23A Lambert 66.26 339 ⇓P **P 18 04 08.4 +0.1**
baz=66,SNR=9.4
WCN Washoe City 66.26 325 *e*P **P 18 04 09.0 +0.3**
WCN pmax pmax
comp=Z,28nm,1.1s
WCN Washoe City 66.26 325 *e*P **P 18 04 09.0 +0.3**
comp=Z,28nm,1.1s
WCN Washoe City 66.26 325 ⇓P **P 18 04 09.6 +0.9**
baz=66
D21A La Casta Ranch 66.27 338 ⇓P **P 18 04 09.0 +0.6**
baz=66,SNR=14
G17A Pierce Place, 66.31 334 ⇑P **P 18 04 09.8 +1.0**
baz=66
J13A Cove Ranch, Pi 66.34 331 ⇑P **P 18 04 09.2 +0.2**
baz=66,SNR=10
F18A Big Timber 66.36 335 ⇑P **P 18 04 09.1 0.0**
baz=67,SNR=11
I14A Mackay 66.41 332 ⇑P **P 18 04 09.8 +0.3**
baz=67,SNR=12
E19A Rath Farm, Rou 66.45 336 ⇑P **P 18 04 09.3 -0.3**
baz=67,SNR=7.9
C22A Vida 66.45 339 ⇑P **P 18 04 09.4 -0.1**
baz=67,SNR=14
DGMT Dagmar 66.51 340 *e*P **P 18 04 09.9 +0.1**
DGMT LR LR
comp=Z,126nm,1.3s
DGMT LR LR
comp=Z,2µm,20.0s
DGMT Dagmar 66.51 340 ⇑P **P 18 04 09.8 -0.1**
baz=67,SNR=8.5
HLID Hailey 66.58 331 *e*P **P 18 04 09.8 -0.8**
comp=Z,404nm,3.0s
HLID Hailey 66.58 331 ⇑P **P 18 04 10.9 +0.3**
baz=67,SNR=18
H15A Lima 66.58 333 ⇓P **P 18 04 11.1 +0.5**
baz=67,SNR=7.0
G16A Moss Hill, Enn 66.69 334 ⇓P **P 18 04 11.2 -0.1**
baz=67,SNR=9.8
I13A Wildhorse Cree 66.70 331 ⇑P **P 18 04 11.6 +0.1**
baz=67,SNR=17
D20A Manuel Ranch, 66.72 337 ⇓P **P 18 04 11.2 -0.1**
baz=67,SNR=19
F17A Fitzpatrick Pl 66.75 335 ⇑P **P 18 04 11.8 +0.2**
baz=67,SNR=9.1
B23A Brockton 66.76 340 ⇓P **P 18 04 11.6 +0.2**
baz=67,SNR=15
MCMT McKenzie Canyo 66.83 333 *e*P **P 18 04 12.4 +0.1**
comp=Z,6.1nm,0.7s
A24A Westby 66.84 341 ⇑P **P 18 04 12.1 +0.2**
baz=67,SNR=14
H14A Leadore 66.90 332 ⇓P **P 18 04 12.7 +0.1**
baz=67,SNR=9.6
G15A Dillon 66.94 333 ⇑P **P 18 04 13.1 +0.3**
baz=67,SNR=9.2
BOZ Bozeman (W) 66.95 334 *e*P **P 18 04 12.3 -0.6**
BOZ pmax pmax
comp=Z,29nm,1.3s
BOZ MLR MLR
comp=Z,3µm,20.0s
BOZ Bozeman (W) 66.95 334 *e*P **P 18 04 12.3 -0.6**
comp=Z,29nm,1.3s
BOZ LR LR
comp=Z,3µm,20.0s
BOZ Bozeman (W) 66.95 334 ⇓P **P 18 04 12.5 -0.4**
baz=67
C21A Desert Coulee 66.95 338 ⇑P **P 18 04 12.7 0.0**
baz=67,SNR=10
B22A Reddig Ranch S 66.97 339 ⇑P **P 18 04 13.0 +0.2**
baz=67,SNR=9.6
E18A Harlowton 66.98 336 ⇓P **P 18 04 13.2 +0.2**
baz=67,SNR=7.2
F16A Kennard Place, 67.06 334 ⇓P **P 18 04 13.6 +0.1**
baz=67,SNR=5.6
D19A Cripps Ranch, 67.06 337 ⇑P **P 18 04 13.4 -0.1**
baz=67,SNR=13
I12A Atlanta 67.09 331 ⇓P **P 18 04 14.2 +0.3**
baz=67
DLMT Dillon 67.14 333 *e*P **P 18 04 14.0 -0.1**
MFID Camas Ranch 67.14 330 *e*P **P 18 04 14.3 +0.2**
comp=Z,51nm,1.1s
MFID Camas Ranch 67.14 330 ⇑P **P 18 04 14.5 +0.3**
baz=67,SNR=19
A23A Redstone 67.16 340 ⇑P **P 18 04 14.3 +0.4**
baz=67
C20A Veseth Ranch, 67.19 338 ⇓P **P 18 04 14.2 -0.1**
baz=67,SNR=7.0
H13A Challis 67.27 332 ⇑P **P 18 04 15.0 +0.1**
baz=68,SNR=13
OHCM Honcut 67.27 324 *e*P **P 18 04 15.9 +1.1**
E17A Martinsdale 67.28 335 ⇑P **P 18 04 14.9 -0.1**
baz=68,SNR=12
G14A Jackson 67.43 333 ⇑P **P 18 04 16.3 +0.3**
baz=68
B21A Ellsworth Farm 67.43 339 ⇑P **P 18 04 16.1 +0.4**
baz=68
LRM Limekiln Ridge 67.44 334 *e*P **P 18 04 15.7 -0.4**
D18A Linhart Farms, 67.45 336 ⇓P **P 18 04 16.3 +0.4**
baz=68
F15A Butte 67.47 334 ⇓P **P 18 04 16.8 +0.6**
baz=68
A22A Carney Farms, 67.53 340 ⇑P **P 18 04 16.7 +0.4**
baz=68,SNR=30
H12A Diamond D Ranc 67.53 331 ⇓P **P 18 04 16.8 +0.2**
baz=68,SNR=12
C19A Slack Wire Ran 67.60 337 ⇓P **P 18 04 16.9 0.0**
baz=68,SNR=12
G13A Cobalt 67.66 332 ⇓P **P 18 04 17.7 +0.3**
baz=68,SNR=13
E16A East Helena 67.67 335 ⇑P **P 18 04 17.3 -0.1**
baz=68,SNR=7.6
D17A Six Diamond Ra 67.77 336 ⇓P **P 18 04 17.6 -0.4**
baz=68,SNR=11
B20A Solberg Farm, 67.80 338 ⇓P **P 18 04 18.0 0.0**
baz=68,SNR=12
F14A Wisdom 67.83 333 ⇓P **P 18 04 18.6 +0.1**
baz=68
A21A Bergtoll Ranch 67.88 339 ⇑P **P 18 04 18.8 +0.2**
baz=68,SNR=13
HRY Holter Researc 67.88 335 *e*P **P 18 04 18.7 0.0**
E15A Deer Lodge 67.99 334 ⇑P **P 18 04 20.0 +0.5**
baz=68
D16A Dana Ranch, Ca 68.02 335 ⇓P **P 18 04 20.0 +0.4**
baz=68
EGMT Eagleton 68.11 337 *e*P **P 18 04 19.3 -0.8**
EGMT LR LR
comp=Z,4µm,20.0s
EGMT Eagleton 68.11 337 ⇓P **P 18 04 19.9 -0.1**
baz=68,SNR=8.3
A20A Cobblestone Ra 68.14 338 ⇓P **P 18 04 20.3 +0.1**
baz=68,SNR=8.8
B19A Brinkman Farms 68.16 337 ⇑P **P 18 04 20.2 -0.1**
baz=68,SNR=9.8
C17A Wharram Farm, 68.18 336 ⇓P **P 18 04 20.7 +0.1**
baz=68
F13A Darby 68.24 333 ⇑P **P 18 04 21.0 0.0**
baz=68,SNR=14
E14A Clinton 68.35 333 ⇓P **P 18 04 22.0 +0.3**
baz=69,SNR=12
MOD Modoc 68.35 326 *e*P **P 18 04 22.0 +0.2**
B18A Beardsley Farm 68.42 337 ⇑P **P 18 04 22.0 0.0**
baz=69,SNR=10.0
D15A Lincoln 68.43 334 ⇑P **P 18 04 22.7 +0.5**
baz=69
A19A Klindworth Far 68.47 338 ⇓P **P 18 04 22.5 +0.2**
baz=69,SNR=17
CHMT Chamberlain Mo 68.64 334 *e*P **P 18 04 22.5 -1.1**
E13A Victor 68.68 333 ⇓P **P 18 04 24.2 +0.5**
baz=69,SNR=13
SCHQ Schefferville 68.69 6 *e*P **P 18 04 22.9 -0.6**
comp=Z,48nm,0.8s
SCHQ Schefferville 68.69 6 P **P 18 04 23.0 -0.4**
comp=Z,42nm,0.8s,baz=194,slow=5.0,SNR=55
SCHQ LR LR 18 36 46.7
comp=Z,2µm,19.0s,baz=200,slow=38
WDC Whiskeytown Da 68.70 324 *e*P **P 18 04 23.5 -0.3**
WDC Whiskeytown Da 68.70 324 *e*P **P 18 04 23.5 -0.3**
C16A Fuhringer Ranc 68.71 335 ⇑P **P 18 04 23.9 +0.1**
baz=69,SNR=10.0

KCPM Cahto Peak 68.72 323 *e*P **P 18 04 23.6 -0.5**
B17A L&G Farms, Che 68.73 336 ⇑P **P 18 04 24.0 0.0**
baz=69
KIPM Iron Peak 68.74 323 *e*P **P 18 04 26.1 +1.9**
comp=Z,91nm,1.4s
MSO Missoula 68.87 333 *e*P **P 18 04 24.8 -0.1**
comp=Z,30nm,1.2s
MSO Missoula 68.87 333 ⇑P **P 18 04 25.4 +0.5**
baz=69,SNR=11
A18A Metzger Ranch, 68.88 337 ⇑P **P 18 04 24.4 -0.4**
baz=69,SNR=10
D14A Greenough 68.88 334 ⇓P **P 18 04 24.9 0.0**
baz=69,SNR=6.4
BMO Blue Mountains 68.92 330 *e*P **P 18 04 24.4 -0.9**
comp=Z,51nm,1.8s
BMO LR LR
comp=Z,4µm,19.0s
SLMT Seeley Lake 69.00 334 *e*P **P 18 04 26.2 +0.4**
C15A Salmond Ranch, 69.05 335 ⇑P **P 18 04 26.5 +0.5**
baz=69
TBI Tubuai 69.18 250 *e*S **S 18 13 34.2 +3.1**
comp=Z,7µm,30.2s
TBI *e*LR LR 18 25 33.5
comp=Z,10µm,25.8s,baz=89
B16A M & M Farms, S 69.19 336 ⇑P **P 18 04 26.8 0.0**
baz=69
A17A Triple J Farms 69.22 337 ⇑P **P 18 04 26.6 -0.4**
baz=69
D13A Huson 69.30 333 ⇓P **P 18 04 28.1 +0.6**
baz=70
SWMT Swartz Lake 69.42 334 *e*P **P 18 04 28.7 +0.4**
B15A Bradely Ranch, 69.45 335 ⇓P **P 18 04 28.8 +0.3**
baz=70
YBH Yreka Blue Hor 69.56 325 *e*P **P 18 04 27.7 -1.5**
comp=Z,12nm,0.9s
KHMM Horse Mountain 69.58 324 *e*P **P 18 04 29.8 +0.4**
YBMT Yellow Bay 69.70 334 *e*P **P 18 04 30.5 +0.5**
comp=Z,9.3nm,0.7s
JTMT Jette 69.73 334 *e*P **P 18 04 29.5 -0.7**
B14A Marquette Ranc 69.78 335 ⇑P **P 18 04 30.3 -0.3**
baz=70,SNR=8.3
C13A Hot Springs 69.80 334 ⇑P **P 18 04 31.0 +0.4**
baz=70,SNR=14
VNA3 Neumayer Olymp 69.83 162 *e* **P 18 04 31.4 +1.0**
PPT2 Papeete2 70.02 256 *e*S **S 18 13 42.8 +1.5**
comp=Z,9µm,29.0s
PPT2 *e*LR LR 18 25 50.6
comp=Z,6µm,27.5s,baz=98
BSMT Bassoo Peak 70.02 334 *e*P **P 18 04 32.6 +0.5**
CMLA Cha da Macela 70.04 41 PFAKE 18 04 40.0 +7.8
CMLA LR LR
comp=Z,4µm,20.0s
A15A Johnson Ranch, 70.05 336 ⇓P **P 18 04 32.3 +0.2**
baz=70
VNA1 Neumayer--Stat 70.10 161 *e* **P 18 04 33.4 +1.4**
LNOR Lincton Mounta 70.14 330 P **P 18 04 33.2 +0.5**
LNOR pmax pmax
comp=Z,10.0nm,0.9s
LNOR Lincton Mounta 70.14 330 P **P 18 04 33.2 +0.5**
comp=Z,9.6nm,0.9s
C12B Naegeli Ranch, 70.21 333 ⇓P **P 18 04 33.6 +0.5**
baz=70,SNR=10.0
B13A Whitefish 70.29 334 ⇓P **P 18 04 34.4 +0.8**
baz=70
A14A Double T Ranch 70.32 335 ⇓P **P 18 04 34.1 +0.3**
baz=70
VNA2 Neumayer--Watz 70.45 161 *e* **P 18 04 35.0 +0.8**
VNA2 *e* 18 04 43.2
VNA2 *e* 18 07 12.1
VNA2 *e* 18 13 56.4
VNA2 *e* 18 14 48.9
WALA Waterton Lakes 70.59 335 *e*P **P 18 04 35.4 -0.1**
comp=Z,0.4nm,0.7s
KBO Bosley Butte 70.73 324 *e*P **P 18 04 34.5 -1.9**
comp=Z,568nm,2.4s
HAWA Hanford 71.11 330 *e*P **P 18 04 38.9 +0.4**
RSW Rattlesnake Hi 71.14 330 *e*P **P 18 04 39.7 +0.9**
A12A Yaak River Ran 71.22 334 ⇑P **P 18 04 39.9 +0.7**
baz=71,SNR=15
NEW Newport 71.36 333 *e*P **P 18 04 40.5 +0.5**
NEW Newport 71.36 333 ⇓P **P 18 04 40.8 +0.8**
baz=72,SNR=11
FFC Flin Flon 71.41 345 *e*P **P 18 04 39.2 -0.9**
FFC pmax pmax
comp=Z,95nm,1.6s
FFC MLR MLR
comp=Z,4µm,20.0s
FFC Flin Flon 71.41 345 *e*P **P 18 04 39.2 -0.9**
comp=Z,95nm,1.6s
FFC LR LR
comp=Z,4µm,20.0s
HOOD Mount Hood Mea 71.42 328 P **P 18 04 39.8 -0.8**
comp=Z,35nm,0.9s
OD2 Odessa Site #2 71.44 331 *e*P **P 18 04 41.1 +0.5**
COR Corvallis 71.78 327 P **P 18 04 42.2 -0.4**
COR pmax pmax
comp=Z,83nm,1.4s
COR Corvallis 71.78 327 P **P 18 04 42.2 -0.4**
comp=Z,84nm,1.4s
SNAA Sanae 72.06 161 *e* P 18 04 39.5 -4.5
SNAA *e* 18 07 24.5
SNAA Sanae 72.06 161 *e*P P 18 04 39.1 -4.9
comp=Z,202nm,1.4s
SNAA Sanae 72.06 161 *e*P P 18 04 40.0 -4.0
SNAA Sanae 72.06 161 *e*P P 18 04 39.8 -4.2
ETW Entiat 72.36 331 *e*P **P 18 04 47.5 +1.4**
HEBO Mount Hebo 72.44 327 *e*P **P 18 04 47.4 +0.8**
LON Longmire 72.48 329 *e*P **P 18 04 46.5 -0.3**
LON pmax pmax
comp=Z,9.0nm,0.9s
LON Longmire 72.48 329 *e*P **P 18 04 46.5 -0.3**
comp=Z,9.2nm,0.9s
RPW Rockport 73.52 331 *e*P **P 18 04 52.4 -0.5**
comp=Z,31nm,1.1s
JCW Jim Creek 73.54 330 *e*P **P 18 04 51.4 -1.6**
comp=Z,74nm,1.2s
LIC Lamto 73.72 79 ⇑*i*P **P 18 04 55.1 +0.4**
comp=Z,191nm,1.0s,baz=253
LIC *e*R
comp=Z,17µm,22.2s
NLWA Neilton Lookou 73.95 329 *e*P **P 18 04 55.6 +0.1**
comp=Z,52nm,1.1s
DBIC Dimbokro 74.00 79 *e*P **P 18 04 56.9 +0.6**
comp=Z,80nm,0.8s
DBIC Dimbokro 74.00 79 P **P 18 04 57.0 +0.6**
comp=Z,50nm,0.7s,baz=232,slow=6.4,SNR=77
DBIC LR LR 18 34 34.4
comp=Z,8µm,21.9s,baz=226,slow=33
DBIC Dimbokro 74.00 79 ⇑*i*P **P 18 04 56.5 +0.1**
DBIC Dimbokro 74.00 79 ⇑*i*P **P 18 04 57.0 +0.6**
QSPA South Pole Qui 76.52 180 *e*P **P 18 05 10.5 +0.4**
comp=Z,51nm,1.1s
MAIT Maitri 76.69 160 *e*P **P 18 05 12.9 +2.1**
NVL N'lazarevskaya 76.72 160 ⇑*i*P **P 18 05 11.6 +0.6**
NVL *i* S **S 18 14 51.2 -4.1**
NVL *e* 18 15 27.5
NVL *e*SS SS 18 20 03.8 +13
NVL *e* 18 23 19.9
NVL pmax pmax
comp=Z,90nm,1.1s
NVL MLR MLR
comp=Z,2µm,18.0s
PFVI Vila Bisbo 81.18 48 *e*P P 18 05 39.6 +3.6
comp=Z,335nm,1.8s
PFVI *i* SKS SKSac 18 16 15.9 +23
PFVI *e*LQ LQ 18 30 44.9
MORF Marmelete 81.38 48 *e*P **P 18 05 39.6 +2.5**
comp=Z,311nm,1.9s
MORF *i* SKS **SKSac 18 15 56.0 +1.7**
MORF *e*LQ LQ 18 27 32.8
MORF *e*LR LR 18 35 16.5
comp=Z,4µm,16.8s
MORF Marmelete 81.38 48 *e*P **P 18 05 36.8 -0.3**
MORF *e*S **S 18 15 45.9 -0.2**
PTEO Sao Teotonio 81.43 48 *e*P **P 18 05 40.3 +3.0**
comp=Z,349nm,2.0s
YKA Yellowknife Ar 81.47 343 P **P 18 05 36.1 -0.8**
YKA Yellowknife Ar 81.47 343 P **P 18 05 36.1 -0.8**
comp=Z,11nm,0.9s,baz=138,slow=5.7,SNR=107
LIS Lisbon 81.61 47 *e*P **P 18 05 38.0 -0.2**
LIS *e*S **S 18 15 48.0 -0.2**
LIS AMS AMS 18 41 19.2
comp=Z,6µm,17.3s
LIS Lisbon 81.61 47 *e*P **P 18 05 38.0 -0.2**
LIS *e*S **S 18 15 48.0 -0.2**
PMAFR Mafra 81.61 47 *e*P **P 18 05 41.0 +2.7**

comp=Z,360nm,1.8s
PMAFR *i* SKS **SKSac** **18 16 02.3 +6.6**
PMAFR *e*LR LR 18 35 42.5
comp=Z,5µm,17.0s
PNCL Nicolau / Gran **81.80 48** *e*P **P** **18 05 42.1 +2.8**
comp=Z,127nm,2.1s
PNCL *i* SKS **SKSac** **18 15 59.5 +2.6**
PNCL *e*LQ LQ 18 29 57.1
PNCL *e*LR LR 18 34 06.2
comp=Z,5µm,24.8s
PBDV Barranco-do-Ve **81.88 49** *e*P **P** **18 05 42.6 +2.8**
comp=Z,107nm,1.6s
PBDV *i* SKS **SKSac** **18 15 54.3 -3.3**
PBDV *e*LQ LQ 18 29 49.1
PBDV *e*LR LR 18 35 00.3
MESJ Messejana **81.91 48** *e*P **P** **18 05 39.8 -0.1**
MESJ *e*S **S** **18 15 51.0 -0.4**
MESJ AMS AMS 18 41 10.4
comp=Z,4µm,19.5s
MESJ Messejana **81.91 48** *e*P **P** **18 05 39.7 -0.1**
MESJ *e*S **S** **18 15 51.0 -0.4**
PCVE Castro Verde **81.96 48** *e*P **P** **18 05 42.8 +2.7**
comp=Z,182nm,1.1s
PCVE *i* SKS SKSac 18 16 29.4 +31
PCVE *e*LQ LQ 18 26 07.2
PCVE *e*LR LR 18 33 52.9
comp=Z,4µm,18.7s
TOA0 Torodi Ar. Sit **81.99 74** *e*P **P** **18 05 41.3 +0.6**
TORD Torodi Ar. Bea **81.99 74** P **P** **18 05 41.5 +0.8**
TORD Torodi Ar. Bea **81.99 74** P **P** **18 05 41.5 +0.8**
comp=Z,82nm,0.9s,baz=262,slow=4.4,SNR=128
TORD LR LR 18 41 23.7
comp=Z,8µm,18.2s,baz=250,slow=35
PVAQ Vaqueiros **82.10 49** *e*P **P** **18 05 43.1 +2.2**
comp=Z,115nm,2.2s
PVAQ *e*SKS SKSac 18 16 09.9 +11
PVAQ *e*LQ LQ 18 28 48.5
PVAQ *e*LR LR 18 34 12.5
comp=Z,4µm,20.0s
PBEJ Beja **82.24 48** *e*P **P** **18 05 43.6 +2.0**
comp=Z,140nm,1.6s
EVO Evora **82.34 47** *e*P **P** **18 05 44.4 +2.3**
comp=Z,119nm,1.9s
EVO Evora **82.34 47** *e*P **P** **18 05 43.4 +1.3**
comp=Z,240nm,1.1s
EVO *e*R
comp=Z,6µm,21.0s
PMTG Montargil **82.41 47** *e*P **P** **18 05 44.3 +1.9**
comp=Z,237nm,1.1s
PMTG *i* SKS **SKSac** **18 16 02.3 +1.3**
PMTG A A 18 41 53.5
comp=Z,5µm,21.6s
PTOM Tomar **82.51 46** *e*P **P** **18 05 45.1 +2.2**
comp=Z,227nm,1.1s
SFJD Kangerlussuaq **82.63 10** *i* P **P** **18 05 43.8 +0.9**
comp=Z,10.0nm,1.2s
PESTR Estremoz **82.78 47** *e*P **P** **18 05 47.0 +2.6**
comp=Z,130nm,1.8s
PESTR *i* SKS S 18 16 21.6 +21
PESTR *e*LR LR 18 36 18.7
comp=Z,4µm,20.0s
PTO Porto **83.01 45** *e*P **P** **18 05 48.0 +2.5**
comp=Z,212nm,1.9s
PMRV Marv??o **83.15 47** *e*P **P** **18 05 48.1 +1.8**
comp=Z,72nm,1.4s
PMRV *e*SKS SKSac 18 16 15.4 +9.4
PMRV *e*LQ LQ 18 27 51.6
PMRV *e*LR LR 18 34 29.1
comp=Z,4µm,18.0s
VNDA Vanda **83.23 191** *e*P **P** **18 05 47.2 +1.1**
comp=Z,32nm,1.3s
PCBR Castelo Branco **83.25 46** *e*P **P** **18 05 48.1 +1.3**
comp=Z,116nm,2.0s
PVIS Viseu **83.32 45** *e*P **P** **18 05 48.6 +1.4**
comp=Z,145nm,1.3s
MTE Manteigas **83.43 46** *e*P **P** **18 05 49.1 +1.3**
comp=Z,101nm,1.4s
MTE *e*SKS **SKSac** **18 16 13.6 +5.7**
MTE *e*LQ LQ 18 28 05.2
MTE *e*LR LR 18 33 29.6
comp=Z,5µm,20.0s
MTE Manteigas **83.43 46** *e*P **P** **18 05 48.5 +0.7**
comp=Z,45nm,0.9s
PGAV Gavieira, Arco **83.58 44** *e*P **P** **18 05 50.9 +2.3**
comp=Z,117nm,1.7s
PGAV *e*SKS SKSac 18 16 23.6 +15
PGAV *e*LQ LQ 18 29 18.3
PGAV *e*LR LR 18 35 22.6
comp=Z,2µm,18.0s
PCAB Cabril **83.64 45** *e*P **P** **18 05 51.1 +2.3**
comp=Z,125nm,1.2s
POLO Lamas de Olo **83.66 45** *e*P **P** **18 05 50.3 +1.3**
comp=Z,31nm,1.2s
POLO *i* SKS **SKSac** **18 16 13.9 +4.5**
POLO *e*LQ LQ 18 31 46.0
POLO *e*LR LR 18 35 45.5
comp=Z,1µm,16.5s
PVRL Vila Real **83.67 45** *e*P **P** **18 05 51.5 +2.5**
comp=Z,92nm,2.4s
DLBC Dease Lake **83.94 335** *e*P **P** **18 05 49.2 -0.8**
MVO Moncorvo **84.10 45** *e*P **P** **18 05 54.3 +3.1**
comp=Z,98nm,1.3s
MVO *e*SKS SKSac 18 16 28.7 +16
MVO *e*LQ LQ 18 28 11.9
MVO *e*LR LR 18 35 09.1
comp=Z,3µm,20.0s
PBRG Braganca **84.55 45** *e*P **P** **18 05 55.4 +1.9**
comp=Z,61nm,1.8s
PBRG *i* SKS SKSac 18 16 33.4 +18
PBRG *e*LQ LQ 18 28 20.0
PAB San Pablo **85.37 48** *e*P **P** **18 05 57.7 0.0**
PAB pmax pmax
comp=Z,27nm,0.9s
PAB San Pablo **85.37 48** *e*P **P** **18 05 57.7 0.0**
comp=Z,27nm,0.9s
ESDC Sonseca Array **85.69 48** P **P** **18 06 00.1 +0.8**
ESDC Sonseca Array **85.69 48** P **P** **18 06 00.1 +0.8**
comp=Z,13nm,0.8s,baz=254,slow=5.4,SNR=37
ESDC LR LR 18 43 28.5
comp=Z,4µm,18.4s,baz=250,slow=35
ESLA Sonseca Array **85.69 48** *e*P **P** **18 05 59.8 +0.5**
comp=Z,6.5nm,1.0s
ESLA LR LR
comp=Z,30µm,20.0s
CER Ceres **87.44 124** *e*P **P** **18 06 10.7 +2.7**
TAM Tamanrasset **88.12 66** *e*P **P** **18 06 13.1 +1.5**
TAM pmax pmax
comp=Z,167nm,1.8s
TAM Tamanrasset **88.12 66** *e*P **P** **18 06 13.1 +1.5**
comp=Z,167nm,1.8s
CVNA Calvinia **88.30 122** *e*P **P** **18 06 10.7 -1.6**
CVNA AMB AMB 18 06 15.5
comp=Z,42nm,1.2s
BORG Borgarnes **88.50 21** PFAKE 18 06 20.0 +7.9
BORG LR LR
comp=Z,2µm,21.0s
SJPF Ste Jean **88.83 45** *e*P **P** **18 06 15.8 +1.5**
comp=Z,116nm,1.6s
RES Resolute Bay **88.88 355** *e*P **P** **18 06 13.2 -0.5**
comp=Z,150nm,2.0s
ETSF Etsaut **89.22 45** *e*P **P** **18 06 17.7 +1.5**
comp=Z,84nm,1.6s
ROSF Rostrenen **89.32 40** *e*P **P** **18 06 17.1 +0.7**
TSUM Tsumeb **89.45 110** *e*P **P** **18 06 17.9 0.0**
comp=Z,46nm,1.3s
TSUM Tsumeb **89.45 110** *e*P P 18 06 12.2 -5.8
TSUM Tsumeb **89.45 110** *e*P **P** **18 06 17.9 0.0**
SUMG Summit **89.59 11** *e*P **P** **18 06 17.7 +0.1**
SUMG pmax pmax
comp=Z,49nm,0.9s
SUMG Summit **89.59 11** *e*P **P** **18 06 17.7 +0.1**
comp=Z,49nm,0.9s
SUMG Summit **89.59 11**⇑ *i*P **P** **18 06 18.2 +0.5**
comp=Z,43nm,1.0s
EPF Esparros **89.89 46** *e*P **P** **18 06 20.6 +1.3**
comp=Z,39nm,1.1s
MFF Saint Martin d **90.71 42** *e*P **P** **18 06 23.9 +0.9**
comp=Z,82nm,1.2s
LFF La Frestale **90.77 44** *e*P **P** **18 06 24.2 +1.0**
comp=Z,71nm,1.1s
DAWY Dawson **90.85 337** *e*P **P** **18 06 22.7 -0.6**
GRR Gorron **90.85 40** *e*P **P** **18 06 24.3 +0.8**
comp=Z,30nm,0.9s
INK Inuvik **91.15 342** *e*P **P** **18 06 24.0 -0.4**
comp=Z,40nm,1.1s
FLN La Foliniere **91.21 40** *e*P **P** **18 06 26.1 +0.9**
comp=Z,41nm,1.0s
FLN *e*R
comp=Z,2µm,19.8s
LDF La Druitiere **91.38 40** *e*P **P** **18 06 26.8 +0.8**
comp=Z,30nm,1.0s
RJF Les Rejaudoux **91.40 44** *e*P **P** **18 06 27.0 +0.8**
comp=Z,243nm,1.7s
RJF *e*R
comp=Z,3µm,20.5s
CAF Calviac **91.66 44** *e*P **P** **18 06 28.2 +0.8**
comp=Z,94nm,1.4s
AFI Afiamalu **91.68 255** PFAKE 18 06 40.0 +12
AFI LR LR
comp=Z,4µm,21.0s
SCO Scoresbysund **91.80 16**⇑ *i*P **P** **18 06 28.7 +1.3**
comp=Z,18nm,0.9s
SCO
comp=Z,1µm,21.0s
EGAK Eagle **91.87 337** *e*P **P** **18 06 26.9 -1.0**
comp=Z,39nm,1.2s
EGAK LR LR
comp=Z,3µm,21.0s
ESK Eskdalemuir **91.90 33** PFAKE 18 06 40.0 +12
ESK LR LR
comp=Z,3µm,22.0s
MENT Mentasta **92.02 335** *e*P **P** **18 06 27.6 -1.2**
TCF Toulx Ste Croi **92.16 43** *e*P **P** **18 06 30.3 +0.5**
comp=Z,19nm,0.9s
DOT Dot Lake **92.48 336** *e*P **P** **18 06 29.7 -1.1**
comp=Z,6.7nm,0.9s
LASF Ste Croix **92.64 45** *e*P **P** **18 06 33.3 +1.3**
comp=Z,117nm,1.4s
BGF Bois d'Agland **92.66 43** *e*P **P** **18 06 32.9 +0.9**
comp=Z,81nm,1.1s
HYF Humbligny **92.73 42** *e*P **P** **18 06 33.3 +1.0**
PAX Paxson **92.76 335** *e*P **P** **18 06 30.8 -1.4**
PAX pmax pmax
comp=Z,45nm,1.2s
PAX Paxson **92.76 335** *e*P **P** **18 06 30.8 -1.4**
comp=Z,45nm,1.2s
AVF Avril sur Loir **93.06 43** *e*P **P** **18 06 34.4 +0.6**
comp=Z,45nm,1.2s
SSF Saint Saulge **93.24 42** *e*P **P** **18 06 35.0 +0.3**
HVD Gariep Dam **93.27 122** *e*P **P** **18 06 35.9 +0.4**
HVD AMS AMS 18 44 34.3
comp=Z,5µm,23.1s
HVD Gariep Dam **93.27 122** *e*P **P** **18 06 35.6 +0.1**
HVD AMB AMB 18 06 36.7
comp=Z,54nm,1.9s
VIVF Saint-Julien-l **93.41 45** *e*P **P** **18 06 36.9 +1.3**
comp=Z,45nm,1.1s
SML Sawmill **93.52 333** *e*P **P** **18 06 35.3 -0.4**
SML pmax pmax
comp=Z,9.0nm,1.0s
SML Sawmill **93.52 333** *e*P **P** **18 06 35.3 -0.4**
comp=Z,9.0nm,1.0s
LOR Lormes **93.53 42** *e*P **P** **18 06 36.5 +0.5**
LOR *e*R
comp=Z,2µm,20.0s
BOSA Boshof **93.67 120** *e*P **P** **18 06 36.8 -0.6**
comp=Z,46nm,1.4s
BOSA Boshof **93.67 120** P **P** **18 06 37.5 +0.1**
comp=Z,13nm,1.0s,baz=256,slow=4.7,SNR=8.8
BOSA LR LR 18 46 58.1
comp=Z,6µm,19.4s,baz=335,slow=34
BOSA Boshof **93.67 120** *e*P **P** **18 06 37.2 -0.1**
BOSA AMS AMS 18 46 40.2
comp=Z,5µm,18.6s
BOSA Boshof **93.67 120** *e*P **P** **18 06 36.3 -1.0**
BOSA AMB AMB 18 06 38.2
comp=Z,39nm,1.9s
MAW Mawson **93.84 166** LR LR 18 45 42.7
comp=Z,4µm,21.7s,baz=229,slow=34
RC01 Rabbit Creek A **93.88 332** *e*P **P** **18 06 37.6 +0.3**
comp=Z,10.0nm,0.6s
ILAR Eielson Array **94.07 336** P **P** **18 06 36.9 -1.2**
ILAR PP **PP** **18 10 27.6 +2.8**
ILAR Eielson Array **94.07 336** P **P** **18 06 36.9 -1.2**
comp=Z,5.0nm,0.8s,baz=152,slow=3.2,SNR=34
ILAR PP **PP** **18 10 27.6 +2.8**
comp=Z,1.0nm,1.0s,baz=127,slow=5.7,SNR=2.9
ILAR LR LR 18 50 31.1
comp=Z,3µm,18.4s,baz=323,slow=36
KDAK Kodiak Island **94.10 329** PFAKE 18 06 50.0 +12
KDAK LR LR
comp=Z,2µm,21.0s
SWZ Schweizer **94.16 119** *e*P **P** **18 06 39.4 -0.3**
SWZ AMS AMS 18 48 32.4
comp=Z,5µm,18.7s
SWZ Schweizer **94.16 119** *e*P **P** **18 06 39.6 -0.1**
SWZ AMB AMB 18 06 40.4
comp=Z,23nm,1.8s
ORIF Oris-en-Rattie **94.26 45** *e*P **P** **18 06 41.3 +1.8**
comp=Z,99nm,1.2s
ORIF *e*R
comp=Z,5µm,18.5s
COLA College **94.49 336** *e*P **P** **18 06 39.3 -0.6**
COLA pmax pmax
comp=Z,23nm,1.0s
COLA MLR MLR
comp=Z,2µm,19.0s
COLA College **94.49 336** *e*P **P** **18 06 39.3 -0.6**
comp=Z,23nm,1.0s
COLA LR LR
comp=Z,2µm,19.0s
MCK McKinley **94.50 335** *e*P **P** **18 06 40.7 +0.6**
MCK pmax pmax
comp=Z,5.0nm,0.8s
MCK McKinley **94.50 335** *e*P **P** **18 06 40.7 +0.6**
comp=Z,4.6nm,0.8s
BAIF Baives **94.52 40** *e*P **P** **18 06 41.3 +0.8**
SFTF Sexfontaines **94.55 42** *e*P **P** **18 06 41.3 +0.6**
comp=Z,88nm,1.4s
KEST Kesra **94.59 55** *e*P **P** **18 06 42.3 +1.0**
KEST Kesra **94.59 55** P **P** **18 06 41.5 +0.3**
comp=Z,4.3nm,0.8s,baz=244,slow=4.2,SNR=7.5
KEST LR LR 18 51 00.7
comp=Z,2µm,19.7s,baz=324,slow=37
MEZF Maizieres J'vi **94.64 41** *e*P **P** **18 06 41.9 +0.9**
CABF La Chapelle **94.83 43** *e*P **P** **18 06 43.1 +1.0**
comp=Z,30nm,1.0s
BNI Bardonecchia **94.84 45** PFAKE 18 06 50.0 +7.7
BNI LR LR
comp=Z,5µm,19.0s
GIVF Givet **94.91 40** *e*P **P** **18 06 43.2 +0.9**
comp=Z,31nm,1.0s
TRF Thorofare Moun **94.96 334** *e*P **P** **18 06 40.7 -1.7**
comp=Z,10nm,0.8s
LPL La Plagne **94.99 45** *e*P **P** **18 06 44.8 +1.8**
LPG La Plagne **95.00 45** *e*P **P** **18 06 45.0 +1.8**
comp=Z,61nm,1.2s
LBTB Lobatse **95.04 117** *e*P **P** **18 06 43.4 -0.3**
comp=Z,3.7nm,0.8s
LBTB Lobatse **95.04 117** *e*P **P** **18 06 43.8 +0.1**
LBTB AMS AMS 18 51 39.5
comp=Z,3µm,17.8s
LBTB Lobatse **95.04 117**⇑ *i*P **P** **18 06 44.1 +0.4**
LBTB AMB AMB 18 06 45.0
comp=Z,26nm,1.8s
SBF Sospel **95.08 46** *e*P **P** **18 06 44.5 +1.2**
PAGF Fort de Pagny **95.08 41** *e*P **P** **18 06 44.2 +1.1**
HAU Haudompre **95.35 42** *e*P **P** **18 06 45.1 +0.7**
HAU *e*R
comp=Z,2µm,23.0s
DRV Dumont d'Urvil **95.52 194** P P 18 06 33.0 -12
DRV Dumont d'Urvil **95.52 194** PP PP 18 10 34.0 -1.2
DRV S SKSac 18 16 47.0 -31
DRV SS **SS** **18 24 24.0 -2.1**
HINF Hinteralfeld **95.63 42** *e*P **P** **18 06 46.2 +0.5**
comp=Z,55nm,1.5s
SEK Senekal **95.74 121** *e*P **P** **18 06 47.8 +0.8**
SEK AMS AMS 18 48 02.6
comp=Z,5µm,19.4s
SEK Senekal **95.74 121** *e*P **P** **18 06 47.7 +0.8**
SEK AMB AMB 18 06 48.0
comp=Z,49nm,2.1s
PGF Pioggiola **95.88 48** *e*P **P** **18 06 48.4 +1.4**
ECH Echery **95.93 42** PFAKE 18 07 00.0 +13
ECH LR LR
comp=Z,2µm,19.0s
PRYS Parys **95.96 119** *e*P **P** **18 06 47.3 -0.6**
PRYS AMS AMS 18 48 54.3
comp=Z,5µm,19.6s
PRYS Parys **95.96 119** *e*P **P** **18 06 46.9 -1.0**
PRYS AMB AMB 18 06 48.7
comp=Z,37nm,2.0s
CDF Champ du Feu **96.05 42** *e*P **P** **18 06 48.3 +0.7**
COLD Coldfoot **96.25 338** *e*P **P** **18 06 48.3 +0.3**
comp=Z,6.3nm,0.6s
DAG Danmarks Havn **96.25 11** *i* P **P** **18 06 47.7 -0.1**
comp=Z,33nm,0.9s
DAG
comp=Z,3µm,24.0s
BFO Black Forest **96.72 42** PFAKE 18 07 00.0 +9.4
BFO LR LR
comp=Z,2µm,20.0s
ERPM east rand prop **96.90 119** *e*P **P** **18 06 53.1 +1.0**
ERPM east rand prop **96.90 119** *e*P **P** **18 06 53.0 +0.8**
ERPM AMB AMB 18 06 59.5
comp=Z,17nm,2.6s
SLR Silverton **97.12 119** *e*P Pdif 18 06 54.3 +1.1
SLR AMS AMS 18 51 11.3
comp=Z,4µm,17.0s
SLR Silverton **97.12 119** *e*P Pdif 18 06 53.6 +0.3
SLR AMB AMB 18 06 54.1
comp=Z,26nm,2.2s
DAVOX Davos/Dischmat **97.41 44** LR LR 18 48 58.1
comp=Z,4µm,19.9s,baz=259,slow=34
DAVA Damuels **97.51 43**⇑ *i*P Pdif 18 06 55.0 +0.5
comp=Z,28nm,1.1s
DAVA Damuels **97.51 43**⇑ *i*PcP Pdif 18 06 54.9 +0.5
comp=Z,28nm,1.1s
FETA Feichten **98.03 44**⇑ *i*P **P** **18 06 56.4 -0.3**
comp=Z,23nm,1.2s
FETA Feichten **98.03 44**⇑ *i*P **P** **18 06 56.4 -0.3**
comp=Z,23nm,1.2s
RETA Reutte **98.14 43**⇑ *i*P Pdif 18 06 57.1 0.0
comp=Z,26nm,1.3s
RETA Reutte **98.14 43**⇑ *i*PcP Pdif 18 06 57.1 0.0
comp=Z,26nm,1.3s
MOTA Moosalm **98.34 43**⇑ *i*P Pdif 18 06 58.4 +0.3
MOTA pmax pmax
comp=Z,23nm,0.9s
MOTA Moosalm **98.34 43**⇑ *i*P Pdif 18 06 58.4 +0.3
comp=Z,23nm,0.9s
MOTA Moosalm **98.34 43**⇑ *i*Pdiff Pdif 18 06 58.4 +0.3
comp=Z,23nm,0.9s
WATA Walderalm **98.66 43**⇓ *i*P Pdif 18 06 59.7 +0.2
WATA pmax pmax
comp=Z,12nm,0.7s
WATA Walderalm **98.66 43**⇓ *i*P Pdif 18 06 59.7 +0.2
comp=Z,12nm,0.7s
WATA Walderalm **98.66 43**⇓ *i*Pdiff Pdif 18 06 59.7 +0.2
comp=Z,12nm,0.7s
WTTA Wattenberg **98.68 44**⇑ *i*P **P** **18 06 59.4 -0.3**
WTTA pmax pmax
comp=Z,48nm,1.0s
WTTA Wattenberg **98.68 44**⇑ *i*P **P** **18 06 59.4 -0.3**
comp=Z,48nm,1.0s
WTTA Wattenberg **98.68 44**⇑ *i*Pdiff **P** **18 06 59.4 -0.3**
comp=Z,48nm,1.0s
GRF Grafenberg Arr **98.86 41** *e*Pdiff Pdif 18 07 00.8 +0.6
GRF *e*L L 18 47 25.6
comp=Z,1µm,21.8s
GRF Grafenberg Arr **98.86 41** *e*P Pdif 18 07 00.8 +0.6
GRF MLR MLR
comp=Z,2µm,21.8s
AQU L'Aquila **99.04 49** PFAKE 18 07 10.0 +8.8
AQU LR LR
comp=Z,3µm,19.0s
ABTA Abfaltersbach **99.18 44**⇓ *i*P **Pdif** **18 07 02.5 +0.7**
comp=Z,31nm,1.0s
ABTA Abfaltersbach **99.18 44**⇓ *i*Pdiff **Pdif** **18 07 02.5 +0.7**
comp=Z,31nm,1.0s
NKC Novy Kostel **99.73 41** AMS AMS 18 50 50.0
comp=Z,2µm,16.9s
KBA Koelnbreinsper **99.80 44**⇑ *i*P **Pdif** **18 07 04.7 +0.1**
KBA pmax pmax
comp=Z,16nm,1.0s
KBA Koelnbreinsper **99.80 44**⇑ *i*P **Pdif** **18 07 04.7 +0.1**
comp=Z,16nm,1.0s
KBA Koelnbreinsper **99.80 44**⇑ *i*Pdiff **Pdif** **18 07 04.7 +0.1**
comp=Z,16nm,1.0s
MYKA Terra Mystica **99.93 44**⇑ *i*P **Pdif** **18 07 04.8 -0.3**
comp=Z,17nm,0.9s
MYKA Terra Mystica **99.93 44**⇑ *i*Pdiff **Pdif** **18 07 04.8 -0.3**
comp=Z,17nm,0.9s
CASY Casey **100.15 183** PFAKE 18 07 20.0 +14
CASY LR LR
comp=Z,2µm,20.0s
CLL Collm **100.25 40** *e*P **Pdif** **18 07 07.0 +0.7**
CLL *e* 18 11 13.0
CLL *e*S **Sdif** **18 18 43.0 +3.6**
CLL MLR MLR
comp=Z,2µm,20.1s
CLL Collm **100.25 40** *e*Pdif **Pdif** **18 07 07.0 +0.7**
CLL *e*PP **PP** **18 11 13.0 +0.4**
CLL *e*SKSac SKSac 18 17 50.0 +7.5
CLL *e*Sdif **Sdif** **18 18 43.0 +3.6**
CLL *e*PS **PS** **18 20 19.0 +6.1**
CLL *e*PPS PPS 18 20 44.0
CLL *e*SS **SS** **18 25 36.0 +1.4**
CLL *e*SSS SSS 18 29 00.0
CLL *e* 18 31 00.0
CLL LmV 18 51 00.0
comp=Z,2µm,20.1s
KHC Kasperske Hory **100.28 42** *i* P **Pdif** **18 07 07.0 +0.5**
KHC MLR MLR
comp=Z,2µm,15.8s
KHC Kasperske Hory **100.28 42** *e*PDIF **Pdif** **18 07 07.0 +0.5**
KHC AMS AMS 18 53 20.0
comp=Z,2µm,15.8s
GERES GERESS Array B **100.31 42** P **Pdif** **18 07 08.6 +1.8**
GERES PP **PP** **18 11 13.1 -0.3**
GERES GERESS Array B **100.31 42** P **Pdif** **18 07 08.6 +1.8**
comp=Z,2.1nm,0.8s,baz=235,slow=4.7,SNR=14
GERES PP **PP** **18 11 13.1 -0.3**
comp=Z,0.9nm,0.9s,baz=266,slow=8.0,SNR=3.5
CUC Castrocucco **100.44 51** PFAKE 18 07 20.0 +12
CUC LR LR
comp=Z,2µm,20.0s
MOA Molln **100.54 43**⇓ *i*P **Pdif** **18 07 08.2 +0.5**
comp=Z,22nm,1.0s
MOA Molln **100.54 43**⇓ *i*Pdiff **Pdif** **18 07 08.2 +0.5**
comp=Z,22nm,1.1s
NOA NORSAR Array B **100.74 30** P **Pdif** **18 07 09.0 +0.7**
NOA NORSAR Array B **100.74 30** P **Pdif** **18 07 09.0 +0.7**
comp=Z,1.6nm,0.9s,baz=260,slow=4.3,SNR=2.5
BRG Berggiesshubel **100.77 40** *e*PDIF **Pdif** **18 07 10.2 +1.6**
comp=Z,16nm,1.4s
BRG PP **PP** **18 11 17.0 +0.4**
BRG SKS 18 17 53.0
BRG SDIF Sdif 18 18 57.0 +13
BRG *i* 18 21 05.0
BRG
comp=N,1µm,19.3s
BRG
comp=E,2µm,15.8s
BRG
comp=Z,2µm,17.3s
BRG Berggiesshubel **100.77 40** *e*P **Pdif** **18 07 10.2 +1.6**
BRG 18 11 17.0
BRG *i* 18 21 05.0
BRG pmax pmax
comp=Z,16nm,1.4s
BRG MLR MLR
comp=N,1µm,19.3s
BRG MLR MLR
comp=E,2µm,15.8s
BRG MLR MLR
comp=Z,2µm,17.3s
PRU Pruhonice **101.02 41** AMS AMS 18 51 40.0
comp=Z,2µm,17.0s
PVCC Panska Ves **101.12 41** AMS AMS 18 54 10.0
comp=Z,2µm,17.0s
TREC Trest **101.54 42** AMS AMS 18 51 00.0
comp=Z,3µm,21.6s
CONA Conrad Observa **101.61 43**⇑ *i*P **Pdif** **18 07 13.4 +0.8**
comp=Z,17nm,1.4s
CONA Conrad Observa **101.61 43**⇑ *i*Pdiff **Pdif** **18 07 13.4 +0.8**
comp=Z,17nm,1.4s
FUNA Funafuti **101.63 258** PFAKE 18 07 30.0 +17
FUNA LR LR
comp=Z,10µm,20.0s
DPC Dobruska-Polom **102.21 41** AMS AMS 18 50 40.0
comp=Z,2µm,18.2s
OKC Ostrava-Krasne **103.32 42** AMS AMS 18 54 30.0
comp=Z,2µm,17.8s
KWP Kalwaria Pacla **106.26 42** PFAKE 18 12 00.0
KWP LR LR
comp=Z,3µm,20.0s
DZM Mont Dzumac **108.75 241** *e*Pdif **Pdif** **18 07 40.8 -4.2**

DZM Mont Dzumac 108.75 241 *e*PP PP 18 12 12.2 -4.1
comp=Z,264nm,26.8s
DZM *e*SKSac **SKSac 18 18 21.9 -1.1**
comp=Z,771nm,25.6s
DZM *e*SP **SP 18 21 33.7 -4.5**
comp=Z,1μm,25.3s
DZM *e*SS **SS 18 27 32.2 +0.1**
comp=Z,3μm,27.6s
DZM *e*LR LR 18 43 47.4
comp=Z,4μm,30.5s
KIS Kishinev 110.33 45 *e*PP PP 18 12 30.0 +2.6
KIS Kishinev 110.33 45 *e*PS PS 18 21 53.0 -4.6
KIS Kishinev 110.33 45 *e*PPS **PKKPbc 18 22 57.0 +2.8**
KIS *e*SS SS 18 28 00.0 +7.4
KIS *e*L L 18 46 40.0
KIS LRM MLR 18 55 02.0
comp=Z,1μm,20.0s
AKASG Malin Array Be 110.44 41 PKIKP **PKiKP 18 11 52.8 +0.5**
AKASG 18 12 25.4
AKASG Malin Array Be 110.44 41 PKiKP **PKiKP 18 11 52.8 +0.5**
AKASG PP **PP 18 12 25.4 -2.6**
AKASG Malin Array Be 110.44 41 PKiKP **PKiKP 18 11 52.8 +0.5**
comp=Z,0.9nm,0.6s,baz=253,slow=4.2,SNR=4.2
AKASG PP **PP 18 12 25.4 -2.6**
comp=Z,0.3nm,0.4s,baz=266,slow=7.6,SNR=5.1
ISP Isparta 111.69 55 PFAKE 18 12 10.0
ISP LR LR
comp=Z,2μm,20.0s
BILL Bilibino 112.56 339 PFAKE 18 12 10.0
BILL LR LR
comp=Z,2μm,21.0s
CSS Prodhromos 113.93 58 PFAKE 18 12 10.0
CSS LR LR
comp=Z,2μm,21.0s
BR131 Keskin Array S 114.10 52 *e*P PKPdf 18 12 00.4 +0.6
BR131 LR LR
comp=Z,1μm,20.0s
BRTR Keskin Array B 114.10 52 PKiKP **PKiKP 18 11 60.0 +0.2**
BRTR PKKPab **PKKPab 18 22 48.4 +1.6**
BRTR Keskin Array B 114.10 52 PKiKP **PKiKP 18 11 60.0 +0.2**
comp=Z,1.8nm,0.8s,baz=130,slow=1.9,SNR=10
BRTR PKKPab **PKKPab 18 22 48.4 +1.6**
comp=Z,0.6nm,0.9s,baz=151,slow=2.8,SNR=4.5
OBN Obninsk 114.29 35 *i* PKIKP PKPdf 18 11 55.0 -4.4
OBN 18 12 53.0
OBN *e*SS SS 18 28 52.7 +8.3
MOS Moscow 114.75 35 *e*PKIKP PKPdf 18 11 56.0 -4.3
MOS MLR MLR
comp=Z,2μm,20.0s
CAN Canberra 114.94 220 PFAKE 18 12 10.0 +8.5
CAN LR LR
comp=Z,3μm,20.0s
ABPO Ambohimpanom 115.86 119 PFAKE 18 12 20.0 +16
ABPO LR LR
comp=Z,4μm,20.0s
ANN Anapa 116.50 47 *i* PKIKP **PKPdf 18 12 03.0 -1.0**
ANN *e* 18 13 06.7
ANN pmax pmax
comp=Z,34nm,1.3s
ANN MLR MLR
comp=Z,1μm,18.0s
ANN MLR MLR
comp=N,709nm,18.0s
ANN MLR MLR
comp=E,909nm,18.0s
VSR Storozhevoye 116.60 39 *e*PKIKP **PKPdf 18 12 03.9 -0.1**
VSR pmax pmax
comp=N,8.0nm,0.8s
VSR pmax pmax
comp=E,5.0nm,0.8s
VSR pmax pmax
comp=Z,8.0nm,0.8s
VSR MLR MLR
comp=Z,2μm,18.0s
VSR MLR MLR
comp=N,260nm,6.0s
VSR MLR MLR
comp=E,1μm,18.0s
VORD Divnogorie 116.73 40 *e*PKIKP **PKPdf 18 12 03.6 -0.7**
VORD pmax pmax
comp=N,8.0nm,0.8s
VORD pmax pmax
comp=E,8.0nm,0.8s
VORD pmax pmax
comp=Z,5.0nm,0.8s
VORD MLR MLR
comp=Z,2μm,22.0s
VORD MLR MLR
comp=N,2μm,22.0s
VORD MLR MLR
comp=E,730nm,22.0s
VRHR Novokhopersk 118.14 39 *e*PKIKP **PKPdf 18 12 05.0 -2.0**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,4.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR MLR MLR
comp=Z,1μm,14.0s
VRHR MLR MLR
comp=N,210nm,7.0s
VRHR MLR MLR
comp=E,1μm,14.0s
SOC Sochi 118.29 48 *i* PKIKP **PKPdf 18 12 02.6 -4.9**
SOC *e*SSS SSS 18 33 53.3
KIV Kislovodsk 120.35 47 *i* PKIKP **PKPdf 18 12 08.9 -2.7**
KIV *e* 18 13 33.9
KIV *e*PS **PS 18 23 26.3 -2.9**
KIV *e*SS SS 18 29 59.8 -4.5
KIV pmax pmax
comp=Z,6.0nm,0.7s
KIV MLR MLR
comp=Z,912nm,21.0s
KIV Kislovodsk 120.35 47 PFAKE 18 12 20.0 +8.4
KIV LR LR
comp=Z,1μm,22.0s
ZEI Tsey 121.44 48 *i* PKIKP **PKPdf 18 12 13.5 -0.4**
ZEI pmax pmax
comp=Z,7.0nm,0.9s
STKA Stephens Creek 121.81 218 PKP **PKPdf 18 12 15.0 +0.2**
STKA Stephens Creek 121.81 218 PKP **PKPdf 18 12 15.0 +0.2**
comp=Z,3.2nm,0.7s,baz=46,slow=5.5,SNR=7.1
GNI Garni 122.54 51 PKP **PKPdf 18 12 17.3 +1.2**
GNI LR LR
comp=Z,1μm,20.0s
GNI Garni 122.54 51 PKP **PKPdf 18 12 17.3 +1.2**
comp=Z,7.6nm,0.7s,baz=300,slow=6.4,SNR=6.4
BHD Baghdad 123.16 59 *i* x **PP 18 13 53.7 -3.7**
MAK Makhachkala 123.99 47 *i* P **Pdif 18 08 53.3 +1.2**
MAK *i* 18 12 16.9
MAK *e* 18 14 06.7
MAK *e*PPP PPP 18 16 48.4
MAK *e*PS **PS 18 24 04.5 +3.2**
MAK pmax pmax
comp=Z,101nm,1.8s
MAK MLR MLR
comp=Z,2μm,21.0s
ARU Arti 125.28 29 PFAKE 18 12 30.0 +9.4
ARU LR LR
comp=Z,2μm,21.0s
NAY Al-Naaiem 125.94 64 *e*P **PKPdf 18 12 22.9 +0.2**
NAY AMb AMB 18 12 26.2
comp=Z,14nm,1.9s
MIB Mutribah 125.98 63 *e*P **PKPdf 18 12 22.9 +0.2**
MIB AMb AMB 18 12 24.8
comp=Z,23nm,0.9s
CTAO Charters Tower 126.16 232 PFAKE 18 12 40.0 +17
CTAO LR LR
comp=Z,3μm,19.0s
AKTO Aktyubinsk 128.07 35 PKIKP **PKPdf 18 12 26.8 +0.7**
AKTO 18 14 28.4
AKTO Aktyubinsk 128.07 35 PKP **PKPdf 18 12 26.8 +0.7**
AKTO PP **PP 18 14 28.4 -0.9**
AKTO Aktyubinsk 128.07 35 PKP **PKPdf 18 12 26.8 +0.7**
comp=Z,8.1nm,0.8s,baz=305,slow=3.0,SNR=27
AKTO PP **PP 18 14 28.4 -0.9**
comp=Z,2.2nm,0.8s,baz=292,slow=5.9,SNR=3.8
YAK Yakutsk 128.13 345 *i* PKIKP **PKPdf 18 12 25.5 -0.3**
YAK pmax pmax
comp=Z,13nm,1.0s
YAK MLR MLR
comp=Z,1μm,23.0s
YAK MLR MLR
comp=N,750nm,22.0s

YAK Yakutsk 128.13 345 *e*PKPdf **PKPdf 18 12 24.4 -1.4**
AB31 Akbulak array 129.73 36 *i* PKIKP **PKPdf 18 12 30.1 +0.8**
AB31 pmax pmax
comp=Z,25nm,0.9s
ABKAR Akbulak array 129.73 36 *e*PKPdf **PKPdf 18 12 30.1 +0.8**
AS31 Alice Springs 132.43 219 *e*PKPdf **PKPdf 18 12 33.0 -2.3**
ASAR Alice Springs 132.43 219 PKPpre PKPpre 18 12 20.1
ASAR PKP **PKPdf 18 12 34.9 -0.4**
ASAR Alice Springs 132.43 219 PKhKP PKPpre 18 12 20.1
comp=Z,0.4nm,0.9s,baz=146,slow=2.5,SNR=4.1
ASAR PKP **PKPdf 18 12 34.9 -0.4**
comp=Z,8.4nm,1.0s,baz=125,slow=2.0,SNR=31
BRVK Borovoye 132.69 27 *e*PKIKP **PKPdf 18 12 36.0 +1.2**
BRVK MLR MLR
comp=Z,3μm,21.0s
BRVK Borovoye 132.69 27 *e*PKPdf **PKPdf 18 12 36.0 +1.2**
BRVK LR LR
comp=Z,3μm,21.0s
BVAR Borovoye Array 132.76 27 PKIKP **PKPdf 18 12 35.1 +0.2**
BVAR Borovoye Array 132.76 27 PKP **PKPdf 18 12 35.1 +0.2**
BVAR Borovoye Array 132.76 27 PKP **PKPdf 18 12 35.1 +0.2**
comp=Z,4.0nm,0.9s,baz=304,slow=1.1,SNR=15
WRA Warramunga Arr 134.84 223 PKPpre PKPpre 18 12 26.9
WRA PKP **PKPdf 18 12 39.5 -0.3**
WRA Warramunga Arr 134.84 223 PKhKP PKPpre 18 12 26.9
comp=Z,0.3nm,0.5s,baz=156,slow=0.9,SNR=7.2
WRA PKP **PKPdf 18 12 39.5 -0.3**
comp=Z,9.2nm,0.8s,baz=130,slow=1.9,SNR=36
WRAB Tennant Creek 134.84 223 *e*PKIKP **PKPdf 18 12 39.5 -0.4**
WRAB Tennant Creek 134.84 223 *e*PKPdf **PKPdf 18 12 39.5 -0.4**
BOD Bodaibo 135.17 352 *e*PKIKP **PKPdf 18 12 37.9 -1.4**
ERM Erimo 135.49 317 PFAKE 18 12 50.0 +10
ERM LR LR
comp=Z,2μm,20.0s
NVS Novosibirsk 135.96 17 *e*PKIKP PKPdf 18 12 34.0 -6.8
NVS pmax pmax
comp=Z,90nm,2.2s
ZAA0 Zalesovo Array 137.18 16 *e*PKPdf **PKPdf 18 12 41.6 -1.5**
ZALV Zalesovo Beam 137.18 16 PKHKP PKPpre 18 12 36.2
ZALV 18 12 43.7
ZALV Zalesovo Beam 137.18 16 PKPpre PKPpre 18 12 36.2
ZALV PKP **PKPdf 18 12 43.7 +0.6**
ZALV Zalesovo Beam 137.18 16 PKhKP PKPpre 18 12 36.2
comp=Z,1.4nm,0.6s,baz=307,slow=5.0,SNR=4.4
ZALV PKP **PKPdf 18 12 43.7 +0.6**
comp=Z,16nm,0.9s,baz=311,slow=2.4,SNR=22
KLR Kul'dur 137.53 333 *e*PKIKP **PKPdf 18 12 40.2 -3.7**
KLR *e* 18 33 37.5
KLR pmax pmax
comp=Z,150nm,2.6s
KURK Kurchatov 137.89 23 PKHKP PKPpre 18 12 35.9
KURK 18 12 44.2
KURK 18 15 30.5
KURK MLR MLR
comp=Z,2μm,20.0s
KURK Kurchatov 137.89 23 PKPpre PKPpre 18 12 35.9
KURK PKP **PKPdf 18 12 44.1 -0.4**
KURK *e*PKPdf **PKiKP 18 12 45.0 -1.6**
KURK PP **PP 18 15 30.5 -1.1**
KURK LR LR
comp=Z,2μm,20.0s
KURBB Kurchatov Arra 137.93 24 PKhKP PKPpre 18 12 35.9
comp=Z,0.5nm,0.7s,baz=327,slow=3.2,SNR=4.7
KURBB PKP **PKPdf 18 12 44.1 -0.4**
comp=Z,8.9nm,0.8s,baz=315,slow=2.4,SNR=18
KURBB PP **PP 18 15 30.5 -1.3**
comp=Z,1.7nm,0.9s,baz=324,slow=4.3,SNR=3.1
KK31 Karatay Array 139.22 38 *i* PKIKP **PKPdf 18 12 47.0 -0.3**
KK31 pmax pmax
comp=Z,14nm,1.2s
KKAR Karatay Array 139.22 38 *e*PKIKP **PKPdf 18 12 47.1 -0.2**
KKAR Karatay Array 139.22 38 *e*PKPdf **PKPdf 18 12 47.1 -0.2**
CIT Chita 140.84 350 *e*PKIKP **PKPdf 18 12 51.3 +1.3**
CIT *e* 18 12 58.7
USRK Ussuriysk Arra 140.95 327 PKhKP PKPpre 18 12 44.1
comp=Z,5.0nm,0.8s,baz=25,slow=2.9,SNR=9.3
EKS2 Erkin-Say 141.39 36 *e*PKIKP PKPpre 18 12 46.9
EKS2 Erkin-Say 141.39 36 *e*PKPpre PKPpre 18 12 46.9
MJAR Matsushiro Arr 141.41 313 PKPpre PKPpre 18 12 44.1
MJAR PKP **PKPdf 18 12 50.1 -1.3**
MJAR Matsushiro Arr 141.41 313 PKhKP PKPpre 18 12 44.1
comp=Z,6.2nm,0.8s,baz=119,slow=1.0,SNR=17
MJAR PKP **PKPdf 18 12 50.1 -1.3**
comp=Z,5.8nm,0.9s,baz=132,slow=0.6,SNR=8.5
MAJO Matsushiro 141.41 313 *e*PKHKP PKPpre 18 12 45.1
MAJO Matsushiro 141.41 313 *e*PKPpre PKPpre 18 12 45.1
IRK Irkutsk 141.47 359 *e*PKIKP **PKPdf 18 12 52.7 +1.7**
IRK pmax pmax
comp=Z,42nm,3.6s
FITZ Fitzroy Crossi 141.60 215 PKPpre PKPpre 18 12 45.8
FITZ *e*PKPpre PKPpre 18 12 47.9
FITZ Fitzroy Crossi 141.60 215 PKhKP PKPpre 18 12 45.8
baz=41,slow=6.3
FRU Bishkek 141.75 35 *e*PKIKP **PKPdf 18 12 53.0 +1.1**
FRU pmax pmax
comp=Z,102nm,2.0s
AAK Ala-Archa 141.81 35 PFAKE 18 13 00.0 +7.8
AAK LR LR
comp=Z,2μm,20.0s
MBWA Marble Bar 141.89 205 *e*PKPpre PKPpre 18 12 50.5
MDJ Mudanjiang 141.90 329 PKP **PKPdf 18 12 52.6 +0.6**
MDJ sPKP 18 13 02.0
MDJ PP **PP 18 15 57.8 +1.3**
MDJ SS SS 18 34 30.2 +3.8
MDJ AMB AMB
comp=Z,590nm,8.3s
MDJ LR LR
comp=N,970nm,22.4s
MDJ LR LR
comp=E,900nm,20.7s
MDJ LR LR
comp=Z,1μm,24.1s
MDJ Mudanjiang 141.90 329 *e*PKPdf **PKPdf 18 12 51.9 -0.2**
MOY Mondy 142.01 2 *e*PKIKP **PKPdf 18 12 52.3 +0.1**
TLY Talaya 142.04 360 *e*PKIKP PKPdf 18 13 04.5 +12
TLY pmax pmax
comp=Z,7.0nm,1.0s
TKM2 Tokmak 2 142.23 34 *e*PKIKP PKPpre 18 12 48.6
TKM2 Tokmak 2 142.23 34 *e*PKPpre PKPpre 18 12 48.6
MK31 Makanchi Array 142.49 24 PKIKP **PKPdf 18 12 50.3 -2.8**
MK31 pmax pmax
comp=Z,1.0nm,0.7s
MK31 Makanchi Array 142.49 24 *e*PKPpre PKPpre 18 12 48.2
MKAR Makanchi Array 142.49 24 PKIKP PKPpre 18 12 48.6
MKAR Makanchi Array 142.49 24 PKPpre PKPpre 18 12 48.5
MKAR Makanchi Array 142.49 24 PKhKP PKPpre 18 12 48.5
comp=Z,4.0nm,0.8s,baz=329,slow=3.6,SNR=31
KBL Kabul 142.62 50 *e*PKHKP PKPpre 18 12 49.2
KBL Kabul 142.62 50 *e*PKPpre PKPpre 18 12 49.2
DGAR Diego Garcia 142.83 122 PFAKE 18 13 10.0 +15
DGAR LR LR
comp=Z,3μm,22.0s
ZAK Zakamensk 143.34 0 *e*PKIKP PKPab 18 12 51.0 +0.5
ZAK pmax pmax
comp=Z,5.0nm,1.9s
CN2 Changchun 144.48 332 *e*PKP **PKPab 18 12 53.8 -1.1**
CN2 *e*pPKP **PKiKP 18 13 03.2 +2.9**
CN2 *e*PP **PP 18 16 12.8 +0.8**
CN2 *e*SS SS 18 34 53.5 -2.5
CN2 AMB AMB
comp=Z,500nm,10.0s
CN2 LR LR
comp=N,1μm,22.0s
CN2 LR LR
comp=E,1μm,22.0s
CN2 LR LR
comp=Z,2μm,22.0s
KSH Kashi 144.67 38 *i* PKP PKPbc 18 12 56.5 +0.4
KSH pPKP pPKPdf 18 13 07.6 -0.8
KSH sPKP 18 13 10.4
KSH PP **PP 18 16 15.7 +2.1**
KSH PKS **PKSdf 18 16 30.4 -2.5**
KSH SKS **SKSdf 18 19 59.3 -5.0**
KSH SKKS **SKKSac 18 23 01.5 -2.8**
KSH SS **SS 18 34 59.6 +0.4**
KSH AMB AMB
comp=Z,900nm,5.2s
KSH LR LR
comp=N,280nm,7.8s
KSH LR LR
comp=E,510nm,14.3s
KSH LR LR
comp=Z,2μm,22.5s
ULN Ulaanbaatar 145.73 356 *e*PKPdf **PKPdf 18 12 58.9 +0.1**

SONM Songino Array 145.80 356 PKPbc **PKPbc 18 12 59.5 +0.1**
SONM Songino Array 145.80 356 PKPbc **PKPbc 18 12 59.5 +0.1**
comp=Z,20nm,0.9s,baz=331,slow=2.3,SNR=84
SNY Shenyang 146.88 332 ⇑PKPbc **PKPdf 18 13 01.6 +0.9**
SNY PP **PP 18 16 24.1 -2.1**
SNY AMB AMB
comp=Z,690nm,11.8s
SNY LR LR
comp=N,780nm,23.0s
SNY LR LR
comp=E,730nm,21.6s
SNY LR LR
comp=Z,740nm,20.5s
WMQ Urumqi 147.03 21 PKPbc **PKPdf 18 13 01.1 0.0**
WMQ PKPab **PKiKP 18 13 06.5 +0.9**
WMQ pPKP **pPKPdf 18 13 12.8 +0.6**
WMQ sPKP 18 13 16.5
WMQ PP **PP 18 16 32.0 +5.1**
WMQ SKS **SKSdf 18 20 04.8 -2.6**
WMQ SKKS **SKKSac 18 23 15.0 -2.2**
WMQ SS **SS 18 35 25.0 +0.2**
WMQ AMB AMB
comp=Z,420nm,6.8s
WMQ LR LR
comp=N,980nm,18.2s
WMQ LR LR
comp=E,2μm,18.2s
WMQ LR LR
comp=Z,2μm,22.7s
KSRS Korea Array 147.75 322 PKPbc **PKPdf 18 13 02.6 +0.3**
comp=Z,9.0nm,0.7s,baz=63,slow=1.4,SNR=22
KSAR Wonju Array Be 147.78 322 PKPbc **PKPdf 18 13 02.6 +0.3**
JNU Nakatsue 148.34 312 *e*PKPdf **PKPdf 18 13 03.0 -0.5**
JNU PKP **PKPdf 18 13 03.5 -0.1**
JNU PKPbc **PKPbc 18 13 06.6 -0.4**
JNU Nakatsue 148.34 312 PKP **PKPdf 18 13 03.5 -0.1**
comp=Z,23nm,0.8s,baz=55,slow=4.7,SNR=4.1
JNU PKPbc **PKPbc 18 13 06.6 -0.4**
comp=Z,23nm,0.8s,baz=55,slow=6.2,SNR=4.6
THN Thein Dam 148.53 49 *e*PKP **PKPdf 18 13 04.0 +0.2**
DL2 Dalian 150.10 331 PKPbc **PKPdf 18 13 08.2 +2.1**
DL2 PP **PP 18 16 46.8 +1.8**
DL2 SS SS 18 36 02.4 +2.8
DL2 AMB AMB
comp=Z,300nm,5.2s
DL2 LR LR
comp=N,440nm,22.6s
DL2 LR LR
comp=E,520nm,21.9s
DL2 LR LR
comp=Z,580nm,23.9s
AJM Ajmer 150.19 60 *ex* **PKPbc 18 13 09.0 -2.8**
KKR Kurukshetra 150.55 52 *e*PKP **PKPdf 18 13 06.8 -0.3**
KHET Khetri 150.57 56 *e*PKP **PKPdf 18 13 06.8 -0.3**
KUDL Kundal 151.09 56 *e*PKP **PKPdf 18 13 07.2 -0.7**
POO Poona 151.20 76 *e*PKP **PKPdf 18 13 06.7 -1.8**
DDI Dehra Dun 151.32 50 *ex* **PKPdf 18 13 09.5 +1.2**
BJI Beijing 151.39 339 PKPbc **PKPdf 18 13 06.2 -1.8**
BJI PP **PP 18 16 50.7 -1.4**
BJI AMB AMB
comp=Z,470nm,11.2s
BJI LR LR
comp=N,940nm,23.0s
BJI LR LR
comp=E,890nm,19.6s
BJI LR LR
comp=Z,1μm,23.7s
BJT Baijiatuau 151.41 339 *e*PKPdf **PKPdf 18 13 08.3 +0.2**
BJT LR LR
comp=Z,1μm,20.0s
AYAN Aya Nagar 151.46 55 *e*PKP **PKPdf 18 13 07.7 -0.8**
SONA Sohna 151.52 55 *e*PKP **PKPdf 18 13 08.8 +0.2**
KAD Karad 151.61 79 *ex* **PKPdf 18 13 09.8 +0.7**
BISR Bishrakh 151.66 54 *e*PKP **PKPdf 18 13 07.6 -1.2**
HHC Hu-ho-hao-te 151.96 347 *e*PKPbc **PKPdf 18 13 07.8 -1.3**
HHC sPKP 18 13 21.7
HHC PP **PP 18 16 57.6 +2.3**
HHC SKS **SKSdf 18 20 10.2 -4.0**
HHC SKKS **SKKSac 18 23 42.1 -2.5**
HHC SS **SS 18 36 17.9 -1.6**
HHC AMB AMB
comp=Z,630nm,10.4s
HHC LR LR
comp=N,740nm,19.6s
HHC LR LR
comp=E,790nm,16.7s
HHC LR LR
comp=Z,1μm,18.2s
MNGI Mangalore 152.18 88 *e*PKP **PKPdf 18 13 07.4 -2.5**
BTO Baotou 152.50 349 *e*PKPbc **PKPdf 18 13 09.5 -0.4**
AGRA Agra 152.64 56 *e*PKP **PKPdf 18 13 09.6 -0.7**
COCO West Island 153.54 165 PFAKE 18 13 20.0 +0.4
COCO LR LR
comp=Z,1μm,20.0s
AKL Akola 153.84 71 *e*PKP **PKPdf 18 13 08.1 -4.2**
GTA Gaotai 154.12 6 PKPbc **PKPdf 18 13 12.7 +0.4**
GTA pPKP **pPKPdf 18 13 22.8 -0.7**
GTA sPKP 18 13 27.5
GTA PP **PP 18 17 06.5 -1.0**
GTA SKS **SKSdf 18 20 13.9 -2.9**
GTA SKKS **SKKSac 18 23 54.6 -1.8**
GTA SS **SS 18 36 44.7 +1.6**
GTA AMB AMB
comp=Z,600nm,9.3s
GTA LR LR
comp=N,1μm,21.4s
GTA LR LR
comp=E,880nm,20.7s
GTA LR LR
comp=Z,2μm,24.0s
KAPI Kappang 155.38 222 PFAKE 18 13 30.0 -10
KAPI LR LR
comp=Z,2μm,19.0s
NGP Nagpur 155.60 69 *e*PKP **PKPdf 18 13 12.3 -2.4**
NGP *ex* x 18 17 15.2
HYB Hyderabad 155.77 78 *i* PKP **PKPdf 18 13 24.0 -1.0**
HYB *e* 18 13 24.0
HYB *e* 18 13 41.5
HYB *e*PP **PP 18 17 17.0 -1.9**
SSE Sheshan 156.13 320 PKP **PKPdf 18 13 13.2 -1.9**
DANN Dangsing 156.58 48 *e*P **PKPdf 18 13 16.7 +0.6**
comp=Z,145nm,1.1s
DANN Dangsing 156.58 48 *e*P **PKPdf 18 13 16.7 +0.6**
KOLN Koldanda 156.78 50 *e*P **PKPdf 18 13 15.7 -0.6**
KOLN Koldanda 156.78 50 *e*P **PKPdf 18 13 15.7 -0.6**
NJ2 Nanjing 156.83 325 *e*PKP **PKPdf 18 13 15.7 -0.2**
NJ2 pPKP **pPKPdf 18 13 24.1 -3.0**
NJ2 sPKP 18 13 26.6
NJ2 PKPab **PKPab 18 13 45.8 +0.2**
NJ2 PP **PP 18 17 24.7 +1.5**
NJ2 SKKS 18 24 12.0
NJ2 AMB AMB
comp=Z,500nm,6.7s
NJ2 LR LR
comp=N,970nm,25.2s
NJ2 LR LR
comp=E,1μm,26.6s
NJ2 LR LR
comp=Z,480nm,24.1s
DAV Davao City (W) 157.25 256 PFAKE 18 13 30.0 +13
DAV LR LR
comp=Z,2μm,21.0s
DMPH Davao City--Mi 157.32 256⇓ *e*P **PKPdf 18 13 18.7 +1.6**
DMPH *e*S PKPab 18 13 42.0 -6.3
GKN Gorkha 157.41 48 *e*P **PKPdf 18 13 17.0 0.0**
comp=Z,100nm,1.3s
GKN Gorkha 157.41 48 *e*P **PKPdf 18 13 17.0 0.0**
LZH Lanzhou 157.63 359 *e*PKP **PKPdf 18 13 18.7 +1.6**
LZH pPKP **pPKPdf 18 13 28.0 -0.3**
LZH sPKP 18 13 33.6
LZH SS SS 18 37 15.3 -5.7
LZH AMB AMB
comp=Z,380nm,4.8s
LZH LR LR
comp=N,1μm,18.8s
LZH LR LR
comp=E,2μm,19.2s
LZH LR LR
comp=Z,2μm,20.1s
DMN Daman 157.98 48 *e*P **PKPdf 18 13 17.7 -0.2**
DMN Daman 157.98 48 *e*P **PKPdf 18 13 17.7 -0.2**
KKN Kakani 158.00 47 *e*P **PKPdf 18 13 17.9 0.0**
comp=Z,52nm,1.0s
KKN Kakani 158.00 47 *e*PKIKP **PKPdf 18 13 17.9 0.0**

KKN	**Kakani**	**158.00**	**47**	*e*P		**PKPdf**	**18 13 17.9**	**0.0**
PKI	**Pulchoki**	**158.22**	**48**	*e*P		**PKPdf**	**18 13 17.9**	**-0.4**
PKI	**Pulchoki**	**158.22**	**48**	*e*PKIKP		**PKPdf**	**18 13 17.9**	**-0.4**
PKI	**Pulchoki**	**158.22**	**48**	*e*P		**PKPdf**	**18 13 17.9**	**-0.4**
GUN	**Gumba**	**158.35**	**46**	*e*P		**PKPdf**	**18 13 18.7**	**+0.3**
GUN	**Gumba**	**158.35**	**46**	*e*P		**PKPdf**	**18 13 18.7**	**+0.3**
JIRN	**Jiri**	**158.72**	**46**	*e*P		**PKPdf**	**18 13 18.7**	**-0.2**
	comp=Z,21nm,0.9s							
JIRN	**Jiri**	**158.72**	**46**	*e*P		**PKPdf**	**18 13 18.7**	**-0.2**
XAN	**Xi'an**	**159.07**	**347**	PKP		**PKPdf**	**18 13 18.7**	**0.0**
XAN				pPKP		**pPKPdf**	**18 13 28.7**	**-1.2**
XAN				PKS		**PKSdf**	**18 16 51.9**	**-0.5**
XAN				SKKS			18 24 15.1	
XAN				AMB		AMB		
	comp=Z,120nm,10.7s							
XAN				LR		LR		
	comp=N,610nm,20.1s							
XAN				LR		LR		
	comp=Z,470nm,23.9s							
RAMN	**Ramite**	**159.44**	**47**	*e*P		**PKPdf**	**18 13 19.9**	**+0.3**
	comp=Z,119nm,1.1s							
RAMN	**Ramite**	**159.44**	**47**	*e*P		**PKPdf**	**18 13 19.9**	**+0.3**
TAPN	**Taplejung**	**159.97**	**45**	*e*P		**PKPdf**	**18 13 20.6**	**+0.3**
TAPN	**Taplejung**	**159.97**	**45**	*e*P		**PKPdf**	**18 13 20.6**	**+0.3**
ODAN	**Odare**	**160.05**	**46**	*e*P		**PKPdf**	**18 13 20.4**	**+0.1**
	comp=Z,49nm,1.0s							
ODAN	**Odare**	**160.05**	**46**	*e*P		**PKPdf**	**18 13 20.4**	**+0.1**
LSA	**Lhasa**	**160.39**	**33**	PKP		**PKPdf**	**18 13 21.3**	**+0.4**
LSA	**Lhasa**	**160.39**	**33**	*e*PKIKP		**PKPdf**	**18 13 21.6**	**+0.7**
LSA	**Lhasa**	**160.39**	**33**	*e*PKPdf		**PKPdf**	**18 13 21.6**	**+0.7**
SSLB	**Suanglung**	**160.57**	**304**	*e*PKPdf		**PKPdf**	**18 13 18.7**	**-2.0**
QZH	**Quanzhou**	**161.79**	**310**	*i* PKP		**PKPdf**	**18 13 23.0**	**+1.1**
QZH				PKPab		**PKPab**	**18 14 08.2**	**+0.8**
QZH				PP		**PP**	**18 17 51.3**	**+0.5**
QZH				SKKS			18 24 38.0	
QZH				LR		LR		
	comp=N,2μm,18.4s							
QZH				LR		LR		
	comp=E,3μm,19.7s							
QZH				LR		LR		
	comp=Z,3μm,16.9s							
ENH	**Enshi**	**162.51**	**342**	*e*PKPdf		**PKPdf**	**18 13 22.5**	**-0.1**
ENH				LR		LR		
	comp=Z,2μm,21.0s							
CD2	**Chengdu**	**162.79**	**359**	PKP		**PKPdf**	**18 13 23.5**	**+0.7**
CD2				pPKP		**pPKPdf**	**18 13 34.2**	**+0.2**
CD2				sPKP			18 13 37.7	
CD2				PP		**PP**	**18 17 54.5**	**-0.3**
CD2				SKS		**SKSdf**	**18 20 23.8**	**-1.5**
CD2				SKKS		**SKKSac**	**18 24 43.0**	**+1.1**
CD2				SS		**SS**	**18 38 14.1**	**-1.0**
CD2				AMB		AMB		
	comp=Z,820nm,5.8s							
CD2				LR		LR		
	comp=N,1μm,21.6s							
CD2				LR		LR		
	comp=E,2μm,20.6s							
CD2				LR		LR		
	comp=Z,2μm,23.0s							
CAL	**Calcutta**	**163.16**	**56**	*ex*		**PKPdf**	**18 13 22.2**	**-1.1**
CAL				⇓*ix*		x	18 17 53.5	
SHL	**Shillong**	**163.92**	**41**	*e*PKP		**PKPdf**	**18 13 22.4**	**-1.8**
SHL				*ex*		x	18 17 55.0	
AGT	**Agartala**	**164.63**	**47**	*ex*		**PKPdf**	**18 13 27.0**	**+2.4**
KKM	**Kota Kinabalu**	**165.31**	**240**	PFAKE			18 13 40.0	+14
KKM				LR		LR		
	comp=Z,2μm,21.0s							
KSM	**Kuching**	**166.13**	**210**	PFAKE			18 13 40.0	+14
KSM				LR		LR		
	comp=Z,2μm,20.0s							
GYA	**Guiyang**	**166.87**	**347**	PKP		**PKPdf**	**18 13 27.1**	**+0.5**
GYA				PKPab		**PKPab**	**18 14 31.0**	**+1.4**
GYA				PKS		**PKSdf**	**18 16 57.8**	**-1.7**
GYA				PP		**PP**	**18 18 19.3**	**+3.0**
GYA				SKS		**SKSdf**	**18 20 26.0**	**-2.4**
GYA				SKKS		SKKSac	18 24 54.0	-8.8
GYA				SS		**SS**	**18 38 56.9**	**-0.3**
GYA				AMB		AMB		
	comp=Z,280nm,7.7s							
GYA				LR		LR		
	comp=N,640nm,22.6s							
GYA				LR		LR		
	comp=E,670nm,25.4s							
GYA				LR		LR		
	comp=Z,1μm,22.3s							
KMI	**Kunming**	**168.54**	**3**	PKP		**PKPdf**	**18 13 28.7**	**+0.8**
KMI				pPKP		**pPKPdf**	**18 13 35.5**	**-3.6**
KMI				sPKP			18 13 38.5	
QIZ	**Qiongzhong**	**171.81**	**312**	PKP		**PKPdf**	**18 13 31.3**	**+1.7**
QIZ				PP		**PP**	**18 18 44.4**	**+2.1**
QIZ				AMB		AMB		
	comp=Z,560nm,7.3s							
QIZ				LR		LR		
	comp=N,980nm,22.2s							
QIZ				LR		LR		
	comp=Z,2μm,24.3s							
CHTO	**Chiang Mai**	**173.29**	**39**	*e*PKIKP		**PKPdf**	**18 13 29.9**	**-0.4**
CHTO				MLR		MLR		
	comp=Z,2μm,21.0s							
CHTO	**Chiang Mai**	**173.29**	**39**	*e*PKPdf		**PKPdf**	**18 13 29.9**	**-0.4**
CHTO				LR		LR		
	comp=Z,2μm,21.0s							
CM31	**Chiang Mai Arr**	**173.56**	**41**	*e*PKPdf		**PKPdf**	**18 13 29.9**	**-0.5**
CM31				LR		LR		
	comp=Z,2μm,20.0s							
CMAR	**Chiang Mai Arr**	**173.56**	**41**	PKP		**PKPdf**	**18 13 30.4**	**+0.1**
CMAR				PKPab		**PKPab**	**18 14 59.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**173.56**	**41**	PKP		**PKPdf**	**18 13 30.4**	**+0.1**
	comp=Z,6.9nm,0.9s,baz=288,slow=1.8,SNR=49							
CMAR				PKPab		**PKPab**	**18 14 59.9**	**+0.4**
	comp=Z,3.1nm,0.8s,baz=321,slow=6.7,SNR=11							

*ISCJB **02** 17:53:34.3±0.5,24°.39N±0°.02×122°.07E±0°.02,h6km±3km, Error ellipse: s-maj=3.6km s-min=2.6km az=157.6*
*TAP **02** 17:53:35.6,24°.41N×121°.95E,h19km,ML3.1,B*
*JMA **02** 17:53:35.7±0.2,24°.63N×122°.02E,h45km,M2.4*
ISC 02 17:53:34.8±0.9,24°.42N±0°.02×122°.02E±0°.02,h15km±7km, n48,σ0s68/76,8C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.25**	**321**	⇑*i*P	**Pb**	**17 53 41.0**	**0.0**
	baz=342						
TWC				*i* S	**Sb**	**17 53 44.3**	**-0.8**
	baz=342						
ENA	**Nanau**	**0.25**	**273**	⇑*i*P	**Pg**	**17 53 40.5**	**+0.2**
	baz=283						
ENA				*e*S	**Sg**	**17 53 43.9**	**-0.1**
	baz=283						
EHP	**Heping Village**	**0.27**	**247**	*e*P	**Pg**	**17 53 40.3**	**-0.4**
	baz=249						
ILA	**Ilan**	**0.43**	**325**	*i* P	**Pb**	**17 53 44.5**	**+0.5**
	baz=329						
ILA				*i* S	**Sb**	**17 53 50.7**	**+0.4**
	baz=329						
TWE	**Neicheng**	**0.44**	**314**	⇑*i*P	**Pb**	**17 53 44.3**	**+0.1**
	baz=321						
TWE				*e*S	**Sb**	**17 53 50.0**	**-0.7**
	baz=321						
ENTT	**Nioudou**	**0.47**	**299**	⇑*i*P	**Pb**	**17 53 44.5**	**-0.2**
	baz=304						
ENTT				*e*S	**Sb**	**17 53 51.0**	**-0.6**
	baz=304						
TWD	**Chiawan**	**0.51**	**229**	*e*P	**Pg**	**17 53 44.8**	**-0.1**
	baz=229						
TWD				*e*S	**Sg**	**17 53 52.3**	**+0.5**
	baz=229						
HWA	**Hwalien**	**0.58**	**221**	*e*P	**Pb**	**17 53 47.7**	**+1.1**
	baz=222						
NNS	**Nan Shan**	**0.59**	**273**	⇑*i*P	**Pg**	**17 53 46.2**	**-0.2**
	baz=281						
NNS				*e*S	**Sg**	**17 53 53.2**	**-1.1**
	baz=281						
TWB1	**Santiao Chiao**	**0.59**	**357**	*e*P	**Pb**	**17 53 47.5**	**+0.6**
	baz=356						
TWB1				*e*S	**Sb**	**17 53 55.7**	**+0.6**
	baz=356						
NSK	**Sanguang**	**0.66**	**293**	⇑*i*P	**Pg**	**17 53 47.8**	**+0.1**
	baz=300						
NSK				S	**Sg**	**17 53 55.8**	**-0.6**
	baz=300						
NWF	**Wu-fen Shan**	**0.69**	**342**	*e*P	**Pn**	**17 53 49.5**	**-0.5**
	baz=338						
NWF				S	**Sb**	**17 53 58.7**	**+0.8**
	baz=338						
TWA	**Mucha**	**0.69**	**325**	*e*P	**Pn**	**17 53 49.3**	**-0.7**
	baz=330						
TWA				*e*S	**Sb**	**17 53 57.9**	**+0.1**
	baz=330						
WHF	**Hehuan Shan**	**0.74**	**249**	⇑*i*P	**Pg**	**17 53 48.8**	**-0.5**
	baz=254						
TAP1	**Taipei**	**0.77**	**324**	*e*P	**Pn**	**17 53 51.5**	**+0.5**
	baz=319						
TAP1				*e*S	**Sn**	**17 54 00.9**	**-1.4**
	baz=319						
TWT	**Tachien**	**0.79**	**258**	*e*P	**Pb**	**17 53 50.5**	**+0.3**
	baz=260						
TWT				*e*S	**Sn**	**17 54 02.7**	**-0.4**
	baz=260						
ESL	**Shilin**	**0.80**	**222**	*e*P	**Pb**	**17 53 49.9**	**-0.6**
	baz=221						
ESL				*e*S	**Sn**	**17 54 02.5**	**-0.7**
	baz=221						
TWS1	**Kuangyinshan**	**0.87**	**321**	*e*P	**Pn**	**17 53 53.1**	**+0.6**
	baz=318						
TWS1				*e*S	**Sn**	**17 54 04.5**	**-0.5**
	baz=318						
YOJ	**Yonaguni jima**	**0.91**	**87**	*e*P	**Pg**	**17 53 52.4**	**0.0**
	baz=79						
YOJ	**Yonaguni jima**	**0.91**	**87**	P	**Pg**	**17 53 52.3**	**0.0**
YOJ				*e*S	**Sg**	**17 54 04.5**	**+0.2**
NCU	**National Centr**	**0.94**	**306**	*e*P	**Pn**	**17 53 53.8**	**+0.4**
	baz=302						
TWY	**Chenhua**	**0.94**	**336**	*e*P	**Pn**	**17 53 54.3**	**+0.9**
	baz=339						
TWY				*e*S	**Sn**	**17 54 06.2**	**-0.3**
	baz=339						
NSTT	**Nanjuang**	**0.95**	**283**	*e*P	**Pn**	**17 53 53.4**	**-0.2**
	baz=291						
NSTT				*e*S	**Sb**	**17 54 05.2**	**-0.2**
	baz=291						
EHY	**Hungye**	**1.11**	**215**	*e*P	**Pb**	**17 53 54.6**	**-1.1**
	baz=212						
TWQ1	**Liyutan**	**1.14**	**267**	*e*P	**Pg**	**17 53 57.4**	**+0.6**
	baz=276						
TWQ1				*e*S	**Sg**	**17 54 12.6**	**+1.0**
	baz=276						
NSY	**Sanyi**	**1.15**	**270**	*e*P	**Pg**	**17 53 56.9**	**0.0**
	baz=278						
SMLT	**Sun Moon Lake**	**1.15**	**243**	*e*P	**Pn**	**17 53 56.5**	**0.0**
	baz=237						
SMLT				*e*S	**Sb**	**17 54 10.8**	**-0.4**
	baz=237						
TYC	**Yuchr**	**1.18**	**245**	⇑*i*P	**Pb**	**17 53 56.9**	**+0.1**
	baz=250						
TYC				*e*S	**Sn**	**17 54 12.8**	**+0.3**
	baz=250						
TWF1	**Yuli**	**1.25**	**212**	*e*P	**Pn**	**17 53 56.8**	**-0.9**
	baz=224						
TCU	**Taichung**	**1.25**	**258**	*e*P	**Pg**	**17 53 58.9**	**-0.1**
	baz=259						
WNT	**Mingjian**	**1.33**	**247**	*e*P	**Pg**	**17 54 00.9**	**+0.5**
	baz=239						
CHN5	**Tsauling**	**1.47**	**237**	*e*P	**Pb**	**17 54 02.2**	**+0.2**
	baz=239						
CHN5				*e*S	**Sg**	**17 54 22.9**	**+0.6**
	baz=239						
WGK	**Gukeng**	**1.52**	**242**	*e*P	**Pb**	**17 54 02.4**	**-0.3**
	baz=243						
ELDTW	**Lidau**	**1.53**	**217**	*e*P	**Pn**	**17 54 01.5**	**-0.1**
	baz=200						
IRIF	**Iriomote-Funau**	**1.56**	**93**	P	**Pn**	**17 54 01.9**	**-0.1**
IRIF				*e*S	**Sn**	**17 54 21.2**	**-0.8**
CHN2	**Minshiung**	**1.66**	**238**	*e*P	**Pb**	**17 54 06.1**	**+1.0**
	baz=225						
HATJ	**Hateruma jima**	**1.67**	**102**	*e*S	**Sn**	**17 54 25.3**	**+0.7**
CHN4	**Tsaushan**	**1.68**	**231**	*e*P	**Pb**	**17 54 05.2**	**-0.2**
	baz=232						
WTP	**Ta-pu**	**1.73**	**228**	*e*P	**Pn**	**17 54 05.5**	**+1.1**
	baz=231						
WTP				*e*S	**Sb**	**17 54 29.4**	**+1.4**
	baz=231						
TWK	**Hsinying**	**1.81**	**231**	*e*P	**Pn**	**17 54 06.7**	**+1.3**
	baz=231						
WSF	**Szhu**	**1.81**	**245**	*e*P	**Pn**	**17 54 06.6**	**+1.2**
	baz=246						
JKRS	**Kuro-shima**	**1.82**	**95**	P	**Pn**	**17 54 05.9**	**+0.3**
JKRS				*e*S	**Sn**	**17 54 28.4**	**-0.1**
CHN1	**Nanshi**	**1.83**	**228**	*e*P	**Pb**	**17 54 07.5**	**-0.6**
	baz=231						
CHN1				*e*S	**Sb**	**17 54 32.0**	**+1.2**
	baz=231						
SGST	**Jiashian**	**1.87**	**225**	*e*P	**Pb**	**17 54 07.9**	**-0.7**
	baz=209						
JIJ	**Ishigaki jima**	**1.94**	**91**	P	**Pn**	**17 54 06.8**	**-0.4**
JIJ				*e*S	**Sn**	**17 54 29.5**	**-1.8**
SSD	**Sandimen**	**2.09**	**218**	*e*P	**Pb**	**17 54 11.3**	**-1.2**
	baz=216						
PNG	**Penghu**	**2.41**	**250**	*e*P	**Pn**	**17 54 13.3**	**-0.3**
	baz=251						
JTJ	**Tarama**	**2.46**	**84**	P	**Pn**	**17 54 15.1**	**+0.8**
JTJ				*e*S	**Sn**	**17 54 43.7**	**-0.3**

*NNC **02** 18:02:04.0±1.1,40°.91N×73°.31E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=11.4km s-min=4.7km az=178.0*
ISC 02 18:02:03.7±2.7,40°.8N±0°.2×73°.40E±0°.07,h7km,n20, σ0s94/30,7C-8D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**1.31**	**10**	P	**Pg**	**18 02 28.7**	**-0.1**
	SNR=780						
AML				P	**Pg**	**18 02 28.7**	**-0.1**
	SNR=780						
UCH	**Uchtor**	**1.62**	**31**	P	**Pg**	**18 02 34.6**	**-0.2**
	SNR=8.4						
UCH				P	**Pg**	**18 02 34.6**	**-0.2**
	SNR=8.4						
EKS2	**Erkin-Say**	**1.84**	**9**	P	**Pg**	**18 02 38.0**	**-1.0**
	SNR=108						
EKS2				P	**Pg**	**18 02 38.0**	**-1.0**
	SNR=108						
KZA	**Kyzart**	**1.86**	**48**	P	**Pn**	**18 02 37.0**	**+0.6**
	SNR=112						
KZA				P	**Pn**	**18 02 37.0**	**+0.6**
	SNR=112						
AAK	**Ala-Archa**	**1.97**	**24**	P	**Pb**	**18 02 39.5**	**-0.5**
	SNR=60						
AAK				P	**Pb**	**18 02 39.5**	**-0.5**
	SNR=60						
KBK	**Karagaybulak**	**2.15**	**32**	P	**Pb**	**18 02 42.5**	**-0.7**
	SNR=43						
KBK				P	**Pb**	**18 02 42.5**	**-0.7**
	SNR=43						
CHMS	**Chumysh**	**2.38**	**25**	P	**Pb**	**18 02 45.1**	**-1.8**
	SNR=29						
CHMS				P	**Pb**	**18 02 45.1**	**-1.8**
	SNR=29						
ULHL	**Ulahol**	**2.55**	**56**	P	**Pn**	**18 02 46.2**	**+0.4**
	SNR=13						
ULHL				P	**Pn**	**18 02 46.2**	**+0.4**
	SNR=13						
USP	**Ospenovka**	**2.56**	**18**	P	**Pb**	**18 02 50.2**	**+0.3**
	SNR=36						
USP				P	**Pb**	**18 02 50.2**	**+0.3**
	SNR=36						
TKM2	**Tokmak 2**	**2.65**	**38**	⇑Pn	**Pn**	**18 02 48.2**	**+1.2**
	23nm,0.7s						
TKM2				⇓Lg	Lg	18 03 26.2	
	39nm,0.5s						
TKM2	**Tokmak 2**	**2.65**	**38**	P	**Pn**	**18 02 48.4**	**+1.3**
	SNR=19						
TKM2				P	**Pn**	**18 02 48.4**	**+1.3**
	SNR=19						
KK31	**Karatay Array**	**3.12**	**317**	Pn	**Pn**	**18 02 52.5**	**-0.8**
	0.5nm,0.2s,baz=128,slow=12,SNR=422						
KK31				Pg	**Pb**	**18 02 59.2**	**-0.3**
	8.7nm,0.3s,baz=141,slow=16,SNR=130						
KK31				⇑Lg	Lg	18 03 41.2	
	43nm,0.5s,baz=137,slow=29,SNR=6.4						
KNDC	**Almaty**	**3.56**	**47**	⇓Pn	**Pn**	**18 03 01.1**	**+1.6**
	10nm,0.5s						
KNDC				⇓Lg	Lg	18 03 58.0	
	83nm,0.6s						
MK31	**Makanchi Array**	**8.76**	**44**	Pn	**Pn**	**18 04 10.2**	**-0.5**
	0.7nm,0.7s,baz=222,slow=14,SNR=6.3						
MK31				⇑Lg	Lg	18 06 42.0	
	7.2nm,1.3s,baz=230,slow=13,SNR=5.8						
KURK	**Kurchatov**	**10.52**	**18**	⇑Lg	Lg	18 07 35.0	
	6.7nm,0.8s						
VOSK	**Vostochnaya**	**12.00**	**353**	⇓Pn	**Pn**	**18 04 57.0**	**+1.9**
	1.1nm,1.2s						
VOSK				⇓Lg	Lg	18 08 22.9	
	6.8nm,1.6s						
BVA0	**Borovoye Array**	**12.36**	**351**	⇑Pn	**Pn**	**18 04 59.8**	**-0.2**
	0.4nm,1.3s,baz=163,slow=13,SNR=6.6						
BVA0				⇓Lg	Lg	18 08 35.5	
	0.5nm,0.7s						
BRVK	**Borovoye**	**12.40**	**351**	⇑Pn	**Pn**	**18 05 00.8**	**+0.3**
	4.8nm,1.1s						
BRVK				⇓Lg	Lg	18 08 35.7	
	4.5nm,0.7s						
ZRNK	**Zerenda**	**12.48**	**348**	⇓Pn	**Pn**	**18 05 01.5**	**-0.1**
	1.0nm,0.8s						
ZRNK				⇑Lg	Lg	18 08 37.5	
	11nm,1.5s						
AB31	**Akbulak array**	**12.69**	**316**	Pn	**Pn**	**18 05 04.0**	**-0.4**
	1.0nm,0.7s,baz=151,slow=8.3,SNR=8.6						

*ISCJB **02** 18:12:43.8±0.5,5°.27N±0°.05×125°.60E±0°.08,h150km, mb4.0/14,Error ellipse: s-maj=12.1km s-min=6.5km az=165.9*
*IDC **02** 18:12:46.9±0.8,5°.40N×125°.67E,h167km±7km,mb3.6/13, mb1 3.8/13,mb1mx3.6/24,mbtmp3.6/13,Error ellipse: s-maj=20.5km s-min=9.2km az=78.0*
*MAN **02** 18:12:46,5°.36N×125°.59E,h144km,mb4.9,ML3.8,MS3.9*
*DJA **02** 18:12:48,5°.18N×125°.87E,h127km,MLv4.9/5*
ISC 02 18:12:45.3±0.6,5°.31N±0°.07×125°.6E±0°.1,h150km,n31, σ0s96/35,mb4.1/14,2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.99**	**321**	⇓*i*P	**Pn**	**18 13 09.8**	**-0.3**
GSPH				*i* S	**Sn**	**18 13 28.6**	**-0.5**
DAV	**Davao City (W)**	**1.75**	**0**	P	**Pn**	**18 13 20.0**	**+2.5**
	37nm,0.3s,baz=269,slow=7.0,SNR=9.8						
DAV				S	**Sn**	**18 13 44.6**	**+2.2**
	112nm,0.3s,baz=150,slow=20,SNR=7.3						
MATI	**Mati**	**1.76**	**23**	*e*P	**Pn**	**18 13 17.6**	**-0.1**
BUKP	**Musuan**	**2.60**	**349**	*e*P	**Pn**	**18 13 28.4**	**+0.7**
CGP	**Cagayan de Oro**	**3.24**	**344**	⇓*e*P	**Pn**	**18 13 36.3**	**+0.6**
CGP				*e*S	**Sn**	**18 14 15.8**	**+1.0**
PAGZ	**Pagadian**	**3.33**	**319**	*e*P	**Pn**	**18 13 37.2**	**+0.4**
JOW	**Kunigami**	**21.55**	**7**	P	**P**	**18 17 21.4**	**-1.5**
	12nm,0.8s,baz=216,slow=9.0,SNR=5.0						
FITZ	**Fitzroy Crossi**	**23.27**	**180**	P	**P**	**18 17 39.7**	**+0.1**
	6.1nm,0.7s,baz=5.1,slow=12,SNR=11						
WRA	**Warramunga Arr**	**26.54**	**161**	P	**P**	**18 18 09.2**	**0.0**
	1.1nm,0.5s,baz=331,slow=11,SNR=43						
CBIJ	**Chichi jima**	**26.83**	**34**	P	**P**	**18 18 11.1**	**-0.7**
	43nm,0.4s,baz=286,slow=16,SNR=2.8						
CMAR	**Chiang Mai Arr**	**29.09**	**299**	P	**P**	**18 18 33.5**	**+1.5**
	3.2nm,0.7s,baz=126,slow=8.2,SNR=25						
ASAR	**Alice Springs**	**29.93**	**165**	P	**P**	**18 18 40.0**	**+0.6**
	1.0nm,0.5s,baz=337,slow=7.0,SNR=22						
ASAR				PcP	**PcP**	**18 21 38.1**	**-0.4**
	1.1nm,0.4s,baz=349,slow=2.3,SNR=8.5						
MJAR	**Matsushiro Arr**	**33.17**	**19**	P	**P**	**18 19 06.7**	**-1.0**
	1.7nm,0.9s,baz=196,slow=9.9,SNR=4.3						
NWAO	**Narrogin (SRO)**	**38.84**	**191**	P	**P**	**18 19 56.3**	**+0.5**
	6.7nm,0.5s,baz=23,slow=9.4,SNR=16						
STKA	**Stephens Creek**	**40.01**	**159**	P	**P**	**18 20 06.9**	**+1.3**
	3.3nm,0.6s,baz=337,slow=7.1,SNR=11						
TAPN	**Taplejung**	**42.16**	**306**	*e*P	**P**	**18 20 24.5**	**+0.9**
	4.8nm,0.4s						
ODAN	**Odare**	**42.22**	**305**	*e*P	**P**	**18 20 24.6**	**+0.6**
	12nm,0.7s						
RAMN	**Ramite**	**42.90**	**304**	*e*P	**P**	**18 20 29.6**	**0.0**
	16nm,0.8s						
JIRN	**Jiri**	**43.52**	**305**	*e*P	**P**	**18 20 35.0**	**+0.4**
	22nm,0.7s						
GUN	**Gumba**	**43.87**	**305**	*e*P	**P**	**18 20 37.3**	**-0.1**
	39nm,0.7s						
PKI	**Pulchoki**	**44.12**	**305**	*e*P	**P**	**18 20 39.3**	**-0.1**
KKN	**Kakani**	**44.31**	**305**	*e*P	**P**	**18 20 41.2**	**+0.4**
	4.7nm,0.6s						
DMN	**Daman**	**44.38**	**305**	*e*P	**P**	**18 20 41.9**	**+0.5**
	12nm,0.8s						
GKN	**Gorkha**	**44.92**	**305**	*e*P	**P**	**18 20 44.7**	**-0.8**
	5.3nm,0.6s						
KOLN	**Koldanda**	**45.68**	**304**	*e*P	**P**	**18 20 51.1**	**-0.5**
	26nm,0.6s						
DANN	**Dangsing**	**45.76**	**305**	*e*P	**P**	**18 20 51.7**	**-0.6**
	27nm,0.5s						
MKAR	**Makanchi Array**	**55.60**	**325**	P	**P**	**18 22 04.9**	**-0.5**
	1.4nm,0.5s,baz=117,slow=7.6,SNR=30						
KURBB	**Kurchatov Arra**	**59.79**	**327**	P	**P**	**18 22 34.5**	**0.0**
	0.9nm,0.4s,baz=130,slow=6.7,SNR=18						
BVAR	**Borovoye Array**	**65.37**	**327**	P	**P**	**18 23 10.9**	**-0.7**
	0.5nm,0.5s,baz=116,slow=6.6,SNR=5.4						
ILAR	**Eielson Array**	**84.18**	**25**	P	**P**	**18 24 58.6**	**-0.8**
	0.3nm,0.5s,baz=265,slow=4.3,SNR=8.2						
BRTR	**Keskin Array B**	**88.13**	**310**	P	**P**	**18 25 17.8**	**-1.7**
	0.3nm,0.4s,baz=77,slow=3.1,SNR=4.2						

MAN 02 18:26:29,9.63N×126°.17E,h15km,mb4.7,ML3.6,MS3.6, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.85**	**220**	*e*P	**Pb**	**18 26 44.8**	**-0.7**
MSLP	**Maasin**	**1.39**	**291**	*e*P	**Pn**	**18 26 52.3**	**-1.5**
MSLP				*e*S	**Sb**	**18 27 12.3**	**+0.1**
CGP	**Cagayan de Oro**	**1.87**	**232**	⇑*e*P	**Pn**	**18 27 00.2**	**-0.2**
CGP				*i* S	**Sn**	**18 27 24.5**	**+0.8**
TBP	**Tagbilaran**	**2.28**	**272**	*e*P	**Pn**	**18 27 07.0**	**+0.9**

IDC 02 18:41:09.6±4.8,18°.89N×145°.50E,h314km±48km, mb2.9/10,mb1 3.2/12,mb1mx3.0/24,mbtmp3.0/12,Error ellipse: s-maj=25.3km s-min=15.2km az=89.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**17.72**	**300**	P	**P**	**18 44 55.2**	**-0.4**
	3.6nm,0.3s,baz=129,slow=13,SNR=6.0						
MJAR	**Matsushiro Arr**	**18.72**	**341**	P	**P**	**18 45 06.2**	**0.0**
	0.2nm,0.3s,baz=148,slow=4.8,SNR=4.9						
WRA	**Warramunga Arr**	**40.11**	**196**	P	**P**	**18 48 15.2**	**-0.5**
	0.3nm,0.4s,baz=22,slow=8.6,SNR=5.3						
SONM	**Songino Array**	**42.88**	**321**	P	**P**	**18 48 37.6**	**-

Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.83**	**31**	P	**Pn**	**18 41 49.5**	**+0.4**
KYTH	**Kithira**	**0.83**	**31**	*e*P	**Pn**	**18 41 49.8**	**+0.7**
KYTH	**Kithira**	**0.83**	**31**	*e*P	**Pn**	**18 41 49.8**	**+0.7**
VLI	**Veliai**	**1.20**	**16**	P	**Pn**	**18 41 55.4**	**+1.4**
VLI				S	**Sn**	**18 42 12.7**	**+3.5**
VLI	**Veliai**	**1.20**	**16**	*e*P	**Pn**	**18 41 55.8**	**+1.8**
VLI	**Veliai**	**1.20**	**16**	P	**Pn**	**18 41 55.4**	**+1.4**
VLI				S	**Sn**	**18 42 12.7**	**+3.5**
VAM	**Vamos**	**1.38**	**96**	P	**Pn**	**18 41 57.4**	**+0.9**
VAM	**Vamos**	**1.38**	**96**	*e*P	**Pn**	**18 41 57.8**	**+1.3**
VAM	**Vamos**	**1.38**	**96**	P	**Pn**	**18 41 57.4**	**+0.9**
PYL	**PYLOS**	**1.47**	**335**	P	**Pn**	**18 41 57.3**	**-0.4**
PYL				S	**Sn**	**18 42 18.4**	**+2.7**
PYL	**PYLOS**	**1.47**	**335**	*e*P	**Pn**	**18 41 58.0**	**+0.3**
PYL				*e*S	**Sn**	**18 42 18.1**	**+2.4**
PYL	**PYLOS**	**1.47**	**335**	*e*P	**Pn**	**18 41 58.0**	**+0.3**
PYL				*e*S	**Sn**	**18 42 18.1**	**+2.4**
GVD	**Gavdhos**	**1.48**	**119**	*e*P	**Pn**	**18 41 58.1**	**+0.3**
GVD	**Gavdhos**	**1.48**	**119**	P	**Pn**	**18 41 58.2**	**+0.3**
GVD	**Gavdhos**	**1.48**	**119**	P	**Pn**	**18 41 58.2**	**+0.3**
ITM	**Ithomi**	**1.68**	**344**	P	**Pn**	**18 42 00.8**	**+0.2**
ITM	**Ithomi**	**1.68**	**344**	*e*P	**Pn**	**18 42 01.2**	**+0.7**
ITM	**Ithomi**	**1.68**	**344**	*e*P	**Pn**	**18 42 01.3**	**+0.7**
VLX	**Vlachokerasia**	**1.80**	**357**	P	**Pn**	**18 42 02.7**	**+0.3**
VLX				S	**Sn**	**18 42 26.4**	**+2.3**
VLX	**Vlachokerasia**	**1.80**	**357**	*e*P	**Pn**	**18 42 04.3**	**+1.9**
VLX	**Vlachokerasia**	**1.80**	**357**	P	**Pn**	**18 42 02.7**	**+0.3**
VLX				S	**Sn**	**18 42 26.4**	**+2.3**
SIVA	**Sivas**	**1.96**	**106**	*e*P	**Pn**	**18 42 05.4**	**+1.1**
SIVA	**Sivas**	**1.96**	**106**	*e*P	**Pn**	**18 42 05.4**	**+1.1**
IDI	**Anoyia**	**1.96**	**98**	*e*P	**Pn**	**18 42 05.1**	**+0.6**
IDI	**Anoyia**	**1.96**	**98**	P	**Pn**	**18 42 05.3**	**+0.8**
IDI	**Anoyia**	**1.96**	**98**	*e*P	**Pn**	**18 42 05.7**	**+1.2**
IDI	**Anoyia**	**1.96**	**98**	*e*P	**Pn**	**18 42 05.1**	**+0.6**
DIDY	**Didyma**	**1.98**	**16**	P	**Pn**	**18 42 06.1**	**+1.2**
DIDY				S	**Sn**	**18 42 31.5**	**+2.9**
DIDY	**Didyma**	**1.98**	**16**	P	**Pn**	**18 42 06.1**	**+1.2**
DIDY				S	**Sn**	**18 42 31.5**	**+2.9**
DID	**Didima**	**2.02**	**16**	P	**Pn**	**18 42 05.8**	**+0.5**
DID	**Didima**	**2.02**	**16**	*e*P	**Pn**	**18 42 06.1**	**+0.8**
NAIG	**Nisos Aigina**	**2.32**	**19**	*e*P	**Pn**	**18 42 10.5**	**+1.1**
NAIG	**Nisos Aigina**	**2.32**	**19**	*e*P	**Pn**	**18 42 10.5**	**+1.1**
GUR	**Goura**	**2.37**	**357**	P	**Pn**	**18 42 11.7**	**+1.6**
GUR	**Goura**	**2.37**	**357**	*e*P	**Pn**	**18 42 12.4**	**+2.3**
GUR	**Goura**	**2.37**	**357**	P	**Pn**	**18 42 11.7**	**+1.6**
LAST	**Lasithi**	**2.46**	**99**	*e*P	**Pn**	**18 42 12.9**	**+1.6**
LAST	**Lasithi**	**2.46**	**99**	*e*P	**Pn**	**18 42 12.9**	**+1.6**
LTK	**Loutraki**	**2.48**	**8**	P	**Pn**	**18 42 12.5**	**+1.0**
LTK	**Loutraki**	**2.48**	**8**	*e*P	**Pn**	**18 42 12.9**	**+1.4**
LTK	**Loutraki**	**2.48**	**8**	P	**Pn**	**18 42 12.5**	**+1.0**
THR1	**Thera Island**	**2.52**	**71**	P	**Pn**	**18 42 12.7**	**+0.6**
THR1	**Thera Island**	**2.52**	**71**	P	**Pn**	**18 42 12.7**	**+0.6**
THR2	**Thira island,**	**2.52**	**69**	P	**Pn**	**18 42 13.2**	**+1.1**
THR2	**Thira island,**	**2.52**	**69**	P	**Pn**	**18 42 13.2**	**+1.1**
NPS	**Neapolis**	**2.55**	**96**	*e*P	**Pn**	**18 42 13.6**	**+1.1**
NPS	**Neapolis**	**2.55**	**96**	*e*P	**Pn**	**18 42 13.6**	**+1.1**
ATH	**Athens Observa**	**2.59**	**22**	P	**Pn**	**18 42 14.2**	**+1.2**
ATH	**Athens Observa**	**2.59**	**22**	*e*P	**Pn**	**18 42 15.3**	**+2.3**
ATH	**Athens Observa**	**2.59**	**22**	P	**Pn**	**18 42 14.2**	**+1.2**
RLS	**Riolos of Patr**	**2.62**	**342**	P	**Pn**	**18 42 14.6**	**+1.1**
RLS	**Riolos of Patr**	**2.62**	**342**	*e*P	**Pn**	**18 42 15.4**	**+1.9**
RLS	**Riolos of Patr**	**2.62**	**342**	P	**Pn**	**18 42 14.6**	**+1.1**
LAKA	**Lakka**	**2.70**	**351**	P	**Pn**	**18 42 16.8**	**+2.2**
LAKA	**Lakka**	**2.70**	**351**	P	**Pn**	**18 42 16.8**	**+2.2**
PTL	**Penteli**	**2.70**	**23**	P	**Pn**	**18 42 15.6**	**+1.0**
PTL	**Penteli**	**2.70**	**23**	*e*P	**Pn**	**18 42 15.6**	**+1.0**
PTL	**Penteli**	**2.70**	**23**	*e*P	**Pn**	**18 42 15.6**	**+1.0**
UPR	**University Cam**	**2.77**	**348**	*e*P	**Pn**	**18 42 16.9**	**+1.4**
UPR	**University Cam**	**2.77**	**348**	*e*P	**Pn**	**18 42 16.9**	**+1.4**
TRIZ	**Trizonia**	**2.81**	**353**	P	**Pn**	**18 42 16.7**	**+0.6**
TRIZ	**Trizonia**	**2.81**	**353**	P	**Pn**	**18 42 16.7**	**+0.6**
KALE	**Kalithea**	**2.83**	**354**	P	**Pn**	**18 42 17.6**	**+1.1**
KALE	**Kalithea**	**2.83**	**354**	P	**Pn**	**18 42 17.6**	**+1.1**
DSF	**Desfina**	**2.84**	**0**	P	**Pn**	**18 42 17.3**	**+0.8**
DSF	**Desfina**	**2.84**	**0**	P	**Pn**	**18 42 17.3**	**+0.8**
DESF	**Desfina**	**2.84**	**0**	P	**Pn**	**18 42 15.9**	**-0.6**
DESF	**Desfina**	**2.84**	**0**	P	**Pn**	**18 42 15.9**	**-0.6**
APE	**Apeiranthos**	**2.86**	**58**	P	**Pn**	**18 42 17.1**	**+0.3**
APE	**Apeiranthos**	**2.86**	**58**	*e*P	**Pn**	**18 42 17.2**	**+0.4**
APE				*e*S	**Sn**	**18 42 50.9**	**+0.9**
APE	**Apeiranthos**	**2.86**	**58**	*e*P	**Pn**	**18 42 17.2**	**+0.4**
APE				*e*S	**Sn**	**18 42 50.9**	**+0.9**
EFP	**Efpalio**	**2.90**	**350**	P	**Pn**	**18 42 19.6**	**+2.4**
EFP	**Efpalio**	**2.90**	**350**	*e*P	**Pn**	**18 42 20.0**	**+2.8**
EFP	**Efpalio**	**2.90**	**350**	P	**Pn**	**18 42 19.6**	**+2.4**
VLS	**Valsamata**	**3.03**	**330**	P	**Pn**	**18 42 19.1**	**0.0**
VLS				S	**Sn**	**18 42 53.7**	**-0.4**
VLS	**Valsamata**	**3.03**	**330**	*e*P	**Pn**	**18 42 18.9**	**-0.2**
VLS	**Valsamata**	**3.03**	**330**	P	**Pn**	**18 42 19.1**	**0.0**
VLS				S	**Sn**	**18 42 53.7**	**-0.4**
ZKR	**Zakros**	**3.06**	**97**	*e*P	**Pn**	**18 42 21.5**	**+2.0**
ZKR	**Zakros**	**3.06**	**97**	*e*P	**Pn**	**18 42 21.5**	**+2.0**
LKR	**Lokris**	**3.10**	**7**	P	**Pn**	**18 42 21.3**	**+1.3**
LKR	**Lokris**	**3.10**	**7**	*e*P	**Pn**	**18 42 21.5**	**+1.5**
LKR	**Lokris**	**3.10**	**7**	P	**Pn**	**18 42 21.3**	**+1.3**
ATAL	**Atalanti**	**3.15**	**7**	P	**Pn**	**18 42 21.9**	**+1.2**
ATAL	**Atalanti**	**3.15**	**7**	P	**Pn**	**18 42 21.9**	**+1.2**
AXAR	**Agios Charalam**	**3.19**	**2**	P	**Pn**	**18 42 22.3**	**+0.9**
AXAR	**Agios Charalam**	**3.19**	**2**	P	**Pn**	**18 42 22.3**	**+0.9**
MRKA	**Markates**	**3.25**	**15**	P	**Pn**	**18 42 22.9**	**+0.8**
MRKA	**Markates**	**3.25**	**15**	P	**Pn**	**18 42 22.9**	**+0.8**
EVR	**Evrytania**	**3.39**	**351**	P	Pn	18 42 27.4	+3.3
EVR	**Evrytania**	**3.39**	**351**	*e*P	Pn	18 42 27.4	+3.3
EVR	**Evrytania**	**3.39**	**351**	*e*P	Pn	18 42 27.4	+3.3
MAKR	**Makrakomi, Fth**	**3.45**	**355**	P	**Pn**	**18 42 27.1**	**+2.2**
MAKR	**Makrakomi, Fth**	**3.45**	**355**	P	**Pn**	**18 42 27.1**	**+2.2**
LKD2	**Lefkada island**	**3.54**	**336**	*e*P	**Pn**	**18 42 27.0**	**+0.9**
LKD2	**Lefkada island**	**3.54**	**336**	*e*P	**Pn**	**18 42 27.0**	**+0.9**
LTBQ	**Tobruq**	**3.69**	**161**	*i* P	**Pn**	**18 42 29.6**	**+1.4**
	29nm,0.4s,SNR=23						
NEO	**Neokhori**	**3.77**	**8**	*e*P	**Pn**	**18 42 30.4**	**+1.1**
NEO	**Neokhori**	**3.77**	**8**	*e*P	**Pn**	**18 42 30.4**	**+1.1**
KARP	**Karpathos**	**3.79**	**89**	*e*P	**Pn**	**18 42 30.0**	**+0.5**
KARP	**Karpathos**	**3.79**	**89**	*e*P	**Pn**	**18 42 30.0**	**+0.5**
XOR	**Xorichti**	**3.83**	**8**	P	**Pn**	**18 42 31.5**	**+1.4**
XOR	**Xorichti**	**3.83**	**8**	P	**Pn**	**18 42 31.5**	**+1.4**
CHOS	**Chios island**	**3.99**	**44**	P	**Pn**	**18 42 32.8**	**+0.5**
CHOS	**Chios island**	**3.99**	**44**	*e*P	**Pn**	**18 42 32.8**	**+0.5**
CHOS	**Chios island**	**3.99**	**44**	*e*P	**Pn**	**18 42 32.8**	**+0.5**
THL	**Klokotos Trika**	**4.01**	**354**	P	**Pn**	**18 42 32.9**	**+0.4**
THL	**Klokotos Trika**	**4.01**	**354**	*e*P	**Pn**	**18 42 33.6**	**+1.1**
THL	**Klokotos Trika**	**4.01**	**354**	*e*P	**Pn**	**18 42 33.6**	**+1.1**
SMG	**Samos**	**4.08**	**57**	*e*P	**Pn**	**18 42 34.0**	**+0.5**
SMG	**Samos**	**4.08**	**57**	*e*P	**Pn**	**18 42 34.0**	**+0.5**
JAN	**Janina**	**4.29**	**343**	*e*P	**Pn**	**18 42 37.4**	**+1.0**
JAN	**Janina**	**4.29**	**343**	*e*P	**Pn**	**18 42 37.4**	**+1.0**
URLA	**Izmir**	**4.29**	**48**	*i* P	**Pn**	**18 42 37.3**	**+0.9**
URLA	**Izmir**	**4.29**	**48**	*i* P	**Pn**	**18 42 37.3**	**+0.9**
GCAM	**G?zelcaml?**	**4.35**	**59**	*i* P	**Pn**	**18 42 38.0**	**+0.9**
GCAM	**G?zelcaml?**	**4.35**	**59**	*i* P	**Pn**	**18 42 38.0**	**+0.9**
ARG	**Arkhangelos**	**4.60**	**80**	*e*P	**Pn**	**18 42 41.4**	**+0.8**
ARG	**Arkhangelos**	**4.60**	**80**	*e*P	**Pn**	**18 42 41.4**	**+0.8**
SLUM		**4.65**	**150**	P	**Pn**	**18 42 40.0**	**-1.3**
SLUM		**4.65**	**150**	S	Sn	18 43 25.9	-8.0
SLUM	baz=155			AMP		18 43 00.0	
	comp=N,290μm,0.3s,logA/T=6.0,baz=155						
PRK	**Paraskevi**	**4.73**	**38**	*e*P	**Pn**	**18 42 42.8**	**+0.4**
PRK	**Paraskevi**	**4.73**	**38**	*e*P	**Pn**	**18 42 42.8**	**+0.4**
KZN	**Kozani**	**4.77**	**353**	*e*P	**Pn**	**18 42 44.2**	**+1.2**
KZN	**Kozani**	**4.77**	**353**	*e*P	**Pn**	**18 42 44.2**	**+1.2**
AYDN	**Tasoluk**	**4.79**	**63**	*i* P	**Pn**	**18 42 44.7**	**+1.4**
AYDN	**Tasoluk**	**4.79**	**63**	*i* P	**Pn**	**18 42 44.7**	**+1.4**
LIA	**Limnos Island**	**4.81**	**25**	*e*P	**Pn**	**18 42 44.7**	**+1.2**
LIA	**Limnos Island**	**4.81**	**25**	*e*P	**Pn**	**18 42 44.7**	**+1.2**
PLG	**Polygyros**	**4.85**	**8**	*e*P	**Pn**	**18 42 44.5**	**+0.4**
PLG	**Polygyros**	**4.85**	**8**	*e*P	**Pn**	**18 42 44.5**	**+0.4**
NEST	**Nestorio**	**4.97**	**347**	P	**Pn**	**18 42 47.0**	**+1.2**
NEST	**Nestorio**	**4.97**	**347**	P	**Pn**	**18 42 47.0**	**+1.2**
AYVA	**Ayvalik**	**5.00**	**40**	*i* P	**Pn**	**18 42 46.8**	**+0.8**
AYVA	**Ayvalik**	**5.00**	**40**	*i* P	**Pn**	**18 42 46.8**	**+0.8**
LJBD	**Adjabya**	**5.03**	**203**	*i* P	**Pn**	**18 42 45.2**	**-1.3**
	SNR=23						
HORT	**Hortiatis**	**5.04**	**5**	P	**Pn**	**18 42 47.2**	**+0.5**
HORT	**Hortiatis**	**5.04**	**5**	P	**Pn**	**18 42 47.2**	**+0.5**
TURN	**Turunc**	**5.09**	**73**	*i* P	**Pn**	**18 42 44.6**	**-2.7**
TURN	**Turunc**	**5.09**	**73**	*i* P	**Pn**	**18 42 44.6**	**-2.7**
FNA	**Florina**	**5.28**	**351**	P	**Pn**	**18 42 50.4**	**+0.4**
FNA	**Florina**	**5.28**	**351**	P	**Pn**	**18 42 50.4**	**+0.4**
SOH	**Sokhos**	**5.29**	**7**	P	**Pn**	**18 42 50.8**	**+0.7**
SOH	**Sokhos**	**5.29**	**7**	*e*P	**Pn**	**18 42 51.0**	**+0.9**
SOH	**Sokhos**	**5.29**	**7**	*e*P	**Pn**	**18 42 51.0**	**+0.9**
GRG	**Griva**	**5.38**	**359**	P	**Pn**	**18 42 51.5**	**+0.2**
GRG	**Griva**	**5.38**	**359**	P	**Pn**	**18 42 51.5**	**+0.2**
BIA	**Bitola**	**5.52**	**351**	*e*Pn	**Pn**	**18 42 53.4**	**+0.1**
BIA				*e*Sg	**Sn**	**18 43 54.2**	**-1.3**
KNT	**Kendrikon**	**5.59**	**3**	P	**Pn**	**18 42 55.1**	**+0.9**
KNT	**Kendrikon**	**5.59**	**3**	P	**Pn**	**18 42 55.1**	**+0.9**
SRS	**Serrai**	**5.60**	**8**	P	**Pn**	**18 42 55.0**	**+0.6**
SRS	**Serrai**	**5.60**	**8**	P	**Pn**	**18 42 55.0**	**+0.6**
MANT	**Manisa**	**5.64**	**57**	*i* P	**Pn**	**18 42 56.6**	**+1.4**
DNZL	**Cakiroluk**	**5.66**	**66**	*i* P	**Pn**	**18 42 57.7**	**+2.4**
VAY	**Valandovo**	**5.74**	**0**	*i* Pn	**Pn**	**18 42 56.3**	**0.0**
VAY				*e*Sg	**Sn**	**18 43 58.3**	**-2.5**
BALY	**Balya**	**5.81**	**43**	*i* P	**Pn**	**18 42 57.2**	**0.0**
TIP	**Timpagrande**	**5.83**	**310**	*e*P	**Pn**	**18 42 56.0**	**-1.5**
	comp=N,26nm,0.9s						
TIP	**Timpagrande**	**5.83**	**310**	*e*P	**Pn**	**18 42 56.0**	**-1.5**
	comp=N,26nm,0.9s						
NVR	**Nevrokopi**	**5.87**	**10**	*e*P	**Pn**	**18 42 57.4**	**-0.6**
NVR	**Nevrokopi**	**5.87**	**10**	*e*P	**Pn**	**18 42 57.4**	**-0.6**
HMAT	**Matruh**	**5.88**	**138**	S	Sn	18 43 54.3	-10
	baz=141						
ALN	**Alexandroupoli**	**6.00**	**27**	*e*P	**Pn**	**18 43 00.9**	**+1.1**
ALN	**Alexandroupoli**	**6.00**	**27**	*e*P	**Pn**	**18 43 00.9**	**+1.1**
MMB	**Musomiste**	**6.09**	**9**	*i* P	**Pn**	**18 43 01.1**	**+0.1**
DURS	**Dursunbey**	**6.21**	**48**	*i* P	**Pn**	**18 43 04.1**	**+1.3**
KHAL	**Karahalli**	**6.25**	**61**	*i* P	**Pn**	**18 43 05.7**	**+2.4**
KKB	**Krupnik**	**6.30**	**4**	*i* P	**Pn**	**18 43 05.0**	**+1.0**
RZN	**Rozhen**	**6.35**	**15**	*i* P	**Pn**	**18 43 06.3**	**+1.6**
SKO	**Skopje**	**6.45**	**353**	*i* Pn	**Pn**	**18 43 05.9**	**-0.1**
KDZ	**Kurdzhali**	**6.48**	**20**	*i* P	**Pn**	**18 43 06.8**	**+0.4**
KORT	**Korkueli**	**6.49**	**75**	*i* P	**Pn**	**18 43 07.7**	**+1.1**
SWA2		**6.78**	**158**	P	**Pn**	**18 43 09.0**	**-1.5**
SWA2		**6.78**	**158**	P	**Pn**	**18 43 09.0**	**-1.5**
	baz=161						
SWA2				AMP		18 44 00.0	
	comp=E,210μm,0.3s,logA/T=5.8,baz=161						
SWA2				S	Sn	18 44 18.5	-7.8
	baz=161						
CUC	**Castrocucco**	**6.90**	**312**	*e*P	**Pn**	**18 43 12.4**	**+0.2**
	comp=E,12nm,0.5s						
CUC	**Castrocucco**	**6.90**	**312**	*e*P	**Pn**	**18 43 12.4**	**+0.2**
	comp=E,12nm,0.5s						
SEYT	**Eskypehyr**	**7.71**	**57**	*i* P	**Pn**	**18 43 25.8**	**+2.5**
STON	**Ston**	**8.19**	**334**	*e*Pn	**Pn**	**18 43 26.8**	**-3.0**
STON				Sn	Sn	18 44 52.6	-8.3
CSS	**Prodhromos**	**8.87**	**91**	Pn	Pn	18 43 35.4	-3.7
AWBH		**9.03**	**141**	P	**Pn**	**18 43 38.9**	**-2.5**
AWBH		**9.03**	**141**	P	**Pn**	**18 43 38.9**	**-2.5**
	baz=143						
HFRF	**Wahat Farafira**	**9.74**	**148**	P	**Pn**	**18 43 48.9**	**-2.2**
HFRF	**Wahat Farafira**	**9.74**	**148**	P	**Pn**	**18 43 48.9**	**-2.2**
	baz=150						
BR131	**Keskin Array S**	**9.75**	**62**	*e*P	**Pn**	**18 43 52.7**	**+1.5**
	comp=E,3.6nm,0.7s						
BR131	**Keskin Array S**	**9.75**	**62**	*e*P	**Pn**	**18 43 52.7**	**+1.5**
	comp=E,3.6nm,0.7s						
BRTR	**Keskin Array B**	**9.75**	**62**	Pn	**Pn**	**18 43 53.6**	**+2.4**
BRTR	**Keskin Array B**	**9.75**	**62**	Pn	**Pn**	**18 43 53.6**	**+2.4**
	comp=E,0.4nm,0.3s,baz=255,slow=15,SNR=18						
BRTR	**Keskin Array B**	**9.75**	**62**	P	**Pn**	**18 43 53.6**	**+2.4**
GZR	**Gura Zlata**	**9.82**	**1**	*i*P	**Pn**	**18 43 51.9**	**-0.2**
TIRR	**Tirgusor**	**9.96**	**25**	*i*P	**Pn**	**18 43 51.2**	**-2.8**
ISR	**Istrita**	**10.02**	**17**	*i*P	Pn	18 44 03.6	+8.7
BZS	**Buzias**	**10.06**	**356**	*i*P	**Pn**	**18 43 53.4**	**-2.0**
CDAG	**Cicekdag**	**10.24**	**63**	*i* P	**Pn**	**18 44 00.1**	**+2.1**
MLR	**Muntele Rosu**	**10.25**	**14**	Pn	**Pn**	**18 43 58.9**	**+0.9**
MLR	**Muntele Rosu**	**10.25**	**14**	*i*P	**Pn**	**18 43 59.5**	**+1.4**
MLR	**Muntele Rosu**	**10.25**	**14**	Pn	**Pn**	**18 43 58.9**	**+0.9**
	comp=E,0.0nm,0.3s,baz=197,slow=14,SNR=5.6						
MLR	**Muntele Rosu**	**10.25**	**14**	P	**Pn**	**18 43 58.9**	**+0.9**
SUZ		**10.39**	**120**	P	Pn	18 43 56.7	-3.4
	baz=121						
RSH		**10.44**	**113**	P	Pn	18 43 57.4	-3.3
	baz=113						
CFR	**Carcaliu**	**10.51**	**22**	*i*P	Pn	18 43 57.5	-4.0
NVLJ	**Novalja**	**10.72**	**329**	*e*Pn	**Pn**	**18 44 04.0**	**-0.3**
NVLJ				Sn	Sn	18 45 53.9	-8.9
NVLJ	**Novalja**	**10.72**	**329**	*e*Pn	**Pn**	**18 44 04.0**	**-0.3**
PLOR	**Plostina**	**10.74**	**16**	*i*P	**Pn**	**18 44 05.2**	**+0.5**
VRI	**Vrincioaia**	**10.77**	**16**	*i*P	**Pn**	**18 44 05.9**	**+0.8**
SLTI	**Sal'it**	**10.92**	**104**	Pn	Pn	18 44 03.2	-4.0
MMAI	**Mount Meron Ar**	**10.96**	**100**	Pn	Pn	18 44 03.2	-4.6
MMAI				Sn	Sn	18 46 02.8	-6.2
MMAI	**Mount Meron Ar**	**10.96**	**100**	Pn	Pn	18 44 03.2	-4.6
	comp=E,1.9nm,0.3s,baz=286,slow=12,SNR=15						
MMAI				Sn	Sn	18 46 02.8	-6.2
	comp=E,2.3nm,0.3s,baz=305,slow=21,SNR=6.3						
KZIT	**Kziot**	**10.98**	**112**	Pn	Pn	18 44 04.3	-3.7
KZIT				Sn	Sn	18 45 57.4	-12
PKSM	**Moragy**	**11.03**	**346**	*i*P	Pn	18 44 05.1	-3.5
KSDI	**Kefar Szold**	**11.12**	**99**	Pn	**Pn**	**18 44 07.1**	**-2.7**
KSDI				Sn	Sn	18 46 02.5	-10
MMLI	**Mount Malkishu**	**11.16**	**103**	Pn	Pn	18 44 06.1	-4.4
DRGR		**11.21**	**1**	*i*P	**Pn**	**18 44 10.8**	**-0.4**
HMDT	**Nahal Hemdat**	**11.30**	**103**	Pn	Pn	18 44 08.8	-3.6
BOJS	**Bojanci**	**11.35**	**333**	*i* Pn	**Pn**	**18 44 10.8**	**-2.2**
BOJS				*i* Sn	Sn	18 46 08.6	-10
TESR		**11.37**	**15**	*i*P	Pn	18 44 16.5	+3.3
DSI	**Dead Sea**	**11.45**	**107**	Pn	Pn	18 44 10.6	-3.8
DSI				Sn	Sn	18 46 09.4	-11
MZDA	**Masada**	**11.54**	**108**	Pn	Pn	18 44 12.1	-3.5
CRES	**Cresnjev**	**11.56**	**335**	*i* Pn	**Pn**	**18 44 13.5**	**-2.3**
CRES				*i* Sn	Sn	18 46 16.0	-7.4
KRMI	**Paran Flat**	**11.61**	**114**	Pn	Pn	18 44 13.0	-3.7
PRNI	**Paran**	**11.70**	**113**	Pn	Pn	18 44 14.1	-3.8
PRNI				Sn	Sn	18 46 15.3	-12
ZFRI	**Zfri**	**11.74**	**112**	Pn	Pn	18 44 14.1	-4.2
HRFI	**Mount Harif**	**11.89**	**114**	Pn	**Pn**	**18 44 17.6**	**-2.8**
HKAT	**Jabal Katrina**	**12.00**	**123**	P	Pn	18 44 18.4	-3.8
	baz=123						
EIL	**Elat**	**12.02**	**116**	Pn	Pn	18 44 17.9	-4.3
EIL				Sn	Sn	18 46 26.4	-8.2
EIL	**Elat**	**12.02**	**116**	Pn	Pn	18 44 17.9	-4.3
	comp=E,0.9nm,0.3s,baz=0.0,slow=81,SNR=20						
EIL				Sn	Sn	18 46 26.4	-8.2
	comp=E,1.7nm,0.3s,baz=333,slow=16,SNR=6.1						
EIL	**Elat**	**12.02**	**116**	Pn	Pn	18 44 18.7	-3.5
EIL				Sn	Sn	18 46 23.1	-12
JAVS	**Javornik**	**12.13**	**331**	*i* Pn	**Pn**	**18 44 24.2**	**+0.4**
JAVS				*i* Sn	Sn	18 46 29.1	-8.5
ASF	**Jabal al Asfar**	**12.42**	**102**	Pn	**Pn**	**18 44 25.3**	**-2.5**
ASF				Sn	**Sn**	**18 46 44.0**	**-0.8**
ASF	**Jabal al Asfar**	**12.42**	**102**	Pn	**Pn**	**18 44 25.3**	**-2.5**
	comp=E,0.5nm,0.3s,baz=279,slow=5.0,SNR=3.5						
ASF				Sn	**Sn**	**18 46 44.0**	**-0.8**
	comp=E,0.4nm,0.3s,baz=11,slow=16,SNR=3.1						
ARSA	**Arzberg**	**12.79**	**338**	*i*Pn	Pn	18 44 29.5	-3.1
ARSA	**Arzberg**	**12.79**	**338**	*i*Pn	Pn	18 44 29.5	-3.1
VYHS	**Vyhne**	**13.20**	**349**	*e*P	Pn	18 44 34.6	-3.6
VYHS	**Vyhne**	**13.20**	**349**	*e*PN	Pn	18 44 34.6	-3.6
CRVS	**Cervenica-Dubn**	**13.35**	**357**	*e*P	**Pn**	**18 44 39.3**	**-1.0**
CRVS	**Cervenica-Dubn**	**13.35**	**357**	*e*PN	**Pn**	**18 44 39.3**	**-1.0**
KOLS	**Kolonicke sedl**	**13.36**	**359**	*e*P	**Pn**	**18 44 40.2**	**-0.2**
KOLS	**Kolonicke sedl**	**13.36**	**359**	*e*PN	**Pn**	**18 44 40.2**	**-0.2**
MORC	**Moravsky Berou**	**14.66**	**347**	P	**Pn**	**18 44 57.9**	**+0.1**
MORC				pmax	pmax		
	comp=E,5.0nm,0.6s						
MORC	**Moravsky Berou**	**14.66**	**347**	P	**Pn**	**18 44 57.9**	**+0.1**
	comp=E,4.9nm,0.6s						
GERES	**GERESS Array B**	**14.77**	**337**	Pn	**Pn**	**18 44 56.8**	**-2.6**
GERES				Sn	**Sn**	**18 47 39.6**	**-2.2**
GERES	**GERESS Array B**	**14.77**	**337**	Pn	**Pn**	**18 44 56.8**	**-2.6**
	comp=E,0.1nm,0.3s,baz=148,slow=12,SNR=8.3						
GERES				Sn	**Sn**	**18 47 39.6**	**-2.2**
	comp=E,0.1nm,0.3s,baz=153,slow=24,SNR=3.2						
KHC	**Kasperske Hory**	**15.06**	**337**	*e*P	**Pn**	**18 45 00.0**	**-3.1**
KHC	**Kasperske Hory**	**15.06**	**337**	*e*P	**P**	**18 45 08.0**	**+0.5**
KIEV	**Kiev**	**15.88**	**16**	*e*P	**Pn**	**18 45 10.2**	**-3.3**
KIEV				pmax	pmax		
	comp=E,10.0nm,1.0s						
KIEV	**Kiev**	**15.88**	**16**	*e*P	**Pn**	**18 45 10.2**	**-3.3**
	comp=E,9.9nm,1.0s						
AKASG	**Malin Array Be**	**15.89**	**16**	P	**Pn**	**18 45 10.4**	**-3.3**
AKASG	**Malin Array Be**	**15.89**	**16**	Pn	**Pn**	**18 45 10.3**	**-3.3**
AKASG	**Malin Array Be**	**15.89**	**16**	Pn	**Pn**	**18 45 10.3**	**-3.3**
	comp=E,0.8nm,0.3s,baz=206,slow=12,SNR=6.7						
BRG	**Berggiesshubel**	**16.51**	**341**	*e*P	pP	18 45 37.1	+2.2
	comp=Z,4.3nm,0.8s						
CLL	**Collm**	**17.16**	**339**	*e*P	**P**	**18 45 32.0**	**+1.4**
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CLL	**Collm**	**17.16**	**339**	*e*(P)	**P**	**18 45 32.0**	**+1.4**
	comp=Z,7.0nm,0.9s						
CLL				*e*sP	**sP**	**18 45 45.0**	**-3.6**
CLL	**Collm**	**17.16**	**339**	*e*P	**P**	**18 45 32.0**	**+1.4**
	comp=Z,7.0nm,0.9s						
KIV	**Kislovodsk**	**17.59**	**55**	*e*P	Pn	18 45 30.2	-4.9
KIV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZEI	**Tsey**	**18.05**	**60**	*e*P	**Pn**	**18 45 41.0**	**+0.2**
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZEI	**Tsey**	**18.05**	**60**	*e*P	**P

KURBB **Kurchatov Arra 42.55 51** P **P** **18 49 23.9 -0.2**
comp=Z,1.5nm,0.5s,baz=273,slow=9.0,SNR=19
KURBB LR LR 19 09 23.7
comp=Z,224nm,20.1s,baz=315,slow=39
KURK Kurchatov 42.60 51 P **P** **18 49 23.9 -0.6**
KURK pmax pmax
comp=Z,2.0nm,0.5s
KURK MLR MLR
comp=Z,224nm,20.1s
KURK Kurchatov 42.60 51 *e*P **P** **18 49 23.7 -0.8**
comp=Z,2.3nm,0.8s
KURK Kurchatov 42.60 51 P **P** **18 49 23.9 -0.6**
comp=Z,224nm,20.1s
SPITS Spitsbergen Ar 42.80 358 P **P** **18 49 26.6 +0.8**
SPITS Spitsbergen Ar 42.80 358 P **P** **18 49 26.6 +0.8**
comp=Z,6.6nm,0.7s,baz=159,slow=12,SNR=8.9
SPITS Spitsbergen Ar 42.80 358 P **P** **18 49 26.6 +0.8**
NVS Novosibirsk 45.33 45 *e*P **P** **18 49 46.0 -0.3**
NVS Novosibirsk 45.33 45 *e*P **P** **18 49 46.0 -0.3**
MK31 Makanchi Array 45.35 57 *ce*P **P** **18 49 46.6 -0.1**
MK31 pmax pmax
comp=Z,3.0nm,0.3s
MK31 Makanchi Array 45.35 57 *e*P **P** **18 49 46.2 -0.5**
MK31 Makanchi Array 45.35 57 *e*P **P** **18 49 46.6 -0.1**
comp=Z,3.0nm,0.3s
MKAR Makanchi Array 45.35 57 P **P** **18 49 46.7 0.0**
MKAR 18 51 26.7
MKAR Makanchi Array 45.35 57 P **P** **18 49 46.6 0.0**
MKAR PcP **PcP** **18 51 26.7 +1.2**
MKAR Makanchi Array 45.35 57 P **P** **18 49 46.6 0.0**
comp=Z,3.4nm,0.4s,baz=269,slow=7.7,SNR=111
MKAR PcP **PcP** **18 51 26.7 +1.2**
comp=Z,0.7nm,0.6s,baz=276,slow=2.5,SNR=3.1
MKAR Makanchi Array 45.35 57 P **P** **18 49 46.7 0.0**
MKAR Makanchi Array 45.35 57 PcP **PcP** **18 51 26.7 +1.2**
ZAA0 Zalesovo Array 46.28 46 *e*P **P** **18 49 53.2 -0.7**
ZAA0 Zalesovo Array 46.28 46 *e*P **P** **18 49 53.2 -0.7**
ZALV Zalesovo Beam 46.28 46 P **P** **18 49 53.3 -0.6**
ZALV Zalesovo Beam 46.28 46 P **P** **18 49 53.3 -0.6**
ZALV Zalesovo Beam 46.28 46 P **P** **18 49 53.3 -0.6**
comp=Z,2.6nm,0.3s,baz=271,slow=8.3,SNR=22
ZALV Zalesovo Beam 46.28 46 P **P** **18 49 53.3 -0.6**
DANN Dangsing 51.74 80 *e*P **P** **18 50 37.1 +0.8**
comp=Z,28nm,0.5s
DANN Dangsing 51.74 80 *e*P **P** **18 50 37.1 +0.8**
comp=Z,28nm,0.5s
DANN Dangsing 51.74 80 *e*P **P** **18 50 37.1 +0.8**
comp=Z,28nm,0.5s
KOLN Koldanda 51.85 81 *e*P **P** **18 50 37.1 0.0**
comp=Z,7.2nm,0.6s
KOLN Koldanda 51.85 81 *e*P **P** **18 50 37.1 0.0**
comp=Z,7.2nm,0.6s
KOLN Koldanda 51.85 81 *e*P **P** **18 50 37.1 0.0**
comp=Z,7.2nm,0.6s
GKN Gorkha 52.59 80 *e*P **P** **18 50 42.4 -0.1**
comp=Z,19nm,0.5s
GKN Gorkha 52.59 80 *e*P **P** **18 50 42.4 -0.1**
comp=Z,19nm,0.4s
GKN Gorkha 52.59 80 *e*P **P** **18 50 42.4 -0.1**
comp=Z,19nm,0.4s
DMN Daman 53.13 80 *e*P **P** **18 50 46.8 +0.2**
comp=Z,28nm,0.7s
DMN Daman 53.13 80 *e*P **P** **18 50 46.8 +0.2**
comp=Z,28nm,0.7s
DMN Daman 53.13 80 *e*P **P** **18 50 46.8 +0.2**
comp=Z,28nm,0.7s
KKN Kakani 53.19 80 *e*P **P** **18 50 47.2 +0.2**
comp=Z,11nm,0.6s
KKN Kakani 53.19 80 *e*P **P** **18 50 47.2 +0.2**
KKN pmax pmax
comp=Z,11nm,0.6s
KKN Kakani 53.19 80 *e*P **P** **18 50 47.2 +0.2**
comp=Z,11nm,0.6s
KKN Kakani 53.19 80 *e*P **P** **18 50 47.2 +0.2**
comp=Z,11nm,0.6s
PKI Pulchoki 53.39 80 *e*P **P** **18 50 48.6 0.0**
PKI Pulchoki 53.39 80 *e*P **P** **18 50 48.6 0.0**
PKI Pulchoki 53.39 80 *e*P **P** **18 50 48.6 0.0**
PKI Pulchoki 53.39 80 *e*P **P** **18 50 48.6 0.0**
GUN Gumba 53.62 79 *e*P **P** **18 50 50.3 0.0**
comp=Z,11nm,0.4s
GUN Gumba 53.62 79 *e*P **P** **18 50 50.3 0.0**
comp=Z,11nm,0.4s
GUN Gumba 53.62 79 *e*P **P** **18 50 50.3 0.0**
comp=Z,11nm,0.4s
JIRN Jiri 53.98 79 *e*P **P** **18 50 53.1 +0.1**
comp=Z,7.3nm,0.4s
JIRN Jiri 53.98 79 *e*P **P** **18 50 53.1 +0.1**
comp=Z,7.3nm,0.4s
JIRN Jiri 53.98 79 *e*P **P** **18 50 53.1 +0.1**
comp=Z,7.3nm,0.4s
RAMN Ramite 54.61 80 *e*P **P** **18 50 57.0 -0.4**
comp=Z,9.2nm,0.7s
RAMN Ramite 54.61 80 *e*P **P** **18 50 57.0 -0.4**
comp=Z,9.2nm,0.7s
RAMN Ramite 54.61 80 *e*P **P** **18 50 57.0 -0.4**
comp=Z,9.2nm,0.7s
ODAN Odare 55.28 80 *e*P **P** **18 51 02.5 +0.2**
ODAN Odare 55.28 80 *e*P **P** **18 51 02.5 +0.2**
ODAN Odare 55.28 80 *e*P **P** **18 51 02.5 +0.2**
TAPN Taplejung 55.33 79 *e*P **P** **18 51 02.5 -0.2**
comp=Z,7.3nm,0.7s
TAPN Taplejung 55.33 79 *e*P **P** **18 51 02.5 -0.2**
comp=Z,7.3nm,0.7s
TAPN Taplejung 55.33 79 *e*P **P** **18 51 02.5 -0.2**
comp=Z,7.3nm,0.7s
LSA Lhasa 57.05 75 *e*P **P** **18 51 15.9 +0.8**
LSA pmax pmax
comp=Z,4.0nm,0.8s
LSA Lhasa 57.05 75 *e*P **P** **18 51 15.9 +0.8**
comp=Z,4.1nm,0.8s
LSA Lhasa 57.05 75 *e*P **P** **18 51 15.9 +0.8**
comp=Z,4.1nm,0.8s
TLY Talaya 57.90 47 *e*P **P** **18 51 20.8 +0.6**
TLY pmax pmax
comp=Z,2.0nm,0.9s
TLY MLR MLR
comp=Z,983nm,21.0s
TLY Talaya 57.90 47 *e*P **P** **18 51 20.8 +0.6**
comp=Z,983nm,21.0s
ZAK Zakamensk 58.09 48 *e*P **P** **18 51 22.5 +0.8**
ZAK pmax pmax
comp=Z,2.0nm,1.0s
ZAK Zakamensk 58.09 48 *e*P **P** **18 51 22.5 +0.8**
comp=Z,2.0nm,1.0s
GTA Gaotai 59.66 61 *e*P **P** **18 51 33.0 +0.2**
GTA pmax pmax
comp=Z,6.0nm,0.9s
SONM Songino Array 60.89 50 P **P** **18 51 41.5 +0.5**
SONM Songino Array 60.89 50 P **P** **18 51 41.5 +0.5**
comp=Z,2.2nm,0.6s,baz=282,slow=8.1,SNR=18
SONM Songino Array 60.89 50 P **P** **18 51 41.5 +0.5**
ULN Ulaanbaatar 61.29 50 *e*P **P** **18 51 43.8 0.0**
comp=Z,3.2nm,0.8s
ULN Ulaanbaatar 61.29 50 *e*P **P** **18 51 43.8 0.0**
comp=Z,3.2nm,0.8s
BOD Bodaibo 61.45 38 *e*P **P** **18 51 43.7 -0.8**
BOD Bodaibo 61.45 38 *e*P **P** **18 51 43.7 -0.8**
RES Resolute Bay 62.71 345 P **P** **18 51 51.8 -0.9**
RES Resolute Bay 62.71 345 P **P** **18 51 51.8 -0.9**
comp=Z,0.9nm,0.3s,baz=15,slow=5.1,SNR=16
RES Resolute Bay 62.71 345 P **P** **18 51 51.8 -0.9**
YAK Yakutsk 66.59 29 *i*P **P** **18 52 17.7 -0.4**
YAK pmax pmax
comp=Z,8.0nm,0.6s
YAK Yakutsk 66.59 29 *i*P **P** **18 52 17.7 -0.4**
comp=Z,8.0nm,0.6s
CMAR Chiang Mai Arr 68.66 82 P **P** **18 52 32.2 +0.3**
CMAR Chiang Mai Arr 68.66 82 P **P** **18 52 32.2 +0.3**
comp=Z,1.4nm,0.7s,baz=299,slow=7.7,SNR=20
CMAR Chiang Mai Arr 68.66 82 P **P** **18 52 32.2 +0.3**
YKA Yellowknife Ar 76.38 341 P **P** **18 53 18.1 +1.0**
YKA Yellowknife Ar 76.38 341 P **P** **18 53 18.0 +1.0**
comp=Z,1.1nm,0.6s,baz=34,slow=5.4,SNR=26
YKA Yellowknife Ar 76.38 341 P **P** **18 53 18.0 +1.0**
comp=Z,1.0nm,0.6s
ILAR Eielson Array 79.64 355 P **P** **18 53 36.4 +1.3**
ILAR Eielson Array 79.64 355 P **P** **18 53 36.4 +1.3**
comp=Z,0.9nm,0.8s,baz=353,slow=4.1,SNR=11
ILAR Eielson Array 79.64 355 P **P** **18 53 36.4 +1.3**
KSAR Wonju Array Be 79.71 51 P **P** **18 53 36.8 +0.8**
KSAR Wonju Array Be 79.71 51 P **P** **18 53 36.8 +0.8**
KSRS Korea Array 79.73 51 P **P** **18 53 36.8 +0.7**
comp=Z,0.8nm,0.5s,baz=303,slow=4.1,SNR=4.9
KSRS Korea Array 79.73 51 P **P** **18 53 36.8 +0.7**
comp=Z,1.0nm,0.5s

WRA Warramunga Arr 118.78 95 PKP **PKPdf** **19 00 16.6 +0.1**
WRA Warramunga Arr 118.78 95 PKP **PKPdf** **19 00 16.7 +0.1**
comp=Z,0.6nm,0.9s,baz=322,slow=1.4,SNR=13
WRA Warramunga Arr 118.78 95 PKIKP **PKPdf** **19 00 16.6 +0.1**
ASAR Alice Springs 120.25 99 PKP **PKPdf** **19 00 19.9 +0.6**
ASAR Alice Springs 120.25 99 PKP **PKPdf** **19 00 19.9 +0.6**
comp=Z,0.5nm,0.6s,baz=308,slow=1.3,SNR=14

IDC 02 19:01:11.4±7.4, 16°.97S×173°.81W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.5/18, mbtmp3.6/3, ML1.8/1, Error ellipse: s-maj=312.4km s-min=31.9km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.62**	**33**	Pn		Pn	19 02 08.0	-0.9
	5.1nm,0.3s,baz=219,slow=13,SNR=4.3							
AFI				Sn		Sn	19 02 42.7	-10
	23nm,0.3s,baz=180,slow=20,SNR=10							
WRA	**Warramunga Arr**	**49.12**	**258**	P		P	19 10 01.1	-0.1
	0.2nm,0.4s,baz=96,slow=6.8,SNR=7.9							
ASAR	**Alice Springs**	**49.26**	**253**	P		P	19 10 01.8	-0.6
	0.7nm,0.6s,baz=88,slow=8.6,SNR=15							
BRTR	**Keskin Array B**	**147.10**	**319**	PKPbc		PKPbc	19 20 57.0	+0.1
	0.5nm,0.7s,baz=67,slow=4.8,SNR=3.7							

KRSC 02 19:17:19.8±0.7, 54°.65N×160°.98E, h81km±80km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.45**	**102**	*e*P		Pn	19 17 34.0	+0.9
MKZ				*e*S		Sn	19 17 44.0	+1.0
TUMR	**Tumrok**	**0.80**	**323**	*e*P		Pn	19 17 37.8	+1.1
TUMR				*e*S		Sn	19 17 51.2	+1.9
KII	**Karymskiy**	**1.09**	**236**	*e*S		Sn	19 17 57.4	+2.2
KMNR	**Kamenistaya**	**1.19**	**339**	*e*P		Pn	19 17 43.2	+1.9
KMNR				*e*S		Sn	19 18 00.1	+2.6
BZGR	**Bezymyannyi-Gr**	**1.30**	**353**	*e*S		Sn	19 18 01.3	+3.0
BZMR	**Bezymyannaya**	**1.32**	**348**	*e*S		Sn	19 18 03.3	+2.8
KIRR	**Kirishev**	**1.36**	**345**	*e*S		Sn	19 18 04.3	+3.0
KOZ	**Kozyrevsk**	**1.55**	**336**	*e*S		Sn	19 18 08.9	+3.5
SPN	**Mys Shipunski**	**1.66**	**200**	*e*P		Pn	19 17 47.8	+0.7
SPN				*e*S		Sn	19 18 08.3	+0.5
KLY	**Klyuchi**	**1.68**	**354**	*e*P		Pn	19 17 48.5	+1.1
KLY				*e*S		Sn	19 18 09.7	+1.4
NLC	**Nalytchevo**	**1.77**	**214**	*e*P		Pn	19 17 49.7	+1.1
NLC				*e*S		Sn	19 18 11.9	+1.4
SRDR	**Sredinnyy**	**1.82**	**337**	*e*P		Pn	19 17 50.3	+0.9
SRDR				*e*S		Sn	19 18 12.9	+1.0
ESO	**Esso**	**1.83**	**315**	*e*P		Pn	19 17 50.8	+1.4
ESO				*e*S		Sn	19 18 13.4	+1.5
SDLR	**Sedlovina**	**1.85**	**223**	*e*P		Pn	19 17 51.6	+1.7
SDLR				*e*S		Sn	19 18 15.0	+2.3
KBTR	**Krutoberegovo**	**1.88**	**33**	*e*P		Pn	19 17 52.6	+2.5
KBTR				S		Sn	19 18 16.3	+3.2
SMAR	**Somma**	**1.89**	**224**	*e*P		Pn	19 17 52.5	+1.9
SMAR				*e*S		Sn	19 18 16.1	+2.1
AVH	**Avacha**	**1.92**	**225**	*e*P		Pn	19 17 53.0	+2.3
AVH				*e*S		Sn	19 18 17.4	+3.2
UGLR	**Uglovaya**	**1.93**	**222**	*e*P		Pn	19 17 53.2	+2.3
UGLR				*e*S		Sn	19 18 17.2	+2.7
KOK	**Koryaka**	**1.94**	**226**	*e*P		Pn	19 17 52.8	+1.8
KOK				*e*S		Sn	19 18 16.9	+2.1
SMKR	**Semkarok**	**1.96**	**8**	*e*P		Pn	19 17 52.8	+1.6
SMKR				*e*S		Sn	19 18 16.7	+1.6
SRKR	**Sorokina**	**2.01**	**3**	*e*P		Pn	19 17 53.4	+1.5
SRKR				*e*S		Sn	19 18 17.8	+1.4
PET	**Petropavlovsk**	**2.13**	**221**	*e*P		Pn	19 17 55.6	+2.2
PET				*e*S		Sn	19 18 21.1	+2.0
RUS	**Russkaya**	**2.67**	**215**	*e*P		Pn	19 18 01.6	+1.0
RUS				*e*S		Sn	19 18 32.0	+0.1
MTVR	**Mutnovka**	**2.74**	**219**	*e*P		Pn	19 18 04.4	+2.6
MTVR				*e*S		Sn	19 18 36.2	+2.2
ASAK	**Asacha**	**2.92**	**220**	*e*P		Pn	19 18 06.9	+2.7
ASAK				*e*S		Sn	19 18 41.4	+3.1
BKI	**Bering**	**2.93**	**77**	*e*S		Sn	19 18 38.0	-0.3

IDC 02 19:36:43.6±3.3, 2°.30S×141°.79E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/15, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=149.9km s-min=23.3km az=96.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.98**	**202**	P		P	19 41 05.1	-1.8
	0.1nm,0.3s,baz=12,slow=13,SNR=7.5							
ASAR	**Alice Springs**	**22.57**	**199**	P		P	19 41 46.6	+0.8
	0.5nm,0.6s,baz=16,slow=9.9,SNR=8.5							
MJAR	**Matsushiro Arr**	**38.79**	**355**	P		P	19 44 09.1	-1.1
	2.3nm,0.6s,baz=199,slow=9.6,SNR=8.6							
MKAR	**Makanchi Array**	**71.37**	**321**	P		P	19 48 06.4	+0.8
	0.1nm,0.6s,baz=117,slow=6.3,SNR=2.5							

*IDC **02** 19:45:45.9±4.2, 24°.15S×68°.08W, h99km±30km, mb4.2/2, mb1 4.2/3, mb1mx3.6/15, mbtmp4.2/3, Error ellipse: s-maj=73.7km s-min=26.0km az=124.0*
*ISCJB **02** 19:45:48.3±0.8, 24°.30S±0°.07×68°.03W±0°.10, h142km±12km, mb4.1/1, Error ellipse: s-maj=15.1km s-min=11.2km az=6.3*
*NEIC **02** 19:45:50.8, 24°.10S×68°.13W, h143km, MG4.0(GUC), After GUC.*
*GUC **02** 19:45:50.8±0.3, 24°.10S×68°.13W, h143km±3km, ML4.0*
ISC 02 19:45:49.3±1.1, 24°.31S±0°.08×68°.00W±0°.09, h133km±11km, n22, σ0°.96/26, 2C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.41**	**352**	*i*P		Pn	19 46 17.8	+0.8
SPCH				*i*S		Sn	19 46 38.2	+0.2
SPCH	**San Pedro de A**	**1.41**	**352**	*i*P		Pn	19 46 17.8	+0.8
SPCH				*i*S		Sn	19 46 38.2	+0.2
SPCH				AML		AML	19 46 40.6	
	comp=E,1μm,0.5s							
ANCH	**Antofagasta**	**2.29**	**285**↓	*i*P		Pn	19 46 27.8	+0.8
ANCH				*i*S		Sn	19 46 55.8	-0.1
ANCH	**Antofagasta**	**2.29**	**285**↓	*i*P		Pn	19 46 27.8	+0.8
ANCH				*i*S		Sn	19 46 55.8	-0.1
ANCH				AML		AML	19 46 57.2	
	comp=E,1μm,0.1s							
PB04	**Plate Boundary**	**2.46**	**326**	*e*P		Pn	19 46 33.7	+4.6
PB04				*i*S		Sn	19 47 06.4	+6.8
PB04				AML		AML	19 47 17.3	
	comp=N,346nm,0.3s							
MACH	**Maria Elena**	**2.66**	**322**	*i*S		Sn	19 47 03.3	-1.3
PB09	**Plate Boundary**	**2.75**	**335**↑	*e*P		Pn	19 46 34.3	+1.2
PB09				*i*S		Sn	19 47 06.5	-0.2
PB09				AML		AML	19 47 12.4	
	comp=E,949nm,0.4s							
PB07	**Plate Boundary**	**3.11**	**326**↑	*i*P		Pn	19 46 37.8	+0.2
PB07				*i*S		Sn	19 47 13.3	-1.5
PB07				AML		AML	19 47 24.0	
	comp=E,252nm,0.4s							
PB01	**Plate Boundary**	**3.53**	**337**	*e*P		Pn	19 46 43.0	0.0
PB01				*i*S		Sn	19 47 23.1	-1.6
PB01				AML		AML	19 47 29.4	
	comp=E,253nm,0.4s							
CFAA	**Coronel Fontan**	**7.27**	**182**	P		Pn	19 47 31.5	-1.4
CFAA				S		Sn	19 48 47.6	-6.3
CFAA	**Coronel Fontan**	**7.27**	**182**	P		Pn	19 47 31.5	-1.4
	comp=E,0.3nm,0.3s,baz=352,slow=15,SNR=14							
CFAA				S		Sn	19 48 47.6	-6.3
	comp=E,0.3nm,0.3s,baz=260,slow=19,SNR=9.8							
LPAZ	**La Paz**	**7.99**	**359**	*e*Pn		Pn	19 47 43.1	0.0
SIV	**San Ignacio**	**10.53**	**39**	P		Pn	19 48 13.1	-3.6
SIV	**San Ignacio**	**10.53**	**39**	P		Pn	19 48 13.1	-3.6
	comp=E,4.1nm,0.3s,baz=253,slow=10,SNR=51							
BDFB	**Brasilia**	**20.65**	**69**	P		P	19 50 17.8	-0.8
BDFB	**Brasilia**	**20.65**	**69**	P		P	19 50 17.8	-0.8
	comp=E,10.0nm,0.5s,baz=235,slow=9.5,SNR=16							
TORD	**Torodi Ar. Bea**	**77.53**	**69**	P		P	19 57 31.6	+0.7
TORD	**Torodi Ar. Bea**	**77.53**	**69**	P		P	19 57 31.6	+0.7
	comp=E,3.5nm,0.7s,baz=257,slow=5.7,SNR=23							
WRA	**Warramunga Arr**	**130.93**	**208**	PKP		**PKPdf**	**20 04 46.8**	**+1.1**
WRA	**Warramunga Arr**	**130.93**	**208**	PKP		**PKPdf**	**20 04 46.8**	**+1.1**
	comp=E,0.4nm,0.7s,baz=154,slow=1.8,SNR=4.8							
MKAR	**Makanchi Array**	**147.34**	**39**	PKPbc		**PKPbc**	**20 05 16.6**	**-0.6**
	comp=E,0.2nm,0.5s,baz=315,slow=2.4,SNR=5.3							

*NIED **02** 20:07:00, 32°.20N×137°.90E, h380km, Mw4.6 Best double couple: M0 8.69000×10^15 NP1:φs180.00000°, δ70.00000°, λ91.00000°. NP2:φs356.00000°, δ20.00000°, λ86.00000°.*
*JMA **02** 20:07:08.9±0.3, 32°.22N×137°.94E, h398km±3km, M4.3*
*IDC **02** 20:07:09.6±0.9, 32°.17N×137°.74E, h362km±8km, mb3.9/19, mb1 4.0/23, mb1mx4.0/27, mbtmp3.9/23, Error ellipse: s-maj=11.0km s-min=8.3km az=93.0*
*MOS **02** 20:07:09.8±1.0, 32°.19N×137°.69E, h380km, mb4.4/33, Error ellipse: s-maj=9.4km s-min=6.3km az=107.3*
*BJI **02** 20:07:09.8, 32°.07N×137°.65E, h386km, mB4.8/14, mb4.5/33*
*ISCJB **02** 20:07:10.9±0.3, 32°.18N±0°.04×137°.59E±0°.03, h383km±2km, mb4.4/99, Error ellipse: s-maj=6.0km s-min=3.6km az=163.2*
*NEIC **02** 20:07:10.9±0.5, 32°.14N×137°.68E, h378km±5km, mb4.6/56, MW4.6(NIED), Error ellipse: s-maj=5.8km s-min=3.8km az=142.0*
ISC 02 20:07:10.8±0.6, 32°.22N±0°.05×137°.79E±0°.04, h377km±4km, n432, σ1°.17/481, mb4.4/99, 106C-117D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**1.55**	**354**	*e*S		**S**	**20 08 44.6**	**+2.3**
TTO1	**TONANKAI O.B.S**	**1.63**	**329**	P		**Pn**	**20 08 03.1**	**+1.2**
TTO2	**TONANKAI O.B.S**	**1.64**	**337**	↑P		**Pn**	**20 08 03.3**	**+1.4**
TTO3	**TONANKAI O.B.S**	**1.67**	**349**	↑P		**Pn**	**20 08 03.6**	**+1.3**
TTO3				*e*S		**S**	**20 08 46.6**	**+2.7**
TK02	**Tokai 2**	**1.72**	**359**	P		**Pn**	**20 08 03.4**	**+0.9**
TK02				*e*S		**S**	**20 08 46.7**	**+2.4**
TTO4	**TONANKAI O.B.S**	**1.79**	**353**	↑P		**Pn**	**20 08 04.0**	**+1.1**
TTO4				*e*S		**S**	**20 08 47.0**	**+2.0**
JHJ2	**Mitsune**	**1.93**	**62**	↓P		**Pn**	**20 08 03.6**	**-0.4**
TK03	**Tokai 3**	**1.94**	**4**	*e*S		**S**	**20 08 49.0**	**+2.1**
JWZ	**Kozaga**	**2.18**	**307**	↑P		**Pn**	**20 08 06.1**	**+0.3**
JWZ				*e*S		**S**	**20 08 49.9**	**-0.2**
JIE	**Ise**	**2.35**	**338**	↑P		**Pn**	**20 08 07.7**	**+0.8**
JIE				S		**S**	**20 08 53.1**	**+0.9**
JWY	**Kouya**	**2.71**	**318**	↑P		**Pn**	**20 08 10.7**	**+0.8**
JWY				*e*S		**S**	**20 08 57.4**	**-0.1**
JAI	**Aioi**	**3.21**	**300**	↑P		**Pn**	**20 08 14.6**	**+0.6**
JAI				*e*S		**S**	**20 09 04.9**	**-0.2**
JOD2	**Odawara 2**	**3.22**	**19**	↓P		**Pn**	**20 08 13.6**	**-0.5**
JOD2				S		**S**	**20 09 03.3**	**-1.9**
JYN	**Shimob**	**3.33**	**11**	P		**Pn**	**20 08 15.4**	**+0.3**
BSO1	**Boso 1**	**3.60**	**47**	P		**Pn**	**20 08 14.5**	**-2.4**
BSO1				*e*S		**S**	**20 09 05.7**	**-4.8**
JMN	**Monobe**	**3.62**	**296**	↑P		**Pn**	**20 08 18.6**	**+0.9**
JMN				*e*S		**S**	**20 09 12.4**	**+0.5**
JWT	**Wachi**	**3.64**	**328**	↑P		**Pn**	**20 08 18.7**	**+0.8**
JWT				*e*S		**S**	**20 09 12.5**	**+0.3**
JRY	**Ryogami san**	**3.90**	**13**	P		**Pn**	**20 08 20.3**	**-0.1**
JRY				*e*S		**S**	**20 09 14.6**	**-2.1**
JTO	**Tosashimizu**	**4.26**	**280**	P		**Pn**	**20 08 24.7**	**+0.7**
JTO				*e*S		**S**	**20 09 23.1**	**-0.2**
MJAR	**Matsushiro Arr**	**4.32**	**4**	P		**Pn**	**20 08 24.1**	**-0.4**
MJAR				S		**S**	**20 09 21.3**	**-3.1**
MJAR	**Matsushiro Arr**	**4.32**	**4**	P		**Pn**	**20 08 24.1**	**-0.4**
	16nm,0.3s,baz=182,slow=11,SNR=373							
MJAR				S		**S**	**20 09 21.3**	**-3.1**
	2.8nm,0.3s,baz=171,slow=16,SNR=5.8							
MAT	**Matsushiro**	**4.32**	**4**	P		**Pn**	**20 08 24.3**	**-0.3**
MAT				S		**S**	**20 09 21.5**	**-2.9**
MAT	**Matsushiro**	**4.32**	**4**	P		**Pn**	**20 08 24.4**	**-0.2**
MAT				*e*S		**S**	**20 09 21.9**	**-2.5**
JHS	**Saijyo**	**4.78**	**307**	P		**Pn**	**20 08 30.4**	**+1.0**
JHS				*e*S		**S**	**20 09 33.8**	**+0.7**
SAI	**Saigo**	**5.42**	**318**	P		**Pn**	**20 08 36.6**	**+0.5**
JNU	**Nakatsue**	**5.90**	**281**	P		**Pn**	**20 08 42.6**	**+1.1**
JNU				S		**S**	**20 09 52.8**	**-2.4**
JNU	**Nakatsue**	**5.90**	**281**	P		**Pn**	**20 08 42.6**	**+1.1**
	3.3nm,0.3s,baz=92,slow=4.5,SNR=38							
JNU				S		**S**	**20 09 52.8**	**-2.4**
	0.7nm,0.3s,baz=202,slow=19,SNR=2.0							
CBIJ	**Chichi jima**	**6.38**	**142**	P		Pn	20 08 43.4	-3.5
CBIJ				S		S	20 09 56.4	-8.7
CBIJ	**Chichi jima**	**6.38**	**142**	P		Pn	20 08 42.5	-4.4
CBIJ				S		S	20 09 55.9	-9.2
CBIJ	**Chichi jima**	**6.38**	**142**	P		Pn	20 08 43.4	-3.5
	90nm,0.3s,baz=278,slow=14,SNR=25							
CBIJ				S		S	20 09 56.4	-8.7
	193nm,0.3s,baz=307,slow=20,SNR=18							
JSJ	**Shimokoshiki**	**6.88**	**268**	P		**P**	**20 08 53.6**	**0.0**
JMK	**Ichinoseki**	**7.27**	**22**	P		**Pn**	**20 08 55.0**	**-1.8**
JMK				*e*S		S	20 10 15.9	-7.5
JTU	**Tsushima**	**7.39**	**290**	P		**P**	**20 08 59.1**	**-0.1**
KSRS	**Korea Array**	**9.64**	**305**	P		**P**	**20 09 26.1**	**+1.1**
	1.9nm,0.3s,baz=119,slow=11,SNR=42							
KSRS				ScP		**ScP**	**20 17 57.1**	**+0.9**
	0.1nm,0.3s,baz=145,slow=0.6,SNR=6.3							
KSAR	**Wonju Array Be**	**9.66**	**305**	P		**P**	**20 09 26.1**	**+0.8**
KSAR				ScP		**ScP**	**20 17 57.1**	**+0.9**
JOW	**Kunigami**	**9.87**	**239**	*e*P		**Pn**	**20 09 27.5**	**+0.1**
	19nm,0.8s							
JOW	**Kunigami**	**9.87**	**239**	P		**P**	**20 09 28.0**	**+0.2**
	5.0nm,0.3s,baz=36,slow=14,SNR=12							
INCN	**Inchon**	**10.56**	**303**	*e*P		**P**	**20 09 35.4**	**+0.1**
	156nm,1.0s							
ERM	**Erimo**	**10.67**	**22**	*i*P		**P**	**20 09 36.0**	**-0.4**
ERM	**Erimo**	**10.67**	**22**	*e*P		**P**	**20 09 35.4**	**-1.0**
	41nm,0.8s							
ASAJ	**Asahikawa**	**12.46**	**16**	*e*P		**Pn**	**20 09 57.4**	**0.0**
	5.1nm,0.7s							
ASAJ				S		**S**	**20 12 13.3**	**+0.1**
ASAJ	**Asahikawa**	**12.46**	**16**	P		**Pn**	**20 09 57.6**	**+0.1**
	3.3nm,0.3s,baz=192,slow=9.5,SNR=37							
ASAJ				S		**S**	**20 12 13.3**	**+0.1**
	1.6nm,0.3s,baz=60,slow=20,SNR=6.7							
USRK	**Ussuriysk Arra**	**12.79**	**341**	P		**P**	**20 10 00.3**	**+0.5**
	0.3nm,0.3s,baz=164,slow=9.8,SNR=7.1							
SNY	**Shenyang**	**14.84**	**314**	↓P		**P**	**20 10 22.6**	**+0.3**
SNY				pmax	pmax			
	comp=Z,22nm,0.8s							
CN2	**Changchun**	**15.09**	**324**	*e*P		**P**	**20 10 24.9**	**-0.1**
CN2				pmax	p

LZH pmax pmax
comp=Z,15nm,1.0s
SONM Songino Array 28.41 312 P **P** **20 12 32.9 +0.7**
SONM ScP **ScP** **20 18 38.9 +0.7**
SONM Songino Array 28.41 312 P **P** **20 12 32.9 +0.7**
comp=Z,11nm,0.8s,baz=111,slow=7.7,SNR=71
SONM ScP **ScP** **20 18 38.9 +0.7**
comp=Z,0.9nm,0.6s,baz=116,slow=3.4,SNR=8.4
YAK Yakutsk 30.28 352 *e*P **P** **20 12 48.6 +0.3**
YAK pmax pmax
comp=Z,4.0nm,0.5s
ZAK Zakamensk 31.26 316⇓ *i*P **P** **20 12 57.3 +0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
GTA Gaotai 31.45 294 *e*P **P** **20 12 58.5 -0.4**
GTA pmax pmax
comp=Z,18nm,1.0s
TLY Talaya 31.57 318 *e*P **P** **20 13 00.3 +0.6**
TLY pmax pmax
comp=Z,9.0nm,0.8s
MOY Mondy 33.09 317 *e*P **P** **20 13 14.2 +1.3**
CHTO Chiang Mai 37.31 259 *e*P **P** **20 13 47.8 -1.0**
CHTO pmax pmax
comp=Z,16nm,1.1s
CHTO Chiang Mai 37.31 259 *e*P **P** **20 13 47.8 -1.0**
comp=Z,16nm,1.1s
CM31 Chiang Mai Arr 37.48 258 *e*P **P** **20 13 49.7 -0.5**
comp=Z,3.9nm,0.7s
CMAR Chiang Mai Arr 37.48 258 P **P** **20 13 49.7 -0.5**
CMAR ScP **S** **20 19 11.2 +0.5**
CMAR Chiang Mai Arr 37.48 258 P **P** **20 13 49.7 -0.5**
comp=Z,3.4nm,0.7s,baz=47,slow=7.2,SNR=28
CMAR ScP **S** **20 19 11.2 +0.5**
comp=Z,1.1nm,0.9s,baz=33,slow=3.3,SNR=8.3
BILL Bilibino 39.48 16*ce*P **P** **20 14 07.1 +1.2**
BILL pmax pmax
comp=Z,48nm,1.0s
BILL Bilibino 39.48 16 *e*P **P** **20 14 04.9 -1.0**
comp=Z,54nm,1.1s
LSA Lhasa 39.84 279 P **P** **20 14 10.1 +0.1**
LSA pmax pmax
comp=Z,10.0nm,0.7s
LSA Lhasa 39.84 279 *e*P **P** **20 14 10.1 +0.1**
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA Lhasa 39.84 279 *e*P **P** **20 14 10.1 +0.1**
comp=Z,7.8nm,0.7s
SHL Shillong 40.50 273 *e*PKP **P** **20 14 16.0 +0.9**
WMQ Urumqi 40.56 301 P **P** **20 14 15.6 +0.4**
WMQ pmax pmax
comp=Z,27nm,1.0s
WMQ pmax pmax
comp=Z,280nm,5.1s
ZAA0 Zalesovo Array 43.14 316 *e*P **P** **20 14 34.9 -0.6**
ZALV Zalesovo Beam 43.14 316 P **P** **20 14 35.1 -0.4**
ZALV 20 16 17.1
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV pmax pmax
comp=Z,1.0nm,0.7s
ZALV pmax pmax
comp=N,2.0nm,0.5s
ZALV Zalesovo Beam 43.14 316 P **P** **20 14 35.1 -0.4**
ZALV PcP **PcP** **20 16 17.1 -0.2**
ZALV ScP **ScP** **20 19 31.2 -0.6**
ZALV Zalesovo Beam 43.14 316 P **P** **20 14 35.1 -0.4**
comp=N,3.2nm,0.4s,baz=84,slow=8.3,SNR=26
ZALV PcP **PcP** **20 16 17.1 -0.2**
comp=N,1.4nm,0.7s,baz=107,slow=4.3,SNR=5.2
ZALV ScP **ScP** **20 19 31.2 -0.6**
comp=N,1.8nm,0.5s,baz=123,slow=3.5,SNR=7.9
NVS Novosibirsk 44.18 317 *e*P P 20 14 38.3 -5.4
MK31 Makanchi Array 44.32 306*ce*P **P** **20 14 44.9 -0.2**
MK31 pmax pmax
comp=Z,9.0nm,0.5s
MK31 Makanchi Array 44.32 306 *e*P **P** **20 14 44.8 -0.2**
MKAR Makanchi Array 44.32 306*ce*P **P** **20 14 45.0 0.0**
MKAR pmax pmax
comp=Z,11nm,0.6s
MKAR Makanchi Array 44.32 306 P **P** **20 14 45.1 0.0**
MKAR ScP **ScP** **20 19 36.8 -0.2**
MKAR Makanchi Array 44.32 306 P **P** **20 14 45.1 0.0**
comp=Z,11nm,0.6s,baz=87,slow=9.3,SNR=192
MKAR ScP **ScP** **20 19 36.8 -0.2**
comp=Z,1.7nm,0.7s,baz=82,slow=4.9,SNR=11
COEN Coen 46.20 173 *e*P **P** **20 14 59.8 -0.1**
comp=Z,54nm,1.1s
KURK Kurchatov 46.70 311 *e*P **P** **20 15 02.1 -1.2**
KURK pmax pmax
comp=Z,30nm,1.1s
KURK Kurchatov 46.70 311 *e*P **P** **20 15 02.1 -1.2**
comp=Z,30nm,1.1s
ULHL Ulahol 49.06 300 P **P** **20 15 22.2 +0.6**
SNR=7.8
ULHL P **P** **20 15 22.2 +0.6**
SNR=7.8
TKM2 Tokmak 2 49.42 301 *e*P **P** **20 15 24.5 +0.2**
TKM2 pmax pmax
comp=Z,19nm,1.3s
TKM2 Tokmak 2 49.42 301 *e*P **P** **20 15 24.5 +0.2**
comp=Z,19nm,1.3s
TKM2 Tokmak 2 49.42 301 P **P** **20 15 24.9 +0.6**
SNR=13
TKM2 P **P** **20 15 24.9 +0.6**
SNR=13
KZA Kyzart 49.82 300 P **P** **20 15 28.6 +1.2**
SNR=7.9
KZA P **P** **20 15 28.6 +1.2**
SNR=7.9
KBK Karagaybulak 49.94 301 P **P** **20 15 28.6 +0.5**
SNR=16
KBK P **P** **20 15 28.6 +0.5**
SNR=16
USP Ospenovka 50.16 302 P **P** **20 15 29.7 +0.1**
SNR=7.6
USP P **P** **20 15 29.7 +0.1**
SNR=7.6
AAK Ala-Archa 50.27 301 *e*P **P** **20 15 30.4 -0.2**
AAK pmax pmax
comp=Z,26nm,0.8s
AAK Ala-Archa 50.27 301 *e*P **P** **20 15 30.4 -0.2**
comp=Z,26nm,0.8s
AAK Ala-Archa 50.27 301 P **P** **20 15 30.7 +0.1**
SNR=7.5
AAK P **P** **20 15 30.7 +0.1**
SNR=7.5
EKS2 Erkin-Say 50.78 301 P **P** **20 15 34.0 -0.3**
SNR=7.7
EKS2 P **P** **20 15 34.0 -0.3**
SNR=7.7
AML Almayashu 50.94 300 P **P** **20 15 36.6 +0.8**
SNR=32
AML P **P** **20 15 36.6 +0.8**
SNR=32
AGRA Agra 51.64 281 *e*PKP **P** **20 15 39.8 -0.8**
BVA0 Borovoye Array 51.71 315 *i* P **P** **20 15 40.6 -0.2**
BVA0 pmax pmax
comp=Z,1.0nm,0.6s
BRVK Borovoye 51.77 315 *e*P **P** **20 15 40.9 -0.3**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 51.77 315 *e*P **P** **20 15 40.9 -0.3**
comp=Z,4.1nm,0.8s
AYAN Aya Nagar 51.88 283 *e*PKP **P** **20 15 41.8 -0.6**
AYAN AMb AMB 20 15 42.8
comp=Z,33nm,0.7s
WB2 Warramunga Arr 51.97 184 *e*P **P** **20 15 41.7 -1.3**
WRA Warramunga Arr 51.97 184 P **P** **20 15 42.2 -0.8**
WRA PcP **PcP** **20 16 50.0 +0.4**
WRA ScP **ScP** **20 20 09.8 +0.2**
WRA Warramunga Arr 51.97 184 P **P** **20 15 42.2 -0.8**
comp=Z,5.0nm,0.3s,baz=0.0,slow=7.6,SNR=186
WRA PcP **PcP** **20 16 50.0 +0.4**
comp=Z,2.5nm,0.5s,baz=357,slow=4.3,SNR=8.2
WRA ScP **ScP** **20 20 09.8 +0.2**
comp=Z,1.1nm,0.8s,baz=360,slow=4.3,SNR=5.2
KUDL Kundal 52.52 283 *e*PKP **P** **20 15 46.7 -0.4**
KUDL AMb AMB 20 15 47.6
comp=Z,21nm,0.8s
KDAK Kodiak Island 52.69 39 P **P** **20 15 48.1 +0.4**
KDAK Kodiak Island 52.69 39 P **P** **20 15 48.1 +0.4**
comp=Z,34nm,0.8s,baz=262,slow=5.3,SNR=37
KK31 Karatay Array 53.05 302*ce*P **P** **20 15 50.7 0.0**
KK31 pmax pmax
comp=Z,8.0nm,0.5s
KKAR Karatay Array 53.05 302 *e*P **P** **20 15 50.6 -0.1**
KKAR pmax pmax
comp=Z,13nm,0.8s
KKAR Karatay Array 53.05 302 *e*P **P** **20 15 50.6 -0.1**
comp=Z,13nm,0.8s
NGP Nagpur 53.07 273 *e*PKP **P** **20 15 48.3 -2.8**
KHET Khetri 53.11 283 *e*PKP **P** **20 15 51.1 -0.3**
KHET AMb AMB 20 15 52.5
comp=Z,55nm,0.9s
TRF Thorofare Moun 53.68 32 *e*P **P** **20 15 55.2 +0.2**
comp=Z,4.0nm,0.6s
RC01 Rabbit Creek A 54.00 35 *e*P **P** **20 15 57.3 +0.1**
SEW Seward 54.19 36 *e*P **P** **20 15 58.7 +0.3**
COLA College 54.73 30 *e*P **P** **20 16 01.4 -0.8**
COLA pmax pmax
comp=Z,12nm,0.6s
COLA College 54.73 30 *e*P **P** **20 16 01.4 -0.8**
comp=Z,12nm,0.6s
AKL Akola 54.98 274 *e*PKP **P** **20 16 04.7 -0.1**
AKL AMb AMB 20 16 05.4
comp=Z,53nm,0.6s
HYB Hyderabad 55.13 270 *i* P **P** **20 16 04.5 -1.4**
ILAR Eielson Array 55.15 30 P **P** **20 16 05.1 -0.1**
ILAR Eielson Array 55.15 30 P **P** **20 16 05.1 -0.1**
comp=Z,5.1nm,0.7s,baz=271,slow=6.3,SNR=72
AS31 Alice Springs 55.70 184 *e*P **P** **20 16 08.7 -0.9**
ASAR Alice Springs 55.70 184 P **P** **20 16 08.8 -0.8**
ASAR PcP **PcP** **20 17 04.8 +0.9**
ASAR Alice Springs 55.70 184 P **P** **20 16 08.8 -0.8**
comp=Z,2.2nm,0.5s,baz=7.6,slow=8.3,SNR=51
ASAR PcP **PcP** **20 17 04.8 +0.9**
comp=Z,1.0nm,0.7s,baz=13,slow=5.7,SNR=4.1
KBL Kabul 56.42 293 *e*P **P** **20 16 14.4 -0.6**
KBL pmax pmax
comp=Z,23nm,0.8s
KBL Kabul 56.42 293 *e*P **P** **20 16 14.4 -0.6**
comp=Z,23nm,0.8s
BMRM Bremner River 56.50 35 *e*P **P** **20 16 15.9 +1.0**
comp=Z,16nm,0.6s
MENT Mentasta 56.69 32 *e*P **P** **20 16 17.4 +1.3**
ARU Arti 58.05 320 *d i*P **P** **20 16 25.3 -0.2**
ARU 20 18 35.3
ARU S **S** **20 23 54.6 -1.3**
ARU pmax pmax
comp=Z,3.0nm,0.3s
POO Poona 58.61 273 *e*PKP **P** **20 16 29.7 -0.3**
POO AMb AMB 20 16 30.3
comp=Z,31nm,0.3s
AB31 Akbulak array 58.82 312*ce*P **P** **20 16 30.9 0.0**
AB31 pmax pmax
comp=Z,10.0nm,0.4s
ABKAR Akbulak array 58.82 312 *e*P **P** **20 16 30.6 -0.3**
comp=Z,13nm,0.5s
RMQ Roma 59.31 169 *e*P **P** **20 16 34.7 +0.2**
comp=Z,15nm,0.6s
AKTO Aktyubinsk 59.72 313 *i* P **P** **20 16 36.7 -0.4**
AKTO pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 60.01 25 *e*P **P** **20 16 39.1 +0.4**
comp=Z,2.8nm,0.5s
TRD Trivandrum 60.88 261 *e*PKP **P** **20 16 44.9 -0.5**
TRD AMb AMB 20 16 58.5
comp=Z,34nm,1.5s
ARMA Armidale 63.67 167 *e*P **P** **20 17 03.8 +0.5**
STKA Stephens Creek 63.85 176 P **P** **20 17 04.3 -0.1**
STKA Stephens Creek 63.85 176 P **P** **20 17 04.3 -0.1**
comp=Z,10nm,0.6s,baz=338,slow=9.1,SNR=36
BBOO Buckleboo 64.70 182 *e*P **P** **20 17 09.6 -0.2**
comp=Z,43nm,0.5s
YNG Young 66.92 170 *e*P **P** **20 17 23.9 +0.1**
comp=Z,7.8nm,0.6s
ARCES ARCESS Array B 67.44 339 P **P** **20 17 27.2 +0.5**
ARCES ARCESS Array B 67.44 339 P **P** **20 17 27.2 +0.5**
comp=Z,7.1nm,0.9s,baz=64,slow=8.1,SNR=4.2
RES Resolute Bay 67.97 13 *e*P **P** **20 17 30.3 +0.4**
comp=Z,9.9nm,0.6s
JOF Joensuu 68.79 332 *ep* **P** **20 17 35.5 +0.5**
VRHR Novokhopersk 69.24 318 *e*P **P** **20 17 36.2 -1.8**
VRHR pmax pmax
comp=N,4.0nm,0.8s
VRHR pmax pmax
comp=E,9.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
YKA Yellowknife Ar 69.45 28 P **P** **20 17 39.3 +0.2**
YKA Yellowknife Ar 69.45 28 P **P** **20 17 39.3 +0.2**
comp=Z,6.2nm,0.8s,baz=300,slow=6.3,SNR=94
OBN Obninsk 70.15 323 P **P** **20 17 44.0 +0.6**
OBN pmax pmax
comp=Z,11nm,1.4s
DAG Danmarks Havn 70.28 354 *i* P **P** **20 17 44.2 +0.4**
comp=Z,36nm,0.8s
VSR Storozhevoye 70.57 319 *e*P **P** **20 17 45.4 -0.6**
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,9.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
ZEI Tsey 71.54 309 *e*P **P** **20 17 51.1 -1.1**
ZEI pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 71.66 332 P **P** **20 17 52.4 +0.2**
FINES FINESS Array B 71.66 332 P **P** **20 17 52.4 +0.2**
comp=Z,2.3nm,0.5s,baz=60,slow=5.5,SNR=24
KIV Kislovodsk 71.79 311 *e*P **P** **20 17 53.2 -0.3**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV Kislovodsk 71.79 311 *e*P **P** **20 17 53.3 -0.2**
comp=Z,9.4nm,0.8s
HOOD Mount Hood Mea 74.54 46 *e*P **P** **20 18 10.2 +0.7**
comp=Z,12nm,0.8s
MIB Mutribah 75.13 296 *e*P **P** **20 18 12.2 -0.7**
MIB AMb AMB 20 18 13.3
comp=Z,20nm,0.8s
SUMG Summit 75.45 359 *i* P **P** **20 18 15.7 +1.3**
comp=Z,6.6nm,0.8s
NAY Al-Naaiem 75.47 295 *e*P **P** **20 18 14.2 -0.6**
NAY AMb AMB 20 18 16.6
comp=Z,18nm,1.0s
NEW Newport 75.68 42⇑ P **P** **20 18 16.7 +1.0**
baz=76
YBH Yreka Blue Hor 75.69 50 P **P** **20 18 17.5 +1.5**
YBH Yreka Blue Hor 75.69 50 P **P** **20 18 17.5 +1.5**
comp=Z,5.6nm,0.8s,baz=283,slow=2.7,SNR=22
AKASG Malin Array Be 76.24 322*ce*P **P** **20 18 18.7 0.0**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 76.24 322 P **P** **20 18 18.7 0.0**
AKASG Malin Array Be 76.24 322 P **P** **20 18 18.7 0.0**
comp=Z,2.5nm,0.5s,baz=48,slow=6.3,SNR=8.7
SCO Scoresbysund 76.55 353 *i* P **P** **20 18 20.9 +0.8**
comp=Z,3.1nm,0.9s
C12B Naegeli Ranch, 76.91 42⇓ P **P** **20 18 23.6 +1.1**
baz=77
B13A Whitefish 77.10 41⇑ P **P** **20 18 25.1 +1.5**
baz=77
MOD Modoc 77.14 49 *e*P **P** **20 18 25.1 +0.9**
comp=Z,26nm,1.3s
BSMT Bassoo Peak 77.22 41 *e*P **P** **20 18 25.5 +1.1**
comp=Z,8.8nm,1.1s
A14A Double T Ranch 77.33 40⇓ P **P** **20 18 26.2 +1.2**
baz=77
BMO Blue Mountains 77.41 45 *e*P **P** **20 18 26.2 +0.7**
comp=Z,6.4nm,1.0s
NOA NORSAR Array B 77.42 336 P **P** **20 18 25.2 +0.1**
NOA NORSAR Array B 77.42 336 P **P** **20 18 25.2 +0.1**
comp=Z,2.2nm,0.8s,baz=44,slow=5.3,SNR=7.1
C13A Hot Springs 77.43 41⇓ P **P** **20 18 26.8 +1.3**
baz=77
JTMT Jette 77.56 41 *e*P **P** **20 18 27.3 +1.0**
comp=Z,3.8nm,0.4s
E12A Beaver Dam Sad 77.57 43⇓ P **P** **20 18 27.8 +1.4**
baz=78
A15A Johnson Ranch, 77.70 39⇑ P **P** **20 18 28.2 +1.2**
baz=78
B14A Marquette Ranc 77.76 40⇓ P **P** **20 18 28.7 +1.3**
baz=78
D13A Huson 77.82 42⇓ P **P** **20 18 28.5 +0.8**
baz=78
C14A Swan Lake 77.84 41⇓ P **P** **20 18 29.0 +1.2**
baz=78
SWMT Swartz Lake 77.85 41 *e*P **P** **20 18 28.7 +0.9**
comp=Z,24nm,0.5s
B15A Bradely Ranch, 78.18 40⇓ P **P** **20 18 30.6 +1.0**
baz=78,SNR=5.2
MSO Missoula 78.27 42⇑ P **P** **20 18 31.3 +1.2**
baz=78
SLMT Seeley Lake 78.28 41 *e*P **P** **20 18 30.9 +0.6**
comp=Z,12nm,0.5s
E13A Victor 78.35 42⇓ P **P** **20 18 31.3 +0.8**
baz=78
D14A Greenough 78.37 41⇓ P **P** **20 18 31.6 +0.9**
baz=78
C15A Salmond Ranch, 78.47 40⇑ P **P** **20 18 32.5 +1.3**
baz=78
B16A M & M Farms, S 78.58 40⇑ P **P** **20 18 32.7 +1.0**
baz=78
F13A Darby 78.64 43⇓ P **P** **20 18 32.4 +0.3**
baz=78
E14A Clinton 78.76 42⇑ P **P** **20 18 33.3 +0.5**
baz=79
A17A Triple J Farms 78.81 39⇓ P **P** **20 18 33.9 +0.9**
baz=79
WCN Washoe City 78.88 51⇓ P **P** **20 18 34.3 +0.7**
baz=79
C16A Fuhringer Ranc 78.92 40⇑ P **P** **20 18 34.8 +1.1**
baz=79,SNR=12
H12A Diamond D Ranc 79.03 44⇓ P **P** **20 18 35.5 +1.2**
baz=79
G13A Cobalt 79.09 43⇑ P **P** **20 18 35.2 +0.6**
baz=79
MFID Camas Ranch 79.09 45 *e*P **P** **20 18 35.8 +1.2**
comp=Z,3.2nm,0.6s
MFID Camas Ranch 79.09 45⇑ P **P** **20 18 36.0 +1.3**
baz=79
CMB Columbia Colle 79.14 52 *e*P **P** **20 18 35.6 +0.7**
CMB pmax pmax
comp=Z,4.0nm,0.6s
CMB Columbia Colle 79.14 52 *e*P **P** **20 18 35.6 +0.7**
comp=Z,3.5nm,0.6s
B17A L&G Farms, Che 79.14 39⇑ P **P** **20 18 35.9 +1.1**
baz=79,SNR=14
E15A Deer Lodge 79.23 42⇓ P **P** **20 18 36.2 +0.9**
baz=79,SNR=5.1
A18A Metzger Ranch, 79.27 38⇓ P **P** **20 18 36.0 +0.6**
baz=79,SNR=5.3
I12A Atlanta 79.30 45⇑ P **P** **20 18 37.0 +1.2**
baz=79
FFC Flin Flon 79.36 31 *e*P **P** **20 18 35.9 +0.2**
FFC pmax pmax
comp=Z,16nm,1.1s
FFC Flin Flon 79.36 31 *e*P **P** **20 18 35.9 +0.2**
comp=Z,16nm,1.1s
H13A Challis 79.38 44⇑ P **P** **20 18 37.4 +1.2**
baz=79
HRY Holter Researc 79.52 41 *e*P **P** **20 18 37.6 +0.8**
comp=Z,6.6nm,0.6s
C17A Wharram Farm, 79.56 40⇑ P **P** **20 18 37.2 +0.2**
baz=79
B18A Beardsley Farm 79.63 39⇑ P **P** **20 18 38.5 +1.2**
baz=80,SNR=5.4
F15A Butte 79.66 42⇑ P **P** **20 18 38.8 +1.1**
baz=80,SNR=14
LRM Limekiln Ridge 79.69 42 *e*P **P** **20 18 38.8 +0.9**
comp=Z,158nm,1.1s
E16A East Helena 79.71 41⇓ P **P** **20 18 38.7 +0.9**
baz=80
BR131 Keskin Array S 79.75 311 *e*P **P** **20 18 38.5 +0.3**
comp=Z,2.3nm,0.8s
BRTR Keskin Array B 79.75 311 P **P** **20 18 38.8 +0.5**
BRTR Keskin Array B 79.75 311 P **P** **20 18 38.8 +0.5**
comp=Z,2.7nm,0.8s,baz=99,slow=4.4,SNR=17
I13A Wildhorse Cree 79.83 44⇓ P **P** **20 18 40.4 +1.6**
baz=80
A19A Klindworth Far 79.85 38⇓ P **P** **20 18 39.8 +1.3**
baz=80
HLID Hailey 79.86 45⇑ P **P** **20 18 40.3 +1.5**
baz=80
EGMT Eagleton 79.86 39⇓ P **P** **20 18 39.8 +1.2**
baz=80
H14A Leadore 79.87 43⇑ P **P** **20 18 39.2 +0.4**
baz=80
DLMT Dillon 79.88 42 *e*P **P** **20 18 39.8 +1.0**
comp=Z,19nm,1.1s
D17A Six Diamond Ra 79.89 40⇓ P **P** **20 18 40.1 +1.3**
baz=80
B19A Brinkman Farms 80.03 38⇓ P **P** **20 18 40.5 +1.0**
baz=80
MCMT McKenzie Canyo 80.05 43 *e*P **P** **20 18 39.7 -0.1**
comp=Z,1.2nm,0.6s
G15A Dillon 80.05 43⇓ P **P** **20 18 40.5 +0.7**
baz=80,SNR=7.9
J13A Cove Ranch, Pi 80.09 45⇑ P **P** **20 18 41.8 +1.8**
baz=80
F16A Kennard Place, 80.18 42⇓ P **P** **20 18 41.7 +1.3**
baz=80
E17A Martinsdale 80.20 41⇓ P **P** **20 18 41.8 +1.3**
baz=80,SNR=5.1
I14A Mackay 80.22 44⇓ P **P** **20 18 42.4 +1.6**
baz=80,SNR=22
BOZ Bozeman (W) 80.26 42⇓ P **P** **20 18 42.0 +1.2**
baz=80
H15A Lima 80.29 43⇑ P **P** **20 18 42.4 +1.3**
baz=80
NVAR Mina Array Bea 80.30 51 P **P** **20 18 42.3 +1.1**
NVAR Mina Array Bea 80.30 51 P **P** **20 18 42.3 +1.1**
comp=Z,3.2nm,0.5s,baz=298,slow=5.9,SNR=37
D18A Linhart Farms, 80.34 40⇑ P **P** **20 18 42.6 +1.4**
baz=80
G16A Moss Hill, Enn 80.41 42⇑ P **P** **20 18 42.7 +1.0**
baz=80
C19A Slack Wire Ran 80.42 39⇓ P **P** **20 18 43.0 +1.5**
baz=80
J14A Carey 80.53 44⇑ P **P** **20 18 44.3 +1.9**
baz=80,SNR=13
F17A Fitzpatrick Pl 80.65 41⇓ P **P** **20 18 44.1 +1.2**
baz=80
E18A Harlowton 80.66 40⇑ P **P** **20 18 44.1 +1.1**
baz=80,SNR=5.5
A21A Bergtoll Ranch 80.75 37⇓ P **P** **20 18 44.5 +1.3**
baz=81
D19A Cripps Ranch, 80.86 39⇑ P **P** **20 18 44.6 +0.8**
baz=81,SNR=5.1
QLMT Earthquake Lak 80.86 42 *e*P **P** **20 18 45.1 +1.1**
comp=Z,0.7nm,0.7s
SFJD Kangerlussuaq 80.89 3 *i* P **P** **20 18 43.5 0.0**
comp=Z,6.7nm,0.8s
G17A Pierce Place, 80.96 42⇓ P **P** **20 18 46.3 +1.8**
baz=81
ELK Elko 80.97 47 *e*P **P** **20 18 45.8 +1.1**
C20A Veseth Ranch, 80.99 39⇓ P **P** **20 18 46.0 +1.6**
baz=81
H16A Russell Place, 81.04 42⇑ P **P** **20 18 46.4 +1.4**
baz=81,SNR=6.5
J15A Blackfoot 81.12 44⇓ P **P** **20 18 47.1 +1.7**
baz=81
F18A Big Timber 81.17 41⇑ P **P** **20 18 46.8 +1.2**
baz=81
K14A Jones Ranch, D 81.19 45⇓ P **P** **20 18 47.6 +1.9**
baz=81,SNR=5.6
VES Vestal, Richgr 81.20 53⇓ P **P** **20 18 46.2 +0.4**
baz=81
PKM Peak Mountain 81.22 54⇓ P **P** **20 18 47.5 +1.4**
baz=81
A22A Carney Farms, 81.26 37⇓ P **P** **20 18 46.5 +0.6**
baz=81
D20A Manuel Ranch, 81.30 39⇓ P **P** **20 18 47.5 +1.3**
baz=81,SNR=6.0
E19A Rath Farm, Rou 81.34 40⇓ P **P** **20 18 47.5 +1.1**
baz=81,SNR=12
C21A Desert Coulee 81.39 38⇓ P **P** **20 18 47.6 +1.0**
baz=81
I16A Newdale 81.40 43⇓ P **P** **20 18 48.9 +2.1**
baz=81,SNR=6.3
L14A Malta 81.45 45⇓ P **P** **20 18 48.8 +1.7**
baz=81,SNR=6.0
K15A Arbon 81.49 45⇓ P **P** **20 18 49.2 +1.8**
baz=81
H17A Grant Village 81.61 42⇓ P **P** **20 18 51.2 +3.1**
baz=82,SNR=11
F19A Roth Farm, Mol 81.63 40⇑ P **P** **20 18 49.0 +1.0**
baz=82
B22A Reddig Ranch S 81.66 37⇓ P **P** **20 18 48.9 +0.9**
baz=82
E20A Meyer Farm, Mu 81.67 40⇑ P **P** **20 18 49.2 +1.1**
baz=82,SNR=7.4
J16A Bone 81.68 44⇓ P **P** **20 18 50.1 +1.7**
baz=82
GRAC Grapevine Rang 81.71 51⇑ P **P** **20 18 49.6 +1.1**
baz=82,SNR=5.9
ISA Isabella 81.71 53⇑ P **P** **20 18 48.7 +0.2**
baz=82
FLWY Flagg Ranch 81.73 43 *e*P **P** **20 18 50.5 +1.9**
comp=Z,3.2nm,0.7s

HVU	**Hansel Valley**	81.88	45	*e*P	P	20 18 50.6	+1.2
HVU				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HVU	**Hansel Valley**	81.88	45	*e*P	P	20 18 50.6	+1.2
	comp=Z,9.6nm,0.7s						
I17A	**Pilgrim Ck.**	81.89	43	⇓P	P	20 18 51.8	+2.3
	baz=82,SNR=7.1						
RLMT	**Red Lodge**	81.90	41	⇑P	P	20 18 50.8	+1.3
	baz=82						
D21A	**La Casta Ranch**	81.93	39	⇓P	P	20 18 51.0	+1.6
	baz=82						
TPAW	**Teton Pass**	81.94	43	*e*P	P	20 18 51.3	+1.5
	comp=Z,6.0nm,0.8s						
H18A	**Shoshone NF, C**	81.95	42	⇓P	P	20 18 51.2	+1.4
	baz=82						
K16A	**Soda Springs**	81.96	44	⇑P	P	20 18 52.0	+2.2
	baz=82,SNR=8.9						
L15A	**Malad City**	81.98	45	⇓P	P	20 18 51.1	+1.2
	baz=82						
F20A	**Billings**	82.10	40	⇓P	P	20 18 50.9	+0.6
	baz=82						
MPMC	**Manual Prospec**	82.16	52	⇓P	P	20 18 51.5	+0.6
	baz=82,SNR=8.0						
BLG	**Laguna Peak**	82.17	55	⇓P	P	20 18 51.0	+0.2
	baz=82						
M15A	**Larsen Ranch,**	82.26	46	⇑P	P	20 18 52.6	+1.3
	baz=82,SNR=5.6						
D22A	**Cohagen**	82.30	38	⇑P	P	20 18 52.3	+1.0
	baz=82						
H19A	**Powell**	82.34	41	⇓P	P	20 18 53.3	+1.7
	baz=82						
FURC	**Furnace Creek,**	82.35	52	⇓P	P	20 18 52.8	+1.2
	baz=82						
LRMC	**Laurel Mountai**	82.35	53	⇓P	P	20 18 52.6	+0.7
	baz=82						
C23A	**Lambert**	82.40	37	⇑P	P	20 18 53.9	+2.1
	baz=82						
G20A	**Bridger**	82.43	41	⇑P	P	20 18 53.1	+1.0
	baz=82						
DGMT	**Dagmar**	82.47	36	⇓P	P	20 18 54.5	+2.4
	baz=82						
EDW2	**Edwards Air Fo**	82.48	54	⇑P	P	20 18 53.4	+1.0
	baz=82,SNR=6.2						
N15A	**Stansbury Isla**	82.56	46	⇓P	P	20 18 54.4	+1.6
	baz=82,SNR=9.3						
J18A	**Kendall Valley**	82.65	43	⇓P	P	20 18 54.9	+1.5
	baz=82,SNR=5.3						
HWUT	**Hardware Ranch**	82.71	45	*e*P	P	20 18 54.9	+1.2
	comp=Z,20nm,1.2s						
DUG	**Dugway**	82.79	47	*e*P	P	20 18 55.3	+1.3
DUG				pmax	pmax		
	comp=Z,17nm,1.0s						
DUG	**Dugway**	82.79	47	*e*P	P	20 18 55.3	+1.3
	comp=Z,17nm,1.0s						
DUG	**Dugway**	82.79	47	⇓P	P	20 18 55.3	+1.3
	baz=83,SNR=8.8						
E22A	**Miles City**	82.88	39	⇑P	P	20 18 55.3	+1.0
	baz=83						
G21A	**Lodge Grass**	82.98	40	⇑P	P	20 18 55.7	+0.8
	baz=83						
H20A	**Greybull**	83.00	41	⇓P	P	20 18 56.2	+1.2
	baz=83						
GSC	**Goldstone**	83.04	53	⇓P	P	20 18 56.2	+0.8
	baz=83						
SHOC	**Shoshone**	83.06	52	⇓P	P	20 18 56.1	+0.7
	baz=83						
BFSC	**Mount Baldy Ra**	83.06	54	⇓P	P	20 18 56.4	+0.8
	baz=83						
F22A	**Rosebud**	83.14	39	⇑P	P	20 18 56.8	+1.2
	baz=83						
SCI	**San Clemente I**	83.15	55	⇓P	P	20 18 56.5	+0.6
	baz=83						
J19A	**Crowheart**	83.17	43	⇑P	P	20 18 57.3	+1.4
	baz=83						
BW06	**Boulder Array**	83.19	43	⇑P	P	20 18 57.0	+0.8
	baz=83,SNR=6.7						
PDAR	**Pinedale Array**	83.19	43	P	P	20 18 56.8	+0.6
PDAR	**Pinedale Array**	83.19	43	P	P	20 18 56.8	+0.6
	comp=Z,5.3nm,0.8s,baz=289,slow=2.8,SNR=19						
N16A	**Rees Ranch, Co**	83.22	46	⇓P	P	20 18 57.6	+1.3
	baz=83						
I20A	**Worland**	83.27	42	⇑P	P	20 18 57.9	+1.5
	baz=83						
D24A	**Glendive**	83.29	37	⇑P	P	20 18 57.4	+1.1
	baz=83						
M17A	**Scullys Gap (B**	83.33	45	⇑P	P	20 18 57.9	+1.1
	baz=83						
JLU	**Jordanelle**	83.38	46	*e*P	P	20 18 58.2	+1.1
	comp=Z,4.8nm,0.7s						
P15A	**Leamington**	83.49	47	⇓P	P	20 18 58.8	+1.1
	baz=83,SNR=5.2						
N17A	**Moffit Pass**	83.55	45	⇑P	P	20 18 58.9	+0.9
	baz=83						
TUQ	**Turquoise Moun**	83.56	52	⇓P	P	20 18 58.7	+0.7
	baz=84,SNR=6.7						
K19A	**Absolon Red Bu**	83.56	43	⇓P	P	20 18 59.2	+1.2
	baz=83						
DAU	**Daniels Canyon**	83.61	46	*e*P	P	20 18 59.6	+1.2
DAU				pmax	pmax		
	comp=Z,19nm,0.7s						
DAU	**Daniels Canyon**	83.61	46	*e*P	P	20 18 59.6	+1.2
	comp=Z,19nm,0.7s						
MPU	**Maple Canyon**	83.62	46	*e*P	P	20 18 59.4	+1.1
	comp=Z,20nm,1.0s						
F23A	**Volborg**	83.63	39	⇓P	P	20 18 59.5	+1.4
	baz=84						
HEC	**Hector,Ludlow**	83.63	53	⇑P	P	20 18 59.6	+1.3
	baz=84						
E24A	**Baker**	83.66	38	⇑P	P	20 18 59.6	+1.3
	baz=84						
J20A	**Shoshoni**	83.67	42	⇓P	P	20 18 59.8	+1.3
	baz=84						
M18A	**Lyman**	83.71	44	⇑P	P	20 18 59.9	+1.1
	baz=84						
L19A	**Farson**	83.71	44	⇓P	P	20 19 00.1	+1.3
	baz=84,SNR=7.4						
MURC	**Murrieta**	83.74	54	⇓P	P	20 18 59.7	+0.9
	baz=84						
I21A	**Big Trails, Te**	83.83	41	⇓P	P	20 19 00.5	+1.2
	baz=84						
P16A	**Fountain Green**	83.85	47	⇑P	P	20 19 01.2	+1.7
	baz=84						
K20A	**Yellowstone Ra**	83.96	43	⇑P	P	20 19 01.2	+1.3
	baz=84						
CCUT	**Cedar City**	84.01	49	*e*P	P	20 19 01.2	+0.9
	comp=Z,2.4nm,0.6s						
J21A	**Lysite**	84.03	42	⇓P	P	20 19 01.5	+1.2
	baz=84						
O17A	**Robinson Place**	84.06	46	⇓P	P	20 19 02.1	+1.6
	baz=84,SNR=10						
GMRC	**Granite Mounta**	84.11	52	⇓P	P	20 19 01.1	+0.4
	baz=84,SNR=8.5						
MSU	**Marysvale**	84.19	48	*e*P	P	20 19 02.7	+1.5
MSU				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MSU	**Marysvale**	84.19	48	*e*P	P	20 19 02.7	+1.5
	comp=Z,8.4nm,1.0s						
M19A	**Rock Springs**	84.20	44	⇑P	P	20 19 01.4	+0.2
	baz=84						
109C	**Camp Elliot, M**	84.21	55	⇓P	P	20 19 02.0	+0.8
	baz=84						
N18A	**Larsen Ranch,**	84.22	45	⇑P	P	20 19 02.6	+1.3
	baz=84						
PFO	**Pinyon Flat Ob**	84.24	54	*e*P	P	20 19 01.1	-0.3
	comp=Z,18nm,1.0s						
PFO	**Pinyon Flat Ob**	84.24	54	⇓P	P	20 19 02.1	+0.7
	baz=84,SNR=10						
R15A	**Junction**	84.30	48	⇑P	P	20 19 03.4	+1.7
	baz=84						
BELC	**Belle Mtn. Jos**	84.33	53	⇓P	P	20 19 02.4	+0.5
	baz=84,SNR=9.2						
O18A	**Roosevelt**	84.46	45	⇓P	P	20 19 04.2	+1.7
	baz=84						
P17A	**Butcher Ranch,**	84.50	46	⇑P	P	20 19 04.1	+1.4
	baz=84						
J22A	**Midwest**	84.53	41	⇑P	P	20 19 03.7	+0.9
	baz=84						
N19A	**John Jarvie Ra**	84.57	44	⇑P	P	20 19 03.4	+0.4
	baz=84,SNR=5.3						
Q16A	**Castle Valley**	84.57	47	⇓P	P	20 19 04.4	+1.3
	baz=84						
K21A	**Alcova**	84.60	42	⇓P	P	20 19 04.1	+0.9
	baz=84,SNR=11						
BAR	**Barrett**	84.62	55	*e*P	P	20 19 03.6	+0.4
	comp=Z,12nm,1.0s						
MONP	**Monument Peak**	84.68	54	⇑P	P	20 19 04.6	+0.9
	baz=85,SNR=8.3						
P18A	**Preston Nutter**	84.71	46	⇓P	P	20 19 05.6	+1.7
	baz=85,SNR=10						
H24A	**Dirks Ranch, A**	84.72	39	⇑P	P	20 19 04.6	+1.0
	baz=85						
R16A	**Teasdale**	84.76	48	⇑P	P	20 19 05.7	+1.7
	baz=85						
M20A	**Sweetwater, Wa**	84.78	44	⇑P	P	20 19 05.4	+1.3
	baz=85						
IRM	**Iron Mountain**	84.81	53	⇑P	P	20 19 04.9	+0.8
	baz=85,SNR=5.5						
SRU	**San Rafael**	84.85	47	⇑P	P	20 19 05.6	+1.1
	baz=85,SNR=7.8						
BC3	**Big Chuckawall**	84.90	53	⇓P	P	20 19 05.8	+1.1
	baz=85						
L21A	**Rawlins**	84.95	43	⇑P	P	20 19 05.2	+0.3
	baz=85,SNR=5.2						
O19A	**Miners Draw (B**	84.97	45	⇓P	P	20 19 06.4	+1.4
	baz=85						
DVTC	**Desert V Tower**	85.03	54	⇓P	P	20 19 06.2	+0.9
	baz=85						
SWSC	**Sam W. Stewart**	85.08	54	⇑P	P	20 19 06.3	+0.9
	baz=85						
Q18A	**Rafter H Ranch**	85.10	46	⇓P	P	20 19 06.6	+1.0
	baz=85						
W13A	**Hualapai Mount**	85.11	51	⇑P	P	20 19 06.1	+0.3
	baz=85,SNR=5.6						
N20A	**Spence Gulch,**	85.15	44	⇑P	P	20 19 07.1	+1.2
	baz=85,SNR=7.6						
ULM	**Lac du Bonnet**	85.16	31	P	P	20 19 05.8	+0.3
ULM	**Lac du Bonnet**	85.16	31	P	P	20 19 05.8	+0.3
	comp=Z,3.6nm,0.5s,baz=294,slow=6.0,SNR=8.0						
M21A	**Separation Pea**	85.18	43	⇑P	P	20 19 07.4	+1.2
	baz=85						
PDMCI	**Parker Dam,Lak**	85.41	52	⇓P	P	20 19 08.2	+1.2
	baz=85						
L22A	**Ellis Ranch, M**	85.45	42	⇑P	P	20 19 08.8	+1.5
	baz=85						
P19A	**Cripple Cowboy**	85.47	45	⇑P	P	20 19 08.6	+1.1
	baz=85,SNR=12						
Y12C	**Blythe**	85.47	53	⇑P	P	20 19 08.7	+1.3
	baz=85						
O20A	**White River Ci**	85.60	45	⇑P	P	20 19 09.2	+1.1
	baz=86						
N21A	**Black Mountain**	85.63	44	⇓P	P	20 19 09.7	+1.4
	baz=86						
GLA	**Glamis**	85.68	53	⇓P	P	20 19 09.9	+1.5
	baz=86						
L23A	**Garrett**	85.81	42	⇓P	P	20 19 09.8	+0.6
	baz=86						
N22A	**Wattenberg Ran**	86.23	43	⇑P	P	20 19 12.9	+1.6
	baz=86						
Q20A	**Ridgley Place,**	86.31	46	⇓P	P	20 19 12.8	+1.3
	baz=86						
N23A	**Red Feather La**	86.46	43	⇑P	P	20 19 14.0	+1.7
	baz=86						
113A	**Mohawk Valley,**	86.56	53	⇑P	P	20 19 13.8	+1.2
	baz=86						
O22A	**Kremmling**	86.58	44	⇓P	P	20 19 13.9	+0.9
	baz=86						
M24A	**Cheyenne**	86.73	42	⇑P	P	20 19 15.1	+1.6
	baz=87						
P22A	**Eagle**	86.82	44	⇓P	P	20 19 15.5	+1.4
	baz=87						
K26A	**Motz Farm, Whi**	86.83	40	⇓P	P	20 19 14.8	+1.0
	baz=87						
O23A	**Lake Granby, G**	86.92	43	⇑P	P	20 19 16.2	+1.7
	baz=87						
N24A	**Carr**	87.12	42	⇓P	P	20 19 17.0	+1.6
	baz=87						
Q22A	**Crested Butte,**	87.20	45	⇓P	P	20 19 17.4	+1.5
	baz=87						
ISCO	**Idaho Springs**	87.36	44	⇑P	P	20 19 18.3	+1.6
	baz=87						
O25A	**Wiggins**	88.02	43	⇑P	P	20 19 20.9	+1.3
	baz=88						
R24A	**Sanders Place,**	88.69	45	⇑P	P	20 19 24.4	+1.6
	baz=89						
R27A	**Eads**	90.01	43	⇑P	P	20 19 30.3	+1.5
	baz=90						
U26A	**Atchley Ranch,**	90.72	45	⇓P	P	20 19 33.9	+1.7
	baz=91						
X25A	**Clemmons Ranch**	91.39	47	⇓P	P	20 19 36.7	+1.3
	baz=91						
222A	**Williams Famil**	91.41	50	⇓P	P	20 19 36.9	+1.4
	baz=91						
X26A	**CR and CF Fran**	91.90	47	⇑P	P	20 19 38.9	+1.2
	baz=92						
W28A	**Vega**	92.40	45	⇓P	P	20 19 41.5	+1.6
	baz=92						
224A	**Cornudas Mount**	92.45	49	⇓P	P	20 19 41.7	+1.4
	baz=92						
125A	**Gardner Draw,**	92.62	48	⇑P	P	20 19 42.3	+1.3
	baz=92						
Z26A	**Caprock**	92.64	48	⇑P	P	20 19 42.3	+1.2
	baz=92						
Y27A	**Causey**	92.74	47	⇑P	P	20 19 42.3	+0.7
	baz=93						
324A	**Moseley Ranch,**	92.89	50	⇓P	P	20 19 43.2	+0.9
	baz=93						
AMTX	**Amarillo**	92.97	45	⇑P	P	20 19 43.5	+1.0
	baz=93						
Z27A	**Tatum**	93.09	47	⇓P	P	20 19 44.1	+1.0
	baz=93						
325A	**Bean Ranch, Si**	93.26	50	⇑P	P	20 19 45.4	+1.3
	baz=93						
425A	**Indio Mountain**	93.64	50	⇓P	P	20 19 47.4	+1.6
	baz=94						
326A	**Caldwell Ranch**	93.94	49	⇓P	P	20 19 48.4	+1.3
	baz=94						
426A	**McDonald Obser**	94.33	50	⇓P	P	20 19 50.2	+1.2
	baz=94						
427A	**Hayter Ranch,**	94.62	49	⇓P	P	20 19 51.5	+1.3
	baz=94						
526A	**Mary Lane Ranc**	94.69	50	⇑P	P	20 19 52.0	+1.4
	baz=95						
626A	**Big Bend Ranch**	95.00	51	⇓P	P	20 19 53.1	+1.2
	baz=95						
428A	**Kincaid Ranch,**	95.16	49	⇓P	P	20 19 54.0	+1.3
	baz=95						
TXAR	**Lajitas Array**	95.45	50	P	P	20 19 55.0	+1.1
TXAR	**Lajitas Array**	95.45	50	P	P	20 19 55.0	+1.1
	comp=Z,3.9nm,0.6s,baz=292,slow=3.4,SNR=37						
528A	**Cox Ranch, San**	95.47	49	⇑P	P	20 19 55.4	+1.3
	baz=95						
627A	**Terlingua Ranc**	95.55	50	⇓P	P	20 19 55.5	+1.0
	baz=96						
TORD	**Torodi Ar. Bea**	118.36	310	PKP	PKPdf	20 25 14.1	-0.7
TORD	**Torodi Ar. Bea**	118.36	310	PKP	PKPdf	20 25 14.1	-0.7
	comp=Z,0.5nm,0.4s,baz=30,slow=1.1,SNR=15						
DBIC	**Dimbokro**	127.45	311	PKP	PKPdf	20 25 31.6	-0.5
DBIC	**Dimbokro**	127.45	311	PKP	PKPdf	20 25 31.6	-0.5
	comp=Z,3.9nm,1.0s,baz=63,slow=2.3,SNR=4.0						
VNA2	**Neumayer--Watz**	136.88	196	*e*	SKPbc	20 28 46.1	+1.3
VNA3	**Neumayer Olymp**	137.16	195	*e*	SKPbc	20 28 46.9	+1.3
SAML	**Samuel**	149.76	45	*e*PKPdf	PKPdf	20 26 12.3	+0.1
SAML				*e*PKPbc	PKPbc	20 26 17.6	+0.2
LPAZ	**La Paz**	151.65	62	*e*PKPdf	PKPdf	20 26 15.9	0.0
LPAZ				*e*PKPbc	PKiKP	20 26 23.2	+0.4
BDFB	**Brasilia**	162.67	19	PKPab	PKPab	20 27 20.0	+0.4
BDFB	**Brasilia**	162.67	19	PKPab	PKPab	20 27 20.0	+0.4
	comp=Z,1.5nm,0.4s,baz=312,slow=2.3,SNR=4.9						

TIF ***02*** *20:08:00.7, 41.°05N×43.°92E, h15km±2km*
ISCJB ***02*** *20:08:01.8±1.3, 41.°08N±0.°05×43.°86E±0.°04, h6km±9km, Error ellipse: s-maj=8.8km s-min=4.4km az=164.7*
CSEM ***02*** *20:08:01.3±0.2, 41.°12N×43.°84E, h2km, MD3.0, Error ellipse: s-maj=8.5km s-min=4.3km az=152.0*
DDA ***02*** *20:08:08.1, 40.°86N×43.°41E, h16km, MD3.0*

ISC 02 20:07:59.9±1.2, 41.°12N±0.°04×43.°85E±0.°03, h8km±12km, n17, σ1°35/34, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	0.40	318	P	Pn	20 08 10.4	-1.8
AKH				S	Sb	20 08 17.5	+1.8
GOR	**Gori**	0.89	12	P	Pg	20 08 15.9	-1.2
GOR				S	Sg	20 08 24.9	-3.7
TBLG	**Delisi**	0.91	47	P	Pn	20 08 18.6	-0.5
TBLG				S	Sn	20 08 31.8	-0.6
TBLG	**Delisi**	0.91	47	P	Pn	20 08 18.6	-0.5
TBLG				S	Sn	20 08 31.8	-0.6
DGRG	**David-gareji**	1.20	73	P	Pg	20 08 23.7	+0.8
DGRG				S	Sn	20 08 41.6	+2.1
ARTV	**Artvin**	1.45	273	*i* P	Pg	20 08 28.0	+0.2
ARTV				*i* S	Sg	20 08 47.0	+0.3
ARTV	**Artvin**	1.45	273	*i* P	Pg	20 08 28.0	+0.2
ARTV				*i* S	Sg	20 08 47.0	+0.3
DAGI	**Agillar**	1.46	269	*i* P	Pg	20 08 28.5	+0.5
DAGI				*i* S	Sg	20 08 47.8	+0.8
ONI	**Oni**	1.50	349	P	Pg	20 08 30.3	+1.6
ONI				S	Sg	20 08 52.6	+4.4
DDEM	**Demirkent**	1.60	263	*i* P	Pg	20 08 31.3	+0.6
DDEM				*i* S	Sg	20 08 52.3	+0.8
DDEM	**Demirkent**	1.60	263	*i* P	Pg	20 08 31.3	+0.6
DDEM				*i* S	Sg	20 08 52.3	+0.8
DBAD	**Bademkaya**	1.63	267	*i* P	Pg	20 08 31.0	-0.3
DBAD				*i* S	Sg	20 08 53.0	+0.6
DBAD	**Bademkaya**	1.63	267	*i* P	Pg	20 08 31.0	-0.3
DBAD				*i* S	Sg	20 08 53.0	+0.6
DBOC	**Borcka**	1.66	279	*i* P	Pg	20 08 31.3	-0.5
DBOC				*i* S	Sg	20 08 53.0	-0.4
DBOC	**Borcka**	1.66	279	*i* P	Pg	20 08 31.3	-0.5
DBOC				*i* S	Sg	20 08 53.0	-0.4
TUTA	**Tutak**	1.89	205	*i* P	Pb	20 08 34.1	-0.7
TUTA				*i* S	Sg	20 09 00.9	+0.3
TUTA	**Tutak**	1.89	205	*i* P	Pb	20 08 34.1	-0.7
TUTA				*i* S	Sg	20 09 00.9	+0.3

ISCJB ***02*** *20:55:21.1±0.4, 48.°11N±0.°02×11.°72E±0.°03, h4km±5km, Error ellipse: s-maj=3.9km s-min=2.7km az=19.4*
VIE ***02*** *20:55:21.9±0.1, 48.°08N×11.°71E, h5km, mb1.8/1, ML2.3/10, Error ellipse: s-maj=1.3km s-min=0.9km az=128.0, #STATIONS KBA 12 km SE of Munich*
BGR ***02*** *20:55:22.5±0.4, 48.°09N×11.°70E, h5km, ML2.1/4, Error ellipse: s-maj=4.4km s-min=3.3km az=170.0*
CSEM ***02*** *20:55:22.0±0.1, 48.°08N×11.°70E, h10km, ML2.6/7, Error ellipse: s-maj=2.9km s-min=2.2km az=119.0*
PRU ***02*** *20:55:23.5, 48.°12N×11.°73E, h0km*

ISC 02 20:55:22.5±1.0, 48.°09N±0.°02×11.°71E±0.°02, h8km±9km, n44, σ0°87/72, 5C-9D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUR	**Furstenfeldbru**	0.30	285	*e*Pg	Pg	20 55 28.4	-0.1
FUR				*e*Sg	Sg	20 55 32.9	+0.4
FUR	**Furstenfeldbru**	0.30	285	Pg	Pg	20 55 28.4	-0.1
FUR				Sg	Sg	20 55 32.9	+0.4
WATA	**Walderalm**	0.76	187	⇓*i*Pg	Pg	20 55 36.6	-0.5
WATA				⇓*i*Sg	Sg	20 55 47.3	+0.4
	4.7nm,0.1s						
WATA	**Walderalm**	0.76	187	Pg	Pg	20 55 36.6	-0.5
WATA				Sg	Sg	20 55 47.3	+0.4
	4.7nm,0.1s						
GRC3	**Grafenberg Arr**	0.81	354	*e*Pg	Pb	20 55 39.6	+0.9
GRC3	**Grafenberg Arr**	0.81	354	Pg	Pb	20 55 39.6	+0.9
RJOB	**Jochberg**	0.81	115	*e*Pn	Pb	20 55 38.8	0.0
RJOB				*e*Sn	Sn	20 55 51.8	-0.5
RJOB	**Jochberg**	0.81	115	Pn	Pb	20 55 38.8	0.0
RJOB				Sn	Sn	20 55 51.8	-0.5
WTTA	**Wattenberg**	0.83	184	⇓*i*Pg	Pg	20 55 37.5	-0.8
WTTA				⇓*i*Sg	Sg	20 55 49.0	-0.1
	2.9nm,0.2s						
WTTA	**Wattenberg**	0.83	184	Pg	Pg	20 55 37.5	-0.8
WTTA				Sg	Sg	20 55 49.0	-0.1
	2.9nm,0.2s						
MOTA	**Moosalm**	0.85	209	⇑*i*Pg	Pg	20 55 38.6	-0.2
MOTA				⇑*i*Sg	Sg	20 55 49.7	-0.2
	6.1nm,0.1s						
MOTA	**Moosalm**	0.85	209	Pg	Pg	20 55 38.6	-0.2
MOTA				Sg	Sg	20 55 49.7	-0.2
	6.1nm,0.1s						
RETA	**Reutte**	0.88	227	⇓*i*Pg	Pg	20 55 38.6	-0.7
	1.8nm,0.1s						
RETA				⇓*i*Sg	Sg	20 55 50.3	-0.4
	5.1nm,0.1s						
RETA	**Reutte**	0.88	227	Pg	Pg	20 55 38.6	-0.7
	1.8nm,0.1s						
RETA				Sg	Sg	20 55 50.3	-0.4
	5.1nm,0.1s						
GRB2	**Grafenberg Arr**	1.19	359	*e*Sg	Sb	20 56 01.3	+0.6
GRB2	**Grafenberg Arr**	1.19	359	Sg	Sb	20 56 01.3	+0.6
FETA	**Feichten**	1.26	212	⇓*i*Pn	Pg	20 55 45.5	-1.1
FETA	**Feichten**	1.26	212	Pn	Pg	20 55 45.5	-1.1
WET	**Wettzell**	1.31	36	*e*Pn	Pg	20 55 47.2	-0.4
WET				*e*Sg	Sn	20 56 05.6	+0.9
WET	**Wettzell**	1.31	36	Pn	Pg	20 55 47.2	-0.4
WET				Sg	Sn	20 56 05.6	+0.9
KBA	**Koelnbreinsper**	1.50	132	⇑*i*Pg	Pg	20 55 51.0	-0.2
KBA				⇑*i*Sn	Sn	20 56 09.5	0.0
KBA				⇓*i*Sg	Sg	20 56 11.8	+1.2
	3.2nm,0.1s						
KBA	**Koelnbreinsper**	1.50	132	Pg	Pg	20 55 51.0	-0.2
KBA				Sn	Sn	20 56 09.5	0.0
KBA				Sg	Sg	20 56 11.8	+1.2
	3.2nm,0.1s						
GEC2	**GERESS Array S**	1.53	59	*e*Pg	Pg	20 55 51.8	+0.1
GEC2				*e*Sg	Sg	20 56 11.5	0.0
GEC2	**GERESS Array S**	1.53	59	Pg	Pg	20 55 51.8	+0.1
GEC2				Sg	Sg	20 56 11.5	0.0
KHC	**Kasperske Hory**	1.62	49	*e*PG	Pg	20 55 53.4	-0.1
KHC				*e*SG	Sb	20 56 13.6	+0.4
	comp=Z,11nm,0.2s						
KHC	**Kasperske Hory**	1.62	49	Pg	Pg	20 55 53.4	-0.1
KHC				Sg	Sb	20 56 13.6	+0.4
	11nm,0.2s						
GRA1	**Grafenberg Arr**	1.64	349	Sg	Sg	20 56 16.0	+0.9
GRF	**Grafenberg Arr**	1.64	349	*e*Sg	Sg	20 56 16.0	+0.9
ROTZ	**Rotzenmuhle**	1.71	11	*e*Pn	Pn	20 55 51.9	-0.7
ROTZ				*e*Sn	Sn	20 56 13.8	-0.8
ROTZ	**Rotzenmuhle**	1.71	11	Pn	Pn	20 55 51.9	-0.7
ROTZ				Sn	Sn	20 56 13.8	-0.8
MOA	**Molln**	1.73	97	⇓*i*Pg	Pg	20 55 55.2	-0.4
MOA				⇑*i*Sg	Sg	20 56 19.6	+1.5
	2.8nm,0.1s						
MOA	**Molln**	1.73	97	Pg	Pg	20 55 55.2	-0.4
MOA				Sg	Sg	20 56 19.6	+1.5
	2.8nm

URLA				*i* S	**Sb**	**21 06 01.2 +0.2**
TURN	**Turunc**	**1.61**	**89**	*i* P	Pn	21 05 39.0 -3.5
TURN				*i* S	Sn	21 05 55.5 -7.5
TURN	**Turunc**	**1.61**	**89**	*i* P	Pn	21 05 39.0 -3.5
NPS	**Neapolis**	**1.79**	**207**	*e*PN	**Pn**	**21 05 44.7 -0.3**
NPS	**Neapolis**	**1.79**	**207**	*e*Pn	**Pn**	**21 05 44.7 -0.3**
IDI	**Anoyia**	**2.10**	**222**	*e*PN	**Pn**	**21 05 49.9 +0.6**
IDI	**Anoyia**	**2.10**	**222**	*e*Pn	**Pn**	**21 05 49.9 +0.6**
MANT	**Manisa**	**2.25**	**43**	*i* P	**Pg**	**21 05 57.1 -0.8**
MANT				*i* S	**Sg**	**21 06 29.2 +2.2**

IDC 02 21:05:18.6±28.0, 22°.01S×173°.67W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/18, mbtmp4.1/4, Error ellipse: s-maj=514.4km s-min=152.3km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.38**	**265**	P	P	21 12 33.7	+0.3
	3.7nm,0.4s,baz=93,slow=14,SNR=7.6						
STKA	**Stephens Creek**	**40.83**	**246**	P	P	21 13 01.1	-1.1
	2.3nm,0.9s,baz=96,slow=8.4,SNR=5.3						
ASAR	**Alice Springs**	**48.12**	**257**	P	P	21 14 00.7	-0.1
	0.5nm,0.5s,baz=92,slow=6.6,SNR=7.2						
WRA	**Warramunga Arr**	**48.40**	**262**	P	P	21 14 03.2	+0.3
	1.3nm,0.4s,baz=99,slow=8.3,SNR=8.8						

IDC 02 21:17:31.0±2.0, 26°.70N×141°.56E, h120km±37km, mb3.5/3, mb1 3.5/4, mb1mx3.1/22, mbtmp3.3/4, Error ellipse: s-maj=122.1km s-min=22.3km az=81.0
JMA 02 21:17:30.5±0.3, 26°.72N×140°.88E, h40km, M4.3
ISC 02 21:17:33.4±2.9, 27°.0N±0°.2×141°.1E±0°.2, h76km, n13, σ1s88/13, mb4.0/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.94**	**84**	P	**Pn**	**21 17 51.3**	**-0.2**
CBIJ				S	**Sn**	**21 18 07.3**	**+2.3**
CBIJ	**Chichi jima**	**0.94**	**84**	P	**Pn**	**21 17 51.4**	**-0.1**
	268nm,0.3s,baz=200,slow=2.5,SNR=132						
CBIJ				S	**Sn**	**21 18 05.8**	**+0.8**
	228nm,0.3s,baz=290,slow=24,SNR=9.3						
JHHJ	**Haha-jima-NKT**	**1.00**	**111**	P	**Pn**	**21 17 50.7**	**-1.5**
JHHJ				S	**Sn**	**21 18 05.1**	**-1.2**
BSO1	**Boso 1**	**7.63**	**359**	P	**Pn**	**21 19 23.3**	**+2.0**
JOD2	**Odawara 2**	**8.42**	**348**	P	**Pn**	**21 19 34.9**	**+2.2**
JAO	**Obara**	**8.88**	**339**	P	Pn	21 19 42.5	+3.5
JRY	**Ryogami san**	**9.19**	**349**	P	**Pn**	**21 19 43.8**	**+0.7**
JAG	**Ashikaga**	**9.51**	**352**	P	**Pn**	**21 19 45.8**	**-1.6**
JAG				*e*S	**Sn**	**21 21 30.1**	**-2.5**
JHO	**Hitachi**	**9.60**	**357**	P	**Pn**	**21 19 47.4**	**-1.2**
JHO				*e*S	Sn	21 21 27.8	-7.0
MJAR	**Matsushiro Arr**	**9.83**	**346**	P	**Pn**	**21 19 54.4**	**+2.5**
	0.4nm,0.3s,baz=179,slow=13,SNR=6.8						
WRA	**Warramunga Arr**	**47.12**	**189**	P	P	21 25 49.1	-9.0
	1.0nm,0.3s,baz=8.6,slow=8.6,SNR=7.0						
ASAR	**Alice Springs**	**50.85**	**189**	P	P	21 26 17.7	-8.9
	0.1nm,0.4s,baz=12,slow=9.5,SNR=3.3						
FINES	**FINESS Array B**	**77.62**	**334**	P	P	21 29 15.9	-5.2
	2.1nm,1.0s,baz=72,slow=6.2,SNR=5.5						

ISCJB 02 21:18:05.5±0.6, 51°.48N±0°.03×16°.14E±0°.03, h0km, Error ellipse: s-maj=4.6km s-min=2.6km az=18.3
CSEM 02 21:18:06.2±0.2, 51°.56N×16°.09E, h2km, ML3.3/9, Error ellipse: s-maj=4.0km s-min=3.2km az=22.0
PRU 02 21:18:07.9, 51°.50N×16°.11E, h0km
WAR 02 21:18:09.3, 51°.45N×16°.12E
VIE 02 21:18:09.2±0.6, 51°.33N×16°.09E, h0km, mb2.3/2, ML2.7/5, Error ellipse: s-maj=3.7km s-min=3.3km az=148.0 69 km WNW of Wroclaw Suspected Mining induced.
ISC 02 21:18:06.2±0.8, 51°.57N±0°.03×16°.10E±0°.02, h0km, n44, σ0s86/79, 5C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**171**	*e*Pg	**Pg**	**21 18 20.9**	**+0.5**
KSP				*e*Sg	**Sg**	**21 18 30.1**	**+0.3**
KSP	**Ksiaz**	**0.74**	**171**	*e*Pg	**Pg**	**21 18 20.9**	**+0.5**
KSP				*e*Sg	**Sg**	**21 18 30.1**	**+0.3**
KSP	**Ksiaz**	**0.74**	**171**	⇓*i*Pg	**Pg**	**21 18 20.8**	**+0.5**
KSP				*e*Sg	**Sg**	**21 18 30.0**	**+0.1**
UPC	**Upice**	**1.07**	**183**	*e*PG	**Pg**	**21 18 26.8**	**+0.2**
UPC	**Upice**	**1.07**	**183**	Pg	**Pg**	**21 18 26.8**	**+0.2**
DPC	**Dobruska-Polom**	**1.23**	**173**	*e*PG	**Pg**	**21 18 29.6**	**-0.1**
DPC				*e*SG	**Sg**	**21 18 43.7**	**-2.0**
	comp=Z,22nm,0.5s						
DPC	**Dobruska-Polom**	**1.23**	**173**	Pg	**Pg**	**21 18 29.6**	**-0.1**
DPC				Sg	**Sg**	**21 18 43.7**	**-2.0**
	22nm,0.5s						
PVCC	**Panska Ves**	**1.42**	**223**	*e*PG	**Pn**	**21 18 33.3**	**0.0**
PVCC				*e*SG	**Sg**	**21 18 52.2**	**+0.3**
	comp=Z,82nm,0.4s						
PVCC	**Panska Ves**	**1.42**	**223**	Pg	**Pn**	**21 18 33.3**	**0.0**
PVCC				Sg	**Sg**	**21 18 52.2**	**+0.3**
	82nm,0.4s						
BRG	**Berggiesshubel**	**1.53**	**244**	PG	**Pb**	**21 18 35.6**	**+0.2**
BRG				SG	**Sg**	**21 18 56.7**	**+1.5**
	69nm,0.4s						
KRLC	**Kraliky**	**1.56**	**164**	*e*PG	**Pn**	**21 18 35.4**	**+0.2**
KRLC				*e*SG	**Sn**	**21 18 54.9**	**-1.2**
KRLC	**Kraliky**	**1.56**	**164**	Pg	**Pn**	**21 18 35.4**	**+0.2**
KRLC				Sg	**Sn**	**21 18 54.9**	**-1.2**
PRU	**Pruhonice**	**1.87**	**213**	*e*PN	**Pn**	**21 18 39.3**	**-0.1**
PRU				*e*PG	**Pb**	**21 18 41.2**	**0.0**
PRU				*e*SG	**Sb**	**21 19 05.6**	**+0.5**
	comp=Z,19nm,0.3s						
PRU	**Pruhonice**	**1.87**	**213**	Pn	**Pn**	**21 18 39.3**	**-0.1**
CLL	**Collm**	**1.96**	**263**	*i* Pn	**Pn**	**21 18 40.5**	**-0.1**
CLL				*i* Pg	**Pb**	**21 18 43.6**	**+0.9**
CLL				*i*		21 18 47.3	
CLL				*i* Sg	**Sg**	**21 19 10.0**	**+1.0**
	comp=Z,21nm,0.4s						
MORC	**Moravsky Berou**	**2.02**	**152**	*e*Pn	**Pn**	**21 18 41.0**	**-0.5**
MORC				*e*Sg	**Sb**	**21 19 09.9**	**+0.5**
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*PG	**Pb**	**21 18 46.9**	**+0.6**
OKC				*e*SG	**Sb**	**21 19 13.7**	**0.0**
	comp=Z,23nm,0.4s						
OKC	**Ostrava-Krasne**	**2.17**	**142**	Pg	**Pb**	**21 18 46.9**	**+0.6**
OKC				Sg	**Sb**	**21 19 13.7**	**0.0**
	comp=Z,23nm,0.4s						
VRAC	**Vranov**	**2.29**	**172**	*e*Pn	**Pn**	**21 18 45.3**	**+0.1**
VRAC				*e*Sg	**Sg**	**21 19 18.9**	**-0.7**
NKC	**Novy Kostel**	**2.67**	**241**	*e*PN	**Pn**	**21 18 51.1**	**+0.6**
NKC				*e*PG	**Pg**	**21 18 57.2**	**-0.2**
NKC				*e*SG	**Sg**	**21 19 33.6**	**+1.6**
	comp=Z,36nm,0.4s						
NKC	**Novy Kostel**	**2.67**	**241**	Pn	**Pn**	**21 18 51.1**	**+0.6**
OJC	**Ojcow**	**2.70**	**119**	*e*Pg	**Pg**	**21 18 58.1**	**+0.1**
OJC				*e*Sg	**Sg**	**21 19 33.1**	**+0.1**
OJC	**Ojcow**	**2.70**	**119**	*e*Pg	**Pg**	**21 18 58.6**	**+0.6**
OJC				*e*Sg	**Sg**	**21 19 33.8**	**+0.8**
KHC	**Kasperske Hory**	**2.93**	**214**	*e*PN	**Pn**	**21 18 54.0**	**0.0**
KHC				*e*PG	**Pb**	**21 19 00.6**	**+1.3**
KHC				*e*SG	**Sg**	**21 19 38.9**	**-1.4**
	comp=Z,14nm,0.4s						
KHC	**Kasperske Hory**	**2.93**	**214**	Pn	**Pn**	**21 18 54.0**	**0.0**
SMOL	**Smolenice**	**3.18**	**164**	*e*PN	**Pn**	**21 18 58.3**	**+0.9**
SMOL				*e*		21 19 06.5	
SMOL	**Smolenice**	**3.18**	**164**	*e*Pn	**Pn**	**21 18 58.3**	**+0.9**
SMOL				*e*Sg	**Sg**	**21 19 46.7**	**-1.5**
ZST	**Bratislava**	**3.44**	**169**	*e*SG	**Sg**	**21 19 56.0**	**-0.6**
ZST	**Bratislava**	**3.44**	**169**	*e*Sg	**Sg**	**21 19 56.0**	**-0.6**
NIE	**Niedzica**	**3.44**	**127**	*e*P	**Pb**	**21 19 10.1**	**+2.0**
NIE				*e*S	**Sg**	**21 19 55.0**	**-1.8**
VYHS	**Vyhne**	**3.55**	**149**	*e*PN	**Pn**	**21 19 02.2**	**-0.3**
VYHS				*e*		21 19 14.1	
VYHS	**Vyhne**	**3.55**	**149**	*e*Pn	**Pn**	**21 19 02.2**	**-0.3**
VYHS				*e*Sg	**Sg**	**21 20 01.5**	**+1.4**
BSD	**Bornholm Skovb**	**3.62**	**349**	*i* P	**Pn**	**21 19 02.5**	**-0.9**
BSD				*i* S	**Sn**	**21 19 45.1**	**-1.7**
BSD	**Bornholm Skovb**	**3.62**	**349**	*i* P	**Pn**	**21 19 02.5**	**-0.9**
	SNR=49						
BSD				*i* S	**Sn**	**21 19 45.1**	**-1.7**
	comp=Z,2.2nm,0.6s,SNR=49						
CONA	**Conrad Observa**	**3.65**	**183**	⇓*i*Pn	**Pn**	**21 19 03.6**	**-0.4**
CONA				⇑*i*Sg	**Sg**	**21 20 01.9**	**-1.5**
	comp=Z,16nm,0.5s						
CONA	**Conrad Observa**	**3.65**	**183**	Pn	**Pn**	**21 19 03.6**	**-0.4**
CONA				Sg	**Sg**	**21 20 01.9**	**-1.5**
	comp=Z,16nm,0.5s						
MOA	**Molln**	**3.91**	**198**	⇑*i*Pn	**Pn**	**21 19 08.0**	**+0.5**
MOA				⇑*i*Sg	**Sg**	**21 20 11.3**	**-0.5**
	comp=Z,8.8nm,0.4s						
MOA	**Molln**	**3.91**	**198**	Pn	**Pn**	**21 19 08.0**	**+0.5**
MOA				Sg	**Sg**	**21 20 11.3**	**-0.5**
	comp=Z,8.8nm,0.4s						
CRVS	**Cervenica-Dubn**	**4.36**	**126**	*e*SG	**Sg**	**21 20 26.0**	**0.0**
CRVS	**Cervenica-Dubn**	**4.36**	**126**	*e*Sg	**Sg**	**21 20 26.1**	**0.0**
KOLS	**Kolonicke sedl**	**4.76**	**121**	*e*SG	**Sg**	**21 20 39.7**	**+0.8**
KOLS	**Kolonicke sedl**	**4.76**	**121**	*e*Sg	**Sg**	**21 20 39.7**	**+0.8**
KBA	**Koelnbreinsper**	**4.84**	**203**	⇑*i*Pn	**Pn**	**21 19 20.6**	**+0.1**
KBA				⇑*i*Sg	**Sg**	**21 20 40.9**	**-0.9**
	comp=Z,5.1nm,0.5s						
KBA	**Koelnbreinsper**	**4.84**	**203**	Pn	**Pn**	**21 19 20.6**	**+0.1**
KBA				Sg	**Sg**	**21 20 40.9**	**-0.9**
	comp=Z,5.1nm,0.5s						

ISCJB 02 21:24:10.7±0.8, 16°.95N±0°.03×120°.11E±0°.06, h17km±8km, mb3.2/2, Error ellipse: s-maj=10.0km s-min=5.8km az=0.2
IDC 02 21:24:10.3±2.0, 17°.14N×120°.27E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/22, mbtmp3.4/4, ML4.1/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/16, Error ellipse: s-maj=58.6km s-min=23.9km az=72.0
MAN 02 21:24:11, 16°.89N×120°.08E, h21km, mb4.5, ML3.4, MS3.3
ISC 02 21:24:10.3±1.5, 17°.00N±0°.04×120°.17E±0°.07, h6km±11km, n12, σ1s10/15, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.66**	**202**	*e*P	**Pg**	**21 24 23.1**	**+0.2**
BOLP				*e*S	**Sg**	**21 24 29.8**	**-1.8**
BCPH	**Baguio City Da**	**0.72**	**147**	⇑*i*P	**Pg**	**21 24 24.6**	**+0.4**
BCPH				*i* S	**Sg**	**21 24 34.0**	**+0.3**
SIPP	**Brgy, Tapao**	**0.96**	**16**	⇓*i*P	**Pb**	**21 24 29.4**	**+0.1**
SIPP				*i* S	**Sn**	**21 24 43.1**	**-1.2**
SCZP	**Santa Cruz**	**1.24**	**192**	*e*P	Pb	21 24 30.4	-3.6
SCZP				*e*S	**Sn**	**21 24 51.5**	**+0.4**
PCPH	**Palayan**	**1.68**	**148**	⇑*e*P	**Pn**	**21 24 39.2**	**-1.0**
PCPH				*e*S	**Sn**	**21 25 00.4**	**-1.5**
CVP	**Callao Caves**	**1.72**	**66**	*e*P	**Pn**	**21 24 41.2**	**+0.5**
CVP				*e*S	Sn	21 24 51.4	-12
BALP	**Baler**	**1.83**	**133**	*e*P	**Pn**	**21 24 42.1**	**-0.1**
TGY	**Tagaytay City**	**2.97**	**166**	Pn	**Pn**	**21 25 00.0**	**+2.1**
	26nm,0.3s,baz=239,slow=3.2,SNR=6.7						
TGY				Sn	**Sb**	**21 25 40.2**	**0.0**
	44nm,0.3s,baz=200,slow=11,SNR=5.6						
DAV	**Davao City (W)**	**11.19**	**151**	LR	LR	21 31 58.4	
	comp=Z,42nm,19.6s,baz=320,slow=42						
CMAR	**Chiang Mai Arr**	**20.28**	**277**	P	Pn	21 28 48.9	+0.1
	0.8nm,0.8s,baz=88,slow=7.3,SNR=9.8						
SONM	**Songino Array**	**32.77**	**343**	P	**P**	**21 30 44.7**	**+0.5**
	0.2nm,0.7s,baz=165,slow=8.4,SNR=2.6						
MKAR	**Makanchi Array**	**43.12**	**322**	P	**P**	**21 32 11.2**	**-0.2**
	0.7nm,1.0s,baz=116,slow=6.6,SNR=4.1						

ISCJB 02 21:41:23.6±0.7, 35°.18N±0°.06×139°.73E±0°.07, h104km±5km, mb3.2/2, Error ellipse: s-maj=12.0km s-min=7.3km az=43.5
JMA 02 21:41:24.4±0.2, 35°.26N×139°.76E, h96km±2km, M2.8
IDC 02 21:41:25.5±3.2, 34°.91N×139°.13E, h87km±41km, mb2.9/2, mb1 3.2/2, mb1mx2.8/23, mbtmp2.9/2, Error ellipse: s-maj=93.5km s-min=32.0km az=61.0
ISC 02 21:41:24.6±1.0, 35°.20N±0°.06×139°.72E±0°.06, h98km±7km, n16, σ0s67/24, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYO	**Yokosk**	**0.05**	**298**	P	**Pn**	**21 41 38.3**	**+0.1**
JYO				S	**Sn**	**21 41 49.2**	**+0.7**
TATJ	**Tateyama 2**	**0.22**	**141**	P	**Pn**	**21 41 38.9**	**+0.3**
TATJ				S	**Sn**	**21 41 49.2**	**+0.1**
JOD2	**Odawara 2**	**0.52**	**277**	P	**Pn**	**21 41 39.8**	**-0.6**
JOD2				S	**Sn**	**21 41 51.6**	**-0.6**
JIM2	**Oshima 3**	**0.54**	**207**	P	**Pn**	**21 41 40.2**	**-0.3**
JIM2				S	**Sn**	**21 41 51.2**	**-1.2**
BSO3	**Boso 3**	**0.76**	**121**	P	**Pn**	**21 41 42.2**	**+0.1**
BSO3				S	**Sn**	**21 41 56.3**	**+1.1**
JIZS	**Izushimoda**	**0.84**	**236**	P	**Pn**	**21 41 43.4**	**+0.2**
JIZS				S	**Sn**	**21 41 58.2**	**+1.0**
JYN	**Shimob**	**1.01**	**288**	P	**Pn**	**21 41 45.3**	**+0.3**
JRY	**Ryogami san**	**1.05**	**321**	P	**Pn**	**21 41 45.7**	**+0.2**
BSO1	**Boso 1**	**1.17**	**117**	P	**Pn**	**21 41 46.0**	**-0.2**
JAG	**Ashikaga**	**1.24**	**350**	P	**Pn**	**21 41 47.3**	**-0.3**
SHZ3	**Shizuoka 3**	**1.25**	**264**	P	**Pn**	**21 41 48.4**	**+0.7**
MJAR	**Matsushiro Arr**	**1.82**	**318**	P	**Pn**	**21 41 55.1**	**+0.4**
	5.0nm,0.3s,baz=153,slow=12,SNR=56						
MJAR				S	**Sn**	**21 42 16.5**	**-1.2**
	7.1nm,0.3s,baz=128,slow=38,SNR=21						
MAT	**Matsushiro**	**1.82**	**318**	P	**Pn**	**21 41 55.4**	**+0.6**
MAT				S	**Sn**	**21 42 18.0**	**+0.2**
MAT	**Matsushiro**	**1.82**	**318**	P	**Pn**	**21 41 55.6**	**+0.8**
MKAR	**Makanchi Array**	**43.96**	**303**	P	**P**	**21 49 22.0**	**+0.2**
	0.3nm,0.6s,baz=93,slow=8.8,SNR=3.7						
WRA	**Warramunga Arr**	**55.08**	**186**	P	**P**	**21 50 45.8**	**-0.5**
	0.2nm,0.7s,baz=2.3,slow=7.8,SNR=3.8						

IDC 02 21:43:08.3±3.2, 5°.51S×150°.79E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/16, mbtmp3.5/3, ML2.6/1, Error ellipse: s-maj=133.8km s-min=37.0km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.28**	**223**	Pn	Pn	21 44 30.2	+1.7
	1.3nm,0.3s,baz=56,slow=15,SNR=3.0						
PMG				Sn	Sn	21 45 30.6	+0.4
	2.1nm,0.3s,baz=114,slow=19,SNR=4.7						
WRA	**Warramunga Arr**	**21.49**	**227**	P	P	21 47 58.5	-0.4
	0.4nm,0.5s,baz=52,slow=10,SNR=7.2						
ASAR	**Alice Springs**	**24.29**	**220**	P	P	21 48 27.3	-0.4
	0.7nm,0.8s,baz=61,slow=9.2,SNR=6.4						
TORD	**Torodi Ar. Bea**	**148.60**	**286**	PKPbc	PKPbc	22 02 58.0	-0.5
	0.2nm,0.6s,baz=79,slow=3.1,SNR=2.5						

TIF 02 21:58:56.6, 41°.03N×43°.92E, h10km±3km
ISCJB 02 21:58:57.0±1.5, 41°.01N±0°.06×43°.86E±0°.04, h6km±8km, Error ellipse: s-maj=9.8km s-min=4.5km az=161.9
CSEM 02 21:58:57.8±0.6, 41°.15N×43°.79E, h2km, MD2.9, Error ellipse: s-maj=27.4km s-min=3.5km az=159.0
DDA 02 21:58:59.8, 41°.45N×43°.58E, h7km, MD2.9
ISC 02 21:58:57.6±1.5, 41°.08N±0°.07×43°.85E±0°.04, h16km±12km, n13, σ0s49/26, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.43**	**321**	P	**Pb**	**21 59 06.6**	**-0.3**
AKH				S	**Sb**	**21 59 13.7**	**+0.5**
GOR	**Gori**	**0.93**	**12**	P	**Pg**	**21 59 15.5**	**-0.1**
GOR				S	**Sn**	**21 59 29.4**	**+0.4**
TBLG	**Delisi**	**0.93**	**45**	P	**Pb**	**21 59 15.0**	**-0.4**
TBLG				S	**Sg**	**21 59 28.0**	**0.0**
TBLG	**Delisi**	**0.93**	**45**	P	**Pb**	**21 59 15.0**	**-0.4**
TBLG				S	**Sg**	**21 59 28.0**	**0.0**
DGRG	**David-gareji**	**1.21**	**71**	P	**Pb**	**21 59 19.8**	**-0.2**
DGRG				S	**Sg**	**21 59 37.8**	**+1.2**
ARTV	**Artvin**	**1.46**	**275**	*i* P	**Pb**	**21 59 24.4**	**0.0**
ARTV				*i* S	**Sn**	**21 59 41.9**	**-0.4**
ARTV	**Artvin**	**1.46**	**275**	*i* P	**Pb**	**21 59 24.4**	**0.0**
ARTV				*i* S	**Sn**	**21 59 41.9**	**-0.4**
DAGI	**Agillar**	**1.47**	**271**	*i* P	**Pb**	**21 59 24.4**	**-0.1**
DAGI				*i* S	**Sb**	**21 59 43.7**	**+0.8**
ONI	**Oni**	**1.54**	**349**	P	**Pg**	**21 59 26.4**	**-0.9**
ONI				S	**Sg**	**21 59 48.3**	**+1.0**
DBAD	**Bademkaya**	**1.63**	**269**	*i* P	**Pb**	**21 59 27.1**	**-0.2**
DBAD				*i* S	**Sb**	**21 59 48.1**	**+0.3**
DBAD	**Bademkaya**	**1.63**	**269**	*i* P	**Pb**	**21 59 27.1**	**-0.2**
DBAD				*i* S	**Sb**	**21 59 48.1**	**+0.3**
DBOC	**Borcka**	**1.67**	**280**	*i* P	**Pb**	**21 59 27.8**	**-0.2**
DBOC				*i* S	**Sb**	**21 59 48.9**	**+0.1**
DBOC	**Borcka**	**1.67**	**280**	*i* P	**Pb**	**21 59 27.8**	**-0.2**
DBOC				*i* S	**Sb**	**21 59 48.9**	**+0.1**

IDC 02 22:08:37.7±3.6, 6°.17S×150°.30E, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.4/15, mbtmp3.5/2, Error ellipse: s-maj=138.0km s-min=48.0km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.68**	**227**	P	P	22 13 20.5	+1.0
	1.8nm,0.6s,baz=52,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**23.48**	**220**	P	P	22 13 48.3	-0.9
	1.1nm,1.1s,baz=66,slow=9.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**148.31**	**285**	PKPbc	PKPbc	22 28 26.4	-0.6
	0.2nm,0.3s,baz=94,slow=2.5,SNR=9.8						

IDC 02 22:44:10.7±2.9, 30°.11S×176°.87W, h0km, mb4.0/5, mb1 4.2/5, mb1mx4.1/14, mbtmp3.9/5, MS3.3/1, Ms1 3.3/1, ms1mx2.6/25, Error ellipse: s-maj=153.2km s-min=25.5km az=158.0
ISCJB 02 22:44:12.6±0.9, 30°.1S±0°.1×177°.0W±0°.1, h24km, mb4.0/7, MS3.4/1, Error ellipse: s-maj=21.1km s-min=11.1km az=135.4
NEIC 02 22:44:16.3±0.8, 29°.89S×177°.02W, h35km, mb4.1/3, Error ellipse: s-maj=25.5km s-min=14.5km az=170.0
ISC 02 22:44:14.7±1.0, 29°.9S±0°.2×176°.9W±0°.1, h24km, n18, σ0s85/20, mb3.9/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.09**	**308**	*e*P	**Pn**	**22 44 34.0**	**-0.5**
RAO				*e*S	**Sb**	**22 44 49.2**	**+0.4**
STKA	**Stephens Creek**	**35.48**	**256**	*e*P	**P**	**22 51 09.8**	**+0.3**
	0.3nm,0.6s						
STKA	**Stephens Creek**	**35.48**	**256**	P	**P**	**22 51 10.6**	**+1.2**
	1.2nm,0.6s,baz=122,slow=9.5,SNR=4.9						
ASAR	**Alice Springs**	**44.05**	**266**	P	P	**22 52 20.1**	**-0.8**
ASAR	**Alice Springs**	**44.05**	**266**	P	**P**	**22 52 20.1**	**-0.8**
	0.9nm,0.6s,baz=104,slow=7.5,SNR=12						
WRAB	**Tennant Creek**	**45.00**	**271**	*e*P	**P**	**22 52 28.2**	**-0.2**
	2.0nm,0.5s						
WRA	**Warramunga Arr**	**45.00**	**271**	P	**P**	**22 52 27.3**	**-1.2**
WRA	**Warramunga Arr**	**45.00**	**271**	P	**P**	**22 52 27.3**	**-1.2**
	1.6nm,0.5s,baz=110,slow=8.1,SNR=15						
FITZ	**Fitzroy Crossi**	**53.28**	**269**	*e*P	**P**	**22 53 31.0**	**-0.8**
	3.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.28**	**269**	LR	LR	23 15 51.9	
	comp=Z,32nm,20.1s,baz=216,slow=36						
NVAR	**Mina Array Bea**	**87.28**	**42**	P	**P**	**22 56 59.8**	**+0.3**
NVAR	**Mina Array Bea**	**87.28**	**42**	P	**P**	**22 56 59.8**	**+0.3**
	0.4nm,0.6s,baz=216,slow=9.4,SNR=4.0						
PDAR	**Pinedale Array**	**95.17**	**43**	P	**P**	**22 57 35.2**	**-1.0**
PDAR	**Pinedale Array**	**95.17**	**43**	P	**P**	**22 57 35.2**	**-1.0**
	0.2nm,0.4s,baz=262,slow=6.2,SNR=2.4						
FINES	**FINESS Array B**	**145.02**	**341**	PKPbc	**PKPdf**	**23 03 49.0**	**-0.2**
FINES	**FINESS Array B**	**145.02**	**341**	PKPbc	**PKPdf**	**23 03 49.0**	**-0.2**
	2.5nm,0.6s,baz=42,slow=3.4,SNR=20						
AKASG	**Malin Array Be**	**151.48**	**324**	PKPbc	**PKPbc**	**23 04 06.8**	**+0.6**
AKASG				PKPab	**PKPab**	**23 04 15.8**	**+1.2**
AKASG	**Malin Array Be**	**151.48**	**324**	PKPbc	**PKPbc**	**23 04 06.8**	**+0.6**
	0.9nm,0.6s,baz=33,slow=1.7,SNR=3.0						
AKASG				PKPab	**PKPab**	**23 04 15.8**	**+1.2**
	3.1nm,0.8s,baz=49,slow=2.9,SNR=8.4						

NIED 02 22:56:00, 25°.30N×125°.80E, h8km, Mw3.8 Best double couple: M0=4.79000×10^14 NP1:φs=294.00000°, δ61.00000°, λ-120.00000°. NP2:φs=165.00000°, δ41.00000°, λ-47.00000°.
ISCJB 02 22:56:16.5±0.8, 25°.16N±0°.08×125°.95E±0°.07, h27km±7km, mb3.5/6, Error ellipse: s-maj=16.1km s-min=4.2km az=142.7
JMA 02 22:56:16.6±0.1, 25°.28N×125°.84E, h27km±3km, M3.8
IDC 02 22:56:22.9±4.5, 25°.22N×126°.16E, h58km±45km, mb3.3/5, mb1 3.5/6, mb1mx3.3/21, mbtmp3.3/6, ML3.8/1, Error ellipse: s-maj=36.7km s-min=21.2km az=79.0
ISC 02 22:56:17.0±1.3, 25°.1N±0°.1×125°.97E±0°.07, h26km±13km, n19, σ0s86/24, mb3.5/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.60**	**238**	P	**Pb**	**22 56 28.9**	**-0.1**
JOGS				*e*S	**Sb**	**22 56 38.4**	**+1.3**
JMJ	**Miyako jima 2**	**0.67**	**246**	P	**Pb**	**22 56 29.3**	**-0.8**
JMJ				*e*S	**Sb**	**22 56 38.7**	**-0.3**
JTJ	**Tarama**	**1.23**	**249**	P	**Pn**	**22 56 37.4**	**-1.1**
JTJ				*e*S	**Sn**	**22 56 53.8**	**-0.5**
JKE	**Kume jima 2**	**1.44**	**31**	P	**Pn**	**22 56 40.4**	**-1.0**
JIJ	**Ishigaki jima**	**1.81**	**247**	P	**Pn**	**22 56 46.3**	**-0.1**

CGP				*e*S	Sn	23 47 42.4	+1.1
BUKP	**Musuan**	**1.58**	**198**	*e*P	Pb	23 47 29.0	0.0
BUKP				*e*S	Sg	23 47 55.0	+5.2
TBP	**Tagbilaran**	**1.69**	**280**	*e*P	Pb	23 47 30.9	0.0
TBP				*e*S	Sg	23 47 53.6	+0.3
PLP	**Palo**	**1.85**	**342**	*e*P	Pb	23 47 32.9	-0.7
PLP				*e*S	Sg	23 47 59.6	+1.1
PAGZ	**Pagadian**	**2.63**	**235**	*e*P	Pb	23 47 45.6	-1.4

SKO 02 23:54:10.0, 41.81N×22.82E, h3km, M1.1, ML1.3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.52**	**201**	*e*Pg	Pg	23 54 19.3	-0.7
VAY				*i* Sg	Sg	23 54 26.9	+0.1
VAY				*e*Lg	Lg	23 54 27.0	
	comp=N,13nm,0.2s						
VAY				*e*Lg	Lg	23 54 27.1	
	comp=E,13nm,0.2s						

IDC 02 23:54:60.0±51.0, 22.81S×174.25W, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.8/16, mbtmp4.2/3, MS3.8/2, Ms1 3.8/2, ms1mx3.3/24, Error ellipse: s-maj=963.7km s-min=170.9km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.02**	**247**	P	P	00 02 35.0	-1.7
	1.0nm,0.4s,baz=100,slow=5.5,SNR=5.7						
ASAR	**Alice Springs**	**47.42**	**258**	P	P	00 03 36.6	0.0
	0.7nm,0.3s,baz=91,slow=7.2,SNR=14						
WRA	**Warramunga Arr**	**47.77**	**263**	P	P	00 03 40.2	+0.9
	1.6nm,0.3s,baz=99,slow=7.0,SNR=68						
FITZ	**Fitzroy Crossi**	**56.19**	**263**	LR	LR	00 28 16.5	
	comp=Z,90nm,19.9s,baz=93,slow=36						
KSRS	**Korea Array**	**80.93**	**317**	LR	LR	00 42 49.4	
	comp=Z,46nm,18.3s,baz=110,slow=35						

*MOS **03** 00:07:09.9±1.2, 19.06S×169.49E, h269km, mb5.5/28, Error ellipse: s-maj=8.8km s-min=8.3km az=15.6*
*ISCJB **03** 00:07:09.7±0.5, 19.08S±0.05×169.43E±0.03, h266km±5km, mb5.1/114, Error ellipse: s-maj=7.6km s-min=4.4km az=169.6*
*IDC **03** 00:07:09.5±1.1, 19.12S×169.52E, h254km±8km, mb4.7/23, mb1 4.8/25, mb1mx4.8/27, mbtmp4.7/25, Error ellipse: s-maj=13.0km s-min=8.2km az=152.0*
*NOU **03** 00:07:10.2±1.3, 18.54S×169.39E, h30km±999km, MD3.9*
*NEIC **03** 00:07:10.8±0.7, 19.05S×169.49E, h265km±6km, mb5.3/78, Error ellipse: s-maj=6.6km s-min=4.7km az=161.0*
*BGS **03** 00:07:11.6±3.5, 19.05S×169.49E, h265km, mb5.3(NEIC)*
*BJI **03** 00:07:12.6, 18.46S×169.35E, h269km, mB5.1/31, mb5.0/44*

ISC 03 00:07:10.1±0.3, 19.15S±0.04×169.52E±0.04, h264km±2km, h264km:pP-P, n874, σ1.22/900, mb5.2/114, 204C-147D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.88**	**219**	*e*P	**Pn**	**00 08 12.9**	**-0.3**
BAYA				*e*S	**S**	**00 08 57.7**	**-5.7**
BAYA				AMP		00 09 01.2	
	comp=Z,28nm,5.6s						
DZM	**Mont Dzumac**	**4.10**	**224**	*e*Pn	**Pn**	**00 08 16.2**	**+0.5**
	comp=Z,213nm,0.3s						
DZM	**Mont Dzumac**	**4.10**	**224**	⇑*i*Pn	**Pn**	**00 08 16.0**	**+0.3**
DZM				*e*S	**S**	**00 09 08.1**	**0.0**
PLUM	**Mont Dore**	**4.12**	**220**	*e*P	**Pn**	**00 08 15.2**	**-0.7**
PLUM				*e*S	**S**	**00 09 04.4**	**-3.9**
NOUC	**Port Laguerre**	**4.21**	**225**	*e*P	**Pn**	**00 08 16.6**	**-0.3**
NOUC				AMP		00 09 30.4	
	comp=Z,150nm,7.4s						
MSVF	**Nonsavu**	**8.21**	**82**	*e*P	**Pn**	**00 09 08.0**	**+1.7**
MSVF				*e*S	**S**	**00 10 41.3**	**+1.2**
MSVF	**Nonsavu**	**8.21**	**82**	*e*Pn	**Pn**	**00 09 08.0**	**+1.7**
MSVF				*e*S	**S**	**00 10 41.3**	**+1.2**
MSVF	**Nonsavu**	**8.21**	**82**	Pn	**Pn**	**00 09 08.0**	**+1.7**
	comp=Z,655nm,0.7s,SNR=22						
HNR	**Honiara**	**13.39**	**315**	*e*Pn	**Pn**	**00 10 10.7**	**+0.2**
HNR				S	**S**	**00 12 40.8**	**+1.8**
HNR	**Honiara**	**13.39**	**315**	P	**Pn**	**00 10 10.7**	**+0.2**
	comp=Z,190nm,0.3s,baz=174,slow=2.1,SNR=54						
RAO	**Raoul Island**	**15.23**	**134**	*e*P	**Pn**	**00 10 32.8**	**+0.3**
OUZ	**Omahuta**	**16.41**	**168**	*e*P	**Pn**	**00 10 47.1**	**+0.7**
	comp=Z,279nm,1.1s						
EIDS	**Eidsvold**	**18.15**	**247**	*e*P	**Pn**	**00 11 05.9**	**-0.9**
	comp=Z,14nm,0.8s						
AFI	**Afiamalu**	**18.66**	**77**	P	**P**	**00 11 08.5**	**-0.7**
AFI	**Afiamalu**	**18.66**	**77**	P	**P**	**00 11 08.5**	**-0.7**
	baz=343,slow=5.4,SNR=5.8						
ARMA	**Armidale**	**19.72**	**232**	*e*P	**P**	**00 11 22.4**	**+2.1**
	comp=Z,18nm,0.8s						
ARMA	**Armidale**	**19.72**	**232**	*e*P	**P**	**00 11 22.3**	**+2.0**
URZ	**Urewera**	**20.16**	**162**	*e*P	**P**	**00 11 26.8**	**+2.0**
	comp=Z,201nm,1.3s						
CTA	**Charters Tower**	**21.94**	**264**	P	**P**	**00 11 43.4**	**+0.9**
CTA				ScP	**ScP**	**00 18 46.2**	**+2.9**
CTA	**Charters Tower**	**21.94**	**264**	*e*P	**P**	**00 11 43.9**	**+1.4**
	comp=Z,12nm,1.3s						
CTA	**Charters Tower**	**21.94**	**264**	P	**P**	**00 11 43.4**	**+0.9**
	comp=Z,6.1nm,0.5s,baz=93,slow=9.4,SNR=10.0						
CTA				ScP	**ScP**	**00 18 46.2**	**+2.9**
	comp=Z,5.2nm,0.6s,baz=123,slow=1.7,SNR=4.7						
SNZO	**South Karori**	**22.53**	**170**	*e*P	**P**	**00 11 48.0**	**+0.4**
	comp=Z,101nm,1.0s						
KHZ	**Kahutara**	**23.45**	**173**	*e*P	**P**	**00 11 57.0**	**+1.1**
	comp=Z,117nm,1.1s						
PMG	**Port Moresby**	**23.71**	**291**	*e*P	**P**	**00 11 59.6**	**+0.9**
	comp=Z,38nm,0.8s						
PMG	**Port Moresby**	**23.71**	**291**	P	**P**	**00 11 59.6**	**+0.9**
	comp=Z,38nm,0.8s,baz=106,slow=14,SNR=6.8						
CNB	**Canberra Magne**	**24.02**	**224**	*e*P	**P**	**00 12 03.0**	**+1.6**
	comp=Z,152nm,1.1s						
RPZ	**Rata Peaks**	**24.53**	**177**	*e*P	**P**	**00 12 07.4**	**+1.6**
	comp=Z,80nm,1.1s						
RPZ	**Rata Peaks**	**24.53**	**177**	P	**P**	**00 12 07.2**	**+1.4**
	comp=Z,31nm,0.8s,baz=276,slow=2.0,SNR=11						
STKA	**Stephens Creek**	**28.12**	**238**	*e*P	**P**	**00 12 39.6**	**+1.7**
STKA				PcP	**PcP**	**00 15 45.5**	**+0.5**
STKA				ScP	**ScP**	**00 19 03.9**	**+3.3**
STKA	**Stephens Creek**	**28.12**	**238**	*e*P	**P**	**00 12 39.4**	**+1.4**
	comp=Z,18nm,0.6s						
STKA	**Stephens Creek**	**28.12**	**238**	P	**P**	**00 12 39.8**	**+1.8**
	comp=Z,21nm,0.6s,baz=61,slow=8.2,SNR=68						
STKA				PcP	**PcP**	**00 15 45.5**	**+0.5**
	comp=Z,4.4nm,1.0s,baz=58,slow=3.8,SNR=3.4						
STKA				ScP	**ScP**	**00 19 03.9**	**+3.3**
	comp=Z,7.6nm,0.8s,baz=79,slow=4.1,SNR=7.6						
MOO	**Moorlands**	**29.95**	**214**	*e*P	**P**	**00 12 55.2**	**+1.3**
	comp=Z,130nm,1.2s						
WB2	**Warramunga Arr**	**33.12**	**263**	*e*P	**P**	**00 13 21.6**	**-0.4**
WB2				*e*pP	**pP**	**00 14 12.9**	**-1.4**
WB2				*e*PcP	**PcP**	**00 15 58.9**	**+0.3**
WRAB	**Tennant Creek**	**33.12**	**263**	*e*P	**P**	**00 13 21.3**	**-0.7**
WRAB				*e**PP	**pP**	**00 14 12.2**	**-2.1**
WRAB				*e*		00 15 58.6	
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.4s						
WRAB	**Tennant Creek**	**33.12**	**263**	*e*P	**P**	**00 13 21.3**	**-0.7**
	comp=Z,5.8nm,0.4s						
WRAB				*e*pP	**pP**	**00 14 12.2**	**-2.1**
WRAB				*e*PcP	**PcP**	**00 15 58.6**	**+0.1**
WRAB	**Tennant Creek**	**33.12**	**263**	P	**P**	**00 13 21.0**	**-0.9**
	comp=Z,67nm,0.4s,SNR=22						
WRA	**Warramunga Arr**	**33.13**	**263**	P	**P**	**00 13 21.4**	**-0.6**
WRA				PcP	**PcP**	**00 15 58.4**	**-0.1**
WRA				S	**S**	**00 18 20.4**	**-1.2**
WRA				ScP	**ScP**	**00 19 20.0**	**+2.6**
WRA				PKiKP	**PKiKP**	**00 23 22.2**	**-1.9**
WRA	**Warramunga Arr**	**33.13**	**263**	P	**P**	**00 13 21.4**	**-0.6**
	comp=Z,3.7nm,0.3s,baz=82,slow=6.1,SNR=193						
WRA				PcP	**PcP**	**00 15 58.4**	**-0.1**
	comp=Z,5.0nm,0.8s,baz=91,slow=2.5,SNR=9.3						
WRA				S	**S**	**00 18 20.4**	**-1.2**
	comp=Z,6.5nm,1.2s,baz=90,slow=14,SNR=6.2						
WRA				ScP	**ScP**	**00 19 20.0**	**+2.6**
	comp=Z,7.3nm,0.9s,baz=87,slow=3.8,SNR=15						
WRA				PKiKP	**PKiKP**	**00 23 22.2**	**-1.9**
	comp=Z,1.2nm,0.6s,baz=34,slow=0.2,SNR=16						
AS31	**Alice Springs**	**33.41**	**256**	*e*P	**P**	**00 13 24.7**	**+0.3**
AS31				*e*pP	**pP**	**00 14 19.2**	**+2.3**
ASAR	**Alice Springs**	**33.41**	**256**	P	**P**	**00 13 24.6**	**+0.2**
ASAR				PcP	**PcP**	**00 15 59.5**	**+0.1**
ASAR				S	**S**	**00 18 25.4**	**-0.5**
ASAR				ScP	**ScP**	**00 19 20.6**	**+2.2**
ASAR				PKiKP	**PKiKP**	**00 23 23.1**	**-1.2**
ASAR	**Alice Springs**	**33.41**	**256**	P	**P**	**00 13 24.6**	**+0.2**
	comp=Z,63nm,0.5s,baz=83,slow=8.9,SNR=845						
ASAR				PcP	**PcP**	**00 15 59.5**	**+0.1**
	comp=Z,4.5nm,0.7s,baz=97,slow=4.3,SNR=6.6						
ASAR				S	**S**	**00 18 25.4**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=86,slow=17,SNR=7.0						
ASAR				ScP	**ScP**	**00 19 20.6**	**+2.2**
	comp=Z,6.0nm,0.8s,baz=94,slow=3.8,SNR=16						
ASAR				PKiKP	**PKiKP**	**00 23 23.1**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=113,slow=2.1,SNR=6.1						
FITZ	**Fitzroy Crossi**	**41.52**	**264**	*e*P	**P**	**00 14 33.2**	**+1.1**
	comp=Z,5.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**41.52**	**264**	*e*P	**P**	**00 14 33.0**	**+0.8**
	comp=Z,24nm,0.4s						
FITZ	**Fitzroy Crossi**	**41.52**	**264**	P	**P**	**00 14 33.3**	**+1.1**
	comp=Z,14nm,0.5s,baz=91,slow=7.3						
MBWA	**Marble Bar**	**46.64**	**259**	*e*P	**P**	**00 15 13.2**	**+0.6**
	comp=Z,35nm,1.1s						
KLBR	**Kellerberrin**	**47.99**	**244**	*e*P	**P**	**00 15 22.5**	**-0.4**
	comp=Z,18nm,0.6s						
KIP	**Kipapa**	**51.33**	**40**	*ce*P	**P**	**00 15 48.3**	**+0.3**
KIP				pmax	pmax		
	comp=Z,477nm,2.5s						
KIP	**Kipapa**	**51.33**	**40**	*e*P	**P**	**00 15 48.0**	**+0.1**
	comp=Z,116nm,0.9s						
STCH	**Steam Cracks**	**51.66**	**44**	*e*P	**P**	**00 15 50.1**	**-0.4**
STCH				*ep*P	**pP**	**00 16 47.4**	**0.0**
STCH				*e*PP	**PP**	**00 17 49.5**	**-1.7**
MJAR	**Matsushiro Arr**	**62.80**	**332**	P	**P**	**00 17 07.6**	**-0.2**
MJAR	**Matsushiro Arr**	**62.80**	**332**	P	**P**	**00 17 07.6**	**-0.2**
	comp=Z,32nm,0.9s,baz=170,slow=6.9,SNR=39						
MAJO	**Matsushiro**	**62.80**	**332**	*e*P	**P**	**00 17 08.1**	**+0.3**
MAJO				*e*		00 17 42.8	
MAJO				pmax	pmax		
	comp=Z,43nm,0.9s						
MAJO	**Matsushiro**	**62.80**	**332**	*e*P	**P**	**00 17 08.1**	**+0.3**
	comp=Z,43nm,0.9s						
MAJO				*e*PcP	**PcP**	**00 17 42.8**	**-0.9**
MAT	**Matsushiro**	**62.80**	**332**	P	**P**	**00 17 07.5**	**-0.3**
TPUB	**Ta-pu**	**63.69**	**309**	*e*P	**P**	**00 17 12.7**	**-1.3**
	comp=Z,28nm,1.0s						
JNU	**Nakatsue**	**63.75**	**324**	P	**P**	**00 17 14.2**	**0.0**
JNU	**Nakatsue**	**63.75**	**324**	P	**P**	**00 17 14.2**	**0.0**
	comp=Z,16nm,0.9s,baz=53,slow=5.0,SNR=5.3						
SSLB	**Suanglung**	**63.75**	**310**	*e*P	**P**	**00 17 13.1**	**-1.2**
	comp=Z,30nm,0.9s						
ASAJ	**Asahikawa**	**67.61**	**339**	*e*P	**P**	**00 17 38.5**	**+0.1**
	comp=Z,15nm,0.8s						
KSRS	**Korea Array**	**68.58**	**325**	P	**P**	**00 17 46.1**	**+1.5**
	comp=Z,8.5nm,0.9s,baz=137,slow=6.2,SNR=16						
KSAR	**Wonju Array Be**	**68.59**	**325**	P	**P**	**00 17 46.1**	**+1.4**
QIZ	**Qiongzhong**	**69.77**	**300**	P	**P**	**00 17 53.7**	**+1.4**
QIZ				S	**S**	**00 26 40.5**	**+0.7**
QIZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
QIZ				pmax	pmax		
	comp=Z,140nm,7.9s						
YSS	**Yuzh-Sakhalins**	**70.08**	**341**	⇑*i*P	**P**	**00 17 55.3**	**+1.8**
YSS				pmax	pmax		
	comp=Z,70nm,1.0s						
YSS	**Yuzh-Sakhalins**	**70.08**	**341**	*e*P	**P**	**00 17 55.5**	**+2.0**
	comp=Z,24nm,0.7s						
NJ2	**Nanjing**	**70.33**	**316**	*e*P	**P**	**00 17 54.8**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
QSPA	**South Pole Qui**	**70.91**	**180**	*e*P	**P**	**00 17 58.6**	**+0.1**
	comp=Z,26nm,1.2s						
QSPA				*ep*P	**pP**	**00 18 56.0**	**-3.2**
USRK	**Ussuriysk Arra**	**71.77**	**333**	P	**P**	**00 18 04.8**	**+1.1**
	comp=Z,21nm,0.9s,baz=139,slow=4.1,SNR=20						
FX1	**Attu Island--F**	**71.79**	**2**	P	**P**	**00 18 03.9**	**+0.2**
FX1	**Attu Island--F**	**71.79**	**2**	P	**P**	**00 18 03.9**	**+0.2**
	comp=Z,74nm,0.6s,baz=144,slow=2.4,SNR=14						
PEA0B	**Petropavlovsk-**	**72.68**	**353**	*e*P	**P**	**00 18 08.9**	**0.0**
PETK	**Petropavlovsk-**	**72.68**	**353**	P	**P**	**00 18 09.6**	**+0.7**
PETK	**Petropavlovsk-**	**72.68**	**353**	P	**P**	**00 18 09.6**	**+0.7**
PETK	**Petropavlovsk-**	**72.68**	**353**	P	**P**	**00 18 09.6**	**+0.7**
	comp=Z,74nm,0.7s,baz=155,slow=9.5,SNR=58						
DL2	**Dalian**	**73.11**	**323**	P	**P**	**00 18 12.6**	**+0.9**
DL2				pmax	pmax		
	comp=Z,50nm,0.9s						
MDJ	**Mudanjiang**	**73.17**	**331**	P	**P**	**00 18 12.8**	**+0.8**
MDJ				PcP	**PcP**	**00 18 27.2**	**+0.2**
MDJ				pP	**pP**	**00 19 12.7**	**-0.5**
MDJ				sP	**sP**	**00 19 40.7**	**-0.6**
MDJ				PP	**PP**	**00 20 58.9**	**-0.3**
MDJ				S	**S**	**00 27 18.9**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,33nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,170nm,6.3s						
HABR	**Khabarovsk**	**74.02**	**337**	*e*P	**P**	**00 18 16.4**	**-0.4**
HABR				*e**SP	**sP**	**00 19 49.6**	**+3.4**
HABR				*e*PPP	PPP	00 22 50.5	
HABR				*e*S	**S**	**00 27 25.2**	**-1.8**
HABR						00 27 57.7	
HABR				*e*		00 28 44.4	
HABR				*e*SS	**SS**	**00 32 14.9**	**-3.5**
HABR				*e*SSS	SSS	00 35 38.6	
HABR				pmax	pmax		
	comp=E,82nm,2.7s						
HABR				pmax	pmax		
	comp=Z,131nm,2.7s						
HABR				pmax	pmax		
	comp=N,47nm,2.7s						
HABR				MLR	MLR		
	comp=Z,110nm,15.0s						
CN2	**Changchun**	**74.52**	**328**	*e*P	**P**	**00 18 20.1**	**+0.3**
CN2				*es*P	**sP**	**00 19 46.8**	**-2.5**
CN2				*e*PP	**PP**	**00 21 12.3**	**+1.7**
CN2				*e*S	**S**	**00 27 33.8**	**+1.1**
CN2				pmax	pmax		
	comp=Z,80nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
UNV	**Unalaska Valle**	**75.57**	**14**	*e*P	**P**	**00 18 24.6**	**-0.9**
ENH	**Enshi**	**75.82**	**309**	*e*P	**P**	**00 18 27.6**	**0.0**
	comp=Z,9.8nm,0.8s						
GYA	**Guiyang**	**75.99**	**305**	P	**P**	**00 18 29.1**	**+0.4**
GYA				PcP	**PcP**	**00 18 42.2**	**+2.4**
GYA				pP	**pP**	**00 19 29.0**	**-1.3**
GYA				sP	**sP**	**00 19 55.8**	**-2.6**
GYA				PP	**PP**	**00 21 24.2**	**+0.8**
GYA				S	**S**	**00 27 48.8**	**-1.1**
GYA				SKS	**SKSac**	**00 28 09.3**	**-4.9**
GYA				SS	**SS**	**00 32 47.2**	**-2.0**
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,5.4s						
BJT	**Baijiatuau**	**77.03**	**321**	*e*P	**P**	**00 18 34.1**	**0.0**
	comp=Z,36nm,0.8s						
BJI	**Beijing**	**77.04**	**321**	P	**P**	**00 18 34.6**	**+0.6**
BJI				sP	**sP**	**00 20 04.0**	**+0.1**
BJI				S	**S**	**00 28 04.0**	**+3.7**
BJI				SS	**SS**	**00 33 00.1**	**-4.1**
BJI				pmax	pmax		
	comp=Z,49nm,0.9s						
BJI				LR	LR		
	comp=Z,92nm,23.2s						
XAN	**Xi'an**	**78.25**	**312**	P	**P**	**00 18 41.6**	**+0.6**
XAN				S	**S**	**00 28 08.6**	**-5.1**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,29nm,4.9s						
KMI	**Kunming**	**78.45**	**302**	P	**P**	**00 18 44.1**	**+1.6**
KMI				pP	pP	00 19 50.8	+6.3
KMI				pmax	pmax		
	comp=Z,46nm,0.9s						
SDPT	**Sand Point**	**78.46**	**17**	*e*P	**P**	**00 18 41.1**	**-0.5**
	comp=Z,48nm,0.7s						
CMAR	**Chiang Mai Arr**	**78.71**	**294**	P	**P**	**00 18 45.4**	**+1.6**
CMAR	**Chiang Mai Arr**	**78.71**	**294**	P	**P**	**00 18 45.4**	**+1.6**
	comp=Z,10nm,0.8s,baz=131,slow=4.2,SNR=52						
CHTO	**Chiang Mai**	**78.86**	**294**	*e*P	**P**	**00 18 45.0**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,20nm,1.1s						
CHTO	**Chiang Mai**	**78.86**	**294**	*e*P	**P**	**00 18 45.0**	**+0.5**
	comp=Z,20nm,1.1s						
HHC	**Hu-ho-hao-te**	**80.33**	**319**	*e*P	**P**	**00 18 53.1**	**+1.0**
HHC				pP	**pP**	**00 19 58.2**	**+3.8**
HHC				sP	**sP**	**00 20 23.1**	**+0.8**
HHC				PP	**PP**	**00 22 01.9**	**+2.7**
HHC				S	**S**	**00 28 35.5**	**+0.1**
HHC				SKS	**SKSac**	**00 28 41.5**	**-2.9**
HHC				sS	**sS**	**00 30 27.3**	**+2.3**
HHC				pmax	pmax		
	comp=Z,27nm,1.2s						
HHC				pmax	pmax		
	comp=Z,220nm,7.3s						
HHC				LR	LR		
	comp=N,310nm,14.3s						
HHC				LR	LR		
	comp=E,250nm,13.1s						
HHC				LR	LR		
	comp=Z,160nm,13.1s						
CD2	**Chengdu**	**80.39**	**307**	⇑P	**P**	**00 18 53.2**	**+0.6**
CD2				pP	**pP**	**00 19 56.8**	**+1.9**
CD2				sP	**sP**	**00 20 24.6**	**+1.8**
CD2				S	**S**	**00 28 35.8**	**-0.6**
CD2				sS	**sS**	**00 30 26.7**	**+0.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CD2				pmax	pmax		
	comp=Z,130nm,7.0s						
CD2				LR	LR		
	comp=E,320nm,7.3s						
CD2				LR	LR		
	comp=Z,270nm,7.2s						
KDAK	**Kodiak Island**	**82.86**	**19**	*e*P	**P**	**00 19 04.7**	**0.0**
	comp=Z,262nm,1.4s						
KDAK	**Kodiak Island**	**82.86**	**19**	P	**P**	**00 19 05.5**	**+0.8**
	comp=Z,631nm,0.8s,SNR=10						
KDAK	**Kodiak Island**	**82.86**	**19**	P	**P**	**00 19 05.5**	**+0.8**
	comp=Z,66nm,0.8s,baz=174,slow=2.4,SNR=24						
LZH	**Lanzhou**	**82.87**	**312**	⇑P	**P**	**00 19 07.1**	**+1.6**
LZH				pP	**pP**	**00 20 08.1**	**-0.2**
LZH				sP	**sP**	**00 20 35.0**	**-1.1**
LZH				PP	**PP**	**00 22 20.4**	**+0.2**
LZH				pmax	pmax		
	comp=Z,93nm,1.4s						
LZH				pmax	pmax		
	comp=Z,120nm,4.6s						
SEY	**Seymchan**	**82.92**	**352**	*ce*P	**P**	**00 19 05.3**	**+0.4**
GAMB	**Gambell**	**83.94**	**8**	*e*P	**P**	**00 19 10.7**	**+0.7**
	comp=Z,76nm,0.7s						
CLNS	**Chul'man**	**84.41**	**337**	*e*P	**P**	**00 19 13.6**	**+0.9**
CLNS				pmax	pmax		
	comp=Z,36nm,1.0s						
CLNS				pmax	pmax		
	comp=N,13nm,1.1s						
CLNS				pmax	pmax		
	comp=E,7.0nm,1.1s						
RSO	**Redoubt South**	**84.99**	**18**	*e*P	**P**	**00 19 14.2**	**-1.5**
	comp=E,96nm,0.9s						
RSO				*ep*P	**pP**	**00 20 18.2**	**-0.5**
MCCM	**Marconi Confer**	**85.21**	**47**	*e*P	**P**	**00 19 18.4**	**+1.4**
	comp=E,45nm,0.8s						
KCPM	**Cahto Peak**	**85.47**	**45**	*e*P	**P**	**00 19 19.6**	**+1.2**
	comp=E,78nm,0.8s						
HOPS	**Hopland**	**85.48**	**46**	*e*P	**P**	**00 19 19.1**	**+0.7**
	comp=E,99nm,1.3s						
SAO	**San Andreas Ge**	**85.56**	**49**	*e*P	**P**	**00 19 19.3**	**+0.5**
SAO				pmax	pmax		
	comp=Z,81nm,1.0s						
SAO	**San Andreas Ge**	**85.56**	**49**	*e*P	**P**	**00 19 19.3**	**+0.5**
	comp=Z,81nm,1.0s						
KIPM	**Iron Peak**	**85.60**	**45**	*e*P	**P**	**00 19 20.1**	**+1.0**
	comp=Z,123nm,0.9s						
BSC	**Santa Cruz Isl**	**85.62**	**52**	⇑P	**P**	**00 19 20.1**	**+0.8**
	baz=86,SNR=18						
SBC	**Santa Barbara**	**85.76**	**51**	⇑P	**P**	**00 19 20.8**	**+1.0**
	baz=86						
SLKM	**Skilak Lake**	**85.77**	**19**	*e*P	**P**	**00 19 18.4**	**-0.9**
SLKM	**Skilak Lake**	**85.77**	**19**	*e*P	**P**	**00 19 18.4**	**-0.9**
PKM	**Peak Mountain**	**85.89**	**51**	⇓P	**P**	**00 19 21.8**	**+1.1**
	baz=86,SNR=28						
SMMC	**Simmler**	**85.94**	**51**	⇑P	**P**	**00 19 22.0**	**+1.2**
	baz=86						
KHMM	**Horse Mountain**	**85.96**	**44**	*e*P	**P**	**00 19 21.8**	**+0.9**
	comp=Z,123nm,0.8s						
SCI	**San Clemente I**	**85.99**	**53**	⇓P	**P**	**00 19 21.7**	**+0.7**
	baz=86						
BLG	**Laguna Peak**	**86.10**	**52**	⇓P	**P**	**00 19 22.0**	**+0.4**
	baz=86						
KRMB	**Red Mountain**	**86.16**	**44**	*e*P	**P**	**00 19 23.5**	**+1.8**
	comp=Z,86nm,1.1s						
TNA	**Tin City**	**86.17**	**9**	*e*P	**P**	**00 19 22.1**	**+1.0**
	comp=Z,62nm,0.9s						
TNA				*ep*P	**pP**	**00 20 24.6**	**+0.3**
CIS	**Catalina Islan**	**86.29**	**53**	⇑P	**P**	**00 19 22.8**	**+0.3**
	baz=86,SNR=16						
KBO	**Bosley Butte**	**86.30**	**43**	*e*P	**P**	**00 19 23.2**	**+0.8**
	comp=Z,123nm,1.5s						
RC01	**Rabbit Creek A**	**86.38**	**19**	*e*P	**P**	**00 19 21.9**	**-0.3**
	comp=Z,36nm,1.0s						
FMP	**Fort Macarthur**	**86.50**	**53**	⇑P	**P**	**00 19 24.4**	**+0.9**
	baz=87						
KEBM	**Edson Butte**	**86.56**	**42**	*e*P	**P**	**00 19 23.7**	**+0.1**
	comp=Z,56nm,1.0s						
OSI	**Osito Adit**	**86.57**	**52**	⇓P	**P**	**00 19 24.9**	**+1.0**
	baz=87						
WDC	**Whiskeytown Da**	**86.60**	**45**	*e*P	**P**	**00 19 23.9**	**+0.1**
WDC				pmax	pmax		
	comp=Z,81nm,1.1s						
WDC	**Whiskeytown Da**	**86.60**	**45**	*e*P	**P**	**00 19 23.9**	**+0.1**
	comp=Z,81nm,1.1s						
DECC	**Green Verdugo**	**86.71**	**52**	⇓P	**P**	**00

MURC Murrieta 87.28 53 ⇑P P 00 19 27.8 +0.6
baz=87,SNR=17
BAR Barrett 87.30 54 eP P 00 19 27.2 -0.1
comp=Z,36nm,1.0s
SONM Songino Array 87.31 323 P P 00 19 27.3 +0.2
SONM PKKP PKKPbc 00 37 16.5 -2.1
SONM Songino Array 87.31 323 P P 00 19 27.3 +0.2
comp=Z,24nm,0.8s,baz=142,slow=6.1,SNR=178
SONM PKKP PKKPbc 00 37 16.5 -2.1
comp=Z,0.3nm,0.6s,baz=270,slow=1.5,SNR=4.2
SML Sawmill 87.36 19 eP P 00 19 26.9 -0.1
SML pmax pmax
comp=Z,6.0nm,1.0s
SML Sawmill 87.36 19 eP P 00 19 26.9 -0.1
comp=Z,6.0nm,1.0s
LBCM Butte Creek Ri 87.52 45 P P 00 19 29.3 +1.0
MONP Monument Peak 87.58 54 ⇑P P 00 19 30.0 +1.1
baz=88,SNR=55
DIV Divide 87.65 20 eP P 00 19 26.6 -1.8
comp=Z,12nm,0.7s
DIV epP pP 00 20 30.8 -1.1
LRMC Laurel Mountai 87.71 51 ⇑P P 00 19 30.3 +0.9
baz=88,SNR=43
DVTC Desert V Tower 87.73 54 ⇑P P 00 19 30.3 +0.8
baz=88,SNR=8.1
BBRC Big Bear Solar 87.77 53 ⇑P P 00 19 30.3 +0.6
baz=88
MLAC Mammoth Lakes 87.81 49 ⇓P P 00 19 30.8 +0.9
baz=88,SNR=7.7
CWC Cottonwood Cre 87.84 50 ⇑P P 00 19 30.9 +0.9
baz=88,SNR=6.7
PFO Pinyon Flat Ob 87.85 53 eP P 00 19 30.4 +0.3
comp=Z,58nm,1.3s
PFO Pinyon Flat Ob 87.85 53 P P 00 19 30.8 +0.8
comp=Z,212nm,1.0s,SNR=7.6
PFO Pinyon Flat Ob 87.85 53 ⇓P P 00 19 30.9 +0.9
baz=88,SNR=21
WCN Washoe City 87.91 47 eP P 00 19 31.6 +1.3
WCN pmax pmax
comp=Z,41nm,1.3s
WCN Washoe City 87.91 47 eP P 00 19 31.6 +1.3
comp=Z,41nm,1.3s
WCN Washoe City 87.91 47 ⇓P P 00 19 31.3 +1.0
baz=88
BMRM Bremner River 87.91 21 eP P 00 19 28.0 -1.5
comp=Z,19nm,0.8s
RRX Edison Barstow 87.97 52 ⇑P P 00 19 31.2 +0.8
baz=88
TIN Tinemaha 88.00 50 ⇑P P 00 19 31.6 +0.9
baz=88,SNR=16
SWSC Sam W. Stewart 88.08 54 ⇑P P 00 19 31.9 +1.0
baz=88
HEBO Mount Hebo 88.08 41 eP P 00 19 30.4 -0.4
comp=Z,229nm,1.5s
TRF Thorofare Moun 88.09 17 eP P 00 19 28.6 -1.9
comp=Z,28nm,0.9s
MPMC Manual Prospec 88.11 51 ⇓P P 00 19 32.3 +1.0
baz=88,SNR=46
GSC Goldstone 88.29 52 ⇑P P 00 19 32.7 +0.7
baz=88,SNR=19
BELC Belle Mtn. Jos 88.36 53 ⇑P P 00 19 33.5 +1.1
baz=88,SNR=42
IRO Indian Ridge 88.43 42 P P 00 19 33.2 +0.6
BROR Big Rock Looko 88.43 42 P P 00 19 33.2 +0.8
HEC Hector,Ludlow 88.45 52 ⇑P P 00 19 33.3 +0.5
baz=89,SNR=25
NVAR Mina Array Bea 88.54 48 P P 00 19 34.2 +0.9
NVAR Mina Array Bea 88.54 48 P P 00 19 34.2 +0.9
comp=Z,32nm,0.9s,baz=228,slow=7.1,SNR=152
GRAC Grapevine Rang 88.59 50 ⇑P P 00 19 34.6 +1.3
baz=89
BC3 Big Chuckawall 88.63 54 ⇓P P 00 19 34.9 +1.2
baz=89,SNR=34
NLO Nicolai Mounta 88.70 40 P P 00 19 35.5 +1.8
MOD Modoc 88.71 45 P P 00 19 34.9 +0.9
FURC Furnace Creek, 88.74 51 ⇓P P 00 19 34.8 +0.9
baz=89,SNR=26
GLA Glamis 88.86 54 ⇑P P 00 19 36.2 +1.5
baz=89,SNR=13
SHOC Shoshone 88.93 51 ⇑P P 00 19 35.9 +1.0
baz=89,SNR=20
GMRC Granite Mounta 88.93 53 ⇓P P 00 19 36.0 +0.9
baz=89,SNR=34
TUQ Turquoise Moun 89.00 52 ⇓P P 00 19 36.1 +0.7
baz=89,SNR=52
IRM Iron Mountain 89.06 53 ⇑P P 00 19 36.8 +1.2
baz=89,SNR=61
NLWA Neilton Lookou 89.09 39 eP P 00 19 36.3 +0.8
comp=Z,119nm,1.4s
OSR Olympics--Salm 89.10 38 P P 00 19 36.8 +1.4
BOD Bodaibo 89.37 334 eP P 00 19 35.4 -1.0
BOD pmax pmax
comp=Z,19nm,1.5s
Y12C Blythe 89.38 54 ⇑P P 00 19 38.2 +1.2
baz=90,SNR=35
HOOD Mount Hood Mea 89.43 41 eP P 00 19 37.0 -0.2
comp=Z,98nm,1.0s
LDFC Landfair 89.46 53 eP P 00 19 38.7 +1.1
comp=Z,197nm,1.1s
VLL Laurance Lake 89.48 41 P P 00 19 38.3 +0.9
VFP Flag Point 89.55 41 P P 00 19 38.4 +0.6
113A Mohawk Valley, 89.57 55 ⇑P P 00 19 39.0 +1.1
baz=90,SNR=38
TDL Tradedollar La 89.58 40 P P 00 19 39.1 +1.2
WRAK Wrangell Islan 89.64 28 eP P 00 19 38.2 +0.5
comp=Z,99nm,1.3s
VIPM Ingram Point 89.70 42 P P 00 19 39.4 +0.9
VIPM Ingram Point 89.70 42 P P 00 19 39.4 +0.9
NEE2 Needles Airpor 89.71 53 ⇑P P 00 19 39.6 +1.0
baz=90,SNR=6.6
LSA Lhasa 89.71 302 eP P 00 19 39.2 -0.1
LSA pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 89.71 302 eP P 00 19 39.1 -0.1
comp=Z,3.8nm,0.6s
GNW Green Mountain 89.80 39 P P 00 19 39.7 +1.1
VNA3 Neumayer Olymp 89.84 180 e P 00 19 38.4 -0.2
VNA3 eS S 00 30 06.4 -1.0
COLA College 89.88 17 eP P 00 19 36.9 -1.7
COLA pmax pmax
comp=Z,33nm,0.9s
COLA College 89.88 17 eP P 00 19 36.9 -1.7
comp=Z,33nm,0.9s
PDMCI Parker Dam,Lak 89.89 54 ⇓P P 00 19 40.5 +1.1
baz=90,SNR=43
214A Organ Pipe Nat 90.00 56 ⇑P P 00 19 41.3 +1.3
baz=90,SNR=27
LON Longmire 90.01 40 eP P 00 19 40.5 +0.7
LON e*PP pP 00 20 43.3 -0.2
LON pmax pmax
comp=Z,57nm,1.3s
LON Longmire 90.01 40 eP P 00 19 40.5 +0.7
comp=Z,57nm,1.3s
LON epP pP 00 20 43.3 -0.2
WVOR Wild Horse Val 90.06 45 eP P 00 19 41.0 +0.8
WVOR pmax pmax
comp=Z,75nm,1.1s
WVOR Wild Horse Val 90.06 45 eP P 00 19 41.0 +0.8
comp=Z,75nm,1.1s
ILAR Eielson Array 90.06 17 P P 00 19 38.0 -1.5
ILAR Eielson Array 90.06 17 P P 00 19 38.0 -1.5
comp=Z,17nm,0.8s,baz=237,slow=5.1,SNR=146
VNA2 Neumayer--Watz 90.14 181 e P 00 19 40.3 +0.3
VNA2 eS S 00 30 09.7 -0.3
WPW White Pass 90.15 40 P P 00 19 41.2 +0.8
BMN Battle Mountai 90.15 47 eP P 00 19 41.8 +1.1
BMN pmax pmax
comp=Z,80nm,1.3s
BMN Battle Mountai 90.15 47 eP P 00 19 41.8 +1.1
comp=Z,80nm,1.3s
114A Black Gap (USA 90.25 55 ⇓P P 00 19 42.4 +1.3
baz=90,SNR=33
SKAG Skagway 90.25 25 eP P 00 19 40.8 +0.3
comp=Z,116nm,1.2s
RMW Rattlesnake Mo 90.35 39 P P 00 19 42.3 +0.9
RMW Rattlesnake Mo 90.35 39 P P 00 19 42.3 +0.9
ZAK Zakamensk 90.38 324⇑eP P 00 19 41.4 0.0
ZAK pmax pmax
comp=Z,14nm,1.2s
W13A Hualapai Mount 90.39 53 ⇓P P 00 19 43.1 +1.1
baz=90,SNR=55
Z14A Wintersburg 90.44 55 ⇑P P 00 19 43.3 +1.3
baz=90,SNR=25
R11A Troy Canyon, C 90.44 49 ⇑P P 00 19 42.7 +0.5
baz=91
Y14A Wickenburg 90.61 54 ⇑P P 00 19 43.8 +1.0
baz=91,SNR=14
TLY Talaya 90.84 325 eP P 00 19 40.1 -3.3
TLY pmax pmax
comp=Z,15nm,0.8s
TLY Talaya 90.84 325 eP P 00 19 43.4 0.0
comp=Z,15nm,0.8s
RPW Rockport 90.99 38 eP P 00 19 44.2 0.0
comp=Z,19nm,0.8s
COLD Coldfoot 91.12 15 eP P 00 19 44.3 0.0
comp=Z,23nm,0.9s
R13A O'Grain Ranch, 91.54 50 ⇓P P 00 19 48.4 +1.1
baz=92
ELK Elko 91.66 47 eP P 00 19 47.8 0.0
TUC Tucson 91.73 56 eP P 00 19 48.8 +0.7
TUC e 00 23 29.1
TUC pmax pmax
comp=Z,61nm,1.2s
TUC Tucson 91.73 56 eP P 00 19 48.8 +0.7
comp=Z,62nm,1.2s
TUC ePP PP 00 23 29.1 -2.0
CCUT Cedar City 91.73 51 eP P 00 19 49.5 +1.3
comp=Z,66nm,1.3s
EGAK Eagle 91.75 19 eP P 00 19 46.5 -0.8
comp=Z,33nm,0.8s
ARUT Antelope Range 91.77 51 eP P 00 19 49.3 +1.0
ARUT pmax pmax
comp=Z,56nm,1.4s
ARUT Antelope Range 91.77 51 eP P 00 19 49.2 +1.0
comp=Z,56nm,1.4s
DLBC Desert Lake 91.84 27 eP P 00 19 48.2 +0.2
X16A Lo Mia Camp, P 91.99 54 ⇓P P 00 19 50.7 +1.3
baz=92,SNR=69
U15A North Rim 92.10 52 ⇑P P 00 19 51.1 +1.2
baz=92
OD2 Odessa Site #2 92.19 40 eP P 00 19 49.8 0.0
comp=Z,42nm,1.2s
OD2 ePP PP 00 23 31.9 -2.4
MOY Mondy 92.27 325 eP P 00 19 50.4 +0.2
MFID Camas Ranch 92.34 45 eP P 00 19 51.3 +0.5
comp=Z,17nm,0.9s
MFID Camas Ranch 92.34 45 ⇓P P 00 19 51.1 +0.4
baz=92
WUAZ Wupatki 92.45 53 eP P 00 19 52.0 +0.5
comp=Z,77nm,1.3s
WUAZ Wupatki 92.45 53 ⇑P P 00 19 52.5 +1.0
baz=93,SNR=31
X17A Forest Lakes 92.45 55 ⇑P P 00 19 52.8 +1.2
baz=93,SNR=18
R15A Junction 92.78 51 ⇓P P 00 19 54.1 +1.2
baz=93
W17A Winslow 92.79 54 ⇓P P 00 19 54.2 +1.2
baz=93,SNR=6.2
Y18A Canyon Day Jun 92.85 55 ⇓P P 00 19 54.6 +1.2
baz=93,SNR=31
U16A Tuba City 92.86 53 ⇑P P 00 19 54.6 +1.2
baz=93,SNR=21
V17A Tonalea, Kykot 92.93 53 ⇑P P 00 19 54.7 +1.0
baz=93,SNR=25
I12A Atlanta 92.96 45 ⇑P P 00 19 54.1 +0.5
baz=93,SNR=16
S16A Weppner Ranch, 93.10 51 ⇑P P 00 19 55.0 +0.6
baz=93,SNR=8.7
DUG Dugway 93.14 49 ⇓P P 00 19 54.8 +0.3
baz=93,SNR=11
320A Kipp Ranch, An 93.18 58 ⇑P P 00 19 56.3 +1.4
baz=93,SNR=25
X18A Snowflake 93.18 55 ⇓P P 00 19 55.9 +1.0
baz=93,SNR=11
P15A Leamington 93.29 49 ⇑P P 00 19 55.6 +0.3
baz=93
HLID Hailey 93.34 45 ⇑P P 00 19 55.7 +0.3
baz=94,SNR=26
G12A Big Creek, Yel 93.37 43 ⇓P P 00 19 56.8 +1.4
baz=94
220A Playas Peak, P 93.37 58 ⇑P P 00 19 56.8 +1.0
baz=94,SNR=15
U17A Shonto 93.38 53 ⇓P P 00 19 56.6 +0.8
baz=94
R16A Teasdale 93.39 51 ⇑P P 00 19 57.0 +1.1
baz=94,SNR=15
T17A Navajo Res., N 93.42 52 ⇑P P 00 19 56.7 +0.7
baz=94,SNR=13
O15A The Old Anders 93.42 49 ⇓P P 00 19 56.5 +0.7
baz=94,SNR=6.4
J13A Cove Ranch, Pi 93.44 45 ⇓P P 00 19 56.4 +0.6
baz=94,SNR=27
H12A Diamond D Ranc 93.44 44 ⇓P P 00 19 56.0 +0.1
baz=94,SNR=29
120A U Bar Ranch, L 93.51 57 ⇓P P 00 19 57.6 +1.2
baz=94,SNR=13
Y19A Nutrioso 93.52 55 ⇑P P 00 19 57.8 +1.2
baz=94,SNR=23
NEW Newport 93.53 40 ⇑P P 00 19 57.0 +1.0
baz=94,SNR=5.9
L14A Mala 93.55 47 ⇓P P 00 19 56.9 +0.5
baz=94,SNR=6.8
W18A Petrified Fore 93.56 54 ⇓P P 00 19 57.4 +0.8
baz=94
N15A Stansbury Isla 93.61 48 ⇑P P 00 19 57.0 +0.4
baz=94,SNR=12
V18A Ganado 93.61 54 ⇓P P 00 19 57.7 +0.8
baz=94,SNR=14
S17A Black Ridge (B 93.65 52 ⇑P P 00 19 57.3 +0.4
baz=94,SNR=12
X19A St. Johns 93.65 55 ⇓P P 00 19 58.2 +1.1
baz=94,SNR=11
F12A Elk City 93.67 43 ⇓P P 00 19 56.9 +0.1
baz=94
I13A Wildhorse Cree 93.68 45 ⇑P P 00 19 57.6 +0.6
baz=94,SNR=16
E12A Beaver Dam Sad 93.73 42 ⇓P P 00 19 56.8 -0.3
baz=94
Z20A Nine Sixteen R 93.74 56 ⇑P P 00 19 58.4 +1.0
baz=94
P16A Fountain Green 93.75 49 ⇓P P 00 19 58.2 +0.8
baz=94
K14A Jones Ranch, D 93.79 46 ⇑P P 00 19 58.0 +0.6
baz=94,SNR=6.4
H13A Challis 93.84 44 ⇑P P 00 19 58.0 +0.4
baz=94,SNR=12
Q16A Castle Valley 93.85 50 ⇓P P 00 19 58.9 +1.0
baz=94,SNR=10
J14A Carey 93.85 45 ⇓P P 00 19 58.5 +0.8
baz=94
M15A Larsen Ranch, 93.88 47 ⇑P P 00 19 58.0 +0.2
baz=94,SNR=13
C11A Tepee Creek (N 93.88 41 ⇓P P 00 19 58.2 +0.6
baz=94
U18A Rough Rock, Ch 93.91 53 ⇓P P 00 19 59.0 +0.8
baz=94,SNR=8.5
R17A Hanksville Air 94.00 51 ⇑P P 00 19 59.1 +0.6
baz=94,SNR=6.9
221A Mesquite Ranch 94.01 58 ⇓P P 00 19 59.8 +1.2
baz=94,SNR=5.3
G13A Cobalt 94.06 44 ⇑P P 00 19 58.7 +0.1
baz=94,SNR=9.9
D12A Red Ives Fores 94.12 41 ⇓P P 00 19 58.7 -0.1
baz=94
L15A Malad City 94.13 47 ⇓P P 00 19 59.1 +0.1
baz=94,SNR=8.0
I14A Mackay 94.13 45 ⇓P P 00 19 59.7 +0.7
baz=94,SNR=25
T18A Mexican Hat 94.16 52 ⇓P P 00 20 00.3 +1.0
baz=94,SNR=27
121A Cookes Peak, D 94.18 57 ⇑P P 00 20 00.6 +1.1
baz=94,SNR=13
Y20A Horse Springs, 94.18 56 ⇓P P 00 20 00.7 +1.1
baz=94,SNR=17
S18A Hurst Farm, Bl 94.27 52 ⇑P P 00 20 00.4 +0.4
baz=94,SNR=17
F13A Darby 94.27 43 ⇓P P 00 19 59.4 -0.2
baz=94,SNR=20
K15A Arbon 94.28 46 ⇓P P 00 20 00.0 +0.3
baz=94
V19A Window Rock 94.29 54 ⇑P P 00 20 00.7 +0.7
baz=94
X20A Quemado 94.31 55 ⇑P P 00 20 00.9 +0.8
baz=94
C12B Naegeli Ranch, 94.31 41 ⇓P P 00 19 59.9 +0.3
baz=94
DAU Daniels Canyon 94.33 49 eP P 00 20 00.1 -0.1
DAU pmax pmax
comp=Z,8.0nm,1.0s
DAU Daniels Canyon 94.33 49 eP P 00 20 00.1 -0.1
comp=Z,8.4nm,1.0s
P17A Butcher Ranch, 94.36 50 ⇑P P 00 20 00.9 +0.7
baz=94
U19A Dine' College, 94.37 53 ⇓P P 00 20 00.9 +0.5
baz=94,SNR=14
N16A Rees Ranch, Co 94.38 48 ⇑P P 00 20 00.7 +0.5
baz=94
SRU San Rafael 94.39 50 ⇑P P 00 20 00.7 +0.4
baz=94,SNR=9.6
H14A Leadore 94.45 44 ⇑P P 00 20 01.0 +0.5
baz=95,SNR=12
W20A Ramah 94.51 55 ⇑P P 00 20 01.8 +0.8
baz=95,SNR=7.3
Z21A St. Cloud Mine 94.53 56 ⇑P P 00 20 02.2 +1.0
baz=95,SNR=16
HWUT Hardware Ranch 94.55 48 eP P 00 20 00.8 -0.2
comp=Z,4.9nm,0.8s
HWUT ePP PP 00 23 51.0 -2.0
222A Williams Famil 94.58 58 ⇑P P 00 20 01.9 +0.6
baz=95
R18A Canyonlands Na 94.59 51 ⇑P P 00 20 01.8 +0.5
baz=95,SNR=15
J15A Blackfoot 94.61 46 ⇑P P 00 20 02.0 +0.8
baz=95,SNR=6.4
E13A Victor 94.62 42 ⇓P P 00 20 01.6 +0.5
baz=95
O17A Robinson Place 94.62 49 ⇓P P 00 20 02.1 +0.7
baz=95,SNR=23
G14A Jackson 94.63 44 ⇓P P 00 20 01.5 +0.2
baz=95,SNR=6.7
Q18A Rafter H Ranch 94.67 50 ⇑P P 00 20 01.7 +0.2
baz=95
T19A Beclabito 94.69 53 ⇑P P 00 20 02.5 +0.7
baz=95
A12A Yaak River Ran 94.70 40 ⇓P P 00 20 01.4 0.0
baz=95
D13A Huson 94.70 42 ⇓P P 00 20 01.7 +0.3
baz=95
V20A Brimhall 94.76 54 ⇑P P 00 20 02.3 +0.2
baz=95
Y21A Point of Rocks 94.77 56 ⇓P P 00 20 03.3 +1.1
baz=95,SNR=10
P18A Preston Nutter 94.77 50 ⇓P P 00 20 02.6 +0.4
baz=95,SNR=9.3
L16A Fish Haven 94.79 47 ⇓P P 00 20 02.2 +0.1
baz=95
I15A Monteview 94.80 45 ⇓P P 00 20 02.3 +0.3
baz=95
N17A Moffit Pass 94.82 48 ⇓P P 00 20 02.2 -0.1
baz=95
X21A Alamocita Cree 94.83 55 ⇓P P 00 20 02.6 +0.1
baz=95
F14A Wisdom 94.90 43 ⇓P P 00 20 02.6 +0.1
baz=95
S19A Harvey Farm, M 94.93 52 ⇑P P 00 20 03.2 +0.4
baz=95,SNR=6.9
H15A Lima 94.93 44 ⇓P P 00 20 03.2 +0.5
baz=95,SNR=15
K16A Soda Springs 94.98 46 ⇑P P 00 20 03.4 +0.5
baz=95,SNR=7.4
R19A Curley Farm, L 95.02 51 ⇓P P 00 20 03.5 +0.2
baz=95,SNR=8.1
E14A Clinton 95.05 43 ⇓P P 00 20 02.7 -0.5
baz=95,SNR=7.6
Z22A Elephant Butte 95.07 57 ⇓P P 00 20 04.1 +0.6
baz=95
J16A Bone 95.12 46 ⇑P P 00 20 04.2 +0.6
baz=95,SNR=15
M17A Scullys Gap (B 95.13 48 ⇓P P 00 20 03.4 -0.3
baz=95,SNR=5.8
O18A Roosevelt 95.17 49 ⇑P P 00 20 03.9 +0.1
baz=95
B13A Whitefish 95.20 41 ⇑P P 00 20 03.1 -0.5
baz=95
L17A Cokeville 95.21 47 ⇓P P 00 20 03.8 -0.2
baz=95
MVCO Mesa Verde 95.22 53 ⇑P P 00 20 04.6 +0.4
baz=95
G15A Dillon 95.23 44 ⇓P P 00 20 04.2 +0.2
baz=95,SNR=8.4
DLMT Dillon 95.24 44 eP P 00 20 01.1 -2.9
comp=Z,11nm,1.0s
Q19A Hogan Spring (95.25 51 ⇑P P 00 20 04.4 +0.2
baz=95
D14A Greenough 95.30 42 ⇓P P 00 20 03.4 -0.8
baz=95
Y22A Socorro 95.30 56 ⇓P P 00 20 04.6 0.0
baz=95
RRI2 Red Ridge 95.35 46 eP P 00 20 05.3 +0.6
comp=Z,11nm,0.9s
C14A Swan Lake 95.41 41 ⇑P P 00 20 04.5 -0.1
baz=96
I16A Newdale 95.43 45 ⇑P P 00 20 05.6 +0.7
baz=96,SNR=6.8
A13A Flathead Natio 95.45 40 ⇑P P 00 20 04.7 -0.1
baz=96
F15A Butte 95.48 43 ⇑P P 00 20 05.1 -0.1
baz=96,SNR=6.9
S20A Disappointment 95.53 52 ⇓P P 00 20 05.9 +0.2
baz=96,SNR=5.9
M18A Lyman 95.53 48 ⇑P P 00 20 05.6 0.0
baz=96,SNR=6.3
U21A Nageezi 95.59 54 ⇓P P 00 20 06.3 +0.4
baz=96
E15A Deer Lodge 95.60 43 ⇑P P 00 20 05.2 -0.4
baz=96
R20A Redvale 95.64 52 ⇓P P 00 20 06.2 +0.1
baz=96
TPAW Teton Pass 95.65 46 eP P 00 20 06.3 +0.2
comp=Z,5.0nm,0.8s
N18A Larsen Ranch, 95.66 49 ⇓P P 00 20 05.9 -0.1
baz=96
324A Moseley Ranch, 95.67 59 ⇑P P 00 20 06.6 +0.3
baz=96,SNR=7.7
P19A Cripple Cowboy 95.69 50 ⇑P P 00 20 06.9 +0.7
baz=96,SNR=8.3
G16A Moss Hill, Enn 95.71 44 ⇑P P 00 20 06.2 0.0
baz=96,SNR=6.1
L18A Fontenelle, Gr 95.73 48 ⇓P P 00 20 06.4 0.0
baz=96
J17A Brown Place, J 95.77 46 ⇑P P 00 20 06.6 0.0
baz=96
O19A Miners Draw (B 95.81 49 ⇑P P 00 20 06.9 +0.2
baz=96
MNTX Cornudas Mount 95.83 59 P P 00 20 07.6 +0.7
baz=96
224A Cornudas Mount 95.84 58 ⇑P P 00 20 07.6 +0.6
baz=96,SNR=9.4
425A Indio Mountain 95.86 60 ⇑P P 00 20 08.0 +0.8
baz=96,SNR=14
T21A Navajo Lake 95.87 53 ⇑P P 00 20 07.4 +0.2
baz=96
H16A Russell Place, 95.89 45 ⇑P P 00 20 07.5 +0.5
baz=96,SNR=8.6
S21A Coal Bank Pass 95.90 52 ⇑P P 00 20 07.4 0.0
baz=96
D15A Lincoln 95.91 42 ⇑P P 00 20 06.7 -0.3
baz=96
B14A Marquette Ranc 95.93 41 ⇑P P 00 20 06.6 -0.4
baz=96
Q20A Ridgley Place, 95.96 51 ⇓P P 00 20 07.7 +0.2
baz=96,SNR=6.5
BOZ Bozeman (W) 95.97 44 ⇓P P 00 20 07.2 -0.2
baz=96
K18A Toltan Ranch, 95.97 47 ⇓P P 00 20 07.4 -0.1
baz=96
N19A John Jarvie Ra 95.98 49 ⇓P P 00 20 07.3 -0.2
baz=96
V22A San Miguel Ran 95.99 54 ⇓P P 00 20 08.1 +0.4
baz=96
ANMO Albuquerque 96.03 55 P P 00 20 08.1 +0.2
ANMO PP PP 00 24 02.8 -1.8
ANMO Albuquerque 96.03 55 P P 00 20 08.1 +0.2
comp=Z,5.4nm,0.9s,baz=233,slow=4.9,SNR=11
ANMO PP PP 00 24 02.8 -1.8
comp=Z,1.8nm,1.0s,baz=239,slow=5.6,SNR=4.7
325A Bean Ranch, Si 96.06 59 ⇑P P 00 20 08.2 +0.1
baz=96,SNR=9.1
I17A Pilgrim Ck. 96.06 46 ⇑P P 00 20 07.9 0.0
baz=96
A14A Double T Ranch 96.07 40 ⇑P P 00 20 07.9 +0.3
baz=96
P20A De Beque 96.07 50 ⇑P P 00 20 08.2 +0.2
baz=96,SNR=11
X23A Hourglass Bar 96.12 56 ⇓P P 00 20 08.5 +0.1
baz=96
626A Big Bend Ranch 96.17 61 ⇓P P 00 20 08.7 +0.2
baz=96
U22A Llaves 96.19 54 ⇓P P 00 20 08.6 0.0
baz=96
J18A Kendall Valley 96.19 46 ⇑P P 00 20 08.6 +0.1
baz=96,SNR=13

M19A Rock Springs 96.20 48 ⇓P P 00 20 08.3 -0.2
baz=96
H17A Grant Village 96.23 45 ⇓P P 00 20 08.6 0.0
baz=96
E16A East Helena 96.26 43 ⇓P P 00 20 08.5 -0.1
baz=96
L19A Farson 96.27 48 ⇑P P 00 20 08.5 -0.4
baz=96
R21A Cimarron 96.32 52 ⇓P P 00 20 09.7 +0.5
baz=96,SNR=8.4
B15A Bradely Ranch, 96.35 41 ⇓P P 00 20 08.6 -0.3
baz=96
BW06 Boulder Array 96.35 47 ⇑P P 00 20 08.7 -0.6
baz=96,SNR=11
PDAR Pinedale Array 96.36 47 P P 00 20 09.1 -0.2
PDAR PP PP 00 24 04.7 -2.3
PDAR Pinedale Array 96.36 47 P P 00 20 09.1 -0.2
comp=Z,5.4nm,1.1s,baz=222,slow=2.0,SNR=17
PDAR PP PP 00 24 04.7 -2.3
comp=Z,3.2nm,0.9s,baz=229,slow=5.0,SNR=12
T22A Edith 96.36 53 ⇑P P 00 20 09.5 +0.1
baz=96
526A Mary Lane Ranc 96.36 61 ⇓P P 00 20 10.1 +0.6
baz=96
Z24A Sheeppen Canyo 96.36 57 ⇓P P 00 20 09.8 +0.4
baz=96
INK Inuvik 96.37 18 P P 00 20 07.6 -0.7
INK Inuvik 96.37 18 P P 00 20 07.6 -0.7
comp=Z,18nm,0.9s,baz=236,slow=5.1,SNR=45
O20A White River Ci 96.39 50 ⇑P P 00 20 09.4 0.0
baz=96
225A Deer Hill, Car 96.41 58 ⇓P P 00 20 10.1 +0.4
baz=96
G17A Pierce Place, 96.44 44 ⇓P P 00 20 10.2 +0.7
baz=96
Q21A Lamborn Mesa, 96.45 51 ⇓P P 00 20 09.9 +0.1
baz=97
TXAR Lajitas Array 96.48 61 P P 00 20 11.0 +1.0
TXAR PKKP PKKPdf 00 36 55.0 0.0
TXAR Lajitas Array 96.48 61 P P 00 20 11.0 +1.0
comp=Z,2.3nm,0.8s,baz=220,slow=5.3,SNR=23
TXAR PKKP PKKPdf 00 36 55.0 0.0
comp=Z,0.5nm,0.7s,baz=100,slow=4.4,SNR=6.4
A15A Johnson Ranch, 96.49 40 ⇑P P 00 20 09.7 +0.2
baz=97
V23A Ortiz Mt. (NFS 96.50 55 ⇑P P 00 20 10.3 +0.3
baz=97
Y24A Capitan 96.50 56 ⇓P P 00 20 10.7 +0.6
baz=97
426A McDonald Obser 96.60 60 ⇓P P 00 20 11.1 +0.5
baz=97,SNR=19
N20A Spence Gulch, 96.61 49 ⇓P P 00 20 10.5 0.0
baz=97
S22A 4UR Ranch, Cre 96.65 52 ⇑P P 00 20 11.3 +0.6
baz=97
C16A Fuhringer Ranc 96.67 42 ⇓P P 00 20 10.9 +0.5
baz=97
U23A El Rito 96.68 54 ⇑P P 00 20 10.9 +0.1
baz=97
F17A Fitzpatrick Pl 96.70 44 ⇓P P 00 20 11.1 +0.5
baz=97,SNR=7.7
125A Gardner Draw, 96.72 58 ⇑P P 00 20 11.5 +0.6
baz=97
627A Terlingua Ranc 96.75 61 ⇑P P 00 20 11.3 +0.1
baz=97
E17A Martinsdale 96.77 43 ⇓P P 00 20 11.3 +0.4
baz=97
P21A Newcastle 96.77 51 ⇑P P 00 20 11.2 +0.1
baz=97
527A Woodward Ranch 96.78 61 ⇓P P 00 20 11.6 +0.2
baz=97
326A Caldwell Ranch 96.84 59 ⇓P P 00 20 11.6 0.0
baz=97
R22A Saguache, Gunn 96.86 52 ⇓P P 00 20 11.9 +0.1
baz=97
Z25A Roswell 96.86 57 ⇓P P 00 20 12.3 +0.7
baz=97
K19A Absolon Red Bu 96.87 47 ⇑P P 00 20 11.5 0.0
baz=97,SNR=6.1
J19A Crowheart 96.87 47 ⇓P P 00 20 11.7 +0.2
baz=97
M20A Sweetwater, Wa 96.89 49 ⇓P P 00 20 11.5 -0.1
baz=97
W24A Lazy 6 Ranch, 96.93 55 ⇑P P 00 20 11.9 -0.1
baz=97
L20A Wamsutter 96.95 48 ⇑P P 00 20 12.4 +0.5
baz=97,SNR=5.4
Q22A Crested Butte, 96.95 51 ⇑P P 00 20 12.2 +0.1
baz=97
226A Malaga, Loving 96.98 59 ⇓P P 00 20 12.4 +0.3
baz=97
Y25A Mesa, Roswell 97.08 57 ⇑P P 00 20 12.5 -0.1
baz=97
D17A Six Diamond Ra 97.12 43 ⇑P Pdif 00 20 12.9 +0.4
baz=97
N21A Black Mountain 97.12 49 ⇑P Pdif 00 20 13.3 +0.5
baz=97
K20A Yellowstone Ra 97.16 47 ⇑P P 00 20 12.3 -0.5
baz=97
I19A Meeteetse 97.17 46 ⇓P Pdif 00 20 13.2 +0.3
baz=97
427A Hayter Ranch, 97.17 60 ⇑P Pdif 00 20 13.6 +0.5
baz=97
628A Black Gap, Mar 97.18 61 ⇓P Pdif 00 20 13.8 +0.7
baz=97
V24A Rampart Ranch, 97.19 55 ⇓P P 00 20 13.2 0.0
baz=97
C17A Wharram Farm, 97.24 42 ⇑P Pdif 00 20 13.2 +0.2
baz=97
P22A Eagle 97.30 51 ⇑P Pdif 00 20 13.8 +0.2
baz=97
WMQ Urumqi 97.34 314 *e*P Pdif 00 20 15.8 +2.3
WMQ pmax pmax
comp=Z,9.0nm,1.5s
RLMT Red Lodge 97.35 45 ⇑P Pdif 00 20 13.9 +0.2
baz=98
E18A Harlowton 97.41 43 ⇑P Pdif 00 20 14.3 +0.4
baz=98
B17A L&G Farms, Che 97.44 41 ⇑P Pdif 00 20 14.2 +0.4
baz=98
Z26A Caprock 97.45 57 ⇓P Pdif 00 20 14.7 +0.5
baz=98
M21A Separation Pea 97.51 49 ⇑Pdiff Pdif 00 20 14.8 +0.3
baz=98
R23A Moffat 97.54 52 ⇑Pdiff Pdif 00 20 15.0 +0.1
baz=98
J20A Shoshoni 97.57 47 ⇓Pdiff Pdif 00 20 15.1 +0.5
baz=98
L21A Rawlins 97.62 48 ⇓Pdiff Pdif 00 20 15.0 +0.1
baz=98
O22A Kremmling 97.63 50 ⇓Pdiff Pdif 00 20 15.6 +0.4
baz=98
SDCO Great Sand Dun 97.65 53 ⇑Pdiff Pdif 00 20 15.4 +0.1
baz=98
W25A X Bar L Ranch, 97.67 56 ⇑Pdiff Pdif 00 20 15.2 0.0
baz=98
I20A Worland 97.73 46 ⇓Pdiff Pdif 00 20 15.6 +0.3
baz=98
V25A Rancho No Teng 97.73 55 ⇑Pdiff Pdif 00 20 16.0 +0.4
baz=98
328A Wristen Ranch, 97.82 60 ⇓Pdiff Pdif 00 20 16.0 +0.1
baz=98
N22A Wattenberg Ran 97.90 50 ⇓Pdiff Pdif 00 20 16.4 +0.1
baz=98
K21A Alcova 97.92 48 ⇑Pdiff Pdif 00 20 16.5 +0.2
baz=98
M22A Cedar Creek Ra 97.99 49 ⇑Pdiff Pdif 00 20 16.8 +0.1
baz=98
Z27A Tatum 98.07 58 ⇑Pdiff Pdif 00 20 17.3 +0.2
baz=98
G20A Bridger 98.09 45 ⇑Pdiff Pdif 00 20 17.2 +0.4
baz=98
O23A Lake Granby, G 98.11 50 ⇑Pdiff Pdif 00 20 17.9 +0.7
baz=98
E19A Rath Farm, Rou 98.11 44 ⇑Pdiff Pdif 00 20 17.9 +1.0
baz=98
B18A Beardsley Farm 98.12 42 ⇑Pdiff Pdif 00 20 18.0 +1.2
baz=98
I21A Big Trails, Te 98.26 47 ⇑Pdiff Pdif 00 20 18.3 +0.6
baz=98
D19A Cripps Ranch, 98.28 43 ⇓Pdiff Pdif 00 20 18.5 +0.9
baz=98
Y27A Causey 98.28 57 ⇑Pdiff Pdif 00 20 18.3 +0.4
baz=98
T25A Trinidad 98.29 54 ⇑Pdiff Pdif 00 20 18.7 +0.7
baz=98
N23A Red Feather La 98.30 50 ⇓Pdiff P 00 20 18.9 +0.8
baz=98

L22A Ellis Ranch, M 98.30 48 ⇓Pdiff P 00 20 18.9 +1.0
baz=98
C19A Slack Wire Ran 98.36 42 ⇑Pdiff P 00 20 18.8 +0.9
baz=98
S25A Robets Cordova 98.43 53 ⇑Pdiff P 00 20 19.0 +0.4
baz=98
E20A Meyer Farm, Mu 98.56 44 ⇑Pdiff P 00 20 19.7 +0.9
baz=99
U26A Atchley Ranch, 98.58 55 ⇓Pdiff P 00 20 19.6 +0.3
baz=99
J22A Midwest 98.70 47 ⇓Pdiff P 00 20 20.2 +0.5
baz=99
D20A Manuel Ranch, 98.74 43 ⇑Pdiff P 00 20 20.4 +0.8
baz=99
I22A 9 Mile Ranch, 98.84 47 ⇓Pdiff P 00 20 20.6 +0.3
baz=99
T26A Comanche Natio 98.92 54 ⇓Pdiff P 00 20 21.7 +0.8
baz=99
A19A Klindworth Far 98.94 41 ⇓Pdiff P 00 20 21.6 +1.1
baz=99
129A Stewart Farms, 98.95 59 ⇓Pdiff P 00 20 22.2 +1.2
baz=99
C20A Veseth Ranch, 99.02 43 ⇑Pdiff Pdif 00 20 21.9 +1.0
baz=99
B20A Solberg Farm, 99.24 42 ⇑Pdiff Pdif 00 20 22.7 +0.9
baz=99
R26A Arlington 99.36 53 ⇑Pdiff Pdif 00 20 23.3 +0.6
baz=100
A20A Cobblestone Ra 99.44 42 ⇓Pdiff Pdif 00 20 23.6 +0.9
baz=100
Y29A Porterfield Fa 99.46 58 ⇑Pdiff Pdif 00 20 23.8 +0.6
baz=100
T27A Campo 99.56 54 ⇓Pdiff Pdif 00 20 23.9 +0.3
baz=100
D22A Cohagen 100.03 44 ⇓Pdiff Pdif 00 20 26.1 +0.8
baz=100
A21A Bergtoll Ranch 100.10 42 ⇓Pdiff Pdif 00 20 26.5 +0.9
baz=100
F23A Volborg 100.12 45 ⇑Pdiff Pdif 00 20 26.5 +0.7
baz=100
H24A Dirks Ranch, A 100.42 46 ⇓Pdiff Pdif 00 20 27.4 +0.3
baz=100
YKA Yellowknife Ar 100.46 27 P Pdif 00 20 26.5 -0.3
YKA PP PP 00 24 34.0 -3.3
YKA Yellowknife Ar 100.46 27 P Pdif 00 20 26.5 -0.3
comp=Z,8.0nm,0.7s,baz=253,slow=4.6,SNR=99
YKA PP PP 00 24 34.0 -3.3
comp=Z,2.0nm,1.0s,baz=245,slow=7.2,SNR=4.4
C23A Lambert 100.86 43 ⇑Pdiff Pdif 00 20 29.7 +0.6
baz=101
MK31 Makanchi Array 101.86 315 *e*P Pdif 00 20 33.5 +0.1
MK31 Makanchi Array 101.86 315 *e*Pdif Pdif 00 20 33.5 +0.1
MKAR Makanchi Array 101.86 315 P Pdif 00 20 32.6 -0.8
MKAR *i* 00 24 53.2
MKAR Makanchi Array 101.86 315 P Pdif 00 20 32.6 -0.8
MKAR PKiKP **PKiKP** 00 24 53.1 -1.9
MKAR PKKP **PKKPbc** 00 36 36.7 -2.7
MKAR Makanchi Array 101.86 315 P Pdif 00 20 32.6 -0.8
comp=Z,4.5nm,0.7s,baz=99,slow=7.5,SNR=53
MKAR PKiKP **PKiKP** 00 24 53.1 -1.9
comp=Z,0.7nm,0.7s,baz=90,slow=2.2,SNR=5.9
MKAR PKKP **PKKPbc** 00 36 36.7 -2.7
comp=Z,0.3nm,0.8s,baz=263,slow=3.5,SNR=4.2
ZALV Zalesovo Beam 102.20 323 P Pdif 00 20 33.8 -0.9
ZALV *i* 00 24 53.3
ZALV Zalesovo Beam 102.20 323 P Pdif 00 20 33.8 -0.9
ZALV PKiKP **PKiKP** 00 24 53.2 -2.1
ZALV Zalesovo Beam 102.20 323 P Pdif 00 20 33.8 -0.9
comp=Z,2.0nm,0.6s,baz=113,slow=4.1,SNR=12
ZALV PKiKP **PKiKP** 00 24 53.2 -2.1
comp=Z,0.8nm,0.6s,baz=225,slow=0.8,SNR=4.4
KKAR Karatay Array 109.30 310 *e*PKiKP **PKiKP** 00 25 08.2 -0.7
RES Resolute Bay 109.80 16 Pdif **Pdif** 00 21 08.4 +0.4
RES Resolute Bay 109.80 16 Pdiff **Pdif** 00 21 08.4 +0.4
comp=Z,2.3nm,1.0s,baz=272,slow=5.1,SNR=4.9
BRVK Borovoye 110.58 320 *c i* PKIKP **PKiKP** 00 25 11.3 +0.4
BRVK pmax pmax
comp=Z,2.0nm,0.8s
ARU Arti 117.32 324 *i* PKIKP **PKPdf** 00 25 22.9 -0.9
ARU 00 26 36.8
ARU 00 31 47.4
ARU SS SS 00 42 23.2 -4.6
ARU Arti 117.32 324 *e*PKPdf **PKPdf** 00 25 22.8 -0.9
BOSA Boshof 121.29 217 PKP **PKPdf** 00 25 33.1 +0.6
BOSA Boshof 121.29 217 PKP **PKPdf** 00 25 33.1 +0.6
comp=Z,2.4nm,0.5s,baz=112,slow=5.4,SNR=13
SCHQ Schefferville 124.68 36 PKP **PKPdf** 00 25 36.8 -1.1
SCHQ Schefferville 124.68 36 PKP **PKPdf** 00 25 36.8 -1.1
comp=Z,6.4nm,0.8s,baz=303,slow=1.9,SNR=9.6
ARCES ARCESS Array B 125.05 345 PKP **PKPdf** 00 25 37.7 -0.5
ARCES PKKPbc **PKKPab** 00 35 19.3 +2.0
ARCES ARCESS Array B 125.05 345 PKP **PKPdf** 00 25 37.7 -0.5
comp=Z,5.3nm,0.4s,baz=61,slow=2.4,SNR=19
ARCES PKKPbc **PKKPab** 00 35 19.3 +2.0
comp=Z,4.7nm,0.9s,baz=322,slow=3.7,SNR=5.3
KLMR Klimovskoe 125.58 333 PKIKP PKPdf 00 25 32.3 -7.1
KLMR pmax pmax
comp=Z,91nm,2.8s
QRN Al-Qurain 126.23 292 *e*P **PKPdf** 00 25 42.3 +0.6
UMR Umm Al-Rimmam 126.45 293 *e*P **PKPdf** 00 25 42.6 +0.5
RDF Al-Radifah 126.56 292 *e*P **PKPdf** 00 25 42.8 +0.4
MIB Mutribah 126.79 293 *e*P **PKPdf** 00 25 42.8 +0.1
SJG San Juan 127.43 82 *e*PKPdf **PKPdf** 00 25 43.1 -1.1
JOF Joensuu 127.77 337 *e*PKIKP **PKPdf** 00 25 41.7 -1.9
JOF Joensuu 127.77 337 *e*pkp **PKPdf** 00 25 41.7 -1.9
VRHR Novokhopersk 128.26 321 *e*PKIKP **PKPdf** 00 25 43.7 -1.2
VRHR pmax pmax
comp=N,9.0nm,0.7s
VRHR pmax pmax
comp=E,2.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
GNI Garni 128.52 306 *e*PKPdf **PKPdf** 00 25 46.3 +0.4
ZEI Tsey 128.76 310 *i* PKIKP **PKPdf** 00 25 46.1 -0.3
ZEI pmax pmax
comp=Z,6.0nm,1.3s
KIV Kislovodsk 129.41 312 *e*PKIKP **PKPdf** 00 25 46.2 -1.2
KIV pmax pmax
comp=Z,9.0nm,1.1s
BDFB Brasilia 129.41 131 PKP **PKPdf** 00 25 48.0 -0.3
BDFB Brasilia 129.41 131 PKP **PKPdf** 00 25 48.0 -0.3
comp=Z,1.7nm,0.7s,baz=351,slow=20,SNR=4.3
OBN Obninsk 129.56 327 ⇑*i* PKIKP **PKPdf** 00 25 47.5 +0.3
OBN *e* 00 32 28.4
OBN *e*PS **PS** 00 38 16.3 +1.7
OBN *e*SS SS 00 44 56.6 -5.0
OBN pmax pmax
comp=Z,43nm,2.5s
VSR Storozhevoye 129.68 321 *e*PKIKP **PKPdf** 00 25 46.7 -0.9
VSR pmax pmax
comp=N,2.0nm,0.5s
VSR pmax pmax
comp=Z,6.0nm,0.5s
VORD Divnogorie 129.69 321 *e*PKIKP **PKPdf** 00 25 46.9 -0.7
VORD pmax pmax
comp=N,6.0nm,0.5s
VORD pmax pmax
comp=E,3.0nm,0.5s
VORD pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 130.07 338 *e*PKIKP **PKPdf** 00 25 46.7 -1.3
KAF Kangasniemi 130.07 338 *e*pkp **PKPdf** 00 25 46.7 -1.3
KAF Kangasniemi 130.07 338 *e*pkp **SKPbc** 00 28 44.8 -0.8
comp=Z,3.7nm,0.6s
FINES FINESS Array B 130.60 338 PKPpre PKPpre 00 25 39.5
FINES PKP **PKPdf** 00 25 46.8 -2.2
FINES SKPbc **SKPab** 00 28 47.9 +0.1
FINES FINESS Array B 130.60 338 PKhKP PKPpre 00 25 39.5
comp=Z,1.6nm,0.8s,baz=132,slow=2.8,SNR=7.5
FINES PKP **PKPdf** 00 25 46.8 -2.2
comp=Z,5.5nm,0.9s,baz=64,slow=1.5,SNR=7.6
FINES SKPbc **SKPab** 00 28 47.9 +0.1
comp=Z,7.9nm,0.7s,baz=60,slow=4.0,SNR=22
NB2 NORSAR Subarra 135.43 345 PKPdf PKPpre 00 25 50.7
comp=Z,7.5nm,1.4s,baz=31,slow=1.9
NOA NORSAR Array B 135.43 345 PKP **PKPdf** 00 25 57.9 -0.2
NOA SKPbc **SKPbc** 00 29 06.2 +2.2
NOA NORSAR Array B 135.43 345 PKP **PKPdf** 00 25 57.9 -0.2
comp=Z,2.2nm,0.7s,baz=32,slow=2.0,SNR=8.9
NOA SKPbc **SKPbc** 00 29 06.2 +2.2
comp=Z,0.9nm,0.8s,baz=21,slow=3.1,SNR=4.9
AKASG Malin Array Be 135.57 325 PKIKP **PKPdf** 00 25 58.0 -0.7
AKASG Malin Array Be 135.57 325 PKP **PKPdf** 00 25 58.0 -0.7
AKASG SKPbc **SKPbc** 00 29 05.8 +1.0
AKASG Malin Array Be 135.57 325 PKP **PKPdf** 00 25 58.0 -0.7
comp=Z,1.8nm,0.6s,baz=70,slow=2.0,SNR=9.8
AKASG SKPbc **SKPbc** 00 29 05.8 +1.0
comp=Z,7.1nm,0.8s,baz=46,slow=4.1,SNR=20
BR131 Keskin Array S 136.97 308 *e*PKPdf **PKPdf** 00 26 02.1 +0.2
BRTR Keskin Array B 136.97 308 PKPpre PKPpre 00 25 52.0
BRTR PKP **PKiKP** 00 26 03.1 -0.6
BRTR SKPbc **SKPbc** 00 29 11.2 +1.7
BRTR Keskin Array B 136.97 308 PKhKP PKPpre 00 25 52.0
comp=Z,0.3nm,0.4s,baz=111,slow=5.4,SNR=4.3
BRTR PKP **PKiKP** 00 26 03.1 -0.6
comp=Z,2.1nm,0.7s,baz=134,slow=2.4,SNR=13
BRTR SKPbc **SKPbc** 00 29 11.2 +1.7
comp=Z,2.7nm,0.8s,baz=112,slow=3.3,SNR=12
LEOM Leova 138.19 320 ⇑*i*P **SKPbc** 00 29 14.9 +2.3
TLCR 138.41 318 ⇓*i*P **SKPbc** 00 29 15.5 +2.2
TESR 139.14 320 ⇑*i*P **SKPbc** 00 29 17.9 +2.6
BUR08 Bucovina Ar. S 139.42 323 *e*PKPpre PKPpre 00 25 59.3
BUR08 PKPdf **PKPdf** 00 26 06.4 +0.4
BURAR Bucovina Array 139.42 323 ⇑*i*P **SKPbc** 00 29 18.6 +2.4
PLOR Plostina 139.46 320 ⇑*i*P **SKPbc** 00 29 17.7 +1.4
KWP Kalwaria Pacla 139.65 327 ⇑*i*P **SKPbc** 00 29 17.7 +1.1
MLR Muntele Rosu 140.07 319 ⇑*i*P **SKPbc** 00 29 19.5 +1.5
SECR 140.21 319 ⇑*i*P **SKPbc** 00 29 20.2 +1.9
KOLS Kolonicke sedl 140.30 326 *e*PKHKP PKPpre 00 26 00.8
KOLS Kolonicke sedl 140.30 326 *e*PKP PKPpre 00 26 00.8
KOLS *e*SKP **SKPbc** 00 29 19.8 +1.4
TRPA Tarpa 140.63 325 ⇓*i*P **SKPbc** 00 29 20.5 +1.3
VOIR 140.65 320 ⇓*i*P **SKPbc** 00 29 21.8 +2.3
CRVS Cervenica-Dubn 140.75 327 *e*PKHKP PKPpre 00 26 03.0
CRVS Cervenica-Dubn 140.75 327 *e*PKP PKPpre 00 26 03.0
CRVS *e*SKP **SKPbc** 00 29 22.2 +2.7
DRGR 141.31 323 ⇑*i*P **SKPbc** 00 29 23.2 +2.1
OKC Ostrava-Krasne 141.79 330 *i* PKIKP **PKPdf** 00 26 10.7 +0.6
OKC Ostrava-Krasne 141.79 330 *i* PKP **PKPdf** 00 26 10.7 +0.6
GZR Gura Zlata 142.04 321 ⇓*i*P **SKPbc** 00 29 25.4 +2.4
PSZ Piszkesteto 142.18 326 ⇑*e* **PKPdf** 00 26 07.8 -3.1
DPC Dobruska-Polom 142.27 332 *i* PKIKP **PKPdf** 00 26 06.9 -4.1
DPC Dobruska-Polom 142.27 332 *i* PKP **PKPdf** 00 26 06.9 -4.1
UPC Upice 142.30 332 *i* PKIKP **PKPdf** 00 26 07.6 -3.4
UPC Upice 142.30 332 *i* PKP **PKPdf** 00 26 07.6 -3.4
VYHS Vyhne 142.35 328 *e*PKIKP **PKPdf** 00 26 08.0 -3.2
VYHS *e* 00 29 24.7
VYHS Vyhne 142.35 328 *e*PKP **PKPdf** 00 26 08.0 -3.2
VYHS *e*PP **PP** 00 29 24.7 +4.0
PLD Plovdiv 142.45 315 PKIKP **PKPdf** 00 26 07.6 -3.9
PLD Plovdiv 142.45 315 P **PKPdf** 00 26 07.6 -3.9
PLD Plovdiv 142.45 315 P **PKPdf** 00 26 07.6 -3.9
PRK Paraskevi 142.53 310 PKHKP **PKPdf** 00 26 07.8 -3.9
PRK Paraskevi 142.53 310 P **PKPdf** 00 26 07.8 -3.9
PRK Paraskevi 142.53 310 P **PKPdf** 00 26 07.8 -3.9
BRG Berggiesshubel 142.90 334 *e*PKP **PKPdf** 00 26 08.9 -3.1
comp=Z,9.4nm,0.8s
BRG *e*PP **PP** 00 29 26.3 +2.5
comp=Z,26nm,1.6s
BRG Berggiesshubel 142.90 334 *e*PKIKP **PKPdf** 00 26 08.9 -3.1
BRG *e* 00 29 26.3
BRG pmax pmax
comp=Z,9.0nm,0.8s
BRG pmax pmax
comp=Z,26nm,1.6s
PVCC Panska Ves 142.90 333 *i* PKIKP **PKPdf** 00 26 09.0 -3.0
PVCC Panska Ves 142.90 333 *i* PKP **PKPdf** 00 26 09.0 -3.0
BUD Budapest 142.91 326 ⇑*e* **PKPdf** 00 26 10.2 -1.9
CLL Collm 142.95 335 ⇓*i* PKIKP **PKPdf** 00 26 08.7 -3.4
CLL pmax pmax
comp=Z,8.0nm,0.6s
CLL Collm 142.95 335 ⇓*i* PKPdf **PKPdf** 00 26 08.7 -3.4
comp=Z,14nm,0.8s
KARP Karpathos 143.05 304 *e*PN PKPbc 00 26 10.2 -0.3
LIA Limnos Island 143.05 312 P PKPbc 00 26 09.6 -0.7
LIA Limnos Island 143.05 312 P PKPbc 00 26 09.6 -0.7
KAVA Kavala 143.06 314 P PKPbc 00 26 09.9 -0.4
KAVA Kavala 143.06 314 P PKPbc 00 26 09.9 -0.4
PKSG 143.29 327 ⇓*e* PKPbc 00 26 10.4 -0.3
PRU Pruhonice 143.32 333 *i* PKIKP PKPbc 00 26 10.1 -0.6
PRU Pruhonice 143.32 333 *i* PKP PKPbc 00 26 10.1 -0.6
NVR Nevrokopi 143.35 315 P PKPab 00 26 10.5 +0.6
NVR Nevrokopi 143.35 315 P PKPab 00 26 10.5 +0.6
NVR Nevrokopi 143.35 315 *e*PN PKPbc 00 26 10.6 -0.5
ZST Bratislava 143.41 329 *e*PKIKP PKPbc 00 26 11.5 +0.5
ZST Bratislava 143.41 329 *e*PKP PKPbc 00 26 11.5 +0.5
PKST T"s 143.56 327 ⇓*e* PKPbc 00 26 11.3 -0.2
SRS Serrai 143.63 314 PKIKP PKPab 00 26 11.4 +0.4
SRS Serrai 143.63 314 P PKPab 00 26 11.4 +0.4
SRS Serrai 143.63 314 P PKPab 00 26 11.4 +0.4
OUR Ouranopolis 143.71 313 PKIKP PKPab 00 26 11.4 +0.1
OUR Ouranopolis 143.71 313 P PKPab 00 26 11.4 +0.1
OUR Ouranopolis 143.71 313 P PKPab 00 26 11.4 +0.1
PKS9 Tamasi 143.87 326 ⇓*e* **PKPdf** 00 26 12.3 -1.6
PKSM Moragy 143.91 325 ⇑*i*P **SKPdf** 00 29 28.6 +5.7
PKSM Moragy 143.91 325 ⇑*e* **PKPdf** 00 26 12.5 -1.4
ZKR Zakros 143.91 304 P PKPbc 00 26 13.1 +0.2
ZKR Zakros 143.91 304 P PKPbc 00 26 13.1 +0.2
SOH Sokhos 143.93 314 PKIKP PKPab 00 26 11.7 -0.5
SOH Sokhos 143.93 314 P PKPab 00 26 11.7 -0.5
SOH Sokhos 143.93 314 P PKPab 00 26 11.7 -0.5
NKC Novy Kostel 144.00 335 *i* PKIKP PKPbc 00 26 12.7 0.0
NKC Novy Kostel 144.00 335 *i* PKP PKPbc 00 26 12.7 0.0
SOP Sopron 144.03 328 ⇓*e* PKPbc 00 26 13.4 +0.6
PLG Polygyros 144.06 313 PKIKP **PKPab** 00 26 12.2 -0.5
PLG Polygyros 144.06 313 P **PKPab** 00 26 12.2 -0.5
PLG Polygyros 144.06 313 P **PKPab** 00 26 12.2 -0.5
PLG Polygyros 144.06 313 *e*PB **PKPab** 00 26 12.3 -0.5
KNT Kendrikon 144.08 315 PKIKP **PKPab** 00 26 12.2 -0.5
KNT Kendrikon 144.08 315 P **PKPab** 00 26 12.2 -0.5
KNT Kendrikon 144.08 315 P **PKPab** 00 26 12.2 -0.5
PAIG Paliouri 144.09 313 PKIKP **PKPab** 00 26 12.2 -0.6
PAIG Paliouri 144.09 313 P **PKPab** 00 26 12.2 -0.6
PAIG Paliouri 144.09 313 P **PKPab** 00 26 12.2 -0.6
THR1 Thera Island 144.12 306 P **PKPab** 00 26 12.6 -0.5
CONA Conrad Observa 144.20 329 *i* P PKPbc 00 26 13.7 +0.3
CONA Conrad Observa 144.20 329 *i* PKPdf PKPbc 00 26 13.7 +0.3
comp=Z,51nm,1.7s,SNR=14
VAY Valandovo 144.22 315 *i* PKP **PKPab** 00 26 12.5 -0.7
THE Thessaloniki 144.28 314 PKIKP **PKPab** 00 26 12.9 -0.6
THE Thessaloniki 144.28 314 P **PKPab** 00 26 12.9 -0.6
THE Thessaloniki 144.28 314 P **PKPab** 00 26 12.9 -0.6
RHK3 Tenkes 144.32 325 ⇑*e* PKPbc 00 26 14.0 +0.2
MRMA Marmari 144.34 309 P **PKPab** 00 26 13.4 -0.4
NPS Neapolis 144.35 304 PKIKP PKPbc 00 26 14.3 +0.1
NPS Neapolis 144.35 304 P PKPbc 00 26 14.3 +0.1
NPS Neapolis 144.35 304 P PKPbc 00 26 14.3 +0.1
NPS Neapolis 144.35 304 *e*PN PKPbc 00 26 14.5 +0.3
KHC Kasperske Hory 144.38 333 *e*PKIKP PKPbc 00 26 13.9 0.0
KHC Kasperske Hory 144.38 333 *e*PKPdf PKPbc 00 26 13.9 0.0
KHC Kasperske Hory 144.38 333 *i* PKP PKPbc 00 26 13.8 -0.1
KHC *ex* x 00 26 21.0
KHC *ex* x 00 27 00.0
DIVS Divibare 144.41 321 P PKPbc 00 26 14.3 +0.1
LAST Lasithi 144.48 304 P **PKPdf** 00 26 15.1 -0.3
LAST Lasithi 144.48 304 P **PKPdf** 00 26 15.1 -0.3
GERES GERESS Array B 144.54 332 PKP **PKPab** 00 26 14.2 -0.1
GERES PP **PP** 00 29 30.4 -3.4
GERES GERESS Array B 144.54 332 PKP **PKPab** 00 26 14.2 -0.1
comp=Z,24nm,0.7s,baz=34,slow=3.9,SNR=128
GERES PP **PP** 00 29 30.4 -3.4
comp=Z,1.3nm,0.8s,baz=135,slow=0.2,SNR=3.7
SKIA Skiathos 144.56 312 P **PKPab** 00 26 14.0 -0.6
ERET Eretria 144.61 310 P **PKPab** 00 26 13.1 -1.8
SKO Skopje 144.65 317 *i* PKP **PKPdf** 00 26 15.9 +0.5
XOR Xorichti 144.67 312 P PKPbc 00 26 13.7 -1.4
XOR Xorichti 144.67 312 P PKPbc 00 26 13.7 -1.4
NEO Neokhori 144.68 312 P PKPbc 00 26 13.8 -1.3
NEO Neokhori 144.68 312 P PKPbc 00 26 13.8 -1.3
PTL Penteli 144.72 310 P PKPbc 00 26 14.3 -1.0
PTL Penteli 144.72 310 P PKPbc 00 26 14.3 -1.0
PTL Penteli 144.72 310 *e*PB PKPbc 00 26 14.3 -1.0
BEHE Becsehely 144.74 327 ⇓*ec* PKPbc 00 26 15.9 +0.9
ATHU Athens Univers 144.81 309 P **PKPdf** 00 26 20.0 +4.2
ATHU Athens Univers 144.81 309 P **PKPdf** 00 26 20.0 +4.2
ARSA Arzberg 144.84 329 ⇑*i*P PKPbc 00 26 15.3 0.0
ARSA Arzberg 144.84 329 ⇑*i* PKPdf PKPbc 00 26 15.3 0.0
comp=Z,57nm,1.4s,SNR=24
LIT Litokhoron 144.84 314 PKIKP PKPbc 00 26 14.8 -0.8
LIT Litokhoron 144.84 314 P PKPbc 00 26 14.8 -0.8
LIT Litokhoron 144.84 314 P PKPbc 00 26 14.8 -0.8
ATH Athens Observa 144.86 310 PKIKP PKPbc 00 26 14.7 -0.9
ATH Athens Observa 144.86 310 P PKPbc 00 26 14.7 -0.9
ATH Athens Observa 144.86 310 P PKPbc 00 26 14.7 -0.9
ATH Athens Observa 144.86 310 *e*PB PKPbc 00 26 15.0 -0.6
IDI Anoyia 144.90 305 *e*PKP PKPbc 00 26 15.5 -0.5

IDI	Anoyia	144.90	305	P	PKPdf	00 26 16.1	0.0
GRF	Grafenberg Arr	144.92	335	ePKP	PKPab	00 26 15.8	+0.1
GRF	Grafenberg Arr	144.92	335	ePKIKP	PKPab	00 26 15.8	+0.1
GRFO	Grafenberg	144.92	335	ePKIKP	PKPab	00 26 15.7	+0.1
GRFO	Grafenberg	144.92	335	ePKP	PKPab	00 26 15.7	+0.1
MOA	Molln	145.01	331⇑	iP	PKPab	00 26 16.1	0.0
MOA	Molln	145.01	331⇑	iPKPdf	PKPab	00 26 16.1	0.0
	comp=Z,78nm,0.9s,SNR=15						
KOGS	Kog	145.02	327	i PKPbc	PKPbc	00 26 15.7	-0.1
SIVA	Sivas	145.05	304	P	PKPab	00 26 16.8	+0.2
SIVA	Sivas	145.05	304	P	PKPab	00 26 16.8	+0.2
ATAL	Atalanti	145.07	311	P	PKPdf	00 26 15.3	-0.9
ATAL	Atalanti	145.07	311	P	PKPdf	00 26 15.3	-0.9
LKR	Lokris	145.11	311	P	PKPdf	00 26 15.1	-1.2
LKR	Lokris	145.11	311	P	PKPdf	00 26 15.1	-1.2
LKR	Lokris	145.11	311	ePB	PKPdf	00 26 15.4	-0.9
NAIG	Nisos Aigina	145.11	309	ePB	PKPdf	00 26 15.0	-1.3
IVA	Berane	145.15	319⇑	iPKP	PKPbc	00 26 16.6	+0.1
BIA	Bitola	145.19	316	i PKP	PKPdf	00 26 15.2	-1.3
PLE	Pljevlja	145.20	320⇑	iPKP	PKPdf	00 26 16.5	+0.1
KZN	Kozani	145.24	314	ePN	PKPdf	00 26 15.2	-1.3
KBI1	Birley Grange	145.26	351	eP	PKPdf	00 26 14.2	-1.9
KBI1	Birley Grange	145.26	351	P	PKPdf	00 26 14.2	-1.9
PVY	Plav	145.26	319⇑	iPKP	PKPab	00 26 17.3	0.0
FNA	Florina	145.28	315	PKP2	PKPdf	00 26 16.7	+0.1
FNA	Florina	145.28	315	P	PKPdf	00 26 16.7	+0.1
FNA	Florina	145.28	315	P	PKPdf	00 26 16.7	+0.1
AXAR	Agios Charalam	145.30	311	P	PKPdf	00 26 16.3	-0.3
AXAR	Agios Charalam	145.30	311	P	PKPdf	00 26 16.3	-0.3
BCI	Bajram Curri	145.31	319	i P	PKPdf	00 26 16.7	+0.2
DID	Didima	145.39	309	P	PKPdf	00 26 15.9	-0.9
DID	Didima	145.39	309	ePB	PKPdf	00 26 15.9	-0.9
VAM	Vamos	145.40	305	PKP2	PKPab	00 26 17.8	-0.1
VAM	Vamos	145.40	305	P	PKPab	00 26 17.8	-0.1
VAM	Vamos	145.40	305	P	PKPab	00 26 17.8	-0.1
VAM	Vamos	145.40	305	ePN	PKPab	00 26 18.3	+0.4
THL	Klokotos Trika	145.41	313	ePN	PKPdf	00 26 15.7	-1.0
DIDY	Didyma	145.42	309	P	PKPdf	00 26 16.2	-0.8
PHP	Peshkopia	145.44	317	i P	PKPbc	00 26 17.2	-0.2
SOKA	Soboth	145.48	328⇑	iP	PKPdf	00 26 16.9	+0.1
SOKA	Soboth	145.48	328⇑	iPKPab	PKPdf	00 26 16.9	+0.1
	comp=Z,28nm,1.1s						
WME	Myndd Eilian	145.48	353	eP	PKPdf	00 26 16.4	0.0
WME	Myndd Eilian	145.48	353	P	PKPdf	00 26 16.4	0.0
DESF	Desfina	145.54	311	P	PKPdf	00 26 15.7	-1.4
UPM	Unac-Piva	145.56	321⇓	iPKP	PKPdf	00 26 17.5	+0.3
MAKR	Makrakomi, Fth	145.57	312	P	PKPdf	00 26 17.0	-0.1
MAKR	Makrakomi, Fth	145.57	312	P	PKPdf	00 26 17.0	-0.1
WPM1	Penmaenmawr	145.57	353	eP	PKPdf	00 26 16.8	+0.2
WPM1	Penmaenmawr	145.57	353	P	PKPdf	00 26 16.8	+0.2
WLF1	Llynfaes	145.60	354	eP	PKPdf	00 26 16.7	+0.1
WLF1				AMB	AMB	00 26 17.9	
	comp=Z,106nm,1.1s						
WLF1	Llynfaes	145.60	354	P	PKPdf	00 26 16.7	+0.1
WLF1				AMB	AMB	00 26 17.9	
	comp=Z,106nm,1.1s						
YRC	Rhoscolyn	145.66	354	eP	PKPdf	00 26 16.8	+0.1
YRC	Rhoscolyn	145.66	354	P	PKPdf	00 26 16.8	+0.1
NEST	Nestorio	145.67	315	P	PKPdf	00 26 17.5	+0.2
NKY	Niksic	145.73	325⇑	iPKP	PKPdf	00 26 17.5	+0.2
GCIS	Gornji Cirnik	145.73	327	i PKPbc	PKPbc	00 26 18.3	+0.2
DLF	Lyons Farm	145.78	356	eP	PKPdf	00 26 17.1	+0.2
TTG	Podgorica	145.78	319⇑	iPKP	PKPbc	00 26 18.1	-0.2
KALE	Kalithea	145.83	311	P	PKPbc	00 26 18.2	-0.5
KALE	Kalithea	145.83	311	P	PKPbc	00 26 18.2	-0.5
EVR	Evrytania	145.84	312	P	PKPbc	00 26 18.6	-0.1
EVR	Evrytania	145.84	312	P	PKPbc	00 26 18.6	-0.1
EVR	Evrytania	145.84	312	ePN	PKPbc	00 26 18.6	-0.1
FOEL	Foel Wylfa	145.85	352	eP	PKPdf	00 26 16.9	-0.2
FOEL				AMB	AMB	00 26 19.4	
	comp=Z,77nm,1.8s						
FOEL	Foel Wylfa	145.85	352	P	PKPdf	00 26 16.9	-0.2
FOEL				AMB	AMB	00 26 19.4	
	comp=Z,77nm,1.8s						
TRIZ	Trizonia	145.89	311	P	PKPbc	00 26 18.4	-0.3
TOD	Tromm	145.91	337	PKP2	PKPbc	00 26 18.6	+0.1
TOD	Tromm	145.91	337	PKP	PKPbc	00 26 18.6	+0.1
VLI	Veliai	145.91	308	P	PKPdf	00 26 17.8	+0.1
VLI	Veliai	145.91	308	P	PKPdf	00 26 17.8	+0.1
VLI	Veliai	145.91	308	ePN	PKPdf	00 26 17.9	+0.2
BRY	Bratogost	145.96	320⇑	iPKP	PKPbc	00 26 18.6	-0.4
EFP	Efpalio	145.98	311	P	PKPbc	00 26 19.1	+0.1
EFP	Efpalio	145.98	311	ePN	PKPbc	00 26 19.5	+0.5
KYTH	Kithira	145.99	307	P	PKPbc	00 26 19.0	-0.1
KYTH	Kithira	145.99	307	P	PKPbc	00 26 19.0	-0.1
KYTH	Kithira	145.99	307	ePN	PKPbc	00 26 19.1	-0.1
KBA	Koelnbreinsper	146.00	330⇑	iPKP2	PKPdf	00 26 18.3	+0.5
KBA	Koelnbreinsper	146.00	330⇑	iP	PKPdf	00 26 18.2	+0.5
KBA	Koelnbreinsper	146.00	330⇑	iPKPbc	PKPdf	00 26 18.2	+0.5
	comp=Z,31nm,0.8s,SNR=7.2						
LAKA	Lakka	146.01	311	P	PKPbc	00 26 19.2	0.0
LAKA	Lakka	146.01	311	P	PKPbc	00 26 19.2	0.0
ULC	Ulcinj	146.05	319⇑	iPKP	PKPbc	00 26 19.2	+0.1
VLX	Vlachokerasia	146.07	309	P	PKPbc	00 26 19.3	-0.2
VLX	Vlachokerasia	146.07	309	ePN	PKPbc	00 26 19.4	-0.1
BUM	Brajici-Budva	146.08	319⇓	iPKP	PKPab	00 26 20.0	-0.4
ABH	Alteburg	146.12	339	PKP	PKPbc	00 26 19.4	+0.3
JAN	Janina	146.16	314	PKP2	PKPbc	00 26 19.9	+0.3
JAN	Janina	146.16	314	P	PKPbc	00 26 19.9	+0.3
JAN	Janina	146.16	314	P	PKPbc	00 26 19.9	+0.3
JAN	Janina	146.16	314	ePN	PKPbc	00 26 19.8	+0.2
HLM1	Long Mynd	146.17	352	AMB	AMB	00 26 18.4	
	comp=Z,58nm,1.6s						
HLM1				eP	PKPbc	00 26 18.5	-0.7
HLM1	Long Mynd	146.17	352	P	PKPbc	00 26 18.5	-0.7
LJU	Ljubljana	146.17	328	i PKPbc	PKPbc	00 26 19.3	0.0
BOJS	Bojanci	146.17	327	i PKPbc	PKPbc	00 26 19.7	+0.3
MYKA	Terra Mystica	146.19	330⇑	iP	PKPdf	00 26 18.6	+0.7
MYKA	Terra Mystica	146.19	330⇑	iPKPbc	PKPdf	00 26 18.7	+0.7
	comp=Z,14nm,0.5s						
HCY	Herceg Novi	146.24	320⇑	iPKP	PKPbc	00 26 19.8	+0.1
UCC	Uccle	146.29	343	PKPbc	PKPbc	00 26 19.3	-0.2
BCLA	Clavier	146.36	342	PKPbc	PKPbc	00 26 19.4	-0.3
RUP	Ruppelstein	146.43	339	PKP2	PKPbc	00 26 20.5	+0.5
RUP	Ruppelstein	146.43	339	PKP	PKPbc	00 26 20.5	+0.5
STU	Stuttgart	146.45	336	ePKP2	PKPdf	00 26 19.0	+0.8
STU	Stuttgart	146.45	336	ePKPdf	PKPdf	00 26 19.0	+0.8
RLS	Riolos of Patr	146.45	311	P	PKPbc	00 26 20.9	+0.5
RLS	Riolos of Patr	146.45	311	P	PKPbc	00 26 20.9	+0.5
RLS	Riolos of Patr	146.45	311	ePN	PKPbc	00 26 20.8	+0.4
ITM	Ithomi	146.48	309	P	PKPbc	00 26 20.4	-0.1
ITM	Ithomi	146.48	309	P	PKPbc	00 26 20.4	-0.1
ITM	Ithomi	146.48	309	ePN	PKPbc	00 26 20.3	-0.2
VOY	Vojsko	146.49	329	e	PKPdf	00 26 14.4	-4.1
VOY				ePKPbc	PKPbc	00 26 19.5	-0.9
VOY				e		00 26 23.3	
SSW	Stow on the Wo	146.55	350	eP	PKPbc	00 26 20.1	-0.2
SSW	Stow on the Wo	146.55	350	P	PKPbc	00 26 20.1	-0.2
IGT	Igoumenitsa	146.58	314	PKP2	PKPbc	00 26 20.8	+0.1
IGT	Igoumenitsa	146.58	314	P	PKPbc	00 26 20.8	+0.1
IGT	Igoumenitsa	146.58	314	P	PKPbc	00 26 20.8	+0.1
SNF	Seneffe	146.58	343	PKPbc	PKPbc	00 26 20.2	-0.1
SKP1	Kophill	146.61	349	eP	PKPdf	00 26 19.3	+0.9
SKP1	Kophill	146.61	349	P	PKPdf	00 26 19.3	+0.9
ABTA	Abfaltersbach	146.63	331	i P	PKPbc	00 26 19.8	-0.9
ABTA	Abfaltersbach	146.63	331	i PKPbc	PKPbc	00 26 19.8	-0.9
	comp=Z,44nm,1.0s,SNR=10						
WTTA	Wattenberg	146.64	332⇑	iPKP2	PKPbc	00 26 20.6	-0.3
WTTA	Wattenberg	146.64	332⇑	iP	PKPbc	00 26 20.6	-0.3
WTTA	Wattenberg	146.64	332⇑	iPKPbc	PKPbc	00 26 20.6	-0.3
	comp=Z,32nm,0.8s,SNR=6.3						
RGA	Parga	146.66	314	P	PKPbc	00 26 21.1	+0.1
MCH1	Michaelchurch	146.69	352	eP	PKPdf	00 26 17.6	-0.9
MCH1				AMB	AMB	00 26 21.7	
	comp=Z,69nm,1.4s						
MCH1	Michaelchurch	146.69	352	P	PKPdf	00 26 17.6	-0.9
MCH1				AMB	AMB	00 26 21.7	
	comp=Z,69nm,1.4s						
LKD2	Lefkada island	146.70	313	P	PKPbc	00 26 21.3	+0.2
LKD2	Lefkada island	146.70	313	P	PKPbc	00 26 21.3	+0.2
PYL	PYLOS	146.73	309	P	PKPbc	00 26 20.5	-0.7
PYL	PYLOS	146.73	309	ePN	PKPbc	00 26 20.5	-0.7
WLF	Walferdange	146.76	340	PKPbc	PKPbc	00 26 21.6	+0.7
WLF	Walferdange	146.76	340	ePKIKP	PKPdf	00 26 19.1	+0.4
WLF	Walferdange	146.76	340	ePKPdf	PKPdf	00 26 19.1	+0.4
LANF	Langenberg	146.79	338	PKP2	PKPbc	00 26 21.3	+0.3
LANF	Langenberg	146.79	338	PKP	PKPbc	00 26 21.3	+0.3
LANF	Langenberg	146.79	338	PKP	PKPbc	00 26 21.3	+0.3
MOTA	Moosalm	146.81	333⇑	iPKP2	PKPbc	00 26 20.9	-0.4
MOTA	Moosalm	146.81	333⇑	iP	PKPbc	00 26 20.9	-0.4
MOTA	Moosalm	146.81	333⇑	iPKPbc	PKPbc	00 26 20.9	-0.4
	comp=Z,39nm,0.8s,SNR=17						
RETA	Reutte	146.84	333⇑	iP	PKPbc	00 26 21.1	-0.2
RETA	Reutte	146.84	333⇑	iPKPbc	PKPbc	00 26 21.1	-0.2
	comp=Z,23nm,0.9s						
DOU	Dourbes	146.86	342	PKPbc	PKPbc	00 26 21.1	0.0
SWN1	Swindon	146.98	350	eP	PKPbc	00 26 21.0	-0.4
SWN1				AMB	AMB	00 26 21.8	
	comp=Z,166nm,0.8s						
SWN1	Swindon	146.98	350	P	PKPbc	00 26 21.0	-0.4
SWN1				AMB	AMB	00 26 21.8	
	comp=Z,166nm,0.8s						
VLS	Valsamata	147.02	312	PKP2	PKPbc	00 26 21.9	-0.1
VLS	Valsamata	147.02	312	P	PKPbc	00 26 21.9	-0.1
VLS	Valsamata	147.02	312	P	PKPbc	00 26 21.9	-0.1
WOL	Wolverton	147.08	349	eP	PKPbc	00 26 20.9	-0.7
WOL				AMB	AMB	00 26 21.8	
	comp=Z,96nm,0.8s						
WOL	Wolverton	147.08	349	P	PKPbc	00 26 20.9	-0.7
WOL				AMB	AMB	00 26 21.8	
	comp=Z,96nm,0.8s						
BFO	Black Forest	147.14	337	ePKIKP	PKPdf	00 26 20.7	+1.2
BFO	Black Forest	147.14	337	ePKPdf	PKPdf	00 26 20.7	+1.2
SPAK	Spaichingen-Ko	147.15	336	PKP	PKPbc	00 26 21.9	-0.2
FETA	Feichten	147.22	333	i P	PKPbc	00 26 22.3	-0.1
FETA	Feichten	147.22	333	i PKPbc	PKPbc	00 26 22.3	-0.1
	comp=Z,40nm,0.7s,SNR=26						
DAVA	Damuels	147.37	334⇑	iP	PKPbc	00 26 22.6	-0.3
DAVA	Damuels	147.37	334⇑	iPKPbc	PKPbc	00 26 22.6	-0.3
	comp=Z,34nm,0.7s,SNR=9.4						
FELD	Feldberg im Sc	147.64	337	PKP	PKPbc	00 26 23.1	-0.4
ECH	Echery	147.66	338	ePKIKP	PKPdf	00 26 21.0	+0.7
ECH	Echery	147.66	338	ePKPdf	PKPdf	00 26 21.0	+0.7
ECH	Echery	147.66	338	PKP	PKPbc	00 26 23.1	-0.3
HEX	Exmoor	147.71	352	eP	PKPbc	00 26 22.8	-0.6
HEX	Exmoor	147.71	352	P	PKPbc	00 26 22.8	-0.6
MOF	Molkenrain	147.98	337	PKP2	PKPbc	00 26 23.9	-0.5
MOF	Molkenrain	147.98	337	PKP	PKPbc	00 26 23.9	-0.5
MOF	Molkenrain	147.98	337	PKP	PKPbc	00 26 23.9	-0.5
THEF	They Montfort	148.06	339	PKP2	PKPbc	00 26 24.5	0.0
THEF	They Montfort	148.06	339	PKP	PKPbc	00 26 24.5	0.0
THEF	They Montfort	148.06	339	PKP	PKPbc	00 26 24.5	0.0
BBS	Basel-Blauen	148.17	337	PKP2	PKPbc	00 26 24.4	-0.4
BBS	Basel-Blauen	148.17	337	PKP	PKPbc	00 26 24.4	-0.4
TUE	Stuetta	148.24	334	ePKPdf	PKPdf	00 26 21.8	+0.3
DYA	Yadsworthy	148.35	352	eP	PKPbc	00 26 24.2	-0.8
DYA				AMB	AMB	00 26 24.9	
	comp=Z,64nm,1.4s						
DYA	Yadsworthy	148.35	352	P	PKPbc	00 26 24.2	-0.8
DYA				AMB	AMB	00 26 24.9	
	comp=Z,64nm,1.4s						
LOMF	Lomont	148.51	337	PKP2	PKPbc	00 26 25.8	+0.1
LOMF	Lomont	148.51	337	PKP	PKPbc	00 26 25.8	+0.1
LOMF	Lomont	148.51	337	PKP	PKPbc	00 26 25.8	+0.1
AQU	L'Aquila	149.27	324	ePKPdf	PKPdf	00 26 23.5	+0.4
AQU				ePKPbc	PKiKP	00 26 28.4	-0.4
BNI	Bardonecchia	150.49	335	ePKIKP	PKPdf	00 26 25.7	+0.6
BNI	Bardonecchia	150.49	335	ePKPdf	PKPdf	00 26 25.7	+0.6
BNI				ePKPbc	PKiKP	00 26 31.4	+0.1
PLDF	La Plantade	150.82	340	PKIKP	PKPbc	00 26 31.4	0.0
PLDF	La Plantade	150.82	340	PKP	PKPbc	00 26 31.4	0.0
PLDF	La Plantade	150.82	340	PKP	PKPbc	00 26 31.4	0.0
AGO	Saint Agoulin	150.91	340	PKP	PKPbc	00 26 31.4	-0.1
AGO	Saint Agoulin	150.91	340	PKP	PKPbc	00 26 31.4	-0.1
PYM	Petit Puy Mans	151.22	340	PKIKP	PKPbc	00 26 32.4	+0.1
PYM	Petit Puy Mans	151.22	340	PKP	PKPbc	00 26 32.4	+0.1
PYM	Petit Puy Mans	151.22	340	PKP	PKPbc	00 26 32.4	+0.1
KEST	Kesra	155.94	317	ePKPab	PKPab	00 27 02.1	+0.5
KEST	Kesra	155.94	317	PKPab	PKPab	00 27 02.8	+1.2
	comp=Z,5.7nm,0.9s,baz=340,slow=5.8,SNR=9.3						
ESDC	Sonseca Array	158.78	346	PKPab	PKPab	00 27 13.1	-0.5
ESDC	Sonseca Array	158.78	346	PKPab	PKPab	00 27 13.1	-0.5
	comp=Z,2.5nm,0.8s,baz=19,slow=3.6,SNR=8.0						
TAM	Tamanrasset	164.62	286	ePKIKP	PKPdf	00 26 43.1	0.0
TAM	Tamanrasset	164.62	286	ePKPdf	PKPdf	00 26 43.1	0.0
TOA0	Torodi Ar. Sit	166.88	245	ePKPdf	PKPdf	00 26 44.3	-0.6
TORD	Torodi Ar. Bea	166.88	245	PKP	PKPdf	00 26 44.3	-0.6
TORD				PKPab	PKPab	00 27 50.0	+0.1
TORD	Torodi Ar. Bea	166.88	245	PKP	PKPdf	00 26 44.3	-0.6
	comp=Z,5.7nm,0.9s,baz=39,slow=0.3,SNR=23						
TORD				PKPab	PKPab	00 27 50.0	+0.1
	comp=Z,1.8nm,0.9s,baz=108,slow=4.7,SNR=7.5						

ISK ***03*** *00:28:12.7,39°.98N×27°.73E,h12km, MD2.3*
ISCJB ***03*** *00:28:13.5±0.5, 40°.01N±0°.03×27°.76E±0°.04, h4km±7km, Error ellipse: s-maj=5.5km s-min=4.2km az=14.6*
DDA ***03*** *00:28:13.4, 40°.00N×27°.74E, h10km, MD2.7*
CSEM ***03*** *00:28:13.4±0.1, 40°.00N×27°.74E, h8km, MD2.3, Error ellipse: s-maj=2.5km s-min=2.1km az=96.0*

ISC 03 00:28:13.7±0.9, 40°.00N±0°.02×27°.74E±0°.03, h10km±7km, n26, σ0s49/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GONE	Gonen-Balikesi	0.07	319	ePG	Pg	00 28 15.5	-0.3
GONE	Gonen-Balikesi	0.07	319	ePg	Pg	00 28 15.5	-0.3
BALY	Balya	0.27	200	i P	Pg	00 28 19.3	+0.1
BALY				i S	Sg	00 28 23.8	+0.9
BALY	Balya	0.27	200	i P	Pg	00 28 19.3	+0.1
BALY				i S	Sg	00 28 23.8	+0.9
BALB	Balikesir	0.37	163	ePG	Pg	00 28 20.1	-0.9
BALB				eSG	Sg	00 28 26.0	0.0
BALB	Balikesir	0.37	163	ePg	Pg	00 28 20.1	-0.9
BALB				eSg	Sg	00 28 26.0	0.0
BNT	Bandirma	0.38	21	ePG	Pg	00 28 20.9	-0.4
BNT				eSG	Sg	00 28 26.8	+0.4
BNT	Bandirma	0.38	21	ePg	Pg	00 28 20.9	-0.4
BNT				eSg	Sg	00 28 26.8	+0.4
KCTX	Karacabey (Bur	0.54	60	ePG	Pg	00 28 23.7	-0.5
KCTX				eSG	Sg	00 28 31.7	+0.3
KCTX	Karacabey (Bur	0.54	60	ePg	Pg	00 28 23.7	-0.5
KCTX				eSg	Sg	00 28 31.7	+0.3
DURS	Dursunbey	0.69	125	i P	Pg	00 28 27.1	+0.1
DURS				i S	Sg	00 28 36.6	+0.6
DURS	Dursunbey	0.69	125	i P	Pg	00 28 27.1	+0.1
DURS				i S	Sg	00 28 36.6	+0.6
DST	Dursunbey	0.78	120	ePG	Pg	00 28 28.2	-0.5
DST	Dursunbey	0.78	120	ePg	Pg	00 28 28.3	-0.5
RKY	Sarkoy-Tekirda	0.81	328	ePG	Pg	00 28 29.0	-0.4
RKY	Sarkoy-Tekirda	0.81	328	ePg	Pg	00 28 29.0	-0.4
MDNY	Mudanya-Bursa	0.95	67	ePG	Pg	00 28 31.7	-0.3
MDNY	Mudanya-Bursa	0.95	67	ePg	Pg	00 28 31.7	-0.3
ARMT	Armutlu	1.03	56	ePG	Pg	00 28 33.1	-0.3
ARMT	Armutlu	1.03	56	ePg	Pg	00 28 33.1	-0.3
AYVA	Ayvalik	1.06	230	i P	Pb	00 28 33.4	-0.8
AYVA				i S	Sn	00 28 49.9	+0.4
AYVA	Ayvalik	1.06	230	i P	Pb	00 28 33.4	-0.8
AYVA				i S	Sn	00 28 49.9	+0.4
CRLT	Corlu	1.13	360	ePN	Pb	00 28 35.3	-0.1
CRLT	Corlu	1.13	360	ePn	Pb	00 28 35.3	-0.1
DEMI	Demirci	1.22	141	i P	Pn	00 28 36.8	0.0
DEMI				i S	Sb	00 28 53.0	+0.4
DEMI	Demirci	1.22	141	i P	Pn	00 28 36.8	0.0
DEMI				i S	Sb	00 28 53.0	+0.4

NEIC ***03*** *01:31:46.4, 18°.20N×68°.88W, h45km, MD2.8(RSPR), After RSPR.*

RSPR 03 01:31:46.4, 18°.20N×68°.88W, h45km±6km, MD2.7/4, 9C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DR12	Loma Pena Alta	0.75	321⇑	eP	Pn	01 31 59.3	-1.5
DR12				eS	Sn	01 32 10.4	-0.7
DR12	Loma Pena Alta	0.75	321⇑	eP	Pn	01 31 59.3	-1.5
DR12				eS	Sn	01 32 10.4	-0.7
SMN1	Samana, DR	1.05	339⇑	eP	Pn	01 32 03.6	-1.2
SMN1				eS	Sn	01 32 17.1	-1.3
CRPR	Cabo Rojo, PR	1.70	96⇑	eP	Pn	01 32 12.8	-0.7
CRPR	Cabo Rojo, PR	1.70	96⇑	eP	Pn	01 32 12.8	-0.7
CRPR				eS	Sn	01 32 32.7	-1.4
AOPR	Arecibo Observ	2.03	86⇑	eP	Pn	01 32 17.2	-1.0
AOPR	Arecibo Observ	2.03	86⇑	eP	Pn	01 32 17.2	-1.0
SDDR	Presa de Saban	2.41	289	ePn	Pn	01 32 26.3	+2.8
SDDR				eS	Sn	01 32 59.7	+7.9
CBYP	Canovanas	2.88	88	Pn	Pn	01 32 29.8	-0.1
MTP	Monte Pirata	3.17	91⇑	eP	Pn	01 32 33.6	-0.2
MTP	Monte Pirata	3.17	91⇑	eP	Pn	01 32 33.6	-0.2
MTP				eS	Sn	01 33 09.9	-0.4

ISCJB ***03*** *01:34:17.0±0.6, 39°.42N±0°.04×33°.11E±0°.04, h6km±5km, Error ellipse: s-maj=7.5km s-min=5.3km az=173.7*
ISK ***03*** *01:34:16.2, 39°.43N×33°.11E, h6km, MD2.8*
CSEM ***03*** *01:34:16.7±0.1, 39°.43N×33°.10E, h8km, MD2.8, Error ellipse: s-maj=3.3km s-min=2.6km az=177.0*
DDA ***03*** *01:34:17.5, 39°.46N×33°.09E, h11km, MD2.9*

ISC 03 01:34:16.7±0.9, 39°.41N±0°.03×33°.09E±0°.03, h5km±6km, n20, σ0s51/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFSR	Afʼar-Bala (A	0.04	336	ePG	Pg	01 34 17.6	-0.5
AFSR				eSG	Sg	01 34 19.7	+0.6
AFSR	Afʼar-Bala (A	0.04	336	ePg	Pg	01 34 17.6	-0.5
AFSR				eSg	Sg	01 34 19.7	+0.6
BBAL	Bala	0.14	10	i P	Pg	01 34 20.1	+0.5
BBAL				i S	Sg	01 34 22.8	+1.2
BBAL	Bala	0.14	10	i P	Pg	01 34 20.1	+0.5
BBAL				i S	Sg	01 34 22.8	+1.2
KAMT	Kaman	0.48	94	ePG	Pg	01 34 25.9	-0.2
KAMT				eSG	Sg	01 34 32.7	+0.4
KAMT	Kaman	0.48	94	ePg	Pg	01 34 25.9	-0.2
KAMT				eSg	Sg	01 34 32.7	+0.4
LOD	Lodumlu	0.55	332	ePG	Pg	01 34 27.1	-0.1
LOD				eSG	Sg	01 34 34.8	+0.5
LOD	Lodumlu	0.55	332	ePg	Pg	01 34 27.1	-0.1
LOD				eSg	Sg	01 34 34.8	+0.5
CDAG	Cicekdag	1.01	77	i P	Pg	01 34 36.2	+0.1
CDAG				i S	Sb	01 34 50.2	-0.2
CDAG	Cicekdag	1.01	77	i P	Pg	01 34 36.2	+0.1
KDHN	Kadinhani	1.17	221	i P	Pg	01 34 39.7	+0.6
KDHN				i S	Sn	01 34 55.6	-0.5
KDHN	Kadinhani	1.17	221	i P	Pg	01 34 39.7	+0.6
KDHN				i S	Sn	01 34 55.6	-0.5
SVRH	Sivrihisar-ESK	1.22	272	ePN	Pb	01 34 39.9	-0.4
SVRH	Sivrihisar-ESK	1.22	272	ePn	Pb	01 34 39.9	-0.4
SULT	Sultanhani-AKS	1.25	165	ePN	Pn	01 34 41.0	+0.1
SULT	Sultanhani-AKS	1.25	165	ePn	Pn	01 34 41.0	+0.1
CORM	Corum	1.41	56	ePN	Pn	01 34 42.9	-0.3
CORM	Corum	1.41	56	ePn	Pn	01 34 42.9	-0.3
YOZ	Yozgat	1.74	82	ePN	Pn	01 34 47.7	+0.1
YOZ	Yozgat	1.74	82	ePn	Pn	01 34 47.7	+0.1

GUC 03 02:25:45.6±0.8, 32°.41S×71°.70W, h3km±5km, MD3.6, ML2.7, 2C-5D, Near coast of central Chile

| Code | Station Name | Δ° | AZ° | Phase ID | |

FUSE	**Fusea**	**0.39**	**267**	⇓	*e*Pg	**Pb**	**02 30 42.8**	**-0.9**
FUSE					*e*Sg	**Sb**	**02 30 50.3**	**+0.5**
ZOU	**Zoufplan**	**0.42**	**287**	⇓	*e*Pg	**Pb**	**02 30 43.5**	**-1.0**
ZOU					*e*Sg	**Sb**	**02 30 50.3**	**-0.6**
SABO	**M.te Sabotino**	**0.46**	**177**	⇓	*e*Pg	**Pb**	**02 30 43.9**	**-1.0**
SABO					*e*Sg	**Sb**	**02 30 51.4**	**-0.3**
SABO	**M.te Sabotino**	**0.46**	**177**	⇑	*i*Pg	**Pb**	**02 30 44.1**	**-0.8**
SABO					Sg	**Sb**	**02 30 52.1**	**+0.4**
	comp=Z,220nm,0.4s							
SABO	**M.te Sabotino**	**0.46**	**177**	⇑	*i*Pg	**Pb**	**02 30 44.1**	**-0.8**
SABO					Sg	**Sb**	**02 30 52.1**	**+0.4**
	comp=Z,220nm,0.4s							
VOJS	**Vojsko**	**0.46**	**151**	⇓	*i*Pg	**Pg**	**02 30 43.8**	**-0.1**
VOJS					*i* Sg	**Sb**	**02 30 51.4**	**-0.5**
VOJS								
	comp=Z,59nm,0.2s							
VOJS	**Vojsko**	**0.46**	**151**	⇓	*i*Pg	**Pg**	**02 30 43.8**	**-0.1**
VOJS					*e*Sg	**Sb**	**02 30 51.4**	**-0.5**
FVI	**Forni Avoltri**	**0.56**	**287**		Pg	**Pb**	**02 30 45.8**	**-1.0**
FVI					Sg	**Sb**	**02 30 54.6**	**-0.3**
	comp=Z,92nm,0.5s							
FVI	**Forni Avoltri**	**0.56**	**287**		*e*Pg	**Pb**	**02 30 45.8**	**-1.0**
FVI					*e*Sg	**Sb**	**02 30 54.6**	**-0.3**
CRNS	**Crni Vrh**	**0.60**	**126**		*i* Pg	**Pb**	**02 30 46.4**	**-1.0**
CRNS					*i* Sg	**Sb**	**02 30 55.8**	**-0.1**
CRNS								
	comp=Z,21nm,0.1s							
MOZS	**Mozjanca**	**0.63**	**103**		*i* Pg	**Pb**	**02 30 47.5**	**-0.3**
MOZS					*i* Sg	**Sb**	**02 30 56.7**	**+0.1**
MOZS								
	comp=Z,24nm,0.2s							
MOZS	**Mozjanca**	**0.63**	**103**		*i* Pg	**Pb**	**02 30 47.5**	**-0.3**
MOZS					*e*Sg	**Sb**	**02 30 56.7**	**+0.1**
CSMI	**Casera Mimoias**	**0.63**	**277**	⇑	*e*Pg	**Pb**	**02 30 47.4**	**-0.6**
CSMI					*e*Sg	**Sb**	**02 30 56.9**	**-0.1**
CSMI	**Casera Mimoias**	**0.63**	**277**	⇑	*e*Pg	**Pb**	**02 30 47.4**	**-0.6**
CSMI					*e*Sg	**Sb**	**02 30 56.9**	**-0.1**
JAVS	**Javornik**	**0.65**	**147**		*i* Pg	**Pg**	**02 30 46.9**	**-0.4**
JAVS					*i* Sg	**Sb**	**02 30 57.6**	**+0.4**
JAVS								
	comp=Z,14nm,0.1s							
JAVS	**Javornik**	**0.65**	**147**		*i* Pg	**Pg**	**02 30 46.9**	**-0.4**
JAVS					*i* Sg	**Sb**	**02 30 57.6**	**+0.4**
KBA	**Koelnbreinsper**	**0.66**	**347**	⇓	*i*Pg	**Pb**	**02 30 48.0**	**-0.5**
KBA				⇑	*i*Sg	**Sb**	**02 30 57.1**	**-0.6**
	comp=Z,18nm,0.3s							
KBA	**Koelnbreinsper**	**0.66**	**347**	⇓	*i*Pg	**Pb**	**02 30 48.0**	**-0.5**
KBA					Sg	**Sb**	**02 30 57.1**	**-0.6**
	comp=Z,18nm,0.3s							
OBKA	**Obir**	**0.69**	**84**		*e*Pg	**Pb**	**02 30 48.3**	**-0.6**
	SNR=12							
OBKA				⇑	*i*Sg	**Sb**	**02 30 58.3**	**-0.1**
	comp=Z,75nm,0.3s							
OBKA	**Obir**	**0.69**	**84**		*e*Pg	**Pb**	**02 30 48.3**	**-0.6**
OBKA					Sg	**Sb**	**02 30 58.3**	**-0.1**
	comp=Z,75nm,0.3s							
LJU	**Ljubljana**	**0.78**	**120**		*i* Pg	**Pb**	**02 30 49.9**	**-0.4**
LJU	**Ljubljana**	**0.78**	**120**		*i* Pg	**Pb**	**02 30 49.9**	**-0.4**
CIMO	**Cimolais**	**0.79**	**261**		*e*Pg	**Pb**	**02 30 50.1**	**-0.4**
CIMO	**Cimolais**	**0.79**	**261**		*e*Pg	**Pb**	**02 30 50.2**	**-0.4**
ABTA	**Abfaltersbach**	**0.79**	**294**	⇑	*e*Pg	**Pb**	**02 30 50.0**	**-0.6**
	SNR=8.3							
ABTA				⇓	*i*Sg	**Sb**	**02 31 01.7**	**+0.4**
	comp=Z,14nm,0.2s							
ABTA	**Abfaltersbach**	**0.79**	**294**	⇑	*e*Pg	**Pb**	**02 30 50.0**	**-0.6**
ABTA					*i* Sg	**Sb**	**02 31 01.4**	**+0.1**
VNDS	**Vrh nad Dolski**	**0.86**	**113**		*i* Pg	**Pb**	**02 30 51.3**	**-0.4**
VNDS					*i* Sg	**Sb**	**02 31 03.9**	**+0.6**
VNDS								
	comp=Z,14nm,0.1s							
CEY	**Cerknica**	**0.92**	**139**		*i* Pg	**Pg**	**02 30 51.8**	**-0.7**
CEY					*e*Sg	**Sn**	**02 31 06.2**	**-0.8**
CEY								
	comp=Z,12nm,0.1s							
CEY	**Cerknica**	**0.92**	**139**		*i* Pg	**Pg**	**02 30 51.8**	**-0.7**
CEY					*e*Sg	**Sn**	**02 31 06.2**	**-0.8**
SKDS	**Skadanscina**	**0.94**	**160**		*e*Pg	**Pg**	**02 30 52.0**	**-1.0**
SKDS	**Skadanscina**	**0.94**	**160**		*e*Pg	**Pg**	**02 30 52.0**	**-1.0**
SOKA	**Soboth**	**1.04**	**76**	⇓	*i*Pg	**Pb**	**02 30 54.4**	**-0.5**
SOKA				⇓	*i*Sg	**Sn**	**02 31 09.1**	**-0.9**
	comp=Z,17nm,0.3s							
SOKA	**Soboth**	**1.04**	**76**	⇓	*i*Pg	**Pb**	**02 30 54.4**	**-0.5**
SOKA					*i* Sg	**Sn**	**02 31 09.2**	**-0.9**
PDKS	**Podkum**	**1.06**	**110**		*i* Pg	**Pn**	**02 30 55.2**	**-0.5**
PDKS					*i* Sg	**Sn**	**02 31 10.5**	**-0.1**
PDKS								
	comp=Z,28nm,0.3s							
PDKS	**Podkum**	**1.06**	**110**		*i* Pg	**Pn**	**02 30 55.2**	**-0.5**
PDKS					*i* Sg	**Sn**	**02 31 10.5**	**-0.1**
PERS	**Pernice**	**1.09**	**79**		*i* Sg	**Sb**	**02 31 10.2**	**+0.1**
VISS	**Visnje**	**1.09**	**125**		*i* Pg	**Pb**	**02 30 55.4**	**-0.3**
VISS					*i* Sg	**Sn**	**02 31 12.6**	**+1.4**
VISS								
	comp=Z,40nm,0.4s							
VISS	**Visnje**	**1.09**	**125**		*i* Pg	**Pb**	**02 30 55.4**	**-0.3**
VISS					*i* Sg	**Sn**	**02 31 12.6**	**+1.4**
VARN	**Col Varnada, M**	**1.10**	**247**		*e*Pg	**Pn**	**02 30 56.8**	**+0.5**
VARN	**Col Varnada, M**	**1.10**	**247**		*e*Pg	**Pn**	**02 30 56.8**	**+0.5**
GBRS	**Gornja Briga**	**1.26**	**136**		*i* Pg	**Pg**	**02 30 58.8**	**-0.1**
GBRS					*i* Sg	**Sn**	**02 31 18.4**	**+3.1**
LEGS	**Legarje**	**1.31**	**111**		*i* Pg	**Pg**	**02 31 00.5**	**+0.5**
LEGS					*i* Sg	**Sn**	**02 31 18.3**	**+1.6**
LEGS	**Legarje**	**1.31**	**111**		*i* Pg	**Pg**	**02 31 00.5**	**+0.5**
LEGS					*i* Sg	**Sn**	**02 31 18.3**	**+1.6**
GROS	**Grobnik**	**1.34**	**88**		*i* Pg	**Pg**	**02 31 00.6**	**+0.1**
GROS					*i* Sg	**Sg**	**02 31 17.6**	**-0.4**
GROS	**Grobnik**	**1.34**	**88**		*i* Pg	**Pg**	**02 31 00.6**	**+0.1**
GROS					*i* Sg	**Sg**	**02 31 17.6**	**-0.4**
DOBS	**Dobrina**	**1.35**	**102**		*e*Pg	**Pg**	**02 31 00.3**	**-0.4**
DOBS	**Dobrina**	**1.35**	**102**		*e*Pg	**Pg**	**02 31 00.3**	**-0.4**
CESS	**Cesta pri Krsk**	**1.40**	**109**		*i* Pg	**Pg**	**02 31 02.2**	**+0.6**
CESS					*i* Sg	**Sg**	**02 31 21.1**	**+1.2**
CESS	**Cesta pri Krsk**	**1.40**	**109**		*i* Pg	**Pg**	**02 31 02.2**	**+0.6**
CESS					*i* Sg	**Sg**	**02 31 21.0**	**+1.2**
CRES	**Cresnjev**	**1.45**	**114**		*i* Pg	**Pg**	**02 31 02.4**	**-0.3**
CRES					*i* Sg	**Sg**	**02 31 23.0**	**+1.5**
CRES								
	comp=Z,20nm,0.3s							
CRES	**Cresnjev**	**1.45**	**114**		*i* Pg	**Pg**	**02 31 02.3**	**-0.3**
CRES					*i* Sg	**Sg**	**02 31 23.0**	**+1.5**
MOA	**Molln**	**1.49**	**19**	⇓	*e*Pg	**Pg**	**02 31 03.6**	**+0.2**
	SNR=19							
MOA				⇑	*i*Sg	**Sg**	**02 31 24.1**	**+1.3**
	comp=Z,17nm,0.3s							
MOA	**Molln**	**1.49**	**19**		Pg	**Pg**	**02 31 03.6**	**+0.2**
	SNR=19							
MOA					Sg	**Sg**	**02 31 24.1**	**+1.3**
	comp=Z,17nm,0.3s							
GOLS	**Golise**	**1.49**	**106**		*e*Pg	**Pg**	**02 31 03.6**	**+0.2**
GOLS								
	comp=Z,10.0nm,0.2s							
GOLS	**Golise**	**1.49**	**106**		*e*Pg	**Pg**	**02 31 03.6**	**+0.2**
BOJS	**Bojanci**	**1.50**	**128**		*i* Pg	**Pg**	**02 31 02.9**	**-0.7**
BOJS					*e*Sg	**Sg**	**02 31 23.6**	**+0.5**
BOJS								
	comp=Z,12nm,0.3s							
BOJS	**Bojanci**	**1.50**	**128**		*i* Pg	**Pg**	**02 31 02.9**	**-0.7**
BOJS					*e*Sg	**Sg**	**02 31 23.6**	**+0.5**
ARSA	**Arzberg**	**1.57**	**58**		*e*Pg	**Pg**	**02 31 04.5**	**-0.5**
	SNR=17							
ARSA	**Arzberg**	**1.57**	**58**		Pg	**Pg**	**02 31 04.5**	**-0.5**
	SNR=17							
KOGS	**Kog**	**1.86**	**89**		*i* Pg	**Pb**	**02 31 08.5**	**-0.3**
KOGS	**Kog**	**1.86**	**89**		*i* Pg	**Pb**	**02 31 08.5**	**-0.3**
FETA	**Feichten**	**2.04**	**288**	⇓	*i*Pg	**Pg**	**02 31 14.2**	**+0.4**
FETA				⇑	*i*Sg	**Sg**	**02 31 42.7**	**+2.5**
	comp=Z,6.5nm,0.7s							
FETA	**Feichten**	**2.04**	**288**		Pg	**Pg**	**02 31 14.2**	**+0.4**
FETA					Sg	**Sg**	**02 31 42.7**	**+2.5**
	comp=Z,6.5nm,0.7s							
KHC	**Kasperske Hory**	**2.70**	**0**		*e*PN	**Pb**	**02 31 21.2**	**-1.9**
KHC					*e*Pg	Pg	02 31 30.5	+4.1
KHC					*e*SN	**Sb**	**02 31 54.8**	**-1.4**
KHC					*e*Sg	**Sg**	**02 32 01.4**	**0.0**
	comp=Z,9.3nm,0.8s							
KHC	**Kasperske Hory**	**2.70**	**0**		Pn	**Pb**	**02 31 21.2**	**-1.9**
KHC					Sg	**Sg**	**02 32 01.4**	**0.0**
	comp=Z,9.3nm,0.8s							
PRU	**Pruhonice**	**3.61**	**10**		*e*SG	**Sg**	**02 32 30.3**	**-0.5**
PRU	**Pruhonice**	**3.61**	**10**		Sg	**Sg**	**02 32 30.3**	**-0.5**
NKC	**Novy Kostel**	**3.87**	**349**		*e*SG	**Sg**	**02 32 40.0**	**+1.0**
NKC	**Novy Kostel**	**3.87**	**349**		Sg	**Sg**	**02 32 40.0**	**+1.0**
BRG	**Berggiesshubel**	**4.45**	**3**		SG	**Sg**	**02 32 59.2**	**+1.7**
	comp=Z,5.1nm,0.9s							
CLL	**Collm**	**4.89**	**356**		*e*Sg	**Sg**	**02 33 12.0**	**+0.3**

GUC 03 02:33:13.3±0.7, 32.56S×71.73W, h9km±6km, MD3.5, ML2.6, 2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.70**	**16**	*e*P		Pg	02 33 27.1	+0.2
CHNG				*e*S		Sb	02 33 37.1	-0.4
CHNG				AML		AML	02 33 38.8	
	comp=E,246nm,0.3s							
ROCH	**El Roble**	**0.73**	**124**	⇓ *i*P		Pg	02 33 27.7	-0.1
ROCH				*i* S		Sg	02 33 38.0	+0.4
JACH	**Jahuel**	**0.97**	**98**	⇓ *i*P		Pg	02 33 31.6	-0.5
JACH				*i* S		Sg	02 33 45.0	+0.2
PEL	**Peldehue**	**1.06**	**124**	⇑ *i*P		Pg	02 33 33.0	-0.7
PEL				*i* S		Sg	02 33 47.4	-0.2
PEL				AML		AML	02 33 50.6	
	comp=E,484nm,0.3s							
SAN	**Santiago**	**1.27**	**135**	*e*S		Sb	02 33 53.0	-0.9
CLCH	**Cerro Calan**	**1.30**	**130**	⇓ *i*P		Pn	02 33 36.7	-1.2
CLCH				*i* S		Sb	02 33 54.2	-1.0
CLCH				AML		AML	02 33 58.1	
	comp=N,153nm,0.3s							
LNV	**Longovilo**	**1.42**	**169**	*e*P		Pn	02 33 38.0	-1.3
FCH	**Farellones**	**1.43**	**123**	⇑ *i*P		Pn	02 33 38.7	-1.3
FCH				*e*S		Sn	02 33 57.6	-1.6
FCH				AML		AML	02 34 01.3	
	comp=E,94nm,0.2s							
PCH	**Pirque**	**1.47**	**136**	*e*P		Pn	02 33 39.4	-0.8
PCH				*e*S		Sn	02 33 59.6	-0.1
CMCH	**Combarbala**	**1.51**	**24**	⇓ *i*P		Pn	02 33 39.7	-1.0
CMCH				*i* S		Sn	02 34 00.3	-0.3
CMCH				AML		AML	02 34 03.8	
	comp=E,279nm,0.9s							
CHCH	**Chadas Angostu**	**1.64**	**147**	*e*P		Pn	02 33 42.1	-0.4
LMEL	**Las Melosas**	**1.81**	**136**	⇓ *i*P		Pn	02 33 45.3	+0.3
LMEL				*i* S		Sn	02 34 09.1	+0.8
LMEL				AML		AML	02 34 13.4	
	comp=N,136nm,0.2s							

CASC 03 02:34:00.4±1.6, 13.66N×91.00W, h33km±12km, MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.80**	**11**	*e*P		Pn	02 34 15.7	+0.1
FUG				*e*S		Sb	02 34 27.6	+0.8
PCG	**Pacaya**	**0.82**	**28**	*e*P		Pn	02 34 16.2	+0.1
PCG				*e*S		Sb	02 34 27.6	-0.2
JAT	**Jato**	**0.90**	**317**	*e*P		Pb	02 34 17.9	+0.3
JAT				*e*S		Sn	02 34 27.8	-0.7
FG6		**0.90**	**7**	*e*P		Pn	02 34 17.2	0.0
FG6				*e*S		Sn	02 34 29.4	+0.1
TP2	**Tecpan 2**	**1.12**	**359**	*e*P		Pn	02 34 20.6	+0.3
TP2				*e*S		Sn	02 34 35.1	+0.2
NBG	**Las Nubes**	**1.12**	**35**	*e*P		Pb	02 34 21.1	-0.6
NBG				*e*S		Sb	02 34 36.2	-0.1
RTR	**El Retiro**	**1.34**	**80**	*e*P		Pn	02 34 23.2	+0.2
RTR				*e*S		Sb	02 34 41.2	-1.0
SBLS	**San Blas**	**1.35**	**82**	*e*P		Pn	02 34 23.3	0.0
SBLS				*e*S		Sn	02 34 40.3	0.0
RBDL	**Robledal**	**1.35**	**70**	*e*P		Pn	02 34 23.0	-0.2
RBDL				*e*S		Sn	02 34 41.3	+1.1
SNJE	**San Jose**	**1.37**	**81**	*e*P		Pn	02 34 23.5	0.0
BOQS	**Boqueron**	**1.68**	**87**	*e*P		Pn	02 34 27.6	0.0
BOQS				*e*S		Sn	02 34 49.4	+1.1
MTO2	**Montecristo 2**	**1.75**	**65**	*e*P		Pn	02 34 27.8	-0.9
LFRS	**El Faro**	**1.89**	**91**	*e*P		Pn	02 34 30.9	+0.4
LFRS				*e*S		Sn	02 34 54.1	+0.8
MRL	**Marmol**	**1.89**	**42**	*e*P		Pn	02 34 30.9	+0.3
MRL				*e*S		Sb	02 34 56.0	-1.9
LBRS	**Las Brisas**	**1.91**	**87**	*e*P		Pn	02 34 30.7	0.0
SNVI	**San Vicente**	**2.10**	**91**	*e*P		Pn	02 34 33.9	+0.4

*MDD **03** 02:39:24.7±2.5, 43.16N×14.30W, h20km±116km, mb3.6/7, Error ellipse: s-maj=130.0km s-min=16.6km az=112.0, PRXIMO*
*LDG **03** 02:39:26.8±0.5, 43.47N×13.75W, h20km, Ml3.0/4, Error ellipse: s-maj=10.6km s-min=5.2km az=91.0*
*INMG **03** 02:39:26.3±1.3, 43.20N×14.54W, h10km, ML2.4, Error ellipse: s-maj=12.0km s-min=5.8km az=85.0*
*CSEM **03** 02:39:28.7±0.5, 42.91N×13.74W, h10km, ML3.1/5, Error ellipse: s-maj=9.8km s-min=7.1km az=84.0*

ISC 03 02:39:24.5±3.4, 42.99N±0.08×14.0W±0.2, h10km, n83, σ1.72/99, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**3.71**	**89**	P		**Pn**	**02 40 22.2**	**+0.3**
	0.8nm,0.1s,SNR=7.9							
EMAZ				S		**Sn**	**02 41 04.0**	**-1.7**
	2.0nm,0.1s,SNR=7.9							
STS	**Santiago**	**4.03**	**90**	P		**Pn**	**02 40 26.7**	**+0.5**
	0.8nm,0.1s,SNR=7.9							
STS				S		**Sn**	**02 41 14.4**	**+0.9**
	2.4nm,0.1s,SNR=7.9							
STS	**Santiago**	**4.03**	**90**	P		**Pn**	**02 40 26.7**	**+0.5**
	0.8nm,0.1s,SNR=7.9							
STS				S		**Sn**	**02 41 14.4**	**+0.9**
	2.4nm,0.1s,SNR=7.9							
PGAV	**Gavieira, Arco**	**4.39**	**102**	*e*Pn		**Pn**	**02 40 32.7**	**+1.5**
PGAV				*e*Sn		**Sn**	**02 41 22.6**	**+0.2**
PGAV				A		A	02 41 24.0	
	4.2nm,0.3s							
PGAV	**Gavieira, Arco**	**4.39**	**102**	*e*Pn		**Pn**	**02 40 32.7**	**+1.5**
PGAV				*e*Sn		**Sn**	**02 41 22.6**	**+0.2**
	4.2nm,0.3s							
ELOB	**Lobios**	**4.56**	**102**	P		**Pn**	**02 40 35.1**	**+1.5**
	0.2nm,0.1s,SNR=7.9							
ELOB				S		**Sn**	**02 41 27.4**	**+0.6**
	1.0nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**4.56**	**102**	P		**Pn**	**02 40 35.1**	**+1.5**
	0.2nm,0.1s,SNR=7.9							
ELOB				S		**Sn**	**02 41 27.4**	**+0.6**
	1.0nm,0.1s,SNR=7.9							
POLO	**Lamas de Olo**	**4.91**	**107**	*e*Sn		**Sn**	**02 41 36.2**	**+0.8**
POLO				A		A	02 41 40.0	
	0.4nm,0.1s							
POLO	**Lamas de Olo**	**4.91**	**107**	*e*Sn		**Sn**	**02 41 36.2**	**+0.8**
	0.4nm,0.1s							
PVRL	**Vila Real**	**5.00**	**108**	*e*Sn		**Sn**	**02 41 37.0**	**-0.5**
PVRL				A		A	02 41 38.1	
	1.9nm,0.2s							
PVRL	**Vila Real**	**5.00**	**108**	S		**Sn**	**02 41 37.0**	**-0.5**
	0.9nm,0.2s							
PVRL	**Vila Real**	**5.00**	**108**	S		**Sn**	**02 41 37.0**	**-0.5**
	0.9nm,0.2s							
EPON	**Pontenova**	**5.05**	**84**	P		**Pn**	**02 40 40.5**	**+0.2**
	0.2nm,0.1s,SNR=7.9							
EPON				S		**Sn**	**02 41 36.5**	**-2.2**
	4.3nm,0.2s,SNR=7.5							
EPON	**Pontenova**	**5.05**	**84**	P		**Pn**	**02 40 40.5**	**+0.2**
	0.2nm,0.1s,SNR=7.9							
EPON				S		**Sn**	**02 41 36.5**	**-2.2**
	4.3nm,0.2s,SNR=7.5							
PVIS	**Viseu**	**5.12**	**114**	*e*Pn		**Pn**	**02 40 42.4**	**+1.2**
PVIS				*e*Sn		**Sn**	**02 41 39.9**	**-0.5**
PVIS				A		A	02 41 45.5	
	2.6nm,0.1s							
PVIS	**Viseu**	**5.12**	**114**	P		**Pn**	**02 40 42.4**	**+1.2**
PVIS				S		**Sn**	**02 41 39.9**	**-0.5**
	1.3nm,0.1s							
PVIS	**Viseu**	**5.12**	**114**	P		**Pn**	**02 40 42.4**	**+1.2**
PVIS				S		**Sn**	**02 41 39.9**	**-0.5**
	1.3nm,0.1s							
PMAFR	**Mafra**	**5.40**	**137**	*e*Sn		**Sn**	**02 41 45.7**	**-1.6**
PMAFR				A		A	02 41 49.7	
	18nm,0.8s							
PMAFR	**Mafra**	**5.40**	**137**	S		**Sn**	**02 41 48.0**	**+0.7**
	7.7nm,0.2s,SNR=7.9							
PMAFR	**Mafra**	**5.40**	**137**	*e*Sn		**Sn**	**02 41 45.7**	**-1.6**
	18nm,0.8s							
PMAFR				S		Sb	02 41 48.0	-16
	7.7nm,0.2s,SNR=7.9							
PTOM	**Tomar**	**5.41**	**127**	*e*Sn		**Sn**	**02 41 47.3**	**-0.2**
PTOM				A		A	02 41 52.2	
	4.2nm,0.1s							
PTOM	**Tomar**	**5.41**	**127**	S		**Sn**	**02 41 47.3**	**-0.2**
	2.1nm,0.1s							
ECAL	**Calabor**	**5.50**	**98**	P		**Pn**	**02 40 48.1**	**+1.6**
	0.5nm,0.1s,SNR=7.9							
ECAL				S		**Sn**	**02 41 51.1**	**+1.2**
	1.8nm,0.2s,SNR=5.7							
ECAL	**Calabor**	**5.50**	**98**	P		**Pn**	**02 40 48.1**	**+1.6**
	0.5nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.53**	**107**	*e*Sn		**Sn**	**02 41 49.2**	**-1.2**
MVO				A		A	02 41 55.7	
	2.1nm,0.6s							
MVO	**Moncorvo**	**5.53**	**107**	S		**Sn**	**02 41 50.0**	**-0.4**
	0.2nm,0.0s,SNR=7.9							
MVO	**Moncorvo**	**5.53**	**107**	*e*Sn		**Sn**	**02 41 49.2**	**-1.2**
	2.1nm,0.6s							
PCBR	**Castelo Branco**	**5.85**	**120**	*e*Sn		**Sn**	**02 41 56.6**	**-1.7**
PCBR				A		A	02 41 59.7	
	0.9nm,0.2s							
PCBR	**Castelo Branco**	**5.85**	**120**	S		**Sn**	**02 41 56.6**	**-1.7**
	0.4nm,0.2s							
PCBR	**Castelo Branco**	**5.85**	**120**	S		**Sn**	**02 41 56.6**	**-1.7**
	0.4nm,0.2s							
PMTG	**Montargil**	**5.88**	**130**	*e*Sn		**Sn**	**02 41 57.9**	**-1.3**
PMTG	**Montargil**	**5.88**	**130**	*e*Sn		**Sn**	**02 41 57.9**	**-1.3**
PMRV	**Marv??o**	**6.14**	**123**	*e*Sn		**Sn**	**02 42 04.3**	**-1.3**
PMRV				A		A	02 42 06.0	
	2.8nm,0.7s							
PMRV	**Marv??o**	**6.14**	**123**	S		**Sn**	**02 42 04.3**	**-1.3**
	2.8nm,0.7s							
PMRV	**Marv??o**	**6.14**	**123**	S		**Sn**	**02 42 04.3**	**-1.3**
	2.8nm,0.7s							
EVOP	**Sao Brissos**	**6.32**	**133**	*e*Pn		**Pn**	**02 40 59.8**	**+2.1**
EVOP				*e*Sn		**Sn**	**02 42 07.9**	**-2.1**
	2.2nm,0.4s							
EVO	**Evora**	**6.38**	**132**	*e*Pn		**Pn**	**02 40 59.8**	**+1.3**
EVO				*e*Sn		**Sn**	**02 42 07.9**	**-3.5**
	4.4nm,0.4s							
EVO	**Evora**	**6.38**	**132**	*e*Pn		Pn	02 41 02.6	+4.1
EVO				*e*Sn		**Sn**	**02 42 09.8**	**-1.6**
EVO				A		A	02 42 17.7	
	2.2nm,0.4s							
EVO	**Evora**	**6.38**	**132**	P		Pn	02 41 02.6	+4.1
EVO				S		**Sn**	**02 42 09.8**	**-1.6**
	2.2nm,0.4s							
PESTR	**Estremoz**	**6.38**	**128**	*e*Sn		**Sn**	**02 42 09.4**	**-2.1**
PESTR	**Estremoz**	**6.38**	**128**	S		**Sn**	**02 42 09.4**	**-2.1**
PESTR	**Estremoz**	**6.38**	**128**	S		**Sn**	**02 42 09.4**	**-2.1**
PNCL	**Nicolau / Gran**	**6.43**	**137**	*e*Pn		**Pn**	**02 41 00.7**	**+1.6**
PNCL				*e*Sn		**Sn**	**02 42 11.3**	**-1.2**
PNCL	**Nicolau / Gran**	**6.43**	**137**	*e*Pn		**Pn**	**02 41 00.7**	**+1.6**
PNCL				*e*Sn		**Sn**	**02 42 11.3**	**-1.2**
EARI	**Arriondas**	**6.47**	**84**	P		**Pn**	**02 41 00.3**	**+0.6**
	0.1nm,0.1s,SNR=6.7							
EARI				S		**Sn**	**02 42 09.8**	**-3.8**
	0.4nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**6.47**	**84**	P		**Pn**	**02 41 00.3**	**+0.6**
	0.1nm,0.1s,SNR=6.7							
EPLA	**Plasencia**	**6.65**	**113**	S		**Sn**	**02 42 17.8**	**-0.3**
	0.4nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**6.80**	**126**	P		**Pn**	**02 41 06.7**	**+2.5**
	0.1nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**02 42 18.8**	**-2.9**
	0.4nm,0.1s,SNR=7.2							
EBAD	**Badajoz**	**6.80**	**126**	P		**Pn**	**02 41 06.7**	**+2.5**
	0.1nm,0.1s,SNR=7.9							
EBAD				S		**Sn**	**02 42 18.8**	**-2.9**
	0.4nm,0.1s,SNR=7.2							
PBEJ	**Beja**	**6.83**	**134**	*e*Sn		**Sn**	**02 42 21.5**	**-1.0**
PBEJ				A		A	02 42 25.5	
	3.0nm,0.5s							
PBEJ	**Beja**	**6.83**	**134**	S		**Sn**	**02 42 21.5**	**-1.0**
	1.5nm,0.5s							
PBEJ	**Beja**	**6.83**	**134**	S		**Sn**	**02 42 21.5**	**-1.0**
	1.5nm,0.5s							

Ms7 5.1/3
*MOS **03** 03:14:20.6±1.4, 16°.58S×72°.91W, h74km, mb5.0/18, Error ellipse: s-maj=18.2km s-min=8.7km az=122.4*
*IDC **03** 03:14:21.7±0.6, 16°.50S×72°.75W, h74km±3km, mb4.2/13, mb1 4.4/17, mb1mx4.3/22, mbtmp4.2/17, MS3.3/4, Ms1 3.3/4, ms1mx3.0/23, Error ellipse: s-maj=19.1km s-min=10.4km az=47.0*
*NEIC **03** 03:14:21.1±0.3, 16°.59S×72°.69W, mb4.8/49, Error ellipse: s-maj=10.1km s-min=6.1km az=59.0*
NEIC Felt [IV] at Ocona, [III] at Camana and [II] at Arequipa. Also felt at Lluta, Mollendo and Punta de Bombon.
ISC 03 03:14:21.3±0.4, 16°.53S±0°.07×72°.75W±0°.08, h74km±3km, h73km:pP-P, n403, σ1$00/430, mb4.7/61, 139C-127D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.43**	**88**	*e*Pn	Pn	03 15 31.4	+4.7
LPAZ				*e*S	Sn	03 15 53.4	-24
NNA	**Nana**	**6.01**	**318**	*e*Pn	**Pn**	**03 15 48.0**	**+0.2**
	118nm,0.6s						
NNA				*e*S	**Sn**	**03 16 52.1**	**-3.1**
NNA				S		03 16 53.5	
NNA	**Nana**	**6.01**	**318**	P	**Pn**	**03 15 49.1**	**+1.3**
	10.0nm,0.3s,baz=136,slow=11,SNR=14						
NNA				S	**Sn**	**03 16 53.5**	**-1.8**
	63nm,0.3s,baz=211,slow=12,SNR=5.8						
ATAH	**Atahualpa**	**10.85**	**329**	P	**Pn**	**03 16 55.1**	**+1.0**
ATAH				S	**Sn**	**03 18 55.1**	**+1.1**
ATAH	**Atahualpa**	**10.85**	**329**	P	**Pn**	**03 16 55.1**	**+1.0**
	0.4nm,0.3s,baz=41,slow=3.4,SNR=2.7						
ATAH				S	**Sn**	**03 18 55.1**	**+1.1**
	0.6nm,0.3s,baz=103,slow=15,SNR=1.7						
SIV	**San Ignacio**	**11.22**	**89**	P	**Pn**	**03 16 59.4**	**+0.5**
SIV	**San Ignacio**	**11.22**	**89**	P	**Pn**	**03 16 59.4**	**+0.5**
	3.9nm,0.3s,baz=283,slow=11,SNR=29						
SIV				LR	LR	03 21 45.5	
	comp=Z,120nm,20.3s,slow=40						
SAML	**Samuel**	**11.99**	**52**	*e*Pn	**Pn**	**03 17 06.8**	**-2.5**
	15nm,0.8s						
LCO	**Las Campanas**	**12.56**	**172**	*e*Pn	Pn	03 17 13.5	-3.9
LCO				*e*S	Sn	03 19 29.0	-6.6
CFAA	**Coronel Fontan**	**15.56**	**166**	P	**Pn**	**03 17 57.1**	**+0.8**
CFAA	**Coronel Fontan**	**15.56**	**166**	P	**Pn**	**03 17 57.1**	**+0.8**
	0.8nm,0.3s,baz=341,slow=11,SNR=64						
OTAV	**Otavalo**	**17.59**	**341**	*e*Pn	**P**	**03 18 24.3**	**+2.2**
	14nm,1.1s						
ROSC	**El Rosal**	**21.31**	**356**	*e*P	**P**	**03 19 03.4**	**+0.8**
ROSC	**El Rosal**	**21.31**	**356**	P	**P**	**03 19 04.0**	**+1.5**
	12nm,0.5s,baz=101,slow=16,SNR=14						
ROSC				LR	LR	03 28 23.7	
	comp=Z,88nm,19.5s,baz=198,slow=40						
PAYG	**Puerto Ayora**	**23.39**	**311**	*e*P	**P**	**03 19 24.3**	**+0.5**
	6.8nm,0.6s						
TRQA	**Tornquist**	**23.45**	**158**	*e*P	**P**	**03 19 23.7**	**-0.4**
	7.7nm,0.9s						
BDFB	**Brasilia**	**23.78**	**91**	P	**P**	**03 19 29.1**	**+1.7**
BDFB	**Brasilia**	**23.78**	**91**	P	**P**	**03 19 29.1**	**+1.7**
	4.7nm,0.5s,baz=268,slow=11,SNR=11						
PLCA	**Paso Flores**	**24.19**	**176**	*e*P	**P**	**03 19 30.9**	**0.0**
	28nm,0.8s						
PLCA	**Paso Flores**	**24.19**	**176**	P	**P**	**03 19 31.1**	**+0.2**
	36nm,0.9s,baz=348,slow=10,SNR=47						
PLCA				LR	LR	03 27 20.0	
	comp=Z,68nm,19.5s,baz=326,slow=32						
SDV	**Santo Domingo**	**25.34**	**5**	*e*P	**P**	**03 19 40.8**	**-0.8**
	24nm,0.8s						
JTS	**JuntasAbangare**	**29.26**	**335**	LR	LR	03 31 59.7	
	comp=Z,46nm,18.4s,baz=239,slow=36						
GRGR	**Grenville**	**30.52**	**22**	*e*P	P	03 20 24.1	-3.6
	257nm,1.3s						
SDDR	**Presa de Saban**	**35.32**	**2**	*e*P	**P**	**03 21 10.8**	**+1.2**
	10nm,0.9s						
USHA	**Ushuaia**	**38.37**	**176**	P	**P**	**03 21 35.4**	**+0.4**
USHA	**Ushuaia**	**38.37**	**176**	P	**P**	**03 21 35.4**	**+0.4**
	8.3nm,0.9s,baz=330,slow=8.1,SNR=4.3						
NHSC	**New Hope**	**49.86**	**352**	*e*P	**P**	**03 23 08.1**	**+1.0**
	79nm,1.1s						
KMSC	**Kings Mountain**	**52.03**	**351**	⇑P	**P**	**03 23 22.7**	**-0.6**
	baz=52						
SWET	**Sewanee**	**52.96**	**346**	*e*P	**P**	**03 23 29.3**	**-0.9**
	5.0nm,0.5s						
PLAL	**Pickwick Lake**	**53.26**	**344**	*e*P	**P**	**03 23 30.9**	**-1.5**
	6.7nm,0.9s						
JCT	**Junction City**	**53.51**	**331**	⇓P	**P**	**03 23 34.7**	**+0.3**
	baz=54						
TZTN	**Tazewell**	**53.76**	**349**	*e*P	**P**	**03 23 36.3**	**+0.2**
	4.2nm,0.6s						
628A	**Black Gap, Mar**	**54.22**	**327**	⇓P	**P**	**03 23 39.4**	**-0.2**
	baz=54,SNR=6.9						
UALR	**University of**	**54.32**	**340**	*e*P	**P**	**03 23 40.1**	**0.0**
	21nm,1.1s						
627A	**Terlingua Ranc**	**54.45**	**327**	⇑P	**P**	**03 23 41.7**	**+0.4**
	baz=55						
TXAR	**Lajitas Array**	**54.50**	**327**	P	**P**	**03 23 41.6**	**-0.1**
TXAR				pP	**pP**	**03 24 00.9**	**+0.4**
TXAR	**Lajitas Array**	**54.50**	**327**	P	**P**	**03 23 41.6**	**-0.1**
	2.8nm,0.9s,baz=148,slow=9.4,SNR=22						
TXAR				pP	**pP**	**03 24 00.9**	**+0.4**
	0.6nm,0.6s,baz=153,slow=9.7,SNR=3.7						
MIAR	**Mount Ida**	**54.52**	**339**	*e*P	**P**	**03 23 41.6**	**0.0**
MIAR				pmax	pmax		
	comp=Z,13nm,0.8s						
MIAR	**Mount Ida**	**54.52**	**339**	*e*P	**P**	**03 23 41.6**	**0.0**
	comp=Z,14nm,0.8s						
528A	**Cox Ranch, San**	**54.71**	**328**	⇓P	**P**	**03 23 43.4**	**+0.2**
	baz=55						
626A	**Big Bend Ranch**	**54.92**	**326**	⇑P	**P**	**03 23 45.1**	**+0.3**
	baz=55,SNR=11						
428A	**Kincaid Ranch,**	**55.11**	**328**	⇓P	**P**	**03 23 46.4**	**+0.3**
	baz=55						
527A	**Woodward Ranch**	**55.12**	**327**	⇑P	**P**	**03 23 46.4**	**+0.2**
	baz=55						
526A	**Mary Lane Ranc**	**55.30**	**327**	⇓P	**P**	**03 23 47.6**	**+0.1**
	baz=56						
427A	**Hayter Ranch,**	**55.57**	**328**	⇑P	**P**	**03 23 49.5**	**+0.1**
	baz=56						
328A	**Wristen Ranch,**	**55.70**	**329**	⇓P	**P**	**03 23 50.4**	**+0.1**
	baz=56,SNR=5.7						
426A	**McDonald Obser**	**55.75**	**327**	⇑P	**P**	**03 23 50.9**	**+0.1**
	baz=56						
USIN	**University of**	**55.99**	**346**	*e*P	**P**	**03 23 51.4**	**-0.7**
	comp=Z,23nm,0.5s						
SIUC	**Southern Illin**	**56.14**	**344**	*e*P	**P**	**03 23 52.5**	**-0.7**
	comp=Z,37nm,0.8s						
SIUC				*e*		03 24 12.0	
326A	**Caldwell Ranch**	**56.24**	**328**	⇑P	**P**	**03 23 53.9**	**-0.3**
	baz=56,SNR=5.7						
425A	**Indio Mountain**	**56.34**	**327**	⇑P	**P**	**03 23 55.0**	**0.0**
	baz=57,SNR=6.1						
227A	**Bennet, Jal**	**56.45**	**329**	⇑P	**P**	**03 23 55.7**	**+0.1**
	baz=57						
TUL1	**Tulsa**	**56.54**	**338**	⇑P	**P**	**03 23 55.5**	**-0.5**
	baz=57,SNR=5.7						
FVM	**French Village**	**56.71**	**343**	*e*P	**P**	**03 23 56.5**	**-0.8**
FVM				pmax	pmax		
	comp=Z,15nm,1.0s						
FVM	**French Village**	**56.71**	**343**	*e*P	**P**	**03 23 56.5**	**-0.8**
	comp=Z,15nm,1.0s						
Z29A	**Hungry Hill Ra**	**56.71**	**331**	⇓P	**P**	**03 23 56.8**	**-0.6**
	baz=57						
325A	**Bean Ranch, Si**	**56.80**	**327**	⇓P	**P**	**03 23 57.9**	**-0.3**
	baz=57,SNR=8.2						
226A	**Malaga, Loving**	**56.90**	**328**	⇑P	**P**	**03 23 58.9**	**+0.1**
	baz=57,SNR=7.2						
127A	**Arkansas Junct**	**57.02**	**329**	⇑P	**P**	**03 23 59.2**	**-0.5**
	baz=57						
Z28A	**Tucker Farm, M**	**57.06**	**330**	⇑P	**P**	**03 23 59.4**	**-0.5**
	baz=57						
324A	**Moseley Ranch,**	**57.12**	**327**	⇑P	**P**	**03 23 59.3**	**-1.2**
	baz=57,SNR=8.5						
Y29A	**Porterfield Fa**	**57.20**	**331**	⇓P	**P**	**03 24 00.2**	**-0.7**
	baz=58,SNR=5.2						
ACSO	**Alum Creek Sta**	**57.27**	**351**	*e*P	**P**	**03 24 00.2**	**-1.0**
	comp=Z,15nm,0.8s						
MNTX	**Cornudas Mount**	**57.27**	**327**	⇑P	**P**	**03 24 00.7**	**-0.6**
	baz=58,SNR=8.1						
225A	**Deer Hill, Car**	**57.31**	**328**	⇑P	**P**	**03 24 01.4**	**-0.4**
	baz=58,SNR=7.3						
126A	**Clayton Basin,**	**57.33**	**329**	⇓P	**P**	**03 24 01.5**	**-0.3**
	baz=58,SNR=6.4						
Z27A	**Tatum**	**57.47**	**330**	⇑P	**P**	**03 24 02.2**	**-0.6**
	baz=58,SNR=8.9						
224A	**Cornudas Mount**	**57.64**	**327**	⇓P	**P**	**03 24 03.2**	**-0.9**
	baz=58,SNR=11						
125A	**Gardner Draw,**	**57.66**	**328**	⇓P	**P**	**03 24 03.6**	**-0.6**
	baz=58						
X29A	**Tulia**	**57.70**	**332**	⇑P	**P**	**03 24 03.4**	**-1.0**
	baz=58						
MSTX	**Muleshoe**	**57.80**	**331**	⇓P	**P**	**03 24 04.7**	**-0.4**
	baz=58,SNR=5.3						
Z26A	**Caprock**	**57.81**	**329**	⇑P	**P**	**03 24 04.8**	**-0.5**
	baz=58,SNR=5.5						
Y27A	**Causey**	**57.91**	**330**	⇓P	**P**	**03 24 05.3**	**-0.7**
	baz=58,SNR=5.2						
AMTX	**Amarillo**	**58.05**	**332**	⇓P	**P**	**03 24 06.3**	**-0.6**
	baz=58						
SFIN	**Scholer Farm**	**58.17**	**347**	⇑P	**P**	**03 24 06.0**	**-1.5**
	baz=58						
Z25A	**Roswell**	**58.18**	**329**	⇑P	**P**	**03 24 07.4**	**-0.5**
	baz=58,SNR=9.0						
222A	**Williams Famil**	**58.50**	**326**	⇓P	**P**	**03 24 10.5**	**+0.4**
	baz=59						
X27A	**F and S Farms,**	**58.51**	**331**	⇑P	**P**	**03 24 09.9**	**-0.2**
	baz=59						
Z24A	**Sheeppen Canyo**	**58.55**	**328**	⇑P	**P**	**03 24 10.6**	**+0.1**
	baz=59,SNR=12						
Y25A	**Mesa, Roswell**	**58.69**	**329**	⇑P	**P**	**03 24 11.0**	**-0.4**
	baz=59						
320A	**Kipp Ranch, An**	**58.70**	**324**	⇑P	**P**	**03 24 11.8**	**+0.3**
	baz=59						
X26A	**CR and CF Fran**	**58.77**	**330**	⇓P	**P**	**03 24 11.8**	**-0.1**
	baz=59						
122A	**Conniff Cattle**	**58.91**	**326**	⇓P	**P**	**03 24 13.6**	**+0.7**
	baz=59						
Z23A	**Rita Site, Whi**	**58.94**	**327**	⇑P	**P**	**03 24 13.8**	**+0.7**
	baz=59						
V28A	**Channing**	**59.02**	**332**	⇓P	**P**	**03 24 14.0**	**+0.4**
	baz=59						
220A	**Playas Peak, P**	**59.13**	**325**	⇑P	**P**	**03 24 14.9**	**+0.4**
	baz=59,SNR=6.7						
X25A	**Clemmons Ranch**	**59.16**	**329**	⇑P	**P**	**03 24 14.3**	**-0.3**
	baz=60						
W26A	**Owens Ranch, T**	**59.18**	**331**	⇑P	**P**	**03 24 15.1**	**+0.3**
	baz=60						
121A	**Cookes Peak, D**	**59.20**	**326**	⇑P	**P**	**03 24 15.6**	**+0.6**
	baz=60,SNR=7.1						
Z22A	**Elephant Butte**	**59.32**	**327**	⇑P	**P**	**03 24 16.1**	**+0.3**
	baz=60,SNR=5.3						
W25A	**X Bar L Ranch,**	**59.62**	**330**	⇓P	**P**	**03 24 17.7**	**-0.1**
	baz=60						
Z21A	**St. Cloud Mine**	**59.73**	**326**	⇑P	**P**	**03 24 19.2**	**+0.5**
	baz=60						
Y22A	**Socorro**	**59.85**	**327**	⇑P	**P**	**03 24 19.8**	**+0.4**
	baz=60						
LPM	**Los Pinos Moun**	**59.97**	**328**	*e*P	**P**	**03 24 21.1**	**+0.8**
W24A	**Lazy 6 Ranch,**	**60.07**	**329**	⇓P	**P**	**03 24 22.0**	**+1.0**
	baz=60						
V25A	**Rancho No Teng**	**60.20**	**330**	⇑P	**P**	**03 24 22.1**	**+0.3**
	baz=60						
U26A	**Atchley Ranch,**	**60.24**	**331**	⇓P	**P**	**03 24 21.6**	**-0.5**
	baz=61,SNR=5.4						
Y21A	**Point of Rocks**	**60.27**	**327**	⇑P	**P**	**03 24 23.1**	**+0.7**
	baz=61						
LAZ	**Ladron**	**60.30**	**327**	*e*P	**P**	**03 24 23.1**	**+0.5**
	comp=Z,3.7nm,0.9s						
LAZ				*e*		03 24 42.2	
X22A	**Bernardo**	**60.32**	**328**	⇓P	**P**	**03 24 24.0**	**+1.3**
	baz=61						
ANMO	**Albuquerque**	**60.39**	**328**	*e*P	**P**	**03 24 23.3**	**+0.2**
	comp=Z,3.2nm,0.8s						
W23A	**Werner Place,**	**60.40**	**329**	⇓P	**P**	**03 24 23.6**	**+0.4**
	baz=61						
V24A	**Rampart Ranch,**	**60.42**	**330**	⇓P	**P**	**03 24 23.3**	**-0.1**
	baz=61						
U25A	**Circle Dot Ran**	**60.55**	**331**	⇓P	**P**	**03 24 24.4**	**+0.2**
	baz=61						
Y20A	**Horse Springs,**	**60.57**	**326**	⇓P	**P**	**03 24 24.8**	**+0.3**
	baz=61						
CBKS	**Cedar Bluff**	**60.58**	**336**	*e*P	**P**	**03 24 24.3**	**+0.1**
CBKS				pmax	pmax		
	comp=Z,12nm,0.8s						
CBKS	**Cedar Bluff**	**60.58**	**336**	*e*P	**P**	**03 24 24.3**	**+0.1**
	comp=Z,12nm,0.8s						
CBKS	**Cedar Bluff**	**60.58**	**336**	⇓P	**P**	**03 24 24.2**	**0.0**
	baz=61						
X21A	**Alamocita Cree**	**60.67**	**327**	⇑P	**P**	**03 24 25.9**	**+0.8**
	baz=61						
T26A	**Comanche Natio**	**60.81**	**332**	⇓P	**P**	**03 24 26.5**	**+0.5**
	baz=61						
V23A	**Ortiz Mt. (NFS**	**60.88**	**329**	⇑P	**P**	**03 24 26.8**	**+0.3**
	baz=61						
Y19A	**Nutrioso**	**61.08**	**326**	⇓P	**P**	**03 24 28.6**	**+0.6**
	baz=61,SNR=7.4						
X20A	**Quemado**	**61.12**	**327**	⇑P	**P**	**03 24 29.0**	**+0.8**
	baz=61						
W21A	**San Fidel**	**61.12**	**328**	⇑P	**P**	**03 24 28.8**	**+0.7**
	baz=61						
S26A	**Kim**	**61.13**	**332**	⇑P	**P**	**03 24 28.1**	**0.0**
	baz=62,SNR=5.5						
T25A	**Trinidad**	**61.16**	**331**	⇑P	**P**	**03 24 28.8**	**+0.5**
	baz=62						
MSNY	**Massena**	**61.26**	**358**	*e*P	**P**	**03 24 29.1**	**+0.5**
	comp=Z,51nm,0.7s						
U23A	**El Rito**	**61.35**	**330**	⇓P	**P**	**03 24 30.6**	**+0.9**
	baz=62						
V22A	**San Miguel Ran**	**61.37**	**329**	⇓P	**P**	**03 24 30.4**	**+0.6**
	baz=62,SNR=8.4						
Y18A	**Canyon Day Jun**	**61.37**	**325**	⇑P	**P**	**03 24 30.5**	**+0.7**
	baz=62						
R27A	**Eads**	**61.39**	**333**	⇑P	**P**	**03 24 30.0**	**+0.3**
	baz=62						
T24A	**Torres, Weston**	**61.40**	**331**	⇑P	**P**	**03 24 30.8**	**+0.7**
	baz=62						
X19A	**St. Johns**	**61.45**	**326**	⇑P	**P**	**03 24 31.2**	**+0.9**
	baz=62						
W20A	**Ramah**	**61.57**	**327**	⇑P	**P**	**03 24 31.7**	**+0.5**
	baz=62,SNR=6.5						
S25A	**Robets Cordova**	**61.59**	**332**	⇑P	**P**	**03 24 31.6**	**+0.4**
	baz=62						
214A	**Organ Pipe Nat**	**61.64**	**322**	⇑P	**P**	**03 24 32.3**	**+0.8**
	baz=62						
R26A	**Arlington**	**61.68**	**333**	⇑P	**P**	**03 24 31.8**	**0.0**
	baz=62						
U22A	**Llaves**	**61.71**	**329**	⇓P	**P**	**03 24 33.3**	**+1.2**
	baz=62						
T23A	**Casias Ranch,**	**61.84**	**330**	⇑P	**P**	**03 24 33.7**	**+0.7**
	baz=62						
X18A	**Snowflake**	**61.89**	**326**	⇓P	**P**	**03 24 34.0**	**+0.8**
	baz=62,SNR=5.4						
S24A	**Houchin Ranch,**	**61.94**	**331**	⇓P	**P**	**03 24 34.2**	**+0.5**
	baz=62						
U21A	**Nageezi**	**62.15**	**329**	⇑P	**P**	**03 24 35.5**	**+0.5**
	baz=62						
SDCO	**Great Sand Dun**	**62.15**	**331**	*e*P	**P**	**03 24 35.4**	**+0.2**
	comp=Z,9.3nm,0.8s						
SDCO				*e*		03 24 54.6	
SDCO	**Great Sand Dun**	**62.15**	**331**	⇑P	**P**	**03 24 35.4**	**+0.2**
	baz=62,SNR=13						
X17A	**Forest Lakes**	**62.21**	**325**	⇑P	**P**	**03 24 36.5**	**+0.9**
	baz=62,SNR=9.0						
T22A	**Edith**	**62.24**	**329**	⇓P	**P**	**03 24 36.3**	**+0.6**
	baz=63						
V19A	**Window Rock**	**62.30**	**327**	⇑P	**P**	**03 24 36.9**	**+0.8**
	baz=63						
T21A	**Navajo Lake**	**62.53**	**329**	⇑P	**P**	**03 24 38.6**	**+1.1**
	baz=63						
U20A	**Newcomb**	**62.54**	**328**	⇓P	**P**	**03 24 38.3**	**+0.7**
	baz=63						
X16A	**Lo Mia Camp, P**	**62.63**	**324**	⇓P	**P**	**03 24 39.1**	**+0.9**
	baz=63,SNR=12						
R23A	**Moffat**	**62.66**	**331**	⇓P	**P**	**03 24 38.9**	**+0.4**
	baz=63						
113A	**Mohawk Valley,**	**62.78**	**322**	⇓P	**P**	**03 24 40.2**	**+1.1**
	baz=63						
P25A	**Willow Gulch B**	**63.00**	**333**	⇓P	**P**	**03 24 41.4**	**+0.8**
	baz=63						
T19A	**Beclabito**	**63.15**	**328**	⇓P	**P**	**03 24 42.2**	**+0.5**
	baz=64						
V17A	**Tonalea, Kykot**	**63.16**	**326**	⇑P	**P**	**03 24 42.5**	**+0.7**
	baz=64,SNR=10						
Y14A	**Wickenburg**	**63.16**	**323**	⇓P	**P**	**03 24 42.6**	**+1.0**
	baz=64						
MVCO	**Mesa Verde**	**63.18**	**328**	*e*P	**P**	**03 24 42.1**	**+0.2**
	comp=Z,50nm,2.3s						
MVCO	**Mesa Verde**	**63.18**	**328**	⇑P	**P**	**03 24 42.3**	**+0.4**
	baz=64						
S21A	**Coal Bank Pass**	**63.18**	**329**	⇓P	**P**	**03 24 42.4**	**+0.4**
	baz=64						
U18A	**Rough Rock, Ch**	**63.27**	**327**	⇓P	**P**	**03 24 43.0**	**+0.5**
	baz=64						
WUAZ	**Wupatki**	**63.40**	**325**	*e*P	**P**	**03 24 44.5**	**+1.2**
	comp=Z,7.5nm,0.9s						
WUAZ	**Wupatki**	**63.40**	**325**	⇓P	**P**	**03 24 44.4**	**+1.2**
	baz=64						
S20A	**Disappointment**	**63.59**	**329**	⇑P	**P**	**03 24 45.7**	**+1.0**
	baz=64,SNR=9.1						
Q22A	**Crested Butte,**	**63.71**	**331**	⇓P	**P**	**03 24 46.1**	**+0.6**
	baz=64						
U16A	**Tuba City**	**63.73**	**326**	⇑P	**P**	**03 24 46.2**	**+0.7**
	baz=64,SNR=5.0						
T18A	**Mexican Hat**	**63.82**	**327**	⇓P	**P**	**03 24 46.1**	**+0.1**
	baz=64,SNR=6.9						
ECSD	**EROS Data Cent**	**63.83**	**341**	*e*P	**P**	**03 24 45.3**	**-0.5**
	comp=Z,12nm,0.9s						
ISCO	**Idaho Springs**	**63.87**	**332**	⇓P	**P**	**03 24 46.8**	**+0.3**
	baz=64						
R20A	**Redvale**	**63.88**	**329**	⇑P	**P**	**03 24 47.4**	**+0.9**
	baz=64,SNR=8.1						
S19A	**Harvey Farm, M**	**63.91**	**328**	⇑P	**P**	**03 24 47.0**	**+0.3**
	baz=64,SNR=6.9						
Y12C	**Blythe**	**63.92**	**322**	⇓P	**P**	**03 24 47.5**	**+1.0**
	baz=64						
SPMN	**St. Paul**	**64.11**	**344**	⇑P	**P**	**03 24 47.1**	**-0.4**
	baz=64,SNR=6.6						
T17A	**Navajo Res., N**	**64.20**	**327**	⇑P	**P**	**03 24 49.6**	**+1.0**
	baz=64,SNR=5.6						
S18A	**Hurst Farm, Bl**	**64.31**	**328**	⇑P	**P**	**03 24 50.5**	**+1.2**
	baz=65,SNR=6.3						
O23A	**Lake Granby, G**	**64.34**	**332**	⇓P	**P**	**03 24 50.0**	**+0.4**
	baz=65						
BC3	**Big Chuckawall**	**64.41**	**321**	⇑P	**P**	**03 24 51.0**	**+1.1**
	baz=65						
MONP	**Monument Peak**	**64.48**	**320**	⇑P	**P**	**03 24 51.5**	**+1.0**
	baz=65						
BAR	**Barrett**	**64.49**	**320**	*e*P	**P**	**03 24 51.6**	**+1.3**
	comp=Z,5.6nm,0.8s						
W13A	**Hualapai Mount**	**64.50**	**323**	⇓P	**P**	**03 24 51.4**	**+0.7**
	baz=65						
U15A	**North Rim**	**64.57**	**325**	⇑P	**P**	**03 24 52.1**	**+1.0**
	baz=65,SNR=7.4						
IRM	**Iron Mountain**	**64.58**	**322**	⇓P	**P**	**03 24 52.1**	**+1.2**
	baz=65						
O22A	**Kremmling**	**64.58**	**332**	⇑P	**P**	**03 24 51.5**	**+0.3**
	baz=65						
S17A	**Black Ridge (B**	**64.68**	**327**	⇑P	**P**	**03 24 52.6**	**+1.0**
	baz=65						
R18A	**Canyonlands Na**	**64.79**	**328**	⇓P	**P**	**03 24 52.7**	**+0.3**
	baz=65						
M24A	**Cheyenne**	**64.90**	**334**	⇓P	**P**	**03 24 53.5**	**+0.5**
	baz=65						
BELC	**Belle Mtn. Jos**	**64.98**	**321**	⇑P	**P**	**03 24 55.1**	**+1.5**
	baz=65						
PFO	**Pinyon Flat Ob**	**64.98**	**320**	⇓P	**P**	**03 24 55.3**	**+1.6**
	baz=65						
S16A	**Weppner Ranch,**	**65.16**	**327**	⇑P	**P**	**03 24 55.7**	**+0.9**
	baz=66,SNR=13						
R17A	**Hanksville Air**	**65.23**	**328**	⇑P	**P**	**03 24 56.0**	**+0.8**
	baz=66,SNR=8.9						
M23A	**Laramie**	**65.28**	**333**	⇓P	**P**	**03 24 56.3**	**+0.7**
	baz=66						
P19A	**Cripple Cowboy**	**65.30**	**330**	⇓P	**P**	**03 24 56.3**	**+0.6**
	baz=66						
GMRC	**Granite Mounta**	**65.31**	**322**	⇓P	**P**	**03 24 56.4**	**+0.6**
	baz=66						
O20A	**White River Ci**	**65.34**	**331**	⇓P	**P**	**03 24 56.2**	**+0.2**
	baz=66						
Q18A	**Rafter H Ranch**	**65.46**	**329**	⇑P	**P**	**03 24 57.9**	**+1.3**
	baz=66						
N21A	**Black Mountain**	**65.51**	**332**	⇑P	**P**	**03 24 57.9**	**+0.9**
	baz=66						
R16A	**Teasdale**	**65.52**	**327**	⇑P	**P**	**03 24 58.1**	**+0.9**
	baz=66						
SRU	**San Rafael**	**65.66**	**328**	*e*P	**P**	**03 24 58.7**	**+0.7**
SRU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SRU	**San Rafael**	**65.66**	**328**	*e*P	**P**	**03 24 58.7**	**+0.7**
	comp=Z,5.7nm,0.8s						
SRU	**San Rafael**	**65.66**	**328**	⇑P	**P**	**03 24 58.3**	**+0.3**
	baz=66,SNR=5.7						
HEC	**Hector,Ludlow**	**65.74**	**322**	⇓P	**P**	**03 24 59.6**	**+1.1**
	baz=66,SNR=6.0						
Q16A	**Castle Valley**	**65.84**	**328**	⇑P	**P**	**03 25 00.0**	**+0.8**
	baz=66						
R15A	**Junction**	**65.88**	**327**	⇑P	**P**	**03 25 00.3**	**+0.9**
	baz=66						
N20A	**Spence Gulch,**	**65.91**	**331**	⇑P	**P**	**03 25 00.1**	**+0.5**
	baz=66						
P18A	**Preston Nutter**	**65.92**	**329**	⇑P	**P**	**03 25 00.3**	**+0.5**
	baz=66						
VNA3	**Neumayer Olymp**	**65.92**	**162**	*e*	**P**	**03 24 59.9**	**+0.9**
VNA3				*e*		03 25 29.0	
CCUT	**Cedar City**	**65.98**	**325**	*e*P	**P**	**03 25 02.0**	**+1.8**
	comp=Z,6.1nm,0.9s						
P17A	**Butcher Ranch,**	**66.04**	**329**	⇑P	**P**	**03 25 01.0**	**+0.6**
	baz=66,SNR=5.3						
L22A	**Ellis Ranch, M**	**66.05**	**333**	⇓P	**P**	**03 25 00.9**	**+0.5**
	baz=66						
MSU	**Marysvale**	**66.05**	**327**	*e*P	**P**	**03 25 01.4**	**+0.8**
MSU	**Marysvale**	**66.05**	**327**	*e*P	**P**	**03 25 01.4**	**+0.8**
BFSC	**Mount Baldy Ra**	**66.15**	**320**	⇑P	**P**	**03 25 02.1**	**+0.9**
	baz=66				

DUG					pmax	pmax			
	comp=Z,8.0nm,0.9s								
DUG	**Dugway**	**67.64**	**328**	*e*P	**P**		**03 25 11.5**	**+1.0**
	comp=Z,7.7nm,0.9s								
DUG				*e*pP	**pP**		**03 25 30.9**	**+0.9**
DUG	**Dugway**	**67.64**	**328**	⇑P	**P**		**03 25 11.7**	**+1.2**
	baz=68,SNR=9.9								
K19A	**Absolon Red Bu**	**67.75**	**332**	⇓P	**P**		**03 25 11.6**	**+0.4**
	baz=68								
AGMN	**Agassiz Nation**	**67.75**	**344**	*e*P	**P**		**03 25 10.5**	**-0.4**
	comp=Z,16nm,0.8s								
AGMN				*e*pP	**pP**		**03 25 30.3**	**0.0**
R11A	**Troy Canyon, C**	**67.77**	**325**	⇑P	**P**		**03 25 12.6**	**+1.2**
	baz=68,SNR=8.7								
I21A	**Big Trails, Te**	**67.86**	**334**	⇑P	**P**		**03 25 12.0**	**+0.1**
	baz=68								
PKM	**Peak Mountain**	**67.92**	**319**	⇑P	**P**		**03 25 13.6**	**+1.1**
	baz=68								
G24A	**Alzada**	**67.95**	**336**	⇑P	**P**		**03 25 12.5**	**+0.2**
	baz=68								
BW06	**Boulder Array**	**68.03**	**332**	⇑P	**P**		**03 25 13.2**	**+0.2**
	baz=68								
PDAR	**Pinedale Array**	**68.03**	**332**	P	**P**		**03 25 11.8**	**-1.2**
PDAR				pP	**pP**		**03 25 32.2**	**-0.3**
PDAR	**Pinedale Array**	**68.03**	**332**	P	**P**		**03 25 11.8**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=134,slow=11,SNR=5.8								
PDAR				pP	**pP**		**03 25 32.2**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=128,slow=6.2,SNR=4.0								
HWUT	**Hardware Ranch**	**68.08**	**330**	*e*P	**P**		**03 25 13.7**	**+0.4**
	comp=Z,3.7nm,0.8s								
VES	**Vestal, Richgr**	**68.09**	**321**	⇓P	**P**		**03 25 14.3**	**+1.0**
	baz=68								
SNAA	**Sanae**	**68.13**	**161**	*e*	P		03 25 08.5	-4.6
SNAA	**Sanae**	**68.13**	**161**	*e*P	P		03 25 08.5	-4.6
	comp=Z,13nm,0.7s								
K18A	**Toltan Ranch,**	**68.15**	**331**	⇑P	**P**		**03 25 14.4**	**+0.6**
	baz=68								
G23A	**Biddle**	**68.22**	**336**	⇓P	**P**		**03 25 14.1**	**+0.1**
	baz=69								
L16A	**Fish Haven**	**68.32**	**330**	⇓P	**P**		**03 25 15.2**	**+0.3**
	baz=69								
F24A	**Ekalaka**	**68.39**	**337**	⇑P	**P**		**03 25 15.1**	**0.0**
	baz=69								
M15A	**Larsen Ranch,**	**68.40**	**329**	⇓P	**P**		**03 25 15.6**	**+0.3**
	baz=69								
MDND	**Maddock**	**68.44**	**341**	⇑P	**P**		**03 25 15.9**	**+0.7**
	baz=69,SNR=9.0								
J18A	**Kendall Valley**	**68.58**	**332**	⇑P	**P**		**03 25 16.6**	**+0.1**
	baz=69,SNR=5.5								
K17A	**Gardner Place,**	**68.64**	**331**	⇑P	**P**		**03 25 17.4**	**+0.5**
	baz=69								
F23A	**Volborg**	**68.66**	**336**	⇑P	**P**		**03 25 16.7**	**0.0**
	baz=69								
L15A	**Malad City**	**68.78**	**329**	⇑P	**P**		**03 25 17.8**	**+0.1**
	baz=69,SNR=7.9								
HVU	**Hansel Valley**	**68.80**	**329**	*e*P	**P**		**03 25 18.4**	**+0.6**
HVU				pmax	pmax				
	comp=Z,5.0nm,0.8s								
HVU	**Hansel Valley**	**68.80**	**329**	*e*P	**P**		**03 25 18.4**	**+0.6**
	comp=Z,5.3nm,0.8s								
I18A	**Diamond G Ranc**	**68.88**	**332**	⇑P	**P**		**03 25 18.5**	**+0.2**
	baz=69								
E24A	**Baker**	**68.94**	**337**	⇑P	**P**		**03 25 19.0**	**+0.5**
	baz=69								
K16A	**Soda Springs**	**69.02**	**330**	⇓P	**P**		**03 25 19.8**	**+0.7**
	baz=69								
F22A	**Rosebud**	**69.04**	**336**	⇓P	**P**		**03 25 19.3**	**+0.2**
	baz=69								
L14A	**Malta**	**69.22**	**329**	⇓P	**P**		**03 25 20.8**	**+0.4**
	baz=70								
RRI2	**Red Ridge**	**69.29**	**331**	*e*P	**P**		**03 25 21.7**	**+0.8**
	comp=Z,8.1nm,0.8s								
RRI2				*e*			03 25 41.3		
K15A	**Arbon**	**69.36**	**330**	⇓P	**P**		**03 25 21.8**	**+0.6**
	baz=70								
NVAR	**Mina Array Bea**	**69.36**	**323**	P	**P**		**03 25 22.4**	**+0.9**
NVAR				pP	**pP**		**03 25 41.4**	**+0.5**
NVAR	**Mina Array Bea**	**69.36**	**323**	P	**P**		**03 25 22.4**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=156,slow=7.2,SNR=21								
NVAR				pP	**pP**		**03 25 41.4**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=151,slow=7.6,SNR=4.3								
J16A	**Bone**	**69.37**	**331**	⇓P	**P**		**03 25 22.0**	**+0.6**
	baz=70								
I17A	**Pilgrim Ck.**	**69.39**	**332**	⇑P	**P**		**03 25 22.2**	**+0.7**
	baz=70								
ULM	**Lac du Bonnet**	**69.54**	**344**	*e*P	**P**		**03 25 21.2**	**-0.7**
	comp=Z,10nm,0.6s								
ULM				pP	**pP**		**03 25 41.3**	**-0.2**
ULM	**Lac du Bonnet**	**69.54**	**344**	P	**P**		**03 25 21.2**	**-0.7**
	comp=Z,11nm,0.6s,baz=158,slow=6.0,SNR=27								
ULM				pP	**pP**		**03 25 41.3**	**-0.2**
	comp=Z,4.6nm,0.7s,baz=112,slow=6.5,SNR=3.8								
K14A	**Jones Ranch, D**	**69.57**	**329**	⇓P	**P**		**03 25 23.1**	**+0.6**
	baz=70								
H18A	**Shoshone NF, C**	**69.58**	**333**	⇑P	**P**		**03 25 23.0**	**+0.4**
	baz=70,SNR=5.9								
RLMT	**Red Lodge**	**69.75**	**333**	⇑P	**P**		**03 25 24.3**	**+0.6**
	baz=70								
D23A	**Lindsay**	**69.79**	**337**	⇓P	**P**		**03 25 24.7**	**+1.0**
	baz=70								
C24A	**Savage**	**69.80**	**338**	⇓P	**P**		**03 25 24.5**	**+0.8**
	baz=70								
F20A	**Billings**	**69.83**	**334**	⇑P	**P**		**03 25 24.4**	**+0.5**
	baz=70								
J15A	**Blackfoot**	**69.85**	**330**	⇑P	**P**		**03 25 24.8**	**+0.6**
	baz=70								
E21A	**Keefer Ranch,**	**69.99**	**336**	⇓P	**P**		**03 25 25.1**	**+0.2**
	baz=70								
G18A	**Lazy EL Ranch,**	**70.04**	**333**	⇓P	**P**		**03 25 25.8**	**+0.4**
	baz=70,SNR=5.3								
D22A	**Cohagen**	**70.14**	**336**	⇓P	**P**		**03 25 26.6**	**+0.8**
	baz=70,SNR=5.9								
F19A	**Roth Farm, Mol**	**70.20**	**334**	⇓P	**P**		**03 25 27.1**	**+0.8**
	baz=70								
H16A	**Russell Place,**	**70.30**	**332**	⇑P	**P**		**03 25 28.2**	**+1.2**
	baz=71								
C23A	**Lambert**	**70.31**	**337**	⇓P	**P**		**03 25 27.5**	**+0.7**
	baz=71								
J14A	**Carey**	**70.32**	**330**	⇓P	**P**		**03 25 28.3**	**+1.2**
	baz=71								
E20A	**Meyer Farm, Mu**	**70.39**	**335**	⇑P	**P**		**03 25 28.1**	**+0.7**
	baz=71								
D21A	**La Casta Ranch**	**70.39**	**336**	⇓P	**P**		**03 25 28.1**	**+0.8**
	baz=71								
DGMT	**Dagmar**	**70.52**	**338**	*e*P	**P**		**03 25 28.7**	**+0.6**
	comp=Z,186nm,2.8s								
DGMT	**Dagmar**	**70.52**	**338**	⇓P	**P**		**03 25 29.0**	**+1.0**
	baz=71								
C22A	**Vida**	**70.52**	**337**	⇑P	**P**		**03 25 28.9**	**+0.8**
	baz=71								
F18A	**Big Timber**	**70.57**	**334**	⇓P	**P**		**03 25 29.2**	**+0.7**
	baz=71								
E19A	**Rath Farm, Rou**	**70.62**	**334**	⇓P	**P**		**03 25 29.4**	**+0.6**
	baz=71								
J13A	**Cove Ranch, Pi**	**70.69**	**329**	⇑P	**P**		**03 25 30.2**	**+0.8**
	baz=71								
I14A	**Mackay**	**70.74**	**330**	⇓P	**P**		**03 25 30.7**	**+1.0**
	baz=71								
WCN	**Washoe City**	**70.79**	**323**	⇑P	**P**		**03 25 31.4**	**+1.4**
	baz=71								
B23A	**Brockton**	**70.80**	**338**	⇓P	**P**		**03 25 30.7**	**+1.0**
	baz=71								
A24A	**Westby**	**70.83**	**339**	⇓P	**P**		**03 25 30.9**	**+1.0**
	baz=71								
D20A	**Manuel Ranch,**	**70.86**	**335**	⇑P	**P**		**03 25 30.8**	**+0.6**
	baz=71								
HLID	**Hailey**	**70.93**	**329**	*e*P	**P**		**03 25 32.1**	**+1.3**
	comp=Z,34nm,2.4s								
HLID	**Hailey**	**70.93**	**329**	⇓P	**P**		**03 25 31.8**	**+0.9**
	baz=71								
DBIC	**Dimbokro**	**70.97**	**77**	P	**P**		**03 25 30.9**	**-0.7**
DBIC				pP	**pP**		**03 25 50.6**	**-0.5**
DBIC	**Dimbokro**	**70.97**	**77**	P	**P**		**03 25 30.9**	**-0.7**
	comp=Z,4.7nm,0.9s,baz=250,slow=3.9,SNR=5.4								
DBIC				pP	**pP**		**03 25 50.6**	**-0.5**
	comp=Z,4.9nm,0.8s,baz=220,slow=5.2,SNR=4.3								
F17A	**Fitzpatrick Pl**	**70.97**	**333**	⇓P	**P**		**03 25 32.0**	**+0.9**
	baz=71								
I13A	**Wildhorse Cree**	**71.05**	**330**	⇑P	**P**		**03 25 32.7**	**+1.1**
	baz=71,SNR=9.1								
C21A	**Desert Coulee**	**71.05**	**336**	⇑P	**P**		**03 25 32.0**	**+0.7**
	baz=71								
E18A	**Harlowton**	**71.17**	**334**	⇑P	**P**		**03 25 32.9**	**+0.7**
	baz=72								
H14A	**Leadore**	**71.21**	**331**	⇓P	**P**		**03 25 33.9**	**+1.3**
	baz=72								
G15A	**Dillon**	**71.22**	**331**	⇓P	**P**		**03 25 33.4**	**+0.8**
	baz=72								
D19A	**Cripps Ranch,**	**71.22**	**335**	⇑P	**P**		**03 25 32.9**	**+0.4**
	baz=72								
SCHQ	**Schefferville**	**71.25**	**4**	*e*P	**P**		**03 25 32.6**	**+0.3**
SCHQ	**Schefferville**	**71.25**	**4**	P	**P**		**03 25 32.4**	**0.0**
	comp=Z,9.4nm,0.9s,baz=181,slow=4.9,SNR=13								
F16A	**Kennard Place,**	**71.31**	**332**	⇑P	**P**		**03 25 33.7**	**+0.7**
	baz=72								
I12A	**Atlanta**	**71.46**	**329**	⇓P	**P**		**03 25 34.6**	**+0.5**
	baz=72								
E17A	**Martinsdale**	**71.50**	**333**	⇓P	**P**		**03 25 34.8**	**+0.6**
	baz=72								
MFID	**Camas Ranch**	**71.53**	**328**	*e*P	**P**		**03 25 35.5**	**+1.1**
	comp=Z,10.0nm,0.9s								
MFID				*e*			03 25 55.3		
MFID	**Camas Ranch**	**71.53**	**328**	⇑P	**P**		**03 25 35.4**	**+1.0**
	baz=72,SNR=9.5								
A22A	**Carney Farms,**	**71.57**	**338**	⇑P	**P**		**03 25 35.3**	**+0.8**
	baz=72								
H13A	**Challis**	**71.60**	**330**	⇓P	**P**		**03 25 36.0**	**+1.2**
	baz=72								
G14A	**Jackson**	**71.73**	**331**	⇓P	**P**		**03 25 36.3**	**+0.7**
	baz=72								
F15A	**Butte**	**71.74**	**332**	⇓P	**P**		**03 25 36.2**	**+0.5**
	baz=72								
C19A	**Slack Wire Ran**	**71.75**	**335**	⇑P	**P**		**03 25 36.2**	**+0.7**
	baz=72								
H12A	**Diamond D Ranc**	**71.87**	**330**	⇑P	**P**		**03 25 37.4**	**+0.9**
	baz=72								
E16A	**East Helena**	**71.91**	**333**	⇓P	**P**		**03 25 37.2**	**+0.6**
	baz=72								
A21A	**Bergtoll Ranch**	**71.94**	**337**	⇓P	**P**		**03 25 37.2**	**+0.5**
	baz=72								
D17A	**Six Diamond Ra**	**71.96**	**334**	⇓P	**P**		**03 25 37.6**	**+0.6**
	baz=72								
G13A	**Cobalt**	**71.98**	**330**	⇑P	**P**		**03 25 38.2**	**+1.1**
	baz=72,SNR=9.2								
F14A	**Wisdom**	**72.11**	**331**	⇓P	**P**		**03 25 38.9**	**+0.9**
	baz=72								
A20A	**Cobblestone Ra**	**72.23**	**336**	⇑P	**P**		**03 25 39.4**	**+1.0**
	baz=73								
E15A	**Deer Lodge**	**72.25**	**332**	⇑P	**P**		**03 25 39.4**	**+0.7**
	baz=73								
EGMT	**Eagleton**	**72.27**	**335**	*e*P	**P**		**03 25 36.5**	**-2.2**
	comp=Z,43nm,1.0s								
B19A	**Brinkman Farms**	**72.28**	**336**	⇑P	**P**		**03 25 39.1**	**+0.4**
	baz=73								
C17A	**Wharam Farm,**	**72.37**	**334**	⇑P	**P**		**03 25 39.7**	**+0.4**
	baz=73								
F13A	**Darby**	**72.54**	**331**	⇓P	**P**		**03 25 41.2**	**+0.7**
	baz=73,SNR=5.2								
B18A	**Beardsley Farm**	**72.57**	**335**	⇑P	**P**		**03 25 41.0**	**+0.5**
	baz=73								
A19A	**Klindworth Far**	**72.59**	**336**	⇓P	**P**		**03 25 40.9**	**+0.4**
	baz=73								
E14A	**Clinton**	**72.63**	**332**	⇑P	**P**		**03 25 41.9**	**+0.9**
	baz=73								
NVL	**N'lazarevskaya**	**72.73**	**160**	*i* P	**P**		**03 25 41.2**	**+0.1**
NVL				pmax	pmax				
	comp=Z,15nm,1.1s								
MOD	**Modoc**	**72.84**	**325**	*e*P	**P**		**03 25 43.3**	**+1.0**
	comp=Z,19nm,1.4s								
C16A	**Fuhringer Ranc**	**72.92**	**334**	⇑P	**P**		**03 25 43.1**	**+0.5**
	baz=73								
E13A	**Victor**	**72.96**	**331**	⇓P	**P**		**03 25 43.9**	**+1.0**
	baz=73								
A18A	**Metzger Ranch,**	**73.02**	**335**	⇓P	**P**		**03 25 43.3**	**+0.3**
	baz=73								
D14A	**Greenough**	**73.14**	**332**	⇓P	**P**		**03 25 44.6**	**+0.7**
	baz=74								
BMO	**Blue Mountains**	**73.30**	**329**	*e*P	**P**		**03 25 45.6**	**+0.7**
	comp=Z,2.5nm,0.8s								
A17A	**Triple J Farms**	**73.38**	**335**	⇑P	**P**		**03 25 45.9**	**+0.6**
	baz=74								
D13A	**Husson**	**73.58**	**332**	⇓P	**P**		**03 25 47.4**	**+1.0**
	baz=74								
E12A	**Beaver Dam Sad**	**73.59**	**331**	⇓P	**P**		**03 25 47.0**	**+0.5**
	baz=74								
QSPA	**South Pole Qui**	**73.63**	**180**	*e*P	**P**		**03 25 46.8**	**+0.1**
	comp=Z,13nm,1.1s								
B15A	**Bradely Ranch,**	**73.66**	**334**	⇑P	**P**		**03 25 47.3**	**+0.4**
	baz=74								
A16A	**West Butte Ran**	**73.75**	**334**	⇑P	**P**		**03 25 48.3**	**+0.8**
	baz=74								
C14A	**Swan Lake**	**73.76**	**333**	⇓P	**P**		**03 25 48.3**	**+0.8**
	baz=74								
D12A	**Red Ives Fores**	**73.95**	**331**	⇑P	**P**		**03 25 49.4**	**+0.7**
	baz=74								
C13A	**Hot Springs**	**74.06**	**332**	⇓P	**P**		**03 25 50.5**	**+1.2**
	baz=74								
C12B	**Naegeli Ranch,**	**74.50**	**332**	⇓P	**P**		**03 25 53.1**	**+1.4**
	baz=75								
B13A	**Whitefish**	**74.54**	**333**	⇓P	**P**		**03 25 53.4**	**+1.5**
	baz=75								
A13A	**Flathead Natio**	**74.93**	**333**	⇑P	**P**		**03 25 55.4**	**+1.1**
	baz=75								
C11A	**Tepee Creek (N**	**74.95**	**331**	⇑P	**P**		**03 25 55.1**	**+0.8**
	baz=75,SNR=6.4								
FFC	**Flin Flon**	**75.21**	**343**	*e*P	**P**		**03 25 55.5**	**-0.1**
FFC				pmax	pmax				
	comp=Z,94nm,2.9s								
FFC	**Flin Flon**	**75.21**	**343**	*e*P	**P**		**03 25 55.5**	**-0.1**
	comp=Z,94nm,2.9s								
HAWA	**Hanford**	**75.49**	**329**	*e*P	**P**		**03 25 59.0**	**+1.6**
	comp=Z,5.7nm,0.9s								
OD2	**Odessa Site #2**	**75.79**	**330**	*e*P	**P**		**03 26 00.3**	**+1.2**
OD2				*e*pP	**pP**		**03 26 19.7**	**+0.8**
BMW	**Boistfort Moun**	**77.44**	**327**	*e*P	**P**		**03 26 09.0**	**+0.5**
BMW	**Boistfort Moun**	**77.44**	**327**	*e*P	**P**		**03 26 09.0**	**+0.5**
TOA0	**Torodi Ar. Sit**	**79.24**	**73**	*e*P	**P**		**03 26 18.7**	**-0.4**
TOA0				*e*pP	**pP**		**03 26 38.0**	**-1.0**
TOA0				*es*P	**sP**		**03 26 47.1**	**0.0**
TORD	**Torodi Ar. Bea**	**79.24**	**73**	P	**P**		**03 26 19.0**	**0.0**
TORD				pP	**pP**		**03 26 38.3**	**-0.6**
TORD	**Torodi Ar. Bea**	**79.24**	**73**	P	**P**		**03 26 19.0**	**0.0**
	comp=Z,5.9nm,0.9s,baz=258,slow=5.8,SNR=53								
TORD				pP	**pP**		**03 26 38.3**	**-0.6**
	comp=Z,8.2nm,0.9s,baz=252,slow=5.2,SNR=11								
ESDC	**Sonseca Array**	**84.94**	**46**	P	**P**		**03 26 49.8**	**+1.4**
ESDC				pP	**pP**		**03 27 09.2**	**+0.6**
ESDC	**Sonseca Array**	**84.94**	**46**	P	**P**		**03 26 49.8**	**+1.4**
	comp=Z,2.6nm,0.6s,baz=255,slow=5.2,SNR=17								
ESDC				pP	**pP**		**03 27 09.2**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=252,slow=4.8,SNR=3.7								
YKA	**Yellowknife Ar**	**85.34**	**342**	P	**P**		**03 26 49.5**	**-0.2**
YKA				pP	**pP**		**03 27 10.6**	**+0.6**
YKA	**Yellowknife Ar**	**85.34**	**342**	P	**P**		**03 26 49.5**	**-0.2**
	comp=Z,5.4nm,0.9s,baz=136,slow=5.2,SNR=86								
YKA				pP	**pP**		**03 27 10.5**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=136,slow=5.1,SNR=10								
SUMG	**Summit**	**91.77**	**10**	*i* P	**P**		**03 27 21.8**	**+1.1**
SUMG				*i*			03 27 42.3		
SUMG				pmax	pmax				
	comp=Z,9.0nm,0.9s								
SUMG	**Summit**	**91.77**	**10**	*e*P	**P**		**03 27 21.1**	**+0.4**
	comp=Z,217nm,2.8s								
SUMG	**Summit**	**91.77**	**10**	*i* P	**P**		**03 27 21.8**	**+1.1**
	comp=Z,8.5nm,0.9s								
SUMG				*i*			03 27 42.3		
BILL	**Bilibino**	**116.60**	**339**	*e*PKIKP	**PKPdf**		**03 32 56.2**	**0.0**
BILL				*e*			03 34 04.6		
BILL				pmax	pmax				
	comp=Z,3.0nm,1.4s								
SEY	**Seymchan**	**124.13**	**337**	*i* PKIKP	**PKPdf**		**03 33 09.4**	**-1.4**
PET	**Petropavlovsk**	**125.93**	**324**	*e*PKIKP	PKPdf		03 33 10.1	-4.4
PET				pmax	pmax				
	comp=Z,114nm,2.5s								
ASAR	**Alice Springs**	**132.31**	**214**	PKP	**PKPdf**		**03 33 27.1**	**-0.7**
ASAR	**Alice Springs**	**132.31**	**214**	PKP	**PKPdf**		**03 33 27.1**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=134,slow=1.8,SNR=5.5								
WRA	**Warramunga Arr**	**135.04**	**217**	PKP	**PKPdf**		**03 33 32.5**	**-0.4**
WRA	**Warramunga Arr**	**135.04**	**217**	PKP	**PKPdf**		**03 33 32.5**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=143,slow=1.8,SNR=8.2								
ZALV	**Zalesovo Beam**	**138.78**	**20**	PKIKP	**PKPdf**		**03 33 38.7**	**0.0**
ZALV							03 34 00.4		
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.8s								
ZALV	**Zalesovo Beam**	**138.78**	**20**	PKP	**PKPdf**		**03 33 38.7**	**0.0**
ZALV				pPKP	**pPKPdf**		**03 34 00.4**	**+0.6**
ZALV	**Zalesovo Beam**	**138.78**	**20**	PKP	**PKPdf**		**03 33 38.7**	**0.0**
	comp=Z,0.3nm,0.3s,baz=169,slow=1.5,SNR=2.8								
ZALV				pPKP	**pPKPdf**		**03 34 00.4**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=282,slow=1.8,SNR=4.5								
MKAR	**Makanchi Array**	**143.41**	**29**	PKIKP	**PKPdf**		**03 33 49.1**	**+1.7**
MKAR	**Makanchi Array**	**143.41**	**29**	PKP	**PKPdf**		**03 33 49.1**	**+1.7**
MKAR	**Makanchi Array**	**143.41**	**29**	PKP	**PKPdf**		**03 33 49.1**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=289,slow=3.7,SNR=4.6								
KSH	**Kashi**	**144.42**	**44**	*e*PKP	**PKPdf**		**03 33 51.0**	**+1.5**
KSH				PP	**PP**		**03 37 06.8**	**+1.3**
KSH				PKS	**PKSdf**		**03 37 24.5**	**-0.7**
KSH				AMB	AMB				
	comp=Z,98nm,4.4s								
KSH				LR	LR				
	comp=N,130nm,5.8s								
KSH				LR	LR				
	comp=E,75nm,5.0s								
KSH				LR	LR				
	comp=Z,340nm,6.5s								
TLY	**Talaya**	**144.81**	**4**	*e*PKIKP	**PKPab**		**03 33 48.6**	**-0.1**
ZAK	**Zakamensk**	**146.08**	**5**	*i*PKP2	**PKPbc**		**03 33 53.4**	**+0.5**
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.4s								
MJAR	**Matsushiro Arr**	**146.11**	**312**	PKPbc	**PKPbc**		**03 33 54.2**	**+0.9**
MJAR				pPKPbc	pPKPbc		03 34 14.3	+0.1
MJAR	**Matsushiro Arr**	**146.11**	**312**	PKPbc	**PKPbc**		**03 33 54.2**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=10,slow=13,SNR=4.2								
MJAR				pPKPbc	pPKPbc		03 34 14.3	+0.1
	comp=Z,1.1nm,0.6s,baz=294,slow=0.3,SNR=3.6								
WMQ	**Urumqi**	**148.14**	**27**	*e*PKPbc	PKPdf		03 33 48.2	-7.4
SONM	**Songino Array**	**148.77**	**1**	PKPbc	**PKPbc**		**03 34 01.3**	**+0.9**
SONM				pPKPbc	**pPKPbc**		**03 34 22.3**	**+0.8**
SONM	**Songino Array**	**148.77**	**1**	PKPbc	**PKPbc**		**03 34 01.3**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=327,slow=2.7,SNR=11								
SONM				pPKPbc	**pPKPbc**		**03 34 22.3**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=324,slow=1.6,SNR=7.3								
HHC	**Hu-ho-hao-te**	**155.48**	**352**	*e*PKP	**PKPdf**		**03 34 04.2**	**-2.5**
HHC				pPKP	**pPKPdf**		**03 34 22.7**	**-5.2**
HHC				sPKP			03 34 29.8		
HHC				PP	PP		03 38 09.9	+1.7
HHC				SKS	**SKSdf**		**03 41 01.1**	**-5.8**
HHC				SKKS	**SKKSac**		**03 44 49.5**	**-2.9**
HHC				SS	SS		03 57 47.7	+0.2
HHC				AMB	AMB				
	comp=Z,200nm,7.5s								
HHC				LR	LR				
	comp=N,200nm,16.6s								
HHC				LR	LR				
	comp=E,270nm,16.7s								
HHC				LR	LR				
	comp=Z,190nm,16.6s								
LZH	**Lanzhou**	**160.29**	**8**	*e*PKP	**PKPdf**		**03 34 09.3**	**-3.5**
LZH				pPKP	**pPKPdf**		**03 34 28.1**	**-6.0**
LZH				sPKP			03 34 34.3		
NJ2	**Nanjing**	**161.30**	**328**	*e*PKP	PKPdf		03 34 08.2	-5.6
CD2	**Chengdu**	**165.33**	**12**	PKP	**PKPdf**		**03 34 14.8**	**-3.0**
GYA	**Guiyang**	**170.10**	**3**	*e*PKP	**PKPdf**		**03 34 18.0**	**-3.3**
GYA				sPKP			03 34 43.7		
GYA				PKPab	**PKPab**		**03 35 35.4**	**-1.4**
GYA				PKS	PKSdf		03 37 48.7	-5.3
GYA				PP	PP		03 39 25.6	0.0
GYA				AMB	AMB				
	comp=Z,90nm,7.9s								
KMI	**Kunming**	**170.47**	**26**	PKP	PKPdf		03 34 16.5	-5.2

MEX 03 03:19:41.5±0.9, 16.63N×94.45W, h128km±8km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMIG	**Matias Romero**	**0.62**	**318**	*i* P		Pn	03 20 00.2	-0.9
CMIG				*i* S		Sn	03 20 14.1	-1.9
TGIG		**1.28**	**83**	*i* P		Pn	03 20 05.5	-1.7
TGIG				*i* S		Sn	03 20 23.9	-2.7
PCIG		**1.50**	**128**	*e*P		Pn	03 20 08.4	-1.1
PCIG				*i* S		Sn	03 20 28.8	-2.0
HUIG	**Huatulco**	**1.81**	**242**	*i* P		Pn	03 20 11.2	-1.9
HUIG				*i* S		Sn	03 20 36.1	-1.1
VHO	**Vista Hermosa**	**2.23**	**282**	*i* P		Pn	03 20 16.7	-1.8
VHO				*i* S		Sn	03 20 45.1	-1.8
CCIG	**Comitan**	**2.25**	**99**	*i* P		Pn	03 20 18.2	-0.5
CCIG				*i* S		Sn	03 20 46.0	-1.2
UTMO	**Huajuapan**	**3.42**	**291**	*i* P		Pn	03

RAHZ	**Arahi**	**3.47**	213	Pn	**Pn**	03 57 29.8	+0.2
NMHZ	**Naumai**	**3.74**	214	Pn	**Pn**	03 57 34.1	+0.7
MCHZ	**McNeill Hill**	**4.07**	212	PN	**Pn**	03 57 37.3	-0.6
MCHZ	**McNeill Hill**	**4.07**	212	Pn	**Pn**	03 57 37.3	-0.6
CKHZ	**Cape Kidnapper**	**4.10**	207	PN	**Pn**	03 57 36.9	-1.4
CKHZ	**Cape Kidnapper**	**4.10**	207	Pn	**Pn**	03 57 36.9	-1.4
KAHZ	**Kahuranaki**	**4.30**	208	PN	**Pn**	03 57 39.5	-1.5
KAHZ	**Kahuranaki**	**4.30**	208	Pn	**Pn**	03 57 39.5	-1.5
BHHZ	**Black Hill Sta**	**4.40**	217	P*	**Pn**	03 57 42.5	+0.1
BHHZ	**Black Hill Sta**	**4.40**	217	Pn	**Pn**	03 57 42.5	+0.1
MOVZ	**Moawhango**	**4.50**	220	P*	**Pn**	03 57 42.6	-1.1
MOVZ	**Moawhango**	**4.50**	220	Pn	**Pn**	03 57 42.6	-1.1
DVHZ	**Dannevirke**	**5.01**	211	PN	**Pn**	03 57 49.1	-1.7
DVHZ	**Dannevirke**	**5.01**	211	Pn	**Pn**	03 57 49.1	-1.7
MRZ	**Mangatainoka R**	**5.56**	212	PN	Pn	03 57 54.9	-3.4
MRZ	**Mangatainoka R**	**5.56**	212	Pn	Pn	03 57 54.9	-3.4
HOWZ	**Holdsworth Sta**	**5.78**	211	PN	Pn	03 57 58.3	-3.0
HOWZ	**Holdsworth Sta**	**5.78**	211	Pn	Pn	03 57 58.3	-3.0
OGWZ	**Otaki Gorge**	**5.87**	214	PN	Pn	03 57 59.1	-3.5
OGWZ	**Otaki Gorge**	**5.87**	214	Pn	Pn	03 57 59.1	-3.5
KIW	**Kapiti Island**	**6.02**	215	PN	Pn	03 58 01.4	-3.3
KIW	**Kapiti Island**	**6.02**	215	Pn	Pn	03 58 01.4	-3.3
ASAR	**Alice Springs**	**41.07**	275	P	**P**	**04 04 17.6**	**-0.9**
	1.3nm,0.6s,baz=117,slow=7.8,SNR=13						
WRA	**Warramunga Arr**	**42.58**	280	P	**P**	**04 04 29.7**	**-1.1**
	1.5nm,0.5s,baz=120,slow=7.8,SNR=20						
FINES	**FINESS Array B**	**149.52**	335	PKPbc	**PKPbc**	**04 16 21.3**	**-1.4**
	0.5nm,0.5s,baz=49,slow=4.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**157.14**	196	PKPab	**PKPab**	**04 17 04.8**	**+3.7**
	0.8nm,1.1s,baz=164,slow=3.9,SNR=6.5						

IDC 03 04:02:11.9±1.8, 45.17N×147.18E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/23, mbtmp3.7/5, ML3.2/1, Error ellipse: s-maj=59.2km s-min=31.8km az=143.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**10.97**	221	Pn	Pn	04 04 49.5	-0.5
	0.2nm,0.3s,baz=38,slow=14,SNR=3.2						
ILAR	**Eielson Array**	**40.33**	37	P	P	04 09 50.2	-0.5
	0.5nm,0.6s,baz=260,slow=5.9,SNR=12						
YKA	**Yellowknife Ar**	**54.61**	34	P	P	04 11 40.5	-1.1
	0.2nm,0.4s,baz=303,slow=7.0,SNR=4.5						
FINES	**FINESS Array B**	**63.62**	333	P	P	04 12 44.3	+0.2
	5.8nm,1.1s,baz=45,slow=8.1,SNR=3.1						
PDAR	**Pinedale Array**	**68.98**	50	P	P	04 13 20.3	+1.2
	0.4nm,0.6s,baz=4.8,slow=1.8,SNR=4.0						

*ISCJB **03** 04:30:25.9±0.7, 8.21N±0.10×93.03E±0.10, h33km, mb4.2/17, Error ellipse: s-maj=19.0km s-min=6.2km az=44.4*

*IDC **03** 04:30:31.4±6.6, 8.35N×93.16E, h68km±58km, mb3.7/11, mb1 3.8/12, mb1mx3.6/27, mbtmp3.7/12, ML4.4/1, Error ellipse: s-maj=44.3km s-min=13.6km az=56.0*

*NEIC **03** 04:30:34.2±1.9, 8.48N×93.34E, h87km±16km, mb4.4/9, Error ellipse: s-maj=24.7km s-min=6.6km az=54.0*

ISC 03 04:30:28.3±0.8, 8.3N±0.1×93.0E±0.1, h35km, n50, σ1.9 20/44, mb4.2/17, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**8.83**	115	*e*Pn	**Pn**	**04 32 34.1**	**+0.6**
	14nm,0.6s						
IPM				*e*Sn	**Sn**	**04 34 13.1**	**+1.2**
CMAR	**Chiang Mai Arr**	**11.65**	29	P	**Pn**	**04 33 12.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**11.65**	29	P	**Pn**	**04 33 12.9**	**+0.7**
	0.7nm,0.3s,baz=236,slow=10,SNR=7.0						
VIS	**Vishakhapatnam**	**13.29**	316	*i* P	Pn	04 33 27.1	-7.4
VIS				*i* S	Sn	04 35 37.2	-24
VIS				*ex*	x	04 35 37.4	
	comp=E,5.3nm,0.2s						
VIS				*i* S	x	04 35 40.5	
VIS				*ex*	x	04 35 40.9	
	comp=N,22nm,0.3s						
ODAN	**Odare**	**19.23**	345	*e*P	**Pn**	**04 34 51.6**	**+0.7**
ODAN	**Odare**	**19.23**	345	*e*P	**Pn**	**04 34 51.6**	**+0.7**
RAMN	**Ramite**	**19.53**	343	*e*P	**Pn**	**04 34 55.3**	**+0.7**
	comp=N,9.3nm,0.5s						
RAMN	**Ramite**	**19.53**	343	*e*P	**Pn**	**04 34 55.3**	**+0.7**
	comp=N,9.3nm,0.5s						
TAPN	**Taplejung**	**19.62**	346	*e*P	**Pn**	**04 34 55.3**	**-0.3**
	comp=N,5.8nm,0.3s						
TAPN	**Taplejung**	**19.62**	346	*e*P	**Pn**	**04 34 55.3**	**-0.3**
	comp=N,5.8nm,0.3s						
JIRN	**Jiri**	**20.32**	342	*e*P	Pn	04 35 03.0	-1.0
JIRN	**Jiri**	**20.32**	342	*e*P	Pn	04 35 03.0	-1.0
PKI	**Pulchoki**	**20.48**	340	*e*P	Pn	04 35 05.4	-0.6
PKI	**Pulchoki**	**20.48**	340	*e*P	Pn	04 35 05.4	-0.6
GUN	**Gumba**	**20.65**	342	*e*P	Pn	04 35 07.2	-0.7
GUN	**Gumba**	**20.65**	342	*e*P	Pn	04 35 07.2	-0.7
GKN	**Gorkha**	**21.15**	339	*e*P	**P**	**04 35 12.8**	**+2.3**
GKN	**Gorkha**	**21.15**	339	*e*P	**P**	**04 35 12.8**	**+2.3**
KOLN	**Koldanda**	**21.32**	337	*e*P	**P**	**04 35 14.2**	**+1.7**
	comp=N,7.6nm,0.5s						
KOLN	**Koldanda**	**21.32**	337	*e*P	**P**	**04 35 14.2**	**+1.7**
	comp=N,7.6nm,0.5s						
DANN	**Dangsing**	**21.78**	338	*e*P	**P**	**04 35 19.1**	**+1.6**
	comp=N,7.2nm,0.4s						
DANN	**Dangsing**	**21.78**	338	*e*P	**P**	**04 35 19.1**	**+1.6**
	comp=N,7.2nm,0.4s						
DAV	**Davao City (W)**	**32.31**	90	P	**P**	**04 36 52.9**	**-1.5**
DAV	**Davao City (W)**	**32.31**	90	P	**P**	**04 36 52.9**	**-1.5**
	comp=N,388nm,0.4s,baz=47,slow=5.2,SNR=3.5						
AAK	**Ala-Archa**	**37.89**	338	*e*P	**P**	**04 37 41.8**	**-0.4**
	comp=N,6.0nm,0.4s						
AAK	**Ala-Archa**	**37.89**	338	P	**P**	**04 37 43.2**	**+1.0**
	comp=N,1.3nm,0.4s,baz=178,slow=4.7,SNR=6.8						
MK31	**Makanchi Array**	**39.45**	348	*e*P	**P**	**04 37 54.8**	**-0.3**
MKAR	**Makanchi Array**	**39.45**	348	P	**P**	**04 37 54.8**	**-0.4**
MKAR	**Makanchi Array**	**39.45**	348	P	**P**	**04 37 54.8**	**-0.4**
	comp=N,0.5nm,0.5s,baz=164,slow=9.3,SNR=10.0						
KKAR	**Karatay Array**	**39.90**	334	*e*P	**P**	**04 37 58.0**	**-0.9**
SONM	**Songino Array**	**41.03**	14	P	**P**	**04 38 06.9**	**-1.4**
SONM	**Songino Array**	**41.03**	14	P	**P**	**04 38 06.9**	**-1.4**
	comp=N,0.3nm,0.3s,baz=201,slow=8.1,SNR=2.4						
KURBB	**Kurchatov Arra**	**43.88**	347	P	**P**	**04 38 30.3**	**-1.0**
	comp=N,0.5nm,0.5s,baz=172,slow=7.2,SNR=3.2						
KURK	**Kurchatov**	**43.95**	347	*e*P	**P**	**04 38 30.1**	**-1.7**
	comp=N,3.5nm,1.2s						
ZALV	**Zalesovo Beam**	**46.01**	353	P	**P**	**04 38 47.6**	**-0.5**
ZALV	**Zalesovo Beam**	**46.01**	353	P	**P**	**04 38 47.6**	**-0.5**
	comp=N,1.0nm,0.3s,baz=172,slow=7.3,SNR=8.6						
NWAO	**Narrogin (SRO)**	**47.03**	152	*e*P	**P**	**04 38 59.5**	**+3.1**
	comp=N,4.7nm,0.6s						
NWAO	**Narrogin (SRO)**	**47.03**	152	P	**P**	**04 38 56.0**	**-0.4**
	comp=N,5.6nm,0.7s,baz=335,slow=7.9,SNR=5.5						
ABKAR	**Akbulak array**	**49.34**	332	*e*P	**P**	**04 39 14.6**	**+0.6**
	comp=N,0.4nm,0.3s						
WRA	**Warramunga Arr**	**49.42**	125	P	**P**	**04 39 13.7**	**-1.5**
WRA	**Warramunga Arr**	**49.42**	125	P	**P**	**04 39 13.7**	**-1.5**
	comp=N,0.7nm,0.3s,baz=300,slow=9.9,SNR=14						
WRAB	**Tennant Creek**	**49.43**	125	*e*P	**P**	**04 39 14.9**	**-0.3**
	comp=N,3.4nm,0.7s						
ASAR	**Alice Springs**	**51.05**	129	P	**P**	**04 39 26.9**	**-0.6**
ASAR	**Alice Springs**	**51.05**	129	P	**P**	**04 39 26.9**	**-0.6**
	comp=N,0.4nm,0.3s,baz=304,slow=7.9,SNR=8.1						
BRTR	**Keskin Array B**	**61.30**	311	P	**P**	**04 40 40.4**	**-0.3**
BRTR				pP	pP	04 40 58.9	+7.5
BRTR	**Keskin Array B**	**61.30**	311	P	**P**	**04 40 40.4**	**-0.3**
	comp=N,0.5nm,0.7s,baz=123,slow=9.6,SNR=5.5						
BRTR				pP	pP	04 40 58.9	+7.5
	comp=N,0.5nm,0.7s,baz=123,slow=8.1,SNR=4.0						
FINES	**FINESS Array B**	**71.82**	332	P	**P**	**04 41 46.0**	**-1.2**
FINES	**FINESS Array B**	**71.82**	332	P	**P**	**04 41 46.0**	**-1.2**
	comp=N,3.7nm,1.1s,baz=123,slow=5.1,SNR=2.6						
ARCES	**ARCESS Array B**	**74.50**	340	P	**P**	**04 42 03.0**	**+0.1**
ARCES	**ARCESS Array B**	**74.50**	340	P	**P**	**04 42 03.0**	**+0.1**
	comp=N,3.9nm,0.9s,baz=92,slow=6.7,SNR=8.7						

*SZGRF **03** 04:38:24.9, 18.45S×178.56W, h468km, Fiji Islands region*

*ISCJB **03** 04:38:37.2±0.6, 18.06S±0.09×178.26W±0.07, h608km±7km, mb4.4/30, Error ellipse: s-maj=14.8km s-min=9.6km az=153.9*

*NEIC **03** 04:38:37.4±0.6, 18.03S×178.21W, h597km±7km, mb4.4/10, Error ellipse: s-maj=14.3km s-min=7.7km az=157.0*

*IDC **03** 04:38:38.3±1.4, 18.03S×178.31W, h600km±16km, mb3.7/19, mb1 3.8/20, mb1mx3.8/23, mbtmp3.7/20, Error ellipse: s-maj=17.2km s-min=9.2km az=152.0*

ISC 03 04:38:37.4±0.7, 18.0S±0.1×178.24W±0.0, h597km±7km, n158, σ0.98/164, mb4.4/30, 20C-15D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.54**	274	*e*P	**P**	**04 40 01.3**	**+1.5**
MSVF				*e*S	**S**	**04 41 07.3**	**+0.5**
AFI	**Afiamalu**	**7.43**	58	P	**P**	**04 40 29.7**	**-1.8**
AFI	**Afiamalu**	**7.43**	58	P	**P**	**04 40 29.7**	**-1.8**
	7.2nm,0.3s,baz=171,slow=3.2,SNR=4.1						
RAR	**Rarotonga**	**17.69**	103	*e*P	**P**	**04 42 10.1**	**-0.2**
RAR	**Rarotonga**	**17.69**	103	P	**P**	**04 42 10.1**	**-0.2**
	0.6nm,0.3s,baz=259,slow=9.0,SNR=4.7						
RPZ	**Rata Peaks**	**27.17**	197	*e*P	**P**	**04 43 34.7**	**0.0**
RPZ	**Rata Peaks**	**27.17**	197	P	**P**	**04 43 35.4**	**+0.7**
	5.1nm,0.7s,baz=42,slow=12,SNR=2.8						
PPT2	**Papeete2**	**27.29**	94	*e*LR	LR	04 50 22.3	
	212nm,27.0s						
TBI	**Tubuai**	**27.42**	106	*e*LR	LR	04 50 30.5	
	98nm,29.5s						
ARMA	**Armidale**	**30.03**	240	*e*P	**P**	**04 44 00.7**	**+1.0**
CTA	**Charters Tower**	**33.59**	261	P	**P**	**04 44 30.2**	**+0.3**
CTA	**Charters Tower**	**33.59**	261	P	**P**	**04 44 30.2**	**+0.3**
	3.2nm,0.3s,baz=73,slow=13,SNR=7.5						
PMG	**Port Moresby**	**34.63**	280	P	**P**	**04 44 39.3**	**+0.6**
PMG	**Port Moresby**	**34.63**	280	P	**P**	**04 44 39.3**	**+0.6**
	41nm,1.0s,baz=62,slow=8.5,SNR=5.0						
CMSA	**Cobar Meteorol**	**35.24**	241	*e*P	**P**	**04 44 43.5**	**0.0**
	26nm,0.6s						
COEN	**Coen**	**37.27**	270	*e*P	**P**	**04 45 00.5**	**+0.1**
	126nm,0.8s						
STKA	**Stephens Creek**	**38.72**	241	*e*P	**P**	**04 45 12.2**	**+0.3**
	4.8nm,1.1s						
STKA				PcP	**PcP**	**04 47 07.9**	**-0.1**
STKA	**Stephens Creek**	**38.72**	241	*e*P	**P**	**04 45 12.5**	**+0.6**
	11nm,0.9s						
STKA	**Stephens Creek**	**38.72**	241	P	**P**	**04 45 13.0**	**+1.1**
	13nm,0.8s,baz=86,slow=8.9,SNR=18						
STKA				PcP	**PcP**	**04 47 07.9**	**-0.1**
	2.2nm,0.6s,baz=57,slow=19,SNR=2.8						
BBOO	**Buckleboo**	**43.50**	241	*e*P	**P**	**04 45 49.4**	**-0.2**
	47nm,0.8s						
WRAB	**Tennant Creek**	**44.76**	260	*e*P	**P**	**04 45 58.0**	**-1.5**
	6.2nm,0.8s						
WRA	**Warramunga Arr**	**44.77**	260	P	**P**	**04 45 59.4**	**-0.2**
WRA				PcP	**PcP**	**04 47 28.4**	**-0.2**
WRA				S	**S**	**04 51 51.1**	**-3.4**
WRA	**Warramunga Arr**	**44.77**	260	P	**P**	**04 45 59.4**	**-0.2**
	4.0nm,0.3s,baz=92,slow=7.5,SNR=60						
WRA				PcP	**PcP**	**04 47 28.4**	**-0.2**
	4.2nm,0.9s,baz=90,slow=3.9,SNR=7.4						
WRA				S	**S**	**04 51 51.1**	**-3.4**
	2.9nm,1.0s,baz=98,slow=13,SNR=6.5						
AS31	**Alice Springs**	**44.92**	254	*e*P	**P**	**04 46 00.1**	**-0.6**
ASAR	**Alice Springs**	**44.92**	254	P	**P**	**04 46 00.6**	**-0.1**
ASAR				PcP	**PcP**	**04 47 29.1**	**+0.1**
ASAR				ScP	**ScP**	**04 50 27.2**	**+1.9**
ASAR				S	**S**	**04 51 55.2**	**-1.3**
ASAR	**Alice Springs**	**44.92**	254	P	**P**	**04 46 00.6**	**-0.1**
	41nm,0.8s,baz=85,slow=8.7,SNR=194						
ASAR				PcP	**PcP**	**04 47 29.1**	**+0.1**
	4.7nm,0.8s,baz=98,slow=4.1,SNR=11						
ASAR				ScP	**ScP**	**04 50 27.2**	**+1.9**
	1.2nm,0.8s,baz=119,slow=4.0,SNR=5.7						
ASAR				S	**S**	**04 51 55.2**	**-1.3**
	8.7nm,1.0s,baz=86,slow=15,SNR=28						
FITZ	**Fitzroy Crossi**	**53.17**	261	*e*P	**P**	**04 47 01.6**	**+0.3**
	6.9nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.17**	261	P	**P**	**04 47 01.5**	**+0.2**
	2.9nm,0.8s,baz=102,slow=9.3,SNR=3.2						
MJAR	**Matsushiro Arr**	**68.09**	323	P	**P**	**04 48 39.0**	**+0.2**
MJAR	**Matsushiro Arr**	**68.09**	323	P	**P**	**04 48 39.0**	**+0.2**
	7.3nm,0.7s,baz=168,slow=6.5,SNR=16						
ASAJ	**Asahikawa**	**71.45**	331	P	**P**	**04 48 59.6**	**+1.0**
ASAJ	**Asahikawa**	**71.45**	331	P	**P**	**04 48 59.6**	**+1.0**
	4.3nm,0.6s,baz=225,slow=12,SNR=4.1						
TPUB	**Ta-pu**	**72.45**	302	*e*P	**P**	**04 49 04.4**	**-0.4**
	16nm,0.7s						
KSM	**Kuching**	**72.86**	277	*e*P	**P**	**04 49 07.7**	**+0.3**
	29nm,0.9s						
PETK	**Petropavlovsk-**	**73.82**	345	P	**P**	**04 49 12.7**	**+0.7**
PETK	**Petropavlovsk-**	**73.82**	345	P	**P**	**04 49 12.7**	**+0.7**
	13nm,0.8s,baz=127,slow=9.4,SNR=6.2						
KSRS	**Korea Array**	**74.89**	318	P	**P**	**04 49 19.0**	**+0.8**
	1.5nm,0.7s,baz=135,slow=6.0,SNR=4.5						
KSAR	**Wonju Array Be**	**74.90**	318	P	**P**	**04 49 19.0**	**+0.6**
USRK	**Ussuriysk Arra**	**76.79**	326	P	**P**	**04 49 31.0**	**+2.4**
	3.2nm,0.9s,baz=114,slow=2.3,SNR=6.1						
MDJ	**Mudanjiang**	**78.36**	325	*e*P	**P**	**04 49 36.7**	**-0.4**
	23nm,1.0s						
NVAR	**Mina Array Bea**	**79.39**	44	P	**P**	**04 49 43.5**	**+0.6**
NVAR	**Mina Array Bea**	**79.39**	44	P	**P**	**04 49 43.5**	**+0.6**
	1.9nm,0.8s,baz=226,slow=8.0,SNR=16						
GAMB	**Gambell**	**81.68**	3	*e*P	**P**	**04 49 54.8**	**+0.9**
	14nm,1.3s						
IPM	**Ipoh**	**82.59**	277	*e*P	**P**	**04 49 59.9**	**+0.1**
	6.7nm,0.8s						
TRF	**Thorofare Moun**	**84.08**	12	*e*P	**P**	**04 50 04.3**	**-1.8**
	16nm,0.8s						
ENH	**Enshi**	**84.46**	304	*e*P	**P**	**04 50 07.8**	**-0.8**
	66nm,1.4s						
TXAR	**Lajitas Array**	**85.92**	58	P	**P**	**04 50 17.5**	**+1.8**
TXAR	**Lajitas Array**	**85.92**	58	P	**P**	**04 50 17.5**	**+1.8**
	4.3nm,0.8s,baz=222,slow=6.1,SNR=48						
ILAR	**Eielson Array**	**85.95**	13	P	**P**	**04 50 14.4**	**-0.5**
ILAR	**Eielson Array**	**85.95**	13	P	**P**	**04 50 14.4**	**-0.5**
	3.8nm,0.8s,baz=220,slow=4.9,SNR=29						
PDAR	**Pinedale Array**	**87.32**	43	P	**P**	**04 50 21.9**	**-0.3**
PDAR	**Pinedale Array**	**87.32**	43	P	**P**	**04 50 21.9**	**-0.3**
	0.9nm,0.7s,baz=204,slow=3.9,SNR=8.7						
CMAR	**Chiang Mai Arr**	**89.07**	290	P	**P**	**04 50 31.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**89.07**	290	P	**P**	**04 50 31.1**	**+0.5**
	7.3nm,1.0s,baz=110,slow=3.0,SNR=26						
VNA3	**Neumayer Olymp**	**90.62**	176	*e*	**P**	**04 50 36.8**	**0.0**
VNA2	**Neumayer--Watz**	**91.06**	177	*e*	**P**	**04 50 39.2**	**+0.4**
	baz=239,slow=1.9						
SONM	**Songino Array**	**93.73**	319	P	**P**	**04 50 51.2**	**-0.3**
SONM	**Songino Array**	**93.73**	319	P	**P**	**04 50 51.2**	**-0.3**
	0.5nm,0.4s,baz=102,slow=3.8,SNR=7.6						
YKA	**Yellowknife Ar**	**94.36**	25	P	**P**	**04 50 53.8**	**-0.1**
YKA	**Yellowknife Ar**	**94.36**	25	P	**P**	**04 50 53.7**	**-0.1**
	0.3nm,0.5s,baz=240,slow=4.5,SNR=7.3						
MKAR	**Makanchi Array**	**109.32**	314	PKiKP	**PKiKP**	**04 55 59.7**	**-1.0**
MKAR	**Makanchi Array**	**109.32**	314	PKiKP	**PKiKP**	**04 55 59.7**	**-1.0**
	0.6nm,0.5s,baz=121,slow=0.6,SNR=12						
ABKAR	**Akbulak array**	**124.12**	318	*e*PKPdf	**PKPdf**	**04 56 28.2**	**-0.7**
ARCES	**ARCESS Array B**	**126.45**	350	PKP	**PKPdf**	**04 56 32.0**	**-0.8**
ARCES	**ARCESS Array B**	**126.45**	350	PKP	**PKPdf**	**04 56 32.0**	**-0.8**
	3.8nm,0.8s,baz=9.5,slow=1.5,SNR=7.0						
FINES	**FINESS Array B**	**133.33**	344	PKP	**PKPdf**	**04 56 44.9**	**-1.2**
FINES	**FINESS Array B**	**133.33**	344	PKP	**PKPdf**	**04 56 44.9**	**-1.2**
	1.4nm,0.8s,baz=349,slow=3.9,SNR=3.9						
NOA	**NORSAR Array B**	**136.50**	353	PKPpre	PKPpre	04 56 45.4	
NOA	**NORSAR Array B**	**136.50**	353	PKhKP	PKPpre	04 56 45.4	
	0.6nm,0.7s,baz=21,slow=3.8,SNR=3.5						
KELT	**Kelkit**	**140.91**	312	*i* P	**PKPdf**	**04 56 56.3**	**-4.7**
KEMA	**Kemaliye**	**141.79**	311	*i* P	**PKPdf**	**04 56 59.1**	**-3.3**
AKCD	**Akcadag**	**142.58**	310	*i* P	**PKPdf**	**04 57 02.0**	**-1.9**
GZT	**Gaziantep**	**143.19**	309	*i* P	PKPab	04 57 03.4	+0.2
LEOM	**Leova**	**144.17**	328	⇓*i* P	**PKPab**	**04 57 06.7**	**+0.3**
BALT	**Daday**	**144.23**	318	*i* P	**PKPab**	**04 57 07.4**	**+0.3**
KWP	**Kalwaria Pacla**	**144.23**	337	*e*PKP	PKPbc	04 57 05.7	-0.4
KWP	**Kalwaria Pacla**	**144.23**	337	⇓*i* P	**PKPab**	**04 57 06.9**	**+0.4**
CDAG	**Cicekdag**	**144.52**	314	*i* P	**PKPab**	**04 57 07.8**	**-0.3**
TLCR		**144.75**	326	⇓*i* P	**PKPab**	**04 57 08.6**	**0.0**
BUR08	**Bucovina Ar. S**	**144.77**	332	*e*PKP	**PKPab**	**04 57 09.0**	**+0.2**
OJC	**Ojcow**	**144.77**	340	*e*PKP	PKPbc	04 57 08.0	+0.3
BURAR	**Bucovina Array**	**144.78**	332	⇓*i* P	**PKPab**	**04 57 09.7**	**+0.9**
GHRR		**144.88**	328	⇓*i* P	**PKPab**	**04 57 10.2**	**+1.1**
TESR		**144.93**	330	⇓*i* P	**PKPab**	**04 57 09.9**	**+0.6**
KOLS	**Kolonicke sedl**	**144.96**	336	*e*PKP	PKPbc	04 57 08.9	+0.6
BR131	**Keskin Array S**	**144.97**	315	*e*PKP	**PKPdf**	**04 57 08.4**	**+0.4**
BRTR	**Keskin Array B**	**144.97**	315	PKP	PKPbc	04 57 09.1	+0.2
BRTR				SKPbc	**SKiKP**	**04 59 54.0**	**+1.7**
BRTR	**Keskin Array B**	**144.97**	315	PKP	PKPbc	04 57 09.1	+0.2
	7.3nm,0.8s,baz=133,slow=4.2,SNR=49						
BRTR				SKPbc	**SKiKP**	**04 59 54.0**	**+1.7**
	0.6nm,0.8s,baz=88,slow=2.8,SNR=3.8						
NRDL	**Niedersach Rie**	**144.97**	351	*e*PKPbc	PKPbc	04 57 08.5	+0.4
CFR	**Carcaliu**	**145.11**	327	⇓*i* P	**PKPab**	**04 57 09.8**	**-0.2**
GULE	**Gulek**	**145.27**	310	*i* P	**PKPbc**	**04 57 10.3**	**+0.4**
NIE	**Niedzica**	**145.28**	339	*e*PKP	**PKPab**	**04 57 10.0**	**-0.6**
CRVS	**Cervenica-Dubn**	**145.30**	337	*e*PKP	**PKPbc**	**04 57 09.4**	**+0.1**
VRI	**Vrincioaia**	**145.35**	329	⇑*i* P	**PKPbc**	**04 57 10.3**	**+0.7**
PLOR	**Plostina**	**145.40**	329	⇓*i* P	**PKPbc**	**04 57 10.2**	**+0.4**
TRPA	**Tarpa**	**145.51**	335	⇑*i* P	**PKPab**	**04 57 10.8**	**-0.7**
TRPA	**Tarpa**	**145.51**	335	⇑*e*	**PKPab**	**04 57 10.8**	**-0.7**
CLL	**Collm**	**145.60**	347	*e*PKPbc	**PKPbc**	**04 57 10.5**	**+0.4**
CLL	**Collm**	**145.60**	347	*i* PKPbc	**PKPbc**	**04 57 10.3**	**+0.2**
	comp=Z,37nm,0.9s						
OKC	**Ostrava-Krasne**	**145.62**	341	*e*PKP	**PKPbc**	**04 57 10.7**	**+0.5**
OKC				*ex*	x	04 57 13.2	
UPC	**Upice**	**145.63**	344	*e*PKP	**PKPbc**	**04 57 11.1**	**+0.9**
UPC				*ex*	x	04 57 13.3	
DPC	**Dobruska-Polom**	**145.69**	343	*e*PKP	**PKPab**	**04 57 11.5**	**-0.7**
DPC				*ex*	x	04 57 13.6	
BRG	**Berggiesshubel**	**145.81**	346	*e*PKP	**PKPbc**	**04 57 11.5**	**+0.8**
	comp=Z,29nm,1.2s						
BRG	**Berggiesshubel**	**145.81**	346	*e*PKPbc	**PKPbc**	**04 57 11.4**	**+0.7**
MORC	**Moravsky Berou**	**145.86**	342	⇑*i* P	**PKPbc**	**04 57 11.4**	**+0.5**
PVCC	**Panska Ves**	**145.98**	345	*e*PKP	**PKPbc**	**04 57 12.1**	**+0.9**
PVCC				*ex*	x	04 57 14.4	
HENT	**Hendek**	**146.19**	318	*i* P	**PKPbc**	**04 57 11.2**	**-1.0**
VOIR		**146.48**	330	⇑*i* P	**PKPbc**	**04 57 13.4**	**+0.6**
PRU	**Pruhonice**	**146.49**	345	*e*PKP	**PKPbc**	**04 57 13.2**	**+0.6**
PRU				*ex*	x	04 57 16.5	
DRGR		**146.50**	334	⇑*i* P	**PKPbc**	**04 57 13.6**	**+0.8**
VYHS	**Vyhne**	**146.57**	339	*e*PKP	**PKPbc**	**04 57 13.9**	**+1.0**
PSZ	**Piszkesteto**	**146.69**	338	⇑*i* P	**PKPbc**	**04 57 14.1**	**+0.8**
PSZ	**Piszkesteto**	**146.69**	338	⇑*e*	**PKPbc**	**04 57 14.2**	**+0.9**
NKC	**Novy Kostel**	**146.73**	347	*e*PKP	**PKPbc**	**04 57 13.9**	**+0.6**
SEYT	**Eskypehyr**	**146.93**	316	*i* P	**PKPdf**	**04 57 10.9**	**-0.3**
BORA	**Eskisehir**	**147.00**	317	*i* P	**PKPbc**	**04 57 14.0**	**-0.4**
LOT	**Lotru**	**147.07**	331	⇓*i* P	**PKPbc**	**04 57 14.8**	**+0.3**
MEM	**Membach**	**147.30**	355	P	**PKPbc**	**04 57 15.2**	**+0.4**
BUD	**Budapest**	**147.37**	338	⇑*e*	**PKPbc**	**04 57 15.9**	**+0.9**
TNS	**Taunus Mts**	**147.42**	352	*e*PKPbc	**PKPbc**	**04 57 15.8**	**+0.7**
GRF	**Grafenberg Arr**	**147.49**	349	*e*PKPbc	**PKPbc**	**04 57 16.2**	**+0.9**
GRF				*e*PKPab	**PKPab**	**04 57 20.3**	**+0.9**
KHC	**Kasperske Hory**	**147.52**	345	*e*PKP	**PKPbc**	**04 57 16.1**	**+0.7**
KHC				*ex*	x	04 57 20.2	
BCLA	**Clavier**	**147.54**	356	P	**PKPab**	**04 57 18.9**	**-0.7**
GZR	**Gura Zlata**	**147.57**

JIJ	**Ishigaki jima**	**1.53**	**103**	P	**Pn**	**05 26 47.6**	**-0.2**
JIJ				S	**Sn**	**05 27 07.8**	**-0.5**
TWQ1	**Liyutan**	**1.63**	**257**	*e*S	**Sn**	**05 27 10.1**	**-0.3**
	baz=254						
EHY	**Hungye**	**1.62**	**222**	*e*P	**Pn**	**05 26 48.9**	**-0.2**
	baz=226						
EHY				*e*S	**Sn**	**05 27 08.3**	**-2.3**
	baz=226						
SMLT	**Sun Moon Lake**	**1.69**	**240**	*e*P	**Pn**	**05 26 51.0**	**+1.1**
	baz=236						
SMLT				*e*S	**Sn**	**05 27 13.9**	**+1.9**
	baz=236						
TYC	**Yuchr**	**1.72**	**242**	*e*P	**Pn**	**05 26 50.9**	**+0.8**
	baz=238						
TYC				*e*S	**Sn**	**05 27 13.5**	**+1.1**
	baz=238						
TWF1	**Yuli**	**1.76**	**219**	*e*P	**Pn**	**05 26 50.7**	**0.0**
	baz=224						
TWF1				*e*S	**Sn**	**05 27 12.1**	**-1.4**
	baz=224						
JTJ	**Tarama**	**2.00**	**92**	P	**Pn**	**05 26 53.6**	**+0.1**
JTJ				S	**Sn**	**05 27 18.2**	**-0.4**
CHN5	**Tsauling**	**2.02**	**236**	*e*P	**Pn**	**05 26 54.2**	**+0.3**
	baz=243						
CHN5				*e*S	**Sn**	**05 27 20.2**	**+0.9**
	baz=243						

IDC 03 05:37:50.5±0.8,**13°.74N**×**144°.95E**,**h127**km±4km,**mb3.4**/6, **mb1 3.7**/6,**mb1mx3.4**/22,**mbtmp3.4**/6,**Error ellipse: s-maj=38.7km s-min=17.3km az=96.0**,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.17**	**206**	P	Pn	05 38 09.2	+1.2
	1µm,0.3s,baz=127,slow=2.5,SNR=261						
GUMO				S	Sn	05 38 21.9	+0.8
	1µm,0.3s,baz=45,slow=19,SNR=84						
WRA	**Warramunga Arr**	**35.06**	**198**	P	P	05 44 31.2	-0.2
	1.7nm,0.5s,baz=20,slow=9.3,SNR=9.5						
ASAR	**Alice Springs**	**38.72**	**196**	P	P	05 45 02.1	-0.2
	0.8nm,0.4s,baz=19,slow=13,SNR=16						
STKA	**Stephens Creek**	**45.47**	**184**	P	P	05 45 57.0	0.0
	2.9nm,0.4s,baz=16,slow=7.8,SNR=18						
MKAR	**Makanchi Array**	**61.43**	**316**	P	P	05 47 53.7	+0.2
	0.2nm,0.4s,baz=92,slow=8.4,SNR=11						
YKA	**Yellowknife Ar**	**82.69**	**27**	P	P	05 49 58.3	-1.3
	0.3nm,0.6s,baz=287,slow=5.1,SNR=6.7						
NVAR	**Mina Array Bea**	**86.77**	**51**	P	P	05 50 21.9	+0.9
	0.3nm,0.4s,baz=266,slow=5.7,SNR=4.5						
DBIC	**Dimbokro**	**143.81**	**302**	PKP	PKPab	05 57 09.2	+0.3
	1.4nm,0.7s,baz=188,slow=3.4,SNR=7.1						

*ISK **03** 05:47:13.6, 40°.21N×33°.92E, h10km, MD2.8*
*DDA **03** 05:47:14.3, 40°.19N×33°.91E, h12km, MD2.8*
*CSEM **03** 05:47:14.2±0.2, 40°.19N×33°.92E, h8km, MD2.8, Error ellipse: s-maj=3.4km s-min=3.1km az=85.0*

ISC 03 05:47:14.3±0.9,**40°.20N**±0°.02×**33°.93E**±0°.03,**h16**km±8km, **n25**,σ0**964**/38,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CANT	**Cankiri**	**0.47**	**330**	*e*PG	**Pg**	**05 47 23.2**	**-0.6**
CANT				*e*SG	**Sg**	**05 47 30.0**	**-0.2**
ELDT	**Eldivan**	**0.48**	**308**	*i* P	**Pg**	**05 47 23.7**	**-0.3**
ELDT				*i* S	**Sb**	**05 47 30.9**	**-0.6**
ELDT	**Eldivan**	**0.48**	**308**	*i* P	**Pg**	**05 47 23.7**	**-0.3**
ELDT				*i* S	**Sb**	**05 47 30.9**	**-0.6**
CORM	**Corum**	**0.54**	**92**	*e*PG	**Pg**	**05 47 24.5**	**-0.6**
CORM				*e*SG	**Sg**	**05 47 33.1**	**+0.7**
CORM	**Corum**	**0.54**	**92**	*e*Pg	**Pg**	**05 47 24.5**	**-0.6**
CORM				*e*Sg	**Sg**	**05 47 33.1**	**+0.7**
CDAG	**Cicekdag**	**0.67**	**149**	*i* P	**Pg**	**05 47 27.0**	**-0.5**
CDAG				*i* S	**Sg**	**05 47 36.3**	**0.0**
CDAG	**Cicekdag**	**0.67**	**149**	*i* P	**Pg**	**05 47 27.0**	**-0.5**
CDAG				*i* S	**Sg**	**05 47 36.3**	**0.0**
CTKT	**Corum**	**0.78**	**57**	*i* P	**Pb**	**05 47 30.1**	**+0.4**
CTKT				*i* S	**Sn**	**05 47 42.1**	**-0.4**
CTKT	**Corum**	**0.78**	**57**	*i* P	**Pb**	**05 47 30.1**	**+0.4**
CTKT				*i* S	**Sn**	**05 47 42.1**	**-0.4**
TOS	**Tosya**	**0.84**	**5**	*e*PG	**Pg**	**05 47 29.9**	**-0.8**
TOS	**Tosya**	**0.84**	**5**	*e*Pg	**Pg**	**05 47 29.9**	**-0.8**
KAMT	**Kaman**	**0.84**	**191**	*e*PG	**Pg**	**05 47 30.3**	**-0.5**
KAMT	**Kaman**	**0.84**	**191**	*e*Pg	**Pg**	**05 47 30.3**	**-0.5**
BBAL	**Bala**	**0.90**	**224**	*i* P	**Pb**	**05 47 31.5**	**-0.2**
BBAL				*i* S	**Sn**	**05 47 45.0**	**-0.3**
BBAL	**Bala**	**0.90**	**224**	*i* P	**Pb**	**05 47 31.5**	**-0.2**
BBAL				*i* S	**Sn**	**05 47 45.0**	**-0.3**
LOD	**Lodumlu**	**0.94**	**251**	*e*PG	**Pb**	**05 47 32.3**	**-0.1**
LOD	**Lodumlu**	**0.94**	**251**	*e*Pg	**Pb**	**05 47 32.3**	**-0.1**
AFSR	**Afar-Bala (A**	**1.00**	**222**	*e*PG	**Pb**	**05 47 33.3**	**0.0**
AFSR	**Afar-Bala (A**	**1.00**	**222**	*e*Pg	**Pb**	**05 47 33.3**	**0.0**
YOZ	**Yozgat**	**1.21**	**117**	*e*PN	**Pn**	**05 47 36.8**	**0.0**
YOZ	**Yozgat**	**1.21**	**117**	*e*Pn	**Pn**	**05 47 36.8**	**0.0**
BALT	**Daday**	**1.40**	**343**	*i* P	**Pn**	**05 47 39.7**	**+0.3**
BALT				*i* S	**Sg**	**05 48 00.8**	**+1.3**
BALT	**Daday**	**1.40**	**343**	*i* P	**Pn**	**05 47 39.7**	**+0.3**
BALT				*i* S	**Sg**	**05 48 00.8**	**+1.3**
SULT	**Sultanhani-AKS**	**2.02**	**189**	*e*PN	**Pn**	**05 47 49.2**	**+1.4**
SULT	**Sultanhani-AKS**	**2.02**	**189**	*e*Pn	**Pn**	**05 47 49.3**	**+1.4**

*BJI **03** 05:47:18.0, 48°.10N×144°.90E, h490km, mB5.0/6, mb4.7/7*
*ISCJB **03** 05:47:20.1±0.5, 48°.09N±0°.05×144°.7E±0°.1, h500km, mb3.4/11, Error ellipse: s-maj=9.9km s-min=7.2km az=6.5*
*JMA **03** 05:47:20.9±0.5, 47°.79N×145°.34E, h508km, M3.7*
*MOS **03** 05:47:20.8±0.8, 48°.15N×144°.64E, h508km, mb4.0/9, Error ellipse: s-maj=19.7km s-min=11.8km az=77.8*
*IDC **03** 05:47:21.4±1.3, 48°.17N×144°.63E, h498km±17km, mb2.9/8, mb1 3.1/13, mb1mx2.9/28, mbtmp3.0/13, Error ellipse: s-maj=15.2km s-min=13.6km az=126.0*

ISC 03 05:47:20.7±0.7,**47°.92N**±0°.08×**144°.81E**±0°.09,**h500**km,**n33**, σ1**970**/37,**mb3.7**/11,**2D**,**Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**1.70**	**236**	*e*P	**P**	**05 48 27.2**	**+2.8**
YSS				*e*S	**S**	**05 49 18.2**	**+2.1**
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				smax	smax		
	comp=N,110nm,1.1s						
JWK2	**Keihoku**	**3.29**	**219**	P	**P**	**05 48 36.1**	**+2.4**
JWK2				*e*S	**S**	**05 49 35.3**	**+2.3**
ASAJ	**Asahikawa**	**4.10**	**203**	P	**P**	**05 48 42.0**	**+2.0**
	comp=N,1.0nm,0.3s,baz=31,slow=5.9,SNR=4.0						
NEM2	**Nemuro 2**	**4.60**	**171**	P	**P**	**05 48 44.0**	**-0.2**
NEM2				*e*S	**S**	**05 49 49.3**	**-2.9**
JAR	**Ashorobuto**	**4.68**	**189**	P	**P**	**05 48 46.2**	**+1.3**
JAK	**Akkeshi**	**4.92**	**181**	P	**P**	**05 48 47.4**	**+0.4**
JAK				*e*S	**S**	**05 49 55.3**	**-2.1**
JCH	**Churui**	**5.40**	**191**	P	**P**	**05 48 51.6**	**+0.2**
JCH				*e*S	**S**	**05 50 01.8**	**-3.6**
ERM	**Erimo**	**6.02**	**192**	*i* P	**P**	**05 48 58.8**	**+1.6**
USRK	**Ussuriysk Arra**	**9.65**	**252**	P	**P**	**05 49 34.4**	**+0.1**
	comp=N,0.5nm,0.3s,baz=61,slow=13,SNR=9.9						
PETK	**Petropavlovsk-**	**9.71**	**53**	P	**P**	**05 49 35.8**	**+1.0**
PETK	**Petropavlovsk-**	**9.71**	**53**	P	**P**	**05 49 35.8**	**+1.0**
	comp=N,0.1nm,0.3s,baz=209,slow=8.1,SNR=3.4						
MDJ	**Mudanjiang**	**11.04**	**258**	P	**P**	**05 49 48.5**	**-0.5**
MDJ				pmax	pmax		
	comp=Z,18nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,78nm,4.6s						
MJA0	**Matsu Arr-Jizo**	**12.36**	**205**	*e*P	P	05 50 06.1	+3.0
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.3s						
MAT	**Matsushiro**	**12.37**	**206**	P	**P**	**05 50 04.9**	**+1.7**
MJAR	**Matsushiro Arr**	**12.37**	**206**	P	**P**	**05 50 05.5**	**+2.3**
	comp=Z,2.7nm,0.3s,baz=8.1,slow=9.9,SNR=18						
CN2	**Changchun**	**14.10**	**260**	*e*P	**P**	**05 50 19.7**	**-1.6**
CN2				pmax	pmax		
	comp=Z,30nm,0.7s						
SEY	**Seymchan**	**15.63**	**13**	*e*P	**P**	**05 50 35.9**	**-1.1**
KSRS	**Korea Array**	**16.20**	**236**	P	**P**	**05 50 45.1**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=38,slow=11,SNR=4.7						
SONM	**Songino Array**	**25.59**	**284**	P	**P**	**05 52 08.7**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=77,slow=8.9,SNR=22						
TLY	**Talaya**	**26.58**	**294**	*i* P	**P**	**05 52 17.5**	**-0.4**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZAK	**Zakamensk**	**27.02**	**291**	*e*P	**P**	**05 52 20.3**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZALV	**Zalesovo Beam**	**37.28**	**302**	*e*P	**P**	**05 53 47.6**	**-1.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**37.28**	**302**	P	**P**	**05 53 47.6**	**-1.5**
	comp=Z,1.1nm,0.4s,baz=69,slow=7.9,SNR=7.0						
ILAR	**Eielson Array**	**39.18**	**39**	P	**P**	**05 54 04.1**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=273,slow=9.2,SNR=4.2						
MKAR	**Makanchi Array**	**41.33**	**293**	P	**P**	**05 54 21.1**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**41.33**	**293**	P	**P**	**05 54 21.1**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=70,slow=6.7,SNR=17						
KURK	**Kurchatov**	**41.94**	**300**	*e*P	**P**	**05 54 25.5**	**-1.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRVK	**Borovoye**	**45.71**	**306**	*i* P	**P**	**05 54 55.4**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,20nm,3.5s						
AAK	**Ala-Archa**	**48.20**	**291**	P	**P**	**05 55 14.4**	**-0.7**
AAK	**Ala-Archa**	**48.20**	**291**	P	**P**	**05 55 14.4**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=29,slow=19,SNR=4.4						
YKA	**Yellowknife Ar**	**53.27**	**35**	P	**P**	**05 55 51.2**	**-0.4**
	comp=Z,0.1nm,0.7s,baz=305,slow=6.6,SNR=4.0						
WRA	**Warramunga Arr**	**68.20**	**191**	P	**P**	**05 57 32.6**	**+2.0**
	comp=Z,0.9nm,0.5s,baz=6.2,slow=6.5,SNR=12						
ASAR	**Alice Springs**	**71.92**	**191**	P	**P**	**05 57 55.4**	**+2.6**
	comp=Z,1.6nm,0.6s,baz=2.1,slow=5.3,SNR=19						

IDC 03 06:06:09.6±1.8,**6°.30S**×**149°.94E**,**h38**km±12km,**mb3.7**/4, **mb1 4.0**/5,**mb1mx3.6**/16,**mbtmp3.8**/5,**ML3.1**/1,**MS3.1**/3, **Ms1 3.1**/3,**ms1mx2.6**/26,**Error ellipse: s-maj=51.6km s-min=25.7km az=130.0**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.13**	**222**	Pn	Pn	06 07 11.1	+0.8
	8.6nm,0.3s,baz=59,slow=5.6,SNR=15						
PMG				Sn	Sn	06 07 58.8	+1.4
	28nm,0.3s,baz=96,slow=19,SNR=9.1						
CTA	**Charters Tower**	**14.17**	**194**	LR	LR	06 15 06.4	
	comp=Z,40nm,18.3s,baz=232,slow=38						
WRA	**Warramunga Arr**	**20.33**	**227**	P	P	06 10 43.0	+0.2
	4.6nm,0.6s,baz=52,slow=11,SNR=29						
WRA				pP	pP	06 10 52.4	-0.2
	3.1nm,0.5s,baz=52,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**23.15**	**220**	P	P	06 11 12.2	-0.6
	0.9nm,0.7s,baz=55,slow=9.5,SNR=8.5						
ASAR				pP	pP	06 11 23.3	+0.4
	1.7nm,0.8s,baz=51,slow=9.6,SNR=6.7						
FITZ	**Fitzroy Crossi**	**26.44**	**241**	LR	LR	06 24 01.4	
	comp=Z,49nm,18.1s,baz=60,slow=40						
STKA	**Stephens Creek**	**26.61**	**196**	P	P	06 11 44.1	-0.5
	1.7nm,0.7s,baz=5.2,slow=14,SNR=5.4						
STKA				pP	pP	06 11 54.9	-0.3
	2.4nm,0.8s,baz=20,slow=8.0,SNR=3.5						
STKA				LR	LR	06 23 20.2	
	comp=Z,58nm,18.7s,baz=27,slow=39						
NVAR	**Mina Array Bea**	**95.25**	**52**	P	P	06 19 29.9	-0.1
	0.2nm,0.5s,baz=231,slow=4.2,SNR=3.4						
TORD	**Torodi Ar. Bea**	**147.99**	**285**	PKPbc	PKPbc	06 25 51.7	-0.4
	1.5nm,0.6s,baz=70,slow=2.5,SNR=22						

IDC 03 06:16:51.6±2.9,**16°.84S**×**174°.80W**,**h155**km±24km, **mb3.7**/8,**mb1 4.0**/9,**mb1mx3.8**/18,**mbtmp3.7**/9,**Error ellipse: s-maj=77.5km s-min=14.5km az=147.0**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.12**	**45**	P	Pn	06 17 54.1	+0.4
	9.7nm,0.3s,baz=110,slow=4.9,SNR=9.1						
AFI				S	Sn	06 18 38.2	-3.9
	20nm,0.3s,baz=30,slow=23,SNR=18						
STKA	**Stephens Creek**	**42.16**	**241**	P	P	06 24 28.8	-0.2
	3.6nm,0.8s,baz=78,slow=6.0,SNR=6.2						
WRA	**Warramunga Arr**	**48.22**	**258**	P	P	06 25 16.4	-0.5
	0.8nm,0.3s,baz=96,slow=8.0,SNR=6.7						
ASAR	**Alice Springs**	**48.40**	**253**	P	P	06 25 18.2	-0.1
	14nm,0.7s,baz=86,slow=8.6,SNR=133						
NVAR	**Mina Array Bea**	**76.30**	**42**	P	P	06 28 23.9	+0.2
	1.0nm,0.7s,baz=217,slow=9.0,SNR=8.9						
TXAR	**Lajitas Array**	**82.53**	**56**	P	P	06 28 57.8	+0.3
	1.4nm,1.1s,baz=214,slow=8.3,SNR=6.5						
ILAR	**Eielson Array**	**84.12**	**12**	P	P	06 29 04.3	-0.3
	1.1nm,0.7s,baz=230,slow=6.2,SNR=17						
PDAR	**Pinedale Array**	**84.23**	**42**	P	P	06 29 05.3	-0.7
	1.1nm,0.8s,baz=224,slow=3.2,SNR=8.1						
YKA	**Yellowknife Ar**	**91.95**	**24**	P	P	06 29 41.0	-1.1
	0.2nm,0.9s,baz=246,slow=4.5,SNR=3.9						
BRTR	**Keskin Array B**	**146.38**	**318**	PKPbc	PKPbc	06 36 15.0	+0.2
	1.2nm,0.7s,baz=106,slow=2.7,SNR=8.9						
GERES	**GERESS Array B**	**147.34**	**350**	PKPbc	PKPbc	06 36 17.2	+0.2
	1.0nm,0.6s,baz=29,slow=3.0,SNR=8.3						

IDC 03 06:27:16.1±2.2,**0°.09S**×**132°.87E**,**h0**km,**mb3.7**/3, **mb1 3.9**/4,**mb1mx3.6**/17,**mbtmp3.7**/4,**ML4.0**/1,**MS2.9**/2, **Ms1 2.9**/2,**ms1mx2.3**/29,**Error ellipse: s-maj=122.7km s-min=24.2km az=71.0**,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.25**	**201**	LR	LR	06 38 31.0	
	comp=Z,41nm,19.0s,baz=326,slow=35						
WRA	**Warramunga Arr**	**19.78**	**176**	P	P	06 31 47.0	-1.1
	0.5nm,0.3s,baz=356,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**23.45**	**178**	P	P	06 32 26.6	-0.9
	1.6nm,0.6s,baz=356,slow=11,SNR=21						
CTA	**Charters Tower**	**23.81**	**147**	LR	LR	06 40 53.3	
	comp=Z,24nm,20.5s,baz=228,slow=34						
STKA	**Stephens Creek**	**32.67**	**166**	P	P	06 33 51.6	+1.4
	5.5nm,0.8s,baz=348,slow=6.1,SNR=3.0						
MKAR	**Makanchi Array**	**64.20**	**324**	P	P	06 37 52.7	-0.2
	0.5nm,0.7s,baz=116,slow=7.9,SNR=7.0						

*IDC **03** 06:30:45.9±22.0, 42°.83N×142°.99E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.6/4, Error ellipse: s-maj=486.2km s-min=81.6km az=157.0*
*ISCJB **03** 06:30:50.4±1.0, 42°.28N±0°.09×143°.0E±0°.1, h67km±5km, mb3.5/4, Error ellipse: s-maj=17.9km s-min=10.6km az=141.8*
*JMA **03** 06:30:52.2±0.1, 42°.31N×143°.02E, h52km±1km, M3.3*
JMA Felt I J1.

ISC 03 06:30:51.1±1.1,**42°.28N**±0°.08×**143°.00E**±0°.07,**h60**km±8km, **n13**,σ0**969**/16,**mb3.6**/4,**5C-2D**,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.19**	**269**	⇑P	**Pn**	**06 31 00.5**	**0.0**
JNBK				*e*S	**Sn**	**06 31 07.2**	**0.0**
JEM	**Eriimo**	**0.29**	**157**	⇑P	**Pn**	**06 31 01.7**	**+0.6**
JCH	**Churui**	**0.42**	**39**	⇑P	**Pn**	**06 31 02.5**	**+0.2**
JCH				*e*S	**Sn**	**06 31 10.3**	**-0.1**
JBT2	**Biratori 2**	**0.69**	**317**	⇓P	**Pn**	**06 31 05.6**	**+0.4**
JOB	**Onbets**	**0.87**	**44**	⇑P	**Pn**	**06 31 08.7**	**+1.2**
JFR	**Furan**	**0.93**	**341**	P	**Pn**	**06 31 08.0**	**-0.3**
JAR	**Ashorobuto**	**1.16**	**29**	⇑P	**Pn**	**06 31 11.5**	**+0.3**
JAR				*e*S	**Sn**	**06 31 25.9**	**-0.3**
JEW	**Eniwo**	**1.28**	**296**	⇓P	**Pn**	**06 31 13.7**	**+0.9**
JAB	**Ashibetsu**	**1.35**	**335**	P	**Pn**	**06 31 15.1**	**+1.3**
SONM	**Songino Array**	**26.27**	**295**	P	**P**	**06 36 20.5**	**-0.3**
	0.4nm,0.7s,baz=82,slow=8.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**39.47**	**308**	P	**P**	**06 38 14.8**	**-0.6**
	0.6nm,0.5s,baz=80,slow=7.9,SNR=4.7						
MKAR	**Makanchi Array**	**42.57**	**298**	P	**P**	**06 38 41.3**	**+0.4**
	0.6nm,0.7s,baz=81,slow=9.2,SNR=4.6						
FINES	**FINESS Array B**	**64.76**	**332**	P	**P**	**06 41 22.4**	**-0.4**
	0.9nm,0.6s,baz=46,slow=8.2,SNR=5.2						

*ISK **03** 06:32:36.5, 39°.88N×40°.05E, h15km, MD2.6*
*CSEM **03** 06:32:36.4±0.5, 39°.84N×40°.00E, h2km, MD2.7, Error ellipse: s-maj=15.1km s-min=8.3km az=156.0*
*ISCJB **03** 06:32:37.2±0.6, 39°.86N±0°.04×40°.08E±0°.04, h3km±11km, Error ellipse: s-maj=7.5km s-min=4.8km az=162.0*
*DDA **03** 06:32:37.1, 39°.86N×40°.08E, h7km, MD2.7*

ISC 03 06:32:36.8±1.1,**39°.86N**±0°.04×**40°.02E**±0°.03,**h5**km±15km, **n13**,σ1**929**/22,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZN	**Erzincan**	**0.36**	**220**	PG	**Pg**	**06 32 44.8**	**+1.0**
ERZN				*e*SG	**Sb**	**06 32 50.9**	**-0.9**
KOPT	**Kop Dagi**	**0.40**	**67**	*i* P	**Pg**	**06 32 43.8**	**-0.7**
KOPT				*i* S	**Sg**	**06 32 50.5**	**+0.7**
KOPT	**Kop Dagi**	**0.40**	**67**	*i* P	**Pg**	**06 32 43.8**	**-0.7**
KOPT				*i* S	**Sg**	**06 32 50.5**	**+0.7**
EZC	**Erzincan**	**0.53**	**258**	*i* Pg	**Pg**	**06 32 44.8**	**-2.1**
EZC				*e*Sg	**Sg**	**06 32 50.9**	**-2.9**
BAYT	**Ayd¯–ntepe-Bay**	**0.54**	**10**	*e*PG	**Pg**	**06 32 47.2**	**0.0**
BAYT				*e*SG	**Sg**	**06 32 54.9**	**+0.8**
BAYT	**Ayd¯–ntepe-Bay**	**0.54**	**10**	*e*Pg	**Pg**	**06 32 47.2**	**0.0**
BAYT				*e*Sg	**Sg**	**06 32 54.9**	**+0.8**
KELT	**Kelkit**	**0.66**	**296**	*i* P	**Pb**	**06 32 50.6**	**-0.2**
KELT				*i* S	**Sb**	**06 33 01.3**	**+1.0**
KELT	**Kelkit**	**0.66**	**296**	*i* P	**Pb**	**06 32 50.6**	**-0.2**
EZM	**Erzurum**	**1.03**	**87**	*e*PG	**Pg**	**06 32 56.2**	**-0.4**
EZM				*e*SG	**Sb**	**06 33 10.8**	**-0.4**
PTK	**Pertek**	**1.09**	**207**	*e*PN	**Pb**	**06 32 58.0**	**-0.2**
PTK	**Pertek**	**1.09**	**207**	*e*Pn	**Pb**	**06 32 58.0**	**-0.2**
KEMA	**Kemaliye**	**1.32**	**244**	*e*P	**Pg**	**06 33 02.6**	**+0.4**
KEMA				*i* S	**Sg**	**06 33 22.4**	**+3.1**
KEMA	**Kemaliye**	**1.32**	**244**	*e*P	**Pg**	**06 33 02.6**	**+0.4**

*IDC **03** 07:14:08.9±3.5, 9°.25S×109°.04E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.7/5, MS2.6/1, Ms1 2.6/1, ms1mx2.4/30, Error ellipse: s-maj=156.1km s-min=21.1km az=50.0*
*DJA **03** 07:14:10, 9°.98S×108°.37E, h50km, MLv4.5/11*

ISC 03 07:14:09.4±1.4,**10°.0S**±0°.1×**108°.3E**±0°.1,**h25**km,**n12**, σ2**907**/10,**mb3.6**/5,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJI	**Banjamegara**	**3.03**	**28**	P	**Sn**	**07 15 31.9**	**+0.6**
	168nm,0.9s,2µm0.5nm						
LEM	**Lembang**	**3.24**	**348**	P	**Pn**	**07 15 00.8**	**+1.9**
PCJI	**Pacitan**	**3.40**	**58**	P	Sn	07 15 49.2	+8.9
	231nm,0.9s,1.1nm						
PWJI	**Pagerwojo**	**4.01**	**61**	P	**Sn**	**07 15 53.0**	**-2.6**
SJI	**Sawahan**	**4.13**	**57**	P	**Sn**	**07 15 57.9**	**-0.8**
	300nm,0.6s,11µm2.1nm						
KRKI	**Karangkates**	**4.52**	**66**	P	**Sn**	**07 16 10.8**	**+2.6**
	469nm,0.5s,3.8nm						
FITZ	**Fitzroy Crossi**	**18.65**	**117**	LR	LR	07 23 45.3	
	comp=Z,21nm,22.0s,baz=50,slow=31						
WRA	**Warramunga Arr**	**27.00**	**114**	P	**P**	**07 19 48.4**	**-1.3**
	1.1nm,0.7s,baz=287,slow=11,SNR=4.2						
ASAR	**Alice Springs**	**27.97**	**122**	P	**P**	**07 20 00.8**	**+2.5**
	0.5nm,0.7s,baz=300,slow=9.4,SNR=3.3						
CMAR	**Chiang Mai Arr**	**29.76**	**342**	P	**P**	**07 20 12.7**	**-1.4**
	0.8nm,0.5s,baz=179,slow=9.8,SNR=5.0						
SONM	**Songino Array**	**57.62**	**359**	P	**P**	**07 23 56.3**	**-1.2**
	0.4nm,0.5s,baz=178,slow=7.6,SNR=4.3						
MKAR	**Makanchi Array**	**61.14**	**340**	P	**P**	**07 24 21.8**	**+0.1**
	0.4nm,0.8s,baz=146,slow=5.5,SNR=2.4						

IDC 03 07:22:47.2±5.7,**5°.48S**×**148°.49E**,**h74**km±60km,**mb3.6**/4, **mb1 3.9**/6,**mb1mx3.6**/17,**mbtmp3.7**/6,**ML3.9**/2,**Error ellipse: s-maj=70.3km s-min=30.3km az=130.0**,**New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.11**	**199**	P	Pn	07 23 49.0	+1.4
	14nm,0.3s,baz=28,slow=8.5,SNR=21						
PMG				S	Sn	07 24 34.6	0.0
	9.5nm,0.3s,baz=211,slow=18,SNR=6.2						
WRA	**Warramunga Arr**	**19.90**	**223**	P	P	07 27 13.7	+0.7
	0.7nm,0.3s,baz=48,slow=11,SNR=25						
ASAR	**Alice Springs**	**22.89**	**216**	P	P	07 27 44.9	-0.1
	2.4nm,0.6s,baz=49,slow=9.4,SNR=33						
FITZ	**Fitzroy Crossi**	**25.60**	**239**	P	P	07 28 10.1	+0.4
	8.2nm,0.6s,baz=66,slow=10,SNR=10						
MKAR	**Makanchi Array**	**78.05**	**320**	P	P	07 34 37.5	-0.5
	0.1nm,0.5s,baz=108,slow=7.6,SNR=4.1						
ILAR	**Eielson Array**	**84.43**	**23**	P	P	07 35 11.1	-0.3
	0.4nm,0.8s,baz=252,slow=4.6,SNR=4.7						

PRE 03 07:42:08.7±0.9,**26°.38S**×**27°.55E**,**h2**km,**ML2.7**,**South Africa**

| Code |

MS3.1/1, Error ellipse: s-maj=36.7km s-min=11.1km az=142.7

IDC ***03*** *09:05:54.6±1.4, 60.66S×27.01W, h0km, mb4.1/4, mb1 4.1/4, mb1mx3.9/12, mbtmp4.1/4, MS3.2/1, Ms1 3.2/1, ms1mx2.7/15, Error ellipse: s-maj=63.7km s-min=29.1km az=8.0*

ISC 03 09:05:55.9±0.8, 60.7S±0.2×27.1W±0.2, h10km, n13, σ0.963/12, mb4.0/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.54**	**150**	*eP*	**Pn**	**09 08 54.6**	**+0.6**
VNA3	**Neumayer Olymp**	**12.64**	**154**	*eP*	**Pn**	**09 08 55.2**	**-0.2**
VNA2	**Neumayer--Watz**	**12.94**	**150**	*eP*	**Pn**	**09 08 59.4**	**-0.1**
	baz=315,slow=15						
SNAA	**Sanae**	**14.55**	**149**	*eP*	Pn	09 09 15.4	-6.2
PLCA	**Paso Flores**	**33.15**	**287**	P	**P**	**09 12 31.5**	**-0.6**
	1.3nm,0.7s,baz=153,slow=9.0,SNR=4.6						
PLCA				LR	LR	09 24 37.6	
	comp=Z,43nm,20.6s,baz=224,slow=34						
CFAA	**Coronel Fontan**	**39.65**	**298**	P	**P**	**09 13 28.1**	**+0.5**
	1.2nm,0.8s,baz=151,slow=9.5,SNR=12						
SIV	**San Ignacio**	**50.92**	**316**	P	**P**	**09 14 57.2**	**+0.1**
	1.1nm,0.5s,baz=190,slow=8.5,SNR=7.5						
TORD	**Torodi Ar. Bea**	**77.14**	**29**	P	**P**	**09 17 49.1**	**-0.2**
	3.5nm,0.7s,baz=196,slow=6.4,SNR=21						
FINES	**FINESS Array B**	**128.48**	**29**	PKP	**PKPdf**	**09 25 01.2**	**0.0**
	1.3nm,0.7s,baz=193,slow=5.7,SNR=3.6						
YKA	**Yellowknife Ar**	**139.59**	**314**	PKP	**PKPdf**	**09 25 21.3**	**-0.7**
	0.5nm,0.8s,baz=127,slow=2.2,SNR=10						
INK	**Inuvik**	**149.33**	**316**	PKPbc	**PKPbc**	**09 25 43.7**	**+0.7**
	2.6nm,0.7s,baz=77,slow=2.4,SNR=12						
SONM	**Songino Array**	**150.63**	**95**	PKPbc	**PKPbc**	**09 25 46.5**	**-0.6**
	1.0nm,0.9s,baz=211,slow=3.2,SNR=6.6						
ILAR	**Eielson Array**	**153.06**	**305**	PKPbc	**PKPbc**	**09 25 53.0**	**+1.1**
	0.7nm,0.6s,baz=113,slow=0.9,SNR=11						

ISCJB ***03*** *09:13:17.9±0.7, 76.77N±0.08×18.8E±0.5, h16km, mb3.0/2, Error ellipse: s-maj=19.6km s-min=6.8km az=152.4*

NAO ***03*** *09:13:17.6±0.9, 76.90N×18.77E, ML3.5*

IDC ***03*** *09:13:18.8±0.8, 76.96N×18.93E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.3/25, mbtmp3.5/4, ML3.1/2, Error ellipse: s-maj=20.2km s-min=6.3km az=69.0*

ISC 03 09:13:18.7±0.9, 76.76N±0.09×18.0E±0.2, h16km, n12, σ1.996/14, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**0.61**	**295**	*eP*	**Pn**	**09 13 33.3**	**+0.6**
SPA0	**Spitsbergen Ar**	**1.47**	**347**	Pg	**Pn**	**09 13 43.1**	**-1.3**
	baz=155,slow=22						
SPA0				Lg	Lg	09 14 01.5	
	baz=153,slow=28						
SPITS	**Spitsbergen Ar**	**1.47**	**347**	Pg	**Pn**	**09 13 43.1**	**-1.3**
	baz=154,slow=18,SNR=1714						
SPITS				Lg	Lg	09 14 01.5	
	baz=155,slow=33,SNR=25						
KBS	**Kingsbay**	**2.52**	**332**	Pn	**Pn**	**09 13 58.0**	**-0.9**
KBS				Pg	**Pb**	**09 14 03.3**	**-0.2**
KBS				Lg	Lg	09 14 33.8	
KEV	**Kevo**	**7.50**	**155**	*ep*	Pn	09 15 11.8	+4.7
	1.5nm,0.3s						
ARA0	**ARCESS Array S**	**7.58**	**160**	Pn	**Pn**	**09 15 10.5**	**+2.2**
	baz=355,slow=14						
ARA0				Sn	**Sn**	**09 16 30.5**	**-3.2**
	slow=22						
ARCES	**ARCESS Array B**	**7.58**	**160**	Pn	**Pn**	**09 15 11.1**	**+2.8**
	1.1nm,0.3s,baz=353,slow=13,SNR=20						
ARCES				Sn	**Sn**	**09 16 34.0**	**+0.3**
	1.7nm,0.3s,baz=355,slow=18,SNR=4.5						
APA0	**Apatity Array**	**10.23**	**146**	Pn	**Pn**	**09 15 45.0**	**+0.5**
	baz=333,slow=4.4						
JOF	**Joensuu**	**14.57**	**155**	*ep*	P	09 16 54.4	+4.1
	0.5nm,0.4s						
FINES	**FINESS Array B**	**15.63**	**166**	Pn	**Pn**	**09 16 57.4**	**-0.5**
	0.1nm,0.3s,baz=355,slow=14,SNR=2.5						
FINES				Sn	**Sn**	**09 19 47.0**	**-3.4**
	0.2nm,0.3s,baz=354,slow=25,SNR=4.3						
ILAR	**Eielson Array**	**38.38**	**350**	P	**P**	**09 20 39.5**	**+1.0**
	0.1nm,0.5s,baz=358,slow=7.3,SNR=4.2						
MKAR	**Makanchi Array**	**39.13**	**101**	P	**P**	**09 20 46.0**	**+1.1**
	0.3nm,0.7s,baz=335,slow=7.0,SNR=4.0						

ISCJB ***03*** *09:15:23.3±1.1, 60.8S±0.2×26.9W±0.6, h19km, mb3.5/3, Error ellipse: s-maj=46.0km s-min=14.7km az=149.0*

IDC ***03*** *09:15:24.1±1.3, 60.32S×26.92W, h0km, mb3.8/3, mb1 3.8/3, mb1mx3.6/12, mbtmp3.8/3, Error ellipse: s-maj=45.7km s-min=34.7km az=81.0*

ISC 03 09:15:25.7±1.1, 60.7S±0.2×26.9W±0.3, h19km, n8, σ1.907/7, mb3.7/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**12.53**	**151**	*eP*	**Pn**	**09 18 21.9**	**-0.7**
VNA3	**Neumayer Olymp**	**12.63**	**154**	*eP*	**Pn**	**09 18 23.6**	**-0.5**
VNA2	**Neumayer--Watz**	**12.92**	**151**	*eP*	**Pn**	**09 18 28.9**	**+0.8**
	baz=315,slow=15						
QSPA	**South Pole Qui**	**29.54**	**180**	P	P	09 21 33.3	+4.5
	0.8nm,0.5s,baz=168,slow=3.1,SNR=3.6						
CFAA	**Coronel Fontan**	**39.72**	**298**	P	**P**	**09 22 56.2**	**-0.5**
	0.2nm,0.5s,baz=147,slow=7.0,SNR=6.3						
TORD	**Torodi Ar. Bea**	**77.06**	**29**	P	**P**	**09 27 16.9**	**-0.4**
	0.4nm,0.5s,baz=196,slow=5.6,SNR=6.4						
YKA	**Yellowknife Ar**	**139.63**	**314**	PKP	**PKPdf**	**09 34 50.3**	**-0.1**
	0.1nm,0.4s,baz=130,slow=2.5,SNR=4.2						
ILAR	**Eielson Array**	**153.12**	**305**	PKPbc	**PKPbc**	**09 35 22.0**	**+1.7**
	0.3nm,0.7s,baz=79,slow=1.9,SNR=5.3						

IDC 03 09:16:08.1±20.0, 22.72S×176.96E, h632km±250km, mb2.9/5, mb1 3.0/5, mb1mx2.9/17, mbtmp2.9/5, Error ellipse: s-maj=122.8km s-min=32.0km az=73.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**28.68**	**269**	P	P	09 21 17.3	+0.4
	2.1nm,0.5s,baz=94,slow=19,SNR=2.5						
STKA	**Stephens Creek**	**32.60**	**246**	P	P	09 21 50.4	+0.2
	1.3nm,0.5s,baz=87,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**39.48**	**260**	P	P	09 22 46.8	+0.1
	1.4nm,0.7s,baz=100,slow=7.0,SNR=16						
WRA	**Warramunga Arr**	**39.70**	**266**	P	P	09 22 48.1	-0.3
	0.8nm,0.2s,baz=96,slow=8.3,SNR=39						
QSPA	**South Pole Qui**	**67.36**	**180**	P	P	09 26 02.0	0.0
	1.3nm,0.4s,baz=52,slow=1.3,SNR=5.9						
ESDC	**Sonseca Array**	**163.08**	**2**	PKPab	PKPab	09 35 54.0	0.0
	0.6nm,0.3s,baz=336,slow=6.5,SNR=5.1						

IDC ***03*** *09:18:25.2±2.1, 36.24S×177.63E, h0km, mb4.2/3, mb1 4.4/3, mb1mx4.0/11, mbtmp4.2/3, MS3.5/2, Ms1 3.4/2, ms1mx2.9/23, Error ellipse: s-maj=143.8km s-min=42.7km az=0.0*

ISCJB ***03*** *09:18:29.5±0.4, 37.88S±0.03×177.61E±0.04, h70km±4km, mb4.2/4, Error ellipse: s-maj=5.7km s-min=4.5km az=152.1*

NEIC ***03*** *09:18:31.2, 37.79S×177.57E, h46km, ML4.5(WEL), After WEL.*

WEL ***03*** *09:18:31.2±0.2, 37.80S×177.58E, h45km±2km, ML4.5/18, Error ellipse: s-maj=1.1km s-min=1.0km az=0.0*

WEL Felt from Bay of Plenty to Hawke''s Bay, maximum reported intensity MM 6.

ISC 03 09:18:30.5±0.8, 37.86S±0.03×177.58E±0.03, h58km±6km, n210, σ1.931/196, mb4.2/4, 6C-19D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.46**	**317**	⇓P*	**Pn**	**09 18 40.5**	**-1.3**
WIZ	**White Island**	**0.46**	**317**	⇓P*	**Pn**	**09 18 40.5**	**-1.3**
MWZ	**Matawai**	**0.47**	**185**	P*	**Pn**	**09 18 42.2**	**+0.1**
MWZ				S*	**Sn**	**09 18 50.6**	**+0.2**
MWZ				S*		09 18 50.8	
MWZ	**Matawai**	**0.47**	**185**	P*	**Pn**	**09 18 42.2**	**+0.1**
URZ	**Urewera**	**0.54**	**223**	P*	**Pn**	**09 18 42.2**	**-0.5**
URZ				S*	**Sn**	**09 18 51.4**	**-0.2**
URZ	**Urewera**	**0.54**	**223**	*eP*n	**Pn**	**09 18 43.0**	**+0.3**
URZ				*e*Sn	**Sn**	**09 18 51.6**	**0.0**
PUZ	**Puketiti**	**0.57**	**112**	⇑PN	**Pn**	**09 18 43.6**	**+0.5**
PUZ	**Puketiti**	**0.57**	**112**	Pn	**Pn**	**09 18 43.6**	**+0.5**
PUZ				Sn	**Sn**	**09 18 54.2**	**+1.9**
MXZ	**Matakaoa Point**	**0.65**	**63**	P*	**Pn**	**09 18 43.3**	**-0.7**
MXZ				S*	**Sn**	**09 18 53.4**	**-0.3**
MXZ	**Matakaoa Point**	**0.65**	**63**	P*	**Pn**	**09 18 43.3**	**-0.7**
MXZ				S*	**Sn**	**09 18 53.4**	**-0.3**
EDRZ	**Edgecumbe**	**0.71**	**250**	⇓P*	**Pn**	**09 18 45.1**	**+0.3**
EDRZ	**Edgecumbe**	**0.71**	**250**	P*	**Pn**	**09 18 45.1**	**+0.3**
MARZ	**Manawahe**	**0.73**	**260**	⇓P*	**Pn**	**09 18 44.8**	**-0.1**
MARZ				S*	**Sn**	**09 18 55.4**	**-0.1**
MARZ	**Manawahe**	**0.73**	**260**	P*	**Pn**	**09 18 44.8**	**-0.1**
MARZ				S*	**Sn**	**09 18 55.4**	**-0.1**
CNGZ	**Carnagh Statio**	**0.79**	**142**	⇓PN	**Pn**	**09 18 47.0**	**+1.2**
CNGZ	**Carnagh Statio**	**0.79**	**142**	Pn	**Pn**	**09 18 47.0**	**+1.2**
TARZ	**Mount Tarawera**	**0.93**	**246**	⇓P*	**Pn**	**09 18 48.2**	**+0.7**
TARZ	**Mount Tarawera**	**0.93**	**246**	P*	**Pn**	**09 18 48.2**	**+0.7**
LIRZ	**Lichensteins R**	**0.96**	**261**	P*	**Pn**	**09 18 48.2**	**+0.4**
LIRZ	**Lichensteins R**	**0.96**	**261**	P*	**Pn**	**09 18 48.2**	**+0.4**
RRRZ	**Republican Roa**	**0.97**	**240**	⇓P*	**Pn**	**09 18 48.6**	**+0.6**
RRRZ	**Republican Roa**	**0.97**	**240**	P*	**Pn**	**09 18 48.6**	**+0.6**
OMRZ	**Omania**	**0.98**	**255**	P*	**Pn**	**09 18 48.6**	**+0.4**
OMRZ	**Omania**	**0.98**	**255**	P*	**Pn**	**09 18 48.6**	**+0.4**
TGRZ	**Tauranga**	**1.05**	**277**	⇓P*	**Pn**	**09 18 48.8**	**-0.3**
TGRZ	**Tauranga**	**1.05**	**277**	P*	**Pn**	**09 18 48.8**	**-0.3**
KARZ	**Kaharoa**	**1.07**	**261**	⇓P*	**Pn**	**09 18 49.6**	**+0.3**
KARZ	**Kaharoa**	**1.07**	**261**	P*	**Pn**	**09 18 49.6**	**+0.3**
PRGZ	**Paritu Road**	**1.08**	**167**	PN	**Pn**	**09 18 50.3**	**+0.7**
PRGZ	**Paritu Road**	**1.08**	**167**	Pn	**Pn**	**09 18 50.3**	**+0.7**
RAHZ	**Arahi**	**1.12**	**200**	⇓PN	**Pn**	**09 18 51.6**	**+1.5**
RAHZ	**Arahi**	**1.12**	**200**	Pn	**Pn**	**09 18 51.6**	**+1.5**
PRRZ	**Plateau Road**	**1.13**	**235**	⇑P*	**Pn**	**09 18 50.8**	**+0.6**
PRRZ	**Plateau Road**	**1.13**	**235**	P*	**Pn**	**09 18 50.8**	**+0.6**
UTU	**Utuhina**	**1.14**	**254**	P*	**Pn**	**09 18 51.5**	**+1.2**
UTU	**Utuhina**	**1.14**	**254**	P*	**Pn**	**09 18 51.5**	**+1.2**
HRRZ	**Handcock Road**	**1.15**	**242**	⇑P*	**Pn**	**09 18 51.4**	**+0.9**
HRRZ	**Handcock Road**	**1.15**	**242**	P*	**Pn**	**09 18 51.4**	**+0.9**
KNZ	**Kokohu**	**1.16**	**176**	PN	**Pn**	**09 18 51.3**	**+0.8**
KNZ	**Kokohu**	**1.16**	**176**	Pn	**Pn**	**09 18 51.3**	**+0.8**
ALRZ	**Allen Road**	**1.20**	**234**	⇑P*	**Pn**	**09 18 51.7**	**+0.6**
ALRZ	**Allen Road**	**1.20**	**234**	P*	**Pn**	**09 18 51.7**	**+0.6**
MYRZ	**Mayor Island**	**1.21**	**298**	⇓P*	**Pn**	**09 18 50.5**	**-0.7**
MHGZ	**Mahia Peninsul**	**1.31**	**169**	PN	**Pn**	**09 18 53.4**	**+0.8**
MHGZ	**Mahia Peninsul**	**1.31**	**169**	Pn	**Pn**	**09 18 53.4**	**+0.8**
WHTZ	**Whakaora**	**1.51**	**237**	P*	**Pn**	**09 18 56.6**	**+1.3**
WHTZ	**Whakaora**	**1.51**	**237**	P*	**Pn**	**09 18 56.6**	**+1.3**
HATZ	**Hinemaiaia**	**1.56**	**228**	P*	**Pn**	**09 18 56.6**	**+0.7**
HATZ	**Hinemaiaia**	**1.56**	**228**	P*	**Pn**	**09 18 56.6**	**+0.7**
TOZ	**Tahuroa Road**	**1.65**	**274**	P*	**Pn**	**09 18 56.8**	**-0.3**
TOZ	**Tahuroa Road**	**1.65**	**274**	P*	**Pn**	**09 18 56.8**	**-0.3**
WATZ	**Wairara**	**1.68**	**239**	P*	**Pn**	**09 18 58.5**	**+0.9**
WATZ	**Wairara**	**1.68**	**239**	P*	**Pn**	**09 18 58.5**	**+0.9**
MCHZ	**McNeill Hill**	**1.72**	**203**	PN	**Pn**	**09 18 59.9**	**+1.8**
MCHZ	**McNeill Hill**	**1.72**	**203**	Pn	**Pn**	**09 18 59.9**	**+1.8**
RATZ	**Rangitukua**	**1.74**	**234**	⇑P*	**Pn**	**09 18 59.5**	**+1.1**
RATZ	**Rangitukua**	**1.74**	**234**	P*	**Pn**	**09 18 59.5**	**+1.1**
RITZ	**Rihia Road**	**1.75**	**230**	P*	**Pn**	**09 18 59.8**	**+1.3**
RITZ	**Rihia Road**	**1.75**	**230**	P*	**Pn**	**09 18 59.8**	**+1.3**
KATZ	**Kakaramea**	**1.85**	**233**	P*	**Pn**	**09 19 01.0**	**+1.0**
KATZ	**Kakaramea**	**1.85**	**233**	P*	**Pn**	**09 19 01.0**	**+1.0**
KUZ	**Kuaotunu**	**1.85**	**306**	PN	**Pn**	**09 18 58.9**	**-1.0**
KUZ	**Kuaotunu**	**1.85**	**306**	Pn	**Pn**	**09 18 58.9**	**-1.0**
KRVZ	**Karewarewa**	**1.96**	**230**	P*	**Pn**	**09 19 02.6**	**+1.2**
KRVZ	**Karewarewa**	**1.96**	**230**	P*	**Pn**	**09 19 02.6**	**+1.2**
WTVZ	**West Tongariro**	**2.00**	**231**	⇓P*	**Pn**	**09 19 03.3**	**+1.3**
WTVZ	**West Tongariro**	**2.00**	**231**	P*	**Pn**	**09 19 03.3**	**+1.3**
KAHZ	**Kahuranaki**	**2.01**	**196**	PN	**Pn**	**09 19 02.6**	**+0.6**
KAHZ	**Kahuranaki**	**2.01**	**196**	Pn	**Pn**	**09 19 02.6**	**+0.6**
BHHZ	**Black Hill Sta**	**2.01**	**216**	⇓P*	**Pn**	**09 19 03.0**	**+0.8**
BHHZ	**Black Hill Sta**	**2.01**	**216**	P*	**Pn**	**09 19 03.0**	**+0.8**
NGZ	**Ngauruhoe**	**2.03**	**229**	⇓P*	**Pn**	**09 19 03.7**	**+1.3**
NGZ	**Ngauruhoe**	**2.03**	**229**	P*	**Pn**	**09 19 03.8**	**+1.3**
MKAZ	**Moumakai**	**2.06**	**291**	PN	**Pn**	**09 19 02.6**	**-0.1**
MKAZ	**Moumakai**	**2.06**	**291**	Pn	**Pn**	**09 19 02.6**	**-0.1**
TUVZ	**Tukino**	**2.06**	**227**	P*	**Pn**	**09 19 04.0**	**+1.1**
TUVZ	**Tukino**	**2.06**	**227**	P*	**Pn**	**09 19 04.0**	**+1.1**
TWVZ	**Taurewa**	**2.07**	**234**	P*	**Pn**	**09 19 04.0**	**+1.0**
TWVZ	**Taurewa**	**2.07**	**234**	P*	**Pn**	**09 19 04.0**	**+1.0**
FWVZ	**Far West T-bar**	**2.11**	**228**	P*	**Pn**	**09 19 04.6**	**+1.0**
FWVZ	**Far West T-bar**	**2.11**	**228**	P*	**Pn**	**09 19 04.6**	**+1.0**
WNVZ	**Wahianoa**	**2.13**	**226**	P*	**Pn**	**09 19 04.8**	**+0.9**
WNVZ	**Wahianoa**	**2.13**	**226**	P*	**Pn**	**09 19 04.8**	**+0.9**
TRVZ	**Turoa**	**2.14**	**227**	P*	**Pn**	**09 19 05.1**	**+1.0**
TRVZ	**Turoa**	**2.14**	**227**	P*	**Pn**	**09 19 05.1**	**+1.0**
PXZ	**Pawanui**	**2.24**	**194**	⇓PN	**Pn**	**09 19 04.6**	**-0.5**
PXZ	**Pawanui**	**2.24**	**194**	Pn	**Pn**	**09 19 04.6**	**-0.5**
HIZ	**Hauiti**	**2.24**	**252**	⇑PN	**Pn**	**09 19 06.5**	**+1.4**
HIZ	**Hauiti**	**2.24**	**252**	Pn	**Pn**	**09 19 06.5**	**+1.4**
MTVZ	**Mangateitei**	**2.25**	**227**	P*	**Pn**	**09 19 06.4**	**+1.1**
MTVZ	**Mangateitei**	**2.25**	**227**	P*	**Pn**	**09 19 06.4**	**+1.1**
OTAZ	**Otara**	**2.30**	**292**	PN	**Pn**	**09 19 06.3**	**+0.3**
OTAZ	**Otara**	**2.30**	**292**	Pn	**Pn**	**09 19 06.3**	**+0.3**
PNHZ	**Pukenui**	**2.31**	**207**	PN	**Pn**	**09 19 06.5**	**+0.3**
PNHZ	**Pukenui**	**2.31**	**207**	Pn	**Pn**	**09 19 06.5**	**+0.3**
WPHZ	**Waipukurau**	**2.37**	**202**	PN	**Pn**	**09 19 07.1**	**+0.1**
WPHZ	**Waipukurau**	**2.37**	**202**	Pn	**Pn**	**09 19 07.1**	**+0.1**
MTAZ	**Motutapu**	**2.38**	**296**	⇓PN	**Pn**	**09 19 07.3**	**+0.2**
MTAZ	**Motutapu**	**2.38**	**296**	Pn	**Pn**	**09 19 07.3**	**+0.2**
PRHZ	**Porangahau**	**2.51**	**197**	PN	**Pn**	**09 19 08.5**	**-0.4**
PRHZ	**Porangahau**	**2.51**	**197**	Pn	**Pn**	**09 19 08.5**	**-0.4**
KAAZ	**Kauri Point**	**2.52**	**293**	⇓PN	**Pn**	**09 19 09.9**	**+1.0**
KAAZ	**Kauri Point**	**2.52**	**293**	Pn	**Pn**	**09 19 09.9**	**+1.0**
ABAZ	**Army Bay**	**2.53**	**299**	PN	**Pn**	**09 19 09.4**	**+0.3**
WTAZ	**Waiatarua**	**2.57**	**290**	PN	**Pn**	**09 19 10.3**	**+0.7**
WTAZ	**Waiatarua**	**2.57**	**290**	Pn	**Pn**	**09 19 10.3**	**+0.7**
RVAZ	**Riverhead Bore**	**2.63**	**294**	PN	**Pn**	**09 19 11.0**	**+0.5**
DVHZ	**Dannevirke**	**2.67**	**204**	PN	**Pn**	**09 19 10.3**	**-0.8**
DVHZ	**Dannevirke**	**2.67**	**204**	Pn	**Pn**	**09 19 10.3**	**-0.8**
WAZ	**Wanganui**	**2.77**	**226**	⇓PN	**Pn**	**09 19 14.4**	**+1.9**
WAZ	**Wanganui**	**2.77**	**226**	Pn	**Pn**	**09 19 14.4**	**+1.9**
MHEZ	**Mangahewa**	**2.83**	**244**	PN	**Pn**	09 19 16.5	+3.3
MHEZ	**Mangahewa**	**2.83**	**244**	Pn	**Pn**	09 19 16.5	+3.3
RAEZ	**Rainy Point**	**2.87**	**239**	PN	**Pn**	**09 19 16.8**	**+2.9**
RAEZ	**Rainy Point**	**2.87**	**239**	Pn	**Pn**	**09 19 16.8**	**+2.9**
POWZ	**Post Office Ro**	**2.89**	**209**	PN	**Pn**	**09 19 14.3**	**+0.2**
POWZ	**Post Office Ro**	**2.89**	**209**	Pn	**Pn**	**09 19 14.3**	**+0.2**
DREZ	**Durham Road**	**2.96**	**242**	PN	**Pn**	**09 19 18.2**	**+3.1**
DREZ	**Durham Road**	**2.96**	**242**	Pn	**Pn**	**09 19 18.2**	**+3.1**
NEZ	**North Egmont**	**3.07**	**242**	PN	Pn	09 19 20.2	+3.6
NEZ	**North Egmont**	**3.07**	**242**	Pn	Pn	09 19 20.2	+3.6
DFE	**Dawson Falls**	**3.09**	**241**	Pn	**Pn**	**09 19 18.1**	**+1.2**
PKE	**Pukeiti**	**3.12**	**244**	PN	**Pn**	**09 19 20.4**	**+3.2**
PKE	**Pukeiti**	**3.12**	**244**	Pn	**Pn**	**09 19 20.4**	**+3.2**
TIWZ	**Tintock**	**3.19**	**204**	PN	**Pn**	**09 19 17.7**	**-0.5**
TIWZ	**Tintock**	**3.19**	**204**	Pn	**Pn**	**09 19 17.7**	**-0.5**
MRZ	**Mangatainoka R**	**3.20**	**208**	PN	**Pn**	**09 19 17.0**	**-1.2**
MRZ	**Mangatainoka R**	**3.20**	**208**	Pn	**Pn**	**09 19 17.0**	**-1.2**
NRZ	**Ngariki Road**	**3.21**	**242**	PN	Pn	09 19 22.1	+3.7
NRZ	**Ngariki Road**	**3.21**	**242**	Pn	Pn	09 19 22.1	+3.7
WCZ	**Waipu Caves**	**3.23**	**306**	⇓PN	**Pn**	**09 19 18.7**	**+0.1**
WCZ	**Waipu Caves**	**3.23**	**306**	Pn	**Pn**	**09 19 18.7**	**+0.1**
OGWZ	**Otaki Gorge**	**3.49**	**212**	PN	**Pn**	**09 19 21.2**	**-1.1**
OGWZ	**Otaki Gorge**	**3.49**	**212**	Pn	**Pn**	**09 19 21.2**	**-1.1**
TMWZ	**Te Maipa**	**3.49**	**201**	PN	**Pn**	**09 19 20.7**	**-1.6**
TMWZ	**Te Maipa**	**3.49**	**201**	Pn	**Pn**	**09 19 20.7**	**-1.6**
CAW	**Cannon Point**	**3.78**	**210**	PN	**Pn**	**09 19 24.4**	**-1.8**
CAW	**Cannon Point**	**3.78**	**210**	Pn	**Pn**	**09 19 24.4**	**-1.8**
TRWZ	**Traveller**	**3.82**	**202**	PN	**Pn**	**09 19 24.8**	**-2.0**
TRWZ	**Traveller**	**3.82**	**202**	Pn	**Pn**	**09 19 24.8**	**-2.0**
PAWZ	**Paruwai Farm**	**3.89**	**205**	PN	**Pn**	**09 19 25.9**	**-1.9**
PAWZ	**Paruwai Farm**	**3.89**	**205**	Pn	**Pn**	**09 19 25.9**	**-1.9**
MSWZ	**Moikau Station**	**3.98**	**206**	PN	**Pn**	**09 19 27.0**	**-2.0**
MSWZ	**Moikau Station**	**3.98**	**206**	Pn	**Pn**	**09 19 27.0**	**-2.0**
WEL	**Wellington**	**4.05**	**212**	PN	**Pn**	**09 19 28.4**	**-1.5**
WEL	**Wellington**	**4.05**	**212**	Pn	**Pn**	**09 19 28.4**	**-1.5**
DUWZ	**D'Urville Isla**	**4.08**	**223**	PN	**Pn**	**09 19 29.7**	**-0.7**
DUWZ	**D'Urville Isla**	**4.08**	**223**	Pn	**Pn**	**09 19 29.7**	**-0.7**
SNZO	**South Karori**	**4.10**	**212**	PN	**Pn**	**09 19 28.2**	**-2.3**
SNZO	**South Karori**	**4.10**	**212**	*e*Pn	**Pn**	**09 19 30.0**	**-0.5**
SNZO				*e*Sn	**Sn**	**09 20 13.4**	**-3.7**
BHW	**Baring Head**	**4.11**	**210**	PN	**Pn**	**09 19 28.8**	**-1.9**
BHW	**Baring Head**	**4.11**	**210**	Pn	**Pn**	**09 19 28.8**	**-1.9**
OUZ	**Omahuta**	**4.15**	**308**	PN	**Pn**	**09 19 31.8**	**+0.5**
OUZ	**Omahuta**	**4.15**	**308**	*e*Pn	**Pn**	**09 19 32.0**	**+0.6**
OUZ				*e*Sn	**Sn**	**09 20 18.2**	**-0.4**
TCW	**Tory Channel**	**4.21**	**216**	PN	**Pn**	**09 19 30.2**	**-1.8**
TUWZ	**Tuamarina**	**4.54**	**217**	PN	**Pn**	**09 19 35.1**	**-1.5**
TUWZ	**Tuamarina**	**4.54**	**217**	Pn	**Pn**	**09 19 35.1**	**-1.5**
NNZ	**Nelson**	**4.67**	**223**	PN	**Pn**	**09 19 36.8**	**-1.5**
NNZ	**Nelson**	**4.67**	**223**	Pn	**Pn**	**09 19 36.9**	**-1.5**
BSWZ	**Blackbirch Sta**	**4.79**	**215**	PN	**Pn**	**09 19 38.2**	**-1.9**
BSWZ	**Blackbirch Sta**	**4.79**	**215**	Pn	**Pn**	**09 19 38.2**	**-1.9**
QRZ	**Quartz Range**	**4.91**	**231**	PN	**Pn**	**09 19 40.4**	**-1.2**
QRZ	**Quartz Range**	**4.91**	**231**	Pn	**Pn**	**09 19 40.4**	**-1.2**
THZ	**Tophouse**	**5.30**	**221**	PN	**Pn**	**09 19 45.2**	**-1.9**
THZ	**Tophouse**	**5.30**	**221**	Pn	**Pn**	**09 19 45.2**	**-1.9**
KHZ	**Kahutara**	**5.50**	**213**	PN	**Pn**	**09 19 47.3**	**-2.5**
KHZ	**Kahutara**	**5.50**	**213**	*e*Pn	**Pn**	**09 19 47.1**	**-2.6**
	30nm,0.4s						
KHZ				*e*Sn	**Sn**	**09 20 48.3**	**-3.3**
DSZ	**Denniston Nort**	**5.90**	**227**	PN	**Pn**	**09 19 52.8**	**-2.5**
DSZ	**Denniston Nort**	**5.90**	**227**	Pn	**Pn**	**09 19 52.8**	**-2.5**
LTZ	**Lake Taylor**	**6.37**	**218**	PN	Pn	09 19 58.5	-3.3
LTZ	**Lake Taylor**	**6.37**	**218**	Pn	Pn	09 19 58.5	-3.3
CRLZ	**Canterbury Las**	**6.84**	**212**	PN	Pn	09 20 04.7	-3.3
CRLZ	**Canterbury Las**	**6.84**	**212**	Pn	Pn	09 20 04.7	-3.3
CTZ	**Chatham Island**	**7.33**	**145**	PN	**Pn**	**09 20 14.4**	**-0.4**
CTZ	**Chatham Island**	**7.33**	**145**	Pn	**Pn**	**09 20 14.4**	**-0.4**
WVZ	**Waitaha Valley**	**7.37**	**223**	PN	**Pn**	**09 20 13.8**	**-1.5**
WVZ	**Waitaha Valley**	**7.37**	**223**	Pn	**Pn**	**09 20 13.8**	**-1.5**
RPZ	**Rata Peaks**	**7.66**	**218**	PN	**Pn**	**09 20 16.7**	**-2.7**
RPZ	**Rata Peaks**	**7.66**	**218**	Pn	**Pn**	**09 20 16.7**	**-2.7**
RPZ	**Rata Peaks**	**7.66**	**218**	LR	LR	09 24 01.8	
	comp=Z,286nm,19.8s,baz=64,slow=37						
FOZ	**Fox Glacier**	**8.26**	**224**	PN	Pn	09 20 23.

TESR		**1.24**	**326**	*i* P	Pn	09 27 10.9	-0.3
TESR				*i* S	Sg	09 27 27.7	-0.1
TESR		**1.24**	**326**	*i* P	Pn	09 27 10.9	-0.3
TESR				*i* S	Sg	09 27 27.7	-0.1
VOIR		**1.84**	**269**	*i* P	Pn	09 27 19.5	0.0
VOIR		**1.84**	**269**	*i* P	Pn	09 27 19.5	0.0
VOIR		**1.84**	**269**	*i* P	Pn	09 27 19.5	0.0

*ISK **03** 09:29:58.8, 38.30N × 28.30E, h6km, MD2.4*
*ISCJB **03** 09:29:59.5 ± 0.7, 38.31N ± 0.04 × 28.28E ± 0.05, h7km ± 9km, Error ellipse: s-maj=7.4km s-min=5.1km az=139.1*
*DDA **03** 09:29:59.7, 38.30N × 28.33E, h7km, MD2.8*
*CSEM **03** 09:29:59.7 ± 0.2, 38.30N × 28.29E, h2km, MD2.8, Error ellipse: s-maj=5.6km s-min=3.6km az=133.0*
ISC 03 09:29:59.5 ± 1.1, **38.31N** ± 0.03 × **28.28E** ± 0.04, **h9**km ± 13km, **n14**, σ **0 23/22**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANT	**Manisa**	**0.28**	**50**	*i* P	**Pg**	**09 30 05.5**	**+0.2**
MANT	**Manisa**	**0.28**	**50**	*i* P	**Pg**	**09 30 05.5**	**+0.2**
KULA	**Kula-Manisa**	**0.36**	**55**	*e*PG	**Pg**	**09 30 06.8**	**+0.1**
KULA				*e*SG	**Sg**	**09 30 11.1**	**-0.4**
KULA	**Kula-Manisa**	**0.36**	**55**	*e*Pg	**Pg**	**09 30 06.8**	**+0.1**
KULA				*e*Sg	**Sg**	**09 30 11.1**	**-0.4**
AKHS	**Akhisar**	**0.68**	**327**	*i* P	**Pb**	**09 30 13.7**	**+0.1**
AKHS	**Akhisar**	**0.68**	**327**	*i* P	**Pb**	**09 30 13.7**	**+0.1**
AKS	**Akhisar**	**0.68**	**327**	*e*PG	**Pg**	**09 30 12.6**	**-0.1**
AKS				*e*SG	**Sb**	**09 30 22.8**	**-0.3**
AKS	**Akhisar**	**0.68**	**327**	*e*Pg	**Pg**	**09 30 12.6**	**-0.1**
AYDN	**Tasoluk**	**0.72**	**206**	*i* P	**Pg**	**09 30 13.3**	**-0.2**
AYDN				*i* S	**Sb**	**09 30 24.5**	**+0.2**
AYDN	**Tasoluk**	**0.72**	**206**	*i* P	**Pg**	**09 30 13.3**	**-0.2**
AYDN				*i* S	**Sb**	**09 30 24.5**	**+0.2**
DEMI	**Demirci**	**0.81**	**25**	*i* P	**Pg**	**09 30 15.4**	**+0.3**
DEMI				*i* S	**Sb**	**09 30 26.6**	**-0.2**
DEMI	**Demirci**	**0.81**	**25**	*i* P	**Pg**	**09 30 15.4**	**+0.3**
DEMI				*i* S	**Sb**	**09 30 26.6**	**-0.2**
IZM	**Izmir**	**0.81**	**277**	*e*PG	**Pg**	**09 30 15.1**	**0.0**
IZM				*e*SG	**Sg**	**09 30 25.9**	**+0.3**
IZM	**Izmir**	**0.81**	**277**	*e*Pg	**Pg**	**09 30 15.1**	**0.0**

*BJI **03** 09:36:32.2, 7.58S × 131.30E, h35km, mB5.0/20, mb4.7/25, Ms4.9/13, Ms7 4.6/13*
*MOS **03** 09:36:39.7 ± 0.8, 6.65S × 130.68E, h35km, mb4.9/24, Error ellipse: s-maj=21.1km s-min=7.2km az=110.6*
*ISCJB **03** 09:36:39.9 ± 0.3, 6.70S ± 0.04 × 130.64E ± 0.06, h37km, mb4.8/49, MS3.7/6, Error ellipse: s-maj=9.1km s-min=4.7km az=167.3*
*NEIC **03** 09:36:42.0 ± 1.0, 6.67S × 130.63E, h40km ± 10km, mb4.7/9, Error ellipse: s-maj=8.6km s-min=6.2km az=46.0*
*IDC **03** 09:36:44.8 ± 0.7, 6.68S × 130.72E, h66km ± 4km, mb4.2/15, mb1 4.3/17, mb1mx4.3/19, mbtmp4.3/17, MS3.4/4, Ms1 3.3/4, ms1mx2.8/29, Error ellipse: s-maj=23.9km s-min=14.1km az=72.0*
*DJA **03** 09:36:47, 6.51S × 130.92E, h133km, mb4.8/8*
ISC 03 09:36:42.0 ± 0.3, **6.70S** ± 0.04 × **130.61E** ± 0.07, **h40**km ± 3km, **h40**km:**pP-P**, **n141**, σ **1§48/163**, **mb4.9/49**, **MS3.6/7**, **2D**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**2.37**	**64**	P	Pn	09 37 24.4	+6.1
MSAI	**Masohi**	**3.73**	**333**	P	Pn	09 37 44.1	+7.0
AAI	**Ambon**	**3.84**	**321**	P	Pn	09 37 44.9	+6.3
FAKI	**Fak Fak**	**4.10**	**24**	P	**Pn**	**09 37 44.8**	**+2.6**
NLAI	**Namlea**	**4.90**	**314**	P	Pn	09 38 02.7	+9.5
	190nm,0.7s,3μm0.7nm						
SWI	**Sorong**	**5.83**	**6**	P	Pn	09 38 09.6	+3.6
	96nm,0.8s,18μm3.7nm						
LBMI	**Labuha**	**6.77**	**333**	P	Pn	09 38 35.1	+16
FITZ	**Fitzroy Crossi**	**12.32**	**203**	*e*Pn	**Pn**	**09 39 35.8**	**+0.8**
	23nm,0.6s						
FITZ				S	**Sn**	**09 41 46.0**	**-5.1**
FITZ				*e*Sn	**Sn**	**09 41 47.4**	**-3.8**
FITZ	**Fitzroy Crossi**	**12.32**	**203**	*e*P	**Pn**	**09 39 34.3**	**-0.7**
	42nm,0.6s						
FITZ				*e*S	Sn	09 41 44.3	-6.8
FITZ	**Fitzroy Crossi**	**12.32**	**203**	P	**Pn**	**09 39 36.5**	**+1.5**
	3.3nm,0.3s,baz=35,slow=9.6,SNR=41						
FITZ				S	**Sn**	**09 41 46.0**	**-5.1**
	2.6nm,0.3s,baz=100,slow=22,SNR=6.1						
WRAB	**Tennant Creek**	**13.65**	**165**	*e*P	**Pn**	**09 39 52.7**	**-0.4**
WRAB				*e*		09 42 16.3	
WRAB				pmax	pmax		
	comp=Z,52nm,0.9s						
WRAB	**Tennant Creek**	**13.65**	**165**	*e*Pn	**Pn**	**09 39 52.7**	**-0.4**
	comp=Z,52nm,0.9s						
WRAB				*e*Sn	Sn	09 42 16.3	-7.1
WRA	**Warramunga Arr**	**13.65**	**165**	P	**Pn**	**09 39 52.6**	**-0.5**
WRA				S	Sn	09 42 16.0	-7.6
WRA	**Warramunga Arr**	**13.65**	**165**	P	**Pn**	**09 39 52.6**	**-0.5**
	comp=Z,4.2nm,0.3s,baz=346,slow=13,SNR=104						
WRA				S	Sn	09 42 16.0	-7.6
	comp=Z,2.0nm,0.3s,baz=351,slow=22,SNR=11						
WB2	**Warramunga Arr**	**13.66**	**165**	*e*Pn	**Pn**	**09 39 52.4**	**-0.9**
WB2				*e*Sn	Sn	09 42 15.6	-8.1
COEN	**Coen**	**14.31**	**121**	*e*Pn	**Pn**	**09 40 02.5**	**+0.4**
COEN				*e*Sn	Sn	09 42 31.6	-8.1
COEN	**Coen**	**14.31**	**121**	*e*P	**Pn**	**09 40 03.7**	**+1.6**
	comp=Z,92nm,0.5s						
AS31	**Alice Springs**	**17.16**	**170**	*e*Pn	**Pn**	**09 40 39.3**	**+0.3**
AS31				*e*Sn	Sn	09 43 40.8	-8.2
ASAR	**Alice Springs**	**17.16**	**170**	P	**Pn**	**09 40 39.6**	**+0.6**
ASAR				S	Sn	09 43 41.5	-7.5
ASAR	**Alice Springs**	**17.16**	**170**	P	**Pn**	**09 40 39.6**	**+0.6**
	comp=Z,8.5nm,0.3s,baz=9.3,slow=11,SNR=409						
ASAR				S	Sn	09 43 41.5	-7.5
	comp=Z,0.5nm,0.3s,baz=350,slow=24,SNR=10.0						
MBWA	**Marble Bar**	**17.82**	**215**	*e*P	**P**	**09 40 49.0**	**+1.6**
	comp=Z,20nm,0.8s						
MBWA				*e*Sn	**Sn**	**09 44 03.5**	**-1.3**
MBWA	**Marble Bar**	**17.82**	**215**	*e*P	**P**	**09 40 48.3**	**+0.9**
CTA	**Charters Tower**	**20.19**	**133**	P	**P**	**09 41 13.9**	**+0.4**
CTA	**Charters Tower**	**20.19**	**133**	P	**P**	**09 41 13.9**	**+0.4**
	comp=Z,4.1nm,0.7s,baz=314,slow=15,SNR=4.2						
CTA				LR	LR	09 48 57.5	
	comp=Z,61nm,18.3s,baz=52,slow=36						
FORT	**Forrest**	**24.07**	**185**	*e*P	**P**	**09 41 54.6**	**+0.8**
	comp=Z,48nm,0.7s						
FORT	**Forrest**	**24.07**	**185**	*e*P	**P**	**09 41 54.3**	**+0.6**
	comp=Z,40nm,0.6s						
STKA	**Stephens Creek**	**27.07**	**159**	*e*P	**P**	**09 42 21.3**	**+0.4**
	comp=Z,2.1nm,0.8s						
STKA	**Stephens Creek**	**27.07**	**159**	*e*P	**P**	**09 42 22.0**	**+1.1**
	comp=Z,3.2nm,0.6s						
STKA	**Stephens Creek**	**27.07**	**159**	P	**P**	**09 42 21.4**	**+0.5**
	comp=Z,3.7nm,0.6s,baz=333,slow=9.7,SNR=7.4						
STKA				LR	LR	09 52 36.8	
	comp=Z,69nm,20.5s,baz=212,slow=35						
NWAO	**Narrogin (SRO)**	**28.91**	**204**	LR	LR	09 54 36.1	
	comp=Z,69nm,18.1s,baz=180,slow=37						
CMAR	**Chiang Mai Arr**	**40.01**	**309**	P	**P**	**09 44 13.8**	**+0.5**
CMAR				PcP	**PcP**	**09 46 18.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**40.01**	**309**	P	**P**	**09 44 13.8**	**+0.5**
	comp=Z,2.7nm,0.5s,baz=138,slow=7.6,SNR=13						
CMAR				PcP	**PcP**	**09 46 18.9**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=162,slow=2.6,SNR=4.4						
NJ2	**Nanjing**	**40.13**	**344**	*e*P	P	09 44 17.9	+3.8
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WHN	**Wuhan**	**40.18**	**338**	*e*P	**P**	**09 44 15.2**	**+0.7**
CHTO	**Chiang Mai**	**40.21**	**310**	*e*P	**P**	**09 44 15.7**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,17nm,1.5s						
CHTO	**Chiang Mai**	**40.21**	**310**	*e*P	**P**	**09 44 15.7**	**+0.7**
	comp=Z,17nm,1.5s						
GYA	**Guiyang**	**40.32**	**326**	P	**P**	**09 44 18.0**	**+2.1**
GYA				pP	**pP**	**09 44 28.8**	**+1.6**
GYA				sP	**sP**	**09 44 32.4**	**+0.5**
GYA				PP	**PnPn**	**09 45 55.6**	**+2.4**
GYA				S	**S**	**09 50 23.4**	**+2.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.2s						
GYA				LR	LR		
	comp=N,540nm,17.6s						
GYA				LR	LR		
	comp=E,470nm,18.4s						
GYA				LR	LR		
	comp=Z,560nm,17.3s						
KMI	**Kunming**	**41.67**	**320**	P	**P**	**09 44 26.6**	**-0.6**
KMI				pP	**pP**	**09 44 39.1**	**+0.7**
KMI				sP	**sP**	**09 44 44.2**	**+1.1**
KMI				S	**S**	**09 50 43.9**	**+2.4**
KMI				pmax	pmax		
	comp=Z,16nm,0.9s						
KMI				pmax	pmax		
	comp=Z,97nm,4.2s						
KMI				LR	LR		
	comp=N,99nm,9.3s						
KMI				LR	LR		
	comp=E,110nm,10.2s						
KMI				LR	LR		
	comp=Z,100nm,18.4s						
MJAR	**Matsushiro Arr**	**43.60**	**9**	P	**P**	**09 44 41.2**	**-1.2**
MJAR	**Matsushiro Arr**	**43.60**	**9**	P	**P**	**09 44 41.2**	**-1.2**
	comp=Z,4.3nm,0.8s,baz=189,slow=10.0,SNR=11						
MAT	**Matsushiro**	**43.60**	**9**	P	**P**	**09 44 40.3**	**-2.1**
KSAR	**Wonju Array Be**	**43.98**	**357**	P	**P**	**09 44 45.5**	**0.0**
KSRS	**Korea Array**	**43.99**	**357**	P	**P**	**09 44 45.5**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=177,slow=9.2,SNR=5.7						
CD2	**Chengdu**	**45.38**	**327**	P	**P**	**09 44 59.1**	**+2.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CD2				pmax	pmax		
	comp=Z,120nm,6.8s						
XAN	**Xi'an**	**45.42**	**334**	P	**P**	**09 44 56.8**	**-0.3**
XAN				pP	**pP**	**09 45 06.3**	**-2.1**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LZH	**Lanzhou**	**49.43**	**331**	*e*P	P	09 45 32.0	+3.7
LZH				pP	pP	09 45 42.1	+2.3
LZH				sP	sP	09 45 45.9	+1.4
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
HHC	**Hu-ho-hao-te**	**50.45**	**341**	*e*P	**P**	**09 45 38.3**	**+2.4**
HHC				pP	**pP**	**09 45 48.2**	**+0.8**
HHC				sP	**sP**	**09 45 51.8**	**-0.3**
HHC				PP	**PP**	**09 47 35.6**	**+3.6**
HHC				S	**S**	**09 52 48.4**	**+1.4**
HHC				sS	**sS**	**09 53 07.1**	**+1.1**
HHC				ScS	**ScS**	**09 55 23.8**	**-0.1**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,6.4s						
HHC				LR	LR		
	comp=N,250nm,14.3s						
HHC				LR	LR		
	comp=E,420nm,16.7s						
HHC				LR	LR		
	comp=Z,240nm,13.1s						
CN2	**Changchun**	**50.48**	**355**	*e*P	**P**	**09 45 34.5**	**-1.5**
CN2				*e*sP	**sP**	**09 45 48.3**	**-3.8**
CN2				*e*PP	**PP**	**09 47 31.5**	**-0.6**
CN2				*e*S	**S**	**09 52 46.0**	**-1.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
USRK	**Ussuriysk Arra**	**50.68**	**1**	P	**P**	**09 45 37.1**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=188,slow=6.9,SNR=8.5						
ASAJ	**Asahikawa**	**51.73**	**11**	P	**P**	**09 45 45.5**	**+0.2**
ASAJ	**Asahikawa**	**51.73**	**11**	P	**P**	**09 45 45.5**	**+0.2**
	comp=Z,6.6nm,0.9s,baz=198,slow=9.6,SNR=3.5						
ODAN	**Odare**	**53.52**	**310**	*e*P	**P**	**09 45 59.0**	**-0.2**
	comp=Z,25nm,0.7s						
ODAN	**Odare**	**53.52**	**310**	*e*P	**P**	**09 45 59.0**	**-0.2**
	comp=Z,25nm,0.7s						
TAPN	**Taplejung**	**53.54**	**311**	*e*P	**P**	**09 45 58.9**	**-0.5**
	comp=Z,21nm,0.6s						
TAPN	**Taplejung**	**53.54**	**311**	*e*P	**P**	**09 45 58.9**	**-0.5**
	comp=Z,21nm,0.6s						
GTA	**Gaotai**	**54.00**	**331**	*e*P	**P**	**09 46 03.0**	**+0.6**
GTA				pP	**pP**	**09 46 12.1**	**-1.9**
GTA				sP	**sP**	**09 46 16.3**	**-2.3**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.3s						
RAMN	**Ramite**	**54.16**	**310**	*e*P	**P**	**09 46 03.7**	**-0.3**
	comp=Z,52nm,0.6s						
RAMN	**Ramite**	**54.16**	**310**	*e*P	**P**	**09 46 03.7**	**-0.3**
	comp=Z,52nm,0.6s						
JIRN	**Jiri**	**54.85**	**311**	*e*P	**P**	**09 46 08.7**	**-0.3**
	comp=Z,20nm,0.6s						
JIRN	**Jiri**	**54.85**	**311**	*e*P	**P**	**09 46 08.7**	**-0.3**
	comp=Z,20nm,0.6s						
GUN	**Gumba**	**55.21**	**311**	*e*P	**P**	**09 46 11.3**	**-0.4**
	comp=Z,38nm,0.6s						
GUN	**Gumba**	**55.21**	**311**	*e*P	**P**	**09 46 11.3**	**-0.4**
	comp=Z,38nm,0.6s						
PKI	**Pulchoki**	**55.39**	**310**	*e*P	**P**	**09 46 12.7**	**-0.2**
	comp=Z,11nm,0.5s						
PKI	**Pulchoki**	**55.39**	**310**	*e*P	**P**	**09 46 12.7**	**-0.2**
PKI				pmax	pmax		
	comp=Z,11nm,0.5s						
PKI	**Pulchoki**	**55.39**	**310**	*e*P	**P**	**09 46 12.7**	**-0.2**
	comp=Z,11nm,0.5s						
KKN	**Kakani**	**55.60**	**310**	*e*P	**P**	**09 46 14.4**	**+0.1**
	comp=Z,13nm,0.6s						
KKN	**Kakani**	**55.60**	**310**	*e*P	**P**	**09 46 14.4**	**+0.1**
KKN				pmax	pmax		
	comp=Z,13nm,0.6s						
KKN	**Kakani**	**55.60**	**310**	*e*P	**P**	**09 46 14.4**	**+0.1**
	comp=Z,13nm,0.6s						
DMN	**Daman**	**55.64**	**310**	*e*P	**P**	**09 46 14.7**	**+0.1**
	comp=Z,22nm,0.7s						
DMN	**Daman**	**55.64**	**310**	*e*P	**P**	**09 46 14.7**	**+0.1**
	comp=Z,22nm,0.7s						
GKN	**Gorkha**	**56.20**	**310**	*e*P	**P**	**09 46 18.3**	**-0.2**
	comp=Z,27nm,0.6s						
GKN	**Gorkha**	**56.20**	**310**	*e*P	**P**	**09 46 18.3**	**-0.2**
	comp=Z,27nm,0.6s						
KOLN	**Koldanda**	**56.88**	**309**	*e*P	**P**	**09 46 23.2**	**-0.2**
	comp=Z,22nm,0.7s						
KOLN	**Koldanda**	**56.88**	**309**	*e*P	**P**	**09 46 23.2**	**-0.2**
	comp=Z,22nm,0.7s						
DANN	**Dangsing**	**57.04**	**310**	*e*P	**P**	**09 46 24.2**	**-0.5**
	comp=Z,16nm,0.8s						
DANN	**Dangsing**	**57.04**	**310**	*e*P	**P**	**09 46 24.2**	**-0.5**
	comp=Z,16nm,0.8s						
PYUN	**Piuthan**	**57.51**	**309**	*e*P	**P**	**09 46 28.1**	**+0.3**
	comp=Z,34nm,0.9s						
PYUN	**Pinan**	**57.51**	**309**	*e*P	**P**	**09 46 28.1**	**+0.3**
	comp=Z,34nm,0.9s						
ULN	**Ulaanbaatar**	**58.17**	**342**	*e*P	**P**	**09 46 32.5**	**+0.4**
	comp=Z,11nm,0.7s						
SONM	**Songino Array**	**58.35**	**341**	P	**P**	**09 46 33.8**	**+0.5**
SONM	**Songino Array**	**58.35**	**341**	P	**P**	**09 46 33.8**	**+0.5**
	comp=Z,3.8nm,0.6s,baz=163,slow=6.8,SNR=28						
ZAK	**Zakamensk**	**61.58**	**340**	*e*P	**P**	**09 46 55.4**	**0.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
TLY	**Talaya**	**62.58**	**341**	*i* P	**P**	**09 47 03.0**	**+1.1**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MOY	**Mondy**	**63.44**	**340**	*e*P	**P**	**09 47 08.9**	**+1.1**
WMQ	**Urumqi**	**63.48**	**327**	*e*P	**P**	**09 47 08.8**	**+0.7**
WMQ				pP	**pP**	**09 47 20.0**	**+0.1**
WMQ				pmax	pmax		
	comp=Z,6.0nm,1.6s						
WMQ				pmax	pmax		
	comp=Z,230nm,4.4s						
PETK	**Petropavlovsk-**	**63.85**	**18**	P	**P**	**09 47 11.3**	**+1.0**
PETK				*PP	**pP**	**09 47 26.1**	**+4.0**
PETK				pmax	pmax		
	comp=Z,11nm,0.9s						
PETK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PETK	**Petropavlovsk-**	**63.85**	**18**	P	**P**	**09 47 11.3**	**+1.0**
PETK				pP	**pP**	**09 47 26.1**	**+4.0**
PETK	**Petropavlovsk-**	**63.85**	**18**	P	**P**	**09 47 11.3**	**+1.0**
	comp=Z,11nm,0.9s,baz=193,slow=6.1,SNR=4.8						
PETK				pP	**pP**	**09 47 26.1**	**+4.0**
	comp=Z,9.9nm,1.0s,baz=225,slow=9.9,SNR=2.6						
BOD	**Bodaibo**	**65.70**	**350**	*e*P	**P**	**09 47 21.5**	**-0.7**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KSH	**Kashi**	**68.21**	**317**	*e*P	P	09 47 42.1	+3.3
KSH				pP	pP	09 47 53.8	+3.2
KSH				sP	sP	09 47 57.3	+2.1
KSH				PP	PP	09 50 15.1	+5.4
KSH				S	**S**	**09 56 40.3**	**+3.7**
KSH				sS	sS	09 56 57.5	+1.2
KSH				ScS	**ScS**	**09 57 36.4**	**+1.1**
KSH				pmax	pmax		
	comp=Z,140nm,6.9s						
KSH				LR	LR		
	comp=N,190nm,6.0s						
KSH				LR	LR		
	comp=E,200nm,5.8s						
KSH				LR	LR		
	comp=Z,400nm,6.0s						
MK31	**Makanchi Array**	**68.31**	**326**	*e*P	**P**	**09 47 39.3**	**+0.2**
MK31				*e*		09 48 05.7	
MK31	**Makanchi Array**	**68.31**	**326**	*e*P	**P**	**09 47 39.2**	**+0.2**
MK31				*e*PcP	**PcP**	**09 48 05.7**	**+1.1**
MKAR	**Makanchi Array**	**68.31**	**326**	P	**P**	**09 47 39.5**	**+0.4**
MKAR				*SP	sP	09 48 05.2	+10
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**68.31**	**326**	*e*P	**P**	**09 47 39.5**	**+0.4**
MKAR				sP	sP	09 48 05.2	+10
MKAR	**Makanchi Array**	**68.31**	**326**	P	**P**	**09 47 39.5**	**+0.4**
	comp=Z,9.0nm,0.5s,baz=114,slow=8.3,SNR=154						
MKAR				sP	sP	09 48 05.2	+10
	comp=Z,2.6nm,0.7s,baz=116,slow=8.2,SNR=3.2						
YAK	**Yakutsk**	**68.53**	**360**	*e*P	**P**	**09 47 38.8**	**-1.3**
YAK				pmax	pmax		
	comp=Z,13nm,0.9s						
TKM2	**Tokmak 2**	**70.14**	**320**	*e*P	**P**	**09 47 51.5**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
TKM2	**Tokmak 2**	**70.14**	**320**	*e*P	**P**	**09 47 51.5**	**+0.8**
	comp=Z,5.6nm,0.6s						
AAK	**Ala-Archa**	**70.70**	**320**	*e*P	**P**	**09 47 54.9**	**+0.7**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
AAK	**Ala-Archa**	**70.70**	**320**	*e*P	**P**	**09 47 54.9**	**+0.7**
	comp=Z,7.8nm,0.8s						
AAK	**Ala-Archa**	**70.70**	**320**	P	**P**	**09 47 55.1**	**+1.0**
	comp=Z,4.6nm,0.9s,baz=108,slow=5.8,SNR=13						
SEY	**Seymchan**	**71.40**	**10**	*e*P	**P**	**09 47 58.3**	**+0.6**
ZAA0	**Zalesovo Array**	**71.58**	**333**	*e*P	**P**	**09 47 58.3**	**-0.7**
ZALV	**Zalesovo Beam**	**71.58**	**333**	P	**P**	**09 47 58.3**	**-0.7**
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZALV	**Zalesovo Beam**	**71.58**	**333**	P	**P**	**09 47 58.3**	**-0.7**
ZALV	**Zalesovo Beam**	**71.58**	**333**	P	**P**	**09 47 58.3**	**-0.7**
	comp=Z,5.1nm,0.5s,baz=120,slow=5.2,SNR=33						
KURBB	**Kurchatov Arra**	**72.57**	**328**	P	**P**	**09 48 04.9**	**-0.1**
	comp=Z,8.0nm,0.6s,baz=127,slow=4.9,SNR=79						
KURBB				sP	sP	09 48 31.0	+9.5
	comp=Z,3.6nm,0.8s,baz=126,slow=4.9,SNR=4.9						
KURK	**Kurchatov**	**72.58**	**328**	P	**P**	**09 48 04.9**	**-0.1**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	**Kurchatov**	**72.58**	**328**	P	**P**	**09 48 04.9**	**-0.1**
KURK				sP	sP	09 48 31.0	+9.4
NVS	**Novosibirsk**	**72.87**	**334**	*e*P	P	09 48 03.8	-2.9
NVS				*e*		09 48 28.8	
KKAR	**Karatay Array**	**73.51**	**319**	*e*P	**P**	**09 48 11.1**	**+0.3**
KKAR	**Karatay Array**	**73.51**	**319**	*e*P	**P**	**09 48 11.1**	**+0.3**
PUH	**Pauahi**	**77.44**	**69**	*e*P	**P**	**09 48 35.8**	**+1.9**
BVAR	**Borovoye Array**	**78.13**	**328**	P	**P**	**09 48 36.6**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**78.13**	**328**	P	**P**	**09 48 36.6**	**-0.3**
BVAR				sP	sP	09 49 02.6	+9.1
BVAR	**Borovoye Array**	**78.13**	**328**	P	**P**	**09 48 36.6**	**-0.3**
	comp=Z,2.5nm,0.4s,baz=130,slow=10.0,SNR=18						
BVAR				sP	sP	09 49 02.6	+9.1
	comp=Z,1.2nm,0.6s,baz=129,slow=5.9,SNR=3.1						
BRVK	**Borovoye**	**78.20**	**328**	*e*P	**P**	**09 48 37.4**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BRVK	**Borovoye**	**78.20**	**328**	*e*P	**P**	**09 48 37.4**	**+0.1**
	comp=Z,6.0nm,0.9s						
ABKAR	**Akbulak array**	**82.65**	**321**	*e*P	**P**	**09 49 00.5**	**-0.8**
ARU	**Arti**	**85.77**	**328**	*d* iP	**P**	**09 49 16.3**	**-0.6**
ARU						09 52 37.4	
ARU				S	S	09 59 32.1	-15
ARU				SS	**SS**	**10 05 18.4**	**-5.9**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.9s						
COLD	**Coldfoot**	**91.96**	**22**	*e*P	**P**	**09 49 46.2**	**+0.1**
	comp=Z,7.4nm,1.2s						
ILAR	**Eielson Array**	**92.82**	**25**	P	**P**	**09 49 48.0**	**-2.2**
ILAR	**Eielson Array**	**92.82**	**25**	P	**P**	**09 49 48.0**	**-2.2**
	comp=Z,1.8nm,0.7s,baz=269,slow=4.3,SNR=28						
ASF	**Jabal al Asfar**	**96.66**	**302**	LR	LR	10 39 31.8	
	comp=Z,23nm,20.3s,baz=206,slow=39						
OBN	**Obninsk**	**97.76**	**325**	*e*P	**P**	**09 50 11.8**	**-1.0**
OBN				*e*PS	**PS**	**10 03 08.4**	**+4.7**
OBN				*e*SS	SS	10 08 22.1	+5.4
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIS	**Kishinev**	**102.91**	**317**	*e*	Pdif	09 50 50.0	+14
YKA	**Yellowknife Ar**	**107.22**	**26**	PKiKP	**PKiKP**	**09 55 02.4**	**-1.3**
YKA	**Yellowknife Ar**	**107.22**	**26**	PKiKP	**PKiKP**	**09 55 02.3**	**-1.3**
	comp=Z,0.2nm,0.7s,baz=283,slow=1.8,SNR=6.7						
GERES	**GERESS Array B**	**112.58**	**320**	PKiKP	**PKiKP**	**09 55 13.9**	**-0.4**
GERES	**GER

SRDR	**Sredinnyy**	**0.76**	**298**	*e*P		**Pn**	**09 43 20.3**	**-0.5**
SRDR				*e*S		**Sn**	**09 43 37.2**	**-0.6**
TUMR	**Tumrok**	**0.81**	**213**	*e*P		**Pn**	**09 43 21.7**	**+0.5**
TUMR				*e*S		**Sn**	**09 43 39.0**	**+0.5**
KBTR	**Krutoberegovo**	**1.09**	**76**	*e*P		**Pn**	**09 43 23.0**	**-0.4**
KBTR				*e*S		**Sn**	**09 43 41.4**	**-1.0**
MKZ	**Mys Kozlova**	**1.48**	**162**	*e*P		**Pn**	**09 43 26.8**	**-0.5**
MKZ				*e*S		**Sn**	**09 43 48.4**	**-0.9**
SPN	**Mys Shipunski**	**2.92**	**191**	*e*S		**Sn**	**09 44 17.5**	**-2.5**
SDLR	**Sedlovina**	**2.94**	**205**	*e*P		**Pn**	**09 43 45.5**	**+0.6**
SDLR				*e*S		**Sn**	**09 44 20.1**	**-0.6**
SMAR	**Somma**	**2.97**	**205**	*e*P		**Pn**	**09 43 46.4**	**+1.0**
AVH	**Avacha**	**2.99**	**206**	*e*P		**Pn**	**09 43 46.2**	**+0.8**
AVH				*e*S		**Sn**	**09 44 22.0**	**+0.3**
KOK	**Koryaka**	**2.99**	**207**	*e*P		**Pn**	**09 43 47.3**	**+1.9**
UGLR	**Uglovaya**	**3.02**	**205**	*e*P		**Pn**	**09 43 45.5**	**-0.3**
UGLR				S		**Sn**	**09 44 21.0**	**-1.4**
PET	**Petropavlovsk**	**3.23**	**205**	*e*P		**Pn**	**09 43 49.4**	**+1.0**
PETK	**Petropavlovsk-**	**3.42**	**215**	P		**Pn**	**09 43 50.2**	**-0.7**
	0.9nm,0.3s,baz=70,slow=16,SNR=16							
ASAK	**Asacha**	**4.00**	**208**	*e*P		**Pn**	**09 43 59.0**	**+0.4**
ILAR	**Eielson Array**	**26.51**	**49**	P		**P**	**09 48 22.5**	**+0.5**
	0.4nm,0.9s,baz=267,slow=8.9,SNR=3.7							
YKA	**Yellowknife Ar**	**40.75**	**45**	P		**P**	**09 50 25.4**	**+0.8**
	0.3nm,0.5s,baz=302,slow=8.0,SNR=9.6							
KURBB	**Kurchatov Arra**	**46.77**	**300**	P		**P**	**09 51 11.9**	**-0.9**
	0.4nm,0.3s,baz=56,slow=7.8,SNR=4.1							
MKAR	**Makanchi Array**	**47.39**	**294**	P		**P**	**09 51 16.3**	**-1.5**
	0.2nm,0.6s,baz=60,slow=8.5,SNR=3.6							
TXAR	**Lajitas Array**	**69.10**	**69**	P		**P**	**09 53 49.3**	**+0.5**
	0.2nm,0.7s,baz=323,slow=1.4,SNR=2.7							
TXAR				pP		**pP**	**09 54 24.3**	**+0.6**
	0.7nm,1.0s,baz=58,slow=2.4,SNR=3.4							
WRA	**Warramunga Arr**	**78.89**	**205**	P		**P**	**09 54 45.2**	**-0.2**
	0.3nm,0.7s,baz=9.8,slow=5.9,SNR=3.5							
ASAR	**Alice Springs**	**82.57**	**205**	P		**P**	**09 55 05.2**	**+0.3**
	0.2nm,0.4s,baz=14,slow=4.4,SNR=5.1							

IDC 03 10:03:14.9±8.0, 47°72'N×153°04'E, h178km±170km, mb3.2/5, mb1 3.2/6, mb1mx3.0/26, mbtmp3.2/6, ML3.4/1, Error ellipse: s-maj=266.0km s-min=29.4km az=171.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**8.12**	**248**	P	Pn	10 05 09.9	+0.1
	0.5nm,0.3s,baz=112,slow=20,SNR=4.9						
ZALV	**Zalesovo Beam**	**42.01**	**305**	P	P	10 10 47.7	-0.7
	0.7nm,0.4s,baz=60,slow=7.2,SNR=4.3						
MKAR	**Makanchi Array**	**46.46**	**297**	P	P	10 11 23.6	-0.2
	0.8nm,0.7s,baz=64,slow=7.1,SNR=8.4						
KURBB	**Kurchatov Arra**	**46.88**	**303**	P	P	10 11 27.0	0.0
	1.9nm,0.5s,baz=67,slow=8.4,SNR=13						
YKA	**Yellowknife Ar**	**50.18**	**37**	P	P	10 11 51.8	-0.1
	0.1nm,0.5s,baz=299,slow=7.0,SNR=4.2						
BVAR	**Borovoye Array**	**50.21**	**309**	P	P	10 11 52.5	+0.1
	0.5nm,0.3s,baz=54,slow=7.1,SNR=6.9						

*DDA **03** 10:14:06.9, 39°.81N×41°.85E, h7km, MD2.9*
*CSEM **03** 10:14:06.4±0.5, 39°.68N×41°.75E, h16km±4km, MD2.9, Error ellipse: s-maj=10.8km s-min=6.7km az=17.0*
*ISCJB **03** 10:14:07.3±0.6, 39°.77N±0°.03×41°.83E±0°.04, h9km±5km, Error ellipse: s-maj=5.3km s-min=4.7km az=22.5*
*ISK **03** 10:14:07.2, 39°.69N×41°.79E, h15km, MD2.8*
ISC 03 10:14:05.9±1.2, 39°72'N±0°03×41°82'E±0°03, h10km±9km, n22, σ1§11/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOMI	**Horasan**	**0.33**	**11**	*i* P	**Pg**	**10 14 12.4**	**-0.2**
HOMI				*i* S	**Sg**	**10 14 16.1**	**-1.0**
ERZM	**Erzurum**	**0.40**	**298**	*i* P	**Pg**	**10 14 14.6**	**+0.8**
ERZM	**Erzurum**	**0.40**	**298**	*i* P	**Pg**	**10 14 14.6**	**+0.8**
EZM	**Erzurum**	**0.40**	**298**	*e*PG	**Pg**	**10 14 14.9**	**+1.0**
EZM				*e*SG	**Sb**	**10 14 22.3**	**+0.8**
TUTA	**Tutak**	**0.83**	**112**	*i* P	**Pb**	**10 14 22.8**	**+0.3**
TUTA				*i* S	**Sn**	**10 14 36.0**	**-0.3**
TUTA	**Tutak**	**0.83**	**112**	*i* P	**Pb**	**10 14 22.8**	**+0.3**
TUTA				*i* S	**Sn**	**10 14 36.0**	**-0.3**
AGRB	**Hanur-Agry**	**0.92**	**99**	*e*PG	**Pn**	**10 14 25.5**	**+0.5**
AGRB				*e*SG	**Sn**	**10 14 40.0**	**+1.6**
AGRB	**Hanur-Agry**	**0.92**	**99**	*e*Pg	**Pn**	**10 14 25.5**	**+0.5**
AGRB				*e*Sg	**Sn**	**10 14 40.0**	**+1.6**
KOPT	**Kop Dagi**	**1.06**	**287**	*i* P	**Pg**	**10 14 27.7**	**+1.4**
KOPT				*i* S	**Sn**	**10 14 43.9**	**+1.8**
KOPT	**Kop Dagi**	**1.06**	**287**	*i* P	**Pg**	**10 14 27.7**	**+1.4**
BNGB	**Bing ¶ll**	**1.15**	**231**	*e*PN	**Pg**	**10 14 28.4**	**+0.6**
BNGB				*e*SN	**Sn**	**10 14 44.9**	**+1.0**
DDEM	**Demirkent**	**1.17**	**357**	*i* P	**Pn**	**10 14 27.3**	**-1.2**
DDEM				*i* S	**Sb**	**10 14 43.3**	**-0.3**
DDEM	**Demirkent**	**1.17**	**357**	*i* P	**Pn**	**10 14 27.3**	**-1.2**
DDEM				*i* S	**Sb**	**10 14 43.3**	**-0.3**
BINT	**Bingol**	**1.33**	**231**	*e*Pn	**Pn**	**10 14 28.5**	**-2.2**
BINT				*e*Sn	**Sb**	**10 14 44.9**	**-3.4**
DAGI	**Agillar**	**1.36**	**3**	*i* P	**Pn**	**10 14 30.3**	**-0.7**
DAGI				*i* S	**Sn**	**10 14 49.1**	**-0.1**
BAYT	**Ayd¨–ntepe-Bay**	**1.45**	**298**	*e*PN	**Pb**	**10 14 33.5**	**+0.4**
BAYT	**Ayd¨–ntepe-Bay**	**1.45**	**298**	*e*Pn	**Pb**	**10 14 33.6**	**+0.4**
ARTV	**Artvin**	**1.47**	**3**	*i* P	**Pn**	**10 14 32.6**	**0.0**
ARTV				*i* S	**Sn**	**10 14 51.9**	**-0.1**
ARTV	**Artvin**	**1.47**	**3**	*i* P	**Pn**	**10 14 32.6**	**0.0**
ARTV				*i* S	**Sn**	**10 14 51.9**	**-0.1**
BCA	**Borcka**	**1.73**	**355**	*e*PN	**Pb**	**10 14 37.3**	**-0.5**
BCA	**Borcka**	**1.73**	**355**	*e*Pn	**Pb**	**10 14 37.3**	**-0.5**
KELT	**Kelkit**	**2.02**	**283**	*i* P	**Pb**	**10 14 43.6**	**+0.8**

IDC 03 10:15:29.9±8.8, 55°05S×27°22W, h0km, mb3.5/1, mb1 3.5/1, mb1mx3.5/11, mbtmp3.5/1, MS3.6/1, Ms1 3.5/1, ms1mx3.1/9, Error ellipse: s-maj=469.4km s-min=66.1km az=146.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDFB	**Brasilia**	**42.49**	**330**	LR	LR	10 39 16.7	
	comp=Z,70nm,19.2s,baz=102,slow=34						
TORD	**Torodi Ar. Bea**	**72.19**	**30**	P	P	10 26 56.5	+0.1
	0.3nm,0.5s,baz=197,slow=7.3,SNR=6.5						
YKA	**Yellowknife Ar**	**135.41**	**319**	PKP	PKPdf	10 34 49.6	-0.6
	0.1nm,0.6s,baz=123,slow=2.3,SNR=4.1						
INK	**Inuvik**	**145.01**	**322**	PKPbc	PKPbc	10 35 05.6	-1.2
	0.7nm,0.7s,baz=90,slow=2.0,SNR=5.9						
ILAR	**Eielson Array**	**149.43**	**313**	PKPbc	PKPbc	10 35 19.2	-0.1
	0.3nm,0.6s,baz=116,slow=2.6,SNR=6.5						

*MDD **03** 10:25:22.0±2.0, 36°.28N×9°.61W, h14km±13km, mb3.6/5, mbLg1.9/7, Error ellipse: s-maj=18.6km s-min=16.6km az=122.0, PRXIMO*
*INMG **03** 10:25:22.3±1.7, 36°.16N×9°.66W, h55km±43km, ML2.1, Error ellipse: s-maj=12.1km s-min=8.9km az=92.0*
*CSEM **03** 10:25:22.8±0.5, 36°.27N×9°.56W, h64km±9km, ML1.9, Error ellipse: s-maj=12.1km s-min=9.4km az=47.0*
ISC 03 10:25:20.8±3.2, 36°3N±0°.1×9°6W±0°.1, h20km±11km, n36, σ1§05/62, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.07**	**34**	*e*P	**Pn**	**10 25 40.8**	**+0.2**
PFVI				*e*S	**Sn**	**10 25 56.6**	**+1.8**
PFVI				A	A	10 25 57.4	
	15nm,0.4s						
PFVI	**Vila Bisbo**	**1.07**	**34**	P	**Pn**	**10 25 40.5**	**-0.2**
	4.5nm,0.2s,SNR=7.9						
PFVI				S	**Sn**	**10 25 55.8**	**+1.0**
	26nm,0.6s,SNR=7.9						
PFVI	**Vila Bisbo**	**1.07**	**34**	*e*P	**Pn**	**10 25 40.8**	**+0.2**
PFVI				S	**Sn**	**10 25 55.8**	**+1.0**
	26nm,0.6s,SNR=7.9						
MORF	**Marmelete**	**1.29**	**35**	*e*P	**Pn**	**10 25 44.1**	**+0.4**
MORF				*e*S	**Sb**	**10 26 01.8**	**+1.3**
MORF				A	A	10 26 07.5	
	11nm,0.1s						
MORF	**Marmelete**	**1.29**	**35**	P	**Pn**	**10 25 44.1**	**+0.4**
MORF				S	**Sn**	**10 26 00.5**	**+0.1**
MORF	**Marmelete**	**1.29**	**35**	P	**Pn**	**10 25 44.1**	**+0.4**
MORF				S	**Sn**	**10 26 00.5**	**+0.1**
PTEO	**Sao Teotonio**	**1.46**	**28**	*e*S	**Sb**	**10 26 05.3**	**-0.1**
PTEO				A	A	10 26 10.0	
	10nm,0.2s						
PTEO	**Sao Teotonio**	**1.46**	**28**	S	**Sb**	**10 26 05.3**	**-0.1**
	5.2nm,0.2s						
PTEO	**Sao Teotonio**	**1.46**	**28**	*e*S	**Sb**	**10 26 05.3**	**-0.1**
	10nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.65**	**53**	*e*S	**Sn**	**10 26 10.3**	**+1.0**
PBDV				A	A	10 26 17.4	
	11nm,0.7s						
PBDV	**Barranco-do-Ve**	**1.65**	**53**	S	**Sn**	**10 26 10.3**	**+1.0**
	11nm,0.7s						
PBDV	**Barranco-do-Ve**	**1.65**	**53**	*e*S	**Sn**	**10 26 10.3**	**+1.0**
	11nm,0.7s						
PCVE	**Castro Verde**	**1.85**	**41**	*e*P	**Pn**	**10 25 52.8**	**+1.4**
PCVE				*e*S	**Sn**	**10 26 14.7**	**+0.6**
PCVE				A	A	10 26 22.3	
	6.5nm,0.6s						
PCVE	**Castro Verde**	**1.85**	**41**	P	**Pn**	**10 25 52.8**	**+1.4**
PCVE				S	**Sn**	**10 26 14.7**	**+0.6**
	6.5nm,0.6s						
PCVE	**Castro Verde**	**1.85**	**41**	P	**Pn**	**10 25 52.8**	**+1.4**
PCVE				*e*S	**Sn**	**10 26 14.7**	**+0.6**
	6.5nm,0.6s						
PVAQ	**Vaqueiros**	**1.88**	**52**	*e*P	**Pn**	**10 25 52.9**	**+1.0**
PVAQ				*e*S	**Sn**	**10 26 15.3**	**+0.3**
PVAQ				A	A	10 26 23.0	
	6.2nm,0.2s						
PVAQ	**Vaqueiros**	**1.88**	**52**	P	**Pb**	**10 25 54.0**	**-0.5**
	SNR=7.9						
PVAQ				S	**Sn**	**10 26 15.5**	**+0.5**
	SNR=7.9						
PVAQ	**Vaqueiros**	**1.88**	**52**	*e*P	**Pn**	**10 25 52.9**	**+1.0**
PVAQ				S	**Sn**	**10 26 15.5**	**+0.5**
	SNR=7.9						
PNCL	**Nicolau / Gran**	**2.04**	**24**	*e*P	**Pn**	**10 25 54.6**	**+0.7**
PNCL				*e*S	**Sn**	**10 26 18.8**	**0.0**
PNCL				A	A	10 26 28.1	
	6.6nm,0.4s						
PNCL	**Nicolau / Gran**	**2.04**	**24**	*e*P	**Pn**	**10 25 54.6**	**+0.7**
PNCL				*e*S	**Sn**	**10 26 18.8**	**0.0**
	6.6nm,0.4s						
EGRO	**El Granado**	**2.11**	**52**	P	**Pn**	**10 25 56.1**	**+1.1**
	1.7nm,0.2s,SNR=5.5						
EGRO				S	**Sn**	**10 26 20.4**	**-0.2**
	5.1nm,0.3s,SNR=6.1						
EGRO	**El Granado**	**2.11**	**52**	P	**Pn**	**10 25 56.1**	**+1.1**
	1.7nm,0.2s,SNR=5.5						
EGRO				S	**Sn**	**10 26 20.4**	**-0.2**
	5.1nm,0.3s,SNR=6.1						
PMAFR	**Mafra**	**2.71**	**5**	*e*P	**Pn**	**10 26 05.0**	**+1.8**
PMAFR				*e*S	**Sn**	**10 26 34.6**	**-0.8**
PMAFR				A	A	10 26 42.3	
	17nm,0.6s						
PMAFR	**Mafra**	**2.71**	**5**	P	**Pn**	**10 26 03.9**	**+0.7**
	4.6nm,0.2s,SNR=7.9						
PMAFR				S	**Sn**	**10 26 34.2**	**-1.2**
	3.0nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**2.71**	**5**	P	**Pn**	**10 26 03.9**	**+0.7**
	4.6nm,0.2s,SNR=7.9						
PMAFR				*e*S	**Sn**	**10 26 34.6**	**-0.8**
	17nm,0.6s						
EMIN	**Mina Concepcio**	**2.77**	**56**	P	**Pn**	**10 26 04.4**	**+0.3**
	1.1nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**10 26 34.4**	**-2.6**
	0.5nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.77**	**56**	P	**Pn**	**10 26 04.4**	**+0.3**
	1.1nm,0.2s,SNR=7.9						
PMTG	**Montargil**	**3.01**	**20**	*e*P	**Pn**	**10 26 08.7**	**+1.4**
PMTG				*e*S	**Sn**	**10 26 41.7**	**-1.1**
PMTG				A	A	10 26 42.1	
	7.1nm,0.5s						
PMTG	**Montargil**	**3.01**	**20**	*e*P	**Pn**	**10 26 08.7**	**+1.4**
PMTG				*e*S	**Sn**	**10 26 41.7**	**-1.1**
	7.1nm,0.5s						
EBAD	**Badajoz**	**3.23**	**38**	P	**Pn**	**10 26 10.4**	**+0.1**
	2.6nm,0.4s,SNR=7.9						
EBAD				S	**Sn**	**10 26 45.0**	**-3.1**
	1.0nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.23**	**38**	P	**Pn**	**10 26 10.4**	**+0.1**
	2.6nm,0.4s,SNR=7.9						
PMRV	**Marv??o**	**3.61**	**28**	*e*P	**Pn**	**10 26 16.1**	**+0.5**
PMRV				*e*S	**Sn**	**10 26 55.9**	**-1.8**
PMRV				A	A	10 26 56.8	
	1.5nm,0.2s						
PMRV	**Marv??o**	**3.61**	**28**	P	**Pn**	**10 26 16.1**	**+0.5**
PMRV				S	**Sn**	**10 26 55.9**	**-1.8**
	1.5nm,0.2s						
PMRV	**Marv??o**	**3.61**	**28**	P	**Pn**	**10 26 16.1**	**+0.5**
PMRV				*e*S	**Sn**	**10 26 55.9**	**-1.8**
	1.5nm,0.2s						
EADA	**Adamuz**	**4.42**	**63**	P	**Pn**	**10 26 26.1**	**-0.7**
	0.7nm,0.1s,SNR=7.9						
EADA				S	Sn	10 27 12.8	-5.0
	0.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.42**	**63**	P	**Pn**	**10 26 26.1**	**-0.7**
	0.7nm,0.1s,SNR=7.9						

*ISCJB **03** 10:30:17.3±0.5, 59°.32N±0°.02×27°.08E±0°.08, h0km, Error ellipse: s-maj=5.6km s-min=3.0km az=179.8*
*HEL **03** 10:30:18.9±0.5, 59°.27N×27°.27E, h0km, ML1.9, ML2.3(NAO), Explosion*
*NAO **03** 10:30:18.9±1.0, 59°.31N×27°.06E, ML2.3*
*BER **03** 10:30:19.6±3.0, 59°.32N×27°.20E, h0km, ML2.3(NAO), Suspected explosion*
*CSEM **03** 10:30:19.2±0.3, 59°.33N×27°.07E, h2km, ML1.9, Error ellipse: s-maj=7.9km s-min=4.3km az=96.0, Mining explosion.*
*IDC **03** 10:30:21.2±1.1, 59°.40N×27°.13E, h0km, mb1 3.3/5, mb1mx3.1/28, mbtmp3.3/5, ML2.8/5, Error ellipse: s-maj=12.6km s-min=8.1km az=84.0*
ISC 03 10:30:19.0±0.7, 59°34N±0°02×26°94E±0°03, h0km, n52, σ1§64/77, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.88**	**187**	Pg	**Pg**	**10 30 35.6**	**-0.2**
VSU				Lg	Lg	10 30 47.3	
VSU	**Vasula**	**0.88**	**187**	Pg	**Pg**	**10 30 35.6**	**-0.2**
VSU				Lg	Lg	10 30 47.3	
VSU	**Vasula**	**0.88**	**187**	*i* PG	**Pg**	**10 30 35.6**	**-0.2**
VSU				*i* SG	**Sg**	**10 30 47.3**	**+0.1**
VSU	**Vasula**	**0.88**	**187**	Pg	**Pg**	**10 30 35.6**	**-0.2**
	SNR=90						
VSU				*e*S	**Sg**	**10 30 47.1**	**-0.1**
	499nm,0.8s,SNR=90						
VSU				Lg	Lg	10 30 47.3	
	SNR=50						
VJF	**Virojoki**	**1.25**	**14**	PG	**Pg**	**10 30 42.1**	**-0.7**
VJF				SG	**Sg**	**10 30 59.0**	**+0.1**
VJF				RG	Rg	10 31 04.3	
VJF	**Virojoki**	**1.25**	**14**	Pg	**Pg**	**10 30 42.1**	**-0.7**
VJF				Sg	**Sg**	**10 30 59.0**	**+0.1**
PVF	**Pernaja**	**1.33**	**336**	PG	**Pg**	**10 30 45.1**	**+0.7**
PVF				SG	**Sb**	**10 31 03.2**	**+0.9**
PVF	**Pernaja**	**1.33**	**336**	Pg	**Pg**	**10 30 45.1**	**+0.7**
PVF				Sg	**Sb**	**10 31 03.2**	**+0.9**
MEF	**Metsahovi**	**1.56**	**306**	PG	**Pg**	**10 30 50.0**	**+1.1**
MEF				SG	**Sg**	**10 31 11.5**	**+2.4**
MEF				MSG		10 31 11.5	
	comp=Z,7.9nm,0.2s						
MEF	**Metsahovi**	**1.56**	**306**	Pg	**Pg**	**10 30 50.0**	**+1.1**
MEF				*e*S	**Sg**	**10 31 10.7**	**+1.6**
	SNR=50						
MEF				Sg	**Sg**	**10 31 11.5**	**+2.4**
MTSE	**Matsula**	**1.73**	**250**	PN	**Pb**	**10 30 52.4**	**+0.8**
MTSE				SG	**Sg**	**10 31 16.5**	**+1.9**
MTSE	**Matsula**	**1.73**	**250**	Pn	**Pb**	**10 30 52.4**	**+0.8**
MTSE				Sg	**Sg**	**10 31 16.5**	**+1.9**
FIA0	**FINESS Array S**	**2.16**	**349**	Pn	**Pn**	**10 30 56.3**	**+0.2**
	baz=172,slow=16						
FIA0				Pg	**Pb**	**10 30 58.6**	**-0.3**
	baz=165,slow=16						
FIA0				Sn	**Sb**	**10 31 25.7**	**-0.5**
	baz=163,slow=28						
FIA0				Lg	Lg	10 31 28.2	
	baz=168,slow=37						
FIA0				Rg	Rg	10 31 39.2	
	baz=162,slow=37					

MS3.6/9, Error ellipse: s-maj=24.8km s-min=13.5km az=22.2

*NEIC **03** 11:11:29.4±0.4, 38°.83S×46°.58E, h10km, mb4.7/4, Error ellipse: s-maj=17.5km s-min=10.2km az=22.0*

ISC 03 11:11:30.7±0.6, 38°.8S±0°.2×46°.6E±0°.1, h18km, n45, σ0°.74/44, mb4.3/14, MS3.6/9, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**20.19**	**2**	LR	LR	11 22 19.9	
	comp=Z,219nm,21.0s,baz=166,slow=32						
BOSA	**Boshof**	**20.43**	**294**	P	**P**	**11 16 07.0**	**-0.1**
BOSA	**Boshof**	**20.43**	**294**	P	**P**	**11 16 07.0**	**-0.1**
	8.8nm,0.9s,baz=128,slow=5.7,SNR=8.0						
BOSA				LR	LR	11 22 22.1	
	comp=Z,198nm,19.3s,baz=131,slow=32						
SUR	**Sutherland**	**21.89**	**279**	LR	LR	11 22 56.7	
	comp=Z,124nm,18.5s,baz=177,slow=31						
LBTB	**Lobatse**	**22.46**	**302**	P	**P**	**11 16 28.6**	**-0.4**
LBTB	**Lobatse**	**22.46**	**302**	P	**P**	**11 16 28.6**	**-0.4**
	12nm,1.1s,baz=133,slow=7.2,SNR=6.3						
LBTB				LR	LR	11 23 20.4	
	comp=Z,140nm,20.4s,baz=344,slow=32						
MAW	**Mawson**	**30.22**	**168**	LR	LR	11 26 53.9	
	comp=Z,125nm,18.7s,baz=151,slow=31						
DBIC	**Dimbokro**	**65.71**	**302**	*e*P	P	11 22 10.8	-3.6
	7.0nm,0.9s						
DBIC				P	**P**	**11 22 15.0**	**+0.6**
DBIC	**Dimbokro**	**65.71**	**302**	P	**P**	**11 22 15.0**	**+0.6**
	6.0nm,1.0s,baz=137,slow=9.5,SNR=5.7						
DBIC				LR	LR	11 47 51.0	
	comp=Z,57nm,18.1s,baz=60,slow=33						
TORD	**Torodi Ar. Bea**	**66.56**	**311**	P	**P**	**11 22 20.4**	**+0.5**
TORD	**Torodi Ar. Bea**	**66.56**	**311**	P	**P**	**11 22 20.4**	**+0.5**
	2.0nm,1.1s,baz=135,slow=4.2,SNR=6.7						
TORD				LR	LR	11 51 04.2	
	comp=Z,75nm,18.5s,baz=270,slow=36						
ASAR	**Alice Springs**	**73.56**	**107**	P	**P**	**11 23 02.8**	**-0.1**
ASAR	**Alice Springs**	**73.56**	**107**	P	**P**	**11 23 02.8**	**-0.1**
	1.8nm,0.7s,baz=233,slow=5.2,SNR=15						
STKA	**Stephens Creek**	**74.32**	**118**	P	**P**	**11 23 07.2**	**0.0**
	4.0nm,0.6s						
STKA	**Stephens Creek**	**74.32**	**118**	P	**P**	**11 23 07.2**	**0.0**
	1.5nm,0.7s,baz=209,slow=6.5,SNR=3.2						
CMAR	**Chiang Mai Arr**	**75.14**	**51**	P	**P**	**11 23 12.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**75.14**	**51**	P	**P**	**11 23 12.0**	**+0.1**
	1.2nm,0.8s,baz=238,slow=7.0,SNR=11						
CMAR				LR	LR	11 49 37.0	
	comp=Z,43nm,18.4s,baz=170,slow=30						
WRA	**Warramunga Arr**	**76.07**	**104**	P	**P**	**11 23 17.8**	**+0.4**
WRA	**Warramunga Arr**	**76.07**	**104**	P	**P**	**11 23 17.8**	**+0.4**
	3.1nm,0.8s,baz=227,slow=4.6,SNR=22						
WB2	**Warramunga Arr**	**76.08**	**104**	*e*P	**P**	**11 23 17.9**	**+0.4**
BRTR	**Keskin Array B**	**79.07**	**350**	P	**P**	**11 23 33.6**	**-0.1**
BRTR	**Keskin Array B**	**79.07**	**350**	P	**P**	**11 23 33.6**	**-0.1**
	0.8nm,0.7s,baz=165,slow=9.9,SNR=4.9						
PLCA	**Paso Flores**	**82.24**	**223**	P	**P**	**11 23 50.6**	**-0.3**
	3.4nm,1.8s						
PLCA	**Paso Flores**	**82.24**	**223**	P	**P**	**11 23 50.6**	**-0.3**
	1.8nm,0.8s,baz=136,slow=3.6,SNR=6.7						
PLCA				LR	LR	11 55 15.4	
	comp=Z,36nm,18.3s,baz=47,slow=32						
KKAR	**Karatay Array**	**84.39**	**17**	*e*P	**P**	**11 24 02.4**	**+0.8**
	9.4nm,1.2s						
AAK	**Ala-Archa**	**84.95**	**20**	*e*P	**P**	**11 24 05.2**	**+0.7**
	74nm,1.8s						
MK31	**Makanchi Array**	**91.02**	**24**	*e*P	**P**	**11 24 33.4**	**0.0**
MKAR	**Makanchi Array**	**91.02**	**24**	P	**P**	**11 24 33.2**	**-0.2**
MKAR	**Makanchi Array**	**91.02**	**24**	P	**P**	**11 24 33.2**	**-0.2**
	0.8nm,0.7s,baz=208,slow=5.3,SNR=8.9						
BVAR	**Borovoye Array**	**93.78**	**14**	P	**P**	**11 24 45.8**	**-0.2**
BVAR	**Borovoye Array**	**93.78**	**14**	P	**P**	**11 24 45.8**	**-0.2**
	0.9nm,0.6s,baz=132,slow=2.2,SNR=4.9						
ZALV	**Zalesovo Beam**	**98.10**	**22**	P	**P**	**11 25 04.5**	**-1.0**
ZALV	**Zalesovo Beam**	**98.10**	**22**	P	**P**	**11 25 04.5**	**-1.0**
	1.7nm,0.8s,baz=189,slow=4.0,SNR=5.8						
ULM	**Lac du Bonnet**	**151.22**	**306**	PKPbc	**PKPbc**	**11 31 21.7**	**-0.6**
ULM	**Lac du Bonnet**	**151.22**	**306**	PKPbc	**PKPbc**	**11 31 21.7**	**-0.6**
	7.6nm,0.8s,baz=62,slow=3.2,SNR=15						
ILAR	**Eielson Array**	**152.84**	**13**	PKPbc	**PKPbc**	**11 31 24.7**	**-0.9**
ILAR	**Eielson Array**	**152.84**	**13**	PKPbc	**PKPbc**	**11 31 24.7**	**-0.9**
	1.0nm,0.7s,baz=321,slow=3.0,SNR=16						
YKA	**Yellowknife Ar**	**153.68**	**340**	PKPbc	**PKPbc**	**11 31 26.8**	**-0.7**
YKA	**Yellowknife Ar**	**153.68**	**340**	PKPbc	**PKPbc**	**11 31 26.7**	**-0.7**
	0.7nm,0.6s,baz=31,slow=2.1,SNR=19						
TXAR	**Lajitas Array**	**153.71**	**258**	PKP	**PKPdf**	**11 31 21.5**	**+0.6**
TXAR				PKPbc	**PKiKP**	**11 31 29.2**	**+0.3**
TXAR	**Lajitas Array**	**153.71**	**258**	PKP	**PKPdf**	**11 31 21.5**	**+0.6**
	0.7nm,1.0s,baz=152,slow=5.7,SNR=5.2						
TXAR				PKPbc	**PKiKP**	**11 31 29.2**	**+0.3**
	3.0nm,0.8s,baz=132,slow=4.8,SNR=33						
PDAR	**Pinedale Array**	**161.54**	**290**	PKP	**PKPdf**	**11 31 29.0**	**-1.4**
PDAR	**Pinedale Array**	**161.54**	**290**	PKP	**PKPdf**	**11 31 29.0**	**-1.4**
	0.5nm,0.9s,baz=99,slow=5.8,SNR=4.0						
NVAR	**Mina Array Bea**	**168.18**	**273**	PKP	**PKPdf**	**11 31 38.3**	**+2.1**
NVAR	**Mina Array Bea**	**168.18**	**273**	PKP	**PKPdf**	**11 31 38.3**	**+2.1**
	0.3nm,0.6s,baz=179,slow=3.6,SNR=3.9						

*ISK **03** 11:16:06.0, 41°.09N×36°.26E, h7km, MD2.7*
*DDA **03** 11:16:07.2, 41°.21N×36°.21E, h7km, MD2.7*
*ISCJB **03** 11:16:08.5±0.8, 41°.12N±0°.05×36°.14E±0°.04, h2km±6km, Error ellipse: s-maj=9.1km s-min=4.2km az=14.8*
*CSEM **03** 11:16:08.4±0.3, 41°.11N×36°.13E, h5km, MD2.7, Error ellipse: s-maj=11.1km s-min=5.2km az=17.0*

ISC 03 11:16:07.9±0.9, 41°.09N±0°.06×36°.17E±0°.03, h9km±7km, n20, σ0°.62/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVT	**Kavak**	**0.10**	**262**	PG	**Pg**	**11 16 09.9**	**-0.4**
KVT				*e*SG	**Sg**	**11 16 12.5**	**+0.4**
KVT	**Kavak**	**0.10**	**262**	*i* Pg	**Pg**	**11 16 09.9**	**-0.4**
KVT				*e*Sg	**Sg**	**11 16 12.5**	**+0.4**
ERBA	**Erbaa**	**0.60**	**133**	*i* P	**Pb**	**11 16 20.5**	**-0.2**
ERBA				*i* S	**Sb**	**11 16 29.8**	**+0.5**
ERBA	**Erbaa**	**0.60**	**133**	*i* P	**Pb**	**11 16 20.5**	**-0.2**
ERBA				*i* S	**Sb**	**11 16 29.8**	**+0.5**
DIKM	**Dikmen**	**0.88**	**309**	*e*PG	**Pg**	**11 16 24.3**	**-0.6**
DIKM				*e*SG	**Sb**	**11 16 38.0**	**+0.7**
DIKM	**Dikmen**	**0.88**	**309**	*e*Pg	**Pg**	**11 16 24.3**	**-0.6**
DIKM				*e*Sg	**Sb**	**11 16 38.0**	**+0.7**
BYBT	**Boyabat**	**1.12**	**290**	*e*PN	**Pg**	**11 16 29.0**	**-0.4**
BYBT	**Boyabat**	**1.12**	**290**	*e*Pn	**Pg**	**11 16 29.0**	**-0.4**
CTKT	**Corum**	**1.15**	**246**	*i* P	**Pn**	**11 16 30.6**	**+0.3**
CTKT				*i* S	**Sg**	**11 16 44.0**	**-0.8**
CTKT	**Corum**	**1.15**	**246**	*i* P	**Pn**	**11 16 30.6**	**+0.3**
CTKT				*i* S	**Sg**	**11 16 44.0**	**-0.8**
CORM	**Corum**	**1.49**	**233**	*e*PN	**Pn**	**11 16 34.5**	**-0.4**
CORM	**Corum**	**1.49**	**233**	*e*Pn	**Pn**	**11 16 34.5**	**-0.4**
GRSN	**GIRESUNGRSN**	**1.60**	**95**	*i* P	**Pb**	**11 16 37.3**	**-0.3**
GRSN				*i* S	**Sg**	**11 16 59.0**	**-0.2**
GRSN	**GIRESUNGRSN**	**1.60**	**95**	*i* P	**Pb**	**11 16 37.3**	**-0.3**
GRSN				*i* S	**Sg**	**11 16 59.0**	**-0.2**
SUSE	**Susehri**	**1.78**	**119**	*i* P	**Pb**	**11 16 41.1**	**+0.3**
SUSE				*i* S	**Sg**	**11 17 05.8**	**+0.7**
SUSE	**Susehri**	**1.78**	**119**	*i* P	**Pb**	**11 16 41.1**	**+0.3**
SUSE				*i* S	**Sg**	**11 17 05.8**	**+0.7**
ILGA	**Ilgaz**	**1.86**	**270**	*i* P	**Pb**	**11 16 42.0**	**-0.1**
ILGA				*i* S	**Sb**	**11 17 06.7**	**+1.2**
ILGA	**Ilgaz**	**1.86**	**270**	*i* P	**Pb**	**11 16 42.0**	**-0.1**
ILGA				*i* S	**Sb**	**11 17 06.7**	**+1.2**
KELT	**Kelkit**	**2.53**	**111**	*i* P	**Pb**	**11 16 54.1**	**+0.5**
KELT				*i* S	**Sg**	**11 17 27.8**	**-1.4**
KELT	**Kelkit**	**2.53**	**111**	*i* P	**Pb**	**11 16 54.1**	**+0.5**

*IDC **03** 11:17:35.7±2.1, 13°.15N×90°.95W, h0km, mb3.5/2, mb1 3.9/6, mb1mx3.7/22, mbtmp3.7/6, ML3.5/3, MS4.0/1, Ms1 4.0/1, ms1mx2.8/28, Error ellipse: s-maj=58.2km s-min=28.0km az=35.0*
*CASC **03** 11:17:44.1±2.8, 13°.47N×90°.88W, h0km±8km, MD4.0*

ISC 03 11:17:36.2±1.8, 13°.15N±0°.06×91°.12W±0°.05, h0km±11km, n23, σ1°64/31, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.27**	**337**	*e*P	**Pg**	**11 18 00.5**	**-0.1**
JAT				*e*S	**Sn**	**11 18 22.9**	**+4.0**
FUG	**Fuego 3**	**1.32**	**12**	*e*P	**Pg**	**11 18 01.1**	**-0.5**
FUG				*e*S	**Sn**	**11 18 22.5**	**+2.1**
PCG	**Pacaya**	**1.33**	**22**	*e*P	**Pg**	**11 18 02.0**	**+0.2**
PCG				*e*S	**Sn**	**11 18 21.9**	**+1.0**
SBLS	**San Blas**	**1.61**	**65**	*e*P	**Pg**	**11 18 08.3**	**+1.2**
RTR	**El Retiro**	**1.61**	**62**	*e*P	**Pg**	**11 18 08.1**	**+0.9**
NBG	**Las Nubes**	**1.62**	**28**	*e*P	**Pb**	**11 18 07.1**	**0.0**
NBG				*e*S	**Sn**	**11 18 27.0**	**-0.9**
TP2	**Tecpan 2**	**1.63**	**3**	*e*P	**Pn**	**11 18 05.5**	**-1.0**
TP2				*e*S	**Sg**	**11 18 30.3**	**+1.7**
RBDL	**Robledal**	**1.69**	**55**	*e*P	**Pg**	**11 18 09.0**	**+0.3**
BOQS	**Boqueron**	**1.88**	**72**	*e*P	**Pg**	**11 18 12.9**	**+0.6**
BOQS				*e*S	**Sb**	**11 18 36.0**	**+0.2**
LFRS	**El Faro**	**2.06**	**76**	*e*P	**Pg**	**11 18 15.8**	**+0.1**
LFRS				*e*S	**Sb**	**11 18 41.8**	**+1.1**
LBRS	**Las Brisas**	**2.10**	**74**	*e*P	**Pg**	**11 18 16.4**	**-0.2**
MTO2	**Montecristo 2**	**2.11**	**54**	*e*P	**Pb**	**11 18 15.1**	**-0.4**
MRL	**Marmol**	**2.36**	**36**	*e*P	**Pb**	**11 18 18.5**	**-1.2**
MRL				*e*S	**Sn**	**11 18 42.7**	**-3.3**
BLLM	**Bellamira**	**2.82**	**84**	*e*P	**Pb**	**11 18 27.4**	**-0.1**
CNCH	**Conchagua**	**3.20**	**87**	*e*P	**Pb**	**11 18 33.2**	**-0.9**
CMIG	**Matias Romero**	**5.35**	**318**	Pn	**Pn**	**11 18 56.2**	**-1.1**
	1.8nm,0.3s,baz=117,slow=8.2,SNR=27						
CMIG				Sn	Sn	11 19 53.3	-6.3
	3.7nm,0.3s,baz=104,slow=16,SNR=6.2						
JTS	**JuntasAbangare**	**6.67**	**115**	Pn	**Pn**	**11 19 13.4**	**-2.1**
	0.1nm,0.3s,baz=338,slow=19,SNR=2.1						
JTS				Sn	**Sn**	**11 20 36.0**	**+3.7**
	0.5nm,0.3s,baz=221,slow=19,SNR=1.7						
TEIG	**Tepich**	**7.55**	**21**	Pn	**Pn**	**11 19 27.8**	**+0.3**
	6.1nm,0.3s,baz=192,slow=0.6,SNR=41						
TXAR	**Lajitas Array**	**19.88**	**326**	P	**Pn**	**11 22 10.5**	**-0.2**
	0.1nm,0.3s,baz=153,slow=13,SNR=15						
NVAR	**Mina Array Bea**	**34.87**	**321**	P	**P**	**11 24 31.6**	**+2.1**
	1.3nm,0.7s,baz=132,slow=8.9,SNR=12						
YKA	**Yellowknife Ar**	**52.05**	**346**	P	**P**	**11 26 45.1**	**-2.3**
	0.2nm,0.6s,baz=148,slow=8.0,SNR=5.7						
DLBC	**Dease Lake**	**53.78**	**336**	LR	LR	11 55 40.4	
	comp=Z,126nm,19.6s,baz=223,slow=42						
CMAR	**Chiang Mai Arr**	**147.07**	**342**	PKPbc	**PKPdf**	**11 37 20.7**	**+0.7**
	1.2nm,0.6s,baz=347,slow=3.5,SNR=4.8						

IDC 03 11:27:54.3±2.5, 19°.92S×177°.91W, h454km±24km, mb3.2/7, mb1 3.5/8, mb1mx3.3/17, mbtmp3.2/8, Error ellipse: s-maj=69.5km s-min=13.5km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.37**	**45**	P	P	11 29 55.1	+1.1
	7.3nm,0.3s,baz=215,slow=12,SNR=9.6						
AFI				S	S	11 31 30.6	-1.5
	11nm,0.3s,baz=206,slow=22,SNR=9.6						
STKA	**Stephens Creek**	**38.12**	**244**	P	P	11 34 33.2	0.0
	1.0nm,0.6s,baz=98,slow=14,SNR=2.7						
ASAR	**Alice Springs**	**44.74**	**256**	P	P	11 35 26.2	0.0
	5.4nm,0.7s,baz=99,slow=7.9,SNR=53						
ASAR				PcP	PcP	11 36 58.2	-0.9
	1.5nm,0.7s,baz=104,slow=3.9,SNR=8.5						
WRA	**Warramunga Arr**	**44.77**	**261**	P	P	11 35 25.9	-0.5
	1.2nm,0.4s,baz=96,slow=7.7,SNR=46						
WRA				PcP	PcP	11 36 57.9	-1.4
	0.6nm,0.6s,baz=96,slow=3.1,SNR=3.9						
TXAR	**Lajitas Array**	**86.67**	**57**	P	P	11 39 49.9	+0.6
	0.5nm,0.8s,baz=208,slow=5.5,SNR=7.2						
ILAR	**Eielson Array**	**87.73**	**13**	P	P	11 39 52.9	-0.4
	0.3nm,1.0s,baz=211,slow=5.9,SNR=4.9						
PDAR	**Pinedale Array**	**88.48**	**43**	P	P	11 39 57.8	+0.1
	0.2nm,0.5s,baz=224,slow=3.8,SNR=2.8						
CMAR	**Chiang Mai Arr**	**90.00**	**290**	P	P	11 40 06.3	+1.3
	0.7nm,0.5s,baz=129,slow=2.9,SNR=7.8						
AKASG	**Malin Array Be**	**142.55**	**332**	PKhKP	PKPpre	11 46 29.8	
	1.5nm,0.4s,baz=43,slow=4.0,SNR=8.1						
BRTR	**Keskin Array B**	**146.51**	**313**	PKPbc	PKPbc	11 46 43.6	-0.7
	1.3nm,0.5s,baz=133,slow=4.0,SNR=8.1						
GERES	**GERESS Array B**	**149.67**	**345**	PKPbc	PKPbc	11 46 51.3	-0.6
	1.4nm,0.8s,baz=15,slow=2.1,SNR=7.3						

*IDC **03** 11:38:37.8±1.9, 13°.89N×87°.66W, h0km, mb3.4/5, mb1 3.8/7, mb1mx3.6/21, mbtmp3.5/7, ML3.5/2, Error ellipse: s-maj=52.3km s-min=26.6km az=43.0*
*CASC **03** 11:38:41.7±3.5, 12°.78N×88°.49W, h17km±11km, MD4.2, ML4.2*
*NEIC **03** 11:38:42.2, 12°.94N×88°.43W, h70km, MD4.3(SNET), After SNET.*
NEIC Felt [II] at San Salvador.

ISC 03 11:38:42.4±1.4, 12°.88N±0°.06×88°.45W±0°.03, h26km±13km, n48, σ1°27/68, mb3.4/5, 6D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLLM	**Bellamira**	**0.60**	**20**	*e*P	**Pn**	**11 38 55.5**	**+0.2**
BLLM				*e*S	**Sn**	**11 39 06.8**	**+2.6**
BLLM	**Bellamira**	**0.60**	**20**	*e*P	**Pn**	**11 38 55.5**	**+0.2**
BLLM				*e*S	**Sn**	**11 39 06.8**	**+2.6**
CNCH	**Conchagua**	**0.72**	**56**	*e*P	**Pn**	**11 38 56.9**	**+0.5**
CNCH				*e*S	**Sn**	**11 39 09.0**	**+1.8**
CNCH	**Conchagua**	**0.72**	**56**	*e*P	**Pb**	**11 38 56.9**	**+0.5**
CNCH				*e*S	**Sn**	**11 39 09.0**	**+1.8**
CAHU	**Cacacuatique**	**0.92**	**14**	*e*P	**Pn**	**11 38 59.2**	**-0.7**
CAHU	**Cacacuatique**	**0.92**	**14**	*e*P	**Pn**	**11 38 59.2**	**-0.7**
LFRS	**El Faro**	**0.96**	**321**	*i*P	**Pn**	**11 39 00.1**	**-0.1**
LFRS	**El Faro**	**0.96**	**321**	*i*P	**Pn**	**11 39 00.1**	**-0.1**
LBRS	**Las Brisas**	**1.04**	**326**	*e*P	**Pn**	**11 39 01.1**	**-0.3**
LBRS	**Las Brisas**	**1.04**	**326**	*e*P	**Pn**	**11 39 01.1**	**-0.3**
SNET	**Serv Nac Est T**	**1.11**	**317**	*e*P	**Pn**	**11 39 02.1**	**-0.3**
SNET				*e*S	**Sn**	**11 39 16.9**	**0.0**
SNET	**Serv Nac Est T**	**1.11**	**317**	*e*P	**Pn**	**11 39 02.1**	**-0.3**
SNET				*e*S	**Sn**	**11 39 16.9**	**0.0**
SNET				AML	AML	11 39 19.8	
	comp=Z,5μm,0.3s						
BOQS	**Boqueron**	**1.18**	**317**	*e*P	**Pn**	**11 39 03.4**	**-0.1**
BOQS				*e*S	**Sb**	**11 39 19.8**	**+0.6**
BOQS	**Boqueron**	**1.18**	**317**	*e*P	**Pn**	**11 39 03.4**	**-0.1**
BOQS				*e*S	**Sb**	**11 39 19.8**	**+0.6**
SBLS	**San Blas**	**1.49**	**310**	*e*P	**Pn**	**11 39 07.9**	**+0.1**
SBLS				*e*S	**Sn**	**11 39 26.9**	**+0.3**
SBLS	**San Blas**	**1.49**	**310**	*e*P	**Pn**	**11 39 07.9**	**+0.1**
SBLS				*e*S	**Sn**	**11 39 26.9**	**+0.3**
SNJE	**San Jose**	**1.50**	**311**	*e*P	**Pn**	**11 39 07.7**	**-0.1**
RTR	**El Retiro**	**1.55**	**311**	*e*P	**Pn**	**11 39 08.6**	**+0.1**
RTR				*e*S	**Sn**	**11 39 28.9**	**+1.1**
RTR	**El Retiro**	**1.55**	**311**	*e*P	**Pn**	**11 39 08.6**	**+0.1**
RTR				*e*S	**Sn**	**11 39 28.9**	**+1.1**
TGUH	**Tegucigalpa,Un**	**1.64**	**44**	*e*Pn	**Pn**	**11 39 08.7**	**-0.8**
TGUH				*e*Sn	**Sn**	**11 39 29.0**	**-0.8**
TGUH	**Tegucigalpa,Un**	**1.64**	**44**	*e*P	**Pn**	**11 39 08.6**	**-1.0**
RBDL	**Robledal**	**1.72**	**316**	*e*P	**Pn**	**11 39 10.3**	**-0.6**
RBDL	**Robledal**	**1.72**	**316**	*e*P	**Pn**	**11 39 10.3**	**-0.6**
CNGN	**Cerro Negro**	**1.75**	**102**	*e*P	**Pn**	**11 39 10.4**	**-0.6**
CNGN				*e*S	**Sn**	**11 39 32.9**	**+0.4**
CNGN	**Cerro Negro**	**1.75**	**102**	*e*P	**Pn**	**11 39 10.4**	**-0.6**
CNGN				*e*S	**Sn**	**11 39 32.9**	**+0.4**
MTO2	**Montecristo 2**	**1.76**	**330**	*i*P	**Pn**	**11 39 10.7**	**-0.7**
MTO2	**Montecristo 2**	**1.76**	**330**	*i*P	**Pn**	**11 39 10.7**	**-0.7**
CUSS	**Cusmapa**	**1.79**	**305**	*e*P	**Pn**	**11 39 11.5**	**-0.2**
CUSS				*e*S	**Sn**	**11 39 33.5**	**-0.1**
MRL	**Marmol**	**2.49**	**331**	*e*P	**Pn**	**11 39 22.1**	**+0.7**
MRL				*e*S	**Sb**	**11 39 57.3**	**+0.4**
NBG	**Las Nubes**	**2.51**	**313**	*e*P	**Pn**	**11 39 23.2**	**+1.4**
NBG				*e*S	**Sn**	**11 39 55.0**	**+3.2**
PCG	**Pacaya**	**2.59**	**306**	*e*P	**Pn**	**11 39 24.4**	**+1.5**
PCG				*e*S	**Sb**	**11 39 59.8**	**0.0**
FUG	**Fuego 3**	**2.81**	**304**	*e*P	**Pn**	**11 39 27.8**	**+2.0**
FUG				*e*S	**Sb**	**11 40 02.8**	**-3.2**
TP2	**Tecpan 2**	**3.14**	**307**	*e*P	**Pn**	**11 39 32.5**	**+1.9**
TP2				*e*S	**Sb**	**11 40 13.3**	**-2.5**
JAT	**Jato**	**3.42**	**295**	*e*P	**Pn**	**11 39 34.4**	**+0.4**
JAT				*e*S	**Sn**	**11 40 13.9**	**+0.1**
JTS	**JuntasAbangare**	**4.28**	**127**	*e*Pn	**Pn**	**11 39 46.3**	**+0.4**
JTS				*e*Sn	**Sn**	**11 40 35.4**	**+0.3**
JTS	**JuntasAbangare**	**4.28**	**127**	Pn	**Pn**	**11 39 46.6**	**+0.7**
	comp=Z,4.1nm,0.3s,baz=327,slow=16,SNR=10						
JTS				Pg	Pb	11 39 51.5	-5.5
	comp=Z,9.4nm,0.3s,baz=329,slow=15,SNR=31						
JTS				Sn	**Sn**	**11 40 36.4**	**+1.4**
	comp=Z,4.1nm,0.3s,baz=325,slow=18,SNR=3.0						
JTS				Lg	Lg	11 40 48.5	
	comp=Z,12nm,0.3s,baz=288,slow=20,SNR=11						
JCR	**Jicaral**	**4.44**	**132**	*e*P	**Pn**	**11 39 49.4**	**+1.3**
QCR	**Quepos**	**5.42**	**129**	*e*P	**Pn**	**11 40 02.8**	**+1.2**
URSC	**Urasca**	**5.48**	**123**	*e*P	**Pn**	**11 40 04.2**	**+1.6**
BUS	**Buena Vista**	**5.66**	**125**	*e*P	**Pn**	**11 40 06.9**	**+1.6**
TEIG	**Tepich**	**7.31**	**1**	Pg	**Pn**	**11 40 27.7**	**+0.2**
	comp=Z,6.0nm,0.3s,baz=160,slow=7.8,SNR=48						
CMIG	**Matias Romero**	**7.50**	**305**	Pn	**Pn**	**11 40 30.9**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=107,slow=11,SNR=18						
CMIG				Sn	**Sn**	**11 41 57.8**	**+3.3**
	comp=Z,1.5nm,0.3s,baz=54,slow=15,SNR=4.7						
TXAR	**Lajitas Array**	**21.64**	**322**	P	**P**	**11 43 27.5**	**-3.4**
	comp=Z,0.8nm,0.6s,baz=140,slow=10.0,SNR=15						
PDAR	**Pinedale Array**	**34.95**	**332**	P	P	11 45 27.6	-4.9
	comp=Z,0.3nm,0.6s,baz=123,slow=6.7,SNR=3.1						
NVAR	**Mina Array Bea**	**36.75**	**319**	P	P	11 45 44.5	-3.5
	comp=Z,0.3nm,0.5s,baz=127,slow=7.3,SNR=2.9						
ULM	**Lac du Bonnet**	**37.76**	**352**	P	P	11 45 48.0	-8.2
	comp=Z,0.8nm,0.4s,baz=171,slow=8.8,SNR=2.8						
MCMT	**McKenzie Canyo**	**38.05**	**332**	*e*P	P	11 45 53.9	-5.1
YKA	**Yellowknife Ar**	**52.95**	**345**	P	P	11 47 49.8	-6.5
	comp=Z,0.2nm,0.2s,baz=135,slow=8.3,SNR=8.6						

*ISCJB **03** 11:45:44.0±0.6, 36°.72N±0°.03×27°.11E±0°.05, h13km±4km, Error ellipse: s-maj=6.2km s-min=4.3km az=15.0*
*CSEM **03** 11:45:43.5±0.2, 36°.73N×27°.05E, h12km, ML3.3/1, Error ellipse: s-maj=5.3km s-min=4.8km az=110.0*
*THE **03** 11:45:44.2, 36°.74N×27°.16E, h13km±1km, ML3.3/1, Error ellipse: s-maj=2.7km s-min=0.8km az=80.0*
*DDA **03** 11:45:44.3, 36°.74N×27°.09E, h4km, MD2.9*
*ISK **03** 11:45:45.2, 36°.89N×27°.07E, h25km, MD3.1*

ISC 03 11:45:43.9±0.9, 36°.74N±0°.03×27°.10E±0°.03, h14km±7km, n34, σ0°.76/52, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIS1	**Nisyros Isl.**	**0.15**	**156**	P	**Pg**	**11 45 47.9**	**+0.2**
NIS1				S	**Sg**	**11 45 50.3**	**0.0**
NIS1	**Nisyros Isl.**	**0.15**	**156**	P	**Pg**	**11 45 47.9**	**+0.2**
NIS1				S	**Sg**	**11 45 50.3**	**0.0**
BODT	**Bodrum**	**0.36**	**28**	*e*PG	**Pb**	**11 45 51.8**	**-0.3**
BODT				*e*SG	**Sb**	**11 45 57.2**	**-0.4**
BODT	**Bodrum**	**0.36**	**28**	*e*Pg	**Pb**	**11 45 51.8**	**-0.3**
BODT				*e*Sg	**Sb**	**11 45 57.2**	**-0.4**
BDRM	**Kayabasi**	**0.42**	**40**	*i* P	**Pb**	**11 45 52.7**	**-0.5**
BDRM				*i* S	**Sb**	**11 45 58.9**	**-0.5**
BDRM	**Kayabasi**	**0.42**	**40**	*i* P	**Pb**	**11 45 52.7**	**-0.5**
BDRM				*i* S	**Sb**	**11 45 58.9**	**-0.5**
GCAM	**G?zelcaml?**	**0.96**	**6**	*i* P	**Pg**	**11 46 02.6**	**+0.2**
GCAM				*i* S	**Sn**	**11 46 17.5**	**+1.1**
GCAM	**G?zelcaml?**	**0.96**	**6**	*i* P	**Pg**	**11 46 02.6**	**+0.2**
GCAM				*i* S	**Sn**	**11 46 17.5**	**+1.1**
SMG	**Samos**	**0.99**	**348**	P	**Pb**	**11 46 02.6**	**-0.2**
SMG				S	**Sb**	**11 46 16.2**	**+0.6**
SMG	**Samos**	**0.99**	**348**	P	**Pb**	**11 46 02.6**	**-0.2**
SMG				S	**Sb**	**11 46 16.2**	**+0.6

comp=E,130nm,14.3s
QIZ LR LR
QIZ Qiongzhong 13.91 302 *e*Pn **Pn** **12 34 44.6 +1.1**
QIZ *e*Sn Sn 12 37 10.9 -6.8
KAPI Kappang 17.13 189 P **Pn** **12 35 24.0 -1.7**
KAPI Kappang 17.13 189 P **Pn** **12 35 24.0 -1.7**
comp=Z,0.2nm,0.3s,baz=89,slow=17,SNR=2.1
KAPI LR LR 12 42 10.4
comp=Z,211nm,20.8s,baz=9.1,slow=38
SSE Sheshan 19.00 357 P **Pn** **12 35 49.5 +0.8**
SSE pmax pmax
comp=Z,130nm,4.0s
WHN Wuhan 19.86 339 *e*P **Pn** **12 35 58.8 -0.1**
WHN *e*S **S** **12 39 41.1 +0.7**
WHN LR LR
comp=N,600nm,8.1s
WHN LR LR
comp=E,650nm,6.5s
WHN LR LR
comp=Z,960nm,14.0s
NJ2 Nanjing 20.19 351 *e*P **P** **12 35 58.6 -2.2**
NJ2 pP Pn 12 36 02.6 -0.1
NJ2 sP **sP** **12 36 05.8 -1.9**
NJ2 PP **PnPn** **12 36 15.2 -2.4**
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 pmax pmax
comp=Z,30nm,3.8s
NJ2 LR LR
comp=N,240nm,14.8s
NJ2 LR LR
comp=E,210nm,17.6s
NJ2 LR LR
comp=Z,1μm,15.5s
GYA Guiyang 20.59 316 *e*P **P** **12 36 05.7 +0.3**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GUMO Guam 22.01 84 P **P** **12 36 21.4 +0.7**
comp=Z,70nm,0.4s
GUMO Guam 22.01 84 LR LR 12 42 49.0
comp=Z,235nm,22.0s,baz=291,slow=31
JNU Nakatsue 22.40 19 P **P** **12 36 25.1 +0.3**
JNU Nakatsue 22.40 19 P **P** **12 36 25.1 +0.3**
comp=Z,12nm,1.1s,baz=211,slow=7.7,SNR=3.2
JNU LR LR 12 46 24.1
comp=Z,100nm,18.4s,baz=221,slow=40
KMI Kunming 22.66 308 P **P** **12 36 28.3 +0.5**
KMI pP **pP** **12 36 32.3 -0.2**
KMI sP **sP** **12 36 34.9 +0.3**
KMI S S 12 40 25.8 -10
KMI SS **SnSn** **12 41 03.2 -2.3**
KMI pmax pmax
comp=Z,11nm,0.9s
KMI pmax pmax
comp=Z,200nm,4.9s
KMI LR LR
comp=N,110nm,22.0s
KMI LR LR
comp=E,220nm,22.0s
KMI LR LR
comp=Z,240nm,25.0s
CM31 Chiang Mai Arr 23.46 289 *e*P **P** **12 36 37.7 +1.9**
comp=Z,20nm,1.1s
CMAR Chiang Mai Arr 23.46 289 P **P** **12 36 37.3 +1.5**
CMAR PcP **PcP** **12 40 22.9 +1.0**
CMAR Chiang Mai Arr 23.46 289 P **P** **12 36 37.3 +1.5**
comp=Z,3.2nm,0.9s,baz=102,slow=7.3,SNR=29
CMAR PcP **PcP** **12 40 22.9 +1.0**
comp=Z,0.4nm,0.7s,baz=112,slow=1.0,SNR=4.1
CMAR LR LR 12 46 14.8
comp=Z,85nm,18.6s,baz=249,slow=38
CHTO Chiang Mai 23.54 290 *e*P **P** **12 36 37.6 +1.0**
CHTO pmax pmax
comp=Z,13nm,1.2s
CHTO Chiang Mai 23.54 290 *e*P **P** **12 36 37.6 +1.0**
comp=Z,13nm,1.2s
XAN Xi'an 25.10 333 P **P** **12 36 50.6 -0.4**
XAN pmax pmax
comp=Z,6.0nm,1.2s
XAN LR LR
comp=N,220nm,12.0s
XAN LR LR
comp=Z,120nm,12.0s
CD2 Chengdu 25.47 320 P **P** **12 36 54.4 +0.1**
CD2 pP **pP** **12 36 58.5 -0.9**
CD2 sP **sP** **12 37 01.3 -0.1**
CD2 S S 12 41 13.2 -7.8
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,190nm,7.7s
CD2 LR LR
comp=N,350nm,8.6s
CD2 LR LR
comp=E,350nm,7.4s
CD2 LR LR
comp=Z,360nm,10.4s
INCN Inchon 25.64 8 *e*P **P** **12 36 57.3 +1.6**
comp=Z,5.2nm,0.3s
KSAR Wonju Array Be 25.79 10 P **P** **12 36 59.0 +1.9**
KSRS Korea Array 25.81 10 P **P** **12 36 59.0 +1.7**
comp=Z,6.9nm,1.0s,baz=187,slow=10,SNR=9.6
KSRS LR LR 12 47 43.3
comp=Z,102nm,19.3s,baz=14,slow=38
MAJO Matsushiro 28.28 28 *e*P **P** **12 37 17.0 -2.6**
MAJO pmax pmax
comp=Z,1.0nm,0.3s
MAJO Matsushiro 28.28 28 *e*P **P** **12 37 17.0 -2.6**
comp=Z,1.1nm,0.3s
MJAR Matsushiro Arr 28.28 28 LR LR 12 48 10.9
comp=Z,97nm,19.1s,baz=220,slow=36
BJI Beijing 28.43 350 P **P** **12 37 21.2 +0.4**
BJI S **S** **12 42 04.4 -2.9**
BJI pmax pmax
comp=Z,10.0nm,0.9s
BJI LR LR
comp=Z,110nm,20.6s
LZH Lanzhou 29.20 328 *e*P **P** **12 37 27.6 -0.4**
LZH pP **pP** **12 37 31.4 -1.6**
LZH sP **sP** **12 37 34.5 -0.6**
LZH PP **PnPn** **12 38 21.0 +0.1**
LZH *e*S S 12 42 13.3 -6.7
LZH pmax pmax
comp=Z,19nm,1.1s
LZH pmax pmax
comp=Z,130nm,6.8s
LZH LR LR
comp=N,300nm,10.4s
LZH LR LR
comp=E,250nm,9.6s
LZH LR LR
comp=Z,470nm,12.3s
HHC Hu-ho-hao-te 30.23 344 *e*P **P** **12 37 36.9 -0.1**
HHC pP **pP** **12 37 41.3 -0.7**
HHC sP **sP** **12 37 44.8 +0.7**
HHC PP **PnPn** **12 38 32.6 -2.2**
HHC S S 12 42 29.2 -6.8
HHC ScS **ScS** **12 48 17.0 +1.8**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,260nm,6.1s
HHC LR LR
comp=N,780nm,13.1s
HHC LR LR
comp=E,800nm,14.2s
HHC LR LR
comp=Z,260nm,13.1s
CN2 Changchun 31.77 4 *e*P **P** **12 37 50.9 +0.6**
CN2 *e*pP **pP** **12 37 54.9 -0.5**
CN2 *e*PP **PnPn** **12 38 53.0 -1.7**
MDJ Mudanjiang 33.06 9 *e*P **P** **12 38 03.4 +1.7**
USRK Ussuriysk Arra 33.12 13 P **P** **12 38 03.4 +1.3**
comp=Z,3.3nm,0.7s,baz=188,slow=5.2,SNR=6.9
GTA Gaotai 33.80 328 *e*P **P** **12 38 09.6 +1.2**
GTA pP **pP** **12 38 13.8 +0.4**
GTA sP **sP** **12 38 16.8 +1.3**
GTA pmax pmax
comp=Z,11nm,0.9s
LSA Lhasa 33.88 306 *e*P **P** **12 38 10.4 +0.8**
LSA pmax pmax
comp=Z,2.0nm,0.4s
LSA Lhasa 33.88 306 *e*P **P** **12 38 10.4 +0.8**
comp=Z,1.8nm,0.4s
WRAB Tennant Creek 33.89 159 *e*P **P** **12 38 09.4 +0.3**
WRAB pmax pmax
comp=Z,12nm,1.2s
WRAB Tennant Creek 33.89 159 *e*P **P** **12 38 09.4 +0.3**
comp=Z,12nm,1.2s
WRA Warramunga Arr 33.89 159 P **P** **12 38 08.1 -1.0**
WRA Warramunga Arr 33.89 159 P **P** **12 38 08.1 -1.0**
comp=Z,1.7nm,0.9s,baz=340,slow=9.1,SNR=6.2
WB2 Warramunga Arr 33.90 159 *e*P **P** **12 38 07.2 -2.0**
TAPN Taplejung 35.85 300 *e*P **P** **12 38 26.3 -0.1**
TAPN Taplejung 35.85 300 *e*P **P** **12 38 26.3 -0.1**
ODAN Odare 35.97 299 *e*P **P** **12 38 27.4 0.0**
comp=Z,14nm,0.7s
ODAN Odare 35.97 299 *e*P **P** **12 38 27.4 0.0**
comp=Z,14nm,0.7s
RAMN Ramite 36.67 299 *e*P **P** **12 38 33.8 +0.4**
comp=Z,15nm,0.9s
RAMN Ramite 36.67 299 *e*P **P** **12 38 33.8 +0.4**
comp=Z,15nm,0.9s
HIA Hailar 37.19 357 *e*P **P** **12 38 37.7 +0.5**
comp=Z,15nm,1.1s
JIRN Jiri 37.23 300 *e*P **P** **12 38 38.2 -0.1**
comp=Z,16nm,0.6s
JIRN Jiri 37.23 300 *e*P **P** **12 38 38.2 -0.1**
comp=Z,16nm,0.6s
AS31 Alice Springs 37.23 162 *e*P **P** **12 38 38.3 +0.5**
ASAR Alice Springs 37.23 162 P **P** **12 38 38.5 +0.7**
ASAR Alice Springs 37.23 162 P **P** **12 38 38.5 +0.7**
comp=Z,2.5nm,0.7s,baz=349,slow=7.6,SNR=29
GUN Gumba 37.56 300 *e*P **P** **12 38 41.0 -0.1**
comp=Z,8.5nm,0.4s
GUN Gumba 37.56 300 *e*P **P** **12 38 41.0 -0.1**
comp=Z,8.5nm,0.4s
PKI Pulchoki 37.87 300 *e*P **P** **12 38 43.2 -0.4**
PKI Pulchoki 37.87 300 *e*P **P** **12 38 43.2 -0.4**
PKI Pulchoki 37.87 300 *e*P **P** **12 38 43.2 -0.4**
ULN Ulaanbaatar 37.95 343 *e*P **P** **12 38 44.4 +0.5**
comp=Z,8.2nm,1.0s
KKN Kakani 38.04 300 *e*P **P** **12 38 44.6 -0.3**
comp=Z,5.9nm,0.4s
KKN Kakani 38.04 300 *e*P **P** **12 38 44.6 -0.3**
KKN pmax pmax
comp=Z,6.0nm,0.4s
KKN Kakani 38.04 300 *e*P **P** **12 38 44.6 -0.3**
comp=Z,5.9nm,0.4s
SONM Songino Array 38.12 343 P **P** **12 38 46.1 +0.9**
SONM Songino Array 38.12 343 P **P** **12 38 46.1 +0.9**
comp=Z,3.0nm,0.9s,baz=161,slow=9.8,SNR=23
SONM LR LR 12 56 45.8
comp=Z,75nm,19.1s,baz=157,slow=40
YSS Yuzh-Sakhalins 38.83 22 *e*P **P** **12 38 52.3 +1.3**
YSS pmax pmax
comp=Z,22nm,1.7s
YSS Yuzh-Sakhalins 38.83 22 *e*P **P** **12 38 52.4 +1.4**
comp=Z,6.6nm,0.4s
KOLN Koldanda 39.46 299 *e*P **P** **12 38 56.8 -0.1**
comp=Z,8.3nm,0.7s
KOLN Koldanda 39.46 299 *e*P **P** **12 38 56.8 -0.1**
comp=Z,8.3nm,0.7s
DANN Dangsing 39.48 300 *e*P **P** **12 38 56.4 -0.8**
comp=Z,11nm,0.8s
DANN Dangsing 39.48 300 *e*P **P** **12 38 56.4 -0.8**
comp=Z,11nm,0.8s
TLY Talaya 42.36 343 *i* P **P** **12 39 22.3 +2.1**
TLY pmax pmax
comp=Z,8.0nm,1.5s
TLY Talaya 42.36 343 *e*P **P** **12 39 21.6 +1.4**
WMQ Urumqi 43.50 323 *e*P **P** **12 39 28.6 -1.0**
WMQ pP **pP** **12 39 32.9 -1.9**
WMQ pmax pmax
comp=Z,5.0nm,0.6s
WMQ LR LR
comp=Z,150nm,19.0s
BOD Bodaibo 46.14 354 *e*P **P** **12 39 50.6 +0.3**
BOD pmax pmax
comp=Z,6.0nm,2.0s
STKA Stephens Creek 47.39 158 *e*P **P** **12 40 00.0 -0.4**
comp=Z,0.6nm,0.7s
STKA Stephens Creek 47.39 158 P **P** **12 40 00.8 +0.3**
comp=Z,2.2nm,0.7s,baz=306,slow=5.3,SNR=6.6
STKA LR LR 13 01 47.7
comp=Z,49nm,18.9s,baz=205,slow=38
MK31 Makanchi Array 48.32 324 *e*P **P** **12 40 08.2 +0.6**
MK31 Makanchi Array 48.32 324 *e*P **P** **12 40 08.2 +0.6**
MKAR Makanchi Array 48.32 324 P **P** **12 40 08.2 +0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MKAR Makanchi Array 48.32 324 *e*P **P** **12 40 08.2 +0.6**
MKAR Makanchi Array 48.32 324 P **P** **12 40 08.2 +0.6**
comp=Z,2.8nm,0.9s,baz=123,slow=7.7,SNR=24
KSH Kashi 49.21 312 *e*P P 12 40 18.1 +3.5
KSH pP pP 12 40 21.8 +1.9
KSH sP sP 12 40 25.4 +3.5
KSH PcP PcP 12 41 45.4 +7.7
KSH PP **PP** **12 42 11.6 +3.1**
KSH S **S** **12 47 18.3 -1.6**
KSH sS sS 12 47 26.2 -2.3
KSH ScS **ScS** **12 50 07.3 +0.8**
KSH SS **SS** **12 50 44.8 -6.6**
KSH pmax pmax
comp=Z,68nm,4.3s
KSH LR LR
comp=N,290nm,6.3s
KSH LR LR
comp=E,280nm,6.7s
KSH LR LR
comp=Z,400nm,6.3s
PETK Petropavlovsk- 49.74 27 P **P** **12 40 18.9 +0.6**
PETK pmax pmax
comp=Z,3.0nm,0.6s
PETK Petropavlovsk- 49.74 27 P **P** **12 40 18.9 +0.6**
PETK Petropavlovsk- 49.74 27 P **P** **12 40 18.9 +0.6**
comp=Z,2.7nm,0.6s,baz=210,slow=5.5,SNR=7.7
YAK Yakutsk 50.20 4 *e*P **P** **12 40 21.4 -0.2**
YAK pmax pmax
comp=Z,20nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK Yakutsk 50.20 4 *e*P **P** **12 40 21.6 0.0**
comp=N,21nm,0.9s
TKM2 Tokmak 2 50.74 316 *e*P **P** **12 40 26.6 +0.3**
TKM2 pmax pmax
comp=Z,1.0nm,0.4s
TKM2 Tokmak 2 50.74 316 *e*P **P** **12 40 26.6 +0.3**
comp=Z,1.1nm,0.4s
ZALV Zalesovo Beam 51.27 333 P **P** **12 40 29.0 -0.8**
ZALV pmax pmax
comp=Z,2.0nm,0.8s
ZALV Zalesovo Beam 51.27 333 P **P** **12 40 29.0 -0.8**
ZALV Zalesovo Beam 51.27 333 P **P** **12 40 29.0 -0.8**
comp=Z,2.4nm,0.8s,baz=126,slow=5.9,SNR=14
AAK Ala-Archa 51.38 316 *e*P **P** **12 40 32.5 +1.4**
AAK pmax pmax
comp=Z,3.0nm,0.5s
AAK Ala-Archa 51.38 316 *e*P **P** **12 40 32.5 +1.4**
comp=Z,2.8nm,0.5s
EKS2 Erkin-Say 51.88 315 *e*P **P** **12 40 35.5 +0.7**
EKS2 pmax pmax
comp=Z,2.0nm,0.8s
EKS2 Erkin-Say 51.88 315 *e*P **P** **12 40 35.5 +0.7**
comp=Z,1.9nm,0.8s
KURK Kurchatov 52.46 326 *e*P **P** **12 40 39.5 +0.7**
KURK pmax pmax
comp=Z,21nm,1.4s
KURK Kurchatov 52.46 326 *e*P **P** **12 40 39.5 +0.7**
comp=Z,20nm,1.4s
NVS Novosibirsk 52.56 333 *e*P **P** **12 40 38.7 -0.7**
KBL Kabul 53.17 304 *e*P **P** **12 40 44.5 -0.1**
KBL pmax pmax
comp=Z,1.0nm,0.5s
KBL Kabul 53.17 304 *e*P **P** **12 40 44.5 -0.1**
comp=Z,1.0nm,0.5s
KKAR Karatay Array 54.29 315 *e*P **P** **12 40 52.6 +0.2**
KKAR pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 54.29 315 *e*P **P** **12 40 52.6 +0.2**
comp=Z,0.6nm,0.5s
BVAR Borovoye Array 58.05 326 LR LR 13 06 18.8
comp=Z,54nm,20.5s,baz=286,slow=36
BRVK Borovoye 58.12 326 *e*P **P** **12 41 19.9 +0.3**
BRVK pmax pmax
comp=Z,5.0nm,1.2s
BRVK Borovoye 58.12 326 *e*P **P** **12 41 19.9 +0.3**
comp=Z,4.6nm,1.2s
ABKAR Akbulak array 63.04 319 *e*P **P** **12 41 53.1 -0.1**
comp=Z,0.7nm,0.5s
AKTO Aktyubinsk 64.52 320 LR LR 13 11 33.3
comp=Z,111nm,19.6s,baz=278,slow=37
ARU Arti 65.65 327 *d i*P **P** **12 42 10.1 -0.1**
ARU S **S** **12 50 55.2 0.0**
ARU pmax pmax
comp=Z,7.0nm,1.2s
ARU Arti 65.65 327 *e*P **P** **12 42 10.0 -0.2**
comp=Z,2.3nm,0.4s
RPZ Rata Peaks 71.00 145 LR LR 13 16 21.4
comp=Z,92nm,19.9s,baz=178,slow=38
GNI Garni 72.91 308 LR LR 13 17 32.9
comp=Z,41nm,21.6s,baz=88,slow=38
KIV Kislovodsk 74.34 312 *e*P **P** **12 43 05.0 +1.1**
KIV pmax pmax
comp=Z,5.0nm,0.8s
KIV MLR MLR
comp=Z,86nm,18.0s
KLMR Klimovskoe 76.09 330 *e*P **P** **12 43 11.4 -2.2**
KLMR pmax pmax
comp=Z,35nm,1.8s
OBN Obninsk 77.83 324 *i* P **P** **12 43 24.7 +1.3**
OBN *e*SS SS 12 58 14.2 -1.4
OBN pmax pmax
comp=Z,5.0nm,0.8s
COLD Coldfoot 78.01 23 *e*P **P** **12 43 25.9 +1.6**
comp=Z,4.7nm,0.8s
COLD *e*PcP **PcP** **12 43 34.5 +0.5**
MCK McKinley 78.74 27 *e*P **P** **12 43 29.7 +1.3**
MCK pmax pmax
comp=Z,172nm,2.8s
MCK McKinley 78.74 27 *e*P **P** **12 43 29.7 +1.3**
comp=Z,172nm,2.8s
ILAR Eielson Array 79.54 26 P **P** **12 43 32.7 0.0**
ILAR Eielson Array 79.54 26 P **P** **12 43 32.7 0.0**
comp=Z,1.0nm,0.7s,baz=244,slow=4.3,SNR=14
ASF Jabal al Asfar 79.89 301 LR LR 13 19 58.4
comp=Z,22nm,20.2s,baz=272,slow=36
MMAI Mount Meron Ar 81.02 302 LR LR 13 24 22.3
comp=Z,33nm,20.8s,baz=255,slow=39
ARCES ARCESS Array B 81.21 339 LR LR 13 22 04.8
comp=Z,72nm,19.3s,baz=150,slow=37
BRTR Keskin Array B 81.44 309 LR LR 13 25 59.2
comp=Z,33nm,18.8s,baz=217,slow=40
EIL Elat 81.92 299 LR LR 13 20 20.0
comp=Z,37nm,20.8s,baz=84,slow=36
FINES FINESS Array B 82.52 331 P **P** **12 43 47.5 -1.1**
FINES FINESS Array B 82.52 331 P **P** **12 43 47.5 -1.1**
comp=Z,2.9nm,0.9s,baz=114,slow=14,SNR=3.9
INK Inuvik 84.06 21 *e*P **P** **12 43 58.1 +1.7**
comp=Z,12nm,1.4s
KWP Kalwaria Pacla 87.09 320 *e*P **P** **12 44 12.7 +0.7**
KWP pmax pmax
comp=Z,41nm,0.5s
KWP Kalwaria Pacla 87.09 320 *e*P **P** **12 44 12.7 +0.7**
comp=Z,41nm,0.5s
NOA NORSAR Array B 89.47 333 LR LR 13 27 56.7
comp=Z,50nm,21.3s,baz=50,slow=38
RES Resolute Bay 90.42 9 *e*P **P** **12 44 27.7 +0.6**
VRAC Vranov 90.99 321 LR LR 13 25 00.7
comp=Z,88nm,19.9s,baz=20,slow=35
GERES GERESS Array B 92.94 321 LR LR 13 26 47.0
comp=Z,66nm,18.1s,baz=311,slow=36
YKA Yellowknife Ar 93.69 23 P **P** **12 44 43.2 +0.7**
YKA Yellowknife Ar 93.69 23 P **P** **12 44 43.2 +0.7**
comp=Z,0.8nm,1.0s,baz=302,slow=4.9,SNR=8.8
DAVOX Davos/Dischmat 96.12 320 LR LR 13 32 45.0
comp=Z,112nm,20.3s,baz=76,slow=38
TXAR Lajitas Array 119.49 46 PKP **PKPdf** **12 50 17.3 +0.7**
TXAR Lajitas Array 119.49 46 PKP **PKPdf** **12 50 17.3 +0.7**
comp=Z,0.3nm,0.7s,baz=155,slow=1.5,SNR=4.9

IDC 03 13:21:28.8±1.3, 6.02S×149.78E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.7/16, mbtmp4.1/5, ML3.1/1, MS3.3/4, Ms1 3.3/4, ms1mx3.0/27, Error ellipse: s-maj=46.3km s-min=20.3km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.25**	**218**	Pn	Pn	13 22 35.3	+0.5
	7.1nm,0.3s,baz=77,slow=5.5,SNR=28						
PMG				Sn	Sn	13 23 23.9	-1.3
	14nm,0.3s,baz=98,slow=18,SNR=9.1						
HNR	**Honiara**	**10.62**	**109**	LR	LR	13 27 32.3	
	comp=Z,63nm,20.4s,baz=168,slow=34						
CTA	**Charters Tower**	**14.40**	**193**	LR	LR	13 29 44.0	
	comp=Z,50nm,20.8s,baz=231,slow=34						
WRA	**Warramunga Arr**	**20.41**	**226**	P	P	13 26 08.4	+0.7
	6.4nm,0.5s,baz=52,slow=11,SNR=90						
ASAR	**Alice Springs**	**23.26**	**219**	P	P	13 26 37.4	-0.8
	0.6nm,0.6s,baz=56,slow=8.8,SNR=17						
FITZ	**Fitzroy Crossi**	**26.44**	**241**	P	P	13 27 08.5	+0.9
	2.5nm,0.6s,baz=61,slow=9.4,SNR=4.6						
STKA	**Stephens Creek**	**26.84**	**196**	P	P	13 27 09.9	-1.2
	1.3nm,0.6s,baz=27,slow=12,SNR=4.2						
TGY	**Tagaytay City**	**34.92**	**305**	P	P	13 28 20.9	-1.7
	151nm,0.4s,baz=194,slow=3.4,SNR=4.2						
RPZ	**Rata Peaks**	**41.95**	**157**	LR	LR	13 42 33.7	
	comp=Z,106nm,18.1s,baz=12,slow=39						
AAK	**Ala-Archa**	**83.34**	**314**	LR	LR	14 09 27.2	
	comp=Z,49nm,21.4s,baz=118,slow=34						
ILAR	**Eielson Array**	**84.42**	**23**	P	P	13 34 02.1	-0.9
	0.6nm,1.1s,baz=248,slow=5.2,SNR=3.2						
GERES	**GERESS Array B**	**123.47**	**327**	PKP	PKPdf	13 40 29.1	+0.8
	0.3nm,0.2s,baz=70,slow=1.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**147.77**	**285**	PKPbc	PKPbc	13 41 17.6	+0.9
	0.9nm,0.5s,baz=55,slow=3.1,SNR=9.5						

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*ISCJB **03** 13:32:51.2±0.6, 51.65N±0.09×177.84E±0.06, h69km±4km, mb3.7/20, Error ellipse: s-maj=15.4km s-min=5.4km az=10.1*
*NEIC **03** 13:32:52.3, 51.50N×177.76E, h24km, ML3.9(AEIC), After AEIC.*
*IDC **03** 13:32:52.3±2.4, 51.67N×177.81E, h63km±19km, mb3.5/20, mb1 3.7/23, mb1mx3.6/34, mbtmp3.6/23, Error ellipse: s-maj=21.7km s-min=11.4km az=173.0*
ISC 03 13:32:52.0±1.0, 51.6N±0.1×177.85E±0.04, h59km±8km, n36, σ0s91/43, mb3.8/20, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSE	**Little Sitkin**	**0.55**	**55**	P	**Pn**	**13 33 04.6**	**+0.2**
LSPA	**Little Sitkin**	**0.56**	**53**	P	**Pn**	**13 33 04.7**	**+0.2**
LSPA				S	**Sn**	**13 33 13.7**	**0.0**
AMKA	**Amchitka**	**0.94**	**105**	P	**Pn**	**13 33 08.9**	**-0.3**
AMKA				S	**Sn**	**13 33 21.3**	**-0.5**
CESW	**Semis' Southwe**	**1.10**	**75**	P	**Pn**	**13 33 11.6**	**+0.3**
CEAP	**Semis' Anvil P**	**1.14**	**70**	P	**Pn**	**13 33 12.3**	**+0.5**
CERAA	**Semis' Rag'd T**	**1.18**	**75**	P	**Pn**	**13 33 12.6**	**+0.3**
SMY	**Shemya**	**2.56**	**297**	P	**Pn**	**13 33 31.6**	**+0.7**
SMY				S	**Sn**	**13 34 01.6**	**+0.8**
FX1	**Attu Island--F**	**3.14**	**295**	P	**Pn**	**13 33 38.4**	**-0.5**
FX1				S	**Sn**	**13 34 15.0**	**-0.2**
FX1	**Attu Island--F**	**3.14**	**295**	P	**Pn**	**13 33 38.6**	**-0.3**
	87nm,0.3s,baz=207,slow=4.6,SNR=93						
FX1				S	**Sn**	**13 34 14.9**	**-0.2**
	177nm,0.3s,baz=72,slow=23,SNR=11						
KOKL	**Mount Kliuchef**	**4.97**	**79**	P	**Pn**	**13 34 05.5**	**+1.6**
KOKV	**Korovin Volcan**	**4.99**	**78**	P	**Pn**	**13 34 05.7**	**+1.4**
KOFP	**Korovin Flat P**	**5.03**	**79**	P	**Pn**	**13 34 06.4**	**+1.7**
PETK	**Petropavlovsk-**	**12.40**	**285**	P	**Pn**	**13 35 46.1**	**+0.6**
	0.1nm,0.3s,baz=88,slow=17,SNR=3.6						
KDAK	**Kodiak Island**	**18.07**	**59**	P	**Pn**	**13 36 59.1**	**+0.6**
	0.5nm,0.3s,baz=297,slow=18,SNR=6.2						
ILAR	**Eielson Array**	**22.39**	**41**	P	**P**	**13 37 44.7**	**-0.4**
	0.4nm,0.6s,baz=242,slow=9.1,SNR=7.4						
INK	**Inuvik**	**28.48**	**36**	P	**P**	**13 38 40.5**	**-0.4**
	0.8nm,0.5s,baz=276,slow=10,SNR=8.4						
CN2	**Changchun**	**35.44**	**278**	*e*P	**P**	**13 39 43.5**	**+1.3**
CN2				*e*PP	PP	13 41 03.4	0.0
CN2				*e*S	**S**	**13 45 15.5**	**+2.7**
YKA	**Yellowknife Ar**	**36.58**	**46**	P	**P**	**13 39 51.4**	**-0.3**
	0.2nm,0.6s,baz=282,slow=7.9,SNR=5.1						
YKA				PcP	**PcP**	**13 42 13.6**	**-0.1**
	0.2nm,0.5s,baz=292,slow=3.2,SNR=5.2						
RES	**Resolute Bay**	**40.38**	**24**	P	**P**	**13 40 24.0**	**+0.5**
	0.3nm,0.4s,baz=349,slow=15,SNR=3.5						
SONM	**Songino Array**	**44.65**	**295**	P	**P**	**13 40 59.0**	**+0.4**
	1.5nm,0.4s,baz=67,slow=7.5,SNR=29						
NVAR	**Mina Array Bea**	**45.59**	**81**	P	**P**	**13 41 07.0**	**+0.7**
	0.3nm,0.6s,baz=293,slow=7.0,SNR=3.6						
PDAR	**Pinedale Array**	**48.22**	**70**	P	**P**	**13 41 25.4**	**-1.4**
	0.2nm,0.6s,baz=1.6,slow=6.3,SNR=5.2						
KURBB	**Kurchatov Arra**	**57.42**	**312**	P	**P**	**13 42 33.7**	**-0.4**
	2.2nm,0.5s,baz=43,slow=6.5,SNR=17						

ARCES	**ARCESS Array B**	**57.47 349**	P		**P**	**13 42 33.3**	**-0.9**
	1.3nm,0.6s,baz=26,slow=9.3,SNR=9.5							
MKAR	**Makanchi Array**	**58.22 306**	P		**P**	**13 42 39.0**	**-0.9**
	0.7nm,0.4s,baz=52,slow=5.7,SNR=25							
BVAR	**Borovoye Array**	**59.32 318**	P		**P**	**13 42 47.3**	**-0.1**
	2.0nm,0.5s,baz=52,slow=6.7,SNR=20							
TXAR	**Lajitas Array**	**60.68 79**	P		**P**	**13 42 57.0**	**-0.1**
	0.2nm,0.4s,baz=305,slow=6.1,SNR=4.3							
FINES	**FINESS Array B**	**65.05 345**	P		**P**	**13 43 24.2**	**-1.3**
	1.9nm,0.8s,baz=349,slow=1.4,SNR=4.5							
AAK	**Ala-Archa**	**65.08 308**	P		**P**	**13 43 25.0**	**-1.2**
	1.5nm,0.5s,baz=133,slow=4.7,SNR=6.2							
NOA	**NORSAR Array B**	**67.18 353**	P		**P**	**13 43 38.0**	**-1.3**
	0.7nm,0.5s,baz=7.8,slow=5.6,SNR=4.4							
CMAR	**Chiang Mai Arr**	**68.90 273**	P		**P**	**13 43 50.8**	**+0.2**
	0.5nm,0.6s,baz=18,slow=7.4,SNR=4.7							
AKASG	**Malin Array Be**	**74.63 340**	P		**P**	**13 44 24.0**	**-0.5**
	1.4nm,0.4s,baz=21,slow=6.3,SNR=4.6							
WRA	**Warramunga Arr**	**80.78 221**	P		**P**	**13 44 58.2**	**-0.8**
	0.5nm,0.5s,baz=30,slow=5.7,SNR=9.5							
BRTR	**Keskin Array B**	**83.81 333**	P		**P**	**13 45 15.7**	**+0.8**
	1.0nm,0.6s,baz=76,slow=3.0,SNR=7.9							
ASAR	**Alice Springs**	**84.29 220**	P		**P**	**13 45 17.5**	**+0.3**
	0.4nm,0.7s,baz=27,slow=5.8,SNR=4.0							
TORD	**Torodi Ar. Bea**	**115.42 356**	PKP		**PKPdf**	**13 51 25.9**	**-1.3**
	0.5nm,1.1s,baz=12,slow=2.9,SNR=2.8							

IDC 03 13:34:22.8±11.0, 13.41N×88.66W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.7/19, mbtmpg3.7/5, Error ellipse: s-maj=217.0km s-min=51.8km az=176.0, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**21.09 321**		P	P	13 39 09.8	+0.7
	1.2nm,0.7s,baz=130,slow=9.3,SNR=12						
NVAR	**Mina Array Bea**	**36.21 319**		P	P	13 41 27.9	+0.1
	0.2nm,0.5s,baz=130,slow=8.4,SNR=2.7						
ULM	**Lac du Bonnet**	**37.21 352**		P	P	13 41 35.6	-0.1
	1.1nm,0.6s,baz=172,slow=7.1,SNR=2.9						
SCHQ	**Schefferville**	**44.72 18**		P	P	13 42 38.7	+1.1
	1.8nm,0.7s,baz=191,slow=9.6,SNR=4.3						
YKA	**Yellowknife Ar**	**52.38 345**		P	P	13 43 34.8	-1.7
	0.3nm,0.6s,baz=142,slow=8.0,SNR=7.4						

*ISK **03** 13:34:22.7, 39.95N×28.12E, h11km, MD2.7*
*ISCJB **03** 13:34:23.3±0.4, 39.98N±0.03×28.10E±0.04, h10km±5km, Error ellipse: s-maj=4.6km s-min=4.6km az=169.8*
*DDA **03** 13:34:23.9, 39.96N×28.10E, h7km, MD3.0*
*CSEM **03** 13:34:23.4±0.1, 39.96N×28.11E, h12km, MD2.7, Error ellipse: s-maj=2.7km s-min=2.4km az=32.0*
ISC 03 13:34:23.5±0.9, 39.96N±0.02×28.10E±0.02, h11km±9km, n42, σ0.81/54, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GONE	**Gonen-Balikesi**	**0.33 286**		*e*PG	**Pg**	**13 34 30.0**	**-0.1**
GONE				*e*SG	**Sg**	**13 34 35.3**	**+0.8**
GONE	**Gonen-Balikesi**	**0.33 286**		*e*Pg	**Pg**	**13 34 30.0**	**-0.1**
GONE				*e*Sg	**Sg**	**13 34 35.3**	**+0.8**
BALB	**Balikesir**	**0.36 208**		*e*PG	**Pg**	**13 34 30.1**	**-0.6**
BALB				*e*SG	**Sg**	**13 34 36.2**	**+0.8**
BALB	**Balikesir**	**0.36 208**		*e*Pg	**Pg**	**13 34 30.1**	**-0.6**
BALB				*e*Sg	**Sg**	**13 34 36.2**	**+0.8**
KCTX	**Karacabey (Bur**	**0.37 33**		*e*PG	**Pg**	**13 34 30.0**	**-0.8**
KCTX				*e*SG	**Sg**	**13 34 35.2**	**-0.5**
KCTX	**Karacabey (Bur**	**0.37 33**		*e*Pg	**Pg**	**13 34 30.0**	**-0.8**
KCTX				*e*Sg	**Sg**	**13 34 35.2**	**-0.5**
BALY	**Balya**	**0.43 239**		*i* P	**Pg**	**13 34 32.1**	**+0.2**
BALY				*i* S	**Sb**	**13 34 38.7**	**-0.8**
BALY	**Balya**	**0.43 239**		*i* P	**Pg**	**13 34 32.1**	**+0.2**
BALY				*i* S	**Sb**	**13 34 38.7**	**-0.8**
EDC	**Edincik**	**0.43 335**		*e*PG	**Pg**	**13 34 31.4**	**-0.5**
EDC	**Edincik**	**0.43 335**		*e*Pg	**Pg**	**13 34 31.4**	**-0.5**
DURS	**Dursunbey**	**0.46 141**		*i* P	**Pb**	**13 34 33.5**	**-0.1**
DURS				*i* S	**Sb**	**13 34 40.5**	**0.0**
DURS	**Dursunbey**	**0.46 141**		*i* P	**Pb**	**13 34 33.6**	**-0.1**
DURS				*i* S	**Sb**	**13 34 40.5**	**0.0**
DST	**Dursunbey**	**0.54 131**		*e*PG	**Pg**	**13 34 33.0**	**-0.9**
DST	**Dursunbey**	**0.54 131**		*e*Pg	**Pg**	**13 34 33.0**	**-0.9**
KRBG	**Karabiga-Canak**	**0.75 306**		*e*PG	**Pg**	**13 34 37.8**	**-0.2**
KRBG	**Karabiga-Canak**	**0.75 306**		*e*Pg	**Pg**	**13 34 37.8**	**-0.2**
ARMT	**Armutlu**	**0.84 44**		*e*PG	**Pb**	**13 34 40.1**	**0.0**
ARMT	**Armutlu**	**0.84 44**		*e*Pg	**Pb**	**13 34 40.1**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.01 316**		*e*PG	**Pb**	**13 34 43.2**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.01 316**		*e*Pg	**Pb**	**13 34 43.2**	**+0.2**
MFT	**Murefte**	**1.04 323**		*e*PG	**Pb**	**13 34 43.5**	**+0.1**
MFT	**Murefte**	**1.04 323**		*e*Pg	**Pb**	**13 34 43.5**	**+0.1**
LPK	**Lapseki**	**1.10 292**		*e*PN	**Pn**	**13 34 44.9**	**0.0**
LPK	**Lapseki**	**1.10 292**		*e*Pn	**Pn**	**13 34 44.9**	**0.0**
YLV	**Yalova**	**1.15 58**		*e*PN	**Pg**	**13 34 45.4**	**-0.2**
YLV	**Yalova**	**1.15 58**		*e*Pn	**Pg**	**13 34 45.4**	**-0.2**
CTKS	**Kestanelik-??a**	**1.31 14**		*e*PN	**Pn**	**13 34 47.6**	**-0.1**
CTKS	**Kestanelik-??a**	**1.31 14**		*e*Pn	**Pn**	**13 34 47.7**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.32 290**		*e*PN	**Pn**	**13 34 47.4**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.32 290**		*e*Pn	**Pn**	**13 34 47.4**	**-0.4**
CAVI	**Cavuskoy**	**1.36 79**		*e*PN	**Pn**	**13 34 48.1**	**-0.3**
CAVI	**Cavuskoy**	**1.36 79**		*e*Pn	**Pn**	**13 34 48.1**	**-0.3**
ERIK	**Erikli-Kesan**	**1.40 301**		*e*PN	**Pb**	**13 34 49.5**	**-0.2**
ERIK	**Erikli-Kesan**	**1.40 301**		*e*Pn	**Pb**	**13 34 49.5**	**-0.2**
KLYT	**Kilyos**	**1.48 29**		*e*PN	**Pn**	**13 34 50.1**	**+0.1**
KLYT	**Kilyos**	**1.48 29**		*e*Pn	**Pn**	**13 34 50.1**	**+0.1**
KULA	**Kula-Manisa**	**1.51 163**		*e*PN	**Pn**	**13 34 49.8**	**-0.6**
KULA	**Kula-Manisa**	**1.51 163**		*e*Pn	**Pn**	**13 34 49.8**	**-0.6**
ALT	**Altintas**	**1.80 119**		*e*PN	**Pn**	**13 34 54.0**	**-0.5**
ALT	**Altintas**	**1.80 119**		*e*Pn	**Pn**	**13 34 54.0**	**-0.5**
BORA	**Eskisehir**	**1.81 92**		*i* P	**Pg**	**13 34 57.9**	**-0.4**
BORA				*i* S	**Sg**	**13 35 25.1**	**+3.3**
BORA	**Eskisehir**	**1.81 92**		*i* P	**Pg**	**13 34 57.9**	**-0.4**
BORA				*i* S	**Sg**	**13 35 25.1**	**+3.3**

*ISCJB **03** 13:39:24.3±0.8, 29.77N±0.09×91.61E±0.07, h10km, mb3.9/4, Error ellipse: s-maj=12.7km s-min=8.3km az=169.1*
*IDC **03** 13:39:24.1±2.3, 29.54N×91.98E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.4/26, mbtmpg3.4/5, ML3.6/1, Error ellipse: s-maj=81.3km s-min=25.5km az=75.0*
ISC 03 13:39:24.9±0.9, 29.65N±0.07×91.65E±0.09, h10km, n9, σ1.9778/10, mb4.2/4, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**0.44 277**		Pg	Pg	13 39 29.6	-4.1
LSA				Sg	**Sg**	**13 39 38.3**	**-1.3**
LSA				smax	smax		
	comp=N,1μm,0.5s						
LSA				smax	smax		
	comp=E,3μm,0.5s						
SHL	**Shillong**	**4.07 177**		*e*PKP	**Pn**	**13 40 29.5**	**+2.0**
SHL				*ex*	**Pg**	**13 40 43.0**	**0.0**
SHL				*e*S	**Sg**	**13 41 37.0**	**+1.2**
IMP	**Imphal**	**5.26 157**		*e*PKP	Pn	13 40 49.0	+5.3
CMAR	**Chiang Mai Arr**	**12.97 148**		Pn	**Pn**	**13 42 26.9**	**-2.6**
	comp=E,0.1nm,0.3s,baz=327,slow=13,SNR=2.7						
MKAR	**Makanchi Array**	**18.60 339**		P	**Pn**	**13 43 45.0**	**+2.5**
	baz=139,slow=11,SNR=3.7						
SONM	**Songino Array**	**21.43 28**		P	**P**	**13 44 13.6**	**+0.5**
	comp=E,0.4nm,0.6s,baz=209,slow=12,SNR=6.3						
CN2	**Changchun**	**30.31 53**		*e*P	**P**	**13 45 36.4**	**-0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
WRA	**Warramunga Arr**	**64.21 135**		P	**P**	**13 49 59.4**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=326,slow=6.5,SNR=7.9						
ASAR	**Alice Springs**	**66.78 138**		P	**P**	**13 50 15.6**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=325,slow=6.9,SNR=8.7						

SKHL 03 13:39:34.3±0.8, 52.66N×136.19E, h22km±1km, mb4.0/5, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRNR	**Gornyy**	**1.90 176**		*e*Pn	Pn	13 40 06.0	+0.6
GRNR				*e*Pg	Pb	13 40 08.8	+0.5
GRNR				AMB	AMB	13 40 11.2	
	70nm,0.2s						
GRNR				AMB	AMB	13 40 11.2	
	50nm,0.2s						
GRNR				AMB	AMB	13 40 11.2	
	90nm,0.2s						
GRNR				*e*Sn	Sb	13 40 30.2	-1.4
GRNR				*e*Sg	Sn	13 40 33.0	+4.3
EKMR	**Ekimchan**	**2.01 283**		*e*Pn	Pn	13 40 06.3	-0.6
EKMR				*e*Pg	Pb	13 40 09.5	-0.6
EKMR				AMB	AMB	13 40 10.7	
	48nm,0.5s						
EKMR				pPg		13 40 12.7	
EKMR				*e*Sn	Sn	13 40 30.7	-0.6
EKMR				*e*Sg	Sb	13 40 35.1	+0.4
EKMR				A	A	13 40 38.5	
	280nm,0.5s						
EKMR				A	A	13 40 38.5	
	200nm,0.5s						
EKMR				A	A	13 40 38.5	
	270nm,0.5s						
NKL	**Nikolayevsk**	**2.76 78**		*e*Pg	Pb	13 40 23.5	+0.6
NKL				AMB	AMB	13 40 23.5	
	9.0nm,0.5s						
NKL				AMB	AMB	13 40 23.5	
	26nm,0.5s						
NKL				AMB	AMB	13 40 23.5	
	43nm,0.5s						
NKL				pPg	Pn	13 40 29.5	+12
NKL				*e*Sg	Sb	13 40 58.6	+2.3
NKL				A	A	13 41 04.1	
	130nm,0.4s						
TYV	**Tymovskoe**	**4.40 112**		*e*rx	rx	13 41 02.8	
TYV				*e*Sg	Sb	13 41 53.0	+10
TYV				A	A	13 42 02.9	
	14nm,0.8s						
BMKR	**Bomnak**	**4.83 298**		*e*Pn	Pn	13 40 48.0	+2.4
BMKR				*e*Pg	Pb	13 41 02.8	+4.7
BMKR				pPg		13 41 10.0	
BMKR				AMB	AMB	13 41 11.1	
	12nm,0.6s						
BMKR				*e*Sg	Sb	13 42 05.7	+10
BMKR				A	A	13 42 15.0	
	53nm,0.5s						
BMKR				A	A	13 42 15.0	
	50nm,0.5s						
YASR	**Yasnyy**	**5.00 281**		*e*Pn	Pn	13 40 47.8	-0.2
YASR				*e*Pg	Pb	13 41 05.6	+4.5
YASR				*e*Sg	Sb	13 42 08.6	+7.9
YASR				A	A	13 42 12.5	
	53nm,0.6s						
YASR				A	A	13 42 12.5	
	30nm,0.6s						
YASR				A	A	13 42 12.5	
	34nm,0.6s						
ZEA	**Zeya**	**5.48 285**		*e*Pg	Pb	13 41 13.5	+4.2
ZEA				*e*Sg	Sb	13 42 25.4	+11
ZEA				A	A	13 42 27.4	
	52nm,0.8s						
ZEA				A	A	13 42 27.4	
	27nm,0.8s						
KROS	**Kirovskiy**	**5.78 292**		*e*Pn	Pn	13 40 58.6	0.0
KROS				*e*Pg	Pb	13 41 19.6	+5.3
KROS				AMB	AMB	13 41 24.1	
	3.0nm,0.6s						
KROS				*e*Sn	Sn	13 42 06.0	+1.8
KROS				*e*Sg	Sb	13 42 34.7	+12
KROS				A	A	13 42 41.0	
	22nm,0.6s						
KROS				A	A	13 42 41.0	
	18nm,0.6s						

*IDC **03** 13:40:52.0±3.3, 23.79S×179.68W, h470km±42km, mb3.5/8, mb1 3.7/9, mb1mx3.4/20, mbtmpg3.6/9, Error ellipse: s-maj=23.0km s-min=19.1km az=15.0*
*ISCJB **03** 13:40:54.4±0.9, 23.9S±0.1×179.7W±0.1, h518km, mb4.0/8, Error ellipse: s-maj=18.3km s-min=13.4km az=169.1*
ISC 03 13:40:56.1±1.3, 24.0S±0.2×179.8W±0.2, h518km, n19, σ1.932/18, mb3.9/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**12.54 38**		P	P	13 43 35.2	-5.3
	3.9nm,0.3s,baz=29,slow=12,SNR=5.2						
PUZ	**Puketiti**	**14.16 186**		*e*PN	**P**	**13 43 58.0**	**+0.9**
URZ	**Urewera**	**14.49 190**		*e*PN	**P**	**13 43 58.6**	**-1.9**
TSZ	**Takapari Road**	**16.44 192**		*e*PN	**P**	**13 44 19.0**	**-1.7**
MRZ	**Motugatainoka R**	**17.10 192**		*e*PN	**P**	**13 44 23.8**	**-3.2**
QRZ	**Quartz Range**	**18.01 199**		PN	**P**	**13 44 36.3**	**+0.9**
THZ	**Tophouse**	**18.77 197**		PN	**P**	**13 44 42.6**	**+0.2**
DSZ	**Denniston Nort**	**19.07 200**		*e*PN	**P**	**13 44 45.8**	**+0.6**
LTZ	**Lake Taylor**	**19.89 197**		*e*PN	**P**	**13 44 51.6**	**-1.0**
RPZ	**Rata Peaks**	**21.09 199**		P	**P**	**13 45 03.4**	**-0.1**
	17nm,0.4s,baz=32,slow=1.7,SNR=24						
FOZ	**Fox Glacier**	**21.38 201**		*e*PN	**P**	**13 45 04.7**	**-1.4**
CTA	**Charters Tower**	**31.68 270**		P	**P**	**13 46 36.0**	**-1.0**
	6.9nm,0.4s,baz=92,slow=12,SNR=19						
STKA	**Stephens Creek**	**34.89 248**		P	**P**	**13 47 04.9**	**+0.9**
	1.9nm,0.5s,baz=94,slow=8.7,SNR=6.4						
ASAR	**Alice Springs**	**42.23 261**		P	**P**	**13 48 04.0**	**+0.2**
	1.6nm,0.5s,baz=94,slow=6.8,SNR=58						
WRA	**Warramunga Arr**	**42.61 266**		P	**P**	**13 48 06.4**	**-0.4**
	4.1nm,0.3s,baz=96,slow=8.4,SNR=192						
FITZ	**Fitzroy Crossi**	**51.03 266**		P	**P**	**13 49 10.9**	**+0.5**
	2.2nm,0.7s,baz=85,slow=12,SNR=2.6						
QSPA	**South Pole Qui**	**66.11 180**		P	**P**	**13 50 52.8**	**+1.3**
	2.0nm,0.7s,baz=211,slow=6.4,SNR=4.7						
TXAR	**Lajitas Array**	**90.29 58**		P	**P**	**13 53 01.5**	**-0.4**
	0.4nm,0.7s,baz=211,slow=6.4,SNR=4.9						
TORD	**Torodi Ar. Bea**	**169.15 188**		PKPab	**PKPab**	**14 01 20.0**	**+0.3**
	0.8nm,1.0s,baz=194,slow=4.4,SNR=3.5						

*DJA **03** 13:49:01, 9.18S×109.72E, h28km, MLv4.0/11*
IDC 03 13:48:56.0±2.4, 8.59S×110.52E, h0km, mb3.6/9, mb1 3.7/9, mb1mx3.7/19, mbtmpg3.6/9, MS2.6/1, Ms1 2.6/1, ms1mx2.2/26, Error ellipse: s-maj=139.1km s-min=16.9km az=51.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**9.83 69**		LR	LR	13 56 16.3	
	comp=Z,34nm,19.3s,baz=275,slow=45						
WRA	**Warramunga Arr**	**25.65 119**		P	P	13 54 27.8	0.0
	0.9nm,0.8s,baz=287,slow=12,SNR=5.6						
ASAR	**Alice Springs**	**26.94 127**		P	P	13 54 40.5	+1.1
	0.3nm,0.5s,baz=296,slow=9.4,SNR=7.8						
CMAR	**Chiang Mai Arr**	**29.21 337**		P	P	13 55 01.3	+1.7
	0.5nm,0.5s,baz=170,slow=8.8,SNR=4.6						
STKA	**Stephens Creek**	**37.00 113**		P	P	13 56 06.4	-1.1
	0.9nm,0.6s,baz=312,slow=8.7,SNR=3.5						
SONM	**Songino Array**	**56.30 357**		P	P	13 58 37.6	-1.0
	0.2nm,0.5s,baz=171,slow=6.3,SNR=3.2						
MKAR	**Makanchi Array**	**60.61 338**		P	P	13 59 09.0	+0.3
	0.7nm,0.5s,baz=147,slow=6.9,SNR=18						
KURBB	**Kurchatov Arra**	**65.18 338**		P	P	13 59 37.3	-1.6
	0.3nm,0.4s,baz=154,slow=5.0,SNR=5.1						
ZALV	**Zalesovo Beam**	**65.98 344**		P	P	13 59 44.1	+0.1
	0.3nm,0.4s,baz=158,slow=8.0,SNR=3.3						
BVAR	**Borovoye Array**	**70.22 336**		P	P	14 00 11.0	+0.2
	0.2nm,0.3s,baz=132,slow=8.4,SNR=3.5						

*BJI **03** 13:57:20.1, 6.82S×130.53E, h144km, mB5.1/27, mb4.8/39*
*MOS **03** 13:57:21.3±1.1, 6.43S×130.06E, h120km, mb4.8/20, Error ellipse: s-maj=15.8km s-min=6.5km az=115.8*
*ISCJB **03** 13:57:25.1±0.5, 6.50S±0.03×130.35E±0.04, h165km±4km, mb4.9/82, Error ellipse: s-maj=7.0km s-min=4.9km az=161.6*
*IDC **03** 13:57:27.5±1.7, 6.45S×130.20E, h163km±15km, mb4.4/19, mb1 4.4/22, mb1mx4.4/24, mbtmp4.4/22, Error ellipse: s-maj=15.6km s-min=10.0km az=75.0*
*DJA **03** 13:57:27, 6.43S×130.22E, h164km, mb5.0/38*
*NEIC **03** 13:57:27.5±0.8, 6.48S×130.14E, h165km±7km, mb5.1/25, Error ellipse: s-maj=8.4km s-min=5.0km az=52.0*
ISC 03 13:57:25.2±0.4, 6.54S±0.05×130.32E±0.05, h149km±2km, n252, σ1.9242/293, mb4.9/81, 16C-20D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.04 348**		P	**Pn**	**13 58 02.5**	**+1.7**
MSAI	**Masohi**	**3.46 336**		P	**Pn**	**13 58 19.1**	**+0.7**
AAI	**Ambon**	**3.54 323**		P	**Pn**	**13 58 20.3**	**+0.9**
FAKI	**Fak Fak**	**4.08 28**		P	**Pn**	**13 58 26.5**	**+0.1**
SWI	**Sorong**	**5.71 9**		P	**Pn**	**13 58 47.3**	**-0.8**
	160nm,0.8s,33μm7.0nm						
LBMI	**Labuha**	**6.50 334**		P	**Pn**	**13 58 58.5**	**-0.1**
	418nm,0.9s,5μm1.6nm						
LUWI	**Luwuk**	**9.30 306**		P	Pn	13 59 45.9	+10
BKSI	**Bulukumba**	**10.21 276**		P	Pn	14 00 03.2	+15
KAPI	**Kappang**	**10.62 278**		P	**Pn**	**13 59 55.0**	**+1.4**
KAPI	**Kappang**	**10.62 278**		P	**Pn**	**13 59 55.0**	**+1.4**
	0.5nm,0.3s,baz=226,slow=10,SNR=3.2						
SPSI	**Sidrap Palu**	**10.81 283**		P	Pn	14 00 04.8	+8.8
MRSI	**Marisa**	**10.89 309**		P	**Pn**	**13 59 58.8**	**+1.8**
	79nm,0.8s,681nm						
TTSI	**Tana Toraja**	**11.02 288**		P	P	14 00 13.2	+5.9
FITZ	**Fitzroy Crossi**	**12.37 201**		*e*P	**Pn**	**14 00 15.5**	**-0.8**
	2.2nm,0.4s						
FITZ				S	Sn	14 02 23.2	-10
FITZ				*e*S	Sn	14 02 23.3	-10
FITZ	**Fitzroy Crossi**	**12.37 201**		*e*P	**Pn**	**14 00 17.3**	**+1.0**
	20nm,0.6s						
FITZ				*e*S	Sn	14 02 22.0	-11
FITZ	**Fitzroy Crossi**	**12.37 201**		P	**Pn**	**14 00 15.6**	**-0.7**
	1.8nm,0.3s,baz=34,slow=14,SNR=19						
FITZ				S	Sn	14 02 23.2	-10
	7.4nm,0.3s,baz=256,slow=23,SNR=8.6						
WRAB	**Tennant Creek**	**13.88 164**		*e*P	**Pn**	**14 00 34.4**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,54nm,0.6s						
WRAB	**Tennant Creek**	**13.88 164**		*e*P	**Pn**	**14 00 34.4**	**-1.3**
	comp=Z,54nm,0.6s						
WRA	**Warramunga Arr**	**13.88 164**		P	**Pn**	**14 00 34.6**	**-1.2**
WRA				S	Sn	14 03 03.4	-6.3
WRA	**Warramunga Arr**	**13.88 164**		P	**Pn**	**14 00 34.6**	**-1.2**
	comp=Z,4.2nm,0.3s,baz=336,slow=14,SNR=117						
WRA				S	Sn	14 03 03.4	-6.3
	comp=Z,14nm,0.3s,baz=342,slow=18,SNR=6.6						
WB2	**Warramunga Arr**	**13.89 164**		*e*P	**Pn**	**14 00 34.6**	**-1.1**
WB2				S	Sn	14 02 52.6	-17
KBKI	**Kotabaru**	**14.46 282**		P	**P**	**14 00 46.2**	**+0.6**
	comp=Z,88nm,1.0s,comp=Z,920nm						
COEN	**Coen**	**14.63 121**		*e*P	**P**	**14 00 47.6**	**+0.1**
	comp=Z,1μm,0.7s						
COEN				*e*S	Sn	14 03 20.0	-7.7
BBKI	**Banjar Baru**	**15.72 280**		P	**P**	**14 01 01.4**	**+1.9**
	comp=Z,701nm,1.0s,comp=Z,7μm						
TSM	**Tawau**	**16.44 311**		P	**Pn**	**14 01 06.7**	**-0.8**
BLJI	**Banyuglugur**	**16.64 265**		P	**Pn**	**14 01 11.7**	**+1.8**
	comp=Z,251nm,0.7s,comp=Z,3μm						
PMG	**Port Moresby**	**16.92 101**		*e*P	**Pn**	**14 01 17.5**	**+4.3**
PMG				S	**S**	**14 04 17.7**	**-3.9**
PMG	**Port Moresby**	**16.92 101**		P	Pn	14 01 18.2	+5.0
	comp=Z,202nm,1.1s						
PMG	**Port Moresby**	**16.92 101**		P	**Pn**	**14 01 17.3**	**+4.1**
	comp=Z,5.2nm,0.3s,baz=298,slow=6.9,SNR=24						
PMG				S	**S**	**14 04 17.7**	**-3.9**
	comp=Z,2.1nm,0.3s,baz=204,slow=21,SNR=6.7						
AS31	**Alice Springs**	**17.38 169**		*e*P	**Pn**	**14 01 21.0**	**+2.3**
ASAR	**Alice Springs**	**17.38 169**		P	**Pn**	**14 01 20.2**	**+1.5**
ASAR				S	**S**	**14 04 29.1**	**-2.2**
ASAR	**Alice Springs**	**17.38 169**		P	**Pn**	**14 01 20.2**	**+1.5**
	comp=Z,5.9nm,0.3s,baz=357,slow=12,SNR=421						
ASAR				S	**S**	**14 04 29.1**	**-2.2**
	comp=Z,2.9nm,0.3s,baz=358,slow=26,SNR=8.6						
MBWA	**Marble Bar**	**17.79 214**		*e*P	**Pn**	**14 01 23.8**	**+0.2**
SDKM	**Sandakan**	**17.83 312**		P	**Pn**	**14 01 24.9**	**+0.6**
SJI	**Sawahan**	**18.45 265**		P	**Pn**	**14 01 31.4**	**-0.2**
	comp=Z,43nm,1.2s						
KKM	**Kota Kinabalu**	**18.82 311**		*e*P	**P**	**14 01 33.2**	**-0.6**
	comp=Z,30nm,0.5s						
KKM	**Kota Kinabalu**	**18.82 311**		P	**P**	**14 01 33.9**	**+0.1**
KKM	**Kota Kinabalu**	**18.82 311**		P	**P**	**14 01 34.1**	**+0.3**
	comp=Z,54nm,0.8s						
PBKI	**Pangkalan Bun**	**18.97 281**		P	**Pn**	**14 01 40.3**	**+2.7**
	comp=Z,196nm,1.1s,comp=Z,2μm						
BTM	**Bintulu**	**19.74 299**		P	**P**	**14 01 44.0**	**+0.4**
STKI	**Sintang**	**19.91 289**		P	**Pn**	**14 01 48.7**	**0.0**
	comp=Z,26nm,1.1s,comp=Z,8μm						
SBUM	**Sibu**	**20.16 296**		P	**P**	**14 01 49.4**	**+1.3**
SBUM	**Sibu**	**20.16 296**		P	**P**	**14 01 49.1**	**+1.1**
	comp=Z,61nm,1.2s,comp=Z,758nm						
CTA	**Charters Tower**	**20.51 133**		P	Pn	14 01 55.4	-0.3
CTA	**Charters Tower**	**20.51 133**		*i*P	Pn	14 01 56.0	+0.3
	comp=Z,31nm,0.9s						
CTA	**Charters Tower**	**20.51 133**		P	Pn	14 01 55.4	-0.3
	comp=Z,34nm,0.7s,baz=316,slow=12,SNR=22						
CTAO	**Charters Tower**	**20.51 133**		*e*P	Pn	14 01 56.1	+0.4
CTAO				pmax	pmax		
	comp=Z,52nm,0.9s						
CTAO	**Charters Tower**	**20.51 133**		*e*P	Pn	14 01 56.0	+0.4
	comp=Z,52nm,0.9s						
KSM	**Kuching**	**21.50 291**		P	**P**	**14 02 02.9**	**+0.4**

KMI pP **pP** 14 05 30.2 +0.3
KMI sP **sP** 14 05 44.3 -2.4
KMI S **S** 14 11 02.0 +1.2
KMI SS SS 14 14 03.5 -7.4
KMI pmax pmax
comp=Z,13nm,0.9s
KMI pmax pmax
comp=Z,160nm,4.7s
KMI LR LR
comp=N,130nm,9.5s
KMI LR LR
comp=E,220nm,7.6s
KMI LR LR
comp=Z,160nm,9.9s
MAT Matsushiro 43.49 9 P **P** 14 05 12.8 -0.9
MJAR Matsushiro Arr 43.49 9 P **P** 14 05 13.1 -0.6
MJAR Matsushiro Arr 43.49 9 P **P** 14 05 13.1 -0.6
comp=Z,5.9nm,0.8s,baz=192,slow=11,SNR=16
KSAR Wonju Array Be 43.81 357 P **P** 14 05 16.9 +0.6
KSRS Korea Array 43.82 357 P **P** 14 05 16.9 +0.6
comp=Z,3.9nm,0.6s,baz=174,slow=9.0,SNR=20
CD2 Chengdu 45.09 327 P **P** 14 05 28.3 +1.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,6.5s
XAN Xi'an 45.16 335 P **P** 14 05 25.7 -1.4
XAN pP **pP** 14 06 00.5 0.0
XAN pmax pmax
comp=Z,4.0nm,1.0s
IMP Imphal 47.16 313 *ex* P 14 05 36.0 -7.0
BJT Baijiatuau 48.13 345 *eP* **P** 14 05 49.9 -0.2
comp=Z,24nm,0.6s
BJI Beijing 48.15 345 P **P** 14 05 50.0 -0.2
BJI pmax pmax
comp=Z,40nm,0.7s
SHL Shillong 49.13 312 *e*PKP **P** 14 05 59.0 +0.8
LZH Lanzhou 49.15 331 *eP* **P** 14 05 58.8 +0.6
LZH pP **pP** 14 06 33.7 +1.7
LZH sP **sP** 14 06 48.5 -0.1
LZH PP **PP** 14 07 54.1 +0.7
LZH *e*S **S** 14 12 52.3 0.0
LZH sS **sS** 14 13 53.4 +2.3
LZH pmax pmax
comp=Z,19nm,1.1s
LZH pmax pmax
comp=Z,190nm,6.7s
LZH LR LR
comp=N,580nm,13.0s
LZH LR LR
comp=E,330nm,8.1s
LZH LR LR
comp=Z,600nm,14.2s
VLA Vladivostok 49.44 2 *i* P **P** 14 05 58.7 -1.3
VLA pmax pmax
comp=Z,27nm,1.2s
CN2 Changchun 50.30 355 *eP* **P** 14 06 06.4 -0.1
CN2 *ep*P **pP** 14 06 38.6 -1.9
CN2 *es*P **sP** 14 06 54.6 -2.4
CN2 PcP **PcP** 14 07 22.9 -0.2
CN2 *e*S **S** 14 13 07.2 -0.4
CN2 *e*SS **SS** 14 16 40.3 -3.1
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,7.0s
USRK Ussuriysk Arra 50.52 2 P **P** 14 06 08.7 +0.6
comp=Z,4.7nm,0.6s,baz=181,slow=6.8,SNR=13
ASAJ Asahikawa 51.62 11 P **P** 14 06 16.7 +0.4
ASAJ Asahikawa 51.62 11 P **P** 14 06 16.7 +0.4
comp=Z,8.7nm,0.8s,baz=82,slow=18,SNR=5.9
LSA Lhasa 52.09 316 P **P** 14 06 20.8 +0.1
LSA Lhasa 52.09 316 *eP* **P** 14 06 20.7 +0.1
LSA pmax pmax
comp=Z,28nm,0.7s
LSA Lhasa 52.09 316 *eP* **P** 14 06 20.7 +0.1
comp=Z,28nm,0.7s
ODAN Odare 53.20 311 *eP* **P** 14 06 28.0 -0.6
comp=Z,105nm,0.6s
ODAN Odare 53.20 311 *eP* **P** 14 06 28.0 -0.6
comp=Z,105nm,0.6s
TAPN Taplejung 53.22 311 *eP* **P** 14 06 28.3 -0.5
comp=Z,96nm,0.4s
TAPN Taplejung 53.22 311 *eP* **P** 14 06 28.3 -0.5
comp=Z,96nm,0.4s
GTA Gaotai 53.73 331 *eP* **P** 14 06 32.3 +0.2
GTA pmax pmax
comp=Z,15nm,0.9s
RAMN Ramite 53.84 310 *eP* **P** 14 06 33.1 -0.2
comp=Z,280nm,0.5s
RAMN Ramite 53.84 310 *eP* **P** 14 06 33.1 -0.2
comp=Z,280nm,0.5s
JIRN Jiri 54.53 311 *eP* **P** 14 06 37.9 -0.5
comp=Z,92nm,0.6s
JIRN Jiri 54.53 311 *eP* **P** 14 06 37.9 -0.5
comp=Z,92nm,0.6s
GUN Gumba 54.89 311 *eP* **P** 14 06 40.5 -0.5
comp=Z,199nm,0.6s
GUN Gumba 54.89 311 *eP* **P** 14 06 40.5 -0.5
comp=Z,199nm,0.6s
PKI Pulchoki 55.07 310 *eP* **P** 14 06 41.3 -1.0
comp=Z,55nm,0.6s
PKI Pulchoki 55.07 310 *eP* **P** 14 06 41.3 -1.0
PKI pmax pmax
comp=Z,55nm,0.6s
PKI Pulchoki 55.07 310 *eP* **P** 14 06 41.3 -1.0
comp=Z,55nm,0.6s
KKN Kakani 55.28 310 *eP* **P** 14 06 43.1 -0.6
comp=Z,76nm,0.6s
KKN Kakani 55.28 310 *eP* **P** 14 06 43.1 -0.6
KKN pmax pmax
comp=Z,76nm,0.6s
KKN Kakani 55.28 310 *eP* **P** 14 06 43.1 -0.6
comp=Z,76nm,0.6s
DMN Daman 55.32 310 *eP* **P** 14 06 43.4 -0.6
comp=Z,76nm,0.6s
DMN Daman 55.32 310 *eP* **P** 14 06 43.4 -0.6
comp=Z,76nm,0.6s
GKN Gorkha 55.88 310 *eP* **P** 14 06 47.3 -0.5
comp=Z,139nm,0.5s
GKN Gorkha 55.88 310 *eP* **P** 14 06 47.3 -0.5
comp=Z,139nm,0.5s
HYB Hyderabad 56.40 296 *i* P **P** 14 06 49.0 -2.6
HYB *e* 14 06 54.5
KOLN Koldanda 56.55 309 *eP* **P** 14 06 52.3 -0.4
KOLN Koldanda 56.55 309 *eP* **P** 14 06 52.3 -0.4
DANN Dangsing 56.72 310 *eP* **P** 14 06 53.4 -0.6
comp=Z,45nm,0.5s
DANN Dangsing 56.72 310 *eP* **P** 14 06 53.4 -0.6
comp=Z,45nm,0.5s
ULN Ulaanbaatar 57.93 342 *eP* **P** 14 07 02.0 +0.2
comp=Z,21nm,0.6s
SONM Songino Array 58.11 341 P **P** 14 07 03.7 +0.6
SONM Songino Array 58.11 341 P **P** 14 07 03.7 +0.6
comp=Z,4.6nm,0.4s,baz=162,slow=7.1,SNR=117
AGRA Agra 60.75 306 *e*PKP **P** 14 07 19.7 -1.7
AGRA AMb AMB 14 07 26.9
comp=Z,34nm,0.3s
POO Poona 60.99 295 *e*PKP **P** 14 07 20.5 -2.8
ZAK Zakamensk 61.34 341 *eP* **P** 14 07 25.3 +0.2
ZAK pmax pmax
comp=Z,3.0nm,1.1s
BISR Bishrakh 61.73 307 *e*PKP **P** 14 07 26.6 -1.4
BISR AMb AMB 14 07 28.1
comp=Z,163nm,1.0s
AYAN Aya Nagar 61.94 307 *e*PKP **P** 14 07 27.9 -1.6
AYAN AMb AMB 14 07 30.0
comp=Z,29nm,1.6s
BHGR Bahadurgarh 62.18 307 *e*PKP **P** 14 07 29.8 -1.2
KUDL Kundal 62.31 306 *e*PKP **P** 14 07 30.0 -1.9
KUDL AMb AMB 14 07 31.1
comp=Z,42nm,0.6s
TLY Talaya 62.34 342 *i* P **P** 14 07 32.6 +0.9
TLY pmax pmax
comp=Z,4.0nm,0.6s
TLY Talaya 62.34 342 *eP* **P** 14 07 32.5 +0.8
comp=Z,4.9nm,0.8s
KHET Khetri 62.83 306 *e*PKP **P** 14 07 34.1 -1.3
KHET AMb AMB 14 07 34.4
comp=Z,27nm,1.3s
KKR Kurukshetra 62.83 308 *e*PKP **P** 14 07 34.7 -0.7
KKR AMb AMB 14 07 35.5
comp=Z,142nm,0.4s
WMQ Urumqi 63.18 327⇑ *i*P **P** 14 07 38.0 +0.5
WMQ pP **PcP** 14 08 14.3 +0.7
WMQ sP **sP** 14 08 26.3 -2.9
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ pmax pmax
comp=Z,340nm,7.2s
MOY Mondy 63.19 340 *eP* **P** 14 07 38.4 +1.0
MOY pmax pmax
comp=Z,23nm,1.8s
PETK Petropavlovsk- 63.79 18 P **P** 14 07 42.3 +1.1
PETK Petropavlovsk- 63.79 18 P **P** 14 07 42.3 +1.1
PETK Petropavlovsk- 63.79 18 P **P** 14 07 42.3 +1.1
comp=Z,6.7nm,0.6s,baz=182,slow=5.5,SNR=16
BOD Bodaibo 65.50 350 *eP* **P** 14 07 51.7 -0.4
BOD pmax pmax
comp=Z,7.0nm,1.0s
KSH Kashi 67.90 317 P **P** 14 08 08.9 +1.0
KSH PcP **PcP** 14 08 37.1 +3.8
KSH pP **pP** 14 08 45.7 +1.8
KSH sP **sP** 14 08 59.7 -0.2
KSH PP **PP** 14 10 42.4 +2.6
KSH S **S** 14 16 52.7 -2.1
KSH ScS **SKSac** 14 17 51.8 -0.5
KSH sS **sS** 14 17 55.7 -1.2
KSH SS **SS** 14 21 18.9 -0.9
KSH pmax pmax
comp=Z,8.0nm,0.7s
KSH pmax pmax
comp=Z,160nm,6.2s
KSH LR LR
comp=N,130nm,6.5s
KSH LR LR
comp=E,280nm,6.5s
KSH LR LR
comp=Z,510nm,7.3s
MK31 Makanchi Array 68.02 327 *i* P **P** 14 08 08.8 +0.4
MK31 pmax pmax
comp=Z,17nm,0.4s
MK31 Makanchi Array 68.02 327 *eP* **P** 14 08 08.7 +0.4
MKAR Makanchi Array 68.02 327 *i* P **P** 14 08 08.8 +0.4
MKAR pmax pmax
comp=Z,26nm,0.4s
MKAR Makanchi Array 68.02 327 P **P** 14 08 08.8 +0.4
MKAR Makanchi Array 68.02 327 P **P** 14 08 08.8 +0.4
comp=Z,26nm,0.4s,baz=114,slow=8.4,SNR=1119
YAK Yakutsk 68.37 360 *eP* **P** 14 08 09.8 -0.4
YAK *e**PP **PcP** 14 08 35.8 +1.2
YAK *e*PPP PPP 14 12 21.0
YAK *e*S **S** 14 17 03.9 +4.7
YAK *e**SS **SKiKP** 14 17 45.4 -3.6
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=N,448nm,5.3s
YAK pmax pmax
comp=Z,1μm,8.4s
YAK pmax pmax
comp=E,1μm,8.4s
YAK smax smax
comp=N,449nm,6.8s
YAK smax smax
comp=E,578nm,7.2s
YAK Yakutsk 68.37 360 *eP* **P** 14 08 10.4 +0.3
comp=E,41nm,0.8s
KZA Kyzart 69.64 319 P **P** 14 08 20.0 +1.0
SNR=19
KZA P **P** 14 08 20.0 +1.0
SNR=19
TKM2 Tokmak 2 69.83 320 P **P** 14 08 20.6 +0.6
SNR=24
TKM2 P **P** 14 08 20.6 +0.6
SNR=24
KBK Karagaybulak 70.11 320 P **P** 14 08 22.5 +0.8
SNR=13
KBK P **P** 14 08 22.5 +0.8
SNR=13
AAK Ala-Archa 70.39 320 P **P** 14 08 24.2 +0.9
AAK Ala-Archa 70.39 320 P **P** 14 08 24.2 +0.9
AAK Ala-Archa 70.39 320 P **P** 14 08 24.3 +0.9
SNR=17
AAK P **P** 14 08 24.3 +0.9
SNR=17
AAK Ala-Archa 70.39 320 P **P** 14 08 24.2 +0.9
comp=E,10nm,0.4s,baz=123,slow=5.2,SNR=54
CHMS Chumysh 70.41 320 P **P** 14 08 23.6 +0.3
SNR=7.2
CHMS P **P** 14 08 23.6 +0.3
SNR=7.2
AML Almayashu 70.67 319 P **P** 14 08 26.2 +0.9
SNR=40
AML P **P** 14 08 26.2 +0.9
SNR=40
USP Ospenovka 70.70 320 P **P** 14 08 25.6 +0.6
SNR=43
USP P **P** 14 08 25.6 +0.6
SNR=43
KBL Kabul 70.71 310 *eP* **P** 14 08 24.5 -1.0
KBL pmax pmax
comp=Z,17nm,0.9s
KBL Kabul 70.71 310 *eP* **P** 14 08 24.5 -1.0
comp=Z,17nm,0.9s
EKS2 Erkin-Say 70.87 319 P **P** 14 08 27.4 +1.2
SNR=17
EKS2 P **P** 14 08 27.4 +1.2
SNR=17
SEY Seymchan 71.30 10‖ *e*P **P** 14 08 29.0 +0.9
ZAA0 Zalesovo Array 71.31 334 *eP* **P** 14 08 27.5 -0.9
ZALV Zalesovo Beam 71.31 334 P **P** 14 08 27.8 -0.6
ZALV Zalesovo Beam 71.31 334 P **P** 14 08 27.8 -0.6
ZALV Zalesovo Beam 71.31 334 P **P** 14 08 27.8 -0.6
comp=Z,7.0nm,0.5s,baz=124,slow=5.3,SNR=41
KURBB Kurchatov Arra 72.29 328 P **P** 14 08 34.3 0.0
comp=Z,12nm,0.5s,baz=131,slow=4.9,SNR=149
KURK Kurchatov 72.29 328 *eP* **P** 14 08 34.2 -0.1
KURK pmax pmax
comp=Z,17nm,0.9s
KURK Kurchatov 72.29 328 *eP* **P** 14 08 34.1 -0.1
comp=Z,17nm,0.9s
NVS Novosibirsk 72.60 334 *eP* **P** 14 08 34.4 -1.6
NVS pmax pmax
comp=Z,23nm,1.6s
NVS pmax pmax
comp=E,6.0nm,1.0s
KK31 Karatay Array 73.20 319 *i* P **P** 14 08 39.9 0.0
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 73.20 319 *eP* **P** 14 08 39.9 0.0
KKAR pmax pmax
comp=Z,14nm,1.0s
KKAR Karatay Array 73.20 319 *eP* **P** 14 08 39.9 0.0
comp=Z,14nm,1.0s
BVAR Borovoye Array 77.84 328 P **P** 14 09 06.1 0.0
BVAR Borovoye Array 77.84 328 P **P** 14 09 06.1 0.0
BVAR Borovoye Array 77.84 328 P **P** 14 09 06.1 0.0
baz=113,slow=8.1
BRVK Borovoye 77.92 328*c i*P **P** 14 09 06.3 -0.2
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 77.92 328 *eP* **P** 14 09 06.3 -0.2
comp=Z,17nm,1.2s
OPO Ambohidratompo 81.46 252 P **P** 14 09 26.2 -0.3
OPO Ambohidratompo 81.46 252 P **P** 14 09 26.2 -0.3
comp=Z,3.1nm,0.3s,baz=110,slow=0.4,SNR=3.9
AB31 Akbulak array 82.35 321 *i* P **P** 14 09 29.8 -0.5
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR Akbulak array 82.35 321 *eP* **P** 14 09 29.8 -0.6
comp=Z,2.9nm,0.5s
SVE Sverdlovsk 84.54 329 *eP* **P** 14 09 41.8 +0.5
SVE pmax pmax
comp=Z,20nm,0.8s
ARU Arti 85.48 328*c i*P **P** 14 09 45.6 -0.5
ARU 14 13 02.2
ARU S **S** 14 20 06.5 +1.6
ARU SS **SS** 14 25 41.7 -2.2
ARU pmax pmax
comp=Z,14nm,1.0s
ARU Arti 85.48 328 *eP* **P** 14 09 45.2 -0.9
comp=Z,11nm,0.9s
ILAR Eielson Array 92.80 25 P **P** 14 10 19.0 -1.4
ILAR Eielson Array 92.80 25 P **P** 14 10 19.0 -1.4
comp=Z,1.0nm,0.7s,baz=265,slow=4.4,SNR=20
OBN Obninsk 97.47 325 *eP* **P** 14 10 40.3 -1.6
OBN pmax pmax
comp=Z,4.0nm,0.7s
BRTR Keskin Array B 99.27 309 P **Pdif** 14 10 48.8 -1.8
comp=Z,0.9nm,1.0s,baz=96,slow=5.0,SNR=4.5
ARCES ARCESS Array B 101.26 340 P **Pdif** 14 10 54.1 -4.4
ARCES ARCESS Array B 101.26 340 P **Pdif** 14 10 54.1 -4.4
comp=Z,9.0nm,1.1s,baz=22,slow=10,SNR=3.6
FINES FINESS Array B 102.51 332 P **Pdif** 14 11 02.7 -1.5
FINES FINESS Array B 102.51 332 P **Pdif** 14 11 02.7 -1.5
comp=Z,1.2nm,0.6s,baz=165,slow=5.8,SNR=3.2
YKA Yellowknife Ar 107.20 26 PKiKP **PKiKP** 14 15 33.8 +0.4
YKA PKiKPbc **PKKPbc** 14 26 49.6 -3.1
YKA Yellowknife Ar 107.20 26 PKiKP **PKiKP** 14 15 33.7 +0.4
comp=Z,0.7nm,0.6s,baz=296,slow=1.6,SNR=18
YKA PKKPbc **PKKPbc** 14 26 49.6 -3.1
comp=Z,0.3nm,0.6s,baz=114,slow=3.1,SNR=5.6
GERES GERESS Array B 112.27 320 PKiKP **PKiKP** 14 15 43.7 +0.2
GERES GERESS Array B 112.27 320 PKiKP **PKiKP** 14 15 43.7 +0.2
comp=Z,0.7nm,0.5s,baz=100,slow=1.1,SNR=6.6
A17A Triple J Farms 113.73 39⇑P **PKiKP** 14 15 47.2 +0.9
baz=114
F17A Fitzpatrick Pl 114.68 42⇓P PKPdf 14 15 49.5 +1.2
baz=115
B20A Solberg Farm, 115.57 39⇓P **PKPdf** 14 15 50.6 +0.8
baz=116
M17A Scullys Gap (B 115.90 47⇓P **PKPdf** 14 15 51.0 +0.2
baz=116
BW06 Boulder Array 116.34 45⇑P **PKPdf** 14 15 52.1 +0.4
baz=116
PDAR Pinedale Array 116.34 45 PKP **PKPdf** 14 15 52.8 +1.1
PDAR Pinedale Array 116.34 45 PKP **PKPdf** 14 15 52.8 +1.1
comp=Z,0.5nm,0.7s,baz=236,slow=1.6,SNR=4.7
C21A Desert Coulee 116.37 39⇑P **PKPdf** 14 15 52.0 +0.7
baz=116
G20A Bridger 116.52 42⇓P **PKPdf** 14 15 53.2 +1.4
baz=117
A22A Carney Farms, 116.67 38⇓P **PKPdf** 14 15 53.1 +1.2
baz=117
T17A Navajo Res., N 116.87 52⇓P **PKPdf** 14 15 53.4 +0.6
baz=117
D22A Cohagen 117.19 40⇓P **PKPdf** 14 15 53.8 +0.9
baz=117
B23A Brockton 117.44 38⇓P **PKPdf** 14 15 54.2 +0.9
baz=118
C23A Lambert 117.57 39⇑P **PKPdf** 14 15 54.5 +0.9
baz=118
J22A Midwest 118.29 44⇑P **PKPdf** 14 15 55.8 +0.6
baz=118
S21A Coal Bank Pass 119.04 50⇑P **PKPdf** 14 15 58.9 +1.8
baz=119
S22A 4UR Ranch, Cre 119.75 50⇑P **PKPdf** 14 16 00.1 +1.6
baz=120
220A Playas Peak, P 119.78 57⇓P **PKPdf** 14 15 58.9 +0.4
baz=120
Z22A Elephant Butte 120.78 55⇑P **PKPdf** 14 16 01.6 +1.3
baz=121
Y24A Capitan 121.85 54⇑P **PKPdf** 14 16 04.1 +1.6
baz=122
ULM Lac du Bonnet 121.89 33 PKP **PKPdf** 14 15 60.0 -1.8
ULM Lac du Bonnet 121.89 33 PKP **PKPdf** 14 15 60.0 -1.8
comp=Z,2.1nm,0.5s,baz=323,slow=5.4,SNR=5.9
S26A Kim 122.33 49⇓P **PKPdf** 14 16 04.3 +1.0
baz=122
MNTX Cornudas Mount 122.44 57⇓P **PKPdf** 14 16 04.8 +1.4
baz=122
R27A Eads 122.62 48⇓P **PKPdf** 14 16 05.0 +1.3
baz=123
W26A Owens Ranch, T 122.87 52⇓P **PKPdf** 14 16 05.7 +1.4
baz=123
425A Indio Mountain 122.98 58⇓P **PKPdf** 14 16 05.7 +1.1
baz=123
527A Woodward Ranch 124.28 58⇑P **PKPdf** 14 16 08.5 +1.3
baz=124
427A Hayter Ranch, 124.29 57⇓P **PKPdf** 14 16 08.7 +1.6
baz=124
TXAR Lajitas Array 124.42 59 PKP **PKPdf** 14 16 08.4 +1.1
TXAR Lajitas Array 124.42 59 PKP **PKPdf** 14 16 08.4 +1.1
comp=Z,0.7nm,0.9s,baz=171,slow=2.4,SNR=4.4
528A Cox Ranch, San 124.97 58⇑P **PKPdf** 14 16 09.5 +1.1
baz=125
JCT Junction City 127.38 56⇑P **PKPdf** 14 16 14.1 +1.1
baz=128
TORD Torodi Ar. Bea 129.03 282 PKP **PKPdf** 14 16 15.9 -0.6
TORD SKP SKPdf 14 19 22.3 -16
TORD Torodi Ar. Bea 129.03 282 PKP **PKPdf** 14 16 15.9 -0.6
comp=Z,8.9nm,1.0s,baz=228,slow=32,SNR=22
TORD SKP SKPdf 14 19 22.3 -16
comp=Z,2.4nm,0.9s,baz=75,slow=3.1,SNR=9.4
PLCA Paso Flores 129.20 160 SKP **SKPdf** 14 19 32.9 -4.9
PLCA Paso Flores 129.20 160 SKP **SKPdf** 14 19 32.9 -4.9
comp=Z,3.1nm,0.6s,baz=225,slow=16,SNR=11
SCHQ Schefferville 129.91 13 PKP **PKPdf** 14 16 17.4 +0.5
SCHQ SKP SKPdf 14 19 24.6 -14
SCHQ Schefferville 129.91 13 PKP **PKPdf** 14 16 17.4 +0.5
comp=Z,0.9nm,0.5s,baz=281,slow=16,SNR=4.5
SCHQ SKP SKPdf 14 19 24.6 -14
comp=Z,11nm,0.8s,baz=8.0,slow=4.1,SNR=18
DBIC Dimbokro 135.49 273 PKP **PKPdf** 14 16 30.3 +1.7
DBIC SKPbc **SKPbc** 14 19 44.4 -1.9
DBIC Dimbokro 135.49 273 PKP **PKPdf** 14 16 30.3 +1.7
comp=Z,2.6nm,0.6s,baz=49,slow=1.1,SNR=5.7
DBIC SKPbc **SKPbc** 14 19 44.4 -1.9
comp=Z,3.0nm,0.8s,baz=252,slow=2.9,SNR=4.8
CFAA Coronel Fontan 138.13 156 SKPbc **SKPbc** 14 19 53.4 -0.3
CFAA Coronel Fontan 138.13 156 SKPbc **SKPbc** 14 19 53.4 -0.3
comp=Z,0.4nm,0.8s,baz=222,slow=7.0,SNR=4.9
LPAZ La Paz 150.88 141 *e*PKPbc **PKPbc** 14 17 04.0 +2.1

ISCJB ***03*** *13:59:14.7±0.5, 40.51N±0.03×34.11E±0.04, h7km±5km, Error ellipse: s-maj=6.2km s-min=4.2km az=43.0*
ISK ***03*** *13:59:14.5, 40.51N×34.10E, h10km, MD2.9*
DDA ***03*** *13:59:14.2, 40.50N×34.14E, h7km, MD3.0*
CSEM ***03*** *13:59:14.8±0.1, 40.51N×34.11E, h8km, MD2.9, Error ellipse: s-maj=3.8km s-min=2.9km az=47.0*

ISC 03 13:59:14.6±1.0, 40.52N±0.03×34.12E±0.03, h10km±10km, n31,σ0965/42, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CANT	**Cankiri**	**0.39**	**283**	*e*PG		**Pg**	**13 59 22.3**	**-0.1**
CANT				*e*SG		**Sg**	**13 59 28.6**	**+1.0**
CORM	**Corum**	**0.52**	**131**	*e*PG		**Pb**	**13 59 25.7**	**-0.2**
CORM				*e*SG		**Sb**	**13 59 32.9**	**-0.5**
CORM	**Corum**	**0.52**	**131**	*e*Pg		**Pb**	**13 59 25.7**	**-0.2**
CORM				*e*Sg		**Sb**	**13 59 32.9**	**-0.5**
CTKT	**Corum**	**0.52**	**78**	*i* P		**Pg**	**13 59 25.6**	**+0.8**
CTKT	**Corum**	**0.52**	**78**	*i* P		**Pg**	**13 59 25.6**	**+0.8**
TOS	**Tosya**	**0.53**	**352**	*e*PG		**Pg**	**13 59 25.2**	**+0.3**
TOS	**Tosya**	**0.53**	**352**	*e*Pg		**Pg**	**13 59 25.2**	**+0.3**
ELDT	**Eldivan**	**0.53**	**267**	*i* P		**Pg**	**13 59 25.1**	**+0.1**
ELDT				*i* S		**Sg**	**13 59 32.9**	**+0.9**
ELDT	**Eldivan**	**0.53**	**267**	*i* P		**Pg**	**13 59 25.1**	**+0.1**
ELDT				*i* S		**Sg**	**13 59 32.9**	**+0.9**
ILGA	**Ilgaz**	**0.62**	**330**	*i* P		**Pg**	**13 59 26.6**	**-0.1**
ILGA				*i* S		**Sg**	**13 59 32.8**	**-2.1**
ILGA	**Ilgaz**	**0.62**	**330**	*i* P		**Pg**	**13 59 26.6**	**-0.1**
ILGA				*i* S		**Sg**	**13 59 32.8**	**-2.1**
CDAG	**Cicekdag**	**0.91**	**168**	*i* P		**Pg**	**13 59 31.5**	**-0.7**
CDAG				*i* S		**Sg**	**13 59 44.2**	**+0.1**
CDAG	**Cicekdag**	**0.91**	**168**	*i* P		**Pg**	**13 59 31.5**	**-0.7**
CDAG				*i* S		**Sg**	**13 59 44.2**	**+0.1**
BYBT	**Boyabat**	**1.07**	**27**	*e*PN		**Pb**	**13 59 35.4**	**+0.1**
BYBT	**Boyabat**	**1.07**	**27**	*e*Pn		**Pb**	**13 59 35.4**	**+0.1**
BALT	**Daday**	**1.16**	**332**	*i* P		**Pb**	**13 59 36.7**	**-0.2**
BALT				*i* S		**Sn**	**13 59 53.3**	**+0.2**
BALT	**Daday**	**1.16**	**332**	*i* P		**Pb**	**13 59 36.7**	**-0.2**
BALT				*i* S		**Sn**	**13 59 53.3**	**+0.2**
LOD	**Lodumlu**	**1.21**	**239**	*e*PN		**Pn**	**13 59 37.8**	**0.0**
LOD	**Lodumlu**	**1.21**	**239**	*e*Pn		**Pn**	**13 59 37.8**	**0.0**
YOZ	**Yozgat**	**1.27**	**133**	*e*PN		**Pn**	**13 59 38.6**	**0.0**
YOZ	**Yozgat**	**1.27**	**133**	*e*Pn		**Pn**	**13 59 38.6**	**0.0**
SAFT	**Safranbolu**	**1.31**	**304**	*e*PN		**Pg**	**13 59 39.7**	**0.0**
SAFT	**Safranbolu**	**1.31**	**304**	*e*Pn		**Pg**	**13 59 39.7**	**0.0**
AFSR	**Afˆar-Bala (A**	**1.34**	**217**	*e*PN		**Pn**	**13 59 39.5**	**0.0**
AFSR	**Afˆar-Bala (A**	**1.34**	**217**	*e*Pn		**Pn**	**13 59 39.5**	**0.0**
DIKM	**Dikmen**	**1.42**	**37**	*e*PN		**Pg**	**13 59 42.0**	**+0.1**
DIKM	**Dikmen**	**1.42**	**37**	*e*Pn		**Pg**	**13 59 42.0**	**+0.1**
MDUB	**Mudurnu**	**2.23**	**270**	*e*PN		**Pn**	**13 59 52.5**	**+0.8**
MDUB	**Mudurnu**	**2.23**	**270**	*e*Pn		**Pn**	**13 59 52.5**	**+0.8**
SULT	**Sultanhani-AKS**	**2.36**	**192**	*e*PN		**Pn**	**13 59 54.2**	**+0.7**
SULT	**Sultanhani-AKS**	**2.36**	**192**	*e*Pn		**Pn**	**13 59 54.2**	**+0.7**

IDC ***03*** *14:03:27.4±1.0, 7.82S×125.56E, h0km, mb4.4/9,*

mb1 4.6/13,mb1mx4.4/19,mbtmp4.4/13,ML4.4/2,MS3.5/6, Ms1 3.5/6,ms1mx3.2/23,Error ellipse: s-maj=29.8km s-min=20.9km az=59.0

*ISCJB **03** 14:03:28.1±0.4,8°.12S±0°.06×125°.52E±0°.08, h26km, mb4.8/23,MS3.4/4, Error ellipse: s-maj=12.9km s-min=6.1km az=153.0*

*NEIC **03** 14:03:32.5±0.3,7°.88S×125°.56E, h35km,mb4.5/4,Error ellipse: s-maj=13.2km s-min=5.6km az=60.0*

*DJA **03** 14:03:37, 7°.58S×125°.40E, h50km, mb4.9/8*

ISC 03 14:03:30.5±0.6, 8°.03S±0°.06×125°.56E±0°.09, h26km, n63, σ1°33/71, mb4.8/23, MS3.3/4, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**6.50**	**297**	*eP*	**Pn**	**14 05 04.5**	**0.0**
	46nm,0.6s						
KAPI				Sn	**Sn**	**14 06 17.2**	**-0.7**
KAPI	**Kappang**	**6.50**	**297**	Pn	**Pn**	**14 05 04.3**	**-0.2**
	9.8nm,0.3s,baz=132,slow=7.4,SNR=21						
KAPI				Sn	**Sn**	**14 06 17.2**	**-0.7**
	4.0nm,0.3s,baz=240,slow=20,SNR=3.7						
KAPI				LR	LR	14 07 43.5	
	comp=Z,3μm,21.8s,baz=64,slow=40						
FITZ	**Fitzroy Crossi**	**10.01**	**180**	Pn	**Pn**	**14 05 55.9**	**+3.2**
FITZ				Sn	**Sn**	**14 07 42.9**	**-1.4**
FITZ	**Fitzroy Crossi**	**10.01**	**180**	Pn	**Pn**	**14 05 55.9**	**+3.2**
	2.2nm,0.3s,baz=11,slow=16,SNR=2.6						
FITZ				Sn	**Sn**	**14 07 42.9**	**-1.4**
	3.7nm,0.3s,baz=43,slow=19,SNR=5.0						
FITZ				LR	LR	14 09 29.2	
	comp=Z,59nm,20.8s,baz=3.8,slow=35						
WRA	**Warramunga Arr**	**14.58**	**145**	Pn	**Pn**	**14 06 58.3**	**+3.1**
WRA				Sn	Sn	14 09 30.5	-5.7
WRA	**Warramunga Arr**	**14.58**	**145**	Pn	**Pn**	**14 06 58.3**	**+3.1**
	baz=320,slow=12,SNR=2.7						
WRA				Sn	Sn	14 09 30.5	-5.7
	1.1nm,0.3s,baz=326,slow=23,SNR=4.9						
ASAR	**Alice Springs**	**17.49**	**154**	P	**P**	**14 07 35.4**	**+1.6**
ASAR				S	**Sn**	**14 10 41.9**	**-4.9**
ASAR	**Alice Springs**	**17.49**	**154**	P	**P**	**14 07 35.4**	**+1.6**
	baz=342,slow=12,SNR=3.6						
ASAR				S	**Sn**	**14 10 41.9**	**-4.9**
	0.3nm,0.3s,baz=319,slow=20,SNR=4.5						
CTA	**Charters Tower**	**23.35**	**123**	LR	LR	14 18 18.7	
	comp=Z,131nm,20.2s,baz=226,slow=38						
NWAO	**Narrogin (SRO)**	**25.95**	**196**	LR	LR	14 20 23.5	
	comp=Z,70nm,20.8s,baz=185,slow=39						
STKA	**Stephens Creek**	**28.03**	**150**	LR	LR	14 22 25.1	
	comp=Z,180nm,19.2s,baz=20,slow=40						
CM31	**Chiang Mai Arr**	**37.18**	**315**	*eP*	**P**	**14 10 41.1**	**+1.3**
CMAR	**Chiang Mai Arr**	**37.18**	**315**	P	**P**	**14 10 40.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**37.18**	**315**	P	**P**	**14 10 40.9**	**+1.1**
	5.5nm,0.8s,baz=143,slow=6.6,SNR=34						
CMAR				LR	LR	14 27 15.7	
	comp=Z,47nm,20.9s,baz=133,slow=39						
CHTO	**Chiang Mai**	**37.42**	**316**	*eP*	**P**	**14 10 42.0**	**+0.2**
	7.0nm,1.0s						
CHTO				*e*		14 10 51.1	
MJAR	**Matsushiro Arr**	**45.90**	**14**	P	**P**	**14 11 50.0**	**-1.0**
MJAR	**Matsushiro Arr**	**45.90**	**14**	P	**P**	**14 11 50.0**	**-1.0**
	2.8nm,0.9s,baz=193,slow=9.8,SNR=7.3						
ODAN	**Odare**	**50.72**	**315**	*eP*	**P**	**14 12 28.7**	**+0.1**
	11nm,0.6s						
ODAN	**Odare**	**50.72**	**315**	*eP*	**P**	**14 12 28.7**	**+0.1**
	11nm,0.6s						
TAPN	**Taplejung**	**50.79**	**315**	*eP*	**P**	**14 12 28.9**	**-0.3**
	18nm,0.9s						
TAPN	**Taplejung**	**50.79**	**315**	*eP*	**P**	**14 12 28.9**	**-0.3**
	18nm,0.9s						
RAMN	**Ramite**	**51.33**	**314**	*eP*	**P**	**14 12 33.6**	**+0.4**
	51nm,0.9s						
RAMN	**Ramite**	**51.33**	**314**	*eP*	**P**	**14 12 33.6**	**+0.4**
	51nm,0.9s						
JIRN	**Jiri**	**52.05**	**314**	*eP*	**P**	**14 12 38.2**	**-0.5**
JIRN	**Jiri**	**52.05**	**314**	*eP*	**P**	**14 12 38.2**	**-0.5**
USRK	**Ussuriysk Arra**	**52.31**	**6**	P	**P**	**14 12 38.6**	**-1.3**
	3.1nm,0.7s,baz=145,slow=40,SNR=4.7						
GUN	**Gumba**	**52.42**	**315**	*eP*	**P**	**14 12 41.5**	**+0.1**
	29nm,0.7s						
GUN	**Gumba**	**52.42**	**315**	*eP*	**P**	**14 12 41.5**	**+0.1**
	29nm,0.7s						
PKI	**Pulchoki**	**52.55**	**314**	*eP*	**P**	**14 12 42.3**	**-0.1**
	15nm,0.6s						
PKI	**Pulchoki**	**52.55**	**314**	*eP*	**P**	**14 12 42.3**	**-0.1**
	15nm,0.6s						
KKN	**Kakani**	**52.77**	**314**	*eP*	**P**	**14 12 44.0**	**+0.1**
	20nm,0.9s						
KKN	**Kakani**	**52.77**	**314**	*eP*	**P**	**14 12 44.0**	**+0.1**
	20nm,0.9s						
DMN	**Daman**	**52.79**	**314**	*eP*	**P**	**14 12 44.3**	**+0.2**
	28nm,1.0s						
DMN	**Daman**	**52.79**	**314**	*eP*	**P**	**14 12 44.3**	**+0.2**
	28nm,1.0s						
GKN	**Gorkha**	**53.35**	**314**	*eP*	**P**	**14 12 48.2**	**+0.1**
	28nm,0.7s						
GKN	**Gorkha**	**53.35**	**314**	*eP*	**P**	**14 12 48.2**	**+0.1**
	28nm,0.7s						
KOLN	**Koldanda**	**53.97**	**313**	*eP*	**P**	**14 12 52.9**	**+0.2**
	32nm,0.8s						
KOLN	**Koldanda**	**53.97**	**313**	*eP*	**P**	**14 12 52.9**	**+0.2**
	32nm,0.8s						
DANN	**Dangsing**	**54.19**	**314**	*eP*	**P**	**14 12 54.5**	**+0.1**
	43nm,0.7s						
DANN	**Dangsing**	**54.19**	**314**	*eP*	**P**	**14 12 54.5**	**+0.1**
	43nm,0.7s						
ULN	**Ulaanbaatar**	**58.01**	**345**	*eP*	**P**	**14 13 21.2**	**+0.1**
	2.4nm,0.8s						
SONM	**Songino Array**	**58.15**	**345**	P	**P**	**14 13 20.6**	**-1.5**
SONM	**Songino Array**	**58.15**	**345**	P	**P**	**14 13 20.6**	**-1.5**
	1.1nm,0.7s,baz=169,slow=7.7,SNR=8.9						
PETK	**Petropavlovsk-**	**66.75**	**20**	P	**P**	**14 14 20.6**	**+1.3**
PETK	**Petropavlovsk-**	**66.75**	**20**	P	**P**	**14 14 20.6**	**+1.3**
	3.5nm,0.7s,baz=195,slow=7.8,SNR=2.6						
MK31	**Makanchi Array**	**66.76**	**329**	*eP*	**P**	**14 14 19.4**	**-0.2**
MKAR	**Makanchi Array**	**66.76**	**329**	P	**P**	**14 14 19.4**	**-0.2**
MKAR	**Makanchi Array**	**66.76**	**329**	P	**P**	**14 14 19.4**	**-0.2**
	2.9nm,0.7s,baz=129,slow=7.8,SNR=22						
TKM2	**Tokmak 2**	**68.05**	**323**	P	**P**	**14 14 28.2**	**+0.1**
	SNR=6.0						
TKM2				P	**P**	**14 14 28.2**	**+0.1**
	SNR=6.0						
AAK	**Ala-Archa**	**68.55**	**322**	P	**P**	**14 14 31.0**	**-0.2**
AAK	**Ala-Archa**	**68.55**	**322**	P	**P**	**14 14 31.6**	**+0.4**
	SNR=7.1						
AAK				P	**P**	**14 14 31.6**	**+0.4**
	SNR=7.1						
AAK	**Ala-Archa**	**68.55**	**322**	P	**P**	**14 14 31.0**	**-0.2**
	5.9nm,0.7s,baz=127,slow=5.5,SNR=27						
AML	**Almayashu**	**68.77**	**321**	P	**P**	**14 14 33.6**	**+0.8**
	SNR=9.9						
AML				P	**P**	**14 14 33.6**	**+0.8**
	SNR=9.9						
USP	**Ospenovka**	**68.91**	**322**	P	**P**	**14 14 33.3**	**+0.1**
	SNR=7.7						
USP				P	**P**	**14 14 33.3**	**+0.1**
	SNR=7.7						
EKS2	**Erkin-Say**	**69.01**	**322**	P	**P**	**14 14 34.6**	**+0.7**
	SNR=7.2						
EKS2				P	**P**	**14 14 34.6**	**+0.7**
	SNR=7.2						
ZALV	**Zalesovo Beam**	**70.63**	**336**	P	**P**	**14 14 42.7**	**-0.9**
ZALV	**Zalesovo Beam**	**70.63**	**336**	P	**P**	**14 14 42.7**	**-0.9**
	6.0nm,0.9s,baz=120,slow=5.3,SNR=20						
KURBB	**Kurchatov Arra**	**71.16**	**330**	P	**P**	**14 14 46.4**	**-0.4**
	5.0nm,0.8s,baz=137,slow=5.1,SNR=37						
KURK	**Kurchatov**	**71.17**	**331**	*eP*	**P**	**14 14 46.2**	**-0.6**
	9.2nm,0.9s						
KKAR	**Karatay Array**	**71.27**	**321**	*eP*	**P**	**14 14 47.9**	**+0.2**
BRVK	**Borovoye**	**76.71**	**329**	*eP*	**P**	**14 15 19.2**	**-0.1**
	6.9nm,1.1s						
TORD	**Torodi Ar. Bea**	**124.67**	**280**	PKP	**PKPdf**	**14 22 28.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**124.67**	**280**	PKP	**PKPdf**	**14 22 28.2**	**-0.6**
	0.6nm,1.0s,baz=77,slow=3.2,SNR=2.5						

IDC 03 14:24:55.2±2.7, 0°.56S×132°.81E, h0km, mb3.3/2, mb1 3.4/3,mb1mx3.2/17,mbtmp3.2/3,ML3.2/1,Error ellipse: s-maj=139.8km s-min=26.0km az=74.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.33**	**176**	P	P	14 29 21.4	-0.8
	0.1nm,0.3s,baz=355,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**23.00**	**177**	P	P	14 30 02.4	+0.5
	0.6nm,0.6s,baz=356,slow=12,SNR=17						
MKAR	**Makanchi Array**	**64.55**	**324**	P	P	14 35 34.1	-0.1
	0.2nm,0.7s,baz=133,slow=8.1,SNR=3.4						

MEX 03 14:46:25.1±0.8, 15°.91N×95°.69W, h55km±14km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.42**	**251**	*i* P	Pn	14 46 34.3	-1.6
HUIG				*i* S	Sn	14 46 42.0	-1.6
CMIG	**Matias Romero**	**1.41**	**33**	*i* P	Pn	14 46 46.7	-1.8
CMIG				*e*S	Sn	14 47 04.1	-1.9
VHO	**Vista Hermosa**	**1.53**	**319**	*i* P	Pn	14 46 49.7	-0.7
VHO				*i* S	Sn	14 47 06.5	-3.0
PNIG	**Pinotepa**	**2.39**	**282**	*i* P	Pn	14 46 59.6	-2.2
PNIG				*i* S	Sn	14 47 28.1	-2.0
UTMO	**Huajuapan**	**2.78**	**314**	*i* P	Pn	14 47 05.5	-2.0
UTMO				*i* S	Sn	14 47 37.3	-2.8

*NOU **03** 14:54:11.3±1.0,20°.17S×168°.18E,h10km±999km, MD2.7, ML3.0*

ISC 03 14:54:13.7±3.3, 20°.4S±0°.2×168°.2E±0°.4, h32km, n8, σ0°91/12, mb3.7/3, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**2.10**	**215**	*eP*	**Pn**	**14 54 45.9**	**-0.8**
BAYA				*e*S	**Sn**	**14 55 11.8**	**0.0**
DZM	**Mont Dzumac**	**2.30**	**224**	*eP*	**Pn**	**14 54 48.8**	**-0.8**
DZM				*e*S	**Sn**	**14 55 16.8**	**-0.1**
DZM				AMP		14 55 33.2	
	comp=Z,628nm,2.6s						
LASL	**Noumea**	**2.36**	**220**	*e*S	**Sn**	**14 55 18.6**	**+0.5**
NORM	**Noumea**	**2.39**	**221**	*eP*	**Pn**	**14 54 50.3**	**-0.4**
NORM				*e*S	**Sn**	**14 55 18.8**	**-0.2**
NORM				AMP		14 55 19.9	
	comp=Z,148nm,1.8s						
NOUC	**Port Laguerre**	**2.42**	**226**	*eP*	**Pn**	**14 54 51.0**	**0.0**
NOUC				*e*S	**Sn**	**14 55 19.6**	**0.0**
NOUC				AMP		14 55 34.9	
	comp=Z,36nm,2.5s						
STKA	**Stephens Creek**	**26.37**	**239**	P	**P**	**14 59 49.1**	**+1.9**
	comp=Z,0.9nm,1.0s,baz=38,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**31.73**	**265**	P	**P**	**15 00 33.6**	**-1.4**
	comp=Z,0.1nm,0.4s,baz=93,slow=8.5,SNR=6.1						
ASAR	**Alice Springs**	**31.88**	**258**	P	**P**	**15 00 36.7**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=88,slow=8.1,SNR=21						

*DJA **03** 15:05:35,25°.09S×178°.60W,h309km,mb5.4/19*

*ISCJB **03** 15:05:59.4±0.6,24°.56S±0°.03×179°.77W±0°.06, h497km±7km,mb4.7/51,Error ellipse: s-maj=7.8km s-min=5.2km az=1.7*

*NEIC **03** 15:05:59.5±0.3,24°.46S×179°.66W,mb5.2/24,Error ellipse: s-maj=9.8km s-min=8.1km az=97.0*

NEIC Felt at Suva.

*IDC **03** 15:06:00.0±1.1,24°.46S×179°.81W,h496km±10km, mb4.2/19,mb1 4.3/19,mb1mx4.3/20,mbtmp4.2/19,Error ellipse: s-maj=11.1km s-min=9.2km az=169.0*

*BJI **03** 15:06:00.0,24°.50S×179°.70W,h501km,mB5.1/23, mb4.6/30*

*MOS **03** 15:06:02.5±3.4,24°.49S×179°.80E,h495km,mb5.0/9,Error ellipse: s-maj=14.0km s-min=10.9km az=133.7*

ISC 03 15:06:00.4±0.4, 24°.57S±0°.05×179°.65W±0°.06, h504km±3km, h504km:pP-P,n252,σ1°42/336, mb4.8/51, 32C-12D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.91**	**162**	*eP*	**P**	**15 07 27.5**	**+0.8**
	648nm,0.5s						
MSVF	**Nonsavu**	**7.13**	**342**	*eP*	**P**	**15 07 46.2**	**-2.0**
MSVF				pmax	pmax		
	comp=Z,167nm,0.8s						
MSVF	**Nonsavu**	**7.13**	**342**	*eP*	**P**	**15 07 46.2**	**-2.0**
	comp=Z,168nm,0.8s						
MSVF	**Nonsavu**	**7.13**	**342**	P	**P**	**15 07 46.0**	**-2.3**
	comp=Z,1μm,0.5s						
OUZ	**Omahuta**	**12.12**	**207**	*eP*	**P**	**15 08 42.5**	**+2.5**
	comp=Z,79nm,0.8s						
OUZ	**Omahuta**	**12.12**	**207**	*e*PN	**P**	**15 08 42.7**	**+2.7**
LASL	**Noumea**	**12.89**	**278**	*eP*	**P**	**15 08 49.2**	**+0.8**
AFI	**Afiamalu**	**12.95**	**36**	*eP*	P	15 08 41.9	-7.2
	comp=Z,134nm,0.8s						
AFI				S	S	15 10 57.8	-10
AFI	**Afiamalu**	**12.95**	**36**	P	P	15 08 44.1	-5.1
	comp=Z,8.6nm,0.3s,baz=27,slow=6.8,SNR=14						
AFI				S	S	15 10 57.8	-10
	comp=Z,43nm,0.3s,baz=40,slow=22,SNR=17						
DZM	**Mont Dzumac**	**13.02**	**278**	*eP*	**P**	**15 08 50.4**	**+0.6**
MXZ	**Matakaoa Point**	**13.07**	**187**	*e*PN	**P**	**15 08 48.6**	**-1.4**
MXZ				*e*SN	**S**	**15 11 07.8**	**-2.0**
NOUC	**Port Laguerre**	**13.14**	**278**	*eP*	**P**	**15 08 51.4**	**+0.5**
OTAZ	**Otara**	**13.19**	**199**	*e*PN	**P**	**15 08 53.5**	**+2.2**
PUZ	**Puketiti**	**13.58**	**187**	*e*PN	**P**	**15 08 54.4**	**-1.0**
URZ	**Urewera**	**13.92**	**191**	*eP*	**P**	**15 08 55.8**	**-3.2**
	comp=Z,73nm,0.6s						
URZ	**Urewera**	**13.92**	**191**	*e*PN	**P**	**15 08 56.5**	**-2.5**
URZ				*e*SN	**S**	**15 11 26.9**	**+0.6**
MWZ	**Matawai**	**13.93**	**189**	*e*PN	**P**	**15 08 57.3**	**-1.9**
MWZ				*e*SN	**S**	**15 11 29.7**	**+3.2**
HIZ	**Hauiti**	**14.66**	**197**	*e*PN	**P**	**15 09 08.8**	**+2.0**
NMHZ	**Naumai**	**14.79**	**191**	*e*PN	**P**	**15 09 08.9**	**+0.7**
BKZ	**Black Stump Fm**	**14.91**	**192**	*e*PN	**P**	**15 09 07.1**	**-2.4**
BKZ				*e*SN	**S**	**15 11 42.6**	**-2.8**
WNVZ	**Wahianoa**	**15.25**	**194**	*e*PN	**P**	**15 09 13.1**	**0.0**
PXZ	**Pawanui**	**15.69**	**190**	*e*PN	**P**	**15 09 15.9**	**-1.6**
WAZ	**Wanganui**	**15.80**	**195**	*e*PN	**P**	**15 09 19.4**	**+0.7**
TSZ	**Takapari Road**	**15.88**	**192**	*e*PN	**P**	**15 09 16.9**	**-2.6**
TSZ				*e*SN	**S**	**15 12 00.4**	**-3.3**
PRWZ	**Pori Road**	**16.36**	**192**	*e*PN	**P**	**15 09 23.8**	**-0.7**
MRZ	**Mangatainoka R**	**16.54**	**193**	*e*PN	**P**	**15 09 22.3**	**-4.0**
MRZ				*e*SN	**S**	**15 12 08.5**	**-6.9**
OGWZ	**Otaki Gorge**	**16.77**	**194**	*e*PN	**P**	**15 09 26.5**	**-2.2**
SNZO	**South Karori**	**17.34**	**194**	*eP*	**P**	**15 09 33.0**	**-1.3**
	comp=Z,168nm,0.6s						
QRZ	**Quartz Range**	**17.48**	**200**	PN	**P**	**15 09 35.3**	**-0.3**
NNZ	**Nelson**	**17.59**	**198**	*e*PN	**P**	**15 09 34.5**	**-2.0**
NNZ				*e*SN	**S**	**15 12 30.5**	**-2.6**
THZ	**Tophouse**	**18.23**	**198**	PN	**P**	**15 09 41.8**	**-0.7**
THZ				*e*SN	**S**	**15 12 40.5**	**-3.1**
DSZ	**Denniston Nort**	**18.54**	**200**	PN	**P**	**15 09 45.6**	**+0.2**
KHZ	**Kahutara**	**18.67**	**196**	*eP*	**P**	**15 09 45.8**	**-0.6**
	comp=Z,121nm,0.6s						
KHZ	**Kahutara**	**18.67**	**196**	*e*PN	**P**	**15 09 45.9**	**-0.5**
LTZ	**Lake Taylor**	**19.35**	**198**	*e*PN	**P**	**15 09 51.7**	**-1.0**
WVZ	**Waitaha Valley**	**20.08**	**201**	*e*PN	**P**	**15 09 58.3**	**-1.0**
RPZ	**Rata Peaks**	**20.56**	**199**	*eP*	**P**	**15 10 02.7**	**-0.9**
	comp=Z,123nm,0.6s						
RPZ	**Rata Peaks**	**20.56**	**199**	*e*PN	**P**	**15 10 02.8**	**-0.8**
RPZ	**Rata Peaks**	**20.56**	**199**	P	**P**	**15 10 02.9**	**-0.8**
	comp=Z,124nm,0.6s,baz=237,slow=1.0,SNR=70						
FOZ	**Fox Glacier**	**20.87**	**202**	*e*PN	**P**	**15 10 04.8**	**-1.6**
JCZ	**Jackson Bay**	**21.64**	**203**	*e*PN	**P**	**15 10 13.0**	**-0.5**
ODZ	**Otahua Downs**	**21.89**	**199**	*eP*	**P**	**15 10 14.5**	**-1.1**
	comp=Z,68nm,0.6s						
WKZ	**Wanaka**	**22.21**	**202**	PN	**P**	**15 10 17.0**	**-1.5**
MLZ	**Mavora Lakes**	**22.95**	**202**	*e*PN	**P**	**15 10 25.1**	**-0.1**
HNR	**Honiara**	**24.59**	**304**	P	**P**	**15 10 37.8**	**-2.3**
HNR	**Honiara**	**24.59**	**304**	P	**P**	**15 10 37.8**	**-2.3**
	comp=Z,62nm,0.4s,baz=132,slow=4.5,SNR=6.5						
ARMA	**Armidale**	**26.09**	**251**	*eP*	**P**	**15 10 54.5**	**+1.1**
	comp=Z,17nm,0.7s						
ARMA	**Armidale**	**26.09**	**251**	*i*P	**P**	**15 10 54.7**	**+1.3**
EIDS	**Eidsvold**	**26.52**	**262**	*eP*	**P**	**15 10 57.0**	**-0.2**
	comp=Z,30nm,0.8s						
CNB	**Canberra Magne**	**28.80**	**241**	*i*P	**P**	**15 11 18.2**	**+1.1**
	comp=Z,80nm,0.5s						
CTA	**Charters Tower**	**31.80**	**271**	P	**P**	**15 11 43.3**	**+0.1**
CTA	**Charters Tower**	**31.80**	**271**	*i*P	**P**	**15 11 43.2**	**+0.1**
	comp=Z,41nm,0.4s						
CTA	**Charters Tower**	**31.80**	**271**	P	**P**	**15 11 43.3**	**+0.1**
	comp=Z,45nm,0.4s,baz=95,slow=11,SNR=100						
CTAO	**Charters Tower**	**31.80**	**271**	*eP*	**P**	**15 11 43.0**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,85nm,0.8s						
CTAO	**Charters Tower**	**31.80**	**271**	*eP*	**P**	**15 11 43.0**	**-0.2**
	comp=Z,85nm,0.8s						
TOO	**Toolangi**	**32.36**	**238**	*i*P	**P**	**15 11 48.4**	**+0.7**
	comp=Z,142nm,0.6s						
MOO	**Moorlands**	**32.62**	**229**	*eP*	**P**	**15 11 51.0**	**+1.2**
	comp=Z,169nm,0.6s						
TAU	**Tasmania Unive**	**32.71**	**228**	*eP*	**P**	**15 11 51.4**	**+0.8**
TAU				pmax	pmax		
	comp=Z,41nm,0.6s						
TAU	**Tasmania Unive**	**32.71**	**228**	*eP*	**P**	**15 11 51.4**	**+0.8**
	comp=Z,41nm,0.6s						
TAU	**Tasmania Unive**	**32.71**	**228**	P	**P**	**15 11 51.0**	**+0.4**
	comp=Z,596nm,0.5s,SNR=26						
STKA	**Stephens Creek**	**34.77**	**249**	*eP*	**P**	**15 12 08.5**	**+0.4**
STKA				PcP	**PcP**	**15 14 28.8**	**+1.2**
STKA				S	**S**	**15 17 01.6**	**-0.8**
STKA	**Stephens Creek**	**34.77**	**249**	*i*P	**P**	**15 12 08.6**	**+0.4**
	comp=Z,28nm,0.6s						
STKA				*e*PCP	**PcP**	**15 14 28.6**	**+1.0**
STKA				*e*S	**S**	**15 17 01.4**	**-1.1**
STKA	**Stephens Creek**	**34.77**	**249**	P	**P**	**15 12 08.1**	**0.0**
	comp=Z,30nm,0.6s,baz=92,slow=9.6,SNR=147						
STKA				PcP	**PcP**	**15 14 28.8**	**+1.2**
	comp=Z,7.4nm,0.5s,baz=63,slow=4.3,SNR=4.4						
STKA				S	**S**	**15 17 01.6**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=270,slow=17,SNR=4.3						
PMG	**Port Moresby**	**35.02**	**290**	*eP*	**P**	**15 12 09.4**	**-1.0**
PMG	**Port Moresby**	**35.02**	**290**	P	**P**	**15 12 09.0**	**-1.4**
	comp=Z,54nm,0.8s,baz=101,slow=4.8,SNR=15						
BBOO	**Buckleboo**	**39.48**	**248**	*eP*	**P**	**15 12 46.1**	**-0.7**
	comp=Z,935nm,0.8s						
AS31	**Alice Springs**	**42.24**	**261**	*eP*	**P**	**15 13 08.3**	**-0.7**
ASAR	**Alice Springs**	**42.24**	**261**	P	**P**	**15 13 08.5**	**-0.6**
ASAR				PcP	**PcP**	**15 14 51.5**	**0.0**
ASAR				ScP	**ScP**	**15 17 56.1**	**+2.1**
ASAR				S	**S**	**15 18 51.1**	**-1.7**
ASAR				PKiKP	**PKiKP**	**15 21 53.8**	**-1.5**
ASAR	**Alice Springs**	**42.24**	**261**	P	**P**	**15 13 08.5**	**-0.6**
	comp=Z,19nm,0.5s,baz=96,slow=6.6,SNR=382						
ASAR				PcP	**PcP**	**15 14 51.5**	**0.0**
	comp=Z,3.2nm,0.6s,baz=108,slow=3.9,SNR=6.0						
ASAR				ScP	**ScP**	**15 17 56.1**	**+2.1**
	comp=Z,3.4nm,0.9s,baz=108,slow=4.5,SNR=7.0						
ASAR				S	**S**	**15 18 51.1**	**-1.7**
	comp=Z,2.2nm,0.6s,baz=102,slow=14,SNR=9.0						
ASAR				PKiKP	**PKiKP**	**15 21 53.8**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=97,slow=1.2,SNR=4.1						
WB2	**Warramunga Arr**	**42.67**	**267**	*eP*	**P**	**15 13 11.3**	**-1.1**
WRAB	**Tennant Creek**	**42.67**	**267**	*eP*	**P**	**15 13 11.2**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,55nm,0.8s						
WRAB	**Tennant Creek**	**42.67**	**267**	*eP*	**P**	**15 13 11.2**	**-1.2**
	comp=Z,55nm,0.8s						
WRAB	**Tennant Creek**	**42.67**	**267**	P	**P**	**15 13 11.0**	**-1.5**
	comp=Z,394nm,0.4s,SNR=100						
WRA	**Warramunga Arr**	**42.68**	**267**	P	**P**	**15 13 11.2**	**-1.3**
WRA				PcP	**PcP**	**15 14 52.2**	**-0.9**
WRA				ScP	**ScP**	**15 17 58.8**	**+3.0**
WRA				S	**S**	**15 18 55.3**	**-3.8**
WRA				PKiKP	**PKiKP**	**15 21 54.0**	**-1.7**
WRA	**Warramunga Arr**	**42.68**	**267**	P	**P**	**15 13 11.2**	**-1.3**
	comp=Z,25nm,0.4s,baz=99,slow=8.3,SNR=524						
WRA				PcP	**PcP**	**15 14 52.2**	**-0.9**
	comp=Z,6.2nm,0.8s,baz=98,slow=3.3,SNR=7.6						
WRA				ScP	**ScP**	**15 17 58.8**	**+3.0**
	comp=Z,8.0nm,0.9s,baz=104,slow=3.7,SNR=11						
WRA				S	**S**	**15 18 55.3**	**-3.8**
	comp=Z,5.5nm,0.8s,baz=99,slow=14,SNR=15						
WRA				PKiKP	**PKiKP**	**15 21 54.0**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=98,slow=0.5,SNR=6.1						
FORT	**Forrest**	**46.38**	**250**	*eP*	**P**	**15 13 39.8**	**-1.2**
	comp=Z,146nm,0.6s						
FORT	**Forrest**	**46.38**	**250**	*i*P	**P**	**15 13 39.9**	**-1.0**
	comp=Z,155nm,0.5s						
FORT				*e*PCP	**PcP**	**15 15 06.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**51.10**	**266**	*eP*	**P**	**15 14 15.8**	**-0.4**
	comp=Z,53nm,0.8s						
FITZ				S	**S**	**15 20 54.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**51.10**	**266**	*eP*	**P**	**15 14 15.8**	**-0.4**
	comp=Z,90nm,0.9s						
FITZ				*e*S	**S**	**15 20 55.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**51.10**	**266**	P	**P**	**15 14 15.8**	**-0.4**
	comp=Z,45nm,0.6s,baz=143,slow=4.8,SNR=42						
FITZ				S	**S**	**15 20 54.8**	**-1.3**
	comp=Z,4.4nm,0.8s,baz=302,slow=19,SNR=5.8						
VNDA	**Vanda**

comp=Z,4.9nm,1.2s,baz=217,slow=6.3,SNR=4.1
ENH Enshi 87.09 305 *e*P **P** 15 17 52.5 +0.1
comp=Z,21nm,0.9s
GYA Guiyang 87.36 301⇑ *i*P **P** 15 17 54.0 +0.1
GYA pP **pP** 15 19 46.8 +1.3
GYA sP **sP** 15 20 36.4 -0.3
GYA PP **PP** 15 21 29.1 +1.4
GYA SKS **SKSac** 15 27 32.6 -0.9
GYA S **S** 15 27 51.0 -1.1
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.8s
PLCA Paso Flores 87.57 134 P **P** 15 17 56.1 +1.5
PLCA Paso Flores 87.57 134 P **P** 15 17 56.1 +1.5
comp=Z,1.5nm,0.7s,baz=245,slow=6.8,SNR=4.7
BJI Beijing 87.73 316 P **P** 15 17 55.9 +0.8
BJI pmax pmax
comp=Z,9.0nm,1.1s
XAN Xi'an 89.41 308 P **P** 15 18 03.8 +0.7
XAN S **S** 15 28 10.2 -0.3
XAN pmax pmax
comp=Z,5.0nm,0.8s
T18A Mexican Hat 89.83 49⇑ P **P** 15 18 06.1 +0.9
baz=90
KMI Kunming 89.86 298 P **P** 15 18 05.8 +0.1
KMI pmax pmax
comp=Z,11nm,0.9s
SEY Seymchan 89.99 348⇑ *e*P **P** 15 18 04.8 -0.2
CM31 Chiang Mai Arr 90.06 290 *e*P **P** 15 18 08.0 +1.5
comp=Z,7.2nm,0.9s
CMAR Chiang Mai Arr 90.06 290 P **P** 15 18 07.7 +1.3
CMAR PKKPbc **PKKPbc** 15 35 35.1 +1.2
CMAR Chiang Mai Arr 90.06 290 P **P** 15 18 07.7 +1.3
comp=Z,6.6nm,0.8s,baz=139,slow=3.4,SNR=55
CMAR PKKPbc **PKKPbc** 15 35 35.1 +1.2
comp=Z,0.5nm,0.5s,baz=283,slow=4.3,SNR=4.2
425A Indio Mountain 90.19 56⇓ P **P** 15 18 08.1 +1.2
baz=90
CHTO Chiang Mai 90.21 291 *e*P **P** 15 18 08.0 +0.9
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 90.21 291 *e*P **P** 15 18 08.0 +0.9
comp=Z,9.3nm,0.8s
MNTX Cornudas Mount 90.33 55⇑ P **P** 15 18 08.4 +0.9
baz=90
SRU San Rafael 90.43 47⇓ P **P** 15 18 08.7 +0.7
baz=91
325A Bean Ranch, Si 90.48 56⇓ P **P** 15 18 09.4 +1.0
baz=91
TXAR Lajitas Array 90.52 58 P **P** 15 18 07.8 -0.6
TXAR PKKPbc **PKKPbc** 15 35 34.4 +1.1
TXAR Lajitas Array 90.52 58 P **P** 15 18 07.8 -0.6
comp=Z,1.4nm,0.8s,baz=208,slow=5.1,SNR=11
TXAR PKKPbc **PKKPbc** 15 35 34.4 +1.1
comp=Z,0.4nm,0.6s,baz=93,slow=2.6,SNR=5.4
627A Terlingua Ranc 90.79 58⇓ P **P** 15 18 10.5 +0.8
baz=91
O17A Robinson Place 90.86 46⇑ P **P** 15 18 10.7 +0.8
baz=91
426A McDonald Obser 90.86 57⇓ P **P** 15 18 11.1 +0.9
baz=91
HHC Hu-ho-hao-te 91.12 315 *e*P **P** 15 18 11.5 +0.5
HHC pP **pP** 15 20 04.8 +1.5
HHC sP **sP** 15 20 56.2 +1.9
HHC PP **PP** 15 22 00.4 +3.5
HHC SKS **SKSac** 15 27 52.6 -1.9
HHC S **S** 15 28 23.6 -2.1
HHC sS **sS** 15 31 46.9 +0.2
HHC SS **SS** 15 34 48.9 +3.3
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,210nm,10.4s
628A Black Gap, Mar 91.19 58⇑ P **P** 15 18 11.8 +0.3
baz=91
427A Hayter Ranch, 91.43 57⇓ P **P** 15 18 13.5 +0.9
baz=92
CD2 Chengdu 91.71 303 P **P** 15 18 14.5 +0.6
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.6s
ILAR Eielson Array 92.61 13 P **P** 15 18 16.1 -1.1
ILAR pP **pP** 15 20 09.1 -0.5
ILAR PKKP **PKKPdf** 15 35 26.7 -0.6
ILAR Eielson Array 92.61 13 P **P** 15 18 16.1 -1.1
comp=Z,0.9nm,1.0s,baz=226,slow=5.4,SNR=6.0
ILAR pP **pP** 15 20 09.1 -0.5
comp=Z,1.5nm,1.1s,baz=227,slow=6.2,SNR=5.3
ILAR PKKP **PKKPdf** 15 35 26.7 -0.6
comp=Z,0.2nm,0.4s,baz=348,slow=2.3,SNR=7.7
BILL Bilibino 92.92 355⇓ *e*P **P** 15 18 18.9 +0.4
BILL *e* 15 22 08.2
BILL pmax pmax
comp=Z,5.0nm,1.1s
LZH Lanzhou 94.04 308 *e*P **P** 15 18 25.8 +1.2
LZH pP **pP** 15 20 18.0 +0.9
LZH sP **sP** 15 21 09.2 +1.2
LZH SKS **SKSac** 15 28 10.5 -0.4
LZH *e*S **ScS** 15 28 53.8 +1.6
LZH pmax pmax
comp=Z,12nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.6s
SONM Songino Array 97.82 319 P **P** 15 18 42.1 +0.8
SONM Songino Array 97.82 319 P **P** 15 18 42.1 +0.8
comp=Z,0.3nm,0.7s,baz=151,slow=3.2,SNR=3.5
YKA Yellowknife Ar 100.83 25 PKKPbc PKKPbc 15 35 04.6 -2.1
YKA Yellowknife Ar 100.83 25 PKKPbc PKKPbc 15 35 04.6 -2.2
comp=Z,0.6nm,0.5s,baz=40,slow=2.5,SNR=13
ZALV Zalesovo Beam 112.67 320 PKIKP **PKiKP** 15 23 37.3 -1.6
ZALV Zalesovo Beam 112.67 320 PKiKP **PKiKP** 15 23 37.2 -1.6
ZALV Zalesovo Beam 112.67 320 PKiKP **PKiKP** 15 23 37.2 -1.6
comp=Z,1.0nm,0.3s,baz=25,slow=1.2,SNR=9.3
MK31 Makanchi Array 112.84 312 *e*PKIKP **PKiKP** 15 23 37.9 -1.5
MK31 Makanchi Array 112.84 312 *e*PKiKP **PKiKP** 15 23 37.9 -1.5
MKAR Makanchi Array 112.84 312 PKIKP **PKiKP** 15 23 38.0 -1.5
MKAR Makanchi Array 112.84 312 PKiKP **PKiKP** 15 23 38.0 -1.5
MKAR PKKPbc **PKKPbc** 15 34 29.4 +0.2
MKAR Makanchi Array 112.84 312 PKiKP **PKiKP** 15 23 38.0 -1.5
comp=Z,0.8nm,0.4s,baz=80,slow=0.2,SNR=21
MKAR PKKPbc **PKKPbc** 15 34 29.4 +0.2
comp=Z,0.5nm,0.6s,baz=275,slow=2.0,SNR=8.1
KURK Kurchatov 115.91 316 *i* PKIKP **PKPdf** 15 23 44.3 -0.8
KSH Kashi 115.91 304 *e*PKP **PKPdf** 15 23 48.7 +3.0
KSH PP PP 15 25 06.7 +7.5
KSH sPKP 15 26 28.8
KSH PKS **PKSdf** 15 27 24.9 +2.4
KSH SKS **SKSdf** 15 30 14.8 +4.9
KSH SKKS **SKKSac** 15 31 08.7 +1.5
KSH AMB AMB
comp=Z,140nm,7.1s
BDFB Brasilia 118.17 125 PKiKP **PKPdf** 15 23 50.1 -0.6
BDFB Brasilia 118.17 125 PKiKP **PKPdf** 15 23 50.1 -0.6
comp=Z,1.6nm,0.4s,baz=135,slow=4.3,SNR=3.0
KBL Kabul 120.43 297 *e*PKIKP **PKPdf** 15 23 53.5 -1.2
KBL Kabul 120.43 297 *e*PKPdf **PKPdf** 15 23 53.5 -1.2
KKAR Karatay Array 120.52 307 *e*PKIKP **PKPdf** 15 23 53.3 -1.0
KKAR Karatay Array 120.52 307 *e*PKPdf **PKPdf** 15 23 53.3 -1.0
BRVK Borovoye 121.22 318⇓ *i* PKIKP **PKPdf** 15 23 54.6 -0.7
BOSA Boshof 121.94 206 PKP **PKPdf** 15 23 58.3 +0.6
BOSA Boshof 121.94 206 PKP **PKPdf** 15 23 58.3 +0.6
comp=Z,4.4nm,0.7s,baz=269,slow=5.1,SNR=7.7
ARU Arti 127.61 323 *i* PKIKP **PKPdf** 15 24 07.3 -0.1
ARU 15 26 49.1
ABKAR Akbulak array 127.90 314 *e*PKPdf **PKPdf** 15 24 08.0 -0.2
ARCES ARCESS Array B 132.61 348 PKP **PKPdf** 15 24 15.2 -1.4
ARCES SKPbc **SKPbc** 15 26 56.4 0.0
ARCES ARCESS Array B 132.61 348 PKP **PKPdf** 15 24 15.2 -1.4
comp=Z,3.8nm,0.8s,baz=84,slow=2.8,SNR=15
ARCES SKPbc **SKPbc** 15 26 56.4 0.0
comp=Z,6.4nm,0.8s,baz=42,slow=3.8,SNR=6.1
FINES FINESS Array B 139.18 341 PKPpre PKPpre 15 24 20.1
FINES PKP **PKPdf** 15 24 28.7 -0.2
FINES SKPbc **SKPbc** 15 27 17.2 +0.7
FINES FINESS Array B 139.18 341 PKhKP PKPpre 15 24 20.1
comp=Z,2.2nm,0.7s,baz=45,slow=3.0,SNR=7.6
FINES PKP **PKPdf** 15 24 28.7 -0.2
comp=Z,3.1nm,0.7s,baz=54,slow=3.5,SNR=8.7
FINES SKPbc **SKPbc** 15 27 17.2 +0.7
comp=Z,5.7nm,0.7s,baz=40,slow=3.4,SNR=11
NB2 NORSAR Subarra 142.79 351 PKP **PKPdf** 15 24 31.9 -3.6
comp=Z,2.4nm,0.8s,baz=13,slow=3.1
NOA NORSAR Array B 142.79 351 PKPpre PKPpre 15 24 32.0
NOA SKPbc **SKiKP** 15 27 26.4 -0.5
NOA NORSAR Array B 142.79 351 PKhKP PKPpre 15 24 32.0
comp=Z,3.8nm,0.8s,baz=9.4,slow=2.3,SNR=12
NOA SKPbc **SKiKP** 15 27 26.4 -0.5
comp=Z,4.3nm,0.9s,baz=13,slow=4.2,SNR=5.9
IDID Didziasalis 143.66 335 *e*P PKPbc 15 24 36.2 +0.3
IDID AMB AMB 15 24 36.8
comp=Z,7.7nm,0.7s
IDID Didziasalis 143.66 335 *e*P PKPbc 15 24 36.2 +0.3
IDID AMB AMB 15 24 36.8
comp=Z,7.7nm,0.7s
ISAL Salakas 143.71 335 *e*P PKPbc 15 24 36.4 +0.4
ISAL AMB AMB 15 24 37.0
comp=Z,12nm,0.9s
ISAL Salakas 143.71 335 *e*P PKPbc 15 24 36.4 +0.4
ISAL AMB AMB 15 24 37.0
comp=Z,12nm,0.9s
IIGN Ignalina 143.84 335 *e*P PKPab 15 24 36.8 +0.3
IIGN AMB AMB 15 24 37.4
comp=Z,18nm,1.0s
IIGN Ignalina 143.84 335 *e*P PKPab 15 24 36.8 +0.3
IIGN AMB AMB 15 24 37.4
comp=Z,18nm,1.0s
ANN Anapa 143.85 313 *i* PKHKP PKPbc 15 24 35.4 -1.4
ANN pmax pmax
comp=Z,69nm,1.0s
NACGM Naroch 143.95 334 *e*P PKPbc 15 24 33.0 -3.8
AKASG Malin Array Be 145.71 327 PKPbc **PKPdf** 15 24 41.0 +0.3
AKASG SKPbc **SKiKP** 15 27 33.8 +0.7
AKASG Malin Array Be 145.71 327 PKPbc **PKPdf** 15 24 41.0 +0.3
comp=Z,2.4nm,0.3s,baz=43,slow=3.9,SNR=29
AKASG SKPbc **SKiKP** 15 27 33.8 +0.7
comp=Z,5.2nm,0.7s,baz=45,slow=2.5,SNR=12
AKBB Malin Array Si 145.71 327 *e*PKPdf **PKPdf** 15 24 41.0 +0.2
KIEV Kiev 145.72 327 *e*PKPdf **PKPdf** 15 24 41.0 +0.2
SUW Suwalki 146.01 336 *e*PKP **PKPbc** 15 24 42.5 -0.5
SUW Suwalki 146.01 336 *e*PKP **PKPbc** 15 24 42.5 -0.5
SUW Suwalki 146.01 336 *e*PKPdf **PKPdf** 15 24 41.4 +0.3
BR131 Keskin Array S 148.23 306 *e*PKPbc **PKPbc** 15 24 48.9 -0.7
BR131 *e*PKPab **PKPab** 15 24 54.2 -0.3
BRTR Keskin Array B 148.23 306 PKPbc **PKPbc** 15 24 48.8 -0.9
BRTR Keskin Array B 148.23 306 PKPbc **PKPbc** 15 24 48.8 -0.9
comp=Z,6.0nm,0.6s,baz=139,slow=4.4,SNR=31
BEL Belsk 148.61 335 *e*PKP **PKPbc** 15 24 50.1 +0.2
BEL Belsk 148.61 335 *e*PKP **PKPbc** 15 24 50.1 +0.2
TLCR 149.14 319⇑ *i*P **PKPbc** 15 24 49.9 -1.5
KWP Kalwaria Pacla 149.51 331 *e*PKP **PKPbc** 15 24 52.3 0.0
KWP Kalwaria Pacla 149.51 331 *e*PKP **PKPbc** 15 24 52.3 0.0
KWP Kalwaria Pacla 149.51 331 *e*PKPbc **PKPbc** 15 24 51.9 -0.3
KWP Kalwaria Pacla 149.51 331⇑ *i*P **PKPbc** 15 24 50.8 -1.4
CFR Carcaliu 149.55 319⇑ *i*P **PKPbc** 15 24 52.4 0.0
TESR 149.63 323⇑ *i*P **PKPbc** 15 24 53.2 +0.6
CSS Prodhromos 149.68 298 *e*PKPbc **PKPbc** 15 24 52.6 -0.6
BURAR Bucovina Array 149.70 326⇑ *i*P **PKPbc** 15 24 52.9 0.0
VRI Vrincioaia 149.97 322⇑ *i*P **PKPbc** 15 24 52.8 -0.7
KOLS Kolonicke sedl 150.21 330 *e*PKP **PKPbc** 15 24 54.1 +0.2
OJC Ojcow 150.28 334 *e*PKPbc **PKPbc** 15 24 53.1 -0.9
UZH Uzhgorod 150.42 330 *e*PKIKP **PKPdf** 15 24 51.4 +2.9
UZH *i* 15 24 54.4
CRVS Cervenica-Dubn 150.60 331 *e*PKIKP **PKPbc** 15 24 54.5 -0.3
CRVS Cervenica-Dubn 150.60 331 *e*PKP **PKPbc** 15 24 54.5 -0.3
TRPA Tarpa 150.67 329⇑ *i*P **PKPbc** 15 24 54.8 -0.1
NIE Niedzica 150.70 333 *e*PKiKP **PKPbc** 15 24 55.0 0.0
NIE Niedzica 150.70 333 *i* PKIKP **PKPbc** 15 24 55.4 +0.4
SECR 150.84 321⇓ *i*P **PKPbc** 15 24 55.6 +0.1
KSP Ksiaz 151.03 339 *e*PKP **PKPbc** 15 24 55.9 +0.2
KSP Ksiaz 151.03 339 *e*PKP **PKPbc** 15 24 55.9 +0.2
KSP Ksiaz 151.03 339 *e*PKIKP **PKPbc** 15 24 55.7 0.0
VOIR 151.17 322 PKIKP **PKPbc** 15 24 55.7 -0.6
VOIR 151.17 322⇑ *i*P **PKPbc** 15 24 55.7 -0.6
OKC Ostrava-Krasne 151.22 336 *e*PKIKP **PKPbc** 15 24 56.1 -0.1
OKC *e* 15 25 06.8
OKC Ostrava-Krasne 151.22 336⇓ *e*PKP **PKPbc** 15 24 56.1 -0.1
OKC *e*PKPAB **PKPab** 15 25 06.8 +0.4
UPC Upice 151.41 339 *e*PKIKP **PKPbc** 15 24 56.6 0.0
UPC Upice 151.41 339⇓ *e*PKP **PKPbc** 15 24 56.6 0.0
DPC Dobruska-Polom 151.44 338 *e*PKIKP **PKPbc** 15 24 56.8 +0.1
DPC *e* 15 25 08.1
DPC Dobruska-Polom 151.44 338⇓ *e*PKP **PKPbc** 15 24 56.8 +0.1
DPC *e*PKPAB **PKPab** 15 25 08.1 +0.7
MORC Moravsky Berou 151.49 336 *e*PKIKP **PKPbc** 15 24 56.6 -0.3
MORC Moravsky Berou 151.49 336 *e*PKPbc **PKPbc** 15 24 56.6 -0.3
MORC Moravsky Berou 151.49 336⇓ *i*P **PKPbc** 15 24 56.9 0.0
DRGR 151.52 327 PKIKP **PKPbc** 15 24 56.8 -0.3
DRGR 151.52 327⇑ *i*P **PKPbc** 15 24 56.8 -0.3
CLL Collm 151.59 343⇓ *i* PKIKP **PKPbc** 15 24 56.5 -0.4
CLL *i* 15 25 07.4
CLL pmax pmax
comp=Z,241nm,0.7s
CLL pmax pmax
comp=Z,6.0nm,0.9s
BRG Berggiesshubel 151.72 342 *i* PKIKP **PKPbc** 15 24 57.1 -0.2
BRG *i* 15 25 08.4
BRG pmax pmax
comp=Z,13nm,0.5s
BRG pmax pmax
comp=Z,11nm,1.1s
PVCC Panska Ves 151.84 341 *e*PKIKP **PKPbc** 15 24 57.6 +0.1
PVCC Panska Ves 151.84 341⇑ *e*PKP **PKPbc** 15 24 57.6 +0.1
VYHS Vyhne 152.03 333 *e*PKIKP **PKPbc** 15 24 57.4 -0.7
VYHS Vyhne 152.03 333 *e*PKP **PKPbc** 15 24 57.3 -0.8
VRAC Vranov 152.22 337⇑ *i*P **PKPab** 15 25 10.6 -0.1
PRU Pruhonice 152.33 340 *e*PKIKP **PKPbc** 15 24 58.2 -0.4
PRU Pruhonice 152.33 340⇓ *e*PKP **PKPbc** 15 24 58.2 -0.4
GZR Gura Zlata 152.43 324 PKIKP **PKPbc** 15 24 58.5 -0.6
GZR Gura Zlata 152.43 324⇑ *i*P **PKPbc** 15 24 58.5 -0.6
BZS Buzias 152.88 326 PKIKP **PKPbc** 15 24 59.7 -0.3
BZS Buzias 152.88 326⇑ *i*P **PKPbc** 15 24 59.7 -0.3
ZST Bratislava 152.96 335 *e*PKIKP **PKPbc** 15 24 58.7 -1.4
ZST Bratislava 152.96 335 *e*PKP **PKPbc** 15 24 58.7 -1.4
KHC Kasperske Hory 153.38 340 *e*PKIKP **PKPbc** 15 25 00.5 -0.5
KHC *e* 15 25 14.4
KHC Kasperske Hory 153.38 340⇑ *e*PKP **PKPbc** 15 25 00.5 -0.5
KHC *e*PKPAB **PKPab** 15 25 14.4 -1.2
GERES GERESS Array B 153.59 340 PKP **PKPdf** 15 24 52.6 -0.7
GERES PKPbc **PKPbc** 15 25 00.4 -1.2
GERES PKPab **PKPab** 15 25 16.1 -0.5
GERES GERESS Array B 153.59 340 PKP **PKPdf** 15 24 52.6 -0.7
comp=Z,0.2nm,0.3s,baz=46,slow=2.8,SNR=2.8
GERES PKPbc **PKPbc** 15 25 00.4 -1.2
comp=Z,1.2nm,0.6s,baz=45,slow=2.5,SNR=8.2
GERES PKPab **PKPab** 15 25 16.1 -0.5
comp=Z,0.3nm,0.2s,baz=50,slow=2.1,SNR=4.4
CONA Conrad Observa 153.65 336⇑ *i* PKiKP **PKPbc** 15 25 01.4 -0.3
comp=Z,1.6nm,0.5s
BCLA Clavier 153.91 353 PKP **PKPdf** 15 24 54.2 +0.7
DOU Dourbes 154.31 354 PKP **PKPdf** 15 24 53.1 -1.0
DBIC Dimbokro 161.51 163 PKP **PKPdf** 15 25 02.8 -1.1
DBIC PKPab **PKPab** 15 25 52.3 +0.7
DBIC Dimbokro 161.51 163 PKP **PKPdf** 15 25 02.8 -1.1
comp=Z,1.3nm,0.6s,baz=158,slow=2.5,SNR=3.1
DBIC PKPab **PKPab** 15 25 52.3 +0.7
baz=174,slow=9.0,SNR=6.8
TORD Torodi Ar. Bea 168.56 187 PKP **PKPdf** 15 25 07.6 -2.1
TORD PKPab **PKPab** 15 26 22.2 -0.4
TORD Torodi Ar. Bea 168.56 187 PKP **PKPdf** 15 25 07.6 -2.1
comp=Z,3.4nm,0.9s,baz=292,slow=0.7,SNR=14
TORD PKPab **PKPab** 15 26 22.2 -0.4
comp=Z,6.4nm,0.6s,baz=168,slow=3.3,SNR=4.1

NIED ***03*** *15:22:00.3±0.4s 38.40N×143.20E, h26km, Mw3.9 Best double couple: M0 7.23000×10^14 NP1: φ=21.00000°, δ=62.00000°, λ=95.00000°. NP2: φ=192.00000°, δ=29.00000°, λ=82.00000°.*
JMA ***03*** *15:22:44.5±0.1, 38.44N×143.21E, h18km±3km, M4.3*
JMA Felt I J1.
IDC ***03*** *15:23:00.5±3.2, 38.12N×142.22E, h122km±28km, mb3.3/7, mb1 3.4/9, mb1mx3.3/24, mbtmp3.3/9, Error ellipse: s-maj=29.7km s-min=17.5km az=78.0*
ISC 03 15:22:44.0±2.8, 38.48N±0.07×143.15E±0.09, h5km±15km, n22, σ=0.9s 90/25, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**1.30**	**298**	P		P	**Pg**	**15 23 08.8**	**-0.2**
OFUJ				S		S	**Sb**	**15 23 25.8**	**-0.3**
JIO	**Ouri**	**1.42**	**269**	P		P	**Pn**	**15 23 10.3**	**-0.2**
JIO				S		S	**Sb**	**15 23 28.5**	**-0.8**
JMK	**Ichinoseki**	**1.58**	**288**	P		P	**Pn**	**15 23 13.0**	**+0.2**
JOM	**Ohasama**	**1.75**	**305**	P		P	**Pn**	**15 23 15.6**	**+0.5**
JOU	**Okura**	**1.96**	**267**	P		P	**Pn**	**15 23 18.5**	**+0.6**
JMM	**Marumori**	**1.96**	**252**	P		P	**Pn**	**15 23 17.7**	**-0.2**
JMM				*e*S		S	**Sn**	**15 23 42.2**	**-0.7**
JFK	**Kawauchi**	**2.12**	**239**	P		P	**Pn**	**15 23 19.8**	**-0.4**
JRG	**Rokugo**	**2.17**	**296**	P		P	**Pn**	**15 23 21.6**	**+0.8**
JYK	**Kaneyama**	**2.23**	**282**	P		P	**Pn**	**15 23 22.7**	**+1.1**
JANG	**Nango**	**2.27**	**327**	P		P	**Pn**	**15 23 22.3**	**0.0**
JFT	**Otama**	**2.42**	**247**	P		P	**Pn**	**15 23 25.2**	**+0.9**
JFT				*e*S		S	**Sn**	**15 23 54.9**	**+0.5**
JYS	**Shirataka**	**2.44**	**265**	P		P	**Pn**	**15 23 25.5**	**+0.9**
MJAR	**Matsushiro Arr** 2.8nm,0.3s,baz=58,slow=9.1,SNR=25	**4.38**	**245**	P		P	**Pn**	**15 23 53.1**	**+1.8**
MAT	**Matsushiro**	**4.38**	**245**	P		P	**Pn**	**15 23 53.3**	**+2.0**
MAT				S		S	**Sb**	**15 24 53.6**	**-1.1**
USRK	**Ussuriysk Arra** 0.2nm,0.3s,baz=111,slow=13,SNR=6.7	**10.14**	**308**	P		P	Pn	15 25 19.1	+8.9
SONM	**Songino Array** 0.7nm,0.5s,baz=97,slow=8.5,SNR=8.5	**28.17**	**301**	P		P	**P**	**15 28 38.5**	**+1.1**
ZALV	**Zalesovo Beam** 0.8nm,0.6s,baz=98,slow=6.0,SNR=4.6	**41.98**	**311**	P		P	**P**	**15 30 36.3**	**+0.5**
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=80,slow=10,SNR=9.3	**44.53**	**301**	P		P	**P**	**15 30 56.5**	**-0.1**
ILAR	**Eielson Array** 0.5nm,0.9s,baz=242,slow=7.1,SNR=3.5	**47.53**	**33**	P		P		15 31 28.6	+8.6
WRA	**Warramunga Arr** 0.8nm,0.5s,baz=7.4,slow=7.0,SNR=10	**58.70**	**190**	P		P	**P**	**15 32 42.4**	**-0.3**
ASAR	**Alice Springs** 0.2nm,0.8s,baz=21,slow=8.1,SNR=4.2	**62.43**	**190**	P		P	**P**	**15 33 07.2**	**-0.9**
AKASG	**Malin Array Be** 1.3nm,0.6s,baz=45,slow=6.0,SNR=4.9	**73.99**	**323**	P		P	**P**	**15 34 19.7**	**-0.7**

BJI ***03*** *15:37:18.9, 0.86S×133.01E, h35km, mB4.9/17, mb4.7/23, Ms4.8/11, Ms7 4.6/10*
IDC ***03*** *15:37:20.5±0.8, 0.19S×132.69E, h0km, mb4.2/8, mb1 4.4/10, mb1mx4.2/19, mbtmp4.3/10, ML4.3/2, MS3.5/6, Ms1 3.4/6, ms1mx3.1/22, Error ellipse: s-maj=40.5km s-min=14.7km az=72.0*
ISCJB ***03*** *15:37:23.2±0.3, 0.25S±0.04×132.70E±0.07, h32km, mb4.5/38, MS3.9/6, Error ellipse: s-maj=10.4km s-min=4.8km az=168.9*
MOS ***03*** *15:37:24.3±1.1, 0.27S×132.60E, h40km, mb4.5/16, Error ellipse: s-maj=24.6km s-min=8.3km az=114.4*
NEIC ***03*** *15:37:25.6±0.3, 0.28S×132.58E, h35km, mb4.8/16, Error ellipse: s-maj=12.0km s-min=4.3km az=68.0*
DJA ***03*** *15:37:30, 0.46S×132.47E, h91km, MLv4.6/7*
ISC 03 15:37:25.0±0.5, 0.37S±0.05×132.75E±0.10, h32km, n99, σ=1.9s 62/118, mb4.6/38, MS3.6/6, 1C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.57**	**252**	P		P	**Pn**	**15 37 47.8**	**-2.9**
FAKI	**Fak Fak**	**2.58**	**191**	P		P	**Pn**	**15 38 07.2**	**+2.6**
MSAI	**Masohi**	**4.83**	**232**	P		P	Pn	15 38 38.8	+3.3
BNDI	**Bandanaira**	**5.01**	**215**	P		P	**Pb**	**15 38 50.7**	**-1.3**
LBMI	**Labuha**	**5.26**	**267**	P		P	Pn	15 38 45.8	+4.4
AAI	**Ambon** 241nm,1.3s,2μm1.0nm	**5.62**	**234**	P		P	**Pn**	**15 38 48.3**	**+1.9**
LUWI	**Luwuk** 59nm,1.3s	**10.00**	**266**	P		P	Pn	15 39 51.6	+5.0
KAPI	**Kappang** comp=Z,58nm,19.7s,baz=286,slow=36	**13.78**	**250**	LR		LR		15 45 36.0	
COEN	**Coen**	**16.99**	**143**	*e*P		P	**P**	**15 41 22.6**	**+0.5**
FITZ	**Fitzroy Crossi** 9.2nm,0.9s	**18.95**	**201**	P		P	**Pn**	**15 41 44.3**	**-0.2**
FITZ	**Fitzroy Crossi** 0.6nm,0.3s,baz=39,slow=12,SNR=10.0	**18.95**	**201**	P		P	**Pn**	**15 41 44.3**	**-0.2**
FITZ	comp=Z,88nm,18.2s,baz=30,slow=37			LR		LR		15 49 13.3	
WRAB	**Tennant Creek**	**19.50**	**175**	*e*P		P	**Pn**	**15 41 50.8**	**-0.3**
WRAB	comp=Z,21nm,0.8s			pmax		pmax			
WRAB	**Tennant Creek** comp=Z,21nm,0.8s	**19.50**	**175**	*e*P		P	**Pn**	**15 41 50.8**	**-0.3**
WRA	**Warramunga Arr**	**19.51**	**176**	P		P	**Pn**	**15 41 51.0**	**-0.2**
WRA				S		S	**S**	**15 45 25.4**	**-3.1**
WRA	**Warramunga Arr** comp=Z,0.8nm,0.3s,baz=352,slow=11,SNR=39	**19.51**	**176**	P		P	**Pn**	**15 41 51.0**	**-0.2**
WRA	comp=Z,0.2nm,0.3s,baz=357,slow=20,SNR=4.3			S		S		**15 45 25.4**	**-3.1**
WB2	**Warramunga Ar**	**19.51**	**175**	*e*P		P	**Pn**	**15 41 51.3**	**+0.1**
AS31	**Alice Springs**	**23.18**	**177**	*e*P		P	**P**	**15 42 30.5**	**+1.4**
ASAR	**Alice Springs**	**23.18**	**177**	P		P	**P**	**15 42 30.6**	**+1.4**
ASAR	**Alice Springs** comp=Z,16nm,0.8s,baz=354,slow=10,SNR=132	**23.18**	**177**	P		P	**P**	**15 42 30.6**	**+1.4**
CTA	**Charters Tower**	**23.64**	**147**	P		P	**P**	**15 42 36.5**	**+2.9**
CTA	**Charters Tower** comp=Z,9.9nm,0.9s,baz=337,slow=14,SNR=5.3	**23.64**	**147**	P		P	**P**	**15 42 36.5**	**+2.9**
CTA	comp=Z,139nm,18.3s,baz=337,slow=39			LR		LR		15 52 50.8	
MBWA	**Marble Bar** comp=Z,213nm,1.9s	**24.26**	**211**	P		P	**P**	**15 42 39.1**	**-0.3**
QIZ	**Qiongzhong**	**29.62**	**312**	P		P	**P**	**15 43 27.2**	**-0.5**
QIZ				S		S	**S**	**15 48 19.9**	**-1.4**
QIZ	comp=Z,12nm,1.5s			pmax		pmax			
QIZ	comp=Z,78nm,5.9s			pmax		pmax			
STKA	**Stephens Creek**	**32.43**	**166**	P		P	**P**	**15 43 54.4**	**+2.1**
STKA	**Stephens Creek** comp=Z,3.0nm,0.5s,baz=356,slow=9.5,SNR=12	**32.43**	**166**	P		P	**P**	**15 43 54.4**	**+2.1**
STKA	comp=Z,135nm,19.7s,baz=204,slow=39			LR		LR		15 58 22.8	
GYA	**Guiyang**	**36.66**	**319**	*e*P		P	**P**	**15 44 30.0**	**+0.9**
GYA	comp=Z,10.0nm,0.8s			pmax		pmax			
MJAR	**Matsushiro Arr** comp=Z,84nm,21.7s,baz=0.0,slow=31	**37.08**	**7**	LR		LR		15 56 39.8	
KSRS	**Korea Array** comp=Z,77nm,20.3s,baz=355,slow=32	**37.90**	**354**	LR		LR		15 57 29.0	
CMAR	**Chiang Mai Arr**	**38.13**	**301**	P		P	**P**	**15 44 40.1**	**-1.4**
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.4s,baz=124,slow=6.1,SNR=6.2	**38.13**	**301**	P		P	**P**	**15 44 40.2**	**-1.4**
KMI	**Kunming**	**38.54**	**313**	P		P	**P**	**15 44 43.9**	**-1.2**
KMI				pP		pP	**pP**	**15 44 55.2**	**+0.6**
KMI				sP		sP	**sP**	**15 44 59.8**	**+1.4**
KMI	comp=Z,6.0nm,1.1s			pmax		pmax			
XAN	**Xi'an**	**40.89**	**329**	P		P	**P**	**15 45 01.9**	**-2.5**
XAN				pP		pP	**pP**	**15 45 12.7**	**-1.1**
XAN	comp=Z,35nm,7.0s			pmax		pmax			
XAN	comp=N,170nm,9.2s			LR		LR			
CD2	**Chengdu**	**41.54**	**321**	P		P	**P**	**15 45 10.3**	**+0.5**
CD2	comp=Z,10.0nm,0.5s			pmax		pmax			
CD2	comp=Z,120nm,6.0s			pmax		pmax			
BJT	**Baijiatuau**	**42.96**	**341**	*e*P		P	**P**	**15 45 20.5**	**-0.6**
BJI	**Beijing**	**42.98**	**341**	P		P	**P**	**15 45 20.8**	**-0.4**
BJI	comp=Z,10.0nm,1.3s			pmax		pmax			
CN2	**Changchun**	**44.46**	**352**	*e*P		P	**P**	**15 45 32.7**	**-0.4**
CN2				*e*sP		sP	**sP**	**15 45 46.5**	**0.0**
LZH	**Lanzhou**	**45.15**	**326**	*e*P		P	**P**	**15 45 40.0**	**+1.0**
LZH				pP		pP	**pP**	**15 45 50.3**	**+1.8**
LZH				sP		sP	**sP**	**15 45 54.5**	**+2.1**
LZH				*e*S		S	**S**	**15 52 20.0**	**+3.3**
LZH				sS		sS		15 52 38.2	+5.8
LZH	comp=Z,13nm,1.0s			pmax		pmax			

**PRE 03 15:07:11.7

LZH pmax pmax
comp=Z,110nm,7.8s
LZH LR LR
comp=N,420nm,14.1s
LZH LR LR
comp=E,200nm,10.6s
LZH LR LR
comp=Z,520nm,15.2s
HHC Hu-ho-hao-te 45.33 337 *e*P **P** **15 45 41.6 +1.4**
HHC pP **pP** **15 45 51.6 +1.8**
HHC sP **sP** **15 45 55.0 +1.4**
HHC PP **PP** **15 47 26.7 0.0**
HHC S **S** **15 52 20.6 +1.6**
HHC sS **sS** **15 52 36.1 +1.4**
HHC ScS **ScS** **15 55 33.3 -1.5**
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,86nm,7.7s
HHC LR LR
comp=N,380nm,15.5s
HHC LR LR
comp=E,220nm,14.3s
HHC LR LR
comp=Z,280nm,17.8s
LSA Lhasa 49.65 311 *e*P **P** **15 46 14.6 +0.1**
LSA pmax pmax
comp=Z,6.0nm,1.1s
LSA Lhasa 49.65 311 *e*P **P** **15 46 14.6 +0.1**
comp=Z,6.2nm,1.1s
GTA Gaotai 49.75 327 *e*P P 15 46 18.6 +3.9
GTA pP pP 15 46 22.9 -1.4
GTA sP sP 15 46 26.1 -2.1
GTA pmax pmax
comp=Z,6.0nm,2.4s
TAPN Taplejung 51.28 306 *e*P **P** **15 46 25.5 -1.1**
comp=Z,16nm,1.1s
TAPN Taplejung 51.28 306 *e*P **P** **15 46 25.5 -1.1**
comp=Z,16nm,1.1s
ODAN Odare 51.34 306 *e*P **P** **15 46 25.7 -1.3**
comp=Z,11nm,0.8s
ODAN Odare 51.34 306 *e*P **P** **15 46 25.7 -1.3**
comp=Z,11nm,0.8s
RAMN Ramite 52.02 305 *e*P **P** **15 46 30.5 -1.6**
comp=Z,32nm,1.2s
RAMN Ramite 52.02 305 *e*P **P** **15 46 30.5 -1.6**
comp=Z,32nm,1.2s
JIRN Jiri 52.64 306 *e*P **P** **15 46 35.8 -1.0**
comp=Z,11nm,0.9s
JIRN Jiri 52.64 306 *e*P **P** **15 46 35.8 -1.0**
comp=Z,11nm,0.9s
GUN Gumba 52.99 306 *e*P **P** **15 46 38.3 -1.1**
GUN Gumba 52.99 306 *e*P **P** **15 46 38.3 -1.1**
ULN Ulaanbaatar 52.99 339 *e*P **P** **15 46 38.8 0.0**
comp=Z,14nm,1.3s
SONM Songino Array 53.21 338 P P **15 46 41.0 +0.6**
SONM Songino Array 53.21 338 P P **15 46 41.0 +0.6**
comp=Z,2.3nm,1.1s,baz=149,slow=4.4,SNR=11
PKI Pulchoki 53.24 305 *e*P **P** **15 46 40.2 -1.0**
PKI Pulchoki 53.24 305 *e*P **P** **15 46 40.2 -1.0**
PKI Pulchoki 53.24 305 *e*P **P** **15 46 40.2 -1.0**
KKN Kakani 53.43 306 *e*P **P** **15 46 40.9 -1.6**
KKN Kakani 53.43 306 *e*P **P** **15 46 40.9 -1.6**
KKN Kakani 53.43 306 *e*P **P** **15 46 40.9 -1.6**
DMN Daman 53.50 305 *e*P **P** **15 46 42.0 -1.1**
DMN Daman 53.50 305 *e*P **P** **15 46 42.0 -1.1**
GKN Gorkha 54.03 306 *e*P **P** **15 46 45.2 -1.7**
GKN Gorkha 54.03 306 *e*P **P** **15 46 45.2 -1.7**
KOLN Koldanda 54.79 305 *e*P **P** **15 46 50.9 -1.5**
comp=Z,18nm,0.7s
KOLN Koldanda 54.79 305 *e*P **P** **15 46 50.9 -1.5**
comp=Z,18nm,0.7s
DANN Dangsing 54.88 306 *e*P **P** **15 46 51.2 -2.0**
comp=Z,23nm,0.8s
DANN Dangsing 54.88 306 *e*P **P** **15 46 51.2 -2.0**
comp=Z,23nm,0.8s
ZAK Zakamensk 56.47 338 *e*P **P** **15 47 03.2 -0.7**
ZAK pmax pmax
comp=Z,2.0nm,1.6s
MOY Mondy 58.37 337 *e*P **P** **15 47 18.1 +0.8**
WMQ Urumqi 59.55 324 P P **15 47 25.4 -0.2**
WMQ pP **pP** **15 47 31.1 -4.3**
WMQ sP **sP** **15 47 36.0 -3.2**
WMQ pmax pmax
comp=Z,11nm,1.2s
WMQ pmax pmax
comp=Z,410nm,5.6s
BOD Bodaibo 59.91 349 *e*P **P** **15 47 26.8 -0.9**
BOD pmax pmax
comp=Z,8.0nm,1.3s
YAK Yakutsk 62.29 358 *e*P **P** **15 47 42.9 -0.8**
YAK pmax pmax
comp=Z,18nm,1.1s
YAK Yakutsk 62.29 358 *e*P **P** **15 47 42.7 -1.0**
comp=Z,12nm,0.7s
MK31 Makanchi Array 64.36 324 *e*P **P** **15 47 57.3 -0.5**
MK31 Makanchi Array 64.36 324 *e*P **P** **15 47 57.3 -0.5**
MKAR Makanchi Array 64.36 324 P P **15 47 57.2 -0.6**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 64.36 324 P **P** **15 47 57.2 -0.6**
MKAR Makanchi Array 64.36 324 P P **15 47 57.2 -0.6**
comp=Z,1.3nm,0.5s,baz=111,slow=8.3,SNR=20
KSH Kashi 65.19 315 *e*P **P** **15 48 03.5 0.0**
KSH pP **pP** **15 48 17.7 +4.3**
KSH sP **sP** **15 48 20.7 +3.5**
KSH PcP **PcP** **15 48 38.0 +2.1**
KSH PP PP 15 50 32.0 +4.8
KSH S **S** **15 56 42.2 -2.5**
KSH sS **sS** **15 57 03.2 +2.1**
KSH ScS **SKSac** **15 57 54.5 -2.1**
KSH pmax pmax
comp=Z,140nm,8.1s
KSH LR LR
comp=N,230nm,6.8s
KSH LR LR
comp=E,150nm,6.0s
KSH LR LR
comp=Z,290nm,8.2s
ZAA0 Zalesovo Array 67.00 332 *e*P **P** **15 48 12.7 -2.0**
ZALV Zalesovo Beam 67.00 332 P **P** **15 48 13.3 -1.3**
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 67.00 332 P **P** **15 48 13.3 -1.3**
ZALV Zalesovo Beam 67.00 332 P **P** **15 48 13.3 -1.3**
comp=Z,1.0nm,0.5s,baz=125,slow=6.3,SNR=9.5
NVS Novosibirsk 68.27 332 *e*P **P** **15 48 20.6 -2.0**
KURK Kurchatov 68.44 326 *i*P **P** **15 48 24.0 +0.2**
KURK pmax pmax
comp=Z,11nm,1.2s
KURK Kurchatov 68.44 326 *e*P **P** **15 48 23.2 -0.6**
comp=Z,11nm,1.2s
KBL Kabul 68.78 307 *e*P **P** **15 48 24.6 -2.0**
KBL pmax pmax
comp=Z,3.0nm,0.7s
KBL Kabul 68.78 307 *e*P **P** **15 48 24.6 -2.0**
comp=Z,3.4nm,0.7s
KKAR Karatay Array 70.32 317 *e*P **P** **15 48 34.8 -0.9**
KKAR pmax pmax
comp=Z,1.0nm,0.6s
KKAR Karatay Array 70.32 317 *e*P **P** **15 48 34.8 -0.9**
comp=Z,0.7nm,0.6s
BILL Bilibino 72.09 13 *e*P **P** **15 48 44.5 -1.3**
BILL pmax pmax
comp=Z,3.0nm,1.8s
BRVK Borovoye 74.11 326 *i*P **P** **15 48 57.8 -0.3**
BRVK pmax pmax
comp=Z,7.0nm,1.1s
ABKAR Akbulak array 79.12 320 *e*P **P** **15 49 25.3 -1.2**
comp=Z,2.3nm,0.7s
SVE Sverdlovsk 80.59 328 *e*P **P** **15 49 34.6 +0.3**
SVE pmax pmax
comp=Z,18nm,1.4s
ARU Arti 81.61 327*c* *i*P **P** **15 49 39.8 +0.1**
ARU 15 52 46.7
ARU S **S** **15 59 52.5 +2.9**
ARU SS **SS** **16 05 04.9 -2.2**
ARU pmax pmax
comp=Z,9.0nm,1.4s
ILAR Eielson Array 86.22 25 P **P** **15 50 01.6 -1.6**
ILAR Eielson Array 86.22 25 P **P** **15 50 01.6 -1.6**
comp=Z,0.7nm,0.7s,baz=254,slow=3.8,SNR=8.9
OBN Obninsk 93.85 325 P **P** **15 50 39.1 0.0**
OBN pmax pmax
comp=Z,4.0nm,0.8s

*SZGRF **03** 15:48:49.0,4˚.64S×35˚.31E,h33km,mb5.1,Tanzania*
*PRE **03** 15:48:49.4±2.6,4˚.05S×34˚.94E,h10km,mb4.5*
*MOS **03** 15:48:51.5±1.0,3˚.90S×34˚.88E,h10km,mb5.2/26, MS4.1/5,Error ellipse: s-maj=12.2km s-min=5.9km az=87.8*
*IDC **03** 15:48:51.6±0.6,3˚.88S×34˚.84E,h0km,mb4.5/21, mb1 4.6/22,mb1mx4.5/29,mbtmp4.5/22,ML4.3/1,MS3.9/16, Ms1 4.0/16,ms1mx3.8/28,Error ellipse: s-maj=16.1km s-min=13.5km az=125.0*
*ISCJB **03** 15:48:52.2±0.3,3˚.98S±0˚.04×34˚.81E±0˚.04,h14km, mb4.8/93,MS4.1/23,Error ellipse: s-maj=5.9km s-min=5.0km az=20.2*
*NEIC **03** 15:48:53.4±0.3,3˚.90S×34˚.85E,h10km,mb5.1/35,Error ellipse: s-maj=7.7km s-min=7.4km az=191.0*
NEIC Felt [III] at Haidom and [II] at Arusha, Dar es Salaam, Dodoma and Zanzibar. Also felt at Bukoba, Chanika, Kigoma, Lushoto, Mabama, Morogoro, Namanga, Same and Tabora. Felt [II] at Nairobi, Kenya. Also felt at Eldoret, Gilgil, Homa Bay, Magadi and Mombasa. Felt [II] at Kampala, Uganda. Also felt at Kyotera.

ISC 03 15:48:54.4±0.5,3˚91S±0˚06×34˚86E±0˚04,h17km±2km, n236,σ1°48/261,mb5.0/93,MS4.0/23,30C-3D,Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**3.66**	**41**	*e*	Pn	**Pn**	**15 49 48.3**	**-2.1**
KMBO	**Kilima Mbogo**	**3.66**	**41**	*e*	P	**Pn**	**15 49 48.5**	**-1.9**
KMBO				*e*	S	**Sn**	**15 50 30.1**	**-3.3**
KIG	**Kigali**	**5.16**	**292**	*e*	P	**Pn**	**15 50 10.6**	**-0.6**
KIG				*e*	S	**Sn**	**15 51 08.9**	**-1.6**
MBAR	**Mbarara**	**5.26**	**308**	*e*	P	**Pn**	**15 50 11.0**	**-1.6**
MBAR				*e*	S	**Sn**	**15 51 10.4**	**-2.5**
FURI	**Furi**	**13.28**	**17**	P		Pn	15 52 07.3	+4.7
FURI				S		S	15 55 40.1	+45
BLWY	**Bulawayo**	**17.25**	**200**	*i*	P	**Pn**	**15 52 52.2**	**-2.6**
BLWY				*i*			15 52 52.5	
	baz=15,slow=12							
BLWY				*i*	S	PcP	15 57 43.3	+5.3
ATD	**Arta Tunnel**	**17.27**	**27**	P		**P**	**15 52 58.2**	**+1.7**
ATD				Lg		Lg	15 57 54.3	
ATD	**Arta Tunnel**	**17.27**	**27**	P		**P**	**15 52 58.2**	**+1.7**
	0.6nm,0.3s,baz=236,slow=21,SNR=8.6							
ATD				Lg		Lg	15 57 54.3	
	0.9nm,0.3s,baz=120,slow=20,SNR=3.6							
ATD				LR		LR	15 59 01.1	
	comp=Z,398nm,18.9s,baz=197,slow=35							
OPO	**Ambohidratompo**	**18.92**	**141**	P		**Pn**	**15 53 15.1**	**-0.3**
OPO	**Ambohidratompo**	**18.92**	**141**	P		**Pn**	**15 53 15.1**	**-0.3**
	1.0nm,0.3s,baz=309,slow=13,SNR=30							
ABPO	**Ambohimpanom**	**19.28**	**142**	*e*	P	**Pn**	**15 53 19.2**	**-0.6**
ABPO					pmax	pmax		
	comp=Z,89nm,1.3s							
ABPO	**Ambohimpanom**	**19.28**	**142**	*e*	P	**Pn**	**15 53 19.2**	**-0.6**
	comp=Z,89nm,1.3s							
TRBA	**At Turbah**	**19.35**	**28**	*e*	P	**Pn**	**15 53 22.7**	**+2.1**
LBOS		**20.45**	**30**	*e*	P	Pn	15 53 35.1	+1.2
LBOS				*i*	S	Sn	15 57 24.4	-0.1
DHBB	**Dhamar BB**	**20.65**	**27**	*e*	P	Pn	15 53 36.8	+0.6
DHBB					AMb	AMB	15 53 39.5	
	comp=Z,309nm,1.3s							
DHBB				*i*	S	Sn	15 57 28.6	-0.6
BDHA	**Al Bayda'**	**20.70**	**31**	*e*	P	Pn	15 53 37.4	+0.6
BDHA					AMb	AMB	15 53 39.4	
	comp=Z,330nm,1.7s							
HAJJ	**Hajjah**	**21.32**	**24**	*e*	P	**P**	**15 53 44.2**	**+3.4**
MSKU	**Masuku**	**21.33**	**275**	P		**P**	**15 53 40.5**	**-0.4**
MSKU				Lg		Lg	16 00 06.5	
MSKU	**Masuku**	**21.33**	**275**	P		**P**	**15 53 40.5**	**-0.4**
	comp=Z,99nm,0.8s,baz=99,slow=8.9,SNR=25							
MSKU				Lg		Lg	16 00 06.4	
	baz=188,slow=19							
MSKU				LR		LR	16 01 56.0	
	comp=Z,654nm,18.6s,baz=111,slow=37							
SLR	**Silverton**	**22.60**	**196**	*e*	P	**P**	**15 53 55.9**	**+1.4**
SLR					AMB	AMB	15 54 02.0	
	comp=Z,59nm,5.0s							
TSUM	**Tsumeb**	**22.71**	**227**	P		**P**	**15 53 57.6**	**+1.8**
TSUM				Lg		Lg	16 00 54.9	
TSUM	**Tsumeb**	**22.71**	**227**	P		**P**	**15 53 56.9**	**+1.2**
	comp=Z,2.0nm,0.7s,baz=64,slow=8.3,SNR=3.6							
TSUM				Lg		Lg	16 00 54.9	
	comp=Z,67nm,1.1s,baz=323,slow=20,SNR=3.6							
TSUM				LR		LR	16 02 59.9	
	comp=Z,268nm,21.9s,baz=120,slow=37							
LBTB	**Lobatse**	**22.80**	**202**	*e*	P	**P**	**15 53 55.5**	**-1.1**
LBTB				Lg		Lg	16 00 35.9	
LBTB	**Lobatse**	**22.80**	**202**	P		**P**	**15 53 54.9**	**-1.7**
	comp=Z,28nm,1.1s,baz=50,slow=12,SNR=10.0							
LBTB				Lg		Lg	16 00 35.9	
	comp=Z,70nm,1.1s,baz=122,slow=13,SNR=4.5							
LBTB				LR		LR	16 02 12.9	
	comp=Z,336nm,19.4s,baz=39,slow=35							
LBTB	**Lobatse**	**22.80**	**202**	*e*	P	**P**	**15 53 54.7**	**-1.9**
LBTB					AMB	AMB	15 54 00.5	
	comp=Z,46nm,2.1s							
PRYS	**Parys**	**23.99**	**197**	*e*	P	**P**	**15 54 07.3**	**-1.2**
PRYS					AMB	AMB	15 54 15.4	
	comp=Z,32nm,2.5s							
BOSA	**Boshof**	**26.21**	**199**	*e*	P	**P**	**15 54 28.4**	**-0.3**
	comp=Z,36nm,1.2s							
BOSA				Lg		Lg	16 02 32.3	
BOSA	**Boshof**	**26.21**	**199**	P		**P**	**15 54 28.3**	**-0.3**
	comp=Z,12nm,0.8s,baz=21,slow=12,SNR=9.2							
BOSA				Lg		Lg	16 02 32.3	
	comp=Z,68nm,1.1s,baz=282,slow=1.4,SNR=3.7							
BOSA				LR		LR	16 05 29.9	
	comp=Z,264nm,18.6s,baz=23,slow=38							
BOSA	**Boshof**	**26.21**	**199**	*e*	P	**P**	**15 54 27.5**	**-1.2**
BOSA					AMB	AMB	15 54 30.1	
	comp=Z,48nm,4.8s							
TOA0	**Torodi Ar. Sit**	**37.03**	**298**	*e*	P	**P**	**15 56 02.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**37.03**	**298**	P		**P**	**15 56 03.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**37.03**	**298**	P		**P**	**15 56 03.6**	**-0.2**
	comp=Z,7.5nm,0.9s,baz=104,slow=7.1,SNR=27							
TORD				LR		LR	16 10 41.3	
	comp=Z,304nm,21.6s,baz=115,slow=35							
CSS	**Prodhromos**	**38.69**	**358**	*e*	P	**P**	**15 56 17.6**	**+0.1**
	comp=Z,28nm,1.3s							
TAM	**Tamanrasset**	**39.05**	**314**	*e*	P	**P**	**15 56 22.1**	**+1.2**
TAM					pmax	pmax		
	comp=Z,20nm,1.4s							
TAM	**Tamanrasset**	**39.05**	**314**	*e*	P	**P**	**15 56 22.1**	**+1.2**
	comp=Z,20nm,1.4s							
DBIC	**Dimbokro**	**41.01**	**285**	*e*	P	**P**	**15 56 37.4**	**+0.3**
	comp=Z,23nm,1.3s							
DBIC					PP	**PP**	**15 58 12.4**	**+0.5**
DBIC	**Dimbokro**	**41.01**	**285**	P		**P**	**15 56 37.6**	**+0.4**
	comp=Z,13nm,1.1s,baz=95,slow=9.9,SNR=9.8							
DBIC					PP	**PP**	**15 58 12.4**	**+0.5**
	comp=Z,6.7nm,1.0s,baz=93,slow=7.7,SNR=3.8							
DBIC					LR	LR	16 13 59.4	
	comp=Z,273nm,20.9s,baz=76,slow=37							
LIC	**Lamto**	**41.07**	**284**	*e*	P	**P**	**15 56 36.7**	**-1.0**
	comp=Z,34nm,1.2s,baz=109							
LIC				*e*	R			
	comp=Z,360nm,19.8s							
BRTR	**Keskin Array B**	**43.43**	**359**	P		**P**	**15 56 57.0**	**+0.4**
BRTR					PcP	**PcP**	**15 58 46.0**	**+1.1**
BRTR	**Keskin Array B**	**43.43**	**359**	P		**P**	**15 56 57.0**	**+0.4**
	comp=Z,4.7nm,1.0s,baz=177,slow=9.5,SNR=17							
BRTR					PcP	**PcP**	**15 58 46.0**	**+1.1**
	comp=Z,2.8nm,1.1s,baz=165,slow=5.8,SNR=6.1							
BRTR					LR	LR	16 16 38.2	
	comp=Z,80nm,19.5s,baz=14,slow=38							
BR131	**Keskin Array S**	**43.43**	**359**	*e*	P	**P**	**15 56 56.9**	**+0.3**
	comp=Z,3.1nm,0.8s							
GNI	**Garni**	**44.77**	**11**	P		**P**	**15 57 09.3**	**+1.9**
	comp=Z,8.0nm,1.0s							
KEST	**Kesra**	**46.11**	**331**	P		**P**	**15 57 16.1**	**-1.9**
KEST	**Kesra**	**46.11**	**331**	P		**P**	**15 57 16.1**	**-1.9**
	comp=Z,1.3nm,0.6s,baz=228,slow=17,SNR=2.5							
KEST					LR	LR	16 19 58.5	
	comp=Z,84nm,19.5s,baz=301,slow=40							
ZEI	**Tsey**	**47.18**	**9**	*e*	P	**P**	**15 57 28.5**	**+2.1**
ZEI					pmax	pmax		
	comp=Z,34nm,1.4s							
KIV	**Kislovodsk**	**48.16**	**8**	*e*	P	**P**	**15 57 34.4**	**+0.5**
KIV					pmax	pmax		
	comp=Z,20nm,1.1s							
KIV					MLR	MLR		
	comp=Z,130nm,17.0s							
KIV	**Kislovodsk**	**48.16**	**8**	*e*	P	**P**	**15 57 34.0**	**+0.1**
	comp=Z,20nm,1.0s							
ANN	**Anapa**	**48.54**	**2**	*e*	P	P	15 57 43.5	+6.9
ANN				*e**	PP	pP	15 57 47.5	+5.5
ANN				*e*			15 59 06.8	
ANN				*e*	S	S	16 04 52.9	+16
ANN					pmax	pmax		
	comp=Z,24nm,1.0s							
ANN					MLR	MLR		
	comp=Z,198nm,12.0s							
GZR	**Gura Zlata**	**50.25**	**349**		P	**P**	**15 57 49.5**	**-0.3**
GZR	**Gura Zlata**	**50.25**	**349**	⇓	P	**P**	**15 57 49.5**	**-0.3**
DRGR		**51.61**	**349**		P	**P**	**15 58 01.2**	**+1.2**
DRGR		**51.61**	**349**	⇑	P	**P**	**15 58 01.2**	**+1.2**
PKSM	**Moragy**	**51.93**	**346**	⇑	P	**P**	**15 58 05.0**	**+2.7**
BURAR	**Bucovina Array**	**52.00**	**352**	⇑	P	**P**	**15 58 03.6**	**+0.6**
BUR08	**Bucovina Ar. S**	**52.03**	**352**	*e*	P	**P**	**15 58 03.6**	**+0.4**
GCIS	**Gornji Cirnik**	**52.42**	**343**	*e*	P	P	15 58 09.3	+3.3
BEHE	**Becsehely**	**52.65**	**344**	⇑	P	**P**	**15 58 09.6**	**+1.9**
KOGS	**Kog**	**52.78**	**344**	*e*	P	P	15 58 11.9	+3.3
TRPA	**Tarpa**	**52.93**	**350**	⇑	P	**P**	**15 58 11.7**	**+2.0**
TRPA	**Tarpa**	**52.93**	**350**	⇓	P	**P**	**15 58 11.7**	**+2.0**
GROS	**Grobnik**	**53.00**	**343**	*e*	P	**P**	**15 58 13.6**	**+3.2**
BUD	**Budapest**	**53.03**	**347**	⇑	P	**P**	**15 58 13.3**	**+2.8**
PSZ	**Piszkesteto**	**53.25**	**347**	*e*	P	**P**	**15 58 12.4**	**+0.2**
PSZ					pmax	pmax		
	comp=Z,39nm,1.3s							
PSZ	**Piszkesteto**	**53.25**	**347**	*e*	P	**P**	**15 58 12.4**	**+0.2**
	comp=Z,39nm,1.3s							
PSZ	**Piszkesteto**	**53.25**	**347**	⇓	*i*P	**P**	**15 58 13.0**	**+0.8**
PSZ	**Piszkesteto**	**53.25**	**347**	⇑	P	**P**	**15 58 12.9**	**+0.8**
OBKA	**Obir**	**53.32**	**343**	⇑	*i*P	**P**	**15 58 14.9**	**+2.2**
	comp=Z,37nm,1.5s							
OBKA	**Obir**	**53.32**	**343**	⇑	*i*P	**P**	**15 58 14.9**	**+2.2**
	comp=Z,37nm,1.5s							
SOKA	**Soboth**	**53.33**	**343**	⇑	*i*P	**P**	**15 58 14.1**	**+1.3**
	comp=Z,45nm,1.4s							
SOKA	**Soboth**	**53.33**	**343**	⇑	*i*P	**P**	**15 58 14.1**	**+1.3**
	comp=Z,45nm,1.4s							
UZH	**Uzhgorod**	**53.46**	**350**	*e*	P	**P**	**15 58 15.0**	**+1.4**
KOLS	**Kolonicke sedl**	**53.75**	**350**	*e*	P	**P**	**15 58 17.3**	**+1.5**
KOLS					pmax	pmax		
	comp=Z,1μm,5.6s							
KOLS	**Kolonicke sedl**	**53.75**	**350**	*e*	P	**P**	**15 58 17.3**	**+1.5**
SOP	**Sopron**	**53.83**	**345**	⇑	P	**P**	**15 58 18.8**	**+2.5**
CRVS	**Cervenica-Dubn**	**53.87**	**349**	*e*	P	**P**	**15 58 18.9**	**+2.2**
CRVS					pmax	pmax		
	comp=Z,21nm,1.4s							
CRVS	**Cervenica-Dubn**	**53.87**	**349**	*e*	P	**P**	**15 58 18.9**	**+2.2**
VYHS	**Vyhne**	**54.03**	**347**	*e*	P	**P**	**15 58 19.0**	**+1.2**
VYHS	**Vyhne**	**54.03**	**347**	*e*	P	**P**	**15 58 19.0**	**+1.2**
ZST	**Bratislava**	**54.16**	**345**	*e*	P	**P**	**15 58 20.6**	**+1.8**
ZST					pmax	pmax		
	comp=Z,48nm,2.0s							
ZST	**Bratislava**	**54.16**	**345**	*e*	P	**P**	**15 58 20.6**	**+1.8**
KBA	**Koelnbreinsper**	**54.20**	**342**	⇑	*i*P	**P**	**15 58 20.1**	**+0.8**
KBA					pmax	pmax		
	comp=Z,24nm,1.2s							
KBA	**Koelnbreinsper**	**54.20**	**342**	⇑	*i*P	**P**	**15 58 20.1**	**+0.8**
	comp=Z,24nm,1.2s							
KBA	**Koelnbreinsper**	**54.20**	**342**	⇑	*i*P	**P**	**15 58 20.1**	**+0.8**
	comp=Z,24nm,1.2s							
CONA	**Conrad Observa**	**54.24**	**344**	⇑	*i*P	**P**	**15 58 19.4**	**-0.1**
	comp=Z,35nm,1.3s							
CONA	**Conrad Observa**	**54.24**	**344**	⇑	*i*P	**P**	**15 58 19.4**	**-0.1**
	comp=Z,35nm,1.3s							
MBDF	**Montbardon**	**54.55**	**336**	*e*	P	**P**	**15 58 22.9**	**+1.0**
	comp=Z,34nm,1.2s							
AKASG	**Malin Array Be**	**54.61**	**356**	*c*	eP	**P**	**15 58 21.8**	**-0.1**
AKASG					pmax	pmax		
	comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**54.61**	**356**	P		**P**	**15 58 20.9**	**-1.1**
AKASG	**Malin Array Be**	**54.61**	**356**	P		**P**	**15 58 20.9**	**-1.1**
	comp=Z,2.2nm,0.6s,baz=183,slow=6.7,SNR=13							
MOA	**Molln**	**54.62**	**343**	⇑	*i*P	**P**	**15 58 22.5**	**+0.4**
	comp=Z,39nm,1.3s							
MOA	**Molln**	**54.62**	**343**	⇑	*i*P	**P**	**15 58 22.5**	**+0.4**
	comp=Z,39nm,1.3s							
VORD	**Divnogorie**	**54.79**	**3**	*e*	P	**P**	**15 58 24.4**	**+1.2**
VORD					pmax	pmax		
	comp=N,10.0nm,1.2s							
VORD					pmax	pmax		
	comp=E,9.0nm,1.2s							
VORD					pmax	pmax		
	comp=Z,10.0nm,1.2s							
WTTA	**Wattenberg**	**54.91**	**341**	⇑	*i*P	**P**	**15 58 25.1**	**+0.7**
WTTA					pmax	pmax		
	comp=Z,25nm,1.1s							
WTTA	**Wattenberg**	**54.91**	**341**	⇑	*i*P	**P**	**15 58 25.1**	**+0.7**
	comp=Z,25nm,1.1s							
WTTA	**Wattenberg**	**54.91**	**341**	⇑	*i*P	**P**	**15 58 25.1**	**+0.7**
	comp=Z,25nm,1.1s							
VSR	**Storozhevoye**	**55.03**	**3**	*e*	P	**P**	**15 58 26.2**	**+1.2**
VSR					pmax	pmax		
	comp=N,7.0nm,0.9s							
VSR					pmax	pmax		
	comp=E,3.0nm,0.9s							
VSR					pmax	pmax		
	comp=Z,7.0nm,0.9s							
LPG	**La Plagne**	**55.19**	**336**	*e*	P	**P**	**15 58 27.9**	**+1.3**
	comp=Z,40nm,1.2s							
OKC	**Ostrava-Krasne**	**55.45**	**347**	*e*	P	**P**	**15 58 29.2**	**+1.2**
OKC	**Ostrava-Krasne**	**55.45**	**347**	*e*	P	**P**	**15 58 29.2**	**+1.2**
DAVA	**Damuels**	**55.52**	**340**	⇑	*i*P	**P**	**15 58 27.2**	**-1.6**
	comp=Z,42nm,1.5s							
DAVA	**Damuels**	**55.52**	**340**	⇑	*i*P	**P**	**15 58 27.2**	**-1.6**
	comp=Z,42nm,1.6s							
MORC	**Moravsky Berou**	**55.53**	**346**	P		**P**	**15 58 27.8**	**-0.9**
MORC					pmax	pmax		
	comp=Z,44nm,1.6s							
MORC	**Moravsky Berou**	**55.53**	**346**	P		**P**	**15 58 27.8**	**-0.9**
	comp=Z,44nm,1.6s							
MORC	**Moravsky Berou**	**55.53**	**346**	⇑	*i*P	**P**	**15 58 28.1**	**-0.6**
GERES	**GERESS Array B**	**55.68**	**343**	P		**P**	**15 58 29.6**	**-0.3**
GERES	**GERESS Array B**	**55.68**	**343**	P		**P**	**15 58 29.6**	**-0.3**
	comp=Z,15nm,1.1s,baz=152,slow=6.0,SNR=33							
GERES					LR	LR	16 27 11.6	
	comp=Z,156nm,18.2s,baz=88,slow=41							
KHC	**Kasperske Hory**	**55.97**	**343**	*e*	P	**P**	**15 58 31.6**	**-0.3**
KHC				*e*			15 58 40.2	
KHC	**Kasperske Hory**	**55.97**	**343**	*e*	P	**P**	**15 58 30.3**	**-1.5**
	comp=Z,22nm,1.1s							
KHC	**Kasperske Hory**	**55.97**	**343**	*e*	P	**P**	**15 58 31.6**	**-0.3**
KHC				*ex*		x	15 58 40.2	
KRLC	**Kraliky**	**55.99**	**346**	*e*	P	**P**	**15 58 31.4**	**-0.6**
ESDC	**Sonseca Array**	**56.16**	**324**	P		**P**	**15 58 33.5**	**+0.1**
ESDC	**Sonseca Array**	**56.16**	**324**	P		**P**	**15 58 33.5**	**+0.1**
	comp=Z,12nm,1.0s,baz=136,slow=7.0,SNR=14							
ESDC					LR	LR	16 23 59.6	
	comp=Z,115nm,20.9s,baz=200,slow=38							
DPC	**Dobruska-Polom**	**56.35**	**346**	*e*	P	**P**	**15 58 35.2**	**+0.6**
DPC	**Dobruska-Polom**	**56.35**	**346**	*e*	P	**P**	**15 58 35.2**	**+0.6**
CABF	**La Chapelle**	**56.37**	**337**	*e*	P	**P**	**15 58 36.7**	**+1.9**
	comp=Z,102nm,1.5s							
PRU	**Pruhonice**	**56.48**	**344**	*e*	P	**P**	**15 58 35.6**	**+0.2**
PRU	**Pruhonice**	**56.48**	**344**	*e*	P	**P**	**15 58 35.6**	**+0.2**
ETSF	**Etsaut**	**56.52**	**329**	*e*	P	**P**	**15 58 37.4**	**+1.4**
	comp=Z,37nm,1.1s							
KOLN	**Koldanda**	**56.52**	**53**	*e*	P	**P

NKC	**Novy Kostel**	**57.28**	**343**	*e*P		**P**		**15 58 40.8**	**-0.4**
NKC	**Novy Kostel**	**57.28**	**343**	*e*P		**P**		**15 58 40.8**	**-0.4**
CDF	**Champ du Feu**	**57.40**	**339**	*e*P		**P**		**15 58 43.9**	**+1.8**
	comp=Z,41nm,1.3s								
HAU	**Haudompre**	**57.41**	**338**	*e*P		**P**		**15 58 44.3**	**+2.2**
	comp=Z,49nm,1.2s								
HAU				*e*R					
	comp=Z,127nm,22.0s								
KSH	**Kashi**	**57.42**	**37**	*e*P		**P**		**15 58 41.1**	**-1.4**
KSH				pP		**pP**		**15 58 46.1**	**-1.8**
KSH				sP		**sP**		**15 58 49.4**	**-0.6**
KSH				PcP		**PcP**		**15 59 36.4**	**+0.2**
KSH				PP		PP		16 00 44.6	-5.5
KSH				S		**S**		**16 06 33.3**	**-5.6**
KSH				sS		sS		16 06 42.8	-5.1
KSH				ScS		**ScS**		**16 08 27.2**	**-4.4**
KSH				SS		**SS**		**16 10 22.8**	**-6.1**
KSH				pmax		pmax			
	comp=Z,14nm,1.9s								
KSH				pmax		pmax			
	comp=Z,140nm,7.5s								
KSH				LR		LR			
	comp=N,320nm,6.8s								
KSH				LR		LR			
	comp=E,160nm,6.8s								
KSH				LR		LR			
	comp=Z,380nm,6.9s								
GKN	**Gorkha**	**57.45**	**53**	*e*P		**P**		**15 58 42.5**	**-0.5**
	comp=Z,20nm,0.8s								
GKN	**Gorkha**	**57.45**	**53**	*e*P		**P**		**15 58 42.5**	**-0.5**
	comp=Z,20nm,0.8s								
AVF	**Avril sur Loir**	**57.63**	**335**	*e*P		**P**		**15 58 45.4**	**+1.7**
	comp=Z,38nm,1.3s								
DMN	**Daman**	**57.66**	**54**	*e*P		**P**		**15 58 44.1**	**-0.5**
	comp=Z,19nm,0.9s								
DMN	**Daman**	**57.66**	**54**	*e*P		**P**		**15 58 44.1**	**-0.5**
	comp=Z,19nm,0.9s								
TCF	**Toulx Ste Croi**	**57.74**	**334**	*e*P		**P**		**15 58 46.8**	**+2.3**
	comp=Z,152nm,1.7s								
SSF	**Saint Saulge**	**57.78**	**335**	*e*P		**P**		**15 58 46.9**	**+2.2**
	comp=Z,97nm,1.9s								
LOR	**Lormes**	**57.80**	**336**	*e*P		**P**		**15 58 45.5**	**+0.6**
	comp=Z,65nm,1.5s								
LOR				*e*R					
	comp=Z,198nm,21.5s								
KKN	**Kakani**	**57.88**	**54**	*e*P		**P**		**15 58 45.5**	**-0.5**
KKN	**Kakani**	**57.88**	**54**	*e*P		**P**		**15 58 45.5**	**-0.5**
KKN	**Kakani**	**57.88**	**54**	*e*P		**P**		**15 58 45.5**	**-0.5**
PKI	**Pulchoki**	**57.89**	**54**	*e*P		**P**		**15 58 47.1**	**+0.8**
PKI	**Pulchoki**	**57.89**	**54**	*e*P		**P**		**15 58 47.1**	**+0.8**
PKI	**Pulchoki**	**57.89**	**54**	*e*P		**P**		**15 58 47.1**	**+0.8**
SFTF	**Sexfontaines**	**58.08**	**337**	*e*P		**P**		**15 58 47.9**	**+1.1**
	comp=Z,96nm,1.3s								
CLL	**Collm**	**58.09**	**344**	*e*P		**P**		**15 58 45.0**	**-1.8**
CLL				*e*				15 59 39.0	
CLL				pmax		pmax			
	comp=Z,14nm,1.5s								
CLL	**Collm**	**58.09**	**344**	*e*P		**P**		**15 58 47.0**	**+0.2**
	comp=Z,14nm,1.5s								
CLL				*e*PcP		**PcP**		**15 59 39.0**	**+0.6**
CLL				*e*PPP		PPP		16 02 19.0	
CLL				*e*SS		SS		16 10 24.0	-15
MEZF	**Maizieres J'vi**	**58.31**	**337**	*e*P		**P**		**15 58 50.4**	**+2.0**
	comp=Z,88nm,1.3s								
GUN	**Gumba**	**58.41**	**54**	*e*P		**P**		**15 58 49.7**	**-0.2**
	comp=Z,35nm,0.8s								
GUN	**Gumba**	**58.41**	**54**	*e*P		**P**		**15 58 49.7**	**-0.2**
	comp=Z,35nm,0.8s								
SUW	**Suwalki**	**58.53**	**352**	*e*P		**P**		**15 58 52.3**	**+2.5**
SUW				pmax		pmax			
	comp=Z,144nm,1.3s								
SUW	**Suwalki**	**58.53**	**352**	*e*P		**P**		**15 58 52.3**	**+2.5**
	comp=Z,144nm,1.3s								
JIRN	**Jiri**	**58.56**	**54**	*e*P		**P**		**15 58 50.6**	**-0.4**
	comp=Z,15nm,0.8s								
JIRN	**Jiri**	**58.56**	**54**	*e*P		**P**		**15 58 50.6**	**-0.4**
	comp=Z,15nm,0.8s								
RAMN	**Ramite**	**58.61**	**55**	*e*P		**P**		**15 58 52.8**	**+1.6**
	comp=Z,10nm,0.8s								
RAMN	**Ramite**	**58.61**	**55**	*e*P		**P**		**15 58 52.8**	**+1.6**
	comp=Z,10nm,0.8s								
OBN	**Obninsk**	**58.83**	**1⇑**	*e*P		**P**		**15 58 52.5**	**+0.7**
OBN				pmax		pmax			
	comp=Z,33nm,1.7s								
WLF	**Walferdange**	**58.85**	**339**	P		**P**		**15 58 54.2**	**+2.0**
NACGM	**Naroch**	**58.98**	**355**	*e*		P		15 58 48.0	-4.9
ODAN	**Odare**	**59.22**	**56**	*e*P		**P**		**15 58 56.6**	**+1.1**
	comp=Z,12nm,0.9s								
ODAN	**Odare**	**59.22**	**56**	*e*P		**P**		**15 58 56.6**	**+1.1**
	comp=Z,12nm,0.9s								
MOS	**Moscow**	**59.48**	**2**	*e*P		**P**		**15 58 54.8**	**-1.6**
MOS				*e*				16 01 12.9	
MOS				pmax		pmax			
	comp=Z,90nm,1.6s								
TAPN	**Taplejung**	**59.67**	**55**	*e*P		**P**		**15 58 58.6**	**-0.1**
	comp=Z,19nm,0.8s								
TAPN	**Taplejung**	**59.67**	**55**	*e*P		**P**		**15 58 58.6**	**-0.1**
	comp=Z,19nm,0.8s								
MEM	**Membach**	**59.69**	**339**	P		P		15 59 01.9	+3.9
GIVF	**Givet**	**59.70**	**338**	*e*P		**P**		**15 58 58.4**	**+0.4**
	comp=Z,54nm,1.3s								
DOU	**Dourbes**	**59.78**	**338**	P		**P**		**15 59 00.3**	**+1.8**
BCLA	**Clavier**	**59.79**	**339**	P		**P**		**15 59 00.3**	**+1.7**
BAIF	**Baives**	**59.90**	**338**	*e*P		**P**		**15 59 00.5**	**+1.1**
ARU	**Arti**	**63.18**	**14**	*c i*P		**P**		**15 59 21.7**	**+0.3**
ARU								16 01 39.4	
ARU				S		**S**		**16 07 55.4**	**+3.5**
ARU				SS		**SS**		**16 11 59.2**	**+0.8**
ARU				pmax		pmax			
	comp=Z,32nm,1.7s								
ARU	**Arti**	**63.18**	**14**	*e*P		**P**		**15 59 20.0**	**-1.3**
	comp=Z,74nm,1.9s								
LSA	**Lhasa**	**63.36**	**54**	P		**P**		**15 59 24.5**	**+0.7**
LSA				pmax		pmax			
	comp=Z,8.0nm,1.3s								
LSA	**Lhasa**	**63.36**	**54**	P		**P**		**15 59 24.5**	**+0.7**
	comp=Z,8.2nm,1.3s								
BRVK	**Borovoye**	**64.10**	**23**	*i* P		**P**		**15 59 27.8**	**+0.2**
BRVK				pmax		pmax			
	comp=Z,4.0nm,1.1s								
BVAR	**Borovoye Array**	**64.12**	**23**	P		**P**		**15 59 28.6**	**+0.9**
BVAR	**Borovoye Array**	**64.12**	**23**	P		**P**		**15 59 28.6**	**+0.9**
BVAR	**Borovoye Array**	**64.12**	**23**	P		**P**		**15 59 28.6**	**+0.9**
	comp=Z,1.3nm,0.8s,baz=208,slow=5.9								
KLMR	**Klimovskoe**	**64.67**	**3**	*e*P		**P**		**15 59 30.3**	**-0.8**
KLMR				pmax		pmax			
	comp=Z,58nm,1.6s								
MK31	**Makanchi Array**	**65.51**	**34**	*e*P		**P**		**15 59 36.6**	**-0.3**
MK31	**Makanchi Array**	**65.51**	**34**	*e*P		**P**		**15 59 36.6**	**-0.3**
MKAR	**Makanchi Array**	**65.51**	**34**	*c e*P		**P**		**15 59 36.7**	**-0.3**
MKAR				pmax		pmax			
	comp=Z,6.0nm,1.0s								
MKAR	**Makanchi Array**	**65.51**	**34**	P		**P**		**15 59 36.6**	**-0.3**
MKAR	**Makanchi Array**	**65.51**	**34**	P		**P**		**15 59 36.6**	**-0.3**
	comp=Z,5.6nm,1.0s,baz=233,slow=5.6,SNR=24								
MKAR				LR		LR		16 29 53.3	
	comp=Z,72nm,19.3s,baz=353,slow=38								
FINES	**FINESS Array B**	**65.52**	**355**	P		**P**		**15 59 36.6**	**0.0**
FINES	**FINESS Array B**	**65.52**	**355**	P		**P**		**15 59 36.6**	**0.0**
	comp=Z,11nm,1.0s,baz=177,slow=3.8,SNR=9.2								
KURBB	**Kurchatov Arra**	**65.95**	**29**	P		**P**		**15 59 39.4**	**-0.2**
	comp=Z,11nm,1.1s,baz=233,slow=6.5								
KURK	**Kurchatov**	**66.06**	**29⇑**	*e*P		**P**		**15 59 40.8**	**+0.5**
KURK				pmax		pmax			
	comp=Z,33nm,1.8s								
KURK				MLR		MLR			
	comp=Z,118nm,16.0s								
KURK	**Kurchatov**	**66.06**	**29**	*e*P		**P**		**15 59 40.6**	**+0.3**
KAF	**Kangasniemi**	**66.16**	**356**	*e*P		**P**		**15 59 39.4**	**-1.3**
KAF				pmax		pmax			
	comp=Z,6.0nm,0.8s								
KAF	**Kangasniemi**	**66.16**	**356**	*e*p		**P**		**15 59 39.4**	**-1.3**
	comp=Z,5.9nm,0.8s								
IPM	**Ipoh**	**66.63**	**83**	*e*P		**P**		**15 59 43.0**	**-1.8**
	comp=Z,32nm,1.2s								
JOF	**Joensuu**	**66.70**	**358**	*e*P		**P**		**15 59 42.6**	**-1.6**
JOF				pmax		pmax			
	comp=Z,3.0nm,0.8s								
JOF	**Joensuu**	**66.70**	**358**	*e*p		**P**		**15 59 42.6**	**-1.6**
	comp=Z,2.8nm,0.8s								
CM31	**Chiang Mai Arr**	**66.89**	**68**	*e*P		**P**		**15 59 47.7**	**+1.4**
	comp=Z,4.6nm,1.0s								
CMAR	**Chiang Mai Arr**	**66.89**	**68**	P		**P**		**15 59 47.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**66.89**	**68**	P		**P**		**15 59 47.0**	**+0.7**
	comp=Z,3.1nm,0.9s,baz=257,slow=8.0,SNR=30								
CMAR				LR		LR		16 30 26.8	
	comp=Z,57nm,18.6s,baz=74,slow=37								
CHTO	**Chiang Mai**	**66.97**	**68**	*e*P		**P**		**15 59 47.9**	**+1.1**
CHTO				pmax		pmax			
	comp=Z,4.0nm,1.0s								
CHTO	**Chiang Mai**	**66.97**	**68**	*e*P		**P**		**15 59 47.9**	**+1.1**
	comp=Z,4.1nm,1.0s								
WMQ	**Urumqi**	**67.08**	**39**	*e*P		**P**		**15 59 47.9**	**+0.8**
WMQ				sP		**sP**		**15 59 54.0**	**-0.7**
WMQ				PcP		**PcP**		**16 00 15.0**	**-0.3**
WMQ				pmax		pmax			
	comp=Z,9.0nm,1.8s								
WMQ				pmax		pmax			
	comp=Z,450nm,5.4s								
WMQ				LR		LR			
	comp=Z,140nm,15.7s								
NB2	**NORSAR Subarra**	**67.31**	**348**	P		**P**		**15 59 47.3**	**-0.9**
	baz=156,slow=6.2								
NB2	**NORSAR Subarra**	**67.31**	**348**	P		**P**		**15 59 47.3**	**-0.9**
	comp=Z,33nm,1.4s,baz=156,slow=6.2								
NOA	**NORSAR Array B**	**67.31**	**348**	P		**P**		**15 59 47.5**	**-0.7**
NOA	**NORSAR Array B**	**67.31**	**348**	P		**P**		**15 59 47.5**	**-0.7**
	comp=Z,11nm,1.1s,baz=156,slow=5.9,SNR=8.8								
NOA				LR		LR		16 30 48.0	
	comp=Z,53nm,18.2s,baz=180,slow=37								
NVS	**Novosibirsk**	**70.84**	**27**	*e*P		**P**		**16 00 10.2**	**0.0**
NVS				pmax		pmax			
	comp=Z,60nm,1.7s								
NVS				pmax		pmax			
	comp=N,32nm,1.9s								
ZALV	**Zalesovo Beam**	**71.05**	**29**	P		**P**		**16 00 10.5**	**-0.9**
ZALV								16 02 50.5	
ZALV	**Zalesovo Beam**	**71.05**	**29**	P		**P**		**16 00 10.5**	**-0.9**
ZALV				PP		**PP**		**16 02 50.5**	**+1.3**
ZALV	**Zalesovo Beam**	**71.05**	**29**	P		**P**		**16 00 10.5**	**-0.9**
	comp=N,4.3nm,1.0s,baz=235,slow=5.2,SNR=20								
ZALV				PP		**PP**		**16 02 50.5**	**+1.3**
	comp=N,1.0nm,0.8s,baz=249,slow=7.5,SNR=3.9								
ZALV				LR		LR		16 32 29.9	
	comp=N,122nm,19.7s,baz=222,slow=37								
KMI	**Kunming**	**71.83**	**62**	P		**P**		**16 00 19.3**	**+2.2**
KMI				pP		**pP**		**16 00 22.2**	**-0.4**
KMI				sP		**sP**		**16 00 23.6**	**-1.1**
KMI				S		**S**		**16 09 38.6**	**+1.1**
KMI				pmax		pmax			
	comp=Z,4.0nm,1.2s								
KMI				LR		LR			
	comp=N,98nm,20.6s								
KMI				LR		LR			
	comp=E,120nm,18.6s								
KMI				LR		LR			
	comp=Z,140nm,20.6s								
VNA2	**Neumayer--Watz**	**72.14**	**193**	*e*		P		16 00 21.9	+4.1
VNA2				*e*				16 06 20.6	
GTA	**Gaotai**	**73.48**	**47**	*e*P		**P**		**16 00 27.4**	**+0.9**
GTA				pP		**pP**		**16 00 31.9**	**-0.2**
GTA				sP		**sP**		**16 00 34.9**	**+0.8**
GTA				pmax		pmax			
	comp=Z,3.0nm,1.2s								
ARCES	**ARCESS Array B**	**73.57**	**357**	P		**P**		**16 00 24.5**	**-1.7**
ARCES	**ARCESS Array B**	**73.57**	**357**	P		**P**		**16 00 24.5**	**-1.7**
	comp=Z,12nm,1.0s,baz=27,slow=8.2,SNR=10.0								
LZH	**Lanzhou**	**75.52**	**51**	*e*P		**P**		**16 00 39.2**	**+0.7**
LZH				pP		**pP**		**16 00 44.8**	**+0.7**
LZH				sP		**sP**		**16 00 48.2**	**+2.1**
LZH				*e*S		**S**		**16 10 21.2**	**+2.5**
LZH				sS		**sS**		**16 10 30.1**	**+2.1**
LZH				pmax		pmax			
	comp=Z,17nm,1.0s								
LZH				pmax		pmax			
	comp=Z,110nm,6.9s								
LZH				LR		LR			
	comp=N,440nm,14.5s								
LZH				LR		LR			
	comp=E,240nm,7.6s								
LZH				LR		LR			
	comp=Z,700nm,15.3s								
TLY	**Talaya**	**80.11**	**36**	*e*P		P		16 01 06.9	+3.4
TLY				pmax		pmax			
	comp=Z,4.0nm,1.5s								
TLY				MLR		MLR			
	comp=Z,139nm,22.0s								
SONM	**Songino Array**	**80.63**	**40**	P		**P**		**16 01 07.2**	**+0.7**
SONM	**Songino Array**	**80.63**	**40**	P		**P**		**16 01 07.2**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=255,slow=4.9,SNR=6.3								
ULN	**Ulaanbaatar**	**81.06**	**40**	*e*P		**P**		**16 01 10.0**	**+1.1**
	comp=Z,3.6nm,1.1s								
BDFB	**Brasilia**	**82.10**	**255**	LR		LR		16 32 39.3	
	comp=Z,120nm,19.5s,baz=319,slow=32								
HHC	**Hu-ho-hao-te**	**82.54**	**48**	*e*P		**P**		**16 01 17.7**	**+0.9**
HHC				sP		**sP**		**16 01 23.1**	**-1.3**
HHC				PP		**PP**		**16 04 31.0**	**+4.7**
HHC				S		**S**		**16 11 33.2**	**-0.1**
HHC				sS		**SKKSac**		**16 11 40.8**	**-0.4**
HHC				SS		**SS**		**16 16 59.6**	**+4.7**
HHC				pmax		pmax			
	comp=Z,8.0nm,0.4s								
HHC				pmax		pmax			
	comp=Z,110nm,4.6s								
HHC				LR		LR			
	comp=N,310nm,15.5s								
HHC				LR		LR			
	comp=E,380nm,15.5s								
HHC				LR		LR			
	comp=Z,290nm,15.5s								
NJ2	**Nanjing**	**86.97**	**58**	*e*P		**P**		**16 01 38.2**	**-1.0**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
DRV	**Dumont d'Urvil**	**92.40**	**157**	PP		PP		16 05 08.0	-37
CN2	**Changchun**	**93.10**	**46**	*e*P		**P**		**16 02 08.0**	**+0.3**
CN2				*es*P		**sP**		**16 02 15.0**	**-0.4**
CN2				*e*S		**S**		**16 13 10.9**	**-2.9**
ASAR	**Alice Springs**	**96.71**	**114**	P		**P**		**16 02 23.8**	**-1.0**
ASAR	**Alice Springs**	**96.71**	**114**	P		**P**		**16 02 23.7**	**-1.0**
	comp=Z,0.9nm,1.1s,baz=277,slow=4.4,SNR=3.5								
YKA	**Yellowknife Ar**	**117.32**	**345**	PKP		**PKPdf**		**16 07 36.6**	**-2.1**
YKA				PKKPbc		**PKKPab**		**16 18 08.8**	**+2.5**
YKA	**Yellowknife Ar**	**117.32**	**345**	PKP		**PKPdf**		**16 07 36.6**	**-2.1**
	comp=Z,0.1nm,0.5s,baz=78,slow=6.4,SNR=2.8								
YKA				PKKPbc		**PKKPab**		**16 18 08.8**	**+2.5**
	comp=Z,0.5nm,1.0s,baz=221,slow=3.9,SNR=4.4								
PDAR	**Pinedale Array**	**130.04**	**326**	PKP		**PKPdf**		**16 08 03.8**	**-0.3**
PDAR	**Pinedale Array**	**130.04**	**326**	PKP		**PKPdf**		**16 08 03.8**	**-0.3**
	comp=Z,1.1nm,1.0s,baz=94,slow=4.5,SNR=4.6								
NVAR	**Mina Array Bea**	**137.82**	**328**	PKP		**PKPdf**		**16 08 20.3**	**+1.5**
NVAR	**Mina Array Bea**	**137.82**	**328**	PKP		**PKPdf**		**16 08 20.3**	**+1.5**
	comp=Z,2.4nm,1.1s,baz=90,slow=0.9,SNR=6.9								

WEL 03 15:54:34.0±0.4, 38.16S×175.99E, h166km±3km, ML3.8/13, 11C-3D, Error ellipse: s-maj=2.5km s-min=2.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOZ	**Tahuroa Road**	**0.57**	**317**	⇑PN	Pn	15 54 57.6	0.0
RITZ	**Rihia Road**	**0.83**	**187**	⇓PN	Pn	15 54 59.7	+0.6
URZ	**Urewera**	**0.89**	**97**	⇑PN	Pn	15 54 59.1	-0.3
URZ				SN	Sn	15 55 18.7	-0.3
TWVZ	**Taurewa**	**1.01**	**205**	PN	Pn	15 55 00.5	0.0
OTVZ	**Oturere**	**1.04**	**194**	PN	Pn	15 55 01.1	+0.3
BKZ	**Black Stump Fm**	**1.08**	**159**	⇓PN	Pn	15 55 00.9	-0.2
BKZ				SN	Sn	15 55 21.4	-0.6
WPVZ	**Whakapapa**	**1.10**	**198**	PN	Pn	15 55 01.4	0.0
NMHZ	**Naumai**	**1.14**	**146**	PN	Pn	15 55 02.5	+0.9
RAHZ	**Arahi**	**1.15**	**132**	PN	Pn	15 55 02.2	+0.6
FWVZ	**Far West T-bar**	**1.15**	**197**	PN	Pn	15 55 01.7	-0.1
WNVZ	**Wahianoa**	**1.21**	**195**	PN	Pn	15 55 02.1	-0.2
MWZ	**Matawai**	**1.22**	**99**	⇑PN	Pn	15 55 02.1	-0.1
MWZ				SN	Sn	15 55 23.5	-0.5
MWZ				SN		15 55 24.2	
MTVZ	**Mangateitei**	**1.29**	**198**	PN	Pn	15 55 02.8	-0.1
BHHZ	**Black Hill Sta**	**1.33**	**178**	⇑PN	Pn	15 55 02.8	-0.5
MCHZ	**McNeill Hill**	**1.40**	**157**	PN	Pn	15 55 04.5	+0.6
KNZ	**Kokohu**	**1.58**	**124**	⇑PN	Pn	15 55 05.5	0.0
PRGZ	**Paritu Road**	**1.67**	**118**	PN	Pn	15 55 06.6	0.0
CKHZ	**Cape Kidnapper**	**1.73**	**151**	⇑PN	Pn	15 55 07.3	+0.2
PNHZ	**Pukenui**	**1.76**	**175**	PN	Pn	15 55 06.8	-0.8
CNGZ	**Carnagh Statio**	**1.77**	**101**	PN	Pn	15 55 08.2	+0.6
KAHZ	**Kahuranaki**	**1.78**	**157**	⇑PN	Pn	15 55 07.7	0.0
WAZ	**Wanganui**	**1.78**	**206**	⇓PN	Pn	15 55 07.1	-0.6
PUZ	**Puketiti**	**1.79**	**88**	⇑PN	Pn	15 55 07.3	-0.5
MHGZ	**Mahia Peninsul**	**1.80**	**124**	PN	Pn	15 55 08.2	+0.3
PKE	**Pukeiti**	**1.88**	**236**	PN	Pn	15 55 08.9	0.0
TSZ	**Takapari Road**	**1.90**	**181**	⇑PN	Pn	15 55 08.1	-0.9
MXZ	**Matakaoa Point**	**1.93**	**73**	PN	Pn	15 55 09.0	-0.2
WPHZ	**Waipukurau**	**1.94**	**170**	⇑PN	Pn	15 55 08.7	-0.7
PXZ	**Pawanui**	**1.99**	**160**	⇑PN	Pn	15 55 09.4	-0.5

PRE 03 15:55:37.0±1.2, 26.20S×28.14E, h2km, ML2.2, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERPM	**east rand prop**	**0.17**	**147**	*e*P	Pg	15 55 39.2	-1.3
ERPM				*e*S	Sg	15 55 39.8	-3.1
ERPM				AML	AML	15 55 41.4	
	comp=Z,424nm,0.4s						
KLOF	**Kloof**	**0.50**	**253**	*e*P	Pg	15 55 47.0	+0.1
KLOF				*e*S	Sg	15 55 53.1	-0.4
KLOF				AML	AML	15 55 54.9	
	comp=Z,236nm,0.2s						
PRYS	**Parys**	**1.00**	**224**	*e*P	Pg	15 55 56.8	+0.3
PRYS				*e*S	Sg	15 56 09.6	0.0
PRYS				AML	AML	15 56 14.4	
	comp=Z,56nm,0.3s						
LBTB	**Lobatse**	**2.58**	**297**	*e*P	Pn	15 56 20.9	+0.9
LBTB				*e*S	Sn	15 56 51.8	-0.3
LBTB				AML	AML	15 57 01.4	
	comp=Z,12nm,0.3s						
BOSA	**Boshof**	**3.51**	**226**	*e*P	Pn	15 56 34.2	+1.4
BOSA				*e*S	Sn	15 57 15.1	0.0
BOSA				AML	AML	15 57 28.5	
	comp=Z,3.7nm,0.3s						

IDC 03 16:08:53.3±1.6, 5.86S×130.36E, h0km, mb3.7/3, mb1 4.0/6, mb1mx3.7/15, mbtmp3.8/6, ML4.0/3, Error ellipse: s-maj=69.9km s-min=20.9km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.01**	**200**	Pn	Pn	16 12 01.4	+1.9
	0.6nm,0.3s,baz=3.6,slow=8.0,SNR=10						
FITZ				Sn	Sn	16 14 16.0	-9.1
	1.2nm,0.3s,baz=113,slow=17,SNR=5.5						
WRA	**Warramunga Arr**	**14.52**	**165**	Pn	Pn	16 12 19.2	-1.0
	0.7nm,0.3s,baz=346,slow=14,SNR=25						
WRA				Sn	Sn	16 14 51.1	-11
	0.6nm,0.3s,baz=354,slow=24,SNR=7.0						
ASAR	**Alice Springs**	**18.03**	**169**	P	P	16 13 06.5	+0.4
	0.7nm,0.3s,baz=346,slow=11,SNR=49						
ASAR				S	Sn	16 16 21.2	-6.1
	0.2nm,0.3s,baz=354,slow=26,SNR=4.3						
STKA	**Stephens Creek**	**27.93**	**159**	P	P	16 14 44.4	-1.0
	1.1nm,0.9s,baz=354,slow=9.2,SNR=4.3						
CMAR	**Chiang Mai Arr**	**39.30**	**309**	P	P	16 16 23.6	-0.7
	0.4nm,0.5s,baz=131,slow=6.4,SNR=5.0						
MKAR	**Makanchi Array**	**67.48**	**326**	P	P	16 19 51.6	+0.4
	0.5nm,0.4s,baz=112,slow=8.0,SNR=16						

*IDC **03** 16:15:56.9±2.1, 15.91S×178.02E, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/17, mbtmp3.9/6, MS4.1/23, Ms1 4.1/23, ms1mx4.0/28, Error ellipse: s-maj=102.5km s-min=23.9km az=144.0*

*ISCJB **03** 16:15:57.9±0.7, 16.3S±0.1×178.2E±0.1, h22km, mb3.9/7, MS4.1/21, Error ellipse: s-maj=17.0km s-min=15.1km az=165.0*

*NEIC **03** 16:16:01.2±0.8, 16.38S×178.24E, h35km, mb4.6/1, Error ellipse: s-maj=23.5km s-min=17.0km az=114.0*

ISC 03 16:15:59.3±0.8, 16.4S±0.1×178.3E±0.1, h22km, n37, σ1§13/16, mb3.9/7, MS4.1/21, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.34**	**189**	*e*Pn	**Pb**	**16 16 23.1**	**-0.8**
AFI	**Afiamalu**	**9.92**	**77**	LR	LR	16 21 20.6	
	comp=Z,468nm,19.5s,baz=247,slow=32						
DZM	**Mont Dzumac**	**12.52**	**241**	*e*LR	LR	16 21 38.4	
	1μm,26.4s						
HNR	**Honiara**	**19.15**	**289**	LR	LR	16 26 34.8	
	comp=Z,666nm,18.0s,baz=71,slow=34						
RAR	**Rarotonga**	**21.32**	**106**	LR	LR	16 27 07.1	
	comp=Z,505nm,18.3s,baz=279,slow=31						
RPZ	**Rata Peaks**	**27.91**	**191**	LR	LR	16 32 02.0	
	comp=Z,357nm,18.8s,baz=8.5,slow=34						
CTA	**Charters Tower**	**30.61**	**258**	LR	LR	16 31 37.2	
	comp=Z,171nm,18.9s,baz=250,slow=31						
PPT2	**Papeete2**	**30.75**	**97**	*e*LQ	LQ	16 28 56.3	
	778nm,25.2s						
PPT2				*e*LR	LR	16 30 19.4	
	843nm,29.2s						
TBI	**Tubuai**	**31.07**	**108**	*e*S	**S**	**16 27 20.5**	**+0.2**
	118nm,26.0s						
TBI				*e*LQ	LQ

MSLP			*e*S	Sb	16 21 48.7	+0.8
BUKP	**Musuan**	**2.15 213**	*e*P	Pn	16 21 40.3	+1.3
PAGZ	**Pagadian**	**3.37 237**	*e*P	Pn	16 21 56.6	+0.9
GUIM	**Jordan**	**3.71 285**	*e*P	Pn	16 22 01.2	+0.9

*IDC **03** 16:23:41.3±1.4, 18°.11S×178°.34W, h579km±17km, mb3.5/15, mb1 3.7/16, mb1mx3.6/21, mbtmp3.5/16, Error ellipse: s-maj=21.7km s-min=10.3km az=148.0*

ISC 03 16:23:41.3±0.7, 18°.1S±0°.2×178°.3W±0°.1, h579km, n32, σ0ᵗ93/31, mb4.0/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.55**	**58**	P		**P**	**16 25 37.0**	**+1.2**
	5.5nm,0.3s,baz=295,slow=20,SNR=9.0							
AFI				S		**S**	**16 27 08.2**	**-1.3**
	1.1nm,0.3s,baz=328,slow=19,SNR=2.1							
RPZ	**Rata Peaks**	**27.09**	**197**	P		**P**	**16 28 36.7**	**-2.0**
	6.4nm,1.0s,baz=56,slow=3.6,SNR=4.1							
CNB	**Canberra Magne**	**33.38**	**233**	*e*P		**P**	**16 29 34.0**	**+1.1**
	71nm,0.5s							
CTA	**Charters Tower**	**33.48**	**261**	*e*P		**P**	**16 29 33.9**	**0.0**
	14nm,1.5s							
CTA	**Charters Tower**	**33.48**	**261**	P		**P**	**16 29 33.8**	**-0.1**
	4.6nm,0.5s,baz=101,slow=6.7,SNR=6.3							
PMG	**Port Moresby**	**34.55**	**280**	P		**P**	**16 29 44.1**	**+1.2**
	14nm,0.8s,baz=68,slow=11,SNR=3.0							
TOO	**Toolangi**	**37.12**	**231**	*e*P		**P**	**16 30 04.6**	**+0.9**
	40nm,0.6s							
STKA	**Stephens Creek**	**38.61**	**241**	*e*P		**P**	**16 30 16.8**	**+0.9**
	6.3nm,0.9s							
STKA	**Stephens Creek**	**38.61**	**241**	P		**P**	**16 30 16.8**	**+0.9**
	8.9nm,0.8s,baz=86,slow=6.9,SNR=14							
WRA	**Warramunga Arr**	**44.66**	**260**	P		**P**	**16 31 03.0**	**-0.7**
	2.7nm,0.4s,baz=97,slow=7.2,SNR=77							
ASAR	**Alice Springs**	**44.81**	**254**	P		**P**	**16 31 04.6**	**-0.2**
	14nm,0.5s,baz=87,slow=9.1,SNR=331							
MJAR	**Matsushiro Arr**	**68.08**	**323**	P		**P**	**16 33 43.3**	**-0.7**
	2.1nm,0.5s,baz=156,slow=6.0,SNR=12							
PETK	**Petropavlovsk-**	**73.86**	**345**	P		**P**	**16 34 17.1**	**-0.4**
	3.2nm,0.7s,baz=137,slow=7.1,SNR=9.1							
NVAR	**Mina Array Bea**	**79.50**	**44**	P		**P**	**16 34 50.0**	**+1.1**
	1.5nm,0.7s,baz=225,slow=8.6,SNR=13							
TXAR	**Lajitas Array**	**86.03**	**58**	P		**P**	**16 35 23.5**	**+1.8**
	1.8nm,0.7s,baz=218,slow=6.1,SNR=24							
ILAR	**Eielson Array**	**86.03**	**13**	P		**P**	**16 35 19.8**	**-0.9**
	1.1nm,0.4s,baz=221,slow=4.9,SNR=46							
PDAR	**Pinedale Array**	**87.43**	**43**	P		**P**	**16 35 28.6**	**+0.5**
	1.4nm,0.6s,baz=217,slow=3.6,SNR=14							
CMAR	**Chiang Mai Arr**	**89.00**	**290**	P		**P**	**16 35 36.5**	**+0.8**
	0.3nm,0.7s,baz=108,slow=2.9,SNR=3.7							
SONM	**Songino Array**	**93.72**	**319**	P		**P**	**16 35 56.6**	**-0.3**
	0.2nm,0.7s,baz=140,slow=4.5,SNR=3.0							
YKA	**Yellowknife Ar**	**94.45**	**25**	P		**P**	**16 35 59.2**	**-0.5**
	0.3nm,0.5s,baz=238,slow=4.5,SNR=8.4							
MKAR	**Makanchi Array**	**109.30**	**314**	PKiKP		**PKiKP**	**16 41 04.9**	**-1.3**
	0.2nm,0.4s,baz=49,slow=2.5,SNR=6.0							
ARCES	**ARCESS Array B**	**126.49**	**350**	PKP		**PKPdf**	**16 41 37.1**	**-1.4**
	3.3nm,0.8s,baz=1.0,slow=0.9,SNR=7.1							
AKASG	**Malin Array Be**	**140.74**	**332**	PKhKP	PKPpre		16 41 58.8	
	0.8nm,0.4s,baz=38,slow=4.1,SNR=6.2							
BRTR	**Keskin Array B**	**144.94**	**315**	PKP		**PKPdf**	**16 42 13.4**	**-0.1**
	0.8nm,0.5s,baz=100,slow=2.7,SNR=7.7							
KOLS	**Kolonicke sedl**	**144.98**	**336**	*e*	PKPbc		16 42 13.8	-0.2
CLL	**Collm**	**145.64**	**347**	*i* PKP		**PKPbc**	**16 42 15.4**	**-0.3**
	comp=Z,10.0nm,0.6s							
UPC	**Upice**	**145.67**	**344**	*e*P		**PKPbc**	**16 42 16.1**	**+0.2**
DPC	**Dobruska-Polom**	**145.72**	**343**	*e*P		**PKPbc**	**16 42 16.3**	**+0.2**
BRG	**Berggiesshubel**	**145.84**	**346**	*e*P		**PKPbc**	**16 42 16.1**	**-0.2**
	comp=Z,4.3nm,0.6s							
VYHS	**Vyhne**	**146.59**	**339**	*e*		**PKPbc**	**16 42 18.1**	**-0.4**
KHC	**Kasperske Hory**	**147.55**	**345**	*e*P		**PKPbc**	**16 42 20.9**	**-0.2**
GERES	**GERESS Array B**	**147.79**	**345**	PKPbc		**PKPbc**	**16 42 21.4**	**-0.4**
	comp=Z,2.4nm,0.6s,baz=20,slow=3.2,SNR=23							

*CSEM **03** 16:27:40.2±0.7, 70°.89N×6°.96W, h10km, ML3.9, Error ellipse: s-maj=12.3km s-min=7.0km az=74.0*
*BER **03** 16:27:42.0±0.5, 70°.98N×7°.01W, h10km, MD2.9, ML3.9*
*REY **03** 16:27:46.1, 70°.47N×7°.72W, h10km, ML3.2, ML3.1*

ISC 03 16:27:42.3±2.9, 71°.0N±0°.1×7°.3W±0°.2, h28km±15km, n17, σ0ᵗ76/28, 2C-4D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.33**	**271**	⇓*i*P		**Pb**	**16 27 49.7**	**-0.2**
JNE				*e*S		**Sb**	**16 27 54.8**	**-0.3**
JNE				AML		AML	16 27 56.7	
	comp=Z,7μm,0.2s							
JNE	**Jan Mayen East**	**0.33**	**271**	⇓*i*P		**Pb**	**16 27 49.7**	**-0.2**
	SNR=102							
JNE				*e*S		**Sb**	**16 27 54.8**	**-0.3**
	comp=Z,7μm,0.2s,SNR=102							
JNW	**Jan Mayen West**	**0.37**	**277**	⇑*i*P		**Pb**	**16 27 50.3**	**-0.3**
JNW				*e*S		**Sb**	**16 27 56.6**	**+0.3**
JNW				AML		AML	16 27 57.6	
	comp=Z,11μm,0.4s							
JNW	**Jan Mayen West**	**0.37**	**277**	⇑*i*P		**Pb**	**16 27 50.3**	**-0.3**
	SNR=101							
JNW				*e*S		**Sb**	**16 27 56.6**	**+0.3**
	comp=Z,11μm,0.4s,SNR=101							
JMI	**Jan Mayen**	**0.48**	**263**	⇓*i*P		**Pb**	**16 27 52.0**	**-0.2**
JMI				*e*S		**Sb**	**16 27 59.6**	**+0.7**
JMI				AML		AML	16 28 02.5	
	comp=Z,7μm,0.4s							
JMI	**Jan Mayen**	**0.48**	**263**	⇓*i*P		**Pb**	**16 27 52.0**	**-0.2**
	SNR=99							
JMI				*e*S		**Sb**	**16 27 59.6**	**+0.7**
	comp=Z,7μm,0.4s,SNR=99							
ILEI	**Leirhofn**	**5.69**	**220**	S		**Sn**	**16 30 07.5**	**-1.4**
IGIL	**Gilhagi**	**5.94**	**218**	P		**Pn**	**16 29 08.6**	**+0.4**
IGIL				S		**Sn**	**16 30 14.1**	**-1.1**
IDIM	**Dimmadalsˆ¡s**	**6.16**	**220**	P		**Pn**	**16 29 12.0**	**+0.7**
IDIM				S		**Sn**	**16 30 20.3**	**-0.4**
IGRS	**Grimsstaoir**	**6.29**	**216**	P		**Pn**	**16 29 14.2**	**+1.3**
IGRS				S		**Sn**	**16 30 23.6**	**-0.1**
IHLA	**Hella**	**6.50**	**224**	S		**Sn**	**16 30 28.5**	**-0.3**
DAG	**Danmarks Havn**	**6.60**	**337**	*i* P		**Pn**	**16 29 17.1**	**-0.1**
IGLU	**Glumsstadir**	**6.70**	**210**	P		**Pn**	**16 29 18.6**	**0.0**
IGLU				S		**Sn**	**16 30 32.2**	**-1.7**
IADA	**Aoalbol**	**6.75**	**211**	P		**Pn**	**16 29 19.7**	**+0.4**
IADA				S		**Sn**	**16 30 35.5**	**+0.4**
IHVA	**Hvannstoosfjol**	**6.86**	**212**	S		**Sn**	**16 30 37.4**	**-0.4**
IVSH	**V-Sauoahnukur**	**6.97**	**211**	S		**Sn**	**16 30 42.0**	**+1.4**
IBRU	**Bruarjokull**	**7.01**	**212**	S		**Sn**	**16 30 40.6**	**-1.0**

*NEIC **03** 16:31:54.7±3.4, 33°.41S×179°.89E, h302km±35km, mb4.5/1, Error ellipse: s-maj=45.7km s-min=24.7km az=189.0*
*IDC **03** 16:31:54.8±13.0, 33°.50S×179°.92E, h301km±124km, mb3.8/2, mb1 4.0/3, mb1mx3.4/14, mbtmp3.8/3, Error ellipse: s-maj=82.4km s-min=41.8km az=27.0*

ISC 03 16:31:55.8±1.3, 33°.41S±0°.09×179°.7E±0°.2, h300km, n50, σ1ᵍ28/58, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.29**	**195**	PN		**Pn**	**16 33 04.8**	**-0.3**
MXZ				SN		**S**	**16 34 01.1**	**+0.3**
PUZ	**Puketiti**	**4.79**	**194**	PN		**Pn**	**16 33 10.9**	**0.0**
PUZ				SN		**S**	**16 34 10.7**	**-0.5**
MWZ	**Matawai**	**5.22**	**199**	PN		**Pn**	**16 33 15.9**	**+0.1**
MWZ				SN		**S**	**16 34 23.3**	**+3.2**
URZ	**Urewera**	**5.27**	**203**	*e*P		**Pn**	**16 33 16.3**	**-0.1**
	52nm,0.3s							
URZ	**Urewera**	**5.27**	**203**	*e*PN		**Pn**	**16 33 16.1**	**-0.3**
URZ				*e*SN		**S**	**16 34 23.1**	**+2.0**
KNZ	**Kokohu**	**5.83**	**196**	*e*SN		**S**	**16 34 35.3**	**+2.2**
MHGZ	**Mahia Peninsul**	**5.91**	**194**	*e*PN		**Pn**	**16 33 23.9**	**0.0**
BKZ	**Black Stump Fm**	**6.29**	**203**	*e*PN		**Pn**	**16 33 27.9**	**-0.7**
BKZ				*e*SN		**S**	**16 34 46.7**	**+3.2**
CKHZ	**Cape Kidnapper**	**6.58**	**198**	*e*PN		**Pn**	**16 33 31.4**	**-0.6**
NGZ	**Ngauruhoe**	**6.63**	**209**	*e*PN		Pn	16 33 36.1	+3.3
WPVZ	**Whakapapa**	**6.68**	**209**	*e*PN		**Pn**	**16 33 35.4**	**+2.1**
KAHZ	**Kahuranaki**	**6.76**	**199**	*e*PN		**Pn**	**16 33 33.6**	**-0.6**
VRZ	**Vera Road**	**6.95**	**213**	*e*PN		**Pn**	**16 33 39.1**	**+2.6**
PXZ	**Pawanui**	**6.99**	**198**	PN		**Pn**	**16 33 35.6**	**-1.3**
PXZ				*e*SN		**S**	**16 34 59.6**	**+1.1**
TSZ	**Takapari Road**	**7.28**	**203**	*e*PN		**Pn**	**16 33 39.1**	**-1.4**
WAZ	**Wanganui**	**7.37**	**209**	*e*PN		**Pn**	**16 33 41.4**	**-0.3**
PRWZ	**Pori Road**	**7.72**	**202**	*e*PN		**Pn**	**16 33 46.1**	**+0.2**
MRZ	**Mangatainoka R**	**7.95**	**203**	*e*PN		**Pn**	**16 33 46.9**	**-1.7**
MRZ				*e*SN		**S**	**16 35 19.4**	**-0.7**

HOWZ	**Holdsworth Sta**	**8.18**	**203**	*e*PN	**Pn**	**16 33 49.9**	**-1.6**
OGWZ	**Otaki Gorge**	**8.22**	**205**	*e*PN	**Pn**	**16 33 50.7**	**-1.3**
SNZO	**South Karori**	**8.82**	**205**	*e*PN	**Pn**	**16 33 57.7**	**-1.6**
PLWZ	**Palliser**	**8.87**	**202**	*e*PN	**Pn**	**16 33 60.0**	**0.0**
TCW	**Tory Channel**	**8.90**	**207**	*e*PN	**Pn**	**16 33 59.3**	**-1.0**
NNZ	**Nelson**	**9.27**	**211**	*e*PN	**Pn**	**16 34 04.0**	**-0.8**
QRZ	**Quartz Range**	**9.35**	**216**	*e*PN	**Pn**	**16 34 05.4**	**-0.4**
THZ	**Tophouse**	**9.92**	**211**	*e*PN	**Pn**	**16 34 12.3**	**-0.6**
KHZ	**Kahutara**	**10.21**	**207**	*e*P	**Pn**	**16 34 16.2**	**-0.2**
	48nm,0.3s						
KHZ	**Kahutara**	**10.21**	**207**	*e*PN	**Pn**	**16 34 15.2**	**-1.2**
DSZ	**Dennistone Nort**	**10.40**	**215**	*e*PN	**Pn**	**16 34 18.1**	**-0.7**
LTZ	**Lake Taylor**	**11.02**	**210**	*e*PN	**Pn**	**16 34 25.3**	**-1.1**
MQZ	**McQueen's Vall**	**11.65**	**206**	*e*PN	**Pn**	**16 34 33.2**	**-0.8**
WVZ	**Waitaha Valley**	**11.93**	**213**	*e*PN	**Pn**	**16 34 36.2**	**-1.1**
RPZ	**Rata Peaks**	**12.30**	**211**	*e*P	**Pn**	**16 34 41.7**	**-0.1**
	8.6nm,0.3s						
RPZ				S	**S**	**16 36 55.9**	**-2.5**
RPZ	**Rata Peaks**	**12.30**	**211**	*e*PN	**Pn**	**16 34 41.0**	**-0.9**
RPZ	**Rata Peaks**	**12.30**	**211**	P	**Pn**	**16 34 41.7**	**-0.1**
	4.3nm,0.3s,baz=353,slow=1.6,SNR=37						
RPZ				S	**S**	**16 36 55.9**	**-2.5**
	1.4nm,0.3s,baz=140,slow=24,SNR=9.8						
FOZ	**Fox Glacier**	**12.80**	**215**	*e*PN	**Pn**	**16 34 45.9**	**-1.9**
ODZ	**Otahua Downs**	**13.55**	**208**	*e*PN	**Pn**	**16 34 58.4**	**+1.5**
JCZ	**Jackson Bay**	**13.62**	**215**	*e*PN	**P**	**16 34 57.4**	**-0.3**
AS31	**Alice Springs**	**41.09**	**271**	*e*P	**P**	**16 39 11.8**	**+0.7**
ASAR	**Alice Springs**	**41.09**	**271**	P	**P**	**16 39 11.8**	**+0.7**
ASAR	**Alice Springs**	**41.09**	**271**	P	**P**	**16 39 11.8**	**+0.7**
	2.4nm,0.7s,baz=108,slow=7.6,SNR=57						
WB2	**Warramunga Arr**	**42.35**	**277**	*e*P	**P**	**16 39 21.2**	**-0.1**
WRAB	**Tennant Creek**	**42.35**	**277**	*e*P	**P**	**16 39 20.8**	**-0.6**
WRA	**Warramunga Arr**	**42.36**	**277**	P	**P**	**16 39 21.6**	**+0.1**
WRA	**Warramunga Arr**	**42.36**	**277**	P	**P**	**16 39 21.6**	**+0.1**
	4.6nm,0.3s,baz=116,slow=7.6,SNR=140						
FINES	**FINESS Array B**	**147.21**	**337**	PKPbc	**PKPdf**	**16 51 01.3**	**+1.0**
FINES	**FINESS Array B**	**147.21**	**337**	PKPbc	**PKPdf**	**16 51 01.3**	**+1.0**
	1.7nm,0.5s,baz=43,slow=4.3,SNR=21						
NB2	**NORSAR Subarra**	**151.36**	**348**	PKP	**PKPbc**	**16 51 12.3**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**151.36**	**348**	PKPbc	**PKPbc**	**16 51 12.6**	**-0.7**
NOA	**NORSAR Array B**	**151.36**	**348**	PKPbc	**PKPbc**	**16 51 12.6**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=15,slow=4.2,SNR=3.8						

*OMAN **03** 16:40:23.7±99.0, 26°.25N×58°.59E, h0km±285km, Error ellipse: s-maj=39.9km s-min=13.3km az=33.0*
*CSEM **03** 16:40:24.8±3.9, 26°.26N×58°.60E, h10km, ML3.8/2, Error ellipse: s-maj=98.0km s-min=19.8km az=37.0*

ISC 03 16:40:24.7±4.3, 26°.3N±0°.3×58°.6E±0°.2, h10km, n20, σ1ᵍ23/20, 2C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**2.12**	**261**	⇑P		**Pn**	**16 40 59.9**	**-0.3**
BANOM	**Banah**	**2.12**	**261**	P		**Pn**	**16 40 59.9**	**-0.3**
HATD	**Hatta, Dubai**	**2.67**	**238**	Pn		**Pn**	**16 41 06.2**	**-1.6**
ASHO	**Ashiyiah**	**2.81**	**236**	⇓P		**Pn**	**16 41 08.5**	**-1.1**
ASHO	**Ashiyiah**	**2.81**	**236**	P		**Pn**	**16 41 08.5**	**-1.1**
ASHO	**Ashiyiah**	**2.81**	**236**	Pn		**Pn**	**16 41 09.0**	**-0.6**
HOQ	**Hoqain**	**2.93**	**204**	⇑P		**Pn**	**16 41 09.3**	**-2.0**
HOQ	**Hoqain**	**2.93**	**204**	P		**Pn**	**16 41 09.3**	**-2.0**
FAQ	**Al Faqa, Dubai**	**3.13**	**242**	Pn		**Pn**	**16 41 14.0**	**-0.1**
SMDO	**Samad**	**3.24**	**189**	P		**Pn**	**16 41 15.7**	**+0.1**
	SNR=7.0							
SMDO	**Samad**	**3.24**	**189**	P		**Pn**	**16 41 15.7**	**+0.1**
	SNR=7.0							
ASUD	**Al Ashush, Dub**	**3.40**	**242**	P		**Pn**	**16 41 19.6**	**+1.8**
	SNR=34							
ASUD	**Al Ashush, Dub**	**3.40**	**242**	Pn		**Pn**	**16 41 17.9**	**+0.1**
ASUD	**Al Ashush, Dub**	**3.40**	**242**	P		**Pn**	**16 41 19.6**	**+1.8**
	SNR=34							
ARQ	**Araqi**	**3.49**	**214**	P		**Pn**	**16 41 20.5**	**+1.5**
	SNR=7.1							
ARQ	**Araqi**	**3.49**	**214**	P		**Pn**	**16 41 20.5**	**+1.5**
	SNR=7.1							
WBK	**Wadi Bani Khal**	**3.66**	**175**	P		**Pn**	**16 41 21.3**	**0.0**
	SNR=20							
WBK	**Wadi Bani Khal**	**3.66**	**175**	P		**Pn**	**16 41 21.3**	**0.0**
	SNR=20							
BSY	**Bisya**	**3.74**	**201**	⇓P		**Pn**	**16 41 23.2**	**+0.7**
BSYO	**Bisya**	**3.74**	**200**	P		**Pn**	**16 41 23.2**	**+0.7**

MAN 03 16:43:15, 8°.82N×126°.31E, h22km, mb4.8, ML3.8, MS3.8, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.70**	**283**	*e*P		Pn	16 43 29.3	-0.3
BUTP				*e*S		Sn	16 43 38.8	-0.9
BUKP	**Musuan**	**1.55**	**233**	*e*P		Pn	16 43 41.9	+0.6
BUKP				*e*S		Sb	16 44 02.5	+0.2
CGP	**Cagayan de Oro**	**1.64**	**257**	⇑*i*P		Pn	16 43 42.5	0.0
CGP				*i* S		Sn	16 44 03.2	+0.2
MATI	**Mati**	**1.86**	**182**	*e*P		Pn	16 43 45.1	-0.4
DMPH	**Davao City--Mi**	**1.90**	**205**	⇑*e*P		Pn	16 43 47.4	+1.3
DMPH				*e*S		Sb	16 44 11.4	-0.9
KCP	**Kidapawan**	**2.17**	**214**	⇓*e*P		Pb	16 43 54.4	+0.7
KCP				*i* S		Sb	16 44 21.2	+1.1
TBP	**Tagbilaran**	**2.57**	**290**	*e*P		Pn	16 43 57.0	+1.7
TBP				*e*S		Sn	16 44 27.8	+1.8
CTBH	**Cotabato--PC H**	**2.59**	**232**	⇑*i*P		Pn	16 43 55.7	+0.1
OCLP	**Ormoc**	**2.78**	**323**	*e*P		Pn	16 43 60.0	+1.7
PAGZ	**Pagadian**	**3.06**	**252**	*e*P		Pn	16 44 04.1	+2.1

*IDC **03** 16:44:42.7±5.3, 6°.94S×129°.83E, h75km±52km, mb3.7/6, mb1 3.8/9, mb1mx3.6/17, mbtmp3.7/9, ML3.9/3, Error ellipse: s-maj=50.5km s-min=21.4km az=67.0*

ISC 03 16:44:48.5±0.9, 7°.30S±0°.08×129°.7E±0°.2, h139km, n17, σ1ᵍ99/19, mb3.8/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.43**	**200**	P		**Pn**	**16 47 28.5**	**+0.8**
	0.9nm,0.3s,baz=32,slow=9.4,SNR=21							
FITZ				S		**Sn**	**16 49 30.3**	**-3.6**
	1.8nm,0.3s,baz=221,slow=18,SNR=11							
WRA	**Warramunga Arr**	**13.37**	**161**	P		**Pn**	**16 47 51.7**	**-1.2**
	0.5nm,0.3s,baz=342,slow=13,SNR=42							
WRA				S		Sn	16 50 13.3	-7.3
	2.3nm,0.3s,baz=331,slow=22,SNR=6.6							
ASAR	**Alice Springs**	**16.78**	**166**	P		**Pn**	**16 48 38.0**	**+2.5**
	0.2nm,0.3s,baz=339,slow=9.1,SNR=32							
ASAR				S		**Sn**	**16 51 39.8**	**-2.9**
	0.6nm,0.3s,baz=0.2,slow=28,SNR=8.9							
STKA	**Stephens Creek**	**26.87**	**157**	P		**P**	**16 50 19.0**	**+2.6**
	0.5nm,0.6s,baz=18,slow=6.4,SNR=2.2							
NWAO	**Narrogin (SRO)**	**27.99**	**203**	P		**P**	**16 50 30.0**	**+3.7**
	4.4nm,0.8s,baz=30,slow=8.1,SNR=2.7							
CMAR	**Chiang Mai Arr**	**39.66**	**311**	P		**P**	**16 52 06.9**	**-0.2**
	0.6nm,0.7s,baz=135,slow=7.0,SNR=9.4							
ODAN	**Odare**	**53.19**	**311**	*e*P		**P**	**16 53 52.0**	**-0.9**
	4.0nm,0.5s							
TAPN	**Taplejung**	**53.23**	**312**	*e*P		**P**	**16 53 52.6**	**-0.6**
RAMN	**Ramite**	**53.83**	**311**	*e*P		**P**	**16 53 57.4**	**-0.2**
	5.2nm,0.5s							
JIRN	**Jiri**	**54.52**	**311**	*e*P		**P**	**16 54 02.0**	**-0.7**
GUN	**Gumba**	**54.89**	**312**	*e*P		**P**	**16 54 03.9**	**-1.4**
GKN	**Gorkha**	**55.87**	**311**	*e*P		**P**	**16 54 11.5**	**-0.6**
	3.9nm,0.3s							
KOLN	**Koldanda**	**56.52**	**310**	*e*P		**P**	**16 54 14.6**	**-2.3**
DANN	**Dangsing**	**56.70**	**311**	*e*P		**P**	**16 54 17.0**	**-1.2**
SONM	**Songino Array**	**58.61**	**342**	P		**P**	**16 54 30.6**	**-0.4**
	0.4nm,0.4s,baz=158,slow=6.5,SNR=8.8							
MKAR	**Makanchi Array**	**68.28**	**327**	P		**P**	**16 55 34.6**	**+0.2**
	1.7nm,0.4s,baz=114,slow=9.0,SNR=88							
ZALV	**Zalesovo Beam**	**71.69**	**334**	P		**P**	**16 55 53.9**	**-1.2**
	0.7nm,0.3s,baz=111,slow=4.2,SNR=4.9							

IDC 03 16:54:40.6±6.6, 2°.09S×128°.84E, h0km, mb4.3/3, mb1 4.5/5, mb1mx3.8/19, mbtmp4.4/5, ML4.5/2, Error ellipse: s-maj=99.8km s-min=65.1km az=8.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.22**	**191**	Pn		Pn	16 58 31.0	+0.9
	0.8nm,0.3s,baz=16,slow=8.9,SNR=7.8							
WRA	**Warramunga Arr**	**18.54**	**164**	P		P	16 58 57.6	-1.4
	2.6nm,0.3s,baz=340,slow=12,SNR=123							
ASAR	**Alice Springs**	**22.00**	**168**	P		P	16 59 35.5	-1.1
	15nm,0.6s,baz=346,slow=11,SNR=227							
STKA	**Stephens Creek**	**31.98**	**159**	P		P	17 01 09.0	+0.4
	1.5nm,0.6s,baz=342,slow=6.8,SNR=4.2							
NWAO	**Narrogin (SRO)**	**32.55**	**198**	P		P	17 01 14.3	+0.7
	4.1nm,0.8s,baz=73,slow=11,SNR=2.9							

*ISCJB **03** 17:01:57.2±0.5, 41°.53N±0°.02×139°.94E±0°.05, h23km±5km, mb3.5/7, Error ellipse: s-maj=6.3km s-min=4.1km az=175.2*
*JMA **03** 17:01:57.6, 41°.55N×139°.96E, h10km±1km, M3.9 Broadband fault plane solution: P waves. NP1: ϕs155.00000°, δ89.00000°, λ59.00000°. NP2: ϕs63.00000°, δ32.00000°, λ178.00000°. Principal axes: T Plg38.0000°, Azm37.0000°; N Plg31.0000°, Azm156.0000°; P Plg36.0000°, Azm272.0000°;*
JMA Felt III J1.
*NIED **03** 17:02:00, 41°.50N×139°.90E, h8km, Mw3.8 Best double couple: M₀6.06000×10¹⁴ NP1: ϕs167.00000°, δ72.00000°, λ42.00000°. NP2: ϕs61.00000°, δ51.00000°, λ156.00000°.*
*IDC **03** 17:02:01.8±2.9, 41°.67N×139°.86E, h37km±26km, mb3.3/7, mb1 3.7/12, mb1mx3.4/29, mbtmp3.5/12, ML3.3/5, Error ellipse: s-maj=20.9km s-min=17.8km az=131.0*

ISC 03 17:01:57.0±1.3, 41°.53N±0°.03×139°.99E±0°.04, h7km±10km, n21, σ1ᵍ44/31, mb3.5/7, 3C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JSR	**Shiriuchi**	**0.32**	**89**	⇓P		**Pb**	**17 02 04.5**	**-0.6**
JSR				*e*S		**Sb**	**17 02 09.4**	**-1.1**
JSI2	**Shiura 2**	**0.57**	**146**	⇓P		**Pb**	**17 02 08.9**	**-0.3**
JSI2				*e*S		**Sb**	**17 02 16.8**	**-0.7**
JYM2	**Yakumo 2**	**0.66**	**26**	⇑P		**Pg**	**17 02 10.0**	**+0.4**
JYM2				*e*S		**Sg**	**17 02 18.7**	**+0.6**
JOSM	**Okushiri--Mats**	**0.67**	**326**	⇓P		**Pg**	**17 02 09.6**	**-0.3**
JOSM				*e*S		**Sg**	**17 02 18.4**	**-0.3**
JOT	**Ohata**	**0.81**	**100**	⇓P		**Pb**	**17 02 13.2**	**-0.2**
JOT				*e*S		**Sb**	**17 02 24.1**	**-0.4**
JKB	**Kayabe**	**0.86**	**65**	P		**Pb**	**17 02 14.0**	**-0.3**
JKB				*e*S		**Sb**	**17 02 25.7**	**-0.3**
JIW	**Iwasaki**	**0.93**	**179**	⇑P		**Pb**	**17 02 15.2**	**-0.3**
JIW				*e*S		**Sb**	**17 02 27.5**	**-0.6**
JSH	**Shimam**	**1.12**	**2**	⇑P		**Pb**	**17 02 17.8**	**-0.8**
JSH				*e*S		**Sb**	**17 02 32.0**	**-1.3**
ASAJ	**Asahikawa**	**3.22**	**36**	Pn		**Pn**	**17 02 50.2**	**+2.2**
	2.1nm,0.3s,baz=183,slow=17,SNR=20							
MAT	**Matsushiro**	**5.17**	**196**	P		**Pn**	**17 03 16.1**	**+1.3**
MAT				S		**Sn**	**17 04 12.1**	**-2.5**
MJAR	**Matsushiro Arr**	**5.17**	**196**	Pn		**Pn**	**17 03 16.4**	**+1.6**
	1.3nm,0.3s,baz=5.0,slow=20,SNR=13							
MJAR				Sn		**Sn**	**17 04 13.4**	**-1.3**
	0.3nm,0.3s,baz=42,slow=20,SNR=2.9							
USRK	**Ussuriysk Arra**	**6.45**	**297**	Pn		**Pn**	**17 03 31.

SNR=90
BCI Bajram Curri 0.55 349 *i* PG **Pg** 17 29 16.3 **+0.6**
BCI Bajram Curri 0.55 349 *i* Pg **Pg** 17 29 16.3 **+0.6**
SNR=90
ULC Ulcinj 0.73 281 ⇓ *i* Pg **Pg** 17 29 18.3 **-0.8**
ULC *e*Sg **Sg** 17 29 28.5 **-0.1**
ULC Ulcinj 0.73 281 ⇓ *i* Pg **Pg** 17 29 18.3 **-0.8**
ULC *e*Sg **Sg** 17 29 28.5 **-0.1**
PVY Plav 0.79 347 ⇑ *i* Pg **Pg** 17 29 20.4 **+0.1**
PVY *e*Sg **Sb** 17 29 32.5 **+0.6**
PVY Plav 0.79 347 ⇑ *i* Pg **Pg** 17 29 20.4 **+0.1**
PVY *e*Sg **Sb** 17 29 32.5 **+0.6**
TTG Podgorica 0.92 311 ⇑ *i* Pg **Pg** 17 29 21.6 **-1.2**
TTG *e*Sg **Sb** 17 29 36.2 **+0.5**
PDG Podgorica 0.93 311 *e*Pg **Pg** 17 29 21.5 **-1.3**
PDG *e*Sg **Sb** 17 29 36.0 **+0.2**
PDG Podgorica 0.93 311 ⇑ *i* Pg **Pg** 17 29 21.6 **-1.3**
PDG *e*Sg **Sb** 17 29 36.2 **+0.4**
SKO Skopje 0.93 81 *e*Pg **Pb** 17 29 23.2 **-0.3**
SKO *i* Sg **Sb** 17 29 35.6 **-0.3**
SKO *e*Lg Lg 17 29 38.8
comp=E,111nm,0.4s
SKO *e*Lg Lg 17 29 38.8
comp=N,210nm,0.3s
SKO Skopje 0.93 81 *e*Pg **Pn** 17 29 23.7 **-0.7**
SKO *i* Sg **Sb** 17 29 36.1 **+0.1**
SKO *e*Lg Lg 17 29 39.2
comp=N,210nm,0.3s
BIA Bitola 1.17 133 *e*Pg Pg 17 29 30.7 +3.2
BIA *i* Sg **Sn** 17 29 44.5 **+0.8**
BIA *e*Lg Lg 17 29 44.8
comp=E,40nm,0.2s
BIA *e*Lg Lg 17 29 44.8
comp=N,61nm,0.3s
BIA Bitola 1.17 133 *e*Pg Pg 17 29 30.6 +3.2
BIA *i* Sg **Sn** 17 29 44.5 **+0.8**
BIA *e*Lg Lg 17 29 44.8
comp=N,61nm,0.3s
NKY Niksic 1.33 318 ⇓ *i* Pg **Pn** 17 29 28.7 **-1.3**
NKY *e*Sg **Sg** 17 29 49.5 **+1.6**
NKY Niksic 1.33 318 ⇓ *i* Pg **Pn** 17 29 28.7 **-1.3**
NKY *e*Sg **Sg** 17 29 49.5 **+1.6**
FNA Florina 1.37 139 *i* PG **Pn** 17 29 29.8 **-0.6**
FNA Florina 1.37 139 *i* Pg **Pn** 17 29 29.8 **-0.6**
SNR=90
HCY Herceg Novi 1.42 297 ⇑ *i* Pg **Pn** 17 29 29.9 **-1.1**
HCY *e*Sg **Sg** 17 29 51.7 **+1.2**
HCY Herceg Novi 1.42 297 ⇑ *i* Pg **Pn** 17 29 29.9 **-1.1**
HCY *e*Sg **Sg** 17 29 51.7 **+1.2**
SELS Selova 1.55 26 ⇑ *i* Pn **Pn** 17 29 31.8 **-1.1**
SELS *e*Sn **Sg** 17 29 54.3 **-0.5**
BARS Barje 1.55 50 *e*Pg **Pn** 17 29 33.1 **+0.2**
BARS *e*Sg **Sg** 17 29 55.1 **+0.2**
PLE Pljevlja 1.62 338 ⇑ *i* Pn **Pb** 17 29 34.9 **-0.3**
PLE *e*Sn **Sg** 17 29 58.2 **+1.1**
PLE Pljevlja 1.62 338 ⇑ *i* Pn **Pb** 17 29 34.9 **-0.3**
PLE *e*Sn **Sg** 17 29 58.2 **+1.1**
BRY Bratogost 1.64 312 ⇓ *i* Pn **Pb** 17 29 35.2 **-0.3**
BRY *e*Sn **Sg** 17 29 58.8 **+1.2**
BRY Bratogost 1.64 312 ⇓ *i* Pn **Pb** 17 29 35.2 **-0.3**
BRY *e*Sn **Sg** 17 29 58.8 **+1.2**
UPM Unac-Piva 1.68 326 *e*Pn **Pb** 17 29 36.0 **-0.2**
UPM *e*Sn **Sg** 17 30 00.0 **+1.0**
UPM Unac-Piva 1.68 326 *e*Pn **Pb** 17 29 36.0 **-0.2**
UPM *e*Sn **Sg** 17 30 00.0 **+1.0**
IVAS Ivanjica 1.75 359 *e*Pn **Pn** 17 29 36.1 **+0.4**
IVAS *e*Sn **Sb** 17 29 59.6 **+0.1**
IVAS Ivanjica 1.75 359 *e*Pn **Pn** 17 29 36.1 **+0.4**
IVAS *e*Sn **Sb** 17 29 59.6 **+0.1**
VAY Valandovo 1.85 105 *e*Pg **Pb** 17 29 38.9 **-0.1**
VAY *e*Sg **Sn** 17 29 60.0 **-0.5**
VAY *e*Lg Lg 17 30 03.8
comp=E,26nm,0.6s
VAY *e*Lg Lg 17 30 04.1
comp=N,36nm,0.6s
VAY Valandovo 1.85 105 *e*Pg **Pb** 17 29 39.3 **+0.3**
VAY *e*Sg **Sn** 17 30 00.4 **0.0**
VAY *e*Lg Lg 17 30 01.6
comp=N,36nm,0.6s
STON Ston 2.13 300 *e*Pn **Pn** 17 29 42.1 **+1.2**
STON Sn **Sg** 17 30 14.9 **+1.5**
STON Ston 2.13 300 *e*Pn **Pn** 17 29 42.0 **+1.2**
DIVS Divibare 2.28 356 *e*Pn **Pn** 17 29 42.9 **0.0**
DIVS *e*Sn **Sb** 17 30 13.5 **-1.2**
DIVS Divibare 2.28 356 *e*Pn **Pn** 17 29 42.9 **0.0**
DIVS *e*Sn **Sb** 17 30 13.5 **-1.2**
BZS Buzias 3.92 15 *e*Pn **Pn** 17 30 05.1 **-0.4**
BZS Buzias 3.92 15 *e*Pn **Pn** 17 30 05.1 **-0.4**

PRE 03 17:29:20.1±1.1, **26°40S**×**27°45E, h2**km, **ML1.6, South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERPM	**east rand prop**	**0.71**	**86**	*e*P	Pg	17 29 34.6	+0.5
ERPM				*e*S	Sg	17 29 43.9	+0.4
ERPM				AML	AML	17 29 53.5	
	comp=Z,6.5nm,0.5s						
BFSD	**Buffelsfontein**	**0.75**	**232**	*e*P	Pg	17 29 34.8	0.0
BFSD				*e*S	Sg	17 29 45.1	+0.3
BFSD				AML	AML	17 29 53.7	
	comp=Z,21nm,0.6s						
LBTB	**Lobatse**	**2.16**	**309**	*e*P	Pn	17 29 57.3	-0.1
LBTB				*e*S	Sn	17 30 25.9	+1.0
LBTB				AML	AML	17 30 32.0	
	comp=Z,5.5nm,0.3s						
BOSA	**Boshof**	**2.94**	**221**	*e*P	Pn	17 30 09.5	+1.4
BOSA				*e*S	Sn	17 30 43.6	-0.6
BOSA				AML	AML	17 30 55.9	
	comp=Z,2.5nm,0.7s						

MEX 03 17:43:33.7±0.4, **16°61N**×**97°97W, h20**km±29km, **MD3.5, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.27**	**215**	*i* P	Pb	17 43 38.9	-1.0
PNIG				*i* S	Sb	17 43 42.8	-1.3
UTMO	**Huajuapan**	**1.22**	**7**	*i* P	Pn	17 43 53.0	-2.9
UTMO				*e*S	Sb	17 44 07.0	-5.0
VHO	**Vista Hermosa**	**1.27**	**69**	*i* P	Pn	17 43 54.2	-2.4
VHO				*e*S	Sn	17 44 08.2	-5.0
HUIG	**Huatulco**	**1.97**	**115**	*i* P	Pn	17 44 02.5	-3.5
HUIG				*i* S	Sn	17 44 26.4	-3.7
CMIG	**Matias Romero**	**2.99**	**80**	*i* P	Pn	17 44 17.2	-2.8
CMIG				*i* S	Sn	17 44 52.2	-3.2

PRE 03 17:45:02.7±0.8, **26°41S**×**27°52E, h2**km, **ML1.6, South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.54**	**196**	*e*P	Pg	17 45 12.7	-0.6
PRYS				*e*S	Sg	17 45 20.8	+0.3
PRYS				AML	AML	17 45 26.3	
	comp=Z,14nm,0.2s						
ERPM	**east rand prop**	**0.65**	**85**	*e*P	Pg	17 45 16.0	+0.6
ERPM				*e*S	Sg	17 45 24.4	+0.4
ERPM				AML	AML	17 45 26.2	
	comp=Z,14nm,0.2s						
BFSD	**Buffelsfontein**	**0.80**	**235**	*e*P	Pg	17 45 17.9	-0.4
BFSD				*e*S	Sg	17 45 29.2	+0.2
BFSD				AML	AML	17 45 35.0	
	comp=Z,20nm,0.3s						
LBTB	**Lobatse**	**2.22**	**308**	*e*P	Pn	17 45 41.5	+0.7
LBTB				*e*S	Sn	17 46 09.4	+0.6
LBTB				AML	AML	17 46 13.9	
	comp=Z,3.0nm,0.6s						
BOSA	**Boshof**	**2.98**	**222**	*e*P	Pn	17 45 51.6	+0.4
BOSA				*e*S	Sn	17 46 28.5	+0.8
BOSA				AML	AML	17 46 33.5	
	comp=Z,2.3nm,0.8s						

*ISK **03** 17:54:27.2, 39°.50N×28°.18E, h5km, MD2.7*
*DDA **03** 17:54:27.6, 39°.45N×28°.15E, h7km, MD2.8*
*CSEM **03** 17:54:27.8±0.2, 39°.46N×28°.15E, h1km, MD2.7, Error ellipse: s-maj=4.3km s-min=2.9km az=48.0*
ISC 03 17:54:27.5±0.8, **39°46N**×**28°12E**±0°.01, **h0**km, **n32, σ0s56/46, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.26**	**315**	*e*Pg	**Pg**	**17 54 33.4**	**+0.9**
BALB				*e*SG	**Sb**	**17 54 39.0**	**-1.2**
BALB	**Balikesir**	**0.26**	**315**	*e*Pg	**Pg**	**17 54 33.4**	**+0.9**
BALB				*e*Sg	**Sb**	**17 54 39.0**	**-1.2**
DURS	**Dursunbey**	**0.31**	**62**	*i* P	**Pg**	**17 54 33.2**	**-0.2**
DURS				*i* S	**Sg**	**17 54 38.6**	**+1.2**
DURS	**Dursunbey**	**0.31**	**62**	*i* P	**Pg**	**17 54 33.2**	**-0.2**
DURS				*i* S	**Sg**	**17 54 38.6**	**+1.2**
BALY	**Balya**	**0.48**	**306**	*e*P	**Pg**	**17 54 37.1**	**+0.4**
BALY				*e*S	**Sb**	**17 54 45.4**	**-1.1**
BALY	**Balya**	**0.48**	**306**	*e*P	**Pg**	**17 54 37.1**	**+0.4**
BALY				*e*S	**Sb**	**17 54 45.4**	**-1.1**
DEMI	**Demirci**	**0.62**	**132**	*e*P	**Pg**	**17 54 39.4**	**+0.1**
DEMI				*e*S	**Sg**	**17 54 47.9**	**+0.6**
DEMI	**Demirci**	**0.62**	**132**	*e*P	**Pg**	**17 54 39.4**	**+0.1**
DEMI				*e*S	**Sg**	**17 54 47.9**	**+0.6**
AKHS	**Akhisar**	**0.62**	**203**	*e*P	**Pg**	**17 54 39.5**	**+0.1**
AKHS	**Akhisar**	**0.62**	**203**	*e*P	**Pg**	**17 54 39.5**	**+0.1**
GONE	**Gonen-Balikesi**	**0.68**	**330**	*e*PG	**Pg**	**17 54 40.6**	**+0.1**
GONE				*e*SG	**Sb**	**17 54 51.7**	**-0.4**
GONE	**Gonen-Balikesi**	**0.68**	**330**	*e*Pg	**Pg**	**17 54 40.6**	**+0.1**
GONE				*e*Sg	**Sb**	**17 54 51.7**	**-0.4**
KCTX	**Karacabey (Bur**	**0.83**	**12**	*e*PG	**Pg**	**17 54 43.5**	**+0.1**
KCTX				*e*SG	**Sg**	**17 54 54.1**	**0.0**
KCTX	**Karacabey (Bur**	**0.83**	**12**	*e*Pg	**Pg**	**17 54 43.5**	**+0.1**
KCTX				*e*Sg	**Sg**	**17 54 54.1**	**0.0**
EDC	**Edincik**	**0.91**	**347**	*e*PG	**Pg**	**17 54 45.5**	**+0.5**
EDC	**Edincik**	**0.91**	**347**	*e*Pg	**Pg**	**17 54 45.5**	**+0.5**
KULA	**Kula-Manisa**	**1.03**	**156**	*e*PG	**Pb**	**17 54 48.2**	**+0.1**
KULA	**Kula-Manisa**	**1.03**	**156**	*e*Pg	**Pb**	**17 54 48.3**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.08**	**32**	*e*PG	**Pg**	**17 54 48.5**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.08**	**32**	*e*Pg	**Pg**	**17 54 48.5**	**+0.2**
GDZ	**Gediz**	**1.12**	**109**	*e*P	**Pg**	**17 54 49.3**	**+0.5**
GDZ				*e*S	**Sg**	**17 55 03.7**	**+0.4**
GDZ	**Gediz**	**1.12**	**109**	*e*P	**Pg**	**17 54 49.3**	**+0.5**
GDZ				*e*S	**Sg**	**17 55 03.7**	**+0.4**
KRBG	**Karabiga-Canak**	**1.13**	**326**	*e*PN	**Pb**	**17 54 49.6**	**-0.3**
KRBG	**Karabiga-Canak**	**1.13**	**326**	*e*Pn	**Pb**	**17 54 49.6**	**-0.3**
ARMT	**Armutlu**	**1.25**	**27**	*e*Pn	**Pg**	**17 54 51.2**	**-0.1**
ARMT	**Armutlu**	**1.25**	**27**	*e*PN	**Pg**	**17 54 51.2**	**-0.1**
YLV	**Yalova**	**1.47**	**40**	*e*PN	**Pn**	**17 54 55.1**	**-0.1**
YLV	**Yalova**	**1.47**	**40**	*e*Pn	**Pn**	**17 54 55.2**	**-0.1**
MFT	**Murefte**	**1.48**	**334**	*e*PN	**Pb**	**17 54 56.4**	**+0.5**
MFT	**Murefte**	**1.48**	**334**	*e*Pn	**Pb**	**17 54 56.4**	**+0.5**
CAVI	**Cavuskoy**	**1.52**	**60**	*e*PN	**Pn**	**17 54 55.8**	**-0.2**
CAVI	**Cavuskoy**	**1.52**	**60**	*e*Pn	**Pn**	**17 54 55.8**	**-0.2**

*ISCJB **03** 17:57:41.8±0.8, 52°.1N±0°.1×157°.9E±0°.2, h139km±5km, mb3.2/5, Error ellipse: s-maj=24.3km s-min=12.1km az=38.7*
*KRSC **03** 17:57:41.2±0.7, 52°.21N×158°.01E, h149km±31km, ML3.5*
*IDC **03** 17:57:42.7±1.2, 52°.49N×157°.11E, h140km±13km, mb3.0/5, mb1 3.4/5, mb1mx3.0/24, mbtmp3.0/5, Error ellipse: s-maj=156.3km s-min=22.5km az=128.0*
ISC 03 17:57:43.2±1.0, **52°2N**±0°.1×**157°8E**±0°.1, **h137**km±6km, **n17, σ0s94/28, mb3.2/5, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAK	**Asacha**	**0.19**	**13**	*e*P	**Pn**	**17 58 01.4**	**-0.5**
ASAK				*i* S	**Sn**	**17 58 16.2**	**0.0**
MTVR	**Mutnovka**	**0.35**	**37**	*e*P	**Pn**	**17 58 02.3**	**-0.2**
MTVR				*i* S	**Sn**	**17 58 17.3**	**+0.1**
RUS	**Russkaya**	**0.48**	**61**	*e*P	**Pn**	**17 58 02.4**	**-0.4**
RUS				*i* S	**Sn**	**17 58 17.8**	**0.0**
PETK	**Petropavlovsk-**	**0.91**	**355**	P	**Pn**	**17 58 04.9**	**-1.0**
	5.5nm,0.3s,baz=187,slow=10,SNR=218						
PETK				S	**Sn**	**17 58 21.4**	**-1.8**
	2.0nm,0.3s,baz=246,slow=11,SNR=6.0						
PET	**Petropavlovsk**	**0.96**	**31**	*e*P	**Pn**	**17 58 05.7**	**-0.6**
UGLR	**Uglovaya**	**1.18**	**30**	*e*P	**Pn**	**17 58 09.0**	**+0.6**
UGLR				*i* S	**Sn**	**17 58 29.1**	**+1.4**
KOK	**Koryaka**	**1.20**	**24**	*e*P	**Pn**	**17 58 08.9**	**+0.3**
KOK				*i* S	**Sn**	**17 58 29.4**	**+1.3**
AVH	**Avacha**	**1.20**	**27**	*e*P	**Pn**	**17 58 09.0**	**+0.4**
AVH				*i* S	**Sn**	**17 58 29.1**	**+1.0**
SMAR	**Somma**	**1.22**	**29**	*e*P	**Pn**	**17 58 09.0**	**+0.1**
SMAR				*i* S	**Sn**	**17 58 29.3**	**+0.7**
SDLR	**Sedlovina**	**1.25**	**30**	*e*P	**Pn**	**17 58 09.1**	**-0.1**
SDLR				*i* S	**Sn**	**17 58 29.8**	**+0.7**
SPN	**Mys Shipunski**	**1.61**	**55**	*e*P	**Pn**	**17 58 12.4**	**-0.5**
SPN				*i* S	**Sn**	**17 58 34.8**	**-0.8**
MKZ	**Mys Kozlova**	**3.32**	**43**	*e*P	**Pn**	**17 58 33.3**	**-0.7**
MKZ				*i* S	**Sn**	**17 59 10.7**	**-2.2**
ILAR	**Eielson Array**	**30.42**	**44**	P	**P**	**18 03 41.9**	**-0.2**
	0.5nm,0.9s,baz=267,slow=6.2,SNR=4.7						
YKA	**Yellowknife Ar**	**44.75**	**41**	P	**P**	**18 05 42.0**	**-0.2**
	0.2nm,0.5s,baz=298,slow=7.5,SNR=3.3						
PDAR	**Pinedale Array**	**59.16**	**59**	P	**P**	**18 07 30.1**	**+0.6**
	0.5nm,0.7s,baz=2.3,slow=4.5,SNR=4.4						
TXAR	**Lajitas Array**	**72.26**	**65**	P	**P**	**18 08 54.5**	**+1.0**
	0.2nm,0.4s,baz=301,slow=5.2,SNR=5.3						
ASAR	**Alice Springs**	**78.39**	**202**	P	**P**	**18 09 27.9**	**-0.4**
	0.2nm,0.6s,baz=8.3,slow=5.6,SNR=2.8						

*CSEM **03** 18:16:52.4±0.1, 46°.41N×10°.50E, h15km, MD1.6, Error ellipse: s-maj=2.5km s-min=1.3km az=91.0*
*ZUR **03** 18:16:52.6, 46°.40N×10°.43E, h2km±3km, ML1.3/3*
*VIE **03** 18:16:54.1±0.5, 46°.47N×10°.58E, h10km±4km, mb1.9/1, ML1.4/5, Error ellipse: s-maj=3.2km s-min=2.1km az=32.0*
16 km E of Bormio
ISC 03 18:16:52.7±1.0, **46°41N**±0°.03×**10°44E**±0°.05, **h11**km±11km, **n12, σ0s32/20, 8C-6D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOSI	**Grossmontoni**	**0.22**	**20**	⇑ *e*Pg	**Pg**	**18 16 57.7**	**+0.3**
MOSI				*e*Sg	**Sg**	**18 17 00.7**	**0.0**
FUORN	**Ofenpass-Fuorn**	**0.24**	**330**	⇑ *i* Pg	**Pg**	**18 16 57.9**	**0.0**
	36nm,0.3s						
FUORN				*i* Sg	**Sg**	**18 17 01.4**	**0.0**
	36nm,0.3s						
BERNI	**Berninapass**	**0.29**	**271**	⇑ *i* Pg	**Pg**	**18 16 58.6**	**-0.1**
	89nm,0.1s						
RNI	**Roncone**	**0.45**	**162**	⇓ *e*Pg	**Pg**	**18 17 01.5**	**0.0**
RNI				*e*Sg	**Sg**	**18 17 07.3**	**-0.1**
RNI	**Roncone**	**0.45**	**162**	⇓ *e*Pg	**Pg**	**18 17 01.5**	**0.0**
RNI				*e*Sg	**Sg**	**18 17 07.3**	**-0.2**
DAVOX	**Davos/Dischmat**	**0.54**	**314**	⇓ *i* Pg	**Pg**	**18 17 03.1**	**-0.1**
	19nm,0.2s						
FETA	**Feichten**	**0.64**	**18**	⇓ *i* Pg	**Pg**	**18 17 05.2**	**0.0**
FETA				⇑ *i* Sg	**Sg**	**18 17 13.3**	**-0.4**
	1.6nm,0.1s						
FETA	**Feichten**	**0.64**	**18**	⇓ *i* Pg	**Pg**	**18 17 05.2**	**0.0**
FETA				Sg	**Sg**	**18 17 13.3**	**-0.4**
	1.6nm,0.1s						
ABSI	**Aberstueckl**	**0.69**	**62**	⇑ *e*Pg	**Pg**	**18 17 05.5**	**-0.5**
RISI	**Rein**	**1.25**	**64**	⇑ *e*Pg	**Pn**	**18 17 16.1**	**-0.2**
ABTA	**Abfaltersbach**	**1.47**	**76**	⇑ *i* Pg	**Pb**	**18 17 20.0**	**0.0**
ABTA				⇓ *i* Sg	**Sb**	**18 17 39.4**	**+0.7**
	0.6nm,0.1s						
ABTA	**Abfaltersbach**	**1.47**	**76**	⇑ *i* Pg	**Pb**	**18 17 20.0**	**0.0**
ABTA				Sg	**Sb**	**18 17 39.4**	**+0.7**
	0.6nm,0.1s						

IDC 03 18:16:57.4±0.8, **12°31N**×**86°56W, h0**km, **mb3.9**/7, **mb1 4.2**/8, **mb1mx3.9**/20, **mbtmp3.9**/8, **ML3.3**/2, **MS3.5**/4, **Ms1 3.5**/4, **ms1mx3.1**/30, **Error ellipse: s-maj=40.9km s-min=14.4km az=48.0, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**2.55**	**142**	Pn	Pn	18 17 41.5	+1.4
	3.1nm,0.3s,baz=324,slow=18,SNR=3.3						
JTS				Lg	Lg	18 18 12.8	
	27nm,0.3s,baz=266,slow=19,SNR=9.4						
JTS				LR	LR	18 18 57.1	
	comp=Z,240nm,21.0s,baz=290,slow=47						
CMIG	**Matias Romero**	**9.35**	**302**	Pn	Pn	18 19 11.4	-2.2
	0.5nm,0.3s,baz=120,slow=13,SNR=4.3						
SJG	**San Juan**	**20.51**	**71**	P	P	18 21 36.2	-1.1
	28nm,0.2s,baz=270,slow=14,SNR=6.1						
ATAH	**Atahualpa**	**20.95**	**157**	LR	LR	18 28 36.6	
	comp=Z,67nm,20.3s,baz=186,slow=33						
TXAR	**Lajitas Array**	**23.24**	**319**	P	P	18 22 06.9	+0.3
	2.6nm,0.7s,baz=134,slow=11,SNR=7.7						
TKL	**Tuckaleechee C**	**23.38**	**6**	P	P	18 22 12.2	+4.4
	8.6nm,0.9s,baz=202,slow=10,SNR=6.0						
PDAR	**Pinedale Array**	**36.31**	**331**	P	P	18 24 03.1	0.0
	0.6nm,0.6s,baz=132,slow=9.2,SNR=5.0						
PDAR				PcP	PcP	18 26 27.4	-0.7
	0.3nm,0.6s,baz=110,slow=4.9,SNR=2.8						
SIV	**San Ignacio**	**37.77**	**137**	P	P	18 24 15.0	-0.6
	3.8nm,0.7s,baz=319,slow=8.2,SNR=19						
SIV				PcP	PcP	18 26 32.9	+0.3
	1.7nm,0.8s,baz=306,slow=5.7,SNR=5.0						
NVAR	**Mina Array Bea**	**38.38**	**318**	P	P	18 24 21.3	+0.4
	0.4nm,0.6s,baz=116,slow=8.3,SNR=2.7						
NVAR				PcP	PcP	18 26 34.5	0.0
	0.4nm,0.5s,baz=186,slow=2.7,SNR=3.8						
ULM	**Lac du Bonnet**	**38.60**	**350**	P	P	18 24 22.4	+0.3
	2.7nm,0.9s,baz=162,slow=10,SNR=5.3						
SCHQ	**Schefferville**	**45.17**	**16**	P	P	18 25 18.4	+2.6
	1.3nm,0.4s,baz=231,slow=6.1,SNR=7.0						
BDFB	**Brasilia**	**47.18**	**125**	P	P	18 25 32.9	+0.6
	5.7nm,0.7s,baz=281,slow=5.9,SNR=8.1						
YKA	**Yellowknife Ar**	**53.98**	**344**	P	P	18 26 23.5	+0.6
	0.4nm,0.7s,baz=141,slow=7.4,SNR=11						
ILAR	**Eielson Array**	**66.50**	**336**	LR	LR	18 57 59.1	
	comp=Z,94nm,20.6s,baz=160,slow=37						
FINES	**FINESS Array B**	**89.71**	**26**	LR	LR	19 07 05.6	
	comp=Z,52nm,18.8s,baz=309,slow=34						
SONM	**Songino Array**	**119.02**	**350**	PKP	PKPdf	18 35 46.8	-1.7
	0.3nm,0.8s,baz=48,slow=2.1,SNR=2.9						
MKAR	**Makanchi Array**	**120.32**	**9**	PKP	PKPdf	18 35 49.4	-1.6
	0.1nm,0.4s,baz=15,slow=2.2,SNR=2.7						
ASAR	**Alice Springs**	**140.02**	**248**	PKP	PKPdf	18 36 26.4	-2.4
	0.6nm,0.9s,baz=93,slow=3.2,SNR=4.4						
WRA	**Warramunga Arr**	**140.07**	**254**	PKhKP	PKPpre	18 36 24.5	
	0.4nm,0.9s,baz=113,slow=2.6,SNR=2.7						
WRA				PKP	PKPdf	18 36 28.9	0.0
	0.6nm,0.8s,baz=90,slow=2.4,SNR=4.9						
CMAR	**Chiang Mai Arr**	**148.95**	**350**	PKPbc	PKPbc	18 36 48.4	+0.1
	2.0nm,0.7s,baz=343,slow=3.9,SNR=21						

IDC 03 18:18:26.9±2.4, **0°.85S**×**134°.13E, h0**km, **mb3.7**/3, **mb1 3.9**/5, **mb1mx3.6**/17, **mbtmp3.7**/5, **ML3.9**/2, **MS4.0**/2, **Ms1 3.9**/2, **ms1mx2.9**/31, **Error ellipse: s-maj=76.1km s-min=21.7km az=75.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.97**	**179**	P	P	18 22 50.2	+0.2
	0.3nm,0.3s,baz=359,slow=12,SNR=21						
FITZ	**Fitzroy Crossi**	**19.06**	**205**	P	P	18 22 50.4	-0.6
	0.3nm,0.3s,baz=18,slow=6.4,SNR=3.4						
FITZ				S	Sn	18 26 12.5	-13
	0.1nm,0.3s,baz=252,slow=20,SNR=2.4						
ASAR	**Alice Springs**	**22.68**	**181**	P	P	18 23 30.4	+0.3
	1.8nm,0.7s,baz=4.7,slow=11,SNR=16						
JOW	**Kunigami**	**28.10**	**349**	LR	LR	18 32 50.2	
	comp=Z,2μm,21.8s,baz=197,slow=31						
STKA	**Stephens Creek**	**31.66**	**168**	LR	LR	18 39 35.8	
	comp=Z,60nm,19.3s,baz=12,slow=40						
CMAR	**Chiang Mai Arr**	**39.55**	**301**	P	P	18 25 60.0	-0.1
	0.7nm,0.7s,baz=115,slow=7.1,SNR=7.6						
MKAR	**Makanchi Array**	**65.56**	**324**	P	P	18 29 12.3	-0.1
	0.7nm,0.7s,baz=115,slow=8.1,SNR=8.2						

IDC 03 18:33:19.3±3.6, **30°.00S**×**177°.42W, h0**km, **mb4.0**/4, **mb1 4.2**/4, **mb1mx3.9**/15, **mbtmp4.0**/4, **Error ellipse: s-maj=132.0km s-min=59.4km az=163.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.23**	**278**	P	P	18 40 08.2	+1.2
	5.3nm,0.7s,baz=100,slow=6.1,SNR=4.4						
STKA	**Stephens Creek**	**35.06**	**256**	P	P	18 40 15.1	+1.0
	1.8nm,0.6s,baz=108,slow=9.5,SNR=9.7						
ASAR	**Alice Springs**	**43.63**	**266**	P	P	18 41 24.6	-1.2
	0.3nm,0.4s,baz=106,slow=7.5,SNR=18						
WRA	**Warramunga Arr**	**44.59**	**271**	P	P	18 41 32.5	-1.0
	1.2nm,0.5s,baz=110,slow=8.2,SNR=48						
FINES	**FINESS Array B**	**144.94**	**341**	PKP	PKPbc	18 52 57.3	+0.3
	1.5nm,0.6s,baz=51,slow=4.0,SNR=12						

*IDC **03** 18:33:27.2±5.8, 2°.61S×28°.73E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.7/3, MS3.6/1, Ms1 3.6/1, ms1mx2.8/33, Error ellipse: s-maj=139.2km s-min=40.4km az=173.0*
*ISCJB **03** 18:33:29.8±1.4, 2°.1S±0°.2×28°.78E±0°.07, h12km, mb3.7/3, MS3.5/1, Error ellipse: s-maj=24.4km s-min=9.6km az=178.2*
*PRE **03** 18:33:33.3±1.5, 2°.01S×28°.96E, h10km, ML4.3*
ISC 03 18:33:31.4±1.7, **2°2S**±0°.2×**28°87E**±0°.08, **h12**km, **n6, σ1s33/9, mb3.8/3, 1C, Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIG	**Kigali**	**1.21**	**80**	⇑ *i* P	**Pg**	**18 33 55.2**	**+0.5**
KIG				*e*S	**Sb**	**18 34 09.6**	**-0.5**
KIG				AML	AML	18 34 12.5	
	comp=Z,4μm,0.3s						
MBAR	**Mbarara**	**2.44**	**50**	*e*P	**Pn**	**18 34 11.5**	**+0.3**
MBAR				*e*S	**Sn**	**18 34 40.2**	**-0.8**
KMBO	**Kilima Mbogo

	51nm,0.5s							
VRAC	**Vranov**	**1.41**	**239**	⇓	*i*P	**Pn**	**18 53 58.5**	**-0.4**
VRAC	**Vranov**	**1.41**	**239**	⇓	*i*P	**Pn**	**18 53 58.5**	**-0.4**
VRAC					*e*Sg	**Sg**	**18 54 16.5**	**-0.7**
	64nm,0.4s,baz=57							
VRAC					S	**Sb**	**18 54 17.1**	**-0.6**
VYHS	**Vyhne**	**1.57**	**170**		*e*PN	**Pn**	**18 54 00.9**	**-0.2**
VYHS					*e*SN	**Sn**	**18 54 22.0**	**-0.1**
VYHS	**Vyhne**	**1.57**	**170**		*e*Pn	**Pn**	**18 54 00.8**	**-0.3**
	baz=351							
VYHS					*e*Sn	**Sn**	**18 54 22.0**	**-0.1**
KSP	**Ksiaz**	**1.59**	**301**		*e*Pn	**Pb**	**18 54 02.5**	**+0.1**
KSP					*e*Sn	**Sn**	**18 54 22.2**	**-0.5**
KSP	**Ksiaz**	**1.59**	**301**		*e*Pn	**Pb**	**18 54 02.5**	**+0.1**
KSP					*e*Sn	**Sn**	**18 54 22.2**	**-0.5**
KSP	**Ksiaz**	**1.59**	**301**		*e*Pg	**Pn**	**18 54 00.1**	**-1.4**
KSP	**Ksiaz**	**1.59**	**301**		*e*Pg	**Pn**	**18 54 00.9**	**-0.6**
KSP					*e*Sg	**Sn**	**18 54 22.3**	**-0.5**
KRUC	**Moravsky**	**1.66**	**235**		*e*Pn	**Pn**	**18 54 01.2**	**-1.1**
	baz=52							
KRUC					*e*Sg	**Sn**	**18 54 23.8**	**-0.5**
	21nm,0.3s,baz=52							
SMOL	**Smolenice**	**1.67**	**204**		*e*PG	**Pn**	**18 54 01.6**	**-0.9**
SMOL					*e*SG	**Sn**	**18 54 24.3**	**-0.2**
SMOL	**Smolenice**	**1.67**	**204**		*e*Pg	**Pn**	**18 54 01.6**	**-0.9**
SMOL					*e*Sg	**Sn**	**18 54 24.3**	**-0.2**
CRVS	**Cervenica-Dubn**	**2.27**	**119**		*e*PN	**Pb**	**18 54 14.2**	**+0.3**
CRVS					*e*SN	**Sb**	**18 54 43.0**	**+0.5**
CRVS	**Cervenica-Dubn**	**2.27**	**119**		*e*Pn	**Pb**	**18 54 14.2**	**+0.3**
CRVS					*e*Sn	**Sb**	**18 54 43.0**	**+0.5**
PSZ	**Piszkesteto**	**2.33**	**155**	⇓	*i*P	**Pn**	**18 54 12.0**	**+0.4**
PSZ	**Piszkesteto**	**2.33**	**155**	⇓	*i*P	**Pn**	**18 54 12.0**	**+0.4**
PSZ					S	**Sn**	**18 54 42.3**	**+1.4**
PRU	**Pruhonice**	**2.52**	**270**		*e*PG	**Pb**	**18 54 18.1**	**0.0**
PRU					*e*SG	**Sb**	**18 54 49.9**	**+0.3**
	comp=Z,9.8nm,0.5s							
PRU	**Pruhonice**	**2.52**	**270**		Pg	**Pb**	**18 54 18.1**	**0.0**
CONA	**Conrad Observa**	**2.71**	**220**	⇑	*i*Pn	**Pn**	**18 54 14.2**	**-2.7**
CONA				⇓	*i*Sn	**Sn**	**18 54 46.3**	**-4.2**
CONA	**Conrad Observa**	**2.71**	**220**		Pn	**Pn**	**18 54 14.2**	**-2.7**
CONA					Sn	**Sn**	**18 54 46.3**	**-4.2**
KOLS	**Kolonicke sedl**	**2.73**	**112**		*e*PN	**Pn**	**18 54 17.5**	**+0.4**
KOLS	**Kolonicke sedl**	**2.73**	**112**		*e*Pn	**Pn**	**18 54 17.5**	**+0.4**
BRG	**Berggiesshubel**	**3.00**	**288**		PG	**Pg**	**18 54 28.7**	**-0.7**
BRG					SG	**Sg**	**18 55 07.6**	**-0.7**
	8.1nm,0.6s							
KHC	**Kasperske Hory**	**3.29**	**256**		*e*PN	**Pb**	**18 54 25.8**	**+0.9**
KHC					*e*PG	**Pb**	**18 54 33.4**	**+2.0**
KHC					*e*SN	**Sn**	**18 55 01.5**	**-3.3**
KHC					*e*SG	**Sb**	**18 55 15.0**	**+3.0**
	comp=Z,12nm,0.4s							
KHC	**Kasperske Hory**	**3.29**	**256**		Pn	**Pn**	**18 54 25.8**	**+0.9**
MOA	**Molln**	**3.52**	**233**	⇓	*i*Pn	**Pn**	**18 54 26.0**	**-2.0**
MOA				⇑	*i*Pg	**Pb**	**18 54 36.7**	**+1.5**
MOA				⇑	*i*Sg	**Sg**	**18 55 23.0**	**-2.0**
	9.2nm,0.5s							
MOA	**Molln**	**3.52**	**233**		Pn	**Pn**	**18 54 26.0**	**-2.0**
CLL	**Collm**	**3.69**	**292**		*e*Pg	**Pg**	**18 54 45.0**	**+2.3**
CLL					*e*Sg	**Sg**	**18 55 30.0**	**-0.5**
	comp=Z,6.0nm,0.4s							
NKC	**Novy Kostel**	**3.86**	**275**		*e*SG	**Sg**	**18 55 34.8**	**-1.3**
	comp=Z,12nm,0.5s							
NKC	**Novy Kostel**	**3.86**	**275**		Sg	**Sg**	**18 55 34.8**	**-1.3**
	comp=Z,12nm,0.5s							
DRGR		**4.32**	**137**	⇑	*i*P	**Pn**	**18 54 38.6**	**-0.3**
DRGR		**4.32**	**137**	⇑	*i*P	**Pn**	**18 54 38.6**	**-0.3**
DRGR					S	**Sn**	**18 55 28.3**	**-1.7**

*ISK **03** 18:54:20.9, 36°.95N × 34°.36E, h14km, MD2.7*
*DDA **03** 18:54:20.2, 37°.00N × 34°.40E, h7km, MD2.7*
*CSEM **03** 18:54:20.1±0.2, 37°.04N × 34°.32E, h6km, MD2.7, Error ellipse: s-maj=4.4km s-min=1.5km az=96.0*
ISC 03 18:54:20.2±3.9, **37°.03N**±0°.05 × **34°.3E**±0°.2, **h7**km±11km, **n8, σ0s15/13, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MERS	**Mersin**	**0.23**	**135**		*e*PG	**Pg**	**18 54 24.5**	**-0.2**
MERS					*e*SG	**Sg**	**18 54 27.7**	**-0.1**
MERS	**Mersin**	**0.23**	**135**		*i*Pg	**Pg**	**18 54 25.0**	**+0.2**
MERS					*e*Sg	**Sg**	**18 54 28.0**	**+0.2**
GULE	**Gulek**	**0.45**	**55**		*i*P	**Pg**	**18 54 28.8**	**-0.1**
GULE					*i*S	**Sg**	**18 54 34.8**	**+0.1**
GULE	**Gulek**	**0.45**	**55**		*i*P	**Pg**	**18 54 28.8**	**-0.1**
GULE					*i*S	**Sg**	**18 54 34.8**	**+0.1**
KRTS	**Karatas**	**0.96**	**118**		*e*PG	**Pg**	**18 54 38.5**	**-0.1**
KRTS	**Karatas**	**0.96**	**118**		*e*Pg	**Pg**	**18 54 38.6**	**-0.1**
CEYT	**Ceyhan**	**1.14**	**91**		*e*PN	**Pn**	**18 54 42.7**	**0.0**
CEYT	**Ceyhan**	**1.14**	**91**		*e*Pn	**Pn**	**18 54 42.7**	**0.0**
CEYT					*e*Sn	**Sn**	**18 54 58.6**	**0.0**

*IDC **03** 19:06:06.6±0.6, 32°.96S × 71°.79W, h0km, mb4.5/10, mb1 4.6/12, mb1mx4.5/16, mbtmp4.5/12, ML4.3/2, MS4.0/9, Ms1 3.9/9, ms1mx3.8/20, Error ellipse: s-maj=27.4km s-min=16.2km az=93.0*
*ISCJB **03** 19:06:08.0±0.8, 32°.98S±0°.03 × 72°.11W±0°.04, h23km±5km, mb4.6/14, MS4.1/7, Error ellipse: s-maj=6.1km s-min=4.6km az=156.1*
*GUC **03** 19:06:09.1±0.9, 33°.00S × 72°.05W, h30km±6km, ML4.7*
*NEIC **03** 19:06:09.7±1.0, 32°.98S × 71°.98W, h22km±6km, mb4.8/5, ML4.7(GUC), Error ellipse: s-maj=8.2km s-min=4.0km az=86.0*
NEIC Felt [III] at Petorca, San Felipe, Valparaiso and Vina del Mar; [II] at Los Andes and Santiago.
ISC 03 19:06:09.0±1.4, **32°.99S**±0°.03 × **71°.98W**±0°.05, **h18**km±8km, **n97, σ0s73/121, mb4.7/14, MS4.1/7, 16C-12D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.28**	**97**	⇓	*i*P	**Pb**	**19 06 16.5**	**+0.1**
IHA	**Instituto Hidr**	**0.28**	**97**	⇓	*i*P	**Pb**	**19 06 16.5**	**+0.9**
LCCH	**Las Cruces**	**0.59**	**145**		*e*P	**Pg**	**19 06 20.7**	**-0.1**
LCCH	**Las Cruces**	**0.59**	**145**		*e*P	**Pg**	**19 06 20.7**	**-0.1**
PACH	**Papudo**	**0.64**	**45**		*e*P	**Pb**	**19 06 22.3**	**+0.5**
PACH					*e*S	**Sn**	**19 06 31.9**	**-1.2**
PACH	**Papudo**	**0.64**	**45**		*e*P	**Pb**	**19 06 22.3**	**+0.5**
PACH					*e*S	**Sn**	**19 06 31.9**	**-1.2**
ROCH	**El Roble**	**0.81**	**89**	⇓	*i*P	**Pg**	**19 06 24.8**	**-0.2**
ROCH					*i*S	**Sg**	**19 06 36.1**	**+0.3**
ROCH					AML	AML	19 06 38.7	
	comp=E,19μm,0.3s							
LNV	**Longovilo**	**1.07**	**154**	⇓	*i*P	**Pb**	**19 06 28.6**	**-0.5**
LNV	**Longovilo**	**1.07**	**154**	⇓	*i*P	**Pb**	**19 06 28.6**	**-0.5**
TACH	**Talagante**	**1.09**	**128**	⇑	*i*P	**Pb**	**19 06 29.2**	**-0.3**
TACH					*e*S	**Sb**	**19 06 43.7**	**+0.3**
TACH	**Talagante**	**1.09**	**128**	⇑	*i*P	**Pb**	**19 06 29.2**	**-0.3**
TACH					*e*S	**Sb**	**19 06 43.7**	**+0.3**
PEL	**Peldehue**	**1.09**	**98**	⇑	*i*P	**Pn**	**19 06 29.8**	**+0.2**
PEL					*i*S	**Sg**	**19 06 44.8**	**+0.2**
PEL					AML	AML	19 06 49.2	
	comp=N,53μm,0.3s							
RCDM	**Rinconada Maip**	**1.10**	**117**		*e*P	**Pb**	**19 06 29.2**	**-0.4**
RCDM					*e*S	**Sn**	**19 06 44.1**	**-0.2**
RCDM	**Rinconada Maip**	**1.10**	**117**		*e*P	**Pb**	**19 06 29.2**	**-0.4**
RCDM					*e*S	**Sn**	**19 06 44.1**	**-0.2**
RCDM					AML	AML	19 06 49.8	
	comp=N,33μm,0.5s							
PTCH	**Petorca**	**1.14**	**51**	⇓	*i*P	**Pb**	**19 06 30.6**	**+0.3**
PTCH					*i*S	**Sg**	**19 06 46.3**	**+0.2**
PTCH	**Petorca**	**1.14**	**51**	⇓	*i*P	**Pb**	**19 06 30.6**	**+0.3**
PTCH					*i*S	**Sg**	**19 06 46.3**	**+0.2**
PTCH					AML	AML	19 06 47.6	
	comp=E,12μm,0.2s							
SAN	**Santiago**	**1.20**	**113**	⇑	*i*P	**Pb**	**19 06 31.3**	**+0.1**
SAN					*e*S	**Sg**	**19 06 47.7**	**-0.1**
SAN	**Santiago**	**1.20**	**113**	⇑	*i*P	**Pb**	**19 06 31.3**	**+0.1**
SAN					*e*S	**Sg**	**19 06 47.7**	**-0.1**
SAN					AML	AML	19 06 59.3	
	comp=N,20μm,0.8s							
STL	**Santa Lucia**	**1.20**	**112**	⇑	*i*P	**Pn**	**19 06 31.1**	**0.0**
STL					*e*S	**Sg**	**19 06 47.8**	**-0.3**
JACH	**Jahuel**	**1.21**	**76**	⇑	*i*P	**Pn**	**19 06 31.2**	**0.0**
JACH					*e*S	**Sg**	**19 06 47.8**	**-0.3**
JACH	**Jahuel**	**1.21**	**76**	⇑	*i*P	**Pn**	**19 06 31.2**	**0.0**
JACH					*e*S	**Sg**	**19 06 47.8**	**-0.3**
ANTU	**Antumapu**	**1.26**	**118**		*e*P	**Pb**	**19 06 32.4**	**0.0**
ANTU					*i*S	**Sg**	**19 06 50.0**	**0.0**
ANTU	**Antumapu**	**1.26**	**118**		*e*P	**Pb**	**19 06 32.4**	**0.0**
ANTU					*i*S	**Sg**	**19 06 50.0**	**0.0**
ANTU					AML	AML	19 06 52.7	
	comp=E,28μm,0.6s							
CLCH	**Cerro Calan**	**1.27**	**109**	⇓	*i*P	**Pb**	**19 06 32.5**	**0.0**
CLCH					*i*S	**Sg**	**19 06 50.3**	**0.0**
CLCH					AML	AML	19 06 54.2	
	comp=E,31μm,0.5s							
CLCH					AML	AML	19 06 54.4	
	comp=E,26μm,0.9s							
FSR	**Penalolen**	**1.31**	**112**		*e*P	**Pb**	**19 06 33.3**	**+0.1**
FSR					*e*S	**Sg**	**19 06 50.6**	**-0.8**
FSR	**Penalolen**	**1.31**	**112**		*e*P	**Pb**	**19 06 33.3**	**+0.1**
FSR					*e*S	**Sg**	**19 06 50.6**	**-0.8**
FSR					AML	AML	19 06 54.9	
	comp=N,9μm,0.5s							
PCH	**Pirque**	**1.38**	**118**	⇑	*e*P	**Pb**	**19 06 33.9**	**-0.4**
PCH	**Pirque**	**1.38**	**118**	⇑	*e*P	**Pb**	**19 06 33.9**	**-0.4**
CHCH	**Chadas Angostu**	**1.45**	**131**	⇑	*i*P	**Pn**	**19 06 34.6**	**+0.1**
CHCH	**Chadas Angostu**	**1.45**	**131**	⇑	*i*P	**Pn**	**19 06 34.6**	**+0.1**
FCH	**Farellones**	**1.45**	**104**		AML	AML	19 06 43.7	
	comp=E,20μm,0.5s							
SJCH	**San Jose de Ma**	**1.50**	**116**		*e*P	**Pn**	**19 06 35.5**	**+0.3**
SJCH					*i*S	**Sb**	**19 06 55.7**	**+0.3**
SJCH	**San Jose de Ma**	**1.50**	**116**		*e*P	**Pn**	**19 06 35.5**	**+0.3**
SJCH					*i*S	**Sb**	**19 06 55.7**	**+0.3**
SJCH					AML	AML	19 07 03.0	
	comp=E,21μm,0.5s							
CACH	**El Canelo**	**1.61**	**135**	⇑	*i*P	**Pb**	**19 06 37.9**	**-0.4**
CACH	**El Canelo**	**1.61**	**135**	⇑	*i*P	**Pb**	**19 06 37.9**	**-0.4**
LMEL	**Las Melosas**	**1.71**	**120**	⇑	*i*P	**Pb**	**19 06 39.7**	**-0.4**
LMEL					*e*S	**Sb**	**19 07 02.6**	**+1.3**
LMEL	**Las Melosas**	**1.71**	**120**	⇑	*i*P	**Pb**	**19 06 39.7**	**-0.4**
LMEL					*e*S	**Sb**	**19 07 02.6**	**+1.3**
LMEL					AML	AML	19 07 06.5	
	comp=N,28μm,0.7s							
TALC	**Talca**	**2.42**	**173**	⇓	*i*P	**Pn**	**19 06 48.2**	**+0.5**
TALC					*e*S	**Sn**	**19 07 17.2**	**+0.3**
TALC	**Talca**	**2.42**	**173**	⇓	*i*P	**Pn**	**19 06 48.2**	**+0.5**
TALC					*e*S	**Sn**	**19 07 17.2**	**+0.3**
TALC					AML	AML	19 07 30.0	
	comp=E,13μm,0.5s							
TLL	**Tololo Astrono**	**2.99**	**20**	⇓	*i*P	**Pn**	**19 06 56.4**	**+0.6**
TLL	**Tololo Astrono**	**2.99**	**20**	⇓	*i*P	**Pn**	**19 06 56.4**	**+0.6**
CFAA	**Coronel Fontan**	**3.45**	**67**		Pn	**Pn**	**19 07 04.7**	**+2.7**
CFAA					Lg	Lg	19 07 53.5	
CFAA	**Coronel Fontan**	**3.45**	**67**		Pn	**Pn**	**19 07 04.7**	**+2.7**
	comp=E,5.9nm,0.3s,baz=238,slow=12,SNR=106							
CFAA					Lg	Lg	19 07 53.5	
	comp=E,22nm,0.3s,baz=360,slow=15,SNR=11							
CFAA					LR	LR	19 08 39.3	
	comp=E,304nm,19.9s,baz=236,slow=46							
LCO	**Las Campanas**	**4.12**	**16**		*e*Pn	**Pn**	**19 07 10.9**	**-0.4**
LCO					*e*Sn	Sn	19 07 47.9	-11
PLCA	**Paso Flores**	**7.81**	**172**		*e*Pn	**Pn**	**19 08 01.8**	**-0.1**
	comp=E,16nm,0.8s							
PLCA					Lg	Lg	19 10 04.2	
PLCA	**Paso Flores**	**7.81**	**172**		Pn	**Pn**	**19 08 02.6**	**+0.8**
	comp=E,1.5nm,0.3s,baz=324,slow=13,SNR=29							
PLCA					Lg	Lg	19 10 04.2	
	comp=E,0.5nm,0.3s,baz=261,slow=14,SNR=2.9							
TRQA	**Tornquist**	**9.59**	**125**		*e*Pn	**Pn**	**19 08 26.8**	**+0.6**
	comp=E,44nm,0.8s							
LPAZ	**La Paz**	**16.99**	**13**		*e*Pn	**Pn**	**19 10 05.9**	**-0.6**
	comp=E,6.7nm,0.9s							
SIV	**San Ignacio**	**19.59**	**33**		P	**P**	**19 10 35.7**	**-0.7**
SIV	**San Ignacio**	**19.59**	**33**		P	**P**	**19 10 35.7**	**-0.7**
	comp=E,0.2nm,0.3s,baz=241,slow=12,SNR=21							
SIV					LR	LR	19 19 25.2	
	comp=E,508nm,18.3s,slow=41							
EFI	**East Falkland**	**21.25**	**156**		*e*Pn	**P**	**19 10 53.5**	**-0.5**
	comp=E,43nm,0.6s							
USHA	**Ushuaia**	**21.98**	**175**		P	**P**	**19 11 03.1**	**+1.2**
USHA	**Ushuaia**	**21.98**	**175**		P	**P**	**19 11 03.1**	**+1.2**
	comp=E,8.8nm,0.8s,baz=323,slow=7.8,SNR=5.9							
SPB	**Sao Paulo**	**23.51**	**73**		*e*Pn	**P**	**19 11 16.5**	**-1.6**
	comp=E,53nm,1.1s							
SAML	**Samuel**	**25.27**	**21**		*e*Pn	**P**	**19 11 34.0**	**-0.4**
	comp=E,18nm,1.1s							
ATAH	**Atahualpa**	**26.41**	**346**		LR	LR	19 20 20.6	
	comp=E,106nm,19.9s,baz=44,slow=32							
BDFB	**Brasilia**	**27.73**	**57**		P	**P**	**19 11 55.4**	**-1.4**
BDFB	**Brasilia**	**27.73**	**57**		P	**P**	**19 11 55.4**	**-1.4**
	comp=E,12nm,0.9s,baz=234,slow=7.4,SNR=11							
BDFB					LR	LR	19 24 29.4	
	comp=E,565nm,20.5s,baz=88,slow=40							
SDV	**Santo Domingo**	**41.66**	**2**		*e*P	**P**	**19 13 56.4**	**-0.4**
VNA2	**Neumayer--Watz**	**50.92**	**158**		*e*	**P**	**19 15 10.0**	**+1.2**
	baz=295,slow=8.4							
SNAA	**Sanae**	**52.50**	**158**		*e*	P	19 15 16.4	-4.3
SNAA	**Sanae**	**52.50**	**158**		*e*P	P	19 15 15.7	-4.9
	comp=E,12nm,1.0s							
RKT	**Rikitea**	**55.74**	**263**		*e*T	T	20 15 55.9	
	comp=E,1.3nm,0.3s							
QSPA	**South Pole Qui**	**57.24**	**180**		*e*P	**P**	**19 15 55.8**	**+0.6**
	comp=E,11nm,1.1s							
QSPA	**South Pole Qui**	**57.24**	**180**		P	**P**	**19 15 56.0**	**+0.8**
	comp=E,8.2nm,0.9s,baz=157,slow=3.5,SNR=17							
TBI	**Tubuai**	**67.61**	**256**		*e*LR	LR	19 37 37.7	
	comp=E,201nm,25.2s							
TBI					*e*T	T	20 30 44.9	
	comp=E,8.1nm,0.3s							
TXAR	**Lajitas Array**	**68.88**	**331**		P	**P**	**19 17 13.8**	**+1.1**
TXAR	**Lajitas Array**	**68.88**	**331**		P	**P**	**19 17 13.8**	**+1.1**
	comp=E,0.6nm,0.5s,baz=156,slow=8.5,SNR=7.6							
TXAR					LR	LR	19 42 12.8	
	comp=E,103nm,18.6s,baz=175,slow=31							
PPT2	**Papeete2**	**70.43**	**261**		*e*LR	LR	19 38 46.9	
	comp=E,82nm,24.5s							
MAW	**Mawson**	**74.13**	**164**		P	**P**	**19 17 44.0**	**+0.2**
MAW	**Mawson**	**74.13**	**164**		P	**P**	**19 17 44.0**	**+0.2**
	comp=E,31nm,1.1s,baz=220,slow=4.2,SNR=3.4							
MAW					LR	LR	19 49 17.1	
	comp=E,131nm,19.0s,baz=53,slow=35							
DBIC	**Dimbokro**	**74.81**	**71**		P	**P**	**19 17 48.7**	**0.0**
DBIC	**Dimbokro**	**74.81**	**71**		P	**P**	**19 17 48.7**	**0.0**
	comp=E,7.3nm,0.9s,baz=208,slow=6.9,SNR=7.6							
DBIC					LR	LR	19 46 46.3	
	comp=E,90nm,19.1s,baz=214,slow=33							
BOSA	**Boshof**	**80.49**	**118**		P	**P**	**19 18 19.8**	**-0.6**
BOSA	**Boshof**	**80.49**	**118**		P	**P**	**19 18 19.8**	**-0.6**
	comp=E,12nm,1.0s,baz=246,slow=4.5,SNR=12							
BOSA					LR	LR	19 50 37.4	
	comp=E,123nm,18.5s,baz=70,slow=33							
PDAR	**Pinedale Array**	**82.89**	**333**		P	**P**	**19 18 33.2**	**+0.5**
PDAR	**Pinedale Array**	**82.89**	**333**		P	**P**	**19 18 33.2**	**+0.5**
	comp=E,0.4nm,0.7s,baz=168,slow=4.6,SNR=3.2							
TORD	**Torodi Ar. Bea**	**83.82**	**70**		P	**P**	**19 18 37.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**83.82**	**70**		P	**P**	**19 18 37.4**	**-0.4**
	comp=E,8.6nm,0.9s,baz=252,slow=4.6,SNR=36							
TORD					LR	LR	19 52 34.6	
	comp=E,126nm,18.2s,baz=225,slow=33							
SCHQ	**Schefferville**	**87.58**	**3**		P	**P**	**19 18 55.4**	**-0.1**
SCHQ	**Schefferville**	**87.58**	**3**		P	**P**	**19 18 55.4**	**-0.1**
	comp=E,2.1nm,0.9s,baz=192,slow=9.3,SNR=3.8							
DZM	**Mont Dzumac**	**101.88**	**234**		*e*LR	LR	19 53 08.3	
	comp=E,107nm,23.5s							
WRA	**Warramunga Arr**	**121.67**	**209**		PKP	**PKPdf**	**19 25 01.4**	**-1.0**
WRA	**Warramunga Arr**	**121.67**	**209**		PKP	**PKPdf**	**19 25 01.4**	**-1.0**
	comp=E,0.6nm,0.8s,baz=152,slow=1.8,SNR=5.0							
BVAR	**Borovoye Array**	**146.50**	**42**		PKPbc	**PKPab**	**19 25 49.6**	**-0.1**
BVAR	**Borovoye Array**	**146.50**	**42**		PKPbc	**PKPab**	**19 25 49.6**	**-0.1**
	comp=E,2.0nm,0.6s,baz=282,slow=1.8,SNR=11							
HYB	**Hyderabad**	**149.29**	**113**		*i* PKP	**PKPbc**	**19 25 56.5**	**-0.8**
AAK	**Ala-Archa**	**151.97**	**60**		PKPbc	**PKPbc**	**19 26 03.4**	**+0.3**
AAK	**Ala-Archa**	**151.97**	**60**		PKPbc	**PKPbc**	**19 26 03.4**	**+0.3**
	comp=E,7.0nm,1.0s,baz=193,slow=4.0,SNR=12							
KURBB	**Kurchatov Arra**	**152.09**	**42**		PKPbc	**PKPbc**	**19 26 03.1**	**+0.3**
	comp=E,2.7nm,0.7s,baz=305,slow=2.9,SNR=22							
KURBB					PKPab	**PKPab**	**19 26 10.3**	**-2.2**
	comp=E,1.6nm,0.5s,baz=300,slow=3.1,SNR=7.5							
KURK	**Kurchatov**	**152.10**	**42**		PKPbc	**PKPbc**	**19 26 03.1**	**+0.2**
KURK					PKPab	**PKPab**	**19 26 10.3**	**-2.2**
ZALV	**Zalesovo Beam**	**153.34**	**31**		PKP	**PKPdf**	**19 25 58.1**	**+0.1**
ZALV					PKPbc	**PKPbc**	**19 26 05.4**	**-0.1**
ZALV					PKPab	**PKPab**	**19 26 18.1**	**+0.4**
ZALV	**Zalesovo Beam**	**153.34**	**31**		PKP	**PKPdf**	**19 25 58.1**	**+0.1**
	comp=E,0.3nm,0.4s,baz=304,slow=2.7,SNR=3.6							
ZALV					PKPbc	**PKPbc**	**19 26 05.4**	**-0.1**
	comp=E,3.5nm,0.8s,baz=298,slow=3.2,SNR=14							
ZALV					PKPab	**PKPab**	**19 26 18.1**	**+0.4**
	comp=E,3.4nm,0.8s,baz=305,slow=2.1,SNR=7.5							
MKAR	**Makanchi Array**	**156.05**	**47**		PKPab	**PKPab**	**19 26 29.8**	**+0.3**
MKAR	**Makanchi Array**	**156.05**	**47**		PKPab	**PKPab**	**19 26 29.8**	**+0.3**
	comp=E,1.6nm,0.8s,baz=296,slow=4.2,SNR=8.7							
SONM	**Songino Array**	**165.12**	**4**		PKPab	**PKPab**	**19 27 09.9**	**+0.9**
SONM	**Songino Array**	**165.12**	**4**		PKPab	**PKPab**	**19 27 09.9**	**+0.9**
	comp=E,1.9nm,1.2s,baz=288,slow=1.4,SNR=5.3							

MEX 03 19:07:04.5±0.7, **15°.39N** × **95°.81W**, **h29**km±8km, **MD3.5, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
HUIG	**Huatulco**	**0.47**	**323**		*e*P	Pb	19 07 12.4	-2.1
HUIG					*e*S	Sb	19 07 19.6	-1.6
VHO	**Vista Hermosa**	**1.89**	**332**		*i*P	Pn	19 07 33.5	-1.6
VHO					*i*S	Sn	19 07 55.7	-2.5
CMIG	**Matias Romero**	**1.91**	**28**		*e*P	Pn	19 07 33.4	-1.8
CMIG					*i*S	Sn	19 07 55.4	-2.8
PNIG	**Pinotepa**	**2.44**	**294**		*e*P	Pn	19 07 41.4	-1.0
PNIG					*i*S	Sn	19 08 08.1	-3.2
PCIG		**2.52**	**83**		*e*P	Pn	19 07 42.0	-1.5
PCIG					*i*S	Sn	19 08 10.0	-3.2
TGIG		**2.93**	**62**		*i*P	Pn	19 07 47.9	-1.3
TGIG					*i*S	Sn	19 08 21.3	-2.2
CCIG	**Comitan**	**3.65**	**75**		*i*P	Pn	19 07 57.4	-1.9
CCIG					*i*S	Sn	19 08 38.6	-2.8

*ISCJB **03** 19:11:13.9±0.4, 32°.40N±0°.04 × 104°.92E±0°.05, h15km, mb3.9/10, Error ellipse: s-maj=7.2km s-min=4.3km az=31.3*
*IDC **03** 19:11:13.7±0.7, 32°.37N × 105°.08E, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.8/27, mbtmp3.8/12, ML3.3/2, MS2.5/1, Ms1 2.5/1, ms1mx2.1/47, Error ellipse: s-maj=38.1km s-min=15.2km az=63.0*
*BJI **03** 19:11:14.2, 32°.32N × 105°.04E, h9km, mb3.7/2, ML3.6/19, Ms3.8/3, Ms7 3.6/2*
ISC 03 19:11:15.5±0.6, **32°.40N**±0°.04 × **104°.94E**±0°.06, **h15**km, **n29, σ1s29/35, mb4.0/10, 1C, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CD2	**Chengdu**	**1.79**	**214**	⇑	Pn	**Pn**	**19 11 46.1**	**+0.1**
CD2					Pg	**Pg**	**19 11 49.0**	**-0.9**
CD2					Sn	**Sb**	**19 12 09.6**	**-0.8**
CD2					Sg	**Sg**	**19 12 12.0**	**-1.2**
CD2					smax	smax		
	comp=N,8μm,0.5s							
CD2					smax	smax		
	comp=E,2μm,0.7s							
XAN	**Xi'an**	**3.72**	**63**		Pn	Pn	19 12 15.9	+3.4
XAN					Sn	**Sn**	**19 12 54.5**	**-1.6**
XAN					Sg	**Sg**	**19 13 12.8**	**-2.3**
XAN					smax	smax		
	comp=N,220nm,0.4s							
XAN					smax	smax		
	comp=E,130nm,0.6s							
LZH	**Lanzhou**	**3.79**	**346**		*e*Pn	Pn	19 12 17.1	+3.5
LZH					Pg	**Pg**	**19 12 27.0**

*ISCJB **03** 19:39:19.1±1.1, 32.°97S±0.°03 × 72.°14W±0.°06, h23 km±6 km, mb4.3/8, MS3.8/2, Error ellipse: s-maj=8.0km s-min=4.9km az=165.4*
*GUC **03** 19:39:21.5±0.5, 32.°98S × 71.°99W, h15 km±3 km, MD4.1, ML4.2*
*NEIC **03** 19:39:21.6±2.1, 32.°98S × 71.°99W, h27 km±15 km, mb4.5/3, ML4.2(GUC), Error ellipse: s-maj=12.9km s-min=5.2km az=85.0*
NEIC Felt [II] at Santiago.
*IDC **03** 19:39:23.7±4.8, 33.°06S × 71.°89W, h39 km±40 km, mb4.0/6, mb1 4.1/8, mb1mx3.9/15, mbtmp4.0/8, ML3.7/2, MS3.6/4, Ms1 3.6/4, ms1mx3.2/23, Error ellipse: s-maj=36.4km s-min=22.3km az=109.0*

ISC 03 19:39:19.4±1.9, 32.°98S±0.°03 × 72.°07W±0.°06, h12 km±11 km, n48, σ0 §95/67, mb4.4/8, 9C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
ROCH	**El Roble**	**0.89**	**90**	⇓*iP*		**Pg**	**19 39 36.7**	**+0.2**
ROCH				*i* S		**Sb**	**19 39 48.4**	**-0.2**
ROCH				AML		AML	19 39 51.8	
	comp=N,10μm,0.4s							
LNV	**Longovilo**	**1.12**	**151**	⇓*iP*		**Pb**	**19 39 40.3**	**-0.3**
LNV				*i* S		**Sb**	**19 39 55.0**	**-0.2**
LNV	**Longovilo**	**1.12**	**151**	⇓*iP*		**Pb**	**19 39 40.3**	**-0.3**
LNV				⇓*iS*		**Sb**	**19 39 55.0**	**-0.2**
TACH	**Talagante**	**1.16**	**126**	*iP*		**Pb**	**19 39 41.1**	**-0.3**
TACH				*i* S		**Sb**	**19 39 55.7**	**-0.7**
TACH	**Talagante**	**1.16**	**126**	*iP*		**Pb**	**19 39 41.1**	**-0.3**
TACH				*i* S		**Sb**	**19 39 55.7**	**-0.7**
PEL	**Peldehue**	**1.17**	**99**	⇑*iP*		**Pb**	**19 39 41.6**	**+0.1**
PEL				*i* S		**Sb**	**19 39 56.6**	**-0.1**
PEL				AML		AML	19 40 01.0	
	comp=N,16μm,0.4s							
CHNG	**Los Chungos**	**1.19**	**24**	⇑*iP*		**Pn**	**19 39 42.0**	**+0.3**
CHNG				*i* S		**Sb**	**19 39 57.0**	**-0.2**
CHNG	**Los Chungos**	**1.19**	**24**	⇑*iP*		**Pn**	**19 39 42.0**	**+0.3**
CHNG				*i* S		**Sb**	**19 39 57.0**	**-0.2**
SAN	**Santiago**	**1.27**	**112**	⇑*iP*		**Pn**	**19 39 42.8**	**-0.2**
SAN				*i* S		**Sb**	**19 39 58.6**	**-0.9**
SAN	**Santiago**	**1.27**	**112**	⇑*iP*		**Pn**	**19 39 42.8**	**-0.2**
SAN				*i* S		**Sb**	**19 39 58.6**	**-0.9**
SAN				AML		AML	19 40 11.0	
	comp=N,9μm,0.7s							
JACH	**Jahuel**	**1.27**	**77**	*eP*		**Pn**	**19 39 42.7**	**-0.3**
JACH				*i* S		**Sb**	**19 39 58.6**	**-1.1**
JACH	**Jahuel**	**1.27**	**77**	*eP*		**Pn**	**19 39 42.7**	**-0.3**
JACH				*i* S		**Sb**	**19 39 58.6**	**-1.1**
PCH	**Pirque**	**1.45**	**117**	⇑*iP*		**Pn**	**19 39 45.8**	**+0.3**
PCH				*i* S		**Sn**	**19 40 04.0**	**-0.4**
PCH	**Pirque**	**1.45**	**117**	⇑*iP*		**Pn**	**19 39 45.8**	**+0.3**
PCH				*i* S		**Sn**	**19 40 04.0**	**-0.4**
CHCH	**Chadas Angostu**	**1.52**	**129**	*eP*		**Pn**	**19 39 46.5**	**+0.1**
CHCH				*i* S		**Sn**	**19 40 05.9**	**-0.2**
CHCH	**Chadas Angostu**	**1.52**	**129**	*eP*		**Pn**	**19 39 46.5**	**+0.1**
CHCH				*i* S		**Sn**	**19 40 05.9**	**-0.2**
CACH	**El Canelo**	**1.67**	**133**	⇑*iP*		**Pn**	**19 39 49.8**	**+1.2**
CACH				*i* S		**Sb**	**19 40 11.8**	**+0.6**
CACH	**El Canelo**	**1.67**	**133**	⇑*iP*		**Pn**	**19 39 49.8**	**+1.2**
CACH				*i* S		**Sb**	**19 40 11.8**	**+0.6**
CFAA	**Coronel Fontan**	**3.52**	**68**	Pn		Pn	19 40 17.9	+4.0
CFAA				Sn		**Sn**	**19 40 58.8**	**+3.4**
CFAA	**Coronel Fontan**	**3.52**	**68**	Pn		Pn	19 40 17.9	+4.0
	comp=N,3.3nm,0.3s,baz=238,slow=13,SNR=95							
CFAA				Sn		**Sn**	**19 40 58.8**	**+3.4**
	comp=N,2.4nm,0.3s,baz=223,slow=9.5,SNR=5.3							
LCO	**Las Campanas**	**4.12**	**17**	*ePn*		**Pn**	**19 40 22.3**	**0.0**
LCO				*eSn*		**Sn**	**19 41 08.1**	**-2.5**
PLCA	**Paso Flores**	**7.84**	**172**	*ePn*		**Pn**	**19 41 13.9**	**+0.7**
	comp=N,5.5nm,0.7s							
PLCA	**Paso Flores**	**7.84**	**172**	Pn		**Pn**	**19 41 14.1**	**+0.9**
	comp=N,0.2nm,0.3s,baz=338,slow=11,SNR=7.1							
PLCA				LR		LR	19 44 31.9	
	comp=N,149nm,19.3s,baz=259,slow=40							
TRQA	**Tornquist**	**9.66**	**124**	*ePn*		**Pn**	**19 41 38.4**	**+0.3**
	comp=N,16nm,0.7s							
LPAZ	**La Paz**	**16.99**	**13**	*ePn*		**Pn**	**19 43 18.1**	**+0.6**
	comp=N,2.5nm,0.8s							
SIV	**San Ignacio**	**19.62**	**33**	P		**P**	**19 43 47.9**	**+0.1**
SIV	**San Ignacio**	**19.62**	**33**	P		**P**	**19 43 47.9**	**+0.1**
	comp=N,0.2nm,0.3s,baz=229,slow=13,SNR=8.2							
SIV				LR		LR	19 52 46.2	
	comp=N,177nm,18.0s,slow=41							
EFI	**East Falkland**	**21.29**	**155**	*eP*		**P**	**19 44 05.0**	**-0.6**
	comp=N,49nm,0.9s							
SAML	**Samuel**	**25.28**	**21**	*eP*		**P**	**19 44 45.3**	**-0.3**
BDFB	**Brasilia**	**27.79**	**57**	P		**P**	**19 45 08.3**	**-0.2**
BDFB	**Brasilia**	**27.79**	**57**	P		**P**	**19 45 08.3**	**-0.2**
	comp=N,2.9nm,0.5s,baz=249,slow=5.6,SNR=4.4							
BDFB				LR		LR	19 57 06.9	
	comp=N,191nm,21.3s,baz=230,slow=38							
SNAA	**Sanae**	**52.54**	**158**	P		**P**	**19 48 30.3**	**-1.9**
	comp=N,4.9nm,1.0s							
QSPA	**South Pole Qui**	**57.26**	**180**	*eP*		**P**	**19 49 07.4**	**+0.9**
	comp=N,3.6nm,0.8s							
QSPA	**South Pole Qui**	**57.26**	**180**	P		**P**	**19 49 06.4**	**-0.1**
	comp=N,2.1nm,0.7s,baz=165,slow=7.4,SNR=5.8							
TXAR	**Lajitas Array**	**68.83**	**331**	P		**P**	**19 50 25.7**	**+2.0**
TXAR	**Lajitas Array**	**68.83**	**331**	P		**P**	**19 50 25.7**	**+2.0**
	comp=N,0.2nm,0.5s,baz=149,slow=7.7,SNR=3.8							
DBIC	**Dimbokro**	**74.88**	**72**	P		**P**	**19 51 00.1**	**-0.1**
DBIC	**Dimbokro**	**74.88**	**72**	P		**P**	**19 51 00.1**	**-0.1**
	comp=N,2.4nm,0.6s,baz=222,slow=7.2,SNR=5.6							
BOSA	**Boshof**	**80.57**	**118**	P		**P**	**19 51 31.8**	**-0.3**
BOSA	**Boshof**	**80.57**	**118**	P		**P**	**19 51 31.8**	**-0.3**
	comp=N,5.8nm,1.0s,baz=232,slow=12,SNR=5.5							
TORD	**Torodi Ar. Bea**	**83.88**	**70**	P		**P**	**19 51 49.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**83.88**	**70**	P		**P**	**19 51 49.5**	**+0.2**
	comp=N,3.1nm,0.8s,baz=256,slow=5.1,SNR=16							
TORD				LR		LR	20 26 28.4	
	comp=N,69nm,19.7s,baz=15,slow=34							
WRA	**Warramunga Arr**	**121.64**	**209**	PKP		**PKPdf**	**19 58 12.5**	**-1.1**
WRA	**Warramunga Arr**	**121.64**	**209**	PKP		**PKPdf**	**19 58 12.5**	**-1.1**
	comp=N,0.9nm,1.2s,baz=157,slow=1.5,SNR=4.1							
ZALV	**Zalesovo Beam**	**153.37**	**31**	PKPbc		**PKPbc**	**19 59 16.9**	**+0.1**
ZALV	**Zalesovo Beam**	**153.37**	**31**	PKPbc		**PKPbc**	**19 59 16.9**	**+0.1**
	comp=N,1.2nm,0.7s,baz=308,slow=5.1,SNR=6.4							
MKAR	**Makanchi Array**	**156.10**	**47**	PKPab		**PKPab**	**19 59 40.9**	**0.0**
MKAR	**Makanchi Array**	**156.10**	**47**	PKPab		**PKPab**	**19 59 40.9**	**0.0**
	comp=N,0.4nm,0.5s,baz=270,slow=3.2,SNR=7.5							

*DJA **03** 19:44:11, 6.°34S × 130.°66E, h220 km, MLv4.3/6*

IDC 03 19:43:59.8±2.1, 6.°30S × 130.°38E, h0 km, mb3.7/1, mb1 4.0/4, mb1mx3.6/15, mbtmp3.8/4, ML4.0/3, MS3.0/1, Ms1 3.0/1, ms1mx2.5/27, Error ellipse: s-maj=89.7km s-min=26.9km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
FITZ	**Fitzroy Crossi**	**12.61**	**201**	Pn		Pn	19 47 00.6	0.0
	2.0nm,0.3s,baz=34,slow=8.9,SNR=23							
FITZ				Sn		Sn	19 49 09.7	-12
	1.5nm,0.3s,baz=90,slow=18,SNR=8.0							
WRA	**Warramunga Arr**	**14.10**	**165**	Pn		Pn	19 47 19.6	-1.3
	0.5nm,0.3s,baz=348,slow=13,SNR=26							
WRA				Sn		Sn	19 49 44.3	-14
	2.7nm,0.3s,baz=337,slow=22,SNR=17							
ASAR	**Alice Springs**	**17.60**	**169**	P		P	19 48 07.5	-0.3
	0.4nm,0.3s,baz=339,slow=8.7,SNR=18							
ASAR				S		Sn	19 51 08.0	-15
	0.4nm,0.3s,baz=350,slow=25,SNR=8.0							
CTA	**Charters Tower**	**20.63**	**133**	LR		LR	19 56 29.3	
	comp=Z,39nm,18.4s,baz=234,slow=36							
MKAR	**Makanchi Array**	**67.85**	**326**	P		P	19 54 60.0	0.0
	0.3nm,0.3s,baz=116,slow=8.1,SNR=16							

MAN 03 19:54:53, 9.°68N × 125.°30E, h18 km, mb4.3, ML3.2, MS3.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
MSLP	**Maasin**	**0.62**	**316**	*eP*		Pg	19 55 05.4	0.0
MSLP				*eS*		Sn	19 55 17.4	+0.9
BUTP	**Butuan**	**0.78**	**156**	*eP*		Pb	19 55 07.9	-0.1
CGP	**Cagayan de Oro**	**1.36**	**206**	⇑*iP*		Pb	19 55 17.6	-0.3
CGP				*eS*		Sb	19 55 35.5	+0.5
TBP	**Tagbilaran**	**1.42**	**270**	*eP*		Pb	19 55 19.2	+0.3
TBP				*i* S		Sg	19 55 37.8	-1.1
BUKP	**Musuan**	**1.81**	**187**	*eP*		Pb	19 55 26.6	+0.9

*DJA **03** 20:07:00, 1.°24N × 126.°85E, h35 km, MLv3.3/4*

IDC 03 20:06:50.5±2.1, 1.°16N × 126.°67E, h0 km, mb3.2/3, mb1 3.5/3, mb1mx3.2/17, mbtmp3.3/3, MS3.3/1, Ms1 3.2/1, ms1mx2.9/8, Error ellipse: s-maj=167.9km s-min=26.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**22.28**	**161**	P		P	20 11 49.4	-0.1
	0.2nm,0.3s,baz=339,slow=11,SNR=13							
ASAR	**Alice Springs**	**25.66**	**165**	P		P	20 12 22.3	+0.1
	0.2nm,0.4s,baz=347,slow=11,SNR=4.9							
STKA	**Stephens Creek**	**35.78**	**158**	LR		LR	20 28 00.6	
	comp=Z,43nm,19.2s,baz=200,slow=36							
MKAR	**Makanchi Array**	**59.63**	**326**	P		P	20 16 56.4	-0.1
	0.2nm,0.6s,baz=111,slow=7.9,SNR=5.2							

*IDC **03** 20:11:30.6±4.7, 30.°21S × 179.°45W, h0 km, mb3.3/2, mb1 3.6/2, mb1mx3.4/14, mbtmp3.3/2, Error ellipse: s-maj=207.7km s-min=75.3km az=166.0*

ISC 03 20:12:12.7±2.0, 32.°4S±0.°1 × 179.°5E±0.°3, h372 km, n17, σ0 §98/20, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
MXZ	**Matakaoa Point**	**5.28**	**190**	*ePN*		**Pn**	**20 13 36.7**	**+0.5**
MXZ				*eSN*		**S**	**20 14 44.0**	**-0.1**
PUZ	**Puketiti**	**5.79**	**190**	*ePN*		**Pn**	**20 13 41.4**	**-0.4**
PUZ				*eSN*		**S**	**20 14 53.2**	**-1.0**
MWZ	**Matawai**	**6.17**	**195**	*ePN*		**Pn**	**20 13 45.9**	**-0.2**
MWZ				*eSN*		**S**	**20 15 03.8**	**+1.6**
CNGZ	**Carnagh Statio**	**6.20**	**190**	*ePN*		**Pn**	**20 13 47.2**	**+0.8**
URZ	**Urewera**	**6.20**	**198**	*ePN*		**Pn**	**20 13 46.8**	**+0.4**
KNZ	**Kokohu**	**6.81**	**192**	*ePN*		**P**	**20 13 55.2**	**+0.8**
BKZ	**Black Stump Fm**	**7.22**	**199**	*ePN*		**P**	**20 13 58.3**	**-0.8**
WNVZ	**Wahianoa**	**7.64**	**203**	*ePN*		**P**	**20 14 04.8**	**+0.8**
TSZ	**Takapari Road**	**8.20**	**199**	*ePN*		**Pn**	**20 14 09.2**	**-0.2**
BFZ	**Birch Farm**	**8.70**	**197**	*ePN*		**P**	**20 14 16.0**	**-0.7**
MRZ	**Mangatainoka R**	**8.86**	**200**	*eSN*		**S**	**20 15 59.2**	**-0.1**
TCW	**Tory Channel**	**9.77**	**204**	*ePN*		**P**	**20 14 27.9**	**-0.7**
PLWZ	**Palliser**	**9.80**	**199**	*ePN*		**P**	**20 14 28.6**	**-0.2**
THZ	**Tophouse**	**10.76**	**207**	*ePN*		**Pn**	**20 14 37.6**	**-1.9**
ASAR	**Alice Springs**	**40.94**	**270**	P		**P**	**20 19 22.3**	**+1.5**
	0.1nm,0.4s,baz=110,slow=7.7,SNR=3.5							
WRA	**Warramunga Arr**	**42.11**	**276**	P		**P**	**20 19 30.8**	**+0.6**
	0.2nm,0.3s,baz=113,slow=8.1,SNR=7.1							
FINES	**FINESS Array B**	**146.20**	**337**	PKP		**PKPbc**	**20 31 07.7**	**-1.5**
	4.0nm,1.0s,baz=48,slow=2.1,SNR=4.8							

GUC 03 20:20:18.4±0.8, 33.°03S × 72.°04W, h12 km±3 km, MD3.7, ML2.9, 4C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
IHA	**Instituto Hidr**	**0.33**	**90**	⇓*iP*		Pg	20 20 25.5	+0.4
IHA				*i* S		Sg	20 20 30.5	+1.0
ROCH	**El Roble**	**0.86**	**87**	AML		AML	20 20 47.4	
	comp=N,481nm,0.2s							
LNV	**Longovilo**	**1.06**	**151**	⇑*iP*		Pb	20 20 37.5	-1.3
LNV				*i* S		Sb	20 20 51.3	-1.4
RCDM	**Rinconada Maip**	**1.13**	**115**	*eP*		Pb	20 20 38.7	-1.3
RCDM				*i* S		Sb	20 20 53.5	-1.1
RCDM				AML		AML	20 20 58.1	
	comp=N,482nm,0.3s							
PEL	**Peldehue**	**1.14**	**96**	⇑*iP*		Pb	20 20 38.7	-1.5
PEL				*i* S		Sb	20 20 54.9	-0.2
PEL				AML		AML	20 20 60.0	
	comp=E,714nm,0.3s							
CHNG	**Los Chungos**	**1.23**	**22**	AML		AML	20 20 56.5	
	comp=E,163nm,0.3s							
SAN	**Santiago**	**1.23**	**111**	*eP*		Pn	20 20 40.6	-0.9
SAN				*eS*		Sb	20 20 57.1	-0.4
JACH	**Jahuel**	**1.26**	**75**	⇑*iP*		Pn	20 20 40.5	-1.5
JACH				*eS*		Sb	20 20 57.3	-1.3
CLCH	**Cerro Calan**	**1.31**	**107**	⇓*iP*		Pn	20 20 41.5	-1.2
CLCH				*i* S		Sb	20 20 58.8	-1.2
CLCH				AML		AML	20 21 03.2	
	comp=N,388nm,0.6s							
CLCH				AML		AML	20 21 07.5	
	comp=N,512nm,0.4s							
PCH	**Pirque**	**1.41**	**115**	⇓*iP*		Pn	20 20 43.1	-1.0
PCH				*i* S		Sn	20 21 01.8	-0.8
CHCH	**Chadas Angostu**	**1.47**	**128**	*iP*		Pn	20 20 44.1	-0.7
CHCH				*i* S		Sn	20 21 03.5	-0.6
FCH	**Farellones**	**1.50**	**102**	AML		AML	20 20 53.5	
	comp=N,546nm,0.3s							
CACH	**El Canelo**	**1.62**	**133**	⇑*iP*		Pn	20 20 46.9	-0.2
LMEL	**Las Melosas**	**1.74**	**119**	⇓*iP*		Pn	20 20 48.6	0.0
LMEL				*eS*		Sn	20 21 11.7	+0.7
LMEL				AML		AML	20 21 16.6	
	comp=E,358nm,0.2s							

*MAN **03** 20:30:50, 10.°92N × 124.°78E, h1 km, mb4.7, ML3.5, MS3.5*
*IDC **03** 20:30:51.4±1.9, 10.°62N × 124.°21E, h0 km, mb3.3/4, mb1 3.4/4, mb1mx3.2/21, mbtmp3.3/4, Error ellipse: s-maj=186.3km s-min=26.5km az=69.0*

ISC 03 20:30:51.2±2.6, 10.°93N±0.°09 × 124.°8E±0.°2, h1 km±15 km, n7, σ1 §00/9, mb3.3/4, Leyte

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
OCLP	**Ormoc**	**0.19**	**309**	*eP*		**Pg**	**20 30 54.0**	**-0.9**
OCLP				*eS*		**Sg**	**20 30 58.1**	**+0.8**
MSLP	**Maasin**	**0.80**	**173**	*eP*		**Pg**	**20 31 06.6**	**0.0**
MSLP				*eS*		**Sn**	**20 31 21.9**	**-0.3**
TBP	**Tagbilaran**	**1.52**	**216**	*eP*		**Pb**	**20 31 20.5**	**+0.3**
ASAR	**Alice Springs**	**35.53**	**165**	P		**P**	**20 37 49.0**	**-1.1**
	0.3nm,0.7s,baz=347,slow=7.3,SNR=4.5							
SONM	**Songino Array**	**39.89**	**341**	P		**P**	**20 38 28.3**	**+1.4**
	0.3nm,0.8s,baz=144,slow=8.6,SNR=3.8							
MKAR	**Makanchi Array**	**50.60**	**323**	P		**P**	**20 39 51.8**	**0.0**
	0.3nm,0.7s,baz=124,slow=7.8,SNR=4.1							
KURBB	**Kurchatov Arra**	**54.69**	**326**	P		**P**	**20 40 21.4**	**-0.5**
	0.4nm,0.6s,baz=127,slow=6.7,SNR=7.2							

*IDC **03** 20:36:43.9±4.9, 29.°75S × 178.°74W, h0 km, mb3.7/2, mb1 4.0/2, mb1mx3.7/14, mbtmp3.7/2, Error ellipse: s-maj=231.2km s-min=77.2km az=166.0*

ISC 03 20:37:34.5±2.6, 30.°9S±0.°2 × 179.°8E±0.°4, h426 km, n11, σ0 §57/11, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
PUZ	**Puketiti**	**7.29**	**190**	*ePN*		**P**	**20 39 22.1**	**+0.1**
MWZ	**Matawai**	**7.67**	**194**	*ePN*		**P**	**20 39 25.8**	**-0.3**
URZ	**Urewera**	**7.70**	**196**	*ePN*		**P**	**20 39 25.8**	**-0.5**
KNZ	**Kokohu**	**8.31**	**192**	*ePN*		**P**	**20 39 34.1**	**+1.2**
BHHZ	**Black Hill Sta**	**9.12**	**199**	*ePN*		**P**	**20 39 41.9**	**0.0**
KAHZ	**Kahuranaki**	**9.22**	**194**	*ePN*		**P**	**20 39 42.7**	**-0.2**
MRZ	**Mangatainoka R**	**10.35**	**198**	*ePN*		**P**	**20 39 55.2**	**-0.2**
OGWZ	**Otaki Gorge**	**10.61**	**200**	*ePN*		**P**	**20 39 57.7**	**-0.5**
ASAR	**Alice Springs**	**41.21**	**268**	P		**P**	**20 44 40.9**	**+0.4**
	0.4nm,0.4s,baz=98,slow=6.8,SNR=5.7							
WRA	**Warramunga Arr**	**42.24**	**274**	P		**P**	**20 44 49.0**	**+0.3**
	0.7nm,0.4s,baz=112,slow=7.8,SNR=20							
FINES	**FINESS Array B**	**144.92**	**338**	PKP		**PKPdf**	**20 56 20.7**	**-0.5**
	1.7nm,0.9s,baz=59,slow=3.6,SNR=7.6							

IDC 03 20:40:56.9±5.2, 30.°76S × 178.°54W, h0 km, mb3.6/2, mb1 3.9/2, mb1mx3.6/14, mbtmp3.6/2, Error ellipse: s-maj=201.5km s-min=56.7km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
WPHZ	**Waipukurau**	**10.15**	**202**	*eSN*		Sn	20 44 39.2	-39
ASAR	**Alice Springs**	**42.63**	**268**	P		P	20 48 54.8	0.4
	0.4nm,0.6s,baz=106,slow=7.6,SNR=5.5							
WRA	**Warramunga Arr**	**43.65**	**273**	P		P	20 49 03.5	0.0
	0.4nm,0.3s,baz=114,slow=8.1,SNR=7.3							
FINES	**FINESS Array B**	**145.32**	**339**	PKPbc		PKPbc	21 00 34.9	-0.8
	2.9nm,0.8s,baz=48,slow=2.1,SNR=7.4							

*DJA **03** 21:03:48, 0.°74S × 133.°37E, h21 km, MLv4.2/3*

IDC 03 21:03:42.8±2.6, 0.°66S × 133.°64E, h0 km, mb3.7/4, mb1 3.9/6, mb1mx3.6/20, mbtmp3.7/6, ML3.8/2, MS3.1/3, Ms1 3.1/3, ms1mx2.6/32, Error ellipse: s-maj=127.1km s-min=20.5km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
FITZ	**Fitzroy Crossi**	**19.03**	**204**	P		P	21 08 06.7	+0.2
	0.4nm,0.3s,baz=47,slow=13,SNR=5.0							
FITZ				S		Sn	21 11 23.5	-18
	0.2nm,0.3s,baz=74,slow=18,SNR=3.5							
FITZ				LR		LR	21 15 17.8	
	comp=Z,22nm,20.6s,baz=248,slow=36							
WRA	**Warramunga Arr**	**19.17**	**178**	P		P	21 08 08.5	+0.3
	0.2nm,0.3s,baz=357,slow=13,SNR=8.7							
WRA				S		Sn	21 11 34.9	-10
	0.1nm,0.3s,baz=353,slow=22,SNR=5.1							
ASAR	**Alice Springs**	**22.87**	**179**	P		P	21 08 47.9	-0.3
	2.2nm,0.7s,baz=8.4,slow=11,SNR=18							
STKA	**Stephens Creek**	**31.94**	**167**	LR		LR	21 23 57.6	
	comp=Z,35nm,19.4s,baz=205,slow=38							
ASAJ	**Asahikawa**	**45.30**	**9**	LR		LR	21 30 17.1	
	comp=Z,53nm,18.6s,baz=327,slow=35							
MKAR	**Makanchi Array**	**65.12**	**324**	P		P	21 14 25.0	-0.6
	0.5nm,0.6s,baz=115,slow=7.3,SNR=7.6							
KURBB	**Kurchatov Arra**	**69.18**	**326**	P		P	21 14 50.7	-0.5
	0.7nm,0.9s,baz=116,slow=5.3,SNR=5.7							
BVAR	**Borovoye Array**	**74.77**	**326**	P		P	21 15 26.2	+1.4
	0.5nm,0.6s,baz=122,slow=5.4,SNR=3.8							

MAN 03 21:15:59, 15.°71N × 120.°13E, h1 km, mb4.2, ML3.0, MS2.8, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
BOLP	**Bolinao**	**0.70**	**343**	*iP*		Pg	21 16 11.8	-0.5
PCPH	**Palayan**	**0.95**	**99**	⇑*eP*		Pb	21 16 17.8	-0.4
PCPH				*eS*		Sn	21 16 32.9	-0.7
BALP	**Baler**	**1.40**	**89**	*eP*		Pn	21 16 25.7	+0.1
ABRA	**Dolores**	**2.01**	**16**	*eP*		Pn	21 16 35.0	+1.0
CAUP	**Cauayan**	**2.04**	**53**	*eP*		Pn	21 16 35.5	+1.0
PIP	**Pasuquin**	**2.64**	**10**	⇓*iP*		Sn	21 17 14.3	-1.2
PIP				*i* S		Sb	21 17 20.5	+0.3

*MOS **03** 21:20:13.7±1.4, 52.°26N × 106.°70E, h10 km, mb4.3/1, Error ellipse: s-maj=23.2km s-min=17.4km az=77.6*

BYKL 03 21:20:14.9±0.2, 52.°14N × 106.°42E, h24 km±3 km, 6C-8D, Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
KAB	**Kabansk**	**0.17**	**122**	⇑*iPG*		Pb	21 20 19.9	-0.2
KAB				*i*			21 20 23.6	
KAB				pmax		pmax		
	comp=Z,2μm,0.2s							
KAB				smax		smax		
	comp=N,18μm,0.6s							
KAB	**Kabansk**	**0.17**	**122**	⇑*iPg*		Pb	21 20 19.9	-0.2
KAB				*i* Sg		Sb	21 20 23.6	-0.1
KAB				Pmax				
	comp=N,2μm,0.2s							
KAB				Smax				
	comp=N,16μm,0.6s							
ZRHB	**Zarechye**	**0.61**	**47**	⇓*iPg*		Pb	21 20 26.9	-0.1
ZRHB				*i* Sg		Sb	21 20 35.6	+0.3
ZRHB				*e*Sb		Sn	21 20 37.7	+0.4
ZRHB				Pmax				
	comp=N,143nm,0.2s							
ZRHB				max				
	comp=N,4μm,0.5s							
TRG	**Tyrgan**	**0.62**	**356**	⇓*iPG*		Pb	21 20 26.9	-0.4
TRG				*e*			21 20 35.6	
TRG				pmax		pmax		
	comp=Z,202nm,0.1s							
TRG				smax		smax		
	comp=E,2μm,0.1s							
TRG	**Tyrgan**	**0.62**	**356**	⇓*iPg*		Pb	21 20 26.9	-0.4
TRG				*i* Sg		Sb	21 20 35.7	0.0
TRG				Pmax				
	comp=E,203nm,0.1s							
TRG				Smax				
	comp=E,2μm,0.1s							
UUDB	**Ulan-Yde**	**0.82**	**109**	⇑*iPg*		Pb	21 20 30.0	-0.5
UUDB				*e*Sg		Sb	21 20 40.9	-0.2
UUDB				*e*Sb		Sn	21 20 44.6	+2.3
UUDB				max				
	comp=E,447nm,0.2s							
LSTR	**Listvyanka**	**1.02**	**255**	⇑*iPg*		Pn	21 20 33.8	+0.1
LSTR				*i* Sg		Sn	21 20 47.3	0.0
LSTR				Pmax				
	comp=E,97nm,0.4s							
LSTR				Smax				
	comp=E,589nm,0.2s							
IRK	**Irkutsk**	**1.33**	**275**	*e*PG		Pb	21 20 39.5	+0.4
IRK				*e*			21 20 56.6	
IRK				pmax		p

	comp=N,19nm,1.2s								
ORL	**Orlik**	**4.07**	**278**	*e*PN		Pn	21 21 18.3	+2.5	
ORL				*e*			21 21 28.4		
ORL				*e*			21 22 20.6		
ORL				pmax	pmax				
	comp=Z,19nm,0.8s								
ORL				smax	smax				
	comp=N,64nm,1.3s								
ORL	**Orlik**	**4.07**	**278**	⇓*i*Pn		Pn	21 21 18.0	+2.2	
ORL				*e*Pg		Pb	21 21 27.9	+1.8	
ORL				*i* Sg		Sb	21 22 21.0	+6.0	
ORL				Pmax					
	comp=N,16nm,0.8s								
ORL				Smax					
	comp=N,64nm,1.0s								
NIZ	**Nizh Angarsk**	**4.08**	**26**	*e*Pn		Pn	21 21 15.0	-0.8	
NIZ				*e*Pg		Pb	21 21 28.7	+2.6	
NIZ				*e*			21 22 12.3		
NIZ				*e*Sg		Sb	21 22 20.4	+5.5	
NIZ				Pmax					
	comp=N,4.0nm,0.2s								
NIZ				Smax					
	comp=N,37nm,0.6s								
ULN	**Ulaanbaatar**	**4.30**	**174**	*e*		Pb	21 21 26.7	-3.3	
ULN				*e*Pg		Pn	21 21 32.1	+13	
ULN				*e*Sg		Sb	21 22 28.4	+6.9	
ULN				*e*			21 22 31.0		
CIT	**Chita**	**4.40**	**89**	*e*Sg		Sb	21 22 29.7	+5.5	
CIT				Smax					
	comp=N,96nm,0.6s								
KPC	**Khapcheranga**	**4.49**	**121**	*e*PN		Pb	21 21 35.2	+2.1	
KPC				*e*			21 22 33.7		
KPC				pmax	pmax				
	comp=Z,40nm,0.6s								
KPC				smax	smax				
	comp=E,62nm,0.7s								
KPC	**Khapcheranga**	**4.49**	**121**	⇑*i*Pn		Pn	21 21 21.4	-0.1	
KPC				*e*Pg		Pb	21 21 35.8	+2.7	
KPC				*e*			21 21 40.2		
KPC				*e*Sg		Sb	21 22 34.7	+7.9	
KPC				max					
	comp=E,25nm,0.6s								
KPC				Smax					
	comp=E,57nm,1.1s								
KMO	**Kumora**	**4.69**	**35**	*e*Pg		Pb	21 21 40.0	+3.5	
KMO				*e*			21 21 47.0		
KMO				*e*Sg		Sb	21 22 41.0	+8.5	
KMO				*e*			21 22 44.1		
KMO				max					
	comp=E,7.0nm,0.3s								
KMO				max					
	comp=E,34nm,1.5s								
YOA	**Uoyan**	**5.07**	**36**	*e*Sg		Sb	21 22 53.1	+10	
YOA				Smax					
	comp=E,57nm,0.9s								
NLYR	**Nelyaty**	**6.96**	**48**	*e*PG		Pb	21 22 20.4	+5.3	
NLYR				*e*			21 23 50.1		
NLYR				pmax	pmax				
	comp=Z,19nm,0.6s								
NLYR				smax	smax				
	comp=E,34nm,0.7s								
NLYR	**Nelyaty**	**6.96**	**48**	*e*Sg		Sb	21 23 49.4	+12	
NLYR				Smax					
	comp=E,26nm,1.1s								
BOD	**Bodaibo**	**7.17**	**34**	*e*		Pb	21 22 51.2	+33	
BOD				*e*Sg		Sb	21 23 56.1	+13	
BOD				Smax					
	comp=E,4.0nm,1.0s								
CRS	**Chara**	**8.38**	**51**	*e*PG		Pb	21 22 47.9	+8.7	
CRS	**Chara**	**8.38**	**51**	*e*		Pb	21 23 21.2	+42	
CRS				*e*Sg		Sb	21 24 34.9	+17	
CRS				*e*			21 24 38.1		
CRS				max					
	comp=E,8.0nm,1.0s								
TUP	**Tupik**	**8.43**	**69**	*e*PN		Pn	21 22 15.1	-0.4	
TUP				*e*			21 22 44.6		
TUP				pmax	pmax				
	comp=Z,1.0nm,0.4s								
TUP	**Tupik**	**8.43**	**69**	*e*Sg		Sb	21 24 35.5	+16	
TUP				Smax					
	comp=Z,21nm,1.0s								

*ISCJB **03** 21:36:18.8±1.4,38°.3N±0°.1×38°.83E±0°.07,h11km, Error ellipse: s-maj=17.4km s-min=5.5km az=160.0*
*DDA **03** 21:36:19.3,38°.33N×38°.79E,h7km,MD2.8*
ISC 03 21:36:18.9±2.0,38°.3N±0°.1×38°.84E±0°.05,h11km,n5,
σ0s17/8,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.26**	**26**	*i* P	**Pg**	**21 36 24.5**	**+0.2**
ELZG				*i* S	**Sg**	**21 36 27.7**	**-0.3**
MALT	**Malatya**	**0.33**	**279**	*e*PG	**Pg**	**21 36 25.6**	**+0.1**
MYA	**Malataya**	**0.33**	**281**	*e*PG	**Pg**	**21 36 25.6**	**+0.1**
MYA				*e*SG	**Sg**	**21 36 29.9**	**-0.1**
SVRC	**Sivrice-ELAZID**	**0.39**	**73**	*e*PG	**Pg**	**21 36 26.6**	**0.0**
AKCD	**Akcadag**	**0.72**	**273**	*i* P	**Pg**	**21 36 32.8**	**-0.1**
AKCD				*i* S	**Sg**	**21 36 42.4**	**+0.1**

*IDC **03** 21:38:46.6±1.6,0°.17S×133°.09E,h0km,mb3.8/6, mb1 4.0/7,mb1mx3.8/18,mbtmp3.8/7,ML4.1/1, Error ellipse: s-maj=76.8km s-min=13.6km az=75.0*
*ISCJB **03** 21:38:48.2±0.6,0°.15S±0°.09×133°.5E±0°.2,h33km,mb3.9/8, Error ellipse: s-maj=28.3km s-min=10.4km az=160.7*
*NEIC **03** 21:38:50.5±0.6,0°.18S×133°.42E,h35km,mb3.9/3,Error ellipse: s-maj=25.9km s-min=9.4km az=71.0*
ISC 03 21:38:50.6±0.9,0°.2S±0°.1×133°.4E±0°.2,h35km,n19,
σ1s01/19,mb3.8/8,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**19.66**	**177**	*e*P	**P**	**21 43 17.0**	**+0.4**
	3.5nm,0.4s						
WRA	**Warramunga Arr**	**19.66**	**177**	P	**P**	**21 43 16.4**	**-0.3**
WRA				S	S	21 46 47.0	-10
WRA	**Warramunga Arr**	**19.66**	**177**	P	**P**	**21 43 16.4**	**-0.3**
	0.5nm,0.3s,baz=354,slow=11,SNR=24						
WRA				S	S	21 46 47.0	-10
	0.1nm,0.3s,baz=359,slow=23,SNR=4.7						
AS31	**Alice Springs**	**23.35**	**179**	*e*P	**P**	**21 43 55.9**	**-0.2**
ASAR	**Alice Springs**	**23.35**	**179**	P	**P**	**21 43 56.1**	**+0.1**
ASAR				S	S	21 48 14.0	+7.3
ASAR	**Alice Springs**	**23.35**	**179**	P	**P**	**21 43 56.1**	**+0.1**
	4.0nm,0.5s,baz=356,slow=12,SNR=65						
ASAR				S	S	21 48 14.0	+7.3
	0.4nm,0.5s,baz=357,slow=25,SNR=3.6						
HNR	**Honiara**	**28.00**	**110**	*e*P	**P**	**21 44 36.8**	**-1.7**
	98nm,0.3s						
STKA	**Stephens Creek**	**32.47**	**167**	*e*P	**P**	**21 45 18.8**	**+1.0**
	0.5nm,0.6s						
STKA	**Stephens Creek**	**32.47**	**167**	P	**P**	**21 45 18.6**	**+0.8**
	1.5nm,0.5s,baz=352,slow=10,SNR=5.0						
CMAR	**Chiang Mai Arr**	**38.56**	**301**	P	**P**	**21 46 08.6**	**-1.7**
CMAR	**Chiang Mai Arr**	**38.56**	**301**	P	**P**	**21 46 08.6**	**-1.7**
	0.8nm,0.8s,baz=128,slow=5.9,SNR=7.4						
ULN	**Ulaanbaatar**	**53.04**	**338**	*e*P	**P**	**21 48 04.5**	**+0.2**
	1.4nm,0.9s						
SONM	**Songino Array**	**53.26**	**338**	P	**P**	**21 48 07.5**	**+1.5**
SONM	**Songino Array**	**53.26**	**338**	P	**P**	**21 48 07.5**	**+1.5**
	0.1nm,0.5s,baz=134,slow=6.2,SNR=4.7						
MK31	**Makanchi Array**	**64.57**	**324**	*e*P	**P**	**21 49 24.3**	**0.0**
MKAR	**Makanchi Array**	**64.57**	**324**	P	**P**	**21 49 25.0**	**+0.6**
MKAR	**Makanchi Array**	**64.57**	**324**	P	**P**	**21 49 25.0**	**+0.6**
	0.5nm,0.6s,baz=127,slow=6.0,SNR=15						
BVAR	**Borovoye Array**	**74.22**	**326**	P	**P**	**21 50 24.1**	**+0.3**
BVAR	**Borovoye Array**	**74.22**	**326**	P	**P**	**21 50 24.1**	**+0.3**
	0.6nm,0.7s,baz=126,slow=7.3,SNR=4.6						

PRE 03 21:48:56.2±0.9,26°.89S×26°.82E,h2km,ML1.6,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFSD	**Buffelsfontein**	**0.04**	**309**	*e*P	Pg	21 48 57.2	-0.1
BFSD				*e*S	Sg	21 48 57.9	-0.1
BFSD				AML	AML	21 48 59.1	
	comp=Z,709nm,0.2s						
MOAB	**Moab Khotsong**	**0.10**	**191**	*e*P	Pg	21 48 58.6	+0.2
MOAB				*e*S	Sg	21 48 59.5	-0.4
MOAB				AML	AML	21 49 01.3	
	comp=Z,361nm,0.2s						

TLEK	**Tau Lekoa**	**0.15**	**242**	*e*P		Pg	21 48 59.1	-0.3	
TLEK				*e*S		Sg	21 49 01.1	-0.4	
PRYS	**Parys**	**0.48**	**94**	*e*P		Pg	21 49 06.2	+0.5	
PRYS				*e*S		Sg	21 49 12.0	-0.1	
PRYS				AML	AML		21 49 18.2		
	comp=Z,16nm,0.5s								
ERPM	**east rand prop**	**1.38**	**67**	*e*P		Pb	21 49 23.9	+0.8	
ERPM				*e*S		Sn	21 49 43.1	+1.3	
ERPM				AML	AML		21 49 45.0		
	comp=Z,5.7nm,0.2s								
LBTB	**Lobatse**	**2.17**	**329**	*e*P		Pn	21 49 34.8	+1.3	
LBTB				*e*S		Sn	21 50 01.2	+0.1	
LBTB				AML	AML		21 50 05.3		
	comp=Z,2.5nm,0.5s								
BOSA	**Boshof**	**2.21**	**219**	*e*P		Pn	21 49 34.5	+0.4	
BOSA				*e*S		Sn	21 50 02.4	+0.3	
BOSA				AML	AML		21 50 13.1		
	comp=Z,1.5nm,0.2s								

*ISCJB **03** 22:06:15.5±0.2,43°.76N±0°.01×105°.31W±0°.02,h0km, Error ellipse: s-maj=2.1km s-min=1.7km az=160.2*
*NEIC **03** 22:06:15.6±0.5,43°.87N×105°.35W,h0km,ML3.3,Error ellipse: s-maj=6.9km s-min=5.0km az=7.0,Suspected Mining explosion.*
NEIC 50 km [30 miles] SSE of Gillette.
*IDC **03** 22:06:16.8±1.6,43°.84N×105°.62W,h0km,mb1 3.5/5, mb1mx3.3/27,mbtmp3.3/5,ML3.2/5,Error ellipse: s-maj=49.1km s-min=8.3km az=147.0*
ISC 03 22:06:16.3±0.6,43°.76N±0°.02×105°.37W±0°.02,h0km,n173,
σ1s56/242,69C-64D,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.21**	**341**	⇑P	**Pg**	**22 06 21.8**	**+1.5**
	baz=0.1,SNR=98						
I23A				⇑S	**Sg**	**22 06 24.8**	**+1.8**
	baz=0.1						
J23A	**Dilts Ranch, B**	**0.38**	**201**	P	**Pg**	**22 06 24.2**	**+0.6**
	baz=0.5,SNR=126						
I24A	**Kuemmerle Ranc**	**0.55**	**80**	P	**Pg**	**22 06 25.9**	**-0.9**
	baz=0.5,SNR=273						
I24A				⇓S	**Sg**	**22 06 32.4**	**-1.4**
	baz=0.5						
J24A	**Dixon Ranch, L**	**0.67**	**130**	P	**Pg**	**22 06 28.1**	**-1.0**
	baz=0.7,SNR=77						
H23A	**Clabaugh Cattl**	**0.80**	**358**	⇓P	**Pg**	**22 06 31.6**	**0.0**
	baz=0.7,SNR=40						
I22A	**9 Mile Ranch,**	**0.82**	**280**	P	**Pb**	**22 06 33.0**	**-0.5**
	baz=0.8,SNR=633						
J22A	**Midwest**	**0.88**	**247**	⇑P	**Pg**	**22 06 33.3**	**+0.2**
	baz=0.9,SNR=241						
K23A	**Bowen Ranch, D**	**1.02**	**191**	⇑P	**Pg**	**22 06 35.3**	**-0.6**
	baz=1.1						
RSSD	**Black Hills**	**1.03**	**69**	*e*P	**Pg**	**22 06 34.5**	**-1.5**
RSSD				*e*S	**Sn**	**22 06 55.0**	**+1.6**
H22A	**Clearmont**	**1.09**	**320**	⇓P	**Pb**	**22 06 37.8**	**-0.3**
	baz=1.0,SNR=89						
K24A	**Anderson Ranch**	**1.11**	**159**	⇓P	**Pg**	**22 06 36.4**	**-1.3**
	baz=1.2,SNR=72						
H24A	**Dirks Ranch, A**	**1.15**	**30**	⇑P	**Pg**	**22 06 36.9**	**-1.3**
	baz=1.0						
H24A				⇓S	**Sg**	**22 06 53.2**	**+0.1**
	baz=1.0						
I21A	**Big Trails, Te**	**1.39**	**273**	⇑P	**Pg**	**22 06 42.2**	**-0.8**
	baz=1.4						
I21A				⇓S	**Sn**	**22 07 02.8**	**+0.5**
	baz=1.4						
K22A	**Casper**	**1.40**	**218**	⇓P	**Pn**	**22 06 42.2**	**-1.0**
	baz=1.5,SNR=78						
G23A	**Biddle**	**1.44**	**359**	⇓P	**Pn**	**22 06 42.8**	**-0.9**
	baz=1.3,SNR=270						
H21A	**Big Horn, Sher**	**1.48**	**306**	⇑P	**Pb**	**22 06 44.8**	**0.0**
	baz=1.4,SNR=76						
H21A				⇑S	**Sn**	**22 07 06.0**	**+1.5**
	baz=1.4						
J21A	**Lysite**	**1.57**	**255**	⇑P	**Pn**	**22 06 45.2**	**-0.4**
	baz=1.6,SNR=91						
J21A				⇑S	**Sg**	**22 07 07.2**	**+0.5**
	baz=1.6						
K25A	**Mack Ranch, Ha**	**1.59**	**136**	⇑Pb	**Pn**	**22 06 45.2**	**-0.7**
	baz=1.7,SNR=36						
K25A				⇓S	**Sn**	**22 07 05.6**	**-1.5**
	baz=1.7						
G22A	**Birney**	**1.60**	**336**	⇓P	**Pb**	**22 06 46.3**	**-0.5**
	baz=1.5,SNR=68						
L23A	**Garrett**	**1.67**	**189**	⇓P	**Pn**	**22 06 46.2**	**-0.8**
	baz=1.8,SNR=576						
G24A	**Alzada**	**1.71**	**23**	⇑P	**Pn**	**22 06 47.2**	**-0.2**
	baz=1.6,SNR=45						
L24A	**Wheatland**	**1.75**	**169**	⇓P	**Pn**	**22 06 46.8**	**-1.2**
	baz=1.8,SNR=13						
K21A	**Alcova**	**1.78**	**231**	P	**Pn**	**22 06 49.1**	**+0.6**
	baz=1.9,SNR=406						
K21A				⇓Sb	**Sg**	**22 07 14.3**	**+0.8**
	baz=1.9						
L22A	**Ellis Ranch, M**	**1.90**	**205**	⇑P	**Pn**	**22 06 50.4**	**+0.2**
	baz=2.0						
L22A				⇑Sb	**Sb**	**22 07 16.9**	**+0.6**
	baz=2.0						
L25A	**Engebretsen Ra**	**1.91**	**147**	⇓Pb	**Pn**	**22 06 50.5**	**+0.3**
	baz=2.0						
L25A				⇑Sb	**Sn**	**22 07 16.1**	**+1.1**
	baz=2.0						
K26A	**Motz Farm, Whi**	**1.92**	**123**	⇑P	**Pn**	**22 06 49.5**	**-0.8**
	baz=2.0,SNR=41						
K26A				⇑Sb	**Sn**	**22 07 16.1**	**+0.9**
	baz=2.0						
F23A	**Volborg**	**1.96**	**359**	P	**Pn**	**22 06 51.1**	**+0.2**
	baz=1.9,SNR=105						
F23A				⇑S	**Sb**	**22 07 17.6**	**-0.2**
	baz=1.9						
G21A	**Lodge Grass**	**1.97**	**319**	⇑P	**Pn**	**22 06 51.8**	**+0.8**
	baz=1.9,SNR=73						
G21A				⇓Sb	**Sg**	**22 07 20.9**	**+1.4**
	baz=1.9						
I20A	**Worland**	**2.01**	**276**	P	**Pb**	**22 06 52.8**	**-0.9**
	baz=2.0,SNR=151						
J20A	**Shoshoni**	**2.02**	**259**	⇓Pb	**Pb**	**22 06 54.1**	**+0.2**
	baz=2.0						
J20A				⇑Sb	**Sg**	**22 07 22.4**	**+1.3**
	baz=2.0						
H20A	**Greybull**	**2.03**	**292**	⇓P	**Pn**	**22 06 52.4**	**+0.6**
	baz=2.0,SNR=45						
F22A	**Rosebud**	**2.11**	**343**	⇑P	**Pn**	**22 06 52.9**	**0.0**
	baz=2.0,SNR=98						
F24A	**Ekalaka**	**2.18**	**17**	⇓P	**Pn**	**22 06 55.2**	**+1.3**
	baz=2.1						
M23A	**Laramie**	**2.31**	**187**	⇓P	**Pn**	**22 06 56.4**	**+0.6**
	baz=2.4						
L21A	**Rawlins**	**2.32**	**220**	⇓P	**Pn**	**22 06 56.8**	**+0.8**
	baz=2.4						
M24A	**Cheyenne**	**2.33**	**170**	⇑P	**Pn**	**22 06 56.5**	**+0.5**
	baz=2.4						
L26A	**Underwood Farm**	**2.41**	**135**	⇓P	**Pn**	**22 06 57.6**	**+0.5**
	baz=2.5						
F21A	**Absaloka Mine,**	**2.41**	**329**	⇑P	**Pn**	**22 06 57.5**	**+0.4**
	baz=2.3						
K20A	**Yellowstone Ra**	**2.44**	**244**	⇑P	**Pn**	**22 06 59.0**	**+1.4**
	baz=2.5						
PHWY	**Pilot Hill**	**2.46**	**182**	*e*Pn	**Pn**	**22 06 57.6**	**-0.4**
PHWY				*e*Sn	**Sn**	**22 07 30.8**	**+1.9**
RWWY	**Rawlins**	**2.48**	**214**	*e*Pn	**Pn**	**22 06 59.2**	**+1.1**
RWWY				*e*Sn	**Sb**	**22 07 32.5**	**-0.6**
G20A	**Bridger**	**2.50**	**307**	P	**Pn**	**22 06 58.6**	**+0.2**
	baz=2.5,SNR=226						
M25A	**Palm-Egli Farm**	**2.52**	**157**	⇑P	**Pn**	**22 06 59.2**	**+0.6**
	baz=2.6						
K27A	**Flueckinger Fa**	**2.52**	**114**	⇑P	**Pn**	**22 06 59.2**	**+0.6**
	baz=2.5						
M22A	**Cedar Creek Ra**	**2.53**	**201**	⇑P	**Pn**	**22 07 00.1**	**+1.2**
	baz=2.6						
M21A	**Separation Pea**	**2.61**	**215**	⇓P	**Pn**	**22 07 01.6**	**+1.7**
	baz=2.7						
I19A	**Meeteetse**	**2.63**	**277**	⇑P	**Pn**	**22 07 01.6**	**+1.3**
	baz=2.6,SNR=53						
E22A	**Miles City**	**2.71**	**351**	⇑P	**Pn**	**22 07 00.8**	**-0.3**
	baz=2.6,SNR=24						
K19A	**Absolon Red Bu**	**2.71**	**251**	⇑P	**Pn**	**22 07 02.8**	**+1.5**
	baz=2.8						
H19A	**Powell**	**2.75**	**290**	⇑P	**Pn**	**22 07 02.9**	**+1.0**
	baz=2.7,SNR=51						
L20A	**Wamsutter**	**2.80**	**232**	⇓P	**Pn**	**22 07 04.7**	**+2.1**
	baz=2.9						
F20A	**Billings**	**2.84**	**317**	⇓P	**Pn**	**22 07 03.1**	**+0.1**
	baz=2.8,SNR=53						

E24A	**Baker**	**2.90**	**15**	⇑P		**Pn**	**22 07 04.1**	**+0.3**	
	baz=2.8								
N23A	**Red Feather La**	**2.90**	**189**	⇓P		**Pn**	**22 07 04.5**	**+0.6**	
	baz=3.0								
E21A	**Keefer Ranch,**	**3.03**	**337**	⇑P		**Pn**	**22 07 05.4**	**-0.2**	
	baz=2.9,SNR=6.5								
N22A	**Wattenberg Ran**	**3.07**	**196**	⇑P		**Pn**	**22 07 07.6**	**+1.4**	
	baz=3.2								
M20A	**Sweetwater, Wa**	**3.08**	**223**	⇑Pb		**Pb**	**22 07 12.0**	**-0.1**	
	baz=3.2								
RLMT	**Red Lodge**	**3.11**	**297**	*e*Pn		**Pn**	**22 07 07.8**	**+1.0**	
RLMT				Pg		**Pg**	**22 07 16.6**	**+0.7**	
RLMT				*e*Sg		**Sb**	**22 07 49.0**	**-2.1**	
RLMT	**Red Lodge**	**3.11**	**297**	⇓P		**Pn**	**22 07 07.7**	**+1.0**	
	baz=3.1,SNR=50								
BW06	**Boulder Array**	**3.22**	**253**	*e*Pn		**Pn**	**22 07 09.7**	**+1.4**	
BW06				*e*Sg		**Sb**	**22 07 54.4**	**+0.1**	
BW06	**Boulder Array**	**3.22**	**253**	⇑P		**Pn**	**22 07 10.3**	**+2.0**	
	baz=3.3								
PDAR	**Pinedale Array**	**3.22**	**253**	Pn		**Pn**	**22 07 09.9**	**+1.6**	
PDAR				Pg		**Pb**	**22 07 14.1**	**-0.4**	
PDAR				Lg		Lg	22 07 52.5		
PDAR	**Pinedale Array**	**3.22**	**253**	Pn		**Pn**	**22 07 09.9**	**+1.6**	
	3.0nm,0.3s,baz=70,slow=16,SNR=52								
PDAR				Pg		**Pb**	**22 07 14.1**	**-0.4**	
	7.2nm,0.3s,baz=68,slow=18,SNR=62								
PDAR				Lg		Lg	22 07 52.5		
	4.4nm,0.3s,baz=72,slow=24,SNR=5.6								
PD02	**Pinedale Array**	**3.22**	**254**	*e*Pn		**Pn**	**22 07 09.8**	**+1.5**	
PD02				*e*Sg		**Sb**	**22 07 54.1**	**-0.3**	
H18A	**Shoshone NF, C**	**3.22**	**288**	⇓P		**Pn**	**22 07 08.9**	**+0.6**	
	baz=3.2,SNR=18								
I18A	**Diamond G Ranc**	**3.23**	**270**	⇓P		**Pn**	**22 07 10.7**	**+2.2**	
	baz=3.2								
PD01	**Pinedale Array**	**3.23**	**254**	*e*Pn		**Pn**	**22 07 10.0**	**+1.4**	
PD01				*e*Sg		**Sg**	**22 07 57.9**	**-2.3**	
F19A	**Roth Farm, Mol**	**3.29**	**311**	⇓P		**Pn**	**22 07 10.1**	**+0.8**	
	baz=3.2,SNR=31								
N26A	**Koester Ranch,**	**3.34**	**151**	⇑P		**Pn**	**22 07 10.4**	**+0.6**	
	baz=3.4								
E20A	**Meyer Farm, Mu**	**3.37**	**325**	P		**Pn**	**22 07 09.7**	**-0.5**	
	baz=3.3,SNR=8.0								
L19A	**Farson**	**3.37**	**242**	⇓P		**Pn**	**22 07 12.2**	**+1.9**	
	baz=3.4								
G18A	**Lazy EL Ranch,**	**3.38**	**299**	⇑P		**Pn**	**22 07 11.3**	**+0.8**	
	baz=3.3,SNR=51								
N21A	**Black Mountain**	**3.40**	**209**	⇓P		**Pn**	**22 07 12.2**	**+1.4**	
	baz=3.5								
D23A	**Lindsay**	**3.41**	**2**	⇑P		**Pn**	**22 07 11.8**	**+1.0**	
	baz=3.3								
J18A	**Kendall Valley**	**3.43**	**262**	⇑P		**Pn**	**22 07 12.7**	**+1.5**	
	baz=3.5								
D24A	**Glendive**	**3.43**	**12**	⇑P		**Pn**	**22 07 12.0**	**+0.9**	
	baz=3.3,SNR=22								
D22A	**Cohagen**	**3.44**	**351**	⇑P		**Pn**	**22 07 11.2**	**+0.1**	
	baz=3.3,SNR=32								
D21A	**La Casta Ranch**	**3.50**	**341**	⇓P		**Pn**	**22 07 12.5**	**+0.5**	
	baz=3.4								
O23A	**Lake Granby, G**	**3.57**	**187**	⇓P		**Pn**	**22 07 14.5**	**+1.2**	
	baz=3.7								
K18A	**Toltan Ranch,**	**3.60**	**253**	⇓P		**Pn**	**22 07 15.5**	**+2.0**	
	baz=3.6								
E19A	**Rath Farm, Rou**	**3.62**	**319**	⇑P		**Pn**	**22 07 14.0**	**+0.2**	
	baz=3.5								
N27A	**Anderson Farm,**	**3.62**	**144**	⇑P		**Pn**	**22 07 14.6**	**+0.8**	
	baz=3.7								
GCMT	**Greycliff**	**3.67**	**305**	*e*Pn		**Pn**	**22 07 12.0**	**-2.5**	
GCMT				*e*Pg		**Pg**	**22 07 24.6**	**-2.1**	
GCMT				*e*Sn		**Sn**	**22 07 60.0**	**+1.4**	
O22A	**Kremmling**	**3.70**	**194**	⇑Pb		**Pb**	**22 07 21.9**	**-0.9**	
	baz=3.8								
LKWY	**Lake**	**3.71**	**284**	*e*Pn		**Pn**	**22 07 14.9**	**-0.2**	
LKWY				*e*Pg		**Pg**	**22 07 25.7**	**-1.6**	
LKWY				*e*Sg		**Sb**	**22 08 08.9**	**+0.5**	
OGNE	**Ogallala**	**3.75**	**138**	*e*Pn		**Pn**	**22 07 15.3**	**-0.2**	
OGNE				*e*Pg		**Pb**	**22 07 25.3**	**+1.9**	
OGNE				*e*Sn		**Sb**	**22 08 05.5**	**-3.8**	
F18A	**Big Timber**	**3.76**	**306**	⇑P		**Pn**	**22 07 16.8**	**+1.2**	
	baz=3.7,SNR=16								
LOHW	**Long Hollow**	**3.80**	**270**	*e*Pn		**Pn**	**22 07 15.9**	**-0.4**	
LOHW				*e*Pg		**Pg**	**22 07 27.1**	**-2.1**	
LOHW				*e*S		**Sb**	**22 08 06.8**	**-4.2**	
C24A	**Savage**	**3.83**	**10**	⇑P		**Pn**	**22 07 17.2**	**+0.8**	
	baz=3.7,SNR=17								
D20A	**Manuel Ranch,**	**3.86**	**331**	⇓P		**Pn**	**22 07 17.3**	**+0.4**	
	baz=3.8								
FLWY	**Flagg Ranch**	**3.87**	**277**	*e*Pn		**Pn**	**22 07 17.9**	**+0.7**	
FLWY				*e*Pg		**Pb**	**22 07 27.7**	**+2.2**	
FLWY				*e*S		**Sb**	**22 08 15.5**	**+2.6**	
MOOW	**Moose Ponds**	**3.90**	**272**	*e*Pn		**Pn**	**22 07 19.0**	**+1.4**	
MOOW				*e*Pg		**Pg**	**22 07 29.6**	**-1.4**	
MOOW				*e*Sg		**Sb**	**22 08 15.6**	**+1.8**	
YNR	**Norris Junctio**	**3.93**	**286**	*e*Pn		Pn	22 07 14.3	-3.9	
YNR				*e*Pg		**Pg**	**22 07 32.6**	**+0.9**	
YNR				*e*Sg		**Sb**	**22 08 16.3**	**+1.4**	
ISCO	**Idaho Springs**	**3.96**	**183**	*e*Pn		**Pn**	**22 07 19.4**	**+0.7**	
ISCO				*e*Pg		**Pg**	**22 07 34.9**	**+2.7**	
ISCO				*e*Sg		**Sb**	**22 08 18.3**	**+2.5**	
ISCO	**Idaho Springs**	**3.96**	**183**	⇓P		**Pn**	**22 07 19.0**	**+0.4**	
	baz=4.1								
YFT	**Old Faithful**	**4.00**	**282**	*e*Pn		Pn	22 07 14.9	-4.2	
YFT

	baz=4.8							
BOZ	**Bozeman (W)**	**4.84**	**295**	*e*Pn		**Pn**	**22 07 27.6**	**-3.0**
BOZ				*e*Pg		**Pg**	**22 07 46.7**	**-2.4**
BOZ				*e*S		**Sb**	**22 08 46.0**	**+5.0**
Q25A	**Bedland, Calha**	**4.92**	**170**	⇓P		**Pn**	**22 07 31.1**	**-0.6**
	baz=5.0,SNR=6.5							
B20A	**Solberg Farm,**	**5.03**	**339**	⇑P		**Pn**	**22 07 33.7**	**+0.7**
	baz=4.9							
Q26A	**Hugo**	**5.03**	**163**	⇓P		**Pn**	**22 07 32.9**	**-0.3**
	baz=5.1							
D17A	**Six Diamond Ra**	**5.05**	**314**	⇑P		**Pn**	**22 07 33.7**	**+0.3**
	baz=5.0,SNR=37							
HWUT	**Hardware Ranch**	**5.05**	**247**	*e*Pn		**Pn**	**22 07 33.6**	**+0.2**
	7.6nm,0.4s							
HWUT				*e*S		**Sg**	**22 08 55.6**	**-2.9**
KSCO	**Kaye Shedlock'**	**5.17**	**156**	⇓P		**Pn**	**22 07 34.4**	**-0.7**
	baz=5.3							
EGMT	**Eagleton**	**5.25**	**326**	⇓P		**Pn**	**22 07 37.3**	**+1.2**
	baz=5.2							
A24A	**Westby**	**5.25**	**10**	⇓P		**Pn**	**22 07 37.1**	**+1.1**
	baz=5.1							
E16A	**East Helena**	**5.25**	**304**	⇑P		**Pn**	**22 07 37.2**	**+1.0**
	baz=5.2							
A21A	**Bergtoll Ranch**	**5.34**	**349**	⇓P		**Pn**	**22 07 38.0**	**+0.7**
	baz=5.2							
DLMT	**Dillon**	**5.41**	**290**	*e*Pn		**Pn**	**22 07 36.0**	**-2.4**
	14nm,1.2s							
DLMT				*e*Pg		Pg	22 07 56.2	-3.7
DLMT				*e*Sg		**Sb**	**22 08 54.8**	**-2.4**
D16A	**Dana Ranch, Ca**	**5.44**	**309**	⇓P		**Pn**	**22 07 39.4**	**+0.6**
	baz=5.4							
JLU	**Jordanelle**	**5.51**	**237**	*e*Pn		**Pn**	**22 07 38.2**	**-1.6**
	7.3nm,0.5s							
JLU				*e*Pg		**Pg**	**22 08 01.5**	**-0.4**
JLU				*e*Sg		**Sg**	**22 09 10.2**	**-3.2**
DAU	**Daniels Canyon**	**5.51**	**235**	*e*Pn		**Pn**	**22 07 39.0**	**-0.9**
	12nm,0.7s							
DAU				*e*S		**Sg**	**22 09 10.3**	**-3.0**
P18A	**Preston Nutter**	**5.51**	**223**	⇓P		**Pn**	**22 07 40.7**	**+0.7**
	baz=5.6							
R26A	**Arlington**	**5.65**	**164**	⇑P		**Pn**	**22 07 40.8**	**-0.8**
	baz=5.7,SNR=17							
R25A	**Fountain Ranch**	**5.67**	**171**	⇑P		**Pn**	**22 07 41.3**	**-0.6**
	baz=5.8							
E15A	**Deer Lodge**	**5.80**	**300**	⇓P		**Pn**	**22 07 44.1**	**+0.5**
	baz=5.7							
R27A	**Eads**	**5.81**	**160**	⇑P		**Pn**	**22 07 43.1**	**-0.7**
	baz=5.9							
P17A	**Butcher Ranch,**	**5.88**	**225**	⇑P		**Pn**	**22 07 45.7**	**+0.9**
	baz=6.0							
B17A	**L&G Farms, Che**	**5.90**	**322**	⇑P		**Pn**	**22 07 46.7**	**+1.7**
	baz=5.8							
PV04	**Paradox Valley**	**5.99**	**208**	*e*Pn		**Pn**	**22 07 47.3**	**+0.9**
PV04				*e*S		**Sg**	**22 09 26.5**	**-2.2**
SDCO	**Great Sand Dun**	**6.01**	**181**	*e*Pn		**Pn**	**22 07 47.8**	**+1.0**
	3.3nm,0.7s							
SDCO				*e*S		**Sg**	**22 09 25.5**	**-3.9**
SRU	**San Rafael**	**6.05**	**222**	*e*Pn		**Pn**	**22 07 47.5**	**+0.3**
	13nm,0.4s							
SRU				*e*Sg		**Sg**	**22 09 25.6**	**-5.0**
SRU	**San Rafael**	**6.05**	**222**	⇓P		**Pn**	**22 07 47.3**	**+0.2**
	baz=6.1							
S25A	**Robets Cordova**	**6.14**	**173**	⇑P		**Pn**	**22 07 47.5**	**-0.9**
	baz=6.2,SNR=10							
TMUT	**Trail Mountain**	**6.25**	**226**	*e*Pn		**Pn**	**22 07 49.3**	**-0.8**
	16nm,0.8s							
TMUT				*e*S		**Sg**	**22 09 35.0**	**-2.2**
ECSD	**EROS Data Cent**	**6.34**	**87**	*e*Pn		**Pn**	**22 07 50.7**	**-0.3**
	7.0nm,0.7s							
ECSD				*e*S		**Sb**	**22 09 29.8**	**+6.0**
R18A	**Canyonlands Na**	**6.37**	**214**	⇓P		**Pn**	**22 07 51.6**	**+0.1**
	baz=6.5,SNR=32							
B16A	**M & M Farms, S**	**6.41**	**319**	⇓P		**Pn**	**22 07 52.1**	**+0.2**
	baz=6.3							
CBKS	**Cedar Bluff**	**6.51**	**137**	*e*Pn		**Pn**	**22 07 53.0**	**-0.4**
	10nm,0.3s							
CBKS				*e*Sn		**Sn**	**22 09 12.6**	**+4.2**
Q16A	**Castle Valley**	**6.52**	**224**	⇑P		**Pn**	**22 07 53.7**	**+0.1**
	baz=6.6							
DUG	**Dugway**	**6.59**	**240**	⇑P		**Pn**	**22 07 55.2**	**+0.6**
	baz=6.6							
D14A	**Greenough**	**6.62**	**303**	⇑P		**Pn**	**22 07 55.4**	**+0.5**
	baz=6.6,SNR=7.1							
R17A	**Hanksville Air**	**6.69**	**219**	⇓P		**Pn**	**22 07 56.6**	**+0.7**
	baz=6.8							
B15A	**Bradely Ranch,**	**6.76**	**315**	⇓P		**Pn**	**22 07 56.8**	**-0.1**
	baz=6.7							
S18A	**Hurst Farm, Bl**	**7.01**	**212**	⇓P		**Pn**	**22 08 00.1**	**-0.3**
	baz=7.1,SNR=11							
T28A	**Walsh**	**7.08**	**158**	⇑P		**Pn**	**22 08 00.3**	**-1.0**
	baz=7.2,SNR=6.7							
R16A	**Teasdale**	**7.16**	**222**	⇓P		**Pn**	**22 08 03.0**	**+0.5**
	baz=7.2							
D13A	**Huson**	**7.21**	**301**	⇑P		**Pn**	**22 08 03.5**	**+0.5**
	baz=7.2							
S17A	**Black Ridge (B**	**7.38**	**216**	⇓P		**Pn**	**22 08 05.6**	**+0.2**
	baz=7.5							
ELK	**Elko**	**7.92**	**251**	Pn		**Pn**	**22 08 15.3**	**+2.4**
ELK	**Elko**	**7.92**	**251**	Pn		**Pn**	**22 08 15.3**	**+2.4**
	0.3nm,0.3s,baz=68,slow=10,SNR=6.7							
ULM	**Lac du Bonnet**	**9.17**	**42**	Pn		**Pn**	**22 08 28.0**	**-1.8**
ULM				Pg			22 09 03.4	
ULM				Lg		Lg	22 11 05.8	
ULM	**Lac du Bonnet**	**9.17**	**42**	Pn		**Pn**	**22 08 28.0**	**-1.8**
	1.2nm,0.3s,baz=228,slow=12,SNR=9.4							
ULM				Pg			22 09 03.4	
	0.8nm,0.3s,baz=236,slow=16,SNR=4.1							
ULM				Lg		Lg	22 11 05.8	
	0.4nm,0.3s,baz=312,slow=13,SNR=3.7							
WUAZ	**Wupatki**	**9.45**	**211**	*e*Pn		**Pn**	**22 08 33.3**	**-0.4**
	3.8nm,0.6s							
WUAZ				*e*Sn		**Sn**	**22 10 19.4**	**-1.3**
NVAR	**Mina Array Bea**	**11.12**	**246**	Pn		**Pn**	**22 08 58.5**	**+1.8**
	0.1nm,0.3s,baz=48,slow=12,SNR=2.7							
TXAR	**Lajitas Array**	**14.46**	**174**	Lg		Lg	22 14 01.1	
	0.1nm,0.3s,baz=2.0,slow=28,SNR=4.5							
YKA	**Yellowknife Ar**	**19.53**	**347**	P		**P**	**22 10 44.8**	**-0.2**
	0.1nm,0.3s,baz=162,slow=13,SNR=5.1							

IDC ***03*** *22:09:09.6±0.9, 44°.27N×17°.90E, h0km, mb3.6/7, mb1 3.7/13, mb1mx3.7/28, mbtmp3.6/13, ML3.9/5, MS2.8/2, Ms1 2.8/2, ms1mx2.3/50, Error ellipse: s-maj=14.7km s-min=10.4km az=47.0*

ISCJB ***03*** *22:09:10.7±0.4, 44°.37N±0°.01×17°.93E±0°.02, h6km±2km, mb3.6/6, Error ellipse: s-maj=2.1km s-min=1.5km az=137.7*

PDG ***03*** *22:09:10.7±0.5, 44°.30N×17°.96E, h5km, MD3.9/3, ML3.9/10, Error ellipse: s-maj=0.6km s-min=0.9km az=0.0*

LDG ***03*** *22:09:11.0±0.1, 44°.36N×18°.07E, h10km, Ml3.8/5, Error ellipse: s-maj=2.5km s-min=2.3km az=31.0*

BEO ***03*** *22:09:11.5±0.3, 44°.33N×17°.92E, h0km, ML3.7/1*

MOS ***03*** *22:09:11.1±0.9, 44°.36N×17°.95E, h13km, mb4.1/1, Error ellipse: s-maj=5.1km s-min=3.0km az=103.1*

NEIC ***03*** *22:09:11.4, 44°.36N×18°.06E, h2km, ML4.0(CSEM), After CSEM.*

CSEM ***03*** *22:09:12.4±0.1, 44°.36N×18°.00E, h10km, ML3.7, Ms3.5, Error ellipse: s-maj=2.2km s-min=1.7km az=47.0*

IPEC ***03*** *22:09:13.6±0.5, 44°.30N×18°.08E, h30km±3km, ML3.0/3, Error ellipse: s-maj=3.6km s-min=1.9km az=131.0*

SZGRF ***03*** *22:09:13.7, 44°.32N×18°.18E, h10km, mb3.8, Northwestern Balkan Peninsula*

PRU ***03*** *22:09:14.4, 44°.53N×17°.92E, h0km*

VIE ***03*** *22:09:15.0±0.3, 44°.60N×17°.94E, h10km, mb3.1/15, ML3.4/14, Ms3.5/3, Error ellipse: s-maj=2.9km s-min=1.8km az=156.0 62 km S of Slavonski Brod*

STR ***03*** *22:09:28.6±0.5, 44°.65N×16°.26E, h10km, Ml3.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 03 22:09:12.3±1.0, 44°38N±0°.02×18°.00E±0°.02, h13km±7km, n562, σ1$30/681, mb3.6/6, 22C-52D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.69**	**303**	*e*Pg	**Pg**	**22 09 25.4**	**-0.3**
BLY				*e*Sg	**Sg**	**22 09 34.2**	**-0.6**
BLY	**Banja Luka**	**0.69**	**303**	*e*Pg	**Pg**	**22 09 25.4**	**-0.3**
BLY				*e*Sg	**Sg**	**22 09 34.2**	**-0.6**
TEKS	**Tekeris**	**1.11**	**80**	*e*Pg	**Pb**	**22 09 32.8**	**-0.6**
TEKS				*e*Sg	**Sg**	**22 09 48.7**	**+0.5**
TEKS	**Tekeris**	**1.11**	**80**	*e*Pg	**Pb**	**22 09 32.8**	**-0.6**
TEKS				*e*Sg	**Sg**	**22 09 48.7**	**+0.5**
UPM	**Unac-Piva**	**1.34**	**150**	⇑*i*Pg	**Pn**	**22 09 34.8**	**-2.1**
UPM				*e*Sg	**Sn**	**22 09 54.2**	**-0.5**
UPM	**Unac-Piva**	**1.34**	**150**	P	**Pn**	**22 09 35.0**	**-1.9**
UPM	**Unac-Piva**	**1.34**	**150**	P	**Pn**	**22 09 35.0**	**-1.9**
UPM				*e*Sg	**Sn**	**22 09 54.2**	**-0.5**
PLE	**Pljevlja**	**1.45**	**136**	⇑*i*Pg	**Pn**	**22 09 37.1**	**-1.3**
PLE				*e*Sg	**Sb**	**22 09 58.4**	**+0.8**
PLE	**Pljevlja**	**1.45**	**136**	P	**Pn**	**22 09 37.0**	**-1.3**
PLE	**Pljevlja**	**1.45**	**136**	P	**Pn**	**22 09 37.0**	**-1.3**
PLE	**Pljevlja**	**1.45**	**136**	P	**Pn**	**22 09 37.0**	**-1.3**
PLE				*e*Sg	**Sb**	**22 09 58.4**	**+0.8**
DIVS	**Divibare**	**1.46**	**100**	*e*Pn	**Pb**	**22 09 39.8**	**+0.4**
DIVS				*e*Sn	**Sg**	**22 10 00.2**	**+0.8**
DIVS	**Divibare**	**1.46**	**100**	*e*Pn	**Pb**	**22 09 39.8**	**+0.4**
DIVS				*e*Sn	**Sg**	**22 10 00.2**	**+0.8**
FGSL	**Fruska Gora**	**1.51**	**58**	⇑*i*Pn	**Pn**	**22 09 38.7**	**-0.4**
FRGS	**Fruska Gora**	**1.51**	**58**	⇑*i*Pn	**Pn**	**22 09 38.7**	**-0.4**
FRGS				*e*Sn	**Sg**	**22 10 02.8**	**+1.8**
STON	**Ston**	**1.52**	**188**	*i* Pn	**Pn**	**22 09 37.2**	**-1.9**
STON				Sn	**Sn**	**22 09 58.4**	**-0.3**
STON	**Ston**	**1.52**	**188**	*i* Pn	**Pn**	**22 09 37.2**	**-1.9**
STON				Sn	**Sn**	**22 09 58.4**	**-0.3**
BRY	**Bratogost**	**1.52**	**165**	⇓*i*Pg	**Pn**	**22 09 37.3**	**-2.1**
BRY				*e*Sg	**Sb**	**22 10 00.2**	**+0.4**
BRY	**Bratogost**	**1.52**	**165**	P	**Pn**	**22 09 37.0**	**-2.4**
BRY				S	**Sn**	**22 09 59.0**	**-0.1**
BRY	**Bratogost**	**1.52**	**165**	P	**Pn**	**22 09 37.0**	**-2.4**
BRY				S	**Sn**	**22 09 59.0**	**-0.1**
BRY	**Bratogost**	**1.52**	**165**	P	**Pn**	**22 09 37.0**	**-2.4**
BRY	**Bratogost**	**1.52**	**165**	⇓*i*Pg	**Pn**	**22 09 37.3**	**-2.1**
BRY				S	**Sn**	**22 09 59.0**	**-0.1**
BRY				*e*Sg	**Sb**	**22 10 00.2**	**+0.4**
RHK3	**Tenkes**	**1.52**	**7**	⇓*e*Pn	**Pn**	**22 09 39.6**	**+0.4**
RHK3				*e*Pb	**Pg**	**22 09 41.8**	**+0.2**
RHK3				*e*Sn	**Sg**	**22 10 03.0**	**+1.6**
RHK3	**Tenkes**	**1.52**	**7**	⇓*e*Pn	**Pn**	**22 09 39.6**	**+0.4**
RHK3	**Tenkes**	**1.52**	**7**	*e*Pg	**Pg**	**22 09 41.8**	**+0.2**
RHK3				*e*Sn	**Sg**	**22 10 03.6**	**+2.2**
SISC	**Sisak**	**1.59**	**314**	*e*Pn	**Pn**	**22 09 40.5**	**+0.4**
SISC				Sn	**Sg**	**22 10 05.4**	**+1.9**
SISC	**Sisak**	**1.59**	**314**	*e*Pn	**Pn**	**22 09 40.5**	**+0.4**
SISC				Sn	**Sg**	**22 10 05.4**	**+1.9**
NKY	**Niksic**	**1.72**	**155**	⇓*i*Pn	**Pn**	**22 09 41.0**	**-1.0**
NKY				*e*Sn	**Sb**	**22 10 05.7**	**+0.3**
NKY	**Niksic**	**1.72**	**155**	⇓*i*Pn	**Pn**	**22 09 41.0**	**-1.0**
NKY				*e*Sn	**Sb**	**22 10 05.7**	**+0.3**
TRUS	**Trudelj**	**1.74**	**94**	*e*Pn	**Pn**	**22 09 43.3**	**+1.1**
TRUS				*e*Sn	**Sb**	**22 10 07.0**	**+1.2**
TRUS	**Trudelj**	**1.74**	**94**	*e*Pn	**Pn**	**22 09 43.3**	**+1.1**
TRUS				*e*Sn	**Sb**	**22 10 07.0**	**+1.2**
SJES	**Sjenica**	**1.81**	**127**	*e*Pn	**Pn**	**22 09 44.1**	**+0.8**
SJES				*e*Sn	**Sb**	**22 10 08.5**	**+0.5**
BEO	**Beograd**	**1.82**	**75**	P	**Pb**	**22 09 46.0**	**+0.5**
BEO	**Beograd**	**1.82**	**75**	P	**Pb**	**22 09 46.0**	**+0.5**
BEO	**Beograd**	**1.82**	**75**	*e*Pn	**Pb**	**22 09 45.2**	**-0.3**
BEO				*e*Sn	**Sb**	**22 10 09.6**	**+1.4**
BEO	**Beograd**	**1.82**	**75**	*e*Pn	**Pb**	**22 09 45.2**	**-0.3**
BEO	**Beograd**	**1.82**	**75**	P	**Pb**	**22 09 46.0**	**+0.5**
PKSM	**Moragy**	**1.89**	**14**	P	**Pn**	**22 09 44.6**	**+0.3**
PKSM	**Moragy**	**1.89**	**14**	P	**Pn**	**22 09 44.6**	**+0.3**
PKSM	**Moragy**	**1.89**	**14**	⇓*i*P	**Pn**	**22 09 44.7**	**+0.4**
PKSM	**Moragy**	**1.89**	**14**	⇓*i*Pn	**Pn**	**22 09 44.6**	**+0.3**
PKSM	**Moragy**	**1.89**	**14**	⇓*e*Pn	**Pn**	**22 09 44.6**	**+0.3**
PKSM				*e*Sn	**Sg**	**22 10 14.7**	**+1.5**
PKSM	**Moragy**	**1.89**	**14**	⇓*i*P	**Pn**	**22 09 44.7**	**+0.4**
PKSM				*e*Sg	**Sg**	**22 10 14.9**	**+1.7**
	baz=192						
HCY	**Herceg Novi**	**1.96**	**169**	⇓*i*Pn	**Pn**	**22 09 45.3**	**+0.1**
HCY				*e*Sn	**Sb**	**22 10 11.5**	**-0.7**
HCY	**Herceg Novi**	**1.96**	**169**	P	**Pn**	**22 09 46.0**	**+0.8**
HCY				S	**Sb**	**22 10 12.0**	**-0.2**
HCY	**Herceg Novi**	**1.96**	**169**	P	**Pn**	**22 09 46.0**	**+0.8**
HCY				S	**Sb**	**22 10 12.0**	**-0.2**
HCY	**Herceg Novi**	**1.96**	**169**	⇓*i*Pn	**Pn**	**22 09 45.3**	**+0.1**
HCY	**Herceg Novi**	**1.96**	**169**	P	**Pn**	**22 09 46.0**	**+0.8**
HCY				*e*Sn	**Sb**	**22 10 11.5**	**-0.7**
HCY				S	**Sb**	**22 10 12.0**	**-0.2**
BEY	**Berane**	**2.04**	**137**	⇑*i*Pn	**Pn**	**22 09 46.2**	**-0.2**
BEY				*e*Sn	**Sb**	**22 10 14.2**	**-0.3**
IVA	**Berane**	**2.04**	**137**	⇑*i*Pn	**Pn**	**22 09 46.2**	**-0.2**
IVA				*e*Sn	**Sb**	**22 10 14.2**	**-0.4**
PDG	**Podgorica**	**2.15**	**154**	*e*Pn	**Pn**	**22 09 47.8**	**0.0**
PDG				*e*Sn	**Sn**	**22 10 16.1**	**+1.8**
PDG	**Podgorica**	**2.15**	**154**	*e*Pn	**Pn**	**22 09 47.8**	**0.0**
PDG				*e*Sn	**Sn**	**22 10 16.1**	**+1.8**
TTG	**Podgorica**	**2.15**	**154**	⇓*i*Pn	**Pn**	**22 09 47.5**	**-0.3**
TTG				*e*Sn	**Sb**	**22 10 16.8**	**-0.8**
BUM	**Brajici-Budva**	**2.17**	**162**	⇓*i*Pn	**Pn**	**22 09 48.3**	**+0.1**
BUM				*e*Sn	**Sb**	**22 10 17.0**	**-1.4**
BUM	**Brajici-Budva**	**2.17**	**162**	P	**Pn**	**22 09 49.0**	**+0.8**
BUM	**Brajici-Budva**	**2.17**	**162**	⇓*i*Pn	**Pn**	**22 09 48.3**	**+0.1**
BUM	**Brajici-Budva**	**2.17**	**162**	P	**Pn**	**22 09 49.0**	**+0.8**
BUM				*e*Sn	**Sb**	**22 10 17.0**	**-1.4**
PKS9	**Tamasi**	**2.22**	**5**	⇓*e*SKSac	**Pn**	**22 09 49.4**	**+0.6**
PKS9				*e*	Sg	22 10 30.1	+6.4
PKS9	**Tamasi**	**2.22**	**5**	⇓*e*Pn	**Pn**	**22 09 49.4**	**+0.6**
GCIS	**Gornji Cirnik**	**2.24**	**313**	P	**Pn**	**22 09 50.1**	**+1.0**
GCIS	**Gornji Cirnik**	**2.24**	**313**	P	**Pn**	**22 09 50.1**	**+1.0**
BOJS	**Bojanci**	**2.25**	**301**	P	**Pn**	**22 09 49.5**	**+0.3**
BOJS	**Bojanci**	**2.25**	**301**	*i* Pn	**Pn**	**22 09 49.5**	**+0.3**
BOJS	**Bojanci**	**2.25**	**301**	P	**Pn**	**22 09 49.5**	**+0.3**
BEHE	**Becsehely**	**2.27**	**338**	⇓*e*SKSac	**Pn**	**22 09 50.5**	**+1.1**
BEHE				*e*SKSac	P	22 09 52.4	
BEHE	**Becsehely**	**2.27**	**338**	⇓*e*Pn	**Pn**	**22 09 50.5**	**+1.1**
BEHE	**Becsehely**	**2.27**	**338**	*e*Pg	**Pb**	**22 09 52.4**	**-0.6**
PVY	**Plav**	**2.28**	**141**	⇑*i*Pn	**Pn**	**22 09 50.2**	**+0.4**
PVY				*e*Sn	**Sb**	**22 10 20.4**	**-1.2**
PVY	**Plav**	**2.28**	**141**	⇑*i*Pn	**Pn**	**22 09 50.2**	**+0.4**
PVY				*e*Sn	**Sb**	**22 10 20.4**	**-1.2**
CRES	**Cresnjev**	**2.31**	**310**	P	**Pn**	**22 09 50.2**	**+0.2**
CRES	**Cresnjev**	**2.31**	**310**	P	**Pn**	**22 09 50.2**	**+0.2**
SVIS	**Svilajnac**	**2.31**	**92**	*e*Pn	**Pn**	**22 09 51.7**	**+1.6**
SVIS				*e*Sn	**Sb**	**22 10 22.1**	**-0.2**
SVIS	**Svilajnac**	**2.31**	**92**	*e*Pn	**Pn**	**22 09 51.7**	**+1.6**
KOGS	**Kog**	**2.41**	**330**	P	**Pn**	**22 09 52.4**	**+1.0**
KOGS	**Kog**	**2.41**	**330**	P	**Pn**	**22 09 52.4**	**+1.0**
PKS6	**Bocsa**	**2.48**	**26**	⇓*e*Pn	**Pn**	**22 09 52.6**	**+0.2**
PKS6	**Bocsa**	**2.48**	**26**	⇓*e*Pn	**Pn**	**22 09 52.6**	**+0.2**
BCI	**Bajram Curri**	**2.51**	**142**	*i* PN	**Pn**	**22 09 52.5**	**-0.3**
BCI				*i* SN	**Sg**	**22 10 31.4**	**-1.6**
BCI	**Bajram Curri**	**2.51**	**142**	*i* Pn	**Pn**	**22 09 52.5**	**-0.3**
DOBS	**Dobrina**	**2.52**	**316**	P	**Pn**	**22 09 53.3**	**+0.4**
DOBS	**Dobrina**	**2.52**	**316**	P	**Pn**	**22 09 53.3**	**+0.4**
SELS	**Selova**	**2.54**	**116**	*e*Pn	**Pn**	**22 09 52.5**	**-0.7**
SELS				*e*Sn	**Sb**	**22 10 26.8**	**-2.1**
SELS	**Selova**	**2.54**	**116**	*e*Pn	**Pn**	**22 09 52.5**	**-0.7**
SELS				*e*Sn	**Sb**	**22 10 26.8**	**-2.1**
ULC	**Ulcinj**	**2.58**	**159**	⇓*i*Pn	**Pn**	**22 09 54.3**	**+0.6**
ULC				*e*Sn	**Sn**	**22 10 26.9**	**+2.0**
ULC	**Ulcinj**	**2.58**	**159**	P	**Pn**	**22 09 55.0**	**+1.3**
ULC				S	**Sb**	**22 10 29.0**	**-0.9**
ULC	**Ulcinj**	**2.58**	**159**	P	**Pn**	**22 09 55.0**	**+1.3**
ULC				S	**Sb**	**22 10 29.0**	**-0.9**
ULC	**Ulcinj**	**2.58**	**159**	⇓*i*Pn	**Pn**	**22 09 54.3**	**+0.6**
ULC	**Ulcinj**	**2.58**	**159**	P	**Pn**	**22 09 55.0**	**+1.3**
ULC				*e*Sn	**Sn**	**22 10 26.9**	**+2.0**
ULC				S	**Sb**	**22 10 29.0**	**-0.9**
VISS	**Visnje**	**2.65**	**304**	P	**Pn**	**22 09 55.1**	**+0.4**
VISS	**Visnje**	**2.65**	**304**	P	**Pn**	**22 09 55.1**	**+0.4**
TIM	**Timisoara**	**2.66**	**58**	⇑*i*P	**Pb**	**22 10 01.4**	**+1.6**
TIM	**Timisoara**	**2.66**	**58**	S	**Sg**	**22 10 40.2**	**+2.4**
PDKS	**Podkum**	**2.71**	**310**	*i* Pn	**Pn**	**22 09 55.9**	**+0.3**
PUK	**Puka**	**2.71**	**149**	*i* PN	**Pb**	**22 09 58.6**	**-2.1**
PUK				*i* SN	**Sb**	**22 10 34.1**	**+0.2**
PUK	**Puka**	**2.71**	**149**	*i* Pn	**Pb**	**22 09 58.6**	**-2.1**
GROS	**Grobnik**	**2.73**	**321**	P	**Pn**	**22 09 56.3**	**+0.5**
GROS	**Grobnik**	**2.73**	**321**	*i* Pn	**Pn**	**22 09 56.3**	**+0.5**
GROS	**Grobnik**	**2.73**	**321**	P	**Pn**	**22 09 56.3**	**+0.5**
PKS7	**Kunszentmiklos**	**2.79**	**17**	⇓*e*Pn	**Pn**	**22 09 57.2**	**+0.5**
PKS7	**Kunszentmiklos**	**2.79**	**17**	⇓*e*Pn	**Pn**	**22 09 57.2**	**+0.5**
KNDS	**Knezji Dol**	**2.81**	**295**	P	**Pn**	**22 09 58.3**	**+1.3**
KNDS	**Knezji Dol**	**2.81**	**295**	P	**Pn**	**22 09 58.3**	**+1.3**
BZS	**Buzias**	**2.85**	**63**	P	**Pn**	**22 09 56.9**	**-0.6**
BZS	**Buzias**	**2.85**	**63**	P	**Pn**	**22 09 56.9**	**-0.6**
BZS	**Buzias**	**2.85**	**63**	⇑*i*P	**Pb**	**22 09 57.0**	**-0.6**
BZS	**Buzias**	**2.85**	**63**	S	**Sg**	**22 10 46.7**	**+2.8**
BZS	**Buzias**	**2.85**	**63**	*e*Pn	**Pn**	**22 09 59.0**	**+1.5**
BZS	**Buzias**	**2.85**	**63**	P	**Pn**	**22 09 56.9**	**-0.6**
BZS	**Buzias**	**2.85**	**63**	*e*Pn	**Pn**	**22 09 59.0**	**+1.5**
CEY	**Cerknica**	**2.87**	**300**	P	**Pn**	**22 09 58.9**	**+1.1**
CEY	**Cerknica**	**2.87**	**300**	P	**Pn**	**22 09 58.9**	**+1.1**
PKST	**T"s**	**2.88**	**1**	⇓*e*Pn	**Pn**	**22 09 58.9**	**+1.0**
PKST				*e*Sn	**Sn**	**22 10 34.1**	**+1.6**
PKST	**T"s**	**2.88**	**1**	⇓*e*Pn	**Pn**	**22 09 58.9**	**+1.0**
PKST				*e*Sn	**Sn**	**22 10 34.1**	**+1.6**
BOLS	**Boljevac**	**2.90**	**99**	*e*Pn	**Pn**	**22 09 59.2**	**+1.0**
BOLS				*e*Sn	**Sn**	**22 10 36.1**	**+3.2**
BOLS	**Boljevac**	**2.90**	**99**	*e*Pn	**Pn**	**22 09 59.2**	**+1.0**
LJU	**Ljubljana**	**2.96**	**305**	P	**Pn**	**22 10 00.3**	**+1.3**
LJU	**Ljubljana**	**2.96**	**305**	P	**Pn**	**22 10 00.3**	**+1.3**
LJU	**Ljubljana**	**2.96**	**305**	*e*Pn	**Pn**	**22 10 00.0**	**+1.0**
LJU				*e*Sn	**Sn**	**22 10 33.6**	**-0.9**
LJU				*e*Sg	**Sg**	**22 10 50.0**	**+2.5**
LJU	**Ljubljana**	**2.96**	**305**	*e*Pn	**Pn**	**22 09 59.5**	**+0.5**
	baz=124						
LJU	**Ljubljana**	**2.96**	**305**	P	**Pn**	**22 10 00.3**	**+1.3**
PKSG		**3.03**	**5**	⇓*e*Pn	**Pn**	**22 10 00.7**	**+0.8**
PKSG				*e*Sn	**Sb**	**22 10 40.2**	**-2.7**
PKSG		**3.03**	**5**	⇓*e*Pn	**Pn**	**22 10 00.7**	**+0.8**
PKSG				*e*Sn	**Sb**	**22 10 40.2**	**-2.7**
SKDS	**Skadanscina**	**3.06**	**294**	*i* Pn	**Pn**	**22 10 01.7**	**+1.3**
SOKA	**Soboth**	**3.10**	**319**	⇑*i*Pn	**Pn**	**22 10 01.3**	**+0.3**
SOKA				⇓*i*Sn	**Sn**	**22 10 37.0**	**-1.0**
SOKA	**Soboth**	**3.10**	**319**	Pn	**Pn**	**22 10 01.3**	**+0.3**
SOKA				Sn	**Sn**	**22 10 37.0**	**-1.0**
MOZS	**Mozjanca**	**3.15**	**309**	P	**Pn**	**22 10 02.1**	**+0.4**
MOZS	**Mozjanca**	**3.15**	**309**	P	**Pn**	**22 10 02.1**	**+0.4**
JAVS	**Javornik**	**3.17**	**300**	P	**Pn**	**22 10 02.9**	**+1.0**
JAVS	**Javornik**	**3.17**	**300**	P	**Pn**	**22 10 02.9**	**+1.0**
BARS	**Barje**	**3.18**	**118**	*e*Pn	**Pn**	**22 10 01.8**	**-0.2**
BARS				*e*Sn	**Sn**	**22 10 41.9**	**+2.1**
BARS	**Barje**	**3.18**	**118**	*e*Pn	**Pn**	**22 10 01.8**	**-0.2**
BARS				*e*Sn	**Sn**	**22 10 41.9**	**+2.1**
BUD	**Budapest**	**3.19**	**13**	P	**Pn**	**22 10 02.6**	**+0.5**
BUD	**Budapest**	**3.19**	**13**	P	**Pn**	**22 10 02

VVLD	Villa Vallelon	4.06	233	P		Pn	22 10 16.2	+2.0		
DRGR		4.10	52	P		Pn	22 10 14.6	-0.1		
DRGR		4.10	52	P		Pn	22 10 14.6	-0.1		
DRGR		4.10	52	⇑*i*	P	Pn	22 10 14.6	-0.1		
DRGR		4.10	52	P		Pn	22 10 14.6	-0.1		
PTQR	Pietraquaria	4.10	237	P		Pn	22 10 15.5	+0.8		
PTQR	Pietraquaria	4.10	237	P		Pn	22 10 15.5	+0.8		
CSSN	Cassano Irpino	4.14	213	P		Pn	22 10 15.3	+0.1		
CSSN	Cassano Irpino	4.14	213	P		Pn	22 10 15.3	+0.1		
BIA	Bitola	4.16	143	*e*Pn		Pn	22 10 17.9	+2.5		
BIA	Bitola	4.16	143	*e*Pn		Pn	22 10 17.9	+2.5		
SMOL	Smolenice	4.16	355	*e*P		Pn	22 10 15.5	+0.1		
SMOL	Smolenice	4.16	355	*e*PN		Pn	22 10 15.5	+0.1		
SMOL	Smolenice	4.16	355	*e*P		Pn	22 10 15.5	+0.1		
VYHS	Vyhne	4.16	8	*e*P		Pn	22 10 15.7	+0.2		
VYHS				*e*			22 11 03.0			
VYHS				pmax		pmax				
	comp=N,93nm,1.3s									
VYHS	Vyhne	4.16	8	P		Pn	22 10 16.3	+0.8		
VYHS	Vyhne	4.16	8	*e*PN		Pn	22 10 15.7	+0.2		
VYHS				*e*SN		Sn	22 11 03.0	-1.0		
VYHS	Vyhne	4.16	8	*e*P		Pn	22 10 15.7	+0.2		
	comp=N,93nm,1.3s									
VYHS				*e*S		Sn	22 11 03.0	-1.0		
KBA	Koelnbreinsper	4.23	311	P		Pn	22 10 18.1	+1.5		
KBA	Koelnbreinsper	4.23	311	P		Pn	22 10 18.1	+1.5		
KBA	Koelnbreinsper	4.23	311	⇓*i*	Pn	Pn	22 10 17.4	+0.8		
	SNR=17									
KBA				⇓*i*	Sn	Sn	22 11 05.8	-0.1		
KBA	Koelnbreinsper	4.23	311	Pn		Pn	22 10 17.4	+0.8		
	SNR=17									
KBA	Koelnbreinsper	4.23	311	P		Pn	22 10 18.1	+1.5		
KBA				Sn		Sn	22 11 05.8	-0.1		
LOT	Lotru	4.24	73	P		Pn	22 10 17.4	+0.7		
LOT	Lotru	4.24	73	⇓*i*	P	Pn	22 10 17.4	+0.7		
LOT	Lotru	4.24	73	P		Pn	22 10 17.4	+0.7		
BADI	Badiali	4.24	260	P		Pn	22 10 16.6	0.0		
BADI	Badiali	4.24	260	P		Pn	22 10 16.6	0.0		
RFI	Roccamonfina	4.26	225	P		Pn	22 10 17.2	+0.3		
RFI	Roccamonfina	4.26	225	P		Pn	22 10 17.2	+0.3		
FVI	Forni Avoltri	4.29	303	P		Pn	22 10 18.8	+1.5		
FVI	Forni Avoltri	4.29	303	P		Pn	22 10 18.8	+1.5		
FVI	Forni Avoltri	4.29	303	P		Pn	22 10 18.8	+1.5		
GUAR	Guarcino	4.29	235	P		Pn	22 10 18.3	+1.0		
GUAR	Guarcino	4.29	235	P		Pn	22 10 18.3	+1.0		
MOA	Molln	4.34	325	P		Pn	22 10 18.9	+1.9		
MOA	Molln	4.34	325	⇓*i*	Pn	Pn	22 10 18.9	+1.0		
	SNR=91									
MOA				⇓*i*	Sn	Sn	22 11 08.0	-0.3		
MOA	Molln	4.34	325	Pn		Pn	22 10 18.9	+1.0		
	SNR=91									
MOA	Molln	4.34	325	P		Pn	22 10 19.8	+1.9		
MOA				Sn		Sn	22 11 08.0	-0.3		
MNS	Montasola	4.35	245	P		Pn	22 10 19.8	+1.6		
MNS	Montasola	4.35	245	P		Pn	22 10 19.8	+1.6		
MNS	Montasola	4.35	245	P		Pn	22 10 19.8	+1.6		
FNA	Florina	4.37	144	P		Pn	22 10 19.6	+1.2		
FNA	Florina	4.37	144	P		Pn	22 10 19.6	+1.2		
FNA	Florina	4.37	144	P		Pn	22 10 19.6	+1.2		
CRE	Caprese Michel	4.43	262	P		Pn	22 10 23.6	+4.4		
CRE	Caprese Michel	4.43	262	P		Pn	22 10 23.6	+4.4		
CRE	Caprese Michel	4.43	262	P		Pn	22 10 23.6	+4.4		
ORI	Oriolo Calabro	4.46	195	P		Pn	22 10 23.0	+3.4		
ORI	Oriolo Calabro	4.46	195	P		Pn	22 10 23.0	+3.4		
ORI	Oriolo Calabro	4.46	195	P		Pn	22 10 23.0	+3.4		
JAVC	Velka Javorina	4.49	357	P		Pn	22 10 21.7	+1.6		
JAVC	Velka Javorina	4.49	357	P		Pn	22 10 21.7	+1.6		
JAVC	Velka Javorina	4.49	357	P		Pn	22 10 21.7	+1.6		
JAVC	Velka Javorina	4.49	357	*e*Pn		Pn	22 10 22.0	+1.9		
	baz=176									
ABTA	Abfaltersbach	4.52	304	P		Pn	22 10 22.1	+1.6		
ABTA	Abfaltersbach	4.52	304	⇑*i*	Pn	Pn	22 10 22.1	+1.6		
	SNR=26									
ABTA	Abfaltersbach	4.52	304	Pn		Pn	22 10 22.1	+1.6		
	SNR=26									
VAY	Valandovo	4.54	131	*e*Pn		Pn	22 10 20.1	-0.6		
VAY	Valandovo	4.54	131	*e*Pn		Pn	22 10 20.6	-0.1		
VMG	Vicchio	4.66	267	P		Pn	22 10 25.3	+3.0		
VMG	Vicchio	4.66	267	P		Pn	22 10 25.3	+3.0		
CUC	Castrocucco	4.67	201	*e*Pn		Pn	22 10 22.9	+0.4		
CUC	Castrocucco	4.67	201	*e*Pn		Pn	22 10 22.9	+0.4		
GRG	Griva	4.71	135	P		Pn	22 10 22.7	-0.4		
GRG	Griva	4.71	135	P		Pn	22 10 22.7	-0.4		
GRG	Griva	4.71	135	P		Pn	22 10 22.7	-0.4		
LIKS	Likavka	4.74	9	*e*P		Pn	22 10 25.9	+2.5		
LIKS	Likavka	4.74	9	P		Pn	22 10 25.9	+2.5		
LIKS	Likavka	4.74	9	*e*PN		Pn	22 10 25.9	+2.5		
LIKS	Likavka	4.74	9	*e*P		Pn	22 10 25.9	+2.5		
CTI	Castel Tesino	4.79	293	P		Pn	22 10 25.5	+1.4		
CTI	Castel Tesino	4.79	293	P		Pn	22 10 25.5	+1.4		
CTI	Castel Tesino	4.79	293	P		Pn	22 10 25.5	+1.4		
KRUC	Moravsky	4.82	347	P		Pn	22 10 24.3	-0.2		
KRUC	Moravsky	4.82	347	P		Pn	22 10 24.3	-0.2		
KRUC	Moravsky	4.82	347	*e*Pn		Pn	22 10 24.4	-0.1		
	baz=166									
KRUC				*e*Sn		Sn	22 11 19.7	-0.4		
	comp=N,28nm,0.2s									
RJOB	Jochberg	4.94	315	*e*Pn		Pn	22 10 28.3	+2.1		
RJOB				*e*Sn		Sn	22 11 22.1	-1.1		
VRAC	Vranov	5.03	349	Pn		Pn	22 11 27.0	+1.7		
VRAC				Sn		Sn	22 11 27.0	+1.7		
VRAC	Vranov	5.03	349	⇓*i*	P	Pn	22 10 27.9	+0.5		
VRAC	Vranov	5.03	349	Pn		Pn	22 10 27.4	0.0		
	comp=N,1.8nm,0.3s,baz=178,slow=13,SNR=13									
VRAC				Sn		Sn	22 11 27.0	+1.7		
	comp=N,4.8nm,0.3s,baz=104,slow=18,SNR=8.4									
VRAC				LR		LR	22 12 33.3			
	comp=N,69nm,20.5s,baz=192,slow=40									
VRAC	Vranov	5.03	349	*e*Pn		Pn	22 10 27.4	0.0		
VRAC	Vranov	5.03	349	⇓*i*	P	Pn	22 10 27.9	+0.5		
VRAC				*e*Sn		Sn	22 11 26.8	+1.5		
	comp=N,23nm,0.4s,baz=168									
CRVS	Cervenica-Dubn	5.12	27	*e*P		Pn	22 10 29.4	+0.8		
CRVS				pmax		pmax				
	comp=N,21nm,0.9s									
CRVS	Cervenica-Dubn	5.12	27	P		Pn	22 10 29.1	+0.5		
CRVS	Cervenica-Dubn	5.12	27	*e*PN		Pn	22 10 29.4	+0.8		
CRVS				*e*SG		Sg	22 12 03.4	+6.9		
CRVS	Cervenica-Dubn	5.12	27	P		Pn	22 10 29.1	+0.5		
CRVS	Cervenica-Dubn	5.12	27	*e*Pn		Pn	22 10 29.4	+0.8		
VOIR		5.12	76	P		Pn	22 10 30.4	+1.6		
VOIR		5.12	76	P		Pn	22 10 30.3	+1.6		
VOIR		5.12	76	⇑*i*	P	Pn	22 10 30.3	+1.6		
VOIR		5.12	76	P		Pn	22 10 30.3	+1.6		
UZH	Uzhgorod	5.19	33	*e*P		Pn	22 10 28.2	-1.3		
UZH				*e*S		Sn	22 11 28.2	-1.0		
UZH				smax		smax				
	comp=N,60nm,0.8s									
UZH				smax		smax				
	comp=E,70nm,0.8s									
UZH	Uzhgorod	5.19	33	P		Pn	22 10 27.0	-2.5		
UZH	Uzhgorod	5.19	33	*e*P		Pn	22 10 28.2	-1.3		
UZH				*e*S		Sn	22 11 28.2	-1.0		
APPI	Appiano	5.21	296	P		Pn	22 10 31.9	+2.0		
APPI	Appiano	5.21	296	P		Pn	22 10 31.9	+2.0		
SRS	Serrai	5.25	126	P		Pn	22 10 30.1	-0.4		
SRS	Serrai	5.25	126	P		Pn	22 10 30.1	-0.4		
SRS	Serrai	5.25	126	P		Pn	22 10 30.1	-0.4		
TIP	Timpagrande	5.27	191	*e*Pn		Pn	22 10 31.2	+0.4		
TIP	Timpagrande	5.27	191	*e*Pn		Pn	22 10 31.2	+0.4		
NIE	Niedzica	5.29	17	*e*Pn		Pn	22 10 33.0	+2.1		
NIE				*e*Sn		Sn	22 11 30.1	-1.7		
NIE	Niedzica	5.29	17	*e*P		Pn	22 10 33.2	+2.2		
NIE				*e*			22 11 30.9			
NIE	Niedzica	5.29	17	P		Pn	22 10 33.1	+2.1		
NIE	Niedzica	5.29	17	P		Pn	22 10 33.1	+2.1		
NIE				*e*S		Sn	22 11 30.9	-0.9		
WTTA	Wattenberg	5.30	305	P		Pn	22 10 33.1	+1.8		
WTTA	Wattenberg	5.30	305	P		Pn	22 10 33.1	+1.8		
WTTA	Wattenberg	5.30	305	⇓*i*	Pn	Pn	22 10 32.9	+1.6		
	SNR=44									
WTTA	Wattenberg	5.30	305	Pn		Pn	22 10 32.9	+1.6		
	SNR=44									
GSCL	Gusciola	5.31	272	P		Pn	22 10 32.1	+0.8		
GSCL	Gusciola	5.31	272	P		Pn	22 10 32.1	+0.8		
GEC2	GERESS Array S	5.36	328	*e*Pn		Pn	22 10 33.5	+1.5		
GEC2	GERESS Array S	5.36	328	*e*P		Pn	22 10 33.5	+1.5		
GEC2	GERESS Array S	5.36	328	*e*P		Pn	22 10 33.5	+1.5		
GERES	GERESS Array B	5.36	328	Pn		Pn	22 10 33.3	+1.3		
GERES				Sn		Sn	22 11 32.1	-1.5		
GERES	GERESS Array B	5.36	328	Pn		Pn	22 10 33.3	+1.3		
	comp=E,3.7nm,0.3s,baz=153,slow=14,SNR=74									
GERES				Sn		Sn	22 11 32.1	-1.5		
	comp=E,4.2nm,0.3s,baz=149,slow=23,SNR=6.1									
GERES	GERESS Array B	5.36	328	P		Pn	22 10 33.3	+1.3		
GERES				S		Sn	22 11 32.1	-1.5		
WATA	Walderalm	5.37	306	P		Pn	22 10 34.4	+2.2		
WATA	Walderalm	5.37	306	P		Pn	22 10 34.4	+2.2		
WATA	Walderalm	5.37	306	⇓*i*	Pn	Pn	22 10 32.8	+0.6		
	SNR=16									
WATA	Walderalm	5.37	306	Pn		Pn	22 10 32.8	+0.6		
	SNR=16									
WATA	Walderalm	5.37	306	P		Pn	22 10 34.4	+2.2		
PLD	Plovdiv	5.40	113	P		Pn	22 10 32.0	-0.5		
PLD	Plovdiv	5.40	113	P		Pn	22 10 32.0	-0.5		
PLD	Plovdiv	5.40	113	P		Pn	22 10 32.0	-0.5		
MORC	Moravsky Berou	5.41	357	*e*P		Pn	22 10 33.7	+1.0		
MORC				*e*			22 11 33.9			
MORC	Moravsky Berou	5.41	357	*e*Pn		Pn	22 10 33.7	+1.0		
MORC				*e*Sn		Sn	22 11 33.9	-1.0		
MORC	Moravsky Berou	5.41	357	⇓*i*	P	Pn	22 10 34.0	+1.3		
MORC	Moravsky Berou	5.41	357	*e*P		Pn	22 10 33.7	+1.0		
MORC				*e*S		Sn	22 11 33.9	-1.0		
KOLS	Kolonicke sedl	5.43	31	*e*P		Pn	22 10 34.4	+1.5		
KOLS	Kolonicke sedl	5.43	31	P		Pn	22 10 34.4	+1.5		
KOLS	Kolonicke sedl	5.43	31	*e*PN		Pn	22 10 34.4	+1.5		
KOLS	Kolonicke sedl	5.43	31	*e*P		Pn	22 10 34.4	+1.5		
OKC	Ostrava-Krasne	5.47	1	*e*P		Pn	22 10 34.4	+1.0		
OKC				*e*			22 11 35.0			
OKC	Ostrava-Krasne	5.47	1	P		Pn	22 10 35.2	+1.8		
OKC	Ostrava-Krasne	5.47	1	*e*PN		Pn	22 10 34.4	+1.0		
OKC				*e*SN		Sn	22 11 35.0	-1.1		
OKC	Ostrava-Krasne	5.47	1	Pn		Pn	22 10 34.4	+1.0		
OKC	Ostrava-Krasne	5.47	1	P		Pn	22 10 35.2	+1.8		
OKC				Sn		Sn	22 11 35.0	-1.1		
KHC	Kasperske Hory	5.64	329	*e*P		Pn	22 10 37.3	+1.5		
KHC				S		Sn	22 11 44.0	+3.5		
KHC	Kasperske Hory	5.64	329	*e*P		Pn	22 10 37.3	+1.5		
KHC				S		Sn	22 11 44.0	+3.5		
KHC	Kasperske Hory	5.64	329	*e*PN		Pn	22 10 37.4	+1.5		
KHC				*ex*		x	22 10 51.5			
KHC				*e*SN		Sn	22 11 38.8	-1.7		
KHC				*ex*		x	22 11 51.0			
KHC	Kasperske Hory	5.64	329	*e*P		Pn	22 10 37.3	+1.5		
KHC				S		Sn	22 11 44.0	+3.5		
MOTA	Moosalm	5.66	304	P		Pn	22 10 38.1	+2.0		
MOTA	Moosalm	5.66	304	P		Pn	22 10 38.1	+2.0		
MOTA	Moosalm	5.66	304	⇓*i*	Pn	Pn	22 10 37.3	+1.2		
	SNR=47									
MOTA				⇑*i*	Sn	Sn	22 11 41.3	+0.3		
MOTA	Moosalm	5.66	304	Pn		Pn	22 10 37.3	+1.2		
	SNR=47									
MOTA	Moosalm	5.66	304	P		Pn	22 10 38.1	+2.0		
MOTA				Sn		Sn	22 11 41.3	+0.3		
GRI	Girifalco	5.67	193	P		Pn	22 10 36.1	-0.2		
GRI	Girifalco	5.67	193	P		Pn	22 10 36.1	-0.2		
GRI	Girifalco	5.67	193	P		Pn	22 10 36.1	-0.2		
FETA	Feichten	5.74	300	⇓*i*	Pn	Pn	22 10 38.9	+1.7		
	SNR=14									
FETA				⇓*i*	Sn	Sn	22 11 42.7	-0.3		
FETA	Feichten	5.74	300	Pn		Pn	22 10 38.9	+1.7		
	SNR=14									
FETA				Sn		Sn	22 11 42.7	-0.3		
MLR	Muntele Rosu	5.75	76	Pn		Pn	22 10 38.3	+0.8		
MLR	Muntele Rosu	5.75	76	Pn		Pn	22 10 38.3	+0.8		
	comp=E,0.1nm,0.3s,baz=180,slow=19,SNR=6.9									
MLR	Muntele Rosu	5.75	76	P		Pn	22 10 38.3	+0.8		
KRLC	Kraliky	5.76	352	*e*PN		Pn	22 10 38.6	+1.1		
KRLC	Kraliky	5.76	352	Pn		Pn	22 10 38.6	+1.1		
FUORN	Ofenpass-Fuorn	5.88	295	P		Pn	22 10 40.4	+1.1		
FUORN	Ofenpass-Fuorn	5.88	295	P		Pn	22 10 40.4	+1.1		
WET	Wettzell	5.92	325	P		Pn	22 10 41.7	+2.0		
WET	Wettzell	5.92	325	P		Pn	22 10 41.7	+2.0		
WET	Wettzell	5.92	325	P		Pn	22 10 41.7	+2.0		
RETA	Reutte	5.93	304	P		Pn	22 10 41.2	+1.4		
RETA	Reutte	5.93	304	⇓*i*	Pn	Pn	22 10 40.9	+1.1		
	SNR=11									
RETA	Reutte	5.93	304	Pn		Pn	22 10 40.9	+1.1		
	SNR=11									
RETA	Reutte	5.93	304	P		Pn	22 10 41.2	+1.4		
OJC	Ojcow	5.97	11	*e*Pn		Pn	22 10 41.1	+0.7		
OJC				*e*Sn		Sn	22 11 47.1	-1.5		
OJC	Ojcow	5.97	11	*e*P		Pn	22 10 41.8	+1.4		
OJC				*e*			22 11 47.8			
OJC	Ojcow	5.97	11	*e*Pn		Pn	22 10 41.6	+1.3		
OJC	Ojcow	5.97	11	*e*Pn		Pn	22 10 41.6	+1.3		
OJC				*e*S		Sn	22 11 47.8	-0.8		
BUR08	Bucovina Ar. S	5.99	54	*e*Pn		Pn	22 10 41.9	+1.2		
BUR08				*e*Pg		Pg	22 11 04.3	-2.6		
BUR08				*e*S		Sg	22 12 23.1	-1.4		
BUR08	Bucovina Ar. S	5.99	54	*e*Pn		Pn	22 10 41.8	+1.2		
FUR	Furstenfeldbru	6.00	312	P		Pn	22 10 41.0	+0.2		
FUR	Furstenfeldbru	6.00	312	P		Pn	22 10 41.0	+0.2		
FUR	Furstenfeldbru	6.00	312	P		Pn	22 10 41.0	+0.2		
DPC	Dobruska-Polom	6.08	350	*e*P		Pn	22 10 42.6	+0.7		
DPC	Dobruska-Polom	6.08	350	P		Pn	22 10 43.0	+1.1		
DPC	Dobruska-Polom	6.08	350	*e*PN		Pn	22 10 42.6	+0.7		
DPC	Dobruska-Polom	6.08	350	Pn		Pn	22 10 42.6	+0.7		
DPC	Dobruska-Polom	6.08	350	P		Pn	22 10 43.0	+1.1		
PRU	Pruhonice	6.09	338	*e*P		Pn	22 10 43.7	+1.8		
PRU				*e*			22 11 49.1			
PRU	Pruhonice	6.09	338	P		Pn	22 10 42.1	+0.2		
PRU	Pruhonice	6.09	338	*e*PN		Pn	22 10 43.7	+1.8		
PRU				*e*SN		Sn	22 11 49.1	-2.3		
PRU	Pruhonice	6.09	338	P		Pn	22 10 42.1	+0.2		
PRU	Pruhonice	6.09	338	Pn		Pn	22 10 43.7	+1.8		
DAVOX	Davos/Dischmat	6.18	296	Pn		Pn	22 10 43.5	+0.1		
DAVOX				Sn		Sn	22 11 56.4	+2.4		
DAVOX	Davos/Dischmat	6.18	296	Pn		Pn	22 10 43.5	+0.1		
	comp=E,2.5nm,0.3s,baz=316,slow=17,SNR=31									
DAVOX				Sn		Sn	22 11 56.4	+2.4		
	comp=E,0.8nm,0.3s,baz=125,slow=23,SNR=4.4									
DAVOX				LR		LR	22 13 38.1			
	comp=E,118nm,21.8s,baz=292,slow=44									
DAVOX	Davos/Dischmat	6.18	296	P		Pn	22 10 43.5	+0.1		
DAVOX				S		Sn	22 11 56.4	+2.4		
DAVA	Damuels	6.37	300	P		Pn	22 10 45.5	-0.5		
DAVA	Damuels	6.37	300	⇑*i*	Pn	Pn	22 10 46.6	+0.6		
DAVA	Damuels	6.37	300	P		Pn	22 10 45.5	-0.5		
DAVA	Damuels	6.37	300	Pn		Pn	22 10 46.6	+0.6		
TUE	Stuetta	6.44	292	*e*Pn		Pn	22 10 47.5	+0.6		
TUE	Stuetta	6.44	292	*e*Pn		Pn	22 10 47.5	+0.6		
KSP	Ksiaz	6.57	351	*e*P		Pn	22 10 50.7	+2.1		
KSP	Ksiaz	6.57	351	P		Pn	22 10 51.1	+2.5		
KSP	Ksiaz	6.57	351	*e*P		Pn	22 10 50.7	+2.1		
ROTZ	Rotzenmuhle	6.69	326	*e*Pn		Pn	22 10 53.2	+3.1		
ROTZ				*e*Sn		Sn	22 12 01.6	-4.5		
PGF	Pioggiola	6.80	258	*e*Pn		Pn	22 10 49.5	-2.2		
LVV	L'vov	6.83	35	*e*P		Pn	22 10 56.0	+3.9		
NKC	Novy Kostel	6.97	329	*e*P		Pn	22 10 55.3	+1.3		
NKC	Novy Kostel	6.97	329	P		Pn	22 10 55.0	+1.0		
NKC	Novy Kostel	6.97	329	*e*PN		Pn	22 10 55.3	+1.3		
NKC	Novy Kostel	6.97	329	P		Pn	22 10 55.0	+1.0		
NKC	Novy Kostel	6.97	329	Pn		Pn	22 10 55.3	+1.3		
GRFO	Grafenberg	7.05	321	*e*P		Pn	22 10 56.3	+1.2		
GRFO				*e*			22 12 16.5			
GRFO	Grafenberg	7.05	321	*e*Pn		Pn	22 10 56.3	+1.2		
GRFO				*e*Sn		Sn	22 12 16.5	+1.5		
GRFO	Grafenberg	7.05	321	*e*P		Pn	22 10 56.3	+1.2		
GRFO				*e*S		Sn	22 12 16.5	+1.5		
BRG	Berggiesshubel	7.05	339	SG		Sb	22 12 39.1	+0.5		
	comp=E,15nm,0.7s									
BRG	Berggiesshubel	7.05	339	PG		Pn	22 11 00.6	+5.4		
BRG				*e*			22 11 11.7			
BRG	Berggiesshubel	7.05	339	P		Pn	22 11 00.6	+5.4		
TANN	Tannenbergstha	7.11	330	*e*Pn		Pn	22 10 57.7	+1.7		
GUNZ	Gunzen	7.12	329	P		Pn	22 10 57.6	+1.5		
GUNZ	Gunzen	7.12	329	P		Pn	22 10 57.6	+1.5		
SPAK	Spaichingen-Ko	7.39	304	P		Pn	22 11 00.3	+0.4		
SPAK	Spaichingen-Ko	7.39	304	P		Pn	22 11 00.3	+0.4		
SLE	Schleitheim	7.43	300	P		Pn	22 11 00.4	+0.1		
SLE	Schleitheim	7.43	300	P		Pn	22 11 00.4	+0.1		
SLE	Schleitheim	7.43	300	P		Pn	22 11 00.4	+0.1		
STU	Stuttgart	7.49	309	P		Pn	22 11 01.4	+0.3		
STU	Stuttgart	7.49	309	P		Pn	22 11 01.4	+0.3		
STU	Stuttgart	7.49	309	P		Pn	22 11 01.4	+0.3		
SAOF	Saorge	7.52	271	P		Pn	22 11 00.4	-1.2		
SAOF	Saorge	7.52	271	P		Pn	22 11 00.4	-1.2		
SAOF	Saorge	7.52	271	P		Pn	22 11 00.4	-1.2		
SAOF	Saorge	7.52	271	P		Pn	22 11 00.4	-1.2		
AUTN	L'Aution	7.61	271	P		Pn	22 11 02.8	-0.2		
AUTN	L'Aution	7.61	271	P		Pn	22 11 02.8	-0.2		
AUTN	L'Aution	7.61	271	P		Pn	22 11 02.8	-0.2		
MOX	Moxa	7.61	328	*e*Pn		Pn	22 11 05.2	+2.3		
MOX	Moxa	7.61	328	*e*P		Pn	22 11 05.2	+2.3		
MOX	Moxa	7.61	328	P		Pn	22 11 01.5	-1.4		
MOX	Moxa	7.61	328	*e*P		Pn	22 11 05.2	+2.3		
SBF	Sospel	7.62	270	*e*Pn		Pn	22 11 01.1	-1.9		
SBF				*e*Sn		Sn	22 12 23.0	-6.2		
	comp=E,21nm,0.5s									
CLL	Collm	7.71	336	*e*Pn		Pn	22 11 07.0	+2.9		
CLL	Collm	7.71	336	*e*P		Pn	22 11 07.0	+2.9		
CLL	Collm	7.71	336	*e*Pn		Pn	22 11 07.0	+2.9		
CLL				*e*Sn		Sn	22 12 21.0	-10		
CLL				*i* Sb		Sb	22 12 54.6	-2.7		
CLL				*e*Sg		Sg	22 13 14.0	-5.4		
CLL	Collm	7.71	336	*e*P		Pn	22 11 07.0	+2.9		
TOUF	Mont Tournerai	7.73	271	P		Pn	22 11 04.0	-0.7		
TOUF	Mont Tournerai	7.73	271	P		Pn	22 11 04.0	-0.7		
TOUF	Mont Tournerai	7.73	271	P		Pn	22 11 04.0	-0.7		
TOUF	Mont Tournerai	7.73	271	P		Pn	22 11 04.0	-0.7		
BFO	Black Forest	7.77	304	*e*Pn		Pn	22 11 04.6	-0.4		
BFO	Black Forest	7.77	304	*e*P		Pn	22 11 04.1	-0.9		
BFO				*e*			22 12 32.9			
BFO				pmax		pmax				
	comp=Z,5.0nm,0.6s									
BFO	Black Forest	7.77	304	*e*Pn		Pn	22 11 04.1	-0.9		
	comp=Z,5.3nm,0.6s									
BFO				*e*Sn		Sn	22 12 32.9	+0.1		
BFO	Black Forest	7.77	304	*e*P		Pn	22 11 04.1	-0.9		
	comp=Z,5.0nm,0.6s									
BFO				*e*S		Sn	22 12 32.9	+0.1		
FELD	Feldberg im Sc	7.77	300	P		Pn	22 11 05.0	-0.2		
FELD	Feldberg im Sc	7.77	300	P		Pn	22 11 05.0	-0.2		
BBS

NIED ***03*** *22:14:00,41.50N×140.00E,h8km,Mw3.5 Best double couple: M₀2.22000×10¹⁴ NP1:φ₀151.00000°, δ48.00000°, λ74.00000°. NP2:φ₀354.00000°, δ44.00000°, λ107.00000°.*

JMA 03 22:14:37.4, 41.55N×139.95E, h10km±1km, M3.6, 5C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSR	**Shiriuchi**	**0.35**	**93**	⇓P	Pg	22 14 44.2	-0.2
JSR				*e*S	Sg	22 14 49.2	+0.1
JSI2	**Shiura 2**	**0.60**	**145**	⇑P	Pg	22 14 48.5	-0.6
JSI2				*e*S	Sg	22 14 56.5	-0.5
JOSM	**Okushiri--Mats**	**0.64**	**326**	⇑P	Pg	22 14 49.3	-0.5
JOSM				*e*S	Sg	22 14 58.2	0.0
JYM2	**Yakumo 2**	**0.65**	**29**	⇑P	Pg	22 14 49.8	-0.2
JYM2				*e*S	Sg	22 14 58.4	-0.1
JOT	**Ohata**	**0.84**	**101**	⇓P	Pg	22 14 53.0	-0.6
JOT				*e*S	Sg	22 15 03.8	-0.8
JKB	**Kayabe**	**0.88**	**67**	P	Pg	22 14 54.1	-0.2
JKB				*e*S	Sg	22 15 05.6	-0.1
JIW	**Iwasaki**	**0.96**	**177**	⇑P	Pg	22 14 55.0	-0.9
JIW				*e*S	Sg	22 15 08.0	-0.3
JSH	**Shimam**	**1.09**	**4**	⇑P	Pb	22 14 57.5	-0.9
JSH				*e*S	Sg	22 15 11.8	-0.9
MAT	**Matsushiro**	**5.18**	**196**	P	Pn	22 15 56.0	+1.0

IDC 03 22:19:42.6±1.0, 0.30S×132.93E, h0km, mb4.0/7, mb1 4.3/9, mb1mx4.1/18, mbtmp4.1/9, ML4.3/2, MS3.7/5, Ms1 3.6/5, ms1mx3.2/27, Error ellipse: s-maj=48.4km s-min=16.2km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**18.18**	**40**	LR	LR	22 30 31.8	
	comp=Z,163nm,18.8s,baz=169,slow=36						
FITZ	**Fitzroy Crossi**	**19.08**	**202**	P	P	22 24 06.8	-0.1
	0.4nm,0.3s,baz=15,slow=9.9,SNR=4.9						
FITZ				LR	LR	22 31 10.1	
	comp=Z,72nm,19.7s,baz=26,slow=36						
WRA	**Warramunga Arr**	**19.57**	**176**	P	P	22 24 12.5	+0.3
	1.1nm,0.3s,baz=355,slow=11,SNR=76						
WRA				S	Sn	22 27 41.8	-12
	0.3nm,0.3s,baz=360,slow=22,SNR=5.6						
ASAR	**Alice Springs**	**27.35**	**351**	LR	LR	22 34 43.6	
	comp=Z,121nm,18.9s,baz=141,slow=33						
STKA	**Stephens Creek**	**32.46**	**166**	P	P	22 26 14.7	0.0
	5.3nm,0.6s,baz=351,slow=8.9,SNR=11						
STKA				LR	LR	22 39 27.0	
	comp=Z,111nm,18.1s,baz=23,slow=36						
CMAR	**Chiang Mai Arr**	**38.24**	**301**	P	P	22 27 04.3	-0.5
	0.4nm,0.3s,baz=120,slow=7.2,SNR=5.0						
SONM	**Songino Array**	**53.21**	**338**	P	P	22 29 02.6	-0.2
	0.3nm,0.5s,baz=154,slow=7.2,SNR=7.1						
MKAR	**Makanchi Array**	**64.41**	**324**	P	P	22 30 20.9	+0.2
	0.8nm,0.5s,baz=112,slow=8.5,SNR=17						
ZALV	**Zalesovo Beam**	**67.02**	**331**	P	P	22 30 37.6	+0.3
	0.4nm,0.3s,baz=125,slow=9.6,SNR=3.4						
ILAR	**Eielson Array**	**86.08**	**25**	P	P	22 32 24.8	-0.3
	0.3nm,0.7s,baz=248,slow=5.4,SNR=4.1						
FINES	**FINESS Array B**	**98.27**	**332**	LR	LR	23 19 57.6	
	comp=Z,110nm,18.3s,baz=327,slow=37						

IDC 03 22:22:04.1±2.6, 16.98S×175.26W, h238km±32km, mb3.6/5, mb1 3.7/6, mb1mx3.4/18, mbtmp3.6/6, Error ellipse: s-maj=123.5km s-min=19.6km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.54**	**48**	P	Pn	22 23 14.2	+0.1
	13nm,0.3s,baz=50,slow=2.8,SNR=5.6						
AFI				S	S	22 24 05.1	-4.3
	55nm,0.3s,baz=34,slow=22,SNR=15						
STKA	**Stephens Creek**	**41.70**	**241**	P	P	22 29 30.1	+0.1
	2.3nm,0.9s,baz=67,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**47.76**	**258**	P	P	22 30 17.1	-0.7
	0.9nm,0.4s,baz=96,slow=7.1,SNR=10						
ASAR	**Alice Springs**	**47.93**	**253**	P	P	22 30 19.1	-0.1
	9.6nm,0.4s,baz=87,slow=9.0,SNR=71						
ILAR	**Eielson Array**	**84.34**	**12**	P	P	22 34 08.3	-0.7
	0.3nm,0.5s,baz=227,slow=5.8,SNR=8.3						
SONM	**Songino Array**	**94.83**	**319**	P	P	22 34 60.0	+0.9
	0.4nm,1.0s,baz=90,slow=1.4,SNR=3.0						
GERES	**GERESS Array B**	**147.39**	**349**	PKPbc	PKPbc	22 41 19.4	-0.6
	0.4nm,0.9s,baz=29,slow=3.0,SNR=3.8						

NIED ***03*** *22:23:00,46.60N×153.10E,h5km,Mw4.1 Best double couple: M₀1.58000×10¹⁵ NP1:φ₀131.00000°, δ87.00000°, λ-69.00000°. NP2:φ₀229.00000°, δ21.00000°, λ-171.00000°.*

BJI ***03*** *22:23:15.6, 47.08N×153.98E, h50km, mB4.7/5, mb4.3/8, Ms4.4/2, Ms7 4.1/2*

SKHL ***03*** *22:23:15.0±3.2, 46.18N×153.64E, h45km±13km, mb4.9/4*

JMA ***03*** *22:23:21.9±0.8, 46.56N×153.11E, h30km, M4.7*

MOS ***03*** *22:23:21.3±1.1, 46.87N×152.60E, h41km, mb4.4/11, Error ellipse: s-maj=14.6km s-min=9.4km az=64.6*

ISCJB ***03*** *22:23:23.6±0.4, 46.73N±0.06×152.64E±0.07, h67km, mb4.0/30, Error ellipse: s-maj=11.2km s-min=3.4km az=142.7*

NEIC ***03*** *22:23:27.5±0.7, 46.94N×152.69E, h82km±6km, mb4.3/6, Error ellipse: s-maj=9.2km s-min=4.5km az=142.0*

IDC ***03*** *22:23:27.5±2.5, 46.91N×152.64E, h81km±22km, mb3.7/20, mb1 3.9/24, mb1mx3.9/29, mbtmp3.8/24, MS3.2/5, Ms1 3.2/5, ms1mx2.9/44, Error ellipse: s-maj=17.2km s-min=11.0km az=141.0*

ISC 03 22:23:25.6±0.5, 46.78N±0.07×152.60E±0.06, h67km, n116, σ1 9 30/113, mb4.1/30, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.64**	**247**	PN	Pn	22 24 15.8	-3.7
KUR				*e*S	**Sn**	**22 24 59.0**	**-2.2**
KUR				pmax	pmax		
	comp=N,110nm,0.6s						
KUR				pmax	pmax		
	comp=Z,140nm,0.6s						
KUR				pmax	pmax		
	comp=E,110nm,0.3s						
KUR				smax	smax		
	comp=N,390nm,0.7s						
KUR				smax	smax		
	comp=E,690nm,0.7s						
KUR	**Kuril'sk**	**3.64**	**247**	*e*P	Pn	22 24 15.8	-3.7
KUR				AMB	AMB	22 24 21.0	
	comp=E,110nm,0.6s						
KUR				AMB	AMB	22 24 21.0	
	comp=E,140nm,0.6s						
KUR				AMB	AMB	22 24 21.0	
	comp=E,110nm,0.3s						
KUR				*e*S	**Sn**	**22 24 59.0**	**-2.2**
KUR				A	A	22 25 15.3	
	comp=E,390nm,0.7s						
KUR				A	A	22 25 15.3	
	comp=E,690nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**5.48**	**242**	*e*PN	Pn	22 24 41.1	-3.5
YUK				*e*S	**Sn**	**22 25 48.1**	**+1.8**
YUK				pmax	pmax		
	comp=N,99nm,0.3s						
YUK				pmax	pmax		
	comp=E,60nm,0.3s						
YUK				pmax	pmax		
	comp=Z,213nm,0.3s						
YUK				smax	smax		
	comp=N,196nm,0.8s						
YUK				smax	smax		
	comp=E,536nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**5.48**	**242**	*e*P	Pn	22 24 41.2	-3.4
YUK				AMB	AMB	22 24 53.3	
	comp=E,99nm,0.3s						
YUK				AMB	AMB	22 24 53.3	
	comp=E,60nm,0.3s						
YUK				AMB	AMB	22 24 53.3	
	comp=E,213nm,0.3s						
YUK				*e*S	**Sn**	**22 25 48.2**	**+1.9**
YUK				A	A	22 26 13.0	
	comp=E,700nm,1.8s						
YUK				A	A	22 26 13.4	
	comp=E,536nm,0.8s						
YUK				A	A	22 26 13.4	
	comp=E,196nm,0.8s						
NEM2	**Nemuro 2**	**5.94**	**237**	P	**Pn**	**22 24 49.5**	**-1.3**
NEM2				*e*S	**Sn**	**22 25 53.5**	**-3.9**
JRA	**Rausu**	**5.99**	**244**	P	**Pn**	**22 24 53.9**	**+2.4**
JNK	**Nakash**	**6.42**	**243**	P	**Pn**	**22 24 58.6**	**+1.1**
JNK				*e*S	**Sn**	**22 26 09.3**	**0.0**
JTKR	**Abashiri--Toko**	**6.74**	**248**	P	**Pn**	**22 25 04.0**	**+2.2**
YSS	**Yuzh-Sakhalins**	**6.75**	**275**	*e*PN	Pn	22 25 06.3	+4.3
YSS				*e*		22 26 23.3	
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS	**Yuzh-Sakhalins**	**6.75**	**275**	*e*Pn	Pn	22 25 05.5	+3.6
	comp=Z,21nm,0.6s						
YSS				*e*Sn	**Sn**	**22 26 15.0**	**-2.4**
YSS	**Yuzh-Sakhalins**	**6.75**	**275**	*e*P	Pn	22 25 06.3	+4.3
YSS				AMB	AMB	22 25 10.8	
	comp=Z,40nm,1.0s						
JAK	**Akkeshi**	**6.77**	**239**	P	**Pn**	**22 25 01.1**	**-1.1**
JAK				*e*S	**Sn**	**22 26 14.0**	**-3.8**
JMP	**Maruseppu**	**7.07**	**250**	P	Pn	22 25 09.1	+2.7
PEA0B	**Petropavlovsk-**	**7.13**	**26**	*e*Pn	**Pn**	**22 25 06.3**	**-0.9**
PEA0B				*e*Sn	**Sn**	**22 26 24.2**	**-2.5**
PETK	**Petropavlovsk-**	**7.13**	**26**	PN	Pn	**22 25 06.0**	**-1.2**
PETK	**Petropavlovsk-**	**7.13**	**26**	P	**Pn**	**22 25 06.0**	**-1.2**
PETK	**Petropavlovsk-**	**7.13**	**26**	P	**Pn**	**22 25 06.0**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=340,slow=8.3,SNR=3.6						
JAR	**Ashorobuto**	**7.16**	**244**	P	**Pn**	**22 25 08.8**	**+1.2**
JAR				*e*S	**Sn**	**22 26 28.3**	**+0.9**
JOB	**Onbets**	**7.34**	**241**	P	**Pn**	**22 25 10.2**	**+0.2**
JOB				*e*S	**Sn**	**22 26 29.7**	**-2.0**
ASAJ	**Asahikawa**	**7.52**	**253**	*e*Pn	Pn	22 25 15.9	+3.3
ASAJ				*e*Sn	**Sn**	**22 26 38.3**	**+2.0**
ASAJ	**Asahikawa**	**7.52**	**253**	P	Pn	22 25 16.2	+3.7
ASAJ	**Asahikawa**	**7.52**	**253**	P	Pn	22 25 15.8	+3.3
	comp=Z,3.4nm,0.3s,baz=79,slow=16,SNR=23						
ASAJ				LR	LR	22 28 06.6	
	comp=Z,136nm,20.9s,baz=340,slow=37						
JKK2	**Kamakawa 2**	**7.53**	**251**	P	Pn	22 25 15.2	+2.6
JWK2	**Keihoku**	**7.59**	**263**	P	Pn	22 25 19.4	+6.0
TYV	**Tymovskoe**	**7.73**	**306**	*e*P	Pn	22 25 18.0	+2.7
TYV				AMB	AMB	22 25 21.5	
	comp=Z,20nm,0.8s						
TYV				AMB	AMB	22 25 21.5	
	comp=Z,18nm,1.0s						
TYV				AMB	AMB	22 25 21.5	
	comp=Z,26nm,1.0s						
JCH	**Churui**	**7.79**	**241**	P	**Pn**	**22 25 15.6**	**-0.6**
JCH				*e*S	**Sn**	**22 26 39.4**	**-3.4**
JAB	**Ashibetsu**	**8.03**	**250**	P	Pn	22 25 22.8	+3.3
JEM	**Erimo**	**8.27**	**238**	P	**Pn**	**22 25 23.4**	**+0.7**
JEM				*e*S	**Sn**	**22 26 52.3**	**-2.3**
ERM	**Erimo**	**8.27**	**238**	*e*PN	**Pn**	**22 25 23.7**	**+1.0**
JBT2	**Biratori 2**	**8.31**	**245**	P	**Pn**	**22 25 23.9**	**+0.6**
JBT2				*e*S	**Sn**	**22 26 54.4**	**-1.1**
JNBK	**Urakawa-nobuka**	**8.35**	**241**	P	**Pn**	**22 25 22.7**	**-1.1**
JKB	**Kayabe**	**9.62**	**244**	P	**Pn**	**22 25 40.7**	**-0.5**
JKB				*e*S	**Sn**	**22 27 23.8**	**-3.8**
JSH	**Shimam**	**9.85**	**250**	P	**Pn**	**22 25 45.6**	**+1.3**
JYM2	**Yakumo 2**	**9.91**	**246**	P	**Pn**	**22 25 45.1**	**0.0**
JTM	**Tenmabayashi**	**10.26**	**238**	P	**Pn**	**22 25 47.0**	**-3.0**
JTM				*e*S	Sn	22 27 35.1	-8.2
JANG	**Nango**	**10.28**	**235**	P	Pn	22 25 46.3	-3.9
JANG				*e*S	Sn	22 27 33.8	-10
JTH	**Tanohata**	**10.38**	**233**	*e*S	Sn	22 27 36.3	-10
JOSM	**Okushiri--Mats**	**10.49**	**248**	P	**Pn**	**22 25 52.6**	**-0.5**
OFUJ	**Ofunato**	**11.10**	**230**	*e*S	Sn	22 27 54.2	-10
JRG	**Rokugo**	**11.44**	**234**	P	**Pn**	**22 26 02.9**	**-3.1**
JRG				*e*S	Sn	22 28 03.8	-8.2
USRK	**Ussuriysk Arra**	**14.67**	**267**	P	**Pn**	**22 26 50.7**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=71,slow=12,SNR=14						
USRK				LR	LR	22 32 59.0	
	comp=Z,99nm,18.1s,baz=327,slow=39						
MAT	**Matsushiro**	**14.82**	**231**	P	**P**	**22 26 57.4**	**+1.7**
MJAR	**Matsushiro Arr**	**14.82**	**231**	P	**P**	**22 26 55.5**	**-0.2**
MJAR	**Matsushiro Arr**	**14.82**	**231**	P	**P**	**22 26 55.5**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=34,slow=8.5,SNR=4.0						
MJAR				LR	LR	22 32 45.8	
	comp=Z,53nm,20.1s,baz=25,slow=37						
SEY	**Seymchan**	**16.19**	**360**	*e*P	**P**	**22 27 11.7**	**+1.1**
YAK	**Yakutsk**	**20.10**	**328**	*i* P	Pn	22 27 59.4	+3.5
KSRS	**Korea Array**	**20.47**	**252**	P	Pn	22 28 00.0	-0.4
	comp=Z,3.3nm,0.6s,baz=56,slow=9.9,SNR=10						
KSRS				LR	LR	22 35 09.5	
	comp=Z,45nm,19.1s,baz=70,slow=34						
KSAR	**Wonju Array Be**	**20.50**	**252**	P	Pn	22 28 00.0	-0.8
JNU	**Nakatsue**	**21.43**	**238**	P	**P**	**22 28 09.5**	**+1.3**
JNU	**Nakatsue**	**21.43**	**238**	P	**P**	**22 28 09.5**	**+1.3**
	comp=Z,8.3nm,0.9s,baz=51,slow=15,SNR=4.4						
BILL	**Bilibino**	**22.44**	**13**	*e*P	P	22 28 25.4	+6.8
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ULN	**Ulaanbaatar**	**30.55**	**289**	*e*P	**P**	**22 29 32.8**	**+0.1**
	comp=Z,2.4nm,0.8s						
SONM	**Songino Array**	**30.99**	**289**	P	**P**	**22 29 38.2**	**+1.6**
SONM	**Songino Array**	**30.99**	**289**	P	**P**	**22 29 38.2**	**+1.6**
	comp=Z,0.9nm,0.9s,baz=81,slow=8.9,SNR=3.8						
XAN	**Xi'an**	**35.17**	**265**	P	**P**	**22 30 14.0**	**+1.0**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	**36.74**	**39**	P	**P**	**22 30 25.4**	**-0.6**
ILAR	**Eielson Array**	**36.74**	**39**	P	**P**	**22 30 25.4**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=258,slow=7.3,SNR=10						
INK	**Inuvik**	**41.81**	**32**	*e*P	**P**	**22 31 08.0**	**-0.1**
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**41.81**	**32**	P	**P**	**22 31 08.5**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=147,slow=25,SNR=10						
ZALV	**Zalesovo Beam**	**42.30**	**306**	PcP	**PcP**	**22 33 05.2**	**+0.4**
ZALV	**Zalesovo Beam**	**42.30**	**306**	PcP	**PcP**	**22 33 05.2**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=100,slow=3.3,SNR=4.3						
MK31	**Makanchi Array**	**46.61**	**297**	*e*PcP	**PcP**	**22 33 20.1**	**+0.3**
MKAR	**Makanchi Array**	**46.61**	**297**	P	**P**	**22 31 46.1**	**-0.7**
MKAR						22 33 20.2	
MKAR	**Makanchi Array**	**46.61**	**297**	P	**P**	**22 31 46.1**	**-0.7**
MKAR				PcP	**PcP**	**22 33 20.2**	**+0.5**
MKAR	**Makanchi Array**	**46.61**	**297**	P	**P**	**22 31 46.1**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=67,slow=7.2,SNR=12						
MKAR				PcP	**PcP**	**22 33 20.2**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=62,slow=1.5,SNR=8.1						
LSA	**Lhasa**	**49.92**	**273**	*e*P	**P**	**22 32 14.0**	**+0.9**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
LSA	**Lhasa**	**49.92**	**273**	*e*P	**P**	**22 32 14.0**	**+0.9**
	comp=Z,5.1nm,0.5s						
BVAR	**Borovoye Array**	**50.56**	**309**	LR	LR	22 55 08.0	
	comp=Z,59nm,21.5s,baz=160,slow=38						
YKA	**Yellowknife Ar**	**51.11**	**37**	P	**P**	**22 32 20.9**	**0.0**
YKA				PcP	**PcP**	**22 33 35.8**	**+0.1**
YKA	**Yellowknife Ar**	**51.11**	**37**	P	**P**	**22 32 20.9**	**0.0**
	comp=Z,0.5nm,0.7s,baz=298,slow=7.1,SNR=6.8						
YKA				PcP	**PcP**	**22 33 35.7**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=299,slow=3.9,SNR=7.4						
CHTO	**Chiang Mai**	**51.78**	**256**	*e*P	**P**	**22 32 27.1**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CHTO	**Chiang Mai**	**51.78**	**256**	*e*P	**P**	**22 32 27.1**	**+0.5**
	comp=Z,3.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**52.03**	**256**	P	**P**	**22 32 29.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**52.03**	**256**	P	**P**	**22 32 29.4**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=36,slow=7.4,SNR=13						
ARCES	**ARCESS Array B**	**57.70**	**341**	P	**P**	**22 33 07.0**	**-1.7**
ARCES	**ARCESS Array B**	**57.70**	**341**	P	**P**	**22 33 07.0**	**-1.7**
	comp=Z,7.7nm,1.0s,baz=31,slow=5.0,SNR=4.4						
ABKAR	**Akbulak array**	**58.13**	**310**	*e*P	**P**	**22 33 11.9**	**-0.1**
	comp=Z,1.2nm,0.4s						
SUMG	**Summit**	**60.69**	**4**	*i* P	**P**	**22 33 29.3**	**-0.5**
SUMG				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SUMG	**Summit**	**60.69**	**4**	*i* P	**P**	**22 33 29.3**	**-0.5**
	comp=Z,6.2nm,0.8s						
JOF	**Joensuu**	**61.15**	**333**	*e*P	**P**	**22 33 32.6**	**+0.1**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.5s						
JOF	**Joensuu**	**61.15**	**333**	*e*p	**P**	**22 33 32.6**	**+0.1**
	comp=Z,1.2nm,0.5s						
NVAR	**Mina Array Bea**	**62.73**	**62**	P	**P**	**22 33 43.5**	**-0.3**
NVAR	**Mina Array Bea**	**62.73**	**62**	P	**P**	**22 33 43.5**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=287,slow=6.5,SNR=3.4						
SCO	**Scoresbysund**	**62.98**	**358**	*i* P	**P**	**22 33 44.8**	**+0.2**
SCO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SCO	**Scoresbysund**	**62.98**	**358**	*i* P	**P**	**22 33 44.8**	**+0.2**
	comp=Z,3.1nm,1.0s						
KAF	**Kangasniemi**	**63.26**	**335**	*e*P	**P**	**22 33 46.0**	**-0.6**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KAF	**Kangasniemi**	**63.26**	**335**	*e*p	**P**	**22 33 46.0**	**-0.6**
	comp=Z,1.3nm,0.5s						
RRI2	**Red Ridge**	**63.66**	**54**	*e*P	**P**	**22 33 49.6**	**-0.3**
	comp=Z,2.9nm,0.9s						
FINES	**FINESS Array B**	**63.86**	**335**	P	**P**	**22 33 50.2**	**-0.3**
FINES	**FINESS Array B**	**63.86**	**335**	P	**P**	**22 33 50.2**	**-0.3**
	comp=Z,4.3nm,0.4s,baz=31,slow=7.2,SNR=61						
PDAR	**Pinedale Array**	**65.01**	**54**	P	**P**	**22 33 58.4**	**-0.4**
PDAR	**Pinedale Array**	**65.01**	**54**	P	**P**	**22 33 58.4**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=267,slow=1.8,SNR=7.7						
FRB	**Frobisher Bay**	**65.13**	**19**	P	**P**	**22 33 57.7**	**-1.1**
FRB	**Frobisher Bay**	**65.13**	**19**	P	**P**	**22 33 57.7**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=304,slow=7.0,SNR=3.7						
NB2	**NORSAR Subarra**	**68.08**	**341**	P	**P**	**22 34 17.4**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.08**	**341**	P	**P**	**22 34 17.6**	**-0.1**
NOA	**NORSAR Array B**	**68.08**	**341**	P	**P**	**22 34 17.6**	**-0.1**
	comp=Z,3.4nm,0.6s,baz=27,slow=6.4,SNR=21						
WRA	**Warramunga Arr**	**68.43**	**198**	P	**P**	**22 34 20.3**	**0.0**
WRA	**Warramunga Arr**	**68.43**	**198**	P	**P**	**22 34 20.3**	**0.0**
	comp=Z,1.0nm,0.8s,baz=19,slow=6.9,SNR=8.4						
AKASG	**Malin Array Be**	**71.32**	**326**	*e*P	**P**	**22 34 37.4**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKASG	**Malin Array Be**	**71.32**	**326**	P	**P**	**22 34 37.4**	**-0.3**
AKASG	**Malin Array Be**	**71.32**	**326**	P	**P**	**22 34 37.4**	**-0.3**
	comp=Z,3.1nm,0.3s,baz=34,slow=6.2,SNR=12						
ASAR	**Alice Springs**	**72.13**	**198**	P	**P**	**22 34 44.0**	**+1.2**
ASAR	**Alice Springs**	**72.13**	**198**	P	**P**	**22 34 44.0**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=11,slow=5.4,SNR=14						
BUR08	**Bucovina Ar. S**	**75.35**	**326**	*e*P	**P**	**22 35 01.8**	**+0.2**
CLL	**Collm**	**76.29**	**335**	*e*P	**P**	**22 35 07.0**	**+0.2**
TXAR	**Lajitas Array**	**77.78**	**60**	P	**P**	**22 35 15.5**	**-0.2**
TXAR	**Lajitas Array**	**77.78**	**60**	P	**P**	**22 35 15.5**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=299,slow=4.8,SNR=6.8						
KHC	**Kasperske Hory**	**78.05**	**334**	*e*P	**P**	**22 35 17.0**	**+0.2**
BRTR	**Keskin Array B**	**78.12**	**316**	P	**P**	**22 35 17.1**	**-0.4**
BRTR	**Keskin Array B**	**78.12**	**316**	P	**P**	**22 35 17.1**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=72,slow=4.3,SNR=6.8						
GERES	**GERESS Array B**	**78.27**	**334**	P	**P**	**22 35 17.6**	**-0.5**
GERES	**GERESS Array B**	**78.27**	**334**	P	**P**	**22 35 17.6**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=36,slow=5.3,SNR=4.8						
STKA	**Stephens Creek**	**78.92**	**190**	*e*P	**P**	**22 35 22.4**	**+1.0**
PLCA	**Paso Flores**	**148.56**	**95**	PKPbc	**PKPbc**	**22 43 04.5**	**0.0**
PLCA	**Paso Flores**	**148.56**	**95**	PKPbc	**PKPbc**	**22 43 04.5**	**0.0**
	comp=Z,1.8nm,0.9s,baz=244,slow=2.0,SNR=5.4						

BJI ***03*** *22:25:42.5,29.34S×74.65E,h16km,mB5.1/2,mb4.5/8*

ISCJB ***03*** *22:25:45.2±0.5,28.73S±0.10×74.16E±0.1,h10km, mb4.3/26,MS3.8/9, Error ellipse: s-maj=15.8km s-min=13.1km az=144.4*

IDC ***03*** *22:25:45.5±0.7,28.71S×74.53E,h0km,mb4.3/14, mb1 4.4/14,mb1mx4.3/22,mbtmp4.3/14,MS3.8/9, Ms1 3.7/9,ms1mx3.5/30,Error ellipse: s-maj=26.0km s-min=18.9km az=49.0*

NEIC ***03*** *22:25:47.1±0.3,28.68S×74.54E,h10km,mb4.6/12, Error ellipse: s-maj=11.5km s-min=9.5km az=57.0*

ISC 03 22:25:47.1±0.6, 28.8S±0.1×74.5E±0.1, h10km, n60, σ0 8 89/59, mb4.5/26, MS3.8/9, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**36.71**	**107**	LR	LR	22 43 19.1	
	comp=Z,59nm,19.0s,baz=21,slow=29						
MAW	**Mawson**	**39.50**	**187**	LR	LR	22 45 44.2	
	comp=Z,120nm,19.1s,baz=106,slow=30						
BOSA	**Boshof**	**42.98**	**258**	LR	LR	22 49 22.6	
	comp=Z,80nm,18.1s,baz=262,slow=33						
LBTB	**Lobatse**	**43.57**	**263**	LR	LR	22 47 29.5	
	comp=Z,82nm,20.1s,baz=288,slow=30						
KMBO	**Kilima Mbogo**	**44.95**	**301**	*e*P	**P**	**22 34 03.5**	**+0.7**
	2.0nm,0.8s						
SUR	**Sutherland**	**46.00**	**251**	LR	LR	22 49 00.8	
	comp=Z,169nm,20.5s,baz=283,slow=30						
CMAR	**Chiang Mai Arr**	**52.53**	**30**	P	**P**	**22 35 01.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**52.53**	**30**	P	**P**	**22 35 01.4**	**+0.6**
	2.5nm,0.9s,baz=217,slow=7.5,SNR=14						
CHTO	**Chiang Mai**	**52.85**	**29**	*e*P	**P**	**22 35 00.7**	**-2.4**
	1.6nm,0.8s						
ASAR	**Alice Springs**	**53.04**	**99**	P	**P**	**22 35 05.0**	**+0.3**
ASAR				PcP	**PcP**	**22 36 12.2**	**-1.0**
ASAR	**Alice Springs**	**53.04**	**99**	P	**P**	**22 35 05.0**	**+0.3**

RES	**Resolute Bay**	**133.69**	**356**	PKP	**PKPdf**	**22 45 03.5**	**+0.5**
	comp=Z,1.0nm,1.0s,baz=298,slow=4.2,SNR=4.4						
ILAR	**Eielson Array**	**135.61**	**24**	PKP	**PKPdf**	**22 45 07.0**	**0.0**
ILAR	**Eielson Array**	**135.61**	**24**	PKP	**PKPdf**	**22 45 07.0**	**0.0**
	comp=Z,0.5nm,0.9s,baz=270,slow=4.5,SNR=4.9						
INK	**Inuvik**	**137.09**	**15**	PKP	**PKPdf**	**22 45 10.9**	**+1.4**
INK	**Inuvik**	**137.09**	**15**	PKP	**PKPdf**	**22 45 10.9**	**+1.4**
	comp=Z,1.6nm,0.9s,baz=168,slow=3.1,SNR=3.7						
YKA	**Yellowknife Ar**	**145.73**	**8**	PKPbc	**PKPdf**	**22 45 25.1**	**-0.1**
YKA	**Yellowknife Ar**	**145.73**	**8**	PKPbc	**PKPdf**	**22 45 25.0**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=334,slow=3.5,SNR=61						
DLBC	**Dease Lake**	**145.80**	**23**	PKPbc	**PKPab**	**22 45 26.6**	**+0.1**
DLBC	**Dease Lake**	**145.80**	**23**	PKPbc	**PKPab**	**22 45 26.6**	**+0.1**
	comp=Z,6.5nm,0.9s,baz=291,slow=4.4,SNR=6.7						

IDC 03 22:33:00.2±2.1,5.69S×130.35E,h0km,mb3.4/1, mb1 3.9/4,mb1mx3.6/15,mbtmp3.7/4,ML3.8/2,Error ellipse: s-maj=79.9km s-min=28.4km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**13.16**	**200**	Pn		Pn	22 36 08.4	-0.2
	0.5nm,0.3s,baz=23,slow=13,SNR=4.0							
FITZ				Sn		Sn	22 38 19.3	-16
	0.3nm,0.3s,baz=319,slow=20,SNR=3.9							
WRA	**Warramunga Arr**	**14.69**	**165**	Pn		Pn	22 36 30.2	+0.7
	0.3nm,0.3s,baz=345,slow=12,SNR=17							
WRA				Sn		Sn	22 38 59.1	-14
	0.5nm,0.3s,baz=336,slow=22,SNR=8.6							
ASAR	**Alice Springs**	**18.19**	**170**	P		Pn	22 37 13.9	-0.5
	0.5nm,0.3s,baz=347,slow=11,SNR=23							
MKAR	**Makanchi Array**	**67.33**	**326**	P		P	22 43 57.2	0.0
	0.2nm,0.6s,baz=112,slow=7.8,SNR=5.6							

*BJI **03** 22:39:21.3,48.47N×155.03E,h59km,mB5.0/32,mb4.7/38, Ms4.6/27,Ms7 4.4/23*
*SKHL **03** 22:39:21.3±0.4,48.07N×155.28E,h71km±8km,mb5.5/7*
*JMA **03** 22:39:22.5±0.5,48.25N×155.00E,h30km,M5.1*
*ISCJB **03** 22:39:22.6±0.5,48.40N±0.03×154.48E±0.03,h41km±4km, mb4.7/110,MS3.8/21,Error ellipse: s-maj=5.1km s-min=2.4km az=152.7*
*MOS **03** 22:39:23.5±0.9,48.44N×154.39E,h50km,mb4.8/29,Error ellipse: s-maj=9.2km s-min=5.9km az=84.9*
MOS Felt (II) at Severo-Kuril'sk.
*IDC **03** 22:39:24.8±0.6,48.51N×154.38E,h43km±5km,mb4.2/32, mb1 4.4/35,mb1mx4.4/35,mbtmp4.3/35,ML4.4/3,MS3.7/17, Ms1 3.7/17,ms1mx3.5/38,Error ellipse: s-maj=13.1km s-min=8.8km az=140.0*
*NEIC **03** 22:39:26.7±0.8,48.50N×154.35E,h61km±6km,mb4.8/45, Error ellipse: s-maj=7.2km s-min=3.8km az=149.0*

ISC 03 22:39:26.2±0.4,48.45N±0.04×154.44E±0.04,h58km±2km, h57km:pP-P,n517,σ1s17/566,mb4.7/110,MS3.8/21, 107C-103D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SKR	**Severo-Kuril's**	**2.48**	**25**	*e*P		**Pn**	**22 40 02.2**	**-2.0**
SKR				*e*S		**Sn**	**22 40 28.5**	**-4.8**
SKR				pmax	pmax			
	comp=Z,850nm,0.5s							
SKR				pmax	pmax			
	comp=N,350nm,0.3s							
SKR				pmax	pmax			
	comp=E,290nm,0.3s							
SKR				smax	smax			
	comp=N,4μm,0.2s							
SKR				smax	smax			
	comp=E,2μm,0.2s							
SKR				smax	smax			
	comp=N,5μm,6.0s							
SKR				smax	smax			
	comp=E,8μm,6.0s							
SKR	**Severo-Kuril's**	**2.48**	**25**	*e*P		**Pn**	**22 40 02.2**	**-2.0**
SKR				AMB	AMB		22 40 06.0	
	comp=E,350nm,0.3s							
SKR				AMB	AMB		22 40 06.0	
	comp=E,290nm,0.3s							
SKR				AMB	AMB		22 40 06.0	
	comp=E,850nm,0.5s							
SKR				*e*S		**Sn**	**22 40 28.5**	**-4.8**
SKR				A	A		22 40 33.6	
	comp=E,5μm,6.0s							
SKR				A	A		22 40 33.6	
	comp=E,8μm,6.0s							
SKR				A	A		22 40 33.6	
	comp=E,5μm,6.0s							
SKR				A	A		22 40 33.6	
	comp=E,8μm,6.0s							
SKR				A	A		22 40 33.6	
	comp=E,4μm,0.2s							
SKR				A	A		22 40 33.6	
	comp=E,2μm,0.2s							
SKR				A	A		22 40 33.6	
	comp=E,1μm,0.5s							
PEA0B	**Petropavlovsk-**	**5.10**	**23**	*e*Pn		**Pn**	**22 40 40.8**	**+0.9**
PEA0B				*e*Sn		**Sn**	**22 41 37.4**	**-0.1**
PETK	**Petropavlovsk-**	**5.10**	**23**	PN		**Pn**	**22 40 40.7**	**+0.7**
PETK	**Petropavlovsk-**	**5.10**	**23**	P		**Pn**	**22 40 40.6**	**+0.7**
PETK	**Petropavlovsk-**	**5.10**	**23**	P		**Pn**	**22 40 40.6**	**+0.7**
	comp=E,16nm,0.3s,baz=177,slow=12,SNR=62							
PETK				LR		LR	22 42 50.9	
	comp=E,515nm,20.9s,baz=347,slow=41							
PET	**Petropavlovsk**	**5.30**	**29**	*e*PN		**Pn**	**22 40 43.3**	**+0.6**
PET				pmax	pmax			
	comp=Z,119nm,0.5s							
PET	**Petropavlovsk**	**5.30**	**29**	*e*Pn		**Pn**	**22 40 42.7**	**0.0**
PET				*e*Sn		**Sn**	**22 41 41.0**	**-1.3**
KUR	**Kuril'sk**	**5.54**	**237**	*e*PN		**Pn**	**22 40 44.5**	**-1.5**
KUR				*e*S		**Sn**	**22 41 46.6**	**-1.8**
KUR				pmax	pmax			
	comp=Z,530nm,0.5s							
KUR				pmax	pmax			
	comp=N,220nm,0.8s							
KUR				pmax	pmax			
	comp=E,380nm,1.0s							
KUR				smax	smax			
	comp=N,1μm,0.8s							
KUR				smax	smax			
	comp=E,500nm,0.9s							
KUR	**Kuril'sk**	**5.54**	**237**	*e*P		**Pn**	**22 40 44.5**	**-1.5**
KUR				AMB	AMB		22 40 46.2	
	comp=E,380nm,1.0s							
KUR				AMB	AMB		22 40 46.2	
	comp=E,530nm,0.5s							
KUR				AMB	AMB		22 40 46.2	
	comp=E,220nm,0.8s							
KUR				*e*S		**Sn**	**22 41 46.6**	**-1.8**
KUR				A	A		22 42 13.2	
	comp=E,790nm,0.7s							
KUR				A	A		22 42 13.2	
	comp=E,340nm,0.8s							
YUK	**Yuzh-Kuril'sk**	**7.41**	**237**	*d i*PN		**Pn**	**22 41 13.1**	**+1.5**
YUK				*i* S		**Sn**	**22 42 37.2**	**+3.1**
YUK				pmax	pmax			
	comp=Z,843nm,0.5s							
YUK				pmax	pmax			
	comp=N,81nm,0.5s							
YUK				pmax	pmax			
	comp=E,82nm,0.2s							
YUK				MLR	MLR			
	comp=Z,855nm,16.0s							
YUK	**Yuzh-Kuril'sk**	**7.41**	**237**	⇓*i*P		**Pn**	**22 41 13.1**	**+1.5**
YUK				AMB	AMB		22 41 13.7	
	comp=Z,81nm,0.5s							
YUK				AMB	AMB		22 41 13.7	
	comp=Z,80nm,0.5s							
YUK				AMB	AMB		22 41 13.7	
	comp=Z,843nm,0.5s							
YUK				*i* S		**Sn**	**22 42 37.3**	**+3.1**
JRA	**Rausu**	**7.88**	**239**	P		**Pn**	**22 41 19.9**	**+1.8**
NEM2	**Nemuro 2**	**7.92**	**233**	P		**Pn**	**22 41 17.1**	**-1.4**
NEM2				*e*S		**Sn**	**22 42 42.1**	**-4.5**
TYV	**Tymovskoe**	**8.02**	**292**	*e*P		Pn	22 41 23.5	+3.6
TYV				AMB	AMB		22 41 25.5	
	comp=Z,18nm,0.8s							
TYV				AMB	AMB		22 41 25.5	
	comp=Z,26nm,0.8s							
TYV				AMB	AMB		22 41 25.5	
	comp=Z,55nm,0.8s							
YSS	**Yuzh-Sakhalins**	**8.03**	**264**	⇓*i*PN		Pn	22 41 25.1	+5.1
YSS				*e*S		**Sn**	**22 42 52.7**	**+3.4**
YSS				pmax	pmax			
	comp=N,60nm,0.8s							
YSS				pmax	pmax			
	comp=Z,100nm,0.8s							
YSS				smax	smax			
	comp=E,80nm,0.5s							
YSS	**Yuzh-Sakhalins**	**8.03**	**264**	*e*Pn		**Pn**	**22 41 22.5**	**+2.4**
	comp=E,97nm,0.6s							
YSS				*e*Sn		**Sn**	**22 42 50.8**	**+1.5**
YSS	**Yuzh-Sakhalins**	**8.03**	**264**	⇓*i*P		Pn	22 41 25.1	+5.1
YSS				AMB	AMB		22 41 27.2	
	comp=E,60nm,0.8s							
YSS				AMB	AMB		22 41 27.2	
	comp=E,100nm,0.8s							
YSS				*e*S		**Sn**	**22 42 52.7**	**+3.4**
YSS				A	A		22 42 58.0	
	comp=E,80nm,0.5s							
UGL	**Uglegorsk**	**8.20**	**279**	*e*P		Pn	22 41 27.0	+4.6
UGL				AMB	AMB		22 41 28.0	
	comp=E,150nm,0.5s							
UGL				*e*L		L	22 44 03.0	
JNK	**Nakash**	**8.33**	**238**	P		**Pn**	**22 41 25.2**	**+0.9**
JNK				*e*S		**Sn**	**22 42 55.8**	**-1.1**
JTKR	**Abashiri--Toko**	**8.57**	**242**	P		**Pn**	**22 41 29.7**	**+2.2**
JAK	**Akkeshi**	**8.73**	**235**	P		**Pn**	**22 41 28.6**	**-1.1**
JAK				*e*S		**Sn**	**22 43 01.8**	**-4.7**
JSE	**Soyaes**	**8.87**	**251**	P		Pn	22 41 35.9	+4.4
JMP	**Maruseppu**	**8.87**	**244**	P		**Pn**	**22 41 34.5**	**+2.8**
JMP	**Maruseppu**	**8.87**	**244**	P		**Pn**	**22 41 34.5**	**+2.8**
JAR	**Ashorobuto**	**9.05**	**239**	P		**Pn**	**22 41 35.2**	**+1.1**
JAR				*e*S		**Sn**	**22 43 14.5**	**0.0**
JWK2	**Keihoku**	**9.15**	**255**	P		Pn	22 41 40.9	+5.5
JOB	**Onbets**	**9.27**	**237**	P		**Pn**	**22 41 36.6**	**-0.4**
JOB				*e*S		**Sn**	**22 43 17.0**	**-2.7**
ASAJ	**Asahikawa**	**9.28**	**247**	*e*Pn		Pn	22 41 41.1	+3.9
ASAJ	**Asahikawa**	**9.28**	**247**	P		Pn	22 41 41.1	+3.9
ASAJ	**Asahikawa**	**9.28**	**247**	P		Pn	22 41 41.1	+3.9
ASAJ	**Asahikawa**	**9.28**	**247**	P		Pn	22 41 40.8	+3.6
	comp=E,9.5nm,0.3s,baz=82,slow=14,SNR=87							
ASAJ				LR		LR	22 44 54.1	
	comp=E,437nm,20.4s,baz=36,slow=36							
JKK2	**Kamakawa 2**	**9.31**	**245**	P		Pn	22 41 40.7	+3.0
JCH	**Churui**	**9.72**	**237**	P		**Pn**	**22 41 42.0**	**-1.2**
JCH				*e*S		**Sn**	**22 43 25.9**	**-4.9**
JFR	**Furan**	**9.82**	**242**	P		Pn	22 41 48.2	+3.6
JAB	**Ashibetsu**	**9.84**	**244**	P		Pn	22 41 48.2	+3.4
NKL	**Nikolayevsk**	**9.89**	**304**	*i* P		**Pn**	**22 41 45.0**	**-0.5**
NKL				AMB	AMB		22 41 46.0	
	comp=E,28nm,1.1s							
NKL				AMB	AMB		22 41 46.0	
	comp=E,55nm,1.1s							
NKL				AMB	AMB		22 41 46.0	
	comp=E,80nm,1.1s							
JBT2	**Biratori 2**	**10.18**	**241**	P		**Pn**	**22 41 49.3**	**-0.3**
JBT2				*e*S		**Sn**	**22 43 43.9**	**+1.8**
JEM	**Erimo**	**10.23**	**235**	P		**Pn**	**22 41 48.4**	**-1.8**
JEM				*e*S		**Sn**	**22 43 39.3**	**-4.0**
JEM	**Erimo**	**10.23**	**235**	P		**Pn**	**22 41 49.7**	**-0.5**
JNBK	**Urakawa-nobuka**	**10.28**	**237**	P		**Pn**	**22 41 48.4**	**-2.4**
JNBK				*e*S		Sn	22 43 38.9	-5.5
JEW	**Eniwo**	**10.68**	**243**	P		**Pn**	**22 41 58.2**	**+1.8**
JEW	**Eniwo**	**10.68**	**243**	P		**Pn**	**22 41 58.1**	**+1.7**
JNB	**Noboribetsu**	**11.15**	**243**	P		**Pn**	**22 42 02.6**	**-0.1**
JNB				*e*S		**Sn**	**22 44 03.9**	**-1.8**
JKB	**Kayabe**	**11.51**	**240**	P		**Pn**	**22 42 05.9**	**-1.8**
JKB				*e*S		Sn	22 44 07.0	-7.5
JSH	**Shimam**	**11.64**	**245**	P		**Pn**	**22 42 10.7**	**+1.3**
JSH	**Shimam**	**11.64**	**245**	P		**Pn**	**22 42 10.7**	**+1.3**
JYM2	**Yakumo 2**	**11.76**	**243**	P		**Pn**	**22 42 09.9**	**-1.1**
JYM2				*e*S		**Sn**	**22 44 18.3**	**-2.2**
JOT	**Ohata**	**11.83**	**238**	P		Pn	22 42 09.2	-2.8
JOT				*e*S		**Sn**	**22 44 17.2**	**-5.1**
JSR	**Shiriuchi**	**12.09**	**240**	P		**Pn**	**22 42 13.9**	**-1.7**
JTM	**Tenmabayashi**	**12.22**	**236**	P		Pn	22 42 13.1	-4.2
JTM				*e*S		Sn	22 44 21.1	-11
JTM	**Tenmabayashi**	**12.22**	**236**	P		Pn	22 42 13.1	-4.2
JTM				*e*S		Sn	22 44 23.4	-8.4
JANG	**Nango**	**12.26**	**234**	P		Pn	22 42 12.7	-5.3
JANG				*e*S		Sn	22 44 20.2	-13
JOSM	**Okushiri--Mats**	**12.31**	**244**	P		**Pn**	**22 42 17.8**	**-0.8**
JTH	**Tanohata**	**12.39**	**231**	P		Pn	22 42 13.7	-6.0
JTH				*e*S		Sn	22 44 24.1	-12
FX1	**Attu Island--F**	**12.67**	**63**	P		Pn	22 42 20.5	-2.9
FX1				S		Sn	22 44 30.1	-13
FX1	**Attu Island--F**	**12.67**	**63**	P		Pn	22 42 20.5	-2.9
	comp=E,20nm,0.3s,baz=340,slow=2.9,SNR=16							
FX1				S		Sn	22 44 30.1	-13
	comp=E,10nm,0.3s,baz=56,slow=21,SNR=7.2							
TEY	**Ternei**	**12.70**	**261**	*e*rx		rx	22 42 32.0	
HABR	**Khabarovsk**	**12.87**	**277**	*e*PN		**Pn**	**22 42 24.9**	**-1.3**
HABR				pmax	pmax			
	comp=E,69nm,2.4s							
HABR				pmax	pmax			
	comp=N,28nm,2.7s							
HABR				pmax	pmax			
	comp=Z,72nm,2.7s							
HABR				MLR	MLR			
	comp=Z,370nm,18.0s							
JOM	**Ohasama**	**13.03**	**231**	P		Pn	22 42 23.6	-4.9
JOM				S		Sn	22 44 39.2	-13
OFUJ	**Ofunato**	**13.14**	**229**	P		Pn	22 42 24.6	-5.3
OFUJ				*e*S		Sn	22 44 43.0	-11
JRG	**Rokugo**	**13.44**	**233**	P		Pn	22 42 29.3	-4.6
JRG				*e*S		Sn	22 44 47.8	-14
JIO	**Ouri**	**13.78**	**228**	P		Pn	22 42 32.9	-5.6
JIO				*e*S		Sn	22 44 56.4	-13
SEY	**Seymchan**	**14.56**	**356**	⇓*e*P		**Pn**	**22 42 48.9**	**+0.2**
JFY	**Yanaizu**	**15.41**	**230**	P		**Pn**	**22 42 56.3**	**-3.6**
JSD	**Sado**	**15.70**	**234**	P		**Pn**	**22 43 04.5**	**+1.0**
USRK	**Ussuriysk Arra**	**16.06**	**263**	P		**Pn**	**22 43 08.2**	**+0.1**
	comp=Z,2.2nm,0.3s,baz=81,slow=12,SNR=23							
USRK				LR		LR	22 48 48.0	
	comp=Z,181nm,21.5s,baz=197,slow=35							
VLA	**Vladivostok**	**16.58**	**260**	*i* P		**P**	**22 43 16.5**	**+0.2**
VLA				pmax	pmax			
	comp=Z,17nm,0.5s							
MAJO	**Matsushiro**	**16.84**	**231**	*e*P		**Pn**	**22 43 15.6**	**-2.4**
MAJO				pmax	pmax			
	comp=Z,14nm,0.6s							
MAJO	**Matsushiro**	**16.84**	**231**	*e*Pn		**Pn**	**22 43 15.6**	**-2.4**
	comp=Z,14nm,0.6s							
MAT	**Matsushiro**	**16.84**	**231**	P		**Pn**	**22 43 15.0**	**-3.0**
MAT	**Matsushiro**	**16.84**	**231**	P		**Pn**	**22 43 16.1**	**-1.9**
MJAR	**Matsushiro Arr**	**16.84**	**231**	P		**Pn**	**22 43 15.4**	**-2.5**
MJAR	**Matsushiro Arr**	**16.84**	**231**	P		**Pn**	**22 43 15.4**	**-2.5**
	comp=Z,1.2nm,0.3s,baz=28,slow=13,SNR=26							
JRY	**Ryogami san**	**16.90**	**228**	P		**P**	**22 43 21.5**	**+1.6**
MDJ	**Mudanjiang**	**17.50**	**267**	P		**Pn**	**22 43 25.4**	**-0.6**
MDJ				pP		**pP**	**22 43 37.7**	**-1.2**
MDJ				sP		**sP**	**22 43 44.3**	**-1.9**
MDJ				S		**Sn**	**22 46 38.0**	**-1.9**
MDJ				PcP		**PcP**	**22 48 04.7**	**+1.3**
MDJ				PcS		**PcS**	**22 51 41.4**	**+1.8**
MDJ				pmax	pmax			
	comp=Z,160nm,4.7s							
MDJ	**Mudanjiang**	**17.50**	**267**	*e*Pn		**Pn**	**22 43 25.9**	**-0.1**
	comp=Z,14nm,0.8s							
ZEA	**Zeya**	**17.82**	**297**	*e*P		**P**	**22 43 30.7**	**+0.8**
JWT	**Wachi**	**19.28**	**234**	P		P	22 43 39.5	-6.5
YAK	**Yakutsk**	**19.43**	**324**	*e*P		**P**	**22 43 47.9**	**+0.5**
YAK				*e*S		**S**	**22 47 22.0**	**-1.7**
YAK				pmax	pmax			
	comp=Z,17nm,0.9s							
YAK				smax	smax			
	comp=N,350nm,5.3s							
YAK				smax	smax			
	comp=E,62nm,3.0s							
YAK	**Yakutsk**	**19.43**	**324**	*e*P		**P**	**22 43 47.3**	**-0.1**
	comp=E,40nm,0.7s							
CLNS	**Chul'man**	**19.66**	**306**	*e*P		Pn	22 44 07.0	+15
CLNS				pmax	pmax			
	comp=N,13nm,0.8s							
CLNS				pmax	pmax			
	comp=Z,40nm,0.8s							
CLNS				pmax	pmax			
	comp=E,18nm,0.7s							
JAD	**Aida**	**20.20**	**236**	P		**P**	**22 43 57.0**	**+0.9**
JWZ	**Kozaga**	**20.46**	**230**	P		**P**	**22 43 58.7**	**-0.3**
BILL	**Bilibino**	**20.53**	**13**	*i* P		**P**	**22 43 57.0**	**-2.4**
BILL				*e*S		**S**	**22 47 43.9**	**-1.6**
BILL				pmax	pmax			
	comp=Z,5.0nm,0.8s							
BILL	**Bilibino**	**20.53**	**13**	*e*P		**P**	**22 43 57.0**	**-2.4**
	comp=Z,6.8nm,0.4s							
CN2	**Changchun**	**20.56**	**268**	*e*P		**P**	**22 43 58.6**	**-1.3**
CN2				*es*P		**sP**	**22 44 19.8**	**-0.1**
CN2				*e*S		S	22 47 38.7	-7.8
CN2				pmax	pmax			
	comp=Z,30nm,0.8s							
CN2				pmax	pmax			
	comp=Z,200nm,6.0s							
KSRS	**Korea Array**	**22.19**	**250**	P		**P**	**22 44 16.9**	**-0.5**
	comp=Z,18nm,0.9s,baz=47,slow=10.0,SNR=34							
KSRS				PcP		**PcP**	**22 48 12.2**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=64,slow=1.3,SNR=5.2							
KSRS				LR		LR	22 52 24.0	
	comp=Z,124nm,19.1s,baz=50,slow=35							
KSAR	**Wonju Array Be**	**22.23**	**250**	P		**P**	**22 44 16.9**	**-0.9**
KSAR				PcP		**PcP**	**22 48 12.2**	**+0.1**
CBIJ	**Chichi jima**	**23.36**	**209**	LR		LR	22 52 37.8	
	comp=Z,102nm,20.6s,baz=328,slow=34							
JNU	**Nakatsue**	**23.38**	**238**	P		**P**	**22 44 29.7**	**0.0**
JNU	**Nakatsue**	**23.38**	**238**	P		**P**	**22 44 30.8**	**+1.1**
JNU	**Nakatsue**	**23.38**	**238**	P		**P**	**22 44 29.7**	**0.0**
	comp=Z,12nm,0.7s,baz=326,slow=6.5,SNR=5.0							
JNU				LR		LR	22 53 04.8	
	comp=Z,151nm,21.3s,baz=246,slow=35							
GAMB	**Gambell**	**23.92**	**38**	*e*P		**P**	**22 44 33.7**	**-0.6**
	comp=Z,21nm,1.2s							
TNA	**Tin City**	**26.12**	**35**	*e*P		**P**	**22 44 56.5**	**+2.3**
	comp=Z,17nm,0.8s							
JOW	**Kunigami**	**29.67**	**233**	LR		LR	22 56 57.4	
	comp=Z,104nm,21.6s,baz=285,slow=36							
HHC	**Hu-ho-hao-te**	**31.10**	**272**	*e*P		**P**	**22 45 40.9**	**+1.9**
HHC				pP		**pP**	**22 45 55.1**	**+1.7**
HHC				sP		**sP**	**22 46 03.9**	**+3.7**
HHC				PP		**PnPn**	**22 46 42.9**	**+0.7**
HHC				S		**S**	**22 50 38.5**	**-1.9**
HHC				sS		**sS**	**22 51 04.7**	**-0.1**
HHC				pmax	pmax			
	comp=Z,9.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,140nm,8.2s							
HHC				LR	LR			
	comp=N,190nm,9.8s							
HHC				LR	LR			
	comp=E,360nm,8.1s							
HHC				LR	LR			
	comp=Z,210nm,8.8s							
ULN	**Ulaanbaatar**	**31.22**	**287**	*e*P		**P**	**22 45 40.3**	**+0.2**
	comp=Z,3.6nm,0.9s							
NJ2	**Nanjing**	**31.37**	**252**	*e*P		**P**	**22 45 43.1**	**+1.8**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
SONM	**Songino Array**	**31.65**	**287**	P		**P**	**22 45 44.3**	**+0.5**
SONM				PcP		**PcP**	**22 48 34.6**	**+0.1**
SONM	**Songino Array**	**31.65**	**287**	P		**P**	**22 45 44.3**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=66,slow=7.9,SNR=18							
SONM				PcP		**PcP**	**22 48 34.6**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=108,slow=2.2,SNR=15							
SONM				LR		LR	22 59 35.4	
	comp=Z,220nm,20.0s,baz=106,slow=38							
TLY	**Talaya**	**32.23**	**295**	*e*P		**P**	**22 45 49.1**	**+0.4**
TLY				pmax	pmax			
	comp=Z,6.0nm,0.8s							
TLY				MLR	MLR			
	comp=Z,119nm,18.0s							
ZAK	**Zakamensk**	**32.80**	**293**	*e*P		**P**	**22 45 54.5**	**+0.6**
ZAK				*e*			22 48 36.2	
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.1s							
COLD	**Coldfoot**	**33.42**	**36**	*e*P		**P**	**22 45 59.3**	**+0.4**
	comp=Z,7.6nm,1.1s							
SML	**Sawmill**	**34.12**	**45**	*e*P		**P**	**22 46 04.8**	**-0.4**
SML				pmax	pmax			
	comp=Z,6.0nm,0.8s							
SML	**Sawmill**	**34.12**	**45**	*e*P		**P**	**22 46 04.8**	**-0.4**
	comp=Z,5.6nm,0.8s							
COLA	**College**	**34.25**	**40**	*e*P		**P**	**22 46 05.6**	**-0.4**
COLA				pmax	pmax			
	comp=Z,15nm,0.7s							
COLA	**College**	**34.25**	**40**	*e*P		**P**	**22 46 05.6**	**-0.4**
	comp=Z,15nm,0.7s							
ILAR	**Eielson Array**	**34.66**	**40**	P		**P**	**22 46 09.4**	**-0.3**
ILAR	**Eielson Array**	**34.66**	**40**	P		**P**	**22 46 09.4**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=251,slow=6.6,SNR=32							
ILAR				LR		LR	23 00 50.4	
	comp=Z,96nm,19.1s,baz=254,slow=37							
WHN	**Wuhan**	**35.24**	**254**	P		**P**	**22 46 15.5**	**+0.5**
XAN	**Xi'an**	**36.57**	**264**	P		**P**	**22 46 26.5**	**0.0**
XAN				pmax	pmax			
	comp=Z,2.0nm,1.0s							
XAN				pmax	pmax			
	comp=Z,33nm,6.2s							
XAN				LR	LR			
	comp=N,110nm,9.3s							
EGAK	**Eagle**	**37.11**	**40**	*e*P		**P**	**22 46 30.4**	**-0.2**
	comp=N,9.7nm,0.8s							
ENH	**Enshi**	**38.57**	**259**	*e*P		**P**	**22 46 43.5**	**+0.2**
	comp=N,7.7nm,0.8s							
ENH				*e*PcP		**PcP**	**22 48 54.7**	**-0.2**
LZH	**Lanzhou**	**38.75**	**271**	*e*P		**P**	**22 46 45.3**	**+0.3**
LZH				pP		**pP**	**22 47 01.2**	**+1.6**
LZH				sP		**sP**	**22 47 07.0**	**+0.6**
LZH				PP		**PnPn**	**22 48 17.2**	**+0.1**
LZH				*e*S		**ScP**	**22 52 40.5**	**+2.0**
LZH				pmax	pmax			
	comp=Z,18nm,1.0s							
LZH				pmax	pmax			
	comp=Z,120nm,5.8s							
LZH				LR	LR			
	comp=N,440nm,13.7s							
LZH				LR	LR			
	comp=E,200nm,9.4s							
LZH				LR	LR			
	comp=Z,500nm,15.8s							
GTA	**Gaotai**	**39.61**	**278**	*e*P		**P**	**22 46 53.7**	**+1.6**
GTA				pmax	pmax			
	comp=Z,4.0nm,0.9s							
INK	**Inuvik**	**39.73**	**34**	*e*P		**P**	**22 46 53.5**	**+0.9**
INK	**

WMQ pmax pmax
comp=Z,150nm,4.9s
WMQ LR LR
comp=Z,200nm,21.0s
QIZ Qiongzhong 46.35 247 P **P** **22 47 47.0 +0.5**
QIZ S **S** **22 54 30.6 +0.9**
QIZ pmax pmax
comp=Z,16nm,1.8s
KMI Kunming 46.44 259 P **P** **22 47 48.4 +0.9**
KMI pP **pP** **22 48 03.8 +1.3**
KMI sP **sP** **22 48 10.8 +1.6**
KMI S **S** **22 54 30.3 -1.1**
KMI SS SS 22 57 46.5 -11
KMI pmax pmax
comp=Z,14nm,1.1s
KMI pmax pmax
comp=Z,71nm,4.4s
KMI LR LR
comp=N,87nm,11.2s
LR LR
KMI
comp=E,150nm,10.6s
KMI LR LR
comp=Z,97nm,10.6s
MK31 Makanchi Array 46.97 297 *e*P **P** **22 47 50.3 -0.8**
MK31 *e* 22 49 22.3
MK31 Makanchi Array 46.97 297 *e*P **P** **22 47 50.3 -0.8**
MK31 *e*PcP **PcP** **22 49 22.2 -0.4**
MKAR Makanchi Array 46.97 297 P **P** **22 47 50.3 -0.8**
MKAR 22 49 23.0
MKAR pmax pmax
comp=Z,7.0nm,0.5s
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 46.97 297 *e*P **P** **22 47 50.4 -0.7**
MKAR PcP **PcP** **22 49 23.0 +0.3**
MKAR Makanchi Array 46.97 297 P **P** **22 47 50.3 -0.8**
comp=Z,6.5nm,0.5s,baz=65,slow=8.0,SNR=102
MKAR PcP **PcP** **22 49 23.0 +0.3**
comp=Z,2.1nm,0.7s,baz=68,slow=3.5,SNR=4.8
KURK Kurchatov 47.18 303 *c i*P **P** **22 47 52.3 -0.4**
KURK pmax pmax
comp=Z,9.0nm,0.6s
KURK Kurchatov 47.18 303 *e*P **P** **22 47 51.9 -0.7**
comp=Z,12nm,0.6s
RES Resolute Bay 48.93 19 *e*P **P** **22 48 06.2 +0.3**
comp=Z,11nm,1.0s
RES PcP **PcP** **22 49 29.3 +0.2**
RES Resolute Bay 48.93 19 P **P** **22 48 06.5 +0.6**
comp=Z,7.1nm,0.6s,baz=305,slow=5.6,SNR=56
RES PcP **PcP** **22 49 29.3 +0.2**
comp=Z,1.6nm,0.7s,baz=355,slow=5.1,SNR=3.8
YKA Yellowknife Ar 49.02 38 P **P** **22 48 07.0 +0.3**
YKA Yellowknife Ar 49.02 38 P **P** **22 48 07.0 +0.3**
comp=Z,5.0nm,0.7s,baz=298,slow=7.3,SNR=55
BVAR Borovoye Array 50.48 309 P **P** **22 48 16.8 -1.1**
BVAR 22 49 34.9
BVAR Borovoye Array 50.48 309 P **P** **22 48 16.8 -1.1**
BVAR PcP **PcP** **22 49 34.9 -0.3**
BVAR Borovoye Array 50.48 309 P **P** **22 48 16.8 -1.1**
comp=Z,5.6nm,0.5s,baz=59,slow=7.5,SNR=62
BVAR PcP **PcP** **22 49 34.9 -0.3**
comp=Z,6.7nm,0.5s,baz=87,slow=2.3,SNR=14
BRVK Borovoye 50.52 309 *e*P **P** **22 48 17.5 -0.7**
BRVK pmax pmax
comp=Z,6.0nm,0.6s
BRVK Borovoye 50.52 309 *e*P **P** **22 48 17.5 -0.7**
comp=Z,5.8nm,0.6s
LSA Lhasa 51.09 273 *e*P **P** **22 48 23.8 +0.5**
LSA pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 51.09 273 *e*P **P** **22 48 23.8 +0.5**
comp=Z,5.9nm,0.6s
SPITS Spitsbergen Ar 51.09 350 LR LR 23 09 21.4
comp=Z,61nm,20.5s,baz=305,slow=35
IMP Imphal 52.48 266 *e*PKP **P** **22 48 33.0 -0.3**
SHL Shillong 53.32 268 *ex* P 22 48 43.0 +3.4
CHTO Chiang Mai 53.39 257 *e*P **P** **22 48 41.3 +1.3**
CHTO pmax pmax
comp=Z,22nm,0.8s
CHTO Chiang Mai 53.39 257 *e*P **P** **22 48 41.3 +1.3**
comp=Z,22nm,0.8s
CM31 Chiang Mai Arr 53.65 256 *e*P **P** **22 48 43.1 +1.2**
comp=Z,10nm,0.6s
CMAR Chiang Mai Arr 53.65 256 P **P** **22 48 42.9 +1.0**
CMAR PcP **PcP** **22 49 48.5 +0.8**
CMAR Chiang Mai Arr 53.65 256 P **P** **22 48 42.9 +1.0**
comp=Z,16nm,0.7s,baz=34,slow=7.3,SNR=107
CMAR PcP **PcP** **22 49 48.5 +0.8**
comp=Z,2.2nm,0.8s,baz=20,slow=2.5,SNR=5.4
CMAR LR LR 23 14 34.9
comp=Z,59nm,18.5s,baz=230,slow=39
AAK Ala-Archa 53.89 296 *e*P **P** **22 48 43.4 -0.2**
AAK pmax pmax
comp=Z,17nm,0.4s
AAK Ala-Archa 53.89 296 *e*P **P** **22 48 43.4 -0.2**
comp=Z,17nm,0.4s
ARU Arti 54.37 317 *c i*P **P** **22 48 45.0 -1.6**
ARU **PP* **pP** **22 49 03.3 +1.4**
ARU *e* 22 49 49.0
ARU 22 50 44.8
ARU S **S** **22 56 17.4 -2.8**
ARU SS **SS** **22 59 59.1 -3.1**
ARU pmax pmax
comp=Z,20nm,2.5s
ARU Arti 54.37 317 *e*P **P** **22 48 44.8 -1.8**
comp=Z,5.6nm,0.6s
KSH Kashi 54.84 292 P P 22 48 54.4 +3.9
KSH pP pP 22 49 11.6 +5.8
KSH sP sP 22 49 19.0 +6.6
KSH PcP **PcP** **22 49 56.3 +4.2**
KSH PP PP 22 51 00.3 +6.8
KSH S **S** **22 56 29.7 +2.4**
KSH sS sS 22 56 58.3 +5.1
KSH ScS **ScS** **22 58 36.2 +1.8**
KSH SS **SS** **23 00 16.0 +5.3**
KSH pmax pmax
comp=Z,86nm,6.6s
KSH LR LR
comp=N,78nm,5.9s
KSH LR LR
comp=E,100nm,6.4s
KSH LR LR
comp=Z,220nm,12.4s
KKAR Karatay Array 55.97 299 *e*P **P** **22 48 58.8 +0.4**
KKAR Karatay Array 55.97 299 *e*P **P** **22 48 58.8 +0.4**
YBH Yreka Blue Hor 56.16 63 P **P** **22 49 00.3 +0.4**
YBH Yreka Blue Hor 56.16 63 P **P** **22 49 00.3 +0.4**
comp=Z,1.2nm,0.7s,baz=313,slow=19,SNR=2.9
ARCES ARCESS Array B 56.54 341 P **P** **22 49 01.2 -0.8**
ARCES ARCESS Array B 56.54 341 P **P** **22 49 01.2 -0.8**
comp=Z,5.0nm,0.9s,baz=33,slow=9.0,SNR=7.3
C12B Naegeli Ranch, 56.66 54 ⇑P **P** **22 49 03.8 +0.6**
baz=56
WALA Waterton Lakes 56.67 52 *e*P **P** **22 49 03.0 -0.4**
comp=Z,1.6nm,2.0s
B13A Whitefish 56.79 53 ⇑P **P** **22 49 04.6 +0.4**
baz=57
BSMT Bassoo Peak 56.94 53 *e*P **P** **22 49 04.7 -0.7**
A14A Double T Ranch 56.98 52 ⇓P **P** **22 49 05.7 0.0**
baz=57
BLMT Blacktail Moun 57.07 53 *e*P **P** **22 49 06.4 0.0**
comp=Z,8.5nm,0.9s
C13A Hot Springs 57.16 54 ⇓P **P** **22 49 06.7 -0.1**
baz=57
A15A Johnson Ranch, 57.34 51 ⇓P **P** **22 49 07.8 -0.3**
baz=57
BMO Blue Mountains 57.39 58 *e*P **P** **22 49 09.1 +0.5**
comp=Z,2.4nm,0.7s
E12A Beaver Dam Sad 57.39 55 ⇑P **P** **22 49 08.8 +0.2**
baz=57
B14A Marquette Ranc 57.43 52 ⇑P **P** **22 49 09.1 +0.3**
baz=57
D13A Huson 57.58 54 ⇑P **P** **22 49 10.0 +0.2**
baz=57
B15A Bradely Ranch, 57.84 52 ⇑P **P** **22 49 11.7 +0.1**
baz=58
F12A Elk City 57.97 56 ⇓P **P** **22 49 12.9 +0.3**
baz=58
MSO Missoula 58.02 54 *e*P **P** **22 49 14.1 +1.1**
comp=Z,48nm,2.5s
MSO Missoula 58.02 54 ⇓P **P** **22 49 13.2 +0.2**
baz=58
ABKAR Akbulak array 58.03 310 *e*P **P** **22 49 12.2 -0.6**
D14A Greenough 58.10 54 ⇑P **P** **22 49 13.2 -0.3**
baz=58,SNR=6.5
C15A Salmond Ranch, 58.15 52 ⇓P **P** **22 49 14.1 +0.3**
baz=58,SNR=12
B16A M & M Farms, S 58.22 51 ⇑P **P** **22 49 14.1 -0.2**
baz=58
A17A Triple J Farms 58.41 50 ⇓P **P** **22 49 15.0 -0.6**
baz=58
F13A Darby 58.46 55 ⇑P **P** **22 49 15.9 -0.1**
baz=58
E14A Clinton 58.52 54 ⇑P **P** **22 49 16.5 -0.1**
baz=58
C16A Fuhringer Ranc 58.58 52 ⇓P **P** **22 49 16.5 -0.3**
baz=58,SNR=5.7
D15A Lincoln 58.65 53 ⇑P **P** **22 49 17.4 0.0**
baz=58
FFC Flin Flon 58.86 41 *e*P **P** **22 49 19.1 +0.6**
FFC pmax pmax
comp=Z,10.0nm,0.9s
FFC Flin Flon 58.86 41 *e*P **P** **22 49 19.1 +0.6**
comp=Z,9.6nm,0.9s
A18A Metzger Ranch, 58.86 50 ⇑P **P** **22 49 18.7 0.0**
baz=59
H12A Diamond D Ranc 58.95 57 ⇑P **P** **22 49 19.6 +0.1**
baz=59
G13A Cobalt 58.95 56 ⇑P **P** **22 49 19.4 -0.1**
baz=59,SNR=9.2
F14A Wisdom 58.97 55 ⇓P **P** **22 49 20.1 +0.4**
baz=59
E15A Deer Lodge 58.97 54 ⇑P **P** **22 49 19.5 -0.2**
baz=59
MFID Camas Ranch 59.12 58 ⇓P **P** **22 49 21.0 +0.4**
baz=59
D16A Dana Ranch, Ca 59.17 53 ⇑P **P** **22 49 21.3 +0.3**
baz=59
B18A Beardsley Farm 59.23 51 ⇑P **P** **22 49 21.2 -0.1**
baz=59
I12A Atlanta 59.27 57 ⇑P **P** **22 49 22.0 +0.3**
baz=59
H13A Challis 59.27 56 ⇑P **P** **22 49 21.9 +0.1**
baz=59
G14A Jackson 59.28 55 ⇑P **P** **22 49 21.6 -0.2**
baz=59
A19A Klindworth Far 59.41 50 ⇑P **P** **22 49 22.5 -0.1**
baz=59
F15A Butte 59.42 54 ⇑P **P** **22 49 23.2 +0.4**
baz=59
LRM Limekiln Ridge 59.46 54 *e*P **P** **22 49 23.6 +0.5**
comp=Z,24nm,0.8s
D17A Six Diamond Ra 59.55 52 ⇑P **P** **22 49 23.6 0.0**
baz=59
H14A Leadore 59.73 56 ⇓P **P** **22 49 25.4 +0.4**
baz=60
I13A Wildhorse Cree 59.76 57 ⇓P **P** **22 49 25.4 +0.2**
baz=60,SNR=6.8
HLID Hailey 59.82 57 ⇑P **P** **22 49 25.9 +0.4**
baz=60
G15A Dillon 59.86 55 ⇑P **P** **22 49 26.1 +0.3**
baz=60
A20A Cobblestone Ra 59.86 49 ⇑P **P** **22 49 25.9 +0.3**
baz=60
E17A Martinsdale 59.90 53 ⇓P **P** **22 49 26.6 +0.5**
baz=60,SNR=9.7
F16A Kennard Place, 59.93 54 ⇓P **P** **22 49 26.7 +0.5**
baz=60
D18A Linn Farms, 59.98 52 ⇑P **P** **22 49 27.0 +0.4**
baz=60
BOZ Bozeman (W) 60.01 54 ⇑P **P** **22 49 27.1 +0.3**
baz=60,SNR=8.2
J13A Cove Ranch, Pi 60.06 57 ⇓P **P** **22 49 27.6 +0.4**
baz=60
B20A Solberg Farm, 60.10 50 ⇑P **P** **22 49 27.7 +0.4**
baz=60
I14A Mackay 60.12 56 ⇑P **P** **22 49 28.2 +0.6**
baz=60,SNR=6.9
H15A Lima 60.12 55 ⇑P **P** **22 49 28.4 +0.8**
baz=60
G16A Moss Hill, Enn 60.19 54 ⇑P **P** **22 49 28.1 +0.1**
baz=60,SNR=7.7
JOF Joensuu 60.20 334 *e*P **P** **22 49 26.5 -1.1**
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 60.20 334 *ep* **P** **22 49 26.5 -1.1**
comp=Z,2.0nm,0.6s
A21A Bergtoll Ranch 60.29 49 ⇓P **P** **22 49 29.2 +0.7**
baz=60
E18A Harlowton 60.33 52 ⇓P **P** **22 49 29.9 +0.9**
baz=60
F17A Fitzpatrick Pl 60.37 53 ⇓P **P** **22 49 29.9 +0.7**
baz=60
D19A Cripps Ranch, 60.48 51 ⇓P **P** **22 49 30.5 +0.6**
baz=60
C20A Veseth Ranch, 60.58 50 ⇑P **P** **22 49 31.1 +0.6**
baz=60
A22A Carney Farms, 60.79 48 ⇓P **P** **22 49 32.5 +0.5**
baz=61
H16A Russell Place, 60.83 55 ⇓P **P** **22 49 32.9 +0.4**
baz=61
NVAR Mina Array Bea 60.86 64 P **P** **22 49 33.0 +0.3**
NVAR Mina Array Bea 60.86 64 P **P** **22 49 33.0 +0.3**
comp=Z,2.3nm,0.7s,baz=297,slow=7.9,SNR=9.7
F18A Big Timber 60.87 53 ⇑P **P** **22 49 33.4 +0.8**
baz=61,SNR=7.3
D20A Manuel Ranch, 60.92 51 ⇑P **P** **22 49 33.8 +1.0**
baz=61
E19A Rath Farm, Rou 60.99 52 ⇓P **P** **22 49 34.4 +1.0**
baz=61
K14A Jones Ranch, D 61.17 57 ⇑P **P** **22 49 35.5 +0.8**
baz=61
E20A Meyer Farm, Mu 61.31 51 ⇑P **P** **22 49 36.0 +0.5**
baz=61
F19A Roth Farm, Mol 61.31 52 ⇓P **P** **22 49 36.1 +0.6**
baz=61
A23A Redstone 61.32 48 ⇓P **P** **22 49 36.3 +0.8**
baz=61
H17A Grant Village 61.39 54 ⇑P **P** **22 49 38.0 +1.7**
baz=61
K15A Arbon 61.44 57 ⇓P **P** **22 49 37.7 +1.2**
baz=61
L14A Malta 61.46 58 ⇑P **P** **22 49 37.7 +1.0**
baz=61
D21A La Casta Ranch 61.52 50 ⇑P **P** **22 49 37.6 +0.7**
baz=61
IMW Indian Meadow 61.52 55 *e*P **P** **22 49 38.9 +1.6**
comp=Z,46nm,2.5s
J16A Bone 61.56 56 ⇑P **P** **22 49 38.3 +0.8**
baz=61,SNR=5.4
B23A Brockton 61.60 48 ⇓P **P** **22 49 37.4 0.0**
baz=61
RLMT Red Lodge 61.62 53 ⇑P **P** **22 49 38.8 +1.0**
baz=61
C22A Vida 61.63 49 ⇑P **P** **22 49 38.1 +0.4**
baz=61
RRI2 Red Ridge 61.67 56 *e*P **P** **22 49 39.6 +1.3**
comp=Z,6.9nm,0.8s
H18A Shoshone NF, C 61.70 54 ⇓P **P** **22 49 39.1 +0.7**
baz=62
A24A Westby 61.78 47 ⇓P **P** **22 49 38.7 +0.2**
baz=62
TPAW Ten Pass 61.78 55 *e*P **P** **22 49 40.8 +1.7**
comp=Z,14nm,1.4s
K16A Soda Springs 61.86 56 ⇓P **P** **22 49 40.4 +1.0**
baz=62
D22A Cohagen 61.88 50 ⇑P **P** **22 49 40.4 +1.1**
baz=62
REDW Red Top Meadow 61.92 55 *e*P **P** **22 49 41.5 +1.6**
comp=Z,113nm,2.8s
G20A Bridger 62.11 52 ⇓P **P** **22 49 40.7 -0.3**
baz=62
I18A Diamond G Ranc 62.26 55 ⇓P **P** **22 49 42.8 +0.6**
baz=62
KAF Kangasniemi 62.27 335 *e*P **P** **22 49 40.4 -1.2**
KAF Kangasniemi 62.27 335 *ep* **P** **22 49 40.4 -1.2**
KBL Kabul 62.27 292 *e*P **P** **22 49 41.3 -1.1**
KBL pmax pmax
comp=Z,5.0nm,0.7s
KBL Kabul 62.27 292 *e*P **P** **22 49 41.2 -1.1**
comp=Z,4.8nm,0.7s
M15A Larsen Ranch, 62.28 58 ⇓P **P** **22 49 42.5 +0.2**
baz=62,SNR=6.4
CWC Cottonwood Cre 62.30 65 ⇑P **P** **22 49 42.3 -0.2**
baz=62
J18A Kendall Valley 62.48 55 ⇓P **P** **22 49 44.0 +0.4**
baz=62
R11A Troy Canyon, C 62.53 62 ⇓P **P** **22 49 44.0 +0.1**
baz=62
N15A Stansbury Isla 62.62 58 ⇓P **P** **22 49 44.6 +0.1**
baz=62
F22A Rosebud 62.76 51 ⇑P **P** **22 49 45.7 +0.5**
baz=62
D24A Glendive 62.84 49 ⇑P **P** **22 49 46.4 +0.7**
baz=63
K18A Toltan Ranch, 62.85 56 ⇑P **P** **22 49 46.6 +0.5**
baz=63
FINES FINESS Array B 62.88 335 P **P** **22 49 44.1 -1.5**
FINES pP **pP** **22 49 57.5 -3.8**
FINES FINESS Array B 62.88 335 P **P** **22 49 44.1 -1.5**
comp=Z,3.2nm,0.6s,baz=35,slow=7.4,SNR=20
FINES pP **pP** **22 49 57.5 -3.8**
comp=Z,1.8nm,0.5s,baz=37,slow=7.1,SNR=2.1
MPMC Manual Prospec 62.90 65 ⇑P **P** **22 49 46.7 +0.2**
baz=63
DUG Dugway 62.92 59 *e*P **P** **22 49 47.6 +1.1**
DUG pmax pmax
comp=Z,6.0nm,1.0s
DUG Dugway 62.92 59 *e*P **P** **22 49 47.5 +1.1**
comp=Z,5.9nm,1.0s
DUG Dugway 62.92 59 ⇑P **P** **22 49 47.1 +0.6**
baz=63
FURC Furnace Creek, 63.01 65 ⇑P **P** **22 49 47.5 +0.6**
baz=63
BW06 Boulder Array 63.02 55 ⇓P **P** **22 49 47.5 +0.3**
baz=63
PDAR Pinedale Array 63.02 55 P **P** **22 49 47.6 +0.3**
PDAR pP **pP** **22 49 59.9 -3.0**
PDAR Pinedale Array 63.02 55 P **P** **22 49 47.6 +0.3**
comp=Z,3.4nm,0.8s,baz=294,slow=1.9,SNR=25
PDAR pP **pP** **22 49 59.9 -3.0**
comp=Z,3.2nm,0.8s,baz=297,slow=2.9,SNR=8.7
PDAR LR LR 23 18 33.4
comp=Z,70nm,18.2s,baz=162,slow=37
H21A Big Horn, Sher 63.13 52 ⇑P **P** **22 49 47.8 +0.1**
baz=63
FRB Frobisher Bay 63.14 20 P **P** **22 49 46.8 -0.5**
FRB Frobisher Bay 63.14 20 P **P** **22 49 46.8 -0.5**
comp=Z,7.2nm,0.7s,baz=329,slow=7.1,SNR=17
F23A Volborg 63.24 51 ⇓P **P** **22 49 48.5 +0.1**
baz=63
SFJD Kangerlussuaq 63.31 11 LR LR 23 18 41.9
comp=Z,70nm,19.1s,baz=121,slow=37
K19A Absolon Red Bu 63.37 55 ⇓P **P** **22 49 49.7 +0.2**
baz=63
J20A Shoshoni 63.43 54 ⇓P **P** **22 49 50.1 +0.2**
baz=63
N17A Moffit Pass 63.54 57 ⇓P **P** **22 49 51.1 +0.3**
baz=63
I21A Big Trails, Te 63.55 53 ⇓P **P** **22 49 50.8 +0.2**
baz=63
R13A O'Grain Ranch, 63.59 62 ⇑P **P** **22 49 51.3 +0.3**
baz=63
G23A Biddle 63.60 51 ⇑P **P** **22 49 51.4 +0.6**
baz=63
P15A Leamington 63.64 59 ⇑P **P** **22 49 51.5 +0.3**
baz=63
I22A 9 Mile Ranch, 63.92 53 ⇓P **P** **22 49 53.2 +0.2**
baz=64
N18A Larsen Ranch, 64.17 57 ⇑P **P** **22 49 54.9 +0.1**
baz=64
L20A Wamsutter 64.20 55 ⇑P **P** **22 49 55.3 +0.3**
baz=64
J22A Midwest 64.25 53 ⇑P **P** **22 49 55.5 +0.3**
baz=64
TUQ Turquoise Moun 64.27 65 ⇑P **P** **22 49 55.6 +0.1**
baz=64
H24A Dirks Ranch, A 64.34 51 ⇓P **P** **22 49 55.4 -0.3**
baz=64
K21A Alcova 64.37 54 ⇑P **P** **22 49 55.7 -0.3**
baz=64,SNR=7.0
OBN Obninsk 64.41 326 *e*P **P** **22 49 54.5 -1.3**
OBN *e*PP* **pP** **22 50 11.9 +0.4**
OBN *e* 22 52 14.6
OBN pmax pmax
comp=Z,3.0nm,0.7s
HEC Hector,Ludlow 64.43 66 ⇑P **P** **22 49 56.4 0.0**
baz=64
N19A John Jarvie Ra 64.50 57 ⇓P **P** **22 49 56.9 0.0**
baz=64
P17A Butcher Ranch, 64.58 59 ⇓P **P** **22 49 57.8 +0.4**
baz=64
MDND Maddock 64.64 46 ⇑P **P** **22 49 57.7 +0.2**
baz=64
ULM Lac du Bonnet 64.65 42 P **P** **22 49 57.5 0.0**
ULM Lac du Bonnet 64.65 42 P **P** **22 49 57.5 0.0**
comp=Z,5.4nm,0.7s,baz=316,slow=7.0,SNR=12
L21A Rawlins 64.76 55 ⇓P **P** **22 49 58.8 +0.2**
baz=64
GMRC Granite Mounta 64.87 65 ⇓P **P** **22 49 59.4 0.0**
baz=65
SRU San Rafael 64.95 59 *e*P **P** **22 50 00.6 +0.7**
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU San Rafael 64.95 59 *e*P **P** **22 50 00.6 +0.7**
comp=Z,6.9nm,0.8s
SRU San Rafael 64.95 59 ⇓P **P** **22 49 59.9 0.0**
baz=65,SNR=6.0
R16A Teasdale 64.97 60 ⇑P **P** **22 50 00.9 +0.8**
baz=65
M21A Separation Pea 65.01 55 ⇑P **P** **22 50 00.1 -0.2**
baz=65
RSSD Black Hills 65.04 51 *e*P **P** **22 50 00.5 0.0**
RSSD pmax pmax
comp=Z,42nm,1.9s
RSSD Black Hills 65.04 51 *e*P **P** **22 50 00.5 0.0**
comp=Z,42nm,1.9s
VSU Vasula 65.11 333 *i*P **P** **22 50 00.7 +0.4**
PFO Pinyon Flat Ob 65.18 67 ⇓P **P** **22 50 00.9 -0.4**
baz=65
S16A Weppner Ranch, 65.28 61 ⇓P **P** **22 50 02.6 +0.5**
baz=65
R17A Hanksville Air 65.32 59 ⇓P **P** **22 50 02.7 +0.4**
baz=65
P19A Cripple Cowboy 65.47 57 ⇓P **P** **22 50 03.4 +0.1**
baz=65
IRM Iron Mountain 65.60 66 ⇓P **P** **22 50 04.3 +0.3**
baz=65
MONP Monument Peak 65.69 67 ⇑P **P** **22 50 04.7 -0.1**
baz=66
W13A Hualapai Mount 65.72 64 ⇑P **P** **22 50 05.3 +0.4**
baz=66
BC3 Big Chuckawall 65.76 66 ⇓P **P** **22 50 04.8 -0.3**
baz=66
U15A North Rim 65.76 62 ⇑P **P** **22 50 05.6 +0.3**
baz=66
Q19A Hogan Spring (65.78 58 ⇓P **P** **22 50 04.9 -0.2**
baz=66
S17A Black Ridge (B 65.80 60 ⇓P **P** **22 50 05.4 +0.1**
baz=66,SNR=6.2
R18A Canyonlands Na 65.81 59 ⇓P **P** **22 50 05.1 -0.4**
baz=66
S18A Hurst Farm, Bl 66.23 60 ⇓P **P** **22 50 08.0 -0.2**
baz=66
R19A Curley Farm, L 66.23 59 ⇑P **P** **22 50 08.3 +0.1**
baz=66
Y12C Blythe 66.26 66 ⇑P **P** **22 50 08.1 0.0**
baz=66
M24A Cheyenne 66.48 54 ⇑P **P** **22 50 09.0 -0.7**
baz=66
U16A Tuba City 66.64 62 ⇓P **P** **22 50 11.0 +0.2**
baz=66
T18A Mexican Hat 66.68 60 ⇑P **P** **22 50 10.7 -0.3**
baz=66
S19A Harvey Farm, M 66.68 59 ⇑P **P** **22 50 11.0 -0.1**
baz=66
R20A Redvale 66.81 58 ⇑P **P** **22 50 11.9 +0.1**
baz=67
NB2 NORSAR Subarra 66.90 342 P **P** **22 50 11.1 -0.8**
comp=Z,1.6nm,0.6s,baz=25,slow=6.5
NOA NORSAR Array B 66.90 342 P **P** **22 50 11.7 -0.2**
NOA NORSAR Array B 66.90 342 P **P** **22 50 11.7 -0.2**
comp=Z,4.4nm,0.9s,baz=25,slow=6.4,SNR=13
NOA LR LR 23 23 22.6
comp=Z,64nm,18.2s,baz=230,slow=40
WUAZ Wupatki 66.92 62 ⇑P **P** **22 50 12.7 +0.1**
baz=67
Y14A Wickenburg 67.04 64 ⇓P **P** **22 50 13.5 +0.2**
baz=67
R21A Cimarron 67.15 58 ⇓P **P** **22 50 13.9 -0.1**
baz=67
V17A Tonalea, Kykot 67.19 62 ⇓P **P** **22 50 15.0 +0.7**
baz=67,SNR=6.6
ISCO Idaho Springs 67.22 55 ⇓P **P** **22 50 14.6 0.0**
baz=67
S21A Coal Bank Pass 67.50 58 ⇓P **P** **22 50 16.4 -0.1**
baz=67
X16A Lo Mia Camp, P 67.65 63 ⇓P **P** **22 50 17.6 +0.4**
baz=68
HYB Hyderabad 67.86 272 *i*P **P** **22 50 18.0 -0.5**
114A Black Gap (USA 67.94 65 ⇑P **P** **22 50 19.3 +0.5**

baz=68
P25A **Willow Gulch B** 68.21 55 ⇑P P 22 50 20.7 0.0
baz=68
EYMN **Ely** 68.29 41 *e*P P 22 50 20.8 0.0
comp=Z,12nm,1.0s
OGNE **Ogallala** 68.33 52 ⇑P P 22 50 21.2 -0.1
baz=68
U21A **Nageezi** 68.45 59 ⇑P P 22 50 22.5 +0.2
baz=68
X18A **Snowflake** 68.45 62 ⇓P P 22 50 22.7 +0.5
baz=68
CTA **Charters Tower** 68.62 188 P P 22 50 22.8 -0.2
CTA **Charters Tower** 68.62 188 P P 22 50 22.8 -0.2
comp=Z,5.1nm,0.7s,baz=358,slow=11,SNR=5.1
MAK **Makhachkala** 68.63 311 *e*P P
MAK MLR MLR 22 50 26.7 +3.7
comp=Z,84nm,7.0s
SDCO **Great Sand Dun** 68.73 57 ⇑P P 22 50 24.4 +0.3
baz=68
AFI **Afiamalu** 68.96 145 LR LR 23 13 18.5
comp=Z,58nm,21.8s,baz=83,slow=30
S24A **Houchin Ranch,** 68.97 57 ⇑P P 22 50 26.1 +0.5
baz=69
Q26A **Hugo** 68.98 55 ⇓P P 22 50 25.9 +0.4
baz=69
ECSD **EROS Data Cent** 69.06 47 *e*P P 22 50 25.3 -0.4
comp=Z,9.7nm,1.0s
X20A **Quemado** 69.29 61 ⇑P P 22 50 28.1 +0.5
baz=69
R26A **Arlington** 69.47 55 ⇓P P 22 50 28.7 +0.2
baz=69
SPMN **St. Paul** 69.76 44 ⇓P P 22 50 29.7 -0.2
baz=70
X21A **Alamocita Cree** 69.77 61 ⇓P P 22 50 31.2 +0.6
baz=70
POO **Poona** 70.19 276 ⇑*ix* P 22 50 33.0 0.0
KIV **Kislovodsk** 70.25 315 *e*P P
KIV pmax pmax 22 50 37.1 +4.0
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,72nm,19.0s
WRAB **Tennant Creek** 70.41 200 *e*P P 22 50 34.0 -0.1
WRAB pmax pmax
comp=Z,14nm,0.9s
WRAB **Tennant Creek** 70.41 200 *e*P P 22 50 34.0 -0.1
comp=Z,14nm,0.9s
WRA **Warramunga Arr** 70.42 200 P P 22 50 33.8 -0.3
WRA **Warramunga Arr** 70.42 200 P P 22 50 33.8 -0.3
comp=Z,13nm,0.7s,baz=17,slow=6.4,SNR=88
AKASG **Malin Array Be** 70.62 327 P P 22 50 34.0 -1.1
AKASG **Malin Array Be** 70.62 327 P P 22 50 34.0 -1.1
AKASG **Malin Array Be** 70.62 327 P P 22 50 34.0 -1.1
comp=Z,1.0nm,0.4s,baz=33,slow=6.3,SNR=4.7
120A **U Bar Ranch, L** 70.63 63 ⇓P P 22 50 35.9 +0.2
baz=70
U26A **Atchley Ranch,** 70.68 57 ⇑P P 22 50 36.5 +0.6
baz=70
T27A **Campo** 70.76 56 ⇑P P 22 50 35.6 -0.8
baz=70
X24A **Lazy VL Ranch,** 71.04 59 ⇑P P 22 50 39.0 +0.8
baz=71
FITZ **Fitzroy Crossi** 71.07 209 P P 22 50 38.9 +0.9
FITZ **Fitzroy Crossi** 71.07 209 *e*P P 22 50 38.7 +0.6
comp=Z,5.8nm,0.6s
FITZ **Fitzroy Crossi** 71.07 209 P P 22 50 38.9 +0.9
comp=Z,5.6nm,0.9s,baz=1.4,slow=6.6,SNR=5.4
CBKS **Cedar Bluff** 71.09 53 ⇓P P 22 50 37.5 -0.7
baz=71
Z22A **Elephant Butte** 71.10 61 ⇑P P 22 50 38.7 +0.1
baz=71
W25A **X Bar L Ranch,** 71.13 58 ⇓P P 22 50 39.1 +0.4
baz=71
220A **Playas Peak, P** 71.15 63 ⇑P P 22 50 39.0 +0.2
baz=71
SCHQ **Scheffer ville** 71.39 24 *e*P P 22 50 39.1 -0.6
comp=Z,4.5nm,0.5s
SCHQ **Scheffer ville** 71.39 24 P P 22 50 39.9 +0.2
comp=Z,5.3nm,0.4s,baz=340,slow=5.4,SNR=62
Y24A **Capitan** 71.50 60 ⇑P P 22 50 41.3 +0.3
baz=71
X25A **Clemmons Ranch** 71.51 59 ⇓P P 22 50 41.5 +0.6
baz=71
Y25A **Mesa, Roswell** 71.93 59 ⇓P P 22 50 43.8 +0.4
baz=72
Z24A **Sheeppen Canyo** 71.97 60 ⇓P P 22 50 44.3 +0.4
baz=72
Y26A **Elida** 72.43 59 ⇓P P 22 50 46.3 -0.2
baz=72
224A **Cornudas Mount** 72.79 61 ⇓P P 22 50 48.9 +0.3
baz=73
Z26A **Caprock** 72.81 59 ⇓P P 22 50 48.6 -0.1
baz=73
125A **Gardner Draw,** 72.87 60 ⇑P P 22 50 49.1 0.0
baz=73
AMTX **Amarillo** 72.93 57 ⇓P P 22 50 49.6 +0.2
baz=73
Z27A **Tatum** 73.22 59 ⇓P P 22 50 51.0 -0.1
baz=73
KWP **Kalwaria Pacla** 73.81 330 *e*P P 22 50 55.9 +1.7
KWP **Kalwaria Pacla** 73.81 330 *e*P P 22 50 55.9 +1.7
KWP **Kalwaria Pacla** 73.81 330 *e*P P 22 50 53.8 -0.4
KWP pmax pmax
comp=Z,19nm,1.3s
KWP **Kalwaria Pacla** 73.81 330 *e*P P 22 50 53.8 -0.4
comp=Z,19nm,1.3s
KWP **Kalwaria Pacla** 73.81 330 ⇑*i*P P 22 50 55.5 +1.3
425A **Indio Mountain** 74.04 62 ⇓P P 22 50 56.1 +0.1
baz=74
AS31 **Alice Springs** 74.11 200 *e*P P 22 50 56.2 +0.1
ASAR **Alice Springs** 74.11 200 P P 22 50 56.7 +0.6
ASAR pP PcP 22 51 10.0 -0.9
ASAR **Alice Springs** 74.11 200 P P 22 50 56.7 +0.6
comp=Z,5.0nm,0.7s,baz=13,slow=5.5,SNR=54
ASAR pP PcP 22 51 10.0 -0.9
comp=Z,1.7nm,0.6s,baz=11,slow=4.2,SNR=4.9
326A **Caldwell Ranch** 74.24 61 ⇓P P 22 50 57.2 +0.1
baz=74
KOLS **Kolonicke sedl** 74.56 330 *e*P P 22 50 59.1 +0.6
KOLS **Kolonicke sedl** 74.56 330 *e*P P 22 50 59.1 +0.6
BUR08 **Bucovina Ar. S** 74.63 327 *e*P P 22 50 58.4 -0.8
328A **Wristen Ranch,** 74.87 60 ⇑P P 22 51 00.5 -0.2
baz=75
526A **Mary Lane Ranc** 75.10 62 ⇑P P 22 51 02.4 +0.2
baz=75
GHRR 75.14 325 ⇓*i*P P 22 51 08.1 +6.2
UPC **Upice** 75.15 334 *e*P P 22 51 02.8 +0.9
UPC **Upice** 75.15 334 *e*P P 22 51 02.8 +0.9
TRPA **Tarpa** 75.16 329 ⇓*i*P P 22 51 02.2 +0.2
DPC **Dobruska-Polom** 75.20 334 *e*P P 22 51 03.3 +1.0
DPC **Dobruska-Polom** 75.20 334 *e*P P 22 51 03.3 +1.0
CLL **Collm** 75.28 336 *i*P P 22 51 02.8 +0.2
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL **Collm** 75.28 336 *i*P P 22 51 02.8 +0.2
comp=Z,7.0nm,0.8s
MORC **Moravsky Berou** 75.34 333 *e*P P 22 51 03.6 +0.5
MORC pmax pmax
comp=Z,7.0nm,0.9s
MORC **Moravsky Berou** 75.34 333 *e*P P 22 51 03.6 +0.5
comp=Z,6.7nm,0.9s
MORC **Moravsky Berou** 75.34 333 ⇓*i*P P 22 51 04.3 +1.2
BRG **Berggiesshubel** 75.41 335 *e*P P 22 51 03.0 -0.4
comp=Z,9.7nm,1.5s
BRG **Berggiesshubel** 75.41 335 *e*P P 22 51 03.0 -0.4
BRG pmax pmax
comp=Z,10.0nm,1.5s
428A **Kincaid Ranch,** 75.42 60 ⇓P P 22 51 04.6 +0.6
baz=75
626A **Big Bend Ranch** 75.45 62 ⇓P P 22 51 04.3 +0.2
baz=75
528A **Cox Ranch, San** 75.78 61 ⇓P P 22 51 06.1 +0.1
baz=76
TXAR **Lajitas Array** 75.88 62 P P 22 51 06.7 +0.1
TXAR pP PcP 22 51 19.6 +0.7
TXAR **Lajitas Array** 75.88 62 P P 22 51 06.7 +0.1
comp=Z,1.3nm,0.5s,baz=299,slow=4.9,SNR=21
TXAR pP PcP 22 51 19.6 +0.7
comp=Z,3.8nm,0.7s,baz=299,slow=4.0,SNR=14
627A **Terlingua Ranc** 75.96 62 ⇑P P 22 51 07.2 +0.1
baz=76
PRU **Pruhonice** 76.04 335 *e*P P 22 51 07.9 +0.9
PRU **Pruhonice** 76.04 335 *e*P P 22 51 07.9 +0.9
VRAC **Vranov** 76.05 333 ⇓*i*P P 22 51 08.6 +1.5
VYHS **Vyhne** 76.07 331 *e*P P 22 51 07.7 +0.5
VYHS pmax pmax
comp=Z,4.0nm,1.4s
VYHS **Vyhne** 76.07 331 *e*P P 22 51 07.7 +0.5
DRGR 76.25 328 P P 22 51 08.7 +0.3
DRGR 76.25 328 ⇓*i*P P 22 51 08.7 +0.3
VOIR 76.56 326 P P 22 51 09.1 -1.0
VOIR 76.56 326 ⇓*i*P P 22 51 09.1 -1.0
KHC **Kasperske Hory** 77.08 335 *e*P P 22 51 13.7 +0.7
KHC *e* 22 51 17.7
KHC **Kasperske Hory** 77.08 335 *e*P P 22 51 13.7 +0.7
KHC *e*PCP PcP 22 51 17.7 -6.0
JCT **Junction City** 77.26 58 ⇑P P 22 51 14.2 -0.1
baz=77
GERES **GERESS Array B** 77.31 335 P P 22 51 14.0 -0.3
GERES **GERESS Array B** 77.31 335 P P 22 51 14.0 -0.3
comp=Z,1.0nm,0.5s,baz=37,slow=6.0,SNR=12
GERES LR LR 23 28 47.1
comp=Z,95nm,22.0s,baz=326,slow=38
GZR **Gura Zlata** 77.43 327 P P 22 51 15.3 +0.3
GZR **Gura Zlata** 77.43 327 ⇑*i*P P 22 51 15.4 +0.4
MIAR **Mount Ida** 77.56 52 *e*P P 22 51 15.7 -0.1
MIAR **Mount Ida** 77.56 52 *e*P P 22 51 15.7 -0.1
BZS **Buzias** 77.65 328 P P 22 51 16.5 +0.4
BZS **Buzias** 77.65 328 ⇓*i*P P 22 51 16.5 +0.4
BR131 **Keskin Array S** 77.75 317 *e*P P 22 51 16.4 -0.6
comp=Z,0.6nm,0.5s
BRTR **Keskin Array B** 77.75 317 P P 22 51 17.6 +0.5
BRTR **Keskin Array B** 77.75 317 P P 22 51 17.6 +0.5
comp=Z,2.0nm,0.9s,baz=88,slow=2.3,SNR=8.0
GIVF **Givet** 78.40 341 *e*P P 22 51 20.8 +0.6
ARMA **Armidale** 78.55 182 *e*P P 22 51 22.0 +0.8
BAIF **Baives** 78.58 341 *e*P P 22 51 21.1 -0.1
SOKA **Soboth** 78.87 333 ⇓*i*P P 22 51 23.4 +0.5
comp=Z,8.8nm,1.1s
SOKA **Soboth** 78.87 333 ⇓*i*P P 22 51 23.4 +0.5
comp=Z,8.8nm,1.1s
KBA **Koelnbreinsper** 79.01 334 ⇓*i*P P 22 51 24.7 +0.9
KBA pmax pmax
comp=Z,7.0nm,0.6s
KBA **Koelnbreinsper** 79.01 334 ⇓*i*P P 22 51 24.7 +0.9
comp=Z,7.2nm,0.6s
KBA **Koelnbreinsper** 79.01 334 ⇓*i*P P 22 51 24.7 +0.9
comp=Z,7.2nm,0.6s
WTTA **Wattenberg** 79.33 335 ⇑*i*P P 22 51 26.3 +0.7
WTTA pmax pmax
comp=Z,7.0nm,0.6s
WTTA **Wattenberg** 79.33 335 ⇑*i*P P 22 51 26.3 +0.7
comp=Z,6.7nm,0.6s
WTTA **Wattenberg** 79.33 335 ⇑*i*P P 22 51 26.3 +0.7
comp=Z,6.7nm,0.6s
CDF **Champ du Feu** 79.41 338 *e*P P 22 51 25.9 0.0
PAGF **Fort de Pagny** 79.65 339 *e*P P 22 51 27.5 +0.4
comp=Z,7.1nm,0.8s
MEZF **Maizieres J'vi** 79.85 340 *e*P P 22 51 28.4 +0.2
comp=Z,32nm,1.1s
HAU **Haudompre** 80.01 339 *e*P P 22 51 28.9 -0.2
HAU *e*R
comp=Z,158nm,21.8s
HINF **Hinteralfeld** 80.07 338 *e*P P 22 51 29.0 -0.4
SFTF **Sexfontaines** 80.14 340 *e*P P 22 51 29.7 0.0
comp=Z,39nm,1.0s
TUE **Stuetta** 80.68 336 *e*P P 22 51 32.0 -1.0
comp=Z,11nm,0.8s
TUE *e*PP PP 22 54 34.2 -2.2
FLN **La Foliniere** 80.76 343 *e*P P 22 51 32.8 -0.3
comp=Z,53nm,1.2s
FLN *e*R
comp=Z,124nm,17.5s
STKA **Stephens Creek** 80.79 191 *e*P P 22 51 33.2 0.0
comp=Z,0.3nm,0.6s
STKA **Stephens Creek** 80.79 191 *e*P P 22 51 33.5 +0.3
comp=Z,2.3nm,1.2s
STKA **Stephens Creek** 80.79 191 P P 22 51 32.8 -0.4
comp=Z,1.3nm,0.4s,baz=359,slow=8.4,SNR=7.8
LDF **La Druitiere** 80.86 343 *e*P P 22 51 34.1 +0.5
GRR **Gorron** 81.19 344 ⇑*i*P P 22 51 35.5 +0.2
comp=Z,24nm,0.9s
LOR **Lormes** 81.29 340 *e*P P 22 51 35.7 -0.2
comp=Z,26nm,1.0s
LOR *e*R
comp=Z,129nm,19.0s
CABF **La Chapelle** 81.38 339 *e*P P 22 51 36.7 +0.2
HYF **Humbligny** 81.56 341 *e*P P 22 51 37.7 +0.4
SSF **Saint Saulge** 81.56 340 ⇑*i*P P 22 51 38.0 +0.7
comp=Z,21nm,0.9s
SGMF **Saint Gilles** 81.63 345 *e*P P 22 51 37.7 0.0
comp=Z,40nm,0.9s
ROSF **Rostrenen** 81.67 345 *e*P P 22 51 38.1 +0.2
CSS **Prodhromos** 81.77 315 *e*P P 22 51 38.3 -0.3
comp=Z,15nm,0.8s
AVF **Avril sur Loir** 81.85 340 *e*P P 22 51 38.9 0.0
comp=Z,15nm,0.7s
QUIF **Quistinic** 82.06 345 *e*P P 22 51 39.9 0.0
BGF **Bois d'Agland** 82.18 341 *e*P P 22 51 40.7 +0.1
comp=Z,13nm,0.7s
LPL **La Plagne** 82.24 338 ⇑*i*P P 22 51 42.0 +0.8
comp=Z,22nm,0.8s
LPG **La Plagne** 82.26 338 ⇑*i*P P 22 51 42.2 +0.8
comp=Z,20nm,0.7s
FORT **Forrest** 82.34 203 *e*P P 22 51 42.0 +0.6
comp=Z,27nm,0.7s
TCF **Toulx Ste Croi** 82.58 341 ⇑*i*P P 22 51 42.9 +0.2
comp=Z,24nm,0.9s
MFF **Saint Martin d** 82.77 343 ⇑*i*P P 22 51 43.8 +0.1
comp=Z,27nm,0.8s
MBDF **Montbardon** 82.97 337 *e*P P 22 51 45.1 +0.2
comp=Z,8.0nm,0.6s
ORIF **Oris-en-Rattie** 83.02 338 *e*P P 22 51 45.8 +0.7
comp=Z,24nm,0.9s
ORIF *e*R
comp=Z,106nm,17.0s
VIVF **Saint-Julien-l** 83.37 339 *e*P P 22 51 47.4 +0.5
SBF **Sospel** 83.60 337 *e*P P 22 51 47.9 -0.2
RJF **Les Rejaudoux** 83.66 341 *e*P P 22 51 48.4 +0.1
comp=Z,30nm,1.1s
RJF *e*R
comp=Z,115nm,20.8s
CAF **Calviac** 83.91 341 *e*P P 22 51 50.1 +0.5
comp=Z,52nm,1.4s
LFF **La Frestale** 84.18 342 *e*P P 22 51 51.3 +0.4
LMR **La Mourre** 84.34 337 *e*P P 22 51 51.9 +0.1
comp=Z,105nm,1.2s
EPF **Esparros** 86.09 341 *e*P P 22 52 00.3 -0.3
KLBR **Kellerberrin** 86.18 211 *e*P P 22 52 00.9 0.0
comp=Z,12nm,0.9s
ESDC **Sonseca Array** 90.19 343 P P 22 52 18.2 -1.9
ESDC **Sonseca Array** 90.19 343 P P 22 52 18.2 -1.9
comp=Z,1.2nm,0.7s,baz=356,slow=3.4,SNR=6.2
KEST **Kesra** 90.59 332 P P 22 52 21.7 -0.5
KEST **Kesra** 90.59 332 P P 22 52 21.7 -0.5
comp=Z,1.7nm,0.6s,baz=326,slow=3.9,SNR=12
TORD **Torodi Ar. Bea** 114.07 331 PKP PKPdf 22 57 58.6 -0.5
TORD **Torodi Ar. Bea** 114.07 331 PKP PKPdf 22 57 58.6 -0.5
comp=Z,0.4nm,0.5s,baz=32,slow=2.6,SNR=4.5
LBTB **Lobatse** 133.84 282 PKP **PKPdf** 22 58 38.0 +1.4
LBTB **Lobatse** 133.84 282 PKP **PKPdf** 22 58 38.0 +1.4
comp=Z,6.7nm,0.7s,baz=91,slow=4.2,SNR=13
BOSA **Boshof** 136.50 278 PKP **PKPdf** 22 58 42.6 +1.1
BOSA **Boshof** 136.50 278 PKP **PKPdf** 22 58 42.6 +1.1
comp=Z,2.6nm,0.8s,baz=134,slow=11,SNR=3.3
QSPA **South Pole Qui** 138.19 180 PKP **PKPdf** 22 58 44.2 +0.8
QSPA **South Pole Qui** 138.19 180 PKP **PKPdf** 22 58 44.2 +0.8
comp=Z,1.7nm,0.6s,baz=321,slow=2.5,SNR=6.8
MAIT **Maitri** 151.58 205 *e*P **PKPbc** 22 59 12.9 +0.6
VNA2 **Neumayer--Watz** 155.88 195 *e* **PKPab** 22 59 39.5 0.0
VNA3 **Neumayer Olymp** 155.95 193 *e* **PKPab** 22 59 39.5 -0.3

MAN 03 22:46:49,16°.14N×121°.80E,h32km,mb4.3,ML3.1,MS2.9, 2C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALP	**Baler**	0.46	209	*e*P	Pn	22 47 02.4	+3.0
BALP				*e*S	Sn	22 47 08.1	+1.7
CAUP	**Cauayan**	0.80	1	*e*P	Pb	22 47 04.3	-0.1
CAUP				*e*S	Sn	22 47 12.8	-2.0
PCPH	**Palayan**	0.89	230	⇑*e*P	Pb	22 47 06.0	0.0
PCPH				*e*S	Sb	22 47 17.9	+0.3
CVP	**Callao Caves**	1.55	1	⇑*i*P	Pn	22 47 14.1	-0.3
CVP				*i* S	Sn	22 47 32.6	-0.8

PRE 03 22:51:40.5±0.6,26°.40S×27°.64E,h2km,ML1.4,South Africa

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

PRYS **Parys** 0.58 206 *e*P Pg 22 51 51.7 -0.1
PRYS *e*S Sg 22 51 60.0 +0.5
PRYS AML AML 22 52 00.7
comp=Z,3.5nm,0.5s
LBTB **Lobatse** 2.31 306 *e*P Pn 22 52 20.7 +1.0
LBTB *e*S Sn 22 52 49.3 +0.6
LBTB AML AML 22 52 49.9
comp=Z,1.7nm,0.4s
BOSA **Boshof** 3.05 223 *e*P Pn 22 52 30.2 +0.2
BOSA *e*S Sn 22 53 07.3 0.0
BOSA AML AML 22 53 11.1
comp=Z,5.3nm,0.7s

*NEIC **03** 22:54:45.9±2.3,7°.60S×127°.51E,h124km±24km,mb4.1/6, Error ellipse: s-maj=18.5km s-min=13.4km az=48.0*
*IDC **03** 22:54:46.8±4.5,7°.56S×127°.61E,h130km±42km,mb3.8/6, mb1 4.1/9,mb1mx3.9/17,mbtmp3.9/9,Error ellipse: s-maj=59.5km s-min=16.5km az=64.0*

ISC 03 22:54:47.9±0.7,7°.88S±0°.06×127°.67E±0°.08,h150km,n29, σ2.9s49/37,mb4.0/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	10.36	191	P	Pn	22 57 14.3	+1.7
FITZ				S	Sn	22 59 05.0	-2.3
FITZ	**Fitzroy Crossi**	10.36	191	P	Pn	22 57 14.3	+1.7
	2.1nm,0.3s,baz=27,slow=12,SNR=36						
FITZ				S	Sn	22 59 05.0	-2.3
	2.5nm,0.3s,baz=92,slow=19,SNR=3.9						
WRAB	**Tennant Creek**	13.62	152	*e*Pn	Pn	22 57 57.2	+2.1
	22nm,0.7s						
WRAB				*e*Sn	Sn	23 00 18.6	-7.5
WRA	**Warramunga Arr**	13.63	152	P	Pn	22 57 56.9	+1.8
WRA				S	Sn	23 00 22.2	-3.9
WRA	**Warramunga Arr**	13.63	152	P	Pn	22 57 56.9	+1.8
	4.0nm,0.3s,baz=320,slow=13,SNR=105						
WRA				S	Sn	23 00 22.2	-3.9
	2.7nm,0.3s,baz=325,slow=24,SNR=12						
WB2	**Warramunga Ar**	13.63	152	*e*Pn	Pn	22 57 57.2	+1.9
WB2				*e*Sn	Sn	23 00 22.4	-3.8
MBWA	**Marble Bar**	15.27	209	*e*Pn	P	22 58 17.4	+0.3
MBWA				*e*Sn	Sn	23 01 00.1	-5.4
COEN	**Coen**	16.38	113	*e*Pn	P	22 58 33.0	+3.5
	62nm,0.5s						
COEN				*e*Sn	S	23 01 27.4	-4.1
AS31	**Alice Springs**	16.80	160	*e*Pn	Pn	22 58 37.6	+3.2
AS31				*e*Sn	Sn	23 01 41.9	-0.4
ASAR	**Alice Springs**	16.80	160	P	Pn	22 58 39.8	+5.3
ASAR				S	S	23 01 00.1	-1.3
ASAR	**Alice Springs**	16.80	160	P	Pn	22 58 39.8	+5.3
	2.5nm,0.3s,baz=338,slow=11,SNR=94						
ASAR				S	S	23 01 40.1	-1.3
	0.9nm,0.3s,baz=344,slow=26,SNR=6.2						
STKA	**Stephens Creek**	27.18	153	*e*P	P	23 00 20.9	+3.5
	0.4nm,0.6s						
STKA	**Stephens Creek**	27.18	153	P	P	23 00 21.7	+4.3
	1.9nm,0.5s,baz=305,slow=9.3,SNR=9.0						
CMAR	**Chiang Mai Arr**	38.57	313	P	P	23 01 56.2	-0.2
CMAR	**Chiang Mai Arr**	38.57	313	P	P	23 01 56.2	-0.2
	1.4nm,0.8s,baz=143,slow=7.2,SNR=10						
ULN	**Ulaanbaatar**	58.42	344	*e*P	P	23 04 26.6	-1.3
	2.6nm,1.1s						
SONM	**Songino Array**	58.57	343	P	P	23 04 27.9	-1.1
SONM	**Songino Array**	58.57	343	P	P	23 04 27.9	-1.1
	0.5nm,0.6s,baz=180,slow=6.2,SNR=5.8						
MK31	**Makanchi Array**	67.71	328	*e*P	P	23 05 27.9	-1.2
MKAR	**Makanchi Array**	67.71	328	P	P	23 05 28.3	-0.8
MKAR	**Makanchi Array**	67.71	328	P	P	23 05 28.3	-0.8
	1.5nm,0.6s,baz=115,slow=8.3,SNR=29						
ZALV	**Zalesovo Beam**	71.36	335	P	P	23 05 49.7	-1.5
ZALV	**Zalesovo Beam**	71.36	335	P	P	23 05 49.7	-1.5
	1.6nm,0.4s,baz=133,slow=4.6,SNR=9.4						
KURK	**Kurchatov**	72.08	330	*e*P	P	23 05 54.1	-1.5
	2.1nm,0.6s						
KKAR	**Karatay Array**	72.49	320	*e*P	P	23 05 56.1	-2.2
	0.7nm,0.3s						
QSPA	**South Pole Qui**	82.11	180	*e*P	P	23 06 54.3	+2.7
	3.0nm,0.7s						
QSPA	**South Pole Qui**	82.11	180	P	P	23 06 54.3	+2.7
	5.5nm,1.1s,baz=35,slow=1.3,SNR=7.1						
TORD	**Torodi Ar. Bea**	126.70	280	PKP	**PKPdf**	23 13 34.5	-0.1
TORD	**Torodi Ar. Bea**	126.70	280	PKP	**PKPdf**	23 13 34.5	-0.1
	1.4nm,0.9s,baz=66,slow=1.9,SNR=6.8						

MEX 03 23:12:12.0±0.8,16°.39N×94°.10W,h135km±16km,MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	1.02	313	*i* P	Pn	23 12 34.9	-0.6
CMIG				*i* S	Sn	23 12 51.4	-2.1
CCIG	**Comitan**	1.89	93	*i* P	Pn	23 12 43.2	-1.9
CCIG				*i* S	Sn	23 13 08.3	-2.1
HUIG	**Huatulco**	2.03	252	*i* P	Pn	23 12 45.4	-1.2
HUIG				*i* S	Sn	23 13 11.6	-1.5
VHO	**Vista Hermosa**	2.61	285	*e*P	Pn	23 12 53.4	-0.7
VHO				*i* S	Sn	23 13 24.0	-2.5
UTMO	**Huajuapan**	3.82	292	*i* P	Pn	23 13 07.9	-1.9
UTMO				*i* S	Sn	23 13 53.0	-1.6
PNIG	**Pinotepa**	3.87	271	*i* P	Pn	23 13 09.6	-0.6
PNIG				*i* S	Sn	23 13 52.9	-2.3

MEX 03 23:35:50.7±0.8,17°.02N×99°.97W,h15km±12km,MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	0.29	276	*i* P	Pg	23 35 55.7	-1.1
CAIG				*i* S	Sg	23 36 01.1	+0.1
PLIG	**Platanillo**	1.44	18	*e*P	Pn	23 36 12.1	-4.3
PLIG				*i* S	Sn	23 36 30.3	-4.7
ZIIG	**Zihuatanejo**	1.54	292	*i* P	Pn	23 36 14.3	-3.3
ZIIG				*i* S	Sn	23 36 32.2	-5.2
PNIG	**Pinotepa**	1.87	109	*i* P	Pn	23 36 19.0	-3.2
PNIG				*i* S	Sn	23 36 41.2	-4.4
CCIG	**Comitan**	7.54	94	*i* P	Pn	23 37 39.5	-0.9
CCIG				*i* S	Sn	23 39 02.7	-3.2

*ISK **04** 00:19:07.7,38°.52N×26°.83E,h5km,MD3.0*
*ATH **04** 00:19:07.2,38°.40N×26°.58E,h74km±4km*
*DDA **04** 00:19:07.4,38°.50N×26°.86E,h18km,MD3.1*
*ISCJB **04** 00:19:08.1±0.6,38°.50N±0°.02×26°.85E±0°.03,h9km±4km, Error ellipse: s-maj=4.2km s-min=3.6km az=171.1*
*CSEM **04** 00:19:08.2±0.2,38°.50N×26°.84E,h12km,MD3.0,Error ellipse: s-maj=4.0km s-min=3.2km az=86.0*

ISC 04 00:19:07.2±0.9,38°.48N±0°.02×26°.78E±0°.03,h17km±6km, n38,σ0.963/70,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	0.23	114	*e*PG	Pg	00 19 12.6	+0.2
BLCB				*e*SG	Sg	00 19 15.8	-0.2
BLCB	**Balcova**	0.23	114	*e*Pg	Pg	00 19 12.6	+0.2
BLCB				*e*Sg	Sg	00 19 15.8	-0.2
CHOS	**Chios island**	0.57	261	*e*P	Pn	00 19 20.5	-0.1
CHOS				*e*S	Sn	00 19 29.5	-0.2
CHOS	**Chios island**	0.57	261	*e*P	Pn	00 19 20.5	-0.1
CHOS				*e*S	Sn	00 19 29.5	-0.2
SMG	**Samos**	0.77	177	*e*P	Pn	00 19 23.1	-0.1
SMG				*e*S	Sn	00 19 35.1	+0.7
SMG	**Samos**	0.77	177	*e*P	Pn	00 19 23.1	-0.1
SMG				*e*S	Sn	00 19 35.1	+0.7
AYVA	**Ayvalik**	0.83	355	*i* P	Pb	00 19 22.2	-0.9
AYVA				*i* S	Sg	00 19 34.7	+0.3
AYVA	**Ayvalik**	0.83	355	*i* P	Pb	00 19 22.2	-0.9
AYVA				*i* S	Sg	00 19 34.7	+0.3
GCAM	**G?zelcaml?**	0.86	155	*i* P	Pn	00 19 24.5	+0.1
GCAM				*i* S	Sg	00 19 35.5	+0.4
GCAM	**G?zelcaml?**	0.86	155	*i* P	Pn	00 19 24.5	+0.1
GCAM				*i* S	Sg	00 19 35.5	+0.4
PRK	**Paraskevi**	0.86	333	*e*P	Pn	00 19 25.2	+0.7
PRK				*e*S	Sn	00 19 38.3	+1.6
PRK	**Paraskevi**	0.86	333	*e*P	Pn	00 19 25.2	+0.7
PRK				*e*S	Sn	00 19 38.3	+1.6
AKHS	**Akhisar**	0.90	63	*i* P	Pb	00 19 24.4	0.0
AKHS				*i* S	Sg	00 19 36.1	-0.6
AKHS	**Akhisar**	0.90	63	*i* P	Pb	00 19 24.4	0.0
AKHS				*i* S	Sg	00 19 36.1	-0.6
AKS	**Akhisar**	0.90	63	*e*PG	Pg	00 19 24.6	-0.1

AKS					*e*SG	**Sg**	**00 19 36.3**	**-0.4**
AKS	**Akhisar**	**0.90**	**63**	*e*Pg	**Pg**	**00 19 24.6**	**-0.1**
AKS				*e*Sg	**Sg**	**00 19 36.3**	**-0.4**
AYDN	**Tasoluk**	**1.19**	**133**	*i* P	**Pb**	**00 19 29.4**	**+0.1**
AYDN				*i* S	**Sn**	**00 19 45.2**	**+0.3**
AYDN	**Tasoluk**	**1.19**	**133**	*i* P	**Pb**	**00 19 29.4**	**+0.1**
AYDN				*i* S	**Sn**	**00 19 45.2**	**+0.3**
MANT	**Manisa**	**1.40**	**89**	*i* P	**Pb**	**00 19 33.3**	**+0.4**
MANT				*i* S	**Sb**	**00 19 50.9**	**+0.4**
MANT	**Manisa**	**1.40**	**89**	*i* P	**Pb**	**00 19 33.3**	**+0.4**
MANT				*i* S	**Sb**	**00 19 50.9**	**+0.4**
BALY	**Balya**	**1.42**	**27**	*i* P	**Pn**	**00 19 32.7**	**+0.5**
BALY				*i* S	**Sb**	**00 19 51.4**	**+0.4**
BALY	**Balya**	**1.42**	**27**	*i* P	**Pn**	**00 19 32.7**	**+0.5**
BALY				*i* S	**Sb**	**00 19 51.4**	**+0.4**
BALB	**Balikesir**	**1.44**	**36**	*e*PN	**Pb**	**00 19 34.0**	**+0.4**
BALB				*e*SN	**Sg**	**00 19 54.2**	**+0.4**
BALB	**Balikesir**	**1.44**	**36**	*e*Pn	**Pb**	**00 19 34.0**	**+0.4**
BALB				*e*Sn	**Sg**	**00 19 54.2**	**+0.4**
KULA	**Kula-Manisa**	**1.48**	**88**	*e*PN	**Pb**	**00 19 34.5**	**+0.3**
KULA	**Kula-Manisa**	**1.48**	**88**	*e*Pn	**Pb**	**00 19 34.5**	**+0.3**
BDRM	**Kayabasi**	**1.51**	**159**	*i* P	**Pg**	**00 19 35.7**	**-0.5**
BDRM				*i* S	**Sb**	**00 19 53.1**	**-0.3**
BDRM	**Kayabasi**	**1.51**	**159**	*i* P	**Pg**	**00 19 35.7**	**-0.5**
BDRM				*i* S	**Sb**	**00 19 53.1**	**-0.3**
DEMI	**Demirci**	**1.62**	**69**	*i* P	**Pb**	**00 19 37.0**	**+0.4**
DEMI				*i* S	**Sn**	**00 19 54.5**	**-1.0**
DEMI	**Demirci**	**1.62**	**69**	*i* P	**Pb**	**00 19 37.0**	**+0.4**
DEMI				*i* S	**Sn**	**00 19 54.5**	**-1.0**
DURS	**Dursunbey**	**1.73**	**49**	*i* P	**Pn**	**00 19 36.7**	**+0.1**
DURS				*i* S	**Sn**	**00 19 57.2**	**-1.1**
DURS	**Dursunbey**	**1.73**	**49**	*i* P	**Pn**	**00 19 36.7**	**+0.1**
DURS				*i* S	**Sn**	**00 19 57.2**	**-1.1**
DST	**Dursunbey**	**1.82**	**51**	*e*PN	**Pb**	**00 19 40.2**	**+0.1**
DST	**Dursunbey**	**1.82**	**51**	*e*Pn	**Pb**	**00 19 40.2**	**+0.1**
KRBG	**Karabiga-Canak**	**1.95**	**12**	*e*PN	**Pb**	**00 19 41.2**	**-1.1**
KRBG	**Karabiga-Canak**	**1.95**	**12**	*e*Pn	**Pb**	**00 19 41.2**	**-1.1**
KHAL	**Karahalli**	**2.13**	**92**	*i* P	**Pg**	**00 19 46.9**	**-1.2**
KHAL				*i* S	**Sb**	**00 20 12.7**	**+1.1**
KHAL	**Karahalli**	**2.13**	**92**	*i* P	**Pg**	**00 19 46.9**	**-1.2**
KHAL				*i* S	**Sb**	**00 20 12.7**	**+1.1**

IDC 04 00:37:32.6±1.3, 10°.79S×165°.25E, h0km, mb3.9/4, mb1 4.3/5, mb1mx3.8/18, mbtmp4.0/5, ML4.1/1, MS3.1/3, Ms1 3.1/3, ms1mx3.0/19, Error ellipse: s-maj=50.0km s-min=25.6km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.39**	**284**	LR	LR	00 40 03.9	
	comp=Z,77nm,19.6s,baz=66,slow=28						
DZM	**Mont Dzumac**	**11.28**	**174**	Pn	Pn	00 40 15.1	-0.2
	1.4nm,0.3s,baz=11,slow=20,SNR=10						
DZM				LR	LR	00 43 58.0	
	comp=Z,100nm,20.0s,baz=350,slow=34						
STKA	**Stephens Creek**	**30.30**	**223**	LR	LR	00 54 57.9	
	comp=Z,84nm,19.8s,baz=23,slow=34						
WRA	**Warramunga Arr**	**31.12**	**249**	P	P	00 43 53.9	+0.7
	0.8nm,0.9s,baz=80,slow=9.2,SNR=3.5						
ASAR	**Alice Springs**	**32.48**	**243**	P	P	00 44 04.5	-0.6
	2.2nm,0.7s,baz=65,slow=10,SNR=24						
ILAR	**Eielson Array**	**83.42**	**19**	P	P	00 50 01.6	0.0
	0.5nm,0.9s,baz=232,slow=4.8,SNR=6.0						
NVAR	**Mina Array Bea**	**86.23**	**50**	P	P	00 50 16.7	0.0
	1.0nm,0.9s,baz=234,slow=7.7,SNR=5.4						

*CSEM **04** 01:43:19.6±0.1, 42°.18N×23°.68E, h2km, ML2.5/1, Error ellipse: s-maj=3.4km s-min=2.7km az=14.0*
*THE **04** 01:43:20.0, 42°.17N×23°.72E, h1km±2km, ML2.5/1, Error ellipse: s-maj=3.2km s-min=0.8km az=332.0*
*SKO **04** 01:43:20.1, 42°.22N×23°.65E, h0km*
*BEO **04** 01:43:22.8±0.8, 43°.01N×23°.83E, h12km±5km, ML2.1/3*

ISC 04 01:43:19.8±1.2, 42°.17N±0°.04×23°.68E±0°.03, h3km±11km, n22, σ0°.42/32, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLD	**Plovdiv**	**0.76**	**95**	P	**Pg**	**01 43 34.2**	**-0.2**
PLD				S	**Sg**	**01 43 44.4**	**+0.1**
PLD	**Plovdiv**	**0.76**	**95**	*e*Pg	Pn	01 43 43.1	+5.6
PLD	**Plovdiv**	**0.76**	**95**	P	**Pg**	**01 43 34.2**	**-0.2**
PLD				S	**Sg**	**01 43 44.4**	**+0.1**
NVR	**Nevrokopi**	**0.83**	**171**	P	**Pg**	**01 43 35.8**	**0.0**
NVR	**Nevrokopi**	**0.83**	**171**	P	**Pg**	**01 43 35.8**	**0.0**
SRS	**Serrai**	**1.06**	**184**	P	**Pg**	**01 43 39.8**	**-0.3**
SRS	**Serrai**	**1.06**	**184**	P	**Pg**	**01 43 39.8**	**-0.3**
KNT	**Kendrikon**	**1.17**	**210**	P	**Pg**	**01 43 41.8**	**-0.4**
KNT	**Kendrikon**	**1.17**	**210**	P	**Pg**	**01 43 41.8**	**-0.4**
VAY	**Valandovo**	**1.19**	**225**	*e*Pg	**Pg**	**01 43 41.9**	**-0.7**
VAY				*e*Sg	**Sg**	**01 43 58.5**	**+0.5**
VAY	**Valandovo**	**1.19**	**225**	*e*Pg	**Pg**	**01 43 42.3**	**-0.3**
VAY				*e*Sg	**Sg**	**01 43 59.0**	**+1.0**
KAVA	**Kavala**	**1.33**	**152**	P	**Pn**	**01 43 44.4**	**-0.9**
KAVA				S	**Sn**	**01 44 04.0**	**+0.5**
KAVA	**Kavala**	**1.33**	**152**	P	**Pn**	**01 43 44.4**	**-0.9**
KAVA				S	**Sn**	**01 44 04.0**	**+0.5**
SOH	**Sokhos**	**1.37**	**190**	P	**Pn**	**01 43 45.8**	**-0.1**
SOH	**Sokhos**	**1.37**	**190**	P	**Pn**	**01 43 45.8**	**-0.1**
BARS	**Barje**	**1.52**	**296**	*e*Pg	**Pb**	**01 43 48.9**	**+0.2**
BARS				*e*Sn	**Sg**	**01 44 08.8**	**+0.1**
BARS	**Barje**	**1.52**	**296**	*e*Pg	**Pb**	**01 43 48.9**	**+0.2**
BARS				*e*Sn	**Sg**	**01 44 08.8**	**+0.1**
GRG	**Griva**	**1.55**	**219**	P	**Pn**	**01 43 48.1**	**-0.2**
GRG	**Griva**	**1.55**	**219**	P	**Pn**	**01 43 48.1**	**-0.2**
SELS	**Selova**	**2.16**	**300**	*e*Pn	**Pn**	**01 43 56.6**	**-0.1**
SELS				*e*Sg	**Sb**	**01 44 26.8**	**0.0**
JMB	**Yambol**	**2.17**	**81**	*e*Pn	**Pn**	**01 43 57.1**	**+0.3**
JMB				*e*Sn	**Sn**	**01 44 24.0**	**-0.3**
JMB	**Yambol**	**2.17**	**81**	*e*Pn	**Pn**	**01 43 57.1**	**+0.3**
JMB				*e*Sn	**Sn**	**01 44 24.0**	**-0.3**

*ISCJB **04** 01:50:21.9±0.5, 50°.14N±0°.03×18°.40E±0°.03, h0km, Error ellipse: s-maj=4.8km s-min=2.8km az=12.3*
*CSEM **04** 01:50:22.9±0.2, 50°.11N×18°.42E, h1km, ML2.5/6, Error ellipse: s-maj=4.8km s-min=2.4km az=5.0*
*WAR **04** 01:50:23.8, 50°.08N×18°.45E*
*IPEC **04** 01:50:23.6±0.2, 50°.08N×18°.47E, h3km±2km, ML1.8/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
*VIE **04** 01:50:24.9±0.8, 49°.69N×18°.48E, h0km, mb1.6/2, ML2.1/3, Error ellipse: s-maj=5.5km s-min=3.8km az=111.0 23 km SE of Ostrava Suspected Mining induced.*
*PRU **04** 01:50:24.0, 50°.09N×18°.41E, h0km*

ISC 04 01:50:23.6±0.8, 50°.07N±0°.03×18°.43E±0°.02, h0km, n33, σ0°.90/54, 1C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.15**	**276**	*e*Sg	**Sg**	**01 50 31.1**	**+2.7**
OKC	**Ostrava-Krasne**	**0.29**	**218**	*e*PG	**Pb**	**01 50 30.4**	**-1.3**
OKC				*e*SG	**Sg**	**01 50 34.2**	**+1.2**
	comp=Z,44nm,0.6s						
OKC	**Ostrava-Krasne**	**0.29**	**218**	*e*Pg	**Pg**	**01 50 30.0**	**+0.8**
	baz=40						
OKC				Sg	**Sg**	**01 50 34.2**	**+1.2**
	44nm,0.6s						
MORC	**Moravsky Berou**	**0.64**	**243**	*e*Pg	**Pg**	**01 50 36.3**	**+0.4**
MORC				*e*Sg	**Sg**	**01 50 44.7**	**+0.5**
	22nm,0.4s,baz=63						
OJC	**Ojcow**	**0.90**	**80**	*e*Pg	**Pg**	**01 50 40.0**	**-0.7**
OJC				*e*Sg	**Sg**	**01 50 52.1**	**-0.3**
OJC	**Ojcow**	**0.90**	**80**	*e*Pg	**Pg**	**01 50 40.3**	**-0.5**
	baz=261						
OJC				*e*Sg	**Sg**	**01 50 52.7**	**+0.3**
KRLC	**Kraliky**	**1.06**	**271**	*e*PG	**Pg**	**01 50 43.3**	**-0.6**
KRLC	**Kraliky**	**1.06**	**271**	Pg	**Pg**	**01 50 43.3**	**-0.6**
DPC	**Dobruska-Polom**	**1.38**	**283**	*e*PG	**Pg**	**01 50 49.6**	**-0.4**
DPC				*e*SG	**Sg**	**01 51 08.0**	**+0.1**
	comp=Z,14nm,0.6s						
DPC	**Dobruska-Polom**	**1.38**	**283**	Pg	**Pg**	**01 50 49.6**	**-0.4**
DPC				*e*Sg	**Sg**	**01 51 07.7**	**-0.2**
	baz=100						
NIE	**Niedzica**	**1.39**	**117**	*e*Pg	**Pn**	**01 50 50.0**	**-0.2**
NIE				*e*Sg	**Sb**	**01 51 09.0**	**+0.4**
NIE	**Niedzica**	**1.39**	**117**	*e*Pg	**Pn**	**01 50 50.1**	**-0.2**
NIE				*e*Sg	**Sn**	**01 51 09.4**	**+0.1**
VRAC	**Vranov**	**1.41**	**238**	*e*Pg	**Pn**	**01 50 50.0**	**-0.6**
	baz=57						
VRAC				*e*Sg	**Sg**	**01 51 08.7**	**-0.2**
	8.2nm,0.2s,baz=57						
KSP	**Ksiaz**	**1.57**	**300**	*e*Pn	**Pn**	**01 50 52.0**	**-0.7**
KSP				*e*Sn	**Sg**	**01 51 14.8**	**+0.8**
KSP	**Ksiaz**	**1.57**	**300**	*e*Pn	**Pn**	**01 50 52.0**	**-0.7**
KSP				*e*Sn	**Sg**	**01 51 14.8**	**+0.8**
VYHS	**Vyhne**	**1.60**	**170**	*e*Pn	**Pn**	**01 50 52.8**	**-0.3**
VYHS				*e*SN	**Sg**	**01 51 15.0**	**+0.1**
VYHS	**Vyhne**	**1.60**	**170**	*e*Sg	**Sg**	**01 51 15.0**	**+0.1**
UPC	**Upice**	**1.61**	**287**	*e*PG	**Pn**	**01 50 53.2**	**-0.1**
UPC				*e*SG	**Sg**	**01 51 15.4**	**+0.1**
UPC	**Upice**	**1.61**	**287**	Pg	**Pn**	**01 50 53.2**	**-0.1**
UPC				Sg	**Sg**	**01 51 15.4**	**+0.1**
KRUC	**Moravsky**	**1.66**	**233**	*e*Pn	**Pn**	**01 50 53.9**	**-0.1**
	baz=52						
KRUC				*e*Sg	**Sb**	**01 51 16.4**	**-0.2**
	15nm,0.6s,baz=52						
SMOL	**Smolenice**	**1.69**	**203**	*e*PN	**Pn**	**01 50 54.1**	**-0.2**
SMOL	**Smolenice**	**1.69**	**203**	*e*Pn	**Pn**	**01 50 54.1**	**-0.2**
CRVS	**Cervenica-Dubn**	**2.30**	**119**	*e*PG	**Pb**	**01 51 06.6**	**+0.7**
CRVS	**Cervenica-Dubn**	**2.30**	**119**	*e*Pg	**Pb**	**01 51 06.6**	**+0.7**
PRU	**Pruhonice**	**2.51**	**270**	*e*PG	**Pb**	**01 51 09.0**	**-0.5**
PRU				*e*SG	**Sb**	**01 51 41.2**	**+0.4**
PRU	**Pruhonice**	**2.51**	**270**	Pg	**Pb**	**01 51 09.0**	**-0.5**
PVCC	**Panska Ves**	**2.52**	**282**	*e*SG	**Sg**	**01 51 44.3**	**-0.1**
	comp=Z,6.5nm,0.3s						
PVCC	**Panska Ves**	**2.52**	**282**	Sg	**Sg**	**01 51 44.3**	**-0.1**
	6.5nm,0.3s						
BRG	**Berggiesshubel**	**2.98**	**287**	PG	**Pb**	**01 51 18.7**	**+1.3**
BRG				SG	**Sg**	**01 51 57.7**	**-1.4**
	2.9nm,0.5s						
KHC	**Kasperske Hory**	**3.29**	**255**	*e*PG	**Pb**	**01 51 23.8**	**+1.0**
KHC				*e*SG	**Sg**	**01 52 07.6**	**-1.6**
	comp=Z,4.1nm,0.4s						
MOA	**Molln**	**3.53**	**233**	⇑ *i*Pg	**Pb**	**01 51 28.1**	**+1.2**
MOA				⇓ *i*Sg	**Sg**	**01 52 14.6**	**-2.3**
	2.9nm,0.5s						
MOA	**Molln**	**3.53**	**233**	Pg	**Pb**	**01 51 28.1**	**+1.2**
MOA				Sg	**Sg**	**01 52 14.6**	**-2.3**
	2.9nm,0.5s						
CLL	**Collm**	**3.67**	**292**	*e*Sg	**Sg**	**01 52 22.0**	**+0.7**

*IDC **04** 02:02:28.7±0.9, 34°.14N×73°.58E, h0km, mb3.7/7, mb1 3.7/12, mb1mx3.6/30, mbtmp3.6/12, ML3.5/5, Error ellipse: s-maj=23.9km s-min=19.1km az=85.0*
*NDI **04** 02:02:31.4±3.6, 34°.35N×73°.27E, h33km, ML4.1, mb4.1(NEIC)*
*ISCJB **04** 02:02:34.7±0.5, 34°.28N±0°.03×73°.72E±0°.04, h65km±7km, mb3.8/8, Error ellipse: s-maj=6.6km s-min=4.9km az=148.7*
*NEIC **04** 02:02:37.8±1.6, 34°.38N×73°.62E, h71km±12km, mb4.1/2, Error ellipse: s-maj=15.7km s-min=9.7km az=154.0*
*NNC **04** 02:02:39.2±7.5, 34°.87N×73°.11E, h0km, mb3.7, mpv3.8, Error ellipse: s-maj=69.6km s-min=65.6km az=23.0*

ISC 04 02:02:35.2±0.9, 34°.19N±0°.05×73°.62E±0°.06, h52km±11km, n61, σ1°.70/65, mb3.8/8, 9C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**1.47**	**256**	P	**Pn**	**02 03 01.2**	**+1.7**
CEP				S	Sn	02 03 24.0	+6.4
THW	**Thamme Wali**	**2.10**	**229**	P	**Pn**	**02 03 09.8**	**+1.9**
SARP	**Sargodha**	**2.40**	**200**	P	Pn	02 03 14.1	+2.1
THN	**Thein Dam**	**2.48**	**134**	*e*PKP	**Pn**	**02 03 14.8**	**+1.7**
THN				*ex*	Sb	02 03 48.3	
DLH	**Dalhousie**	**2.56**	**129**	*e*PKP	**Pn**	**02 03 15.0**	**+0.6**
DLH				*ex*	Sb	02 03 53.0	
DHRM	**DHARAMSHALA**	**2.96**	**130**	*e*PKP	Pn	02 03 21.2	+1.3
KBL	**Kabul**	**3.81**	**277**	*e*Pn	Pn	02 03 34.3	+2.8
KBL				*e*Sn	**Sn**	**02 04 18.7**	**+3.7**
SDNR	**Sundarnagar**	**3.89**	**133**	*e*PKP	Pn	02 03 33.6	+1.1
SDNR				*e*S	**Sn**	**02 04 18.0**	**+1.1**
SMLA	**Simla**	**4.27**	**135**	*i* P	**Pn**	**02 03 38.5**	**+0.8**
SMLA				*e*PKP		02 03 38.6	
SMLA				*i* S	**Sn**	**02 04 26.9**	**+0.7**
SMLA				*i* S		02 04 27.3	
SMLA				AML	AML	02 04 29.1	
	comp=E,943nm,0.3s						
SMLA				AML	AML	02 04 29.5	
	comp=N,1μm,0.3s						
KKR	**Kurukshetra**	**5.01**	**146**	*e*PKP	**Pn**	**02 03 48.6**	**+0.7**
KKR				*ex*	x	02 04 54.5	
KKR				AML	AML	02 05 16.9	
	comp=Z,268nm,0.2s						
DDI	**Dehra Dun**	**5.38**	**135**	*ex*	x	02 04 12.0	
KHET	**Khetri**	**6.37**	**162**	*e*PKP	**Pn**	**02 04 05.1**	**-1.5**
KHET				*e*S	**Sn**	**02 05 15.6**	**-2.4**
AYAN	**Aya Nagar**	**6.43**	**151**	*ex*	Pn	02 04 10.1	+2.9
KUDL	**Kundal**	**6.50**	**157**	*e*PKP	**Pn**	**02 04 07.4**	**-0.9**
KUDL				*e*S	**Sn**	**02 05 19.9**	**-1.2**
AGRA	**Agra**	**7.87**	**151**	*e*S	**Sn**	**02 05 52.2**	**-2.4**
AGRA				AML	AML	02 06 55.3	
	comp=E,76nm,0.4s						
AGRA				AML	AML	02 06 58.2	
	comp=N,94nm,0.3s						
AAK	**Ala-Archa**	**8.46**	**4**	Pn	**Pn**	**02 04 36.7**	**+1.5**
AAK				Sn	**Sn**	**02 06 11.9**	**+2.6**
AAK	**Ala-Archa**	**8.46**	**4**	Pn	**Pn**	**02 04 36.7**	**+1.5**
	comp=N,0.2nm,0.3s,baz=190,slow=16,SNR=4.3						
AAK				Sn	**Sn**	**02 06 11.9**	**+2.6**
	comp=N,0.3nm,0.3s,baz=339,slow=22,SNR=6.4						
EKS2	**Erkin-Say**	**8.46**	**1**	*e*Pn	**Pn**	**02 04 36.0**	**+0.7**
	comp=N,5.7nm,0.8s						
EKS2				*e*Sn	**Sn**	**02 06 04.2**	**-5.1**
TKM2	**Tokmak 2**	**8.86**	**9**	⇑P	**Pn**	**02 04 40.9**	**+0.2**
	comp=N,4.7nm,1.2s						
TKM2				⇑S	**Sn**	**02 06 18.6**	**-0.5**
	comp=N,7.6nm,0.8s						
TKM2	**Tokmak 2**	**8.86**	**9**	*e*Pn	**Pn**	**02 04 40.9**	**+0.2**
	comp=N,2.1nm,0.6s						
KK31	**Karatay Array**	**9.23**	**346**	P	**Pn**	**02 04 45.1**	**-0.5**
	comp=N,3.1nm,0.5s,baz=158,slow=11,SNR=84						
KK31				⇑S	**Sn**	**02 06 23.2**	**-4.7**
	comp=N,1.7nm,0.4s,baz=151,slow=21,SNR=7.7						
KKAR	**Karatay Array**	**9.23**	**346**	*e*Pn	**Pn**	**02 04 45.0**	**-0.6**
	comp=N,3.7nm,0.4s						
KKAR				*e*Sn	**Sn**	**02 06 24.6**	**-3.3**
MK31	**Makanchi Array**	**14.20**	**25**	⇑P	Pn	02 05 55.9	+2.5
	comp=N,1.4nm,0.8s,baz=0.0,slow=0.1,SNR=6.6						
MK31	**Makanchi Array**	**14.20**	**25**	*e*Pn	**Pn**	**02 05 51.5**	**-1.9**
MKAR	**Makanchi Array**	**14.20**	**25**	Pn	**Pn**	**02 05 51.0**	**-2.3**
MKAR	**Makanchi Array**	**14.20**	**25**	Pn	**Pn**	**02 05 51.0**	**-2.3**
	comp=N,0.1nm,0.3s,baz=208,slow=12,SNR=3.2						
KURBB	**Kurchatov Arra**	**16.81**	**11**	Pn	**Pn**	**02 06 25.7**	**-1.1**
	comp=N,0.1nm,0.3s,baz=201,slow=11,SNR=5.0						
KURK	**Kurchatov**	**16.92**	**11**	*e*P	**Pn**	**02 06 25.7**	**-2.4**
	comp=N,10nm,1.5s						
AB31	**Akbulak array**	**18.15**	**330**	P	**P**	**02 06 42.0**	**-1.1**
	comp=N,1.2nm,0.6s,baz=136,slow=14,SNR=25						
AB31				⇑S	Sn	02 09 52.6	-12
	comp=N,0.6nm,0.6s,baz=132,slow=25,SNR=3.6						
ABKAR	**Akbulak array**	**18.15**	**330**	*e*P	**P**	**02 06 41.9**	**-1.1**
	comp=N,1.1nm,0.5s						
VOSK	**Vostochnaya**	**18.63**	**355**	⇑P	**Pn**	**02 06 51.8**	**+2.7**
	comp=N,4.4nm,1.2s						
BVA0	**Borovoye Array**	**18.97**	**354**	P	**P**	**02 06 52.8**	**+0.7**
	comp=N,0.7nm,1.1s,baz=153,slow=9.0,SNR=10						
BVAR	**Borovoye Array**	**18.97**	**354**	P	**P**	**02 06 52.8**	**+0.7**
BVAR	**Borovoye Array**	**18.97**	**354**	P	**P**	**02 06 52.8**	**+0.7**
	comp=N,0.4nm,0.3s,baz=153,slow=8.8,SNR=9.4						
BRVK	**Borovoye**	**19.02**	**354**	⇑P	**P**	**02 06 52.7**	**+0.2**
	comp=N,7.3nm,1.1s						
BRVK	**Borovoye**	**19.02**	**354**	*e*P	**P**	**02 06 52.5**	**0.0**
	comp=N,3.9nm,0.8s						
ZRNK	**Zerenda**	**19.05**	**351**	⇑P	**Pn**	**02 06 55.0**	**+0.9**
	comp=N,2.7nm,0.8s						
AKTO	**Aktyubinsk**	**19.85**	**330**	⇑P	**P**	**02 07 02.1**	**+0.4**
	comp=N,0.9nm,0.7s						
AKTO	**Aktyubinsk**	**19.85**	**330**	P	**P**	**02 07 02.3**	**+0.6**
AKTO	**Aktyubinsk**	**19.85**	**330**	P	**P**	**02 07 02.3**	**+0.6**
	comp=N,0.8nm,0.3s,baz=136,slow=10.0,SNR=26						
ZAA0	**Zalesovo Array**	**21.28**	**18**	*e*P	**P**	**02 07 15.9**	**-1.2**
ZALV	**Zalesovo Beam**	**21.28**	**18**	P	**P**	**02 07 15.6**	**-1.5**
ZALV	**Zalesovo Beam**	**21.28**	**18**	P	**P**	**02 07 15.6**	**-1.5**
	comp=N,2.2nm,0.4s,baz=203,slow=11,SNR=7.5						
SONM	**Songino Array**	**28.00**	**51**	P	**P**	**02 08 22.2**	**+1.0**
SONM	**Songino Array**	**28.00**	**51**	P	**P**	**02 08 22.2**	**+1.0**
	comp=N,0.2nm,0.3s,baz=256,slow=10.0,SNR=3.3						
CSS	**Prodhromos**	**33.03**	**283**	*e*P	**P**	**02 09 05.1**	**-0.5**
	comp=N,9.4nm,1.3s						
AKBB	**Malin Array Si**	**36.07**	**311**	*e*P	**P**	**02 09 30.5**	**-1.1**
KIEV	**Kiev**	**36.08**	**311**	*e*P	**P**	**02 09 30.6**	**-1.0**
BUR08	**Bucovina Ar. S**	**38.37**	**305**	*e*P	**P**	**02 09 49.9**	**-1.3**
NB2	**NORSAR Subarra**	**47.51**	**324**	P	**P**	**02 11 04.7**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**47.51**	**324**	P	**P**	**02 11 04.9**	**0.0**
NOA	**NORSAR Array B**	**47.51**	**324**	P	**P**	**02 11 04.9**	**0.0**
	comp=Z,0.9nm,0.7s,baz=96,slow=7.6,SNR=4.3						
TOA0	**Torodi Ar. Sit**	**67.86**	**271**	*e*P	**P**	**02 13 29.0**	**+0.6**
TORD	**Torodi Ar. Bea**	**67.86**	**271**	P	**P**	**02 13 28.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**67.86**	**271**	P	**P**	**02 13 28.9**	**+0.5**
	comp=Z,1.6nm,0.9s,baz=47,slow=5.7,SNR=24						
WRA	**Warramunga Arr**	**78.94**	**123**	P	**P**	**02 14 34.8**	**+1.3**
WRA	**Warramunga Arr**	**78.94**	**123**	P	**P**	**02 14 34.8**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=329,slow=4.8,SNR=3.1						
ASAR	**Alice Springs**	**81.17**	**126**	P	**P**	**02 14 46.5**	**+1.0**
ASAR	**Alice Springs**	**81.17**	**126**	P	**P**	**02 14 46.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=296,slow=4.0,SNR=4.0						
YKA	**Yellowknife Ar**	**83.43**	**4**	P	**P**	**02 14 57.7**	**+1.1**
YKA	**Yellowknife Ar**	**83.43**	**4**	P	**P**	**02 14 57.7**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=351,slow=5.4,SNR=4.4						

WEL 04 02:03:29.7±0.1, 40°.85S×175°.17E, h56km±1km, ML3.5/12, 3C-17D, Error ellipse: s-maj=0.9km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGWZ	**Otaki Gorge**	**0.04**	**2**	⇓P	Pn	02 03 37.8	-0.3
OGWZ				S	Sn	02 03 43.9	-0.2
KIW	**Kapiti Island**	**0.20**	**267**	⇓P	Pn	02 03 38.4	-0.4
KIW				S	Sn	02 03 44.9	-0.3
CAW	**Cannon Point**	**0.27**	**197**	⇓P	Pn	02 03 39.0	-0.2
CAW				S	Sn	02 03 45.2	-0.9
HOWZ	**Holdsworth Sta**	**0.27**	**100**	⇓P	Pn	02 03 38.9	-0.3
MRZ	**Mangatainoka R**	**0.37**	**59**	⇑P	Pn	02 03 39.5	-0.5
MRZ				S	Sn	02 03 46.6	-0.9
MTW	**Mount Morrison**	**0.40**	**141**	⇓P	Pn	02 03 40.2	-0.1
TIWZ	**Tintock**	**0.55**	**82**	⇓P	Pn	02 03 41.7	-0.3
TIWZ				S	Sn	02 03 50.8	-0.1
PAWZ	**Paruwai Farm**	**0.56**	**160**	⇓P	Pn	02 03 42.0	-0.1
MSWZ	**Moikau Station**	**0.56**	**174**	⇓P	Pn	02 03 42.0	-0.2
SNZO	**South Karori**	**0.57**	**217**	P	Pn	02 03 41.7	-0.5
BHW	**Baring Head**	**0.60**	**202**	⇓P	Pn	02 03 42.1	-0.4
TMWZ	**Te Maipa**	**0.60**	**115**	⇓P	Pn	02 03 42.5	-0.1
POWZ	**Post Office Ro**	**0.65**	**45**	PN	Pn	02 03 42.5	-0.6
TRWZ	**Traveller**	**0.67**	**144**	PN	Pn	02 03 43.2	-0.2
PLWZ	**Palliser**	**0.72**	**175**	⇓P	Pn	02 03 43.6	-0.4
TCW	**Tory Channel**	**0.77**	**242**	PN	Pn	02 03 43.8	-0.7
BFZ	**Birch Farm**	**0.84**	**79**	PN	Pn	02 03 44.9	-0.6
DVHZ	**Dannevirke**	**0.94**	**54**	⇓P	Pn	02 03 46.0	-0.9
DUWZ	**D'Urville Isla**	**0.95**	**273**	⇑P	Pn	02 03 46.2	-0.7
TSZ	**Takapari Road**	**1.00**	**38**	⇓P	Pn	02 03 46.9	-0.7
TUWZ	**Tuamarina**	**1.09**	**238**	PN	Pn	02 03 47.7	-1.1
WAZ	**Wanganui**	**1.10**	**353**	PN	Pn	02 03 49.6	+0.6
PNHZ	**Pukenui**	**1.22**	**40**	PN	Pn	02 03 49.7	-1.0
WPHZ	**Waipukurau**	**1.25**	**51**	PN	Pn	02 03 50.0	-0.9
PRHZ	**Porangahau**	**1.26**	**63**	PN

LBTB			*e*S	Sn	02 12 12.7	+0.4
LBTB			AML	AML	02 12 27.3	
	comp=Z,15nm,0.5s					

CSEM ***04*** *02:11:16.9±0.1,38°.23N×22°.63E,h10km,ML2.5/4, Error ellipse: s-maj=2.9km s-min=2.3km az=41.0*
ISCJB ***04*** *02:11:17.1±0.4,38°.23N±0°.02×22°.62E±0°.03,h8km±4km, Error ellipse: s-maj=3.8km s-min=3.3km az=147.9*
THE ***04*** *02:11:17.0,38°.23N×22°.63E,h14km±4km,ML2.5/4, Error ellipse: s-maj=4.1km s-min=0.8km az=264.0*
ATH ***04*** *02:11:17.0,38°.24N×22°.62E,h5km±2km,ML2.2*
ISC 04 02:11:17.2±0.9,38°.25N±0°.02×22°.63E±0.02,h10km±8km, n33,σ0°46/62,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSF	**Desfina**	**0.18**	**334**	P	**Pg**	**02 11 21.0**	**-0.2**
DSF				S	**Sg**	**02 11 24.4**	**+0.4**
DSF	**Desfina**	**0.18**	**334**	P	**Pg**	**02 11 21.0**	**-0.2**
DSF				S	**Sg**	**02 11 24.4**	**+0.4**
LTK	**Loutraki**	**0.35**	**130**	P	**Pg**	**02 11 23.8**	**-0.4**
LTK				S	**Sg**	**02 11 29.7**	**+0.9**
LTK	**Loutraki**	**0.35**	**130**	*e*PG	**Pg**	**02 11 23.7**	**-0.4**
LTK				*e*SB	**Sg**	**02 11 29.0**	**+0.2**
LTK	**Loutraki**	**0.35**	**130**	*e*Pg	**Pg**	**02 11 23.7**	**-0.4**
LTK				*e*Sb	**Sg**	**02 11 29.0**	**+0.2**
LTK				S	**Sg**	**02 11 29.7**	**+0.9**
GUR	**Goura**	**0.38**	**216**	P	**Pg**	**02 11 24.4**	**-0.4**
GUR				S	**Sg**	**02 11 29.7**	**-0.2**
GUR	**Goura**	**0.38**	**216**	*e*PB	**Pg**	**02 11 24.4**	**-0.4**
GUR				*e*SB	**Sg**	**02 11 30.2**	**+0.3**
GUR	**Goura**	**0.38**	**216**	P	**Pg**	**02 11 24.4**	**-0.4**
GUR				S	**Sg**	**02 11 29.7**	**-0.2**
GUR				*e*Sb	**Sg**	**02 11 30.2**	**+0.3**
KALE	**Kalithea**	**0.41**	**291**	P	**Pg**	**02 11 25.4**	**0.0**
KALE				S	**Sb**	**02 11 32.3**	**-0.6**
KALE	**Kalithea**	**0.41**	**291**	P	**Pg**	**02 11 25.4**	**0.0**
KALE				S	**Sb**	**02 11 32.3**	**-0.6**
LKR	**Lokris**	**0.50**	**36**	P	**Pg**	**02 11 26.2**	**-0.7**
LKR				S	**Sb**	**02 11 34.4**	**-0.9**
LKR	**Lokris**	**0.50**	**36**	*e*PB	**Pg**	**02 11 26.3**	**-0.7**
LKR				*e*SB	**Sb**	**02 11 34.5**	**-0.9**
LKR	**Lokris**	**0.50**	**36**	*e*Pb	**Pg**	**02 11 26.3**	**-0.7**
LKR				S	**Sb**	**02 11 34.4**	**-0.9**
AXAR	**Agios Charalam**	**0.52**	**3**	P	**Pg**	**02 11 27.1**	**-0.3**
AXAR				S	**Sb**	**02 11 36.3**	**+0.3**
AXAR	**Agios Charalam**	**0.52**	**3**	P	**Pg**	**02 11 27.1**	**-0.3**
AXAR				S	**Sb**	**02 11 36.3**	**+0.3**
ATAL	**Atalanti**	**0.54**	**34**	P	**Pg**	**02 11 27.1**	**-0.7**
ATAL				S	**Sb**	**02 11 36.7**	**+0.1**
ATAL	**Atalanti**	**0.54**	**34**	P	**Pg**	**02 11 27.1**	**-0.7**
ATAL				S	**Sb**	**02 11 36.7**	**+0.1**
EFP	**Efpalio**	**0.60**	**288**	P	**Pg**	**02 11 28.5**	**-0.3**
EFP	**Efpalio**	**0.60**	**288**	*e*PB	**Pg**	**02 11 29.0**	**+0.2**
EFP	**Efpalio**	**0.60**	**288**	P	**Pg**	**02 11 28.5**	**-0.3**
EFP	**Efpalio**	**0.60**	**288**	*e*Pb	**Pg**	**02 11 29.0**	**+0.2**
NAIG	**Nisos Aigina**	**0.83**	**125**	*e*PB	**Pb**	**02 11 33.5**	**-0.3**
NAIG	**Nisos Aigina**	**0.83**	**125**	*e*Pb	**Pb**	**02 11 33.5**	**-0.3**
DID	**Didima**	**0.88**	**147**	*e*PB	**Pg**	**02 11 34.2**	**0.0**
DID				*e*SB	**Sb**	**02 11 46.5**	**+0.1**
DID	**Didima**	**0.88**	**147**	*e*Pb	**Pg**	**02 11 34.2**	**0.0**
DID				*e*Sb	**Sb**	**02 11 46.5**	**+0.1**
ATH	**Athens Observa**	**0.90**	**107**	*e*PB	**Pg**	**02 11 34.5**	**-0.1**
ATH				*e*SB	**Sb**	**02 11 47.2**	**+0.3**
ATH	**Athens Observa**	**0.90**	**107**	*e*Pb	**Pg**	**02 11 34.5**	**-0.1**
ATH				*e*Sb	**Sb**	**02 11 47.2**	**+0.3**
EVR	**Evrytania**	**0.93**	**316**	*e*PN	**Pb**	**02 11 35.3**	**-0.1**
EVR				*e*SB	**Sb**	**02 11 48.1**	**+0.2**
EVR	**Evrytania**	**0.93**	**316**	*e*Pn	**Pb**	**02 11 35.3**	**-0.1**
EVR				*e*Sb	**Sb**	**02 11 48.1**	**+0.2**
PTL	**Penteli**	**0.99**	**101**	*e*PN	**Pg**	**02 11 36.3**	**0.0**
PTL				*e*SB	**Sb**	**02 11 50.0**	**+0.4**
PTL	**Penteli**	**0.99**	**101**	*e*Pn	**Pg**	**02 11 36.3**	**0.0**
PTL				*e*Sb	**Sb**	**02 11 50.0**	**+0.4**
THL	**Klokotos Trika**	**1.40**	**340**	*e*PB	**Pb**	**02 11 43.5**	**+0.1**
THL				*e*SB	**Sg**	**02 12 03.3**	**+1.0**
THL	**Klokotos Trika**	**1.40**	**340**	*e*Pb	**Pb**	**02 11 43.5**	**+0.1**
THL				*e*Sb	**Sg**	**02 12 03.3**	**+1.0**

IDC 04 02:12:04.9±1.4,15°.22S×174°.76W,h259km±32km, mb3.4/4,mb1 3.7/5,mb1mx3.3/18,mbtmp3.4/5,Error ellipse: s-maj=141.6km s-min=18.9km az=146.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.17**	**66**	P	Pn	02 12 59.2	-0.8
	6.3nm,0.3s,baz=231,slow=22,SNR=7.3						
AFI				S	S	02 13 44.2	+0.6
	baz=55,slow=21,SNR=1.8						
WRA	**Warramunga Arr**	**48.61**	**257**	P	P	02 20 23.3	+0.3
	0.4nm,0.3s,baz=96,slow=8.1,SNR=4.8						
ASAR	**Alice Springs**	**49.92**	**252**	P	P	02 20 25.2	-0.2
	8.2nm,0.5s,baz=87,slow=7.9,SNR=112						
ILAR	**Eielson Array**	**82.53**	**12**	P	P	02 23 57.9	-0.5
	0.3nm,0.5s,baz=216,slow=5.4,SNR=11						
PDAR	**Pinedale Array**	**83.02**	**42**	P	P	02 24 02.5	+0.8
	0.6nm,0.7s,baz=211,slow=4.3,SNR=5.1						

BYKL ***04*** *02:23:49.1±0.3,54°.32N×111°.17E*
MOS 04 02:23:48.9±1.4,54°.30N×111°.18E,h1km,mb4.3/1,10C-7D, Error ellipse: s-maj=25.9km s-min=11.0km az=86.6, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.58**	**359**	⇑*i*PG	Pg	02 23 59.1	-1.0
YLYR				*e*		02 24 05.2	
YLYR				pmax	pmax		
	comp=Z,170nm,0.2s						
YLYR				smax	smax		
	comp=E,917nm,0.4s						
YLYR	**Ulyunkhan**	**0.58**	**359**	⇑*i*Pg	Pg	02 23 59.1	-1.0
	comp=E,159nm,0.2s						
YLYR				⇓*i*Pg	Pg	02 23 59.1	-1.0
	comp=E,8.0nm,0.2s						
YLYR				⇑*i*Pg	Pg	02 23 59.1	-1.0
	comp=E,76nm,0.2s						
YLYR				*e*Sg	Sg	02 24 06.3	-1.3
YLYR				Pmax			
	comp=E,100nm,0.1s						
YLYR				Smax			
	comp=E,918nm,0.5s						
SYVR	**Suvo**	**0.95**	**228**	⇑*i*Pg	Pg	02 24 06.9	-0.2
	comp=E,25nm,0.5s						
SYVR				⇑*i*Pg	Pg	02 24 06.9	-0.2
	comp=E,35nm,0.5s						
SYVR				⇓*i*Pg	Pg	02 24 06.9	-0.2
	comp=E,61nm,0.5s						
SYVR				*e*Pb	Pn	02 24 09.4	0.0
SYVR				*i* Sg	Sg	02 24 20.1	+0.6
SYVR				*e*Sb	Sn	02 24 24.5	+0.9
SYVR				max			
	comp=E,69nm,0.2s						
SYVR				max			
	comp=E,181nm,0.3s						
KMO	**Kumora**	**1.59**	**0**	*e*PG	Pn	02 24 17.0	-1.2
KMO				*e*		02 24 37.8	
KMO				pmax	pmax		
	comp=Z,466nm,0.3s						
KMO				smax	smax		
	comp=N,452nm,0.9s						
KMO	**Kumora**	**1.59**	**0**	⇑*i*Pg	Pn	02 24 17.2	-1.0
KMO				*e*		02 24 21.4	
KMO				*i* Sg	Sn	02 24 38.4	-1.1
KMO				*e*Sb	Sg	02 24 41.0	+0.9
KMO				Pmax			
	comp=N,467nm,0.4s						
KMO				max			
	comp=N,448nm,0.9s						
NIZ	**Nizh Angarsk**	**1.75**	**328**	*e*PG	Pn	02 24 20.2	-0.3
NIZ				*e*		02 24 43.4	
NIZ				pmax	pmax		
	comp=Z,125nm,0.4s						
NIZ				smax	smax		
	comp=N,294nm,0.4s						
NIZ	**Nizh Angarsk**	**1.75**	**328**	⇑*i*Pg	Pn	02 24 20.2	-0.3
NIZ				*e*		02 24 23.5	
NIZ				*e*Sg	Sn	02 24 43.9	+0.4
NIZ				*e*Sb	Sg	02 24 45.2	-0.1
NIZ				Pmax			
	comp=N,125nm,0.4s						
NIZ				max			
	comp=N,293nm,0.4s						
MXMB	**Maximikha**	**1.78**	**235**	⇑*i*Pg	Pn	02 24 20.1	-0.7
MXMB				*i* Sg	Sg	02 24 45.7	-0.5
MXMB				Pmax			
	comp=N,167nm,0.6s						
MXMB				Smax			
	comp=N,1μm,0.7s						
YOA	**Uoyan**	**1.86**	**9**	⇑*i*PN	Pn	02 24 22.3	+0.3
YOA				*i*		02 24 47.9	
YOA				pmax	pmax		
	comp=Z,355nm,0.2s						
YOA				smax	smax		
	comp=N,1μm,0.4s						
YOA	**Uoyan**	**1.86**	**9**	*e*Pg	Pn	02 24 22.2	+0.2
YOA				*e*Sg	Sb	02 24 47.1	-0.5
YOA				Pmax			
	comp=N,284nm,0.2s						
YOA				Smax			
	comp=N,1μm,0.6s						
OGRR	**Ongureny**	**2.22**	**254**	*e*PN	Pn	02 24 26.8	0.0
OGRR				*e*		02 24 29.3	
OGRR				*e*		02 24 57.7	
OGRR				pmax	pmax		
	comp=Z,30nm,0.4s						
OGRR				smax	smax		
	comp=N,162nm,0.9s						
OGRR	**Ongureny**	**2.22**	**254**	⇓*i*Pn	Pn	02 24 26.8	0.0
OGRR				⇓*i*Pg	Pb	02 24 28.4	-1.4
OGRR				*e*Sg	Sb	02 24 58.7	+0.9
OGRR				Pmax			
	comp=N,25nm,0.2s						
OGRR				Smax			
	comp=N,161nm,0.5s						
SVKR	**Severomuysk**	**2.27**	**36**	⇓*i*	Pn	02 24 26.8	-0.9
SVKR				*e*Pg	Pb	02 24 29.7	-1.1
SVKR				*e*Sg	Sg	02 25 01.6	-0.6
SVKR				Pmax			
	comp=N,135nm,0.6s						
SVKR				Smax			
	comp=N,547nm,0.7s						
CIT	**Chita**	**2.69**	**147**	*e*Sg	Sg	02 25 14.0	-1.6
CIT				Smax			
	comp=N,195nm,0.2s						
ZRHB	**Zarechye**	**2.98**	**236**	*e*Pn	Pn	02 24 35.8	-1.5
ZRHB				*e*Pg	Pb	02 24 42.1	-0.7
ZRHB				*e*Sg	Sb	02 25 21.4	+1.8
ZRHB				Pmax			
	comp=N,38nm,0.8s						
ZRHB				Smax			
	comp=N,195nm,0.6s						
UUDB	**Ulan-Yde**	**3.23**	**222**	*e*Pg	Pb	02 24 47.3	+0.2
UUDB				*i* Sg	Sg	02 25 30.9	-1.9
UUDB				Smax			
	comp=N,177nm,0.7s						
TRG	**Tyrgan**	**3.27**	**244**	⇓*i*Pn	Pn	02 24 41.1	-0.2
TRG				*e*Pg	Pb	02 24 47.0	-0.8
TRG				*e*		02 25 20.7	
TRG				*e*Sg	Sb	02 25 29.8	+1.7
TRG				Pmax			
	comp=N,11nm,0.5s						
TRG				Smax			
	comp=N,79nm,0.4s						
NLYR	**Nelyaty**	**3.39**	**48**	*e*PN	Pn	02 24 44.2	+1.3
NLYR				*e*		02 24 49.4	
NLYR				*e*		02 25 33.2	
NLYR				pmax	pmax		
	comp=Z,31nm,0.5s						
NLYR				smax	smax		
	comp=N,156nm,1.0s						
NLYR	**Nelyaty**	**3.39**	**48**	*e*Pn	Pn	02 24 44.5	+1.6
NLYR				*e*Pg	Pb	02 24 49.7	-0.1
NLYR				*e*		02 24 53.9	
NLYR				*i* Sg	Sb	02 25 34.1	+2.6
NLYR				max			
	comp=N,24nm,0.5s						
NLYR				Smax			
	comp=N,157nm,0.9s						
KAB	**Kabansk**	**3.54**	**232**	*e*Sg	Sg	02 25 39.3	-3.2
KAB				Smax			
	comp=N,318nm,1.4s						
BOD	**Bodaibo**	**3.87**	**23**	*e*Pn	Pn	02 24 49.3	-0.1
BOD				*e*Pg	Pb	02 24 57.3	-0.5
BOD				*e*		02 25 36.5	
BOD				*i* Sg	Sb	02 25 47.0	+1.9
BOD				*e*SgSg	SbSb	02 25 50.0	-0.2
BOD				Pmax			
	comp=N,7.0nm,0.3s						
BOD				max			
	comp=N,68nm,1.5s						
LSTR	**Listvyanka**	**4.54**	**240**	⇓*i*Pn	Pn	02 24 58.4	-0.3
LSTR				*e*Pg	Pb	02 25 10.0	+0.7
LSTR				*e*		02 25 15.4	
LSTR				*e*		02 26 00.3	
LSTR				*e*Sg	Sb	02 26 09.0	+4.5
LSTR				*e*		02 26 14.1	
LSTR				max			
	comp=N,7.0nm,0.6s						
LSTR				max			
	comp=N,45nm,1.9s						
KPC	**Khapcheranga**	**4.66**	**170**	*e*PN	Pn	02 25 01.4	+0.9
KPC				*e*		02 25 13.8	
KPC				*e*		02 26 13.4	
KPC				pmax	pmax		
	comp=Z,11nm,0.6s						
KPC				smax	smax		
	comp=E,89nm,1.2s						
KPC	**Khapcheranga**	**4.66**	**170**	*e*Pn	Pn	02 25 01.7	+1.2
KPC				*e*Pg	Pb	02 25 12.2	+0.7
KPC				*e*		02 25 52.6	
KPC				*e*Sg	Sb	02 26 13.4	+5.2
KPC				Pmax			
	comp=E,13nm,0.8s						
KPC				Smax			
	comp=E,89nm,1.2s						
CRS	**Chara**	**4.79**	**54**	*e*Pn	Pn	02 25 03.9	+1.7
CRS				*e*Pg	Pb	02 25 13.5	-0.2
CRS				*e*Sg	Sg	02 26 17.4	-5.4
CRS				Smax			
	comp=E,138nm,1.6s						
TUP	**Tupik**	**5.13**	**85**	*e*PN	Pn	02 25 06.2	-0.7
TUP				*e*		02 25 20.9	
TUP				*e*S	Sn	02 26 04.9	-1.9
TUP				*e*		02 26 27.2	
TUP				pmax	pmax		
	comp=Z,5.0nm,0.3s						
TUP				smax	smax		
	comp=N,108nm,1.0s						
TUP	**Tupik**	**5.13**	**85**	⇑*i*Pn	Pn	02 25 06.5	-0.4
TUP				*e*Pg	Pb	02 25 20.8	+1.3
TUP				*e*Sn	Sn	02 26 02.9	-3.9
TUP				*e*Sg	Sg	02 26 27.9	-5.9
TUP				Pmax			
	comp=N,4.0nm,0.4s						
TUP				Smax			
	comp=N,141nm,2.0s						
TLY	**Talaya**	**5.25**	**243**	*e*Sg	Sg	02 26 31.6	-6.1
TLY				Smax			
	comp=N,37nm,1.1s						
KHNR	**Khani**	**5.64**	**59**	*e*Sg	Sg	02 26 45.7	-4.3
ARS	**Arshan**	**5.79**	**249**	*e*PN	Pb	02 25 33.2	+2.5
ARS				*e*		02 26 46.5	
ARS				pmax	pmax		
	comp=Z,5.0nm,0.1s						
ARS				smax	smax		
	comp=E,56nm,0.8s						
ARS	**Arshan**	**5.79**	**249**	*e*Pg	Pb	02 25 31.2	+0.5
ARS				*e*Sg	Sb	02 26 46.9	+6.3
ARS				Pmax			
	comp=E,5.0nm,0.1s						
ARS				Smax			
	comp=E,61nm,1.0s						
ZAK	**Zakamensk**	**6.23**	**234**	*e*Sg	Sg	02 27 03.5	-5.7
ZAK				Smax			
	comp=E,14nm,2.0s						
MOY	**Mondy**	**6.69**	**251**	*e*Sg	Sb	02 27 15.2	+8.5
MOY				Smax			
	comp=E,37nm,1.2s						
ULN	**Ulaanbaatar**	**6.95**	**204**	*e*	Pg	02 26 56.8	+55
ULN				*e*Sg	Sg	02 27 23.9	-8.4
ULN				*e*		02 27 30.5	
ORL	**Orlik**	**7.02**	**260**	*e*	Pn	02 25 21.3	-12
ORL				*e*Sn	Sn	02 26 51.9	-1.6
ORL				*e*Sg	Sg	02 27 26.1	-8.5
ORL				Smax			
	comp=E,32nm,1.4s						
IENR	**Iengra**	**8.05**	**71**	*e*	Pn	02 25 53.3	+6.4
IENR				*e*Pg	Pb	02 26 12.9	+3.8
IENR				*e*		02 27 41.5	
IENR				*e*Sg	Sg	02 27 58.6	-8.7

JMA 04 02:24:31.0±0.2,25°.80N×126°.69E,h12km±4km,M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.53**	**9**	P	Pg	02 24 41.5	+0.1
JKE				S	Sg	02 24 48.8	+0.3
JAGN	**Aguni-jima**	**0.93**	**32**	P	Pg	02 24 48.4	-0.6
JAGN				S	Sg	02 25 01.0	-0.1
NAH1	**Naha**	**0.98**	**66**	P	Pb	02 24 49.9	-0.1
NAH1				*e*S	Sg	02 25 02.2	-0.7
JJT2	**Tamagusuku 2**	**1.01**	**70**	P	Pb	02 24 49.7	-0.7
JJT2				*e*S	Sg	02 25 03.3	-0.4
JMJ	**Miyako jima 2**	**1.60**	**232**	P	Pn	02 24 59.7	+0.6
JMJ				S	Sn	02 25 19.7	0.0
JIH	**Iheya**	**1.68**	**43**	P	Pb	02 25 01.6	-0.3
JOW	**Kunigami**	**1.75**	**54**	P	Pn	02 25 02.2	+0.9
JTJ	**Tarama**	**2.14**	**238**	P	Pn	02 25 07.1	+0.6
JTJ				*e*S	Sn	02 25 33.5	+0.5
JIJ	**Ishigaki jima**	**2.72**	**239**	P	Pn	02 25 15.7	+1.2
JIJ				S	Sn	02 25 48.2	+0.9
JTK	**Tokunoshima**	**2.83**	**45**	P	Pn	02 25 17.0	+1.0
JKRS	**Kuro-shima**	**2.89**	**238**	P	Pn	02 25 18.1	+1.3
JAM	**Amami Oshima**	**3.68**	**44**	P	Pn	02 25 29.5	+1.8

ISCJB ***04*** *02:30:30.7±0.4,38°.37N±0°.03×22°.41E±0°.03,h7km±4km, Error ellipse: s-maj=5.1km s-min=3.4km az=168.7*
THE ***04*** *02:30:30.9,38°.37N×22°.40E,h7km±2km,ML2.1/3,Error ellipse: s-maj=2.7km s-min=0.4km az=72.0*
ATH ***04*** *02:30:31.6,38°.38N×22°.41E,h13km,MD2.8/6*
CSEM ***04*** *02:30:31.0±0.2,38°.41N×22°.39E,h2km,ML2.1/3,Error ellipse: s-maj=3.6km s-min=3.1km az=158.0*
ISC 04 02:30:30.9±0.9,38°.38N±0°.03×22°.40E±0°.02,h7km±7km, n25,σ0°55/46,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSF	**Desfina**	**0.10**	**73**	P	**Pg**	**02 30 33.1**	**-0.3**
DSF				S	**Sg**	**02 30 35.1**	**0.0**
DSF	**Desfina**	**0.10**	**73**	P	**Pg**	**02 30 33.1**	**-0.3**
DSF				S	**Sg**	**02 30 35.1**	**0.0**
KALE	**Kalithea**	**0.20**	**273**	P	**Pg**	**02 30 35.0**	**-0.1**
KALE				S	**Sg**	**02 30 38.5**	**+0.6**
KALE	**Kalithea**	**0.20**	**273**	P	**Pg**	**02 30 35.0**	**-0.1**
KALE				S	**Sg**	**02 30 38.5**	**+0.6**
TRIZ	**Trizonia**	**0.26**	**267**	P	**Pg**	**02 30 35.9**	**-0.1**
TRIZ				S	**Sg**	**02 30 39.4**	**-0.1**
TRIZ	**Trizonia**	**0.26**	**267**	P	**Pg**	**02 30 35.9**	**-0.1**
TRIZ				S	**Sg**	**02 30 39.4**	**-0.1**
LAKA	**Lakka**	**0.36**	**247**	P	**Pg**	**02 30 38.1**	**+0.1**
LAKA	**Lakka**	**0.36**	**247**	P	**Pg**	**02 30 38.1**	**+0.1**
EFP	**Efpalio**	**0.39**	**277**	P	**Pg**	**02 30 38.1**	**-0.4**
EFP				S	**Sg**	**02 30 44.3**	**+0.6**
EFP	**Efpalio**	**0.39**	**277**	*e*PG	**Pg**	**02 30 38.2**	**-0.3**
EFP				*e*SB	**Sb**	**02 30 45.4**	**-0.9**
EFP	**Efpalio**	**0.39**	**277**	*e*Pg	**Pg**	**02 30 38.2**	**-0.3**
EFP				S	**Sg**	**02 30 44.3**	**+0.6**
EFP				*e*Sb	**Sb**	**02 30 45.4**	**-0.9**
AXAR	**Agios Charalam**	**0.44**	**28**	P	**Pg**	**02 30 39.0**	**-0.4**
AXAR				S	**Sg**	**02 30 46.3**	**+1.1**
AXAR	**Agios Charalam**	**0.44**	**28**	P	**Pg**	**02 30 39.0**	**-0.4**
AXAR				S	**Sg**	**02 30 46.3**	**+1.1**
GUR	**Goura**	**0.45**	**186**	P	**Pg**	**02 30 39.5**	**-0.1**
GUR	**Goura**	**0.45**	**186**	*e*PB	**Pg**	**02 30 39.7**	**+0.1**
GUR				*e*SB	**Sb**	**02 30 47.3**	**-0.7**
GUR	**Goura**	**0.45**	**186**	P	**Pg**	**02 30 39.5**	**-0.1**
GUR				*e*Sb	**Sb**	**02 30 47.3**	**-0.7**
LKR	**Lokris**	**0.54**	**60**	P	**Pg**	**02 30 40.8**	**-0.6**
LKR				S	**Sg**	**02 30 49.4**	**+0.9**
LKR	**Lokris**	**0.54**	**60**	*e*PB	**Pg**	**02 30 40.9**	**-0.5**
LKR				*e*SB	**Sg**	**02 30 49.5**	**+0.9**
LKR	**Lokris**	**0.54**	**60**	*e*Pb	**Pg**	**02 30 40.9**	**-0.5**
LKR				S	**Sg**	**02 30 49.4**	**+0.9**
LTK	**Loutraki**	**0.57**	**128**	*e*PB	**Pb**	**02 30 43.2**	**0.0**
LTK				*e*SB	**Sb**	**02 30 51.0**	**-0.5**
LTK	**Loutraki**	**0.57**	**128**	*e*Pb	**Pb**	**02 30 43.2**	**0.0**
LTK				*e*Sb	**Sb**	**02 30 51.0**	**-0.5**
EVR	**Evrytania**	**0.71**	**319**	*e*PB	**Pb**	**02 30 45.5**	**-0.1**
EVR				*e*SB	**Sb**	**02 30 55.2**	**-0.4**
EVR	**Evrytania**	**0.71**	**319**	*e*Pb	**Pb**	**02 30 45.5**	**-0.1**
EVR				*e*Sb	**Sb**	**02 30 55.2**	**-0.4**
THL	**Klokotos Trika**	**1.22**	**346**	*e*PB	**Pn**	**02 30 54.8**	**+0.4**
THL	**Klokotos Trika**	**1.22**	**346**	*e*Pb	**Pn**	**02 30 54.8**	**+0.4**

ISCJB ***04*** *02:30:38.3±0.7,40°.15N±0°.03×23°.94E±0°.05,h12km±4km, Error ellipse: s-maj=6.5km s-min=5.0km az=33.2*
THE ***04*** *02:30:38.4,40°.16N×23°.99E,h8km±4km,ML2.2/2,Error ellipse: s-maj=4.2km s-min=0.8km az=25.0*
ATH ***04*** *02:30:38.0,40°.13N×23°.98E,h15km±5km,MD2.9/5*
CSEM ***04*** *02:30:38.4±0.3,40°.16N×23°.98E,h5km,ML2.2/2,Error ellipse: s-maj=5.8km s-min=4.5km az=161.0*
ISC 04 02:30:37.4±1.0,40°.14N±0°.03×24°.04E±0°.03,h14km±8km, n19,σ0°45/34,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.20**	**348**	P	**Pb**	**02 30 42.0**	**-0.8**
OUR				S	**Sg**	**02 30 44.8**	**-0.2**
OUR	**Ouranopolis**	**0.20**	**348**	P	**Pb**	**02 30 42.0**	**-0.8**
OUR				S	**Sg**	**02 30 44.8**	**-0.2**
PAIG	**Paliouri**	**0.35**	**232**	P	**Pg**	**02 30 44.8**	**+0.3**
PAIG				S	**Sg**	**02 30 49.7**	**+0.3**
PAIG	**Paliouri**	**0.35**	**232**	P	**Pg**	**02 30 44.8**	**+0.3**
PAIG				S	**Sg**	**02 30 49.7**	**+0.3**
PLG	**Polygyros**	**0.51**	**297**	P	**Pg**	**02 30 47.6**	**+0.1**
PLG				S	**Sg**	**02 30 54.4**	**+0.1**
PLG	**Polygyros**	**0.51**	**297**	*e*PB	**Pg**	**02 30 47.6**	**+0.1**
PLG				*e*SB	**Sg**	**02 30 54.1**	**-0.2**
PLG	**Polygyros**	**0.51**	**297**	P	**Pg**	**02 30 47.6**	**+0.1**
PLG				*e*Sb	**Sg**	**02 30 54.1**	**-0.2**
PLG				S	**Sg**	**02 30 54.4**	**+0.1**
SOH	**Sokhos**	**0.85**	**323**	P	**Pb**	**02 30 54.0**	**-0.1**
SOH				S	**Sg**	**02 31 05.2**	**0.0**
SOH	**Sokhos**	**0.85**	**323**	*e*PN	**Pb**	**02 30 54.0**	**-0.1**
SOH				*e*SN	**Sb**	**02 31 05.4**	**0.0**
SOH	**Sokhos**	**0.85**	**323**	P	**Pb**	**02 30 54.0**	**-0.1**
SOH				S	**Sg**	**02 31 05.2**	**0.0**
KAVA	**Kavala**	**0.93**	**23**	P	**Pb**	**02 30 55.2**	**-0.1**
KAVA	**Kavala**	**0.93**	**23**	P	**Pb**	**02 30 55.2**	**-0.1**
SRS	**Serrai**	**1.03**	**341**	P	**Pn**	**02 30 57.7**	**+0.2**
SRS	**Serrai**	**1.03**	**341**	P	**Pn**	**02 30 57.7**	**+0.2**
NEO	**Neokhori**	**1.04**	**217**	*e*PN	**Pg**	**02 30 57.0**	**-0.6**
NEO				*e*SN	**Sg**	**02 31 10.9**

ISCJB ***04*** *02:32:40.9±0.6, 16°29N±0°05×145°48E±0°06, h449km, 7km, mb4.0/39, Error ellipse: s-maj=9.3km s-min=8.1km az=161.1*

IDC ***04*** *02:32:40.9±0.7, 16°29N×145°68E, h441km±7km, mb3.6/23, mb1 3.7/26, mb1mx3.6/33, mbtmp3.6/26, Error ellipse: s-maj=13.8km s-min=8.3km az=85.0*

NEIC ***04*** *02:32:42.0±0.6, 16°27N×145°62E, h453km±7km, mb4.2/11, Error ellipse: s-maj=9.4km s-min=6.5km az=84.0*

ISC 04 02:32:41.6±0.7, 16°26N±0°07×145°6E±0°1, h449km±7km, n216, σ0°74/231, mb4.1/39, 69C-69D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.75**	**196**	P	**P**	**P**	**02 33 46.9**	**0.0**
GUMO				S	**S**	**S**	**02 34 37.6**	**-2.0**
GUMO	**Guam**	**2.75**	**196**	P	**P**	**P**	**02 33 46.9**	**0.0**
	102nm,0.3s,baz=170,slow=5.2,SNR=20							
GUMO				S	**S**	**S**	**02 34 37.6**	**-2.0**
	218nm,0.3s,baz=168,slow=7.7,SNR=14							
CBIJ	**Chichi jima**	**11.25**	**344**	P	**P**	**P**	**02 35 13.2**	**+1.0**
CBIJ	**Chichi jima**	**11.25**	**344**	P	**P**	**P**	**02 35 13.2**	**+1.0**
	8.7nm,0.3s,baz=284,slow=20,SNR=3.9							
JOW	**Kunigami**	**19.25**	**306**	P	**P**	**P**	**02 36 36.7**	**+0.5**
JOW	**Kunigami**	**19.25**	**306**	P	**P**	**P**	**02 36 36.7**	**+0.5**
	1.4nm,0.3s,baz=124,slow=12,SNR=4.8							
MJAR	**Matsushiro Arr**	**21.25**	**343**	P	**P**	**P**	**02 36 54.4**	**+0.1**
MJAR	**Matsushiro Arr**	**21.25**	**343**	P	**P**	**P**	**02 36 54.4**	**+0.1**
	3.0nm,0.6s,baz=167,slow=9.2,SNR=5.2							
JNU	**Nakatsue**	**21.44**	**324**	P	**P**	**P**	**02 36 56.0**	**-0.1**
JNU	**Nakatsue**	**21.44**	**324**	P	**P**	**P**	**02 36 56.0**	**-0.1**
	11nm,0.8s,baz=99,slow=6.2,SNR=5.5							
PMG	**Port Moresby**	**25.54**	**177**	P	**P**	**P**	**02 37 33.3**	**+0.3**
PMG	**Port Moresby**	**25.54**	**177**	P	**P**	**P**	**02 37 33.3**	**+0.3**
	11nm,0.7s,baz=357,slow=3.5,SNR=3.6							
KSRS	**Korea Array**	**26.28**	**327**	P	**P**	**P**	**02 37 39.2**	**-0.1**
	1.7nm,0.7s,baz=143,slow=9.5,SNR=6.1							
KSAR	**Wonju Array Be**	**26.29**	**327**	P	**P**	**P**	**02 37 39.2**	**-0.2**
CTA	**Charters Tower**	**36.12**	**179**	*eP*	**P**	**P**	**02 39 05.5**	**+1.2**
	12nm,1.5s							
WRAB	**Tennant Creek**	**37.64**	**198**	*eP*	**P**	**P**	**02 39 17.4**	**+0.5**
	19nm,1.1s							
WRA	**Warramunga Arr**	**37.65**	**198**	P	**P**	**P**	**02 39 17.4**	**+0.4**
WRA				PcP	**PcP**	**PcP**	**02 41 23.8**	**+0.6**
WRA				ScP	**ScP**	**ScP**	**02 44 26.2**	**-1.3**
WRA	**Warramunga Arr**	**37.65**	**198**	P	**P**	**P**	**02 39 17.4**	**+0.4**
	9.2nm,0.9s,baz=21,slow=9.3,SNR=27							
WRA				PcP	**PcP**	**PcP**	**02 41 23.8**	**+0.6**
	0.9nm,0.4s,baz=16,slow=3.4,SNR=4.1							
WRA				ScP	**ScP**	**ScP**	**02 44 26.2**	**-1.3**
	1.5nm,0.9s,baz=8.5,slow=3.5,SNR=3.8							
FITZ	**Fitzroy Crossi**	**39.41**	**211**	*eP*	**P**	**P**	**02 39 32.0**	**+0.6**
	17nm,1.9s							
AS31	**Alice Springs**	**41.30**	**196**	*eP*	**P**	**P**	**02 39 47.0**	**+0.4**
ASAR	**Alice Springs**	**41.30**	**196**	P	**P**	**P**	**02 39 47.1**	**+0.6**
ASAR				PcP	**PcP**	**PcP**	**02 41 35.4**	**+0.3**
ASAR				ScP	**ScP**	**ScP**	**02 44 40.5**	**-1.3**
ASAR	**Alice Springs**	**41.30**	**196**	P	**P**	**P**	**02 39 47.1**	**+0.6**
	1.8nm,0.6s,baz=21,slow=8.0,SNR=22							
ASAR				PcP	**PcP**	**PcP**	**02 41 35.4**	**+0.3**
	1.1nm,0.6s,baz=25,slow=3.2,SNR=7.5							
ASAR				ScP	**ScP**	**ScP**	**02 44 40.5**	**-1.3**
	1.2nm,0.8s,baz=22,slow=4.1,SNR=6.6							
CMAR	**Chiang Mai Arr**	**44.52**	**280**	P	**P**	**P**	**02 40 12.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**44.52**	**280**	P	**P**	**P**	**02 40 12.9**	**+0.8**
	0.6nm,0.4s,baz=75,slow=5.8,SNR=4.1							
SONM	**Songino Array**	**45.02**	**323**	P	**P**	**P**	**02 40 16.6**	**+0.9**
SONM				PcP	**PcP**	**PcP**	**02 41 47.5**	**0.0**
SONM	**Songino Array**	**45.02**	**323**	P	**P**	**P**	**02 40 16.6**	**+0.9**
	0.4nm,0.4s,baz=130,slow=6.8,SNR=8.3							
SONM				PcP	**PcP**	**PcP**	**02 41 47.5**	**0.0**
	0.5nm,0.6s,baz=144,slow=3.9,SNR=3.7							
STKA	**Stephens Creek**	**48.02**	**185**	*eP*	**P**	**P**	**02 40 39.0**	**+0.5**
	8.7nm,2.1s							
STKA	**Stephens Creek**	**48.02**	**185**	*eP*	**P**	**P**	**02 40 39.0**	**+0.5**
	4.9nm,1.1s							
STKA	**Stephens Creek**	**48.02**	**185**	P	**P**	**P**	**02 40 39.0**	**+0.5**
	1.8nm,0.3s,baz=358,slow=7.9,SNR=15							
FORT	**Forrest**	**49.73**	**200**	*eP*	**P**	**P**	**02 40 52.1**	**+0.8**
	9.2nm,0.6s							
ZALV	**Zalesovo Beam**	**59.91**	**323**	P	**P**	**P**	**02 42 02.1**	**-0.7**
ZALV	**Zalesovo Beam**	**59.91**	**323**	P	**P**	**P**	**02 42 02.1**	**-0.7**
	0.7nm,0.4s,baz=98,slow=8.8,SNR=4.6							
MK31	**Makanchi Array**	**60.12**	**315**	*eP*	**P**	**P**	**02 42 04.5**	**+0.2**
MKAR	**Makanchi Array**	**60.12**	**315**	*eP*	**P**	**P**	**02 42 04.8**	**+0.4**
MKAR				PcP	**PcP**	**PcP**	**02 42 44.2**	**-0.5**
MKAR	**Makanchi Array**	**60.12**	**315**	P	**P**	**P**	**02 42 04.7**	**+0.4**
	1.6nm,0.5s,baz=91,slow=8.5,SNR=29							
MKAR				PcP	**PcP**	**PcP**	**02 42 44.2**	**-0.5**
	1.2nm,0.7s,baz=90,slow=6.3,SNR=7.5							
KDAK	**Kodiak Island**	**61.43**	**33**	P	**P**	**P**	**02 42 12.6**	**-0.1**
KDAK	**Kodiak Island**	**61.43**	**33**	P	**P**	**P**	**02 42 12.6**	**-0.1**
	3.5nm,0.7s,baz=212,slow=9.5,SNR=4.7							
KURK	**Kurchatov**	**63.05**	**319**	*eP*	**P**	**P**	**02 42 23.3**	**-0.1**
	6.7nm,1.1s							
KURBB	**Kurchatov Arra**	**63.09**	**319**	P	**P**	**P**	**02 42 23.6**	**-0.2**
	7.1nm,0.7s,baz=99,slow=6.6,SNR=62							
COLD	**Coldfoot**	**65.21**	**23**	*eP*	**P**	**P**	**02 42 37.9**	**+0.9**
	5.4nm,1.0s							
ILAR	**Eielson Array**	**65.86**	**26**	P	**P**	**P**	**02 42 39.5**	**-1.6**
ILAR	**Eielson Array**	**65.86**	**26**	P	**P**	**P**	**02 42 39.5**	**-1.6**
	2.9nm,0.8s,baz=250,slow=5.9,SNR=36							
KKAR	**Karatay Array**	**68.28**	**310**	*eP*	**P**	**P**	**02 42 56.8**	**+0.2**
	7.1nm,1.0s							
BVAR	**Borovoye Array**	**68.31**	**321**	P	**P**	**P**	**02 42 56.3**	**-0.2**
BVAR	**Borovoye Array**	**68.31**	**321**	P	**P**	**P**	**02 42 56.3**	**-0.2**
	2.9nm,0.7s,baz=100,slow=5.9,SNR=17							
BRVK	**Borovoye**	**68.38**	**321**	*eP*	**P**	**P**	**02 42 57.2**	**+0.3**
	3.2nm,0.9s							
INK	**Inuvik**	**71.63**	**23**	*eP*	**P**	**P**	**02 43 15.9**	**-0.2**
	75nm,2.6s							
DLBC	**Dease Lake**	**73.35**	**33**	P	**P**	**P**	**02 43 27.1**	**+0.7**
DLBC	**Dease Lake**	**73.35**	**33**	P	**P**	**P**	**02 43 27.1**	**+0.7**
	3.0nm,0.5s,baz=85,slow=8.2,SNR=3.1							
ABKAR	**Akbulak array**	**75.08**	**317**	*eP*	**P**	**P**	**02 43 35.6**	**-0.7**
	4.0nm,0.8s							
BMW	**Boistfort Moun**	**79.17**	**45**	*eP*	**P**	**P**	**02 43 57.4**	**-1.5**
YKA	**Yellowknife Ar**	**80.17**	**28**	P	**P**	**P**	**02 44 03.2**	**-0.5**
YKA	**Yellowknife Ar**	**80.17**	**28**	P	**P**	**P**	**02 44 03.2**	**-0.5**
	2.9nm,0.8s,baz=287,slow=5.3,SNR=37							
HUMO	**Hull Mountain**	**80.20**	**49**	*eP*	**P**	**P**	**02 44 05.9**	**+1.5**
	63nm,2.8s							
YBH	**Yreka Blue Hor**	**80.58**	**49**	P	**P**	**P**	**02 44 07.5**	**+1.1**
YBH	**Yreka Blue Hor**	**80.58**	**49**	P	**P**	**P**	**02 44 07.6**	**+1.1**
	2.6nm,0.6s,baz=6.5,slow=1.6,SNR=9.7							
ETW	**Entiat**	**80.84**	**43**	*eP*	**P**	**P**	**02 44 07.9**	**+0.1**
RES	**Resolute Bay**	**81.80**	**14**	P	**P**	**P**	**02 44 12.2**	**+0.3**
RES	**Resolute Bay**	**81.80**	**14**	P	**P**	**P**	**02 44 12.2**	**+0.3**
	3.2nm,0.6s,baz=330,slow=4.8,SNR=24							
NEW	**Newport**	**82.76**	**42**	⇑P	**P**	**P**	**02 44 17.7**	**+0.3**
	baz=83							
WCN	**Washoe City**	**83.36**	**51**	⇓P	**P**	**P**	**02 44 21.4**	**+0.6**
	baz=83							
C11A	**Tepee Creek (N**	**83.44**	**42**	⇑P	**P**	**P**	**02 44 21.3**	**+0.4**
	baz=83							
BMO	**Blue Mountains**	**83.59**	**45**	*eP*	**P**	**P**	**02 44 22.2**	**+0.4**
	3.5nm,0.9s							
B12A	**Libby**	**83.68**	**41**	⇑P	**P**	**P**	**02 44 22.2**	**+0.2**
	baz=84							
C12B	**Naegeli Ranch,**	**83.98**	**42**	⇑P	**P**	**P**	**02 44 24.2**	**+0.6**
	baz=84							
KEV	**Kevo**	**84.22**	**342**	*ep*	**P**	**P**	**02 44 22.9**	**-1.3**
	0.7nm,0.4s							
D12A	**Red Ives Fores**	**84.25**	**43**	⇑P	**P**	**P**	**02 44 25.2**	**+0.2**
	baz=84							
A13A	**Flathead Natio**	**84.28**	**41**	⇑P	**P**	**P**	**02 44 25.7**	**+0.6**
	baz=84							
E12A	**Beaver Dam Sad**	**84.30**	**43**	⇑P	**P**	**P**	**02 44 25.8**	**+0.5**
	baz=84							
BSMT	**Bassoo Peak**	**84.38**	**42**	*eP*	**P**	**P**	**02 44 26.1**	**+0.3**
B13A	**Whitefish**	**84.42**	**41**	⇓P	**P**	**P**	**02 44 26.5**	**+0.8**
	baz=84							
PKM	**Peak Mountain**	**84.50**	**55**	⇑P	**P**	**P**	**02 44 27.5**	**+0.9**
	baz=84							
C13A	**Hot Springs**	**84.57**	**42**	⇑P	**P**	**P**	**02 44 26.9**	**+0.4**
	baz=84							
NVAR	**Mina Array Bea**	**84.69**	**52**	P	**P**	**P**	**02 44 28.2**	**+0.7**
NVAR	**Mina Array Bea**	**84.69**	**52**	P	**P**	**P**	**02 44 28.2**	**+0.7**
	3.4nm,0.6s,baz=267,slow=5.8,SNR=26							
F12A	**Elk City**	**84.71**	**44**	⇓P	**P**	**P**	**02 44 28.6**	**+1.2**
	baz=85							
ARCES	**ARCESS Array B**	**84.78**	**342**	P	**P**	**P**	**02 44 26.4**	**-0.7**
ARCES	**ARCESS Array B**	**84.78**	**342**	P	**P**	**P**	**02 44 26.4**	**-0.7**
	3.2nm,0.7s,baz=69,slow=6.6,SNR=8.5							
VES	**Vestal, Richgr**	**84.82**	**54**	⇑P	**P**	**P**	**02 44 28.1**	**+0.2**
	baz=85							
D13A	**Huson**	**84.82**	**43**	⇓P	**P**	**P**	**02 44 27.7**	**-0.2**
	baz=85							
G12A	**Big Creek, Yel**	**84.86**	**45**	⇑P	**P**	**P**	**02 44 27.9**	**-0.2**
	baz=85							
A14A	**Double T Ranch**	**84.89**	**41**	⇑P	**P**	**P**	**02 44 28.6**	**+0.5**
	baz=85							
MFID	**Camas Ranch**	**85.03**	**46**	⇑P	**P**	**P**	**02 44 29.3**	**+0.3**
	baz=85,SNR=9.1							
C14A	**Swan Lake**	**85.07**	**42**	⇓P	**P**	**P**	**02 44 29.1**	**+0.1**
	baz=85							
B14A	**Marquette Ranc**	**85.18**	**41**	⇑P	**P**	**P**	**02 44 30.2**	**+0.5**
	baz=85							
E13A	**Victor**	**85.20**	**43**	⇓P	**P**	**P**	**02 44 30.0**	**+0.3**
	baz=85							
A15A	**Johnson Ranch,**	**85.31**	**40**	⇑P	**P**	**P**	**02 44 30.9**	**+0.7**
	baz=85							
F13A	**Darby**	**85.31**	**44**	⇓P	**P**	**P**	**02 44 30.4**	**+0.1**
	baz=85							
H12A	**Diamond D Ranc**	**85.35**	**45**	⇑P	**P**	**P**	**02 44 31.0**	**+0.4**
	baz=85							
I12A	**Atlanta**	**85.40**	**46**	⇑P	**P**	**P**	**02 44 30.8**	**0.0**
	baz=85,SNR=8.0							
G13A	**Cobalt**	**85.60**	**44**	⇓P	**P**	**P**	**02 44 31.4**	**-0.4**
	baz=86,SNR=7.8							
B15A	**Bradely Ranch,**	**85.64**	**41**	⇑P	**P**	**P**	**02 44 32.0**	**+0.2**
	baz=86							
H13A	**Challis**	**85.75**	**45**	⇓P	**P**	**P**	**02 44 32.6**	**+0.1**
	baz=86,SNR=5.5							
C15A	**Salmond Ranch,**	**85.79**	**41**	⇑P	**P**	**P**	**02 44 33.0**	**+0.4**
	baz=86							
EDW2	**Edwards Air Fo**	**85.95**	**55**	⇓P	**P**	**P**	**02 44 33.6**	**+0.1**
	baz=86							
HLID	**Hailey**	**85.96**	**46**	*eP*	**P**	**P**	**02 44 34.0**	**+0.5**
	4.3nm,0.9s							
HLID	**Hailey**	**85.96**	**46**	⇓P	**P**	**P**	**02 44 33.8**	**+0.3**
	baz=86,SNR=7.9							
MPMC	**Manual Prospec**	**85.99**	**54**	⇓P	**P**	**P**	**02 44 33.9**	**0.0**
	baz=86							
LRMC	**Laurel Mountai**	**86.01**	**54**	⇓P	**P**	**P**	**02 44 34.0**	**+0.1**
	baz=86							
CIS	**Catalina Islan**	**86.04**	**57**	⇑P	**P**	**P**	**02 44 34.3**	**+0.3**
	baz=86							
I13A	**Wildhorse Cree**	**86.06**	**45**	⇑P	**P**	**P**	**02 44 34.4**	**+0.3**
	baz=86,SNR=5.8							
J13A	**Cove Ranch, Pi**	**86.18**	**46**	⇓P	**P**	**P**	**02 44 35.0**	**+0.4**
	baz=86,SNR=7.3							
JOF	**Joensuu**	**86.20**	**335**	*ep*	**P**	**P**	**02 44 31.1**	**-2.9**
	2.7nm,0.7s							
E15A	**Deer Lodge**	**86.22**	**43**	⇓P	**P**	**P**	**02 44 34.8**	**+0.1**
	baz=86							
C16A	**Fuhringer Ranc**	**86.33**	**41**	⇓P	**P**	**P**	**02 44 35.4**	**+0.2**
	baz=86							
H14A	**Leadore**	**86.34**	**45**	⇓P	**P**	**P**	**02 44 36.0**	**+0.7**
	baz=86							
FURC	**Furnace Creek,**	**86.36**	**53**	⇑P	**P**	**P**	**02 44 36.2**	**+0.9**
	baz=86							
BFSC	**Mount Baldy Ra**	**86.39**	**56**	⇓P	**P**	**P**	**02 44 36.1**	**+0.3**
	baz=86							
I14A	**Mackay**	**86.51**	**45**	⇑P	**P**	**P**	**02 44 36.3**	**+0.2**
	baz=86							
F15A	**Butte**	**86.51**	**43**	⇑P	**P**	**P**	**02 44 36.2**	**0.0**
	baz=86							
J14A	**Carey**	**86.66**	**46**	⇓P	**P**	**P**	**02 44 37.8**	**+0.9**
	baz=86							
G15A	**Dillon**	**86.74**	**44**	⇑P	**P**	**P**	**02 44 37.7**	**+0.4**
	baz=87							
GSC	**Goldstone**	**86.75**	**54**	⇑P	**P**	**P**	**02 44 37.9**	**+0.5**
	baz=87							
R11A	**Troy Canyon, C**	**86.75**	**51**	⇓P	**P**	**P**	**02 44 37.6**	**+0.1**
	baz=87							
B17A	**L&G Farms, Che**	**86.75**	**41**	⇑P	**P**	**P**	**02 44 37.5**	**+0.4**
	baz=87							
E16A	**East Helena**	**86.81**	**42**	⇓P	**P**	**P**	**02 44 37.9**	**+0.4**
	baz=87							
H15A	**Lima**	**86.83**	**44**	⇑P	**P**	**P**	**02 44 38.3**	**+0.7**
	baz=87							
MURC	**Murrieta**	**86.95**	**56**	⇑P	**P**	**P**	**02 44 38.7**	**+0.5**
	baz=87							
BBRC	**Big Bear Solar**	**86.97**	**55**	⇑P	**P**	**P**	**02 44 38.7**	**+0.1**
	baz=87							
BOZ	**Bozeman (W)**	**87.15**	**43**	⇑P	**P**	**P**	**02 44 39.9**	**+0.7**
	baz=87							
K14A	**Jones Ranch, D**	**87.15**	**47**	⇑P	**P**	**P**	**02 44 39.9**	**+0.7**
	baz=87							
G16A	**Moss Hill, Enn**	**87.18**	**44**	⇑P	**P**	**P**	**02 44 39.9**	**+0.6**
	baz=87							
HEC	**Hector,Ludlow**	**87.27**	**55**	⇓P	**P**	**P**	**02 44 40.2**	**+0.4**
	baz=87							
L14A	**Malta**	**87.28**	**47**	⇑P	**P**	**P**	**02 44 40.8**	**+1.1**
	baz=87,SNR=5.3							
J15A	**Blackfoot**	**87.38**	**46**	⇓P	**P**	**P**	**02 44 41.2**	**+1.0**
	baz=87							
TUQ	**Turquoise Moun**	**87.40**	**54**	⇑P	**P**	**P**	**02 44 41.3**	**+0.8**
	baz=87							
PFO	**Pinyon Flat Ob**	**87.54**	**56**	⇓P	**P**	**P**	**02 44 41.6**	**+0.4**
	baz=87							
H16A	**Russell Place,**	**87.73**	**44**	⇓P	**P**	**P**	**02 44 43.0**	**+1.0**
	baz=88							
BELC	**Belle Mtn. Jos**	**87.78**	**55**	⇓P	**P**	**P**	**02 44 42.1**	**-0.3**
	baz=88,SNR=5.5							
MONP	**Monument Peak**	**87.78**	**57**	⇓P	**P**	**P**	**02 44 42.8**	**+0.3**
	baz=88							
GMRC	**Granite Mounta**	**87.81**	**55**	⇑P	**P**	**P**	**02 44 42.7**	**+0.3**
	baz=88,SNR=5.5							
I16A	**Newdale**	**87.86**	**45**	⇓P	**P**	**P**	**02 44 43.3**	**+0.8**
	baz=88							
L15A	**Malad City**	**87.89**	**47**	⇑P	**P**	**P**	**02 44 43.0**	**+0.3**
	baz=88							
J16A	**Bone**	**87.98**	**45**	⇑P	**P**	**P**	**02 44 43.0**	**-0.1**
	baz=88							
R13A	**O'Grain Ranch,**	**88.01**	**51**	⇓P	**P**	**P**	**02 44 44.0**	**+0.6**
	baz=88							
M15A	**Larsen Ranch,**	**88.03**	**47**	⇑P	**P**	**P**	**02 44 43.4**	**+0.1**
	baz=88							
K16A	**Soda Springs**	**88.16**	**46**	⇓P	**P**	**P**	**02 44 45.0**	**+1.0**
	baz=88							
N15A	**Stansbury Isla**	**88.17**	**48**	⇑P	**P**	**P**	**02 44 44.4**	**+0.4**
	baz=88							
DUG	**Dugway**	**88.19**	**49**	⇑P	**P**	**P**	**02 44 44.4**	**+0.2**
	baz=88,SNR=7.7							
BC3	**Big Chuckawall**	**88.32**	**56**	⇑P	**P**	**P**	**02 44 45.3**	**+0.6**
	baz=88							
D19A	**Cripps Ranch,**	**88.37**	**41**	⇓P	**P**	**P**	**02 44 45.7**	**+1.0**
	baz=88							
IRM	**Iron Mountain**	**88.40**	**55**	⇑P	**P**	**P**	**02 44 45.6**	**+0.6**
	baz=88							
O15A	**The Old Anders**	**88.41**	**48**	⇓P	**P**	**P**	**02 44 46.4**	**+1.3**
	baz=88							
L16A	**Fish Haven**	**88.55**	**47**	⇑P	**P**	**P**	**02 44 45.9**	**0.0**
	baz=88							
KAF	**Kangasniemi**	**88.60**	**336**	*ep*	**P**	**P**	**02 44 43.2**	**-2.1**
	1.6nm,0.5s							
C20A	**Veseth Ranch,**	**88.71**	**40**	⇑P	**P**	**P**	**02 44 46.7**	**+0.4**
	baz=89							
P15A	**Leamington**	**88.79**	**49**	⇓P	**P**	**P**	**02 44 47.1**	**+0.1**
	baz=89							
D20A	**Manuel Ranch,**	**88.87**	**41**	⇓P	**P**	**P**	**02 44 47.7**	**+0.7**
	baz=89							
L17A	**Cokeville**	**88.91**	**46**	⇓P	**P**	**P**	**02 44 47.7**	**+0.2**
	baz=89							
Y12C	**Blythe**	**89.02**	**55**	⇑P	**P**	**P**	**02 44 48.8**	**+0.9**
	baz=89							
FINES	**FINESS Array B**	**89.06**	**335**	P	**P**	**P**	**02 44 46.0**	**-1.5**
FINES	**FINESS Array B**	**89.06**	**335**	P	**P**	**P**	**02 44 46.0**	**-1.5**
	3.2nm,0.7s,baz=82,slow=4.0,SNR=9.4							
W13A	**Hualapai Mount**	**89.08**	**54**	⇓P	**P**	**P**	**02 44 49.3**	**+0.8**
	baz=89							
J18A	**Kendall Valley**	**89.09**	**45**	⇑P	**P**	**P**	**02 44 48.8**	**+0.4**
	baz=89							
PDMCI	**Parker Dam,Lak**	**89.15**	**55**	⇓P	**P**	**P**	**02 44 49.1**	**+0.6**
	baz=89							
H19A	**Powell**	**89.25**	**43**	⇓P	**P**	**P**	**02 44 50.8**	**+1.9**
	baz=89							
N17A	**Moffit Pass**	**89.35**	**47**	⇑P	**P**	**P**	**02 44 49.7**	**+0.1**
	baz=89							
I19A	**Meeteetse**	**89.48**	**44**	⇑P	**P**	**P**	**02 44 50.7**	**+0.6**
	baz=89							
L18A	**Fontenelle, Gr**	**89.55**	**46**	⇓P	**P**	**P**	**02 44 51.5**	**+1.0**
	baz=89							
PDAR	**Pinedale Array**	**89.57**	**45**	P	**P**	**P**	**02 44 50.5**	**-0.2**
PDAR	**Pinedale Array**	**89.57**	**45**	P	**P**	**P**	**02 44 50.5**	**-0.2**
	0.6nm,0.6s,baz=240,slow=3.6,SNR=6.5							
O17A	**Robinson Place**	**89.69**	**48**	⇑P	**P**	**P**	**02 44 51.7**	**+0.6**
	baz=90							
M18A	**Lyman**	**89.71**	**47**	⇑P	**P**	**P**	**02 44 51.6**	**+0.3**
	baz=90							
J19A	**Crowheart**	**89.73**	**45**	⇓P	**P**	**P**	**02 44 51.7**	**+0.4**
	baz=90							
R16A	**Teasdale**	**89.82**	**50**	⇓P	**P**	**P**	**02 44 52.4**	**+0.5**
	baz=90							
U15A	**North Rim**	**89.86**	**52**	⇓P	**P**	**P**	**02 44 52.8**	**+0.7**
	baz=90							
S16A	**Weppner Ranch,**	**89.93**	**51**	⇓P	**P**	**P**	**02 44 53.0**	**+0.7**
	baz=90							
113A	**Mohawk Valley,**	**89.94**	**56**	⇓P	**P**	**P**	**02 44 52.9**	**+0.8**
	baz=90							
L19A	**Farson**	**89.96**	**46**	⇓P	**P**	**P**	**02 44 53.3**	**+1.0**
	baz=90							
C22A	**Vida**	**90.01**	**40**	⇑P	**P**	**P**	**02 44 53.0**	**+0.7**
	baz=90							
K19A	**Absolon Red Bu**	**90.04**	**45**	⇑P	**P**	**P**	**02 44 52.7**	**0.0**
	baz=90							
D22A	**Cohagen**	**90.07**	**40**	⇑P	**P**	**P**	**02 44 53.5**	**+0.9**
	baz=90							
Y14A	**Wickenburg**	**90.16**	**55**	⇑P	**P**	**P**	**02 44 54.0**	**+0.8**
	baz=90							
N18A	**Larsen Ranch,**	**90.16**	**47**	⇓P	**P**	**P**	**02 44 53.1**	**-0.2**
	baz=90							
O18A	**Roosevelt**	**90.18**	**48**	⇓P	**P**	**P**	**02 44 53.9**	**+0.5**
	baz=90							
SRU	**San Rafael**	**90.23**	**49**	⇓P	**P**	**P**	**02 44 54.0**	**+0.3**
	baz=90							
P18A	**Preston Nutter**	**90.24**	**49**	⇑P	**P**	**P**	**02 44 54.2**	**+0.3**
	baz=90							
R17A	**Hanksville Air**	**90.34**	**50**	⇓P	**P**	**P**	**02 44 54.5**	**+0.4**
	baz=90							
K20A	**Yellowstone Ra**	**90.44**	**45**	⇓P	**P**	**P**	**02 44 55.0**	**+0.4**
	baz=90							
Q18A	**Rafter H Ranch**	**90.52**	**49**	⇓P	**P**	**P**	**02 44 55.2**	**+0.3**
	baz=90							
N19A	**John Jarvie Ra**	**90.53**	**47**	⇓P	**P**	**P**	**02 44 55.1**	**+0.1**
	baz=90							
H21A	**Big Horn, Sher**	**90.54**	**43**	⇓P	**P**	**P**	**02 44 55.5**	**+0.6**
	baz=90							
I21A	**Big Trails, Te**	**90.70**	**44**	⇑P	**P**	**P**	**02 44 55.9**	**+0.2**
	baz=90							
WUAZ	**Wupatki**	**90.87**	**53**	⇓P	**P**	**P**	**02 44 57.3**	**+0.6**
	baz=91							
R18A	**Canyonlands Na**	**90.95**	**50**	⇓P	**P**	**P**	**02 44 56.5**	**-0.6**
	baz=91							
M20A	**Sweetwater, Wa**	**91.00**	**46**	⇓P	**P**	**P**	**02 44 57.7**	**+0.4**
	baz=91							
H22A	**Clearmont**	**91.01**	**43**	⇑P	**P**	**P**	**02 44 57.8**	**+0.7**
	baz=91							
P19A	**Cripple Cowboy**	**91.15**	**48**	⇓P	**P**	**P**	**02 44 58.1**	**+0.1**
	baz=91							
K21A	**Alcova**	**91.19**	**45**	⇓P	**P**	**P**	**02 44 58.5**	**+0.5**
	baz=91							
I22A	**9 Mile Ranch,**	**91.20**	**43**	⇓P	**P**	**P**	**02 44 58.5**	**+0.5**
	baz=91							
X16A	**Lo Mia Camp, P**	**91.21**	**54**	⇑P	**P**	**P**	**02 44 59.0**	**+0.7**
	baz=91							
V17A	**Tonalea, Kykot**	**91.28**	**52**	⇑P	**P**	**P**	**02 44 59.5**	**+1.0**
	baz=91							
G23A	**Biddle**	**91.38**	**42**	⇓P	**P**	**P**	**02 44 59.0**	**+0.3**
	ba

CNB **Canberra Magne** 28.78 240 *e*P P 03 19 41.4 +0.4
comp=Z,87nm,0.9s
PPT2 **Papeete2** 29.18 83 *e*LR LR 03 26 42.8
comp=Z,200nm,26.5s
CTA **Charters Tower** 31.39 270 P P 03 20 03.5 -0.1
CTA **Charters Tower** 31.39 270 ⇓*i*P P 03 20 03.4 -0.3
comp=Z,40nm,0.5s
CTA **Charters Tower** 31.39 270 P P 03 20 03.5 -0.1
comp=Z,46nm,0.4s,baz=92,slow=11,SNR=68
CTAO **Charters Tower** 31.39 270 *e*P P 03 20 03.6 -0.1
CTAO pmax pmax
comp=Z,60nm,0.6s
CTAO **Charters Tower** 31.39 270 *e*P P 03 20 03.6 -0.1
comp=Z,60nm,0.6s
TOO **Toolangi** 32.38 237 *e*P P 03 20 11.8 -0.1
comp=Z,42nm,0.5s
PMG **Port Moresby** 34.41 289 *e*P P 03 20 28.8 -0.5
comp=Z,85nm,0.9s
PMG **Port Moresby** 34.41 289 P P 03 20 29.0 -0.3
comp=Z,79nm,0.8s,baz=113,slow=6.0,SNR=13
STKA **Stephens Creek** 34.65 248 *e*P P 03 20 31.0 -0.1
comp=Z,3.4nm,1.1s
STKA ScP **ScP** 03 25 46.9 +2.2
STKA **Stephens Creek** 34.65 248 *e*P P 03 20 30.6 -0.5
comp=Z,3.2nm,0.3s
STKA **Stephens Creek** 34.65 248 P P 03 20 30.8 -0.2
comp=Z,4.8nm,0.4s,baz=94,slow=9.7,SNR=29
STKA ScP **ScP** 03 25 46.9 +2.2
comp=Z,1.2nm,0.6s,baz=82,slow=2.4,SNR=4.0
COEN **Coen** 36.03 279 *e*P P 03 20 42.4 -0.4
BBOO **Buckleboo** 39.37 247 *e*P P 03 21 08.4 -1.4
comp=Z,227nm,0.8s
AS31 **Alice Springs** 41.95 261 *e*P P 03 21 29.4 -1.2
AS31 *e*ScP **ScP** 03 26 15.5 +2.5
ASAR **Alice Springs** 41.95 261 P P 03 21 29.7 -0.9
ASAR ScP **ScP** 03 26 15.2 +2.2
ASAR **Alice Springs** 41.95 261 P P 03 21 29.7 -0.9
comp=Z,22nm,0.6s,baz=97,slow=7.2,SNR=153
ASAR ScP **ScP** 03 26 15.2 +2.2
comp=Z,4.7nm,0.8s,baz=107,slow=3.6,SNR=17
WB2 **Warramunga Arr** 42.31 266 *e*P P 03 21 31.8 -1.6
WRAB **Tennant Creek** 42.32 266 *e*P P 03 21 32.0 -1.4
WRAB pmax pmax
comp=Z,38nm,0.8s
WRAB **Tennant Creek** 42.32 266 *e*P P 03 21 31.9 -1.4
comp=Z,38nm,0.8s
WRA **Warramunga Arr** 42.32 266 P P 03 21 32.1 -1.4
WRA ScP **ScP** 03 26 16.9 +2.4
WRA **Warramunga Arr** 42.32 266 P P 03 21 32.1 -1.4
comp=Z,25nm,0.3s,baz=96,slow=8.4,SNR=91
WRA ScP **ScP** 03 26 16.9 +2.4
comp=Z,3.5nm,0.7s,baz=96,slow=4.3,SNR=10
FORT **Forrest** 46.23 250 *e*P P 03 22 02.1 -1.4
comp=Z,72nm,0.6s
FORT **Forrest** 46.23 250 *e*P P 03 22 02.0 -1.5
comp=Z,55nm,0.5s
FITZ **Fitzroy Crossi** 50.75 266 *e*P P 03 22 36.8 -0.4
comp=Z,17nm,0.8s
FITZ **Fitzroy Crossi** 50.75 266 *e*P P 03 22 36.9 -0.3
comp=Z,14nm,0.4s
FITZ **Fitzroy Crossi** 50.75 266 P P 03 22 37.0 -0.2
comp=Z,11nm,0.4s,baz=91,slow=7.0,SNR=20
KLBR **Kellerberrin** 54.91 247 *e*P P 03 23 05.3 -1.5
comp=Z,22nm,0.8s
NWAO **Narrogin (SRO)** 55.16 246 P P 03 23 07.6 -0.9
NWAO **Narrogin (SRO)** 55.16 246 P P 03 23 07.6 -0.9
comp=Z,3.7nm,0.3s,baz=106,slow=7.1,SNR=8.9
MBWA **Marble Bar** 55.29 260 *e*P P 03 23 08.0 -1.6
comp=Z,19nm,0.7s
QSPA **South Pole Qui** 66.18 180 P P 03 24 21.6 +0.9
QSPA **South Pole Qui** 66.18 180 P P 03 24 21.6 +0.9
comp=Z,11nm,1.0s,baz=15,slow=1.5,SNR=14
KKM **Kota Kinabalu** 68.82 287 *e*P P 03 24 36.9 -0.8
comp=Z,10nm,0.6s
JOW **Kunigami** 70.93 312 *e*P P 03 24 50.0 +0.2
comp=Z,20nm,1.0s
JOW **Kunigami** 70.93 312 P P 03 24 50.2 +0.4
comp=Z,28nm,0.8s,baz=129,slow=6.6,SNR=9.4
MJAR **Matsushiro Arr** 71.85 326 P P 03 24 54.2 -0.8
MJAR **Matsushiro Arr** 71.85 326 P P 03 24 54.2 -0.8
comp=Z,7.3nm,0.9s,baz=169,slow=6.4,SNR=18
MAJO **Matsushiro** 71.85 326 *e*P P 03 24 54.4 -0.6
MAJO pmax pmax
comp=Z,6.0nm,0.9s
MAJO **Matsushiro** 71.85 326 *e*P P 03 24 54.4 -0.6
comp=Z,6.1nm,0.9s
MAT **Matsushiro** 71.85 326 P P 03 24 54.3 -0.7
JNU **Nakatsue** 73.47 319 P P 03 25 04.0 -0.4
JNU **Nakatsue** 73.47 319 P P 03 25 04.0 -0.4
comp=Z,9.8nm,1.1s,baz=135,slow=5.2,SNR=4.8
ASAJ **Asahikawa** 75.83 333 P P 03 25 18.6 +1.2
ASAJ **Asahikawa** 75.83 333 P P 03 25 18.6 +1.2
comp=Z,4.1nm,0.6s,baz=50,slow=24,SNR=4.5
YSS **Yuzh-Sakhalins** 78.10 335 *i*P P 03 25 30.9 +1.2
YSS pmax pmax
comp=Z,24nm,0.9s
KSRS **Korea Array** 78.19 320 P P 03 25 30.6 +0.2
comp=Z,3.2nm,0.7s,baz=136,slow=5.4,SNR=16
KSAR **Wonju Array Be** 78.21 320 P P 03 25 30.6 +0.2
PETK **Petropavlovsk-** 79.08 347 P P 03 25 34.6 -0.2
PETK pmax pmax
comp=Z,6.0nm,0.8s
PETK **Petropavlovsk-** 79.08 347 P P 03 25 34.6 -0.2
PETK **Petropavlovsk-** 79.08 347 P P 03 25 34.6 -0.2
comp=Z,6.4nm,0.8s,baz=133,slow=6.5,SNR=8.4
QIZ **Qiongzhong** 80.52 296 P P 03 25 42.0 -1.2
QIZ S **S** 03 35 05.9 -0.3
QIZ pmax pmax
comp=Z,12nm,1.4s
NJ2 **Nanjing** 80.60 311 *e*P P 03 25 43.8 +0.6
NJ2 pmax pmax
comp=Z,20nm,0.8s
USRK **Ussuriysk Arra** 80.71 327 P P 03 25 44.2 +0.7
comp=Z,3.6nm,0.7s,baz=103,slow=6.1,SNR=10.0
BSC **Santa Cruz Isl** 81.33 47 ⇓P P 03 25 48.2 +1.2
baz=82
SCI **San Clemente I** 81.47 48 ⇓P P 03 25 48.8 +1.1
baz=82
IPM **Ipoh** 81.68 279 *e*P P 03 25 48.8 -0.5
comp=Z,12nm,0.6s
PKM **Peak Mountain** 81.74 46 ⇑P P 03 25 50.3 +1.0
baz=82,SNR=5.2
SAO **San Andreas Ge** 81.81 44 *e*P P 03 25 50.4 +1.0
SAO pmax pmax
comp=Z,8.0nm,0.9s
SAO **San Andreas Ge** 81.81 44 *e*P P 03 25 50.4 +1.0
comp=Z,7.7nm,0.9s
MDJ **Mudanjiang** 82.22 326 P P 03 25 51.4 +0.1
MDJ pP **pP** 03 27 45.6 -1.2
MDJ sP **sP** 03 28 40.1 -1.3
MDJ S **S** 03 35 22.8 +0.6
MDJ ScS **ScS** 03 35 33.9 0.0
MDJ sS **sS** 03 38 47.6 -0.6
MDJ pmax pmax
comp=Z,9.0nm,1.2s
MDJ pmax pmax
comp=Z,40nm,2.8s
MWC **Mount Wilson** 82.52 48 *e*P P 03 25 53.7 +0.4
MWC pmax pmax
comp=Z,6.0nm,0.8s
MWC **Mount Wilson** 82.52 48 *e*P P 03 25 53.7 +0.4
comp=Z,5.8nm,0.8s
ARVC **Arvin** 82.53 46 ⇑P P 03 25 54.0 +0.9
baz=83
MURC **Murrieta** 82.75 48 ⇓P P 03 25 55.3 +1.0
baz=83
VES **Vestal, Richgr** 82.78 46 ⇑P P 03 25 55.1 +0.8
baz=83
BFSC **Mount Baldy Ra** 82.80 48 ⇓P P 03 25 55.0 +0.4
baz=83
MONP **Monument Peak** 82.89 49 ⇓P P 03 25 56.3 +1.1
baz=83
WHN **Wuhan** 82.94 308 P P 03 25 55.2 0.0
EDW2 **Edwards Air Fo** 82.95 47 ⇑P P 03 25 56.1 +0.9
baz=83,SNR=11
DVTC **Desert V Tower** 82.98 50 ⇓P P 03 25 56.8 +1.3
baz=83
ISA **Isabella** 83.08 46 *e*P P 03 25 56.6 +0.7
ISA pmax pmax
comp=Z,13nm,0.9s
ISA **Isabella** 83.08 46 *e*P P 03 25 56.6 +0.7
comp=Z,13nm,0.9s
ISA **Isabella** 83.08 46 ⇓P P 03 25 56.8 +0.9
baz=83,SNR=14
CMB **Columbia Colle** 83.26 43 *e*P P 03 25 57.1 +0.4
CMB pmax pmax
comp=Z,13nm,1.0s
CMB **Columbia Colle** 83.26 43 *e*P P 03 25 57.1 +0.4
comp=Z,14nm,1.0s
PFO **Pinyon Flat Ob** 83.27 49 ⇑P P 03 25 57.7 +0.7
baz=84
SWSC **Sam W. Stewart** 83.35 50 ⇓P P 03 25 58.2 +1.0
baz=84
OHCM **Honcut** 83.37 42 *e*P P 03 25 57.8 +0.7
LRMC **Laurel Mountai** 83.49 47 ⇑P P 03 25 59.0 +1.0
baz=84
WDC **Whiskeytown Da** 83.51 40 *e*P P 03 25 58.9 +1.1
WDC pmax pmax
comp=Z,10.0nm,1.0s
WDC **Whiskeytown Da** 83.51 40 *e*P P 03 25 58.9 +1.1
comp=Z,9.5nm,1.0s
BELC **Belle Mtn. Jos** 83.80 49 ⇑P P 03 26 00.6 +1.0
baz=84,SNR=13
CN2 **Changchun** 83.84 324 *e*P P 03 25 57.4 -2.0
CN2 *es*P **sP** 03 28 49.0 -1.0
CN2 *e*S **S** 03 35 35.9 -2.3
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
MPMC **Manual Prospec** 83.96 46 ⇑P P 03 26 01.2 +0.7
baz=84,SNR=7.2
BC3 **Big Chuckawall** 83.98 49 ⇓P P 03 26 01.4 +0.8
baz=84,SNR=6.4
GSC **Goldstone** 83.98 47 *e*P P 03 26 01.2 +0.7
GSC pmax pmax
comp=Z,8.0nm,0.8s
GSC **Goldstone** 83.98 47 *e*P P 03 26 01.2 +0.7
comp=Z,8.2nm,0.8s
GSC **Goldstone** 83.98 47 ⇓P P 03 26 00.9 +0.4
baz=84,SNR=8.4
MTUM **Tungsten Hills** 84.01 45 *e*P P 03 26 01.5 +0.8
HEC **Hector,Ludlow** 84.04 48 ⇑P P 03 26 01.4 +0.7
baz=84,SNR=8.6
GLA **Glamis** 84.09 50 *e*P P 03 26 02.7 +1.7
GLA pmax pmax
comp=Z,15nm,0.8s
GLA **Glamis** 84.09 50 *e*P P 03 26 02.7 +1.7
comp=Z,15nm,0.8s
GLA **Glamis** 84.09 50 ⇓P P 03 26 02.2 +1.3
baz=84
YBH **Yreka Blue Hor** 84.14 39 P P 03 26 01.8 +0.7
YBH **Yreka Blue Hor** 84.14 39 P P 03 26 01.8 +0.7
comp=Z,4.1nm,0.9s,baz=242,slow=1.6,SNR=11
WCN **Washoe City** 84.41 43 *e*P P 03 26 03.4 +0.8
WCN pmax pmax
comp=Z,9.0nm,1.1s
WCN **Washoe City** 84.41 43 *e*P P 03 26 03.4 +0.8
comp=Z,8.6nm,1.1s
WCN **Washoe City** 84.41 43 ⇑P P 03 26 03.7 +1.1
baz=85
GMRC **Granite Mounta** 84.47 48 ⇑P P 03 26 03.3 +0.4
baz=85,SNR=5.5
IRM **Iron Mountain** 84.47 49 ⇓P P 03 26 04.0 +1.2
baz=85,SNR=9.7
HUMO **Hull Mountain** 84.55 39 *e*P P 03 26 04.5 +1.5
comp=Z,16nm,1.3s
GRAC **Grapevine Rang** 84.58 46 ⇓P P 03 26 04.3 +1.0
baz=85
FURC **Furnace Creek,** 84.61 46 ⇓P P 03 26 04.6 +1.2
baz=85
TUQ **Turquoise Moun** 84.65 48 ⇑P P 03 26 04.7 +0.9
baz=85
113A **Mohawk Valley,** 84.68 51 ⇑P P 03 26 05.1 +1.3
baz=85
Y12C **Blythe** 84.68 50 ⇑P P 03 26 04.8 +1.0
baz=85,SNR=6.7
NVAR **Mina Array Bea** 84.81 44 P P 03 26 05.0 +0.5
NVAR **Mina Array Bea** 84.81 44 P P 03 26 05.0 +0.5
comp=Z,2.0nm,0.7s,baz=223,slow=8.1,SNR=17
214A **Organ Pipe Nat** 84.93 52 ⇑P P 03 26 06.3 +1.2
baz=85
PDMCI **Parker Dam,Lak** 85.25 49 ⇑P P 03 26 07.8 +1.2
baz=86
114A **Black Gap (USA** 85.30 51 ⇓P P 03 26 07.9 +1.0
baz=86,SNR=5.8
Z14A **Wintersburg** 85.58 51 ⇓P P 03 26 09.3 +1.1
baz=86
MOD **Modoc** 85.65 40 *e*P P 03 26 09.3 +0.8
comp=Z,9.7nm,1.1s
Y14A **Wickenburg** 85.85 50 ⇓P P 03 26 10.2 +0.7
baz=86
W13A **Hualapai Mount** 85.86 49 ⇑P P 03 26 10.8 +1.0
baz=86
ENH **Enshi** 86.37 305 *e*P P 03 26 11.8 -0.2
comp=Z,7.0nm,0.8s
R11A **Troy Canyon, C** 86.51 45 ⇓P P 03 26 13.4 +0.7
baz=87
TUC **Tucson** 86.58 53 *e*P P 03 26 14.4 +1.3
TUC pmax pmax
comp=Z,15nm,1.1s
TUC **Tucson** 86.58 53 *e*P P 03 26 14.3 +1.3
comp=Z,15nm,1.1s
GYA **Guiyang** 86.67 301 *e*P P 03 26 13.2 -0.5
GYA pP **pP** 03 28 11.5 +0.7
GYA sP **sP** 03 29 04.4 -0.6
GYA PP **PP** 03 29 47.8 +1.7
GYA SKS **SKSac** 03 35 47.5 -2.2
GYA S **S** 03 36 05.0 -1.5
GYA pmax pmax
comp=Z,10.0nm,1.0s
WVOR **Wild Horse Val** 86.96 41 *e*P P 03 26 15.0 +0.3
WVOR pmax pmax
comp=Z,14nm,1.4s
WVOR **Wild Horse Val** 86.96 41 *e*P P 03 26 15.0 +0.3
comp=Z,14nm,1.4s
SVW2 **Sparrevohn** 86.99 12 *e*P P 03 26 15.2 +1.1
X16A **Lo Mia Camp, P** 87.20 50 ⇓P P 03 26 17.1 +1.0
baz=88,SNR=7.6
R13A **O'Grain Ranch,** 87.48 46 ⇓P P 03 26 18.4 +1.1
baz=88
CCUT **Cedar City** 87.54 47 *e*P P 03 26 18.8 +1.2
comp=Z,5.9nm,1.0s
X17A **Forest Lakes** 87.61 51 ⇓P P 03 26 19.2 +1.1
baz=88
U15A **North Rim** 87.66 48 ⇓P P 03 26 19.6 +1.3
baz=88
320A **Kipp Ranch, An** 87.75 54 ⇑P P 03 26 20.2 +1.5
baz=88,SNR=9.4
GNW **Green Mountain** 87.78 35 *e*P P 03 26 19.3 +1.1
comp=Z,59nm,2.9s
WUAZ **Wupatki** 87.82 50 *e*P P 03 26 20.3 +1.4
comp=Z,10nm,1.4s
WUAZ **Wupatki** 87.82 50 ⇓P P 03 26 20.0 +1.1
baz=88
Y18A **Canyon Day Jun** 87.87 52 ⇑P P 03 26 20.6 +1.4
baz=88,SNR=10
220A **Playas Peak, P** 88.03 54 ⇓P P 03 26 21.1 +1.2
baz=88,SNR=6.4
120A **U Bar Ranch, L** 88.27 53 ⇓P P 03 26 22.4 +1.3
baz=88
V17A **Tonalea, Kykot** 88.28 50 ⇓P P 03 26 21.7 +0.7
baz=89,SNR=6.3
U16A **Tuba City** 88.31 49 ⇑P P 03 26 22.3 +1.1
baz=89
X18A **Snowflake** 88.31 51 ⇑P P 03 26 22.1 +0.8
baz=89
PLCA **Paso Flores** 88.33 134 *e*P P 03 26 21.7 +0.5
comp=Z,6.8nm,1.4s
PLCA **Paso Flores** 88.33 134 P P 03 26 21.6 +0.4
comp=Z,1.7nm,0.8s,baz=251,slow=10,SNR=3.7
Y19A **Nutrioso** 88.52 52 ⇑P P 03 26 23.4 +1.1
baz=89,SNR=10
Z20A **Nine Sixteen R** 88.58 53 ⇓P P 03 26 23.7 +1.2
baz=89
R15A **Junction** 88.62 47 ⇓P P 03 26 23.8 +1.2
baz=89
221A **Mesquite Ranch** 88.64 54 ⇑P P 03 26 24.0 +1.2
baz=89
XAN **Xi'an** 88.67 308 P P 03 26 23.4 +0.6
XAN pmax pmax
comp=Z,2.0nm,0.9s
HAWA **Hanford** 88.82 37 *e*P P 03 26 23.9 +0.9
comp=Z,9.3nm,0.9s
S16A **Weppner Ranch,** 88.82 48 ⇓P P 03 26 23.7 +0.2
baz=89
MSU **Marysvale** 88.84 47 *e*P P 03 26 24.4 +0.7
MSU **Marysvale** 88.84 47 *e*P P 03 26 24.4 +0.7
U17A **Shonto** 88.87 49 ⇑P P 03 26 24.7 +0.9
baz=89
121A **Cookes Peak, D** 88.89 54 ⇓P P 03 26 24.9 +0.9
baz=89
V18A **Ganado** 88.93 50 ⇓P P 03 26 24.7 +0.6
baz=89
T17A **Navajo Res., N** 88.98 49 ⇓P P 03 26 25.2 +0.9
baz=89,SNR=5.0
ETW **Entiat** 89.12 36 *e*P P 03 26 24.6 0.0
Y20A **Horse Springs,** 89.13 52 ⇓P P 03 26 26.3 +1.1
baz=89,SNR=9.1
BMO **Blue Mountains** 89.17 39 *e*P P 03 26 25.0 +0.1
comp=Z,26nm,2.3s
222A **Williams Famil** 89.19 54 ⇓P P 03 26 26.5 +1.2
baz=90
R16A **Teasdale** 89.19 47 ⇑P P 03 26 26.1 +0.8
baz=90,SNR=7.4
KMI **Kunming** 89.19 298 P P 03 26 26.8 +1.2
KMI pmax pmax
comp=Z,12nm,1.1s
MFID **Camas Ranch** 89.21 41 *e*P P 03 26 25.9 +0.8
comp=Z,69nm,0.4s
MFID **Camas Ranch** 89.21 41 ⇑P P 03 26 26.2 +1.1
baz=90,SNR=6.9
SEY **Seymchan** 89.25 348 *i*P P 03 26 24.6 0.0
S17A **Black Ridge (B** 89.31 48 ⇑P P 03 26 26.1 +0.4
baz=90
DUG **Dugway** 89.32 45 ⇑P P 03 26 26.7 +0.9
baz=90
U18A **Rough Rock, Ch** 89.33 49 ⇓P P 03 26 26.7 +0.7
baz=90
P15A **Leamington** 89.34 46 ⇑P P 03 26 26.8 +0.9
baz=90,SNR=6.5
Z21A **St. Cloud Mine** 89.35 53 ⇓P P 03 26 27.1 +1.0
baz=90,SNR=8.8
X20A **Quemado** 89.36 52 ⇑P P 03 26 27.1 +0.9
baz=90,SNR=6.3
CMAR **Chiang Mai Arr** 89.45 290 P P 03 26 28.1 +1.4
CMAR **Chiang Mai Arr** 89.45 290 P P 03 26 28.1 +1.4
comp=Z,2.3nm,0.4s,baz=134,slow=3.4,SNR=13
122A **Conniff Cattle** 89.55 54 ⇑P P 03 26 28.2 +1.2
baz=90
O15A **The Old Anders** 89.59 45 ⇓P P 03 26 28.4 +1.4
baz=90
CHTO **Chiang Mai** 89.60 291 *e*P P 03 26 28.6 +1.3
CHTO pmax pmax
comp=Z,9.0nm,1.0s
CHTO **Chiang Mai** 89.60 291 *e*P P 03 26 28.6 +1.3
comp=Z,9.1nm,1.0s
W20A **Ramah** 89.64 51 ⇑P P 03 26 28.3 +0.8
baz=90,SNR=9.1
T18A **Mexican Hat** 89.69 49 ⇑P P 03 26 28.1 +0.6
baz=90,SNR=8.8
Y21A **Point of Rocks** 89.69 52 ⇓P P 03 26 28.7 +1.0
baz=90,SNR=13
Q16A **Castle Valley** 89.73 47 ⇓P P 03 26 28.8 +1.1
baz=90
U19A **Dine' College,** 89.73 50 ⇑P P 03 26 28.5 +0.7
baz=90
P16A **Fountain Green** 89.76 46 ⇑P P 03 26 29.0 +1.1
baz=90
R17A **Hanksville Air** 89.78 47 ⇓P P 03 26 28.7 +0.8
baz=90
X21A **Alamocita Cree** 89.82 52 ⇓P P 03 26 29.0 +0.6
baz=90,SNR=7.2
Z22A **Elephant Butte** 89.84 53 ⇑P P 03 26 28.9 +0.6
baz=90,SNR=8.3
I12A **Atlanta** 89.84 41 ⇓P P 03 26 28.6 +0.5
baz=90,SNR=5.7
N15A **Stansbury Isla** 89.88 44 ⇓P P 03 26 28.8 +0.5
baz=90,SNR=5.5
TMUT **Trail Mountain** 89.90 46 *e*P P 03 26 30.0 +1.4
comp=Z,16nm,0.8s
MPU **Maple Canyon** 89.99 46 *e*P P 03 26 30.2 +1.3
comp=Z,7.8nm,0.9s
L14A **Malta** 90.04 43 ⇓P P 03 26 29.6 +0.6
baz=90
324A **Moseley Ranch,** 90.08 55 ⇑P P 03 26 30.0 +0.5
baz=90,SNR=5.5
HLID **Hailey** 90.15 41 *e*P P 03 26 30.4 +0.9
comp=Z,4.8nm,1.1s
HLID **Hailey** 90.15 41 ⇑P P 03 26 30.3 +0.7
baz=90,SNR=6.3
425A **Indio Mountain** 90.15 56 ⇑P P 03 26 30.7 +0.9
baz=90,SNR=5.5
Y22A **Socorro** 90.17 53 ⇑P P 03 26 30.9 +1.0
baz=90,SNR=5.3
HVU **Hansel Valley** 90.19 44 *e*P P 03 26 30.6 +0.8
HVU pmax pmax
comp=Z,18nm,1.5s
HVU **Hansel Valley** 90.19 44 *e*P P 03 26 30.6 +0.8
comp=Z,18nm,1.5s
J13A **Cove Ranch, Pi** 90.20 42 ⇑P P 03 26 30.7 +0.9
baz=90,SNR=7.5
M15A **Larsen Ranch,** 90.23 44 ⇑P P 03 26 30.5 +0.6
baz=90,SNR=8.7
626A **Big Bend Ranch** 90.24 58 ⇑P P 03 26 31.1 +0.9
baz=90,SNR=6.0
W21A **San Fidel** 90.25 51 ⇓P P 03 26 31.3 +1.0
baz=90
SRU **San Rafael** 90.26 47 *e*P P 03 26 30.9 +0.7
SRU pmax pmax
comp=Z,13nm,0.9s
SRU **San Rafael** 90.26 47 *e*P P 03 26 30.9 +0.7
comp=Z,13nm,0.9s
SRU **San Rafael** 90.26 47 ⇑P P 03 26 30.6 +0.5
baz=90,SNR=13
LAZ **Ladron** 90.27 52 *e*P P 03 26 30.9 +0.6
comp=Z,0.7nm,0.9s
MNTX **Cornudas Mount** 90.28 55 ⇓P P 03 26 31.0 +0.8
baz=90,SNR=5.1
P17A **Butcher Ranch,** 90.30 46 ⇓P P 03 26 31.6 +1.2
baz=91
R18A **Canyonlands Na** 90.31 48 ⇑P P 03 26 30.6 +0.2
baz=91,SNR=7.5
224A **Cornudas Mount** 90.35 55 ⇑P P 03 26 31.1 +0.4
baz=91
K14A **Jones Ranch, D** 90.35 43 ⇑P P 03 26 31.1 +0.6
baz=91,SNR=5.1
HHC **Hu-ho-hao-te** 90.36 315 *e*P P 03 26 30.5 0.0
HHC pP **pP** 03 28 29.8 +1.2
HHC sP **sP** 03 29 23.3 +0.8
HHC PP **PP** 03 30 18.0 +3.2
HHC SKS **SKSac** 03 36 10.2 -0.3
HHC S **S** 03 36 37.4 -2.2
HHC sS **sS** 03 40 10.5 -0.2
HHC SS **SS** 03 42 59.5 +2.8
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,120nm,3.9s
Z23A **Rita Site, Whi** 90.39 54 ⇑P P 03 26 31.5 +0.7
baz=91
X22A **Bernardo** 90.41 52 ⇓P P 03 26 31.8 +0.8
baz=91
JLU **Jordanelle** 90.42 45 *e*P P 03 26 31.7 +0.8
comp=Z,25nm,1.9s
H12A **Diamond D Ranc** 90.43 40 ⇓P P 03 26 31.1 +0.3
baz=91
325A **Bean Ranch, Si** 90.44 56 ⇑P P 03 26 31.9 +0.7
baz=91
DAU **Daniels Canyon** 90.45 45 *e*P P 03 26 31.9 +0.7
DAU pmax pmax
comp=Z,5.0nm,1.1s
DAU **Daniels Canyon** 90.45 45 *e*P P 03 26 31.9 +0.7
comp=Z,4.8nm,1.1s
G12A **Big Creek, Yel** 90.48 40 ⇑P P 03 26 31.5 +0.5
baz=91
TXAR **Lajitas Array** 90.50 58 P P 03 26 32.4 +1.0
TXAR **Lajitas Array** 90.50 58 P P 03 26 32.4 +1.0
comp=Z,4.2nm,0.7s,baz=215,slow=6.5,SNR=58
S19A **Harvey Farm, M** 90.50 49 ⇓P P 03 26 31.9 +0.5
baz=91
526A **Mary Lane Ranc** 90.50 57 ⇑P P 03 26 32.4 +0.9
baz=91
Q18A **Rafter H Ranch** 90.51 47 ⇑P P 03 26 31.8 +0.5
baz=91
I13A **Wildhorse Cree** 90.52 41 ⇑P P 03 26 32.0 +0.7
baz=91
L15A **Malad City** 90.56 44 ⇑P P 03 26 31.8 +0.3
baz=91,SNR=7.4
J14A **Carey** 90.56 42 ⇑P P 03 26 32.4 +1.0
baz=91
N16A **Rees Ranch, Co** 90.58 45 ⇓P P 03 26 32.5 +0.8
baz=91
O17A **Robinson Place** 90.67 46 ⇓P P 03 26 33.0 +0.9
baz=91,SNR=16
R19A **Curley Farm, L** 90.69 48 ⇓P P 03 26 32.5 +0.2
baz=91
P18A **Preston Nutter** 90.71 46 ⇓P P 03 26 33.2 +0.8
baz=91
627A **Terlingua Ranc** 90.77 58 ⇑P P 03 26 33.2 +0.6
baz=91,SNR=5.8

H13A	Challis	90.80	41	⇓P		P		03 26 34.0	+1.5
	baz=91								
426A	McDonald Obser	90.83	57	⇑P		P		03 26 33.4	+0.4
	baz=91,SNR=5.2								
K15A	Arbon	90.83	43	⇓P		P		03 26 33.3	+0.6
	baz=91,SNR=5.2								
F12A	Elk City	90.87	39	⇓P		P		03 26 33.2	+0.5
	baz=91								
HWUT	Hardware Ranch	90.87	44	*e*P		P		03 26 33.2	+0.2
	comp=Z,104nm,2.8s								
U21A	Nageezi	90.88	50	⇓P		P		03 26 33.7	+0.5
	baz=91,SNR=12								
225A	Deer Hill, Car	90.89	55	⇑P		P		03 26 33.8	+0.6
	baz=91								
527A	Woodward Ranch	90.91	57	⇑P		P		03 26 33.8	+0.4
	baz=91								
I14A	Mackay	90.93	42	⇑P		P		03 26 34.0	+0.8
	baz=91								
CD2	Chengdu	91.01	303	P		P		03 26 34.4	+0.7
CD2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
CD2					pmax	pmax			
	comp=Z,120nm,6.2s								
ANMO	Albuquerque	91.02	52	*e*P		P		03 26 34.4	+0.6
	comp=Z,64nm,2.7s								
ANMO	Albuquerque	91.02	52	P		P		03 26 34.1	+0.3
	comp=Z,2.2nm,0.8s,baz=223,slow=5.4,SNR=8.1								
Q19A	Hogan Spring (	91.02	47	⇑P		P		03 26 34.3	+0.6
	baz=91								
Z24A	Sheeppen Canyo	91.06	54	⇑P		P		03 26 34.5	+0.5
	baz=91								
S20A	Disappointment	91.08	49	⇑P		P		03 26 34.3	+0.2
	baz=91								
G13A	Cobalt	91.10	40	⇓P		P		03 26 34.5	+0.7
	baz=91								
V22A	San Miguel Ran	91.16	51	⇓P		P		03 26 34.9	+0.4
	baz=91								
L16A	Fish Haven	91.17	44	⇑P		P		03 26 34.6	+0.2
	baz=92,SNR=8.5								
628A	Black Gap, Mar	91.17	58	⇑P		P		03 26 35.0	+0.5
	baz=91								
O18A	Roosevelt	91.19	46	⇑P		P		03 26 35.2	+0.7
	baz=92								
T21A	Navajo Lake	91.24	50	⇑P		P		03 26 35.4	+0.6
	baz=92								
125A	Gardner Draw,	91.27	55	⇑P		P		03 26 35.8	+0.9
	baz=92								
J15A	Blackfoot	91.27	42	⇑P		P		03 26 35.8	+1.1
	baz=92,SNR=6.3								
Y24A	Capitan	91.28	53	⇓P		P		03 26 35.6	+0.6
	baz=92,SNR=9.9								
W23A	Werner Place,	91.34	52	⇓P		P		03 26 36.6	+1.2
	baz=92								
H14A	Leadore	91.36	41	⇓P		P		03 26 36.1	+0.9
	baz=92								
M17A	Scullys Gap (B	91.38	45	⇓P		P		03 26 35.8	+0.4
	baz=92								
S21A	Coal Bank Pass	91.39	49	⇓P		P		03 26 36.2	+0.6
	baz=92								
427A	Hayter Ranch,	91.39	57	⇓P		P		03 26 36.2	+0.7
	baz=92,SNR=6.8								
226A	Malaga, Loving	91.41	55	⇑P		P		03 26 36.0	+0.4
	baz=92								
F13A	Darby	91.42	40	⇓P		P		03 26 35.5	+0.2
	baz=92								
C11A	Tepee Creek (N	91.48	37	⇑P		P		03 26 36.0	+0.6
	baz=92								
K16A	Soda Springs	91.50	43	⇑P		P		03 26 36.8	+1.0
	baz=92								
Z25A	Roswell	91.51	54	⇓P		P		03 26 36.8	+0.8
	baz=92								
D12A	Red Ives Fores	91.54	38	⇑P		P		03 26 37.4	+1.6
	baz=92								
P19A	Cripple Cowboy	91.55	47	⇑P		P		03 26 37.1	+0.9
	baz=92								
528A	Cox Ranch, San	91.56	58	⇓P		P		03 26 37.0	+0.7
	baz=92								
V23A	Ortiz Mt. (NFS	91.60	51	⇑P		P		03 26 37.2	+0.7
	baz=92								
Q20A	Ridgley Place,	91.68	48	⇓P		P		03 26 37.3	+0.5
	baz=92								
J16A	Bone	91.72	43	⇓P		P		03 26 37.6	+0.8
	baz=92								
M18A	Lyman	91.74	45	⇑P		P		03 26 37.4	+0.4
	baz=92,SNR=6.4								
N18A	Larsen Ranch,	91.77	46	⇑P		P		03 26 37.7	+0.6
	baz=92								
H15A	Lima	91.79	41	⇓P		P		03 26 37.9	+0.8
	baz=92								
Y25A	Mesa, Roswell	91.83	54	⇓P		P		03 26 38.0	+0.5
	baz=92								
C12B	Naegeli Ranch,	91.84	38	⇓P		P		03 26 37.4	+0.3
	baz=92								
U23A	El Rito	91.87	51	⇓P		P		03 26 38.5	+0.7
	baz=92								
K17A	Gardner Place,	91.88	44	⇓P		P		03 26 38.4	+0.9
	baz=92								
R21A	Cimarron	91.90	49	⇓P		P		03 26 38.4	+0.5
	baz=92,SNR=5.8								
W24A	Lazy 6 Ranch,	91.91	52	⇑P		P		03 26 38.4	+0.5
	baz=92								
RRI2	Red Ridge	91.94	43	*e*P		P		03 26 38.1	+0.2
	comp=Z,14nm,1.5s								
ILAR	Eielson Array	92.05	14	P		P		03 26 36.9	-0.7
ILAR	Eielson Array	92.05	14	P		P		03 26 36.9	-0.7
	comp=Z,0.3nm,0.6s,baz=235,slow=6.1,SNR=5.6								
Z26A	Caprock	92.06	54	⇓P		P		03 26 38.9	+0.4
	baz=92								
S22A	4UR Ranch, Cre	92.10	49	⇑P		P		03 26 39.8	+0.9
	baz=92,SNR=5.2								
I16A	Newdale	92.11	42	⇓P		P		03 26 39.5	+0.9
	baz=92								
G15A	Dillon	92.18	41	⇑P		P		03 26 39.5	+0.6
	baz=92								
BILL	Bilibino	92.22	355	⇓*e*P		P		03 26 37.8	-0.5
BILL				*e*				03 30 28.3	
BILL				*e*SS		SS		03 43 28.1	+6.3
BILL					pmax	pmax			
	comp=Z,12nm,2.2s								
BILL	Bilibino	92.22	355	*e*P		P		03 26 38.0	-0.3
O20A	White River Ci	92.30	47	⇑P		P		03 26 40.0	+0.4
	baz=93								
J17A	Brown Place, J	92.32	43	⇓P		P		03 26 40.6	+1.0
	baz=93								
K18A	Toltan Ranch,	92.37	44	⇑P		P		03 26 40.7	+0.8
	baz=93,SNR=5.6								
R22A	Saguache, Gunn	92.38	49	⇓P		P		03 26 41.2	+1.0
	baz=93								
Q22A	Crested Butte,	92.58	48	⇑P		P		03 26 41.6	+0.6
	baz=93								
W25A	X Bar L Ranch,	92.59	53	⇑P		P		03 26 41.4	+0.4
	baz=93								
G16A	Moss Hill, Enn	92.62	41	⇓P		P		03 26 41.5	+0.6
	baz=93								
Z27A	Tatum	92.65	55	⇓P		P		03 26 41.5	+0.3
	baz=93								
J18A	Kendall Valley	92.68	43	⇑P		P		03 26 41.6	+0.3
	baz=93,SNR=8.7								
H16A	Russell Place,	92.69	42	⇓P		P		03 26 42.1	+0.9
	baz=93								
SMCO	Snowmass	92.69	48	*e*P		P		03 26 41.9	+0.3
	comp=Z,38nm,2.5s								
BW06	Boulder Array	92.75	44	⇓P		P		03 26 42.1	+0.5
	baz=93								
PDAR	Pinedale Array	92.75	44	P		P		03 26 41.6	0.0
PDAR	Pinedale Array	92.75	44	P		P		03 26 41.6	0.0
	comp=Z,1.5nm,0.7s,baz=221,slow=3.4,SNR=13								
V25A	Rancho No Teng	92.77	52	⇑P		P		03 26 42.1	+0.2
	baz=93								
R23A	Moffat	93.01	49	⇑P		P		03 26 43.5	+0.6
	baz=93								
SDCO	Great Sand Dun	93.02	50	⇓P		P		03 26 43.5	+0.4
	baz=93								
N21A	Black Mountain	93.08	47	⇓P		P		03 26 44.0	+0.8
	baz=93								
L20A	Wamsutter	93.15	45	⇑P		P		03 26 44.1	+0.6
	baz=93								
D15A	Lincoln	93.16	39	⇓P		P		03 26 43.2	-0.1
	baz=94								
U25A	Circle Dot Ran	93.18	52	⇑P		P		03 26 44.0	+0.4
	baz=94								
S24A	Houchin Ranch,	93.18	50	⇓P		P		03 26 44.4	+0.6
	baz=94								
LZH	Lanzhou	93.31	308	P		P		03 26 44.6	+0.3
LZH				pP		pP		03 28 43.1	+0.5
LZH				sP		sP		03 29 35.9	-0.5
LZH					pmax	pmax			
	comp=Z,17nm,1.1s								
LZH					pmax	pmax			
	comp=Z,45nm,8.5s								
B14A	Marquette Ranc	93.43	38	⇓P		P		03 26 44.4	-0.1
	baz=94								
O22A	Kremmling	93.44	47	⇓P		P		03 26 45.2	+0.2
	baz=94								
T25A	Trinidad	93.51	51	⇓P		P		03 26 45.3	+0.1
	baz=94								
R24A	Sanders Place,	93.53	50	⇓P		P		03 26 45.8	+0.5
	baz=94								
P23A	Jefferson	93.55	48	⇓P		P		03 26 46.0	+0.5
	baz=94								
M21A	Separation Pea	93.59	46	⇑P		P		03 26 45.6	+0.1
	baz=94								
U26A	Atchley Ranch,	93.65	52	⇑P		P		03 26 46.1	+0.2
	baz=94								
S25A	Robets Cordova	93.73	50	⇑P		P		03 26 46.2	0.0
	baz=94								
I19A	Meeteetse	93.74	43	⇑P		P		03 26 46.9	+0.8
	baz=94								
N22A	Wattenberg Ran	93.81	47	⇑P		P		03 26 47.2	+0.6
	baz=94								
Q24A	Divide	93.84	49	⇓P		P		03 26 47.2	+0.4
	baz=94								
J20A	Shoshoni	93.97	44	⇓P		P		03 26 47.6	+0.5
	baz=94								
H19A	Powell	94.06	43	⇓P		P		03 26 48.7	+1.3
	baz=94								
S26A	Kim	94.40	51	⇓P		P		03 26 49.8	+0.7
	baz=95								
C17A	Wharram Farm,	94.48	39	⇓P		P		03 26 49.4	+0.2
	baz=95								
R26A	Arlington	94.72	50	⇓P		P		03 26 51.0	+0.4
	baz=95								
P25A	Willow Gulch B	94.77	49	⇑P		P		03 26 51.3	+0.5
	baz=95								
Q26A	Hugo	94.95	50	⇓P		P		03 26 51.9	+0.3
	baz=95								
R27A	Eads	95.17	50	⇓P		P		03 26 52.8	+0.2
	baz=95								
C19A	Slack Wire Ran	95.54	40	⇓P		P		03 26 55.2	+1.2
	baz=96								
GTA	Gaotai	97.63	310	*e*P		P		03 27 04.4	+0.7
GTA				pP		pP		03 29 04.4	+2.0
GTA				sP		sP		03 29 57.7	+1.6
MK31	Makanchi Array	112.09	313	*e*PKIKP		PKiKP		03 31 59.1	-1.7
MK31	Makanchi Array	112.09	313	*e*PKiP		PKiKP		03 31 59.0	-1.7
MKAR	Makanchi Array	112.09	313	*i* PKIKP		PKiKP		03 31 59.4	-1.4
MKAR	Makanchi Array	112.09	313	PKiKP		PKiKP		03 31 59.4	-1.4
MKAR	Makanchi Array	112.09	313	PKiKP		PKiKP		03 31 59.4	-1.4
	comp=Z,0.3nm,0.4s,baz=191,slow=1.0,SNR=11								
KSH	Kashi	115.20	304	*e*PKP		PKPdf		03 32 06.5	-0.6
KSH				PP		PP		03 33 22.1	+4.3
KSH				sPKP				03 35 05.9	
KSH				PKS		PKSdf		03 35 42.7	-1.2
KSH				SKS		SKSdf		03 38 27.4	-1.2
KSH				SKKS		SKKSac		03 39 17.6	-5.3
KSH				SS		SS		03 48 37.2	+2.4
KSH				AMB		AMB			
	comp=Z,180nm,4.7s								
KBL	Kabul	119.77	297	*e*PKIKP		PKPdf		03 32 15.9	-0.3
KBL	Kabul	119.77	297	*e*PKPdf		PKPdf		03 32 15.9	-0.3
BRVK	Borovoye	120.45	319	*e*PKIKP		PKPdf		03 32 15.8	-0.8
BRVK	Borovoye	120.45	319	*e*PKPdf		PKPdf		03 32 15.8	-0.8
ARU	Arti	126.83	324	*e*PKIKP		PKPdf		03 32 28.3	-0.4
ARU	Arti	126.83	324	*e*PKPdf		PKPdf		03 32 28.3	-0.4
ARCES	ARCESS Array B	131.87	348	PKP		PKPdf		03 32 37.3	-0.6
ARCES	ARCESS Array B	131.87	348	PKP		PKPdf		03 32 37.3	-0.6
	comp=Z,2.3nm,0.8s,baz=35,slow=3.0,SNR=7.8								
FINES	FINESS Array B	138.42	341	PKPpre		PKPpre		03 32 38.4	
FINES				PKP		PKPdf		03 32 50.1	-0.2
FINES				SKPbc		SKPbc		03 35 35.4	+0.9
FINES	FINESS Array B	138.42	341	PKhKP		PKPpre		03 32 38.4	
	comp=Z,0.9nm,0.6s,baz=40,slow=3.2,SNR=5.8								
FINES				PKP		PKPdf		03 32 50.1	-0.2
	comp=Z,1.6nm,0.6s,baz=76,slow=3.4,SNR=9.6								
FINES				SKPbc		SKPbc		03 35 35.4	+0.9
	comp=Z,7.1nm,0.9s,baz=72,slow=4.5,SNR=7.7								
NB2	NORSAR Subarra	142.07	351	PKP		PKPpre		03 32 52.2	
	comp=Z,0.8nm,0.6s,baz=20,slow=3.1								
NOA	NORSAR Array B	142.07	351	PKPpre		PKPpre		03 32 51.5	
NOA	NORSAR Array B	142.07	351	PKhKP		PKPpre		03 32 51.5	
	comp=Z,1.2nm,0.7s,baz=16,slow=4.8,SNR=6.2								
NACGM	Naroch	143.17	334	*e*				03 31 48.0	
AKASG	Malin Array Be	144.93	327	PKHKP		PKPpre		03 33 01.7	
AKASG				pmax		pmax			
	comp=Z,3.0nm,0.4s								
AKASG				pmax		pmax			
	comp=N,4.0nm,0.8s								
AKASG	Malin Array Be	144.93	327	PKP		PKPdf		03 33 01.7	-0.5
AKASG				SKPbc		SKiKP		03 35 51.6	+0.1
AKASG	Malin Array Be	144.93	327	PKP		PKPdf		03 33 01.7	-0.5
	comp=N,2.8nm,0.4s,baz=41,slow=4.1,SNR=18								
AKASG				SKPbc		SKiKP		03 35 51.6	+0.1
	comp=N,4.4nm,0.8s,baz=46,slow=2.6,SNR=9.6								
KIEV	Kiev	144.94	327	*e*PKHKP		PKPpre		03 33 01.3	
KIEV	Kiev	144.94	327	*e*PKPdf		PKPdf		03 33 01.3	-0.9
SUW	Suwalki	145.23	336	*e*PKP		PKPdf		03 33 02.2	-0.4
SUW	Suwalki	145.23	336	*e*PKP		PKPdf		03 33 02.2	-0.4
BR131	Keskin Array S	147.51	307	*e*PKPbc		PKPbc		03 33 10.0	-0.5
BR131				*e*PKPab		PKPab		03 33 14.2	-0.3
BRTR	Keskin Array B	147.51	307	PKPbc		PKPbc		03 33 09.7	-0.9
BRTR	Keskin Array B	147.51	307	PKPbc		PKPbc		03 33 09.7	-0.9
	comp=N,4.2nm,0.6s,baz=143,slow=3.4,SNR=17								
GKP	Gorka Klasztor	147.87	340	*e*PKP		PKPbc		03 33 10.7	-0.1
GKP	Gorka Klasztor	147.87	340	*e*PKP		PKPbc		03 33 10.7	-0.1
GKP	Gorka Klasztor	147.87	340	*e*PKIKP		PKPbc		03 33 10.7	-0.1
KWP	Kalwaria Pacla	148.73	331	*e*PKP		PKPbc		03 33 12.9	-0.2
KWP	Kalwaria Pacla	148.73	331	*e*PKP		PKPbc		03 33 12.9	-0.2
KWP	Kalwaria Pacla	148.73	331	*e*PKPbc		PKPbc		03 33 12.8	-0.3
BUR08	Bucovina Ar. S	148.91	326	*e*PKPbc		PKPbc		03 33 14.8	+1.0
BURAR	Bucovina Array	148.92	326	⇑*i*P		PKPbc		03 33 12.8	-1.0
TIRR	Tirgusor	149.00	318	⇓*i*P		PKPbc		03 33 13.1	-0.8
CSS	Prodhromos	149.01	299	*e*PKPbc		PKPbc		03 33 13.5	-0.8
CSS				*e*PKPab		PKPab		03 33 20.4	-0.3
VRI	Vrincioaia	149.20	322	⇑*i*P		PKPbc		03 33 13.0	-1.4
KOLS	Kolonicke sedl	149.43	330	*e*PKP		PKPbc		03 33 15.3	+0.4
OJC	Ojcow	149.50	334	*e*PKiKP		PKPbc		03 33 14.1	-0.9
CRVS	Cervenica-Dubn	149.82	331	*e*PKP		PKPbc		03 33 16.1	+0.3
DOPR	Dopca	149.88	323	⇑*i*P		PKPbc		03 33 16.4	+0.4
TRPA	Tarpa	149.89	329	⇓*i*P		PKPbc		03 33 13.9	-2.0
NIE	Niedzica	149.92	333	*e*PKiKP		PKPbc		03 33 16.0	0.0
KSP	Ksiaz	150.26	339	*e*PKP		PKPbc		03 33 17.0	+0.3
KSP	Ksiaz	150.26	339	*e*PKP		PKPbc		03 33 17.0	+0.3
VOIR		150.39	323	PKiKP		PKPbc		03 33 15.5	-1.8
VOIR		150.39	323	⇓*i*P		PKPbc		03 33 15.5	-1.8
UPC	Upice	150.64	339	*e*PKiKP		PKPbc		03 33 17.7	+0.1
UPC	Upice	150.64	339	⇑*e*PKP		PKPbc		03 33 17.7	+0.1
DPC	Dobruska-Polom	150.67	338	*e*PKiKP		PKPbc		03 33 17.9	+0.2
DPC				*e*				03 33 27.5	
DPC	Dobruska-Polom	150.67	338	⇑*e*PKP		PKPbc		03 33 17.9	+0.2
DPC				*e*PKPAB		PKPab		03 33 27.5	+0.4
MORC	Moravsky Berou	150.72	336	*e*PKiKP		PKPbc		03 33 17.7	-0.2
MORC				*e*				03 33 27.3	
MORC	Moravsky Berou	150.72	336	*e*PKPbc		PKPbc		03 33 17.7	-0.2
MORC				*e*PKPab		PKPab		03 33 27.3	0.0
DRGR		150.74	327	PKiKP		PKPbc		03 33 17.7	-0.4
DRGR		150.74	327	⇑*i*P		PKPbc		03 33 17.7	-0.4
CLL	Collm	150.83	343	⇓*i*PKIKP		PKPbc		03 33 17.7	-0.3
CLL				*i*				03 33 26.9	
CLL				*e*				03 35 19.0	
CLL				pmax		pmax			
	comp=Z,10.0nm,0.9s								
CLL				pmax		pmax			
	comp=Z,6.0nm,0.8s								
CLL	Collm	150.83	343	⇓*i*PKPbc		PKPbc		03 33 17.7	-0.3
	comp=Z,10.0nm,0.9s								
CLL				*i* PKPab		PKPab		03 33 26.9	-0.7
	comp=Z,6.0nm,0.8s								
CLL				*e*pPKPbc		pPKPbc		03 35 21.0	-2.0
BRG	Berggiesshubel	150.96	342	*i* PKP		PKPbc		03 33 18.0	-0.3
	comp=Z,6.8nm,0.7s								
BRG	Berggiesshubel	150.96	342	*i* PKIKP		PKPbc		03 33 18.0	-0.3
BRG				pmax		pmax			
	comp=Z,7.0nm,0.7s								
PVCC	Panska Ves	151.08	340	*e*PKIKP		PKPbc		03 33 18.6	0.0
PVCC				*e*				03 33 18.6	
PVCC				*e*				03 33 29.4	
PVCC	Panska Ves	151.08	340	⇑*e*PKP		PKPbc		03 33 18.6	0.0
PVCC				*e*PKPAB		PKPab		03 33 29.4	+0.7
VYHS	Vyhne	151.25	333	*e*PKIKP		PKPbc		03 33 18.8	-0.3
VYHS	Vyhne	151.25	333	*e*PKP		PKPbc		03 33 18.8	-0.3
GZR	Gura Zlata	151.65	325	PKIKP		PKPbc		03 33 19.3	-0.9
GZR	Gura Zlata	151.65	325	⇓*i*P		PKPbc		03 33 19.3	-0.9
BZS	Buzias	152.10	326	PKIKP		PKPbc		03 33 20.3	-0.8
BZS	Buzias	152.10	326	⇓*i*P		PKPbc		03 33 20.4	-0.7
KHC	Kasperske Hory	152.61	340	*e*PKIKP		PKPbc		03 33 22.0	-0.1
KHC				*e*				03 33 35.6	
KHC	Kasperske Hory	152.61	340	⇑*e*PKP		PKPbc		03 33 22.0	-0.1
KHC				*e*PKPAB		PKPab		03 33 35.6	+0.3
GERES	GERESS Array B	152.83	340	PKPbc		PKPbc		03 33 22.1	-0.6
GERES				PKPab		PKPab		03 33 35.2	-1.1
GERES	GERESS Array B	152.83	340	PKPbc		PKPbc		03 33 22.1	-0.6
	comp=Z,0.5nm,0.5s,baz=5.7,slow=2.7,SNR=6.3								
GERES				PKPab		PKPab		03 33 35.2	-1.1
	comp=Z,0.8nm,0.8s,baz=35,slow=4.9,SNR=5.4								
CSNA	Conrad Observa	152.87	336	⇑*i*P		PKPab		03 33 36.9	+0.4
CSNA	Conrad Observa	152.87	336	⇑*i*PKPab		PKPab		03 33 36.9	+0.4
	comp=Z,3.9nm,0.7s								
GROS	Grobnik	154.22	335	*i* PKPdf		PKPbc		03 33 42.6	+0.2
WTTA	Wattenberg	154.87	341	⇑*i*PKP2		PKPab		03 33 44.2	-1.0
WTTA	Wattenberg	154.87	341	⇑*i*P		PKPab		03 33 44.2	-1.0
WTTA	Wattenberg	154.87	341	⇑*i*PKPab		PKPab		03 33 44.2	-1.0
	comp=Z,6.0nm,0.8s								
VISS	Visnje	155.03	335	*i* PKPdf		PKPab		03 33 45.3	-0.5
BOJS	Bojanci	155.11	334	*i* PKPdf		PKPab		03 33 46.6	+0.5
JAVS	Javornik	155.25	336	*i* PKPdf		PKPab		03 33 45.6	-1.2
TORD	Torodi Ar. Bea	169.17	189	PKP		PKPdf		03 33 31.0	-1.9
TORD				PKPab		PKPab		03 34 48.5	+0.1
TORD	Torodi Ar. Bea	169.17	189	PKP		PKPdf		03 33 31.0	-1.9
	comp=Z,0.4nm,0.9s,baz=118,slow=0.4,SNR=4.3								
TORD				PKPab		PKPab		03 34 48.5	+0.1
	comp=Z,0.3nm,0.4s,baz=162,slow=4.0,SNR=10								

TAP 04 03:57:43.6,24.47N×121.86E,h12km,ML2.8,1C,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ENA	Nanau	0.12	247	*i* P			Pb	03 57 47.4	-0.3
	baz=244								
ENA				*i* S			Sg	03 57 49.8	+0.8
	baz=244								
TWC	Suao	0.14	357	*i* P			Pb	03 57 47.6	-0.5
TWC				*i* S			Sg	03 57 50.0	+0.6
TWE	Neicheng	0.30	325	P			Pb	03 57 50.7	-0.2
	baz=326								
TWE				S			Sb	03 57 55.1	-0.8
	baz=326								
ILA	Ilan	0.31	341	*e*P			Pb	03 57 50.6	-0.4
	baz=342								
ILA				S			Sb	03 57 56.0	0.0
	baz=342								
ENTT	Nioudou	0.31	302	P			Pb	03 57 51.0	-0.2
	baz=302								
ENTT				S			Sb	03 57 55.9	-0.3
	baz=302								
NNS	Nan Shan	0.44	266	P			Pb	03 57 53.2	-0.4
	baz=265								
NNS				S			Sb	03 57 59.7	-0.5
	baz=265								
TWD	Chiawan	0.46	211	P			Pg	03 57 52.6	0.0
	baz=210								
TWD				S			Sb	03 58 00.1	-0.2
	baz=210								
NSK	Sanguang	0.50	294	*i* P			Pb	03 57 54.3	-0.1
	baz=294								
NSK				S			Sg	03 58 00.9	+0.7
	baz=294								
TWB1	Santiao Chiao	0.55	13	P			Pb	03 57 55.1	0.0
	baz=13								
TWB1				*e*S			Sg	03 58 01.6	+0.1
	baz=13								
TWA	Mucha	0.56	334	*e*P			Pn	03 57 56.7	-0.7
	baz=334								
TWA				S			Sb	03 58 03.4	0.0
	baz=334								
NWF	Wu-fen Shan	0.60	353	*e*P			Pb	03 57 56.4	+0.2
	baz=353								
NWF				S			Sb	03 58 04.2	-0.5
	baz=353								
WHF	Hehuan Shan	0.63	239	⇑*i*P			Pg	03 57 56.2	-0.3
	baz=238								
WHF				S			Sg	03 58 05.2	-0.1
	baz=238								
TWT	Tachien	0.66	251	*e*P			Pb	03 57 57.5	+0.3
	baz=250								
TWT				*e*S			Sb	03 58 06.5	0.0
	baz=250								
ESL	Shilin	0.76	211	*e*P			Pb	03 57 58.6	-0.2

5.0nm,0.5s,baz=166,slow=43,SNR=20
AAK Ala-Archa 6.71 26 P Pn 04 27 34.1 +0.3
1.7nm,0.3s,baz=180,slow=7.6,SNR=23
AAK S **S 04 28 50.2 -0.1**
0.8nm,0.3s,baz=123,slow=23,SNR=20
MKAR Makanchi Array 13.41 37 P Pn 04 28 58.4 -1.0
0.2nm,0.3s,baz=219,slow=11,SNR=12
KURBB Kurchatov Arra 15.10 20 P Pn 04 29 19.4 -0.8
0.1nm,0.3s,baz=208,slow=11,SNR=4.6
BVAR Borovoye Array 16.35 360 P Pn 04 29 37.3 +2.0
0.2nm,0.3s,baz=179,slow=7.1,SNR=3.7
ZALV Zalesovo Beam 19.94 25 P P 04 30 13.7 +0.3
1.1nm,0.4s,baz=218,slow=9.8,SNR=5.4
TORD Torodi Ar. Bea 65.30 268 P P 04 36 17.1 -0.5
0.3nm,1.1s,baz=42,slow=7.2,SNR=2.9

KRSC 04 04:35:58.5±1.5, 53°.93N×169°.25E, h41km±40km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.30**	**305**	*eP*	Pn	04 36 35.8	+2.0
BKI				*i S*	Sn	04 37 02.9	+2.1
KMNR	**Kamenistaya**	**5.52**	**293**	*eP*	Pn	04 37 22.8	+4.6
KMNR				*eS*	Sn	04 38 23.9	+3.4
SDLR	**Sedlovina**	**6.21**	**268**	*eP*	Pn	04 37 31.4	+3.7
SDLR				*eS*	Sn	04 38 39.3	+1.9
UGLR	**Uglovaya**	**6.25**	**268**	*eP*	Pn	04 37 32.3	+4.0
SMAR	**Somma**	**6.26**	**268**	*eP*	Pn	04 37 31.8	+3.3
AVH	**Avacha**	**6.29**	**268**	*eP*	Pn	04 37 32.8	+4.0
AVH				*eS*	Sn	04 38 41.4	+1.9
KOK	**Koryaka**	**6.35**	**269**	*eP*	Pn	04 37 33.4	+3.8
ASAK	**Asacha**	**7.00**	**262**	*eP*	Pn	04 37 42.7	+4.2

WEL 04 04:51:14.7±0.4, 38°.01S×176°.36E, h142km±3km, ML3.6/16, 8C-1D, Error ellipse: s-maj=3.1km s-min=2.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARZ	**Mount Tarawera**	**0.25**	**153**	PN	Pn	04 51 34.9	+0.6
URZ	**Urewera**	**0.64**	**113**	⇑PN	Pn	04 51 35.6	-0.3
URZ				SN	Sn	04 51 51.5	-0.6
MWZ	**Matawai**	**0.97**	**110**	PN	Pn	04 51 38.5	0.0
MWZ				SN	Sn	04 51 56.2	-0.5
RAHZ	**Arahi**	**1.07**	**148**	PN	Pn	04 51 39.6	+0.2
RAHZ				SN	Sn	04 51 58.5	+0.2
NMHZ	**Naumai**	**1.14**	**162**	PN	Pn	04 51 40.6	+0.5
WTVZ	**West Tongariro**	**1.26**	**209**	PN	Pn	04 51 41.4	0.0
OTVZ	**Oturere**	**1.27**	**205**	PN	Pn	04 51 41.8	+0.3
OTVZ				SN	Sn	04 52 02.4	+0.4
TWVZ	**Taurewa**	**1.28**	**214**	PN	Pn	04 51 41.6	+0.1
NGZ	**Ngauruhoe**	**1.31**	**207**	PN	Pn	04 51 42.2	+0.3
TUVZ	**Tukino**	**1.37**	**204**	PN	Pn	04 51 42.6	0.0
TRVZ	**Turoa**	**1.44**	**206**	PN	Pn	04 51 43.3	0.0
KNZ	**Kokohu**	**1.44**	**135**	PN	Pn	04 51 42.6	-0.4
WNVZ	**Wahianoa**	**1.45**	**204**	⇑PN	Pn	04 51 43.2	-0.1
MCHZ	**McNeill Hill**	**1.45**	**170**	⇑PN	Pn	04 51 43.3	+0.1
MOVZ	**Moawhango**	**1.47**	**199**	PN	Pn	04 51 42.9	-0.6
BHHZ	**Black Hill Sta**	**1.49**	**189**	⇑PN	Pn	04 51 43.1	-0.6
BHHZ				SN	Sn	04 52 04.1	-1.9
PUZ	**Puketiti**	**1.50**	**93**	PN	Pn	04 51 42.8	-0.9
PRGZ	**Paritu Road**	**1.50**	**128**	PN	Pn	04 51 43.4	-0.4
CNGZ	**Carnagh Statio**	**1.53**	**109**	PN	Pn	04 51 44.4	+0.4
MTVZ	**Mangateitei**	**1.54**	**207**	⇑PN	Pn	04 51 44.2	0.0
MXZ	**Matakaoa Point**	**1.60**	**74**	PN	Pn	04 51 44.8	0.0
MHGZ	**Mahia Peninsul**	**1.66**	**134**	PN	Pn	04 51 45.3	-0.1
CKHZ	**Cape Kidnapper**	**1.74**	**161**	PN	Pn	04 51 46.0	-0.3
KAHZ	**Kahuranaki**	**1.83**	**167**	⇑PN	Pn	04 51 46.8	-0.5
PNHZ	**Pukenui**	**1.91**	**184**	PN	Pn	04 51 47.1	-1.1
WPHZ	**Waipukurau**	**2.05**	**178**	PN	Pn	04 51 48.8	-1.2
PXZ	**Pawanui**	**2.06**	**169**	⇑PN	Pn	04 51 48.9	-1.1
TSZ	**Takapari Road**	**2.07**	**189**	PN	Pn	04 51 48.9	-1.3
PRHZ	**Porangahau**	**2.26**	**175**	PN	Pn	04 51 51.1	-1.4
DVHZ	**Dannevirke**	**2.29**	**184**	PN	Pn	04 51 51.1	-1.8
POWZ	**Post Office Ro**	**2.42**	**191**	PN	Pn	04 51 52.7	-1.7
BFZ	**Birch Farm**	**2.67**	**182**	PN	Pn	04 51 55.5	-2.1
MRZ	**Mangatainoka R**	**2.72**	**193**	PN	Pn	04 51 55.8	-2.3
TIWZ	**Tintock**	**2.79**	**187**	PN	Pn	04 51 57.0	-2.1
OGWZ	**Otaki Gorge**	**2.95**	**198**	PN	Pn	04 51 58.7	-2.4
HOWZ	**Holdsworth Sta**	**2.96**	**193**	PN	Pn	04 51 58.5	-2.7
KIW	**Kapiti Island**	**3.06**	**201**	PN	Pn	04 51 59.7	-2.8
TMWZ	**Te Maipa**	**3.11**	**187**	PN	Pn	04 52 00.6	-2.6
MTW	**Mount Morrison**	**3.21**	**192**	⇑PN	Pn	04 52 01.4	-3.1
CAW	**Cannon Point**	**3.25**	**198**	PN	Pn	04 52 02.0	-3.0
TRWZ	**Traveller**	**3.42**	**189**	PN	Pn	04 52 04.1	-3.1
PAWZ	**Paruwai Farm**	**3.44**	**192**	PN	Pn	04 52 04.1	-3.3
MSWZ	**Moikau Statio**	**3.51**	**194**	⇓PN	Pn	04 52 04.9	-3.4
SNZO	**South Karori**	**3.53**	**201**	PN	Pn	04 52 05.2	-3.4
TCW	**Tory Channel**	**3.58**	**206**	PN	Pn	04 52 06.2	-3.0
PLWZ	**Palliser**	**3.66**	**193**	PN	Pn	04 52 06.6	-3.7
TUWZ	**Tuamarina**	**3.89**	**208**	PN	Pn	04 52 09.8	-3.4
NNZ	**Nelson**	**3.94**	**215**	PN	Pn	04 52 11.1	-2.8
QRZ	**Quartz Range**	**4.09**	**225**	SN	Sn	04 52 59.6	-3.9
THZ	**Tophouse**	**4.59**	**214**	PN	Pn	04 52 19.9	-2.7
KHZ	**Kahutara**	**4.90**	**205**	PN	Pn	04 52 22.7	-3.9
LTZ	**Lake Taylor**	**5.70**	**212**	PN	Pn	04 52 33.3	-4.0

PRE 04 05:12:43.2±0.7, 26°.24S×28°.27E, h2km, ML1.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPM	**east rand prop**	**0.10**	**192**	*eP*	Pg	05 12 43.6	-1.9
ERPM				*eS*	Sg	05 12 43.9	-3.1
ERPM				AML	AML	05 12 45.5	
	comp=Z,134nm,0.3s						
LBTB	**Lobatse**	**2.70**	**296**	*eP*	Pn	05 13 28.8	+1.0
LBTB				*eS*	Sn	05 14 01.8	+0.6
LBTB				AML	AML	05 14 09.1	
	comp=Z,4.7nm,0.6s						
BOSA	**Boshof**	**3.57**	**228**	*eP*	Pn	05 13 40.9	+1.1
BOSA				*eS*	Sn	05 14 22.5	-0.2
BOSA				AML	AML	05 14 33.7	
	comp=Z,2.1nm,0.6s						

IDC 04 05:22:59.4±0.8, 31°.61N×84°.79E, h0km, mb3.8/10, mb1 4.0/13, mb1mx3.8/27, mbtmp3.8/13, ML4.4/2, Error ellipse: s-maj=28.5km s-min=16.2km az=55.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.28**	**353**	Pn	Pn	05 26 36.6	+0.1
	0.0nm,0.3s,baz=170,slow=12,SNR=4.5						
CMAR	**Chiang Mai Arr**	**18.31**	**132**	P	P	05 27 16.6	+1.5
	1.0nm,0.3s,baz=316,slow=10,SNR=6.4						
KURBB	**Kurchatov Arra**	**19.55**	**348**	P	P	05 27 28.9	+0.3
	0.1nm,0.3s,baz=166,slow=11,SNR=9.4						
ZALV	**Zalesovo Beam**	**22.32**	**0**	P	P	05 27 56.7	-1.8
	0.3nm,0.3s,baz=163,slow=11,SNR=3.4						
SONM	**Songino Array**	**23.09**	**39**	P	P	05 28 07.4	+0.6
	0.4nm,0.7s,baz=226,slow=9.8,SNR=2.9						
FINES	**FINESS Array B**	**47.90**	**326**	P	P	05 31 39.4	+0.3
	4.2nm,1.0s,baz=86,slow=7.4,SNR=4.4						
ARCES	**ARCESS Array B**	**50.09**	**337**	P	P	05 31 56.4	+0.7
	6.2nm,0.9s,baz=100,slow=8.7,SNR=9.4						
GERES	**GERESS Array B**	**54.95**	**310**	P	P	05 32 32.8	+0.5
	0.3nm,0.5s,baz=72,slow=9.5,SNR=3.6						
NB2	**NORSAR Subarra**	**55.03**	**325**	P	P	05 32 32.8	+0.2
	comp=Z,0.3nm,0.4s,baz=82,slow=6.5						
NOA	**NORSAR Array B**	**55.03**	**325**	P	P	05 32 32.4	-0.2
	comp=Z,0.9nm,0.7s,baz=90,slow=6.8,SNR=3.4						
WRA	**Warramunga Arr**	**69.89**	**130**	P	P	05 34 12.2	-0.2
	comp=Z,1.4nm,0.5s,baz=325,slow=6.1,SNR=9.3						
ASAR	**Alice Springs**	**72.31**	**133**	P	P	05 34 27.0	-0.1
	comp=Z,1.3nm,0.4s,baz=316,slow=5.8,SNR=18						
TORD	**Torodi Ar. Bea**	**77.42**	**278**	P	P	05 34 56.5	-0.4
	comp=Z,1.7nm,0.8s,baz=58,slow=5.3,SNR=16						
YKA	**Yellowknife Ar**	**84.93**	**9**	P	P	05 35 35.0	-1.0
	comp=Z,0.2nm,0.6s,baz=335,slow=5.5,SNR=5.1						

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*MOS **04** 05:29:06.6±1.4, 55°.71N×114°.74E, h12km, mb4.2/2, Error ellipse: s-maj=12.4km s-min=9.0km az=67.9*
*BYKL **04** 05:29:08.4±0.2, 55°.78N×114°.65E, #FAULT_PLANE Typ Strike Dip Rake NP NS Plane Author # FM 66.00 42.00 -78.00 14 0 IEC + 230.00 49.00 -101.00 IEC #PRINAX sc T_val T_azim T_pl B_val B_azim B_pl P_val P_azim P_pl Author + eTv eTa eTp eBv eBa eBp ePv ePa ePp fCLVD #*

328.00 4.00 237.00 8.00 81.00 81.00 IEC + 6.08 1.00 4.51 5.51 23.43 5.71 IEC
*IDC **04** 05:29:10.8±1.7, 55°.79N×113°.85E, h0km, mb3.1/5, mb1 3.3/6, mb1mx3.2/27, mbtmp3.2/6, ML3.2/1, Error ellipse: s-maj=47.9km s-min=18.7km az=141.0*

ISC 04 05:29:07.7±0.6, 55.76N±0°.03×114.60E±0°.02, h10km, n56, σ2s 25/91, mb3.2/7, 8C-10D, East of Lake Baikal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.69**	**302**	*ePG*	Pn	**05 29 22.0**	**-1.5**
SVKR				*e*		05 29 32.2	
SVKR				pmax	pmax		
	comp=Z,2μm,0.4s						
SVKR				smax	smax		
	comp=N,9μm,0.5s						
SVKR	**Severomuysk**	**0.69**	**302**	⇑*iPg*	Pn	**05 29 22.1**	**-1.5**
SVKR				*ePb*	Pb	**05 29 23.6**	**+1.8**
SVKR				*i Sg*	Sn	**05 29 32.4**	**-1.9**
SVKR				*eSb*	Sb	**05 29 36.0**	**+4.6**
SVKR				max			
	comp=N,2μm,0.2s						
SVKR				max			
	comp=N,7μm,0.3s						
NLYR	**Nelyaty**	**0.96**	**39**	⇑*iPG*	Pg	**05 29 25.1**	**-1.0**
NLYR				*e*		05 29 37.3	
NLYR				pmax	pmax		
	comp=Z,825nm,0.2s						
NLYR				smax	smax		
	comp=N,8μm,0.2s						
NLYR	**Nelyaty**	**0.96**	**39**	⇑*iPg*	Pg	**05 29 25.2**	**-0.9**
	comp=N,77nm,0.5s						
NLYR				⇑*iPg*	Pg	**05 29 25.2**	**-0.9**
	comp=N,64nm,0.5s						
NLYR				⇑*iPg*	Pg	**05 29 25.2**	**-0.9**
	comp=N,564nm,0.5s						
NLYR				*ePb*	Pn	**05 29 26.9**	**-0.3**
NLYR				*i Sg*	Sb	**05 29 37.7**	**-1.4**
NLYR				*eSb*	Sn	**05 29 41.4**	**+0.5**
NLYR				max			
	comp=N,833nm,0.2s						
NLYR				max			
	comp=N,8μm,0.9s						
YOA	**Uoyan**	**1.66**	**284**	*ePN*	Pg	**05 29 39.3**	**-0.2**
YOA				*i*		05 30 02.5	
YOA				pmax	pmax		
	comp=Z,393nm,0.2s						
YOA				smax	smax		
	comp=E,4μm,0.4s						
YOA	**Uoyan**	**1.66**	**284**	*ePg*	Pb	**05 29 37.7**	**-0.7**
YOA				*i Sg*	Sg	**05 30 00.4**	**-0.7**
YOA				*e*		05 30 05.2	
YOA				Pmax			
	comp=E,394nm,0.2s						
YOA				max			
	comp=E,4μm,0.4s						
KMO	**Kumora**	**1.92**	**275**	*ePN*	Pb	**05 29 41.1**	**-1.7**
KMO	**Kumora**	**1.92**	**275**	⇓*iPn*	Pb	**05 29 41.1**	**-1.7**
KMO				*ePg*	Pg	**05 29 42.7**	**-1.8**
KMO				*eSn*	Sb	**05 30 06.0**	**-0.9**
KMO				*i Sg*	Sg	**05 30 08.2**	**-1.2**
KMO				Pmax			
	comp=E,194nm,0.5s						
KMO				Smax			
	comp=E,857nm,1.1s						
BOD	**Bodaibo**	**2.09**	**351**	*ePN*	Pn	**05 29 41.7**	**-1.0**
BOD				*e*		05 29 44.5	
BOD				*e*		05 30 11.6	
BOD				pmax	pmax		
	comp=Z,259nm,0.2s						
BOD				smax	smax		
	comp=E,1μm,0.3s						
BOD	**Bodaibo**	**2.09**	**351**	*ePn*	Pn	**05 29 42.0**	**-0.7**
BOD				⇓*iPg*	Pb	**05 29 45.1**	**-0.6**
BOD				*i Sg*	Sg	**05 30 12.4**	**-2.4**
BOD				Pmax			
	comp=E,260nm,0.3s						
BOD				Smax			
	comp=E,1μm,0.4s						
YLYR	**Ulyunkhan**	**2.16**	**247**	*ePN*	Pn	**05 29 44.7**	**+1.1**
YLYR				*e*		05 29 47.2	
YLYR				*eS*	Sb	**05 30 12.2**	**-1.3**
YLYR				*e*		05 30 16.2	
YLYR				pmax	pmax		
	comp=Z,22nm,0.1s						
YLYR				smax	smax		
	comp=N,409nm,0.7s						
YLYR	**Ulyunkhan**	**2.16**	**247**	⇓*iPn*	Pn	**05 29 44.7**	**+1.1**
YLYR				*ePg*	Pg	**05 29 48.0**	**-0.9**
YLYR				*e*		05 29 54.5	
YLYR				*eSg*	Sg	**05 30 16.9**	**0.0**
YLYR				max			
	comp=N,39nm,0.1s						
YLYR				Smax			
	comp=N,408nm,1.4s						
CRS	**Chara**	**2.34**	**59**	*ePN*	Pn	**05 29 46.0**	**-0.2**
CRS				*e*		05 29 49.4	
CRS				*e*		05 30 19.6	
CRS				pmax	pmax		
	comp=Z,112nm,0.5s						
CRS				smax	smax		
	comp=E,1μm,0.6s						
CRS	**Chara**	**2.34**	**59**	⇓*iPn*	Pn	**05 29 46.2**	**0.0**
CRS				*ePg*	Pb	**05 29 49.5**	**-0.4**
CRS				*eSg*	Sb	**05 30 19.9**	**+1.0**
CRS				Pmax			
	comp=E,152nm,1.0s						
CRS				Smax			
	comp=E,1μm,0.6s						
NIZ	**Nizh Angarsk**	**2.86**	**272**	*ePN*	Pn	**05 29 53.9**	**+0.6**
NIZ				*e*		05 29 59.8	
NIZ				*e*		05 30 38.8	
NIZ				pmax	pmax		
	comp=Z,35nm,0.7s						
NIZ				smax	smax		
	comp=N,196nm,1.0s						
NIZ	**Nizh Angarsk**	**2.86**	**272**	⇓*iPn*	Pn	**05 29 54.1**	**+0.8**
NIZ				*ePg*	Pb	**05 29 59.8**	**+1.0**
NIZ				*ePgPg*	Pg	**05 30 03.8**	**+1.4**
NIZ				*e*		05 30 26.8	
NIZ				*eSg*	Sg	**05 30 38.7**	**-0.7**
NIZ				max			
	comp=N,35nm,0.8s						
NIZ				Smax			
	comp=N,181nm,0.4s						
KHNR	**Khani**	**3.21**	**66**	*ePn*	Pn	**05 29 58.6**	**+0.4**
KHNR				*ePg*	Pb	**05 30 04.9**	**+0.1**
KHNR				*e*		05 30 08.6	
KHNR				*e*		05 30 36.2	
KHNR				*eSg*	Sg	**05 30 47.7**	**-3.0**
TUP	**Tupik**	**3.35**	**111**	*ePN*	Pn	**05 29 59.5**	**-0.6**
TUP				*e*		05 30 07.2	
TUP				*e*		05 30 51.2	
TUP				pmax	pmax		
	comp=Z,36nm,0.3s						
TUP				smax	smax		
	comp=N,386nm,0.7s						
TUP	**Tupik**	**3.35**	**111**	⇓*iPn*	Pn	**05 29 59.7**	**-0.4**
TUP				*ePg*	Pb	**05 30 08.4**	**+1.3**
TUP				*ePgPg*	Pg	**05 30 11.9**	**+0.1**
TUP				*eSg*	Sg	**05 30 52.2**	**-3.0**
TUP				max			
	comp=N,61nm,0.6s						
TUP				Smax			
	comp=N,443nm,1.0s						
SYVR	**Suvo**	**3.40**	**234**	*ePN*	Pn	**05 30 01.2**	**+0.5**
SYVR				*e*		05 30 10.2	
SYVR				*e*		05 30 54.9	
SYVR				pmax	pmax		
	comp=Z,56nm,0.6s						
SYVR				smax	smax		
	comp=N,270nm,1.0s						
SYVR	**Suvo**	**3.40**	**234**	⇑*iPn*	Pn	**05 30 01.4**	**+0.7**
	comp=N,5.0nm,0.6s						
SYVR				⇑*iPn*	Pn	**05 30 01.4**	**+0.7**
	comp=N,6.0nm,0.6s						
SYVR				⇓*iPn*	Pn	**05 30 01.4**	**+0.7**
	comp=N,16nm,0.6s						
SYVR				*e*		05 30 03.0	
SYVR				*ePg*	Pg	**05 30 10.3**	**-2.4**
SYVR				*i Sg*	Sg	**05 30 55.3**	**-1.4**
SYVR				*eSgSg*	SbSb	**05 30 59.4**	**+5.0**
SYVR				Pmax			
	comp=N,56nm,0.8s						
SYVR				max			
	comp=N,267nm,1.2s						
CIT	**Chita**	**3.79**	**190**	*ePN*	Pb	**05 30 14.3**	**-0.4**
CIT				*e*		05 31 07.4	
CIT				pmax	pmax		
	comp=Z,58nm,1.0s						
CIT				smax	smax		
	comp=N,603nm,0.5s						
CIT	**Chita**	**3.79**	**190**	*ePg*	Pb	**05 30 17.1**	**+2.4**
CIT				*e*		05 30 26.0	
CIT				*eSg*	Sg	**05 31 07.7**	**-1.7**
CIT				Pmax			
	comp=N,62nm,0.3s						
CIT				Smax			
	comp=N,608nm,0.5s						
MXMB	**Maximikha**	**4.23**	**236**	⇓*iPn*	Pn	**05 30 11.6**	**-0.5**
MXMB				*ePg*	Pb	**05 30 24.1**	**+2.0**
MXMB				⇓*i*		05 30 29.3	
MXMB				*i Sg*	Sg	**05 31 20.4**	**-3.0**
MXMB				max			
	comp=N,41nm,1.2s						
MXMB				Smax			
	comp=N,760nm,0.7s						
OGRR	**Ongureny**	**4.58**	**245**	*ePN*	Pn	**05 30 17.6**	**+0.6**
OGRR				*e*		05 30 30.3	
OGRR				*e*		05 31 30.2	
OGRR				pmax	pmax		
	comp=Z,52nm,1.2s						
OGRR				smax	smax		
	comp=N,105nm,1.7s						
OGRR	**Ongureny**	**4.58**	**245**	⇓*iPn*	Pn	**05 30 17.5**	**+0.6**
OGRR				*e*		05 30 26.7	
OGRR				*ePg*	Pb	**05 30 29.7**	**+1.6**
OGRR				*e*		05 30 37.9	
OGRR				*eSn*	Sn	**05 31 12.3**	**+2.0**
OGRR				*eSg*	Sg	**05 31 30.4**	**-4.3**
OGRR				Pmax			
	comp=N,7.0nm,0.7s						
OGRR				Smax			
	comp=N,105nm,1.3s						
ZRHB	**Zarechye**	**5.43**	**237**	*ePg*	Pb	**05 30 44.7**	**+2.2**
ZRHB				*e*		05 30 47.9	
ZRHB				*i Sg*	Sg	**05 31 57.0**	**-4.8**
ZRHB				max			
	comp=N,70nm,0.8s						
ZRHB				Smax			
	comp=N,480nm,1.0s						
UUDB	**Ulan-Yde**	**5.66**	**229**	*ePg*	Pb	05 30 49.8	+3.3
UUDB				*eSg*	Sg	**05 32 05.3**	**-4.0**
UUDB				*e*		05 32 17.1	
UUDB				Smax			
	comp=N,409nm,1.4s						
TRG	**Tyrgan**	**5.69**	**242**	*ePg*	Pb	05 30 50.3	+3.3
TRG				*eSg*	Sg	**05 32 04.4**	**-5.9**
TRG				Pmax			
	comp=N,6.0nm,0.8s						
TRG				Smax			
	comp=N,86nm,1.1s						
IENR	**Iengra**	**5.78**	**81**	*ePN*	Pn	**05 30 32.4**	**-1.0**
IENR				*ePg*	Pb	05 30 51.7	+3.3
IENR				*e*		05 31 57.8	
IENR				*eSg*	Sg	**05 32 07.4**	**-5.5**
CLNS	**Chul'man**	**5.83**	**75**	*ePg*	Pb	**05 30 51.0**	**+1.6**
CLNS				*e*		05 30 54.3	
CLNS				*eSg*	Sg	05 32 06.9	-7.8
KAB	**Kabansk**	**5.99**	**235**	*eSg*	Sg	**05 32 14.9**	**-4.8**
KAB				Smax			
	comp=N,552nm,0.7s						
KPC	**Khapcheranga**	**6.21**	**193**	*ePN*	Pn	**05 30 38.5**	**-0.9**
KPC				*e*		05 30 58.2	
KPC				*eS*	Sn	**05 31 51.3**	**+0.8**
KPC				*e*		05 32 21.8	
KPC				pmax	pmax		
	comp=Z,11nm,0.3s						
KPC				smax	smax		
	comp=N,97nm,0.8s						
KPC	**Khapcheranga**	**6.21**	**193**	*ePn*	Pn	**05 30 38.6**	**-0.9**
KPC				*e*		05 30 44.8	
KPC				Pg	Pb	05 30 59.4	+3.5
KPC				*e*		05 32 02.9	
KPC				*eSg*	Sg	**05 32 21.5**	**-5.4**
KPC				Pmax			
	comp=N,7.0nm,0.7s						
KPC				Smax			
	comp=N,93nm,0.8s						
LSTR	**Listvyanka**	**6.97**	**240**	*eSg*	Sg	**05 32 47.0**	**-4.3**
LSTR				Smax			
	comp=N,146nm,1.8s						
IRK	**Irkutsk**	**7.03**	**244**	*e*		05 32 43.0	
IRK				*eSg*	Sg	**05 32 48.5**	**-4.7**
IRK				Smax			
	comp=N,164nm,0.3s						
HIA	**Hailar**	**7.22**	**152**	*e*	Pn	05 30 59.7	+6.6
HIA				*e*		05 32 08.3	
HIA				*eSg*	Sg	05 32 52.6	-6.5
TLY	**Talaya**	**7.67**	**242**	*ePN*	Pn	05 31 03.2	+3.8
TLY				pmax	pmax		
	comp=Z,2.0nm,1.7s						
TLY	**Talaya**	**7.67**	**242**	*ePn*	Pn	**05 30 59.3**	**-0.1**
TLY				*ePg*	Pb	05 31 25.7	+5.0
TLY				*eSg*	Sg	05 33 05.9	-7.9
TLY				Smax			
	comp=Z,33nm,1.5s						
ARS	**Arshan**	**8.16**	**247**	*ePn*	Pn	**05 31 05.2**	**-0.9**
ARS				*ePg*	Pb	05 31 35.7	+6.6
ARS				*eSg*	Sg	**05 33 23.6**	**-5.8**
ARS				Pmax			
	comp=Z,3.0nm,0.1s						
ARS				Smax			
	comp=Z,90nm,0.9s						
ZAK	**Zakamensk**	**8.68**	**236**	*ePG*	Pg	05 31 45.3	-8.4
ZAK				*e*		05 33 40.0	
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ZAK				smax	smax		
	comp=N,22nm,1.3s						
ZAK	**Zakamensk**	**8.68**	**236**	*eSg*	Sg	05 33 37.6	-8.4
ZAK				*e*		05 34 16.1	
ZAK				Smax			
	comp=N,17nm,1.1s						
MOY	**Mondy**	**9.05**	**249**	*ePn*	Pn	**05 31 19.3**	**+1.0**
MOY				Pg		05 31 50.6	
MOY				*e*		05 33 32.7	
MOY				*eSg*	Sn	05 33 49.2	+49
MOY				Smax			
	comp=N,45nm,1.2s						
ULN	**Ulaanbaatar**	**9.18**	**214**	*e*	Pn	05 31 56.3	+36
ULN				*eSg*	Sn	05 33 54.7	+51
ULN				*e*		05 34 01.1	
ORL	**Orlik**	**9.26**	**256**	*e*		05 33 07.0	
ORL				*eSg*	Sn	05 33 55.3	+50
ORL				Smax			
	comp=N,30nm,1.4s						
SONM	**Songino Array**	**9.42**	**216**	Pn	Pn	**05 31 24.4**	**+1.0**
	comp=N,0.2nm,0.3s,baz=31,slow=13,SNR=5.7						
SONM				Lg	Lg	05 34 03.1	
	comp=N,2.0nm,0.3s,baz=22,slow=28,SNR=9.5						
MKAR	**Makanchi Array**	**21.93**	**259**	P	P	**05 34 01.5**	**+0.4**
MKAR	**Makanchi Array**	**21.93**	**259**	P	P	**05 34 01.5**	**+0.4**
	comp=N,0.3nm,0.7s,baz=46,slow=9.9,SNR=3.5						
KURK	**Kurchatov**	**21.94**	**272**	P	P	**05 34 02.9**	**+1.8**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**22.04**	**272**	P	P	**05 34 02.9**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=64,slow=11,SNR=3.3						
BVAR	**Borovoye Array**	**25.56**	**282**	P	P	**05 34 36.7**	**+0.3**
BVAR	**Borovoye Array**	**25.56**	**282**	P	P	**05 34 36.7**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=90,slow=13,SNR=3.3						
ARU	**Arti**	**30.54**	**295

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.11**	**272**	*i* P	Pn	05 29 55.2	-1.1
CMIG				*i* S	Sn	05 30 08.0	-2.6
HUIG	**Huatulco**	**1.84**	**225**	*i* P	Pn	05 30 08.2	-1.9
HUIG				*i* S	Sn	05 30 33.7	-1.3
VHO	**Vista Hermosa**	**1.88**	**270**	*i* P	Pn	05 30 10.1	-0.7
VHO				*i* S	Sn	05 30 34.8	-1.5
UTMO	**Huajuapan**	**2.99**	**285**	*i* P	Pn	05 30 23.7	-0.8
UTMO				*i* S	Sn	05 30 58.4	-2.5
PNIG	**Pinotepa**	**3.29**	**258**	*i* P	Pn	05 30 25.6	-2.5
PNIG				*i* S	Sn	05 31 04.8	-2.6

*ISCJB **04** 05:39:15.4±0.5,36°.34S×0°.08×52°.7E±0°.1, h10km, mb4.3/20, MS3.7/8, Error ellipse: s-maj=14.1km s-min=9.6km az=144.4*
*IDC **04** 05:39:15.7±0.6,36°.25S×52°.62E, h0km, mb4.3/16, mb1 4.4/17, mb1mx4.3/23, mbtmp4.2/17, ML4.0/1, MS3.8/9, Ms1 3.8/9, ms1mx3.6/22, Error ellipse: s-maj=24.1km s-min=15.8km az=25.0*
*NEIC **04** 05:39:17.0±0.3,36°.32S×52°.67E, h10km, mb4.7/5, Error ellipse: s-maj=11.7km s-min=8.1km az=57.0*

ISC 04 05:39:17.1±0.5,36°.3S±0°.1×52°.7E±0°.1, h10km, n60, σ0s85/60, mb4.3/20, MS3.7/8, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**15.31**	**11**	*e*Pn	**Pn**	**05 42 52.8**	**-0.6**
ABPO	**Ambohimpanom**	**17.86**	**343**	*e*Pn	**P**	**05 43 27.7**	**+1.1**
	4.8nm,0.6s						
PAF	**Port-aux-Franc**	**18.27**	**141**	Pn	**Pn**	**05 43 28.9**	**-1.6**
OPO	**Ambohidratompo**	**18.30**	**343**	P	**P**	**05 43 32.4**	**+0.9**
OPO	**Ambohidratompo**	**18.30**	**343**	P	**P**	**05 43 32.4**	**+0.9**
	0.5nm,0.3s,baz=168,slow=12,SNR=5.1						
OPO				LR	LR	05 48 50.9	
	comp=Z,265nm,19.5s,baz=175,slow=32						
BOSA	**Boshof**	**24.32**	**280**	P	**P**	**05 44 34.3**	**-0.8**
BOSA	**Boshof**	**24.32**	**280**	P	**P**	**05 44 34.3**	**-0.8**
	13nm,0.9s,baz=120,slow=8.3,SNR=12						
BOSA				LR	LR	05 52 19.7	
	comp=Z,154nm,18.2s,baz=135,slow=32						
LBTB	**Lobatse**	**25.79**	**288**	P	**P**	**05 44 47.0**	**-1.3**
LBTB	**Lobatse**	**25.79**	**288**	P	**P**	**05 44 47.0**	**-1.3**
	4.8nm,0.8s,baz=132,slow=8.3,SNR=5.6						
LBTB				LR	LR	05 53 24.9	
	comp=Z,139nm,18.4s,baz=5.2,slow=33						
SUR	**Sutherland**	**26.54**	**269**	LR	LR	05 52 43.5	
	comp=Z,203nm,21.5s,baz=222,slow=30						
MAW	**Mawson**	**31.90**	**173**	LR	LR	05 55 30.4	
	comp=Z,189nm,21.2s,baz=185,slow=30						
QSPA	**South Pole Qui**	**53.90**	**180**	P	**P**	**05 48 39.8**	**-0.7**
QSPA	**South Pole Qui**	**53.90**	**180**	P	**P**	**05 48 39.8**	**-0.7**
	1.9nm,0.7s,baz=237,slow=3.2,SNR=6.4						
DBIC	**Dimbokro**	**68.73**	**296**	P	**P**	**05 50 21.8**	**+0.4**
DBIC	**Dimbokro**	**68.73**	**296**	P	**P**	**05 50 21.8**	**+0.4**
	3.2nm,1.0s,baz=149,slow=5.4,SNR=3.3						
DBIC				LR	LR	06 16 54.8	
	comp=Z,61nm,18.5s,baz=126,slow=33						
TORD	**Torodi Ar. Bea**	**68.76**	**306**	P	**P**	**05 50 21.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**68.76**	**306**	P	**P**	**05 50 21.7**	**+0.3**
	1.6nm,0.8s,baz=130,slow=5.6,SNR=12						
TORD				LR	LR	06 21 17.0	
	comp=Z,71nm,19.5s,baz=340,slow=37						
ASAR	**Alice Springs**	**69.62**	**105**	P	**P**	**05 50 27.6**	**+0.7**
ASAR	**Alice Springs**	**69.62**	**105**	P	**P**	**05 50 27.6**	**+0.7**
	5.9nm,0.7s,baz=236,slow=6.0,SNR=50						
CMAR	**Chiang Mai Arr**	**69.83**	**47**	P	**P**	**05 50 28.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**69.83**	**47**	P	**P**	**05 50 28.1**	**+0.1**
	1.0nm,0.5s,baz=231,slow=7.4,SNR=12						
CMAR				LR	LR	06 16 02.3	
	comp=Z,75nm,18.6s,baz=175,slow=32						
STKA	**Stephens Creek**	**71.17**	**116**	P	**P**	**05 50 36.9**	**+0.7**
STKA	**Stephens Creek**	**71.17**	**116**	P	**P**	**05 50 36.9**	**+0.7**
	2.8nm,0.8s,baz=256,slow=8.3,SNR=6.1						
WRA	**Warramunga Arr**	**71.93**	**102**	P	**P**	**05 50 42.0**	**+1.0**
WRA	**Warramunga Arr**	**71.93**	**102**	P	**P**	**05 50 42.0**	**+1.0**
	8.9nm,0.7s,baz=233,slow=5.4,SNR=43						
WRAB	**Tennant Creek**	**71.95**	**102**	*e*P	**P**	**05 50 41.7**	**+0.6**
	10nm,0.7s						
LSA	**Lhasa**	**74.93**	**34**	*e*P	**P**	**05 50 58.4**	**-0.4**
	6.9nm,0.8s						
BRTR	**Keskin Array B**	**77.65**	**345**	P	**P**	**05 51 12.6**	**-1.0**
BRTR	**Keskin Array B**	**77.65**	**345**	P	**P**	**05 51 12.6**	**-1.0**
	1.6nm,1.1s,baz=141,slow=4.8,SNR=5.0						
BRTR				LR	LR	06 23 22.7	
	comp=Z,30nm,18.2s,baz=352,slow=34						
KKAR	**Karatay Array**	**80.67**	**13**	*e*P	**P**	**05 51 30.0**	**+0.2**
	1.8nm,0.8s						
AAK	**Ala-Archa**	**81.03**	**16**	*e*P	**P**	**05 51 31.6**	**-0.4**
	40nm,1.4s						
AKTO	**Aktyubinsk**	**86.48**	**3**	P	**P**	**05 51 59.8**	**+0.2**
AKTO	**Aktyubinsk**	**86.48**	**3**	P	**P**	**05 51 59.8**	**+0.2**
	0.5nm,0.3s,baz=180,slow=8.1,SNR=3.6						
MKAR	**Makanchi Array**	**86.87**	**20**	P	**P**	**05 52 01.8**	**+0.2**
MKAR	**Makanchi Array**	**86.87**	**20**	P	**P**	**05 52 01.8**	**+0.2**
	0.4nm,0.7s,baz=218,slow=8.3,SNR=4.7						
AKASG	**Malin Array Be**	**89.05**	**345**	P	**P**	**05 52 11.3**	**-0.5**
AKASG	**Malin Array Be**	**89.05**	**345**	P	**P**	**05 52 11.3**	**-0.5**
	2.1nm,0.7s,baz=169,slow=4.5,SNR=7.1						
BDFB	**Brasilia**	**89.24**	**251**	P	**P**	**05 52 15.1**	**+1.3**
BDFB	**Brasilia**	**89.24**	**251**	P	**P**	**05 52 15.1**	**+1.3**
	0.8nm,0.5s,baz=135,slow=2.9,SNR=3.6						
GERES	**GERESS Array B**	**91.57**	**335**	P	**P**	**05 52 23.3**	**-0.5**
GERES	**GERESS Array B**	**91.57**	**335**	P	**P**	**05 52 23.3**	**-0.5**
	0.2nm,0.4s,baz=163,slow=8.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**94.06**	**18**	P	**P**	**05 52 34.2**	**-0.8**
ZALV	**Zalesovo Beam**	**94.06**	**18**	P	**P**	**05 52 34.2**	**-0.8**
	0.6nm,0.4s,baz=224,slow=6.0,SNR=4.6						
INK	**Inuvik**	**147.74**	**4**	*e*PKPbc	**PKPbc**	**05 59 01.1**	**+0.2**
INK	**Inuvik**	**147.74**	**4**	PKPbc	**PKPbc**	**05 59 01.1**	**+0.2**
	5.1nm,0.7s,baz=4.0,slow=2.2,SNR=18						
COLA	**College**	**148.85**	**17**	*e*PKPbc	**PKPbc**	**05 59 02.4**	**-1.5**
ILAR	**Eielson Array**	**149.16**	**16**	PKPbc	**PKPbc**	**05 59 04.5**	**-0.3**
ILAR	**Eielson Array**	**149.16**	**16**	PKPbc	**PKPbc**	**05 59 04.5**	**-0.3**
	6.3nm,0.7s,baz=319,slow=3.3,SNR=77						
TRF	**Thorofare Moun**	**149.39**	**20**	*e*PKPbc	**PKPbc**	**05 59 05.0**	**-0.7**
MCK	**McKinley**	**149.53**	**19**	*e*PKPbc	**PKPbc**	**05 59 05.6**	**-0.2**
DOT	**Dot Lake**	**150.75**	**15**	*e*PKPdf	**PKPdf**	**05 59 03.1**	**-0.1**
PMR	**Palmer**	**151.19**	**22**	*e*PKPdf	**PKPdf**	**05 59 02.7**	**-1.1**
SML	**Sawmill**	**151.25**	**21**	*e*PKPbc	**PKPbc**	**05 59 09.8**	**-0.2**
RC01	**Rabbit Creek A**	**151.39**	**23**	*e*PKPbc	**PKPbc**	**05 59 10.6**	**+0.4**
YKA	**Yellowknife Ar**	**152.60**	**347**	PKP	**PKPdf**	**05 59 07.5**	**+1.6**
YKA				PKPbc	**PKPbc**	**05 59 12.7**	**-0.2**
YKA	**Yellowknife Ar**	**152.60**	**347**	PKP	**PKPdf**	**05 59 07.5**	**+1.6**
	0.9nm,0.8s,baz=19,slow=1.5,SNR=6.2						
YKA				PKPbc	**PKPbc**	**05 59 12.7**	**-0.2**
	1.9nm,0.7s,baz=21,slow=2.0,SNR=34						
PDAR	**Pinedale Array**	**164.86**	**301**	PKP	**PKPdf**	**05 59 21.2**	**-0.2**
PDAR	**Pinedale Array**	**164.86**	**301**	PKP	**PKPdf**	**05 59 21.2**	**-0.2**
	0.6nm,0.9s,baz=101,slow=0.9,SNR=4.4						
NVAR	**Mina Array Bea**	**172.51**	**289**	PKP	**PKPdf**	**05 59 28.4**	**+1.9**
NVAR	**Mina Array Bea**	**172.51**	**289**	PKP	**PKPdf**	**05 59 28.4**	**+1.9**
	0.6nm,0.8s,baz=190,slow=1.6,SNR=4.7						

JMA 04 05:56:40.5±0.2,43°.21N×146°.65E, h61km±2km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.68**	**283**	P	Pn	05 56 54.8	+0.3
NEM2				*e*S	Sn	05 57 05.2	+0.4
JRA	**Rausu**	**1.33**	**304**	P	Pn	05 57 03.3	+0.4
JRA				*e*S	Sn	05 57 20.1	+0.5
JAK	**Akkeshi**	**1.45**	**262**	P	Pn	05 57 04.8	+0.4
JAK				*e*S	Sn	05 57 22.8	+0.3
JNK	**Nakash**	**1.46**	**286**	P	Pn	05 57 04.6	0.0
JNK				*e*S	Sn	05 57 22.5	-0.3
JOB	**Onbets**	**2.09**	**263**	P	Pn	05 57 13.7	+0.6
JOB				*e*S	Sn	05 57 38.0	0.0
JAR	**Ashorobuto**	**2.11**	**273**	P	Pn	05 57 14.2	+0.8
JAR				*e*S	Sn	05 57 39.6	+1.1
JTKR	**Abashiri--Toko**	**2.13**	**292**	P	Pn	05 57 14.8	+1.1
JTKR				*e*S	Sn	05 57 40.4	+1.3
JCH	**Churui**	**2.49**	**257**	P	Pn	05 57 19.0	+0.4
JMP	**Maruseppu**	**2.52**	**290**	P	Pn	05 57 20.4	+1.3
JEM	**Erimo**	**2.84**	**246**	P	Pn	05 57 25.7	+2.3

*HLW **04** 06:07:24.8, 36°.34N×31°.22E, h31km±25km, Md3.9, Ml3.8*
*DDA **04** 06:07:25.6, 36°.20N×31°.45E, h30km, MD3.5*
*NIC **04** 06:07:25.4±0.2, 36°.11N×31°.46E, h10km, ML3.6, MW3.2*

*ISCJB **04** 06:07:25.8±1.1, 36°.09N±0°.02×31°.42E±0°.03, h29km±11km, Error ellipse: s-maj=4.5km s-min=3.2km az=139.9*
*CSEM **04** 06:07:25.1±0.1, 36°.12N×31°.44E, h10km, Mw3.2, Error ellipse: s-maj=3.0km s-min=2.3km az=56.0*
*ISK **04** 06:07:26.4, 36°.13N×31°.48E, h32km, MD3.6*

ISC 04 06:07:24.7±1.4,36°.17N±0°.03×31°.51E±0°.02, h9km±11km, n105, σ1s97/125, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**1.00**	**317**	*e*PG	**Pg**	**06 07 44.3**	**+0.4**
ANTB				*e*SG	**Sb**	**06 07 58.0**	**+0.6**
ANTB	**Antalya**	**1.00**	**317**	*e*Pg	**Pg**	**06 07 44.3**	**+0.4**
ANTB				*e*Sg	**Sb**	**06 07 58.0**	**+0.6**
KORT	**Korkueli**	**1.25**	**312**	*i* P	**Pn**	**06 07 47.5**	**-0.9**
KORT				*i* S	Sg	06 08 12.3	+7.5
KORT	**Korkueli**	**1.25**	**312**	*i* P	**Pn**	**06 07 47.5**	**-0.9**
AKMC	**Akamas**	**1.32**	**149**	P	**Pn**	**06 07 49.6**	**+0.3**
AKMC	**Akamas**	**1.32**	**149**	P	**Pn**	**06 07 49.6**	**+0.3**
ALFC	**Alevga**	**1.35**	**138**	P	**Pn**	**06 07 49.4**	**-0.3**
	40nm,0.2s						
ALFC				S	**Sg**	**06 08 08.3**	**+0.3**
SUTC	**Sutluce-Ispart**	**1.37**	**343**	*e*PN	**Pn**	**06 07 50.4**	**+0.3**
SUTC	**Sutluce-Ispart**	**1.37**	**343**	*e*Pn	**Pn**	**06 07 50.4**	**+0.3**
ELL	**Elmali**	**1.41**	**295**	*e*PN	**Pn**	**06 07 50.9**	**+0.2**
ELL	**Elmali**	**1.41**	**295**	*e*Pn	**Pn**	**06 07 50.9**	**+0.2**
PPCY	**Paphos**	**1.45**	**152**	P	**Pn**	**06 07 50.9**	**-0.2**
PPCY	**Paphos**	**1.45**	**152**	P	**Pn**	**06 07 50.9**	**-0.2**
BCK	**Bucak**	**1.48**	**331**	*e*PN	**Pn**	**06 07 51.7**	**+0.1**
BCK	**Bucak**	**1.48**	**331**	*e*Pn	**Pn**	**06 07 51.7**	**+0.1**
AKAS	**Kas**	**1.54**	**273**	*i* P	**Pn**	**06 07 52.8**	**+0.4**
AKAS				*i* S	**Sb**	**06 08 13.4**	**+0.3**
AKAS	**Kas**	**1.54**	**273**	*i* P	**Pn**	**06 07 52.8**	**+0.4**
AKAS				*i* S	**Sb**	**06 08 13.4**	**+0.3**
LEF	**Lefka**	**1.54**	**133**	*e*PN	**Pn**	**06 07 51.8**	**-0.5**
LEF	**Lefka**	**1.54**	**133**	*e*Pn	**Pn**	**06 07 51.8**	**-0.5**
MAMC	**Mammari**	**1.71**	**125**	P	**Pn**	**06 07 55.3**	**+0.6**
LFK	**Lefkose**	**1.87**	**118**	*e*PN	**Pn**	**06 07 57.4**	**+0.4**
LFK	**Lefkose**	**1.87**	**118**	*e*Pn	**Pn**	**06 07 57.4**	**+0.4**
KONT	**Konya--Tatoy**	**1.90**	**21**	*e*PN	**Pn**	**06 07 58.4**	**+1.1**
KONT	**Konya--Tatoy**	**1.90**	**21**	*e*Pn	**Pn**	**06 07 58.4**	**+1.1**
CSS	**Prodhromos**	**1.91**	**128**	P	**Pn**	**06 07 57.7**	**+0.2**
CSS	**Prodhromos**	**1.91**	**128**	*e*PN	**Pn**	**06 07 57.3**	**-0.2**
CSS	**Prodhromos**	**1.91**	**128**	*e*Pn	**Pn**	**06 07 57.3**	**-0.2**
FETY	**Fethiye**	**2.01**	**284**	*e*PN	**Pn**	**06 07 58.7**	**-0.1**
FETY	**Fethiye**	**2.01**	**284**	*e*Pn	**Pn**	**06 07 58.7**	**-0.1**
LADK	**Ladik-KONYA**	**2.14**	**18**	*e*PN	**Pn**	**06 08 01.3**	**+0.6**
LADK	**Ladik-KONYA**	**2.14**	**18**	*e*Pn	**Pn**	**06 08 01.3**	**+0.6**
EREN	**Erenkoy**	**2.26**	**106**	*e*PN	**Pn**	**06 08 02.5**	**+0.4**
EREN	**Erenkoy**	**2.26**	**106**	*e*Pn	**Pn**	**06 08 02.5**	**+0.4**
PHNC	**Paralimni**	**2.37**	**119**	P	**Pn**	**06 08 04.3**	**+0.7**
	3.8nm,0.4s						
PHNC				S	**Sn**	**06 08 34.3**	**+1.5**
KDHN	**Kadinhani**	**2.40**	**12**	*i* P	**Pn**	**06 08 04.5**	**+0.3**
KDHN				*i* S	**Sn**	**06 08 33.1**	**-0.7**
KDHN	**Kadinhani**	**2.40**	**12**	*i* P	**Pn**	**06 08 04.5**	**+0.3**
KDHN				*i* S	**Sn**	**06 08 33.1**	**-0.7**
DNZL	**Cakiroluk**	**2.49**	**308**	*i* P	**Pn**	**06 08 07.5**	**+2.0**
DNZL				*i* S	**Sb**	**06 08 42.6**	**+2.1**
DNZL	**Cakiroluk**	**2.49**	**308**	*i* P	**Pn**	**06 08 07.5**	**+2.0**
SHUT	**Suhut-Afyon**	**2.50**	**343**	*e*PN	**Pn**	**06 08 06.3**	**+0.7**
SHUT	**Suhut-Afyon**	**2.50**	**343**	*e*Pn	**Pn**	**06 08 06.3**	**+0.7**
MERS	**Mersin**	**2.53**	**73**	*e*PN	**Pn**	**06 08 07.4**	**+1.4**
MERS	**Mersin**	**2.53**	**73**	*e*Pn	**Pn**	**06 08 07.4**	**+1.4**
BOLV	**Bolvadin**	**2.58**	**350**	*i* P	**Pn**	**06 08 07.7**	**+1.0**
BOLV				*i* S	**Sn**	**06 08 39.8**	**+1.5**
BOLV	**Bolvadin**	**2.58**	**350**	*i* P	**Pn**	**06 08 07.7**	**+1.0**
BOLV				*i* S	**Sn**	**06 08 39.8**	**+1.5**
SULT	**Sultanhani-AKS**	**2.58**	**38**	*e*PN	**Pn**	**06 08 08.2**	**+1.5**
SULT	**Sultanhani-AKS**	**2.58**	**38**	*e*Pn	**Pn**	**06 08 08.2**	**+1.5**
KHL	**Karahalli**	**2.67**	**324**	*e*PN	**Pn**	**06 08 08.4**	**+0.5**
KHL	**Karahalli**	**2.67**	**324**	*e*Pn	**Pn**	**06 08 08.4**	**+0.5**
KHAL	**Karahalli**	**2.72**	**324**	*i* P	**Pn**	**06 08 09.6**	**+0.9**
KHAL				*i* S	**Sn**	**06 08 41.7**	**-0.1**
KHAL	**Karahalli**	**2.72**	**324**	*i* P	**Pn**	**06 08 09.6**	**+0.9**
KHAL				*i* S	**Sn**	**06 08 41.7**	**-0.1**
YER	**Yerkesik**	**2.77**	**291**	*e*PN	**Pn**	**06 08 09.6**	**+0.4**
YER	**Yerkesik**	**2.77**	**291**	*e*Pn	**Pn**	**06 08 09.6**	**+0.4**
GULE	**Gulek**	**2.85**	**66**	*i* P	**Pb**	**06 08 13.9**	**-2.0**
GULE				*i* S	**Sb**	**06 08 49.5**	**-1.5**
GULE	**Gulek**	**2.85**	**66**	*i* P	**Pb**	**06 08 13.9**	**-2.0**
GULE				*i* S	**Sb**	**06 08 49.5**	**-1.5**
NIG	**Nigde**	**3.15**	**51**	*e*PN	**Pn**	**06 08 15.5**	**+0.9**
NIG	**Nigde**	**3.15**	**51**	*e*Pn	**Pn**	**06 08 15.5**	**+0.9**
KRTS	**Karatas**	**3.15**	**82**	*e*PN	**Pn**	**06 08 15.6**	**+1.2**
KRTS	**Karatas**	**3.15**	**82**	*e*Pn	**Pn**	**06 08 15.6**	**+1.2**
SVRH	**Sivrihisar-ESK**	**3.27**	**0**	*e*PN	**Pn**	**06 08 16.5**	**+0.3**
SVRH	**Sivrihisar-ESK**	**3.27**	**0**	*e*Pn	**Pn**	**06 08 16.5**	**+0.3**
SEYT	**Eskypehyr**	**3.38**	**351**	*i* P	**Pn**	**06 08 18.2**	**+0.4**
SEYT				*i* S	**Sn**	**06 08 55.9**	**-2.2**
SEYT	**Eskypehyr**	**3.38**	**351**	*i* P	**Pn**	**06 08 18.2**	**+0.4**
SEYT				*i* S	**Sn**	**06 08 55.9**	**-2.2**
BDRM	**Kayabasi**	**3.39**	**286**	*i* P	**Pn**	**06 08 18.1**	**+0.4**
BDRM				*i* S	**Sn**	**06 08 56.3**	**-1.7**
BDRM	**Kayabasi**	**3.39**	**286**	*i* P	**Pn**	**06 08 18.1**	**+0.4**
BDRM				*i* S	**Sn**	**06 08 56.3**	**-1.7**
AFSR	**Af˙ar-Bala (A**	**3.50**	**20**	*e*PN	**Pn**	**06 08 20.9**	**+1.6**
AFSR	**Af˙ar-Bala (A**	**3.50**	**20**	*e*Pn	**Pn**	**06 08 20.9**	**+1.6**
CEYT	**Ceyhan**	**3.52**	**75**	*e*PN	**Pn**	**06 08 20.8**	**+1.3**
CEYT	**Ceyhan**	**3.52**	**75**	*e*Pn	**Pn**	**06 08 20.8**	**+1.3**
DEMI	**Demirci**	**3.62**	**323**	*i* P	**Pn**	**06 08 22.2**	**+1.1**
DEMI	**Demirci**	**3.62**	**323**	*i* P	**Pn**	**06 08 22.2**	**+1.1**
KAMT	**Kaman**	**3.64**	**28**	*e*PN	**Pn**	**06 08 22.7**	**+1.4**
KAMT	**Kaman**	**3.64**	**28**	*e*Pn	**Pn**	**06 08 22.7**	**+1.4**
KOZT	**Kozan**	**3.71**	**68**	*e*PN	**Pn**	**06 08 23.4**	**+1.3**
KOZT	**Kozan**	**3.71**	**68**	*e*Pn	**Pn**	**06 08 23.4**	**+1.3**
YAYL	**Yayladag**	**3.73**	**91**	*i* P	**Pn**	**06 08 22.9**	**+0.4**
YAYL				*i* S	**Sn**	**06 09 07.5**	**+0.9**
HTY	**Hatay**	**3.75**	**89**	*e*PN	**Pn**	**06 08 24.3**	**+1.7**
HTY	**Hatay**	**3.75**	**89**	*e*Pn	**Pn**	**06 08 24.3**	**+1.7**
COBT	**Iskenderun**	**3.85**	**83**	*i* P	**Pn**	**06 08 26.4**	**+2.1**
COBT				*i* S	**Sn**	**06 09 10.7**	**+1.0**
COBT	**Iskenderun**	**3.85**	**83**	*i* P	**Pn**	**06 08 26.4**	**+2.1**
COBT				*i* S	**Sn**	**06 09 10.7**	**+1.0**
KMRS	**Kahramanmaras**	**4.53**	**71**	*e*PN	**Pn**	**06 08 35.2**	**+1.8**
KMRS	**Kahramanmaras**	**4.53**	**71**	*e*Pn	**Pn**	**06 08 35.2**	**+1.8**
RSH		**5.52**	**160**	P	**Pn**	**06 08 47.4**	**+0.4**
RSH		**5.52**	**160**	P	**Pn**	**06 08 47.4**	**+0.4**
	baz=158						
AMAG	**Maghara**	**5.69**	**165**	P	**Pn**	**06 08 49.3**	**-0.2**
AMAG	**Maghara**	**5.69**	**165**	P	**Pn**	**06 08 49.3**	**-0.2**
	baz=163						
KOT	**Kottamia**	**6.23**	**177**	P	**Pn**	**06 08 56.8**	**0.0**
KOT	**Kottamia**	**6.23**	**177**	P	**Pn**	**06 08 56.9**	**0.0**
	baz=175						
KOT				AMP		06 10 00.0	
	comp=E,30μm,0.3s,logA/T=5.0,baz=175						
SUZ		**6.41**	**170**	P	**Pn**	**06 08 59.5**	**+0.2**
SUZ		**6.41**	**170**	P	**Pn**	**06 08 59.5**	**+0.2**
	baz=167						
HSAF	**As Saff**	**6.53**	**180**	P	**Pn**	**06 09 00.4**	**-0.6**
HSAF	**As Saff**	**6.53**	**180**	P	**Pn**	**06 09 00.5**	**-0.6**
	baz=177						
HNAT	**Natroun**	**6.56**	**187**	P	**Pn**	**06 09 00.9**	**-0.4**
HNAT	**Natroun**	**6.56**	**187**	P	**Pn**	**06 09 00.9**	**-0.4**
	baz=185						
GLL	**Jalalah**	**6.58**	**178**	P	**Pn**	**06 09 01.4**	**-0.2**
GLL	**Jalalah**	**6.58**	**178**	P	**Pn**	**06 09 01.4**	**-0.2**
	baz=176						
SLUM		**7.01**	**230**	S	Sn	06 10 19.5	-7.9
	baz=228						
AWBH		**8.13**	**196**	P	**Pn**	**06 09 21.4**	**-1.5**
AWBH		**8.13**	**196**	P	**Pn**	**06 09 21.4**	**-1.5**
	baz=195						
SWA2		**8.58**	**218**	P	**Pn**	**06 09 26.4**	**-2.7**
SWA2		**8.58**	**218**	P	**Pn**	**06 09 26.4**	**-2.7**
	baz=216						
SWA2				S	Sn	06 10 59.2	-6.8
	baz=216						
HFRF	**Wahat Farafira**	**9.40**	**198**	P	**Pn**	**06 09 39.6**	**-0.6**
HFRF	**Wahat Farafira**	**9.40**	**198**	P	**Pn**	**06 09 39.6**	**-0.6**
	baz=196						
HDK1	**Dakhla**	**10.75**	**190**	P	**Pn**	**06 09 58.4**	**-0.4**
HDK1	**Dakhla**	**10.75**	**190**	P	**Pn**	**06 09 58.4**	**-0.4**
	baz=189						
BHD	**Baghdad**	**10.98**	**102**	*ex*	x	06 09 47.0	
BHD				*ex*	x	06 11 44.0	

*ISCJB **04** 06:21:52.7±0.7, 41°.27N±0°.03×43°.91E±0°.03, h3km±6km, Error ellipse: s-maj=6.0km s-min=3.8km az=153.1*

*ISK **04** 06:21:52.1, 41°.30N×43°.89E, h11km, MD3.3*
*TIF **04** 06:21:52.1, 41°.27N×43°.95E, h14km±2km*
*CSEM **04** 06:21:52.9±0.2, 41°.26N×43°.94E, h10km, MD3.3, Error ellipse: s-maj=7.4km s-min=4.1km az=154.0*
*DDA **04** 06:21:54, 41°.55N×43°.70E, h19km, MD3.4*

ISC 04 06:21:52.9±1.1,41°.30N±0°.03×43°.92E±0°.03, h12km±10km, n24, σ0s58/40, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.34**	**290**	P	**Pg**	**06 21 59.8**	**-0.1**
AKH				S	**Sg**	**06 22 04.7**	**+0.2**
GOR	**Gori**	**0.70**	**11**	P	**Pb**	**06 22 07.1**	**0.0**
GOR				S	**Sb**	**06 22 17.8**	**+1.0**
TBLG	**Delisi**	**0.75**	**54**	P	**Pb**	**06 22 07.5**	**-0.4**
TBLG				S	**Sb**	**06 22 18.1**	**-0.1**
TBLG	**Delisi**	**0.75**	**54**	P	**Pb**	**06 22 07.5**	**-0.4**
TBLG				S	**Sb**	**06 22 18.1**	**-0.1**
KARS	**Kars**	**0.92**	**224**	*e*PG	**Pg**	**06 22 10.1**	**-0.6**
KARS				*e*SG	**Sb**	**06 22 23.4**	**+0.2**
KARS	**Kars**	**0.92**	**224**	*e*Pg	**Pg**	**06 22 10.1**	**-0.6**
KARS				*e*Sg	**Sb**	**06 22 23.4**	**+0.2**
DGRG	**David-gareji**	**1.10**	**81**	P	**Pn**	**06 22 14.2**	**-0.1**
DGRG				S	**Sn**	**06 22 30.3**	**+0.9**
GNI	**Garni**	**1.30**	**151**	*e*PN	**Pb**	**06 22 17.2**	**-0.2**
GNI	**Garni**	**1.30**	**151**	*e*Pn	**Pb**	**06 22 17.2**	**-0.2**
ONI	**Oni**	**1.34**	**345**	P	**Pg**	**06 22 18.1**	**-0.5**
ONI				S	**Sg**	**06 22 36.5**	**+0.5**
ARTV	**Artvin**	**1.51**	**266**	*i* P	**Pb**	**06 22 20.5**	**-0.4**
ARTV				*i* S	**Sn**	**06 22 38.8**	**-0.8**
ARTV	**Artvin**	**1.51**	**266**	*i* P	**Pb**	**06 22 20.5**	**-0.4**
ARTV				*i* S	**Sn**	**06 22 38.8**	**-0.8**
DAGI	**Agillar**	**1.53**	**262**	*i* P	**Pb**	**06 22 20.9**	**-0.3**
DAGI				*i* S	**Sb**	**06 22 41.1**	**+0.4**
DDEM	**Demirkent**	**1.69**	**257**	*i* P	**Pb**	**06 22 23.2**	**-0.7**
DDEM				*i* S	**Sb**	**06 22 45.6**	**+0.4**
DDEM	**Demirkent**	**1.69**	**257**	*i* P	**Pb**	**06 22 23.2**	**-0.7**
DDEM				*i* S	**Sb**	**06 22 45.6**	**+0.4**
DBAD	**Bademkaya**	**1.70**	**261**	*i* P	**Pb**	**06 22 23.7**	**-0.5**
DBAD				*i* S	**Sb**	**06 22 46.7**	**+1.1**
DBAD	**Bademkaya**	**1.70**	**261**	*i* P	**Pb**	**06 22 23.7**	**-0.5**
DBAD				*i* S	**Sb**	**06 22 46.7**	**+1.1**
BCA	**Borcka**	**1.

CHN3	baz=276			*e*S		**Sn**	**06 40 36.7**	**+2.0**
SMLT	baz=276 **Sun Moon Lake**	**1.11**	**329**	*e*P		**Pb**	**06 40 19.9**	**-0.6**
CHN2	baz=347 **Minshiung**	**1.14**	**302**	*e*P		**Pb**	**06 40 20.4**	**-0.4**
TWD	baz=304 **Chiawan**	**1.15**	**3**	*e*P		**Pn**	**06 40 19.3**	**-1.6**
TYC	baz=27 **Yuchr**	**1.15**	**328**	*e*P		**Pn**	**06 40 20.3**	**-0.7**
TYC	baz=347			*e*S		**Sg**	**06 40 36.1**	**-0.8**
CHY	baz=347 **Chiayi**	**1.17**	**299**	*e*P		**Pn**	**06 40 20.6**	**-0.5**
CHY	baz=301			*e*S		**Sg**	**06 40 36.7**	**-0.7**
WGK	baz=301 **Gukeng**	**1.17**	**310**	*e*P		**Pg**	**06 40 21.4**	**-0.7**
WGK	baz=314			*e*S		**Sn**	**06 40 36.3**	**-0.4**
HEN	baz=314 **Hengchun**	**1.18**	**219**	*e*P		**Pn**	**06 40 20.2**	**-1.1**
TSEB	baz=200 **Hengchuen, Pin**	**1.18**	**210**	*e*P		**Pn**	**06 40 20.1**	**-1.2**
TSEB	baz=202			*e*S		**Sb**	**06 40 36.3**	**-0.2**
TWK1	baz=202 **Hengchun**	**1.19**	**215**	⇓P		**Pn**	**06 40 20.3**	**-1.2**
TWK1	baz=196			*e*S		**Sb**	**06 40 34.9**	**-1.9**
TAI1	baz=196 **Yung-k'ang**	**1.21**	**275**	*e*P		**Pg**	**06 40 22.5**	**-0.4**
TAI1	baz=273			*e*S		**Sg**	**06 40 39.7**	**+1.0**
WNT	baz=273 **Mingjian**	**1.22**	**321**	*e*P		**Pb**	**06 40 22.3**	**0.0**
WNT	baz=326			*e*S		**Sg**	**06 40 39.0**	**-0.3**
TWP	baz=326 **Hsiaoliuchiu**	**1.23**	**242**	⇓*e*P		**Pg**	**06 40 24.2**	**+1.0**
TWP	baz=228			*e*S		**Sg**	**06 40 42.6**	**+3.3**
WHF	baz=228 **Hehuan Shan**	**1.23**	**349**	*e*P		**Pn**	**06 40 21.5**	**-1.0**
NACB	baz=9.0 **Ninganchiao**	**1.24**	**3**	*e*P		**Pn**	**06 40 20.9**	**-1.3**
SCLT	**Jiali**	**1.26**	**281**	*e*P		**Pb**	**06 40 22.7**	**-0.1**
SCLT	baz=294			*e*S		**Sg**	**06 40 40.9**	**+0.6**
CHN8	baz=294 **Yiju**	**1.28**	**289**	*e*P		**Pn**	**06 40 22.6**	**-0.1**
CHN8	baz=289			*e*S		**Sg**	**06 40 40.8**	**-0.4**
TWT	baz=289 **Tachien**	**1.36**	**346**	*e*P		**Pn**	**06 40 24.0**	**0.0**
WSF	baz=352 **Szhu**	**1.40**	**301**	*e*P		**Pb**	**06 40 24.5**	**-0.7**
WSF	baz=302			*e*S		**Sg**	**06 40 43.5**	**-1.3**
TCU	baz=302 **Taichung**	**1.44**	**327**	*e*P		**Pg**	**06 40 26.6**	**-0.8**
WTCT	baz=333 **Ta-ch'eng**	**1.48**	**309**	*e*P		**Pb**	**06 40 26.3**	**-0.3**
WTCT	baz=312			*e*S		**Sb**	**06 40 45.1**	**-0.1**
ENA	baz=312 **Nanau**	**1.50**	**7**	*e*P		**Pn**	**06 40 24.9**	**-0.9**
NNS	baz=30 **Nan Shan**	**1.51**	**354**	*e*P		**Pn**	**06 40 26.0**	**0.0**
TWQ1	baz=18 **Liyutan**	**1.57**	**334**	⇓P		**Pb**	**06 40 28.4**	**+0.1**
TWQ1	baz=340			*e*S		**Sg**	**06 40 48.9**	**-1.5**
NSY	baz=340 **Sanyi**	**1.64**	**335**	*e*P		**Pb**	**06 40 29.3**	**-0.1**
NSY	baz=341			*e*S		**Sg**	**06 40 51.4**	**-1.1**
TWC	baz=341 **Suao**	**1.70**	**10**	*e*P		**Pn**	**06 40 28.5**	**+0.1**
ENTT	baz=30 **Nioudou**	**1.70**	**1**	*e*P		**Pn**	**06 40 29.0**	**+0.4**
YHNB	baz=8.0 **Yeheng**	**1.74**	**355**	*e*Pn		**Pn**	**06 40 29.8**	**+0.7**
NSK	**Sanguang**	**1.75**	**355**	*e*P		**Pb**	**06 40 30.2**	**-1.0**
NSTT	baz=16 **Nanjuang**	**1.76**	**344**	*e*P		**Pb**	**06 40 30.7**	**-0.8**
TWE	baz=350 **Neicheng**	**1.79**	**4**	*e*P		**Pb**	**06 40 30.6**	**-1.3**
PNG	baz=11 **Penghu**	**1.93**	**290**	*e*P		**Pn**	**06 40 31.1**	**-0.5**
PNG	baz=289			*e*S		**Sn**	**06 40 54.2**	**-1.2**
TATO	baz=289 **Taipei**	**2.04**	**359**	*e*Pn		**Pb**	**06 40 35.5**	**-0.7**
YOJ	**Yonaguni jima**	**2.04**	**41**	*e*P		**Pn**	**06 40 33.5**	**+0.3**
YOJ	baz=46 **Yonaguni jima**	**2.04**	**41**	P		**Pn**	**06 40 33.2**	**0.0**
YOJ				S		**Sn**	**06 40 57.6**	**-0.6**
TWA	**Mucha**	**2.04**	**1**	*e*P		**Pn**	**06 40 34.0**	**+0.8**
NCU	baz=21 **National Centr**	**2.06**	**351**	*e*P		**Pb**	**06 40 36.2**	**-0.2**
TWB1	baz=359 **Santiao Chiao**	**2.11**	**11**	*e*P		**Pn**	**06 40 34.7**	**+0.6**
NWF	baz=18 **Wu-fen Shan**	**2.14**	**6**	*e*P		**Pn**	**06 40 35.4**	**+0.7**
HATJ	baz=13 **Hateruma jima**	**2.37**	**61**	P		**Pn**	**06 40 37.9**	**+0.2**
HATJ				S		**Sn**	**06 41 05.9**	**-0.5**
IRIF	**Iriomote-Funau**	**2.45**	**55**	P		**Pn**	**06 40 39.6**	**+0.8**
IRIF				S		**Sn**	**06 41 08.2**	**-0.2**
JKRS	**Kuro-shima**	**2.62**	**60**	P		**Pn**	**06 40 41.7**	**+0.6**
JKRS				S		**Sn**	**06 41 13.0**	**+0.5**
JIJ	**Ishigaki jima**	**2.79**	**59**	P		**Pn**	**06 40 43.3**	**-0.1**
JIJ				S		**Sn**	**06 41 15.7**	**-1.0**
KNM	**Kinmen**	**3.20**	**298**	*e*P		**Pn**	**06 40 50.5**	**+1.3**
QZH	baz=299 **Quanzhou**	**3.35**	**307**	⇑*i*Pn		**Pn**	**06 40 51.4**	**+0.2**
QZH				Sn		**Sn**	**06 41 27.0**	**-3.7**
QZH	comp=N,660nm,0.6s			smax	smax			
QZH	comp=E,690nm,0.8s			smax	smax			
JTJ	**Tarama**	**3.37**	**59**	P		**Pn**	**06 40 52.0**	**+0.6**
JTJ				S		**Sn**	**06 41 31.3**	**+0.3**
JOW	**Kunigami**	**7.25**	**56**	Pn		**Pn**	**06 41 42.6**	**-2.2**
JOW				Sn		**Sn**	**06 43 05.0**	**-1.8**
JOW	**Kunigami**	**7.25**	**56**	Pn		**Pn**	**06 41 42.6**	**-2.2**
JOW	comp=E,1.6nm,0.3s,baz=156,slow=13,SNR=2.7 **Kunigami** comp=E,1.9nm,0.3s,baz=119,slow=18,SNR=3.5			Sn		**Sn**	**06 43 05.0**	**-1.8**
WHN	**Wuhan**	**9.93**	**321**	*e*P		Pn	06 42 25.8	+4.2
KSAR	**Wonju Array Be**	**15.46**	**19**	Pn		**Pn**	**06 43 37.1**	**+0.2**
KSRS	**Korea Array**	**15.49**	**19**	Pn		**Pn**	**06 43 37.1**	**-0.1**
KSRS	comp=E,0.3nm,0.3s,baz=203,slow=10,SNR=3.5			LR		LR	06 50 58.8	
CBIJ	comp=E,45nm,18.2s,baz=225,slow=43 **Chichi jima**	**19.17**	**73**	LR		LR	06 50 13.5	
MJAR	comp=E,88nm,21.9s,baz=136,slow=32 **Matsushiro Arr**	**19.80**	**43**	P		**Pn**	**06 44 32.1**	**+1.3**
MJAR	**Matsushiro Arr**	**19.80**	**43**	P		**Pn**	**06 44 32.1**	**+1.3**
LZH	comp=E,0.4nm,0.3s,baz=236,slow=11,SNR=3.7 **Lanzhou**	**20.18**	**314**	*e*P		Pn	06 44 36.5	+1.0
LZH				pP		pP	06 44 46.2	+7.9
LZH				sP		sP	06 44 50.3	+10
LZH	comp=Z,19nm,1.2s			pmax	pmax			
LZH	comp=Z,49nm,7.8s			pmax	pmax			
LZH	comp=N,350nm,14.5s			LR		LR		
LZH	comp=E,260nm,11.7s			LR		LR		
LZH	comp=Z,260nm,16.7s			LR		LR		
CHTO	**Chiang Mai**	**21.49**	**263**	*e*P		**P**	**06 44 49.5**	**+1.8**
CMAR	comp=Z,6.9nm,0.9s **Chiang Mai Arr**	**21.59**	**262**	P		**P**	**06 44 51.2**	**+2.5**
CMAR	**Chiang Mai Arr**	**21.59**	**262**	P		**P**	**06 44 51.2**	**+2.5**
CMAR	comp=Z,4.3nm,0.8s,baz=65,slow=9.5,SNR=14			LR		LR	06 54 24.6	
GTA	comp=Z,30nm,19.1s,baz=75,slow=40 **Gaotai**	**24.70**	**317**	*e*P		**P**	**06 45 22.0**	**+2.0**
GTA				pP		**pP**	**06 45 26.5**	**+1.3**
GTA				sP		**sP**	**06 45 29.1**	**+1.8**
GTA	comp=Z,3.0nm,1.2s			pmax	pmax			
ULN	**Ulaanbaatar**	**27.44**	**339**	*e*P		**P**	**06 45 44.8**	**+0.1**
SONM	comp=Z,3.8nm,0.8s **Songino Array**	**27.64**	**338**	P		**P**	**06 45 46.6**	**+0.1**
SONM	**Songino Array**	**27.64**	**338**	P		**P**	**06 45 46.6**	**+0.1**
LSA	comp=Z,1.6nm,0.8s,baz=159,slow=10,SNR=8.8 **Lhasa**	**28.00**	**290**	*e*P		**P**	**06 45 51.5**	**+1.2**
MK31	comp=Z,5.4nm,0.6s **Makanchi Array**	**39.46**	**317**	*e*P		**P**	**06 47 29.8**	**+0.8**
MKAR	**Makanchi Array**	**39.46**	**317**	P		**P**	**06 47 30.1**	**+1.1**
MKAR				PcP		**PcP**	**06 49 36.1**	**-0.6**
MKAR	**Makanchi Array**	**39.46**	**317**	P		**P**	**06 47 30.1**	**+1.1**
MKAR	comp=Z,3.7nm,0.9s,baz=106,slow=10,SNR=28			PcP		**PcP**	**06 49 36.1**	**-0.6**
ZAA0	comp=Z,0.7nm,1.0s,baz=98,slow=4.4,SNR=4.0 **Zalesovo Array**	**41.47**	**328**	*e*P		**P**	**06 47 45.1**	**-0.3**
ZALV	**Zalesovo Beam**	**41.47**	**328**	P		**P**	**06 47 45.3**	**-0.1**
ZALV	**Zalesovo Beam**	**41.47**	**328**	P		**P**	**06 47 45.3**	**-0.1**
KURK	comp=Z,7.1nm,0.7s,baz=114,slow=8.2,SNR=28 **Kurchatov**	**43.26**	**321**	P		**P**	**06 48 00.7**	**+0.7**
KURK				PcP		**PcP**	**06 49 49.2**	**+0.2**
KURBB	**Kurchatov Arra**	**43.27**	**321**	P		**P**	**06 48 00.7**	**+0.6**
KURBB	comp=Z,4.0nm,1.0s,baz=118,slow=7.3,SNR=14			PcP		**PcP**	**06 49 49.2**	**+0.2**
AAK	comp=Z,0.5nm,0.5s,baz=110,slow=3.7,SNR=6.2 **Ala-Archa** comp=Z,34nm,20.8s,baz=188,slow=41	**43.52**	**308**	LR		LR	07 09 58.2	
WRA	**Warramunga Arr**	**44.41**	**163**	P		**P**	**06 48 08.1**	**-1.4**
WRA	**Warramunga Arr**	**44.41**	**163**	P		**P**	**06 48 08.1**	**-1.4**
KKAR	comp=Z,0.8nm,0.8s,baz=346,slow=8.8,SNR=3.7 **Karatay Array** comp=Z,2.2nm,0.6s	**46.49**	**308**	*e*P		**P**	**06 48 26.6**	**+0.6**
BVAR	**Bovoye Array**	**48.84**	**321**	P		**P**	**06 48 45.0**	**+1.0**
BVAR	**Borovoye Array**	**48.84**	**321**	P		**P**	**06 48 45.0**	**+1.0**
ABKAR	comp=Z,0.6nm,0.5s,baz=107,slow=7.7,SNR=3.5 **Akbulak array** comp=Z,2.4nm,0.8s	**54.55**	**315**	*e*P		**P**	**06 49 26.8**	**+0.1**
STKA	**Stephens Creek**	**57.78**	**160**	P		**P**	**06 49 49.9**	**0.0**
STKA	**Stephens Creek**	**57.78**	**160**	P		**P**	**06 49 49.9**	**0.0**
FINES	comp=Z,0.9nm,0.6s,baz=330,slow=5.4,SNR=3.8 **FINESS Array B**	**72.69**	**330**	P		**P**	**06 51 25.9**	**-0.3**
FINES	**FINESS Array B**	**72.69**	**330**	P		**P**	**06 51 25.9**	**-0.3**
BRTR	comp=Z,1.3nm,0.7s,baz=46,slow=6.0,SNR=5.7 **Keskin Array B**	**74.17**	**307**	P		**P**	**06 51 36.0**	**+0.3**
BRTR	**Keskin Array B**	**74.17**	**307**	P		**P**	**06 51 36.0**	**+0.3**
NOA	comp=Z,1.1nm,0.9s,baz=78,slow=6.9,SNR=4.0 **NORSAR Array B**	**79.48**	**332**	P		**P**	**06 52 04.2**	**-0.8**
NOA	**NORSAR Array B**	**79.48**	**332**	P		**P**	**06 52 04.2**	**-0.8**
YKA	comp=Z,0.6nm,0.6s,baz=60,slow=5.3,SNR=3.1 **Yellowknife Ar**	**84.00**	**23**	P		**P**	**06 52 28.4**	**-0.3**
YKA	**Yellowknife Ar**	**84.00**	**23**	P		**P**	**06 52 28.4**	**-0.3**
GERES	comp=Z,0.2nm,0.7s,baz=316,slow=4.7,SNR=5.6 **GERESS Array B**	**84.01**	**321**	P		P	06 52 33.8	+4.5
GERES	**GERESS Array B**	**84.01**	**321**	P		P	06 52 33.8	+4.5
SDV	comp=Z,0.7nm,0.8s,baz=22,slow=4.9,SNR=4.0 **Santo Domingo**	**146.21**	**22**	*e*PKPdf		**PKPdf**	**06 59 38.4**	**-0.8**

IDC 04 07:09:08.2±2.1, 7.65N×91.95E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.6/25, mbtmp3.7/6, Error ellipse: s-maj=81.0km s-min=21.2km az=61.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.71**	**32**	Pn	Pn	07 12 10.6	+0.2
	baz=226,slow=15,SNR=6.0						
MKAR	**Makanchi Array**	**39.87**	**350**	P	P	07 16 43.3	-0.3
	0.4nm,0.6s,baz=169,slow=8.1,SNR=6.2						
KURBB	**Kurchatov Arra**	**44.27**	**348**	P	P	07 17 19.7	+0.3
	0.3nm,0.5s,baz=172,slow=6.9,SNR=4.3						
ZALV	**Zalesovo Beam**	**46.52**	**354**	P	P	07 17 36.9	-0.4
	1.3nm,0.3s,baz=175,slow=9.1,SNR=4.5						
WRA	**Warramunga Arr**	**49.92**	**124**	P	P	07 18 03.7	-0.4
	0.5nm,0.5s,baz=304,slow=8.5,SNR=2.9						
ASAR	**Alice Springs**	**51.46**	**128**	P	P	07 18 15.8	+0.1
	0.8nm,0.6s,baz=304,slow=7.9,SNR=7.6						

*IDC **04** 07:14:22.5±1.3, 41.27N×141.90E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, Error ellipse: s-maj=33.0km s-min=27.4km az=56.0*
*ISCJB **04** 07:14:29.6±0.5, 41.48N±0.04×142.02E±0.06, h67km±5km, mb3.5/6, Error ellipse: s-maj=8.9km s-min=4.7km az=39.7*
*JMA **04** 07:14:30.0±0.1, 41.49N×142.02E, h62km±2km, M3.1*
ISC 04 07:14:30.4±0.9, 41.49N±0.04×142.01E±0.05, h59km±10km, n20, σ0.64/28, mb3.6/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOT	**Ohata**	**0.73**	**262**	P	**Pn**	**07 14 44.9**	**-0.1**
JOT				*e*S	**Sn**	**07 14 55.9**	**+0.2**
JKB	**Kayabe**	**0.84**	**299**	P	**Pn**	**07 14 45.8**	**-0.5**
JNBK	**Urakawa-nobuka**	**0.97**	**35**	P	**Pn**	**07 14 47.5**	**-0.5**
JNBK				*e*S	**Sn**	**07 15 01.1**	**+0.2**
JTM	**Tenmabayashi**	**1.00**	**226**	P	**Pn**	**07 14 48.6**	**+0.2**
JTM				*e*S	**Sn**	**07 15 02.0**	**+0.3**
JEM	**Erimo**	**1.01**	**58**	P	**Pn**	**07 14 48.1**	**-0.4**
JEM				*e*S	**Sn**	**07 15 01.9**	**+0.1**
JANG	**Nango**	**1.17**	**199**	P	**Pn**	**07 14 50.4**	**-0.3**
JANG				S	**Sn**	**07 15 05.3**	**-0.5**
JSR	**Shiriuchi**	**1.20**	**273**	P	**Pn**	**07 14 51.1**	**+0.1**
JNB	**Noboribetsu**	**1.22**	**324**	P	**Pn**	**07 14 50.7**	**-0.6**
JBT2	**Biratori 2**	**1.32**	**11**	P	**Pn**	**07 14 52.7**	**+0.1**
JYM2	**Yakumo 2**	**1.38**	**298**	P	**Pn**	**07 14 53.9**	**+0.4**
JEW	**Eniwo**	**1.42**	**343**	P	**Pn**	**07 14 54.0**	**0.0**
JEW				*e*S	**Sn**	**07 15 11.8**	**+0.2**
JCH	**Churui**	**1.51**	**41**	P	**Pn**	**07 14 55.6**	**+0.4**
JCH				*e*S	**Sn**	**07 15 14.8**	**+0.9**
JAH	**Hinai**	**1.67**	**219**	P	**Pn**	**07 14 58.0**	**+0.7**
JAH				*e*S	**Sn**	**07 15 18.8**	**+1.2**
JOSM	**Okushiri--Mats**	**1.99**	**288**	P	**Pn**	**07 15 01.4**	**-0.3**
SONM	**Songino Array**	**25.95**	**296**	P	**P**	**07 19 57.5**	**+0.1**
	0.6nm,0.8s,baz=90,slow=8.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**39.38**	**308**	P	**P**	**07 21 53.9**	**-0.1**
	0.8nm,0.5s,baz=112,slow=6.4,SNR=3.2						
MKAR	**Makanchi Array**	**42.29**	**298**	P	**P**	**07 22 17.7**	**-0.3**
	0.6nm,0.7s,baz=82,slow=7.7,SNR=7.7						
KURBB	**Kurchatov Arra**	**43.75**	**304**	P	**P**	**07 22 29.4**	**-0.4**
	1.3nm,0.5s,baz=78,slow=8.9,SNR=8.8						
ILAR	**Eielson Array**	**45.53**	**35**	P	**P**	**07 22 45.2**	**+1.5**
	0.2nm,0.7s,baz=272,slow=8.9,SNR=3.9						
WRA	**Warramunga Arr**	**61.53**	**188**	P	**P**	**07 24 39.7**	**-1.5**
	0.7nm,1.0s,baz=5.0,slow=6.9,SNR=2.6						

IDC 04 07:24:35.8±2.2, 0.49S×133.09E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/17, mbtmp3.8/4, ML3.7/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/25, Error ellipse: s-maj=123.1km s-min=23.7km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**14.06**	**251**	LR	LR	07 34 23.3	
	comp=Z,44nm,18.6s,baz=93,slow=42						
WRA	**Warramunga Arr**	**19.37**	**176**	P	Pn	07 29 03.9	-0.4
	0.3nm,0.3s,baz=355,slow=11,SNR=11						
WRA				S	Sn	07 32 34.1	-8.2
	0.2nm,0.3s,baz=354,slow=24,SNR=6.1						
ASAR	**Alice Springs**	**23.05**	**178**	P	P	07 29 43.2	+0.2
	3.2nm,0.7s,baz=354,slow=11,SNR=24						
STKA	**Stephens Creek**	**32.23**	**166**	P	P	07 31 05.3	-0.6
	2.7nm,0.8s,baz=345,slow=8.9,SNR=6.4						
MKAR	**Makanchi Array**	**64.66**	**324**	P	P	07 35 15.6	0.0
	0.2nm,0.7s,baz=113,slow=6.0,SNR=2.7						

IDC 04 07:46:42.9±1.7, 4.08S×124.92E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=188.5km s-min=26.2km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.25**	**151**	P	Pn	07 50 56.6	-1.2
	0.2nm,0.3s,baz=327,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**21.32**	**157**	P	P	07 51 31.9	+0.3
	2.4nm,0.9s,baz=328,slow=10,SNR=14						
MKAR	**Makanchi Array**	**63.07**	**329**	P	P	07 57 12.2	+0.1
	0.4nm,0.5s,baz=129,slow=7.8,SNR=6.2						

*IDC **04** 08:41:09.8±2.3, 37.22N×77.12E, h0km, mb3.4/2, mb1 3.6/5, mb1mx3.3/27, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=49.3km s-min=25.5km az=113.0*
ISC 04 08:41:13.9±2.1, 37.3N±0.1×77.4E±0.1, h10km, n8, σ1.9/10, 2C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.48**	**334**	⇑*i*Pn	Pn	08 41 50.8	-3.6
KSH				Sn	**Sn**	**08 42 24.4**	**-0.4**
KSH				smax	smax		
	comp=N,200nm,0.3s						
KSH				smax	smax		
	comp=E,270nm,0.3s						
AAK	**Ala-Archa**	**5.77**	**338**	Pn	**Pn**	**08 42 39.1**	**-0.7**
	comp=E,0.5nm,0.3s,baz=159,slow=8.2,SNR=5.9						
AAK				Pg	**Pb**	**08 42 55.8**	**+1.1**
	comp=E,1.8nm,0.3s,baz=133,slow=9.8,SNR=11						
AAK				Lg	Lg	08 44 17.6	
	comp=E,0.6nm,0.3s,baz=332,slow=18,SNR=3.3						
TKM2	**Tokmak 2**	**5.78**	**347**	⇓Pn	**Pb**	**08 42 56.4**	**+1.5**
	comp=E,6.4nm,0.8s						
TKM2				⇑Sn	**Sg**	**08 44 19.8**	**+0.3**
	comp=E,4.4nm,0.6s						
KK31	**Karatay Array**	**7.82**	**320**	⇓Pn	**Pn**	**08 43 09.5**	**+1.7**
	comp=E,0.5nm,0.6s,baz=134,slow=13,SNR=5.5						
KK31				⇓Sn	**Sn**	**08 44 33.1**	**-3.2**
	comp=E,0.6nm,0.4s,baz=170,slow=26,SNR=4.9						
MKAR	**Makanchi Array**	**10.17**	**19**	Pn	**Pn**	**08 43 38.4**	**-1.6**
	comp=E,0.5nm,0.3s,baz=204,slow=13,SNR=16						
MKAR				Sn	**Sn**	**08 45 34.5**	**+0.4**
	comp=E,0.2nm,0.3s,baz=200,slow=22,SNR=4.5						
BVAR	**Borovoye Array**	**16.47**	**345**	Pn	Pn	08 45 01.1	-3.8
	comp=E,0.1nm,0.3s,baz=149,slow=11,SNR=2.4						
TORD	**Torodi Ar. Bea**	**70.82**	**272**	P	P	08 52 26.9	-4.1
	comp=E,0.9nm,1.2s,baz=60,slow=5.8,SNR=2.9						
YKA	**Yellowknife Ar**	**80.09**	**6**	P	**P**	**08 53 22.9**	**-0.5**
	comp=E,0.1nm,0.7s,baz=360,slow=5.1,SNR=4.6						

IDC 04 08:41:27.7±10.0, 21.42S×179.79W, h593km±99km, mb2.8/4, mb1 3.0/4, mb1mx2.8/16, mbtmp2.8/4, Error ellipse: s-maj=116.6km s-min=51.1km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.89**	**245**	P	P	08 47 39.2	-0.1
	2.0nm,0.5s,baz=82,slow=8.9,SNR=11						
ASAR	**Alice Springs**	**42.69**	**258**	P	P	08 48 34.0	-0.1
	1.4nm,0.6s,baz=95,slow=7.9,SNR=18						
ASAR				PcP	PcP	08 50 11.3	-0.6
	0.4nm,0.6s,baz=111,slow=3.8,SNR=4.6						
WRA	**Warramunga Arr**	**42.83**	**263**	P	P	08 48 34.9	-0.2
	0.3nm,0.3s,baz=99,slow=7.4,SNR=3.4						
ILAR	**Eielson Array**	**89.58**	**13**	P	P	08 53 22.4	-0.1
	0.2nm,0.6s,baz=202,slow=6.8,SNR=4.6						
BRTR	**Keskin Array B**	**146.18**	**310**	PKPbc	PKPbc	09 00 02.3	-0.6
	0.5nm,0.5s,baz=114,slow=3.6,SNR=3.3						

IDC 04 08:51:37.4±8.4, 18.76S×177.81W, h568km±97km, mb2.8/5, mb1 3.1/5, mb1mx2.9/17, mbtmp2.8/5, Error ellipse: s-maj=90.9km s-min=36.0km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.73**	**242**	P	P	08 58 13.6	0.0
	0.8nm,0.6s,baz=86,slow=9.4,SNR=4.5						
WRA	**Warramunga Arr**	**45.04**	**260**	P	P	08 59 03.3	-0.2
	0.9nm,0.4s,baz=97,slow=7.5,SNR=5.0						
ASAR	**Alice Springs**	**45.11**	**255**	P	P	08 59 03.8	-0.2
	0.9nm,0.4s,baz=88,slow=7.7,SNR=29						
ASAR				PcP	PcP	09 00 31.6	-0.8
	0.6nm,0.7s,baz=102,slow=3.8,SNR=5.3						
TXAR	**Lajitas Array**	**85.97**	**57**	P	P	09 03 18.4	-0.1
	0.1nm,0.6s,baz=216,slow=7.5,SNR=3.2						
ILAR	**Eielson Array**	**86.59**	**13**	P	P	09 03 19.9	-0.5
	1.0nm,1.2s,baz=227,slow=4.4,SNR=4.7						
GERES	**GERESS Array B**	**148.57**	**345**	PKPbc	PKPbc	09 10 21.0	+0.2
	0.1nm,0.3s,baz=345,slow=3.5,SNR=4.2						

*ISCJB **04** 08:54:17.7±0.5, 21.28S±0.03×69.79W±0.10, h68km±5km, mb3.3/2, Error ellipse: s-maj=15.1km s-min=5.2km az=3.1*
*IDC **04** 08:54:17.6±5.0, 21.35S×69.80W, h53km±45km, mb3.3/2, mb1 3.5/5, mb1mx3.3/17, mbtmp3.3/5, ML3.9/2, Error ellipse: s-maj=64.4km s-min=28.9km az=114.0*
*GUC **04** 08:54:18.5±0.9, 21.22S×70.05W, h35km±3km, ML4.1*
ISC 04 08:54:18.7±0.9, 21.28S±0.03×69.83W±0.10, h58km±9km, n13, σ1.37/20, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**Plate Boundary**	**0.40**	**54**	⇓*i*P	**Pn**	**08 54 29.6**	**+0.1**
PB01				*i* S	**Sn**	**08 54 37.7**	**+0.3**
PB01				AML	AML	08 54 38.1	
	comp=E,20μm,0.2s						
PB07	**Plate Boundary**	**0.45**	**186**	⇑*i*P	**Pn**	**08 54 29.5**	**-0.7**
PB07				*i* S	**Sn**	**08 54 37.4**	**-1.0**
PB07				AML	AML	08 54 38.1	
	comp=N,13μm,0.1s						
PB04	**Plate Boundary**	**1.03**	**162**	⇑*i*P	**Pn**	**08 54 37.2**	**+0.1**
PB04				*e*S	**Sn**	**08 54 52.0**	**+1.3**
PB04				AML	AML	08 54 54.4	
	comp=E,9μm,0.6s						
PSGC	**Pisagua**	**1.69**	**351**	⇑*i*P	**Pn**	**08 54 46.2**	**0.0**
PSGC				*i* S	**Sn**	**08 55 08.1**	**+1.2**
PSGC				AML	AML	08 55 13.2	
	comp=E,1μm,0.4s						
MECH	**Mejillones**	**1.90**	**197**	*i* P	**Pn**	**08 54 50.1**	**+1.2**
MECH				*i* S	**Sn**	**08 55 14.9**	**+3.2**
MECH				AML	AML	08 55 20.4	
	comp=N,2μm,0.3s						
MNMC	**Minimini**	**2.15**	**6**	*e*P	**Pn**	**08 54 53.5**	**+1.1**
MNMC				*i* S	**Sn**	**08 55 21.0**	**+2.8**
MNMC				AML	AML	08 55 26.1	
	comp=E,2μm,0.1s						
ANCH	**Antofagasta**	**2.45**	**192**	⇑*i*P	**Pn**	**08 54 55.2**	**-1.1**
ANCH				*i* S	**Sn**	**08 55 25.1**	**0.0**
ANCH				AML	AML	08 55 41.1

ISCJB ***04*** *09:03:43.9±1.0,2.34N±0.03,96.15E±0.03,h27km±7km, mb4.8/83,MS4.2/29,Error ellipse: s-maj=6.4km s-min=4.7km az=39.7*

MOS ***04*** *09:03:44.6±1.1,2.39N,96.27E,h31km,mb4.8/40, MS4.0/9,Error ellipse: s-maj=13.0km s-min=6.7km az=98.9*

IDC ***04*** *09:03:45.1±0.5,2.33N,96.17E,h23km±2km,mb4.3/25, mb1 4.4/26,mb1mx4.3/31,mbtmp4.3/26,ML4.5/1,MS4.0/13, Ms1 4.1/13,ms1mx3.7/36,Error ellipse: s-maj=16.2km s-min=10.5km az=54.0*

NEIC ***04*** *09:03:45.4±0.3,2.36N,96.22E,mb4.9/22,Error ellipse: s-maj=7.4km s-min=5.3km az=45.0*

ISC 04 09:03:45.8±0.3,2.31N±0.04,96.10E±0.05,h29km±1km, h29km:pP-P,n221,σ1§76/292,mb4.8/82,MS4.2/29,13C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		**1.43**	**49**	P	**Pn**	**09 04 08.1**	**-1.7**
GSI	**Gunungsitoli**	**1.78**	**124**	P	**Pn**	**09 04 13.7**	**-0.9**
TSI	**Tuntungan**	**2.73**	**64**	P	**Pn**	**09 04 28.8**	**+1.1**
PSI	**Prapat**	**2.86**	**80**	P	**Pn**	**09 04 29.3**	**-0.3**
LHMI	**Lhok Sumawe**	**3.02**	**16**	P	**Pn**	**09 04 32.1**	**+0.4**
BSI	**Banda Aceh**	**3.27**	**346**	P	**Pn**	**09 04 32.9**	**-2.1**
MNSI	**Mandailing Nat**	**3.79**	**113**	P	**Pn**	**09 04 42.3**	**+0.1**
PPI	**Padang Panjang** 142nm,1.0s,1¼m0.7nm	**5.10**	**123**	P	**Pn**	**09 05 01.1**	**+0.9**
BKNI	**Bangkinang** 177nm,1.0s,3¼m1.3nm	**5.32**	**112**	P	**Pn**	**09 05 05.3**	**+2.1**
IPM	**Ipoh**	**5.37**	**66**	*e*Pn	**Pn**	**09 05 04.2**	**+0.2**
IPM				*e*Sn	**Sn**	**09 06 03.4**	**-1.5**
PDSI	**Padang** 183nm,0.6s,16¼m1.0nm	**5.41**	**126**	P	**Pn**	**09 05 04.4**	**-0.1**
KRJI	**Kerinci** 633nm,0.7s,2.0nm	**6.92**	**129**	P	Pn	09 05 29.7	+4.4
MYKOM	**Kota Tinggi** 55nm,1.1s,0.2nm	**7.76**	**94**	P	**Pn**	**09 05 38.1**	**+1.3**
KSI	**Kapahiang** 404nm,0.5s,13¼m2.1nm	**8.79**	**132**	P	**Pn**	**09 05 51.8**	**+0.9**
LWLI	**Liwa** 342nm,0.7s	**10.78**	**132**	P	**Pn**	**09 06 19.0**	**+0.7**
KSM	**Kuching**	**14.22**	**93**	*e*Pn	**Pn**	**09 07 03.2**	**-2.2**
STKI	**Sintang**	**15.53**	**98**	P	**P**	**09 07 30.5**	**+3.5**
CM31	**Chiang Mai Arr** 11nm,0.7s	**16.29**	**10**	*e*Pn	**Pn**	**09 07 31.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**16.29**	**10**	Pn	**Pn**	**09 07 30.9**	**-1.7**
CMAR	**Chiang Mai Arr** 0.7nm,0.3s,baz=199,slow=11,SNR=40	**16.29**	**10**	Pn	**Pn**	**09 07 30.9**	**-1.7**
CMAR				LR	LR	09 14 33.8	
	comp=Z,788nm,18.3s,baz=189,slow=40						
CHTO	**Chiang Mai**	**16.64**	**9**	*e*P	**Pn**	**09 07 35.3**	**-1.7**
CHTO				pmax	pmax		
	comp=Z,11nm,1.0s						
CHTO	**Chiang Mai**	**16.64**	**9**	*e*Pn	**Pn**	**09 07 35.3**	**-1.7**
	comp=Z,11nm,1.0s						
CHTO	**Chiang Mai**	**16.64**	**9**	P	**Pn**	**09 07 36.9**	**-0.1**
	comp=Z,17nm,0.9s						
VIS	**Vishakhapatnam**	**19.79**	**322**	*e*PKP	**P**	**09 08 13.3**	**-0.6**
	comp=Z,41nm,1.3s						
VIS				AMb	AMB	09 08 13.7	
	comp=Z,40nm,1.5s						
VIS				*i* x	x	09 11 30.4	
KKM	**Kota Kinabalu**	**20.40**	**79**	*e*P	**P**	**09 08 21.0**	**+0.3**
	comp=Z,32nm,0.7s						
KKM	**Kota Kinabalu**	**20.40**	**79**	P	Pn	09 08 22.4	-0.5
	comp=Z,46nm,0.8s						
QIZ	**Qiongzhong**	**21.38**	**38**	P	**P**	**09 08 30.9**	**-0.2**
QIZ				pP	**pP**	**09 08 38.4**	**-0.7**
QIZ				sP	**sP**	**09 08 42.5**	**-0.4**
QIZ				S	**S**	**09 12 26.5**	**-0.7**
QIZ				sS	**sS**	**09 12 38.2**	**-1.6**
QIZ				pmax	pmax		
	comp=Z,15nm,1.0s						
QIZ				LR	LR		
	comp=N,1¼m,16.9s						
QIZ				LR	LR		
	comp=E,290nm,18.3s						
QIZ				LR	LR		
	comp=Z,600nm,17.2s						
HYB	**Hyderabad**	**22.86**	**312**	*i* P	**P**	**09 08 49.0**	**+2.0**
HYB				*e*pP	**pP**	**09 08 56.0**	**+1.0**
KMI	**Kunming**	**23.57**	**15**	P	**P**	**09 08 54.7**	**+0.5**
KMI				pP	**pP**	**09 09 05.1**	**+2.5**
KMI				sP	**sP**	**09 09 09.3**	**+3.1**
KMI				PP	PP	09 09 28.0	
KMI				S	**S**	**09 13 03.6**	**-3.3**
KMI				SS	**SnSn**	**09 13 52.3**	**+7.3**
KMI				pmax	pmax		
	comp=Z,23nm,1.6s						
KMI				pmax	pmax		
	comp=Z,110nm,3.1s						
KMI				LR	LR		
	comp=N,1¼m,15.0s						
KMI				LR	LR		
	comp=E,530nm,12.5s						
KMI				LR	LR		
	comp=Z,1¼m,15.4s						
KAPI	**Kappang**	**24.72**	**107**	P	**P**	**09 09 04.3**	**-0.5**
KAPI	**Kappang**	**24.72**	**107**	P	**P**	**09 09 04.3**	**-0.5**
	comp=Z,22nm,0.7s,baz=15,slow=12,SNR=3.3						
KAPI				LR	LR	09 19 40.9	
	comp=Z,441nm,19.4s,baz=118,slow=39						
APSI	**Ampana**	**25.74**	**97**	P	P	09 09 19.0	+4.9
ODAN	**Odare**	**25.80**	**342**	*e*P	**P**	**09 09 15.1**	**+0.4**
	comp=Z,138nm,0.9s						
GYA	**Guiyang**	**26.07**	**22**	P	**P**	**09 09 17.8**	**+0.8**
GYA				pP	**pP**	**09 09 28.3**	**+2.7**
GYA				PP	**PnPn**	**09 10 01.7**	**+5.9**
GYA				S	**S**	**09 13 44.3**	**-2.3**
GYA				sS	**sS**	**09 14 02.0**	**+1.2**
GYA				SS	**SnSn**	**09 14 51.8**	**+5.9**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,490nm,17.6s						
GYA				LR	LR		
	comp=E,460nm,18.4s						
GYA				LR	LR		
	comp=Z,480nm,17.3s						
RAMN	**Ramite**	**26.14**	**340**	*e*P	**P**	**09 09 18.8**	**+1.0**
	comp=Z,186nm,0.6s						
TAPN	**Taplejung**	**26.16**	**343**	*e*P	**P**	**09 09 18.8**	**+0.7**
	comp=Z,160nm,1.0s						
JIRN	**Jiri**	**26.93**	**340**	*e*P	**P**	**09 09 25.7**	**+0.6**
	comp=Z,237nm,0.8s						
PKI	**Pulchoki**	**27.12**	**339**	*e*P	**P**	**09 09 26.9**	**+0.1**
	comp=Z,122nm,1.0s						
DMN	**Daman**	**27.27**	**338**	*e*P	**P**	**09 09 29.0**	**+1.0**
GUN	**Gumba**	**27.27**	**340**	*e*P	**P**	**09 09 28.6**	**+0.5**
	comp=Z,205nm,0.7s						
KKN	**Kakani**	**27.37**	**339**	*e*P	**P**	**09 09 29.7**	**+0.9**
	comp=Z,110nm,0.8s						
LSA	**Lhasa**	**27.64**	**351**	P	**P**	**09 09 31.8**	**+0.3**
LSA				pmax	pmax		
	comp=Z,40nm,1.0s						
LSA	**Lhasa**	**27.64**	**351**	*e*P	**P**	**09 09 31.9**	**+0.3**
LSA				*e**PP	**pP**	**09 09 40.1**	**-0.1**
LSA				pmax	pmax		
	comp=Z,37nm,0.8s						
LSA	**Lhasa**	**27.64**	**351**	*e*P	**P**	**09 09 31.9**	**+0.3**
	comp=Z,36nm,0.8s						
LSA				*e*pP	**pP**	**09 09 40.1**	**-0.1**
GKN	**Gorkha**	**27.80**	**338**	*e*P	**P**	**09 09 33.2**	**+0.6**
	comp=Z,211nm,1.0s						
KOLN	**Koldanda**	**28.00**	**336**	*e*P	**P**	**09 09 35.1**	**+0.6**
	comp=Z,116nm,0.7s						
DANN	**Dangsing**	**28.45**	**337**	*e*P	**P**	**09 09 38.7**	**+0.1**
	comp=Z,155nm,1.0s						
CD2	**Chengdu**	**29.36**	**14**	P	**P**	**09 09 49.0**	**+2.7**
CD2				pP	**pP**	**09 09 59.0**	**+4.1**
CD2				sP	**sP**	**09 10 03.2**	**+4.7**
CD2				S	**S**	**09 14 39.2**	**+1.0**
CD2				sS	**sS**	**09 14 55.8**	**+3.4**
CD2				SS	SS	09 16 12.2	-31
CD2				pmax	pmax		
	comp=Z,30nm,0.7s						
CD2				pmax	pmax		
	comp=Z,150nm,5.1s						
CD2				LR	LR		
	comp=N,780nm,12.1s						
CD2				LR	LR		
	comp=E,940nm,13.7s						
CD2				LR	LR		
	comp=Z,820nm,17.7s						
DAV	**Davao City (W)**	**29.75**	**80**	LR	LR	09 23 51.7	
	comp=Z,156nm,18.5s,baz=252,slow=41						
AGRA	**Agra**	**30.27**	**327**	*e*PKP	**P**	**09 09 54.9**	**+0.5**
ENH	**Enshi**	**30.57**	**23**	*e*P	**P**	**09 09 55.1**	**-1.9**
	comp=Z,25nm,0.9s						
ENH				*e*pP	**pP**	**09 10 01.7**	**-4.0**
QZH	**Quanzhou**	**31.26**	**42**	*e*P	**P**	**09 10 06.2**	**+3.1**
QZH				S	**S**	**09 15 11.1**	**+3.1**
QZH				LR	LR		
	comp=N,2¼m,18.1s						
QZH				LR	LR		
	comp=E,880nm,9.9s						
QZH				LR	LR		
	comp=Z,1¼m,16.8s						
ASOR	**Ausora**	**31.57**	**328**	*e*PKP	**P**	**09 10 07.6**	**+1.7**
BISR	**Bishrakh**	**31.60**	**328**	*e*PKP	**P**	**09 10 06.1**	**0.0**
AYAN	**Aya Nagar**	**31.70**	**327**	*e*PKP	**P**	**09 10 07.3**	**+0.3**
AYAN				AMb	AMB	09 10 16.3	
	comp=Z,61nm,1.0s						
KUDL	**Kundal**	**31.79**	**326**	*e*PKP	**P**	**09 10 08.0**	**+0.2**
KUDL				AMb	AMB	09 10 16.8	
	comp=Z,45nm,1.0s						
NDI	**New Delhi**	**31.81**	**327**	*e*PKP	**P**	**09 10 06.0**	**-2.0**
BHGR	**Bahadurgarh**	**31.96**	**327**	*e*PKP	**P**	**09 10 08.9**	**-0.4**
BHGR				AMb	AMB	09 10 14.0	
	comp=Z,189nm,0.2s						
KHET	**Khetri**	**32.13**	**325**	*e*PKP	**P**	**09 10 11.3**	**+0.6**
DDI	**Dehra Dun**	**32.69**	**330**	*ex*	pP	09 10 23.0	-1.4
KKR	**Kurukshetra**	**33.03**	**328**	*e*PKP	**P**	**09 10 19.5**	**+0.8**
XAN	**Xi'an**	**33.76**	**19**	P	**P**	**09 10 23.6**	**-1.5**
XAN				pP	**pP**	**09 10 33.1**	**-0.6**
XAN				pmax	pmax		
	comp=Z,22nm,0.9s						
XAN				pmax	pmax		
	comp=Z,32nm,6.7s						
XAN				LR	LR		
	comp=N,320nm,18.6s						
XAN				LR	LR		
	comp=E,140nm,17.2s						
XAN				LR	LR		
	comp=Z,170nm,17.2s						
LZH	**Lanzhou**	**34.37**	**11**	⇑P	**P**	**09 10 29.4**	**-1.0**
LZH				pP	**pP**	**09 10 39.5**	**+0.4**
LZH				sP	**sP**	**09 10 43.6**	**+0.9**
LZH				*e*PP	**PnPn**	**09 11 45.5**	**0.0**
LZH				*e*S	**S**	**09 15 54.2**	**-2.3**
LZH				sS	**sS**	**09 16 11.0**	**+0.2**
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
LZH				pmax	pmax		
	comp=Z,100nm,4.9s						
LZH				LR	LR		
	comp=N,340nm,13.5s						
LZH				LR	LR		
	comp=E,530nm,15.0s						
LZH				LR	LR		
	comp=Z,670nm,17.0s						
FITZ	**Fitzroy Crossi**	**35.47**	**126**	P	**P**	**09 10 39.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**35.47**	**126**	*e*P	**P**	**09 10 38.6**	**-1.3**
	comp=Z,20nm,0.8s						
FITZ	**Fitzroy Crossi**	**35.47**	**126**	P	**P**	**09 10 39.1**	**-0.8**
	comp=Z,10nm,0.7s,baz=283,slow=6.0,SNR=11						
FITZ				LR	LR	09 27 30.1	
	comp=Z,177nm,19.0s,baz=308,slow=40						
NJ2	**Nanjing**	**36.53**	**33**	*e*P	**P**	**09 10 48.7**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,20nm,0.9s						
GTA	**Gaotai**	**37.08**	**5**	*e*P	**P**	**09 10 52.8**	**-0.8**
GTA				pP	**pP**	**09 11 00.5**	**-1.9**
GTA				PP	**PnPn**	**09 12 18.8**	**-0.2**
GTA				S	**S**	**09 16 35.9**	**-2.1**
GTA				pmax	pmax		
	comp=Z,24nm,1.6s						
GTA				pmax	pmax		
	comp=Z,57nm,5.7s						
GTA				LR	LR		
	comp=N,340nm,17.6s						
GTA				LR	LR		
	comp=E,160nm,17.3s						
GTA				LR	LR		
	comp=Z,460nm,17.3s						
NWAO	**Narrogin (SRO)**	**40.34**	**152**	P	**P**	**09 11 20.7**	**-0.2**
NWAO	**Narrogin (SRO)**	**40.34**	**152**	P	**P**	**09 11 20.7**	**-0.2**
	comp=Z,14nm,0.9s,baz=353,slow=10,SNR=3.8						
NWAO				LR	LR	09 26 27.4	
	comp=Z,194nm,21.8s,baz=216,slow=34						
KBL	**Kabul**	**40.79**	**325**	*e*P	P	09 11 28.2	+3.4
KBL				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KBL	**Kabul**	**40.79**	**325**	*e*P	P	09 11 28.2	+3.4
	comp=Z,5.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**40.83**	**18**	*e*P	**P**	**09 11 26.0**	**+1.0**
HHC				pP	**pP**	**09 11 36.3**	**+2.5**
HHC				sP	**sP**	**09 11 39.9**	**+2.6**
HHC				PP	**PnPn**	**09 13 04.4**	**+0.6**
HHC				S	**S**	**09 17 34.3**	**-0.1**
HHC				sS	**sS**	**09 17 51.0**	**+2.1**
HHC				SS	**SS**	**09 20 31.5**	**-4.8**
HHC				pmax	pmax		
	comp=Z,23nm,0.9s						
HHC				pmax	pmax		
	comp=Z,120nm,3.8s						
HHC				LR	LR		
	comp=N,460nm,14.3s						
HHC				LR	LR		
	comp=E,380nm,19.0s						
HHC				LR	LR		
	comp=Z,430nm,15.1s						
KSH	**Kashi**	**41.32**	**336**	P	**P**	**09 11 27.3**	**-1.7**
KSH				pP	**pP**	**09 11 40.2**	**+2.4**
KSH				sP	**sP**	**09 11 43.9**	**+2.5**
KSH				PP	**PnPn**	**09 13 07.8**	**-1.7**
KSH				PcP	**PcP**	**09 13 29.7**	**+2.5**
KSH				S	**S**	**09 17 39.0**	**-2.7**
KSH				sS	**sS**	**09 17 57.8**	**+1.6**
KSH				SS	SS	09 20 37.4	-8.6
KSH				ScS	**ScS**	**09 21 29.5**	**-1.8**
KSH				LR	LR		
	comp=N,120nm,6.6s						
KSH				LR	LR		
	comp=E,140nm,5.4s						
KSH				LR	LR		
	comp=Z,230nm,6.9s						
BJT	**Baijiatuau**	**41.72**	**23**	*e*P	**P**	**09 11 32.5**	**+0.3**
	comp=Z,53nm,0.6s						
BJT				*e*pP	**pP**	**09 11 40.5**	**-0.4**
BJI	**Beijing**	**41.74**	**23**	P	**P**	**09 11 32.4**	**+0.1**
BJI				pP	**pP**	**09 11 40.1**	**-1.0**
BJI				sP	**sP**	**09 11 44.6**	**-0.1**
BJI				S	**S**	**09 17 47.5**	**-0.2**
BJI				pmax	pmax		
	comp=Z,75nm,0.6s						
BJI				pmax	pmax		
	comp=Z,89nm,3.0s						
BJI				LR	LR		
	comp=N,160nm,21.1s						
BJI				LR	LR		
	comp=E,360nm,20.0s						
BJI				LR	LR		
	comp=Z,100nm,20.0s						
WMQ	**Urumqi**	**42.01**	**351**	*e*P	**P**	**09 11 37.5**	**+3.0**
WMQ				pP	**pP**	**09 11 47.0**	**+3.7**
WMQ				sP	**sP**	**09 11 50.0**	**+3.1**
WMQ				*e*S	**S**	**09 17 52.0**	**+0.4**
WMQ				pmax	pmax		
	comp=Z,29nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,290nm,5.8s						
WMQ				LR	LR		
	comp=N,360nm,10.4s						
WMQ				LR	LR		
	comp=E,280nm,12.6s						
WMQ				LR	LR		
	comp=Z,220nm,18.4s						
WRA	**Warramunga Arr**	**43.55**	**122**	P	**P**	**09 11 46.6**	**-0.8**
WRA				PcP	**PcP**	**09 13 34.7**	**-0.2**
WRA	**Warramunga Arr**	**43.55**	**122**	P	**P**	**09 11 46.6**	**-0.8**
	comp=Z,7.9nm,0.8s,baz=301,slow=9.0,SNR=31						
WRA				PcP	**PcP**	**09 13 34.7**	**-0.2**
	comp=Z,2.1nm,0.8s,baz=302,slow=3.0,SNR=4.2						
WRA				LR	LR	09 30 50.9	
	comp=Z,151nm,19.8s,baz=320,slow=37						
WRAB	**Tennant Creek**	**43.56**	**122**	*e*P	**P**	**09 11 46.5**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.8s						
WRAB	**Tennant Creek**	**43.56**	**122**	*e*P	**P**	**09 11 46.5**	**-0.9**
	comp=Z,7.3nm,0.8s						
TKM2	**Tokmak 2**	**44.39**	**338**	*e*P	**P**	**09 11 54.3**	**+0.4**
TKM2				*e**PP	**pP**	**09 12 02.4**	**-0.4**
TKM2				pmax	pmax		
	comp=Z,29nm,1.1s						
TKM2	**Tokmak 2**	**44.39**	**338**	*e*P	**P**	**09 11 54.3**	**+0.4**
	comp=Z,29nm,1.1s						
TKM2				*e*pP	**pP**	**09 12 02.4**	**-0.4**
AAK	**Ala-Archa**	**44.55**	**337**	*e*P	**P**	**09 11 57.2**	**+1.9**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
AAK	**Ala-Archa**	**44.55**	**337**	P	**P**	**09 11 57.0**	**+1.8**
AAK	**Ala-Archa**	**44.55**	**337**	P	**P**	**09 11 57.0**	**+1.8**
	comp=Z,2.8nm,0.7s,baz=214,slow=7.0,SNR=7.9						
FRU	**Bishkek**	**44.68**	**337**	*e*P	P	09 12 04.0	+7.9
FORT	**Forrest**	**44.83**	**140**	*e*P	**P**	**09 11 58.7**	**+1.3**
	comp=Z,34nm,0.7s						
FORT	**Forrest**	**44.83**	**140**	*e*P	**P**	**09 11 58.3**	**+0.9**
	comp=Z,25nm,0.7s						
EKS2	**Erkin-Say**	**44.86**	**337**	*e*P	**P**	**09 11 58.7**	**+1.0**
EKS2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
EKS2	**Erkin-Say**	**44.86**	**337**	*e*P	**P**	**09 11 58.6**	**+1.0**
	comp=Z,9.5nm,0.6s						
AS31	**Alice Springs**	**44.94**	**127**	*e*P	**P**	**09 11 57.8**	**-0.6**
ASAR	**Alice Springs**	**44.94**	**127**	P	**P**	**09 11 57.9**	**-0.5**
ASAR				PcP	**PcP**	**09 13 39.4**	**-0.3**
ASAR	**Alice Springs**	**44.94**	**127**	P	**P**	**09 11 57.9**	**-0.5**
	comp=Z,4.3nm,0.7s,baz=299,slow=7.9,SNR=68						
ASAR				PcP	**PcP**	**09 13 39.4**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=300,slow=3.7,SNR=8.2						
KSAR	**Wonju Array Be**	**45.55**	**36**	P	**P**	**09 12 02.1**	**-0.9**
KSRS	**Korea Array**	**45.58**	**36**	P	**P**	**09 12 02.1**	**-1.1**
	comp=Z,5.1nm,1.0s,baz=231,slow=8.6,SNR=17						
KSRS				LR	LR	09 31 45.1	
	comp=Z,276nm,20.0s,baz=49,slow=37						
MK31	**Makanchi Array**	**45.91**	**347**	*e*P	**P**	**09 12 05.6**	**-0.2**
MK31	**Makanchi Array**	**45.91**	**347**	*e*P	**P**	**09 12 05.6**	**-0.2**
MKAR	**Makanchi Array**	**45.91**	**347**	P	**P**	**09 12 06.3**	**+0.5**
MKAR				*PP	**pP**	**09 12 14.0**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,21nm,0.8s						
MKAR				pmax	pmax		
	comp=Z,28nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,155nm,19.5s						
MKAR	**Makanchi Array**	**45.91**	**347**	P	**P**	**09 12 06.3**	**+0.5**
MKAR				pP	**pP**	**09 12 13.9**	**-0.7**
MKAR	**Makanchi Array**	**45.91**	**347**	P	**P**	**09 12 06.3**	**+0.5**
	comp=Z,21nm,0.8s,baz=162,slow=7.5,SNR=153						
MKAR				pP	**pP**	**09 12 13.9**	**-0.7**
	comp=Z,28nm,0.5s,baz=160,slow=8.3,SNR=35						
MKAR				LR	LR	09 35 32.1	
	comp=Z,155nm,19.5s,baz=155,slow=42						
SONM	**Songino Array**	**46.22**	**10**	P	**P**	**09 12 07.8**	**-0.5**
SONM				pP	**pP**	**09 12 15.4**	**-1.8**
SONM				pPcP		09 13 52.2	
SONM	**Songino Array**	**46.22**	**10**	P	**P**	**09 12 07.8**	**-0.5**
	comp=Z,8.4nm,0.8s,baz=188,slow=8.7,SNR=62						
SONM				pP	**pP**	**09 12 15.4**	**-1.8**
	comp=Z,11nm,0.7s,baz=190,slow=8.1,SNR=23						
SONM				pPcP		09 13 52.2	
	comp=Z,3.1nm,0.7s,baz=188,slow=4.1,SNR=8.8						
ULN	**Ulaanbaatar**	**46.36**	**10**	*e*P	**P**	**09 12 08.9**	**-0.6**
	comp=Z,8.1nm,0.9s						
KKAR	**Karatay Array**	**46.58**	**334**	*e*P	**P**	**09 12 11.7**	**+0.6**
KKAR	**Karatay Array**	**46.58**	**334**	*e*P	**P**	**09 12 11.7**	**+0.6**
ZAK	**Zakamensk**	**48.29**	**6**	*e*P	**P**	**09 12 22.1**	**-2.2**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CN2	**Changchun**	**48.84**	**28**	*e*P	**P**	**09 12 27.4**	**-1.1**
CN2				*e*pP	**pP**	**09 12 37.2**	**-0.3**
CN2				*e*sP	**sP**	**09 12 41.1**	**+0.1**
CN2				*e*S	**S**	**09 19 26.4**	**-3.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,13.0s						
CN2				LR	LR		
	comp=E,300nm,13.0s						
CN2				LR	LR		
	comp=Z,400nm,11.0s						
MOY	**Mondy**	**49.36**	**4**	*e*P	**P**	**09 12 33.4**	**+0.8**
TLY	**Talaya**	**49.61**	**6**	*e*P	**P**	**09 12 35.8**	**+1.5**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TLY	**Talaya**	**49.61**	**6**	*e*P	**P**	**09 12 34.3**	**-0.1**
	comp=Z,11nm,0.9s						
KURBB	**Kurchatov Arra**	**50.39**	**346**	P	**P**	**09 12 40.5**	**+0.3**
	comp=Z,3.5nm,0.8s,baz=163,slow=6.1,SNR=5.2						
KURBB				pP	**pP**	**09 12 48.0**	**-1.2**
	comp=Z,16nm,0.8s,baz=161,slow=6.9,SNR=21						
KURK	**Kurchatov**	**50.45**	**346**	P	**P**	**09 12 40.5**	**-0.2**
KURK				*PP	**pP**	**09 12 48.0**	**-1.7**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK				pmax	pmax		
	comp=Z,16nm,0.8s						
KURK	**Kurchatov**	**50.45**	**346**	P	**P**	**09 12 40.5**	**-0.2**
KURK				pP	**pP**	**09 12 48.0**	**-1.7**
MDJ	**Mudanjiang**	**51.45**	**30**	P	**P**	**09 12 48.9**	**+0.5**
MDJ				pP	**pP**	**09 12 58.0**	**+0.6**
MDJ				sP	**sP**	**09 13 01.7**	**+0.8**
MDJ				ScP	**ScP**	**09 17 57.1**	**-0.2**
MDJ				PcS	**PcS**	**09 18 00.6**	**+0.3**
MDJ				S	**S**	**09 20 07.1**	**+0.5**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,69nm,4.3s						
MDJ				LR	LR		
	comp=N,98nm,28.3s						
MDJ				LR	LR		
	comp=E,110nm,29.5s						
MDJ				LR	LR		
	comp=Z,97nm,26.6s						
MJAR	**Matsushiro Arr**	**51.63**	**44**	P	**P**	**09 12 49.5**	**-0.4**
MJAR	**Matsushiro Arr**	**51.63**	**44**	P	**P**	**09 12 49.5**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=202,slow=6.0,SNR=4.0						
MJAR				LR	LR	09 35 57.8	
	comp=Z,126nm,18.5s,baz=270,slow=38						
ZAA0	**Zalesovo Array**	**52.30**	**352**	*e*P	**P**	**09 12 53.8**	**-0.7**
ZALV	**Zalesovo Beam**	**52.30**	**352**	P	**P**	**09 12 54.3**	**-0.2**
ZALV				*PP	**pP**	**09 13 02.2**	**-1.3**
ZALV				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ZALV				pmax	pmax		
	comp=Z,35nm,0.5s						
ZALV	**Zalesovo Beam**	**52.30**	**352**	P	**P**	**09 12 54.3**	**-0.2**
ZALV				pP	**pP**	**09 13 02.2**	**-1.3**
ZALV	**Zalesovo Beam**	**52.30**	**352**	P	**P**	**09 12 54.3**	**-0.2**
	comp=Z,9.9nm,0.6s,baz=174,slow=7.2,SNR=53						
ZALV				pP	**pP**	**09 13 02.2**	**-1.3**
	comp=Z,35nm,0.5s,baz=177,slow=6.9,SNR=40						
OPO	**Ambohidratompo**	**52.39**	**244**	P	**P**	**09 12 57.4**	**+1.4**
OPO	**Ambohidratompo**	**52.39**	**244**	P	**P**	**09 12 57.4**	**+1.4**
	comp=Z,3.0nm,0.9s,baz=7.3,slow=4.1,SNR=5.3						
USRK	**Ussuriysk Arra**	**52.41**	**32**	P	**P**	**09 12 54.8**	**-0.8**
	comp=

comp=Z,3.9nm,0.8s,baz=129,slow=12,SNR=12
BVAR pP **pP** **09 13 21.0 -1.3**
comp=Z,14nm,0.7s,baz=141,slow=7.6,SNR=21
STKA Stephens Creek 54.91 132 *e*P **P** **09 13 14.2 +0.1**
comp=Z,1.8nm,0.8s
STKA Stephens Creek 54.91 132 *e*P **P** **09 13 13.8 -0.3**
comp=Z,5.8nm,0.7s
STKA Stephens Creek 54.91 132 P **P** **09 13 14.5 +0.4**
comp=Z,7.0nm,0.7s,baz=310,slow=7.1,SNR=18
STKA LR LR 09 35 47.1
comp=Z,147nm,19.4s,baz=25,slow=35
BRVK Borovoye 54.91 341*c i*P **P** **09 13 14.1 +0.4**
BRVK pmax pmax
comp=Z,10.0nm,1.5s
BRVK Borovoye 54.91 341 *e*P **P** **09 13 12.6 -1.1**
comp=Z,18nm,0.8s
ABKAR Akbulak array 56.03 332 *e*P **P** **09 13 21.8 0.0**
comp=Z,39nm,1.1s
HABR Khabarovsk 56.84 30 *e*P **P** **09 13 25.1 -2.5**
HABR *e**SP **sP** **09 13 39.2 -0.9**
HABR *e* 09 14 21.2
HABR PPP PPP 09 16 46.5
HABR *e* 09 21 27.3
HABR *e* 09 21 32.1
HABR *e*SS **SS** **09 25 03.9 -3.7**
HABR pmax pmax
comp=Z,54nm,2.3s
HABR pmax pmax
comp=E,35nm,1.8s
HABR pmax pmax
comp=N,36nm,2.3s
HABR MLR MLR
comp=Z,289nm,20.0s
BOD Bodaibo 57.14 11⇑*i*P P 09 13 22.8 -6.7
BOD *e* 09 13 36.9
BOD pmax pmax
comp=Z,8.0nm,1.1s
BOD pmax pmax
comp=Z,15nm,1.0s
AKTO Aktyubinsk 57.74 332 P **P** **09 13 34.9 +0.9**
AKTO *PP **pP** **09 13 41.2 -1.8**
AKTO pmax pmax
comp=Z,1.0nm,0.4s
AKTO pmax pmax
comp=Z,4.0nm,0.5s
AKTO Aktyubinsk 57.74 332 P **P** **09 13 34.9 +0.9**
AKTO pP **pP** **09 13 41.2 -1.8**
AKTO Aktyubinsk 57.74 332 P **P** **09 13 34.9 +0.9**
comp=Z,0.8nm,0.4s,baz=119,slow=7.7,SNR=4.0
AKTO pP **pP** **09 13 41.2 -1.8**
comp=Z,3.9nm,0.5s,baz=132,slow=7.9,SNR=12
CMSA Cobar Meteorol 57.84 130⇓*i*P **P** **09 13 35.3 +0.3**
comp=Z,79nm,1.0s
KMBO Kilima Mbogo 58.93 267 *e*P **P** **09 13 44.8 +1.5**
comp=Z,2.7nm,0.7s
GNI Garni 59.74 316 pP pP 09 13 57.2 -0.2
GNI Garni 59.74 316 pP pP 09 13 57.2 -0.2
comp=Z,4.0nm,0.3s,baz=161,slow=15,SNR=1.1
SVE Sverdlovsk 61.26 339⇑*e*P P 09 14 05.8 +7.7
SVE pmax pmax
comp=Z,34nm,1.1s
ZEI Tsey 61.44 319 *e*P **P** **09 14 00.5 +0.6**
ZEI pmax pmax
comp=Z,10.0nm,0.9s
ARU Arti 61.74 337*d i*P P 09 14 08.8 +7.5
ARU 09 16 21.3
ARU S S 09 22 37.0 +15
ARU pmax pmax
comp=Z,20nm,1.0s
ARU Arti 61.74 337 *e*P **P** **09 14 01.5 +0.2**
comp=Z,24nm,1.1s
KIV Kislovodsk 62.76 319 *e*P **P** **09 14 10.8 +2.3**
KIV pmax pmax
comp=Z,21nm,1.0s
KIV Kislovodsk 62.76 319 *e*P **P** **09 14 09.1 +0.6**
comp=Z,16nm,0.9s
ASF Jabal al Asfar 62.93 305 pP pP 09 14 19.0 -0.1
ASF Jabal al Asfar 62.93 305 pP pP 09 14 19.0 -0.1
comp=Z,3.0nm,0.8s,baz=278,slow=3.1,SNR=3.0
SOKR Solikamsk 64.66 339*d i*P P 09 14 28.5 +7.9
SOKR pmax pmax
comp=Z,40nm,1.6s
YAK Yakutsk 64.68 17 *e*P **P** **09 14 19.1 -1.6**
YAK *e**PP **pP** **09 14 26.1 -3.7**
YAK *e* 09 14 51.3
YAK *e* 09 16 42.7
YAK *e*S **S** **09 22 58.8 +0.1**
YAK *e* 09 24 09.9
YAK *e*SSS SSS 09 29 53.4
YAK pmax pmax
comp=Z,30nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=Z,13nm,1.1s
YAK pmax pmax
comp=N,10.0nm,1.4s
YAK pmax pmax
comp=E,15nm,1.6s
YAK smax smax
comp=N,320nm,6.4s
YAK MLR MLR
comp=Z,280nm,20.0s
YAK MLR MLR
comp=N,202nm,18.0s
YAK MLR MLR
comp=E,239nm,18.0s
VRHR Novokhopersk 66.60 326 *e*P P 09 14 39.7 +6.4
VRHR pmax pmax
comp=N,2.0nm,0.4s
VRHR pmax pmax
comp=E,4.0nm,0.4s
VRHR pmax pmax
comp=Z,10.0nm,0.4s
BRTR Keskin Array B 67.56 312 P **P** **09 14 38.6 -1.2**
BRTR pP **pP** **09 14 47.0 -2.1**
BRTR Keskin Array B 67.56 312 P **P** **09 14 38.6 -1.2**
comp=Z,0.7nm,0.8s,baz=77,slow=7.6,SNR=3.5
BRTR pP **pP** **09 14 47.0 -2.1**
comp=Z,1.3nm,0.7s,baz=125,slow=6.3,SNR=5.6
VORD Divnogorie 67.86 325 *e*P P 09 14 47.2 +5.9
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 68.04 325 *e*P P 09 14 48.6 +6.2
VSR pmax pmax
comp=N,6.0nm,0.8s
VSR pmax pmax
comp=E,5.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
OBN Obninsk 71.10 328⇓*e*P **P** **09 15 02.7 +1.5**
OBN *e* 09 17 40.7
OBN *e*S **S** **09 24 12.8 -3.0**
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,100nm,22.0s
KLMR Klimovskoe 72.28 335 *e*P P 09 15 12.1 +3.9
KLMR *e* 09 17 53.2
KLMR pmax pmax
comp=Z,34nm,1.6s
SEY Seymchan 73.18 23*ce*P **P** **09 15 15.5 +1.9**
LBTB Lobatse 73.40 243 P **P** **09 15 16.7 +1.0**
LBTB Lobatse 73.40 243 P **P** **09 15 16.7 +1.0**
comp=Z,0.8nm,0.4s,baz=113,slow=5.6,SNR=4.4
LBTB LR LR 09 42 48.1
comp=Z,178nm,19.0s,baz=71,slow=32
AKASG Malin Array Be 73.72 322 P **P** **09 15 16.2 -0.7**
AKASG *PP **pP** **09 15 23.3 -2.9**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 73.72 322 P **P** **09 15 16.2 -0.7**
AKASG pP **pP** **09 15 23.3 -2.9**
AKASG Malin Array Be 73.72 322 P **P** **09 15 16.2 -0.7**
comp=Z,0.4nm,0.3s,baz=103,slow=4.5,SNR=3.7
AKASG pP **pP** **09 15 23.3 -2.9**
comp=Z,3.3nm,0.7s,baz=84,slow=5.1,SNR=3.6
BUR08 Bucovina Ar. S 75.49 319 *e*P **P** **09 15 27.6 +0.1**
JOF Joensuu 76.68 335 *e*P P 09 15 41.2 +7.4
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 76.68 335 *e*P P 09 15 41.2 +7.4
comp=Z,3.0nm,0.7s
KOLS Kolonicke sedl 77.67 320 *e*P P 09 15 48.6 +9.0
KOLS pmax pmax
comp=Z,15nm,1.4s
KOLS Kolonicke sedl 77.67 320 *e*P P 09 15 48.6 +9.0
CRVS Cervenica-Dubn 78.19 319 *e*P P 09 15 52.5 +10
CRVS pmax pmax
comp=Z,13nm,1.5s
CRVS Cervenica-Dubn 78.19 319 *e*P P 09 15 52.5 +10
FINES FINESS Array B 78.51 333 P **P** **09 15 43.8 -0.2**
FINES pP **PcP** **09 15 51.6 -1.4**
FINES sP **sP** **09 15 55.2 -1.7**
FINES FINESS Array B 78.51 333 P **P** **09 15 43.8 -0.2**
comp=Z,2.2nm,0.9s,baz=121,slow=9.9,SNR=3.0
FINES pP **PcP** **09 15 51.6 -1.4**
comp=Z,4.8nm,0.6s,baz=92,slow=5.7,SNR=8.7
FINES sP **sP** **09 15 55.2 -1.7**
comp=Z,3.5nm,0.6s,baz=101,slow=3.9,SNR=5.9
KAF Kangasniemi 78.60 333 *e*P P 09 15 50.1 +5.6
KAF pmax pmax
comp=Z,7.0nm,0.7s
KAF Kangasniemi 78.60 333 *e*p P 09 15 50.1 +5.6
comp=Z,6.9nm,0.7s
VYHS Vyhne 79.84 319 *e*P P 09 15 59.6 +8.0
VYHS pmax pmax
comp=Z,8.0nm,1.7s
VYHS Vyhne 79.84 319 *e*P P 09 15 59.6 +8.0
BILL Bilibino 80.53 21⇑*e*P **P** **09 15 55.1 +0.2**
BILL *e*S S 09 26 06.3 +6.9
BILL pmax pmax
comp=Z,2.0nm,1.2s
BILL MLR MLR
comp=Z,400nm,16.0s
ARCES ARCESS Array B 81.13 340 P **P** **09 15 58.0 -0.1**
ARCES pP **pP** **09 16 06.2 -1.3**
ARCES ARCESS Array B 81.13 340 P **P** **09 15 58.0 -0.1**
comp=Z,6.8nm,1.1s,baz=106,slow=6.7,SNR=4.7
ARCES pP **pP** **09 16 06.2 -1.3**
comp=Z,23nm,1.2s,baz=95,slow=5.7,SNR=2.9
ARCES LR LR 09 54 39.5
comp=Z,70nm,21.6s,baz=181,slow=38
GROS Grobnik 81.85 316 *i* P P 09 16 10.8 +8.3
ARSA Arzberg 81.91 317⇑*i*P **P** **09 16 04.2 +1.5**
comp=Z,12nm,1.4s
ARSA Arzberg 81.91 317⇑*i*P **P** **09 16 04.2 +1.5**
comp=Z,12nm,1.4s
BOJS Bojanci 81.94 315 *i* P P 09 16 12.5 +10
SOKA Soboth 82.19 317⇑*i*P **P** **09 16 05.7 +1.4**
comp=Z,13nm,1.5s
SOKA Soboth 82.19 317⇑*i*P **P** **09 16 05.7 +1.4**
comp=Z,13nm,1.5s
VISS Visnje 82.25 316 *i* P P 09 16 12.9 +8.4
JAVS Javornik 82.80 316 *i* P P 09 16 13.7 +6.2
GERES GERESS Array B 83.26 319 P **P** **09 16 10.8 +1.0**
GERES pP **pP** **09 16 17.8 -1.4**
GERES GERESS Array B 83.26 319 P **P** **09 16 10.8 +1.0**
comp=Z,0.2nm,0.2s,baz=94,slow=6.8,SNR=4.6
GERES pP **pP** **09 16 17.8 -1.4**
comp=Z,4.0nm,1.0s,baz=96,slow=5.4,SNR=11
MOTA Moosalm 84.92 317⇑*i*P **P** **09 16 20.6 +2.2**
MOTA pmax pmax
comp=Z,10.0nm,1.1s
MOTA Moosalm 84.92 317⇑*i*P **P** **09 16 20.6 +2.2**
comp=Z,9.9nm,1.1s
MOTA Moosalm 84.92 317⇑*i*PcP **P** **09 16 20.6 +2.2**
comp=Z,9.9nm,1.1s
GRF Grafenberg Arr 84.93 320 *e*P P 09 16 27.5 +9.3
comp=Z,8.0nm,1.0s
NOA NORSAR Array B 85.51 331 pP pP 09 16 27.3 -3.0
NOA NORSAR Array B 85.51 331 pP pP 09 16 27.3 -3.0
comp=Z,3.5nm,1.0s,baz=93,slow=5.3,SNR=5.3
DAVOX Davos/Dischmat 85.74 317 pP pP 09 16 30.9 -1.0
DAVOX Davos/Dischmat 85.74 317 pP pP 09 16 30.9 -1.0
comp=Z,9.2nm,0.9s,baz=12,slow=14,SNR=5.2
CDF Champ du Feu 87.51 318 *e*P **P** **09 16 31.2 +0.2**
LPG La Plagne 87.91 315 *e*P **P** **09 16 33.3 0.0**
comp=Z,28nm,1.2s
LPL La Plagne 87.92 315 *e*P **P** **09 16 33.3 +0.1**
CABF La Chapelle 88.35 316 *e*P **P** **09 16 35.6 +0.6**
TORD Torodi Ar. Bea 93.77 283 P **P** **09 17 01.2 +0.4**
TORD pP **pP** **09 17 09.2 -1.1**
TORD Torodi Ar. Bea 93.77 283 P **P** **09 17 01.2 +0.4**
comp=Z,1.4nm,0.8s,baz=86,slow=5.7,SNR=8.1
TORD pP **pP** **09 17 09.2 -1.1**
comp=Z,1.0nm,0.9s,baz=78,slow=5.0,SNR=4.6
ILAR Eielson Array 99.11 23 P **Pdif** **09 17 25.5 +1.5**
ILAR Eielson Array 99.11 23 P **Pdif** **09 17 25.5 +1.5**
comp=Z,0.5nm,1.0s,baz=292,slow=4.8,SNR=2.7
RES Resolute Bay 102.83 3 pP **Pdif** **09 17 48.9 +8.5**
RES Resolute Bay 102.83 3 pP **Pdif** **09 17 48.9 +8.5**
comp=Z,1.4nm,1.0s,baz=316,slow=22,SNR=3.5
ULM Lac du Bonnet 126.64 10 PKP **PKPdf** **09 22 45.4 -1.0**
ULM pPKP **pPKPdf** **09 22 53.8 -2.4**
ULM Lac du Bonnet 126.64 10 PKP **PKPdf** **09 22 45.4 -1.0**
comp=Z,0.6nm,0.4s,baz=11,slow=5.2,SNR=2.9
ULM pPKP **pPKPdf** **09 22 53.8 -2.4**
comp=Z,1.8nm,0.8s,baz=20,slow=8.3,SNR=2.8
NVAR Mina Array Bea 128.52 35 PKP **PKPdf** **09 22 51.4 +0.8**
NVAR pPKP **pPKPdf** **09 22 59.0 -1.5**
NVAR Mina Array Bea 128.52 35 PKP **PKPdf** **09 22 51.4 +0.8**
comp=Z,0.2nm,0.4s,baz=298,slow=1.9,SNR=3.0
NVAR pPKP **pPKPdf** **09 22 59.0 -1.5**
comp=Z,0.8nm,0.8s,baz=273,slow=1.3,SNR=3.8
PDAR Pinedale Array 129.51 24 PKP **PKPdf** **09 22 52.4 -0.1**
PDAR pPKP **pPKPdf** **09 23 00.3 -1.9**
PDAR Pinedale Array 129.51 24 PKP **PKPdf** **09 22 52.4 -0.1**
comp=Z,0.3nm,0.7s,baz=215,slow=1.1,SNR=2.3
PDAR pPKP **pPKPdf** **09 23 00.3 -1.9**
comp=Z,0.3nm,0.5s,baz=110,slow=2.3,SNR=3.1
TXAR Lajitas Array 143.28 30 PKP **PKPdf** **09 23 17.1 -1.1**
TXAR Lajitas Array 143.28 30 PKP **PKPdf** **09 23 17.1 -1.1**
comp=Z,1.0nm,0.8s,baz=139,slow=2.0,SNR=3.8

*CSEM **04** 09:13:10.8, 40.42N×21.85E, h2km, ML2.4/1, After THE*
THE 04 09:13:10.8, 40.42N×21.85E, h2km±18km, ML2.4/1, Error ellipse: s-maj=18.5km s-min=0.6km az=212.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.13**	**209**	P	Pg	09 13 13.1	-0.4
KZN				S	Sg	09 13 15.4	+0.1
KZN	**Kozani**	**0.13**	**209**	P	Pg	09 13 13.1	-0.4
KZN				S	Sg	09 13 15.4	+0.1
FNA	**Florina**	**0.51**	**315**	P	Pg	09 13 20.4	-0.3
FNA	**Florina**	**0.51**	**315**	P	Pg	09 13 20.4	-0.3
LIT	**Litokhoron**	**0.58**	**123**	P	Pg	09 13 21.9	-0.2
LIT	**Litokhoron**	**0.58**	**123**	P	Pg	09 13 21.9	-0.2
NEST	**Nestorio**	**0.61**	**269**	P	Pg	09 13 22.4	-0.4
NEST	**Nestorio**	**0.61**	**269**	P	Pg	09 13 22.4	-0.4
GRG	**Griva**	**0.68**	**38**	P	Pg	09 13 23.3	-0.6
GRG	**Griva**	**0.68**	**38**	P	Pg	09 13 23.3	-0.6
THL	**Klokotos Trika**	**0.87**	**172**	P	Pg	09 13 27.2	-0.2
THL	**Klokotos Trika**	**0.87**	**172**	P	Pg	09 13 27.2	-0.2

IDC 04 09:15:56.7±2.9, 0.37S×132.56E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=156.7km s-min=26.1km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.53**	**175**	P	P	09 20 25.9	0.0
	0.1nm,0.3s,baz=354,slow=12,SNR=5.2						
ASAR	**Alice Springs**	**23.19**	**177**	P	P	09 21 05.3	0.0
	1.4nm,0.8s,baz=358,slow=9.3,SNR=12						
MKAR	**Makanchi Array**	**64.25**	**324**	P	P	09 26 33.7	0.0
	0.2nm,0.6s,baz=119,slow=6.8,SNR=2.5						

IDC 04 09:23:22.8±5.3, 15.82S×175.77W, h0km, mb4.6/3, mb1 4.8/3, mb1mx3.9/17, mbtmp4.6/3, Error ellipse: s-maj=189.0km s-min=58.0km az=132.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.85**	**240**	P	P	09 31 16.1	+1.3
	2.2nm,0.5s,baz=82,slow=7.5,SNR=8.5						
WRA	**Warramunga Arr**	**47.52**	**257**	P	P	09 31 58.8	-1.5
	1.8nm,0.4s,baz=93,slow=6.7,SNR=60						
ASAR	**Alice Springs**	**47.81**	**252**	P	P	09 32 01.8	-0.7
	12nm,0.4s,baz=86,slow=8.6,SNR=324						
BRTR	**Keskin Array B**	**145.00**	**319**	PKPbc	PKPbc	09 43 02.1	+0.2
	1.1nm,0.8s,baz=44,slow=2.8,SNR=4.4						

*PRE **04** 09:24:12.3±1.6, 4.37S×24.91E, h10km, ML4.0*
*ISCJB **04** 09:24:19.5±0.4, 3.54S±0.07×25.09E±0.05, h10km, mb4.1/16, MS3.4/5, Error ellipse: s-maj=10.0km s-min=6.5km az=155.8*
*IDC **04** 09:24:20.2±0.7, 3.53S×25.03E, h0km, mb4.2/13, mb1 4.2/15, mb1mx4.1/24, mbtmp4.2/15, ML1.6/1, MS3.5/6, Ms1 3.5/6, ms1mx3.3/31, Error ellipse: s-maj=22.4km s-min=15.1km az=98.0*
*NEIC **04** 09:24:21.5±0.3, 3.54S×25.06E, h10km, mb4.2/6, Error ellipse: s-maj=8.9km s-min=7.4km az=115.0*
ISC 04 09:24:21.4±0.6, 3.56S±0.09×25.05E±0.07, h10km, n49, σ0 93/48, mb4.2/16, MS3.5/5, Zaire

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIG	**Kigali**	**5.25**	**73**	*e*P	Pn	09 25 36.7	-3.6
KIG				*e*S	**Sn**	**09 26 39.2**	**-1.8**
KIG				AML	AML	09 27 09.7	
	comp=Z,196nm,0.6s						
MBAR	**Mbarara**	**6.40**	**63**	*e*P	**Pn**	**09 25 56.0**	**0.0**
MBAR				*e*S	**Sn**	**09 27 11.1**	**+1.9**
MSKU	**Masuku**	**11.58**	**279**	Pn	**Pn**	**09 27 05.5**	**-1.5**
MSKU				Pg		09 27 50.5	
MSKU				Sn	Sn	09 29 08.8	-7.7
MSKU				Lg	Lg	09 30 23.3	
MSKU	**Masuku**	**11.58**	**279**	Pn	**Pn**	**09 27 05.4**	**-1.5**
	comp=Z,5.3nm,0.3s,baz=179,slow=8.6,SNR=10						
MSKU				Pg		09 27 50.5	
	comp=Z,4.1nm,0.3s,baz=150,slow=20,SNR=2.2						
MSKU				Sn	Sn	09 29 08.8	-7.7
	comp=Z,5.1nm,0.3s,baz=180,slow=20,SNR=2.4						
MSKU				Lg	Lg	09 30 23.3	
	comp=Z,2.2nm,0.3s,baz=334,slow=20,SNR=4.0						
KMBO	**Kilima Mbogo**	**12.43**	**79**	*e*Pn	**Pn**	**09 27 16.8**	**-2.0**
KMBO	**Kilima Mbogo**	**12.43**	**79**	*e*P	**Pn**	**09 27 17.1**	**-1.7**
KMBO				*e*S	Sn	09 29 31.4	-6.2
TSUM	**Tsumeb**	**17.18**	**205**	P	**Pn**	**09 28 22.3**	**+0.5**
TSUM				S	Sn	09 31 20.6	-13
TSUM				Lg	Lg	09 33 19.6	
TSUM	**Tsumeb**	**17.18**	**205**	P	**Pn**	**09 28 22.3**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=20,slow=16,SNR=2.9						
TSUM				S	Sn	09 31 20.6	-13
	comp=Z,0.3nm,0.3s,baz=343,slow=14,SNR=3.6						
TSUM				Lg	Lg	09 33 19.6	
	comp=Z,0.3nm,0.3s,baz=266,slow=19,SNR=3.2						
TSUM				LR	LR	09 35 09.1	
	comp=Z,186nm,18.8s,baz=349,slow=38						
LBTB	**Lobatse**	**21.34**	**179**	P	**P**	**09 29 09.2**	**+0.3**
	comp=Z,5.5nm,0.6s						
LBTB				Lg	Lg	09 35 45.5	
LBTB	**Lobatse**	**21.34**	**179**	P	**P**	**09 29 09.2**	**+0.3**
	comp=Z,9.9nm,0.7s,baz=3.6,slow=12,SNR=16						
LBTB				Lg	Lg	09 35 45.5	
	comp=Z,18nm,1.1s,baz=59,slow=19,SNR=4.8						
ATD	**Arta Tunnel**	**23.20**	**50**	LR	LR	09 38 03.6	
	comp=Z,56nm,18.9s,baz=21,slow=36						
BOSA	**Boshof**	**24.92**	**180**	P	**P**	**09 29 45.8**	**+0.8**
BOSA	**Boshof**	**24.92**	**180**	P	**P**	**09 29 45.8**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=39,slow=12,SNR=4.4						
BOSA				LR	LR	09 39 44.6	
	comp=Z,154nm,18.4s,baz=232,slow=37						
TOA0	**Torodi Ar. Sit**	**28.52**	**306**	*e*P	**P**	**09 30 17.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**28.52**	**306**	P	**P**	**09 30 17.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**28.52**	**306**	P	**P**	**09 30 17.9**	**+0.5**
	comp=Z,2.6nm,0.6s,baz=128,slow=7.6,SNR=20						
TORD				LR	LR	09 42 34.4	
	comp=Z,90nm,18.9s,baz=55,slow=38						
SUR	**Sutherland**	**28.95**	**187**	P	**P**	**09 30 21.2**	**-0.1**
SUR	**Sutherland**	**28.95**	**187**	P	**P**	**09 30 21.2**	**-0.1**
	comp=Z,4.1nm,0.7s,baz=36,slow=14,SNR=3.7						
DBIC	**Dimbokro**	**31.54**	**289**	*e*P	**P**	**09 30 43.6**	**-0.5**
	comp=Z,3.0nm,0.8s						
DBIC	**Dimbokro**	**31.54**	**289**	P	**P**	**09 30 44.1**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=101,slow=8.2,SNR=4.9						
DBIC				LR	LR	09 43 07.2	
	comp=Z,102nm,19.2s,baz=351,slow=36						
KEST	**Kesra**	**41.76**	**341**	*e*P	**P**	**09 32 11.5**	**+0.4**
BRTR	**Keskin Array B**	**43.79**	**10**	P	**P**	**09 32 28.6**	**+0.9**
BRTR	**Keskin Array B**	**43.79**	**10**	P	**P**	**09 32 28.6**	**+0.9**
	comp=Z,2.6nm,0.6s,baz=179,slow=10,SNR=15						
BR131	**Keskin Array S**	**43.79**	**10**	*e*P	**P**	**09 32 28.2**	**+0.6**
	comp=Z,2.3nm,0.6s						
GERES	**GERESS Array B**	**53.12**	**351**	P	**P**	**09 33 37.6**	**-1.7**
GERES	**GERESS Array B**	**53.12**	**351**	P	**P**	**09 33 37.6**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=161,slow=9.3,SNR=3.1						
ABKAR	**Akbulak array**	**60.67**	**25**	*e*P	**P**	**09 34 32.6**	**-0.2**
	comp=Z,0.6nm,0.4s						
KKAR	**Karatay Array**	**61.92**	**36**	*e*P	**P**	**09 34 41.8**	**+0.4**
	comp=Z,1.2nm,0.7s						
FINES	**FINESS Array B**	**64.82**	**1**	P	**P**	**09 35 00.8**	**+0.6**
FINES	**FINESS Array B**	**64.82**	**1**	P	**P**	**09 35 00.8**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=176,slow=7.3,SNR=4.1						
NB2	**NORSAR Subarra**	**65.30**	**353**	P	**P**	**09 35 03.8**	**+0.4**
	comp=Z,2.8nm,0.7s,baz=167,slow=6.5						
NOA	**NORSAR Array B**	**65.30**	**353**	P	**P**	**09 35 04.3**	**+0.9**
NOA	**NORSAR Array B**	**65.30**	**353**	P	**P**	**09 35 04.3**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=168,slow=6.4,SNR=4.7						
KURK	**Kurchatov**	**70.78**	**33**	*e*P	**P**	**09 35 37.1**	**-0.9**
	comp=Z,5.8nm,1.1s						
MK31	**Makanchi Array**	**70.96**	**38**	*e*P	**P**	**09 35 39.3**	**0.0**
MKAR	**Makanchi Array**	**70.96**	**38**	P	**P**	**09 35 39.5**	**+0.2**
MKAR	**Makanchi Array**	**70.96**	**38**	P	**P**	**09 35 39.5**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=242,slow=5.3,SNR=19						
ARCES	**ARCESS Array B**	**72.94**	**0**	P	**P**	**09 35 50.6**	**0.0**
ARCES	**ARCESS Array B**	**72.94**	**0**	P	**P**	**09 35 50.6**	**0.0**
	comp=Z,1.7nm,0.6s,baz=152,slow=5.5,SNR=9.5						
ZAA0	**Zalesovo Array**	**75.68**	**32**	*e*P	**P**	**09 36 06.6**	**-0.3**
ZALV	**Zalesovo Beam**	**75.68**	**32**	P	**P**	**09 36 06.7**	**-0.3**
ZALV	**Zalesovo Beam**	**75.68**	**32**	P	**P**	**09 36 06.7**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=246,slow=5.8,SNR=12						
CMAR	**Chiang Mai Arr**	**75.91**	**70**	LR	LR	10 07 43.2	
	comp=Z,23nm,18.4s,baz=175,slow=34						
SONM	**Songino Array**	**86.81**	**42**	P	**P**	**09 37 07.1**	**+0.7**
SONM	**Songino Array**	**86.81**	**42**	P	**P**	**09 37 07.1**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=260,slow=4.3,SNR=2.9						
PDAR	**Pinedale Array**	**123.91**	**321**	PKP	**PKPdf**	**09 43 20.8**	**+0.3**
PDAR	**Pinedale Array**	**123.91**	**321**	PKP	**PKPdf**	**09 43 20.8**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=101,slow=4.7,SNR=3.2						
TXAR	**Lajitas Array**	**125.11**	**304**	PKP	**PKPdf**	**09 43 24.6**	**+1.5**
TXAR	**Lajitas Array**	**125.11**	**304**	PKP	**PKPdf**	**09 43 24.6**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=182,slow=2.4,SNR=5.7						

*DJA **04** 09:30:37, 0.96N×97.01E, h22km, MLv3.7/4*
IDC 04 09:30:41.4±2.4, 1.84N×97.36E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/22, mbtmp3.6/7, Error ellipse: s-maj=73.9km s-min=21.5km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.24**	**123**	P	P	09 38 34.9	-1.9
	0.5nm,0.9s,baz=301,slow=9.0,SNR=3.8						
ASAR	**Alice Springs**	**43.66**	**128**	P	P	09 38 49.9	+1.6
	0.4nm,0.8s,baz=286,slow=8.1,SNR=2.9						
KSRS	**Korea Array**	**45.24**	**35**	P	P	09 39 00.5	-0.2
	0.8nm,0.9s,baz=225,slow=9.6,SNR=4.3						
SONM	**Songino Array**	**46.48**	**8**	P	P	09 39 10.9	+0.4
	0.8nm,0.6s,baz=189,slow=7.9,SNR=7.1						
MKAR	**Makanchi Array**	**46.67**	**346**	P	P	09 39 11.7	-0.2
	0.6nm,0.7s,baz=156,slow=8.0,SNR=5.4						
USRK	**Ussuriysk Arra**	**52.16**	**31**	P	P	09 39 53.5	-0.2
	0.8nm,0.6s,baz=234,slow=6.9,SNR=2.4						
ZALV	**Zalesovo Beam**	**52.96**	**351**	P	P	09 39 59.0	-0.5
	1.1nm,0.5s,baz=177,slow=7.2,SNR=6.1						

MAN 04 09:43:24, 11.04N×124.84E, h31km, mb3.8, ML2.5, MS2.1, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**0.19**	**47**⇓*e*P		Pn	09 43 31.9	+1.2
PLP				*i* S	Sn	09 43 37.0	+2.1
OCLP	**Ormoc**	**0.23**	**274**	*e*P	Pn	09 43 32.8	+1.6
OCLP				*e*S	Sn	09 43 36.0	+0.1
MSLP	**Maasin**	**0.90**	**179**	*e*P	Pb	09 43 41.4	+0.3
MSLP				*e*S	Sn	09 43 48.3	-4.1

*ISCJB **04** 09:59:04.8±0.8, 59.30N±0.03×27.1E±0.1, h0km, Error*

ellipse: s-maj=8.5km s-min=4.2km az=5.7
*NAO **04** 09:59:05.2±1.2, 59.˚31N×26.˚78E, ML2.1*
*CSEM **04** 09:59:05.5±0.4, 59.˚29N×27.˚06E, h1km, ML1.6, Error ellipse: s-maj=11.4km s-min=5.1km az=95.0, Mining explosion.*
*BER **04** 09:59:06.9±2.0, 59.˚31N×26.˚94E, h0km, ML2.1(NAO), Suspected explosion*
*HEL **04** 09:59:06.5±0.1, 59.˚30N×27.˚08E, h0km, ML1.6, ML2.1(NAO), Explosion*

ISC 04 09:59:05.6±1.0, 59.˚30N±0.˚02×26.˚99E±0.˚05, h0km, n25, σ0.95/37, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.85**	**189**	**Pg**	**Pg**	**09 59 21.9**	**0.0**
VSU				Lg	Lg	09 59 33.3	
VSU	**Vasula**	**0.85**	**189**	**Pg**	**Pg**	**09 59 21.9**	**0.0**
VSU				Lg	Lg	09 59 33.3	
VSU	**Vasula**	**0.85**	**189**	*i* PG	**Pg**	**09 59 21.9**	**0.0**
VSU				*i* SG	**Sg**	**09 59 33.3**	**+0.4**
VSU	**Vasula**	**0.85**	**189**	Pg	**Pg**	**09 59 21.9**	**0.0**
	SNR=90						
VSU				*e*S	**Sg**	**09 59 32.6**	**-0.4**
	402nm,0.8s,SNR=22						
VSU				Lg	Lg	09 59 33.3	
	SNR=120						
VSU				Sg	Lg	09 59 33.3	
VJF	**Virojoki**	**1.27**	**13**	*e*P	**Pg**	**09 59 29.2**	**-0.8**
VJF				*e*S	**Sg**	**09 59 45.7**	**-0.7**
VJF				MSG		09 59 45.7	
	comp=Z,5.2nm,0.4s						
VJF				*e*RG	Rg	09 59 50.5	
VJF	**Virojoki**	**1.27**	**13**	P	**Pg**	**09 59 29.2**	**-0.8**
VJF				S	**Sg**	**09 59 45.7**	**-0.7**
PVF	**Pernaja**	**1.37**	**336**	*e*PG	**Pb**	**09 59 32.0**	**0.0**
PVF				MSG	**Sg**	**09 59 49.2**	**-0.3**
	comp=Z,1.3nm,0.2s						
PVF				*e*S	**Sg**	**09 59 49.2**	**-0.3**
PVF	**Pernaja**	**1.37**	**336**	Pg	**Pb**	**09 59 32.0**	**0.0**
PVF				S	**Sg**	**09 59 49.1**	**-0.3**
MEF	**Metsahovi**	**1.60**	**306**	*e*PG	**Pb**	**09 59 36.1**	**+0.1**
MEF				MSG	**Sg**	**09 59 56.9**	**0.0**
	comp=Z,5.0nm,0.4s						
MEF				*e*S	**Sg**	**09 59 56.9**	**0.0**
MEF	**Metsahovi**	**1.60**	**306**	*e*P	**Pb**	**09 59 35.7**	**-0.3**
	SNR=20						
MEF	**Metsahovi**	**1.60**	**306**	Pg	**Pb**	**09 59 36.0**	**+0.1**
MEF				*e*S	**Sg**	**09 59 56.9**	**0.0**
	comp=Z,16nm,0.7s,SNR=20						
MTSE	**Matsula**	**1.74**	**252**	*e*PN	**Pb**	**09 59 38.6**	**+0.1**
MTSE				*e*S	**Sb**	**10 00 00.9**	**+0.1**
MTSE	**Matsula**	**1.74**	**252**	Pn	**Pb**	**09 59 38.5**	**+0.1**
MTSE				S	**Sb**	**10 00 00.9**	**+0.1**
FIA0	**FINESS Array S**	**2.19**	**349**	Pn	**Pn**	**09 59 43.8**	**+0.5**
	baz=159,slow=16						
FIA0				Lg	Lg	10 00 13.6	
	baz=170,slow=28						
FIA0	**FINESS Array S**	**2.19**	**349**	Pn	**Pn**	**09 59 43.8**	**+0.5**
	baz=159,slow=16						
FIA0				Lg	Lg	10 00 13.6	
	baz=170,slow=28						
FIA0	**FINESS Array S**	**2.19**	**349**	*e*P	**Pn**	**09 59 44.4**	**+1.1**
FIA0				MSG	**Sb**	**10 00 13.4**	**-0.4**
	comp=Z,6.2nm,0.5s						
FIA0				*e*SB	**Sb**	**10 00 13.4**	**-0.4**
FIA0				*e*RG	Rg	10 00 25.5	
FIA0	**FINESS Array S**	**2.19**	**349**	Pn	**Pn**	**09 59 43.8**	**+0.5**
	baz=159,slow=15,SNR=50						
FIA0	**FINESS Array S**	**2.19**	**349**	P	**Pn**	**09 59 44.4**	**+1.1**
FIA0				Lg	Lg	10 00 13.6	
	baz=170,slow=28,SNR=3.9						
SLIT	**Slitere, Latvi**	**2.98**	**238**	*e*P	**Pn**	**09 59 51.4**	**-2.7**
	SNR=16						
RAF	**Rauma**	**3.13**	**306**	MSG	**Sg**	**10 00 44.0**	**-2.0**
	comp=Z,2.8nm,0.4s						
RAF				*e*SG	**Sg**	**10 00 44.0**	**-2.0**
RAF	**Rauma**	**3.13**	**306**	*e*P	**Pn**	**09 59 57.9**	**+1.8**
	SNR=16						
RAF				*e*S	**Sn**	**10 00 36.5**	**+2.4**
	comp=Z,6.1nm,0.6s,SNR=16						
HFS	**Hagfors**	**6.78**	**283**	Lg	Lg	10 02 34.9	
	baz=97,slow=37						
HFS	**Hagfors**	**6.78**	**283**	Lg	Lg	10 02 34.9	
	baz=97,slow=37						
HFS	**Hagfors**	**6.78**	**283**	SG	Sg	10 02 34.9	-8.0
HFS	**Hagfors**	**6.78**	**283**	Lg	Lg	10 02 34.9	
	baz=97,slow=34,SNR=3.2						

IDC 04 09:59:12.8±1.2, 4.˚65N×126.˚76E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/21, mbtmp3.6/7, Error ellipse: s-maj=124.5km s-min=17.0km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.55**	**163**	P	P	10 04 43.1	-0.4
	2.1nm,0.7s,baz=343,slow=10.0,SNR=13						
ASAR	**Alice Springs**	**28.99**	**166**	P	P	10 05 14.6	+0.1
	0.4nm,0.6s,baz=352,slow=8.1,SNR=6.4						
STKA	**Stephens Creek**	**38.98**	**160**	P	P	10 06 41.1	+0.2
	1.9nm,0.7s,baz=326,slow=9.0,SNR=4.5						
SONM	**Songino Array**	**46.44**	**341**	P	P	10 07 41.2	-0.3
	0.2nm,0.5s,baz=148,slow=8.9,SNR=2.2						
MKAR	**Makanchi Array**	**56.82**	**325**	P	P	10 08 57.6	-1.5
	0.2nm,0.5s,baz=115,slow=7.8,SNR=4.3						
KURBB	**Kurchatov Array**	**60.99**	**327**	P	P	10 09 27.7	-0.2
	0.6nm,0.7s,baz=129,slow=6.8,SNR=3.4						
BVAR	**Borovoye Array**	**66.57**	**327**	P	P	10 10 06.7	+2.0
	0.4nm,0.6s,baz=134,slow=4.3,SNR=3.6						

IDC 04 10:09:43.0±6.3, 46.˚51N×149.˚04E, h0km, mb3.3/3, mb1 3.7/4, mb1mx3.4/23, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=260.6km s-min=80.8km az=111.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**8.65**	**37**	Pn	Pn	10 11 51.1	+1.7
	0.5nm,0.3s,baz=200,slow=14,SNR=10.0						
ILAR	**Eielson Array**	**38.48**	**38**	P	P	10 17 04.7	-1.6
	0.4nm,0.5s,baz=264,slow=7.1,SNR=7.1						
YKA	**Yellowknife Ar**	**52.77**	**35**	P	P	10 18 59.5	+0.3
	0.2nm,0.5s,baz=300,slow=7.2,SNR=4.0						
TXAR	**Lajitas Array**	**80.03**	**58**	P	P	10 21 55.2	+0.7
	0.3nm,0.7s,baz=305,slow=4.4,SNR=3.4						

MEX 04 10:15:54.4±0.4, 15.˚35N×95.˚86W, h5km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.48**	**330**	*i* P	Pg	10 16 03.2	-0.5
HUIG				*e*S	Sg	10 16 09.9	0.0
VHO	**Vista Hermosa**	**1.91**	**334**	*e*P	Pn	10 16 24.8	-3.1
VHO				*e*S	Sn	10 16 47.8	-4.7
VHO				*i* S	Sb	10 16 48.3	-6.0
OXX	**Oaxaca**	**1.91**	**334**	*i* P	Pn	10 16 24.6	-3.3
OXX				*e*S	Sn	10 16 47.7	-4.9
CMIG	**Matias Romero**	**1.97**	**28**	*i* P	Pn	10 16 25.0	-3.5
CMIG				*e*S	Sn	10 16 49.3	-4.3
PNIG	**Pinotepa**	**2.41**	**296**	*i* P	Pn	10 16 31.4	-3.2
PNIG				*e*S	Sn	10 17 00.8	-3.7
UTMO	**Huajuapan**	**3.09**	**323**	*i* P	Pn	10 16 41.1	-3.1
UTMO				*e*S	Sn	10 17 17.7	-4.0

IDC 04 10:33:15.5±2.0, 7.˚91S×125.˚68E, h0km, mb3.4/1, mb1 3.9/3, mb1mx3.5/15, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=260.0km s-min=32.0km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.61**	**146**	Pn	Pn	10 36 41.8	-1.9
	0.5nm,0.3s,baz=320,slow=15,SNR=23						
WRA				Sn	Sn	10 39 09.6	-17
	0.9nm,0.3s,baz=322,slow=24,SNR=11						
ASAR	**Alice Springs**	**17.54**	**154**	P	P	10 37 22.8	0.0
	0.3nm,0.3s,baz=336,slow=12,SNR=30						
ASAR				S	Sn	10 40 24.6	-13
	0.2nm,0.3s,baz=311,slow=19,SNR=6.9						
MKAR	**Makanchi Array**	**66.72**	**329**	P	P	10 44 08.4	0.0
	0.2nm,0.4s,baz=122,slow=7.2,SNR=4.1						

*ISCJB **04** 10:40:05.1±0.6, 59.˚34N±0.˚03×27.˚14E±0.˚09, h0km, Error ellipse: s-maj=6.4km s-min=4.0km az=10.2*
*CSEM **04** 10:40:06.9±0.3, 59.˚32N×27.˚11E, h1km, ML2.1, Error ellipse: s-maj=8.2km s-min=5.0km az=103.0, Mining explosion.*
*BER **04** 10:40:07.7±4.0, 59.˚31N×27.˚01E, h0km, ML2.1(NAO), Suspected explosion*
*HEL **04** 10:40:07.3±0.2, 59.˚29N×27.˚17E, h0km, ML1.8, ML2.1(NAO), Explosion*
*NAO **04** 10:40:07.0±1.1, 59.˚30N×27.˚04E, ML2.1*
*IDC **04** 10:40:08.5±2.4, 59.˚40N×27.˚12E, h0km, mb1 3.4/3, mb1mx3.0/26, mbtmp3.3/3, ML2.8/3, Error ellipse: s-maj=21.8km s-min=10.9km az=115.0*
*UPP **04** 10:40:20.9, 60.˚02N×25.˚92E, h0km, ML0.7, Suspected Mining explosion.*

ISC 04 10:40:06.1±0.9, 59.˚31N±0.˚02×27.˚05E±0.˚04, h0km, n51, σ1.55/77, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.87**	**191**	Pg	**Pg**	**10 40 23.0**	**+0.3**
VSU				Lg	Lg	10 40 34.3	
VSU	**Vasula**	**0.87**	**191**	Pg	**Pg**	**10 40 23.0**	**+0.3**
VSU				Lg	Lg	10 40 34.3	
VSU	**Vasula**	**0.87**	**191**	*i* PG	**Pg**	**10 40 23.0**	**+0.3**
VSU				*i* SG	**Sg**	**10 40 34.3**	**+0.4**
VSU	**Vasula**	**0.87**	**191**	*e*P	**Pg**	**10 40 23.2**	**+0.5**
	SNR=90						
VSU				*e*S	**Sg**	**10 40 34.0**	**+0.1**
	95nm,0.9s,SNR=90						
VSU				Lg	Lg	10 40 34.3	
	SNR=120						
VJF	**Virojoki**	**1.26**	**12**	*e*P	**Pg**	**10 40 29.9**	**-0.3**
VJF				*e*SB	**Sg**	**10 40 46.8**	**+0.2**
VJF				*e*RG	Rg	10 40 51.3	
VJF	**Virojoki**	**1.26**	**12**	P	**Pg**	**10 40 29.9**	**-0.3**
VJF				Sb	**Sg**	**10 40 46.7**	**+0.2**
PVF	**Pernaja**	**1.38**	**335**	*e*P	**Pg**	**10 40 32.6**	**+0.1**
PVF				MSG	**Sn**	**10 40 54.5**	**+3.1**
	comp=Z,9.5nm,0.4s						
PVF				*e*SN	**Sn**	**10 40 54.5**	**+3.1**
PVF	**Pernaja**	**1.38**	**335**	P	**Pg**	**10 40 32.5**	**+0.1**
PVF				Sn	**Sn**	**10 40 54.5**	**+3.1**
MEF	**Metsahovi**	**1.62**	**305**	*e*PG	**Pg**	**10 40 37.4**	**+0.3**
MEF				*e*SG	**Sg**	**10 40 59.2**	**+1.1**
MEF				MSG		10 40 59.2	
	comp=Z,5.9nm,0.2s						
MEF	**Metsahovi**	**1.62**	**305**	Pg	**Pg**	**10 40 37.4**	**+0.3**
MEF				*e*S	**Sb**	**10 40 58.5**	**+0.7**
	SNR=50						
MEF				Sg	**Sg**	**10 40 59.2**	**+1.1**
MTSE	**Matsula**	**1.77**	**252**	*e*PN	**Pb**	**10 40 39.8**	**+0.3**
MTSE				*e*SN	**Sg**	**10 41 03.7**	**+0.6**
MTSE	**Matsula**	**1.77**	**252**	Pn	**Pb**	**10 40 39.7**	**+0.3**
MTSE				Sn	**Sg**	**10 41 03.7**	**+0.6**
FIA0	**FINESS Array S**	**2.19**	**348**	Pn	**Pn**	**10 40 45.0**	**+1.2**
	baz=164,slow=16						
FIA0				Pg	**Pb**	**10 40 46.4**	**-0.2**
	baz=165,slow=16						
FIA0				Lg	Lg	10 41 15.4	
	baz=166,slow=28						
FIA0	**FINESS Array S**	**2.19**	**348**	Pn	**Pn**	**10 40 45.0**	**+1.2**
	baz=164,slow=16						
FIA0				Pg	**Pb**	**10 40 46.4**	**-0.2**
	baz=165,slow=16						
FIA0				Lg	Lg	10 41 15.4	
	baz=166,slow=28						
FIA0	**FINESS Array S**	**2.19**	**348**	*e*P	**Pn**	**10 40 44.8**	**+1.0**
FIA0				MSG	**Sb**	**10 41 15.5**	**+1.2**
	comp=Z,3.4nm,0.3s						
FIA0				*e*SG	**Sb**	**10 41 15.5**	**+1.2**
FIA0				*e*RG	Rg	10 41 33.1	
FIA0	**FINESS Array S**	**2.19**	**348**	Pn	**Pn**	**10 40 45.0**	**+1.2**
	baz=164,slow=16,SNR=4.2						
FIA0	**FINESS Array S**	**2.19**	**348**	Pg	**Pb**	**10 40 46.4**	**-0.2**
	baz=165,slow=16						
FIA0				Lg	Lg	10 41 15.4	
	baz=166,slow=26,SNR=50						
FIA0				Sg	**Sb**	**10 41 15.5**	**+1.2**
FINES	**FINESS Array B**	**2.19**	**348**	Pg	**Pn**	**10 40 45.0**	**+1.2**
	comp=Z,1.8nm,0.3s,baz=165,slow=16,SNR=46						
FINES				Lg	Lg	10 41 15.7	
	comp=Z,2.7nm,0.3s,baz=166,slow=28,SNR=20						
KAF	**Kangasniemi**	**2.84**	**353**	*e*P	**Pn**	**10 40 54.4**	**+1.8**
KAF				MSG	**Sg**	**10 41 35.5**	**-1.6**
	comp=Z,2.3nm,0.2s						
KAF				*e*SG	**Sg**	**10 41 35.5**	**-1.6**
KAF	**Kangasniemi**	**2.84**	**353**	P	**Pn**	**10 40 54.4**	**+1.8**
KEF	**Keuruu**	**3.06**	**340**	*e*P	**Pn**	**10 40 58.3**	**+2.6**
KEF				MSG	**Sg**	**10 41 42.3**	**-2.0**
	comp=Z,2.3nm,0.2s						
KEF				*e*SG	**Sg**	**10 41 42.3**	**-2.0**
KEF	**Keuruu**	**3.06**	**340**	P	**Pn**	**10 40 58.3**	**+2.6**
RAF	**Rauma**	**3.15**	**305**	*e*P	**Pn**	**10 40 59.8**	**+2.9**
RAF	**Rauma**	**3.15**	**305**	P	**Pn**	**10 40 59.8**	**+2.9**
RAF				*e*S	**Sn**	**10 41 37.4**	**+2.3**
	SNR=50						
JOF	**Joensuu**	**4.17**	**28**	*e*P	**Pn**	**10 41 12.2**	**+1.3**
JOF	**Joensuu**	**4.17**	**28**	P	**Pn**	**10 41 12.2**	**+1.3**
BURU	**Burvik**	**5.93**	**336**	P	**Pn**	**10 41 36.3**	**+1.3**
BREU	**Bredtraesk**	**6.12**	**322**	P	**Pn**	**10 41 38.9**	**+1.3**
SVAU	**Svanoeiden**	**6.28**	**329**	P	**Pn**	**10 41 41.0**	**+1.1**
SJUU	**Sjulsmark**	**6.71**	**340**	P	**Pn**	**10 41 47.6**	**+1.8**
KALU	**Kalix**	**6.79**	**347**	P	**Pn**	**10 41 48.6**	**+1.8**
HFS	**Hagfors**	**6.80**	**283**	Pn	**Pn**	**10 41 47.7**	**+0.6**
	baz=119,slow=14						
HFS				Sn	**Sn**	**10 43 01.8**	**-3.4**
	baz=86,slow=28						
HFS				Lg	Lg	10 43 34.6	
	baz=104,slow=28						
HFS	**Hagfors**	**6.80**	**283**	Pn	**Pn**	**10 41 47.7**	**+0.6**
	baz=119,slow=14						
HFS				Sn	**Sn**	**10 43 01.8**	**-3.4**
	baz=86,slow=28						
HFS				Lg	Lg	10 43 34.6	
	baz=104,slow=28						
HFS	**Hagfors**	**6.80**	**283**	PN	**Pn**	**10 41 47.7**	**+0.6**
HFS				SN	**Sn**	**10 43 01.8**	**-3.4**
HFS				SG	Sb	10 43 34.6	+7.8
HFS	**Hagfors**	**6.80**	**283**	Pn	**Pn**	**10 41 47.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=75,slow=17,SNR=2.8						
HFS				Sn	**Sn**	**10 43 02.2**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=106,slow=26,SNR=4.5						
HFS	**Hagfors**	**6.80**	**283**	Pn	**Pn**	**10 41 47.7**	**+0.6**
	baz=119,slow=12,SNR=3.7						
HFS				Lg	Lg	10 43 34.6	
	baz=104,slow=24,SNR=50						
NOD	**Norderasen**	**7.17**	**310**	P	**Pn**	**10 41 52.8**	**+0.7**
HARU	**Harads**	**7.42**	**341**	P	**Pn**	**10 41 57.2**	**+1.8**
ERTU	**Ertsjaerv**	**7.60**	**345**	P	**Pn**	**10 41 58.5**	**+0.6**
NB2	**NORSAR Subarra**	**8.08**	**289**	Pn	**Pn**	**10 42 05.5**	**+0.9**
	baz=93,slow=14						
NB2	**NORSAR Subarra**	**8.08**	**289**	Pn	**Pn**	**10 42 05.5**	**+0.9**
	baz=93,slow=14						
NB2	**NORSAR Subarra**	**8.08**	**289**	PN	**Pn**	**10 42 05.5**	**+0.9**
NB2	**NORSAR Subarra**	**8.08**	**289**	Pn	**Pn**	**10 42 05.5**	**+0.9**
	baz=93,slow=13,SNR=4.7						
NOA	**NORSAR Array B**	**8.08**	**289**	Pn	**Pn**	**10 42 03.3**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=133,slow=12,SNR=4.0						
SALU	**Saltoluokta**	**8.95**	**338**	P	**Pn**	**10 42 17.2**	**+0.7**
LANU	**Lannavaara**	**9.05**	**348**	P	**Pn**	**10 42 18.9**	**+1.0**
ARA0	**ARCESS Array S**	**10.29**	**357**	Pn	**Pn**	**10 42 33.7**	**-1.1**
	baz=172,slow=16						
ARA0				Sn	Sn	10 44 23.1	-7.6
	baz=172,slow=28						
ARA0	**ARCESS Array S**	**10.29**	**357**	Pn	**Pn**	**10 42 33.7**	**-1.1**
	baz=172,slow=16						
ARA0				Sn	Sn	10 44 23.1	-7.6
	baz=172,slow=28						
ARA0	**ARCESS Array S**	**10.29**	**357**	PN	**Pn**	**10 42 33.7**	**-1.1**
ARA0				SN	Sn	10 44 23.1	-7.6
ARA0	**ARCESS Array S**	**10.29**	**357**	Pn	**Pn**	**10 42 33.7**	**-1.1**
	baz=172,slow=14,SNR=0.6						
ARCES	**ARCESS Array B**	**10.29**	**357**	Pn	**Pn**	**10 42 33.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=170,slow=15,SNR=5.1						

*ISCJB **04** 10:50:11.6±0.7, 29.˚89N±0.˚06×138.˚6E±0.˚1, h443km, mb2.9/4, Error ellipse: s-maj=16.6km s-min=7.5km az=170.9*
*JMA **04** 10:50:12.7±0.1, 30.˚03N×139.˚16E, h470km, M3.2*

*IDC **04** 10:50:12.5±4.3, 29.˚76N×138.˚21E, h420km±102km, mb2.7/4, mb1 2.8/5, mb1mx2.6/24, mbtmp2.6/5, Error ellipse: s-maj=186.9km s-min=19.2km az=68.0*

ISC 04 10:50:12.8±0.9, 29.˚96N±0.˚09×138.˚8E±0.˚2, h443km, n12, σ1.23/14, mb3.0/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**4.11**	**133**	P	**P**	**10 51 29.4**	**+0.8**
CBIJ				*e*S	**S**	**10 52 29.0**	**-1.1**
JWZ	**Kozaga**	**4.44**	**324**	P	**P**	**10 51 34.3**	**+2.9**
JIE	**Ise**	**4.77**	**338**	P	P	10 51 37.9	+3.4
JHU	**Hanno**	**5.89**	**4**	P	**P**	**10 51 46.2**	**+0.6**
JRY	**Ryogami san**	**6.04**	**1**	P	**P**	**10 51 48.6**	**+1.4**
JAG	**Ashikaga**	**6.47**	**5**	P	**P**	**10 51 51.7**	**0.0**
JAG				*e*S	**S**	**10 53 12.2**	**-0.4**
MJAR	**Matsushiro Arr**	**6.59**	**356**	P	**P**	**10 51 53.7**	**+0.7**
	0.4nm,0.3s,baz=172,slow=12,SNR=5.6						
JHO	**Hitachi**	**6.80**	**12**	P	**P**	**10 51 56.2**	**+1.1**
JHO				*e*S	**S**	**10 53 17.7**	**-1.2**
MKAR	**Makanchi Array**	**46.38**	**308**	P	**P**	**10 57 56.9**	**-0.8**
	0.1nm,0.3s,baz=81,slow=8.0,SNR=3.6						
WRA	**Warramunga Arr**	**49.80**	**186**	P	**P**	**10 58 23.1**	**-0.5**
	0.8nm,0.8s,baz=1.2,slow=7.5,SNR=5.4						
ASAR	**Alice Springs**	**53.52**	**186**	P	**P**	**10 58 50.5**	**-0.2**
	0.5nm,0.9s,baz=359,slow=6.5,SNR=4.5						
BVAR	**Borovoye Array**	**53.94**	**316**	P	**P**	**10 58 52.9**	**-0.4**
	0.6nm,0.5s,baz=92,slow=6.0,SNR=4.2						

DDA 04 11:06:55.4, 37.˚55N×35.˚64E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.16**	**117**	*e*PG	Pg	11 06 58.3	-0.4
KOZT				*e*SG	Sg	11 07 00.3	-0.7
ANDN	**Andirin**	**0.56**	**87**	*e*P	Pg	11 07 06.3	+0.1
ANDN				*e*S	Sb	11 07 14.7	-1.0
GULE	**Gulek**	**0.74**	**249**	*e*P	Pg	11 07 10.0	+0.2
GULE				*e*S	Sb	11 07 22.3	+1.1

*THE **04** 11:15:37.5, 36.˚12N×27.˚64E, h2km±5km, ML3.3/2, Error ellipse: s-maj=5.5km s-min=1.0km az=103.0*
*ISK **04** 11:15:37.2, 36.˚20N×27.˚58E, h5km, MD3.3*
*ATH **04** 11:15:38.0, 36.˚08N×27.˚66E, h13km±3km, MD3.2/10*
*CSEM **04** 11:15:38.3±0.2, 36.˚13N×27.˚61E, h2km, ML3.3/2, Error ellipse: s-maj=4.7km s-min=3.3km az=128.0*
*DDA **04** 11:15:39.7, 36.˚28N×27.˚73E, h8km, MD3.5, ML3.3*

ISC 04 11:15:37.6±1.1, 36.˚13N±0.˚02×27.˚65E±0.˚02, h4km±10km, n60, σ1.14/96, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.39**	**77**	P	**Pb**	**11 15 45.9**	**-1.2**
ARG				S	**Sb**	**11 15 51.8**	**-1.8**
ARG	**Arkhangelos**	**0.39**	**77**	*e*PB	**Pb**	**11 15 45.9**	**-1.2**
ARG				*e*SB	**Sb**	**11 15 51.7**	**-1.8**
ARG	**Arkhangelos**	**0.39**	**77**	P	**Pb**	**11 15 45.9**	**-1.2**
ARG				*e*Sb	**Sb**	**11 15 51.7**	**-1.8**
NIS1	**Nisyros Isl.**	**0.61**	**321**	P	**Pg**	**11 15 48.8**	**-0.4**
NIS1				S	**Sb**	**11 15 59.5**	**-0.2**
NIS1	**Nisyros Isl.**	**0.61**	**321**	P	**Pg**	**11 15 48.8**	**-0.4**
NIS1				S	**Sb**	**11 15 59.5**	**-0.2**
KARP	**Karpathos**	**0.70**	**215**	P	**Pb**	**11 15 51.7**	**-0.7**
KARP				S	**Sb**	**11 16 01.5**	**-1.0**
KARP	**Karpathos**	**0.70**	**215**	*e*PB	**Pb**	**11 15 51.3**	**-1.1**
KARP				*e*SB	**Sb**	**11 16 00.8**	**-1.7**
KARP	**Karpathos**	**0.70**	**215**	*e*Pb	**Pb**	**11 15 51.3**	**-1.1**
KARP	**Karpathos**	**0.70**	**215**	P	**Pb**	**11 15 51.7**	**-0.7**
KARP				*e*Sb	**Sb**	**11 16 00.8**	**-1.7**
KARP				S	**Sb**	**11 16 01.5**	**-1.0**
BDRM	**Kayabasi**	**0.95**	**350**	*e*P	**Pg**	**11 15 55.1**	**-0.7**
BDRM				*e*S	**Sg**	**11 16 08.2**	**+0.1**
BDRM	**Kayabasi**	**0.95**	**350**	*e*P	**Pg**	**11 15 55.1**	**-0.7**
BDRM				*e*S	**Sg**	**11 16 08.2**	**+0.1**
BODT	**Bodrum**	**0.97**	**344**	*e*PG	**Pg**	**11 15 55.1**	**-1.1**
BODT				*e*SG	**Sg**	**11 16 09.1**	**+0.3**
BODT	**Bodrum**	**0.97**	**344**	*e*Pg	**Pg**	**11 15 55.1**	**-1.1**
BODT				*e*Sg	**Sg**	**11 16 09.1**	**+0.3**
TURN	**Turunc**	**1.07**	**46**	*e*P	Pg	11 15 52.4	-5.6
TURN				*e*S	Sg	11 16 05.0	-6.9
YER	**Yerkesik**	**1.12**	**27**	*e*PN	**Pb**	**11 15 59.4**	**-0.2**
YER				*e*SN	**Sb**	**11 16 14.7**	**0.0**
YER	**Yerkesik**	**1.12**	**27**	*e*Pn	**Pb**	**11 15 59.4**	**-0.2**
YER				*e*Sn	**Sb**	**11 16 14.7**	**0.0**
FETY	**Fethiye**	**1.26**	**66**	*e*PN	**Pn**	**11 16 02.6**	**+0.6**
FETY	**Fethiye**	**1.26**	**66**	*e*Pn	**Pn**	**11 16 02.6**	**+0.6**
AYDN	**Tasoluk**	**1.54**	**7**	*e*P	**Pb**	**11 16 06.2**	**-0.5**
AYDN				*e*S	**Sn**	**11 16 24.1**	**-2.3**
AYDN	**Tasoluk**	**1.54**	**7**	*e*P	**Pb**	**11 16 06.2**	**-0.5**
AYDN				*e*S	**Sn**	**11 16 24.1**	**-2.3**
ZKR	**Zakros**	**1.55**	**230**	*e*PB	**Pg**	**11 16 06.6**	**-0.6**
ZKR				*e*SB	**Sg**	**11 16 27.8**	**+0.6**
ZKR	**Zakros**	**1.55**	**230**	*e*Pb	**Pg**	**11 16 06.6**	**-0.6**
ZKR				*e*Sb	**Sg**	**11 16 27.8**	**+0.6**
KSL	**Kastellorizon**	**1.56**	**89**	*e*PB	**Pg**	**11 16 07.8**	**+0.3**
KSL	**Kastellorizon**	**1.56**	**89**	*e*Pb	**Pg**	**11 16 07.8**	**+0.3**
AKAS	**Kas**	**1.58**	**86**	*e*P	**Pg**	**11 16 07.8**	**

ISC 04 11:20:43.2±1.4, **42°89S**±0°08×**72°52W**±0°08, **h10**km, **n11**, σ1°**43**/11, **mb3.9**/4, **2C, Southern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUNY	**Huinay**	**0.52**	**9**	*i*P	**Pg**	**11 20 53.3**	**+0.1**
HUNY				*i* S	**Sb**	**11 21 01.7**	**-0.2**
ILCA	**Isla Las Cabra**	**0.83**	**359**	*i*P	**Pg**	**11 20 58.5**	**-0.7**
ILCA				*i* S	**Sg**	**11 21 10.8**	**+0.8**
ILCA				AML	AML	11 21 14.3	
	comp=E,555nm,0.4s						
QLLN	**Quelln**	**0.84**	**255**	*e*P	**Pb**	**11 20 58.7**	**-1.1**
QLLN				*i* S	**Sb**	**11 21 10.3**	**-0.8**
QLLN				AML	AML	11 21 19.0	
	comp=N,4μm,0.7s						
HOCH	**HornopirØn**	**0.99**	**5**	*i* S	**Sn**	**11 21 16.4**	**-0.6**
HOCH				AML	AML	11 21 19.1	
	comp=E,1μm,0.4s						
PLCA	**Paso Flores**	**2.61**	**35**	Pn	**Pb**	**11 21 28.7**	**-1.4**
	comp=E,6.7nm,0.3s,baz=216,slow=15,SNR=91						
PLCA				Pg	**Pg**	**11 21 31.4**	**-1.8**
	comp=E,9.9nm,0.3s,baz=221,slow=17,SNR=97						
PLCA				Lg	Lg	11 22 06.4	
	comp=E,21nm,0.3s,baz=294,slow=23,SNR=16						
COYC	**Coyhaique**	**2.70**	**173**	AML	AML	11 22 13.6	
	comp=E,92nm,0.5s						
SIV	**San Ignacio**	**28.54**	**24**	P	**P**	**11 26 41.1**	**+1.9**
	comp=E,0.6nm,0.5s,baz=213,slow=16,SNR=3.4						
QSPA	**South Pole Qui**	**47.36**	**180**	P	P	11 29 20.0	+2.9
	comp=E,3.6nm,1.1s,baz=95,slow=5.8,SNR=5.0						
TXAR	**Lajitas Array**	**77.37**	**332**	P	P	11 32 42.4	+4.2
	comp=E,0.5nm,0.8s,baz=150,slow=5.8,SNR=4.5						
PDAR	**Pinedale Array**	**91.54**	**334**	P	P	11 33 53.1	+3.3
	comp=E,0.8nm,0.9s,baz=138,slow=9.6,SNR=4.2						
AKTO	**Aktyubinsk**	**145.77**	**60**	PKPbc	**PKPab**	**11 40 24.2**	**+2.0**
	comp=E,1.4nm,0.9s,baz=256,slow=4.2,SNR=4.9						

*CSEM **04** 12:21:27.3, 60°.53N×22°.14E, h0km, ML0.8, Mining explosion. After HEL*

HEL 04 12:21:27.3±0.1, **60°.53N×22°.14E, h0**km, **ML0.8, Explosion, Finland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAF	**Rauma**	**0.53**	**340**	*e*P	Pg	12 21 36.6	-0.9
RAF				*e*S	Sg	12 21 44.0	-0.3
RAF	**Rauma**	**0.53**	**340**	P	Pg	12 21 36.6	-0.9
RAF				S	Sg	12 21 44.0	-0.3
AAL	**Aland**	**1.12**	**253**	*e*P	Pg	12 21 47.2	-1.6
AAL				*e*S	Sg	12 22 02.2	-1.1
AAL	**Aland**	**1.12**	**253**	P	Pg	12 21 47.1	-1.7
AAL				S	Sg	12 22 02.2	-1.1
MEF	**Metsahovi**	**1.16**	**105**	*e*P	Pg	12 21 48.4	-1.1
MEF	**Metsahovi**	**1.16**	**105**	P	Pg	12 21 48.4	-1.2
VAF	**Ylistaro**	**2.54**	**5**	*e*SG	Sb	12 22 45.3	-0.1
VAF				MSG		12 22 48.0	
	comp=Z,0.2nm,0.1s						
VAF	**Ylistaro**	**2.54**	**5**	Sg	Sb	12 22 45.2	-0.2

*CSEM **04** 12:21:40.8, 60°.46N×26°.79E, h0km, ML1.2, Mining explosion. After HEL*

HEL 04 12:21:40.8±0.1, **60°.46N×26°.79E, h0**km, **ML1.2, Explosion, Finland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.39**	**78**	*e*P	Pg	12 21 47.8	-0.4
VJF				*e*S	Sg	12 21 52.7	-0.5
VJF	**Virojoki**	**0.39**	**78**	P	Pg	12 21 47.7	-0.5
VJF				S	Sg	12 21 52.7	-0.5
PVF	**Pernaja**	**0.47**	**281**	*e*P	Pg	12 21 49.1	-0.6
PVF				*e*S	Sg	12 21 55.1	-0.6
PVF	**Pernaja**	**0.47**	**281**	P	Pg	12 21 49.0	-0.7
PVF				S	Sg	12 21 55.1	-0.7
MEF	**Metsahovi**	**1.21**	**260**	*e*P	Pg	12 22 02.8	-1.2
MEF				*e*S	Sg	12 22 19.0	-0.7
MEF	**Metsahovi**	**1.21**	**260**	P	Pg	12 22 02.8	-1.2
MEF				S	Sg	12 22 19.0	-0.8
KEF	**Keuruu**	**1.95**	**332**	*e*P	Pn	12 22 14.6	-0.5
KEF				*e*S	Sn	12 22 40.2	0.0
KEF	**Keuruu**	**1.95**	**332**	P	Pn	12 22 14.6	-0.5
KEF				S	Sn	12 22 40.2	-0.1
SUF	**Sumiainen**	**2.29**	**353**	*e*P	Pn	12 22 19.8	0.0
SUF				*e*S	Sn	12 22 48.8	+0.1
SUF	**Sumiainen**	**2.29**	**353**	P	Pn	12 22 19.7	-0.1
SUF				S	Sn	12 22 48.7	0.0
RAF	**Rauma**	**2.53**	**285**	MSG		12 22 59.9	
	comp=Z,0.7nm,0.1s						

*CSEM **04** 12:53:24.7±0.1, 40°.32N×25°.81E, h3km±1km, MD3.1, Error ellipse: s-maj=3.3km s-min=2.8km az=33.0*
*ATH **04** 12:53:24.7, 40°.34N×25°.80E, h27km, MD3.2/5*
*ISCJB **04** 12:53:24.6±0.5, 40°.32N±0°.02×25°.81E±0°.03, h6km±4km, Error ellipse: s-maj=3.8km s-min=3.4km az=176.3*
*THE **04** 12:53:25.5, 40°.34N×25°.81E, h12km±1km, ML2.9/6, Error ellipse: s-maj=1.2km s-min=0.7km az=82.0*
*ISK **04** 12:53:25.1, 40°.31N×25°.94E, h3km, MD3.1*
*SOF **04** 12:53:26.7, 40°.39N×25°.69E, h13km, MD3.0*
*DDA **04** 12:53:30.6, 40°.14N×26°.25E, h7km, MD3.0*

ISC 04 12:53:25.0±1.0, **40°33N**±0°.02×**25°82E**±0°.02, **h11**km±9km, **n74**, σ0°**66**/96, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENEZ	**Enez**	**0.48**	**31**	*e*PG	**Pg**	**12 53 34.2**	**-0.1**
ENEZ				*e*SG	**Sb**	**12 53 42.3**	**-0.3**
ENEZ	**Enez**	**0.48**	**31**	*e*Pg	**Pg**	**12 53 34.3**	**-0.1**
ENEZ				*e*Sg	**Sb**	**12 53 42.3**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.50**	**82**	*e*PG	**Pg**	**12 53 34.7**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.50**	**82**	*e*Pg	**Pg**	**12 53 34.7**	**-0.1**
BOZC	**Bozcaada**	**0.52**	**160**	*i* P	**Pg**	**12 53 35.2**	**+0.1**
BOZC				*i* S	**Sg**	**12 53 42.6**	**+0.7**
ALN	**Alexandroupoli**	**0.59**	**16**	P	**Pg**	**12 53 36.4**	**-0.2**
ALN				S	**Sg**	**12 53 44.9**	**+0.5**
ALN	**Alexandroupoli**	**0.59**	**16**	*e*PN	**Pg**	**12 53 36.4**	**-0.2**
ALN				*e*SN	**Sg**	**12 53 45.0**	**+0.5**
ALN	**Alexandroupoli**	**0.59**	**16**	P	**Pg**	**12 53 36.4**	**-0.2**
ALN				S	**Sg**	**12 53 44.9**	**+0.5**
ERIK	**Erikli-Kesan**	**0.63**	**57**	*e*PG	**Pg**	**12 53 36.9**	**-0.3**
ERIK				*e*SG	**Sg**	**12 53 44.8**	**-0.7**
ERIK	**Erikli-Kesan**	**0.63**	**57**	*e*Pg	**Pg**	**12 53 36.9**	**-0.3**
ERIK				*e*Sg	**Sg**	**12 53 44.8**	**-0.7**
EZN	**Ezine**	**0.63**	**142**	*e*PG	**Pg**	**12 53 36.7**	**-0.5**
EZN				*e*SG	**Sg**	**12 53 45.5**	**0.0**
EZN	**Ezine**	**0.63**	**142**	*e*Pg	**Pg**	**12 53 36.7**	**-0.5**
EZN				*e*Sg	**Sg**	**12 53 45.5**	**0.0**
LIA	**Limnos Island**	**0.65**	**229**	P	**Pg**	**12 53 37.8**	**+0.1**
LIA				S	**Sb**	**12 53 47.8**	**+0.3**
LIA	**Limnos Island**	**0.65**	**229**	*e*PN	**Pg**	**12 53 37.7**	**+0.1**
LIA				*e*SN	**Sb**	**12 53 47.4**	**-0.1**
LIA	**Limnos Island**	**0.65**	**229**	*e*Pn	**Pg**	**12 53 37.7**	**+0.1**
LIA				*e*Sn	**Sb**	**12 53 47.4**	**-0.1**
LIA				S	**Sb**	**12 53 47.8**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.09**	**70**	*e*PG	**Pb**	**12 53 45.2**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.09**	**70**	*e*Pg	**Pb**	**12 53 45.2**	**-0.8**
KRBG	**Karabiga-Canak**	**1.13**	**86**	*e*PG	**Pb**	**12 53 45.5**	**-1.1**
KRBG	**Karabiga-Canak**	**1.13**	**86**	*e*Pg	**Pb**	**12 53 45.5**	**-1.1**
PRK	**Paraskevi**	**1.13**	**162**	P	**Pb**	**12 53 46.2**	**-0.4**
PRK				S	**Sn**	**12 54 02.4**	**0.0**
PRK	**Paraskevi**	**1.13**	**162**	P	**Pb**	**12 53 46.2**	**-0.4**
PRK				S	**Sn**	**12 54 02.4**	**0.0**
KAVA	**Kavala**	**1.20**	**304**	P	**Pn**	**12 53 47.4**	**-0.4**
KAVA				S	**Sb**	**12 54 03.3**	**0.0**
KAVA	**Kavala**	**1.20**	**304**	P	**Pn**	**12 53 47.4**	**-0.4**
KAVA				S	**Sb**	**12 54 03.3**	**0.0**
MFT	**Murefte**	**1.20**	**67**	*e*PN	**Pn**	**12 53 47.1**	**-0.7**
MFT	**Murefte**	**1.20**	**67**	*e*Pn	**Pn**	**12 53 47.2**	**-0.7**
AYVA	**Ayvalik**	**1.22**	**146**	*i* P	**Pb**	**12 53 48.0**	**0.0**
AYVA	**Ayvalik**	**1.22**	**146**	*i* P	**Pb**	**12 53 48.0**	**0.0**
KDZ	**Kurdzhali**	**1.36**	**347**	P	**Pb**	**12 53 50.3**	**-0.2**
KDZ	**Kurdzhali**	**1.36**	**347**	P	**Pb**	**12 53 50.3**	**-0.2**
OUR	**Ouranopolis**	**1.41**	**271**	P	**Pn**	**12 53 49.6**	**-1.0**
OUR				S	**Sn**	**12 54 08.5**	**-0.6**
OUR	**Ouranopolis**	**1.41**	**271**	P	**Pn**	**12 53 49.6**	**-1.0**
OUR				S	**Sn**	**12 54 08.5**	**-0.6**
GONE	**Gonen-Balikesi**	**1.45**	**100**	*e*PN	**Pb**	**12 53 52.0**	**-0.1**
GONE	**Gonen-Balikesi**	**1.45**	**100**	*e*Pn	**Pb**	**12 53 52.0**	**-0.1**
TKR	**Tekirdag**	**1.46**	**62**	*e*PN	**Pb**	**12 53 52.4**	**+0.2**
TKR	**Tekirdag**	**1.46**	**62**	*e*Pn	**Pb**	**12 53 52.4**	**+0.2**
BALY	**Balya**	**1.50**	**112**	*e*P	**Pb**	**12 53 52.5**	**-0.4**
BALY	**Balya**	**1.50**	**112**	*e*P	**Pb**	**12 53 52.5**	**-0.4**
EDC	**Edincik**	**1.56**	**89**	*e*PN	**Pn**	**12 53 52.9**	**+0.2**
EDC	**Edincik**	**1.56**	**89**	*e*Pn	**Pn**	**12 53 52.9**	**+0.2**
RZN	**Rozhen**	**1.60**	**329**	P	**Pg**	**12 53 55.4**	**-0.3**
RZN	**Rozhen**	**1.60**	**329**	P	**Pg**	**12 53 55.4**	**-0.3**
EDRB	**Edirne**	**1.67**	**24**	*e*PN	**Pn**	**12 53 54.9**	**+0.7**
EDRB	**Edirne**	**1.67**	**24**	*e*Pn	**Pn**	**12 53 54.9**	**+0.7**
BALB	**Balikesir**	**1.72**	**113**	*e*PN	**Pn**	**12 53 54.9**	**0.0**
BALB	**Balikesir**	**1.72**	**113**	*e*Pn	**Pn**	**12 53 54.9**	**0.0**
DIM	**Dimitrovgrad**	**1.74**	**353**	P	**Pb**	**12 53 57.4**	**+0.5**
DIM	**Dimitrovgrad**	**1.74**	**353**	P	**Pb**	**12 53 57.4**	**+0.5**
NVR	**Nevrokopi**	**1.81**	**305**	P	**Pn**	**12 53 55.9**	**-0.2**
NVR				S	**Sn**	**12 54 19.0**	**-0.1**
NVR	**Nevrokopi**	**1.81**	**305**	*e*PN	**Pn**	**12 53 55.8**	**-0.3**
NVR	**Nevrokopi**	**1.81**	**305**	P	**Pn**	**12 53 55.9**	**-0.2**
NVR				S	**Sn**	**12 54 19.0**	**-0.1**
PLG	**Polygyros**	**1.82**	**272**	P	**Pn**	**12 53 55.7**	**-0.6**
PLG	**Polygyros**	**1.82**	**272**	*e*PB	**Pn**	**12 53 55.7**	**-0.6**
PLG	**Polygyros**	**1.82**	**272**	*e*Pb	**Pn**	**12 53 55.7**	**-0.6**
KCTX	**Karacabey (Bur**	**1.94**	**91**	*e*PN	**Pn**	**12 53 58.7**	**+0.8**
KCTX	**Karacabey (Bur**	**1.94**	**91**	*e*Pn	**Pn**	**12 53 58.7**	**+0.8**
CHOS	**Chios island**	**1.94**	**175**	P	**Pn**	**12 53 58.1**	**0.0**
CHOS	**Chios island**	**1.94**	**175**	*e*PN	**Pn**	**12 53 58.3**	**+0.2**
CHOS	**Chios island**	**1.94**	**175**	*e*Pn	**Pn**	**12 53 58.3**	**+0.2**
SLVT	**Silivri**	**2.02**	**63**	*e*PN	**Pn**	**12 54 00.3**	**+1.2**
SLVT	**Silivri**	**2.02**	**63**	*e*Pn	**Pn**	**12 54 00.3**	**+1.2**
MMB	**Musomiste**	**2.03**	**309**	P	**Pn**	**12 53 59.9**	**+0.7**
MMB	**Musomiste**	**2.03**	**309**	P	**Pn**	**12 53 59.9**	**+0.7**
CTYL	**Yal??k??y-??at**	**2.19**	**58**	*e*PN	**Pb**	**12 54 03.4**	**-1.3**
CTYL	**Yal??k??y-??at**	**2.19**	**58**	*e*Pn	**Pb**	**12 54 03.4**	**-1.3**
CTKS	**Kestanelik-??a**	**2.23**	**65**	*e*PN	**Pn**	**12 54 03.0**	**+1.1**
CTKS	**Kestanelik-??a**	**2.23**	**65**	*e*Pn	**Pn**	**12 54 03.0**	**+1.1**
ARMT	**Armutlu**	**2.33**	**83**	*e*PN	**Pn**	**12 54 04.5**	**+1.2**
ARMT	**Armutlu**	**2.33**	**83**	*e*Pn	**Pn**	**12 54 04.5**	**+1.2**
ORLT	**Orhaneli**	**2.37**	**96**	*e*PN	**Pn**	**12 54 05.4**	**+1.5**
ORLT	**Orhaneli**	**2.37**	**96**	*e*Pn	**Pn**	**12 54 05.4**	**+1.5**
PGB	**Panagyurishte**	**2.55**	**331**	P	**Pb**	**12 54 11.7**	**+0.9**
PGB	**Panagyurishte**	**2.55**	**331**	P	**Pb**	**12 54 11.7**	**+0.9**
KULA	**Kula-Manisa**	**2.85**	**129**	*e*PN	**Pn**	**12 54 12.2**	**+1.7**
KULA	**Kula-Manisa**	**2.85**	**129**	*e*Pn	**Pn**	**12 54 12.2**	**+1.7**

JMA 04 12:54:31.9±0.3, **44°07N×148°04E, h27**km, **M3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.81**	**248**	P	Pn	12 55 02.3	+1.1
NEM2				*e*S	Sn	12 55 24.4	+1.1
JNK	**Nakash**	**2.45**	**260**	P	Pn	12 55 11.3	+1.2
JAK	**Akkeshi**	**2.66**	**247**	P	Pn	12 55 14.3	+1.4
JAR	**Ashorobuto**	**3.19**	**257**	P	Pn	12 55 22.5	+2.2
JCH	**Churui**	**3.71**	**249**	P	Pn	12 55 29.7	+2.3
JNBK	**Urakawa-nobuka**	**4.26**	**247**	P	Pn	12 55 36.5	+1.5

IDC 04 13:09:47.3±2.7, **1°34S×134°59E, h0**km, **mb3.3**/2, **mb1 3.7**/3, **mb1mx3.4**/16, **mbtmp3.4**/3, **ML3.7/1, Error ellipse: s-maj=123.8km s-min=26.5km az=77.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.49**	**181**	P	P	13 14 05.0	-0.2
	0.3nm,0.3s,baz=360,slow=12,SNR=20						
ASAR	**Alice Springs**	**22.21**	**182**	P	P	13 14 45.6	+0.1
	1.1nm,0.6s,baz=5.8,slow=12,SNR=15						
MKAR	**Makanchi Array**	**66.22**	**324**	P	P	13 20 37.1	-0.1
	0.1nm,0.5s,baz=108,slow=7.8,SNR=3.4						

IDC 04 13:16:23.7±25.0, **18°87S×172°75W, h0**km, **mb4.0**/4, **mb1 4.1**/4, **mb1mx3.7**/19, **mbtmp4.0**/4, **Error ellipse: s-maj=472.6km s-min=149.2km az=74.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.60**	**261**	P	P	13 23 49.0	+0.1
	7.0nm,1.1s,baz=100,slow=12,SNR=2.8						
STKA	**Stephens Creek**	**42.94**	**243**	P	P	13 24 24.6	+0.1
	0.7nm,0.7s,baz=84,slow=10,SNR=2.8						
ASAR	**Alice Springs**	**49.71**	**255**	P	P	13 25 17.8	-0.2
	1.2nm,0.8s,baz=98,slow=7.7,SNR=18						
WRA	**Warramunga Arr**	**49.74**	**260**	P	P	13 25 17.8	-0.5
	0.3nm,0.4s,baz=98,slow=8.1,SNR=16						

IDC 04 13:30:48.5±2.6, **16°86S×175°21W, h222**km±38km, **mb3.7**/4, **mb1 3.8**/5, **mb1mx3.4**/18, **mbtmp3.6**/5, **Error ellipse: s-maj=137.5km s-min=23.8km az=139.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.42**	**49**	P	Pn	13 31 56.4	-0.1
	4.1nm,0.3s,baz=203,slow=23,SNR=10						
AFI				S	S	13 32 45.5	-4.5
	33nm,0.3s,baz=40,slow=20,SNR=21						
STKA	**Stephens Creek**	**41.80**	**241**	P	P	13 38 16.6	0.0
	2.2nm,0.5s,baz=84,slow=10,SNR=11						
WRA	**Warramunga Arr**	**47.83**	**258**	P	P	13 39 03.9	-0.3
	1.0nm,0.4s,baz=96,slow=7.2,SNR=25						
ASAR	**Alice Springs**	**48.01**	**253**	P	P	13 39 05.6	-0.1
	16nm,0.6s,baz=88,slow=8.5,SNR=370						
ILAR	**Eielson Array**	**84.21**	**12**	P	P	13 42 54.5	0.0
	0.5nm,0.8s,baz=226,slow=6.1,SNR=7.4						

*ISCJB **04** 13:31:16.8±0.8, 25°.19N±0°.06×122°.59E±0°.03, h190km±6km, Error ellipse: s-maj=10.5km s-min=4.1km az=168.7*
*TAP **04** 13:31:16.2, 25°.34N×122°.57E, h194km±1km, ML3.7, C*
*JMA **04** 13:31:17.7±0.3, 25°.36N×122°.57E, h174km, M2.9*

ISC 04 13:31:15.8±1.9, **25°23N**±0°.09×**122°56E**±0°.04, **h199**km±12km, **n34**, σ0°**71**/60, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.57**	**247**	*e*P	**Pn**	**13 31 43.5**	**+0.5**
	baz=237						
NWF	**Wu-fen Shan**	**0.73**	**258**	*e*P	**Pn**	**13 31 44.4**	**+0.5**
	baz=246						
YOJ	**Yonaguni jima**	**0.87**	**152**	P	**Pn**	**13 31 44.7**	**+0.1**
TWC	**Suao**	**0.90**	**227**	P	**Pn**	**13 31 45.1**	**+0.3**
	baz=221						
TWC				S	**Sn**	**13 32 06.1**	**-1.1**
	baz=221						
TWA	**Mucha**	**0.92**	**255**	*e*P	**Pn**	**13 31 46.2**	**+1.3**
	baz=241						
TWA				*e*S	**Sn**	**13 32 06.8**	**-0.6**
	baz=241						
TWE	**Neicheng**	**0.96**	**238**	*e*P	**Pn**	**13 31 46.3**	**+1.1**
	baz=225						
TWE				*e*S	**Sn**	**13 32 08.8**	**+0.9**
	baz=225						
ENTT	**Nioudou**	**1.08**	**237**	P	**Pn**	**13 31 46.4**	**+0.4**
	baz=229						
ENA	**Nanau**	**1.09**	**223**	*e*P	**Pn**	**13 31 46.6**	**+0.5**
	baz=214						
ENA				*i* S	**Sn**	**13 32 09.1**	**-0.5**
	baz=214						
NSK	**Sanguang**	**1.23**	**243**	P	**Pn**	**13 31 47.5**	**+0.3**
	baz=232						
NSK				S	**Sn**	**13 32 10.6**	**-0.9**
	baz=232						
NNS	**Nan Shan**	**1.34**	**234**	P	**Pn**	**13 31 49.1**	**+0.9**
	baz=230						
NNS				*i* S	**Sn**	**13 32 12.6**	**-0.7**
	baz=230						
IRIF	**Iriomote-Funau**	**1.39**	**130**	P	**Pn**	**13 31 48.6**	**+0.2**
IRIF				*e*S	**Sn**	**13 32 13.0**	**-0.7**
TWD	**Chiawan**	**1.45**	**218**	P	**Pn**	**13 31 49.2**	**+0.2**
	baz=215						
TWD				*e*S	**Sn**	**13 32 13.7**	**-0.9**
	baz=215						
NSTT	**Nanjuang**	**1.54**	**248**	P	**Pn**	**13 31 49.9**	**+0.1**
	baz=243						
NSTT				S	**Sn**	**13 32 15.1**	**-0.9**
	baz=243						
TWT	**Tachien**	**1.59**	**233**	P	**Pn**	**13 31 51.4**	**+0.9**
	baz=230						
TWT				S	**Sn**	**13 32 17.2**	**-0.2**
	baz=230						
WHF	**Hehuan Shan**	**1.60**	**228**	P	**Pn**	**13 31 51.3**	**+0.5**
	baz=222						
WHF				*e*S	**Sn**	**13 32 17.4**	**-0.5**
	baz=222						
HATJ	**Hateruma jima**	**1.62**	**136**	P	**Pn**	**13 31 51.7**	**+1.1**
HATJ				S	**Sn**	**13 32 17.2**	**-0.3**
JKRS	**Kuro-shima**	**1.65**	**127**	P	**Pn**	**13 31 51.5**	**+0.8**
JKRS				S	**Sn**	**13 32 17.4**	**-0.4**
JIJ	**Ishigaki jima**	**1.68**	**121**	P	**Pn**	**13 31 51.2**	**+0.2**
JIJ				S	**Sn**	**13 32 16.9**	**-1.4**
ESL	**Shilin**	**1.75**	**216**	*e*P	**Pn**	**13 31 51.5**	**-0.3**
	baz=220						
ESL				*e*S	**Sn**	**13 32 19.1**	**-0.6**
	baz=220						
NSY	**Sanyi**	**1.83**	**244**	*e*S	**Sn**	**13 32 21.1**	**+0.1**
	baz=246						
TWQ1	**Liyutan**	**1.85**	**242**	*e*P	**Pn**	**13 31 53.4**	**+0.6**
	baz=238						
TWQ1				S	**Sn**	**13 32 20.6**	**-0.8**
	baz=238						
SMLT	**Sun Moon Lake**	**2.02**	**229**	*e*P	**Pn**	**13 31 55.6**	**+0.9**
	baz=226						
SMLT				*e*S	**Sn**	**13 32 23.4**	**-1.4**
	baz=226						
JTJ	**Tarama**	**2.03**	**106**	P	**Pn**	**13 31 55.7**	**+1.2**
JTJ				S	**Sn**	**13 32 24.0**	**-0.6**
TYC	**Yuchr**	**2.04**	**230**	P	**Pn**	**13 31 55.3**	**+0.6**
	baz=232						
TYC				S	**Sn**	**13 32 24.6**	**-0.3**
	baz=232						
EHY	**Hungye**	**2.06**	**214**	*e*P	**Pn**	**13 31 55.9**	**+1.0**
	baz=218						
EHY				*e*S	**Sn**	**13 32 25.1**	**-0.2**
	baz=218						
TWF1	**Yuli**	**2.20**	**212**	*e*P	**Pn**	**13 31 56.9**	**+0.5**
	baz=217						
TWF1				S	**Sn**	**13 32 27.5**	**-0.4**
	baz=217						
CHN5	**Tsauling**	**2.37**	**227**	P	**Pn**	**13 31 59.1**	**+0.9**
	baz=225						
CHN5				S	**Sn**	**13 32 31.2**	**-0.1**
	baz=225						
CHKT	**Chengkung**	**2.39**	**208**	*e*P	**Pn**	**13 31 59.0**	**+0.6**
	baz=201						
CHKT				*e*S	**Sn**	**13 32 31.4**	**-0.2**
	baz=201						
ELDTW	**Lidau**	**2.48**	**215**	*e*P	**Pn**	**13 31 59.8**	**+0.3**
	baz=210						
ELDTW				S	**Sn**	**13 32 33.4**	**-0.2**
	baz=210						
JMJ	**Miyako jima 2**	**2.51**	**99**	S	**Sn**	**13 32 33.6**	**-0.3**
JOGS	**Gusukube**	**2.62**	**100**	P	**Pn**	**13 32 02.3**	**+1.3**
JOGS				S	**Sn**	**13 32 36.2**	**0.0**
CHN1	**Nanshi**	**2.76**	**223**	*e*P	**Pn**	**13 32 01.8**	**-0.9**
	baz=221						
CHN1				*e*S	**Sn**	**13 32 39.1**	**-0.1**
	baz=221						
JKE	**Kume jima 2**	**3.96**	**73**	P	**Pn**	**13 32 17.1**	**+0.1**
JJT2	**Tamagusuku 2**	**4.76**	**78**	P	**Pn**	**13 32 26.8**	**-0.4**

*SOF **04** 13:31:17.4, 42°.59N×23°.98E, h17km, MD3.0*
*BEO **04** 13:31:18.8±0.5, 42°.62N×24°.00E, h4km±5km, ML3.1/8*
*SKO **04** 13:31:18.2, 42°.67N×24°.05E, h8km*
*CSEM **04** 13:31:18.5±0.1, 42°.60N×23°.99E, h2km, MD3.0, Error ellipse: s-maj=2.7km s-min=2.2km az=92.0*
*THE **04** 13:31:19.4, 42°.57N×24°.05E, h3km, ML3.6/10, Error ellipse: s-maj=0.9km s-min=0.5km az=359.0*

ISC 04 13:31:17.6±0.9, **42°63N**±0°.01×**23°95E**±0°.01, **h12**km±8km, **n134**, σ1°**70**/170, **13C-13D, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGB	**Panagyurishte**	**0.18**	**117**	*i* Pg	**Pg**	**13 31 22.4**	**+0.7**
PGB	**Panagyurishte**	**0.18**	**117**	*i* Pg	**Pg**	**13 31 22.4**	**+0.7**
VTS	**Vitosha**	**0.55**	**266**	*i* Pg	**Pg**	**13 31 28.7**	**+0.4**
VTS	**Vitosha**	**0.55**	**266**	*i* Pg	**Pg**	**13 31 28.7**	**+0.4**
MPEP	**Malo Peshtene**	**0.74**	**348**	*i* Pg	**Pn**	**13 31 33.1**	**-0.8**
PLD	**Plovdiv**	**0.77**	**133**	P	**Pb**	**13 31 32.1**	**-0.8**
PLD				S	**Sb**	**13 31 41.9**	**-1.4**
PLD	**Plovdiv**	**0.77**	**133**	*i* Pg	**Pb**	**13 31 32.4**	**-0.5**
PLD	**Plovdiv**	**0.77**	**133**	*e*Pg	**Pb**	**13 31 32.3**	**-0.6**
PLD				*e*Sg	**Sb**	**13 31 41.9**	**-1.4**
PLD	**Plovdiv**	**0.77**	**133**	*e*Pg	**Pb**	**13 31 32.3**	**-0.6**
PLD				S	**Sb**	**13 31 41.9**	**-1.4**
KKB	**Krupnik**	**1.00**	**220**	Pg	**Pn**	**13 31 37.4**	**0.0**
KKB	**Krupnik**	**1.00**	**220**	Pg	**Pn**	**13 31 37.4**	**0.0**
MMB	**Musomiste**	**1.06**	**189**	*i* Pg	**Pn**	**13 31 38.8**	**+0.5**
MMB	**Musomiste**	**1.06**	**189**	*i* Pg	**Pn**	**13 31 38.8**	**+0.5**
RZN	**Rozhen**	**1.10**	**149**	Pg

BUC1	**Bucharest**	**2.29**	**41**	S	**Sg**	**13 32 31.8**	**+0.7**
PLG	**Polygyros**	**2.29**	**190**	P	**Pb**	**13 31 57.1**	**-1.8**
PLG	**Polygyros**	**2.29**	**190**	P	**Pb**	**13 31 57.1**	**-1.8**
CIOR	**Ciorogarla**	**2.29**	**37**	S	**Sg**	**13 32 31.0**	**-0.4**
OUR	**Ouranopolis**	**2.30**	**179**	P	**Pn**	**13 31 56.5**	**+1.2**
OUR				S	**Sb**	**13 32 26.1**	**-1.2**
OUR	**Ouranopolis**	**2.30**	**179**	P	**Pn**	**13 31 56.5**	**+1.2**
OUR				S	**Sb**	**13 32 26.1**	**-1.2**
ALN	**Alexandroupoli**	**2.34**	**137**	P	**Pb**	**13 31 57.1**	**-2.6**
ALN				S	**Sb**	**13 32 26.1**	**-2.4**
ALN	**Alexandroupoli**	**2.34**	**137**	P	**Pb**	**13 31 57.1**	**-2.6**
ALN				S	**Sb**	**13 32 26.1**	**-2.4**
INCR	**INCERC-Sediu C**	**2.42**	**41**	S	**Sg**	**13 32 36.1**	**+0.7**
SVIS	**Svilajnac**	**2.57**	**310**	*e*Pn	**Pb**	**13 32 02.4**	**-1.2**
SULR		**2.64**	**39**	⇓ *i*P	**Pg**	**13 32 06.4**	**-1.9**
SULR		**2.64**	**39**	⇓ *i*P	**Pg**	**13 32 06.4**	**-1.9**
SULR				S	**Sb**	**13 32 37.2**	**0.0**
FNA	**Florina**	**2.67**	**227**	P	**Pb**	**13 32 03.1**	**-2.2**
FNA	**Florina**	**2.67**	**227**	P	**Pb**	**13 32 03.1**	**-2.2**
GRUS	**Gruza**	**2.67**	**299**	*e*Pn	**Pn**	**13 32 02.7**	**+2.3**
GRUS	**Gruza**	**2.67**	**299**	*e*Pn	**Pn**	**13 32 02.7**	**+2.3**
PAIG	**Paliouri**	**2.71**	**184**	P	**Pn**	**13 32 02.4**	**+1.4**
PAIG	**Paliouri**	**2.71**	**184**	P	**Pn**	**13 32 02.4**	**+1.4**
LIT	**Litokhoron**	**2.76**	**204**	P	**Pn**	**13 32 03.2**	**+1.6**
LIT	**Litokhoron**	**2.76**	**204**	P	**Pn**	**13 32 03.2**	**+1.6**
KZN	**Kozani**	**2.84**	**216**	P	**Pb**	**13 32 05.6**	**-2.7**
KZN	**Kozani**	**2.84**	**216**	P	**Pb**	**13 32 05.6**	**-2.7**
SECR		**2.85**	**32**	S	**Sb**	**13 32 41.8**	**-1.4**
SECR		**2.85**	**32**	S	**Sb**	**13 32 41.8**	**-1.4**
GZR	**Gura Zlata**	**2.88**	**343**	⇑ *i*P	**Pn**	**13 32 04.5**	**+1.1**
GZR	**Gura Zlata**	**2.88**	**343**	S	**Sn**	**13 32 33.7**	**-4.4**
GZR	**Gura Zlata**	**2.88**	**343**	*e*Pn	**Pn**	**13 32 04.5**	**+0.9**
GZR	**Gura Zlata**	**2.88**	**343**	⇑ *i*P	**Pn**	**13 32 04.5**	**+1.1**
VOIR		**2.91**	**15**	⇑ *i*P	**Pn**	**13 32 05.7**	**+1.9**
VOIR		**2.91**	**15**	⇑ *i*P	**Pn**	**13 32 05.7**	**+1.9**
VOIR				S	**Sn**	**13 32 40.8**	**+2.0**
IVAS	**Ivanjica**	**2.93**	**290**	*e*Pn	**Pb**	**13 32 07.8**	**-2.1**
IVAS	**Ivanjica**	**2.93**	**290**	*e*Pn	**Pb**	**13 32 07.8**	**-2.1**
TRUS	**Trudelj**	**3.03**	**303**	*e*Pn	**Pn**	**13 32 06.5**	**+1.2**
TRUS	**Trudelj**	**3.03**	**303**	*e*Pn	**Pn**	**13 32 06.5**	**+1.2**
NEST	**Nestorio**	**3.11**	**225**	P	**Pn**	**13 32 09.2**	**+2.7**
NEST	**Nestorio**	**3.11**	**225**	P	**Pn**	**13 32 09.2**	**+2.7**
ISR	**Istrita**	**3.11**	**36**	⇓ *i*P	**Pg**	**13 32 17.1**	**-0.2**
PGOR	**Pogoanele**	**3.16**	**43**	S	**Sg**	**13 32 56.5**	**-2.7**
MLR	**Muntele Rosu**	**3.20**	**26**	⇓ *i*P	**Pb**	**13 32 13.3**	**-1.1**
MLR	**Muntele Rosu**	**3.20**	**26**	⇓ *i*P	**Pb**	**13 32 13.3**	**-1.1**
MLR				S	**Sn**	**13 32 48.6**	**+2.7**
DIVS	**Divibare**	**3.23**	**298**	*e*Pn	**Pb**	**13 32 11.9**	**-3.1**
DIVS				*e*Sn	**Sn**	**13 32 49.7**	**+3.0**
DIVS	**Divibare**	**3.23**	**298**	*e*Pn	**Pb**	**13 32 11.9**	**-3.1**
DIVS				*e*Sn	**Sn**	**13 32 49.7**	**+3.0**
XOR	**Xorichti**	**3.31**	**190**	P	**Pn**	**13 32 10.7**	**+1.4**
XOR	**Xorichti**	**3.31**	**190**	P	**Pn**	**13 32 10.7**	**+1.4**
THL	**Klokotos Trika**	**3.40**	**206**	P	**Pn**	**13 32 13.0**	**+2.6**
THL	**Klokotos Trika**	**3.40**	**206**	P	**Pn**	**13 32 13.0**	**+2.6**
CVD	**Cernavoda**	**3.42**	**59**	S	**Sg**	**13 33 05.0**	**-2.3**
BZS	**Buzias**	**3.42**	**331**	⇓ *i*P	**Pn**	**13 32 11.4**	**+0.7**
BZS	**Buzias**	**3.42**	**331**	S	**Sg**	**13 33 06.9**	**-0.6**
BZS	**Buzias**	**3.42**	**331**	*e*Pn	**Pn**	**13 32 12.3**	**+1.6**
BZS	**Buzias**	**3.42**	**331**	⇓ *i*P	**Pn**	**13 32 11.4**	**+0.7**
BZS	**Buzias**	**3.42**	**331**	*e*Pn	**Pn**	**13 32 12.3**	**+1.6**
DOPR	**Dopca**	**3.49**	**17**	S	**Sn**	**13 32 54.7**	**+1.8**
DOPR	**Dopca**	**3.49**	**17**	S	**Sn**	**13 32 54.7**	**+1.8**
MANR	**Mangalia**	**3.59**	**69**	S	**Sg**	**13 33 12.1**	**-0.8**
TIRR	**Tirgusor**	**3.72**	**59**	S	**Sb**	**13 33 11.7**	**+3.4**
PLOR	**Plostina**	**3.76**	**30**	⇓ *i*P	Pn	13 32 18.5	+3.1
PLOR	**Plostina**	**3.76**	**30**	⇓ *i*P	Pn	13 32 18.5	+3.1
PLOR				S	**Sn**	**13 33 02.3**	**+2.6**
VRI	**Vrincioaia**	**3.80**	**31**	⇑ *i*P	Pn	13 32 19.5	+3.5
VRI	**Vrincioaia**	**3.80**	**31**	⇑ *i*P	Pn	13 32 19.5	+3.5
VRI				S	**Sn**	**13 33 05.0**	**+4.4**
MRKA	**Markates**	**3.93**	**184**	P	**Pn**	**13 32 19.3**	**+1.5**
MRKA	**Markates**	**3.93**	**184**	P	**Pn**	**13 32 19.3**	**+1.5**
CFR	**Carcaliu**	**3.95**	**49**	⇑ *i*P	**Pb**	**13 32 27.0**	**-0.2**
CFR	**Carcaliu**	**3.95**	**49**	S	**Sg**	**13 33 22.0**	**-2.5**
GHRR		**4.23**	**35**	S	**Sn**	**13 33 15.8**	**+4.7**
GHRR		**4.23**	**35**	S	**Sn**	**13 33 15.8**	**+4.7**
DRGR		**4.25**	**348**	⇑ *i*P	**Pb**	**13 32 29.9**	**-2.4**
DRGR		**4.25**	**348**	*e*Pn	Pn	13 32 25.5	+3.3
DRGR		**4.25**	**348**	*e*Pn	Pn	13 32 25.5	+3.3
DRGR				S	**Sb**	**13 33 19.2**	**-4.3**
TLCR		**4.34**	**52**	⇑ *i*P	Pb	13 32 28.6	-5.2
TLCR		**4.34**	**52**	⇑ *i*P	Pb	13 32 28.6	-5.2
LEOM	**Leova**	**4.92**	**37**	S	**Sn**	**13 33 29.8**	**+1.8**
LEOM	**Leova**	**4.92**	**37**	S	**Sn**	**13 33 29.8**	**+1.8**
BURAR	**Bucovina Array**	**5.06**	**10**	⇓ *i*P	**Pn**	**13 32 35.3**	**+1.9**
BURAR	**Bucovina Array**	**5.06**	**10**	⇓ *i*P	**Pn**	**13 32 35.3**	**+1.9**
BURAR				S	**Sn**	**13 33 30.4**	**-1.4**
PKSM	**Moragy**	**5.22**	**315**	S	Sn	13 33 28.9	-6.5
PSZ	**Piszkesteto**	**6.01**	**333**	⇑ *i*P	**Pn**	**13 32 49.3**	**+3.0**
PSZ	**Piszkesteto**	**6.01**	**333**	S	**Sn**	**13 33 49.8**	**-5.2**

KRSC 04 13:38:03.6±0.1, 53°26N×160°60E, h45km±35km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.38**	**245**	*e*P	Pn	13 38 13.3	+0.2
SPN				*e*S	Sn	13 38 20.0	+0.1
NLC	**Nalytchevo**	**0.76**	**264**	*e*P	Pn	13 38 18.0	+0.1
NLC				*e*S	Sn	13 38 28.4	+0.1
SDLR	**Sedlovina**	**1.03**	**272**	*e*P	Pn	13 38 22.0	+0.2
SDLR				*e*S	Sn	13 38 35.5	+0.3
KII	**Karymskiy**	**1.04**	**319**	*e*P	Pn	13 38 20.8	-1.0
KII				*e*S	Sn	13 38 33.1	-2.1
UGLR	**Uglovaya**	**1.07**	**268**	*e*P	Pn	13 38 22.8	+0.5
UGLR				*e*S	Sn	13 38 36.8	+0.7
SMAR	**Somma**	**1.08**	**271**	*e*P	Pn	13 38 22.6	0.0
SMAR				*e*S	Sn	13 38 37.0	+0.4
AVH	**Avacha**	**1.12**	**271**	*e*P	Pn	13 38 23.4	+0.5
AVH				*e*S	Sn	13 38 38.2	+1.0
KOK	**Koryaka**	**1.18**	**272**	*e*P	Pn	13 38 24.0	+0.2
KOK				*e*S	Sn	13 38 39.0	+0.2
PET	**Petropavlovsk**	**1.20**	**259**	*e*P	Pn	13 38 24.1	+0.3
PET				*e*S	Sn	13 38 38.6	-0.3
MKZ	**Mys Kozlova**	**1.46**	**27**	*e*P	Pn	13 38 26.3	-1.2
MKZ				*e*S	Sn	13 38 43.3	-2.1
RUS	**Russkaya**	**1.51**	**238**	*e*P	Pn	13 38 28.5	+0.3
RUS				*e*S	Sn	13 38 46.9	+0.2
ASAK	**Asacha**	**1.86**	**243**	*e*P	Pn	13 38 34.4	+1.3
ASAK				*e*S	Sn	13 38 57.1	+1.7
TUMR	**Tumrok**	**2.04**	**353**	*e*P	Pn	13 38 36.3	+0.6
TUMR				*e*S	Sn	13 39 00.6	+0.5
KMNR	**Kamenistaya**	**2.51**	**355**	*e*P	Pn	13 38 42.8	+0.8
KMNR				*e*S	Sn	13 39 11.3	-0.2
BZMR	**Bezymyannaya**	**2.68**	**359**	P	Pn	13 38 46.9	+2.5
BZGR	**Bezymyannyi-Gr**	**2.69**	**1**	*e*S	Sn	13 39 18.9	+3.1
KIRR	**Kirishev**	**2.70**	**357**	*e*P	Pn	13 38 46.8	+2.1
KIRR				*e*S	Sn	13 39 17.6	+1.3
BZWR	**Bezymyannyi-We**	**2.71**	**359**	*e*P	Pn	13 38 47.6	+2.7
BZWR				S	Sn	13 39 20.2	+3.6
KPT	**Kopyto**	**2.72**	**356**	*e*P	Pn	13 38 47.5	+2.6
KPT				*e*S	Sn	13 39 18.3	+1.7
KOZ	**Kozyrevsk**	**2.84**	**352**	*e*P	Pn	13 38 49.1	+2.7
KOZ				*e*S	Sn	13 39 22.1	+2.8
ESO	**Esso**	**2.89**	**338**	*e*P	Pn	13 38 47.9	+0.8
ESO				*e*S	Sn	13 39 19.7	-0.9
KLY	**Klyuchi**	**3.06**	**1**	P	Pn	13 38 51.4	+2.0
KLY				*e*S	Sn	13 39 25.7	+1.0
SRDR	**Sredinnyy**	**3.11**	**351**	*e*P	Pn	13 38 51.9	+1.8
SRDR				S	Sn	13 39 26.8	+0.8
KBTR	**Krutoberegovo**	**3.22**	**23**	P	Pn	13 38 53.0	+1.4
KBTR				S	Sn	13 39 28.0	-0.7
BDR	**Baidarnaya**	**3.33**	**6**	S	Sn	13 39 36.5	+4.8
SMKR	**Semkarok**	**3.37**	**8**	*e*P	Pn	13 38 56.4	+2.7
SMKR				*e*S	Sn	13 39 34.8	+2.3
SRKR	**Sorokina**	**3.42**	**5**	*e*P	Pn	13 38 55.4	+1.0
SRKR				*e*S	Sn	13 39 33.3	-0.4
BKI	**Bering**	**3.71**	**56**	*e*P	Pn	13 38 57.6	-0.6
BKI				S	Sn	13 39 36.8	-3.8

GUC 04 13:53:42.6±0.5, 40°57S×72°22W, h9km±1km, ML3.7, 1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUYE	**Entre Lagos**	**0.32**	**249**	*e*P	Pg	13 53 49.3	+0.4
PUYE				*i* S	Sg	13 53 54.4	+1.2
PUYE					AML	AML	13 53 55.7	
	comp=E,54μm,0.3s							
OSCH	**Osorno**	**0.69**	**269**	⇓ *i*P	Pg	13 53 55.9	-0.1
OSCH				*i* S	Sb	13 54 06.0	-0.5
OSCH					AML	AML	13 54 09.8	
	comp=N,8μm,0.6s							
PMCH	**Puerto Montt**	**1.05**	**209**	*i* P	Pg	13 54 01.5	-1.3
PMCH				*i* S	Sg	13 54 16.4	-0.2
PMCH					AML	AML	13 54 23.6	
	comp=E,1μm,0.3s							
VLCH	**Valdivia**	**1.10**	**314**	*i* P	Pg	13 54 02.5	-1.2
VLCH				*i* S	Sg	13 54 17.5	-0.4
VLCH					AML	AML	13 54 20.4	
	comp=E,4μm,0.3s							

MEX 04 13:55:42.0±0.6, 19°49N×102°86W, h115km±10km, MD3.8, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EZ5V		**0.70**	**270**	*i* P	Pn	13 55 59.6	-1.5
EZ5V				*i* S	Sn	13 56 13.7	-2.0
SFJM	**Santa Fe**	**1.01**	**350**	*i* P	Pn	13 56 02.6	-1.3
SFJM				*i* S	Sn	13 56 18.9	-1.6
R15V		**1.10**	**254**	*i* P	Pn	13 56 02.8	-2.0
R15V				*i* S	Sn	13 56 20.7	-1.3
MMIG	**Aquila**	**1.27**	**201**	*i* P	Pn	13 56 05.5	-1.1
MMIG				*i* S	Sn	13 56 23.4	-1.8
ZIIG	**Zihuatanejo**	**2.29**	**144**	*i* P	Pn	13 56 18.4	-0.5
ZIIG				*i* S	Sn	13 56 45.3	-1.9

KRSC 04 14:07:00.5±0.8, 52°52N×159°83E, h24km±23km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.59**	**11**	*e*P	Pb	14 07 12.8	+0.6
SPN				*i* S	Sn	14 07 21.3	-1.0
NLC	**Nalytchevo**	**0.72**	**336**	*e*P	Pn	14 07 14.8	-0.3
NLC				*i* S	Sn	14 07 24.7	-0.6
RUS	**Russkaya**	**0.81**	**264**	*e*P	Pn	14 07 16.4	0.0
RUS				*i* S	Sn	14 07 27.3	-0.3
PET	**Petropavlovsk**	**0.88**	**306**	*e*P	Pb	14 07 17.0	0.0
PET				*i* S	Sb	14 07 28.5	+0.2
UGLR	**Uglovaya**	**0.92**	**319**	*e*P	Pn	14 07 18.2	+0.1
SDLR	**Sedlovina**	**0.95**	**323**	*e*P	Pb	14 07 18.2	-0.3
SMAR	**Somma**	**0.97**	**320**	*e*P	Pn	14 07 18.8	-0.1
AVH	**Avacha**	**1.00**	**319**	*e*P	Pb	14 07 19.3	+0.1
KOK	**Koryaka**	**1.06**	**317**	*e*P	Pn	14 07 20.1	+0.1
ASAK	**Asacha**	**1.19**	**264**	*e*P	Pb	14 07 22.7	+0.2
ASAK				*i* S	Sb	14 07 38.5	+1.0
MKZ	**Mys Kozlova**	**2.33**	**28**	*e*P	Pn	14 07 37.7	+0.4
MKZ				*i* S	Sn	14 08 05.3	+0.1
TUMR	**Tumrok**	**2.77**	**4**	*e*P	Pn	14 07 45.8	+2.2
TUMR				*i* S	Sn	14 08 18.4	+2.0
KMNR	**Kamenistaya**	**3.25**	**4**	*e*P	Pn	14 07 52.6	+2.5
KBTR	**Krutoberegovo**	**4.09**	**24**	*e*P	Pn	14 08 03.7	+2.3

*DJA **04** 14:09:04, 9°01S×112°21E, h25km, MLv4.2/8*
IDC 04 14:08:57.3±2.0, 8°06S×112°98E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/17, mbtmp3.6/5, Error ellipse: s-maj=129.2km s-min=19.3km az=52.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.81**	**122**	P	P	14 14 13.0	+0.8
	0.2nm,0.4s,baz=299,slow=11,SNR=7.6						
WRA				pP		14 14 30.0	
	0.5nm,0.5s,baz=294,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**25.35**	**130**	P	P	14 14 26.1	-0.2
	0.3nm,0.6s,baz=304,slow=9.0,SNR=9.7						
ASAR				pP		14 14 43.6	
	0.4nm,0.7s,baz=302,slow=9.1,SNR=5.3						
STKA	**Stephens Creek**	**35.63**	**136**	P	P	14 15 56.4	-0.7
	1.5nm,0.5s,baz=301,slow=7.7,SNR=9.5						
MKAR	**Makanchi Array**	**61.07**	**336**	P	P	14 19 13.6	+0.5
	0.4nm,0.5s,baz=155,slow=7.6,SNR=8.8						
ZALV	**Zalesovo Beam**	**66.19**	**342**	P	P	14 19 46.4	-0.4
	0.5nm,0.4s,baz=134,slow=4.2,SNR=2.7						

*IDC **04** 14:09:54.7±11.0, 35°98N×21°05E, h0km, mb3.7/2, mb1 3.5/3, mb1mx3.2/25, mbtmp3.5/3, ML2.7/1, Error ellipse: s-maj=328.6km s-min=113.5km az=176.0*
*ISCJB **04** 14:10:18.1±0.4, 37°06N±0°02×22°82E±0°03, h68km±4km, mb3.5/2, Error ellipse: s-maj=4.2km s-min=3.1km az=147.5*
*ATH **04** 14:10:18.1, 37°06N×22°85E, h60km±1km, ML3.1*
*THE **04** 14:10:19.0, 37°07N×22°83E, h59km±1km, ML3.5/11, Error ellipse: s-maj=1.3km s-min=0.4km az=251.0*
*CSEM **04** 14:10:19.2±0.1, 37°07N×22°82E, h55km±2km, ML3.1, Error ellipse: s-maj=1.9km s-min=1.3km az=57.0*
ISC 04 14:10:18.6±1.0, 37°07N±0°02×22°83E±0°02, h57km±6km, n125, σ0s87/195, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLI	**Veliai**	**0.36**	**166**	P	**Pn**	**14 10 29.0**	**+0.1**
VLI				S	**Sn**	**14 10 36.5**	**+0.1**
VLI	**Veliai**	**0.36**	**166**	*e*P	**Pn**	**14 10 29.0**	**+0.1**
VLI				*e*S	**Sn**	**14 10 36.8**	**+0.4**
VLI	**Veliai**	**0.36**	**166**	*e*P	**Pn**	**14 10 29.0**	**+0.1**
VLI				*e*S	**Sn**	**14 10 36.8**	**+0.4**
VLX	**Vlachokerasia**	**0.47**	**311**	P	**Pn**	**14 10 30.2**	**+0.1**
VLX				S	**Sn**	**14 10 39.1**	**+0.6**
VLX	**Vlachokerasia**	**0.47**	**311**	*e*P	**Pn**	**14 10 30.7**	**+0.6**
VLX				*e*S	**Sn**	**14 10 39.2**	**+0.7**
VLX	**Vlachokerasia**	**0.47**	**311**	*e*P	**Pn**	**14 10 30.7**	**+0.6**
VLX				S	**Sn**	**14 10 39.1**	**+0.6**
DIDY	**Didyma**	**0.51**	**37**	P	**Pn**	**14 10 31.2**	**+0.6**
DIDY				S	**Sn**	**14 10 40.0**	**+0.7**
DIDY	**Didyma**	**0.51**	**37**	P	**Pn**	**14 10 31.2**	**+0.6**
DIDY				S	**Sn**	**14 10 40.0**	**+0.7**
DID	**Didima**	**0.55**	**37**	P	**Pn**	**14 10 31.4**	**+0.5**
DID				S	**Sn**	**14 10 41.0**	**+1.1**
DID	**Didima**	**0.55**	**37**	*e*P	**Pn**	**14 10 31.6**	**+0.7**
DID				*e*S	**Sn**	**14 10 41.2**	**+1.3**
DID	**Didima**	**0.55**	**37**	*e*P	**Pn**	**14 10 31.6**	**+0.7**
DID				*e*S	**Sn**	**14 10 41.1**	**+1.1**
ITM	**Ithomi**	**0.73**	**279**	P	**Pn**	**14 10 33.5**	**+0.5**
ITM				S	**Sn**	**14 10 45.2**	**+1.6**
ITM	**Ithomi**	**0.73**	**279**	*e*P	**Pn**	**14 10 33.6**	**+0.5**
ITM				*e*S	**Sn**	**14 10 45.5**	**+1.9**
ITM	**Ithomi**	**0.73**	**279**	P	**Pn**	**14 10 33.5**	**+0.5**
ITM				S	**Sn**	**14 10 45.2**	**+1.6**
KYTH	**Kithira**	**0.80**	**168**	P	**Pn**	**14 10 34.5**	**+0.5**
KYTH	**Kithira**	**0.80**	**168**	*e*P	**Pn**	**14 10 34.5**	**+0.5**
KYTH	**Kithira**	**0.80**	**168**	*e*P	**Pn**	**14 10 34.5**	**+0.5**
NAIG	**Nisos Aigina**	**0.87**	**37**	*e*P	**Pn**	**14 10 35.7**	**+0.9**
NAIG	**Nisos Aigina**	**0.87**	**37**	*e*P	**Pn**	**14 10 35.7**	**+0.9**
PYL	**PYLOS**	**0.89**	**259**	P	**Pn**	**14 10 34.6**	**-0.4**
PYL				S	**Sn**	**14 10 47.8**	**+0.7**
PYL	**PYLOS**	**0.89**	**259**	*e*P	**Pn**	**14 10 35.3**	**+0.3**
PYL				*e*S	**Sn**	**14 10 48.8**	**+1.7**
PYL	**PYLOS**	**0.89**	**259**	*e*P	**Pn**	**14 10 35.3**	**+0.3**
PYL				S	**Sn**	**14 10 47.8**	**+0.7**
GUR	**Goura**	**0.95**	**336**	P	**Pn**	**14 10 36.1**	**+0.1**
GUR				S	**Sn**	**14 10 48.8**	**0.0**
GUR	**Goura**	**0.95**	**336**	*e*P	**Pn**	**14 10 36.3**	**+0.3**
GUR				*e*S	**Sn**	**14 10 49.9**	**+1.1**
GUR	**Goura**	**0.95**	**336**	*e*P	**Pn**	**14 10 36.3**	**+0.3**
GUR				S	**Sn**	**14 10 48.8**	**0.0**
LTK	**Loutraki**	**0.96**	**7**	P	**Pn**	**14 10 36.2**	**+0.1**
LTK				S	**Sn**	**14 10 49.6**	**+0.7**
LTK	**Loutraki**	**0.96**	**7**	*e*P	**Pn**	**14 10 36.7**	**+0.6**
LTK				*e*S	**Sn**	**14 10 49.8**	**+0.9**
LTK	**Loutraki**	**0.96**	**7**	*e*P	**Pn**	**14 10 36.7**	**+0.6**
LTK				S	**Sn**	**14 10 49.6**	**+0.7**
ATH	**Athens Observa**	**1.15**	**38**	P	**Pn**	**14 10 38.8**	**+0.3**
ATH				S	**Sn**	**14 10 54.1**	**+0.8**
ATH	**Athens Observa**	**1.15**	**38**	*e*P	**Pn**	**14 10 38.9**	**+0.4**
ATH				*e*S	**Sn**	**14 10 54.0**	**+0.8**
ATH	**Athens Observa**	**1.15**	**38**	*e*P	**Pn**	**14 10 38.9**	**+0.4**
ATH				*e*S	**Sn**	**14 10 54.0**	**+0.8**
PTL	**Penteli**	**1.28**	**40**	P	**Pn**	**14 10 40.9**	**+0.6**
PTL				S	**Sn**	**14 10 57.1**	**+0.6**
PTL	**Penteli**	**1.28**	**40**	*e*P	**Pn**	**14 10 40.8**	**+0.5**
PTL				*e*S	**Sn**	**14 10 57.1**	**+0.6**
PTL	**Penteli**	**1.28**	**40**	P	**Pn**	**14 10 40.9**	**+0.6**
PTL				*e*S	**Sn**	**14 10 57.1**	**+0.6**
LAKA	**Lakka**	**1.35**	**330**	P	**Pn**	**14 10 41.5**	**+0.3**
LAKA				S	**Sn**	**14 10 59.5**	**+1.3**
LAKA	**Lakka**	**1.35**	**330**	P	**Pn**	**14 10 41.5**	**+0.3**
LAKA				S	**Sn**	**14 10 59.5**	**+1.3**
DSF	**Desfina**	**1.36**	**350**	P	**Pn**	**14 10 41.8**	**+0.4**
DSF				S	**Sn**	**14 10 59.1**	**+0.6**
DSF	**Desfina**	**1.36**	**350**	P	**Pn**	**14 10 41.8**	**+0.4**
DSF				S	**Sn**	**14 10 59.1**	**+0.6**
TRIZ	**Trizonia**	**1.43**	**335**	P	**Pn**	**14 10 42.4**	**+0.2**
TRIZ				S	**Sn**	**14 11 01.2**	**+1.2**
TRIZ	**Trizonia**	**1.43**	**335**	P	**Pn**	**14 10 42.4**	**+0.2**
TRIZ				S	**Sn**	**14 11 01.2**	**+1.2**
KALE	**Kalithea**	**1.43**	**338**	P	**Pn**	**14 10 42.9**	**+0.6**
KALE				S	**Sn**	**14 11 01.0**	**+0.8**
KALE	**Kalithea**	**1.43**	**338**	P	**Pn**	**14 10 42.9**	**+0.6**
KALE				S	**Sn**	**14 11 01.0**	**+0.8**
RLS	**Riolos of Patr**	**1.47**	**313**	P	**Pn**	**14 10 44.1**	**+1.4**
RLS	**Riolos of Patr**	**1.47**	**313**	*e*P	**Pn**	**14 10 44.2**	**+1.5**
RLS	**Riolos of Patr**	**1.47**	**313**	P	**Pn**	**14 10 44.1**	**+1.4**
EFP	**Efpalio**	**1.54**	**332**	P	**Pn**	**14 10 44.2**	**+0.4**
EFP				S	**Sn**	**14 11 04.1**	**+1.4**
EFP	**Efpalio**	**1.54**	**332**	*e*P	**Pn**	**14 10 44.7**	**+0.9**
EFP	**Efpalio**	**1.54**	**332**	P	**Pn**	**14 10 44.2**	**+0.4**
EFP				S	**Sn**	**14 11 04.1**	**+1.4**
ERET	**Eretria**	**1.58**	**29**	P	**Pn**	**14 10 44.5**	**+0.2**
ERET				S	**Sn**	**14 11 04.8**	**+1.1**
ERET	**Eretria**	**1.58**	**29**	P	**Pn**	**14 10 44.5**	**+0.2**
ERET				S	**Sn**	**14 11 04.8**	**+1.1**
MRMA	**Marmari**	**1.58**	**51**	P	**Pn**	**14 10 44.9**	**+0.6**
MRMA				S	**Sn**	**14 11 04.7**	**+1.0**
MRMA	**Marmari**	**1.58**	**51**	P	**Pn**	**14 10 44.9**	**+0.6**
MRMA				S	**Sn**	**14 11 04.7**	**+1.0**
LKR	**Lokris**	**1.59**	**5**	P	**Pn**	**14 10 44.6**	**+0.2**
LKR				S	**Sn**	**14 11 04.6**	**+0.7**
LKR	**Lokris**	**1.59**	**5**	*e*P	**Pn**	**14 10 44.9**	**+0.5**
LKR				*e*S	**Sn**	**14 11 04.7**	**+0.8**
LKR	**Lokris**	**1.59**	**5**	*e*P	**Pn**	**14 10 44.9**	**+0.5**
LKR				S	**Sn**	**14 11 04.6**	**+0.7**
ATAL	**Atalanti**	**1.63**	**5**	P	**Pn**	**14 10 45.3**	**+0.3**
ATAL				S	**Sn**	**14 11 05.5**	**+0.6**
ATAL	**Atalanti**	**1.63**	**5**	P	**Pn**	**14 10 45.3**	**+0.3**
ATAL				S	**Sn**	**14 11 05.5**	**+0.6**
AXAR	**Agios Charalam**	**1.70**	**356**	P	**Pn**	**14 10 46.5**	**+0.5**
AXAR				S	**Sn**	**14 11 07.7**	**+1.0**
AXAR	**Agios Charalam**	**1.70**	**356**	P	**Pn**	**14 10 46.5**	**+0.5**
AXAR				S	**Sn**	**14 11 07.7**	**+1.0**
MRKA	**Markates**	**1.74**	**20**	P	**Pn**	**14 10 46.8**	**+0.3**
MRKA				S	**Sn**	**14 11 08.5**	**+0.8**
MRKA	**Markates**	**1.74**	**20**	P	**Pn**	**14 10 46.8**	**+0.3**
MRKA				S	**Sn**	**14 11 08.5**	**+0.8**
VAM	**Vamos**	**1.99**	**146**	P	**Pn**	**14 10 50.1**	**+0.2**
VAM				S	**Sn**	**14 11 15.0**	**+1.3**
VAM	**Vamos**	**1.99**	**146**	*e*P	**Pn**	**14 10 51.0**	**+1.1**
VAM	**Vam

BFZ	**Birch Farm**	**12.75**	**197**	*e*PN	Pn	14 17 57.3	-8.8
BFZ				*e*SN	S	14 20 14.2	-13
MRZ	**Mangatainoka R**	**12.92**	**199**	*e*PN	Pn	14 17 56.5	-12
MRZ				*e*SN	S	14 20 16.7	-14
WEL	**Wellington**	**13.73**	**201**	*e*SN	S	14 20 37.8	-11
QRZ	**Quartz Range**	**14.14**	**208**	*e*PN	P	14 18 15.2	-7.0
NNZ	**Nelson**	**14.15**	**205**	*e*PN	P	14 18 13.7	-8.5
NNZ				*e*SN	S	14 20 47.6	-10
DZM	**Mont Dzumac**	**14.79**	**293**	P	**P**	**14 18 30.2**	**+0.7**
	1.6nm,0.3s,baz=118,slow=20,SNR=11						
THZ	**Tophouse**	**14.80**	**205**	*e*SN	S	14 21 03.2	-7.9
KHZ	**Kahutara**	**15.15**	**202**	*e*PN	P	14 18 25.3	-7.8
DSZ	**Denniston Nort**	**15.21**	**208**	*e*SN	S	14 21 12.8	-6.5
AFI	**Afiamalu**	**15.98**	**26**	P	P	14 18 29.4	-13
	6.3nm,0.3s,baz=122,slow=3.3,SNR=9.0						
AFI				S	S	14 21 08.4	-27
	2.8nm,0.3s,baz=55,slow=19,SNR=6.4						
CTA	**Charters Tower**	**32.81**	**277**	P	**P**	**14 21 21.4**	**+0.7**
	2.9nm,0.5s,baz=96,slow=13,SNR=4.0						
ASAR	**Alice Springs**	**42.50**	**265**	P	P	14 22 41.2	-0.1
	2.4nm,0.6s,baz=95,slow=7.4,SNR=41						
ASAR				PcP	**PcP**	**14 24 26.8**	**-1.2**
	0.4nm,0.4s,baz=111,slow=4.6,SNR=6.1						
ASAR				ScP	ScP	14 27 43.0	-6.6
	0.4nm,0.8s,baz=99,slow=5.7,SNR=3.1						
WRA	**Warramunga Arr**	**43.32**	**271**	P	P	14 22 47.2	-0.7
	5.4nm,0.8s,baz=109,slow=6.4,SNR=45						
WRA				S	**S**	**14 28 51.4**	**-1.1**
	1.7nm,1.0s,baz=112,slow=13,SNR=2.9						
FITZ	**Fitzroy Crossi**	**51.65**	**269**	P	P	14 23 51.1	-0.4
	5.5nm,0.8s,baz=109,slow=9.5,SNR=4.5						
QSPA	**South Pole Qui**	**61.55**	**180**	P	P	14 25 01.4	+1.1
	2.1nm,0.5s,baz=210,slow=0.1,SNR=6.2						
MJAR	**Matsushiro Arr**	**76.31**	**326**	P	P	14 26 26.7	-4.1
	1.8nm,0.8s,baz=166,slow=5.6,SNR=6.5						
KSRS	**Korea Array**	**82.47**	**320**	P	**P**	**14 27 03.1**	**-0.7**
	0.6nm,0.7s,baz=108,slow=1.9,SNR=4.2						
PETK	**Petropavlovsk-**	**83.85**	**346**	P	P	14 27 07.3	-3.1
	4.1nm,0.8s,baz=119,slow=8.2,SNR=4.9						
USRK	**Ussuriysk Arra**	**85.22**	**327**	P	**P**	**14 27 16.3**	**-1.1**
	3.1nm,0.7s,baz=61,slow=4.0,SNR=7.2						
YBH	**Yreka Blue Hor**	**87.04**	**38**	P	P	14 27 23.1	-3.4
	0.7nm,0.3s,baz=246,slow=10,SNR=4.2						
NVAR	**Mina Array Bea**	**87.39**	**43**	P	P	14 27 24.8	-3.6
	3.2nm,0.7s,baz=223,slow=8.6,SNR=21						
TXAR	**Lajitas Array**	**92.02**	**58**	P	P	14 27 46.5	-3.5
	1.7nm,1.1s,baz=224,slow=6.5,SNR=7.4						
PDAR	**Pinedale Array**	**95.31**	**44**	P	P	14 28 00.4	-4.6
	0.9nm,0.9s,baz=204,slow=3.3,SNR=5.9						
ILAR	**Eielson Array**	**96.30**	**13**	P	P	14 28 04.8	-3.8
	0.9nm,1.1s,baz=207,slow=5.7,SNR=3.4						
MKAR	**Makanchi Array**	**116.02**	**311**	PKP	**PKPdf**	**14 33 18.9**	**-2.8**
	0.3nm,0.5s,baz=182,slow=0.9,SNR=8.0						
FINES	**FINESS Array B**	**143.17**	**340**	PKhKP	PKPpre	14 34 06.3	
	0.6nm,0.4s,baz=34,slow=4.7,SNR=7.7						
NB2	**NORSAR Subarra**	**146.82**	**351**	PKP	**PKPdf**	**14 34 17.3**	**-1.4**
	comp=Z,6.1nm,0.8s,baz=13,slow=2.9						
NOA	**NORSAR Array B**	**146.82**	**351**	PKPbc	**PKPdf**	**14 34 17.7**	**-1.0**
	comp=Z,4.5nm,0.9s,baz=12,slow=4.1,SNR=11						
AKASG	**Malin Array Be**	**149.39**	**324**	PKPbc	**PKPdf**	**14 34 25.4**	**+2.3**
	comp=Z,3.5nm,0.6s,baz=45,slow=3.3,SNR=15						
BRTR	**Keskin Array B**	**151.05**	**301**	PKPbc	**PKPdf**	**14 34 30.9**	**+4.6**
	comp=Z,2.0nm,0.8s,baz=123,slow=2.1,SNR=9.7						
TORD	**Torodi Ar. Bea**	**164.66**	**182**	PKP	PKPdf	14 34 40.6	-2.7
	comp=Z,0.8nm,0.9s,baz=229,slow=1.6,SNR=4.7						
TORD				PKPab	**PKPab**	**14 35 39.8**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=181,slow=3.5,SNR=13						

MAN 04 14:20:44, 16°.62N×120°.94E, *h*40km, mb4.4, ML3.2, MS3.1, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCPH	**Baguio City Da**	**0.42**	**236**	⇑ *i* P	Pn	14 20 52.0	-2.0
BCPH				*i* S	Sn	14 20 57.2	-3.8
CAUP	**Cauayan**	**0.90**	**69**	*e*P	Pn	14 21 02.2	+2.0
CAUP				*e*S	Sn	14 21 11.6	-0.4
BOLP	**Bolinao**	**1.02**	**257**	*e*P	Pn	14 21 03.1	+1.3
BALP	**Baler**	**1.07**	**145**	*e*P	Pn	14 21 03.2	+0.8

*ISCJB **04** 14:31:45.1±0.8,24°.79N±0°.03×122°.82E±0°.02, h15km±6km, mb3.9/8, Error ellipse: s-maj=5.9km s-min=2.9km az=10.1*
*JMA **04** 14:31:45.3±0.2,24°.69N×122°.77E, h24km, M3.2*
*TAP **04** 14:31:46.1,24°.74N×122°.69E, h3km, ML3.9, D*
*IDC **04** 14:32:02.3±6.1,24°.70N×122°.46E, h169km±62km, mb3.5/8, mb1 3.6/9, mb1mx3.3/23, mbtmp3.5/9, MS2.8/1, Ms1 2.8/1, ms1mx2.4/27, Error ellipse: s-maj=28.2km s-min=13.4km az=71.0*

ISC 04 14:31:43.8±1.2, 24°.69N±0°.04×122°.78E±0°.02, h5km±8km, n63, σ1§10/87, mb3.8/8, 2C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.31**	**137**	P	**Pb**	**14 31 52.2**	**+0.5**
YOJ				S	**Sb**	**14 31 57.2**	**+0.2**
TWB1	**Santiao Chiao**	**0.79**	**294**	P	**Pb**	**14 31 59.5**	**-0.5**
	baz=292						
TWC	**Suao**	**0.85**	**265**	*i* P	**Pb**	**14 32 00.7**	**-0.4**
TWC				*e*S	**Sg**	**14 32 11.5**	**+0.4**
	baz=259						
IRIF	**Iriomote-Funau**	**0.93**	**112**	P	**Pg**	**14 32 02.2**	**+0.5**
ILA	**Ilan**	**0.94**	**275**	*e*P	**Pn**	**14 32 02.8**	**-0.8**
	baz=271						
ENA	**Nanau**	**0.98**	**255**	P	**Pb**	**14 32 03.3**	**0.0**
	baz=249						
ENA				*e*S	**Sg**	**14 32 15.0**	**-0.3**
	baz=249						
NWF	**Wu-fen Shan**	**0.98**	**293**	P	**Pb**	**14 32 03.1**	**-0.3**
	baz=291						
TWE	**Neicheng**	**1.01**	**272**	⇑ *i* P	**Pb**	**14 32 03.5**	**-0.3**
	baz=268						
TWE				*e*S	**Sg**	**14 32 16.1**	**-0.3**
	baz=268						
ENTT	**Nioudou**	**1.10**	**268**	⇓ *i* P	**Pn**	**14 32 05.4**	**-0.5**
	baz=264						
ENTT				S	**Sg**	**14 32 19.3**	**-0.1**
	baz=264						
HATJ	**Hateruma jima**	**1.12**	**124**	P	**Pn**	**14 32 06.1**	**-0.1**
TWA	**Mucha**	**1.13**	**285**	P	**Pg**	**14 32 05.4**	**0.0**
	baz=283						
TWA				*e*S	**Sg**	**14 32 19.0**	**-1.0**
	baz=283						
TAP1	**Taipei**	**1.20**	**287**	*e*P	**Pg**	**14 32 08.9**	**+2.2**
	baz=285						
JKRS	**Kuro-shima**	**1.21**	**111**	P	**Pb**	**14 32 06.5**	**-0.6**
JKRS				*e*S	**Sb**	**14 32 21.4**	**-1.6**
TWY	**Chenhua**	**1.22**	**299**	*e*P	**Pb**	**14 32 07.0**	**-0.4**
	baz=298						
TWD	**Chiawan**	**1.24**	**241**	P	**Pg**	**14 32 08.3**	**+0.8**
	baz=236						
TWD				S	**Sn**	**14 32 24.3**	**-0.4**
	baz=236						
JIJ	**Ishigaki jima**	**1.28**	**104**	P	**Pn**	**14 32 07.6**	**-0.7**
JIJ				*e*S	**Sb**	**14 32 24.4**	**-0.8**
HWA	**Hwalien**	**1.28**	**237**	*e*P	**Pg**	**14 32 08.6**	**+0.2**
	baz=232						
NSK	**Sanguang**	**1.29**	**270**	⇑ *i* P	**Pb**	**14 32 08.3**	**-0.3**
	baz=266						
NSK				S	**Sb**	**14 32 25.1**	**-0.5**
	baz=266						
NNS	**Nan Shan**	**1.30**	**259**	⇓ *i* P	**Pg**	**14 32 09.2**	**+0.4**
	baz=255						
NNS				S	**Sg**	**14 32 25.7**	**0.0**
	baz=255						
TWS1	**Kuangyinshan**	**1.30**	**289**	*e*P	**Pn**	**14 32 08.3**	**-0.4**
	baz=287						
NCU	**National Centr**	**1.48**	**281**	*e*S	**Sn**	**14 32 30.0**	**-0.7**
	baz=279						
WHF	**Hehuan Shan**	**1.48**	**249**	P	**Pg**	**14 32 12.6**	**+0.3**
	baz=245						
WHF				S	**Sg**	**14 32 31.5**	**0.0**
	baz=245						
ESL	**Shilin**	**1.50**	**235**	*i* P	**Pb**	**14 32 12.0**	**-0.2**
	baz=230						
TWT	**Tachien**	**1.52**	**254**	P	**Pg**	**14 32 13.6**	**+0.6**
	baz=250						
TWT				S	**Sg**	**14 32 32.8**	**-0.1**
	baz=250						
NSTT	**Nanjuang**	**1.62**	**268**	*e*P	**Pb**	**14 32 14.3**	**+0.1**
	baz=265						
NSTT				S	**Sn**	**14 32 33.9**	**-0.3**
	baz=265						
JTJ	**Tarama**	**1.75**	**91**	P	**Pn**	**14 32 14.8**	**0.0**

EHY	**Hungye**	**1.78**	**229**	*e*P	**Pn**	**14 32 15.4**	**+0.3**
	baz=225						
NSY	**Sanyi**	**1.86**	**262**	*e*P	**Pb**	**14 32 17.9**	**-0.3**
	baz=259						
TWQ1	**Liyutan**	**1.86**	**260**	*e*P	**Pb**	**14 32 18.5**	**+0.2**
	baz=257						
SMLT	**Sun Moon Lake**	**1.89**	**245**	*e*P	**Pb**	**14 32 18.6**	**-0.2**
	baz=242						
SMLT				*e*S	**Sb**	**14 32 43.0**	**+0.2**
	baz=242						
TWF1	**Yuli**	**1.90**	**226**	P	**Pn**	**14 32 17.4**	**+0.6**
	baz=222						
TYC	**Yuchr**	**1.92**	**246**	P	**Pb**	**14 32 18.7**	**-0.6**
	baz=243						
TYC				S	**Sb**	**14 32 42.5**	**-1.1**
	baz=243						
TCU	**Taichung**	**1.99**	**255**	*e*P	**Pg**	**14 32 22.9**	**+0.9**
	baz=251						
CHKT	**Chengkung**	**2.04**	**220**	*e*P	**Pn**	**14 32 19.2**	**+0.5**
	baz=216						
WNT	**Mingjian**	**2.08**	**248**	*e*P	**Pb**	**14 32 21.6**	**-0.4**
	baz=244						
ELDTW	**Lidau**	**2.20**	**228**	*e*P	**Pn**	**14 32 21.6**	**+0.6**
	baz=224						
CHN5	**Tsauling**	**2.21**	**241**	P	**Pb**	**14 32 23.4**	**-0.8**
	baz=238						
CHN5				*e*S	**Sb**	**14 32 51.0**	**-0.9**
	baz=238						
WGK	**Gukeng**	**2.26**	**244**	*e*P	**Pb**	**14 32 24.6**	**-0.4**
	baz=241						
CHN2	**Minshiung**	**2.40**	**242**	*e*P	**Pb**	**14 32 26.8**	**-0.6**
	baz=239						
CHN2				*e*S	**Sb**	**14 32 58.9**	**+1.6**
	baz=239						
CHN4	**Tsaushan**	**2.40**	**237**	*e*P	**Pb**	**14 32 26.1**	**-1.4**
	baz=234						
CHN4				*e*S	**Sb**	**14 32 57.2**	**-0.2**
	baz=234						
TWG	**Pinlang**	**2.43**	**220**	*e*P	**Pn**	**14 32 24.9**	**+0.7**
	baz=217						
WTP	**Ta-pu**	**2.44**	**235**	*e*P	**Pb**	**14 32 26.7**	**-1.5**
	baz=231						
WTP				*e*S	**Sb**	**14 32 58.2**	**-0.5**
	baz=231						
TWK	**Hsinying**	**2.53**	**237**	*e*P	**Pb**	**14 32 28.2**	**-1.5**
	baz=233						
TWK				*e*S	**Sb**	**14 32 59.1**	**-2.0**
	baz=233						
CHN1	**Nanshi**	**2.54**	**235**	*e*P	**Pb**	**14 32 28.7**	**-1.3**
	baz=231						
CHN1				*e*S	**Sb**	**14 33 00.9**	**-0.7**
	baz=231						
ECL	**Taimali**	**2.67**	**219**	*e*P	**Pn**	**14 32 28.0**	**+0.6**
	baz=216						
CHN8	**Yiju**	**2.70**	**241**	*e*S	**Sb**	**14 33 03.3**	**-2.7**
	baz=238						
CHN3	**Shinhua**	**2.73**	**235**	*e*P	**Pb**	**14 32 31.0**	**-2.1**
	baz=232						
SSD	**Sandimen**	**2.76**	**226**	*e*P	**Pb**	**14 32 31.4**	**-2.2**
	baz=223						
SSD				S	**Sn**	**14 33 04.6**	**+2.3**
	baz=223						
TWM1	**Shoushan**	**2.85**	**230**	*e*P	**Pb**	**14 32 32.9**	**-2.2**
	baz=227						
LAY	**Lan-yu**	**2.87**	**203**	*e*P	**Pn**	**14 32 30.3**	**+0.1**
	baz=201						
EAST	**Anshuo**	**2.90**	**218**	*e*P	**Pb**	**14 32 33.4**	**-2.6**
	baz=215						
SCZT	**Fangliau**	**3.04**	**221**	*e*P	**Pn**	**14 32 34.2**	**+1.8**
	baz=218						
SCZT				*e*S	**Sn**	**14 33 10.9**	**+1.7**
	baz=218						
PNG	**Penghu**	**3.15**	**250**	*e*P	**Pb**	**14 32 39.1**	**-1.1**
	baz=247						
TWK1	**Hengchun**	**3.28**	**214**	*e*P	**Pb**	**14 32 39.5**	**-3.0**
	baz=211						
TWK1				*e*S	**Sn**	**14 33 17.2**	**+2.0**
	baz=211						
KSRS	**Korea Array**	**13.47**	**18**	P	**P**	**14 35 06.5**	**+1.6**
	0.2nm,0.3s,baz=196,slow=11,SNR=13						
KSRS				LR	LR	14 40 14.7	
	comp=Z,34nm,18.6s,baz=205,slow=36						
SONM	**Songino Array**	**26.50**	**335**	P	**P**	**14 37 22.6**	**+0.4**
	1.4nm,0.8s,baz=147,slow=8.5,SNR=11						
PETK	**Petropavlovsk-**	**38.64**	**34**	P	P	14 39 11.1	+3.1
	6.7nm,1.0s,baz=238,slow=13,SNR=2.8						
MKAR	**Makanchi Array**	**39.00**	**315**	P	**P**	**14 39 10.9**	**-0.2**
	0.7nm,0.6s,baz=101,slow=11,SNR=12						
ZALV	**Zalesovo Beam**	**40.63**	**326**	P	**P**	**14 39 23.1**	**-1.4**
	1.4nm,0.9s,baz=125,slow=9.3,SNR=5.1						
WRA	**Warramunga Arr**	**45.76**	**165**	P	**P**	**14 40 07.0**	**+0.6**
	4.6nm,0.7s,baz=346,slow=8.6,SNR=32						
ASAR	**Alice Springs**	**49.26**	**166**	P	**P**	**14 40 34.9**	**+1.3**
	0.9nm,0.6s,baz=347,slow=11,SNR=19						
STKA	**Stephens Creek**	**59.05**	**161**	P	**P**	**14 41 45.2**	**+0.4**
	1.6nm,0.9s,baz=323,slow=3.9,SNR=2.8						
YKA	**Yellowknife Ar**	**81.94**	**23**	P	**P**	**14 44 02.3**	**-1.9**
	0.1nm,0.3s,baz=307,slow=5.2,SNR=4.5						

PRE 04 14:44:39.2±0.8, 26°.85S×26°.75E, h2km, ML1.1, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BFSD	**Buffelsfontein**	**0.04**	**119**	*e*S	Sg	14 44 40.4	-0.5
BFSD				*e*P	Pg	14 44 40.7	+0.5
BFSD				AML	AML	14 44 44.9	
	comp=Z,52nm,0.1s						
LBTB	**Lobatse**	**2.10**	**330**	*e*P	Pn	14 45 15.7	+0.2
LBTB				*e*S	Sn	14 45 43.4	+1.1
LBTB				AML	AML	14 45 47.4	
	comp=Z,1.5nm,0.2s						
BOSA	**Boshof**	**2.20**	**217**	*e*P	Pn	14 45 17.6	+0.6
BOSA				*e*S	Sn	14 45 45.7	+0.7
BOSA				AML	AML	14 45 47.9	
	comp=Z,2.2nm,0.6s						

MAN 04 14:47:50, 16°.55N×120°.90E, h28km, mb4.0, ML2.8, MS2.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCPH	**Baguio City Da**	**0.35**	**241**	⇑ *i* P	Pb	14 47 58.5	+0.2
BCPH				*i* S	Sb	14 48 04.6	+0.7

*ISCJB **04** 14:49:50.8±0.5, 50°.15N±0°.03×18°.95E±0°.03, h0km, Error ellipse: s-maj=5.1km s-min=2.4km az=13.6*
*WAR **04** 14:49:51.9, 50°.08N×19°.10E*
*CSEM **04** 14:49:51.1±0.3, 50°.22N×18°.98E, h2km, ML3.1/6, Error ellipse: s-maj=8.6km s-min=3.4km az=7.0*
*PRU **04** 14:49:52.8, 50°.14N×18°.98E, h0km*
*VIE **04** 14:49:55.9±0.6, 49°.84N×18°.82E, h0km, mb2.2/3, ML2.4/4, Error ellipse: s-maj=4.0km s-min=3.2km az=7.0 40 km E of Ostrava Suspected Mining induced.*

ISC 04 14:49:52.1±0.8, 50°.07N±0°.03×19°.01E±0°.02, h0km, n38, σ1§13/66, 2C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.53**	**73**	*e*Pg	**Pg**	**14 50 01.0**	**-1.2**
OJC				*e*Sg	**Sg**	**14 50 08.1**	**-1.0**
OJC	**Ojcow**	**0.53**	**73**	*e*Pg	**Pg**	**14 50 01.3**	**-0.9**
OJC				*e*Sg	**Sg**	**14 50 08.5**	**-0.6**
OKC	**Ostrava-Krasne**	**0.60**	**248**	*e*PG	**Pg**	**14 50 04.1**	**+0.5**
OKC				*e*SG	**Sb**	**14 50 13.2**	**-1.3**
	comp=Z,26nm,0.3s						
OKC	**Ostrava-Krasne**	**0.60**	**248**	Pg	**Pg**	**14 50 04.1**	**+0.5**
OKC				Sg	**Sb**	**14 50 13.2**	**-1.3**
	26nm,0.3s						
MORC	**Moravsky Berou**	**0.99**	**253**	*e*Pg	**Pg**	**14 50 11.4**	**+0.3**
MORC				*e*Sg	**Sb**	**14 50 25.3**	**-0.5**
NIE	**Niedzica**	**1.07**	**127**	*e*Pg	**Pg**	**14 50 11.1**	**-1.5**
NIE				*e*Sg	**Sg**	**14 50 28.1**	**+1.7**
NIE	**Niedzica**	**1.07**	**127**	*e*Pg	**Pg**	**14 50 11.9**	**-0.6**
NIE				*e*Sg	**Sb**	**14 50 28.6**	**+0.6**
KRLC	**Kraliky**	**1.44**	**271**	*e*PG	**Pn**	**14 50 18.3**	**-1.1**
KRLC				*e*SG	**Sg**	**14 50 38.0**	**-0.1**
KRLC	**Kraliky**	**1.44**	**271**	Pg	**Pn**	**14 50 18.3**	**-1.1**
KRLC				Sg	**Sg**	**14 50 38.0**	**-0.1**
VYHS	**Vyhne**	**1.58**	**184**	*e*PN	**Pn**	**14 50 20.8**	**-0.6**
VYHS				*e*SN	**Sn**	**14 50 41.9**	**-0.7**
VYHS	**Vyhne**	**1.58**	**184**	*e*Pn	**Pn**	**14 50 20.8**	**-0.6**
VYHS				*e*Sn	**Sn**	**14 50 41.9**	**-0.7**

VRAC	**Vranov**	**1.74**	**245**	*e*Pn	**Pb**	**14 50 24.5**	**-0.5**
VRAC				*e*Sg	**Sg**	**14 50 48.6**	**+0.5**
DPC	**Dobruska-Polom**	**1.75**	**280**	*e*PG	**Pn**	**14 50 23.5**	**-0.2**
DPC				*e*SG	**Sb**	**14 50 47.4**	**-0.2**
	comp=Z,22nm,0.3s						
DPC	**Dobruska-Polom**	**1.75**	**280**	Pg	**Pn**	**14 50 23.5**	**-0.2**
DPC				Sg	**Sb**	**14 50 47.4**	**-0.2**
	22nm,0.3s						
SMOL	**Smolenice**	**1.87**	**214**	*e*SN	**Sb**	**14 50 51.3**	**+0.3**
SMOL	**Smolenice**	**1.87**	**214**	*e*Sn	**Sb**	**14 50 51.3**	**+0.3**
KSP	**Ksiaz**	**1.90**	**295**	*e*Pn	**Pb**	**14 50 25.0**	**-0.7**
KSP				*e*Pg	**Pb**	**14 50 27.1**	**-0.5**
KSP				*e*Sg	**Sg**	**14 50 53.0**	**0.0**
KSP	**Ksiaz**	**1.90**	**295**	*e*Pg	**Pn**	**14 50 25.3**	**-0.4**
KSP				*e*Sg	**Sg**	**14 50 52.4**	**-0.7**
UPC	**Upice**	**1.97**	**284**	*e*SG	**Sn**	**14 50 52.9**	**+0.8**
UPC	**Upice**	**1.97**	**284**	Sg	**Sn**	**14 50 52.9**	**+0.8**
CRVS	**Cervenica-Dubn**	**1.98**	**125**	*e*PN	**Pb**	**14 50 28.7**	**-0.3**
CRVS				*e*SN	**Sb**	**14 50 55.5**	**+1.3**
CRVS	**Cervenica-Dubn**	**1.98**	**125**	*e*Pn	**Pb**	**14 50 28.7**	**-0.3**
CRVS				*e*Sn	**Sb**	**14 50 55.5**	**+1.3**
KOLS	**Kolonicke sedl**	**2.41**	**117**	*e*	**Pg**	**14 50 38.7**	**+0.4**
KOLS	**Kolonicke sedl**	**2.41**	**117**	*e*SN	**Sn**	**14 51 05.5**	**+2.4**
KOLS	**Kolonicke sedl**	**2.41**	**117**	*e*Sn	**Sn**	**14 51 05.5**	**+2.4**
PRU	**Pruhonice**	**2.88**	**270**	*e*SG	**Sb**	**14 51 21.8**	**+1.7**
	comp=Z,5.6nm,0.3s						
PRU	**Pruhonice**	**2.88**	**270**	Sg	**Sb**	**14 51 21.8**	**+1.7**
	5.6nm,0.3s						
PVCC	**Panska Ves**	**2.88**	**281**	*e*SG	**Sg**	**14 51 23.6**	**-1.1**
	comp=Z,22nm,0.3s						
PVCC	**Panska Ves**	**2.88**	**281**	Sg	**Sg**	**14 51 23.6**	**-1.1**
	22nm,0.3s						
CONA	**Conrad Observa**	**2.98**	**225**	⇓⇓ *i* Pn	**Pn**	**14 50 41.2**	**+0.5**
CONA				⇑⇑ *i* Sn	**Sn**	**14 51 16.1**	**-1.1**
CONA	**Conrad Observa**	**2.98**	**225**	Pn	**Pn**	**14 50 41.2**	**+0.5**
CONA				Sn	**Sn**	**14 51 16.1**	**-1.1**
BRG	**Berggiesshubel**	**3.33**	**286**	PG	**Pg**	**14 50 58.0**	**+2.1**
BRG				SG	**Sg**	**14 51 40.0**	**+0.9**
	4.4nm,0.5s						
KHC	**Kasperske Hory**	**3.66**	**257**	*e*PN	**Pn**	**14 50 49.5**	**-0.4**
KHC				*e*PG	**Pb**	**14 50 59.5**	**+2.0**
KHC				*e*SG	**Sg**	**14 51 48.8**	**-0.6**
	comp=Z,4.9nm,0.4s						
MOA	**Molln**	**3.83**	**236**	⇓⇓ *i* Pn	**Pn**	**14 50 52.8**	**+0.4**
MOA				⇓ *i* Sn	**Sn**	**14 51 37.2**	**-0.9**
MOA				⇑⇑ *i* Sg	**Sg**	**14 51 54.2**	**-1.0**
	4.5nm,0.6s						
MOA	**Molln**	**3.83**	**236**	Pn	**Pn**	**14 50 52.8**	**+0.4**
MOA				Sn	**Sn**	**14 51 37.2**	**-0.9**
MOA				Sg	**Sg**	**14 51 54.2**	**-1.0**
	4.5nm,0.6s						
CLL	**Collm**	**4.01**	**290**	*e*Sg	**Sg**	**14 52 02.0**	**+1.0**
NKC	**Novy Kostel**	**4.22**	**275**	*e*SG	**Sg**	**14 52 04.6**	**-3.0**
	comp=Z,5.6nm,0.3s						
NKC	**Novy Kostel**	**4.22**	**275**	Sg	**Sg**	**14 52 04.6**	**-3.0**
	5.6nm,0.3s						

*ISCJB **04** 14:52:34.8±1.2, 3°.12N±0°.10×126°.30E±0°.08, h63km, mb3.1/3, Error ellipse: s-maj=14.1km s-min=11.5km az=18.4*
*IDC **04** 14:52:34.5±1.9, 2°.07N×125°.20E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/19, mbtmp3.2/3, Error ellipse: s-maj=183.3km s-min=25.2km az=64.0*
*DJA **04** 14:52:34.8±1.4, 3°.1N±16°.×12°.6E±°, h18km±35km, M4.0/7, mb4.1/2, mB4.6/1, MLv4.0/7, Mw(mB)3.8/1*

ISC 04 14:52:35.6±1.7, 3°.20N±0°.10×126°.34E±0°.09, h63km, n10, σ1§64/11, mb3.1/3, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.94**	**301**	P	**Pn**	**14 52 53.0**	**-0.1**
MNI	**Manado**	**2.30**	**221**	P	**Pn**	**14 53 11.5**	**+0.3**
MNI				S	**Sn**	**14 53 36.5**	**-1.9**
TNTI	**Ternate**	**2.62**	**157**	P	**Pn**	**14 53 15.1**	**-0.5**
KMSI	**Cibinong**	**3.51**	**222**	P	**Pn**	**14 53 27.7**	**-0.1**
KMSI				S	**Sn**	**14 54 11.6**	**+3.4**
LBMI	**Labuha**	**3.98**	**163**	P	**Pn**	**14 53 33.8**	**-0.4**
MRSI	**Marisa**	**5.16**	**239**	P	**Pn**	**14 53 48.7**	**-1.6**
	30nm,1.1s,552nm0.1nm						
LUWI	**Luwuk**	**5.52**	**220**	P	**Pn**	**14 53 54.0**	**-1.3**
WRA	**Warramunga Arr**	**24.30**	**161**	P	**P**	**14 57 47.0**	**-0.4**
	0.2nm,0.3s,baz=337,slow=12,SNR=7.4						
ASAR	**Alice Springs**	**27.70**	**165**	P	**P**	**14 58 19.1**	**+1.1**
	0.1nm,0.3s,baz=346,slow=12,SNR=5.7						
MKAR	**Makanchi Array**	**57.77**	**326**	P	P	15 02 29.1	+8.7
	0.2nm,0.5s,baz=123,slow=7.9,SNR=7.0						

IDC 04 15:02:49.7±2.2, 6°.28S×130°.91E, h0km, mb3.7/1, mb1 3.9/4, mb1mx3.6/15, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=90.1km s-min=27.8km az=78.0, Banda Sea

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

1.3nm,0.4s,baz=21,slow=12,SNR=61
ASAR PcP **PcP** **15 25 56.5 -0.6**
0.5nm,0.9s,baz=19,slow=3.1,SNR=4.6
QLP Quilpie 38.37 174 *e*P **P** **15 23 51.1 -0.4**
CMAR Chiang Mai Arr 40.31 285 P P 15 24 12.1 +4.2
0.6nm,0.7s,baz=79,slow=6.6,SNR=6.7
CMAR pP pP 15 24 34.5 +18
0.6nm,0.7s,baz=88,slow=6.3,SNR=3.0
CMSA Cobar Meteorol 43.43 173 *e*P **P** **15 24 32.7 -0.4**
11nm,0.7s
STKA Stephens Creek 43.47 178 *e*P **P** **15 24 33.5 +0.1**
2.0nm,1.2s
STKA Stephens Creek 43.47 178 P **P** **15 24 33.1 -0.3**
0.9nm,0.5s,baz=352,slow=5.2,SNR=6.4
FORT Forrest 43.94 195 *e*P **P** **15 24 38.1 +0.9**
27nm,0.7s
SONM Songino Array 45.70 328 P **P** **15 24 54.4 +3.2**
0.2nm,0.6s,baz=130,slow=5.8,SNR=2.5
SONM pP pP 15 25 14.6 +14
0.4nm,0.7s,baz=138,slow=8.4,SNR=2.7
MKAR Makanchi Array 59.66 318 P **P** **15 26 34.9 +0.4**
0.4nm,0.8s,baz=88,slow=9.4,SNR=5.0
MKAR pP pP 15 27 00.0 +16
0.5nm,0.8s,baz=93,slow=12,SNR=3.8
ILAR Eielson Array 72.10 25 P P 15 27 51.0 -3.1
0.2nm,0.8s,baz=256,slow=5.2,SNR=2.9
INK Inuvik 77.72 22 P **P** **15 28 25.1 -1.4**
1.1nm,0.7s,baz=135,slow=6.1,SNR=5.0
YKA Yellowknife Ar 86.49 27 P **P** **15 29 10.8 -1.8**
0.1nm,0.4s,baz=292,slow=5.2,SNR=3.5
YKA pP pP 15 29 36.0 +14
0.2nm,0.5s,baz=289,slow=3.8,SNR=2.7
FINES FINESS Array B 90.79 334 P **P** **15 29 30.7 -2.4**
2.0nm,0.9s,baz=71,slow=7.1,SNR=5.1

MEX 04 15:36:53.7±0.9, 18°11N×98°52W, h49km±15km, MD3.6, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
UTMO	**Huajuapan**	**0.73**	**112**	*i* P			Pn	15 37 06.5	-1.7
UTMO				*e*S			Sn	15 37 16.5	-2.1
YAIG	**Yautepec**	**0.91**	**325**	*e*P			Pn	15 37 08.1	-2.3
YAIG				*i* S			Sn	15 37 20.6	-2.1
PPM	**Popocatepetl**	**0.96**	**354**	*i* S			Sn	15 37 21.7	-2.9
PLIG	**Platanillo**	**0.98**	**287**	*e*P			Pn	15 37 09.4	-1.8
PLIG				*i* S			Sn	15 37 22.7	-1.4
TPIG	**Tehuac#an**	**1.14**	**74**	*i* P			Pn	15 37 11.4	-2.1
TPIG				*i* S			Sn	15 37 26.7	-1.6
MZVM		**1.27**	**328**	*i* P			Pn	15 37 13.9	-1.1
MZVM				*i* S			Sn	15 37 28.6	-2.3
SZVM	**Salazar**	**1.46**	**326**	*i* P			Pn	15 37 16.2	-2.0
SZVM				*i* S			Sn	15 37 34.7	-1.9
IIO	**Organos**	**1.49**	**353**	*i* P			Pn	15 37 17.2	-1.4
IIO				*i* S			Sn	15 37 34.5	-2.6
PTVM	**Pico Tres Padr**	**1.58**	**339**	*i* P			Pn	15 37 18.1	-1.6
PTVM				*i* S			Sn	15 37 36.8	-2.4

*DDA **04** 15:42:37.0, 38°.45N×43°.26E, h7km, MD2.9*
*CSEM **04** 15:42:36.8±0.3, 38°.53N×43°.42E, h20km, MD2.6, Error ellipse: s-maj=8.3km s-min=6.4km az=84.0*
*ISCJB **04** 15:42:37.7±0.6, 38°.51N±0°.03×43°.44E±0°.06, h16km±6km, Error ellipse: s-maj=7.8km s-min=5.2km az=0.8*
*ISK **04** 15:42:37.1, 38°.57N×43°.38E, h17km, MD2.6*
ISC 04 15:42:37.3±0.8, 38°.52N±0°.03×43°.39E±0°.04, h16km±5km, n18, σ0°.76/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.01**	**58**	*i* P			**Pg**	**15 42 40.4**	**-0.1**
TVAN				*i* S			**Sg**	**15 42 43.1**	**+0.5**
TVAN	**Van**	**0.01**	**58**	*i* P			**Pg**	**15 42 40.4**	**-0.1**
TVAN				*i* S			**Sg**	**15 42 43.1**	**+0.5**
VANB	**Van**	**0.07**	**358**	*e*PG			**Pg**	**15 42 40.3**	**-0.4**
VANB	**Van**	**0.07**	**358**	*e*Pg			**Pg**	**15 42 40.3**	**-0.4**
VANT	**Van**	**0.14**	**225**	*e*PG			**Pg**	**15 42 41.4**	**-0.1**
VANT				*e*SG			**Sb**	**15 42 45.8**	**+1.2**
VANT	**Van**	**0.14**	**225**	*e*Pg			**Pg**	**15 42 41.4**	**-0.1**
VANT				*e*Sg			**Sb**	**15 42 45.8**	**+1.2**
CLDR	**Caldiran**	**0.74**	**33**	*e*PG			**Pb**	**15 42 51.2**	**-0.8**
CLDR				*e*SG			**Sg**	**15 43 02.3**	**+0.5**
CLDR	**Caldiran**	**0.74**	**33**	*e*Pg			**Pb**	**15 42 51.2**	**-0.8**
CLDR				*e*Sg			**Sg**	**15 43 02.3**	**+0.5**
TATV	**Tatvan**	**0.88**	**269**	*i* P			**Pb**	**15 42 53.2**	**-1.2**
TATV				*i* S			**Sn**	**15 43 07.6**	**-0.2**
TATV	**Tatvan**	**0.88**	**269**	*i* P			**Pb**	**15 42 53.2**	**-1.2**
TATV				*i* S			**Sn**	**15 43 07.6**	**-0.2**
TUTA	**Tutak**	**0.99**	**333**	*i* P			**Pb**	**15 42 55.3**	**-0.9**
TUTA				*i* S			**Sn**	**15 43 10.9**	**+0.4**
TUTA	**Tutak**	**0.99**	**333**	*i* P			**Pb**	**15 42 55.3**	**-0.9**
TUTA				*i* S			**Sn**	**15 43 10.9**	**+0.4**
HAKT	**HAKKARI**	**0.99**	**165**	*i* P			**Pb**	**15 42 55.0**	**-1.2**
HAKT				*i* S			**Sb**	**15 43 09.3**	**+0.1**
HAKT	**HAKKARI**	**0.99**	**165**	*i* P			**Pb**	**15 42 55.0**	**-1.2**
HAKT				*i* S			**Sb**	**15 43 09.3**	**+0.1**
AGRB	**Hanur-Agry**	**1.10**	**344**	*e*PG			**Pb**	**15 42 57.0**	**-1.0**
AGRB				*e*SG			**Sg**	**15 43 13.0**	**0.0**
AGRB	**Hanur-Agry**	**1.10**	**344**	*e*Pg			**Pb**	**15 42 57.0**	**-1.0**
AGRB				*e*Sg			**Sg**	**15 43 13.0**	**0.0**
CUKT	**Cukurca**	**1.28**	**172**	*e*PN			**Pn**	**15 43 01.2**	**+0.6**
CUKT	**Cukurca**	**1.28**	**172**	*e*Pn			**Pn**	**15 43 01.2**	**+0.6**

MAN 04 15:57:28, 16°.54N×120°.90E, h21km, mb4.5, ML3.3, MS3.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.35**	**243**	↑*i*P			Pb	15 57 35.8	+0.2
BCPH				*i* S			Sb	15 57 41.8	+0.9
BOLP	**Bolinao**	**0.96**	**261**	*e*P			Pn	15 57 46.6	+0.3
CAUP	**Cauayan**	**0.97**	**65**	*e*P			Pb	15 57 45.9	-0.2
BALP	**Baler**	**1.02**	**141**	*e*P			Pb	15 57 46.7	-0.3
ABRA	**Dolores**	**1.12**	**351**	*e*P			Pn	15 57 46.9	-1.5

*IDC **04** 16:01:51.7±6.7, 36°.89S×176°.98E, h170km±54km, mb3.9/6, mb1 4.1/7, mb1mx3.9/14, mbtmp4.0/7, Error ellipse: s-maj=52.1km s-min=16.7km az=44.0*
*ISCJB **04** 16:01:59.8±0.5, 37°.48S±0°.04×176°.45E±0°.07, h247km±3km, mb3.8/7, Error ellipse: s-maj=8.5km s-min=5.9km az=175.1*
*NEIC **04** 16:01:59.8±0.3, 37°.30S×176°.66E, h239km±2km, mb4.6/2, Error ellipse: s-maj=6.8km s-min=4.7km az=56.0*
*WEL **04** 16:02:01.2±0.4, 37°.29S×176°.68E, h227km±3km, ML5.0/21, Error ellipse: s-maj=2.9km s-min=2.5km az=90.0*
ISC 04 16:02:00.9±0.7, 37°.50S±0°.06×176°.49E±0°.06, h244km±5km, n232, σ1s23/239, mb3.7/7, 16C-15D, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**0.29**	**317**	⇓PN			**Pn**	**16 02 31.1**	**-1.6**
TGRZ	**Tauranga**	**0.30**	**218**	PN			**Pn**	**16 02 31.4**	**-1.1**
TGRZ	**Tauranga**	**0.30**	**218**	Pn			**Pn**	**16 02 31.4**	**-1.1**
TGRZ				Sn			**S**	**16 02 57.2**	**-0.3**
OPRZ	**Ohinepanea**	**0.35**	**172**	⇓PN			**Pn**	**16 02 31.4**	**-1.3**
OPRZ				*e*SN			**S**	**16 02 56.1**	**-1.7**
OPRZ	**Ohinepanea**	**0.35**	**172**	Pn			**Pn**	**16 02 31.4**	**-1.3**
OPRZ				Sn			**S**	**16 02 56.8**	**-1.0**
MARZ	**Manawahe**	**0.51**	**164**	⇑PN			**Pn**	**16 02 32.3**	**-0.9**
MARZ	**Manawahe**	**0.51**	**164**	Pn			**Pn**	**16 02 32.3**	**-0.9**
MARZ				Sn			**S**	**16 02 57.7**	**-0.8**
KARZ	**Kaharoa**	**0.56**	**200**	⇑PN			**Pn**	**16 02 32.9**	**-0.4**
KARZ	**Kaharoa**	**0.56**	**200**	Pn			**Pn**	**16 02 32.9**	**-0.4**
OMRZ	**Omania**	**0.62**	**189**	⇑PN			**Pn**	**16 02 33.2**	**-0.3**
OMRZ	**Omania**	**0.62**	**189**	Pn			**Pn**	**16 02 33.2**	**-0.3**
EDRZ	**Edgecumbe**	**0.64**	**162**	PN			**Pn**	**16 02 33.1**	**-0.6**
MKRZ	**Makatiti**	**0.64**	**182**	PN			**Pn**	**16 02 33.7**	**+0.1**
MKRZ	**Makatiti**	**0.64**	**182**	Pn			**Pn**	**16 02 33.7**	**+0.1**
TARZ	**Mount Tarawera**	**0.74**	**179**	PN			**Pn**	**16 02 33.9**	**-0.2**
TARZ	**Mount Tarawera**	**0.74**	**179**	Pn			**Pn**	**16 02 33.9**	**-0.2**
TOZ	**Tahuroa Road**	**0.82**	**253**	PN			**Pn**	**16 02 34.0**	**-0.3**
TOZ	**Tahuroa Road**	**0.82**	**253**	Pn			**Pn**	**16 02 34.0**	**-0.3**
RRRZ	**Republican Roa**	**0.84**	**179**	PN			**Pn**	**16 02 34.0**	**-0.5**
RRRZ	**Republican Roa**	**0.84**	**179**	Pn			**Pn**	**16 02 34.0**	**-0.5**
URZ	**Urewera**	**0.91**	**147**	PN			**Pn**	**16 02 33.2**	**-1.5**
URZ				SN			**S**	**16 02 58.2**	**-3.2**
URZ	**Urewera**	**0.91**	**147**	*e*Pn			**Pn**	**16 02 33.2**	**-1.5**
HRRZ	**Handcock Road**	**0.91**	**190**	PN			**Pn**	**16 02 34.9**	**+0.1**
HRRZ	**Handcock Road**	**0.91**	**190**	Pn			**Pn**	**16 02 34.9**	**+0.1**
KUZ	**Kuaotunu**	**0.97**	**320**	⇓PN			**Pn**	**16 02 32.8**	**-2.4**
KUZ	**Kuaotunu**	**0.97**	**320**	Pn			**Pn**	**16 02 32.3**	**-2.9**
PRRZ	**Plateau Road**	**1.00**	**184**	⇓PN			**Pn**	**16 02 35.2**	**-0.1**
PRRZ	**Plateau Road**	**1.00**	**184**	Pn			**Pn**	**16 02 35.2**	**-0.1**
ALRZ	**Allen Road**	**1.07**	**186**	⇓PN			**Pn**	**16 02 35.7**	**0.0**
ALRZ	**Allen Road**	**1.07**	**186**	Pn			**Pn**	**16 02 35.7**	**0.0**
MKAZ	**Moumakai**	**1.12**	**290**	PN			**Pn**	**16 02 34.4**	**-1.7**
MKAZ	**Moumakai**	**1.12**	**290**	Pn			**Pn**	**16 02 34.4**	**-1.7**
MWZ	**Matawai**	**1.17**	**136**	PN			**Pn**	**16 02 34.9**	**-1.5**
MWZ				SN			**S**	**16 03 01.4**	**-2.9**
MWZ	**Matawai**	**1.17**	**136**	Pn			**Pn**	**16 02 34.9**	**-1.5**
WHTZ	**Whakaora**	**1.24**	**200**	PN			**Pn**	**16 02 37.5**	**+0.7**
WHTZ	**Whakaora**	**1.24**	**200**	Pn			**Pn**	**16 02 37.5**	**+0.7**
OTAZ	**Otara**	**1.36**	**293**	⇓PN			**Pn**	**16 02 36.7**	**-0.9**
OTAZ	**Otara**	**1.36**	**293**	Pn			**Pn**	**16 02 36.7**	**-0.9**
HATZ	**Hinemaiaia**	**1.43**	**193**	PN			**Pn**	**16 02 38.3**	**+0.2**
HATZ	**Hinemaiaia**	**1.43**	**193**	Pn			**Pn**	**16 02 38.4**	**+0.2**
MXZ	**Matakaoa Point**	**1.44**	**93**	PN			**Pn**	**16 02 35.9**	**-2.3**
MXZ	**Matakaoa Point**	**1.44**	**93**	Pn			**Pn**	**16 02 35.9**	**-2.3**
MTAZ	**Motutapu**	**1.45**	**299**	⇓PN			**Pn**	**16 02 37.1**	**-1.2**
MTAZ	**Motutapu**	**1.45**	**299**	Pn			**Pn**	**16 02 37.1**	**-1.2**
RATZ	**Rangitukua**	**1.48**	**202**	PN			**Pn**	**16 02 39.0**	**+0.5**
RATZ	**Rangitukua**	**1.48**	**202**	Pn			**Pn**	**16 02 39.0**	**+0.5**
RAHZ	**Arahi**	**1.49**	**162**	PN			**Pn**	**16 02 38.7**	**+0.1**
RAHZ	**Arahi**	**1.49**	**162**	Pn			**Pn**	**16 02 38.7**	**+0.1**
PUZ	**Puketiti**	**1.51**	**113**	PN			**Pn**	**16 02 37.1**	**-1.6**
PUZ				SN			**S**	**16 03 04.9**	**-3.5**
RITZ	**Rihia Road**	**1.56**	**198**	PN			**Pn**	**16 02 40.2**	**+1.0**
RITZ	**Rihia Road**	**1.56**	**198**	Pn			**Pn**	**16 02 40.2**	**+1.0**
ABAZ	**Army Bay**	**1.60**	**303**	⇓PN			**Pn**	**16 02 38.1**	**-1.3**
KATZ	**Kakaramea**	**1.60**	**203**	⇓PN			**Pn**	**16 02 40.6**	**+1.0**
KATZ	**Kakaramea**	**1.60**	**203**	Pn			**Pn**	**16 02 40.6**	**+1.0**
NMHZ	**Naumai**	**1.62**	**171**	⇑PN			**Pn**	**16 02 40.2**	**+0.6**
NMHZ	**Naumai**	**1.62**	**171**	Pn			**Pn**	**16 02 40.2**	**+0.6**
HIZ	**Hauiti**	**1.64**	**231**	PN			**Pn**	**16 02 40.4**	**+0.7**
HIZ	**Hauiti**	**1.64**	**231**	Pn			**Pn**	**16 02 40.4**	**+0.7**
BKZ	**Black Stump Fm**	**1.67**	**180**	PN			**Pn**	**16 02 39.5**	**-0.5**
BKZ	**Black Stump Fm**	**1.67**	**180**	Pn			**Pn**	**16 02 39.5**	**-0.5**
CNGZ	**Carnagh Statio**	**1.68**	**127**	⇑PN			**Pn**	**16 02 39.5**	**-0.5**
CNGZ	**Carnagh Statio**	**1.68**	**127**	Pn			**Pn**	**16 02 39.5**	**-0.5**
RVAZ	**Riverhead Bore**	**1.69**	**295**	⇓PN			**Pn**	**16 02 38.7**	**-1.5**
KRVZ	**Karewarewa**	**1.73**	**202**	PN			**Pn**	**16 02 41.2**	**+0.6**
KRVZ	**Karewarewa**	**1.73**	**202**	Pn			**Pn**	**16 02 41.2**	**+0.6**
WTVZ	**West Tongariro**	**1.77**	**203**	PN			**Pn**	**16 02 41.4**	**+0.5**
WTVZ	**West Tongariro**	**1.77**	**203**	Pn			**Pn**	**16 02 41.4**	**+0.5**
TWVZ	**Taurewa**	**1.78**	**207**	PN			**Pn**	**16 02 41.5**	**+0.5**
TWVZ	**Taurewa**	**1.78**	**207**	Pn			**Pn**	**16 02 41.5**	**+0.5**
KNZ	**Kokohu**	**1.78**	**149**	PN			**Pn**	**16 02 40.5**	**-0.4**
KNZ	**Kokohu**	**1.78**	**149**	Pn			**Pn**	**16 02 40.5**	**-0.4**
OTVZ	**Oturere**	**1.79**	**201**	⇑PN			**Pn**	**16 02 41.8**	**+0.6**
OTVZ	**Oturere**	**1.79**	**201**	Pn			**Pn**	**16 02 41.8**	**+0.6**
PRGZ	**Paritu Road**	**1.80**	**143**	⇓PN			**Pn**	**16 02 40.8**	**-0.3**
PRGZ	**Paritu Road**	**1.80**	**143**	Pn			**Pn**	**16 02 40.8**	**-0.3**
NGZ	**Ngauruhoe**	**1.82**	**202**	⇑PN			**Pn**	**16 02 42.3**	**+0.9**
NGZ	**Ngauruhoe**	**1.82**	**202**	Pn			**Pn**	**16 02 42.3**	**+0.9**
WPVZ	**Whakapapa**	**1.86**	**203**	⇓PN			**Pn**	**16 02 42.5**	**+0.8**
WPVZ	**Whakapapa**	**1.86**	**203**	Pn			**Pn**	**16 02 42.5**	**+0.8**
TUVZ	**Tukino**	**1.89**	**200**	PN			**Pn**	**16 02 42.4**	**+0.4**
TUVZ	**Tukino**	**1.89**	**200**	Pn			**Pn**	**16 02 42.4**	**+0.4**
FWVZ	**Far West T-bar**	**1.91**	**203**	PN			**Pn**	**16 02 42.6**	**+0.4**
FWVZ	**Far West T-bar**	**1.91**	**203**	Pn			**Pn**	**16 02 42.6**	**+0.4**
DRZ	**Dome Shelter**	**1.92**	**202**	PN			**Pn**	**16 02 43.2**	**+0.7**
TRVZ	**Turoa**	**1.95**	**202**	PN			**Pn**	**16 02 43.3**	**+0.7**
TRVZ	**Turoa**	**1.95**	**202**	Pn			**Pn**	**16 02 43.3**	**+0.7**
MCHZ	**McNeill Hill**	**1.95**	**175**	⇑PN			**Pn**	**16 02 43.1**	**+0.7**
MCHZ	**McNeill Hill**	**1.95**	**175**	Pn			**Pn**	**16 02 43.1**	**+0.7**
WNVZ	**Wahianoa**	**1.96**	**201**	PN			**Pn**	**16 02 43.0**	**+0.4**
WNVZ	**Wahianoa**	**1.96**	**201**	Pn			**Pn**	**16 02 43.0**	**+0.4**
MHGZ	**Mahia Peninsul**	**1.99**	**147**	PN			**Pn**	**16 02 42.5**	**-0.3**
MHGZ	**Mahia Peninsul**	**1.99**	**147**	Pn			**Pn**	**16 02 42.5**	**-0.3**
MOVZ	**Moawhango**	**1.99**	**197**	PN			**Pn**	**16 02 43.0**	**+0.1**
MOVZ	**Moawhango**	**1.99**	**197**	Pn			**Pn**	**16 02 43.0**	**+0.1**
BHHZ	**Black Hill Sta**	**2.02**	**189**	⇑PN			**Pn**	**16 02 43.1**	**0.0**
BHHZ	**Black Hill Sta**	**2.02**	**189**	Pn			**Pn**	**16 02 43.1**	**0.0**
MTVZ	**Mangateitei**	**2.05**	**203**	PN			**Pn**	**16 02 44.0**	**+0.7**
MTVZ	**Mangateitei**	**2.05**	**203**	Pn			**Pn**	**16 02 44.0**	**+0.7**
VRZ	**Vera Road**	**2.12**	**219**	PN			**Pn**	**16 02 45.3**	**+1.3**
VRZ	**Vera Road**	**2.12**	**219**	Pn			**Pn**	**16 02 45.3**	**+1.3**
CKHZ	**Cape Kidnapper**	**2.21**	**168**	PN			**Pn**	**16 02 45.4**	**+0.6**
CKHZ	**Cape Kidnapper**	**2.21**	**168**	Pn			**Pn**	**16 02 45.4**	**+0.6**
KAHZ	**Kahuranaki**	**2.31**	**173**	⇑PN			**Pn**	**16 02 46.2**	**+0.3**
KAHZ	**Kahuranaki**	**2.31**	**173**	Pn			**Pn**	**16 02 46.2**	**+0.3**
WCZ	**Waipu Caves**	**2.32**	**311**	⇑PN			**Pn**	**16 02 44.1**	**-1.9**
WCZ	**Waipu Caves**	**2.32**	**311**	Pn			**Pn**	**16 02 44.1**	**-1.9**
PNHZ	**Putauui**	**2.42**	**185**	⇑PN			**Pn**	**16 02 46.9**	**0.0**
WAZ	**Wanganui**	**2.55**	**207**	PN			**Pn**	**16 02 49.0**	**+0.9**
WAZ	**Wanganui**	**2.55**	**207**	Pn			**Pn**	**16 02 49.0**	**+0.9**
PXZ	**Pawanui**	**2.55**	**174**	PN			**Pn**	**16 02 48.2**	**0.0**
WPHZ	**Waipukurau**	**2.56**	**181**	⇑PN			**Pn**	**16 02 48.4**	**0.0**
WPHZ	**Waipukurau**	**2.56**	**181**	Pn			**Pn**	**16 02 48.4**	**0.0**
NEZ	**North Egmont**	**2.58**	**226**	⇓PN			**Pn**	**16 02 50.9**	**+2.3**
NEZ	**North Egmont**	**2.58**	**226**	Pn			**Pn**	**16 02 50.9**	**+2.3**
TSZ	**Takapari Road**	**2.59**	**189**	PN			**Pn**	**16 02 48.5**	**-0.1**
TSZ	**Takapari Road**	**2.59**	**189**	Pn			**Pn**	**16 02 48.5**	**-0.1**
PKE	**Pukeiti**	**2.60**	**228**	PN			**Pn**	**16 02 50.9**	**+2.2**
PKE	**Pukeiti**	**2.60**	**228**	Pn			**Pn**	**16 02 50.9**	**+2.2**
DFE	**Dawson Falls**	**2.62**	**225**	PN			**Pn**	**16 02 51.2**	**+2.2**
DFE	**Dawson Falls**	**2.62**	**225**	Pn			**Pn**	**16 02 51.2**	**+2.2**
NRZ	**Ngariki Road**	**2.72**	**227**	PN			**Pn**	**16 02 52.1**	**+2.1**
NRZ	**Ngariki Road**	**2.72**	**227**	Pn			**Pn**	**16 02 52.1**	**+2.1**
PRHZ	**Porangahau**	**2.77**	**178**	PN			**Pn**	**16 02 50.5**	**+0.1**
PRHZ	**Porangahau**	**2.77**	**178**	Pn			**Pn**	**16 02 50.5**	**+0.1**
POWZ	**Post Office Ro**	**2.95**	**191**	PN			**Pn**	**16 02 52.4**	**+0.1**
POWZ	**Post Office Ro**	**2.95**	**191**	Pn			**Pn**	**16 02 52.4**	**+0.1**
BFZ	**Birch Farm**	**3.19**	**183**	PN			**Pn**	**16 02 54.7**	**-0.3**
BFZ	**Birch Farm**	**3.19**	**183**	Pn			**Pn**	**16 02 54.7**	**-0.3**
MRZ	**Mangatainoka R**	**3.24**	**192**	PN			**Pn**	**16 02 54.9**	**-0.7**
MRZ	**Mangatainoka R**	**3.24**	**192**	Pn			**Pn**	**16 02 54.9**	**-0.7**
OUZ	**Omahuta**	**3.26**	**313**	PN			**Pn**	**16 02 53.7**	**-2.2**
OUZ	**Omahuta**	**3.26**	**313**	*e*Pn			**Pn**	**16 02 53.7**	**-2.2**
TIWZ	**Tintock**	**3.31**	**188**	PN			**Pn**	**16 02 56.2**	**-0.2**
TIWZ	**Tintock**	**3.31**	**188**	Pn			**Pn**	**16 02 56.2**	**-0.2**
OGWZ	**Otaki Gorge**	**3.47**	**197**	⇑PN			**Pn**	**16 02 58.0**	**-0.2**
OGWZ	**Otaki Gorge**	**3.47**	**197**	Pn			**Pn**	**16 02 58.0**	**-0.2**
HOWZ	**Holdsworth Sta**	**3.48**	**192**	PN			**Pn**	**16 02 57.8**	**-0.6**
HOWZ	**Holdsworth Sta**	**3.48**	**192**	Pn			**Pn**	**16 02 57.8**	**-0.6**
KIW	**Kapiti Island**	**3.58**	**200**	PN			**Pn**	**16 02 59.0**	**-0.5**
KIW	**Kapiti Island**	**3.58**	**200**	Pn			**Pn**	**16 02 59.0**	**-0.5**
TMWZ	**Te Maipa**	**3.64**	**187**	PN			**Pn**	**16 02 59.6**	**-0.5**
TMWZ	**Te Maipa**	**3.64**	**187**	Pn			**Pn**	**16 02 59.6**	**-0.5**
MTW	**Mount Morrison**	**3.74**	**192**	PN			**Pn**	**16 03 00.4**	**-0.9**
MTW	**Mount Morrison**	**3.74**	**192**	Pn			**Pn**	**16 03 00.4**	**-0.9**
CAW	**Cannon Point**	**3.77**	**197**	⇑PN			**Pn**	**16 03 01.0**	**-0.6**
CAW	**Cannon Point**	**3.77**	**197**	Pn			**Pn**	**16 03 01.1**	**-0.6**
DUWZ	**D'Urville Isla**	**3.86**	**210**	PN			**Pn**	**16 03 02.2**	**-0.5**
DUWZ	**D'Urville Isla**	**3.86**	**210**	Pn			**Pn**	**16 03 02.2**	**-0.5**
TRWZ	**Traveller**	**3.95**	**189**	PN			**Pn**	**16 03 03.4**	**-0.3**
TRWZ	**Traveller**	**3.95**	**189**	Pn			**Pn**	**16 03 03.4**	**-0.3**
PAWZ	**Paruwai Farm**	**3.97**	**192**	PN			**Pn**	**16 03 03.2**	**-0.8**
PAWZ	**Paruwai Farm**	**3.97**	**192**	Pn			**Pn**	**16 03 03.2**	**-0.8**
WEL	**Wellington**	**4.01**	**199**	⇑PN			**Pn**	**16 03 03.8**	**-0.6**
WEL	**Wellington**	**4.01**	**199**	Pn			**Pn**	**16 03 03.8**	**-0.6**
MSWZ	**Moikau Station**	**4.03**	**193**	⇓PN			**Pn**	**16 03 03.9**	**-0.8**
MSWZ	**Moikau Station**	**4.03**	**193**	Pn			**Pn**	**16 03 03.9**	**-0.8**
SNZO	**South Karori**	**4.05**	**199**	PN			**Pn**	**16 03 04.0**	**-0.9**
SNZO	**South Karori**	**4.05**	**199**	*e*P			**Pn**	**16 03 03.7**	**-1.2**
TCW	**Tory Channel**	**4.09**	**204**	PN			**Pn**	**16 03 04.7**	**-0.7**
TCW	**Tory Channel**	**4.09**	**204**	Pn			**Pn**	**16 03 04.7**	**-0.7**
BHW	**Baring Head**	**4.10**	**197**	PN			**Pn**	**16 03 04.8**	**-0.8**
BHW	**Baring Head**	**4.10**	**197**	Pn			**Pn**	**16 03 04.8**	**-0.8**
PLWZ	**Palliser**	**4.18**	**193**	PN			**Pn**	**16 03 05.5**	**-1.0**
PLWZ	**Palliser**	**4.18**	**193**	Pn			**Pn**	**16 03 05.5**	**-1.0**
TUWZ	**Tuamarina**	**4.40**	**206**	PN			**Pn**	**16 03 08.2**	**-0.9**
TUWZ	**Tuamarina**	**4.40**	**206**	Pn			**Pn**	**16 03 08.2**	**-0.9**
NNZ	**Nelson**	**4.43**	**212**	⇓PN			**Pn**	**16 03 08.6**	**-0.9**
NNZ	**Nelson**	**4.43**	**212**	Pn			**Pn**	**16 03 08.6**	**-0.9**
QRZ	**Quartz Range**	**4.53**	**222**	PN			**Pn**	**16 03 09.5**	**-1.2**
QRZ	**Quartz Range**	**4.53**	**222**	Pn			**Pn**	**16 03 09.5**	**-1.2**
BSWZ	**Blackbirch Sta**	**4.67**	**205**	PN			**Pn**	**16 03 11.9**	**-0.5**
BSWZ	**Blackbirch Sta**	**4.67**	**205**	Pn			**Pn**	**16 03 11.9**	**-0.5**
THZ	**Tophouse**	**5.08**	**212**	PN			**Pn**	**16 03 16.2**	**-1.3**
THZ	**Tophouse**	**5.08**	**212**	Pn			**Pn**	**16 03 16.2**	**-1.3**
KHZ	**Kahutara** 375nm,0.3s	**5.41**	**204**	*e*P			**Pn**	**16 03 20.8**	**-0.7**
KHZ				*e*Sn			S	16 04 17.4	-8.4
DSZ	**Denniston Nort**	**5.58**	**219**	PN			**Pn**	**16 03 21.8**	**-1.8**
DSZ	**Denniston Nort**	**5.58**	**219**	Pn			**Pn**	**16 03 21.8**	**-1.8**
LTZ	**Lake Taylor**	**6.19**	**210**	PN			**Pn**	**16 03 29.4**	**-1.9**
LTZ	**Lake Taylor**	**6.19**	**210**	Pn			**Pn**	**16 03 29.4**	**-1.9**
CRLZ	**Canterbury Las**	**6.75**	**205**	PN			**Pn**	**16 03 36.5**	**-1.7**
CRLZ	**Canterbury Las**	**6.75**	**205**	Pn			**Pn**	**16 03 36.5**	**-1.7**
MQZ	**McQueen's Vall**	**6.86**	**204**	PN			**Pn**	**16 03 37.5**	**-2.0**
MQZ	**McQueen's Vall**	**6.86**	**204**	Pn			**Pn**	**16 03 37.6**	**-2.0**
WVZ	**Waitaha Valley**	**7.10**	**216**	PN			**Pn**	**16 03 41.8**	**-0.8**
WVZ	**Waitaha Valley**	**7.10**	**216**	Pn			**Pn**	**16 03 41.8**	**-0.8**
RPZ	**Rata Peaks**	**7.46**	**212**	PN			**Pn**	**16 03 45.8**	**-1.5**
RPZ	**Rata Peaks** 18nm,0.5s	**7.46**	**212**	*e*Pn			**Pn**	**16 03 45.6**	**-1.7**
RPZ				S			**S**	**16 05 09.2**	**-3.5**
RPZ	**Rata Pea

ASAR	**Alice Springs**	**17.40**	**147**	P	**P**	**16**	**21**	**56.6**	**+2.1**
	1.5nm,0.3s,baz=322,slow=10,SNR=60								
ASAR				S	Sn	16	24	59.1	-8.3
	1.1nm,0.3s,baz=314,slow=22,SNR=13								
QIS	**Mount Isa**	**19.04**	**128**	*eP*	**Pn**	**16**	**22**	**15.3**	**+1.3**
COEN	**Coen**	**19.60**	**106**	*eP*	**Pn**	**16**	**22**	**21.3**	**+0.6**
NWAO	**Narrogin (SRO)**	**24.43**	**193**	P	**P**	**16**	**23**	**08.7**	**+0.7**
NWAO	**Narrogin (SRO)**	**24.43**	**193**	P	**P**	**16**	**23**	**08.7**	**+0.7**
	13nm,1.0s,baz=320,slow=2.8,SNR=7.8								
BBOO	**Buckleboo**	**26.16**	**156**	*eP*	**P**	**16**	**23**	**24.9**	**+1.3**
	54nm,0.3s								
STKA	**Stephens Creek**	**28.03**	**146**	*eP*	**P**	**16**	**23**	**42.0**	**+1.6**
	0.3nm,0.4s								
STKA	**Stephens Creek**	**28.03**	**146**	*eP*	**P**	**16**	**23**	**42.4**	**+1.9**
	0.8nm,0.2s								
STKA	**Stephens Creek**	**28.03**	**146**	P	**P**	**16**	**23**	**42.4**	**+1.9**
	1.2nm,0.3s,baz=313,slow=7.2,SNR=18								
CMAR	**Chiang Mai Arr**	**36.77**	**318**	P	**P**	**16**	**24**	**57.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**36.77**	**318**	P	**P**	**16**	**24**	**57.5**	**+0.6**
	3.8nm,0.8s,baz=145,slow=6.9,SNR=28								
CHTO	**Chiang Mai**	**37.03**	**319**	*eP*	**P**	**16**	**24**	**58.6**	**-0.4**
	11nm,1.4s								
MJAR	**Matsushiro Arr**	**47.42**	**16**	P	**P**	**16**	**26**	**22.7**	**-0.6**
MJAR	**Matsushiro Arr**	**47.42**	**16**	P	**P**	**16**	**26**	**22.7**	**-0.6**
	0.8nm,0.7s,baz=194,slow=8.5,SNR=4.9								
LSA	**Lhasa**	**49.77**	**322**	*eP*	**P**	**16**	**26**	**42.1**	**+0.1**
	3.9nm,0.6s								
ODAN	**Odare**	**50.26**	**316**	*eP*	**P**	**16**	**26**	**44.5**	**-1.0**
	6.8nm,0.5s								
TAPN	**Taplejung**	**50.36**	**317**	*eP*	**P**	**16**	**26**	**45.5**	**-0.8**
	14nm,0.6s								
RAMN	**Ramite**	**50.86**	**316**	*eP*	**P**	**16**	**26**	**49.2**	**-0.8**
	22nm,0.6s								
JIRN	**Jiri**	**51.59**	**316**	*eP*	**P**	**16**	**26**	**54.6**	**-1.0**
	8.9nm,0.6s								
GUN	**Gumba**	**51.96**	**316**	*eP*	**P**	**16**	**26**	**57.4**	**-1.0**
	14nm,0.6s								
KOLN	**Koldanda**	**53.45**	**315**	*eP*	**P**	**16**	**27**	**07.7**	**-1.5**
	10nm,0.6s								
USRK	**Ussuriysk Arra**	**53.61**	**7**	P	**P**	**16**	**27**	**09.4**	**-0.3**
	1.2nm,0.5s,baz=204,slow=7.5,SNR=5.0								
DANN	**Dangsing**	**53.69**	**315**	*eP*	**P**	**16**	**27**	**09.8**	**-1.3**
	23nm,0.6s								
SONM	**Songino Array**	**58.78**	**346**	P	**P**	**16**	**27**	**45.3**	**-1.4**
SONM	**Songino Array**	**58.78**	**346**	P	**P**	**16**	**27**	**45.3**	**-1.4**
	0.8nm,0.6s,baz=163,slow=9.1,SNR=7.6								
MK31	**Makanchi Array**	**66.82**	**330**	*eP*	**P**	**16**	**28**	**39.2**	**-0.9**
MKAR	**Makanchi Array**	**66.82**	**330**	P	**P**	**16**	**28**	**39.5**	**-0.5**
MKAR				sP	**sP**	**16**	**29**	**10.9**	**+3.2**
MKAR	**Makanchi Array**	**66.82**	**330**	P	**P**	**16**	**28**	**39.5**	**-0.5**
	3.7nm,0.7s,baz=135,slow=7.5,SNR=74								
MKAR				sP	**sP**	**16**	**29**	**10.9**	**+3.2**
	0.7nm,0.7s,baz=140,slow=8.2,SNR=2.5								
AAK	**Ala-Archa**	**68.35**	**323**	P	**P**	**16**	**28**	**49.3**	**-0.7**
AAK	**Ala-Archa**	**68.35**	**323**	P	**P**	**16**	**28**	**49.3**	**-0.7**
	2.6nm,0.6s,baz=127,slow=7.9,SNR=7.7								
ZALV	**Zalesovo Beam**	**70.93**	**337**	P	**P**	**16**	**29**	**03.5**	**-1.9**
ZALV	**Zalesovo Beam**	**70.93**	**337**	P	**P**	**16**	**29**	**03.5**	**-1.9**
	2.2nm,0.5s,baz=133,slow=5.0,SNR=10								
KURK	**Kurchatov**	**71.28**	**332**	*eP*	**P**	**16**	**29**	**06.6**	**-1.0**
	7.7nm,1.1s								
BVAR	**Borovoye Array**	**76.70**	**330**	P	**P**	**16**	**29**	**38.7**	**-0.4**
BVAR	**Borovoye Array**	**76.70**	**330**	P	**P**	**16**	**29**	**38.7**	**-0.4**
	0.7nm,0.6s,baz=141,slow=4.8,SNR=4.3								
ABKAR	**Akbulak array**	**80.43**	**323**	*eP*	**P**	**16**	**29**	**57.9**	**-1.9**
AKTO	**Aktyubinsk**	**82.07**	**324**	P	**P**	**16**	**30**	**07.5**	**-0.9**
AKTO	**Aktyubinsk**	**82.07**	**324**	P	**P**	**16**	**30**	**07.5**	**-0.9**
	2.0nm,0.9s,baz=106,slow=6.4,SNR=9.8								
TORD	**Torodi Ar. Bea**	**123.12**	**280**	PKP	**PKPdf**	**16**	**36**	**44.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**123.12**	**280**	PKP	**PKPdf**	**16**	**36**	**44.8**	**-0.6**
	0.3nm,0.6s,baz=50,slow=1.7,SNR=4.7								

IDC 04 16:29:59.0±0.8,4°.38S×152°.67E,h95km±6km,mb3.8/15, mb1 4.0/17,mb1mx3.8/24,mbtmp3.9/17,MS3.3/2, Ms1 3.3/2,ms1mx2.7/29,Error ellipse: s-maj=17.3km s-min=12.2km az=100.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.41**	**227**	P	Pn	16 31 45.5	+1.1
	12nm,0.3s,baz=270,slow=14,SNR=39						
PMG				S	Sn	16 33 06.4	-0.5
	14nm,0.3s,baz=102,slow=22,SNR=10						
HNR	**Honiara**	**8.79**	**125**	P	Pn	16 32 04.7	+1.4
	3.9nm,0.3s,baz=219,slow=6.5,SNR=4.0						
HNR				S	Sn	16 33 41.4	+0.7
	2.1nm,0.3s,baz=158,slow=18,SNR=3.3						
HNR				LR	LR	16 35 04.4	
	comp=Z,117nm,18.3s,baz=20,slow=35						
DZM	**Mont Dzumac**	**22.07**	**144**	P	P	16 34 47.6	+1.1
	9.4nm,0.5s,baz=345,slow=19,SNR=5.8						
DZM				LR	LR	16 42 29.0	
	comp=Z,138nm,19.4s,baz=288,slow=34						
WRA	**Warramunga Arr**	**23.63**	**228**	P	P	16 35 01.6	-0.1
	5.9nm,0.4s,baz=51,slow=9.8,SNR=86						
WRA				pP	pP	16 35 20.7	-1.1
	8.3nm,0.8s,baz=52,slow=10.0,SNR=6.2						
WRA				S	S	16 39 09.1	-0.3
	2.7nm,0.9s,baz=44,slow=15,SNR=7.1						
ASAR	**Alice Springs**	**26.37**	**222**	P	P	16 35 25.9	-0.7
	0.9nm,0.3s,baz=55,slow=9.3,SNR=61						
ASAR				pP	pP	16 35 48.4	+0.6
	6.8nm,0.8s,baz=54,slow=9.7,SNR=16						
ASAR				S	S	16 39 56.5	+3.4
	0.5nm,0.8s,baz=40,slow=18,SNR=4.0						
STKA	**Stephens Creek**	**29.26**	**200**	P	P	16 35 51.2	-1.0
	1.3nm,0.5s,baz=32,slow=14,SNR=8.2						
FITZ	**Fitzroy Crossi**	**29.75**	**241**	P	P	16 35 56.3	-0.4
	1.4nm,0.3s,baz=47,slow=7.2,SNR=8.3						
RPZ	**Rata Peaks**	**42.41**	**160**	P	P	16 37 44.8	+0.6
	20nm,0.6s						
JNU	**Nakatsue**	**42.64**	**333**	P	P	16 37 47.2	+1.0
	4.4nm,0.8s,baz=158,slow=3.5,SNR=6.9						
PETK	**Petropavlovsk-**	**57.44**	**4**	P	P	16 39 37.8	+0.1
	10.0nm,1.2s,baz=223,slow=8.3,SNR=6.7						
CMAR	**Chiang Mai Arr**	**57.59**	**295**	P	P	16 39 41.0	+1.5
	0.5nm,0.6s,baz=113,slow=5.5,SNR=5.6						
SONM	**Songino Array**	**65.91**	**328**	P	P	16 40 35.2	+0.2
	0.2nm,0.5s,baz=140,slow=5.6,SNR=2.7						
MKAR	**Makanchi Array**	**79.93**	**319**	P	P	16 41 58.0	+0.4
	0.2nm,0.5s,baz=95,slow=7.8,SNR=8.2						
ILAR	**Eielson Array**	**81.82**	**22**	P	P	16 42 05.5	-1.8
	1.0nm,0.7s,baz=242,slow=5.7,SNR=15						
ILAR				pP	pP	16 42 32.0	-0.1
	0.1nm,0.6s,baz=5.8,slow=16,SNR=2.3						
AAK	**Ala-Archa**	**84.29**	**313**	P	P	16 42 20.6	-0.1
	0.8nm,0.7s,baz=134,slow=7.1,SNR=4.3						
BVAR	**Borovoye Array**	**88.83**	**323**	P	P	16 42 41.6	-0.8
	1.1nm,0.7s,baz=107,slow=5.0,SNR=6.8						
YKA	**Yellowknife Ar**	**95.12**	**28**	P	P	16 43 11.4	+0.2
	0.1nm,0.4s,baz=269,slow=4.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**150.06**	**289**	PKPbc	PKPbc	16 49 39.1	-0.6
	1.8nm,0.4s,baz=85,slow=2.1,SNR=24						
TORD				PKPab	PKPab	16 49 45.5	-0.2
	0.3nm,0.4s,baz=70,slow=3.1,SNR=4.8						
TORD				pPKPbc	pPKPbc	16 50 05.0	-0.9
	0.8nm,0.6s,baz=58,slow=2.1,SNR=2.1						

*NEIC **04** 17:14:21.5,40°.37N×125°.00W,h10km,ML3.3(NCEDC), After NCEDC.*
*IDC **04** 17:14:23.4±2.3,40°.51N×124°.60W,h0km,mb2.8/2, mb1 3.4/3,mb1mx3.2/24,mbtmp2.9/3,ML3.0/1,Error ellipse: s-maj=28.2km s-min=14.8km az=111.0*
ISC 04 17:14:23.0±2.6,40°.4N±0°.1×124°.9W±0°.2,h13km,n21, σ2s12/18,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**1.01**	**64**	*eP*	**Pb**	**17 14 41.0**	**-1.4**
KIPM	**Iron Peak**	**1.27**	**119**	*eP*	**Pn**	**17 14 43.6**	**-2.8**
KCPM	**Cahto Peak**	**1.27**	**126**	*eP*	**Pn**	**17 14 43.6**	**-2.9**
KRMB	**Red Mountain**	**1.33**	**35**	*eP*	**Pn**	**17 14 45.2**	**-2.2**
WDC	**Whiskeytown Da**	**1.82**	**85**	*eP*	**Pn**	**17 14 51.9**	**-2.1**
KBO	**Bosley Butte**	**1.85**	**16**	*eP*	**Pn**	**17 14 52.1**	**-2.5**
HOPS	**Hopland**	**2.02**	**135**	*eP*	Pn	17 14 53.1	-3.7
YBH	**Yreka Blue Hor**	**2.12**	**51**	*eP*	**Pn**	**17 14 56.4**	**-1.8**
YBH				Lg	Lg	17 15 22.6	
YBH	**Yreka Blue Hor**	**2.12**	**51**	Pn	**Pn**	**17 14 56.8**	**-1.4**
	5.0nm,0.3s,baz=261,slow=9.6,SNR=73						
YBH				Lg	Lg	17 15 22.6	
	13nm,0.3s,baz=8.4,slow=17,SNR=8.0						
HUMO	**Hull Mountain**	**2.63**	**34**	*eP*	**Pn**	**17 15 03.5**	**-1.6**
MOD	**Modoc**	**3.78**	**66**	P	**Pn**	**17 15 21.0**	**-0.1**
NVAR	**Mina Array Bea**	**5.50**	**109**	Pn	**Pn**	**17 15 44.4**	**-0.4**
NVAR				Lg	Lg	17 17 04.5	
NVAR	**Mina Array Bea**	**5.50**	**109**	Pn	**Pn**	**17 15 44.4**	**-0.4**
	0.5nm,0.3s,baz=289,slow=14,SNR=8.0						
NVAR				Lg	Lg	17 17 04.5	
	baz=298,slow=25,SNR=2.7						
ISA	**Isabella**	**6.97**	**131**	*eP*	**Pn**	**17 16 04.6**	**-0.1**
	4.4nm,0.6s						
BMO	**Blue Mountains**	**7.14**	**49**	*eP*	**Pn**	**17 16 08.9**	**+1.8**
	3.4nm,0.7s						
MSO	**Missoula**	**10.20**	**48**	*eP*	**Pn**	**17 16 52.1**	**+2.9**
	5.8nm,0.9s						
SLMT	**Seeley Lake**	**10.69**	**47**	*eP*	**Pn**	**17 16 58.6**	**+2.7**
	2.4nm,0.5s						
TXAR	**Lajitas Array**	**20.60**	**116**	P	Pn	17 19 04.0	-0.2
TXAR	**Lajitas Array**	**20.60**	**116**	P	Pn	17 19 04.0	-0.2
	0.5nm,0.8s,baz=310,slow=9.7,SNR=5.7						
YKA	**Yellowknife Ar**	**22.95**	**12**	P	**P**	**17 19 28.5**	**+1.8**
YKA	**Yellowknife Ar**	**22.95**	**12**	P	**P**	**17 19 28.5**	**+1.8**
	0.1nm,0.3s,baz=202,slow=8.0,SNR=3.8						

*ISCJB **04** 17:23:06.0±0.6,23°.5S±0°.2×180°.0E±0°.1,h532km, mb4.2/15,Error ellipse: s-maj=23.5km s-min=10.6km az=156.1*
*IDC **04** 17:23:05.6±1.7,23°.49S×179°.94W,h520km±17km, mb3.6/12,mb1 3.9/12,mb1mx3.6/20,mbtmp3.6/12,Error ellipse: s-maj=22.1km s-min=13.7km az=157.0*
ISC 04 17:23:06.4±0.6,23°.5S±0°.2×179°.96W±0°.10,h532km,n33, σ1s27/38,mb4.3/15,3D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.31**	**40**	S	S	17 27 51.5	-10
	1.4nm,0.3s,baz=38,slow=19,SNR=3.7						
DZM	**Mont Dzumac**	**12.62**	**274**	P	**P**	**17 25 53.3**	**+1.7**
	0.5nm,0.3s,baz=127,slow=20,SNR=3.1						
RPZ	**Rata Peaks**	**21.45**	**198**	P	**P**	**17 27 16.9**	**+0.6**
	5.8nm,0.7s						
ARMA	**Armidale**	**26.19**	**249**	*eP*	**P**	**17 28 00.1**	**+1.4**
CTA	**Charters Tower**	**31.51**	**270**	*i*P	**P**	**17 28 45.7**	**+0.6**
	39nm,0.3s						
CTA	**Charters Tower**	**31.51**	**270**	P	P	17 28 45.6	+0.6
	50nm,0.4s,baz=93,slow=12,SNR=30						
PMG	**Port Moresby**	**34.41**	**289**	P	**P**	**17 29 09.6**	**0.0**
	27nm,0.7s,baz=114,slow=10.0,SNR=8.4						
STKA	**Stephens Creek**	**34.89**	**248**	*i*P	**P**	**17 29 13.8**	**+0.4**
	2.4nm,0.4s						
STKA	**Stephens Creek**	**34.89**	**248**	P	P	17 29 13.9	+0.5
	3.4nm,0.5s,baz=105,slow=11,SNR=17						
ASAR	**Alice Springs**	**42.13**	**260**	P	P	17 30 12.2	-0.2
	8.1nm,0.5s,baz=96,slow=7.3,SNR=358						
ASAR				ScP	**ScP**	**17 34 57.0**	**+2.6**
	3.0nm,0.8s,baz=108,slow=4.3,SNR=16						
ASAR				S	**S**	**17 35 51.5**	**-2.2**
	0.6nm,0.7s,baz=102,slow=14,SNR=5.8						
WRA	**Warramunga Arr**	**42.47**	**266**	P	P	17 30 14.3	-0.6
	8.9nm,0.3s,baz=90,slow=5.9,SNR=932						
WRA				ScP	**ScP**	**17 34 58.5**	**+2.6**
	2.3nm,1.0s,baz=101,slow=3.8,SNR=6.0						
WRA				S	**S**	**17 35 55.2**	**-3.4**
	0.8nm,0.7s,baz=96,slow=14,SNR=4.6						
FORT	**Forrest**	**46.47**	**249**	*eP*	P	17 30 44.7	-1.0
	16nm,0.5s						
FITZ	**Fitzroy Crossi**	**50.89**	**265**	*eP*	P	17 31 18.7	+0.1
	14nm,0.7s						
YBH	**Yreka Blue Hor**	**83.78**	**39**	P	P	17 34 40.8	+1.0
	2.7nm,0.8s,baz=152,slow=3.3,SNR=7.0						
NVAR	**Mina Array Bea**	**84.47**	**44**	P	P	17 34 43.8	+0.5
	1.9nm,0.8s,baz=227,slow=8.8,SNR=8.9						
CMAR	**Chiang Mai Arr**	**89.43**	**290**	P	P	17 35 08.6	+1.6
	0.3nm,0.8s,baz=160,slow=2.9,SNR=3.1						
CMAR				pP	**pP**	**17 37 05.5**	**+1.3**
	0.4nm,0.9s,baz=150,slow=4.2,SNR=2.7						
CMAR				PKKPbc	**PKKPbc**	**17 52 38.9**	**+0.2**
	0.3nm,0.5s,baz=279,slow=4.7,SNR=4.7						
TXAR	**Lajitas Array**	**90.21**	**58**	P	P	17 35 11.5	+1.0
	2.9nm,0.7s,baz=214,slow=6.6,SNR=36						
ANMO	**Albuquerque**	**90.70**	**52**	P	P	17 35 13.2	+0.4
	0.6nm,0.4s,baz=281,slow=2.1,SNR=4.0						
ILAR	**Eielson Array**	**91.67**	**14**	P	P	17 35 15.0	-1.3
	0.3nm,0.6s,baz=212,slow=6.3,SNR=6.4						
PDAR	**Pinedale Array**	**92.40**	**44**	P	P	17 35 20.5	0.0
	1.6nm,0.8s,baz=211,slow=3.6,SNR=5.3						
MKAR	**Makanchi Array**	**111.93**	**313**	PKiKP	**PKiKP**	**17 40 39.7**	**-1.3**
	0.4nm,0.6s,baz=163,slow=0.8,SNR=9.9						
MKAR				PKKPab	**PKKPab**	**17 51 44.5**	**+0.1**
	0.3nm,0.6s,baz=270,slow=3.8,SNR=6.1						
KURBB	**Kurchatov Arra**	**115.01**	**316**	PKP	**PKPdf**	**17 40 45.1**	**-1.5**
	0.1nm,0.3s,baz=106,slow=1.7,SNR=7.6						
AAK	**Ala-Archa**	**116.71**	**307**	PKKPbc	PKKPbc	17 51 19.0	-0.6
	0.7nm,0.5s,baz=288,slow=2.4,SNR=3.8						
ARCES	**ARCESS Array B**	**131.54**	**348**	PKP	**PKPdf**	**17 41 16.9**	**-0.9**
	3.0nm,0.8s,baz=67,slow=1.6,SNR=7.6						
FINES	**FINESS Array B**	**138.11**	**342**	PKhKP	PKPpre	17 41 19.7	
	1.3nm,0.7s,baz=6.7,slow=4.8,SNR=3.8						
FINES				PKP	**PKPdf**	**17 41 29.2**	**-1.0**
	0.7nm,0.5s,baz=80,slow=2.3,SNR=4.3						
FINES				SKPbc	**SKPbc**	**17 44 14.3**	**0.0**
	1.7nm,0.6s,baz=51,slow=3.7,SNR=9.2						
NB2	**NORSAR Subarra**	**141.73**	**351**	PKP	PKPpre	17 41 31.5	
	comp=Z,0.6nm,0.5s,baz=15,slow=3.2						
NOA	**NORSAR Array B**	**141.73**	**351**	PKhKP	PKPpre	17 41 32.0	
	comp=Z,1.1nm,0.7s,baz=15,slow=4.6,SNR=6.3						
AKASG	**Malin Array Be**	**144.63**	**328**	PKP	**PKPdf**	**17 41 41.3**	**-1.0**
	comp=Z,3.4nm,0.6s,baz=44,slow=4.1,SNR=14						
BRTR	**Keskin Array B**	**147.38**	**308**	PKPbc	**PKPbc**	**17 41 50.2**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=136,slow=4.7,SNR=4.8						
CLL	**Collm**	**150.52**	**343**	*i*(PKP)	**PKPbc**	**17 41 57.8**	**+0.1**
	comp=Z,6.0nm,0.7s						
BRG	**Berggiesshubel**	**150.65**	**342**	*eP*	**PKPbc**	**17 41 58.1**	**0.0**
	comp=Z,4.5nm,0.5s						
GERES	**GERESS Array B**	**152.53**	**340**	PKPbc	**PKPbc**	**17 42 01.8**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=52,slow=2.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**169.55**	**189**	PKP	**PKPdf**	**17 42 12.0**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=107,slow=1.5,SNR=4.1						
TORD				PKPab	**PKPab**	**17 43 29.6**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=167,slow=4.5,SNR=6.3						

*ISK **04** 17:23:58.6,40°.46N×42°.33E,h5km,MD3.1*
*TIF **04** 17:23:59.7,40°.43N×42°.29E,h13km±4km*
*DDA **04** 17:23:59.8,40°.46N×42°.43E,h7km,MD3.1*
*CSEM **04** 17:23:59.8±0.3,40°.43N×42°.32E,h8km,MD3.1,Error ellipse: s-maj=7.0km s-min=5.7km az=52.0*
ISC 04 17:24:00.3±1.1,40°.44N±0°.02×42°.35E±0°.02,h9km±10km, n39,σ0s98/55,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.52**	**220**	*i*P	**Pg**	**17 24 09.3**	**-1.2**
HOMI				*i*S	**Sn**	**17 24 21.8**	**-1.5**
KARS	**Kars**	**0.59**	**71**	*e*PG	**Pg**	**17 24 11.5**	**-0.3**
KARS				*e*SG	**Sb**	**17 24 20.8**	**-0.6**
KARS	**Kars**	**0.59**	**71**	*e*Pg	**Pg**	**17 24 11.5**	**-0.3**
KARS				*e*Sg	**Sb**	**17 24 20.8**	**-0.6**
DDEM	**Demirkent**	**0.64**	**315**	*i*P	**Pg**	**17 24 12.1**	**-0.6**
DDEM				*i*S	**Sb**	**17 24 22.8**	**0.0**
DDEM	**Demirkent**	**0.64**	**315**	*i*P	**Pg**	**17 24 12.1**	**-0.6**
DDEM				*i*S	**Sb**	**17 24 22.8**	**0.0**
DAGI	**Agillar**	**0.71**	**333**	*i*P	**Pg**	**17 24 14.0**	**-0.2**
DAGI				*i*S	**Sb**	**17 24 25.0**	**0.0**
ARTV	**Artvin**	**0.81**	**337**	*i*P	**Pg**	**17 24 15.5**	**-0.4**
ARTV				*i*S	**Sb**	**17 24 27.8**	**+0.1**
ARTV	**Artvin**	**0.81**	**337**	*i*P	**Pg**	**17 24 15.5**	**-0.4**
ARTV				*i*S	**Sb**	**17 24 27.8**	**+0.1**
ERZM	**Erzurum**	**0.92**	**235**	*i*P	**Pg**	**17 24 17.5**	**-0.6**
ERZM				*i*S	**Sn**	**17 24 33.5**	**+0.3**
ERZM	**Erzurum**	**0.92**	**235**	*i*P	**Pg**	**17 24 17.5**	**-0.6**
ERZM				*i*S	**Sn**	**17 24 33.5**	**+0.3**
EZM	**Erzurum**	**0.93**	**235**	*e*PG	**Pg**	**17 24 17.6**	**-0.6**
AGRB	**Hanur-Agry**	**1.00**	**150**	*e*PG	**Pg**	**17 24 18.7**	**-0.8**
AGRB	**Hanur-Agry**	**1.00**	**150**	*e*Pg	**Pg**	**17 24 18.7**	**-0.8**
TUTA	**Tutak**	**1.10**	**161**	*i*P	**Pg**	**17 24 20.8**	**-0.7**
TUTA				*i*S	**Sn**	**17 24 37.1**	**-0.5**
TUTA	**Tutak**	**1.10**	**161**	*i*P	**Pg**	**17 24 20.8**	**-0.7**
TUTA				*i*S	**Sn**	**17 24 37.1**	**-0.5**
BCA	**Borcka**	**1.14**	**332**	*e*PN	**Pg**	**17 24 20.9**	**-1.4**
BCA	**Borcka**	**1.14**	**332**	*e*Pn	**Pg**	**17 24 20.9**	**-1.4**
AKH	**Akhalkalaki**	**1.30**	**42**	P	**Pn**	**17 24 24.7**	**-0.1**
AKH				S	**Sn**	**17 24 44.4**	**+2.0**
PZAR	**Pazar-Rize**	**1.32**	**304**	*e*PN	**Pn**	**17 24 24.6**	**-0.3**
PZAR	**Pazar-Rize**	**1.32**	**304**	*e*Pn	**Pn**	**17 24 24.6**	**-0.3**
VRTB	**Varto-Mus**	**1.45**	**208**	*e*PN	**Pn**	**17 24 27.1**	**+0.2**
VRTB	**Varto-Mus**	**1.45**	**208**	*e*Pn	**Pn**	**17 24 27.1**	**+0.2**
KOPT	**Kop Dagi**	**1.48**	**254**	*i*P	**Pb**	**17 24 28.3**	**+0.2**
KOPT				*i*S	**Sg**	**17 24 51.4**	**+3.5**
KOPT	**Kop Dagi**	**1.48**	**254**	*i*P	**Pb**	**17 24 28.3**	**+0.2**
BAYT	**Ayd¨–ntepe-Bay**	**1.68**	**269**	*e*PN	**Pn**	**17 24 30.1**	**0.0**
BAYT	**Ayd¨–ntepe-Bay**	**1.68**	**269**	*e*Pn	**Pn**	**17 24 30.1**	**0.0**
CLDR	**Caldiran**	**1.77**	**136**	*e*PN	**Pn**	**17 24 32.0**	**+0.6**
CLDR	**Caldiran**	**1.77**	**136**	*e*Pn	**Pn**	**17 24 32.0**	**+0.6**
BNGB	**Bing¨l**	**1.94**	**222**	*e*PN	**Pn**	**17 24 34.2**	**+0.7**
BINT	**Bingol**	**2.12**	**223**	*e*Pn	**Pn**	**17 24 34.2**	**-1.9**
GUMT	**Gumushane**	**2.19**	**271**	*e*PN	**Pn**	**17 24 37.4**	**+0.4**
GUMT	**Gumushane**	**2.19**	**271**	*e*Pn	**Pn**	**17 24 37.4**	**+0.4**
ERZN	**Erzincan**	**2.19**	**248**	*e*PN	**Pn**	**17 24 37.5**	**+0.5**
TBLG	**Delisi**	**2.22**	**54**	P	**Sg**	**17 25 13.4**	**+1.8**
ONI	**Oni**	**2.30**	**21**	P	**Pb**	**17 24 41.9**	**-0.1**
ONI				S	**Sg**	**17 25 12.7**	**-1.6**
EZC	**Erzincan**	**2.40**	**254**	*e*Pn	**Pn**	**17 24 37.5**	**-2.4**
DGRG	**David-gareji**	**2.50**	**65**	P	**Pb**	**17 24 46.1**	**+0.6**
DGRG				S	**Sg**	**17 25 20.2**	**-0.6**
PTK	**Pertek**	**2.76**	**237**	*e*PN	**Pn**	**17 24 45.8**	**+0.9**
PTK	**Pertek**	**2.76**	**237**	*e*Pn	**Pn**	**17 24 45.8**	**+0.9**

*ISCJB **04** 18:01:00.1±1.6,77°.11N±0°.07×18°.9E±0°.3,h4km±20km, Error ellipse: s-maj=12.3km s-min=11.0km az=168.0*
*NAO **04** 18:01:01.8±3.6,77°.08N×19°.12E,h12km±31km,ML2.7*
*BER **04** 18:01:04.4,77°.09N×19°.08E,h12km,MD2.5,ML2.6, ML2.7(NAO)*
CSEM 04 18:01:00.8±0.4,77°.04N×18°.74E,h8km,ML2.7,Error ellipse: s-maj=21.5km s-min=2.9km az=40.0,Svalbard region
ISC 04 18:01:00.3±1.8,77°.06N±0°.07×18°.99E±0°.07,h1km±22km, n10,σ0s24/17,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.78**	**268**	*eP*	**Pg**	**18 01 15.5**	**+0.4**
HSP				*eS*	**Sg**	**18 01 24.7**	**-0.5**
SPA0	**Spitsbergen Ar**	**1.26**	**335**	Pg	**Pn**	**18 01 25.2**	**+0.3**
	baz=151,slow=22						
SPA0				Lg	Lg	18 01 41.8	
	baz=149,slow=37						
SPA0	**Spitsbergen Ar**	**1.26**	**335**	Pg	**Pn**	**18 01 25.2**	**+0.3**
	baz=151,slow=22						
SPA0				Lg	Lg	18 01 41.8	
	baz=149,slow=37						
SPA0	**Spitsbergen Ar**	**1.26**	**335**	Pg	**Pn**	**18 01 25.2**	**+0.3**
	SNR=963						
SPA0				Lg	Lg	18 01 41.8	
	SNR=3.4						
HOPEN	**Hopen**	**1.49**	**109**	*eP*	**Pb**	**18 01 28.6**	**-0.1**
HOPEN				*eP*	**Pb**	**18 01 28.6**	**-0

KU6				MSG		18 03 43.2	
	comp=Z,1.0nm,0.4s						
KU6	**Riekki**	**3.74**	**102**	Pn	**Pn**	**18 02 42.9**	**+1.4**
KU6				Sg	**Sg**	**18 03 43.2**	**+0.6**
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**18 03 14.9**	**+1.3**
	baz=348,slow=16						
FIA0				Sn	**Sn**	**18 04 24.4**	**+0.6**
	baz=343,slow=22						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**18 03 14.9**	**+1.3**
	baz=348,slow=16						
FIA0				Sn	**Sn**	**18 04 24.4**	**+0.6**
	baz=343,slow=22						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**18 03 14.9**	**+1.3**
	baz=348,slow=14,SNR=50						
FIA0				Sn	**Sn**	**18 04 24.4**	**+0.6**
	baz=343,slow=19,SNR=50						
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**18 03 15.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=348,slow=14,SNR=11						
FINES				Sn	**Sn**	**18 04 23.8**	**0.0**
	comp=Z,0.2nm,0.3s,baz=347,slow=24,SNR=2.9						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**18 03 33.0**	**+1.4**
	baz=27,slow=16						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**18 03 33.0**	**+1.4**
	baz=27,slow=16						
NB2	**NORSAR Subarra**	**7.39**	**220**	Pn	**Pn**	**18 03 33.0**	**+1.4**
	baz=27,slow=14,SNR=50						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**18 03 31.3**	**-0.4**
	baz=33,slow=11,SNR=3.2						
NOA				Sn	Sn	18 04 48.7	-7.4
	comp=Z,0.2nm,0.3s,baz=259,slow=16,SNR=2.7						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**18 03 36.9**	**+1.5**
	baz=31,slow=12						
HFS				Sn	**Sn**	**18 05 01.5**	**-1.3**
	baz=33,slow=28						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**18 03 36.9**	**+1.5**
	baz=31,slow=12						
HFS				Sn	**Sn**	**18 05 01.5**	**-1.3**
	baz=33,slow=28						
HFS	**Hagfors**	**7.67**	**208**	Pn	**Pn**	**18 03 36.9**	**+1.5**
	baz=31,slow=11,SNR=50						

WEL 04 18:17:09.2±0.4, 36°28S×177°63E, h204km±4km, ML4.2/16, 4C-1D, Error ellipse: s-maj=6.2km s-min=4.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.39**	**157**	⇑PN	Pn	18 17 42.4	+0.1
MXZ				SN	S	18 18 08.2	+0.2
PUZ	**Puketiti**	**1.86**	**165**	⇑PN	Pn	18 17 46.6	0.0
PUZ				SN	S	18 18 14.4	-1.1
URZ	**Urewera**	**2.02**	**192**	PN	Pn	18 17 48.8	+0.6
URZ				SN	S	18 18 18.8	+0.6
MWZ	**Matawai**	**2.05**	**182**	⇑PN	Pn	18 17 49.0	+0.4
MWZ				SN	S	18 18 19.7	+0.7
CNGZ	**Carnagh Statio**	**2.25**	**168**	PN	Pn	18 17 51.0	+0.4
PRGZ	**Paritu Road**	**2.65**	**176**	PN	Pn	18 17 55.1	0.0
RAHZ	**Arahi**	**2.67**	**189**	PN	Pn	18 17 55.3	+0.1
RAHZ				SN	S	18 18 31.5	+0.7
KNZ	**Kokohu**	**2.74**	**179**	PN	Pn	18 17 55.6	-0.4
MHGZ	**Mahia Peninsul**	**2.88**	**176**	PN	Pn	18 17 57.6	0.0
NMHZ	**Naumai**	**2.89**	**193**	PN	Pn	18 17 58.6	+0.7
BKZ	**Black Stump Fm**	**3.02**	**197**	PN	Pn	18 17 59.1	-0.3
BKZ				SN	S	18 18 36.8	-1.3
MCHZ	**McNeill Hill**	**3.24**	**193**	PN	Pn	18 18 02.1	+0.2
TUVZ	**Tukino**	**3.37**	**207**	PN	Pn	18 18 03.5	-0.1
FWVZ	**Far West T-bar**	**3.40**	**208**	PN	Pn	18 18 04.1	+0.1
CKHZ	**Cape Kidnapper**	**3.40**	**187**	PN	Pn	18 18 03.6	-0.2
CKHZ				SN	S	18 18 45.3	-0.9
BHHZ	**Black Hill Sta**	**3.44**	**201**	PN	Pn	18 18 03.6	-0.7
BHHZ				SN	S	18 18 46.6	-0.5
WNVZ	**Wahianoa**	**3.44**	**207**	PN	Pn	18 18 04.3	-0.2
MTVZ	**Mangateitei**	**3.54**	**208**	⇓PN	Pn	18 18 05.5	-0.1
KAHZ	**Kahuranaki**	**3.56**	**189**	PN	Pn	18 18 05.1	-0.7
PXZ	**Pawanui**	**3.79**	**189**	PN	Pn	18 18 07.4	-1.2
PNHZ	**Pukenui**	**3.80**	**197**	PN	Pn	18 18 07.4	-1.3
WPHZ	**Waipukurau**	**3.89**	**194**	PN	Pn	18 18 08.6	-1.2
WAZ	**Wanganui**	**4.05**	**210**	PN	Pn	18 18 11.3	-0.5
PRHZ	**Porangahau**	**4.06**	**191**	PN	Pn	18 18 10.8	-1.0
POWZ	**Post Office Ro**	**4.36**	**199**	PN	Pn	18 18 13.8	-1.8
BFZ	**Birch Farm**	**4.53**	**193**	⇑PN	Pn	18 18 15.6	-2.1
MRZ	**Mangatainoka R**	**4.66**	**200**	PN	Pn	18 18 17.0	-2.4
TIWZ	**Tintock**	**4.69**	**196**	PN	Pn	18 18 17.6	-2.2
HOWZ	**Holdsworth Sta**	**4.90**	**199**	PN	Pn	18 18 19.6	-2.9
OGWZ	**Otaki Gorge**	**4.92**	**202**	PN	Pn	18 18 20.2	-2.4
OGWZ				SN	S	18 19 17.3	-3.0
TMWZ	**Te Maipa**	**5.01**	**195**	PN	Pn	18 18 21.2	-2.6
KIW	**Kapiti Island**	**5.05**	**204**	PN	Pn	18 18 21.5	-2.7
MTW	**Mount Morrison**	**5.15**	**198**	PN	Pn	18 18 22.4	-3.2
CAW	**Cannon Point**	**5.22**	**202**	PN	Pn	18 18 23.4	-3.1
TRWZ	**Traveller**	**5.33**	**196**	PN	Pn	18 18 24.8	-3.1
PAWZ	**Paruwai Farm**	**5.38**	**198**	PN	Pn	18 18 25.0	-3.4
MSWZ	**Moikau Station**	**5.45**	**199**	PN	Pn	18 18 26.0	-3.5
SNZO	**South Karori**	**5.52**	**204**	PN	Pn	18 18 26.8	-3.4
TCW	**Tory Channel**	**5.58**	**207**	PN	Pn	18 18 27.8	-3.2
PLWZ	**Palliser**	**5.60**	**199**	PN	Pn	18 18 27.7	-3.7
TUWZ	**Tuamarina**	**5.89**	**208**	PN	Pn	18 18 31.6	-3.5
NNZ	**Nelson**	**5.95**	**213**	SN	S	18 19 40.5	-3.5
THZ	**Tophouse**	**6.60**	**212**	PN	Pn	18 18 41.6	-2.6
THZ				SN	S	18 19 55.0	-4.5
KHZ	**Kahutara**	**6.90**	**206**	PN	Pn	18 18 44.1	-4.0
LTZ	**Lake Taylor**	**7.70**	**211**	PN	Pn	18 18 54.1	-4.4

IDC 04 18:26:47.4±3.7, 8°52S×123°38E, h135km±44km, mb2.8/1, mb1 3.0/5, mb1mx2.9/18, mbtmp2.9/5, Error ellipse: s-maj=140.8km s-min=20.5km az=56.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**5.01**	**314**	P	Pn	18 28 00.6	-0.1
	2.3nm,0.3s,baz=101,slow=5.2,SNR=4.8						
KAPI				S	Sn	18 28 47.6	-10
	0.8nm,0.3s,baz=230,slow=17,SNR=2.4						
FITZ	**Fitzroy Crossi**	**9.78**	**167**	P	Pn	18 29 05.2	+0.5
	0.1nm,0.3s,baz=12,slow=14,SNR=1.9						
FITZ				S	Sn	18 30 42.4	-10
	0.4nm,0.3s,baz=230,slow=9.1,SNR=6.1						
WRA	**Warramunga Arr**	**15.54**	**138**	P	Pn	18 30 19.1	-0.3
	0.1nm,0.3s,baz=309,slow=13,SNR=10						
WRA				S	Sn	18 32 59.1	-13
	0.1nm,0.3s,baz=325,slow=25,SNR=6.3						
ASAR	**Alice Springs**	**18.12**	**147**	P	P	18 30 49.0	-0.2
	0.1nm,0.3s,baz=328,slow=12,SNR=7.4						
MKAR	**Makanchi Array**	**66.09**	**330**	P	P	18 37 20.0	+0.1
	0.1nm,0.6s,baz=136,slow=7.4,SNR=3.4						

IDC 04 18:32:44.8±2.4, 6°11S×153°61E, h41km±6km, mb3.4/6, mb1 3.5/6, mb1mx3.5/17, mbtmp3.4/6, Error ellipse: s-maj=92.1km s-min=24.3km az=103.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.18**	**243**	P	Pn	18 34 32.7	+5.3
	0.8nm,0.3s,baz=76,slow=8.3,SNR=3.6						
PMG				S	Sn	18 35 53.4	+5.7
	0.2nm,0.3s,baz=308,slow=19,SNR=1.5						
WRA	**Warramunga Arr**	**23.23**	**232**	P	P	18 37 47.8	-0.8
	0.9nm,0.9s,baz=57,slow=9.9,SNR=2.9						
ASAR	**Alice Springs**	**25.77**	**225**	P	P	18 38 12.0	0.0
	0.4nm,0.6s,baz=59,slow=9.2,SNR=7.2						
STKA	**Stephens Creek**	**27.99**	**202**	P	P	18 38 32.9	+1.0
	1.1nm,0.7s,baz=24,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**81.84**	**319**	P	P	18 44 59.9	+0.1
	0.5nm,1.0s,baz=101,slow=5.9,SNR=3.8						
MKAR				pP	pP	18 45 13.6	+1.4
	0.6nm,0.8s,baz=105,slow=6.2,SNR=4.6						
ZALV	**Zalesovo Beam**	**82.69**	**326**	P	P	18 45 04.1	+0.1
	0.3nm,0.3s,baz=107,slow=7.7,SNR=2.7						
ZALV				pP	pP	18 45 16.4	0.0
	0.3nm,0.3s,baz=235,slow=38,SNR=2.3						
BVAR	**Borovoye Array**	**90.77**	**323**	P	P	18 45 43.6	0.0
	0.2nm,0.4s,baz=99,slow=9.1,SNR=2.9						
BVAR				pP	pP	18 45 55.8	-0.3
	0.8nm,0.8s,baz=101,slow=7.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**151.47**	**286**	PKPbc	PKPbc	18 52 34.7	-0.8
	0.2nm,0.6s,baz=288,slow=0.2,SNR=2.9						
TORD				pPKPbc	pPKPbc	18 52 47.5	-0.8
	1.3nm,0.7s,baz=54,slow=2.8,SNR=8.3						

*DJA **04** 18:33:46.7±88S×107°00E, h125km, MLv4.0/11*

IDC 04 18:33:29.4±2.8, 7°16S×106°83E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/19, mbtmp3.6/4, MS3.1/1, Ms1 3.1/1, ms1mx2.2/30, Error ellipse: s-maj=144.3km s-min=26.7km az=51.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**29.55**	**118**	P	P	18 39 35.5	-0.6
	0.2nm,0.3s,baz=289,slow=12,SNR=11						
ASAR	**Alice Springs**	**30.74**	**125**	P	P	18 39 46.5	-0.1
	0.3nm,0.5s,baz=299,slow=7.7,SNR=9.1						
STKA	**Stephens Creek**	**40.66**	**132**	P	P	18 41 12.2	+0.6
	1.4nm,0.4s,baz=296,slow=9.7,SNR=7.4						
KSRS	**Korea Array**	**48.56**	**22**	LR	LR	19 03 29.5	
	comp=Z,19nm,18.5s,baz=5.0,slow=37						
MKAR	**Makanchi Array**	**57.98**	**340**	P	P	18 43 23.7	-0.1
	0.2nm,0.5s,baz=154,slow=7.7,SNR=4.7						

GUC 04 18:41:02.7±0.4, 40°61S×72°23W, h12km±1km, ML3.7, 1C, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUYE	**Entre Lagos**	**0.29**	**255**	*e*P	Pg	18 41 08.9	+0.2
PUYE				*e*S	Sb	18 41 13.9	-0.8
PUYE				AML	AML	18 41 14.4	
	comp=E,23μm,0.2s						
OSCH	**Osorno**	**0.68**	**272**	*e*P	Pg	18 41 15.6	-0.3
OSCH				*i* S	Sg	18 41 25.3	+0.4
OSCH				AML	AML	18 41 29.7	
	comp=N,5μm,0.7s						
VLCH	**Valdivia**	**1.12**	**316**	⇑*i*P	Pb	18 41 22.5	-1.4
VLCH				*i* S	Sb	18 41 37.4	-0.9

*SZGRF **04** 19:01:35.2, 44°05N×17°91E, h10km, mb3.7, Northwestern Balkan Peninsula*
*BEO **04** 19:01:36.3±0.5, 44°29N×17°62E, h9km±4km, ML3.2/5*
*IDC **04** 19:01:36.1±1.1, 44°38N×17°79E, h0km, mb3.6/3, mb1 3.8/9, mb1mx3.6/27, mbtmp3.6/9, ML3.1/4, Error ellipse: s-maj=15.0km s-min=10.9km az=29.0*
*PDG **04** 19:01:36.3±0.4, 44°29N×17°66E, h0km±11km, ML3.6/10, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
*ISCJB **04** 19:01:36.7±0.5, 44°41N±0°01×17°71E±0°02, h11km±3km, mb3.7/3, Error ellipse: s-maj=2.7km s-min=1.8km az=40.4*
*CSEM **04** 19:01:37.3±0.1, 44°34N×17°72E, h10km, ML3.2, Error ellipse: s-maj=2.9km s-min=2.1km az=36.0*
*PRU **04** 19:01:37.1, 44°25N×17°73E, h11km*
*LDG **04** 19:01:37.0±0.1, 44°44N×17°87E, h10km, Ml3.5/5, Error ellipse: s-maj=3.2km s-min=2.3km az=31.0*
*VIE **04** 19:01:40.3±0.4, 44°60N×17°66E, h10km, mb3.0/12, ML3.3/14, Error ellipse: s-maj=3.1km s-min=2.5km az=0.0*
69 km SSW of Slavonski Brod

ISC 04 19:01:36.9±1.0, 44°33N±0°02×17°73E±0°02, h11km±8km, n192, σ1°26/296, mb3.7/3, 46C-28D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLY	**Banja Luka**	**0.57**	**317**	*e*Pg	**Pg**	**19 01 47.4**	**-0.6**
BLY				*e*Sg	**Sb**	**19 01 56.8**	**-0.2**
BLY	**Banja Luka**	**0.57**	**317**	*e*Pg	**Pg**	**19 01 47.4**	**-0.6**
BLY				*e*Sg	**Sb**	**19 01 56.8**	**-0.2**
TEKS	**Tekeris**	**1.31**	**80**	*e*Pg	**Pn**	**19 02 01.2**	**0.0**
TEKS				*e*Sg	**Sg**	**19 02 20.5**	**+1.5**
TEKS	**Tekeris**	**1.31**	**80**	*e*Pg	**Pn**	**19 02 01.2**	**0.0**
TEKS				*e*Sg	**Sg**	**19 02 20.5**	**+1.5**
UPM	**Unac-Piva**	**1.42**	**143**	⇓*i*Pg	**Pn**	**19 02 02.0**	**-0.8**
UPM				*e*Sg	**Sg**	**19 02 24.2**	**+1.7**
UPM	**Unac-Piva**	**1.42**	**143**	⇓*i*Pg	**Pn**	**19 02 02.0**	**-0.8**
UPM				*e*Sg	**Sg**	**19 02 24.2**	**+1.7**
STON	**Ston**	**1.46**	**181**	*e*Pn	**Pn**	**19 02 01.7**	**-1.5**
STON				Sn	**Sn**	**19 02 21.9**	**-0.4**
STON	**Ston**	**1.46**	**181**	*e*Pn	**Pn**	**19 02 01.7**	**-1.5**
STON				Sn	**Sn**	**19 02 21.9**	**-0.4**
SISC	**Sisak**	**1.49**	**320**	*e*Pn	**Pg**	**19 02 05.5**	**0.0**
SISC				Sn	**Sg**	**19 02 25.1**	**+0.2**
SISC	**Sisak**	**1.49**	**320**	*e*Pn	**Pg**	**19 02 05.5**	**0.0**
SISC				Sn	**Sg**	**19 02 25.0**	**+0.2**
BRY	**Bratogost**	**1.55**	**157**	⇑*i*Pg	**Pn**	**19 02 04.1**	**-0.5**
BRY				*e*Sg	**Sg**	**19 02 28.3**	**+1.6**
BRY	**Bratogost**	**1.55**	**157**	⇑*i*Pg	**Pn**	**19 02 04.1**	**-0.5**
BRY				*e*Sg	**Sg**	**19 02 28.3**	**+1.6**
PLE	**Pljevlja**	**1.57**	**129**	⇓*i*Pn	**Pn**	**19 02 05.1**	**+0.3**
PLE				*e*Sn	**Sg**	**19 02 29.4**	**+2.1**
PLE	**Pljevlja**	**1.57**	**129**	⇓*i*Pn	**Pn**	**19 02 05.1**	**+0.3**
PLE				*e*Sn	**Sg**	**19 02 29.4**	**+2.1**
RHK3	**Tenkes**	**1.60**	**13**	⇑*e*Pn	**Pn**	**19 02 05.3**	**+0.1**
RHK3				*e*Sn	**Sg**	**19 02 30.4**	**+2.1**
DIVS	**Divibare**	**1.65**	**97**	*e*Pn	**Pn**	**19 02 05.9**	**0.0**
DIVS				*e*Sn	**Sb**	**19 02 28.6**	**+0.5**
DIVS	**Divibare**	**1.65**	**97**	*e*Pn	**Pn**	**19 02 05.9**	**0.0**
DIVS				*e*Sn	**Sb**	**19 02 28.6**	**+0.5**
FGSL	**Fruska Gora**	**1.70**	**60**	*e*Pn	**Pn**	**19 02 06.6**	**+0.1**
FGSL				*e*Sn	**Sg**	**19 02 31.0**	**-0.5**
FRGS	**Fruska Gora**	**1.70**	**60**	*e*Pn	**Pn**	**19 02 06.6**	**+0.1**
FRGS				*e*Sn	**Sg**	**19 02 31.0**	**-0.5**
NKY	**Niksic**	**1.78**	**148**	⇑*i*Pn	**Pn**	**19 02 07.9**	**+0.2**
NKY				*e*Sn	**Sg**	**19 02 34.1**	**0.0**
NKY	**Niksic**	**1.78**	**148**	⇑*i*Pn	**Pn**	**19 02 07.9**	**+0.2**
NKY				*e*Sn	**Sg**	**19 02 34.1**	**0.0**
IVAS	**Ivanjica**	**1.91**	**113**	*e*Pn	**Pn**	**19 02 10.0**	**+0.5**
IVAS				*e*Sn	**Sb**	**19 02 35.3**	**-0.3**
IVAS	**Ivanjica**	**1.91**	**113**	*e*Pn	**Pn**	**19 02 10.0**	**+0.5**
IVAS				*e*Sn	**Sb**	**19 02 35.3**	**-0.3**
TRUS	**Trudelj**	**1.93**	**92**	*e*Pn	**Pn**	**19 02 09.0**	**-0.7**
TRUS				*e*Sn	**Sb**	**19 02 35.8**	**-0.3**
TRUS	**Trudelj**	**1.93**	**92**	*e*Pn	**Pn**	**19 02 09.0**	**-0.7**
TRUS				*e*Sn	**Sb**	**19 02 35.8**	**-0.3**
HCY	**Herceg Novi**	**1.97**	**163**	⇑*i*Pn	**Pb**	**19 02 11.7**	**-1.1**
HCY				*e*Sn	**Sg**	**19 02 39.2**	**-0.9**
HCY	**Herceg Novi**	**1.97**	**163**	⇑*i*Pn	**Pb**	**19 02 11.7**	**-1.1**
HCY				*e*Sn	**Sg**	**19 02 39.2**	**-0.9**
PKSM	**Moragy**	**1.99**	**19**	⇓*i*P	**Pn**	**19 02 10.4**	**-0.1**
PKSM	**Moragy**	**1.99**	**19**	*e*Pn	**Pn**	**19 02 10.4**	**-0.1**
PKSM	**Moragy**	**1.99**	**19**	⇓*e*Pn	**Pn**	**19 02 10.4**	**-0.1**
PKSM				*e*Sn	**Sg**	**19 02 41.5**	**+0.8**
PKSM	**Moragy**	**1.99**	**19**	⇓*i*P	**Pn**	**19 02 10.4**	**-0.1**
PKSM				S	**Sn**	**19 02 33.0**	**-2.3**
BEO	**Beograd**	**2.02**	**75**	*e*Pn	**Pn**	**19 02 10.6**	**-0.3**
BEO				*e*Sn	**Sn**	**19 02 37.4**	**+1.3**
BOJS	**Bojanci**	**2.11**	**304**	*i* Pn	**Pn**	**19 02 12.4**	**+0.2**
BOJS				*e*Sn	**Sn**	**19 02 39.6**	**+1.1**
BOJS							
	comp=Z,158nm,0.5s						
BEY	**Berane**	**2.15**	**132**	⇓*i*Pn	**Pn**	**19 02 14.3**	**+1.5**
IVA	**Berane**	**2.15**	**132**	⇓*i*Pn	**Pn**	**19 02 14.3**	**+1.5**
IVA				*e*Sn	**Sg**	**19 02 45.0**	**-1.0**
BUM	**Brajici-Budva**	**2.20**	**157**	⇑*i*Pn	**Pb**	**19 02 15.4**	**-1.4**
BUM				*e*Sn	**Sb**	**19 02 44.3**	**+0.1**
BUM	**Brajici-Budva**	**2.20**	**157**	⇑*i*Pn	**Pb**	**19 02 15.4**	**-1.4**
BUM				*e*Sn	**Sb**	**19 02 44.3**	**+0.1**
PDG	**Podgorica**	**2.21**	**149**	⇑*i*Pn	**Pb**	**19 02 15.4**	**-1.4**
PDG				*e*Sn	**Sb**	**19 02 45.9**	**+1.8**
TTG	**Podgorica**	**2.21**	**149**	⇑*i*Pn	**Pb**	**19 02 15.4**	**-1.4**
TTG				*e*Sn	**Sb**	**19 02 45.9**	**+1.7**
PKS9	**Tamasi**	**2.29**	**10**	⇑*e*Pn	**Pn**	**19 02 15.0**	**+0.4**
PKS9				*e*Sn	**Sg**	**19 02 53.6**	**+3.2**
PKS9	**Tamasi**	**2.29**	**10**	⇑*e*Pn	**Pn**	**19 02 15.0**	**+0.4**
KOGS	**Kog**	**2.36**	**334**	*i* Pn	**Pn**	**19 02 15.9**	**+0.4**
PVY	**Plav**	**2.38**	**136**	⇑*i*Pn	**Pn**	**19 02 18.1**	**+2.1**
PVY				*e*Sn	**Sb**	**19 02 50.7**	**+1.4**
SVIS	**Svilajnac**	**2.50**	**90**	*e*Pn	**Pn**	**19 02 17.9**	**+0.3**
SVIS	**Svilajnac**	**2.50**	**90**	*e*Pn	**Pn**	**19 02 17.9**	**+0.3**
PDKS	**Podkum**	**2.59**	**313**	*i* Pn	**Pn**	**19 02 19.1**	**+0.3**
BCI	**Bajram Curri**	**2.60**	**138**	*e*PN	**Pb**	**19 02 22.5**	**-1.1**
BCI				*i* SN	**Sb**	**19 02 57.8**	**+2.2**
BCI	**Bajram Curri**	**2.60**	**138**	*e*Pn	**Pb**	**19 02 22.5**	**-1.1**
PKS6	**Bocsa**	**2.61**	**29**	*e*	Pn	19 02 10.4	-8.6
PKS6				*e*		19 03 01.9	
ULC	**Ulcinj**	**2.62**	**154**	*e*Pn	**Pn**	**19 02 21.0**	**+1.8**
ULC				*e*Sn	**Sb**	**19 02 55.8**	**-0.2**
ULC	**Ulcinj**	**2.62**	**154**	*e*Pn	**Pn**	**19 02 21.0**	**+1.8**
ULC				*e*Sn	**Sb**	**19 02 55.8**	**-0.2**
GROS	**Grobnik**	**2.64**	**324**	*i* Pn	**Pn**	**19 02 19.2**	**-0.4**
GROS				*i* Sn	**Sn**	**19 02 49.9**	**-1.8**
SELS	**Selova**	**2.70**	**113**	*e*Pn	**Pn**	**19 02 20.3**	**0.0**
SELS				*e*Sn	**Sn**	**19 02 54.7**	**+1.8**
PUK	**Puka**	**2.78**	**145**	*e*PN	**Pb**	**19 02 25.2**	**-1.5**
PUK				*i* SN	**Sb**	**19 03 01.6**	**+0.7**
PUK	**Puka**	**2.78**	**145**	*e*Pn	**Pb**	**19 02 25.2**	**-1.5**
LJU	**Ljubljana**	**2.84**	**308**	*e*Pn	Pn	19 02 23.0	+0.8
LJU				*e*Sn	**Sn**	**19 02 56.5**	**+0.2**
PKS7	**Kunszentmiklos**	**2.89**	**20**	*e*Pn	**Pn**	**19 02 21.5**	**-1.4**
PKS7				*e*Sn	**Sg**	**19 03 12.1**	**+2.3**
PKS7	**Kunszentmiklos**	**2.89**	**20**	*e*Pn	**Pn**	**19 02 21.5**	**-1.4**
PKST	**T''s**	**2.93**	**4**	⇓*e*Pn	**Pn**	**19 02 24.4**	**+0.9**
PKST				*e*Sn	**Sg**	**19 03 11.9**	**+0.8**
PKST	**T''s**	**2.93**	**4**	⇓*e*Pn	**Pn**	**19 02 24.4**	**+0.9**
CRNS	**Crni Vrh**	**3.01**	**307**	*e*Pn	**Pn**	**19 02 25.5**	**+0.9**
SOKA	**Soboth**	**3.01**	**322**	⇑*i*Pn	**Pn**	**19 02 24.2**	**-0.5**
SOKA				⇓*i*Sn	**Sn**	**19 02 59.2**	**-1.6**
SOKA	**Soboth**	**3.01**	**322**	Pn	Pn	19 02 24.2	-0.5
SOKA				Sn	**Sn**	**19 02 59.2**	**-1.6**
JAVS	**Javornik**	**3.03**	**302**	*i* Pn	Pn	19 02 25.2	+0.4
JAVS				*i* Sn	**Sn**	**19 03 02.7**	**+1.5**
BZS	**Buzias**	**3.04**	**64**	⇓*i*P	**Pn**	**19 02 25.0**	**0.0**
BZS	**Buzias**	**3.04**	**64**	*e*Pn	**Pn**	**19 02 24.9**	**0.0**
BZS	**Buzias**	**3.04**	**64**	⇓*i*P	Pn	19 02 25.0	0.0
BZS				S	**Sn**	**19 03 00.9**	**-0.5**
BOLS	**Boljevac**	**3.09**	**98**	*e*Pn	**Pn**	**19 02 24.9**	**-0.7**
BOLS				*e*Sn	**Sn**	**19 03 03.8**	**+1.3**
BOLS	**Boljevac**	**3.09**	**98**	*e*Pn	**Pn**	**19 02 24.9**	**-0.7**
BOLS				*e*Sn	**Sn**	**19 03 03.8**	**+1.3**
PKSG		**3.09**	**8**	⇓*e*Pn	**Pn**	**19 02 26.5**	**+0.8**
PKSG				*e*Sn	**Sg**	**19 03 15.4**	**-0.8**
PKSG		**3.09**	**8**	⇓*e*Pn	**Pn**	**19 02 26.5**	**+0.8**
OBKA	**Obir**	**3.12**	**315**	*e*Pn	**Pn**	**19 02 27.0**	**+0.9**
OBKA	**Obir**	**3.12**	**315**	⇑*e*Pn	**Pn**	**19 02 27.1**	**+0.9**
	SNR=6.7						
OBKA				⇑*i*Sn	**Sn**	**19 03 03.2**	**-0.3**
OBKA	**Obir**	**3.12**	**315**	Pn	**Pn**	**19 02 27.1**	**+0.9**
	SNR=6.7						
OBKA				Sn	**Sn**	**19 03 03.2**	**-0.3**
VOY	**Vojsko**	**3.20**	**303**	*e*Pn	**Pn**	**19 02 28.2**	**+1.0**
VOY				*e*		19 02 37.1	
VOY				*e*Sn	**Sn**	**19 03 08.4**	**+3.0**
VOY				*e*		19 03 21.8	
BUD	**Budapest**	**3.28**	**16**	*e*	**Sg**	**19 03 22.8**	**+0.6**
ARSA	**Arzberg**	**3.30**	**333**	*e*Pn	**Pn**	**19 02 29.3**	**+0.7**
ARSA	**Arzberg**	**3.30**	**333**	⇓*i*Pn	**Pn**	**19 02 28.8**	**+0.3**
	SNR=106						
ARSA				⇑*i*Sn	**Sn**	**19 03 05.9**	**-1.9**
ARSA	**Arzberg**	**3.30**	**333**	Pn	Pn	19 02 28.8	+0.3
	SNR=106						
ARSA				Sn	**Sn**	**19 03 05.9**	**-1.9**
PHP	**Peshkopia**	**3.31**	**142**	*e*PN	**Pb**	**19 02 32.9**	**-2.8**
PHP	**Peshkopia**	**3.31**	**142**	*e*Pn	**Pb**	**19 02 32.9**	**-2.8**
BARS	**Barje**	**3.34**	**116**	⇑*e*Pn	**Pn**	**19 02 29.4**	**+0.4**
BARS	**Barje**	**3.34**	**116**	⇑*e*Pn	**Pn**	**19 02 29.4**	**+0.4**
TIR	**Tirane**	**3.37**	**151**	*e*PN	**Pn**	**19 02 32.2**	**+2.7**
TIR	**Tirane**	**3.37**	**151**	*e*Pn	**Pn**	**19 02 32.2**	**+2.7**
CADS	**Cadrg**	**3.39**	**305**	*i* Pn	**Pn**	**19 02 30.5**	**+0.6**
CDT	**Castel del Mon**	**3.42**	**199**	*e*Pn	Pn	19 02 33.6	+3.4
SOP	**Sopron**	**3.45**	**347**	⇑*e*Pn	**Pn**	**19

OKC	**Ostrava-Krasne**	**5.51**	**3**	*e*PN	**Pn**	**19 03 00.5**	**+1.6**
OKC				*e*SN	**Sn**	**19 04 01.9**	**-0.4**
OKC	**Ostrava-Krasne**	**5.51**	**3**	Pn	**Pn**	**19 03 00.5**	**+1.6**
OKC				Sn	**Sn**	**19 04 01.9**	**-0.4**
MOTA	**Moosalm**	**5.52**	**305** ⇓	*i* Pn	**Pn**	**19 02 59.9**	**+0.7**
	SNR=13						
MOTA				⇓ *i* Sn	**Sn**	**19 04 02.0**	**-0.7**
MOTA	**Moosalm**	**5.52**	**305**	Pn	**Pn**	**19 02 59.9**	**+0.7**
	SNR=13						
MOTA				Sn	**Sn**	**19 04 02.0**	**-0.7**
KOLS	**Kolonicke sedl**	**5.56**	**33**	*e*PG	Pg	19 03 31.2	+7.8
KHC	**Kasperske Hory**	**5.58**	**331**	*e*PN	**Pn**	**19 03 01.3**	**+1.4**
KHC				*ex*	x	19 03 08.5	
KHC				*e*SN	**Sn**	**19 04 02.8**	**-1.2**
KHC	**Kasperske Hory**	**5.58**	**331**	Pn	**Pn**	**19 03 01.3**	**+1.4**
KHC				Sn	**Sn**	**19 04 02.8**	**-1.2**
FETA	**Feichten**	**5.59**	**301** ⇑	*i* Pn	**Pn**	**19 03 01.2**	**+1.0**
FETA				⇓ *i* Sn	**Sn**	**19 04 05.0**	**+0.6**
FETA	**Feichten**	**5.59**	**301**	Pn	**Pn**	**19 03 01.2**	**+1.0**
FETA				Sn	**Sn**	**19 04 05.0**	**+0.6**
KRLC	**Kraliky**	**5.78**	**354**	*e*PN	**Pn**	**19 03 04.6**	**+2.0**
KRLC	**Kraliky**	**5.78**	**354**	Pn	**Pn**	**19 03 04.6**	**+2.0**
MLR	**Muntele Rosu**	**5.95**	**76** ⇑	*i* P	**Pn**	**19 03 05.5**	**+0.4**
MLR	**Muntele Rosu**	**5.95**	**76**	Pn	**Pn**	**19 03 05.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=202,slow=13,SNR=3.4						
MLR				Sn	**Sn**	**19 04 14.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=217,slow=12,SNR=4.3						
MLR	**Muntele Rosu**	**5.95**	**76** ⇑	*i* P	**Pn**	**19 03 05.5**	**+0.4**
MLR				S	**Sn**	**19 04 13.1**	**-0.2**
DAVOX	**Davos/Dischmat**	**6.03**	**297**	Pn	**Pn**	**19 03 08.3**	**+2.1**
	baz=135,slow=19						
DAVOX				Sn	**Sn**	**19 04 19.1**	**+3.8**
	comp=Z,0.5nm,0.3s,baz=323,slow=20,SNR=3.1						
DAVOX				Lg	Lg	19 04 52.1	
	comp=Z,0.8nm,0.3s,baz=336,slow=20,SNR=2.9						
PRU	**Pruhonice**	**6.06**	**340**	*e*PN	**Pn**	**19 03 06.2**	**-0.2**
PRU				*e*SN	**Sn**	**19 04 15.7**	**0.0**
PRU	**Pruhonice**	**6.06**	**340**	Pn	**Pn**	**19 03 06.2**	**-0.2**
PRU				Sn	**Sn**	**19 04 15.7**	**0.0**
DPC	**Dobruska-Polom**	**6.09**	**351**	*e*PN	**Pn**	**19 03 08.2**	**+1.2**
DPC	**Dobruska-Polom**	**6.09**	**351**	Pn	**Pn**	**19 03 08.2**	**+1.2**
BURAR	**Bucovina Array**	**6.16**	**55** ⇑	*i* P	Pb	19 03 28.0	+3.7
BURAR	**Bucovina Array**	**6.16**	**55**	S	**Sn**	**19 04 17.6**	**-0.9**
BURAR	**Bucovina Array**	**6.16**	**55**	S	**Sn**	**19 04 17.6**	**-0.9**
VRI	**Vrincioaia**	**6.55**	**73**	S	**Sn**	**19 04 28.8**	**+0.9**
VRI	**Vrincioaia**	**6.55**	**73**	S	**Sn**	**19 04 28.8**	**+0.9**
PGF	**Pioggiola**	**6.60**	**257**	*e*Pn	**Pn**	**19 03 14.5**	**+0.5**
PGF	**Pioggiola**	**6.60**	**257**	*e*Pn	**Pn**	**19 03 14.5**	**+0.5**
BRG	**Berggiesshubel**	**7.02**	**340**	PG	Pn	19 03 29.2	+10
BRG				SG	**Sb**	**19 05 01.9**	**-0.8**
	comp=Z,4.7nm,0.6s						
TANN	**Tannenbergstha**	**7.05**	**331**	*e*Pn	**Pn**	**19 03 21.4**	**+1.3**
SBF	**Sospel**	**7.42**	**270**	*e*Pn	**Pn**	**19 03 24.2**	**-1.1**
SBF				*e*Sn	**Sn**	**19 04 45.9**	**-3.6**
	comp=Z,3.9nm,0.4s						
SBF	**Sospel**	**7.42**	**270**	*e*Pn	**Pn**	**19 03 24.2**	**-1.1**
CLL	**Collm**	**7.67**	**337**	*e*(Pn)	Pn	19 03 33.0	+4.5
CLL				*e*Sn	Sn	19 04 38.0	-17
CLL				*e*Sb	**Sb**	**19 05 22.0**	**+0.9**
CLL				*e*Sg	**Sg**	**19 05 43.0**	**+0.2**
	comp=Z,24nm,1.3s						
MBDF	**Montbardon**	**7.84**	**277**	*e*Pn	**Pn**	**19 03 28.9**	**-2.1**
MBDF				*e*Sn	**Sn**	**19 04 55.5**	**-4.3**
	comp=Z,11nm,0.6s						
LPG	**La Plagne**	**7.88**	**282**	*e*Pn	**Pn**	**19 03 31.6**	**-0.1**
LPG	**La Plagne**	**7.88**	**282**	*e*Pn	**Pn**	**19 03 31.6**	**-0.1**
LPL	**La Plagne**	**7.89**	**282**	*e*Pn	**Pn**	**19 03 31.7**	**-0.1**
LPL				*e*Sn	**Sn**	**19 04 56.3**	**-4.9**
	comp=Z,20nm,0.9s						
LPL	**La Plagne**	**7.89**	**282**	*e*Pn	**Pn**	**19 03 31.7**	**-0.1**
LMR	**La Mourre**	**8.17**	**267**	*e*Pn	**Pn**	**19 03 34.9**	**-0.5**
LMR	**La Mourre**	**8.17**	**267**	*e*Pn	**Pn**	**19 03 34.9**	**-0.5**
HINF	**Hinteralfeld**	**8.32**	**299**	*e*Pn	**Pn**	**19 03 36.8**	**-0.7**
HINF				*e*Sn	**Sn**	**19 05 05.8**	**-5.7**
	comp=Z,5.6nm,0.7s						
HINF	**Hinteralfeld**	**8.32**	**299**	*e*Pn	**Pn**	**19 03 36.8**	**-0.7**
ORIF	**Oris-en-Rattie**	**8.47**	**278**	*e*Pn	**Pn**	**19 03 39.5**	**-0.1**
ORIF	**Oris-en-Rattie**	**8.47**	**278**	*e*Pn	**Pn**	**19 03 39.5**	**-0.1**
LASF	**Ste Croix**	**9.97**	**273**	*e*Pn	**Pn**	**19 04 00.0**	**-0.1**
LASF	**Ste Croix**	**9.97**	**273**	*e*Pn	**Pn**	**19 04 00.0**	**-0.1**
LOR	**Lormes**	**10.12**	**292**	*e*Pn	**Pn**	**19 04 01.8**	**-0.3**
LOR				*e*Sn	Sn	19 05 48.7	-6.9
	comp=Z,1.4nm,0.4s						
LOR	**Lormes**	**10.12**	**292**	*e*Pn	**Pn**	**19 04 01.8**	**-0.3**
ESDC	**Sonseca Array**	**16.77**	**261**	Pn	**P**	**19 05 33.9**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=71,slow=12,SNR=6.8						
FINES	**FINESS Array B**	**17.84**	**13**	P	**P**	**19 05 46.1**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=190,slow=15,SNR=4.6						
TORD	**Torodi Ar. Bea**	**33.98**	**209**	P	**P**	**19 08 21.7**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=11,slow=9.1,SNR=6.3						
YKA	**Yellowknife Ar**	**66.89**	**338**	P	**P**	**19 12 28.7**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=36,slow=6.3,SNR=6.0						
TXAR	**Lajitas Array**	**89.25**	**312**	P	**P**	**19 14 34.4**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=52,slow=4.9,SNR=5.3						

ISC 04 19:04:08.7±3.9, 39.7N±0.1×75.8E±0.1, h121km±26km, n13, σ1§56/25, 3C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.23**	**134**	⇓ *i* Pg	**Pn**	**19 04 25.5**	**-0.2**
KSH				Sg	**Sn**	**19 04 39.2**	**+0.7**
KSH				smax	smax		
	comp=N,280nm,0.4s						
KSH				smax	smax		
	comp=E,180nm,0.4s						
KZA	**Kyzart**	**2.43**	**351**	P	**Pn**	**19 04 46.0**	**-2.0**
	SNR=12						
KZA				P	**Pn**	**19 04 46.0**	**-2.0**
	SNR=12						
ULHL	**Ulahol**	**2.59**	**8**	P	**Pn**	**19 04 48.6**	**-1.3**
	SNR=19						
ULHL				P	**Pn**	**19 04 48.6**	**-1.3**
	SNR=19						
UCH	**Uchtor**	**2.71**	**340**	P	**Sn**	**19 05 23.1**	**-1.6**
	SNR=7.7						
UCH				P	**Sn**	**19 05 23.1**	**-1.6**
	SNR=7.7						
AML	**Almayashu**	**2.90**	**328**	P	**Pn**	**19 04 52.9**	**-1.2**
	SNR=14						
AML				P	**Pn**	**19 04 52.9**	**-1.2**
	SNR=14						
KBK	**Karagaybulak**	**3.04**	**349**	P	**Pn**	**19 04 57.1**	**+1.4**
	SNR=6.4						
KBK				P	**Pn**	**19 04 57.1**	**+1.4**
	SNR=6.4						
AAK	**Ala-Archa**	**3.10**	**343**	P	**Pn**	**19 04 55.6**	**-0.9**
	SNR=7.1						
AAK				P	**Pn**	**19 04 55.6**	**-0.9**
	SNR=7.1						
TKM2	**Tokmak 2**	**3.24**	**358**	⇑ Pn	**Pn**	**19 04 57.4**	**-0.9**
	comp=E,2.7nm,0.4s						
TKM2				⇑ Sn	**Sn**	**19 05 38.3**	**+1.6**
	comp=E,11nm,0.4s						
TKM2	**Tokmak 2**	**3.24**	**358**	P	**Pn**	**19 04 57.6**	**-0.8**
	SNR=6.2						
TKM2				P	**Pn**	**19 04 57.6**	**-0.8**
	SNR=6.2						
EKS2	**Erkin-Say**	**3.33**	**334**	P	**Pn**	**19 04 59.5**	**0.0**
	SNR=6.5						
EKS2				P	**Pn**	**19 04 59.5**	**0.0**
	SNR=6.5						
CHMS	**Chumysh**	**3.40**	**348**	P	**Sn**	**19 05 43.3**	**+3.1**
	SNR=6.6						
CHMS				P	**Sn**	**19 05 43.3**	**+3.1**
	SNR=6.6						
USP	**Ospenovka**	**3.71**	**346**	P	**Pn**	**19 05 03.4**	**-1.0**
	SNR=12						
USP				P	**Pn**	**19 05 03.4**	**-1.0**
	SNR=12						
KK31	**Karatay Array**	**5.22**	**313**	Pn	**Pn**	**19 05 24.4**	**-0.2**
	comp=E,0.2nm,0.3s,baz=129,slow=12,SNR=14						
KK31				⇑ Pg		19 05 37.8	
	comp=E,0.6nm,0.5s,baz=126,slow=16,SNR=5.1						
KK31				Lg	Lg	19 06 42.5	
	comp=E,2.6nm,0.5s,baz=126,slow=30,SNR=13						

IDC 04 19:09:25.7±6.9, 15.95S×172.92W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.5/19, mbtmp3.8/3, Error ellipse: s-maj=276.6km s-min=27.6km az=135.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.31**	**29**	Pn	**Pn**	19 10 04.2	-1.0
	63nm,0.3s,baz=206,slow=3.0,SNR=18						
AFI				Sn	Sn	19 10 23.6	-11
	baz=84,slow=18						
WRA	**Warramunga Arr**	**50.17**	**257**	P	P	19 18 22.7	-0.8
	0.2nm,0.3s,baz=96,slow=7.7,SNR=13						
ASAR	**Alice Springs**	**50.38**	**252**	P	P	19 18 25.2	+0.1
	0.9nm,0.5s,baz=90,slow=7.5,SNR=28						
BRTR	**Keskin Array B**	**146.88**	**321**	PKPbc	PKPbc	19 29 10.7	+0.1
	0.4nm,0.7s,baz=110,slow=4.2,SNR=3.1						

*NIC **04** 19:19:57.6±0.5, 36.28N×30.95E, h25km, mb4.1, ML3.7, MW3.6*
*DDA **04** 19:19:57.6, 35.73N×30.94E, h35km, MD3.6*
*ISCJB **04** 19:19:59.7±0.2, 35.86N±0.02×30.96E±0.02, h71km±7km, mb3.1/3, Error ellipse: s-maj=3.6km s-min=2.5km az=35.8*
*CSEM **04** 19:20:00.7±0.1, 35.89N×30.96E, h30km, Mw3.6, Error ellipse: s-maj=3.5km s-min=2.3km az=45.0*
*ISK **04** 19:20:00.1, 35.92N×31.02E, h55km, MD3.8*
*IDC **04** 19:20:01.3±3.7, 35.91N×31.00E, h58km±30km, mb3.1/3, mb1 3.4/6, mb1mx3.1/26, mbtmp3.4/6, ML3.9/2, MS3.6/1, Ms1 3.6/1, ms1mx2.3/23, Error ellipse: s-maj=48.9km s-min=16.8km az=92.0*
*HLW **04** 19:20:05.7, 35.54N×30.84E, h33km±20km, Md3.5, MI3.2*
*ATH **04** 19:20:11.5, 35.84N×29.82E, h34km, MD3.6/8*

ISC 04 19:20:00.8±0.9, 35.87N±0.03×30.96E±0.03, h52km±15km, n149, σ1§35/180, mb3.3/3, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**1.06**	**346**	*e*PG	**Pn**	**19 20 19.1**	**-0.2**
ANTB				*e*SG	**Sn**	**19 20 32.9**	**-0.1**
ANTB	**Antalya**	**1.06**	**346**	*e*Pg	**Pn**	**19 20 19.1**	**-0.2**
ANTB				*e*Sg	**Sn**	**19 20 32.9**	**-0.1**
KSL	**Kastellorizon**	**1.15**	**284**	*e*PB	**Pn**	**19 20 20.5**	**-0.1**
KSL	**Kastellorizon**	**1.15**	**284**	*e*P	**Pn**	**19 20 20.5**	**-0.5**
KSL	**Kastellorizon**	**1.15**	**284**	*e*Pb	**Pn**	**19 20 20.5**	**-0.1**
AKAS	**Kas**	**1.16**	**289**	*i* P	**Pn**	**19 20 20.8**	**0.0**
AKAS				*i* S	Sn	19 20 42.1	+6.5
AKAS	**Kas**	**1.16**	**289**	*i* P	**Pn**	**19 20 20.8**	**0.0**
ELL	**Elmali**	**1.22**	**316**	*e*PN	**Pn**	**19 20 21.6**	**0.0**
ELL	**Elmali**	**1.22**	**316**	*e*Pn	**Pn**	**19 20 21.6**	**0.0**
KORT	**Korkueli**	**1.23**	**337**	*i* P	**Pn**	**19 20 22.4**	**+0.6**
KORT				*i* S	**Sn**	**19 20 41.3**	**+3.9**
KORT	**Korkueli**	**1.23**	**337**	*i* P	**Pn**	**19 20 22.4**	**+0.6**
KORT				*i* S	**Sn**	**19 20 41.3**	**+3.9**
AKMC	**Akamas**	**1.40**	**127**	P	**Pn**	**19 20 23.5**	**-0.4**
AKMC	**Akamas**	**1.40**	**127**	P	**Pn**	**19 20 23.5**	**-0.4**
PPCY	**Paphos**	**1.50**	**131**	P	**Pn**	**19 20 26.3**	**+1.0**
PPCY	**Paphos**	**1.50**	**131**	P	**Pn**	**19 20 26.3**	**+1.0**
ALFC	**Alevga**	**1.51**	**118**	P	**Pn**	**19 20 24.0**	**-1.5**
	28nm,0.3s						
ALFC				S	**Sn**	**19 20 45.9**	**+1.8**
ALFC	**Alevga**	**1.51**	**118**	P	**Pn**	**19 20 24.0**	**-1.5**
	28nm,0.3s						
ALFC				S	**Sn**	**19 20 45.9**	**+1.8**
SUTC	**Sutluce-Ispart**	**1.60**	**1**	*e*PN	**Pn**	**19 20 26.3**	**-0.5**
SUTC	**Sutluce-Ispart**	**1.60**	**1**	*e*Pn	**Pn**	**19 20 26.3**	**-0.5**
BCK	**Bucak**	**1.61**	**349**	*e*PN	**Pn**	**19 20 26.5**	**-0.4**
BCK	**Bucak**	**1.61**	**349**	*e*Pn	**Pn**	**19 20 26.5**	**-0.4**
FETY	**Fethiye**	**1.70**	**297**	*e*PN	**Pn**	**19 20 28.8**	**+0.8**
FETY	**Fethiye**	**1.70**	**297**	*e*Pn	**Pn**	**19 20 28.8**	**+0.8**
LEF	**Lefka**	**1.74**	**115**	*e*PN	**Pn**	**19 20 28.3**	**-0.3**
LEF	**Lefka**	**1.74**	**115**	*e*Pn	**Pn**	**19 20 28.3**	**-0.3**
GOLH	**Golhisar**	**1.77**	**321**	*i* P	**Pn**	**19 20 30.3**	**+1.2**
GOLH	**Golhisar**	**1.77**	**321**	*i* P	**Pn**	**19 20 30.3**	**+1.2**
SZAC	**Souni-Zanaja**	**1.93**	**125**	P	**Pn**	**19 20 30.6**	**-0.5**
SZAC	**Souni-Zanaja**	**1.93**	**125**	P	**Pn**	**19 20 30.6**	**-0.5**
MAMC	**Mammari**	**1.97**	**110**	P	**Pn**	**19 20 30.7**	**-1.0**
MAMC	**Mammari**	**1.97**	**110**	P	**Pn**	**19 20 30.7**	**-1.0**
CSS	**Prodhromos**	**2.14**	**114**	P	**Pn**	**19 20 33.0**	**-1.0**
CSS				P		19 20 33.4	
CSS				S	**Sn**	**19 20 59.0**	**-0.4**
CSS				S		19 21 01.0	
CSS	**Prodhromos**	**2.14**	**114**	*e*PN	**Pn**	**19 20 33.4**	**-0.6**
CSS	**Prodhromos**	**2.14**	**114**	P	**Pn**	**19 20 33.4**	**-0.6**
	9.0nm,0.3s						
CSS				S	**Sn**	**19 21 01.0**	**+1.6**
TURN	**Turunc**	**2.15**	**298**	*i* P	Pn	19 20 37.7	+3.6
TURN	**Turunc**	**2.15**	**298**	*i* P	Pn	19 20 37.7	+3.6
LFK	**Lefkose**	**2.18**	**105**	*e*PN	**Pn**	**19 20 34.8**	**+0.2**
LFK	**Lefkose**	**2.18**	**105**	*e*Pn	**Pn**	**19 20 34.8**	**+0.2**
ARG	**Arkhangelos**	**2.32**	**279**	*e*PN	**Pn**	**19 20 37.0**	**+0.5**
ARG	**Arkhangelos**	**2.32**	**279**	*e*P	**Pn**	**19 20 37.0**	**+0.5**
ARG	**Arkhangelos**	**2.32**	**279**	*e*Pn	**Pn**	**19 20 37.0**	**+0.5**
KONT	**Konya--Tatoy**	**2.35**	**28**	*e*PN	**Pn**	**19 20 36.8**	**-0.2**
KONT	**Konya--Tatoy**	**2.35**	**28**	*e*Pn	**Pn**	**19 20 36.8**	**-0.2**
DNZL	**Cakiroluk**	**2.38**	**320**	*i* P	Pn	**19 20 40.0**	**+2.5**
DNZL				*i* S	**Sn**	**19 21 09.0**	**+3.5**
DNZL	**Cakiroluk**	**2.38**	**320**	*i* P	**Pn**	**19 20 40.0**	**+2.5**
DNZL				*i* S	**Sn**	**19 21 09.0**	**+3.5**
YER	**Yerkesik**	**2.50**	**301**	*e*PN	**Pn**	**19 20 40.2**	**+1.2**
YER	**Yerkesik**	**2.50**	**301**	*e*Pn	**Pn**	**19 20 40.2**	**+1.2**
LADK	**Ladik-KONYA**	**2.58**	**25**	*e*PN	**Pn**	**19 20 39.9**	**-0.3**
LADK	**Ladik-KONYA**	**2.58**	**25**	*e*Pn	**Pn**	**19 20 39.9**	**-0.3**
EREN	**Erenkoy**	**2.63**	**96**	*e*PN	**Pn**	**19 20 41.3**	**+0.5**
EREN	**Erenkoy**	**2.63**	**96**	*e*Pn	**Pn**	**19 20 41.3**	**+0.5**
PHNC	**Paralimni**	**2.65**	**108**	P	**Pn**	**19 20 42.8**	**+1.8**
	14nm,0.5s						
PHNC				S	**Sn**	**19 21 13.5**	**+1.5**
PHNC	**Paralimni**	**2.65**	**108**	P	**Pn**	**19 20 42.8**	**+1.8**
	14nm,0.5s						
PHNC				S	**Sn**	**19 21 13.5**	**+1.5**
SHUT	**Suhut-Afyon**	**2.70**	**353**	*e*PN	**Pn**	**19 20 42.0**	**+0.2**
SHUT	**Suhut-Afyon**	**2.70**	**353**	*e*Pn	**Pn**	**19 20 42.0**	**+0.2**
KHL	**Karahalli**	**2.70**	**335**	*e*PN	**Pn**	**19 20 42.3**	**+0.5**
KHL	**Karahalli**	**2.70**	**335**	*e*Pn	**Pn**	**19 20 42.3**	**+0.5**
KHAL	**Karahalli**	**2.76**	**335**	*i* P	**Pn**	**19 20 42.2**	**-0.4**
KHAL				*i* S	**Sn**	**19 21 12.1**	**-2.6**
KHAL	**Karahalli**	**2.76**	**335**	*i* P	**Pn**	**19 20 42.2**	**-0.4**
KHAL				*i* S	**Sn**	**19 21 12.1**	**-2.6**
KDHN	**Kadinhani**	**2.80**	**19**	*i* P	**Pn**	**19 20 42.0**	**-1.2**
KDHN				*i* S	**Sn**	**19 21 13.6**	**-2.2**
KDHN	**Kadinhani**	**2.80**	**19**	*i* P	**Pn**	**19 20 42.0**	**-1.2**
KDHN				*i* S	**Sn**	**19 21 13.6**	**-2.2**
BOLV	**Bolvadin**	**2.84**	**360**	*i* P	**Pn**	**19 20 41.8**	**-2.0**
BOLV				*i* S	**Sn**	**19 21 11.0**	**-5.9**
BOLV	**Bolvadin**	**2.84**	**360**	*i* P	**Pn**	**19 20 41.8**	**-2.0**
BDRM	**Kayabasi**	**3.08**	**294**	*i* P	**Pn**	**19 20 45.7**	**-1.2**
BDRM				*i* S	**Sn**	**19 21 19.5**	**-2.9**
BDRM	**Kayabasi**	**3.08**	**294**	*i* P	**Pn**	**19 20 45.7**	**-1.2**
BDRM				*i* S	**Sn**	**19 21 19.5**	**-2.9**
SULT	**Sultanhani-AKS**	**3.09**	**41**	*e*PN	**Pn**	**19 20 47.4**	**+0.2**
SULT	**Sultanhani-AKS**	**3.09**	**41**	*e*Pn	**Pn**	**19 20 47.4**	**+0.2**
KARP	**Karpathos**	**3.11**	**265**	*e*PN	**Pn**	**19 20 48.1**	**+0.7**
KARP	**Karpathos**	**3.11**	**265**	*e*P	**Pn**	**19 20 48.0**	**+0.7**
KARP				*e*S	**Sn**	**19 21 23.9**	**+0.6**
KARP	**Karpathos**	**3.11**	**265**	*e*Pn	**Pn**	**19 20 48.1**	**+0.7**
KULA	**Kula-Manisa**	**3.21**	**326**	*e*PN	**Pn**	**19 20 49.7**	**+0.9**
KULA	**Kula-Manisa**	**3.21**	**326**	*e*Pn	**Pn**	**19 20 49.7**	**+0.9**
ALT	**Altintas**	**3.25**	**348**	*e*PN	**Pn**	**19 20 49.7**	**+0.4**
ALT	**Altintas**	**3.25**	**348**	*e*Pn	**Pn**	**19 20 49.7**	**+0.4**
GULE	**Gulek**	**3.38**	**64**	*i* P	**Pn**	**19 20 52.5**	**+1.4**
GULE				*i* S	**Sn**	**19 21 30.2**	**+0.1**
GULE	**Gulek**	**3.38**	**64**	*i* P	**Pn**	**19 20 52.5**	**+1.4**
GULE				*i* S	**Sn**	**19 21 30.2**	**+0.1**
SVRH	**Sivrihisar-ESK**	**3.60**	**7**	*e*PN	**Pn**	**19 20 54.4**	**+0.3**
SVRH	**Sivrihisar-ESK**	**3.60**	**7**	*e*Pn	**Pn**	**19 20 54.4**	**+0.3**
ESKT	**Eskisehir**	**3.64**	**359**	*e*PN	**Pn**	**19 20 55.6**	**+0.9**
ESKT	**Eskisehir**	**3.64**	**359**	*e*Pn	**Pn**	**19 20 55.6**	**+0.9**
NIG	**Nigde**	**3.68**	**52**	*e*PN	**Pn**	**19 20 55.6**	**+0.3**
NIG	**Nigde**	**3.68**	**52**	*e*Pn	**Pn**	**19 20 55.6**	**+0.3**
AFSR	**Af ar-Bala (A**	**3.94**	**24**	*e*PN	**Pn**	**19 20 58.9**	**+0.1**
AFSR	**Af ar-Bala (A**	**3.94**	**24**	*e*Pn	**Pn**	**19 20 58.9**	**+0.1**
ZKR	**Zakros**	**3.94**	**260**	*e*PN	**Pn**	**19 20 59.3**	**+0.5**
ZKR	**Zakros**	**3.94**	**260**	*e*Pn	**Pn**	**19 20 59.3**	**+0.5**
CEYT	**Ceyhan**	**4.02**	**72**	*e*PN	**Pn**	**19 21 00.4**	**+0.6**
CEYT	**Ceyhan**	**4.02**	**72**	*e*Pn	**Pn**	**19 21 00.4**	**+0.6**
KAMT	**Kaman**	**4.12**	**31**	*e*PN	**Pn**	**19 21 01.8**	**+0.5**
KAMT	**Kaman**	**4.12**	**31**	*e*Pn	**Pn**	**19 21 01.8**	**+0.5**
YAYL	**Yayladag**	**4.18**	**86**	*i* P	**Pn**	**19 21 01.9**	**-0.2**
YAYL				*i* S	**Sn**	**19 21 51.5**	**+1.8**
YAYL	**Yayladag**	**4.18**	**86**	*i* P	**Pn**	**19 21 01.9**	**-0.2**
YAYL				*i* S	**Sn**	**19 21 51.5**	**+1.8**
HTY	**Hatay**	**4.20**	**85**	*e*PN	**Pn**	**19 21 03.4**	**+1.1**
HTY	**Hatay**	**4.20**	**85**	*e*Pn	**Pn**	**19 21 03.4**	**+1.1**
KOZT	**Kozan**	**4.23**	**66**	*e*PN	**Pn**	**19 21 03.4**	**+0.7**
KOZT	**Kozan**	**4.23**	**66**	*e*Pn	**Pn**	**19 21 03.4**	**+0.7**
BRTR	**Keskin Array B**	**4.39**	**28**	P	**Pn**	**19 21 04.7**	**-0.4**
	1.4nm,0.3s,baz=200,slow=16,SNR=36						
BRTR				S	**Sn**	**19 21 55.1**	**+0.1**
	1.9nm,0.3s,baz=206,slow=24,SNR=16						
NPS	**Neapolis**	**4.40**	**264**	*e*PN	**Pn**	**19 21 05.8**	**+0.7**
NPS	**Neapolis**	**4.40**	**264**	*e*P	**Pn**	**19 21 05.7**	**+0.7**
NPS				*e*S	**Sn**	**19 21 53.8**	**-1.3**
NPS	**Neapolis**	**4.40**	**264**	*e*Pn	**Pn**	**19 21 05.8**	**+0.7**
LAST	**Lasithi**	**4.53**	**263**	*e*PN	**Pn**	**19 21 07.5**	**+0.7**
LAST	**Lasithi**	**4.53**	**263**	*e*P	**Pn**	**19 21 08.0**	**+1.2**
LAST	**Lasithi**	**4.53**	**263**	*e*Pn	**Pn**	**19 21 07.5**	**+0.7**
APE	**Apeiranthos**	**4.54**	**287**	*e*P	**Pn**	**19 21 07.8**	**+0.9**
MMAI	**Mount Meron Ar**	**4.64**	**127**	P	**Pn**	**19 21 09.3**	**+0.8**
	5.8nm,0.3s,baz=310,slow=12,SNR=28						
MMAI				S	**Sn**	**19 22 00.2**	**-0.9**
	9.9nm,0.3s,baz=306,slow=25,SNR=7.8						
MMA0	**Mount Meron ar**	**4.65**	**127**	Pn	**Pn**	**19 21 10.7**	**+2.2**
MMA0				Sn	**Sn**	**19 22 01.7**	**+0.6**
BLGI	**Bet Lehem HaGe**	**4.70**	**131**	Sn	**Sn**	**19 22 03.1**	**+0.9**
KSDI	**Kefar Szold**	**4.71**	**123**	Pn	**Pn**	**19 21 11.1**	**+1.9**
SLTI	**Sal'it**	**4.96**	**136**	Sn	**Sn**	**19 22 08.0**	**-0.7**
IDI	**Anoyia**	**4.98**	**265**	*e*PN	**Pn**	**19 21 13.3**	**+0.2**
IDI	**Anoyia**	**4.98**	**265**	*e*P	**Pn**	**19 21 13.2**	**0.0**
IDI				*e*S	**Sn**	**19 22 07.8**	**-1.6**
IDI	**Anoyia**	**4.98**	**265**	*e*Pn	**Pn**	**19 21 13.3**	**+0.2**
MMLI	**Mount Malkishu**	**5.04**	**132**	Pn	**Pn**	**19 21 15.2**	**+1.4**
MMLI				Sn	**Sn**	**19 22 10.4**	**-0.4**
KMRS	**Kahramanmaras**	**5.04**	**69**	*e*PN	**Pn**	**19 21 15.2**	**+1.3**
KMRS	**Kahramanmaras**	**5.04**	**69**	*e*Pn	**Pn**	**19 21 15.2**	**+1.3**
GAZ	**Gaziantep**	**5.20**	**74**	*e*PN	**Pn**	**19 21 16.9**	**+0.9**
GAZ	**Gaziantep**	**5.20**	**74**	*e*Pn	**Pn**	**19 21 16.9**	**+0.9**
HMDT	**Nahal Hemdat**	**5.23**	**132**	Pn	**Pn**	**19 21 18.5**	**+2.1**
HMDT				Sn	**Sn**	**19 22 15.4**	**0.0**
RSH		**5.41**	**154**	P	**Pn**	**19 21 20.3**	**+1.4**
AMAG	**Maghara**	**5.54**	**160**	P	**Pn**	**19 21 21.3**	**+0.6**
AMAG	**Maghara**	**5.54**	**160**	P	**Pn**	**19 21 21.3**	**+0.6**
	baz=157						
DSI	**Dead Sea**	**5.65**	**138**	Pn	**Pn**	**19 21 23.3**	**+1.1**
DSI				Sn	**Sn**	**19 22 25.4**	**-0.4**
KZIT	**Kziot**	**5.72**	**149**	Pn	**Pn**	**19 21 23.7**	**+

comp=Z,0.4nm,0.5s,baz=105,slow=3.4,SNR=3.2
BRTR PKPab PKPab 19 57 29.8 -0.7
comp=Z,1.6nm,0.6s,baz=102,slow=8.4,SNR=8.8
TORD Torodi Ar. Bea 167.28 177 PKP PKPdf 19 57 36.4 -1.2
comp=Z,0.3nm,0.8s,baz=184,slow=2.3,SNR=3.0
TORD PKPab PKPab 19 58 42.9 -0.1
comp=Z,0.4nm,0.7s,baz=186,slow=3.0,SNR=3.2

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*ISK **04** 19:51:29.8, 39°.35N×32°.96E, h2km, MD2.6*
*ISCJB **04** 19:51:32.7±0.7, 39°.42N±0°.04×33°.05E±0°.05, h4km±5km, Error ellipse: s-maj=7.3km s-min=5.8km az=165.6*
*DDA **04** 19:51:32.3, 39°.53N×33°.12E, h18km, MD2.7*
*CSEM **04** 19:51:32.4±0.2, 39°.45N×33°.08E, h8km, MD2.7, Error ellipse: s-maj=7.0km s-min=5.4km az=176.0*
ISC 04 19:51:32.4±1.0, 39°.42N±0°.04×33°.07E±0°.03, h6km±5km, n14, σ1§17/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFSR	**Afşar-Bala (A**	**0.03**	**357**	*e*Pg		**Pg**	**19 51 33.3**	**-0.4**
AFSR				*e*SG		**Sg**	**19 51 35.0**	**+0.3**
AFSR	**Afşar-Bala (A**	**0.03**	**357**	*e*Pg		**Pg**	**19 51 33.3**	**-0.4**
AFSR				*e*Sg		**Sg**	**19 51 35.0**	**+0.3**
BBAL	**Bala**	**0.13**	**18**	*i* P		**Pg**	**19 51 35.7**	**+0.5**
BBAL				*i* S		**Sg**	**19 51 37.7**	**+0.7**
BBAL	**Bala**	**0.13**	**18**	*i* P		**Pg**	**19 51 35.7**	**+0.5**
BBAL				*i* S		**Sg**	**19 51 37.7**	**+0.7**
KAMT	**Kaman**	**0.50**	**96**	*e*PG		**Pg**	**19 51 42.0**	**0.0**
KAMT				*e*SG		**Sb**	**19 51 50.7**	**-0.6**
KAMT	**Kaman**	**0.50**	**96**	*e*Pg		**Pg**	**19 51 42.0**	**0.0**
KAMT				*e*Sg		**Sb**	**19 51 50.7**	**-0.6**
LOD	**Lodumlu**	**0.53**	**333**	*e*PG		**Pg**	**19 51 42.1**	**-0.5**
LOD				*e*SG		**Sg**	**19 51 50.0**	**+0.6**
LOD	**Lodumlu**	**0.53**	**333**	*e*Pg		**Pg**	**19 51 42.1**	**-0.5**
LOD				*e*Sg		**Sg**	**19 51 50.0**	**+0.6**
CDAG	**Cicekdag**	**1.02**	**78**	*i* P		**Pg**	**19 51 50.9**	**-1.2**
CDAG				*i* S		**Sn**	**19 52 06.9**	**-1.3**
CDAG	**Cicekdag**	**1.02**	**78**	*i* P		**Pg**	**19 51 50.9**	**-1.2**
CDAG				*i* S		**Sn**	**19 52 06.9**	**-1.3**
KDHN	**Kadinhani**	**1.17**	**220**	*i* P		**Pn**	**19 51 56.2**	**+0.8**
KDHN				*i* S		**Sb**	**19 52 10.3**	**-0.1**
KDHN	**Kadinhani**	**1.17**	**220**	*i* P		**Pn**	**19 51 56.2**	**+0.8**
KDHN				*i* S		**Sb**	**19 52 10.3**	**-0.1**
CORM	**Corum**	**1.42**	**57**	*e*PN		**Sg**	**19 51 58.5**	**-0.4**
CORM				*e*SN		**Sg**	**19 52 21.3**	**+3.3**
CORM	**Corum**	**1.42**	**57**	*e*Pn		**Pn**	**19 51 58.5**	**-0.4**
CORM				*e*Sn		**Sg**	**19 52 21.3**	**+3.3**

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*DDA **04** 20:23:22.2, 36°.60N×34°.69E, h7km, MD2.6*
*CSEM **04** 20:23:23.8±0.7, 36°.69N×34°.77E, h10km, MD2.4, Error ellipse: s-maj=16.2km s-min=9.0km az=33.0*
*ISK **04** 20:23:24.3, 37°.07N×34°.69E, h12km, MD2.4*
ISC 04 20:23:24.2±1.7, 36.74N±0°.07×34.70E±0°.06, h14km±11km, n12, σ1§21/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MERS	**Mersin**	**0.19**	**312**	*e*PG		**Pg**	**20 23 29.9**	**+0.3**
MERS				*e*SG		**Sb**	**20 23 33.7**	**+0.5**
MERS	**Mersin**	**0.19**	**312**	*i* Pg		**Pb**	**20 23 29.9**	**+0.3**
MERS				*e*Sg		**Sb**	**20 23 33.7**	**+0.5**
GULE	**Gulek**	**0.55**	**6**	*i* P		**Pg**	**20 23 35.2**	**+0.1**
GULE				*i* S		**Sb**	**20 23 43.6**	**+0.1**
GULE	**Gulek**	**0.55**	**6**	*i* P		**Pg**	**20 23 35.2**	**+0.1**
GULE				*i* S		**Sb**	**20 23 43.6**	**+0.1**
KRTS	**Karatas**	**0.57**	**107**	*e*PG		**Pn**	**20 23 38.2**	**+0.4**
KRTS				*e*SG		**Sn**	**20 23 50.4**	**+3.4**
KRTS	**Karatas**	**0.57**	**107**	*e*Pg		**Pn**	**20 23 38.2**	**+0.4**
CEYT	**Ceyhan**	**0.88**	**72**	*e*PG		**Pn**	**20 23 41.5**	**-0.7**
CEYT				*e*SG		**Sg**	**20 23 53.0**	**+0.1**
CEYT	**Ceyhan**	**0.88**	**72**	*e*Pg		**Pn**	**20 23 41.5**	**-0.7**
CEYT				*e*Sg		**Sg**	**20 23 53.0**	**+0.1**
KOZT	**Kozan**	**1.17**	**50**	*e*PG		**Pn**	**20 23 44.6**	**-1.5**
KOZT	**Kozan**	**1.17**	**50**	*e*Pg		**Pn**	**20 23 44.6**	**-1.5**
YAYL	**Yayladag**	**1.33**	**121**	*i* P		**Pn**	**20 23 46.9**	**-1.7**
YAYL				*i* S		**Sn**	**20 24 05.3**	**-0.9**
YAYL	**Yayladag**	**1.33**	**121**	*i* P		**Pn**	**20 23 46.9**	**-1.7**
YAYL				*i* S		**Sn**	**20 24 05.3**	**-0.9**

IDC 04 20:33:50.2±2.5, 0°.44N×125°.78E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/18, mbtmp3.4/3, Error ellipse: s-maj=290.0km s-min=26.8km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**21.93**	**158**	P		P	20 38 45.0	-0.5
	0.9nm,0.8s,baz=336,slow=12,SNR=2.9							
ASAR	**Alice Springs**	**25.23**	**162**	P		P	20 39 18.5	+0.3
	0.4nm,0.3s,baz=345,slow=10,SNR=11							
MKAR	**Makanchi Array**	**59.73**	**327**	P		P	20 43 56.8	-0.1
	0.2nm,0.5s,baz=115,slow=7.8,SNR=4.2							

PRE 04 20:33:50.4±1.1, 26°.90S×26°.68E, h2km, ML1.7, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BFSD	**Buffelsfontein**	**0.10**	**73**	*e*P		Pg	20 33 52.8	+0.2
BFSD				*e*S		Sg	20 33 53.5	-0.6
BFSD				AML		AML	20 33 54.0	
	comp=Z,392nm,0.1s							
LBTB	**Lobatse**	**2.11**	**332**	*e*P		Pb	20 34 28.4	-1.2
LBTB				*e*S		Sn	20 34 54.0	+0.1
LBTB				AML		AML	20 34 58.2	
	comp=Z,2.1nm,0.6s							
BOSA	**Boshof**	**2.12**	**216**	*e*P		Pn	20 34 27.5	+0.4
BOSA				*e*S		Sn	20 34 54.8	+0.6
BOSA				AML		AML	20 35 03.0	
	comp=Z,5.1nm,0.5s							

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*NIED **04** 20:41:00, 33°.20N×135°.30E, h11km, Mw3.9 Best double couple: M0 9.04000×10^14 NP1: φs 327.00000°, δ 78.00000°, λ -35.00000°. NP2: φs 65.00000°, δ 56.00000°, λ -165.00000°.*
*ISCJB **04** 20:41:48.9±1.1, 33°.16N±0°.06×135°.31E±0°.04, h28km±6km, mb3.6/6, Error ellipse: s-maj=10.3km s-min=5.7km az=160.9*
*JMA **04** 20:41:50.0, 33°.20N×135°.34E, h32km±1km, M4.2*
JMA Felt II J1.
*IDC **04** 20:41:52.0±4.5, 33°.51N×135°.20E, h20km±29km, mb3.5/6, mb1 3.7/9, mb1mx3.5/26, mbtmp3.5/9, ML3.3/3, Error ellipse: s-maj=28.0km s-min=18.4km az=152.0*
ISC 04 20:41:49.8±1.4, 33°.22N±0°.08×135°.29E±0°.04, h19km±4km, n18, σ0§81/26, mb3.6/6, 4C-3D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JWZ	**Kozaga**	**0.47**	**49**	⇑P		**Pg**	**20 41 59.4**	**-0.1**
JWZ				S		**Sb**	**20 42 06.3**	**0.0**
JWM	**Minabe**	**0.63**	**5**	⇑P		**Pg**	**20 42 02.5**	**+0.3**
JWM				S		**Sb**	**20 42 11.2**	**+0.5**
JAI	**Aioi**	**0.90**	**310**	⇓P		**Pg**	**20 42 07.0**	**-0.4**
JAI				S		**Sn**	**20 42 20.2**	**+0.1**
JWY	**Kouya**	**1.03**	**14**	⇑P		**Pb**	**20 42 08.5**	**-0.6**
JWY				S		**Sb**	**20 42 21.8**	**-0.6**
JAJ2	**Tsuna**	**1.25**	**345**	⇓P		**Pb**	**20 42 12.3**	**-0.4**
JAJ2				*e*S		**Sn**	**20 42 28.0**	**-0.5**
JMN	**Monobe**	**1.28**	**294**	⇓P		**Pn**	**20 42 12.4**	**-0.4**
JKN2	**Miekihoku**	**1.31**	**39**	⇑P		**Pn**	**20 42 12.0**	**-1.1**
JKN2				S		**Sn**	**20 42 29.2**	**-0.9**
TTO1	**TONANKAI O.B.S**	**1.32**	**72**	*e*S		**Sn**	**20 42 28.2**	**-1.7**
JNU	**Nakatsue**	**3.70**	**270**	Pn		**Pn**	**20 42 45.9**	**-0.1**
	5.8nm,0.3s,baz=81,slow=4.6,SNR=119							
JNU				Sn		**Sn**	**20 43 27.9**	**-1.2**
	3.6nm,0.3s,baz=101,slow=7.6,SNR=3.7							
MAT	**Matsushiro**	**4.09**	**35**	P		**Pn**	**20 42 51.3**	**-0.2**
MAT				*e*S		**Sn**	**20 43 40.6**	**+1.7**
MJAR	**Matsushiro Arr**	**4.09**	**35**	Pn		**Pn**	**20 42 51.6**	**+0.1**
	1.4nm,0.3s,baz=193,slow=15,SNR=20							
MJAR				Pg		**Pb**	**20 43 02.3**	**+0.9**
	5.2nm,0.3s,baz=217,slow=16,SNR=21							
MJAR				Lg		Lg	20 43 57.6	
	2.8nm,0.3s,baz=222,slow=27,SNR=6.0							
KSRS	**Korea Array**	**7.35**	**307**	Pn		**Pn**	**20 43 36.1**	**-0.1**
	0.2nm,0.3s,baz=125,slow=15,SNR=3.2							
SONM	**Songino Array**	**26.18**	**312**	P		**P**	**20 47 23.2**	**0.0**
	0.9nm,0.9s,baz=118,slow=8.4,SNR=5.6							
CMAR	**Chiang Mai Arr**	**35.66**	**255**	P		**P**	**20 48 47.9**	**+0.9**
	0.6nm,0.7s,baz=49,slow=7.1,SNR=5.4							
MKAR	**Makanchi Array**	**42.03**	**305**	P		**P**	**20 49 40.9**	**+0.9**
	1.8nm,0.6s,baz=91,slow=10,SNR=26							
WRA	**Warramunga Arr**	**52.87**	**181**	P		P	20 51 09.6	+5.1
	0.7nm,0.9s,baz=355,slow=8.1,SNR=4.4							
ILAR	**Eielson Array**	**55.36**	**31**	P		**P**	**20 51 22.4**	**+0.2**
	0.7nm,0.6s,baz=262,slow=5.5,SNR=14							
YKA	**Yellowknife Ar**	**69.57**	**28**	P		**P**	**20 52 56.4**	**-0.8**
	0.1nm,0.2s,baz=305,slow=6.4,SNR=3.2							

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*IDC **04** 20:50:56.0±0.8, 32°.96S×71°.86W, h0km, mb4.4/8, mb1 4.5/10, mb1mx4.4/15, mbtmp4.4/10, ML4.4/2, MS3.8/10, Ms1 3.8/10, ms1mx3.7/19, Error ellipse: s-maj=28.4km s-min=17.8km az=92.0*
*ISCJB **04** 20:50:58.0±0.9, 32°.98S±0°.03×72°.10W±0°.05, h25km±5km, mb4.3/10, MS3.9/7, Error ellipse: s-maj=7.2km s-min=5.0km az=159.9*
*NEIC **04** 20:50:59.1, 32°.98S×72°.04W, h26km, mb4.4/2, ML4.5(GUC), After GUC.*
*GUC **04** 20:50:59.1±0.9, 32°.98S×72°.04W, h26km±10km, ML4.5*
ISC 04 20:50:59.0±0.6, 32°.98S±0°.03×72°.04W±0°.08, h21km±4km, n78, σ0§68/90, mb4.5/10, MS4.0/7, 13C-12D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IHA	**Instituto Hidr**	**0.34**	**99**	⇓*i*P		**Pb**	**20 51 06.4**	**+0.1**
IHA	**Instituto Hidr**	**0.34**	**99**	⇓*i*P		**Pb**	**20 51 06.4**	**+0.1**
LCCH	**Las Cruces**	**0.63**	**142**	⇑*i*P		**Pb**	**20 51 11.0**	**-0.5**
LCCH	**Las Cruces**	**0.63**	**142**	⇑*i*P		**Pb**	**20 51 11.0**	**-0.5**
PACH	**Papudo**	**0.67**	**49**	⇑*i*P		**Pb**	**20 51 12.2**	**+0.1**
PACH				*e*S		**Sb**	**20 51 21.0**	**0.0**
PACH	**Papudo**	**0.67**	**49**	⇑*i*P		**Pb**	**20 51 12.2**	**+0.1**
PACH				*e*S		**Sb**	**20 51 21.0**	**0.0**
ROCH	**El Roble**	**0.86**	**90**	⇓*i*P		**Pb**	**20 51 14.7**	**-0.7**
ROCH				*e*S		**Sb**	**20 51 26.4**	**-0.3**
ROCH				AML		AML	20 51 31.3	
	comp=E,26μm,0.7s							
LNV	**Longovilo**	**1.11**	**152**	⇓*i*P		**Pn**	**20 51 18.5**	**-0.8**
LNV	**Longovilo**	**1.11**	**152**	⇓*i*P		**Pn**	**20 51 18.5**	**-0.8**
TACH	**Talagante**	**1.14**	**127**	⇑*i*P		**Pn**	**20 51 19.1**	**-0.6**
TACH				*e*S		**Sb**	**20 51 34.3**	**-0.2**
TACH	**Talagante**	**1.14**	**127**	⇑*i*P		**Pn**	**20 51 19.1**	**-0.6**
TACH				*e*S		**Sb**	**20 51 34.3**	**-0.2**
PEL	**Peldehue**	**1.15**	**99**	⇑*i*P		**Pn**	**20 51 19.7**	**-0.2**
PEL				*i* S		**Sb**	**20 51 34.4**	**-0.3**
PEL				AML		AML	20 51 36.1	
	comp=E,35μm,0.3s							
RCDM	**Rinconada Maip**	**1.15**	**117**	*e*P		**Pn**	**20 51 19.1**	**-0.8**
RCDM				*e*S		**Sn**	**20 51 34.9**	**-0.1**
RCDM	**Rinconada Maip**	**1.15**	**117**	*e*P		**Pn**	**20 51 19.1**	**-0.8**
RCDM				*e*S		**Sn**	**20 51 34.9**	**-0.1**
RCDM				AML		AML	20 51 39.8	
	comp=N,17μm,0.4s							
PTCH	**Petorca**	**1.17**	**53**	*e*P		**Pb**	**20 51 20.3**	**-0.3**
PTCH				*i* S		**Sn**	**20 51 35.8**	**+0.2**
PTCH	**Petorca**	**1.17**	**53**	*e*P		**Pb**	**20 51 20.3**	**-0.3**
PTCH				*i* S		**Sn**	**20 51 35.8**	**+0.2**
PTCH				AML		AML	20 51 42.1	
	comp=N,21μm,0.4s							
CHNG	**Los Chungos**	**1.18**	**23**	⇑*i*P		**Pn**	**20 51 20.0**	**-0.3**
CHNG				*i* S		**Sn**	**20 51 34.9**	**-0.7**
CHNG	**Los Chungos**	**1.18**	**23**	⇑*i*P		**Pn**	**20 51 20.0**	**-0.3**
CHNG				*i* S		**Sn**	**20 51 34.9**	**-0.7**
CHNG				AML		AML	20 51 37.3	
	comp=E,17μm,0.3s							
SAN	**Santiago**	**1.25**	**113**	⇓*i*P		**Pn**	**20 51 21.1**	**-0.1**
SAN				*i* S		**Sb**	**20 51 37.4**	**-0.1**
SAN	**Santiago**	**1.25**	**113**	⇓*i*P		**Pn**	**20 51 21.1**	**-0.1**
SAN				*i* S		**Sb**	**20 51 37.4**	**-0.1**
JACH	**Jahuel**	**1.25**	**77**	⇑*i*P		**Pn**	**20 51 20.9**	**-0.5**
JACH	**Jahuel**	**1.25**	**77**	⇑*i*P		**Pn**	**20 51 20.9**	**-0.5**
ANTU	**Antumapu**	**1.32**	**117**	*e*P		**Pn**	**20 51 22.2**	**+0.1**
ANTU	**Antumapu**	**1.32**	**117**	*e*P		**Pn**	**20 51 22.2**	**+0.1**
ANTU				AML		AML	20 51 43.0	
	comp=N,17μm,0.5s							
CLCH	**Cerro Calan**	**1.33**	**109**	⇓*i*P		**Pn**	**20 51 22.5**	**+0.1**
CLCH				*i* S		**Sb**	**20 51 41.1**	**+1.3**
CLCH				AML		AML	20 51 44.1	
	comp=N,19μm,0.4s							
CLCH				AML		AML	20 51 44.8	
	comp=N,23μm,0.5s							
FSR	**Penalolen**	**1.36**	**112**	AML		AML	20 51 46.3	
	comp=N,4μm,0.5s							
PCH	**Pirque**	**1.43**	**117**	⇑*i*P		**Pn**	**20 51 23.8**	**+0.1**
PCH	**Pirque**	**1.43**	**117**	⇑*i*P		**Pn**	**20 51 23.8**	**+0.1**
CHCH	**Chadas Angostu**	**1.50**	**130**	⇓*i*P		**Pn**	**20 51 24.5**	**-0.2**
CHCH	**Chadas Angostu**	**1.50**	**130**	⇓*i*P		**Pn**	**20 51 24.5**	**-0.2**
FCH	**Farellones**	**1.51**	**104**	AML		AML	20 51 59.0	
	comp=E,10μm,0.5s							
SJCH	**San Jose de Ma**	**1.56**	**116**	AML		AML	20 51 48.1	
	comp=E,11μm,0.5s							
LMEL	**Las Melosas**	**1.76**	**120**	⇓*i*P		**Pn**	**20 51 29.3**	**+0.9**
LMEL	**Las Melosas**	**1.76**	**120**	⇓*i*P		**Pn**	**20 51 29.3**	**+0.9**
LMEL				AML		AML	20 51 58.5	
	comp=E,14μm,0.8s							
OVCH	**Ovalle**	**2.47**	**17**	*e*P		**Pn**	**20 51 38.7**	**+0.7**
OVCH	**Ovalle**	**2.47**	**17**	*e*P		**Pn**	**20 51 38.7**	**+0.7**
CFAA	**Coronel Fontan**	**3.50**	**68**	Pn		**Pn**	**20 51 53.4**	**+1.3**
CFAA				Lg		Lg	20 52 42.4	
CFAA	**Coronel Fontan**	**3.50**	**68**	Pn		**Pn**	**20 51 53.4**	**+1.3**
	comp=E,4.6nm,0.3s,baz=241,slow=13,SNR=98							
CFAA				Lg		Lg	20 52 42.4	
	comp=E,13nm,0.3s,baz=150,slow=20,SNR=11							
CFAA				LR		LR	20 53 29.1	
	comp=E,220nm,20.0s,baz=232,slow=46							
LCO	**Las Campanas**	**4.12**	**17**	*e*P		**Pn**	**20 52 00.7**	**-0.2**
PLCA	**Paso Flores**	**7.83**	**172**	*e*P		**Pn**	**20 52 52.2**	**+0.5**
	comp=E,20nm,1.1s							
PLCA				Lg		Lg	20 55 02.2	
PLCA	**Paso Flores**	**7.83**	**172**	Pn		**Pn**	**20 52 52.4**	**+0.6**
	comp=E,1.4nm,0.3s,baz=338,slow=13,SNR=27							
PLCA				Lg		Lg	20 55 02.2	
	comp=E,0.2nm,0.3s,baz=261,slow=21,SNR=3.2							
PLCA				LR		LR	20 56 11.7	
	comp=E,307nm,21.9s,baz=299,slow=40							
TRQA	**Tornquist**	**9.64**	**125**	*e*P		**Pn**	**20 53 17.0**	**+0.6**
	comp=E,56nm,1.0s							
LPAZ	**La Paz**	**16.99**	**13**	*e*P		**Pn**	**20 54 56.3**	**+0.4**
	comp=E,0.9nm,0.9s							
SIV	**San Ignacio**	**19.61**	**33**	P		**P**	**20 55 25.1**	**-0.9**
SIV	**San Ignacio**	**19.61**	**33**	P		**P**	**20 55 25.1**	**-0.9**
	comp=E,0.3nm,0.3s,baz=209,slow=14,SNR=16							
SIV				LR		LR	21 04 23.9	
	comp=E,375nm,18.5s,slow=41							
USHA	**Ushuaia**	**22.00**	**174**	LR		LR	21 05 48.8	
	comp=E,231nm,18.3s,baz=13,slow=41							
SAML	**Samuel**	**25.27**	**21**	*e*P		**P**	**20 56 23.1**	**-0.8**
	comp=E,11nm,1.0s							
ATAH	**Atahualpa**	**26.38**	**346**	LR		LR	21 05 19.5	
	comp=E,68nm,18.5s,baz=107,slow=33							
BDFB	**Brasilia**	**27.77**	**57**	P		**P**	**20 56 45.4**	**-1.1**
BDFB	**Brasilia**	**27.77**	**57**	P		**P**	**20 56 45.4**	**-1.1**
	comp=E,5.6nm,0.5s,baz=233,slow=4.6,SNR=11							
BDFB				LR		LR	21 09 18.3	
	comp=E,428nm,18.9s,baz=341,slow=40							
SDV	**Santo Domingo**	**41.65**	**2**	*e*P		**P**	**20 58 44.9**	**-1.2**
	comp=E,6.6nm,0.9s							
VNA3	**Neumayer Olymp**	**50.30**	**158**	*e*		**P**	**20 59 54.7**	**+1.1**
VNA1	**Neumayer--Stat**	**50.61**	**157**	*e*		**P**	21 00 03.8	+8.0
VNA2	**Neumayer--Watz**	**50.95**	**158**	*e*		**P**	**20 59 59.5**	**+1.0**
baz=292,slow=8.1								
SNAA	**Sanae**	**52.53**	**158**	*e*		P	21 00 06.1	-4.2
QSPA	**South Pole Qui**	**57.26**	**180**	P		**P**	**21 00 45.7**	**+1.1**
QSPA	**South Pole Qui**	**57.26**	**180**	P		**P**	**21 00 45.7**	**+1.1**
	comp=E,5.8nm,1.0s,baz=144,slow=4.3,SNR=12							
TXAR	**Lajitas Array**	**68.84**	**331**	P		**P**	**21 02 03.3**	**+1.4**
TXAR	**Lajitas Array**	**68.84**	**331**	P		**P**	**21 02 03.3**	**+1.4**
	comp=E,0.9nm,0.7s,baz=152,slow=8.7,SNR=6.8							
TXAR				LR		LR	21 28 26.4	
	comp=E,87nm,18.2s,baz=185,slow=33							
DBIC	**Dimbokro**	**74.85**	**72**	P		**P**	**21 02 38.2**	**0.0**
DBIC	**Dimbokro**	**74.85**	**72**	P		**P**	**21 02 38.2**	**0.0**
	comp=E,4.7nm,0.6s,baz=223,slow=6.7,SNR=15							
DBIC				LR		LR	21 31 23.0	
	comp=E,88nm,19.5s,baz=216,slow=32							
BOSA	**Boshof**	**80.55**	**118**	P		**P**	**21 03 10.0**	**-0.1**
BOSA	**Boshof**	**80.55**	**118**	P		**P**	**21 03 10.0**	**-0.1**
	comp=E,7.1nm,0.7s,baz=244,slow=5.0,SNR=14							
BOSA				LR		LR	21 35 36.4	
	comp=E,93nm,18.9s,baz=82,slow=33							
PDAR	**Pinedale Array**	**82.85**	**333**	P		**P**	**21 03 22.5**	**+0.7**
PDAR	**Pinedale Array**	**82.85**	**333**	P		**P**	**21 03 22.5**	**+0.7**
	comp=E,0.3nm,0.7s,baz=141,slow=7.7,SNR=2.6							
TORD	**Torodi Ar. Bea**	**83.86**	**70**	P		**P**	**21 03 27.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**83.86**	**70**	P		**P**	**21 03 27.2**	**-0.1**
	comp=E,5.5nm,0.8s,baz=244,slow=4.4,SNR=29							
TORD				LR		LR	21 36 37.4	
	comp=E,107nm,19.8s,baz=320,slow=33							
SCHQ	**Schefferville**	**87.57**	**3**	P		**P**	**21 03 45.0**	**+0.1**
SCHQ	**Schefferville**	**87.57**	**3**	P		**P**	**21 03 45.0**	**+0.1**
	comp=E,3.0nm,1.0s,baz=225,slow=8.6,SNR=3.4							
WRA	**Warramunga Arr**	**121.65**	**209**	PKP		**PKPdf**	**21 09 51.4**	**-0.3**
WRA	**Warramunga Arr**	**121.65**	**209**	PKP		**PKPdf**	**21 09 51.4**	**-0.3**
	comp=E,0.4nm,0.5s,baz=164,slow=1.9,SNR=5.8							
KKAR	**Karatay Array**	**149.04**	**60**	*e*PKPbc		**PKPbc**	**21 10 45.2**	**-0.1**
AAK	**Ala-Archa**	**152.01**	**60**	*e*PKPbc		**PKPbc**	**21 10 53.4**	**+0.8**
ZALV	**Zalesovo Beam**	**153.36**	**31**	PKPbc		**PKPbc**	**21 10 55.4**	**+0.5**
ZALV				PKPab		**PKPab**	**21 11 06.9**	**-0.2**
ZALV	**Zalesovo Beam**	**153.36**	**31**	PKPbc		**PKPbc**	**21 10 55.4**	**+0.5**
	comp=E,3.1nm,0.7s,baz=308,slow=3.3,SNR=12							
ZALV				PKPab		**PKPab**	**21 11 06.9**	**-0.2**
	comp=E,2.8nm,0.6s,baz=306,slow=4.3,SNR=8.3							
MK31	**Makanchi Array**	**156.08**	**47**	*e*PKPab		**PKPab**	**21 11 19.3**	**+0.3**
MKAR	**Makanchi Array**	**156.08**	**47**	PKP		**PKPdf**	**21 10 49.6**	**-1.8**
MKAR				PKPab		**PKPab**	**21 11 18.7**	**-0.3**
MKAR	**Makanchi Array**	**156.08**	**47**	PKP		**PKPdf**	**21 10 49.6**	**-1.8**
	comp=E,0.4nm,0.8s,baz=54,slow=1.4,SNR=3.7							
MKAR				PKPab		**PKPab**	**21 11 18.7**	**-0.3**
	comp=E,1.3nm,0.7s,baz=292,slow=4.1,SNR=14							

GUC 04 20:54:05.2±0.6, 33°.02S×72°.05W, h78km±23km, MD3.8, ML3.8, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LNV	**Longovilo**	**1.08**	**150**	*e*P		Pn	20 54 25.1	0.0
STL	**Santa Lucia**	**1.26**	**110**	⇑*i*P		Pn	20 54 27.3	0.0
STL				*i* S		Sn	20 54 44.8	+0.8
FSR	**Penalolen**	**1.36**	**110**	*i* P		Pn	20 54 29.3	+0.6
FSR				*i* S		Sn	20 54 47.1	+0.7
FSR				*e*S			20 54 47.3	
FSR				AML		AML	20 54 51.0	
	comp=N,713nm,0.3s							
CHCH	**Chadas Angostu**	**1.49**	**128**	*e*P		Pn	20 54 31.0	+0.6
CHCH				*i* S		Sn	20 54 50.0	+0.7
SJCH	**San Jose de Ma**	**1.55**	**114**	⇑*i*P		Pn	20 54 31.4	+0.1
SJCH				*i* S		Sn	20 54 51.6	+0.6
SJCH				AML		AML	20 54 53.4	
	comp=E,2μm,0.5s							
OVCH	**Ovalle**	**2.51**	**17**	*i* P		Pn	20 54 44.4	+0.5
OVCH				*i* S		Sn	20 55 14.0	+0.5
OVCH				AML		AML	20 55 28.9	
	comp=N,1μm,0.4s							

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*BJI **04** 21:25:35.7, 0°.00N×123°.80E, h116km, mB5.0/6, mb4.5/10*
*ISCJB **04** 21:25:37.7±0.6, 0°.02N±0°.04×123°.83E±0°.04, h130km±6km, mb4.3/38, Error ellipse: s-maj=7.0km s-min=6.5km az=43.3*
*IDC **04** 21:25:38.2±0.6, 0°.03N×123°.77E, h119km±5km, mb4.0/21, mb1 4.2/23, mb1mx4.2/25, mbtmp4.0/23, MS3.1/2, Ms1 3.1/2, ms1mx2.6/26, Error ellipse: s-maj=16.0km s-min=8.7km az=85.0*
*DJA **04** 21:25:40, 0°.18S×123°.94E, h107km, MLv4.9/12*
*NEIC **04** 21:25:40.2±1.3, 0°.00S×123°.87E, h143km±13km, mb4.5/16, Error ellipse: s-maj=12.6km s-min=6.2km az=63.0*
ISC 04 21:25:38.2±0.5, 0°.01S±0°.05×123°.79E±0°.05, h119km±4km, h119km:pP-P, n104, σ0§99/121, mb4.6/47, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res

MAT	Matsushiro	38.75	19	P		P	21 32 50.2	-0.8
MJAR	Matsushiro Arr	38.75	19	P		P	21 32 50.5	-0.5
MJAR				pP		pP	21 33 16.2	-1.6
MJAR	Matsushiro Arr	38.75	19	P		P	21 32 50.5	-0.5
	5.6nm,0.6s,baz=195,slow=9.5,SNR=25							
MJAR				pP		pP	21 33 16.2	-1.6
	2.3nm,0.7s,baz=192,slow=8.7,SNR=3.0							
ARMA	Armidale	40.19	141	eP		P	21 33 05.1	+1.9
LSA	Lhasa	42.90	316	P		P	21 33 28.2	+2.5
LSA	Lhasa	42.90	316	eP		P	21 33 26.9	+1.2
	3.1nm,0.4s							
ODAN	Odare	44.03	310	eP		P	21 33 35.4	+0.8
	6.9nm,0.4s							
TAPN	Taplejung	44.05	311	eP		P	21 33 35.7	+0.9
	6.4nm,0.4s							
USRK	Ussuriysk Arra	44.62	8	P		P	21 33 39.0	+0.4
	4.2nm,0.4s,baz=198,slow=6.5,SNR=21							
RAMN	Ramite	44.68	310	eP		P	21 33 40.9	+1.1
	25nm,0.5s							
GTA	Gaotai	44.95	334	eP		P	21 33 43.5	+2.0
GTA				pmax		pmax		
	comp=Z,5.0nm,1.4s							
JIRN	Jiri	45.36	310	eP		P	21 33 46.0	+0.7
	comp=Z,11nm,0.4s							
GUN	Gumba	45.72	311	eP		P	21 33 49.0	+0.9
	comp=Z,18nm,0.4s							
PKI	Pulchoki	45.91	310	eP		P	21 33 49.6	0.0
	comp=Z,4.4nm,0.3s							
KKN	Kakani	46.12	310	eP		P	21 33 51.0	-0.1
	comp=Z,4.4nm,0.4s							
DMN	Daman	46.16	310	eP		P	21 33 52.1	+0.7
	comp=Z,5.1nm,0.3s							
GKN	Gorkha	46.72	310	eP		P	21 33 56.4	+0.7
	comp=Z,7.5nm,0.3s							
KOLN	Koldanda	47.40	309	eP		P	21 34 01.1	0.0
DANN	Dangsing	47.56	310	eP		P	21 34 02.7	+0.3
HYB	Hyderabad	47.76	294	i P		P	21 34 03.0	-0.8
ULN	Ulaanbaatar	49.85	345	eP		P	21 34 19.0	-0.4
	comp=Z,1.9nm,0.7s							
SONM	Songino Array	50.00	345	P		P	21 34 20.2	-0.2
SONM				pP		pP	21 34 48.7	+0.3
SONM				PcP		PcP	21 35 38.2	-0.5
SONM	Songino Array	50.00	345	P		P	21 34 20.2	-0.2
	comp=Z,1.9nm,0.7s,baz=159,slow=8.5,SNR=20							
SONM				pP		pP	21 34 48.7	+0.3
	comp=Z,1.2nm,0.9s,baz=166,slow=7.1,SNR=3.2							
SONM				PcP		PcP	21 35 38.2	-0.5
	comp=Z,0.2nm,0.3s,baz=166,slow=3.3,SNR=2.9							
WMQ	Urumqi	54.21	328	P		P	21 34 53.6	+1.9
WMQ				pmax		pmax		
	comp=Z,7.0nm,1.0s							
WMQ				pmax		pmax		
	comp=Z,190nm,5.6s							
MK31	Makanchi Array	59.04	328	eP		P	21 35 25.4	-0.3
MK31				ePcP		PcP	21 36 13.0	-0.3
MKAR	Makanchi Array	59.04	328	eP		P	21 35 25.7	0.0
MKAR				PcP		PcP	21 36 12.9	-0.4
MKAR				ScP		ScP	21 40 02.5	-0.6
MKAR	Makanchi Array	59.04	328	P		P	21 35 25.5	-0.2
	comp=Z,4.8nm,0.5s,baz=123,slow=7.8,SNR=87							
MKAR				PcP		PcP	21 36 12.9	-0.4
	comp=Z,1.8nm,0.5s,baz=144,slow=4.1,SNR=11							
MKAR				ScP		ScP	21 40 02.5	-0.6
	comp=Z,0.1nm,0.5s,baz=128,slow=5.0,SNR=2.6							
PETK	Petropavlovsk-	59.98	23	P		P	21 35 32.7	+0.6
PETK	Petropavlovsk-	59.98	23	P		P	21 35 32.7	+0.6
	comp=Z,3.2nm,0.6s,baz=222,slow=9.7,SNR=5.2							
TKM2	Tokmak 2	60.69	321	eP		P	21 35 37.7	+0.4
	comp=Z,4.2nm,1.1s							
AAK	Ala-Archa	61.24	320	eP		P	21 35 39.4	-1.5
	comp=Z,7.7nm,0.7s							
AAK				sP		sP	21 36 23.1	+0.1
AAK	Ala-Archa	61.24	320	P		P	21 35 41.4	+0.4
	comp=Z,0.8nm,0.4s,baz=69,slow=8.4,SNR=6.1							
AAK				sP		sP	21 36 23.1	+0.1
	comp=Z,1.1nm,0.5s,baz=122,slow=9.5,SNR=3.0							
KBL	Kabul	61.55	310	eP		P	21 35 43.0	-0.3
	comp=Z,8.0nm,0.6s							
YAK	Yakutsk	62.04	3	eP		P	21 35 45.7	0.0
	comp=Z,26nm,0.6s							
ZALV	Zalesovo Beam	62.65	335	P		P	21 35 48.3	-1.6
ZALV	Zalesovo Beam	62.65	335	P		P	21 35 48.3	-1.6
	comp=Z,1.3nm,0.4s,baz=129,slow=6.6,SNR=4.2							
KURBB	Kurchatov Arra	63.37	330	P		P	21 35 53.9	-0.9
	comp=Z,5.5nm,0.6s,baz=131,slow=6.0,SNR=66							
KURBB				pP		pP	21 36 23.3	-0.6
	comp=Z,1.1nm,0.6s,baz=135,slow=6.1,SNR=2.5							
KURK	Kurchatov	63.38	330	eP		P	21 35 54.4	-0.4
	comp=Z,10nm,0.7s							
KURK				pP		pP	21 36 23.3	-0.6
BVAR	Borovoye Array	68.90	329	P		P	21 36 29.0	-1.1
BVAR				pP		pP	21 36 59.1	-0.5
BVAR	Borovoye Array	68.90	329	P		P	21 36 29.0	-1.1
	comp=Z,0.8nm,0.4s,baz=125,slow=9.3,SNR=8.6							
BVAR				pP		pP	21 36 59.1	-0.5
	comp=Z,0.8nm,0.7s,baz=129,slow=5.7,SNR=2.9							
BRVK	Borovoye	68.97	329	eP		P	21 36 29.7	-0.8
	comp=Z,1.2nm,0.4s							
ABKAR	Akbulak array	73.22	322	eP		P	21 36 55.4	-0.8
OPO	Ambohidratompo	77.30	251	P		P	21 37 21.1	+0.7
OPO	Ambohidratompo	77.30	251	P		P	21 37 21.1	+0.7
	comp=Z,2.1nm,0.8s,baz=86,slow=8.0,SNR=4.7							
ILAR	Eielson Array	89.72	25	P		P	21 38 21.6	-1.1
ILAR	Eielson Array	89.72	25	P		P	21 38 21.6	-1.1
	comp=Z,0.5nm,0.9s,baz=265,slow=4.4,SNR=4.4							
BRTR	Keskin Array B	90.12	310	P		P	21 38 23.8	-1.5
BRTR	Keskin Array B	90.12	310	P		P	21 38 23.8	-1.5
	comp=Z,0.7nm,0.8s,baz=98,slow=2.9,SNR=4.3							
AKASG	Malin Array Be	92.91	321	P		P	21 38 36.1	-1.7
AKASG	Malin Array Be	92.91	321	P		P	21 38 36.1	-1.7
	comp=Z,0.8nm,0.6s,baz=75,slow=4.0,SNR=4.4							
ARCES	ARCESS Array B	92.91	340	P		P	21 38 36.0	-1.4
ARCES	ARCESS Array B	92.91	340	P		P	21 38 36.1	-1.4
	comp=Z,8.4nm,1.0s,baz=62,slow=3.7,SNR=6.5							
FINES	FINESS Array B	93.70	332	P		P	21 38 39.9	-1.3
FINES	FINESS Array B	93.70	332	P		P	21 38 39.9	-1.3
	comp=Z,1.0nm,0.5s,baz=83,slow=4.6,SNR=5.9							
TORD	Torodi Ar. Bea	121.17	285	PKP		PKPdf	21 44 17.8	-0.3
TORD	Torodi Ar. Bea	121.17	285	PKP		PKPdf	21 44 17.7	-0.3
	comp=Z,0.9nm,0.6s,baz=84,slow=1.7,SNR=11							
SCHQ	Schefferville	124.66	7	PKP		PKPdf	21 44 24.1	+0.4
SCHQ	Schefferville	124.66	7	PKP		PKPdf	21 44 24.1	+0.4
	comp=Z,0.9nm,0.4s,baz=358,slow=3.7,SNR=5.9							

WEL 04 21:50:08.1±0.1, 36.71S×177.04E, h206km±1km, ML3.5/9, Error ellipse: s-maj=1.5km s-min=1.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.32	130	PN	Pn	21 50 41.0	+0.2
MXZ				SN	S	21 51 06.1	+0.1
URZ	Urewera	1.55	178	PN	Pn	21 50 42.8	+0.2
URZ				SN	S	21 51 09.8	+0.3
MWZ	Matawai	1.67	167	PN	Pn	21 50 44.0	+0.2
MWZ				SN	S	21 51 11.8	+0.3
PUZ	Puketiti	1.67	145	PN	Pn	21 50 43.8	-0.1
PUZ				SN	S	21 51 10.9	-0.5
CNGZ	Carnagh Statio	2.00	153	PN	Pn	21 50 47.1	+0.2
CNGZ				SN	S	21 51 17.7	+0.7
RAHZ	Arahi	2.20	179	SN	S	21 51 20.6	-0.2
PRGZ	Paritu Road	2.31	163	SN	S	21 51 19.6	-3.2
KNZ	Kokohu	2.36	168	PN	Pn	21 50 50.1	-0.6
KNZ				SN	S	21 51 22.2	-1.5
NMHZ	Naumai	2.39	184	PN	Pn	21 50 51.5	+0.3
BKZ	Black Stump Fm	2.49	190	PN	Pn	21 50 51.6	-0.7
MCHZ	McNeill Hill	2.74	186	PN	Pn	21 50 54.7	-0.3
MCHZ				SN	S	21 51 31.1	-0.2
WNVZ	Wahianoa	2.85	203	PN	Pn	21 50 56.2	-0.2
BHHZ	Black Hill Sta	2.88	195	PN	Pn	21 50 55.5	-1.2
KAHZ	Kahuranaki	3.08	182	PN	Pn	21 50 57.9	-1.0
KAHZ				SN	S	21 51 38.9	+0.4
PNHZ	Pukenui	3.27	191	PN	Pn	21 50 59.4	-1.7
PNHZ				SN	S	21 51 42.1	-0.3
PXZ	Pawanui	3.32	182	PN	Pn	21 51 00.0	-1.7
PXZ				SN	S	21 51 40.4	-2.9
PRHZ	Porangahau	3.56	185	PN	Pn	21 51 02.9	-1.8
PRHZ				SN	S	21 51 46.4	-2.4
MRZ	Mangatainoka R	4.11	196	PN	Pn	21 51 08.4	-3.0
MRZ				SN	S	21 51 57.2	-3.6
TIWZ	Tintock	4.16	192	PN	Pn	21 51 10.1	-1.9
HOWZ	Holdsworth Sta	4.35	195	PN	Pn	21 51 11.7	-2.7
OGWZ	Otaki Gorge	4.35	199	PN	Pn	21 51 11.5	-2.8
KIW	Kapiti Island	4.47	201	PN	Pn	21 51 13.1	-2.7
CAW	Cannon Point	4.65	199	PN	Pn	21 51 15.0	-3.1
TCW	Tory Channel	4.98	205	PN	Pn	21 51 19.9	-2.4
MQZ	McQueen's Vall	7.75	204	SN	S	21 53 14.7	-11

IDC 04 21:56:41.3±3.8, 11.95N×86.96W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.4/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/24, Error ellipse: s-maj=87.5km s-min=60.2km az=17.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	Tepich	8.33	351	LR	LR	22 01 53.2	
	comp=Z,56nm,21.0s,baz=277,slow=37						
TXAR	Lajitas Array	23.27	321	P	P	22 01 51.0	+0.3
	0.8nm,0.7s,baz=128,slow=11,SNR=6.8						
SCHQ	Schefferville	45.62	16	P	P	22 05 03.8	+0.4
	0.6nm,0.4s,baz=234,slow=9.3,SNR=5.2						
YKA	Yellowknife Ar	54.22	345	P	P	22 06 07.7	-0.9
	0.2nm,0.6s,baz=136,slow=7.8,SNR=4.1						
CMAR	Chiang Mai Arr	149.23	349	PKPbc	PKPbc	22 16 32.3	-0.6
	0.6nm,0.3s,baz=356,slow=3.2,SNR=5.6						

IDC 04 22:14:18.4±1.4, 17.61S×172.13W, h0km, mb3.8/6, mb1 4.2/7, mb1mx4.0/19, mbtmp3.9/7, ML2.0/1, MS3.4/3, Ms1 3.5/3, ms1mx3.0/33, Error ellipse: s-maj=64.7km s-min=22.5km az=146.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.69	5	Pn	Pn	22 15 17.7	+0.8
	6.3nm,0.3s,baz=175,slow=12,SNR=2.9						
AFI				Sn	Sn	22 15 53.3	-8.0
	13nm,0.3s,baz=192,slow=20,SNR=3.7						
DZM	Mont Dzumac	20.63	254	LR	LR	22 24 02.6	
	comp=Z,111nm,20.7s,baz=226,slow=28						
PPT2	Papeete2	21.50	93	eLR	LR	22 24 02.0	
	123nm,26.0s						
TBI	Tubuai	21.98	109	eLR	LR	22 24 03.6	
	188nm,32.8s						
HNR	Honiara	28.31	283	LR	LR	22 29 53.6	
	comp=Z,47nm,21.1s,baz=260,slow=33						
WRA	Warramunga Arr	50.56	258	P	P	22 23 18.9	-0.3
	1.4nm,0.8s,baz=98,slow=7.5,SNR=11						
ASAR	Alice Springs	50.62	254	P	P	22 23 19.9	+0.3
	3.1nm,0.7s,baz=91,slow=8.4,SNR=28						
NVAR	Mina Array Bea	75.17	41	P	P	22 26 02.8	-0.3
	0.4nm,0.4s,baz=230,slow=8.1,SNR=2.6						
TXAR	Lajitas Array	80.84	55	P	P	22 26 35.3	+0.6
	0.6nm,0.7s,baz=217,slow=7.4,SNR=5.3						
PDAR	Pinedale Array	83.10	41	P	P	22 26 46.4	0.0
	0.4nm,0.9s,baz=233,slow=5.3,SNR=3.0						
ILAR	Eielson Array	84.37	11	P	P	22 26 51.8	-0.3
	0.6nm,0.8s,baz=219,slow=6.4,SNR=7.7						
CMAR	Chiang Mai Arr	94.45	288	LR	LR	23 12 03.2	
	comp=Z,30nm,18.2s,baz=10.0,slow=37						
BRTR	Keskin Array B	148.62	320	PKPbc	PKPbc	22 34 06.6	-1.4
	0.9nm,1.0s,baz=54,slow=2.1,SNR=3.8						

*ISCJB **04** 22:14:24.7±0.7, 37.82N±0.07×135.12E±0.08, h403km, Error ellipse: s-maj=9.7km s-min=8.3km az=10.2*
*IDC **04** 22:14:25.6±6.7, 37.95N×135.09E, h393km±119km, mb1 2.7/4, mb1mx2.4/27, mbtmp2.7/4, Error ellipse: s-maj=59.7km s-min=24.0km az=161.0*
*JMA **04** 22:14:26.7±0.3, 37.72N×135.20E, h393km±3km, M2.7*
ISC 04 22:14:24.6±1.8, 37.81N±0.10×135.1E±0.1, h403km, n16, σ1961/21, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHG	Hegura jima	1.41	88	P	P	22 15 18.7	+1.1
JSZ	Suzu	1.80	101	P	P	22 15 20.8	+1.2
JSD	Sado	2.48	84	P	P	22 15 25.2	+1.3
JWT	Wachi	2.53	175	P	P	22 15 24.7	+0.3
JNG	Nsakai	2.75	120	P	P	22 15 27.4	+1.3
MAT	Matsushiro	2.76	116	P	P	22 15 27.2	+1.2
MJAR	Matsushiro Arr	2.76	116	P	P	22 15 27.7	+1.7
	0.7nm,0.3s,baz=297,slow=10,SNR=14						
JFT	Otama	4.13	92	P	P	22 15 40.1	+2.2
JMM	Marumori	4.47	88	P	P	22 15 43.0	+1.9
JMM				eS	S	22 16 43.6	-0.1
JHO	Hitachi	4.50	104	P	P	22 15 41.9	+0.5
JHO				eS	S	22 16 41.4	-2.8
JFK	Kawauchi	4.58	94	P	P	22 15 43.6	+1.4
JFK				eS	S	22 16 44.2	-1.5
JRG	Rokugo	4.58	68	P	P	22 15 44.1	+1.9
JRG				eS	S	22 16 45.7	0.0
BSO1	Boso 1	5.67	122	P	P	22 15 54.6	+1.7
BSO1				eS	S	22 17 03.9	-1.6
KSRS	Korea Array	5.74	269	P	P	22 15 53.9	-0.3
	0.2nm,0.3s,baz=78,slow=12,SNR=6.4						
USRK	Ussuriysk Arra	6.81	341	P	P	22 16 06.4	-0.1
	0.5nm,0.3s,baz=149,slow=9.9,SNR=10						
ASAJ	Asahikawa	8.45	39	P	P	22 16 25.1	+0.4
	0.9nm,0.3s,baz=245,slow=9.1,SNR=8.0						
ASAJ				S	S	22 18 00.4	-2.6
	0.2nm,0.3s,baz=307,slow=20,SNR=4.1						

IDC 04 22:15:23.9±3.8, 11.94N×87.00W, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.6/19, mbtmp3.5/4, MS3.6/2, Ms1 3.7/2, ms1mx2.9/25, Error ellipse: s-maj=87.3km s-min=55.1km az=20.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	20.79	155	LR	LR	22 27 13.5	
	comp=Z,48nm,18.4s,baz=87,slow=34						
TXAR	Lajitas Array	23.25	321	P	P	22 20 33.3	+0.1
	0.8nm,0.7s,baz=138,slow=9.7,SNR=5.8						
PDAR	Pinedale Array	36.43	332	P	P	22 22 30.7	+0.1
	0.4nm,0.7s,baz=135,slow=13,SNR=2.9						
SCHQ	Schefferville	45.64	16	P	P	22 23 46.2	+0.1
	1.5nm,0.7s,baz=247,slow=9.9,SNR=5.2						
YKA	Yellowknife Ar	54.22	345	P	P	22 24 50.2	-0.9
	0.1nm,0.5s,baz=143,slow=6.7,SNR=3.6						
NOA	NORSAR Array B	83.60	29	LR	LR	23 04 50.9	
	comp=Z,116nm,19.9s,baz=265,slow=36						
CMAR	Chiang Mai Arr	149.24	349	PKPbc	PKPbc	22 35 15.1	-0.4
	0.6nm,0.3s,baz=338,slow=3.1,SNR=5.5						

GUC 04 22:42:48.0±0.6, 32.97S×72.02W, h15km±175km, MD3.4, ML3.5, 1C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.32	100	i P	Pg	22 42 55.0	+0.3
IHA				i S	Sb	22 42 59.9	-0.5
ROCH	El Roble	0.84	90	↓iP	Pb	22 43 03.2	-1.5
ROCH				i S	Sb	22 43 15.1	-1.0
LNV	Longovilo	1.10	153	↓iP	Pb	22 43 07.1	-1.7
LNV				i S	Sb	22 43 21.6	-1.4
TACH	Talagante	1.13	127	i P	Pb	22 43 07.8	-1.5
TACH				i S	Sb	22 43 22.8	-1.0
PEL	Peldehue	1.13	99	↑iP	Pb	22 43 08.2	-1.2
PEL				i S	Sb	22 43 22.9	-1.0
PEL				AML	AML	22 43 31.6	
	comp=E,3μm,0.4s						
RCDM	Rinconada Maip	1.14	117	AML	AML	22 43 26.4	
	comp=E,2μm,0.2s						
PTCH	Petorca	1.16	53	AML	AML	22 43 26.3	
	comp=E,1μm,0.3s						
CHNG	Los Chungos	1.17	22	AML	AML	22 43 25.9	
	comp=E,973nm,0.3s						
JACH	Jahuel	1.23	77	i P	Pn	22 43 09.4	-1.4
JACH				i S	Sb	22 43 25.6	-1.3
SAN	Santiago	1.23	113	↓iP	Pn	22 43 09.6	-1.2
SAN				i S	Sb	22 43 25.8	-1.1
SAN				AML	AML	22 43 27.7	
	comp=E,4μm,0.4s						
ANTU	Antumapu	1.30	118	AML	AML	22 43 31.7	
	comp=E,1μm,0.4s						
CLCH	Cerro Calan	1.31	109	i P	Pn	22 43 10.9	-0.9
CLCH				i S	Sb	22 43 28.0	-1.1
CLCH				AML	AML	22 43 31.9	
	comp=N,1μm,0.5s						
FSR	Penalolen	1.35	112	eP	Pn	22 43 11.5	-0.8
FSR				i S	Sn	22 43 29.4	-0.7
PCH	Pirque	1.42	118	i P	Pn	22 43 12.5	-0.8
PCH				i S	Sn	22 43 31.1	-0.7
CHCH	Chadas Angostu	1.49	130	↓iP	Pn	22 43 13.7	-0.6
CHCH				i S	Sn	22 43 32.9	-0.7
FCH	Farellones	1.49	104	eP	Pn	22 43 11.7	-3.0
FCH				i S	Sn	22 43 31.4	-2.8
FCH				AML	AML	22 43 34.7	
	comp=N,2μm,0.3s						
SJCH	San Jose de Ma	1.54	116	↓iP	Pn	22 43 13.5	-1.6
SJCH				i S	Sn	22 43 33.8	-1.2
SJCH				AML	AML	22 43 36.3	
	comp=E,1μm,0.5s						
LMEL	Las Melosas	1.75	120	i P	Pn	22 43 18.1	0.0
LMEL				i S	Sn	22 43 41.0	+0.8
LMEL				AML	AML	22 43 47.2	
	comp=N,1μm,0.3s						
OVCH	Ovalle	2.46	17	AML	AML	22 44 10.9	
	comp=N,509nm,0.6s						

MAN 04 22:48:13, 9.84N×126.23E, h15km, mb4.4, ML3.2, MS3.1, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	1.38	282	eP	Pn	22 48 38.1	+0.4
MSLP				eS	Sg	22 48 56.8	-0.7
PLP	Palo	1.80	317	↑eP	Pn	22 48 44.4	+0.8
PLP				i S	Sb	22 49 07.8	-0.3
CGP	Cagayan de Oro	2.04	228	↑eP	Pn	22 48 46.9	0.0
CGP				eS	Sn	22 49 10.4	-1.7
BUKP	Musuan	2.26	211	eP	Pn	22 48 51.7	+1.8
BUKP				eS	Sb	22 49 20.0	-1.5
TBP	Tagbilaran	2.33	267	eP	Pn	22 48 52.4	+1.5
TBP				eS	Sn	22 49 17.2	-2.1

IDC 04 22:50:50.6±4.5, 9.82S×158.90E, h26km±44km, mb3.6/5, mb1 3.8/5, mb1mx3.7/16, mbtmp3.6/5, MS3.4/1, Ms1 3.4/1, ms1mx2.4/24, Error ellipse: s-maj=90.5km s-min=22.4km az=138.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.10	70	Pg	Pb	22 51 11.6	+0.5
	44nm,0.3s,baz=285,slow=20,SNR=14						
HNR				Lg	Lg	22 51 25.9	
	84nm,0.3s,baz=248,slow=11,SNR=12						
WRA	Warramunga Arr	25.75	244	P	P	22 56 19.4	0.0
	2.2nm,0.8s,baz=70,slow=10.0,SNR=13						
ASAR	Alice Springs	27.55	237	P	P	22 56 35.3	-0.3
	1.0nm,0.7s,baz=67,slow=10,SNR=3.8						
KAPI	Kappang	39.09	274	LR	LR	23 12 51.7	
	comp=Z,58nm,20.6s,baz=303,slow=34						
SONM	Songino Array	73.80	326	P	P	23 02 22.9	-0.1
	0.7nm,0.7s,baz=137,slow=5.9,SNR=5.8						
ILAR	Eielson Array	84.61	20	P	P	23 03 21.6	+0.2
	0.3nm,0.5s,baz=246,slow=5.1,SNR=12						
MKAR	Makanchi Array	88.07	318	P	P	23 03 38.5	-0.4
	0.2nm,0.6s,baz=110,slow=3.8,SNR=3.0						

IDC 04 22:58:44.8±2.6, 3.81N×64.35E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/24, mbtmp3.7/4, Error ellipse: s-maj=132.6km s-min=25.6km az=49.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	Keskin Array B	45.28	326	P	P	23 07 04.4	-0.1
	0.4nm,0.7s,baz=136,slow=7.4,SNR=3.2						
AKTO	Aktyubinsk	46.77	354	P	P	23 07 15.8	-0.1
	0.3nm,0.3s,baz=148,slow=9.5,SNR=3.3						
WRA	Warramunga Arr	72.62	112	P	P	23 10 15.0	+0.2
	0.7nm,0.7s,baz=289,slow=5.2,SNR=4.0						
ASAR	Alice Springs	72.95	116	P	P	23 10 16.6	-0.1
	0.8nm,0.7s,baz=289,slow=5.4,SNR=5.3						

*IDC **04** 23:01:47.8±2.6, 31.10S×178.02W, h0km, mb3.9/1, mb1 4.2/1, mb1mx3.6/14, mbtmp3.9/1, Error ellipse: s-maj=169.3km s-min=49.2km az=166.0*
ISC 04 23:02:38.2±1.3, 31.0S±0.2×179.4W±0.5, h400km, n25, σ1952/32, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	6.79	196	PN	P	23 04 20.9	+1.0
MXZ				SN	S	23 05 40.9	-1.0
PUZ	Puketiti	7.28	195	PN	P	23 04 25.7	+0.2
PUZ				SN	S	23 05 53.2	+1.0
MWZ	Matawai	7.71	198	PN	P	23 04 30.7	+0.5
MWZ				SN	S	23 06 03.1	+2.0
URZ	Urewera	7.76	201	PN	Pn	23 04 29.5	-0.8
URZ				SN	S	23 06 02.3	+0.2
KNZ	Kokohu	8.32	196	PN	P	23 04 37.9	+1.0
KNZ				SN	S	23 06 11.6	-2.2
RAHZ	Arahi	8.38	199	SN	S	23 06 16.9	+1.8
BKZ	Black Stump Fm	8.78	201	PN	P	23 04 43.3	+1.1
FWVZ	Far West T-bar	9.18	205	PN	Pn	23 04 47.6	+0.8
KAHZ	Kahuranaki	9.26	198	PN	Pn	23 04 48.0	+0.6
PXZ	Pawanui	9.48	198	ePN	P	23 04 49.2	-0.6
PXZ				SN	S	23 06 35.9	-2.2
PRHZ	Porangahau	9.76	198	PN	Pn	23 04 53.7	+0.5
PRHZ				SN	S	23 06 44.1	+0.1
BFZ	Birch Farm	10.25	199	PN	Pn	23 04 56.0	+1.0
BFZ				SN	S	23 06 49.3	-4.7
MRZ	Mangatainoka R	10.43	202	PN	P	23 05 00.2	-0.2
OGWZ	Otaki Gorge	10.71	203	PN	P	23 05 02.5	-0.9
OGWZ				SN	S	23 07 03.9	+0.6
WRA	Warramunga Arr	42.92	274	P	P	23 09 58.0	-1.8
	0.5nm,0.3s,baz=110,slow=8.2,SNR=29						
MKAR	Makanchi Array	117.26	310	PKP	PKPdf	23 20 35.8	-

PRE 04 23:21:14.6±1.0, 26°39′S × 27°42′E, h2 km, ML1.9, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.17**	**77**	*e*P	Pg	23 21 18.8	+0.6
KLOF				*e*S	Sg	23 21 20.6	-0.1
KLOF				AML	AML	23 21 22.0	
	comp=Z,373nm,0.1s						
ERPM	**east rand prop**	**0.74**	**87**	*e*P	Pg	23 21 29.0	-0.1
ERPM				*e*S	Sg	23 21 38.9	+0.1
ERPM				AML	AML	23 21 39.0	
	comp=Z,13nm,0.5s						
LBTB	**Lobatse**	**2.14**	**309**	*e*P	Pn	23 21 52.5	+1.0
LBTB				*e*S	Sn	23 22 19.1	+0.4
LBTB				AML	AML	23 22 24.8	
	comp=Z,9.7nm,0.5s						
BOSA	**Boshof**	**2.94**	**220**	*e*P	Pn	23 22 02.7	+0.3
BOSA				*e*S	Sn	23 22 38.7	+0.2
BOSA				AML	AML	23 22 49.0	
	comp=Z,2.3nm,0.8s						

*IDC **04** 23:21:59.1±1.0, 32.°93S × 71.°83W, h0 km, mb4.3/7, mb1 4.3/9, mb1mx4.2/16, mbtmp4.2/9, ML4.3/2, MS3.7/8, Ms1 3.7/8, ms1mx3.5/21, Error ellipse: s-maj=35.5km s-min=19.7km az=104.0*

*ISCJB **04** 23:22:00.5±0.9, 32.°95S±0.°03 × 72.°12W±0.°05, h24 km±6 km, mb4.3/10, MS3.8/6, Error ellipse: s-maj=7.4km s-min=4.7km az=154.4*

*GUC **04** 23:22:01.9±0.8, 32.°97S × 72.°03W, h13 km±3 km, ML4.3*

*NEIC **04** 23:22:01.9, 32.°97S × 72.°03W, h13 km, mb4.4/4, ML4.3(GUC), After GUC.*

NEIC Felt [III] at Santiago and [II] at Quillota and Zapallar.

ISC 04 23:22:00.0±1.8, 32°97S±0.°03 × 72°10W±0.°06, h11 km±10 km, n58, σ1§04/76, mb4.4/10, MS3.9/6, 7C-8D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.39**	**98**	⇓*i*P	**Pb**	**23 22 09.2**	**+0.3**
IHA	**Instituto Hidr**	**0.39**	**98**	⇓*i*P	**Pb**	**23 22 09.2**	**+0.3**
LCCH	**Las Cruces**	**0.67**	**139**	⇑*i*P	**Pb**	**23 22 13.8**	**+0.1**
LCCH	**Las Cruces**	**0.67**	**139**	⇑*i*P	**Pb**	**23 22 13.8**	**+0.1**
ROCH	**El Roble**	**0.92**	**90**	⇓*i*P	**Pg**	**23 22 17.5**	**-0.2**
ROCH				*e*S	**Sg**	**23 22 29.0**	**-0.7**
ROCH				AML	AML	23 22 34.9	
	comp=N,16μm,0.7s						
LNV	**Longovilo**	**1.14**	**150**	P	**Pb**	**23 22 21.4**	**-0.3**
LNV	**Longovilo**	**1.14**	**150**	⇓*i*P	**Pb**	**23 22 21.4**	**-0.3**
CHNG	**Los Chungos**	**1.20**	**25**	⇑*i*P	**Pb**	**23 22 22.7**	**0.0**
CHNG				S	**Sb**	**23 22 37.6**	**-0.6**
CHNG	**Los Chungos**	**1.20**	**25**	⇑*i*P	**Pb**	**23 22 22.7**	**0.0**
CHNG				*i* S	**Sb**	**23 22 37.6**	**-0.6**
PEL	**Peldehue**	**1.20**	**99**	⇑*i*P	**Pn**	**23 22 22.3**	**-0.5**
PEL				*i* S	**Sb**	**23 22 37.3**	**-1.0**
PTCH	**Petorca**	**1.21**	**55**	*e*P	**Pn**	**23 22 22.7**	**-0.2**
PTCH				*i* S	**Sb**	**23 22 38.2**	**-0.5**
PTCH	**Petorca**	**1.21**	**55**	*e*P	**Pn**	**23 22 22.7**	**-0.2**
PTCH				*i* S	**Sb**	**23 22 38.2**	**-0.5**
SAN	**Santiago**	**1.30**	**112**	*e*P	**Pn**	**23 22 23.8**	**-0.3**
SAN				S	**Sb**	**23 22 39.6**	**-1.5**
SAN	**Santiago**	**1.30**	**112**	*e*P	**Pn**	**23 22 23.8**	**-0.3**
SAN				*e*S	**Sb**	**23 22 39.6**	**-1.5**
JACH	**Jahuel**	**1.30**	**78**	⇑*i*P	**Pn**	**23 22 23.7**	**-0.5**
JACH	**Jahuel**	**1.30**	**78**	⇑*i*P	**Pn**	**23 22 23.7**	**-0.5**
ANTU	**Antumapu**	**1.37**	**116**	*e*P	**Pn**	**23 22 24.9**	**-0.1**
ANTU				*i* S	**Sb**	**23 22 42.4**	**-0.7**
ANTU	**Antumapu**	**1.37**	**116**	*e*P	**Pn**	**23 22 24.9**	**-0.1**
ANTU				*i* S	**Sb**	**23 22 42.4**	**-0.7**
ANTU				AML	AML	23 22 50.9	
	comp=N,13μm,0.6s						
CLCH	**Cerro Calan**	**1.38**	**108**	⇓*i*P	**Pn**	**23 22 25.3**	**+0.1**
CLCH				*i* S	**Sn**	**23 22 43.0**	**-0.5**
CLCH				AML	AML	23 22 46.8	
	comp=N,10μm,0.5s						
PCH	**Pirque**	**1.48**	**116**	*e*P	**Pn**	**23 22 26.8**	**+0.1**
PCH				*i* S	**Sn**	**23 22 45.9**	**-0.1**
PCH	**Pirque**	**1.48**	**116**	*e*P	**Pn**	**23 22 26.8**	**+0.1**
PCH				*i* S	**Sn**	**23 22 45.9**	**-0.1**
FCH	**Farellones**	**1.56**	**104**	⇓*i*P	**Pg**	**23 22 30.3**	**+0.3**
FCH				*i* S	**Sb**	**23 22 49.8**	**+0.9**
FCH				AML	AML	23 22 53.0	
	comp=N,5μm,0.6s						
LMEL	**Las Melosas**	**1.81**	**119**	⇓*e*P	**Pn**	**23 22 32.1**	**+0.8**
LMEL				*i* S	**Sb**	**23 22 55.6**	**-0.4**
LMEL	**Las Melosas**	**1.81**	**119**	⇓*e*P	**Pn**	**23 22 32.1**	**+0.8**
LMEL				*i* S	**Sb**	**23 22 55.6**	**-0.4**
OVCH	**Ovalle**	**2.48**	**18**	P	**Pn**	**23 22 41.2**	**+0.9**
OVCH	**Ovalle**	**2.48**	**18**	*e*P	**Pn**	**23 22 41.2**	**+0.9**
CFAA	**Coronel Fontan**	**3.54**	**68**	Pn	**Pn**	**23 22 56.5**	**+1.5**
CFAA				Lg	Lg	23 23 45.0	
CFAA	**Coronel Fontan**	**3.54**	**68**	Pn	**Pn**	**23 22 56.5**	**+1.5**
	comp=N,1.4nm,0.3s,baz=237,slow=13,SNR=65						
CFAA				Lg	Lg	23 23 45.0	
	comp=N,3.7nm,0.3s,baz=142,slow=17,SNR=9.5						
CFAA				LR	LR	23 24 31.9	
	comp=N,147nm,19.9s,baz=110,slow=46						
LCO	**Las Campanas**	**4.13**	**17**	*e*Pn	**Pn**	**23 23 03.5**	**+0.3**
LCO				*e*Sn	**Sn**	**23 23 50.9**	**-0.7**
PLCA	**Paso Flores**	**7.84**	**171**	*e*Pn	**Pn**	**23 23 55.2**	**+1.1**
PLCA				Sn	**Sn**	**23 25 17.7**	**-5.2**
PLCA				Lg	Lg	23 26 01.9	
PLCA	**Paso Flores**	**7.84**	**171**	Pn	**Pn**	**23 23 55.0**	**+0.9**
	comp=N,1.2nm,0.3s,baz=324,slow=10.0,SNR=24						
PLCA				Lg	Lg	23 26 01.9	
	comp=N,0.2nm,0.3s,baz=300,slow=19,SNR=3.0						
TRQA	**Tornquist**	**9.68**	**124**	*e*Pn	**Pn**	**23 24 20.1**	**+0.9**
	comp=N,41nm,1.1s						
TRQA				*e*Sn	**Sn**	**23 26 08.1**	**+0.1**
LPAZ	**La Paz**	**17.00**	**13**	*e*Pn	**Pn**	**23 25 58.6**	**+0.2**
	comp=N,3.4nm,0.7s						
SIV	**San Ignacio**	**19.64**	**33**	P	**P**	**23 26 28.9**	**+0.2**
SIV	**San Ignacio**	**19.64**	**33**	P	**P**	**23 26 28.9**	**+0.2**
	comp=N,0.2nm,0.3s,baz=214,slow=11,SNR=11						
SIV				LR	LR	23 35 27.4	
	comp=N,230nm,19.7s,slow=42						
USHA	**Ushuaia**	**22.01**	**174**	P	**P**	**23 26 56.1**	**+2.0**
USHA	**Ushuaia**	**22.01**	**174**	P	**P**	**23 26 56.1**	**+2.0**
	comp=N,2.7nm,0.6s,baz=5.7,slow=10,SNR=3.7						
USHA				LR	LR	23 35 18.0	
	comp=N,123nm,19.4s,baz=340,slow=36						
SPB	**Sao Paulo**	**23.60**	**73**	*e*P	**P**	**23 27 10.9**	**-0.1**
	comp=N,7.8nm,0.8s						
SAML	**Samuel**	**25.29**	**21**	*e*P	**P**	**23 27 26.6**	**+0.1**
	comp=N,10nm,1.1s						
BDFB	**Brasilia**	**27.81**	**57**	P	**P**	**23 27 48.0**	**-1.4**
BDFB	**Brasilia**	**27.81**	**57**	P	**P**	**23 27 48.0**	**-1.4**
	comp=N,6.3nm,0.9s,baz=234,slow=6.3,SNR=7.5						
BDFB				LR	LR	23 40 29.9	
	comp=N,162nm,21.8s,baz=12,slow=40						
SDV	**Santo Domingo**	**41.65**	**2**	*e*P	**P**	**23 29 46.6**	**-2.0**
	comp=N,8.8nm,0.3s						
QSPA	**South Pole Qui**	**57.26**	**180**	P	**P**	**23 31 48.6**	**+1.3**
QSPA	**South Pole Qui**	**57.26**	**180**	P	**P**	**23 31 48.6**	**+1.3**
	comp=N,3.8nm,0.9s,baz=149,slow=10,SNR=7.2						
TXAR	**Lajitas Array**	**68.81**	**331**	P	**P**	**23 33 06.4**	**+2.0**
TXAR	**Lajitas Array**	**68.81**	**331**	P	**P**	**23 33 06.4**	**+2.0**
	comp=N,0.4nm,0.5s,baz=160,slow=8.7,SNR=3.8						
TXAR				LR	LR	23 57 44.4	
	comp=N,68nm,21.9s,baz=250,slow=31						
MAW	**Mawson**	**74.18**	**164**	LR	LR	00 03 29.5	
	comp=N,122nm,21.5s,baz=224,slow=34						
DBIC	**Dimbokro**	**74.90**	**72**	P	**P**	**23 33 40.9**	**-0.3**
DBIC	**Dimbokro**	**74.90**	**72**	P	**P**	**23 33 40.9**	**-0.3**
	comp=N,3.7nm,0.7s,baz=200,slow=4.7,SNR=8.7						
BOSA	**Boshof**	**80.59**	**118**	P	**P**	**23 34 12.9**	**-0.1**
BOSA	**Boshof**	**80.59**	**118**	P	**P**	**23 34 12.9**	**-0.1**
	comp=N,2.7nm,0.6s,baz=236,slow=7.2,SNR=9.4						
BOSA				LR	LR	00 08 39.2	
	comp=N,72nm,19.8s,baz=158,slow=35						
TORD	**Torodi Ar. Bea**	**83.91**	**70**	P	**P**	**23 34 30.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**83.91**	**70**	P	**P**	**23 34 30.2**	**-0.1**
	comp=N,4.0nm,0.8s,baz=257,slow=4.5,SNR=19						
TORD				LR	LR	00 09 32.4	
	comp=N,72nm,20.1s,baz=310,slow=34						
WRA	**Warramunga Arr**	**121.63**	**209**	PKP	**PKPdf**	**23 40 54.1**	**-0.2**
WRA	**Warramunga Arr**	**121.63**	**209**	PKP	**PKPdf**	**23 40 54.2**	**-0.2**
	comp=N,0.4nm,0.7s,baz=157,slow=2.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**153.38**	**31**	PKPbc	**PKPbc**	**23 41 58.1**	**+0.4**
ZALV	**Zalesovo Beam**	**153.38**	**31**	PKPbc	**PKPbc**	**23 41 58.1**	**+0.4**
	comp=N,1.8nm,0.7s,baz=315,slow=3.0,SNR=6.3						
MKAR	**Makanchi Array**	**156.12**	**47**	PKPab	**PKPab**	**23 42 21.6**	**-0.2**
	comp=N,0.6nm,0.7s,baz=290,slow=4.5,SNR=5.5						

*ISCJB **04** 23:22:30.6±1.1, 39.°62N±0.°04 × 26.°46E±0.°05, h9 km±7 km, Error ellipse: s-maj=6.7km s-min=6.1km az=135.4*

*ATH **04** 23:22:30.7, 39.°59N × 26.°49E, h29 km±1 km, MD3.4/3*

*DDA **04** 23:22:30.2, 39.°62N × 26.°51E, h7 km, MD2.7*

*CSEM **04** 23:22:31.1±0.1, 39.°59N × 26.°53E, h16 km±1 km, MD2.7, Error ellipse: s-maj=3.4km s-min=2.5km az=167.0*

ISC 04 23:22:30.7±1.2, 39.°59N±0.°03 × 26.°51E±0.°03, h15 km±11 km, n15, σ0§27/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYVA	**Ayvalik**	**0.32**	**154**	*i* P	**Pb**	**23 22 37.9**	**-0.2**
AYVA				*i* S	**Sb**	**23 22 43.1**	**+0.1**
AYVA	**Ayvalik**	**0.32**	**154**	*i* P	**Pb**	**23 22 37.9**	**-0.2**
AYVA				*i* S	**Sb**	**23 22 43.1**	**+0.1**
PRK	**Paraskevi**	**0.39**	**208**	*e*PB	**Pb**	**23 22 39.1**	**-0.2**
PRK				*e*SB	**Sb**	**23 22 45.7**	**+0.6**
PRK	**Paraskevi**	**0.39**	**208**	*e*Pb	**Pb**	**23 22 39.1**	**-0.2**
PRK				*e*Sb	**Sb**	**23 22 45.7**	**+0.6**
BALY	**Balya**	**0.87**	**80**	*i* P	**Pg**	**23 22 47.7**	**+0.1**
BALY				*i* S	**Sb**	**23 22 58.9**	**-0.1**
BALY	**Balya**	**0.87**	**80**	*i* P	**Pg**	**23 22 47.7**	**+0.1**
BALY				*i* S	**Sb**	**23 22 58.9**	**-0.1**
LIA	**Limnos Island**	**1.07**	**287**	*e*PN	**Pg**	**23 22 51.4**	**+0.1**
LIA				*e*SN	**Sn**	**23 23 05.5**	**-0.1**
LIA	**Limnos Island**	**1.07**	**287**	*e*Pn	**Pg**	**23 22 51.4**	**+0.1**
LIA				*e*Sn	**Sn**	**23 23 05.5**	**-0.1**
CHOS	**Chios island**	**1.25**	**197**	*e*PN	**Pb**	**23 22 54.1**	**0.0**
CHOS				*e*SN	**Sg**	**23 23 10.9**	**-0.4**
CHOS	**Chios island**	**1.25**	**197**	*e*Pn	**Pb**	**23 22 54.1**	**0.0**
CHOS				*e*Sn	**Sg**	**23 23 10.9**	**-0.4**
ALN	**Alexandroupoli**	**1.35**	**345**	*e*PN	**Pb**	**23 22 55.7**	**0.0**
ALN				*e*SN	**Sb**	**23 23 13.0**	**+0.2**
ALN	**Alexandroupoli**	**1.35**	**345**	*e*Pn	**Pb**	**23 22 55.7**	**0.0**
ALN				*e*Sn	**Sb**	**23 23 13.0**	**+0.2**
DURS	**Dursunbey**	**1.52**	**89**	*i* P	**Pn**	**23 22 57.2**	**-0.2**
DURS	**Dursunbey**	**1.52**	**89**	*i* P	**Pn**	**23 22 57.2**	**-0.2**
DEMI	**Demirci**	**1.80**	**107**	*i* P	**Pg**	**23 23 05.8**	**+0.6**
DEMI				*i* S	**Sg**	**23 23 28.6**	**0.0**

MEX 04 23:23:27.3±0.3, 19.°66N × 100.°20W, h4 km±8 km, MD3.6, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MZVM		**1.03**	**117**	*i* P	Pg	23 23 44.8	-2.3
MZVM				*e*S	Sg	23 23 57.7	-2.8
VCVM	**Valle de Chalc**	**1.23**	**107**	*i* P	Pg	23 23 47.4	-3.9
VCVM				*e*S	Sg	23 24 03.7	-3.8
SFJM	**Santa Fe**	**2.79**	**288**	*i* P	Pn	23 24 10.0	-2.9
SFJM				*e*S	Sn	23 24 43.1	-4.1
EZ5V		**3.21**	**267**	*i* P	Pn	23 24 15.6	-3.3
EZ5V				*e*S	Sn	23 24 54.4	-3.4
MMIG	**Aquila**	**3.27**	**246**	*i* P	Pn	23 24 16.6	-2.8
MMIG				*e*S	Sn	23 24 55.0	-3.8

PRE 04 23:40:49.1±0.5, 26°23′S × 28°17′E, h2 km, ML1.7, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERPM	**east rand prop**	**0.13**	**149**	*e*P	Pg	23 40 50.6	-1.3
ERPM				*e*S	Sg	23 40 51.5	-2.3
ERPM				AML	AML	23 40 52.7	
	comp=Z,259nm,0.3s						
LBTB	**Lobatse**	**2.62**	**297**	*e*P	Pn	23 41 33.3	+0.7
LBTB				*e*S	Sn	23 42 05.5	+0.4
LBTB				AML	AML	23 42 10.2	
	comp=Z,2.7nm,0.8s						
BOSA	**Boshof**	**3.51**	**227**	*e*P	Pn	23 41 46.1	+1.2
BOSA				*e*S	Sn	23 42 26.6	-0.5
BOSA				AML	AML	23 42 36.9	
	comp=Z,2.4nm,0.8s						

*IDC **04** 23:50:48.2±4.4, 30.°00S × 179.°29W, h308 km±35 km, mb2.9/2, mb1 3.1/2, mb1mx3.0/14, mbtmp2.9/2, Error ellipse: s-maj=49.5km s-min=32.8km az=175.0*

ISC 04 23:50:53.6±1.1, 30.°73S±0.°08 × 179.°6W±0.°2, h362 km, n31, σ1§18/33, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**7.04**	**194**	PN	**Pn**	**23 52 36.1**	**-0.4**
MXZ				SN	**S**	**23 53 59.0**	**-1.5**
PUZ	**Puketiti**	**7.54**	**193**	SN	**S**	**23 54 09.0**	**-1.4**
MWZ	**Matawai**	**7.96**	**197**	PN	**Pn**	**23 52 48.7**	**+1.4**
URZ	**Urewera**	**8.00**	**199**	PN	**Pn**	**23 52 48.2**	**+0.4**
RAHZ	**Arahi**	**8.62**	**198**	PN	**Pn**	**23 52 56.7**	**+1.6**
RAHZ				SN	**S**	**23 54 33.8**	**-0.7**
BKZ	**Black Stump Fm**	**9.02**	**200**	PN	**Pn**	**23 53 00.9**	**+1.1**
MCHZ	**McNeill Hill**	**9.22**	**198**	PN	**P**	**23 53 03.9**	**+0.3**
MCHZ				SN	**S**	**23 54 46.4**	**-1.1**
BHHZ	**Black Hill Sta**	**9.44**	**201**	PN	**Pn**	**23 53 05.6**	**+0.7**
KAHZ	**Kahuranaki**	**9.50**	**197**	PN	**Pn**	**23 53 06.5**	**+1.0**
PXZ	**Pawanui**	**9.73**	**196**	PN	**Pn**	**23 53 07.8**	**-0.3**
PXZ				SN	S	23 54 54.3	-4.2
PNHZ	**Pukenui**	**9.79**	**199**	SN	S	23 54 58.1	-2.0
ANWZ	**Angora Road**	**10.23**	**197**	PN	**Pn**	**23 53 14.7**	**+0.6**
BFZ	**Birch Farm**	**10.49**	**198**	PN	**Pn**	**23 53 17.2**	**0.0**
MRZ	**Mangatainoka R**	**10.66**	**200**	PN	**Pn**	**23 53 18.0**	**-1.2**
MRZ				SN	S	23 55 13.1	-5.7
KIW	**Kapiti Island**	**11.06**	**202**	PN	**P**	**23 53 23.4**	**-0.6**
TUWZ	**Tuamarina**	**11.89**	**204**	PN	**P**	**23 53 33.6**	**+0.3**
NNZ	**Nelson**	**11.92**	**207**	SN	**S**	**23 55 45.7**	**-0.3**
THZ	**Tophouse**	**12.57**	**207**	PN	**P**	**23 53 39.5**	**-1.3**
MQZ	**McQueen's Vall**	**14.35**	**203**	SN	**S**	**23 56 36.0**	**+0.9**
DZM	**Mont Dzumac**	**15.20**	**301**	P	**Pn**	**23 54 11.7**	**-0.9**
	0.4nm,0.3s,baz=97,slow=15,SNR=3.5						
ASAR	**Alice Springs**	**41.74**	**268**	P	**P**	**23 58 10.1**	**+1.2**
	0.2nm,0.4s,baz=109,slow=7.1,SNR=4.0						
ASAR				ScP	ScP	00 03 18.9	+6.2
	0.1nm,0.3s,baz=133,slow=3.9,SNR=4.8						
WRA	**Warramunga Arr**	**42.76**	**273**	P	**P**	**23 58 17.8**	**+0.7**
	0.9nm,0.7s,baz=110,slow=8.1,SNR=23						
MKAR	**Makanchi Array**	**116.95**	**310**	PKP	**PKPdf**	**00 08 55.1**	**-0.3**
	0.2nm,0.5s,baz=155,slow=2.2,SNR=3.3						
KURBB	**Kurchatov Arra**	**120.33**	**314**	PKP	**PKPdf**	**00 09 01.8**	**+0.1**
	0.1nm,0.4s,baz=103,slow=1.3,SNR=5.8						
BVAR	**Borovoye Array**	**125.69**	**316**	PKP	**PKPdf**	**00 09 12.3**	**+0.3**
	0.6nm,0.7s,baz=174,slow=2.9,SNR=4.9						
FINES	**FINESS Array B**	**144.97**	**339**	PKP	**PKPab**	**00 09 46.8**	**-1.2**
	8.7nm,0.7s,baz=56,slow=3.6,SNR=52						
NB2	**NORSAR Subarra**	**148.85**	**350**	PKP	**PKPbc**	**00 09 57.6**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=15,slow=4.1						
NOA	**NORSAR Array B**	**148.85**	**350**	PKPbc	**PKPbc**	**00 09 55.5**	**-2.8**
	comp=Z,1.4nm,0.8s,baz=15,slow=4.2,SNR=4.4						
AKASG	**Malin Array Be**	**150.72**	**321**	PKPbc	**PKPbc**	**00 10 02.9**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=53,slow=2.7,SNR=6.0						
BRTR	**Keskin Array B**	**151.55**	**298**	PKPbc	**PKPbc**	**00 10 06.3**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=116,slow=2.9,SNR=3.0						
TORD	**Torodi Ar. Bea**	**162.47**	**184**	PKPab	**PKPab**	**00 11 06.0**	**+3.1**
	comp=Z,0.4nm,0.6s,baz=180,slow=2.9,SNR=6.5						

*IDC **05** 00:01:22.6±0.9, 32.°88S × 71.°80W, h0 km, mb4.1/6, mb1 4.1/8, mb1mx4.0/15, mbtmp4.0/8, ML4.0/2, MS2.7/2, Ms1 2.7/2, ms1mx2.5/19, Error ellipse: s-maj=26.3km s-min=18.3km az=143.0*

*NEIC **05** 00:01:23.8, 33.°11S × 72.°18W, h35 km, mb3.7/1, ML4.3(GUC), After GUC.*

NEIC Felt [II] at Maipo, Puchuncavi, Santiago, Valparaiso and Zapallar.

*ISCJB **05** 00:01:24.1±0.9, 32.°98S±0.°03 × 72.°13W±0.°05, h27 km±7 km, mb4.0/6, Error ellipse: s-maj=6.6km s-min=4.5km az=166.6*

*GUC **05** 00:01:25.4±0.8, 32.°98S × 72.°03W, h24 km±9 km, ML4.3*

ISC 05 00:01:24.5±2.0, 32.°97S±0.°03 × 72.°04W±0.°05, h18 km±11 km, n63, σ0§79/89, mb4.2/6, 11C-8D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.34**	**100**	⇓*i*P	**Pb**	**00 01 32.6**	**+0.5**
IHA	**Instituto Hidr**	**0.34**	**100**	⇓*i*P	**Pb**	**00 01 32.6**	**+0.5**
LCCH	**Las Cruces**	**0.64**	**143**	⇑*i*P	**Pb**	**00 01 37.2**	**0.0**
LCCH	**Las Cruces**	**0.64**	**143**	⇑*i*P	**Pb**	**00 01 37.2**	**0.0**
LNV	**Longovilo**	**1.12**	**152**	⇓*i*P	**Pn**	**00 01 44.7**	**-0.6**
LNV				*i* S	**Sb**	**00 01 59.1**	**-0.5**
LNV	**Longovilo**	**1.12**	**152**	⇓*i*P	**Pn**	**00 01 44.7**	**-0.6**
LNV				*i* S	**Sb**	**00 01 59.1**	**-0.5**
TACH	**Talagante**	**1.15**	**127**	⇑*i*P	**Pn**	**00 01 45.3**	**-0.4**
TACH				*i* S	**Sb**	**00 01 59.9**	**-0.6**
TACH	**Talagante**	**1.15**	**127**	⇑*i*P	**Pn**	**00 01 45.3**	**-0.4**
TACH				*i* S	**Sb**	**00 01 59.9**	**-0.6**
PEL	**Peldehue**	**1.15**	**99**	⇑*i*P	**Pn**	**00 01 45.8**	**0.0**
PEL				*i* S	**Sg**	**00 02 02.6**	**+0.8**
PEL				AML	AML	00 02 03.0	
	comp=E,15μm,0.5s						
RCDM	**Rinconada Maip**	**1.16**	**117**	*e*P	**Pn**	**00 01 44.9**	**-1.0**
RCDM				*e*S	**Sb**	**00 02 00.7**	**0.0**
RCDM	**Rinconada Maip**	**1.16**	**117**	*e*P	**Pn**	**00 01 44.9**	**-1.0**
RCDM				*e*S	**Sb**	**00 02 00.7**	**0.0**
RCDM				AML	AML	00 02 05.4	
	comp=N,8μm,0.4s						
PTCH	**Petorca**	**1.17**	**53**	*e*P	**Pn**	**00 01 46.1**	**+0.1**
PTCH				*i* S	**Sn**	**00 02 01.4**	**-0.1**
PTCH	**Petorca**	**1.17**	**53**	*e*P	**Pn**	**00 01 46.1**	**+0.1**
PTCH				*i* S	**Sn**	**00 02 01.4**	**-0.1**
PTCH				AML	AML	00 02 06.4	
	comp=N,6μm,0.3s						
CHNG	**Los Chungos**	**1.17**	**23**	⇑*i*P	**Pn**	**00 01 46.2**	**+0.1**
CHNG				*i* S	**Sb**	**00 02 01.2**	**+0.1**
CHNG	**Los Chungos**	**1.17**	**23**	⇑*i*P	**Pn**	**00 01 46.2**	**+0.1**
CHNG				*i* S	**Sb**	**00 02 01.2**	**+0.1**
JACH	**Jahuel**	**1.25**	**77**	⇑*i*P	**Pn**	**00 01 47.0**	**-0.2**
JACH	**Jahuel**	**1.25**	**77**	⇑*i*P	**Pn**	**00 01 47.0**	**-0.2**
SAN	**Santiago**	**1.25**	**113**	*e*P	**Pn**	**00 01 47.0**	**-0.2**
SAN				*e*S	**Sb**	**00 02 03.5**	**0.0**
SAN	**Santiago**	**1.25**	**113**	*e*P	**Pn**	**00 01 47.0**	**-0.2**
SAN				*e*S	**Sb**	**00 02 03.5**	**0.0**
ANTU	**Antumapu**	**1.32**	**117**	*e*P	**Pn**	**00 01 48.2**	**+0.1**
ANTU				*e*S	**Sn**	**00 02 05.3**	**-0.1**
ANTU	**Antumapu**	**1.32**	**117**	*e*P	**Pn**	**00 01 48.2**	**+0.1**
ANTU				*e*S	**Sn**	**00 02 05.3**	**-0.1**
ANTU				AML	AML	00 02 08.7	
	comp=N,6μm,0.5s						
CLCH	**Cerro Calan**	**1.33**	**109**	⇓*e*P	**Pb**	**00 01 49.1**	**+0.1**
CLCH				*i* S	**Sn**	**00 02 05.8**	**+0.2**
CLCH	**Cerro Calan**	**1.33**	**109**	⇓*i*P	**Pn**	**00 01 48.6**	**+0.3**
CLCH				*i* S	**Sb**	**00 02 06.7**	**+0.9**
CLCH				AML	AML	00 02 09.7	
	comp=N,6μm,0.3s						
CLCH	**Cerro Calan**	**1.33**	**109**	⇓*e*P	**Pb**	**00 01 49.1**	**+0.1**
CLCH				*i* S	**Sn**	**00 02 05.8**	**+0.2**
FSR	**Penalolen**	**1.36**	**112**	*e*P	**Pn**	**00 01 48.9**	**+0.1**
FSR				*e*S	**Sb**	**00 02 07.0**	**+0.3**
FSR	**Penalolen**	**1.36**	**112**	*e*P	**Pn**	**00 01 48.9**	**+0.1**
FSR				*e*S	**Sb**	**00 02 07.0**	**+0.3**
PCH	**Pirque**	**1.43**	**118**	⇑*i*P	**Pn**	**00 01 50.0**	**+0.2**
PCH	**Pirque**	**1.43**	**118**	⇑*i*P	**Pn**	**00 01 50.0**	**+0.2**
CHCH	**Chadas Angostu**	**1.51**	**130**	*e*P	**Pn**	**00 01 50.9**	**+0.2**
CHCH	**Chadas Angostu**	**1.51**	**130**	*e*P	**Pn**	**00 01 50.9**	**+0.2**
FCH	**Farellones**	**1.51**	**104**	⇑*i*P	**Pn**	**00 01 51.4**	**+0.4**
FCH				*i* S	**Sg**	**00 02 13.2**	**-0.1**
FCH				AML	AML	00 02 17.3	
	comp=N,6μm,0.3s						
LMEL	**Las Melosas**	**1.77**	**120**	⇓*i*P	**Pn**	**00 01 55.5**	**+1.1**
LMEL				*i* S	**Sb**	**00 02 18.6**	**+0.1**
LMEL				AML	AML	00 02 25.1	
	comp=N,6μm,0.4s						
TALC	**Talca**	**2.45**	**172**	*e*P	**Pn**	**00 02 05.0**	**+1.3**
TALC	**Talca**	**2.45**	**172**	*e*P	**Pn**	**00 02 05.0**	**+1.3**
TALC				AML	AML	00 02 50.4	
	comp=N,6μm,0

DBIC	**Dimbokro**	**68.68**	**73**	P	**P**	**00 17 17.5**	**-0.2**
	comp=E,2.2nm,1.0s,baz=243,slow=6.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**77.36**	**70**	P	**P**	**00 18 10.0**	**+1.2**
	comp=E,0.5nm,0.4s,baz=257,slow=5.5,SNR=13						
YKA	**Yellowknife Ar**	**92.43**	**340**	P	**P**	**00 19 23.5**	**+0.2**
	comp=E,0.2nm,0.7s,baz=131,slow=4.4,SNR=6.8						

IDC 05 00:17:33.4±0.9, 28°25N×142°92E, h0km, mb3.6/8, mb1 3.9/10, mb1mx3.7/23, mbtmp3.7/10, ML3.1/2, Error ellipse: s-maj=25.5km s-min=15.7km az=107.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.32**	**210**	Pn	Pn	00 17 60.0	+0.9
	23nm,0.3s,baz=297,slow=20,SNR=9.0						
CBIJ				Sn	Sb	00 18 16.5	0.0
	50nm,0.3s,baz=100,slow=23,SNR=5.6						
MJAR	**Matsushiro Arr**	**9.17**	**336**	Pn	Pn	00 19 46.5	-0.6
	0.9nm,0.3s,baz=155,slow=10,SNR=7.6						
KSRS	**Korea Array**	**15.57**	**310**	Pn	P	00 21 19.0	+0.3
	0.3nm,0.3s,baz=118,slow=9.4,SNR=4.2						
USRK	**Ussuriysk Arra**	**18.16**	**334**	P	Pn	00 21 46.5	-0.4
	0.1nm,0.3s,baz=133,slow=14,SNR=3.0						
SONM	**Songino Array**	**34.35**	**315**	P	P	00 24 22.7	+0.7
	1.1nm,0.7s,baz=115,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**48.62**	**191**	P	P	00 26 18.8	-0.2
	1.3nm,0.6s,baz=13,slow=8.4,SNR=9.5						
ZALV	**Zalesovo Beam**	**49.05**	**318**	P	P	00 26 22.2	+0.1
	0.6nm,0.4s,baz=91,slow=5.9,SNR=3.9						
MKAR	**Makanchi Array**	**50.25**	**309**	P	P	00 26 30.7	-0.7
	0.2nm,0.4s,baz=88,slow=9.9,SNR=7.7						
ILAR	**Eielson Array**	**56.39**	**29**	P	P	00 27 16.3	+0.1
	1.0nm,1.2s,baz=237,slow=6.3,SNR=3.8						
YKA	**Yellowknife Ar**	**70.82**	**29**	P	P	00 28 51.0	-0.5
	0.2nm,0.6s,baz=293,slow=6.3,SNR=3.3						
NVAR	**Mina Array Bea**	**79.30**	**52**	P	P	00 29 41.7	+0.4
	0.3nm,0.6s,baz=309,slow=5.7,SNR=3.1						
BRTR	**Keskin Array B**	**85.69**	**313**	P	P	00 30 14.1	-0.5
	0.6nm,0.8s,baz=145,slow=4.7,SNR=3.8						

IDC 05 00:39:18.7±6.9, 0°44S×131°89E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.4/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/18, Error ellipse: s-maj=463.1km s-min=26.1km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.60**	**199**	LR	LR	00 50 40.2	
	comp=Z,34nm,18.3s,baz=221,slow=37						
WRA	**Warramunga Arr**	**19.53**	**173**	P	P	00 43 47.8	-0.2
	0.1nm,0.3s,baz=354,slow=12,SNR=6.5						
WRA				S	Sn	00 47 14.5	-15
	0.1nm,0.3s,baz=348,slow=22,SNR=2.6						
ASAR	**Alice Springs**	**23.17**	**175**	P	P	00 44 27.3	+0.1
	1.4nm,0.8s,baz=349,slow=9.0,SNR=8.9						
MKAR	**Makanchi Array**	**63.91**	**324**	P	P	00 49 53.5	0.0
	0.2nm,0.6s,baz=122,slow=7.0,SNR=3.0						

PRE 05 00:45:27.0±1.1, 26°41S×27°46E, h2km, ML1.9, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.15**	**68**	*e*P	Pg	00 45 30.3	+0.2
KLOF				*e*S	Sg	00 45 32.0	-0.2
KLOF				AML	AML	00 45 35.3	
	comp=Z,208nm,0.1s						
ERPM	**east rand prop**	**0.71**	**85**	*e*P	Pg	00 45 40.7	-0.1
ERPM				*e*S	Sg	00 45 50.6	+0.4
ERPM				AML	AML	00 45 51.1	
	comp=Z,19nm,0.1s						
BFSD	**Buffelsfontein**	**0.76**	**233**	*e*P	Pb	00 45 42.4	-0.7
BFSD				*e*S	Sg	00 45 51.9	+0.2
BFSD				AML	AML	00 45 58.6	
	comp=Z,26nm,0.1s						
LBTB	**Lobatse**	**2.17**	**309**	*e*P	Pn	00 46 05.5	+1.1
LBTB				*e*S	Sn	00 46 32.2	+0.2
LBTB				AML	AML	00 46 36.8	
	comp=Z,13nm,0.9s						
BOSA	**Boshof**	**2.94**	**221**	*e*P	Pn	00 46 15.2	+0.2
BOSA				*e*S	Sn	00 46 50.7	-0.3
BOSA				AML	AML	00 46 58.4	
	comp=Z,3.1nm,0.3s						

PRE 05 00:47:54.1±1.9, 3°95S×34°94E, h10km, ML3.8, Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**3.63**	**40**	*e*P	Pn	00 48 51.6	+0.8
KMBO				*e*S	Sn	00 49 33.8	-0.2
KMBO				AML	AML	00 49 53.2	
	comp=Z,348nm,0.5s						
KIG	**Kigali**	**5.25**	**292**	*e*P	Pn	00 49 14.0	+1.0
KIG				*e*S	Sn	00 50 13.9	+0.1
KIG				AML	AML	00 50 43.9	
	comp=Z,87nm,0.5s						
MBAR	**Mbarara**	**5.35**	**308**	*e*P	Pn	00 49 13.6	-0.7
MBAR				*e*S	Sn	00 50 13.8	-2.4
MBAR				AML	AML	00 50 47.0	
	comp=Z,136nm,0.2s						

GUC 05 01:00:55.0±0.8, 32°94S×71°96W, h20km±13km, MD3.5, ML2.6, 3C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.28**	**108**	↓*i*P	Pb	01 01 01.1	-0.2
IHA				*i* S	Sg	01 01 06.2	+0.5
ROCH	**El Roble**	**0.80**	**92**	↓*i*P	Pb	01 01 09.3	-1.1
ROCH				*i* S	Sb	01 01 20.7	-0.3
ROCH				AML	AML	01 01 23.0	
	comp=N,264nm,0.3s						
PEL	**Peldehue**	**1.09**	**101**	↑*i*P	Pn	01 01 14.4	-0.8
PEL				*i* S	Sb	01 01 29.2	+0.1
PEL				AML	AML	01 01 34.0	
	comp=E,477nm,0.3s						
RCDM	**Rinconada Maip**	**1.11**	**120**	↑*i*P	Pn	01 01 14.2	-1.2
RCDM				AML	AML	01 01 34.5	
	comp=N,163nm,0.2s						
CHNG	**Los Chungos**	**1.12**	**20**	↓*i*P	Pn	01 01 14.6	-1.0
CHNG				*i* S	Sb	01 01 29.6	-0.4
CHNG				AML	AML	01 01 31.7	
	comp=E,133nm,0.3s						
JACH	**Jahuel**	**1.18**	**78**	↓*i*P	Pn	01 01 15.7	-0.8
JACH				*i* S	Sb	01 01 31.6	-0.2
SAN	**Santiago**	**1.20**	**116**	*e*P	Pn	01 01 16.1	-0.6
SAN				AML	AML	01 01 34.3	
	comp=E,800nm,0.4s						
CLCH	**Cerro Calan**	**1.27**	**111**	↓*i*P	Pn	01 01 17.2	-0.6
CLCH				*e*S	Sb	01 01 34.5	0.0
CLCH				AML	AML	01 01 40.8	
	comp=N,206nm,0.4s						
PCH	**Pirque**	**1.39**	**120**	*i* P	Pn	01 01 19.4	0.0
PCH				*e*S	Sn	01 01 37.0	-0.2
FCH	**Farellones**	**1.45**	**106**	AML	AML	01 01 50.0	
	comp=N,136nm,0.2s						
LMEL	**Las Melosas**	**1.72**	**122**	↑*i*P	Pn	01 01 24.4	+0.4
LMEL				AML	AML	01 01 51.9	
	comp=N,167nm,0.3s						

NNC 05 01:08:32.3±9.6, 37°09N×71°33E, h68km±314km, mb3.3, mpv3.6, 2C-2D, Error ellipse: s-maj=126.7km s-min=57.5km az=62.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.04**	**354**	↑P	Pn	01 09 59.5	+0.6
	0.7nm,0.3s,baz=181,slow=14,SNR=23						
KK31				↑S	Sn	01 11 07.1	+0.5
	1.8nm,0.6s,baz=186,slow=23,SNR=11						
TKM2	**Tokmak 2**	**6.68**	**28**	↓P	Pn	01 10 07.3	-0.6
	11nm,0.8s						
AB31	**Akbulak array**	**14.70**	**329**	↓P	Pn	01 11 56.5	+0.2
	0.1nm,0.4s,baz=148,slow=9.5,SNR=4.8						

PRE 05 01:35:15.2±0.9, 26°43S×27°62E, h2km, ML1.7, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.08**	**353**	*e*P	Pg	01 35 17.4	+0.4
KLOF				*e*S	Sg	01 35 17.9	-0.3
KLOF				AML	AML	01 35 20.0	
	comp=Z,678nm,0.2s						
ERPM	**east rand prop**	**0.56**	**82**	*e*P	Pg	01 35 26.9	+0.6
ERPM				*e*S	Sg	01 35 34.2	+0.4
ERPM				AML	AML	01 35 35.5	
	comp=Z,9.7nm,0.2s						
LBTB	**Lobatse**	**2.31**	**307**	*e*P	Pn	01 35 55.4	+1.0
LBTB				*e*S	Sn	01 36 23.4	0.0
LBTB				AML	AML	01 36 27.3	
	comp=Z,4.5nm,0.3s						
BOSA	**Boshof**	**3.02**	**223**	*e*P	Pn	01 36 04.8	+0.5
BOSA				*e*S	Sn	01 36 41.3	+0.1
BOSA				AML	AML	01 36 50.9	
	comp=Z,1.3nm,0.4s						

*IDC **05** 01:36:57.4±1.9, 39°34S×176°56E, h0km, mb3.4/1, mb1 3.8/1, mb1mx3.5/11, mbtmp3.4/1, MS3.3/1, Ms1 3.2/1, ms1mx3.0/8, Error ellipse: s-maj=111.0km s-min=54.6km az=24.0*

*ISCJB **05** 01:37:09.0±0.4, 39°24S±0°03×176°07E±0°03, h91km±3km, mb3.4/1, Error ellipse: s-maj=5.0km s-min=3.5km az=138.3*

*WEL **05** 01:37:10.3±0.2, 39°18S×176°08E, h84km±1km, ML4.0/21, Error ellipse: s-maj=1.1km s-min=0.8km az=90.0*

*NEIC **05** 01:37:10.2, 39°18S×176°08E, h85km, ML4.0(WEL), After WEL.*

NEIC Felt at Waikanae Beach.

ISC 05 01:37:09.4±0.9, 39°22S±0°03×176°08E±0°03, h90km±5km, n161, σ0°88/183, 29C-9D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHHZ	**Black Hill Sta**	**0.27**	**182**	↑P*	**Pn**	**01 37 23.0**	**+0.2**
BHHZ				S*	**Sn**	**01 37 31.7**	**-1.0**
BHHZ				S*		01 37 31.9	
BHHZ	**Black Hill Sta**	**0.27**	**182**	P*	**Pn**	**01 37 23.0**	**+0.2**
RITZ	**Rihia Road**	**0.30**	**325**	P*	**Pn**	**01 37 22.9**	**0.0**
RITZ				S*	**Sn**	**01 37 32.0**	**-0.8**
RITZ	**Rihia Road**	**0.30**	**325**	P*	**Pn**	**01 37 22.9**	**0.0**
MOVZ	**Moawhango**	**0.31**	**233**	↑P*	**Pn**	**01 37 23.1**	**+0.1**
MOVZ				S*	**Sn**	**01 37 31.4**	**-1.7**
MOVZ	**Moawhango**	**0.31**	**233**	P*	**Pn**	**01 37 23.1**	**+0.1**
OTVZ	**Oturere**	**0.32**	**280**	↑P*	**Pn**	**01 37 23.4**	**+0.2**
OTVZ				S*	**Sn**	**01 37 32.6**	**-0.8**
OTVZ	**Oturere**	**0.32**	**280**	P*	**Pn**	**01 37 23.4**	**+0.2**
BKZ	**Black Stump Fm**	**0.33**	**81**	↑P*	**Pn**	**01 37 23.0**	**-0.1**
BKZ				S*	**Sn**	**01 37 31.7**	**-1.4**
BKZ	**Black Stump Fm**	**0.33**	**81**	↑P*	**Pn**	**01 37 22.9**	**-0.1**
BKZ				S*	**Sn**	**01 37 31.8**	**-1.4**
HATZ	**Hinemaiaia**	**0.33**	**2**	↑P*	**Pn**	**01 37 22.5**	**-0.5**
HATZ				S*	**Sn**	**01 37 30.5**	**-2.6**
HATZ				S*		01 37 30.8	
HATZ	**Hinemaiaia**	**0.33**	**2**	P*	**Pn**	**01 37 22.5**	**-0.5**
HATZ				S*	**Sn**	**01 37 31.0**	**-2.1**
TUVZ	**Tukino**	**0.33**	**262**	↑P*	**Pn**	**01 37 23.5**	**+0.3**
TUVZ				S*	**Sn**	**01 37 31.9**	**-1.5**
TUVZ	**Tukino**	**0.33**	**262**	P*	**Pn**	**01 37 23.5**	**+0.3**
KRVZ	**Karewarewa**	**0.36**	**290**	P*	**Pn**	**01 37 23.3**	**+0.1**
KRVZ	**Karewarewa**	**0.36**	**290**	P*	**Pn**	**01 37 23.4**	**+0.1**
NGZ	**Ngauruhoe**	**0.37**	**277**	↑P*	**Pn**	**01 37 23.7**	**+0.3**
NGZ				S*	**Sn**	**01 37 33.2**	**-0.6**
NGZ	**Ngauruhoe**	**0.37**	**277**	P*	**Pn**	**01 37 23.7**	**+0.3**
KATZ	**Kakaramea**	**0.39**	**309**	P*	**Pn**	**01 37 23.5**	**+0.1**
KATZ				S*	**Sn**	**01 37 33.0**	**-1.0**
KATZ	**Kakaramea**	**0.39**	**309**	P*	**Pn**	**01 37 23.5**	**+0.1**
WNVZ	**Wahianoa**	**0.39**	**254**	↑P*	**Pn**	**01 37 23.9**	**+0.4**
WNVZ				S*	**Sn**	**01 37 33.4**	**-0.7**
WNVZ	**Wahianoa**	**0.39**	**254**	P*	**Pn**	**01 37 23.9**	**+0.4**
WTVZ	**West Tongariro**	**0.39**	**285**	P*	**Pn**	**01 37 23.5**	**0.0**
WTVZ	**West Tongariro**	**0.39**	**285**	P*	**Pn**	**01 37 23.5**	**0.0**
FWVZ	**Far West T-bar**	**0.41**	**265**	↑P*	**Pn**	**01 37 24.0**	**+0.3**
FWVZ				S*	**Sn**	**01 37 33.2**	**-1.2**
FWVZ	**Far West T-bar**	**0.41**	**265**	P*	**Pn**	**01 37 23.7**	**0.0**
WPVZ	**Whakapapa**	**0.41**	**272**	↑P*	**Pn**	**01 37 24.0**	**+0.4**
WPVZ	**Whakapapa**	**0.41**	**272**	P*	**Pn**	**01 37 24.0**	**+0.4**
TRVZ	**Turoa**	**0.42**	**259**	↑P*	**Pn**	**01 37 24.2**	**+0.4**
TRVZ	**Turoa**	**0.42**	**259**	P*	**Pn**	**01 37 24.2**	**+0.4**
RATZ	**Rangitukua**	**0.42**	**326**	P*	**Pn**	**01 37 23.3**	**-0.4**
RATZ	**Rangitukua**	**0.42**	**326**	P*	**Pn**	**01 37 23.3**	**-0.4**
MTVZ	**Mangateitei**	**0.50**	**251**	↑P*	**Pn**	**01 37 24.8**	**+0.6**
MTVZ				S*	**Sn**	**01 37 34.4**	**-0.8**
MTVZ	**Mangateitei**	**0.50**	**251**	P*	**Pn**	**01 37 24.8**	**+0.6**
MTVZ				S*	**Sn**	**01 37 35.2**	**0.0**
TWVZ	**Taurewa**	**0.52**	**287**	P*	**Pn**	**01 37 24.3**	**-0.1**
TWVZ	**Taurewa**	**0.52**	**287**	P*	**Pn**	**01 37 24.3**	**-0.1**
MCNZ	**McNeill Hill**	**0.53**	**115**	↑PN	**Pn**	**01 37 25.5**	**+1.1**
MCHZ				SN	**Sn**	**01 37 36.7**	**+1.1**
MCHZ	**McNeill Hill**	**0.53**	**115**	Pn	**Pn**	**01 37 25.5**	**+1.1**
PKVZ	**Pokaka**	**0.57**	**263**	P*	**Pn**	**01 37 25.4**	**+0.6**
PKVZ				S*	**Sn**	**01 37 36.1**	**-0.1**
PKVZ	**Pokaka**	**0.57**	**263**	P*	**Pn**	**01 37 25.4**	**+0.6**
PKVZ				S*	**Sn**	**01 37 36.1**	**-0.1**
NMHZ	**Naumai**	**0.58**	**78**	↓PN	**Pn**	**01 37 25.8**	**+0.9**
NMHZ				SN	**Sn**	**01 37 37.3**	**+0.8**
NMHZ	**Naumai**	**0.58**	**78**	Pn	**Pn**	**01 37 25.8**	**+0.9**
ALRZ	**Allen Road**	**0.69**	**18**	↓P*	**Pn**	**01 37 25.5**	**-0.4**
ALRZ	**Allen Road**	**0.69**	**18**	P*	**Pn**	**01 37 25.5**	**-0.4**
PNHZ	**Pukenui**	**0.70**	**172**	↑PN	**Pn**	**01 37 26.5**	**+0.6**
PNHZ	**Pukenui**	**0.70**	**172**	Pn	**Pn**	**01 37 26.6**	**+0.6**
PRRZ	**Plateau Road**	**0.76**	**19**	↓P*	**Pn**	**01 37 26.2**	**-0.3**
PRRZ	**Plateau Road**	**0.76**	**19**	P*	**Pn**	**01 37 26.2**	**-0.3**
TSZ	**Takapari Road**	**0.84**	**186**	PN	**Pn**	**01 37 27.9**	**+0.5**
TSZ	**Takapari Road**	**0.84**	**186**	Pn	**Pn**	**01 37 27.9**	**+0.5**
RAHZ	**Arahi**	**0.84**	**69**	PN	**Pn**	**01 37 27.8**	**+0.4**
RAHZ				SN	**Sn**	**01 37 40.9**	**+0.1**
RAHZ	**Arahi**	**0.84**	**69**	Pn	**Pn**	**01 37 27.8**	**+0.4**
KAHZ	**Kahuranaki**	**0.84**	**133**	↑PN	**Pn**	**01 37 28.4**	**+1.0**
KAHZ	**Kahuranaki**	**0.84**	**133**	Pn	**Pn**	**01 37 28.4**	**+1.0**
HRRZ	**Handcock Road**	**0.84**	**11**	P*	**Pn**	**01 37 27.3**	**-0.1**
HRRZ	**Handcock Road**	**0.84**	**11**	P*	**Pn**	**01 37 27.4**	**-0.1**
WPHZ	**Waipukurau**	**0.89**	**162**	↑PN	**Pn**	**01 37 28.7**	**+0.9**
WPHZ	**Waipukurau**	**0.89**	**162**	Pn	**Pn**	**01 37 28.7**	**+0.9**
CKHZ	**Cape Kidnapper**	**0.89**	**120**	PN	**Pn**	**01 37 28.8**	**+1.0**
CKHZ	**Cape Kidnapper**	**0.89**	**120**	Pn	**Pn**	**01 37 28.8**	**+1.0**
RRRZ	**Republican Roa**	**0.94**	**21**	P*	**Pn**	**01 37 28.3**	**-0.2**
RRRZ	**Republican Roa**	**0.94**	**21**	P*	**Pn**	**01 37 28.3**	**-0.2**
WAZ	**Wanganui**	**1.00**	**237**	PN	**Pn**	**01 37 30.6**	**+1.6**
WAZ	**Wanganui**	**1.00**	**237**	Pn	**Pn**	**01 37 30.6**	**+1.6**
PXZ	**Pawanui**	**1.01**	**143**	↑PN	**Pn**	**01 37 30.0**	**+0.8**
PXZ	**Pawanui**	**1.01**	**143**	Pn	**Pn**	**01 37 30.0**	**+0.8**
VRZ	**Vera Road**	**1.03**	**275**	P*	**Pn**	**01 37 30.0**	**+0.6**
VRZ	**Vera Road**	**1.03**	**275**	P*	**Pn**	**01 37 30.0**	**+0.6**
TARZ	**Mount Tarawera**	**1.04**	**19**	↑P*	**Pn**	**01 37 29.8**	**+0.2**
TARZ	**Mount Tarawera**	**1.04**	**19**	P*	**Pn**	**01 37 29.9**	**+0.2**
DVHZ	**Dannevirke**	**1.08**	**176**	↑PN	**Pn**	**01 37 30.5**	**+0.5**
DVHZ	**Dannevirke**	**1.08**	**176**	Pn	**Pn**	**01 37 30.6**	**+0.5**
PRHZ	**Porangahau**	**1.13**	**158**	↑PN	**Pn**	**01 37 31.4**	**+0.8**
PRHZ	**Porangahau**	**1.13**	**158**	Pn	**Pn**	**01 37 31.4**	**+0.8**
HIZ	**Hauiti**	**1.19**	**306**	↓PN	**Pn**	**01 37 31.8**	**+0.6**
HIZ	**Hauiti**	**1.19**	**306**	Pn	**Pn**	**01 37 31.8**	**+0.6**
POWZ	**Post Office Ro**	**1.19**	**191**	↑PN	**Pn**	**01 37 32.0**	**+0.6**
POWZ	**Post Office Ro**	**1.19**	**191**	Pn	**Pn**	**01 37 32.0**	**+0.6**
EDRZ	**Edgecumbe**	**1.23**	**25**	↓P*	**Pn**	**01 37 31.6**	**-0.2**
EDRZ	**Edgecumbe**	**1.23**	**25**	P*	**Pn**	**01 37 31.6**	**-0.2**
URZ	**Urewera**	**1.25**	**40**	P*	**Pn**	**01 37 31.6**	**-0.4**
URZ	**Urewera**	**1.25**	**40**	*e*Pn	**Pn**	**01 37 31.6**	**-0.4**
URZ				*e*S	**Sn**	**01 37 47.6**	**-1.5**
KNZ	**Kokohu**	**1.26**	**81**	PN	**Pn**	**01 37 32.1**	**+0.1**
KNZ	**Kokohu**	**1.26**	**81**	Pn	**Pn**	**01 37 32.1**	**+0.1**
RAEZ	**Rainy Point**	**1.31**	**267**	↓PN	**Pn**	**01 37 34.5**	**+1.8**
RAEZ	**Rainy Point**	**1.31**	**267**	Pn	**Pn**	**01 37 34.5**	**+1.8**
MHEZ	**Mangahewa**	**1.37**	**275**	PN	**Pn**	**01 37 35.4**	**+1.9**
MHEZ	**Mangahewa**	**1.37**	**275**	Pn	**Pn**	**01 37 35.4**	**+1.9**
MHGZ	**Mahia Peninsul**	**1.42**	**88**	↑PN	**Pn**	**01 37 34.7**	**+0.5**
MHGZ	**Mahia Peninsul**	**1.42**	**88**	Pn	**Pn**	**01 37 34.7**	**+0.5**
PRGZ	**Paritu Road**	**1.44**	**79**	PN	**Pn**	**01 37 34.6**	**+0.2**
PRGZ	**Paritu Road**	**1.44**	**79**	Pn	**Pn**	**01 37 34.6**	**+0.2**
MWZ	**Matawai**	**1.44**	**52**	P*	**Pn**	**01 37 34.2**	**-0.1**
MWZ	**Matawai**	**1.44**	**52**	P*	**Pn**	**01 37 34.2**	**-0.1**
DREZ	**Durham Road**	**1.46**	**271**	Pn	**Pn**	**01 37 36.5**	**+1.9**
BFZ	**Birch Farm**	**1.46**	**175**	↓PN	**Pn**	**01 37 35.0**	**+0.4**
BFZ	**Birch Farm**	**1.46**	**175**	Pn	**Pn**	**01 37 35.0**	**+0.4**
MRZ	**Mangatainoka R**	**1.49**	**195**	↑PN	**Pn**	**01 37 35.2**	**+0.2**
MRZ	**Mangatainoka R**	**1.49**	**195**	Pn	**Pn**	**01 37 35.2**	**+0.2**
TIWZ	**Tintock**	**1.56**	**185**	↑PN	**Pn**	**01 37 36.3**	**+0.4**
TIWZ	**Tintock**	**1.56**	**185**	Pn	**Pn**	**01 37 36.3**	**+0.4**
PKE	**Pukeiti**	**1.62**	**270**	PN	**Pn**	**01 37 38.3**	**+1.6**
PKE	**Pukeiti**	**1.62**	**270**	Pn	**Pn**	**01 37 38.3**	**+1.6**
NRZ	**Ngariki Road**	**1.67**	**265**	PN	**Pn**	**01 37 39.0**	**+1.8**
NRZ	**Ngariki Road**	**1.67**	**265**	Pn	**Pn**	**01 37 39.0**	**+1.8**
HOWZ	**Holdsworth Sta**	**1.73**	**194**	↑PN	**Pn**	**01 37 38.0**	**-0.1**
HOWZ	**Holdsworth Sta**	**1.73**	**194**	Pn	**Pn**	**01 37 38.0**	**-0.1**
OGWZ	**Otaki Gorge**	**1.74**	**203**	PN	**Pn**	**01 37 38.5**	**+0.3**
OGWZ	**Otaki Gorge**	**1.74**	**203**	Pn	**Pn**	**01 37 38.5**	**+0.3**
CNGZ	**Carnagh Statio**	**1.82**	**67**	PN	**Pn**	**01 37 39.5**	**+0.3**
CNGZ	**Carnagh Statio**	**1.82**	**67**	Pn	**Pn**	**01 37 39.5**	**+0.3**
KIW	**Kapiti Island**	**1.87**	**208**	PN	**Pn**	**01 37 39.9**	**+0.1**
KIW				SN	**Sn**	**01 38 02.6**	**-0.4**
KIW	**Kapiti Island**	**1.87**	**208**	Pn	**Pn**	**01 37 39.9**	**+0.1**
KIW				Sn	**Sn**	**01 38 02.6**	**-0.4**
TMWZ	**Te Maipa**	**1.89**	**184**	↑PN	**Pn**	**01 37 40.1**	**-0.1**
TMWZ	**Te Maipa**	**1.89**	**184**	Pn	**Pn**	**01 37 40.1**	**-0.1**
MTW	**Mount Morrison**	**1.98**	**193**	↑PN	**Pn**	**01 37 40.9**	**-0.4**
MTW	**Mount Morrison**	**1.98**	**193**	Pn	**Pn**	**01 37 40.9**	**-0.4**
CAW	**Cannon Point**	**2.04**	**202**	↑PN	**Pn**	**01 37 41.7**	**-0.3**
CAW	**Cannon Point**	**2.04**	**202**	Pn	**Pn**	**01 37 41.7**	**-0.3**
PUZ	**Puketiti**	**2.06**	**57**	PN	**Pn**	**01 37 41.9**	**-0.4**
PUZ	**Puketiti**	**2.06**	**57**	Pn	**Pn**	**01 37 41.9**	**-0.4**
TRWZ	**Traveller**	**2.19**	**188**	PN	**Pn**	**01 37 43.7**	**-0.4**
TRWZ	**Traveller**	**2.19**	**188**	Pn	**Pn**	**01 37 43.7**	**-0.4**
PAWZ	**Paruwai Farm**	**2.21**	**193**	PN	**Pn**	**01 37 43.7**	**-0.7**
PAWZ	**Paruwai Farm**	**2.21**	**193**	Pn	**Pn**	**01 37 43.7**	**-0.7**
MSWZ	**Moikau Station**	**2.28**	**196**	PN	**Pn**	**01 37 44.4**	**-0.9**
MSWZ	**Moikau Station**	**2.28**	**196**	Pn	**Pn**	**01 37 44.4**	**-0.9**
DUWZ	**D'Urville Isla**	**2.29**	**226**	PN	**Pn**	**01 37 45.2**	**-0.2**
DUWZ	**D'Urville Isla**	**2.29**	**226**	Pn	**Pn**	**01 37 45.2**	**-0.2**
SNZO	**South Karori**	**2.33**	**206**	PN	**Pn**	**01 37 45.3**	**-0.6**
SNZO	**South Karori**	**2.33**	**206**	*e*Pn	**Pn**	**01 37 45.9**	**-0.1**
SNZO				*e*S	**Sn**	**01 38 12.9**	**-1.0**
BHW	**Baring Head**	**2.37**	**202**	PN	**Pn**	**01 37 45.6**	**-0.8**
BHW	**Baring Head**	**2.37**	**202**	Pn	**Pn**	**01 37 45.6**	**-0.8**
MXZ	**Matakaoa Point**	**2.41**	**47**	↓PN	**Pn**	**01 37 46.9**	**-0.1**
MXZ	**Matakaoa Point**	**2.41**	**47**	Pn	**Pn**	**01 37 46.9**	**-0.1**
TCW	**Tory Channel**	**2.42**	**214**	PN	**Pn**	**01 37 46.5**	**-0.5**
TCW	**Tory Channel**	**2.42**	**214**	Pn	**Pn**	**01 37 46.5**	**-0.5**
PLWZ	**Palliser**	**2.43**	**195**	↓PN	**Pn**	**01 37 46.2**	**-1.0**
PLWZ	**Palliser**	**2.43**	**195**	Pn	**Pn**	**01 37 46.2**	**-1.0**
TUWZ	**Tuamarina**	**2.74**	**216**	PN	**Pn**	**01 37 50.7**	**-0.7**
TUWZ	**Tuamarina**	**2.74**	**216**	Pn	**Pn**	**01 37 50.7**	**-0.7**
NNZ	**Nelson**	**2.87**	**225**	PN	**Pn**	**01 37 52.1**	**-1.0**
NNZ	**Nelson**	**2.87**	**225**	Pn	**Pn**	**01 37 52.1**	**-1.0**
BSWZ	**Blackbirch Sta**	**3.00**	**213**	PN	**Pn**	**01 37 54.0**	**-0.9**
BSWZ	**Blackbirch Sta**	**3.00**	**213**	Pn	**Pn**	**01 37 54.0**	**-0.9**
QRZ	**Quartz Range**	**3.16**	**238**	PN	**Pn**	**01 37 56.0**	**-1.0**
QRZ	**Quartz Range**	**3.16**	**238**	Pn	**Pn**	**01 37 56.0**	**-1.0**
THZ	**Tophouse**	**3.51**	**223**	PN	**Pn**	**01 38 00.8**	**-1.0**
THZ	**Tophouse**	**3.51**	**223**	Pn	**Pn**	**01 38 00.8**	**-1.0**
KHZ	**Kahutara**	**3.73**	**210**	P

YOSQ				Trac		02 00 52.0	
	comp=Z,0.5nm,0.1s						
LG4Q	**La Grande 4**	**9.66 249**	PN	Pn		01 59 14.8	-2.0
LG4Q			SN	Sn		02 00 57.2	-7.6
LG4Q			Trac			02 00 59.0	
	comp=Z,0.9nm,0.3s						
ICQ	**Pointe Anglais**	**9.88 214**	PN	Pn		01 59 17.7	-1.9
ICQ			SN	Sn		02 01 01.9	-8.0
WEMQ	**Wemindji, Queb**	**11.93 254**	SN	Sn		02 01 49.4	-11

BJI 05 02:18:36.6,34°.99N×81°.56E,h12km,ML3.7/5,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**6.34**	**317**	Pn	Pn	02 20 13.0	+2.9
KSH				Sn	Sn	02 21 22.3	-0.3
KSH	**Kashi**	**6.34**	**317**	Pn	Pn	02 20 12.8	+2.7
KSH				Sn	Sn	02 21 17.3	-5.3
KSH				smax	smax		
	comp=N,45nm,1.2s						
KSH				smax	smax		
	comp=E,38nm,0.8s						

*ISK **05** 02:26:39.3, 40°.49N×42°.31E, h5km, MD2.9*
*ISCJB **05** 02:26:40.8±0.6, 40°.46N±0°.02×42°.31E±0°.04, h6km±5km, Error ellipse: s-maj=5.0km s-min=4.1km az=8.1*
*DDA **05** 02:26:40.3, 40°.45N×42°.36E, h7km, MD2.9*
*CSEM **05** 02:26:40.9±0.3, 40°.45N×42°.30E, h8km, MD2.9, Error ellipse: s-maj=5.6km s-min=5.4km az=31.0*

ISC 05 02:26:40.3±1.2, 40°.47N±0°.03×42°.36E±0°.03, h6km±13km, n25, σ0s75/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.55**	**220**	*i* P	**Pg**	**02 26 50.1**	**-0.7**
HOMI				*i* S	**Sg**	**02 26 57.7**	**-0.3**
KARS	**Kars**	**0.57**	**73**	*e*PG	**Pb**	**02 26 52.1**	**-0.7**
KARS				*e*SG	**Sb**	**02 27 01.8**	**+0.5**
KARS	**Kars**	**0.57**	**73**	*e*Pg	**Pb**	**02 26 52.2**	**-0.7**
KARS				*e*Sg	**Sb**	**02 27 01.8**	**+0.5**
DDEM	**Demirkent**	**0.63**	**313**	*i* P	**Pb**	**02 26 53.1**	**-0.8**
DDEM				*i* S	**Sg**	**02 27 00.8**	**+0.1**
DDEM	**Demirkent**	**0.63**	**313**	*i* P	**Pb**	**02 26 53.1**	**-0.8**
DDEM				*i* S	**Sg**	**02 27 00.8**	**+0.1**
DAGI	**Agillar**	**0.70**	**331**	*i* P	**Pb**	**02 26 54.8**	**-0.3**
DAGI				*i* S	**Sb**	**02 27 04.5**	**-0.5**
DBAD	**Bademkaya**	**0.75**	**318**	*e*P	**Pb**	**02 26 55.3**	**-0.6**
DBAD				*e*S	**Sb**	**02 27 05.7**	**-0.7**
DBAD	**Bademkaya**	**0.75**	**318**	*e*P	**Pb**	**02 26 55.3**	**-0.6**
DBAD				*e*S	**Sb**	**02 27 05.7**	**-0.7**
ARTV	**Artvin**	**0.79**	**336**	*e*P	**Pb**	**02 26 56.5**	**-0.2**
ARTV				*e*S	**Sb**	**02 27 08.2**	**+0.6**
ARTV	**Artvin**	**0.79**	**336**	*e*P	**Pb**	**02 26 56.5**	**-0.2**
ARTV				*e*S	**Sb**	**02 27 08.3**	**+0.6**
ERZM	**Erzurum**	**0.94**	**234**	*i* P	**Pg**	**02 26 58.2**	**-0.3**
ERZM				*i* S	**Sb**	**02 27 11.1**	**-1.1**
ERZM	**Erzurum**	**0.94**	**234**	*i* P	**Pg**	**02 26 58.2**	**-0.3**
ERZM				*i* S	**Sb**	**02 27 11.1**	**-1.1**
EZM	**Erzurum**	**0.95**	**234**	*e*PG	**Pg**	**02 26 58.2**	**-0.4**
EZM				*e*SG	**Sb**	**02 27 12.2**	**-0.1**
DBOC	**Borcka**	**1.02**	**329**	*i* P	**Pb**	**02 27 00.2**	**-0.4**
DBOC				*i* S	**Sb**	**02 27 13.3**	**-1.0**
DBOC	**Borcka**	**1.02**	**329**	*i* P	**Pb**	**02 27 00.2**	**-0.4**
DBOC				*i* S	**Sb**	**02 27 13.3**	**-1.0**
BCA	**Borcka**	**1.13**	**331**	*e*PN	**Pg**	**02 27 01.4**	**-0.5**
BCA				*e*SN	**Sb**	**02 27 17.2**	**0.0**
BCA	**Borcka**	**1.13**	**331**	*e*Pn	**Pg**	**02 27 01.4**	**-0.5**
BCA				*e*Sn	**Sb**	**02 27 17.2**	**0.0**
KOPT	**Kop Dagi**	**1.49**	**253**	*e*P	**Pg**	**02 27 09.4**	**+0.4**
KOPT				*e*S	**Sg**	**02 27 30.5**	**+2.1**
KOPT	**Kop Dagi**	**1.49**	**253**	*e*P	**Pg**	**02 27 09.4**	**+0.4**
KOPT				*e*S	**Sg**	**02 27 30.5**	**+2.1**
CLDR	**Caldiran**	**1.79**	**137**	*e*PN	**Pb**	**02 27 13.0**	**-0.6**
CLDR	**Caldiran**	**1.79**	**137**	*e*Pn	**Pb**	**02 27 13.0**	**-0.6**
GNI	**Garni**	**1.85**	**99**	*e*PN	**Pb**	**02 27 14.5**	**-0.2**
GNI	**Garni**	**1.85**	**99**	*e*Pn	**Pb**	**02 27 14.5**	**-0.2**
GUMT	**Gumushane**	**2.20**	**271**	*e*PN	**Pn**	**02 27 18.1**	**+0.6**
GUMT	**Gumushane**	**2.20**	**271**	*e*Pn	**Pn**	**02 27 18.1**	**+0.6**

*NSSC **05** 02:40:37.7±1.2, 36°.39N×40°.88E, h65km±11km, ML1.8*
*ISCJB **05** 02:40:39.3±1.0, 36°.39N±0°.03×40°.92E±0°.05, h1km±8km, Error ellipse: s-maj=7.6km s-min=5.3km az=21.2*
*CSEM **05** 02:40:39.1±0.3, 36°.36N×40°.92E, h2km, ML1.7, Error ellipse: s-maj=6.1km s-min=4.5km az=120.0*
*DDA **05** 02:40:40.9, 36°.50N×40°.98E, h7km, MD3.0*

ISC 05 02:40:39.0±1.4, 36°.38N±0°.03×40°.91E±0°.04, h6km±14km, n14, σ0s48/27, 2C-2D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MZRK	**Al-Mazaregh**	**0.59**	**201**	*e*P	**Pg**	**02 40 50.6**	**+0.1**
MZRK				*e*S	**Sb**	**02 41 01.0**	**+0.5**
MZRK				AML	AML	02 41 08.3	
	comp=Z,56nm,1.3s						
MZRK				AML	AML	02 41 09.6	
	comp=N,65nm,1.0s						
MZRK				AML	AML	02 41 20.3	
	comp=E,27nm,0.9s						
MZRK	**Al-Mazaregh** SNR=122	**0.59**	**201**	*e*P	**Pg**	**02 40 50.6**	**+0.1**
SFNV	**Sufian**	**0.65**	**273**	⇓*e*P	**Pg**	**02 40 51.0**	**-0.5**
SFNV				*e*S	**Sb**	**02 41 01.4**	**-0.6**
SFNV				AML	AML	02 41 09.0	
	comp=E,34nm,0.2s						
SFNV				AML	AML	02 41 09.5	
	comp=N,20nm,0.4s						
SFNV				AML	AML	02 41 14.3	
	comp=Z,34nm,0.7s						
SFNV	**Sufian** SNR=118	**0.65**	**273**	⇓*e*P	**Pg**	**02 40 51.0**	**-0.5**
SFNV				*e*S	**Sb**	**02 41 01.3**	**-0.7**
	comp=Z,34nm,0.7s,SNR=118						
KBSD	**Kabsdagh**	**0.68**	**334**	⇑*e*P	**Pg**	**02 40 52.5**	**+0.3**
KBSD				*e*S	**Sb**	**02 41 02.3**	**-0.8**
KBSD	**Kabsdagh** SNR=115	**0.68**	**334**	⇑*e*P	**Pg**	**02 40 52.5**	**+0.3**
KBSD				*e*S	**Sb**	**02 41 02.3**	**-0.8**
	SNR=115						
MARD	**Mardin**	**0.94**	**354**	*e*P	**Pb**	**02 40 57.9**	**+0.2**
MARD				*e*S	**Sb**	**02 41 11.2**	**+0.8**
BEST	**Besiri**	**1.53**	**11**	*e*P	**Pb**	**02 41 07.8**	**0.0**
BEST				*e*S	**Sg**	**02 41 28.3**	**+0.1**
KSRV	**Kasrt alli**	**1.63**	**252**	*e*P	**Pn**	**02 41 08.2**	**0.0**
KSRV				*e*S	**Sb**	**02 41 30.7**	**+0.4**
KSRV	**Kasrt alli** SNR=96	**1.63**	**252**	*e*P	**Pn**	**02 41 08.2**	**0.0**
KSRV				*e*S	**Sb**	**02 41 30.7**	**+0.4**
	SNR=96						
SIRN	**S¯¯rnak**	**1.64**	**47**	*e*P	**Pb**	**02 41 09.1**	**-0.5**
SIRN				*e*S	**Sb**	**02 41 30.5**	**0.0**
SIRN	**S¯¯rnak**	**1.64**	**47**	*e*P	**Pb**	**02 41 09.1**	**-0.5**
SIRN				*e*S	**Sb**	**02 41 30.5**	**0.0**
DIYA	**Diyarbakir**	**1.66**	**338**	*e*P	**Pb**	**02 41 10.4**	**+0.3**
DIYA				*e*S	**Sb**	**02 41 31.7**	**+0.4**
DIYA	**Diyarbakir**	**1.66**	**338**	*e*P	**Pb**	**02 41 10.4**	**+0.3**
DIYA				*e*S	**Sb**	**02 41 31.7**	**+0.4**

IDC 05 02:42:26.6±1.8, 22°.38S×148°.20E, h0km, mb3.6/1, mb1 3.6/5, mb1mx3.5/13, mbtmp3.5/5, ML3.4/3, Error ellipse: s-maj=27.0km s-min=18.1km az=70.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.92**	**321**	Pn	Pn	02 43 15.7	+1.4
	6.5nm,0.3s,baz=135,slow=17,SNR=50						
CTA				Pg	Pg	02 43 21.1	-1.5
	12nm,0.3s,baz=145,slow=18,SNR=27						
CTA				Sn	Sn	02 43 51.9	+1.8
	6.6nm,0.3s,baz=98,slow=18,SNR=3.8						
CTA				Lg	Lg	02 43 58.9	
	24nm,0.3s,baz=52,slow=21,SNR=11						
STKA	**Stephens Creek**	**11.13**	**210**	Pn	Pn	02 45 06.7	-0.4
	0.3nm,0.3s,baz=41,slow=11,SNR=3.9						
STKA				Sn	Sn	02 47 06.8	-5.6
	0.1nm,0.3s,baz=302,slow=17,SNR=1.8						
STKA				Lg	Lg	02 48 22.4	
	0.1nm,0.3s,baz=296,slow=22,SNR=1.4						
WRA	**Warramunga Arr**	**13.16**	**278**	Pn	Pn	02 45 33.1	-1.8
	0.1nm,0.3s,baz=99,slow=12,SNR=4.2						
WRA				Lg	Lg	02 49 22.8	
	0.2nm,0.3s,baz=106,slow=30,SNR=4.5						
ASAR	**Alice Springs**	**13.23**	**262**	Pn	Pn	02 45 35.0	-0.9
	0.1nm,0.3s,baz=90,slow=14,SNR=4.5						
ASAR				Lg	Lg	02 49 27.5	
	0.1nm,0.3s,baz=92,slow=26,SNR=5.6						
SONM	**Songino Array**	**79.34**	**333**	P	P	02 54 33.4	-0.8
	0.3nm,0.7s,baz=158,slow=1.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**146.88**	**260**	PKPbc	PKPbc	03 02 11.8	0.0
	0.6nm,0.7s,baz=104,slow=3.1,SNR=6.2						

IDC 05 02:43:36.8±10.0, 45°.99N×150°.19E, h114km±72km, mb2.9/5, mb1 3.3/6, mb1mx3.1/23, mbtmp2.9/6, Error ellipse: s-maj=113.2km s-min=25.7km az=174.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**8.63**	**32**	P	Pn	02 45 38.7	-0.1
	0.2nm,0.3s,baz=211,slow=15,SNR=4.5						
ILAR	**Eielson Array**	**38.40**	**38**	P	P	02 50 46.5	-0.1
	0.2nm,0.8s,baz=264,slow=7.4,SNR=3.5						
MKAR	**Makanchi Array**	**45.48**	**297**	P	P	02 51 44.3	-0.1
	0.1nm,0.4s,baz=71,slow=7.9,SNR=2.3						
YKA	**Yellowknife Ar**	**52.73**	**36**	P	P	02 52 39.2	-0.2
	0.2nm,0.6s,baz=299,slow=7.1,SNR=3.8						
NVAR	**Mina Array Bea**	**64.57**	**60**	P	P	02 54 02.2	+0.1
	0.3nm,0.5s,baz=307,slow=7.5,SNR=2.5						
TXAR	**Lajitas Array**	**79.62**	**59**	P	P	02 55 31.5	-0.2
	0.2nm,0.7s,baz=318,slow=1.2,SNR=3.4						

IDC 05 03:19:49.3±51.0, 22°.91S×172°.92W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.9/17, mbtmp4.3/3, Error ellipse: s-maj=967.0km s-min=178.9km az=88.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.12**	**247**	P	P	03 27 34.3	-0.9
	1.1nm,0.3s,baz=83,slow=9.7,SNR=4.8						
ASAR	**Alice Springs**	**48.61**	**258**	P	P	03 28 35.4	+0.2
	0.9nm,0.3s,baz=89,slow=6.6,SNR=19						
WRA	**Warramunga Arr**	**48.98**	**263**	P	P	03 28 38.1	+0.2
	3.0nm,0.3s,baz=102,slow=8.1,SNR=38						

IDC 05 03:42:12.7±13.0, 9°.24N×83°.43W, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.6/4, Error ellipse: s-maj=306.2km s-min=91.3km az=2.0, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**27.56**	**319**	P	P	03 48 02.3	+0.6
	0.4nm,0.9s,baz=139,slow=7.2,SNR=3.6						
YKA	**Yellowknife Ar**	**57.77**	**343**	P	P	03 52 04.0	-1.3
	0.4nm,0.7s,baz=141,slow=6.8,SNR=8.2						
RES	**Resolute Bay**	**65.74**	**357**	P	P	03 52 59.8	+0.9
	0.5nm,0.3s,baz=188,slow=9.5,SNR=6.6						
ILAR	**Eielson Array**	**70.54**	**336**	P	P	03 53 29.2	0.0
	0.3nm,0.6s,baz=119,slow=4.5,SNR=9.1						

*IDC **05** 03:51:47.5±1.7, 52°.71N×171°.35E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/27, mbtmp3.7/9, ML3.6/1, Error ellipse: s-maj=52.0km s-min=10.6km az=3.0*
*MOS **05** 03:51:48.0±1.1, 52°.66N×171°.21E, h21km, mb4.5/1, Error ellipse: s-maj=19.2km s-min=14.7km az=21.1*
*ISCJB **05** 03:51:50.1±0.6, 52°.7N±0°.1×171°.18E±0°.06, h33km, mb3.7/8, Error ellipse: s-maj=14.5km s-min=5.3km az=3.0*
*KRSC **05** 03:51:50.1±3.6, 52°.67N×170°.74E, h14km±16km, ML4.4*

ISC 05 03:51:51.8±1.0, 52°.6N±0°.1×171°.14E±0°.06, h35km, n31, σ1s89/40, mb3.5/8, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**1.26**	**77**	Pn	Pn	03 52 09.4	-3.5
	125nm,0.3s,baz=308,slow=5.2,SNR=100						
FX1				Sn	**Sn**	**03 52 24.2**	**-4.4**
	535nm,0.3s,baz=144,slow=19,SNR=36						
BKI	**Bering**	**4.01**	**312**	S	**Sn**	**03 53 34.9**	**-1.4**
MKZ	**Mys Kozlova**	**5.93**	**293**	P	**Pn**	**03 53 17.2**	**+0.2**
MKZ				S	**Sn**	**03 54 20.7**	**-3.0**
MKZ	**Mys Kozlova**	**5.93**	**293**	P	**Pn**	**03 53 17.2**	**+0.2**
MKZ				S	**Sn**	**03 54 20.7**	**-3.0**
KBTR	**Krutoberegovo**	**6.04**	**310**	P	**Pn**	**03 53 18.7**	**+0.1**
KBTR	**Krutoberegovo**	**6.04**	**310**	P	**Pn**	**03 53 18.7**	**+0.1**
KMNR	**Kamenistaya**	**7.13**	**301**	*e*P	**Pn**	**03 53 35.8**	**+2.2**
KMNR				S	**Sn**	**03 54 52.5**	**-0.8**
NLC	**Nalytchevo**	**7.16**	**279**	P	**Pn**	**03 53 35.0**	**+1.1**
NLC				S	**Sn**	**03 54 51.6**	**-2.3**
NLC	**Nalytchevo**	**7.16**	**279**	*e*P	**Pn**	**03 53 35.0**	**+1.1**
NLC				S	**Sn**	**03 54 51.6**	**-2.3**
SDLR	**Sedlovina**	**7.44**	**280**	P	**Pn**	**03 53 38.6**	**+0.8**
UGLR	**Uglovaya**	**7.47**	**279**	P	**Pn**	**03 53 39.2**	**+0.9**
SMAR	**Somma**	**7.49**	**280**	P	**Pn**	**03 53 40.4**	**+1.8**
AVH	**Avacha**	**7.52**	**280**	*e*P	**Pn**	**03 53 39.8**	**+0.8**
KOK	**Koryaka**	**7.58**	**280**	*e*P	**Pn**	**03 53 41.4**	**+1.5**
SRDR	**Sredinnyy**	**7.62**	**304**	P	**Pn**	**03 53 43.2**	**+3.0**
RUS	**Russkaya**	**7.71**	**274**	P	**Pn**	**03 53 42.6**	**+1.2**
RUS				S	**Sn**	**03 55 03.9**	**-3.5**
RUS	**Russkaya**	**7.71**	**274**	P	**Pn**	**03 53 42.6**	**+1.2**
RUS				S	**Sn**	**03 55 03.9**	**-3.5**
MTVR	**Mutnovka**	**7.90**	**274**	P	**Pn**	**03 53 46.6**	**+2.4**
MTVR				S	**Sn**	**03 55 10.7**	**-1.7**
ASAK	**Asacha**	**8.09**	**274**	P	**Pn**	**03 53 48.4**	**+1.7**
ASAK				S	**Sn**	**03 55 15.0**	**-1.8**
PETK	**Petropavlovsk-**	**8.15**	**279**	P	**Pn**	**03 53 47.5**	**-0.1**
PETK						03 55 15.3	
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**8.15**	**279**	Pn	**Pn**	**03 53 47.5**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=100,slow=16,SNR=7.1						
PETK				Sn	**Sn**	**03 55 15.3**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=107,slow=18,SNR=2.6						
TILK	**Tilichiki**	**8.32**	**343**	P	Pn	03 53 53.8	+4.0
KDAK	**Kodiak Island**	**21.16**	**61**	P	**P**	**03 56 33.1**	**-0.5**
	comp=Z,14nm,1.1s,baz=304,slow=7.3,SNR=5.0						
ILAR	**Eielson Array**	**24.44**	**44**	P	**P**	**03 57 06.1**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=249,slow=7.4,SNR=22						
YKA	**Yellowknife Ar**	**38.85**	**45**	P	**P**	**03 59 12.9**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=292,slow=8.0,SNR=4.3						
SONM	**Songino Array**	**40.45**	**290**	P	**P**	**03 59 29.0**	**+2.2**
	comp=Z,0.3nm,0.5s,baz=69,slow=8.5,SNR=3.3						
MKAR	**Makanchi Array**	**54.24**	**302**	P	**P**	**04 01 13.9**	**0.0**
MKAR	**Makanchi Array**	**54.24**	**302**	P	**P**	**04 01 13.9**	**0.0**
	comp=Z,0.1nm,0.4s,baz=60,slow=6.9,SNR=4.5						
ARCES	**ARCESS Array B**	**55.60**	**346**	P	**P**	**04 01 24.2**	**+0.9**
	comp=Z,8.3nm,1.1s,baz=32,slow=8.6,SNR=4.0						
TXAR	**Lajitas Array**	**64.47**	**75**	P	**P**	**04 02 24.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=317,slow=6.5,SNR=8.5						
NOA	**NORSAR Array B**	**65.56**	**349**	P	**P**	**04 02 31.4**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=12,slow=6.5,SNR=4.6						

MEX 05 03:53:14.7±0.9, 18°.66N×102°.66W, h132km±15km, MD3.8, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.75**	**241**	*i* P	Pn	03 53 34.8	-0.9
MMIG				*e*S	Sn	03 53 49.1	-2.4
EZ5V		**1.21**	**313**	*i* P	Pn	03 53 39.6	-0.6
EZ5V				*i* S	Sn	03 53 58.0	-1.6
R15V		**1.35**	**292**	*i* P	Pn	03 53 40.2	-1.2
R15V				*i* S	Sn	03 53 59.7	-2.1
SFJM	**Santa Fe**	**1.85**	**349**	*i* P	Pn	03 53 45.4	-1.9
SFJM				*i* S	Sn	03 54 11.2	-1.1
ACX	**Acapulco**	**3.21**	**123**	*i* P	Pn	03 54 02.4	-1.8

*IDC **05** 03:55:53.2±2.3, 16°.57S×173°.76W, h43km±20km, mb4.5/16, mb1 4.7/17, mb1mx4.5/23, mbtmp4.5/17, ML4.5/2, MS3.9/9, Ms1 3.9/9, ms1mx3.6/26, Error ellipse: s-maj=25.3km s-min=12.1km az=146.0*
*ISCJB **05** 03:55:56.8±0.1, 16°.68S±0°.05×173°.79W±0°.06, h90km, mb4.8/83, Error ellipse: s-maj=10.1km s-min=3.7km az=42.6*
*NEIC **05** 03:55:58.7±0.1, 16°.65S×173°.75W, mb4.8/62, Error ellipse: s-maj=9.2km s-min=4.0km az=137.0*

ISC 05 03:55:58.6±0.4, 16°.78S±0°.09×173°.61W±0°.06, h92km±3km, h93km:pP-P, n521, σ0s87/530, mb4.7/83, 174C-175D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.36**	**32**	P	Pn	03 56 42.1	-7.0
AFI				S	Sn	03 57 15.1	-13
AFI	**Afiamalu**	**3.36**	**32**	P	Pn	03 56 42.1	-7.0
	884nm,0.3s,baz=121,slow=0.7,SNR=204						
AFI				S	Sn	03 57 15.1	-13
	2µm,0.3s,baz=31,slow=19,SNR=16						
MSVF	**Nonsavu**	**8.02**	**262**	*e*Pn	Pn	03 57 57.4	+4.9
	219nm,0.9s						
RAR	**Rarotonga**	**13.81**	**111**	*e*P	**Pn**	**03 59 08.3**	**-2.0**
RAR				*e*Sn	Sn	04 01 33.7	-8.7
RAR				TT		04 13 27.0	
RAR	**Rarotonga**	**13.81**	**111**	P	**Pn**	**03 59 08.7**	**-1.7**
	6.4nm,0.3s,baz=261,slow=10,SNR=15						
RAR				S	Sn	04 01 30.6	-12
	2.0nm,0.3s,baz=54,slow=19,SNR=3.2						
RAR				T	T	04 13 27.0	
	8.5nm,0.3s,baz=204,slow=13,SNR=3.2						
DZM	**Mont Dzumac**	**19.52**	**251**	*e*P	**Pn**	**04 00 23.7**	**+2.7**
	226nm,1.0s						
DZM				*e*LR	LR	04 04 51.5	
	677nm,30.4s						
DZM	**Mont Dzumac**	**19.52**	**251**	*e*P	**P**	**04 00 18.9**	**0.0**
DZM	**Mont Dzumac**	**19.52**	**251**	P	**P**	**04 00 18.9**	**0.0**
DZM	**Mont Dzumac**	**19.52**	**251**	P	**P**	**04 00 18.9**	**0.0**
	4.9nm,0.3s,baz=79,slow=17,SNR=15						
DZM				LR	LR	04 04 57.4	
	comp=Z,185nm,18.9s,baz=15,slow=28						
NOUC	**Port Laguerre**	**19.66**	**251**	*e*P	**P**	**04 00 19.7**	**-0.6**
OUZ	**Omahuta**	**21.63**	**209**	*e*P	**P**	**04 00 41.7**	**+0.5**
	55nm,0.9s						
PUZ	**Puketiti**	**22.38**	**197**	PN	**P**	**04 00 49.0**	**-0.3**
MKAZ	**Moumakai**	**22.55**	**204**	PN	**P**	**04 00 51.9**	**+0.8**
URZ	**Urewera**	**22.90**	**199**	*e*P	**P**	**04 00 53.5**	**-1.0**
	210nm,0.6s						
URZ	**Urewera**	**22.90**	**199**	PN	**P**	**04 00 52.5**	**-2.0**
TOZ	**Tahuroa Road**	**22.97**	**203**	PN	**P**	**04 00 56.4**	**+1.2**
PAE	**Paea**	**22.97**	**96**	*e*T	T	04 24 30.1	
	7.2nm,0.3s						
PPT2	**Papeete2**	**22.98**	**96**	*e*LR	LR	04 06 12.4	
	523nm,30.8s						
PPT2				*e*T	T	04 24 28.1	
	8.7nm,0.3s						
TVO	**Taravao**	**23.28**	**96**	*e*T	T	04 24 41.3	
	15nm,0.4s						
TBI	**Tubuai**	**23.59**	**110**	*e*LR	LR	04 06 38.1	
	371nm,32.5s						
TBI				*e*T	T	04 25 12.6	
	28nm,0.4s						
HIZ	**Hauiti**	**23.90**	**203**	PN	**P**	**04 01 05.5**	**+1.7**
BKZ	**Black Stump Fm**	**23.92**	**199**	PN	**P**	**04 01 02.6**	**-1.5**
PXZ	**Pawanui**	**24.60**	**198**	*e*PN	**P**	**04 01 09.9**	**-0.2**
PMOR	**Pomariorio Ree**	**24.79**	**90**	*e*T	T	04 26 53.3	
	6.7nm,0.3s						
BFZ	**Birch Farm**	**25.38**	**198**	PN	**P**	**04 01 17.2**	**0.0**
SNZO	**South Karori**	**26.44**	**200**	*e*P	**P**	**04 01 25.8**	**-0.9**
	87nm,1.0s						
HNR	**Honiara**	**26.75**	**283**	LR	LR	04 09 27.9	
	comp=Z,183nm,19.4s,baz=74,slow=31						
QRZ	**Quartz Range**	**26.79**	**204**	PN	**P**	**04 01 30.4**	**+0.5**
KHZ	**Kahutara**	**27.82**	**201**	*e*P	**P**	**04 01 39.1**	**0.0**
	67nm,0.8s						
WVZ	**Waitaha Valley**	**29.41**	**204**	PN	**P**	**04 01 52.4**	**-0.8**
RPZ	**Rata Peaks**	**29.83**	**203**	*e*P	**P**	**04 01 58.2**	**+1.2**
	70nm,0.7s						
RPZ	**Rata Peaks**	**29.83**	**203**	P	**P**	**04 01 58.2**	**+1.2**
	14nm,0.6s						
ODZ	**Otahua Downs**	**31.13**	**202**	*e*P	**P**	**04 02 10.2**	**+1.8**
	120nm,0.8s						
WHZ	**Wether Hill Ro**	**32.86**	**204**	*e*P	**P**	**04 02 25.4**	**+1.8**
ARMA	**Armidale**	**34.47**	**240**	*e*P	**P**	**04 02 36.7**	**-1.2**
	20nm,0.7s						
ARMA	**Armidale**	**34.47**	**240**	*e*P	**P**	**04 02 37.1**	**-0.8**
RKT	**Rikitea**	**36.78**	**106**	*e*T	T	04 41 42.3	
	11nm,0.4s						
CTA	**Charters Tower**	**38.15**	**259**	P	**P**	**04 03 07.7**	**-1.6**
CTA	**Charters Tower**	**38.15**	**259**	*e*P	**P**	**04 03 07.4**	**-1.9**
	4.7nm,0.4s						
CTA	**Charters Tower**	**38.15**	**259**	P	**P**	**04 03 07.7**	**-1.6**
	5.9nm,0.5s,baz=91,slow=12,SNR=9.6						
CTAO	**Charters Tower**	**38.15**	**259**	*e*P	**P**	**04 03 08.8**	**-0.5**
	5.9nm,0.6s						
PMG	**Port Moresby**	**38.85**	**276**	*e*P	**P**	**04 03 15.2**	**+0.1**
	36nm,1.1s						
CMSA	**Cobar Meteorol**	**39.69**	**241**	*e*P	**P**	**04 03 20.6**	**-1.3**
	215nm,0.7s						
STKA	**Stephens Creek**	**43.18**	**241**	*e*P	**P**	**04 03 49.4**	**-1.0**
	10.0nm,1.1s						
STKA	**Stephens Creek**	**43.18**	**241**	*e*P	**P**	**04 03 49.5**	**-1.0**
	22nm,0.9s						
STKA	**Stephens Creek**	**43.18**	**241**	P	**P**	**04 03 49.6**	**-0.9**
	29nm,0.9s,baz=78,slow=9.9,SNR=35						
BBOO	**Buckleboo**	**47.95**	**241**	*e*P	**P**	**04 04 26.6**	**-1.5**
	73nm,0.8s						
WRA	**Warramunga Arr**	**49.34**	**258**	P	**P**	**04 04 37.0**	**-2.0**
WRA	**Warramunga Arr**	**49.34**	**258**	P	**P**	**04 04 37.0**	**-2.0**
	4.7nm,0.6s,baz=97,slow=7.8,SNR=14					

YBH Yreka Blue Hor 74.82 37 P P 04 07 29.4 +0.4
6.6nm,0.6s,baz=185,slow=4.4,SNR=21
YBH LR LR 04 32 50.8
comp=Z,79nm,20.9s,baz=180,slow=30
GLA Glamis 74.86 48 ⇓P P 04 07 29.8 +0.4
baz=75
WCN Washoe City 75.09 40 eP P 04 07 30.7 -0.1
15nm,1.4s
WCN Washoe City 75.09 40 ⇓P P 04 07 30.9 +0.1
baz=75,SNR=5.7
GMRC Granite Mounta 75.20 46 ⇑P P 04 07 31.3 -0.2
baz=75,SNR=7.7
IRM Iron Mountain 75.22 47 ⇑P P 04 07 31.6 +0.1
baz=75,SNR=9.7
GRAC Grapevine Rang 75.27 43 ⇓P P 04 07 32.0 +0.3
baz=76
FURC Furnace Creek, 75.31 44 ⇑P P 04 07 32.1 +0.2
baz=76
TUQ Turquoise Moun 75.37 46 ⇓P P 04 07 32.6 +0.1
baz=76,SNR=5.0
SHOC Shoshone 75.39 45 ⇓P P 04 07 32.6 +0.3
baz=76
Y12C Blythe 75.44 48 ⇓P P 04 07 32.9 +0.2
baz=76
113A Mohawk Valley, 75.47 49 ⇑P P 04 07 32.8 -0.1
baz=76,SNR=12
NVAR Mina Array Bea 75.49 42 P P 04 07 33.3 +0.2
NVAR Mina Array Bea 75.49 42 P P 04 07 33.3 +0.2
5.0nm,0.8s,baz=231,slow=8.0,SNR=11
LDFC Landfair 75.74 46 eP P 04 07 34.7 +0.2
41nm,1.3s
214A Organ Pipe Nat 75.75 50 ⇓P P 04 07 34.7 +0.1
baz=76,SNR=5.5
PDMCI Parker Dam,Lak 76.00 47 ⇑P P 04 07 36.1 +0.3
baz=76
114A Black Gap (USA 76.10 49 ⇑P P 04 07 36.6 +0.1
baz=76,SNR=5.3
Z14A Wintersburg 76.37 49 ⇓P P 04 07 38.1 +0.1
baz=76
W13A Hualapai Mount 76.60 47 ⇑P P 04 07 39.6 +0.1
baz=77,SNR=5.8
Y14A Wickenburg 76.62 48 ⇓P P 04 07 39.5 +0.1
baz=77,SNR=18
R11A Troy Canyon, C 77.20 43 ⇓P P 04 07 42.6 -0.2
baz=77,SNR=8.3
TUC Tucson 77.42 51 eP P 04 07 44.1 +0.1
3.3nm,0.8s
X16A Lo Mia Camp, P 77.98 48 ⇑P P 04 07 47.8 +0.6
baz=78,SNR=15
R13A O'Grain Ranch, 78.18 44 ⇓P P 04 07 48.6 +0.3
baz=78,SNR=5.4
CCUT Cedar City 78.25 45 eP P 04 07 48.7 0.0
18nm,1.5s
X17A Forest Lakes 78.40 49 ⇓P P 04 07 50.2 +0.6
baz=79,SNR=6.8
U15A North Rim 78.40 46 ⇑P P 04 07 50.1 +0.5
baz=79,SNR=18
WUAZ Wupatki 78.58 47 eP P 04 07 50.6 +0.1
11nm,1.2s
WUAZ Wupatki 78.58 47 ⇓P P 04 07 50.9 +0.5
baz=79,SNR=7.6
320A Kipp Ranch, An 78.65 52 ⇓P P 04 07 51.3 +0.3
baz=79
Y18A Canyon Day Jun 78.68 50 ⇓P P 04 07 51.8 +0.7
baz=79,SNR=8.5
ELK Elko 78.75 41 eP P 04 07 50.9 -0.5
ELK Elko 78.75 41 P P 04 07 51.3 -0.1
6.4nm,0.9s,baz=236,slow=5.2,SNR=8.5
220A Playas Peak, P 78.91 52 ⇑P P 04 07 52.9 +0.6
baz=79,SNR=10
V17A Tonalea, Kykot 79.04 48 ⇓P P 04 07 53.5 +0.5
baz=79,SNR=13
U16A Tuba City 79.06 47 ⇓P P 04 07 53.7 +0.6
baz=79,SNR=14
X18A Snowflake 79.11 49 ⇑P P 04 07 54.1 +0.6
baz=79
120A U Bar Ranch, L 79.13 51 ⇓P P 04 07 54.1 +0.5
baz=79
R15A Junction 79.33 45 ⇓P P 04 07 55.3 +0.8
baz=80,SNR=6.0
Y19A Nutrioso 79.34 50 ⇓P P 04 07 55.5 +0.7
baz=80,SNR=13
JCW Jim Creek 79.39 32 eP P 04 07 52.7 -1.7
16nm,1.4s
Z20A Nine Sixteen R 79.43 51 ⇓P P 04 07 55.8 +0.7
baz=80,SNR=10
MVU Marysvale 79.52 44 eP P 04 07 56.3 +0.6
13nm,1.1s
MVU epP pP 04 08 17.8 -1.9
221A Mesquite Ranch 79.53 52 ⇓P P 04 07 56.2 +0.5
baz=80
S16A Weppner Ranch, 79.54 45 ⇓P P 04 07 55.8 +0.1
baz=80,SNR=12
MSU Marysvale 79.55 44 eP P 04 07 56.3 +0.5
16nm,1.1s
U17A Shonto 79.62 47 ⇓P P 04 07 56.8 +0.6
baz=80,SNR=7.1
V18A Ganado 79.69 48 ⇑P P 04 07 57.1 +0.5
baz=80,SNR=15
T17A Navajo Res., N 79.72 46 ⇓P P 04 07 57.3 +0.6
baz=80,SNR=12
121A Cookes Peak, D 79.76 52 ⇑P P 04 07 57.6 +0.6
baz=80,SNR=6.4
ETW Entiat 79.84 33 eP P 04 07 56.6 -0.4
8.2nm,0.8s
MFID Camas Ranch 79.89 39 ⇓P P 04 07 57.1 -0.2
baz=80,SNR=6.1
R16A Teasdale 79.90 45 ⇑P P 04 07 58.4 +0.7
baz=80,SNR=17
Y20A Horse Springs, 79.96 50 ⇑P P 04 07 58.9 +0.8
baz=80,SNR=11
DUG Dugway 80.01 43 eP P 04 07 57.5 -0.6
7.6nm,1.1s
DUG Dugway 80.01 43 ⇑P P 04 07 57.9 -0.2
baz=80,SNR=7.1
P15A Leamington 80.03 44 ⇑P P 04 07 58.3 0.0
baz=80,SNR=5.3
222A Williams Famil 80.08 52 ⇑P P 04 07 58.9 +0.2
baz=80
U18A Rough Rock, Ch 80.08 47 ⇓P P 04 07 59.0 +0.3
baz=80,SNR=9.5
X20A Quemado 80.17 49 ⇓P P 04 07 59.9 +0.7
baz=80,SNR=10
Z21A St. Cloud Mine 80.20 51 ⇑P P 04 08 00.4 +1.0
baz=80,SNR=12
V19A Window Rock 80.33 48 ⇓P P 04 08 00.6 +0.5
baz=80
122A Conniff Cattle 80.42 52 ⇑P P 04 08 01.2 +0.6
baz=81
T18A Mexican Hat 80.43 47 ⇓P P 04 08 01.1 +0.6
baz=81,SNR=40
Q16A Castle Valley 80.43 45 ⇓P P 04 08 00.9 +0.4
baz=81
W20A Ramah 80.44 49 ⇓P P 04 08 01.4 +0.8
baz=81,SNR=23
U19A Dine' College, 80.49 48 ⇓P P 04 08 01.2 +0.3
baz=81,SNR=11
R17A Hanksville Air 80.49 45 ⇓P P 04 08 00.7 0.0
baz=81,SNR=13
I12A Atlanta 80.52 39 ⇓P P 04 08 00.9 +0.1
baz=81,SNR=16
Y21A Point of Rocks 80.52 50 ⇑P P 04 08 02.1 +1.0
baz=81,SNR=9.8
223A Chaparral, Ant 80.55 53 ⇓P P 04 08 01.4 +0.2
baz=81
N15A Stansbury Isla 80.56 42 ⇓P P 04 08 00.8 -0.2
baz=81,SNR=5.7
OD2 Odessa Site #2 80.58 34 eP P 04 08 00.2 -0.6
8.2nm,1.1s
TMUT Trail Mountain 80.60 44 eP P 04 08 01.8 +0.2
21nm,1.0s
S18A Hurst Farm, Bl 80.62 46 ⇓P P 04 08 01.5 -0.1
baz=81
X21A Alamocita Cree 80.64 50 ⇓P P 04 08 02.2 +0.4
baz=81,SNR=6.7
Z22A Elephant Butte 80.70 51 ⇓P P 04 08 02.8 +0.8
baz=81,SNR=5.6
L14A Malta 80.71 41 ⇑P P 04 08 01.6 -0.3
baz=81,SNR=6.1
V20A Brimhall 80.78 48 ⇓P P 04 08 02.0 -0.5
baz=81
HLID Hailey 80.82 39 eP P 04 08 02.4 0.0
11nm,1.0s
HLID epP pP 04 08 26.6 +0.1
HLID Hailey 80.82 39 ⇓P P 04 08 02.5 +0.1
baz=81,SNR=16
NJ2 Nanjing 80.83 307 eP P 04 08 05.4 +2.9
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
J13A Cove Ranch, Pi 80.88 39 ⇑P P 04 08 02.8 +0.1
baz=81,SNR=16
T19A Beclabito 80.88 47 ⇓P P 04 08 03.3 +0.4
baz=81,SNR=12
M15A Larsen Ranch, 80.91 42 ⇑P P 04 08 02.4 -0.5
baz=81,SNR=9.1
SRU San Rafael 80.97 45 eP P 04 08 03.5 +0.1
comp=Z,6.7nm,0.7s
SRU San Rafael 80.97 45 ⇓P P 04 08 03.3 0.0
baz=81,SNR=9.2
P17A Butcher Ranch, 81.00 44 ⇓P P 04 08 03.9 +0.4
baz=81
Y22A Socorro 81.01 51 ⇑P P 04 08 04.1 +0.4
baz=81,SNR=9.4
U20A Newcomb 81.02 48 ⇑P P 04 08 03.6 0.0
baz=81
324A Moseley Ranch, 81.02 53 ⇓P P 04 08 03.7 0.0
baz=81,SNR=7.4
K14A Jones Ranch, D 81.03 41 ⇓P P 04 08 03.5 0.0
baz=81,SNR=8.5
R18A Canyonlands Na 81.03 46 ⇑P P 04 08 03.8 +0.1
baz=81,SNR=8.0
W21A San Fidel 81.05 49 ⇓P P 04 08 04.1 +0.2
baz=81
H12A Diamond D Ranc 81.10 38 ⇓P P 04 08 03.5 -0.4
baz=81,SNR=7.1
LENM Lemitar 81.11 50 eP P 04 08 03.0 -1.2
comp=Z,9.0nm,1.2s
425A Indio Mountain 81.12 54 ⇑P P 04 08 04.7 +0.4
baz=81,SNR=17
G12A Big Creek, Yel 81.15 38 ⇑P P 04 08 04.5 +0.3
baz=81
I13A Wildhorse Cree 81.19 39 ⇑P P 04 08 04.5 +0.1
baz=81,SNR=6.2
MNTX Cornudas Mount 81.21 53 ⇑P P 04 08 04.9 +0.3
baz=81,SNR=9.3
Q18A Rafter H Ranch 81.22 45 ⇓P P 04 08 04.9 +0.3
baz=81
L15A Malad City 81.24 41 ⇑P P 04 08 04.3 -0.4
baz=81,SNR=6.0
X22A Bernardo 81.24 50 ⇑P P 04 08 05.6 +0.7
baz=81
S19A Harvey Farm, M 81.24 46 ⇓P P 04 08 04.9 0.0
baz=81,SNR=6.4
Z23A Rita Site, Whi 81.25 51 ⇓P P 04 08 05.0 +0.1
baz=81
N16A Rees Ranch, Co 81.26 43 ⇓P P 04 08 04.8 -0.1
baz=81
224A Cornudas Mount 81.27 53 ⇑P P 04 08 05.4 +0.3
baz=81,SNR=11
626A Big Bend Ranch 81.27 56 ⇓P P 04 08 05.3 +0.3
baz=81,SNR=8.2
BNM Barren Site 81.36 51 eP P 04 08 05.8 +0.2
comp=Z,8.3nm,1.1s
M16A Huntsville 81.36 42 ⇓P P 04 08 05.5 +0.1
baz=82
O17A Robinson Place 81.37 44 ⇑P P 04 08 05.8 +0.3
baz=82,SNR=13
V21A Milan 81.38 49 ⇑P P 04 08 06.0 +0.3
baz=82,SNR=5.3
325A Bean Ranch, Si 81.39 54 ⇑P P 04 08 05.9 +0.1
baz=82,SNR=15
P18A Preston Nutter 81.41 44 ⇓P P 04 08 05.9 +0.1
baz=82
R19A Curley Farm, L 81.42 46 ⇓P P 04 08 05.8 0.0
baz=82,SNR=14
LPM Los Pinos Moun 81.43 50 eP P 04 08 06.3 +0.4
comp=Z,5.4nm,1.0s
MVCO Mesa Verde 81.43 47 ⇓P P 04 08 06.0 +0.1
baz=82
H13A Challis 81.47 38 ⇓P P 04 08 05.6 -0.2
baz=82,SNR=8.3
K15A Arbon 81.50 41 ⇓P P 04 08 05.9 -0.1
baz=82,SNR=5.3
526A Mary Lane Ranc 81.52 55 ⇓P P 04 08 06.8 +0.4
baz=82,SNR=9.0
TXAR Lajitas Array 81.55 56 P P 04 08 07.2 +0.6
TXAR Lajitas Array 81.55 56 P P 04 08 07.2 +0.6
comp=Z,3.3nm,0.9s,baz=230,slow=7.0,SNR=24
TXAR LR LR 04 41 35.0
comp=Z,54nm,18.2s,baz=230,slow=34
F12A Elk City 81.55 37 ⇓P P 04 08 05.5 -0.7
baz=82,SNR=20
HWUT Hardware Ranch 81.55 42 eP P 04 08 05.8 -0.6
comp=Z,4.6nm,1.1s
W22A Albuquerque 81.60 50 ⇓P P 04 08 07.4 +0.6
baz=82
I14A Mackay 81.60 39 ⇓P P 04 08 07.0 +0.4
baz=82
U21A Nageezi 81.65 48 ⇓P P 04 08 07.5 +0.4
baz=82,SNR=29
N17A Moffit Pass 81.68 43 ⇓P P 04 08 07.4 +0.2
baz=82
Q19A Hogan Spring (81.74 45 ⇑P P 04 08 07.4 +0.1
baz=82,SNR=6.8
E12A Beaver Dam Sad 81.74 36 ⇑P P 04 08 07.6 +0.4
baz=82
G13A Cobalt 81.78 38 ⇑P P 04 08 07.0 -0.4
baz=82,SNR=6.7
225A Deer Hill, Car 81.82 53 ⇓P P 04 08 08.4 +0.5
baz=82,SNR=13
627A Terlingua Ranc 81.82 56 ⇓P P 04 08 08.5 +0.5
baz=82,SNR=9.7
426A McDonald Obser 81.82 55 ⇑P P 04 08 08.5 +0.4
baz=82,SNR=17
PV01 Paradox Valley 81.82 46 eP P 04 08 07.8 -0.2
comp=Z,2µm,1.2s
S20A Disappointment 81.82 47 ⇑P P 04 08 08.2 +0.2
baz=82,SNR=10
ANMO Albuquerque 81.84 50 eP P 04 08 08.1 0.0
comp=Z,7.1nm,1.1s
ANMO Albuquerque 81.84 50 P P 04 08 08.3 +0.2
comp=Z,3.6nm,0.6s,baz=251,slow=6.1,SNR=16
L16A Fish Haven 81.85 42 ⇑P P 04 08 07.5 -0.4
baz=82,SNR=10
X23A Hourglass Bar 81.88 50 ⇓P P 04 08 08.5 +0.3
baz=82
527A Woodward Ranch 81.93 55 ⇓P P 04 08 08.2 -0.3
baz=82
Z24A Sheeppen Canyo 81.94 52 ⇓P P 04 08 08.8 +0.2
baz=82,SNR=5.8
J15A Blackfoot 81.94 40 ⇑P P 04 08 08.8 +0.5
baz=82,SNR=15
V22A San Miguel Ran 81.95 49 ⇓P P 04 08 08.9 +0.2
baz=82,SNR=6.1
NEW Newport 81.96 34 ⇓P P 04 08 07.6 -0.6
baz=82
R20A Redvale 81.98 46 ⇓P P 04 08 08.8 0.0
baz=82
T21A Navajo Lake 82.00 48 ⇑P P 04 08 09.1 +0.3
baz=82,SNR=7.7
CN2 Changchun 82.01 320 eP P 04 08 10.7 +2.2
H14A Leadore 82.03 39 ⇓P P 04 08 08.9 +0.1
baz=82,SNR=10
M17A Scullys Gap (B 82.06 43 ⇑P P 04 08 08.4 -0.7
baz=82
F13A Darby 82.10 37 ⇓P P 04 08 08.4 -0.7
baz=82,SNR=10.0
326A Caldwell Ranch 82.13 54 ⇑P P 04 08 09.2 -0.3
baz=82
S21A Coal Bank Pass 82.14 47 ⇑P P 04 08 10.1 +0.4
baz=82,SNR=24
Y24A Capitan 82.14 51 ⇑P P 04 08 09.8 +0.1
baz=82,SNR=11
W23A Werner Place, 82.16 50 ⇑P P 04 08 09.9 +0.2
baz=82,SNR=9.7
K16A Soda Springs 82.17 41 ⇑P P 04 08 09.6 0.0
baz=82,SNR=7.2
125A Gardner Draw, 82.18 53 ⇑P P 04 08 09.5 -0.3
baz=82
C11A Tepee Creek (N 82.18 35 ⇓P P 04 08 09.7 +0.4
baz=82
TNA Tin City 82.20 2 eP P 04 08 09.6 +0.6
comp=Z,12nm,1.3s
U22A Llaves 82.20 48 ⇓P P 04 08 10.0 0.0
baz=82,SNR=6.2
GDL2 Guadalupe Moun 82.21 53 eP P 04 08 10.2 +0.3
comp=Z,29nm,1.1s
628A Black Gap, Mar 82.23 56 ⇓P P 04 08 10.3 +0.2
baz=82,SNR=5.5
D12A Red Ives Fores 82.23 36 ⇓P P 04 08 09.6 -0.1
baz=82
I15A Monteview 82.23 40 ⇓P P 04 08 10.1 +0.3
baz=82,SNR=5.4
L17A Cokeville 82.25 42 ⇑P P 04 08 09.3 -0.8
baz=82
P19A Cripple Cowboy 82.26 45 ⇓P P 04 08 10.7 +0.5
baz=82
G14A Jackson 82.31 38 ⇑P P 04 08 10.2 -0.1
baz=82,SNR=5.2
226A Malaga, Loving 82.35 53 ⇑P P 04 08 10.8 +0.1
baz=82,SNR=12
427A Hayter Ranch, 82.39 55 ⇓P P 04 08 11.3 +0.5
baz=82,SNR=10
J16A Bone 82.39 41 ⇓P P 04 08 10.8 +0.1
baz=83,SNR=11
Q20A Ridgley Place, 82.40 46 ⇓P P 04 08 10.9 0.0
baz=83,SNR=15
V23A Ortiz Mt. (NFS 82.40 49 ⇓P P 04 08 11.9 +0.9
baz=83,SNR=14
Z25A Roswell 82.40 52 ⇓P P 04 08 11.2 +0.3
baz=83
M18A Lyman 82.43 43 ⇑P P 04 08 11.4 +0.4
baz=83
MCMT McKenzie Canyo 82.45 39 eP P 04 08 11.0 -0.1
comp=Z,6.0nm,1.0s
N18A Larsen Ranch, 82.46 43 ⇑P P 04 08 11.4 +0.3
baz=83
T22A Edith 82.46 48 ⇑P P 04 08 11.1 -0.2
baz=83,SNR=6.4
H15A Lima 82.46 39 ⇑P P 04 08 11.2 +0.1
baz=83,SNR=14
O19A Miners Draw (B 82.49 44 ⇓P P 04 08 11.4 +0.1
baz=83
MCK McKinley 82.51 11 eP P 04 08 09.2 -1.4
comp=Z,14nm,0.9s
E13A Victor 82.55 37 ⇑P P 04 08 10.3 -1.1
baz=83,SNR=14
K17A Gardner Place, 82.55 41 ⇓P P 04 08 11.5 -0.1
baz=83
528A Cox Ranch, San 82.58 56 ⇓P P 04 08 12.2 +0.2
baz=83,SNR=7.4
P20A De Beque 82.60 45 ⇓P P 04 08 12.1 +0.2
baz=83,SNR=15
RRI2 Red Ridge 82.61 41 eP P 04 08 11.9 -0.1
comp=Z,18nm,1.0s
R21A Cimarron 82.64 46 ⇑P P 04 08 12.6 +0.4
baz=83,SNR=23
U23A El Rito 82.66 49 ⇑P P 04 08 12.8 +0.4
baz=83,SNR=24
126A Clayton Basin, 82.66 53 ⇓P P 04 08 12.3 0.0
baz=83
F14A Wisdom 82.68 38 ⇓P P 04 08 11.6 -0.5
baz=83,SNR=10
L18A Fontenelle, Gr 82.70 42 ⇓P P 04 08 11.9 -0.5
baz=83
Y25A Mesa, Roswell 82.70 51 ⇓P P 04 08 12.4 0.0
baz=83,SNR=7.3
W24A Lazy 6 Ranch, 82.73 50 ⇑P P 04 08 12.5 -0.2
baz=83,SNR=16
N19A John Jarvie Ra 82.75 44 ⇑P P 04 08 11.9 -0.7
baz=83
D13A Huson 82.76 36 ⇑P P 04 08 11.8 -0.6
baz=83
I16A Newdale 82.78 40 ⇑P P 04 08 13.2 +0.5
baz=83,SNR=23
DCID1 Drake Creek 82.82 40 eP P 04 08 13.2 +0.3
comp=Z,9.3nm,0.5s
Q21A Lamborn Mesa, 82.84 46 ⇑P P 04 08 13.5 +0.3
baz=83,SNR=12
G15A Dillon 82.85 39 ⇑P P 04 08 13.0 -0.1
baz=83,SNR=22
S22A 4UR Ranch, Cre 82.85 47 ⇓P P 04 08 13.9 +0.5
baz=83,SNR=26
DLMT Dillon 82.89 38 eP P 04 08 13.3 +0.1
comp=Z,12nm,1.0s
MSO Missoula 82.91 37 ⇓P P 04 08 12.2 -1.0
baz=83,SNR=5.9
REDW Red Top Meadow 82.91 41 eP P 04 08 13.3 -0.2
comp=Z,16nm,1.1s
TPAW Teton Pass 82.91 41 eP P 04 08 13.3 -0.2
comp=Z,19nm,1.0s
E14A Clinton 82.94 37 ⇑P P 04 08 12.8 -0.6
baz=83,SNR=16
CPRX Cap Rock 82.94 53 eP P 04 08 13.8 0.0
comp=Z,8.7nm,0.9s
Z26A Caprock 82.96 52 ⇑P P 04 08 13.8 0.0
baz=83,SNR=13
X25A Clemmons Ranch 82.98 51 ⇓P P 04 08 13.7 -0.3
baz=83,SNR=9.1
J17A Brown Place, J 83.00 41 ⇓P P 04 08 13.8 -0.1
baz=83,SNR=15
BSMT Bassoo Peak 83.00 35 eP P 04 08 12.8 -1.0
comp=Z,15nm,1.4s
O20A White River Ci 83.00 45 ⇑P P 04 08 13.7 -0.3
baz=83,SNR=5.5
SNOW Snow King Moun 83.02 41 eP P 04 08 13.8 -0.2
comp=Z,9nm,0.9s
C13A Hot Springs 83.02 36 ⇓P P 04 08 13.2 -0.6
baz=83
K18A Toltan Ranch, 83.05 42 ⇑P P 04 08 14.3 +0.1
baz=83,SNR=26
V24A Rampart Ranch, 83.06 50 ⇓P P 04 08 14.7 +0.3
baz=83,SNR=10
M19A Rock Springs 83.06 43 ⇑P P 04 08 13.9 -0.4
baz=83,SNR=5.2
328A Wristen Ranch, 83.07 54 ⇑P P 04 08 13.8 -0.6
baz=83
T23A Casias Ranch, 83.09 48 ⇓P P 04 08 14.6 0.0
baz=83
R22A Saguache, Gunn 83.12 47 ⇑P P 04 08 15.4 +0.6
baz=83,SNR=10.0
IMW Indian Meadow 83.13 40 eP P 04 08 14.4 -0.2
comp=Z,20nm,1.1s
A12A Yaak River Ran 83.14 34 ⇓P P 04 08 14.3 0.0
baz=83
127A Arkansas Junct 83.18 53 ⇑P P 04 08 14.6 -0.4
baz=83
LOHW Long Hollow 83.19 41 eP P 04 08 14.4 -0.5
comp=Z,12nm,1.1s
F15A Butte 83.21 38 ⇑P P 04 08 14.4 -0.5
baz=83,SNR=8.6
L19A Farson 83.22 42 ⇑P P 04 08 14.8 -0.3
baz=83,SNR=14
LRM Limekiln Ridge 83.22 38 eP P 04 08 14.4 -0.7
comp=Z,62nm,0.9s
QIZ Qiongzhong 83.23 292 P P 04 08 17.9 +2.5
QIZ sP sP 04 08 46.3 -3.2
QIZ S SKKSac 04 18 34.2 +0.1
QIZ pmax pmax
comp=Z,11nm,2.2s
P21A Newcastle 83.25 45 ⇑P P 04 08 15.4 0.0
baz=83,SNR=6.8
D14A Greenough 83.29 37 ⇓P P 04 08 14.4 -0.8
baz=84
G16A Moss Hill, Enn 83.29 39 ⇓P P 04 08 15.3 -0.1
baz=84
Q22A Crested Butte, 83.31 46 ⇑P P 04 08 16.0 +0.2
baz=84,SNR=14
QLMT Earthquake Lak 83.31 39 eP P 04 08 15.9 +0.4
comp=Z,2.0nm,0.7s
N20A Spence Gulch, 83.32 44 ⇑P P 04 08 15.6 -0.1
baz=84,SNR=9.4
CHMT Chamberlain Mo 83.35 37 eP P 04 08 14.5 -1.1
comp=Z,5.4nm,1.0s
Y26A Elida 83.35 52 ⇑P P 04 08 15.5 -0.4
baz=84
J18A Kendall Valley 83.35 41 ⇓P P 04 08 15.5 -0.3
baz=84,SNR=44
U24A Moreno Valley 83.35 49 ⇑P P 04 08 17.3 +1.2
baz=84
H16A Russell Place, 83.36 39 ⇓P P 04 08 16.3 +0.5
baz=84,SNR=40
I17A Pilgrim Ck. 83.37 40 ⇑P P 04 08 16.1 +0.3
baz=84,SNR=11
FLWY Flagg Ranch 83.37 40 eP P 04 08 15.9 +0.1
comp=Z,20nm,0.9s
SMCO Snowmass 83.41 46 eP P 04 08 16.2 -0.2
comp=Z,7.6nm,0.9s
SMCO epP pP 04 08 41.9 +1.3
PD01 Pinedale Array 83.41 42 eP P 04 08 15.3 -0.8
BW06 Boulder Array 83.42 42 ⇓P P 04 08 15.5 -0.7
baz=84,SNR=21
PD02 Pinedale Array 83.42 42 eP P 04 08 15.2 -1.0
PDAR Pinedale Array 83.42 42 P P 04 08 15.7 -0.5
PDAR Pinedale Array 83.42 42 P P 04 08 15.7 -0.5
comp=Z,17nm,0.8s,baz=212,slow=3.2,SNR=98
PDAR LR LR 04 40 17.4
comp=Z,62nm,18.3s,baz=182,slow=32
W25A X Bar L Ranch, 83.43 50 ⇑P P 04 08 15.9 -0.4
baz=84,SNR=9.7
E15A Deer Lodge 83.44 38 ⇓P P 04 08 15.3 -0.7
baz=84,SNR=6.4
B13A Whitefish 83.47 35 ⇑P P 04 08 15.1 -0.9
baz=84

YMR	Madison River	83.51	40	*e*P	P	04 08 16.8	+0.3
	comp=Z,13nm,0.7s						
C14A	Swan Lake	83.53	36	⇓P	P	04 08 15.4	-1.0
	baz=84						
Z27A	Tatum	83.56	53	⇑P	P	04 08 16.5	-0.4
	baz=84,SNR=5.7						
O21A	Pagoda	83.56	45	⇑P	P	04 08 16.6	-0.3
	baz=84						
V25A	Rancho No Teng	83.58	50	⇓P	P	04 08 16.9	-0.2
	baz=84,SNR=11						
H17A	Grant Village	83.61	40	⇑P	P	04 08 18.3	+1.2
	baz=84,SNR=12						
X26A	CR and CF Fran	83.63	51	⇑P	P	04 08 17.6	+0.3
	baz=84						
M20A	Sweetwater, Wa	83.69	43	⇑P	P	04 08 17.5	-0.1
	baz=84,SNR=5.1						
F16A	Kennard Place,	83.69	38	⇓P	P	04 08 17.2	-0.1
	baz=84,SNR=7.0						
YNR	Norris Junctio	83.71	40	*e*P	P	04 08 17.9	+0.3
	comp=Z,9.7nm,0.9s						
I18A	Diamond G Ranc	83.73	41	⇓P	P	04 08 17.4	-0.3
	baz=84,SNR=8.6						
COLA	College	83.75	11	*e*P	P	04 08 15.8	-1.1
	comp=Z,4.9nm,0.7s						
COLA				*e*pP	pP	04 08 42.9	+1.7
P22A	Eagle	83.75	46	⇑P	P	04 08 17.7	-0.2
	baz=84,SNR=6.4						
R23A	Moffat	83.76	47	⇓P	P	04 08 18.3	+0.3
	baz=84,SNR=6.3						
N21A	Black Mountain	83.78	44	⇓P	P	04 08 18.1	0.0
	baz=84,SNR=12						
SDCO	Great Sand Dun	83.79	48	⇓P	P	04 08 17.9	-0.3
	baz=84,SNR=5.5						
LKWY	Lake	83.80	40	*e*P	P	04 08 19.0	+0.9
	comp=Z,18nm,1.0s						
LKWY				*e*pP	pP	04 08 43.6	+1.3
T24A	Torres, Weston	83.81	48	⇓P	P	04 08 18.8	+0.5
	baz=84,SNR=8.2						
A13A	Flathead Natio	83.81	35	⇓P	P	04 08 17.5	-0.3
	baz=84						
ILAR	Eielson Array	83.83	11	P	P	04 08 16.2	-1.2
ILAR	Eielson Array	83.83	11	P	P	04 08 16.2	-1.2
	comp=Z,2.2nm,0.8s,baz=222,slow=5.4,SNR=40						
Y27A	Causey	83.83	52	⇓P	P	04 08 17.9	-0.4
	baz=84,SNR=7.9						
D15A	Lincoln	83.84	37	⇑P	P	04 08 17.5	-0.6
	baz=84,SNR=12						
L20A	Wamsutter	83.84	43	⇓P	P	04 08 18.3	+0.1
	baz=84,SNR=12						
K19A	Absolon Red Bu	83.91	42	⇓P	P	04 08 17.5	-1.0
	baz=84,SNR=9.5						
S24A	Houchin Ranch,	83.95	48	⇑P	P	04 08 19.2	+0.2
	baz=84,SNR=5.9						
U25A	Circle Dot Ran	83.98	49	⇑P	P	04 08 18.8	-0.3
	baz=84,SNR=6.6						
G17A	Pierce Place,	83.98	39	⇑P	P	04 08 19.1	+0.3
	baz=84,SNR=6.4						
J19A	Crowheart	83.99	42	⇑P	P	04 08 18.5	-0.5
	baz=84,SNR=13						
E16A	East Helena	84.06	38	⇓P	P	04 08 18.7	-0.5
	baz=84,SNR=13						
B14A	Marquette Ranc	84.13	36	⇑P	P	04 08 18.2	-1.3
	baz=84,SNR=9.3						
K20A	Yellowstone Ra	84.15	42	⇑P	P	04 08 18.8	-1.0
	baz=84,SNR=7.7						
O22A	Kremmling	84.16	45	⇑P	P	04 08 19.6	-0.4
	baz=84,SNR=7.6						
MSTX	Muleshoe	84.16	52	⇑P	P	04 08 19.7	-0.2
	baz=84,SNR=8.0						
Z28A	Tucker Farm, M	84.17	53	⇓P	P	04 08 19.6	-0.5
	baz=84,SNR=6.4						
C15A	Salmond Ranch,	84.18	36	⇑P	P	04 08 19.0	-0.8
	baz=84,SNR=13						
X27A	F and S Farms,	84.20	51	⇓P	P	04 08 20.1	-0.1
	baz=84,SNR=5.8						
R24A	Sanders Place,	84.28	47	⇑P	P	04 08 21.1	+0.5
	baz=84						
P23A	Jefferson	84.29	46	⇑P	P	04 08 21.0	+0.2
	baz=84						
M21A	Separation Pea	84.29	44	⇓P	P	04 08 20.1	-0.5
	baz=84,SNR=9.9						
T25A	Trinidad	84.30	49	⇑P	P	04 08 21.0	+0.2
	baz=84						
129A	Stewart Farms,	84.31	54	⇓P	P	04 08 20.3	-0.4
	baz=84						
H18A	Shoshone NF, C	84.31	40	⇓P	P	04 08 20.5	-0.2
	baz=84,SNR=6.7						
F17A	Fitzpatrick Pl	84.33	39	⇓P	P	04 08 20.5	-0.1
	baz=84,SNR=11						
A14A	Double T Ranch	84.38	35	⇓P	P	04 08 19.8	-0.9
	baz=84,SNR=8.2						
D16A	Dana Ranch, Ca	84.39	37	⇓P	P	04 08 20.3	-0.6
	baz=85,SNR=8.7						
I19A	Meeteetse	84.41	41	⇑P	P	04 08 21.1	0.0
	baz=85,SNR=6.6						
L21A	Rawlins	84.45	43	⇓P	P	04 08 20.8	-0.5
	baz=85						
U26A	Atchley Ranch,	84.46	50	⇑P	P	04 08 21.3	-0.2
	baz=85,SNR=6.7						
B15A	Bradely Ranch,	84.50	36	⇓P	P	04 08 20.0	-1.3
	baz=85,SNR=6.2						
E17A	Martinsdale	84.50	38	⇑P	P	04 08 21.6	+0.1
	baz=85						
S25A	Robets Cordova	84.51	48	⇑P	P	04 08 21.6	-0.1
	baz=85,SNR=7.9						
N22A	Wattenberg Ran	84.52	45	⇑P	P	04 08 21.8	0.0
	baz=85,SNR=8.9						
CMIG	Matias Romero	84.53	70	P	P	04 08 22.6	+0.6
CMIG	Matias Romero	84.53	70	P	P	04 08 22.6	+0.6
	comp=Z,7.9nm,0.8s,baz=252,slow=2.8,SNR=6.0						
CMIG				LR	LR	04 35 51.0	
	comp=Z,109nm,20.9s,baz=171,slow=28						
Y28A	McKinney Farm,	84.53	52	⇑P	P	04 08 21.2	-0.6
	baz=85,SNR=5.1						
O23A	Lake Granby, G	84.61	45	⇑P	P	04 08 22.0	-0.3
	baz=85						
J20A	Shoshoni	84.65	42	⇑P	P	04 08 22.2	-0.1
	baz=85						
C16A	Fuhringer Ranc	84.69	37	⇓P	P	04 08 21.4	-0.8
	baz=85,SNR=7.8						
G18A	Lazy EL Ranch,	84.70	40	⇓P	P	04 08 22.3	-0.1
	baz=85,SNR=7.9						
M22A	Cedar Creek Ra	84.70	44	⇓P	P	04 08 22.0	-0.7
	baz=85,SNR=7.9						
H19A	Powell	84.73	40	⇑P	P	04 08 22.8	+0.2
	baz=85,SNR=9.6						
A15A	Johnson Ranch,	84.76	35	⇓P	P	04 08 21.5	-1.1
	baz=85,SNR=8.1						
RLMT	Red Lodge	84.78	40	⇑P	P	04 08 23.1	+0.2
	baz=85						
X28A	Dimmitt	84.82	52	⇓P	P	04 08 22.8	-0.4
	baz=85						
R25A	Fountain Ranch	84.83	48	⇓P	P	04 08 22.9	-0.4
	baz=85						
K21A	Alcova	84.85	43	⇑P	P	04 08 22.6	-0.7
	baz=85,SNR=5.4						
USHA	Ushuaia	84.90	146	LR	LR	04 37 48.9	
	comp=Z,46nm,18.4s,baz=190,slow=30						
F18A	Big Timber	84.90	39	⇓P	P	04 08 23.8	+0.4
	baz=85						
N23A	Red Feather La	84.91	45	⇓P	P	04 08 23.7	-0.1
	baz=85						
T26A	Comanche Natio	84.91	49	⇑P	P	04 08 23.4	-0.4
	baz=85						
I20A	Worland	84.91	41	⇑P	P	04 08 23.0	-0.5
	baz=85,SNR=13						
Y29A	Porterfield Fa	84.95	53	⇓P	P	04 08 23.7	-0.3
	baz=85,SNR=9.4						
D17A	Six Diamond Ra	84.96	38	⇓P	P	04 08 23.4	-0.3
	baz=85,SNR=12						
B16A	M & M Farms, S	85.03	36	⇑P	P	04 08 23.1	-0.9
	baz=85						
J21A	Lysite	85.06	42	⇑P	P	04 08 24.0	-0.4
	baz=85,SNR=10						
E18A	Harlowton	85.12	38	⇓P	P	04 08 24.9	+0.4
	baz=85						
C17A	Wharram Farm,	85.16	37	⇑P	P	04 08 24.0	-0.6
	baz=85,SNR=16						
S26A	Kim	85.18	49	⇓P	P	04 08 24.5	-0.5
	baz=85						
Q25A	Bedland, Calha	85.19	47	⇓P	P	04 08 25.2	+0.1
	baz=85						
H20A	Greybull	85.25	41	⇑P	P	04 08 24.8	-0.4
	baz=85						
F19A	Roth Farm, Mol	85.34	39	⇑P	P	04 08 25.0	-0.6
	baz=86,SNR=5.5						
AMTX	Amarillo	85.36	52	⇑P	P	04 08 25.8	-0.2
	baz=86						
A16A	West Butte Ran	85.38	36	⇑P	P	04 08 24.9	-0.8
	baz=86,SNR=17						
I21A	Big Trails, Te	85.38	42	⇑P	P	04 08 24.9	-1.0
	baz=86,SNR=9.5						
B17A	L&G Farms, Che	85.49	37	⇓P	P	04 08 25.9	-0.3
	baz=86						
T27A	Campo	85.49	49	⇑P	P	04 08 26.2	-0.3
	baz=86						
R26A	Arlington	85.49	48	⇑P	P	04 08 26.2	-0.3
	baz=86						
D18A	Linhart Farms,	85.50	38	⇑P	P	04 08 26.7	+0.3
	baz=86						
P25A	Willow Gulch B	85.51	47	⇑P	P	04 08 26.3	-0.3
	baz=86						
N24A	Carr	85.59	45	⇑P	P	04 08 26.8	-0.2
	baz=86						
L23A	Garrett	85.62	44	⇓P	P	04 08 26.7	-0.6
	baz=86						
E19A	Rath Farm, Rou	85.74	39	⇑P	P	04 08 27.9	+0.4
	baz=86						
F20A	Billings	85.80	40	⇑P	P	04 08 28.2	+0.3
	baz=86						
A17A	Triple J Farms	85.88	36	⇓P	P	04 08 27.7	-0.5
	baz=86,SNR=5.3						
M24A	Cheyenne	85.92	45	⇑P	P	04 08 28.3	-0.3
	baz=86						
H21A	Big Horn, Sher	85.92	41	⇓P	P	04 08 28.1	-0.4
	baz=86						
I22A	9 Mile Ranch,	85.93	42	⇓P	P	04 08 28.1	-0.5
	baz=86						
EGMT	Eagleton	85.95	37	⇓P	P	04 08 28.7	+0.1
	baz=86						
D19A	Cripps Ranch,	86.03	38	⇑P	P	04 08 29.1	+0.2
	baz=86						
B18A	Beardsley Farm	86.12	37	⇓P	P	04 08 29.6	+0.3
	baz=86						
E20A	Meyer Farm, Mu	86.15	39	⇓P	P	04 08 29.7	+0.2
	baz=86						
C19A	Slack Wire Ran	86.21	38	⇑P	P	04 08 29.7	-0.1
	baz=86,SNR=5.8						
A18A	Metzger Ranch,	86.35	36	⇓P	P	04 08 29.5	-0.9
	baz=86,SNR=5.3						
D20A	Manuel Ranch,	86.44	39	⇓P	P	04 08 30.9	-0.1
	baz=87						
B19A	Brinkman Farms	86.63	37	⇑P	P	04 08 31.6	-0.2
	baz=87						
E21A	Keefer Ranch,	86.81	39	⇑P	P	04 08 33.0	+0.3
	baz=87						
C20A	Veseth Ranch,	86.82	38	⇓P	P	04 08 33.1	+0.4
	baz=87						
IPM	Ipoh	86.85	276	*e*P	P	04 08 33.4	-0.2
	comp=Z,9.7nm,0.9s						
A19A	Klindworth Far	86.98	37	⇓P	P	04 08 33.6	0.0
	baz=87						
D21A	La Casta Ranch	87.11	39	⇓P	P	04 08 34.3	+0.2
	baz=87						
B20A	Solberg Farm,	87.16	37	⇓P	P	04 08 34.2	-0.2
	baz=87						
G23A	Biddle	87.23	41	⇑P	P	04 08 34.7	-0.1
	baz=87						
C21A	Desert Coulee	87.41	38	⇑P	P	04 08 34.9	-0.7
	baz=88						
A20A	Cobblestone Ra	87.43	37	⇓P	P	04 08 35.3	-0.4
	baz=88,SNR=7.9						
F23A	Volborg	87.46	41	⇑P	P	04 08 35.4	-0.5
	baz=88						
H24A	Dirks Ranch, A	87.56	42	⇑P	P	04 08 35.3	-1.2
	baz=88,SNR=7.4						
RSSD	Black Hills	87.61	42	*e*P	P	04 08 35.5	-1.4
	comp=Z,3.9nm,0.8s						
D22A	Cohagen	87.64	39	⇑P	P	04 08 37.0	+0.3
	baz=88						
B21A	Ellsworth Farm	87.74	38	⇑P	P	04 08 37.5	+0.4
	baz=88						
A21A	Bergtoll Ranch	88.06	37	⇑P	P	04 08 38.9	+0.3
	baz=88						
GYA	Guiyang	88.51	298	P	P	04 08 44.0	+2.6
GYA				pP	pP	04 09 06.8	+0.9
GYA				sP	sP	04 09 15.6	-0.2
GYA				PP	PP	04 12 16.4	+5.4
GYA				SKS	SKSac	04 19 03.0	+0.4
GYA				S	ScS	04 19 22.5	-3.2
GYA				sS	sS	04 20 01.6	-0.7
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.0s						
GYA				LR	LR		
	comp=N,440nm,18.6s						
GYA				LR	LR		
	comp=E,410nm,19.4s						
GYA				LR	LR		
	comp=Z,460nm,18.3s						
C23A	Lambert	88.54	39	⇓P	P	04 08 41.6	+0.7
	baz=89						
PLCA	Paso Flores	88.74	132	*e*P	P	04 08 44.3	+2.0
	comp=Z,6.1nm,1.1s						
PLCA	Paso Flores	88.74	132	P	P	04 08 44.4	+2.2
	comp=Z,3.0nm,0.8s,baz=262,slow=3.0,SNR=5.1						
D24A	Glendive	88.75	40	⇑P	P	04 08 42.2	+0.2
	baz=89						
C24A	Savage	88.87	39	⇑P	P	04 08 42.8	+0.3
	baz=89						
B23A	Brockton	88.95	38	⇓P	P	04 08 43.2	+0.3
	baz=89						
DGMT	Dagmar	89.43	39	⇓P	P	04 08 45.4	+0.3
	baz=90						
A24A	Westby	89.75	38	⇑P	P	04 08 47.1	+0.6
	baz=90						
HHC	Hu-ho-hao-te	89.81	313	*e*P	P	04 08 51.7	+4.5
HHC				pP	pP	04 09 13.9	+2.2
HHC				sP	sP	04 09 23.4	+1.9
HHC				sS	sS	04 20 14.4	+0.5
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,160nm,4.6s						
HHC				LR	LR		
	comp=N,100nm,16.7s						
HHC				LR	LR		
	comp=E,110nm,17.8s						
HHC				LR	LR		
	comp=Z,150nm,17.8s						
SYO	Syowa Base	91.21	191	⇑*e*X	P	04 08 44.2	-8.8
YKA	Yellowknife Ar	91.44	23	P	P	04 08 53.0	-1.0
YKA	Yellowknife Ar	91.44	23	P	P	04 08 53.0	-1.0
	comp=Z,1.5nm,0.9s,baz=233,slow=4.3,SNR=17						
CD2	Chengdu	92.35	301	P	P	04 09 02.5	+3.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,5.5s						
CMAR	Chiang Mai Arr	92.85	288	P	P	04 09 02.9	+1.2
CMAR	Chiang Mai Arr	92.85	288	P	P	04 09 02.9	+1.2
	comp=Z,0.8nm,0.3s,baz=103,slow=2.4,SNR=4.3						
ATAH	Atahualpa	92.93	98	LR	LR	04 41 11.3	
	comp=Z,72nm,19.6s,baz=180,slow=29						
LZH	Lanzhou	93.88	306	*e*P	P	04 09 12.5	+6.3
LZH				pP	pP	04 09 29.6	-1.2
LZH				sP	sP	04 09 36.3	-4.3
LZH				*e*PP	PP	04 14 02.7	+69
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LZH				pmax	pmax		
	comp=Z,65nm,8.6s						
LZH				LR	LR		
	comp=N,250nm,17.0s						
LZH				LR	LR		
	comp=E,190nm,16.7s						
LZH				LR	LR		
	comp=Z,270nm,19.2s						
OTAV	Otavalo	95.01	91	*e*P	P	04 09 12.9	+0.7
	comp=Z,1.5nm,0.9s						
ULM	Lac du Bonnet	95.13	39	P	P	04 09 09.6	-1.7
ULM	Lac du Bonnet	95.13	39	P	P	04 09 09.6	-1.7
	comp=Z,2.1nm,0.7s,baz=274,slow=5.5,SNR=5.9						
SPMN	St. Paul	95.44	44	⇑P	P	04 09 12.8	-0.1
	baz=96						
MK31	Makanchi Array	111.64	314	*e*PKP	PKiKP	04 14 22.5	+0.1
KSH	Kashi	116.12	306	*e*PKP	PKPdf	04 14 30.7	-0.7
KSH				sPKP		04 15 09.4	
KSH				PP	PP	04 15 46.0	+8.2
KSH				PKS	PKSdf	04 18 07.3	-0.9
KSH				SKS	SKSdf	04 21 32.2	-3.2
KSH				SKKS	SKKSac	04 22 28.3	-1.8
KSH				LR	LR		
	comp=N,82nm,6.0s						
KSH				LR	LR		
	comp=E,94nm,4.5s						
KSH				LR	LR		
	comp=Z,180nm,8.8s						
BVAR	Borovoye Array	118.84	322	PKP	PKPdf	04 14 35.4	-0.6
BVAR	Borovoye Array	118.84	322	PKP	PKPdf	04 14 35.4	-0.6
	comp=Z,0.5nm,0.5s,baz=64,slow=3.4,SNR=3.9						
ARCES	ARCESS Array B	125.94	352	PKP	PKPdf	04 14 49.5	+0.3
ARCES	ARCESS Array B	125.94	352	PKP	PKPdf	04 14 49.5	+0.3
	comp=Z,3.5nm,0.8s,baz=23,slow=2.9,SNR=4.6						
KWP	Kalwaria Pacla	144.66	342	⇓*i*P	PKPab	04 15 21.5	-1.8
KMBO	Kilima Mbogo	144.74	243	*e*PKPbc	PKPdf	04 15 26.2	+0.2
OJC	Ojcow	144.94	345	*e*PKP	PKPab	04 15 23.0	-1.3
KOLS	Kolonicke sedl	145.42	341	*e*PKP	PKPab	04 15 26.1	-0.1
UPC	Upice	145.48	349	*i* PKP	PKPdf	04 15 25.8	-0.1
NIE	Niedzica	145.54	344	*e*PKP	PKPbc	04 15 26.1	-0.2
BUR08	Bucovina Ar. S	145.54	337	*e*PKPbc	PKPab	04 15 26.6	-0.2
BURAR	Bucovina Array	145.56	337	⇑*i*P	PKPab	04 15 27.1	+0.2
DPC	Dobruska-Polom	145.57	349	*i* PKP	PKPab	04 15 26.5	-0.2
DPC				*ep*PKP	pPKPdf	04 15 51.7	0.0
OKC	Ostrava-Krasne	145.68	346	*i* PKP	PKPdf	04 15 24.1	-2.1
CRVS	Cervenica-Dubn	145.69	342	*e*PKP	PKPab	04 15 27.1	-0.1
PVCC	Panska Ves	145.70	351	*i* PKP	PKPbc	04 15 26.4	-0.3
PVCC				*ep*PKP	pPKPdf	04 15 54.1	+2.3
MORC	Moravsky Berou	145.87	347	*e*PKPbc	PKPbc	04 15 27.2	-0.1
MORC	Moravsky Berou	145.87	347	⇑*i*P	PKPab	04 15 27.9	0.0
TESR		145.91	335	⇓*i*P	PKPab	04 15 31.3	+3.2
GHRR		145.95	334	⇑*i*P	PKPab	04 15 28.5	+0.3
PRU	Puhonice	146.23	351	*i* PKP	PKPbc	04 15 28.2	-0.1
PRU				*ep*PKP	pPKPdf	04 15 57.7	+4.9
NKC	Novy Kostel	146.28	353	*i* PKP	PKPbc	04 15 28.1	-0.4
CFR	Carcaliu	146.32	332	⇑*i*P	PKPab	04 15 29.8	+0.2
VRI	Vrincioaia	146.40	334	⇑*i*P	PKPbc	04 15 28.9	-0.1
VRAC	Vranov	146.51	348	⇑*i*P	PKPab	04 15 30.8	+0.5
VYHS	Vyhne	146.77	345	*e*PKP	PKPdf	04 15 28.6	+0.5
ISR	Istrita	147.07	333	⇑*i*P	PKPab	04 15 32.7	0.0
BR131	Keskin Array S	147.08	319	*e*PKPbc	PKPbc	04 15 31.0	-0.3
BRTR	Keskin Array B	147.08	319	PKPbc	PKPbc	04 15 31.2	-0.1
BRTR	Keskin Array B	147.08	319	PKPbc	PKPbc	04 15 31.2	-0.1
	comp=Z,2.2nm,0.8s,baz=107,slow=2.6,SNR=11						
DRGR		147.16	339	⇓*i*P	PKPdf	04 15 29.5	+0.6
KHC	Kasperske Hory	147.21	351	*i* PKP	PKPbc	04 15 31.0	-0.2
KHC				*ep*PKP	pPKPdf	04 15 59.2	+4.7
VOIR		147.43	335	⇓*i*P	PKPbc	04 15 32.4	+0.4
ZST	Bratislava	147.46	347	*e*PKP	PKPab	04 15 34.9	+0.9
GERES	GERESS Array B	147.47	351	PKPbc	PKPbc	04 15 31.6	-0.4
GERES	GERESS Array B	147.47	351	PKPbc	PKPbc	04 15 31.6	-0.4
	comp=Z,1.2nm,0.8s,baz=1.9,slow=2.9,SNR=8.4						
CONA	Conrad Observa	147.98	348	⇑*i*P	PKPbc	04 15 33.9	+0.5
CONA	Conrad Observa	147.98	348	⇑*i*PKiKP	PKPbc	04 15 33.9	+0.5
	comp=Z,4.7nm,1.0s						
DAVA	Damuels	149.44	355	⇑*i*P	PKPbc	04 15 37.6	+0.4
DAVA	Damuels	149.44	355	⇑*i*PKiKP	PKPbc	04 15 37.6	+0.4
	comp=Z,8.1nm,1.0s						
FETA	Feichten	149.63	354	⇑*i*P	PKPbc	04 15 38.0	+0.3
FETA	Feichten	149.63	354	⇑*i*PKiKP	PKPbc	04 15 38.0	+0.3
	comp=Z,8.4nm,1.5s						
DAVOX	Davos/Dischmat	149.95	355	PKPbc	PKPbc	04 15 38.4	-0.2
DAVOX	Davos/Dischmat	149.95	355	PKPbc	PKPbc	04 15 38.4	-0.2
	comp=Z,3.2nm,0.6s,baz=146,slow=3.6,SNR=7.2						
TOA0	Torodi Ar. Sit	174.20	128	*e*PKPab	PKPab	04 17 30.9	+0.3
TORD	Torodi Ar. Bea	174.20	128	PKP	PKPdf	04 15 57.0	-1.3
TORD				PKPab	PKPab	04 17 30.7	+0.2
TORD	Torodi Ar. Bea	174.20	128	PKP	PKPdf	04 15 57.0	-1.3
	comp=Z,1.2nm,1.0s,baz=255,slow=1.0,SNR=6.1						
TORD				PKPab	PKPab	04 17 30.7	+0.2
	comp=Z,2.8nm,1.0s,baz=236,slow=1.6,SNR=9.8						

*ISCJB **05** 04:07:51.8±0.5, 18°.52N±0°.09×102°.37W±0°.04, h112km±8km, mb3.7/7, Error ellipse: s-maj=15.9km s-min=5.5km az=15.9*
*MEX **05** 04:07:55.4±0.7, 18°.69N×102°.30W, h12km±9km, MD4.2*
*IDC **05** 04:07:57.6±3.8, 19°.02N×101°.95W, h126km±29km, mb3.4/7, mb1 3.6/10, mb1mx3.5/23, mbtmp3.3/10, Error ellipse: s-maj=56.9km s-min=20.1km az=32.0*
ISC 05 04:07:52.1±0.8, **18°.5N**±0°.1×**102°.39W**±0°.05, **h104**km±10km, **n17**, σ**1°52**/25, **mb3.7**/7, **Michoacan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MMIG	Aquila	0.94	255	*i* P		Pn		04 08 12.6	+0.4
MMIG				*i* S		Sn		04 08 25.3	-1.9
ZIIG	Zihuatanejo	1.28	136	*i* P		Pn		04 08 16.0	0.0
ZIIG				*i* S		Sn		04 08 33.2	-0.7
CAIG	El Cayaco	2.51	126	*i* P		Pn		04 08 32.8	+1.3
CAIG				*i* S		Sn		04 09 02.6	+1.0
CJM	Chamela	2.69	291	*i* P		Pn		04 08 35.6	+1.8
CJM				*e*S		Sn		04 09 08.0	+2.1
MEIG	Mezcala	2.70	103	*i* P		Pn		04 08 36.1	+2.0
MEIG				*e*S		Sn		04 09 07.1	+0.7
PLIG	Platanillo	2.75	93	*i* P		Pn		04 08 36.4	+1.7
PLIG				*i* S		Sn		04 09 06.2	-1.3
PPM	Popocatepetl	3.60	81	*i* P		Pn		04 08 46.7	+0.1
PPM				*i* S		Sn		04 09 29.4	+0.9
CMIG	Matias Romero	7.29	100	P		Pn		04 09 37.8	+1.7
	0.8nm,0.3s,baz=352,slow=12,SNR=9.6								
CMIG				S		Sn		04 10 55.5	-1.9
	1.2nm,0.3s,baz=155,slow=19,SNR=4.6								
TXAR	Lajitas Array	10.81	354	P		Pn		04 10 23.5	-0.4
	0.1nm,0.3s,baz=174,slow=15,SNR=11								
ANMO	Albuquerque	16.74	348	P		P		04 11 41.9	+0.8
	0.1nm,0.3s,baz=152,slow=15,SNR=2.6								
TKL	Tuckaleechee C	23.71	40	P		P		04 12 53.0	-1.7
	1.5nm,0.5s,baz=225,slow=14,SNR=3.2								
NVAR	Mina Array Bea	24.19	328	P		P		04 13 01.2	+2.1
	2.2nm,0.7s,baz=147,slow=11,SNR=5.4								
PDAR	Pinedale Array	24.91	347	P		P		04 13 05.2	-0.5
	0.4nm,0.6s,baz=149,slow=11,SNR=4.5								
YKA	Yellowknife Ar

BZK	**Bozkurt**	**1.06**	**4**	*e*Pg	**Pg**	**04 10 12.2**	**0.0**
DIKM	**Dikmen**	**1.26**	**53**	*e*PN	**Pg**	**04 10 15.5**	**-0.5**
DIKM	**Dikmen**	**1.26**	**53**	*e*Pn	**Pg**	**04 10 15.5**	**-0.5**
CDAG	**Cicekdag**	**1.33**	**164**	*i* P	**Pn**	**04 10 16.2**	**-1.1**
CDAG				*i* S	**Sn**	**04 10 36.0**	**+0.5**
CDAG	**Cicekdag**	**1.33**	**164**	*i* P	**Pn**	**04 10 16.2**	**-1.1**
CDAG				*i* S	**Sn**	**04 10 36.0**	**+0.5**
LOD	**Lodumlu**	**1.34**	**221**	*e*PN	**Pb**	**04 10 17.5**	**-0.1**
LOD	**Lodumlu**	**1.34**	**221**	*e*Pn	**Pb**	**04 10 17.5**	**-0.1**
BBAL	**Bala**	**1.49**	**204**	*i* P	**Pn**	**04 10 19.4**	**-0.2**
BBAL				*i* S	**Sn**	**04 10 39.4**	**-0.2**
BBAL	**Bala**	**1.49**	**204**	*i* P	**Pn**	**04 10 19.4**	**-0.2**
BBAL				*i* S	**Sn**	**04 10 39.4**	**-0.2**
KAMT	**Kaman**	**1.54**	**186**	*e*PN	**Pn**	**04 10 20.0**	**-0.3**
KAMT	**Kaman**	**1.54**	**186**	*e*Pn	**Pn**	**04 10 20.0**	**-0.3**
AFSR	**Afˇar-Bala (A**	**1.59**	**204**	*e*PN	**Pn**	**04 10 20.9**	**-0.1**
AFSR	**Afˇar-Bala (A**	**1.59**	**204**	*e*Pn	**Pn**	**04 10 20.9**	**-0.1**
KVT	**Kavak**	**1.62**	**83**	*e*PN	**Pn**	**04 10 21.5**	**+0.1**
KVT	**Kavak**	**1.62**	**83**	*e*Pn	**Pn**	**04 10 21.5**	**+0.1**
YOZ	**Yozgat**	**1.66**	**139**	*e*PN	**Pn**	**04 10 21.9**	**-0.1**
YOZ	**Yozgat**	**1.66**	**139**	*e*Pn	**Pn**	**04 10 21.9**	**-0.1**
MDUB	**Mudurnu**	**2.11**	**259**	*e*PN	**Pn**	**04 10 28.4**	**+0.3**
MDUB	**Mudurnu**	**2.11**	**259**	*e*Pn	**Pn**	**04 10 28.4**	**+0.3**
AVNT	**Avonos**	**2.24**	**161**	*i* P	**Pb**	**04 10 32.8**	**-0.3**
AVNT				*i* S	**Sg**	**04 11 03.5**	**-0.5**
AVNT	**Avonos**	**2.24**	**161**	*i* P	**Pb**	**04 10 32.8**	**-0.3**
SVRH	**Sivrihisar-ESK**	**2.34**	**232**	*e*PN	**Pn**	**04 10 31.7**	**+0.5**
SVRH	**Sivrihisar-ESK**	**2.34**	**232**	*e*Pn	**Pn**	**04 10 31.7**	**+0.5**
GULT	**Gulveren**	**2.63**	**261**	*e*PN	**Pn**	**04 10 35.8**	**+0.6**
GULT	**Gulveren**	**2.63**	**261**	*e*Pn	**Pn**	**04 10 35.8**	**+0.6**
SULT	**Sultanhani-AKS**	**2.72**	**187**	*e*PN	**Pn**	**04 10 37.3**	**+0.8**
SULT	**Sultanhani-AKS**	**2.72**	**187**	*e*Pn	**Pn**	**04 10 37.3**	**+0.8**
ESKT	**Eskisehir**	**2.72**	**240**	*e*PN	**Pn**	**04 10 36.9**	**+0.4**
ESKT	**Eskisehir**	**2.72**	**240**	*e*Pn	**Pn**	**04 10 36.9**	**+0.4**

ISCJB ***05*** *04:22:12.9±0.8,24˚25S±0˙05×67˚05W±0˙09,h173km±9km, mb3.5/6,Error ellipse: s-maj=13.5km s-min=8.1km az=170.5*

IDC ***05*** *04:22:13.2±2.3,24˚26S×67˚01W,h162km±22km,mb3.5/6, mb1 3.6/8,mb1mx3.5/15,mbtmp3.5/8,Error ellipse: s-maj=24.0km s-min=17.6km az=116.0*

GUC ***05*** *04:22:15.8±0.6,24˚17S×67˚54W,h200km,ML4.7*

ISC 05 04:22:13.7±0.8,24˚26S±0˙07×67˚05W±0˙10,h169km±9km, n21,σ1ş08/26,mb3.7/6,5C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB04	**Plate Boundary**	**3.00**	**311**	⇑*i* P	Pn	04 23 07.7	+5.8
PB04				*i* S	Sn	04 23 46.7	+7.5
PB04				AML	AML	04 23 49.4	
	comp=N,774nm,0.2s						
CEN1	**Los Morros**	**3.01**	**286**	⇓*i* P	Pn	04 23 05.5	+3.3
CEN1				*i* S	**Sn**	**04 23 41.4**	**+1.7**
CEN1				AML	AML	04 23 44.4	
	comp=E,1μm,0.6s						
ANCH	**Antofagasta**	**3.13**	**280**	⇑*i* P	**Pn**	**04 23 04.1**	**+0.7**
ANCH				*i* S	**Sn**	**04 23 39.9**	**-2.1**
PB09	**Plate Boundary**	**3.18**	**320**	⇑*i* P	**Pn**	**04 23 05.7**	**+1.4**
PB09				*i* S	**Sn**	**04 23 43.5**	**-0.1**
PB09				AML	AML	04 23 44.3	
	comp=N,2μm,0.7s						
MACH	**Maria Elena**	**3.23**	**309**	*e*P	**Pn**	**04 23 06.0**	**+1.0**
MACH				*i* S	**Sn**	**04 23 43.1**	**-1.7**
MECH	**Mejillones**	**3.32**	**290**	⇑*i* P	**Pn**	**04 23 06.7**	**+0.8**
MECH				*e*S	**Sn**	**04 23 44.9**	**-1.5**
MECH				AML	AML	04 23 47.4	
	comp=N,1μm,0.4s						
PB07	**Plate Boundary**	**3.63**	**313**	⇑*i* P	**Pn**	**04 23 10.2**	**+0.2**
PB07				AML	AML	04 23 53.2	
	comp=N,900nm,0.6s						
PB01	**Plate Boundary**	**3.92**	**324**	*i* P	**Pn**	**04 23 13.6**	**0.0**
PB01				*i* S	**Sn**	**04 23 58.0**	**-2.2**
PB01				AML	AML	04 24 08.5	
	comp=N,266nm,0.2s						
CFAA	**Coronel Fontan**	**7.39**	**188**	P	**Pn**	**04 23 59.3**	**+0.4**
	comp=N,0.1nm,0.3s,baz=354,slow=13,SNR=3.8						
CFAA				S	**Sn**	**04 25 21.4**	**-0.6**
	comp=N,0.2nm,0.3s,baz=264,slow=19,SNR=11						
SIV	**San Ignacio**	**9.96**	**35**	P	**Pn**	**04 24 32.2**	**-0.8**
	comp=N,1.2nm,0.3s,baz=231,slow=13,SNR=19						
BDFB	**Brasilia**	**19.83**	**68**	P	**P**	**04 26 31.0**	**-0.7**
	comp=N,0.4nm,0.3s,baz=256,slow=9.5,SNR=5.5						
TXAR	**Lajitas Array**	**63.87**	**325**	P	**P**	**04 32 28.7**	**+0.2**
	comp=N,0.4nm,0.8s,baz=152,slow=7.8,SNR=5.6						
TORD	**Torodi Ar. Bea**	**76.71**	**69**	P	**P**	**04 33 47.0**	**+0.3**
	comp=N,1.0nm,0.5s,baz=256,slow=6.0,SNR=26						
PDAR	**Pinedale Array**	**77.35**	**329**	P	**P**	**04 33 50.7**	**+0.7**
	comp=N,0.5nm,0.9s,baz=138,slow=5.6,SNR=4.1						
ULM	**Lac du Bonnet**	**78.46**	**342**	P	**P**	**04 33 55.5**	**-0.1**
	comp=N,0.6nm,0.4s,baz=170,slow=6.1,SNR=4.3						
SCHQ	**Schefferville**	**78.77**	**0**	P	**P**	**04 33 57.4**	**+0.1**
	comp=N,1.5nm,0.9s,baz=221,slow=9.3,SNR=3.6						
YKA	**Yellowknife Ar**	**94.36**	**340**	P	**P**	**04 35 14.0**	**+0.4**
	comp=N,0.5nm,0.6s,baz=130,slow=4.6,SNR=16						
ASAR	**Alice Springs**	**128.20**	**205**	PKP	**PKPdf**	**04 41 00.8**	**+0.2**
	comp=N,0.2nm,0.5s,baz=130,slow=2.1,SNR=6.0						
WRA	**Warramunga Arr**	**131.37**	**207**	PKP	**PKPdf**	**04 41 06.2**	**-0.6**
	comp=N,0.5nm,0.5s,baz=170,slow=1.5,SNR=4.9						
ZALV	**Zalesovo Beam**	**143.65**	**28**	PKP	**PKPdf**	**04 41 27.2**	**-1.0**
	comp=N,1.6nm,0.5s,baz=318,slow=1.9,SNR=6.7						
MKAR	**Makanchi Array**	**146.76**	**40**	PKPbc	**PKPbc**	**04 41 35.1**	**-0.7**
	comp=N,4.0nm,0.8s,baz=321,slow=1.9,SNR=24						

ISK ***05*** *04:23:53.2,36˚93N×28˚25E,h9km,MD2.8*

CSEM ***05*** *04:23:53.7±0.2,36˚91N×28˚30E,h5km,MD2.8,Error ellipse: s-maj=5.6km s-min=3.3km az=21.0*

DDA ***05*** *04:23:55.0,36˚98N×28˚24E,h7km,MD2.9*

ISC 05 04:23:53.7±1.3,36˚92N±0˙04×28˚26E±0˙03,h2km±11km, n28,σ0ş75/41,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.21**	**4**	*e*PG	**Pg**	**04 23 57.8**	**-0.1**
YER				*e*SG	**Sg**	**04 24 01.4**	**+0.7**
YER	**Yerkesik**	**0.21**	**4**	*e*Pg	**Pg**	**04 23 57.8**	**-0.1**
YER				*e*Sg	**Sg**	**04 24 01.4**	**+0.7**
TURN	**Turunc**	**0.28**	**100**	*i* P	**Pg**	**04 23 58.7**	**-0.3**
TURN				*i* S	**Sg**	**04 24 02.0**	**-0.6**
TURN	**Turunc**	**0.28**	**100**	*i* P	**Pg**	**04 24 02.7**	**-0.3**
TURN				*i* S	**Sg**	**04 24 02.0**	**-0.6**
BDRM	**Kayabasi**	**0.67**	**283**	*i* P	**Pg**	**04 24 06.9**	**+0.3**
BDRM				*i* S	**Sb**	**04 24 16.8**	**-1.2**
BDRM	**Kayabasi**	**0.67**	**283**	*i* P	**Pg**	**04 24 06.9**	**+0.3**
BDRM				*i* S	**Sb**	**04 24 16.8**	**-1.2**
FETY	**Fethiye**	**0.72**	**113**	*e*PG	**Pg**	**04 24 07.2**	**-0.3**
FETY				*e*SG	**Sb**	**04 24 19.1**	**-0.2**
FETY	**Fethiye**	**0.72**	**113**	*e*Pg	**Pg**	**04 24 07.2**	**-0.3**
BODT	**Bodrum**	**0.78**	**281**	*e*PG	**Pg**	**04 24 08.7**	**+0.1**
BODT	**Bodrum**	**0.78**	**281**	*e*Pg	**Pg**	**04 24 08.7**	**+0.1**
AYDN	**Tasoluk**	**0.80**	**338**	*i* P	**Pg**	**04 24 09.3**	**+0.2**
AYDN				*i* S	**Sg**	**04 24 18.9**	**-0.6**
AYDN	**Tasoluk**	**0.80**	**338**	*i* P	**Pg**	**04 24 09.3**	**+0.2**
AYDN				*i* S	**Sg**	**04 24 18.9**	**-0.6**
DNZL	**Cakiroluk**	**0.99**	**39**	*i* P	**Pg**	**04 24 12.9**	**+0.3**
DNZL	**Cakiroluk**	**0.99**	**39**	*i* P	**Pg**	**04 24 13.0**	**+0.3**
GOLH	**Golhisar**	**1.08**	**73**	*i* P	**Pn**	**04 24 17.4**	**+1.3**
GOLH	**Golhisar**	**1.08**	**73**	*i* P	**Pn**	**04 24 17.4**	**+1.3**
GCAM	**G?zelcaml?**	**1.13**	**314**	*i* P	**Pn**	**04 24 17.1**	**+0.5**
GCAM				*i* S	**Sn**	**04 24 32.7**	**0.0**
GCAM	**G?zelcaml?**	**1.13**	**314**	*i* P	**Pn**	**04 24 17.1**	**+0.5**
GCAM				*i* S	**Sn**	**04 24 32.7**	**0.0**
AKAS	**Kas**	**1.28**	**122**	*i* P	**Pn**	**04 24 20.5**	**+1.7**
AKAS				*i* S	Sn	04 24 44.1	+7.4
AKAS	**Kas**	**1.28**	**122**	*i* P	**Pn**	**04 24 20.5**	**+1.7**
ELL	**Elmali**	**1.33**	**97**	*e*PN	**Pg**	**04 24 18.4**	**-0.9**
ELL	**Elmali**	**1.33**	**97**	*e*Pn	**Pg**	**04 24 18.4**	**-0.9**
KULA	**Kula-Manisa**	**1.62**	**11**	*e*PN	**Pn**	**04 24 22.8**	**-0.7**
KULA	**Kula-Manisa**	**1.62**	**11**	*e*Pn	**Pn**	**04 24 22.8**	**-0.7**
KHL	**Karahalli**	**1.72**	**35**	*e*PN	**Pn**	**04 24 24.2**	**-0.6**
KHL	**Karahalli**	**1.72**	**35**	*e*Pn	**Pn**	**04 24 24.2**	**-0.6**
KHAL	**Karahalli**	**1.74**	**34**	*i* P	**Pn**	**04 24 25.6**	**+0.4**
KHAL				*i* S	**Sg**	**04 24 50.7**	**+0.9**
KHAL	**Karahalli**	**1.74**	**34**	*i* P	**Pn**	**04 24 25.6**	**+0.4**
KHAL				*i* S	**Sg**	**04 24 50.7**	**+0.9**

ISCJB ***05*** *04:26:57.8±0.8,38˚15N±0˙02×26˚55E±0˙04,h1km±6km, Error ellipse: s-maj=4.9km s-min=4.0km az=153.1*

ATH ***05*** *04:26:58.3,38˚17N×26˚55E,h29km±1km,MD2.9/5*

DDA ***05*** *04:26:58.9,38˚21N×26˚62E,h7km,MD3.0*

CSEM ***05*** *04:26:58.9±0.3,38˚16N×26˚60E,h2km,MD3.0,Error ellipse: s-maj=6.4km s-min=4.8km az=53.0*

ISK ***05*** *04:26:59.0,38˚16N×26˚77E,h5km,MD3.2*

ISC 05 04:26:58.3±1.0,38˚16N±0˙02×26˚59E±0˙02,h6km±9km, n52,σ0ş77/76,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.20**	**2**	*i* P	**Pg**	**04 27 02.1**	**-0.2**
URLA				*i* S	**Sg**	**04 27 04.9**	**-0.1**
URLA	**Izmir**	**0.20**	**2**	*i* P	**Pg**	**04 27 02.1**	**-0.2**
URLA				*i* S	**Sg**	**04 27 04.9**	**-0.1**
BLCB	**Balcova**	**0.42**	**58**	*e*PG	**Pg**	**04 27 06.3**	**-0.2**
BLCB				*e*SG	**Sg**	**04 27 11.3**	**-0.7**
BLCB	**Balcova**	**0.42**	**58**	*e*Pg	**Pg**	**04 27 06.3**	**-0.2**
BLCB				*e*Sg	**Sg**	**04 27 11.4**	**-0.7**
CHOS	**Chios island**	**0.47**	**299**	*e*PB	**Pg**	**04 27 07.9**	**+0.4**
CHOS				*e*SB	**Sg**	**04 27 15.3**	**+1.6**
CHOS	**Chios island**	**0.47**	**299**	*e*Pb	**Pg**	**04 27 07.9**	**+0.4**
CHOS				*e*Sb	**Sg**	**04 27 15.3**	**+1.6**
SMG	**Samos**	**0.49**	**156**	*e*PN	**Pb**	**04 27 09.2**	**-0.1**
SMG				*e*SN	**Sb**	**04 27 17.4**	**+0.6**
SMG	**Samos**	**0.49**	**156**	*e*Pn	**Pb**	**04 27 09.2**	**-0.1**
SMG				*e*Sn	**Sb**	**04 27 17.4**	**+0.6**
IZM	**Izmir**	**0.58**	**66**	*e*PG	**Pg**	**04 27 09.4**	**-0.1**
IZM				*e*SG	**Sg**	**04 27 16.9**	**-0.2**
IZM	**Izmir**	**0.58**	**66**	*e*Pg	**Pg**	**04 27 09.4**	**-0.1**
IZM				*e*Sg	**Sg**	**04 27 16.9**	**-0.2**
GCAM	**G?zelcaml?**	**0.69**	**132**	*i* P	**Pb**	**04 27 12.5**	**-0.1**
GCAM				*i* S	**Sb**	**04 27 22.9**	**+0.5**
GCAM	**G?zelcaml?**	**0.69**	**132**	*i* P	**Pb**	**04 27 12.5**	**-0.1**
GCAM				*i* S	**Sb**	**04 27 22.9**	**+0.5**
PRK	**Paraskevi**	**1.11**	**347**	*e*PN	**Pg**	**04 27 18.9**	**-0.7**
PRK				*e*SN	**Sb**	**04 27 34.7**	**0.0**
PRK	**Paraskevi**	**1.11**	**347**	*e*Pn	**Pg**	**04 27 18.9**	**-0.7**
PRK				*e*Sn	**Sb**	**04 27 34.7**	**0.0**
AYDN	**Tasoluk**	**1.14**	**116**	*i* P	**Pn**	**04 27 20.9**	**+0.1**
AYDN				*i* S	**Sn**	**04 27 36.5**	**-0.3**
AYDN	**Tasoluk**	**1.14**	**116**	*i* P	**Pn**	**04 27 20.9**	**+0.1**
AYDN				*i* S	**Sn**	**04 27 36.5**	**-0.3**
AYVA	**Ayvalik**	**1.15**	**4**	*i* P	**Pg**	**04 27 19.9**	**-0.4**
AYVA				*i* S	**Sb**	**04 27 36.3**	**+0.6**
AYVA	**Ayvalik**	**1.15**	**4**	*i* P	**Pg**	**04 27 20.0**	**-0.4**
AYVA				*i* S	**Sb**	**04 27 36.3**	**+0.6**
AKS	**Akhisar**	**1.20**	**53**	*e*PN	**Pg**	**04 27 20.6**	**-0.7**
AKS	**Akhisar**	**1.20**	**53**	*e*Pn	**Pg**	**04 27 20.6**	**-0.7**
AKHS	**Akhisar**	**1.20**	**53**	*i* P	**Pg**	**04 27 20.4**	**-0.9**
AKHS				*i* S	**Sn**	**04 27 38.0**	**-0.3**
AKHS	**Akhisar**	**1.20**	**53**	*i* P	**Pg**	**04 27 20.4**	**-0.9**
AKHS				*i* S	**Sn**	**04 27 38.0**	**-0.3**
BODT	**Bodrum**	**1.24**	**152**	*e*PN	**Pn**	**04 27 22.4**	**+0.3**
BODT	**Bodrum**	**1.24**	**152**	*e*Pn	**Pn**	**04 27 22.4**	**+0.3**
APE	**Apeiranthos**	**1.37**	**218**	*e*PB	**Pn**	**04 27 22.9**	**-1.1**
APE				*e*SN	**Sb**	**04 27 42.2**	**0.0**
APE	**Apeiranthos**	**1.37**	**218**	*e*Pb	**Pn**	**04 27 22.9**	**-1.1**
APE				*e*Sn	**Sb**	**04 27 42.2**	**0.0**
MANT	**Manisa**	**1.59**	**77**	*i* P	**Pb**	**04 27 28.4**	**+0.3**
MANT				*i* S	**Sn**	**04 27 47.9**	**-0.2**
MANT	**Manisa**	**1.59**	**77**	*i* P	**Pb**	**04 27 28.4**	**+0.3**
MANT				*i* S	**Sn**	**04 27 47.9**	**-0.2**
KULA	**Kula-Manisa**	**1.67**	**77**	*e*PN	**Pn**	**04 27 28.6**	**+0.4**
KULA	**Kula-Manisa**	**1.67**	**77**	*e*Pn	**Pn**	**04 27 28.6**	**+0.4**
EZN	**Ezine**	**1.68**	**353**	*e*PN	**Pg**	**04 27 30.2**	**-0.2**
EZN	**Ezine**	**1.68**	**353**	*e*Pn	**Pg**	**04 27 30.2**	**-0.2**
YER	**Yerkesik**	**1.69**	**127**	*e*PN	**Pn**	**04 27 29.1**	**+0.7**
YER	**Yerkesik**	**1.69**	**127**	*e*Pn	**Pn**	**04 27 29.1**	**+0.7**
BALB	**Balikesir**	**1.79**	**34**	*e*PN	**Pb**	**04 27 31.6**	**+0.1**
BALB	**Balikesir**	**1.79**	**34**	*e*Pn	**Pb**	**04 27 31.6**	**+0.1**
LIA	**Limnos Island**	**2.05**	**328**	*e*PN	**Pn**	**04 27 32.4**	**-0.9**
LIA	**Limnos Island**	**2.05**	**328**	*e*Pn	**Pn**	**04 27 32.4**	**-0.9**
GONE	**Gonen-Balikesi**	**2.07**	**24**	*e*PN	**Pb**	**04 27 36.0**	**-0.2**
GONE	**Gonen-Balikesi**	**2.07**	**24**	*e*Pn	**Pb**	**04 27 36.0**	**-0.2**
DST	**Dursunbey**	**2.15**	**47**	*e*PN	**Pn**	**04 27 36.2**	**+1.5**
DST	**Dursunbey**	**2.15**	**47**	*e*Pn	**Pn**	**04 27 36.2**	**+1.5**
GELI	**Tayfur-Gelibol**	**2.24**	**358**	*e*PN	**Pb**	**04 27 39.4**	**+0.3**
GELI	**Tayfur-Gelibol**	**2.24**	**358**	*e*Pn	**Pb**	**04 27 39.4**	**+0.3**
KRBG	**Karabiga-Canak**	**2.30**	**14**	*e*PN	**Pb**	**04 27 38.7**	**-1.4**
KRBG	**Karabiga-Canak**	**2.30**	**14**	*e*Pn	**Pb**	**04 27 38.7**	**-1.4**
KHL	**Karahalli**	**2.32**	**85**	*e*PN	**Pn**	**04 27 37.9**	**+0.8**
KHL	**Karahalli**	**2.32**	**85**	*e*Pn	**Pn**	**04 27 37.9**	**+0.8**
EDC	**Edincik**	**2.40**	**24**	*e*PN	**Pb**	**04 27 40.2**	**-1.7**
EDC	**Edincik**	**2.40**	**24**	*e*Pn	**Pb**	**04 27 40.2**	**-1.7**
KCTX	**Karacabey (Bur**	**2.51**	**33**	*e*PN	**Pn**	**04 27 41.7**	**+2.0**
KCTX	**Karacabey (Bur**	**2.51**	**33**	*e*Pn	**Pn**	**04 27 41.7**	**+2.0**

MOS ***05*** *04:29:03.9±1.0,40˚55N×52˚78E,h47km,mb4.0/12,Error ellipse: s-maj=7.5km s-min=6.3km az=118.4*

ISCJB ***05*** *04:29:04.6±0.4,40˚84N±0˙04×52˚75E±0˙03,h33km, mb3.9/23,Error ellipse: s-maj=6.4km s-min=2.9km az=163.7*

CSEM ***05*** *04:29:06.3±0.5,40˚81N×52˚83E,h40km,mb4.0,Error ellipse: s-maj=17.2km s-min=6.5km az=168.0*

IDC ***05*** *04:29:06.8±2.7,40˚40N×52˚73E,h66km±25km,mb3.5/15, mb1 3.7/21,mb1mx3.6/33,mbtmp3.6/21,Error ellipse: s-maj=27.2km s-min=12.6km az=163.0*

NNC ***05*** *04:29:08.7±2.9,40˚90N×52˚87E,h43km±38km,mb3.8, mpv4.5,Error ellipse: s-maj=26.6km s-min=12.7km az=161.0*

AZER ***05*** *04:29:46.4,40˚60N×48˚69E,h8km*

ISC 05 04:29:05.8±0.7,40˚74N±0˙06×52˚87E±0˙04,h35km,n133, σ1ş74/158,mb4.0/23,32C-12D,Turkmenistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOBA	**Gobu**	**2.41**	**263**	P	Pn	04 30 01.9	+19
	SNR=2.9						
GOBA	**Gobu**	**2.41**	**263**	P	Pn	04 30 01.9	+19
	SNR=2.9						
SEKA	**Sheki**	**4.32**	**278**	P	**Pn**	**04 30 10.7**	**+1.7**
	SNR=5.5						
SEKA	**Sheki**	**4.32**	**278**	P	**Pn**	**04 30 10.7**	**+1.7**
	SNR=5.5						
GANJ	**Ganja**	**4.97**	**271**	P	**Pn**	**04 30 17.5**	**-0.6**
	SNR=6.2						
GANJ	**Ganja**	**4.97**	**271**	P	**Pn**	**04 30 17.5**	**-0.6**
	SNR=6.2						
DGRG	**David-gareji**	**5.71**	**280**	P	**Pn**	**04 30 29.6**	**+1.5**
DGRG				S	**Sn**	**04 31 32.6**	**+0.2**
NAX	**Nakhchivan**	**5.88**	**257**	P	**Pn**	**04 30 32.1**	**+1.7**
	SNR=3.2						
NAX	**Nakhchivan**	**5.88**	**257**	P	**Pn**	**04 30 32.1**	**+1.7**
	SNR=3.2						
TBLG	**Delisi**	**6.21**	**282**	*e*P	**Pn**	**04 30 35.6**	**+0.6**
TBLG				*e*S	**Sn**	**04 31 42.5**	**-2.2**
TBLG	**Delisi**	**6.21**	**282**	P	**Pn**	**04 30 35.6**	**+0.6**
TBLG				S	**Sn**	**04 31 42.5**	**-2.2**
TBLG	**Delisi**	**6.21**	**282**	*e*P	**Pn**	**04 30 35.6**	**+0.6**
TBLG				*e*S	**Sn**	**04 31 42.5**	**-2.2**
GNI	**Garni**	**6.23**	**267**	P	**Pn**	**04 30 36.3**	**+1.0**
	2.0nm,0.3s,baz=331,slow=3.5,SNR=7.1						
GNI				S	**Sn**	**04 31 48.7**	**+3.4**
	4.7nm,0.3s,baz=3.6,slow=16,SNR=5.0						
GNI	**Garni**	**6.23**	**267**	*e*P	**Pn**	**04 30 36.3**	**+1.0**
ZEI	**Tsey**	**7.01**	**290**	*e*P	**Pn**	**04 30 48.3**	**+2.2**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKH	**Akhalkalaki**	**7.11**	**278**	P	**Pn**	**04 30 50.1**	**+2.6**
AKH				S	**Sn**	**04 32 04.4**	**-2.8**
ONI	**Oni**	**7.29**	**288**	P	Pn	04 30 53.2	+3.4
ONI				S	**Sn**	**04 32 13.2**	**+1.9**
KIV	**Kislovodsk**	**8.20**	**296**	⇓Pn	**Pn**	**04 31 04.3**	**+2.0**
	comp=Z,12nm,0.5s						
KIV				⇓Sn	**Sn**	**04 32 32.8**	**-0.8**
	comp=Z,61nm,0.7s						
KIV	**Kislovodsk**	**8.20**	**296**	*e*P	**Pn**	**04 31 00.5**	**-1.8**
KIV				*e*S	**Sn**	**04 32 31.9**	**-1.8**
KIV				pmax	pmax		
	comp=Z,17nm,0.7s						
KIV	**Kislovodsk**	**8.20**	**296**	*e*P	**Pn**	**04 31 00.5**	**-1.8**
	comp=Z,17nm,0.7s						
KIV	**Kislovodsk**	**8.20**	**296**	Pn	**Pn**	**04 31 04.3**	**+2.0**
	comp=Z,12nm,0.5s						
KIV				*e*S	**Sn**	**04 32 31.9**	**-1.8**
KIV				Sn	Sn	04 32 32.8	-1.0
	comp=Z,61nm,0.7s						
AB31	**Akbulak array**	**9.88**	**28**	Pn	**Pn**	**04 31 27.7**	**+2.5**
	comp=Z,0.8nm,0.3s,baz=210,slow=14,SNR=57						
AB31				⇓Sn	**Sn**	**04 33 14.5**	**-0.2**
	comp=Z,4.1nm,0.4s,baz=174,slow=12,SNR=15						
AB31	**Akbulak array**	**9.88**	**28**	*i* P	**Pn**	**04 31 27.6**	**+2.5**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.1s						
AB31	**Akbulak array**	**9.88**	**28**	Pn	**Pn**	**04 31 27.7**	**+2.5**
	comp=Z,0.8nm,0.3s,SNR=57						
AB31				Sn	**Sn**	**04 33 14.5**	**-0.2**
	comp=Z,4.1nm,0.4s,SNR=15						
AKTK	**Aktyubinsk**	**10.34**	**19**	S	**Sn**	**04 33 26.5**	**+0.3**
	comp=Z,2.0nm,0.3s						
AKTO	**Aktyubinsk**	**10.34**	**19**	⇓Pn	**Pn**	**04 31 34.7**	**+3.1**
	comp=Z,0.5nm,0.9s						
AKTO				⇑Sn	**Sn**	**04 33 28.1**	**+1.9**
	comp=Z,4.9nm,0.8s						
AKTO	**Aktyubinsk**	**10.34**	**19**	P	Pn	04 31 35.0	+3.4
AKTO				S	**Sn**	**04 33 26.5**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax	smax		
	comp=N,2.0nm,0.3s						
AKTO	**Aktyubinsk**	**10.34**	**19**	P	Pn	04 31 35.0	+3.4
	comp=N,0.8nm,0.3s,baz=200,slow=12,SNR=16						
AKTO				S	**Sn**	**04 33 26.5**	**+0.3**
	comp=N,1.8nm,0.3s,baz=90,slow=19,SNR=14						
AKTO	**Aktyubinsk**	**10.34**	**19**	Pn	**Pn**	**04 31 34.7**	**+3.1**
	comp=N,0.5nm,0.9s						
AKTO				Sn	**Sn**	**04 33 28.1**	**+1.9**
	comp=N,4.9nm,0.8s						
VRHR	**Novokhopersk**	**12.96**	**327**	*e*P	**Pn**	**04 32 10.2**	**+2.8**
VRHR				*e*S	**Sn**	**04 34 30.4**	**+0.1**
VRHR				pmax	pmax		
	comp=N,20nm,0.6s						
VRHR				pmax	pmax		
	comp=E,20nm,0.6s						
VRHR				pmax	pmax		
	comp=Z,40nm,0.6s						
VRHR				smax	smax		
	comp=N,60nm,0.9s						
VRHR				smax	smax		
	comp=E,90nm,0.9s						
VRHR				smax	smax		
	comp=Z,20nm,0.9s						
KK31	**Karatay Array**	**13.35**	**74**	P	**Pn**	**04 32 12.5**	**-0.4**
	comp=Z,6.7nm,0.6s,baz=262,slow=19,SNR=51						
KK31				⇑S	**Sn**	**04 34 40.1**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=36,slow=14,SNR=3.1						
KK31	**Karatay Array**	**13.35**	**74**	*i* P	**Pn**	**04 32 12.4**	**-0.4**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.2s						
KK31	**Karatay Array**	**13.35**	**74**	*i* P	**Pn**	**04 32 12.4**	**-0.4**
	comp=Z,1.0nm,0.2s						
KK31				S	**Sn**	**04 34 40.1**	**+0.2**
	comp=Z,1.9nm,0.5s,SNR=3.1						
VORD	**Divnogorie**	**13.91**	**322**	*e*P	**Pn**	**04 32 21.3**	**+1.1**
VORD				*e*S	**Sn**	**04 34 55.8**	**+2.6**
VORD				pmax	pmax		

comp=Z,6.0nm,0.4s
VRI Vrincioaia 19.66 294 ⇑P **P 04 33 31.1 -0.5**
VRI Vrincioaia 19.66 294 ⇑*i*P **P 04 33 31.1 -0.5**
VRI Vrincioaia 19.66 294 P **P 04 33 31.1 -0.5**
PLOR Plostina 19.71 294 ⇑P **P 04 33 32.6 +0.4**
PLOR Plostina 19.71 294 ⇑*i*P **P 04 33 32.6 +0.4**
PLOR Plostina 19.71 294 P **P 04 33 32.6 +0.4**
ISR Istrita 19.73 292 ⇑P **P 04 33 33.0 +0.6**
ISR Istrita 19.73 292 ⇑*i*P **P 04 33 33.0 +0.6**
ISR Istrita 19.73 292 P **P 04 33 33.0 +0.6**
TESR 19.79 296 ⇑*i*P **P 04 33 33.0 0.0**
TESR 19.79 296 ⇑*i*P **P 04 33 33.0 0.0**
MLR Muntele Rosu 20.18 293 ⇑*i*P **P 04 33 34.3 -3.0**
MLR Muntele Rosu 20.18 293 P **P 04 33 36.2 -1.1**
comp=Z,1.0nm,0.6s,baz=164,slow=15,SNR=5.7
MLR Muntele Rosu 20.18 293 P **P 04 33 36.2 -1.1**
comp=Z,1.0nm,0.6s
KURBB Kurchatov Arra 20.38 52 P Pn 04 33 41.7 +0.1
comp=Z,1.4nm,0.6s,baz=252,slow=12,SNR=12
KURK Kurchatov 20.46 52 ⇑P **P 04 33 42.1 +1.9**
comp=Z,2.7nm,0.6s
KURK Kurchatov 20.46 52 P **P 04 33 41.7 +1.5**
KURK pmax pmax
comp=Z,1.0nm,0.6s
KURK Kurchatov 20.46 52 P **P 04 33 42.1 +1.9**
comp=Z,2.7nm,0.6s
VOIR 20.80 292 ⇓P **P 04 33 44.1 +0.1**
VOIR 20.80 292 ⇓*i*P **P 04 33 44.1 +0.1**
VOIR 20.80 292 P **P 04 33 44.1 +0.1**
BURAR Bucovina Array 20.92 298 ⇑*i*P **P 04 33 44.5 -0.8**
BURAR Bucovina Array 20.92 298 ⇑*i*P **P 04 33 44.5 -0.8**
KLMR Klimovskoe 21.75 342 *e*P **P 04 33 50.8 -3.2**
KLMR *e* 04 34 10.0
KLMR *e*S **S 04 37 48.0 -4.5**
KLMR pmax pmax
comp=Z,23nm,1.9s
MK31 Makanchi Array 22.02 64 ⇑P **P 04 33 58.0 +1.0**
comp=Z,1.1nm,0.5s
MK31 Makanchi Array 22.02 64*ce*P **P 04 33 58.0 +1.0**
MK31 pmax pmax
comp=Z,1.0nm,0.4s
MK31 Makanchi Array 22.02 64 P **P 04 33 58.0 +1.0**
comp=Z,1.1nm,0.5s
MKAR Makanchi Array 22.02 64*ce*P **P 04 33 58.5 +1.5**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 22.02 64 P **P 04 33 58.3 +1.3**
comp=Z,0.8nm,0.4s,baz=255,slow=9.8,SNR=19
VTS Vitosha 22.18 285 ⇓P **P 04 33 56.9 -2.1**
VTS Vitosha 22.18 285 ⇓*i*P **P 04 33 56.9 -2.1**
VTS Vitosha 22.18 285 ⇓*i*P **P 04 33 56.9 -2.1**
DRGR 22.52 296 ⇓P **P 04 34 00.7 -1.7**
DRGR 22.52 296 ⇓*i*P **P 04 34 00.7 -1.7**
DRGR 22.52 296 ⇓*i*P **P 04 34 00.7 -1.7**
IIGN Ignalina 22.85 319 *e*P **P 04 34 03.0 -2.8**
IIGN Ignalina 22.85 319 *e*P **P 04 34 03.0 -2.8**
KWP Kalwaria Pacla 22.91 303 ⇑P **P 04 34 06.5 0.0**
KWP Kalwaria Pacla 22.91 303 ⇑*i*P **P 04 34 06.5 0.0**
KWP Kalwaria Pacla 22.91 303 ⇑*i*P **P 04 34 06.5 0.0**
ISAL Salakas 23.00 319 *e*P **P 04 34 04.9 -2.4**
ISAL Salakas 23.00 319 *e*P **P 04 34 04.9 -2.4**
IZAR Zarasai 23.03 320 *e*P **P 04 34 04.2 -3.5**
ZALV Zalesovo Beam 25.12 47 P **P 04 34 28.3 +1.1**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 25.12 47 P **P 04 34 28.3 +1.1**
comp=Z,0.8nm,0.3s,baz=243,slow=9.5,SNR=2.7
JOF Joensuu 25.65 337 *e*P **P 04 34 31.5 -0.4**
JOF pmax pmax
comp=Z,5.0nm,0.5s
JOF Joensuu 25.65 337 *e*p **P 04 34 31.5 -0.4**
comp=Z,4.9nm,0.5s
FINES FINESS Array B 26.36 331 P **P 04 34 38.6 +0.4**
comp=Z,2.9nm,0.5s,baz=139,slow=11,SNR=34
KAF Kangasniemi 26.71 332 *e*P **P 04 34 43.6 +2.2**
KAF pmax pmax
comp=Z,1.0nm,0.3s
KAF Kangasniemi 26.71 332 *e*p **P 04 34 43.6 +2.2**
comp=Z,0.5nm,0.3s
GERES GERESS Array B 28.69 300 P **P 04 34 58.7 -0.7**
comp=Z,0.5nm,0.4s,baz=82,slow=7.3,SNR=7.1
DAVOX Davos/Dischmat 31.32 296 P **P 04 35 21.2 -1.6**
comp=Z,1.0nm,0.3s,baz=117,slow=4.5,SNR=4.3
ARCES ARCESS Array B 32.23 342 P **P 04 35 31.3 +0.9**
comp=Z,1.1nm,0.7s,baz=142,slow=10,SNR=4.3
NB2 NORSAR Subarra 32.41 323 P **P 04 35 31.4 -0.7**
comp=Z,0.4nm,0.3s,baz=117,slow=9.3
NOA NORSAR Array B 32.41 323 P **P 04 35 31.5 -0.6**
comp=Z,1.8nm,0.5s,baz=113,slow=8.4,SNR=11
HAU Haudompre 33.61 298 *e*P **P 04 35 40.2 -2.5**
comp=Z,12nm,0.8s
LPG La Plagne 33.63 294 *e*P **P 04 35 41.5 -1.7**
comp=Z,3.2nm,0.4s
LPL La Plagne 33.64 294 *e*P **P 04 35 40.7 -2.5**
comp=Z,3.1nm,0.4s
MBDF Montbardon 33.74 292 *e*P **P 04 35 42.1 -1.9**
comp=Z,13nm,0.7s
CABF La Chapelle 33.94 296 *e*P **P 04 35 43.2 -2.4**
comp=Z,10nm,0.7s
TLY Talaya 36.11 55 *e*P **P 04 36 05.2 +1.0**
TLY pmax pmax
comp=Z,1.0nm,0.8s
ESK Eskdalemuir 39.12 311 *i*P **P 04 36 32.2 +2.7**
ESDC Sonseca Array 42.76 288 P **P 04 36 57.4 -2.4**
comp=Z,0.6nm,0.5s,baz=63,slow=7.0,SNR=5.3
TORD Torodi Ar. Bea 52.34 253 P P 04 38 09.9 -4.4
comp=Z,0.3nm,0.7s,baz=37,slow=9.9,SNR=8.0
DBIC Dimbokro 61.44 253 P P 04 39 14.9 -3.9
comp=Z,1.2nm,0.5s,baz=42,slow=6.9,SNR=3.5
SCHQ Schefferville 71.80 329 P **P 04 40 23.2 -1.2**
comp=Z,1.9nm,0.8s,baz=40,slow=9.7,SNR=4.1
ILAR Eielson Array 73.69 9 P **P 04 40 35.4 -0.1**
comp=Z,0.1nm,0.6s,baz=334,slow=4.8,SNR=4.2
YKA Yellowknife Ar 76.62 354 P **P 04 40 51.2 -1.1**
comp=Z,0.3nm,0.5s,baz=5.9,slow=5.7,SNR=7.8

IDC 05 04:48:15.4±1.0, 28°.69S×177°.64W, h0km, mb4.0/4, mb1 4.2/4, mb1mx4.0/14, mbtmp4.0/4, MS3.6/2, Ms1 3.6/2, ms1mx3.0/24, Error ellipse: s-maj=45.9km s-min=30.8km az=162.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**17.52**	**208**	LR	LR	04 58 29.5	
	comp=Z,137nm,18.1s,baz=40,slow=35						
STKA	**Stephens Creek**	**35.20**	**255**	P	P	04 55 12.5	+1.2
	0.9nm,0.4s,baz=97,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**43.54**	**265**	P	P	04 56 20.9	-0.3
	0.9nm,0.5s,baz=101,slow=6.6,SNR=22						
ASAR				PcP	PcP	04 58 07.1	-2.0
	0.4nm,0.6s,baz=119,slow=4.1,SNR=4.8						
WRA	**Warramunga Arr**	**44.37**	**270**	P	P	04 56 27.4	-0.4
	1.3nm,0.7s,baz=108,slow=7.8,SNR=4.1						
MJAR	**Matsushiro Arr**	**77.03**	**325**	P	P	05 00 11.1	+0.9
	1.6nm,0.6s,baz=161,slow=7.7,SNR=4.5						
ASAJ	**Asahikawa**	**81.08**	**332**	LR	LR	05 34 04.9	
	comp=Z,49nm,18.6s,baz=7.6,slow=34						
MKAR	**Makanchi Array**	**115.91**	**311**	PKP	PKPdf	05 07 00.7	-1.1
	0.2nm,0.4s,baz=90,slow=1.4,SNR=5.8						
KURBB	**Kurchatov Arra**	**120.13**	**314**	PKP	PKPdf	05 07 06.6	-1.3
	0.7nm,0.5s,baz=112,slow=1.9,SNR=8.1						
BVAR	**Borovoye Array**	**125.39**	**317**	PKP	PKPdf	05 07 17.9	0.0
	1.1nm,0.5s,baz=106,slow=3.6,SNR=5.9						
ARCES	**ARCESS Array B**	**136.99**	**348**	PKP	PKPdf	05 07 39.7	+0.3
	1.7nm,0.7s,baz=48,slow=1.3,SNR=5.9						
FINES	**FINESS Array B**	**143.65**	**341**	PKP	PKPbc	05 07 48.8	-0.2
	1.8nm,0.5s,baz=52,slow=3.8,SNR=14						
NB2	**NORSAR Subarra**	**147.11**	**352**	PKP	PKPbc	05 08 00.2	+0.4
	comp=Z,1.6nm,0.5s,baz=14,slow=3.0						
NOA	**NORSAR Array B**	**147.11**	**352**	PKPbc	PKPbc	05 08 00.2	+0.4
	comp=Z,2.4nm,0.7s,baz=16,slow=4.4,SNR=8.8						
AKASG	**Malin Array Be**	**150.11**	**325**	PKPbc	PKPbc	05 08 07.5	-0.2
	comp=Z,5.6nm,0.6s,baz=47,slow=3.4,SNR=17						
BRTR	**Keskin Array B**	**152.02**	**301**	PKPbc	PKPbc	05 08 11.8	-1.0
	comp=Z,0.8nm,0.6s,baz=114,slow=3.6,SNR=5.7						
TORD	**Torodi Ar. Bea**	**164.52**	**178**	PKP	PKPdf	05 08 21.9	+0.1
	comp=Z,0.6nm,0.9s,baz=270,slow=2.9,SNR=3.0						
TORD				PKPab	PKPab	05 09 16.7	+0.4
	comp=Z,2.0nm,1.0s,baz=171,slow=3.6,SNR=8.6						

WEL 05 04:52:54.7±0.2, 37°.03S×177°.15E, h5km, ML4.3/9, 2C-2D, Error ellipse: s-maj=1.3km s-min=1.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.50**	**176**	⇑PG	Pg	04 53 04.4	+0.2
WIZ				SG	Sg	04 53 11.2	+0.4
WIZ				SG	Sb	04 53 11.4	-2.1
MYRZ	**Mayor Island**	**0.77**	**251**	P*	Pg	04 53 09.2	-0.3
OPRZ	**Ohinepanea**	**0.94**	**210**	⇓P*	Pg	04 53 11.8	-0.9
OPRZ				S*	Sg	04 53 23.9	-1.1
TGRZ	**Tauranga**	**1.00**	**225**	P*	Pg	04 53 12.6	-1.2
MARZ	**Manawahe**	**1.03**	**201**	⇑P*	Pg	04 53 13.4	-1.0
MXZ	**Matakaoa Point**	**1.06**	**120**	P*	Pg	04 53 13.7	-1.4
MXZ				S*	Sg	04 53 27.0	-1.9
EDRZ	**Edgecumbe**	**1.12**	**197**	P*	Pg	04 53 14.9	-1.5
LIRZ	**Lichensteins R**	**1.15**	**212**	P*	Pg	04 53 15.1	-1.6
KUZ	**Kuaotunu**	**1.18**	**283**	P*	Pg	04 53 16.3	-1.0
KUZ				S*	Sg	04 53 30.3	-2.4
KARZ	**Kaharoa**	**1.22**	**216**	P*	Pg	04 53 16.3	-1.9
URZ	**Urewera**	**1.23**	**181**	⇓P*	Pg	04 53 16.3	-2.0
URZ				S*	Sg	04 53 31.1	-3.1
MKRZ	**Makatiti**	**1.23**	**206**	P*	Pg	04 53 17.6	-0.7
MWZ	**Matawai**	**1.34**	**167**	P*	Pn	04 53 17.1	-3.0
PUZ	**Puketiti**	**1.36**	**140**	PN	Pn	04 53 19.8	-0.6
TOZ	**Tahuroa Road**	**1.49**	**241**	P*	Pn	04 53 19.9	-2.1
MKAZ	**Moumakai**	**1.59**	**266**	PN	Pn	04 53 21.9	-1.6

IDC 05 05:15:13.6±3.9, 30°.04S×138°.76E, h0km, mb1 2.9/3, mb1mx2.9/13, mbtmp2.7/3, ML2.3/2, Error ellipse: s-maj=141.6km s-min=18.5km az=45.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.05**	**128**	Pn	Pn	05 16 04.2	+1.1
	0.2nm,0.3s,baz=306,slow=14,SNR=3.9						
STKA				Lg	Lg	05 16 49.5	
	1.1nm,0.3s,baz=224,slow=22,SNR=5.5						
ASAR	**Alice Springs**	**7.69**	**325**	Pn	Pn	05 17 05.2	-1.7
	0.1nm,0.3s,baz=149,slow=13,SNR=2.9						
WRA	**Warramunga Arr**	**10.82**	**337**	Pn	Pn	05 17 51.1	+1.2
	baz=156,slow=15,SNR=2.2						

*ISK **05** 05:17:45.9, 36°.50N×29°.01E, h19km, MD3.2*
*ATH **05** 05:17:45.9, 36°.51N×29°.01E, h33km±2km, MD3.1/5*
*ISCJB **05** 05:17:46.2±0.7, 36°.45N±0°.04×29°.04E±0°.04, h20km±6km, Error ellipse: s-maj=6.7km s-min=5.9km az=8.5*
*DDA **05** 05:17:46.2, 36°.54N×28°.98E, h12km, MD3.0*
*CSEM **05** 05:17:46.2±0.2, 36°.48N×29°.01E, h16km±1km, MD3.2, Error ellipse: s-maj=4.7km s-min=4.0km az=161.0*

ISC 05 05:17:46.5±1.0, 36°.51N±0°.03×29°.00E±0°.03, h18km±5km, n35, σ0°41/51, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FETY	**Fethiye**	**0.15**	**28**	*e*PG	**Pg**	**05 17 50.5**	**-0.3**
FETY				*e*SG	**Sg**	**05 17 54.3**	**+0.6**
FETY	**Fethiye**	**0.15**	**28**	*e*Pg	**Pg**	**05 17 50.5**	**-0.3**
FETY				*e*Sg	**Sg**	**05 17 54.3**	**+0.6**
AKAS	**Kas**	**0.56**	**119**	*i* P	**Pg**	**05 17 57.7**	**-0.1**
AKAS				*i* S	**Sn**	**05 18 08.4**	**-0.3**
AKAS	**Kas**	**0.56**	**119**	*i* P	**Pg**	**05 17 57.7**	**-0.1**
AKAS				*i* S	**Sn**	**05 18 08.4**	**-0.3**
KSL	**Kastellorizon**	**0.59**	**127**	*e*PN	**Pg**	**05 17 58.2**	**-0.1**
ARG	**Arkhangelos**	**0.76**	**248**	*e*PN	**Pb**	**05 18 01.0**	**-0.2**
ARG				*e*SN	**Sn**	**05 18 12.8**	**-0.6**
ARG	**Arkhangelos**	**0.76**	**248**	*e*Pn	**Pb**	**05 18 01.0**	**-0.2**
ARG				*e*Sn	**Sn**	**05 18 12.8**	**-0.6**
ELL	**Elmali**	**0.77**	**71**	*e*PG	**Pg**	**05 18 01.3**	**-0.4**
ELL	**Elmali**	**0.77**	**71**	*e*Pg	**Pg**	**05 18 01.3**	**-0.4**
YER	**Yerkesik**	**0.85**	**318**	*e*PG	**Pb**	**05 18 02.2**	**-0.6**
YER				*e*SG	**Sn**	**05 18 16.1**	**+0.4**
YER	**Yerkesik**	**0.85**	**318**	*e*Pg	**Pb**	**05 18 02.2**	**-0.6**
YER				*e*Sg	**Sn**	**05 18 16.1**	**+0.4**
DNZL	**Cakiroluk**	**1.18**	**2**	*i* P	**Pb**	**05 18 08.3**	**-0.3**
DNZL				*i* S	**Sg**	**05 18 24.7**	**-0.3**
DNZL	**Cakiroluk**	**1.18**	**2**	*i* P	**Pb**	**05 18 08.3**	**-0.3**
DNZL				*i* S	**Sg**	**05 18 24.7**	**-0.3**
BDRM	**Kayabasi**	**1.37**	**295**	*i* P	**Pb**	**05 18 11.7**	**+0.1**
BDRM				*i* S	**Sg**	**05 18 30.7**	**0.0**
BDRM	**Kayabasi**	**1.37**	**295**	*i* P	**Pb**	**05 18 11.7**	**+0.1**
BDRM				*i* S	**Sg**	**05 18 30.7**	**0.0**
AYDN	**Tasoluk**	**1.46**	**323**	*i* P	**Pb**	**05 18 13.1**	**-0.1**
AYDN				*i* S	**Sb**	**05 18 32.5**	**+1.0**
AYDN	**Tasoluk**	**1.46**	**323**	*i* P	**Pb**	**05 18 13.1**	**-0.1**
AYDN				*i* S	**Sb**	**05 18 32.5**	**+1.0**
BODT	**Bodrum**	**1.46**	**293**	*e*PN	**Pb**	**05 18 13.1**	**-0.2**
BODT	**Bodrum**	**1.46**	**293**	*e*Pn	**Pb**	**05 18 13.1**	**-0.2**
BCK	**Bucak**	**1.59**	**53**	*e*PN	**Pn**	**05 18 14.0**	**+0.1**
BCK	**Bucak**	**1.59**	**53**	*e*Pn	**Pn**	**05 18 14.0**	**+0.1**
KARP	**Karpathos**	**1.77**	**238**	*e*PN	**Pn**	**05 18 16.2**	**-0.1**
KARP				*e*SN	**Sn**	**05 18 38.5**	**+0.1**
KARP	**Karpathos**	**1.77**	**238**	*e*Pn	**Pn**	**05 18 16.2**	**-0.1**
KARP				*e*Sn	**Sn**	**05 18 38.5**	**+0.1**
KHL	**Karahalli**	**1.86**	**13**	*e*PN	**Pn**	**05 18 17.1**	**-0.5**
KHL	**Karahalli**	**1.86**	**13**	*e*Pn	**Pn**	**05 18 17.2**	**-0.5**
SUTC	**Sutluce-Ispart**	**1.87**	**58**	*e*PN	**Pn**	**05 18 18.2**	**+0.3**
SUTC	**Sutluce-Ispart**	**1.87**	**58**	*e*Pn	**Pn**	**05 18 18.2**	**+0.3**
KULA	**Kula-Manisa**	**2.02**	**353**	*e*PN	**Pn**	**05 18 19.2**	**-0.6**
KULA	**Kula-Manisa**	**2.02**	**353**	*e*Pn	**Pn**	**05 18 19.2**	**-0.6**
SMG	**Samos**	**2.10**	**305**	*e*PN	**Pn**	**05 18 21.1**	**+0.2**
SMG	**Samos**	**2.10**	**305**	*e*Pn	**Pn**	**05 18 21.1**	**+0.2**
ALT	**Altintas**	**2.69**	**19**	*e*PN	**Pn**	**05 18 29.3**	**+0.2**
ALT	**Altintas**	**2.69**	**19**	*e*Pn	**Pn**	**05 18 29.3**	**+0.2**
LAST	**Lasithi**	**3.16**	**246**	*e*PN	**Pn**	**05 18 35.4**	**0.0**
LAST	**Lasithi**	**3.16**	**246**	*e*Pn	**Pn**	**05 18 35.4**	**0.0**

*ROM **05** 05:18:50.1±0.5, 42°.60N×16°.27E, h5km, Md2.3/3, Ml2.5/2, Error ellipse: s-maj=14.1km s-min=4.7km az=114.0*
*CSEM **05** 05:18:50.8±1.5, 42°.67N×15°.81E, h10km, MD2.3/3, Error ellipse: s-maj=34.6km s-min=8.1km az=130.0*

ISC 05 05:18:50.5±3.1, 42°.6N±0°.1×15°.8E±0°.2, h1km±16km, n8, σ0°50/16, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGRT	**San Giovanni R**	**0.86**	**183**	Pg	**Pb**	**05 19 08.2**	**-0.1**
SGRT				Sg	**Sb**	**05 19 21.1**	**+0.7**
	94nm,0.4s						
SGRT	**San Giovanni R**	**0.86**	**183**	Pg	**Pb**	**05 19 08.2**	**-0.1**
SGRT				Sg	**Sb**	**05 19 21.1**	**+0.7**
	94nm,0.4s						
MSAG	**Monte S. Angel**	**0.91**	**175**	Pg	**Pg**	**05 19 08.1**	**+0.2**
MSAG				Sg	**Sb**	**05 19 21.8**	**+0.1**
	149nm,0.6s						
MSAG	**Monte S. Angel**	**0.91**	**175**	Pg	**Pg**	**05 19 08.1**	**+0.2**
MSAG				Sg	**Sb**	**05 19 21.8**	**+0.1**
	149nm,0.6s						
RGNG	**Rignano Grg**	**0.95**	**190**	Pg	**Pn**	**05 19 10.7**	**-0.4**
RGNG				Sg	**Sn**	**05 19 25.4**	**+0.1**
RGNG	**Rignano Grg**	**0.95**	**190**	Pg	**Pn**	**05 19 10.7**	**-0.4**
RGNG				Sg	**Sn**	**05 19 25.4**	**+0.1**
STON	**Ston**	**1.42**	**79**	*e*Pg	**Pg**	**05 19 18.4**	**+0.6**
STON				Sg	**Sg**	**05 19 35.6**	**-0.6**
STON	**Ston**	**1.42**	**79**	*e*Pg	**Pg**	**05 19 18.3**	**+0.6**
STON				Sg	**Sg**	**05 19 35.5**	**-0.6**

*CSEM **05** 05:26:35.1±0.2, 39°.34N×0°.38W, h2km, ML3.4/19, Error ellipse: s-maj=4.8km s-min=2.2km az=128.0*
*INMG **05** 05:26:37.4±1.8, 39°.28N×0°.28W, h14km±7km, ML2.9, Error ellipse: s-maj=4.5km s-min=4.5km az=108.0*
*LDG **05** 05:26:37.2±0.1, 39°.33N×0°.37W, h2km, Ml3.2/6, Error ellipse: s-maj=2.8km s-min=1.4km az=128.0*

MDD 05 05:26:37.2±0.7, 39°.33N×0°.37W, h6km±4km, mbLg2.7/35, 2C, Error ellipse: s-maj=6.5km s-min=3.1km az=126.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECHE	**Chera**	**0.54**	**300**	⇑Pg	Pg	05 26 46.8	-0.8
	43nm,0.2s,SNR=18						
ECHE				Lg	Lg	05 26 54.4	
	202nm,0.3s,SNR=24						
ECHE	**Chera**	**0.54**	**300**	Pg	Pg	05 26 46.8	-0.8
	43nm,0.2s,SNR=18						
ECHE				Lg	Lg	05 26 54.4	
	202nm,0.3s,SNR=24						
EVIA	**Vianos**	**1.80**	**248**	Pn	Pn	05 27 06.7	-2.2
	9.0nm,0.2s,SNR=48						
EVIA				Pg	Pb	05 27 10.2	-0.5
	74nm,0.3s,SNR=7.9						
EVIA				Sn	Sn	05 27 31.1	-1.1
	54nm,0.2s,SNR=10						
EVIA				Lg	Lg	05 27 35.5	
	239nm,0.4s,SNR=7.9						
EVIA	**Vianos**	**1.80**	**248**	Pn	Pn	05 27 06.7	-2.2
	9.0nm,0.2s,SNR=48						
ETOR	**Torete**	**1.98**	**320**	Pg	Pb	05 27 12.7	-1.0
	13nm,0.2s,SNR=224						
ETOR				Lg	Lg	05 27 38.5	
	392nm,0.4s,SNR=7.7						
ETOR	**Torete**	**1.98**	**320**	Pg	Pb	05 27 12.7	-1.0
	13nm,0.2s,SNR=224						
ETOR				Lg	Lg	05 27 38.5	
	392nm,0.4s,SNR=7.7						
EHUE	**Huescar**	**2.31**	**230**	Pn	Pn	05 27 14.1	-1.7
	5.0nm,0.2s,SNR=7.9						
EHUE				Pg	Pb	05 27 18.7	-0.6
	5.8nm,0.2s,SNR=7.9						
EHUE				Sn	Sn	05 27 42.8	-1.8
	5.4nm,0.2s,SNR=7.9						
EHUE				Lg	Lg	05 27 50.4	
	17nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.31**	**230**	Pn	Pn	05 27 14.1	-1.7
	5.0nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**2.80**	**278**	Pn	Pn	05 27 20.5	-2.2
	1.8nm,0.2s,baz=94,slow=14,SNR=38						
ESDC				Pg	Pg	05 27 30.7	-0.4
	3.6nm,0.3s,baz=96,slow=17,SNR=19						
ESDC				Sn	Sn	05 27 51.3	-5.6
	5.1nm,0.1s,baz=98,slow=16,SNR=11						
ESDC				Lg	Lg	05 28 02.6	
	27nm,0.3s,baz=95,slow=30,SNR=7.9						
ESDC	**Sonseca Array**	**2.80**	**278**	Pn	Pn	05 27 20.5	-2.1
	1.8nm,0.2s,SNR=38						
ESDC	**Sonseca Array**	**2.80**	**278**	Pg	Pg	05 27 30.7	-0.3
	3.6nm,0.3s,baz=96,slow=17,SNR=19						
ESDC				Sn	Sn	05 27 51.3	-5.5
	5.1nm,0.1s,SNR=11						
ESDC				Lg	Lg	05 28 02.6	
	27nm,0.3s,baz=95,slow=30,SNR=7.9						
EMIR	**Miracle**	**2.96**	**29**	⇑Pn	Pn	05 27 24.0	-0.8
	4.2nm,0.1s,SNR=18						
EMIR				Pg	Pb	05 27 29.8	-0.6
	3.5nm,0.2s,SNR=8.8						
EMIR				Sn	Sn	05 27 58.1	-2.6
	6.6nm,0.3s,SNR=4.0						
EMIR				Lg	Lg	05 28 10.9	
	25nm,0.4s,SNR=7.9						
EMIR	**Miracle**	**2.96**	**29**	Pn	Pn	05 27 24.0	-0.8
	4.2nm,0.1s,SNR=18						
GUD	**Guadarrama**	**3.19**	**296**	Pn	Pn	05 27 26.7	-1.4
	2.0nm,0.3s,SNR=9.0						
GUD				Pg	Pg	05 27 37.0	-1.6
	4.2nm,0.2s,SNR=12						
GUD				Lg	Lg	05 28 16.7	
	11nm,0.2s,SNR=7.8						
GUD	**Guadarrama**	**3.19**	**296**	Pn	Pn	05 27 26.7	-1.4
	2.0nm,0.3s,SNR=9.0						
CFON	**Fontmartina**	**3.24**	**40**	Pn	Pn	05 27 26.8	-1.8
	3.8nm,0.2s,SNR=7.9						
CFON				Sn	Sn	05 28 03.4	-4.2
	12nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**3.24**	**40**	Pn	Pn	05 27 26.8	-1.8
	3.8nm,0.2s,SNR=7.9						
CFON				Sn	Sn	05 28 03.4	-4.2
	12nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**3.24**	**232**	Pn	Pn	05 27 27.8	-1.0
	4.6nm,0.2s,SNR=7.9						
ECOG				Pg	Pb	05 27 36.5	+1.2
	6.0nm,0.2s,SNR=7.9						
ECOG				Sn	Sn	05 28 04.9	-2.9
	5.4nm,0.2s,SNR=7.9						
ECOG				Lg	Lg	05 28 19.8	
	13nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**3.24**	**232**	Pn	Pn	05 27 27.8	-1.0
	4.6nm,0.2s,SNR=7.9						
CSOR	**Sort**	**3.25**	**20**	Pn	Pn	05 27 28.2	-0.7
	1.7nm,0.2s,SNR=23						
CSOR				Sn	Sn	05 28 04.7	-3.3
	1.0nm,0.3s,SNR=7.0						
CSOR				Lg	Lg	05 28 18.2	
	9.9nm,0.3s						
CSOR	**Sort**	**3.25**	**20**	Pn	Pn	05 27 28.2	-0.7
	1.7nm,0.2s,SNR=23						
CSOR				Sn	Sn	05 28 04.7	-3.3
	1.0nm,0.3s,SNR=7.0						
CSOR				Lg	Lg	05 28 18.2	
	9.9nm,0.3s						
IEPA	**Eparoz**	**3.52**	**349**	Pn	Pn	05 27 33.0	+0.5
	1.0nm,0.1s,SNR=7.9						
IEPA				Pg	Pb	05 27 42.0	+2.1
	42nm,0.6s,SNR=7.9						
IEPA				Lg	Lg	05 28 28.9	
	9.0nm,0.3s,SNR=7.9						
IEPA	**Eparoz**	**3.52**	**349**	Pn	Pn	05 27 33.0	+0.6
	1.0nm,0.1s,SNR=7.9						
IUNC	**Unciti**	**3.53**	**346**	Pn	Pn	05 27 31.4	-1.3
	1.9nm,0.2s,SNR=7.9						
IUNC				Pg	Pb	05 27 42.1	+1.9
	6.2nm,0.3s,SNR=5.1						
IUNC				Lg	Lg	05 28 28.0	
	5.5nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**3.53**	**346**	Pn	Pn	05 27 31.4	-1.2
	1.9nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**3.53**	**241**	Pn	Pn	05 27 30.9	-1.7
	5.3nm,0.2s,SNR=7.9						
ELUQ				Pg	Pb	05 27 42.5	+2.3
	6.8nm,0.3s,SNR=7.9						
ELUQ				Lg	Lg	05 28 29.1	
	7.

	2.6nm,0.2s,SNR=7.9							
IZUN				Pg	Pg	05 27 44.5	-2.3	
	1.9nm,0.2s,SNR=7.9							
IZUN				Lg	Lg	05 28 31.4		
	3.7nm,0.2s,SNR=7.9							
IZUN	**Zunzarren**	**3.63**	**347**	Pn	Pn	05 27 33.0	-0.9	
	2.6nm,0.2s,SNR=7.9							
EORO	**Oroz-Betelu**	**3.63**	**349**	Pn	Pn	05 27 33.7	-0.4	
	2.5nm,0.3s,SNR=7.9							
EORO				Pg	Pg	05 27 44.8	-2.2	
	12nm,0.3s,SNR=15							
EORO				Sn	Sn	05 28 14.1	-3.2	
	7.4nm,0.3s,SNR=7.9							
EORO				Lg	Lg	05 28 31.2		
	4.8nm,0.2s,SNR=7.9							
EORO	**Oroz-Betelu**	**3.63**	**349**	Pn	Pn	05 27 33.7	-0.4	
	2.5nm,0.3s,SNR=7.9							
ELOJ	**Sierra Loja**	**3.69**	**235**	Pn	Pn	05 27 33.5	-1.4	
	1.9nm,0.2s,SNR=7.9							
ELOJ				Lg	Lg	05 28 34.8		
	12nm,0.4s,SNR=4.9							
ELOJ	**Sierra Loja**	**3.69**	**235**	Pn	Pn	05 27 33.5	-1.4	
	1.9nm,0.2s,SNR=7.9							
ELOJ				Lg	Lg	05 28 34.8		
	12nm,0.4s,SNR=4.9							
EPF	**Esparros**	**3.74**	**8**	ePn	Pn	05 27 34.9	-0.6	
EPF	**Esparros**	**3.74**	**8**	ePg	Pb	05 27 46.2	+2.5	
EPF				eSn	Sn	05 28 15.2	-4.7	
EPF				eSg	Sg	05 28 33.9	-3.6	
	17nm,0.3s							
EPF	**Esparros**	**3.74**	**8**	Pn	Pn	05 27 34.9	-0.6	
EPF	**Esparros**	**3.74**	**8**	Pg	Pb	05 27 46.2	+2.5	
EPF				Sn	Sn	05 28 15.2	-4.7	
EPF				eSg	Lg	05 28 33.9		
	8.4nm,0.3s							
SJPF	**Ste Jean**	**3.84**	**351**	ePn	Pn	05 27 36.2	-0.6	
SJPF	**Ste Jean**	**3.84**	**351**	ePg	Pg	05 27 48.2	-2.6	
SJPF				eSg	Sg	05 28 37.2	-3.4	
	23nm,0.6s							
SJPF	**Ste Jean**	**3.84**	**351**	Pn	Pn	05 27 36.2	-0.6	
SJPF	**Ste Jean**	**3.84**	**351**	Pg	Pg	05 27 48.2	-2.6	
SJPF				eSg	Lg	05 28 37.2		
	11nm,0.6s							
ELIZ	**Elizondo**	**3.93**	**348**	Pn	Pn	05 27 37.7	-0.4	
	4.6nm,0.2s,SNR=7.9							
ELIZ				Pg	Pb	05 27 49.2	+2.3	
	3.7nm,0.2s,SNR=7.9							
ELIZ				Sn	Sn	05 28 21.9	-2.7	
	4.0nm,0.3s,SNR=7.9							
ELIZ				Lg	Lg	05 28 40.0		
	5.4nm,0.3s,SNR=7.9							
ELIZ	**Elizondo**	**3.93**	**348**	Pn	Pn	05 27 37.7	-0.4	
	4.6nm,0.2s,SNR=7.9							
EPLA	**Plasencia**	**4.47**	**281**	Pn	Pn	05 27 44.5	-1.0	
	2.1nm,0.2s,SNR=7.9							
EPLA				Pg	Pg	05 27 59.8	-3.1	
	6.6nm,0.3s,SNR=6.2							
EPLA				Sn	Sn	05 28 32.1	-5.7	
	2.2nm,0.2s,SNR=7.9							
EPLA				Lg	Lg	05 28 55.7		
	6.9nm,0.2s,SNR=11							
EPLA	**Plasencia**	**4.47**	**281**	Pn	Pn	05 27 44.5	-1.0	
	2.1nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**5.42**	**292**	ePn	Pn	05 27 58.6	0.0	
MVO				eSn	Sn	05 28 58.4	-2.9	
MVO				eSg	Sg	05 29 25.6	-5.8	
MVO				A	A	05 29 33.8		
	12nm,0.4s							
MVO	**Moncorvo**	**5.42**	**292**	Pn	Pn	05 27 57.2	-1.4	
	0.7nm,0.2s,SNR=7.9							
MVO				Sn	Sn	05 28 54.8	-6.5	
	0.9nm,0.3s,SNR=7.9							
MVO				Lg	Lg	05 29 27.3		
	3.5nm,0.4s,SNR=7.9							
MVO	**Moncorvo**	**5.42**	**292**	ePn	Pn	05 27 58.6	0.0	
MVO				eSn	Sn	05 28 58.4	-2.9	
MVO				eSg	Sg	05 29 25.6	-5.8	
	12nm,0.4s							
MVO				Lg	Lg	05 29 27.3		
	3.5nm,0.4s,SNR=7.9							
PMRV	**Marv??o**	**5.44**	**273**	ePn	Pn	05 27 58.8	-0.1	
PMRV				eSn	Sn	05 28 53.1	-8.7	
PMRV				eSg	Sg	05 29 25.8	-6.3	
PMRV				A	A	05 29 29.3		
	14nm,0.7s							
PMRV	**Marv??o**	**5.44**	**273**	Pn	Pn	05 27 58.8	-0.1	
PMRV				Sn	Sn	05 28 53.1	-8.7	
PMRV				Lg	Lg	05 29 25.8		
	14nm,0.7s							
PMRV	**Marv??o**	**5.44**	**273**	Pn	Pn	05 27 58.8	-0.1	
PMRV				Sn	Sn	05 28 53.1	-8.7	
PMRV				Lg	Lg	05 29 25.8		
	14nm,0.7s							
PBRG	**Braganca**	**5.45**	**299**	ePg	Pb	05 28 11.5	-1.3	
PBRG				eSg	Sg	05 29 25.6	-6.7	
PBRG				A	A	05 29 30.6		
	8.5nm,0.5s							
PBRG	**Braganca**	**5.45**	**299**	Pg	Pb	05 28 11.5	-1.3	
PBRG				Lg	Lg	05 29 25.6		
	4.2nm,0.5s							
PBRG	**Braganca**	**5.45**	**299**	Pg	Pb	05 28 11.5	-1.3	
PBRG				eSg	Lg	05 29 25.6		
	8.5nm,0.5s							
PCBR	**Castelo Branco**	**5.52**	**278**	ePn	Pn	05 27 59.0	-0.8	
PCBR				eSn	Sn	05 28 56.4	-7.2	
PCBR				eSg	Sg	05 29 27.8	-6.6	
PCBR				A	A	05 29 34.2		
	10nm,0.5s							
PCBR	**Castelo Branco**	**5.52**	**278**	Pn	Pn	05 27 59.0	-0.8	
PCBR				Sn	Sn	05 28 56.4	-7.2	
PCBR				Lg	Lg	05 29 27.8		
	5.2nm,0.5s							
PCBR	**Castelo Branco**	**5.52**	**278**	Pn	Pn	05 27 59.0	-0.8	
PCBR				Sn	Sn	05 28 56.4	-7.2	
PCBR				eSg	Lg	05 29 27.8		
	10nm,0.5s							
PESTR	**Estremoz**	**5.64**	**268**	ePn	Pn	05 28 01.4	-0.1	
PESTR				eSn	Sn	05 29 02.6	-4.0	
PESTR				eSg	Sg	05 29 32.3	-6.0	
PESTR				A	A	05 29 41.3		
	15nm,0.5s							
PESTR	**Estremoz**	**5.64**	**268**	Pn	Pn	05 28 01.4	-0.1	
PESTR				Sn	Sn	05 29 02.6	-4.0	
PESTR				Lg	Lg	05 29 32.3		
	7.3nm,0.5s							
PESTR	**Estremoz**	**5.64**	**268**	Pn	Pn	05 28 01.4	-0.1	
PESTR				Sn	Sn	05 29 02.6	-4.0	
PESTR				eSg	Lg	05 29 32.3		
	15nm,0.5s							
LFF	**La Frestale**	**5.67**	**8**	ePn	Pn	05 28 00.2	-1.7	
LFF	**La Frestale**	**5.67**	**8**	Pn	Pn	05 28 00.2	-1.7	
LASF	**Ste Croix**	**5.70**	**32**	ePn	Pn	05 28 01.0	-1.4	
LASF	**Ste Croix**	**5.70**	**32**	Pn	Pn	05 28 01.0	-1.4	
CAF	**Calviac**	**5.88**	**17**	ePn	Pn	05 28 03.0	-1.9	
CAF				eSn	Sn	05 29 07.2	-5.4	
CAF				eSg	Sg	05 29 41.0	-5.1	
	1.5nm,0.3s							
CAF	**Calviac**	**5.88**	**17**	Pn	Pn	05 28 03.0	-1.9	
CAF				Sn	Sn	05 29 07.2	-5.4	
CAF				Lg	Lg	05 29 41.0		
	0.4nm,0.3s							
PVIS	**Viseu**	**5.94**	**286**	eSg	Sg	05 29 43.1	-5.1	
PVIS				A	A	05 29 47.1		
	7.4nm,0.4s							
PVIS	**Viseu**	**5.94**	**286**	Lg	Lg	05 29 43.1		
	3.7nm,0.4s							
PVIS	**Viseu**	**5.94**	**286**	eSg	Lg	05 29 43.1		
	7.4nm,0.4s							
PBEJ	**Beja**	**6.01**	**260**	eSg	Sg	05 29 45.3	-4.9	
PBEJ				A	A	05 29 55.9		
	9.2nm,0.6s							
PBEJ	**Beja**	**6.01**	**260**	Lg	Lg	05 29 45.3		
	4.6nm,0.6s							
PBEJ	**Beja**	**6.01**	**260**	eSg	Sg	05 29 45.3	-4.9	
	9.2nm,0.6s							
EVO	**Evora**	**6.01**	**265**	ePg	Pg	05 28 29.6	-2.8	
EVO				eSg	Sg	05 29 47.4	-2.9	
	14nm,0.3s							
EVO	**Evora**	**6.01**	**265**	eSg	Sg	05 29 43.8	-6.5	
EVO				A	A	05 29 54.1		
	9.3nm,0.4s							
EVO	**Evora**	**6.01**	**265**	Lg	Lg	05 29 43.8		
	9.3nm,0.4s							
EVO	**Evora**	**6.01**	**265**	Lg	Lg	05 29 43.8		
	9.3nm,0.4s							
PVAQ	**Vaqueiros**	**6.09**	**254**	ePn	Pn	05 28 05.1	-2.6	
PVAQ				eSg	Sg	05 29 45.4	-7.2	
PVAQ				A	A	05 29 52.6		
	9.9nm,0.8s							
PVAQ	**Vaqueiros**	**6.09**	**254**	Pn	Pn	05 28 05.1	-2.6	
PVAQ				Lg	Lg	05 29 45.4		
	9.9nm,0.8s							
PVAQ	**Vaqueiros**	**6.09**	**254**	Pn	Pn	05 28 05.1	-2.6	
PVAQ				Lg	Lg	05 29 45.4		
	9.9nm,0.8s							
PMTG	**Montargil**	**6.11**	**270**	eSg	Sg	05 29 47.6	-5.8	
PMTG				A	A	05 29 55.2		
	11nm,0.4s							
PMTG	**Montargil**	**6.11**	**270**	eSg	Sg	05 29 47.6	-5.8	
	11nm,0.4s							
RJF	**Les Rejaudoux**	**6.13**	**13**	ePn	Pn	05 28 06.0	-2.3	
RJF	**Les Rejaudoux**	**6.13**	**13**	Pn	Pn	05 28 06.0	-2.3	
PTOM	**Tomar**	**6.23**	**275**	eSg	Sg	05 29 50.3	-7.0	
PTOM				A	A	05 29 57.9		
	17nm,0.5s							
PTOM	**Tomar**	**6.23**	**275**	Lg	Lg	05 29 50.3		
	8.4nm,0.5s							
PTOM	**Tomar**	**6.23**	**275**	eSg	Lg	05 29 50.3		
	17nm,0.5s							
PCVE	**Castro Verde**	**6.25**	**257**	eSn	Sn	05 29 16.6	-5.1	
PCVE				eSg	Sg	05 29 55.3	-2.7	
PCVE				A	A	05 30 16.7		
	9.3nm,0.7s							
PCVE	**Castro Verde**	**6.25**	**257**	Sn	Sn	05 29 16.6	-5.1	
PCVE				Lg	Lg	05 29 55.3		
	9.3nm,0.7s							
PCVE	**Castro Verde**	**6.25**	**257**	Sn	Sn	05 29 16.6	-5.1	
PCVE				Lg	Lg	05 29 55.3		
	9.3nm,0.7s							
PCAB	**Cabril**	**6.30**	**295**	ePg	Pb	05 28 28.1	+0.7	
PCAB				eSg	Sg	05 29 52.3	-7.4	
PCAB				A	A	05 30 04.6		
	8.2nm,0.4s							
PCAB	**Cabril**	**6.30**	**295**	Pg	Pb	05 28 28.1	+0.7	
PCAB				Lg	Lg	05 29 52.3		
	4.1nm,0.4s							
PCAB	**Cabril**	**6.30**	**295**	Pg	Pb	05 28 28.1	+0.7	
PCAB				eSg	Lg	05 29 52.3		
	8.2nm,0.4s							
LMR	**La Mourre**	**6.54**	**50**	ePn	Pn	05 28 12.0	-1.9	
LMR				eSn	Sn	05 29 22.9	-5.9	
	3.3nm,0.4s							
LMR	**La Mourre**	**6.54**	**50**	Pn	Pn	05 28 12.0	-1.9	
LMR				Sn	Sn	05 29 22.9	-5.9	
	0.8nm,0.4s							
TCF	**Toulx Ste Croi**	**7.21**	**14**	ePn	Pn	05 28 20.3	-2.8	
TCF	**Toulx Ste Croi**	**7.21**	**14**	Pn	Pn	05 28 20.3	-2.8	
PGF	**Pioggiola**	**7.79**	**63**	ePn	Pn	05 28 29.5	-1.6	
PGF	**Pioggiola**	**7.79**	**63**	Pn	Pn	05 28 29.5	-1.6	
QUIF	**Quistinic**	**8.82**	**348**	ePn	Pn	05 28 42.8	-2.4	
QUIF	**Quistinic**	**8.82**	**348**	Pn	Pn	05 28 42.8	-2.4	
SGMF	**Saint Gilles**	**9.06**	**351**	ePn	Pn	05 28 46.9	-1.6	
SGMF	**Saint Gilles**	**9.06**	**351**	Pn	Pn	05 28 46.9	-1.6	
LDF	**La Druitiere**	**9.27**	**1**	ePn	Pn	05 28 48.8	-2.5	

*CSEM **05** 05:53:20.1±0.3,36°.94N×28°.27E,h2km,MD2.5,Error ellipse: s-maj=7.7km s-min=4.4km az=23.0*
*DDA **05** 05:53:20.2,36°.97N×28°.27E,h7km,MD2.7*
*ISK **05** 05:53:20.0,36°.97N×28°.24E,h6km,MD2.5*

ISC 05 05:53:19.5±1.3,36°.90N±0°.05×28°.27E±0°.04,h2km±18km, n14,σ0°59/24,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.23**	**3**	ePG	**Pg**	**05 53 23.7**	**-0.2**
YER				eSG	**Sg**	**05 53 27.0**	**0.0**
YER	**Yerkesik**	**0.23**	**3**	ePg	**Pg**	**05 53 23.7**	**-0.2**
YER				eSg	**Sg**	**05 53 27.0**	**0.0**
TURN	**Turunc**	**0.27**	**96**	*i* P	**Pg**	**05 53 24.4**	**-0.3**
TURN				*i* S	**Sg**	**05 53 27.8**	**-0.4**
TURN	**Turunc**	**0.27**	**96**	*i* P	**Pg**	**05 53 24.4**	**-0.3**
TURN				*i* S	**Sg**	**05 53 27.8**	**-0.4**
BDRM	**Kayabasi**	**0.68**	**284**	*i* P	**Pg**	**05 53 32.4**	**-0.1**
BDRM				*i* S	**Sb**	**05 53 43.1**	**-0.8**
BDRM	**Kayabasi**	**0.68**	**284**	*i* P	**Pg**	**05 53 32.4**	**-0.1**
BDRM				*i* S	**Sb**	**05 53 43.1**	**-0.8**
FETY	**Fethiye**	**0.71**	**112**	ePG	**Pb**	**05 53 35.1**	**+0.6**
FETY	**Fethiye**	**0.71**	**112**	ePg	**Pb**	**05 53 35.1**	**+0.6**
BODT	**Bodrum**	**0.78**	**282**	ePG	**Pg**	**05 53 34.8**	**+0.3**
BODT				eSG	**Sb**	**05 53 45.9**	**-1.0**
BODT	**Bodrum**	**0.78**	**282**	ePg	**Pg**	**05 53 34.8**	**+0.3**
BODT				eSg	**Sb**	**05 53 45.9**	**-1.0**
AYDN	**Tasoluk**	**0.82**	**338**	*i* P	**Pg**	**05 53 35.3**	**+0.2**
AYDN				*i* S	**Sg**	**05 53 45.6**	**-0.2**
AYDN	**Tasoluk**	**0.82**	**338**	*i* P	**Pg**	**05 53 35.3**	**+0.2**
AYDN				*i* S	**Sg**	**05 53 45.6**	**-0.2**
ELL	**Elmali**	**1.33**	**96**	ePN	**Pb**	**05 53 46.2**	**+1.1**
ELL	**Elmali**	**1.33**	**96**	ePn	**Pb**	**05 53 46.2**	**+1.1**

*ISCJB **05** 06:08:05.0±0.4,16°.02N±0°.02×60°.79W±0°.04,h72km±2km, mb4.3/44,Error ellipse: s-maj=6.3km s-min=2.5km az=157.3*
*TRN **05** 06:08:04.9,16°.02N×60°.75W,h41km,MD4.3,M4.5(FDF)*
TRN Felt Dominica and III Guadeloupe.
*NEIC **05** 06:08:04.1±0.2,16°.09N×60°.63W,mb4.5/24,MD4.4(TRN), Error ellipse: s-maj=5.0km s-min=3.3km az=55.0*
NEIC Felt at Lamentin, Les Abymes and Saint-Francois, Guadeloupe. Felt at Portsmouth and Roseau, Dominica and at Basse-Pointe, La Trinite and Sainte-Marie, Martinique.
*MOS **05** 06:08:04.5±0.9,15°.95N×60°.89W,h68km,mb4.7/13,Error ellipse: s-maj=15.2km s-min=8.8km az=131.0*
*IDC **05** 06:08:05.5±3.2,16°.05N×60°.74W,h66km±30km,mb3.9/18, mb1 4.1/20,mb1mx4.0/25,mbtmp4.0/20,MS3.7/9, Ms1 3.7/9,ms1mx3.4/33,Error ellipse: s-maj=17.3km s-min=11.4km az=64.0*

ISC 05 06:08:04.4±0.6,16°.07N±0°.03×60°.70W±0°.05,h53km±4km, h52km:pP-P,n368,σ0°81/410,mb4.4/45,MS3.8/11, 125C-116D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEG	**La Desirade**	**0.42**	**305**	⇑*i*P	**Pn**	**06 08 15.3**	**+0.3**
SFG	**Saint Francois**	**0.51**	**291**	⇓*i*P	**Pn**	**06 08 16.7**	**+0.7**
MGG	**Marie-Galante**	**0.61**	**256**	⇑*i*P	**Pn**	**06 08 17.9**	**+0.8**
SEG	**Port Louis**	**0.84**	**293**	⇓*i*P	**Pn**	**06 08 21.2**	**+1.1**
DOG	**Dongo Capester**	**0.88**	**268**	⇑*e*P	**Pn**	**06 08 22.0**	**+1.3**
BCG	**Bois Riant Cap**	**0.88**	**271**	*e*P	**Pn**	**06 08 22.1**	**+1.4**
DLPL	**La Plaine**	**0.90**	**216**	⇑*i*P	**Pn**	**06 08 21.1**	**+0.2**
DLPL				eS	**Sn**	**06 08 33.3**	**+0.3**
PHG	**Guadaloupe-2**	**0.91**	**267**	*e*P	**Pn**	**06 08 22.4**	**+1.3**
TBG	**Guadaloupe-3**	**0.93**	**257**	⇑*i*P	**Pn**	**06 08 22.2**	**+0.9**
SCG	**Saint Claude**	**0.94**	**268**	⇓*i*P	**Pn**	**06 08 22.6**	**+1.1**
MDN	**Morne-Daniel**	**1.00**	**222**	⇓*i*P	**Pn**	**06 08 23.5**	**+1.3**
MDN				eS	**Sn**	**06 08 35.9**	**+0.6**
DSTT	**Stowe**	**1.00**	**216**	⇓*e*P	**Pn**	**06 08 23.1**	**+0.9**
DBCT	**Belle View Cho**	**1.01**	**218**	⇓*i*P	**Pn**	**06 08 23.7**	**+1.3**
DBCT				eS	**Sn**	**06 08 36.9**	**+1.4**
DPMT	**Pointe Michel**	**1.03**	**219**	⇓*e*P	**Pn**	**06 08 24.2**	**+1.5**
DFBT	**Forest Bistro**	**1.04**	**218**	*e*P	**Pn**	**06 08 23.9**	**+1.2**
DFBT				eS	**Sn**	**06 08 37.8**	**+1.6**
LZG	**Guadaloupe-1**	**1.04**	**274**	⇓*i*P	**Pn**	**06 08 23.6**	**+0.9**
DSHT	**Scott's Head**	**1.07**	**218**	*e*P	**Pn**	**06 08 24.4**	**+1.3**
FDF	**Fort de France**	**1.40**	**198**	*e*P	**Pn**	**06 08 27.7**	**+0.1**
FDF				*e*		06 08 45.0	
FDF	**Fort de France**	**1.40**	**198**	*e*Pn	**Pn**	**06 08 27.7**	**+0.1**
FDF				eSn	**Sn**	**06 08 45.0**	**+0.1**
FDF	**Fort de France**	**1.40**	**198**	⇓*e*P	**Pn**	**06 08 27.6**	**+0.1**
BPA	**Boggy Peak**	**1.48**	**311**	*e*P	**Pn**	**06 08 30.1**	**+1.4**
BPA				eS	**Sn**	**06 08 50.0**	**+3.2**
MVM	**Montagne Vaucl**	**1.52**	**187**	⇑*e*P	**Pn**	**06 08 29.8**	**+0.6**
BIM	**Bigot**	**1.58**	**193**	*e*P	**Pn**	**06 08 30.5**	**+0.4**
BIM				eS	**Sn**	**06 08 49.4**	**0.0**
ANWB	**Willy Bob**	**1.90**	**327**	*e*Pn	**Pn**	**06 08 34.1**	**-0.3**
ANWB				eSn	**Sn**	**06 08 58.4**	**+1.2**
SLB	**Belfond**	**2.25**	**188**	*e*P	**Pn**	**06 08 40.7**	**+1.5**
SKI	**Saint Kitts**	**2.33**	**303**	⇑*e*P	**Pn**	**06 08 41.9**	**+1.7**
SKI				eS	**Sn**	**06 09 08.9**	**+1.2**
MCLT	**Moule a Chique**	**2.35**	**186**	*e*P	**Pn**	**06 08 40.9**	**+0.3**
MCLT				eS	**Sn**	**06 09 08.9**	**+0.5**
SVV	**Soufriere Volc**	**2.78**	**190**	*e*P	**Pn**	**06 08 48.9**	**+2.5**
SVV				eS	**Sn**	**06 09 19.9**	**+1.1**
BHS	**Barnard House**	**2.79**	**189**	*e*P	**Pn**	**06 08 48.7**	**+2.1**
BHS				eS	**Sn**	**06 09 20.1**	**+1.1**
SVB	**Belmont**	**2.83**	**191**	⇑*e*P	**Pn**	**06 08 48.5**	**+1.3**
SVB				eS	**Sn**	**06 09 20.3**	**+0.2**
FCV	**Fort Charlotte**	**2.94**	**190**	*e*P	**Pn**	**06 08 51.0**	**+2.3**
FCV				eS	**Sn**	**06 09 22.6**	**-0.1**
BBGH	**Gun Hill**	**3.11**	**159**	*e*Pn	**Pn**	**06 08 51.7**	**+0.8**
BBGH				eSn	**Sn**	**06 09 28.9**	**+2.0**
GRSS	**Sisters**	**3.85**	**193**	⇑*i*P	**Pn**	**06 09 03.8**	**+2.6**
GRSS				eS	**Sn**	**06 09 45.1**	**0.0**
GRIC	**Isle de Caille**	**3.85**	**193**	*e*P	**Pn**	**06 09 03.9**	**+2.7**
GRHS	**Sauteurs**	**3.93**	**194**	*e*P	**Pn**	**06 09 04.0**	**+1.8**
GRHS				eS	**Sn**	**06 09 46.4**	**-0.6**
GRW	**Mount Saint Ca**	**3.99**	**194**	*e*P	**Pn**	**06 09 04.3**	**+1.2**
GRW				eS	**Sn**	**06 09 48.5**	**-0.3**
GRGR	**Grenville**	**4.02**	**193**	*e*Pn	**Pn**	**06 09 04.7**	**+1.2**
CDVI	**St. Croix**	**4.24**	**294**	*e*Pn	**Pn**	**06 09 07.0**	**+0.6**
STVI	**Saint Thomas**	**4.66**	**300**	*e*Pn	**Pn**	**06 09 13.0**	**+0.8**
STVI				eSn	**Sn**	**06 10 03.4**	**-1.6**
TOSP	**Speyside**	**4.74**	**178**	*e*P	**Pn**	**06 09 16.2**	**+2.9**
TOSP				eS	**Sn**	**06 10 07.4**	**+0.3**
TPR	**Prospect**	**4.85**	**181**	*e*P	**Pn**	**06 09 16.6**	**+1.7**
MTP	**Monte Pirata**	**5.06**	**294**	*e*Pn	**Pn**	**06 09 18.3**	**+0.5**
MTP				eSn	Sn	06 10 21.8	+6.8
HUMP	**Col San Antoni**	**5.34**	**293**	*e*Pn	**Pn**	**06 09 22.1**	**+0.6**
CPD	**Cerro la Pandu**	**5.36**	**292**	*e*P	**Pn**	**06 09 22.4**	**+0.5**
CPD	**Cerro la Pandu**	**5.36**	**292**	*e*Pn	**Pn**	**06 09 22.4**	**+0.5**
CBYP	**Canovanas**	**5.39**	**295**	*e*Pn	**Pn**	**06 09 23.7**	**+1.3**
CBYP				eSn	**Sn**	**06 10 24.4**	**+1.2**
TRN	**Trinidad (W)**	**5.43**	**187**	*e*P	**Pn**	**06 09 24.7**	**+1.9**
TRN				eS	**Sn**	**06 10 22.9**	**-1.1**
TBH	**Brigand Hill**	**5.56**	**184**	*e*P	**Pn**	**06 09 27.5**	**+2.9**
SJG	**San Juan**	**5.59**	**292**	*e*Pn	**Pn**	**06 09 25.8**	**+0.8**
SJG				eSn	**Sn**	**06 10 27.8**	**-0.2**
SJG				S		06 10 28.1	
SJG	**San Juan**	**5.59**	**292**	P	**Pn**	**06 09 26.1**	**+1.1**
	19nm,0.3s,baz=90,slow=11,SNR=35						
SJG				S	**Sn**	**06 10 28.0**	**0.0**
	6.2nm,0.3s,baz=90,slow=19,SNR=2.4						
OBIP	**Obispado Ponce**	**5.98**	**290**	*e*Pn	**Pn**	**06 09 30.8**	**+0.5**
	120nm,0.6s						
OBIP				eSn	**Sn**	**06 10 40.8**	**+3.2**
AOPR	**Arecibo Observ**	**6.21**	**292**	*e*Pn	**Pn**	**06 09 34.6**	**+1.0**
LRS	**Lares**	**6.28**	**292**	*e*Pn	**Pn**	**06 09 35.3**	**+0.9**
LRS				eSn	**Sn**	**06 10 42.2**	**-2.7**
CRPR	**Cabo Rojo, PR**	**6.43**	**288**	*e*Pn	**Pn**	**06 09 36.7**	**+0.2**
LSP	**Las Mesas**	**6.46**	**290**	*e*Pn	**Pn**	**06 09 37.2**	**+0.3**
LSP				eSn	**Sn**	**06 10 49.7**	**+0.4**
MPR	**Mayaguez**	**6.52**	**290**	*e*Pn	**Pn**	**06 09 38.7**	**+1.0**
AGP	**Aguadilla**	**6.58**	**292**	*e*Pn	**Pn**	**06 09 40.1**	**+1.5**
SDDR	**Presa de Saban**	**10.51**	**288**	*e*Pn	**Pn**	**06 10 33.5**	**+1.1**
SDV	**Santo Domingo**	**12.04**	**235**	*e*Pn	**Pn**	**06 10 54.9**	**+1.4**
SDV				eSn	**Sn**	**06 13 05.0**	**-1.4**
ROSC	**El Rosal**	**17.41**	**232**	P	**P**	**06 12 05.7**	**+0.9**
ROSC	**El Rosal**	**17.41**	**232**	P	**P**	**06 12 05.7**	**+0.9**
	3.2nm,0.3s,baz=96,slow=9.0,SNR=35						
ROSC				LR	LR	06 19 30.1	
	comp=Z,78nm,21.5s,baz=202,slow=39						
OTAV	**Otavalo**	**23.54**	**230**	*e*P	**P**	**06 13 08.9**	**-1.8**
	15nm,0.9s						
OTAV				*e*PcP	**PcP**	**06 16 54.9**	**-0.2**
SAML	**Samuel**	**24.98**	**186**	*e*P	**P**	**06 13 23.0**	**-0.3**
	44nm,1.1s						
KMSC	**Kings Mountain**	**26.49**	**320**	⇑P	**P**	**06 13 36.8**	**0.0**
	baz=27						
TEIG	**Tepich**	**26.51**	**283**	*e*P	**P**	**06 13 37.2**	**0.0**
	24nm,1.1s						
TEIG	**Tepich**	**26.51**	**283**	P	**P**	**06 13 38.1**	**+0.9**
	9.2nm,0.9s,baz=50,slow=17,SNR=3.1						
TKL	**Tuckaleechee C**	**28.36**	**318**	LR	LR	06 23 21.9	
	comp=Z,124nm,21.7s,baz=282,slow=32						
ATAH	**Atahualpa**	**28.95**	**219**	P	**P**	**06 13 58.4**	**-1.1**
ATAH	**Atahualpa**	**28.95**	**219**	P	**P**	**06 13 58.4**	**-1.1**
	5.8nm,0.6s,baz=24,slow=10.0,SNR=4.6						
ATAH				LR	LR	06 27 23.5	
	comp=Z,63nm,20.4s,baz=18,slow=40						
PLAL	**Pickwick Lake**	**30.90**	**313**	*e*P	**P**	**06 14 16.1**	**0.0**
	12nm,0.7s						
OXF	**Oxford**	**31.63**	**311**	*e*P	**P**	**06 14 22.1**	**-0.4**
OXF				pmax	pmax		
	comp=Z,37nm,1.3s						
OXF	**Oxford**	**31.63**	**311**	*e*P	**P**	**06 14 22.1**	**-0.4**
	comp=Z,

baz=42
426A McDonald Obser 42.08 298 ⇑P P 06 15 50.8 -0.8
baz=42,SNR=5.9
T28A Walsh 42.13 308 ⇑P P 06 15 51.4 -0.4
baz=42
X27A F and S Farms, 42.18 304 ⇓P P 06 15 52.1 -0.2
baz=42
126A Clayton Basin, 42.46 301 ⇓P P 06 15 53.8 -0.7
baz=42
T27A Campo 42.58 308 ⇓P P 06 15 55.2 -0.3
baz=43
W26A Owens Ranch, T 42.83 305 ⇑P P 06 15 57.5 0.0
baz=43
425A Indio Mountain 42.91 298 ⇓P P 06 15 57.8 -0.5
baz=43,SNR=8.5
125A Gardner Draw, 42.99 301 ⇑P P 06 15 58.2 -0.6
baz=43
325A Bean Ranch, Si 43.00 299 ⇑P P 06 15 58.8 -0.3
baz=43,SNR=8.0
225A Deer Hill, Car 43.01 300 ⇑P P 06 15 58.9 -0.2
baz=43
R27A Eads 43.02 309 ⇑P P 06 15 58.8 -0.2
baz=43
KSCO Kaye Shedlock' 43.14 310 ⇓P P 06 15 59.2 -0.7
baz=43
AGMN Agassiz Nation 43.15 326 eP P 06 15 59.2 -0.5
comp=Z,5.5nm,0.8s
U26A Atchley Ranch, 43.16 306 ⇑P P 06 15 59.6 -0.7
baz=43
Y25A Mesa, Roswell 43.29 303 ⇓P P 06 16 01.2 0.0
baz=43
MNTX Cornudas Mount 43.41 299 eP P 06 16 01.5 -0.6
comp=Z,3.7nm,0.6s
MNTX Cornudas Mount 43.41 299 ⇓P P 06 16 01.8 -0.3
baz=43,SNR=9.4
OGNE Ogallala 43.41 313 ⇓P P 06 16 02.1 0.0
baz=44
324A Moseley Ranch, 43.45 299 ⇑P P 06 16 02.2 -0.4
baz=44
O27A Beecher Island 43.45 312 ⇓P P 06 16 02.0 -0.4
baz=44
R26A Arlington 43.51 309 ⇑P P 06 16 03.0 0.0
baz=44
224A Cornudas Mount 43.59 300 ⇓P P 06 16 03.3 -0.5
baz=44,SNR=7.2
U25A Circle Dot Ran 43.68 306 ⇓P P 06 16 04.2 -0.3
baz=44
V25A Rancho No Teng 43.69 305 ⇑P P 06 16 04.3 -0.3
baz=44,SNR=6.6
Z24A Sheeppen Canyo 43.71 302 ⇓P P 06 16 04.7 0.0
baz=44
N27A Anderson Farm, 43.71 313 ⇓P P 06 16 04.4 -0.2
baz=44
Q26A Hugo 43.76 310 ⇓P P 06 16 05.2 +0.2
baz=44
P26A Davis Ranch, A 43.85 311 ⇑P P 06 16 05.4 -0.3
baz=44
M27A Reverse DX Ran 43.88 314 ⇑P P 06 16 06.0 +0.1
baz=44
T25A Trinidad 43.89 307 ⇓P P 06 16 05.6 -0.6
baz=44
Y24A Capitan 43.89 302 ⇓P P 06 16 06.1 -0.1
baz=44
S25A Robets Cordova 44.06 308 ⇓P P 06 16 07.1 -0.4
baz=44
R25A Fountain Ranch 44.09 309 ⇓P P 06 16 07.3 -0.3
baz=44
W24A Lazy 6 Ranch, 44.16 304 ⇓P P 06 16 08.5 +0.1
baz=44
V24A Rampart Ranch, 44.18 305 ⇑P P 06 16 08.5 0.0
baz=44
Q25A Bedland, Calha 44.30 310 ⇑P P 06 16 09.4 0.0
baz=44
ULM Lac du Bonnet 44.33 328 P P 06 16 08.0 -1.2
ULM Lac du Bonnet 44.33 328 P P 06 16 08.0 -1.2
comp=Z,4.0nm,0.7s,baz=139,slow=8.9,SNR=13
ULM LR LR 06 33 11.2
comp=Z,89nm,18.2s,baz=345,slow=34
T24A Torres, Weston 44.36 307 ⇑P P 06 16 09.6 -0.4
baz=44
S24A Houchin Ranch, 44.64 308 ⇑P P 06 16 12.1 -0.2
baz=45
R24A Sanders Place, 44.73 308 ⇓P P 06 16 13.1 +0.2
baz=45
W23A Werner Place, 44.74 304 ⇓P P 06 16 13.5 +0.5
baz=45
SDCO Great Sand Dun 44.89 308 ⇓P P 06 16 14.1 -0.2
baz=45
BNM Barren Site 44.91 302 eP P 06 16 14.2 -0.1
comp=Z,7.7nm,1.2s
222A Williams Famil 44.91 299 ⇓P P 06 16 14.3 0.0
baz=45
ANMO Albuquerque 44.94 304 P P 06 16 14.3 -0.2
ANMO Albuquerque 44.94 304 P P 06 16 14.3 -0.2
comp=Z,1.0nm,0.7s,baz=111,slow=8.4,SNR=5.2
LPM Los Pinos Moun 44.94 303 eP P 06 16 10.4 -4.1
U23A El Rito 45.05 306 ⇓P P 06 16 15.5 0.0
baz=45
L25A Engebretsen Ra 45.21 314 ⇓P P 06 16 16.8 +0.3
baz=45
N24A Carr 45.39 312 ⇓P P 06 16 18.2 +0.2
baz=45
V22A San Miguel Ran 45.52 305 ⇑P P 06 16 19.5 +0.3
baz=46
121A Cookes Peak, D 45.56 300 ⇑P P 06 16 19.7 +0.2
baz=46
M24A Cheyenne 45.56 313 ⇑P P 06 16 19.7 +0.3
baz=46
ISCO Idaho Springs 45.58 310 ⇑P P 06 16 19.7 0.0
baz=46
Z21A St. Cloud Mine 45.60 301 ⇑P P 06 16 20.0 +0.2
baz=46
Y21A Point of Rocks 45.73 302 ⇓P P 06 16 21.3 +0.4
baz=46,SNR=5.2
S22A 4UR Ranch, Cre 45.91 307 ⇑P P 06 16 22.3 +0.1
baz=46
220A Playas Peak, P 46.08 299 ⇓P P 06 16 23.8 +0.2
baz=46
U21A Nageezi 46.22 305 ⇓P P 06 16 25.1 +0.3
baz=46
120A U Bar Ranch, L 46.27 300 ⇑P P 06 16 25.2 +0.2
baz=46
Q22A Crested Butte, 46.27 309 ⇑P P 06 16 24.9 -0.2
baz=46
Y20A Horse Springs, 46.28 302 ⇑P P 06 16 25.5 +0.3
baz=46
P22A Eagle 46.36 310 ⇑P P 06 16 25.9 +0.2
baz=46
O22A Kremmling 46.38 311 ⇑P P 06 16 26.0 +0.1
baz=46
L23A Garrett 46.40 313 ⇓P P 06 16 26.3 +0.2
baz=46
N22A Wattenberg Ran 46.51 311 ⇑P P 06 16 27.3 +0.4
baz=46
H24A Dirks Ranch, A 46.61 317 ⇓P P 06 16 27.5 +0.1
baz=47
R21A Cimarron 46.62 308 ⇑P P 06 16 28.0 +0.2
baz=47
G24A Alzada 46.75 318 ⇓P P 06 16 28.8 +0.2
baz=47
P21A Newcastle 46.85 309 ⇑P P 06 16 30.0 +0.4
baz=47
Y19A Nutrioso 47.01 302 ⇓P P 06 16 31.6 +0.6
baz=47,SNR=6.8
S20A Disappointment 47.10 307 ⇓P P 06 16 31.8 +0.2
baz=47
K22A Casper 47.16 314 ⇑P P 06 16 32.1 +0.2
baz=47
E24A Baker 47.20 320 ⇑P P 06 16 32.3 +0.3
baz=47
G23A Biddle 47.33 317 ⇑P P 06 16 33.3 +0.2
baz=47
T19A Beclabito 47.38 305 ⇓P P 06 16 33.7 0.0
baz=47
U19A Dine' College, 47.41 305 ⇑P P 06 16 33.8 -0.2
baz=47
L21A Rawlins 47.53 313 ⇑P P 06 16 35.0 +0.2
baz=48
F23A Volborg 47.55 318 ⇑P P 06 16 34.7 0.0
baz=48
K21A Alcova 47.66 314 ⇓P P 06 16 36.2 +0.4
baz=48,SNR=9.4
X18A Snowflake 47.68 302 ⇓P P 06 16 36.4 +0.3
baz=48
S19A Harvey Farm, M 47.68 307 ⇑P P 06 16 36.0 0.0
baz=48
H22A Clearmont 47.73 316 ⇓P P 06 16 36.9 +0.7
baz=48
G22A Birney 47.93 317 ⇑P P 06 16 38.0 +0.3
baz=48,SNR=6.1
CFAA Coronel Fontan 47.95 189 P P 06 16 36.1 -1.7
CFAA Coronel Fontan 47.95 189 P P 06 16 36.1 -1.7
comp=Z,0.6nm,0.7s,baz=357,slow=8.1,SNR=13
M20A Sweetwater, Wa 47.96 312 ⇓P P 06 16 38.4 +0.2
baz=48
D23A Lindsay 48.02 320 ⇑P P 06 16 38.9 +0.5
baz=48
J21A Lysite 48.03 314 ⇓P P 06 16 38.6 -0.1
baz=48
TUC Tucson 48.03 299 eP P 06 16 38.9 +0.2
TUC pmax pmax
comp=Z,3.0nm,0.9s
TUC Tucson 48.03 299 eP P 06 16 38.9 +0.2
comp=Z,2.6nm,0.9s
T18A Mexican Hat 48.12 306 ⇑P P 06 16 39.1 -0.2
baz=48,SNR=5.6
F22A Rosebud 48.12 318 ⇑P P 06 16 39.1 0.0
baz=48
E22A Miles City 48.18 319 ⇑P P 06 16 39.6 0.0
baz=48
H21A Big Horn, Sher 48.20 316 ⇑P P 06 16 39.4 -0.5
baz=48,SNR=6.4
C23A Lambert 48.27 321 ⇑P P 06 16 40.6 +0.3
baz=48
O19A Miners Draw (B 48.30 310 ⇑P P 06 16 41.0 +0.2
baz=48
R18A Canyonlands Na 48.41 307 ⇓P P 06 16 41.6 0.0
baz=48
K20A Yellowstone Ra 48.43 313 ⇑P P 06 16 41.7 0.0
baz=48,SNR=5.4
J20A Shoshoni 48.47 314 ⇑P P 06 16 42.3 +0.3
baz=48,SNR=6.3
N19A John Jarvie Ra 48.51 311 ⇓P P 06 16 41.9 -0.4
baz=48
G21A Long Grass 48.53 317 ⇑P P 06 16 42.4 0.0
baz=49
V17A Tonalea, Kykot 48.55 304 ⇑P P 06 16 43.1 +0.3
baz=49,SNR=7.1
D22A Cohagen 48.61 320 ⇓P P 06 16 43.8 +0.9
baz=49,SNR=10
C22A Vida 48.68 320 ⇑P P 06 16 44.2 +0.8
baz=49,SNR=5.7
I20A Worland 48.70 315 ⇓P P 06 16 43.3 -0.4
baz=49
Q18A Rafter H Ranch 48.76 308 ⇓P P 06 16 43.9 -0.3
baz=49
H20A Greybull 48.80 316 ⇓P P 06 16 44.1 -0.4
baz=49
T17A Navajo Res., N 48.81 305 ⇓P P 06 16 44.9 +0.1
baz=49
K19A Absolon Red Bu 48.84 313 ⇓P P 06 16 44.6 -0.3
baz=49,SNR=6.9
X16A Lo Mia Camp, P 48.87 302 ⇑P P 06 16 45.4 +0.2
baz=49
U16A Tuba City 48.91 304 ⇓P P 06 16 45.6 +0.1
baz=49
P18A Preston Nutter 48.97 309 ⇓P P 06 16 46.1 0.0
baz=49
L19A Farson 48.98 312 ⇓P P 06 16 45.8 -0.2
baz=49
B22A Reddig Ranch S 48.98 321 ⇑P P 06 16 46.4 +0.7
baz=49
WUAZ Wupatki 48.99 303 eP P 06 16 46.5 +0.2
comp=Z,5.1nm,0.8s
WUAZ Wupatki 48.99 303 ⇑P P 06 16 46.4 +0.2
baz=49,SNR=5.5
R17A Hanksville Air 49.04 307 ⇑P P 06 16 46.6 +0.2
baz=49
SRU San Rafael 49.05 308 ⇑P P 06 16 46.2 -0.4
baz=49
D21A La Casta Ranch 49.09 319 ⇓P P 06 16 47.2 +0.6
baz=49,SNR=5.7
J19A Crowheart 49.12 314 ⇑P P 06 16 47.0 0.0
baz=49,SNR=16
G20A Bridger 49.19 316 ⇓P P 06 16 47.2 -0.3
baz=49
M18A Lyman 49.30 311 ⇑P P 06 16 48.1 -0.3
baz=49
P17A Butcher Ranch, 49.30 309 ⇑P P 06 16 48.6 +0.2
baz=49
BW06 Boulder Array 49.32 313 ⇓P P 06 16 48.5 -0.1
baz=49,SNR=9.8
PDAR Pinedale Array 49.32 313 P P 06 16 48.4 -0.2
PDAR Pinedale Array 49.32 313 P P 06 16 48.4 -0.2
comp=Z,4.9nm,0.8s,baz=114,slow=9.0,SNR=32
I19A Meeteetse 49.32 315 ⇑P P 06 16 48.5 0.0
baz=49
PD02 Pinedale Array 49.33 313 eP P 06 16 48.4 -0.2
PD02 epP pP 06 17 02.2 -0.6
PD01 Pinedale Array 49.34 313 eP P 06 16 48.4 -0.4
PD01 epP pP 06 17 03.9 +1.0
L18A Fontenelle, Gr 49.41 312 ⇑P P 06 16 49.5 +0.2
baz=49
C21A Desert Coulee 49.46 320 ⇑P P 06 16 49.9 +0.5
baz=50
O17A Robinson Place 49.47 309 ⇓P P 06 16 50.4 +0.6
baz=50,SNR=7.4
H19A Powell 49.52 316 ⇑P P 06 16 50.1 +0.1
baz=50
S16A Weppner Ranch, 49.58 306 ⇑P P 06 16 50.6 0.0
baz=50
E20A Meyer Farm, Mu 49.60 318 ⇑P P 06 16 51.3 +0.8
baz=50
R16A Teasdale 49.60 307 ⇑P P 06 16 51.3 +0.4
baz=50
K18A Toltan Ranch, 49.62 313 ⇑P P 06 16 51.1 +0.2
baz=50
N17A Moffit Pass 49.73 310 ⇑P P 06 16 51.6 -0.2
baz=50
J18A Kendall Valley 49.77 313 ⇑P P 06 16 52.3 +0.3
baz=50
I18A Diamond G Ranc 49.78 314 ⇓P P 06 16 52.4 +0.3
baz=50,SNR=5.2
D20A Manuel Ranch, 49.82 319 ⇓P P 06 16 52.9 +0.7
baz=50,SNR=6.9
A21A Bergtoll Ranch 49.83 322 ⇓P P 06 16 52.8 +0.7
baz=50,SNR=5.3
U15A North Rim 49.88 304 ⇓P P 06 16 53.5 +0.4
baz=50
F19A Roth Farm, Mol 49.89 317 ⇓P P 06 16 52.8 0.0
baz=50
FFC Flin Flon 49.97 330 i P P 06 16 54.4 +1.3
C20A Veseth Ranch, 49.98 320 ⇑P P 06 16 53.8 +0.5
baz=50
H18A Shoshone NF, C 49.98 315 ⇑P P 06 16 53.4 -0.2
baz=50
E19A Rath Farm, Rou 50.01 318 ⇑P P 06 16 53.9 +0.3
baz=50
Y14A Wickenburg 50.09 301 ⇓P P 06 16 54.4 0.0
baz=50
N16A Rees Ranch, Co 50.16 310 ⇓P P 06 16 55.5 +0.5
baz=50
B20A Solberg Farm, 50.27 320 ⇑P P 06 16 56.1 +0.6
baz=50
K17A Gardner Place, 50.27 313 ⇑P P 06 16 55.9 +0.1
baz=50
LOHW Long Hollow 50.30 314 eP P 06 16 55.9 -0.1
comp=Z,1.7nm,0.7s
J17A Brown Place, J 50.30 313 ⇓P P 06 16 56.1 +0.1
baz=50
I17A Pilgrim Ck. 50.37 314 ⇓P P 06 16 57.0 +0.4
baz=50
A20A Cobblestone Ra 50.39 321 ⇓P P 06 16 56.9 +0.5
baz=50
REDW Red Top Meadow 50.40 313 eP P 06 16 56.5 -0.2
comp=Z,2.3nm,0.6s
REDW epP pP 06 17 11.3 +0.3
F18A Big Timber 50.42 317 ⇑P P 06 16 56.9 +0.1
baz=50,SNR=5.6
L16A Fish Haven 50.44 312 ⇓P P 06 16 56.9 -0.2
baz=50
TPAW Teton Pass 50.50 314 eP P 06 16 56.8 -0.9
comp=Z,2.2nm,0.6s
C19A Slack Wire Ran 50.64 319 ⇓P P 06 16 58.5 +0.2
baz=51
K16A Soda Springs 50.77 313 ⇑P P 06 16 59.2 -0.3
baz=51
E18A Harlowton 50.77 318 ⇓P P 06 16 59.5 +0.1
baz=51
J16A Bone 50.90 313 ⇓P P 06 17 00.7 +0.2
baz=51
D18A Linhart Farms, 50.92 318 ⇓P P 06 17 01.1 +0.7
baz=51,SNR=5.2
I16A Newdale 50.98 314 ⇓P P 06 17 01.2 +0.1
baz=51
DUG Dugway 51.02 309 ⇑P P 06 17 01.8 +0.4
baz=51
ARUT Antelope Range 51.02 306 eP P 06 17 01.4 -0.1
ARUT e*PP pP 06 17 15.1 -0.6
ARUT pmax pmax
comp=Z,3.0nm,0.6s
ARUT Antelope Range 51.02 306 eP P 06 17 01.4 -0.1
comp=Z,2.6nm,0.6s
ARUT epP pP 06 17 15.1 -0.6
M15A Larsen Ranch, 51.04 311 ⇑P P 06 17 01.2 -0.3
baz=51
F17A Fitzpatrick Pl 51.04 317 ⇑P P 06 17 02.0 +0.6
baz=51
H16A Russell Place, 51.06 315 ⇑P P 06 17 02.6 +0.8
baz=51
L15A Malad City 51.12 311 ⇓P P 06 17 02.3 +0.1
baz=51,SNR=6.1
EGMT Eagleton 51.18 319 ⇓P P 06 17 03.0 +0.6
baz=51
QLMT Earthquake Lak 51.22 315 eP P 06 17 04.4 +1.4
comp=Z,1.1nm,0.9s
B18A Beardsley Farm 51.33 320 ⇑P P 06 17 04.3 +0.7
baz=51
E17A Martinsdale 51.35 317 ⇓P P 06 17 04.6 +0.8
baz=51
D17A Six Diamond Ra 51.47 318 ⇓P P 06 17 05.3 +0.6
baz=52
J15A Blackfoot 51.52 313 ⇑P P 06 17 05.6 +0.5
baz=52
A18A Metzger Ranch, 51.57 320 ⇓P P 06 17 05.6 +0.4
baz=52
BOZ Bozeman (W) 51.60 316 ⇓P P 06 17 06.0 +0.3
baz=52
F16A Kennard Place, 51.64 316 ⇑P P 06 17 06.2 +0.2
baz=52
C17A Wharram Farm, 51.68 319 ⇓P P 06 17 06.8 +0.7
baz=52
K14A Jones Ranch, D 51.83 312 ⇑P P 06 17 07.5 +0.1
baz=52,SNR=6.8
IRM Iron Mountain 51.88 301 ⇑P P 06 17 08.2 +0.4
baz=52
E16A East Helena 51.91 317 ⇑P P 06 17 08.0 +0.1
baz=52
B17A L&G Farms, Che 51.93 319 ⇑P P 06 17 08.5 +0.5
baz=52
D16A Dana Ranch, Ca 51.99 318 ⇑P P 06 17 09.0 +0.5
baz=52
G15A Dillon 52.04 315 ⇓P P 06 17 09.5 +0.5
baz=52
A17A Triple J Farms 52.10 320 ⇓P P 06 17 09.4 +0.1
baz=52
F15A Butte 52.24 316 ⇑P P 06 17 10.7 +0.2
baz=52
C16A Fuhringer Ranc 52.36 319 ⇓P P 06 17 11.3 0.0
baz=52
I14A Mackay 52.37 313 ⇓P P 06 17 11.5 0.0
baz=52
H14A Leadore 52.49 314 ⇓P P 06 17 12.7 +0.3
baz=52
BELC Belle Mtn. Jos 52.57 301 ⇓P P 06 17 13.1 0.0
baz=53
D15A Lincoln 52.62 317 ⇑P P 06 17 13.6 +0.4
baz=53
A16A West Butte Ran 52.66 320 ⇑P P 06 17 13.7 +0.3
baz=53
J13A Cove Ranch, Pi 52.74 313 ⇓P P 06 17 14.7 +0.5
baz=53
R11A Troy Canyon, C 52.79 306 ⇑P P 06 17 14.8 +0.2
baz=53
F14A Wisdom 52.82 316 ⇑P P 06 17 15.2 +0.5
baz=53
MONP Monument Peak 52.82 299 ⇓P P 06 17 15.2 +0.2
baz=53
I13A Wildorse Cree 52.83 313 ⇓P P 06 17 15.2 +0.2
baz=53
C15A Salmond Ranch, 52.91 318 ⇓P P 06 17 15.6 +0.3
baz=53,SNR=12
HLID Hailey 52.95 313 ⇓P P 06 17 16.1 +0.3
baz=53
B15A Bradely Ranch, 53.05 319 ⇓P P 06 17 16.3 0.0
baz=53
H13A Challis 53.09 314 ⇑P P 06 17 16.7 0.0
baz=53
SLMT Seeley Lake 53.31 317 eP P 06 17 18.1 -0.3
comp=Z,5.2nm,1.2s
SLMT epP pP 06 17 32.4 -0.3
A15A Johnson Ranch, 53.37 320 ⇓P P 06 17 18.6 -0.1
baz=53,SNR=6.1
H12A Diamond D Ranc 53.50 314 ⇓P P 06 17 19.7 -0.1
baz=54
E13A Victor 53.54 316 ⇑P P 06 17 20.0 +0.1
baz=54,SNR=7.0
C14A Swan Lake 53.63 318 ⇓P P 06 17 20.8 +0.2
baz=54
A14A Double T Ranch 53.80 319 ⇑P P 06 17 21.8 0.0
baz=54
YBMT Yellow Bay 53.83 318 eP P 06 17 21.9 -0.2
comp=Z,3.8nm,0.7s
YBMT epP pP 06 17 35.4 -1.0
D13A Huson 53.90 317 ⇑P P 06 17 22.5 0.0
baz=54
F12A Elk City 54.07 315 ⇑P P 06 17 23.8 -0.1
baz=54
C13A Hot Springs 54.14 318 ⇓P P 06 17 24.3 0.0
baz=54
B13A Whitefish 54.28 319 ⇑P P 06 17 25.1 -0.1
baz=54
D12A Red Ives Fores 54.48 317 ⇑P P 06 17 26.7 -0.1
baz=54
NVAR Mina Array Bea 54.91 306 P P 06 17 30.3 +0.1
NVAR Mina Array Bea 54.91 306 P P 06 17 30.3 +0.1
comp=Z,1.5nm,0.7s,baz=97,slow=7.4,SNR=5.3
A12A Yaak River Ran 55.19 319 ⇓P P 06 17 32.5 +0.6
baz=55
C11A Tepee Creek (N 55.28 317 ⇓P P 06 17 32.6 +0.1
baz=55
DBIC Dimbokro 55.39 93 P P 06 17 33.7 -0.1
DBIC Dimbokro 55.39 93 P P 06 17 33.7 -0.1
comp=Z,4.6nm,0.7s,baz=290,slow=9.6,SNR=7.4
NEW Newport 55.95 318 eP P 06 17 36.7 -0.6
comp=Z,4.8nm,0.6s
NEW epP pP 06 17 51.0 -0.7
NEW Newport 55.95 318 ⇓P P 06 17 37.0 -0.3
baz=56,SNR=6.3
OD2 Odessa Site #2 56.78 316 eP P 06 17 43.0 -0.2
comp=Z,26nm,1.6s
OD2 epP pP 06 17 57.3 -0.3
PLCA Paso Flores 57.24 189 P P 06 17 45.7 -0.7
PLCA Paso Flores 57.24 189 P P 06 17 45.7 -0.7
comp=Z,9.6nm,1.1s,baz=5.8,slow=8.2,SNR=6.9
PLCA LR LR 06 44 00.0
comp=Z,64nm,20.9s,baz=58,slow=38
YKA Yellowknife Ar 59.56 334 P P 06 18 01.6 -0.7
YKA Yellowknife Ar 59.56 334 P P 06 18 01.6 -0.7
comp=Z,4.1nm,0.6s,baz=107,slow=7.4,SNR=81
TORD Torodi Ar. Bea 60.26 84 P P 06 18 07.2 -0.6
TORD Torodi Ar. Bea 60.26 84 P P 06 18 07.2 -0.6
comp=Z,1.4nm,0.9s,baz=294,slow=6.8,SNR=5.5
TORD LR LR 06 39 54.2
comp=Z,154nm,20.6s,baz=310,slow=32
KEST Kesra 64.73 58 P P 06 18 37.5 -0.1
KEST Kesra 64.73 58 P P 06 18 37.5 -0.1
comp=Z,1.2nm,0.8s,baz=284,slow=8.3,SNR=4.0
NB2 NORSAR Subarra 67.32 30 P P 06 18 58.5 +4.8
comp=Z,1.2nm,0.8s,baz=262,slow=6.5
NOA NORSAR Array B 67.32 30 P P 06 18 58.8 +5.1
NOA NORSAR Array B 67.32 30 P P 06 18 58.8 +5.1
comp=Z,0.6nm,0.7s,baz=242,slow=6.7,SNR=2.8
NOA LR LR 06 45 17.8
comp=Z,54nm,19.6s,baz=180,slow=33
EFI East Falkland 67.49 178 eP P 06 18 54.6 0.0
INK Inuvik 68.84 338 eP P 06 19 02.3 -0.7
comp=Z,11nm,1.0s
INK epP pP 06 19 15.7 -2.1
DAWY Dawson 70.74 333 eP P 06 19 15.1 +0.3
DAWY eSP 06 19 29.2
ILAR Eielson Array 73.98 334 P P 06 19 33.8 -0.3
ILAR PcP pP 06 19 47.8 -1.2
ILAR Eielson Array 73.98 334 P P 06 19 33.8 -0.3
comp=Z,0.8nm,0.7s,baz=78,slow=5.6,SNR=13
ILAR PcP pP 06 19 47.8 -1.2
comp=Z,3.4nm,0.8s,baz=81,slow=4.8,SNR=16
FINES FINESS Array B 74.50 30 P P 06 19 40.4 +3.3
FINES FINESS Array B 74.50 30 P P 06 19 40.4 +3.3
comp=Z,0.9nm,0.5s,baz=262,slow=5.2,SNR=5.2
PUL Pulkovo 76.79 31 eP P 06 19 51.6 +1.4
BRTR Keskin Array B 83.17 51 P P 06 20 25.1 -0.2
BRTR Keskin Array B 83.17 51 P P 06 20 25.1 -0.2

	comp=Z,0.2nm,0.3s,baz=267,slow=2.7,SNR=5.2						
BILL	**Bilibino**	**89.54**	**344**	*e*P	**P**	**06 20 56.2**	**+0.4**
BILL				pmax	pmax		
	comp=Z,13nm,2.5s						
BVAR	**Borovoye Array**	**99.35**	**27**	LR	LR	07 04 41.3	
	comp=Z,85nm,19.6s,baz=66,slow=34						
KSH	**Kashi**	**111.51**	**35**	*e*PKP	**PKiKP**	**06 26 35.0**	**+1.6**
KSH				sPKP		06 26 50.2	
KSH				PP	PP	06 27 19.8	+5.7
KSH				PKS	**PKSdf**	**06 30 10.8**	**+0.6**
KSH				SKKS		06 34 09.5	
KSH				SS	**SS**	**06 42 47.1**	**+2.5**
KSH				AMB	AMB		
	comp=Z,120nm,5.7s						
KSH				LR	LR		
	comp=N,70nm,3.3s						
KSH				LR	LR		
	comp=E,43nm,4.2s						
KSH				LR	LR		
	comp=Z,220nm,7.0s						
CN2	**Changchun**	**120.16**	**355**	*e*PKP	PKPdf	06 26 43.9	-5.8
HHC	**Hu-ho-hao-te**	**122.92**	**7**	*e*PKP	**PKPdf**	**06 26 56.4**	**+1.2**
HHC				sPKP		06 27 21.6	
HHC				PP	PP	06 28 38.9	+6.0
HHC				PKS	**PKSdf**	**06 30 31.9**	**-0.1**
HHC				SKS	**SKSdf**	**06 34 03.6**	**+0.5**
HHC				SKKS	**SKKSac**	**06 35 25.7**	**-3.2**
HHC				SS	**SS**	**06 45 14.3**	**+2.5**
HHC				AMB	AMB		
	comp=Z,120nm,7.1s						
HHC				LR	LR		
	comp=N,230nm,17.8s						
HHC				LR	LR		
	comp=E,160nm,19.0s						
HHC				LR	LR		
	comp=Z,1μm,20.2s						
BJI	**Beijing**	**124.11**	**3**	PKP	**PKPdf**	**06 26 57.0**	**-0.3**
BJI				SS	SS	06 45 26.9	+0.4
BJI				LR	LR		
	comp=N,170nm,15.5s						
BJI				LR	LR		
	comp=E,150nm,17.0s						
BJI				LR	LR		
	comp=Z,39nm,19.1s						
LZH	**Lanzhou**	**126.11**	**15**	*e*PKP	**PKPdf**	**06 27 00.5**	**-1.1**
LZH				sPKP		06 27 24.1	
LZH				LR	LR		
	comp=N,120nm,18.2s						
LZH				LR	LR		
	comp=Z,170nm,20.1s						

*ISCJB **05** 06:09:56.4±0.4, 24°.40N±0°.02×121°.99E±0°.02, h18km±4km, Error ellipse: s-maj=4.1km s-min=2.7km az=136.1*
*TAP **05** 06:09:56.5, 24°.43N×121°.92E, h19km, ML3.3, D*
*JMA **05** 06:09:56.3±0.1, 24°.41N×121°.91E, h54km, M2.4*

ISC 05 06:09:56.2±3.1, **24°.41N**±0°.02×**121°.97E**±0°.02, **h16**km±23km, **n37**, σ0s**61**/65, **4C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.21**	**276**	⇑*i*P	**Pb**	**06 10 01.4**	**-0.1**
ENA	baz=270			S	**Sb**	**06 10 05.3**	**+0.1**
	baz=270						
EHP	**Heping Village**	**0.23**	**245**	*e*P	**Pb**	**06 10 01.8**	**-0.2**
EHP	baz=232			*e*S	**Sb**	**06 10 06.0**	**+0.2**
	baz=232						
TWC	**Suao**	**0.23**	**332**	⇑*i*P	**Pb**	**06 10 02.0**	**+0.1**
TWC	baz=344			S	**Sb**	**06 10 05.8**	**0.0**
	baz=344						
TWE	**Neicheng**	**0.41**	**319**	*i* P	**Pb**	**06 10 04.9**	**-0.2**
TWE	baz=324			S	**Sb**	**06 10 10.7**	**-0.5**
	baz=324						
ENTT	**Nioudou**	**0.43**	**302**	*i* P	**Pb**	**06 10 05.0**	**-0.4**
ENTT	baz=304			S	**Sb**	**06 10 11.2**	**-0.5**
	baz=304						
TWD	**Chiawan**	**0.47**	**226**	P	**Pb**	**06 10 05.5**	**-0.5**
TWD	baz=219			*e*S	**Sb**	**06 10 13.6**	**+0.8**
	baz=219						
HWA	**Hwalien**	**0.54**	**218**	*e*P	**Pb**	**06 10 07.4**	**+0.1**
HWA	baz=211			*e*S	**Sb**	**06 10 15.6**	**+0.8**
	baz=211						
NNS	**Nan Shan**	**0.54**	**274**	P	**Pb**	**06 10 06.6**	**-0.8**
NNS	baz=271			*e*S	**Sb**	**06 10 14.2**	**-0.8**
	baz=271						
TWB1	**Santiao Chiao**	**0.60**	**2**	*i* P	**Pb**	**06 10 08.5**	**+0.2**
TWB1	baz=7.0			*e*S	**Sb**	**06 10 16.9**	**+0.5**
	baz=7.0						
NSK	**Sanguang**	**0.62**	**296**	*i* P	**Pb**	**06 10 08.0**	**-0.6**
NSK	baz=296			S	**Sb**	**06 10 16.1**	**-1.0**
	baz=296						
TWA	**Mucha**	**0.67**	**329**	*e*P	**Pb**	**06 10 09.7**	**+0.2**
TWA	baz=331			*e*S	**Sb**	**06 10 18.6**	**+0.1**
	baz=331						
NWF	**Wu-fen Shan**	**0.68**	**346**	P	**Pb**	**06 10 09.8**	**+0.1**
NWF	baz=349			*e*S	**Sb**	**06 10 19.3**	**+0.4**
	baz=349						
WHF	**Hehuan Shan**	**0.69**	**248**	⇑*i*P	**Pb**	**06 10 09.4**	**-0.7**
WHF	baz=244			S	**Sb**	**06 10 19.6**	**0.0**
	baz=244						
TWT	**Tachien**	**0.74**	**258**	⇑*i*P	**Pb**	**06 10 10.7**	**0.0**
TWT	baz=255			S	**Sb**	**06 10 21.1**	**+0.5**
	baz=255						
ESL	**Shilin**	**0.77**	**220**	*e*P	**Pb**	**06 10 10.4**	**-0.7**
TWS1	baz=215 **Kuangyinshan**	**0.85**	**324**	*e*P	**Pb**	**06 10 12.9**	**+0.4**
TWS1	baz=326			*e*S	**Sn**	**06 10 25.5**	**-0.2**
	baz=326						
NSTT	**Nanjuang**	**0.91**	**284**	*e*P	**Pb**	**06 10 13.6**	**0.0**
NSTT	baz=283			*e*S	**Sb**	**06 10 25.3**	**-0.1**
	baz=283						
TWY	**Chenhua**	**0.93**	**339**	*e*P	**Pb**	**06 10 14.5**	**+0.6**
TWY	baz=341			*e*S	**Sb**	**06 10 26.0**	**+0.1**
	baz=341						
YOJ	**Yonaguni jima**	**0.95**	**87**	P	**Pb**	**06 10 14.4**	**+0.1**
YOJ				*e*S	**Sb**	**06 10 27.5**	**+0.8**
TWQ1	**Liyutan**	**1.09**	**267**	*e*P	**Pn**	**06 10 17.0**	**+0.2**
TWQ1	baz=265			*e*S	**Sn**	**06 10 32.3**	**+0.8**
	baz=265						
SMLT	**Sun Moon Lake**	**1.11**	**242**	P	**Pn**	**06 10 16.2**	**-0.9**
SMLT	baz=239			*e*S	**Sb**	**06 10 31.4**	**+0.2**
	baz=239						
TYC	**Yuchr**	**1.13**	**244**	*e*P	**Pn**	**06 10 16.4**	**-0.9**
TYC	baz=241			*e*S	**Sb**	**06 10 31.7**	**-0.1**
	baz=241						
TCU	**Taichung**	**1.21**	**258**	*e*P	**Pb**	**06 10 19.7**	**+1.1**
TWF1	baz=256 **Yuli**	**1.22**	**210**	*e*P	Pn	06 10 16.1	-2.5
TWF1	baz=207			*e*S	**Sb**	**06 10 33.8**	**-0.5**
	baz=207						
WNT	**Mingjian**	**1.28**	**246**	*e*P	**Pb**	**06 10 20.2**	**+0.2**
ALS	baz=243 **Alishan**	**1.39**	**230**	P	**Pn**	**06 10 20.8**	**-0.4**
ALS	baz=227			*e*S	**Sn**	**06 10 39.2**	**-0.1**
	baz=227						
CHN5	**Tsauling**	**1.43**	**236**	*e*P	**Pn**	**06 10 21.3**	**-0.2**
CHN5	baz=233			*e*S	**Sb**	**06 10 41.0**	**+0.6**
	baz=233						
IRIF	**Iriomote-Funau**	**1.61**	**92**	P	**Pn**	**06 10 23.5**	**-0.4**
IRIF				*e*S	**Sn**	**06 10 43.8**	**-0.5**
CHN4	**Tsaushan**	**1.64**	**230**	*e*P	**Pn**	**06 10 25.0**	**+0.6**
CHN4	baz=228			*e*S	**Sb**	**06 10 47.3**	**+0.8**
	baz=228						
WTP	**Ta-pu**	**1.69**	**227**	*e*P	**Pn**	**06 10 25.4**	**+0.2**
WTP	baz=225			*e*S	**Sn**	**06 10 46.5**	**-0.1**
	baz=225						
TWK	**Hsinying**	**1.77**	**230**	*e*P	**Pn**	**06 10 26.6**	**+0.4**
TWK	baz=228			*e*S	**Sn**	**06 10 49.1**	**+0.8**
	baz=228						
TWG	**Pinlang**	**1.78**	**208**	*e*P	**Pn**	**06 10 24.2**	**-2.0**
CHN1	baz=205 **Nanshi**	**1.79**	**228**	*e*P	**Pn**	**06 10 27.3**	**+0.8**
CHN1	baz=225			*e*S	**Sn**	**06 10 49.4**	**+0.5**
	baz=225						
JKRS	**Kuro-shima**	**1.87**	**95**	*e*S	**Sn**	**06 10 50.9**	**+0.1**
JIJ	**Ishigaki jima**	**1.98**	**91**	*e*S	**Sn**	**06 10 52.4**	**-1.2**
SSD	**Sandimen**	**2.06**	**217**	*e*P	**Pn**	**06 10 31.4**	**+1.4**
JTJ	baz=214 **Tarama**	**2.50**	**84**	*e*S	**Sn**	**06 11 06.3**	**-0.1**

*NEIC **05** 06:37:01.0, 36°.99S×177°.19E, h5km, ML4.5(WEL), After WEL.*

WEL 05 06:37:01.3±0.2, **37°.04S×177°.16E, h5**km, **ML4.4**/18, **Error ellipse: s-maj=2.0km s-min=1.3km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.49**	**177**	PG	Pg	06 37 10.6	-0.1
WIZ				SG	Sg	06 37 17.6	+0.5
WIZ				SG	Sb	06 37 17.8	-2.1
WIZ	**White Island**	**0.49**	**177**	Pg	Pg	06 37 10.7	-0.1
MYRZ	**Mayor Island**	**0.77**	**251**	P*	Pg	06 37 15.8	-0.3
MYRZ				S*	Sb	06 37 28.0	-0.1
OPRZ	**Ohinepanea**	**0.94**	**211**	P*	Pg	06 37 18.3	-1.0
OPRZ				S*	Sg	06 37 31.2	-0.4
OPRZ	**Ohinepanea**	**0.94**	**211**	P*	Pg	06 37 18.3	-1.1
OPRZ				S*	Sg	06 37 31.5	0.0
TGRZ	**Tauranga**	**1.00**	**226**	P*	Pg	06 37 19.1	-1.3
TGRZ	**Tauranga**	**1.00**	**226**	P*	Pg	06 37 19.4	-1.0
MARZ	**Manawahe**	**1.02**	**202**	P*	Pg	06 37 19.8	-1.2
MARZ	**Manawahe**	**1.02**	**202**	P*	Pg	06 37 19.8	-1.2
MXZ	**Matakaoa Point**	**1.05**	**120**	P*	Pg	06 37 19.8	-1.7
MXZ				S*	Sg	06 37 34.5	-0.7
MXZ	**Matakaoa Point**	**1.05**	**120**	P*	Pg	06 37 20.1	-1.4
LIRZ	**Lichensteins R**	**1.15**	**212**	P*	Pg	06 37 21.9	-1.4
LIRZ	**Lichensteins R**	**1.15**	**212**	P*	Pg	06 37 22.2	-1.1
KUZ	**Kuaotunu**	**1.19**	**284**	P*	Pg	06 37 22.1	-2.0
KUZ	**Kuaotunu**	**1.19**	**284**	P*	Pg	06 37 22.3	-1.8
URZ	**Urewera**	**1.22**	**182**	P*	Pg	06 37 22.3	-2.4
URZ	**Urewera**	**1.22**	**182**	P*	Pg	06 37 22.4	-2.3
KARZ	**Kaharoa**	**1.22**	**216**	P*	Pg	06 37 22.8	-2.0
KARZ	**Kaharoa**	**1.22**	**216**	P*	Pg	06 37 23.9	-0.9
MKRZ	**Makatiti**	**1.23**	**206**	P*	Pg	06 37 23.9	-1.0
MKRZ	**Makatiti**	**1.23**	**206**	P*	Pg	06 37 24.2	-0.7
OMRZ	**Omania**	**1.24**	**210**	P*	Pg	06 37 24.6	-0.6
OMRZ	**Omania**	**1.24**	**210**	P*	Pg	06 37 24.0	-1.1
TARZ	**Mount Tarawera**	**1.30**	**203**	P*	Pn	06 37 25.6	-0.7
TARZ	**Mount Tarawera**	**1.30**	**203**	P*	Pn	06 37 25.7	-0.6
MWZ	**Matawai**	**1.33**	**167**	P*	Pn	06 37 23.6	-3.0
MWZ	**Matawai**	**1.33**	**167**	P*	Pn	06 37 24.0	-2.6
PUZ	**Puketiti**	**1.35**	**140**	PN	Pn	06 37 26.3	-0.6
PUZ	**Puketiti**	**1.35**	**140**	Pn	Pn	06 37 26.5	-0.4
UTU	**Utuhina**	**1.37**	**214**	*e*P*	Pn	06 37 26.9	-0.2
UTU	**Utuhina**	**1.37**	**214**	P*	Pg	06 37 28.5	+0.8
RRRZ	**Republican Roa**	**1.40**	**201**	*e*P*	Pn	06 37 25.3	-2.2
RRRZ	**Republican Roa**	**1.40**	**201**	P*	Pn	06 37 26.8	-0.7
TOZ	**Tahuroa Road**	**1.49**	**242**	P*	Pn	06 37 26.3	-2.3
TOZ	**Tahuroa Road**	**1.49**	**242**	P*	Pn	06 37 26.8	-1.9
MKAZ	**Moumakai**	**1.60**	**267**	PN	Pn	06 37 28.0	-2.2
MKAZ	**Moumakai**	**1.60**	**267**	Pn	Pn	06 37 28.3	-1.9
CNGZ	**Carnagh Statio**	**1.67**	**150**	*e*PN	Pn	06 37 31.7	+0.5
CNGZ	**Carnagh Statio**	**1.67**	**150**	Pn	Pb	06 37 32.0	-0.5
OTAZ	**Otara**	**1.79**	**272**	PN	Pn	06 37 32.1	-0.8
OTAZ	**Otara**	**1.79**	**272**	Pn	Pn	06 37 32.7	-0.2
ABAZ	**Army Bay**	**1.92**	**282**	*e*PN	Pn	06 37 33.7	-0.9
PRGZ	**Paritu Road**	**1.97**	**163**	*e*PN	Pn	06 37 36.2	+0.9
PRGZ	**Paritu Road**	**1.97**	**163**	Pn	Pn	06 37 36.3	+1.0
KAAZ	**Kauri Point**	**1.98**	**275**	*e*PN	Pn	06 37 34.7	-0.7
KAAZ	**Kauri Point**	**1.98**	**275**	Pn	Pn	06 37 35.5	+0.1
KNZ	**Kokohu**	**2.02**	**169**	*e*PN	Pn	06 37 36.1	+0.1
KNZ	**Kokohu**	**2.02**	**169**	Pn	Pn	06 37 36.2	+0.2
NMHZ	**Naumai**	**2.08**	**188**	*e*PN	Pn	06 37 35.8	-1.1
NMHZ	**Naumai**	**2.08**	**188**	Pn	Pn	06 37 37.1	+0.2
BKZ	**Black Stump Fm**	**2.19**	**194**	P*	Pn	06 37 37.7	-0.7
BKZ	**Black Stump Fm**	**2.19**	**194**	P*	Pn	06 37 38.6	+0.2
HIZ	**Hauiti**	**2.35**	**230**	PN	Pn	06 37 39.1	-1.4
HIZ	**Hauiti**	**2.35**	**230**	Pn	Pn	06 37 39.2	-1.3
MCHZ	**McNeill Hill**	**2.43**	**189**	*e*PN	Pn	06 37 42.6	+0.9
MCHZ	**McNeill Hill**	**2.43**	**189**	Pn	Pn	06 37 43.0	+1.3
WCZ	**Waipu Caves**	**2.52**	**295**	PN	Pn	06 37 41.7	-1.2
WCZ	**Waipu Caves**	**2.52**	**295**	Pn	Pn	06 37 41.0	-1.9
BHHZ	**Black Hill Sta**	**2.59**	**199**	*e*P*	Pn	06 37 45.1	+1.1
BHHZ	**Black Hill Sta**	**2.59**	**199**	P*	Pn	06 37 46.2	+2.2
WNVZ	**Wahianoa**	**2.60**	**208**	*e*P*	Pb	06 37 46.4	-2.2
WNVZ	**Wahianoa**	**2.60**	**208**	P*	Pb	06 37 47.0	-1.6
MTVZ	**Mangateitei**	**2.70**	**209**	P*	Pb	06 37 48.8	-1.4
KAHZ	**Kahuranaki**	**2.76**	**185**	Pn	Pn	06 37 46.4	+0.1
PXZ	**Pawanui**	**3.00**	**184**	*e*PN	Pn	06 37 48.2	-1.2
PXZ	**Pawanui**	**3.00**	**184**	Pn	Pn	06 37 48.5	-0.9
OUZ	**Omahuta**	**3.41**	**301**	*e*PN	Pn	06 37 54.4	-0.7
OUZ	**Omahuta**	**3.41**	**301**	Pn	Pn	06 37 54.5	-0.6
BFZ	**Birch Farm**	**3.71**	**191**	Pn	Pn	06 37 58.7	-0.5
MRZ	**Mangatainoka R**	**3.82**	**198**	*e*PN	Pn	06 37 59.7	-1.1

*ISCJB **05** 06:39:07.3±0.6, 10°.85N±0°.04×62°.19W±0°.03, h82km±7km, Error ellipse: s-maj=6.7km s-min=4.7km az=148.3*
*FUNV **05** 06:39:09.7, 10°.87N×62°.14W, h66km, MW3.0*
*TRN **05** 06:39:11.2, 10°.96N×62°.07W, h59km, MD3.1*

ISC 05 06:39:07.9±1.3, **10°.85N**±0°.04×**62°.19W**±0°.04, **h81**km±9km, **n15**, σ1s**37**/27, **3C, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.20**	**188**	⇑*e*P	**Pn**	**06 39 19.9**	**+0.1**
GUIV				*e*S	**Sn**	**06 39 27.7**	**-0.9**
TRN	**Trinidad (W)**	**0.80**	**104**	*e*P	**Pn**	**06 39 25.9**	**+1.2**
TRN				*e*S	**Sn**	**06 39 37.1**	**-0.1**
GUNV	**Guanoco**	**1.01**	**227**	⇑*e*P	**Pn**	**06 39 28.3**	**+1.2**
GUNV				*e*S	**Sn**	**06 39 42.5**	**+1.1**
CRUV	**Carupano**	**1.04**	**260**	⇑*i*P	**Pn**	**06 39 27.5**	**0.0**
CRUV				*e*S	**Sn**	**06 39 41.7**	**-0.4**
TBH	**Brigand Hill**	**1.17**	**108**	*e*S	**Sn**	**06 39 44.2**	**-0.7**
GRW	**Mount Saint Ca**	**1.40**	**22**	*e*P	**Pn**	**06 39 32.3**	**+0.2**
GRW				*e*S	**Sn**	**06 39 48.4**	**-1.9**
TOSP	**Speyside**	**1.69**	**75**	*e*P	**Pn**	**06 39 36.5**	**+0.8**
TOSP				*e*S	**Sn**	**06 39 55.6**	**-1.1**
PCRV	**Puerto La Cruz**	**2.49**	**255**	*e*P	**Pn**	**06 39 47.4**	**+0.9**
PCRV				*e*S	**Sn**	**06 40 16.1**	**0.0**
SVB	**Belmont**	**2.58**	**21**	*e*P	**Pn**	**06 39 49.8**	**+2.2**
SVB				*e*S	**Sn**	**06 40 16.7**	**-1.4**
RIOV	**Rio Grande**	**2.79**	**172**	*e*P	**Pn**	**06 39 51.8**	**+1.3**
RIOV				*e*S	**Sn**	**06 40 22.9**	**-0.3**
GURV	**El Guri**	**3.19**	**196**	*e*P	**Pn**	**06 39 56.6**	**+0.6**
GURV				*e*S	**Sn**	**06 40 31.4**	**-1.7**
CUPV	**Cœpira**	**3.62**	**258**	*e*P	**Pn**	**06 40 03.8**	**+2.0**
CUPV				*e*S	**Sn**	**06 40 42.9**	**-0.6**
BIRV	**Birongo**	**4.02**	**265**	*e*P	**Pn**	**06 40 09.0**	**+1.8**
LUEV	**Luepa**	**5.03**	**172**	*e*P	**Pn**	**06 40 21.0**	**-0.1**
BAUV	**El Baul**	**6.07**	**252**	*e*P	**Pn**	**06 40 35.0**	**-0.1**
BAUV				*e*S	**Sn**	**06 41 39.6**	**-3.5**

WEL 05 06:42:51.4±0.3, **37°.06S×177°.17E, h5**km, **ML3.9**/9, **1C-3D, Error ellipse: s-maj=2.5km s-min=1.9km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.47**	**178**	⇓PG	Pg	06 43 00.8	+0.3
WIZ				SG	Sg	06 43 07.5	+0.9
MYRZ	**Mayor Island**	**0.78**	**253**	P*	Pg	06 43 05.9	-0.5
OPRZ	**Ohinepanea**	**0.93**	**212**	P*	Pg	06 43 08.0	-1.3
TGRZ	**Tauranga**	**0.99**	**227**	P*	Pg	06 43 09.2	-1.2
MARZ	**Manawahe**	**1.01**	**203**	P*	Pg	06 43 09.5	-1.4
MXZ	**Matakaoa Point**	**1.04**	**120**	⇑P*	Pg	06 43 09.7	-1.5
KUZ	**Kuaotunu**	**1.20**	**284**	P*	Pg	06 43 12.4	-2.1
URZ	**Urewera**	**1.20**	**182**	⇓P*	Pg	06 43 12.4	-2.1
MKRZ	**Makatiti**	**1.22**	**207**	P*	Pg	06 43 13.7	-1.1
TARZ	**Mount Tarawera**	**1.29**	**204**	P*	Pn	06 43 15.1	-1.1
MWZ	**Matawai**	**1.31**	**168**	P*	Pn	06 43 13.5	-2.9
PUZ	**Puketiti**	**1.33**	**140**	P*	Pn	06 43 16.3	-0.3
TOZ	**Tahuroa Road**	**1.49**	**243**	P*	Pn	06 43 16.4	-2.4
MKAZ	**Moumakai**	**1.60**	**267**	⇓PN	Pn	06 43 18.1	-2.3
CNGZ	**Carnagh Statio**	**1.65**	**150**	PN	Pn	06 43 21.5	+0.5
BKZ	**Black Stump Fm**	**2.18**	**194**	P*	Pn	06 43 27.1	-1.2
OUZ	**Omahuta**	**3.42**	**301**	PN	Pn	06 43 44.5	-0.9

FUNV 05 06:46:16.1, 7°.38N×73°.30W, h143km, **MW3.7, 1C, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.09**	**63**	⇑*i*P	Pn	06 46 40.8	-0.5
CAPV				*e*S	Sn	06 46 58.4	-2.1
VIGV	**El Vigia**	**2.40**	**53**	*e*P	Pn	06 46 54.9	-0.8
VIGV				*e*S	Sn	06 47 23.4	-2.9
SOCV	**Socops**	**2.58**	**69**	*e*P	Pn	06 46 57.0	-1.0
SOCV				*e*S	Sn	06 47 26.8	-3.4
VIRV	**Villa del Rosa**	**3.23**	**16**	*e*P	Pn	06 47 04.4	-1.7
ELOV	**Elorza**	**3.80**	**95**	*e*P	Pn	06 47 12.4	-1.2
ELOV				*e*S	Sn	06 47 54.0	-4.2
QARV	**Quebrada Arrib**	**3.93**	**44**	*e*P	Pn	06 47 14.6	-0.7
DABV	**Dabajuro**	**4.39**	**37**	*e*P	Pn	06 47 20.2	-1.2
TEPV	**Terepaima**	**4.80**	**57**	*e*P	Pn	06 47 25.6	-1.3
TEPV				*e*S	Sn	06 48 16.6	-5.4
BAUV	**El Baul**	**5.43**	**73**	*e*P	Pn	06 47 32.2	-2.9
BAUV				*e*S	Sn	06 48 30.1	-6.7
MONV	**Montecano**	**5.61**	**36**	*e*P	Pn	06 47 35.5	-2.0
MONV				*e*S	Sn	06 48 34.1	-7.0
TURV	**Turiamo**	**6.20**	**60**	*e*P	Pn	06 47 42.6	-2.8
CUPV	**Cœpira**	**7.89**	**70**	*e*P	Pn	06 48 04.7	-3.5

WEL 05 06:58:22.4±0.3, **37°.07S×177°.16E, h5**km, **ML4.0**/6, **Error ellipse: s-maj=2.6km s-min=1.7km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.46**	**177**	PG	Pg	06 58 31.5	+0.2
WIZ				SG	Sg	06 58 37.7	+0.3
MYRZ	**Mayor Island**	**0.76**	**253**	P*	Pg	06 58 36.9	-0.2
OPRZ	**Ohinepanea**	**0.91**	**212**	P*	Pg	06 58 39.1	-0.8
TGRZ	**Tauranga**	**0.97**	**227**	P*	Pg	06 58 40.1	-1.1
MARZ	**Manawahe**	**1.00**	**203**	P*	Pg	06 58 40.5	-1.1
MXZ	**Matakaoa Point**	**1.04**	**119**	P*	Pg	06 58 40.7	-1.7
MXZ				S*	Sg	06 58 54.9	-1.0
KUZ	**Kuaotunu**	**1.20**	**285**	P*	Pg	06 58 43.4	-2.2
KUZ				S*	Sg	06 58 59.8	-1.1
MWZ	**Matawai**	**1.30**	**167**	P*	Pn	06 58 44.7	-2.6
MWZ				S*	Sg	06 59 01.4	-3.0
PUZ	**Puketiti**	**1.33**	**139**	P*	Pn	06 58 47.1	-0.6
MKAZ	**Moumakai**	**1.59**	**268**	*e*PN	Pn	06 58 48.9	-2.4
MKAZ				SN	Sn	06 59 11.9	-0.3
CNGZ	**Carnagh Statio**	**1.64**	**150**	*e*PN	Pb	06 58 52.8	-0.4
OUZ	**Omahuta**	**3.42**	**302**	*e*PN	Pn	06 59 15.3	-1.0

*ATH **05** 07:01:49.5, 40°.12N×23°.96E, h29km±4km, MD2.9/4*
*CSEM **05** 07:01:49.9±0.2, 40°.12N×24°.01E, h14km±1km, ML1.9/7, Error ellipse: s-maj=4.7km s-min=3.3km az=92.0*
*ISCJB **05** 07:01:50.0±0.7, 40°.13N±0°.02×24°.01E±0°.04, h11km±4km, Error ellipse: s-maj=5.4km s-min=4.0km az=4.7*
*THE **05** 07:01:50.4, 40°.15N×23°.99E, h10km±4km, ML1.9/7, Error ellipse: s-maj=4.0km s-min=0.6km az=318.0*

ISC 05 07:01:50.1±0.9, **40°.13N**±0°.02×**23°.99E**±0°.03, **h13**km±7km, **n26**, σ0s**30**/49, **Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUR	**Ouranopolis**	**0.20**	**358**	P	**Pg**	**07 01 54.7**	**0.0**
OUR				S	**Sg**	**07 01 57.9**	**+0.2**
OUR	**Ouranopolis**	**0.20**	**358**	P	**Pg**	**07 01 54.7**	**0.0**
OUR				S	**Sg**	**07 01 57.9**	**+0.2**
PAIG	**Paliouri**	**0.31**	**230**	P	**Pg**	**07 01 56.8**	**+0.2**
PAIG				S	**Sg**	**07 02 00.7**	**-0.2**
PAIG	**Paliouri**	**0.31**	**230**	P	**Pg**	**07 01 56.8**	**+0.2**
PAIG				S	**Sg**	**07 02 00.7**	**-0.2**
PLG	**Polygyros**	**0.48**	**300**	P	**Pg**	**07 01 59.9**	**+0.2**
PLG				S	**Sg**	**07 02 06.4**	**+0.3**
PLG	**Polygyros**	**0.48**	**300**	*e*PB	**Pg**	**07 01 59.7**	**0.0**
PLG				*e*SB	**Sg**	**07 02 05.9**	**-0.2**
PLG	**Polygyros**	**0.48**	**300**	*e*Pb	**Pg**	**07 01 59.7**	**0.0**
PLG	**Polygyros**	**0.48**	**300**	P	**Pg**	**07 01 59.9**	**+0.2**
PLG				*e*Sb	**Sg**	**07 02 05.9**	**-0.2**
PLG				S	**Sg**	**07 02 06.4**	**+0.3**
HORT	**Hortiatis**	**0.82**	**305**	P	**Pg**	**07 02 06.0**	**-0.1**
HORT				S	**Sb**	**07 02 17.7**	**+0.3**
HORT	**Hortiatis**	**0.82**	**305**	P	**Pg**	**07 02 06.0**	**-0.1**
HORT				S	**Sb**	**07 02 17.7**	**+0.3**
SOH	**Sokhos**	**0.84**	**325**	P	**Pn**	**07 02 07.8**	**+0.1**
SOH				S	**Sg**	**07 02 17.6**	**+0.1**
SOH	**Sokhos**	**0.84**	**325**	P	**Pn**	**07 02 07.8**	**+0.1**
SOH				S	**Sg**	**07 02 17.6**	**+0.1**
LIA	**Limnos Island**	**0.94**	**104**	*e*PN	**Pg**	**07 02 08.4**	**0.0**
LIA				*e*SN	**Sb**	**07 02 21.2**	**+0.5**
LIA	**Limnos Island**	**0.94**	**104**	*e*Pn	**Pg**	**07 02 08.4**	**0.0**
LIA				*e*Sn	**Sb**	**07 02 21.2**	**+0.5**
KAVA	**Kavala**	**0.95**	**25**	P	**Pb**	**07 02 08.0**	**-0.5**
KAVA				S	**Sg**	**07 02 21.0**	**0.0**
KAVA	**Kavala**	**0.95**	**25**	P

ELZG	**Elazig**	**1.23**	**174**	*i* P		**Pn**	**07 06 26.4**	**0.0**
ELZG				*i* S		**Sg**	**07 06 44.0**	**+0.7**

ISCJB ***05*** *07:27:03.9±0.3, 37°.19N±0°.02×5°.38W±0°.02, h4km±2km, Error ellipse: s-maj=3.7km s-min=2.2km az=6.4*
CSEM ***05*** *07:27:05.3±0.1, 37°.10N×5°.38W, h10km, ML3.7/18, Error ellipse: s-maj=2.6km s-min=1.7km az=6.0*
LDG ***05*** *07:27:06.0±0.1, 37°.04N×5°.38W, h2km, Ml3.6/2, Error ellipse: s-maj=2.9km s-min=1.9km az=178.0*
MDD ***05*** *07:27:06.5±0.3, 37°.03N×5°.39W, h11km, mbLg3.1/15, Error ellipse: s-maj=3.4km s-min=2.6km az=180.0, PRXIMO*
MDD EMS:III CORIPE.
IGIL ***05*** *07:27:06.9, 37°.04N×5°.41W, h0km, ML3.2*
SFS ***05*** *07:27:06.0, 37°.04N×5°.41W, h11km, ML3.2*
INMG ***05*** *07:27:07.4±1.6, 37°.05N×5°.35W, h18km±3km, ML3.3, Error ellipse: s-maj=3.2km s-min=1.8km az=5.0*

ISC 05 07:27:05.0±1.0,**37°.09N**±0°.02×**5°.36W**±0°.02,**h9**km±9km,**n86,** σ1§**11**/156,**1D,Spain**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EXAO	**Algodonales**	**0.21**	**190**	Pg		**Pg**	**07 27 08.6**	**-0.8**
	SNR=7.9							
EXAO				Lg		Lg	07 27 11.8	
	SNR=7.9							
EXAO	**Algodonales**	**0.21**	**190**	Pg		**Pg**	**07 27 08.6**	**-0.8**
	SNR=7.9							
EXAO				Lg		Lg	07 27 11.8	
	SNR=7.9							
EJIF	**Jimena Fronter**	**0.65**	**188**	Pg		**Pg**	**07 27 17.3**	**-0.2**
	12nm,0.2s,SNR=7.9							
EJIF				Lg		Lg	07 27 25.5	
	121nm,0.2s,SNR=7.9							
EJIF	**Jimena Fronter**	**0.65**	**188**	Pg		**Pg**	**07 27 17.3**	**-0.2**
	12nm,0.2s,SNR=7.9							
EJIF				Lg		Lg	07 27 25.5	
	121nm,0.2s,SNR=7.9							
EMAL	**Malaga-Limoner**	**0.81**	**114**	⇓Pg		**Pb**	**07 27 21.4**	**+0.1**
EMAL				Lg		Lg	07 27 33.2	
EMAL	**Malaga-Limoner**	**0.81**	**114**	*i* P		**Pb**	**07 27 21.4**	**+0.1**
EMAL				Lg		Lg	07 27 33.2	
EMAL				*i* S		**Sn**	**07 27 33.2**	**-1.6**
SFS	**San Fernando**	**0.92**	**228**	Pg		**Pb**	**07 27 23.2**	**+0.1**
SFS				Lg		Lg	07 27 39.2	
SFS	**San Fernando**	**0.92**	**228**	*e*P		**Pb**	**07 27 23.2**	**+0.1**
SFS				Lg		Lg	07 27 39.2	
SFS				*e*S		**Sn**	**07 27 39.2**	**+1.8**
ELOJ	**Sierra Loja**	**0.96**	**86**	Pg		**Pn**	**07 27 25.8**	**+1.0**
	18nm,0.2s,SNR=7.9							
ELOJ				Lg		Lg	07 27 38.3	
	114nm,0.3s,SNR=7.9							
ELOJ	**Sierra Loja**	**0.96**	**86**	Pg		**Pn**	**07 27 25.8**	**+1.0**
	18nm,0.2s,SNR=7.9							
ELOJ				Lg		Lg	07 27 38.3	
	114nm,0.3s,SNR=7.9							
ELUQ	**Luque**	**0.99**	**61**	Pg		**Pn**	**07 27 25.4**	**+0.3**
	59nm,0.1s,SNR=7.9							
ELUQ				Lg		Lg	07 27 41.3	
	284nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**0.99**	**61**	Pg		**Pn**	**07 27 25.4**	**+0.3**
	59nm,0.1s,SNR=7.9							
ELUQ				Lg		Lg	07 27 41.3	
	284nm,0.2s,SNR=7.9							
ERON	**Agron**	**1.24**	**93**	Pg		**Pg**	**07 27 30.2**	**+1.3**
	7.2nm,0.1s,SNR=7.9							
ERON				Lg		Lg	07 27 47.2	
	87nm,0.3s,SNR=7.9							
ERON	**Agron**	**1.24**	**93**	Pg		**Pg**	**07 27 30.2**	**+1.3**
	7.2nm,0.1s,SNR=7.9							
ERON				Lg		Lg	07 27 47.2	
	87nm,0.3s,SNR=7.9							
ECOG	**Cogollos-Vega**	**1.44**	**82**	Pg		**Pg**	**07 27 32.7**	**0.0**
	13nm,0.1s,SNR=7.9							
ECOG				Lg		Lg	07 27 53.8	
	125nm,0.3s,SNR=7.9							
ECOG	**Cogollos-Vega**	**1.44**	**82**	Pg		**Pg**	**07 27 32.7**	**0.0**
	13nm,0.1s,SNR=7.9							
ECOG				Lg		Lg	07 27 53.8	
	125nm,0.3s,SNR=7.9							
EGUA	**Guajares**	**1.46**	**100**	Pg		**Pg**	**07 27 33.0**	**0.0**
	17nm,0.2s,SNR=7.9							
EGUA				Lg		Lg	07 27 53.4	
	1μm,0.8s,SNR=7.9							
EGUA	**Guajares**	**1.46**	**100**	Pg		**Pg**	**07 27 33.0**	**0.0**
	17nm,0.2s,SNR=7.9							
EGUA				Lg		Lg	07 27 53.4	
	1μm,0.8s,SNR=7.9							
PVAQ	**Vaqueiros**	**1.91**	**280**	*e*Pn		**Pn**	**07 27 37.6**	**-0.1**
PVAQ				*e*Sn		**Sn**	**07 28 00.3**	**-1.5**
PVAQ				*e*Sg		**Sg**	**07 28 06.9**	**+0.6**
PVAQ				A		A	07 28 14.4	
	122nm,0.7s							
PVAQ	**Vaqueiros**	**1.91**	**280**	Pn		**Pn**	**07 27 37.6**	**-0.1**
PVAQ				Sn		**Sn**	**07 28 00.3**	**-1.5**
PVAQ				Lg		Lg	07 28 06.9	
	122nm,0.7s							
PVAQ	**Vaqueiros**	**1.91**	**280**	Pn		**Pn**	**07 27 37.6**	**-0.1**
PVAQ				Sn		**Sn**	**07 28 00.3**	**-1.5**
PVAQ				Lg		Lg	07 28 06.9	
	122nm,0.7s							
PBDV	**Barranco-do-Ve**	**2.06**	**275**	*e*Pn		**Pn**	**07 27 39.6**	**-0.2**
PBDV				*e*Sn		**Sn**	**07 28 05.2**	**-0.4**
PBDV				*e*Sg		**Sg**	**07 28 11.1**	**-0.1**
PBDV				A		A	07 28 13.8	
	167nm,0.9s							
PBDV	**Barranco-do-Ve**	**2.06**	**275**	Pn		**Pn**	**07 27 39.6**	**-0.2**
PBDV				Sn		**Sn**	**07 28 05.2**	**-0.4**
PBDV				Lg		Lg	07 28 11.1	
	167nm,0.9s							
PBDV	**Barranco-do-Ve**	**2.06**	**275**	Pn		**Pn**	**07 27 39.6**	**-0.2**
PBDV				Sn		**Sn**	**07 28 05.2**	**-0.4**
PBDV				Lg		Lg	07 28 11.1	
	167nm,0.9s							
PCVE	**Castro Verde**	**2.20**	**285**	*e*Pn		**Pn**	**07 27 41.7**	**0.0**
PCVE				*e*Sn		**Sn**	**07 28 09.2**	**+0.1**
PCVE				*e*Sg		**Sg**	**07 28 15.9**	**+0.1**
PCVE				A		A	07 28 22.4	
	95nm,0.6s							
PCVE	**Castro Verde**	**2.20**	**285**	Pn		**Pn**	**07 27 41.7**	**0.0**
PCVE				Sn		**Sn**	**07 28 09.2**	**+0.1**
PCVE				Lg		Lg	07 28 15.9	
	95nm,0.6s							
PCVE	**Castro Verde**	**2.20**	**285**	Pn		**Pn**	**07 27 41.7**	**0.0**
PCVE				Sn		**Sn**	**07 28 09.2**	**+0.1**
PCVE				*e*Sg		**Sg**	**07 28 15.9**	**+0.1**
	95nm,0.6s							
EHUE	**Huescar**	**2.32**	**71**	Pn		**Pn**	**07 27 43.9**	**+0.5**
	2.2nm,0.1s,SNR=7.9							
EHUE				Pg		**Pb**	**07 27 47.5**	**+0.5**
	6.2nm,0.2s,SNR=7.9							
EHUE				Sn		**Sn**	**07 28 11.8**	**-0.2**
	6.0nm,0.2s,SNR=7.9							
EHUE				Lg		Lg	07 28 19.5	
	23nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**2.32**	**71**	Pn		**Pn**	**07 27 43.9**	**+0.5**
	2.2nm,0.1s,SNR=7.9							
EHUE				Sn		**Sn**	**07 28 11.8**	**-0.2**
	6.0nm,0.2s,SNR=7.9							
EHUE				Lg		Lg	07 28 19.5	
	23nm,0.2s,SNR=7.9							
PESTR	**Estremoz**	**2.50**	**316**	*e*Pn		**Pn**	**07 27 46.4**	**+0.6**
PESTR				*e*Sg		**Sg**	**07 28 25.3**	**0.0**
PESTR				A		A	07 28 32.2	
	106nm,0.4s							
PESTR	**Estremoz**	**2.50**	**316**	Pn		**Pn**	**07 27 46.4**	**+0.6**
PESTR				Lg		Lg	07 28 25.3	
	106nm,0.4s							
PESTR	**Estremoz**	**2.50**	**316**	Pn		**Pn**	**07 27 46.4**	**+0.6**
PESTR				*e*Sg		**Sg**	**07 28 25.3**	**0.0**
	106nm,0.4s							
ENIJ	**Nijar**	**2.52**	**92**	Pg		**Pg**	**07 27 54.0**	**+0.6**
	31nm,0.7s,SNR=7.9							
ENIJ	**Nijar**	**2.52**	**92**	Pg		**Pg**	**07 27 54.0**	**+0.6**
	31nm,0.7s,SNR=7.9							
EVO	**Evora**	**2.55**	**305**	*e*Pn		**Pn**	**07 27 47.3**	**+0.8**
EVO	**Evora**	**2.55**	**305**	*e*Pg		**Pg**	**07 27 54.3**	**+0.5**
EVO				*e*Sn		**Sn**	**07 28 17.7**	**+0.1**
EVO				*e*Sg		**Sg**	**07 28 30.5**	**+3.7**
	132nm,0.4s							
EVO	**Evora**	**2.55**	**305**	*e*Pn		**Pn**	**07 27 47.6**	**+1.1**
EVO				*e*Sg		**Sg**	**07 28 27.3**	**+0.5**
EVO				A		A	07 28 33.8	
	83nm,0.4s							
EVO	**Evora**	**2.55**	**305**	Pn		**Pn**	**07 27 47.6**	**+1.1**
EVO				Lg		Lg	07 28 27.3	
	83nm,0.4s							
EVO	**Evora**	**2.55**	**305**	Pn		**Pn**	**07 27 47.6**	**+1.1**
EVO				*e*Sg		**Sg**	**07 28 27.3**	**+0.5**
	83nm,0.4s							
EVOP	**Sao Brissos**	**2.62**	**304**	*e*Pn		**Pn**	**07 27 47.3**	**-0.1**
EVOP	**Sao Brissos**	**2.62**	**304**	*e*Pg		**Pg**	**07 27 54.3**	**-0.9**
EVOP				*e*Sn		**Sn**	**07 28 17.7**	**-1.6**
EVOP				*e*Sg		**Sg**	**07 28 30.5**	**+1.4**
	66nm,0.4s							
MORF	**Marmelete**	**2.64**	**276**	A		A	07 59 52.0	
	8.6nm,0.5s							
MORF	**Marmelete**	**2.64**	**276**	*e*Pn		**Pn**	**07 27 48.2**	**+0.4**
MORF				*e*Sn		**Sn**	**07 28 19.2**	**-0.7**
MORF				*e*Sg		**Sg**	**07 28 29.4**	**-0.3**
MORF				A		A	07 28 39.7	
	55nm,0.5s							
MORF	**Marmelete**	**2.64**	**276**	Pn		**Pn**	**07 27 48.2**	**+0.4**
MORF				Sn		**Sn**	**07 28 19.2**	**-0.7**
MORF				Lg		Lg	07 28 29.4	
	55nm,0.5s							
MORF	**Marmelete**	**2.64**	**276**	Pn		**Pn**	**07 27 48.2**	**+0.4**
MORF				Sn		**Sn**	**07 28 19.2**	**-0.7**
MORF				Lg		Lg	07 28 29.4	
	55nm,0.5s							
PNCL	**Nicolau / Gran**	**2.72**	**293**	*e*Pn		**Pn**	**07 27 48.9**	**+0.1**
PNCL				*e*Sn		**Sn**	**07 28 21.2**	**-0.5**
PNCL				*e*Sg		**Sg**	**07 28 32.3**	**0.0**
PNCL				A		A	07 28 38.7	
	66nm,0.9s							
PNCL	**Nicolau / Gran**	**2.72**	**293**	*e*Pn		**Pn**	**07 27 48.9**	**+0.1**
PNCL				*e*Sn		**Sn**	**07 28 21.2**	**-0.5**
PNCL				*e*Sg		**Sg**	**07 28 32.3**	**0.0**
	66nm,0.9s							
EVIA	**Vianos**	**2.74**	**55**	Pn		**Pn**	**07 27 49.7**	**+0.5**
	4.4nm,0.1s,SNR=7.9							
EVIA				Pg		**Pb**	**07 27 55.9**	**+1.7**
	4.1nm,0.1s,SNR=7.9							
EVIA				Sn		**Sn**	**07 28 22.2**	**-0.2**
	6.8nm,0.1s,SNR=7.9							
EVIA				Lg		Lg	07 28 34.5	
	22nm,0.2s,SNR=7.9							
EVIA	**Vianos**	**2.74**	**55**	Pn		**Pn**	**07 27 49.7**	**+0.5**
	4.4nm,0.1s,SNR=7.9							
PFVI	**Vila Bisbo**	**2.77**	**272**	*e*Sn		**Sn**	**07 28 21.4**	**-1.7**
PFVI				*e*Sg		**Sg**	**07 28 33.4**	**-0.7**
PFVI				A		A	07 28 43.4	
	80nm,0.5s							
PFVI	**Vila Bisbo**	**2.77**	**272**	Pn		**Pn**	**07 27 49.5**	**-0.1**
	5.2nm,0.1s,SNR=7.9							
PFVI				Sn		**Sn**	**07 28 21.1**	**-2.0**
	9.7nm,0.2s,SNR=7.9							
PFVI				Lg		Lg	07 28 33.0	
	27nm,0.2s,SNR=7.9							
PFVI	**Vila Bisbo**	**2.77**	**272**	Pn		**Pn**	**07 27 49.5**	**-0.1**
	5.2nm,0.1s,SNR=7.9							
PFVI				*e*Sn		**Sn**	**07 28 21.4**	**-1.7**
PFVI				Lg		Lg	07 28 33.0	
	27nm,0.2s,SNR=7.9							
PFVI				*e*Sg		**Sg**	**07 28 33.4**	**-0.7**
	80nm,0.5s							
ESDC	**Sonseca Array**	**2.80**	**23**	Pn		**Pn**	**07 27 50.9**	**+0.8**
	SNR=7.9							
ESDC				Pg		**Pg**	**07 27 58.4**	**-0.3**
	SNR=7.9							
ESDC				Sn		**Sn**	**07 28 23.8**	**-0.1**
	4.3nm,0.3s,baz=205,slow=16,SNR=8.0							
ESDC				Lg		Lg	07 28 35.9	
	14nm,0.1s,baz=203,slow=30,SNR=25							
ESDC	**Sonseca Array**	**2.80**	**23**	Pn		**Pn**	**07 27 50.9**	**+0.8**
	SNR=7.9							
ESDC	**Sonseca Array**	**2.80**	**23**	Pg		**Pg**	**07 27 58.4**	**-0.3**
	SNR=7.9							
ESDC				Sn		**Sn**	**07 28 23.8**	**-0.1**
	4.3nm,0.3s,baz=205,SNR=8.0							
ESDC				Lg		Lg	07 28 35.9	
	14nm,0.1s,baz=203,slow=30,SNR=25							
PMRV	**Marv??o**	**2.83**	**326**	*e*Pn		**Pn**	**07 27 50.8**	**+0.4**
PMRV				*e*Sn		**Sn**	**07 28 24.8**	**+0.2**
PMRV				*e*Sg		**Sg**	**07 28 35.3**	**-0.6**
PMRV				A		A	07 28 40.8	
	88nm,0.5s							
PMRV	**Marv??o**	**2.83**	**326**	Pn		**Pn**	**07 27 50.8**	**+0.4**
PMRV				Sn		**Sn**	**07 28 24.8**	**+0.2**
PMRV				Lg		Lg	07 28 35.3	
	88nm,0.5s							
PMRV	**Marv??o**	**2.83**	**326**	Pn		**Pn**	**07 27 50.8**	**+0.4**
PMRV				Sn		**Sn**	**07 28 24.8**	**+0.2**
PMRV				*e*Sg		**Sg**	**07 28 35.3**	**-0.6**
	88nm,0.5s							
PMTG	**Montargil**	**3.00**	**312**	*e*Pn		**Pn**	**07 27 53.4**	**+0.7**
PMTG				*e*Sn		**Sn**	**07 28 28.6**	**-0.2**
PMTG				*e*Sg		**Sg**	**07 28 41.4**	**0.0**
PMTG				A		A	07 28 54.0	
	114nm,0.7s							
PMTG	**Montargil**	**3.00**	**312**	*e*Pn		**Pn**	**07 27 53.4**	**+0.7**
PMTG				*e*Sn		**Sn**	**07 28 28.6**	**-0.2**
PMTG				*e*Sg		**Sg**	**07 28 41.4**	**0.0**
	114nm,0.7s							
EPLA	**Plasencia**	**3.02**	**349**	Pn		**Pn**	**07 27 53.4**	**+0.3**
	1.4nm,0.1s,SNR=7.9							
EPLA				Pg		**Pb**	**07 28 01.1**	**+2.1**
	3.5nm,0.2s,SNR=7.9							
EPLA				Sn		**Sn**	**07 28 27.6**	**-1.7**
	14nm,0.2s,SNR=7.9							
EPLA				Lg		Lg	07 28 39.8	
	236nm,0.4s,SNR=7.9							
EPLA	**Plasencia**	**3.02**	**349**	Pn		**Pn**	**07 27 53.3**	**+0.3**
	1.4nm,0.1s,SNR=7.9							
ALMR	**Almeirim**	**3.27**	**310**	*e*S		**Sn**	**07 28 34.7**	**-0.7**
ALMR				AML		AML	07 28 44.4	
	comp=N,132nm,1.0s							
ALMR	**Almeirim**	**3.27**	**310**	Sn		**Sn**	**07 28 34.7**	**-0.7**
ALMR	**Almeirim**	**3.27**	**310**	*e*S		**Sn**	**07 28 34.7**	**-0.7**
PMAFR	**Mafra**	**3.62**	**302**	*e*Pn		**Pn**	**07 28 02.4**	**+1.3**
PMAFR				*e*Sn		**Sn**	**07 28 43.6**	**-0.3**
PMAFR				A		A	07 29 23.0	
	comp=N,78nm,0.5s							
PMAFR	**Mafra**	**3.62**	**302**	Pn		**Pn**	**07 28 00.4**	**-0.8**
	comp=N,5.9nm,0.2s,SNR=7.9							
PMAFR				Sn		**Sn**	**07 28 42.4**	**-1.5**
	comp=N,11nm,0.2s,SNR=7.9							
PMAFR				Lg		Lg	07 29 00.7	
	comp=N,13nm,0.2s,SNR=7.9							
PMAFR	**Mafra**	**3.62**	**302**	Pn		**Pn**	**07 28 00.4**	**-0.8**
	comp=N,5.9nm,0.2s,SNR=7.9							
PMAFR				*e*Sn		**Sn**	**07 28 43.6**	**-0.3**
	comp=N,78nm,0.5s							
PMAFR				Lg		Lg	07 29 00.7	
	comp=N,13nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**3.67**	**14**	Pn		**Pn**	**07 28 03.3**	**+1.3**
	comp=N,0.5nm,0.1s,SNR=7.9							
GUD				Pg		**Pg**	**07 28 15.1**	**-0.1**
	comp=N,4.2nm,0.3s,SNR=7.9							
GUD				Sn		**Sn**	**07 28 40.2**	**-5.2**
	comp=N,2.6nm,0.2s,SNR=7.9							
GUD				Lg		Lg	07 28 58.7	
	comp=N,32nm,0.6s,SNR=7.9							
GUD	**Guadarrama**	**3.67**	**14**	Pn		**Pn**	**07 28 03.3**	**+1.3**
	comp=N,0.5nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**4.27**	**343**	*e*Pn		**Pn**	**07 28 10.5**	**+0.2**
MVO				*e*Sn		**Sn**	**07 28 59.0**	**-1.2**
MVO				*e*Sg		**Sg**	**07 29 19.0**	**-3.1**
MVO				A		A	07 29 24.4	
	comp=N,69nm,0.5s							
MVO	**Moncorvo**	**4.27**	**343**	Pn		**Pn**	**07 28 10.4**	**+0.2**
	comp=N,1.2nm,0.1s,SNR=7.9							
MVO				Pg		**Pb**	**07 28 22.6**	**+2.3**
	comp=N,4.7nm,0.3s,SNR=7.9							
MVO				Sn		**Sn**	**07 28 58.0**	**-2.2**
	comp=N,3.7nm,0.1s,SNR=7.9							
MVO				Lg		Lg	07 29 20.3	
	comp=N,47nm,0.3s,SNR=7.9							
MVO	**Moncorvo**	**4.27**	**343**	Pn		**Pn**	**07 28 10.4**	**+0.2**
	comp=N,1.2nm,0.1s,SNR=7.9							
MVO				*e*Sn		**Sn**	**07 28 59.0**	**-1.2**
MVO				*e*Sg		**Sg**	**07 29 19.0**	**-3.1**
	comp=N,69nm,0.5s							
MVO				Lg		Lg	07 29 20.3	
	comp=N,47nm,0.3s,SNR=7.9							
ETOR	**Torete**	**4.53**	**34**	Pn		**Pn**	**07 28 14.9**	**+1.1**
	comp=N,9.6nm,0.2s,SNR=7.9							
ETOR				Sn		**Sn**	**07 29 04.9**	**-1.6**
	comp=N,9.3nm,0.2s,SNR=7.9							
ETOR				Lg		Lg	07 29 29.4	
	comp=N,40nm,0.3s,SNR=7.9							
PBRG	**Braganca**	**4.83**	**348**	*e*Sn		**Sn**	**07 29 11.7**	**-2.2**
PBRG				*e*Sg		**Sg**	**07 29 38.9**	**-1.1**
PBRG				A		A	07 29 42.4	
	comp=N,43nm,0.6s							
PBRG	**Braganca**	**4.83**	**348**	Sn		**Sn**	**07 29 11.7**	**-2.2**
PBRG				Lg		Lg	07 29 38.9	
	comp=N,21nm,0.6s							
PBRG	**Braganca**	**4.83**	**348**	Sn		**Sn**	**07 29 11.7**	**-2.2**
PBRG				*e*Sg		**Sg**	**07 29 38.9**	**-1.1**
	comp=N,43nm,0.6s							
IELO	**Elcoad**	**6.56**	**28**	Pn		**Pn**	**07 28 43.2**	**+1.6**
	SNR=7.9							
IELO				Sn		**Sn**	**07 29 54.4**	**-2.1**
	SNR=7.9							
IELO	**Elcoad**	**6.56**	**28**	Pn		**Pn**	**07 28 43.2**	**+1.6**
	SNR=7.9							
SJPF	**Ste Jean**	**6.80**	**26**	*e*Pn		**Pn**	**07 28 45.3**	**+0.4**
SJPF				*e*Sg		**Sg**	**07 30 40.4**	**-2.7**
	comp=N,5.5nm,0.5s							
SJPF	**Ste Jean**	**6.80**	**26**	Pn		**Pn**	**07 28 45.3**	**+0.4**
SJPF				Lg		Lg	07 30 40.4	
	comp=N,1.4nm,0.5s							
ETSF	**Etsaut**	**6.87**	**31**	*e*Pn		**Pn**	**07 28 46.5**	**+0.6**
ETSF	**Etsaut**	**6.87**	**31**	Pn		**Pn**	**07 28 46.5**	**+0.6**
EPF	**Esparros**	**7.37**	**35**	*e*Pn		**Pn**	**07 28 53.4**	**+0.7**
EPF	**Esparros**	**7.37**	**35**	Pn		**Pn**	**07 28 53.4**	**+0.7**

GUC 05 07:31:09.6±0.6,**31°.23S**×**68°.87W,h145**km,**MD3.1,ML3.8, 2C-2D,San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PTCH	**Petorca**	**2.03**	**239**	*e*P		Pn	07 31 45.3	+0.4
PTCH				*i* S		Sn	07 32 12.6	+0.7
PTCH				AML		AML	07 32 14.6	
	comp=E,775nm,0.2s							
OVCH	**Ovalle**	**2.09**	**287**	⇓*i*P		Pn	07 31 45.9	+0.3
OVCH				*i* S		Sn	07 32 13.7	+0.6
CHNG	**Los Chungos**	**2.33**	**253**	*i* P		Pn	07 31 48.7	+0.3
CHNG				*i* S		Sn	07 32 18.0	-0.3
CHNG				AML		AML	07 32 26.6	
	comp=E,263nm,0.4s							
PEL	**Peldehue**	**2.45**	**218**	⇑*i*P		Pn	07 31 50.6	+0.7
PEL				*i* S		Sn	07 32 21.2	+0.1
PEL				AML		AML	07 32 23.1	
	comp=N,479nm,0.6s							
ROCH	**El Roble**	**2.51**	**226**	⇓*i*P		Pn	07 31 50.5	-0.4
ROCH				*i* S		Sn	07 32 22.6	-0.2
ROCH				AML		AML	07 32 26.9	
	comp=N,332nm,0.4s							
CLCH	**Cerro Calan**	**2.58**	**213**	⇑*i*P		Pn	07 31 52.0	+0.4
CLCH				*i* S		Sn	07 32 24.7	+0.7
CLCH				AML		AML	07 32 34.5	
	comp=E,368nm,0.4s							
CLCH				AML		AML	07 32 37.1	
	comp=E,290nm,0.6s							
ANTU	**Antumapu**	**2.77**	**212**	*e*P		Pn	07 31 54.1	+0.3
ANTU				*i* S		Sn	07 32 28.6	+0.5
ANTU				AML		AML	07 32 35.5	
	comp=E,163nm,0.3s							
LMEL	**Las Melosas**	**2.84**	**203**	AML		AML	07 32 40.9	
	comp=N,105nm,0.2s							
VACH	**Vallenar**	**3.11**	**328**	AML		AML	07 32 38.7	
	comp=N,529nm,0.2s							

IDC ***05*** *07:45:51.0±1.4, 32°.75S×178°.95W, h0km, mb4.1/4, mb1 4.3/4, mb1mx4.0/15, mbtmp4.1/4, Error ellipse: s-maj=47.3km s-min=29.5km az=38.0*

ISC 05 07:45:58.2±1.1,**33°.29S**±0°.08×**179°.5W**±0°.1,**h35**km,**n45,** σ1§**91**/48,**mb4.1/4,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.64**	**203**	*e*PN		**Pn**	**07 47 06.7**	**+1.0**
PUZ	**Puketiti**	**5.13**	**201**	PN		**Pn**	**07 47 13.3**	**+0.9**
PUZ				SN		**Sn**	**07 48 10.4**	**0.0**
CNGZ	**Carnagh Statio**	**5.52**	**199**	PN		**Pn**	**07 47 18.2**	**+0.3**
MWZ	**Matawai**	**5.60**	**205**	PN		**Pn**	**07 47 20.3**	**+1.3**
MWZ				SN		**Sn**	**07 48 26.3**	**+4.1**
URZ	**Urewera**	**5.70**	**208**	PN		**Pn**	**07 47 20.8**	**+0.6**
URZ				SN		**Sn**	**07 48 27.9**	**+3.5**
PRGZ	**Paritu Road**	**6.02**	**200**	*e*PN		**Pn**	**07 47 24.6**	**-0.2**
OUZ	**Omahuta**	**6.08**	**250**	PN		Pn	07 47 32.3	+6.9
KNZ	**Kokohu**	**6.18**	**201**	*e*PN		**Pn**	**07 47 26.7**	**-0.1**
MHGZ	**Mahia Peninsul**	**6.23**	**199**	*e*PN		**Pn**	**07 47 27.2**	**-0.4**
RAHZ	**Arahi**	**6.28**	**206**	*e*PN		**Pn**	**07 47 30.4**	**+2.1**
NMHZ	**Naumai**	**6.54**	**207**	PN		**Pn**	**07 47 33.3**	**+1.4**
BKZ	**Black Stump Fm**	**6.72**	**208**	*e*PN		**Pn**	**07 47 34.5**	**+0.1**
BKZ				SN		**Sn**	**07 48 52.0**	**+2.3**
MCHZ	**McNeill Hill**	**6.88**	**206**	PN		**Pn**	**07 47 37.8**	**+1.2**
MCHZ				SN		**Sn**	**07 48 56.6**	**+2.9**
KAHZ	**Kahuranaki**	**7.14**	**203**	PN		**Pn**	**07 47 39.0**	**-1.0**
BHHZ	**Black Hill Sta**	**7.17**	**209**	*e*PN		**Pn**	**07 47 41.0**	**+0.5**
WNVZ	**Wahianoa**	**7.23**	**212**	*e*PN		**Pn**	**07 47 43.3**	**+1.8**
**P

JFT eS Sg 07 53 39.5 +0.3
JIO Ouri 1.61 338 P Pb 07 53 19.8 -0.2
JIO eS Sg 07 53 41.9 +0.1
JOU Okura 1.82 321 P Pb 07 53 23.5 -0.1
JOU eS Sg 07 53 47.7 -0.7
JYS Shirataka 2.06 308 P Pb 07 53 27.2 -0.5
JYS eS Sb 07 53 54.3 +0.8
JMK Ichinoseki 2.11 340 P Pn 07 53 27.1 +1.5
JMK eS Sb 07 53 54.3 -0.6
JAG Ashikaga 2.21 257 P Pn 07 53 27.5 +0.4
JAG eS Sn 07 53 54.9 +0.2
MJAR Matsushiro Arr 3.17 264 Pn Pn 07 53 41.7 +1.3
2.3nm,0.3s,baz=89,slow=15,SNR=9.7
MJAR Sn Sb 07 54 23.8 -1.8
1.7nm,0.3s,baz=308,slow=29,SNR=5.6
MAT Matsushiro 3.17 264 P Pn 07 53 42.9 +2.6
MAT S Sn 07 54 12.1 -6.3
ASAJ Asahikawa 7.15 3 Pn Pn 07 54 35.3 +0.4
1.3nm,0.3s,baz=191,slow=16,SNR=5.0
ASAJ LR LR 07 57 54.0
comp=Z,70nm,21.9s,baz=193,slow=43
USRK Ussuriysk Arra 10.55 316 LR LR 07 58 59.6
comp=Z,40nm,20.8s,baz=6.3,slow=35
SONM Songino Array 28.30 304 P P 07 58 44.4 +0.3
0.9nm,0.7s,baz=98,slow=8.2,SNR=5.4
MKAR Makanchi Array 44.64 302 P P 08 01 01.5 -1.5
0.3nm,0.4s,baz=96,slow=7.2,SNR=11
ILAR Eielson Array 49.25 32 P P 08 01 39.0 +0.2
0.4nm,0.7s,baz=257,slow=5.8,SNR=8.6

IDC 05 07:59:14.5±1.4, 13°41N×88°60W, h143km±37km, mb3.2/4, mb1 3.5/6, mb1mx3.3/21, mbtmp3.2/6, MS3.0/1, Ms1 3.0/1, ms1mx2.4/14, Error ellipse: s-maj=99.1km s-min=13.1km az=35.0, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**4.73**	**131**	P	Pn	08 00 25.3	+1.1
	16nm,0.3s,baz=312,slow=19,SNR=18						
JTS				S	Sn	08 01 18.4	-0.2
	17nm,0.3s,baz=329,slow=19,SNR=7.3						
JTS				LR	LR	08 02 31.6	
	comp=Z,160nm,21.0s,baz=116,slow=42						
CMIG	**Matias Romero**	**7.08**	**302**	P	Pn	08 00 56.2	+0.6
	1.1nm,0.3s,baz=166,slow=23,SNR=19						
CMIG				S	Sn	08 02 13.4	-1.6
	0.8nm,0.3s,baz=264,slow=23,SNR=8.6						
TXAR	**Lajitas Array**	**21.13**	**321**	P	P	08 03 49.9	+1.6
	0.9nm,0.6s,baz=144,slow=11,SNR=12						
ULM	**Lac du Bonnet**	**37.22**	**352**	P	P	08 06 11.2	-0.8
	1.3nm,0.4s,baz=166,slow=11,SNR=4.4						
YKA	**Yellowknife Ar**	**52.40**	**345**	P	P	08 08 12.1	+0.2
	0.4nm,0.4s,baz=146,slow=7.0,SNR=18						
ILAR	**Eielson Array**	**64.70**	**336**	P	P	08 09 36.4	-0.6
	0.3nm,0.6s,baz=167,slow=5.0,SNR=8.0						

*IDC **05** 08:01:37.6±2.1, 32°75S×179°32W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.8/13, mbtmp3.9/2, Error ellipse: s-maj=76.7km s-min=45.0km az=21.0*

ISC 05 08:02:12.1±1.7, 33°3S×0°1×179°3E±0°2, h300km, n56, σ1§47/68, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.29**	**191**	PN	**Pn**	**08 03 19.8**	**-1.6**
MXZ				SN	**S**	**08 04 16.5**	**-0.5**
PUZ	**Puketiti**	**4.80**	**190**	PN	**Pn**	**08 03 25.9**	**-1.4**
PUZ				SN	**S**	**08 04 28.0**	**+0.5**
MWZ	**Matawai**	**5.19**	**196**	PN	**Pn**	**08 03 31.3**	**-0.5**
MWZ				SN	**S**	**08 04 37.7**	**+1.9**
CNGZ	**Carnagh Statio**	**5.21**	**189**	*e*PN	**Pn**	**08 03 30.9**	**-1.1**
URZ	**Urewera**	**5.22**	**199**	PN	**Pn**	**08 03 32.0**	**0.0**
PRGZ	**Paritu Road**	**5.69**	**191**	*e*PN	**Pn**	**08 03 39.3**	**+1.6**
KNZ	**Kokohu**	**5.82**	**193**	PN	**Pn**	**08 03 39.0**	**-0.2**
RAHZ	**Arahi**	**5.84**	**197**	SN	**S**	**08 04 52.5**	**+2.6**
NMHZ	**Naumai**	**6.09**	**199**	PN	**Pn**	**08 03 42.5**	**0.0**
BKZ	**Black Stump Fm**	**6.24**	**200**	*e*PN	**Pn**	**08 03 41.2**	**-3.1**
MCHZ	**McNeill Hill**	**6.44**	**198**	PN	**Pn**	**08 03 47.8**	**+1.2**
CKHZ	**Cape Kidnapper**	**6.55**	**195**	SN	**S**	**08 05 07.4**	**+2.1**
BHHZ	**Black Hill Sta**	**6.67**	**202**	PN	**Pn**	**08 03 49.7**	**+0.3**
WNVZ	**Wahianoa**	**6.68**	**205**	PN	**Pn**	**08 03 52.0**	**+2.3**
MOVZ	**Moawhango**	**6.70**	**204**	PN	**Pn**	**08 03 51.1**	**+1.3**
KAHZ	**Kahuranaki**	**6.73**	**196**	PN	**Pn**	**08 03 49.0**	**-1.1**
PXZ	**Pawanui**	**6.96**	**196**	PN	**Pn**	**08 03 51.2**	**-1.7**
PNHZ	**Pukenui**	**7.02**	**200**	*e*PN	**Pn**	**08 03 54.6**	**+0.9**
WPHZ	**Waipukurau**	**7.09**	**198**	*e*PN	**Pn**	**08 03 56.2**	**+1.7**
PRHZ	**Porangahau**	**7.24**	**196**	*e*PN	**Pn**	**08 03 54.7**	**-1.5**
PRHZ				SN	**S**	**08 05 22.7**	**+2.2**
DVHZ	**Dannevirke**	**7.38**	**199**	PN	**Pn**	**08 03 58.7**	**+0.6**
ANWZ	**Angora Road**	**7.46**	**197**	*e*PN	**Pn**	**08 03 59.9**	**+0.9**
ANWZ				SN	**S**	**08 05 26.1**	**+0.7**
POWZ	**Post Office Ro**	**7.58**	**201**	PN	**Pn**	**08 04 01.3**	**+0.8**
PRWZ	**Pori Road**	**7.68**	**199**	*e*PN	**Pn**	**08 04 03.3**	**+1.6**
BFZ	**Birch Farm**	**7.72**	**198**	PN	**Pn**	**08 04 01.3**	**-0.8**
MRZ	**Mangatainoka R**	**7.89**	**201**	*e*PN	**Pn**	**08 04 02.5**	**-1.7**
TIWZ	**Tintock**	**7.91**	**199**	*e*PN	**Pn**	**08 04 04.5**	**+0.1**
TIWZ				SN	**S**	**08 05 36.6**	**+1.0**
HOWZ	**Holdsworth Sta**	**8.12**	**201**	*e*PN	**Pn**	**08 04 07.2**	**0.0**
HOWZ				SN	**S**	**08 05 41.1**	**+0.6**
OGWZ	**Otaki Gorge**	**8.16**	**203**	*e*PN	**Pn**	**08 04 06.1**	**-1.4**
OGWZ				SN	**S**	**08 05 39.8**	**-1.3**
KIW	**Kapiti Island**	**8.28**	**204**	*e*PN	**Pn**	**08 04 09.1**	**+0.1**
KIW				SN	**S**	**08 05 44.4**	**+0.4**
MTW	**Mount Morrison**	**8.37**	**200**	PN	**Pn**	**08 04 10.0**	**-0.1**
CAW	**Cannon Point**	**8.45**	**202**	PN	**Pn**	**08 04 09.4**	**-1.8**
TRWZ	**Traveller**	**8.54**	**199**	PN	**Pn**	**08 04 12.9**	**+0.7**
DUWZ	**D'Urville Isla**	**8.60**	**208**	PN	**P**	**08 04 14.9**	**-3.2**
PAWZ	**Paruwai Farm**	**8.60**	**200**	PN	**Pn**	**08 04 13.6**	**+0.7**
PAWZ				SN	**S**	**08 05 50.1**	**-1.0**
MSWZ	**Moikau Station**	**8.68**	**201**	*e*PN	**Pn**	**08 04 15.0**	**+1.1**
TCW	**Tory Channel**	**8.81**	**206**	*e*PN	**Pn**	**08 04 15.5**	**-0.1**
TCW				SN	**S**	**08 05 57.3**	**+1.4**
PLWZ	**Palliser**	**8.82**	**200**	PN	**Pn**	**08 04 15.5**	**-0.1**
TUWZ	**Tuamarina**	**9.13**	**206**	PN	**Pn**	**08 04 19.4**	**+0.1**
NNZ	**Nelson**	**9.16**	**209**	PN	**Pn**	**08 04 21.4**	**+1.5**
NNZ				SN	**S**	**08 06 06.4**	**+2.5**
QRZ	**Quartz Range**	**9.22**	**214**	*e*PN	**P**	**08 04 22.4**	**-2.6**
BSWZ	**Blackbirch Sta**	**9.40**	**206**	PN	**P**	**08 04 24.7**	**-2.3**
THZ	**Tophouse**	**9.82**	**209**	PN	**P**	**08 04 29.3**	**-2.4**
KHZ	**Kahutara**	**10.14**	**205**	*e*PN	**Pn**	**08 04 32.4**	**+0.7**
KHZ				SN	**S**	**08 06 25.6**	**-0.2**
DSZ	**Denniston Nort**	**10.28**	**213**	*e*PN	**Pn**	**08 04 34.0**	**+0.4**
DSZ				SN	**S**	**08 06 29.8**	**+0.6**
CTZ	**Chatham Island**	**10.86**	**164**	*e*PN	P	08 04 56.1	+13
LTZ	**Lake Taylor**	**10.93**	**208**	*e*PN	**P**	**08 04 42.7**	**-1.3**
LTZ				SN	**S**	**08 06 42.8**	**-1.0**
MQZ	**McQueen's Vall**	**11.58**	**205**	SN	**S**	**08 06 57.4**	**-1.0**
WVZ	**Waitaha Valley**	**11.81**	**212**	SN	**S**	**08 07 04.3**	**+0.5**
RPZ	**Rata Peaks**	**12.20**	**209**	SN	**S**	**08 07 13.6**	**+1.2**
ODZ	**Otahua Downs**	**13.46**	**207**	SN	**S**	**08 07 41.4**	**+0.7**
JCZ	**Jackson Bay**	**14.50**	**214**	PN	**Pn**	**08 05 13.4**	**+0.8**
ASAR	**Alice Springs**	**40.77**	**272**	P	P	08 09 30.2	+5.3
	0.6nm,0.5s,baz=107,slow=7.9,SNR=7.7						
WRA	**Warramunga Arr**	**42.03**	**277**	P	P	08 09 39.8	+4.7
	0.9nm,0.4s,baz=116,slow=7.7,SNR=12						
FINES	**FINESS Array B**	**147.02**	**337**	PKPbc	**PKPab**	**08 21 20.7**	**-0.5**
	0.7nm,0.5s,baz=48,slow=2.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**159.78**	**187**	PKPab	**PKPab**	**08 22 20.2**	**+4.0**
	0.5nm,0.5s,baz=192,slow=3.4,SNR=6.9						

*IDC **05** 08:10:15.3±8.4, 1°98N×127°67E, h75km±74km, mb4.1/6, mb1 4.3/7, mb1mx3.8/20, mbtmp4.2/7, ML4.8/1, Error ellipse: s-maj=81.4km s-min=16.7km az=60.0*
*ISCJB **05** 08:10:17.5±0.8, 1°9N±0°1×127°4E±0°2, h112km, mb4.4/7, Error ellipse: s-maj=24.9km s-min=12.3km az=160.5*
*NEIC **05** 08:10:18.3±4.7, 1°86N×127°48E, h102km±40km, mb4.6/2, Error ellipse: s-maj=49.3km s-min=10.5km az=58.0*
*DJA **05** 08:10:32, 0°99N×126°61E, h15km, ML4.3/8*

ISC 05 08:10:19.5±1.1, 1°8N±0°1×127°4E±0°2, h112km, n19, σ0§42/19, mb4.5/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**10.24**	**228**	P	**Pn**	**08 12 43.1**	**-0.3**
KAPI	**Kappang**	**10.24**	**228**	P	**Pn**	**08 12 43.1**	**-0.3**
	7.2nm,0.3s,baz=54,slow=7.1,SNR=12						
FITZ	**Fitzroy Crossi**	**19.88**	**185**	P	**P**	**08 14 42.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**19.88**	**185**	P	**P**	**08 14 42.5**	**+0.4**
	4.1nm,0.7s,baz=18,slow=6.1,SNR=7.0						
WRAB	**Tennant Creek**	**22.68**	**163**	*e*P	**P**	**08 15 11.2**	**-0.5**
	13nm,0.6s						
WRA	**Warramunga Arr**	**22.68**	**163**	P	**P**	**08 15 11.0**	**-0.7**
WRA	**Warramunga Arr**	**22.68**	**163**	P	**P**	**08 15 11.0**	**-0.7**
	17nm,0.5s,baz=344,slow=11,SNR=62						
AS31	**Alice Springs**	**26.12**	**166**	*e*P	**P**	**08 15 42.9**	**-0.3**
ASAR	**Alice Springs**	**26.12**	**166**	P	**P**	**08 15 43.0**	**-0.1**
ASAR	**Alice Springs**	**26.12**	**166**	P	**P**	**08 15 43.0**	**-0.1**
	2.7nm,0.5s,baz=352,slow=7.5,SNR=40						
FORT	**Forrest**	**32.44**	**179**	*e*P	**P**	**08 16 39.0**	**0.0**
	14nm,0.7s						
STKA	**Stephens Creek**	**36.12**	**159**	P	**P**	**08 17 11.2**	**+0.4**
STKA	**Stephens Creek**	**36.12**	**159**	P	**P**	**08 17 11.2**	**+0.4**
	8.3nm,0.4s,baz=337,slow=8.3,SNR=34						
MKAR	**Makanchi Array**	**59.49**	**326**	P	**P**	**08 20 11.3**	**+0.4**
MKAR	**Makanchi Array**	**59.49**	**326**	P	**P**	**08 20 11.3**	**+0.4**
	1.6nm,0.6s,baz=116,slow=8.0,SNR=18						
KURBB	**Kurchatov Arra**	**63.70**	**328**	P	**P**	**08 20 39.0**	**0.0**
	1.3nm,0.5s,baz=127,slow=6.3,SNR=13						
KURK	**Kurchatov**	**63.70**	**328**	P	**P**	**08 20 39.0**	**0.0**
TORD	**Torodi Ar. Bea**	**124.14**	**287**	PKP	**PKPdf**	**08 29 05.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**124.14**	**287**	PKP	**PKPdf**	**08 29 05.6**	**-0.3**
	0.3nm,0.7s,baz=90,slow=2.9,SNR=2.3						

*IDC **05** 08:47:41.7±0.6, 27°35S×176°43W, h0km, mb4.6/14, mb1 4.8/14, mb1mx4.8/15, mbtmp4.6/14, MS4.3/20, Ms1 4.3/20, ms1mx4.1/32, Error ellipse: s-maj=22.0km s-min=19.9km az=152.0*
*ISCJB **05** 08:47:46.0±0.2, 27°47S±0°06×176°44W±0°05, h34km, mb4.9/55, MS4.4/26, Error ellipse: s-maj=9.3km s-min=4.9km az=148.1*
*MOS **05** 08:47:46.0±0.8, 27°35S×176°48W, h33km, mb5.1/14, Error ellipse: s-maj=13.3km s-min=12.6km az=83.7*
*BJI **05** 08:47:46.9, 26°78S×176°18W, h28km, mB5.5/20, mb5.1/29, Ms5.0/10, Ms7 4.7/13*
*NEIC **05** 08:47:47.7±0.2, 27°42S×176°45W, mb5.0/28, Error ellipse: s-maj=8.5km s-min=4.9km az=134.0*

ISC 05 08:47:47.2±0.4, 27°51S±0°06×176°33W±0°07, h34km, h34km:pP-P, n259, σ1§21/271, mb5.0/55, MS4.3/26, 47C-42D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.23**	**219**	*e*Pn	**Pn**	**08 48 23.3**	**+1.6**
RAO				*e*Sn	**Sb**	**08 48 54.0**	**0.0**
MSVF	**Nonsavu**	**11.03**	**331**	*e*P	**Pn**	**08 50 21.5**	**-1.2**
MSVF	**Nonsavu**	**11.03**	**331**	*e*Pn	**Pn**	**08 50 21.5**	**-1.2**
PUZ	**Puketiti**	**11.47**	**202**	*e*PN	Pn	08 50 22.2	-6.4
PUZ				SN	**Sn**	**08 52 30.2**	**-5.3**
OUZ	**Omahuta**	**11.54**	**226**	*e*Pn	**Pn**	**08 50 30.9**	**+1.4**
URZ	**Urewera**	**12.05**	**206**	*e*Pn	**Pn**	**08 50 38.0**	**+1.6**
AFI	**Afiamalu**	**14.19**	**18**	Pn	Pn	08 50 58.6	-7.2
AFI				*e*Sn	Sn	08 53 18.8	-23
AFI				Sn	S	08 53 22.5	-40
AFI	**Afiamalu**	**14.19**	**18**	Pn	Pn	08 50 58.6	-7.2
	3.9nm,0.3s,baz=56,slow=2.2,SNR=9.0						
AFI				Sn	Sn	08 53 22.5	-20
	1.1nm,0.3s,baz=37,slow=20,SNR=5.5						
BFZ	**Birch Farm**	**14.49**	**203**	SN	Sn	08 53 38.8	-10
SNZO	**South Karori**	**15.61**	**206**	*e*Pn	**Pn**	**08 51 24.4**	**-0.1**
	63nm,1.0s						
RAR	**Rarotonga**	**16.33**	**71**	*e*Pn	Pn	08 51 26.2	-7.8
	533nm,2.3s						
RAR	**Rarotonga**	**16.33**	**71**	Pn	Pn	08 51 26.1	-7.8
	1.2nm,0.3s,baz=192,slow=5.9,SNR=3.1						
RAR				LR	LR	08 55 59.4	
	comp=Z,645nm,18.4s,baz=263,slow=30						
DZM	**Mont Dzumac**	**16.55**	**285**	*e*P	P	08 51 46.4	+7.3
	160nm,1.3s						
DZM				*e*LR	LR	08 55 36.7	
	3µm,26.3s						
DZM	**Mont Dzumac**	**16.55**	**285**	Pn	**P**	**08 51 40.4**	**+1.3**
DZM	**Mont Dzumac**	**16.55**	**285**	Pn	**P**	**08 51 40.4**	**+1.3**
	0.2nm,0.3s,baz=100,slow=15,SNR=3.3						
DZM				LR	LR	08 56 41.5	
	comp=Z,2µm,18.9s,baz=198,slow=33						
THZ	**Tophouse**	**16.73**	**209**	PN	**Pn**	**08 51 35.3**	**-3.6**
THZ				SN	Sn	08 54 32.0	-12
KHZ	**Kahutara**	**17.01**	**206**	*e*PN	**Pn**	**08 51 42.6**	**+0.3**
	46nm,0.7s						
KHZ	**Kahutara**	**17.01**	**206**	*e*PN	**Pn**	**08 51 40.5**	**-1.8**
KHZ				SN	Sn	08 54 37.2	-13
TBI	**Tubuai**	**24.59**	**86**	eLQ	LQ	08 57 40.7	
	967nm,28.2s						
TBI				eLR	LR	08 58 54.6	
	1µm,29.2s						
PAE	**Paea**	**26.52**	**74**	*e*T	T	09 20 31.8	
	7.7nm,0.4s						
PPT2	**Papeete2**	**26.55**	**74**	eLQ	LQ	08 58 25.6	
	1µm,24.5s						
PPT2				eLR	LR	08 59 44.4	
	1µm,28.2s						
PPT2				*e*T	T	09 20 37.5	
	2.9nm,0.3s						
ARMA	**Armidale**	**28.14**	**256**	*e*P	**P**	**08 53 36.6**	**+0.3**
	5.9nm,0.9s						
ARMA	**Armidale**	**28.14**	**256**	*e*P	**P**	**08 53 38.4**	**+2.1**
HNR	**Honiara**	**28.71**	**304**	LR	LR	09 03 35.0	
	comp=Z,559nm,19.6s,baz=341,slow=33						
EIDS	**Eidsvold**	**29.22**	**267**	*e*P	**P**	**08 53 46.5**	**+0.6**
	9.0nm,1.0s						
CNB	**Canberra Magne**	**30.18**	**246**	*e*P	**P**	**08 53 55.9**	**+1.5**
	28nm,0.8s						
TOO	**Toolangi**	**33.52**	**243**	*e*P	**P**	**08 54 24.1**	**+0.5**
	70nm,1.1s						
CTA	**Charters Tower**	**34.92**	**274**	LR	LR	09 07 29.1	
	comp=Z,1µm,19.2s,baz=104,slow=34						
CTAO	**Charters Tower**	**34.92**	**274**	*e*P	**P**	**08 54 35.9**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,33nm,1.4s						
CTAO	**Charters Tower**	**34.92**	**274**	*e*P	**P**	**08 54 35.9**	**-0.1**
	comp=Z,33nm,1.4s						
STKA	**Stephens Creek**	**36.65**	**253**	P	**P**	**08 54 50.0**	**-0.6**
STKA	**Stephens Creek**	**36.65**	**253**	*e*P	**P**	**08 54 51.1**	**+0.5**
	comp=Z,6.2nm,0.9s						
STKA	**Stephens Creek**	**36.65**	**253**	P	**P**	**08 54 50.0**	**-0.6**
	comp=Z,7.7nm,0.9s,baz=90,slow=8.8,SNR=10						
STKA				LR	LR	09 09 03.9	
	comp=Z,763nm,18.3s,baz=63,slow=35						
RKT	**Rikitea**	**37.52**	**93**	eLR	LR	09 04 52.3	
	comp=Z,705nm,30.2s						
AS31	**Alice Springs**	**44.81**	**263**	*e*P	**P**	**08 55 56.7**	**-1.4**
ASAR	**Alice Springs**	**44.81**	**263**	P	**P**	**08 55 56.6**	**-1.5**
ASAR	**Alice Springs**	**44.81**	**263**	P	**P**	**08 55 56.6**	**-1.5**
	comp=Z,5.6nm,1.0s,baz=96,slow=6.7,SNR=29						
WRAB	**Tennant Creek**	**45.54**	**268**	*e*P	**P**	**08 56 02.5**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WRAB	**Tennant Creek**	**45.54**	**268**	*e*P	**P**	**08 56 02.5**	**-1.4**
	comp=Z,10nm,0.9s						
WRA	**Warramunga Arr**	**45.55**	**268**	P	**P**	**08 56 02.1**	**-1.9**
WRA	**Warramunga Arr**	**45.55**	**268**	P	**P**	**08 56 02.1**	**-1.9**
	comp=Z,5.8nm,0.9s,baz=104,slow=8.1,SNR=14						
WRA				LR	LR	09 13 13.3	
	comp=Z,291nm,20.7s,baz=105,slow=34						
FORT	**Forrest**	**48.26**	**252**	*e*P	**P**	**08 56 24.8**	**-0.3**
	comp=Z,33nm,0.9s						
FORT				*e*pP	**pP**	**08 56 36.5**	**+1.3**
FITZ	**Fitzroy Crossi**	**53.90**	**267**	P	**P**	**08 57 06.0**	**-1.5**
	comp=Z,16nm,1.3s						
FITZ	**Fitzroy Crossi**	**53.90**	**267**	LR	LR	09 19 24.2	
	comp=Z,315nm,18.0s,baz=119,slow=35						
NWAO	**Narrogin (SRO)**	**56.83**	**247**	LR	LR	09 20 41.2	
	comp=Z,293nm,18.9s,baz=262,slow=35						
RPN	**Rapa Nui**	**58.82**	**106**	LR	LR	09 19 13.7	
	comp=Z,195nm,18.5s,baz=220,slow=32						
QSPA	**South Pole Qui**	**62.59**	**180**	P	**P**	**08 58 09.5**	**+1.8**
QSPA	**South Pole Qui**	**62.59**	**180**	P	**P**	**08 58 09.5**	**+1.8**
	comp=Z,29nm,1.1s,baz=35,slow=2.8,SNR=33						
KAPI	**Kappang**	**64.60**	**278**	LR	LR	09 23 18.6	
	comp=Z,136nm,21.9s,baz=324,slow=33						
PMSA	**Palmer Station**	**74.28**	**156**	LR	LR	09 29 31.2	
	comp=Z,151nm,18.2s,baz=145,slow=34						
KSM	**Kuching**	**75.97**	**279**	*e*P	**P**	**08 59 30.9**	**-0.4**
	comp=Z,9.6nm,0.7s						
MJAR	**Matsushiro Arr**	**76.75**	**324**	P	**P**	**08 59 34.6**	**-0.5**
MJAR	**Matsushiro Arr**	**76.75**	**324**	P	**P**	**08 59 34.6**	**-0.5**
	comp=Z,9.2nm,1.0s,baz=169,slow=5.8,SNR=16						
MJAR				LR	LR	09 26 44.8	
	comp=Z,104nm,20.6s,baz=215,slow=31						
MAJO	**Matsushiro**	**76.75**	**324**	*e*P	**P**	**08 59 35.0**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,27nm,1.2s						
MAJO	**Matsushiro**	**76.75**	**324**	*e*P	**P**	**08 59 35.0**	**-0.1**
	comp=Z,27nm,1.2s						
MAT	**Matsushiro**	**76.75**	**324**	P	**P**	**08 59 34.0**	**-1.1**
USHA	**Ushuaia**	**77.47**	**146**	LR	LR	09 25 08.8	
	comp=Z,114nm,21.7s,baz=178,slow=29						
JNU	**Nakatsue**	**78.42**	**317**	*e*P	**P**	**08 59 44.1**	**-0.4**
	comp=Z,16nm,1.1s						
YSS	**Yuzh-Sakhalins**	**82.82**	**333**	*e*P	**P**	**09 00 08.5**	**+0.8**
YSS				pmax	pmax		
	comp=Z,80nm,2.5s						
VES	**Vestal, Richgr**	**82.96**	**44**	⇑P	**P**	**09 00 09.1**	**+0.4**
	baz=83						
EDW2	**Edwards Air Fo**	**83.01**	**45**	⇑P	**P**	**09 00 09.1**	**0.0**
	baz=83						
KSRS	**Korea Array**	**83.14**	**319**	P	**P**	**09 00 09.7**	**+0.2**
	comp=Z,5.1nm,0.9s,baz=138,slow=6.0,SNR=16						
KSRS				LR	LR	09 36 03.3	
	comp=Z,91nm,18.5s,baz=281,slow=35						
KSAR	**Wonju Array Be**	**83.15**	**318**	P	**P**	**09 00 09.7**	**+0.1**
PFO	**Pinyon Flat Ob**	**83.17**	**47**	⇓P	**P**	**09 00 10.3**	**+0.2**
	baz=83						
ISA	**Isabella**	**83.22**	**44**	*e*P	**P**	**09 00 10.9**	**+0.7**
ISA				pmax	pmax		
	comp=Z,33nm,2.1s						
ISA	**Isabella**	**83.22**	**44**	*e*P	**P**	**09 00 10.9**	**+0.7**
	comp=Z,33nm,2.1s						
ISA	**Isabella**	**83.22**	**44**	⇑P	**P**	**09 00 11.1**	**+1.0**
	baz=84						
PLCA	**Paso Flores**	**83.39**	**133**	P	**P**	**09 00 11.1**	**-0.1**
PLCA	**Paso Flores**	**83.39**	**133**	P	**P**	**09 00 11.1**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=229,slow=6.4,SNR=3.1						
PLCA				LR	LR	09 31 31.3	
	comp=Z,170nm,19.0s,baz=231,slow=32						
PETK	**Petropavlovsk-**	**83.41**	**345**	P	**P**	**09 00 09.6**	**-1.0**
PETK	**Petropavlovsk-**	**83.41**	**345**	P	**P**	**09 00 09.6**	**-1.0**
PETK	**Petropavlovsk-**	**83.41**	**345**	P	**P**	**09 00 09.6**	**-1.0**
	comp=Z,13nm,1.0s,baz=126,slow=7.3,SNR=6.2						
PETK				LR	LR	09 31 13.1	
	comp=Z,116nm,19.8s,baz=148,slow=31						
CMB	**Columbia Colle**	**83.64**	**41**	*e*P	**P**	**09 00 12.5**	**+0.3**
CMB				pmax	pmax		
	comp=Z,15nm,1.4s						
CMB	**Columbia Colle**	**83.64**	**41**	*e*P	**P**	**09 00 12.5**	**+0.3**
	comp=Z,15nm,1.4s						
BELC	**Belle Mtn. Jos**	**83.72**	**47**	⇑P	**P**	**09 00 13.1**	**+0.2**
	baz=84						
BC3	**Big Chuckawall**	**83.85**	**47**	⇑P	**P**	**09 00 13.8**	**+0.3**
	baz=84						
GSC	**Goldstone**	**84.02**	**45**	⇑P	**P**	**09 00 15.0**	**+0.7**
	baz=84						
HEC	**Hector,Ludlow**	**84.03**	**46**	⇓P	**P**	**09 00 14.7**	**+0.3**
	baz=84						
MPMC	**Manual Prospec**	**84.08**	**44**	⇑P	**P**	**09 00 15.1**	**+0.4**
	baz=84						
WDC	**Whiskeytown Da**	**84.15**	**38**	*e*P	**P**	**09 00 15.1**	**+0.4**
WDC				pmax	pmax		
	comp=Z,21nm,1.5s						
WDC	**Whiskeytown Da**	**84.15**	**38**	*e*P	**P**	**09 00 15.1**	**+0.4**
	comp=Z,21nm,1.5s						
IRM	**Iron Mountain**	**84.36**	**47**	⇓P	**P**	**09 00 16.8**	**+0.8**
	baz=85						
113A	**Mohawk Valley,**	**84.42**	**49**	⇓P	**P**	**09 00 16.7**	**+0.5**
	baz=85						
GMRC	**Granite Mounta**	**84.42**	**46**	⇑P	**P**	**09 00 17.0**	**+0.6**
	baz=85						
SHOC	**Shoshone**	**84.73**	**45**	⇓P	**P**	**09 00 18.4**	**+0.6**
	baz=85						
WCN	**Washoe City**	**84.85**	**41**	*e*P	**P**	**09 00 18.8**	**+0.3**
WCN				*e**PP	**pP**	**09 00 30.7**	**+1.4**
WCN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WCN	**Washoe City**	**84.85**	**41**	*e*P	**P**	**09 00 18.8**	**+0.3**
	comp=Z,5.0nm,1.0s						
WCN				*e*pP	**pP**	**09 00 30.7**	**+1.4**
WCN	**Washoe City**	**84.85**	**41**	⇑P	**P**	**09 00 18.8**	**+0.3**
	baz=85						
LDFC	**Landfair**	**84.96**	**46**	*e*P	**P**	**09 00 19.6**	**+0.5**
	comp=Z,21nm,1.4s						
LDFC				*e*pP	**pP**	**09 00 30.4**	**+0.5**
QIZ	**Qiongzhong**	**85.12**	**294**	P	**P**	**09 00 20.8**	**+0.7**
QIZ				pP

baz=90
KLR Kul'dur 89.31 329 *e*P P 09 00 34.8 -4.8
W20A Ramah 89.34 49 ⇓P **P** **09 00 40.8 +0.4**
baz=90
Z22A Elephant Butte 89.34 52 ⇓P **P** **09 00 40.7 +0.3**
baz=90
626A Big Bend Ranch 89.36 56 ⇑P **P** **09 00 41.2 +0.7**
baz=90
324A Moseley Ranch, 89.39 54 ⇓P **P** **09 00 41.0 +0.3**
baz=90
425A Indio Mountain 89.40 55 ⇑P **P** **09 00 40.7 0.0**
baz=90
X21A Alamocita Cree 89.44 50 ⇑P **P** **09 00 41.6 +0.6**
baz=90
U19A Dine' College, 89.53 48 ⇑P **P** **09 00 42.0 +0.6**
baz=90
T18A Mexican Hat 89.58 47 ⇑P **P** **09 00 42.0 +0.6**
baz=90
TXAR Lajitas Array 89.59 56 P **P** **09 00 41.5 -0.1**
TXAR Lajitas Array 89.59 56 P **P** **09 00 41.5 -0.1**
comp=Z,1.7nm,1.1s,baz=223,slow=4.8,SNR=10
TXAR LR LR 09 37 29.6
comp=Z,104nm,18.6s,baz=355,slow=33
MNTX Cornudas Mount 89.61 54 ⇑P **P** **09 00 41.7 +0.2**
baz=90
526A Mary Lane Ranc 89.66 56 ⇑P **P** **09 00 41.8 -0.2**
baz=90
HAWA Hanford 89.71 35 *e*P **P** **09 00 42.2 +0.6**
comp=Z,21nm,1.5s
HAWA *e*pP **pP** **09 00 53.9 +1.4**
MFID Camas Ranch 89.77 39 ⇓P **P** **09 00 42.1 0.0**
baz=90
ETW Entiat 90.13 34 *e*P **P** **09 00 43.6 -0.1**
R18A Canyonlands Na 90.29 46 ⇓P **P** **09 00 44.7 -0.1**
baz=90
O16A Springville 90.35 44 ⇓P **P** **09 00 44.7 -0.3**
baz=91
I12A Atlanta 90.40 39 ⇑P **P** **09 00 45.3 +0.1**
baz=91
S19A Harvey Farm, M 90.41 47 ⇓P **P** **09 00 45.2 -0.2**
baz=91
427A Hayter Ranch, 90.58 55 ⇑P **P** **09 00 46.1 -0.1**
baz=91
ANMO Albuquerque 90.63 50 *e*P **P** **09 00 46.8 +0.4**
comp=Z,6.9nm,1.3s
ANMO *e*pP **pP** **09 00 58.7 +1.4**
U21A Nageezi 90.64 49 ⇑P **P** **09 00 46.9 +0.4**
baz=91
R19A Curley Farm, L 90.64 46 ⇓P **P** **09 00 45.6 -0.8**
baz=91
HLID Hailey 90.66 40 *e*P **P** **09 00 47.0 +0.7**
comp=Z,3.2nm,1.0s
HLID Hailey 90.66 40 ⇑P **P** **09 00 46.9 +0.5**
baz=91
J13A Cove Ranch, Pi 90.70 40 ⇓P **P** **09 00 47.0 +0.5**
baz=91
Y24A Capitan 90.78 52 ⇓P **P** **09 00 47.4 +0.3**
baz=91
OD2 Odessa Site #2 90.80 35 *e*P **P** **09 00 47.1 +0.4**
O17A Robinson Place 90.82 44 ⇑P **P** **09 00 46.5 -0.7**
baz=91
L15A Malad City 90.89 42 ⇑P **P** **09 00 47.7 +0.2**
baz=91
Z25A Roswell 90.93 53 ⇓P **P** **09 00 48.2 +0.4**
baz=91
H12A Diamond D Ranc 91.03 39 ⇑P **P** **09 00 47.9 -0.2**
baz=91
J14A Carey 91.03 40 ⇓P **P** **09 00 48.6 +0.5**
baz=91
G12A Big Creek, Yel 91.13 38 ⇑P **P** **09 00 48.2 -0.3**
baz=91
N17A Moffit Pass 91.20 44 ⇑P **P** **09 00 48.6 -0.5**
baz=91
S21A Coal Bank Pass 91.24 48 ⇑P **P** **09 00 49.4 0.0**
baz=92
Y25A Mesa, Roswell 91.29 52 ⇓P **P** **09 00 49.3 -0.2**
baz=92
GYA Guiyang 91.41 299 P **P** **09 00 51.0 +0.8**
GYA pP **pP** **09 01 03.2 +2.2**
GYA PP **PP** **09 04 31.8 +3.3**
GYA SKS **SKSac** **09 11 18.8 -1.6**
GYA S **S** **09 11 45.5 -1.9**
GYA sS **sS** **09 12 04.0 -1.4**
GYA SS **SS** **09 17 55.4 +1.3**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,110nm,5.8s
GYA LR LR
comp=N,450nm,19.6s
GYA LR LR
comp=E,440nm,20.4s
GYA LR LR
comp=Z,480nm,18.8s
L16A Fish Haven 91.47 42 ⇓P **P** **09 00 50.1 -0.1**
baz=92
W24A Lazy 6 Ranch, 91.49 51 ⇑P **P** **09 00 50.0 -0.5**
baz=92
F12A Elk City 91.57 38 ⇑P **P** **09 00 50.1 -0.4**
baz=92
Q20A Ridgley Place, 91.64 46 ⇑P **P** **09 00 50.6 -0.5**
baz=92
J15A Blackfoot 91.70 41 ⇓P **P** **09 00 51.7 +0.5**
baz=92
G13A Cobalt 91.72 39 ⇑P **P** **09 00 51.4 +0.2**
baz=92
R21A Cimarron 91.80 47 ⇑P **P** **09 00 52.2 +0.3**
baz=92
H14A Leadore 91.91 40 ⇓P **P** **09 00 52.3 +0.1**
baz=92
BJI Beijing 91.92 315 P **P** **09 00 53.8 +1.8**
BJI S **S** **09 11 53.6 +2.5**
BJI pmax pmax
comp=Z,7.0nm,0.9s
BJI pmax pmax
comp=Z,130nm,4.0s
BJI LR LR
comp=N,120nm,19.0s
BJI LR LR
comp=E,140nm,16.4s
BJI LR LR
comp=Z,39nm,19.9s
S22A 4UR Ranch, Cre 91.92 48 ⇓P **P** **09 00 52.8 +0.3**
baz=92
F13A Darby 92.09 38 ⇑P **P** **09 00 51.8 -1.1**
baz=92
J16A Bone 92.11 41 ⇑P **P** **09 00 53.5 +0.3**
baz=92
K17A Gardner Place, 92.21 42 ⇓P **P** **09 00 53.7 +0.1**
baz=92
R22A Saguache, Gunn 92.24 48 ⇑P **P** **09 00 53.5 -0.5**
baz=92
D12A Red Ives Fores 92.33 37 ⇑P **P** **09 00 53.0 -0.9**
baz=93
C11A Tepee Creek (N 92.35 36 ⇓P **P** **09 00 53.7 -0.3**
baz=93
I16A Newdale 92.54 41 ⇑P **P** **09 00 54.8 -0.3**
baz=93
REDW Red Top Meadow 92.61 42 *e*P **P** **09 00 55.8 +0.3**
comp=Z,7.3nm,1.1s
REDW *e*pP **pP** **09 01 08.4 +2.1**
K18A Toltan Ranch, 92.67 43 ⇓P **P** **09 00 55.1 -0.6**
baz=93
C12B Naegeli Ranch, 92.68 36 ⇓P **P** **09 00 55.8 +0.3**
baz=93
G15A Dillon 92.74 39 ⇓P **P** **09 00 55.7 -0.2**
baz=93
NNA Nana 92.77 105 LR LR 09 31 48.7
comp=Z,92nm,19.7s,baz=152,slow=28
LOHW Long Hollow 92.90 42 *e*P **P** **09 00 57.0 +0.2**
comp=Z,19nm,1.9s
J18A Kendall Valley 93.01 42 ⇑P **P** **09 00 57.2 -0.2**
baz=93
PDAR Pinedale Array 93.03 43 P **P** **09 00 56.6 -0.8**
PDAR Pinedale Array 93.03 43 P **P** **09 00 56.6 -0.8**
comp=Z,0.8nm,0.8s,baz=198,slow=2.8,SNR=4.8
PDAR LR LR 09 40 56.8
comp=Z,130nm,18.0s,baz=280,slow=34
I17A Pilgrim Ck. 93.10 41 ⇓P **P** **09 00 57.3 -0.4**
baz=93
FLWY Flagg Ranch 93.12 41 *e*P **P** **09 00 58.5 +0.7**
comp=Z,14nm,1.3s
H16A Russell Place, 93.17 40 ⇑P **P** **09 00 57.8 -0.2**
baz=93
T25A Trinidad 93.21 50 ⇓P **P** **09 00 57.2 -1.1**
baz=93
SEY Seymchan 93.52 346 ⇓*i*P **P** **09 00 58.6 -0.3**

XAN Xi'an 93.56 307 P **P** **09 01 01.1 +1.3**
XAN pP **pP** **09 01 09.0 -1.7**
XAN pmax pmax
comp=Z,2.0nm,1.1s
XAN pmax pmax
comp=Z,22nm,7.9s
XAN LR LR
comp=N,71nm,16.1s
XAN LR LR
comp=E,45nm,18.3s
XAN LR LR
comp=Z,39nm,16.7s
ATAH Atahualpa 93.72 100 LR LR 09 36 53.2
comp=Z,218nm,18.6s,baz=302,slow=32
KMI Kunming 93.85 296 P **P** **09 01 03.1 +1.5**
KMI pmax pmax
comp=Z,13nm,0.8s
CMAR Chiang Mai Arr 93.85 289 P **P** **09 01 01.2 -0.3**
CMAR Chiang Mai Arr 93.85 289 P **P** **09 01 01.2 -0.3**
comp=Z,1.5nm,0.5s,baz=137,slow=2.1,SNR=10
I19A Meeteetse 94.10 42 ⇑P **P** **09 01 01.7 -0.6**
baz=94
N23A Red Feather La 94.22 46 ⇓P **P** **09 01 02.6 -0.4**
baz=94
Q25A Bedland, Calha 94.26 48 ⇑P **P** **09 01 02.9 -0.3**
baz=94
ILAR Eielson Array 94.80 12 P **P** **09 01 03.4 -1.4**
ILAR Eielson Array 94.80 12 P **P** **09 01 03.4 -1.4**
comp=Z,1.1nm,1.0s,baz=217,slow=4.1,SNR=7.8
HHC Hu-ho-hao-te 95.30 314 *e*P **P** **09 01 09.2 +1.4**
HHC pP **pP** **09 01 20.7 +2.1**
HHC sP **sP** **09 01 25.5 +3.0**
HHC PP **PP** **09 05 03.1 +4.4**
HHC SKS **SKSac** **09 11 41.6 +0.5**
HHC S **S** **09 12 19.6 -1.5**
HHC sS **sS** **09 12 39.8 +0.6**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,160nm,5.2s
HHC LR LR
comp=N,130nm,16.6s
HHC LR LR
comp=E,150nm,17.8s
HHC LR LR
comp=Z,100nm,15.5s
CD2 Chengdu 95.81 302 P **P** **09 01 10.6 +0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.8s
BILL Bilibino 96.14 354 *e*P **P** **09 01 10.4 -0.4**
BILL *i* 09 01 27.4
BILL pmax pmax
comp=Z,3.0nm,1.2s
RSSD Black Hills 97.14 44 *e*P **P** **09 01 15.9 -0.2**
RSSD pmax pmax
comp=Z,12nm,1.5s
RSSD Black Hills 97.14 44 *e*P **P** **09 01 15.9 -0.2**
comp=Z,12nm,1.5s
LZH Lanzhou 98.19 306 *e*P Pdif 09 01 24.0 +2.9
LZH pP pP 09 01 35.2 +3.3
LZH *e*PP PP 09 05 27.2 +6.1
LZH SKS **SKSac** **09 11 57.3 +0.9**
LZH *e*S **S** **09 12 45.0 -1.3**
LZH pmax pmax
comp=Z,18nm,1.5s
LZH pmax pmax
comp=Z,79nm,9.0s
GTA Gaotai 102.53 308 *e*P **Pdif** **09 01 42.9 +2.7**
GTA pP 09 01 53.6
GTA sP 09 01 57.5
GTA pmax pmax
comp=Z,1.0nm,0.5s
LHS Liberty Hill 109.24 61 *e*P **Pdif** **09 02 07.4 -2.6**
LHS Liberty Hill 109.24 61 *e*Pdif **Pdif** **09 02 07.4 -2.6**
WMQ Urumqi 112.58 309 *e*PKP **PKiKP** **09 06 20.0 +0.1**
WMQ LR LR
comp=Z,170nm,20.0s
MKAR Makanchi Array 117.02 311 PKIKP **PKPdf** **09 06 25.9 -2.4**
MKAR Makanchi Array 117.02 311 PKP **PKPdf** **09 06 25.9 -2.4**
MKAR Makanchi Array 117.02 311 PKP **PKPdf** **09 06 25.9 -2.4**
comp=Z,0.6nm,0.8s,baz=15,slow=6.1,SNR=5.5
NVS Novosibirsk 117.90 320 *e*PKIKP PKPdf 09 06 24.3 -5.4
KSH Kashi 120.01 302 *e*PKP **PKPdf** **09 06 37.0 +2.6**
KSH sPKP 09 06 50.1
KSH PP PP 09 08 05.3 +5.7
KSH PKS **PKSdf** **09 13 42.9 -0.4**
KSH SKS **SKSdf** **09 13 42.9 -1.1**
KSH SKKS **SKKSac** **09 14 53.7 -2.9**
KSH SS **SKKSdf** **09 24 28.2 +2.2**
KSH AMB AMB
comp=Z,110nm,5.0s
KSH LR LR
comp=Z,160nm,9.3s
KURK Kurchatov 120.09 315 ⇑*i*PKIKP **PKPdf** **09 06 33.4 -0.6**
KURK Kurchatov 120.09 315 PKP **PKPdf** **09 06 32.6 -1.4**
KURBB Kurchatov Arra 120.13 315 PKP **PKPdf** **09 06 32.6 -1.5**
comp=Z,0.8nm,0.8s,baz=93,slow=2.1,SNR=6.9
BVAR Borovoye Array 125.33 317 PKIKP **PKPdf** **09 06 43.1 -0.9**
BVAR Borovoye Array 125.33 317 PKP **PKPdf** **09 06 43.1 -0.9**
BVAR Borovoye Array 125.33 317 PKP **PKPdf** **09 06 43.1 -0.9**
comp=Z,1.4nm,0.9s,baz=122,slow=2.3,SNR=6.5
BRVK Borovoye 125.39 317 ⇓*i*PKIKP **PKPdf** **09 06 43.2 -0.9**
ARU Arti 131.75 322 PKIKP PKPdf 09 07 12.3 +16
AKTO Aktyubinsk 133.19 315 PKIKP **PKPdf** **09 06 58.4 -0.7**
AKTO Aktyubinsk 133.19 315 PKP **PKPdf** **09 06 58.4 -0.7**
AKTO Aktyubinsk 133.19 315 PKP **PKPdf** **09 06 58.4 -0.7**
comp=Z,1.2nm,0.8s,baz=273,slow=4.7,SNR=4.5
FINES FINESS Array B 142.90 342 PKPpre PKPpre 09 07 12.2
FINES FINESS Array B 142.90 342 PKhKP PKPpre 09 07 12.2
comp=Z,1.2nm,0.6s,baz=117,slow=0.4,SNR=5.9
VSR Storozhevoye 144.30 321 *e*PKIKP **PKPdf** **09 07 19.5 +0.2**
VSR pmax pmax
comp=N,2.0nm,0.5s
VSR pmax pmax
comp=E,2.0nm,0.5s
VSR pmax pmax
comp=Z,7.0nm,0.5s
KIV Kislovodsk 144.71 308 *e*PKIKP **PKPdf** **09 07 23.3 +2.9**
KIV pmax pmax
comp=Z,8.0nm,0.9s
NB2 NORSAR Subarra 146.09 353 PKP **PKPdf** **09 07 22.0 -0.2**
comp=Z,22nm,1.2s,baz=20,slow=3.6
NOA NORSAR Array B 146.09 353 PKPbc **PKPdf** **09 07 22.1 0.0**
NOA NORSAR Array B 146.09 353 PKPbc **PKPdf** **09 07 22.1 0.0**
comp=Z,3.2nm,0.8s,baz=16,slow=4.6,SNR=7.9
NACGM Naroch 147.88 335 *e* **PKPdf** **09 07 22.0 -3.3**
AKASG Malin Array Be 149.79 327 PKP2 **PKPbc** **09 07 31.9 -1.4**
AKASG Malin Array Be 149.79 327 PKPbc **PKPbc** **09 07 31.9 -1.4**
AKASG Malin Array Be 149.79 327 PKPbc **PKPbc** **09 07 31.9 -1.4**
comp=Z,4.4nm,0.8s,baz=47,slow=2.6,SNR=16
AKBB Malin Array Si 149.79 327 *e*PKP2 **PKPbc** **09 07 32.7 -0.6**
AKBB Malin Array Si 149.79 327 *e*PKPbc **PKPbc** **09 07 32.7 -0.6**
KIEV Kiev 149.80 327 *e*PKP2 **PKPbc** **09 07 32.6 -0.7**
KIEV Kiev 149.80 327 *e*PKPbc **PKPbc** **09 07 32.6 -0.7**
ASF Jabal al Asfar 150.88 287 PKPbc **PKPbc** **09 07 36.8 +0.2**
ASF Jabal al Asfar 150.88 287 PKPbc **PKPbc** **09 07 36.8 +0.2**
comp=Z,1.4nm,0.4s,baz=190,slow=6.8,SNR=4.1
BR131 Keskin Array S 152.37 304 *e*PKPdf **PKPdf** **09 07 31.0 -2.0**
BRTR Keskin Array B 152.37 304 PKPbc **PKPbc** **09 07 38.8 -1.1**
BRTR Keskin Array B 152.37 304 PKPbc **PKPbc** **09 07 38.8 -1.1**
comp=Z,1.2nm,0.8s,baz=90,slow=2.5,SNR=5.0
LVV L'vov 152.81 330 *e*PKP2 **PKPab** **09 07 54.2 +2.9**
BUR08 Bucovina Ar. S 153.79 326 *e*PKPbc **PKPbc** **09 07 44.5 +1.8**
KOLS Kolonicke sedl 154.23 331 *e*PKIKP **PKPbc** **09 07 44.6 +1.1**
KOLS Kolonicke sedl 154.23 331 *e*PKP **PKPbc** **09 07 44.6 +1.1**
CRVS Cervenica-Dubn 154.60 332 *e*PKP2 **PKPab** **09 07 59.1 +0.2**
CRVS Cervenica-Dubn 154.60 332 *e*PKP **PKPab** **09 07 59.1 +0.2**
CLL Collm 155.21 346 *e*PKIKP PKPdf 09 07 46.0 +10
CLL *e* 09 08 01.0
CLL Collm 155.21 346 *e*PKPdiff PKPdf 09 07 46.0 +10
CLL *e*PKPab **PKPab** **09 08 01.0 -0.4**
BRG Berggiesshubel 155.40 344 *e*(P) **PKPab** **09 08 02.6 +0.4**
comp=Z,7.5nm,1.1s
BRG Berggiesshubel 155.40 344 *e*PKP2 **PKPab** **09 08 02.6 +0.4**
BRG pmax pmax
comp=Z,8.0nm,1.1s
VYHS Vyhne 155.97 335 *e*PKP2 **PKPab** **09 08 05.4 +0.6**
VYHS Vyhne 155.97 335 *e*PKP **PKPab** **09 08 05.4 +0.6**
CONA Conrad Observa 157.51 338 ⇑*i*PKPab **PKPab** **09 08 12.3 +0.8**
comp=Z,8.9nm,1.5s
SOKA Soboth 158.88 338 ⇓*i*PKPab **PKPab** **09 08 18.3 +0.8**
comp=Z,5.6nm,1.2s

TORD Torodi Ar. Bea 165.59 172 PKP **PKPdf** **09 07 48.4 -0.6**
TORD PKPab **PKPab** **09 08 48.0 +0.6**
TORD Torodi Ar. Bea 165.59 172 PKP **PKPdf** **09 07 48.4 -0.6**
comp=Z,2.0nm,1.1s,baz=230,slow=3.7,SNR=6.4
TORD PKPab **PKPab** **09 08 48.0 +0.6**
comp=Z,4.0nm,0.9s,baz=184,slow=4.3,SNR=10

IDC 05 08:58:16.2±26.0, 21.88S×173.04W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/19, mbtmp4.2/4, Error ellipse: s-maj=488.1km s-min=148.2km az=77.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
CTA	**Charters Tower**	**37.98**	**265**	P		P		09 05 37.0	+0.9
	5.2nm,0.4s,baz=105,slow=12,SNR=9.4								
STKA	**Stephens Creek**	**41.42**	**246**	P		P		09 06 02.9	-1.7
	0.6nm,0.3s,baz=86,slow=9.4,SNR=5.1								
ASAR	**Alice Springs**	**48.72**	**257**	P		P		09 07 02.5	-0.4
	0.6nm,0.3s,baz=94,slow=6.8,SNR=18								
WRA	**Warramunga Arr**	**49.00**	**262**	P		P		09 07 05.5	+0.4
	1.9nm,0.3s,baz=98,slow=8.4,SNR=10.0								

*ATH **05** 09:05:47.3, 41.41N×25.48E, h7km±3km, MD3.0/3*
ISC 05 09:05:46.3±1.4, 41.49N±0.05×25.50E±0.04, h7km±12km, n8, σ0°54/16, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
ALN	**Alexandroupoli**	**0.72**	**145**	*e*PG		**Pg**		**09 05 59.9**	**-0.2**
ALN				*e*SB		**Sg**		**09 06 09.7**	**+0.2**
ENEZ	**Enez**	**0.90**	**147**	*e*PG		**Pb**		**09 06 04.4**	**+0.2**
ENEZ				*e*SG		**Sg**		**09 06 15.2**	**0.0**
EDRB	**Edirne**	**1.00**	**69**	*e*PG		**Pg**		**09 06 05.8**	**+0.4**
EDRB				*e*SG		**Sg**		**09 06 18.5**	**+0.1**
ERIK	**Erikli-Kesan**	**1.12**	**137**	*e*PG		**Pn**		**09 06 08.5**	**+0.1**
ERIK				*e*SG		**Sg**		**09 06 21.9**	**-0.4**
NVR	**Nevrokopi**	**1.24**	**264**	*e*PG		**Pg**		**09 06 09.9**	**-0.2**
NVR				*e*SB		**Sn**		**09 06 27.2**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.32**	**146**	*e*PN		**Pg**		**09 06 12.4**	**+0.9**
GELI				*e*SN		**Sg**		**09 06 28.3**	**-0.3**
PLG	**Polygyros**	**1.92**	**235**	*e*PG		**Pb**		**09 06 21.7**	**+0.1**
PLG				*e*SN		**Sb**		**09 06 45.6**	**-0.1**
GONE	**Gonen-Balikesi**	**2.20**	**130**	*e*PN		**Pb**		**09 06 24.9**	**-1.4**
GONE				*e*SN		**Sn**		**09 06 50.9**	**+0.3**

*GUC **05** 09:19:04.5±0.9, 22.91S×68.74W, h103km±7km, ML4.8*
*NEIC **05** 09:19:04.5, 22.91S×68.74W, h103km, mb4.7/24, After GUC.*
NEIC Felt at Calama.
*IDC **05** 09:19:05.3±0.5, 22.89S×68.53W, h107km±3km, mb4.3/11, mb1 4.2/14, mb1mx4.1/18, mbtmp4.1/14, MS3.3/2, Ms1 3.3/2, ms1mx2.7/18, Error ellipse: s-maj=17.1km s-min=13.0km az=56.0*
ISC 05 09:19:05.0±0.4, 22.98S±0.04×68.66W±0.04, h106km±3km, h105km:pP-P, n437, σ1°21/156, mb4.6/32, 171C-165D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
SPCH	**San Pedro de A**	**0.43**	**80**	⇓*i*P		**Pn**		**09 19 21.5**	**+0.2**
SPCH				*i* S		**Sn**		**09 19 34.3**	**+0.8**
SPCH	**San Pedro de A**	**0.43**	**80**	⇓*i*P		**Pn**		**09 19 21.5**	**+0.2**
SPCH				*i* S		**Sn**		**09 19 34.3**	**+0.8**
SPCH				AML		AML		09 19 34.9	
	comp=E,53μm,0.5s								
PB04	**Plate Boundary**	**1.05**	**313**	⇑*i*P		Pn		09 19 30.9	+4.6
PB04				*i* S		Sn		09 19 50.8	+8.3
PB04				AML		AML		09 19 52.4	
	comp=E,19μm,0.6s								
MACH	**Maria Elena**	**1.28**	**307**	⇓*i*P		**Pn**		**09 19 28.1**	**-1.2**
MACH				*i* S		**Sn**		**09 19 46.0**	**-1.6**
MACH	**Maria Elena**	**1.28**	**307**	⇓*i*P		**Pn**		**09 19 28.1**	**-1.2**
MACH				*i* S		**Sn**		**09 19 46.0**	**-1.6**
PB09	**Plate Boundary**	**1.30**	**335**	⇓*i*P		**Pn**		**09 19 29.0**	**-0.4**
PB09				*i* S		**Sn**		**09 19 47.1**	**-0.7**
PB09				AML		AML		09 19 48.7	
	comp=N,70μm,0.6s								
CEN1	**Los Morros**	**1.48**	**254**	⇓*i*P		**Pn**		**09 19 32.2**	**+0.7**
CEN1				*i* S		**Sn**		**09 19 54.2**	**+2.7**
CEN1				AML		AML		09 20 00.5	
	comp=N,3μm,0.3s								
MECH	**Mejillones**	**1.66**	**265**	⇑*i*P		**Pn**		**09 19 33.1**	**-0.4**
MECH				S		**Sn**		**09 19 55.5**	**+0.3**
MECH	**Mejillones**	**1.66**	**265**	⇑*i*P		**Pn**		**09 19 33.1**	**-0.4**
MECH				*i* S		**Sn**		**09 19 55.5**	**+0.3**
MECH				AML		AML		09 20 01.1	
	comp=N,19μm,0.6s								
PB07	**Plate Boundary**	**1.69**	**317**	⇓*i*P		**Pn**		**09 19 33.1**	**-1.0**
PB07				*i* S		**Sn**		**09 19 54.5**	**-1.7**
PB07				AML		AML		09 19 55.7	
	comp=E,18μm,0.4s								
ANCH	**Antofagasta**	**1.76**	**246**	⇑*i*P		**Pn**		**09 19 34.3**	**-0.4**
ANCH				*i* S		**Sn**		**09 19 56.9**	**-0.5**
ANCH	**Antofagasta**	**1.76**	**246**	⇑*i*P		**Pn**		**09 19 34.3**	**-0.4**
ANCH				*i* S		**Sn**		**09 19 56.9**	**-0.5**
PB01	**Plate Boundary**	**2.08**	**338**	⇑*i*P		**Pn**		**09 19 37.7**	**-1.2**
PB01				*e*S		**Sn**		**09 20 02.9**	**-1.9**
PB01				AML		AML		09 20 06.5	
	comp=E,11μm,0.5s								
CPCH	**Copiapo**	**4.62**	**199**	*e*P		**Pn**		**09 20 10.0**	**-2.8**
CPCH				*i* S		**Sn**		**09 21 02.9**	**-2.4**
CPCH	**Copiapo**	**4.62**	**199**	*e*P		**Pn**		**09 20 10.0**	**-2.8**
CPCH				*i* S		**Sn**		**09 21 02.9**	**-2.4**
LCO	**Las Campanas**	**6.28**	**197**	*e*Pn		Pn		09 20 32.0	-3.4
LCO				*e*Sn		**Sn**		**09 21 43.5**	**-2.5**
LPAZ	**La Paz**	**6.67**	**4**	*e*Pn		**Pn**		**09 20 40.1**	**-1.1**
	comp=E,45nm,0.6s								
LPAZ				*e*Sn		Sn		09 21 37.2	-19
CFAA	**Coronel Fontan**	**8.60**	**178**	P		**Pn**		**09 21 04.7**	**-2.0**
CFAA	**Coronel Fontan**	**8.60**	**178**	P		**Pn**		**09 21 04.7**	**-2.0**
	comp=E,0.5nm,0.3s,baz=357,slow=13,SNR=25								
SIV	**San Ignacio**	**9.97**	**47**	P		Pn		09 21 20.4	-5.0
SIV	**San Ignacio**	**9.97**	**47**	P		Pn		09 21 20.4	-5.0
	comp=E,26nm,0.3s,baz=246,slow=12,SNR=166								
NNA	**Nana**	**13.43**	**323**	P		**Pn**		**09 22 11.6**	**+0.1**
NNA	**Nana**	**13.43**	**323**	P		**Pn**		**09 22 11.6**	**+0.1**
	comp=E,0.4nm,0.3s,baz=288,slow=20,SNR=1.6								
SAML	**Samuel**	**14.91**	**21**	*e*Pn		Pn		09 22 25.8	-4.7
	comp=E,17nm,0.7s								
TRQA	**Tornquist**	**16.08**	**161**	*e*Pn		**Pn**		**09 22 44.7**	**-0.3**
PLCA	**Paso Flores**	**17.77**	**185**	*e*P		**Pn**		**09 23 05.7**	**+0.1**
	comp=E,41nm,1.4s								
PLCA				PcP		**PcP**		**09 27 38.4**	**+1.0**
PLCA	**Paso Flores**	**17.77**	**185**	P		**Pn**		**09 23 05.8**	**+0.1**
	comp=E,0.9nm,0.3s,baz=9,slow=12,SNR=15								
PLCA				PcP		**PcP**		**09 27 38.4**	**+1.0**
	comp=E,0.3nm,0.3s,baz=14,slow=2.4,SNR=7.4								
ATAH	**Atahualpa**	**18.33**	**328**	P		**P**		**09 23 12.0**	**+0.4**
ATAH	**Atahualpa**	**18.33**	**328**	P		**P**		**09 23 12.0**	**+0.4**
	comp=E,0.2nm,0.3s,baz=243,slow=14,SNR=2.3								
SPB	**Sao Paulo**	**19.51**	**96**	*e*P		**P**		**09 23 23.3**	**-0.7**
	comp=E,33nm,0.7s								
BDFB	**Brasilia**	**20.79**	**73**	P		**P**		**09 23 35.4**	**-2.6**
BDFB	**Brasilia**	**20.79**	**73**	P		**P**		**09 23 35.4**	**-2.6**
	comp=E,28nm,0.5s,baz=248,slow=12,SNR=38								
BDFB				LR		LR		09 31 42.0	
	comp=E,78nm,19.8s,baz=116,slow=37								
CAM4	**Nova Friburgo**	**24.07**	**94**	(P)		**P**		**09 24 09.9**	**-1.1**
CAM4				*i*				09 24 16.4	
CAM4				*i*				09 24 19.6	
CAM4				*i*				09 24 22.4	
CAM4				*i*				09 24 27.5	
OTAV	**Otavalo**	**24.97**	**336**	*e*P		**P**		**09 24 17.6**	**-1.8**
	comp=E,9.0nm,0.9s								
ROSC	**El Rosal**	**28.22**	**348**	LR		LR		09 38 26.2	
	comp=E,65nm,18.8s,baz=125,slow=41								
USHA	**Ushuaia**	**31.81**	**180**	P		**P**		**09 25 20.3**	**+0.9**
USHA	**Ushuaia**	**31.81**	**180**	P		**P**		**09 25 20.3**	**+0.9**
	comp=E,5.1nm,0.5s,baz=346,slow=7.2,SNR=17								
GRGR	**Grenville**	**35.56**	**12**	*e*P		**P**		**09 25 49.5**	**-2.8**
BIM	**Bigot**	**38.00**	**12**	*e*P		**P**		**09 26 15.8**	**+2.8**
MVM	**Montagne Vaucl**	**38.07**	**12**	*e*P		**P**		**09 26 14.2**	**+0.7**
FDF	**Fort de France**	**38.19**	**12**	*e*P		**P**		**09 26 16.2**	**+1.6**
CELP	**Cerrillos**	**40.85**	**3**	*e*P		**P**		**09 26 35.1**	**-1.5**
SJG	**San Juan**	**40.91**	**4**	P		**P**		**09 26 34.0**	**-3.1**
SJG	**San Juan**	**40.91**	**4**	P		**P**		**09 26 33.9**	**-3.1**
	comp=E,15nm,0.6s,baz=270,slow=16,SNR=5.7								
ANWB	**Willy Bob**	**40.95**	**10**	*e*P		**P**		**09 26 37.8**	**+0.4**
	comp=E,81nm,0.5s								
LRS	**Lares**	**41.06**	**3**	*e*P		**P**		**09 26 36.7**	**-1.6**

PMSA Palmer Station 41.89 177 P P 09 26 44.5 -0.1
PMSA Palmer Station 41.89 177 P P 09 26 44.5 -0.1
comp=E,16nm,0.8s,baz=14,slow=6.2,SNR=5.3
SNAA Sanae 60.81 161 eP P 09 29 01.6 -4.1
comp=E,34nm,1.1s
JCT Junction City 60.99 329 eP P 09 29 07.1 -0.3
comp=E,8.7nm,0.7s
JCT Junction City 60.99 329 ⇑P pP 09 29 33.9 +0.6
baz=61,SNR=5.9
628A Black Gap, Mar 61.69 326 ⇑P pP 09 29 38.8 +0.6
baz=62,SNR=5.7
MIAR Mount Ida 61.91 337 eP P 09 29 13.4 0.0
comp=E,132nm,2.5s
627A Terlingua Ranc 61.92 326 ⇑P pP 09 29 40.5 +0.7
baz=62
TXAR Lajitas Array 61.97 325 P P 09 29 13.6 -0.5
TXAR pP pP 09 29 40.4 +0.2
TXAR Lajitas Array 61.97 325 P P 09 29 13.6 -0.5
comp=E,0.3nm,0.6s,baz=151,slow=9.4,SNR=4.8
TXAR pP pP 09 29 40.4 +0.2
comp=E,0.9nm,0.7s,baz=153,slow=7.7,SNR=7.1
528A Cox Ranch, San 62.19 327 ⇑P pP 09 29 42.3 +0.7
baz=62
626A Big Bend Ranch 62.39 325 ⇓P pP 09 29 43.6 +0.7
baz=62,SNR=5.9
527A Woodward Ranch 62.59 326 ⇓P pP 09 29 44.7 +0.4
baz=63
526A Mary Lane Ranc 62.77 326 ⇓P pP 09 29 46.3 +0.7
baz=63
427A Hayter Ranch, 63.05 327 ⇓P pP 09 29 47.9 +0.5
baz=63
328A Wristen Ranch, 63.19 327 ⇓P pP 09 29 48.3 +0.1
baz=63
426A McDonald Obser 63.23 326 ⇓P pP 09 29 49.1 +0.4
baz=63
326A Caldwell Ranch 63.72 327 ⇑P pP 09 29 52.2 +0.4
baz=64
129A Stewart Farms, 63.75 329 ⇑P pP 09 29 52.0 0.0
baz=64
425A Indio Mountain 63.82 325 ⇑P pP 09 29 52.6 +0.1
baz=64,SNR=8.2
TUL1 Tulsa 63.95 336 ⇓P pP 09 29 53.1 0.0
baz=64
FVM French Village 64.00 341 eP P 09 29 26.9 -0.3
comp=E,25nm,1.3s
325A Bean Ranch, Si 64.27 326 ⇑P pP 09 29 55.6 0.0
baz=64,SNR=6.6
226A Malaga, Loving 64.38 327 ⇓P pP 09 29 56.9 +0.8
baz=64
Z28A Tucker Farm, M 64.54 329 ⇓P pP 09 29 56.9 -0.3
baz=65
324A Moseley Ranch, 64.60 325 ⇓P pP 09 29 57.4 -0.3
baz=65,SNR=6.3
GDL2 Guadalupe Moun 64.62 327 eP P 09 29 32.3 +0.7
comp=E,9.0nm,1.2s
GDL2 epP pP 09 29 58.5 +0.7
Y29A Porterfield Fa 64.67 330 ⇓P pP 09 29 57.9 -0.2
baz=65
MNTX Cornudas Mount 64.75 326 ⇓P pP 09 29 58.5 0.0
baz=65
225A Deer Hill, Car 64.78 326 ⇑P pP 09 29 59.5 +0.6
baz=65
126A Clayton Basin, 64.81 327 ⇑P pP 09 29 59.4 +0.5
baz=65
Z27A Tatum 64.96 328 ⇓P pP 09 29 59.8 -0.2
baz=65
Y28A McKinney Farm, 64.98 329 ⇓P pP 09 29 60.0 -0.1
baz=65
224A Cornudas Mount 65.12 326 ⇑P pP 09 30 01.3 +0.2
baz=65
125A Gardner Draw, 65.14 327 ⇑P pP 09 30 01.2 0.0
baz=65
X29A Tulia 65.17 330 ⇓P pP 09 30 01.1 -0.2
baz=65
MSTX Muleshoe 65.28 329 ⇓P pP 09 30 02.1 0.0
baz=65
Z26A Caprock 65.29 328 ⇑P pP 09 30 02.6 +0.4
baz=66
Y27A Causey 65.40 329 ⇓P pP 09 30 02.6 -0.2
baz=66
X28A Dimmitt 65.46 330 ⇑P pP 09 30 03.1 -0.2
baz=66
Z25A Roswell 65.67 327 ⇓P pP 09 30 04.8 +0.2
baz=66
W29A Amraillo 65.71 331 ⇑P pP 09 30 04.7 -0.1
baz=66
Z24A Sheeppen Canyo 66.03 327 ⇓P pP 09 30 07.5 +0.4
baz=66
320A Kipp Ranch, An 66.15 323 ⇓P pP 09 30 09.3 +1.4
baz=66
Y25A Mesa, Roswell 66.17 328 ⇑P pP 09 30 08.0 +0.2
baz=66
X26A CR and CF Fran 66.25 329 ⇑P pP 09 30 08.6 +0.2
baz=66
220A Playas Peak, P 66.58 324 ⇓P pP 09 30 11.6 +1.0
baz=67,SNR=5.8
121A Cookes Peak, D 66.66 325 ⇓P pP 09 30 12.5 +1.4
baz=67
Z22A Elephant Butte 66.79 326 ⇑P pP 09 30 13.1 +1.2
baz=67,SNR=5.7
W25A X Bar L Ranch, 67.10 329 ⇑P pP 09 30 14.2 +0.3
baz=67
120A U Bar Ranch, L 67.13 324 ⇑P pP 09 30 15.5 +1.4
baz=67
Z21A St. Cloud Mine 67.20 325 ⇑P pP 09 30 15.9 +1.3
baz=67
QSPA South Pole Qui 67.22 180 eP P 09 29 49.2 +1.4
comp=E,23nm,0.6s
LPM Los Pinos Moun 67.45 327 eP P 09 29 51.1 +1.4
comp=E,2.1nm,0.7s
LPM epP PcP 09 30 17.2 +0.8
Z20A Nine Sixteen R 67.54 324 ⇑P pP 09 30 18.0 +1.3
baz=68
W24A Lazy 6 Ranch, 67.55 328 ⇑P pP 09 30 17.5 +0.7
baz=68
V25A Rancho No Teng 67.68 329 ⇓P pP 09 30 17.8 +0.3
baz=68
U26A Atchley Ranch, 67.72 330 ⇑P pP 09 30 18.1 +0.3
baz=68
Y21A Point of Rocks 67.75 326 ⇑P pP 09 30 19.4 +1.3
baz=68
LAZ Ladron 67.78 326 P P 09 29 48.0 -3.8
comp=E,14nm,1.9s
LAZ epP pP 09 30 20.1 +1.9
ANMO Albuquerque 67.87 327 eP P 09 29 52.2 -0.1
comp=E,3.5nm,0.9s
ANMO epP pP 09 30 19.7 +1.0
W23A Werner Place, 67.88 327 ⇓P pP 09 30 19.8 +0.9
baz=68
V24A Rampart Ranch, 67.90 328 ⇑P pP 09 30 19.6 +0.5
baz=68
CBKS Cedar Bluff 68.02 334 ⇑P pP 09 30 20.1 +0.7
baz=68
U25A Circle Dot Ran 68.03 329 ⇓P pP 09 30 20.5 +0.7
baz=68
Y20A Horse Springs, 68.04 325 ⇑P pP 09 30 21.1 +1.1
baz=68
X21A Alamocita Cree 68.15 326 ⇑P pP 09 30 22.0 +1.4
baz=68
W22A Albuquerque 68.17 327 ⇓P pP 09 30 22.0 +1.4
baz=68
T26A Comanche Natio 68.29 331 ⇑P pP 09 30 21.9 +0.5
baz=68
V23A Ortiz Mt. (NFS 68.36 328 ⇓P pP 09 30 23.2 +1.3
baz=68
U24A Moreno Valley 68.45 329 ⇓P pP 09 30 23.5 +0.9
baz=69
Y19A Nutrioso 68.54 324 ⇓P pP 09 30 24.7 +1.6
baz=69,SNR=5.5
X20A Quemado 68.59 325 ⇓P pP 09 30 24.9 +1.5
baz=69
S26A Kim 68.60 331 ⇓P pP 09 30 24.0 +0.7
baz=69
T25A Trinidad 68.64 330 ⇑P pP 09 30 24.7 +1.1
baz=69
Y18A Canyon Day Jun 68.83 324 ⇓P pP 09 30 26.4 +1.5
baz=69
V22A San Miguel Ran 68.85 327 ⇓P pP 09 30 26.4 +1.4
baz=69
T24A Torres, Weston 68.88 329 ⇑P pP 09 30 26.0 +0.8
baz=69
DBIC Dimbokro 68.94 73 eP P 09 29 59.0 -0.2
comp=E,18nm,0.8s
DBIC epP pP 09 30 26.0 +0.2
DBIC Dimbokro 68.94 73 P P 09 29 58.6 -0.5
comp=E,4.5nm,0.4s,baz=213,slow=6.5,SNR=14
DBIC pP pP 09 30 25.9 +0.2
comp=E,14nm,0.8s,baz=207,slow=7.8,SNR=8.2

W20A Ramah 69.04 326 ⇑P pP 09 30 27.3 +1.1
baz=69,SNR=5.7
214A Organ Pipe Nat 69.05 321 ⇑P pP 09 30 27.7 +1.6
baz=69,SNR=5.8
R26A Arlington 69.15 331 ⇓P pP 09 30 27.3 +0.6
baz=69
U22A Llaves 69.19 328 ⇓P pP 09 30 28.1 +1.0
baz=69
T23A Casias Ranch, 69.32 329 ⇑P pP 09 30 28.5 +0.5
baz=70
KSCO Kaye Shedlock' 69.39 332 ⇑P pP 09 30 28.9 +0.8
baz=70
R25A Fountain Ranch 69.40 331 ⇓P pP 09 30 29.2 +0.9
baz=70
S24A Houchin Ranch, 69.42 330 ⇓P pP 09 30 29.8 +1.3
baz=70
V20A Brimhall 69.55 326 ⇓P pP 09 30 30.3 +1.0
baz=70
U21A Nageezi 69.63 327 ⇑P pP 09 30 31.1 +1.2
baz=70
SDCO Great Sand Dun 69.64 330 ⇑P pP 09 30 30.6 +0.7
baz=70,SNR=7.6
BGNE Belgrade 69.66 337 ⇑P pP 09 30 30.2 +0.5
baz=70
114A Black Gap (USA 69.67 321 ⇑P pP 09 30 31.6 +1.7
baz=70
X17A Forest Lakes 69.67 324 ⇓P pP 09 30 31.9 +1.7
baz=70
Q26A Hugo 69.70 332 ⇑P pP 09 30 30.8 +0.7
baz=70
T22A Edith 69.72 328 ⇑P pP 09 30 31.8 +1.4
baz=70
V19A Window Rock 69.78 326 ⇓P pP 09 30 32.2 +1.4
baz=70
R24A Sanders Place, 69.85 330 ⇑P pP 09 30 32.2 +1.1
baz=70
T21A Navajo Lake 70.01 328 ⇑P pP 09 30 33.3 +1.1
baz=70
Q25A Bedland, Calha 70.01 331 ⇓P pP 09 30 33.1 +0.9
baz=70
U20A Newcomb 70.02 327 ⇓P pP 09 30 33.5 +1.3
baz=70
X16A Lo Mia Camp, P 70.08 323 ⇓P pP 09 30 34.2 +1.6
baz=70,SNR=5.4
R23A Moffat 70.14 330 ⇑P pP 09 30 33.6 +0.6
baz=70
P26A Davis Ranch, A 70.15 332 ⇓P pP 09 30 33.3 +0.4
baz=70
113A Mohawk Valley, 70.19 321 ⇑P pP 09 30 34.9 +1.8
baz=70
S22A 4UR Ranch, Cre 70.26 329 ⇓P pP 09 30 34.5 +0.7
baz=70
O27A Beecher Island 70.31 333 ⇓P pP 09 30 35.2 +1.4
baz=70,SNR=5.4
U19A Dine' College, 70.31 326 ⇓P pP 09 30 34.4 +0.4
baz=70
Q24A Divide 70.46 331 ⇓P pP 09 30 36.1 +1.1
baz=71
P25A Willow Gulch B 70.47 332 ⇓P pP 09 30 35.8 +0.9
baz=71,SNR=6.6
Y14A Wickenburg 70.60 322 ⇑P pP 09 30 37.6 +2.0
baz=71
R22A Saguache, Gunn 70.61 329 ⇓P pP 09 30 37.3 +1.4
baz=71
V17A Tonalea, Kykot 70.63 325 ⇓P pP 09 30 37.5 +1.5
baz=71,SNR=8.0
T19A Beclabito 70.63 327 ⇑P pP 09 30 37.0 +1.0
baz=71
MVCO Mesa Verde 70.66 327 ⇑P pP 09 30 37.3 +1.1
baz=71
S21A Coal Bank Pass 70.66 328 ⇑P pP 09 30 37.6 +1.3
baz=71
O26A Horse Wrangler 70.70 333 ⇑P pP 09 30 37.1 +0.8
baz=71
U18A Rough Rock, Ch 70.75 326 ⇑P pP 09 30 38.0 +1.3
baz=71
P24A Kohler Place, 70.80 331 ⇑P pP 09 30 37.9 +1.0
baz=71
WUAZ Wupatki 70.86 324 ⇑P pP 09 30 38.9 +1.6
baz=71,SNR=5.1
O25A Wiggins 70.94 332 ⇑P pP 09 30 39.1 +1.4
baz=71
S20A Disappointment 71.08 328 ⇓P pP 09 30 39.9 +1.2
baz=71,SNR=6.0
R21A Cimarron 71.10 329 ⇑P pP 09 30 39.9 +1.0
baz=71,SNR=5.1
P23A Jefferson 71.11 330 ⇓P pP 09 30 40.0 +1.0
baz=71
Q22A Crested Butte, 71.19 329 ⇓P pP 09 30 40.5 +1.0
baz=71
U16A Tuba City 71.20 325 ⇓P pP 09 30 41.1 +1.6
baz=71
T18A Mexican Hat 71.30 326 ⇓P pP 09 30 41.2 +1.3
baz=72,SNR=5.1
U17A Shonto 71.30 325 ⇑P pP 09 30 41.7 +1.6
baz=72
Y12C Blythe 71.34 321 ⇓P pP 09 30 41.8 +1.7
baz=72,SNR=6.2
ISCO Idaho Springs 71.35 331 ⇑P pP 09 30 41.1 +0.6
baz=72
R20A Redvale 71.36 328 ⇑P pP 09 30 41.7 +1.3
baz=72,SNR=7.1
S19A Harvey Farm, M 71.39 327 ⇓P pP 09 30 41.7 +1.1
baz=72,SNR=6.0
DVTC Desert V Tower 71.50 319 ⇓P pP 09 30 43.2 +2.0
baz=72
SWSC Sam W. Stewart 71.52 319 ⇓P pP 09 30 43.5 +2.3
baz=72
T17A Navajo Res., N 71.67 326 ⇑P pP 09 30 44.0 +1.6
baz=72,SNR=5.8
P22A Eagle 71.70 330 ⇑P pP 09 30 43.7 +1.2
baz=72
S18A Hurst Farm, Bl 71.78 327 ⇓P pP 09 30 44.4 +1.3
baz=72,SNR=6.3
BC3 Big Chuckawall 71.81 320 ⇑P pP 09 30 44.5 +1.4
baz=72,SNR=7.5
O23A Lake Granby, G 71.82 331 ⇑P pP 09 30 44.2 +0.9
baz=72
MONP Monument Peak 71.86 319 ⇓P pP 09 30 45.7 +2.2
baz=72
N24A Carr 71.86 332 ⇑P pP 09 30 44.3 +1.0
baz=72
R19A Curley Farm, L 71.88 327 ⇓P pP 09 30 44.6 +1.1
baz=72
W13A Hualapai Mount 71.94 322 ⇑P pP 09 30 45.4 +1.4
baz=72,SNR=5.3
P21A Newcastle 71.97 329 ⇓P pP 09 30 45.4 +1.3
baz=72
IRM Iron Mountain 71.99 321 ⇑P pP 09 30 45.8 +1.7
baz=72,SNR=6.6
U15A North Rim 72.04 324 ⇑P pP 09 30 46.5 +1.8
baz=72,SNR=5.8
O22A Kremmling 72.06 330 ⇓P pP 09 30 45.6 +0.8
baz=72
R18A Canyonlands Na 72.27 327 ⇓P pP 09 30 46.8 +0.9
baz=72
K27A Flickinger Fa 72.32 335 ⇓P pP 09 30 46.5 +0.6
baz=72,SNR=5.9
M24A Cheyenne 72.36 332 ⇓P pP 09 30 47.7 +1.3
baz=72,SNR=6.5
PFO Pinyon Flat Ob 72.38 320 ⇓P pP 09 30 48.4 +1.9
baz=72
BELC Belle Mtn. Jos 72.38 320 ⇑P pP 09 30 48.7 +2.1
baz=72
N23A Red Feather La 72.38 331 ⇓P pP 09 30 47.4 +0.8
baz=73
Q19A Hogan Spring (72.39 328 ⇓P pP 09 30 48.0 +1.4
baz=73,SNR=5.0
P20A De Beque 72.40 329 ⇓P pP 09 30 47.4 +0.8
baz=73
N22A Wattenberg Ran 72.53 331 ⇑P pP 09 30 48.8 +1.2
baz=73
S16A Weppner Ranch, 72.63 326 ⇑P pP 09 30 49.8 +1.7
baz=73
K26A Motz Farm, Whi 72.70 334 ⇓P pP 09 30 49.2 +1.0
baz=73
R17A Hanksville Air 72.71 327 ⇑P pP 09 30 49.5 +1.0
baz=73,SNR=5.2
GMRC Granite Mounta 72.73 321 ⇑P pP 09 30 50.4 +1.7
baz=73,SNR=7.4
M23A Laramie 72.75 332 ⇑P pP 09 30 49.8 +1.1
baz=73
P19A Cripple Cowboy 72.79 328 ⇓P pP 09 30 50.1 +1.1
baz=73,SNR=5.8
O20A White River Ci 72.83 329 ⇓P pP 09 30 50.4 +1.2
baz=73
Q18A Rafter H Ranch 72.94 327 ⇓P pP 09 30 51.0 +1.2
baz=73

SRU San Rafael 73.14 327 ⇓P pP 09 30 52.0 +0.9
baz=73,SNR=5.4
HEC Hector,Ludlow 73.16 321 ⇑P pP 09 30 53.0 +1.8
baz=73
L23A Garrett 73.27 332 ⇓P pP 09 30 52.6 +0.8
baz=73
TUQ Turquoise Moun 73.35 321 ⇑P pP 09 30 54.2 +1.9
baz=74
R15A Junction 73.36 325 ⇑P pP 09 30 54.0 +1.6
baz=74
O19A Miners Draw (B 73.37 329 ⇑P pP 09 30 53.2 +0.8
baz=74,SNR=5.3
N20A Spence Gulch, 73.39 330 ⇓P pP 09 30 53.6 +1.0
baz=74
P18A Preston Nutter 73.40 328 ⇑P pP 09 30 54.1 +1.4
baz=74
CCUT Cedar City 73.44 324 eP P 09 30 27.6 +1.5
comp=E,12nm,0.9s
CCUT epP pP 09 30 55.2 +2.2
P17A Butcher Ranch, 73.52 327 ⇓P pP 09 30 54.4 +1.1
baz=74,SNR=6.5
MSU Marysvale 73.53 326 eP P 09 30 27.5 +0.8
BFSC Mount Baldy Ra 73.53 319 ⇑P pP 09 30 55.2 +1.8
baz=74
MVU Marysvale 73.54 326 eP P 09 30 26.6 -0.2
M21A Separation Pea 73.59 331 ⇑P pP 09 30 54.9 +1.2
baz=74
ARUT Antelope Range 73.66 324 eP P 09 30 29.1 +1.8
comp=E,6.5nm,0.9s
ARUT epP pP 09 30 56.3 +2.1
GSC Goldstone 73.76 321 ⇑P pP 09 30 56.8 +2.1
baz=74
O18A Roosevelt 73.77 328 ⇓P pP 09 30 56.2 +1.4
baz=74
J24A Dixon Ranch, L 73.82 333 ⇓P pP 09 30 56.1 +1.2
baz=74
N19A John Jarvie Ra 73.86 329 ⇑P pP 09 30 56.1 +0.8
baz=74
M20A Sweetwater, Wa 73.87 330 ⇑P pP 09 30 56.0 +0.7
baz=74
L21A Rawlins 73.88 331 ⇓P pP 09 30 56.0 +0.6
baz=74,SNR=5.3
SHOC Shoshone 73.88 321 ⇑P pP 09 30 57.5 +2.2
baz=74
K22A Casper 74.06 332 ⇓P pP 09 30 57.6 +1.2
baz=74
O17A Robinson Place 74.08 328 ⇓P pP 09 30 57.9 +1.3
baz=74,SNR=6.2
P16A Fountain Green 74.09 327 ⇑P pP 09 30 58.2 +1.5
baz=74
N18A Larsen Ranch, 74.16 329 ⇓P pP 09 30 58.6 +1.6
baz=74
EDW2 Edwards Air Fo 74.17 320 ⇑P pP 09 30 58.9 +1.8
baz=74
RSSD Black Hills 74.23 334 eP P 09 30 27.9 -2.6
comp=E,8.6nm,1.0s
RSSD epP pP 09 30 58.0 +0.6
R13A O'Grain Ranch, 74.23 324 ⇓P pP 09 30 59.3 +1.7
baz=74
I24A Kuemmerle Ranc 74.25 334 ⇓P pP 09 30 57.8 +0.4
baz=74
L20A Wamsutter 74.35 330 ⇓P pP 09 30 59.1 +0.9
baz=74
K21A Alcova 74.36 331 ⇓P pP 09 30 59.0 +0.7
baz=74,SNR=8.7
LRMC Laurel Mountai 74.40 320 ⇓P pP 09 31 00.5 +2.0
baz=74
FURC Furnace Creek, 74.61 321 ⇑P pP 09 31 01.5 +2.0
baz=75
MPMC Manual Prospec 74.69 321 ⇑P pP 09 31 01.7 +1.4
baz=75
N17A Moffit Pass 74.69 328 ⇑P pP 09 31 01.4 +1.0
baz=75,SNR=5.6
M18A Lyman 74.70 329 ⇓P pP 09 31 01.1 +0.8
baz=75
K20A Yellowstone Ra 74.87 331 ⇑P pP 09 31 02.0 +0.8
baz=75
L19A Farson 74.89 330 ⇓P pP 09 31 02.3 +1.0
baz=75
N16A Rees Ranch, Co 74.95 328 ⇓P pP 09 31 03.1 +1.4
baz=75
H24A Dirks Ranch, A 74.95 334 ⇑P pP 09 31 01.8 +0.3
baz=75,SNR=7.6
ISA Isabella 75.00 320 eP P 09 30 36.4 +1.4
comp=E,7.6nm,0.8s
ISA epP pP 09 31 03.8 +1.9
ISA Isabella 75.00 320 ⇓P pP 09 31 03.8 +1.9
baz=75,SNR=5.9
J21A Lysite 75.02 332 ⇑P pP 09 31 03.0 +1.0
baz=75
SYO Syowa Base 75.04 159⇑ eP P 09 30 34.2 -0.5
I22A 9 Mile Ranch, 75.05 333 ⇓P pP 09 31 02.6 +0.5
baz=75,SNR=6.8
L18A Fontenelle, Gr 75.07 329 ⇑P pP 09 31 03.2 +0.8
baz=75,SNR=7.0
DUG Dugway 75.11 326 ⇓P pP 09 31 03.7 +1.1
baz=75
K19A Absolon Red Bu 75.23 331 ⇑P pP 09 31 03.7 +0.5
baz=75
R11A Troy Canyon, C 75.23 324 ⇓P pP 09 31 05.0 +1.7
baz=75,SNR=5.1
GRAC Grapevine Rang 75.28 322 ⇑P pP 09 31 05.1 +1.7
baz=75
CWC Cottonwood Cre 75.30 321 ⇓P pP 09 31 05.8 +2.0
baz=75
J20A Shoshoni 75.30 331 ⇓P pP 09 31 04.5 +0.9
baz=76
I21A Big Trails, Te 75.33 332 ⇑P pP 09 31 04.2 +0.4
baz=76,SNR=8.9
G24A Alzada 75.38 335 ⇑P pP 09 31 04.3 +0.3
baz=76
VNDA Vanda 75.44 190 eP P 09 30 39.3 +2.4
comp=E,105nm,3.0s
VES Vestal, Richgr 75.48 320 ⇑P pP 09 31 06.1 +1.5
baz=76,SNR=6.2
BW06 Boulder Array 75.50 330 ⇓P pP 09 31 05.6 +0.7
baz=76
PDAR Pinedale Array 75.50 330 P P 09 30 38.0 0.0
PDAR pP pP 09 31 05.0 +0.1
PDAR Pinedale Array 75.50 330 P P 09 30 38.0 0.0
comp=E,0.4nm,0.6s,baz=121,slow=7.8,SNR=5.0
PDAR pP pP 09 31 05.0 +0.1
comp=E,0.9nm,0.5s,baz=134,slow=8.0,SNR=4.7
L17A Cokeville 75.60 329 ⇑P pP 09 31 06.4 +1.0
baz=76
K18A Toltan Ranch, 75.63 330 ⇑P pP 09 31 06.3 +0.7
baz=76,SNR=6.4
G23A Biddle 75.66 334 ⇑P pP 09 31 05.9 +0.3
baz=76,SNR=9.7
J19A Crowheart 75.67 331 ⇓P pP 09 31 06.3 +0.5
baz=76,SNR=7.2
I20A Worland 75.80 332 ⇑P pP 09 31 07.3 +0.9
baz=76
L16A Fish Haven 75.80 329 ⇓P pP 09 31 07.8 +1.2
baz=76
F24A Ekalaka 75.82 335 ⇓P pP 09 31 06.8 +0.4
baz=76,SNR=8.0
H21A Big Horn, Sher 75.88 333 ⇓P pP 09 31 07.3 +0.4
baz=76
M15A Larsen Ranch, 75.88 328 ⇑P pP 09 31 07.9 +1.0
baz=76
RCTC Rector, Farmer 75.89 320 ⇑P pP 09 31 08.7 +1.7
baz=76
G22A Birney 76.04 334 ⇓P pP 09 31 08.3 +0.6
baz=76
J18A Kendall Valley 76.06 330 ⇓P pP 09 31 08.5 +0.4
baz=76,SNR=6.6
F23A Volborg 76.10 334 ⇑P pP 09 31 08.3 +0.3
baz=76,SNR=9.4
K17A Gardner Place, 76.12 329 ⇑P pP 09 31 09.1 +0.6
baz=76,SNR=6.2
H20A Greybull 76.17 332 ⇑P pP 09 31 08.9 +0.4
baz=76,SNR=6.2
I19A Meeteetse 76.25 331 ⇑P pP 09 31 09.8 +0.7
baz=76,SNR=5.0
L15A Malad City 76.26 328 ⇓P pP 09 31 10.3 +1.2
baz=76
I18A Diamond G Ranc 76.35 331 ⇑P pP 09 31 10.9 +1.1
baz=76
E24A Baker 76.36 336 ⇑P pP 09 31 10.4 +0.9
baz=77,SNR=7.2
G21A Lodge Grass 76.43 333 ⇑P pP 09 31 10.6 +0.6
baz=77,SNR=5.9
F22A Rosebud 76.49 334 ⇑P pP 09 31 10.5 +0.2
baz=77,SNR=8.0
J17A Brown Place, J 76.50 330 ⇓P pP 09 31 11.7 +1.1
baz=77
K16A Soda Springs 76.50 329 ⇑P pP 09 31 11.8 +1.2

baz=77,SNR=6.0
E23A Ismay 76.70 335 ⇑P pP 09 31 12.3 +0.9
baz=77
L14A Malta 76.70 327 ⇓P pP 09 31 12.9 +1.2
baz=77
H19A Powell 76.74 332 ⇑P pP 09 31 13.0 +1.2
baz=77
ULM Lac du Bonnet 76.79 342 P **P** **09 30 44.0 -0.8**
ULM pP **pP** **09 31 09.4 -2.4**
ULM Lac du Bonnet 76.79 342 P **P** **09 30 44.0 -0.8**
comp=E,2.4nm,0.6s,baz=142,slow=6.1,SNR=6.5
ULM pP **pP** **09 31 09.4 -2.4**
comp=E,6.7nm,0.4s,baz=146,slow=6.4,SNR=11
NVAR Mina Array Bea 76.80 322 P **P** **09 30 46.2 +0.9**
NVAR pP **pP** **09 31 12.6 +0.2**
NVAR Mina Array Bea 76.80 322 P **P** **09 30 46.2 +0.9**
comp=E,0.5nm,0.6s,baz=159,slow=4.6,SNR=3.9
NVAR pP **pP** **09 31 12.6 +0.2**
comp=E,2.4nm,0.9s,baz=146,slow=5.9,SNR=5.8
D24A Glendive 76.83 336 ⇓P pP 09 31 13.5 +1.3
baz=77
K15A Arbon 76.84 328 ⇓P pP 09 31 13.5 +1.1
baz=77
G20A Bridger 76.85 332 ⇓P pP 09 31 12.8 +0.4
baz=77,SNR=5.1
J16A Bone 76.85 329 ⇑P pP 09 31 13.1 +0.5
baz=77
I17A Pilgrim Ck. 76.87 330 ⇓P pP 09 31 14.0 +1.3
baz=77,SNR=5.2
E22A Miles City 76.90 335 ⇑P pP 09 31 13.1 +0.5
baz=77
H18A Shoshone NF, C 77.05 331 ⇑P pP 09 31 14.2 +0.5
baz=77,SNR=5.5
K14A Jones Ranch, D 77.05 328 ⇓P pP 09 31 14.6 +1.0
baz=77
C24A Savage 77.22 336 ⇑P pP 09 31 15.0 +0.7
baz=77,SNR=6.4
D23A Lindsay 77.22 335 ⇑P pP 09 31 15.4 +1.1
baz=77,SNR=5.3
RLMT Red Lodge 77.22 332 ⇓P pP 09 31 15.9 +1.2
baz=77
I16A Newdale 77.25 330 ⇓P pP 09 31 16.1 +1.3
baz=77
F20A Billings 77.28 333 ⇓P pP 09 31 15.9 +1.1
baz=78
J15A Blackfoot 77.34 329 ⇑P pP 09 31 16.5 +1.3
baz=78
E21A Keefer Ranch, 77.44 334 ⇑P pP 09 31 16.3 +0.7
baz=78,SNR=5.3
G18A Lazy EL Ranch, 77.51 332 ⇑P pP 09 31 17.3 +1.2
baz=78
SCHQ Schefferville 77.51 1 P **P** **09 30 47.9 -0.8**
SCHQ Schefferville 77.51 1 P **P** **09 30 47.9 -0.8**
comp=E,3.5nm,0.9s,baz=189,slow=1.9,SNR=4.0
D22A Cohagen 77.58 335 ⇑P pP 09 31 17.3 +0.9
baz=78,SNR=6.3
TOA0 Torodi Ar. Sit 77.64 70 *e*P **P** **09 30 49.7 -0.6**
TOA0 *e*pP **pP** **09 31 17.4 +0.1**
TORD Torodi Ar. Bea 77.64 70 P **P** **09 30 49.7 -0.6**
TORD pP **pP** **09 31 17.3 0.0**
TORD Torodi Ar. Bea 77.64 70 P **P** **09 30 49.7 -0.6**
comp=E,14nm,0.7s,baz=252,slow=5.4,SNR=102
TORD pP **pP** **09 31 17.3 0.0**
comp=E,15nm,0.7s,baz=251,slow=5.6,SNR=7.6
F19A Roth Farm, Mol 77.66 332 ⇓P pP 09 31 17.7 +0.7
baz=78,SNR=8.0
C23A Lambert 77.73 336 ⇓P pP 09 31 17.9 +0.8
baz=78
H16A Russell Place, 77.78 330 ⇓P pP 09 31 19.0 +1.2
baz=78
I15A Monteview 77.81 329 ⇓P pP 09 31 19.7 +1.8
baz=78
D21A La Casta Ranch 77.83 334 ⇑P pP 09 31 18.4 +0.6
baz=78,SNR=6.6
E20A Meyer Farm, Mu 77.84 333 ⇑P pP 09 31 18.9 +1.0
baz=78,SNR=9.1
DGMT Dagmar 77.92 337 ⇓P pP 09 31 19.1 +0.9
baz=78,SNR=5.5
C22A Vida 77.95 335 ⇑P pP 09 31 19.3 +0.9
baz=78
G17A Pierce Place, 78.03 331 ⇓P pP 09 31 20.6 +1.5
baz=78
F18A Big Timber 78.03 332 ⇑P pP 09 31 19.9 +0.9
baz=78,SNR=7.9
E19A Rath Farm, Rou 78.08 333 ⇑P pP 09 31 20.2 +1.0
baz=78,SNR=11
J13A Cove Ranch, Pi 78.18 328 ⇑P pP 09 31 21.6 +1.7
baz=78
B23A Brockton 78.20 336 ⇓P pP 09 31 20.8 +1.0
baz=78
I14A Mackay 78.22 329 ⇓P pP 09 31 21.5 +1.3
baz=78,SNR=5.8
A24A Westby 78.23 337 ⇑P pP 09 31 21.1 +1.1
baz=78
D20A Manuel Ranch, 78.31 334 ⇑P pP 09 31 21.2 +0.7
baz=78,SNR=6.6
HLID Hailey 78.42 328 *e*P **P** **09 30 55.6 +1.4**
comp=E,4.9nm,1.0s
HLID *e*pP **pP** **09 31 22.9 +1.6**
HLID Hailey 78.42 328 ⇓P pP 09 31 22.9 +1.6
baz=79,SNR=7.2
G16A Moss Hill, Enn 78.44 330 ⇑P pP 09 31 22.8 +1.4
baz=79
F17A Fitzpatrick Pl 78.44 332 ⇓P pP 09 31 22.8 +1.4
baz=79,SNR=5.6
B22A Reddig Ranch S 78.45 336 ⇓P pP 09 31 22.5 +1.3
baz=79
C21A Desert Coulee 78.49 335 ⇑P pP 09 31 21.9 +0.5
baz=79
I13A Wildhorse Cree 78.53 328 ⇓P pP 09 31 23.5 +1.6
baz=79
MCMT McKenzie Canyo 78.61 330 *e*P **P** **09 30 56.6 +1.2**
comp=E,1.0nm,0.7s
MCMT *e*pP **pP** **09 31 24.0 +1.6**
E18A Harlowton 78.64 332 ⇓P pP 09 31 23.3 +0.9
baz=79
D19A Cripps Ranch, 78.68 333 ⇓P pP 09 31 23.2 +0.6
baz=79,SNR=5.4
BOZ Bozeman (W) 78.68 331 ⇑P pP 09 31 23.4 +0.7
baz=79
H14A Leadore 78.70 329 ⇑P pP 09 31 24.1 +1.3
baz=79
C20A Veseth Ranch, 78.76 334 ⇓P pP 09 31 23.6 +0.6
baz=79
F16A Kennard Place, 78.78 331 ⇓P pP 09 31 24.5 +1.2
baz=79
I12A Atlanta 78.94 328 ⇓P pP 09 31 25.8 +1.5
baz=79
E17A Martinsdale 78.97 332 ⇓P pP 09 31 25.5 +1.2
baz=79,SNR=7.3
A22A Carney Farms, 78.99 336 ⇑P pP 09 31 25.1 +0.9
baz=79,SNR=5.2
MFID Camas Ranch 79.01 327 ⇓P pP 09 31 26.0 +1.4
baz=79
H13A Challis 79.08 329 ⇓P pP 09 31 26.6 +1.6
baz=79,SNR=6.8
D18A Linhart Farms, 79.09 333 ⇑P pP 09 31 25.9 +1.0
baz=79
C19A Slack Wire Ran 79.20 334 ⇑P pP 09 31 26.1 +0.7
baz=79
F15A Butte 79.22 330 ⇓P pP 09 31 26.9 +1.2
baz=79
B20A Solberg Farm, 79.35 335 ⇑P pP 09 31 27.1 +0.9
baz=80
H12A Diamond D Ranc 79.36 328 ⇑P pP 09 31 27.5 +1.0
baz=80
A21A Bergtoll Ranch 79.37 335 ⇑P pP 09 31 27.1 +0.9
baz=80
E16A East Helena 79.38 331 ⇑P pP 09 31 27.7 +1.2
baz=80
TSUM Tsumeb 79.39 106 *e*P **P** **09 31 00.9 +0.8**
comp=E,11nm,1.1s
D17A Six Diamond Ra 79.43 332 ⇑P pP 09 31 27.4 +0.7
baz=80,SNR=6.4
G13A Cobalt 79.46 329 ⇑P pP 09 31 28.5 +1.5
baz=80,SNR=10.0
F14A Wisdom 79.59 330 ⇓P pP 09 31 29.0 +1.3
baz=80
A20A Cobblestone Ra 79.67 335 ⇓P pP 09 31 28.7 +0.8
baz=80,SNR=6.9
D16A Dana Ranch, Ca 79.71 332 ⇓P pP 09 31 29.5 +1.2
baz=80,SNR=5.3
EGMT Eagleton 79.72 333 ⇑P pP 09 31 28.6 +0.3
baz=80
E15A Deer Lodge 79.73 331 ⇑P pP 09 31 29.6 +1.2
baz=80,SNR=5.6
B19A Brinkman Farms 79.73 334 ⇑P pP 09 31 29.0 +0.7
baz=80
C17A Wharram Farm, 79.83 333 ⇓P pP 09 31 29.8 +0.9
baz=80
G12A Big Creek, Yel 80.01 328 ⇓P pP 09 31 31.2 +1.2
baz=80
B18A Beardsley Farm 80.02 334 ⇓P pP 09 31 31.0 +1.1
baz=80
F13A Darby 80.03 329 ⇓P pP 09 31 31.3 +1.3
baz=80,SNR=11
A19A Klindworth Far 80.03 334 ⇑P pP 09 31 30.4 +0.5
baz=80
E14A Clinton 80.11 330 ⇓P pP 09 31 32.1 +1.6
baz=80
D15A Lincoln 80.14 331 ⇓P pP 09 31 31.9 +1.3
baz=80
B17A L&G Farms, Che 80.36 333 ⇑P pP 09 31 32.6 +0.9
baz=80
C16A Fuhringer Ranc 80.39 332 ⇑P pP 09 31 32.8 +0.9
baz=81,SNR=5.2
F12A Elk City 80.44 329 ⇓P pP 09 31 33.2 +1.0
baz=81
E13A Victor 80.44 330 ⇓P pP 09 31 33.7 +1.4
baz=81,SNR=5.3
A18A Metzger Ranch, 80.46 334 ⇑P pP 09 31 32.6 +0.4
baz=81
D14A Greenough 80.61 331 ⇑P pP 09 31 34.3 +1.1
baz=81
MSO Missoula 80.62 330 ⇑P pP 09 31 34.7 +1.5
baz=81
C15A Salmond Ranch, 80.74 332 ⇑P pP 09 31 35.0 +1.1
baz=81,SNR=6.8
A17A Triple J Farms 80.83 333 ⇑P pP 09 31 35.0 +0.8
baz=81,SNR=6.1
B16A M & M Farms, S 80.84 333 ⇑P pP 09 31 34.9 +0.6
baz=81
D13A Huson 81.05 330 ⇓P pP 09 31 36.7 +1.2
baz=81,SNR=6.1
E12A Beaver Dam Sad 81.07 329 ⇑P pP 09 31 36.9 +1.2
baz=81
B15A Bradely Ranch, 81.13 332 ⇓P pP 09 31 36.2 +0.3
baz=81,SNR=5.5
A16A West Butte Ran 81.21 333 ⇑P pP 09 31 37.0 +0.6
baz=81
C14A Swan Lake 81.24 331 ⇓P pP 09 31 37.5 +1.0
baz=81
D12A Red Ives Fores 81.44 330 ⇓P pP 09 31 38.6 +1.0
baz=82
B14A Marquette Ranc 81.47 332 ⇓P pP 09 31 38.9 +1.1
baz=82
C13A Hot Springs 81.54 331 ⇓P pP 09 31 39.1 +1.0
baz=82,SNR=5.1
BSMT Bassoo Peak 81.77 331 *e*P **P** **09 31 12.7 +0.6**
BSMT *e*pP **pP** **09 31 40.9 +1.5**
C12B Naegeli Ranch, 81.97 330 ⇑P pP 09 31 41.5 +1.2
baz=82
A14A Double T Ranch 82.00 332 ⇑P pP 09 31 41.5 +1.0
baz=82
B13A Whitefish 82.01 331 ⇑P pP 09 31 41.8 +1.2
baz=82
A13A Flathead Natio 82.40 332 ⇑P pP 09 31 44.0 +1.3
baz=83
C11A Tepee Creek (N 82.43 330 ⇑P pP 09 31 43.9 +1.1
baz=83
BOSA Boshof 82.55 118 *e*P **P** **09 31 17.3 +0.5**
BOSA Boshof 82.55 118 P **P** **09 31 16.0 -0.7**
comp=E,10nm,0.8s,baz=243,slow=7.2,SNR=15
B12A Libby 82.58 331 ⇑P pP 09 31 45.0 +1.4
baz=83
A12A Yaak River Ran 82.95 331 ⇓P pP 09 31 46.7 +1.2
baz=83,SNR=5.6
LBTB Lobatse 84.19 115 *e*P **P** **09 31 25.5 +0.3**
YKA Yellowknife Ar 92.65 340 P **P** **09 32 04.0 -0.4**
YKA pP **pP** **09 32 32.4 +0.3**
YKA Yellowknife Ar 92.65 340 P **P** **09 32 04.0 -0.4**
comp=E,2.0nm,0.8s,baz=137,slow=4.5,SNR=49
YKA pP **pP** **09 32 32.4 +0.3**
comp=E,3.1nm,0.8s,baz=132,slow=4.5,SNR=9.7
URZ Urewera 93.35 226 *e*P **P** **09 32 08.1 -0.3**
comp=E,2.8nm,0.3s
ARCES ARCESS Array B 112.76 22 PKKPbc PKKPbc 09 48 17.4 -1.9
ARCES ARCESS Array B 112.76 22 PKKPbc PKKPbc 09 48 17.4 -1.9
comp=E,2.5nm,0.8s,baz=66,slow=4.1,SNR=6.1
ASAR Alice Springs 128.71 207 PKP **PKPdf** **09 38 00.8 +0.1**
ASAR pPKP **pPKPdf** **09 38 30.1 +0.5**
ASAR Alice Springs 128.71 207 PKP **PKPdf** **09 38 00.8 +0.1**
comp=E,3.2nm,0.7s,baz=134,slow=2.0,SNR=37
ASAR pPKP **pPKPdf** **09 38 30.1 +0.5**
comp=E,1.8nm,0.9s,baz=157,slow=2.7,SNR=5.3
AKTO Aktyubinsk 130.57 42 PKP **PKPdf** **09 38 03.3 +0.1**
AKTO Aktyubinsk 130.57 42 PKP **PKPdf** **09 38 03.3 +0.1**
comp=E,0.3nm,0.3s,baz=250,slow=3.1,SNR=5.1
WRA Warramunga Arr 131.80 210 PKP **PKPdf** **09 38 06.7 +0.1**
WRA Warramunga Arr 131.80 210 PKP **PKPdf** **09 38 06.7 +0.1**
comp=E,3.1nm,0.6s,baz=155,slow=1.7,SNR=30
BVAR Borovoye Array 136.87 35 PKP **PKPdf** **09 38 16.2 +1.2**
BVAR Borovoye Array 136.87 35 PKP **PKPdf** **09 38 16.2 +1.2**
comp=E,0.8nm,0.6s,baz=256,slow=4.1,SNR=5.6
KURK Kurchatov 142.42 34 PKP **PKPdf** **09 38 25.1 0.0**
KURBB Kurchatov Arra 142.43 34 PKP **PKPdf** **09 38 25.1 0.0**
comp=E,1.2nm,0.5s,baz=305,slow=3.0,SNR=7.9
ZALV Zalesovo Beam 143.18 26 PKP PKPbc 09 38 24.2 +0.6
ZALV pPKP pPKPdf 09 38 56.8 +1.5
ZALV SKPbc **SKPbc** **09 41 55.3 +0.2**
ZALV Zalesovo Beam 143.18 26 PKP PKPbc 09 38 24.2 +0.6
comp=E,2.9nm,0.6s,baz=293,slow=2.7,SNR=10
ZALV pPKP pPKPdf 09 38 56.8 +1.5
comp=E,2.8nm,0.7s,baz=324,slow=2.0,SNR=2.6
ZALV SKPbc **SKPbc** **09 41 55.3 +0.2**
comp=E,2.0nm,0.7s,baz=316,slow=4.1,SNR=5.6
AAK Ala-Archa 143.72 48 PKP **PKPdf** **09 38 27.3 -0.6**
AAK Ala-Archa 143.72 48 PKP **PKPdf** **09 38 27.3 -0.6**
comp=E,4.9nm,1.1s,baz=189,slow=1.7,SNR=5.0
MK31 Makanchi Array 146.67 37 *e*PKPbc **PKPdf** **09 38 33.2 +0.5**
MKAR Makanchi Array 146.67 37 PKPbc **PKPdf** **09 38 33.2 +0.5**
MKAR pPKPbc pPKPbc 09 39 02.3 -0.8
MKAR Makanchi Array 146.67 37 PKPbc **PKPdf** **09 38 33.2 +0.5**
comp=E,4.1nm,0.8s,baz=333,slow=1.3,SNR=33
MKAR pPKPbc pPKPbc 09 39 02.3 -0.8
comp=E,3.4nm,0.7s,baz=297,slow=3.8,SNR=6.7
HYB Hyderabad 148.77 94 *i* PKP **PKPbc** **09 38 40.5 -0.5**
USRK Ussuriysk Arra 152.86 326 PKPbc **PKPbc** **09 38 49.9 +0.1**
comp=E,1.3nm,0.7s,baz=174,slow=1.9,SNR=4.5
USRK pPKPbc **pPKPbc** **09 39 19.0 +0.4**
comp=E,2.0nm,0.9s,baz=29,slow=4.4,SNR=3.1
MJAR Matsushiro Arr 153.15 306 PKPbc **PKPbc** **09 38 50.6 -0.1**
MJAR pPKPbc **pPKPbc** **09 39 19.2 -0.3**
MJAR Matsushiro Arr 153.15 306 PKPbc **PKPbc** **09 38 50.6 -0.1**
comp=E,2.2nm,0.7s,baz=129,slow=0.6,SNR=7.8
MJAR pPKPbc **pPKPbc** **09 39 19.2 -0.3**
comp=E,1.2nm,0.5s,baz=85,slow=1.4,SNR=3.7
SONM Songino Array 154.88 8 PKP **PKPdf** **09 38 45.9 +0.5**
SONM PKPbc **PKiKP** **09 38 54.5 +0.3**
SONM pPKP **pPKPdf** **09 39 12.3 -2.1**
SONM Songino Array 154.88 8 PKP **PKPdf** **09 38 45.9 +0.5**
comp=E,1.1nm,0.8s,baz=249,slow=0.9,SNR=9.8
SONM PKPbc **PKiKP** **09 38 54.5 +0.3**
comp=E,0.7nm,0.6s,baz=298,slow=0.9,SNR=5.5
SONM pPKP **pPKPdf** **09 39 12.3 -2.1**
comp=E,1.4nm,0.8s,baz=323,slow=2.4,SNR=6.2

WEL 05 09:23:49.7±0.6,35°36S×178°72E,h179km±13km,ML3.6/9,
Error ellipse: s-maj=18.4km s-min=10.3km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.22**	**188**	*e*PN	Pn	09 24 29.6	+0.5
MXZ				SN	Sn	09 24 59.3	-0.5
PUZ	**Puketiti**	**2.73**	**188**	PN	Pn	09 24 35.1	0.0
PUZ				SN	Sn	09 25 09.1	-1.4
MWZ	**Matawai**	**3.12**	**197**	PN	Pn	09 24 40.2	+0.4
MWZ				SN	Sn	09 25 18.3	-0.6
CNGZ	**Carnagh Statio**	**3.14**	**187**	*e*PN	Pn	09 24 41.0	+1.1
URZ	**Urewera**	**3.17**	**204**	*e*PN	Pn	09 24 40.5	+0.2
URZ				SN	Sn	09 25 19.7	-0.1
KNZ	**Kokohu**	**3.75**	**193**	*e*PN	Pn	09 24 46.9	-0.6
RAHZ	**Arahi**	**3.78**	**200**	*e*PN	Pn	09 24 49.4	+1.5
NMHZ	**Naumai**	**4.03**	**202**	*e*PN	Pn	09 24 51.7	+0.5
NMHZ				SN	Sn	09 25 39.7	+0.3
BKZ	**Black Stump Fm**	**4.19**	**204**	*e*PN	Pn	09 24 52.4	-0.8
MCHZ	**McNeill Hill**	**4.38**	**201**	*e*PN	Pn	09 24 55.2	-0.3
BHHZ	**Black Hill Sta**	**4.63**	**206**	SN	Sn	09 25 51.5	-1.7
PXZ	**Pawanui**	**4.89**	**197**	*e*PN	Pn	09 25 00.4	-1.7
PXZ				SN	Sn	09 25 54.0	-5.0
PNHZ	**Pukenui**	**4.96**	**203**	*e*PN	Pn	09 25 03.8	+0.6
PNHZ				SN	Sn	09 25 56.9	-4.0
BFZ	**Birch Farm**	**5.66**	**199**	SN	Sn	09 26 12.9	-4.2
MRZ	**Mangatainoka R**	**5.84**	**204**	*e*PN	Pn	09 25 11.5	-3.0
MRZ				SN	Sn	09 26 15.3	-6.1
HOWZ	**Holdsworth Sta**	**6.08**	**204**	*e*PN	Pn	09 25 13.8	-3.9
OGWZ	**Otaki Gorge**	**6.12**	**206**	*e*PN	Pn	09 25 15.1	-3.1
KIW	**Kapiti Island**	**6.26**	**208**	*e*PN	Pn	09 25 16.7	-3.2
CAW	**Cannon Point**	**6.41**	**205**	*e*PN	Pn	09 25 18.2	-3.8
TCW	**Tory Channel**	**6.80**	**210**	SN	Sn	09 26 37.5	-6.6
TUWZ	**Tuamarina**	**7.12**	**210**	*e*PN	Pn	09 25 27.3	-4.0
NNZ	**Nelson**	**7.20**	**214**	*e*PN	Pn	09 25 28.1	-4.1
NNZ				SN	Sn	09 26 47.2	-6.2
THZ	**Tophouse**	**7.84**	**214**	*e*PN	Pn	09 25 36.3	-4.6
THZ				SN	Sn	09 27 03.2	-5.8
KHZ	**Kahutara**	**8.12**	**208**	*e*PN	Pn	09 25 40.0	-4.4
DSZ	**Denniston Nort**	**8.36**	**218**	*e*PN	Pn	09 25 45.7	-2.0
DSZ				SN	Sn	09 27 15.3	-6.0
LTZ	**Lake Taylor**	**8.94**	**212**	*e*PN	Pn	09 25 50.6	-4.7
LTZ				SN	Sn	09 27 26.5	-8.7
MQZ	**McQueen's Vall**	**9.56**	**207**	SN	Sn	09 27 37.8	-12

WEL 05 09:37:09.6±0.3,38°13S×176°26E,h161km±2km,ML3.8/10,
19C-2D,Error ellipse: s-maj=1.6km s-min=1.4km az=0.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RRRZ	**Republican Roa**	**0.29**	**136**	⇑PN	Pn	09 37 31.4	-0.1
RRRZ				SN	Sn	09 37 47.2	-1.0
OPRZ	**Ohinepanea**	**0.37**	**40**	PN	Pn	09 37 31.6	-0.1
OPRZ				SN	Sn	09 37 48.5	0.0
PRRZ	**Plateau Road**	**0.38**	**164**	⇑PN	Pn	09 37 31.7	-0.1
ALRZ	**Allen Road**	**0.44**	**171**	PN	Pn	09 37 31.9	-0.1
URZ	**Urewera**	**0.69**	**101**	⇓PN	Pn	09 37 32.7	-0.4
TOZ	**Tahuroa Road**	**0.72**	**304**	⇑PN	Pn	09 37 33.9	+0.5
RITZ	**Rihia Road**	**0.90**	**200**	PN	Pn	09 37 35.0	+0.3
RAHZ	**Arahi**	**1.02**	**141**	PN	Pn	09 37 35.8	+0.2
RAHZ				SN	Sn	09 37 55.4	-0.2
MWZ	**Matawai**	**1.02**	**102**	PN	Pn	09 37 35.4	-0.2
BKZ	**Black Stump Fm**	**1.05**	**170**	⇑PN	Pn	09 37 35.6	-0.3
NMHZ	**Naumai**	**1.06**	**156**	PN	Pn	09 37 36.5	+0.5
KRVZ	**Karewarewa**	**1.08**	**206**	PN	Pn	09 37 36.1	-0.1
WTVZ	**West Tongariro**	**1.12**	**208**	PN	Pn	09 37 36.4	-0.1
OTVZ	**Oturere**	**1.13**	**204**	PN	Pn	09 37 36.9	+0.1
TWVZ	**Taurewa**	**1.14**	**214**	PN	Pn	09 37 36.6	-0.1
NGZ	**Ngauruhoe**	**1.17**	**206**	PN	Pn	09 37 36.9	-0.1
HIZ	**Hauiti**	**1.17**	**250**	⇑PN	Pn	09 37 37.2	+0.4
WPVZ	**Whakapapa**	**1.21**	**207**	PN	Pn	09 37 37.1	-0.3
TUVZ	**Tukino**	**1.23**	**202**	⇑PN	Pn	09 37 37.6	0.0
FWVZ	**Far West T-bar**	**1.25**	**206**	PN	Pn	09 37 37.4	-0.5
TRVZ	**Turoa**	**1.29**	**205**	PN	Pn	09 37 38.0	-0.3
WNVZ	**Wahianoa**	**1.30**	**203**	⇑PN	Pn	09 37 38.1	-0.1
MOVZ	**Moawhango**	**1.34**	**197**	⇑PN	Pn	09 37 37.9	-0.6
MCHZ	**McNeill Hill**	**1.36**	**165**	⇑PN	Pn	09 37 39.0	+0.5
MCHZ				SN	Sn	09 37 59.9	-1.0
BHHZ	**Black Hill Sta**	**1.37**	**186**	⇑PN	Pn	09 37 38.3	-0.5
MTVZ	**Mangateitei**	**1.40**	**206**	PN	Pn	09 37 38.7	-0.3
KNZ	**Kokohu**	**1.42**	**129**	PN	Pn	09 37 39.2	0.0
PRGZ	**Paritu Road**	**1.50**	**122**	PN	Pn	09 37 40.0	0.0
VRZ	**Vera Road**	**1.54**	**229**	PN	Pn	09 37 40.4	+0.1
CNGZ	**Carnagh Statio**	**1.57**	**104**	PN	Pn	09 37 41.2	+0.5
PUZ	**Puketiti**	**1.58**	**89**	PN	Pn	09 37 40.3	-0.6
MHGZ	**Mahia Peninsul**	**1.65**	**129**	PN	Pn	09 37 41.7	+0.2
CKHZ	**Cape Kidnapper**	**1.66**	**158**	PN	Pn	09 37 41.7	+0.1
MXZ	**Matakaoa Point**	**1.72**	**71**	PN	Pn	09 37 42.3	0.0
KAHZ	**Kahuranaki**	**1.73**	**164**	⇑PN	Pn	09 37 42.4	0.0
PNHZ	**Pukenui**	**1.78**	**181**	⇑PN	Pn	09 37 42.2	-0.8
WAZ	**Wanganui**	**1.90**	**211**	⇑PN	Pn	09 37 43.9	-0.4
WPHZ	**Waipukurau**	**1.94**	**176**	PN	Pn	09 37 44.0	-0.7
TSZ	**Takapari Road**	**1.94**	**187**	PN	Pn	09 37 43.9	-0.9
PXZ	**Pawanui**	**1.96**	**166**	⇑PN	Pn	09 37 44.3	-0.5
NEZ	**North Egmont**	**2.04**	**235**	⇓PN	Pn	09 37 46.6	+0.7
DFE	**Dawson Falls**	**2.06**	**234**	PN	Pn	09 37 46.6	+0.4
PKE	**Pukeiti**	**2.07**	**238**	PN	Pn	09 37 46.6	+0.4
PRHZ	**Porangahau**	**2.15**	**172**	⇑PN	Pn	09 37 46.3	-0.8
DVHZ	**Dannevirke**	**2.17**	**182**	⇑PN	Pn	09 37 46.1	-1.2
POWZ	**Post Office Ro**	**2.29**	**189**	PN	Pn	09 37 47.5	-1.3
BFZ	**Birch Farm**	**2.55**	**180**	PN	Pn	09 37 50.1	-1.5
MRZ	**Mangatainoka R**	**2.58**	**192**	⇑PN	Pn	09 37 50.5	-1.8
TIWZ	**Tintock**	**2.66**	**186**	PN	Pn	09 37 51.5	-1.7
OGWZ	**Otaki Gorge**	**2.81**	**197**	⇑PN	Pn	09 37 53.2	-1.8
HOWZ	**Holdsworth Sta**	**2.82**	**191**	PN	Pn	09 37 53.0	-2.2
KIW	**Kapiti Island**	**2.92**	**200**	PN	Pn	09 37 54.0	-2.3
TMWZ	**Te Maipa**	**2.99**	**185**	PN	Pn	09 37 55.0	-2.2
MTW	**Mount Morrison**	**3.08**	**191**	PN	Pn	09 37 55.8	-2.5
CAW	**Cannon Point**	**3.11**	**197**	PN	Pn	09 37 56.3	-2.5
DUWZ	**D'Urville Isla**	**3.22**	**213**	PN	Pn	09 37 57.8	-2.4
TRWZ	**Traveller**	**3.29**	**187**	PN	Pn	09 37 58.5	-2.5
PAWZ	**Paruwai Farm**	**3.31**	**191**	⇑PN	Pn	09 37 58.6	-2.7
WEL	**Wellington**	**3.35**	**200**	PN	Pn	09 37 59.2	-2.6
MSWZ	**Moikau Station**	**3.37**	**193**	PN	Pn	09 37 59.2	-2.8
SNZO	**South Karori**	**3.39**	**200**	PN	Pn	09 37 59.4	-2.8
TCW	**Tory Channel**	**3.44**	**206**	PN	Pn	09 38 00.0	-2.8
BHW	**Baring Head**	**3.44**	**198**	PN	Pn	09 38 00.1	-2.8
PLNZ	**Palliser**	**3.52**	**192**	PN	Pn	09 38 00.3	-3.1
TUWZ	**Tuamarina**	**3.75**	**208**	PN	Pn	09 38 03.8	-3.0
NNZ	**Nelson**	**3.80**	**215**	PN	Pn	09 38 04.6	-2.9
QRZ	**Quartz Range**	**3.95**	**226**	PN	Pn	09 38 05.9	-3.5
BSWZ	**Blackbirch Sta**	**4.02**	**206**	PN	Pn	09 38 07.4	-2.9
THZ	**Tophouse**	**4.45**	**214**	PN	Pn	09 38 12.7	-3.3
KHZ	**Kahutara**	**4.76**	**205**	PN	Pn	09 38 16.4	-3.5
DSZ	**Denniston Nort**	**4.98**	**222**	PN	Pn	09 38 18.4	-4.5
LTZ	**Lake Taylor**	**5.55**	**212**	PN	Pn	09 38 26.4	-4.1
MQZ	**McQueen's Vall**	**6.20**	**205**	PN	Pn	09 38 33.8	-5.2
RPZ	**Rata Peaks**	**6.83**	**214**	SN	Sn	09 39 54.7	-10
JCZ	**Jackson Bay**	**8.20**	**221**	*e*PN	Pn	09 39 01.9	-3.8

KRSC 05 09:40:09.6±0.1,54°51N×161°57E,h41km±41km,ML3.7,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.10**	**64**	*e*P	Pn	09 40 16.2	-0.1
MKZ				*i* S	Sn	09 40 20.9	-0.1
TUMR	**Tumrok**	**1.13**	**314**	*e*P	Pn	09 40 30.2	+1.1
TUMR				*i* S	Sn	09 40 46.0	+2.5
KMNR	**Kamenistaya**	**1.47**	**329**	*e*P	Pn	09 40 35.4	+1.7
KMNR				*i* S	Sn	09 40 53.3	+1.6
BZGR	**Bezymyannyi-Gr**	**1.52**	**341**	*e*P	Pn	09 40 35.9	+1.5
BZGR				*i* S	Sn	09 40 54.7	+1.6
BZMR	**Bezymyannaya**	**1.56**	**337**	*e*P	Pn	09 40 36.5	+1.5
BZMR				*i* S	Sn	09 40 56.8	+2.7
ZLN	**Zelenaya**	**1.57**	**344**	*e*P	Pn	09 40 36.5	+1.3
ZLN				*i* S	Sn	09 40 55.6	+1.2
BZWR	**Bezymyannyi-We**	**1.58**	**338**	*e*P	Pn	09 40 37.1	+1.7
BZWR				*i* S	Sn	09 40 57.9	+3.1
KIRR	**Kirishev**	**1.61**	**335**	*e*P	Pn	09 40 37.6	+1.9
KIRR				*i* S	Sn	09 40 58.4	+3.0
KPT	**Kopyto**	**1.65**	**333**	*e*P	Pn	09 40 38.4	+2.2
KPT				*i* S	Sn	09 40 59.8	+3.5
CIRR	**Tsirk**	**1.68**	**344**	*e*P	Pn	09 40 38.5	+1.9
CIRR				*i* S	Sn	09 41 00.0	+3.0
SPN	**Mys Shipunski**	**1.69**	**214**	*e*P	Pn	09 40 36.5	0.0
SPN				*i* S	Sn	09 40 55.9	-1.0
KRSR	**Krestovskiy**	**1.81**	**342**	*e*P	Pn	09 40 39.7	+1.4
KRSR				*i* S	Sn	09 41 02.0	+1.9
KOZ	**Kozyrevsk**	**1.83**	**329**	*e*P	Pn	09 40 40.9	+2.3
KOZ				*i* S	Sn	09 41 03.8	+3.3
KBTR	**Krutoberegovo**

SRKR	**Sorokina**	**2.16**	**354**	*e*P	Pn	09 40 45.7 +2.5
SRKR				*i* S	Sn	09 41 12.2 +3.4
ESO	**Esso**	**2.17**	**312**	*e*P	Pn	09 40 44.9 +1.6
ESO				*i* S	Sn	09 41 10.2 +1.3
PET	**Petropavlovsk**	**2.28**	**230**	*e*P	Pn	09 40 47.6 +2.9
PET				*i* S	Sn	09 41 14.5 +2.9
RUS	**Russkaya**	**2.77**	**223**	*e*P	Pn	09 40 52.3 +0.9
RUS				*i* S	Sn	09 41 24.2 +0.7
MTVR	**Mutnovka**	**2.87**	**226**	*e*P	Pn	09 40 55.5 +2.5
MTVR				*i* S	Sn	09 41 28.1 +1.8
ASAK	**Asacha**	**3.06**	**227**	*e*P	Pn	09 40 58.4 +2.9
ASAK				*i* S	Sn	09 41 34.1 +3.2

MEX 05 09:53:52.7±0.3, 17°.09N×101°.13W, h25km±9km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.61**	**328**	*i* P	Pb	09 54 02.8	-2.0
ZIIG				*i* S	Sb	09 54 10.6	-2.4
CAIG	**El Cayaco**	**0.82**	**93**	*i* P	Pb	09 54 05.9	-2.4
CAIG				*i* S	Sb	09 54 15.8	-3.3
PLIG	**Platanillo**	**2.02**	**50**	*i* P	Pn	09 54 23.1	-2.3
PLIG				*i* S	Sn	09 54 47.1	-2.7
YAIG	**Yautepec**	**2.64**	**48**	*i* P	Pn	09 54 31.9	-2.0
YAIG				*i* S	Sn	09 55 01.9	-3.3
PNIG	**Pinotepa**	**2.96**	**103**	*i* P	Pn	09 54 36.7	-1.4
PNIG				*i* S	Sn	09 55 09.8	-3.0
PPM	**Popocatepetl**	**3.09**	**50**	*i* P	Pn	09 54 38.1	-2.4
PPM				*i* S	Sn	09 55 13.7	-3.4

ISCJB ***05*** *10:03:54.1±0.8, 32°.15N±0°.06×105°.30E±0°.09, h10km, mb3.2/3, MS3.1/1, Error ellipse: s-maj=12.3km s-min=6.3km az=35.5*

IDC ***05*** *10:03:55.6±1.5, 32°.29N×105°.40E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.3/25, mbtmpb3.2/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/22, Error ellipse: s-maj=70.7km s-min=27.6km az=62.0*

ISC 05 10:03:57.1±0.9, 32°.23N±0°.06×105°.39E±0°.07, h10km, n8, σ0.74/11, mb3.1/3, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.92**	**227**	Pg	**Pn**	**10 04 29.7**	**-0.1**
CD2				Sg	**Sn**	**10 04 53.5**	**-0.6**
CD2				smax	smax		
	comp=N,2μm,0.6s						
CD2				smax	smax		
	comp=E,2μm,0.6s						
XAN	**Xi'an**	**3.47**	**58**	Pg	**Pg**	**10 05 03.7**	**+0.2**
XAN				Sg	**Sg**	**10 05 47.7**	**-0.7**
XAN				smax	smax		
	comp=N,47nm,0.5s						
XAN				smax	smax		
	comp=E,43nm,0.6s						
LZH	**Lanzhou**	**4.05**	**342**	Pg	**Pb**	**10 05 09.1**	**+0.4**
LZH				Sn	**Sn**	**10 05 45.9**	**-1.0**
LZH				Sg	**Sb**	**10 05 58.2**	**+0.4**
LZH				smax	smax		
	comp=N,63nm,1.1s						
LZH				smax	smax		
	comp=E,130nm,1.0s						
LZH				LR	LR		
	comp=N,190nm,6.0s						
LZH				LR	LR		
	comp=E,230nm,6.4s						
LZH				LR	LR		
	comp=Z,250nm,7.0s						
SONM	**Songino Array**	**15.60**	**3**	Pn	**Pn**	**10 07 38.1**	**+0.9**
	baz=187,slow=8.7,SNR=2.2						
MKAR	**Makanchi Array**	**22.89**	**316**	P	**P**	**10 09 00.5**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=119,slow=12,SNR=5.1						
AAK	**Ala-Archa**	**26.51**	**302**	LR	LR	10 19 59.3	
	comp=Z,52nm,19.4s,baz=66,slow=36						
WRA	**Warramunga Arr**	**58.82**	**148**	P	**P**	**10 13 56.5**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=338,slow=7.6,SNR=7.8						
YKA	**Yellowknife Ar**	**80.29**	**18**	P	**P**	**10 16 07.0**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=326,slow=4.5,SNR=4.0						

IDC 05 10:17:14.4±1.0, 7°.31S×158°.36E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.8/17, mbtmp3.8/6, ML4.4/1, MS3.5/3, Ms1 3.6/3, ms1mx3.2/21, Error ellipse: s-maj=34.0km s-min=20.9km az=58.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.63**	**143**	Pn	Pn	10 17 59.8	+1.7
	63nm,0.3s,baz=233,slow=4.4,SNR=70						
HNR				Pg	Pb	10 18 01.4	-1.0
	63nm,0.3s,baz=246,slow=3.9,SNR=73						
HNR				Lg	Lg	10 18 31.2	
	148nm,0.3s,baz=75,slow=22,SNR=7.0						
GUMO	**Guam**	**24.71**	**327**	LR	LR	10 30 43.3	
	comp=Z,93nm,19.6s,baz=85,slow=33						
WRA	**Warramunga Arr**	**26.45**	**239**	P	P	10 22 52.8	-0.6
	0.4nm,0.5s,baz=65,slow=9.6,SNR=5.4						
CMAR	**Chiang Mai Arr**	**63.94**	**295**	LR	LR	10 52 19.9	
	comp=Z,19nm,20.4s,baz=335,slow=33						
SONM	**Songino Array**	**71.44**	**326**	P	P	10 28 37.7	+0.9
	0.5nm,0.8s,baz=138,slow=4.9,SNR=4.5						
ILAR	**Eielson Array**	**82.47**	**21**	P	P	10 29 38.2	-0.3
	0.5nm,0.8s,baz=239,slow=5.6,SNR=6.6						
MKAR	**Makanchi Array**	**85.86**	**318**	P	P	10 29 56.5	+0.4
	0.6nm,0.7s,baz=102,slow=5.5,SNR=7.0						
ZALV	**Zalesovo Beam**	**86.32**	**325**	LR	LR	11 08 48.5	
	comp=Z,53nm,18.8s,baz=68,slow=36						
YKA	**Yellowknife Ar**	**95.06**	**28**	P	P	10 30 37.9	-1.1
	0.2nm,0.6s,baz=263,slow=4.6,SNR=6.2						

MEX 05 10:24:39.3±0.6, 17°.89N×99°.97W, h42km±14km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.34**	**83**	*i* P	Pn	10 24 46.4	-1.9
MEIG				*i* S	Sn	10 24 52.9	-1.7
PLIG	**Platanillo**	**0.67**	**42**	*i* P	Pn	10 24 51.0	-1.6
PLIG				*i* S	Sn	10 25 00.2	-1.9
CAIG	**El Cayaco**	**0.88**	**199**	*i* P	Pn	10 24 54.5	-0.8
CAIG				*e*S	Sn	10 25 05.0	-1.9
ACX	**Acapulco**	**1.02**	**174**	*i* P	Pn	10 24 54.8	-2.4
ACX				*e*S	Sn	10 25 07.8	-2.5
YAIG	**Yautepec**	**1.30**	**41**	*i* P	Pn	10 24 59.0	-2.2
YAIG				*e*S	Sn	10 25 15.2	-2.3
ZIIG	**Zihuatanejo**	**1.45**	**259**	*i* P	Pn	10 25 01.2	-1.8
ZIIG				*e*S	Sn	10 25 17.9	-2.9

ISCJB ***05*** *10:40:19.4±0.4, 56°.48S±0°.07×25°.6W±0°.1, h10km, mb4.8/24, MS4.3/14, Error ellipse: s-maj=10.9km s-min=8.6km az=27.7*

IDC ***05*** *10:40:19.4±0.5, 56°.50S×25°.69W, h0km, mb4.6/15, mb1 4.6/15, mb1mx4.5/18, mbtmp4.6/15, MS4.3/13, Ms1 4.3/13, ms1mx4.3/14, Error ellipse: s-maj=18.0km s-min=16.6km az=170.0*

MOS ***05*** *10:40:23.3±1.4, 56°.63S×25°.59W, h33km, mb5.3/7, Error ellipse: s-maj=25.4km s-min=13.7km az=103.8*

NEIC ***05*** *10:40:24.7±0.3, 56°.55S×25°.51W, h35km, mb5.1/15, Error ellipse: s-maj=10.5km s-min=8.4km az=18.0*

ISC 05 10:40:23.4±2.3, 56°.51S±0°.08×25°.59W±0°.08, h27km±15km, n177, σ1§06/182, mb4.8/24, MS4.2/14, 38C-24D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**17.96**	**157**	*e*Pn	**Pn**	**10 44 27.4**	**-3.4**
	24nm,0.7s						
EFI	**East Falkland**	**19.54**	**271**	*e*P	**Pn**	**10 44 50.3**	**+0.3**
EFI				pmax	pmax		
	comp=Z,54nm,0.9s						
EFI	**East Falkland**	**19.54**	**271**	*e*P	**Pn**	**10 44 50.3**	**+0.3**
	comp=Z,54nm,0.9s						
PMSA	**Palmer Station**	**20.28**	**230**	*e*P	Pn	10 44 58.8	+0.1
	comp=Z,136nm,1.1s						
PMSA	**Palmer Station**	**20.28**	**230**	P	**P**	**10 44 56.3**	**-0.3**
	comp=Z,143nm,1.1s,baz=96,slow=8.5,SNR=8.8						
PMSA				LR	LR	10 51 32.6	
	comp=Z,779nm,20.3s,baz=232,slow=33						
MAIT	**Maitri**	**21.36**	**147**	*e*P	**P**	**10 45 09.8**	**+1.6**
NVL	**N'lazarevskaya**	**21.38**	**146**	*i*P	**P**	**10 45 08.5**	**0.0**
NVL				*e*		10 45 37.7	
NVL				*e*S	Sn	10 49 29.6	+17
NVL				pmax	pmax		
	comp=Z,11nm,0.6s						
NVL				MLR	MLR		
	comp=Z,460nm,13.0s						
USHA	**Ushuaia**	**23.94**	**256**	P	**P**	**10 45 34.7**	**-0.2**
USHA	**Ushuaia**	**23.94**	**256**	P	**P**	**10 45 34.7**	**-0.2**
	comp=Z,7.3nm,0.8s,baz=124,slow=5.1,SNR=8.3						
USHA				LR	LR	10 52 51.0	
	comp=Z,815nm,19.4s,baz=59,slow=32						
PLCA	**Paso Flores**	**32.96**	**279**	P	**P**	**10 46 55.1**	**-0.6**
PLCA	**Paso Flores**	**32.96**	**279**	P	**P**	**10 46 55.1**	**-0.6**
	comp=Z,2.2nm,1.0s,baz=137,slow=17,SNR=2.9						
PLCA				LR	LR	10 59 55.2	
	comp=Z,372nm,19.6s,baz=158,slow=36						
QSPA	**South Pole Qui**	**33.74**	**180**	*e*P	**P**	**10 47 03.0**	**+0.7**
	comp=Z,74nm,0.9s						
QSPA				PcP	**PcP**	**10 49 41.8**	**+0.7**
QSPA				ScP	**ScP**	**10 53 24.4**	**+0.8**
QSPA	**South Pole Qui**	**33.74**	**180**	P	**P**	**10 47 03.0**	**+0.7**
	comp=Z,58nm,0.8s,baz=200,slow=4.4,SNR=210						
QSPA				PcP	**PcP**	**10 49 41.8**	**+0.7**
	comp=Z,7.0nm,0.8s,baz=222,slow=5.9,SNR=2.6						
QSPA				ScP	**ScP**	**10 53 24.4**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=129,slow=4.9,SNR=8.0						
CFAA	**Coronel Fontan**	**38.56**	**292**	P	**P**	**10 47 42.5**	**-1.3**
CFAA				PcP	**PcP**	**10 49 56.2**	**+0.3**
CFAA	**Coronel Fontan**	**38.56**	**292**	P	**P**	**10 47 42.5**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=139,slow=8.2,SNR=16						
CFAA				PcP	**PcP**	**10 49 56.2**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=243,slow=4.5,SNR=4.3						
MAW	**Mawson**	**39.24**	**143**	LR	LR	11 04 08.2	
	comp=Z,307nm,18.0s,baz=39,slow=36						
LCO	**Las Campanas**	**41.91**	**292**	*e*P	**P**	**10 48 11.5**	**-0.3**
	comp=Z,15nm,0.9s						
BDFB	**Brasilia**	**44.22**	**328**	P	**P**	**10 48 31.3**	**+1.0**
BDFB	**Brasilia**	**44.22**	**328**	P	**P**	**10 48 31.3**	**+1.0**
	comp=Z,4.8nm,0.8s,baz=115,slow=2.7,SNR=5.5						
BDFB				LR	LR	11 06 09.4	
	comp=Z,462nm,18.5s,baz=43,slow=35						
BOSA	**Boshof**	**45.23**	**74**	*e*P	**P**	**10 48 38.6**	**+0.3**
	comp=Z,24nm,1.1s						
BOSA	**Boshof**	**45.23**	**74**	P	**P**	**10 48 39.1**	**+0.8**
	comp=Z,2.9nm,0.8s,baz=212,slow=14,SNR=3.0						
BOSA				LR	LR	11 04 37.1	
	comp=Z,645nm,18.3s,baz=166,slow=32						
VNDA	**Vanda**	**46.15**	**182**	*e*P	**P**	**10 48 46.0**	**+1.2**
	comp=Z,46nm,1.2s						
LBTB	**Lobatse**	**48.30**	**71**	*e*P	**P**	**10 49 03.1**	**+0.8**
	comp=Z,14nm,0.9s						
SIV	**San Ignacio**	**48.55**	**312**	LR	LR	11 07 25.4	
	comp=Z,358nm,21.4s,slow=34						
TSUM	**Tsumeb**	**49.14**	**59**	P	**P**	**10 49 07.8**	**-1.1**
TSUM	**Tsumeb**	**49.14**	**59**	P	**P**	**10 49 07.8**	**-1.1**
	comp=Z,2.8nm,1.0s,baz=249,slow=22,SNR=5.6						
RCBR	**Riachuelo**	**51.20**	**347**	LR	LR	11 05 48.2	
	comp=Z,154nm,20.1s,baz=163,slow=30						
LPAZ	**La Paz**	**51.38**	**304**	*e*P	**P**	**10 49 27.5**	**+1.1**
	comp=Z,75nm,1.0s						
SAML	**Samuel**	**55.77**	**313**	*e*P	**P**	**10 49 58.3**	**+0.4**
	comp=Z,28nm,1.1s						
DRV	**Dumont d'Urvil**	**56.67**	**173**	L	L	11 03 00.0	
DRV				R		11 12 00.0	
LSZ	**Lusaka**	**57.72**	**67**	*e*P	**P**	**10 50 10.8**	**-1.0**
	comp=Z,15nm,1.2s						
NNA	**Nana**	**59.26**	**297**	*e*P	**P**	**10 50 21.8**	**-0.7**
	comp=Z,56nm,1.4s						
DBIC	**Dimbokro**	**65.23**	**23**	*e*P	**P**	**10 51 03.3**	**+0.9**
	comp=Z,8.4nm,1.0s						
DBIC	**Dimbokro**	**65.23**	**23**	P	**P**	**10 51 03.0**	**+0.6**
	comp=Z,2.5nm,0.6s,baz=159,slow=10,SNR=5.1						
DBIC				LR	LR	11 13 09.1	
	comp=Z,324nm,18.3s,baz=166,slow=30						
OTAV	**Otavalo**	**70.66**	**302**	*e*P	**P**	**10 51 38.9**	**+1.7**
	comp=Z,44nm,1.2s						
ROSC	**El Rosal**	**72.89**	**308**	P	**P**	**10 51 49.9**	**-0.5**
ROSC	**El Rosal**	**72.89**	**308**	P	**P**	**10 51 49.9**	**-0.5**
	comp=Z,4.9nm,0.4s,baz=105,slow=19,SNR=4.0						
ROSC				LR	LR	11 22 32.2	
	comp=Z,126nm,20.9s,baz=26,slow=35						
TORD	**Torodi Ar. Bea**	**73.03**	**28**	P	**P**	**10 51 51.4**	**+0.7**
TORD	**Torodi Ar. Bea**	**73.03**	**28**	P	**P**	**10 51 51.4**	**+0.7**
	comp=Z,4.1nm,0.7s,baz=196,slow=6.4,SNR=20						
TORD				LR	LR	11 19 27.8	
	comp=Z,161nm,18.4s,baz=145,slow=32						
SDV	**Santo Domingo**	**74.97**	**314**	*e*P	**P**	**10 52 03.2**	**+0.8**
	comp=Z,19nm,0.9s						
SJG	**San Juan**	**81.76**	**321**	P	**P**	**10 52 39.5**	**+0.1**
SJG	**San Juan**	**81.76**	**321**	P	**P**	**10 52 39.5**	**+0.1**
	comp=Z,12nm,0.2s,baz=270,slow=18,SNR=4.2						
TBI	**Tubuai**	**87.48**	**230**	*e*LR	LR	11 21 20.6	
	comp=Z,231nm,21.8s,baz=157						
STKA	**Stephens Creek**	**91.29**	**169**	P	**P**	**10 53 26.3**	**0.0**
STKA	**Stephens Creek**	**91.29**	**169**	P	**P**	**10 53 26.3**	**0.0**
	comp=Z,2.4nm,0.7s,baz=241,slow=5.1,SNR=4.1						
STKA				LR	LR	11 34 45.0	
	comp=Z,304nm,18.0s,baz=22,slow=36						
PPT2	**Papeete2**	**92.61**	**232**	*e*S	S	11 04 56.3	+21
	comp=Z,100nm,30.0s						
PPT2				*e*LR	LR	11 23 42.9	
	comp=Z,385nm,27.8s						
TEIG	**Tepich**	**92.71**	**303**	P	**P**	**10 53 32.6**	**-0.2**
TEIG	**Tepich**	**92.71**	**303**	P	**P**	**10 53 32.6**	**-0.2**
	comp=Z,10.0nm,0.7s,baz=182,slow=5.6,SNR=4.1						
KEST	**Kesra**	**96.55**	**28**	LR	LR	11 30 53.8	
	comp=Z,83nm,21.9s,baz=278,slow=31						
ASAR	**Alice Springs**	**98.27**	**161**	P	**P**	**10 53 58.1**	**-0.3**
ASAR	**Alice Springs**	**98.27**	**161**	P	**P**	**10 53 58.1**	**-0.3**
	comp=Z,2.1nm,1.1s,baz=196,slow=4.9,SNR=8.1						
WRA	**Warramunga Arr**	**101.98**	**161**	P	**Pdif**	**10 54 15.2**	**+0.2**
WRA	**Warramunga Arr**	**101.98**	**161**	P	**Pdif**	**10 54 15.2**	**+0.2**
	comp=Z,0.7nm,0.9s,baz=196,slow=4.3,SNR=3.2						
VYHS	**Vyhne**	**110.98**	**30**	*e*PP	PP	10 59 33.3	+0.7
Q22A	**Crested Butte,**	**117.05**	**300**	⇓P	**PKPdf**	**10 59 06.5**	**+1.1**
	baz=117						
GMRC	**Granite Mounta**	**118.24**	**291**	⇓P	**PKPdf**	**10 59 08.9**	**+1.2**
	baz=118						
P20A	**De Beque**	**118.27**	**299**	⇑P	**PKPdf**	**10 59 08.3**	**+0.7**
	baz=119						
R16A	**Teasdale**	**118.84**	**296**	⇓P	**PKPdf**	**10 59 09.6**	**+0.8**
	baz=119						
EDW2	**Edwards Air Fo**	**119.53**	**289**	⇑P	**PKPdf**	**10 59 10.9**	**+0.8**
	baz=120						
O18A	**Roosevelt**	**119.64**	**299**	⇑P	**PKPdf**	**10 59 10.0**	**-0.2**
	baz=120						
K22A	**Jasper**	**119.83**	**303**	⇑P	**PKPdf**	**10 59 10.5**	**0.0**
	baz=120						
P15A	**Leamington**	**120.22**	**297**	⇑P	**PKPdf**	**10 59 11.8**	**+0.5**
	baz=120						
H24A	**Dirks Ranch, A**	**120.55**	**306**	⇑P	**PKPdf**	**10 59 11.2**	**-0.5**
	baz=121						
DUG	**Dugway**	**120.96**	**297**	⇑P	**PKPdf**	**10 59 13.1**	**+0.4**
	baz=121						
K19A	**Absolon Red Bu**	**121.05**	**301**	⇓P	**PKPdf**	**10 59 12.4**	**-0.4**
	baz=121						
J20A	**Shoshoni**	**121.10**	**302**	⇓P	**PKPdf**	**10 59 13.0**	**+0.1**
	baz=121						
ULM	**Lac du Bonnet**	**121.20**	**315**	PKP	**PKPdf**	**10 59 10.9**	**-1.7**
ULM	**Lac du Bonnet**	**121.20**	**315**	PKP	**PKPdf**	**10 59 10.9**	**-1.7**
	comp=Z,1.3nm,0.7s,baz=203,slow=2.2,SNR=4.2						
PDAR	**Pinedale Array**	**121.35**	**301**	PKP	**PKPdf**	**10 59 12.3**	**-1.2**
PDAR				PP	**PP**	**11 00 48.4**	**+2.8**
PDAR	**Pinedale Array**	**121.35**	**301**	PKP	**PKPdf**	**10 59 12.3**	**-1.2**
	comp=Z,0.5nm,0.9s,baz=73,slow=3.0,SNR=3.5						
PDAR				PP	**PP**	**11 00 48.4**	**+2.8**
	comp=Z,0.6nm,0.9s,baz=123,slow=5.5,SNR=3.9						
N15A	**Stansbury Isla**	**121.35**	**298**	⇓P	**PKPdf**	**10 59 14.1**	**+0.7**
	baz=122						
K17A	**Gardner Place,**	**121.99**	**300**	⇓P	**PKPdf**	**10 59 14.7**	**+0.1**
	baz=122						
D24A	**Glendive**	**122.28**	**308**	⇓P	**PKPdf**	**10 59 15.3**	**+0.4**
	baz=123						
NVAR	**Mina Array Bea**	**122.40**	**292**	PKP	**PKPdf**	**10 59 16.4**	**+0.8**
NVAR	**Mina Array Bea**	**122.40**	**292**	PKP	**PKPdf**	**10 59 16.4**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=158,slow=2.9,SNR=5.1						
C24A	**Savage**	**122.64**	**308**	⇑P	**PKPdf**	**10 59 15.8**	**+0.2**
	baz=123						
I17A	**Pilgrim Ck.**	**122.71**	**301**	⇑P	**PKPdf**	**10 59 16.2**	**+0.2**
	baz=123						
K14A	**Jones Ranch, D**	**122.92**	**298**	⇓P	**PKPdf**	**10 59 17.4**	**+1.0**
	baz=123						
D22A	**Cohagen**	**123.12**	**306**	⇓P	**PKPdf**	**10 59 16.8**	**+0.3**
	baz=123						
C23A	**Lambert**	**123.18**	**308**	⇓P	**PKPdf**	**10 59 16.7**	**+0.1**
	baz=124						
J15A	**Blackfoot**	**123.20**	**300**	⇓P	**PKPdf**	**10 59 18.3**	**+1.4**
	baz=124						
D21A	**La Casta Ranch**	**123.42**	**306**	⇑P	**PKPdf**	**10 59 17.8**	**+0.7**
	baz=124						
C22A	**Vida**	**123.44**	**307**	⇑P	**PKPdf**	**10 59 17.9**	**+0.8**
	baz=124						
F18A	**Big Timber**	**123.79**	**303**	⇓P	**PKPdf**	**10 59 18.8**	**+0.8**
	baz=124						
D20A	**Manuel Ranch,**	**123.96**	**305**	⇑P	**PKPdf**	**10 59 18.3**	**+0.2**
	baz=124						
C21A	**Desert Coulee**	**124.04**	**306**	⇑P	**PKPdf**	**10 59 18.9**	**+0.7**
	baz=124						
CMAR	**Chiang Mai Arr**	**124.07**	**109**	PKP	**PKPdf**	**10 59 19.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**124.07**	**109**	PKP	**PKPdf**	**10 59 19.6**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=234,slow=3.9,SNR=10						
I14A	**Mackay**	**124.09**	**299**	⇑P	**PKPdf**	**10 59 20.0**	**+1.3**
	baz=124						
G16A	**Moss Hill, Enn**	**124.27**	**301**	⇑P	**PKPdf**	**10 59 20.0**	**+1.0**
	baz=125						
D19A	**Cripps Ranch,**	**124.35**	**305**	⇑P	**PKPdf**	**10 59 18.9**	**0.0**
	baz=125						
C20A	**Veseth Ranch,**	**124.36**	**306**	⇑P	**PKPdf**	**10 59 19.0**	**+0.2**
	baz=125						
FINES	**FINESS Array B**	**124.38**	**27**	PKP	**PKPdf**	**10 59 18.1**	**-0.3**
FINES	**FINESS Array B**	**124.38**	**27**	PKP	**PKPdf**	**10 59 18.1**	**-0.3**
	comp=Z,5.5nm,1.0s,baz=270,slow=3.8,SNR=4.8						
A22A	**Carney Farms,**	**124.40**	**308**	⇑P	**PKPdf**	**10 59 19.4**	**+0.5**
	baz=125						
B21A	**Ellsworth Farm**	**124.46**	**307**	⇑P	**PKPdf**	**10 59 20.2**	**+1.2**
	baz=125						
G15A	**Dillon**	**124.55**	**301**	⇓P	**PKPdf**	**10 59 20.7**	**+1.2**
	baz=125						
H14A	**Leadore**	**124.56**	**300**	⇑P	**PKPdf**	**10 59 20.3**	**+0.8**
	baz=125						
E17A	**Martinsdale**	**124.74**	**303**	⇓P	**PKPdf**	**10 59 20.9**	**+1.1**
	baz=125						
A21A	**Bergtoll Ranch**	**124.84**	**307**	⇑P	**PKPdf**	**10 59 20.1**	**+0.4**
	baz=125						
C19A	**Slack Wire Ran**	**124.85**	**305**	⇑P	**PKPdf**	**10 59 20.6**	**+0.8**
	baz=125						
H13A	**Challis**	**124.95**	**299**	⇓P	**PKPdf**	**10 59 21.2**	**+1.0**
	baz=125						
D17A	**Six Diamond Ra**	**125.17**	**304**	⇑P	**PKPdf**	**10 59 21.1**	**+0.6**
	baz=126						
A20A	**Cobblestone Ra**	**125.20**	**307**	⇓P	**PKPdf**	**10 59 21.1**	**+0.7**
	baz=126						
H12A	**Diamond D Ranc**	**125.23**	**299**	⇑P	**PKPdf**	**10 59 21.7**	**+0.9**
	baz=126						
G13A	**Cobalt**	**125.33**	**300**	⇑P	**PKPdf**	**10 59 21.5**	**+0.5**
	baz=126						
C17A	**Wharram Farm,**	**125.56**	**304**	⇑P	**PKPdf**	**10 59 21.5**	**+0.3**
	baz=126						
G12A	**Big Creek, Yel**	**125.88**	**299**	⇑P	**PKPdf**	**10 59 22.4**	**+0.4**
	baz=126						
F13A	**Darby**	**125.88**	**300**	⇑P	**PKPdf**	**10 59 22.3**	**+0.3**
	baz=126						
D15A	**Lincoln**	**125.94**	**302**	⇓P	**PKPdf**	**10 59 23.1**	**+1.0**
	baz=126						
B17A	**L&G Farms, Che**	**126.06**	**305**	⇑P	**PKPdf**	**10 59 22.7**	**+0.6**
	baz=126						
A18A	**Metzger Ranch,**	**126.08**	**306**	⇓P	**PKPdf**	**10 59 22.4**	**+0.2**
	baz=126						
C16A	**Fuhringer Ranc**	**126.13**	**304**	⇓P	**PKPdf**	**10 59 22.6**	**+0.3**
	baz=126						
E13A	**Victor**	**126.29**	**301**	⇑P	**PKPdf**	**10 59 23.5**	**+0.9**
	baz=127						
D14A	**Greenough**	**126.43**	**302**	⇓P	**PKPdf**	**10 59 23.0**	**0.0**
	baz=127						
MSO	**Missoula**	**126.45**	**301**	⇑P	**PKPdf**	**10 59 23.6**	**+0.6**
	baz=127						
A17A	**Triple J Farms**	**126.49**	**305**	⇓P	**PKPdf**	**10 59 23.3**	**+0.4**
	baz=127						
BMO	**Blue Mountains**	**126.64**	**298**	*e*PKIKP	**PKPdf**	**10 59 24.2**	**+0.8**
BMO	**Blue Mountains**	**126.64**	**298**	*e*PKPdf	**PKPdf**	**10 59 24.1**	**+0.8**
AKTO	**Aktyubinsk**	**126.90**	**53**	PKIKP	**PKPdf**	**10 59 23.2**	**-0.4**
AKTO	**Aktyubinsk**	**126.90**	**53**	PKP	**PKPdf**	**10 59 23.2**	**-0.4**
AKTO	**Aktyubinsk**	**126.90**	**53**	PKP	**PKPdf**	**10 59 23.2**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=204,slow=6.4,SNR=3.6						
A16A	**West Butte Ran**	**126.90**	**305**	⇑P	**PKPdf**	**10 59 23.6**	**-0.1**
	baz=127						
FFC	**Flin Flon**	**127.03**	**315**	*i* PKIKP	**PKPdf**	**10 59 25.1**	**+1.4**
B14A	**Marquette Ranc**	**127.25**	**303**	⇓P	**PKPdf**	**10 59 24.2**	**-0.3**
	baz=128						
D12A	**Red Ives Fores**	**127.28**	**301**	⇑P	**PKPdf**	**10 59 24.5**	**-0.1**
	baz=128						
C13A	**Hot Springs**	**127.36**	**302**	⇑P	**PKPdf**	**10 59 24.6**	**0.0**
	baz=128						
A14A	**Double T Ranch**	**127.75**	**304**	⇓P	**PKPdf**	**10 59 24.8**	**-0.6**
	baz=128						
C12B	**Naegeli Ranch,**	**127.81**	**301**	⇑P	**PKPdf**	**10 59 25.3**	**-0.1**
	baz=128						
HUMO	**Hull Mountain**	**127.87**	**292**	*e

COLA	**College**	**151.52**	**311**	*e*PKPbc	**PKPbc**	**11 00 13.7**	**+0.4**
MCK	**McKinley**	**151.76**	**308**	*e*PKIKP	**PKPbc**	**11 00 15.0**	**+1.0**
MCK	**McKinley**	**151.76**	**308**	*e*PKPbc	**PKPbc**	**11 00 15.0**	**+1.0**
TRF	**Thorofare Moun**	**152.29**	**307**	*e*PKPbc	**PKPbc**	**11 00 15.1**	**-0.3**
MJAR	**Matsushiro Arr**	**157.23**	**144**	PKPab	**PKPab**	**11 00 47.6**	**+0.5**
MJAR	**Matsushiro Arr**	**157.23**	**144**	PKPab	**PKPab**	**11 00 47.6**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=200,slow=5.5,SNR=6.1						
BOD	**Bodaibo**	**158.27**	**70**	*e*PKIKP	**PKPdf**	**11 00 16.3**	**-0.3**

*ISCJB **05** 10:40:26.5±0.6,36°.97N±0°.02×28°.20E±0°.03,h7km±4km, Error ellipse: s-maj=4.5km s-min=3.7km az=28.7*
*ATH **05** 10:40:26.3,36°.99N×28°.35E,h32km±8km,MD3.0/4*
*DDA **05** 10:40:26.4,36°.98N×28°.21E,h16km,MD3.2*
*CSEM **05** 10:40:27.0±0.1,36°.99N×28°.20E,h10km,MD3.0, Error ellipse: s-maj=3.5km s-min=3.0km az=127.0*
*ISK **05** 10:40:28.2,37°.24N×28°.24E,h4km,MD3.0*

ISC 05 10:40:26.7±1.0, 36°.99N±0°.02×28°.22E±0°.02, h7km±8km, n46,σ1°32/77, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.16**	**20**	PG	**Pg**	**10 40 30.6**	**+0.6**
YER				SG	**Sg**	**10 40 33.5**	**+1.3**
YER	**Yerkesik**	**0.16**	**20**	*i* Pg	**Pg**	**10 40 30.6**	**+0.6**
YER				*i* Sg	**Sg**	**10 40 33.5**	**+1.3**
TURN	**Turunc**	**0.33**	**110**	*i* P	**Pg**	**10 40 30.9**	**-2.3**
TURN				*i* S	**Sg**	**10 40 34.2**	**-3.4**
TURN	**Turunc**	**0.33**	**110**	*i* P	**Pg**	**10 40 30.9**	**-2.3**
TURN				*i* S	**Sg**	**10 40 34.2**	**-3.4**
BDRM	**Kayabasi**	**0.62**	**277**	*i* P	**Pg**	**10 40 38.3**	**-0.5**
BDRM				*i* S	**Sb**	**10 40 48.3**	**-0.6**
BDRM	**Kayabasi**	**0.62**	**277**	*i* P	**Pg**	**10 40 38.3**	**-0.5**
BDRM				*i* S	**Sb**	**10 40 48.3**	**-0.6**
AYDN	**Tasoluk**	**0.72**	**338**	*i* P	**Pg**	**10 40 40.9**	**+0.2**
AYDN				*i* S	**Sg**	**10 40 50.9**	**+0.8**
AYDN	**Tasoluk**	**0.72**	**338**	*i* P	**Pg**	**10 40 40.9**	**+0.2**
AYDN				*i* S	**Sg**	**10 40 50.9**	**+0.8**
ARG	**Arkhangelos**	**0.77**	**185**	*e*PB	**Pg**	**10 40 41.5**	**-0.1**
ARG				*e*SN	**Sb**	**10 40 53.9**	**+0.7**
ARG	**Arkhangelos**	**0.77**	**185**	*e*Pb	**Pg**	**10 40 41.5**	**-0.1**
ARG				*e*Sn	**Sb**	**10 40 53.9**	**+0.7**
DNZL	**Cakiroluk**	**0.96**	**43**	*i* P	**Pg**	**10 40 45.5**	**+0.3**
DNZL				*i* S	**Sb**	**10 40 58.9**	**0.0**
DNZL	**Cakiroluk**	**0.96**	**43**	*i* P	**Pg**	**10 40 45.5**	**+0.3**
DNZL				*i* S	**Sb**	**10 40 58.9**	**0.0**
GCAM	**G?zelcaml?**	**1.06**	**313**	*i* P	**Pg**	**10 40 46.9**	**-0.1**
GCAM				*i* S	**Sb**	**10 41 01.1**	**-0.3**
GCAM	**G?zelcaml?**	**1.06**	**313**	*i* P	**Pg**	**10 40 46.9**	**-0.1**
GCAM				*i* S	**Sb**	**10 41 01.1**	**-0.3**
GOLH	**Golhisar**	**1.10**	**77**	*i* P	**Pn**	**10 40 48.6**	**-0.1**
GOLH				*i* S	**Sn**	**10 41 37.6**	**+3.4**
GOLH	**Golhisar**	**1.10**	**77**	*i* P	**Pn**	**10 40 48.6**	**-0.1**
SMG	**Samos**	**1.31**	**304**	*e*PN	**Pb**	**10 40 51.6**	**-0.1**
SMG				*e*SN	**Sg**	**10 41 09.7**	**+0.7**
SMG	**Samos**	**1.31**	**304**	*e*Pn	**Pb**	**10 40 51.6**	**-0.1**
SMG				*e*Sn	**Sg**	**10 41 09.7**	**+0.7**
AKAS	**Kas**	**1.35**	**124**	*i* P	**Pg**	**10 40 52.8**	**+0.2**
AKAS				*i* S	**Sg**	**10 41 13.6**	**+3.5**
AKAS	**Kas**	**1.35**	**124**	*i* P	**Pg**	**10 40 52.8**	**+0.2**
AKAS				*i* S	**Sg**	**10 41 13.6**	**+3.5**
ELL	**Elmali**	**1.38**	**100**	*e*PN	**Pg**	**10 40 55.5**	**+2.3**
ELL				*e*SN	**Sg**	**10 41 15.3**	**+4.3**
MANT	**Manisa**	**1.52**	**10**	*i* P	**Pb**	**10 40 55.2**	**-0.3**
MANT				*i* S	**Sb**	**10 41 15.3**	**+0.2**
MANT	**Manisa**	**1.52**	**10**	*i* P	**Pb**	**10 40 55.2**	**-0.3**
MANT				*i* S	**Sb**	**10 41 15.3**	**+0.2**
KULA	**Kula-Manisa**	**1.56**	**13**	*e*PN	**Pn**	**10 40 53.9**	**-1.1**
KULA				*e*SN	**Sn**	**10 41 12.7**	**-2.9**
KULA	**Kula-Manisa**	**1.56**	**13**	*e*Pn	**Pn**	**10 40 53.9**	**-1.1**
IZM	**Izmir**	**1.60**	**332**	*e*PN	**Pn**	**10 40 54.9**	**-0.6**
IZM	**Izmir**	**1.60**	**332**	*e*Pn	**Pn**	**10 40 54.9**	**-0.6**
KARP	**Karpathos**	**1.67**	**211**	*e*PB	**Pn**	**10 40 56.3**	**-0.2**
KARP				*e*SN	**Sn**	**10 41 18.2**	**+0.1**
KARP	**Karpathos**	**1.67**	**211**	*e*Pb	**Pn**	**10 40 56.3**	**-0.2**
KARP				*e*Sn	**Sn**	**10 41 18.3**	**+0.1**
BLCB	**Balcova**	**1.68**	**327**	*e*PN	**Pn**	**10 40 56.6**	**+0.2**
BLCB	**Balcova**	**1.68**	**327**	*e*Pn	**Pn**	**10 40 56.7**	**+0.2**
KHL	**Karahalli**	**1.69**	**38**	*e*PN	**Pn**	**10 40 56.6**	**-0.1**
KHL	**Karahalli**	**1.69**	**38**	*e*Pn	**Pn**	**10 40 56.7**	**-0.1**
KHAL	**Karahalli**	**1.71**	**36**	*i* P	**Pn**	**10 40 56.9**	**-0.2**
KHAL				*i* S	**Sn**	**10 41 19.3**	**0.0**
KHAL	**Karahalli**	**1.71**	**36**	*i* P	**Pn**	**10 40 56.9**	**-0.2**
KHAL				*i* S	**Sn**	**10 41 19.3**	**0.0**
AKHS	**Akhisar**	**1.91**	**351**	*i* P	**Pn**	**10 40 58.9**	**-0.9**
AKHS				*e*S	**Sb**	**10 41 25.3**	**-0.8**
AKHS	**Akhisar**	**1.91**	**351**	*i* P	**Pn**	**10 40 58.9**	**-0.9**
AKHS				*e*S	**Sb**	**10 41 25.3**	**-0.8**
AKS	**Akhisar**	**1.91**	**351**	*e*PN	**Pn**	**10 40 58.4**	**-1.4**
AKS	**Akhisar**	**1.91**	**351**	*e*Pn	**Pn**	**10 40 58.4**	**-1.4**
APE	**Apeiranthos**	**2.15**	**273**	*e*PN	**Pb**	**10 41 06.4**	**+0.3**
SUTC	**Sutluce-Ispart**	**2.27**	**77**	*e*PN	**Pb**	**10 41 06.5**	**-1.7**
SUTC	**Sutluce-Ispart**	**2.27**	**77**	*e*Pn	**Pb**	**10 41 06.5**	**-1.7**
ZKR	**Zakros**	**2.47**	**221**	*e*PN	**Pn**	**10 41 07.2**	**-0.3**
ZKR	**Zakros**	**2.47**	**221**	*e*Pn	**Pn**	**10 41 07.2**	**-0.3**
LAST	**Lasithi**	**2.87**	**231**	*e*PN	**Pn**	**10 41 13.3**	**+0.3**
LAST				*e*SN	**Sn**	**10 41 47.6**	**-0.2**
LAST	**Lasithi**	**2.87**	**231**	*e*Pn	**Pn**	**10 41 13.3**	**+0.3**
LAST				*e*Sn	**Sn**	**10 41 47.6**	**-0.2**

*ISK **05** 10:40:53.5,36°.00N×36°.30E,h5km,MD2.8*
*DDA **05** 10:40:55.3,36°.20N×36°.09E,h7km,MD3.1*
*ISCJB **05** 10:40:56.8±0.7,36°.19N±0°.04×36°.18E±0°.08,h8km±6km, Error ellipse: s-maj=11.0km s-min=6.9km az=19.1*
*CSEM **05** 10:40:56.4±0.6,36°.15N×36°.19E,h8km,MD3.1, Error ellipse: s-maj=17.8km s-min=13.4km az=125.0*

ISC 05 10:40:56.7±0.9, 36°.19N±0°.04×36°.13E±0°.06, h8km±8km, n18,σ1°10/26, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HTY	**Hatay**	**0.07**	**175**	PG	**Pg**	**10 40 57.8**	**-0.8**
HTY				*e*SG	**Sg**	**10 41 01.1**	**+1.1**
HTY	**Hatay**	**0.07**	**175**	*i* Pg	**Pg**	**10 40 57.8**	**-0.8**
HTY				*e*Sg	**Sg**	**10 41 01.1**	**+1.1**
YAYL	**Yayladag**	**0.15**	**187**	*i* P	**Pg**	**10 40 59.3**	**-0.8**
YAYL				*i* S	**Sg**	**10 41 04.0**	**+1.6**
YAYL	**Yayladag**	**0.15**	**187**	*i* P	**Pg**	**10 40 59.3**	**-0.8**
YAYL				*i* S	**Sg**	**10 41 04.0**	**+1.6**
COBT	**Iskenderun**	**0.35**	**17**	*i* P	**Pg**	**10 41 02.4**	**-1.3**
COBT				*i* S	**Sg**	**10 41 08.5**	**+0.2**
COBT	**Iskenderun**	**0.35**	**17**	*i* P	**Pg**	**10 41 02.4**	**-1.3**
COBT				*i* S	**Sg**	**10 41 08.5**	**+0.2**
KRTS	**Karatas**	**0.72**	**303**	*e*PG	**Pn**	**10 41 13.0**	**-0.2**
KRTS	**Karatas**	**0.72**	**303**	*e*Pg	**Pn**	**10 41 13.0**	**-0.2**
GAZ	**Gaziantep**	**1.31**	**41**	*e*PN	**Pn**	**10 41 20.8**	**-0.7**
GAZ	**Gaziantep**	**1.31**	**41**	*e*Pn	**Pn**	**10 41 20.8**	**-0.7**
KOZT	**Kozan**	**1.31**	**349**	*e*PN	**Pg**	**10 41 23.3**	**+1.3**
KOZT	**Kozan**	**1.31**	**349**	*e*Pn	**Pg**	**10 41 23.3**	**+1.3**
KMRS	**Kahramanmaras**	**1.45**	**25**	*e*PN	**Pb**	**10 41 23.9**	**-0.2**
KMRS	**Kahramanmaras**	**1.45**	**25**	*e*Pn	**Pb**	**10 41 23.9**	**-0.2**
GULE	**Gulek**	**1.54**	**316**	*e*P	**Pn**	**10 41 22.8**	**-1.9**
GULE				*i* S	**Sn**	**10 41 45.3**	**+0.3**
GULE	**Gulek**	**1.54**	**316**	*e*P	**Pn**	**10 41 22.8**	**-1.9**
GULE				*i* S	**Sn**	**10 41 45.3**	**+0.3**
MALT	**Malatya**	**2.80**	**40**	*e*PN	**Pn**	**10 41 42.7**	**+0.7**
MALT	**Malatya**	**2.80**	**40**	*e*Pn	**Pn**	**10 41 42.7**	**+0.7**

*CSEM **05** 10:45:35.3±1.7,38°.02N×20°.23E,h2km,ML2.3/2, Error ellipse: s-maj=35.0km s-min=13.0km az=39.0*
*THE **05** 10:45:37.1,38°.02N×20°.31E,h4km±2km,ML2.3/2, Error ellipse: s-maj=3.5km s-min=1.7km az=41.0*
*ATH **05** 10:45:37.1,38°.15N×20°.32E,h14km,MD2.9/3*

ISC 05 10:45:35.7±3.3, 38°.0N±0°.1×20°.2E±0°.1, h1km±15km, n15, σ0°75/24, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.31**	**64**	P	**Pg**	**10 45 41.5**	**-0.2**
VLS				S	**Sg**	**10 45 46.2**	**+0.4**
VLS	**Valsamata**	**0.31**	**64**	*e*PG	**Pg**	**10 45 41.5**	**-0.2**
VLS				*e*SG	**Sg**	**10 45 46.0**	**+0.2**
VLS	**Valsamata**	**0.31**	**64**	P	**Pg**	**10 45 41.5**	**-0.2**
VLS				S	**Sg**	**10 45 46.2**	**+0.4**
KFL	**Anninata**	**0.44**	**81**	P	**Pg**	**10 45 43.8**	**-0.4**
KFL				S	**Sg**	**10 45 50.8**	**+0.8**
KFL	**Anninata**	**0.44**	**81**	P	**Pg**	**10 45 43.8**	**-0.4**
KFL				S	**Sg**	**10 45 50.8**	**+0.8**
LKD2	**Lefkada island**	**0.82**	**24**	*e*PB	**Pg**	**10 45 50.4**	**-1.0**
LKD2	**Lefkada island**	**0.82**	**24**	*e*Pb	**Pg**	**10 45 50.4**	**-1.0**
RLS	**Riolos of Patr**	**0.97**	**89**	P	**Pg**	**10 45 55.0**	**+0.6**
RLS	**Riolos of Patr**	**0.97**	**89**	*e*PB	**Pg**	**10 45 54.5**	**+0.1**
RLS	**Riolos of Patr**	**0.97**	**89**	*e*Pb	**Pg**	**10 45 54.5**	**+0.1**
RLS	**Riolos of Patr**	**0.97**	**89**	P	**Pg**	**10 45 55.0**	**+0.6**
LAKA	**Lakka**	**1.39**	**81**	P	**Pn**	**10 46 01.1**	**-1.2**
LAKA				S	**Sg**	**10 46 20.7**	**+0.3**
LAKA	**Lakka**	**1.39**	**81**	P	**Pn**	**10 46 01.1**	**-1.2**
LAKA				S	**Sg**	**10 46 20.7**	**+0.3**
IGT	**Igoumenitsa**	**1.49**	**3**	P	**Pg**	**10 46 04.8**	**+0.5**
IGT				S	**Sn**	**10 46 24.9**	**+1.1**
IGT	**Igoumenitsa**	**1.49**	**3**	P	**Pg**	**10 46 04.8**	**+0.5**
IGT				S	**Sn**	**10 46 24.9**	**+1.1**

IDC 05 10:53:39.6±2.7, 18°.96N×39°.32E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/25, mbtmp3.6/4, Error ellipse: s-maj=75.6km s-min=29.8km az=153.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**21.27**	**348**	P	P	10 58 27.6	-0.1
	0.9nm,0.8s,baz=166,slow=11,SNR=3.7						
TORD	**Torodi Ar. Bea**	**36.57**	**267**	P	P	11 00 47.5	-0.1
	1.0nm,0.9s,baz=66,slow=6.4,SNR=4.5						
KURBB	**Kurchatov Arra**	**44.27**	**35**	P	P	11 01 51.2	+0.4
	1.1nm,1.0s,baz=242,slow=7.7,SNR=4.0						
MKAR	**Makanchi Array**	**44.73**	**42**	P	P	11 01 53.9	-0.7
	0.9nm,0.9s,baz=250,slow=6.2,SNR=4.2						

IDC 05 10:59:35.2±2.6, 18°.32N×39°.59E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/25, mbtmp3.6/4, MS3.8/1, Ms1 3.8/1, ms1mx2.8/23, Error ellipse: s-maj=71.6km s-min=28.3km az=153.0, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**21.94**	**348**	P	P	11 04 30.4	-0.2
	1.1nm,0.9s,baz=162,slow=8.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**36.79**	**268**	P	P	11 06 45.0	-0.1
	1.6nm,0.9s,baz=76,slow=6.3,SNR=7.2						
FINES	**FINESS Array B**	**44.12**	**351**	LR	LR	11 26 41.2	
	comp=Z,117nm,20.9s,baz=144,slow=37						
KURBB	**Kurchatov Arra**	**44.64**	**35**	P	P	11 07 50.3	+0.8
	0.4nm,0.7s,baz=242,slow=9.0,SNR=3.5						
MKAR	**Makanchi Array**	**45.03**	**41**	P	P	11 07 51.6	-1.1
	0.8nm,0.8s,baz=248,slow=7.1,SNR=5.1						

*ISCJB **05** 11:05:33.9±0.5,36°.86N±0°.03×35°.96E±0°.03,h9km±5km, Error ellipse: s-maj=4.6km s-min=4.2km az=177.7*
*ISK **05** 11:05:33.9,36°.89N×35°.98E,h8km,MD2.8*
*DDA **05** 11:05:33.2,36°.87N×35°.94E,h7km,MD3.0*
*CSEM **05** 11:05:34.1±0.2,36°.87N×35°.95E,h10km,MD3.0, Error ellipse: s-maj=4.5km s-min=4.3km az=126.0*

ISC 05 11:05:33.7±1.1, 36°.87N±0°.02×35°.95E±0°.02, h5km±11km, n31,σ0°91/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COBT	**Iskenderun**	**0.43**	**144**	*i* P	**Pg**	**11 05 41.9**	**-0.1**
COBT				*i* S	**Sg**	**11 05 47.1**	**-0.5**
COBT	**Iskenderun**	**0.43**	**144**	*i* P	**Pg**	**11 05 41.9**	**-0.1**
COBT				*i* S	**Sg**	**11 05 47.1**	**-0.5**
KRTS	**Karatas**	**0.54**	**238**	*e*PG	**Pb**	**11 05 46.0**	**+0.3**
KRTS				*e*SG	**Sb**	**11 05 54.4**	**+0.6**
KRTS	**Karatas**	**0.54**	**238**	*e*Pg	**Pb**	**11 05 46.0**	**+0.3**
KRTS				*e*Sg	**Sb**	**11 05 54.4**	**+0.6**
KOZT	**Kozan**	**0.62**	**351**	*e*PG	**Pg**	**11 05 45.9**	**+0.2**
KOZT				*e*SG	**Sg**	**11 05 54.8**	**+1.0**
KOZT	**Kozan**	**0.62**	**351**	*e*Pg	**Pg**	**11 05 45.9**	**+0.2**
HTY	**Hatay**	**0.76**	**168**	*e*PG	**Pg**	**11 05 48.8**	**+0.5**
HTY	**Hatay**	**0.76**	**168**	*e*Pg	**Pg**	**11 05 48.8**	**+0.5**
ANDN	**Andirin**	**0.78**	**24**	*i* P	**Pb**	**11 05 50.4**	**+0.5**
ANDN				*i* S	**Sb**	**11 06 01.9**	**+1.1**
ANDN	**Andirin**	**0.78**	**24**	*i* P	**Pb**	**11 05 50.4**	**+0.5**
ANDN				*i* S	**Sb**	**11 06 01.9**	**+1.1**
YAYL	**Yayladag**	**0.84**	**171**	*i* P	**Pb**	**11 05 50.8**	**0.0**
YAYL				*i* S	**Sg**	**11 06 01.1**	**+0.4**
YAYL	**Yayladag**	**0.84**	**171**	*i* P	**Pb**	**11 05 50.8**	**0.0**
YAYL				*i* S	**Sg**	**11 06 01.1**	**+0.4**
KUZU	**Kuzuini**	**0.91**	**95**	*i* P	**Pg**	**11 05 51.6**	**+0.4**
KUZU				*i* S	**Sb**	**11 06 04.1**	**-0.3**
KUZU	**Kuzuini**	**0.91**	**95**	*i* P	**Pg**	**11 05 51.6**	**+0.4**
KUZU				*i* S	**Sb**	**11 06 04.1**	**-0.3**
KMRS	**Kahramanmaras**	**0.99**	**50**	*e*PG	**Pg**	**11 05 53.0**	**+0.2**
KMRS	**Kahramanmaras**	**0.99**	**50**	*e*Pg	**Pg**	**11 05 53.0**	**+0.2**
GULE	**Gulek**	**1.02**	**294**	*i* P	**Pg**	**11 05 52.2**	**-1.2**
GULE				*i* S	**Sg**	**11 06 06.2**	**-0.5**
GULE	**Gulek**	**1.02**	**294**	*i* P	**Pg**	**11 05 52.2**	**-1.2**
GULE				*i* S	**Sg**	**11 06 06.2**	**-0.5**
GAZ	**Gaziantep**	**1.06**	**73**	*e*PG	**Pg**	**11 05 53.8**	**-0.2**
GAZ	**Gaziantep**	**1.06**	**73**	*e*Pg	**Pg**	**11 05 53.8**	**-0.2**
MERS	**Mersin**	**1.14**	**271**	*e*PN	**Pb**	**11 05 56.1**	**+0.2**
MERS	**Mersin**	**1.14**	**271**	*e*Pn	**Pb**	**11 05 56.2**	**+0.2**
GZT	**Gaziantep**	**1.38**	**69**	*i* P	**Pn**	**11 05 59.5**	**-0.3**
GZT				*i* S	**Sb**	**11 06 13.4**	**-4.7**
NIG	**Nigde**	**1.64**	**320**	*e*PN	**Pn**	**11 06 03.4**	**0.0**
NIG	**Nigde**	**1.64**	**320**	*e*Pn	**Pn**	**11 06 03.4**	**0.0**
AKCD	**Akcadag**	**2.12**	**47**	*e*P	**Pn**	**11 06 09.1**	**-0.9**
AKCD				*i* S	**Sn**	**11 06 36.9**	**+0.2**
AKCD	**Akcadag**	**2.12**	**47**	*e*P	**Pn**	**11 06 09.1**	**-0.9**
AKCD				*i* S	**Sn**	**11 06 36.9**	**+0.2**
URFA	**Urfa**	**2.37**	**75**	*e*PN	**Pn**	**11 06 13.7**	**+0.4**
URFA	**Urfa**	**2.37**	**75**	*e*Pn	**Pn**	**11 06 13.7**	**+0.4**
MALT	**Malatya**	**2.44**	**53**	*e*PN	**Pn**	**11 06 15.0**	**+0.7**
MALT	**Malatya**	**2.44**	**53**	*e*Pn	**Pn**	**11 06 15.0**	**+0.7**

*ISK **05** 11:36:46.6,38°.40N×38°.93E,h5km,MD3.1*
*DDA **05** 11:36:46.9,38°.38N×38°.95E,h15km,MD3.6,ML3.6*
*ISCJB **05** 11:36:47.2±0.5,38°.37N±0°.02×38°.93E±0°.02,h5km±4km, Error ellipse: s-maj=4.3km s-min=3.0km az=154.3*
*CSEM **05** 11:36:47.4±0.1,38°.39N×38°.92E,h2km,ML3.6, Error ellipse: s-maj=4.1km s-min=2.9km az=149.0*

ISC 05 11:36:47.5±0.8, 38°.38N±0°.02×38°.94E±0°.02, h11km±6km, n49,σ0°66/74, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.12**	**18**	*i* P	**Pg**	**11 36 50.8**	**+0.1**
ELZG				*i* S	**Sg**	**11 36 53.2**	**+0.2**
ELZG	**Elazig**	**0.12**	**18**	*i* P	**Pg**	**11 36 50.8**	**+0.1**
ELZG				*i* S	**Sg**	**11 36 53.2**	**+0.2**
SVRC	**Sivrice-ELAZID**	**0.29**	**90**	*e*PG	**Pg**	**11 36 52.8**	**-0.7**
SVRC				*e*SG	**Sg**	**11 36 57.4**	**-0.1**
SVRC	**Sivrice-ELAZID**	**0.29**	**90**	*e*Pg	**Pg**	**11 36 52.8**	**-0.7**
SVRC				*e*Sg	**Sg**	**11 36 57.4**	**-0.1**
MYA	**Malataya**	**0.40**	**262**	*e*PG	**Pg**	**11 36 55.6**	**+0.1**
MYA				*e*SG	**Sg**	**11 37 01.1**	**+0.2**
MYA	**Malataya**	**0.40**	**262**	*e*Pg	**Pg**	**11 36 55.6**	**+0.1**
MYA				*e*Sg	**Sg**	**11 37 01.1**	**+0.2**
MALT	**Malatya**	**0.41**	**261**	*e*PG	**Pg**	**11 36 54.8**	**-0.7**
MALT				*e*SG	**Sg**	**11 37 00.9**	**0.0**
MALT	**Malatya**	**0.41**	**261**	*e*Pg	**Pg**	**11 36 54.8**	**-0.7**
MALT				*e*Sg	**Sg**	**11 37 00.9**	**0.0**
PTK	**Pertek**	**0.62**	**35**	*e*PG	**Pg**	**11 36 59.2**	**-0.5**
PTK				*e*SG	**Sg**	**11 37 07.5**	**-0.4**
PTK	**Pertek**	**0.62**	**35**	*e*Pg	**Pg**	**11 36 59.2**	**-0.5**
PTK				*e*Sg	**Sg**	**11 37 07.5**	**-0.4**
AKCD	**Akcadag**	**0.80**	**264**	*i* P	**Pg**	**11 37 02.6**	**-0.4**
AKCD				*i* S	**Sg**	**11 37 13.8**	**+0.4**
AKCD	**Akcadag**	**0.80**	**264**	*i* P	**Pg**	**11 37 02.6**	**-0.4**
AKCD				*i* S	**Sg**	**11 37 13.8**	**+0.4**
URFA	**Urfa**	**0.94**	**185**	*e*PG	**Pg**	**11 37 05.3**	**-0.3**
URFA	**Urfa**	**0.94**	**185**	*e*Pg	**Pg**	**11 37 05.3**	**-0.3**
KEMA	**Kemaliye**	**0.95**	**339**	*i* P	**Pg**	**11 37 05.3**	**-0.5**
KEMA				*i* S	**Sb**	**11 37 18.9**	**+0.2**
KEMA	**Kemaliye**	**0.95**	**339**	*i* P	**Pg**	**11 37 05.3**	**-0.5**
KEMA				*i* S	**Sb**	**11 37 18.9**	**+0.2**
ATAB	**Bozova**	**1.04**	**209**	*e*P	**Pg**	**11 37 07.6**	**+0.1**
ATAB				*e*S	**Sg**	**11 37 20.9**	**-0.1**
ATAB	**Bozova**	**1.04**	**209**	*e*P	**Pg**	**11 37 07.6**	**+0.1**
ATAB				*e*S	**Sg**	**11 37 20.9**	**-0.1**
DIYA	**Diyarbakir**	**1.04**	**116**	*i* P	**Pg**	**11 37 07.5**	**0.0**
DIYA				*i* S	**Sb**	**11 37 21.5**	**+0.3**
DIYA	**Diyarbakir**	**1.04**	**116**	*i* P	**Pg**	**11 37 07.5**	**0.0**
DIYA				*i* S	**Sb**	**11 37 21.5**	**+0.3**
DARE	**Darende-Malaty**	**1.05**	**303**	*e*PN	**Pn**	**11 37 08.9**	**+0.6**
DARE	**Darende-Malaty**	**1.05**	**303**	*e*Pn	**Pn**	**11 37 08.9**	**+0.6**
ILIC	**ilic-Erzincan**	**1.11**	**345**	*e*PN	**Pg**	**11 37 08.1**	**-0.7**
ILIC	**ilic-Erzincan**	**1.11**	**345**	*e*Pn	**Pg**	**11 37 08.1**	**-0.7**
BINT	**Bingol**	**1.31**	**67**	*e*Pn	**Pg**	**11 37 14.6**	**+1.9**
ERZN	**Erzincan**	**1.35**	**27**	*e*PN	**Pn**	**11 37 12.2**	**-0.2**
EZC	**Erzincan**	**1.41**	**13**	*e*Pn	**Pn**	**11 37 12.2**	**-1.0**
GZT	**Gaziantep**	**1.49**	**227**	*i* P	**Pn**	**11 37 14.2**	**-0.2**
GZT				*i* S	**Sn**	**11 37 34.5**	**+0.6**
BNGB	**Bing?¶l**	**1.50**	**65**	*e*PN	**Pn**	**11 37 14.6**	**+0.2**
KELT	**Kelkit**	**1.78**	**8**	*i* P	**Pb**	**11 37 20.1**	**-0.2**
KELT				*i* S	**Sg**	**11 37 44.3**	**-0.5**
KELT	**Kelkit**	**1.78**	**8**	*i* P	**Pb**	**11 37 20.1**	**-0.2**
KELT				*i* S	**Sg**	**11 37 44.3**	**-0.5**
MARD	**Mardin**	**1.81**	**126**	*i* P	**Pn**	**11 37 19.1**	**+0.4**
MARD				*i* S	**Sn**	**11 37 40.4**	**-1.3**
GAZ	**Gaziantep**	**1.82**	**229**	*e*PN	**Pb**	**11 37 20.1**	**-0.8**
GAZ	**Gaziantep**	**1.82**	**229**	*e*Pn	**Pb**	**11 37 20.1**	**-0.8**
BNGL	**BINGOL**	**1.82**	**71**	*i* P	**Pb**	**11 37 20.2**	**-0.8**
BNGL				*i* S	**Sg**	**11 37 47.5**	**+1.3**
KMRS	**Kahramanmaras**	**1.83**	**242**	*e*PN	**Pn**	**11 37 19.9**	**+1.0**
KMRS	**Kahramanmaras**	**1.83**	**242**	*e*Pn	**Pn**	**11 37 19.9**	**+1.0**
BEST	**Besiri**	**1.91**	**104**	*i* P	**Pn**	**11 37 20.1**	**+0.1**
BEST				*i* S	**Sb**	**11 37 46.3**	**+0.1**
GUMT	**Gumushane**	**2.12**	**11**	*e*PN	**Pn**	**11 37 24.3**	**+1.3**
GUMT	**Gumushane**	**2.12**	**11**	*e*Pn	**Pn**	**11 37 24.3**	**+1.3**
ANDN	**Andirin**	**2.20**	**249**	*e*P	**Pn**	**11 37 24.4**	**+0.4**
ANDN				*i* S	**Sg**	**11 37 58.0**	**-0.1**
ANDN	**Andirin**	**2.20**	**249**	*e*P	**Pn**	**11 37 24.4**	**+0.4**
BAYT	**Ayd¨¬ntepe-Bay**	**2.22**	**25**	*e*PN	**Pn**	**11 37 25.3**	**+1.0**
BAYT	**Ayd¨¬ntepe-Bay**	**2.22**	**25**	*e*Pn	**Pn**	**11 37 25.3**	**+1.0**
EZM	**Erzurum**	**2.42**	**50**	*e*PN	**Pn**	**11 37 28.2**	**+0.9**
BNN	**Bunyan**	**2.46**	**282**	*e*PN	**Pn**	**11 37 28.4**	**+0.7**
BNN	**Bunyan**	**2.46**	**282**	*e*Pn	**Pn**	**11 37 28.4**	**+0.7**
KOZT	**Kozan**	**2.62**	**251**	*e*PN	**Pn**	**11 37 31.0**	**+1.3**
KOZT	**Kozan**	**2.62**	**251**	*e*Pn	**Pn**	**11 37 31.0**	**+1.3**

IDC 05 11:36:59.9±1.2, 5°.15S×129°.16E, h0km, mb3.6/4, mb1 4.0/7, mb1mx3.8/17, mbtmp3.8/7, ML3.9/3, Error ellipse: s-maj=56.1km s-min=22.9km az=74.0, Banda Sea

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

BKZ	**Black Stump Fm**	**0.85 134**	PN	Pn	12 05 53.7	-0.2
VRZ	**Vera Road**	**0.92 233**	⇑PN	Pn	12 05 54.3	-0.1
BHHZ	**Black Hill Sta**	**0.95 163**	PN	Pn	12 05 54.4	-0.3
BHHZ			SN	Sn	12 06 11.8	-2.4
NMHZ	**Naumai**	**1.00 121**	PN	Pn	12 05 56.0	+0.8
NMHZ			SN	Sn	12 06 15.7	+0.8
RAHZ	**Arahi**	**1.13 108**	PN	Pn	12 05 56.5	+0.3
URZ	**Urewera**	**1.15 74**	⇓PN	Pn	12 05 55.7	-0.6
MCHZ	**McNeill Hill**	**1.16 138**	PN	Pn	12 05 57.2	+0.9
RAEZ	**Rainy Point**	**1.24 235**	PN	Pn	12 05 57.4	+0.3
WAZ	**Wanganui**	**1.30 205**	PN	Pn	12 05 57.5	-0.2
PNHZ	**Pukenui**	**1.39 164**	PN	Pn	12 05 58.3	-0.2
NEZ	**North Egmont**	**1.43 241**	PN	Pn	12 05 59.4	+0.4
MWZ	**Matawai**	**1.45 81**	PN	Pn	12 05 58.9	-0.4
TSZ	**Takapari Road**	**1.49 172**	⇑PN	Pn	12 05 59.3	-0.3
KAHZ	**Kahuranaki**	**1.52 143**	PN	Pn	12 06 00.1	+0.3
CKHZ	**Cape Kidnapper**	**1.52 136**	PN	Pn	12 06 00.3	+0.5
WPHZ	**Waipukurau**	**1.59 159**	⇑PN	Pn	12 06 00.4	-0.2
KNZ	**Kokohu**	**1.60 106**	⇑PN	Pn	12 06 00.8	+0.1
PXZ	**Pawanui**	**1.70 149**	⇑PN	Pn	12 06 01.6	-0.2
PRGZ	**Paritu Road**	**1.74 102**	PN	Pn	12 06 02.2	0.0
DVHZ	**Dannevirke**	**1.75 168**	⇑PN	Pn	12 06 01.6	-0.8
POWZ	**Post Office Ro**	**1.81 178**	⇑PN	Pn	12 06 02.1	-0.8
MHGZ	**Mahia Peninsul**	**1.81 109**	PN	Pn	12 06 03.1	+0.2
PRHZ	**Porangahau**	**1.83 157**	⇑PN	Pn	12 06 02.8	-0.3
CNGZ	**Carnagh Statio**	**1.96 88**	PN	Pn	12 06 04.9	+0.3
PUZ	**Puketiti**	**2.07 77**	⇓PN	Pn	12 06 05.3	-0.6
MRZ	**Mangatainoka R**	**2.08 183**	⇑PN	Pn	12 06 04.7	-1.2
BFZ	**Birch Farm**	**2.14 169**	PN	Pn	12 06 05.6	-1.0
TIWZ	**Tintock**	**2.20 176**	PN	Pn	12 06 06.1	-1.3
OGWZ	**Otaki Gorge**	**2.27 190**	⇑PN	Pn	12 06 07.0	-1.2
MXZ	**Matakaoa Point**	**2.29 64**	PN	Pn	12 06 08.2	-0.3
HOWZ	**Holdsworth Sta**	**2.32 184**	PN	Pn	12 06 07.2	-1.7
KIW	**Kapiti Island**	**2.36 195**	PN	Pn	12 06 07.6	-1.6
TMWZ	**Te Maipa**	**2.53 177**	PN	Pn	12 06 09.6	-1.7
CAW	**Cannon Point**	**2.57 191**	PN	Pn	12 06 10.0	-1.8
MTW	**Mount Morrison**	**2.58 183**	PN	Pn	12 06 09.9	-2.0
DUWZ	**D'Urville Isla**	**2.61 211**	⇓PN	Pn	12 06 10.4	-1.9
WEL	**Wellington**	**2.79 195**	⇓PN	Pn	12 06 12.4	-2.1
PAWZ	**Paruwai Farm**	**2.80 184**	PN	Pn	12 06 12.5	-2.2
TRWZ	**Traveller**	**2.81 180**	PN	Pn	12 06 12.8	-2.0
SNZO	**South Karori**	**2.83 195**	PN	Pn	12 06 12.7	-2.3
TCW	**Tory Channel**	**2.85 202**	⇓PN	Pn	12 06 13.2	-2.0
MSWZ	**Moikau Station**	**2.85 187**	⇑PN	Pn	12 06 13.0	-2.3
BHW	**Baring Head**	**2.89 193**	⇓PN	Pn	12 06 13.5	-2.3
PLWZ	**Palliser**	**3.00 186**	PN	Pn	12 06 14.6	-2.6
TUWZ	**Tuamarina**	**3.15 205**	⇓PN	Pn	12 06 16.4	-2.6
NNZ	**Nelson**	**3.18 213**	PN	Pn	12 06 16.7	-2.6
QRZ	**Quartz Range**	**3.32 227**	PN	Pn	12 06 18.2	-3.0
BSWZ	**Blackbirch Sta**	**3.43 204**	PN	Pn	12 06 20.0	-2.5
THZ	**Tophouse**	**3.83 213**	PN	Pn	12 06 24.9	-2.9
THZ			SN	Sn	12 07 10.1	-3.2
KHZ	**Kahutara**	**4.17 203**	⇑PN	Pn	12 06 29.3	-2.7
DSZ	**Denniston Nort**	**4.35 222**	PN	Pn	12 06 30.9	-3.6
LTZ	**Lake Taylor**	**4.94 211**	PN	Pn	12 06 38.3	-4.0
MQZ	**McQueen's Vall**	**5.61 203**	⇑PN	Pn	12 06 46.3	-4.7
MQZ			SN	Sn	12 07 45.4	-10
WVZ	**Waitaha Valley**	**5.86 218**	SN	Sn	12 07 52.7	-8.0
RPZ	**Rata Peaks**	**6.21 213**	SN	Sn	12 08 00.3	-8.9
FOZ	**Fox Glacier**	**6.74 220**	SN	Sn	12 08 09.5	-12
ODZ	**Otahua Downs**	**7.48 209**	*e*PN	Pn	12 07 11.3	-4.5

*IGQ **05** 12:06:19.5, 1.62S×77.90W, h195km±43km, Mb4.4, Ms4.2, Error ellipse: s-maj=3.4km s-min=2.3km az=2.9*
*IDC **05** 12:06:20.7±2.0, 1.45S×77.72W, h152km±20km, mb3.5/11, mb1 3.7/13, mb1mx3.6/23, mbtmp3.6/13, Error ellipse: s-maj=24.7km s-min=12.5km az=70.0*
ISC 05 12:06:18.8±0.9, 1.64S±0.06×77.94W±0.09, h200km, n62, σ1§66/49, mb3.6/12, 8C-32D, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ULBA	**Ulba**	**0.50**	**292**	⇓P		**Pn**	**12 06 46.8**	**+0.4**
BULB	**Ulba Tungurahu**	**0.51**	**293**	⇓S		**Sn**	**12 07 06.2**	**-1.5**
BULB	**Ulba Tungurahu**	**0.51**	**293**	⇓P		**Pn**	**12 06 47.7**	**+1.3**
PAT1	**Patacocha**	**0.51**	**285**	⇑P		**Pn**	**12 06 47.0**	**+0.4**
BRUN	**Tungurahua Vol**	**0.52**	**295**	⇓S		**Sn**	**12 07 06.0**	**-1.7**
BRUN	**Tungurahua Vol**	**0.52**	**295**	⇓P		**Pn**	**12 06 46.8**	**+0.3**
ARRY	**Arrayan**	**0.53**	**284**	⇓P		**Pn**	**12 06 46.8**	**+0.3**
RUN5	**Runtun**	**0.53**	**295**	⇑P		**Pn**	**12 06 46.8**	**+0.3**
RETU	**Refugio**	**0.54**	**290**	⇓S		**Sn**	**12 07 06.5**	**-1.7**
RETU	**Refugio**	**0.54**	**290**	⇓P		**Pn**	**12 06 47.1**	**+0.4**
BMAS	**Trigal station**	**0.56**	**284**	⇓S		**Sn**	**12 07 06.0**	**-2.0**
BMAS	**Trigal station**	**0.56**	**284**	⇓P		**Pn**	**12 06 47.1**	**+0.5**
JUI6	**Juive**	**0.57**	**292**	⇓S		**Sn**	**12 07 06.4**	**-1.6**
JUI6	**Juive**	**0.57**	**292**	⇓P		**Pn**	**12 06 46.9**	**+0.3**
BIL2	**Estacion Bilba**	**0.59**	**288**	⇓P		**Pn**	**12 06 48.2**	**+1.5**
IGUA	**Igualata**	**0.71**	**282**	P		**Pn**	**12 06 48.3**	**+0.6**
TAMB	**Tambo**	**1.03**	**336**	⇓P		**Pn**	**12 06 50.0**	**+0.5**
BMOR	**Cotopaxi Volca**	**1.04**	**330**	⇓P		**Pn**	**12 06 50.2**	**+0.6**
MOV1	**Cotopaxi Vol s**	**1.05**	**331**	⇓P		**Pn**	**12 06 50.2**	**+0.5**
COV1	**Cotopaxi Volc**	**1.05**	**337**	⇓P		**Pn**	**12 06 50.9**	**+1.1**
BTAM	**Cotopaxi Volca**	**1.06**	**335**	⇓P		**Pn**	**12 06 50.2**	**+0.5**
BVC2	**Cotopaxi Volca**	**1.08**	**334**	⇓P		**Pn**	**12 06 50.5**	**+0.6**
BREF	**Cotopaxi Volca**	**1.08**	**333**	⇓P		**Pn**	**12 06 50.8**	**+0.8**
VC1	**Cotopaxi 1**	**1.09**	**335**	⇓P		**Pn**	**12 06 50.5**	**+0.6**
NAS2	**Nasa**	**1.12**	**332**	⇓P		**Pn**	**12 06 51.3**	**+1.2**
PITA	**Cotopaxi Volc**	**1.18**	**335**	⇓P		**Pn**	**12 06 51.1**	**+0.7**
ANTI	**Antisana**	**1.20**	**349**	⇓P		**Pn**	**12 06 51.2**	**+0.4**
JUA2	**San Juan 2**	**1.56**	**335**	⇓P		**Pn**	**12 06 54.4**	**+0.7**
CHAR	**Charly**	**1.56**	**10**	⇓P		**Pn**	**12 06 54.2**	**+0.6**
LAV4	**Lava4-Reventad**	**1.57**	**11**	⇓P		**Pn**	**12 06 53.9**	**+0.4**
GGP	**Refugio Guagua**	**1.59**	**336**	⇑P		**Pn**	**12 06 55.0**	**+0.9**
TERV	**Terraza Guagua**	**1.60**	**335**	⇓P		**Pn**	**12 06 54.9**	**+0.8**
YANA	**Yana**	**1.64**	**337**	⇑P		**Pn**	**12 06 55.1**	**+0.7**
CAYR	**Refugio Cayamb**	**1.64**	**358**	⇓P		**Pn**	**12 06 55.5**	**+0.9**
CAYA	**Cayambe**	**1.70**	**358**	⇑P		**Pn**	**12 06 56.1**	**+1.1**
OTAV	**Otavalo**	**1.93**	**345**	⇓S		**Sn**	**12 07 25.9**	**-1.1**
OTAV	**Otavalo**	**1.93**	**345**	⇓P		**Pn**	**12 06 57.6**	**+0.5**
COTA	**Cotacachi**	**2.00**	**349**	⇑P		**Pn**	**12 06 59.2**	**+1.3**
MAG1	**Magdalena**	**2.40**	**310**	P		**Pn**	**12 07 04.4**	**+2.7**
JAMA	**Jama**	**2.65**	**301**	⇓P		**Pn**	**12 07 04.7**	**+0.2**
CHIS	**Cerro-Chispas-**	**2.84**	**282**	⇑S		**Sn**	**12 07 43.2**	**-0.9**
CHIS	**Cerro-Chispas-**	**2.84**	**282**	⇑P		**Pn**	**12 07 07.2**	**+0.4**
ATAH	**Atahualpa**	**5.48**	**185**	P		Pn	12 07 44.4	+4.6
	20nm,0.3s,baz=6.9,slow=7.4,SNR=61							
ATAH				S		**Sn**	**12 08 46.4**	**+2.6**
	22nm,0.3s,baz=67,slow=2.9,SNR=14							
NNA	**Nana**	**10.34**	**174**	P		**P**	**12 08 47.9**	**-2.2**
	3.9nm,0.3s,baz=332,slow=14,SNR=5.5							
NNA				S		**Sn**	**12 10 34.2**	**-3.9**
	5.6nm,0.3s,baz=29,slow=19,SNR=5.2							
SIV	**San Ignacio**	**21.90**	**132**	P		P	12 11 02.2	+5.9
	5.2nm,0.5s,baz=304,slow=9.0,SNR=25							
CFAA	**Coronel Fontan**	**31.18**	**164**	P		P	12 12 27.4	+8.0
	0.4nm,0.5s,baz=348,slow=5.3,SNR=6.6							
TXAR	**Lajitas Array**	**39.42**	**323**	P		P	12 13 36.8	+7.1
	0.2nm,0.6s,baz=123,slow=11,SNR=3.1							
TXAR				PcP		PcP	12 15 41.5	+7.8
	0.2nm,0.5s,baz=153,slow=6.7,SNR=3.0							
TXAR				ScP		**S**	**12 19 13.7**	**-2.8**
	0.3nm,0.7s,baz=163,slow=6.6,SNR=3.8							
PDAR	**Pinedale Array**	**52.58**	**331**	P		P	12 15 19.1	+6.7
	0.3nm,0.5s,baz=143,slow=7.9,SNR=3.0							
USHA	**Ushuaia**	**53.59**	**173**	P		P	12 15 27.9	+8.8
	3.3nm,0.6s,baz=353,slow=7.0,SNR=4.7							
ULM	**Lac du Bonnet**	**53.93**	**346**	P		P	12 15 26.6	+4.9
	2.5nm,0.5s,baz=158,slow=8.4,SNR=14							
SCHQ	**Schefferville**	**57.02**	**8**	P		P	12 15 49.1	+5.5
	2.8nm,0.6s,baz=189,slow=6.4,SNR=10							
YKA	**Yellowknife Ar**	**69.69**	**343**	P		P	12 17 12.5	+6.0
	0.4nm,0.5s,baz=140,slow=6.0,SNR=20							
SFJD	**Kangerlussuaq**	**71.16**	**11**	*i* P		PcP	12 17 42.7	+8.6
	6.4nm,0.8s							
SUMG	**Summit**	**78.15**	**11**	*i* P		P	12 18 02.6	+6.7
	6.2nm,0.8s							
INK	**Inuvik**	**79.41**	**342**	P		P	12 18 09.3	+7.0
	0.6nm,0.7s,baz=86,slow=16,SNR=4.4							
TORD	**Torodi Ar. Bea**	**80.28**	**76**	P		P	12 18 13.4	+5.2
	0.8nm,0.4s,baz=281,slow=5.7,SNR=22							
ILAR	**Eielson Array**	**82.63**	**336**	P		P	12 18 26.4	+6.9
	0.3nm,0.8s,baz=146,slow=4.2,SNR=7.5							
MKAR	**Makanchi Array**	**131.83**	**18**	PKP		PKPdf	12 25 15.0	+6.5
	0.1nm,0.5s,baz=346,slow=3.4,SNR=4.0							
ASAR	**Alice Springs**	**140.11**	**229**	PKhKP		PKPpre	12 25 23.5	
	0.4nm,0.4s,baz=125,slow=3.6,SNR=22							
ASAR				PKP		**PKiKP**	**12 25 32.1**	**+5.1**
	1.2nm,0.7s,baz=113,slow=2.1,SNR=10.0							
WRA	**Warramunga Arr**	**141.76**	**234**	PKhKP		PKPpre	12 25 29.6	
	1.0nm,0.6s,baz=112,slow=2.9,SNR=13							
WRA				PKP		**PKiKP**	**12 25 34.9**	**+4.5**
	1.2nm,0.5s,baz=114,slow=2.1,SNR=18							
FITZ	**Fitzroy Crossi**	**149.61**	**229**	PKPbc		**PKPab**	**12 25 53.5**	**+2.1**
	5.0nm,0.7s,baz=125,slow=4.5,SNR=5.3							
CMAR	**Chiang Mai Arr**	**163.01**	**10**	PKPab		PKPab	12 26 54.6	+6.0
	0.6nm,0.6s,baz=326,slow=5.6,SNR=4.2							

MEX 05 12:15:01.0±1.2, 16.95N×95.27W, h107km±9km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CMIG	**Matias Romero**	**0.40**	**70**	*e*P		Pn	12 15 15.4	-1.5
CMIG				*i* S		Sn	12 15 26.8	-2.0
VHO	**Vista Hermosa**	**1.40**	**275**	*i* P		Pn	12 15 26.3	-0.5
VHO				*i* S		Sn	12 15 45.3	-1.0
HUIG	**Huatulco**	**1.43**	**214**	*i* P		Pn	12 15 24.9	-1.9
HUIG				*e*S		Sn	12 15 45.4	-0.9
TGIG		**2.06**	**95**	*i* P		Pn	12 15 33.3	-1.5
TGIG				*i* S		Sn	12 15 58.8	-1.8
PCIG		**2.33**	**122**	*i* P		Pn	12 15 37.2	-0.9
PCIG				*i* S		Sn	12 16 04.4	-2.1
TPIG	**Tehuac#an**	**2.47**	**306**	*i* P		Pn	12 15 39.7	-0.5
TPIG				*i* S		Sn	12 16 07.9	-2.4
UTMO	**Huajuapan**	**2.57**	**290**	*i* P		Pn	12 15 40.9	-0.6
UTMO				*i* S		Sn	12 16 10.2	-2.5
PNIG	**Pinotepa**	**2.79**	**259**	*e*P		Pn	12 15 41.8	-2.4
PNIG				*i* S		Sn	12 16 16.2	-1.3
CCIG	**Comitan**	**3.08**	**102**	*i* P		Pn	12 15 48.0	-0.3
CCIG				*i* S		Sn	12 16 22.6	-2.0

*MAN **05** 12:21:42, 6.17N×127.12E, h21km, mb4.9, ML3.8, MS3.9*
*ISCJB **05** 12:21:43.7±0.9, 6.23N±0.06×127.08E±0.08, h99km±6km, mb4.1/20, Error ellipse: s-maj=14.0km s-min=8.8km az=157.2*
*IDC **05** 12:21:45.5±1.5, 6.20N×127.05E, h99km±13km, mb3.8/18, mb1 3.9/18, mb1mx3.8/26, mbtmp3.8/18, MS2.6/1, Ms1 2.6/1, ms1mx1.9/36, Error ellipse: s-maj=19.7km s-min=10.0km az=74.0*
*NEIC **05** 12:21:45.5±0.8, 6.20N×127.01E, h99km±7km, mb4.5/2, Error ellipse: s-maj=10.9km s-min=5.2km az=76.0*
ISC 05 12:21:43.9±1.4, 6.12N±0.06×127.02E±0.10, h85km±11km, n70, σ1§12/75, mb4.3/19, 2C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MATI	**Mati**	**1.12**	**318**	*e*P		**Pn**	**12 22 02.1**	**-2.6**
MATI				*e*S		**Sn**	**12 22 20.0**	**-0.2**
DAV	**Davao City (W)**	**1.71**	**304**	*e*Pn		**Pn**	**12 22 13.5**	**+1.4**
DAV				S		**Sn**	**12 22 36.1**	**+2.5**
DAV				*e*Sn		Sn	12 22 36.4	+2.7
DAV	**Davao City (W)**	**1.71**	**304**	P		**Pn**	**12 22 13.6**	**+1.4**
	131nm,0.3s,baz=241,slow=4.3,SNR=14							
DAV				S		**Sn**	**12 22 36.1**	**+2.5**
	189nm,0.3s,baz=91,slow=24,SNR=42							
GSPH	**General Santos**	**2.06**	**269**	⇑*e*P		**Pn**	**12 22 13.9**	**-2.8**
GSPH				*e*S		**Sn**	**12 22 37.5**	**-4.3**
KCP	**Kidapawan**	**2.11**	**295**	⇓*e*P		**Pn**	**12 22 19.1**	**+1.7**
KCP				*e*S		**Sn**	**12 22 45.0**	**+2.0**
BUKP	**Musuan**	**2.61**	**312**	*e*P		**Pn**	**12 22 24.3**	**+0.1**
CTBH	**Cotabato--PC H**	**2.96**	**292**	⇑P		**Pn**	**12 22 30.2**	**+1.4**
BUTP	**Butuan**	**3.15**	**334**	*e*P		**Pn**	**12 22 32.4**	**+0.9**
CGP	**Cagayan de Oro**	**3.27**	**315**	⇓*e*P		**Pn**	**12 22 33.8**	**+0.8**
CGP				*e*S		**Sn**	**12 23 11.0**	**+0.1**
PAGZ	**Pagadian**	**4.00**	**296**	*e*P		**Pn**	**12 22 43.6**	**+0.8**
MSLP	**Maasin**	**4.53**	**332**	*e*P		**Pn**	**12 22 49.9**	**-0.2**
KAPI	**Kappang**	**13.22**	**213**	LR		LR	12 30 21.4	
	comp=Z,28nm,21.1s,baz=90,slow=39							
JOW	**Kunigami**	**20.64**	**3**	P		**P**	**12 26 17.1**	**+0.4**
JOW	**Kunigami**	**20.64**	**3**	P		**P**	**12 26 17.1**	**+0.4**
	10nm,0.6s,baz=166,slow=8.3,SNR=4.0							
FITZ	**Fitzroy Crossi**	**24.10**	**189**	P		**P**	**12 26 53.5**	**+1.8**
FITZ	**Fitzroy Crossi**	**24.10**	**183**	P		**P**	**12 26 53.5**	**+1.8**
	2.5nm,0.6s,baz=6.3,slow=9.2,SNR=2.9							
CBIJ	**Chichi jima**	**25.37**	**33**	P		**P**	**12 27 02.7**	**-0.6**
CBIJ	**Chichi jima**	**25.37**	**33**	P		**P**	**12 27 02.7**	**-0.6**
	54nm,0.5s,baz=270,slow=19,SNR=4.0							
WRAB	**Tennant Creek**	**26.87**	**165**	P		**P**	**12 27 17.9**	**+1.0**
WRA	**Warramunga Arr**	**26.88**	**165**	P		**P**	**12 27 17.2**	**+0.3**
WRA	**Warramunga Arr**	**26.88**	**165**	P		**P**	**12 27 17.2**	**+0.3**
	0.5nm,0.3s,baz=343,slow=10,SNR=13							
CMAR	**Chiang Mai Arr**	**29.99**	**297**	P		**P**	**12 27 45.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**29.99**	**297**	P		**P**	**12 27 45.1**	**+0.4**
	1.3nm,0.6s,baz=97,slow=7.2,SNR=10							
ASAR	**Alice Springs**	**30.35**	**167**	P		**P**	**12 27 48.0**	**+0.2**
ASAR				PcP		**PcP**	**12 30 46.9**	**+0.7**
ASAR	**Alice Springs**	**30.35**	**167**	P		**P**	**12 27 48.0**	**+0.2**
	0.4nm,0.4s,baz=343,slow=6.9,SNR=21							
ASAR				PcP		**PcP**	**12 30 46.9**	**+0.7**
	0.7nm,0.6s,baz=351,slow=2.4,SNR=8.4							
NWAO	**Narrogin (SRO)**	**39.92**	**193**	P		**P**	**12 29 10.9**	**+1.1**
NWAO	**Narrogin (SRO)**	**39.92**	**193**	P		**P**	**12 29 10.9**	**+1.1**
	8.3nm,1.0s,baz=3.8,slow=9.9,SNR=12							
ASAJ	**Asahikawa**	**40.24**	**17**	P		**P**	**12 29 12.2**	**-0.2**
ASAJ	**Asahikawa**	**40.24**	**17**	P		**P**	**12 29 12.2**	**-0.2**
	1.5nm,0.4s,baz=243,slow=6.8,SNR=6.5							
STKA	**Stephens Creek**	**40.26**	**161**	*e*P		**P**	**12 29 14.3**	**+1.7**
STKA	**Stephens Creek**	**40.26**	**161**	P		**P**	**12 29 14.0**	**+1.4**
	1.5nm,0.5s,baz=360,slow=13,SNR=4.2							
TAPN	**Taplejung**	**42.88**	**304**	*e*P		**P**	**12 29 34.4**	**-0.2**
ODAN	**Odare**	**42.97**	**303**	*e*P		**P**	**12 29 35.0**	**-0.2**
	12nm,0.7s							
RAMN	**Ramite**	**43.66**	**303**	*e*P		**P**	**12 29 40.7**	**0.0**
	17nm,0.8s							
JIRN	**Jiri**	**44.25**	**304**	*e*P		**P**	**12 29 45.4**	**-0.2**
	6.3nm,0.8s							
GUN	**Gumba**	**44.60**	**304**	*e*P		**P**	**12 29 48.3**	**-0.1**
	20nm,0.8s							
PKI	**Pulchoki**	**44.87**	**303**	*e*P		**P**	**12 29 49.9**	**-0.6**
KKN	**Kakani**	**45.05**	**304**	*e*P		**P**	**12 29 52.0**	**+0.2**
DMN	**Daman**	**45.13**	**303**	*e*P		**P**	**12 29 52.1**	**-0.4**
SONM	**Songino Array**	**45.15**	**340**	P		**P**	**12 29 51.2**	**-1.0**
SONM	**Songino Array**	**45.15**	**340**	P		**P**	**12 29 51.2**	**-1.0**
	0.5nm,0.6s,baz=154,slow=8.1,SNR=4.8							
GKN	**Gorkha**	**45.66**	**304**	*e*P		**P**	**12 29 56.1**	**-0.5**
KOLN	**Koldanga**	**46.44**	**303**	*e*P		**P**	**12 30 02.7**	**-0.1**
	18nm,0.7s							
DANN	**Dangsing**	**46.51**	**304**	*e*P		**P**	**12 30 03.0**	**-0.4**
	20nm,0.7s							
MK31	**Makanchi Array**	**55.79**	**324**	*e*P		**P**	**12 31 11.9**	**-0.4**
MKAR	**Makanchi Array**	**55.79**	**324**	P		**P**	**12 31 12.1**	**-0.1**
MKAR	**Makanchi Array**	**55.79**	**324**	P		**P**	**12 31 12.1**	**-0.1**
	2.1nm,0.6s,baz=123,slow=8.3,SNR=36							
ZAA0	**Zalesovo Array**	**58.61**	**332**	*e*P		**P**	**12 31 31.2**	**-0.8**
ZALV	**Zalesovo Beam**	**58.61**	**332**	P		**P**	**12 31 30.9**	**-1.1**
ZALV	**Zalesovo Beam**	**58.61**	**332**	P		**P**	**12 31 30.9**	**-1.1**
	2.3nm,0.6s,baz=116,slow=6.8,SNR=12							
KURK	**Kurchatov**	**59.91**	**327**	P		**P**	**12 31 40.7**	**-0.3**
KURBB	**Kurchatov Arra**	**59.91**	**327**	P		**P**	**12 31 40.7**	**-0.3**
	5.0nm,0.7s,baz=125,slow=6.2,SNR=58							
KKAR	**Karatay Array**	**61.71**	**316**	*e*P		**P**	**12 31 52.7**	**-0.7**
	3.9nm,0.8s							
BVAR	**Borovoye Array**	**65.50**	**326**	P		**P**	**12 32 17.8**	**-0.2**
BVAR	**Borovoye Array**	**65.50**	**326**	P		**P**	**12 32 17.8**	**-0.2**
	2.8nm,0.7s,baz=120,slow=8.7,SNR=12							
ABKAR	**Akbulak array**	**70.50**	**320**	*e*P		**P**	**12 32 49.4**	**-0.1**
	4.3nm,0.6s							
ILAR	**Eielson Array**	**82.84**	**26**	P		**P**	**12 33 58.1**	**-0.6**
ILAR	**Eielson Array**	**82.84**	**26**	P		**P**	**12 33 58.1**	**-0.6**
	0.5nm,0.6s,baz=248,slow=5.2,SNR=9.1							
ASF	**Jabal al Asfar**	**86.89**	**302**	P		**P**	**12 34 20.0**	**+0.1**
ASF	**Jabal al Asfar**	**86.89**	**302**	P		**P**	**12 34 20.0**	**+0.1**
	1.3nm,0.4s,baz=53,slow=5.1,SNR=6.9							
ARCES	**ARCESS Array B**	**88.32**	**340**	P		**P**	**12 34 24.7**	**-1.1**
ARCES	**ARCESS Array B**	**88.32**	**340**	P		**P**	**12 34 24.7**	**-1.1**
	4.4nm,0.9s,baz=69,slow=4.9,SNR=5.0							
BRTR	**Keskin Array B**	**88.73**	**310**	P		**P**	**12 34 27.9**	**-0.6**
BRTR	**Keskin Array B**	**88.73**	**310**	P		**P**	**12 34 27.9**	**-0.6**
	1.6nm,1.1s,baz=107,slow=4.8,SNR=3.4							
YKA	**Yellowknife Ar**	**97.22**	**24**	P		Pdif	12 35 07.2	+0.2
YKA	**Yellowknife Ar**	**97.22**	**24**	P		Pdif	12 35 07.2	+0.2
	0.3nm,0.8s,baz=303,slow=4.8,SNR=5.7							
TXAR	**Lajitas Array**	**119.91**	**51**	PKP		**PKPdf**	**12 40 24.7**	**-0.7**
TXAR	**Lajitas Array**	**119.91**	**51**	PKP		**PKPdf**	**12 40 24.7**	**-0.7**
	0.1nm,0.8s,baz=197,slow=0.9,SNR=2.4							
TORD	**Torodi Ar. Bea**	**122.42**	**290**	PKP		**PKPdf**	**12 40 30.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**122.42**	**290**	PKP		**PKPdf**	**12 40 30.1**	**-0.3**
	0.8nm,0.7s,baz=44,slow=1.6,SNR=5.3							

IDC 05 12:30:29.3±2.6, 22.49N×143.40E, h101km±23km, mb3.5/8, mb1 3.7/10, mb1mx3.5/24, mbtmp3.5/10, MS3.3/2, Ms1 3.3/2, ms1mx2.6/34, Error ellipse: s-maj=31.0km s-min=13.4km az=88.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CBIJ	**Chichi jima**	**4.71**	**347**	P		Pn	12 31 39.7	+1.6
	37nm,0.3s,baz=265,slow=18,SNR=32							
CBIJ				S		Sn	12 32 31.4	-0.2
	23nm,0.3s,baz=303,slow=23,SNR=9.3							
JOW	**Kunigami**	**14.41**	**290**	LR		LR	12 38 48.9	
	comp=Z,40nm,19.9s,baz=165,slow=35							
MJAR	**Matsushiro Arr**	**14.71**	**343**	P		Pn	12 33 51.7	-0.5
	0.2nm,0.3s,baz=156,slow=9.0,SNR=3.0							
KSRS	**Korea Array**	**20.01**	**322**	P		Pn	12 34 59.5	+2.9
	1.0nm,0.6s,baz=137,slow=11,SNR=3.7							
SONM	**Songino Array**	**38.86**	**320**	P		P	12 37 46.0	+1.2
	0.2nm,0.5s,baz=121,slow=7.3,SNR=2.9							
WRA	**Warramunga Arr**	**43.10**	**193**	P		P	12 38 19.3	-0.3
	2.0nm,0.3s,baz=17,slow=9.0,SNR=58							
FITZ	**Fitzroy Crossi**	**43.93**	**205**	LR		LR	12 54 07.0	
	comp=Z,129nm,21.0s,baz=92,slow=32							
ASAR	**Alice Springs**	**46.80**	**192**	P		P	12 38 49.2	+0.2
	0.4nm,0.3s,baz=13,slow=6.3,SNR=27							
STKA	**Stephens Creek**	**54.09**	**182**	P		P	12

0.4nm,0.3s,baz=90,slow=7.2,SNR=3.2
MKAR Makanchi Array 44.60 293 P P 13 03 34.6 +0.3
0.6nm,0.3s,baz=52,slow=6.0,SNR=30
KURBB Kurchatov Arra 44.65 299 P P 13 03 35.2 +0.6
baz=64,slow=8.2
YKA Yellowknife Ar 47.22 39 P P 13 03 54.2 0.0
0.2nm,0.4s,baz=302,slow=6.9,SNR=4.5
YKA PcP PcP 13 05 17.9 -0.1
0.1nm,0.6s,baz=313,slow=3.4,SNR=4.0
BVAR Borovoye Array 47.63 306 P P 13 03 58.3 +0.7
0.8nm,0.5s,baz=60,slow=7.3,SNR=6.8
FINES FINESS Array B 59.50 333 P P 13 05 22.4 +0.1
0.8nm,0.4s,baz=46,slow=8.2,SNR=4.0
HFS Hagfors 63.77 339 P P 13 05 50.2 -0.3
1.3nm,0.8s,baz=18,slow=9.6,SNR=5.0
WRA Warramunga Arr 73.08 198 P P 13 06 47.5 -0.4
0.4nm,0.9s,baz=23,slow=6.6,SNR=2.6
ASAR Alice Springs 76.79 198 P P 13 07 09.5 +0.7
0.7nm,0.8s,baz=11,slow=5.3,SNR=5.9

IDC 05 13:00:36.5±7.9, 30.04S×177.33W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.5/14, mbtmp3.4/2, MS3.5/1, Ms1 3.5/1, ms1mx3.1/7, Error ellipse: s-maj=329.1km s-min=59.5km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.32**	**278**	LR	LR	13 19 45.8	
	comp=Z,69nm,18.6s,baz=236,slow=34						
ASAR	**Alice Springs**	**43.71**	**266**	P	P	13 08 43.4	-0.2
	0.1nm,0.4s,baz=106,slow=7.6,SNR=4.0						
WRA	**Warramunga Arr**	**44.67**	**271**	P	P	13 08 51.1	-0.1
	0.3nm,0.3s,baz=110,slow=8.4,SNR=8.5						
FINES	**FINESS Array B**	**145.00**	**341**	PKPbc	PKPbc	13 20 13.5	-0.8
	1.9nm,0.9s,baz=13,slow=2.5,SNR=4.5						

WEL 05 13:21:52.5±0.1, 37.82S×176.65E, h5km, ML3.6/12, 9C-1D, Error ellipse: s-maj=0.7km s-min=0.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPRZ	**Ohinepanea**	**0.08**	**252**	⇑PG	Pg	13 21 54.4	+0.2
OPRZ				SG	Sg	13 21 56.0	+0.6
MARZ	**Manawahe**	**0.17**	**173**	⇑PG	Pg	13 21 56.2	+0.3
MARZ				SG	Sg	13 21 59.1	+0.9
LIRZ	**Lichensteins R**	**0.28**	**229**	PG	Pg	13 21 58.5	+0.5
EDRZ	**Edgecumbe**	**0.29**	**166**	⇑PG	Pg	13 21 58.6	+0.3
TGRZ	**Tauranga**	**0.32**	**286**	⇑PG	Pg	13 21 59.2	+0.4
MKRZ	**Makatiti**	**0.35**	**204**	⇑PG	Pg	13 22 00.1	+0.8
KARZ	**Kaharoa**	**0.38**	**238**	PG	Pg	13 22 00.1	+0.2
TARZ	**Mount Tarawera**	**0.43**	**195**	⇑PG	Pg	13 22 01.5	+0.6
UTU	**Utuhina**	**0.51**	**225**	PG	Pg	13 22 03.0	+0.7
WIZ	**White Island**	**0.52**	**56**	⇑PG	Pg	13 22 03.2	+0.8
RRRZ	**Republican Roa**	**0.53**	**192**	PG	Pg	13 22 02.8	0.0
URZ	**Urewera**	**0.57**	**140**	⇑PG	Pg	13 22 03.6	+0.2
MYRZ	**Mayor Island**	**0.63**	**329**	P*	Pg	13 22 05.0	+0.4
HRRZ	**Handcock Road**	**0.64**	**207**	P*	Pg	13 22 05.3	+0.4
PRRZ	**Plateau Road**	**0.71**	**197**	P*	Pg	13 22 06.0	-0.1
ALRZ	**Allen Road**	**0.78**	**198**	P*	Pg	13 22 07.7	+0.2
MWZ	**Matawai**	**0.86**	**127**	⇑P*	Pg	13 22 09.0	-0.1
TOZ	**Tahuroa Road**	**0.91**	**275**	P*	Pg	13 22 09.0	-1.0
RAHZ	**Arahi**	**1.15**	**163**	P*	Pg	13 22 13.8	-0.8
NMHZ	**Naumai**	**1.28**	**175**	P*	Pn	13 22 16.5	-0.7
PUZ	**Puketiti**	**1.29**	**102**	⇓P*	Pn	13 22 16.6	-0.7
KUZ	**Kuaotunu**	**1.30**	**325**	*e*P*	Pn	13 22 14.3	-3.1
MXZ	**Matakaoa Point**	**1.34**	**79**	*e*P*	Pn	13 22 16.9	-0.9
BKZ	**Black Stump Fm**	**1.35**	**185**	P*	Pn	13 22 16.1	-2.0
MKAZ	**Moumakai**	**1.38**	**301**	PN	Pn	13 22 15.6	-2.7
CNGZ	**Carnagh Statio**	**1.40**	**119**	PN	Pb	13 22 19.1	+0.1
KNZ	**Kokohu**	**1.44**	**146**	PN	Pn	13 22 18.9	-0.3
PRGZ	**Paritu Road**	**1.47**	**139**	PN	Pn	13 22 19.3	-0.3
HIZ	**Hauiti**	**1.57**	**243**	PN	Pn	13 22 19.0	-2.1
MCHZ	**McNeill Hill**	**1.62**	**179**	PN	Pb	13 22 22.8	-0.1
OTAZ	**Otara**	**1.63**	**302**	*e*PN	Pn	13 22 21.2	-0.6
MHGZ	**Mahia Peninsul**	**1.66**	**144**	*e*PN	Pn	13 22 21.9	-0.3
KAAZ	**Kauri Point**	**1.84**	**302**	*e*PN	Pb	13 22 25.8	-0.9
RVAZ	**Riverhead Bore**	**1.96**	**302**	*e*PN	Pn	13 22 24.5	-1.8
KAHZ	**Kahuranaki**	**1.98**	**175**	PN	Pn	13 22 27.3	+0.5
PXZ	**Pawanui**	**2.21**	**176**	PN	Pn	13 22 29.2	-0.6
WCZ	**Waipu Caves**	**2.63**	**315**	PN	Pn	13 22 33.5	-2.1

*ISCJB **05** 14:12:45.6±0.6, 58.73N±0.03×152.11W±0.05, h26km±7km, mb3.5/1, Error ellipse: s-maj=5.5km s-min=4.4km az=156.3*
*IDC **05** 14:12:45.8±1.0, 58.54N×151.65W, h0km, mb3.5/1, mb1 3.6/5, mb1mx3.3/27, mbtmp3.3/5, ML3.2/3, Error ellipse: s-maj=24.8km s-min=7.6km az=121.0*
*NEIC **05** 14:12:47.7, 58.73N×152.24W, h21km, ML3.0(AEIC), After AEIC.*

ISC 05 14:12:46.4±1.2, 58.75N±0.03×152.26W±0.03, h27km±12km, n69, σ0.75/73, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FOPK	**Fourpeaked Vol**	**0.64**	**271**	P	**Pb**	**14 12 59.3**	**+0.3**
FOSS	**Fourpeaked Sta**	**0.75**	**274**	P	**Pb**	**14 13 01.0**	**+0.1**
FOSS				S	**Sb**	**14 13 10.8**	**+0.1**
AUE	**Augustine Isla**	**0.84**	**317**	P	**Pn**	**14 13 02.9**	**+0.5**
AUI	**Augustine Isla**	**0.84**	**315**	P	**Pn**	**14 13 02.8**	**+0.3**
AUI				S	**Sn**	**14 13 14.2**	**+0.2**
AUW	**Augustine West**	**0.88**	**315**	P	**Pn**	**14 13 03.4**	**+0.4**
AUNW	**Augustine NWes**	**0.89**	**315**	P	**Pn**	**14 13 03.5**	**+0.4**
HOM	**Homer**	**0.96**	**19**	P	**Pn**	**14 13 05.0**	**+0.8**
KDAK	**Kodiak Island**	**0.98**	**190**	Pg	**Pn**	**14 13 04.7**	**+0.3**
KDAK				P	**Pb**	**14 13 05.8**	**+1.0**
KDAK				Lg	Lg	14 13 16.0	
KDAK				S	**Sn**	**14 13 18.0**	**+0.6**
KDAK	**Kodiak Island**	**0.98**	**190**	Pg	**Pn**	**14 13 04.7**	**+0.3**
	18nm,0.3s,baz=30,slow=9.9,SNR=294						
KDAK				Lg	Lg	14 13 16.0	
	55nm,0.3s,baz=18,slow=20,SNR=32						
OPT	**Oil Point**	**1.04**	**331**	P	**Pn**	**14 13 05.7**	**+0.5**
KAPH	**Katmai Pasha**	**1.10**	**263**	P	**Pn**	**14 13 06.4**	**+0.3**
MCNL	**McNeil River**	**1.16**	**293**	P	**Pn**	**14 13 07.2**	**+0.3**
BRLK	**Bradley Lake**	**1.24**	**34**	P	**Pb**	**14 13 08.5**	**-0.6**
BRLK				S	**Sb**	**14 13 24.3**	**-0.3**
ILS	**Iliamna Low So**	**1.28**	**341**	P	**Pn**	**14 13 09.0**	**+0.4**
KARR	**Katmai Rainbow**	**1.31**	**260**	P	**Pn**	**14 13 09.7**	**-0.6**
IVS	**Iliamna South**	**1.33**	**342**	P	**Pn**	**14 13 09.8**	**+0.4**
INE	**Iliamna NE**	**1.38**	**343**	P	**Pn**	**14 13 10.1**	**+0.2**
ILW	**Iliamna West**	**1.39**	**341**	P	**Pn**	**14 13 10.6**	**+0.4**
KAKN	**Katmai Knife C**	**1.54**	**254**	P	**Pn**	**14 13 12.6**	**+0.5**
KAKN				S	**Sb**	**14 13 32.9**	**-0.5**
KABR	**Katmai Barrier**	**1.56**	**248**	P	**Pn**	**14 13 12.4**	**+0.1**
RSO	**Redoubt South**	**1.74**	**352**	P	**Pn**	**14 13 15.7**	**+0.8**
RDN	**Redoubt North**	**1.79**	**352**	P	**Pn**	**14 13 16.5**	**+0.9**
NCT	**North Crescent**	**1.85**	**350**	P	**Pn**	**14 13 17.5**	**+1.1**
DFR	**Drift River**	**1.86**	**353**	P	**Pn**	**14 13 17.3**	**+0.8**
SEW	**Seward**	**1.98**	**45**	P	**Pn**	**14 13 18.0**	**0.0**
SLKM	**Skilak Lake**	**2.04**	**29**	P	**Pn**	**14 13 19.6**	**+0.6**
CKL	**Chakachamna La**	**2.46**	**359**	P	**Pn**	**14 13 26.1**	**+1.4**
SPCG	**Spurr Capps Gl**	**2.55**	**3**	P	**Pn**	**14 13 27.5**	**+1.5**
FIB	**Fire Island**	**2.64**	**22**	P	**Pn**	**14 13 28.5**	**+1.4**
RC01	**Rabbit Creek A**	**2.67**	**27**	P	**Pn**	**14 13 28.1**	**+0.5**
STLK	**Strandline Lak**	**2.77**	**4**	P	**Pn**	**14 13 30.3**	**+1.3**
SUA	**Susitna One**	**2.83**	**15**	P	**Pn**	**14 13 30.7**	**+0.9**
PMR	**Palmer**	**3.25**	**27**	P	**Pn**	**14 13 35.6**	**+0.1**
SKT	**Skwentna**	**3.26**	**6**	P	**Pn**	**14 13 36.8**	**+1.1**
KNK	**Knik Glacier**	**3.28**	**34**	P	**Pn**	**14 13 36.0**	**+0.1**
EYAK	**Cordova Ski Ar**	**3.76**	**59**	P	**Pn**	**14 13 42.1**	**-0.5**
VLZ	**Valdez**	**3.82**	**49**	P	**Pn**	**14 13 44.3**	**+1.0**
SCM	**Sheep Creek Mo**	**3.95**	**36**	P	**Pn**	**14 13 45.8**	**+0.6**
DIV	**Divide**	**4.04**	**51**	P	**Pn**	**14 13 47.4**	**+0.9**
PPLA	**Purkeypile**	**4.16**	**0**	P	**Pn**	**14 13 49.6**	**+1.4**
KLU	**Klutina**	**4.20**	**46**	P	**Pn**	**14 13 49.0**	**+0.4**
BMRM	**Bremner River**	**4.45**	**57**	P	**Pn**	**14 13 51.9**	**-0.2**
NICHA	**Nichawak Mount**	**4.48**	**67**	P	**Pn**	**14 13 52.4**	**0.0**
TT01	**Tatalina**	**4.56**	**338**	P	**Pn**	**14 13 54.2**	**+0.7**
BERG	**Berg Lake**	**4.65**	**66**	P	**Pn**	**14 13 55.1**	**+0.3**
TRF	**Thorofare Moun**	**4.81**	**11**	P	**Pn**	**14 13 57.3**	**+0.2**
DHY	**Denali Highway**	**4.95**	**27**	P	**Pn**	**14 13 59.5**	**+0.5**
BARK	**Barkley Ridge**	**5.23**	**67**	P	**Pn**	**14 14 03.9**	**+1.1**
MCK	**McKinley**	**5.25**	**16**	P	**Pn**	**14 14 04.9**	**+1.9**
ISLE	**Juniper Island**	**5.36**	**65**	P	**Pn**	**14 14 04.9**	**+0.4**
PAX	**Paxson**	**5.38**	**35**	P	**Pn**	**14 14 06.1**	**+1.3**
BAGL	**Bagley Icefiel**	**5.45**	**67**	P	**Pn**	**14 14 06.8**	**+1.1**
RKAV	**Rock Avalanche**	**5.77**	**70**	P	**Pn**	**14 14 11.2**	**+1.0**
TABL	**Table Mountain**	**5.89**	**69**	P	**Pn**	**14 14 12.6**	**+0.6**
WRH	**Wood River Hil**	**6.08**	**17**	P	**Pn**	**14 14 14.8**	**+0.5**
COLA	**College**	**6.49**	**17**	*e*Pn	**Pn**	**14 14 21.4**	**+1.5**
	5.4nm,0.8s						
COLA				*e*Sn	Sn	14 15 28.2	-4.7
IL1	**Eielson Array**	**6.56**	**21**	P	**Pn**	**14 14 20.5**	**-0.4**
ILAR	**Eielson Array**	**6.56**	**21**	Pn	**Pn**	**14 14 20.9**	**0.0**
ILAR				Sn	Sn	14 15 30.8	-3.8
ILAR	**Eielson Array**	**6.56**	**21**	Pn	**Pn**	**14 14 20.9**	**0.0**
	0.3nm,0.3s,baz=202,slow=14,SNR=15						
ILAR				Sn	Sn	14 15 30.8	-3.8
	0.7nm,0.3s,baz=205,slow=14,SNR=5.8						
PNL	**Peninsula**	**6.67**	**77**	P	**Pn**	**14 14 22.4**	**-0.1**
IM3	**Indian Mountai**	**7.29**	**355**	P	**Pn**	**14 14 32.0**	**+1.1**
DLBC	**Dease Lake**	**11.59**	**82**	Pn	**Pn**	**14 15 29.1**	**-0.8**
DLBC	**Dease Lake**	**11.59**	**82**	Pn	**Pn**	**14 15 29.1**	**-0.8**
	0.1nm,0.3s,baz=327,slow=21,SNR=5.7						
INK	**Inuvik**	**12.65**	**33**	Pn	Pn	14 15 48.5	+4.3
INK	**Inuvik**	**12.65**	**33**	Pn	Pn	14 15 48.5	+4.3
	0.0nm,0.3s,baz=228,slow=11,SNR=2.5						
YKA	**Yellowknife Ar**	**18.66**	**62**	P	**P**	**14 17 01.5**	**-0.3**
YKA	**Yellowknife Ar**	**18.66**	**62**	P	**P**	**14 17 01.5**	**-0.3**
	0.1nm,0.3s,baz=274,slow=9.9,SNR=20						
PDAR	**Pinedale Array**	**30.74**	**102**	P	**P**	**14 18 59.2**	**0.0**
PDAR	**Pinedale Array**	**30.74**	**102**	P	**P**	**14 18 59.2**	**0.0**
	0.5nm,0.7s,baz=316,slow=4.1,SNR=3.6						

*NEIC **05** 14:16:39.0, 32.90S×69.17W, h11km, MD4.3(SJA), After SJA.*
NEIC Felt [IV] at Potrerillos.
*GUC **05** 14:16:40.1±0.8, 34.18S×71.54W, h6km±27km, ML2.8*

ISC 05 14:16:39.5±1.9, 32.97S±0.06×69.15W±0.07, h24km±17km, n10, σ0.85/15, 1C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLCH	**Cerro Calan**	**1.24**	**250**	*i* P	**Pn**	**14 17 00.8**	**-0.6**
CLCH				*i* S	**Sn**	**14 17 17.3**	**0.0**
CLCH				AML	AML	14 17 20.8	
	comp=E,509nm,0.6s						
LMEL	**Las Melosas**	**1.24**	**225**	*e*P	**Pn**	**14 17 01.6**	**+0.1**
LMEL				*i* S	**Sb**	**14 17 17.8**	**-0.1**
LMEL				AML	AML	14 17 21.7	
	comp=N,133nm,0.1s						
PEL	**Peldehue**	**1.30**	**262**	⇑*i* P	**Pn**	**14 17 01.6**	**-0.6**
PEL				*i* S	**Sn**	**14 17 18.2**	**-0.7**
PEL				AML	AML	14 17 21.7	
	comp=N,328nm,0.5s						
ROCH	**El Roble**	**1.56**	**270**	AML	AML	14 17 28.6	
	comp=E,335nm,0.5s						
CHNG	**Los Chungos**	**2.27**	**298**	⇓*i* P	**Pb**	**14 17 19.0**	**-0.7**
CHNG				*i* S	**Sb**	**14 17 48.8**	**+1.6**
CHNG				AML	AML	14 17 51.5	
	comp=E,225nm,0.6s						
LCO	**Las Campanas**	**4.17**	**341**	*e*Pn	**Pn**	**14 17 41.7**	**-0.1**
LCO				*e*Sn	**Sn**	**14 18 30.4**	**+0.5**
TRQA	**Tornquist**	**7.74**	**133**	*e*Pn	**Pn**	**14 18 31.6**	**+0.9**
TRQA				*e*Sn	**Sn**	**14 19 56.7**	**-0.8**
PLCA	**Paso Flores**	**7.83**	**188**	*e*Pn	**Pn**	**14 18 33.3**	**+1.4**
LPAZ	**La Paz**	**16.64**	**3**	*e*Pn	**Pn**	**14 20 31.8**	**+0.1**
ROSC	**El Rosal**	**37.94**	**352**	*e*P	**P**	**14 23 55.8**	**+0.1**

PRE 05 14:26:00.0±0.8, 26.42S×27.62E, h2km, ML3.1, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.07**	**356**	*e*P	Pg	14 26 01.8	+0.2
KLOF				*e*S	Sg	14 26 02.2	-0.5
KLOF				AML	AML	14 26 03.9	
	comp=Z,72μm,0.2s						
ERPM	**east rand prop**	**0.57**	**83**	*e*P	Pg	14 26 11.9	+0.7
ERPM				*e*S	Sg	14 26 19.4	+0.7
ERPM				AML	AML	14 26 26.7	
	comp=Z,322nm,0.8s						
BFSD	**Buffelsfontein**	**0.87**	**239**	*e*P	Pg	14 26 17.0	+0.2
BFSD				*e*S	Sg	14 26 29.1	+0.9
BFSD				AML	AML	14 26 35.6	
	comp=Z,382nm,0.1s						
LBTB	**Lobatse**	**2.29**	**307**	*e*P	Pn	14 26 39.5	+0.5
LBTB				*e*S	Sn	14 27 08.3	+0.4
LBTB				AML	AML	14 27 13.1	
	comp=Z,187nm,0.3s						
BOSA	**Boshof**	**3.03**	**223**	*e*P	Pn	14 26 49.6	+0.4
BOSA				*e*S	Sn	14 27 26.5	+0.4
BOSA				AML	AML	14 27 45.2	
	comp=Z,27nm,0.7s						
HVD	**Gariep Dam**	**4.57**	**204**	*e*P	Pn	14 27 10.7	+0.3
HVD				*e*S	Sn	14 28 02.6	-1.6
HVD				AML	AML	14 28 22.6	
	comp=Z,13nm,0.5s						
BUFB	**Buffelsbos**	**8.10**	**197**	*e*P	Pn	14 27 59.9	+1.2
BUFB				*e*S	Sn	14 29 27.0	-3.8
BUFB				AML	AML	14 29 39.8	
	comp=Z,7.3nm,0.6s						

IDC 05 14:36:33.7±1.5, 6.13S×126.27E, h0km, mb3.5/2, mb1 3.5/4, mb1mx3.3/18, mbtmp3.3/4, ML3.6/2, Error ellipse: s-maj=153.0km s-min=26.7km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.81**	**151**	Pn	Pn	14 40 19.5	+1.6
	0.3nm,0.3s,baz=328,slow=11,SNR=32						
WRA				Sn	Sn	14 42 53.1	-21
	0.2nm,0.3s,baz=328,slow=20,SNR=8.2						
ASAR	**Alice Springs**	**18.92**	**158**	P	P	14 40 55.6	-0.7
	0.1nm,0.3s,baz=342,slow=11,SNR=16						
ASAR				S	Sn	14 43 59.0	-30
	0.1nm,0.3s,baz=341,slow=27,SNR=8.6						
MKAR	**Makanchi Array**	**65.51**	**328**	P	P	14 47 19.6	+0.7
	0.1nm,0.4s,baz=123,slow=8.3,SNR=5.5						
KURBB	**Kurchatov Arra**	**69.87**	**330**	P	P	14 47 45.7	-0.6
	0.5nm,0.5s,baz=130,slow=4.9,SNR=8.2						

*DJA **05** 14:39:52, 10.39S×107.05E, h10km, MLv4.7/7*
IDC 05 14:39:53.6±1.8, 10.56S×106.90E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, ML4.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/32, Error ellipse: s-maj=86.5km s-min=15.9km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.63**	**115**	P	P	14 44 24.5	+0.5
	0.3nm,0.3s,baz=295,slow=14,SNR=3.4						
FITZ				S	Sn	14 47 39.8	-27
	0.2nm,0.3s,baz=297,slow=6.8,SNR=2.7						
FITZ				LR	LR	14 51 01.4	
	comp=Z,48nm,18.2s,baz=11,slow=34						
WRA	**Warramunga Arr**	**28.03**	**113**	P	P	14 45 45.8	-1.0
	2.7nm,0.8s,baz=286,slow=10,SNR=11						
WRA				PcP	PcP	14 49 01.0	-0.9
	0.8nm,0.8s,baz=285,slow=1.8,SNR=5.0						
WRA				S	S	14 50 03.8	-29
	0.5nm,1.0s,baz=297,slow=12,SNR=4.2						
ASAR	**Alice Springs**	**28.84**	**120**	P	P	14 45 53.5	-0.6
	0.7nm,0.7s,baz=296,slow=8.4,SNR=9.7						
ASAR				PcP	PcP	14 49 04.0	+0.1
	0.5nm,0.8s,baz=298,slow=2.0,SNR=4.6						
CMAR	**Chiang Mai Arr**	**29.89**	**345**	P	P	14 46 04.8	+1.6
	0.4nm,0.3s,baz=172,slow=8.4,SNR=4.8						
STKA	**Stephens Creek**	**38.42**	**129**	P	P	14 47 18.2	+1.0
	4.6nm,0.6s,baz=311,slow=10,SNR=20						
SONM	**Songino Array**	**58.14**	**360**	P	P	14 49 48.8	-0.4
	0.6nm,0.6s,baz=176,slow=7.6,SNR=7.2						
MKAR	**Makanchi Array**	**61.19**	**341**	P	P	14 50 09.7	-0.5
	1.5nm,0.5s,baz=140,slow=7.8,SNR=11						
KURBB	**Kurchatov Arra**	**65.75**	**341**	P	P	14 50 40.0	-0.2
	1.8nm,0.8s,baz=160,slow=5.2,SNR=13						
YKA	**Yellowknife Ar**	**120.21**	**21**	PKP	PKPdf	14 58 44.8	-1.5
	0.1nm,0.7s,baz=338,slow=1.7,SNR=4.8						
TXAR	**Lajitas Array**	**145.90**	**52**	PKPbc	PKPab	14 59 36.3	0.0
	0.8nm,0.8s,baz=268,slow=3.3,SNR=6.8						

*ISCJB **05** 14:50:12.5±0.7, 37.34N±0.03×16.16E±0.04, h27km±4km, Error ellipse: s-maj=6.3km s-min=3.4km az=44.0*
*ROM **05** 14:50:13.6±0.2, 37.39N×16.03E, h25km±2km, Md2.7/24, Ml3.1/22, Error ellipse: s-maj=3.4km s-min=1.4km az=124.0*
*CSEM **05** 14:50:13.6, 37.39N×16.03E, h25km, MD2.7/24, After ROM*

ISC 05 14:50:12.2±1.2, 37.34N±0.03×16.13E±0.03, h30km±12km, n58, σ0.68/94, 14C-4D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPAZ	**Palizzi**	**0.62**	**351**	Pg	**Pn**	**14 50 25.7**	**+0.7**
MPAZ				Sg	**Sn**	**14 50 33.8**	**-0.3**
	976nm,0.4s						
MPAZ	**Palizzi**	**0.62**	**351**	Pg	**Pn**	**14 50 25.7**	**+0.7**
MPAZ				Sg	**Sn**	**14 50 33.8**	**-0.3**
	976nm,0.4s						
AGST	**Augusta-Monte**	**0.72**	**264**	⇑*i*Pg	**Pn**	**14 50 26.8**	**+0.4**
AGST				Sg	**Sb**	**14 50 35.7**	**-0.2**
	486nm,0.1s						
AGST	**Augusta-Monte**	**0.72**	**264**	⇑*i*Pg	**Pn**	**14 50 26.8**	**+0.4**
AGST				Sg	**Sb**	**14 50 35.7**	**-0.2**
	486nm,0.1s						
SOI	**Samo**	**0.74**	**355**	⇓*i*Pg	**Pn**	**14 50 27.4**	**+0.8**
SOI				Sg	**Sn**	**14 50 36.5**	**-0.3**
	515nm,0.5s						
SOI	**Samo**	**0.74**	**355**	⇓*i*Pg	**Pn**	**14 50 27.4**	**+0.8**
SOI				Sg	**Sn**	**14 50 36.5**	**-0.3**
	515nm,0.5s						
MTTG	**Motta San Giov**	**0.75**	**333**	⇓*i*Pg	**Pn**	**14 50 27.4**	**+0.6**
MTTG	**Motta San Giov**	**0.75**	**333**	⇓*i*Pg	**Pn**	**14 50 27.4**	**+0.6**
HAGA	**Augusta**	**0.78**	**267**	⇑*i*Pg	**Pn**	**14 50 27.6**	**+0.5**
HAGA				Sg	**Sb**	**14 50 37.0**	**-0.5**
	593nm,0.1s						
HAGA	**Augusta**	**0.78**	**267**	⇑*i*Pg	**Pn**	**14 50 27.6**	**+0.5**
HAGA				Sg	**Sb**	**14 50 37.0**	**-0.5**
	593nm,0.1s						
HCRL	**Carlentini**	**0.88**	**267**	⇑*i*Pg	**Pn**	**14 50 29.2**	**+0.7**
HCRL				Sg	**Sb**	**14 50 40.0**	**-0.3**
	1μm,0.3s						
HCRL	**Carlentini**	**0.88**	**267**	⇑*i*Pg	**Pn**	**14 50 29.2**	**+0.7**
HCRL				Sg	**Sb**	**14 50 40.0**	**-0.3**
	1μm,0.3s						
HAVL	**Avola**	**0.89**	**245**	⇑*i*Pg	**Pn**	**14 50 29.8**	**+1.2**
HAVL				Sg	**Sn**	**14 50 40.9**	**+0.4**
	2μm,0.2s						
HAVL	**Avola**	**0.89**	**245**	⇑*i*Pg	**Pn**	**14 50 29.8**	**+1.2**
HAVL				Sg	**Sn**	**14 50 40.9**	**+0.4**
	2μm,0.2s						
MMME	**Mongiuffi-Meli**	**0.92**	**311**	Pg	**Pb**	**14 50 29.8**	**+0.2**
	164nm,0.2s						
MMME	**Mongiuffi-Meli**	**0.92**	**311**	Pg	**Pb**	**14 50 29.8**	**+0.2**
	164nm,0.2s						
MSCL	**Scilla**	**0.93**	**343**	Pg	**Pb**	**14 50 30.1**	**+0.2**
MSCL				Sg	**Sn**	**14 50 41.9**	**+0.1**
	491nm,0.5s						
MSCL	**Scilla**	**0.93**	**343**	Pg	**Pb**	**14 50 30.1**	**+0.2**
MSCL				Sg	**Sn**	**14 50 41.9**	**+0.1**
	491nm,0.5s						
ESLN	**Serra La Nave**	**0.99**	**292**	Pg	**Pb**	**14 50 30.5**	**-0.3**
ESLN				Sg	**Sb**	**14 50 43.1**	**-0.5**
ESLN	**Serra La Nave**	**0.99**	**292**	Pg	**Pb**	**14 50 30.5**	**-0.3**
ESLN				Sg	**Sb**	**14 50 43.1**	**-0.5**
MSRU	**Castanea**	**1.05**	**332**	Pg	**Pb**	**14 50 31.8**	**+0.1**
MSRU				Sg	**Sn**	**14 50 44.8**	**+0.3**
	334nm,0.4s						
MSRU	**Castanea**	**1.05**	**332**	Pg	**Pb**	**14 50 31.8**	**+0.1**
MSRU				Sg	**Sn**	**14 50 44.8**	**+0.3**
	334nm,0.4s						
PLAC	**Placanica**	**1.14**	**12**	⇑*i*Pg	**Pb**	**14 50 33.4**	**+0.1**
PLAC				Sg	**Sb**	**14 50 48.6**	**+0.9**
	84nm,0.6s						
PLAC	**Placanica**	**1.14**	**12**	⇑*i*Pg	**Pb**	**14 50 33.4**	**+0.1**
PLAC				Sg	**Sb**	**14 50 48.6**	**+0.9**
	84nm,0.6s						
HVZN	**Vizzini**	**1.14**	**262**	⇑*i*Pg	**Pb**	**14 50 33.2**	**-0.1**
HVZN				Sg	**Sb**	**14 50 47.4**	**-0.4**
	2μm,0.4s						
HVZN	**Vizzini**	**1.14**	**262**	⇑*i*Pg	**Pb**	**14 50 33.2**	**-0.1**
HVZN				Sg	**Sb**	**14 50 47.4**	**-0.4**
	2μm,0.4s						
HMDC	**Modica**	**1.14**	**251**	⇑*i*Pg	**Pb**	**14 50 33.3**	**0.0**
HMDC				Sg	**Sn**	**14 50 47.2**	**+0.4**
	457nm,0.2s						
HMDC	**Modica**	**1.14**	**251**	⇑*i*Pg	**Pb**	**14 50 33.3**	**0.0**
HMDC				Sg

AGPR	Aguadilla, PR	0.43	41	eS	Sg	14 54 02.4	+0.8
AGPR	Aguadilla, PR	0.43	41	⇓iP	Pg	14 53 55.5	-0.3
AGPR	Aguadilla, PR	0.43	41	eS	Sg	14 54 02.4	+0.8
GBPR	Guanica, Bosqu	0.54	108	⇑eP	Pg	14 53 57.3	-0.3
GBPR				eS	Sg	14 54 04.9	+0.2
LRS	Lares	0.56	74	⇑eP	Pg	14 53 57.3	-0.9
LRS				eS	Sg	14 54 05.3	-0.4
LRS	Lares	0.56	74	⇑eP	Pg	14 53 57.3	-0.9
AOPR	Arecibo Observ	0.66	72	⇓eP	Pg	14 53 59.0	-1.1
AOPR	Arecibo Observ	0.66	72	eS	Sg	14 54 08.1	-0.7
AOPR	Arecibo Observ	0.66	72	eS	Sg	14 54 08.0	-0.8
OBIP	Obispado Ponce	0.78	97	⇓eP	Pg	14 54 00.9	-1.3
OBIP	Obispado Ponce	0.78	97	eS	Sg	14 54 11.5	-0.8
OBIP	Obispado Ponce	0.78	97	eS	Sg	14 54 11.2	-1.1
CELP	Cerrillos	0.80	95	⇓eP	Pg	14 54 01.5	-1.1
CELP				eS	Sg	14 54 12.2	-0.8
CELP	Cerrillos	0.80	95	⇑eP	Pg	14 54 00.7	-1.9
CELP				eS	Sg	14 54 11.9	-1.2

IDC 05 14:57:58.6±2.7, 0°33'S × 132°63'E, h0km, mb3.1/2, mb1 3.3/3, mb1mx3.2/17, mbtmp3.1/3, ML3.0/1, Error ellipse: s-maj=145.2km s-min=26.2km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.57	175	P	P	15 02 28.0	-0.2
	0.1nm,0.3s,baz=356,slow=11,SNR=3.9						
ASAR	Alice Springs	23.23	177	P	P	15 03 07.8	+0.2
	0.6nm,0.8s,baz=353,slow=9.7,SNR=8.0						
MKAR	Makanchi Array	64.25	324	P	P	15 08 35.7	0.0
	0.1nm,0.4s,baz=130,slow=5.8,SNR=2.2						

MEX 05 15:19:11.3±0.6, 16°19N × 95°24W, h58km±13km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.94	243	iP	Pn	15 19 26.7	-1.7
HUIG				iS	Sn	15 19 39.4	-1.7
CMIG	Matias Romero	0.96	21	iP	Pn	15 19 27.2	-1.5
CMIG				iS	Sn	15 19 39.9	-1.7
VHO	Vista Hermosa	1.68	302	iP	Pn	15 19 36.3	-2.4
VHO				iS	Sn	15 19 56.4	-2.9
PNIG	Pinotepa	2.78	275	iP	Pn	15 19 52.8	-0.7
PNIG				eS	Sn	15 20 23.4	-2.5
UTMO	Huajuapan	2.95	304	iP	Pn	15 19 54.2	-1.7
UTMO				eS	Sn	15 20 27.9	-2.5

*ISCJB **05** 15:27:21.0±0.4, 41°49N±0°02 × 27°47E±0°02, h8km±3km, Error ellipse: s-maj=3.4km s-min=2.6km az=22.4*
*ISK **05** 15:27:20.4, 41°54N × 27°50E, h10km, ML3.5*
*SOF **05** 15:27:20.8, 41°48N × 27°51E, h10km, MD3.0*
*DDA **05** 15:27:21.3, 41°51N × 27°52E, h7km, MD3.4*
*THE **05** 15:27:21.2, 41°42N × 27°50E, h1km±3km, ML3.4/2, Error ellipse: s-maj=4.8km s-min=1.2km az=96.0*
*CSEM **05** 15:27:22.0±0.1, 41°45N × 27°49E, h10km, ML3.5, Error ellipse: s-maj=2.8km s-min=2.2km az=31.0*
*ATH **05** 15:27:23.1, 41°36N × 27°38E, h24km±2km, MD3.6/5*

ISC 05 15:27:21.6±1.1, 41°45N±0°02 × 27°49E±0°02, h4km±10km, n174, σ0°79/195, 14C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRLT	Corlu	0.37	150	ePG	Pb	15 27 30.8	+0.1
CRLT	Corlu	0.37	150	ePg	Pb	15 27 30.9	+0.2
TKR	Tekirdag	0.46	176	ePG	Pb	15 27 31.8	-0.4
TKR				eSG	Sb	15 27 40.3	+0.9
TKR	Tekirdag	0.46	176	ePg	Pb	15 27 32.5	+0.3
SLVT	Silivri	0.59	112	ePG	Pg	15 27 32.6	-0.2
SLVT				eSG	Sb	15 27 42.2	-0.8
SLVT	Silivri	0.59	112	ePg	Pg	15 27 33.3	+0.5
SLVT				eSg	Sg	15 27 41.5	+1.1
CTYL	Yal??k??y-??at	0.60	87	ePG	Pg	15 27 32.8	-0.3
CTYL				eSG	Sg	15 27 41.0	+0.1
CTYL	Yal??k??y-??at	0.60	87	ePg	Pg	15 27 32.8	-0.3
CTYL				eSg	Sg	15 27 41.0	+0.1
MFT	Murefte	0.68	193	ePG	Pb	15 27 36.1	+0.1
MFT	Murefte	0.68	193	ePg	Pb	15 27 36.1	+0.1
EDRB	Edirne	0.68	306	ePG	Pg	15 27 33.2	-1.5
EDRB	Edirne	0.68	306	ePg	Pg	15 27 33.9	-0.8
EDRB				eSg	Sg	15 27 42.3	-1.3
ELBA	Catalca	0.77	113	iP	Pg	15 27 36.4	+0.1
ELBA				iS	Sb	15 27 48.0	-0.4
ELBA	Catalca	0.77	113	iP	Pg	15 27 36.4	+0.1
ELBA				iS	Sb	15 27 48.0	-0.4
CTKS	Kestanelik-??a	0.80	105	ePG	Pg	15 27 36.6	-0.2
CTKS	Kestanelik-??a	0.80	105	ePg	Pg	15 27 36.6	-0.2
SART	Tekirdag	0.80	197	eP	Pb	15 27 38.2	+0.2
SART				iS	Sb	15 27 50.3	+1.2
SART	Tekirdag	0.80	197	eP	Pb	15 27 38.2	+0.2
SART				iS	Sb	15 27 50.3	+1.2
RKY	Sarkoy-Tekirda	0.80	197	ePG	Pb	15 27 37.8	-0.2
RKY	Sarkoy-Tekirda	0.80	197	ePg	Pb	15 27 37.8	-0.2
BGKT	Bogazkoy	1.00	105	ePG	Pg	15 27 40.4	-0.4
BGKT	Bogazkoy	1.00	105	ePg	Pg	15 27 40.4	-0.4
KRBG	Karabiga-Canak	1.07	188	ePN	Pn	15 27 43.0	-0.2
KRBG	Karabiga-Canak	1.07	188	ePn	Pn	15 27 43.0	-0.2
ERIK	Erikli-Kesan	1.07	224	ePN	Pg	15 27 42.3	+0.2
ERIK	Erikli-Kesan	1.07	224	ePn	Pg	15 27 42.3	+0.2
EDC	Edincik	1.14	165	ePN	Pb	15 27 43.9	+0.1
EDC	Edincik	1.14	165	ePn	Pb	15 27 43.9	+0.1
BNT	Bandirma	1.14	163	ePN	Pb	15 27 44.0	+0.2
BNT	Bandirma	1.14	163	ePn	Pb	15 27 44.0	+0.2
KLYT	Kilyos	1.19	99	ePN	Pg	15 27 43.8	-0.5
KLYT	Kilyos	1.19	99	ePn	Pg	15 27 43.8	-0.5
LPK	Lapseki	1.21	207	ePN	Pg	15 27 44.8	+0.1
LPK	Lapseki	1.21	207	ePn	Pg	15 27 44.8	+0.1
JMB	Yambol	1.22	327	P	Pg	15 27 44.4	-0.5
JMB				S	Sn	15 28 02.3	0.0
JMB	Yambol	1.22	327	iP	Pg	15 27 45.0	+0.1
JMB	Yambol	1.22	327	P	Pg	15 27 44.4	-0.5
JMB				S	Sn	15 28 02.3	0.0
ALN	Alexandroupoli	1.22	244	P	Pg	15 27 44.3	-0.7
ALN				S	Sb	15 28 01.2	-0.1
ALN	Alexandroupoli	1.22	244	ePN	Pg	15 27 44.6	-0.4
ALN				eSN	Sg	15 28 00.0	-0.8
ALN	Alexandroupoli	1.22	244	P	Pg	15 27 44.3	-0.7
ALN	Alexandroupoli	1.22	244	ePn	Pg	15 27 44.6	-0.4
ALN				eSn	Sg	15 28 00.0	-0.8
ALN				S	Sb	15 28 01.2	-0.1
ENEZ	Enez	1.24	235	ePN	Pg	15 27 44.6	-0.6
ENEZ	Enez	1.24	235	ePn	Pg	15 27 44.7	-0.6
ISK	Istanbul-Kandi	1.25	108	ePN	Pg	15 27 44.7	-0.7
ISK	Istanbul-Kandi	1.25	108	ePn	Pg	15 27 44.7	-0.7
GELI	Tayfur-Gelibol	1.30	216	ePN	Pn	15 27 46.4	-0.1
GELI	Tayfur-Gelibol	1.30	216	ePn	Pn	15 27 46.4	-0.1
KCTX	Karacabey (Bur	1.35	151	ePN	Pn	15 27 47.1	-0.1
KCTX	Karacabey (Bur	1.35	151	ePn	Pn	15 27 47.1	-0.1
ARMT	Armutlu	1.36	130	ePN	Pn	15 27 46.7	-0.6
ARMT	Armutlu	1.36	130	ePn	Pn	15 27 46.7	-0.6
BUY	Buyukada	1.37	115	iP	Pn	15 27 46.5	-0.9
BUY	Buyukada	1.37	115	iP	Pn	15 27 46.5	-0.9
GONE	Gonen-Balikesi	1.41	174	ePN	Pb	15 27 48.2	-0.2
GONE	Gonen-Balikesi	1.41	174	ePn	Pb	15 27 48.2	-0.2
MDNY	Mudanya-Bursa	1.51	135	ePN	Pn	15 27 48.9	-0.4
MDNY	Mudanya-Bursa	1.51	135	ePn	Pn	15 27 48.9	-0.4
KDZ	Kurdzhali	1.57	278	iP	Pg	15 27 51.5	-0.1
KDZ	Kurdzhali	1.57	278	iP	Pg	15 27 51.5	-0.1
DIM	Dimitrovgrad	1.58	293	iP	Pn	15 27 50.0	-0.3
DIM	Dimitrovgrad	1.58	293	iP	Pn	15 27 50.0	-0.3
GEMT	Gemlik	1.64	128	ePN	Pn	15 27 50.8	-0.3
GEMT	Gemlik	1.64	128	ePn	Pn	15 27 50.8	-0.3
SILT	Sile	1.65	100	ePN	Pn	15 27 50.1	-1.2
SILT	Sile	1.65	100	ePn	Pn	15 27 50.1	-1.2
YLV	Yalova	1.68	121	ePN	Pn	15 27 50.9	-0.8
YLV	Yalova	1.68	121	ePn	Pn	15 27 50.9	-0.8
BALY	Balya	1.71	177	eP	Pn	15 27 52.5	+0.4
BALY	Balya	1.71	177	eP	Pn	15 27 52.5	+0.4
PRD	Provadia	1.75	358	iP	Pn	15 27 51.4	-1.2
PRD	Provadia	1.75	358	iP	Pn	15 27 51.4	-1.2
HRT	Hereke	1.76	110	ePN	Pn	15 27 52.2	-0.6
HRT	Hereke	1.76	110	ePn	Pn	15 27 52.2	-0.6
ORLT	Orhaneli	1.76	142	ePN	Pn	15 27 52.9	0.0
ORLT	Orhaneli	1.76	142	ePn	Pn	15 27 52.9	0.0
BALB	Balikesir	1.83	171	ePN	Pn	15 27 53.9	+0.1
BALB	Balikesir	1.83	171	ePn	Pn	15 27 53.9	+0.1
EZN	Ezine	1.85	209	ePN	Pn	15 27 54.1	+0.1
EZN	Ezine	1.85	209	ePn	Pn	15 27 54.1	+0.1
BOZC	Bozcaada	1.94	215	iP	Pn	15 27 55.5	+0.2
ADVT	Abdulvahap	1.98	120	ePN	Pn	15 27 55.6	-0.2
ADVT	Abdulvahap	1.98	120	ePn	Pn	15 27 55.6	-0.2
DURS	Dursunbey	2.00	158	eP	Pn	15 27 56.2	+0.1
DURS	Dursunbey	2.00	158	eP	Pn	15 27 56.2	+0.1
DST	Dursunbey	2.04	155	ePN	Pn	15 27 56.9	+0.3
DST	Dursunbey	2.04	155	ePn	Pn	15 27 56.9	+0.3
CAVI	Cavuskoy	2.18	124	ePN	Pn	15 27 58.3	-0.2
CAVI	Cavuskoy	2.18	124	ePn	Pn	15 27 58.3	-0.2
SPNC	Sapanca-Adapaz	2.26	109	ePN	Pn	15 27 59.3	-0.4
SPNC	Sapanca-Adapaz	2.26	109	ePn	Pn	15 27 59.3	-0.4
PSN	Preselentsi	2.29	13	iP	Pn	15 27 59.9	-0.1
PSN	Preselentsi	2.29	13	iP	Pn	15 27 59.9	-0.1
KAVA	Kavala	2.29	260	P	Pn	15 27 59.5	-0.5
KAVA				S	Sn	15 28 29.0	+0.4
KAVA	Kavala	2.29	260	P	Pn	15 27 59.5	-0.5
KAVA				S	Sn	15 28 29.0	+0.4
LIA	Limnos Island	2.34	229	P	Pn	15 27 59.8	-0.9
LIA	Limnos Island	2.34	229	ePN	Pn	15 27 59.8	-0.9
LIA				eSN	Sn	15 28 28.3	-1.6
LIA	Limnos Island	2.34	229	eP	Pg	15 28 05.6	-0.8
LIA	Limnos Island	2.34	229	P	Pn	15 27 59.8	-0.9
LIA				eSn	Sn	15 28 28.3	-1.6
PRK	Paraskevi	2.39	203	P	Pn	15 28 00.0	-1.4
PRK	Paraskevi	2.39	203	ePB	Pn	15 28 01.8	+0.4
PRK	Paraskevi	2.39	203	eP	Pn	15 28 01.9	+0.5
PRK	Paraskevi	2.39	203	P	Pn	15 28 00.0	-1.4
PRK	Paraskevi	2.39	203	ePb	Pn	15 28 01.8	+0.4
GPA	Golpazari	2.43	118	ePN	Pn	15 28 02.0	-0.1
GPA	Golpazari	2.43	118	ePn	Pn	15 28 02.0	-0.1
GULT	Gulveren	2.51	113	ePN	Pn	15 28 02.9	-0.2
GULT	Gulveren	2.51	113	ePn	Pn	15 28 02.9	-0.2
AKS	Akhisar	2.58	174	ePN	Pn	15 28 04.8	+0.7
AKS	Akhisar	2.58	174	ePn	Pn	15 28 04.8	+0.7
NVR	Nevrokopi	2.73	269	P	Pn	15 28 06.3	+0.1
NVR	Nevrokopi	2.73	269	ePN	Pn	15 28 06.8	+0.6
NVR	Nevrokopi	2.73	269	eP	Pn	15 28 06.6	+0.4
NVR	Nevrokopi	2.73	269	P	Pn	15 28 06.3	+0.1
NVR	Nevrokopi	2.73	269	ePn	Pn	15 28 06.8	+0.6
OUR	Ouranopolis	2.88	248	P	Pn	15 28 07.2	-1.0
OUR	Ouranopolis	2.88	248	P	Pn	15 28 07.2	-1.0
SRS	Serrai	2.96	265	P	Pn	15 28 07.9	-1.3
SRS	Serrai	2.96	265	P	Pn	15 28 07.9	-1.3
MDUB	Mudurnu	2.97	108	ePN	Pn	15 28 09.3	-0.3
MDUB	Mudurnu	2.97	108	ePn	Pn	15 28 09.3	-0.3
KDZE	Karadeniz Ereo	2.98	91	ePN	Pn	15 28 09.0	-0.5
KDZE	Karadeniz Ereo	2.98	91	ePn	Pn	15 28 09.0	-0.5
IZM	Izmir	3.06	183	ePN	Pn	15 28 11.5	+0.9
IZM	Izmir	3.06	183	ePn	Pn	15 28 11.5	+0.9
KULA	Kula-Manisa	3.07	163	ePN	Pn	15 28 11.7	+0.8
KULA	Kula-Manisa	3.07	163	ePn	Pn	15 28 11.7	+0.8
BLCB	Balcova	3.08	187	ePN	Pn	15 28 12.0	+1.1
BLCB	Balcova	3.08	187	ePn	Pn	15 28 12.0	+1.1
TIRR	Tirgusor	3.08	12	⇓iP	Pn	15 28 11.3	+0.4
TIRR	Tirgusor	3.08	12	⇓iP	Pn	15 28 11.3	+0.4
ALT	Altintas	3.12	139	ePN	Pn	15 28 11.9	+0.3
ALT	Altintas	3.12	139	ePn	Pn	15 28 11.9	+0.3
SOH	Sokhos	3.19	260	P	Pn	15 28 11.7	-0.7
SOH	Sokhos	3.19	260	P	Pn	15 28 11.7	-0.7
CHOS	Chios island	3.25	200	ePN	Pn	15 28 13.5	+0.2
CHOS	Chios island	3.25	200	eP	Pn	15 28 13.6	+0.2
CHOS	Chios island	3.25	200	ePn	Pn	15 28 13.5	+0.2
PAIG	Paliouri	3.27	244	P	Pn	15 28 12.7	-0.8
PAIG	Paliouri	3.27	244	P	Pn	15 28 12.7	-0.8
VTS	Vitosha	3.39	291	⇓iP	Pn	15 28 14.5	-0.8
VTS	Vitosha	3.39	291	⇓iP	Pn	15 28 14.5	-0.8
KNT	Kendrikon	3.47	267	P	Pn	15 28 16.0	-0.3
KNT	Kendrikon	3.47	267	P	Pn	15 28 16.0	-0.3
KHL	Karahalli	3.49	153	ePN	Pn	15 28 17.3	+0.6
KHL	Karahalli	3.49	153	ePn	Pn	15 28 17.3	+0.6
SVRH	Sivrihisar-ESK	3.67	122	ePN	Pn	15 28 19.2	+0.1
SVRH	Sivrihisar-ESK	3.67	122	ePn	Pn	15 28 19.2	+0.1
VAY	Valandovo	3.70	270	ePn	Pb	15 28 29.9	+2.4
VAY				eSg	Sg	15 29 21.7	+1.2
VAY	Valandovo	3.70	270	eSg	Sg	15 29 22.1	+1.6
ISR	Istrita	3.73	350	⇑iP	Pn	15 28 20.8	+0.9
ISR	Istrita	3.73	350	⇑iP	Pn	15 28 20.8	+0.9
CFR	Carcaliu	3.75	7	⇑iP	Pn	15 28 20.5	+0.3
CFR	Carcaliu	3.75	7	⇑iP	Pn	15 28 20.5	+0.3
SMG	Samos	3.77	188	eP	Pn	15 28 20.1	-0.3
TLCR		3.86	14	⇑iP	Pn	15 28 23.5	+1.9
TLCR		3.86	14	⇑iP	Pn	15 28 23.5	+1.9
MLR	Muntele Rosu	4.19	345	⇑iP	Pn	15 28 27.6	+1.3
MLR	Muntele Rosu	4.19	345	⇑iP	Pn	15 28 27.6	+1.3
VOIR		4.36	337	⇓iP	Pn	15 28 26.8	-1.8
VOIR		4.36	337	⇓iP	Pn	15 28 26.8	-1.8
BARS	Barje	4.43	290	ePn	Pn	15 28 30.3	+0.8
PLOR	Plostina	4.44	352	⇑iP	Pn	15 28 31.6	+1.9
PLOR	Plostina	4.44	352	⇑iP	Pn	15 28 31.6	+1.9
VRI	Vrincioaia	4.45	353	⇑iP	Pn	15 28 31.3	+1.6
VRI	Vrincioaia	4.45	353	⇑iP	Pn	15 28 31.3	+1.6
APE	Apeiranthos	4.63	200	⇓iP	Pn	15 28 30.2	-2.1
APE	Apeiranthos	4.63	200	⇓iP	Pn	15 28 30.2	-2.1
BOLS	Boljevac	4.72	302	ePn	Pn	15 28 32.7	-0.8
GRUS	Gruza	5.56	298	ePn	Pn	15 28 44.6	-0.3
BZS	Buzias	5.96	316	⇑iP	Pn	15 28 49.1	-1.4
BZS	Buzias	5.96	316	⇑iP	Pn	15 28 49.1	-1.4
DIVS	Divibare	6.12	298	ePn	Pn	15 28 53.0	+0.3
BURAR	Bucovina Array	6.37	346	⇓iP	Pn	15 28 56.6	+0.4
BURAR	Bucovina Array	6.37	346	⇓iP	Pn	15 28 56.6	+0.4

*ISCJB **05** 15:39:57.2±0.8, 36°99N±0°06 × 27°99E±0°04, h26km±7km, Error ellipse: s-maj=10.4km s-min=5.3km az=4.3*
*ISK **05** 15:39:57.4, 37°28N × 27°92E, h6km, MD2.9*
*CSEM **05** 15:39:57.9±0.5, 37°05N × 27°98E, h10km, MD2.9, Error ellipse: s-maj=12.7km s-min=7.1km az=8.0*
*DDA **05** 15:39:58.8, 37°08N × 27°94E, h7km, MD3.0*

ISC 05 15:39:58.2±1.0, 37°11N±0°05 × 27°95E±0°02, h23km±9km, n23, σ1°42/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.27	85	ePG	Pb	15 40 04.3	-0.3
YER				eSG	Sb	15 40 09.6	+0.7
YER	Yerkesik	0.27	85	ePg	Pb	15 40 04.3	-0.3
YER				eSg	Sb	15 40 09.6	+0.7
BDRM	Kayabasi	0.41	264	iP	Pb	15 40 05.8	-1.0
BDRM				iS	Sb	15 40 13.3	+0.6
BDRM	Kayabasi	0.41	264	iP	Pb	15 40 05.8	-1.0
BDRM				iS	Sb	15 40 13.3	+0.6
BODT	Bodrum	0.52	265	ePG	Pb	15 40 07.8	-0.9
BODT				eSG	Sb	15 40 16.2	+0.6
BODT	Bodrum	0.52	265	ePg	Pb	15 40 07.8	-0.9
BODT				eSg	Sb	15 40 16.3	+0.6
AYDN	Tasoluk	0.55	354	iP	Pb	15 40 09.7	+0.4
AYDN				iS	Sn	15 40 18.7	-0.6
AYDN	Tasoluk	0.55	354	iP	Pb	15 40 09.7	+0.4
AYDN				iS	Sn	15 40 18.7	-0.6
TURN	Turunc	0.57	114	eP	Pb	15 40 06.0	-3.6
TURN				iS	Sb	15 40 13.5	-3.8
TURN	Turunc	0.57	114	eP	Pb	15 40 06.0	-3.6
TURN				iS	Sb	15 40 13.5	-3.8
GCAM	G?zelcaml?	0.82	316	eP	Pn	15 40 15.7	+1.3
GCAM	G?zelcaml?	0.82	316	eP	Pn	15 40 15.7	+1.3
FETY	Fethiye	1.02	117	ePN	Pn	15 40 19.4	+2.2
FETY	Fethiye	1.02	117	ePn	Pn	15 40 19.4	+2.2
DNZL	Cakiroluk	1.04	56	iP	Pn	15 40 18.9	+1.3
DNZL	Cakiroluk	1.04	56	iP	Pn	15 40 18.9	+1.3
IZM	Izmir	1.40	337	ePN	Pn	15 40 21.3	-1.0
KULA	Kula-Manisa	1.51	22	ePN	Pn	15 40 23.8	-0.1
KULA	Kula-Manisa	1.51	22	ePn	Pn	15 40 23.8	-0.1
ELL	Elmali	1.61	102	ePN	Pb	15 40 27.8	+0.5
ELL	Elmali	1.61	102	ePn	Pb	15 40 27.8	+0.5
KHL	Karahalli	1.74	45	ePN	Pn	15 40 27.8	+0.7
KHL	Karahalli	1.74	45	ePn	Pn	15 40 27.8	+0.7

*ISCJB **05** 15:49:29.2±0.3, 56°90N±0°05 × 156°38W±0°07, h87km±4km, mb3.9/14, Error ellipse: s-maj=9.4km s-min=3.1km az=145.4*
*IDC **05** 15:49:29.8±2.9, 57°17N × 156°63W, h57km±25km, mb3.5/11, mb1 3.8/14, mb1mx3.6/28, mbtmp3.6/14, ML4.3/3, Error ellipse: s-maj=28.0km s-min=17.5km az=1.0*
*NEIC **05** 15:49:31.9, 56°87N × 156°36W, h40km, mb4.2/2, ML3.8(AEIC), After AEIC.*

ISC 05 15:49:30.2±0.6, 56°98N±0°06 × 156°53W±0°04, h73km±4km, n104, σ1°41/123, mb4.0/14, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANPK	Aniakchak Peak	0.89	262	P	Pn	15 49 48.2	+0.7
ANPK				S	Sn	15 50 01.6	+1.2
ANNW	Aniakchak Nort	0.92	270	P	Pn	15 49 49.3	+1.3
AZAC	Aniakchak	0.94	266	P	Pn	15 49 49.1	+0.9
CHGN	Chignik	1.24	238	P	Pn	15 49 51.8	0.0
KABR	Katmai Barrier	1.43	35	P	Pn	15 49 54.9	+0.5
KABU	Katmai Buttres	1.46	27	P	Pn	15 49 56.1	+1.3
KABU				S	Sn	15 50 14.0	+0.7
KCE	Katmai Mt Cerb	1.46	29	P	Pn	15 49 56.1	+1.3
KAKN	Katmai Knife C	1.54	30	P	Pn	15 49 56.9	+1.1
VNHG	Veniaminof 1	1.64	244	P	Pn	15 49 58.8	+1.6
VNSG	Veniaminof 6	1.65	240	P	Pn	15 49 58.3	+1.0
VNSG				S	Sn	15 50 18.4	+0.6
KARR	Katmai Rainbow	1.81	32	P	Pn	15 50 00.4	+1.0
KAPH	Katmai Pasha	2.00	35	P	Pn	15 50 03.2	+1.2
KDAK	Kodiak Island	2.29	68	P	Pn	15 50 05.6	-0.1
KDAK				P		15 50 06.5	
KDAK				S	Sn	15 50 32.8	-0.1
KDAK	Kodiak Island	2.29	68	P	Pn	15 50 05.6	-0.1
	34nm,0.3s,baz=208,slow=2.4,SNR=449						
KDAK				S	Sn	15 50 32.1	-0.7
	77nm,0.3s,baz=302,slow=22,SNR=8.2						
FOPK	Fourpeaked Vol	2.42	41	P	Pn	15 50 08.4	+0.8
SDPT	Sand Point	2.74	235	P	Pn	15 50 12.6	+0.7
SDPT				S	Sn	15 50 44.8	+0.9
AUW	Augustine West	2.90	33	P	Pn	15 50 16.0	+2.1
AUNW	Augustine NWes	2.90	33	P	Pn	15 50 16.6	+2.6
OPT	Oil Point	3.20	32	P	Pn	15 50 17.9	+1.8
PVV	Pavlof Volcano	3.35	244	P	Pn	15 50 21.5	+1.3
PS4A	Pavlof South-4	3.40	243	P	Pn	15 50 22.1	+1.4
ILW	Iliamna West	3.57	29	P	Pn	15 50 25.0	+1.7
INE	Iliamna NE	3.59	29	P	Pn	15 50 25.7	+2.2
DTNA	Dutton South F	3.69	243	P	Pn	15 50 25.8	+0.9
DT1	Dutton Round H	3.73	242	P	Pn	15 50 26.4	+1.1
DRIA	Deer Island	3.80	240	P	Pn	15 50 26.8	+0.5
RSO	Redoubt South	4.01	28	P	Pn	15 50 31.5	+2.2
RDN	Redoubt North	4.05	27	P	Pn	15 50 32.6	+2.8
NCT	North Crescent	4.05	26	P	Pn	15 50 31.9	+2.0
BRLK	Bradley Lake	4.08	44	P	Pn	15 50 30.2	+0.2
DFR	Drift River	4.14	27	P	Pn	15 50 33.2	+2.2
CKL	Chakachamna La	4.75	25	P	Pn	15 50 41.7	+2.4
SPNW	Spurr Northwes	4.83	23	P	Pn	15 50 41.7	+1.4
SLKM	Skilak Lake	4.83	40	P	Pn	15 50 41.1	+0.7
SEW	Seward	4.86	47	P	Pn	15 50 40.4	-0.3
STLK	Strandline Lak	5.14	26	P	Pn	15 50 46.5	+2.0
FIB	Fire Island	5.33	35	P	Pn	15 50 49.4	+2.3
SUA	Susitna One	5.39	31	P	Pn	15 50 49.3	+1.2
RC01	Rabbit Creek A	5.41	38	P	Pn	15 50 48.9	+0.7
SKT	Skwentna	5.63	25	P	Pn	15 50 52.6	+1.5
TT01	Tatalina	5.96	2	P	Pn	15 50 57.2	+1.6
PMR	Palmer	5.98	36	P	Pn	15 50 56.7	+0.7
PPLA	Purkeypile	6.33	18	P	Pn	15 51 03.9	+3.0
SML	Sawmill	6.40	37	ePn	Pn	15 51 01.4	-0.4
	9.9nm,0.8s						
UNV	Unalaska Valle	6.49	245	P	Pn	15 51 03.7	+0.8
EYAK	Cordova Ski Ar	6.65	53	P	Pn	15 51 04.9	-0.2
VLZ	Valdez	6.71	47	P	Pn	15 51 05.8	0.0
SCM	Sheep Creek Mo	6.76	40	P	Pn	15 51 07.

comp=Z,0.2nm,0.5s,baz=43,slow=6.9,SNR=3.6
AKASG Malin Array Be 72.58 356 P **P** **16 00 48.7 -0.3**
AKASG Malin Array Be 72.58 356 P **P** **16 00 48.7 -0.3**
comp=Z,0.5nm,0.3s,baz=5.4,slow=5.6,SNR=4.8
GERES GERESS Array B 74.23 7 P **P** **16 00 58.8 -0.1**
GERES GERESS Array B 74.23 7 P **P** **16 00 58.8 -0.1**
comp=Z,0.3nm,0.5s,baz=20,slow=4.3,SNR=3.7
CMAR Chiang Mai Arr 82.36 292 P **P** **16 01 43.5 -0.6**
CMAR Chiang Mai Arr 82.36 292 P **P** **16 01 43.5 -0.6**
comp=Z,0.2nm,0.5s,baz=21,slow=5.5,SNR=4.7

PRE 05 15:58:05.3±0.6, **27°01S**×**26°76E, h2**km, **ML2.0, South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BFSD	**Buffelsfontein**	**0.14**	**11**	*e*P	Pg	15 58 08.4	+0.1
BFSD				*e*S	Sg	15 58 10.1	-0.3
BFSD				AML	AML	15 58 14.7	
	comp=Z,396nm,0.6s						
ERPM	**east rand prop**	**1.48**	**64**	*e*P	Pg	15 58 34.4	+0.4
ERPM				*e*S	Sg	15 58 55.6	+2.1
ERPM				AML	AML	15 58 58.9	
	comp=Z,9.1nm,0.2s						
BOSA	**Boshof**	**2.08**	**219**	*e*P	Pn	15 58 41.9	+0.5
BOSA				*e*S	Sn	15 59 08.8	+0.8
BOSA				AML	AML	15 59 15.3	
	comp=Z,4.0nm,0.2s						
LBTB	**Lobatse**	**2.24**	**332**	*e*P	Pn	15 58 44.6	+1.0
LBTB				*e*S	Sn	15 59 12.2	+0.3
LBTB				AML	AML	15 59 14.6	
	comp=Z,16nm,0.8s						

PRE 05 15:59:20.5±1.2, **27°01S**×**26°69E, h2**km, **ML2.0, South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BFSD	**Buffelsfontein**	**0.17**	**30**	*e*P	Pg	15 59 24.6	+0.7
BFSD				*e*S	Sg	15 59 26.1	-0.2
BFSD				AML	AML	15 59 31.3	
	comp=Z,225nm,0.4s						
ERPM	**east rand prop**	**1.54**	**65**	*e*P	Pg	15 59 50.9	+0.7
ERPM				*e*S	Sg	16 00 11.3	+0.9
ERPM				AML	AML	16 00 18.8	
	comp=Z,11nm,0.2s						
BOSA	**Boshof**	**2.04**	**218**	*e*P	Pn	15 59 57.0	+0.9
BOSA				*e*S	Sn	16 00 22.9	+0.5
BOSA				AML	AML	16 00 24.7	
	comp=Z,13nm,0.4s						
LBTB	**Lobatse**	**2.22**	**333**	*e*P	Pn	15 59 58.8	+0.3
LBTB				*e*S	Sn	16 00 27.1	+0.5
LBTB				AML	AML	16 00 42.5	
	comp=Z,6.5nm,0.6s						

DJA ***05*** *16:01:55, 0.34S×98.01E, h211km, MLv3.4/4*
IDC 05 16:01:51.8±4.3, **1.01S**×**97.71E, h0**km, **mb3.4**/4, **mb1 3.6**/4, **mb1mx3.4**/21, **mbtmp3.4**/4, **Error ellipse: s-maj=169.5km s-min=24.6km az=58.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.46**	**120**	P	P	16 09 31.8	-0.7
	0.2nm,0.6s,baz=306,slow=9.4,SNR=2.7						
ASAR	**Alice Springs**	**41.68**	**126**	P	P	16 09 42.9	+0.3
	0.5nm,0.9s,baz=295,slow=8.0,SNR=4.3						
SONM	**Songino Array**	**49.23**	**8**	P	P	16 10 43.6	+1.5
	0.5nm,0.4s,baz=190,slow=10,SNR=5.5						
MKAR	**Makanchi Array**	**49.49**	**346**	P	P	16 10 42.8	-1.2
	0.5nm,0.5s,baz=153,slow=8.8,SNR=9.7						

ISCJB ***05*** *16:02:32.7±0.6, 40.88N±0.02×10.11E±0.02, h20km±5km, mb4.1/30, Error ellipse: s-maj=3.6km s-min=2.3km az=19.0*
IDC ***05*** *16:02:33.2±0.7, 40.97N×10.02E, h0km, mb3.9/15, mb1 4.1/25, mb1mx4.0/36, mbtmp3.9/25, ML3.9/9, MS3.1/3, Ms1 3.1/3, ms1mx2.8/41, Error ellipse: s-maj=14.2km s-min=11.0km az=115.0*
CSEM ***05*** *16:02:33.6±0.2, 40.71N×10.07E, h30km, mb4.3/12, Error ellipse: s-maj=6.0km s-min=2.2km az=18.0*
ROM ***05*** *16:02:34.9±0.1, 40.86N×10.20E, h43km±1km, Ml3.6/55, Error ellipse: s-maj=1.5km s-min=1.1km az=21.0*
MOS ***05*** *16:02:34.9±1.0, 41.02N×10.00E, h22km, mb4.4/15, Error ellipse: s-maj=6.1km s-min=3.3km az=100.3*
NEIC ***05*** *16:02:34.3±1.3, 40.87N×10.01E, h13km±9km, mb4.3/12, ML4.1(LDG), ML4.1(STR), Error ellipse: s-maj=4.5km s-min=3.5km az=185.0*
LDG ***05*** *16:02:34.8±0.1, 40.77N×10.22E, h30km, Md4.0/3, Ml4.1/22, Error ellipse: s-maj=4.1km s-min=2.4km az=3.0*
GEN ***05*** *16:02:35.9, 41.12N×10.19E, h4km, ML4.1*
STR ***05*** *16:02:36.9±0.4, 40.90N×9.98E, h20km, Ml4.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
PRU ***05*** *16:02:42.4, 41.59N×10.35E, h0km, M4.3*
ISC 05 16:02:34.9±1.3, **40.92N**±0.04×**10.16E**±0.03, **h14**km±8km, **n531**, σ1**s73**/574, **mb4.1**/30, **35C-35D, Tyrrhenian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGI	**Dorgali Grotta**	**0.74**	**215**	⇓*i*Pg	**Pg**	**16 02 48.9**	**-0.3**
DGI				Sg	**Sg**	**16 02 59.3**	**+0.4**
	6µm,0.5s						
DGI	**Dorgali Grotta**	**0.74**	**215**	⇓*i*Pg	**Pg**	**16 02 48.9**	**-0.3**
DGI				Sg	**Sg**	**16 02 59.3**	**+0.4**
	6µm,0.5s						
OSPF	**L'Ospedale**	**1.04**	**316**	Pg	**Pb**	**16 02 54.4**	**-0.3**
OSPF				Sg	**Sn**	**16 03 09.2**	**-0.4**
OSPF	**L'Ospedale**	**1.04**	**316**	Pg	**Pb**	**16 02 54.8**	**+0.1**
OSPF				Sg	**Sn**	**16 03 09.2**	**-0.4**
OSPF	**L'Ospedale**	**1.04**	**316**	Pg	**Pb**	**16 02 54.4**	**-0.3**
OSPF				Sg	**Sn**	**16 03 09.2**	**-0.4**
MAON	**Monte Argentar**	**1.67**	**25**	Pg	**Pn**	**16 03 02.3**	**-1.4**
MAON				Sg	**Sn**	**16 03 21.5**	**-3.5**
	1µm,0.5s						
MAON	**Monte Argentar**	**1.67**	**25**	Pg	**Pn**	**16 03 02.3**	**-1.4**
MAON				Sg	**Sn**	**16 03 21.5**	**-3.5**
	1µm,0.5s						
TOLF	**Tolfa**	**1.79**	**50**	Pn	**Pn**	**16 03 03.6**	**-1.8**
TOLF				Sn	**Sn**	**16 03 23.9**	**-4.1**
	3µm,1.0s						
TOLF	**Tolfa**	**1.79**	**50**	Pn	**Pn**	**16 03 03.6**	**-1.8**
TOLF				Sn	**Sn**	**16 03 23.9**	**-4.1**
	3µm,1.0s						
PGF	**Pioggiola**	**1.84**	**332**	*e*Pn	**Pn**	**16 03 05.6**	**-0.6**
PGF				*e*Sn	**Sn**	**16 03 28.3**	**-1.1**
	1µm,0.3s						
PGF	**Pioggiola**	**1.84**	**332**	*e*P	**Pn**	**16 03 05.6**	**-0.6**
PGF				*e*		16 03 28.3	
PGF	**Pioggiola**	**1.84**	**332**	*e*Pn	**Pn**	**16 03 05.6**	**-0.6**
PGF				*e*Sn	**Sn**	**16 03 28.3**	**-1.1**
PGF	**Pioggiola**	**1.84**	**332**	*e*Pn	**Pn**	**16 03 05.6**	**-0.6**
PGF				*e*Sn	**Sn**	**16 03 28.3**	**-1.1**
	555nm,0.3s						
MA9	**Marino**	**2.06**	**65**	Pg	**Pn**	**16 03 07.6**	**-1.5**
	669nm,0.5s						
MA9	**Marino**	**2.06**	**65**	Pg	**Pn**	**16 03 07.6**	**-1.5**
	669nm,0.5s						
LATE	**Laterza**	**2.09**	**35**	Pn	**Pn**	**16 03 08.5**	**-1.0**
	236nm,1.2s						
LATE	**Laterza**	**2.09**	**35**	Pn	**Pn**	**16 03 08.5**	**-1.0**
	236nm,1.2s						
RDP	**Rocca di Papa**	**2.10**	**66**	Pn	**Pn**	**16 03 07.7**	**-1.9**
	937nm,0.8s						
RDP	**Rocca di Papa**	**2.10**	**66**	Pn	**Pn**	**16 03 07.7**	**-1.9**
	937nm,0.8s						
MTCE	**Montecelio**	**2.23**	**60**	Pn	**Pn**	**16 03 09.7**	**-1.7**
	345nm,0.7s						
MTCE	**Montecelio**	**2.23**	**60**	Pn	**Pn**	**16 03 09.7**	**-1.7**
	345nm,0.7s						
GRFL	**Gerfalco**	**2.31**	**15**	Pn	**Pn**	**16 03 11.0**	**-1.5**
	78nm,0.3s						
GRFL	**Gerfalco**	**2.31**	**15**	Pn	**Pn**	**16 03 11.0**	**-1.5**
	78nm,0.3s						
SACS	**San Casciano d**	**2.33**	**34**	Pn	**Pn**	**16 03 11.8**	**-1.0**
	676nm,1.2s						
CERT	**Cerreto**	**2.35**	**63**	Pn	**Pn**	**16 03 11.1**	**-2.1**
	415nm,0.8s						
CERT	**Cerreto**	**2.35**	**63**	Pn	**Pn**	**16 03 11.1**	**-2.1**
	415nm,0.8s						
MNS	**Montasola**	**2.39**	**51**	Pn	**Pn**	**16 03 12.4**	**-1.2**
	389nm,0.9s						
MNS	**Montasola**	**2.39**	**51**	Pn	**Pn**	**16 03 12.4**	**-1.2**
	389nm,0.9s						
MGAB	**Montegabbione**	**2.46**	**36**	Pn	**Pn**	**16 03 13.9**	**-0.8**
	275nm,0.7s						
MGAB	**Montegabbione**	**2.46**	**36**	Pn	**Pn**	**16 03 13.9**	**-0.8**
	275nm,0.7s						
VENT	**Ventotene**	**2.48**	**92**	Pn	Pn	16 03 11.6	-3.2
	444nm,1.3s						
VENT	**Ventotene**	**2.48**	**92**	Pn	Pn	16 03 11.6	-3.2
	444nm,1.3s						
GROG	**Isola di Gorgo**	**2.51**	**356**	Pn	**Pn**	**16 03 14.1**	**-1.1**
GROG	**Isola di Gorgo**	**2.51**	**356**	Pn	**Pn**	**16 03 14.1**	**-1.1**
GUAR	**Guarcino**	**2.53**	**69**	Pn	**Pn**	**16 03 13.3**	**-2.2**
	277nm,0.9s						
GUAR	**Guarcino**	**2.53**	**69**	Pn	**Pn**	**16 03 13.3**	**-2.2**
	277nm,0.9s						
FIAM	**Fiamignano**	**2.59**	**58**	Pn	**Pn**	**16 03 15.3**	**-1.2**
	297nm,0.7s						
FIAM	**Fiamignano**	**2.59**	**58**	Pn	**Pn**	**16 03 15.3**	**-1.2**
	297nm,0.7s						
PTQR	**Pietraquaria**	**2.67**	**65**	Pn	**Pn**	**16 03 15.8**	**-1.7**
	27nm,0.4s						
PTQR	**Pietraquaria**	**2.67**	**65**	Pn	**Pn**	**16 03 15.8**	**-1.7**
	27nm,0.4s						
CSNT	**Castellina Chi**	**2.68**	**18**	Pn	**Pn**	**16 03 16.9**	**-0.8**
	192nm,1.0s						
CSNT	**Castellina Chi**	**2.68**	**18**	Pn	**Pn**	**16 03 16.9**	**-0.8**
	192nm,1.0s						
LNSS	**Leonessa**	**2.73**	**51**	Pn	**Pn**	**16 03 18.0**	**-0.4**
	758nm,1.0s						
LNSS	**Leonessa**	**2.73**	**51**	Pn	**Pn**	**16 03 18.0**	**-0.4**
	758nm,1.0s						
VVLD	**Villa Vallelon**	**2.77**	**69**	Pn	**Pn**	**16 03 16.9**	**-2.0**
	319nm,0.9s						
VVLD	**Villa Vallelon**	**2.77**	**69**	Pn	**Pn**	**16 03 16.9**	**-2.0**
	319nm,0.9s						
POFI	**Posta Fibreno**	**2.79**	**72**	Pn	**Pn**	**16 03 17.1**	**-2.1**
	321nm,1.6s						
POFI	**Posta Fibreno**	**2.79**	**72**	Pn	**Pn**	**16 03 17.1**	**-2.1**
	321nm,1.6s						
PII	**Pisa**	**2.81**	**5**	Pn	**Pn**	**16 03 18.8**	**-0.6**
	79nm,0.6s						
PII	**Pisa**	**2.81**	**5**	Pn	**Pn**	**16 03 18.8**	**-0.6**
	79nm,0.6s						
AQU	**L'Aquila**	**2.82**	**58**	Pn	**Pn**	**16 03 20.2**	**+0.6**
	658nm,1.3s						
AQU	**L'Aquila**	**2.82**	**58**	*e*Pn	**Pn**	**16 03 19.7**	**+0.1**
AQU	**L'Aquila**	**2.82**	**58**	*e*P	**Pn**	**16 03 19.7**	**+0.1**
AQU	**L'Aquila**	**2.82**	**58**	Pn	**Pn**	**16 03 20.2**	**+0.6**
	658nm,1.3s						
MODR	**Mondragone**	**2.82**	**84**	Pn	**Pn**	**16 03 17.1**	**-2.4**
	43nm,0.4s						
MODR	**Mondragone**	**2.82**	**84**	Pn	**Pn**	**16 03 17.1**	**-2.4**
	43nm,0.4s						
SDI	**San Donato**	**2.86**	**73**	Pn	**Pn**	**16 03 18.1**	**-2.0**
	94nm,0.3s						
SDI	**San Donato**	**2.86**	**73**	Pn	**Pn**	**16 03 18.1**	**-2.0**
	94nm,0.3s						
FAGN	**Fagnano**	**2.90**	**61**	Pn	**Pn**	**16 03 21.0**	**+0.4**
	370nm,0.6s						
FAGN	**Fagnano**	**2.90**	**61**	Pn	**Pn**	**16 03 21.0**	**+0.4**
	370nm,0.6s						
RFI	**Roccamonfina**	**2.91**	**81**	Pn	**Pn**	**16 03 19.2**	**-1.7**
	16nm,0.3s						
RFI	**Roccamonfina**	**2.91**	**81**	Pn	**Pn**	**16 03 19.2**	**-1.7**
	16nm,0.3s						
CAMP	**Campotosto**	**2.92**	**55**	Pn	**Pn**	**16 03 20.8**	**-0.2**
	44nm,1.0s						
CAMP	**Campotosto**	**2.92**	**55**	Pn	**Pn**	**16 03 20.8**	**-0.2**
	44nm,1.0s						
NRCA	**Norcia**	**2.92**	**48**	Pn	**Pn**	**16 03 20.9**	**0.0**
	144nm,1.1s						
NRCA	**Norcia**	**2.92**	**48**	Pn	**Pn**	**16 03 20.9**	**0.0**
	144nm,1.1s						
CESI	**CESI - Serrava**	**2.92**	**44**	Pn	**Pn**	**16 03 20.8**	**-0.1**
	54nm,0.6s						
CESI	**CESI - Serrava**	**2.92**	**44**	Pn	**Pn**	**16 03 20.8**	**-0.1**
	54nm,0.6s						
MURB	**Monte Urbino**	**2.93**	**36**	Pn	**Pn**	**16 03 21.6**	**+0.5**
	265nm,0.3s						
MURB	**Monte Urbino**	**2.93**	**36**	Pn	**Pn**	**16 03 21.6**	**+0.5**
	265nm,0.3s						
CRMI	**Carmignano**	**2.93**	**12**	Pn	**Pn**	**16 03 21.0**	**0.0**
CRMI	**Carmignano**	**2.93**	**12**	Pn	**Pn**	**16 03 21.0**	**0.0**
CERA	**Filignano**	**2.98**	**76**	Pn	**Pn**	**16 03 20.4**	**-1.4**
	279nm,0.9s						
CERA	**Filignano**	**2.98**	**76**	Pn	**Pn**	**16 03 20.4**	**-1.4**
	279nm,0.9s						
MAIM	**Mastiano**	**3.00**	**5**	Pn	**Pn**	**16 03 21.1**	**-0.9**
MAIM	**Mastiano**	**3.00**	**5**	P	**Pn**	**16 03 20.3**	**-1.7**
MAIM	**Mastiano**	**3.00**	**5**	Pn	**Pn**	**16 03 21.1**	**-0.9**
INTR	**Introdacqua**	**3.02**	**68**	Pn	**Pn**	**16 03 21.3**	**-1.0**
	285nm,1.0s						
INTR	**Introdacqua**	**3.02**	**68**	Pn	**Pn**	**16 03 21.3**	**-1.0**
	285nm,1.0s						
TERO	**Teramo**	**3.08**	**55**	Pn	**Pn**	**16 03 23.2**	**0.0**
	351nm,1.3s						
TERO	**Teramo**	**3.08**	**55**	Pn	**Pn**	**16 03 23.2**	**0.0**
	351nm,1.3s						
RNI2	**Rionero Sannit**	**3.10**	**74**	Pn	**Pn**	**16 03 22.1**	**-1.4**
	137nm,0.3s						
RNI2	**Rionero Sannit**	**3.10**	**74**	Pn	**Pn**	**16 03 22.1**	**-1.4**
	137nm,0.3s						
CRDM	**Cardoso**	**3.11**	**4**	P	Pn	**16 03 22.0**	**-1.5**
VAGA	**Valle Agricola**	**3.11**	**80**	Pn	**Pn**	**16 03 21.8**	**-1.8**
	116nm,0.4s						
VAGA	**Valle Agricola**	**3.11**	**80**	Pn	**Pn**	**16 03 21.8**	**-1.8**
	116nm,0.4s						
ASQU	**Asqua**	**3.12**	**22**	Pn	**Pn**	**16 03 24.1**	**+0.4**
ASQU	**Asqua**	**3.12**	**22**	Pn	**Pn**	**16 03 24.1**	**+0.4**
SNTG	**Esanatoglia**	**3.12**	**41**	Pn	**Pn**	**16 03 23.5**	**-0.1**
	40nm,0.4s						
SNTG	**Esanatoglia**	**3.12**	**41**	Pn	**Pn**	**16 03 23.5**	**-0.1**
	40nm,0.4s						
VCEL	**Villa Celiera**	**3.12**	**61**	Pn	**Pn**	**16 03 24.2**	**+0.4**
	307nm,1.0s						
VCEL	**Villa Celiera**	**3.12**	**61**	Pn	**Pn**	**16 03 24.2**	**+0.4**
	307nm,1.0s						
PARC	**Parchiule**	**3.13**	**29**	Pn	**Pn**	**16 03 24.5**	**+0.7**
PARC	**Parchiule**	**3.13**	**29**	Pn	**Pn**	**16 03 24.5**	**+0.7**
PIEI	**Pieia**	**3.15**	**33**	Pn	**Pn**	**16 03 25.0**	**+0.9**
PIEI	**Pieia**	**3.15**	**33**	Pn	**Pn**	**16 03 25.0**	**+0.9**
BDI	**Bagni Di Lucca**	**3.15**	**6**	Pn	**Pn**	**16 03 23.6**	**-0.6**
	96nm,0.8s						
BDI	**Bagni Di Lucca**	**3.15**	**6**	Pn	**Pn**	**16 03 23.6**	**-0.6**
	96nm,0.8s						
VMG	**Vicchio**	**3.21**	**18**	Pn	**Pn**	**16 03 25.7**	**+0.9**
	42nm,0.5s						
VMG	**Vicchio**	**3.21**	**18**	Pn	**Pn**	**16 03 25.7**	**+0.9**
	42nm,0.5s						
SGG	**Gregorio Mates**	**3.22**	**80**	Pn	**Pn**	**16 03 23.2**	**-1.9**
	225nm,0.6s						
SGG	**Gregorio Mates**	**3.22**	**80**	Pn	**Pn**	**16 03 23.2**	**-1.9**
	225nm,0.6s						
LPEL	**Lama dei Pelig**	**3.22**	**68**	Pn	**Pn**	**16 03 24.7**	**-0.4**
	109nm,0.8s						
LPEL	**Lama dei Pelig**	**3.22**	**68**	Pn	**Pn**	**16 03 24.7**	**-0.4**
	109nm,0.8s						
SFI	**Santa Sofia**	**3.23**	**22**	Pn	**Pn**	**16 03 26.4**	**+1.2**
SFI	**Santa Sofia**	**3.23**	**22**	Pn	**Pn**	**16 03 26.4**	**+1.2**
VLC	**Villacollemand**	**3.24**	**3**	*e*Pn	**Pn**	**16 03 24.7**	**-0.6**
VLC	**Villacollemand**	**3.24**	**3**	*e*Pn	**Pn**	**16 03 24.7**	**-0.6**
ARVD	**Arcevia**	**3.30**	**38**	Pn	**Pn**	**16 03 27.4**	**+1.3**
ARVD	**Arcevia**	**3.30**	**38**	Pn	**Pn**	**16 03 27.4**	**+1.3**
PTRJ	**Pietraroja**	**3.33**	**81**	Pn	**Pn**	**16 03 24.7**	**-1.9**
	388nm,0.7s						
PTRJ	**Pietraroja**	**3.33**	**81**	Pn	**Pn**	**16 03 24.7**	**-1.9**
	388nm,0.7s						
CING	**Cingoli**	**3.33**	**42**	Pn	**Pn**	**16 03 27.5**	**+0.9**
CING	**Cingoli**	**3.33**	**42**	Pn	**Pn**	**16 03 27.5**	**+0.9**
FSSB	**Fossombrone**	**3.38**	**34**	Pn	**Pn**	**16 03 28.5**	**+1.3**
FSSB	**Fossombrone**	**3.38**	**34**	Pn	**Pn**	**16 03 28.5**	**+1.3**
BSSO	**Busso**	**3.40**	**78**	Pn	**Pn**	**16 03 26.5**	**-1.1**
	285nm,1.3s						
BSSO	**Busso**	**3.40**	**78**	Pn	**Pn**	**16 03 26.5**	**-1.1**
	285nm,1.3s						
TRIV	**Trivento**	**3.41**	**74**	Pn	**Pn**	**16 03 27.2**	**-0.5**
	107nm,0.6s						
TRIV	**Trivento**	**3.41**	**74**	Pn	**Pn**	**16 03 27.2**	**-0.5**
	107nm,0.6s						
IMI	**Imperia**	**3.43**	**331**	Pn	**Pn**	**16 03 26.2**	**-1.7**
	222nm,0.5s						
IMI	**Imperia**	**3.43**	**331**	P	**Pn**	**16 03 25.9**	**-2.0**
IMI	**Imperia**	**3.43**	**331**	Pn	**Pn**	**16 03 26.2**	**-1.7**
	222nm,0.5s						
GSCL	**Gusciola**	**3.44**	**5**	Pn	**Pn**	**16 03 28.2**	**+0.1**
	73nm,1.0s						
GSCL	**Gusciola**	**3.44**	**5**	Pn	**Pn**	**16 03 28.2**	**+0.1**
	73nm,1.0s						
NEGI	**Seborga**	**3.44**	**329**	P	**Pn**	**16 03 26.2**	**-1.9**
REVF	**Revere**	**3.50**	**325**	P	**Pn**	**16 03 27.1**	**-1.8**
REVF	**Revere**	**3.50**	**325**	Pn	**Pn**	**16 03 27.1**	**-1.8**
REVF	**Revere**	**3.50**	**325**	Pn	**Pn**	**16 03 27.1**	**-1.8**
REVF	**Revere**	**3.50**	**325**	Pn	**Pn**	**16 03 27.1**	**-1.8**
SC2M	**Scurtabo**	**3.51**	**353**	Pn	**Pn**	**16 03 28.3**	**-0.8**
SC2M	**Scurtabo**	**3.51**	**353**	P	**Pn**	**16 03 27.5**	**-1.6**
SC2M	**Scurtabo**	**3.51**	**353**	Pn	**Pn**	**16 03 28.3**	**-0.8**
RORO	**Rocca Rossa**	**3.54**	**335**	⇓*i*Pn	**Pn**	**16 03 28.1**	**-1.4**
	73nm,0.5s						
RORO	**Rocca Rossa**	**3.54**	**335**	P	**Pn**	**16 03 27.5**	**-2.0**
RORO	**Rocca Rossa**	**3.54**	**335**	⇓*i*Pn	**Pn**	**16 03 28.1**	**-1.4**
	73nm,0.5s						
SBF	**Sospel**	**3.56**	**326**	*e*Pn	**Pn**	**16 03 28.6**	**-1.2**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**16 04 08.2**	**-3.6**
	907nm,0.5s						
SBF	**Sospel**	**3.56**	**326**	*e*P	**Pn**	**16 03 28.6**	**-1.2**
SBF				*e*		16 04 08.2	
SBF	**Sospel**	**3.56**	**326**	*e*Pn	**Pn**	**16 03 28.6**	**-1.2**
SBF				*e*Sn	**Sn**	**16 04 08.2**	**-3.6**
SBF	**Sospel**	**3.56**	**326**	*e*Pn	**Pn**	**16 03 28.6**	**-1.2**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**16 04 08.2**	**-3.6**
	454nm,0.5s						
GRAM	**Graiana**	**3.57**	**359**	P	**Pn**	**16 03 28.4**	**-1.5**
SAOF	**Saorge**	**3.62**	**329**	P	**Pn**	**16 03 29.1**	**-1.4**
SAOF	**Saorge**	**3.62**	**329**	Pn	**Pn**	**16 03 29.1**	**-1.4**
SAOF	**Saorge**	**3.62**	**329**	Pn	**Pn**	**16 03 29.1**	**-1.4**
SAOF	**Saorge**	**3.62**	**329**	Pn	**Pn**	**16 03 29.1**	**-1.4**
LMR	**La Mourre**	**3.63**	**313**	*e*Pn	**Pn**	**16 03 29.1**	**-1.6**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**16 04 09.7**	**-3.6**
	340nm,0.8s						
LMR	**La Mourre**	**3.63**	**313**	*e*P	**Pn**	**16 03 29.1**	**-1.6**
LMR				*e*		16 04 09.7	
LMR	**La Mourre**	**3.63**	**313**	*e*Pn	**Pn**	**16 03 29.1**	**-1.6**
LMR				*e*Sn	**Sn**	**16 04 09.7**	**-3.6**
LMR	**La Mourre**	**3.63**	**313**	*e*Pn	**Pn**	**16 03 29.1**	**-1.6**
	SNR=1.0						
LMR				*e*Sn	**Sn**	**16 04 09.7**	**-3.6**
	170nm,0.8s						
CIGN	**Sant'Elia a Pi**	**3.65**	**77**	Pn	**Pn**	**16 03 30.4**	**-0.5**
	1µm,3.9s						
CIGN	**Sant'Elia a Pi**	**3.65**	**77**	Pn	**Pn**	**16 03 30.4**	**-0.5**
	1µm,3.9s						
AUTN	**L'Aution**	**3.68**	**328**	P	**Pn**	**16 03 30.2**	**-1.3**
AUTN	**L'Aution**	**3.68**	**328**	Pn	**Pn**	**16 03 30.2**	**-1.3**
AUTN	**L'Aution**	**3.68**	**328**	Pn	**Pn**	**16 03 30.2**	**-1.3**
AUTN	**L'Aution**	**3.68**	**328**	Pn	**Pn**	**16 03 30.2**	**-1.3**
MVIF	**Mont Vial**	**3.71**	**324**	P	**Pn**	**16 03 30.7**	**-1.3**
MVIF	**Mont Vial**	**3.71**	**324**	Pn	**Pn**	**16 03 30.7**	**-1.3**
MVIF	**Mont Vial**	**3.71**	**324**	Pn	**Pn**	**16 03 30.7**	**-1.3**
MVIF	**Mont Vial**	**3.71**	**324**	Pn	**Pn**	**16 03 30.7**	**-1.3**
CALN	**Calern**	**3.73**	**320**	P	**Pn**	**16 03 30.9**	**-1.2**
CALN	**Calern**	**3.73**	**320**	Pn	**Pn**	**16 03 30.9**	**-1.2**
CALN	**Calern**	**3.73**	**320**	Pn	**Pn**	**16 03 30.9**	**-1.2**
CALN	**Calern**	**3.73**	**320**	Pn	**Pn**	**16 03 30.9**	**-1.2**
TOUF	**Mont Tournerai**	**3.77**	**326**	P	**Pn**	**16 03 31.4**	**-1.3**
TOUF	**Mont Tournerai**	**3.77**	**326**	Pn	**Pn**	**16 03 31.4**	**-1.3**
TOUF	**Mont Tournerai**	**3.77**	**326**	Pn	**Pn**	**16 03 31.4**	**-1.3**
TOUF	**Mont Tournerai**	**3.77**	**326**	Pn	**Pn**	**16 03 31.4**	**-1.3**
MCRV	**Calabrutti - M**	**3.80**	**90**	Pn	**Pn**	**16 03 30.6**	**-2.5**
	34nm,0.4s						
MCRV	**Calabrutti - M**	**3.80**	**90**	Pn	**Pn**	**16 03 30.6**	**-2.5**
	34nm,0.4s						
PCP	**Piancastagn**	**3.81**	**342**	P	**Pn**	**16 03 32.0**	**-1.2**
FG2	**Serracapriola**	**3.86**	**75**	Pn	**Pn**	**16 03 33.1**	**-0.8**
	238nm,0.2s						
FG2	**Serracapriola**	**3.86**	**75**	Pn	**Pn**	**16 03 33.1**	**-0.8**
	238nm,0.2s						
STV	**Sant Anna di V**	**3.93**	**329**	⇑*i*Pn	**Pn**	**16 03 34.2**	**-0.6**
STV	**Sant Anna di V**	**3.93**	**329**	P	**Pn**	**16 03 33.8**	**-1.0**
STV	**Sant Anna di V**	**3.93**	**329**	⇑*i*Pn	**Pn**	**16 03 34.2**	**-0.6**
CDRU	**Civita di Ruta**	**3.93**	**95**	Pn	Pn	16 03 31.6	-3.3
	29nm,0.9s						
CDRU	**Civita di Ruta**	**3.93**	**95**	Pn	Pn	16 03 31.6	-3.3
	29nm,0.9s						
CMPR	**Campora**	**3.96**	**97**	Pn	**Pn**	**16 03 32.4**	**-2.8**
	29nm,0.4s						
CMPR	**Campora**	**3.96**	**97**	Pn	**Pn**	**16 03 32.4**	**-2

BNI eSn Sn 16 04 42.1 -1.6
BNI Bardonecchia 4.85 329 Pn Pn 16 03 48.1 +0.5
90nm,0.7s
BNI eS Sn 16 04 42.1 -1.6
TRAV Traversella 4.92 340 P Pn 16 03 46.9 -1.5
CARO Carolei 4.94 108 Pn Pn 16 03 46.1 -2.5
47nm,0.5s
CARO Carolei 4.94 108 Pn Pn 16 03 46.1 -2.5
47nm,0.5s
LSD Lago del Serru 5.05 335 Pn Pn 16 03 49.5 -0.8
LSD Lago del Serru 5.05 335 Pn Pn 16 03 49.5 -0.8
ORIF Oris-en-Rattie 5.08 323 ePn Pn 16 03 51.1 +0.4
SNR=1.0
ORIF eSn Sn 16 04 43.7 -5.5
74nm,0.6s
ORIF Oris-en-Rattie 5.08 323 eP Pn 16 03 51.1 +0.4
ORIF e 16 04 43.7
ORIF Oris-en-Rattie 5.08 323 ePn Pn 16 03 51.1 +0.4
ORIF eSn Sn 16 04 43.7 -5.5
ORIF Oris-en-Rattie 5.08 323 ePn Pn 16 03 51.1 +0.4
SNR=1.0
ORIF eSn Sn 16 04 43.7 -5.5
37nm,0.6s
LPG La Plagne 5.21 333 ePn Pn 16 03 53.0 +0.4
SNR=1.0
LPG eSn Sn 16 04 48.2 -4.4
87nm,0.7s
LPG La Plagne 5.21 333 eP Pn 16 03 53.0 +0.4
LPG e 16 04 48.2
LPG La Plagne 5.21 333 ePn Pn 16 03 53.0 +0.4
LPG eSn Sn 16 04 48.2 -4.4
LPG La Plagne 5.21 333 ePn Pn 16 03 53.0 +0.4
SNR=1.0
KEST Kesra 5.22 187 Pn Pn 16 03 53.6 +1.0
KEST ePn Pb 16 03 55.7 -10
KEST Sn Sn 16 04 51.5 -1.2
KEST Kesra 5.22 187 Pn Pn 16 03 53.6 +1.0
0.8nm,0.3s,baz=304,slow=4.4,SNR=22
KEST Sn Sn 16 04 51.5 -1.2
0.6nm,0.3s,baz=177,slow=20,SNR=2.8
KEST LR LR 16 05 48.6
comp=Z,61nm,18.7s,baz=30,slow=37
LPL La Plagne 5.23 333 ePn Pn 16 03 53.5 +0.6
SNR=1.0
LPL eSn Sn 16 04 48.0 -5.1
48nm,0.6s
LPL La Plagne 5.23 333 eP Pn 16 03 53.5 +0.6
LPL e 16 04 48.0
LPL La Plagne 5.23 333 ePn Pn 16 03 53.5 +0.6
LPL eSn Sn 16 04 48.0 -5.1
LPL La Plagne 5.23 333 ePn Pn 16 03 53.5 +0.6
SNR=1.0
CTI Castel Tesino 5.24 11 Pn Pn 16 03 52.9 +0.1
33nm,0.5s
CTI Castel Tesino 5.24 11 Pn Pn 16 03 52.9 +0.1
33nm,0.5s
TIP Timpagrande 5.35 107 ePn Pn 16 03 53.0 -1.4
12nm,0.8s
TIP Timpagrande 5.35 107 ePn Pn 16 03 53.0 -1.4
12nm,0.8s
RSL Roselend 5.42 333 P Pn 16 03 57.7 +2.3
RSL Roselend 5.42 333 Pn Pn 16 03 57.7 +2.3
RSL Roselend 5.42 333 Pn Pn 16 03 55.6 +0.2
RSL Roselend 5.42 333 Pn Pn 16 03 55.6 +0.2
TUE Stuetta 5.58 354 ePn Pn 16 03 58.5 +0.9
22nm,0.6s
TUE Stuetta 5.58 354 ePn Pn 16 03 58.5 +0.9
22nm,0.6s
APPI Appiano 5.61 8 Pn Pn 16 03 59.1 +1.2
29nm,0.6s
APPI Appiano 5.61 8 Pn Pn 16 03 59.1 +1.2
29nm,0.6s
LASF Ste Croix 5.62 306 ePn Pn 16 03 55.9 -2.2
SNR=1.0
LASF eSn Sn 16 04 57.3 -5.2
80nm,0.5s
LASF Ste Croix 5.62 306 ePn Pn 16 03 55.9 -2.2
LASF eSn Sn 16 04 57.3 -5.2
LASF Ste Croix 5.62 306 ePn Pn 16 03 55.9 -2.2
SNR=1.0
VIVF Saint-Julien-l 5.63 316 ePn Pn 16 03 56.8 -1.4
SNR=1.0
VIVF eSn Sn 16 04 56.0 -6.7
26nm,0.5s
VIVF Saint-Julien-l 5.63 316 eP Pn 16 03 56.8 -1.4
VIVF e 16 04 56.0
VIVF Saint-Julien-l 5.63 316 ePn Pn 16 03 56.8 -1.4
VIVF eSn Sn 16 04 56.0 -6.7
VIVF Saint-Julien-l 5.63 316 ePn Pn 16 03 56.8 -1.4
SNR=1.0
SJAF Saint Jean de 5.67 288 Pn Pn 16 03 55.3 -3.4
SJAF Saint Jean de 5.67 288 Pn Pn 16 03 55.3 -3.4
SJAF Saint Jean de 5.67 288 Pn Pn 16 03 55.3 -3.4
VOY Vojsko 5.78 27 ePn Pn 16 04 00.6 +0.3
VOY eSn Sn 16 05 02.5 -4.0
DAVOX Davos/Dischmat 5.86 358 Pn Pn 16 04 02.9 +1.4
DAVOX Sn Sn 16 05 07.8 -0.7
DAVOX Davos/Dischmat 5.86 358 Pn Pn 16 04 02.9 +1.4
3.6nm,0.3s,baz=174,slow=10,SNR=25
DAVOX Sn Sn 16 05 07.8 -0.7
0.4nm,0.3s,baz=337,slow=21,SNR=2.2
DAVOX Davos/Dischmat 5.86 358 P Pn 16 04 02.9 +1.4
DAVOX S Sn 16 05 07.8 -0.7
FILF Fillols 5.92 289 Pn Pn 16 04 00.5 -1.6
FILF Sn Sn 16 05 10.3 +0.5
FILF Fillols 5.92 289 Pn Pn 16 04 00.5 -1.6
FILF Sn Sn 16 05 10.3 +0.5
FILF Fillols 5.92 289 Pn Pn 16 04 00.5 -1.6
ABTA Abfaltersbach 6.07 15⇓iPn Pn 16 04 05.3 +1.1
7.7nm,0.6s
ABTA iSn Sn 16 05 12.7 -0.7
ABTA Abfaltersbach 6.07 15⇓iPn Pn 16 04 05.3 +1.1
7.7nm,0.6s,SNR=6.4
ABTA ⇓iSn Sn 16 05 12.7 -0.7
ABTA Abfaltersbach 6.07 15⇓iPn Pn 16 04 05.3 +1.1
7.7nm,0.6s
FETA Feichten 6.11 4⇓iPn Pn 16 04 07.1 +2.2
17nm,0.8s
FETA Feichten 6.11 4⇓iPn Pn 16 04 07.1 +2.2
17nm,0.8s,SNR=9.4
FETA Feichten 6.11 4⇓iPn Pn 16 04 07.1 +2.2
17nm,0.8s
VALF Valcebollere 6.28 286 Pn Pn 16 04 05.0 -2.2
VALF Valcebollere 6.28 286 Pn Pn 16 04 05.0 -2.2
VALF Valcebollere 6.28 286 Pn Pn 16 04 05.0 -2.2
DAVA Damuels 6.37 358⇑iPn Pn 16 04 10.6 +2.2
17nm,0.6s
DAVA Damuels 6.37 358⇑iPn Pn 16 04 10.6 +2.2
17nm,0.7s
DAVA Damuels 6.37 358⇑iPn Pn 16 04 10.6 +2.2
17nm,0.6s
CABF La Chapelle 6.41 334 ePn Pn 16 04 09.1 +0.2
SNR=1.0
CABF eSn Sn 16 05 17.1 -4.7
26nm,0.7s
CABF La Chapelle 6.41 334 eP Pn 16 04 09.1 +0.2
CABF e 16 05 17.1
CABF La Chapelle 6.41 334 ePn Pn 16 04 09.1 +0.2
CABF eSn Sn 16 05 17.1 -4.7
CABF La Chapelle 6.41 334 ePn Pn 16 04 09.1 +0.2
SNR=1.0
WTTA Wattenberg 6.43 9⇓iP Pn 16 04 11.1 +1.8
WTTA pmax pmax
comp=Z,6.0nm,0.5s
WTTA Wattenberg 6.43 9⇓iPn Pn 16 04 11.1 +1.8
comp=Z,6.3nm,0.5s
WTTA Wattenberg 6.43 9⇓iPn Pn 16 04 11.1 +1.8
comp=Z,6.3nm,0.5s
WTTA Wattenberg 6.43 9 iP Pn 16 04 11.1 +1.8
comp=Z,6.0nm,0.5s
MOTA Moosalm 6.46 6⇑iP Pn 16 04 11.0 +1.4
MOTA pmax pmax
comp=Z,7.0nm,0.4s
MOTA Moosalm 6.46 6⇑iPn Pn 16 04 11.0 +1.4
comp=Z,7.2nm,0.4s
MOTA Moosalm 6.46 6⇑iPn Pn 16 04 11.0 +1.4
comp=Z,7.2nm,0.4s,SNR=9.8
MOTA Moosalm 6.46 6 iP Pn 16 04 11.0 +1.4
comp=Z,7.0nm,0.4s
WATA Walderalm 6.49 9⇑iP Pn 16 04 11.9 +1.8
WATA pmax pmax
comp=Z,18nm,0.6s
WATA Walderalm 6.49 9⇑iPn Pn 16 04 11.9 +1.8
comp=Z,18nm,0.6s,SNR=8.1
WATA Walderalm 6.49 9 iP Pn 16 04 11.9 +1.8
comp=Z,18nm,0.6s
KBA Koelnbreinsper 6.57 19⇑iP Pn 16 04 12.0 +0.8
KBA pmax pmax
comp=Z,5.0nm,0.4s
KBA Koelnbreinsper 6.57 19⇑iPn Pn 16 04 12.0 +0.8
comp=Z,5.4nm,0.4s
KBA Koelnbreinsper 6.57 19⇑iPn Pn 16 04 12.0 +0.8
comp=Z,5.4nm,0.4s
KBA Koelnbreinsper 6.57 19 i P Pn 16 04 12.0 +0.8
comp=Z,5.0nm,0.4s
LBL Lubilhac 6.65 313 P Pn 16 04 10.1 -2.1
LBL Lubilhac 6.65 313 Pn Pn 16 04 10.1 -2.1
LBL Lubilhac 6.65 313 Pn Pn 16 04 10.1 -2.1
LBL Lubilhac 6.65 313 Pn Pn 16 04 10.1 -2.1
SOKA Soboth 6.75 30⇓iPn Pn 16 04 14.5 +1.0
comp=Z,9.5nm,0.6s
SOKA Soboth 6.75 30⇓iPn Pn 16 04 14.5 +1.0
comp=Z,9.5nm,0.6s
SOKA Soboth 6.75 30⇓iPn Pn 16 04 14.5 +1.0
comp=Z,9.5nm,0.6s
PLDF La Plantade 6.93 319 P Pn 16 04 14.4 -1.7
PLDF La Plantade 6.93 319 Pn Pn 16 04 14.4 -1.7
PLDF La Plantade 6.93 319 Pn Pn 16 04 14.4 -1.7
PLDF La Plantade 6.93 319 Pn Pn 16 04 14.4 -1.7
CAF Calviac 7.16 307 ePn Pn 16 04 17.8 -1.4
SNR=1.0
CAF eSn Sn 16 05 34.1 -6.3
comp=Z,48nm,0.7s
CAF Calviac 7.16 307 eP Pn 16 04 17.8 -1.4
CAF e 16 05 34.1
CAF Calviac 7.16 307 ePn Pn 16 04 17.8 -1.4
CAF eSn Sn 16 05 34.1 -6.3
CAF Calviac 7.16 307 ePn Pn 16 04 17.8 -1.4
SNR=1.0
HINF Hinteralfeld 7.29 342 ePn Pn 16 04 20.5 -0.4
SNR=1.0
HINF eSn Sn 16 05 38.2 -5.3
comp=Z,7.4nm,0.4s
HINF Hinteralfeld 7.29 342 eP Pn 16 04 20.5 -0.4
HINF e 16 05 38.2
HINF Hinteralfeld 7.29 342 ePn Pn 16 04 20.5 -0.4
HINF eSn Sn 16 05 38.2 -5.3
HINF Hinteralfeld 7.29 342 ePn Pn 16 04 20.5 -0.4
SNR=1.0
SMF Signal de Mont 7.32 323 ePn Pn 16 04 19.9 -1.5
SNR=1.0
SMF Signal de Mont 7.32 323 eP Pn 16 04 19.9 -1.5
SMF Signal de Mont 7.32 323 ePn Pn 16 04 19.9 -1.5
SMF Signal de Mont 7.32 323 ePn Pn 16 04 19.9 -1.5
SNR=1.0
ARSA Arzberg 7.41 30⇑iPn Pn 16 04 23.2 +0.7
comp=Z,26nm,0.6s
ARSA Arzberg 7.41 30⇑iPn Pn 16 04 23.2 +0.7
comp=Z,26nm,0.6s,SNR=15
ARSA Arzberg 7.41 30⇑iPn Pn 16 04 23.2 +0.7
comp=Z,26nm,0.6s
BFO Black Forest 7.52 351 eP Pn 16 04 24.1 0.0
BFO e 16 05 44.4
BFO pmax pmax
comp=Z,8.0nm,0.6s
BFO Black Forest 7.52 351 ePn Pn 16 04 24.1 0.0
comp=Z,8.3nm,0.6s
BFO eSn Sn 16 05 44.4 -4.8
BFO Black Forest 7.52 351 eP Pn 16 04 24.1 0.0
comp=Z,8.0nm,0.6s
MOA Molln 7.52 22⇑iPn Pn 16 04 25.1 +1.0
comp=Z,7.9nm,0.6s
MOA Molln 7.52 22⇑iPn Pn 16 04 25.1 +1.0
comp=Z,7.9nm,0.6s,SNR=8.9
MOA Molln 7.52 22⇑iPn Pn 16 04 25.1 +1.0
comp=Z,7.9nm,0.6s
HAU Haudompre 7.59 340 ePn Pn 16 04 24.8 -0.2
SNR=1.0
HAU eSn Sn 16 05 45.2 -5.6
comp=Z,23nm,0.6s
HAU Haudompre 7.59 340 eP Pn 16 04 24.8 -0.2
HAU e 16 05 45.2
HAU Haudompre 7.59 340 ePn Pn 16 04 24.8 -0.2
HAU eSn Sn 16 05 45.2 -5.6
HAU Haudompre 7.59 340 ePn Pn 16 04 24.8 -0.2
SNR=1.0
ECH Echery 7.60 345 eP Pn 16 04 24.5 -0.7
ECH e 16 05 47.1
ECH pmax pmax
comp=Z,13nm,1.0s
ECH Echery 7.60 345 ePn Pn 16 04 24.5 -0.7
comp=Z,13nm,1.0s
ECH eSn Sn 16 05 47.1 -4.0
ECH Echery 7.60 345 ePn Pn 16 04 24.5 -0.7
comp=Z,13nm,1.0s
EPF Esparros 7.62 289 ePn Pn 16 04 22.7 -2.7
EPF eSn Sn 16 05 44.0 -7.6
comp=Z,26nm,0.5s
EPF Esparros 7.62 289 eP Pn 16 04 22.7 -2.7
EPF e 16 05 44.0
EPF Esparros 7.62 289 ePn Pn 16 04 22.7 -2.7
EPF eSn Sn 16 05 44.0 -7.6
EPF Esparros 7.62 289 ePn Pn 16 04 22.7 -2.7
AVF Avril sur Loir 7.65 322 ePn Pn 16 04 25.1 -0.8
SNR=1.0
AVF Avril sur Loir 7.65 322 eP Pn 16 04 25.1 -0.8
AVF Avril sur Loir 7.65 322 ePn Pn 16 04 25.1 -0.8
AVF Avril sur Loir 7.65 322 ePn Pn 16 04 25.1 -0.8
SNR=1.0
RJF Les Rejaudoux 7.69 308 ePn Pn 16 04 25.2 -1.2
SNR=1.0
RJF eSn Sn 16 05 46.6 -6.7
comp=Z,38nm,0.7s
RJF Les Rejaudoux 7.69 308 eP Pn 16 04 25.2 -1.2
RJF e 16 05 46.6
RJF Les Rejaudoux 7.69 308 ePn Pn 16 04 25.2 -1.2
RJF eSn Sn 16 05 46.6 -6.7
RJF Les Rejaudoux 7.69 308 ePn Pn 16 04 25.2 -1.2
SNR=1.0
BGF Bois d'Agland 7.73 319 ePn Pn 16 04 25.1 -1.9
SNR=1.0
BGF eSn Sn 16 05 47.6 -6.7
comp=Z,22nm,0.6s
BGF Bois d'Agland 7.73 319 eP Pn 16 04 25.1 -1.9
BGF e 16 05 47.6
BGF Bois d'Agland 7.73 319 ePn Pn 16 04 25.1 -1.9
BGF eSn Sn 16 05 47.6 -6.7
BGF Bois d'Agland 7.73 319 ePn Pn 16 04 25.1 -1.9
SNR=1.0
CDF Champ du Feu 7.76 346 ePn Pn 16 04 27.1 -0.4
SNR=1.0
CDF Champ du Feu 7.76 346 eP Pn 16 04 27.1 -0.4
CDF Champ du Feu 7.76 346 ePn Pn 16 04 27.1 -0.4
CDF Champ du Feu 7.76 346 ePn Pn 16 04 27.1 -0.4
SNR=1.0
SSF Saint Saulge 7.79 324 ePn Pn 16 04 26.2 -1.5
SSF Saint Saulge 7.79 324 eP Pn 16 04 26.2 -1.5
SSF Saint Saulge 7.79 324 ePn Pn 16 04 26.2 -1.5
SSF Saint Saulge 7.79 324 ePn Pn 16 04 26.2 -1.5
LOR Lormes 7.80 327 ePn Pn 16 04 26.4 -1.5
baz=140
LOR eSn Sn 16 05 49.9 -6.0
comp=Z,16nm,0.6s
LOR Lormes 7.80 327 ePn Pn 16 04 26.4 -1.5
LOR eSn Sn 16 05 49.9 -6.0
LOR Lormes 7.80 327 ePn Pn 16 04 26.4 -1.5
baz=140
IVAS Ivanjica 7.87 67⇓iPn Pn 16 04 28.7 -0.3
TCF Toulx Ste Croi 7.88 316 ePn Pn 16 04 27.9 -1.1
TCF Toulx Ste Croi 7.88 316 eP Pn 16 04 27.9 -1.1
TCF Toulx Ste Croi 7.88 316 ePn Pn 16 04 27.9 -1.1
TCF Toulx Ste Croi 7.88 316 ePn Pn 16 04 27.9 -1.1
DIVS Divibare 7.92 63⇑iPn Pn 16 04 29.4 -0.3
LFF La Frestale 7.99 303 ePn Pn 16 04 29.5 -1.0
SNR=1.0
LFF eSn Sn 16 05 53.5 -7.2
comp=Z,52nm,0.6s
LFF La Frestale 7.99 303 eP Pn 16 04 29.5 -1.0
LFF e 16 05 53.5
LFF La Frestale 7.99 303 ePn Pn 16 04 29.5 -1.0
LFF eSn Sn 16 05 53.5 -7.2
LFF La Frestale 7.99 303 ePn Pn 16 04 29.5 -1.0
SNR=1.0
CONA Conrad Observa 8.10 28⇓iPn Pn 16 04 32.7 +0.5
comp=Z,18nm,0.8s
CONA i Sn Sn 16 06 03.4 -0.2
CONA Conrad Observa 8.10 28⇓iPn Pn 16 04 32.7 +0.5
comp=Z,18nm,0.8s,SNR=22
CONA ⇑iSn Sn 16 06 03.4 -0.2
CONA Conrad Observa 8.10 28⇓iPn Pn 16 04 32.7 +0.5
comp=Z,18nm,0.8s
CONA i Sn Sn 16 06 03.4 -0.2
SFTF Sexfontaines 8.15 335 ePn Pn 16 04 31.5 -1.2
baz=174
SFTF Sexfontaines 8.15 335 ePn Pn 16 04 31.5 -1.2
SFTF Sexfontaines 8.15 335 ePn Pn 16 04 31.5 -1.2
baz=174
FGSL Fruska Gora 8.23 56⇑iPn Pn 16 04 32.2 -1.7
ETSF Etsaut 8.24 287 eP Pn 16 04 36.6 +2.6
SNR=1.0
ETSF eSn Sn 16 05 59.2 -7.7
comp=Z,62nm,0.9s
ETSF Etsaut 8.24 287 eP Pn 16 04 36.6 +2.6
ETSF e 16 05 59.2
ETSF Etsaut 8.24 287 eP Pn 16 04 36.6 +2.6
ETSF eSn Sn 16 05 59.2 -7.7
TRUS Trudelj 8.25 63⇑iPn Pn 16 04 32.7 -1.4
PAGF Fort de Pagny 8.26 339 ePn Pn 16 04 32.2 -2.0
baz=164
PAGF Fort de Pagny 8.26 339 ePn Pn 16 04 32.2 -2.0
PAGF Fort de Pagny 8.26 339 ePn Pn 16 04 32.2 -2.0
baz=164
GERES GERESS Array B 8.31 16 Pn Pn 16 04 34.5 -0.4
GERES Sn Sn 16 06 05.8 -2.8
GERES GERESS Array B 8.31 16 Pn Pn 16 04 34.5 -0.4
comp=Z,0.7nm,0.3s,baz=195,slow=12,SNR=14
GERES Sn Sn 16 06 05.8 -2.8
baz=209,slow=22,SNR=2.1
GERES GERESS Array B 8.31 16 P Pn 16 04 34.6 -0.4
GRUS Gruza 8.35 66⇑iPn Pn 16 04 35.3 -0.2
MEZF Maizieres J'vi 8.40 336 ePn Pn 16 04 34.8 -1.4
MEZF Maizieres J'vi 8.40 336 ePn Pn 16 04 34.8 -1.4
MEZF Maizieres J'vi 8.40 336 ePn Pn 16 04 34.8 -1.4
SELS Selova 8.47 71 ePn Pn 16 04 36.4 -0.7
KHC Kasperske Hory 8.56 15 i P Pn 16 04 38.2 -0.1
KHC Kasperske Hory 8.56 15 ePn Pn 16 04 37.8 -0.5
comp=Z,2.7nm,0.4s
KHC Kasperske Hory 8.56 15 i PN Pn 16 04 38.2 -0.1
KHC Kasperske Hory 8.56 15 Pn Pn 16 04 38.2 -0.1
SJPF Ste Jean 8.76 288 ePn Pn 16 04 40.9 -0.1
SJPF eSn Sn 16 06 11.7 -7.8
comp=Z,27nm,0.7s
SJPF Ste Jean 8.76 288 eP Pn 16 04 40.9 -0.1
SJPF e 16 06 11.7
SJPF Ste Jean 8.76 288 ePn Pn 16 04 40.9 -0.1
SJPF eSn Sn 16 06 11.7 -7.8
ZST Bratislava 8.80 32 eP Pn 16 04 43.2 +1.7
ZST Bratislava 8.80 32 ePN Pn 16 04 43.2 +1.7
ZST Bratislava 8.80 32 eP Pn 16 04 43.2 +1.7
VRAC Vranov 9.53 26 Pn Pn 16 04 52.1 +0.4
VRAC Vranov 9.53 26⇑iP Pn 16 04 52.5 +0.8
VRAC Vranov 9.53 26 Pn Pn 16 04 52.1 +0.4
comp=Z,0.5nm,0.3s,baz=222,slow=11,SNR=10
VRAC Vranov 9.53 26 Pn Pn 16 04 52.1 +0.4
VRAC Vranov 9.53 26 P Pn 16 04 52.5 +0.8
BZS Buzias 9.58 57⇓iP Pn 16 04 51.7 -0.6
BZS Buzias 9.58 57⇓iP Pn 16 04 51.7 -0.6
BZS Buzias 9.58 57 P Pn 16 04 51.7 -0.6
VYHS Vyhne 9.76 36 eP Pn 16 04 56.2 +1.4
VYHS Vyhne 9.76 36 ePN Pn 16 04 56.2 +1.4
VYHS Vyhne 9.76 36 eP Pn 16 04 56.2 +1.4
PSZ Piszkesteto 9.86 42 eP Pn 16 04 57.5 +1.2
PSZ Piszkesteto 9.86 42 ePn Pn 16 04 57.5 +1.2
PSZ Piszkesteto 9.86 42 eP Pn 16 04 57.5 +1.2
GZR Gura Zlata 10.24 60⇓iP Pn 16 05 01.4 0.0
GZR Gura Zlata 10.24 60⇓iP Pn 16 05 01.4 0.0
GZR Gura Zlata 10.24 60 P Pn 16 05 01.4 0.0
MORC Moravsky Berou 10.26 28⇓iP Pn 16 05 02.6 +0.9
MORC Moravsky Berou 10.26 28 ePn Pn 16 05 01.3 -0.4
comp=Z,4.7nm,0.9s
MORC Moravsky Berou 10.26 28⇓iP Pn 16 05 02.6 +0.9
MORC Moravsky Berou 10.26 28 ePn Pn 16 05 01.3 -0.4
comp=Z,4.7nm,0.9s
MORC Moravsky Berou 10.26 28 P Pn 16 05 02.6 +0.9
BRG Berggiesshubel 10.29 14 e(P) Pn 16 05 05.7 +3.7
comp=Z,3.1nm,0.8s
BRG Berggiesshubel 10.29 14 eP Pn 16 05 05.7 +3.7
BRG pmax pmax
comp=Z,3.0nm,0.8s
DPC Dobruska-Polom 10.36 22 i P Pn 16 05 05.4 +2.3
DPC Dobruska-Polom 10.36 22 i PN Pn 16 05 05.4 +2.3
DPC Dobruska-Polom 10.36 22 Pn Pn 16 05 05.4 +2.3
DRGR 10.79 53⇓iP Pn 16 05 08.0 -0.9
DRGR 10.79 53⇓iP Pn 16 05 08.0 -0.9
DRGR 10.79 53 P Pn 16 05 08.0 -0.9
ESDC Sonseca Array 10.86 268 Pn Pn 16 05 08.5 -1.5
ESDC Sonseca Array 10.86 268 Pn Pn 16 05 08.5 -1.5
comp=Z,4.2nm,0.3s,baz=74,slow=14,SNR=16
ESLA Sonseca Array 10.86 268 ePn Pn 16 05 09.8 -0.2
CRVS Cervenica-Dubn 11.30 41 eP Pn 16 05 21.0 +5.2
CRVS Cervenica-Dubn 11.30 41 e Pn 16 05 21.0 +5.2
VOIR 11.77 63⇑iP Pn 16 05 24.4 +2.1
VOIR 11.77 63⇑iP Pn 16 05 24.4 +2.1
VOIR 11.77 63 P Pn 16 05 24.4 +2.1
MLR Muntele Rosu 12.38 63 Pn Pn 16 05 33.1 +2.3
MLR Muntele Rosu 12.38 63⇑iP Pn 16 05 33.4 +2.6
MLR Muntele Rosu 12.38 63 Pn Pn 16 05 33.1 +2.3
comp=Z,0.0nm,0.3s,baz=268,slow=11,SNR=3.0
MLR LR LR 16 10 15.1
comp=Z,53nm,19.6s,baz=295,slow=37
GVD Gavdhos 12.56 114 P Pn 16 05 32.9 -0.2
MDT Midelt 14.32 240 Pn Pn 16 05 54.0 -3.2
MDT Midelt 14.32 240 Pn Pn 16 05 54.0 -3.2
comp=Z,0.6nm,0.3s,baz=40,slow=13,SNR=6.9
MDT LR LR 16 10 49.6
comp=Z,378nm,21.3s,baz=357,slow=35
AKASG Malin Array Be 16.45 47 ceP P 16 06 28.0 +0.1
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 16.45 47 Pn P 16 06 26.7 -1.2
AKASG Malin Array Be 16.45 47 Pn P 16 06 26.7 -1.2
comp=Z,0.8nm,0.3s,baz=242,slow=11,SNR=6.4
AKASG Malin Array Be 16.45 47 Pn P 16 06 26.7 -1.2
AKASG Malin Array Be 16.45 47 eP P 16 06 28.0 +0.1
comp=Z,2.0nm,0.5s
BRTR Keskin Array B 17.93 86 P P 16 06 47.1 +2.6
BRTR Keskin Array B 17.93 86 P P 16 06 47.1 +2.6
baz=280,slow=7.3,SNR=4.0
TAM Tamanrasset 18.50 194 P Pn 16 06 54.4 +3.5
TAM pmax pmax
comp=Z,3.0nm,0.8s
TAM Tamanrasset 18.50 194 P Pn 16 06 54.4 +3.5
comp=Z,2.6nm,0.8s
HFS Hagfors 19.36 5 P Pn 16 07 00.8 -0.1
HFS Hagfors 19.36 5 P Pn 16 07 00.8 -0.1
comp=Z,0.4nm,0.3s,baz=177,slow=8.5,SNR=8.1
HFS Hagfors 19.36 5 P Pn 16 07 00.8 -0.1
NAO01 NORSAR Array S 19.95 1 P Pn 16 07 07.3 -0.7
comp=Z,5.3nm,0.7s
NAO01 NORSAR Array S 19.95 1 P Pn 16 07 07.3 -0.7
comp=Z,5.3nm,0.7s
NB2 NORSAR Subarra 20.16 1 P P 16 07 09.5 +1.0
comp=Z,2.1nm,0.6s,baz=182,slow=11
NB2 NORSAR Subarra 20.16 1 P P 16 07 09.5 +1.0
comp=Z,2.1nm,0.6s,baz=182,slow=11,SNR=1.2
NOA NORSAR Array B 20.16 1 P Pn 16 07 09.7 -0.7
NOA NORSAR Array B 20.16 1 P Pn 16 07 09.7 -0.7
comp=Z,2.1nm,0.5s,baz=188,slow=7.6,SNR=18
NOA NORSAR Array B 20.16 1 P Pn 16 07 09.7 -0.7
MMAI Mount Meron Ar 21.61 103 P P 16 07 25.9 +1.5
MMAI Mount Meron Ar 21.61 103 P P 16 07 25.9 +1.5
comp=Z,9.7nm,1.2s,baz=274,slow=5.8,SNR=3.7
VSR Storozhevoye 22.46 53 eP P 16 07 36.5 +3.1
VSR pmax pmax
comp=N,2.0nm,0.3s
VSR pmax pmax
comp=E,1.0nm,0.3s
VSR pmax pmax
comp=Z,2.0nm,0.3s
VORD Divnogorie 22.47 54 eP P 16 07 35.9 +2.4
VORD pmax pmax
comp=N,4.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,3.0nm,0.6s
OBN Obninsk 22.48 42⇓eP P 16 07 37.1 +3.6
OBN e 16 07 43.1
OBN e 16 08 00.2
OBN pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 22.72 20 P P 16 07 36.5 +0.5

FINES	**FINESS Array B**	**22.72**	**20**	P	**P**		**16 07 36.5 +0.5**
	comp=Z,3.1nm,0.7s,baz=194,slow=8.3,SNR=7.4						
FINES	**FINESS Array B**	**22.72**	**20**	P	**P**		**16 07 36.5 +0.5**
EIL	**Elat**	**23.06**	**111**	P	**P**		**16 07 41.4 +1.5**
EIL	**Elat**	**23.06**	**111**	P	**P**		**16 07 41.4 +1.5**
	comp=Z,3.4nm,1.1s,baz=302,slow=13,SNR=3.7						
KAF	**Kangasniemi**	**23.34**	**19**	*e*P	**P**		**16 07 42.0 -0.5**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KAF	**Kangasniemi**	**23.34**	**19**	*e*p	**P**		**16 07 42.0 -0.5**
	comp=Z,2.9nm,0.7s						
KAF	**Kangasniemi**	**23.34**	**19**	*e*P	**P**		**16 07 42.0 -0.5**
	comp=Z,3.0nm,0.7s						
VRHR	**Novokhopersk**	**23.93**	**54**	*e*P	**P**		**16 07 48.4 +0.1**
VRHR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VRHR				pmax	pmax		
	comp=N,3.0nm,0.4s						
VRHR				pmax	pmax		
	comp=E,4.0nm,0.4s						
GNI	**Garni**	**26.20**	**80**	*e*P	**P**		**16 08 10.9 +1.7**
	comp=E,22nm,1.3s						
TOA0	**Torodi Ar. Sit**	**28.65**	**197**	*e*P	**P**		**16 08 30.7 -0.5**
TORD	**Torodi Ar. Bea**	**28.65**	**197**	P	**P**		**16 08 31.5 +0.4**
TORD	**Torodi Ar. Bea**	**28.65**	**197**	P	**P**		**16 08 31.5 +0.4**
	comp=E,1.9nm,0.6s,baz=7.5,slow=9.3,SNR=9.1						
ARU	**Arti**	**34.71**	**47**	*d* P	**P**		**16 09 24.0 0.0**
ARU				S	**S**		**16 14 57.8 +4.4**
ARU				SS	**SnSn**		**16 17 13.3 +7.2**
ARU				pmax	pmax		
	comp=Z,11nm,1.7s						
ARU	**Arti**	**34.71**	**47**	*e*P	**P**		**16 09 21.4 -2.7**
	comp=Z,6.3nm,0.9s						
ABKAR	**Akbulak array**	**35.56**	**59**	*e*P	**P**		**16 09 31.1 -0.4**
	comp=Z,2.2nm,0.8s						
SVE	**Sverdlovsk**	**35.88**	**46**	*e*P	**P**		**16 09 34.5 +0.3**
SVE				*e*S	**S**		**16 15 09.3 -2.2**
SVE				pmax	pmax		
	comp=Z,8.0nm,0.9s						
LIC	**Lamto**	**37.12**	**206**	*e*P	**P**		**16 09 42.4 -2.7**
	comp=Z,3.7nm,0.6s,baz=38						
LIC	**Lamto**	**37.12**	**206**	*e*P	**P**		**16 09 42.4 -2.7**
	comp=Z,3.7nm,0.6s						
SUMG	**Summit**	**39.36**	**339**	*e*P	**P**		**16 10 04.8 +0.9**
SUMG				pmax	pmax		
	comp=Z,8.0nm,1.2s						
SUMG	**Summit**	**39.36**	**339**	*e*P	**P**		**16 10 04.8 +0.9**
	comp=Z,8.0nm,1.2s						
BRVK	**Borovoye**	**41.57**	**52**	*d* P	**P**		**16 10 23.0 +1.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BRVK	**Borovoye**	**41.57**	**52**	*e*P	**P**		**16 10 22.5 +0.6**
	comp=Z,3.7nm,0.8s						
AAK	**Ala-Archa**	**46.95**	**66**	P	**P**		**16 11 05.7 +0.3**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AAK	**Ala-Archa**	**46.95**	**66**	P	**P**		**16 11 05.7 +0.3**
	comp=Z,6.6nm,0.8s						
KURK	**Kurchatov**	**47.11**	**54**	*e*P	**P**		**16 11 06.6 +0.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KURK	**Kurchatov**	**47.11**	**54**	*e*P	**P**		**16 11 06.0 -0.2**
	comp=Z,3.0nm,1.0s						
ZALV	**Zalesovo Beam**	**49.85**	**48**	P	**P**		**16 11 26.4 -0.8**
ZALV	**Zalesovo Beam**	**49.85**	**48**	P	**P**		**16 11 26.4 -0.8**
ZALV	**Zalesovo Beam**	**49.85**	**48**	P	**P**		**16 11 26.4 -0.8**
	comp=Z,0.6nm,0.5s,baz=283,slow=8.4,SNR=5.2						
MK31	**Makanchi Array**	**50.66**	**58**	*e*P	**P**		**16 11 32.4 -1.2**
MK31	**Makanchi Array**	**50.66**	**58**	*e*P	**P**		**16 11 32.4 -1.2**
MKAR	**Makanchi Array**	**50.66**	**58**	*c*eP	**P**		**16 11 33.7 +0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**50.66**	**58**	P	**P**		**16 11 33.7 +0.1**
MKAR	**Makanchi Array**	**50.66**	**58**	P	**P**		**16 11 33.7 +0.1**
	comp=Z,1.4nm,0.8s,baz=289,slow=6.7,SNR=17						
SCHQ	**Schefferville**	**50.88**	**313**	*e*P	**P**		**16 11 33.5 -1.7**
	comp=Z,4.1nm,0.7s						
SCHQ	**Schefferville**	**50.88**	**313**	P	**P**		**16 11 34.1 -1.0**
	comp=Z,3.2nm,0.6s,baz=69,slow=8.6,SNR=9.3						
RES	**Resolute Bay**	**54.78**	**342**	*e*P	**P**		**16 12 04.2 +0.6**
	comp=Z,3.7nm,0.9s						
RES	**Resolute Bay**	**54.78**	**342**	P	**P**		**16 12 03.1 -0.5**
	comp=Z,1.6nm,0.6s,baz=34,slow=9.5,SNR=8.1						
TLY	**Talaya**	**61.19**	**45**	*e*P	**P**		**16 12 50.2 +1.3**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**64.74**	**48**	P	**P**		**16 13 13.0 +0.3**
SONM	**Songino Array**	**64.74**	**48**	P	**P**		**16 13 13.0 +0.3**
	comp=Z,1.1nm,0.9s,baz=305,slow=3.9,SNR=8.6						
YKA	**Yellowknife Ar**	**67.83**	**336**	P	**P**		**16 13 32.7 +0.6**
YKA	**Yellowknife Ar**	**67.83**	**336**	P	**P**		**16 13 32.7 +0.6**
	comp=Z,1.1nm,0.8s,baz=45,slow=6.1,SNR=21						
ULM	**Lac du Bonnet**	**68.54**	**318**	P	**P**		**16 13 36.3 -0.4**
ULM	**Lac du Bonnet**	**68.54**	**318**	P	**P**		**16 13 36.3 -0.4**
	comp=Z,1.9nm,0.4s,baz=358,slow=8.2,SNR=3.7						
BILL	**Bilibino**	**69.88**	**9**	*e*P	**P**		**16 13 44.6 -0.2**
BILL				*e*			16 14 06.2
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ILAR	**Eielson Array**	**73.11**	**350**	P	**P**		**16 14 05.8 +1.5**
ILAR	**Eielson Array**	**73.11**	**350**	P	**P**		**16 14 05.8 +1.5**
	comp=Z,0.9nm,0.7s,baz=11,slow=5.8,SNR=14						
CMAR	**Chiang Mai Arr**	**77.25**	**77**	P	**P**		**16 14 29.2 +0.3**
CMAR	**Chiang Mai Arr**	**77.25**	**77**	P	**P**		**16 14 29.2 +0.3**
	comp=Z,0.3nm,0.8s,baz=304,slow=6.4,SNR=4.1						
PDAR	**Pinedale Array**	**80.51**	**320**	P	**P**		**16 14 46.9 +0.1**
PDAR	**Pinedale Array**	**80.51**	**320**	P	**P**		**16 14 46.9 +0.1**
	comp=Z,0.7nm,0.7s,baz=50,slow=4.6,SNR=3.5						

*IDC **05** 16:09:13.7±5.5,26°.88S×177°.14W,h0km,mb3.8/3,*
mb1 3.9/3,mb1mx3.7/14,mbtmp3.8/3,Error ellipse:
s-maj=186.7km s-min=45.0km az=146.0
*ISCJB **05** 16:09:31.0±1.5,27°.39S±0°.06×177°.6W±0°.2,h145km,*
mb3.4/3,Error ellipse: s-maj=25.9km s-min=7.7km az=3.8
ISC 05 16:09:30.4±1.4,27°.45S±0°.10×177°.6W±0°.3,h145km,n20,
σ2s33/21,mb3.5/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**11.15**	**197**	*e*PN	**Pn**	**16 12 03.9**	**-1.7**
PUZ				SN	**Sn**	**16 14 10.2**	**+1.4**
MWZ	**Matawai**	**11.60**	**199**	SN	**Sn**	**16 14 25.0**	**+5.4**
MHGZ	**Mahia Peninsul**	**12.26**	**197**	SN	**Sn**	**16 14 36.6**	**+1.2**
MCHZ	**McNeill Hill**	**12.87**	**200**	SN	**Sn**	**16 14 54.3**	**+4.2**
WPHZ	**Waipukurau**	**13.52**	**200**	SN	**Sn**	**16 15 06.0**	**+0.2**
PRWZ	**Pori Road**	**14.11**	**200**	SN	**Sn**	**16 15 21.0**	**+1.1**
BFZ	**Birch Farm**	**14.14**	**199**	SN	**Sn**	**16 15 21.7**	**+0.9**
MRZ	**Mangatainoka R**	**14.33**	**201**	*e*PN	**P**	**16 12 52.0**	**+2.7**
MRZ				SN	**Sn**	**16 15 23.5**	**-1.8**
HOWZ	**Holdsworth Sta**	**14.56**	**201**	SN	**Sn**	**16 15 30.1**	**-0.8**
TCW	**Tory Channel**	**15.27**	**204**	SN	**Sn**	**16 15 44.7**	**-3.1**
TUWZ	**Tuamarina**	**15.58**	**204**	SN	**Sn**	**16 15 52.8**	**-2.4**
NNZ	**Nelson**	**15.61**	**206**	SN	**Sn**	**16 15 55.0**	**-0.9**
THZ	**Tophouse**	**16.26**	**206**	*e*PN	**P**	**16 13 12.1**	**+1.3**
THZ				SN	**S**	**16 16 09.9**	**-1.6**
CTZ	**Chatham Island**	**16.27**	**177**	SN	**S**	**16 16 09.5**	**-2.2**
MQZ	**McQueen's Vall**	**18.03**	**203**	SN	**S**	**16 16 47.7**	**-1.6**
ASAR	**Alice Springs**	**43.68**	**264**	P	P	16 17 24.5	+3.4
	0.4nm,0.5s,baz=95,slow=7.2,SNR=12						
WRA	**Warramunga Arr**	**44.40**	**269**	P	P	16 17 29.6	+2.8
	0.4nm,0.3s,baz=106,slow=8.2,SNR=16						
KSRS	**Korea Array**	**82.33**	**319**	P	**P**	**16 21 36.9**	**+1.1**
	0.8nm,0.6s,baz=121,slow=5.5,SNR=5.5						
NB2	**NORSAR Subarra145.88**	**352**		PKP	**PKPbc**	**16 28 50.9**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=12,slow=3.0						
NOA	**NORSAR Array B 145.88**	**352**		PKPbc	**PKPab**	**16 28 51.8**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=17,slow=2.8,SNR=5.3						

*ISK **05** 16:12:45.9,38°.00N×27°.54E,h5km,MD3.2*
*ATH **05** 16:12:45.8,37°.97N×27°.60E,h17km±5km, MD3.3/4*
*DDA **05** 16:12:45.8,38°.00N×27°.57E,h8km,MD3.1*
*CSEM **05** 16:12:46.2±0.1,37°.98N×27°.57E,h2km,MD3.1,Error*
ellipse: s-maj=2.8km s-min=2.5km az=96.0
ISC 05 16:12:46.3±1.1,37°.99N±0°.02×27°.57E±0°.02,h4km±10km,
n83,σ0s74/105,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.39**	**223**	*i* P	**Pg**	**16 12 53.1**	**-0.7**
GCAM				*i* S	**Sg**	**16 12 59.8**	**+0.8**
GCAM	**G?zelcaml?**	**0.39**	**223**	*i* P	**Pg**	**16 12 53.1**	**-0.7**
GCAM				*i* S	**Sg**	**16 12 59.8**	**+0.8**
AYDN	**Tasoluk**	**0.41**	**143**	*i* P	**Pg**	**16 12 54.1**	**-0.1**
AYDN	**Tasoluk**	**0.41**	**143**	*i* P	**Pg**	**16 12 54.1**	**-0.1**
IZM	**Izmir**	**0.48**	**329**	PG	**Pg**	**16 12 55.2**	**-0.3**
IZM	**Izmir**	**0.48**	**329**	*i* Pg	**Pg**	**16 12 55.2**	**-0.3**
BLCB	**Balcova**	**0.57**	**314**	PG	**Pg**	**16 12 57.1**	**-0.3**
BLCB				*e*SG	**Sg**	**16 13 04.8**	**0.0**
BLCB	**Balcova**	**0.57**	**314**	*i* Pg	**Pg**	**16 12 57.1**	**-0.3**
BLCB				*e*Sg	**Sg**	**16 13 04.8**	**0.0**
SMG	**Samos**	**0.64**	**245**	*e*PB	**Pg**	**16 12 57.8**	**-0.9**
SMG				*e*SN	**Sg**	**16 13 07.9**	**+0.9**
SMG	**Samos**	**0.64**	**245**	*e*Pb	**Pg**	**16 12 57.8**	**-0.9**
SMG				*e*Sn	**Sg**	**16 13 07.9**	**+0.9**
URLA	**Izmir**	**0.85**	**296**	*e*P	**Pg**	**16 13 02.4**	**-0.3**
URLA				*i* S	**Sg**	**16 13 14.2**	**+0.5**
URLA	**Izmir**	**0.85**	**296**	*e*P	**Pg**	**16 13 02.4**	**-0.3**
URLA				*i* S	**Sg**	**16 13 14.2**	**+0.5**
AKHS	**Akhisar**	**0.91**	**12**	*i* P	**Pg**	**16 13 03.3**	**-0.5**
AKHS				*i* S	**Sg**	**16 13 16.2**	**+0.6**
AKHS	**Akhisar**	**0.91**	**12**	*i* P	**Pg**	**16 13 03.3**	**-0.5**
AKHS				*i* S	**Sg**	**16 13 16.2**	**+0.6**
AKS	**Akhisar**	**0.91**	**12**	*e*PG	**Pg**	**16 13 03.6**	**-0.1**
AKS				*e*SG	**Sb**	**16 13 16.6**	**-0.5**
AKS	**Akhisar**	**0.91**	**12**	*e*Pg	**Pg**	**16 13 03.6**	**-0.1**
AKS				*e*Sg	**Sb**	**16 13 16.6**	**-0.5**
MANT	**Manisa**	**0.93**	**57**	*e*P	**Pg**	**16 13 03.2**	**-0.9**
MANT	**Manisa**	**0.93**	**57**	*e*P	**Pg**	**16 13 03.2**	**-0.9**
BDRM	**Kayabasi**	**0.93**	**186**	*e*P	**Pg**	**16 13 02.9**	**-1.1**
BDRM				*i* S	**Sb**	**16 13 17.5**	**-0.1**
BDRM	**Kayabasi**	**0.93**	**186**	*e*P	**Pg**	**16 13 02.9**	**-1.1**
BDRM				*i* S	**Sb**	**16 13 17.5**	**-0.1**
BODT	**Bodrum**	**0.95**	**193**	*e*PG	**Pg**	**16 13 04.6**	**+0.2**
BODT	**Bodrum**	**0.95**	**193**	*e*Pg	**Pg**	**16 13 04.6**	**+0.2**
KULA	**Kula-Manisa**	**1.01**	**58**	*e*PG	**Pg**	**16 13 05.1**	**-0.5**
KULA	**Kula-Manisa**	**1.01**	**58**	*e*Pg	**Pg**	**16 13 05.1**	**-0.5**
YER	**Yerkesik**	**1.02**	**146**	*e*PG	**Pb**	**16 13 06.2**	**-0.4**
YER	**Yerkesik**	**1.02**	**146**	*e*Pg	**Pb**	**16 13 06.2**	**-0.4**
DNZL	**Cakiroluk**	**1.21**	**104**	*e*P	**Pg**	**16 13 08.9**	**-0.5**
DNZL	**Cakiroluk**	**1.21**	**104**	*e*P	**Pg**	**16 13 08.9**	**-0.5**
CHOS	**Chios island**	**1.26**	**289**	*e*PN	**Pb**	**16 13 10.5**	**-0.1**
CHOS				*e*SN	**Sn**	**16 13 28.0**	**-0.1**
CHOS	**Chios island**	**1.26**	**289**	*e*Pn	**Pb**	**16 13 10.5**	**-0.1**
CHOS				*e*Sn	**Sn**	**16 13 28.0**	**-0.1**
DEMI	**Demirci**	**1.38**	**40**	*i* P	**Pn**	**16 13 12.2**	**-0.3**
DEMI				*i* S	**Sb**	**16 13 30.7**	**-0.1**
DEMI	**Demirci**	**1.38**	**40**	*i* P	**Pn**	**16 13 12.2**	**-0.3**
DEMI				*i* S	**Sb**	**16 13 30.7**	**-0.1**
KHAL	**Karahalli**	**1.56**	**75**	*e*P	**Pn**	**16 13 13.5**	**-1.4**
KHAL				*i* S	**Sg**	**16 13 37.0**	**+0.5**
KHAL	**Karahalli**	**1.56**	**75**	*e*P	**Pn**	**16 13 13.5**	**-1.4**
KHAL				*i* S	**Sg**	**16 13 37.0**	**+0.5**
KHL	**Karahalli**	**1.57**	**77**	*e*PN	**Pb**	**16 13 16.0**	**0.0**
KHL	**Karahalli**	**1.57**	**77**	*e*Pn	**Pb**	**16 13 16.0**	**0.0**
PRK	**Paraskevi**	**1.62**	**321**	*e*PN	**Pb**	**16 13 16.2**	**-0.5**
PRK				*e*SN	**Sb**	**16 13 37.4**	**0.0**
PRK	**Paraskevi**	**1.62**	**321**	*e*Pn	**Pb**	**16 13 16.2**	**-0.5**
PRK				*e*Sn	**Sb**	**16 13 37.4**	**0.0**
BALB	**Balikesir**	**1.67**	**8**	*e*PN	**Pb**	**16 13 17.0**	**-0.5**
BALB	**Balikesir**	**1.67**	**8**	*e*Pn	**Pb**	**16 13 17.0**	**-0.5**
BALY	**Balya**	**1.75**	**1**	*e*P	**Pn**	**16 13 16.2**	**-1.2**
BALY	**Balya**	**1.75**	**1**	*e*P	**Pn**	**16 13 16.2**	**-1.2**
DST	**Dursunbey**	**1.81**	**27**	*e*PN	**Pn**	**16 13 19.0**	**+0.7**
DST	**Dursunbey**	**1.81**	**27**	*e*Pn	**Pn**	**16 13 19.0**	**+0.7**
FETY	**Fethiye**	**1.81**	**138**	*e*PN	**Pn**	**16 13 18.3**	**+0.1**
FETY	**Fethiye**	**1.81**	**138**	*e*Pn	**Pn**	**16 13 18.3**	**+0.1**
APE	**Apeiranthos**	**1.86**	**241**	*e*PN	**Pn**	**16 13 19.3**	**+0.3**
APE	**Apeiranthos**	**1.86**	**241**	*e*PN	**Pb**	**16 13 20.0**	**-0.9**
APE	**Apeiranthos**	**1.86**	**241**	*e*Pn	**Pn**	**16 13 19.3**	**+0.3**
GONE	**Gonen-Balikesi**	**2.06**	**2**	*e*PN	**Pn**	**16 13 21.0**	**-0.6**
GONE	**Gonen-Balikesi**	**2.06**	**2**	*e*Pn	**Pn**	**16 13 21.0**	**-0.6**
EZN	**Ezine**	**2.08**	**332**	*e*PN	**Pn**	**16 13 21.7**	**-0.2**
EZN	**Ezine**	**2.08**	**332**	*e*Pn	**Pn**	**16 13 21.7**	**-0.2**
ELL	**Elmali**	**2.24**	**123**	*e*PN	**Pn**	**16 13 25.5**	**+1.3**
ELL	**Elmali**	**2.24**	**123**	*e*Pn	**Pn**	**16 13 25.5**	**+1.3**
ALT	**Altintas**	**2.26**	**61**	*e*PN	**Pn**	**16 13 25.4**	**+0.9**
ALT	**Altintas**	**2.26**	**61**	*e*Pn	**Pn**	**16 13 25.4**	**+0.9**
ORLT	**Orhaneli**	**2.30**	**26**	*e*PN	**Pn**	**16 13 26.4**	**+1.4**
ORLT	**Orhaneli**	**2.30**	**26**	*e*Pn	**Pn**	**16 13 26.4**	**+1.4**
KCTX	**Karacabey (Bur**	**2.35**	**15**	*e*PN	**Pn**	**16 13 26.6**	**+0.8**
KCTX	**Karacabey (Bur**	**2.35**	**15**	*e*Pn	**Pn**	**16 13 26.6**	**+0.8**
EDC	**Edincik**	**2.37**	**5**	*e*PN	**Pn**	**16 13 26.7**	**+0.8**
EDC	**Edincik**	**2.37**	**5**	*e*Pn	**Pn**	**16 13 26.7**	**+0.8**
KRBG	**Karabiga-Canak**	**2.41**	**355**	*e*PN	**Pn**	**16 13 27.1**	**+0.6**
KRBG	**Karabiga-Canak**	**2.41**	**355**	*e*Pn	**Pn**	**16 13 27.1**	**+0.6**
LPK	**Lapseki**	**2.46**	**345**	*e*PN	**Pn**	**16 13 28.2**	**+1.0**
LPK	**Lapseki**	**2.46**	**345**	*e*Pn	**Pn**	**16 13 28.2**	**+1.0**
GELI	**Tayfur-Gelibol**	**2.55**	**341**	*e*PN	**Pn**	**16 13 29.2**	**+0.8**
GELI	**Tayfur-Gelibol**	**2.55**	**341**	*e*Pn	**Pn**	**16 13 29.2**	**+0.8**
MDNY	**Mudanya-Bursa**	**2.59**	**23**	*e*PN	**Pn**	**16 13 29.6**	**+0.8**
MDNY	**Mudanya-Bursa**	**2.59**	**23**	*e*Pn	**Pn**	**16 13 29.7**	**+0.8**
RKY	**Sarkoy-Tekirda**	**2.71**	**354**	*e*PN	**Pn**	**16 13 31.7**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.71**	**354**	*e*Pn	**Pn**	**16 13 31.7**	**+1.0**
GEMT	**Gemlik**	**2.75**	**27**	*e*PN	**Pn**	**16 13 32.3**	**+1.2**
GEMT	**Gemlik**	**2.75**	**27**	*e*Pn	**Pn**	**16 13 32.3**	**+1.2**
ARMT	**Armutlu**	**2.76**	**21**	*e*PN	**Pn**	**16 13 32.6**	**+1.3**
ARMT	**Armutlu**	**2.76**	**21**	*e*Pn	**Pn**	**16 13 32.6**	**+1.3**
ERIK	**Erikli-Kesan**	**2.80**	**343**	*e*PN	**Pn**	**16 13 33.0**	**+1.1**
ERIK	**Erikli-Kesan**	**2.80**	**343**	*e*Pn	**Pn**	**16 13 33.0**	**+1.1**
CAVI	**Cavuskoy**	**2.83**	**38**	*e*PN	**Pn**	**16 13 32.7**	**+0.4**
CAVI	**Cavuskoy**	**2.83**	**38**	*e*Pn	**Pn**	**16 13 32.7**	**+0.4**
ENEZ	**Enez**	**2.96**	**339**	*e*PN	**Pn**	**16 13 35.0**	**+1.0**
ENEZ	**Enez**	**2.96**	**339**	*e*Pn	**Pn**	**16 13 35.0**	**+1.0**

*DJA **05** 16:19:45,2°.73S×129°.21E,h20km,MLv4.0/6*
IDC 05 16:19:42.0±2.1,3°.38S×128°.31E,h0km,mb3.9/2,
mb1 4.1/3,mb1mx3.6/18,mbtmp3.9/3,ML3.8/1,Error
ellipse: s-maj=151.0km s-min=14.9km az=69.0,Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.48**	**161**	P	P	16 23 48.6	0.0
	0.3nm,0.3s,baz=343,slow=13,SNR=16						
WRA				S	Sn	16 27 02.9	+0.1
	0.1nm,0.3s,baz=344,slow=21,SNR=3.4						
ASAR	**Alice Springs**	**20.88**	**165**	P	Pn	16 24 27.8	-0.6
	5.5nm,0.6s,baz=350,slow=11,SNR=56						
ASAR				S	S	16 28 20.4	+0.6
	2.1nm,0.8s,baz=347,slow=19,SNR=8.1						
MKAR	**Makanchi Array**	**64.30**	**327**	P	P	16 30 18.9	-0.4
	0.5nm,0.6s,baz=117,slow=8.3,SNR=8.8						

WEL 05 16:24:15.0±0.2,35°.50S×177°.98E,h231km±3km,ML3.5/7,
Error ellipse: s-maj=6.0km s-min=3.1km az=90.0,Off
east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.08**	**173**	PN	Pn	16 24 56.8	+0.3
MXZ				SN	S	16 25 29.2	0.0
PUZ	**Puketiti**	**2.58**	**175**	PN	Pn	16 25 01.5	-0.2
PUZ				SN	S	16 25 37.4	-0.9
URZ	**Urewera**	**2.84**	**194**	PN	Pn	16 25 04.9	+0.4
URZ				SN	S	16 25 43.0	-0.4
MWZ	**Matawai**	**2.85**	**187**	PN	Pn	16 25 04.8	+0.1
MWZ				SN	S	16 25 43.4	-0.4
CNGZ	**Carnagh Statio**	**2.99**	**177**	PN	Pn	16 25 06.2	+0.1
KNZ	**Kokohu**	**3.52**	**184**	*e*PN	Pn	16 25 12.7	+0.5
MHGZ	**Mahia Peninsul**	**3.65**	**181**	*e*PN	Pn	16 25 13.8	+0.1
NMHZ	**Naumai**	**3.71**	**194**	PN	Pn	16 25 14.4	-0.1
BKZ	**Black Stump Fm**	**3.85**	**197**	PN	Pn	16 25 15.7	-0.4
MCHZ	**McNeill Hill**	**4.07**	**194**	*e*PN	Pn	16 25 18.9	+0.2
BHHZ	**Black Hill Sta**	**4.26**	**200**	*e*PN	Pn	16 25 20.1	-1.0
KAHZ	**Kahuranaki**	**4.38**	**191**	PN	Pn	16 25 21.8	-0.7
PXZ	**Pawanui**	**4.61**	**191**	*e*PN	Pn	16 25 23.7	-1.6
PXZ				SN	S	16 26 16.9	-4.0
WPHZ	**Waipukurau**	**4.72**	**195**	SN	S	16 26 21.1	-2.4
BFZ	**Birch Farm**	**5.35**	**194**	SN	S	16 26 33.8	-3.9
MRZ	**Mangatainoka R**	**5.49**	**199**	PN	Pn	16 25 33.6	-2.7
TIWZ	**Tintock**	**5.52**	**197**	*e*PN	Pn	16 25 34.2	-2.4
TIWZ				SN	S	16 26 37.3	-4.3
TCW	**Tory Channel**	**6.40**	**206**	SN	S	16 26 56.6	-5.1
TUWZ	**Tuamarina**	**6.71**	**207**	SN	S	16 27 03.4	-5.5
NNZ	**Nelson**	**6.76**	**211**	SN	S	16 27 04.9	-5.0
THZ	**Tophouse**	**7.41**	**211**	*e*PN	Pn	16 25 58.4	-2.2
MQZ	**McQueen's Vall**	**9.17**	**205**	SN	S	16 27 55.7	-11

IDC 05 16:25:56.5±7.4,16°.49S×178°.12W,h0km,mb3.7/3,
mb1 4.0/3,mb1mx3.6/17,mbtmp3.7/3,Error ellipse:
s-maj=328.7km s-min=36.2km az=142.0,Fiji Islands
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.18**	**258**	P	P	16 34 15.4	-0.1
	0.2nm,0.4s,baz=91,slow=6.9,SNR=9.4						
ASAR	**Alice Springs**	**45.45**	**253**	P	P	16 34 17.4	-0.3
	2.1nm,0.4s,baz=90,slow=7.7,SNR=108						
ILAR	**Eielson Array**	**84.45**	**13**	P	P	16 38 30.7	+0.1
	0.2nm,0.4s,baz=217,slow=5.2,SNR=5.7						

*CSEM **05** 16:33:33.7,12°.12N×43°.94E,h4km,ML3.8,After DHMR*
DHMR 05 16:33:33.7±1.1,12°.12N×43°.94E,h5km±5km,ML3.8,
Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.12**	**9**	*i* P	Pg	16 33 54.9	-0.6
TRBA				*i* S	Sb	16 34 10.7	-0.3
TRBA				AML	AML	16 34 12.0	
	comp=E,2μm,0.5s						
ADEN	**Aden**	**1.21**	**57**	*i* P	Pg	16 33 56.0	-0.9
ADEN				*i* S	Sn	16 34 14.1	0.0
ADEN				AML	AML	16 34 20.0	
	comp=E,2μm,0.6s						
ADEN	**Aden**	**1.21**	**57**	*i* P	Pg	16 33 56.0	-0.9
ADEN				*i* S	Sn	16 34 14.1	0.0
	comp=E,1μm,0.6s						
UDYN	**Al 'Udayn**	**1.84**	**1**	*i* P	Pn	16 34 06.5	+0.3
UDYN				*i* S	Sg	16 34 32.8	-0.4
UDYN				AML	AML	16 34 41.2	
	comp=E,898nm,0.6s						
UDYN	**Al 'Udayn**	**1.84**	**1**	*i* P	Pn	16 34 06.5	+0.3
UDYN				*i* S	Sg	16 34 32.8	-0.4
	comp=E,449nm,0.6s						
LBOS		**2.16**	**36**	*i* P	Pn	16 34 11.9	+1.2
LBOS				*i* S	Sb	16 34 42.0	+0.9
BDHA	**Al Bayda'**	**2.43**	**40**	*i* P	Pn	16 34 15.7	+1.2
BDHA				*i* S	Sb	16 34 49.2	+0.3
BDHA				AML	AML	16 35 05.0	
	comp=N,424nm,0.7s						
BDHA	**Al Bayda'**	**2.43**	**40**	*i* P	Pn	16 34 15.7	+1.2
BDHA				*i* S	Sb	16 34 49.2	+0.4
	comp=N,212nm,0.7s						
DHBB	**Dhamar BB**	**2.48**	**10**	*i* P	Pn	16 34 16.9	+1.7
DHBB				*i* S	Sb	16 34 50.9	+0.6
HAJJ	**Hajjah**	**3.57**	**355**	*i* P	Pn	16 34 33.1	+2.9
HAJJ				*i* S	Sb	16 35 18.7	-3.0
HAJJ				AML	AML	16 35 30.0	
	comp=N,480nm,0.5s						
HAJJ	**Hajjah**	**3.57**

2.6nm,0.6s,baz=58,slow=9.7,SNR=28
ASAR Alice Springs 26.17 226 P P 17 18 30.6 -0.2
1.2nm,0.5s,baz=56,slow=9.4,SNR=37
STKA Stephens Creek 28.13 203 P P 17 18 46.8 -1.5
1.5nm,0.7s,baz=49,slow=11,SNR=3.7

IDC 05 17:16:57.5±51.0, 16°42S×176°49W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/17, mbtmp4.2/3, Error ellipse: s-maj=954.6km s-min=159.1km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.96**	**240**	P	P	17 24 42.5	+0.3
	1.0nm,0.4s,baz=83,slow=10.0,SNR=7.2						
WRA	**Warramunga Arr**	**46.73**	**258**	P	P	17 25 28.4	-0.4
	0.8nm,0.4s,baz=93,slow=8.2,SNR=16						
ASAR	**Alice Springs**	**46.98**	**253**	P	P	17 25 30.4	-0.3
	6.5nm,0.6s,baz=88,slow=8.4,SNR=88						

IDC 05 17:21:08.9±0.9, 1°93N×121°70E, h0km, mb3.7/7, mb1 3.9/8, mb1mx3.7/22, mbtmp3.7/8, ML3.8/1, 1C, Error ellipse: s-maj=65.1km s-min=16.0km az=69.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**5.84**	**26**	*iP*	Pn	17 22 36.0	-0.7
PAGZ	**Pagadian**	**6.11**	**16**	*eP*	Pn	17 22 39.4	-1.1
PAGZ				*eS*	Px	17 22 44.2	
KAPI	**Kappang**	**7.17**	**196**	Pn	Pn	17 22 56.3	+1.3
	1.6nm,0.3s,baz=292,slow=9.2,SNR=4.7						
FITZ	**Fitzroy Crossi**	**20.28**	**169**	P	P	17 25 46.5	+0.2
	9.8nm,0.6s,baz=4.9,slow=8.0,SNR=20						
WRA	**Warramunga Arr**	**25.03**	**151**	P	P	17 26 34.8	-0.1
	2.4nm,0.7s,baz=326,slow=10,SNR=19						
ASAR	**Alice Springs**	**28.08**	**158**	P	P	17 27 02.9	+0.5
	0.9nm,0.7s,baz=342,slow=12,SNR=11						
STKA	**Stephens Creek**	**38.56**	**152**	P	P	17 28 32.4	-1.1
	3.0nm,0.8s,baz=321,slow=6.5,SNR=5.0						
SONM	**Songino Array**	**47.61**	**346**	P	P	17 29 48.1	+1.3
	0.2nm,0.5s,baz=160,slow=13,SNR=3.5						
MKAR	**Makanchi Array**	**56.30**	**328**	P	P	17 30 50.9	-0.6
	0.1nm,0.3s,baz=125,slow=8.7,SNR=5.9						
KURBB	**Kurchatov Arra**	**60.65**	**330**	P	P	17 31 20.8	-0.9
	0.2nm,0.4s,baz=120,slow=5.6,SNR=5.1						

*BJI **05** 17:33:48.9, 18°57N×38°36E, h10km, mB5.1/9, mb4.5/15, Ms4.7/3, Ms7 4.3/3*
*MOS **05** 17:33:56.4±1.2, 19°07N×39°22E, h10km, mb4.6/32, Error ellipse: s-maj=12.5km s-min=6.2km az=84.0*
*IDC **05** 17:33:56.5±0.7, 19°08N×39°21E, h0km, mb4.2/23, mb1 4.3/25, mb1mx4.2/33, mbtmp4.2/25, ML2.9/2, MS3.9/18, Ms1 3.9/18, ms1mx3.6/39, Error ellipse: s-maj=17.9km s-min=13.2km az=147.0*
*NEIC **05** 17:33:58.2±0.4, 19°06N×39°18E, h10km, mb4.6/10, Error ellipse: s-maj=9.9km s-min=8.7km az=117.0*
*CSEM **05** 17:34:01.2±0.2, 19°04N×39°20E, h30km, mb4.5/22, Error ellipse: s-maj=9.9km s-min=7.9km az=79.0*
ISC 05 17:34:00.3±0.6, 19°12N±0°07×39°22E±0°07, h24km±3km, n187, σ135/192, mb4.5/54, MS4.0/18, 4C-2D, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**8.32**	**155**	Pn	**Pn**	**17 36 01.4**	**+1.9**
ATD				Sn	Sn	17 37 41.2	+8.3
ATD	**Arta Tunnel**	**8.32**	**155**	Pn	**Pn**	**17 36 01.4**	**+1.9**
	0.7nm,0.3s,baz=195,slow=18,SNR=1.7						
ATD				Sn	Sn	17 37 41.2	+8.3
	0.6nm,0.3s,baz=274,slow=23,SNR=1.9						
ATD				LR	LR	17 38 42.6	
	comp=Z,406nm,20.5s,baz=270,slow=34						
ATD	**Arta Tunnel**	**8.32**	**155**	Pn	**Pn**	**17 36 01.5**	**+1.9**
EIL	**Elat**	**11.20**	**341**	Pn	**Pn**	**17 36 40.1**	**+1.3**
EIL				Sn	Sn	17 38 55.0	+12
EIL	**Elat**	**11.20**	**341**	Pn	**Pn**	**17 36 40.1**	**+1.3**
	0.1nm,0.3s,baz=157,slow=18,SNR=2.5						
EIL				Sn	Sn	17 38 55.0	+12
	0.1nm,0.3s,baz=335,slow=13,SNR=2.9						
EIL				LR	LR	17 40 14.3	
	comp=Z,340nm,20.7s,baz=159,slow=34						
EIL	**Elat**	**11.20**	**341**	Pn	**Pn**	**17 36 40.2**	**+1.3**
ASF	**Jabal al Asfar**	**13.16**	**351**	Pn	**Pn**	**17 37 07.2**	**+1.4**
ASF				Sn	S	17 39 48.3	-7.7
ASF	**Jabal al Asfar**	**13.16**	**351**	Pn	**Pn**	**17 37 07.2**	**+1.4**
	0.1nm,0.3s,baz=38,slow=4.9,SNR=7.0						
ASF				Sn	S	17 39 48.3	-7.7
	0.1nm,0.3s,baz=89,slow=19,SNR=1.9						
ASF				LR	LR	17 41 43.3	
	comp=Z,364nm,18.4s,baz=228,slow=35						
MMAI	**Mount Meron Ar**	**14.25**	**347**	Pn	**P**	**17 37 25.8**	**-2.1**
MMAI	**Mount Meron Ar**	**14.25**	**347**	Pn	**P**	**17 37 25.8**	**-2.1**
	0.0nm,0.3s,baz=166,slow=11,SNR=7.3						
MMAI				LR	LR	17 42 15.8	
	comp=Z,321nm,19.8s,baz=210,slow=35						
MMAI	**Mount Meron Ar**	**14.25**	**347**	Pn	**P**	**17 37 25.8**	**-2.1**
BHD	**Baghdad**	**14.83**	**17**	*ex*	**Pn**	**17 37 26.0**	**-2.5**
BHD				*ex*	x	17 40 08.0	
BHD				*i* x	x	17 42 07.0	
BHD				*i* x	x	17 42 42.3	
BR131	**Keskin Array S**	**21.09**	**348**	*eP*	**P**	**17 38 44.6**	**+1.5**
	13nm,0.9s						
BR131	**Keskin Array S**	**21.09**	**348**	*eP*	**P**	**17 38 44.6**	**+1.5**
	13nm,0.9s						
BRTR	**Keskin Array B**	**21.09**	**348**	P	**P**	**17 38 44.9**	**+1.7**
BRTR				PcP	**PcP**	**17 42 49.8**	**+0.7**
BRTR	**Keskin Array B**	**21.09**	**348**	P	**P**	**17 38 44.9**	**+1.7**
	14nm,1.0s,baz=167,slow=13,SNR=52						
BRTR				PcP	**PcP**	**17 42 49.8**	**+0.7**
	0.6nm,0.8s,baz=161,slow=4.2,SNR=4.1						
BRTR	**Keskin Array B**	**21.09**	**348**	P	**P**	**17 38 44.8**	**+1.7**
BRTR	**Keskin Array B**	**21.09**	**348**	PcP	**PcP**	**17 42 49.8**	**+0.7**
GNI	**Garni**	**21.49**	**12**	P	**P**	**17 38 50.7**	**+3.3**
GNI	**Garni**	**21.49**	**12**	P	**P**	**17 38 50.7**	**+3.3**
	7.3nm,0.8s,baz=41,slow=17,SNR=7.1						
GNI				LR	LR	17 47 47.6	
	comp=Z,313nm,18.8s,baz=229,slow=39						
GNI	**Garni**	**21.49**	**12**	P	**P**	**17 38 50.7**	**+3.3**
	313nm,18.8s						
AKH	**Akhalkalaki**	**22.51**	**8**	P	**P**	**17 39 01.1**	**+2.7**
DGRG	**David-gareji**	**22.87**	**12**	P	**P**	17 39 18.2	+16
TBLG	**Delisi**	**23.02**	**11**	P	**P**	**17 39 06.7**	**+3.1**
TBLG	**Delisi**	**23.02**	**11**	P	**P**	**17 39 06.7**	**+3.1**
TBLG	**Delisi**	**23.02**	**11**	P	**P**	**17 39 06.7**	**+3.1**
ONI	**Oni**	**23.67**	**8**	P	**P**	**17 39 11.5**	**+1.5**
ZEI	**Tsey**	**23.90**	**9**	*eP*	**P**	**17 39 14.5**	**+2.0**
ZEI				pmax	pmax		
	comp=Z,20nm,1.2s						
ZEI	**Tsey**	**23.90**	**9**	*eP*	**P**	**17 39 14.5**	**+2.0**
	comp=Z,20nm,1.2s						
KIV	**Kislovodsk**	**24.93**	**6**	*eP*	**P**	**17 39 23.5**	**+1.8**
KIV				pmax	pmax		
	comp=Z,21nm,1.0s						
KIV				MLR	MLR		
	comp=Z,140nm,14.0s						
KIV	**Kislovodsk**	**24.93**	**6**	*eP*	**P**	**17 39 23.8**	**+2.1**
	comp=Z,30nm,1.2s						
KIV	**Kislovodsk**	**24.93**	**6**	*eP*	**P**	**17 39 23.5**	**+1.8**
	comp=Z,140nm,14.0s						
ANN	**Anapa**	**25.65**	**357**	*eP*	**P**	**17 39 31.8**	**+3.8**
ANN				pmax	pmax		
	comp=Z,167nm,1.7s						
MLR	**Muntele Rosu**	**28.51**	**340**	P	**P**	**17 39 55.8**	**+1.8**
MLR	**Muntele Rosu**	**28.51**	**340**	P	**P**	**17 39 55.8**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=274,slow=9.2,SNR=3.7						
MLR	**Muntele Rosu**	**28.51**	**340**	P	**P**	**17 39 55.8**	**+1.8**
KEST	**Kesra**	**31.09**	**308**	P	**P**	**17 40 18.1**	**+1.2**
KEST	**Kesra**	**31.09**	**308**	P	**P**	**17 40 18.1**	**+1.2**
	comp=Z,1.3nm,0.9s,baz=144,slow=5.3,SNR=3.7						
KEST	**Kesra**	**31.09**	**308**	P	**P**	**17 40 18.1**	**+1.2**
TAM	**Tamanrasset**	**31.64**	**283**	*eP*	**P**	**17 40 22.6**	**+0.6**
TAM				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TAM	**Tamanrasset**	**31.64**	**283**	*eP*	**P**	**17 40 22.6**	**+0.6**
	comp=Z,6.9nm,1.0s						
TAM	**Tamanrasset**	**31.64**	**283**	*eP*	**P**	**17 40 22.6**	**+0.6**
	comp=Z,7.0nm,1.0s						
VORD	**Divnogorie**	**31.77**	**0**	*eP*	**P**	**17 40 25.3**	**+2.7**
VORD				pmax	pmax		
	comp=Z,8.0nm,1.2s						
VORD				pmax	pmax		
	comp=N,7.0nm,0.6s						
VORD				pmax	pmax		
	comp=E,3.0nm,0.4s						
VORD	**Divnogorie**	**31.77**	**0**	*eP*	**P**	**17 40 25.3**	**+2.7**
	comp=E,7.0nm,0.6s						
VRHR	**Novokhopersk**	**31.96**	**3**	*eP*	P	17 40 28.4	+4.2
VRHR				pmax	pmax		
	comp=N,10.0nm,1.1s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
VRHR				pmax	pmax		
	comp=E,5.0nm,0.6s						
VSR	**Storozhevoye**	**32.02**	**360**	*eP*	**P**	**17 40 26.9**	**+2.1**
VSR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
VSR				pmax	pmax		
	comp=N,2.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,2.0nm,0.6s						
VSR	**Storozhevoye**	**32.02**	**360**	*eP*	**P**	**17 40 26.9**	**+2.1**
	comp=E,6.0nm,1.1s						
AKASG	**Malin Array Be**	**32.49**	**348**	P	**P**	**17 40 28.3**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKASG	**Malin Array Be**	**32.49**	**348**	P	**P**	**17 40 28.3**	**-0.6**
AKASG	**Malin Array Be**	**32.49**	**348**	P	**P**	**17 40 28.3**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=167,slow=7.8,SNR=8.9						
AKASG	**Malin Array Be**	**32.49**	**348**	P	**P**	**17 40 28.3**	**-0.6**
	comp=Z,2.0nm,0.7s						
MSKU	**Masuku**	**32.55**	**233**	P	**P**	**17 40 28.7**	**-1.2**
MSKU	**Masuku**	**32.55**	**233**	P	**P**	**17 40 28.7**	**-1.2**
	comp=Z,13nm,0.6s,baz=184,slow=19,SNR=3.7						
MSKU	**Masuku**	**32.55**	**233**	P	**P**	**17 40 28.7**	**-1.2**
KOLS	**Kolonicke sedl**	**32.73**	**339**	*eP*	**P**	**17 40 31.7**	**+0.6**
KOLS				pmax	pmax		
	comp=Z,29nm,2.4s						
KOLS	**Kolonicke sedl**	**32.73**	**339**	*eP*	**P**	**17 40 31.7**	**+0.6**
KOLS	**Kolonicke sedl**	**32.73**	**339**	*eP*	**P**	**17 40 31.7**	**+0.6**
	comp=Z,29nm,2.4s						
CRVS	**Cervenica-Dubn**	**32.98**	**338**	*eP*	**P**	**17 40 33.7**	**+0.4**
CRVS				pmax	pmax		
	comp=Z,9.0nm,1.5s						
CRVS	**Cervenica-Dubn**	**32.98**	**338**	*eP*	**P**	**17 40 33.7**	**+0.4**
CRVS	**Cervenica-Dubn**	**32.98**	**338**	*eP*	**P**	**17 40 33.7**	**+0.4**
	comp=Z,9.0nm,1.5s						
VYHS	**Vyhne**	**33.62**	**335**	*eP*	**P**	**17 40 39.3**	**+0.4**
VYHS				pmax	pmax		
	comp=Z,5.0nm,1.3s						
VYHS	**Vyhne**	**33.62**	**335**	*eP*	**P**	**17 40 39.3**	**+0.4**
VYHS	**Vyhne**	**33.62**	**335**	*eP*	**P**	**17 40 39.3**	**+0.4**
	comp=Z,5.0nm,1.3s						
ABKAR	**Akbulak array**	**34.37**	**24**	*eP*	**P**	**17 40 45.6**	**+0.3**
	comp=Z,2.6nm,0.8s						
ABKAR	**Akbulak array**	**34.37**	**24**	*eP*	**P**	**17 40 45.6**	**+0.3**
	comp=Z,2.6nm,0.8s						
AKTK	**Aktyubinsk**	**34.64**	**21**	P	**P**	**17 40 47.1**	**-0.5**
	comp=Z,2.0nm,1.0s						
AKTO	**Aktyubinsk**	**34.64**	**21**	P	**P**	**17 40 47.1**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AKTO	**Aktyubinsk**	**34.64**	**21**	P	**P**	**17 40 47.1**	**-0.5**
AKTO	**Aktyubinsk**	**34.64**	**21**	P	**P**	**17 40 47.1**	**-0.5**
	comp=Z,1.6nm,0.9s,baz=175,slow=13,SNR=4.3						
AKTO	**Aktyubinsk**	**34.64**	**21**	P	**P**	**17 40 47.1**	**-0.5**
OJC	**Ojcow**	**34.68**	**338**	*eP*	**P**	**17 40 47.1**	**-0.9**
OJC	**Ojcow**	**34.68**	**338**	*eP*	**P**	**17 40 47.9**	**-0.1**
OJC	**Ojcow**	**34.68**	**338**	*eP*	**P**	**17 40 47.9**	**-0.1**
MORC	**Moravsky Berou**	**35.16**	**335**	*eP*	**P**	**17 40 52.4**	**+0.2**
KKAR	**Karatay Array**	**35.56**	**41**	*eP*	**P**	**17 40 57.0**	**+1.3**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KKAR	**Karatay Array**	**35.56**	**41**	*eP*	**P**	**17 40 57.0**	**+1.3**
	comp=Z,5.3nm,0.9s						
KKAR	**Karatay Array**	**35.56**	**41**	*eP*	**P**	**17 40 57.0**	**+1.3**
	comp=Z,5.0nm,0.9s						
OBN	**Obninsk**	**35.98**	**357**	*iP*	**P**	**17 40 59.2**	**+0.1**
OBN				*i*		17 41 04.6	
OBN				pmax	pmax		
	comp=Z,26nm,1.2s						
OBN	**Obninsk**	**35.98**	**357**	*i* P	**P**	**17 40 59.2**	**+0.1**
	comp=Z,26nm,1.2s						
GERES	**GERESS Array B**	**36.09**	**331**	P	**P**	**17 40 59.7**	**-0.5**
GERES				PcP	**PcP**	**17 43 24.8**	**-1.2**
GERES	**GERESS Array B**	**36.09**	**331**	P	**P**	**17 40 59.7**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=133,slow=7.6,SNR=14						
GERES				PcP	**PcP**	**17 43 24.8**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=151,slow=4.1,SNR=3.9						
GERES	**GERESS Array B**	**36.09**	**331**	P	**P**	**17 40 59.7**	**-0.5**
	comp=Z,2.0nm,0.9s						
GERES	**GERESS Array B**	**36.09**	**331**	PcP	**PcP**	**17 43 24.8**	**-1.2**
TOA0	**Torodi Ar. Sit**	**36.48**	**266**	*eP*	**P**	**17 41 03.2**	**-0.7**
TOA0	**Torodi Ar. Sit**	**36.48**	**266**	*eP*	**P**	**17 41 03.2**	**-0.7**
TORD	**Torodi Ar. Bea**	**36.48**	**266**	P	**P**	**17 41 03.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**36.48**	**266**	P	**P**	**17 41 03.1**	**-0.8**
	comp=Z,15nm,0.9s,baz=78,slow=7.7,SNR=29						
TORD				LR	LR	17 56 49.9	
	comp=Z,263nm,19.5s,baz=335,slow=38						
TORD	**Torodi Ar. Bea**	**36.48**	**266**	P	**P**	**17 41 03.1**	**-0.8**
MOS	**Moscow**	**36.57**	**358**	*eP*	P	17 40 59.3	-4.8
BRG	**Berggiesshubel**	**37.47**	**334**	*eP*	**P**	**17 41 11.2**	**-0.7**
	comp=Z,7.2nm,1.3s						
BRG	**Berggiesshubel**	**37.47**	**334**	*eP*	**P**	**17 41 11.2**	**-0.7**
BRG				pmax	pmax		
	comp=Z,7.0nm,1.3s						
AAK	**Ala-Archa**	**37.87**	**44**	*eP*	**P**	**17 41 16.5**	**+0.9**
AAK				pmax	pmax		
	comp=Z,22nm,1.4s						
AAK	**Ala-Archa**	**37.87**	**44**	*eP*	**P**	**17 41 16.8**	**+1.2**
	comp=Z,43nm,1.4s						
AAK	**Ala-Archa**	**37.87**	**44**	P	**P**	**17 41 16.4**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=263,slow=8.6,SNR=5.4						
AAK	**Ala-Archa**	**37.87**	**44**	*eP*	**P**	**17 41 16.8**	**+1.2**
	comp=Z,43nm,1.4s						
CLL	**Collm**	**38.19**	**333**	*eP*	**P**	**17 41 17.0**	**-1.0**
CLL				pmax	pmax		
	comp=Z,7.0nm,1.2s						
CLL	**Collm**	**38.19**	**333**	*eP*	**P**	**17 41 17.0**	**-1.0**
	comp=Z,7.0nm,1.2s						
ARU	**Arti**	**39.97**	**17**	*dP*	**P**	**17 41 33.2**	**+0.5**
ARU						17 43 03.1	
ARU				SS	SS	17 50 29.6	-4.2
ARU				pmax	pmax		
	comp=Z,11nm,1.2s						
KOLN	**Koldanda**	**41.43**	**69**	*eP*	**P**	**17 41 45.7**	**+0.2**
BRVK	**Borovoye**	**41.54**	**28**	*cP*	**P**	**17 41 46.5**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.4s						
BVAR	**Borovoye Array**	**41.56**	**28**	P	**P**	**17 41 46.4**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**41.56**	**28**	P	**P**	**17 41 46.4**	**+0.4**
BVAR	**Borovoye Array**	**41.56**	**28**	P	**P**	**17 41 46.4**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=223,slow=7.7,SNR=6.7						
BVAR	**Borovoye Array**	**41.56**	**28**	P	**P**	**17 41 46.4**	**+0.4**
DANN	**Dangsing**	**41.60**	**69**	*eP*	**P**	**17 41 47.4**	**+0.4**
	comp=Z,32nm,0.9s						
KLMR	**Klimovskoe**	**41.69**	**0**	*eP*	**P**	**17 41 44.9**	**-1.9**
KLMR				pmax	pmax		
	comp=Z,38nm,1.4s						
ESDC	**Sonseca Array**	**42.34**	**308**	P	**P**	**17 41 52.2**	**-0.4**
ESDC	**Sonseca Array**	**42.34**	**308**	P	**P**	**17 41 52.2**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=99,slow=7.3,SNR=5.6						
ESDC	**Sonseca Array**	**42.34**	**308**	P	**P**	**17 41 52.2**	**-0.4**
GKN	**Gorkha**	**42.36**	**69**	*eP*	**P**	**17 41 52.5**	**-0.5**
DMN	**Daman**	**42.76**	**70**	*eP*	**P**	**17 41 56.3**	**-0.1**
KKN	**Kakani**	**42.92**	**70**	*eP*	**P**	**17 41 57.8**	**+0.1**
PKI	**Pulchoki**	**43.03**	**70**	*eP*	**P**	**17 41 58.5**	**-0.2**
FINES	**FINESS Array B**	**43.28**	**351**	P	**P**	**17 41 58.3**	**-1.5**
FINES	**FINESS Array B**	**43.28**	**351**	P	**P**	**17 41 58.3**	**-1.5**
	comp=Z,1.8nm,0.7s,baz=180,slow=6.9,SNR=3.6						
FINES	**FINESS Array B**	**43.28**	**351**	P	**P**	**17 41 58.3**	**-1.5**
GUN	**Gumba**	**43.45**	**69**	*eP*	**P**	**17 42 02.1**	**0.0**
	comp=Z,42nm,1.3s						
JIRN	**Jiri**	**43.73**	**70**	*eP*	**P**	**17 42 03.8**	**-0.5**
RAMN	**Ramite**	**44.09**	**71**	*eP*	**P**	**17 42 06.7**	**-0.4**
KURBB	**Kurchatov Arra**	**44.19**	**35**	P	**P**	**17 42 07.8**	**+0.5**
	comp=Z,4.9nm,0.9s,baz=240,slow=7.8,SNR=19						
KURBB				PcP	**PcP**	**17 43 52.0**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=238,slow=4.4,SNR=6.4						
KURK	**Kurchatov**	**44.29**	**35**	*eP*	**P**	**17 42 08.6**	**+0.6**
KURK						17 43 52.0	
KURK				pmax	pmax		
	comp=Z,11nm,1.1s						
KURK	**Kurchatov**	**44.29**	**35**	*eP*	**P**	**17 42 08.6**	**+0.6**
	comp=Z,11nm,1.1s						
KURK				PcP	**PcP**	**17 43 52.0**	**-0.1**
KURK	**Kurchatov**	**44.29**	**35**	*eP*	**P**	**17 42 08.6**	**+0.6**
	comp=Z,11nm,1.1s						
DBIC	**Dimbokro**	**44.58**	**260**	*eP*	**P**	**17 42 09.6**	**-1.3**
	comp=Z,14nm,1.2s						
DBIC	**Dimbokro**	**44.58**	**260**	P	**P**	**17 42 11.4**	**+0.6**
	comp=Z,8.8nm,1.1s,baz=66,slow=12,SNR=7.5						
DBIC				LR	LR	18 01 47.6	
	comp=Z,145nm,18.9s,baz=31,slow=38						
DBIC	**Dimbokro**	**44.58**	**260**	*eP*	**P**	**17 42 09.6**	**-1.3**
	comp=Z,14nm,1.2s						
MK31	**Makanchi Array**	**44.67**	**42**	*eP*	**P**	**17 42 11.3**	**+0.1**
MK31	**Makanchi Array**	**44.67**	**42**	*eP*	**P**	**17 42 11.3**	**+0.1**
MK31	**Makanchi Array**	**44.67**	**42**	*eP*	**P**	**17 42 11.3**	**+0.1**
MKAR	**Makanchi Array**	**44.67**	**42**	P	**P**	**17 42 11.6**	**+0.4**
MKAR						17 43 54.4	
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,203nm,18.8s						
MKAR	**Makanchi Array**	**44.67**	**42**	P	**P**	**17 42 11.6**	**+0.4**
MKAR				PcP	**PcP**	**17 43 54.4**	**+0.8**
MKAR	**Makanchi Array**	**44.67**	**42**	P	**P**	**17 42 11.6**	**+0.4**
	comp=Z,5.5nm,0.9s,baz=240,slow=6.9,SNR=41						
MKAR				PcP	**PcP**	**17 43 54.4**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=242,slow=3.1,SNR=2.9						
MKAR				LR	LR	18 03 07.7	
	comp=Z,203nm,18.8s,baz=85,slow=39						
MKAR	**Makanchi Array**	**44.67**	**42**	P	**P**	**17 42 11.6**	**+0.4**
MKAR	**Makanchi Array**	**44.67**	**42**	PcP	**PcP**	**17 43 54.4**	**+0.8**
ODAN	**Odare**	**44.79**	**71**	*eP*	**P**	**17 42 12.5**	**-0.2**
TAPN	**Taplejung**	**45.07**	**70**	*eP*	**P**	**17 42 14.6**	**-0.5**
	comp=Z,6.9nm,0.7s						
LBTB	**Lobatse**	**45.83**	**197**	P	**P**	**17 42 21.4**	**+0.7**
LBTB	**Lobatse**	**45.83**	**197**	P	**P**	**17 42 21.4**	**+0.7**
	comp=Z,5.9nm,1.0s,baz=22,slow=15,SNR=5.0						
LBTB	**Lobatse**	**45.83**	**197**	P	**P**	**17 42 21.4**	**+0.7**
NB2	**NORSAR Subarra**	**46.31**	**342**	P	**P**	**17 42 22.7**	**-1.3**
	comp=Z,11nm,1.2s,baz=142,slow=7.9						
NB2	**NORSAR Subarra**	**46.31**	**342**	P	**P**	**17 42 22.7**	**-1.3**
	comp=Z,11nm,1.2s,SNR=3.4						
NOA	**NORSAR Array B**	**46.31**	**342**	P	**P**	**17 42 22.9**	**-1.0**
NOA	**NORSAR Array B**	**46.31**	**342**	P	**P**	**17 42 22.9**	**-1.0**
	comp=Z,4.6nm,1.0s,baz=138,slow=8.3,SNR=6.3						
NOA				LR	LR	18 02 48.3	
	comp=Z,49nm,19.4s,baz=45,slow=37						
NOA	**NORSAR Array B**	**46.31**	**342**	P	**P**	**17 42 23.0**	**-1.0**
WMQ	**Urumqi**	**47.28**	**48**	P	**P**	**17 42 33.1**	**+1.2**
WMQ				pP	**pP**	**17 42 37.9**	**-1.5**
WMQ				sP	**sP**	**17 42 40.5**	**-1.8**
WMQ				ScS	**ScS**	**17 52 18.6**	**-6.1**
WMQ				pmax	pmax		
	comp=Z,15nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,190nm,6.0s						
WMQ				LR	LR		
	comp=N,150nm,16.0s						
WMQ				LR	LR		
	comp=E,290nm,18.4s						
WMQ				LR	LR		
	comp=Z,310nm,23.2s						
NVS	**Novosibirsk**	**48.78**	**32**	*iP*	**P**	**17 42 42.6**	**-0.6**
NVS				pmax	pmax		
	comp=Z,32nm,1.9s						
NVS				pmax	pmax		
	comp=N,9.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.3s						
SHL	**Shillong**	**48.87**	**72**	*e*PKP	P	17 42 48.0	+3.4
ZAA0	**Zalesovo Array**	**49.18**	**34**	*eP*	**P**	**17 42 46.2**	**-0.1**
ZAA0	**Zalesovo Array**	**49.18**	**34**	*eP*	**P**	**17 42 46.2**	**-0.1**
ZALV	**Zalesovo Beam**	**49.18**	**34**	P	**P**	**17 42 46.3**	**0.0**
ZALV				pmax	pmax		
	comp=Z,11nm,1.1s						
ZALV				MLR	MLR		
	comp=Z,104nm,19.4s						
ZALV	**Zalesovo Beam**	**49.18**	**34**	P	**P**	**17 42 46.3**	**0.0**
ZALV	**Zalesovo Beam**	**49.18**	**34**	P	**P**	**17 42 46.3**	**0.0**
	comp=Z,11nm,1.1s,baz=250,slow=8.7,SNR=31						
ZALV				LR	LR	18 07 25.4	
	comp=Z,104nm,19.4s,baz=186,slow=41						
ZALV	**Zalesovo Beam**	**49.18**	**34**	P	**P**	**17 42 46.3**	**0.0**
BOSA	**Boshof**	**49.34**	**196**	LR	LR	18 03 39.4	
	comp=Z,262nm,18.4s,baz=6.3,slow=36						
ARCES	**ARCESS Array B**	**51.10**	**354**	LR	LR	18 06 46.3	
	comp=Z,97nm,18.5s,baz=168,slow=38						
GTA	**Gaotai**	**55.56**	**55**

*ROM **05** 17:43:57.1±0.2, 40°.85N×10°.21E, h37km, Md2.7/13, Ml2.7/7, Error ellipse: s-maj=12.2km s-min=2.2km az=137.0*
*LDG **05** 17:43:57.9±0.2, 40°.78N×10°.17E, h25km, Md3.3/1, Ml3.3/6, Error ellipse: s-maj=5.7km s-min=3.1km az=16.0*
*CSEM **05** 17:43:57.2±0.3, 40°.87N×10°.18E, h30km, MD2.7/13, Error ellipse: s-maj=7.7km s-min=4.2km az=6.0*
ISC 05 17:43:52.7±1.9, 40°.89N±0°.04×10°.20E±0°.03, h2km±14km, n56, σ1§82/68, Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGI	**Dorgali Grotta**	**0.73**	**219**	Pg	**Pn**	**17 44 11.1**	**+1.1**
DGI				Sg	**Sn**	**17 44 21.3**	**-0.4**
DGI	**Dorgali Grotta**	**0.73**	**219**	Pg	**Pn**	**17 44 11.1**	**+1.1**
DGI				Sg	**Sn**	**17 44 21.3**	**-0.4**
OSPF	**L'Ospedale**	**1.08**	**316**	Pn	**Pn**	**17 44 16.0**	**+1.0**
OSPF	**L'Ospedale**	**1.08**	**316**	Pg	**Pn**	**17 44 17.3**	**+2.3**
OSPF				Sg	**Sn**	**17 44 33.1**	**+2.5**
OSPF	**L'Ospedale**	**1.08**	**316**	Pn	**Pn**	**17 44 16.0**	**+1.0**
OSPF	**L'Ospedale**	**1.08**	**316**	Pg	**Pn**	**17 44 17.3**	**+2.3**
OSPF				Sg	**Sn**	**17 44 33.1**	**+2.5**
TOLF	**Tolfa**	**1.79**	**48**	Pn	**Pn**	**17 44 25.7**	**+1.1**
TOLF				Sn	**Sn**	**17 44 47.5**	**-0.4**
	204nm,0.3s						
TOLF	**Tolfa**	**1.79**	**48**	Pn	**Pn**	**17 44 25.7**	**+1.1**
TOLF				Sn	**Sn**	**17 44 47.5**	**-0.4**
	204nm,0.3s						
PGF	**Pioggiola**	**1.88**	**332**	*e*Pn	**Pb**	**17 44 28.0**	**+0.1**
PGF				*e*Sn	**Sn**	**17 44 50.4**	**0.0**
	135nm,0.7s						
PGF	**Pioggiola**	**1.88**	**332**	*e*Pn	**Pb**	**17 44 28.0**	**+0.1**
PGF				*e*Sn	**Sn**	**17 44 50.4**	**0.0**
	67nm,0.7s						
LATE	**Laterza**	**2.10**	**34**	Pn	**Pg**	**17 44 32.0**	**-0.9**
	13nm,0.6s						
LATE	**Laterza**	**2.10**	**34**	Pn	**Pg**	**17 44 32.0**	**-0.9**
	13nm,0.6s						
CERT	**Cerreto**	**2.34**	**62**	Pn	**Pn**	**17 44 33.3**	**+1.0**
CERT	**Cerreto**	**2.34**	**62**	Pn	**Pn**	**17 44 33.3**	**+1.0**
MNS	**Montasola**	**2.38**	**50**	Pn	**Pn**	**17 44 34.8**	**+2.0**
	32nm,0.5s						
MNS	**Montasola**	**2.38**	**50**	Pn	**Pn**	**17 44 34.8**	**+2.0**
	32nm,0.5s						
GUAR	**Guarcino**	**2.51**	**68**	Pn	**Pn**	**17 44 35.8**	**+1.2**
	135nm,1.8s						
GUAR	**Guarcino**	**2.51**	**68**	Pn	**Pn**	**17 44 35.8**	**+1.2**
	135nm,1.8s						
FIAM	**Fiamignano**	**2.58**	**57**	Pn	**Pn**	**17 44 36.3**	**+0.7**
FIAM	**Fiamignano**	**2.58**	**57**	Pn	**Pn**	**17 44 36.3**	**+0.7**
PTQR	**Pietraquaria**	**2.66**	**64**	Pn	**Pn**	**17 44 38.8**	**+2.2**
	3.0nm,0.3s						
PTQR	**Pietraquaria**	**2.66**	**64**	Pn	**Pn**	**17 44 38.8**	**+2.2**
	3.0nm,0.3s						
SDI	**San Donato**	**2.84**	**72**	Pn	**Pn**	**17 44 40.9**	**+1.8**
	28nm,0.4s						
SDI	**San Donato**	**2.84**	**72**	Pn	**Pn**	**17 44 40.9**	**+1.8**
	28nm,0.4s						
RFI	**Roccamonfina**	**2.89**	**81**	Pn	**Pn**	**17 44 42.1**	**+2.3**
	11nm,0.6s						
RFI	**Roccamonfina**	**2.89**	**81**	Pn	**Pn**	**17 44 42.1**	**+2.3**
	11nm,0.6s						
CAMP	**Campotosto**	**2.91**	**55**	Pn	**Pn**	**17 44 42.7**	**+2.6**
	30nm,2.3s						
CAMP	**Campotosto**	**2.91**	**55**	Pn	**Pn**	**17 44 42.7**	**+2.6**
	30nm,2.3s						
NRCA	**Norcia**	**2.92**	**47**	Pn	Pn	17 44 43.4	+3.2
	3.0nm,0.3s						
NRCA	**Norcia**	**2.92**	**47**	Pn	Pn	17 44 43.4	+3.2
	3.0nm,0.3s						
SGG	**Gregorio Mates**	**3.19**	**80**	Pn	**Pn**	**17 44 45.4**	**+1.4**
	33nm,0.5s						
SGG	**Gregorio Mates**	**3.19**	**80**	Pn	**Pn**	**17 44 45.4**	**+1.4**
	33nm,0.5s						
PTRJ	**Pietraroja**	**3.30**	**80**	Pn	**Pn**	**17 44 46.8**	**+1.3**
	149nm,1.2s						
PTRJ	**Pietraroja**	**3.30**	**80**	Pn	**Pn**	**17 44 46.8**	**+1.3**
	149nm,1.2s						
SBF	**Sospel**	**3.61**	**326**	*e*Pn	**Pn**	**17 44 50.9**	**+1.2**
SBF				*e*Sn	**Sn**	**17 45 30.8**	**-2.0**
	82nm,0.7s						
SBF	**Sospel**	**3.61**	**326**	*e*Pn	**Pn**	**17 44 50.9**	**+1.2**
SBF				*e*Sn	**Sn**	**17 45 30.8**	**-2.0**
	41nm,0.7s						
LMR	**La Mourre**	**3.67**	**313**	*e*Pn	**Pn**	**17 44 51.1**	**+0.6**
LMR				*e*Sn	**Sn**	**17 45 31.8**	**-2.6**
	14nm,0.6s						
LMR	**La Mourre**	**3.67**	**313**	*e*Pn	**Pn**	**17 44 51.1**	**+0.6**
LMR				*e*Sn	**Sn**	**17 45 31.8**	**-2.6**
	7.1nm,0.6s						
TOUF	**Mont Tournerai**	**3.81**	**326**	Pn	Pn	17 44 55.9	+3.4
TOUF	**Mont Tournerai**	**3.81**	**326**	Pn	Pn	17 44 55.9	+3.4
MBDF	**Montbardon**	**4.59**	**328**	*e*Pn	**Pn**	**17 45 05.5**	**+2.3**
MBDF				*e*Sn	**Sn**	**17 45 54.0**	**-3.1**
	24nm,0.8s						
MBDF	**Montbardon**	**4.59**	**328**	*e*Pn	**Pn**	**17 45 05.5**	**+2.3**
MBDF				*e*Sn	**Sn**	**17 45 54.0**	**-3.1**
	12nm,0.8s						
SMRF	**Simiane la Rot**	**4.61**	**314**	*e*Pn	**Pn**	**17 45 05.3**	**+1.9**
SMRF	**Simiane la Rot**	**4.61**	**314**	*e*Pn	**Pn**	**17 45 05.3**	**+1.9**
ORIF	**Oris-en-Rattie**	**5.12**	**323**	*e*Pn	**Pn**	**17 45 13.2**	**+2.7**
ORIF	**Oris-en-Rattie**	**5.12**	**323**	*e*Pn	**Pn**	**17 45 13.2**	**+2.7**
LPG	**La Plagne**	**5.25**	**332**	*e*Pn	**Pn**	**17 45 15.1**	**+2.7**
LPG				*e*Sn	**Sn**	**17 46 10.2**	**-3.4**
	5.5nm,0.7s						
LPG	**La Plagne**	**5.25**	**332**	*e*Pn	**Pn**	**17 45 15.1**	**+2.7**
LPG				*e*Sn	**Sn**	**17 46 10.2**	**-3.4**
	2.8nm,0.7s						
LASF	**Ste Croix**	**5.67**	**306**	*e*Pn	**Pn**	**17 45 18.1**	**+0.2**
LASF	**Ste Croix**	**5.67**	**306**	*e*Pn	**Pn**	**17 45 18.1**	**+0.2**
CAF	**Calviac**	**7.21**	**307**	*e*Pn	**Pn**	**17 45 39.7**	**+0.7**
CAF	**Calviac**	**7.21**	**307**	*e*Pn	**Pn**	**17 45 39.7**	**+0.7**
RJF	**Les Rejaudoux**	**7.73**	**308**	*e*Pn	**Pn**	**17 45 47.1**	**+0.8**
RJF	**Les Rejaudoux**	**7.73**	**308**	*e*Pn	**Pn**	**17 45 47.1**	**+0.8**
BGF	**Bois d'Agland**	**7.77**	**319**	*e*Pn	**Pn**	**17 45 47.3**	**+0.5**
BGF	**Bois d'Agland**	**7.77**	**319**	*e*Pn	**Pn**	**17 45 47.3**	**+0.5**

PRE 05 17:48:31.2±0.7, 26°.38S×27°.52E, h2km, ML1.9, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.09**	**72**	*e*P	Pg	17 48 33.2	0.0
KLOF				*e*S	Sg	17 48 34.3	-0.2
KLOF				AML	AML	17 48 36.6	
	comp=Z,808nm,0.3s						
ERPM	**east rand prop**	**0.65**	**87**	*e*P	Pg	17 48 44.5	+0.5
ERPM				*e*S	Sg	17 48 52.6	0.0
ERPM				AML	AML	17 48 54.0	
	comp=Z,17nm,0.2s						
LBTB	**Lobatse**	**2.20**	**308**	*e*P	Pn	17 49 09.4	+0.4
LBTB				*e*S	Sn	17 49 37.6	+0.7
LBTB				AML	AML	17 49 41.8	
	comp=Z,10nm,0.6s						
BOSA	**Boshof**	**3.00**	**222**	*e*P	Pn	17 49 20.4	+0.4
BOSA				*e*S	Sn	17 49 56.8	+0.2
BOSA				AML	AML	17 50 05.9	
	comp=Z,2.5nm,0.8s						

IDC 05 17:51:28.4±4.3, 17°.93S×176°.97W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/17, mbtmp3.9/4, Error ellipse: s-maj=183.0km s-min=34.9km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.82**	**242**	P	P	17 59 04.7	+1.0
	1.3nm,0.8s,baz=84,slow=12,SNR=4.5						
WRA	**Warramunga Arr**	**45.97**	**259**	P	P	17 59 53.3	-0.5
	0.9nm,0.4s,baz=98,slow=7.2,SNR=38						
ASAR	**Alice Springs**	**46.10**	**254**	P	P	17 59 54.1	-0.7
	1.4nm,0.5s,baz=92,slow=7.5,SNR=64						
ILAR	**Eielson Array**	**85.61**	**12**	P	P	18 04 08.3	0.0
	0.3nm,0.9s,baz=223,slow=4.9,SNR=5.2						

*IDC **05** 18:03:03.3±1.6, 30°.72N×83°.23E, h0km, mb3.5/9, mb1 3.6/11, mb1mx3.5/29, mbtmp3.4/11, ML3.2/1, Error ellipse: s-maj=50.4km s-min=18.4km az=66.0*
ISC 05 18:03:05.3±0.8, 30°.8N±0°.1×83°.3E±0°.09, h11km, n12, σ1§14/13, mb3.4/8, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LGTI	**Lohaghat**	**3.00**	**244**	*e*PKP	**Pg**	**18 04 02.3**	**-0.5**
LGTI				*e*S	**Sg**	**18 04 42.3**	**+0.7**
MKAR	**Makanchi Array**	**15.98**	**357**	Pn	**Pn**	**18 06 48.5**	**-1.7**
	baz=165,slow=12,SNR=2.8						
CMAR	**Chiang Mai Arr**	**18.75**	**127**	P	**P**	**18 07 23.6**	**-0.8**
	0.0nm,0.3s,baz=310,slow=12,SNR=4.5						
KURBB	**Kurchatov Arra**	**20.12**	**351**	P	**P**	**18 07 39.8**	**+0.7**
	2.1nm,0.9s,baz=173,slow=9.3,SNR=12						
ZALV	**Zalesovo Beam**	**23.15**	**2**	P	**P**	**18 08 11.6**	**+0.1**
	0.5nm,0.6s,baz=179,slow=5.9,SNR=3.6						
BVAR	**Borovoye Array**	**24.13**	**341**	P	**P**	**18 08 21.7**	**+0.6**
	0.3nm,0.3s,baz=133,slow=8.7,SNR=3.7						
SONM	**Songino Array**	**24.50**	**40**	P	**P**	**18 08 26.3**	**+1.6**
	0.8nm,0.8s,baz=228,slow=9.1,SNR=6.1						
KSRS	**Korea Array**	**37.23**	**67**	P	**P**	**18 10 17.1**	**+0.3**
	0.6nm,0.8s,baz=271,slow=9.9,SNR=4.5						
WRA	**Warramunga Arr**	**70.33**	**129**	P	**P**	**18 14 17.8**	**-1.5**
	0.6nm,0.6s,baz=324,slow=6.2,SNR=9.6						
ASAR	**Alice Springs**	**72.68**	**132**	P	**P**	**18 14 35.2**	**+1.7**
	0.2nm,0.6s,baz=325,slow=7.9,SNR=3.9						
ILAR	**Eielson Array**	**77.03**	**20**	P	**P**	**18 14 58.3**	**+0.3**
	0.3nm,0.7s,baz=307,slow=5.2,SNR=5.3						
YKA	**Yellowknife Ar**	**85.91**	**8**	P	**P**	**18 15 44.5**	**-0.5**
	0.2nm,0.6s,baz=336,slow=5.4,SNR=3.9						

*ISK **05** 18:07:56.2, 36°.20N×27°.74E, h5km, MD2.8*
*ATH **05** 18:07:56.1, 36°.10N×27°.68E, h42km±3km, MD3.1/6*
*ISCJB **05** 18:07:57.0±0.9, 36°.06N±0°.05×27°.70E±0°.07, h49km±11km, Error ellipse: s-maj=10.2km s-min=6.3km az=31.1*
*CSEM **05** 18:07:57.5±0.2, 36°.08N×27°.70E, h40km, MD3.1, Error ellipse: s-maj=6.1km s-min=4.0km az=132.0*
*THE **05** 18:07:58.1, 36°.05N×27°.64E, h16km±6km, ML2.3/2, Error ellipse: s-maj=6.9km s-min=0.9km az=124.0*
ISC 05 18:07:57.5±1.3, 36°.08N±0°.03×27°.68E±0°.03, h31km±12km, n27, σ0§56/39, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.39**	**69**	P	**Pb**	**18 08 06.3**	**+0.1**
ARG				S	**Sn**	**18 08 13.7**	**+0.4**
ARG	**Arkhangelos**	**0.39**	**69**	*e*P	**Pb**	**18 08 06.3**	**+0.1**
ARG				*e*S	**Sn**	**18 08 13.3**	**0.0**
ARG	**Arkhangelos**	**0.39**	**69**	*e*P	**Pb**	**18 08 06.3**	**+0.1**
ARG				*e*S	**Sn**	**18 08 13.3**	**0.0**
NIS1	**Nisyros Isl.**	**0.66**	**323**	P	**Pn**	**18 08 10.6**	**-0.1**
NIS1				S	**Sn**	**18 08 21.3**	**+1.3**
NIS1	**Nisyros Isl.**	**0.66**	**323**	P	**Pn**	**18 08 10.6**	**-0.1**
NIS1				S	**Sn**	**18 08 21.3**	**+1.3**
KARP	**Karpathos**	**0.68**	**218**	P	**Pn**	**18 08 10.4**	**-0.6**
KARP				S	**Sn**	**18 08 20.5**	**0.0**
KARP	**Karpathos**	**0.68**	**218**	*e*P	**Pn**	**18 08 10.3**	**-0.7**
KARP				*e*S	**Sn**	**18 08 20.7**	**+0.2**
KARP	**Karpathos**	**0.68**	**218**	P	**Pn**	**18 08 10.4**	**-0.6**
KARP				S	**Sn**	**18 08 20.5**	**0.0**
BODT	**Bodrum**	**1.02**	**343**	*e*PG	**Pn**	**18 08 14.8**	**-0.9**
BODT				*e*SG	**Sn**	**18 08 28.9**	**-0.2**
BODT	**Bodrum**	**1.02**	**343**	*e*Pg	**Pn**	**18 08 14.8**	**-0.9**
BODT				*e*Sg	**Sn**	**18 08 28.9**	**-0.2**
YER	**Yerkesik**	**1.16**	**25**	*e*PG	**Pn**	**18 08 16.9**	**-0.8**
YER				*e*SG	**Sn**	**18 08 33.2**	**+0.7**
YER	**Yerkesik**	**1.16**	**25**	*e*Pg	**Pn**	**18 08 16.9**	**-0.8**
YER				*e*Sg	**Sn**	**18 08 33.2**	**+0.7**
FETY	**Fethiye**	**1.26**	**64**	*e*PN	**Pn**	**18 08 19.2**	**+0.2**
FETY	**Fethiye**	**1.26**	**64**	*e*Pn	**Pn**	**18 08 19.2**	**+0.2**
ZKR	**Zakros**	**1.53**	**231**	*e*P	**Pn**	**18 08 23.5**	**+0.8**
ZKR	**Zakros**	**1.53**	**231**	*e*P	**Pn**	**18 08 23.5**	**+0.8**
NPS	**Neapolis**	**1.87**	**245**	P	**Pn**	**18 08 26.9**	**-0.4**
NPS	**Neapolis**	**1.87**	**245**	*e*P	**Pn**	**18 08 26.9**	**-0.4**
NPS	**Neapolis**	**1.87**	**245**	*e*P	**Pn**	**18 08 26.9**	**-0.4**
APE	**Apeiranthos**	**1.99**	**300**	*e*PN	**Pb**	**18 08 32.8**	**-0.2**
APE	**Apeiranthos**	**1.99**	**300**	*e*P	**Pn**	**18 08 29.2**	**+0.2**
APE	**Apeiranthos**	**1.99**	**300**	*e*P	**Pn**	**18 08 29.2**	**+0.2**
APE	**Apeiranthos**	**1.99**	**300**	*e*Pn	**Pb**	**18 08 32.8**	**-0.2**
LAST	**Lasithi**	**2.01**	**244**	*e*P	**Pn**	**18 08 28.9**	**-0.5**
LAST	**Lasithi**	**2.01**	**244**	*e*P	**Pn**	**18 08 28.9**	**-0.5**
CHOS	**Chios island**	**2.64**	**331**	*e*P	**Pn**	**18 08 37.7**	**-0.3**
CHOS	**Chios island**	**2.64**	**331**	*e*P	**Pn**	**18 08 37.7**	**-0.3**

IDC 05 18:41:16.7±2.8, 3°.51N×123°.27E, h605km±41km, mb3.0/6, mb1 3.1/6, mb1mx2.7/19, mbtmp3.0/6, Error ellipse: s-maj=125.4km s-min=9.4km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.72**	**155**	P	P	18 46 00.5	-0.7
	2.1nm,0.3s,baz=336,slow=9.6,SNR=78						
WRA				S	S	18 49 47.9	-1.1
	0.4nm,0.6s,baz=317,slow=22,SNR=3.4						
ASAR	**Alice Springs**	**28.93**	**160**	P	P	18 46 29.1	-0.1
	0.8nm,0.4s,baz=336,slow=7.9,SNR=40						
ASAR				S	S	18 50 40.8	+1.9
	0.8nm,0.9s,baz=346,slow=19,SNR=4.1						
STKA	**Stephens Creek**	**39.27**	**155**	P	P	18 47 56.5	+1.4
	2.0nm,0.7s,baz=328,slow=8.6,SNR=6.9						
TAPN	**Taplejung**	**41.40**	**309**	*e*P	P	18 48 10.5	-2.0
	5.7nm,0.7s						
ODAN	**Odare**	**41.42**	**308**	*e*P	P	18 48 11.2	-1.4
	8.5nm,0.8s						
RAMN	**Ramite**	**42.09**	**307**	*e*P	P	18 48 16.4	-1.4
	8.9nm,0.7s						
JIRN	**Jiri**	**42.74**	**308**	*e*P	P	18 48 21.5	-1.5
	3.3nm,0.6s						
GUN	**Gumba**	**43.10**	**308**	*e*P	P	18 48 24.3	-1.5
	13nm,0.6s						
KKN	**Kakani**	**43.52**	**308**	*e*P	P	18 48 27.2	-1.6
DMN	**Daman**	**43.57**	**307**	*e*P	P	18 48 27.4	-1.9
GKN	**Gorkha**	**44.12**	**308**	*e*P	P	18 48 31.9	-1.5
KOLN	**Koldanda**	**44.84**	**307**	*e*P	P	18 48 37.7	-1.3
	14nm,0.6s						
DANN	**Dangsing**	**44.97**	**307**	*e*P	P	18 48 38.5	-1.6
	16nm,0.6s						
SONM	**Songino Array**	**46.49**	**344**	P	P	18 48 51.4	+0.4
	1.0nm,0.7s,baz=162,slow=8.9,SNR=6.6						
MKAR	**Makanchi Array**	**55.81**	**327**	P	P	18 49 57.9	-0.1
	1.3nm,0.3s,baz=126,slow=7.8,SNR=43						
MKAR				PcP	PcP	18 50 48.2	+0.4
	0.5nm,0.6s,baz=125,slow=3.8,SNR=7.2						
ZALV	**Zalesovo Beam**	**59.26**	**335**	P	P	18 50 20.0	-1.2
	0.4nm,0.3s,baz=125,slow=7.8,SNR=4.3						

*ISCJB **05** 18:43:19.7±0.6, 30°.05N±0°.07×137°.4E±0°.1, h517km, mb3.2/9, Error ellipse: s-maj=18.1km s-min=8.0km az=20.7*
*JMA **05** 18:43:19.2±0.6, 29°.76N×138°.03E, h497km, M3.5*
*IDC **05** 18:43:21.4±1.6, 29°.97N×137°.05E, h516km±19km, mb2.9/9, mb1 3.0/11, mb1mx2.8/24, mbtmp2.8/11, Error ellipse: s-maj=26.5km s-min=12.9km az=87.0*
ISC 05 18:43:21.0±0.8, 30°.15N±0°.10×137°.3E±0°.1, h517km, n17, σ1§55/21, mb3.2/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOD2	**Odawara 2**	**5.31**	**16**	P	**P**	**18 44 52.5**	**+1.0**
BSO3	**Boso 3**	**5.36**	**29**	*e*S	**S**	**18 46 04.9**	**-1.0**
BSO4	**Boso 4**	**5.45**	**27**	P	**P**	**18 44 54.9**	**+2.2**
BSO4				S	**S**	**18 46 07.2**	**-0.5**
JHU	**Hanno**	**5.92**	**15**	P	**P**	**18 44 57.3**	**+0.2**
JHU				*e*S	**S**	**18 46 13.7**	**-2.1**
JRY	**Ryogami san**	**6.00**	**12**	P	**P**	**18 44 59.1**	**+1.2**
JRY				*e*S	**S**	**18 46 17.7**	**+0.4**
JNU	**Nakatsue**	**6.26**	**300**	P	**P**	**18 45 00.7**	**+0.2**
	0.8nm,0.3s,baz=123,slow=10,SNR=11						
MJAR	**Matsushiro Arr**	**6.42**	**6**	P	**P**	**18 45 02.5**	**+0.6**
	0.4nm,0.3s,baz=179,slow=10,SNR=7.9						
JHO	**Hitachi**	**6.99**	**22**	P	**P**	**18 45 07.2**	**-0.2**
JHO				S	**S**	**18 46 30.0**	**-4.8**
MKAR	**Makanchi Array**	**45.25**	**308**	P	**P**	**18 50 52.0**	**+0.2**
	0.2nm,0.3s,baz=89,slow=8.4,SNR=8.0						
MKAR				PcP	**PcP**	**18 52 20.6**	**-0.2**
	0.1nm,0.4s,baz=77,slow=2.9,SNR=4.6						
WRA	**Warramunga Arr**	**49.88**	**184**	P	**P**	**18 51 25.3**	**-1.5**
	0.5nm,0.3s,baz=0.5,slow=7.8,SNR=17						
ASAR	**Alice Springs**	**53.61**	**184**	P	**P**	**18 51 53.5**	**-0.2**
	0.3nm,0.3s,baz=20,slow=11,SNR=4.5						
ILAR	**Eielson Array**	**57.13**	**30**	P	P	18 52 21.8	+4.2
	0.4nm,0.8s,baz=242,slow=5.8,SNR=4.1						
STKA	**Stephens Creek**	**61.82**	**176**	P	**P**	**18 52 48.9**	**-0.4**
	1.7nm,1.0s,baz=330,slow=8.1,SNR=2.9						
ARCES	**ARCESS Array B**	**69.24**	**340**	P	**P**	**18 53 36.1**	**+0.8**
	4.1nm,1.0s,baz=64,slow=8.2,SNR=4.1						
YKA	**Yellowknife Ar**	**71.46**	**28**	P	**P**	**18 53 50.4**	**+1.8**
	0.1nm,0.4s,baz=300,slow=6.1,SNR=3.1						
FINES	**FINESS Array B**	**73.30**	**332**	P	**P**	**18 53 59.5**	**+0.2**
	1.1nm,0.8s,baz=58,slow=5.0,SNR=6.0						
NOA	**NORSAR Array B**	**79.17**	**336**	P	**P**	**18 54 31.4**	**-0.2**
	0.6nm,0.5s,baz=55,slow=6.2,SNR=3.3						

*THR **05** 18:53:49.5±0.3, 34°.17N×60°.02E, h18km±4km, ML3.7*
*CSEM **05** 18:53:50.9±0.2, 34°.01N×59°.92E, h2km, ML3.9, Error ellipse: s-maj=4.8km s-min=2.7km az=92.0*
*TEH **05** 18:53:51.4, 34°.01N×60°.04E, h7km, ML3.9*
ISC 05 18:53:49.0±1.4, 34°.11N±0°.03×59°.97E±0°.04, h5km±13km, n56, σ1§66/54, 2C, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHRT	**Shahrakht**	**0.53**	**150**	*e*Pg	**Pb**	**18 54 00.7**	**-0.1**
SHRT	**Shahrakht**	**0.53**	**150**	*e*Pg	**Pb**	**18 54 00.7**	**-0.1**
IMON	**Monand**	**0.94**	**196**	*e*Sg	**Sb**	**18 54 18.6**	**-2.3**
IMON				*e*Pg	**Pb**	**18 54 07.4**	**-0.6**
IMON				*e*		18 54 23.2	
	comp=Z,5μm,0.1s						
IDAH	**Dahanechah**	**1.36**	**184**	*e*Pg	**Pn**	**18 54 14.1**	**-0.8**
IDAH				*e*Sg	**Sn**	**18 54 32.1**	**-1.4**
IDAH				*e*		18 54 36.6	
	comp=Z,32μm,0.1s						
IDAH	**Dahanechah**	**1.36**	**184**	*e*Pg	**Pn**	**18 54 14.1**	**-0.8**
IDAH				*e*Sg	**Sn**	**18 54 32.1**	**-1.4**
ITEG	**Tejag**	**1.58**	**221⇑**	*e*Pn	**Pb**	**18 54 18.9**	**+0.1**
ITEG				*e*		18 54 20.5	
	comp=Z,21μm,0.2s						
ITEG				*e*Sg	**Sb**	**18 54 39.9**	**+0.7**
ITEG	**Tejag**	**1.58**	**221⇑**	*e*Pn	**Pb**	**18 54 18.9**	**+0.1**
ITEG				*e*Sg	**Sb**	**18 54 39.9**	**+0.7**
IKOO	**Kooshah**	**1.86**	**206**	*e*Pn	**Pn**	**18 54 22.6**	**+0.8**
IKOO				*e*Sg	**Sn**	**18 54 46.4**	**+0.6**
IKOO				*e*		18 54 55.4	
	comp=Z,8μm,0.2s						
IKOO	**Kooshah**	**1.86**	**206**	*e*Pn	**Pn**	**18 54 22.6**	**+0.8**
IKOO				*e*Sg	**Sn**	**18 54 46.4**	**+0.6**
IMOG	**Moghan**	**2.07**	**346**	*e*Pn	**Pg**	**18 54 28.9**	**+0.3**
IMOG				*e*Sg	Sg	18 55 00.0	+4.6
IMOG				*e*		18 55 01.1	
	comp=Z,7μm,0.3s						
IMOG	**Moghan**	**2.07**	**346**	*e*Pn	**Pg**	**18 54 28.9**	**+0.3**
IMOG				*e*Sg	Sg	18 55 00.0	+4.6
IMYA	**Miami**	**2.23**	**3**	*e*Pn	**Pg**	**18 54 30.0**	**-1.8**
IMYA				*e*Sg	**Sg**	**18 55 04.2**	**+3.4**
IMYA				*e*		18 55 05.8	
	comp=Z,8μm,0.2s						
IMYA	**Miami**	**2.23**	**3**	*e*Pn	**Pg**	**18 54 30.0**	**-1.8**
IMYA				*e*Sg	**Sg**	**18 55 04.2**	**+3.4**
ISRO	**Mashad**	**2.24**	**350**	*e*Pn	**Pg**	**18 54 30.7**	**-1.2**
ISRO				*e*		18 55 08.6	
	comp=Z,9μm,0.6s						
ISRO	**Mashad**	**2.24**	**350**	*e*Pn	**Pg**	**18 54 30.7**	**-1.2**
MHI	**Mashad**	**2.24**	**350**	*e*Pn	**Pg**	**18 54 30.3**	**-1.6**
MHI				*e*		18 55 18.2	
	comp=Z,7μm,0.0s						
TABS	**Tabas**	**2.42**	**260**	*e*Pn	**Pb**	**18 54 30.8**	**-2.2**
TABS				*e*Sg	**Sg**	**18 55 06.7**	**0.0**
TABS				AML	AML	18 55 14.2	
	comp=N,420nm,0.5s						
TABS	**Tabas**	**2.42**	**260**	*e*Pn	**Pb**	**18 54 30.8**	**-2.2**
TABS				*e*Sg	**Sg**	**18 55 06.7**	**0.0**
IPAY	**Payeh**	**2.47**	**341**	*e*Pn	**Pb**	**18 54 33.2**	**-0.8**
IPAY				*e*		18 55 16.8	
	comp=Z,2μm,0.2s						
IPAY	**Payeh**	**2.47**	**341**	*e*Pn	**Pb**	**18 54 33.2**	**-0.8**
IAKL	**Akhelmad**	**2.68**	**339**	*e*Pn	**Pb**	**18 54 36.8**	**-0.9**
IAKL				*e*		18 55 29.8	
	comp=Z,2μm,0.3s						
IKRD	**Kardeh**	**2.92**	**336**	*e*Pn	**Pn**	**18 54 36.5**	**+0.2**
IKRD				*e*		18 55 29.6	
	comp=Z,3μm,0.3s						
ISFR	**Sfrayin**	**3.35**	**332**	*e*Pn	**Pb**	**18 54 46.1**	**-3.0**
ISFR				*e*		18 55 52.5	
	comp=Z,2μm,0.3s			

ACX				*i* S		Sn	19 07 49.7	-2.8
HUIG	**Huatulco**	**1.93**	**103**	*i* P		Pn	19 07 27.0	-2.7
HUIG				*e*S		Sn	19 07 50.3	-4.0
PPM	**Popocatepetl**	**2.89**	**349**	*i* P		Pn	19 07 40.2	-3.4
PPM				*i* S		Sn	19 08 14.4	-4.9
CMIG	**Matias Romero**	**3.16**	**74**	*i* P		Pn	19 07 44.4	-2.4
CMIG				*e*S		Sn	19 08 21.4	-3.5

IDC 05 19:14:24.6±2.1, 6°66S×129°65E, h0km, mb3.5/1, mb1 4.2/4, mb1mx3.6/16, mbtmp4.0/4, ML4.2/3, MS2.7/1, Ms1 2.7/1, ms1mx1.8/20, Error ellipse: s-maj=90.0km s-min=26.9km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.99**	**279**	LR	LR	19 20 36.2	
	comp=Z,46nm,19.1s,baz=174,slow=37						
FITZ	**Fitzroy Crossi**	**12.03**	**199**	Pn	Pn	19 17 18.9	+1.5
	0.8nm,0.3s,baz=46,slow=14,SNR=24						
FITZ				Sn	Sn	19 19 23.1	-9.4
	0.9nm,0.3s,baz=233,slow=20,SNR=3.9						
WRA	**Warramunga Arr**	**13.97**	**161**	Pn	Pn	19 17 42.7	-1.3
	1.5nm,0.3s,baz=342,slow=13,SNR=72						
WRA				Sn	Sn	19 20 05.5	-14
	1.6nm,0.3s,baz=333,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.40**	**167**	P	Pn	19 18 28.6	-0.4
	0.6nm,0.3s,baz=342,slow=9.3,SNR=33						
ASAR				S	Sn	19 21 31.8	-12
	0.4nm,0.3s,baz=347,slow=27,SNR=5.6						
MKAR	**Makanchi Array**	**67.75**	**327**	P	P	19 25 24.1	0.0
	0.2nm,0.3s,baz=117,slow=7.4,SNR=11						

*ISK **05** 19:15:00.2, 37°.80N×37°.71E, h6km, MD3.3*
*DDA **05** 19:15:00.8, 37°.79N×37°.75E, h7km, MD3.3*
*CSEM **05** 19:15:00.7±0.1, 37°.79N×37°.71E, h5km, MD3.3, Error ellipse: s-maj=3.7km s-min=2.3km az=141.0*

ISC 05 19:15:00.9±1.1, 37°.79N±0°.03×37°.71E±0°.03, h6km±10km, n42, σ0.954/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZT	**Gaziantep**	**0.45**	**195**	*i* P	**Pg**	**19 15 09.6**	**0.0**
AKCD	**Akcadag**	**0.53**	**19**	*e*P	**Pg**	**19 15 10.8**	**-0.3**
AKCD				*i* S	**Sg**	**19 15 19.1**	**+1.0**
AKCD	**Akcadag**	**0.53**	**19**	*e*P	**Pg**	**19 15 10.8**	**-0.3**
AKCD				*i* S	**Sg**	**19 15 19.1**	**+1.0**
ATAB	**Bozova**	**0.57**	**124**	*e*P	**Pg**	**19 15 11.5**	**-0.3**
ATAB				*i* S	**Sg**	**19 15 19.3**	**+0.1**
ATAB	**Bozova**	**0.57**	**124**	*e*P	**Pg**	**19 15 11.5**	**-0.3**
ATAB				*i* S	**Sg**	**19 15 19.3**	**+0.1**
KMRS	**Kahramanmaras**	**0.70**	**246**	*e*PG	**Pg**	**19 15 14.5**	**+0.2**
KMRS				*e*SG	**Sb**	**19 15 24.7**	**-0.7**
KMRS	**Kahramanmaras**	**0.70**	**246**	*e*Pg	**Pg**	**19 15 14.5**	**+0.2**
KMRS				*e*Sg	**Sb**	**19 15 24.7**	**-0.7**
GAZ	**Gaziantep**	**0.73**	**213**	*e*PG	**Pg**	**19 15 14.0**	**-0.9**
GAZ				*e*SG	**Sg**	**19 15 25.2**	**+0.7**
GAZ	**Gaziantep**	**0.73**	**213**	*e*Pg	**Pg**	**19 15 14.0**	**-0.9**
GAZ				*e*Sg	**Sg**	**19 15 25.2**	**+0.7**
MALT	**Malatya**	**0.77**	**47**	*e*PG	**Pg**	**19 15 14.8**	**-0.9**
MALT	**Malatya**	**0.77**	**47**	*e*Pg	**Pg**	**19 15 14.8**	**-0.9**
MYA	**Malataya**	**0.78**	**47**	*e*PG	**Pg**	**19 15 15.7**	**-0.1**
MYA	**Malataya**	**0.78**	**47**	*e*Pg	**Pg**	**19 15 15.7**	**-0.1**
URFA	**Urfa**	**0.95**	**111**	*e*PG	**Pg**	**19 15 19.3**	**+0.1**
URFA	**Urfa**	**0.95**	**111**	*e*Pg	**Pg**	**19 15 19.3**	**+0.1**
KUZU	**Kuzuini**	**1.14**	**207**	*e*P	**Pb**	**19 15 22.7**	**-0.2**
KUZU	**Kuzuini**	**1.14**	**207**	*e*P	**Pb**	**19 15 22.7**	**-0.2**
DARE	**Darende-Malaty**	**1.16**	**4**	*e*PG	Pg	19 15 15.8	-7.3
ELZG	**Elazig**	**1.23**	**55**	*i* P	**Pn**	**19 15 25.0**	**+0.3**
ELZG				*i* S	**Sn**	**19 15 42.4**	**+0.7**
ELZG	**Elazig**	**1.23**	**55**	*i* P	**Pn**	**19 15 25.0**	**+0.3**
ELZG				*i* S	**Sn**	**19 15 42.4**	**+0.7**
SVRC	**Sivrice-ELAZID**	**1.39**	**65**	*e*PN	**Pn**	**19 15 26.6**	**-0.4**
SVRC	**Sivrice-ELAZID**	**1.39**	**65**	*e*Pn	**Pn**	**19 15 26.6**	**-0.4**
KOZT	**Kozan**	**1.52**	**259**	*e*PN	**Pn**	**19 15 28.4**	**-0.2**
KOZT	**Kozan**	**1.52**	**259**	*e*Pn	**Pn**	**19 15 28.4**	**-0.2**
PTK	**Pertek**	**1.72**	**50**	*e*PN	**Pn**	**19 15 31.8**	**+0.3**
PTK	**Pertek**	**1.72**	**50**	*e*Pn	**Pn**	**19 15 31.8**	**+0.3**
CEYT	**Ceyhan**	**1.74**	**244**	*e*PN	**Pn**	**19 15 32.0**	**+0.4**
CEYT	**Ceyhan**	**1.74**	**244**	*e*Pn	**Pn**	**19 15 32.0**	**+0.4**
ILIC	**ilic-Erzincan**	**1.79**	**22**	*e*PN	**Pn**	**19 15 32.1**	**-0.3**
ILIC	**ilic-Erzincan**	**1.79**	**22**	*e*Pn	**Pn**	**19 15 32.1**	**-0.3**
BNN	**Bunyan**	**1.81**	**306**	*e*PN	**Pn**	**19 15 32.6**	**0.0**
BNN	**Bunyan**	**1.81**	**306**	*e*Pn	**Pn**	**19 15 32.6**	**0.0**
HTY	**Hatay**	**2.09**	**217**	*e*PN	**Pn**	**19 15 36.9**	**+0.6**
HTY	**Hatay**	**2.09**	**217**	*e*Pn	**Pn**	**19 15 36.9**	**+0.6**
EZC	**Erzincan**	**2.34**	**33**	*e*Pn	**Pn**	**19 15 40.8**	**+0.8**
ERZN	**Erzincan**	**2.39**	**41**	*e*PN	**Pn**	**19 15 40.8**	**+0.2**
BINT	**Bingol**	**2.44**	**63**	*e*Pn	**Pb**	**19 15 44.4**	**-0.8**
NIG	**Nigde**	**2.47**	**278**	*e*PN	**Pn**	**19 15 41.4**	**-0.4**
NIG	**Nigde**	**2.47**	**278**	*e*Pn	**Pn**	**19 15 41.4**	**-0.4**
BNGB	**Bing ¶ll**	**2.62**	**62**	*e*PN	**Pn**	**19 15 44.4**	**+0.5**
CORM	**Corum**	**3.38**	**316**	*e*PN	**Pn**	**19 15 54.8**	**+0.6**
CORM	**Corum**	**3.38**	**316**	*e*Pn	**Pn**	**19 15 54.8**	**+0.6**

PRE 05 19:25:49.4±0.7, 27°01S×26°61E, h2km, ML2.4, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFSD	**Buffelsfontein**	**0.21**	**48**	*e*P	Pg	19 25 53.8	+0.1
BFSD				*e*S	Sg	19 25 56.2	-0.4
BFSD				AML	AML	19 25 58.9	
	comp=Z,548nm,0.4s						
KLOF	**Kloof**	**1.11**	**54**	*e*P	Pg	19 26 10.7	-0.2
KLOF				*e*S	Sb	19 26 26.3	-0.3
KLOF				AML	AML	19 26 30.2	
	comp=Z,256nm,0.2s						
ERPM	**east rand prop**	**1.60**	**66**	*e*P	Pn	19 26 19.4	+0.5
ERPM				*e*S	Sg	19 26 42.7	+1.4
ERPM				AML	AML	19 26 43.3	
	comp=Z,20nm,0.3s						
BOSA	**Boshof**	**2.00**	**217**	*e*P	Pn	19 26 25.4	+0.9
BOSA				*e*S	Sn	19 26 50.9	+0.6
BOSA				AML	AML	19 26 53.8	
	comp=Z,11nm,0.7s						
LBTB	**Lobatse**	**2.18**	**335**	*e*P	Pn	19 26 27.5	+0.6
LBTB				*e*S	Sn	19 26 55.3	+0.7
LBTB				AML	AML	19 26 58.6	
	comp=Z,20nm,0.5s						

*MEX **05** 19:27:08.4±0.3, 22°.46N×110°.17W, h15km±28km, MD4.5*
*IDC **05** 19:27:11.1±2.3, 23°.79N×108°.48W, h0km, mb3.5/3, mb1 4.0/7, mb1mx3.8/24, mbtmp3.6/7, ML3.7/4, MS4.2/15, Ms1 4.2/15, ms1mx4.0/25, Error ellipse: s-maj=46.4km s-min=31.6km az=123.0*
*NEIC **05** 19:27:14.4±1.4, 23°.56N×109°.45W, h10km, MD4.5(MEX), Error ellipse: s-maj=32.5km s-min=12.5km az=211.0*

ISC 05 19:27:14.3±0.9, 23°.75N±0°.10×109°.19W±0°.05, h10km, n39, σ1.970/28, mb3.6/4, MS4.2/10, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.08**	**289**	*i* P	**Pb**	**19 27 33.2**	**-1.8**
LPIG				*e*S	**Sn**	**19 27 52.6**	**+2.1**
LPIG	**La Paz**	**1.08**	**289**	*i* P	**Pb**	**19 27 33.2**	**-1.8**
LPIG				*e*S	**Sn**	**19 27 52.6**	**+2.1**
MAIG	**Mazatlaan**	**2.60**	**102**	*i* P	**Pb**	**19 27 59.7**	**-1.3**
MAIG				*e*S	**Sg**	**19 28 40.7**	**+2.7**
MAIG	**Mazatlaan**	**2.60**	**102**	*i* P	**Pb**	**19 27 59.7**	**-1.3**
MAIG				*e*S	**Sg**	**19 28 40.7**	**+2.7**
ANIG	**Ahuacatlan**	**5.09**	**121**	*i* P	Pn	19 28 27.7	-3.0
ANIG				*e*S	**Sn**	**19 29 28.9**	**-0.7**
ANIG	**Ahuacatlan**	**5.09**	**121**	*i* P	Pn	19 28 27.7	-3.0
ANIG				*e*S	**Sn**	**19 29 28.9**	**-0.7**
HSIG		**5.48**	**344**	*i* P	Pb	19 28 42.7	-7.4
HSIG				*e*S	**Sb**	**19 29 55.6**	**-0.3**
HSIG		**5.48**	**344**	*i* P	Pb	19 28 42.7	-7.4
HSIG				*e*S	**Sb**	**19 29 55.6**	**-0.3**
TXAR	**Lajitas Array**	**7.44**	**40**	Pn	Pn	19 28 56.2	-6.9
TXAR				Sn	Sn	19 30 15.8	-12
TXAR	**Lajitas Array**	**7.44**	**40**	Pn	Pn	19 28 56.2	-6.9
	0.3nm,0.3s,baz=215,slow=13,SNR=12						
TXAR				Sn	Sn	19 30 15.8	-12
	1.2nm,0.3s,baz=198,slow=26,SNR=8.4						
CMIG	**Matias Romero**	**14.95**	**114**	LR	LR	19 36 33.8	
	comp=Z,2μm,19.8s,baz=114,slow=39						
NVAR	**Mina Array Bea**	**16.57**	**334**	Pn	**P**	**19 31 11.2**	**+1.7**
NVAR	**Mina Array Bea**	**16.57**	**334**	Pn	**P**	**19 31 11.2**	**+1.7**
	0.2nm,0.3s,baz=145,slow=16,SNR=9.6						
NVAR				LR	LR	19 36 59.6	
	comp=Z,463nm,20.1s,baz=212,slow=35						
ELK	**Elko**	**17.69**	**345**	P	**P**	**19 31 22.1**	**+0.1**
ELK	**Elko**	**17.69**	**345**	P	**P**	**19 31 22.1**	**+0.1**
	0.1nm,0.3s,baz=167,slow=12,SNR=4.8						
ELK				LR	LR	19 38 24.9	
	comp=Z,723nm,18.3s,baz=164,slow=38						
PDAR	**Pinedale Array**	**18.97**	**359**	P	**P**	**19 31 33.8**	**-2.2**
PDAR	**Pinedale Array**	**18.97**	**359**	P	**P**	**19 31 33.8**	**-2.2**
	0.1nm,0.3s,baz=164,slow=9.8,SNR=15						
PDAR				LR	LR	19 38 48.5	
	comp=Z,470nm,20.0s,baz=184,slow=37						
TEIG	**Tepich**	**19.71**	**96**	LR	LR	19 38 57.2	
	comp=Z,427nm,21.9s,baz=350,slow=37						
YBH	**Yreka Blue Hor**	**21.18**	**331**	LR	LR	19 40 19.5	
	comp=Z,311nm,18.7s,baz=154,slow=37						
TKL	**Tuckaleechee C**	**24.99**	**56**	LR	LR	19 43 06.3	
	comp=Z,929nm,19.4s,baz=253,slow=39						
ULM	**Lac du Bonnet**	**28.42**	**18**	LR	LR	19 44 18.9	
	comp=Z,246nm,19.7s,baz=219,slow=36						
BBB	**Bella Bella**	**31.87**	**338**	LR	LR	19 46 44.7	
	comp=Z,327nm,19.2s,baz=86,slow=37						
SADO	**Sadowa**	**32.21**	**42**	LR	LR	19 47 06.5	
	comp=Z,828nm,18.1s,baz=267,slow=38						
DLBC	**Dease Lake**	**37.71**	**342**	P	**P**	**19 34 29.2**	**-0.7**
DLBC	**Dease Lake**	**37.71**	**342**	P	**P**	**19 34 29.2**	**-0.7**
	1.7nm,0.8s,baz=195,slow=20,SNR=1.8						
DLBC				LR	LR	19 50 35.3	
	comp=Z,386nm,19.5s,baz=346,slow=37						
ROSC	**El Rosal**	**38.48**	**114**	LR	LR	19 51 52.9	
	comp=Z,259nm,18.4s,baz=204,slow=39						
YKA	**Yellowknife Ar**	**38.90**	**356**	P	**P**	**19 34 38.1**	**-1.6**
YKA	**Yellowknife Ar**	**38.90**	**356**	P	**P**	**19 34 38.1**	**-1.6**
	0.3nm,0.8s,baz=160,slow=7.5,SNR=6.7						
INK	**Inuvik**	**46.98**	**348**	P	**P**	**19 35 47.8**	**+2.7**
INK	**Inuvik**	**46.98**	**348**	P	**P**	**19 35 47.8**	**+2.7**
	1.0nm,0.8s,baz=158,slow=3.3,SNR=2.7						
ILAR	**Eielson Array**	**47.73**	**339**	P	**P**	**19 35 50.9**	**-0.2**
ILAR	**Eielson Array**	**47.73**	**339**	P	**P**	**19 35 50.9**	**-0.2**
	0.2nm,0.7s,baz=157,slow=6.5,SNR=5.2						
ILAR				LR	LR	19 57 25.0	
	comp=Z,130nm,19.0s,baz=132,slow=38						
PPT2	**Papeete2**	**56.95**	**228**	*e*LR	LR	19 53 31.9	
	463nm,26.5s,baz=31						
TBI	**Tubuai**	**61.01**	**223**	*e*LR	LR	19 55 28.9	
	250nm,30.2s						
ARCES	**ARCESS Array B**	**81.47**	**15**	LR	LR	20 15 39.2	
	comp=Z,150nm,20.4s,baz=353,slow=36						
NOA	**NORSAR Array B**	**82.87**	**25**	LR	LR	20 15 21.2	
	comp=Z,148nm,19.3s,baz=20,slow=35						
DZM	**Mont Dzumac**	**93.79**	**248**	*e*LR	LR	20 10 55.0	
	238nm,24.6s						
WRA	**Warramunga Arr**	**121.33**	**260**	PKP	**PKPdf**	**19 46 08.2**	**-0.3**
WRA	**Warramunga Arr**	**121.33**	**260**	PKP	**PKPdf**	**19 46 08.2**	**-0.3**
	0.6nm,1.0s,baz=85,slow=1.6,SNR=2.7						

MEX 05 19:46:45.0±1.0, 18°38N×103°91W, h16km±30km, MD3.5, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.55**	**100**	*i* P	Pg	19 46 54.6	-1.2
MMIG				*i* S	Sg	19 47 00.4	-2.8
R15V		**0.79**	**355**	*i* P	Pb	19 46 57.2	-3.2
R15V				*i* S	Sb	19 47 07.1	-3.9
EZ5V		**1.13**	**15**	*e*P	Pn	19 47 03.4	-3.1
EZ5V				*i* S	Sb	19 47 17.2	-4.1
SFJM	**Santa Fe**	**2.25**	**21**	*i* P	Pn	19 47 18.8	-3.0
SFJM				*e*S	Sn	19 47 44.5	-5.0

*IDC **05** 20:08:55.9±1.4, 37°.81N×27°.18E, h0km, mb3.5/3, mb1 3.4/6, mb1mx3.2/27, mbtmp3.4/6, ML3.2/3, Error ellipse: s-maj=29.9km s-min=24.2km az=132.0*
*ISK **05** 20:08:55.0, 37°.88N×26°.99E, h6km, ML3.5*
*ISCJB **05** 20:08:56.2±0.4, 37°.90N±0°.01×27°.05E±0°.02, h11km±3km, mb3.4/3, Error ellipse: s-maj=2.7km s-min=2.3km az=3.3*
*DDA **05** 20:08:56.3, 37°.91N×27°.10E, h8km, MD3.4, ML3.4*
*ATH **05** 20:08:56.0, 37°.91N×27°.04E, h24km±1km, MD3.6/15, ML3.2*
*CSEM **05** 20:08:56.9±0.1, 37°.88N×27°.05E, h10km, ML3.4, Error ellipse: s-maj=2.4km s-min=2.1km az=104.0*
*THE **05** 20:08:57.3, 37°.87N×27°.09E, h8km±1km, ML3.8/6, Error ellipse: s-maj=1.7km s-min=0.7km az=248.0*

ISC 05 20:08:56.9±0.9, 37°.88N±0°.02×27°.09E±0°.02, h12km±6km, n221, σ0.995/258, mb3.6/3, 11C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.21**	**147**	*i* P	**Pg**	**20 09 01.3**	**-0.1**
GCAM				*i* S	**Sg**	**20 09 04.7**	**+0.1**
SMG	**Samos**	**0.26**	**230**	P	**Pg**	**20 09 02.5**	**+0.2**
SMG				S	**Sb**	**20 09 07.5**	**-0.5**
SMG	**Samos**	**0.26**	**230**	*e*PB	**Pg**	**20 09 02.6**	**+0.2**
SMG				*e*SB	**Sb**	**20 09 07.1**	**-0.9**
SMG	**Samos**	**0.26**	**230**	*e*Pb	**Pg**	**20 09 02.6**	**+0.2**
SMG				*e*Sb	**Sb**	**20 09 07.1**	**-0.9**
SMG				S	**Sb**	**20 09 07.5**	**-0.5**
BLCB	**Balcova**	**0.51**	**356**	PG	**Pg**	**20 09 05.6**	**-1.3**
BLCB				*e*SG	**Sg**	**20 09 13.1**	**-0.5**
BLCB	**Balcova**	**0.51**	**356**	*i* Pg	**Pg**	**20 09 05.6**	**-1.3**
BLCB				*e*Sg	**Sg**	**20 09 13.1**	**-0.5**
IZM	**Izmir**	**0.54**	**15**	PG	**Pg**	**20 09 06.2**	**-1.3**
IZM	**Izmir**	**0.54**	**15**	*i* Pg	**Pg**	**20 09 06.2**	**-1.3**
URLA	**Izmir**	**0.62**	**321**	*i* P	**Pg**	**20 09 08.4**	**-0.6**
URLA				*i* S	**Sg**	**20 09 17.4**	**+0.2**
URLA	**Izmir**	**0.62**	**321**	*i* P	**Pg**	**20 09 08.4**	**-0.6**
URLA				*i* S	**Sg**	**20 09 17.4**	**+0.2**
AYDN	**Tasoluk**	**0.67**	**109**	*e*P	**Pg**	**20 09 09.4**	**-0.4**
AYDN				*i* S	**Sb**	**20 09 21.2**	**+1.4**
BODT	**Bodrum**	**0.83**	**168**	*e*PG	**Pg**	**20 09 11.8**	**-1.2**
BODT	**Bodrum**	**0.83**	**168**	*e*Pg	**Pg**	**20 09 11.8**	**-1.2**
BDRM	**Kayabasi**	**0.86**	**161**	*i* P	**Pg**	**20 09 12.6**	**-0.9**
BDRM				*i* S	**Sn**	**20 09 26.7**	**-0.6**
BDRM	**Kayabasi**	**0.86**	**161**	*i* P	**Pg**	**20 09 12.6**	**-0.9**
BDRM				*i* S	**Sn**	**20 09 26.7**	**-0.6**
CHOS	**Chios island**	**0.96**	**302**	P	**Pg**	**20 09 14.9**	**-0.5**
CHOS				S	**Sn**	**20 09 29.5**	**-0.4**
CHOS	**Chios island**	**0.96**	**302**	*e*PN	**Pg**	**20 09 14.7**	**-0.7**
CHOS	**Chios island**	**0.96**	**302**	P	**Pg**	**20 09 14.9**	**-0.5**
CHOS				S	**Sn**	**20 09 29.5**	**-0.4**
AKHS	**Akhisar**	**1.15**	**30**	*i* P	**Pb**	**20 09 17.3**	**-1.5**
AKHS	**Akhisar**	**1.15**	**30**	*i* P	**Pb**	**20 09 17.3**	**-1.5**
AKS	**Akhisar**	**1.15**	**30**	*e*PN	**Pb**	**20 09 17.5**	**-1.3**
AKS	**Akhisar**	**1.15**	**30**	*e*Pn	**Pb**	**20 09 17.5**	**-1.3**
YER	**Yerkesik**	**1.21**	**128**	*e*PN	**Pn**	**20 09 19.4**	**-0.3**
YER	**Yerkesik**	**1.21**	**128**	*e*Pn	**Pn**	**20 09 19.4**	**-0.3**
NIS1	**Nisyros Isl.**	**1.27**	**177**	P	**Pn**	**20 09 20.0**	**-0.6**
NIS1				S	**Sb**	**20 09 36.7**	**-0.5**
NIS1	**Nisyros Isl.**	**1.27**	**177**	P	**Pn**	**20 09 20.0**	**-0.6**
NIS1				S	**Sb**	**20 09 36.7**	**-0.5**
MANT	**Manisa**	**1.31**	**62**	*i* P	**Pn**	**20 09 20.0**	**-1.3**
MANT	**Manisa**	**1.31**	**62**	*i* P	**Pn**	**20 09 20.0**	**-1.3**
KULA	**Kula-Manisa**	**1.39**	**62**	*e*PN	**Pb**	**20 09 22.8**	**-0.1**
KULA	**Kula-Manisa**	**1.39**	**62**	*e*Pn	**Pb**	**20 09 22.8**	**-0.1**
AYVA	**Ayvalik**	**1.46**	**348**	*i* P	**Pb**	**20 09 23.9**	**-0.1**
AYVA				*i* S	**Sg**	**20 09 44.4**	**+0.4**
AYVA	**Ayvalik**	**1.46**	**348**	*i* P	**Pb**	**20 09 23.9**	**-0.1**
APE	**Apeiranthos**	**1.48**	**237**	*e*PN	**Pn**	**20 09 21.9**	**-1.5**
APE	**Apeiranthos**	**1.48**	**237**	P	**Pn**	**20 09 22.4**	**-1.0**
APE				S	**Sn**	**20 09 43.0**	**+0.3**
APE	**Apeiranthos**	**1.48**	**237**	*e*PN	**Pn**	**20 09 22.4**	**-1.0**
APE				*e*SN	**Sn**	**20 09 42.5**	**-0.2**
APE	**Apeiranthos**	**1.48**	**237**	‖ *i* P	**Pn**	**20 09 22.1**	**-1.3**
APE	**Apeiranthos**	**1.48**	**237**	P	**Pn**	**20 09 22.4**	**-1.0**
APE				*e*Sn	**Sn**	**20 09 42.5**	**-0.2**
APE				S	**Sn**	**20 09 43.0**	**+0.3**
PRK	**Paraskevi**	**1.51**	**335**	P	**Pb**	**20 09 22.9**	**-0.8**
PRK				S	**Sb**	**20 09 44.0**	**+0.1**
PRK	**Paraskevi**	**1.51**	**335**	*e*PN	**Pn**	**20 09 23.0**	**-0.8**
PRK				*e*SN	**Sn**	**20 09 42.8**	**-0.6**
PRK	**Paraskevi**	**1.51**	**335**	*e*Pn	**Pn**	**20 09 23.0**	**-0.8**
PRK				*e*Sn	**Sn**	**20 09 42.8**	**-0.6**
PRK				S	**Sb**	**20 09 44.0**	**+0.1**
DNZL	**Cakiroluk**	**1.56**	**96**	*i* P	**Pn**	**20 09 24.4**	**-0.3**
DNZL	**Cakiroluk**	**1.56**	**96**	*i* P	**Pn**	**20 09 24.4**	**-0.3**
TURN	**Turunc**	**1.57**	**129**	*e*P	**Pn**	**20 09 22.1**	**-2.5**
DEMI	**Demirci**	**1.73**	**47**	*i* P	**Pb**	**20 09 28.2**	**-0.5**
DEMI	**Demirci**	**1.73**	**47**	*i* P	**Pb**	**20 09 28.2**	**-0.5**
ARG	**Arkhangelos**	**1.86**	**153**	P	**Pn**	**20 09 28.4**	**-0.1**
ARG				S	**Sn**	**20 09 52.5**	**+0.6**
ARG	**Arkhangelos**	**1.86**	**153**	*e*PN	**Pn**	**20 09 29.1**	**+0.6**
ARG				*e*SN	**Sb**	**20 09 53.6**	**-0.3**
ARG	**Arkhangelos**	**1.86**	**153**	P	**Pn**	**20 09 28.4**	**-0.1**
ARG	**Arkhangelos**	**1.86**	**153**	*e*Pn	**Pn**	**20 09 29.1**	**+0.6**
ARG				S	**Sn**	**20 09 52.5**	**+0.6**
ARG				*e*Sn	**Sb**	**20 09 53.6**	**-0.3**
BALB	**Balikesir**	**1.87**	**19**	*e*PN	**Pn**	**20 09 28.9**	**+0.2**
BALB	**Balikesir**	**1.87**	**19**	*e*Pn	**Pn**	**20 09 28.9**	**+0.2**
BALY	**Balya**	**1.91**	**12**	*e*P	**Pn**	**20 09 27.9**	**-1.4**
BALY				*i* S	**Sg**	**20 09 56.8**	**-1.4**
BALY	**Balya**	**1.91**	**12**	*e*P	**Pn**	**20 09 27.9**	**-1.4**
KHAL	**Karahalli**	**1.96**	**75**	*i* P	**Pg**	**20 09 34.0**	**-0.5**
KHL	**Karahalli**	**1.97**	**76**	*e*PN	**Pn**	**20 09 31.0**	**+0.7**
KHL	**Karahalli**	**1.97**	**76**	*e*Pn	**Pn**	**20 09 31.0**	**+0.7**
FETY	**Fethiye**	**2.02**	**127**	*e*PN	**Pn**	**20 09 31.6**	**+0.8**
FETY	**Fethiye**	**2.02**	**127**	*e*Pn	**Pn**	**20 09 31.6**	**+0.8**
EZN	**Ezine**	**2.03**	**343**	*e*PN	**Pn**	**20 09 30.5**	**-0.5**
EZN	**Ezine**	**2.03**	**343**	*e*Pn	**Pn**	**20 09 30.5**	**-0.5**
DST	**Dursunbey**	**2.10**	**34**	*e*PN	**Pn**	**20 09 32.7**	**+0.7**
DST	**Dursunbey**	**2.10**	**34**	*e*Pn	**Pn**	**20 09 32.7**	**+0.7**
BOZC	**Bozcaada**	**2.12**	**338**	*e*P	**Pn**	**20 09 33.0**	**+0.8**
MRMA	**Marmari**	**2.15**	**276**	P	**Pn**	**20 09 31.9**	**-0.7**
MRMA				S	**Sn**	**20 09 59.0**	**-0.1**
MRMA	**Marmari**	**2.15**	**276**	P	**Pn**	**20 09 31.9**	**-0.7**
MRMA				S	**Sn**	**20 09 59.0**	**-0.1**
GONE	**Gonen-Balikesi**	**2.22**	**12**	*e*PN	**Pn**	**20 09 32.6**	**-0.9**
GONE	**Gonen-Balikesi**	**2.22**	**12**	*e*Pn	**Pn**	**20 09 32.6**	**-0.9**
GDZ	**Gediz**	**2.23**	**57**	*i* P	**Pg**	**20 09 39.1**	**-0.7**
LPK	**Lapseki**	**2.50**	**354**	*e*PN	**Pn**	**20 09 37.0**	**-0.5**
LPK	**Lapseki**	**2.50**	**354**	*e*Pn	**Pn**	**20 09 37.0**	**-0.5**
LIA	**Limnos Island**	**2.50**	**324**	P	**Pn**	**20 09 37.3**	**-0.2**
LIA				S	**Sn**	**20 10 09.2**	**+1.3**
LIA	**Limnos Island**	**2.50**	**324**	*e*PB	**Pn**	**20 09 37.4**	**-0.1**
LIA				*e*SN	**Sn**	**20 10 06.2**	**-1.7**
LIA	**Limnos Island**	**2.50**	**324**	P	**Pn**	**20 09 37.3**	**-0.2**
LIA				*e*Sn	**Sn**	**20 10 06.3**	**-1.7**
LIA				S	**Sn**	**20 10 09.2**	**+1.3**
ELL	**Elmali**	**2.52**	**116**	*e*PN	**Pn**	**20 09 39.0**	**+1.3**
ELL	**Elmali**	**2.52**	**116**	*e*Pn	**Pn**	**20 09 39.1**	**+1.3**
KRBG	**Karabiga-Canak**	**2.52**	**4**	*e*PN	**Pn**	**20 09 37.1**	**-0.5**
KRBG	**Karabiga-Canak**	**2.52**	**4**	*e*Pn	**Pn**	**20 09 37.1**	**-0.5**
EDC	**Edincik**	**2.54**	**14**	*e*PN	**Pn**	**20 09 38.3**	**+0.3**
EDC	**Edincik**	**2.54**	**14**	*e*Pn	**Pn**	**20 09 38.3**	**+0.3**
PTL	**Penteli**	**2.55**	**275**	*e*PN	**Pn**	**20 09 37.9**	**-0.3**
PTL	**Penteli**	**2.55**	**275**	*e*Pn	**Pn**	**20 09 37.9**	**-0.3**
BNT	**Bandirma**	**2.56**	**14**	*e*PN	**Pn**	**20 09 37.7**	**-0.5**
BNT	**Bandirma**	**2.56**	**14**	*e*Pn	**Pn**	**20 09 37.7**	**-0.5**
GELI	**Tayfur-Gelibol**	**2.56**	**349**	*e*PN	**Pn**	**20 09 37.8**	**-0.5**
GELI	**Tayfur-Gelibol**	**2.56**	**349**	*e*Pn	**Pn**	**20 09

KONT	**Konya--Tatoy**	**4.17**	**87**	*e*Pn		**Pn**	**20 10 01.6 +1.1**
THL	**Klokotos Trika**	**4.31**	**295**	*e*PN		**Pn**	**20 10 03.4 +1.1**
THL	**Klokotos Trika**	**4.31**	**295**	*e*Pn		**Pn**	**20 10 03.4 +1.1**
BRTR	**Keskin Array B**	**5.44**	**68**	Pn		**Pn**	**20 10 18.8 +0.8**
	0.3nm,0.3s,baz=248,slow=14,SNR=11						
VTS	**Vitosha**	**5.56**	**329**	⇓*i*P		**Pn**	**20 10 20.7 +1.0**
VTS	**Vitosha**	**5.56**	**329**	⇓*i*P		**Pn**	**20 10 20.7 +1.0**
BARS	**Barje**	**6.37**	**322**	*e*Pn		**Pn**	**20 10 31.4 +0.8**
TIRR	**Tirgusor**	**6.65**	**8**	⇑*i*P		**Pn**	**20 10 34.2 -0.2**
TIRR	**Tirgusor**	**6.65**	**8**	⇑*i*P		**Pn**	**20 10 34.2 -0.2**
BOLS	**Boljevac**	**7.10**	**328**	*e*Pn		**Pn**	**20 10 39.0 -1.7**
CFR	**Carcaliu**	**7.34**	**6**	⇑*i*P		**Pn**	**20 10 43.7 -0.1**
CFR	**Carcaliu**	**7.34**	**6**	⇑*i*P		**Pn**	**20 10 43.7 -0.1**
MLR	**Muntele Rosu**	**7.66**	**354**	⇑*i*P		**Pn**	**20 10 49.0 +0.7**
MLR	**Muntele Rosu**	**7.66**	**354**	Pn		**Pn**	**20 10 50.8 +2.5**
	0.1nm,0.3s,baz=119,slow=20,SNR=3.1						
MLR	**Muntele Rosu**	**7.66**	**354**	⇑*i*P		**Pn**	**20 10 49.0 +0.7**
GRUS	**Gruza**	**7.70**	**323**	*e*Pn		**Pn**	**20 10 48.3 -0.6**
VOIR		**7.71**	**349**	⇓*i*P		**Pn**	**20 10 49.1 +0.1**
VOIR		**7.71**	**349**	⇓*i*P		**Pn**	**20 10 49.1 +0.1**
PLOR	**Plostina**	**7.97**	**358**	⇑*i*P		Pn	20 11 00.6 +8.0
VRI	**Vrincioaia**	**7.99**	**358**	⇑*i*P		**Pn**	**20 10 54.5 +1.7**
VRI	**Vrincioaia**	**7.99**	**358**	⇑*i*P		**Pn**	**20 10 54.5 +1.7**
MMAI	**Mount Meron Ar**	**8.34**	**123**	Pn		**Pn**	**20 10 56.3 -1.5**
	2.8nm,0.3s,baz=310,slow=12,SNR=24						
MMAI				Sn		**Sn**	**20 12 26.4 -5.4**
	1.3nm,0.3s,baz=312,slow=18,SNR=5.5						
BZS	**Buzias**	**8.74**	**334**	⇓*i*P		**Pn**	**20 11 03.9 +0.8**
BZS	**Buzias**	**8.74**	**334**	⇓*i*P		**Pn**	**20 11 03.9 +0.8**
GERES	**GERESS Array B**	**14.64**	**323**	Pn		**P**	**20 12 32.0 +1.9**
	0.1nm,0.3s,baz=136,slow=13,SNR=2.4						
AKTO	**Aktyubinsk**	**25.29**	**50**	P		**P**	**20 14 23.9 +0.8**
	0.6nm,0.5s,baz=249,slow=8.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**33.43**	**229**	P		**P**	**20 15 36.7 +1.0**
	0.8nm,0.8s,baz=38,slow=8.8,SNR=5.3						
MKAR	**Makanchi Array**	**41.02**	**59**	P		**P**	**20 16 40.3 +0.4**
	0.2nm,0.5s,baz=266,slow=8.8,SNR=5.5						

*IDC **05** 20:17:38.7±1.0,0.°27S×133.°13E,h0km,mb3.7/6, mb1 4.0/8,mb1mx3.8/17,mbtmp3.8/8,ML3.9/2,Error ellipse: s-maj=44.4km s-min=16.8km az=76.0*
*ISCJB **05** 20:17:42.1±0.8,0.°46S±0.°06×132.°8E±0.°1,h32km,mb3.7/6, Error ellipse: s-maj=21.7km s-min=7.0km az=169.5*
*DJA **05** 20:17:44,0.°29S×133.°07E,h60km,MLv4.4/8*
ISC 05 20:17:43.7±0.9,0°.56S±0.°08×132.°8E±0.°2,h32km,n18, σ1º67/20,mb4.3/10,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.78**	**201**	P	**Pn**	**20 22 03.0**	**+1.9**
	0.2nm,0.3s,baz=24,slow=10,SNR=2.4						
FITZ				S	**Sn**	**20 25 26.5**	**-4.0**
	0.2nm,0.3s,baz=245,slow=17,SNR=3.3						
WRA	**Warramunga Arr**	**19.33**	**175**	P	**Pn**	**20 22 08.9**	**+1.2**
	0.5nm,0.3s,baz=355,slow=11,SNR=21						
WRA				S	**S**	**20 25 41.0**	**-2.6**
	0.1nm,0.3s,baz=359,slow=23,SNR=4.5						
ASAR	**Alice Springs**	**23.00**	**177**	P	**P**	**20 22 48.4**	**+2.4**
	3.5nm,0.7s,baz=359,slow=11,SNR=42						
STKA	**Stephens Creek**	**32.26**	**166**	P	**P**	**20 24 10.8**	**+1.4**
	4.4nm,0.6s,baz=349,slow=9.4,SNR=13						
CMAR	**Chiang Mai Arr**	**38.22**	**301**	P	**P**	**20 25 02.0**	**+1.1**
	0.7nm,0.8s,baz=125,slow=6.4,SNR=8.0						
TAPN	**Taplejung**	**51.38**	**306**	*e*P	**P**	**20 26 46.0**	**-0.1**
ODAN	**Odare**	**51.44**	**306**	*e*P	**P**	**20 26 46.6**	**+0.2**
	5.9nm,0.7s						
RAMN	**Ramite**	**52.12**	**305**	*e*P	**P**	**20 26 51.8**	**+0.3**
JIRN	**Jiri**	**52.74**	**306**	*e*P	**P**	**20 26 56.3**	**0.0**
GUN	**Gumba**	**53.09**	**306**	*e*P	**P**	**20 26 58.0**	**-0.8**
	7.8nm,0.8s						
PKI	**Pulchoki**	**53.34**	**306**	*e*P	**P**	**20 27 00.3**	**-0.3**
SONM	**Songino Array**	**53.38**	**338**	P	**P**	**20 26 58.7**	**-1.6**
	0.2nm,0.5s,baz=152,slow=9.4,SNR=2.3						
KKN	**Kakani**	**53.53**	**306**	*e*P	**P**	**20 27 02.1**	**+0.2**
DMN	**Daman**	**53.60**	**305**	*e*P	**P**	**20 27 03.1**	**+0.6**
KOLN	**Koldanda**	**54.89**	**305**	*e*P	**P**	**20 27 12.6**	**+0.8**
	10nm,0.7s						
DANN	**Dangsing**	**54.98**	**306**	*e*P	**P**	**20 27 13.0**	**+0.4**
	14nm,0.8s						
MKAR	**Makanchi Array**	**64.51**	**324**	P	**P**	**20 28 18.0**	**+0.5**
	0.3nm,0.4s,baz=110,slow=9.4,SNR=11						
ILAR	**Eielson Array**	**86.39**	**25**	P	**P**	**20 30 20.3**	**-2.3**
	0.3nm,0.8s,baz=267,slow=3.6,SNR=3.5						

*IDC **05** 20:27:14.9±2.0,14.°50S×76.°32W,h0km,mb3.7/3, mb1 3.9/5,mb1mx3.8/17,mbtmp3.7/5,ML4.0/2,MS3.4/3, Ms1 3.4/3,ms1mx3.0/25,Error ellipse: s-maj=65.6km s-min=28.8km az=48.0*
*NEIC **05** 20:27:20.2±1.9, 14.°53S×76.°38W,h35km,ML4.3(ARE), Error ellipse: s-maj=45.3km s-min=13.5km az=223.0*
NEIC Felt [II] at Ica.
ISC 05 20:27:18.7±1.4,14°.4S±0.°1×76°.3W±0.°2,h23km,n17, σ1º06/16,mb3.6/3,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.42**	**348**	Pn	**Pn**	**20 27 57.4**	**+0.4**
NNA				Sn	**Sb**	**20 28 31.6**	**+0.5**
NNA	**Nana**	**2.42**	**348**	Pn	**Pn**	**20 27 57.4**	**+0.4**
	29nm,0.3s,baz=179,slow=12,SNR=25						
NNA				Sn	**Sb**	**20 28 31.6**	**+0.5**
	125nm,0.3s,baz=172,slow=15,SNR=6.8						
NNA				LR	LR	20 28 59.6	
	comp=Z,597nm,19.4s,baz=131,slow=41						
ATAH	**Atahualpa**	**7.47**	**344**	Pn		20 29 11.2	+4.4
ATAH				Sn	Sn	20 30 41.6	+11
ATAH	**Atahualpa**	**7.47**	**344**	Pn		20 29 11.2	+4.4
	0.9nm,0.3s,baz=117,slow=2.3,SNR=5.4						
ATAH				Sn		20 30 41.6	+11
	1.5nm,0.3s,baz=72,slow=19,SNR=3.3						
ATAH				LR	LR	20 32 28.0	
	comp=Z,131nm,21.1s,baz=284,slow=41						
LPAZ	**La Paz**	**8.14**	**105**	*e*P	**Pn**	**20 29 17.8**	**+1.6**
	5.3nm,0.6s						
SAML	**Samuel**	**13.96**	**69**	*e*P	Pn	20 30 30.8	-4.5
	3.2nm,0.7s						
OTAV	**Otavalo**	**14.66**	**352**	*e*P	**P**	**20 30 50.0**	**-1.5**
	4.2nm,0.8s						
SIV	**San Ignacio**	**14.82**	**98**	Pn	**Pn**	**20 30 46.7**	**-0.4**
SIV	**San Ignacio**	**14.82**	**98**	Pn	**Pn**	**20 30 46.7**	**-0.4**
	0.3nm,0.3s,baz=294,slow=15,SNR=4.9						
SIV				LR	LR	20 37 01.7	
	comp=Z,387nm,18.6s,slow=40						
TXAR	**Lajitas Array**	**50.84**	**329**	P	**P**	**20 36 19.5**	**+1.6**
TXAR	**Lajitas Array**	**50.84**	**329**	P	**P**	**20 36 19.5**	**+1.6**
	0.6nm,0.8s,baz=146,slow=9.1,SNR=5.4						
TORD	**Torodi Ar. Bea**	**81.95**	**74**	P	**P**	**20 39 37.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**81.95**	**74**	P	**P**	**20 39 37.1**	**-0.3**
	1.4nm,1.0s,baz=247,slow=4.4,SNR=4.8						
YKA	**Yellowknife Ar**	**82.25**	**343**	P	**P**	**20 39 36.6**	**-1.2**
YKA	**Yellowknife Ar**	**82.25**	**343**	P	**P**	**20 39 36.6**	**-1.2**
	0.3nm,0.6s,baz=141,slow=6.0,SNR=7.2						
SONM	**Songino Array**	**146.56**	**357**	PKPbc	**PKPab**	**20 46 59.4**	**-0.1**
SONM	**Songino Array**	**146.56**	**357**	PKPbc	**PKPab**	**20 46 59.4**	**-0.1**
	0.9nm,1.0s,baz=4.8,slow=1.1,SNR=5.1						

*ISK **05** 20:55:57.3,39.°14N×29.°46E,h9km,MD2.8*
*DDA **05** 20:55:57.0,39.°12N×29.°53E,h17km,MD2.8*
*CSEM **05** 20:55:57.0±0.1,39.°15N×29.°45E,h10km,MD2.8, Error ellipse: s-maj=2.8km s-min=2.1km az=146.0*
ISC 05 20:55:57.8±0.8,39°.16N±0.°03×29°.45E±0.°03,h13km±6km, n24,σ0º47/35,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.07**	**162**	*i* P	**Pg**	**20 56 00.6**	**-0.1**
GDZ				*i* S	**Sg**	**20 56 02.7**	**+0.1**
GDZ	**Gediz**	**0.07**	**162**	*i* P	**Pg**	**20 56 00.6**	**-0.1**
GDZ				*i* S	**Sg**	**20 56 02.7**	**+0.1**
ALT	**Altintas**	**0.52**	**101**	*e*PG	**Pg**	**20 56 07.9**	**-0.2**
ALT				*e*SG	**Sg**	**20 56 15.2**	**+0.1**
ALT	**Altintas**	**0.52**	**101**	*e*Pg	**Pg**	**20 56 07.9**	**-0.2**
ALT				*e*Sg	**Sg**	**20 56 15.2**	**+0.1**
DEMI	**Demirci**	**0.58**	**259**	*i* P	**Pg**	**20 56 09.3**	**0.0**
DEMI				*i* S	**Sg**	**20 56 17.1**	**0.0**
DEMI	**Demirci**	**0.58**	**259**	*i* P	**Pg**	**20 56 09.3**	**0.0**
DEMI				*i* S	**Sg**	**20 56 17.1**	**0.0**
KHL	**Karahalli**	**0.84**	**176**	*e*PG	**Pb**	**20 56 14.2**	**-0.1**
KHL				*e*SG	**Sb**	**20 56 24.9**	**-0.5**
KHL	**Karahalli**	**0.84**	**176**	*e*Pg	**Pb**	**20 56 14.2**	**-0.1**
				*e*Sg	**Sb**	**20 56 24.9**	**-0.5**
DURS	**Dursunbey**	**0.88**	**301**	*e*P	**Pg**	**20 56 14.5**	**-0.4**
DURS				*i* S	**Sn**	**20 56 29.4**	**+0.6**
DURS	**Dursunbey**	**0.88**	**301**	*e*P	**Pg**	**20 56 14.5**	**-0.4**
KULA	**Kula-Manisa**	**0.89**	**224**	*e*PG	**Pg**	**20 56 14.5**	**-0.6**
KULA	**Kula-Manisa**	**0.89**	**224**	*e*Pg	**Pg**	**20 56 14.5**	**-0.6**
MANT	**Manisa**	**0.97**	**227**	*i* P	**Pg**	**20 56 16.1**	**-0.4**
MANT	**Manisa**	**0.97**	**227**	*i* P	**Pg**	**20 56 16.1**	**-0.4**
BORA	**Eskisehir**	**1.06**	**47**	*e*P	**Pb**	**20 56 17.3**	**-0.8**
BORA				*i* S	**Sb**	**20 56 31.4**	**-0.5**
BORA	**Eskisehir**	**1.06**	**47**	*e*P	**Pb**	**20 56 17.3**	**-0.8**
BORA				*i* S	**Sb**	**20 56 31.4**	**-0.5**
ESKT	**Eskisehir**	**1.14**	**71**	*e*PN	**Pb**	**20 56 19.6**	**+0.1**
ESKT	**Eskisehir**	**1.14**	**71**	*e*Pn	**Pb**	**20 56 19.6**	**+0.1**
ADVT	**Abdulvahap**	**1.29**	**10**	*e*PN	**Pn**	**20 56 22.1**	**+0.5**
ADVT	**Abdulvahap**	**1.29**	**10**	*e*Pn	**Pn**	**20 56 22.1**	**+0.5**
ARMT	**Armutlu**	**1.48**	**342**	*e*PN	**Pn**	**20 56 24.8**	**+0.6**
ARMT	**Armutlu**	**1.48**	**342**	*e*Pn	**Pn**	**20 56 24.8**	**+0.6**
GULT	**Gulveren**	**1.51**	**32**	*e*PN	**Pn**	**20 56 25.6**	**+0.8**
GULT	**Gulveren**	**1.51**	**32**	*e*Pn	**Pn**	**20 56 25.6**	**+0.8**

*OMAN **05** 21:05:45.8±0.0,26.°91N×56.°10E,h6km±44km, Error ellipse: s-maj=37.3km s-min=10.7km az=258.0*
CSEM 05 21:05:44.1±0.8,26°.99N×56°.07E,h2km,ML3.7/2,2C, Error ellipse: s-maj=28.7km s-min=9.0km az=57.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.08**	**169**	P	Pg	21 06 04.9	0.0
	SNR=86						
BANOM				⇑S	Sg	21 06 18.8	-0.1
BANOM	**Banah**	**1.08**	**169**	P	Pg	21 06 04.9	0.0
	SNR=86						
BANOM				S	Sg	21 06 18.8	-0.1
HATD	**Hatta, Dubai**	**2.15**	**179**	⇑P	Pn	21 06 21.0	0.0
HATD	**Hatta, Dubai**	**2.15**	**179**	P	Pn	21 06 21.0	-0.1
FAQ	**Al Faqa, Dubai**	**2.27**	**191**	P	Pn	21 06 22.3	-0.4
	SNR=7.7						
ASHO	**Ashiyiah**	**2.29**	**180**	P	Pn	21 06 23.1	0.0
	SNR=18						
ASHO	**Ashiyiah**	**2.29**	**180**	P	Pn	21 06 23.1	+0.1
	SNR=18						
ASUD	**Al Ashush, Dub**	**2.44**	**196**	P	Pn	21 06 25.3	+0.2
	SNR=12						
ASUD	**Al Ashush, Dub**	**2.44**	**196**	P	Pn	21 06 25.3	+0.3
	SNR=12						

*NNC **05** 21:15:18.1±5.6,37.°71N×71.°65E,h137km±115km,mb2.9, mpv3.8,Error ellipse: s-maj=58.4km s-min=34.6km az=11.0*
ISC 05 21:15:15.3±3.7,37°.5N±0.°2×71°.7E±0.°1,h109km,n10, σ0º70/19,2C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.87**	**18**	P	**Pn**	**21 16 27.3**	**+0.6**
	SNR=14						
AML				P	**Pn**	**21 16 27.3**	**+0.6**
	SNR=14						
KZA	**Kyzart**	**5.33**	**30**	P	**Pn**	**21 16 32.6**	**-0.3**
	SNR=10						
KZA				P	**Pn**	**21 16 32.6**	**-0.3**
	SNR=10						
EKS2	**Erkin-Say**	**5.39**	**17**	P	**Pn**	**21 16 34.4**	**+0.9**
	SNR=6.5						
EKS2				P	**Pn**	**21 16 34.4**	**+0.9**
	SNR=6.5						
AAK	**Ala-Archa**	**5.56**	**22**	P	**Pn**	**21 16 36.6**	**+0.9**
	SNR=14						
AAK				P	**Pn**	**21 16 36.6**	**+0.9**
	SNR=14						
KK31	**Karatay Array**	**5.65**	**351**	⇑P	**Pn**	**21 16 37.8**	**+1.0**
	4.4nm,0.3s,baz=183,slow=14,SNR=217						
KK31				S	**Sn**	**21 17 39.5**	**-0.9**
	2.0nm,0.3s,baz=166,slow=17,SNR=12						
CHMS	**Chumysh**	**5.97**	**22**	P	**Pn**	**21 16 41.7**	**+0.6**
	SNR=5.8						
CHMS				P	**Pn**	**21 16 41.7**	**+0.6**
	SNR=5.8						
USP	**Ospenovka**	**6.14**	**20**	P	**Pn**	**21 16 43.4**	**-0.1**
	SNR=9.3						
USP				P	**Pn**	**21 16 43.4**	**-0.1**
	SNR=9.3						
TKM2	**Tokmak 2**	**6.18**	**28**	⇓P	**Pn**	**21 16 44.4**	**+0.2**
	4.4nm,0.5s						
TKM2				⇓S	**Sn**	**21 17 53.8**	**+0.2**
	0.7nm,0.5s						
TKM2	**Tokmak 2**	**6.18**	**28**	P	**Pn**	**21 16 44.7**	**+0.5**
	SNR=8.7						
TKM2				P	**Pn**	**21 16 44.7**	**+0.5**
	SNR=8.7						
AB31	**Akbulak array**	**14.48**	**328**	⇑P	**Pn**	**21 18 34.2**	**-0.5**
	0.1nm,0.2s,baz=111,slow=67,SNR=9.7						

IDC 05 21:30:04.0±4.4,11°.76S×166°.96E,h0km,mb3.8/3, mb1 3.9/3,mb1mx3.6/16,mbtmp3.7/3,Error ellipse: s-maj=197.1km s-min=36.8km az=137.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**33.55**	**245**	P	P	21 36 45.8	-0.2
	0.4nm,0.5s,baz=69,slow=9.5,SNR=7.6						
ILAR	**Eielson Array**	**83.81**	**18**	P	P	21 42 34.9	-0.2
	0.6nm,0.6s,baz=236,slow=4.8,SNR=10						
MKAR	**Makanchi Array**	**94.86**	**317**	P	P	21 43 28.4	+0.3
	0.2nm,0.4s,baz=101,slow=5.4,SNR=5.2						

*IDC **05** 21:33:12.9±1.7,6.°01S×130.°11E,h0km,mb3.7/3, mb1 3.9/6,mb1mx3.7/14,mbtmp3.7/6,ML3.5/3,Error ellipse: s-maj=71.2km s-min=24.0km az=76.0*
*DJA **05** 21:33:33,5.94S×130.°40E,h169km,MLv4.3/3*
ISC 05 21:33:26.5±1.2,6°.5S±0.°1×130°.2E±0.°2,h146km,n17, σ1º08/18,mb3.4/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.35**	**201**	Pn	**Pn**	**21 36 17.3**	**-0.2**
	0.2nm,0.3s,baz=21,slow=8.6,SNR=4.2						
FITZ				Sn	Sn	21 38 26.1	-7.9
	0.8nm,0.3s,baz=115,slow=18,SNR=5.6						
WRA	**Warramunga Arr**	**13.93**	**164**	Pn	**Pn**	**21 36 38.0**	**+0.2**
	0.2nm,0.3s,baz=341,slow=14,SNR=4.7						
WRA				Sn	Sn	21 39 05.8	-6.3
	1.0nm,0.3s,baz=336,slow=21,SNR=11						
ASAR	**Alice Springs**	**17.41**	**169**	P	**Pn**	**21 37 23.4**	**+2.8**
	0.3nm,0.3s,baz=350,slow=11,SNR=13						
ASAR				S	**S**	**21 40 31.4**	**-2.3**
	0.2nm,0.3s,baz=6.1,slow=26,SNR=4.1						
CMAR	**Chiang Mai Arr**	**39.60**	**309**	P	**P**	**21 40 44.2**	**+0.2**
	0.3nm,0.4s,baz=131,slow=7.5,SNR=5.3						
ODAN	**Odare**	**53.11**	**311**	*e*P	**P**	**21 42 29.1**	**-0.5**
	6.0nm,0.6s						
TAPN	**Taplejung**	**53.13**	**311**	*e*P	**P**	**21 42 29.3**	**-0.6**
	5.9nm,0.4s						
RAMN	**Ramite**	**53.76**	**310**	*e*P	**P**	**21 42 34.1**	**-0.2**
	15nm,0.5s						
JIRN	**Jiri**	**54.44**	**311**	*e*P	**P**	**21 42 38.9**	**-0.5**
GUN	**Gumba**	**54.81**	**311**	*e*P	**P**	**21 42 41.5**	**-0.5**
	8.7nm,0.4s						
PKI	**Pulchoki**	**54.98**	**310**	*e*P	**P**	**21 42 42.5**	**-0.8**
KKN	**Kakani**	**55.20**	**310**	*e*P	**P**	**21 42 43.8**	**-0.9**
DMN	**Daman**	**55.23**	**310**	*e*P	**P**	**21 42 44.3**	**-0.7**
GKN	**Gorkha**	**55.79**	**310**	*e*P	**P**	**21 42 48.3**	**-0.6**
	9.6nm,0.5s						
KOLN	**Koldanda**	**56.47**	**309**	*e*P	**P**	**21 42 53.2**	**-0.5**
DANN	**Dangsing**	**56.63**	**310**	*e*P	**P**	**21 42 54.3**	**-0.7**
SONM	**Songino Array**	**58.06**	**341**	P	**P**	**21 43 04.4**	**0.0**
	0.2nm,0.4s,baz=164,slow=7.5,SNR=3.0						
MKAR	**Makanchi Array**	**67.95**	**327**	P	**P**	**21 44 09.9**	**+0.2**
	1.1nm,0.4s,baz=120,slow=8.1,SNR=42						

*BJI **05** 21:36:08.5,18.°94N×38.°88E,h10km,mB5.2/24,mb4.6/33, Ms4.8/20,Ms7 4.5/22*
*IDC **05** 21:36:11.3±0.7,19.°05N×39.°23E,h0km,mb4.2/18, mb1 4.3/21,mb1mx4.2/30,mbtmp4.2/21,ML3.4/3,MS4.1/29, Ms1 4.1/29,ms1mx4.0/39,Error ellipse: s-maj=18.6km s-min=14.5km az=148.0*

*MOS **05** 21:36:12.1±1.1,19.°18N×39.°16E,h9km,mb4.8/46, MS4.0/16,Error ellipse: s-maj=9.8km s-min=4.8km az=93.7*
*NEIC **05** 21:36:13.8±0.3,19.°17N×39.°15E,h10km,mb4.8/29,Error ellipse: s-maj=7.1km s-min=5.4km az=87.0*
*ISCJB **05** 21:36:13.9±1.2,19.°13N±0.°04×39.°16E±0.°03,h25km±8km, mb4.6/75,MS4.1/41,Error ellipse: s-maj=6.5km s-min=4.8km az=14.4*
*CSEM **05** 21:36:14.0±0.2,19.°17N×39.°18E,h10km,mb4.7/39,Ms4.9, Mw4.9,Error ellipse: s-maj=6.9km s-min=5.9km az=26.0*
ISC 05 21:36:15.5±0.5,19°.17N±0.°05×39°.16E±0.°05,h23km±3km, h23km:pP-P,n327,σ1º33/345,mb4.7/75,MS4.2/41,16C-6D, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**8.38**	**154**	Pn	**Pn**	**21 38 18.0**	**+2.3**
ATD	**Arta Tunnel**	**8.38**	**154**	Pn	**Pn**	**21 38 18.0**	**+2.3**
	1.0nm,0.3s,baz=305,slow=21,SNR=3.5						
ATD				LR	LR	21 40 58.4	
	comp=Z,837nm,21.2s,baz=172,slow=35						
ATD	**Arta Tunnel**	**8.38**	**154**	Pn	**Pn**	**21 38 18.0**	**+2.3**
FURI	**Furi**	**10.22**	**183**	*e*Pn	**Pn**	**21 38 42.6**	**+1.5**
FURI	**Furi**	**10.22**	**183**	*e*Pn	**Pn**	**21 38 42.6**	**+1.5**
EIL	**Elat**	**11.14**	**341**	Pn	**Pn**	**21 38 54.6**	**+1.3**
EIL	**Elat**	**11.14**	**341**	Pn	**Pn**	**21 38 54.6**	**+1.3**
	0.4nm,0.3s,baz=81,slow=8.7,SNR=5.3						
EIL				LR	LR	21 42 28.8	
	comp=Z,778nm,20.2s,baz=172,slow=34						
EIL	**Elat**	**11.14**	**341**	Pn	**Pn**	**21 38 54.6**	**+1.3**
NAY	**Al-Naaiem**	**12.45**	**35**	*e*P	**Pn**	**21 39 12.2**	**+0.9**
NAY				AMb	AMB	21 39 21.5	
	comp=Z,15nm,1.4s						
NAY	**Al-Naaiem**	**12.45**	**35**	*e*P	**Pn**	**21 39 12.2**	**+0.9**
	comp=Z,15nm,1.4s						
KBD	**Kabd**	**12.64**	**36**	*e*P	**Pn**	**21 39 15.1**	**+1.2**
KBD				AMb	AMB	21 39 21.8	
	comp=Z,37nm,1.4s						
KBD	**Kabd**	**12.64**	**36**	*e*P	**Pn**	**21 39 15.1**	**+1.2**
	comp=Z,37nm,1.4s						
MIB	**Mutribah**	**12.94**	**34**	*e*P	**Pn**	**21 39 18.8**	**+0.8**
MIB				AMb	AMB	21 39 33.7	
	comp=Z,37nm,1.6s						
MIB	**Mutribah**	**12.94**	**34**	*e*P	**Pn**	**21 39 18.8**	**+0.8**
	comp=Z,37nm,1.6s						
ASF	**Jabal al Asfar**	**13.11**	**352**	Pn	**Pn**	**21 39 21.4**	**+1.0**
ASF	**Jabal al Asfar**	**13.11**	**352**	Pn	**Pn**	**21 39 21.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=36,slow=4.2,SNR=12						
ASF				LR	LR	21 43 58.3	
	comp=Z,816nm,18.6s,baz=42,slow=35						
MMAI	**Mount Meron Ar**	**14.20**	**347**	Pn	**Pn**	**21 39 36.7**	**+1.5**
MMAI	**Mount Meron Ar**	**14.20**	**347**	Pn	**Pn**	**21 39 36.7**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=156,slow=16,SNR=3.8						
MMAI				LR	LR	21 44 30.8	
	comp=Z,693nm,20.4s,baz=190,slow=35						
MMAI	**Mount Meron Ar**	**14.20**	**347**	Pn	**Pn**	**21 39 36.7**	**+1.5**
BHD	**Baghdad**	**14.80**	**17**	*i* x	**Pn**	**21 39 42.0**	**-1.4**
BHD				*i* x	x	21 42 24.0	
BHD				*i* x	x	21 44 25.8	
BHD				*i* x	x	21 44 59.5	
NAZ	**Nazwa, Dubai**	**16.35**	**66**	P	**Pn**	**21 40 04.3**	**+0.7**
CSS	**Prodhromos**	**16.56**	**343**	*e*Pn	**Pn**	**21 40 06.8**	**+0.5**
	comp=Z,134nm,1.7s						
CSS	**Prodhromos**	**16.56**	**343**	*e*Pn	**Pn**	**21 40 06.8**	**+0.5**
	comp=Z,134nm,1.7s						
ASHO	**Ashiyiah**	**16.61**	**68**	P	**Pn**	**21 40 06.5**	**-0.5**
	SNR=12						
ARQ	**Araqi**	**16.71**	**73**	P	**P**	**21 40 11.6**	**+1.2**
	SNR=12						
ARQ	**Araqi**	**16.71**	**73**	P	**P**	**21 40 11.6**	**+1.2**
	SNR=12						
HATD	**Hatta, Dubai**	**16.71**	**67**	P	**P**	**21 40 10.5**	**+0.1**
	SNR=7.7						
HATD	**Hatta, Dubai**	**16.71**	**67**	P	**P**	**21 40 10.5**	**+0.1**
	SNR=7.7						
BANOM	**Banah**	**17.19**	**64**	P	**P**	**21 40 16.1**	**+0.3**
	SNR=7.5						
BANOM	**Banah**	**17.19**	**64**	P	**P**	**21 40 16.0**	**+0.3**
	SNR=7.5						
BSY	**Bisya**	**17.22**	**75**	P	**P**	**21 40 15.3**	**-0.7**
	SNR=11						
BSYO	**Bisya**	**17.26**	**75**	P	**Pn**	**21 40 15.4**	**+0.3**
	SNR=11						
HOQ	**Hoqain**	**17.46**	**72**	P	**P**	**21 40 18.6**	**-0.1**
	SNR=19						
HOQ	**Hoqain**	**17.46**	**72**	P	**P**	**21 40 18.6**	**-0.1**
	SNR=19						
JMDO	**Jabal Madar**	**18.00**	**77**	P	**Pn**	**21 40 23.1**	**-1.2**
	SNR=23						
JMDO	**Jabal Madar**	**18.00**	**77**	P	**Pn**	**21 40 23.1**	**-1.2**
	SNR=23						
SMDO	**Samad**	**18.04**	**74**	P	**Pn**	**21 40 23.1**	**-1.8**
	SNR=20						
SMDO	**Samad**	**18.04**	**74**	P	**Pn**	**21 40 23.1**	**-1.8**
	SNR=20						
WBK	**Wadi Bani Khal**	**18.82**	**76**	P	**Pn**	**21 40 36.5**	**+2.1**
	SNR=7.5						
WBK	**Wadi Bani Khal**	**18.82**	**76**	P	**Pn

KIV Kislovodsk 24.89 6 eP P 21 41 37.2 +0.5
comp=Z,37nm,1.2s
KIV Kislovodsk 24.89 6 P P 21 41 39.0 +2.4
SNR=7.1
KIV Kislovodsk 24.89 6 eP P 21 41 37.2 +0.5
comp=Z,37nm,1.2s
TIRR Tirgusor 26.77 343 eP P 21 41 53.8 +0.3
TIRR pmax pmax
comp=Z,20nm,1.4s
TIRR Tirgusor 26.77 343 eP P 21 41 53.8 +0.3
comp=Z,20nm,1.4s
TIRR Tirgusor 26.77 343 ⇑iP P 21 41 54.4 +0.9
TIRR Tirgusor 26.77 343 eP P 21 41 53.8 +0.3
comp=Z,20nm,1.4s
CFR Carcaliu 27.51 343 ⇓P P 21 42 00.3 +0.2
CFR Carcaliu 27.51 343 ⇓iP P 21 42 00.3 +0.2
CFR Carcaliu 27.51 343 P P 21 42 00.3 +0.2
MLR Muntele Rosu 28.45 340 P P 21 42 10.4 +1.7
MLR Muntele Rosu 28.45 340 ⇓iP P 21 42 10.4 +1.7
MLR Muntele Rosu 28.45 340 P P 21 42 10.4 +1.7
comp=Z,0.7nm,1.0s,baz=135,slow=9.7,SNR=6.8
MLR LR LR 21 55 52.2
comp=Z,14nm,19.8s,baz=20,slow=41
MLR Muntele Rosu 28.45 340 P P 21 42 10.4 +1.7
comp=Z,14nm,19.8s
VRI Vrincioaia 28.54 342 ⇓P P 21 42 13.1 +3.7
VRI Vrincioaia 28.54 342 ⇓iP P 21 42 13.1 +3.7
PLOR Plostina 28.55 342 ⇑P P 21 42 11.5 +2.0
PLOR Plostina 28.55 342 ⇑iP P 21 42 11.5 +2.0
PLOR Plostina 28.55 342 P P 21 42 11.5 +2.0
VOIR 28.69 339 ⇑P P 21 42 12.7 +1.9
VOIR 28.69 339 ⇑iP P 21 42 12.7 +1.9
VOIR 28.69 339 P P 21 42 12.7 +1.9
BUR08 Bucovina Ar. S 30.60 341 eP P 21 42 28.5 +0.8
BUR08 Bucovina Ar. S 30.60 341 eP P 21 42 28.5 +0.8
KBL Kabul 30.60 54 eP P 21 42 28.0 -0.1
KBL pmax pmax
comp=Z,15nm,1.5s
KBL Kabul 30.60 54 eP P 21 42 27.9 -0.1
comp=Z,15nm,1.5s
KBL Kabul 30.60 54 eP P 21 42 28.0 -0.1
comp=Z,15nm,1.5s
DRGR 30.68 338 ⇑P P 21 42 29.5 +1.1
DRGR 30.68 338 ⇑iP P 21 42 29.5 +1.1
DRGR 30.68 338 P P 21 42 29.5 +1.1
KEST Kesra 31.02 308 LR LR 21 57 52.8
comp=Z,106nm,20.3s,baz=337,slow=42
TAM Tamanrasset 31.57 283 eP P 21 42 36.6 -0.1
TAM pmax pmax
comp=Z,14nm,1.4s
TAM Tamanrasset 31.57 283 eP P 21 42 36.6 -0.1
comp=Z,14nm,1.4s
TAM Tamanrasset 31.57 283 eP P 21 42 36.6 -0.1
comp=Z,14nm,1.4s
VORD Divnogorie 31.73 0 eP P 21 42 37.5 0.0
VORD pmax pmax
comp=Z,10.0nm,1.5s
VORD pmax pmax
comp=N,6.0nm,0.8s
VORD pmax pmax
comp=E,5.0nm,0.8s
VORD Divnogorie 31.73 0 eP P 21 42 37.5 0.0
comp=E,10.0nm,1.5s
VRHR Novokhopersk 31.92 3 eP P 21 42 43.2 +4.0
VRHR pmax pmax
comp=N,20nm,1.0s
VRHR pmax pmax
comp=E,9.0nm,1.0s
VRHR pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 31.98 0 eP P 21 42 42.6 +2.9
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR pmax pmax
comp=N,7.0nm,0.6s
VSR pmax pmax
comp=E,9.0nm,1.3s
KIEV Kiev 32.44 348 eP P 21 42 43.4 -0.3
KIEV pmax pmax
comp=Z,30nm,1.5s
KIEV Kiev 32.44 348 eP P 21 42 43.4 -0.3
comp=Z,30nm,1.5s
KIEV Kiev 32.44 348 eP P 21 42 43.4 -0.3
comp=Z,30nm,1.5s
AKASG Malin Array Be 32.44 348 P P 21 42 43.2 -0.5
AKASG 21 45 30.9
AKASG pmax pmax
comp=Z,4.0nm,0.9s
AKASG MLR MLR
comp=Z,147nm,21.6s
AKASG Malin Array Be 32.44 348 P P 21 42 43.2 -0.5
AKASG PcP PcP 21 45 30.9 +0.2
AKASG Malin Array Be 32.44 348 P P 21 42 43.2 -0.5
comp=Z,3.6nm,0.9s,baz=172,slow=8.0,SNR=12
AKASG PcP PcP 21 45 30.9 +0.2
comp=Z,0.2nm,0.3s,baz=158,slow=2.7,SNR=4.4
AKASG LR LR 21 57 00.6
comp=Z,147nm,21.6s,baz=90,slow=38
AKASG Malin Array Be 32.44 348 P P 21 42 43.2 -0.5
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 32.44 348 PcP PcP 21 45 30.9 +0.2
MSKU Masuku 32.53 233 P P 21 42 43.9 -1.1
MSKU Masuku 32.53 233 P P 21 42 43.8 -1.1
comp=Z,6.2nm,0.5s,baz=201,slow=20,SNR=6.0
MSKU Masuku 32.53 233 P P 21 42 43.8 -1.1
KOLS Kolonicke sedl 32.67 339 eP P 21 42 47.1 +1.3
KOLS pmax pmax
comp=Z,13nm,1.7s
KOLS Kolonicke sedl 32.67 339 eP P 21 42 47.1 +1.3
KOLS Kolonicke sedl 32.67 339 eP P 21 42 47.1 +1.3
comp=Z,13nm,1.7s
PSZ Piszkesteto 32.68 336 eP P 21 42 46.2 +0.2
PSZ Piszkesteto 32.68 336 eP P 21 42 46.2 +0.2
PSZ Piszkesteto 32.68 336 eP P 21 42 46.2 +0.2
CRVS Cervenica-Dubn 32.92 338 eP P 21 42 50.1 +2.1
CRVS pmax pmax
comp=Z,28nm,2.3s
CRVS Cervenica-Dubn 32.92 338 eP P 21 42 50.1 +2.1
CRVS Cervenica-Dubn 32.92 338 eP P 21 42 50.1 +2.1
comp=Z,28nm,2.3s
VYHS Vyhne 33.56 335 eP P 21 42 54.1 +0.5
VYHS pmax pmax
comp=Z,11nm,1.5s
VYHS Vyhne 33.56 335 eP P 21 42 54.1 +0.5
VYHS Vyhne 33.56 335 eP P 21 42 54.1 +0.5
comp=Z,11nm,1.5s
NIE Niedzica 33.76 338 eP P 21 42 56.1 +0.7
NIE Niedzica 33.76 338 eP P 21 42 56.7 +1.3
NIE Niedzica 33.76 338 eP P 21 42 56.7 +1.3
ZST Bratislava 34.03 333 eP P 21 42 59.3 +1.6
ZST pmax pmax
comp=Z,24nm,1.7s
ZST Bratislava 34.03 333 eP P 21 42 59.3 +1.6
ZST Bratislava 34.03 333 eP P 21 42 59.3 +1.6
comp=Z,24nm,1.7s
SMOL Smolenice 34.15 334 eP P 21 43 00.3 +1.6
SMOL Smolenice 34.15 334 eP P 21 43 00.3 +1.6
SMOL Smolenice 34.15 334 eP P 21 43 00.3 +1.6
ABKAR Akbulak array 34.35 24 eP P 21 43 00.6 +0.1
comp=Z,1.2nm,0.2s
ABKAR Akbulak array 34.35 24 eP P 21 43 00.6 +0.1
comp=Z,1.1nm,0.2s
CONA Conrad Observa 34.37 332 ⇑iP P 21 43 00.9 +0.2
comp=Z,8.8nm,1.4s
CONA Conrad Observa 34.37 332 ⇑iP P 21 43 00.9 +0.2
comp=Z,8.8nm,1.4s
CONA Conrad Observa 34.37 332 ⇑iP P 21 43 00.9 +0.2
comp=Z,8.8nm,1.4s
OJC Ojcow 34.62 338 eP P 21 43 02.1 -0.6
OJC Ojcow 34.62 338 eP P 21 43 02.9 +0.2
OJC pmax pmax
comp=Z,15nm,1.2s
OJC Ojcow 34.62 338 eP P 21 43 02.9 +0.2
comp=Z,15nm,1.2s
OJC Ojcow 34.62 338 eP P 21 43 02.9 +0.2
comp=Z,15nm,1.2s
AKTO Aktyubinsk 34.62 21 LR LR 22 00 05.4
comp=Z,358nm,18.8s,baz=38,slow=41
OKC Ostrava-Krasne 34.91 336 eP P 21 43 06.3 +1.0
OKC Ostrava-Krasne 34.91 336 eP P 21 43 06.3 +1.0
OKC Ostrava-Krasne 34.91 336 eP P 21 43 06.3 +1.0
MORC Moravsky Berou 35.10 335 eP P 21 43 06.6 -0.4
MORC pmax pmax
comp=Z,19nm,1.5s
MORC Moravsky Berou 35.10 335 eP P 21 43 06.5 -0.4
comp=Z,19nm,1.5s
MORC Moravsky Berou 35.10 335 eP P 21 43 06.6 -0.4
comp=Z,19nm,1.5s
VRAC Vranov 35.11 334 eP P 21 43 07.6 +0.6
KKAR Karatay Array 35.57 41 eP P 21 43 11.7 +0.6
KKAR pmax pmax
comp=Z,8.0nm,1.1s
KKAR Karatay Array 35.57 41 eP P 21 43 11.7 +0.6
comp=Z,7.7nm,1.1s
KKAR Karatay Array 35.57 41 eP P 21 43 11.6 +0.5
comp=Z,7.7nm,1.1s
OBN Obninsk 35.94 357 c iP P 21 43 14.2 +0.2
OBN i 21 43 19.5
OBN pmax pmax
comp=Z,51nm,1.8s
OBN MLR MLR
comp=Z,100nm,14.0s
OBN Obninsk 35.94 357 eP P 21 43 14.1 +0.2
comp=Z,55nm,1.3s
OBN Obninsk 35.94 357 i P P 21 43 14.2 +0.2
comp=Z,51nm,1.8s
GERES GERESS Array B 36.02 331 P P 21 43 14.6 -0.4
GERES PcP PcP 21 45 41.2 +0.1
GERES GERESS Array B 36.02 331 P P 21 43 14.6 -0.4
comp=Z,1.8nm,0.9s,baz=127,slow=8.6,SNR=16
GERES PcP PcP 21 45 41.2 +0.1
comp=Z,0.5nm,0.8s,baz=184,slow=1.6,SNR=3.9
GERES GERESS Array B 36.02 331 P P 21 43 14.6 -0.4
comp=Z,0nm,0.9s
GERES GERESS Array B 36.02 331 PcP PcP 21 45 41.2 +0.1
DPC Dobruska-Polom 36.03 335 i P P 21 43 15.8 +0.8
DPC e 21 43 21.6
DPC Dobruska-Polom 36.03 335 i P P 21 43 15.8 +0.8
DPC epP pP 21 43 21.6 -0.4
DPC Dobruska-Polom 36.03 335 i P P 21 43 15.8 +0.8
FUORN Ofenpass-Fuorn 36.21 326 eP P 21 43 18.7 +1.9
comp=Z,34nm,1.8s
FUORN Ofenpass-Fuorn 36.21 326 eP P 21 43 18.7 +1.9
comp=Z,34nm,1.8s
UPC Upice 36.28 335 eP P 21 43 18.0 +1.0
UPC Upice 36.28 335 eP P 21 43 18.0 +1.0
UPC Upice 36.28 335 eP P 21 43 18.0 +1.0
KHC Kasperske Hory 36.28 331 eP P 21 43 16.8 -0.4
KHC pmax pmax
comp=Z,15nm,1.6s
KHC Kasperske Hory 36.28 331 eP P 21 43 16.8 -0.4
comp=Z,15nm,1.6s
KHC Kasperske Hory 36.28 331 i P P 21 43 16.7 -0.4
KHC Kasperske Hory 36.28 331 eP P 21 43 16.8 -0.4
comp=Z,15nm,1.6s
TOA0 Torodi Ar. Sit 36.43 266 eP P 21 43 18.2 -0.5
TOA0 Torodi Ar. Sit 36.43 266 eP P 21 43 18.2 -0.5
TORD Torodi Ar. Bea 36.43 266 P P 21 43 18.6 -0.1
TORD Torodi Ar. Bea 36.43 266 P P 21 43 18.6 -0.1
comp=Z,10nm,1.0s,baz=76,slow=7.1,SNR=44
TORD LR LR 21 58 34.3
comp=Z,388nm,19.1s,baz=80,slow=37
TORD Torodi Ar. Bea 36.43 266 P P 21 43 18.6 -0.1
KSP Ksiaz 36.43 335 eP P 21 43 18.6 +0.3
KSP Ksiaz 36.43 335 eP P 21 43 18.6 +0.3
PRU Pruhonice 36.49 333 i P P 21 43 17.0 -1.8
PRU Pruhonice 36.49 333 i P P 21 43 17.0 -1.8
PRU Pruhonice 36.49 333 i P P 21 43 17.0 -1.8
MOS Moscow 36.53 359 eP P 21 43 18.2 -0.8
MOS pmax pmax
comp=Z,45nm,0.9s
MOS Moscow 36.53 359 eP P 21 43 18.2 -0.8
comp=Z,45nm,0.9s
PVCC Panska Ves 36.89 334 eP P 21 43 22.1 -0.1
PVCC Panska Ves 36.89 334 eP P 21 43 22.1 -0.1
SUW Suwalki 36.89 344 eP P 21 43 21.9 -0.3
SUW pmax pmax
comp=Z,36nm,1.0s
SUW Suwalki 36.89 344 eP P 21 43 21.9 -0.3
comp=Z,36nm,1.0s
SUW Suwalki 36.89 344 eP P 21 43 21.9 -0.3
comp=Z,36nm,1.0s
AML Almayashu 37.12 44 P P 21 43 25.5 +0.7
SNR=7.6
AML P P 21 43 25.5 +0.7
SNR=7.6
BRG Berggiesshubel 37.41 334 eP P 21 43 26.3 -0.3
comp=Z,26nm,1.5s
BRG Berggiesshubel 37.41 334 eP P 21 43 26.3 -0.3
BRG pmax pmax
comp=Z,26nm,1.5s
EKS2 Erkin-Say 37.42 44 eP P 21 43 28.1 +1.0
EKS2 pmax pmax
comp=Z,10.0nm,1.2s
EKS2 Erkin-Say 37.42 44 eP P 21 43 28.1 +1.0
comp=Z,9.9nm,1.2s
EKS2 Erkin-Say 37.42 44 eP P 21 43 28.1 +1.0
comp=Z,9.9nm,1.2s
KSH Kashi 37.61 49 P P 21 43 25.6 -3.1
KSH pP pP 21 43 31.6 -4.1
KSH sP sP 21 43 33.3 -5.2
KSH PP PP 21 44 54.9 +0.3
KSH PcP PcP 21 45 47.4 +1.3
KSH S S 21 49 12.1 -5.0
KSH ScS ScS 21 53 37.9 -2.9
KSH pmax pmax
comp=Z,180nm,3.6s
KSH LR LR
comp=N,300nm,8.5s
KSH LR LR
comp=E,380nm,12.9s
KSH LR LR
comp=Z,480nm,15.9s
GRF Grafenberg Arr 37.77 330 eP P 21 43 28.6 -1.1
comp=Z,36nm,1.6s
AAK Ala-Archa 37.88 44 eP P 21 43 31.3 +0.3
AAK 21 45 47.5
AAK pmax pmax
comp=Z,63nm,1.4s
AAK Ala-Archa 37.88 44 eP P 21 43 31.2 +0.3
comp=Z,63nm,1.4s
AAK PcP PcP 21 45 47.5 +0.6
AAK Ala-Archa 37.88 44 P P 21 43 32.1 +1.2
SNR=8.2
AAK Ala-Archa 37.88 44 P P 21 43 30.6 -0.4
SNR=6.9
AAK P P 21 43 30.6 -0.4
SNR=6.9
AAK Ala-Archa 37.88 44 P P 21 43 31.2 +0.3
comp=Z,4.0nm,1.1s,baz=234,slow=7.7,SNR=9.4
AAK PcP PcP 21 45 47.5 +0.6
comp=Z,1.0nm,0.8s,baz=162,slow=3.2,SNR=2.9
AAK LR LR 22 02 02.3
comp=Z,376nm,18.6s,baz=221,slow=41
AAK Ala-Archa 37.88 44 eP P 21 43 31.2 +0.3
comp=Z,63nm,1.4s
AAK Ala-Archa 37.88 44 PcP PcP 21 45 47.5 +0.6
FRU Bishkek 38.05 44 eP P 21 43 33.0 +0.8
CLL Collm 38.13 333 eP P 21 43 32.0 -0.7
CLL pmax pmax
comp=Z,15nm,1.5s
CLL Collm 38.13 333 eP P 21 43 32.0 -0.7
comp=Z,15nm,1.5s
USP Ospenovka 38.18 43 P P 21 43 34.2 +0.9
SNR=7.7
USP P P 21 43 34.2 +0.9
SNR=7.7
KBK Karagaybulak 38.19 44 P P 21 43 35.9 +2.3
SNR=8.8
KBK P P 21 43 35.9 +2.3
SNR=8.8
CHMS Chumysh 38.22 44 P P 21 43 34.6 +1.0
SNR=6.2
CHMS P P 21 43 34.6 +1.0
SNR=6.2
TKM2 Tokmak 2 38.74 44 eP P 21 43 38.1 -0.1
TKM2 pmax pmax
comp=Z,26nm,0.6s
TKM2 Tokmak 2 38.74 44 eP P 21 43 38.1 -0.1
comp=Z,26nm,0.6s
TKM2 Tokmak 2 38.74 44 eP P 21 43 38.1 -0.1
comp=Z,26nm,0.6s
PAGF Fort de Pagny 39.83 325 eP P 21 43 47.0 0.0
ARU Arti 39.95 17 c iP P 21 43 48.3 +0.5
ARU e 21 45 22.7
ARU PPP PPP 21 45 46.0
ARU S S 21 49 54.9 +3.3
ARU SSS SSS 21 53 21.5
ARU pmax pmax
comp=Z,40nm,2.5s
ARU Arti 39.95 17 eP P 21 43 47.4 -0.4
comp=Z,28nm,1.5s
ARU Arti 39.95 17 eP P 21 43 47.4 -0.4
comp=Z,28nm,1.5s
SFTF Sexfontaines 40.00 324 eP P 21 43 48.9 +0.5
comp=Z,54nm,1.4s
LOR Lormes 40.15 322 eP P 21 43 50.0 +0.3
BGF Bois d'Agland 40.38 321 eP P 21 43 52.2 +0.6
comp=Z,102nm,1.4s
SVE Sverdlovsk 40.87 18 eP P 21 43 54.9 -0.6
SVE eS S 21 50 00.9 -4.5
SVE pmax pmax
comp=Z,14nm,1.5s
SVE MLR MLR
comp=Z,591nm,21.0s
KOLN Koldanda 41.47 70 eP P 21 44 00.4 -0.7
comp=Z,24nm,1.0s
BRVK Borovoye 41.53 28 ⇓eP P 21 44 01.8 +0.8
BRVK pmax pmax
comp=Z,13nm,1.7s
BRVK Borovoye 41.53 28 eP P 21 44 01.6 +0.6
comp=Z,11nm,1.4s
BRVK Borovoye 41.53 28 eP P 21 44 01.6 +0.6
comp=Z,11nm,1.4s
BVAR Borovoye Array 41.55 28 LR LR 22 03 43.3
comp=Z,176nm,20.5s,baz=221,slow=40
DANN Dangsing 41.64 69 eP P 21 44 02.0 -0.6
comp=Z,72nm,1.1s
KLMR Klimovskoe 41.64 0 eP P 21 43 57.9 -3.8
KLMR e 21 45 34.8
KLMR pmax pmax
comp=Z,41nm,1.6s
ESDC Sonseca Array 42.27 308 P P 21 44 07.2 -0.1
ESDC Sonseca Array 42.27 308 P P 21 44 07.2 -0.1
comp=Z,1.4nm,0.7s,baz=106,slow=7.8,SNR=6.3
ESDC LR LR 22 01 37.0
comp=Z,148nm,21.6s,baz=320,slow=36
ESDC Sonseca Array 42.27 308 P P 21 44 07.2 -0.1
GKN Gorkha 42.40 69 eP P 21 44 07.5 -1.1
comp=Z,20nm,1.0s
DMN Daman 42.80 70 eP P 21 44 11.2 -0.8
comp=Z,31nm,1.1s
KKN Kakani 42.96 70 eP P 21 44 12.6 -0.7
comp=Z,50nm,1.4s
PKI Pulchoki 43.07 70 eP P 21 44 12.9 -1.4
comp=Z,18nm,0.9s
FINES FINESS Array B 43.23 351 LR LR 22 02 29.3
comp=Z,114nm,19.0s,baz=139,slow=36
GUN Gumba 43.49 69 eP P 21 44 16.0 -1.7
comp=Z,40nm,1.2s
TSUM Tsumeb 43.61 210 P P 21 44 18.0 -0.4
TSUM Tsumeb 43.61 210 P P 21 44 18.0 -0.4
comp=Z,3.6nm,0.9s,baz=58,slow=5.8,SNR=4.6
TSUM LR LR 22 04 23.3
comp=Z,213nm,18.2s,baz=340,slow=39
TSUM Tsumeb 43.61 210 P P 21 44 18.0 -0.4
JIRN Jiri 43.77 70 eP P 21 44 18.6 -1.3
comp=Z,13nm,1.4s
RAMN Ramite 44.13 71 eP P 21 44 21.6 -1.1
comp=Z,51nm,1.4s
KURK Kurchatov 44.29 35 c eP P 21 44 24.0 +0.7
KURK pmax pmax
comp=Z,21nm,1.2s
KURK Kurchatov 44.29 35 eP P 21 44 23.4 +0.2
comp=Z,28nm,1.3s
KURK Kurchatov 44.29 35 P P 21 44 24.6 +1.2
SNR=10
KURK Kurchatov 44.29 35 eP P 21 44 23.5 +0.2
comp=Z,28nm,1.3s
DBIC Dimbokro 44.53 260 P P 21 44 24.8 -0.9
DBIC Dimbokro 44.53 260 P P 21 44 24.8 -0.9
comp=Z,7.4nm,1.0s,baz=68,slow=8.2,SNR=5.8
DBIC LR LR 22 03 04.5
comp=Z,311nm,18.7s,baz=49,slow=36
DBIC Dimbokro 44.53 260 P P 21 44 24.8 -0.9
MK31 Makanchi Array 44.68 42 eP P 21 44 26.1 -0.5
MK31 Makanchi Array 44.68 42 eP P 21 44 26.1 -0.5
MK31 Makanchi Array 44.68 42 eP P 21 44 26.1 -0.5
MKAR Makanchi Array 44.68 42 P P 21 44 26.1 -0.5
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR MLR MLR
comp=Z,296nm,21.7s
MKAR Makanchi Array 44.68 42 P P 21 44 26.1 -0.5
MKAR Makanchi Array 44.68 42 P P 21 44 26.1 -0.5
comp=Z,5.3nm,0.8s,baz=236,slow=5.7,SNR=32
MKAR LR LR 22 04 58.5
comp=Z,296nm,21.7s,baz=238,slow=39
MKAR Makanchi Array 44.68 42 P P 21 44 26.1 -0.5
ODAN Odare 44.83 71 eP P 21 44 27.1 -1.3
comp=Z,55nm,1.7s
LIC Lamto 44.84 259 eP P 21 44 28.2 -0.1
comp=Z,37nm,1.3s
EVO Evora 45.05 306 eP P 21 44 30.3 +0.6
comp=Z,177nm,1.6s
TAPN Taplejung 45.12 70 eP P 21 44 29.1 -1.6
comp=Z,15nm,1.1s
LBTB Lobatse 45.86 197 P P 21 44 38.6 +2.4
LBTB Lobatse 45.86 197 P P 21 44 38.6 +2.4
comp=Z,10nm,1.0s,baz=17,slow=9.0,SNR=6.8
LBTB LR LR 22 02 15.7
comp=Z,230nm,19.0s,baz=31,slow=34
NB2 NORSAR Subarra 46.25 342 P P 21 44 38.3 -0.5
comp=Z,19nm,1.4s,baz=142,slow=7.9
NB2 NORSAR Subarra 46.25 342 P P 21 44 38.3 -0.5
comp=Z,19nm,1.4s,SNR=5.6
NOA NORSAR Array B 46.25 342 P P 21 44 39.0 +0.2
NOA NORSAR Array B 46.25 342 P P 21 44 39.0 +0.2
comp=Z,5.4nm,1.1s,baz=138,slow=8.3,SNR=6.0
NOA LR LR 22 04 38.5
comp=Z,78nm,18.3s,baz=0.0,slow=37
NOA NORSAR Array B 46.25 342 P P 21 44 39.0 +0.2
WMQ Urumqi 47.30 48 P P 21 44 48.0 +0.7
WMQ pP pP 21 44 52.5 -2.0
WMQ sP sP 21 44 56.0 -1.3
WMQ PP PP 21 46 42.1 +3.6
WMQ eS S 21 51 40.5 +0.9
WMQ sS sS 21 51 55.0 +3.6
WMQ ScS ScS 21 54 38.0 -2.2
WMQ pmax pmax
comp=Z,27nm,1.3s
WMQ pmax pmax
comp=Z,220nm,4.9s
WMQ LR LR
comp=N,500nm,19.0s
WMQ LR LR
comp=E,590nm,22.0s
WMQ LR LR
comp=Z,730nm,22.2s
LSA Lhasa 48.14 67 eP P 21 44 56.2 +1.7
LSA pmax pmax
comp=Z,11nm,1.4s
LSA Lhasa 48.14 67 eP P 21 44 56.2 +1.7
comp=Z,11nm,1.4s
LSA Lhasa 48.14 67 eP P 21 44 56.2 +1.7
comp=Z,11nm,1.4s
NVS Novosibirsk 48.77 32 eP P 21 44 56.3 -2.1
NVS pmax pmax
comp=N,16nm,1.4s
NVS pmax pmax
comp=E,10.0nm,1.4s
NVS pmax pmax
comp=Z,32nm,1.4s
SHL Shillong 48.92 72 ePKP P 21 45 03.5 +3.2
BOSA Boshof 49.36 196 LR LR 22 06 15.9
comp=Z,629nm,18.5s,baz=21,slow=37
ARCES ARCESS Array B 51.06 354 LR LR 22 08 39.0
comp=Z,145nm,18.2s,baz=187,slow=38
GTA Gaotai 55.58 55 eP P 21 45 48.8 -0.7
GTA S S 21 53 32.5 -1.7
GTA SS SS 21 57 17.4 -1.8
GTA pmax pmax
comp=Z,11nm,1.7s
GTA pmax pmax
comp=Z,84nm,5.5s
GTA LR LR
comp=N,160nm,15.2s
GTA LR LR
comp=E,220nm,16.6s
GTA LR LR
comp=Z,310nm,15.9s
CMAR Chiang Mai Arr 56.34 80 P P 21 45 53.9 -1.3
CMAR Chiang Mai Arr 56.34 80 P P 21 45 53.9 -1.3
comp=Z,2.3nm,1.1s,baz=291,slow=7.9,SNR=14
CMAR LR LR 22 10 33.8
comp=Z,92nm,19.7s,baz=109,slow=37

CMAR	**Chiang Mai Arr**	**56.34**	**80**	P	**P**	**21 45 53.8**	**-1.3**
MOY	**Mondy**	**57.78**	**40**	*e*P	**P**	**21 46 06.1**	**+1.2**
KMI	**Kunming**	**58.73**	**72**	P	**P**	**21 46 12.1**	**-0.1**
KMI				pP	**pP**	**21 46 21.7**	**+2.2**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.4s						
KMI				LR	LR		
	comp=Z,230nm,18.0s						
LZH	**Lanzhou**	**58.75**	**59**	⇑P	**P**	**21 46 12.5**	**+0.5**
LZH				PP	**PP**	**21 48 23.6**	**+1.6**
LZH				*e*S	**S**	**21 54 15.1**	**-1.0**
LZH				pmax	pmax		
	comp=Z,27nm,1.5s						
LZH				pmax	pmax		
	comp=Z,110nm,5.4s						
LZH				LR	LR		
	comp=N,490nm,15.5s						
LZH				LR	LR		
	comp=E,250nm,16.0s						
LZH				LR	LR		
	comp=Z,570nm,16.7s						
CD2	**Chengdu**	**58.98**	**65**	P	**P**	**21 46 14.6**	**+1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.2s						
ZAK	**Zakamensk**	**59.01**	**42**	⇑*i*P	**P**	**21 46 13.4**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
TLY	**Talaya**	**59.41**	**41**	*e*P	P	21 46 12.2	-4.0
TLY				*e*		21 58 21.2	
TLY				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TLY				MLR	MLR		
	comp=Z,262nm,17.0s						
TLY	**Talaya**	**59.41**	**41**	*e*P	**P**	**21 46 15.6**	**-0.6**
	comp=Z,13nm,1.4s						
TLY	**Talaya**	**59.41**	**41**	*e*P	**P**	**21 46 15.6**	**-0.6**
	comp=Z,13nm,1.4s						
SONM	**Songino Array**	**60.82**	**45**	P	**P**	**21 46 26.0**	**0.0**
SONM	**Songino Array**	**60.82**	**45**	P	**P**	**21 46 26.0**	**0.0**
	comp=Z,5.0nm,1.0s,baz=261,slow=6.3,SNR=26						
SONM				LR	LR	22 15 18.4	
	comp=Z,226nm,18.2s,baz=205,slow=39						
SONM	**Songino Array**	**60.82**	**45**	P	**P**	**21 46 26.0**	**0.0**
GYA	**Guiyang**	**62.04**	**70**	P	**P**	**21 46 36.4**	**+1.8**
GYA				PP	**PP**	**21 48 55.0**	**+3.8**
GYA				S	**S**	**21 54 58.8**	**+0.3**
GYA				SKS	**SKKSac**	**21 56 24.5**	**-1.3**
GYA				SS	**SS**	**21 59 03.2**	**+2.0**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,110nm,5.5s						
GYA				LR	LR		
	comp=N,460nm,19.5s						
GYA				LR	LR		
	comp=E,480nm,18.7s						
GYA				LR	LR		
	comp=Z,450nm,18.2s						
XAN	**Xi'an**	**63.04**	**61**	P	**P**	**21 46 40.2**	**-0.9**
XAN				pmax	pmax		
	comp=Z,3.0nm,1.5s						
XAN				pmax	pmax		
	comp=Z,41nm,5.9s						
XAN				LR	LR		
	comp=N,150nm,16.3s						
XAN				LR	LR		
	comp=Z,96nm,16.8s						
ENH	**Enshi**	**63.96**	**65**	*e*P	**P**	**21 46 46.6**	**-0.7**
	comp=Z,28nm,1.5s						
ENH				*e*PcP	**PcP**	**21 47 20.8**	**-1.9**
ENH	**Enshi**	**63.96**	**65**	*e*P	**P**	**21 46 46.6**	**-0.7**
	comp=Z,28nm,1.5s						
BOD	**Bodaibo**	**65.92**	**34**	*e*P	**P**	**21 46 58.4**	**-1.1**
BOD				pmax	pmax		
	comp=Z,12nm,1.5s						
QIZ	**Qiongzhong**	**66.33**	**77**	P	**P**	**21 47 02.6**	**-0.1**
QIZ				S	**S**	**21 55 52.8**	**+1.3**
QIZ				pmax	pmax		
	comp=Z,15nm,2.4s						
QIZ				pmax	pmax		
	comp=Z,99nm,7.0s						
QIZ				LR	LR		
	comp=Z,140nm,19.7s						
WHN	**Wuhan**	**68.07**	**64**	P	**P**	**21 47 13.9**	**+0.3**
BJT	**Baijiatuau**	**68.15**	**54**	*e*P	**P**	**21 47 14.0**	**0.0**
BJT	**Baijiatuau**	**68.15**	**54**	*e*P	**P**	**21 47 14.0**	**0.0**
YAK	**Yakutsk**	**73.52**	**29**	*e*P	**P**	**21 47 43.5**	**-2.6**
YAK				pmax	pmax		
	comp=Z,11nm,1.3s						
CN2	**Changchun**	**74.37**	**49**	*e*P	**P**	**21 47 52.0**	**+0.5**
CN2				*es*P	**sP**	**21 47 59.0**	**-2.8**
CN2				*e*S	**S**	**21 57 23.7**	**-1.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,19.0s						
CN2				LR	LR		
	comp=E,200nm,19.0s						
CN2				LR	LR		
	comp=Z,200nm,21.0s						
KSRS	**Korea Array**	**77.65**	**55**	LR	LR	22 27 12.8	
	comp=Z,226nm,18.4s,baz=300,slow=39						
USRK	**Ussuriysk Arra**	**78.87**	**47**	P	**P**	**21 48 16.3**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=204,slow=4.2,SNR=4.5						
USRK				LR	LR	22 27 53.6	
	comp=Z,241nm,19.5s,baz=8.7,slow=39						
SEY	**Seymchan**	**83.13**	**25**	⇑*e*P	**P**	**21 48 41.2**	**+2.0**
BILL	**Bilibino**	**84.96**	**18**	*e*P	**P**	**21 48 49.2**	**+0.6**
BILL				*i*		21 48 55.0	
BILL				*e*		21 52 04.8	
BILL				pmax	pmax		
	comp=Z,36nm,2.2s						
BILL	**Bilibino**	**84.96**	**18**	*e*P	**P**	**21 48 49.1**	**+0.6**
	comp=Z,20nm,1.3s						
BILL	**Bilibino**	**84.96**	**18**	*e*P	**P**	**21 48 49.1**	**+0.6**
	comp=Z,20nm,1.3s						
MJAR	**Matsushiro Arr**	**85.77**	**53**	P	**P**	**21 48 52.2**	**-1.0**
MJAR	**Matsushiro Arr**	**85.77**	**53**	P	**P**	**21 48 52.2**	**-1.0**
	comp=Z,1.8nm,0.9s,baz=282,slow=7.6,SNR=3.3						
MJAR				LR	LR	22 32 12.3	
	comp=Z,97nm,18.2s,baz=95,slow=39						
MJAR	**Matsushiro Arr**	**85.77**	**53**	P	**P**	**21 48 52.2**	**-1.0**
PETK	**Petropavlovsk-**	**90.68**	**32**	LR	LR	22 34 55.1	
	comp=Z,120nm,18.6s,baz=22,slow=39						
BDFB	**Brasilia**	**92.44**	**254**	LR	LR	22 27 20.5	
	comp=Z,86nm,18.6s,baz=191,slow=33						
YKA	**Yellowknife Ar**	**96.01**	**348**	P	**P**	**21 49 39.8**	**-0.8**
YKA	**Yellowknife Ar**	**96.01**	**348**	P	**P**	**21 49 39.7**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=24,slow=5.0,SNR=7.8						
YKA	**Yellowknife Ar**	**96.01**	**348**	P	**P**	**21 49 39.8**	**-0.8**
ILAR	**Eielson Array**	**96.20**	**3**	P	**P**	**21 49 41.0**	**-0.5**
ILAR	**Eielson Array**	**96.20**	**3**	P	**P**	**21 49 41.0**	**-0.5**
	comp=Z,0.7nm,1.0s,baz=5.7,slow=3.3,SNR=4.2						
ILAR	**Eielson Array**	**96.20**	**3**	P	**P**	**21 49 41.0**	**-0.5**
GUMO	**Guam**	**99.94**	**72**	LR	LR	22 35 56.4	
	comp=Z,132nm,21.9s,baz=181,slow=36						
TXAR	**Lajitas Array**	**119.91**	**323**	PKP	**PKPdf**	**21 55 05.2**	**+0.4**
TXAR	**Lajitas Array**	**119.91**	**323**	PKP	**PKPdf**	**21 55 05.2**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=73,slow=4.0,SNR=2.7						
TXAR	**Lajitas Array**	**119.91**	**323**	PKIKP	**PKPdf**	**21 55 05.2**	**+0.4**

*DJA **05** 21:39:18, 8.98S×111.26E, h40km, MLv4.0/10*
IDC 05 21:39:14.0±3.1, 8.11S×111.95E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/16, mbtmp3.3/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/16, Error ellipse: s-maj=182.0km s-min=27.7km az=49.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**16.61**	**128**	LR	LR	21 48 52.6	
	comp=Z,48nm,18.6s,baz=17,slow=35						
WRA	**Warramunga Arr**	**24.66**	**121**	P	P	21 44 36.4	-0.4
	0.7nm,0.4s,baz=295,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**26.11**	**129**	P	P	21 44 50.4	+0.4
	0.5nm,0.5s,baz=303,slow=9.5,SNR=6.8						
MKAR	**Makanchi Array**	**60.70**	**337**	P	P	21 49 27.2	-0.1
	0.1nm,0.4s,baz=160,slow=7.9,SNR=5.2						

*NEIC **05** 21:42:35.7, 31.20S×67.94W, h150km, MD4.0(SJA), After GUC.*
NEIC Felt [III] in San Juan.
GUC 05 21:42:35.7±0.3, 31.20S×67.94W, h150km, ML4.4, 3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PEL	**Peldehue**	**3.02**	**230**	⇓*i*P	Pn	21 43 24.1	+0.7
PEL				*i* S	Sn	21 44 00.7	+0.3
PEL				AML	AML	21 44 04.1	
	comp=N,907nm,0.4s						
CLCH	**Cerro Calan**	**3.10**	**224**	⇓*i*P	Pn	21 43 25.1	+0.7
CLCH				*i* S	Sn	21 44 02.6	+0.5
CLCH				AML	AML	21 44 06.1	
	comp=E,966nm,0.9s						
CLCH				AML	AML	21 44 06.7	
	comp=E,1μm,0.3s						
CHNG	**Los Chungos**	**3.11**	**256**	AML	AML	21 44 08.0	
	comp=N,938nm,0.5s						
ROCH	**El Roble**	**3.14**	**235**	⇓*i*P	Pn	21 43 26.1	+0.9
ROCH				AML	AML	21 44 10.0	
	comp=E,498nm,0.6s						
LCO	**Las Campanas**	**3.24**	**312**	*e*Pn	Pn	21 43 35.5	+9.0
LCO				*e*Sn	Sn	21 44 14.2	+8.5
LMEL	**Las Melosas**	**3.25**	**215**	*e*P	Pn	21 43 27.0	+0.5
LMEL				*e*S	Sn	21 44 06.6	+0.7
LMEL	**Las Melosas**	**3.25**	**215**	*e*P	Pn	21 43 27.0	+0.5
LMEL				*e*S	Sn	21 44 06.6	+0.7
LMEL				AML	AML	21 44 12.6	
	comp=N,190nm,0.3s						
RCDM	**Rinconada Maip**	**3.33**	**226**	*e*P	Pn	21 43 28.0	+0.8
RCDM	**Rinconada Maip**	**3.33**	**226**	*e*P	Pn	21 43 28.0	+0.8
RCDM				AML	AML	21 44 17.1	
	comp=E,219nm,0.2s						
TRQA	**Tornquist**	**8.42**	**146**	*e*Pn	Pn	21 44 38.1	+3.4

IDC 05 21:49:16.3±1.1, 30.73N×83.19E, h0km, mb3.4/7, mb1 3.6/9, mb1mx3.5/27, mbtmp3.4/9, ML3.5/2, Error ellipse: s-maj=29.4km s-min=24.2km az=48.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**16.06**	**358**	Pn	Pn	21 53 02.5	-1.0
	0.2nm,0.3s,baz=171,slow=12,SNR=3.1						
CMAR	**Chiang Mai Arr**	**18.80**	**127**	P	Pn	21 53 39.4	+1.5
	0.2nm,0.3s,baz=315,slow=11,SNR=5.9						
KURBB	**Kurchatov Arra**	**20.18**	**351**	P	P	21 53 52.7	+0.5
	1.3nm,0.8s,baz=178,slow=9.2,SNR=7.2						
SONM	**Songino Array**	**24.64**	**40**	P	P	21 54 39.5	+0.8
	0.7nm,0.8s,baz=237,slow=9.4,SNR=7.4						
KSRS	**Korea Array**	**37.38**	**67**	P	P	21 56 29.8	-0.9
	0.8nm,0.6s,baz=281,slow=9.0,SNR=3.2						
WRA	**Warramunga Arr**	**70.38**	**129**	P	P	22 00 31.9	-0.5
	0.5nm,0.9s,baz=326,slow=6.3,SNR=5.5						
TORD	**Torodi Ar. Bea**	**76.17**	**277**	P	P	22 01 07.1	+0.3
	0.3nm,0.8s,baz=70,slow=4.7,SNR=2.2						
ILAR	**Eielson Array**	**77.14**	**20**	P	P	22 01 11.3	-0.1
	0.8nm,1.1s,baz=312,slow=4.7,SNR=3.9						
YKA	**Yellowknife Ar**	**86.01**	**8**	P	P	22 01 57.4	-0.9
	0.1nm,0.4s,baz=339,slow=5.3,SNR=3.4						

*JMA **05** 21:59:26.9±0.3, 30.81N×142.71E, h48km, M4.0*
*IDC **05** 21:59:27.8±4.7, 30.55N×142.33E, h0km, mb3.3/4, mb1 3.4/6, mb1mx3.3/23, mbtmp3.3/6, ML3.2/2, Error ellipse: s-maj=160.6km s-min=19.4km az=74.0*
ISC 05 21:59:28.5±1.5, 31.10N±0.09×143.2E±0.1, h30km, n23, σ1.9 78/26, mb3.3/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**3.49**	**306**	*e*S	**Sn**	**22 00 57.0**	**-4.0**
BSO1	**Boso 1**	**4.00**	**333**	P	**Pn**	**22 00 28.4**	**+1.2**
BSO1				*e*S	**Sn**	**22 01 13.9**	**+1.1**
CBIJ	**Chichi jima**	**4.08**	**193**	*e*S	Sn	22 01 05.3	-10
CBIJ	**Chichi jima**	**4.08**	**193**	Pn	Pn	22 00 21.8	-7.0
	1.7nm,0.3s,baz=258,slow=20,SNR=2.5						
CBIJ				Sn	Sn	22 01 05.2	-10
	16nm,0.3s,baz=294,slow=21,SNR=6.6						
BSO2	**Boso 2**	**4.18**	**331**	*e*S	**Sn**	**22 01 18.4**	**+0.9**
BSO3	**Boso 3**	**4.32**	**329**	P	**Pn**	**22 00 32.9**	**+1.0**
BSO3				S	**Sn**	**22 01 22.7**	**+1.5**
BSO4	**Boso 4**	**4.56**	**329**	*e*S	**Sn**	**22 01 27.1**	**-0.1**
JOD2	**Odawara 2**	**5.39**	**322**	P	**Pn**	**22 00 46.8**	**0.0**
JOD2				*e*S	**Sn**	**22 01 45.9**	**-2.0**
JHU	**Hanno**	**5.75**	**327**	*e*S	**Sn**	**22 01 55.5**	**-1.3**
JYN	**Shimob**	**5.86**	**320**	*e*S	**Sn**	**22 02 00.2**	**+0.7**
JHO	**Hitachi**	**5.91**	**339**	P	**Pn**	**22 00 55.9**	**+1.9**
JHO				S	**Sn**	**22 01 59.1**	**-1.6**
JRY	**Ryogami san**	**6.07**	**325**	P	**Pn**	**22 00 57.7**	**+1.5**
JRY				*e*S	**Sn**	**22 02 03.5**	**-1.1**
JAG	**Ashikaga**	**6.16**	**331**	P	**Pn**	**22 00 58.6**	**+1.3**
JAG				*e*S	**Sn**	**22 02 05.2**	**-1.5**
JKT	**Katashina**	**6.53**	**331**	*e*S	**Sn**	**22 02 14.4**	**-1.7**
JFK	**Kawauchi**	**6.54**	**344**	*e*S	**Sn**	**22 02 13.7**	**-2.5**
MJAR	**Matsushiro Arr**	**6.83**	**324**	Pn	**Pn**	**22 01 07.7**	**+1.1**
	0.5nm,0.3s,baz=149,slow=11,SNR=6.0						
MJAR				Sn	**Sn**	**22 02 22.2**	**-1.1**
	0.6nm,0.3s,baz=135,slow=12,SNR=4.9						
MAT	**Matsushiro**	**6.83**	**324**	*e*S	**Sn**	**22 02 23.8**	**+0.5**
JMK	**Ichinoseki**	**8.00**	**349**	*e*S	**Sn**	**22 02 50.2**	**-1.8**
MIYJ	**Miyakonagasawa**	**8.53**	**353**	*e*S	**Sn**	**22 03 01.5**	**-3.7**
SONM	**Songino Array**	**32.58**	**311**	P	P	22 06 01.2	+4.0
	0.2nm,0.4s,baz=126,slow=7.3,SNR=3.5						
MKAR	**Makanchi Array**	**48.69**	**307**	P	**P**	**22 08 10.9**	**+1.0**
	0.1nm,0.4s,baz=99,slow=8.2,SNR=3.8						
KURBB	**Kurchatov Arra**	**50.94**	**312**	P	P	22 08 29.0	+2.0
	0.2nm,0.5s,baz=90,slow=7.7,SNR=3.9						
WRA	**Warramunga Arr**	**51.45**	**191**	P	**P**	**22 08 30.1**	**-0.9**
	0.5nm,0.5s,baz=7.3,slow=7.7,SNR=8.7						

IGQ 05 22:01:30.8, 1.83S×77.67W, h7km±176km, Mb4.0, Ms3.8, 10C-21D, Error ellipse: s-maj=1.6km s-min=1.2km az=1.8, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULBA	**Ulba**	**0.83**	**297**	S	Sg	22 01 58.4	0.0
ULBA	**Ulba**	**0.83**	**297**	P	Pg	22 01 47.5	+0.3
PAT1	**Patacocha**	**0.83**	**293**	⇑P	Pg	22 01 47.4	-0.1
BRUN	**Tungurahua Vol**	**0.84**	**299**	⇓P	Pg	22 01 47.8	+0.3
BRUN	**Tungurahua Vol**	**0.84**	**299**	⇓S	Sg	22 01 59.2	+0.4
ARRY	**Arrayan**	**0.85**	**292**	⇓P	Pg	22 01 47.3	-0.2
RUN5	**Runtun**	**0.86**	**299**	⇓S	Sg	22 01 59.0	-0.2
RUN5	**Runtun**	**0.86**	**299**	⇓P	Pg	22 01 47.8	0.0
RETU	**Refugio**	**0.86**	**296**	S	Sg	22 01 58.7	-1.1
RETU	**Refugio**	**0.86**	**296**	P	Pg	22 01 47.5	-0.5
BMAS	**Trigal station**	**0.87**	**292**	⇓S	Sg	22 01 59.5	-0.2
BMAS	**Trigal station**	**0.87**	**292**	⇓P	Pg	22 01 47.8	-0.3
JUI6	**Juive**	**0.89**	**297**	S	Sg	22 01 59.7	-0.6
JUI6	**Juive**	**0.89**	**297**	P	Pg	22 01 48.0	-0.4
BBIL	**Ulba Tungurahu**	**0.90**	**295**	⇑S	Sg	22 01 59.7	-0.8
BBIL	**Ulba Tungurahu**	**0.90**	**295**	⇑P	Pg	22 01 48.4	-0.1
BIL2	**Estacion Bilba**	**0.91**	**294**	⇓P	Pg	22 01 48.6	-0.1
IGUA	**Igualata**	**1.02**	**289**	⇓P	Pg	22 01 51.1	-0.1
PISA	**Pisayambo**	**1.05**	**317**	⇑P	Pg	22 01 51.6	0.0
TAMB	**Tambo**	**1.33**	**328**	⇓P	Pg	22 01 56.6	-0.1
COV1	**Cotopaxi Volc**	**1.34**	**330**	⇑P	Pg	22 01 58.6	+1.2
BMOR	**Cotopaxi Volca**	**1.35**	**324**	⇓S	Sg	22 02 15.3	-0.1
BMOR	**Cotopaxi Volca**	**1.35**	**324**	⇓P	Pb	22 01 57.1	0.0
MOV1	**Cotopaxi Vol s**	**1.35**	**325**	P	Pn	22 01 56.7	-0.2
BTAM	**Cotopaxi Volca**	**1.36**	**328**	⇓S	Sb	22 02 15.4	0.0
BTAM	**Cotopaxi Volca**	**1.36**	**328**	⇓P	Pb	22 01 57.2	-0.1
BVC2	**Cotopaxi Volca**	**1.38**	**328**	⇓P	Pb	22 01 57.6	-0.1
BVC2	**Cotopaxi Volca**	**1.38**	**328**	⇓S	Sn	22 02 16.4	+0.1
BREF	**Cotopaxi Volca**	**1.39**	**326**	S	Sg	22 02 17.8	+1.0
BREF	**Cotopaxi Volca**	**1.39**	**326**	P	Pb	22 01 57.9	0.0
VC1	**Cotopaxi 1**	**1.39**	**328**	⇓S	Sg	22 02 17.2	+0.6
VC1	**Cotopaxi 1**	**1.39**	**328**	⇓P	Pb	22 01 57.8	+0.1
NAS2	**Nasa**	**1.42**	**326**	S	Sg	22 02 18.0	+0.3
NAS2	**Nasa**	**1.42**	**326**	P	Pg	22 01 58.7	-0.1
ANTI	**Antisana**	**1.46**	**340**	⇓P	Pn	22 01 58.4	+0.1
PITA	**Cotopaxi Volc**	**1.48**	**329**	⇓P	Pb	22 01 59.3	+0.1
CHAR	**Charly**	**1.73**	**360**	S	Sg	22 02 27.8	+0.4
CHAR	**Charly**	**1.73**	**360**	P	Pb	22 02 03.1	-0.4
CONE	**Cono NE Rev Vo**	**1.75**	**1**	S	Sg	22 02 27.9	+0.1
CONE	**Cono NE Rev Vo**	**1.75**	**1**	P	Pn	22 02 02.8	+0.8
JUA2	**San Juan 2**	**1.86**	**330**	P	Pb	22 02 06.1	+0.4
CAYR	**Refugio Cayamb**	**1.86**	**350**	⇑P	Pb	22 02 05.9	-0.1
CAYR	**Refugio Cayamb**	**1.86**	**350**	⇑S	Sb	22 02 30.9	+0.8
GGP	**Refugio Guagua**	**1.89**	**331**	⇓P	Pg	22 02 07.3	-0.4
TERV	**Terraza Guagua**	**1.89**	**330**	S	Sg	22 02 32.7	-0.1
TERV	**Terraza Guagua**	**1.89**	**330**	P	Pg	22 02 07.1	-0.7
PINO	**Pino**	**1.91**	**331**	⇑P	Pb	22 02 06.4	-0.3
PINO	**Pino**	**1.91**	**331**	⇑S	Sg	22 02 32.5	-1.0
CAYA	**Cayambe**	**1.92**	**350**	S	Sg	22 02 32.7	-0.9
CAYA	**Cayambe**	**1.92**	**350**	P	Pb	22 02 06.2	-0.6
OTAV	**Otavalo**	**2.20**	**339**	⇑P	Pb	22 02 11.8	+0.3
YANT	**Yantaza**	**2.29**	**208**	P	Pn	22 02 10.4	+1.2
YANT	**Yantaza**	**2.29**	**208**	S	Sn	22 02 39.3	+1.5

*IDC **05** 22:04:33.0±1.6, 59.93N×153.17W, h91km±26km, mb3.2/2, mb1 3.6/6, mb1mx3.2/26, mbtmp3.4/6, MS3.4/1, Ms1 3.4/1, ms1mx2.8/19, Error ellipse: s-maj=34.4km s-min=11.3km az=107.0*
*ISCJB **05** 22:04:34.1±0.3, 59.86N±0.03×152.99W±0.07, h128km±3km, mb3.5/2, Error ellipse: s-maj=6.0km s-min=4.1km az=34.6*
*NEIC **05** 22:04:36.5, 59.85N×152.99W, h115km, MG3.4(AEIC), After AEIC.*
ISC 05 22:04:35.1±0.8, 59.87N±0.04×153.03W±0.04, h123km±6km, n84, σ1.8 04/93, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILS	**Iliamna Low So**	**0.09**	**348**	P	**Pn**	**22 04 51.8**	**-0.2**
ILS				S	**Sn**	**22 05 03.4**	**-1.3**
INE	**Iliamna NE**	**0.19**	**355**	P	**Pn**	**22 04 52.0**	**-0.2**
ILW	**Iliamna West**	**0.20**	**344**	P	**Pn**	**22 04 52.0**	**-0.2**
OPT	**Oil Point**	**0.24**	**205**	P	**Pn**	**22 04 52.1**	**-0.1**
AUL	**Augustine Lava**	**0.53**	**203**	P	**Pn**	**22 04 53.7**	**+0.2**
AUL				S	**Sn**	**22 05 07.2**	**-0.2**
AUNW	**Augustine NWes**	**0.54**	**205**	P	**Pn**	**22 04 53.6**	**+0.1**
AUW	**Augustine West**	**0.55**	**204**	P	**Pn**	**22 04 53.6**	**0.0**
RDN	**Redoubt North**	**0.66**	**11**	P	**Pn**	**22 04 54.7**	**+0.1**
NCT	**North Crescent**	**0.70**	**4**	P	**Pn**	**22 04 54.9**	**+0.1**
HOM	**Homer**	**0.73**	**106**	P	**Pn**	**22 04 55.1**	**+0.2**
DFR	**Drift River**	**0.75**	**13**	P	**Pn**	**22 04 55.2**	**0.0**
NNL	**Ninilchik**	**0.89**	**78**	P	**Pn**	**22 04 57.3**	**+1.1**
BRLK	**Bradley Lake**	**1.09**	**95**	P	**Pn**	**22 04 58.0**	**-0.2**
BRLK				S	**Sn**	**22 05 15.0**	**-0.8**
FOPK	**Fourpeaked Vol**	**1.14**	**192**	P	**Pn**	**22 04 58.3**	**-0.4**
NKA	**Nikishka**	**1.25**	**45**	P	**Pn**	**22 05 01.9**	**+2.1**
CKL	**Chakachamna La**	**1.38**	**14**	P	**Pn**	**22 05 01.7**	**+0.4**
KAPH	**Katmai Pasha**	**1.44**	**209**	P	**Pn**	**22 05 02.2**	**+0.1**
KAPH				S	**Sn**	**22 05 22.1**	**-0.5**
SPCG	**Spurr Capps Gl**	**1.51**	**19**	P	**Pn**	**22 05 03.3**	**+0.4**
SPCG				S	**Sn**	**22 05 25.2**	**+1.1**
KARR	**Katmai Rainbow**	**1.62**	**213**	P	**Pn**	**22 05 04.3**	**+0.2**
STLK	**Strandline Lak**	**1.74**	**19**	P	**Pn**	**22 05 05.8**	**+0.3**
SEW	**Seward**	**1.81**	**81**	S	**Sn**	**22 05 28.1**	**-2.1**
KAKN	**Katmai Knife C**	**1.89**	**215**	P	**Pn**	**22 05 07.4**	**0.0**
FIB	**Fire Island**	**1.92**	**46**	P	**Pn**	**22 05 08.7**	**+1.1**
FIB				S	**Sn**	**22 05 33.3**	**+0.9**
SUA	**Susitna One**	**1.96**	**34**	P	**Pn**	**22 05 08.6**	**+0.4**
SUA				S	**Sn**	**22 05 33.7**	**+0.2**
KCE	**Katmai Mt Cerb**	**1.97**	**215**	P	**Pn**	**22 05 08.3**	**+0.5**
KABR	**Katmai Barrier**	**2.01**	**211**	P	**Pn**	**22 05 08.6**	**-0.2**
RC01	**Rabbit Creek A**	**2.04**	**52**	S	**Sn**	**22 05 33.8**	**-1.4**
KDAK	**Kodiak Island**	**2.10**	**173**	S	**Sn**	**22 05 35.1**	**-1.4**
KDAK	**Kodiak Island**	**2.10**	**173**	P	**Pn**	**22 05 08.9**	**-1.0**
	39nm,0.3s,baz=15,slow=7.9,SNR=545						
KDAK				S	**Sn**	**22 05 34.0**	**-2.6**
	10nm,0.3s,baz=23,slow=24,SNR=5.3						
SKT	**Skwentna**	**2.24**	**18**	P	**Pn**	**22 05 11.7**	**+0.1**
PMR	**Palmer**	**2.58**	**46**	S	**Sn**	**22 05 44.7**	**-2.6**
TRAP	**Trapper Creek**	**2.82**	**27**	P	**Pn**	**22 05 19.7**	**+0.7**
PPLA	**Purkeypile**	**3.07**	**7**	P	**Pn**	**22 05 23.3**	**+1.0**
TT01	**Tatalina**	**3.37**	**336**	P	**Pn**	**22 05 26.2**	**0.0**
SCM	**Sheep Creek Mo**	**3.42**	**52**	P	**Pn**	**22 05 26.2**	**-0.7**
VLZ	**Valdez**	**3.55**	**66**	P	**Pn**	**22 05 28.5**	**+0.1**
EYAK	**Cordova Ski Ar**	**3.70**	**76**	P	**Pn**	**22 05 30.3**	**-0.3**
DIV	**Divide**	**3.81**	**67**	P	**Pn**	**22 05 32.5**	**+0.4**
KLU	**Klutina**	**3.86**	**62**	P	**Pn**	**22 05 32.0**	**-0.7**
RND	**Reindeer**	**4.07**	**27**	P	**Pn**	**22 05 35.0**	**-0.5**
GOAT	**Goat Mountain**	**4.20**	**77**	P	**Pn**	**22 05 37.6**	**+0.3**
DHY	**Denali Highway**	**4.21**	**38**	P	**Pn**	**22 05 36.9**	**-0.5**
BMRM	**Bremner River**	**4.32**	**72**	P	**Pn**	**22 05 39.0**	**+0.1**
HARP	**HAARP**	**4.59**	**53**	P	**Pn**	**22 05 42.2**	**-0.2**
BERG	**Berg Lake**	**4.69**	**80**	P	**Pn**	**22 05 43.8

ZIIG				*i*	S	Sg	22 43 06.5	+0.3
MMIG	**Aquila**	**1.49**	**293**	*i*	P	Pn	22 43 16.2	-3.6
MMIG				*i*	S	Sn	22 43 34.5	-5.2
CAIG	**El Cayaco**	**1.69**	**113**	*i*	P	Pn	22 43 19.6	-3.1
CAIG				*i*	S	Sn	22 43 40.6	-4.1
PLIG	**Platanillo**	**2.38**	**73**	*eP*		Pn	22 43 29.0	-3.2
PLIG				*i*	S	Sn	22 43 58.0	-3.8

IDC 05 22:43:48.1±48.0, 16°16'S×175°19'W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/17, mbtmp4.0/3, Error ellipse: s-maj=912.0km s-min=178.6km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.17**	**240**	P	P	22 51 43.3	+0.5
	0.4nm,0.3s,baz=106,slow=7.4,SNR=2.8						
WRA	**Warramunga Arr**	**48.00**	**258**	P	P	22 52 28.6	-0.7
	0.5nm,0.7s,baz=94,slow=8.4,SNR=15						
ASAR	**Alice Springs**	**48.24**	**253**	P	P	22 52 31.1	0.0
	2.3nm,0.4s,baz=89,slow=8.0,SNR=43						

IDC 05 23:05:01.1±1.4, 27°12'S×176°41'W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.9/14, mbtmp3.9/3, MS4.0/2, Ms1 4.0/2, ms1mx3.2/26, Error ellipse: s-maj=59.4km s-min=36.5km az=162.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.69**	**252**	P	P	23 12 11.6	+1.7
	0.7nm,0.3s,baz=109,slow=9.7,SNR=3.0						
ASAR	**Alice Springs**	**44.79**	**263**	P	P	23 13 16.4	-0.7
	0.6nm,0.5s,baz=95,slow=7.2,SNR=8.0						
WRA	**Warramunga Arr**	**45.49**	**268**	P	P	23 13 21.6	-0.9
	0.8nm,0.7s,baz=103,slow=8.9,SNR=11						
FITZ	**Fitzroy Crossi**	**53.85**	**267**	LR	LR	23 36 18.8	
	comp=Z,96nm,20.6s,baz=202,slow=35						
GUMO	**Guam**	**55.23**	**312**	LR	LR	23 32 51.2	
	comp=Z,202nm,21.6s,baz=280,slow=30						
NB2	**NORSAR Subarra**	**145.70**	**353**	PKP	PKPbc	23 24 41.3	-0.1
	comp=Z,0.8nm,0.8s,baz=11,slow=2.9						
NOA	**NORSAR Array B**	**145.70**	**353**	PKPbc	PKPbc	23 24 41.5	+0.1
	comp=Z,1.4nm,0.8s,baz=16,slow=4.5,SNR=4.3						
AKASG	**Malin Array Be**	**149.43**	**327**	PKPbc	PKPbc	23 24 51.4	-0.5
	comp=Z,1.1nm,0.6s,baz=47,slow=4.3,SNR=5.1						
BRTR	**Keskin Array B**	**152.09**	**304**	PKPbc	PKPbc	23 24 57.1	-1.7
	comp=Z,0.3nm,0.7s,baz=73,slow=4.8,SNR=2.5						
BRTR				PKPab	PKPab	23 25 09.2	+0.9
	comp=Z,0.7nm,0.8s,baz=109,slow=6.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**165.98**	**172**	PKPab	PKPab	23 26 08.2	-0.4
	comp=Z,0.7nm,0.9s,baz=200,slow=5.3,SNR=4.2						

*ISCJB **05** 23:06:28.7±1.1, 49°1'N±0°2'×154°7'E±0°3, h73km, mb3.5/6, Error ellipse: s-maj=32.8km s-min=7.8km az=41.9*
*MOS **05** 23:06:30.8±1.4, 49°18'N×154°52'E, h94km, mb3.9/3, Error ellipse: s-maj=37.0km s-min=14.3km az=63.9*
*IDC **05** 23:06:31.3±3.0, 49°09'N×154°64'E, h82km±27km, mb3.3/6, mb1 3.5/8, mb1mx3.3/25, mbtmp3.4/8, Error ellipse: s-maj=35.8km s-min=18.1km az=132.0*

ISC 05 23:06:30.7±1.2, 49°0'N±0°2'×154°6'E±0°2, h73km, n12, σ1§32/14, mb3.5/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.91**	**30**	*ePN*	**Pn**	**23 07 03.4**	**+2.2**
SKR				*i* S	**Sn**	**23 07 27.1**	**+2.7**
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=Z,90nm,0.4s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				smax	smax		
	comp=N,750nm,0.3s						
SKR				smax	smax		
	comp=E,470nm,0.3s						
PETK	**Petropavlovsk-**	**4.52**	**24**	PN	**Pn**	**23 07 36.5**	**-0.1**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.52**	**24**	P	**Pn**	**23 07 36.5**	**-0.1**
	comp=Z,2.9nm,0.3s,baz=177,slow=14,SNR=24						
PET	**Petropavlovsk**	**4.74**	**31**	*ePN*	**Pn**	**23 07 38.2**	**-1.3**
PET				*eS*	**Sn**	**23 08 31.7**	**-1.3**
PET				smax	smax		
	comp=E,93nm,0.6s						
PET				smax	smax		
	comp=N,81nm,0.5s						
ASAJ	**Asahikawa**	**9.63**	**244**	P	**Pn**	**23 08 47.1**	**+0.7**
	comp=N,2.2nm,0.3s,baz=66,slow=15,SNR=10						
KSRS	**Korea Array**	**22.51**	**249**	P	**P**	**23 11 24.9**	**+0.7**
	comp=N,1.0nm,0.5s,baz=52,slow=9.8,SNR=3.8						
MKAR	**Makanchi Array**	**46.83**	**296**	P	**P**	**23 14 52.3**	**-0.7**
MKAR	**Makanchi Array**	**46.83**	**296**	P	**P**	**23 14 52.2**	**-0.7**
	comp=N,0.2nm,0.5s,baz=69,slow=9.0,SNR=5.3						
YKA	**Yellowknife Ar**	**48.49**	**38**	P	**P**	**23 15 05.0**	**-0.5**
	comp=N,0.3nm,0.7s,baz=300,slow=7.9,SNR=6.4						
CMAR	**Chiang Mai Ar**	**53.91**	**256**	P	**P**	**23 15 46.9**	**+0.2**
	comp=N,0.8nm,0.6s,baz=30,slow=7.5,SNR=5.7						
FINES	**FINESS Array B**	**62.41**	**335**	P	**P**	**23 16 44.3**	**-1.1**
	comp=N,0.6nm,0.5s,baz=31,slow=7.8,SNR=5.3						
WRA	**Warramunga Arr**	**71.00**	**200**	P	**P**	**23 17 40.2**	**-0.2**
	comp=N,0.6nm,1.0s,baz=15,slow=6.2,SNR=2.7						

*IDC **05** 23:14:29.3±0.6, 27°26'S×176°40'W, h0km, mb4.7/18, mb1 4.8/18, mb1mx4.8/19, mbtmp4.7/18, MS4.4/15, Ms1 4.4/15, ms1mx4.3/22, Error ellipse: s-maj=20.5km s-min=17.3km az=166.0*
*ISCJB **05** 23:14:32.2±3.3, 27°42'S±0°05'×176°48'W±0°05, h26km±22km, mb4.9/58, MS4.5/23, Error ellipse: s-maj=9.2km s-min=5.8km az=43.9*
*MOS **05** 23:14:34.6±1.2, 27°29'S×176°48'W, h47km, mb4.9/30, MS4.3/6, Error ellipse: s-maj=12.1km s-min=10.8km az=109.5*
*NEIC **05** 23:14:36.6±0.9, 27°39'S×176°45'W, h54km±8km, mb4.9/22, Error ellipse: s-maj=7.3km s-min=6.1km az=140.0*
*BJI **05** 23:14:39.5, 26°47'S×176°82'W, h52km, mB5.5/21, mb5.1/30, Ms5.1/13, Ms7 4.7/16*

ISC 05 23:14:35.8±0.5, 27°43S±0°05×176°41W±0°08, h46km±3km, h46km:pP-P, n360, σ1§19/359, mb5.0/58, MS4.6/23, 56C-81D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.25**	**216**	*ePn*	**Pn**	**23 15 11.6**	**+1.0**
RAO				*eSn*	**Sn**	**23 15 40.6**	**+3.5**
MSVF	**Nonsavu**	**10.92**	**331**	*eP*	**Pn**	**23 17 09.0**	**-0.6**
MSVF	**Nonsavu**	**10.92**	**331**	*ePn*	**Pn**	**23 17 09.0**	**-0.6**
URZ	**Urewera**	**12.09**	**205**	*ePn*	Pn	23 17 18.1	-7.3
URZ				*eSn*	**Sn**	**23 19 39.7**	**+0.9**
AFI	**Afiamalu**	**14.13**	**19**	*ePn*	Pn	23 17 43.5	-10
AFI					Sn	23 20 09.3	-20
AFI	**Afiamalu**	**14.13**	**19**	Pn	Pn	23 17 43.7	-10
	8.4nm,0.3s,baz=110,slow=2.6,SNR=7.5						
AFI					Sn	23 20 09.3	-20
	2.9nm,0.3s,baz=206,slow=21,SNR=3.0						
SNZO	**South Karori**	**15.66**	**206**	*ePn*	**Pn**	**23 18 13.2**	**0.0**
SNZO				*eSn*	Sn	23 20 52.4	-13
RAR	**Rarotonga**	**16.37**	**71**	*ePn*	Pn	23 18 11.9	-11
RAR					Sn	23 20 55.8	-27
RAR	**Rarotonga**	**16.37**	**71**	Pn	Pn	23 18 12.4	-10
	2.0nm,0.3s,baz=245,slow=7.8,SNR=6.8						
RAR				LR	LR	23 23 49.1	
	comp=Z,609nm,18.8s,baz=284,slow=34						
DZM	**Mont Dzumac**	**16.45**	**285**	*eP*	P	23 18 31.1	+5.4
	270nm,1.6s						
DZM				*eLQ*	LQ	23 21 47.8	
	2μm,29.4s						
DZM				*eLR*	LR	23 22 23.8	
	4μm,25.8s						
DZM	**Mont Dzumac**	**16.45**	**285**	*ePn*	**P**	**23 18 25.1**	**-0.7**
	52nm,0.8s						
DZM	**Mont Dzumac**	**16.45**	**285**	Pn	P	23 18 31.2	+5.4
	4.1nm,0.3s,baz=88,slow=15,SNR=25						
DZM				LR	LR	23 23 37.4	
	comp=Z,2μm,18.5s,baz=74,slow=33						
KHZ	**Kahutara**	**17.05**	**206**	*ePn*	**Pn**	**23 18 26.5**	**-4.4**
	71nm,1.1s						
KHZ				*eSn*	Sn	23 21 22.4	-17
RPZ	**Rata Peaks**	**19.15**	**209**	*eP*	**P**	**23 18 54.2**	**-1.1**
RPZ				*eSn*	**S**	**23 22 24.8**	**-5.1**
RPZ	**Rata Peaks**	**19.15**	**209**	Pn	**P**	**23 18 51.0**	**-4.2**
TBI	**Tubuai**	**24.66**	**87**	*eLQ*	LQ	23 24 28.0	
	782nm,27.5s						
TBI				*eLR*	LR	23 25 31.2	
	1μm,29.5s,baz=258						
PPT2	**Papeete2**	**26.60**	**74**	*eLQ*	LQ	23 25 13.9	
	1μm,24.5s						
PPT2				*eLR*	LR	23 26 31.8	
	2μm,28.0s,baz=239						
HNR	**Honiara**	**28.60**	**304**	LR	LR	23 30 00.2	
	comp=Z,878nm,19.9s,baz=341,slow=33						
EIDS	**Eidsvold**	**29.14**	**267**	*eP*	**P**	**23 20 33.2**	**+0.5**
EIDS	**Eidsvold**	**29.14**	**267**	*eP*	**P**	**23 20 33.5**	**+0.8**
	23nm,0.6s						
CNB	**Canberra Magne**	**30.15**	**246**	*eP*	**P**	**23 20 43.2**	**+1.6**
	73nm,1.5s						
YNG	**Young**	**30.86**	**248**	*eP*	**P**	**23 20 49.7**	**+1.8**
	16nm,1.8s						
CMSA	**Cobar Meteorol**	**33.13**	**254**	*eP*	**P**	**23 21 07.9**	**+0.1**
	42nm,1.7s						
TOO	**Toolangi**	**33.49**	**243**	*eP*	**P**	**23 21 11.4**	**+0.6**
	46nm,1.0s						
CTA	**Charters Tower**	**34.84**	**274**	P	P	**23 21 23.6**	**+0.9**
CTA	**Charters Tower**	**34.84**	**274**	*eP*	**P**	**23 21 23.7**	**+1.0**
	7.8nm,0.4s						
CTA	**Charters Tower**	**34.84**	**274**	P	**P**	**23 21 23.6**	**+0.9**
	9.5nm,0.5s,baz=84,slow=11,SNR=13						
CTA				LR	LR	23 34 15.8	
	comp=Z,1μm,19.0s,baz=55,slow=34						
CTAO	**Charters Tower**	**34.84**	**274**	*eP*	**P**	**23 21 23.4**	**+0.7**
CTAO	**Charters Tower**	**34.84**	**274**	*eP*	**P**	**23 21 23.4**	**+0.7**
STKA	**Stephens Creek**	**36.60**	**253**	*eP*	**P**	**23 21 37.3**	**-0.3**
	15nm,2.1s						
STKA	**Stephens Creek**	**36.60**	**253**	*eP*	**P**	**23 21 38.0**	**+0.4**
	1.9nm,0.4s						
STKA	**Stephens Creek**	**36.60**	**253**	P	**P**	**23 21 38.2**	**+0.5**
	2.3nm,0.4s,baz=100,slow=6.9,SNR=12						
STKA				LR	LR	23 35 52.0	
	comp=Z,957nm,18.0s,baz=65,slow=35						
RKT	**Rikitea**	**37.59**	**93**	*eLR*	LR	23 31 33.4	
	959nm,31.2s						
PMG	**Port Moresby**	**38.73**	**291**	*eP*	**P**	**23 21 56.1**	**+0.3**
COEN	**Coen**	**39.93**	**281**	*eP*	**P**	**23 22 05.4**	**-0.4**
COEN				*ePcP*	**PcP**	**23 24 11.1**	**+0.4**
COEN	**Coen**	**39.93**	**281**	*eP*	**P**	**23 22 07.7**	**+1.9**
	52nm,0.6s						
BBOO	**Buckleboo**	**41.19**	**251**	*eP*	**P**	**23 22 14.0**	**-2.1**
	61nm,1.1s						
ASAR	**Alice Springs**	**44.75**	**263**	P	P	**23 22 43.6**	**-1.4**
ASAR	**Alice Springs**	**44.75**	**263**	P	**P**	**23 22 43.6**	**-1.4**
	2.6nm,0.5s,baz=94,slow=6.8,SNR=34						
WRAB	**Tennant Creek**	**45.47**	**268**	*eP*	**P**	**23 22 49.5**	**-1.2**
WRAB	**Tennant Creek**	**45.47**	**268**	*eP*	**P**	**23 22 49.5**	**-1.2**
WRA	**Warramunga Arr**	**45.48**	**268**	P	**P**	**23 22 49.4**	**-1.5**
WRA	**Warramunga Arr**	**45.48**	**268**	P	P	**23 22 49.4**	**-1.5**
	5.7nm,0.8s,baz=107,slow=7.6,SNR=16						
WRA				LR	LR	23 39 49.8	
	comp=Z,430nm,21.8s,baz=100,slow=33						
FITZ	**Fitzroy Crossi**	**53.83**	**267**	P	**P**	**23 23 53.3**	**-1.1**
FITZ	**Fitzroy Crossi**	**53.83**	**267**	P	**P**	**23 23 53.3**	**-1.1**
	12nm,1.3s,baz=90,slow=13,SNR=2.1						
NWAO	**Narrogin (SRO)**	**56.79**	**247**	LR	LR	23 48 23.3	
	comp=Z,359nm,18.1s,baz=65,slow=36						
MBWA	**Marble Bar**	**57.99**	**261**	*eP*	**P**	**23 24 22.3**	**-1.9**
CASY	**Casey**	**58.41**	**207**	*eP*	**P**	**23 24 27.0**	**+0.7**
RPN	**Rapa Nui**	**58.91**	**107**	LR	LR	23 45 25.9	
	comp=Z,250nm,18.8s,baz=283,slow=32						
QSPA	**South Pole Qui**	**62.67**	**180**	*eP*	**P**	**23 24 57.4**	**+1.8**
	49nm,1.2s						
QSPA	**South Pole Qui**	**62.67**	**180**	P	**P**	**23 24 57.8**	**+2.2**
	28nm,1.0s,baz=37,slow=2.5,SNR=33						
QSPA				LR	LR	23 50 17.6	
	comp=Z,414nm,18.1s,baz=220,slow=34						
MAW	**Mawson**	**75.57**	**200**	LR	LR	23 59 03.1	
	comp=Z,344nm,18.5s,baz=287,slow=35						
JOW	**Kunigami**	**75.74**	**311**	P	**P**	**23 26 17.3**	**+0.5**
JOW	**Kunigami**	**75.74**	**311**	P	**P**	**23 26 17.3**	**+0.5**
	16nm,0.6s,baz=144,slow=5.7,SNR=4.7						
KSM	**Kuching**	**75.88**	**279**	*eP*	**P**	**23 26 17.6**	**-0.4**
	9.1nm,0.5s						
MJAR	**Matsushiro Arr**	**76.63**	**324**	P	**P**	**23 26 20.9**	**-0.8**
MJAR	**Matsushiro Arr**	**76.63**	**324**	P	**P**	**23 26 20.9**	**-0.8**
	8.6nm,0.8s,baz=163,slow=6.2,SNR=13						
MJAR				LR	LR	23 53 18.1	
	comp=Z,123nm,21.0s,baz=120,slow=30						
JNU	**Nakatsue**	**78.30**	**317**	*eP*	**P**	**23 26 30.5**	**-0.6**
	20nm,1.2s						
JNU	**Nakatsue**	**78.30**	**317**	P	**P**	**23 26 31.6**	**+0.5**
	26nm,1.1s,baz=125,slow=6.4,SNR=5.7						
ADK	**Adak**	**78.97**	**360**	*eP*	**P**	**23 26 33.8**	**-0.5**
ADK	**Adak**	**78.97**	**360**	*eP*	**P**	**23 26 33.8**	**-0.5**
SYO	**Syowa Base**	**80.31**	**192**	*ePcP*	**P**	**23 26 39.6**	**-1.9**
SYO	**Syowa Base**	**80.31**	**192**	*ePcP*	**PcP**	**23 26 46.2**	**-2.4**
SNAA	**Sanae**	**81.07**	**178**	*eP*	P	23 26 40.5	-5.3
	109nm,2.1s						
SNAA				*ePcP*	**PcP**	**23 26 51.0**	**-1.0**
NVL	**N'lazarevskaya**	**81.91**	**183**	*eP*	**P**	**23 26 50.7**	**+0.7**
NVL				pmax	pmax		
	comp=Z,11nm,1.0s						
YSS	**Yuzh-Sakhalins**	**82.71**	**333**	*eP*	**P**	**23 26 55.3**	**+1.0**
YSS				pmax	pmax		
	comp=Z,50nm,1.7s						
KSRS	**Korea Array**	**83.02**	**319**	P	**P**	**23 26 56.6**	**+0.5**
	comp=Z,6.3nm,1.0s,baz=144,slow=5.6,SNR=17						
KSRS				LR	LR	00 01 48.4	
	comp=Z,94nm,18.4s,baz=296,slow=34						
KSAR	**Wonju Array Be**	**83.03**	**319**	P	**P**	**23 26 56.6**	**+0.4**
PETK	**Petropavlovsk-**	**83.31**	**345**	P	**P**	**23 26 57.2**	**-0.1**
PETK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
PETK	**Petropavlovsk-**	**83.31**	**345**	P	**P**	**23 26 57.2**	**-0.1**
PETK	**Petropavlovsk-**	**83.31**	**345**	P	**P**	**23 26 57.2**	**-0.1**
	comp=Z,6.1nm,0.8s,baz=146,slow=7.6,SNR=5.4						
PLCA	**Paso Flores**	**83.50**	**133**	*eP*	**P**	**23 26 59.8**	**+0.8**
PLCA	**Paso Flores**	**83.50**	**133**	P	**P**	**23 26 59.4**	**+0.4**
	comp=Z,7.6nm,1.2s,baz=140,slow=3.2,SNR=3.9						
PLCA				LR	LR	23 58 19.9	
	comp=Z,162nm,18.3s,baz=256,slow=32						
CMB	**Columbia Colle**	**83.62**	**41**	*eP*	**P**	**23 26 59.5**	**+0.1**
CMB				pmax	pmax		
	comp=Z,20nm,1.6s						
CMB	**Columbia Colle**	**83.62**	**41**	*eP*	**P**	**23 26 59.5**	**+0.1**
	comp=Z,20nm,1.6s						
MPMC	**Manual Prospec**	**84.07**	**44**	⇓P	**P**	**23 27 02.1**	**+0.1**
	baz=84						
WDC	**Whiskeytown Da**	**84.13**	**38**	*eP*	**P**	**23 27 01.8**	**-0.1**
WDC				pmax	pmax		
	comp=Z,18nm,1.6s						
WDC	**Whiskeytown Da**	**84.13**	**38**	*eP*	**P**	**23 27 01.8**	**-0.1**
	comp=Z,18nm,1.6s						
IRM	**Iron Mountain**	**84.36**	**47**	⇓P	**P**	**23 27 04.3**	**+1.0**
	baz=85						
GMRC	**Gramite Mounta**	**84.42**	**46**	⇑P	**P**	**23 27 04.4**	**+0.8**
	baz=85						
EFI	**East Falkland**	**84.51**	**147**	*eP*	**P**	**23 27 04.2**	**+0.4**
EFI	**East Falkland**	**84.51**	**147**	*eP*	**P**	**23 27 04.2**	**+0.4**
VLA	**Vladivostok**	**84.76**	**325**	⇓*eP*	**P**	**23 27 04.1**	**-0.8**
VLA				S	**S**	**23 37 24.8**	**-4.4**
VLA				pmax	pmax		
	comp=Z,16nm,0.8s						
QIZ	**Qiongzhong**	**85.02**	**294**	P	**P**	**23 27 08.2**	**+1.4**
QIZ				sP	**sP**	**23 27 25.2**	**-0.3**
QIZ				S	**SKKSac**	**23 37 34.6**	**+0.3**
QIZ				pmax	pmax		
	comp=Z,120nm,7.5s						
PDMCI	**Parker Dam,Lak**	**85.10**	**47**	⇑P	**P**	**23 27 08.0**	**+1.1**
	baz=85						
NVAR	**Mina Array Bea**	**85.11**	**42**	P	**P**	**23 27 06.9**	**-0.3**
NVAR	**Mina Array Bea**	**85.11**	**42**	P	**P**	**23 27 06.9**	**-0.3**
	comp=Z,3.5nm,0.9s,baz=214,slow=7.4,SNR=15						
Z14A	**Wintersburg**	**85.33**	**49**	⇓P	**P**	**23 27 09.2**	**+1.1**
	baz=86						
NJ2	**Nanjing**	**85.40**	**310**	*eP*	**P**	**23 27 09.5**	**+1.1**
NJ2				pP	**pP**	**23 27 22.2**	**+0.2**
NJ2				S	S	23 37 28.0	-8.1
NJ2				pmax	pmax		
	comp=Z,20nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,260nm,4.4s						
NJ2				LR	LR		
	comp=N,960nm,28.0s						
NJ2				LR	LR		
	comp=E,770nm,23.0s						
NJ2				LR	LR		
	comp=Z,100nm,26.4s						
USRK	**Ussuriysk Arra**	**85.47**	**326**	P	**P**	**23 27 08.8**	**+0.3**
	comp=Z,3.6nm,0.9s,baz=119,slow=2.4,SNR=6.1						
Y14A	**Wickenburg**	**85.63**	**48**	⇓P	**P**	**23 27 10.5**	**+0.8**
	baz=86						
TUC	**Tucson**	**86.17**	**51**	*eP*	**P**	**23 27 12.5**	**+0.1**
TUC				pmax	pmax		
	comp=Z,10.0nm,1.4s						
TUC	**Tucson**	**86.17**	**51**	*eP*	**P**	**23 27 12.5**	**+0.1**
	comp=Z,9.9nm,1.4s						
MOD	**Modoc**	**86.27**	**38**	*eP*	**P**	**23 27 12.5**	**-0.2**
	comp=Z,8.2nm,1.2s						
319A	**Douglas**	**86.67**	**52**	⇑P	**P**	**23 27 16.0**	**+1.1**
	baz=87						
R11A	**Troy Canyon, C**	**86.70**	**43**	⇑P	**P**	**23 27 16.1**	**+1.1**
	baz=87						
X16A	**Lo Mia Camp, P**	**86.96**	**49**	⇓P	**P**	**23 27 17.3**	**+1.0**
	baz=87						
MDJ	**Mudanjiang**	**86.99**	**325**	P	**P**	**23 27 16.3**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,140nm,4.6s						
HABR	**Khabarovsk**	**87.15**	**330**	*eP*	**P**	**23 27 16.0**	**-0.6**
HABR				*e*PP	**pP**	**23 27 26.6**	**-3.7**
HABR				S	**SKSac**	**23 37 39.9**	**0.0**
HABR				SSS	SSS	23 47 10.5	
HABR				pmax	pmax		
	comp=Z,62nm,2.2s						
HABR				pmax	pmax		
	comp=N,31nm,2.2s						
HABR				pmax	pmax		
	comp=E,32nm,2.2s						
HABR				MLR	MLR		
	comp=Z,50nm,18.0s						
320A	**Kipp Ranch, An**	**87.18**	**53**	⇑P	**P**	**23 27 18.5**	**+1.0**
	baz=87						
220A	**Playas Peak, P**	**87.50**	**52**	⇓P	**P**	**23 27 19.9**	**+0.9**
	baz=88						
CCUT	**Cedar City**	**87.59**	**45**	*eP*	**P**	**23 27 19.4**	**+0.1**
	comp=Z,12nm,1.6s						
U15A	**North Rim**	**87.59**	**47**	⇓P	**P**	**23 27 19.5**	**0.0**
	baz=88						
WUAZ	**Wupatki**	**87.65**	**48**	⇓P	**P**	**23 27 20.3**	**+0.6**
	baz=88						
WHN	**Wuhan**	**87.70**	**306**	P	**P**	**23 27 21.0**	**+1.3**
WHN				*eS*	**S**	**23 37 58.8**	**+0.3**
WHN				pmax	pmax		
	comp=Z,37nm,0.7s						
WHN				LR	LR		
	comp=Z,510nm,24.2s						
120A	**U Bar Ranch, L**	**87.79**	**51**	⇑P	**P**	**23 27 21.5**	**+1.2**
	baz=88						
X18A	**Snowflake**	**88.02**	**49**	⇓P	**P**	**23 27 22.4**	**+0.9**
	baz=88						
Z20A	**Nine Sixteen R**	**88.14**	**51**	⇓P	**P**	**23 27 23.0**	**+1.0**
	baz=88						
Y19A	**Nutrioso**	**88.16**	**50**	⇑P	**P**	**23 27 23.3**	**+1.0**
	baz=88						
U16A	**Tuba City**	**88.18**	**47**	⇓P	**P**	**23 27 23.4**	**+1.3**
	baz=88						
121A	**Cookes Peak, D**	**88.37**	**52**	⇑P	**P**	**23 27 24.3**	**+1.1**
	baz=89						
CN2	**Changchun**	**88.64**	**322**	*eP*	**P**	**23 27 24.0**	**+0.1**
CN2				*es*P	**sP**	**23 27 42.6**	**-0.1**
CN2				*eS*	**S**	**23 38 05.8**	**-1.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
Y20A	**Horse Springs,**	**88.74**	**50**	⇓P	**P**	**23 27 25.9**	**+0.9**
	baz=89						
U17A	**Shonto**	**88.75**	**47**	⇓P	**P**	**23 27 26.1**	**+1.2**
	baz=89						
S16A	**Weppner Ranch,**	**88.81**	**46**	⇑P	**P**	**23 27 26.4**	**+1.3**
	baz=89						
Z21A	**St. Cloud Mine**	**88.89**	**51**	⇓P	**P**	**23 27 26.5**	**+1.0**
	baz=89						
T17A	**Navajo Res., N**	**88.89**	**47**	⇓P	**P**	**23 27 26.4**	**+0.8**
	baz=89						
MSU	**Marysvale**	**88.91**	**45**	*eP*	**P**	**23 27 25.8**	**+0.2**
MSU				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MSU	**Marysvale**	**88.91**	**45**	*eP*	**P**	**23 27 25.8**	**+0.2**
	comp=Z,6.0nm,0.9s						
X20A	**Quemado**	**89.01**	**50**	⇓P	**P**	**23 27 27.0**	**+0.9**
	baz=89						
U18A	**Rough Rock, Ch**	**89.17**	**48**	⇓P	**P**	**23 27 27.5**	**+0.7**
	baz=89						
KLR	**Kul'dur**	**89.20**	**329**	*eP*	P	23 27 22.6	-3.7
S17A	**Black Ridge (B**	**89.27**	**46**	⇓P	**P**	**23 27 27.9**	**+0.7**
	baz=90						
Y21A	**Point of Rocks**	**89.28**	**51**	⇓P	**P**	**23 27 28.4**	**+0.9**
	baz=90,SNR=7.4						
PGC	**Sidney**	**89.31**	**32**	*eP*	**P**	**23 27 26.3**	**-0.5**
W20A	**Ramah**	**89.34**	**49**	⇓P	**P**	**23 27 28.3**	**+0.6**
	baz=90,SNR=7.4						
Z22A	**Elephant Butte**	**89.35**	**52**	⇓P	**P**	**23 27 28.2**	**+0.5**
	baz=90,SNR=5.2						
626A	**Big Bend Ranch**	**89.38**	**56**	⇓P	**P**	**23 27 28.2**	**+0.4**
	baz=90						
324A	**Moseley Ranch,**	**89.41**	**54**	⇑P	**P**	**23 27 28.3**	**+0.3**
	baz=90						
425A	**Indio Mountain**	**89.41**	**55**	⇑P	**P**	**23 27 28.0**	**0.0**
	baz=90						
X21A	**Alamocita Cree**	**89.44**	**50**	⇑P	**P**	**23 27 28.8**	**+0.6**
	baz=90,SNR=6.6						
P15A	**Leamington**	**89.48**	**44**	⇓P	**P**	**23 27 28.5**

baz=91
S20A **Disappointment** 90.96 47 ⇓P P 23 27 35.5 +0.2
baz=91
PV01 **Paradox Valley** 91.00 47 *e*P P 23 27 35.3 -0.1
H12A **Diamond D Ranc** 91.01 39 ⇑P P 23 27 35.0 -0.2
baz=91,SNR=5.6
I13A **Wildhorse Cree** 91.03 40 ⇑P P 23 27 35.5 +0.1
baz=91
ENH **Enshi** 91.10 304 *e*P P 23 27 36.6 +0.9
G12A **Big Creek, Yel** 91.11 38 ⇑P P 23 27 36.4 +0.7
baz=91
N17A **Moffit Pass** 91.19 44 ⇓P P 23 27 37.0 +0.8
baz=91
K15A **Arbon** 91.20 41 ⇓P P 23 27 36.5 +0.4
baz=91
S21A **Coal Bank Pass** 91.24 48 ⇓P P 23 27 37.0 +0.4
baz=91
V23A **Ortiz Mt. (NFS** 91.25 50 ⇓P P 23 27 37.3 +0.7
baz=92
Y25A **Mesa, Roswell** 91.30 52 ⇓P P 23 27 37.3 +0.5
baz=92
GYA **Guiyang** 91.30 299 P P 23 27 38.0 +1.1
GYA PP **PP** 23 31 18.0 +3.0
GYA SKS **SKSac** 23 38 05.4 -0.4
GYA S **S** 23 38 31.5 -1.1
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.7s
GYA LR LR
comp=N,490nm,19.8s
GYA LR LR
comp=E,460nm,20.7s
GYA LR LR
comp=Z,510nm,18.9s
H13A **Challis** 91.36 39 ⇓P P 23 27 37.2 +0.5
baz=92
I14A **Mackay** 91.42 40 ⇑P P 23 27 37.8 +0.6
baz=92
L16A **Fish Haven** 91.46 42 ⇑P P 23 27 37.7 +0.3
baz=92
Z26A **Caprock** 91.46 53 ⇓P P 23 27 37.2 -0.2
baz=92
W24A **Lazy 6 Ranch,** 91.50 51 ⇑P P 23 27 37.7 0.0
baz=92
F12A **Elk City** 91.55 38 ⇑P P 23 27 37.4 -0.2
baz=92
M17A **Scullys Gap (B** 91.60 43 ⇑P P 23 27 38.6 +0.5
baz=92
X25A **Clemmons Ranch** 91.64 52 ⇑P P 23 27 38.9 +0.5
baz=92
J15A **Blackfoot** 91.69 41 ⇓P P 23 27 38.9 +0.6
baz=92
G13A **Cobalt** 91.70 39 ⇓P P 23 27 38.3 0.0
baz=92
SML **Sawmill** 91.77 13 *e*P P 23 27 35.5 -2.6
SML **Sawmill** 91.77 13 *e*P P 23 27 35.5 -2.6
E12A **Beaver Dam Sad** 91.79 37 ⇑P P 23 27 38.4 -0.4
baz=92
R21A **Cimarron** 91.79 47 ⇓P P 23 27 39.6 +0.5
baz=92
BJI **Beijing** 91.81 315 P P 23 27 39.2 +0.5
BJI pmax pmax
comp=Z,12nm,0.8s
BJI pmax pmax
comp=Z,73nm,3.5s
BJI LR LR
comp=N,150nm,14.8s
BJI LR LR
comp=E,95nm,15.2s
BJI LR LR
comp=Z,49nm,16.8s
K16A **Soda Springs** 91.85 42 ⇑P P 23 27 39.8 +0.7
baz=92
V24A **Rampart Ranch,** 91.87 50 ⇓P P 23 27 39.9 +0.4
baz=92
P20A **De Beque** 91.89 46 ⇑P P 23 27 40.0 +0.6
baz=92
H14A **Leadore** 91.89 40 ⇓P P 23 27 39.7 +0.4
baz=92
F13A **Darby** 92.07 38 ⇑P P 23 27 39.9 -0.1
baz=92
W25A **X Bar L Ranch,** 92.15 51 ⇓P P 23 27 40.7 0.0
baz=92
H15A **Lima** 92.30 40 ⇑P P 23 27 41.9 +0.7
baz=92
RRI2 **Red Ridge** 92.31 41 *e*P P 23 27 41.8 +0.4
comp=Z,1.7nm,0.9s
Q22A **Crested Butte,** 92.48 47 ⇓P P 23 27 42.8 +0.4
baz=93
REDW **Red Top Meadow** 92.59 42 *e*P P 23 27 42.1 -0.5
comp=Z,40nm,2.2s
K18A **Toltan Ranch,** 92.66 43 ⇑P P 23 27 43.2 +0.3
baz=93
G15A **Dillon** 92.72 40 ⇓P P 23 27 43.0 -0.1
baz=93
N20A **Spence Gulch,** 92.72 45 ⇑P P 23 27 43.6 +0.3
baz=93
SDCO **Great Sand Dun** 92.80 49 ⇑P P 23 27 44.1 +0.3
baz=93
U25A **Circle Dot Ran** 92.82 50 ⇓P P 23 27 43.9 +0.1
baz=93
IMW **Indian Meadow** 92.86 41 *e*P P 23 27 43.9 0.0
comp=Z,7.7nm,1.4s
S24A **Houchin Ranch,** 92.94 49 ⇑P P 23 27 45.0 +0.5
baz=93
J18A **Kendall Valley** 93.00 42 ⇑P P 23 27 44.3 -0.3
baz=93
PDAR **Pinedale Array** 93.02 43 P P 23 27 43.6 -1.0
PDAR **Pinedale Array** 93.02 43 P P 23 27 43.6 -1.0
comp=Z,0.4nm,0.3s,baz=222,slow=4.0,SNR=4.5
PDAR LR LR 00 03 05.6
comp=Z,172nm,19.1s,baz=255,slow=31
I17A **Pilgrim Ck.** 93.08 41 ⇓P P 23 27 45.4 +0.5
baz=93
FLWY **Flagg Ranch** 93.11 41 *e*P P 23 27 45.1 +0.2
comp=Z,31nm,2.0s
H16A **Russell Place,** 93.15 40 ⇓P P 23 27 46.0 +0.8
baz=93
H17A **Grant Village** 93.36 41 ⇑P P 23 27 47.0 +0.9
baz=94
I18A **Diamond G Ranc** 93.40 42 ⇓P P 23 27 46.2 -0.1
baz=94
SEY **Seymchan** 93.42 346 ⇓*e*P P 23 27 45.6 0.0
O22A **Kremmling** 93.43 46 ⇑P P 23 27 46.5 -0.2
baz=94
XAN **Xi'an** 93.45 307 P P 23 27 47.8 +1.3
XAN pP **pP** 23 28 01.2 +1.0
XAN pmax pmax
comp=Z,2.0nm,1.2s
B13A **Whitefish** 93.60 36 ⇑P P 23 27 47.3 +0.4
baz=94
J19A **Crowheart** 93.61 42 ⇓P P 23 27 47.1 -0.2
baz=94
KMI **Kunming** 93.74 296 P P 23 27 49.9 +1.6
KMI pP **pP** 23 28 00.0 -2.0
KMI pmax pmax
comp=Z,9.0nm,1.5s
CMAR **Chiang Mai Arr** 93.75 289 P P 23 27 49.2 +1.0
CMAR **Chiang Mai Arr** 93.75 289 P P 23 27 49.2 +1.0
comp=Z,1.0nm,0.3s,baz=137,slow=3.3,SNR=9.3
CHTO **Chiang Mai** 93.92 289 *e*P P 23 27 50.0 +1.0
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CHTO **Chiang Mai** 93.92 289 *e*P P 23 27 50.0 +1.0
comp=Z,4.4nm,0.9s
I19A **Meeteetse** 94.08 42 ⇑P P 23 27 49.9 +0.4
baz=94
B14A **Marquette Ranc** 94.22 37 ⇓P P 23 27 51.3 +1.5
baz=94
J20A **Shoshoni** 94.24 43 ⇓P P 23 27 50.4 +0.3
baz=94
G18A **Lazy EL Ranch,** 94.48 41 ⇑P P 23 27 51.9 +0.7
baz=95
RLMT **Red Lodge** 94.54 41 ⇓P P 23 27 52.1 +0.5
baz=95
I20A **Worland** 94.55 42 ⇑P P 23 27 52.2 +0.7
baz=95
ILAR **Eielson Array** 94.73 12 P P 23 27 50.2 -1.4
ILAR **Eielson Array** 94.73 12 P P 23 27 50.2 -1.4
comp=Z,1.0nm,0.8s,baz=217,slow=4.5,SNR=8.1
I21A **Big Trails, Te** 94.98 43 ⇓P P 23 27 52.9 -0.6
baz=95
HHC **Hu-ho-hao-te** 95.19 314 *e*P P 23 27 55.9 +1.4
HHC pP **pP** 23 28 09.9 +1.7
HHC PP **PP** 23 31 48.7 +3.5
HHC SKS **SKSac** 23 38 26.6 +0.1

HHC S **S** 23 39 04.0 -2.3
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,120nm,4.7s
HHC LR LR
comp=N,110nm,16.7s
HHC LR LR
comp=E,140nm,16.6s
HHC LR LR
comp=Z,170nm,15.5s
CD2 **Chengdu** 95.70 302 P P 23 27 58.0 +1.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.4s
BILL **Bilibino** 96.05 354 *e*P P 23 27 57.0 -0.6
BILL *i* 23 28 12.7
BILL pmax pmax
comp=Z,3.0nm,0.9s
BILL MLR MLR
comp=Z,200nm,20.0s
RSSD **Black Hills** 97.13 44 *e*P P 23 28 02.7 -0.6
RSSD pmax pmax
comp=Z,6.0nm,1.2s
RSSD **Black Hills** 97.13 44 *e*P P 23 28 02.7 -0.6
comp=Z,6.2nm,1.2s
LZH **Lanzhou** 98.08 306 *e*P Pdif 23 28 09.0 +1.2
LZH pP pP 23 28 22.6 +1.1
LZH *e*PP **PP** 23 32 11.5 +3.8
LZH SKS **SKSac** 23 38 41.8 -0.1
LZH pmax pmax
comp=Z,17nm,1.5s
LZH pmax pmax
comp=Z,93nm,8.8s
LZH LR LR
comp=N,230nm,17.5s
LZH LR LR
comp=E,190nm,18.0s
LZH LR LR
comp=Z,280nm,19.7s
SONM **Songino Array** 101.88 318 P **Pdif** 23 28 28.4 +4.0
SONM **Songino Array** 101.88 318 P **Pdif** 23 28 28.3 +4.0
comp=Z,0.4nm,1.0s,baz=129,slow=4.0,SNR=2.5
GTA **Gaotai** 102.42 308 *e*P **Pdif** 23 28 28.6 +1.6
GTA pP 23 28 42.3
GTA PP **PP** 23 32 42.8 +2.3
GTA S **Sdif** 23 40 04.1 -3.5
GTA pmax pmax
comp=Z,2.0nm,1.5s
GTA pmax pmax
comp=Z,63nm,5.5s
GTA LR LR
comp=N,160nm,17.3s
GTA LR LR
comp=E,140nm,17.1s
GTA LR LR
comp=Z,190nm,16.9s
WMQ **Urumqi** 112.47 309 *e*PKP **PKiKP** 23 33 08.6 +1.7
WMQ LR LR
comp=Z,170nm,22.2s
ZALV **Zalesovo Beam** 116.72 319 PKIKP **PKPdf** 23 33 13.1 -1.5
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV **Zalesovo Beam** 116.72 319 PKP **PKPdf** 23 33 13.1 -1.5
ZALV **Zalesovo Beam** 116.72 319 PKP **PKPdf** 23 33 13.1 -1.5
comp=Z,0.6nm,0.4s,baz=79,slow=3.2,SNR=4.1
MK31 **Makanchi Array** 116.91 311 *e*PKIKP **PKPdf** 23 33 14.1 -1.1
MK31 **Makanchi Array** 116.91 311 *e*PKPdf **PKPdf** 23 33 14.1 -1.1
MKAR **Makanchi Array** 116.91 311 PKIKP **PKPdf** 23 33 13.9 -1.3
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR **Makanchi Array** 116.91 311 PKP **PKPdf** 23 33 13.9 -1.3
MKAR **Makanchi Array** 116.91 311 PKP **PKPdf** 23 33 13.9 -1.3
comp=Z,0.7nm,0.7s,baz=62,slow=1.6,SNR=9.6
KSH **Kashi** 119.90 302 *e*PKP **PKPdf** 23 33 25.4 +4.0
KSH PP PP 23 34 53.9 +7.8
KSH PKS **PKSdf** 23 36 59.8 +1.7
KSH SKS **SKSdf** 23 40 31.4 +1.6
KSH AMB AMB
comp=Z,78nm,4.8s
KSH LR LR
comp=N,75nm,4.9s
KSH LR LR
comp=E,76nm,7.0s
KSH LR LR
comp=Z,230nm,7.0s
KURK **Kurchatov** 119.97 315 ⇑*i*PKIKP **PKPdf** 23 33 20.6 -0.3
KURK **Kurchatov** 119.97 315 *e*PKPdf **PKPdf** 23 33 20.0 -1.0
KBL **Kabul** 124.29 295 *e*PKIKP **PKPdf** 23 33 30.1 0.0
KBL **Kabul** 124.29 295 *e*PKPdf **PKPdf** 23 33 30.1 0.0
KKAR **Karatay Array** 124.55 305 *e*PKIKP **PKPdf** 23 33 29.5 -0.5
KKAR **Karatay Array** 124.55 305 *e*PKPdf **PKPdf** 23 33 29.5 -0.5
BRVK **Borovoye** 125.28 317 *e*PKIKP **PKPdf** 23 33 30.8 -0.3
BRVK **Borovoye** 125.28 317 *e*PKPdf **PKPdf** 23 33 30.8 -0.3
ARU **Arti** 131.63 323 *i* PKIKP **PKPdf** 23 33 43.2 +0.1
ARU 23 36 02.1
ARU **Arti** 131.63 323 *e*PKPdf **PKPdf** 23 33 43.6 +0.5
KEV **Kevo** 135.51 349 *e*pkp PKPdf 23 34 03.7 +14
ARCES **ARCESS Array B** 135.97 349 PKP **PKPdf** 23 33 49.9 -1.0
ARCES **ARCESS Array B** 135.97 349 PKP **PKPdf** 23 33 49.9 -1.0
comp=Z,5.5nm,0.9s,baz=100,slow=1.4,SNR=6.9
JOF **Joensuu** 140.13 341 *e*PKIKP **PKPdf** 23 33 59.6 +0.9
JOF pmax pmax
comp=Z,2.0nm,0.7s
JOF **Joensuu** 140.13 341 *e*pkp **PKPdf** 23 33 59.6 +0.9
comp=Z,2.4nm,0.7s
KAF **Kangasniemi** 142.17 343 *e*PKIKP **PKPdf** 23 34 00.9 -1.5
KAF **Kangasniemi** 142.17 343 *e*pkp **PKPdf** 23 34 00.9 -1.5
MOS **Moscow** 142.60 329 *e*PKIKP **PKPdf** 23 34 00.4 -2.9
FINES **FINESS Array B** 142.79 342 PKPpre PKPpre 23 33 59.3
FINES **FINESS Array B** 142.79 342 PKhKP PKPpre 23 33 59.3
comp=Z,2.9nm,0.6s,baz=63,slow=2.6,SNR=19
DGRG **David-gareji** 143.17 303 P PKPbc 23 34 02.3 +0.4
TBLG **Delisi** 143.59 304 PKIKP PKPab 23 34 02.6 +0.4
TBLG **Delisi** 143.59 304 P PKPab 23 34 02.6 +0.4
ZEI **Tsey** 144.01 306 *i* PKIKP **PKPab** 23 34 03.2 -0.8
ZEI pmax pmax
comp=Z,8.0nm,1.5s
VSR **Storozhevoye** 144.18 321 *e*PKIKP **PKPab** 23 34 02.5 -1.6
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,2.0nm,0.6s
VSR pmax pmax
comp=Z,6.0nm,0.6s
VORD **Divnogorie** 144.23 321 *e*PKIKP **PKPab** 23 34 02.4 -1.8
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD pmax pmax
comp=Z,7.0nm,0.7s
ONI **Oni** 144.37 306 P PKPbc 23 34 05.4 -0.1
AKH **Akhalkalaki** 144.57 304 P PKPbc 23 34 06.8 +0.5
KIV **Kislovodsk** 144.60 308 *i* PKIKP PKPbc 23 34 06.7 +0.5
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV **Kislovodsk** 144.60 308 *e*PKPdf **PKPab** 23 34 05.9 -0.1
NB2 **NORSAR Subarra** 146.00 353 PKP **PKPdf** 23 34 08.7 -0.5
baz=9.7,slow=3.0
NB2 **NORSAR Subarra** 146.00 353 PKP **PKPdf** 23 34 08.7 -0.5
comp=Z,84nm,1.7s,baz=9.7,slow=3.0
NOA **NORSAR Array B** 146.00 353 PKPbc **PKPdf** 23 34 09.2 0.0
NOA **NORSAR Array B** 146.00 353 PKPbc **PKPdf** 23 34 09.2 0.0
comp=Z,5.5nm,0.8s,baz=15,slow=4.6,SNR=23
NAO01 **NORSAR Array S** 146.22 354 *e*PKPdf **PKPdf** 23 34 09.8 +0.3
IZAR **Zarasai** 147.32 336 *e*P **PKPbc** 23 34 13.2 -0.6
IZAR AMB AMB 23 34 14.5
comp=Z,12nm,0.9s
IZAR **Zarasai** 147.32 336 *e*P **PKPbc** 23 34 13.2 -0.6
IZAR AMB AMB 23 34 14.5
comp=Z,12nm,0.9s
IDID **Didziasalis** 147.47 335 *e*P **PKPbc** 23 34 13.8 -0.5
IDID AMB AMB 23 34 16.0
comp=Z,6.7nm,1.4s
IDID **Didziasalis** 147.47 335 *e*P **PKPbc** 23 34 13.8 -0.5
IDID AMB AMB 23 34 16.0
comp=Z,6.7nm,1.4s
ISAL **Salakas** 147.50 336 *e*P **PKPbc** 23 34 14.0 -0.3
ISAL AMB AMB 23 34 16.2
comp=Z,14nm,1.6s
ISAL **Salakas** 147.50 336 *e*P **PKPbc** 23 34 14.0 -0.3
ISAL AMB AMB 23 34 16.2
comp=Z,14nm,1.6s

IIGN **Ignalina** 147.64 336 *e*P **PKPbc** 23 34 14.6 -0.2
IIGN AMB AMB 23 34 15.3
comp=Z,13nm,1.1s
IIGN **Ignalina** 147.64 336 *e*P **PKPbc** 23 34 14.6 -0.2
IIGN AMB AMB 23 34 15.3
comp=Z,13nm,1.1s
MICGM **Minsk** 147.64 333 *e* **PKPdf** 23 34 13.0 +1.0
MNK **Minsk** 147.66 333 *e*PKP2 **PKPdf** 23 34 13.0 +0.9
NACGM **Naroch** 147.77 335 *e* **PKPdf** 23 34 13.0 +0.8
AKASG **Malin Array Be** 149.68 327 PKP2 **PKPbc** 23 34 19.0 -1.1
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKASG **Malin Array Be** 149.68 327 PKPbc **PKPbc** 23 34 19.0 -1.1
AKASG **Malin Array Be** 149.68 327 PKPbc **PKPbc** 23 34 19.0 -1.1
comp=Z,6.6nm,0.7s,baz=40,slow=3.6,SNR=20
AKBB **Malin Array Si** 149.68 327 *e*PKP2 **PKPbc** 23 34 19.5 -0.6
AKBB **Malin Array Si** 149.68 327 *e*PKPbc **PKPbc** 23 34 19.5 -0.6
KIEV **Kiev** 149.69 327 *e*PKP2 **PKPbc** 23 34 19.3 -0.8
KIEV **Kiev** 149.69 327 *e*PKPbc **PKPbc** 23 34 19.3 -0.8
SUW **Suwalki** 149.78 337 *e*PKP **PKPbc** 23 34 20.5 +0.2
SUW **Suwalki** 149.78 337 *e*PKP **PKPbc** 23 34 20.5 +0.2
SUW **Suwalki** 149.78 337 *e*PKP2 **PKPbc** 23 34 20.5 +0.2
SUW **Suwalki** 149.78 337 *e*PKPbc **PKPbc** 23 34 19.8 -0.5
MUD **Monsted U'grnd** 150.72 354 *e*PKIKP **PKPbc** 23 34 22.0 -0.4
MUD pmax pmax
comp=Z,10.0nm,0.9s
MUD **Monsted U'grnd** 150.72 354 *i* P **PKPbc** 23 34 22.0 -0.4
comp=Z,9.8nm,0.9s
BSD **Bornholm Skovb** 151.13 346 *e*PKIKP **PKPbc** 23 34 24.1 +0.6
BSD pmax pmax
comp=Z,18nm,0.9s
BSD **Bornholm Skovb** 151.13 346 *i* P **PKPbc** 23 34 24.1 +0.6
comp=Z,18nm,0.9s
BRTR **Keskin Array B** 152.25 304 PKPbc **PKPbc** 23 34 26.5 -0.3
BRTR PKPab **PKPab** 23 34 37.1 +0.3
BRTR **Keskin Array B** 152.25 304 PKPbc **PKPbc** 23 34 26.5 -0.3
comp=Z,1.2nm,0.6s,baz=125,slow=3.9,SNR=7.5
BRTR PKPab **PKPab** 23 34 37.1 +0.3
comp=Z,4.0nm,0.6s,baz=95,slow=4.0,SNR=19
GHRR 153.51 321 ⇓*i*P **PKPbc** 23 34 30.2 +1.1
CFR **Carcaliu** 153.60 319 ⇓PKIKP **PKPdf** 23 34 23.0 +1.4
CFR **Carcaliu** 153.60 319 ⇓*i*P **PKPdf** 23 34 23.0 +1.4
BUR08 **Bucovina Ar. S** 153.68 326 *e*PKPdf **PKPdf** 23 34 22.3 +0.5
BUR08 *e*PKPbc **PKiKP** 23 34 30.9 +1.2
BURAR **Bucovina Array** 153.69 326 ⇑*i*P **PKPbc** 23 34 29.0 -0.6
TIRR **Tirgusor** 153.83 317 ⇓PKIKP **PKPbc** 23 34 32.4 +2.6
TIRR **Tirgusor** 153.83 317 ⇓*i*P **PKPbc** 23 34 32.4 +2.6
VRI **Vrincioaia** 154.01 321 ⇓PKP2 **PKPab** 23 34 45.2 +1.4
VRI **Vrincioaia** 154.01 321 ⇓*i*P **PKPab** 23 34 45.2 +1.4
PLOR **Plostina** 154.06 321 ⇓*i*P **PKPab** 23 34 40.6 -3.4
UZH **Uzhgorod** 154.34 331 *e*PKIKP **PKPbc** 23 34 35.6 +4.8
UZH *i* 23 34 43.6
UZH *i* 23 34 56.0
TRPA **Tarpa** 154.60 330 ⇑*i*P **PKPab** 23 34 46.4 +0.3
MLR **Muntele Rosu** 154.68 321 ⇑*i*P **PKPab** 23 34 47.1 +0.3
UPC **Upice** 155.08 341 *e*PKP2 **PKPab** 23 34 48.0 -0.1
UPC **Upice** 155.08 341 *e*PKPAB **PKPab** 23 34 48.0 -0.1
CLL **Collm** 155.11 346 ⇓*e*PKIKP PKPdf 23 34 32.0 +8.5
CLL *i* 23 34 47.6
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL **Collm** 155.11 346 *e*PKPdiff PKPdf 23 34 32.0 +8.5
CLL **Collm** 155.11 346 *e*PKPdiff PKPdf 23 34 32.0 +8.5
CLL ⇓*i*PKPab **PKPab** 23 34 47.5 -0.7
comp=Z,9.0nm,0.8s
CLL ⇓*i*PKPab PKPab 23 34 47.6 -0.6
comp=Z,9.0nm,0.8s
DPC **Dobruska-Polom** 155.13 340 *e*PKP2 **PKPab** 23 34 48.8 +0.4
DPC **Dobruska-Polom** 155.13 340 *e*PKPAB **PKPab** 23 34 48.8 +0.4
DPC *ep*PKP pPKPdf 23 35 01.3 +23
VOIR 155.20 322 ⇓PKP2 **PKPab** 23 34 49.7 +0.8
VOIR 155.20 322 ⇓*i*P **PKPab** 23 34 49.7 +0.8
BRG **Berggiesshubel** 155.30 344 *e*PKP PKPdf 23 34 33.1 +9.3
comp=Z,3.3nm,0.9s
BRG *e* 23 34 48.6
comp=Z,5.9nm,0.8s
BRG **Berggiesshubel** 155.30 344 *e*PKIKP PKPdf 23 34 33.1 +9.3
BRG *e* 23 34 48.6
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG pmax pmax
comp=Z,6.0nm,0.8s
PVCC **Panska Ves** 155.46 343 *e*PKP2 **PKPab** 23 34 49.6 -0.1
PVCC **Panska Ves** 155.46 343 *e*PKPAB **PKPab** 23 34 49.6 -0.1
DRGR 155.50 327 ⇓PKIKP PKPdf 23 34 34.6 +10
DRGR 155.50 327 ⇓*i*P PKPdf 23 34 34.5 +10
LOT **Lotru** 155.88 324 ⇓*i*P **PKPab** 23 34 51.8 -0.1
PRU **Pruhonice** 155.96 342 *e*PKP2 **PKPab** 23 34 51.6 -0.3
PRU **Pruhonice** 155.96 342 *e*PKPAB **PKPab** 23 34 51.6 -0.3
BZS **Buzias** 156.87 326 ⇓PKIKP PKPdf 23 34 33.6 +7.6
BZS **Buzias** 156.87 326 ⇓*i*P PKPdf 23 34 33.6 +7.6
KHC **Kasperske Hory** 157.00 343 *e*PKP2 **PKPab** 23 34 56.3 -0.1
KHC **Kasperske Hory** 157.00 343 *e*PKPAB **PKPab** 23 34 56.3 -0.1
KHC *ep*PKP pPKPdf 23 35 12.1 +32
GERES **GERESS Array B** 157.22 343 PKPab **PKPab** 23 34 56.5 -1.0
GERES **GERESS Array B** 157.22 343 PKPab **PKPab** 23 34 56.5 -1.0
comp=Z,0.9nm,0.8s,baz=29,slow=3.0,SNR=5.1
CSNA **Conrad Observa** 157.40 338 P PKPab 23 35 04.1 +5.8
comp=Z,4.4nm,1.0s
VTS **Vitosha** 158.01 319 ⇓PKP2 **PKPab** 23 35 01.8 +0.6
VTS **Vitosha** 158.01 319 ⇓*i*P **PKPab** 23 35 01.8 +0.6
SOKA **Soboth** 158.77 338 ⇑*i*PKPab **PKPab** 23 35 04.3 +0.1
comp=Z,9.0nm,1.5s
TORD **Torodi Ar. Bea** 165.68 173 PKP **PKPdf** 23 34 36.0 -0.2
TORD PKPab **PKPab** 23 35 35.9 +0.8
TORD **Torodi Ar. Bea** 165.68 173 PKP **PKPdf** 23 34 36.0 -0.2
comp=Z,1.2nm,0.9s,baz=29,slow=1.7,SNR=5.7
TORD PKPab **PKPab** 23 35 35.9 +0.8
comp=Z,6.5nm,1.1s,baz=186,slow=4.2,SNR=15

IDC 05 23:14:53.1±2.7, 0.71S×133.20E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/17, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=134.9km s-min=25.9km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.15**	**177**	P	P	23 19 17.7	-0.6
	0.1nm,0.3s,baz=356,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**22.83**	**178**	P	P	23 19 58.5	+0.4
	0.6nm,0.4s,baz=358,slow=12,SNR=10						
MKAR	**Makanchi Array**	**64.89**	**324**	P	P	23 25 34.4	-0.1
	0.6nm,0.6s,baz=116,slow=7.7,SNR=8.8						

WEL 05 23:30:15.3±0.6, 36.71S×176.68E, h288km±6km, ML3.8/11, 1C-1D, Error ellipse: s-maj=7.9km s-min=6.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.56**	**124**	PN	Pn	23 30 57.8	+0.2
MXZ				SN	S	23 31 30.3	-0.8
URZ	**Urewera**	**1.59**	**168**	PN	Pn	23 30 57.8	+0.1
URZ				SN	S	23 31 31.1	-0.4
MWZ	**Matawai**	**1.76**	**158**	PN	Pn	23 30 59.1	+0.1
MWZ				SN	S	23 31 33.2	-0.7
PUZ	**Puketiti**	**1.86**	**138**	PN	Pn	23 30 59.5	-0.2
CNGZ	**Carnagh Statio**	**2.15**	**146**	PN	Pn	23 31 02.6	+0.5
RAHZ	**Arahi**	**2.23**	**172**	PN	Pn	23 31 03.4	+0.5
NMHZ	**Naumai**	**2.39**	**178**	⇑PN	Pn	23 31 05.1	+0.8
KNZ	**Kokohu**	**2.44**	**161**	PN	Pn	23 31 04.5	-0.1
BKZ	**Black Stump Fm**	**2.46**	**183**	PN	Pn	23 31 04.6	-0.4
MCHZ	**McNeill Hill**	**2.73**	**180**	PN	Pn	23 31 07.9	+0.4
WNVZ	**Wahianoa**	**2.75**	**198**	PN	Pn	23 31 08.3	+0.5
BHHZ	**Black Hill Sta**	**2.82**	**190**	⇓PN	Pn	23 31 08.3	-0.1
CKHZ	**Cape Kidnapper**	**2.97**	**174**	SN	S	23 31 52.1	-1.1
KAHZ	**Kahuranaki**	**3.09**	**177**	PN	Pn	23 31 10.8	-0.3
PXZ	**Pawanui**	**3.33**	**178**	SN	S	23 31 58.3	-1.6
WPHZ	**Waipukurau**	**3.36**	**183**	PN	Pn	23 31 13.1	-0.7
TSZ	**Takapari Road**	**3.40**	**189**	PN	Pn	23 31 13.2	-1.1
PRHZ	**Porangahau**	**3.56**	**181**	*e*PN	Pn	23 31 14.7	-1.2
DVHZ	**Dannevirke**	**3.61**	**186**	SN	S	23 32 03.8	-1.7
MRZ	**Mangatainoka R**	**4.04**	**192**	SN	S	23 32 11.3	-2.7
OGWZ	**Otaki Gorge**	**4.27**	**196**	PN	Pn	23 31 22.0	-1.7
OGWZ				SN	S	23 32 15.5	-3.2
HOWZ	**Holdsworth Sta**	**4.29**	**192**	*e*PN	Pn	23 31 22.0	-2.0
KIW	**Kapiti Island**	**4.38**	**198**	*e*PN	Pn	23 31 23.1	-1.9
TMWZ	**Te Maipa**	**4.44**	**188**	SN	S	23 32 19.9	-2.4
TCW	**Tory Channel**	**4.88**	**202**	PN	Pn	23 31 29.0	-1.7
NNZ	**Nelson**	**5.19**	**209**	PN	Pn	23 31 32.6	-1.8
NNZ				SN	S	23 32 34.1	-3.9

QRZ	**Quartz Range**	**5.24**	**217**	PN	Pn	23 31 33.3	-1.8
THZ	**Tophouse**	**5.84**	**209**	PN	Pn	23 31 40.5	-1.7
THZ				SN	S	23 32 48.8	-3.5
KHZ	**Kahutara**	**6.20**	**202**	PN	Pn	23 31 44.8	-1.7
MQZ	**McQueen's Vall**	**7.64**	**203**	SN	S	23 33 24.7	-7.5

*KISR **05** 23:45:00.4±0.3, 33°.48N × 43°.57E, h34km, ML2.3*
CSEM 05 23:44:46.4, 35°.74N × 48°.93E, h16km, ML3.1, After THR, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZNJK	**Zanjan**	**0.95**	**348**	*e*Pg	Pb	23 45 04.2	-0.7
SNGE	**Sanandaj**	**1.45**	**244**	*e*Pg	Pb	23 45 13.3	+0.1
SNGE				*e*Sg	Sg	23 45 32.9	-0.5
ASAO	**Ashtian**	**1.49**	**143**	*e*Pg	Pb	23 45 14.1	0.0
THKV	**Tehran--Karaj**	**1.59**	**83**	*e*Pg	Pb	23 45 15.8	0.0
THKV				*e*Sg	Sg	23 45 37.5	-0.8
CHTH	**Charan**	**1.79**	**84**	*e*Pg	Pb	23 45 18.8	-0.4
CHTH				*e*Sg	Sg	23 45 43.4	-1.4
KHMZ	**Khomeyn**	**2.17**	**157**	*e*Pg	Pb	23 45 25.4	-0.2
DAMV	**Damavand**	**2.48**	**92**	*e*Pn	Pn	23 45 28.4	+1.9
MIB	**Mutribah**	**6.07**	**193**	*e*P	Pn	23 46 19.7	+4.2
MIB				*e*S	Sn	23 47 19.1	-5.5
MIB				AML	AML	23 47 25.5	
	comp=Z,2.0nm,0.6s						
NAY	**Al-Naaiem**	**6.63**	**193**	*e*P	Pn	23 46 25.2	+2.0

IDC 06 00:04:22.7±1.0, 8°.33N × 124°.62E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/21, mbtmp3.8/5, Error ellipse: s-maj=66.5km s-min=20.1km az=69.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**29.68**	**161**	P	P	00 10 30.7	+0.3
	0.7nm,0.4s,baz=343,slow=9.4,SNR=20						
ASAR	**Alice Springs**	**33.07**	**164**	P	P	00 10 59.9	-0.4
	0.6nm,0.3s,baz=337,slow=6.9,SNR=14						
MKAR	**Makanchi Array**	**52.62**	**324**	P	P	00 13 39.2	+0.8
	0.5nm,0.6s,baz=122,slow=7.7,SNR=9.4						
KURBB	**Kurchatov Arra**	**56.77**	**327**	P	P	00 14 07.5	-1.0
	0.9nm,0.6s,baz=126,slow=6.8,SNR=8.3						
ILAR	**Eielson Array**	**81.89**	**26**	P	P	00 16 43.9	+0.1
	0.5nm,1.1s,baz=268,slow=5.2,SNR=2.7						

*NIED **06** 00:05:00, 43°.70N × 147°.30E, h56km, Mw4.1 Best double couple: Mo1.34000×10^15 NP1:ϕ=104.00000°, δ=87.00000°, λ=109.00000°. NP2:ϕ=203.00000°, δ=19.00000°, λ=10.00000°.*
*MOS **06** 00:05:12.4±1.9, 43°.92N × 147°.48E, h58km, mb4.1/8, Error ellipse: s-maj=14.2km s-min=9.0km az=69.5*
*ISCJB **06** 00:05:12.5±0.7, 43°.94N±0°.05 × 147°.40E±0°.06, h52km±7km, mb3.7/11, MS3.8/3, Error ellipse: s-maj=10.2km s-min=5.2km az=139.8*
*JMA **06** 00:05:14.1±0.2, 43°.72N × 147°.28E, h26km, M4.3*
*IDC **06** 00:05:14.0±3.4, 43°.90N × 147°.19E, h51km±32km, mb3.5/10, mb1 3.8/12, mb1mx3.6/25, mbtmp3.6/12, ML4.1/2, MS3.7/3, Ms1 3.7/3, ms1mx2.9/34, Error ellipse: s-maj=26.6km s-min=17.9km az=147.0*
*SKHL **06** 00:05:14.8±2.1, 44°.10N × 147°.50E, h53km±15km, mb5.0/2*
ISC 06 00:05:12.5±0.9, 43°.85N±0°.07 × 147°.53E±0°.07, h36km±2km, n43, σ1$47/53, mb3.8/12, MS3.9/3, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.22**	**279**	*i* PN	**Pn**	**00 05 33.1**	**+0.1**
YUK				*i* S	**Sn**	**00 05 46.8**	**-1.4**
YUK				pmax	pmax		
	comp=N,212nm,0.2s						
YUK				pmax	pmax		
	comp=E,387nm,0.2s						
YUK				pmax	pmax		
	comp=Z,879nm,0.2s						
YUK				smax	smax		
	comp=N,5μm,0.4s						
YUK				smax	smax		
	comp=E,6μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.22**	**279**	⇑*i*P	**Pn**	**00 05 33.1**	**+0.1**
YUK				AMB	AMB	00 05 34.0	
	comp=E,212nm,0.2s						
YUK				AMB	AMB	00 05 34.0	
	comp=E,387nm,0.2s						
YUK				AMB	AMB	00 05 34.0	
	comp=E,879nm,0.2s						
YUK				*i* S	**Sn**	**00 05 46.8**	**-1.4**
YUK				A	A	00 05 50.4	
	comp=E,970nm,0.4s						
YUK				A	A	00 05 50.4	
	comp=E,6μm,0.4s						
NEM2	**Nemuro 2**	**1.38**	**250**	P	**Pn**	**00 05 35.0**	**-0.2**
NEM2				*e*S	**Sn**	**00 05 50.2**	**-2.0**
KUR	**Kuril'sk**	**1.41**	**10**	*e*PN	**Pn**	**00 05 34.0**	**-1.6**
KUR				S	**Sn**	**00 05 51.0**	**-1.8**
KUR				pmax	pmax		
	comp=N,120nm,0.5s						
KUR				pmax	pmax		
	comp=Z,300nm,0.5s						
KUR				pmax	pmax		
	comp=E,90nm,0.3s						
KUR				smax	smax		
	comp=N,2μm,0.5s						
KUR				smax	smax		
	comp=E,890nm,0.4s						
KUR	**Kuril'sk**	**1.41**	**10**	⇓*i*P	**Pn**	**00 05 33.5**	**-2.1**
KUR				AMB	AMB	00 05 36.0	
	comp=E,90nm,0.4s						
KUR				AMB	AMB	00 05 36.0	
	comp=E,120nm,0.4s						
KUR				AMB	AMB	00 05 36.0	
	comp=E,240nm,0.4s						
KUR				*e*S	**Sn**	**00 05 51.0**	**-1.8**
KUR				A	A	00 05 54.0	
	comp=E,2μm,0.5s						
KUR				A	A	00 05 54.0	
	comp=E,890nm,0.5s						
JRA	**Rausu**	**1.74**	**274**	P	**Pn**	**00 05 40.8**	**+0.7**
JRA				*e*S	**Sn**	**00 06 00.5**	**-0.6**
JNK	**Nakash**	**2.05**	**264**	P	**Pn**	**00 05 45.1**	**+0.6**
JNK				*e*S	**Sn**	**00 06 08.0**	**-0.8**
JAK	**Akkeshi**	**2.23**	**249**	P	**Pn**	**00 05 47.0**	**+0.1**
JAK				*e*S	**Sn**	**00 06 11.5**	**-1.7**
JTKR	**Abashiri--Toko**	**2.62**	**274**	P	**Pn**	**00 05 53.5**	**+1.3**
JAR	**Ashorobuto**	**2.79**	**260**	P	**Pn**	**00 05 55.6**	**+1.1**
JAR				*e*S	**Sn**	**00 06 26.4**	**-0.5**
JOB	**Onbets**	**2.85**	**252**	P	**Pn**	**00 05 56.2**	**+0.8**
JOB				*e*S	**Sn**	**00 06 27.1**	**-1.4**
JMP	**Maruseppu**	**3.01**	**274**	P	**Pn**	**00 05 59.2**	**+1.5**
JCH	**Churui**	**3.28**	**249**	P	**Pn**	**00 06 01.6**	**+0.2**
JCH				*e*S	**Sn**	**00 06 36.9**	**-2.2**
ASAJ	**Asahikawa**	**3.57**	**276**	P	**Pn**	**00 06 08.1**	**+2.8**
	comp=E,5.3nm,0.3s,baz=99,slow=15,SNR=10						
ASAJ				S	**Sn**	**00 06 46.5**	**+0.3**
	comp=E,8.1nm,0.3s,baz=118,slow=16,SNR=4.6						
JFR	**Furan**	**3.65**	**261**	*e*S	**Sn**	**00 06 48.8**	**+0.5**
ERM	**Erimo**	**3.69**	**242**	*ce*PN	Pn	00 06 11.0	+4.0
ERM	**Erimo**	**3.69**	**242**	*e*P	Pn	00 06 11.0	+4.0
JNBK	**Urakawa-nobuka**	**3.83**	**247**	P	**Pn**	**00 06 09.3**	**+0.4**
YSS	**Yuzh-Sakhalins**	**4.58**	**314**	*e*PN	**Pn**	**00 06 21.3**	**+2.2**
YSS				*e*S	**Sn**	**00 07 09.0**	**-1.9**
YSS				smax	smax		
	comp=E,50nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.58**	**314**	*e*P	**Pn**	**00 06 21.3**	**+2.2**
YSS				*e*S	**Sn**	**00 07 09.0**	**-1.9**
YSS				A	A	00 07 10.7	
	comp=E,50nm,0.8s						
SKR	**Severo-Kuril's**	**8.99**	**37**	*e*PN	**Pn**	**00 07 19.3**	**-0.3**
SKR	**Severo-Kuril's**	**8.99**	**37**	*e*P	**Pn**	**00 07 19.3**	**-0.3**
MJA0	**Matsu Arr-Jizo**	**10.17**	**227**	*e*PN	**Pn**	**00 07 38.9**	**+2.9**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**10.20**	**227**	P	**Pn**	**00 07 35.3**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=27,slow=14,SNR=4.3						
MJAR				LR	LR	00 12 23.7	
	comp=Z,113nm,19.2s,baz=100,slow=43						
PETK	**Petropavlovsk-**	**11.45**	**32**	PN	**Pn**	**00 07 55.7**	**+2.3**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**11.45**	**32**	P	**Pn**	**00 07 55.7**	**+2.3**
	comp=Z,1.9nm,0.3s,baz=201,slow=13,SNR=14						
YAK	**Yakutsk**	**21.02**	**336**	*e*P	**P**	**00 09 50.8**	**-1.8**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BILL	**Bilibino**	**26.19**	**16**	P	**P**	**00 10 43.0**	**-0.3**
BILL				pmax	pmax		
	comp=E,4.0nm,1.7s						
BILL				MLR	MLR		
	comp=E,100nm,15.0s						
KDAK	**Kodiak Island**	**38.98**	**47**	LR	LR	00 26 15.6	
	comp=Z,179nm,21.7s,baz=131,slow=32						
ILAR	**Eisson Array**	**41.25**	**36**	P	**P**	**00 12 54.3**	**+0.7**
	comp=Z,2.1nm,1.0s,baz=274,slow=9.5,SNR=18						
MKAR	**Makanchi Array**	**44.78**	**298**	P	**P**	**00 13 21.0**	**-1.4**
MKAR	**Makanchi Array**	**44.78**	**298**	P	**P**	**00 13 21.0**	**-1.4**
	comp=Z,0.2nm,0.6s,baz=68,slow=9.5,SNR=3.0						
KURK	**Kurchatov**	**45.70**	**304**	P	**P**	**00 13 29.4**	**-0.2**
KURBB	**Kurchatov Arra**	**45.78**	**304**	P	**P**	**00 13 29.4**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=72,slow=8.0,SNR=3.5						
INK	**Inuvik**	**46.18**	**30**	P	**P**	**00 13 33.7**	**+0.6**
	baz=294,slow=6.3						
YKA	**Yellowknife Ar**	**55.57**	**34**	P	**P**	**00 14 44.4**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=298,slow=6.8,SNR=22						
WRA	**Warramunga Arr**	**64.62**	**194**	P	**P**	**00 15 45.8**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=9.9,slow=6.8,SNR=4.2						
FINES	**FINESS Array B**	**64.91**	**333**	P	**P**	**00 15 45.7**	**-2.0**
	comp=Z,2.4nm,1.0s,baz=42,slow=5.9,SNR=4.3						
NVAR	**Mina Array Bea**	**67.30**	**58**	P	**P**	**00 16 05.2**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=299,slow=6.0,SNR=6.9						
NOA	**NORSAR Array B**	**69.61**	**339**	P	**P**	**00 16 15.4**	**-2.2**
	comp=Z,0.5nm,0.8s,baz=26,slow=4.5,SNR=4.6						
PDAR	**Pinedale Array**	**69.64**	**50**	P	**P**	**00 16 18.9**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=256,slow=2.7,SNR=3.2						
STKA	**Stephens Creek**	**75.56**	**185**	LR	LR	00 46 00.5	
	comp=Z,88nm,21.2s,baz=197,slow=32						
TXAR	**Lajitas Array**	**82.37**	**57**	P	**P**	**00 17 31.8**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=310,slow=5.7,SNR=7.0						

MAN 06 00:14:48, 8°.54N × 125°.80E, h1km, mb4.4, ML3.3, MS3.2, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.47**	**338**	*e*P	Pg	00 14 57.5	+0.6
BUTP				*e*S	Sb	00 15 14.1	+7.6
BUKP	**Musuan**	**0.98**	**228**	*e*P	Pb	00 15 08.1	+0.3
CGP	**Cagayan de Oro**	**1.09**	**266**	⇓*e*P	Pg	00 15 09.4	+0.3
CGP				*i* S	Sn	00 15 27.0	+0.7
DMPH	**Davao City--Mi**	**1.47**	**191**	⇓*e*P	Pg	00 15 16.4	+0.1
DMPH				*e*S	Sn	00 15 35.7	+0.1
CTBH	**Cotabato--PC H**	**2.02**	**230**	⇑*i*P	Pb	00 15 25.0	-0.5
PAGZ	**Pagadian**	**2.49**	**254**	*e*P	Pb	00 15 32.7	-0.9

IDC 06 00:18:08.3±2.2, 4°.61S × 128°.84E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=162.1km s-min=28.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.16**	**161**	Pn	Pn	00 21 58.3	+1.3
	0.1nm,0.3s,baz=343,slow=13,SNR=9.4						
WRA				Sn	Sn	00 24 45.1	-12
	0.1nm,0.3s,baz=359,slow=23,SNR=2.8						
ASAR	**Alice Springs**	**19.57**	**166**	P	P	00 22 37.4	-0.6
	0.2nm,0.3s,baz=346,slow=10,SNR=10						
MKAR	**Makanchi Array**	**65.61**	**327**	P	P	00 28 54.2	0.0
	0.2nm,0.5s,baz=111,slow=8.3,SNR=8.1						

*ISCJB **06** 00:20:26.9±0.8, 36°.56N±0°.03 × 121°.51W±0°.05, h11km±6km, Error ellipse: s-maj=7.2km s-min=4.1km az=143.3*
*NEIC **06** 00:20:29.0, 36°.69N × 121°.32W, h5km, MW3.7(NCEDC), After NCEDC.*
NEIC Felt [III] at Soledad and [II] at Carmel Valley and Hollister. Also felt at Boulder Creek, Gonzales, Greenfield, King City, Paicines, Salinas, San Juan Bautista, Santa Clara, Sunnyvale and Tracy.
ISC 06 00:20:26.8±1.3, 36°.63N±0°.04 × 121°.40W±0°.04, h9km±9km, n34, σ1$45/47, 12C-14D, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAO	**San Andreas Ge**	**0.13**	**345**	*e*Pg	**Pg**	**00 20 31.2**	**+1.3**
SAC	**San Andreas**	**1.25**	**320**	*e*Pg	**Pg**	**00 20 50.9**	**+0.1**
SAC				*e*Sn	**Sn**	**00 21 09.3**	**+2.0**
CMB	**Columbia Colle**	**1.62**	**30**	*e*Pn	**Pn**	**00 20 56.2**	**+0.6**
CMB				*e*Sn	**Sn**	**00 21 15.7**	**-0.8**
SMMC	**Simmler**	**1.75**	**139**	⇑P	**Pn**	**00 20 58.3**	**+1.0**
	baz=1.7,SNR=21						
SMMC				⇑S	**Sn**	**00 21 18.8**	**-0.9**
	baz=1.7						
RCTC	**Rector, Farmer**	**1.77**	**100**	⇓P	**Pn**	**00 20 58.6**	**+1.0**
	baz=1.7,SNR=45						
RCTC				⇑S	**Sb**	**00 21 21.6**	**-0.2**
	baz=1.7						
MCCM	**Marconi Confer**	**1.91**	**322**	*e*Pn	**Pn**	**00 20 59.8**	**+0.3**
MCCM				*e*Sn	**Sn**	**00 21 24.1**	**+0.4**
VES	**Vestal, Richgr**	**2.04**	**112**	⇑P	**Pn**	**00 21 02.4**	**+1.2**
	baz=2.0,SNR=25						
VES				⇑S	**Sn**	**00 21 27.8**	**+1.0**
	baz=2.0						
PKM	**Peak Mountain**	**2.16**	**143**	⇑P	**Pn**	**00 21 04.2**	**+1.0**
	baz=2.2,SNR=48						
PKM				⇓S	**Sn**	**00 21 30.0**	**-0.2**
	baz=2.2						
MLAC	**Mammoth Lakes**	**2.28**	**63**	P	**Pb**	**00 21 07.9**	**-0.4**
	baz=2.2,SNR=50						
MLAC				⇑S	**Sb**	**00 21 36.0**	**-0.7**
	baz=2.2						
ISA	**Isabella**	**2.56**	**111**	*e*Pn	**Pn**	**00 21 10.3**	**+1.7**
ISA				*e*Sn	**Sn**	**00 21 39.5**	**-0.4**
ISA	**Isabella**	**2.56**	**111**	⇓P	**Pn**	**00 21 10.4**	**+1.8**
	baz=2.5,SNR=145						
ARVC	**Arvin**	**2.58**	**125**	⇓P	**Pn**	**00 21 10.0**	**+1.3**
	baz=2.6,SNR=21						
TIN	**Tinemaha**	**2.58**	**80**	⇓P	**Pb**	**00 21 11.9**	**-1.4**
	baz=2.5,SNR=34						
TIN				⇑Sb	**Sg**	**00 21 49.0**	**-0.9**
	baz=2.5						
SBC	**Santa Barbara**	**2.59**	**147**	⇑P	**Pn**	**00 21 10.0**	**+1.2**
	baz=2.6						
CWC	**Cottonwood Cre**	**2.68**	**93**	⇑P	**Pb**	**00 21 13.1**	**-2.0**
	baz=2.6,SNR=48						
CWC				⇓S	**Sn**	**00 21 45.3**	**+2.2**
	baz=2.6						
HOPS	**Hopland**	**2.70**	**331**	*e*Pn	**Pn**	**00 21 10.8**	**+0.3**
WCN	**Washoe City**	**2.96**	**26**	*e*Pn	**Pn**	**00 21 16.6**	**+2.4**
WCN	**Washoe City**	**2.96**	**26**	⇓P	**Pn**	**00 21 16.9**	**+2.6**
	baz=2.9						
WCN				⇑S	**Sb**	**00 21 54.2**	**-2.1**
	baz=2.9						
OSI	**Osito Adit**	**2.97**	**132**	*e*Pn	**Pn**	**00 21 15.8**	**+1.6**
OSI	**Osito Adit**	**2.97**	**132**	⇓P	**Pn**	**00 21 15.3**	**+1.1**
	baz=3.0						
BSC	**Santa Cruz Isl**	**3.01**	**151**	⇓P	**Pn**	**00 21 15.4**	**+0.8**
	baz=3.0						
BLG	**Laguna Peak**	**3.16**	**142**	⇓P	**Pn**	**00 21 17.5**	**+0.7**
	baz=3.2						
MPMC	**Manual Prospec**	**3.21**	**99**	⇓P	**Pn**	**00 21 19.8**	**+2.1**
	baz=3.2,SNR=38						
GRAC	**Grapevine Rang**	**3.26**	**82**	⇓Sb	**Sg**	**00 22 09.3**	**-2.1**
	baz=3.2						
EDW2	**Edwards Air Fo**	**3.28**	**121**	⇓P	**Pn**	**00 21 20.2**	**+1.7**
	baz=3.3,SNR=14						
PASC	**Pasadena Art C**	**3.60**	**132**	*e*Pn	**Pn**	**00 21 24.5**	**+1.7**
MWC	**Mount Wilson**	**3.64**	**130**	*e*Pn	**Pn**	**00 21 24.7**	**+1.2**
GSC	**Goldstone**	**3.96**	**108**	*e*Pn	**Pn**	**00 21 29.6**	**+1.7**
WDC	**Whiskeytown Da**	**4.04**	**348**	*e*Pn	**Pn**	**00 21 29.6**	**+0.8**
HEC	**Hector,Ludlow**	**4.50**	**112**	⇓P	**Pn**	**00 21 36.6**	**+1.3**
	baz=4.5,SNR=11						
GMRC	**Granite Mounta**	**5.03**	**110**	⇑P	**Pn**	**00 21 43.6**	**+1.1**
	baz=5.0,SNR=12						
PFO	**Pinyon Flat Ob**	**5.05**	**125**	*e*Pn	**Pn**	**00 21 45.5**	**+2.5**
	13nm,0.8s						
CCUT	**Cedar City**	**6.49**	**80**	*e*Pn	**Pn**	**00 22 03.9**	**+1.1**
	13nm,1.0s						
CCUT				*e*Pg	**Pg**	**00 22 32.2**	**+1.0**
CCUT				*e*Sg	**Sg**	**00 23 54.2**	**-1.1**
DUG	**Dugway**	**7.62**	**60**	*e*Pg	Pb	00 22 45.5	+6.3
	1.4nm,0.6s						

*BEO **06** 00:22:00.8±0.8, 44°.51N × 21°.64E, h0km, ML1.9/6*
*CSEM **06** 00:22:00.8, 44°.51N × 21°.64E, h0km, ML1.9, After BEO*
*BUC **06** 00:22:01.6±3.0, 44°.61N × 21°.62E, h10km, MD2.7/2, Error ellipse: s-maj=23.6km s-min=16.0km az=10.0*
ISC 06 00:21:59.7±1.2, 44°.52N±0°.03 × 21°.67E±0°.03, h4km±11km, n20, σ0$63/38, 6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVIS	**Svilajnac**	**0.41**	**232**	*e*Pg	**Pg**	**00 22 07.7**	**0.0**
SVIS				*e*Sg	**Sg**	**00 22 12.5**	**-0.6**
BOLS	**Boljevac**	**0.72**	**163**	*e*Pg	**Pg**	**00 22 12.9**	**-0.7**
BOLS				*e*Sg	**Sg**	**00 22 23.0**	**0.0**
BOLS	**Boljevac**	**0.72**	**163**	*e*Pg	**Pg**	**00 22 12.9**	**-0.7**
BOLS				*e*Sg	**Sg**	**00 22 23.0**	**0.0**
GRUS	**Gruza**	**0.94**	**228**	*e*Pg	**Pg**	**00 22 17.9**	**+0.3**
GRUS				*e*Sg	**Sg**	**00 22 29.6**	**-0.1**
GRUS	**Gruza**	**0.94**	**228**	*e*Pg	**Pg**	**00 22 17.9**	**+0.3**
GRUS				*e*Sg	**Sg**	**00 22 29.6**	**-0.1**
TRUS	**Trudelj**	**0.95**	**252**	*e*Pg	**Pg**	**00 22 17.0**	**-1.0**
TRUS				*e*Sg	**Sg**	**00 22 29.5**	**-0.8**
TRUS	**Trudelj**	**0.95**	**252**	*e*Pg	**Pg**	**00 22 17.0**	**-1.0**
TRUS				*e*Sg	**Sg**	**00 22 29.5**	**-0.8**
BZS	**Buzias**	**1.09**	**358**	⇓*i*P	**Pg**	**00 22 20.9**	**+0.2**
BZS	**Buzias**	**1.09**	**358**	⇓*i*P	**Pg**	**00 22 20.9**	**+0.2**
BZS				*i* S	**Sb**	**00 22 36.3**	**+0.5**
GZR	**Gura Zlata**	**1.17**	**42**	⇓*i*P	**Pn**	**00 22 23.4**	**+0.4**
GZR	**Gura Zlata**	**1.17**	**42**	⇓*i*P	**Pn**	**00 22 23.4**	**+0.4**
GZR				*i* S	**Sb**	**00 22 39.0**	**+0.8**
DIVS	**Divibare**	**1.28**	**251**	*e*Pn	**Pn**	**00 22 25.1**	**+0.7**
DIVS				*e*Sg	**Sg**	**00 22 40.7**	**0.0**
DIVS	**Divibare**	**1.28**	**251**	*e*Pn	**Pn**	**00 22 25.1**	**+0.7**
DIVS				*e*Sg	**Sg**	**00 22 40.7**	**0.0**
SELS	**Selova**	**1.36**	**197**	*e*Pg	**Pn**	**00 22 25.2**	**-0.4**
SELS				*e*Sg	**Sn**	**00 22 44.3**	**+0.2**
IVAS	**Ivanjica**	**1.45**	**230**	*e*Pn	**Pg**	**00 22 28.1**	**+0.7**
IVAS				*e*Sg	**Sb**	**00 22 46.2**	**+0.2**
IVAS	**Ivanjica**	**1.45**	**230**	*e*Pn	**Pg**	**00 22 28.1**	**+0.7**
IVAS				*e*Sg	**Sb**	**00 22 46.2**	**+0.2**
BARS	**Barje**	**1.71**	**176**	*e*Pn	**Pb**	**00 22 32.0**	**+0.3**
BARS				*e*Sg	**Sb**	**00 22 53.0**	**+0.3**
BARS	**Barje**	**1.71**	**176**	*e*Pn	**Pb**	**00 22 32.0**	**+0.3**
BARS				*e*Sg	**Sb**	**00 22 53.9**	**+0.3**
DRGR		**2.38**	**17**	⇓*i*P	**Pn**	**00 22 39.9**	**+0.3**
DRGR				S	**Sn**	**00 23 07.8**	**-1.5**
DRGR		**2.38**	**17**	⇓*i*P	**Pn**	**00 22 39.9**	**+0.3**
DRGR				*i* S	**Sn**	**00 23 07.8**	**-1.5**

ISK 06 00:24:35.8, 37°.01N × 28°.29E, h13km, MD1.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.12**	**357**	*e*PG	Pg	00 24 39.3	+0.1
YER				*e*SG	Sg	00 24 42.0	+0.4
FETY	**Fethiye**	**0.74**	**120**	*e*PG	Pg	00 24 50.8	+0.6
BODT	**Bodrum**	**0.79**	**274**	*e*PG	Pg	00 24 49.8	-1.3

*NNC **06** 00:43:27.7±1.6, 37°.43N × 55°.78E, h0km, mb3.1, Error ellipse: s-maj=15.2km s-min=10.2km az=2.0*
CSEM 06 00:43:24.0±0.4, 37°.16N × 55°.20E, h10km, ML3.3, 2C-3D, Error ellipse: s-maj=14.6km s-min=8.0km az=135.0, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRVT	**Maraveh tapeh**	**0.87**	**55**	*e*Pg	Pn	00 43 43.0	+0.6
DAMV	**Damavand**	**3.02**	**241**	*e*Pn	Pn	00 44 12.9	+0.7
CHTH	**Charan**	**3.51**	**250**	*e*Pn	Pn	00 44 19.7	+0.8
TABS	**Tabas**	**3.84**	**155**	*e*Pn	Pn	00 44 21.7	-1.6
ASAO	**Ashtian**	**4.94**	**240**	*e*Pn	Pn	00 44 38.9	+0.2
AB31	**Akbulak array**	**12.57**	**14**	⇓Pn	Pn	00 46 22.9	+0.1
	0.1nm,0.2s,baz=195,slow=13,SNR=12						
AB31				Sn	Sn	00 48 41.2	-1.6
	0.8nm,0.6s,baz=191,slow=24,SNR=14						
AB31	**Akbulak array**	**12.57**	**14**	Pn	Pn	00 46 22.9	+0.1
	0.1nm,0.2s,baz=195,SNR=12						
AB31				Sn	Sn	00 48 41.2	-1.6
	0.8nm,0.6s,baz=191,SNR=14						
KK31	**Karatay Array**	**13.13**	**58**	⇓Pn	Pn	00 46 30.6	0.0
	0.1nm,0.4s,baz=240,slow=13,SNR=4.1						
KK31				⇓Sn	Sn	00 48 55.1	-1.5
	0.9nm,0.9s						
KK31	**Karatay Array**	**13.13**	**58**	Pn	Pn	00 46 30.6	+0.1
	0.1nm,0.4s,SNR=4.1						
KK31				Sn	Sn	00 48 55.1	-1.5
	0.9nm,0.9s						
AKTO	**Aktyubinsk**	**13.42**	**8**	⇑Pn	Pn	00 46 34.0	-0.5
	0.3nm,0.8s						
AKTO				⇑Sn	Sn	00 49 02.4	-1.3
AKTO	**Aktyubinsk**	**13.42**	**8**	Pn	Pn	00 46 34.0	-0.4
	0.3nm,0.8s						
AKTO				Sn	Sn	00 49 02.4	-1.2

*THE **06** 00:50:49.4, 34°.75N × 22°.24E, h150km±5km, ML3.7/4, Error ellipse: s-maj=6.3km s-min=2.7km az=20.0*
*ATH **06** 00:50:57.8, 35°.50N × 21°.94E, h6km±1km, MD3.6/15*
*CSEM **06** 00:51:02.8±2.0, 35°.79N × 22°.16E, h10km, MD3.6, Error ellipse: s-maj=40.8km s-min=10.4km az=3.0*
**ISC 06 00:51:00.0±1.9, 35°.57N±0°.08 × 22°.07E±0°.06, h17km±14km, n90, σ1$22/100, Central

LAKA	**Lakka**	**2.66**	**358**	P	**Pn**	**00 51 43.7**	**+1.5**
LAKA				S	**Sg**	**00 52 25.6**	**0.0**
KFL	**Anninata**	**2.73**	**338**	P	**Pn**	**00 51 43.6**	**+0.4**
KFL	**Anninata**	**2.73**	**338**	P	**Pn**	**00 51 43.6**	**+0.4**
TRIZ	**Trizonia**	**2.79**	**360**	P	**Pn**	**00 51 45.4**	**+1.5**
TRIZ	**Trizonia**	**2.79**	**360**	P	**Pn**	**00 51 45.4**	**+1.5**
KALE	**Kalithea**	**2.81**	**1**	P	**Pn**	**00 51 45.8**	**+1.5**
KALE	**Kalithea**	**2.81**	**1**	P	**Pn**	**00 51 45.8**	**+1.5**
EFP	**Efpalio**	**2.85**	**357**	*e*PN	**Pn**	**00 51 47.6**	**+2.8**
EFP	**Efpalio**	**2.85**	**357**	*e*Pn	**Pn**	**00 51 47.6**	**+2.8**
DSF	**Desfina**	**2.86**	**7**	P	**Pn**	**00 51 44.7**	**-0.2**
DSF	**Desfina**	**2.86**	**7**	P	**Pn**	**00 51 44.7**	**-0.2**
DESF	**Desfina**	**2.86**	**7**	P	**Pn**	**00 51 45.1**	**+0.2**
DESF	**Desfina**	**2.86**	**7**	P	**Pn**	**00 51 45.1**	**+0.2**
PTL	**Penteli**	**2.86**	**30**	*e*PB	**Pn**	**00 51 47.9**	**+3.0**
PTL	**Penteli**	**2.86**	**30**	*e*Pb	**Pn**	**00 51 47.9**	**+3.0**
VLS	**Valsamata**	**2.86**	**336**	P	**Pn**	**00 51 45.4**	**+0.5**
VLS	**Valsamata**	**2.86**	**336**	*e*PB	**Pn**	**00 51 45.4**	**+0.5**
VLS	**Valsamata**	**2.86**	**336**	P	**Pn**	**00 51 45.4**	**+0.5**
AXAR	**Agios Charalam**	**3.22**	**8**	P	**Pn**	**00 51 51.3**	**+1.4**
AXAR	**Agios Charalam**	**3.22**	**8**	P	**Pn**	**00 51 51.3**	**+1.4**
EVR	**Evrytania**	**3.34**	**356**	P	**Pn**	**00 51 52.3**	**+0.7**
EVR	**Evrytania**	**3.34**	**356**	*e*PB	**Pn**	**00 51 54.6**	**+3.0**
EVR	**Evrytania**	**3.34**	**356**	P	**Pn**	**00 51 52.3**	**+0.7**
EVR	**Evrytania**	**3.34**	**356**	*e*Pb	**Pn**	**00 51 54.6**	**+3.0**
LKD2	**Lefkada island**	**3.40**	**341**	P	**Pn**	**00 51 54.0**	**+1.6**
LKD2	**Lefkada island**	**3.40**	**341**	P	**Pn**	**00 51 54.0**	**+1.6**
MAKR	**Makrakomi, Fth**	**3.43**	**1**	P	**Pn**	**00 51 53.8**	**+1.0**
MAKR	**Makrakomi, Fth**	**3.43**	**1**	P	**Pn**	**00 51 53.8**	**+1.0**
THL	**Klokotos Trika**	**3.98**	**359**	P	**Pn**	**00 52 00.7**	**+0.4**
THL	**Klokotos Trika**	**3.98**	**359**	P	**Pn**	**00 52 00.7**	**+0.4**
IGT	**Igoumenitsa**	**4.19**	**341**	P	**Pn**	**00 52 03.0**	**-0.1**
IGT	**Igoumenitsa**	**4.19**	**341**	P	**Pn**	**00 52 03.0**	**-0.1**
CHOS	**Chios island**	**4.25**	**47**	P	Pn	00 52 00.6	-3.4
CHOS	**Chios island**	**4.25**	**47**	P	Pn	00 52 00.6	-3.4
PAIG	**Paliouri**	**4.53**	**16**	P	**Pn**	**00 52 07.4**	**-0.4**
PAIG	**Paliouri**	**4.53**	**16**	P	**Pn**	**00 52 07.4**	**-0.4**
PLG	**Polygyros**	**4.91**	**12**	P	**Pn**	**00 52 12.3**	**-0.8**
PLG	**Polygyros**	**4.91**	**12**	P	**Pn**	**00 52 12.3**	**-0.8**
HORT	**Hortiatis**	**5.08**	**9**	P	**Pn**	**00 52 15.2**	**-0.3**
HORT	**Hortiatis**	**5.08**	**9**	P	**Pn**	**00 52 15.2**	**-0.3**
FNA	**Florina**	**5.23**	**354**	P	**Pn**	**00 52 17.1**	**-0.4**
FNA	**Florina**	**5.23**	**354**	P	**Pn**	**00 52 17.1**	**-0.4**
SOH	**Sokhos**	**5.34**	**10**	P	**Pn**	**00 52 18.4**	**-0.6**
SOH	**Sokhos**	**5.34**	**10**	P	**Pn**	**00 52 18.4**	**-0.6**
KNT	**Kendrikon**	**5.62**	**6**	P	**Pn**	**00 52 21.8**	**-1.0**
KNT	**Kendrikon**	**5.62**	**6**	P	**Pn**	**00 52 21.8**	**-1.0**
SRS	**Serrai**	**5.66**	**12**	P	**Pn**	**00 52 22.7**	**-0.7**
SRS	**Serrai**	**5.66**	**12**	P	**Pn**	**00 52 22.7**	**-0.7**

*ISCJB **06** 01:01:22.5±0.6, 6°.85N±0°.06×73°.01W±0°.07, h172km±6km, mb3.5/5, Error ellipse: s-maj=13.4km s-min=7.2km az=40.9*
*FUNV **06** 01:01:23.0, 6°.76N×73°.12W, h176km, MW3.4*
*IDC **06** 01:01:24.7±2.3, 6°.71N×73°.17W, h177km±23km, mb3.3/5, mb1 3.5/6, mb1mx3.2/20, mbtmp3.3/6, Error ellipse: s-maj=47.3km s-min=27.6km az=89.0*

ISC 06 01:01:23.6±0.9, 6°.85N±0°.07×73°.02W±0°.08, h167km±8km, n24, σ0°.96/29, mb3.7/5, 9C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.22**	**35**	⇑*i*P	**Pn**	**01 01 52.6**	**+0.4**
CAPV				*e*S	**Sn**	**01 02 14.5**	**+0.3**
ROSC	**El Rosal**	**2.38**	**213**	P	**Pn**	**01 02 04.1**	**-0.5**
	45nm,0.3s,baz=348,slow=2.9,SNR=181						
ROSC				S	**Sn**	**01 02 34.6**	**-1.6**
	51nm,0.3s,baz=75,slow=20,SNR=8.6						
VIGV	**El Vigia**	**2.56**	**40**	⇑*i*P	**Pn**	**01 02 06.9**	**+0.5**
VIGV				*e*S	**Sn**	**01 02 39.1**	**-0.5**
SOCV	**Socops**	**2.57**	**56**	⇑*i*P	**Pn**	**01 02 07.2**	**+0.7**
SOCV				*e*S	**Sn**	**01 02 39.5**	**-0.3**
ELOV	**Elorza**	**3.51**	**87**	⇑*i*P	**Pn**	**01 02 18.6**	**+0.5**
VIRV	**Villa del Rosa**	**3.68**	**9**	⇑*i*P	**Pn**	**01 02 19.4**	**-0.9**
VIRV				*e*S	**Sn**	**01 03 02.4**	**-2.0**
QARV	**Quebrada Arrib**	**4.15**	**36**	⇑*e*P	**Pn**	**01 02 26.9**	**+0.6**
DABV	**Dabajuro**	**4.68**	**30**	*e*P	**Pn**	**01 02 33.5**	**+0.4**
TEPV	**Terepaima**	**4.89**	**50**	⇑*i*P	**Pn**	**01 02 36.0**	**+0.1**
SIQV	**Siquisique**	**4.93**	**40**	⇑*i*P	**Pn**	**01 02 35.7**	**-0.7**
BAUV	**El Baul**	**5.35**	**67**	⇑*i*P	**Pn**	**01 02 40.7**	**-1.2**
MONV	**Montecano**	**5.89**	**30**	*e*P	**Pn**	**01 02 48.3**	**-0.8**
JACV	**Jacura**	**5.90**	**44**	*e*P	**Pn**	**01 02 48.3**	**-0.9**
TURV	**Turiamo**	**6.24**	**55**	*i*P	**Pn**	**01 02 52.8**	**-0.9**
MERV	**Las Mercedes**	**7.07**	**75**	*e*P	**Pn**	**01 03 03.2**	**-1.4**
BIRV	**Birongo**	**7.58**	**61**	*e*P	**Pn**	**01 03 13.4**	**-1.1**
CUPV	**Cœpira**	**7.83**	**65**	*e*P	**Pn**	**01 03 13.3**	**-1.5**
TXAR	**Lajitas Array**	**36.52**	**312**	P	**P**	**01 08 13.3**	**+0.1**
	0.3nm,0.7s,baz=132,slow=8.1,SNR=4.5						
ULM	**Lac du Bonnet**	**47.29**	**340**	P	**P**	**01 09 40.4**	**+0.3**
	1.4nm,0.4s,baz=165,slow=4.3,SNR=5.0						
SCHQ	**Schefferville**	**48.10**	**5**	P	**P**	**01 09 47.9**	**+1.6**
	1.0nm,0.5s,baz=202,slow=11,SNR=3.3						
PDAR	**Pinedale Array**	**48.11**	**324**	P	**P**	**01 09 46.8**	**-0.1**
	0.3nm,0.5s,baz=130,slow=11,SNR=3.4						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**01 11 34.7**	**+0.6**
	0.7nm,0.5s,baz=132,slow=6.7,SNR=23						
MKAR	**Makanchi Array**	**122.26**	**20**	PKP	**PKPdf**	**01 19 58.3**	**-0.6**
	0.1nm,0.5s,baz=315,slow=1.2,SNR=3.3						
WRA	**Warramunga Arr**	**150.44**	**241**	PKPbc	**PKPbc**	**01 20 55.9**	**-0.5**
	0.2nm,0.4s,baz=107,slow=2.7,SNR=5.1						

*DJA **06** 01:43:47, 8°.87S×118°.21E, h10km, MLv4.9/12*

IDC 06 01:43:49.1±4.2, 8°.87S×118°.26E, h97km±35km, mb3.5/6, mb1 3.5/8, mb1mx3.4/19, mbtmp3.5/8, Error ellipse: s-maj=41.1km s-min=11.6km az=58.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**4.11**	**21**	P	Pn	01 44 51.0	+1.3
	3.1nm,0.3s,baz=221,slow=7.4,SNR=23						
KAPI				S	Sn	01 45 37.1	+0.3
	102nm,0.3s,baz=115,slow=22,SNR=93						
FITZ	**Fitzroy Crossi**	**11.64**	**143**	P	Pn	01 46 28.0	-4.1
	0.6nm,0.3s,baz=332,slow=14,SNR=7.3						
FITZ				S	Sn	01 48 28.5	-12
	1.5nm,0.3s,baz=179,slow=13,SNR=6.1						
WRA	**Warramunga Ar**	**19.05**	**127**	P	P	01 48 02.9	-0.9
	0.2nm,0.3s,baz=303,slow=13,SNR=11						
WRA				S	S	01 51 25.3	-10
	0.2nm,0.3s,baz=310,slow=24,SNR=4.9						
ASAR	**Alice Springs**	**20.99**	**136**	P	P	01 48 24.9	+0.2
	0.7nm,0.5s,baz=312,slow=8.8,SNR=13						
ASAR				S	S	01 52 14.4	+1.1
	0.8nm,0.6s,baz=303,slow=21,SNR=4.5						
STKA	**Stephens Creek**	**31.52**	**140**	P	P	01 50 01.6	-0.4
	1.7nm,0.9s,baz=307,slow=12,SNR=3.4						
USRK	**Ussuriysk Arra**	**54.27**	**12**	P	P	01 53 05.0	+0.1
	0.9nm,0.4s,baz=201,slow=6.4,SNR=5.6						
SONM	**Songino Array**	**57.43**	**351**	P	P	01 53 27.4	-0.3
	0.9nm,0.6s,baz=172,slow=9.1,SNR=11						
MKAR	**Makanchi Array**	**64.01**	**333**	P	P	01 54 11.3	-1.0
	0.3nm,0.5s,baz=155,slow=7.1,SNR=7.1						
KURBB	**Kurchatov Arra**	**66.53**	**334**	P	P	01 54 42.0	+1.0
	0.7nm,0.2s,baz=144,slow=5.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**117.72**	**280**	PKP	PKPdf	02 02 25.1	+0.2
	0.7nm,1.0s,baz=53,slow=2.3,SNR=5.3						

*CSEM **06** 01:52:05.2, 40°.41N×28°.94E, h10km, MD2.6, After ISK*

ISK 06 01:52:05.2, 40°.41N×28°.94E, h10km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDNY	**Mudanya-Bursa**	**0.06**	**223**	*e*PG	Pg	01 52 07.2	-0.1
MDNY				*e*SG	Sg	01 52 09.3	+0.5
MDNY	**Mudanya-Bursa**	**0.06**	**223**	*e*Pg	Pg	01 52 07.2	-0.1
MDNY				*e*Sg	Sg	01 52 09.3	+0.5
ARMT	**Armutlu**	**0.16**	**339**	*e*PG	Pg	01 52 09.3	+0.4
ARMT				*e*SG	Sg	01 52 12.3	+0.9
ARMT	**Armutlu**	**0.16**	**339**	*e*Pg	Pg	01 52 09.3	+0.4
ARMT				*e*Sg	Sg	01 52 12.3	+0.9
KCTX	**Karacabey (Bur**	**0.47**	**252**	*e*PG	Pb	01 52 15.6	0.0
KCTX				*e*SG	Sb	01 52 21.9	-0.6
KCTX	**Karacabey (Bur**	**0.47**	**252**	*e*Pg	Pb	01 52 15.6	0.0
KCTX				*e*Sg	Sb	01 52 22.0	-0.6
ADVT	**Abdulvahap**	**0.61**	**88**	*e*PG	Pg	01 52 17.1	+0.1
ADVT	**Abdulvahap**	**0.61**	**88**	*e*Pg	Pg	01 52 17.2	+0.1
HRT	**Hereke**	**0.69**	**53**	*e*PG	Pb	01 52 19.5	+0.1
HRT	**Hereke**	**0.69**	**53**	*e*Pg	Pb	01 52 19.5	+0.1
BNT	**Bandirma**	**0.78**	**266**	*e*PG	Pb	01 52 21.1	+0.2
BNT	**Bandirma**	**0.78**	**266**	*e*Pg	Pb	01 52 21.1	+0.2
DST	**Dursunbey**	**0.84**	**197**	*e*PG	Pb	01 52 22.6	+0.5
DST	**Dursunbey**	**0.84**	**197**	*e*Pg	Pb	01 52 22.6	+0.6
KLYT	**Kilyos**	**0.84**	**5**	*e*PG	Pb	01 52 21.9	-0.1
KLYT	**Kilyos**	**0.84**	**5**	*e*Pg	Pb	01 52 21.9	-0.1
CTKS	**Kestanelik-??a**	**0.89**	**339**	*e*PG	Pg	01 52 21.9	-0.3
CTKS	**Kestanelik-??a**	**0.89**	**339**	*e*Pg	Pg	01 52 22.0	-0.3
SILT	**Sile**	**0.91**	**36**	*e*PG	Pg	01 52 22.2	-0.6
SILT	**Sile**	**0.91**	**36**	*e*Pg	Pg	01 52 22.2	-0.6
GONE	**Gonen-Balikesi**	**1.02**	**250**	*e*PG	Pb	01 52 25.0	-0.1
GONE	**Gonen-Balikesi**	**1.02**	**250**	*e*Pg	Pb	01 52 25.0	0.0
GULT	**Gulveren**	**1.21**	**89**	*e*PN	Pg	01 52 28.7	+0.2
GULT	**Gulveren**	**1.21**	**89**	*e*Pn	Pg	01 52 28.7	+0.2
KRBG	**Karabiga-Canak**	**1.25**	**270**	*e*PN	Pg	01 52 29.2	-0.1
KRBG	**Karabiga-Canak**	**1.25**	**270**	*e*Pn	Pg	01 52 29.2	0.0

IDC 06 02:06:00.5±2.1, 0°.80S×133°.13E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, ML4.0/1, Error ellipse: s-maj=110.4km s-min=24.3km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.06**	**177**	P	P	02 10 23.8	-0.8
	0.4nm,0.3s,baz=355,slow=11,SNR=24						
WRA				S	Sn	02 13 51.8	-7.8
	0.1nm,0.3s,baz=360,slow=23,SNR=4.9						
ASAR	**Alice Springs**	**22.74**	**178**	P	P	02 11 05.4	+1.0
	1.9nm,0.4s,baz=356,slow=11,SNR=26						
STKA	**Stephens Creek**	**31.93**	**166**	P	P	02 12 27.6	-0.4
	1.5nm,0.5s,baz=348,slow=9.3,SNR=9.0						
MKAR	**Makanchi Array**	**64.93**	**324**	P	P	02 16 42.0	0.0
	0.4nm,0.6s,baz=118,slow=7.5,SNR=6.0						

*CSEM **06** 02:06:57.9±0.0, 40°.37N×27°.48E, h12km, MD2.8, Error ellipse: s-maj=1.3km s-min=0.8km az=8.0*
*DDA **06** 02:06:58.5, 40°.36N×27°.43E, h9km, ML3.0*

ISK 06 02:06:57.6, 40°.37N×27°.48E, h12km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRBG	**Karabiga-Canak**	**0.14**	**280**	*e*Pg	Pg	02 07 01.4	+0.4
KRBG				*e*Sg	Sg	02 07 04.2	+0.7
KRBG	**Karabiga-Canak**	**0.14**	**280**	*e*PG	Pg	02 07 01.4	+0.4
KRBG				*e*SG	Sg	02 07 04.2	+0.7
EDC	**Edincik**	**0.29**	**94**	*e*PG	Pg	02 07 04.0	+0.4
EDC				*e*SG	Sb	02 07 08.7	-0.9
EDC	**Edincik**	**0.29**	**94**	*e*Pg	Pg	02 07 04.0	+0.4
EDC				*e*Sg	Sb	02 07 08.7	-0.9
BNT	**Bandirma**	**0.33**	**92**	*e*PG	Pg	02 07 04.4	0.0
BNT				*e*SG	Sg	02 07 09.2	+0.3
BNT	**Bandirma**	**0.33**	**92**	*e*Pg	Pg	02 07 04.4	0.0
BNT				*e*Sg	Sg	02 07 09.2	+0.3
GONE	**Gonen-Balikesi**	**0.36**	**154**	*e*PG	Pg	02 07 05.1	+0.3
GONE	**Gonen-Balikesi**	**0.36**	**154**	*e*Pg	Pg	02 07 05.1	+0.3
RKY	**Sarkoy-Tekirda**	**0.40**	**324**	*e*PG	Pg	02 07 05.7	+0.1
RKY	**Sarkoy-Tekirda**	**0.40**	**324**	*e*Pg	Pg	02 07 05.7	+0.1
LPK	**Lapseki**	**0.55**	**271**	*e*PG	Pg	02 07 08.7	+0.3
LPK	**Lapseki**	**0.55**	**271**	*e*Pg	Pg	02 07 08.7	+0.3
GELI	**Tayfur-Gelibol**	**0.77**	**273**	*e*PG	Pb	02 07 12.8	-0.2
GELI	**Tayfur-Gelibol**	**0.77**	**273**	*e*Pg	Pb	02 07 12.8	-0.2
CRLT	**Corlu**	**0.78**	**14**	*e*PG	Pb	02 07 13.2	0.0
CRLT	**Corlu**	**0.78**	**14**	*e*Pg	Pb	02 07 13.2	0.0
ERIK	**Erikli-Kesan**	**0.80**	**293**	*e*PG	Pb	02 07 13.3	-0.1
ERIK	**Erikli-Kesan**	**0.80**	**293**	*e*Pg	Pb	02 07 13.3	-0.1
EZN	**Ezine**	**1.04**	**239**	*e*PG	Pn	02 07 17.9	-0.1
EZN	**Ezine**	**1.04**	**239**	*e*Pg	Pn	02 07 17.9	-0.1
ARMT	**Armutlu**	**1.07**	**79**	*e*PG	Pn	02 07 18.5	+0.1
ARMT	**Armutlu**	**1.07**	**79**	*e*Pg	Pn	02 07 18.5	0.0
MDNY	**Mudanya-Bursa**	**1.07**	**89**	*e*PG	Pn	02 07 18.6	+0.2
MDNY	**Mudanya-Bursa**	**1.07**	**89**	*e*Pg	Pn	02 07 18.6	+0.2
ENEZ	**Enez**	**1.08**	**290**	*e*PG	Pn	02 07 18.5	0.0
ENEZ	**Enez**	**1.08**	**290**	*e*Pg	Pn	02 07 18.5	0.0
DURS	**Dursunbey**	**1.08**	**135**	*i*P	Pn	02 07 18.6	-0.1
DURS				*i*S	Sn	02 07 35.5	+1.8
DURS	**Dursunbey**	**1.08**	**135**	*i*P	Pg	02 07 18.6	+0.1
DURS				*i*S	Sn	02 07 35.5	+1.8
DST	**Dursunbey**	**1.16**	**131**	*e*PN	Pg	02 07 20.2	+0.2
DST	**Dursunbey**	**1.16**	**131**	*e*Pn	Pg	02 07 20.2	+0.2
CTKS	**Kestanelik-??a**	**1.17**	**42**	*e*PN	Pg	02 07 20.1	0.0
CTKS	**Kestanelik-??a**	**1.17**	**42**	*e*Pn	Pg	02 07 20.1	+0.1
CTYL	**Yal??k??y-??at**	**1.26**	**29**	*e*PN	Pg	02 07 21.7	-0.2
CTYL	**Yal??k??y-??at**	**1.26**	**29**	*e*Pn	Pg	02 07 21.7	-0.2
BGKT	**Bogazkoy**	**1.27**	**50**	*e*PN	Pg	02 07 21.8	-0.2
BGKT	**Bogazkoy**	**1.27**	**50**	*e*Pn	Pg	02 07 21.8	-0.3
EDRB	**Edirne**	**1.58**	**340**	*e*PN	Pn	02 07 26.0	+0.6
EDRB	**Edirne**	**1.58**	**340**	*e*Pn	Pn	02 07 26.0	+0.6

*LJU **06** 02:18:52.6, 45°.86N×15°.47E, h8km, ML2.4*
*CSEM **06** 02:18:52.6±0.1, 45°.86N×15°.48E, h10km, ML3.2/19, Error ellipse: s-maj=2.6km s-min=1.8km az=170.0*
*VIE **06** 02:18:52.1±0.3, 45°.85N×15°.48E, h10km±1km, mb2.1/6, ML2.6/6, Error ellipse: s-maj=2.0km s-min=1.5km az=126.0 13 km S of Krsko*
*ISCJB **06** 02:18:52.1±0.2, 45°.89N±0°.02×15°.48E±0°.02, h12km±1km, Error ellipse: s-maj=2.7km s-min=2.1km az=1.0*
*PRU **06** 02:18:54.3, 45°.94N×15°.51E, h12km*
*SZGRF **06** 02:18:55.5, 45°.88N×15°.47E, h10km, mb2.7, Northwestern Balkan Peninsula*

ISC 06 02:18:52.4±0.8, 45°.88N±0°.02×15°.49E±0°.01, h7km±4km, n102, σ0°.98/186, 16C-30D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRES	**Cresnjev**	**0.06**	**204**	⇓*i*Pg	**Pg**	**02 18 54.0**	**+0.1**
CRES				*i* Sg	**Sg**	**02 18 54.9**	**-0.2**
CRES							
	comp=Z,8μm,0.1s						
CRES	**Cresnjev**	**0.06**	**204**	⇓*i*Pg	**Pg**	**02 18 54.0**	**+0.1**
CRES				*i* Sg	**Sg**	**02 18 54.9**	**-0.2**
GCIS	**Gornji Cirnik**	**0.10**	**96**	⇑*i*Pg	**Pg**	**02 18 54.9**	**+0.3**
GCIS				*i* Sg	**Sg**	**02 18 56.5**	**+0.4**
GCIS							
	comp=Z,1μm,0.1s						
GCIS	**Gornji Cirnik**	**0.10**	**96**	⇑*i*Pg	**Pg**	**02 18 54.9**	**+0.3**
GCIS				*i* Sg	**Sg**	**02 18 56.5**	**+0.4**
	comp=Z,1μm,0.1s						
CESS	**Cesta pri Krsk**	**0.10**	**349**	⇓*i*Pg	**Pg**	**02 18 55.0**	**+0.4**
CESS				*i* Sg	**Sg**	**02 18 56.9**	**+0.7**
CESS							
	comp=Z,2μm,0.2s						
CESS	**Cesta pri Krsk**	**0.10**	**349**	⇓*i*Pg	**Pg**	**02 18 55.0**	**+0.4**
CESS				*i* Sg	**Sg**	**02 18 56.9**	**+0.7**
	comp=Z,2μm,0.2s						
LEGS	**Legarje**	**0.14**	**301**	⇓*i*Pg	**Pg**	**02 18 55.8**	**+0.5**
LEGS				*i* Sg	**Sg**	**02 18 58.2**	**+0.9**
LEGS	**Legarje**	**0.14**	**301**	⇓*i*Pg	**Pg**	**02 18 55.8**	**+0.5**
LEGS				*i* Sg	**Sg**	**02 18 58.2**	**+0.9**
GOLS	**Golise**	**0.16**	**35**	*i* Pg	**Pg**	**02 18 56.2**	**+0.5**
GOLS				*i* Sg	**Sg**	**02 18 59.6**	**+1.6**
GOLS							
	comp=Z,663nm,0.3s						
GOLS	**Golise**	**0.16**	**35**	*i* Pg	**Pg**	**02 18 56.2**	**+0.5**
GOLS				*i* Sg	**Sg**	**02 18 59.6**	**+1.6**
	comp=Z,663nm,0.3s						
DOBS	**Dobrina**	**0.27**	**357**	⇓*i*Pg	**Pg**	**02 18 58.6**	**+0.9**
DOBS				*i* Sg	**Sg**	**02 19 03.1**	**+1.7**
DOBS							
	comp=Z,239nm,0.1s						
DOBS	**Dobrina**	**0.27**	**357**	⇓*i*Pg	**Pg**	**02 18 58.6**	**+0.9**
DOBS				*i* Sg	**Sg**	**02 19 03.1**	**+1.7**
	comp=Z,239nm,0.1s						
PDKS	**Podkum**	**0.39**	**298**	⇑*i*Pg	**Pg**	**02 19 00.8**	**+0.8**
PDKS				*i* Sg	**Sg**	**02 19 06.2**	**+1.1**
PDKS							
	comp=Z,144nm,0.2s						
PDKS	**Podkum**	**0.39**	**298**	⇑*i*Pg	**Pg**	**02 19 00.8**	**+0.8**
PDKS				*i* Sg	**Sg**	**02 19 06.2**	**+1.1**
	comp=Z,144nm,0.2s						
BOJS	**Bojanci**	**0.41**	**204**	⇓*i*Pg	**Pg**	**02 18 59.8**	**-0.5**
BOJS				*i* Sg	**Sg**	**02 19 06.6**	**+1.0**
BOJS							
	comp=Z,139nm,0.1s						
BOJS	**Bojanci**	**0.41**	**204**	⇓*i*Pg	**Pg**	**02 18 59.8**	**-0.5**
BOJS				*i* Sg	**Sg**	**02 19 06.6**	**+1.0**
	comp=Z,139nm,0.1s						
VISS	**Visnje**	**0.46**	**261**	*i* Pg	**Pg**	**02 19 01.6**	**+0.3**
VISS				*i* Sg	**Sg**	**02 19 07.7**	**+0.4**
VISS							
	comp=Z,102nm,0.1s						
VISS	**Visnje**	**0.46**	**261**	*i* Pg	**Pg**	**02 19 01.6**	**+0.3**
VISS				*i* Sg	**Sg**	**02 19 07.7**	**+0.4**
	comp=Z,102nm,0.1s						
GROS	**Grobnik**	**0.58**	**1**	⇓*i*Pg	**Pb**	**02 19 04.5**	**-0.5**
GROS							
	comp=Z,103nm,0.1s						
GROS	**Grobnik**	**0.58**	**1**	⇓*i*Pg	**Pb**	**02 19 04.5**	**-0.5**
	comp=Z,103nm,0.1s						
GBRS	**Gornja Briga**	**0.59**	**234**	*i* Pg	**Pg**	**02 19 04.0**	**+0.3**
VNDS	**Vrh nad Dolski**	**0.59**	**293**	*i* Pg	**Pg**	**02 19 04.5**	**+0.7**
VNDS				*i* Sg	**Sg**	**02 19 12.3**	**+0.8**
VNDS							
	comp=Z,173nm,0.3s						
LJU	**Ljubljana**	**0.69**	**284**	*i* Pg	**Pg**	**02 19 06.2**	**+0.5**
LJU							
	comp=Z,42nm,0.1s						
LJU	**Ljubljana**	**0.69**	**284**	*i* Pg	**Pg**	**02 19 06.2**	**+0.5**
	comp=Z,42nm,0.1s						
SISC	**Sisak**	**0.74**	**123**	*e*Pg	**Pb**	**02 19 07.8**	**+0.1**
SISC				Sg	**Sb**	**02 19 18.3**	**+0.4**
SISC	**Sisak**	**0.74**	**123**	*e*Pg	**Pb**	**02 19 07.7**	**+0.1**
SISC				Sg	**Sb**	**02 19 18.3**	**+0.4**
CEY	**Cerknica**	**0.76**	**260**	*i* Pg	**Pg**	**02 19 07.2**	**+0.3**
CEY				*i* Sg	**Sb**	**02 19 18.2**	**-0.3**
CEY							
	comp=Z,66nm,0.2s						
CEY	**Cerknica**	**0.76**	**260**	*i* Pg	**Pg**	**02 19 07.2**	**+0.3**
CEY				*i* Sg	**Sb**	**02 19 18.2**	**-0.3**
	comp=Z,66nm,0.2s						
KOGS	**Kog**	**0.78**	**43**	*i* Pg	**Pb**	**02 19 08.2**	**-0.1**
KOGS				*i* Sg	**Sb**	**02 19 19.2**	**+0.1**
KOGS							
	comp=Z,225nm,0.2s						
KOGS	**Kog**	**0.78**	**43**	*i* Pg	**Pb**	**02 19 08.2**	**-0.1**
KOGS				*i* Sg	**Sb**	**02 19 19.2**	**+0.1**
	comp=Z,225nm,0.2s						
BISS	**Bistriski jare**	**0.81**	**342**	*i* Pg	**Pb**	**02 19 08.6**	**-0.3**
BISS							
	comp=Z,147nm,0.1s						
BISS	**Bistriski jare**	**0.81**	**342**	*i* Pg	**Pb**	**02 19 08.6**	**-0.3**
	comp=Z,147nm,0.1s						
MOZS	**Mozjanca**	**0.84**	**300**	⇑*i*Pg	**Pb**	**02 19 09.1**	**-0.2**
MOZS				*i* Sg	**Sg**	**02 19 20.3**	**+0.9**
MOZS							
	comp=Z,38nm,0.1s						
MOZS	**Mozjanca**	**0.84**	**300**	⇑*i*Pg	**Pb**	**02 19 09.1**	**-0.2**
MOZS				*i* Sg	**Sg**	**02 19 20.3**	**+0.9**
	comp=Z,38nm,0.1s						
KNDS	**Knezji Dol**	**0.85**	**246**	*i* Sg	**Sb**	**02 19 21.3**	**0.0**
KNDS							
	comp=Z,65nm,0.2s						
KNDS	**Knezji Dol**	**0.85**	**246**	*i* Sg	**Sb**	**02 19 21.3**	**0.0**
	comp=Z

ZST	**Bratislava**	**2.57**	**25**	*e*PN	**Pn**	**02 19 35.1**	**+0.7**
ZST				*e*PG	**Pg**	**02 19 42.0**	**+0.4**
ZST				*e*SG	**Sg**	**02 20 15.4**	**+0.5**
RJOB	**Jochberg**	**2.62**	**316**	*e*Pn	**Pb**	**02 19 38.2**	**-1.6**
SMOL	**Smolenice**	**2.95**	**26**	*e*SG	**Sg**	**02 20 29.0**	**+1.9**
SMOL	**Smolenice**	**2.95**	**26**	*e*Sg	**Sg**	**02 20 29.0**	**+1.9**
FGSL	**Fruska Gora**	**3.12**	**102**	*e*Pn	**Pb**	**02 19 45.3**	**-2.9**
GEC2	**GERESS Array S**	**3.21**	**338**	*e*Pn	**Pn**	**02 19 44.2**	**+0.9**
GEC2				*e*Sn	**Sn**	**02 20 21.3**	**-0.6**
STON	**Ston**	**3.40**	**151**	*e*Pn	**Pn**	**02 19 47.2**	**+1.4**
STON				Sn	**Sn**	**02 20 28.0**	**+1.7**
VYHS	**Vyhne**	**3.47**	**40**	*e*PN	**Pn**	**02 19 48.7**	**+1.8**
VYHS				*e*PG	**Pg**	**02 19 59.7**	**+0.8**
VYHS				*e*SN	**Sn**	**02 20 26.2**	**-2.1**
VYHS				*e*SG	**Sg**	**02 20 44.8**	**+0.9**
VYHS	**Vyhne**	**3.47**	**40**	*e*Pn	**Pn**	**02 19 48.7**	**+1.8**
KHC	**Kasperske Hory**	**3.50**	**339**	*e*PN	**Pn**	**02 19 48.2**	**+0.9**
KHC				*e*SN	**Sn**	**02 20 28.2**	**-0.9**
KHC				*e*SG	**Sg**	**02 20 43.6**	**-1.3**
KHC	**Kasperske Hory**	**3.50**	**339**	Pn	**Pn**	**02 19 48.2**	**+0.9**
KHC				Sn	**Sn**	**02 20 28.2**	**-0.9**
KHC				Sg	**Sg**	**02 20 43.6**	**-1.3**
VRAC	**Vranov**	**3.51**	**12**	*e*Sn	**Sn**	**02 20 26.7**	**-2.6**
DIVS	**Divibare**	**3.66**	**118**	*e*Pn	**Pn**	**02 19 50.6**	**+1.1**
WET	**Wettzell**	**3.72**	**333**	*e*Pn	**Pn**	**02 19 50.9**	**+0.6**
WET				*e*Sn	**Sn**	**02 20 33.5**	**-0.8**
TRUS	**Trudelj**	**3.86**	**114**	*e*Pn	**Pn**	**02 19 52.0**	**-0.2**
PRU	**Pruhonice**	**4.16**	**352**	*e*PN	**Pn**	**02 19 56.9**	**+0.5**
PRU				*e*PG	**Pg**	**02 20 10.9**	**-1.2**
PRU				*e*SN	**Sn**	**02 20 43.4**	**-1.9**
PRU				*e*SG	**Sg**	**02 21 04.3**	**-1.7**
	comp=Z,3.0nm,0.5s						
PRU	**Pruhonice**	**4.16**	**352**	Pn	**Pn**	**02 19 56.9**	**+0.5**
PRU				Sn	**Sn**	**02 20 43.4**	**-1.9**
PRU				Sg	**Sg**	**02 21 04.3**	**-1.7**
	comp=Z,3.0nm,0.5s						
GRUS	**Gruza**	**4.21**	**116**	*e*Pn	**Pn**	**02 19 58.1**	**+1.1**
ROTZ	**Rotzenmuhle**	**4.48**	**332**	*e*Pn	**Pn**	**02 20 00.9**	**+0.2**
ROTZ				*e*Sg	**Sg**	**02 21 15.5**	**-0.5**
TANN	**Tannenbergstha**	**4.97**	**337**	*e*Pn	**Pn**	**02 20 07.5**	**0.0**
BRG	**Berggiesshubel**	**5.11**	**349**	PG	**Sn**	**02 21 06.1**	**-2.4**
BRG				SG	**Sg**	**02 21 35.4**	**-0.8**
	comp=Z,3.0nm,0.6s						
PLN	**Plauen**	**5.12**	**335**	*e*Pn	**Pn**	**02 20 10.2**	**+0.7**
MOX	**Moxa**	**5.43**	**333**	*e*Pn	**Pn**	**02 20 14.2**	**+0.5**
BFO	**Black Forest**	**5.47**	**299**	*e*Pn	**Pn**	**02 20 14.5**	**+0.2**
CLL	**Collm**	**5.68**	**344**	*e*Sg	**Sg**	**02 21 53.0**	**-1.6**

*ISK **06** 02:24:30.6,38.61N×27.08E,h6km,MD3.1*
*DDA **06** 02:24:30.7,38.62N×27.02E,h7km,MD2.9*
*ISCJB **06** 02:24:31.1±0.5,38.59N±0.04×27.05E±0.04,h11km±5km, Error ellipse: s-maj=6.2km s-min=5.1km az=153.8*
*CSEM **06** 02:24:31.1±0.1,38.60N×27.05E,h8km,MD3.1,Error ellipse: s-maj=4.2km s-min=3.3km az=112.0*
*ATH **06** 02:24:34.4,38.40N×26.87E,h23km,MD2.7/3*
ISC 06 02:24:31.2±0.9, 38.60N±0.03×27.05E±0.02, h12km±9km, n63, σ0s81/73, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BLCB	**Balcova**	**0.21**	**182**	*e*PG		**Pg**	**02 24 35.5**	**-0.3**
BLCB				*e*SG		**Sg**	**02 24 39.1**	**+0.2**
BLCB	**Balcova**	**0.21**	**182**	*e*Pg		**Pg**	**02 24 35.5**	**-0.3**
BLCB				*e*Sg		**Sg**	**02 24 39.1**	**+0.2**
IZM	**Izmir**	**0.26**	**141**	*e*PG		**Pg**	**02 24 36.5**	**-0.2**
IZM				*e*SG		**Sg**	**02 24 41.0**	**+0.7**
IZM	**Izmir**	**0.26**	**141**	*e*Pg		**Pg**	**02 24 36.5**	**-0.2**
IZM				*e*Sg		**Sg**	**02 24 41.0**	**+0.7**
URLA	**Izmir**	**0.43**	**236**	*i* P		**Pg**	**02 24 38.7**	**-1.0**
URLA				*i* S		**Sg**	**02 24 46.4**	**+0.9**
URLA	**Izmir**	**0.43**	**236**	*i* P		**Pg**	**02 24 38.7**	**-1.0**
URLA				*i* S		**Sg**	**02 24 46.4**	**+0.9**
AKS	**Akhisar**	**0.66**	**65**	*e*PG		**Pg**	**02 24 43.9**	**-0.1**
AKS	**Akhisar**	**0.66**	**65**	*e*Pg		**Pg**	**02 24 43.9**	**-0.1**
AKHS	**Akhisar**	**0.66**	**65**	*e*P		**Pg**	**02 24 44.1**	**+0.1**
AKHS				*i* S		**Sb**	**02 24 53.9**	**+0.1**
AKHS	**Akhisar**	**0.66**	**65**	*e*P		**Pg**	**02 24 44.1**	**+0.1**
AKHS				*i* S		**Sb**	**02 24 53.9**	**+0.1**
CHOS	**Chios island**	**0.81**	**255**	*e*PN		**Pg**	**02 24 47.0**	**+0.1**
CHOS				*e*SN		**Sg**	**02 24 56.3**	**-1.2**
CHOS	**Chios island**	**0.81**	**255**	*e*Pn		**Pg**	**02 24 47.0**	**+0.1**
CHOS				*e*Sn		**Sg**	**02 24 56.3**	**-1.2**
SMG	**Samos**	**0.91**	**191**	*e*PN		**Pg**	**02 24 48.0**	**-0.7**
SMG	**Samos**	**0.91**	**191**	*e*Pn		**Pg**	**02 24 48.0**	**-0.7**
BALY	**Balya**	**1.22**	**21**	*i* P		**Pb**	**02 24 53.3**	**-0.9**
BALY	**Balya**	**1.22**	**21**	*i* P		**Pb**	**02 24 53.3**	**-0.9**
BALB	**Balikesir**	**1.22**	**32**	*e*PN		**Pb**	**02 24 53.6**	**-0.6**
BALB	**Balikesir**	**1.22**	**32**	*e*Pn		**Pb**	**02 24 53.6**	**-0.6**
KULA	**Kula-Manisa**	**1.27**	**93**	*e*PN		**Pn**	**02 24 54.2**	**-0.6**
KULA	**Kula-Manisa**	**1.27**	**93**	*e*Pn		**Pn**	**02 24 54.2**	**-0.6**
EZN	**Ezine**	**1.35**	**335**	*e*PN		**Pn**	**02 24 56.1**	**+0.3**
EZN	**Ezine**	**1.35**	**335**	*e*Pn		**Pn**	**02 24 56.1**	**+0.3**
DURS	**Dursunbey**	**1.49**	**48**	*e*P		**Pn**	**02 24 56.9**	**-1.0**
DURS	**Dursunbey**	**1.49**	**48**	*e*P		**Pn**	**02 24 56.9**	**-1.0**
GONE	**Gonen-Balikesi**	**1.52**	**19**	*e*PN		**Pn**	**02 24 58.1**	**-0.2**
GONE	**Gonen-Balikesi**	**1.52**	**19**	*e*Pn		**Pn**	**02 24 58.1**	**-0.2**
BODT	**Bodrum**	**1.55**	**172**	*e*PN		**Pn**	**02 24 59.8**	**+1.2**
BODT	**Bodrum**	**1.55**	**172**	*e*Pn		**Pn**	**02 24 59.8**	**+1.2**
DST	**Dursunbey**	**1.58**	**50**	*e*PN		**Pn**	**02 24 58.9**	**-0.1**
DST	**Dursunbey**	**1.58**	**50**	*e*Pn		**Pn**	**02 24 58.9**	**-0.1**
YER	**Yerkesik**	**1.76**	**146**	*e*PN		**Pn**	**02 25 02.4**	**+0.9**
YER	**Yerkesik**	**1.76**	**146**	*e*Pn		**Pn**	**02 25 02.4**	**+0.9**
LPK	**Lapseki**	**1.78**	**353**	*e*PN		**Pn**	**02 25 02.9**	**+1.1**
LPK	**Lapseki**	**1.78**	**353**	*e*Pn		**Pn**	**02 25 02.9**	**+1.1**
KRBG	**Karabiga-Canak**	**1.80**	**6**	*e*PN		**Pn**	**02 25 03.0**	**+1.0**
KRBG	**Karabiga-Canak**	**1.80**	**6**	*e*Pn		**Pn**	**02 25 03.0**	**+1.0**
GELI	**Tayfur-Gelibol**	**1.85**	**346**	*e*PN		**Pn**	**02 25 03.7**	**+1.0**
GELI	**Tayfur-Gelibol**	**1.85**	**346**	*e*Pn		**Pn**	**02 25 03.7**	**+1.0**
EDC	**Edincik**	**1.85**	**20**	*e*PN		**Pn**	**02 25 03.6**	**+0.8**
EDC	**Edincik**	**1.85**	**20**	*e*Pn		**Pn**	**02 25 03.6**	**+0.8**
BNT	**Bandirma**	**1.88**	**21**	*e*PN		**Pn**	**02 25 03.8**	**+0.7**
BNT	**Bandirma**	**1.88**	**21**	*e*Pn		**Pn**	**02 25 03.8**	**+0.7**
APE	**Apeiranthos**	**1.95**	**219**	*e*PN		**Pb**	**02 25 06.0**	**-0.6**
APE	**Apeiranthos**	**1.95**	**219**	*e*PN		**Pn**	**02 25 04.9**	**+0.8**
APE	**Apeiranthos**	**1.95**	**219**	*e*Pn		**Pn**	**02 25 04.9**	**+0.8**
KCTX	**Karacabey (Bur**	**1.95**	**31**	*e*PN		**Pn**	**02 25 05.0**	**+0.9**
KCTX	**Karacabey (Bur**	**1.95**	**31**	*e*Pn		**Pn**	**02 25 05.0**	**+0.9**
KHL	**Karahalli**	**1.96**	**97**	*e*PN		**Pn**	**02 25 04.7**	**+0.4**
KHL	**Karahalli**	**1.96**	**97**	*e*Pn		**Pn**	**02 25 04.7**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.09**	**3**	*e*PN		**Pn**	**02 25 06.8**	**+0.8**
RKY	**Sarkoy-Tekirda**	**2.09**	**3**	*e*Pn		**Pn**	**02 25 06.8**	**+0.8**
ERIK	**Erikli-Kesan**	**2.11**	**349**	*e*PN		**Pn**	**02 25 07.6**	**+1.3**
ERIK	**Erikli-Kesan**	**2.11**	**349**	*e*Pn		**Pn**	**02 25 07.6**	**+1.3**
MFT	**Murefte**	**2.19**	**5**	*e*PN		**Pn**	**02 25 08.6**	**+1.1**
MFT	**Murefte**	**2.19**	**5**	*e*Pn		**Pn**	**02 25 08.6**	**+1.1**
ENEZ	**Enez**	**2.24**	**342**	*e*PN		**Pn**	**02 25 09.5**	**+1.4**
ENEZ	**Enez**	**2.24**	**342**	*e*Pn		**Pn**	**02 25 09.5**	**+1.4**
MDNY	**Mudanya-Bursa**	**2.27**	**38**	*e*PN		**Pn**	**02 25 09.2**	**+0.8**
MDNY	**Mudanya-Bursa**	**2.27**	**38**	*e*Pn		**Pn**	**02 25 09.2**	**+0.8**
ARMT	**Armutlu**	**2.41**	**35**	*e*PN		**Pn**	**02 25 11.6**	**+1.1**
ARMT	**Armutlu**	**2.41**	**35**	*e*Pn		**Pn**	**02 25 11.6**	**+1.1**
ALT	**Altintas**	**2.43**	**78**	*e*PN		**Pn**	**02 25 11.3**	**+0.5**
ALT	**Altintas**	**2.43**	**78**	*e*Pn		**Pn**	**02 25 11.3**	**+0.5**

*IDC **06** 02:44:17.9±5.6,36.40N×70.73E,h163km±41km,mb3.0/4, mb1 3.0/7,mb1mx2.9/28,mbtmp2.9/7,Error ellipse: s-maj=75.2km s-min=31.3km az=141.0*
ISC 06 02:44:24.7±5.0, 36.8N±0.3×70.8E±0.2, h88km, n15, σ0s69/18, mb3.2/3, 1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AML	**Almayashu**	**5.80**	**22**	P		**Pn**	**02 45 49.0**	**+0.5**
	SNR=34							
AML				P		**Pn**	**02 45 49.0**	**+0.5**
	SNR=34							
EKS2	**Erkin-Say**	**6.31**	**20**	P		**Pn**	**02 45 55.5**	**+0.2**
	SNR=8.9							
EKS2				P		**Pn**	**02 45 55.5**	**+0.2**
	SNR=8.9							
KZA	**Kyzart**	**6.32**	**32**	P		**Pn**	**02 45 55.0**	**-0.6**
	SNR=5.3							
KZA				P		**Pn**	**02 45 55.0**	**-0.6**
	SNR=5.3							
KK31	**Karatay Array**	**6.32**	**358**	Pn		**Pn**	**02 45 55.9**	**+0.6**
	1.5nm,0.5s,baz=188,slow=13,SNR=96							
KK31				⇓Sn		**Sn**	**02 47 04.5**	**-1.5**
	3.0nm,0.3s,baz=188,slow=24,SNR=3.5							
AAK	**Ala-Archa**	**6.51**	**25**	P		**Pn**	**02 45 58.4**	**+0.4**
	SNR=12							
AAK				P		**Pn**	**02 45 58.4**	**+0.4**
	SNR=12							
AAK	**Ala-Archa**	**6.51**	**25**	P		**Pn**	**02 45 58.3**	**+0.4**
	2.6nm,0.3s,baz=153,slow=7.1,SNR=42							
AAK				S		**Sn**	**02 47 12.0**	**+1.2**
	0.4nm,0.3s,baz=330,slow=20,SNR=7.3							
KBK	**Karagaybulak**	**6.69**	**27**	P		**Pn**	**02 46 00.9**	**+0.5**
	SNR=5.7							
KBK				P		**Pn**	**02 46 00.9**	**+0.5**
	SNR=5.7							
USP	**Ospenovka**	**7.08**	**23**	P		**Pn**	**02 46 05.2**	**-0.4**
	SNR=12							
USP				P		**Pn**	**02 46 05.2**	**-0.4**
	SNR=12							
TKM2	**Tokmak 2**	**7.16**	**30**	P		**Pn**	**02 46 06.5**	**-0.4**
	SNR=12							
TKM2				P		**Pn**	**02 46 06.5**	**-0.4**
	SNR=12							
MKAR	**Makanchi Array**	**13.17**	**37**	P		Pn	02 47 23.1	-5.1
	0.1nm,0.3s,baz=226,slow=12,SNR=6.9							
KURBB	**Kurchatov Arra**	**14.92**	**19**	P		Pn	02 47 43.6	-7.1
	0.1nm,0.3s,baz=207,slow=12,SNR=2.7							
ZALV	**Zalesovo Beam**	**19.74**	**25**	P		P	02 48 38.9	-8.2
	1.6nm,0.4s,baz=226,slow=8.0,SNR=4.5							
NOA	**NORSAR Array B**	**44.05**	**323**	P		P	02 52 12.3	-11
	0.8nm,0.8s,baz=97,slow=7.9,SNR=3.5							
TORD	**Torodi Ar. Bea**	**65.55**	**268**	P		P	02 54 43.3	-16
	0.2nm,0.6s,baz=54,slow=6.3,SNR=3.3							
YKA	**Yellowknife Ar**	**80.98**	**3**	P		P	02 56 15.9	-13
	0.1nm,0.4s,baz=351,slow=5.7,SNR=3.7							

*CSEM **06** 02:48:29.7,45.70N×27.89E,h9km±16km,MD2.6/4,After BUC*
BUC 06 02:48:29.7±1.1, 45.70N×27.89E, h9km±16km, MD2.6/4, 15C-9D, Error ellipse: s-maj=22.6km s-min=7.1km az=57.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PETR		**0.46**	**274**	⇑*i*P		Pb	02 48 39.6	-0.4
PETR		**0.46**	**274**	*i* S		Sb	02 48 45.9	-1.0
PETR		**0.46**	**274**	⇑*i*P		Pb	02 48 39.6	-0.4
PETR				*i* S		Sb	02 48 45.9	-1.0
PETR		**0.46**	**274**	⇑*i*P		Pb	02 48 39.6	-0.4
PETR				*i* S		Sb	02 48 45.9	-1.0
GHRR		**0.50**	**317**	⇑*i*P		Pg	02 48 39.8	+0.4
GHRR		**0.50**	**317**	*i* S		Sb	02 48 48.1	+0.1
GHRR		**0.50**	**317**	⇑*i*P		Pg	02 48 39.8	+0.4
GHRR				*i* S		Sb	02 48 48.1	+0.1
GHRR		**0.50**	**317**	⇑*i*P		Pg	02 48 39.8	+0.4
GHRR				*i* S		Sb	02 48 48.1	+0.1
CFR	**Carcaliu**	**0.55**	**161**	⇑*i*P		Pb	02 48 41.1	-0.3
CFR	**Carcaliu**	**0.55**	**161**	*i* S		Sb	02 48 48.4	-0.9
CFR	**Carcaliu**	**0.55**	**161**	⇑*i*P		Pb	02 48 41.1	-0.3
CFR				*i* S		Sb	02 48 48.4	-0.9
CFR	**Carcaliu**	**0.55**	**161**	⇑*i*P		Pb	02 48 41.1	-0.3
CFR				*i* S		Sb	02 48 48.4	-0.9
TLCR		**0.83**	**128**	⇑*i*P		Pb	02 48 46.5	+0.3
TLCR		**0.83**	**128**	⇑*i*P		Pb	02 48 46.5	+0.3
TLCR				*i* S		Sn	02 48 59.8	0.0
TLCR		**0.83**	**128**	⇑*i*P		Pb	02 48 46.5	+0.3
TLCR				*i* S		Sn	02 48 59.8	0.0
VRI	**Vrincioaia**	**0.83**	**282**	⇓*i*P		Pg	02 48 45.5	-0.3
VRI	**Vrincioaia**	**0.83**	**282**	⇓*i*P		Pg	02 48 45.5	-0.3
VRI	**Vrincioaia**	**0.83**	**282**	⇓*i*P		Pg	02 48 45.5	-0.3
TIRR	**Tirgusor**	**1.29**	**163**	⇓*i*P		Pb	02 48 54.3	+0.2
TIRR	**Tirgusor**	**1.29**	**163**	⇓*i*P		Pb	02 48 54.3	+0.2
TIRR				*i* S		Sg	02 49 11.5	+0.2
TIRR	**Tirgusor**	**1.29**	**163**	⇓*i*P		Pb	02 48 54.3	+0.2
TIRR				*i* S		Sg	02 49 11.5	+0.2
MLR	**Muntele Rosu**	**1.38**	**262**	⇑*i*P		Pg	02 48 56.3	-0.1
MLR	**Muntele Rosu**	**1.38**	**262**	⇑*i*P		Pg	02 48 56.3	-0.1
MLR				*i* S		Sn	02 49 14.1	+0.3
MLR	**Muntele Rosu**	**1.38**	**262**	⇑*i*P		Pg	02 48 56.3	-0.1
MLR				*i* S		Sn	02 49 14.1	+0.3
VOIR		**2.01**	**264**	⇓*i*P		Pn	02 49 04.9	+1.0
VOIR		**2.01**	**264**	⇓*i*P		Pn	02 49 04.9	+1.0
VOIR		**2.01**	**264**	⇓*i*P		Pn	02 49 04.9	+1.0

*ISK **06** 02:48:38.8,36.35N×27.99E,h12km,MD2.7*
*ATH **06** 02:48:39.8,36.39N×27.83E,h67km*
*ISCJB **06** 02:48:40.0±1.2,36.42N±0.06×27.94E±0.06,h70km±11km, Error ellipse: s-maj=11.0km s-min=8.5km az=14.2*
*CSEM **06** 02:48:40.3±0.5,36.40N×27.93E,h66km±6km,MD2.7, Error ellipse: s-maj=9.1km s-min=7.6km az=4.0*
ISC 06 02:48:40.4±1.7, 36.42N±0.05×27.93E±0.04, h68km±12km, n14, σ0s88/24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARG	**Arkhangelos**	**0.25**	**142**	*e*P		**Pn**	**02 48 51.3**	**+0.2**
ARG				*e*S		**Sn**	**02 48 59.6**	**+0.7**
ARG	**Arkhangelos**	**0.25**	**142**	*e*P		**Pn**	**02 48 51.3**	**+0.2**
ARG				*e*S		**Sn**	**02 48 59.6**	**+0.7**
YER	**Yerkesik**	**0.77**	**21**	*e*PG		**Pn**	**02 48 55.9**	**-0.2**
YER				*e*SG		**Sn**	**02 49 07.3**	**-0.4**
YER	**Yerkesik**	**0.77**	**21**	*e*Pg		**Pn**	**02 48 55.9**	**-0.2**
YER				*e*Sg		**Sn**	**02 49 07.3**	**-0.4**
BODT	**Bodrum**	**0.82**	**322**	*e*PG		**Pn**	**02 48 56.4**	**-0.2**
BODT				*e*SG		**Sn**	**02 49 08.9**	**+0.4**
BODT	**Bodrum**	**0.82**	**322**	*e*Pg		**Pn**	**02 48 56.4**	**-0.2**
BODT				*e*Sg		**Sn**	**02 49 08.9**	**+0.4**
FETY	**Fethiye**	**0.95**	**76**	*e*PG		**Pn**	**02 48 57.0**	**-1.3**
FETY				*e*SG		**Sn**	**02 49 10.0**	**-1.5**
FETY	**Fethiye**	**0.95**	**76**	*e*Pg		**Pn**	**02 48 57.0**	**-1.3**
FETY				*e*Sg		**Sn**	**02 49 10.0**	**-1.5**
KARP	**Karpathos**	**1.07**	**216**	*e*P		**Pn**	**02 48 59.1**	**-0.7**
KARP	**Karpathos**	**1.07**	**216**	*e*P		**Pn**	**02 48 59.1**	**-0.7**
SMG	**Samos**	**1.56**	**326**	*e*P		**Pn**	**02 49 06.3**	**+0.2**
SMG	**Samos**	**1.56**	**326**	*e*P		**Pn**	**02 49 06.3**	**+0.2**
ELL	**Elmali**	**1.62**	**78**	*e*PN		**Pn**	**02 49 08.1**	**+1.0**
ELL				*e*SN		**Sn**	**02 49 28.5**	**+1.2**
ELL	**Elmali**	**1.62**	**78**	*e*Pn		**Pn**	**02 49 08.1**	**+1.0**
ELL				*e*Sn		**Sn**	**02 49 28.5**	**+1.2**

*MOS **06** 02:58:33.2±0.9,27.78S×71.18W,h36km,mb5.7/51, MS4.7/23,Error ellipse: s-maj=14.4km s-min=6.6km az=104.3*
*GUC **06** 02:58:34.6±0.5,28.03S×71.23W,h64km±11km,ML5.6*
*DJA **06** 02:58:34,29.24S×71.13W,h19km,mb5.6/3*
*ISCJB **06** 02:58:35.3±0.5,27.90S±0.03×70.98W±0.05,h59km±4km, mb5.5/194,MS4.7/93,Error ellipse: s-maj=6.9km s-min=4.2km az=162.5*
*NEIC **06** 02:58:35.6±0.1,27.99S×71.10W,mb5.5/152,Error ellipse: s-maj=4.9km s-min=2.7km az=73.0*
NEIC Felt [IV] at Alto del Carmen, Copiapo and Vallenar; [III] at Caldera, Chanaral, Freirina, Huasco, La Serena and Tierra Amarilla; [II] at Diego de Almagro, El Salvador and Illapel. Also felt at Coquimbo, Los Andes, Ovalle and Taltal.
*IDC **06** 02:58:35.5±0.3,28.03S×71.12W,h52km±2km,mb4.8/18, mb1 4.9/20,mb1mx4.8/22,mbtmp4.8/20,MS4.5/15, Ms1 4.5/15,ms1mx4.5/21,Error ellipse: s-maj=13.1km s-min=11.2km az=56.0*
*BJI **06** 02:58:36.4,27.67S×71.82W,h66km,mB5.3/25,Ms5.4/25, Ms7 5.1/24*
ISC 06 02:58:35.5±0.3, 28.02S±0.03×71.13W±0.05, h52km±2km, h51km: pP-P, n1003, σ1s03/1113, mb5.5/184, MS4.8/93, 254C-217D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VACH	**Vallenar**	**0.65**	**150**	⇓*i*P		**Pn**	**02 58 49.4**	**+0.7**
VACH				*i* S		**Sn**	**02 59 00.3**	**+2.1**
VACH	**Vallenar**	**0.65**	**150**	⇓*i*P		**Pn**	**02 58 49.4**	**+0.7**
VACH				*i* S		**Sn**	**02 59 00.3**	**+2.1**
VACH				AML	AML		02 59 01.6	
	comp=E,325μm,0.8s							
CPCH	**Copiapo**	**0.95**	**47**	⇑*i*P		**Pn**	**02 58 53.7**	**+1.0**
CPCH				*i* S		**Sn**	**02 59 07.7**	**+2.4**
CPCH	**Copiapo**	**0.95**	**47**	⇑*i*P		**Pn**	**02 58 53.7**	**+1.0**
CPCH				*i* S		**Sn**	**02 59 07.7**	**+2.4**
CDCH	**Caldera**	**0.98**	**16**	*e*P		**Pn**	**02 58 53.1**	**0.0**
CDCH	**Caldera**	**0.98**	**16**	*e*P		**Pn**	**02 58 53.1**	**0.0**
CDCH				AML	AML		02 59 07.1	
	comp=N,153μm,0.6s							
LCO	**Las Campanas**	**1.06**	**159**	*e*Pn		**Pn**	**02 58 55.6**	**+1.2**
LCO				*e*Sn		**Sn**	**02 59 10.2**	**+2.0**
LCO	**Las Campanas**	**1.06**	**159**	*e*P		**Pn**	**02 58 55.6**	**+1.2**
LCO				*e*S		**Sn**	**02 59 10.2**	**+2.0**
OVCH	**Ovalle**	**2.58**	**181**	⇑*e*P		**Pn**	**02 59 14.2**	**-0.7**
OVCH				*i* S		**Sn**	**02 59 44.6**	**-0.5**
OVCH	**Ovalle**	**2.58**	**181**	⇑*e*P		**Pn**	**02 59 14.2**	**-0.7**
OVCH				*i* S		**Sn**	**02 59 44.6**	**-0.5**
OVCH				AML	AML		03 00 04.6	
	comp=N,45μm,0.6s							
CHNG	**Los Chungos**	**3.87**	**185**	⇑*i*P		**Pn**	**02 59 31.2**	**-1.2**
CHNG				*i* S		**Sn**	**03 00 14.6**	**-2.0**
CHNG	**Los Chungos**	**3.87**	**185**	⇑*i*P		**Pn**	**02 59 31.2**	**-1.2**
CHNG				*i* S		**Sn**	**03 00 14.6**	**-2.0**
CHNG				AML	AML		03 00 48.3	
	comp=E,6μm,0.8s							
CFAA	**Coronel Fontan**	**4.37**	**146**	P		**Pn**	**02 59 42.5**	**+3.1**
CFAA				S		**Sn**	**03 00 33.2**	**+4.1**
CFAA	**Coronel Fontan**	**4.37**	**146**	P		**Pn**	**02 59 42.5**	**+3.1**
	comp=E,11nm,0.3s,baz=320,slow=12,SNR=1092							
CFAA				S		**Sn**	**03 00 33.2**	**+4.1**
	comp=E,29nm,0.3s,baz=229,slow=19,SNR=5.9							
CFAA				LR		LR	03 01 31.7	
	comp=E,878nm,18.4s,baz=322,slow=40							
LVC	**Limon Verde**	**5.74**	**21**	*e*Pn		**Pn**	**02 59 57.5**	**-1.0**
LVC				*e*Sn		**Sn**	**03 01 00.7**	**-2.5**
LPAZ	**La Paz**	**12.00**	**14**	*e*Pn		**Pn**	**03 01 22.3**	**-2.1**
TRQA	**Tornquist**	**12.61**	**145**	*e*Pn		**Pn**	**03 01 33.6**	**+1.5**
PLCA	**Paso Flores**	**12.70**	**178**	*e*Pn		**Pn**	**03 01 35.3**	**+2.0**
PLCA	**Paso Flores**	**12.70**	**178**	P		**Pn**	**03 01 31.8**	**-1.6**
	comp=E,0.7nm,0.3s,baz=341,slow=12,SNR=18							
PLCA				LR		LR	03 06 50.7	
	comp=E,3μm,20.4s,baz=351,slow=39							
LPA	**La Plata**	**13.19**	**125**	*ce*P		**Pn**	**03 01 41.0**	**+1.0**
LPA				SS		**S**	**03 04 22.0**	**-5.4**
SIV	**San Ignacio**	**15.16**	**40**	P		Pn	03 01 60.0	-6.5
SIV	**San Ignacio**	**15.16**	**40**	P		Pn	03 01 60.0	-6.5
	comp=E,12nm,0.3s,baz=258,slow=9.8,SNR=175							
NNA	**Nana**	**16.82**	**340**	*e*Pn		**P**	**03 02 28.6**	**-0.4**
	comp=E,50nm,0.8s							
NNA	**Nana**	**16.82**	**340**	P		**P**	**03 02 29.6**	**+0.6**
	comp=E,1.1nm,0.3s,baz=174,slow=8.7,SNR=8.5							
NNA				LR		LR	03 07 35.8	
	comp=E,1μm,21.9s,baz=160,slow=32							
SAML	**Samuel**	**20.39**	**23**	*e*P		**P**	**03 03 08.1**	**-0.1**
	comp=E,1.1nm,1.1s							
SAML				LR		LR		
	comp=Z,2μm,21.0s							
SPB	**Sao Paulo**	**21.77**	**84**	*e*P		**P**	**03 03 23.6**	**+0.7**
	comp=Z,265nm,0.9s							
SPB				LR		LR		
	comp=Z,2μm,22.0s							
ATAH	**Atahualpa**	**21.88**	**340**	P		**P**	**03 03 25.4**	**+0.8**
**

QSPA **South Pole Qui** 62.20 180 *e*P P 03 08 51.6 +0.1
comp=Z,106nm,1.1s
QSPA *e*pP **pP** 03 09 06.1 +0.2
QSPA LR LR
comp=Z,340nm,19.0s
GOGA **Godfrey** 62.20 348 *e*P P 03 08 50.3 -1.3
GOGA pmax pmax
comp=Z,44nm,1.2s
GOGA **Godfrey** 62.20 348 *e*P P 03 08 50.3 -1.3
comp=Z,44nm,1.2s
HKT **Hockley** 62.29 336 *e*P P 03 08 51.8 -0.4
HKT **Hockley** 62.29 336 *e*P P 03 08 51.8 -0.4
LRAL **Lakeview Retre** 62.56 345 *e*P P 03 08 53.0 -1.0
VBMS **Vicksburg** 62.68 342 *e*P P 03 08 54.9 +0.1
comp=Z,210nm,1.2s
JSC **Jenkinsville** 62.70 351 *e*P P 03 08 54.3 -0.6
JSC **Jenkinsville** 62.70 351 *e*P P 03 08 54.3 -0.6
SACV **Santiago Islan** 62.80 53 PFAKE 03 09 10.0 +14
SACV LR LR
comp=Z,561nm,19.0s
CNNC **Cliffs of the** 63.24 354 *e*P P 03 08 58.9 +0.5
NATX **Nacogdoches** 63.53 338 *e*P P 03 09 00.8 +0.3
comp=Z,185nm,1.4s
KMSC **Kings Mountain** 63.55 351 ⇑P P 03 08 59.8 -0.7
baz=64,SNR=7.9
JCT **Junction City** 64.29 333 *e*P P 03 09 05.9 +0.3
JCT **Junction City** 64.29 333 *e*P P 03 09 05.9 +0.3
JCT **Junction City** 64.29 333 ⇑P P 03 09 05.8 +0.2
baz=65,SNR=32
CPCT **Cooper Cave** 64.38 348 *e*P P 03 09 05.3 -0.7
SWET **Sewanee** 64.43 347 *e*P P 03 09 05.6 -0.8
comp=Z,94nm,0.8s
TKL **Tuckaleechee C** 64.45 349 *e*P P 03 09 05.5 -1.0
OXF **Oxford** 64.55 343 *e*P P 03 09 05.8 -1.3
OXF pmax pmax
comp=Z,130nm,1.0s
OXF **Oxford** 64.55 343 *e*P P 03 09 05.8 -1.3
comp=Z,130nm,1.0s
PLAL **Pickwick Lake** 64.67 345 *e*P P 03 09 06.5 -1.4
comp=Z,48nm,0.9s
PLAL *e*pP **pP** 03 09 21.0 -1.3
PLAL *e*PcP **PcP** 03 09 40.3 -0.9
PLAL LR LR
comp=Z,197nm,19.0s
628A **Black Gap, Mar** 64.75 330 ⇑P P 03 09 09.3 +0.7
baz=65,SNR=61
TXAR **Lajitas Array** 64.97 329 P P 03 09 09.5 -0.6
TXAR **Lajitas Array** 64.97 329 P P 03 09 09.5 -0.6
comp=Z,19nm,0.8s,baz=148,slow=8.3,SNR=146
TXAR LR LR 03 33 40.8
comp=Z,187nm,19.3s,baz=350,slow=32
TZTN **Tazewell** 65.27 349 *e*P P 03 09 11.8 0.0
528A **Cox Ranch, San** 65.28 330 ⇑P P 03 09 12.4 +0.2
baz=66,SNR=74
RFTA **Plano** 65.37 336 *e*P P 03 09 12.7 +0.2
626A **Big Bend Ranch** 65.37 329 ⇑P P 03 09 13.6 +0.9
baz=66,SNR=148
VWCC **Virginia Weste** 65.45 352 *e*P P 03 09 13.0 +0.1
ELN **Prospectdale** 65.53 352 *e*P P 03 09 12.8 -0.6
527A **Woodward Ranch** 65.64 329 ⇑P P 03 09 14.7 +0.3
baz=66,SNR=67
JSRW **J. Sargeant Re** 65.67 354 *e*P P 03 09 14.4 +0.1
WVT **Waverly** 65.72 345 *e*P P 03 09 13.2 -1.4
WVT pmax pmax
comp=Z,58nm,0.9s
WVT **Waverly** 65.72 345 *e*P P 03 09 13.2 -1.4
comp=Z,58nm,0.9s
428A **Kincaid Ranch,** 65.72 330 ⇑P P 03 09 15.2 +0.3
baz=66,SNR=28
MIAR **Mount Ida** 65.75 340 *e*P P 03 09 14.6 -0.3
MIAR **Mount Ida** 65.75 340 *e*P P 03 09 14.6 -0.3
GNAR **Gosnell** 66.08 343 *e*P P 03 09 17.1 +0.1
427A **Hayter Ranch,** 66.14 330 ⇑P P 03 09 17.9 +0.3
baz=66,SNR=30
426A **McDonald Obser** 66.27 329 ⇓P P 03 09 19.1 +0.5
baz=66,SNR=91
328A **Wristen Ranch,** 66.34 331 ⇓P P 03 09 19.0 +0.2
baz=67,SNR=38
327A **Balmorhea Ranc** 66.62 330 ⇓P P 03 09 21.1 +0.4
baz=67
326A **Caldwell Ranch** 66.80 330 ⇑P P 03 09 22.2 +0.4
baz=67,SNR=42
425A **Indio Mountain** 66.80 329 ⇑P P 03 09 21.9 0.0
baz=67,SNR=48
129A **Stewart Farms,** 67.02 332 ⇓P P 03 09 23.0 -0.2
baz=67,SNR=19
227A **Bennet, Jal** 67.09 331 ⇓P P 03 09 24.2 +0.5
baz=67,SNR=32
SDMD **Soldier's Deli** 67.29 355 *e*P P 03 09 24.9 +0.3
comp=Z,44nm,1.1s
SDMD *e*pP **pP** 03 09 39.3 +0.2
WCI **Wyandotte Cave** 67.41 347 *e*P P 03 09 23.9 -1.6
WCI pmax pmax
comp=Z,24nm,0.8s
WCI **Wyandotte Cave** 67.41 347 *e*P P 03 09 23.9 -1.6
comp=Z,24nm,0.8s
USIN **University of** 67.44 346 *e*P P 03 09 24.6 -1.0
comp=Z,105nm,1.2s
USIN *e*pP **pP** 03 09 39.5 -0.7
226A **Malaga, Loving** 67.48 330 ⇑P P 03 09 26.9 +0.7
baz=68,SNR=53
Z29A **Hungry Hill Ra** 67.50 333 ⇑P P 03 09 25.7 -0.5
baz=68,SNR=24
SIUC **Southern Illin** 67.55 345 *e*P P 03 09 25.8 -0.5
CLNB **Carlsbad** 67.56 330 *e*P P 03 09 27.1 +0.5
comp=Z,34nm,1.9s
324A **Moseley Ranch,** 67.58 329 ⇑P P 03 09 26.1 -0.8
baz=68,SNR=36
WMOK **Wichita Mounta** 67.67 336 *e*P P 03 09 26.4 -0.8
WMOK **Wichita Mounta** 67.67 336 *e*P P 03 09 26.4 -0.8
127A **Arkansas Junct** 67.69 331 ⇓P P 03 09 27.6 +0.2
baz=68,SNR=25
TUL1 **Tulsa** 67.70 339 ⇑P P 03 09 27.0 -0.4
baz=68,SNR=46
GDL2 **Guadalupe Moun** 67.72 330 *e*P P 03 09 28.0 +0.4
Z28A **Tucker Farm, M** 67.80 332 ⇑P P 03 09 27.8 -0.4
baz=68,SNR=29
225A **Deer Hill, Car** 67.85 329 ⇑P P 03 09 28.5 -0.1
baz=68,SNR=23
126A **Clayton Basin,** 67.95 330 ⇑P P 03 09 29.4 +0.3
baz=68,SNR=32
Y29A **Porterfield Fa** 68.01 333 ⇓P P 03 09 29.3 -0.1
baz=68,SNR=49
FVM **French Village** 68.10 344 *e*P P 03 09 29.0 -0.8
FVM pmax pmax
comp=Z,154nm,1.0s
FVM **French Village** 68.10 344 *e*P P 03 09 29.0 -0.8
comp=Z,154nm,1.0s
224A **Cornudas Mount** 68.14 329 ⇑P P 03 09 29.9 -0.5
baz=68,SNR=39
Z27A **Tatum** 68.17 331 ⇑P P 03 09 30.2 -0.3
baz=68,SNR=32
CPRX **Cap Rock** 68.21 331 *e*P P 03 09 31.1 +0.3
comp=Z,12nm,1.0s
125A **Gardner Draw,** 68.24 330 ⇑P P 03 09 30.6 -0.3
baz=68,SNR=44
OLIL **Olney** 68.27 346 *e*P P 03 09 29.5 -1.3
comp=Z,100nm,1.3s
Y28A **McKinney Farm,** 68.28 332 ⇑P P 03 09 30.8 -0.4
baz=69,SNR=22
BLO **Bloomington** 68.37 347 *e*P P 03 09 29.9 -1.5
BLO pmax pmax
comp=Z,19nm,0.8s
BLO **Bloomington** 68.37 347 *e*P P 03 09 29.9 -1.5
comp=Z,19nm,0.8s
Z26A **Caprock** 68.46 331 ⇓P P 03 09 32.5 +0.2
baz=69,SNR=97
223A **Chaparral, Ant** 68.49 328 ⇓P P 03 09 32.9 +0.4
baz=69,SNR=6.0
X29A **Tulia** 68.53 333 ⇑P P 03 09 32.4 -0.2
baz=69,SNR=25
MSTX **Muleshoe** 68.55 332 ⇑P P 03 09 32.6 -0.2
baz=69,SNR=66
SSPA **Standing Stone** 68.59 354 *e*P P 03 09 32.6 -0.1
comp=Z,59nm,1.5s
124A **Stringfield Ra** 68.63 329 ⇓P P 03 09 33.7 +0.2
baz=69,SNR=47
Y27A **Causey** 68.64 332 ⇑P P 03 09 33.0 -0.4
baz=69,SNR=25
SLM **Saint Louis** 68.67 344 *e*P P 03 09 32.9 -0.4
SLM *e**PP **pP** 03 09 47.5 -0.4
SLM pmax pmax
comp=Z,83nm,1.1s
SLM **Saint Louis,** 68.67 344 *e*P P 03 09 32.9 -0.4
comp=Z,84nm,1.1s
SLM *e*pP **pP** 03 09 47.5 -0.4

ACSO **Alum Creek Sta** 68.79 350 *e*P P 03 09 32.9 -1.1
comp=Z,87nm,1.2s
ACSO *e*pP **pP** 03 09 48.2 -0.4
Z25A **Roswell** 68.79 330 ⇑P P 03 09 34.1 -0.3
baz=69,SNR=42
X28A **Dimmitt** 68.79 333 ⇓P P 03 09 34.2 -0.2
baz=69
222A **Williams Famil** 68.89 328 ⇑P P 03 09 35.8 +0.8
baz=69
AMTX **Amarillo** 68.91 333 *e*P P 03 09 34.9 -0.1
comp=Z,189nm,1.6s
AMTX **Amarillo** 68.91 333 ⇓P P 03 09 34.8 -0.2
baz=69,SNR=10
123A **Bell Site, Whi** 68.94 329 ⇑P P 03 09 35.7 +0.4
baz=69
320A **Kipp Ranch, An** 68.95 326 ⇑P P 03 09 36.0 +0.6
baz=69,SNR=22
Y26A **Elida** 68.95 331 ⇓P P 03 09 35.3 -0.1
baz=69,SNR=8.0
YLE **Yale** 69.00 359 *e*P P 03 09 36.2 +0.9
comp=Z,295nm,1.2s
W29A **Amraillo** 69.10 334 ⇑P P 03 09 36.0 -0.2
baz=69,SNR=11
Z24A **Sheeppen Canyo** 69.12 330 ⇓P P 03 09 36.7 +0.2
baz=69,SNR=50
221A **Mesquite Ranch** 69.14 327 ⇓P P 03 09 37.5 +0.9
baz=69
X27A **F and S Farms,** 69.27 332 ⇓P P 03 09 36.8 -0.5
baz=70,SNR=5.3
Y25A **Mesa, Roswell** 69.33 331 ⇓P P 03 09 37.2 -0.4
baz=70,SNR=27
319A **Douglas** 69.36 326 ⇓P P 03 09 38.8 +0.9
baz=70,SNR=32
220A **Playas Peak, P** 69.41 327 ⇓P P 03 09 38.8 +0.5
baz=70,SNR=41
W28A **Vega** 69.44 333 ⇑P P 03 09 38.5 +0.1
baz=70,SNR=8.6
Z23A **Rita Site, Whi** 69.45 329 ⇓P P 03 09 39.3 +0.9
baz=70,SNR=27
X26A **CR and CF Fran** 69.49 332 ⇑P P 03 09 38.8 +0.2
baz=70,SNR=25
121A **Cookes Peak, D** 69.57 327 ⇓P P 03 09 40.2 +1.0
baz=70,SNR=37
BRYW **Bryant College** 69.58 360 *e*P P 03 09 39.9 +0.9
comp=Z,346nm,1.4s
BRYW *e*pP **pP** 03 09 54.1 +0.6
TBI **Tubuai** 69.61 254 *e*S S 03 18 51.1 +6.9
comp=Z,158nm,30.8s
TBI *e*LR LR 03 30 51.4
comp=Z,735nm,31.8s,baz=103
W27A **Bowe Ranch, En** 69.62 332 ⇑P P 03 09 39.2 -0.2
baz=70
SFIN **Scholer Farm** 69.65 347 ⇑P P 03 09 37.7 -1.6
baz=70,SNR=8.0
Y24A **Capitan** 69.66 330 ⇑P P 03 09 39.9 +0.1
baz=70,SNR=18
V29A **Stinnett** 69.71 334 ⇑P P 03 09 39.8 -0.1
baz=70
Z22A **Elephant Butte** 69.78 328 ⇑P P 03 09 41.4 +0.9
baz=70,SNR=69
ALLY **Alegheny Colle** 69.81 353 *e*P P 03 09 39.5 -0.8
comp=Z,10.0nm,0.4s
ALLY *e*pP **pP** 03 09 54.7 -0.2
X25A **Clemmons Ranch** 69.83 331 ⇑P P 03 09 40.4 -0.4
baz=70,SNR=17
V28A **Channing** 69.88 333 ⇑P P 03 09 41.3 +0.3
baz=70,SNR=19
W26A **Owens Ranch, T** 69.93 332 ⇓P P 03 09 41.9 +0.5
baz=70,SNR=27
Y23A **Lovelace Mesa,** 69.94 330 ⇑P P 03 09 42.3 +0.8
baz=70,SNR=52
120A **U Bar Ranch, L** 69.99 327 ⇓P P 03 09 42.9 +1.0
baz=70,SNR=30
BINY **Bingham** 70.01 356 *e*P P 03 09 41.9 +0.4
comp=Z,69nm,1.2s
BINY *e*pP **pP** 03 09 56.3 +0.2
BINY LR LR
comp=Z,594nm,22.0s
VNDA **Vanda** 70.11 191 *e*P P 03 09 43.0 +1.2
comp=Z,28nm,1.3s
VNDA LR LR
comp=Z,271nm,21.0s
Z21A **St. Cloud Mine** 70.16 328 ⇓P P 03 09 44.0 +1.1
baz=70,SNR=32
HRV **Adam Dziewonsk** 70.17 360 *e*P P 03 09 43.2 +0.7
HRV *e**PP **pP** 03 09 57.7 +0.6
HRV pmax pmax
comp=Z,59nm,1.4s
HRV **Adam Dziewonsk** 70.17 360 *e*P P 03 09 43.1 +0.7
comp=Z,59nm,1.4s
HRV *e*pP **pP** 03 09 57.7 +0.6
X24A **Lazy VL Ranch,** 70.19 330 ⇓P P 03 09 43.5 +0.4
baz=70,SNR=13
ERPA **Erie** 70.26 353 *e*P P 03 09 42.5 -0.6
comp=Z,82nm,1.4s
ERPA *e*pP **pP** 03 09 57.1 -0.5
ERPA LR LR
comp=Z,310nm,20.0s
HDIL **Hopedale** 70.28 345 *e*P P 03 09 42.1 -1.1
comp=Z,66nm,0.9s
W25A **X Bar L Ranch,** 70.33 331 ⇓P P 03 09 43.8 0.0
baz=71,SNR=24
Y22A **Socorro** 70.35 329 ⇓P P 03 09 44.8 +0.7
baz=71,SNR=17
BNM **Barren Site** 70.38 329 *e*P P 03 09 44.8 +0.6
comp=Z,50nm,1.5s
Z20A **Nine Sixteen R** 70.43 327 ⇓P P 03 09 45.7 +1.2
baz=71,SNR=58
TRY **Troy** 70.44 358 *e*P P 03 09 44.8 +0.7
comp=Z,283nm,1.1s
TRY *e*pP **pP** 03 09 59.7 +1.0
Y22D **IRIS PASSCAL I** 70.45 329 ⇑P P 03 09 45.5 +1.0
baz=71
LPM **Los Pinos Moun** 70.51 329 *e*P P 03 09 45.6 +0.6
comp=Z,23nm,1.1s
X23A **Hourglass Bar** 70.54 330 ⇑P P 03 09 46.1 +0.9
baz=71,SNR=70
LENM **Lemitar** 70.55 329 *e*P P 03 09 46.1 +0.8
comp=Z,35nm,1.3s
V26A **Tequesquite Ra** 70.55 332 ⇑P P 03 09 45.1 0.0
baz=71
MEH **Mehetia** 70.56 260 *e*P P 03 09 46.0 +0.5
comp=Z,163nm,1.1s
W24A **Lazy 6 Ranch,** 70.73 331 ⇑P P 03 09 46.6 +0.2
baz=71,SNR=24
Y21A **Point of Rocks** 70.74 328 ⇑P P 03 09 47.6 +1.1
baz=71,SNR=8.2
LAZ **Ladron** 70.82 329 *e*P P 03 09 47.7 +0.8
comp=Z,25nm,1.1s
X22A **Bernardo** 70.85 329 ⇑P P 03 09 48.5 +1.4
baz=71,SNR=11
TUC **Tucson** 70.86 325 *e*P P 03 09 47.4 +0.3
TUC pmax pmax
comp=Z,40nm,1.3s
TUC MLR MLR
comp=Z,421nm,19.0s
TUC **Tucson** 70.86 325 *e*P P 03 09 47.4 +0.3
comp=Z,40nm,1.3s
TUC LR LR
comp=Z,421nm,19.0s
KSU1 **Kansas State U** 70.88 339 *e*P P 03 09 46.4 -0.6
comp=Z,77nm,1.3s
AAM **Ann Arbor** 70.92 350 *e*P P 03 09 45.9 -1.1
AAM pmax pmax
comp=Z,50nm,1.0s
AAM MLR MLR
comp=Z,420nm,20.0s
AAM **Ann Arbor** 70.92 350 *e*P P 03 09 45.9 -1.1
comp=Z,50nm,1.0s
AAM LR LR
comp=Z,420nm,20.0s
V25A **Rancho No Teng** 70.93 332 ⇑P P 03 09 47.7 +0.2
baz=71,SNR=42
ANMO **Albuquerque** 70.97 330 *e*P P 03 09 48.1 +0.3
comp=Z,50nm,1.4s
ANMO LR LR
comp=Z,331nm,20.0s
Y20A **Horse Springs,** 70.98 328 ⇓P P 03 09 48.9 +1.0
baz=71,SNR=56
W23A **Werner Place,** 71.01 330 ⇑P P 03 09 49.0 +0.9
baz=71,SNR=50
T28A **Walsh** 71.03 334 ⇓P P 03 09 47.8 -0.3
baz=71,SNR=17
U26A **Atchley Ranch,** 71.04 333 ⇑P P 03 09 48.4 +0.1
baz=71,SNR=26
ACCN **Adirondack Com** 71.09 358 *e*P P 03 09 48.4 +0.4
comp=Z,73nm,1.6s
ACCN *e*pP **pP** 03 10 03.1 +0.4

V24A **Rampart Ranch,** 71.11 331 ⇓P P 03 09 49.0 +0.3
baz=71,SNR=26
FFD **Franklin Falls** 71.14 360 *e*P P 03 09 49.5 +1.1
comp=Z,280nm,1.5s
FFD *e*pP **pP** 03 10 04.1 +1.2
SYO **Syowa Base** 71.15 159⇑ *e*P P 03 09 46.6 -1.6
X21A **Alamocita Cree** 71.15 329 ⇓P P 03 09 50.0 +1.0
baz=71,SNR=41
T27A **Campo** 71.21 334 ⇑P P 03 09 49.3 +0.1
baz=72,SNR=33
W22A **Albuquerque** 71.25 330 ⇑P P 03 09 50.6 +1.1
baz=72,SNR=14
U25A **Circle Dot Ran** 71.32 332 ⇓P P 03 09 50.2 +0.3
baz=72,SNR=26
HNH **Hanover** 71.38 359 *e*P P 03 09 51.6 +1.8
comp=Z,191nm,1.2s
Y19A **Nutrioso** 71.44 327 ⇑P P 03 09 52.0 +1.3
baz=72,SNR=29
V23A **Ortiz Mt. (NFS** 71.52 330 ⇑P P 03 09 52.1 +0.9
baz=72,SNR=24
X20A **Quemado** 71.56 328 ⇓P P 03 09 52.5 +1.0
baz=72,SNR=33
214A **Organ Pipe Nat** 71.63 323 ⇓P P 03 09 52.7 +1.1
baz=72,SNR=40
W21A **San Fidel** 71.64 329 ⇓P P 03 09 52.9 +1.0
baz=72,SNR=14
CBKS **Cedar Bluff** 71.66 337 *e*P P 03 09 51.6 -0.1
CBKS pmax pmax
comp=Z,85nm,1.2s
CBKS **Cedar Bluff** 71.66 337 *e*P P 03 09 51.6 -0.1
comp=Z,85nm,1.2s
CBKS **Cedar Bluff** 71.66 337 ⇓P P 03 09 51.9 +0.2
baz=72,SNR=14
T26A **Comanche Natio** 71.66 333 ⇑P P 03 09 52.2 +0.3
baz=72,SNR=20
MDV **Middlebury** 71.69 358 *e*P P 03 09 51.6 0.0
comp=Z,11μm,1.0s
MDV *e*pP **pP** 03 10 06.6 +0.3
U24A **Moreno Valley** 71.69 332 ⇓P P 03 09 53.1 +0.9
baz=72,SNR=12
S27A **Las Animas** 71.83 334 ⇓P P 03 09 52.8 -0.1
baz=72
LBNH **Lisbon** 71.91 359 *e*P P 03 09 54.0 +1.0
LBNH *e**PP **pP** 03 10 08.2 +0.6
LBNH pmax pmax
comp=Z,73nm,1.1s
LBNH **Lisbon** 71.91 359 *e*P P 03 09 54.0 +1.0
comp=Z,74nm,1.1s
LBNH *e*pP **pP** 03 10 08.2 +0.6
T25A **Trinidad** 71.96 333 ⇑P P 03 09 54.6 +0.9
baz=72,SNR=32
PAE **Paea** 71.96 259 *e*P P 03 09 54.6 +0.6
comp=Z,41nm,1.1s
V22A **San Miguel Ran** 71.98 330 ⇑P P 03 09 55.1 +1.2
baz=72,SNR=39
PPT2 **Papeete2** 71.99 259 *e*P P 03 09 55.1 +0.8
comp=Z,106nm,1.1s
PPT2 *e*S S 03 19 16.1 +3.9
comp=Z,204nm,28.5s
PPT2 *e*LR LR 03 31 57.1
comp=Z,950nm,23.2s,baz=106
S26A **Kim** 72.00 333 ⇓P P 03 09 54.4 +0.6
baz=72,SNR=40
U23A **El Rito** 72.01 331 ⇓P P 03 09 55.1 +1.0
baz=72,SNR=18
W20A **Ramah** 72.04 328 ⇓P P 03 09 55.3 +0.9
baz=72,SNR=34
T24A **Torres, Weston** 72.16 332 ⇓P P 03 09 56.1 +1.1
baz=72,SNR=22
LIC **Lamto** 72.20 73 *e*pP pP 03 10 10.0 -0.1
LIC **Lamto** 72.20 73 *e*P P 03 09 55.5 +0.1
comp=Z,61nm,0.7s,baz=242
V21A **Milan** 72.21 329 ⇑P P 03 09 56.3 +1.0
baz=72,SNR=5.6
X18A **Snowflake** 72.24 327 ⇑P P 03 09 56.3 +0.9
baz=72,SNR=12
114A **Black Gap (USA** 72.29 324 ⇓P P 03 09 56.4 +0.8
baz=72,SNR=36
R27A **Eads** 72.31 334 ⇓P P 03 09 55.8 +0.1
baz=73,SNR=19
U22A **Llaves** 72.34 330 ⇓P P 03 09 57.5 +1.4
baz=73,SNR=37
LONY **Lake Ozonia** 72.35 357 *e*P P 03 09 55.6 0.0
comp=Z,52nm,1.1s
LONY *e*pP **pP** 03 10 10.3 0.0
LONY LR LR
comp=Z,213nm,21.0s
S25A **Robets Cordova** 72.41 333 ⇓P P 03 09 57.1 +0.7
baz=73,SNR=28
X17A **Forest Lakes** 72.50 326 ⇓P P 03 09 58.2 +1.2
baz=73,SNR=29
SCIA **State Center** 72.51 343 *e*P P 03 09 56.1 -0.5
comp=Z,164nm,1.6s
SCIA *e*pP **pP** 03 10 10.0 -1.3
FRNY **Flat Rock** 72.53 358 *e*P P 03 09 56.8 +0.1
comp=Z,68nm,1.1s
T23A **Casias Ranch,** 72.55 331 ⇑P P 03 09 58.0 +0.7
baz=73,SNR=14
R26A **Arlington** 72.58 334 ⇑P P 03 09 57.7 +0.4
baz=73,SNR=29
DBIC **Dimbokro** 72.58 72 *e*P P 03 09 58.6 +0.9
comp=Z,60nm,0.7s
DBIC *e*pP **pP** 03 10 12.3 0.0
DBIC LR LR
comp=Z,471nm,21.0s
DBIC **Dimbokro** 72.58 72 P P 03 09 58.2 +0.6
comp=Z,8.9nm,0.7s,baz=203,slow=6.5,SNR=19
DBIC pP **pP** 03 10 12.7 +0.3
comp=Z,57nm,0.6s,baz=220,slow=5.9,SNR=23
DBIC **Dimbokro** 72.58 72 *e*P P 03 09 58.3 +0.7
V20A **Brimhall** 72.58 329 ⇓P P 03 09 58.3 +0.8
baz=73,SNR=16
W18A **Petrified Fore** 72.61 328 ⇑P P 03 09 58.5 +0.8
baz=73,SNR=8.9
S24A **Houchin Ranch,** 72.71 332 ⇑P P 03 09 59.4 +1.1
baz=73,SNR=64
U21A **Nageezi** 72.74 330 ⇓P P 03 09 59.3 +0.9
baz=73,SNR=38
MSNY **Massena** 72.74 357 *e*P P 03 09 57.8 -0.1
comp=Z,364nm,0.7s
MSNY *e*pP **pP** 03 10 13.0 +0.4
113A **Mohawk Valley,** 72.77 323 ⇑P P 03 09 59.1 +0.7
baz=73,SNR=12
R25A **Fountain Ranch** 72.77 333 ⇓P P 03 09 58.9 +0.4
baz=73,SNR=14
V19A **Window Rock** 72.78 328 ⇑P P 03 09 59.7 +1.0
baz=73,SNR=17
Z14A **Wintersburg** 72.80 324 ⇓P P 03 09 59.3 +0.8
baz=73,SNR=5.8
X16A **Lo Mia Camp, P** 72.88 326 ⇓P P 03 10 00.2 +1.0
baz=73,SNR=65
KSCO **Kaye Shedlock'** 72.88 335 ⇑P P 03 09 59.7 +0.7
baz=73,SNR=5.8
T22A **Edith** 72.90 331 ⇑P P 03 10 00.5 +1.1
baz=73,SNR=38
SDCO **Great Sand Dun** 72.92 332 *e*P P 03 10 00.1 +0.5
comp=Z,59nm,1.3s
SDCO LR LR
comp=Z,155nm,19.0s
SDCO **Great Sand Dun** 72.92 332 ⇑P P 03 10 00.3 +0.7
baz=73,SNR=55
U20A **Newcomb** 73.08 329 ⇓P P 03 10 01.0 +0.6
baz=73,SNR=16
S23A **Nye Farm, Mont** 73.10 332 ⇑P P 03 10 01.4 +0.9
baz=73,SNR=8.1
Q26A **Hugo** 73.14 334 ⇓P P 03 10 01.4 +0.7
baz=73,SNR=16
T21A **Navajo Lake** 73.15 330 ⇑P P 03 10 01.7 +0.9
baz=73,SNR=20
R24A **Sanders Place,** 73.18 333 ⇑P P 03 10 02.0 +1.0
baz=74,SNR=32
V18A **Ganado** 73.19 328 ⇓P P 03 10 01.7 +0.6
baz=74,SNR=13
Y14A **Wickenburg** 73.28 325 ⇓P P 03 10 02.3 +0.8
baz=74,SNR=29
U19A **Dine' College,** 73.33 329 ⇓P P 03 10 02.1 +0.2
baz=74,SNR=18
Q25A **Bedland, Calha** 73.42 334 ⇓P P 03 10 02.6 +0.3
baz=74,SNR=7.3
R23A **Moffat** 73.44 332 ⇑P P 03 10 03.3 +0.8
baz=74,SNR=30
BGNE **Belgrade** 73.47 339 ⇓P P 03 10 02.3 0.0
baz=74,SNR=20
S22A **4UR Ranch, Cre** 73.48 331 ⇑P P 03 10 03.6 +0.7
baz=74,SNR=20
V17A **Tonalea, Kykot** 73.53 327 ⇓P P 03 10 04.0 +1.0
baz=74,SNR=44
GLMI **Grayling** 73.53 350 *e*P P 03 10 01.6 -1.0

comp=Z,26nm,0.9s
GLA Glamis 73.55 323 *e*P **P 03 10 03.6 +0.6**
GLA pmax pmax
comp=Z,69nm,1.4s
GLA Glamis 73.55 323 *e*P **P 03 10 03.6 +0.6**
comp=Z,69nm,1.4s
GLA Glamis 73.55 323 ⇑P **P 03 10 03.8 +0.7**
baz=74,SNR=6.6
P26A Davis Ranch, A 73.63 335 ⇓P **P 03 10 04.0 +0.5**
baz=74
T19A Beclabito 73.69 329 ⇓P **P 03 10 04.5 +0.6**
baz=74,SNR=59
WUAZ Wupatki 73.72 327 *e*P **P 03 10 05.1 +0.9**
comp=Z,87nm,1.1s
WUAZ LR LR
comp=Z,668nm,19.0s
WUAZ Wupatki 73.72 327 ⇑P **P 03 10 05.4 +1.2**
baz=74,SNR=20
U18A Rough Rock, Ch 73.74 328 ⇓P **P 03 10 05.3 +1.0**
baz=74,SNR=41
MVCO Mesa Verde 73.76 330 *e*P **P 03 10 04.5 +0.1**
comp=Z,81nm,1.1s
MVCO LR LR
comp=Z,551nm,20.0s
MVCO Mesa Verde 73.76 330 ⇑P **P 03 10 05.3 +0.8**
baz=74,SNR=35
Q24A Divide 73.82 333 ⇑P **P 03 10 05.7 +0.8**
baz=74,SNR=21
S21A Coal Bank Pass 73.83 330 ⇓P **P 03 10 05.8 +0.9**
baz=74,SNR=39
O27A Beecher Island 73.86 335 ⇓P **P 03 10 05.6 +0.8**
baz=74,SNR=17
R22A Saguache, Gunn 73.86 331 ⇑P **P 03 10 06.0 +0.9**
baz=74,SNR=12
P25A Willow Gulch B 73.90 334 ⇑P **P 03 10 06.1 +1.0**
baz=74
Y12C Blythe 73.93 323 ⇑P **P 03 10 06.2 +1.1**
baz=74,SNR=13
DVTC Desert V Tower 73.94 322 ⇑P **P 03 10 06.2 +0.9**
baz=74,SNR=5.1
SWSC Sam W. Stewart 73.99 322 ⇑P **P 03 10 06.5 +1.0**
baz=74
Q23A Hartsel 74.05 332 ⇑P **P 03 10 06.7 +0.6**
baz=74
U16A Tuba City 74.11 327 ⇑P **P 03 10 07.4 +1.0**
baz=74,SNR=45
PDMCI Parker Dam,Lak 74.15 324 ⇑P **P 03 10 07.1 +0.7**
baz=74
P24A Kohler Place, 74.19 333 ⇑P **P 03 10 07.7 +0.8**
baz=74
O26A Horse Wrangler 74.21 335 ⇓P **P 03 10 07.7 +0.8**
baz=74
S20A Disappointment 74.22 330 ⇑P **P 03 10 08.3 +1.2**
baz=74,SNR=36
U17A Shonto 74.25 328 ⇑P **P 03 10 08.3 +1.0**
baz=74,SNR=17
BAR Barrett 74.27 321 *e*P **P 03 10 07.7 +0.4**
comp=Z,92nm,1.4s
MONP Monument Peak 74.29 322 ⇓P **P 03 10 08.3 +0.7**
baz=74,SNR=6.4
R21A Cimarron 74.31 331 ⇑P **P 03 10 08.7 +1.0**
baz=75,SNR=46
T18A Mexican Hat 74.33 329 ⇑P **P 03 10 08.1 +0.5**
baz=75,SNR=34
BC3 Big Chuckawall 74.35 323 ⇓P **P 03 10 08.6 +0.8**
baz=75,SNR=27
OGNE Ogallala 74.36 336 PFAKE 03 10 20.0 +12
OGNE LR LR
comp=Z,313nm,21.0s
OGNE Ogallala 74.36 336 ⇓P **P 03 10 08.0 +0.3**
baz=75
O25A Wiggins 74.41 334 ⇑P **P 03 10 09.1 +1.0**
baz=75,SNR=22
N27A Anderson Farm, 74.42 336 ⇑P **P 03 10 08.6 +0.5**
baz=75,SNR=8.3
P23A Jefferson 74.45 333 ⇓P **P 03 10 09.6 +1.0**
baz=75,SNR=12
Q22A Crested Butte, 74.46 332 ⇑P **P 03 10 09.5 +0.9**
baz=75,SNR=30
S19A Harvey Farm, M 74.49 330 ⇓P **P 03 10 09.4 +0.8**
baz=75,SNR=54
R20A Redvale 74.52 330 ⇑P **P 03 10 10.1 +1.2**
baz=75,SNR=39
PV01 Paradox Valley 74.56 330 *e*P **P 03 10 09.8 +0.7**
comp=Z,7µm,1.5s
IRM Iron Mountain 74.57 323 ⇓P **P 03 10 09.9 +0.9**
baz=75,SNR=7.8
W13A Hualapai Mount 74.64 325 ⇑P **P 03 10 10.7 +1.1**
baz=75,SNR=42
T17A Navajo Res., N 74.64 328 ⇑P **P 03 10 11.0 +1.4**
baz=75,SNR=45
109C Camp Elliot, M 74.67 321 ⇓P **P 03 10 10.1 +0.6**
baz=75
N26A Koester Ranch, 74.69 335 ⇓P **P 03 10 10.4 +0.8**
baz=75,SNR=5.4
Q21A Lamborn Mesa, 74.71 331 ⇓P **P 03 10 10.8 +0.8**
baz=75,SNR=12
ISCO Idaho Springs 74.72 333 *e*P **P 03 10 10.2 +0.1**
ISCO pmax pmax
comp=Z,43nm,1.3s
ISCO Idaho Springs 74.72 333 *e*P **P 03 10 10.2 +0.1**
comp=Z,43nm,1.3s
ISCO Idaho Springs 74.72 333 ⇓P **P 03 10 10.5 +0.4**
baz=75,SNR=28
SMCO Snowmass 74.75 332 *e*P **P 03 10 11.3 +0.9**
comp=Z,75nm,1.0s
O24A Longmont 74.78 334 ⇑P **P 03 10 11.0 +0.7**
baz=75,SNR=5.7
S18A Hurst Farm, Bl 74.83 329 ⇓P **P 03 10 11.8 +1.1**
baz=75,SNR=93
PFO Pinyon Flat Ob 74.85 322 *e*P **P 03 10 11.6 +0.9**
comp=Z,62nm,1.4s
PFO Pinyon Flat Ob 74.85 322 P **P 03 10 11.0 +0.3**
comp=Z,207nm,1.2s,SNR=8.4
PFO Pinyon Flat Ob 74.85 322 ⇓P **P 03 10 11.7 +1.0**
baz=75,SNR=6.4
U15A North Rim 74.90 327 ⇓P **P 03 10 12.3 +1.2**
baz=75,SNR=38
BELC Belle Mtn. Jos 74.90 323 ⇓P **P 03 10 11.7 +0.7**
baz=75
PV04 Paradox Valley 74.92 330 *e*P **P 03 10 11.6 +0.5**
R19A Curley Farm, L 75.00 330 ⇑P **P 03 10 12.1 +0.5**
baz=75,SNR=39
M27A Reverse DX Ran 75.00 336 ⇑P **P 03 10 12.1 +0.8**
baz=75
N25A Grover 75.00 335 ⇓P **P 03 10 12.4 +0.9**
baz=75
P22A Eagle 75.01 332 ⇓P **P 03 10 12.6 +0.9**
baz=75,SNR=27
Q20A Ridgley Place, 75.12 331 ⇑P **P 03 10 12.8 +0.6**
baz=75
ECSD EROS Data Cent 75.13 341 *e*P **P 03 10 11.4 -0.5**
comp=Z,104nm,1.1s
ECSD *e*pP **pP 03 10 26.6 0.0**
ECSD LR LR
comp=Z,202nm,19.0s
S17A Black Ridge (B 75.16 328 ⇑P **P 03 10 13.5 +1.1**
baz=75,SNR=35
O23A Lake Granby, G 75.19 333 ⇑P **P 03 10 13.7 +1.0**
baz=76,SNR=37
M26A McRoberts Ranc 75.22 336 ⇑P **P 03 10 13.2 +0.6**
baz=76
P21A Newcastle 75.24 332 ⇓P **P 03 10 14.0 +1.1**
baz=76,SNR=24
MURC Murrieta 75.25 322 ⇓P **P 03 10 13.8 +0.9**
baz=76,SNR=14
N24A Carr 75.31 334 ⇑P **P 03 10 14.2 +0.9**
baz=76
GMRC Granite Mounta 75.32 323 ⇑P **P 03 10 14.4 +1.0**
baz=76,SNR=41
R18A Canyonlands Na 75.36 329 ⇓P **P 03 10 14.1 +0.5**
baz=76,SNR=20
O22A Kremmling 75.40 333 ⇑P **P 03 10 14.6 +0.6**
baz=76,SNR=23
L27A T5 Ranch, Ells 75.46 337 ⇑P **P 03 10 14.7 +0.7**
baz=76
SPMN St. Paul 75.52 344 ⇑P **P 03 10 13.3 -0.8**
baz=76,SNR=13
M25A Palm-Egli Farm 75.53 335 ⇑P **P 03 10 15.1 +0.6**
baz=76,SNR=6.9
Q19A Hogan Spring (75.54 330 ⇓P **P 03 10 15.3 +0.7**
baz=76,SNR=15
KOMG Komaggas 75.55 116 *e*P **P 03 10 15.9 +1.0**
KOMG AMB AMB 03 10 20.1
comp=Z,46nm,2.6s
BBRC Big Bear Solar 75.60 322 ⇑P **P 03 10 16.0 +0.8**
baz=76
S16A Weppner Ranch, 75.60 328 ⇓P **P 03 10 15.6 +0.6**
baz=76,SNR=38
P20A De Beque 75.62 331 ⇑P **P 03 10 16.0 +1.0**
baz=76,SNR=32
L26A Underwood Farm 75.69 336 ⇓P **P 03 10 16.1 +0.7**
baz=76,SNR=5.7
HEC Hector,Ludlow 75.71 323 ⇑P **P 03 10 16.8 +1.2**
baz=76,SNR=42
R17A Hanksville Air 75.75 329 ⇑P **P 03 10 16.5 +0.7**
baz=76,SNR=47
CIS Catalina Islan 75.78 321 ⇓P **P 03 10 16.4 +0.5**
baz=76
N23A Red Feather La 75.79 333 ⇑P **P 03 10 16.8 +0.7**
baz=76,SNR=19
O21A Pagoda 75.83 332 ⇑P **P 03 10 17.4 +1.0**
baz=76
M24A Cheyenne 75.84 335 ⇑P **P 03 10 17.3 +1.0**
baz=76,SNR=16
N22A Wattenberg Ran 75.91 333 ⇓P **P 03 10 17.9 +1.1**
baz=76,SNR=22
FMP Fort Macarthur 75.94 321 ⇑P **P 03 10 17.7 +0.9**
baz=76
PHWY Pilot Hill 75.94 334 *e*P **P 03 10 17.5 +0.5**
comp=Z,89nm,1.6s
TUQ Turquoise Moun 75.96 324 ⇓P **P 03 10 17.9 +0.8**
baz=76,SNR=10
K27A Fluecknger Fa 75.98 337 ⇓P **P 03 10 17.8 +0.8**
baz=76,SNR=20
P19A Cripple Cowboy 75.98 331 ⇑P **P 03 10 18.2 +1.0**
baz=76,SNR=77
BFSC Mount Baldy Ra 75.98 322 ⇑P **P 03 10 17.9 +0.7**
baz=76,SNR=12
R16A Teasdale 76.00 328 ⇑P **P 03 10 18.1 +0.7**
baz=76,SNR=14
Q18A Rafter H Ranch 76.05 330 ⇓P **P 03 10 18.3 +0.8**
baz=76,SNR=38
O20A White River Ci 76.08 332 ⇓P **P 03 10 18.6 +0.9**
baz=76,SNR=51
RRX Edison Barstow 76.11 323 ⇓P **P 03 10 18.8 +1.0**
baz=76
L25A Engebretsen Ra 76.12 335 ⇓P **P 03 10 18.6 +0.8**
baz=76
M23A Laramie 76.19 334 ⇓P **P 03 10 18.9 +0.6**
baz=76
PASC Pasadena Art C 76.22 321 *e*P **P 03 10 18.7 +0.2**
comp=Z,222nm,1.8s
SRU San Rafael 76.23 329 *e*P **P 03 10 18.9 +0.3**
SRU pmax pmax
comp=Z,67nm,1.0s
SRU San Rafael 76.23 329 *e*P **P 03 10 18.9 +0.3**
comp=Z,67nm,1.0s
SRU San Rafael 76.23 329 ⇓P **P 03 10 19.2 +0.6**
baz=76,SNR=33
N21A Black Mountain 76.31 332 ⇑P **P 03 10 20.2 +1.2**
baz=77,SNR=18
CCUT Cedar City 76.31 327 *e*P **P 03 10 20.6 +1.5**
comp=Z,96nm,1.1s
K26A Motz Farm, Whi 76.31 336 ⇑P **P 03 10 19.5 +0.7**
baz=77,SNR=7.7
R15A Junction 76.31 328 ⇑P **P 03 10 20.0 +0.9**
baz=77,SNR=40
GSC Goldstone 76.32 323 *e*P **P 03 10 19.7 +0.6**
GSC *e**PP **pP 03 10 34.9 +1.1**
GSC pmax pmax
comp=Z,175nm,1.8s
GSC Goldstone 76.32 323 *e*P **P 03 10 19.7 +0.6**
comp=Z,175nm,1.8s
GSC *e*pP **pP 03 10 34.9 +1.1**
GSC Goldstone 76.32 323 ⇓P **P 03 10 20.0 +1.0**
baz=77,SNR=15
DECC Green Verdugo 76.36 321 ⇓P **P 03 10 20.2 +0.9**
baz=77
Q16A Castle Valley 76.37 329 ⇑P **P 03 10 20.3 +0.9**
baz=77,SNR=14
L24A Wheatland 76.38 335 ⇓P **P 03 10 20.0 +0.7**
baz=77
BRSD Miller 76.47 340 ⇓P **P 03 10 19.2 -0.4**
baz=77
M22A Cedar Creek Ra 76.48 333 ⇓P **P 03 10 20.7 +0.7**
baz=77,SNR=8.8
K25A Mack Ranch, Ha 76.48 336 ⇓P **P 03 10 20.7 +0.9**
baz=77
SHOC Shoshone 76.50 324 ⇓P **P 03 10 20.5 +0.5**
baz=77,SNR=9.6
MSU Marysvale 76.51 328 *e*P **P 03 10 21.0 +0.8**
MSU pmax pmax
comp=Z,61nm,1.0s
MSU Marysvale 76.51 328 *e*P **P 03 10 21.0 +0.8**
comp=Z,61nm,1.0s
MVU Marysvale 76.52 328 PFAKE 03 10 30.0 +10
MVU LR LR
comp=Z,450nm,19.0s
P18A Preston Nutter 76.53 330 ⇑P **P 03 10 21.5 +1.0**
baz=77
ARUT Antelope Range 76.53 327 *e*P **P 03 10 21.4 +1.1**
ARUT pmax pmax
comp=Z,77nm,1.1s
ARUT Antelope Range 76.53 327 *e*P **P 03 10 21.4 +1.1**
comp=Z,77nm,1.1s
O19A Miners Draw (B 76.59 331 ⇑P **P 03 10 21.3 +0.8**
baz=77,SNR=26
P17A Butcher Ranch, 76.62 330 ⇓P **P 03 10 21.3 +0.5**
baz=77,SNR=19
CVNA Calvinia 76.64 119 *e*P **P 03 10 22.3 +1.1**
CVNA AMB AMB 03 10 35.4
comp=Z,44nm,3.8s
EDW2 Edwards Air Fo 76.64 322 ⇓P **P 03 10 21.3 +0.4**
baz=77,SNR=18
BLG Laguna Peak 76.66 321 ⇑P **P 03 10 21.5 +0.6**
baz=77
N20A Spence Gulch, 76.67 332 ⇑P **P 03 10 21.7 +0.6**
baz=77,SNR=31
TMUT Tail Mountain 76.69 329 *e*P **P 03 10 21.8 +0.4**
comp=Z,115nm,1.7s
OSI Osito Adit 76.85 321 *e*P **P 03 10 22.3 +0.3**
comp=Z,101nm,1.2s
OSI Osito Adit 76.85 321 ⇑P **P 03 10 22.7 +0.7**
baz=77,SNR=5.5
BSC Santa Cruz Isl 76.90 320 ⇑P **P 03 10 23.1 +0.9**
baz=77
K24A Anderson Ranch 76.92 335 ⇑P **P 03 10 23.3 +0.9**
baz=77
LRMC Laurel Mountai 76.93 323 ⇑P **P 03 10 23.3 +0.8**
baz=77
L22A Ellis Ranch, M 76.95 334 ⇑P **P 03 10 23.6 +1.0**
baz=77,SNR=8.7
O18A Roosevelt 76.95 330 ⇑P **P 03 10 23.5 +0.9**
baz=77,SNR=30
M21A Separation Pea 76.95 333 ⇓P **P 03 10 23.3 +0.6**
baz=77,SNR=27
RWWY Rawlins 76.96 333 *e*P **P 03 10 23.4 +0.6**
comp=Z,102nm,1.2s
SUR Sutherland 77.07 120 *e*P **P 03 10 24.5 +0.8**
comp=Z,31nm,1.1s
SUR pP **pP 03 10 38.8 +0.3**
SUR Sutherland 77.07 120 P **P 03 10 24.7 +1.0**
comp=Z,16nm,0.9s,baz=271,slow=4.3,SNR=4.4
SUR pP **pP 03 10 38.8 +0.3**
comp=Z,11nm,0.8s,baz=237,slow=12,SNR=3.0
SUR LR LR 03 38 55.7
comp=Z,649nm,21.4s,baz=158,slow=31
R13A O'Grain Ranch, 77.10 327 ⇑P **P 03 10 24.9 +1.3**
baz=77,SNR=28
N19A John Jarvie Ra 77.11 331 ⇓P **P 03 10 24.0 +0.5**
baz=77,SNR=51
P16A Fountain Green 77.15 329 ⇑P **P 03 10 25.0 +1.2**
baz=77,SNR=23
M20A Sweetwater, Wa 77.19 332 ⇓P **P 03 10 24.6 +0.6**
baz=78,SNR=18
O17A Robinson Place 77.21 330 ⇑P **P 03 10 25.2 +1.0**
baz=78,SNR=112
FURC Furnace Creek, 77.24 324 ⇑P **P 03 10 25.0 +1.0**
baz=78,SNR=20
K23A Bowen Ranch, D 77.25 335 ⇑P **P 03 10 24.8 +0.5**
baz=78,SNR=9.4
MPMC Manual Prospec 77.26 323 ⇓P **P 03 10 24.9 +0.5**
baz=78,SNR=16
L21A Rawlins 77.26 333 ⇓P **P 03 10 24.7 +0.4**
baz=78,SNR=74
SBC Santa Barbara 77.27 321 ⇑P **P 03 10 24.9 +0.6**
baz=78
ARVC Arvin 77.29 322 ⇓P **P 03 10 25.2 +0.8**
baz=78
J24A Dixon Ranch, L 77.39 336 ⇑P **P 03 10 26.1 +1.1**
baz=78,SNR=23
P15A Leamington 77.40 329 ⇓P **P 03 10 26.0 +0.8**
baz=78,SNR=74
MPU Maple Canyon 77.47 329 *e*P **P 03 10 26.0 +0.4**
comp=Z,131nm,1.3s
ISA Isabella 77.49 322 *e*P **P 03 10 26.4 +0.8**
ISA pmax pmax
comp=Z,61nm,1.0s
ISA Isabella 77.49 322 *e*P **P 03 10 26.4 +0.8**
comp=Z,61nm,1.0s
ISA Isabella 77.49 322 ⇑P **P 03 10 26.6 +1.0**
baz=78,SNR=45
K22A Casper 77.51 334 ⇓P **P 03 10 26.3 +0.6**
baz=78,SNR=32
M19A Rock Springs 77.61 332 ⇑P **P 03 10 26.7 +0.3**
baz=78,SNR=14
DAU Daniels Canyon 77.62 330 *e*P **P 03 10 27.4 +0.9**
DAU pmax pmax
comp=Z,247nm,1.7s
DAU Daniels Canyon 77.62 330 *e*P **P 03 10 27.4 +0.9**
comp=Z,247nm,1.7s
PKM Peak Mountain 77.66 321 ⇓P **P 03 10 27.7 +1.0**
baz=78,SNR=34
L20A Wamsutter 77.69 333 ⇓P **P 03 10 27.2 +0.5**
baz=78,SNR=30
K21A Alcova 77.78 334 ⇓P **P 03 10 28.0 +0.8**
baz=78,SNR=60
J23A Dilts Ranch, B 77.78 335 ⇑P **P 03 10 27.6 +0.4**
baz=78
EYMN Ely 77.80 346 *e*P **P 03 10 26.2 -0.8**
comp=Z,39nm,1.2s
EYMN *e*pP **pP 03 10 41.1 -0.7**
I24A Kuemmerle Ranc 77.84 336 ⇑P **P 03 10 28.1 +0.7**
baz=78,SNR=16
RSSD Black Hills 77.85 336 *e*P **P 03 10 27.7 +0.1**
RSSD pmax pmax
comp=Z,38nm,1.1s
RSSD Black Hills 77.85 336 *e*P **P 03 10 27.7 +0.1**
comp=Z,38nm,1.1s
CWC Cottonwood Cre 77.86 323 ⇓P **P 03 10 28.6 +0.9**
baz=78
JLU Jordanelle 77.86 330 *e*P **P 03 10 28.3 +0.5**
comp=Z,78nm,1.1s
N17A Moffit Pass 77.86 330 ⇓P **P 03 10 28.8 +1.0**
baz=78,SNR=60
GRAC Grapevine Rang 77.90 324 ⇑P **P 03 10 28.9 +1.0**
baz=78,SNR=11
M18A Lyman 77.93 331 ⇑P **P 03 10 28.2 +0.1**
baz=78,SNR=13
VES Vestal, Richgr 77.95 322 ⇓P **P 03 10 28.8 +0.8**
baz=78,SNR=29
R11A Troy Canyon, C 78.03 326 ⇑P **P 03 10 29.7 +1.0**
baz=78,SNR=66
O15A The Old Anders 78.06 329 ⇓P **P 03 10 29.9 +1.1**
baz=78,SNR=21
SMMC Simmler 78.07 321 ⇑P **P 03 10 30.0 +1.2**
baz=78,SNR=17
N16A Rees Ranch, Co 78.08 330 ⇑P **P 03 10 29.8 +0.8**
baz=78,SNR=26
J22A Midwest 78.14 334 ⇑P **P 03 10 29.2 0.0**
baz=78,SNR=29
DUG Dugway 78.15 329 *e*P **P 03 10 29.8 +0.6**
DUG pmax pmax
comp=Z,99nm,1.1s
DUG MLR MLR
comp=Z,335nm,21.0s
DUG Dugway 78.15 329 *e*P **P 03 10 29.8 +0.6**
comp=Z,99nm,1.1s
DUG LR LR
comp=Z,335nm,21.0s
DUG Dugway 78.15 329 ⇑P **P 03 10 30.1 +0.8**
baz=78,SNR=97
L19A Farson 78.19 332 ⇑P **P 03 10 30.2 +0.7**
baz=78,SNR=74
M17A Scullys Gap (B 78.22 331 ⇓P **P 03 10 29.7 0.0**
baz=78,SNR=13
I23A Meade Ranch, G 78.23 335 ⇑P **P 03 10 29.7 +0.1**
baz=78
K20A Yellowstone Ra 78.23 333 ⇓P **P 03 10 29.9 +0.2**
baz=78,SNR=30
L18A Fontenelle, Gr 78.32 331 ⇓P **P 03 10 30.6 +0.3**
baz=79,SNR=75
RCTC Rector, Farmer 78.39 322 ⇓P **P 03 10 30.2 -0.2**
baz=79,SNR=11
TIN Tinemaha 78.40 323 ⇓P **P 03 10 31.5 +0.8**
baz=79
J21A Lysite 78.46 334 ⇑P **P 03 10 31.4 +0.5**
baz=79,SNR=21
I22A 9 Mile Ranch, 78.55 335 ⇓P **P 03 10 31.7 +0.3**
baz=79,SNR=52
N15A Stansbury Isla 78.57 329 ⇓P **P 03 10 32.0 +0.5**
baz=79,SNR=23
K19A Absolon Red Bu 78.58 333 ⇑P **P 03 10 31.7 +0.1**
baz=79,SNR=50
H24A Dirks Ranch, A 78.58 336 ⇓P **P 03 10 31.5 +0.1**
baz=79,SNR=37
MAW Mawson 78.68 164 LR LR 03 45 36.3
comp=Z,511nm,18.6s,baz=231,slow=36
J20A Shoshoni 78.71 333 ⇓P **P 03 10 33.2 +0.9**
baz=79,SNR=53
HWUT Hardware Ranch 78.72 330 *e*P **P 03 10 32.5 0.0**
comp=Z,123nm,1.0s
HWUT LR LR
comp=Z,270nm,20.0s
H23A Clabaugh Cattl 78.72 336 ⇑P **P 03 10 32.4 +0.1**
baz=79
I21A Big Trails, Te 78.79 334 ⇓P **P 03 10 32.8 +0.1**
baz=79,SNR=54
BW06 Boulder Array 78.82 332 PFAKE 03 10 40.0 +7.0
BW06 LR LR
comp=Z,238nm,20.0s
BW06 Boulder Array 78.82 332 ⇓P **P 03 10 32.9 -0.1**
baz=79,SNR=72
PDAR Pinedale Array 78.82 332 P **P 03 10 33.0 -0.1**
PDAR PKKPbc PKKPbc 03 29 37.8 +9.0
PDAR Pinedale Array 78.82 332 P **P 03 10 33.0 -0.1**
comp=Z,29nm,1.0s,baz=141,slow=5.2,SNR=87
PDAR PKKPbc PKKPbc 03 29 37.8 +9.0
comp=Z,0.6nm,0.7s,baz=221,slow=1.2,SNR=4.5
PDAR LR LR 03 41 31.0
comp=Z,162nm,18.6s,baz=146,slow=33
L17A Cokeville 78.82 331 ⇑P **P 03 10 33.0 0.0**
baz=79,SNR=18
PD02 Pinedale Array 78.83 332 *e*P **P 03 10 32.8 -0.3**
PD01 Pinedale Array 78.84 332 *e*P **P 03 10 32.8 -0.3**
K18A Toltan Ranch, 78.91 332 ⇓P **P 03 10 34.3 +0.8**
baz=79,SNR=158
L16A Fish Haven 79.00 331 ⇑P **P 03 10 34.2 +0.2**
baz=79,SNR=152
M15A Larsen Ranch, 79.00 330 ⇑P **P 03 10 34.1 +0.2**
baz=79,SNR=131
J19A Crowheart 79.03 333 ⇓P **P 03 10 34.4 +0.4**
baz=79,SNR=139
G24A Alzada 79.04 337 ⇑P **P 03 10 34.2 +0.2**
baz=79,SNR=16
H22A Clearmont 79.10 335 ⇑P **P 03 10 34.4 0.0**
baz=79,SNR=23
AGMN Agassiz Nation 79.14 343 *e*P **P 03 10 33.7 -0.6**
comp=Z,45nm,0.9s
AGMN *e*pP **pP 03 10 49.0 -0.1**
MLAC Mammoth Lakes 79.15 323 ⇓P **P 03 10 35.6 +0.7**
baz=79
I20A Worland 79.23 334 ⇓P **P 03 10 35.6 +0.5**
baz=80,SNR=29
G23A Biddle 79.27 336 ⇓P **P 03 10 35.3 +0.1**
baz=80,SNR=39
K17A Gardner Place, 79.38 331 ⇑P **P 03 10 36.3 +0.2**
baz=80,SNR=79
J18A Kendall Valley 79.38 332 ⇑P **P 03 10 36.2 +0.1**
baz=80,SNR=158
H21A Big Horn, Sher 79.39 335 ⇑P **P 03 10 35.8 -0.2**
baz=80,SNR=18
HVU Hansel Valley 79.40 330 *e*P **P 03 10 36.3 +0.2**
HVU pmax pmax
comp=Z,81nm,0.9s
HVU Hansel Valley 79.40 330 *e*P **P 03 10 36.3 +0.2**
comp=Z,81nm,0.9s
L15A Malad City 79.41 330 ⇑P **P 03 10 36.2 +0.1**
baz=80
AHID Auburn Hatcher 79.46 331 *e*P **P 03 10 36.7 +0.2**
comp=Z,154nm,1.3s
AHID LR LR
comp=Z,332nm,19.0s
NVAR Mina Array Bea 79.47 324 P **P 03 10 37.2 +0.6**
NVAR PKKPbc **PKKPbc 03 29 26.7 -0.3**
NVAR Mina Array Bea 79.47 324 P **P 03 10 37.2 +0.6**
comp=Z,16nm,0.8s,baz=156,slow=6.4,SNR=96
NVAR PKKPbc **PKKPbc 03 29 26.7 -0.3**
comp=Z,0.4nm,0.6s,baz=234,slow=1.3,SNR=3.9
F24A Ekalaka 79.50 337 ⇓P **P 03 10 36.5 +0.1**
baz=80,SNR=42
G22A Birney 79.61 336 ⇓P **P 03 10 37.0 -0.1**
baz=80,SNR=16

H20A Greybull 79.63 334 ⇓P P 03 10 37.3 0.0
baz=80,SNR=59
I19A Meeteetse 79.65 333 ⇓P P 03 10 38.0 +0.5
baz=80,SNR=54
I18A Diamond G Ranc 79.70 333 ⇑P P 03 10 38.5 +0.7
baz=80,SNR=159
ELK Elko 79.72 327 *e*P P 03 10 38.2 +0.3
F23A Volborg 79.72 336 ⇑P P 03 10 37.7 0.0
baz=80,SNR=49
K16A Soda Springs 79.73 331 ⇑P P 03 10 38.7 +0.8
baz=80,SNR=102
MDND Maddock 79.74 341 ⇑P P 03 10 37.9 +0.3
baz=80,SNR=22
J17A Brown Place, J 79.79 332 ⇓P P 03 10 38.9 +0.6
baz=80,SNR=53
L14A Malta 79.81 329 ⇓P P 03 10 38.6 +0.3
baz=80,SNR=98
REDW Red Top Meadow 79.85 332 *e*P P 03 10 38.7 +0.1
comp=Z,91nm,1.2s
SNOW Snow King Moun 79.89 332 *e*P P 03 10 39.0 +0.2
comp=Z,68nm,1.0s
LOHW Long Hollow 79.95 332 *e*P P 03 10 39.3 +0.2
comp=Z,80nm,1.1s
G21A Lodge Grass 79.96 335 ⇓P P 03 10 39.3 +0.3
baz=80,SNR=26
TPAW Teton Pass 79.99 332 *e*P P 03 10 39.6 +0.2
comp=Z,76nm,1.1s
K15A Arbon 80.02 330 ⇑P P 03 10 39.7 +0.2
baz=80,SNR=54
RRI2 Red Ridge 80.03 331 *e*P P 03 10 39.8 +0.1
comp=Z,113nm,1.3s
E24A Baker 80.07 337 ⇓P P 03 10 40.1 +0.6
baz=80,SNR=32
F22A Rosebud 80.08 336 ⇑P P 03 10 39.7 +0.2
baz=80,SNR=50
J16A Bone 80.10 331 ⇓P P 03 10 40.2 +0.3
baz=80
MOOW Moose Ponds 80.12 332 *e*P P 03 10 39.9 -0.1
comp=Z,50nm,1.5s
TSUM Tsumeb 80.12 106 *e*P P 03 10 41.5 +0.8
comp=Z,24nm,0.6s
TSUM LR LR
comp=Z,956nm,21.0s
TSUM Tsumeb 80.12 106⇑*i*P P 03 10 41.4 +0.7
H19A Powell 80.17 334 ⇑P P 03 10 40.6 +0.4
baz=80,SNR=47
DCID1 Drake Creek 80.18 332 *e*P P 03 10 40.8 +0.4
comp=Z,168nm,1.5s
K14A Jones Ranch, D 80.19 330 ⇑P P 03 10 40.4 0.0
baz=80,SNR=57
I17A Pilgrim Ck. 80.19 332 ⇓P P 03 10 41.4 +1.0
baz=80,SNR=75
CMB Columbia Colle 80.27 323 *e*P P 03 10 40.8 0.0
CMB pmax pmax
comp=Z,31nm,1.5s
CMB Columbia Colle 80.27 323 *e*P P 03 10 40.8 0.0
comp=Z,30nm,1.5s
IMW Indian Meadow 80.32 332 *e*P P 03 10 41.3 +0.1
comp=Z,108nm,1.3s
G20A Bridger 80.33 334 ⇑P P 03 10 41.1 +0.1
baz=81,SNR=74
E23A Ismay 80.36 337 ⇓P P 03 10 40.9 -0.1
baz=81,SNR=9.8
FLWY Flagg Ranch 80.37 332 *e*P P 03 10 41.9 +0.5
comp=Z,117nm,1.0s
F21A Absaloka Mine, 80.43 335 ⇓P P 03 10 41.8 +0.3
baz=81
BMN Battle Mountai 80.44 326 PFAKE 03 10 50.0 +8.2
BMN LR LR
comp=Z,397nm,21.0s
H18A Shoshone NF, C 80.44 333 ⇓P P 03 10 42.1 +0.3
baz=81,SNR=120
I16A Newdale 80.53 332 ⇑P P 03 10 42.7 +0.5
baz=81,SNR=69
SOE Somerset East 80.53 122 *e*P P 03 10 43.1 +0.5
SOE AMB AMB 03 10 46.2
comp=Z,32nm,2.0s
E22A Miles City 80.53 336 ⇑P P 03 10 41.9 -0.1
baz=81,SNR=6.5
J15A Blackfoot 80.55 331 ⇑P P 03 10 42.9 +0.6
baz=81,SNR=57
D24A Glendive 80.56 338 ⇓P P 03 10 42.7 +0.6
baz=81,SNR=30
H17A Grant Village 80.58 333 ⇑P P 03 10 43.5 +1.0
baz=81,SNR=16
LKWY Lake 80.65 333 *e*P P 03 10 44.0 +1.1
LKWY pmax pmax
comp=Z,38nm,1.1s
LKWY MLR MLR
comp=Z,170nm,20.0s
LKWY Lake 80.65 333 *e*P P 03 10 44.0 +1.1
comp=Z,38nm,1.1s
LKWY LR LR
comp=Z,170nm,20.0s
RLMT Red Lodge 80.66 334 *e*P P 03 10 43.1 +0.2
comp=Z,135nm,1.4s
RLMT Red Lodge 80.66 334 ⇑P P 03 10 43.4 +0.5
baz=81,SNR=44
YFT Old Faithful 80.73 332 *e*P P 03 10 45.0 +1.6
comp=Z,52nm,1.1s
YFT *e*pP pP 03 10 59.7 +1.5
F20A Billings 80.80 335 ⇓P P 03 10 43.6 +0.1
baz=81,SNR=18
WCN Washoe City 80.87 324 *e*P P 03 10 44.8 +0.7
WCN pmax pmax
comp=Z,218nm,2.5s
WCN Washoe City 80.87 324 *e*P P 03 10 44.8 +0.7
comp=Z,218nm,2.5s
WCN Washoe City 80.87 324 ⇑P P 03 10 44.8 +0.7
baz=81,SNR=6.6
YNR Norris Junctio 80.89 333 *e*P P 03 10 45.3 +1.1
comp=Z,37nm,1.2s
G18A Lazy EL Ranch, 80.94 334 ⇑P P 03 10 44.6 +0.3
baz=81,SNR=51
ULM Lac du Bonnet 80.95 344 P P 03 10 43.3 -0.7
ULM pP pP 03 10 58.7 -0.3
ULM Lac du Bonnet 80.95 344 P P 03 10 43.3 -0.7
comp=Z,50nm,1.0s,baz=154,slow=5.5,SNR=70
ULM pP pP 03 10 58.7 -0.3
comp=Z,38nm,0.9s,baz=145,slow=8.3,SNR=11
C24A Savage 80.96 338 ⇑P P 03 10 44.9 +0.7
baz=81,SNR=29
J14A Carey 80.96 330 ⇑P P 03 10 45.3 +0.8
baz=81,SNR=33
YMR Madison River 80.96 332 *e*P P 03 10 45.3 +0.8
comp=Z,145nm,1.0s
E21A Keefer Ranch, 81.03 336 ⇑P P 03 10 45.0 +0.3
baz=81,SNR=37
I15A Monteview 81.06 331 ⇑P P 03 10 46.0 +1.1
baz=81,SNR=38
H16A Russell Place, 81.11 332 ⇑P P 03 10 46.2 +0.9
baz=81,SNR=35
F19A Roth Farm, Mol 81.14 334 ⇓P P 03 10 45.5 +0.2
baz=81,SNR=27
D22A Cohagen 81.23 337 ⇑P P 03 10 46.3 +0.6
baz=82,SNR=42
QLMT Earthquake Lak 81.29 332 *e*P P 03 10 47.3 +1.1
comp=Z,9.2nm,1.2s
J13A Cove Ranch, Pi 81.31 330 ⇓P P 03 10 47.2 +0.9
baz=82,SNR=81
GCMT Greycliff 81.37 334 *e*P P 03 10 47.0 +0.4
comp=Z,16nm,1.3s
E20A Meyer Farm, Mu 81.38 335 ⇑P P 03 10 47.0 +0.5
baz=82,SNR=75
G17A Pierce Place, 81.41 333 ⇑P P 03 10 47.5 +0.7
baz=82,SNR=23
I14A Mackay 81.42 331 ⇑P P 03 10 47.9 +1.0
baz=82,SNR=47
D21A La Casta Ranch 81.44 336 ⇑P P 03 10 47.4 +0.5
baz=82,SNR=49
HVD Gariep Dam 81.45 120 *e*P P 03 10 48.2 +0.7
HVD AMB AMB 03 10 53.1
comp=Z,48nm,3.7s
C23A Lambert 81.45 338 ⇑P P 03 10 47.3 +0.5
baz=82,SNR=40
TOA0 Torodi Ar. Sit 81.45 70 *e*P P 03 10 47.8 +0.2
TOA0 *e*pP pP 03 11 02.4 0.0
TORD Torodi Ar. Bea 81.45 70 P P 03 10 47.6 +0.1
TORD pP pP 03 11 02.4 0.0
TORD S S 03 20 53.8 -1.5
TORD Torodi Ar. Bea 81.45 70 P P 03 10 47.6 +0.1
comp=Z,6.4nm,0.9s,baz=266,slow=4.4,SNR=28
TORD pP pP 03 11 02.4 0.0
comp=Z,47nm,0.7s,baz=264,slow=4.8,SNR=27
TORD S S 03 20 53.8 -1.5
comp=Z,2.4nm,1.2s,baz=252,slow=6.2,SNR=5.3
F18A Big Timber 81.48 334 ⇑P P 03 10 47.4 +0.2
baz=82,SNR=70

HLID Hailey 81.55 330 *e*P P 03 10 48.4 +0.8
comp=Z,81nm,1.0s
HLID LR LR
comp=Z,322nm,19.0s
HLID Hailey 81.55 330 ⇑P P 03 10 48.4 +0.8
baz=82,SNR=113
E19A Rath Farm, Rou 81.59 335 ⇓P P 03 10 48.0 +0.4
baz=82,SNR=98
H15A Lima 81.62 331 ⇓P P 03 10 48.8 +0.8
baz=82,SNR=23
C22A Vida 81.64 337 ⇑P P 03 10 47.9 +0.1
baz=82,SNR=26
I13A Wildhorse Cree 81.69 330 ⇑P P 03 10 49.3 +0.9
baz=82,SNR=109
DGMT Dagmar 81.70 338 *e*P P 03 10 48.5 +0.3
comp=Z,172nm,1.0s
DGMT *e*pP pP 03 11 03.9 +0.8
DGMT LR LR
comp=Z,260nm,21.0s
DGMT Dagmar 81.70 338 ⇑P P 03 10 48.7 +0.5
baz=82,SNR=36
G16A Moss Hill, Enn 81.77 332 ⇓P P 03 10 48.9 +0.2
baz=82,SNR=16
F17A Fitzpatrick Pl 81.86 333 ⇓P P 03 10 49.7 +0.5
baz=82,SNR=28
MCMT McKenzie Canyo 81.88 331 *e*P P 03 10 50.2 +0.8
comp=Z,25nm,0.9s
D20A Manuel Ranch, 81.88 335 ⇑P P 03 10 49.3 +0.2
baz=82,SNR=59
H14A Leadore 81.93 331 ⇑P P 03 10 50.3 +0.7
baz=82,SNR=59
B23A Brockton 81.96 338 ⇑P P 03 10 49.7 +0.3
baz=82,SNR=22
G15A Dillon 82.00 332 ⇑P P 03 10 50.4 +0.5
baz=82,SNR=53
BOZ Bozeman (W) 82.03 333 *e*P P 03 10 49.9 -0.2
BOZ pmax pmax
comp=Z,28nm,1.4s
BOZ MLR MLR
comp=Z,280nm,22.0s
BOZ Bozeman (W) 82.03 333 *e*P P 03 10 49.9 -0.2
comp=Z,28nm,1.4s
BOZ LR LR
comp=Z,280nm,22.0s
BOZ Bozeman (W) 82.03 333 ⇓P P 03 10 50.0 -0.2
baz=82,SNR=12
A24A Westby 82.04 339 ⇑P P 03 10 50.3 +0.4
baz=82,SNR=26
I12A Atlanta 82.05 329 ⇓P P 03 10 50.7 +0.4
baz=82,SNR=42
MFID Camas Ranch 82.07 329 *e*P P 03 10 50.4 +0.1
comp=Z,77nm,1.3s
MFID Camas Ranch 82.07 329 ⇑P P 03 10 50.6 +0.3
baz=82,SNR=28
E18A Harlowton 82.11 334 ⇑P P 03 10 50.7 +0.3
baz=82,SNR=30
C21A Desert Coulee 82.13 336 ⇑P P 03 10 50.3 -0.1
baz=82,SNR=74
F16A Kennard Place, 82.14 333 ⇑P P 03 10 50.8 +0.2
baz=82,SNR=13
B22A Reddig Ranch S 82.15 337 ⇑P P 03 10 50.8 +0.3
baz=82,SNR=14
BOSA Boshof 82.17 118 *e*P P 03 10 51.3 -0.1
comp=Z,35nm,0.9s
BOSA *e*pP pP 03 11 05.9 -0.4
BOSA LR LR
comp=Z,690nm,19.0s
BOSA Boshof 82.17 118 P P 03 10 51.2 -0.2
comp=Z,20nm,0.9s,baz=244,slow=4.1,SNR=20
BOSA pP pP 03 11 05.8 -0.4
comp=Z,23nm,0.8s,baz=234,slow=4.4,SNR=12
BOSA Boshof 82.17 118⇓*i*P P 03 10 51.2 -0.2
BOSA AMB AMB 03 11 07.0
comp=Z,47nm,2.3s
DLMT Dillon 82.20 332 *e*P P 03 10 51.4 +0.4
comp=Z,84nm,1.3s
D19A Cripps Ranch, 82.22 335 ⇑P P 03 10 50.8 -0.1
baz=82,SNR=81
H13A Challis 82.27 330 ⇓P P 03 10 51.9 +0.5
baz=82,SNR=90
A23A Redstone 82.35 338 ⇓P P 03 10 51.6 +0.1
baz=83,SNR=13
C20A Veseth Ranch, 82.36 336 ⇓P P 03 10 51.4 -0.2
baz=83,SNR=36
E17A Martinsdale 82.39 334 ⇓P P 03 10 52.1 +0.1
baz=83,SNR=27
G14A Jackson 82.47 331 ⇑P P 03 10 52.8 +0.3
baz=83,SNR=14
LRM Limekiln Ridge 82.51 332 *e*P P 03 10 52.9 +0.2
comp=Z,442nm,1.1s
H12A Diamond D Ranc 82.52 330 ⇓P P 03 10 53.0 +0.3
baz=83,SNR=28
F15A Butte 82.55 332 ⇑P P 03 10 53.2 +0.4
baz=83,SNR=46
D18A Linhart Farms, 82.59 335 ⇓P P 03 10 53.1 +0.2
baz=83,SNR=50
SCHQ Schefferville 82.59 3 P P 03 10 52.0 -0.5
SCHQ pP pP 03 11 07.4 -0.1
SCHQ LR LR
comp=Z,548nm,20.0s
SCHQ Schefferville 82.59 3 P P 03 10 52.0 -0.5
comp=Z,14nm,1.1s,baz=166,slow=6.2,SNR=8.0
SCHQ pP pP 03 11 07.4 -0.1
comp=Z,35nm,1.2s,baz=155,slow=6.2,SNR=8.8
B21A Ellsworth Farm 82.61 337 ⇑P P 03 10 53.2 +0.3
baz=83,SNR=58
WVOR Wild Horse Val 82.65 327 *e*P P 03 10 53.3 -0.1
WVOR pmax pmax
comp=Z,49nm,1.2s
WVOR MLR MLR
comp=Z,344nm,20.0s
WVOR Wild Horse Val 82.65 327 *e*P P 03 10 53.3 -0.1
comp=Z,49nm,1.2s
WVOR LR LR
comp=Z,344nm,20.0s
G13A Cobalt 82.68 331 ⇑P P 03 10 54.1 +0.6
baz=83,SNR=102
A22A Carney Farms, 82.72 338 ⇓P P 03 10 53.8 +0.3
baz=83,SNR=77
C19A Slack Wire Ran 82.76 335 ⇑P P 03 10 53.8 +0.1
baz=83,SNR=33
E16A East Helena 82.78 333 ⇓P P 03 10 54.2 +0.3
baz=83,SNR=46
F14A Wisdom 82.89 332 ⇓P P 03 10 55.4 +0.8
baz=83,SNR=77
D17A Six Diamond Ra 82.89 334 ⇑P P 03 10 54.9 +0.3
baz=83,SNR=85
SWZ Schweizer 82.89 117 *e*P P 03 10 54.7 -0.5
SWZ AMB AMB 03 10 59.6
comp=Z,20nm,2.8s
B20A Solberg Farm, 82.98 336 ⇑P P 03 10 54.8 0.0
baz=83,SNR=49
HRY Holter Researc 82.98 333 *e*P P 03 10 55.0 +0.1
comp=Z,63nm,1.6s
A21A Bergtoll Ranch 83.06 337 ⇑P P 03 10 55.0 -0.3
baz=83,SNR=51
MOD Modoc 83.07 325 *e*P P 03 10 55.9 +0.3
comp=Z,72nm,1.0s
E15A Deer Lodge 83.08 332 ⇓P P 03 10 55.8 +0.3
baz=83,SNR=20
D16A Dana Ranch, Ca 83.13 333 ⇓P P 03 10 56.4 +0.6
baz=83,SNR=46
G12A Big Creek, Yel 83.18 330 ⇑P P 03 10 56.2 +0.1
baz=84
KIPM Iron Peak 83.22 322 *e*P P 03 10 57.1 +0.7
comp=Z,83nm,1.4s
EGMT Eagleton 83.26 335 *e*P P 03 10 55.5 -0.8
comp=Z,56nm,1.1s
EGMT LR LR
comp=Z,276nm,21.0s
EGMT Eagleton 83.26 335 ⇑P P 03 10 56.0 -0.4
baz=84,SNR=28
WDC Whiskeytown Da 83.27 323 *e*P P 03 10 55.3 -1.1
WDC pmax pmax
comp=Z,35nm,0.9s
WDC Whiskeytown Da 83.27 323 *e*P P 03 10 55.3 -1.1
comp=Z,36nm,0.9s
F13A Darby 83.27 331 ⇓P P 03 10 56.7 +0.2
baz=84,SNR=51
C17A Wharram Farm, 83.32 334 ⇑P P 03 10 56.5 -0.2
baz=84,SNR=46
B19A Brinkman Farms 83.32 336 ⇑P P 03 10 56.6 0.0
baz=84,SNR=33
E14A Clinton 83.42 332 ⇓P P 03 10 57.9 +0.6
baz=84,SNR=24
D15A Lincoln 83.53 333 ⇑P P 03 10 58.2 +0.4
baz=84,SNR=22
B18A Beardsley Farm 83.58 335 ⇑P P 03 10 58.0 0.0
baz=84,SNR=77

F12A Elk City 83.64 331 ⇓P P 03 10 58.4 -0.1
baz=84,SNR=29
A19A Klindworth Far 83.65 336 ⇑P P 03 10 58.1 -0.2
baz=84,SNR=25
CHMT Chamberlain Mo 83.72 332 *e*P P 03 10 58.6 -0.3
comp=Z,40nm,1.7s
E13A Victor 83.73 332 ⇑P P 03 10 59.3 +0.4
baz=84,SNR=34
C16A Fuhringer Ranc 83.84 334 ⇓P P 03 10 59.3 0.0
baz=84,SNR=47
BMO Blue Mountains 83.86 329 *e*P P 03 10 59.0 -0.5
comp=Z,56nm,1.5s
BMO LR LR
comp=Z,254nm,20.0s
B17A L&G Farms, Che 83.88 335 ⇓P P 03 10 59.1 -0.4
baz=84,SNR=27
MSO Missoula 83.94 332 *e*P P 03 10 60.0 +0.1
comp=Z,31nm,1.5s
MSO Missoula 83.94 332 ⇑P P 03 11 00.1 +0.3
baz=84,SNR=17
D14A Greenough 83.96 332 ⇑P P 03 11 00.1 +0.1
baz=84,SNR=23
A18A Metzger Ranch, 84.04 335 ⇑P P 03 10 59.7 -0.5
baz=84,SNR=25
SLMT Seeley Lake 84.08 333 *e*P P 03 11 00.5 -0.1
comp=Z,70nm,1.5s
LBTB Lobatse 84.11 115 *e*P P 03 11 01.5 0.0
comp=Z,35nm,0.8s
LBTB *e*pP pP 03 11 16.5 +0.1
LBTB LR LR
comp=Z,355nm,19.0s
LBTB Lobatse 84.11 115⇑*i*P P 03 11 01.3 -0.2
LBTB AMB AMB 03 11 07.7
comp=Z,28nm,5.7s
SEK Senekal 84.15 119⇑*i*P P 03 11 00.9 -0.8
SEK AMB AMB 03 11 01.0
comp=Z,25nm,2.5s
C15A Salmond Ranch, 84.16 333 ⇓P P 03 11 01.4 +0.5
baz=84,SNR=52
YBH Yreka Blue Hor 84.18 324 *e*P P 03 11 00.3 -0.9
comp=Z,42nm,1.4s
E12A Beaver Dam Sad 84.30 331 ⇓P P 03 11 01.4 -0.3
baz=85
B16A M & M Farms, S 84.32 334 ⇓P P 03 11 01.1 -0.6
baz=85,SNR=21
D13A Huson 84.36 332 ⇑P P 03 11 02.3 +0.3
baz=85,SNR=33
A17A Triple J Farms 84.38 335 ⇓P P 03 11 02.0 0.0
baz=85,SNR=52
SWMT Swartz Lake 84.50 332 *e*P P 03 11 02.4 -0.3
comp=Z,56nm,1.5s
B15A Bradely Ranch, 84.57 334 ⇑P P 03 11 02.5 -0.6
baz=85,SNR=42
C14A Swan Lake 84.61 333 ⇓P P 03 11 03.4 +0.1
baz=85
PRYS Parys 84.61 118⇑*i*P P 03 11 02.9 -1.1
PRYS AMB AMB 03 11 03.0
comp=Z,23nm,2.1s
KTRM Thompson Ridge 84.66 324 P P 03 11 04.5 +0.8
KRMB Red Mountain 84.66 323 *e*P P 03 11 04.1 +0.5
comp=Z,122nm,1.5s
D12A Red Ives Fores 84.70 331 ⇑P P 03 11 03.7 -0.1
baz=85
A16A West Butte Ran 84.72 335 ⇓P P 03 11 03.7 -0.1
baz=85,SNR=102
YBMT Yellow Bay 84.79 333 *e*P P 03 11 03.8 -0.4
comp=Z,92nm,1.9s
JTMT Jette 84.81 332 *e*P P 03 11 04.2 0.0
comp=Z,56nm,1.6s
C13A Hot Springs 84.87 332 ⇓P P 03 11 04.6 +0.1
baz=85,SNR=36
B14A Marquette Ranc 84.89 333 ⇑P P 03 11 04.3 -0.4
baz=85,SNR=26
HUMO Hull Mountain 84.94 324 *e*P P 03 11 04.2 -0.7
comp=Z,15nm,1.1s
BLMT Blacktail Moun 85.05 333 *e*P P 03 11 05.5 0.0
comp=Z,78nm,1.2s
BSMT Bassoo Peak 85.10 332 *e*P P 03 11 05.6 -0.2
comp=Z,53nm,1.2s
VIPM Ingram Point 85.15 327 P P 03 11 06.8 +0.7
VIPM Ingram Point 85.15 327 P P 03 11 06.8 +0.7
A15A Johnson Ranch, 85.18 334 ⇑P P 03 11 05.3 -0.7
baz=86,SNR=31
C12B Naegeli Ranch, 85.27 332 ⇓P P 03 11 06.7 +0.2
baz=86,SNR=30
B13A Whitefish 85.38 333 ⇑P P 03 11 07.0 -0.1
baz=86,SNR=28
A14A Double T Ranch 85.44 334 ⇓P P 03 11 07.1 -0.3
baz=86,SNR=27
ERPM east rand prop 85.58 117 *e*P pP 03 11 23.6 -0.3
ERPM AMB AMB 03 11 25.0
comp=Z,26nm,1.7s
C11A Tepee Creek (N 85.70 331 ⇑P P 03 11 08.4 -0.2
baz=86,SNR=57
WALA Waterton Lakes 85.70 333 *e*P P 03 11 08.5 -0.2
comp=Z,8.0nm,1.6s
A13A Flathead Natio 85.80 333 ⇑P P 03 11 09.5 +0.3
baz=86,SNR=92
KEBM Edson Butte 85.84 324 *e*P P 03 11 10.1 +0.6
comp=Z,158nm,1.1s
BROR Big Rock Looko 85.88 326 P P 03 11 09.3 -0.1
SLR Silverton 85.91 117 *e*P P 03 11 14.1 +3.6
SLR AMB AMB 03 11 20.8
comp=Z,24nm,2.9s
B12A Libby 85.92 332 ⇓P P 03 11 09.8 +0.1
baz=86,SNR=32
HAWA Hanford 86.04 329 *e*P P 03 11 10.2 -0.1
comp=Z,66nm,1.0s
VFP Flag Point 86.16 327 P P 03 11 11.3 +0.2
A12A Yaak River Ran 86.31 332 ⇓P P 03 11 11.4 -0.2
baz=87,SNR=36
NEW Newport 86.40 331 *e*P P 03 11 11.0 -1.1
comp=Z,35nm,1.4s
NEW Newport 86.40 331 ⇓P P 03 11 11.1 -0.9
baz=87,SNR=14
OD2 Odessa Site #2 86.42 330 P P 03 11 12.1 -0.1
COR Corvallis 86.53 326 *e*P P 03 11 13.2 +0.5
COR pmax pmax
comp=Z,256nm,1.3s
COR Corvallis 86.53 326 *e*P P 03 11 13.2 +0.5
comp=Z,256nm,1.3s
FFC Flin Flon 86.58 343 *e*P P 03 11 11.6 -1.1
FFC pmax pmax
comp=Z,30nm,1.4s
FFC Flin Flon 86.58 343 *e*P P 03 11 11.6 -1.1
comp=Z,30nm,1.4s
FFC Flin Flon 86.58 343 P P 03 11 11.9 -0.8
comp=Z,100nm,1.1s,SNR=8.9
MPOR Mary's Peak 86.59 325 P P 03 11 13.9 +0.7
LON Longmire 87.37 328 *e*P P 03 11 16.3 -0.5
LON pmax pmax
comp=Z,15nm,0.8s
LON Longmire 87.37 328 *e*P P 03 11 16.3 -0.5
comp=Z,15nm,0.8s
MORF Marmelete 87.49 45 *e*P pP 03 11 33.6 +0.9
comp=Z,106nm,1.7s
PBDV Barranco-do-Ve 87.91 45 *e*P pP 03 11 35.6 +1.0
comp=Z,74nm,1.4s
PCVE Castro Verde 88.08 45 *e*P pP 03 11 36.4 +1.0
comp=Z,95nm,1.7s
PBEJ Beja 88.43 45 *e*P pP 03 11 38.1 +1.0
comp=Z,64nm,2.0s
EVO Evora 88.64 44 *e*P pP 03 11 38.7 +0.6
comp=Z,53nm,2.0s
EVO Evora 88.64 44 *e*P P 03 11 19.2 -3.8
comp=Z,35nm,0.8s
RPZ Rata Peaks 88.70 220 *e*P P 03 11 24.0 +0.5
comp=Z,208nm,1.5s
CMW Cultus Mountai 88.73 329 P P 03 11 22.7 -0.6
NLWA Neilton Lookou 88.81 327 *e*P P 03 11 23.6 0.0
comp=Z,79nm,1.4s
PMTG Montargil 88.84 44 *e*P pP 03 11 40.2 +1.2
comp=Z,53nm,1.8s
PTOM Tomar 89.07 43 *e*P pP 03 11 41.6 +1.6
comp=Z,87nm,1.5s
VDB Vedder Mountai 89.16 329 P P 03 11 24.4 -0.7
PGC Sidney 89.50 328 *e*P P 03 11 26.5 -0.2
comp=Z,4.6nm,1.2s
TAM Tamanrasset 89.52 64 *e*P P 03 11 27.8 +0.1
TAM *e*PP pP 03 11 42.8 0.0
TAM pmax pmax
comp=Z,13nm,1.8s
TAM MLR MLR
comp=Z,945nm,21.0s
TAM Tamanrasset 89.52 64 *e*P P 03 11 27.8 +0.1
comp=Z,12nm,1.8s

TAM *e*pP **pP** **03 11 42.8 0.0**
TAM LR LR
comp=Z,945nm,21.0s
PVRL Vila Real 90.51 42 *e*P pP 03 11 49.5 +2.7
comp=Z,59nm,1.4s
LSZ Lusaka 90.91 108 *e*P **P** **03 11 35.2 +0.9**
comp=Z,15nm,1.0s
LSZ LR LR
comp=Z,739nm,22.0s
ESDC Sonseca Array 91.85 45 P **P** **03 11 37.1 -0.9**
ESDC pP **pP** **03 11 53.4 +0.3**
ESDC Sonseca Array 91.85 45 P **P** **03 11 37.1 -0.9**
comp=Z,0.8nm,0.8s,baz=320,slow=25,SNR=4.4
ESDC pP **pP** **03 11 53.4 +0.3**
comp=Z,4.2nm,0.8s,baz=261,slow=4.5,SNR=10
SJPF Ste Jean 95.50 44 *e*pP pP 03 12 09.8 0.0
SJPF Ste Jean 95.50 44 *e*P **P** **03 11 51.6 -3.1**
comp=Z,145nm,1.6s
ETSF Etsaut 95.79 44 *e*pP pP 03 12 11.3 +0.1
ETSF Etsaut 95.79 44 *e*P **P** **03 11 53.0 -3.1**
comp=Z,75nm,1.3s
SFJD Kangerlussuaq 95.98 8 LR LR 03 57 59.6
comp=Z,145nm,18.9s,baz=171,slow=37
EPF Esparros 96.41 44 *e*pP pP 03 12 13.8 -0.2
EPF Esparros 96.41 44 *e*P P 03 11 55.6 -3.3
comp=Z,23nm,1.0s
YKA Yellowknife Ar 96.66 341 P **P** **03 11 58.5 -0.9**
YKA pP **pP** **03 12 13.2 -1.3**
YKA PP **PP** **03 15 55.4 +0.4**
YKA PKKP PKKPdf 03 28 56.8 +10
YKA Yellowknife Ar 96.66 341 P **03 11 58.5 -0.9**
comp=Z,5.2nm,0.8s,baz=141,slow=4.6,SNR=104
YKA pP **pP** **03 12 13.2 -1.3**
comp=Z,4.5nm,0.7s,baz=142,slow=4.3,SNR=13
YKA PP **PP** **03 15 55.3 +0.4**
comp=Z,1.1nm,1.0s,baz=140,slow=7.2,SNR=4.5
YKA PKKP PKKPdf 03 28 56.8 +10
comp=Z,0.2nm,0.5s,baz=323,slow=3.4,SNR=5.8
MFF Saint Martin d 98.04 41 *e*P P 03 12 02.1 -3.9
comp=Z,36nm,1.1s
MFF *e*pP pP 03 12 20.4 -0.8
KEST Kesra 98.78 54 LR LR 03 58 08.7
comp=Z,399nm,21.6s,baz=358,slow=36
DLBC Dease Lake 99.04 333 *e*P **Pdif** **03 12 10.3 -0.1**
DLBC *e*pP **pP** **03 12 26.1 +0.6**
LDF La Druitiere 99.11 39 *e*P **Pdif** **03 12 06.4 -4.4**
comp=Z,30nm,1.0s
LDF *e*pP **pP** **03 12 24.7 -1.3**
LASF Ste Croix 99.14 45 *e*P **Pdif** **03 12 07.8 -3.3**
TCF Toulx Ste Croi 99.26 42 *e*P **Pdif** **03 12 07.3 -4.3**
comp=Z,42nm,1.4s
TCF *e*pP **pP** **03 12 25.6 -1.1**
VIVF Saint-Julien-l 100.03 44 *e*pP pP 03 12 30.2 0.0
VIVF Saint-Julien-l 100.03 44 *e*P **Pdif** **03 12 11.9 -3.2**
comp=Z,74nm,1.5s
LMR La Mourre 100.45 46 *e*P **Pdif** **03 12 13.7 -3.2**
comp=Z,31nm,0.9s
LMR *e*pP pP 03 12 32.0 -0.1
ORIF Oris-en-Rattie 100.81 45 *e*pP pP 03 12 34.2 +0.4
ORIF Oris-en-Rattie 100.81 45 *e*P **Pdif** **03 12 15.9 -2.7**
comp=Z,51nm,1.1s
MBDF Montbardon 101.28 45 *e*P **Pdif** **03 12 17.8 -3.0**
comp=Z,49nm,1.3s
SBF Sospel 101.30 46 *e*P **Pdif** **03 12 17.6 -3.1**
comp=Z,46nm,1.0s
BNI Bardonecchia 101.38 45 PFAKE 03 12 30.0 +8.8
BNI LR LR
comp=Z,990nm,19.0s
LPL La Plagne 101.63 45 *e*P **Pdif** **03 12 19.6 -2.8**
comp=Z,18nm,1.0s
LPG La Plagne 101.63 45 *e*pP pP 03 12 38.1 +0.3
LPG La Plagne 101.63 45 *e*P **Pdif** **03 12 19.9 -2.6**
comp=Z,26nm,1.0s
PGF Pioggiola 101.70 48 *e*P **Pdif** **03 12 19.3 -3.3**
WDD Wield Dalam 102.60 56 PFAKE 03 12 40.0 +13
WDD LR LR
comp=Z,549nm,20.0s
WLF Walferdange 103.22 41 PFAKE 03 12 40.0 +11
WLF LR LR
comp=Z,598nm,20.0s
VLC Villacollemand 103.33 47 PFAKE 03 12 40.0 +10
VLC LR LR
comp=Z,444nm,22.0s
TUE Stuetta 103.69 45 PFAKE 03 12 40.0 +8.5
TUE LR LR
comp=Z,778nm,20.0s
AQU L'Aquila 104.55 50 PFAKE 03 12 50.0 +15
AQU LR LR
comp=Z,851nm,20.0s
CUC Castrocucco 105.24 53 PFAKE 03 17 00.0
CUC LR LR
comp=Z,234nm,21.0s
DZM Mont Dzumac 105.38 234 *e*SS SS 03 31 57.7 +3.8
comp=Z,100nm,26.3s
DZM *e*LR LR 03 47 23.9
comp=Z,602nm,30.1s
TIP Timpagrande 105.59 54 PFAKE 03 17 00.0
TIP LR LR
comp=Z,693nm,22.0s
INK Inuvik 106.35 340 *e*PKP **PKiKP** **03 16 54.0 +0.6**
INK PKKP **PKKPab** **03 28 29.6 +1.6**
INK Inuvik 106.35 340 PKKP **PKKPab** **03 28 29.6 +1.6**
comp=Z,2.3nm,0.9s,baz=308,slow=2.3,SNR=7.4
GERES GERESS Array B 107.35 44 PKiKP **PKiKP** **03 16 55.8 -0.3**
GERES GERESS Array B 107.35 44 PKiKP **PKiKP** **03 16 55.8 -0.3**
comp=Z,0.6nm,0.8s,baz=208,slow=2.6,SNR=4.3
CLL Collm 107.88 41 *e*PS PS 03 26 38.0 -4.9
CLL *e*SSS SSS 03 36 30.0
CLL *e*SSSS 03 40 24.0
CLL *e* 03 41 30.0
CLL LmV 04 01 00.0
comp=Z,200nm,19.1s
CLL LmH 04 02 00.0
comp=N,200nm,18.2s
CLL LmH 04 02 00.0
comp=E,100nm,19.9s
TIR Tirane 108.61 53 PFAKE 03 17 10.0
TIR LR LR
comp=Z,571nm,22.0s
ILAR Eielson Array 109.20 334 Pdif **Pdif** **03 12 54.6 -0.7**
ILAR *e* 03 13 10.3
ILAR PKiKP **PKiKP** **03 16 57.6 -1.3**
ILAR PKKPbc **PKKPbc** **03 28 04.5 -2.9**
ILAR PKKP **PKKPdf** **03 28 19.8 -3.5**
ILAR Eielson Array 109.20 334 Pdiff **Pdif** **03 12 54.6 -0.7**
comp=Z,0.9nm,0.8s,baz=152,slow=3.2,SNR=10
ILAR pPdiff **pPdif** **03 13 10.3 -0.2**
comp=Z,0.7nm,0.8s,baz=154,slow=3.5,SNR=6.6
ILAR PKiKP **PKiKP** **03 16 57.6 -1.3**
comp=Z,0.9nm,1.0s,baz=206,slow=0.7,SNR=5.1
ILAR PKKPbc **PKKPbc** **03 28 04.5 -2.9**
comp=Z,0.3nm,1.0s,baz=295,slow=2.9,SNR=5.2
ILAR PKKP **PKKPdf** **03 28 19.8 -3.5**
comp=Z,0.7nm,0.8s,baz=282,slow=3.3,SNR=7.1
GVD Gavdhos 109.38 60 *e*PKP **PKiKP** **03 17 01.2 +1.1**
MORC Moravsky Berou 110.03 44 ⇓*i*P PKiKP 03 17 16.5 +16
PSZ Piszkesteto 110.88 46 ⇓PKiKP PKiKP 03 17 13.1 +10
PSZ Piszkesteto 110.88 46 PFAKE 03 17 10.0
PSZ LR LR
comp=Z,358nm,20.0s
PSZ Piszkesteto 110.88 46 ⇓*i*P PKiKP 03 17 13.1 +10
DRGR 112.35 48 ⇓PKiKP **PKiKP** **03 17 05.2 -0.3**
DRGR 112.35 48 ⇓*i*P **PKiKP** **03 17 05.2 -0.3**
UZH Uzhgorod 112.62 46 *e*PKiKP **PKiKP** **03 17 11.0 +5.2**
UZH *i* 03 17 59.4
STKA Stephens Creek 112.78 210 PKiKP **PKiKP** **03 17 06.4 -0.5**
STKA Stephens Creek 112.78 210 PKiKP **PKiKP** **03 17 06.4 -0.5**
comp=Z,2.4nm,0.8s,baz=162,slow=9.3,SNR=4.2
KWP Kalwaria Pacla 113.17 45 ⇓PKiKP **PKiKP** **03 17 07.7 +0.8**
KWP Kalwaria Pacla 113.17 45 *e*PKP **PKiKP** **03 17 07.3 +0.4**
KWP Kalwaria Pacla 113.17 45 ⇓*i*P **PKiKP** **03 17 07.7 +0.8**
VOIR 113.50 50 ⇑PKiKP PKiKP 03 17 01.7 -6.1
VOIR 113.50 50 ⇑*i*P PKiKP 03 17 01.7 -6.1
MLR Muntele Rosu 114.12 50 ⇓*i*P PKPdf 03 17 08.0 -1.0
BUR08 Bucovina Ar. S 114.22 47 *e*PKP PKPdf 03 17 09.1 +0.1
VRI Vrincioaia 114.75 50 ⇓PKiKP PKPdf 03 17 09.6 -0.4
VRI Vrincioaia 114.75 50 ⇓*i*P PKPdf 03 17 09.6 -0.4
ISP Isparta 115.26 59 PFAKE 03 17 20.0 +8.6
ISP LR LR
comp=Z,472nm,22.0s
CFR Carcaliu 115.53 51 ⇓PKiKP **PKPdf** **03 17 11.0 -0.5**
CFR Carcaliu 115.53 51 ⇓*i*P **PKPdf** **03 17 10.9 -0.5**
TIRR Tirgusor 115.54 52 ⇓PKiKP **PKPdf** **03 17 11.0 -0.5**
TIRR Tirgusor 115.54 52 ⇓*i*P **PKPdf** **03 17 11.0 -0.5**
CSS Prodhromos 116.61 63 *e*PKPdf **PKPdf** **03 17 14.4 +0.4**
CSS LR LR
comp=Z,291nm,22.0s
KIEV Kiev 117.48 45 *e*PKiKP **PKPdf** **03 17 13.6 -1.5**
KIEV MLR MLR
comp=Z,222nm,20.0s
KIEV Kiev 117.48 45 *e*PKPdf **PKPdf** **03 17 13.6 -1.5**
KIEV LR LR
comp=Z,222nm,20.0s
AKASG Malin Array Be 117.50 45 PKiKP **PKPdf** **03 17 13.7 -1.4**
AKASG 03 17 29.3
AKASG Malin Array Be 117.50 45 PKP **PKPdf** **03 17 13.7 -1.4**
AKASG pPKP **pPKPdf** **03 17 29.3 -1.4**
AKASG Malin Array Be 117.50 45 PKP **PKPdf** **03 17 13.7 -1.4**
comp=Z,3.5nm,0.7s,baz=266,slow=2.8,SNR=11
AKASG pPKP **pPKPdf** **03 17 29.3 -1.4**
comp=Z,2.5nm,0.6s,baz=262,slow=2.9,SNR=5.3
AKBB Malin Array Si 117.50 45 *e*PKiKP **PKPdf** **03 17 13.9 -1.2**
AKBB Malin Array Si 117.50 45 *e*PKPdf **PKPdf** **03 17 13.9 -1.2**
BR131 Keskin Array S 118.12 58 *e*PKPdf **PKPdf** **03 17 16.5 -0.4**
BRTR Keskin Array B 118.12 58 PKP **PKPdf** **03 17 16.6 -0.2**
BRTR pPKP **pPKPdf** **03 17 31.8 -0.7**
BRTR Keskin Array B 118.12 58 PKP **PKPdf** **03 17 16.6 -0.2**
comp=Z,2.5nm,0.8s,baz=182,slow=2.8,SNR=16
BRTR pPKP **pPKPdf** **03 17 31.8 -0.7**
comp=Z,2.3nm,0.8s,baz=171,slow=2.8,SNR=7.3
ARCES ARCESS Array B 118.25 23 PKKPbc PKKPbc 03 27 33.2 -3.4
ARCES ARCESS Array B 118.25 23 PKKPbc PKKPbc 03 27 33.2 -3.4
comp=Z,1.8nm,0.7s,baz=96,slow=3.7,SNR=3.7
MSEY Mahe Island 119.19 114 PFAKE 03 17 30.0 +10
MSEY LR LR
comp=Z,231nm,20.0s
ANN Anapa 121.91 53 *i* PKiKP **PKPdf** **03 17 27.0 +3.2**
ANN pmax pmax
comp=Z,166nm,1.6s
OBN Obninsk 122.47 40 ⇑*i*PKiKP **PKPdf** **03 17 24.2 -0.3**
OBN pmax pmax
comp=Z,24nm,1.3s
OBN MLR MLR
comp=Z,200nm,15.0s
ASAR Alice Springs 123.23 208 PKP **PKPdf** **03 17 26.0 -1.2**
ASAR pPKP **pPKPdf** **03 17 41.6 -1.1**
ASAR PKKPbc PKKPab 03 27 32.2 +12
ASAR Alice Springs 123.23 208 PKP **PKPdf** **03 17 26.0 -1.2**
comp=Z,12nm,0.9s,baz=149,slow=2.2,SNR=51
ASAR pPKP **pPKPdf** **03 17 41.6 -1.1**
comp=Z,6.0nm,0.8s,baz=132,slow=1.7,SNR=6.6
ASAR PKKPbc PKKPab 03 27 32.2 +12
comp=Z,2.9nm,0.9s,baz=343,slow=4.0,SNR=13
AS31 Alice Springs 123.23 208 *e*PKPdf **PKPdf** **03 17 25.9 -1.3**
VSR Storozhevoye 123.79 45 *e*PKiKP **PKPdf** **03 17 26.4 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,1.0nm,0.3s
VSR pmax pmax
comp=E,2.0nm,0.3s
KLMR Klimovskoe 124.06 34 *e*PKiKP **PKPdf** **03 17 25.4 -2.0**
KLMR pmax pmax
comp=Z,40nm,1.3s
VRHR Novokhopersk 125.33 45 *e*PKiKP **PKPdf** **03 17 29.9 -0.2**
VRHR pmax pmax
comp=N,9.0nm,0.8s
VRHR pmax pmax
comp=E,1.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 125.52 54*a* *i* PKiKP **PKPdf** **03 17 31.0 +0.1**
KIV pmax pmax
comp=Z,17nm,1.7s
KIV MLR MLR
comp=Z,100nm,19.0s
KIV Kislovodsk 125.52 54 *e*PKPdf **PKPdf** **03 17 31.0 +0.1**
KIV LR LR
comp=Z,191nm,20.0s
ZEI Tsey 126.27 56 *i* PKiKP **PKPdf** **03 17 31.1 -1.5**
ZEI pmax pmax
comp=Z,10.0nm,1.4s
WRA Warramunga Arr 126.33 210 PKP **PKPdf** **03 17 32.4 -0.8**
WRA pPKP **pPKPdf** **03 17 47.7 -1.1**
WRA Warramunga Arr 126.33 210 PKP **PKPdf** **03 17 32.4 -0.8**
comp=Z,22nm,0.8s,baz=157,slow=1.6,SNR=98
WRA pPKP **pPKPdf** **03 17 47.7 -1.1**
comp=Z,12nm,0.6s,baz=159,slow=1.6,SNR=13
WRAB Tennant Creek 126.34 210 *e*PKiKP **PKPdf** **03 17 32.5 -0.7**
WRAB MLR MLR
comp=Z,243nm,19.0s
WRAB Tennant Creek 126.34 210 *e*PKPdf **PKPdf** **03 17 32.5 -0.7**
WRAB LR LR
comp=Z,243nm,19.0s
NAY Al-Naaiem 126.46 73 *e*P **PKPdf** **03 17 32.8 -0.3**
NAY AMb AMB 03 17 34.0
comp=Z,10nm,1.4s
RDF Al-Radifah 126.64 73 *e*P **PKPdf** **03 17 33.5 +0.1**
RDF AMb AMB 03 17 37.2
comp=Z,18nm,1.4s
MIB Mutribah 126.68 72 *e*P **PKPdf** **03 17 33.3 -0.1**
MIB AMb AMB 03 17 34.5
comp=Z,18nm,1.3s
BILL Bilibino 127.74 336 ⇓*i*PKiKP **PKPdf** **03 17 34.4 +0.1**
BILL *e* 03 17 41.7
BILL *e* 03 17 49.0
BILL pmax pmax
comp=Z,29nm,1.7s
BILL Bilibino 127.74 336 *e*PKPdf **PKPdf** **03 17 34.0 -0.3**
BILL LR LR
comp=Z,216nm,20.0s
MBWA Marble Bar 130.00 193 *e*PKPdf **PKPdf** **03 17 39.7 -0.4**
FITZ Fitzroy Crossi 131.36 201 PKP **PKPdf** **03 17 42.6 -0.1**
FITZ pPKP **pPKPdf** **03 17 58.5 +0.1**
FITZ Fitzroy Crossi 131.36 201 PKP **PKPdf** **03 17 42.6 -0.1**
comp=Z,15nm,1.0s,baz=285,slow=2.6,SNR=9.0
FITZ pPKP **pPKPdf** **03 17 58.5 +0.1**
comp=Z,6.9nm,0.6s,baz=186,slow=6.2,SNR=4.3
ARU Arti 134.60 37 *i* PKiKP **PKPdf** **03 17 48.1 +0.5**
ARU 03 20 20.7
ARU Arti 134.60 37 *e*PKPdf **PKPdf** **03 17 47.9 +0.3**
ARU LR LR
comp=Z,240nm,21.0s
SEY Seymchan 135.14 333 ⇑*i*PKiKP **PKPdf** **03 17 49.3 +0.9**
AKTO Aktyubinsk 135.74 45 PKiKP **PKPdf** **03 17 49.8 -0.1**
AKTO Aktyubinsk 135.74 45 PKP **PKPdf** **03 17 49.8 -0.1**
AKTO Aktyubinsk 135.74 45 PKP **PKPdf** **03 17 49.8 -0.1**
comp=Z,3.6nm,0.8s,baz=290,slow=2.4,SNR=13
PETK Petropavlovsk- 136.36 319 PKiKP **PKPdf** **03 17 51.4 +0.4**
PETK Petropavlovsk- 136.36 319 PKP **PKPdf** **03 17 51.4 +0.4**
PETK Petropavlovsk- 136.36 319 PKP **PKPdf** **03 17 51.4 +0.4**
comp=Z,9.1nm,0.8s,baz=119,slow=5.8,SNR=7.4
ABKAR Akbulak array 137.19 47 *e*PKPdf **PKPdf** **03 17 52.8 +0.2**
BRVK Borovoye 142.16 38 ⇑*i*PKiKP **PKPdf** **03 18 01.5 -0.1**
BRVK Borovoye 142.16 38 *e*PKPpre PKPpre 03 17 56.9
BRVK *e*PKPdf **PKPdf** **03 18 02.3 +0.7**
BRVK LR LR
comp=Z,250nm,20.0s
BVAR Borovoye Array 142.23 38 PKHKP PKPpre 03 17 56.9
BVAR 03 18 01.5
BVAR Borovoye Array 142.23 38 PKPpre PKPpre 03 17 56.9
BVAR PKP **PKPdf** **03 18 01.5 -0.2**
BVAR Borovoye Array 142.23 38 PKhKP PKPpre 03 17 56.9
comp=Z,1.1nm,0.8s,baz=297,slow=0.3,SNR=4.5
BVAR PKP **PKPdf** **03 18 01.5 -0.2**
comp=Z,4.1nm,0.9s,baz=298,slow=3.2,SNR=12
YAK Yakutsk 143.29 344 *i* PKHKP PKPpre 03 17 58.8
YAK *e**PP **PKPdf** **03 18 02.9 -0.4**
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,39nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.4s
YAK pmax pmax
comp=E,123nm,4.2s
YAK pmax pmax
comp=Z,193nm,5.2s
YAK pmax pmax
comp=N,86nm,3.3s
YAK Yakutsk 143.29 344 *e*PKPdf PKPbc 03 17 59.9 -0.6
YAK LR LR
comp=Z,193nm,20.0s
PWJI Pagerwojo 144.06 185 P **PKPdf** **03 18 04.8 -1.4**
comp=Z,138nm,1.2s,comp=Z,2μm
SWI Sorong 144.13 221 PKP PKPbc 03 18 04.4 0.0
BLJI Banyuglugur 144.16 188 P **PKPdf** **03 18 05.7 -0.6**
comp=Z,149nm,1.1s,comp=Z,4μm
NLAI Namlea 144.31 212 PKP **PKPdf** **03 18 05.8 -0.8**
BKSI Bulukumba 145.12 200 P **PKPdf** **03 18 07.2 -0.8**
comp=Z,140nm,1.0s,comp=Z,1μm
TGJI Tegal 145.32 180 P **PKPdf** **03 18 08.2 -0.1**
comp=Z,110nm,1.1s,comp=Z,981nm
LEM Lembang 145.34 178 P **PKPdf** **03 18 09.4 +0.8**
comp=Z,377nm,1.5s,comp=Z,4μm
KBL Kabul 145.51 69 *e*PKP2 **PKPdf** **03 18 07.5 -0.8**
KBL Kabul 145.51 69 *e*PKPbc **PKPdf** **03 18 07.5 -0.8**
KAPI Kappang 145.53 199 *e*PKPbc **PKPdf** **03 18 07.8 -0.9**
KAPI pPKPbc pPKPbc 03 18 23.5 -0.8
KAPI LR LR
comp=Z,241nm,21.0s
KAPI Kappang 145.53 199 ⇓P **PKPdf** **03 18 08.0 -0.6**
SNR=8.6
KAPI Kappang 145.53 199 P **PKPdf** **03 18 08.1 -0.6**
KAPI Kappang 145.53 199 PKPbc **PKPdf** **03 18 08.1 -0.6**
comp=Z,202nm,0.9s,baz=197,slow=3.2,SNR=27
KAPI pPKPbc pPKPbc 03 18 23.5 -0.8
comp=Z,114nm,0.8s,baz=218,slow=0.2,SNR=6.1
KDI Kendari 145.56 205 P **PKPdf** **03 18 08.3 -0.5**
comp=Z,236nm,1.2s,comp=Z,2μm
KK31 Karatay Array 145.68 54 *i* PKP2 **PKPdf** **03 18 08.1 0.0**
KK31 pmax pmax
comp=Z,52nm,0.8s
KKAR Karatay Array 145.68 54 *e*PKP2 **PKPdf** **03 18 08.2 +0.1**
KKAR Karatay Array 145.68 54 *e*PKPbc **PKPdf** **03 18 08.2 +0.1**
BNSI Bone 146.00 200 P **PKPdf** **03 18 10.5 +1.0**
POO Poona 146.57 99 *e*PKP **PKPdf** **03 18 10.0 -0.3**
LWLI Liwa 146.83 171 P **PKPdf** **03 18 14.9 +3.8**
comp=Z,178nm,1.0s,comp=Z,10μm
NVS Novosibirsk 147.38 28 ⇓*i*PKIKP **PKPdf** **03 18 10.1 -0.4**
NVS pmax pmax
comp=Z,107nm,1.5s
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=E,10.0nm,0.9s
YSS Yuzh-Sakhalins 147.48 315 *e*PKP2 **PKPbc** **03 18 12.8 -0.7**
YSS pmax pmax
comp=Z,90nm,1.0s
YSS Yuzh-Sakhalins 147.48 315 *e*PKPbc **PKPdf** **03 18 11.6 +0.7**
KURK Kurchatov 147.80 37 *e*PKIKP **PKPdf** **03 18 11.7 +0.4**
KURK 03 18 28.4
KURK MLR MLR
comp=Z,246nm,20.0s
KURK Kurchatov 147.80 37 *e*PKPbc **PKPdf** **03 18 11.7 +0.4**
KURK pPKPbc **pPKPbc** **03 18 28.4 -1.5**
KURK LR LR
comp=Z,246nm,20.0s
KURK Kurchatov 147.80 37 ⇓P **PKPdf** **03 18 12.0 +0.7**
SNR=16
KURBB Kurchatov Arra 147.81 37 PKPbc **PKPdf** **03 18 11.9 +0.6**
comp=Z,25nm,0.8s,baz=299,slow=3.0,SNR=81
KURBB pPKPbc **pPKPbc** **03 18 28.4 -1.5**
comp=Z,43nm,0.8s,baz=301,slow=3.4,SNR=16
EKS2 Erkin-Say 148.11 53 *e*PKIKP **PKPdf** **03 18 13.1 +0.8**
EKS2 *e* 03 18 16.4
EKS2 MLR MLR
comp=Z,260nm,19.0s
EKS2 Erkin-Say 148.11 53 *e*PKPdf **PKPdf** **03 18 13.1 +0.8**
EKS2 *e*PKPbc **PKPbc** **03 18 16.4 +0.8**
EKS2 LR LR
comp=Z,260nm,19.0s
EKS2 Erkin-Say 148.11 53 P **PKPdf** **03 18 13.6 +1.2**
SNR=28
EKS2 P **PKPdf** **03 18 13.6 +1.2**
SNR=28
AML Almayashu 148.19 54 P **PKPdf** **03 18 13.8 +1.0**
SNR=28
AML P **PKPdf** **03 18 13.8 +1.0**
SNR=28
USP Ospenovka 148.45 52 P **PKPdf** **03 18 13.6 +0.8**
SNR=30
USP P **PKPdf** **03 18 13.6 +0.8**
SNR=30
ASAJ Asahikawa 148.62 310 PKP **PKPdf** **03 18 14.0 +1.0**
ASAJ *e*PKPbc **PKPbc** **03 18 16.3 -0.4**
ASAJ PKPbc **PKPbc** **03 18 16.6 -0.1**
ASAJ Asahikawa 148.62 310 PKP **PKPdf** **03 18 14.0 +1.0**
comp=Z,68nm,1.0s,baz=266,slow=6.8,SNR=19
ASAJ PKPbc **PKPbc** **03 18 16.6 -0.1**
comp=Z,68nm,1.0s,baz=262,slow=6.2,SNR=20
AAK Ala-Archa 148.63 53 *e*PKIKP **PKPdf** **03 18 14.2 +1.0**
AAK 03 18 14.3
AAK *e* 03 18 18.1
AAK MLR MLR
comp=Z,206nm,20.0s
AAK Ala-Archa 148.63 53 *e*PKPdf **PKPdf** **03 18 14.2 +1.0**
AAK PKP **PKPdf** **03 18 14.3 +1.0**
AAK PKPbc **PKiKP** **03 18 17.9 -0.6**
AAK *e*PKPbc **PKPab** **03 18 18.1 -2.6**
AAK pPKPbc **pPKPbc** **03 18 33.6 +1.1**
AAK LR LR
comp=Z,206nm,20.0s
AAK Ala-Archa 148.63 53 ⇓P **PKPdf** **03 18 14.2 +1.0**
SNR=27
AAK Ala-Archa 148.63 53 P **PKPdf** **03 18 14.4 +1.1**
SNR=26
AAK P **PKPdf** **03 18 14.4 +1.1**
SNR=26
AAK Ala-Archa 148.63 53 PKP **PKPdf** **03 18 14.3 +1.0**
comp=Z,42nm,0.8s,baz=222,slow=2.9,SNR=27
AAK PKPbc **PKiKP** **03 18 17.9 -0.6**
comp=Z,42nm,0.8s,baz=181,slow=2.0,SNR=54
AAK pPKPbc **pPKPbc** **03 18 33.6 +1.1**
comp=Z,65nm,0.7s,baz=212,slow=3.1,SNR=14
FRU Bishkek 148.66 53 *e*PKIKP **PKPdf** **03 18 14.0 +0.9**
FRU *i* 03 18 18.0
FRU pmax pmax
comp=Z,140nm,1.8s
ZAA0 Zalesovo Array 148.66 28 *e*PKPdf **PKPdf** **03 18 13.0 +0.3**
ZAA0 *e*PKPbc **PKPbc** **03 18 16.7 +0.2**
ZALV Zalesovo Beam 148.66 28 PKIKP **PKPdf** **03 18 13.3 +0.6**
ZALV 03 18 16.7
ZALV Zalesovo Beam 148.66 28 PKP **PKPdf** **03 18 13.3 +0.6**
ZALV PKPbc **PKPbc** **03 18 16.6 +0.2**
ZALV pPKPbc **pPKPbc** **03 18 31.4 -0.6**
ZALV Zalesovo Beam 148.66 28 PKP **PKPdf** **03 18 13.3 +0.6**
comp=Z,81nm,0.8s,baz=299,slow=3.1,SNR=50
ZALV PKPbc **PKPbc** **03 18 16.6 +0.2**
comp=Z,81nm,0.8s,baz=302,slow=3.4,SNR=66
ZALV pPKPbc **pPKPbc** **03 18 31.4 -0.6**
comp=Z,119nm,0.9s,baz=299,slow=3.1,SNR=16
CHMS Chumysh 148.71 52 P **PKPbc** **03 18 17.9 +0.9**
SNR=11
CHMS P **PKPbc** **03 18 17.9 +0.9**
SNR=11
KBK Karagaybulak 148.94 53 P **PKPdf** **03 18 14.7 +0.9**
SNR=13
KBK P **PKPdf** **03 18 14.7 +0.9**
SNR=13
CLNS Chul'man 149.03 343 *e*PKP2 **PKPbc** **03 18 16.1 -1.3**
CLNS pmax pmax
comp=Z,62nm,1.0s
CLNS pmax pmax
comp=N,21nm,0.9s
CLNS pmax pmax
comp=E,11nm,1.0s
TKM2 Tokmak 2 149.32 52 *e*PKHKP PKPpre 03 18 15.1
TKM2 *e* 03 18 24.0
TKM2 MLR MLR
comp=Z,194nm,20.0s
TKM2 Tokmak 2 149.32 52 *e*PKPdf **PKPdf** **03 18 15.1 +0.6**
TKM2 *e*PKPbc **PKPbc** **03 18 19.1 +0.3**
TKM2 *e*PKPab **PKPab** **03 18 23.9 +0.4**
TKM2 LR LR
comp=Z,194nm,20.0s
TKM2 Tokmak 2 149.32 52 P **PKPdf** **03 18 15.0 +0.6**
SNR=9.5
TKM2 P **PKPdf** **03 18 15.0 +0.6**
SNR=9.5
KZA Kyzart 149.32 54 P **PKPbc** **03 18 20.2 +1.1**
SNR=6.8
KZA P **PKPbc** **03 18 20.2 +1.1**
SNR=6.8
ULHL Ulahol 149.98 53 P **PKPbc** **03 18 21.6 +1.2**
SNR=8.9
ULHL P **PKPbc** **03 18 21.6 +1.2**
SNR=8.9
BOD Bodaibo 149.99 355 *e*PKIKP **PKPdf** **03 18 13.4 -1.3**
BOD *e* 03 18 18.5
BOD pmax pmax
comp=Z,61nm,1.0s
HYB Hyderabad 150.19 104 *i* PKP **PKPdf** **03 18 15.5 -0.8**
HYB *e* 03 18 20.5
HYB *e*PKPAB **PKPab** **03 18 26.5 -1.1**

HYB					*ep*PKP	**pPKPdf**	**03 18 36.0**	**+4.1**
HYB					*ep*PKPAB		03 18 41.5	
KSH	**Kashi**	**150.50**	**59**	*i* PKPbc	**PKPbc**	**03 18 22.3**	**+0.7**
KSH				pPKP	**pPKPdf**	**03 18 33.4**	**+1.5**
KSH				sPKP		03 18 37.6	
KSH				PKS	**PP**	**03 21 56.1**	**-2.2**
KSH				PP	PP	03 22 06.6	+8.3
KSH				SKS	**SKSdf**	**03 25 25.1**	**+5.2**
KSH				SKKS	**SKKSac**	**03 28 50.3**	**+5.6**
KSH				SS	**SS**	**03 41 18.1**	**+3.8**
KSH				AMB	AMB			
	comp=Z,300nm,4.9s							
KSH				LR	LR			
	comp=N,120nm,5.2s							
KSH				LR	LR			
	comp=E,100nm,4.2s							
KSH				LR	LR			
	comp=Z,160nm,7.2s							
KSH	**Kashi**	**150.50**	**59**	SS	**PP**	**03 21 55.8**	**-2.5**	
PPI	**Padang Panjang**	**150.54**	**163**	P	**PKPdf**	**03 18 21.6**	**+4.7**	
	comp=Z,55nm,1.3s,comp=Z,750nm							
KHET	**Khetri**	**150.87**	**82**	*e*PKP	**PKPdf**	**03 18 16.5**	**-0.5**	
HABR	**Khabarovsk**	**151.25**	**322**	⇓PKIKP	**PKPdf**	**03 18 16.0**	**-0.9**	
HABR				*i*		03 18 23.1		
HABR				*e*		03 18 31.2		
HABR				*e*		03 22 01.0		
HABR				*e*		03 25 19.3		
HABR				*e*PPP	PPP	03 25 24.9		
HABR				*e*SS	SS	03 41 21.8	+0.8	
HABR				*e*SSS	SSS	03 47 05.8		
HABR				pmax	pmax			
	comp=N,35nm,1.5s							
HABR				pmax	pmax			
	comp=E,57nm,1.5s							
HABR				pmax	pmax			
	comp=Z,180nm,1.5s							
GSI	**Gunungsitoli**	**151.32**	**156**	PKP	**PKPbc**	**03 18 24.6**	**+0.4**	
KUDL	**Kundal**	**151.47**	**82**	*e*PKP	**PKPdf**	**03 18 17.4**	**-0.4**	
KUDL				AMb	AMB	03 18 25.9		
	comp=Z,97nm,1.1s							
MNSI	**Mandailing Nat**	**151.51**	**160**	P	PKPdf	03 18 23.8	+5.4	
	comp=Z,61nm,1.1s,comp=Z,6μm							
MNSI	**Mandailing Nat**	**151.51**	**160**	PKP	PKPdf	03 18 23.8	+5.4	
BHGR	**Bahadurgarh**	**151.93**	**81**	*e*PKP	**PKPdf**	**03 18 17.7**	**-0.9**	
KKR	**Kurukshetra**	**151.94**	**78**	*e*PKP	**PKPdf**	**03 18 17.4**	**-1.2**	
MK31	**Makanchi Array**	**151.98**	**41**	*e*PKIKP	**PKPdf**	**03 18 17.8**	**-0.4**	
MK31				*e*		03 18 24.5		
MK31	**Makanchi Array**	**151.98**	**41**	*e*PKPdf	**PKPdf**	**03 18 17.8**	**-0.4**	
MK31				*e*PKPbc	**PKPbc**	**03 18 24.5**	**-0.2**	
MKAR	**Makanchi Array**	**151.98**	**41**	PKIKP	**PKPdf**	**03 18 18.0**	**-0.2**	
MKAR						03 18 24.5		
MKAR	**Makanchi Array**	**151.98**	**41**	PKP	**PKPdf**	**03 18 17.9**	**-0.2**	
MKAR				PKPbc	**PKPbc**	**03 18 24.5**	**-0.2**	
MKAR				pPKPbc	**pPKPbc**	**03 18 40.1**	**-0.2**	
MKAR	**Makanchi Array**	**151.98**	**41**	PKP	**PKPdf**	**03 18 17.9**	**-0.2**	
	comp=Z,3.0nm,0.9s,baz=286,slow=3.1,SNR=23							
MKAR				PKPbc	**PKPbc**	**03 18 24.5**	**-0.2**	
	comp=Z,31nm,0.8s,baz=315,slow=2.3,SNR=114							
MKAR				pPKPbc	**pPKPbc**	**03 18 40.1**	**-0.2**	
	comp=Z,35nm,0.8s,baz=322,slow=2.1,SNR=16							
AYAN	**Aya Nagar**	**152.07**	**81**	*e*PKP	**PKPdf**	**03 18 18.5**	**-0.3**	
NDI	**New Delhi**	**152.18**	**81**	*ex*	**PKPbc**	**03 18 24.0**	**-1.7**	
SMLA	**Simla**	**152.30**	**76**	*i* P	**PKPdf**	**03 18 17.9**	**-1.1**	
KLR	**Kul'dur**	**152.48**	**327**	*e*PKIKP	PKPdf	03 18 13.1	-5.7	
KLR				*e*		03 22 06.5		
KLR				pmax	pmax			
	comp=Z,57nm,1.6s							
AGRA	**Agra**	**152.62**	**84**	*e*PKP	**PKPdf**	**03 18 19.5**	**-0.1**	
PSI	**Prapat**	**153.19**	**158**	P	PKPdf	03 18 27.8	+6.7	
KSM	**Kuching**	**153.57**	**183**	*e*PKPdf	**PKPdf**	**03 18 22.1**	**+0.7**	
KSM				*e*PKPbc	**PKPbc**	**03 18 27.5**	**-1.7**	
KSM				*e*PKPab	**PKPab**	**03 18 42.2**	**+0.6**	
KSM				LR	LR			
	comp=Z,192nm,20.0s							
MJAR	**Matsushiro Arr**	**153.86**	**296**	PKP	**PKPdf**	**03 18 20.6**	**-0.6**	
MJAR				PKPbc	**PKPbc**	**03 18 28.4**	**-0.8**	
MJAR				PKPab	**PKPab**	**03 18 41.4**	**-1.1**	
MJAR	**Matsushiro Arr**	**153.86**	**296**	PKP	**PKPdf**	**03 18 20.6**	**-0.6**	
	comp=Z,5.5nm,1.1s,baz=213,slow=0.9,SNR=7.5							
MJAR				PKPbc	**PKPbc**	**03 18 28.4**	**-0.8**	
	comp=Z,9.8nm,0.9s,baz=154,slow=1.4,SNR=14							
MJAR				PKPab	**PKPab**	**03 18 41.4**	**-1.1**	
	comp=Z,29nm,0.9s,baz=138,slow=2.0,SNR=20							
MAJO	**Matsushiro**	**153.86**	**296**	*e*PKIKP	**PKPdf**	**03 18 20.8**	**-0.4**	
MAJO				*e*		03 18 28.5		
MAJO				*e*		03 18 42.4		
MAJO	**Matsushiro**	**153.86**	**296**	*e*PKPdf	**PKPdf**	**03 18 20.8**	**-0.4**	
MAJO				*e*PKPbc	**PKPbc**	**03 18 28.5**	**-0.6**	
MAJO				*e*PKPab	**PKPab**	**03 18 42.4**	**-0.1**	
MAT	**Matsushiro**	**153.86**	**296**	PKP	**PKPdf**	**03 18 20.3**	**-0.9**	
USRK	**Ussuriysk Arra**	**155.43**	**317**	PKP	**PKPdf**	**03 18 22.7**	**-0.3**	
	comp=Z,3.2nm,1.0s,baz=48,slow=2.8,SNR=6.4							
USRK				PKPbc	PKPab	03 18 32.1	-17	
	comp=Z,6.4nm,0.8s,baz=56,slow=3.3,SNR=10							
USRK				PKPab	PKPab	03 18 49.0	+0.2	
	comp=Z,16nm,0.9s,baz=62,slow=2.9,SNR=13							
IPM	**Ipoh**	**155.43**	**161**	*e*PKPdf	**PKPdf**	**03 18 24.1**	**0.0**	
IRK	**Irkutsk**	**155.56**	**7**	*e*PKIKP	**PKPdf**	**03 18 23.2**	**+0.2**	
IRK				pmax	pmax			
	comp=Z,78nm,2.1s							
MOY	**Mondy**	**155.65**	**12**	*e*PKIKP	**PKPdf**	**03 18 24.0**	**+0.7**	
MOY				pmax	pmax			
	comp=Z,49nm,2.6s							
TLY	**Talaya**	**156.04**	**8**	*i* PKIKP	**PKPdf**	**03 18 22.9**	**-0.8**	
TLY				pmax	pmax			
	comp=Z,21nm,1.6s							
TLY	**Talaya**	**156.04**	**8**	*e*PKPdf	**PKPdf**	**03 18 24.9**	**+1.1**	
TLY				LR	LR			
	comp=Z,245nm,21.0s							
TLY	**Talaya**	**156.04**	**8**	⇑P	**PKPdf**	**03 18 24.5**	**+0.8**	
	SNR=10							
MDJ	**Mudanjiang**	**156.58**	**321**	PKP	**PKPdf**	**03 18 24.5**	**-0.1**	
MDJ				pPKP	**pPKPdf**	**03 18 39.3**	**-1.0**	
MDJ				sPKP		03 18 44.9		
MDJ				PP	**PP**	**03 22 31.7**	**-0.1**	
MDJ				AMB	AMB			
	comp=Z,85nm,5.9s							
MDJ				LR	LR			
	comp=N,140nm,39.7s							
MDJ				LR	LR			
	comp=E,80nm,26.0s							
MDJ				LR	LR			
	comp=Z,190nm,24.0s							
MDJ	**Mudanjiang**	**156.58**	**321**	PFAKE		03 18 40.0	-14	
MDJ				LR	LR			
	comp=Z,250nm,22.0s							
WMQ	**Urumqi**	**156.80**	**42**	PKP	**PKPdf**	**03 18 25.8**	**+0.8**	
WMQ				PP	**PP**	**03 22 32.9**	**-0.3**	
WMQ				AMB	AMB			
	comp=Z,100nm,9.2s							
WMQ				LR	LR			
	comp=N,370nm,22.4s							
WMQ				LR	LR			
	comp=E,330nm,24.6s							
WMQ				LR	LR			
	comp=Z,390nm,26.9s							
HIA	**Hailar**	**157.19**	**341**	*e*PKPdf	**PKPdf**	**03 18 25.2**	**-0.1**	
HIA				*e*PKPab	**PKPab**	**03 18 55.6**	**-0.6**	
HIA				LR	LR			
	comp=Z,234nm,19.0s							
ZAK	**Zakamensk**	**157.26**	**9**	⇓*i*PKIKP	**PKPdf**	**03 18 25.9**	**+0.5**	
ZAK				pmax	pmax			
	comp=Z,9.0nm,1.3s							
KOLN	**Koldanda**	**157.67**	**85**	*e*P	**PKPdf**	**03 18 26.4**	**-0.4**	
DANN	**Dangsing**	**157.87**	**83**	*e*P	**PKPdf**	**03 18 27.4**	**+0.3**	
	comp=Z,106nm,1.0s							
GKN	**Gorkha**	**158.61**	**84**	*e*P	**PKPdf**	**03 18 27.4**	**-0.5**	
	comp=Z,61nm,1.1s							
DMN	**Daman**	**158.98**	**86**	*e*P	**PKPdf**	**03 18 28.5**	**0.0**	
KKN	**Kakani**	**159.15**	**85**	*e*P	**PKPdf**	**03 18 28.5**	**-0.1**	
PKI	**Pulchoki**	**159.24**	**86**	*e*P	**PKPdf**	**03 18 28.4**	**-0.5**	
CN2	**Changchun**	**159.36**	**324**	*e*PKP	**PKPdf**	**03 18 26.9**	**-1.1**	
CN2				PP	**PP**	**03 22 49.6**	**+2.7**	
CN2				LR	LR			
	comp=N,400nm,25.0s							
CN2				LR	LR			
	comp=E,200nm,25.0s							
CN2				LR	LR			
	comp=Z,200nm,15.0s							
GUN	**Gumba**	**159.69**	**85**	*e*P	**PKPdf**	**03 18 29.1**	**-0.3**	
JIRN	**Jiri**	**159.94**	**86**	*e*P	**PKPdf**	**03 18 29.2**	**-0.5**	
SONM	**Songino Array**	**160.12**	**5**	PKP	**PKPdf**	**03 18 29.4**	**+0.4**	
SONM				PKPab	**PKPab**	**03 19 08.9**	**-0.2**	
SONM				PP	**PP**	**03 22 51.6**	**+1.1**	
SONM	**Songino Array**	**160.12**	**5**	PKP	**PKPdf**	**03 18 29.4**	**+0.4**	
	comp=Z,4.6nm,0.9s,baz=228,slow=1.1,SNR=25							
SONM				PKPab	**PKPab**	**03 19 08.9**	**-0.2**	
	comp=Z,3.8nm,0.8s,baz=332,slow=3.2,SNR=6.1							
SONM				PP	**PP**	**03 22 51.6**	**+1.1**	
	comp=Z,2.5nm,1.0s,baz=328,slow=5.8,SNR=5.6							
ULN	**Ulaanbaatar**	**160.13**	**4**	*e*PKPdf	**PKPdf**	**03 18 28.7**	**-0.3**	
ULN				*e*PKPab	**PKPab**	**03 19 09.3**	**+0.1**	
ULN				LR	LR			
	comp=Z,188nm,21.0s							
ULN	**Ulaanbaatar**	**160.13**	**4**	P	**PKPdf**	**03 18 29.1**	**+0.1**	
	SNR=6.2							
RAMN	**Ramite**	**160.21**	**88**	*e*P	**PKPdf**	**03 18 30.0**	**+0.1**	
	comp=Z,61nm,1.0s							
ODAN	**Odare**	**160.90**	**88**	*e*P	**PKPdf**	**03 18 30.8**	**+0.2**	
TAPN	**Taplejung**	**161.25**	**87**	*e*P	**PKPdf**	**03 18 30.7**	**-0.3**	
	comp=Z,65nm,1.3s							
KSRS	**Korea Array**	**161.44**	**305**	PKP	**PKPdf**	**03 18 29.9**	**-0.6**	
	comp=Z,8.5nm,1.0s,baz=108,slow=0.9,SNR=23							
KSRS				PKPab	**PKPab**	**03 19 15.7**	**+0.6**	
	comp=Z,5.4nm,0.9s,baz=68,slow=4.6,SNR=6.2							
KSAR	**Wonju Array Be**	**161.47**	**305**	PKP	**PKPdf**	**03 18 29.9**	**-0.6**	
KSAR				PKPab	**PKPab**	**03 19 15.7**	**+0.5**	
INCN	**Inchon**	**162.35**	**307**	PFAKE		03 18 40.0	+8.5	
INCN				LR	LR			
	comp=Z,192nm,19.0s							
LSA	**Lhasa**	**164.38**	**80**	PKP	**PKPdf**	**03 18 34.5**	**+0.2**	
LSA	**Lhasa**	**164.38**	**80**	*e*PKIKP	**PKPdf**	**03 18 34.7**	**+0.4**	
LSA				MLR	MLR			
	comp=Z,252nm,22.0s							
LSA	**Lhasa**	**164.38**	**80**	*e*PKPdf	**PKPdf**	**03 18 34.7**	**+0.4**	
LSA				LR	LR			
	comp=Z,252nm,22.0s							
GTA	**Gaotai**	**166.37**	**31**	⇓PKP	**PKPdf**	**03 18 35.6**	**+0.4**	
GTA				PKPab	**PKPab**	**03 19 37.7**	**+0.9**	
GTA				PP	**PP**	**03 23 27.4**	**+3.4**	
GTA				SKS	**SKSdf**	**03 25 33.9**	**-1.1**	
GTA				SKKS	**SKKSac**	**03 30 09.0**	**+1.3**	
GTA				SS	**SS**	**03 44 02.2**	**+1.0**	
GTA				AMB	AMB			
	comp=Z,110nm,5.9s							
GTA				LR	LR			
	comp=N,160nm,19.9s							
GTA				LR	LR			
	comp=E,220nm,20.4s							
GTA				LR	LR			
	comp=Z,300nm,20.4s							
BJI	**Beijing**	**166.57**	**335**	PKP	**PKPdf**	**03 18 35.1**	**0.0**	
BJI				LR	LR			
	comp=N,170nm,25.9s							
BJI				LR	LR			
	comp=E,170nm,28.1s							
BJI				LR	LR			
	comp=Z,130nm,22.5s							
BJT	**Baijiatuan**	**166.59**	**335**	PFAKE		03 18 50.0	+15	
BJT				LR	LR			
	comp=Z,282nm,22.0s							
CMAR	**Chiang Mai Arr**	**166.82**	**134**	PKP	**PKPdf**	**03 18 36.0**	**0.0**	
CMAR				PKPab	**PKPab**	**03 19 38.8**	**-0.4**	
CMAR	**Chiang Mai Arr**	**166.82**	**134**	PKP	**PKPdf**	**03 18 36.0**	**0.0**	
	comp=Z,3.6nm,0.9s,baz=270,slow=2.6,SNR=20							
CMAR				PKPab	**PKPab**	**03 19 38.8**	**-0.4**	
	comp=Z,9.5nm,1.1s,baz=240,slow=4.2,SNR=7.6							
HHC	**Hu-ho-hao-te**	**167.01**	**351**	*e*PKP	**PKPdf**	**03 18 34.6**	**-1.0**	
HHC				PKS	**PKSdf**	**03 22 05.5**	**-2.8**	
HHC				PP	**PP**	**03 23 25.9**	**-0.8**	
HHC				SKS	**SKSdf**	**03 25 30.8**	**-4.5**	
HHC				AMB	AMB			
	comp=Z,190nm,5.9s							
HHC				LR	LR			
	comp=N,200nm,15.0s							
HHC				LR	LR			
	comp=E,120nm,14.3s							
HHC				LR	LR			
	comp=Z,310nm,19.1s							
CHTO	**Chiang Mai**	**167.09**	**133**	*e*PKIKP	**PKPdf**	**03 18 35.7**	**-0.5**	
CHTO				*e*		03 19 40.3		
CHTO				MLR	MLR			
	comp=Z,178nm,20.0s							
CHTO	**Chiang Mai**	**167.09**	**133**	*e*PKPdf	**PKPdf**	**03 18 35.7**	**-0.5**	
CHTO				*e*PKPab	**PKPab**	**03 19 40.3**	**0.0**	
CHTO				LR	LR			
	comp=Z,178nm,20.0s							
CHTO	**Chiang Mai**	**167.09**	**133**	P	**PKPdf**	**03 18 36.1**	**-0.1**	
	SNR=5.2							
NJ2	**Nanjing**	**170.46**	**297**	*e*PKP	**PKPdf**	**03 18 38.1**	**+0.2**	
LZH	**Lanzhou**	**170.90**	**27**	*e*PKP	**PKPdf**	**03 18 37.8**	**-0.5**	
LZH				pPKP	**pPKPdf**	**03 18 53.3**	**-0.7**	
LZH				sPKP		03 18 59.5		
LZH				PP	**PP**	**03 23 49.4**	**+2.6**	
LZH				SKKS		03 30 29.7		
LZH				SS	**SS**	**03 44 45.6**	**-0.6**	
LZH				AMB	AMB			
	comp=Z,180nm,6.2s							
LZH				LR	LR			
	comp=N,500nm,19.0s							
LZH				LR	LR			
	comp=E,430nm,18.7s							
LZH				LR	LR			
	comp=Z,600nm,20.3s							
QIZ	**Qiongzhong**	**171.01**	**186**	PFAKE		03 18 50.0	+11	
QIZ				LR	LR			
	comp=Z,296nm,21.0s							
KMI	**Kunming**	**173.80**	**116**	PKP	**PKPdf**	**03 18 40.0**	**0.0**	
KMI				pPKP	**pPKPdf**	**03 18 55.1**	**-0.6**	
KMI				sPKP		03 19 00.6		
KMI				PP	**PP**	**03 24 05.4**	**+2.9**	
KMI				SKKS		03 30 42.7		
KMI				AMB	AMB			
	comp=Z,170nm,5.6s							
KMI				LR	LR			
	comp=N,93nm,19.9s							
KMI				LR	LR			
	comp=E,180nm,22.6s							
KMI				LR	LR			
	comp=Z,350nm,31.7s							
XAN	**Xi'an**	**174.00**	**360**	PKP	**PKPdf**	**03 18 39.4**	**-0.1**	
WHN	**Wuhan**	**174.59**	**299**	PKP	**PKPdf**	**03 18 39.8**	**+0.1**	
WHN				PKPab	**PKPab**	**03 20 13.5**	**+0.1**	
WHN				LR	LR			
	comp=Z,560nm,13.8s							
CD2	**Chengdu**	**174.69**	**56**	PKP	**PKPdf**	**03 18 40.8**	**+0.9**	
CD2				pPKP	**pPKPdf**	**03 18 56.3**	**+0.7**	
CD2				sPKP		03 19 01.9		
CD2				PKS	**PKSdf**	**03 22 11.4**	**-0.7**	
CD2				PP	**PP**	**03 24 09.6**	**+3.2**	
CD2				SKS	**SKSdf**	**03 25 36.5**	**-2.3**	
CD2				SKKS	**SKKSac**	**03 30 48.6**	**+0.1**	
CD2				SS	**SS**	**03 45 23.0**	**-1.8**	
CD2				AMB	AMB			
	comp=Z,190nm,4.5s							
CD2				LR	LR			
	comp=N,220nm,18.4s							
CD2				LR	LR			
	comp=Z,300nm,23.0s							
GYA	**Guiyang**	**177.50**	**128**	PKP	**PKPdf**	**03 18 40.8**	**+0.1**	
GYA				pPKP	**pPKPdf**	**03 18 56.4**	**0.0**	
GYA				sPKP		03 19 01.8		
GYA				PKPab	PKPab	03 20 27.5	+0.9	
GYA				PKS	**PKSdf**	**03 22 10.7**	**-2.3**	
GYA				PP	**PP**	**03 24 21.9**	**+2.2**	
GYA				SS	SS	03 45 49.0	-2.4	
GYA				AMB	AMB			
	comp=Z,140nm,8.3s							
GYA				LR	LR			
	comp=N,170nm,21.8s							
GYA				LR	LR			
	comp=E,180nm,22.5s							
GYA				LR	LR			
	comp=Z,190nm,21.6s							
ENH	**Enshi**	**177.69**	**347**	*e*PKPdf	**PKPdf**	**03 18 40.3**	**-0.2**	
ENH				*e*PKPab	PKPab	03 20 26.7	-0.3	
ENH				LR	LR			
	comp=Z,208nm,19.0s							

*MOS **06** 03:02:22.2±1.0, 4.°49S×102.°81E, h34km, mb4.9/32, Error ellipse: s-maj=12.5km s-min=7.0km az=112.7*
*ISCJB **06** 03:02:24.4±1.2, 4.°62S±0.°05×102.°72E±0.°06, h56km±11km, mb4.7/60, MS3.9/8, Error ellipse: s-maj=10.7km s-min=7.1km az=141.9*
*BJI **06** 03:02:25.6, 4.°60S×102.°70E, h67km, mB5.0/22, mb4.8/34, Ms4.5/13, Ms7 4.1/12*

*IDC **06** 03:02:25.7±6.0, 4.°47S×102.°82E, h49km±56km, mb4.3/19, mb1 4.3/19, mb1mx4.3/25, mbtmp4.3/19, MS4.3/2, Ms1 4.3/2, ms1mx3.1/39, Error ellipse: s-maj=29.2km s-min=11.7km az=53.0*
*NEIC **06** 03:02:26.6±0.9, 4.°60S×102.°71E, h64km±8km, mb4.6/15, Error ellipse: s-maj=8.5km s-min=5.0km az=51.0*
*DJA **06** 03:02:29, 4.°65S×102.°73E, h26km, MLv4.6/11*
ISC 06 03:02:27.0±0.5, 4.70S±0.°05×102.°63E±0.°08, h68km±2km, h68km:pP-P, n159, σ1$34/194, mb4.7/60, 3C-12D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**9.26**	**350**	*e*Pn	**Pn**	**03 04 37.6**	**-0.2**
COCO	**West Island**	**9.39**	**217**	*e*P	**Pn**	**03 04 40.2**	**+0.6**
COCO				pmax	pmax		
	comp=Z,108nm,0.7s						
COCO	**West Island**	**9.39**	**217**	*e*Pn	**Pn**	**03 04 40.2**	**+0.6**
	comp=Z,108nm,0.7s						
KAPI	**Kappang**	**17.07**	**92**	*e*P	**Pn**	**03 06 20.7**	**-0.6**
	comp=Z,38nm,1.0s						
KAPI	**Kappang**	**17.07**	**92**	LR	LR	03 13 44.4	
	comp=Z,49nm,19.8s,baz=112,slow=40						
CMAR	**Chiang Mai Arr**	**23.30**	**351**	P	**P**	**03 07 27.9**	**-1.2**
CMAR				PcP	**PcP**	**03 11 16.1**	**+1.4**
CMAR	**Chiang Mai Arr**	**23.30**	**351**	P	**P**	**03 07 27.9**	**-1.2**
	comp=Z,8.6nm,1.1s,baz=185,slow=8.2,SNR=26						
CMAR				PcP	**PcP**	**03 11 16.1**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=183,slow=3.4,SNR=4.4						
CMAR				LR	LR	03 16 22.8	
	comp=Z,55nm,19.9s,baz=136,slow=36						
CHTO	**Chiang Mai**	**23.65**	**351**	*e*P	**P**	**03 07 31.3**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CHTO	**Chiang Mai**	**23.65**	**351**	*e*P	**P**	**03 07 31.3**	**-1.1**
	comp=Z,6.1nm,0.9s						
QIZ	**Qiongzhong**	**24.63**	**17**	P	**P**	**03 07 42.2**	**+0.9**
QIZ				pP	**pP**	**03 07 56.9**	**-0.6**
QIZ				S	**S**	**03 12 00.9**	**+2.9**
QIZ				pmax	pmax		
	comp=Z,8.0nm,1.6s						
QIZ				pmax	pmax		
	comp=Z,41nm,3.7s						
FITZ	**Fitzroy Crossi**	**26.15**	**122**	P	**P**	**03 07 55.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**26.15**	**122**	P	**P**	**03 07 55.0**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=256,slow=6.7,SNR=6.4						
KMI	**Kunming**	**29.65**	**0**	P	**P**	**03 08 26.8**	**+0.3**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**31.22**	**156**	LR	LR	03 18 57.8	
	comp=Z,146nm,20.9s,baz=196,slow=32						
GYA	**Guiyang**	**31.22**	**7**	*e*P	**P**	**03 08 42.8**	**+2.5**
GYA				pP	**pP**	**03 08 58.6**	**+1.9**
GYA				sP	**sP**	**03 09 08.0**	**+3.4**
GYA				PP	**PnPn**	**03 09 47.5**	**+2.7**
GYA				S	**S**	**03 13 44.2**	**+2.2**
GYA				sS	**sS**	**03 14 12.2**	**+2.2**
GYA				ScS	**ScS**	**03 19 07.0**	**-1.6**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
WRA	**Warramunga Arr**	**34.38**	**119**	P	**P**	**03 09 07.7**	**-0.3**
WRA	**Warramunga Arr**	**34.38**	**119**	P	**P**	**03 09 07.7**	**-0.3**
	comp=Z,6.5nm,0.8s,baz=301,slow=9.2,SNR=27						
WRAB	**Tennant Creek**	**34.39**	**119**	*e*P	**P**	**03 09 07.6**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,23nm,1.3s						
WRAB	**Tennant Creek**	**34.39**	**119**	*e*P	**P**	**03 09 07.6**	**-0.4**
	comp=Z,23nm,1.3s						
ODAN	**Odare**	**34.67**	**336**	*e*P	**P**	**03 09 10.6**	**+0.1**
TAPN	**Taplejung**	**34.97**	**336**	*e*P	**P**	**03 09 13.2**	**0.0**
RAMN	**Ramite**	**35.08**	**335**	*e*P	**P**	**03 09 14.5**	**+0.5**
	comp=Z,8.4nm,0.4s						
CD2	**Chengdu**	**35.43**	**2**	P	**P**	**03 09 18.9**	**+2.1**
CD2				pP	**pP**	**03 09 34.5**	**+1.2**
CD2				sP	**sP**	**03 09 41.9**	**+0.7**
CD2				S	**S**	**03 14 49.3**	**+2.4**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CD2				pmax	pmax		
	comp=Z,80nm,5.2s						
AS31	**Alice Springs**	**35.56**	**125**	*e*P	**P**	**03 09 17.8**	**-0.2**
ASAR	**Alice Springs**	**35.56**	**125**	P	**P**	**03 09 18.2**	**+0.2**
ASAR				PcP	**PcP**	**03 11 46.7**	**+0.8**
ASAR	**Alice Springs**	**35.56**	**125**	P	**P**	**03 09 18.2**	**+0.2**
	comp=Z,1.9nm,0.3s,baz=302,slow=8.2,SNR=27						
ASAR				PcP	**PcP**	**03 11 46.7**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=305,slow=3.0,SNR=6.3						
JIRN	**Jiri**	**35.87**	**335**	*e*P	**P**	**03 09 21.1**	**+0.1**
PKI	**Pulchoki**	**36.14**	**334**	*e*P	**P**	**03 09 23.2**	**0.0**
GUN	**Gumba**	**36.23**	**334**	*e*P	**P**	**03 09 23.7**	**-0.3**
	comp=Z,27nm,0.3s						
DMN	**Daman**	**36.30**	**333**	*e*P	**P**	**03 09 24.5**	**-0.1**
KKN	**Kakani**	**36.38**	**334**	*e*P	**P**	**03 09 25.3**	**+0.1**
	comp=Z,16nm,0.5s						
GKN	**Gorkha**	**36.85**	**333**	*e*P	**P**	**03 09 29.1**	**0.0**
KOLN	**Koldanda**	**37.14**	**331**	*e*P	**P**	**03 09 31.6**	**0.0**
DANN	**Dangsing**	**37.55**	**332**	*e*P	**P**	**03 09 35.1**	**-0.1**
	comp=Z,38nm,0.5s						
XAN	**Xi'an**	**38.99**	**8**	P	**P**	**03 09 45.6**	**-1.3**
XAN				pP	**pP**	**03 09 59.1**	**-4.5**
XAN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,17nm,4.5s						
NJ2	**Nanjing**	**39.68**	**22**	*e*P	**P**	**03 09 54.1**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LZH	**Lanzhou**	**40.59**	**2**	*e*P	**P**	**03 10 03.2**	**+2.9**
LZH				pP	pP	03 10 08.0	-9.1
LZH				sP	sP	03 10 10.5	-14
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
LZH	**Lan

	comp=Z,14nm,0.9s								
HHC					pmax	pmax			
	comp=Z,140nm,5.5s								
HHC					LR	LR			
	comp=N,84nm,14.3s								
HHC					LR	LR			
	comp=E,100nm,13.1s								
HHC					LR	LR			
	comp=Z,98nm,11.0s								
BJI	**Beijing**	**46.24**	**14**		P	**P**	**03 10 47.0**	**+1.6**	
BJI					S	**S**	**03 17 30.4**	**+3.3**	
BJI					pmax	pmax			
	comp=Z,3.0nm,0.6s								
BJI					pmax	pmax			
	comp=Z,79nm,7.7s								
BJI					LR	LR			
	comp=N,120nm,25.6s								
BJI					LR	LR			
	comp=E,180nm,24.5s								
BJI					LR	LR			
	comp=Z,57nm,22.4s								
KSAR	**Wonju Array Be**	**48.08**	**27**		P	**P**	**03 10 59.0**	**-0.9**	
KSRS	**Korea Array**	**48.10**	**27**		P	**P**	**03 10 59.0**	**-1.1**	
	comp=Z,2.2nm,0.9s,baz=223,slow=6.8,SNR=5.2								
CMSA	**Cobar Meteorol**	**48.38**	**129**		*e*P	**P**	**03 11 03.6**	**+1.2**	
	comp=Z,67nm,0.8s								
WMQ	**Urumqi**	**50.14**	**346**		P	**P**	**03 11 16.0**	**+0.4**	
WMQ					pP	**pP**	**03 11 30.2**	**-2.7**	
WMQ					pmax	pmax			
	comp=Z,20nm,1.0s								
WMQ					pmax	pmax			
	comp=Z,150nm,5.9s								
KSH	**Kashi**	**50.40**	**333**		P	**P**	**03 11 16.5**	**-1.2**	
KSH					pP	**pP**	**03 11 32.1**	**-2.9**	
KSH					sP	**sP**	**03 11 39.2**	**-3.6**	
KSH					PcP	**PcP**	**03 12 34.7**	**-0.6**	
KSH					PP	**PP**	**03 13 13.7**	**-0.3**	
KSH					S	**S**	**03 18 24.8**	**-1.4**	
KSH					ScS	**ScS**	**03 20 58.6**	**-4.1**	
SONM	**Songino Array**	**52.42**	**3**		P	**P**	**03 11 32.4**	**-0.2**	
SONM					PcP	**PcP**	**03 12 42.0**	**-0.7**	
SONM	**Songino Array**	**52.42**	**3**		P	**P**	**03 11 32.4**	**-0.2**	
	comp=Z,12nm,0.8s,baz=180,slow=9.1,SNR=85								
SONM					PcP	**PcP**	**03 12 42.0**	**-0.7**	
	comp=Z,1.0nm,0.6s,baz=167,slow=2.3,SNR=3.5								
CN2	**Changchun**	**52.48**	**21**		*e*P	P	03 11 36.8	+3.8	
CN2					pmax	pmax			
	comp=Z,10.0nm,0.5s								
ULN	**Ulaanbaatar**	**52.49**	**4**		*e*P	**P**	**03 11 32.4**	**-0.9**	
	comp=Z,7.8nm,0.9s								
MJAR	**Matsushiro Arr**	**52.81**	**36**		P	**P**	**03 11 33.4**	**-2.2**	
MJAR	**Matsushiro Arr**	**52.81**	**36**		P	**P**	**03 11 33.4**	**-2.2**	
	comp=Z,3.4nm,0.9s,baz=219,slow=7.4,SNR=7.8								
TKM2	**Tokmak 2**	**53.35**	**335**		*e*P	**P**	**03 11 39.8**	**+0.1**	
TKM2					pmax	pmax			
	comp=Z,9.0nm,1.0s								
TKM2	**Tokmak 2**	**53.35**	**335**		*e*P	**P**	**03 11 39.8**	**+0.1**	
	comp=Z,9.5nm,1.0s								
AAK	**Ala-Archa**	**53.58**	**334**	*de*P		**P**	**03 11 41.7**	**+0.3**	
AAK					pmax	pmax			
	comp=Z,24nm,2.8s								
AAK	**Ala-Archa**	**53.58**	**334**		*e*P	**P**	**03 11 41.0**	**-0.4**	
	comp=Z,16nm,1.1s								
AAK	**Ala-Archa**	**53.58**	**334**		P	**P**	**03 11 40.8**	**-0.5**	
	comp=Z,1.3nm,0.7s,baz=268,slow=12,SNR=3.9								
EKS2	**Erkin-Say**	**53.92**	**334**		*e*P	**P**	**03 11 44.2**	**+0.4**	
EKS2					pmax	pmax			
	comp=Z,7.0nm,0.9s								
EKS2	**Erkin-Say**	**53.92**	**334**		*e*P	**P**	**03 11 44.2**	**+0.4**	
	comp=Z,6.7nm,0.9s								
MK31	**Makanchi Array**	**54.34**	**343**		*e*P	**P**	**03 11 45.8**	**-0.9**	
MK31	**Makanchi Array**	**54.34**	**343**		*e*P	**P**	**03 11 45.8**	**-0.9**	
MKAR	**Makanchi Array**	**54.34**	**343**		P	**P**	**03 11 45.9**	**-0.8**	
MKAR					pmax	pmax			
	comp=Z,8.0nm,0.7s								
MKAR	**Makanchi Array**	**54.34**	**343**		*e*P	**P**	**03 11 45.4**	**-1.2**	
MKAR	**Makanchi Array**	**54.34**	**343**		P	**P**	**03 11 45.9**	**-0.8**	
	comp=Z,7.5nm,0.7s,baz=148,slow=8.4,SNR=90								
ZAK	**Zakamensk**	**54.87**	**1**		*e*P	**P**	**03 11 49.2**	**-1.3**	
ZAK					pmax	pmax			
	comp=Z,3.0nm,1.0s								
USRK	**Ussuriysk Arra**	**55.38**	**25**		P	**P**	**03 11 52.8**	**-1.4**	
	comp=Z,5.8nm,0.8s,baz=223,slow=5.5,SNR=12								
KKAR	**Karatay Array**	**55.75**	**332**		*e*P	**P**	**03 11 56.6**	**-0.3**	
KKAR	**Karatay Array**	**55.75**	**332**		*e*P	**P**	**03 11 56.6**	**-0.3**	
KURBB	**Kurchatov Arra**	**58.88**	**342**		P	**P**	**03 12 18.2**	**-0.6**	
	comp=Z,9.3nm,0.9s,baz=156,slow=6.7,SNR=53								
KURK	**Kurchatov**	**58.94**	**342**		*e*P	**P**	**03 12 18.3**	**-0.8**	
KURK					pmax	pmax			
	comp=Z,13nm,0.9s								
KURK	**Kurchatov**	**58.94**	**342**		*e*P	**P**	**03 12 18.3**	**-0.8**	
	comp=Z,13nm,0.9s								
HABR	**Khabarovsk**	**60.06**	**24**		*e*P	P	03 12 39.5	+13	
HABR					*e*		03 14 36.2		
HABR					*e*S	**S**	**03 20 31.5**	**-3.1**	
HABR					*e*		03 20 50.4		
HABR					*e*		03 20 59.2		
HABR					*e*		03 22 08.1		
HABR					*e*SS	**SS**	**03 24 30.1**	**-2.6**	
HABR					pmax	pmax			
	comp=N,41nm,2.5s								
HABR					pmax	pmax			
	comp=E,43nm,1.9s								
HABR					pmax	pmax			
	comp=Z,72nm,2.5s								
HABR					MLR	MLR			
	comp=Z,43nm,18.0s								
ZAA0	**Zalesovo Array**	**60.31**	**348**		*e*P	**P**	**03 12 27.1**	**-1.5**	
ZALV	**Zalesovo Beam**	**60.31**	**348**		P	**P**	**03 12 27.4**	**-1.1**	
ZALV					pmax	pmax			
	comp=Z,28nm,0.9s								
ZALV	**Zalesovo Beam**	**60.31**	**348**		P	**P**	**03 12 27.4**	**-1.1**	
ZALV	**Zalesovo Beam**	**60.31**	**348**		P	**P**	**03 12 27.4**	**-1.1**	
	comp=Z,28nm,0.9s,baz=160,slow=4.7,SNR=46								
YSS	**Yuzh-Sakhalins**	**62.44**	**30**		*e*P	**P**	**03 12 42.1**	**-0.9**	
YSS					pmax	pmax			
	comp=Z,19nm,1.3s								
RDF	**Al-Radifah**	**62.55**	**306**		*e*P	**P**	**03 12 45.8**	**+1.7**	
RDF					AMb	AMB	03 12 46.8		
	comp=Z,27nm,0.9s								
NAY	**Al-Naaiem**	**62.92**	**306**		*e*P	**P**	**03 12 47.5**	**+0.9**	
NAY					AMb	AMB	03 12 48.9		
	comp=Z,11nm,1.0s								
BOD	**Bodaibo**	**62.99**	**7**		*e*P	**P**	**03 12 45.2**	**-1.3**	
BOD					pmax	pmax			
	comp=Z,7.0nm,1.0s								
MIB	**Mutribah**	**63.06**	**307**		*e*P	**P**	**03 12 48.7**	**+1.2**	
MIB					AMb	AMB	03 12 50.1		
	comp=Z,26nm,0.9s								
BRVK	**Borovoye**	**63.68**	**339**	‖	*e*P	**P**	**03 12 50.1**	**-1.1**	
BRVK					pmax	pmax			
	comp=Z,7.0nm,1.1s								
BRVK	**Borovoye**	**63.68**	**339**		*e*P	**P**	**03 12 49.8**	**-1.3**	
	comp=Z,2.5nm,0.4s								
ABKAR	**Akbulak array**	**65.26**	**331**		*e*P	**P**	**03 13 00.9**	**-0.6**	
	comp=Z,3.6nm,0.6s								
DRV	**Dumont d'Urvil**	**67.03**	**165**		SS	SS	03 26 22.0	+1.3	
DRV					L	L	03 32 00.0		
DRV					R		03 37 00.0		
YAK	**Yakutsk**	**69.72**	**13**		*e*P	**P**	**03 13 27.4**	**-1.9**	
YAK					pmax	pmax			
	comp=Z,22nm,1.4s								
ARU	**Arti**	**70.72**	**336**	*d*	iP	**P**	**03 13 35.4**	**-0.2**	
ARU							03 16 07.3		
ARU					S	**S**	**03 22 46.9**	**+2.2**	
ARU					SS	**SS**	**03 27 14.7**	**-3.4**	
ARU					pmax	pmax			
	comp=Z,7.0nm,1.1s								
ZEI	**Tsey**	**70.98**	**318**		*e*P	**P**	**03 13 37.6**	**-0.2**	
ZEI					pmax	pmax			
	comp=Z,4.0nm,0.9s								
ASF	**Jabal al Asfar**	**72.28**	**306**		P	**P**	**03 13 47.9**	**+2.2**	
ASF	**Jabal al Asfar**	**72.28**	**306**		P	**P**	**03 13 47.9**	**+2.2**	
	baz=164,slow=3.5								
KIV	**Kislovodsk**	**72.29**	**319**		P	**P**	**03 13 47.0**	**+1.5**	
KIV					*e*		03 13 55.0		
KIV					pmax	pmax			
	comp=Z,10.0nm,1.5s								
EIL	**Elat**	**73.18**	**303**		P	**P**	**03 13 52.4**	**+1.5**	
EIL	**Elat**	**73.18**	**303**		P	**P**	**03 13 52.4**	**+1.5**	
	comp=Z,5.5nm,0.8s,baz=281,slow=1.7,SNR=5.1								
VRHR	**Novokhopersk**	**76.03**	**325**		*e*P	**P**	**03 14 06.8**	**-0.1**	
VRHR					pmax	pmax			
	comp=N,7.0nm,0.9s								
VRHR					pmax	pmax			
	comp=E,7.0nm,0.9s								
VRHR					pmax	pmax			
	comp=Z,8.0nm,0.9s								
BOSA	**Boshof**	**76.68**	**242**		LR	LR	03 43 04.1		
	comp=Z,606nm,19.5s,baz=276,slow=32								
BR131	**Keskin Array S**	**77.07**	**312**		*e*P	**P**	**03 14 13.2**	**-0.1**	
	comp=Z,2.1nm,0.8s								
BRTR	**Keskin Array B**	**77.07**	**312**		P	**P**	**03 14 13.6**	**+0.2**	
BRTR	**Keskin Array B**	**77.07**	**312**		P	**P**	**03 14 13.6**	**+0.2**	
	comp=Z,3.0nm,0.8s,baz=126,slow=7.6,SNR=23								
VSR	**Storozhevoye**	**77.48**	**325**		*e*P	**P**	**03 14 15.1**	**0.0**	
VSR					pmax	pmax			
	comp=N,4.0nm,0.6s								
VSR					pmax	pmax			
	comp=E,5.0nm,0.6s								
VSR					pmax	pmax			
	comp=Z,5.0nm,0.6s								
OBN	**Obninsk**	**80.46**	**328**		P	**P**	**03 14 32.0**	**+0.7**	
OBN							03 14 39.0		
OBN					pmax	pmax			
	comp=Z,8.0nm,0.9s								
TIRR	**Tirgusor**	**82.11**	**316**	‖	P	**P**	**03 14 41.2**	**+0.9**	
TIRR	**Tirgusor**	**82.11**	**316**	‖	*i*P	**P**	**03 14 41.2**	**+0.9**	
AKASG	**Malin Array Be**	**83.21**	**322**		P	**P**	**03 14 45.1**	**-0.8**	
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**83.21**	**322**		P	**P**	**03 14 45.1**	**-0.8**	
AKASG	**Malin Array Be**	**83.21**	**322**		P	**P**	**03 14 45.1**	**-0.8**	
	comp=Z,0.5nm,0.4s,baz=80,slow=5.4,SNR=4.5								
VRI	**Vrincioaia**	**83.60**	**317**	‖	*i*P	**P**	**03 14 49.8**	**+1.7**	
VRI	**Vrincioaia**	**83.60**	**317**	‖	*i*P	**P**	**03 14 49.8**	**+1.7**	
TESR		**83.81**	**318**	‖	*i*P	**P**	**03 14 51.3**	**+2.2**	
MLR	**Muntele Rosu**	**84.05**	**317**	‖	*i*P	**P**	**03 14 52.0**	**+1.5**	
BUR08	**Bucovina Ar. S**	**85.03**	**319**		*e*P	**P**	**03 14 55.5**	**+0.2**	
VTS	**Vitosha**	**85.40**	**313**	⇑	P	**P**	**03 14 58.1**	**+0.6**	
VTS	**Vitosha**	**85.40**	**313**	⇑	*i*P	**P**	**03 14 58.0**	**+0.6**	
JOF	**Joensuu**	**85.77**	**334**		*e*P	**P**	**03 14 57.5**	**-1.1**	
JOF					pmax	pmax			
	comp=Z,2.0nm,0.6s								
JOF	**Joensuu**	**85.77**	**334**		*e*p	**P**	**03 14 57.5**	**-1.1**	
	comp=Z,1.7nm,0.6s								
DRGR		**86.52**	**317**	‖	P	**P**	**03 15 04.2**	**+1.5**	
DRGR		**86.52**	**317**	‖	*i*P	**P**	**03 15 04.2**	**+1.5**	
BZS	**Buzias**	**87.06**	**316**	‖	P	**P**	**03 15 06.7**	**+1.4**	
BZS	**Buzias**	**87.06**	**316**	‖	*i*P	**P**	**03 15 06.7**	**+1.4**	
KOLS	**Kolonicke sedl**	**87.20**	**319**		*e*P	**P**	**03 15 07.6**	**+1.7**	
KOLS					pmax	pmax			
	comp=Z,7.0nm,1.0s								
KOLS	**Kolonicke sedl**	**87.20**	**319**		*e*P	**P**	**03 15 07.6**	**+1.7**	
KOLS					*e*pP	**pP**	**03 15 24.5**	**-0.2**	
FINES	**FINESS Array B**	**87.71**	**332**		P	**P**	**03 15 08.3**	**+0.2**	
FINES	**FINESS Array B**	**87.71**	**332**		P	**P**	**03 15 08.3**	**+0.2**	
	comp=Z,1.0nm,0.5s,baz=116,slow=5.3,SNR=8.1								
CRVS	**Cervenica-Dubn**	**87.72**	**319**		*e*P	**P**	**03 15 09.1**	**+0.7**	
CRVS	**Cervenica-Dubn**	**87.72**	**319**		*e*P	**P**	**03 15 09.1**	**+0.7**	
KAF	**Kangasniemi**	**87.77**	**333**		*e*P	**P**	**03 15 08.0**	**-0.3**	
KAF					pmax	pmax			
	comp=Z,3.0nm,0.8s								
KAF	**Kangasniemi**	**87.77**	**333**		*e*p	**P**	**03 15 08.0**	**-0.3**	
	comp=Z,3.1nm,0.8s								
PSZ	**Piszkesteto**	**88.59**	**318**		*e*P	**P**	**03 15 12.3**	**-0.4**	
PSZ					pmax	pmax			
	comp=Z,3.0nm,0.7s								
PSZ	**Piszkesteto**	**88.59**	**318**		*e*P	**P**	**03 15 12.3**	**-0.4**	
	comp=Z,3.2nm,0.7s								
VYHS	**Vyhne**	**89.38**	**319**		*e*P	**P**	**03 15 17.0**	**+0.8**	
VYHS	**Vyhne**	**89.38**	**319**		*e*P	**P**	**03 15 17.0**	**+0.8**	
ARCES	**ARCSS Array B**	**89.89**	**340**		P	**P**	**03 15 17.9**	**-0.3**	
ARCES	**ARCSS Array B**	**89.89**	**340**		P	**P**	**03 15 17.9**	**-0.3**	
	comp=Z,7.0nm,1.1s,baz=52,slow=8.1,SNR=3.6								
MORC	**Moravsky Berou**	**90.38**	**320**		*e*P	**P**	**03 15 20.8**	**-0.2**	
MORC					pmax	pmax			
	comp=Z,2.0nm,0.8s								
MORC	**Moravsky Berou**	**90.38**	**320**		*e*P	**P**	**03 15 20.8**	**-0.2**	
	comp=Z,2.2nm,0.8s								
ANMO	**Albuquerque**	**139.63**	**38**		*e*PKPdf	**PKPdf**	**03 21 47.9**	**+0.1**	
WMOK	**Wichita Mounta**	**144.13**	**31**		*e*PKIKP	**PKPab**	**03 21 52.9**	**-0.5**	
WMOK	**Wichita Mounta**	**144.13**	**31**		*e*PKPdf	**PKPab**	**03 21 52.9**	**-0.5**	
BDFB	**Brasilia**	**144.60**	**235**		PKP	**PKPdf**	**03 21 57.5**	**+0.5**	
BDFB	**Brasilia**	**144.60**	**235**		PKP	**PKPdf**	**03 21 57.5**	**+0.5**	
	comp=Z,2.4nm,0.6s,baz=129,slow=6.5,SNR=3.0								
TXAR	**Lajitas Array**	**145.08**	**43**		PKP	**PKPab**	**03 21 57.1**	**0.0**	
TXAR	**Lajitas Array**	**145.08**	**43**		PKP	**PKPab**	**03 21 57.1**	**0.0**	
	comp=Z,4.5nm,0.7s,baz=285,slow=1.7,SNR=58								
SIUC	**Southern Illin**	**145.41**	**17**		*e*PKPbc	**PKPbc**	**03 21 57.3**	**-0.3**	
WCI	**Wyandotte Cave**	**145.65**	**13**		*e*PKIKP	**PKPdf**	**03 21 57.9**	**-0.3**	
WCI	**Wyandotte Cave**	**145.65**	**13**		*e*PKPbc	**PKPdf**	**03 21 57.9**	**-0.3**	
JCT	**Junction City**	**146.77**	**37**		*e*PKP2	**PKPbc**	**03 22 01.8**	**-0.3**	
JCT	**Junction City**	**146.77**	**37**		*e*PKPbc	**PKPbc**	**03 22 01.8**	**-0.3**	
WVT	**Waverly**	**147.28**	**16**		*e*PKP2	**PKPbc**	**03 22 02.6**	**-0.7**	
WVT	**Waverly**	**147.28**	**16**		*e*PKPbc	**PKPbc**	**03 22 02.6**	**-0.7**	
LVC	**Limon Verde**	**151.62**	**197**		*e*PKPbc	**PKPbc**	**03 22 14.9**	**0.0**	
SAML	**Samuel**	**160.40**	**226**		*e*PKPdf	**PKPdf**	**03 22 18.9**	**-1.1**	

IDC 06 03:09:38.6±1.0, 13°.35N×120°.16E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/21, mbtmpg3.9/5, Error ellipse: s-maj=21.2km s-min=12.0km az=124.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**1.06**	**45**	Pg	Pb		03 09 59.8	-0.1
	657nm,0.3s,baz=210,slow=3.6,SNR=21							
TGY				Lg	Lg		03 10 13.1	
	350nm,0.3s,baz=160,slow=23,SNR=12							
WRA	**Warramunga Arr**	**35.90**	**157**	P	P		03 16 40.2	-0.5
	1.4nm,0.5s,baz=335,slow=9.6,SNR=19							
SONM	**Songino Array**	**36.25**	**344**	P	P		03 16 43.5	-0.1
	1.4nm,0.6s,baz=163,slow=9.9,SNR=12							
ASAR	**Alice Springs**	**39.16**	**160**	P	P		03 17 08.8	+0.4
	1.1nm,0.5s,baz=340,slow=7.3,SNR=19							
MKAR	**Makanchi Array**	**46.01**	**324**	P	P		03 18 05.0	+1.2
	0.3nm,0.6s,baz=114,slow=8.2,SNR=4.2							
FINES	**FINESS Array B**	**80.34**	**331**	P	P		03 21 50.0	-1.5
	2.0nm,0.9s,baz=79,slow=4.1,SNR=4.1							

*ISCJB **06** 03:13:23.2±0.5, 28°.2S×0°.1×12°.71W±0°.09, h10km, mb4.2/16, MS4.6/6, Error ellipse: s-maj=16.8km s-min=10.4km az=158.1*

*IDC **06** 03:13:23.6±0.9, 28°.32S×12°.70W, h0km, mb4.0/9, mb1 4.1/9, mb1mx4.0/18, mbtmpg4.0/9, MS4.5/6, Ms1 4.5/6, ms1mx4.1/25, Error ellipse: s-maj=31.5km s-min=19.5km az=174.0*

*NEIC **06** 03:13:25.2±0.4, 28°.23S×12°.74W, h10km, mb4.5/9, Error ellipse: s-maj=16.3km s-min=10.0km az=158.0*

ISC 06 03:13:25.3±0.6, 28°.2S±0°.1×12°.7W±0°.1, h10km, n42, σ1§08/33, mb4.3/16, MS4.6/6, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**33.33**	**100**	P	P		**03 20 02.2**	**-1.4**
BOSA	**Boshof**	**33.33**	**100**	P	P		**03 20 02.2**	**-1.4**
	4.1nm,0.8s,baz=242,slow=7.4,SNR=6.8							
LBTB	**Lobatse**	**34.33**	**94**	*e*P	P		**03 20 11.0**	**-1.4**
	7.2nm,0.8s							
LBTB	**Lobatse**	**34.33**	**94**	P	P		**03 20 10.7**	**-1.7**
	8.4nm,0.8s,baz=271,slow=10,SNR=13							
BDFB	**Brasilia**	**34.91**	**284**	P	P		**03 20 17.1**	**-0.3**
BDFB	**Brasilia**	**34.91**	**284**	P	P		**03 20 17.1**	**-0.3**
	2.5nm,0.8s,baz=120,slow=8.1,SNR=2.8							
BDFB				LR	LR		03 32 17.1	
	comp=Z,747nm,18.3s,baz=280,slow=32							
DBIC	**Dimbokro**	**35.53**	**14**	P	P		**03 20 22.4**	**-0.1**
DBIC	**Dimbokro**	**35.53**	**14**	P	P		**03 20 22.4**	**-0.1**
	1.7nm,0.5s,baz=160,slow=11,SNR=6.2							
LSZ	**Lusaka**	**39.95**	**80**	*e*P	P		**03 21 00.6**	**+0.3**
	11nm,1.4s							
TRQA	**Tornquist**	**41.95**	**243**	*e*P	P		**03 21 15.9**	**-0.5**
	10nm,0.9s							
TOA0	**Torodi Ar. Sit**	**43.45**	**21**	*e*P	P		**03 21 27.9**	**-0.7**
TORD	**Torodi Ar. Bea**	**43.45**	**21**	P	P		**03 21 27.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**43.45**	**21**	P	P		**03 21 27.6**	**-1.0**
	1.8nm,0.7s,baz=197,slow=8.4,SNR=14							
TORD				LR	LR		03 35 48.6	
	comp=Z,1µm,20.3s,baz=195,slow=31							
SIV	**San Ignacio**	**46.13**	**275**	P	P		**03 21 50.4**	**+0.2**
SIV	**San Ignacio**	**46.13**	**275**	P	P		**03 21 50.4**	**+0.2**
	1.0nm,0.7s,baz=151,slow=11,SNR=3.8							
CFAA	**Coronel Fontan**	**47.79**	**252**	P	P		**03 22 01.4**	**-1.6**
CFAA	**Coronel Fontan**	**47.79**	**252**	P	P		**03 22 01.4**	**-1.6**
	0.2nm,0.6s,baz=69,slow=10,SNR=3.7							
PLCA	**Paso Flores**	**48.46**	**239**	*e*P	P		**03 22 09.1**	**+0.9**
	9.4nm,1.2s							
PLCA	**Paso Flores**	**48.46**	**239**	LR	LR		03 40 10.5	
	comp=Z,252nm,18.5s,baz=247,slow=33							
SAML	**Samuel**	**51.11**	**282**	*e*P	P		**03 22 28.8**	**+0.3**
	5.5nm,0.9s							
LPAZ	**La Paz**	**52.23**	**271**	*e*P	P		**03 22 36.2**	**-1.4**
	5.8nm,1.1s							
TAM	**Tamanrasset**	**53.70**	**21**	*e*P	P		**03 22 46.9**	**-0.8**
	3.3nm,1.2s							
QSPA	**South Pole Qui**	**61.99**	**180**	*e*P	P		**03 23 45.9**	**+0.4**
	6.9nm,1.0s							
ROSC	**El Rosal**	**67.75**	**289**	LR	LR		03 52 21.0	
	comp=Z,378nm,18.1s,baz=24,slow=34							
DAVOX	**Davos/Dischmat**	**77.42**	**16**	LR	LR		03 58 04.6	
	comp=Z,541nm,20.4s,baz=261,slow=35							
BR131	**Keskin Array S**	**80.22**	**35**	*e*P	P		**03 25 36.6**	**+0.5**
	2.0nm,0.8s							
BRTR	**Keskin Array B**	**80.22**	**35**	P	P		**03 25 37.3**	**+1.2**
BRTR	**Keskin Array B**	**80.22**	**35**	P	P		**03 25 37.3**	**+1.2**
	1.3nm,0.9s,baz=203,slow=5.4,SNR=5.8							
GERES	**GERESS Array B**	**80.30**	**17**	P	P		**03 25 36.8**	**+0.6**
GERES	**GERESS Array B**	**80.30**	**17**	P	P		**03 25 36.8**	**+0.6**
	0.4nm,0.7s,baz=209,slow=10,SNR=3.5							
NOA	**NORSAR Array B**	**91.07**	**11**	LR	LR		04 02 00.7	
	comp=Z,163nm,19.7s,baz=205,slow=32							
MKAR	**Makanchi Array**	**113.27**	**48**	PKiKP		**PKiKP**	**03 32 04.4**	**+1.4**
MKAR	**Makanchi Array**	**113.27**	**48**	PKiKP		**PKiKP**	**03 32 04.4**	**+1.4**
	0.1nm,0.5s,baz=350,slow=3.2,SNR=3.5							
TBI	**Tubuai**	**113.88**	**224**	*e*SS	SS		03 48 55.5	+9.2
	147nm,32.5s							
TBI				*e*LR	LR		04 06 27.3	
	304nm,29.8s							
PPT2	**Papeete2**	**118.20**	**228**	*e*SS	SS		03 50 00.2	+17
	111nm,27.0s							
PPT2				*e*LR	LR		04 08 28.5	
	171nm,23.5s							
YKA	**Yellowknife Ar**	**120.07**	**328**	PKP		**PKPdf**	**03 32 17.0**	**+1.4**
YKA	**Yellowknife Ar**	**120.07**	**328**	PKP		**PKPdf**	**03 32 17.0**	**+1.4**
	0.1nm,0.6s,baz=103,slow=2.3,SNR=2.8							
SONM	**Songino Array**	**129.59**	**50**	PKPpre	PKPpre		03 32 27.0	
SONM	**Songino Array**	**129.59**	**50**	PKhKP	PKPpre		03 32 27.0	
	0.6nm,0.8s,baz=114,slow=1.7,SNR=3.3							
DZM	**Mont Dzumac**	**129.98**	**179**	*e*LR	LR		04 13 48.3	
	180nm,23.8s							
KSAR	**Wonju Array Be**	**145.87**	**64**	PKPbc		**PKPab**	**03 33 06.7**	**+1.2**
KSRS	**Korea Array**	**145.90**	**64**	PKPbc		**PKPab**	**03 33 06.7**	**+1.1**
	4.7nm,0.9s,baz=286,slow=5.2,SNR=6.1							

*DHMR **06** 03:27:29.8±3.6, 20°.90N×38°.64E, h0km±999km*

*BJI **06** 03:27:49.3, 18°.91N×38°.52E, h10km, mB5.0/15, mb4.7/28, Ms4.7/11, Ms7 4.4/11*

*ISCJB **06** 03:27:54.9±0.4, 19°.00N±0°.05×39°.20E±0°.04, h16km, mb4.5/62, MS4.0/14, Error ellipse: s-maj=8.0km s-min=5.4km az=15.5*

*MOS **06** 03:27:54.0±1.1, 19°.00N×39°.17E, h10km, mb4.6/36, Error ellipse: s-maj=11.4km s-min=6.0km az=85.6*

*IDC **06** 03:27:54.3±0.8, 19°.07N×39°.16E, h0km, mb4.2/19, mb1 4.3/21, mb1mx4.2/29, mbtmp4.2/21, ML3.6/2, MS3.9/9, Ms1 3.9/9, ms1mx3.5/33, Error ellipse: s-maj=18.8km s-min=16.0km az=154.0*

*CSEM **06** 03:27:56.0±0.3, 19°.05N×39°.19E, h10km, mb4.5/25, Error ellipse: s-maj=10.5km s-min=7.9km az=25.0*

*NEIC **06** 03:27:56.1±0.4, 19°.04N×39°.16E, h10km, mb4.5/24, Error ellipse: s-maj=7.7km s-min=7.3km az=156.0*

ISC 06 03:27:56.4±0.5, 18°.98N±0°.06×39°.25E±0°.05, h15km±2km, h14km:pP-P, n211, σ1§34/229, mb4.6/62, MS4.0/14, 10C-5D, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DHBB	**Dhamar BB**	**6.59**	**131**	*i* P	**Pn**		**03 29 31.8**	**-1.4**
DHBB				AMb	AMB		03 29 33.9	
	comp=Z,407nm,1.8s							
HAGS	**Hagol**	**6.68**	**324**	P	Pn

DGRG	**David-gareji**	**23.00**	**12**	P		**P**	**03 33 03.2**	**+2.5**
TBLG	**Delisi**	**23.16**	**10**	P		**P**	**03 33 05.1**	**+2.8**
TBLG	**Delisi**	**23.16**	**10**	P		**P**	**03 33 05.1**	**+2.8**
GOR	**Gori**	**23.31**	**9**	P		**P**	**03 33 06.4**	**+2.5**
ONI	**Oni**	**23.81**	**8**	P		**P**	**03 33 09.4**	**+0.6**
ZEI	**Tsey**	**24.05**	**8**	*e*P		**P**	**03 33 12.0**	**+0.8**
ZEI				pmax	pmax			
	comp=Z,59nm,2.0s							
ZEI	**Tsey**	**24.05**	**8**	*e*P		**P**	**03 33 12.0**	**+0.8**
	comp=Z,59nm,2.0s							
MAK	**Makhachkala**	**24.91**	**15**	*e*P		**P**	**03 33 18.5**	**-0.3**
MAK				*e*			03 33 50.3	
MAK				*e*S		**S**	**03 37 42.1**	**+0.6**
MAK				*e*SS		**SnSn**	**03 38 29.8**	**0.0**
MAK				pmax	pmax			
	comp=Z,12nm,0.4s							
MAK				MLR	MLR			
	comp=Z,207nm,13.0s							
MAK	**Makhachkala**	**24.91**	**15**	*e*P		**P**	**03 33 18.5**	**-0.3**
	comp=Z,12nm,0.4s							
KIV	**Kislovodsk**	**25.07**	**6**	P		**P**	**03 33 21.0**	**+0.6**
KIV				*e**PP		**pP**	**03 33 23.6**	**-1.3**
KIV				*e**SP		**sP**	**03 33 24.7**	**-2.0**
KIV							03 34 00.0	
KIV				pmax	pmax			
	comp=Z,25nm,1.2s							
KIV				MLR	MLR			
	comp=Z,200nm,15.0s							
KIV	**Kislovodsk**	**25.07**	**6**	*e*P		**P**	**03 33 21.7**	**+1.3**
	comp=Z,20nm,1.1s							
KIV	**Kislovodsk**	**25.07**	**6**	P		**P**	**03 33 21.0**	**+0.6**
	comp=Z,25nm,1.2s							
ANN	**Anapa**	**25.79**	**357**	*e*P		P	03 33 36.5	+10
ANN				pmax	pmax			
	comp=Z,79nm,1.2s							
TIRR	**Tirgusor**	**26.98**	**343**	*e*P		**P**	**03 33 37.6**	**+0.1**
TIRR				pmax	pmax			
	comp=Z,7.0nm,1.2s							
TIRR	**Tirgusor**	**26.98**	**343**	*e*P		**P**	**03 33 37.6**	**+0.1**
	comp=Z,7.4nm,1.2s							
TIRR	**Tirgusor**	**26.98**	**343**	*e*P		**P**	**03 33 37.6**	**+0.1**
	comp=Z,7.4nm,1.2s							
MLR	**Muntele Rosu**	**28.65**	**340**	P		**P**	**03 33 53.0**	**+0.4**
MLR	**Muntele Rosu**	**28.65**	**340**	P		**P**	**03 33 53.0**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=142,slow=12,SNR=3.8							
MLR	**Muntele Rosu**	**28.65**	**340**	P		**P**	**03 33 53.0**	**+0.4**
KBL	**Kabul**	**30.65**	**54**	*e*P		**P**	**03 34 12.4**	**+1.8**
KBL				pmax	pmax			
	comp=Z,11nm,1.4s							
KBL	**Kabul**	**30.65**	**54**	*e*P		**P**	**03 34 12.4**	**+1.8**
	comp=Z,11nm,1.4s							
KBL	**Kabul**	**30.65**	**54**	*e*P		**P**	**03 34 12.4**	**+1.8**
	comp=Z,11nm,1.4s							
TAM	**Tamanrasset**	**31.69**	**283**	*e*P		**P**	**03 34 20.7**	**+0.8**
TAM				pmax	pmax			
	comp=Z,3.0nm,0.9s							
TAM	**Tamanrasset**	**31.69**	**283**	*e*P		**P**	**03 34 20.7**	**+0.8**
	comp=Z,2.9nm,0.9s							
TAM	**Tamanrasset**	**31.69**	**283**	*e*P		**P**	**03 34 20.7**	**+0.8**
	comp=Z,2.9nm,0.9s							
AQU	**L'Aquila**	**31.98**	**322**	*e*P		**P**	**03 34 23.7**	**+1.7**
	comp=Z,20nm,1.2s							
AQU	**L'Aquila**	**31.98**	**322**	*e*P		**P**	**03 34 23.7**	**+1.7**
	comp=Z,20nm,1.2s							
VRHR	**Novokhopersk**	**32.10**	**3**	*e*P		**P**	**03 34 23.9**	**+1.0**
VRHR				pmax	pmax			
	comp=N,3.0nm,0.5s							
VRHR				pmax	pmax			
	comp=E,5.0nm,0.5s							
VRHR				pmax	pmax			
	comp=Z,4.0nm,0.5s							
KIEV	**Kiev**	**32.64**	**348**	*e*P		**P**	**03 34 26.8**	**-0.8**
KIEV	**Kiev**	**32.64**	**348**	*e*P		**P**	**03 34 26.8**	**-0.8**
KIEV	**Kiev**	**32.64**	**348**	*e*P		**P**	**03 34 26.8**	**-0.8**
AKASG	**Malin Array Be**	**32.64**	**348**	*e*P		**P**	**03 34 26.5**	**-1.1**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**32.64**	**348**	P		**P**	**03 34 25.9**	**-1.7**
AKASG	**Malin Array Be**	**32.64**	**348**	P		**P**	**03 34 25.9**	**-1.7**
	comp=Z,2.0nm,0.7s,baz=167,slow=7.2,SNR=7.4							
AKASG	**Malin Array Be**	**32.64**	**348**	P		**P**	**03 34 25.9**	**-1.7**
KOLS	**Kolonicke sedl**	**32.88**	**339**	*e*P		**P**	**03 34 30.5**	**+0.7**
KOLS				pmax	pmax			
	comp=Z,6.0nm,1.5s							
KOLS	**Kolonicke sedl**	**32.88**	**339**	*e*P		**P**	**03 34 30.4**	**+0.7**
PSZ	**Piszkesteto**	**32.88**	**336**	*e*P		**P**	**03 34 29.5**	**-0.4**
PSZ				pmax	pmax			
	comp=Z,13nm,1.4s							
PSZ	**Piszkesteto**	**32.88**	**336**	*e*P		**P**	**03 34 29.5**	**-0.4**
	comp=Z,13nm,1.4s							
PSZ	**Piszkesteto**	**32.88**	**336**	*e*P		**P**	**03 34 29.5**	**-0.4**
	comp=Z,13nm,1.4s							
CRVS	**Cervenica-Dubn**	**33.13**	**338**	*e*P		**P**	**03 34 32.1**	**+0.2**
CRVS				pmax	pmax			
	comp=Z,15nm,1.9s							
CRVS	**Cervenica-Dubn**	**33.13**	**338**	*e*P		**P**	**03 34 32.1**	**+0.2**
VYHS	**Vyhne**	**33.77**	**335**	*e*P		**P**	**03 34 37.5**	**0.0**
VYHS				pmax	pmax			
	comp=Z,7.0nm,1.5s							
VYHS	**Vyhne**	**33.77**	**335**	*e*P		**P**	**03 34 37.5**	**0.0**
ZST	**Bratislava**	**34.24**	**333**	*e*P		**P**	**03 34 42.6**	**+1.0**
ZST				pmax	pmax			
	comp=Z,15nm,1.4s							
ZST	**Bratislava**	**34.24**	**333**	*e*P		**P**	**03 34 42.6**	**+1.0**
ABKAR	**Akbulak array**	**34.49**	**24**	*e*P		**P**	**03 34 43.7**	**-0.1**
	comp=Z,2.4nm,0.8s							
ABKAR	**Akbulak array**	**34.49**	**24**	*e*P		**P**	**03 34 43.7**	**-0.1**
	comp=Z,2.4nm,0.8s							
CONA	**Conrad Observa**	**34.58**	**332**⇑	*i*P		**P**	**03 34 43.4**	**-1.3**
	comp=Z,7.0nm,1.6s							
CONA	**Conrad Observa**	**34.58**	**332**⇑	*i*P		**P**	**03 34 43.4**	**-1.3**
	comp=Z,7.0nm,1.6s							
CONA	**Conrad Observa**	**34.58**	**332**⇑	*i*P		**P**	**03 34 43.4**	**-1.3**
	comp=Z,7.0nm,1.6s							
AKTO	**Aktyubinsk**	**34.77**	**21**	LR		LR	03 51 48.1	
	comp=Z,195nm,18.0s,baz=284,slow=41							
MORC	**Moravsky Berou**	**35.30**	**335**	*e*P		**P**	**03 34 50.4**	**-0.5**
MORC				pmax	pmax			
	comp=Z,12nm,1.4s							
MORC	**Moravsky Berou**	**35.30**	**335**	*e*P		**P**	**03 34 50.4**	**-0.5**
	comp=Z,12nm,1.4s							
MORC	**Moravsky Berou**	**35.30**	**335**	*e*P		**P**	**03 34 50.3**	**-0.5**
	comp=Z,12nm,1.4s							
KKAR	**Karatay Array**	**35.66**	**41**	*e*P		**P**	**03 34 55.4**	**+1.4**
KKAR				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KKAR	**Karatay Array**	**35.66**	**41**	*e*P		**P**	**03 34 55.4**	**+1.4**
	comp=Z,5.0nm,1.0s							
KKAR	**Karatay Array**	**35.66**	**41**	*e*P		**P**	**03 34 55.4**	**+1.4**
	comp=Z,5.0nm,1.0s							
OBN	**Obninsk**	**36.13**	**357**⇑	*e*P		**P**	**03 34 57.4**	**-0.4**
OBN				*i**SP		**sP**	**03 35 02.4**	**-1.7**
OBN				pmax	pmax			
	comp=Z,27nm,1.6s							
OBN				MLR	MLR			
	comp=Z,100nm,16.0s							
GERES	**GERESS Array B**	**36.23**	**331**	P		**P**	**03 34 57.9**	**-0.9**
GERES				PcP		**PcP**	**03 37 22.9**	**-1.1**
GERES	**GERESS Array B**	**36.23**	**331**	P		**P**	**03 34 57.9**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=132,slow=6.0,SNR=15							
GERES				PcP		**PcP**	**03 37 22.9**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=114,slow=1.6,SNR=4.9							
GERES	**GERESS Array B**	**36.23**	**331**	P		**P**	**03 34 57.9**	**-0.9**
GERES	**GERESS Array B**	**36.23**	**331**	PcP		**PcP**	**03 37 22.9**	**-1.1**
TOA0	**Torodi Ar. Sit**	**36.50**	**267**	*e*P		**P**	**03 35 01.7**	**+0.3**
TOA0	**Torodi Ar. Sit**	**36.50**	**267**	*e*P		**P**	**03 35 01.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**36.50**	**267**	P		**P**	**03 35 01.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**36.50**	**267**	P		**P**	**03 35 01.6**	**+0.2**
	comp=Z,8.3nm,0.9s,baz=76,slow=8.1,SNR=28							
TORD	**Torodi Ar. Bea**	**36.50**	**267**	P		**P**	**03 35 01.6**	**+0.2**
EKS2	**Erkin-Say**	**37.51**	**43**	*e*P		**P**	**03 35 10.0**	**+0.1**
EKS2				pmax	pmax			
	comp=Z,7.0nm,1.2s							
EKS2	**Erkin-Say**	**37.51**	**43**	*e*P		**P**	**03 35 10.0**	**+0.1**
	comp=Z,6.6nm,1.2s							
EKS2	**Erkin-Say**	**37.51**	**43**	*e*P		**P**	**03 35 10.0**	**+0.1**
	comp=Z,6.6nm,1.2s							
KSH	**Kashi**	**37.67**	**49**	P		**P**	**03 35 08.2**	**-3.1**
KSH				pP		**pP**	**03 35 12.4**	**-3.4**
KSH				sP		**sP**	**03 35 15.2**	**-2.5**
KSH				PP		**PP**	**03 36 35.0**	**-2.3**
KSH				PcP		**PcP**	**03 37 28.0**	**-0.6**
KSH				S		S	03 40 53.2	-7.8
KSH				ScS		**ScS**	**03 45 19.4**	**-5.0**
AAK	**Ala-Archa**	**37.96**	**44**	P		**P**	**03 35 15.2**	**+1.5**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AAK	**Ala-Archa**	**37.96**	**44**	*e*P		**P**	**03 35 15.4**	**+1.6**
	comp=Z,16nm,1.0s							
AAK	**Ala-Archa**	**37.96**	**44**	P		**P**	**03 35 15.2**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=239,slow=12,SNR=5.3							
AAK	**Ala-Archa**	**37.96**	**44**	*e*P		**P**	**03 35 15.4**	**+1.6**
	comp=Z,16nm,1.0s							
GRFO	**Grafenberg**	**37.97**	**330**	*e*P		P	03 35 17.3	+3.7
GRFO				pmax	pmax			
	comp=Z,126nm,2.7s							
GRFO	**Grafenberg**	**37.97**	**330**	*e*P		P	03 35 17.3	+3.7
	comp=Z,126nm,2.7s							
GRFO	**Grafenberg**	**37.97**	**330**	*e*P		P	03 35 17.3	+3.7
	comp=Z,126nm,2.7s							
CLL	**Collm**	**38.34**	**333**	*e*P		**P**	**03 35 15.0**	**-1.6**
CLL	**Collm**	**38.34**	**333**	*e*P		**P**	**03 35 15.0**	**-1.6**
TKM2	**Tokmak 2**	**38.81**	**44**	*e*P		**P**	**03 35 21.5**	**+0.5**
TKM2				pmax	pmax			
	comp=Z,7.0nm,1.1s							
TKM2	**Tokmak 2**	**38.81**	**44**	*e*P		**P**	**03 35 21.5**	**+0.5**
	comp=Z,7.1nm,1.1s							
TKM2	**Tokmak 2**	**38.81**	**44**	*e*P		**P**	**03 35 21.5**	**+0.5**
	comp=Z,7.1nm,1.1s							
ARU	**Arti**	**40.10**	**17**	*c i*P		**P**	**03 35 31.8**	**+0.5**
ARU							03 37 03.5	
ARU				S		**S**	**03 41 42.2**	**+5.3**
ARU				SS		**SS**	**03 44 32.4**	**-2.1**
ARU				pmax	pmax			
	comp=Z,17nm,1.7s							
ARU	**Arti**	**40.10**	**17**	*e*P		**P**	**03 35 31.1**	**-0.2**
	comp=Z,15nm,1.4s							
ARU	**Arti**	**40.10**	**17**	*e*P		**P**	**03 35 31.1**	**-0.2**
	comp=Z,15nm,1.4s							
BRVK	**Borovoye**	**41.66**	**28**⇑	*i*P		**P**	**03 35 45.5**	**+1.4**
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BRVK	**Borovoye**	**41.66**	**28**	*e*P		**P**	**03 35 45.2**	**+1.1**
	comp=Z,6.0nm,1.2s							
BRVK	**Borovoye**	**41.66**	**28**	*e*P		**P**	**03 35 45.2**	**+1.1**
	comp=Z,6.0nm,1.2s							
BVAR	**Borovoye Array**	**41.68**	**28**	LR		LR	03 56 29.3	
	comp=Z,86nm,19.2s,baz=71,slow=41							
KLMR	**Klimovskoe**	**41.83**	**0**	*e*P		**P**	**03 35 43.1**	**-2.3**
KLMR				pmax	pmax			
	comp=Z,36nm,1.6s							
ESDC	**Sonseca Array**	**42.45**	**308**	P		**P**	**03 35 51.0**	**+0.1**
ESDC	**Sonseca Array**	**42.45**	**308**	P		**P**	**03 35 51.0**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=103,slow=6.5,SNR=6.3							
ESDC	**Sonseca Array**	**42.45**	**308**	P		**P**	**03 35 51.0**	**+0.1**
FINES	**FINESS Array B**	**43.43**	**351**	P		**P**	**03 35 56.8**	**-1.6**
FINES	**FINESS Array B**	**43.43**	**351**	P		**P**	**03 35 56.8**	**-1.6**
	comp=Z,7.5nm,1.1s,baz=133,slow=9.7,SNR=4.4							
FINES	**FINESS Array B**	**43.43**	**351**	P		**P**	**03 35 56.8**	**-1.6**
TSUM	**Tsumeb**	**43.49**	**210**	P		**P**	**03 36 00.0**	**+0.5**
TSUM	**Tsumeb**	**43.49**	**210**	P		**P**	**03 36 00.0**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=16,slow=3.2,SNR=3.9							
TSUM	**Tsumeb**	**43.49**	**210**	P		**P**	**03 36 00.0**	**+0.5**
KURK	**Kurchatov**	**44.39**	**35**	*e*P		**P**	**03 36 07.0**	**+0.7**
KURK				pmax	pmax			
	comp=Z,12nm,1.2s							
KURK	**Kurchatov**	**44.39**	**35**	*e*P		**P**	**03 36 07.0**	**+0.7**
	comp=Z,12nm,1.2s							
KURK	**Kurchatov**	**44.39**	**35**	P		**P**	**03 36 07.5**	**+1.2**
	SNR=6.0							
KURK	**Kurchatov**	**44.39**	**35**	*e*P		**P**	**03 36 07.0**	**+0.7**
	comp=Z,12nm,1.2s							
DBIC	**Dimbokro**	**44.58**	**260**	*e*P		**P**	**03 36 07.9**	**-0.4**
	comp=Z,13nm,1.3s							
DBIC	**Dimbokro**	**44.58**	**260**	P		**P**	**03 36 07.9**	**-0.4**
	comp=Z,4.2nm,0.9s,baz=33,slow=8.8,SNR=4.4							
DBIC				LR		LR	03 55 31.8	
	comp=Z,205nm,18.6s,baz=40,slow=37							
DBIC	**Dimbokro**	**44.58**	**260**	*e*P		**P**	**03 36 07.9**	**-0.4**
	comp=Z,13nm,1.3s							
MK31	**Makanchi Array**	**44.76**	**42**	*e*P		**P**	**03 36 09.4**	**0.0**
MK31	**Makanchi Array**	**44.76**	**42**	*e*P		**P**	**03 36 09.4**	**0.0**
MK31	**Makanchi Array**	**44.76**	**42**	*e*P		**P**	**03 36 09.4**	**0.0**
MKAR	**Makanchi Array**	**44.76**	**42**	P		**P**	**03 36 09.7**	**+0.3**
MKAR				pmax	pmax			
	comp=Z,7.0nm,0.9s							
MKAR				MLR	MLR			
	comp=Z,197nm,18.3s							
MKAR	**Makanchi Array**	**44.76**	**42**	*e*P		**P**	**03 36 09.8**	**+0.3**
MKAR	**Makanchi Array**	**44.76**	**42**	P		**P**	**03 36 09.7**	**+0.3**
	comp=Z,7.1nm,0.8s,baz=243,slow=6.0,SNR=28							
MKAR				LR		LR	03 57 05.3	
	comp=Z,197nm,18.2s,baz=72,slow=39							
MKAR	**Makanchi Array**	**44.76**	**42**	*e*P		**P**	**03 36 09.8**	**+0.3**
NAO01	**NORSAR Array S**	**46.40**	**341**	*e*P		**P**	**03 36 21.3**	**-0.8**
	comp=Z,8.0nm,1.0s							
NAO01	**NORSAR Array S**	**46.40**	**341**	*e*P		**P**	**03 36 21.3**	**-0.8**
	comp=Z,8.0nm,1.0s							
NB2	**NORSAR Subarra**	**46.46**	**342**	P		**P**	**03 36 20.6**	**-2.0**
	comp=Z,8.1nm,1.2s,baz=142,slow=7.9							
NB2	**NORSAR Subarra**	**46.46**	**342**	P		**P**	**03 36 20.6**	**-2.0**
	comp=Z,8.1nm,1.2s,SNR=5.8							
NOA	**NORSAR Array B**	**46.46**	**342**	P		**P**	**03 36 21.2**	**-1.4**
NOA	**NORSAR Array B**	**46.46**	**342**	P		**P**	**03 36 21.2**	**-1.4**
	comp=Z,3.0nm,0.9s,baz=138,slow=8.2,SNR=6.2							
NOA	**NORSAR Array B**	**46.46**	**342**	P		**P**	**03 36 21.2**	**-1.4**
WMQ	**Urumqi**	**47.36**	**47**	P		**P**	**03 36 30.5**	**+0.5**
WMQ				pP		**pP**	**03 36 38.0**	**+3.4**
WMQ				pmax	pmax			
	comp=Z,19nm,1.4s							
WMQ				pmax	pmax			
	comp=Z,140nm,5.5s							
WMQ				LR	LR			
	comp=N,160nm,20.0s							
WMQ				LR	LR			
	comp=E,250nm,24.9s							
WMQ				LR	LR			
	comp=Z,260nm,23.8s							
LSA	**Lhasa**	**48.14**	**67**	P		**P**	**03 36 37.9**	**+1.2**
NVS	**Novosibirsk**	**48.89**	**32**	*e*P		**P**	**03 36 40.4**	**-1.1**
BOSA	**Boshof**	**49.21**	**196**	LR		LR	03 57 59.1	
	comp=Z,234nm,18.3s,baz=354,slow=37							
ZAA0	**Zalesovo Array**	**49.29**	**34**	*e*P		**P**	**03 36 44.2**	**-0.3**
ZAA0	**Zalesovo Array**	**49.29**	**34**	*e*P		**P**	**03 36 44.2**	**-0.3**
ZALV	**Zalesovo Beam**	**49.29**	**34**	P		**P**	**03 36 44.1**	**-0.4**
ZALV				pmax	pmax			
	comp=Z,7.0nm,0.8s							
ZALV	**Zalesovo Beam**	**49.29**	**34**	P		**P**	**03 36 44.1**	**-0.4**
ZALV	**Zalesovo Beam**	**49.29**	**34**	P		**P**	**03 36 44.1**	**-0.4**
	comp=Z,6.9nm,0.8s,baz=243,slow=8.2,SNR=14							
ZALV	**Zalesovo Beam**	**49.29**	**34**	P		**P**	**03 36 44.1**	**-0.4**
GTA	**Gaotai**	**55.62**	**55**	P		**P**	**03 37 32.7**	**+0.7**
GTA				pP		**pP**	**03 37 37.3**	**+0.6**
GTA				sP		**sP**	**03 37 39.8**	**+1.3**
GTA				S		**S**	**03 45 19.2**	**+1.5**
GTA				SS		**SS**	**03 49 04.9**	**+2.1**
GTA				pmax	pmax			
	comp=Z,7.0nm,1.1s							
GTA				pmax	pmax			
	comp=Z,91nm,5.9s							
GTA				LR	LR			
	comp=N,110nm,17.6s							
GTA				LR	LR			
	comp=E,180nm,18.1s							
GTA				LR	LR			
	comp=Z,110nm,19.9s							
CMAR	**Chiang Mai Arr**	**56.29**	**80**	P		**P**	**03 37 38.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**56.29**	**80**	P		**P**	**03 37 38.4**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=284,slow=9.7,SNR=5.1							
CMAR	**Chiang Mai Arr**	**56.29**	**80**	P		**P**	**03 37 38.4**	**+1.4**
KMI	**Kunming**	**58.71**	**72**	P		**P**	**03 37 54.8**	**+0.6**
KMI				pP		**pP**	**03 38 02.6**	**+3.7**
KMI				pmax	pmax			
	comp=Z,8.0nm,1.0s							
LZH	**Lanzhou**	**58.78**	**59**	*e*P		**P**	**03 37 54.5**	**+0.1**
LZH				pP		**pP**	**03 37 58.0**	**-1.1**
LZH				sP		**sP**	**03 37 59.2**	**-1.7**
LZH				PP		**PP**	**03 40 06.1**	**+1.8**
LZH				pmax	pmax			
	comp=Z,20nm,1.4s							
LZH				pmax	pmax			
	comp=Z,51nm,7.0s							
LZH				LR	LR			
	comp=N,250nm,16.5s							
LZH				LR	LR			
	comp=E,220nm,16.0s							
LZH				LR	LR			
	comp=Z,260nm,19.2s							
CD2	**Chengdu**	**58.99**	**65**	P		**P**	**03 37 57.1**	**+1.3**
CD2				pP		**pP**	**03 38 01.7**	**+1.2**
CD2				sP		**sP**	**03 38 04.1**	**+1.8**
CD2				S		**S**	**03 46 01.8**	**-0.3**
CD2				SS		**SS**	**03 49 57.1**	**+1.2**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,80nm,5.6s							
ZAK	**Zakamensk**	**59.10**	**42**	*e*P		**P**	**03 37 55.5**	**-0.8**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.7s							
TLY	**Talaya**	**59.50**	**41**	*e*P		**P**	**03 37 58.1**	**-0.9**
TLY				pmax	pmax			
	comp=Z,3.0nm,0.9s							
SONM	**Songino Array**	**60.89**	**45**	P		**P**	**03 38 09.0**	**+0.3**
SONM	**Songino Array**	**60.89**	**45**	P		**P**	**03 38 09.0**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=264,slow=7.0,SNR=12							
SONM	**Songino Array**	**60.89**	**45**	P		**P**	**03 38 09.0**	**+0.3**
GYA	**Guiyang**	**62.03**	**70**⇑	*i*P		**P**	**03 38 16.3**	**-0.5**
GYA				pmax	pmax			
	comp=Z,20nm,1.0s							
HHC	**Hu-ho-hao-te**	**64.62**	**53**	*e*P		**P**	**03 38 34.3**	**+0.6**
HHC				pP		**pP**	**03 38 39.2**	**+0.8**
HHC				sP		**sP**	**03 38 42.0**	**+1.8**
HHC				PP		**PP**	**03 40 59.5**	**+3.8**
HHC				S		**S**	**03 47 11.8**	**-1.4**
HHC				pmax	pmax			
	comp=Z,16nm,0.9s							
HHC				pmax	pmax			
	comp=Z,92nm,4.5s							
HHC				LR	LR			
	comp=N,100nm,13.1s							
HHC				LR	LR			
	comp=E,160nm,13.1s							
HHC				LR	LR			
	comp=Z,100nm,15.5s							
BOD	**Bodaibo**	**66.03**	**34**	*e*P		**P**	**03 38 40.8**	**-1.6**
BOD				pmax	pmax			
	comp=Z,8.0nm,1.6s							
QIZ	**Qiongzhong**	**66.29**	**77**	P		**P**	**03 38 44.7**	**0.0**
QIZ				S		**S**	**03 47 34.4**	**+0.3**
QIZ				pmax	pmax			
	comp=Z,25nm,1.6s							
BJI	**Beijing**	**68.20**	**54**	P		**P**	**03 38 56.3**	**-0.1**
BJI				S		**S**	**03 47 57.2**	**+0.8**
BJI				SS		**SS**	**03 52 20.9**	**+1.9**
BJI				pmax	pmax			
	comp=Z,3.0nm,0.6s							
BJI				pmax	pmax			
	comp=Z,88nm,3.5s							
BJI				LR	LR			
	comp=N,110nm,26.1s							
BJI				LR	LR			
	comp=E,140nm,26.7s							
BJI				LR	LR			
	comp=Z,54nm,32.1s							
NJ2	**Nanjing**	**71.60**	**62**	*e*P		**P**	**03 39 17.8**	**+0.3**
NJ2				pmax	pmax			
	comp=Z,50nm,0.8s							
CN2	**Changchun**	**74.44**	**49**	*e*P		**P**	**03 39 34.3**	**+0.2**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
SEY	**Seymchan**	**83.26**	**25**⇑	*e*P		**P**	**03 40 24.1**	**+1.9**
SCHQ	**Schefferville**	**83.57**	**326**	P		**P**	**03 40 22.8**	**-1.2**
SCHQ	**Schefferville**	**83.57**	**326**	P		**P**	**03 40 22.8**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=104,slow=12,SNR=5.8							
SCHQ	**Schefferville**	**83.57**	**326**	P		**P**	**03 40 22.8**	**-1.2**
BILL	**Bilibino**	**85.12**	**18**	*e*P		**P**	**03 40 32.3**	**+0.7**
BILL				pmax	pmax			
	comp=Z,10.0nm,1.3s							
BILL	**Bilibino**	**85.12**	**18**	*e*P		**P**	**03 40 32.1**	**+0.7**
	comp=Z,20nm,1.4s							
BILL	**Bilibino**	**85.12**	**18**	*e*P		**P**	**03 40 32.2**	**+0.7**
	comp=Z,20nm,1.4s							
MJAR	**Matsushiro Arr**	**85.82**	**53**	P		**P**	**03 40 35.2**	**-0.5**
MJAR	**Matsushiro Arr**	**85.82**	**53**	P		**P**	**03 40 35.2**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=273,slow=9.6,SNR=5.1							
MJAR	**Matsushiro Arr**	**85.82**	**53**	P		**P**	**03 40 35.2**	**-0.5**
YKA	**Yellowknife Ar**	**96.21**	**348**	P		**P**	**03 41 22.6**	**-1.1**
YKA	**Yellowknife Ar**	**96.21**	**348**	P		**P**	**03 41 22.6**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=27,slow=5.1,SNR=7.0							
YKA	**Yellowknife Ar**	**96.21**	**348**	P		**P**	**03 41 22.6**	**-1.1**
ILAR	**Eielson Array**	**96.39**	**3**	P		**P**	**03 41 23.5**	**-1.0**
ILAR	**Eielson Array**	**96.39**	**3**	P		**P**	**03 41 23.5**	**-1.0**
	comp=Z,0.2nm,0.6s,baz=335,slow=4.0,SNR=5.2							
ILAR	**Eielson Array**	**96.39**	**3**	P		**P**	**03 41 23.5**	**-1.0**

IDC 06 03:51:14.5±2.0, 60.76S×45.50W, h0km, mb4.0/2, mb1 4.0/2, mb1mx3.8/10, mbtmp4.0/2, MS3.4/1, Ms1 3.4/1, ms1mx3.1/14, Error ellipse: s-maj=113.4km s-min=48.8km az=8.0, Scotia Sea

| Code | Station Name |

0.1nm,0.3s,baz=356,slow=24,SNR=1.5
ASAR Alice Springs 22.76 179 P P 04 43 20.8 -0.4
1.0nm,0.6s,baz=5.5,slow=12,SNR=8.8
MKAR Makanchi Array 65.21 324 P P 04 49 00.5 +0.1
0.9nm,0.7s,baz=117,slow=8.3,SNR=11
ILAR Eielson Array 86.20 25 P P 04 50 59.9 -0.2
0.3nm,0.7s,baz=265,slow=4.4,SNR=3.4

MAN 06 04:52:42,12°24′N×123°83′E,h4km,mb3.9,ML2.6,MS2.2, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.55**	**133**	⇑*iP*	Pn	04 53 10.8	+0.4
PLP				*i* S	Sg	04 53 32.3	+0.4
OTRP	**Odiongan**	**1.77**	**274**	*eP*	Pb	04 53 14.5	-0.6
OTRP				*eS*	Sn	04 53 29.3	-7.2
GUIM	**Jordan**	**2.01**	**217**	*eP*	Pn	04 53 17.4	+0.6
MSLP	**Maasin**	**2.32**	**154**	*eP*	Pg	04 53 26.1	-0.5

*ISCJB **06** 04:55:50.1±0.5,7°26S±0.07°×120°1E±0.1,h590km±7km, mb4.3/24,Error ellipse: s-maj=18.5km s-min=6.3km az=148.4*
*IDC **06** 04:55:50.7±0.7,7°32S×120°13E,h578km±7km,mb3.5/15, mb1 3.6/18,mb1mx3.6/24,mbtmp3.5/18,Error ellipse: s-maj=19.4km s-min=7.6km az=63.0*
ISC 06 04:55:50.6±0.7,7°35S±0.09×120°1E±0°1,h579km±7km, n40,σ0°78/48,mb4.6/31,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**2.34**	**352**	P	**P**	**04 57 04.8**	**+0.2**
	8.3nm,0.3s,baz=181,slow=2.8,SNR=30						
KAPI				S	**S**	**04 58 04.7**	**+0.1**
	baz=195,slow=22,SNR=1.2						
FITZ	**Fitzroy Crossi**	**11.98**	**154**	P	**P**	**04 58 28.9**	**-0.2**
	2.1nm,0.3s,baz=348,slow=7.4,SNR=23						
FITZ				S	**S**	**05 00 38.0**	**-1.5**
	0.3nm,0.3s,baz=176,slow=23,SNR=2.3						
WRA	**Warramunga Arr**	**18.65**	**134**	P	**P**	**04 59 33.3**	**+0.1**
	3.2nm,0.3s,baz=312,slow=10,SNR=59						
WRA				S	**S**	**05 02 32.8**	**-1.1**
	0.1nm,0.3s,baz=314,slow=17,SNR=3.4						
ASAR	**Alice Springs**	**20.96**	**142**	P	**P**	**04 59 54.1**	**0.0**
	14nm,0.4s,baz=317,slow=8.1,SNR=161						
ASAR				PcP	**PcP**	**05 03 36.3**	**+0.1**
	0.7nm,0.5s,baz=312,slow=1.9,SNR=4.8						
ASAR				ScP	**ScP**	**05 06 18.8**	**-0.2**
	1.0nm,0.6s,baz=336,slow=2.0,SNR=10						
NWAO	**Narrogin (SRO)**	**25.59**	**186**	P	**P**	**05 00 35.4**	**+0.4**
	9.0nm,0.6s,baz=7.0,slow=5.6,SNR=7.3						
BBOO	**Buckleboo**	**29.36**	**152**	*eP*	**P**	**05 01 08.1**	**+0.1**
	72nm,0.6s						
STKA	**Stephens Creek**	**31.59**	**143**	*eP*	**P**	**05 01 27.9**	**+0.9**
	11nm,0.3s						
STKA	**Stephens Creek**	**31.59**	**143**	P	**P**	**05 01 27.8**	**+0.8**
	14nm,0.3s,baz=323,slow=7.9,SNR=112						
STKA				PcP	**PcP**	**05 04 00.9**	**-0.5**
	0.6nm,0.3s,baz=68,slow=5.4,SNR=2.4						
STKA				ScP	**ScP**	**05 06 50.9**	**+0.4**
	1.5nm,0.7s,baz=340,slow=15,SNR=3.0						
CMAR	**Chiang Mai Arr**	**33.05**	**321**	P	**P**	**05 01 40.6**	**+1.0**
	1.0nm,0.3s,baz=140,slow=5.6,SNR=5.2						
CMSA	**Cobar Meteorol**	**33.92**	**139**	*eP*	**P**	**05 01 47.6**	**+0.9**
	28nm,0.8s						
ARPS	**Mount Arapiles**	**35.37**	**149**	*eP*	**P**	**05 01 59.5**	**+0.8**
	24nm,0.4s						
YNG	**Young**	**37.42**	**140**	*eP*	**P**	**05 02 17.1**	**+1.5**
	5.9nm,0.3s						
TOO	**Toolangi**	**37.91**	**146**	*eP*	**P**	**05 02 21.3**	**+1.8**
	20nm,0.5s						
CBIJ	**Chichi jima**	**40.38**	**31**	P	**P**	**05 02 39.1**	**-0.3**
	106nm,0.8s,baz=283,slow=14,SNR=2.6						
KSRS	**Korea Array**	**45.17**	**9**	P	**P**	**05 03 16.8**	**+0.2**
	0.7nm,0.4s,baz=184,slow=8.0,SNR=3.4						
TAPN	**Taplejung**	**46.60**	**319**	*eP*	**P**	**05 03 28.0**	**0.0**
	10nm,0.5s						
MJAR	**Matsushiro Arr**	**46.85**	**20**	P	**P**	**05 03 27.8**	**-1.6**
	1.6nm,0.5s,baz=76,slow=7.3,SNR=4.4						
RAMN	**Ramite**	**47.06**	**318**	*eP*	**P**	**05 03 31.6**	**+0.2**
	15nm,0.6s						
JIRN	**Jiri**	**47.80**	**318**	*eP*	**P**	**05 03 37.0**	**-0.1**
	3.6nm,0.6s						
GUN	**Gumba**	**48.17**	**318**	*eP*	**P**	**05 03 39.9**	**0.0**
	18nm,0.7s						
PKI	**Pulchoki**	**48.27**	**317**	*eP*	**P**	**05 03 39.9**	**-0.6**
	9.9nm,0.4s						
GKN	**Gorkha**	**49.06**	**317**	*eP*	**P**	**05 03 45.7**	**-0.5**
	11nm,0.4s						
KOLN	**Koldanda**	**49.62**	**316**	*eP*	**P**	**05 03 49.7**	**-0.7**
	10nm,0.5s						
DANN	**Dangsing**	**49.88**	**317**	*eP*	**P**	**05 03 52.0**	**-0.3**
	35nm,0.5s						
USRK	**Ussuriysk Arra**	**52.43**	**11**	P	**P**	**05 04 09.1**	**-0.9**
	1.7nm,0.4s,baz=197,slow=6.6,SNR=5.6						
SONM	**Songino Array**	**56.26**	**349**	P	**P**	**05 04 37.0**	**0.0**
	2.0nm,0.5s,baz=166,slow=8.5,SNR=23						
SONM				PcP	**PcP**	**05 05 26.8**	**+0.8**
	0.3nm,0.4s,baz=161,slow=4.8,SNR=2.7						
MKAR	**Makanchi Array**	**63.50**	**332**	P	**P**	**05 05 25.1**	**+0.3**
	6.6nm,0.5s,baz=144,slow=7.5,SNR=175						
AAK	**Ala-Archa**	**64.75**	**324**	P	**P**	**05 05 33.5**	**+0.5**
	1.8nm,0.4s,baz=115,slow=7.3,SNR=6.1						
ZALV	**Zalesovo Beam**	**67.90**	**338**	P	**P**	**05 05 51.0**	**-1.0**
	6.6nm,0.3s,baz=144,slow=4.1,SNR=15						
KURBB	**Kurchatov Arra**	**67.98**	**333**	P	**P**	**05 05 52.4**	**-0.2**
	3.9nm,0.6s,baz=148,slow=5.3,SNR=32						
PETK	**Petropavlovsk-**	**68.14**	**23**	P	**P**	**05 05 54.3**	**+0.7**
	2.1nm,0.6s,baz=190,slow=5.6,SNR=2.6						
BVAR	**Borovoye Array**	**73.36**	**331**	P	**P**	**05 06 23.7**	**-0.5**
	1.4nm,0.6s,baz=129,slow=4.0,SNR=6.5						
RDF	**Al-Radifah**	**78.47**	**301**	*eP*	**P**	**05 06 53.3**	**+0.4**
RDF				AMb	AMB	05 06 53.9	
	comp=Z,13nm,1.0s						
NAY	**Al-Naaiem**	**78.81**	**302**	*eP*	**P**	**05 06 54.2**	**-0.5**
NAY				AMb	AMB	05 06 55.2	
	comp=Z,6.3nm,0.6s						
MIB	**Mutribah**	**78.87**	**302**	*eP*	**P**	**05 06 54.8**	**-0.2**
MIB				AMb	AMB	05 06 56.5	
	comp=Z,8.3nm,0.8s						
BRTR	**Keskin Array B**	**91.91**	**310**	P	**P**	**05 07 56.7**	**-1.6**
	comp=Z,0.4nm,0.7s,baz=122,slow=7.0,SNR=3.6						
YKA	**Yellowknife Ar**	**112.25**	**24**	PKiKP	**PKiKP**	**05 13 20.2**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=304,slow=1.9,SNR=11						
NVAR	**Mina Array Bea**	**119.14**	**50**	PKP	**PKPdf**	**05 13 36.1**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=4.8,slow=1.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**119.21**	**281**	PKP	**PKPdf**	**05 13 35.3**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=49,slow=2.3,SNR=12						
SCHQ	**Schefferville**	**132.32**	**5**	PKP	**PKPdf**	**05 14 00.8**	**+1.3**
	comp=Z,2.8nm,1.0s,baz=350,slow=6.1,SNR=6.2						

*PGC **06** 05:06:29.7±6.4,58°37N×139°76W,h1km,ML3.2/3,103km Ssw of Yakutat, Ak Off Coast Of Southeastern Alaska*
*IDC **06** 05:06:30.7±1.3,58°42N×139°54W,h0km,mb2.9/1, mb1 3.4/5,mb1mx3.2/26,mbtmp3.1/5,ML2.9/4,Error ellipse: s-maj=24.2km s-min=12.6km az=18.0*
*NEIC **06** 05:06:33.0,58°45N×139°48W,h10km,ML3.0(AEIC),After AEIC.*
ISC 06 05:06:28.4±2.4,58°33N±0°05×139°61W±0°05,h3km±17km, n23,σ1°60/32,4D,Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNL	**Peninsula**	**1.34**	**5**	P	**Pn**	**05 06 53.4**	**-0.7**
PNL				S	**Sb**	**05 07 10.2**	**-1.6**
SAMH	**Samovar Hills**	**1.90**	**342**	P	**Pb**	**05 07 03.8**	**0.0**
SAMH				S	**Sb**	**05 07 27.5**	**-0.5**
MESA	**MESA**	**2.21**	**328**	P	**Pb**	**05 07 09.7**	**+0.6**
MESA				S	**Sg**	**05 07 37.8**	**-1.4**
TABL	**Table Mountain**	**2.25**	**340**	P	**Pb**	**05 07 09.3**	**-0.6**
TABL				S	**Sb**	**05 07 36.7**	**-1.5**
SKAG	**Skagway**	**2.49**	**61**	P	**Pn**	**05 07 10.8**	**+0.9**
BESE	**Bessie Mountai**	**2.51**	**82**	P	**Pn**	**05 07 11.4**	**+1.2**
SIT	**Sitka**	**2.63**	**117**	P	**Pb**	**05 07 14.4**	**-1.7**
HYT	**Haines Junctio**	**2.72**	**22**	P	**Pn**	**05 07 13.2**	**+0.1**
HYT	**Haines Junctio**	**2.72**	**22**	⇑Pn	**Pn**	**05 07 13.9**	**+0.8**
HYT				⇓Sn	**Sb**	**05 07 50.4**	**-1.0**
WHY	**Whitehorse**	**3.35**	**44**	P	**Pn**	**05 07 22.7**	**+0.9**
WHY	**Whitehorse**	**3.35**	**44**	⇓Pn	**Pn**	**05 07 23.0**	**+1.2**
WHY				⇓Sn	**Sn**	**05 08 01.1**	**-1.1**
BMRM	**Bremner River**	**3.66**	**318**	P	Pb	05 07 29.7	-4.1
DLBC	**Dease Lake**	**5.04**	**85**	⇑Pn	**Pn**	**05 07 47.0**	**+2.1**
DLBC				⇑Sn	**Sn**	**05 08 42.5**	**-1.2**
DLBC	**Dease Lake**	**5.04**	**85**	Pn	**Pn**	**05 07 47.1**	**+2.1**
	0.7nm,0.3s,baz=247,slow=9.6,SNR=12						
DLBC				Sn	**Sn**	**05 08 43.3**	**-0.4**
	1.3nm,0.3s,baz=170,slow=25,SNR=3.2						
DLBC				Lg	Lg	05 09 01.6	
	0.9nm,0.3s,baz=144,slow=25,SNR=3.8						
DAWY	**Dawson**	**5.75**	**1**	⇓Pn	**Pn**	**05 07 55.5**	**+0.8**
NDB	**Naden**	**5.75**	**137**	⇑Pn	**Pn**	**05 07 56.6**	**+1.9**
DIB	**Dawson Inlet,**	**6.53**	**139**	Pn	**Pn**	**05 08 08.0**	**+2.8**
	SNR=10						
DIB				Sn	**Sn**	**05 09 17.8**	**-2.3**
	SNR=4.6						
MOBC	**Moresby Island**	**6.75**	**137**	⇑Sn	**Sn**	**05 09 23.9**	**-1.9**
KDAK	**Kodiak Island**	**6.91**	**271**	Pn	**Pn**	**05 08 13.2**	**+2.7**
	0.4nm,0.3s,baz=70,slow=11,SNR=13						
KDAK				Sn	**Sn**	**05 09 27.2**	**-2.3**
	0.1nm,0.3s,baz=219,slow=13,SNR=1.7						
ILAR	**Eielson Array**	**7.33**	**335**	Pn	**Pn**	**05 08 17.1**	**+0.8**
	0.1nm,0.3s,baz=155,slow=12,SNR=6.5						
CTLN	**Castor Lake**	**12.79**	**52**	⇑Pn	**Pn**	**05 09 31.6**	**+0.6**
YKA	**Yellowknife Ar**	**12.99**	**61**	Pn	**Pn**	**05 09 34.4**	**+0.7**
	0.0nm,0.3s,baz=263,slow=13,SNR=4.2						
TXAR	**Lajitas Array**	**38.09**	**124**	P	**P**	**05 13 50.9**	**+2.5**
	0.1nm,0.7s,baz=297,slow=5.9,SNR=2.6						

*ISK **06** 05:07:51.9,37°46N×27°27E,h5km,MD2.9*
*DDA **06** 05:07:51.3,37°45N×27°25E,h7km,MD3.0*
*CSEM **06** 05:07:52.2±0.2,37°47N×27°23E,h2km,MD3.0,Error ellipse: s-maj=4.7km s-min=3.4km az=61.0*
ISC 06 05:07:51.6±1.2,37°45N±0°03×27°22E±0°03,h3km±14km, n31,σ0°67/38,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.25**	**2**	*iP*	**Pg**	**05 07 56.1**	**-0.4**
GCAM	**G?zelcaml?**	**0.25**	**2**	*iP*	**Pg**	**05 07 56.1**	**-0.4**
BODT	**Bodrum**	**0.39**	**170**	*e*PG	**Pb**	**05 08 00.2**	**-0.9**
BODT				*e*SG	**Sb**	**05 08 06.5**	**-1.0**
BODT	**Bodrum**	**0.39**	**170**	*e*Pg	**Pb**	**05 08 00.3**	**-0.9**
BODT				*e*Sg	**Sb**	**05 08 06.5**	**-1.0**
AYDN	**Tasoluk**	**0.56**	**67**	*eP*	**Pg**	**05 08 02.0**	**-0.4**
AYDN				*i* S	**Sg**	**05 08 09.9**	**+0.1**
AYDN	**Tasoluk**	**0.56**	**67**	*eP*	**Pg**	**05 08 02.0**	**-0.4**
AYDN				*i* S	**Sg**	**05 08 09.9**	**+0.1**
YER	**Yerkesik**	**0.90**	**110**	*e*PG	**Pg**	**05 08 09.0**	**+0.2**
YER				*e*SG	**Sg**	**05 08 21.3**	**+0.8**
YER	**Yerkesik**	**0.90**	**110**	*e*Pg	**Pg**	**05 08 09.0**	**+0.2**
YER				*e*Sg	**Sg**	**05 08 21.3**	**+0.8**
IZM	**Izmir**	**0.95**	**2**	*e*PG	**Pg**	**05 08 10.3**	**+0.4**
IZM	**Izmir**	**0.95**	**2**	*e*Pg	**Pg**	**05 08 10.3**	**+0.4**
URLA	**Izmir**	**1.04**	**332**	*i* P	**Pg**	**05 08 11.1**	**-0.4**
URLA				*i* S	**Sg**	**05 08 25.5**	**+0.5**
URLA	**Izmir**	**1.04**	**332**	*i* P	**Pg**	**05 08 11.1**	**-0.4**
URLA				*i* S	**Sg**	**05 08 25.5**	**+0.5**
TURN	**Turunc**	**1.24**	**117**	*e*P	Pg	05 08 12.0	-3.4
APE	**Apeiranthos**	**1.40**	**255**	*e*PN	**Pg**	**05 08 18.7**	**+0.2**
APE	**Apeiranthos**	**1.40**	**255**	*e*Pn	**Pg**	**05 08 18.7**	**+0.2**
AKHS	**Akhisar**	**1.50**	**18**	*e*P	**Pn**	**05 08 19.8**	**+0.3**
AKHS	**Akhisar**	**1.50**	**18**	*e*P	**Pn**	**05 08 19.8**	**+0.3**
AKS	**Akhisar**	**1.50**	**18**	*e*PN	**Pn**	**05 08 19.9**	**+0.4**
AKS	**Akhisar**	**1.50**	**18**	*e*Pn	**Pn**	**05 08 19.9**	**+0.4**
KULA	**Kula-Manisa**	**1.56**	**46**	*e*PN	**Pn**	**05 08 20.8**	**+0.5**
KULA	**Kula-Manisa**	**1.56**	**46**	*e*Pn	**Pn**	**05 08 20.8**	**+0.5**
FETY	**Fethiye**	**1.69**	**118**	*e*PN	**Pn**	**05 08 23.0**	**+0.9**
FETY	**Fethiye**	**1.69**	**118**	*e*Pn	**Pn**	**05 08 23.0**	**+0.9**
DEMI	**Demirci**	**1.98**	**36**	*e*P	**Pb**	**05 08 27.9**	**-0.5**
DEMI	**Demirci**	**1.98**	**36**	*e*P	**Pb**	**05 08 27.9**	**-0.5**
KHL	**Karahalli**	**2.02**	**64**	*e*PN	**Pn**	**05 08 27.0**	**+0.3**
KHL	**Karahalli**	**2.02**	**64**	*e*Pn	**Pn**	**05 08 27.0**	**+0.3**
ELL	**Elmali**	**2.26**	**107**	*e*PN	**Pn**	**05 08 31.0**	**+1.1**
ELL	**Elmali**	**2.26**	**107**	*e*Pn	**Pn**	**05 08 31.0**	**+1.1**
GONE	**Gonen-Balikesi**	**2.62**	**8**	*e*PN	**Pn**	**05 08 36.0**	**+1.2**
GONE	**Gonen-Balikesi**	**2.62**	**8**	*e*Pn	**Pn**	**05 08 36.0**	**+1.2**

IDC 06 05:08:25.6±8.1,2°69N×128°76E,h214km±85km,mb3.5/9, mb1 3.7/9,mb1mx3.5/19,mbtmp3.5/9,Error ellipse: s-maj=42.9km s-min=13.9km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.89**	**188**	P	P	05 12 50.8	-0.7
	2.3nm,0.5s,baz=346,slow=8.3,SNR=3.3						
WRA	**Warramunga Arr**	**23.15**	**167**	P	P	05 13 13.2	0.0
	2.8nm,0.4s,baz=345,slow=10.0,SNR=12						
ASAR	**Alice Springs**	**26.67**	**169**	P	P	05 13 44.7	-0.3
	1.4nm,0.6s,baz=354,slow=7.9,SNR=23						
CMAR	**Chiang Mai Arr**	**33.14**	**300**	P	P	05 14 42.4	+0.4
	0.9nm,0.3s,baz=119,slow=5.6,SNR=5.1						
KSRS	**Korea Array**	**34.61**	**359**	P	P	05 14 53.8	-0.5
	1.3nm,0.4s,baz=181,slow=11,SNR=4.7						
STKA	**Stephens Creek**	**36.48**	**161**	P	P	05 15 10.8	+0.5
	1.7nm,0.4s,baz=326,slow=8.9,SNR=14						
SONM	**Songino Array**	**48.94**	**340**	P	P	05 16 50.9	+0.6
	0.5nm,0.6s,baz=150,slow=6.8,SNR=5.0						
MKAR	**Makanchi Array**	**59.56**	**325**	P	P	05 18 06.6	-0.2
	1.1nm,0.5s,baz=114,slow=8.2,SNR=14						
ARCES	**ARCESS Array B**	**92.12**	**340**	P	P	05 21 09.2	-1.1
	5.0nm,1.0s,baz=65,slow=7.1,SNR=3.5						

IDC 06 06:00:30.8±13.0,10°42N×90°95E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/23,mbtmp3.5/3,Error ellipse: s-maj=680.0km s-min=30.4km az=60.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VIS	**Vishakhapatnam**	**10.36**	**315**	*i* P	Pn	06 02 53.2	-7.6
VIS				*i* S	Sn	06 04 40.3	-17
VIS				*i* S		06 04 42.2	
VIS				*ex*	x	06 04 43.0	
	comp=N,10nm,0.5s						
VIS				*ex*	x	06 04 46.6	
	comp=E,13nm,0.5s						
MKAR	**Makanchi Array**	**36.99**	**350**	P	P	06 07 41.9	-0.1
	comp=E,0.3nm,0.5s,baz=174,slow=9.5,SNR=5.2						
WRA	**Warramunga Arr**	**52.30**	**125**	P	P	06 09 44.1	-0.5
	comp=E,0.4nm,0.3s,baz=309,slow=7.9,SNR=2.9						
ASAR	**Alice Springs**	**53.95**	**129**	P	P	06 09 57.0	+0.2
	comp=E,0.5nm,0.7s,baz=298,slow=7.6,SNR=4.3						

MEX 06 06:06:54.6±0.5,18°13N×101°64W,h72km±8km,MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.55**	**162**	*i* P	Pn	06 07 07.0	-1.0
ZIIG				*i* S	Sn	06 07 15.9	-2.0
CAIG	**El Cayaco**	**1.69**	**129**	*i* P	Pn	06 07 20.8	-1.4
CAIG				*i* S	Sn	06 07 41.4	-1.8
MEIG	**Mezcala**	**1.94**	**96**	*i* P	Pn	06 07 24.1	-1.4
MEIG				*i* S	Sn	06 07 47.6	-1.5
PLIG	**Platanillo**	**2.05**	**82**	*eP*	Pn	06 07 25.4	-1.8
PLIG				*eS*	Sn	06 07 50.9	-1.0
ACX	**Acapulco**	**2.11**	**126**	*i* P	Pn	06 07 26.7	-1.2
ACX				*i* S	Sn	06 07 50.4	-2.8
YAIG	**Yautepec**	**2.55**	**73**	*i* P	Pn	06 07 33.0	-1.0
YAIG				*eS*	Sn	06 08 02.2	-1.9

*IDC **06** 06:09:38.6±1.1,35°34S×107°67W,h0km,mb3.9/8, mb1 4.2/8,mb1mx4.0/15,mbtmp3.9/8,MS3.8/7,Ms1 3.7/7, ms1mx3.6/17,Error ellipse: s-maj=37.9km s-min=24.3km az=29.0*
*ISCJB **06** 06:09:40.9±0.9,35°0S±0.1×107°4W±0°2,h10km,mb4.2/15, MS3.7/6,Error ellipse: s-maj=22.1km s-min=16.8km az=136.6*
*NEIC **06** 06:09:40.2±0.8,35°36S×107°72W,h10km,mb4.5/8,Error ellipse: s-maj=24.7km s-min=15.1km az=21.0*
ISC 06 06:09:41.8±0.8,35°1S±0°1×107°6W±0°1,h10km,n34, σ1°31/30,mb4.3/15,MS3.9/6,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**8.05**	**349**	LR	LR	06 13 59.9	
	comp=Z,707nm,19.1s,baz=333,slow=31						
RPN				T	T	06 19 52.4	
	33nm,0.3s,baz=251,slow=18,SNR=8.0						
PLCA	**Paso Flores**	**29.60**	**112**	*eP*	**P**	**06 15 47.1**	**-0.1**
	7.2nm,0.9s						
PLCA	**Paso Flores**	**29.60**	**112**	P	**P**	**06 15 47.1**	**-0.1**
	3.6nm,0.8s,baz=260,slow=8.3,SNR=5.5						
PLCA				LR	LR	06 24 51.8	
	comp=Z,62nm,20.4s,baz=285,slow=31						
CFAA	**Coronel Fontan**	**32.89**	**95**	P	**P**	**06 16 15.1**	**-1.2**
CFAA	**Coronel Fontan**	**32.89**	**95**	P	**P**	**06 16 15.1**	**-1.2**
	0.5nm,1.1s,baz=243,slow=10,SNR=3.9						
CFAA				LR	LR	06 26 11.1	
	comp=Z,25nm,19.8s,baz=257,slow=30						
USHA	**Ushuaia**	**33.43**	**138**	LR	LR	06 26 32.4	
	comp=Z,384nm,20.0s,baz=261,slow=30						
LVC	**Limon Verde**	**35.84**	**80**	*eP*	**P**	**06 16 43.9**	**+1.8**
	0.8nm,1.0s						
NNA	**Nana**	**36.09**	**58**	*eP*	**P**	**06 16 44.8**	**+0.8**
	32nm,1.3s						
LPAZ	**La Paz**	**39.83**	**72**	*eP*	**P**	**06 17 15.7**	**-0.6**
	19nm,1.5s						
OTAV	**Otavalo**	**44.40**	**44**	*eP*	**P**	**06 17 54.2**	**+0.9**
	2.5nm,0.8s						
SIV	**San Ignacio**	**45.59**	**78**	P	**P**	**06 18 00.9**	**-1.4**
SIV	**San Ignacio**	**45.59**	**78**	P	**P**	**06 18 00.9**	**-1.4**
	2.5nm,0.8s,baz=244,slow=9.2,SNR=13						
SAML	**Samuel**	**48.11**	**68**	*eP*	**P**	**06 18 21.6**	**-0.5**
	12nm,1.3s						
ROSC	**El Rosal**	**50.52**	**45**	*eP*	**P**	**06 18 41.7**	**+0.8**
ROSC	**El Rosal**	**50.52**	**45**	P	**P**	**06 18 41.3**	**+0.4**
	6.4nm,0.8s,baz=135,slow=4.3,SNR=7.5						
ROSC				LR	LR	06 36 08.2	
	comp=Z,116nm,20.0s,baz=25,slow=31						
QSPA	**South Pole Qui**	**55.15**	**180**	*eP*	**P**	**06 19 16.3**	**+2.0**
	7.0nm,1.2s						
QSPA	**South Pole Qui**	**55.15**	**180**	P	**P**	**06 19 16.0**	**+1.8**
	1.3nm,0.9s,baz=121,slow=12,SNR=4.3						
BDFB	**Brasilia**	**56.37**	**86**	LR	LR	06 41 43.2	
	comp=Z,96nm,18.5s,baz=6.3,slow=34						
TXAR	**Lajitas Array**	**64.15**	**4**	P	**P**	**06 20 16.9**	**+0.4**
TXAR	**Lajitas Array**	**64.15**	**4**	P	**P**	**06 20 16.9**	**+0.4**
	0.1nm,0.3s,baz=178,slow=7.0,SNR=2.3						
NVAR	**Mina Array Bea**	**73.79**	**351**	P	**P**	**06 21 17.9**	**+1.5**
NVAR	**Mina Array Bea**	**73.79**	**351**	P	**P**	**06 21 17.9**	**+1.5**
	1.8nm,1.0s,baz=190,slow=7.5,SNR=7.0						
PDAR	**Pinedale Array**	**77.47**	**358**	P	**P**	**06 21 37.5**	**0.0**
PDAR	**Pinedale Array**	**77.47**	**358**	P	**P**	**06 21 37.5**	**0.0**
	1.1nm,0.8s,baz=129,slow=4.0,SNR=7.1						
HLID	**Hailey**	**78.49**	**355**	*eP*	**P**	**06 21 43.6**	**+0.5**
	2.9nm,0.9s						
ULM	**Lac du Bonnet**	**85.56**	**7**	P	**P**	**06 22 18.9**	**-0.9**
ULM	**Lac du Bonnet**	**85.56**	**7**	P	**P**	**06 22 18.9**	**-0.9**
	0.6nm,0.4s,baz=239,slow=5.9,SNR=2.3						
SCHQ	**Schefferville**	**96.12**	**22**	LR	LR	07 06 38.2	
	comp=Z,83nm,18.6s,baz=36,slow=36						
BRTR	**Keskin Array B**	**148.99**	**70**	PKPbc	**PKPdf**	**06 29 27.3**	**+1.2**
BRTR	**Keskin Array B**	**148.99**	**70**	PKPbc	**PKPdf**	**06 29 27.3**	**+1.2**
	0.4nm,0.4s,baz=163,slow=6.0,SNR=2.5						
CMAR	**Chiang Mai Arr**	**151.26**	**242**	PKPbc	**PKPbc**	**06 29 33.5**	**-2.5**
CMAR	**Chiang Mai Arr**	**151.26**	**242**	PKPbc	**PKPbc**	**06 29 33.5**	**-2.5**
	0.7nm,0.3s,baz=184,slow=2.7,SNR=2.7						
SONM	**Songino Array**	**151.77**	**307**	PKPbc	**PKPbc**	**06 29 35.1**	**-1.5**
SONM	**Songino Array**	**151.77**	**307**	PKPbc	**PKPbc**	**06 29 35.1**	**-1.5**
	1.5nm,0.8s,baz=130,slow=1.9,SNR=5.8						

IDC 06 06:22:40.3±4.5,0°66S×134°26E,h0km,mb3.4/2, mb1 3.6/3,mb1mx3.5/16,mbtmp3.4/3,ML3.6/1,Error ellipse: s-maj=236.8km s-min=28.0km az=77.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.16**	**180**	P	P	06 27 05.5	-0.1
	0.2nm,0.3s,baz=359,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**22.87**	**181**	P	P	06 27 45.8	+0.1
	0.7nm,0.6s,baz=9.0,slow=11,SNR=13						
MKAR	**Makanchi Array**	**65.48**	**324**	P	P	06 33 25.4	-0.1
	0.2nm,0.5s,baz=111,slow=10,SNR=4.6						

**IDC 06 06:28:48.3±14.0,1°02S×133°09E,h0km,mb3.8/2, mb1 3.9/3,mb1mx3.5/17,mbtmp3.7/3,ML3.6/1,Error ellipse: s-maj=225.2km s

6.5nm,1.0s,baz=16,slow=2.6,SNR=11
MJAR Matsushiro Arr 76.50 324 P **P** 06 52 20.4 -0.4
MJAR Matsushiro Arr 76.50 324 P **P** 06 52 20.4 -0.4
0.7nm,0.3s,baz=130,slow=4.9,SNR=3.9
KSRS Korea Array 82.90 319 P **P** 06 52 54.2 -1.3
1.3nm,0.7s,baz=159,slow=3.8,SNR=5.0
KSRS LR LR 07 23 55.1
comp=Z,35nm,19.5s,baz=255,slow=32
KSAR Wonju Array Be 82.91 318 P **P** 06 52 54.1 -1.4
NVAR Mina Array Bea 84.94 42 P **P** 06 53 06.0 -0.2
NVAR Mina Array Bea 84.94 42 P **P** 06 53 06.0 -0.2
1.0nm,1.0s,baz=224,slow=4.1,SNR=5.9
USRK Ussuriysk Arra 85.33 326 P **P** 06 53 09.2 +1.5
4.3nm,1.1s,baz=163,slow=7.4,SNR=4.1
TXAR Lajitas Array 89.46 56 P **P** 06 53 29.3 +1.2
TXAR Lajitas Array 89.46 56 P **P** 06 53 29.3 +1.2
1.8nm,1.1s,baz=197,slow=3.9,SNR=6.6
ENH Enshi 91.02 304 *eP* **P** 06 53 35.6 +0.3
34nm,1.4s
PDAR Pinedale Array 92.85 43 P **P** 06 53 45.0 +1.3
PDAR Pinedale Array 92.85 43 P **P** 06 53 45.1 +1.3
0.3nm,0.8s,baz=194,slow=3.4,SNR=2.8
ILAR Eielson Array 94.53 12 P **P** 06 53 51.5 +0.9
ILAR Eielson Array 94.53 12 P **P** 06 53 51.5 +0.9
0.8nm,1.1s,baz=209,slow=5.0,SNR=4.1
NOA NORSAR Array B 145.81 353 PKPbc **PKPab** 07 00 09.8 0.0
NOA NORSAR Array B 145.81 353 PKPbc **PKPab** 07 00 09.8 0.0
4.2nm,1.1s,baz=14,slow=2.4,SNR=2.9
AKASG Malin Array Be 149.53 327 PKPbc **PKPbc** 07 00 18.9 -0.8
AKASG Malin Array Be 149.53 327 PKPbc **PKPbc** 07 00 18.9 -0.8
1.5nm,0.5s,baz=37,slow=2.2,SNR=5.7
BRTR Keskin Array B 152.18 304 PKPab **PKPab** 07 00 36.4 0.0
BRTR Keskin Array B 152.18 304 PKPab **PKPab** 07 00 36.4 0.0
0.7nm,0.8s,baz=113,slow=2.8,SNR=4.1
TORD Torodi Ar. Bea 165.87 172 PKPab **PKPab** 07 01 35.2 -0.6
TORD Torodi Ar. Bea 165.87 172 PKPab **PKPab** 07 01 35.2 -0.6
2.5nm,1.0s,baz=201,slow=2.8,SNR=6.2

*NSSP **06** 06:51:16.6,40°.52N×42°.27E,h5km,Ms3.3*
*ISK **06** 06:51:21.0,40°.45N×42°.34E,h5km,ML3.5*
*TIF **06** 06:51:21.6,40°.39N×42°.35E,h1km±2km*
*DDA **06** 06:51:21.8,40°.42N×42°.38E,h8km,MD3.6*
*CSEM **06** 06:51:22.3±0.2,40°.47N×42°.37E,h2km,ML3.5,Error ellipse: s-maj=4.5km s-min=3.2km az=5.0*
ISC 06 06:51:22.3±1.1, 40°.46N±0°.02×42°.36E±0°.01, h1km±10km, n96,σ1§25/139, 14C-12D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.54**	**220**	*i* P		**Pg**	**06 51 31.6**	**-1.1**
HOMI				*i* S		**Sg**	**06 51 40.9**	**+1.2**
KARS	**Kars**	**0.58**	**73**	PG		**Pg**	**06 51 33.8**	**+0.4**
KARS				SG		**Sb**	**06 51 43.2**	**-0.9**
KARS	**Kars**	**0.58**	**73**	*i* Pg		**Pg**	**06 51 33.8**	**+0.4**
KARS				*i* Sg		**Sb**	**06 51 43.2**	**-0.9**
DDEM	**Demirkent**	**0.63**	**313**	*i* P		**Pg**	**06 51 34.6**	**+0.1**
DDEM				*i* S		**Sg**	**06 51 43.0**	**+0.3**
DDEM	**Demirkent**	**0.63**	**313**	*i* P		**Pg**	**06 51 34.6**	**+0.1**
DDEM				*i* S		**Sg**	**06 51 43.0**	**+0.3**
DAGI	**Agillar**	**0.70**	**332**	*i* P		**Pg**	**06 51 36.3**	**+0.5**
DAGI				*i* S		**Sb**	**06 51 47.3**	**-0.4**
ARTV	**Artvin**	**0.79**	**336**	*i* P		**Pg**	**06 51 37.9**	**+0.3**
ARTV				*i* S		**Sb**	**06 51 50.3**	**-0.2**
ARTV	**Artvin**	**0.79**	**336**	*i* P		**Pg**	**06 51 37.9**	**+0.3**
ARTV				*i* S		**Sb**	**06 51 50.3**	**-0.2**
ERZM	**Erzurum**	**0.94**	**234**	*i* P		**Pg**	**06 51 39.8**	**-0.5**
ERZM				*i* S		**Sg**	**06 51 52.6**	**+0.1**
ERZM	**Erzurum**	**0.94**	**234**	*i* P		**Pg**	**06 51 39.8**	**-0.5**
ERZM				*i* S		**Sg**	**06 51 52.6**	**+0.1**
EZM	**Erzurum**	**0.94**	**234**	PG		**Pg**	**06 51 39.7**	**-0.6**
AGRB	**Hanur-Agry**	**1.01**	**151**	PG		**Pg**	**06 51 40.9**	**-0.8**
AGRB	**Hanur-Agry**	**1.01**	**151**	*i* Pg		**Pg**	**06 51 40.9**	**-0.8**
DBOC	**Borcka**	**1.03**	**330**	*i* P		**Pg**	**06 51 41.6**	**-0.4**
DBOC				*i* S		**Sg**	**06 51 55.8**	**+0.4**
DBOC	**Borcka**	**1.03**	**330**	*i* P		**Pg**	**06 51 41.6**	**-0.4**
DBOC				*i* S		**Sg**	**06 51 55.8**	**+0.4**
TCHZ	**Tchakhmakh**	**1.11**	**66**	*eP*		**Pb**	**06 51 44.5**	**0.0**
TCHZ	**Tchakhmakh**	**1.11**	**66**	P		**Pb**	**06 51 44.5**	**0.0**
TUTA	**Tutak**	**1.11**	**161**	*i* P		**Pg**	**06 51 42.9**	**-0.8**
TUTA				*i* S		**Sb**	**06 51 60.0**	**+0.3**
TUTA	**Tutak**	**1.11**	**161**	*i* P		**Pg**	**06 51 42.9**	**-0.8**
TUTA				*i* S		**Sb**	**06 52 00.0**	**+0.3**
BCA	**Borcka**	**1.13**	**331**	PN		**Pg**	**06 51 43.4**	**-0.6**
BCA	**Borcka**	**1.13**	**331**	*i* Pn		**Pg**	**06 51 43.4**	**-0.6**
GYMZ	**Gyumri**	**1.18**	**72**	*eP*		**Pg**	**06 51 44.0**	**-0.9**
GYMZ				*eS*		**Sg**	**06 52 01.1**	**+1.0**
GYMZ	**Gyumri**	**1.18**	**72**	P		**Pg**	**06 51 44.0**	**-0.9**
GYMZ				S		**Sg**	**06 52 01.1**	**+1.0**
VNNZ	**Vanand**	**1.18**	**107**	⇑P		**Pn**	**06 51 43.8**	**-1.1**
HARI	**Harich**	**1.26**	**83**	*eP*		**Pg**	**06 51 44.6**	**-1.9**
HARI				*eS*		**Sg**	**06 52 00.5**	**-2.3**
KAMZ	**Kamo**	**1.27**	**73**	*eP*		**Pg**	**06 51 44.6**	**-2.0**
KAMZ				*eS*		**Sg**	**06 52 03.5**	**+0.4**
KAMZ	**Kamo**	**1.27**	**73**	P		**Pg**	**06 51 44.6**	**-2.0**
KAMZ				S		**Sg**	**06 52 03.5**	**+0.4**
AKH	**Akhalkalaki**	**1.28**	**42**	P		**Sg**	**06 51 47.1**	**+0.2**
AKH				S		**Sn**	**06 52 05.7**	**+0.1**
PZAR	**Pazar-Rize**	**1.32**	**303**	*ePN*		**Pg**	**06 51 46.5**	**-1.1**
PZAR	**Pazar-Rize**	**1.32**	**303**	*ePn*		**Pg**	**06 51 46.5**	**-1.1**
ARUZ	**Aruch**	**1.34**	**97**	⇑P		**Pn**	**06 51 45.7**	**-2.6**
DYDN	**Diyadin**	**1.37**	**131**	*i* P		**Pn**	**06 51 47.3**	**-1.6**
DYDN				*i* S		**Sn**	**06 52 08.6**	**+0.7**
DYDN	**Diyadin**	**1.37**	**131**	*i* P		**Pn**	**06 51 47.3**	**-1.6**
DYDN				*i* S		**Sn**	**06 52 08.6**	**+0.7**
AMBZ	**Amberd**	**1.45**	**92**	⇑*i*P		**Pn**	**06 51 48.0**	**-2.0**
AMBZ				⇓*i*S		**Sb**	**06 52 08.9**	**-0.6**
AMBZ	**Amberd**	**1.45**	**92**	⇑P		**Pn**	**06 51 48.0**	**-2.0**
AMBZ				S		**Sb**	**06 52 08.9**	**-0.6**
VRTB	**Varto-Mus**	**1.47**	**208**	*ePN*		**Pn**	**06 51 49.0**	**-1.2**
VRTB	**Varto-Mus**	**1.47**	**208**	*ePn*		**Pn**	**06 51 49.0**	**-1.2**
KOPT	**Kop Dagi**	**1.49**	**253**	*i* P		**Pn**	**06 51 50.3**	**-0.3**
KOPT				*i* S		**Sg**	**06 52 12.7**	**+2.5**
KOPT	**Kop Dagi**	**1.49**	**253**	*i* P		**Pn**	**06 51 50.3**	**-0.3**
KOPT				*i* S		**Sg**	**06 52 12.7**	**+2.5**
SPIZ	**Spitak**	**1.50**	**75**	⇓*i*P		**Pn**	**06 51 49.8**	**-0.8**
SPIZ				⇓*i*S		**Sg**	**06 52 14.3**	**+3.7**
SPIZ	**Spitak**	**1.50**	**75**	⇓P		**Pn**	**06 51 49.8**	**-0.8**
SPIZ				S		**Sg**	**06 52 14.3**	**+3.7**
PAAR	**P'arak'ar**	**1.58**	**101**	⇑*i*P		**Pn**	**06 51 51.3**	**-0.3**
PAAR				⇓*i*S		**Sg**	**06 52 16.6**	**+3.6**
PAAR	**P'arak'ar**	**1.58**	**101**	⇑P		**Pn**	**06 51 51.3**	**-0.3**
PAAR				S		**Sg**	**06 52 16.6**	**+3.6**
STE	**Stepanavan**	**1.62**	**70**	⇑P		**Pb**	**06 51 53.0**	**-0.2**
ERE	**Yerevan**	**1.64**	**99**	*eP*		Pn	06 51 47.0	-5.5
STEZ	**Stepenevan**	**1.64**	**70**	⇑*eP*		**Pn**	**06 51 53.0**	**+0.5**
STEZ				⇑*eS*		Sg	06 52 22.5	+7.3
BAYT	**Ayd¨–ntepe-Bay**	**1.69**	**268**	*ePN*		**Pn**	**06 51 52.3**	**-0.9**
BAYT	**Ayd¨–ntepe-Bay**	**1.69**	**268**	*ePn*		**Pn**	**06 51 52.3**	**-0.9**
LMTZ	**Lermontov**	**1.77**	**80**	⇑*i*P		**Pn**	**06 51 53.6**	**-0.7**
LMTZ				⇓*i*S		**Sn**	**06 52 17.7**	**+0.2**
LMTZ	**Lermontov**	**1.77**	**80**	⇑P		**Pn**	**06 51 53.6**	**-0.7**
LMTZ				S		**Sn**	**06 52 17.7**	**+0.2**
BNGL	**BINGOL**	**1.77**	**212**	*i* P		**Pn**	**06 51 54.1**	**-0.3**
CLDR	**Caldiran**	**1.78**	**137**	*ePN*		**Pn**	**06 51 54.5**	**0.0**
CLDR	**Caldiran**	**1.78**	**137**	*ePn*		**Pn**	**06 51 54.5**	**0.0**
KAPZ	**Kaputan**	**1.79**	**94**	⇓*i*P		**Pn**	**06 51 54.2**	**-0.5**
KAPZ				⇓*i*S		**Sg**	**06 52 22.9**	**+2.9**
KAPZ	**Kaputan**	**1.79**	**94**	⇓P		**Pn**	**06 51 54.2**	**-0.5**
KAPZ				S		**Sg**	**06 52 22.9**	**+2.9**
CKLZ	**Chkalov**	**1.81**	**74**	⇓*i*P		**Pn**	**06 51 51.8**	**-3.0**
CKLZ				⇓*i*S		**Sn**	**06 52 18.9**	**+0.4**
CKLZ	**Chkalov**	**1.81**	**74**	⇓P		**Pn**	**06 51 51.8**	**-3.0**
CKLZ				S		**Sn**	**06 52 18.9**	**+0.4**
GNI	**Garni**	**1.85**	**99**	*ePN*		**Pn**	**06 51 55.1**	**-0.3**
GNI	**Garni**	**1.85**	**99**	⇑*i*P		**Pn**	**06 51 55.7**	**+0.3**
GNI				⇑*i*S		**Sg**	**06 52 22.7**	**+0.9**
GNI	**Garni**	**1.85**	**99**	*ePn*		**Pn**	**06 51 55.1**	**-0.3**
GNI	**Garni**	**1.85**	**99**	⇑P		**Pn**	**06 51 55.7**	**+0.3**
GNI				S		**Sg**	**06 52 22.7**	**+0.9**
TATV	**Tatvan**	**1.95**	**182**	*i* P		**Pb**	**06 51 58.4**	**-0.4**
TATV	**Tatvan**	**1.95**	**182**	*i* P		**Pb**	**06 51 58.4**	**-0.4**
BNGB	**Bing¨¶l**	**1.96**	**222**	*ePN*		**Pn**	**06 51 56.4**	**-0.4**
GOR	**Gori**	**2.02**	**40**	P		**Pg**	**06 52 01.3**	**+0.2**
GOR				S		**Sg**	**06 52 27.5**	**+0.4**
VANB	**Van**	**2.03**	**156**	*ePN*		**Pn**	**06 51 57.8**	**0.0**
VANB	**Van**	**2.03**	**156**	*ePn*		**Pn**	**06 51 57.8**	**0.0**
KTUT	**Trabzon**	**2.04**	**286**	*ePN*		**Pn**	**06 51 57.8**	**0.0**
KTUT	**Trabzon**	**2.04**	**286**	*ePn*		**Pn**	**06 51 57.8**	**0.0**
TVAN	**Van**	**2.09**	**157**	*i* P		**Pb**	**06 52 01.1**	**-0.1**
TVAN	**Van**	**2.09**	**157**	*i* P		**Pb**	**06 52 01.1**	**-0.1**
GUMT	**Gumushane**	**2.19**	**271**	PN		**Pn**	**06 52 00.3**	**+0.2**
GUMT	**Gumushane**	**2.19**	**271**	*i* Pn		**Pn**	**06 52 00.3**	**+0.2**
TBLG	**Delisi**	**2.20**	**54**	P		**Pb**	**06 52 02.1**	**-0.9**
TBLG				S		**Sg**	**06 52 33.2**	**+0.1**
TBLG	**Delisi**	**2.20**	**54**	P		**Pb**	**06 52 02.1**	**-0.9**
ONI	**Oni**	**2.28**	**21**	P		**Pn**	**06 52 02.6**	**+1.3**
ONI				S		**Sb**	**06 52 33.7**	**+0.5**
KELT	**Kelkit**	**2.39**	**264**	*i* P		**Pn**	**06 52 04.7**	**+1.8**
KELT				*i* S		**Sg**	**06 52 40.2**	**+1.0**
KELT	**Kelkit**	**2.39**	**264**	*i* P		**Pn**	**06 52 04.7**	**+1.8**
EZC	**Erzincan**	**2.41**	**254**	*ePN*		**Pn**	**06 52 03.2**	**+0.2**
EZC	**Erzincan**	**2.41**	**254**	*ePn*		**Pn**	**06 52 03.3**	**+0.2**
DGRG	**David-gareji**	**2.49**	**66**	P		**Pn**	**06 52 05.1**	**+1.0**
DGRG				S		**Sg**	**06 52 42.9**	**+0.5**
PTK	**Pertek**	**2.77**	**237**	*ePN*		**Pn**	**06 52 08.3**	**+0.2**
PTK	**Pertek**	**2.77**	**237**	*ePn*		**Pn**	**06 52 08.3**	**+0.2**
ESPY	**Espiye-Giresun**	**2.80**	**281**	*ePN*		**Pn**	**06 52 08.7**	**+0.4**
ESPY	**Espiye-Giresun**	**2.80**	**281**	*ePn*		**Pn**	**06 52 08.7**	**+0.4**
HAKT	**HAKKARI**	**3.08**	**160**	*eP*		**Pn**	**06 52 13.3**	**+0.9**
HAKT	**HAKKARI**	**3.08**	**160**	*eP*		**Pn**	**06 52 13.3**	**+0.9**
GRSN	**GIRESUNGRSN**	**3.14**	**280**	*i* P		**Pb**	**06 52 16.1**	**-3.0**
GRSN	**GIRESUNGRSN**	**3.14**	**280**	*i* P		**Pb**	**06 52 16.1**	**-3.0**
SVRC	**Sivrice-ELAZID**	**3.15**	**230**	*ePN*		**Pn**	**06 52 13.8**	**+0.6**
SVRC	**Sivrice-ELAZID**	**3.15**	**230**	*ePn*		**Pn**	**06 52 13.8**	**+0.6**
SUSE	**Susehri**	**3.19**	**267**	*i* P		**Pb**	**06 52 20.8**	**+0.9**
SUSE				*i* S		**Sg**	**06 53 06.8**	**+2.1**
KEMA	**Kemaliye**	**3.20**	**249**	*eP*		**Pb**	**06 52 19.2**	**-0.9**
MARD	**Mardin**	**3.37**	**202**	*i* P		**Pb**	**06 52 21.9**	**-1.1**
RSDY	**Resadiye-TOKAT**	**3.84**	**271**	*ePN*		**Pn**	**06 52 23.5**	**+0.9**
RSDY	**Resadiye-TOKAT**	**3.84**	**271**	*ePn*		**Pn**	**06 52 23.5**	**+0.9**

IDC 06 07:01:54.9±2.6,1°.50N×126°.89E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/17,mbtmp3.3/3,Error ellipse: s-maj=246.2km s-min=26.9km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.52**	**161**	P		P	07 06 56.9	+0.4
	0.5nm,0.3s,baz=341,slow=9.9,SNR=3.9							
ASAR	**Alice Springs**	**25.92**	**165**	P		P	07 07 28.4	-0.7
	0.4nm,0.5s,baz=344,slow=8.0,SNR=5.7							
MKAR	**Makanchi Array**	**59.48**	**326**	P		P	07 12 00.1	+0.3
	0.1nm,0.5s,baz=112,slow=8.6,SNR=4.3							

*IDC **06** 07:32:30.4±0.7,24°.18N×94°.68E,h0km,mb4.0/17, mb1 4.2/17,mb1mx4.0/27,mbtmp4.0/17,MS3.4/4, Ms1 3.4/4,ms1mx2.9/37,Error ellipse: s-maj=27.3km s-min=17.4km az=61.0*
*ISCJB **06** 07:32:34.4±0.7,24°.10N±0°.05×94°.46E±0°.05,h37km±6km, mb4.2/37,MS3.4/4,Error ellipse: s-maj=9.5km s-min=5.3km az=33.9*
*MOS **06** 07:32:34.8±1.0,24°.17N×94°.70E,h42km,mb4.4/25,Error ellipse: s-maj=15.9km s-min=6.3km az=116.0*
*BJI **06** 07:32:35.8,24°.30N×94°.42E,h37km,mB4.6/4,mb4.1/12, ML3.7/3,Ms3.6/2*
*NEIC **06** 07:32:37.7±0.8,24°.16N×94°.67E,h54km±8km,mb4.2/11, Error ellipse: s-maj=10.7km s-min=6.1km az=61.0*
ISC 06 07:32:34.7±0.6, 24°.14N±0°.06×94°.47E±0°.06, h25km±4km, h24km:pP-P,n108,σ1§33/123,mb4.2/37,MS3.4/4,2C-1D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IMP	**Imphal**	**0.81**	**323**	*ePKP*		**Pn**	**07 32 52.0**	**+1.4**
IMP				*eS*		Sn	07 33 09.0	+7.1
SHL	**Shillong**	**2.75**	**302**	⇑*iP*		**Pn**	**07 33 19.5**	**+2.1**
SHL				*eS*		**Sn**	**07 33 52.5**	**+2.6**
AGT	**Agartala**	**2.96**	**266**	*ex*		x	07 33 34.0	
AGT				*eSB*		x	07 34 54.0	
LSA	**Lhasa**	**6.29**	**333**	P		**Pn**	**07 34 08.0**	**+1.7**
LSA				S		**Sn**	**07 35 19.4**	**+1.8**
LSA				smax		smax		
	comp=E,30nm,0.7s							
LSA	**Lhasa**	**6.29**	**333**	*eP*		**Pn**	**07 34 08.3**	**+2.0**
LSA				pmax		pmax		
	comp=Z,13nm,0.5s							
LSA	**Lhasa**	**6.29**	**333**	*ePn*		**Pn**	**07 34 08.3**	**+2.0**
	comp=Z,12nm,0.5s							
CHTO	**Chiang Mai**	**6.74**	**141**	*eP*		**Pn**	**07 34 11.8**	**-0.3**
CHTO				pmax		pmax		
	comp=Z,8.0nm,0.6s							
CHTO	**Chiang Mai**	**6.74**	**141**	*ePn*		**Pn**	**07 34 11.8**	**-0.3**
	comp=Z,7.8nm,0.6s							
CHTO				*eSg*		Sb	07 36 01.1	+10
TAPN	**Taplejung**	**6.88**	**299**	*ePn*		**Pn**	**07 34 16.3**	**+1.9**
TAPN				*eSn*		**Sn**	**07 35 33.3**	**+1.2**
	comp=Z,147nm,0.7s							
ODAN	**Odare**	**6.95**	**294**	*ePn*		**Pn**	**07 34 16.6**	**+1.4**
ODAN				*eSn*		**Sn**	**07 35 32.4**	**-1.2**
	comp=Z,175nm,0.7s							
CM31	**Chiang Mai Arr**	**7.02**	**143**	*ePn*		**Pn**	**07 34 16.5**	**+0.5**
CMAR	**Chiang Mai Arr**	**7.02**	**143**	Pn		**Pn**	**07 34 16.5**	**+0.9**
CMAR				Pg		Pb	07 34 46.4	+10
CMAR				Lg		Lg	07 36 07.3	
CMAR	**Chiang Mai Arr**	**7.02**	**143**	Pn		**Pn**	**07 34 17.0**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=318,slow=14,SNR=18							
CMAR				Pg		Pb	07 34 46.4	+10
	comp=Z,0.9nm,0.3s,baz=320,slow=18,SNR=5.1							
CMAR				Lg		Lg	07 36 07.3	
	comp=Z,0.4nm,0.3s,baz=307,slow=27,SNR=4.4							
RAMN	**Ramite**	**7.64**	**293**	*ePn*		**Pn**	**07 34 26.6**	**+1.9**
RAMN				*eSn*		**Sn**	**07 35 49.4**	**-1.3**
	comp=Z,118nm,0.7s							
JIRN	**Jiri**	**8.24**	**297**	*ePn*		**Pn**	**07 34 34.5**	**+1.4**
JIRN				*eSn*		**Sn**	**07 36 04.6**	**-1.0**
	comp=Z,33nm,0.6s							
GUN	**Gumba**	**8.59**	**298**	*ePn*		**Pn**	**07 34 39.1**	**+1.2**
GUN				*eSn*		**Sn**	**07 36 13.2**	**-1.0**
	comp=Z,106nm,0.8s							
PKI	**Pulchoki**	**8.85**	**295**	*eSn*		**Sn**	**07 36 18.1**	**-2.4**
	comp=Z,33nm,0.6s							
KKN	**Kakani**	**9.04**	**296**	*ePn*		**Pn**	**07 34 44.9**	**+1.1**
DMN	**Daman**	**9.12**	**294**	*ePn*		**Pn**	**07 34 45.6**	**+0.7**
GKN	**Gorkha**	**9.64**	**296**	*ePn*		**Pn**	**07 34 52.5**	**+0.4**
GKN				*eSn*		**Sn**	**07 36 37.1**	**-2.6**
	comp=Z,88nm,0.7s							
KOLN	**Koldanda**	**10.43**	**293**	*ePn*		**Pn**	**07 35 02.6**	**-0.3**
KOLN				*eSn*		**Sn**	**07 36 56.0**	**-3.1**
	comp=Z,25nm,0.5s							
DANN	**Dangsing**	**10.49**	**296**	*ePn*		**Pn**	**07 35 03.8**	**0.0**
DANN				*eSn*		**Sn**	**07 36 57.8**	**-2.9**
	comp=Z,22nm,0.5s							
NGP	**Nagpur**	**14.54**	**261**	*ePKP*		**P**	**07 36 04.2**	**-1.1**
NGP				AMb		AMB	07 36 05.8	
	comp=Z,7.2nm,0.7s							
ENH	**Enshi**	**14.69**	**62**	*eP*		**Pn**	**07 36 02.3**	**+1.4**
	comp=Z,16nm,0.7s							
AGRA	**Agra**	**15.21**	**285**	*ePKP*		**P**	**07 36 10.9**	**-1.9**
ASOR	**Ausora**	**15.64**	**291**	*ex*		**Pn**	**07 36 10.2**	**-3.3**
GTA	**Gaotai**	**15.89**	**15**	*eP*		**P**	**07 36 20.0**	**-0.3**
GTA				pP		**pP**	**07 36 24.8**	**-2.2**
GTA				sP		**sP**	**07 36 27.0**	**-3.2**
AYAN	**Aya Nagar**	**16.14**	**289**	*ePKP*		**P**	**07 36 22.4**	**-0.7**
AYAN				AMb		AMB	07 36 33.8	
	comp=Z,12nm,1.0s							
KUDL	**Kundal**	**16.63**	**288**	*ex*		P	07 36 19.7	-8.8
KUDL				AMb		AMB	07 36 30.4	
	comp=Z,4.0nm,0.6s							
KHET	**Khetri**	**17.21**	**287**	*ePKP*		**P**	**07 36 36.4**	**+1.4**
KHET				AMb		AMB	07 36 40.4	
	comp=Z,8.8nm,1.2s							
TKM2	**Tokmak 2**	**24.37**	**325**	*eP*		**P**	**07 37 52.6**	**+1.6**
TKM2				pmax		pmax		
	comp=Z,52nm,0.9s							
TKM2	**Tokmak 2**	**24.37**	**325**	*eP*		**P**	**07 37 52.6**	**+1.6**
	comp=Z,52nm,0.9s							
KBL	**Kabul**	**24.41**	**301**	*eP*		**P**	**07 37 53.4**	**+1.9**
KBL				pmax		pmax		
	comp=Z,6.0nm,0.9s							
KBL	**Kabul**	**24.41**	**301**	*eP*		**P**	**07 37 53.4**	**+1.9**
	comp=Z,6.2nm,0.9s							
MK31	**Makanchi Array**	**24.63**	**340**	*eP*		**P**	**07 37 53.3**	**+0.1**
MK31	**Makanchi Array**	**24.63**	**340**	*eP*		**P**	**07 37 53.3**	**+0.1**
MKAR	**Makanchi Array**	**24.63**	**340**	P		**P**	**07 37 53.2**	**0.0**
MKAR							07 41 30.5	
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.6s							
MKAR	**Makanchi Array**	**24.63**	**340**	P		**P**	**07 37 53.2**	**0.0**
MKAR				PcP		**PcP**	**07 41 30.4**	**+0.1**
MKAR				PcP		**PcP**	**07 41 30.5**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=146,slow=9.5,SNR=45							
	comp=Z,0.4nm,0.8s,baz=198,slow=4.1,SNR=3.6							
AAK	**Ala-Archa**	**24.77**	**323**	P		**P**	**07 37 55.3**	**+0.7**
AAK				pmax		pmax		
	comp=Z,5.0nm,0.9s							
AAK	**Ala-Archa**	**24.77**	**323**	*eP*		**P**	**07 37 55.9**	**+1.3**
	comp=Z,32nm,1.0s							
AAK	**Ala-Archa**	**24.77**	**323**	P		**P**	**07 37 55.3**	**+0.7**
	comp=Z,5.4nm,0.8s,baz=122,slow=7.7,SNR=18							
EKS2	**Erkin-Say**	**25.18**	**322**	*eP*		**P**	**07 37 59.5**	**+1.2**
EKS2				pmax		pmax		
	comp=Z,7.0nm,0.9s							
EKS2	**Erkin-Say**	**25.18**	**322**	*eP*		**P**	**07 37 59.5**	**+1.2**
	comp=Z,7.1nm,0.9s							
SONM	**Songino Array**	**25.48**	**19**	P		**P**	**07 37 59.8**	**-1.2**
SONM	**Songino Array**	**25.48**	**19**	P		**P**	**07 37 59.8**	**-1.2**
	comp=Z,2.8nm,0.7s,baz=197,slow=9.7,SNR=17							
ULN	**Ulaanbaatar**	**25.71**	**20**	*eP*		**P**	**07 38 02.0**	**-1.1**
	comp=Z,3.9nm,0.8s							
ZAK	**Zakamensk**	**27.08**	**12**	*eP*		**P**	**07 38 14.6**	**-0.8**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.3s							
MOY	**Mondy**	**27.94**	**9**	*eP*		P	07 38 14.7	-8.4
TLY	**Talaya**	**28.39**	**12**	*eP*		**P**	**07 38 27.9**	**+0.9**
TLY				pmax		pmax		
	comp=Z,2.0nm,0.8s							
KURBB	**Kurchatov Arra**	**29.19**	**339**	P		**P**	**07 38 34.1**	**0.0**
	comp=Z,2.1nm,0.6s,baz=161,slow=7.7,SNR=9.0							
KURBB				PcP		**PcP**	**07 41 40.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=185,slow=2.2,SNR=5.1							
KURK	**Kurchatov**	**29.24**	**339**	P		**P**	**07 38 34.1**	**-0.5**
KURK							07 41 40.7	
KURK				pmax		pmax		
	comp=Z,2.0nm,0.6s							
KURK	**Kurchatov**	**29.24**	**339**	*eP*		**P**	**07 38 34.0**	**-0.5**
	comp=Z,2.0nm,0.7s							
KURK				PcP		**PcP**	**07 41 40.6**	**-0.5**
ZALV	**Zalesovo Beam**	**30.64**	**349**	P		**P**	**07 38 47.1**	**+0.2**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ZALV	**Zalesovo Beam**	**30.64**	**349**	P		**P**	**07 38 47.1**	**+0.2**
ZALV	**Zalesovo Beam**	**30.64**	**349**	P		**P**	**07 38 47.1**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=104,slow=6.1,SNR=3.9							
CIT	**Chita**	**31.44**	**23**	*eP*		**P**	**07 38 55.7**	**+1.7**
KSRS	**Korea Array**	**31.48**	**57**	LR		LR	07 53 33.5	
	comp=Z,65nm,18.1s,baz=285,slow=40							
NVS	**Novosibirsk**	**31.79**	**348**	*eP*		**P**	**07 38 54.0**	**-2.9**
BVAR	**Borovoye Array**	**34.12**	**334**	LR		LR	07 55 16.9	
	comp=Z,82nm,20.5s,baz=136,slow=40							
BRVK	**Borovoye**	**34.19**	**334**	*eP*		**P**	**07 39 18.5**	**+0.6**
BRVK				pmax		pmax		
	comp=Z,2.0nm,0.7s							
BRVK	**Borovoye**	**34.19**	**334**	*eP*		**P**	**07 39 18.5**	**+0.6

s-min=8.4km az=148.0
*NNC **06** 07:51:25.3±2.5, 42°.62N×49°.15E, h10km±14km, mb3.9, mpv4.2, Error ellipse: s-maj=19.7km s-min=8.7km az=177.0*
*MOS **06** 07:51:25.7±1.8, 42°.31N×49°.26E, h33km, mb4.1/12, Error ellipse: s-maj=6.3km s-min=6.0km az=172.4*
*CSEM **06** 07:51:27.2±0.1, 42°.24N×49°.04E, h60km, mb3.9/12, Error ellipse: s-maj=4.9km s-min=3.9km az=131.0*

ISC 06 07:51:26.6±0.7, 42°.22N±0°.04×49°.12E±0°.03, h50km±9km, n142, σ1°72/145, mb3.9/19, 22C-12D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRN	**Derbent**	**0.62**	**252**	*e*PG	Pn	07 51 41.2	+1.9
DRN				*e*S	**Sn**	**07 51 51.0**	**+2.6**
DRN	**Derbent**	**0.62**	**252**	*e*Pg	Pn	07 51 41.2	+1.9
KSMR	**Kasumkent**	**0.97**	**230**	*e*PG	**Pn**	**07 51 45.0**	**+1.1**
KSMR				*e*S	**Sn**	**07 51 58.5**	**+1.8**
KSMR	**Kasumkent**	**0.97**	**230**	*e*Pg	**Pn**	**07 51 45.0**	**+1.1**
KSMR				*e*Sg	**Sn**	**07 51 58.5**	**+1.8**
QUBA	**Quba, Azerbaij** SNR=232	**0.99**	**209**	P	**Pn**	**07 51 44.5**	**+0.3**
QUBA				S	**Sn**	**07 51 58.1**	**+1.0**
SGKR	**Sergokala**	**1.11**	**283**	*i* PG	Pn	07 51 49.0	+3.2
SGKR				*i* S	**Sn**	**07 52 04.5**	**+4.4**
SGKR	**Sergokala**	**1.11**	**283**	*i* Pg	Pn	07 51 49.0	+3.2
SGKR				*i* Sg	**Sn**	**07 52 04.5**	**+4.4**
SIZA	**Siyzn** SNR=187	**1.16**	**188**	P	**Pn**	**07 51 46.5**	**0.0**
SIZA				S	**Sn**	**07 52 03.0**	**+1.7**
MAK	**Makhachkala**	**1.40**	**302**	*e*PG	Pn	07 51 54.3	+4.6
MAK				*e*		07 52 13.5	
MAK	comp=Z,300nm,0.2s			pmax	pmax		
MAK	comp=E,3μm,0.3s			smax	smax		
MAK	comp=N,5μm,0.9s			smax	smax		
MAK	**Makhachkala** comp=N,300nm,0.2s	**1.40**	**302**	*e*Pg	Pn	07 51 54.3	+4.6
PQL	**Pirkuli** SNR=293	**1.49**	**196**	P	**Pn**	**07 51 51.3**	**+0.2**
PQL				S	**Sn**	**07 52 09.9**	**+0.5**
IML	**Ismayilli** SNR=39	**1.59**	**207**	P	**Pn**	**07 51 52.2**	**-0.2**
BUJR	**Buynaksk**	**1.61**	**293**	*i* PN	Pn	07 51 57.8	+5.2
BUJR				*e*S	Sn	07 52 21.2	+9.1
KRNR	**Karanay**	**1.75**	**291**	*e*PN	Pn	07 51 58.0	+3.5
KRNR				*i* S	Sn	07 52 22.0	+6.3
KRNR	**Karanay**	**1.75**	**291**	*e*Pn	Pn	07 51 58.0	+3.5
KRNR				*i* Sg	Sn	07 52 22.0	+6.3
SEKA	**Sheki** SNR=134	**1.76**	**236**	P	**Pn**	**07 51 54.8**	**+0.1**
SEKA				S	**Sn**	**07 52 16.2**	**+0.2**
NDR	**Nardaran** SNR=12	**1.77**	**158**	P	Pn	07 51 57.3	+2.6
UNCR	**Uncukul**	**1.79**	**287**	*i* PN	Pn	07 51 58.7	+3.6
UNCR	**Uncukul**	**1.79**	**287**	*i* Pn	Pn	07 51 58.7	+3.6
XNZR	**Khunzakh**	**1.82**	**281**	*e*PN	Pn	07 51 58.8	+3.2
XNZR	**Khunzakh**	**1.82**	**281**	*e*Pn	Pn	07 51 58.8	+3.2
DBC	**Dubki**	**1.87**	**296**	*i* PN	Pn	07 51 59.6	+3.4
DBC	**Dubki**	**1.87**	**296**	*i* Pn	Pn	07 51 59.6	+3.4
GOBA	**Gobu** SNR=6.2	**1.88**	**166**	P	Pn	07 51 59.0	+2.8
GOBA				S	**Sn**	**07 52 21.4**	**+2.7**
GALA	**Gala**	**1.97**	**156**	S	**Sn**	**07 52 21.9**	**+0.9**
ALIB	**Äli-Bayra** SNR=20	**2.27**	**182**	P	Pn	07 52 03.1	+1.6
BRDA	**Brd** SNR=8.3	**2.45**	**217**	P	**Pn**	**07 52 02.6**	**-1.4**
GANJ	**Ganja** SNR=44	**2.63**	**234**	P	**Pn**	**07 52 05.1**	**-1.5**
DGRG	**David-gareji**	**2.91**	**256**	P	**Pn**	**07 52 10.9**	**+0.6**
DGRG				S	**Sn**	**07 52 44.5**	**+0.4**
GLBA	**Cilalabad** SNR=6.1	**3.03**	**191**	P	**Pn**	**07 52 10.9**	**-1.1**
TBLG	**Delisi**	**3.31**	**263**	PN	**Pn**	**07 52 15.8**	**0.0**
TBLG	**Delisi**	**3.31**	**263**	P	**Pn**	**07 52 15.8**	**0.0**
TBLG				S	**Sn**	**07 52 51.2**	**-2.7**
TBLG	**Delisi**	**3.31**	**263**	P	**Pn**	**07 52 15.8**	**0.0**
TBLG				S	**Sn**	**07 52 51.2**	**-2.7**
LKRN	**Lenkeran, Azer** SNR=3.4	**3.52**	**184**	P	Pn	07 52 20.4	+1.7
BTKR	**Batakoyurt**	**3.56**	**290**	*i* PN	Pn	07 52 21.9	+2.6
BTKR	**Batakoyurt**	**3.56**	**290**	*i* Pn	Pn	07 52 21.9	+2.6
GOR	**Gori**	**3.74**	**268**	P	Pn	07 52 18.9	-2.9
KORR	**Kora**	**3.83**	**285**	⇓*e*PN	**Pn**	**07 52 24.3**	**+1.3**
KORR	**Kora**	**3.83**	**285**	*e*Pn	**Pn**	**07 52 24.3**	**+1.3**
GNI	**Garni** comp=N,20nm,0.3s,baz=34,slow=1.4,SNR=31	**3.90**	**239**	Pn	**Pn**	**07 52 23.8**	**-0.3**
GNI	comp=N,12nm,0.3s,baz=90,slow=15,SNR=3.6			Sn	**Sn**	**07 53 08.1**	**-0.6**
GNI	comp=N,13nm,0.3s,baz=174,slow=17,SNR=4.1			Lg	Lg	07 53 22.1	
GNI	comp=N,66nm,0.5s,baz=348,slow=23,SNR=1.3			Rg	Rg	07 53 36.0	
GNI	**Garni**	**3.90**	**239**	*i* Pn	**Pn**	**07 52 23.8**	**-0.3**
ZEI	**Tsey**	**3.90**	**280**	*e*PN	**Pn**	**07 52 25.3**	**+1.1**
ZEI	comp=Z,9.0nm,0.5s			pmax	pmax		
ZEI	**Tsey** comp=Z,9.0nm,0.5s	**3.90**	**280**	*e*Pn	**Pn**	**07 52 25.3**	**+1.1**
NAX	**Nakhchivan** SNR=3.0	**4.11**	**223**	P	**Pn**	**07 52 26.1**	**-0.8**
AKH	**Akhalkalaki**	**4.29**	**261**	P	**Pn**	**07 52 30.2**	**+0.8**
BEYR	**Belyy Ugol+**	**4.95**	**293**	*i* PN	**Pn**	**07 52 39.1**	**+0.7**
BEYR	**Belyy Ugol+**	**4.95**	**293**	*i* Pn	**Pn**	**07 52 39.1**	**+0.7**
KIV	**Kislovodsk** comp=Z,19nm,0.5s	**5.02**	**292**	⇑P	**Pn**	**07 52 39.6**	**+0.2**
KIV	comp=Z,183nm,0.8s			⇑S	**Sn**	**07 53 35.9**	**-0.3**
KIV	**Kislovodsk**	**5.02**	**292**	*c i* PN	**Pn**	**07 52 40.3**	**+0.9**
KIV						07 53 00.0	
KIV				*i*		07 53 38.5	
KIV	comp=Z,12nm,0.5s			pmax	pmax		
KIV	comp=Z,15nm,0.4s			pmax	pmax		
KIV	comp=Z,15nm,0.4s			pmax	pmax		
KIV	**Kislovodsk** comp=Z,19nm,0.5s	**5.02**	**292**	P	**Pn**	**07 52 39.6**	**+0.2**
KIV	**Kislovodsk** comp=Z,15nm,0.4s	**5.02**	**292**	*i* Pn	**Pn**	**07 52 40.3**	**+0.9**
KIV	**Kislovodsk** comp=Z,15nm,0.4s	**5.02**	**292**	Pb	Pn	07 53 00.0	+21
KIV	comp=Z,183nm,0.8s			S	**Sn**	**07 53 35.9**	**-0.3**
KIV				*i* Sn	Sn	07 53 38.5	+2.2
DOMR	**Dombai**	**5.62**	**283**	⇑*e*P	**Pn**	**07 52 48.8**	**+1.1**
DOMR	**Dombai**	**5.62**	**283**	*e*P	**Pn**	**07 52 48.8**	**+1.1**
AKTK	**Aktyubinsk** comp=Z,5.0nm,0.3s	**10.25**	**34**	S	**Sn**	**07 55 41.2**	**-3.2**
AKTO	**Aktyubinsk** comp=Z,0.8nm,0.4s	**10.25**	**34**	⇓P	Pn	07 53 51.4	+0.5
AKTO	comp=Z,4.0nm,0.8s			⇓S	**Sn**	**07 55 39.7**	**-4.7**
AKTO	**Aktyubinsk**	**10.25**	**34**	P	Pn	07 53 52.6	+1.6
AKTO						07 55 41.2	
AKTO	comp=Z,4.0nm,0.3s			pmax	pmax		
AKTO	comp=N,5.0nm,0.3s			smax	smax		
AKTO	**Aktyubinsk** comp=N,4.2nm,0.3s,baz=209,slow=11,SNR=76	**10.25**	**34**	Pn	Pn	07 53 52.5	+1.6
AKTO	comp=N,5.4nm,0.3s,baz=23,slow=20,SNR=12			Sn	**Sn**	**07 55 41.2**	**-3.2**
AKTO	**Aktyubinsk** comp=N,0.8nm,0.4s	**10.25**	**34**	P	Pn	07 53 51.4	+0.5
VRHR	**Novokhopersk**	**10.26**	**332**	*e*P	Pn	07 53 53.1	+2.1
VRHR				*e*S	**Sn**	**07 55 43.1**	**-1.3**
VRHR	comp=N,3.0nm,0.4s			pmax	pmax		
VRHR	comp=E,3.0nm,0.4s			pmax	pmax		
VRHR	comp=Z,6.0nm,0.4s			pmax	pmax		
VRHR	comp=N,90nm,0.6s			smax	smax		
VRHR	comp=Z,4.0nm,0.3s			smax	smax		
VRHR	comp=E,40nm,0.6s			smax	smax		
AB31	**Akbulak array**	**10.32**	**43**	⇓P	**Pn**	**07 53 51.8**	**-0.1**
AB31	comp=E,3.2nm,0.5s,baz=230,slow=12,SNR=135			⇑S	**Sn**	**07 55 42.7**	**-3.3**
AB31	**Akbulak array**	**10.32**	**43**	P	Pn	07 53 54.2	+2.3
AB31	comp=E,8.1nm,0.4s,baz=227,slow=21,SNR=9.6			*e*		07 55 46.8	
AB31	comp=Z,4.0nm,0.2s			pmax	pmax		
AB31	comp=N,9.0nm,0.3s			smax	smax		
AB31	**Akbulak array**	**10.32**	**43**	P	**Pn**	**07 53 51.8**	**-0.1**
AB31	comp=N,3.2nm,0.5s,baz=230,SNR=135			S	**Sn**	**07 55 42.7**	**-3.3**
VSR	**Storozhevoye** comp=N,8.1nm,0.4s,baz=227,SNR=9.6	**11.29**	**326**	*e*P	Pn	07 54 07.1	+2.1
VSR				*e*S	Sn	07 56 18.4	+8.8
VSR	comp=Z,9.0nm,0.4s			pmax	pmax		
VSR	comp=N,1.0nm,0.2s			pmax	pmax		
VSR	comp=E,2.0nm,0.4s			pmax	pmax		
VSR	comp=E,60nm,0.8s			smax	smax		
VSR	comp=Z,10.0nm,0.4s			smax	smax		
VSR	comp=N,40nm,0.8s			smax	smax		
BRTR	**Keskin Array B** comp=N,0.1nm,0.3s,baz=79,slow=12,SNR=5.5	**11.97**	**263**	Pn	**Pn**	**07 54 16.0**	**+1.4**
BRTR	**Keskin Array B**	**11.97**	**263**	P	**Pn**	**07 54 16.0**	**+1.4**
ARU	**Arti**	**15.47**	**20**	*d i* P	**Pn**	**07 55 02.4**	**+1.1**
ARU				S	**Sn**	**07 57 54.6**	**+3.2**
ARU	comp=Z,4.0nm,0.6s			pmax	pmax		
ARU	**Arti** comp=Z,4.0nm,0.6s	**15.47**	**20**	*i* P	**Pn**	**07 55 02.4**	**+1.1**
KK31	**Karatay Array** comp=N,4.3nm,0.6s,baz=285,slow=13,SNR=38	**15.76**	**80**	P	**Pn**	**07 55 06.1**	**+1.0**
KK31	comp=Z,7.1nm,0.6s,baz=278,slow=25			⇑S	**Sn**	**07 57 55.9**	**-2.7**
KK31	**Karatay Array**	**15.76**	**80**	*ce*P	**Pn**	**07 55 04.7**	**-0.4**
KK31	comp=Z,3.0nm,0.2s			pmax	pmax		
AKASG	**Malin Array Be**	**16.08**	**309**	P	**Pn**	**07 55 07.0**	**-2.2**
AKASG						07 58 09.5	
AKASG	comp=Z,3.0nm,0.3s			pmax	pmax		
AKASG	comp=N,1.0nm,0.3s			smax	smax		
AKASG	**Malin Array Be** comp=N,2.9nm,0.3s,baz=118,slow=12,SNR=10.0	**16.08**	**309**	Pn	**Pn**	**07 55 07.0**	**-2.2**
AKASG	comp=N,0.8nm,0.3s,baz=113,slow=23,SNR=7.0			Sn	**Sn**	**07 58 09.5**	**+3.1**
SVE	**Sverdlovsk**	**16.38**	**23**	*e*P	**P**	**07 55 14.3**	**-0.7**
SVE	comp=Z,22nm,1.0s			pmax	pmax		
SVE	**Sverdlovsk** comp=Z,22nm,1.0s	**16.38**	**23**	*e*P	**P**	**07 55 14.3**	**-0.7**
ZRNK	**Zerenda** comp=Z,3.2nm,0.8s	**17.11**	**44**	⇓P	**Pn**	**07 55 21.5**	**-0.6**
ZRNK	comp=Z,5.2nm,0.7s			⇓S	**Sn**	**07 58 28.2**	**-3.1**
ZRNK	**Zerenda** comp=Z,3.2nm,0.8s	**17.11**	**44**	P	**Pn**	**07 55 21.5**	**-0.6**
VOIR		**17.65**	**289**	⇑*i* P	**Pn**	**07 55 28.6**	**-0.2**
VOIR		**17.65**	**289**	⇑*i* P	**Pn**	**07 55 28.6**	**-0.2**
BURAR	**Bucovina Array**	**17.74**	**296**	⇑*i* P	**Pn**	**07 55 28.0**	**-1.9**
BRVK	**Borovoye** comp=Z,9.1nm,0.8s	**17.84**	**45**	⇓P	**Pn**	**07 55 29.8**	**-1.2**
BRVK	comp=Z,8.1nm,1.0s			⇑S	**Sn**	**07 58 44.6**	**-4.2**
BRVK	**Borovoye**	**17.84**	**45**	*ce*P	**P**	**07 55 31.3**	**+0.1**
BRVK	comp=Z,5.0nm,0.6s			pmax	pmax		
BRVK	**Borovoye** comp=Z,5.0nm,0.6s	**17.84**	**45**	*e*P	**P**	**07 55 31.3**	**+0.1**
BVA0	**Borovoye Array** comp=Z,0.4nm,0.6s	**17.88**	**46**	⇓P	**Pn**	**07 55 31.2**	**-0.3**
BVA0	comp=Z,1.1nm,1.1s			⇓S	**Sn**	**07 58 45.3**	**-4.5**
BVA0	**Borovoye Array**	**17.88**	**46**	P	**Pn**	**07 55 31.1**	**-0.3**
BVA0	comp=Z,1.0nm,0.9s			pmax	pmax		
BVA0	**Borovoye Array** comp=Z,0.4nm,0.6s	**17.88**	**46**	P	**Pn**	**07 55 31.2**	**-0.3**
BVAR	**Borovoye Array**	**17.88**	**46**	P	**P**	**07 55 31.9**	**+0.3**
BVAR				S	Sn	07 58 42.3	-7.5
BVAR	comp=Z,1.0nm,0.3s			pmax	pmax		
BVAR	**Borovoye Array** comp=Z,0.8nm,0.3s,baz=244,slow=12,SNR=8.9	**17.88**	**46**	P	**P**	**07 55 31.9**	**+0.3**
BVAR	comp=Z,0.3nm,0.3s,baz=232,slow=25,SNR=9.8			S	Sn	07 58 42.3	-7.5
BVAR	**Borovoye Array** comp=Z,1.0nm,0.3s	**17.88**	**46**	P	**P**	**07 55 31.9**	**+0.3**
SOKR	**Solikamsk**	**18.01**	**13**	⇑*i* P	**Pn**	**07 55 33.1**	**+0.2**
SOKR	comp=Z,10.0nm,1.0s			pmax	pmax		
SOKR	**Solikamsk** comp=Z,10.0nm,1.0s	**18.01**	**13**	*i* P	**Pn**	**07 55 33.1**	**+0.2**
AAK	**Ala-Archa**	**18.72**	**80**	P	**Pn**	**07 55 44.0**	**+2.1**
AAK	comp=Z,1.0nm,0.3s			pmax	pmax		
AAK	comp=Z,35nm,20.6s			MLR	MLR		
AAK	**Ala-Archa** comp=Z,0.5nm,0.3s,baz=296,slow=3.7,SNR=8.1	**18.72**	**80**	P	**Pn**	**07 55 44.0**	**+2.1**
AAK	comp=Z,35nm,20.6s,baz=17,slow=41			LR	LR	08 04 03.6	
AAK	**Ala-Archa** comp=Z,35nm,20.6s	**18.72**	**80**	P	**Pn**	**07 55 44.0**	**+2.1**
GZR	**Gura Zlata**	**19.25**	**288**	⇑*i* P	**P**	**07 55 45.4**	**-1.4**
GZR	**Gura Zlata**	**19.25**	**288**	⇑*i* P	**P**	**07 55 45.4**	**-1.4**
DRGR		**19.34**	**293**	⇑*i* P	**P**	**07 55 46.7**	**-1.1**
DRGR		**19.34**	**293**	⇑*i* P	**P**	**07 55 46.7**	**-1.1**
TKM2	**Tokmak 2** comp=Z,3.7nm,1.2s	**19.49**	**79**	⇑P	**Pn**	**07 55 51.5**	**+0.3**
TKM2	comp=Z,5.1nm,1.4s			⇑S	**Sn**	**07 59 29.9**	**+0.9**
TKM2	**Tokmak 2** comp=Z,3.7nm,1.2s	**19.49**	**79**	P	**Pn**	**07 55 51.5**	**+0.3**
TKM2	comp=Z,5.1nm,1.4s			S	**Sn**	**07 59 29.9**	**+0.9**
KLMR	**Klimovskoe**	**19.55**	**346**	*e*P	**P**	**07 55 49.2**	**-0.6**
KLMR				*e*S	S	07 59 20.7	-7.0
KLMR	comp=Z,32nm,1.8s			pmax	pmax		
KLMR	**Klimovskoe** comp=Z,32nm,1.8s	**19.55**	**346**	*e*P	**P**	**07 55 49.2**	**-0.6**
KURBB	**Kurchatov Arra** comp=Z,1.1nm,0.9s	**21.83**	**57**	⇑P	**P**	**07 56 15.0**	**+0.5**
KURBB	comp=Z,0.4nm,0.7s			S	**S**	**08 00 15.8**	**+2.9**
KURBB	**Kurchatov Arra** comp=Z,2.6nm,0.5s,baz=264,slow=11,SNR=13	**21.83**	**57**	P	**P**	**07 56 16.2**	**+1.7**
KURBB	comp=Z,0.4nm,0.4s,baz=64,slow=15,SNR=1.6			S	**S**	**08 00 17.6**	**+4.8**
KURBB	**Kurchatov Arra** comp=Z,1.1nm,0.9s	**21.83**	**57**	P	**P**	**07 56 15.0**	**+0.5**
KURBB	comp=Z,0.4nm,0.7s			S	**S**	**08 00 15.8**	**+2.9**
KURK	**Kurchatov** comp=Z,2.7nm,0.6s	**21.90**	**57**	⇓P	**P**	**07 56 15.7**	**+0.4**
KURK	comp=Z,2.5nm,0.8s			S	**S**	**08 00 17.2**	**+2.9**
KURK	**Kurchatov** comp=Z,3.0nm,0.6s	**21.90**	**57**	P	**P**	**07 56 16.2**	**+0.9**
KURK				pmax	pmax		
KURK	**Kurchatov** comp=Z,2.7nm,0.6s	**21.90**	**57**	P	**P**	**07 56 15.7**	**+0.4**
KURK	comp=Z,2.5nm,0.8s			S	**S**	**08 00 17.2**	**+2.9**
JOF	**Joensuu**	**23.23**	**339**	*e*P	**P**	**07 56 27.4**	**-1.6**
JOF	comp=Z,7.0nm,0.4s			pmax	pmax		
JOF	**Joensuu** comp=Z,6.6nm,0.4s	**23.23**	**339**	*e*p	**P**	**07 56 27.4**	**-1.6**
JOF	**Joensuu** comp=Z,7.0nm,0.4s	**23.23**	**339**	*e*P	**P**	**07 56 27.4**	**-1.6**
FINES	**FINESS Array B** comp=Z,1.7nm,0.3s,baz=132,slow=9.0,SNR=18	**23.71**	**332**	P	**P**	**07 56 32.9**	**-0.7**
FINES	**FINESS Array B** comp=Z,2.0nm,0.3s	**23.71**	**332**	P	**P**	**07 56 32.9**	**-0.7**
MK31	**Makanchi Array** comp=Z,1.4nm,0.3s	**23.98**	**68**	⇓P	**P**	**07 56 37.4**	**+1.1**
MK31	comp=Z,0.5nm,0.6s,baz=253,slow=26,SNR=4.1			⇑S	**S**	**08 00 55.9**	**+6.2**
MK31	**Makanchi Array** comp=Z,1.0nm,0.3s	**23.98**	**68**	*ce*P	**P**	**07 56 37.4**	**+1.1**
MK31	comp=Z,1.4nm,0.3s			pmax	pmax		
MK31	**Makanchi Array** comp=Z,1.4nm,0.3s	**23.98**	**68**	P	**P**	**07 56 37.4**	**+1.1**
MKAR	**Makanchi Array** comp=Z,3.0nm,0.6s	**23.98**	**68**	P	**P**	**07 56 37.6**	**+1.3**
MKAR				pmax	pmax		
MKAR	**Makanchi Array** comp=Z,2.7nm,0.6s,baz=264,slow=9.2,SNR=51	**23.98**	**68**	P	**P**	**07 56 37.6**	**+1.3**
MKAR	comp=Z,0.2nm,0.5s,baz=270,slow=17,SNR=2.4			S	Sn	08 01 06.3	-10
MKAR	**Makanchi Array** comp=Z,3.0nm,0.6s	**23.98**	**68**	P	**P**	**07 56 37.6**	**+1.3**
KAF	**Kangasniemi**	**24.10**	**333**	*e*P	**P**	**07 56 37.7**	**+0.5**
KAF	comp=Z,1.0nm,0.4s			pmax	pmax		
KAF	**Kangasniemi** comp=Z,1.3nm,0.4s	**24.10**	**333**	*e*p	**P**	**07 56 37.7**	**+0.5**
KAF	**Kangasniemi** comp=Z,1.0nm,0.4s	**24.10**	**333**	*e*P	**P**	**07 56 37.7**	**+0.5**
GERES	**GERESS Array B** comp=Z,0.5nm,0.3s,baz=99,slow=9.8,SNR=4.7	**25.51**	**297**	P	**P**	**07 56 48.7**	**-1.6**
ZALV	**Zalesovo Beam**	**26.28**	**51**	P	**P**	**07 56 57.8**	**+0.7**
ZALV	comp=Z,1.0nm,0.4s			pmax	pmax		
ZALV	**Zalesovo Beam** comp=Z,0.9nm,0.4s,baz=272,slow=11,SNR=4.0	**26.28**	**51**	P	**P**	**07 56 57.8**	**+0.7**
ZALV	**Zalesovo Beam** comp=Z,1.0nm,0.4s	**26.28**	**51**	P	**P**	**07 56 57.8**	**+0.7**
HFS	**Hagfors** comp=Z,0.9nm,0.3s,baz=108,slow=8.3,SNR=9.9	**28.05**	**322**	P	**P**	**07 57 12.0**	**-0.8**
HFS	**Hagfors** comp=Z,1.0nm,0.3s	**28.05**	**322**	P	**P**	**07 57 12.0**	**-0.8**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.4s,baz=118,slow=8.3,SNR=5.5	**29.53**	**323**	P	**P**	**07 57 24.9**	**-1.1**
NOA	**NORSAR Array B**	**29.53**	**323**	P	**P**	**07 57 24.9**	**-1.1**
ARCES	**ARCESS Array B** comp=Z,1.6nm,0.6s,baz=147,slow=11,SNR=26	**29.99**	**344**	P	**P**	**07 57 30.2**	**+0.2**
ARCES				LR	LR	08 12 03.8	
ARCES	**ARCESS Array B** comp=Z,64nm,18.2s,baz=343,slow=42	**29.99**	**344**	P	**P**	**07 57 30.2**	**+0.2**
SPITS	**Spitsbergen Ar** comp=Z,1.0nm,0.3s,baz=153,slow=11,SNR=8.7	**38.38**	**350**	P	**P**	**07 58 43.4**	**+1.0**
SPITS	**Spitsbergen Ar** comp=Z,1.0nm,0.4s	**38.38**	**350**	P	**P**	**07 58 43.4**	**+1.0**
SONM	**Songino Array** comp=Z,0.3nm,0.4s,baz=285,slow=7.9,SNR=3.6	**40.06**	**62**	P	**P**	**07 58 57.7**	**+0.7**
SONM	**Songino Array**	**40.06**	**62**	P	**P**	**07 58 57.7**	**+0.7**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.3s,baz=45,slow=7.3,SNR=11	**50.15**	**249**	P	P	08 00 14.0	-3.2
KSRS	**Korea Array** comp=Z,0.6nm,0.4s,baz=309,slow=6.2,SNR=3.5	**58.65**	**66**	P	**P**	**08 01 18.7**	**+0.1**
KSRS	**Korea Array** comp=Z,1.0nm,0.4s	**58.65**	**66**	P	**P**	**08 01 18.7**	**+0.1**
DBIC	**Dimbokro** comp=Z,16nm,1.4s,baz=66,slow=10.0,SNR=3.1	**59.26**	**249**	P	P	08 01 20.2	-2.9
SCHQ	**Schefferville** comp=Z,2.2nm,0.9s,baz=27,slow=6.8,SNR=4.5	**69.02**	**326**	P	**P**	**08 02 25.9**	**-0.7**
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.6s,baz=7.6,slow=5.5,SNR=9.5	**74.81**	**352**	P	**P**	**08 03 00.5**	**-0.6**
YKA	**Yellowknife Ar**	**74.81**	**352**	P	**P**	**08 03 00.5**	**-0.6**

*WAR **06** 07:53:39.6, 51°.54N×16°.07E*
*CSEM **06** 07:53:39.2±0.5, 51°.50N×16°.06E, h1km, ML3.0/4, Error ellipse: s-maj=7.2km s-min=4.1km az=10.0*
*PRU **06** 07:53:40.3, 51°.48N×16°.12E, h0km*

ISC 06 07:53:39.5±1.9, 51°.49N±0°.09×16°.06E±0°.05, h0km, n19, σ0°45/27, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.67**	**167**	*e*Pg	**Pg**	**07 53 52.1**	**-0.2**
KSP				*e*Sg	**Sg**	**07 54 02.0**	**+1.1**
UPC	**Upice**	**0.99**	**182**	*e*PG	**Pg**	**07 53 58.7**	**+0.3**
UPC	**Upice**	**0.99**	**182**	Pg	**Pg**	**07 53 58.7**	**+0.3**
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*PG	**Pg**	**07 54 01.6**	**-0.1**
DPC	comp=Z,6.6nm,0.2s			*e*SG	**Sg**	**07 54 16.5**	**-0.1**
DPC	**Dobruska-Polom** 6.6nm,0.2s	**1.16**	**172**	Pg	**Pg**	**07 54 01.6**	**-0.1**
DPC				Sg	**Sg**	**07 54 16.5**	**-0.1**
PVCC	**Panska Ves**	**1.35**	**225**	*e*PG	**Pg**	**07 54 05.5**	**+0.1**
PVCC	comp=Z,32nm,0.2s			*e*SG	**Sb**	**07 54 23.7**	**+0.2**
PVCC	**Panska Ves** 32nm,0.2s	**1.35**	**225**	Pg	**Pg**	**07 54 05.5**	**+0.1**
PVCC				Sg	**Sb**	**07 54 23.7**	**+0.2**
BRG	**Berggiesshubel** 21nm,0.4s	**1.47**	**246**	PG	**Pg**	**07 54 07.6**	**-0.1**
BRG				SG	**Sn**	**07 54 28.0**	**+0.8**
KRLC	**Kraliky**	**1.49**	**162**	*e*SG	**Sg**	**07 54 27.2**	**-0.2**
KRLC	**Kraliky**	**1.49**	**162**	Sg	**Sg**	**07 54 27.2**	**-0.2**
PRU	**Pruhonice** comp=Z,8.1nm,0.3s	**1.79**	**213**	*e*SG	**Sb**	**07 54 35.9**	**-0.2**
PRU	**Pruhonice** 8.1nm,0.3s	**1.79**	**213**	Sg	**Sb**	**07 54 35.9**	**-0.2**
CLL	**Collm**	**1.92**	**266**	*e*Pg	**Pb**	**07 54 16.0**	**+0.6**
CLL				*e*Sg	**Sg**	**07 54 41.0**	**-0.3**
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**07 54 13.4**	**-0.7**
MORC				*e*Sg	**Sg**	**07 54 42.1**	**-0.4**
VRAC	**Vranov**	**2.21**	**171**	*e*SG	**Sg**	**07 54 50.5**	**-0.1**
NKC	**Novy Kostel** comp=Z,7.7nm,0.4s	**2.61**	**243**	*e*SG	**Sg**	**07 55 02.8**	**-0.6**
NKC	**Novy Kostel** 7.7nm,0.4s	**2.61**	**243**	Sg	**Sg**	**07 55 02.8**	**-0.6**
KHC	**Kasperske Hory**	**2.85**	**215**	*e*PG	**Pb**	**07 54 31.5**	**+0.2**
KHC				*e*SG	**Sg**	**07 55 10.2**	**-0.8**
BZS	**Buzias**	**6.94**	**146**	⇓*i* P	Pb	07 55 37.3	-3.6

WEL 06 08:04:58.2±0.5, 36°.21S×177°.73E, h229km±4km, ML3.9/5, 4C-2D, Error ellipse: s-maj=7.1km s-min=5.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakoa Point**	**1.43**	**161**	⇑PN	Pn	08 05 33.9	+0.1
MXZ				*e*SN	S	08 06 01.1	-0.7
PUZ	**Puketiti**	**1.90**	**167**	PN	Pn	08 05 38.0	0.0
PUZ				*e*SN	S	08 06 08.4	-0.8
URZ	**Urewera**	**2.10**	**193**	⇓PN	Pn	08 05 40.1	+0.3
URZ				SN	S	08 06 12.6	+0.2
MWZ	**Matawai**	**2.12**	**184**	PN	Pn	08 05 40.6	+0.5
MWZ				*e*SN	S	08 06 12.9	-0.1
CNGZ	**Carnagh Statio**	**2.30**	**171**	PN	Pn	08 05 42.4	+0.6
PRGZ	**Paritu Road**	**2.71**	**177**	*e*PN	Pn	08 05 45.5	-0.6
RAHZ	**Arahi**	**2.75**	**191**	PN	Pn	08 05 46.7	+0.1
KNZ	**Kokohu**	**2.80**	**181**	PN	Pn	08 05 46.7	-0.4
MHGZ	**Mahia Peninsul**	**2.94**	**177**	PN	Pn	08 05 48.8	+0.2
NMHZ

IDC 06 08:17:27.6±2.5, 50°92N×94°70E, h0km, mb1 3.0/2, mb1mx2.9/28, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=42.8km s-min=20.8km az=7.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**6.75**	**300**	Pn	Pn	08 19 07.2	-0.6
	0.3nm,0.3s,baz=108,slow=17,SNR=2.6						
ZALV				Sn	Sn	08 20 29.4	+4.0
	0.3nm,0.3s,baz=109,slow=25,SNR=3.8						
SONM	**Songino Array**	**8.24**	**108**	Pg	Pb	08 19 56.3	+5.1
	0.1nm,0.3s,baz=297,slow=18,SNR=3.4						
SONM				Lg	Lg	08 21 51.1	
	0.1nm,0.3s,baz=298,slow=29,SNR=11						
MKAR	**Makanchi Array**	**9.16**	**248**	Pn	Pn	08 19 41.5	+0.6
	0.1nm,0.3s,baz=64,slow=11,SNR=6.1						
MKAR				Lg	Lg	08 22 17.7	
	0.0nm,0.3s,baz=57,slow=33,SNR=3.3						
KURBB	**Kurchatov Arra**	**10.25**	**275**	Lg	Lg	08 22 45.2	
	0.1nm,0.3s,baz=84,slow=30,SNR=3.6						

IDC 06 08:18:13.2±1.8, 56°52S×25°63W, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.6/13, mbtmp3.7/3, MS3.7/2, Ms1 3.7/2, ms1mx3.2/17, Error ellipse: s-maj=78.0km s-min=37.4km az=8.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USHA	**Ushuaia**	**23.91**	**256**	LR	LR	08 30 25.4	
	comp=Z,108nm,21.6s,baz=287,slow=31						
CFAA	**Coronel Fontan**	**38.55**	**292**	P	P	08 25 36.4	-1.0
	0.1nm,0.3s,baz=151,slow=10,SNR=3.8						
SIV	**San Ignacio**	**48.54**	**312**	P	P	08 26 58.6	+0.7
	1.1nm,0.8s,baz=184,slow=12,SNR=4.9						
TORD	**Torodi Ar. Bea**	**73.05**	**28**	P	P	08 29 44.5	-0.3
	0.9nm,0.8s,baz=200,slow=5.9,SNR=4.8						
STKA	**Stephens Creek**	**91.28**	**169**	LR	LR	09 07 51.0	
	comp=Z,63nm,18.9s,baz=214,slow=33						
YKA	**Yellowknife Ar**	**137.11**	**317**	PKP	PKPdf	08 37 36.9	+0.4
	0.6nm,0.9s,baz=124,slow=2.1,SNR=7.8						
SONM	**Songino Array**	**149.89**	**86**	PKPbc	PKPbc	08 38 04.0	-0.4
	0.8nm,0.7s,baz=200,slow=3.6,SNR=4.9						
ILAR	**Eielson Array**	**151.08**	**311**	PKPbc	PKPbc	08 38 06.3	-0.3
	1.8nm,0.9s,baz=132,slow=1.4,SNR=14						

IDC 06 08:33:37.2±2.2, 6°32S×156°78E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.6/4, Error ellipse: s-maj=98.1km s-min=32.7km az=134.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.66**	**236**	P	P	08 39 08.9	-0.1
	0.4nm,0.3s,baz=62,slow=8.9,SNR=7.1						
ILAR	**Eielson Array**	**82.10**	**21**	P	P	08 45 59.5	+0.1
	0.2nm,0.5s,baz=256,slow=5.0,SNR=6.0						
MKAR	**Makanchi Array**	**84.08**	**318**	P	P	08 46 10.2	+0.2
	0.3nm,0.5s,baz=104,slow=5.0,SNR=4.3						
YKA	**Yellowknife Ar**	**94.91**	**28**	P	P	08 47 00.7	-0.4
	0.1nm,0.7s,baz=267,slow=4.7,SNR=4.0						

*ISCJB **06** 08:41:47.0±0.8, 51°48N±0°04×16°12E±0°05, h0km, Error ellipse: s-maj=5.7km s-min=3.6km az=33.4*
*WAR **06** 08:41:48.4, 51°54N×16°07E*
*CSEM **06** 08:41:48.5±0.6, 51°48N×16°13E, h2km, ML3.1/8, Error ellipse: s-maj=9.0km s-min=5.3km az=23.0*
*PRU **06** 08:41:49.3, 51°48N×16°21E, h0km*
*VIE **06** 08:41:50.4±0.6, 51°30N×16°22E, h0km, mb1.8/2, ML2.6/5, Error ellipse: s-maj=3.4km s-min=3.3km az=168.0 59 km WNW of Wroclaw Suspected Mining induced.*

ISC 06 08:41:47.0±1.0, 51°57N±0°04×16°20E±0°04, h0km, n30, σ1s02/50, 3C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**175**	*e*Pg	**Pg**	**08 42 01.6**	**+0.7**
KSP				*e*Sg	**Sg**	**08 42 10.7**	**+0.2**
KSP	**Ksiaz**	**0.73**	**175**	*e*Pg	**Pg**	**08 42 01.6**	**+0.7**
KSP				*e*Sg	**Sg**	**08 42 10.7**	**+0.2**
KSP	**Ksiaz**	**0.73**	**175**	*e*Pg	**Pg**	**08 42 01.7**	**+0.7**
KSP				*e*Sg	**Sg**	**08 42 10.6**	**+0.2**
UPC	**Upice**	**1.07**	**186**	*e*PG	**Pg**	**08 42 08.0**	**+0.5**
UPC	**Upice**	**1.07**	**186**	Pg	**Pg**	**08 42 08.0**	**+0.5**
DPC	**Dobruska-Polom**	**1.23**	**176**	*e*PG	**Pg**	**08 42 10.5**	**+0.1**
DPC				*e*SG	**Sg**	**08 42 25.4**	**-0.9**
	comp=Z,23nm,0.3s						
DPC	**Dobruska-Polom**	**1.23**	**176**	Pg	**Pg**	**08 42 10.5**	**+0.1**
DPC				Sg	**Sg**	**08 42 25.4**	**-0.9**
	23nm,0.3s						
PVCC	**Panska Ves**	**1.47**	**225**	*e*PG	**Pn**	**08 42 15.3**	**+0.6**
PVCC				*e*SG	**Sg**	**08 42 33.8**	**-0.2**
	comp=Z,76nm,0.2s						
PVCC	**Panska Ves**	**1.47**	**225**	Pg	**Pn**	**08 42 15.3**	**+0.6**
PVCC				Sg	**Sg**	**08 42 33.8**	**-0.2**
	76nm,0.2s						
KRLC	**Kraliky**	**1.54**	**166**	*e*SG	**Sg**	**08 42 35.6**	**-0.9**
KRLC	**Kraliky**	**1.54**	**166**	Sg	**Sg**	**08 42 35.6**	**-0.9**
BRG	**Berggiesshubel**	**1.58**	**245**	PN	**Pn**	**08 42 17.1**	**+0.9**
BRG				PG	**Pb**	**08 42 17.7**	**+0.6**
BRG				SG	**Sn**	**08 42 37.9**	**+0.5**
	30nm,0.5s						
PRU	**Pruhonice**	**1.90**	**214**	*e*PG	**Pb**	**08 42 22.6**	**+0.1**
PRU				*e*SG	**Sb**	**08 42 46.1**	**-0.7**
	comp=Z,19nm,0.4s						
PRU	**Pruhonice**	**1.90**	**214**	Pg	**Pb**	**08 42 22.6**	**+0.1**
PRU				Sg	**Sb**	**08 42 46.1**	**-0.7**
	19nm,0.4s						
MORC	**Moravsky Berou**	**1.99**	**154**	*e*Pn	**Pn**	**08 42 22.4**	**+0.5**
MORC				*e*Sg	**Sb**	**08 42 49.7**	**+0.3**
CLL	**Collm**	**2.02**	**264**	*e*Pg	**Pb**	**08 42 25.0**	**+0.5**
CLL				*i*		08 42 28.5	
CLL				*e*Sg	**Sb**	**08 42 51.0**	**+0.9**
	comp=Z,9.0nm,0.5s						
OKC	**Ostrava-Krasne**	**2.13**	**144**	*e*SG	**Sb**	**08 42 54.1**	**+0.7**
OKC	**Ostrava-Krasne**	**2.13**	**144**	Sg	**Sb**	**08 42 54.1**	**+0.7**
VRAC	**Vranov**	**2.28**	**174**	*e*Sg	**Sg**	**08 42 59.9**	**-0.3**
NKC	**Novy Kostel**	**2.73**	**242**	*e*PG	**Pg**	**08 42 38.8**	**-0.4**
NKC				*e*SG	**Sg**	**08 43 14.4**	**-0.1**
	comp=Z,19nm,0.3s						
NKC	**Novy Kostel**	**2.73**	**242**	Pg	**Pg**	**08 42 38.8**	**-0.4**
NKC				Sg	**Sg**	**08 43 14.4**	**-0.1**
	comp=Z,19nm,0.3s						
KHC	**Kasperske Hory**	**2.97**	**216**	*e*PN	**Pn**	**08 42 36.4**	**+1.1**
KHC				*e*PG	**Pb**	**08 42 41.7**	**+1.0**
KHC				*e*SG	**Sg**	**08 43 20.0**	**-2.2**
	comp=Z,7.5nm,0.6s						
KHC	**Kasperske Hory**	**2.97**	**216**	Pn	**Pn**	**08 42 36.4**	**+1.1**
BSD	**Bornholm Skovb**	**3.63**	**348**	*i* P	**Pn**	**08 42 45.2**	**+0.8**
BSD				*e*S	**Sn**	**08 43 25.1**	**-2.8**
CONA	**Conrad Observa**	**3.66**	**184**	⇑*i*Sg	**Sg**	**08 43 41.8**	**-2.5**
	comp=Z,5.5nm,0.3s						
CONA	**Conrad Observa**	**3.66**	**184**	Sg	**Sg**	**08 43 41.8**	**-2.5**
	comp=Z,5.5nm,0.3s						
MOA	**Molln**	**3.93**	**199**	⇓*i*Pn	**Pn**	**08 42 48.3**	**-0.3**
MOA				⇑⇑*i*Sg	**Sg**	**08 43 53.0**	**-0.2**
	comp=Z,5.3nm,0.4s						
MOA	**Molln**	**3.93**	**199**	Pn	**Pn**	**08 42 48.3**	**-0.3**
MOA				Sg	**Sg**	**08 43 53.0**	**-0.2**
	comp=Z,5.3nm,0.4s						
ARSA	**Arzberg**	**4.35**	**186**	⇑*i*Sg	**Sg**	**08 44 04.6**	**-2.0**
	comp=Z,6.1nm,0.7s						
ARSA	**Arzberg**	**4.35**	**186**	Sg	**Sg**	**08 44 04.6**	**-2.0**
	comp=Z,6.1nm,0.7s						

*IDC **06** 08:42:56.3±5.9, 36°01N×71°55E, h86km±51km, mb3.2/4, mb1 3.5/6, mb1mx3.2/27, mbtmp3.4/6, ML4.0/2, Error ellipse: s-maj=43.5km s-min=30.5km az=6.0*
*ISCJB **06** 08:42:57.6±1.0, 36°22N±0°07×72°2E±0°2, h141km, mb3.1/3, Error ellipse: s-maj=18.6km s-min=8.4km az=160.7*

ISC 06 08:42:59.4±1.1, 36°20N±0°08×72°2E±0°1, h141km, n7, σ2s31/7, mb3.4/3, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**4.77**	**141**	*e*PKP	**Pn**	**08 44 10.2**	**+0.6**
THN				*e*S	**Sn**	**08 45 02.6**	**-1.7**
AAK	**Ala-Archa**	**6.67**	**15**	P	**Pn**	**08 44 35.5**	**+0.4**
	2.8nm,0.3s,baz=162,slow=6.5,SNR=31						
AAK				S	**Sn**	**08 45 47.3**	**-2.6**
	baz=343,slow=19						
AKTO	**Aktyubinsk**	**17.52**	**329**	P	**Pn**	**08 46 53.7**	**-1.0**
	0.4nm,0.3s,baz=134,slow=12,SNR=7.6						
ZALV	**Zalesovo Beam**	**19.81**	**22**	P	**Pn**	**08 47 24.9**	**+3.2**
	1.2nm,0.3s,baz=229,slow=8.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**66.66**	**269**	P	**P**	**08 53 35.0**	**-0.2**
	0.2nm,0.3s,baz=51,slow=6.0,SNR=3.9						
WRA	**Warramunga Arr**	**81.03**	**123**	P	P	08 55 03.7	+4.9
	0.4nm,0.5s,baz=328,slow=5.3,SNR=3.6						
YKA	**Yellowknife Ar**	**81.49**	**3**	P	P	08 55 04.2	+3.7
	0.1nm,0.5s,baz=351,slow=5.2,SNR=4.5						

IDC 06 08:45:41.1±4.1, 33°45S×179°00W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.7/13, mbtmp3.6/2, Error ellipse: s-maj=258.7km s-min=54.1km az=169.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.19**	**271**	P	P	08 53 35.9	0.0
	0.6nm,0.8s,baz=109,slow=8.0,SNR=6.7						
WRA	**Warramunga Arr**	**43.46**	**276**	P	P	08 53 45.9	-0.3
	0.6nm,0.5s,baz=118,slow=7.5,SNR=6.0						
FINES	**FINESS Array B**	**147.67**	**338**	PKPbc	PKPbc	09 05 26.1	-0.7
	0.7nm,0.3s,baz=36,slow=5.7,SNR=3.0						
BRTR	**Keskin Array B**	**153.15**	**293**	PKPbc	PKPbc	09 05 40.8	-0.1
	0.3nm,0.6s,baz=106,slow=4.7,SNR=2.7						

*ISCJB **06** 08:58:29.2±0.6, 28°47S±0°03×68°67W±0°05, h81km±4km, mb4.4/49, Error ellipse: s-maj=7.7km s-min=4.7km az=177.8*
*NEIC **06** 08:58:30.5±0.4, 28°50S×68°69W, h86km±3km, mb4.5/38, Error ellipse: s-maj=6.4km s-min=4.6km az=86.0*
NEIC Felt at La Rioja. Felt [II] at Copiapo, Chile.
*GUC **06** 08:58:31.8±0.6, 28°46S×68°79W, h58km±108km, ML4.8*
*BJI **06** 08:58:31.1, 28°40S×68°70W, h87km, mB5.0/2, Ms5.1/3, Ms7 4.8/4*
*IDC **06** 08:58:32.9±0.5, 28°55S×68°71W, h108km±4km, mb4.1/11, mb1 4.2/13, mb1mx4.1/18, mbtmp4.0/13, MS3.2/1, Ms1 3.2/1, ms1mx2.4/23, Error ellipse: s-maj=17.8km s-min=9.6km az=79.0*

ISC 06 08:58:32.3±0.4, 28°47S±0°03×68°86W±0°05, h104km±3km, h104km: pP-P, n408, σ1s44/456, mb4.3/49, 168C-141D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**1.67**	**266**	⇑*i*P	**Pn**	**08 58 60.0**	**-1.0**
VACH				*i* S	**Sn**	**08 59 21.9**	**-0.9**
VACH	**Vallenar**	**1.67**	**266**	⇑*i*P	**Pn**	**08 58 60.0**	**-1.0**
VACH				*i* S	**Sn**	**08 59 21.9**	**-0.9**
VACH				AML	AML	08 59 23.7	
	comp=N,13μm,0.1s						
LCO	**Las Campanas**	**1.70**	**251**	⇑*e*Pn	**Pn**	**08 59 01.7**	**+0.2**
LCO				*e*Sn	**Sn**	**08 59 24.6**	**+0.8**
CPCH	**Copiapo**	**1.73**	**310**	⇓*i*P	**Pn**	**08 59 00.5**	**-1.1**
CPCH				*i* S	**Sn**	**08 59 22.3**	**-1.6**
CPCH	**Copiapo**	**1.73**	**310**	⇓*i*P	**Pn**	**08 59 00.5**	**-1.1**
CPCH				*i* S	**Sn**	**08 59 22.3**	**-1.6**
CPCH				AML	AML	08 59 23.6	
	comp=E,16μm,0.1s						
CDCH	**Caldera**	**2.23**	**308**	⇓*i*P	**Pn**	**08 59 07.6**	**-0.4**
CDCH				*i* S	**Sn**	**08 59 34.2**	**-1.1**
CDCH	**Caldera**	**2.23**	**308**	⇓*i*P	**Pn**	**08 59 07.6**	**-0.4**
CDCH				*i* S	**Sn**	**08 59 34.2**	**-1.1**
OVCH	**Ovalle**	**2.95**	**223**	⇑*i*P	**Pn**	**08 59 16.2**	**-1.3**
OVCH				*i* S	**Sn**	**08 59 50.7**	**-1.5**
OVCH	**Ovalle**	**2.95**	**223**	⇑*i*P	**Pn**	**08 59 16.2**	**-1.3**
OVCH				*i* S	**Sn**	**08 59 50.7**	**-1.5**
OVCH				AML	AML	08 59 58.2	
	comp=N,3μm,0.7s						
CFAA	**Coronel Fontan**	**3.17**	**170**	P	**Pn**	**08 59 20.3**	**-0.2**
CFAA				S	**Sn**	**08 59 56.3**	**-1.2**
CFAA	**Coronel Fontan**	**3.17**	**170**	P	**Pn**	**08 59 20.3**	**-0.2**
	baz=349,slow=14						
CFAA				S	**Sn**	**08 59 56.3**	**-1.2**
	comp=N,25nm,0.3s,baz=197,slow=15,SNR=32						
CHNG	**Los Chungos**	**4.09**	**213**	⇑*i*P	**Pn**	**08 59 31.1**	**-1.6**
CHNG				*i* S	**Sn**	**09 00 17.6**	**-2.1**
CHNG	**Los Chungos**	**4.09**	**213**	⇑*i*P	**Pn**	**08 59 31.1**	**-1.6**
CHNG				*i* S	**Sn**	**09 00 17.6**	**-2.1**
ROCH	**El Roble**	**4.85**	**202**	⇑*i*P	**Pn**	**08 59 40.4**	**-2.8**
ROCH				*i* S	**Sn**	**09 00 35.5**	**-2.9**
ANCH	**Antofagasta**	**4.97**	**343**	⇑*i*P	**Pn**	**08 59 43.1**	**-1.6**
ANCH				*i* S	**Sn**	**09 00 38.5**	**-2.5**
ANCH	**Antofagasta**	**4.97**	**343**	⇑*i*P	**Pn**	**08 59 43.1**	**-1.6**
ANCH				*i* S	**Sn**	**09 00 38.5**	**-2.5**
LVC	**Limon Verde**	**5.84**	**360**	*e*Pn	**Pn**	**08 59 55.6**	**-1.1**
LVC				*e*Sn	**Sn**	**09 01 00.3**	**-2.2**
LPAZ	**La Paz**	**12.15**	**3**	*e*Pn	**Pn**	**09 01 20.6**	**-2.0**
PLCA	**Paso Flores**	**12.31**	**186**	P	Pn	09 01 20.4	-3.6
PLCA	**Paso Flores**	**12.31**	**186**	P	Pn	09 01 20.4	-3.6
	comp=N,0.3nm,0.3s,baz=16,slow=9.2,SNR=4.6						
SIV	**San Ignacio**	**14.36**	**32**	P	**Pn**	**09 01 49.2**	**-1.6**
SIV	**San Ignacio**	**14.36**	**32**	P	**Pn**	**09 01 49.2**	**-1.6**
	comp=N,0.5nm,0.3s,baz=246,slow=13,SNR=7.9						
SAML	**Samuel**	**20.15**	**16**	*e*P	**P**	**09 02 58.3**	**0.0**
	comp=N,9.0nm,0.6s						
BDFB	**Brasilia**	**23.11**	**61**	P	**P**	**09 03 27.3**	**-2.3**
BDFB	**Brasilia**	**23.11**	**61**	P	**P**	**09 03 27.3**	**-2.3**
	comp=N,2.8nm,0.6s,baz=245,slow=9.5,SNR=4.6						
ROSC	**El Rosal**	**33.55**	**350**	LR	LR	09 17 57.1	
	comp=N,39nm,19.9s,baz=27,slow=35						
SDV	**Santo Domingo**	**37.18**	**357**	*e*P	**P**	**09 05 32.8**	**-0.9**
	comp=N,8.2nm,0.9s						
SWET	**Sewanee**	**65.37**	**345**	*e*P	**P**	**09 09 03.3**	**-0.3**
	comp=N,4.4nm,0.6s						
JCT	**Junction City**	**65.64**	**331**	*e*P	**P**	**09 09 06.6**	**+1.2**
	comp=N,4.9nm,0.6s						
JCT	**Junction City**	**65.64**	**331**	⇑P	**P**	**09 09 06.6**	**+1.2**
	baz=66						
628A	**Black Gap, Mar**	**66.18**	**328**	⇑P	**P**	**09 09 10.7**	**+1.8**
	baz=67,SNR=7.6						
TXAR	**Lajitas Array**	**66.42**	**327**	P	**P**	**09 09 11.5**	**+1.0**
TXAR	**Lajitas Array**	**66.42**	**327**	P	**P**	**09 09 11.5**	**+1.0**
	comp=N,1.6nm,0.7s,baz=151,slow=8.2,SNR=22						
WVT	**Waverly**	**66.70**	**343**	*e*P	**P**	**09 09 11.4**	**-0.6**
	comp=N,18nm,1.3s						
528A	**Cox Ranch, San**	**66.70**	**328**	⇓P	**P**	**09 09 13.5**	**+1.1**
	baz=67						
626A	**Big Bend Ranch**	**66.83**	**327**	⇑P	**P**	**09 09 14.7**	**+1.6**
	baz=67,SNR=15						
MIAR	**Mount Ida**	**66.89**	**338**	*e*P	**P**	**09 09 13.2**	**-0.1**
	comp=N,4.9nm,1.1s						
527A	**Woodward Ranch**	**67.07**	**328**	⇑P	**P**	**09 09 16.1**	**+1.3**
	baz=68						
428A	**Kincaid Ranch,**	**67.13**	**329**	⇑P	**P**	**09 09 16.6**	**+1.6**
	baz=68						
427A	**Hayter Ranch,**	**67.56**	**328**	⇑P	**P**	**09 09 19.0**	**+1.3**
	baz=68						
426A	**McDonald Obser**	**67.71**	**328**	⇓P	**P**	**09 09 20.1**	**+1.4**
	baz=68,SNR=5.6						
328A	**Wristen Ranch,**	**67.74**	**329**	⇓P	**P**	**09 09 19.5**	**+0.7**
	baz=68,SNR=5.7						
326A	**Caldwell Ranch**	**68.22**	**328**	⇓P	**P**	**09 09 23.0**	**+1.2**
	baz=69						
425A	**Indio Mountain**	**68.26**	**327**	⇑P	**P**	**09 09 23.3**	**+1.1**
	baz=69						
129A	**Stewart Farms,**	**68.38**	**330**	⇓P	**P**	**09 09 23.8**	**+1.0**
	baz=69						
227A	**Bennet, Jal**	**68.49**	**329**	⇓P	**P**	**09 09 25.1**	**+1.6**
	baz=69						
Z29A	**Hungry Hill Ra**	**68.85**	**331**	⇓P	**P**	**09 09 26.2**	**+0.5**
	baz=69						
TUL1	**Tulsa**	**68.89**	**337**	⇑P	**P**	**09 09 26.7**	**+1.0**
	baz=69						
324A	**Moseley Ranch,**	**69.04**	**327**	⇓P	**P**	**09 09 27.1**	**+0.1**
	baz=69,SNR=5.2						
127A	**Arkansas Junct**	**69.08**	**329**	⇑P	**P**	**09 09 28.0**	**+0.8**
	baz=70						
Z28A	**Tucker Farm, M**	**69.17**	**330**	⇑P	**P**	**09 09 28.2**	**+0.5**
	baz=70						
MNTX	**Cornudas Mount**	**69.20**	**327**	⇑P	**P**	**09 09 28.1**	**+0.3**
	baz=70,SNR=5.9						
225A	**Deer Hill, Car**	**69.28**	**328**	⇓P	**P**	**09 09 29.7**	**+1.2**
	baz=70						
Y29A	**Porterfield Fa**	**69.35**	**331**	⇓P	**P**	**09 09 29.3**	**+0.5**
	baz=70,SNR=7.9						
126A	**Clayton Basin,**	**69.36**	**329**	⇓P	**P**	**09 09 29.9**	**+1.1**
	baz=70						
Z27A	**Tatum**	**69.56**	**330**	⇑P	**P**	**09 09 30.7**	**+0.6**
	baz=70						
224A	**Cornudas Mount**	**69.58**	**327**	⇓P	**P**	**09 09 30.7**	**+0.4**
	baz=70,SNR=5.8						
Y28A	**McKinney Farm,**	**69.64**	**331**	⇑P	**P**	**09 09 31.4**	**+0.9**
	baz=70						
125A	**Gardner Draw,**	**69.66**	**328**	⇑P	**P**	**09 09 31.2**	**+0.4**
	baz=70,SNR=6.7						
Z26A	**Caprock**	**69.86**	**329**	⇑P	**P**	**09 09 32.8**	**+0.8**
	baz=70,SNR=10.0						
MSTX	**Muleshoe**	**69.92**	**330**	⇑P	**P**	**09 09 33.0**	**+0.7**
	baz=70,SNR=7.4						
Y27A	**Causey**	**70.01**	**330**	⇓P	**P**	**09 09 33.2**	**+0.3**
	baz=70						
124A	**Stringfield Ra**	**70.06**	**328**	⇑P	**P**	**09 09 34.4**	**+1.0**
	baz=70,SNR=5.7						
Z25A	**Roswell**	**70.20**	**329**	⇑P	**P**	**09 09 35.0**	**+0.9**
	baz=71						
AMTX	**Amarillo**	**70.23**	**332**	⇓P	**P**	**09 09 36.5**	**+2.3**
	baz=71						
222A	**Williams Famil**	**70.37**	**326**	⇑P	**P**	**09 09 36.9**	**+1.7**
	baz=71						
Z24A	**Sheeppen Canyo**	**70.55**	**328**	⇑P	**P**	**09 09 37.4**	**+1.1**
	baz=71,SNR=5.3						
Y25A	**Mesa, Roswell**	**70.73**	**329**	⇓P	**P**	**09 09 38.3**	**+1.0**
	baz=71						
DBIC	**Dimbokro**	**70.82**	**71**	*e*P	**P**	**09 09 38.1**	**0.0**
	comp=N,12nm,0.8s						
DBIC	**Dimbokro**	**70.82**	**71**	P	**P**	**09 09 38.2**	**0.0**
	comp=N,9.5nm,0.6s,baz=211,slow=6.7,SNR=18						
X26A	**CR and CF Fran**	**70.86**	**330**	⇓P	**P**	**09 09 40.0**	**+1.9**
	baz=71						
319A	**Douglas**	**70.88**	**324**	⇑P	**P**	**09 09 40.1**	**+1.8**
	baz=71						
Z23A	**Rita Site, Whi**	**70.90**	**327**	⇑P	**P**	**09 09 40.1**	**+1.8**
	baz=71,SNR=7.0						
220A	**Playas Peak, P**	**70.92**	**325**	⇑P	**P**	**09 09 40.3**	**+1.8**
	baz=71						
W27A	**Bowe Ranch, En**	**70.97**	**331**	⇓P	**P**	**09 09 39.7**	**+1.0**
	baz=71						
121A	**Cookes Peak, D**	**71.05**	**326**	⇓P	**P**	**09 09 41.0**	**+1.7**
	baz=71,SNR=5.5						
V28A	**Channing**	**71.20**	**332**	⇓P	**P**	**09 09 41.7**	**+1.6**
	baz=72						
X25A	**Clemmons Ranch**	**71.22**	**329**	⇑P	**P**	**09 09 41.4**	**+1.2**
	baz=72						
Z22A	**Elephant Butte**	**71.24**	**327**	⇑P	**P**	**09 09 42.3**	**+1.9**
	baz=72,SNR=7.6						
W26A	**Owens Ranch, T**	**71.30**	**330**	⇑P	**P**	**09 09 42.1**	**+1.4**
	baz=72,SNR=6.8						
Y23A	**Lovelace Mesa,**	**71.36**	**328**	⇑P	**P**	**09 09 43.0**	**+1.8**
	baz=72						
120A	**U Bar Ranch, L**	**71.49**	**325**	⇑P	**P**	**09 09 44.0**	**+2.1**
	baz=72						
X24A	**Lazy VL Ranch,**	**71.60**	**329**	⇑P	**P**	**09 09 44.3**	**+1.7**
	baz=72						
Z21A	**St. Cloud Mine**	**71.62**	**326**	⇓P	**P**	**09 09 44.7**	**+1.9**
	baz=72						
W25A	**X Bar L Ranch,**	**71.71**	**330**	⇑P	**P**	**09 09 44.2**	**+1.0**
	baz=72						
Y22A	**Socorro**	**71.80**	**327**	⇓P	**P**	**09 09 45.5**	**+1.7**
	baz=72						
Z20A	**Nine Sixteen R**	**71.92**	**326**	⇓P	**P**	**09 09 46.5**	**+1.9**
	baz=72						
X23A	**Hourglass Bar**	**71.96**	**328**	⇑P	**P**	**09 09 46.5**	**+1.7**
	baz=72						
W24A	**Lazy 6 Ranch,**	**72.13**	**329**	⇓P	**P**	**09 09 47.2**	**+1.5**
	baz=72						
Y21A	**Point of Rocks**	**72.19**	**327**	⇑P	**P**	**09 09 48.4**	**+2.1**
	baz=73						
V25A	**Rancho No Teng**	**72.30**	**330**	⇑P	**P**	**09 09 48.3**	**+1.5**
	baz=73						
T28A	**Walsh**	**72.33**	**333**	⇓P	**P**	**09 09 47.7**	**+0.9**
	baz=73						
ANMO	**Albuquerque**	**72.39**	**328**	*e*P	**P**	**09 09 49.0**	**+1.7**
	comp=N,3.8nm,0.9s						
ANMO	**Albuquerque**	**72.39**	**328**	P	**P**	**09 09 48.9**	**+1.7**
	comp=N,3.1nm,0.7s,baz=150,slow=7.7,SNR=19						
U26A	**Atchley Ranch,**	**72.39**	**331**	⇑P	**P**	**09 09 48.7**	**+1.4**
	baz=73						
W23A	**Werner Place,**	**72.42**	**329**	⇑P	**P**	**09 09 49.2**	**+1.7**
	baz=73,SNR=8.7						
Y20A	**Horse Springs,**	**72.45**	**326**	⇓P	**P**	**09 09 49.9**	**+2.1**
	baz=73						
T27A	**Campo**	**72.53**	**332**	⇓P	**P**	**09 09 49.0**	**+1.0**
	baz=73,SNR=6.2						
X21A	**Alamocita Cree**	**72.60**	**327**	⇑P	**P**	**09 09 50.4**	**+1.8**
	baz=73						
U25A	**Circle Dot Ran**	**72.68**	**331**	⇑P	**P**	**09 09 50.5**	**+1.5**
	baz=73						
V23A	**Ortiz Mt. (NFS**	**72.92**	**329**	⇓P	**P**	**09 09 52.7**	**+2.2**
	baz=73						
Y19A	**Nutrioso**	**72.93**	**326**	⇑P	**P**	**09 09 52.9**	**+2.3**
	baz=73						
**T

Y14A **Wickenburg** 74.83 323 ⇓P P 09 10 03.4 +1.9
baz=75
S22A **4UR Ranch, Cre** 74.87 330 ⇑P P 09 10 03.6 +1.7
baz=75
V17A **Tonalea, Kykot** 75.02 326 ⇑P P 09 10 04.5 +1.9
baz=75,SNR=13
O27A **Beecher Island** 75.12 334 ⇓P P 09 10 05.0 +1.9
baz=76
T19A **Beclabito** 75.12 328 ⇓P P 09 10 05.2 +2.0
baz=76,SNR=6.2
Q24A **Divide** 75.16 331 ⇓P P 09 10 05.7 +2.1
baz=76
MVCO **Mesa Verde** 75.19 328 eP P 09 10 05.4 +1.8
comp=N,46nm,2.0s
MVCO **Mesa Verde** 75.19 328 ⇑P P 09 10 05.4 +1.8
baz=76,SNR=6.5
U18A **Rough Rock, Ch** 75.20 327 ⇑P P 09 10 05.9 +2.2
baz=76
WUAZ **Wupatki** 75.22 325 ⇓P P 09 10 06.2 +2.4
baz=76
S21A **Coal Bank Pass** 75.23 329 ⇓P P 09 10 06.1 +2.1
baz=76
Y12C **Blythe** 75.50 322 ⇓P P 09 10 07.6 +2.3
baz=76
U16A **Tuba City** 75.59 326 ⇓P P 09 10 07.7 +1.8
baz=76,SNR=5.0
S20A **Disappointment** 75.63 329 ⇓P P 09 10 08.4 +2.3
baz=76
R21A **Cimarron** 75.70 330 ⇑P P 09 10 08.5 +1.9
baz=76
U17A **Shonto** 75.72 326 ⇑P P 09 10 08.9 +2.1
baz=76
T18A **Mexican Hat** 75.77 327 ⇑P P 09 10 08.3 +1.5
baz=76,SNR=5.7
Q22A **Crested Butte,** 75.83 330 ⇑P P 09 10 09.3 +2.0
baz=76
S19A **Harvey Farm, M** 75.92 328 ⇑P P 09 10 09.2 +1.4
baz=76,SNR=8.1
R20A **Redvale** 75.93 329 ⇑P P 09 10 09.8 +2.0
baz=76,SNR=8.4
BC3 **Big Chuckawall** 75.94 321 ⇑P P 09 10 09.8 +1.9
baz=76
PV01 **Paradox Valley** 75.97 329 eP P 09 10 09.6 +1.5
comp=N,1μm,1.1s
ISCO **Idaho Springs** 76.05 332 eP P 09 10 09.8 +1.2
comp=N,1.8nm,0.6s
ISCO **Idaho Springs** 76.05 332 ⇓P P 09 10 10.3 +1.6
baz=76
T17A **Navajo Res., N** 76.11 327 ⇓P P 09 10 11.4 +2.5
baz=76
SMCO **Snowmass** 76.11 330 eP P 09 10 10.8 +1.7
comp=N,5.3nm,0.7s
IRM **Iron Mountain** 76.15 322 ⇓P P 09 10 11.0 +2.0
baz=76
W13A **Hualapai Mount** 76.19 323 ⇑P P 09 10 11.6 +2.2
baz=77
S18A **Hurst Farm, Bl** 76.28 328 ⇑P P 09 10 11.8 +2.0
baz=77,SNR=8.7
P22A **Eagle** 76.37 331 ⇓P P 09 10 12.2 +1.8
baz=77
PV10 **Paradox Valley** 76.38 329 eP P 09 10 11.4 +0.9
comp=N,88nm,0.8s
U15A **North Rim** 76.40 325 ⇑P P 09 10 12.5 +1.9
baz=77
R19A **Curley Farm, L** 76.42 328 ⇑P P 09 10 12.0 +1.4
baz=77,SNR=7.6
BELC **Belle Mtn. Jos** 76.50 321 ⇓P P 09 10 13.3 +2.2
baz=77
Q20A **Ridgley Place,** 76.52 329 ⇑P P 09 10 12.8 +1.8
baz=77
O23A **Lake Granby, G** 76.53 332 ⇓P P 09 10 13.2 +1.9
baz=77
P21A **Newcastle** 76.61 330 ⇑P P 09 10 13.9 +2.2
baz=77
S17A **Black Ridge (B** 76.62 327 ⇑P P 09 10 13.8 +2.1
baz=77
O22A **Kremmling** 76.75 331 ⇓P P 09 10 14.3 +1.7
baz=77
R18A **Canyonlands Na** 76.79 328 ⇑P P 09 10 14.0 +1.3
baz=77
GMRC **Granite Mounta** 76.89 322 ⇓P P 09 10 15.4 +2.2
baz=77
Q19A **Hogan Spring (** 76.95 329 ⇑P P 09 10 15.3 +1.8
baz=77
P20A **De Beque** 77.00 330 ⇑P P 09 10 15.6 +1.8
baz=77,SNR=5.4
M24A **Cheyenne** 77.14 333 ⇑P P 09 10 16.5 +1.9
baz=78
R17A **Hanksville Air** 77.20 327 ⇓P P 09 10 16.8 +1.9
baz=78
K27A **Flueckinger Fa** 77.21 335 ⇑P P 09 10 16.7 +1.9
baz=78
N22A **Wattenberg Ran** 77.24 332 ⇑P P 09 10 17.4 +2.2
baz=78
HEC **Hector,Ludlow** 77.30 322 ⇑P P 09 10 17.7 +2.2
baz=78
P19A **Cripple Cowboy** 77.38 329 ⇑P P 09 10 17.7 +1.7
baz=78,SNR=7.7
O20A **White River Ci** 77.46 330 ⇓P P 09 10 18.2 +1.9
baz=78
Q18A **Rafter H Ranch** 77.47 328 ⇓P P 09 10 18.1 +1.7
baz=78
N21A **Black Mountain** 77.66 331 ⇑P P 09 10 19.6 +2.1
baz=78
SRU **San Rafael** 77.66 328 eP P 09 10 19.0 +1.5
comp=N,6.1nm,0.6s
SRU **San Rafael** 77.66 328 ⇑P P 09 10 18.9 +1.5
baz=78,SNR=7.1
CCUT **Cedar City** 77.81 325 eP P 09 10 20.6 +2.1
comp=N,5.6nm,0.8s
CCUT e 09 10 48.8
Q16A **Castle Valley** 77.81 328 ⇓P P 09 10 20.3 +1.9
baz=78
P18A **Preston Nutter** 77.95 329 ⇑P P 09 10 20.9 +1.7
baz=78,SNR=7.0
O19A **Miners Draw (B** 77.98 330 ⇓P P 09 10 20.5 +1.3
baz=78,SNR=6.8
N20A **Spence Gulch,** 78.04 331 ⇓P P 09 10 21.2 +1.6
baz=78
P17A **Butcher Ranch,** 78.05 328 ⇑P P 09 10 21.3 +1.6
baz=78
TSUM **Tsumeb** 78.07 105 eP P 09 10 20.6 +0.3
comp=N,4.6nm,0.8s
EDW2 **Edwards Air Fo** 78.25 321 ⇓P P 09 10 22.7 +2.0
baz=79
M21A **Separation Pea** 78.29 332 ⇑P P 09 10 22.8 +1.8
baz=79
RWWY **Rawlins** 78.30 332 eP P 09 10 22.4 +1.3
comp=N,7.4nm,0.6s
O18A **Roosevelt** 78.35 329 ⇓P P 09 10 23.4 +2.1
baz=79
N19A **John Jarvie Ra** 78.49 330 ⇓P P 09 10 23.3 +1.3
baz=79,SNR=5.7
M20A **Sweetwater, Wa** 78.55 331 ⇑P P 09 10 24.0 +1.6
baz=79
L21A **Rawlins** 78.59 332 ⇑P P 09 10 23.8 +1.2
baz=79,SNR=5.3
R13A **O'Grain Ranch,** 78.60 325 ⇑P P 09 10 24.7 +2.0
baz=79
O17A **Robinson Place** 78.63 329 ⇓P P 09 10 24.4 +1.5
baz=79,SNR=8.1
J24A **Dixon Ranch, L** 78.65 334 ⇑P P 09 10 24.6 +1.8
baz=79
K22A **Casper** 78.81 333 ⇓P P 09 10 25.7 +1.9
baz=79
P15A **Leamington** 78.85 327 ⇓P P 09 10 25.4 +1.3
baz=79
M19A **Rock Springs** 78.98 330 ⇑P P 09 10 26.3 +1.6
baz=79
L20A **Wamsutter** 79.03 331 ⇑P P 09 10 26.5 +1.5
baz=79
I24A **Kuemmerle Ranc** 79.09 334 ⇓P P 09 10 27.5 +2.3
baz=80
ISA **Isabella** 79.09 321 eP P 09 10 26.3 +1.0
comp=N,3.7nm,1.0s
RSSD **Black Hills** 79.09 335 eP P 09 10 26.3 +0.9
comp=N,2.6nm,0.7s
K21A **Alcova** 79.10 332 ⇓P P 09 10 26.6 +1.2
baz=80,SNR=7.4
N17A **Moffit Pass** 79.27 329 ⇑P P 09 10 28.5 +2.1
baz=80
JLU **Jordanelle** 79.28 328 eP P 09 10 27.7 +1.2
comp=N,3.8nm,0.8s
J22A **Midwest** 79.43 333 ⇑P P 09 10 27.9 +0.8
baz=80,SNR=5.2
N16A **Rees Ranch, Co** 79.50 329 ⇑P P 09 10 29.3 +1.7
baz=80
R11A **Troy Canyon, C** 79.55 324 ⇓P P 09 10 29.7 +1.9
baz=80
L19A **Farson** 79.55 331 ⇑P P 09 10 29.4 +1.5
baz=80,SNR=5.2
VES **Vestal, Richgr** 79.56 321 ⇓P P 09 10 29.4 +1.7
baz=80
K20A **Yellowstone Ra** 79.57 332 ⇓P P 09 10 29.0 +1.1
baz=80
DUG **Duway** 79.60 327 ⇑P P 09 10 29.5 +1.5
baz=80
M17A **Scullys Gap (B** 79.62 329 ⇑P P 09 10 29.8 +1.5
baz=80
L18A **Fontenelle, Gr** 79.70 330 ⇓P P 09 10 29.8 +1.1
baz=80,SNR=5.7
TOA0 **Torodi Ar. Sit** 79.73 69 eP P 09 10 29.0 -0.2
TORD **Torodi Ar. Bea** 79.73 69 P P 09 10 29.0 -0.2
TORD pP pP 09 10 56.5 +0.6
TORD sP sP 09 11 07.6 +0.5
TORD **Torodi Ar. Bea** 79.73 69 P P 09 10 29.0 -0.2
comp=N,9.7nm,0.7s,baz=273,slow=5.5,SNR=57
TORD pP pP 09 10 56.5 +0.6
comp=N,1.6nm,0.8s,baz=263,slow=5.8,SNR=2.4
TORD sP sP 09 11 07.6 +0.5
comp=N,4.2nm,0.8s,baz=253,slow=5.3,SNR=5.5
J21A **Lysite** 79.77 332 ⇓P P 09 10 30.4 +1.4
baz=80
H24A **Dirks Ranch, A** 79.82 335 ⇑P P 09 10 29.8 +0.7
baz=80,SNR=5.8
I22A **9 Mile Ranch,** 79.84 333 ⇑P P 09 10 30.2 +0.9
baz=80,SNR=7.6
K19A **Absolon Red Bu** 79.92 331 ⇓P P 09 10 30.7 +0.9
baz=80,SNR=6.4
J20A **Shoshoni** 80.03 332 ⇓P P 09 10 32.0 +1.6
baz=80,SNR=8.2
I21A **Big Trails, Te** 80.09 333 ⇑P P 09 10 31.5 +0.8
baz=80,SNR=6.9
HWUT **Hardware Ranch** 80.13 329 eP P 09 10 31.9 +0.9
comp=N,5.8nm,0.6s
BW06 **Boulder Array** 80.17 331 eP P 09 10 31.9 +0.6
comp=N,3.9nm,0.9s
BW06 **Boulder Array** 80.17 331 ⇑P P 09 10 32.0 +0.7
baz=81,SNR=6.5
PDAR **Pinedale Array** 80.17 331 P P 09 10 31.8 +0.5
PDAR **Pinedale Array** 80.17 331 P P 09 10 31.8 +0.5
comp=N,3.0nm,0.7s,baz=127,slow=7.5,SNR=31
PD02 **Pinedale Array** 80.19 331 eP P 09 10 31.4 +0.1
BOSA **Boshof** 80.19 117 P P 09 10 31.3 -0.4
BOSA pP pP 09 10 58.9 +0.4
BOSA **Boshof** 80.19 117 P P 09 10 31.3 -0.4
comp=N,3.9nm,0.6s,baz=254,slow=6.5,SNR=9.0
BOSA pP pP 09 10 58.9 +0.4
comp=N,1.8nm,0.7s,baz=120,slow=9.5,SNR=1.8
PD01 **Pinedale Array** 80.19 331 eP P 09 10 31.6 +0.2
L17A **Cokeville** 80.21 330 ⇓P P 09 10 32.5 +1.1
baz=81
G24A **Alzada** 80.27 335 ⇑P P 09 10 32.5 +1.0
baz=81
K18A **Toltan Ranch,** 80.28 330 ⇑P P 09 10 33.4 +1.6
baz=81,SNR=15
J19A **Crowheart** 80.37 331 ⇑P P 09 10 33.2 +1.0
baz=81,SNR=5.7
L16A **Fish Haven** 80.39 329 ⇑P P 09 10 33.3 +0.9
baz=81,SNR=7.7
M15A **Larsen Ranch,** 80.42 328 ⇑P P 09 10 33.4 +0.9
baz=81,SNR=5.8
G23A **Biddle** 80.52 335 ⇑P P 09 10 33.6 +0.7
baz=81
I20A **Worland** 80.55 332 ⇓P P 09 10 34.2 +1.2
baz=81,SNR=8.0
H21A **Big Horn, Sher** 80.67 333 ⇑P P 09 10 34.4 +0.7
baz=81,SNR=7.3
F24A **Ekalaka** 80.72 336 ⇓P P 09 10 34.8 +0.9
baz=81
J18A **Kendall Valley** 80.73 331 ⇓P P 09 10 35.0 +0.8
baz=81,SNR=17
K17A **Gardner Place,** 80.75 330 ⇓P P 09 10 35.3 +1.0
baz=81,SNR=7.3
L15A **Malad City** 80.82 329 ⇓P P 09 10 35.5 +0.8
baz=81
G22A **Birney** 80.88 334 ⇑P P 09 10 35.5 +0.8
baz=81
H20A **Greybull** 80.94 333 ⇑P P 09 10 35.9 +0.8
baz=81,SNR=6.3
F23A **Volborg** 80.97 335 ⇑P P 09 10 36.1 +0.9
baz=81
I19A **Meeteetse** 80.97 332 ⇑P P 09 10 36.8 +1.3
baz=81
NVAR **Mina Array Bea** 81.03 323 P P 09 10 36.9 +1.0
NVAR **Mina Array Bea** 81.03 323 P P 09 10 36.9 +1.0
comp=N,1.4nm,0.8s,baz=162,slow=5.6,SNR=12
I18A **Diamond G Ranc** 81.04 331 ⇑P P 09 10 37.2 +1.3
baz=81,SNR=14
K16A **Soda Springs** 81.11 330 ⇑P P 09 10 37.3 +1.1
baz=82,SNR=6.2
J17A **Brown Place, J** 81.16 330 ⇓P P 09 10 37.5 +1.1
baz=82
ELK **Elko** 81.19 326 eP P 09 10 37.4 +0.7
ELK **Elko** 81.19 326 P P 09 10 37.2 +0.5
comp=N,2.7nm,0.8s,baz=92,slow=1.4,SNR=11
REDW **Red Top Meadow** 81.22 330 eP P 09 10 37.6 +0.8
comp=N,5.2nm,1.1s
G21A **Lodge Grass** 81.23 334 ⇓P P 09 10 37.9 +1.2
baz=82
L14A **Malta** 81.24 328 ⇑P P 09 10 38.0 +1.2
baz=82
SNOW **Snow King Moun** 81.25 331 eP P 09 10 37.8 +0.8
comp=N,2.2nm,0.5s
LOHW **Long Hollow** 81.31 331 eP P 09 10 38.4 +1.1
comp=N,3.0nm,0.6s
F22A **Rosebud** 81.33 335 ⇓P P 09 10 37.8 +0.7
baz=82,SNR=5.6
TPAW **Teton Pass** 81.36 330 eP P 09 10 38.8 +1.2
comp=N,53nm,2.6s
RRI2 **Red Ridge** 81.41 330 eP P 09 10 38.5 +0.7
comp=N,3.4nm,0.8s
K15A **Arbon** 81.42 329 ⇓P P 09 10 38.9 +1.1
baz=82
J16A **Bone** 81.48 330 ⇓P P 09 10 39.3 +1.2
baz=82
MOOW **Moose Ponds** 81.48 331 eP P 09 10 38.5 +0.4
comp=N,0.7nm,0.6s
H19A **Powell** 81.49 332 ⇑P P 09 10 39.2 +1.2
baz=82
I17A **Pilgrim Ck.** 81.54 331 ⇓P P 09 10 39.9 +1.5
baz=82,SNR=7.2
E23A **Ismay** 81.59 335 ⇑P P 09 10 39.2 +0.8
baz=82
K14A **Jones Ranch, D** 81.61 329 ⇑P P 09 10 39.6 +0.9
baz=82
G20A **Bridger** 81.63 333 ⇓P P 09 10 39.3 +0.5
baz=82,SNR=12
IMW **Indian Meadow** 81.68 331 eP P 09 10 40.2 +0.9
comp=N,5.2nm,0.9s
FLWY **Flagg Ranch** 81.73 331 eP P 09 10 41.0 +1.6
comp=N,9.1nm,0.6s
D24A **Glendive** 81.76 336 ⇑P P 09 10 40.3 +1.0
baz=82
H18A **Shoshone NF, C** 81.77 332 ⇓P P 09 10 40.7 +1.0
baz=82,SNR=14
I16A **Newdale** 81.90 330 ⇑P P 09 10 41.6 +1.3
baz=82,SNR=7.9
H17A **Grant Village** 81.93 331 ⇓P P 09 10 42.4 +1.9
baz=82
J15A **Blackfoot** 81.94 330 ⇑P P 09 10 42.3 +1.9
baz=82
ULM **Lac du Bonnet** 81.96 343 P P 09 10 40.0 -0.2
ULM **Lac du Bonnet** 81.96 343 P P 09 10 40.0 -0.2
comp=N,1.6nm,0.6s,baz=161,slow=7.3,SNR=5.4
RLMT **Red Lodge** 81.97 332 eP P 09 10 41.7 +1.1
comp=N,6.9nm,0.6s
RLMT **Red Lodge** 81.97 332 ⇑P P 09 10 41.8 +1.1
baz=82,SNR=7.5
LBTB **Lobatse** 82.11 114 eP P 09 10 41.5 -0.4
comp=N,4.4nm,0.6s
C24A **Savage** 82.15 337 ⇑P P 09 10 42.5 +1.2
baz=82
G18A **Lazy EL Ranch,** 82.25 332 ⇓P P 09 10 43.2 +1.1
baz=83
YMR **Madison River** 82.31 331 eP P 09 10 44.0 +1.5
comp=N,15nm,0.9s
I15A **Monteview** 82.44 330 ⇑P P 09 10 44.8 +1.7
baz=83
F19A **Roth Farm, Mol** 82.44 333 ⇓P P 09 10 43.9 +1.0
baz=83
D22A **Cohagen** 82.46 335 ⇑P P 09 10 44.6 +1.7
baz=83
H16A **Russell Place,** 82.46 331 ⇑P P 09 10 44.9 +1.6
baz=83,SNR=6.0
C23A **Lambert** 82.65 336 ⇓P P 09 10 45.1 +1.2
baz=83
E20A **Meyer Farm, Mu** 82.66 334 ⇑P P 09 10 45.0 +1.0
baz=83,SNR=9.1
D21A **La Casta Ranch** 82.69 335 ⇓P P 09 10 45.7 +1.5
baz=83
J13A **Cove Ranch, Pi** 82.73 329 ⇓P P 09 10 46.0 +1.4
baz=83,SNR=5.5
F18A **Big Timber** 82.79 333 ⇑P P 09 10 45.8 +1.0
baz=83,SNR=11
I14A **Mackay** 82.81 329 ⇑P P 09 10 46.5 +1.4
baz=83,SNR=6.3
C22A **Vida** 82.86 336 ⇑P P 09 10 46.2 +1.2
baz=83
E19A **Rath Farm, Rou** 82.88 333 ⇓P P 09 10 46.1 +0.9
baz=83,SNR=10
DGMT **Dagmar** 82.88 337 eP P 09 10 45.9 +0.8
comp=N,9.0nm,0.7s
DGMT **Dagmar** 82.88 337 ⇓P P 09 10 46.1 +1.0
baz=83
HLID **Hailey** 82.97 328 eP P 09 10 47.1 +1.2
comp=N,3.8nm,0.9s
HLID **Hailey** 82.97 328 ⇓P P 09 10 47.2 +1.4
baz=83,SNR=8.8
H15A **Lima** 83.00 330 ⇓P P 09 10 47.5 +1.5
baz=83
I13A **Wildhorse Cree** 83.10 329 ⇓P P 09 10 48.0 +1.4
baz=84,SNR=5.8
G16A **Moss Hill, Enn** 83.12 331 ⇑P P 09 10 47.3 +0.7
baz=84
D20A **Manuel Ranch,** 83.14 334 ⇓P P 09 10 47.5 +1.0
baz=84
F17A **Fitzpatrick Pl** 83.18 332 ⇓P P 09 10 48.6 +1.7
baz=84
MCMT **McKenzie Canyo** 83.25 330 eP P 09 10 48.7 +1.3
comp=N,2.9nm,0.7s
MCMT e 09 11 17.9
H14A **Leadore** 83.31 330 ⇓P P 09 10 49.2 +1.5
baz=84
G15A **Dillon** 83.36 331 ⇑P P 09 10 48.9 +1.1
baz=84,SNR=5.2
B22A **Reddig Ranch S** 83.36 336 ⇓P P 09 10 49.0 +1.4
baz=84
C21A **Desert Coulee** 83.36 335 ⇓P P 09 10 48.1 +0.4
baz=84,SNR=8.1
BOZ **Bozeman (W)** 83.38 331 ⇓P P 09 10 48.1 +0.3
baz=84
E18A **Harlowton** 83.41 333 ⇑P P 09 10 49.2 +1.1
baz=84
I12A **Atlanta** 83.48 328 ⇑P P 09 10 49.6 +1.1
baz=84
F16A **Kennard Place,** 83.49 331 ⇓P P 09 10 49.5 +1.1
baz=84
D19A **Cripps Ranch,** 83.49 334 ⇓P P 09 10 49.1 +0.7
baz=84
DLMT **Dillon** 83.56 331 eP P 09 10 50.1 +1.2
comp=N,2.0nm,0.6s
C20A **Veseth Ranch,** 83.61 335 ⇓P P 09 10 49.5 +0.7
baz=84
H13A **Challis** 83.67 329 ⇑P P 09 10 50.5 +1.1
baz=84,SNR=6.1
E17A **Martinsdale** 83.71 332 ⇑P P 09 10 50.9 +1.3
baz=84
B21A **Ellsworth Farm** 83.84 336 ⇓P P 09 10 51.0 +1.0
baz=84
G14A **Jackson** 83.85 330 ⇑P P 09 10 51.2 +0.9
baz=84
LRM **Limekiln Ridge** 83.87 331 eP P 09 10 51.3 +0.8
comp=N,28nm,0.8s
D18A **Linhart Farms,** 83.88 333 ⇑P P 09 10 51.3 +0.9
baz=84
F15A **Butte** 83.90 331 ⇑P P 09 10 51.7 +1.1
baz=84,SNR=5.2
C19A **Slack Wire Ran** 84.03 334 ⇑P P 09 10 51.9 +0.9
baz=84
G13A **Cobalt** 84.07 330 ⇓P P 09 10 52.5 +1.1
baz=84,SNR=5.8
E16A **East Helena** 84.11 332 ⇑P P 09 10 52.7 +1.1
baz=84
D17A **Six Diamond Ra** 84.20 333 ⇓P P 09 10 52.9 +0.9
baz=85,SNR=7.9
B20A **Solberg Farm,** 84.22 335 ⇑P P 09 10 52.6 +0.6
baz=85
F14A **Wisdom** 84.25 330 ⇑P P 09 10 53.7 +1.4
baz=85
A21A **Bergtoll Ranch** 84.28 336 ⇓P P 09 10 52.8 +0.5
baz=85
D16A **Dana Ranch, Ca** 84.45 332 ⇓P P 09 10 54.5 +1.3
baz=85,SNR=6.8
C17A **Wharram Farm,** 84.62 333 ⇑P P 09 10 54.7 +0.7
baz=85
F13A **Darby** 84.66 330 ⇑P P 09 10 55.2 +0.9
baz=85,SNR=5.7
E14A **Clinton** 84.78 331 ⇑P P 09 10 56.0 +1.0
baz=85
D15A **Lincoln** 84.86 332 ⇑P P 09 10 56.6 +1.2
baz=85,SNR=5.4
A19A **Klindworth Far** 84.89 335 ⇓P P 09 10 56.8 +1.5
baz=85
E13A **Victor** 85.10 330 ⇑P P 09 10 57.6 +1.1
baz=86,SNR=5.5
C16A **Fuhringer Ranc** 85.15 333 ⇓P P 09 10 57.4 +0.7
baz=86,SNR=5.4
B17A **L&G Farms, Che** 85.16 333 ⇓P P 09 10 57.4 +0.7
baz=86
D14A **Greenough** 85.31 331 ⇓P P 09 10 58.9 +1.3
baz=86
C15A **Salmond Ranch,** 85.48 332 ⇑P P 09 10 59.5 +1.0
baz=86,SNR=7.2
A17A **Triple J Farms** 85.65 334 ⇓P P 09 10 59.8 +0.6
baz=86
E12A **Beaver Dam Sad** 85.69 330 ⇑P P 09 11 00.4 +0.9
baz=86
D13A **Huson** 85.72 331 ⇑P P 09 11 00.7 +1.1
baz=86
B15A **Bradely Ranch,** 85.89 332 ⇓P P 09 11 00.6 +0.3
baz=86,SNR=5.0
C14A **Swan Lake** 85.95 331 ⇓P P 09 11 01.7 +1.0
baz=86
A16A **West Butte Ran** 86.01 333 ⇑P P 09 11 01.6 +0.7
baz=86
D12A **Red Ives Fores** 86.08 330 ⇓P P 09 11 02.3 +0.9
baz=86
JTMT **Jette** 86.16 331 eP P 09 11 02.5 +0.7
B14A **Marquette Ranc** 86.22 332 ⇑P P 09 11 02.6 +0.6
baz=87
C13A **Hot Springs** 86.23 331 ⇓P P 09 11 02.9 +0.8
baz=87,SNR=5.2
BSMT **Basso Peak** 86.45 331 eP P 09 11 03.8 +0.5
comp=N,3.3nm,0.8s
A15A **Johnson Ranch,** 86.48 333 ⇑P P 09 11 03.3 0.0
baz=87
C12B **Naegeli Ranch,** 86.64 331 ⇑P P 09 11 05.3 +1.3
baz=87
B13A **Whitefish** 86.72 331 ⇓P P 09 11 05.2 +0.8
baz=87
A14A **Double T Ranch** 86.76 332 ⇑P P 09 11 05.4 +0.7
baz=87
WALA **Waterton Lakes** 87.03 332 eP P 09 11 06.4 +0.5
comp=N,0.3nm,1.1s
A13A **Flathead Natio** 87.14 332 ⇑P P 09 11 07.6 +1.1
baz=88
B12A **Libby** 87.27 331 ⇓P P 09 11 08.0 +0.9
baz=88,SNR=8.0
A12A **Yaak River Ran** 87.66 331 ⇑P P 09 11 09.6 +0.7
baz=88
NEW **Newport** 87.78 330 ⇑P P 09 11 09.3 -0.1
baz=88
YKA **Yellowknife Ar** 97.75 340 P P 09 11 54.5 -0.5
YKA pP pP 09 12 24.9 +2.5
YKA **Yellowknife Ar** 97.75 340 P P 09 11 54.5 -0.5
comp=N,0.5nm,0.7s,baz=139,slow=4.5,SNR=16
YKA pP pP 09 12 24.9 +2.5
comp=N,0.2nm,0.7s,baz=137,slow=5.2,SNR=2.8
ASAR **Alice Springs** 123.71 205 PKP PKPdf 09 17 17.4 -1.1
ASAR pPKP PKPdf 09 17 47.8 +0.9
ASAR **Alice Springs** 123.71 205 PKP PKPdf 09 17 17.4 -1.1
comp=N,0.7nm,0.5s,baz=135,slow=1.8,SNR=15
ASAR pPKP pPKPdf 09 17 47.8 +0.9
comp=N,0.4nm,0.7s,baz=137,slow=2.1,SNR=2.8
WRA **Warramunga Arr** 126.90 208 PKP PKPdf 09 17 24.1 -0.6
WRA pPKP pPKPdf 09 17 53.8 +0.7
WRA **Warramunga Arr** 126.90 208 PKP PKPdf 09 17 24.1 -0.6
comp=N,1.3nm,0.5s,baz=155,slow=1.8,SNR=24
WRA pPKP pPKPdf 09 17 53.8 +0.7
comp=N,0.8nm,0.6s,baz=163,slow=1.6,SNR=3.7
BVAR **Borovoye Array** 141.34 39 PKP PKPdf 09 17 49.4 -1.1
BVAR **Borovoye Array** 141.34 39 PKP PKPdf 09 17 49.4 -1.1
comp=N,0.9nm,0.6s,baz=310,slow=5.1,SNR=3.0

KURK	**Kurchatov**	**146.93**	**39**	*e*PKPdf	**PKPbc**	**09 18 01.3**	**-1.0**
AAK	**Ala-Archa**	**147.28**	**55**	*e*PKPdf	**PKPdf**	**09 18 02.4**	**+1.0**
AAK				PKPbc	**PKPdf**	**09 18 02.6**	**+1.2**
AAK	**Ala-Archa**	**147.28**	**55**	PKPbc	**PKPdf**	**09 18 02.6**	**+1.2**
	comp=N,4.6nm,0.6s,baz=145,slow=4.2,SNR=11						
ZAA0	**Zalesovo Array**	**148.10**	**30**	*e*PKPdf	**PKPdf**	**09 18 01.9**	**-0.2**
ZAA0				*e*PKPbc	**PKPbc**	**09 18 05.6**	**+0.1**
ZALV	**Zalesovo Beam**	**148.10**	**30**	PKP	**PKPdf**	**09 18 02.1**	**0.0**
ZALV				PKPbc	**PKPbc**	**09 18 05.8**	**+0.3**
ZALV				pPKPbc	**pPKPbc**	**09 18 34.3**	**+0.6**
ZALV	**Zalesovo Beam**	**148.10**	**30**	PKP	**PKPdf**	**09 18 02.1**	**0.0**
	comp=N,9.7nm,0.6s,baz=289,slow=4.5,SNR=29						
ZALV				PKPbc	**PKPbc**	**09 18 05.8**	**+0.3**
	comp=N,5.8nm,0.8s,baz=308,slow=5.5,SNR=5.8						
ZALV				pPKPbc	**pPKPbc**	**09 18 34.3**	**+0.6**
	comp=N,2.9nm,0.6s,baz=289,slow=3.4,SNR=2.4						
KSH	**Kashi**	**149.01**	**60**	*e*PKPbc	**PKPbc**	**09 18 08.2**	**-0.3**
KSH				pPKP	**pPKPdf**	**09 18 33.2**	**+0.4**
KSH				PKS	**PP**	**09 21 40.8**	**+0.1**
KSH				SKS	**SKSdf**	**09 25 06.7**	**+3.6**
KSH				AMB	AMB		
	comp=Z,80nm,6.6s						
KSH				LR	LR		
	comp=N,39nm,3.7s						
KSH				LR	LR		
	comp=E,38nm,3.5s						
KSH				LR	LR		
	comp=Z,190nm,6.6s						
MK31	**Makanchi Array**	**150.98**	**43**	*e*PKPbc	**PKPbc**	**09 18 12.6**	**-0.2**
MK31				*e*PKPab	**PKPab**	**09 18 20.9**	**+0.3**
MKAR	**Makanchi Array**	**150.98**	**43**	PKP	**PKPdf**	**09 18 07.0**	**0.0**
MKAR				PKPbc	**PKPbc**	**09 18 12.8**	**0.0**
MKAR				pPKPbc	**pPKPbc**	**09 18 42.0**	**+0.9**
MKAR	**Makanchi Array**	**150.98**	**43**	PKP	**PKPdf**	**09 18 07.0**	**0.0**
	comp=Z,0.2nm,0.6s,baz=42,slow=2.0,SNR=3.8						
MKAR				PKPbc	**PKPbc**	**09 18 12.8**	**0.0**
	comp=Z,10nm,0.6s,baz=305,slow=2.1,SNR=112						
MKAR				pPKPbc	**pPKPbc**	**09 18 42.0**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=307,slow=3.4,SNR=3.3						
WMQ	**Urumqi**	**155.77**	**45**	*e*PKP	**PKPdf**	**09 18 15.0**	**+1.0**
SONM	**Songino Array**	**160.32**	**10**	PKPab	**PKPab**	**09 19 00.8**	**+0.2**
SONM	**Songino Array**	**160.32**	**10**	PKPab	**PKPab**	**09 19 00.8**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=324,slow=3.9,SNR=4.5						
CN2	**Changchun**	**160.87**	**327**	*e*PKP	**PKPdf**	**09 18 19.3**	**-0.8**
CN2				PP	**PP**	**09 22 49.3**	**+3.5**
GTA	**Gaotai**	**165.62**	**38**	*e*PKP	**PKPdf**	**09 18 25.6**	**+0.7**
GTA				pPKP	**pPKPdf**	**09 18 51.8**	**-1.7**
GTA				sPKP		09 19 02.8	
HHC	**Hu-ho-hao-te**	**167.65**	**358**	*e*PKP	**PKPdf**	**09 18 25.2**	**-1.2**
HHC				pPKP	**pPKPdf**	**09 18 52.9**	**-2.1**
HHC				sPKP		09 19 02.7	
HHC				PP	**PP**	**09 23 23.1**	**+2.3**
HHC				SKS	**SKSdf**	**09 25 17.2**	**-3.6**
HHC				SKKS	**SKKSac**	**09 29 56.9**	**-2.2**
HHC				SS	**SS**	**09 43 57.0**	**-2.3**
HHC				AMB	AMB		
	comp=Z,66nm,4.0s						
HHC				LR	LR		
	comp=N,77nm,14.3s						
HHC				LR	LR		
	comp=E,100nm,16.7s						
HHC				LR	LR		
	comp=Z,80nm,13.1s						
BJI	**Beijing**	**167.74**	**342**	PKP	**PKPdf**	**09 18 27.3**	**+1.0**
BJI				SS	SS	09 44 05.9	+5.7
BJI				LR	LR		
	comp=N,100nm,16.5s						
BJI				LR	LR		
	comp=E,100nm,15.5s						
BJI				LR	LR		
	comp=Z,24nm,15.7s						
LZH	**Lanzhou**	**170.22**	**37**	*e*PKP	**PKPdf**	**09 18 29.5**	**+1.3**
LZH				pPKP	**pPKPdf**	**09 18 52.6**	**-4.3**
LZH				sPKP		09 19 01.7	
LZH				LR	LR		
	comp=N,120nm,18.2s						
LZH				LR	LR		
	comp=E,140nm,19.0s						
LZH				LR	LR		
	comp=Z,170nm,20.2s						
CD2	**Chengdu**	**173.14**	**68**	PKP	**PKPdf**	**09 18 30.3**	**+0.7**

*ISCJB **06** 09:02:51.6±1.0,53°.84N±0°.09×91°.0E±0°.2,h10km,mb3.3/3, Error ellipse: s-maj=17.7km s-min=7.9km az=44.1*
*IDC **06** 09:02:52.3±1.2,53°.88N×91°.02E,h0km,mb3.3/3, mb1 3.6/6,mb1mx3.4/29,mbtmp3.5/6,ML3.6/3,Error ellipse: s-maj=24.5km s-min=11.3km az=139.0*
*NNC **06** 09:02:54.0±1.2,53°.55N×90°.97E,h0km,mb4.0,mpv3.7, Error ellipse: s-maj=10.4km s-min=8.8km az=126.0*
ISC 06 09:02:54.2±1.2,54°.0N±0°.1×90°.80E±0°.10,h10km,n13, σ1§31/15,mb3.3/3,5C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**3.53**	**271**	Pn	Pn	09 03 52.5	+3.4
	1.7nm,0.3s,baz=97,slow=16,SNR=13						
ZALV				Pg	**Pb**	**09 03 57.0**	**+0.2**
	3.2nm,0.3s,baz=96,slow=16,SNR=28						
ZALV				Lg	Lg	09 04 48.3	
	5.8nm,0.3s,baz=92,slow=32,SNR=9.5						
KURK	**Kurchatov**	**8.15**	**251**	⇓Pn	**Pn**	**09 04 52.5**	**0.0**
	6.6nm,1.0s						
KURK				⇑Sn	**Sn**	**09 06 26.6**	**+2.1**
	25nm,1.0s						
KURK				⇓Lg	Lg	09 07 10.8	
	33nm,0.8s						
KURBB	**Kurchatov Arra**	**8.25**	**251**	⇑Pn	**Pn**	**09 04 54.2**	**+0.5**
	1.6nm,0.6s						
KURBB				⇑Sn	**Sn**	**09 06 28.5**	**+1.6**
	5.8nm,0.8s						
KURBB				⇑Lg	Lg	09 07 14.0	
	16nm,0.8s						
KURBB	**Kurchatov Arra**	**8.25**	**251**	Pn	**Pn**	**09 04 54.6**	**+0.9**
	0.7nm,0.3s,baz=64,slow=14,SNR=12						
KURBB				Sn	**Sn**	**09 06 25.3**	**-1.6**
	0.2nm,0.3s,baz=65,slow=25,SNR=4.6						
KURBB				Lg	Lg	09 07 15.0	
	0.4nm,0.3s,baz=67,slow=36,SNR=6.4						
MK31	**Makanchi Array**	**9.03**	**220**	Pn	**Pn**	**09 05 04.4**	**-0.2**
	1.3nm,0.6s,baz=39,slow=12,SNR=22						
MK31				⇓Pg		09 05 33.7	
	2.3nm,0.6s,baz=41,slow=15,SNR=3.9						
MK31				Sn	**Sn**	**09 06 47.5**	**+1.2**
	8.0nm,0.9s,baz=48,slow=22,SNR=5.6						
MK31				⇑Lg	Lg	09 07 28.4	
	33nm,1.0s,baz=37,slow=29,SNR=3.8						
MKAR	**Makanchi Array**	**9.03**	**220**	Pn	**Pn**	**09 05 04.4**	**-0.2**
	0.5nm,0.3s,baz=42,slow=14,SNR=16						
MKAR				Sn	**Sn**	**09 06 45.0**	**-1.3**
	0.4nm,0.3s,baz=45,slow=22,SNR=6.0						
MKAR				Lg	Lg	09 07 32.9	
	0.2nm,0.3s,baz=38,slow=31,SNR=5.2						
SONM	**Songino Array**	**11.61**	**116**	Lg	Lg	09 08 50.8	
	0.2nm,0.3s,baz=303,slow=24,SNR=11						
BVAR	**Borovoye Array**	**12.19**	**274**	Pn	Pn	09 05 51.1	+3.4
	0.1nm,0.3s,baz=77,slow=16,SNR=2.6						
BVAR				Sn	**Sn**	**09 08 00.9**	**-2.6**
	0.3nm,0.3s,baz=77,slow=22,SNR=3.7						
AAK	**Ala-Archa**	**15.68**	**230**	Lg	Lg	09 11 02.1	
	0.1nm,0.3s,baz=315,slow=20,SNR=3.2						
AKTO	**Aktyubinsk**	**20.29**	**273**	P	Pn	09 07 35.4	+3.5
	1.0nm,0.8s,baz=79,slow=10,SNR=4.2						
ILAR	**Eielson Array**	**53.55**	**27**	P	**P**	**09 12 14.7**	**+0.1**
	0.2nm,0.6s,baz=314,slow=4.7,SNR=5.8						
YKA	**Yellowknife Ar**	**62.14**	**13**	P	**P**	**09 13 14.6**	**-0.2**
	0.1nm,0.5s,baz=340,slow=6.7,SNR=3.9						
TORD	**Torodi Ar. Bea**	**78.96**	**277**	P	**P**	**09 14 58.5**	**+0.3**
	0.5nm,0.8s,baz=34,slow=8.1,SNR=3.0						

IDC 06 09:15:58.2±2.9,18°.98N×39°.35E,h0km,mb3.5/3, mb1 3.5/3,mb1mx3.3/24,mbtmp3.5/3,Error ellipse: s-maj=72.9km s-min=33.1km az=151.0,Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**21.25**	**348**	P	P	09 20 46.1	-0.1
	0.8nm,0.6s,baz=167,slow=8.9,SNR=6.7						
TORD	**Torodi Ar. Bea**	**36.60**	**267**	P	P	09 23 06.3	-0.1
	1.0nm,0.9s,baz=83,slow=7.1,SNR=4.4						
MKAR	**Makanchi Array**	**44.69**	**42**	P	P	09 24 12.8	-0.1
	0.5nm,0.7s,baz=235,slow=7.8,SNR=6.4						

IDC 06 09:26:25.0±2.0,0°.40S×127°.50E,h0km,mb3.4/3, mb1 3.7/3,mb1mx3.4/17,mbtmp3.5/3,Error ellipse: s-maj=155.4km s-min=25.1km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.55**	**161**	P	P	09 31 05.8	+0.4
	0.6nm,0.3s,baz=340,slow=11,SNR=14						
ASAR	**Alice Springs**	**23.95**	**165**	P	P	09 31 40.9	-0.3
	1.1nm,0.5s,baz=343,slow=9.7,SNR=12						
MKAR	**Makanchi Array**	**61.38**	**326**	P	P	09 36 42.9	0.0
	0.1nm,0.3s,baz=116,slow=7.9,SNR=3.8						

*ISK **06** 09:36:47.9,38°.16N×28°.90E,h12km,MD3.2*
*DDA **06** 09:36:50.6,38°.22N×28°.71E,h7km,MD2.8*
*CSEM **06** 09:36:50.2±0.3,38°.18N×28°.74E,h20km,MD2.8,Error ellipse: s-maj=8.9km s-min=6.3km az=82.0*
ISC 06 09:36:49.8±1.1,38°.19N±0°.03×28°.78E±0°.04,h14km±9km, n26,σ1§12/40,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANT	**Manisa**	**0.35**	**330**	*i* P	**Pg**	**09 36 57.2**	**+0.2**
MANT				*i* S	**Sg**	**09 37 01.3**	**-0.5**
MANT	**Manisa**	**0.35**	**330**	*i* P	**Pg**	**09 36 57.2**	**+0.2**
MANT				*i* S	**Sg**	**09 37 01.3**	**-0.5**
DNZL	**Cakiroluk**	**0.54**	**157**	*i* P	**Pn**	**09 37 02.9**	**-0.3**
DNZL				*i* S	**Sb**	**09 37 10.9**	**+2.1**
DNZL	**Cakiroluk**	**0.54**	**157**	*i* P	**Pn**	**09 37 02.9**	**-0.3**
DNZL				*i* S	**Sb**	**09 37 10.9**	**+2.1**
KHAL	**Karahalli**	**0.59**	**72**	*i* P	**Pn**	**09 37 03.4**	**-0.5**
KHAL				*i* S	**Sb**	**09 37 11.2**	**+0.9**
KHAL	**Karahalli**	**0.59**	**72**	*i* P	**Pn**	**09 37 03.4**	**-0.5**
KHAL				*i* S	**Sb**	**09 37 11.2**	**+0.9**
DEMI	**Demirci**	**0.85**	**357**	*i* P	**Pg**	**09 37 06.8**	**+0.5**
DEMI				*i* S	**Sb**	**09 37 17.2**	**-0.5**
DEMI	**Demirci**	**0.85**	**357**	*i* P	**Pg**	**09 37 06.8**	**+0.5**
DEMI				*i* S	**Sb**	**09 37 17.2**	**-0.5**
AKS	**Akhisar**	**1.02**	**313**	*e*Pn	**Pg**	**09 37 09.8**	**+0.3**
AKS	**Akhisar**	**1.02**	**313**	*e*Pn	**Pg**	**09 37 09.8**	**+0.3**
GDZ	**Gediz**	**1.05**	**31**	*i* P	**Pg**	**09 37 11.2**	**+1.0**
GDZ				*i* S	**Sn**	**09 37 26.3**	**+1.5**
GDZ	**Gediz**	**1.05**	**31**	*i* P	**Pg**	**09 37 11.2**	**+1.0**
GDZ				*i* S	**Sn**	**09 37 26.3**	**+1.5**
YER	**Yerkesik**	**1.12**	**201**	*e*PN	**Pn**	**09 37 10.1**	**-1.0**
YER				*e*SN	**Sb**	**09 37 25.8**	**+0.3**
YER	**Yerkesik**	**1.12**	**201**	*e*Pn	**Pn**	**09 37 10.1**	**-1.0**
YER				*e*Sn	**Sb**	**09 37 25.8**	**+0.3**
IZM	**Izmir**	**1.21**	**280**	*e*PN	**Pb**	**09 37 12.5**	**+0.1**
IZM	**Izmir**	**1.21**	**280**	*e*Pn	**Pb**	**09 37 12.5**	**+0.1**
ALT	**Altintas**	**1.36**	**50**	*e*PN	**Pn**	**09 37 12.4**	**-2.0**
ALT				*e*SN	**Sn**	**09 37 30.5**	**-1.7**
ALT	**Altintas**	**1.36**	**50**	*e*Pn	**Pn**	**09 37 12.4**	**-2.0**
ALT				*e*Sn	**Sn**	**09 37 30.5**	**-1.7**
DST	**Dursunbey**	**1.42**	**355**	*e*PN	**Pn**	**09 37 15.1**	**-0.1**
DST	**Dursunbey**	**1.42**	**355**	*e*Pn	**Pn**	**09 37 15.1**	**-0.1**
FETY	**Fethiye**	**1.57**	**171**	*e*PN	**Pn**	**09 37 16.0**	**-1.2**
FETY	**Fethiye**	**1.57**	**171**	*e*Pn	**Pn**	**09 37 16.0**	**-1.2**
ELL	**Elmali**	**1.70**	**148**	*e*PN	**Pn**	**09 37 17.3**	**-1.7**
ELL	**Elmali**	**1.70**	**148**	*e*Pn	**Pn**	**09 37 17.3**	**-1.7**
GONE	**Gonen-Balikesi**	**2.04**	**336**	*e*PN	**Pn**	**09 37 24.2**	**+0.6**
GONE	**Gonen-Balikesi**	**2.04**	**336**	*e*Pn	**Pn**	**09 37 24.2**	**+0.6**

*BJI **06** 09:59:40.2,7°.30S×123°.63E,h665km,mB4.6/26,mb5.0/55*
*MOS **06** 09:59:40.9±0.9,6°.80S×123°.20E,h620km,mb4.9/32,Error ellipse: s-maj=12.3km s-min=6.4km az=113.5*
*IDC **06** 09:59:44.9±0.6,6°.96S×123°.28E,h658km±6km,mb4.4/27, mb1 4.4/31,mb1mx4.4/32,mbtmp4.4/31,Error ellipse: s-maj=11.0km s-min=6.9km az=69.0*
*ISCJB **06** 09:59:44.1±0.2,7°.01S±0°.03×123°.28E±0°.03,h673km±3km, mb4.9/107,Error ellipse: s-maj=5.0km s-min=3.4km az=146.6*
*NEIC **06** 09:59:45.1±0.4,6°.94S×123°.24E,h659km±4km,mb5.0/42, Error ellipse: s-maj=6.7km s-min=3.8km az=61.0*
*DJA **06** 09:59:45,7°.13S×123°.25E,h650km,mb5.1/42*
ISC 06 09:59:44.4±0.3,7°.05S±0°.03×123°.29E±0°.05,h656km±3km, h658km:pP-P,n789,σ1§08/939,mb4.9/104,204C-206D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.89**	**213**	P	**P**	**10 01 02.9**	**-0.6**
KDI	**Kendari**	**3.14**	**348**	P	**P**	**10 01 09.8**	**+0.7**
BKSI	**Bulukumba**	**3.58**	**298**	P	**P**	**10 01 12.0**	**+0.4**
WSI	**Waingapu**	**3.94**	**228**	P	**P**	**10 01 14.0**	**+0.3**
KAPI	**Kappang**	**4.06**	**300**	*e*P	**P**	**10 01 14.7**	**+0.2**
KAPI				*e*S	**S**	**10 02 27.2**	**-0.6**
KAPI				S	S	10 02 27.8	+0.1
KAPI	**Kappang**	**4.06**	**300**	P	**P**	**10 01 15.1**	**+0.6**
	SNR=8.1						
KAPI	**Kappang**	**4.06**	**300**	P	**P**	**10 01 14.0**	**-0.5**
	4μm,0.6s,SNR=18						
KAPI	**Kappang**	**4.06**	**300**	P	**P**	**10 01 14.5**	**0.0**
KAPI	**Kappang**	**4.06**	**300**	P	**P**	**10 01 14.7**	**+0.2**
	40nm,0.3s,baz=145,slow=3.3,SNR=78						
KAPI				S	**S**	**10 02 27.8**	**+0.1**
	baz=54,slow=23,SNR=6.0						
BNSI	**Bone**	**4.12**	**310**	P	**P**	**10 01 15.7**	**+0.8**
SPSI	**Sidrap Palu**	**4.65**	**311**	P	**P**	**10 01 18.3**	**-0.2**
TTSI	**Tana Toraja**	**5.27**	**319**	P	**P**	**10 01 22.9**	**-0.1**
	2μm,0.8s,13μm4.7nm						
NLAI	**Namlea**	**5.36**	**45**	P	**P**	**10 01 23.5**	**-0.2**
	223nm,0.7s,7μm2.4nm						
MRSI	**Marisa**	**7.59**	**350**	P	**P**	**10 01 41.3**	**-0.9**
	1μm,0.8s,12μm5.1nm						
KMSI	**Cibinong**	**7.60**	**5**	P	**P**	**10 01 42.7**	**+0.4**
	2μm,0.8s,17μm6.7nm						
LBMI	**Labuha**	**7.63**	**34**	P	**P**	**10 01 43.6**	**+1.1**
	146nm,0.8s,2μm0.5nm						
KHKI	**Kahang-Kahang**	**7.72**	**260**	P	**P**	**10 01 42.5**	**-0.8**
	2μm,0.9s,12μm5.1nm						
KBKI	**Kotabaru**	**8.01**	**297**	P	**P**	**10 01 46.3**	**+0.4**
	765nm,1.0s,11μm2.3nm						
IGBI	**Denpasar**	**8.26**	**257**	P	**P**	**10 01 47.5**	**-0.6**
	469nm,0.6s,2.0nm						
NBBI	**Negara**	**8.69**	**261**	P	**P**	**10 01 50.7**	**-1.4**
	1μm,0.8s,12μm5.1nm						
TNTI	**Ternate**	**8.77**	**28**	P	**P**	**10 01 53.1**	**+0.2**
	138nm,1.1s,1.2nm						
SMKI	**Samarinda**	**8.93**	**317**	P	**P**	**10 01 55.9**	**+1.5**
	469nm,1.1s,7μm1.9nm						
BBKI	**Banjar Baru**	**9.13**	**293**	P	**P**	**10 01 57.1**	**+0.8**
	1μm,1.5s,13μm						
JAGI	**Jajag, Banyuwa**	**9.16**	**261**	P	**P**	**10 01 54.2**	**-2.3**
	962nm,0.7s,9μm						
KMMI	**Kalianget**	**9.25**	**269**	P	**P**	**10 01 59.2**	**+1.9**
	389nm,1.3s						
MTN	**Manton Dam**	**9.63**	**127**	*e*P	**P**	**10 02 01.4**	**+0.5**
MTN				*e*S	**S**	**10 03 52.4**	**-0.3**
BLJI	**Banyuglugur**	**9.64**	**265**	P	**P**	**10 02 00.2**	**-0.8**
	962nm,0.8s,7μm						
FAKI	**Fak Fak**	**9.82**	**66**	P	**P**	**10 02 05.0**	**+2.3**
	205nm,1.0s,2μm						
SWI	**Sorong**	**10.05**	**53**	P	**P**	**10 02 04.4**	**-0.4**
	97nm,0.9s						
PLKI	**Palangkaraya**	**10.47**	**297**	P	**P**	**10 02 08.8**	**-0.1**
	2μm,0.8s,14μm						
KRKI	**Karangkates**	**10.80**	**263**	P	**P**	**10 02 10.6**	**-1.4**
	745nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.22**	**168**	*e*P	**P**	**10 02 16.9**	**+0.9**
	162nm,0.8s						
FITZ				S	**S**	**10 04 19.8**	**0.0**
FITZ				*e*S	S	10 04 22.2	+2.4
FITZ	**Fitzroy Crossi**	**11.22**	**168**	*e*P	**P**	**10 02 16.8**	**+0.8**
	273nm,0.6s						
FITZ				*e*S	**S**	**10 04 20.6**	**+0.8**
FITZ	**Fitzroy Crossi**	**11.22**	**168**	P	**P**	**10 02 16.9**	**+0.9**
	19nm,0.3s,baz=0.8,slow=7.6,SNR=198						
FITZ				S	**S**	**10 04 19.8**	**0.0**
	7.0nm,0.3s,baz=340,slow=13,SNR=22						
PWJI	**Pagerwojo**	**11.43**	**264**	P	**P**	**10 02 17.1**	**-0.8**
	216nm,0.6s						
SJI	**Sawahan**	**11.45**	**266**	P	**P**	**10 02 17.7**	**-0.5**
	192nm,0.8s,5μm						
PCJI	**Pacitan**	**12.06**	**264**	P	**P**	**10 02 22.2**	**-1.5**
	316nm,0.7s						
PBKI	**Pangkalan Bun**	**12.35**	**290**	P	**P**	**10 02 27.4**	**+1.0**
	910nm,0.9s						
TSM	**Tawau**	**12.50**	**334**	P	**P**	**10 02 28.1**	**+0.4**
UGM	**Wanagama**	**12.69**	**265**	*e*P	**P**	**10 02 28.9**	**-0.6**
STKI	**Sintang**	**13.74**	**300**	P	**P**	**10 02 40.6**	**+1.5**
	143nm,1.4s						
SDKM	**Sandakan**	**13.99**	**334**	P	**P**	**10 02 42.4**	**+0.9**
TGJI	**Tegal**	**14.07**	**270**	P	**P**	**10 02 42.1**	**0.0**
	178nm,1.2s						
CLJI	**Cilicap**	**14.17**	**266**	P	**P**	**10 02 42.2**	**-0.9**
	242nm,1.1s						
DAV	**Davao City (W)**	**14.21**	**9**	S	**S**	**10 05 08.7**	**-0.5**
	50nm,0.3s,baz=90,slow=20,SNR=2.8						
BTM	**Bintulu**	**14.40**	**315**	P	**P**	**10 02 47.4**	**+2.2**
MBWA	**Marble Bar**	**14.45**	**193**	*e*P	**P**	**10 02 46.5**	**+1.1**
MBWA				*e*S	**S**	**10 05 13.4**	**+0.5**
SBUM	**Sibu**	**14.53**	**310**	P	**P**	**10 02 48.3**	**+1.9**
SBUM	**Sibu**	**14.53**	**310**	P	**P**	**10 02 47.9**	**+1.6**
	226nm,1.0s,2μm						
KDM	**Kudat**	**15.29**	**335**	P	**P**	**10 02 54.9**	**+1.6**
CISI	**Cisompet, Garu**	**15.36**	**267**	P	**P**	**10 02 53.7**	**-0.3**
	491nm,0.7s,4μm						
KSM	**Kuching**	**15.47**	**303**	*e*P	**P**	**10 02 56.4**	**+1.3**
	170nm,0.7s						
KSM	**Kuching**	**15.47**	**303**	P	**P**	**10 02 56.8**	**+1.7**
KSM	**Kuching**	**15.47**	**303**	P	**P**	**10 02 56.7**	**+1.7**
	250nm,0.7s,2μm						
LEM	**Lembang**	**15.56**	**270**	P	P	10 03 04.1	+8.1
WAMI	**Wamena**	**15.67**	**79**	P	**P**	**10 02 59.7**	**+2.9**
	316nm,0.7s,3μm						
CBJI	**Citeko**	**16.34**	**271**	P	**P**	**10 03 03.4**	**+0.5**
	480nm,0.7s						
WRA	**Warramunga Arr**	**16.71**	**141**	P	**P**	**10 03 07.3**	**+1.1**
WRA				S	**S**	**10 05 49.0**	**-0.9**
WRA				ScP	**ScP**	**10 09 48.6**	**-0.6**
WRA	**Warramunga Arr**	**16.71**	**141**	P	**P**	**10 03 07.3**	**+1.1**
	48nm,0.3s,baz=320,slow=10,SNR=2918						
WRA				S	**S**	**10 05 49.0**	**-0.9**
	1.7nm,0.3s,baz=314,slow=18,SNR=5.6						
WRA				ScP	**ScP**	**10 09 48.6**	**-0.6**
	1.6nm,0.3s,baz=321,slow=2.1,SNR=15						
WRAB	**Tennant Creek**	**16.71**	**141**	*e*P	**P**	**10 03 07.4**	**+1.2**
WRAB				pmax	pmax		
	comp=Z,209nm,0.7s						
WRAB	**Tennant Creek**	**16.71**	**141**	*e*P	**P**	**10 03 07.4**	**+1.2**
	comp=Z,209nm,0.7s						
WRAB	**Tennant Creek**	**16.71**	**141**	P	**P**	**10 03 07.0**	**+0.8**
	comp=Z,μm,0.6s						
AS31	**Alice Springs**	**19.42**	**149**	*e*P	**P**	**10 03 32.0**	**+1.4**
AS31				*e*S	**S**	**10 06 32.5**	**-0.6**
AS31				*e*ScP	**ScP**	**10 09 54.5**	**-0.6**
ASAR	**Alice Springs**	**19.42**	**149**	P	**P**	**10 03 32.1**	**+1.4**
ASAR				pP		10 04 57.6	
ASAR				S	**S**	**10 06 32.4**	**-0.7**
ASAR				PcP	**PcP**	**10 07 19.6**	**0.0**
ASAR				ScP	**ScP**	**10 09 54.4**	**-0.7**
ASAR				ScS	**ScS**	**10 13 34.2**	**-3.9**
ASAR				*e*		10 37 28.8	
ASAR	**Alice Springs**	**19.42**	**149**	P	**P**	**10 03 32.1**	**+1.4**
	comp=Z,13nm,0.3s,baz=343,slow=12,SNR=912						
ASAR				pP		10 04 57.6	
	comp=Z,0.5nm,0.3s,baz=330,slow=11,SNR=2.7						
ASAR				S	**S**	**10 06 32.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=324,slow=14,SNR=6.9						
ASAR				PcP	**PcP**	**10 07 19.6**	**0.0**
	comp=Z,0.8nm,0.3s,baz=350,slow=1.6,SNR=4.1						
ASAR				ScP	**ScP**	**10 09 54.4**	**-0.7**
	comp=Z,2.7nm,0.3s,baz=335,slow=2.1,SNR=28						
ASAR				ScS	**ScS**	**10 13 34.2**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=273,slow=5.1,SNR=5.0						
ASAR				P3KPbc		10 37 28.8	
	baz=135,slow=3.7,SNR=4.5						
COEN	**Coen**	**20.71**	**111**	*e*P	**P**	**10 03 42.9**	**+0.5**
	comp=Z,770nm,0.9s						
COEN				*e*ScP	**ScP**	**10 09 58.7**	**+0.4**
TGY	**Tagaytay City**	**21.14**	**354**	P	**P**	**10 03 46.7**	**+0.5**
TGY	**Tagaytay City**	**21.14**	**354**	P	**P**	**10 03 46.7**	**+0.5**
	comp=Z,107nm,0.6s,baz=212,slow=16,SNR=4.1						
PMG	**Port Moresby**	**23.74**	**97**	*e*P	**P**	**10 04 09.8**	**+0.7**
	comp=Z,81nm,0.8s						
PMG	**Port Moresby**	**23.74**	**97**	P	**P**	**10 04 10.0**	**+0.8**
	comp=Z,108nm,1.1s,comp=Z,1μm						
PMG	**Port Moresby**	**23.74**	**97**	P	**P**	**10 04 09.5**	**+0.3**
	comp=Z,49nm,0.6s,baz=311,slow=4.4,SNR=22						
FORT	**Forrest**	**24.03**	**170**	*e*P	**P**	**10 04 12.8**	**+1.3**
	comp=Z,217nm,0.7s						
FORT				*e*S	**S**	**10 07 45.7**	**+0.3**
FORT				*e*ScP	**ScP**	**10 10 06.9**	**+0.1**
FORT	**Forrest**	**24.03**	**170**	⇑*i*P	**P**	**10 04 12.7**	**+1.2**
	comp=Z,217nm,0.6s						
FORT				*e*		10 07 44.6	
KLBR	**Kellerberrin**	**24.96**	**191**	⇑*i*P	**P**	**10 04 20.5**	**+0.8**
	comp=Z

comp=Z,190nm,0.8s
HNR *e*pP **PP** **10 07 44.4 +1.5**
TOO **Toolangi** **36.47 150** *e*P **P** **10 05 59.7 +2.5**
comp=Z,142nm,0.5s
TOO *e*PP **PP** **10 07 46.2 +2.5**
TOO *e*PCP **PcP** **10 08 02.4 +0.2**
CAN **Canberra** **36.73 144** *e*P **P** **10 06 01.8 +2.4**
CAN pmax pmax
comp=Z,142nm,0.8s
CAN **Canberra** **36.73 144** *e*P **P** **10 06 01.8 +2.4**
comp=Z,142nm,0.8s
CAN *e*pP **PP** **10 07 46.5 +0.3**
CAN *e*ScP **ScP** **10 10 49.2 +0.1**
CNB **Canberra Magne** **36.94 143** *e*P **P** **10 06 03.2 +2.1**
comp=Z,258nm,0.7s
GYA **Guiyang** **37.01 335**⇑ *i*P **P** **10 06 01.2 -0.6**
GYA PcP **PcP** **10 08 05.4 +1.3**
GYA sP **sP** **10 09 03.0 +0.4**
GYA S **S** **10 11 07.5 +4.1**
GYA ScS **ScS** **10 15 01.6 +1.1**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
RIV **Riverview** **37.07 140** *e*P **P** **10 06 05.0 +2.9**
KMI **Kunming** **37.72 329** P **P** **10 06 08.9 +1.2**
KMI pmax pmax
comp=Z,25nm,0.9s
WHN **Wuhan** **38.35 348**⇓ P **P** **10 06 12.5 +0.1**
WHN pmax pmax
comp=Z,71nm,1.0s
CBIJ **Chichi jima** **38.56 28** P **P** **10 06 13.7 -0.5**
CBIJ **Chichi jima** **38.56 28** P **P** **10 06 13.7 -0.5**
comp=Z,59nm,0.5s,baz=229,slow=19
NJ2 **Nanjing** **39.11 354** *e*P **P** **10 06 18.2 -0.2**
NJ2 pmax pmax
comp=Z,70nm,0.7s
ENH **Enshi** **39.40 341** *e*P **P** **10 06 20.5 -0.3**
comp=Z,43nm,0.6s
ENH *e*pP **PcP** **10 08 12.1 +0.5**
JNU **Nakatsue** **40.59 10** *e*P **P** **10 06 29.9 -0.3**
comp=Z,12nm,0.9s
JNU PcP **PcP** **10 08 15.4 0.0**
JNU **Nakatsue** **40.59 10** P **P** **10 06 29.5 -0.7**
comp=Z,24nm,0.8s,baz=222,slow=2.3,SNR=14
JNU PcP **PcP** **10 08 15.4 0.0**
comp=Z,6.8nm,0.8s,baz=264,slow=0.2,SNR=4.4
CD2 **Chengdu** **42.12 335**⇓ P **P** **10 06 42.0 -0.3**
CD2 PcP **PcP** **10 08 20.5 -0.2**
CD2 pP **pP** **10 08 32.2 -0.2**
CD2 sP **sP** **10 09 45.7 -0.3**
CD2 ScP **ScP** **10 11 12.4 +2.2**
CD2 S **S** **10 12 20.3 +3.2**
CD2 sS **sS** **10 15 37.3 -1.1**
CD2 SS **SS** **10 15 48.3 +0.9**
CD2 pmax pmax
comp=Z,100nm,0.7s
CD2 pmax pmax
comp=Z,60nm,5.0s
XAN **Xi'an** **43.07 342** P **P** **10 06 48.8 -0.8**
XAN pmax pmax
comp=Z,46nm,0.7s
XAN pmax pmax
comp=Z,23nm,5.2s
DZM **Mont Dzumac** **44.18 114** *e*P **P** **10 06 60.0 +1.6**
comp=Z,45nm,1.0s
DZM *e*PcP **PcP** **10 08 30.1 +2.0**
KSAR **Wonju Array Be** **44.47 5** P **P** **10 07 00.5 +0.4**
KSAR PcP **PcP** **10 08 29.1 +0.6**
KSAR ScP **ScP** **10 11 19.9 +0.4**
KSRS **Korea Array** **44.48 5** P **P** **10 07 00.5 +0.3**
comp=Z,34nm,0.8s,baz=180,slow=8.6,SNR=115
KSRS PcP **PcP** **10 08 29.1 +0.5**
comp=Z,8.4nm,0.6s,baz=182,slow=3.1,SNR=17
KSRS ScP **ScP** **10 11 19.9 +0.3**
comp=Z,2.9nm,0.8s,baz=176,slow=4.0,SNR=7.4
SHL **Shillong** **44.53 318** *e*PKP **P** **10 07 02.0 +0.9**
MAJO **Matsushiro** **45.56 17** *e*P **P** **10 07 07.8 -0.7**
MAJO *e* 10 08 32.6
MAJO pmax pmax
comp=Z,35nm,0.9s
MAJO **Matsushiro** **45.56 17** *e*P **P** **10 07 07.8 -0.7**
comp=Z,35nm,0.9s
MAJO *e*PcP **PcP** **10 08 32.6 +0.1**
MAT **Matsushiro** **45.56 17** P **P** **10 07 07.7 -0.8**
MAT *e*S S 10 12 58.6 -6.6
MJAR **Matsushiro Arr** **45.56 17** P **P** **10 07 07.5 -0.9**
MJAR PcP **PcP** **10 08 32.5 0.0**
MJAR **Matsushiro Arr** **45.56 17** P **P** **10 07 07.5 -0.9**
comp=Z,38nm,0.7s,baz=194,slow=9.4,SNR=106
MJAR PcP **PcP** **10 08 32.5 0.0**
comp=Z,6.5nm,0.8s,baz=197,slow=4.0,SNR=6.1
DL2 **Dalian** **45.74 358** P **P** **10 07 08.9 -0.8**
DL2 pmax pmax
comp=Z,20nm,1.0s
LZH **Lanzhou** **46.64 338**⇑ P **P** **10 07 17.4 +0.7**
LZH PcP **PcP** **10 08 37.4 +0.9**
LZH pP **pP** **10 09 10.2 -0.5**
LZH PP **PP** **10 09 19.0 +2.4**
LZH sP **sP** **10 10 22.0 -1.0**
LZH S **S** **10 13 19.0 -1.3**
LZH sS **sS** **10 16 46.1 -0.8**
LZH pmax pmax
comp=Z,82nm,1.4s
LZH pmax pmax
comp=Z,240nm,4.9s
BJT **Baijiatuau** **47.29 353** *e*P **P** **10 07 20.5 -0.8**
comp=Z,52nm,0.6s
BJI **Beijing** **47.31 353** P **P** **10 07 20.6 -0.8**
BJI S **S** **10 13 31.9 +2.9**
BJI pmax pmax
comp=Z,89nm,0.7s
BJI pmax pmax
comp=Z,89nm,3.8s
LSA **Lhasa** **47.84 321** P **P** **10 07 27.1 +0.9**
LSA pmax pmax
comp=Z,90nm,0.7s
LSA **Lhasa** **47.84 321** *e*P **P** **10 07 27.1 +0.9**
LSA *e* 10 08 43.4
LSA pmax pmax
comp=Z,71nm,0.6s
LSA **Lhasa** **47.84 321** *e*P **P** **10 07 27.1 +0.9**
comp=Z,71nm,0.6s
LSA *e*PcP **PcP** **10 08 43.4 +2.0**
ODAN **Odare** **48.44 316**⇓ *i*P **P** **10 07 30.6 +0.3**
TAPN **Taplejung** **48.52 316** *e*P **P** **10 07 31.4 +0.4**
SNY **Shenyang** **48.64 0**⇑ P **P** **10 07 30.4 -0.8**
SNY pmax pmax
comp=Z,45nm,0.7s
RAMN **Ramite** **49.04 315**⇓ *i*P **P** **10 07 35.3 +0.5**
comp=Z,518nm,0.6s
JIRN **Jiri** **49.77 316**⇓ *i*P **P** **10 07 40.6 +0.4**
GUN **Gumba** **50.14 316**⇓ *i*P **P** **10 07 43.2 +0.3**
PKI **Pulchoki** **50.26 315**⇓ *i*P **P** **10 07 43.7 0.0**
comp=Z,244nm,0.5s
HYB **Hyderabad** **50.44 299** *i* P **P** **10 07 43.0 -1.8**
comp=Z,50nm,0.8s
KKN **Kakani** **50.48 315**⇓ *i*P **P** **10 07 45.4 +0.2**
comp=Z,195nm,0.8s
DMN **Daman** **50.49 315**⇓ *i*P **P** **10 07 45.6 +0.3**
comp=Z,140nm,0.6s
VLA **Vladivostok** **50.54 8** *d i*P **P** **10 07 44.6 -0.4**
VLA pmax pmax
comp=Z,66nm,1.1s
CN2 **Changchun** **50.65 2** *e*P **P** **10 07 44.7 -1.1**
CN2 pmax pmax
comp=Z,20nm,0.5s
GKN **Gorkha** **51.06 315**⇓ *i*P **P** **10 07 49.6 +0.3**
comp=Z,265nm,0.4s
GTA **Gaotai** **51.08 337**⇓ P **P** **10 07 49.5 +0.3**
GTA PcP **PcP** **10 08 53.8 +0.9**
GTA pP **pP** **10 09 48.3 +1.6**
GTA sP **sP** **10 10 58.8 +0.9**
GTA S **S** **10 14 19.6 -0.7**
GTA sS **sS** **10 17 50.3 -1.9**
GTA SS **SS** **10 18 11.0 +1.9**
GTA pmax pmax
comp=Z,46nm,1.1s
GTA pmax pmax
comp=Z,110nm,5.7s
USRK **Ussuriysk Arra** **51.61 8** P **P** **10 07 52.7 0.0**
comp=Z,39nm,0.6s,baz=193,slow=6.6,SNR=183
USRK ScP **ScP** **10 11 49.4 -0.4**
comp=Z,0.6nm,0.6s,baz=225,slow=4.2,SNR=5.0
KOLN **Koldanda** **51.66 314**⇓ *i*P **P** **10 07 54.0 +0.3**
comp=Z,460nm,0.7s
MDJ **Mudanjiang** **51.74 6** P **P** **10 07 53.8 +0.2**
MDJ pmax pmax
comp=Z,87nm,0.9s
MDJ pmax pmax
comp=Z,73nm,4.8s
MDJ **Mudanjiang** **51.74 6** *e*P **P** **10 07 53.8 +0.2**
comp=Z,64nm,0.8s
MDJ *e*PcP **PcP** **10 08 55.0 0.0**
DANN **Dangsing** **51.89 315**⇓ *i*P **P** **10 07 55.5 +0.1**
comp=Z,436nm,0.6s
ASAJ **Asahikawa** **53.83 17** *e*P **P** **10 08 08.7 +0.4**
comp=Z,15nm,0.9s
ASAJ **Asahikawa** **53.83 17** P **P** **10 08 08.5 +0.1**
comp=Z,31nm,0.8s,baz=241,slow=13,SNR=17
MSVF **Nonsavu** **54.36 107** *e*P **P** **10 08 14.2 +1.5**
MSVF *e* 10 09 04.8
MSVF *e**PP **PP** **10 10 21.5 -3.9**
MSVF pmax pmax
comp=Z,27nm,0.8s
MSVF **Nonsavu** **54.36 107** *e*P **P** **10 08 14.2 +1.5**
comp=Z,27nm,0.8s
MSVF *e*PcP **PcP** **10 09 04.8 -1.1**
MSVF *e*pP **PP** **10 10 21.5 -3.9**
MSVF **Nonsavu** **54.36 107** P **P** **10 08 14.0 +1.3**
comp=Z,284nm,0.6s,SNR=12
POO **Poona** **54.98 298** *e*PKP **P** **10 08 15.5 -1.4**
RPZ **Rata Peaks** **55.41 139** *e*P **P** **10 08 20.6 +1.1**
comp=Z,124nm,1.0s
HIA **Hailar** **56.16 357** *e*P **P** **10 08 24.6 +0.2**
comp=Z,48nm,1.1s
HIA *e*PcP **PcP** **10 09 12.7 +0.5**
HABR **Khabarovsk** **56.24 9** *e*P **P** **10 08 23.6 -1.3**
HABR *e**PP pP 10 10 16.2 -10
HABR *e**SP sP 10 11 20.9 -15
HABR *e*S **S** **10 15 28.6 +1.6**
HABR *i* 10 15 38.6
HABR *e* 10 17 10.2
HABR *e*SS **SS** **10 19 27.7 -1.7**
HABR pmax pmax
comp=Z,57nm,1.2s
HABR pmax pmax
comp=N,25nm,1.2s
HABR pmax pmax
comp=E,74nm,3.2s
HABR MLR MLR
comp=Z,57nm,19.0s
YSS **Yuzh-Sakhalins** **56.48 16** *e*P **P** **10 08 27.0 +0.5**
YSS pmax pmax
comp=Z,50nm,0.9s
YSS **Yuzh-Sakhalins** **56.48 16** *e*P **P** **10 08 26.9 +0.3**
comp=Z,97nm,1.1s
ULN **Ulaanbaatar** **56.52 347** *e*P **P** **10 08 26.6 -0.5**
comp=Z,40nm,0.9s
ULN *e*PcP **PcP** **10 09 13.9 0.0**
ULN **Ulaanbaatar** **56.52 347** P **P** **10 08 27.4 +0.3**
SNR=13
KLR **Kul'dur** **56.53 7** *e*P P 10 08 22.2 -4.7
KLR pmax pmax
comp=Z,45nm,1.6s
SONM **Songino Array** **56.65 346** P **P** **10 08 27.9 0.0**
SONM PcP **PcP** **10 09 14.2 -0.1**
SONM **Songino Array** **56.65 346** P **P** **10 08 27.9 0.0**
comp=Z,40nm,0.6s,baz=165,slow=8.2,SNR=350
SONM PcP **PcP** **10 09 14.2 -0.1**
comp=Z,7.3nm,0.8s,baz=163,slow=5.4,SNR=4.7
DDI **Dehra Dun** **57.10 313** *ex* **P** **10 08 29.0 -2.2**
URZ **Urewera** **57.56 131** *e*P **P** **10 08 34.5 +0.4**
comp=Z,42nm,0.7s
ZAK **Zakamensk** **59.77 345**⇑ *i*P **P** **10 08 47.3 -1.4**
ZAK *e* 10 09 25.6
ZAK pmax pmax
comp=Z,9.0nm,1.1s
WMQ **Urumqi** **59.99 331**⇓ *i*P **P** **10 08 50.5 +0.2**
WMQ PcP **PcP** **10 09 28.7 +0.9**
WMQ pP **pP** **10 10 56.0 +1.8**
WMQ PcS **PcS** **10 13 26.0 -5.0**
WMQ *e*S **S** **10 16 13.5 -1.0**
WMQ pmax pmax
comp=Z,48nm,0.7s
WMQ pmax pmax
comp=Z,170nm,5.6s
TLY **Talaya** **60.88 346** *e*P **P** **10 08 54.1 -1.7**
TLY *e* 10 09 30.4
TLY *e* 10 16 27.5
TLY pmax pmax
comp=Z,22nm,0.9s
TLY **Talaya** **60.88 346** *e*P **P** **10 08 56.2 +0.3**
comp=Z,25nm,1.1s
TLY **Talaya** **60.88 346** P **P** **10 08 56.6 +0.7**
SNR=8.0
TLY **Talaya** **60.88 346** P **P** **10 08 56.9 +1.1**
comp=Z,154nm,0.9s,SNR=8.8
MOY **Mondy** **61.54 344** *e*P **P** **10 09 00.6 +0.4**
MOY pmax pmax
comp=Z,28nm,1.5s
CLNS **Chul'man** **63.67 1** *e*P **P** **10 09 13.5 -0.2**
CLNS *e* 10 09 42.0
CLNS pmax pmax
comp=Z,34nm,0.6s
CLNS pmax pmax
comp=E,12nm,0.7s
CLNS pmax pmax
comp=N,27nm,0.8s
CLNS pmax pmax
comp=Z,4.0nm,1.1s
KSH **Kashi** **63.69 321**⇓ *i*P **P** **10 09 14.0 -0.2**
KSH PcP **PcP** **10 09 44.6 +1.5**
KSH PP **PP** **10 11 47.5 +0.8**
KSH S **S** **10 17 03.8 +4.0**
KSH ScS **ScS** **10 18 06.6 +2.2**
KSH SS **SS** **10 21 29.3 +3.7**
MK31 **Makanchi Array** **64.78 330** *e*P **P** **10 09 20.7 -0.1**
MK31 *e* 10 09 47.5
MK31 **Makanchi Array** **64.78 330** *e*P **P** **10 09 20.7 -0.1**
MK31 *e*PcP **PcP** **10 09 47.5 +0.2**
MKAR **Makanchi Array** **64.78 330** *i* P **P** **10 09 20.8 0.0**
MKAR pmax pmax
comp=Z,61nm,0.7s
MKAR **Makanchi Array** **64.78 330** P **P** **10 09 20.8 0.0**
MKAR PcP **PcP** **10 09 47.3 0.0**
MKAR **Makanchi Array** **64.78 330** P **P** **10 09 20.8 0.0**
comp=Z,61nm,0.7s,baz=133,slow=7.8,SNR=726
MKAR PcP **PcP** **10 09 47.3 0.0**
comp=Z,12nm,0.6s,baz=156,slow=4.6,SNR=8.2
BOD **Bodaibo** **65.09 355**⇑ *i*P **P** **10 09 22.3 -0.1**
BOD pmax pmax
comp=Z,59nm,1.0s
ULHL **Ulahol** **65.13 323** P **P** **10 09 23.5 +0.2**
SNR=8.0
ULHL P **P** **10 09 23.5 +0.2**
SNR=8.0
KZA **Kyzart** **65.63 323** P **P** **10 09 27.2 +0.5**
SNR=43
KZA P **P** **10 09 27.2 +0.5**
SNR=43
KBL **Kabul** **65.80 313** *e*P **P** **10 09 27.4 -0.2**
KBL pmax pmax
comp=Z,71nm,0.8s
KBL **Kabul** **65.80 313** *e*P **P** **10 09 27.4 -0.2**
comp=Z,71nm,0.8s
TKM2 **Tokmak 2** **65.92 323** P **P** **10 09 28.4 +0.2**
SNR=32
TKM2 P **P** **10 09 28.4 +0.2**
SNR=32
KBK **Karagaybulak** **66.15 323** P **P** **10 09 30.1 +0.5**
SNR=12
KBK P **P** **10 09 30.1 +0.5**
SNR=12
AAK **Ala-Archa** **66.41 323** *e*P **P** **10 09 31.3 +0.2**
AAK 10 09 55.4
AAK pmax pmax
comp=Z,193nm,0.6s
AAK **Ala-Archa** **66.41 323** *e*P **P** **10 09 31.3 +0.2**
comp=Z,193nm,0.6s
AAK PcP **PcP** **10 09 55.4 +1.0**
AAK *e*PcP PcP 10 09 55.7 +1.2
AAK **Ala-Archa** **66.41 323** P **P** **10 09 31.0 -0.1**
comp=Z,450nm,0.6s,SNR=29
AAK **Ala-Archa** **66.41 323** P **P** **10 09 30.0 -1.1**
SNR=41
AAK P **P** **10 09 30.0 -1.1**
SNR=41
AAK **Ala-Archa** **66.41 323** P **P** **10 09 31.6 +0.5**
comp=Z,50nm,0.6s,baz=126,slow=5.4,SNR=129
AAK PcP **PcP** **10 09 55.4 +1.0**
comp=Z,14nm,0.8s,baz=135,slow=5.4,SNR=6.1
FRU **Bishkek** **66.45 323** *e*P **P** **10 09 30.0 -1.2**
CHMS **Chumysh** **66.46 323** P **P** **10 09 31.2 -0.1**
SNR=6.4
CHMS P **P** **10 09 31.2 -0.1**
SNR=6.4
AML **Almayashu** **66.60 322** P **P** **10 09 33.1 +0.4**
SNR=68
AML P **P** **10 09 33.1 +0.4**
SNR=68
PEA0B **Petropavlovsk-** **66.64 22** *e*P **P** **10 09 33.1 +0.9**
PETK **Petropavlovsk-** **66.64 22** P **P** **10 09 32.8 +0.6**
PETK 10 09 54.4
PETK **Petropavlovsk-** **66.64 22** P **P** **10 09 32.8 +0.6**
PETK PcP **PcP** **10 09 54.4 -0.5**
PETK **Petropavlovsk-** **66.64 22** P **P** **10 09 32.8 +0.6**
comp=Z,33nm,0.8s,baz=205,slow=4.7,SNR=92
PETK PcP **PcP** **10 09 54.4 -0.5**
comp=Z,3.9nm,0.5s,baz=215,slow=4.8,SNR=5.9
USP **Ospenovka** **66.77 323** P **P** **10 09 33.3 +0.1**
SNR=5.8
USP P **P** **10 09 33.3 +0.1**
SNR=5.8
EKS2 **Erkin-Say** **66.85 322** *e*P **P** **10 09 34.3 +0.5**
EKS2 *e* 10 09 57.4
EKS2 pmax pmax
comp=Z,35nm,0.9s
EKS2 **Erkin-Say** **66.85 322** *e*P **P** **10 09 34.3 +0.5**
comp=Z,35nm,0.9s
EKS2 *e*PcP **PcP** **10 09 57.4 +1.1**
EKS2 **Erkin-Say** **66.85 322** P **P** **10 09 34.4 +0.6**
SNR=41
EKS2 P **P** **10 09 34.4 +0.6**
SNR=41
PET **Petropavlovsk** **66.93 22** *i* P **P** **10 09 33.5 -0.4**
PET pmax pmax
comp=Z,33nm,1.2s
PET **Petropavlovsk** **66.93 22** *e*P **P** **10 09 34.3 +0.4**
comp=Z,11nm,0.7s
ZAA0 **Zalesovo Array** **68.84 337** *e*P **P** **10 09 44.3 -1.1**
ZALV **Zalesovo Beam** **68.84 337** P **P** **10 09 44.5 -0.9**
ZALV **Zalesovo Beam** **68.84 337** P **P** **10 09 44.5 -0.9**
ZALV **Zalesovo Beam** **68.84 337** P **P** **10 09 44.5 -0.9**
comp=Z,69nm,0.7s,baz=138,slow=4.6,SNR=216
YAK **Yakutsk** **69.05 3** *e*P **P** **10 09 45.4 -1.0**
YAK *e* 10 09 58.8
YAK pmax pmax
comp=Z,112nm,0.9s
YAK pmax pmax
comp=N,46nm,1.4s
YAK pmax pmax
comp=E,15nm,1.1s
YAK **Yakutsk** **69.05 3** *e*P **P** **10 09 46.3 -0.1**
comp=E,134nm,0.8s
KKAR **Karatay Array** **69.10 321** *e*P **P** **10 09 46.8 -0.4**
KKAR pmax pmax
comp=Z,5.0nm,0.6s
KKAR **Karatay Array** **69.10 321** *e*P **P** **10 09 46.8 -0.4**
comp=Z,4.6nm,0.6s
KURBB **Kurchatov Arra** **69.21 331** P **P** **10 09 47.5 -0.1**
comp=Z,32nm,0.7s,baz=143,slow=5.0,SNR=223
KURBB pP **pP** **10 11 56.9 -0.3**
comp=Z,0.8nm,0.5s,baz=123,slow=6.8,SNR=1.9
KURK **Kurchatov** **69.23 331** *e*P **P** **10 09 47.7 -0.1**
KURK *PP **pP** **10 11 56.9 -0.5**
KURK pmax pmax
comp=Z,66nm,0.8s
KURK **Kurchatov** **69.23 331** *e*P **P** **10 09 47.7 -0.1**
comp=Z,66nm,0.8s
KURK pP **pP** **10 11 56.9 -0.5**
KURK **Kurchatov** **69.23 331** P **P** **10 09 48.0 +0.2**
SNR=22
KURK **Kurchatov** **69.23 331** P **P** **10 09 47.0 -0.7**
comp=Z,462nm,0.8s,SNR=50
NVS **Novosibirsk** **70.12 337** *e*P **P** **10 09 51.7 -1.2**
NVS pmax pmax
comp=Z,34nm,0.8s
NVS pmax pmax
comp=N,12nm,0.7s
NVS pmax pmax
comp=E,14nm,0.6s
SMDO **Samad** **70.40 297**⇑ P **P** **10 09 55.3 -0.1**
SNR=6.6
BSY **Bisya** **71.06 297**⇑ P **P** **10 09 59.1 -0.1**
SNR=5.2
HOQ **Hoqain** **71.20 298**⇑ P **P** **10 10 00.1 +0.1**
SNR=7.1
ARQ **Araqi** **71.83 297**⇑ P **P** **10 10 03.5 -0.1**
SNR=5.6
SEY **Seymchan** **73.24 13**⇑ *i*P **P** **10 10 10.9 +0.2**
BVAR **Borovoye Array** **74.66 330** P **P** **10 10 18.9 -0.1**
BVAR **Borovoye Array** **74.66 330** P **P** **10 10 18.9 -0.1**
BVAR **Borovoye Array** **74.66 330** P **P** **10 10 18.9 -0.1**
comp=E,31nm,0.7s,baz=130,slow=6.7,SNR=171
BRVK **Borovoye** **74.73 330** *e*P **P** **10 10 19.2 -0.2**
BRVK pmax pmax
comp=Z,51nm,0.9s
BRVK **Borovoye** **74.73 330** *e*P **P** **10 10 19.2 -0.2**
comp=Z,51nm,0.9s
BRVK **Borovoye** **74.73 330** P **P** **10 10 19.0 -0.4**
comp=Z,322nm,1.2s,SNR=29
ABKT **Ailbek** **75.23 312** P **P** **10 10 23.7 +1.2**
comp=Z,490nm,0.5s,SNR=18
ABKAR **Akbulak array** **78.48 323** *e*P **P** **10 10 39.5 -0.3**
comp=Z,25nm,0.6s
AKTO **Aktyubinsk** **80.11 324** P **P** **10 10 48.2 -0.1**
AKTO **Aktyubinsk** **80.11 324** P **P** **10 10 48.1 -0.1**
AKTO PKKPbc **PKKPbc** **10 29 27.0 -1.5**
AKTO **Aktyubinsk** **80.11 324** P **P** **10 10 48.1 -0.1**
comp=Z,44nm,0.6s,baz=108,slow=7.2,SNR=217
AKTO PKKPbc **PKKPbc** **10 29 27.0 -1.5**
comp=Z,0.6nm,0.4s,baz=222,slow=3.3,SNR=4.0
QRN **Al-Qurain** **80.69 301** *e*P **P** **10 10 51.6 -0.1**
QRN AMb AMB 10 10 52.4
comp=Z,112nm,0.6s
BILL **Bilibino** **80.78 15**⇓ *e*P **P** **10 10 50.5 -0.9**
BILL *PP **pP** **10 13 05.0 -2.0**
BILL 10 14 14.0
BILL pmax pmax
comp=Z,7.0nm,1.3s
BILL **Bilibino** **80.78 15** *e*P **P** **10 10 51.0 -0.3**
comp=Z,4.1nm,0.7s
KBD **Kabd** **80.98 301** *e*P **P** **10 10 52.8 -0.4**
KBD AMb AMB 10 10 53.5
comp=Z,16nm,0.6s
RDF **Al-Radifah** **81.04 301** *e*P **P** **10 10 53.5 -0.1**
RDF AMb AMB 10 10 55.6
comp=Z,84nm,0.7s
SYO **Syowa Base** **81.20 201**⇑ *e*X **P** **10 10 52.4 -1.1**
SYO **Syowa Base** **81.20 201**⇓ *e*PcP **PcP** **10 10 57.6 +0.1**
NAY **Al-Naaiem** **81.38 301** *e*P **P** **10 10 54.8 -0.5**
NAY AMb AMB 10 10 56.1
comp=Z,45nm,1.5s
MIB **Mutribah** **81.42 301** *e*P **P** **10 10 55.2 -0.3**
MIB AMb AMB 10 10 56.7
comp=Z,80nm,0.9s
SVE **Sverdlovsk** **81.44 330**⇓ *i*P **P** **10 10 55.1 +0.2**
SVE pmax pmax
comp=Z,48nm,1.0s
RAYN **Ar Rayn** **81.70 295** P **P** **10 10 57.5 +0.4**
comp=Z,423nm,0.8s,SNR=28
ARU **Arti** **82.30 330** *d i*P **P** **10 10 58.6 -0.7**
ARU 10 14 18.7
ARU S **S** **10 20 17.4 -5.0**
ARU pmax pmax
comp=Z,50nm,1.7s
ARU **Arti** **82.30 330** *e*P **P** **10 10 58.8 -0.5**
comp=Z,12nm,0.4s
SOKR **Solikamsk** **84.46 332** *d i*P **P** **10 11 08.9 -0.9**
SOKR pmax pmax
comp=Z,40nm,0.9s
DGRG **David-gareji** **85.65 313** P **P** **10 11 17.4 +1.3**
KMBO **Kilima Mbogo** **85.93 269** *e*P **P** **10 11 19.5 +1.3**
comp=Z,16nm,1.1s
TBLG **Delisi** **86.18 313** P **P** **10 11 19.1 +0.6**
TBLG **Delisi** **86.18 313** P **P** **10 11 19.1 +0.6**
ZEI **Tsey** **87.01 314** *e*P **P** **10 11 22.0 -0.7**
ZEI pmax pmax
comp=Z,9.0nm,0.5s
AKH **Akhalkalaki** **87.02 312** P **P** **10 11 23.2 +0.6**
ONI **Oni** **87.30 313** P **P** **10 11 24.3 +0.5**
KIV **Kislovodsk** **88.12 315**⇑ *e*P **P** **10 11 27.7 0.0**
KIV pmax pmax
comp=Z,9.0nm,1.0s
VRHR **Novokhopersk** **90.22 321** *e*P **P** **10 11 35.8 -1.2**

VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,8.0nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s
VORD Divnogorie 91.65 321 *e*P **P 10 11 42.1 -1.5**
VORD pmax pmax
comp=Z,20nm,0.8s
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.9s
VSR Storozhevoye 91.77 321 *e*P **P 10 11 43.0 -1.2**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,3.0nm,0.3s
VSR pmax pmax
comp=E,1.0nm,0.3s
KLMR Klimovskoe 93.07 331 *e*P P 10 11 46.2 -3.7
KLMR pmax pmax
comp=Z,35nm,1.3s
BOSA Boshof 93.66 241 P **P 10 11 53.8 +0.2**
BOSA Boshof 93.66 241 P **P 10 11 53.8 +0.2**
comp=Z,6.8nm,0.7s,baz=109,slow=5.7,SNR=14
OBN Obninsk 93.85 325 *be*P **P 10 11 52.3 -1.3**
OBN pmax pmax
comp=Z,28nm,1.2s
BR131 Keskin Array S 94.18 309 *e*P **P 10 11 54.5 -1.2**
comp=Z,1.8nm,0.7s
BRTR Keskin Array B 94.18 309 P **P 10 11 54.5 -1.2**
BRTR PP **PP 10 15 52.9 -1.8**
BRTR Keskin Array B 94.18 309 P **P 10 11 54.5 -1.2**
comp=Z,3.9nm,0.7s,baz=113,slow=5.3,SNR=23
BRTR PP **PP 10 15 52.9 -1.8**
comp=Z,0.5nm,0.8s,baz=109,slow=9.3,SNR=3.6
COLD Coldfoot 95.09 23 *e*P **P 10 11 59.3 +0.3**
comp=Z,8.7nm,1.1s
MCK McKinley 95.28 27 *e*P **P 10 11 58.7 -1.2**
MCK pmax pmax
comp=Z,7.0nm,0.8s
MCK McKinley 95.28 27 *e*P **P 10 11 58.7 -1.2**
comp=Z,7.1nm,0.8s
ILAR Eielson Array 96.25 26 P **P 10 12 02.0 -2.2**
ILAR PKiKP **PKiKP 10 16 36.0 -1.6**
ILAR PKKPbc **PKKPdf 10 28 47.1 -2.3**
ILAR Eielson Array 96.25 26 P **P 10 12 02.0 -2.2**
comp=Z,1.9nm,0.7s,baz=239,slow=5.3,SNR=27
ILAR PKiKP **PKiKP 10 16 36.0 -1.6**
comp=Z,0.2nm,0.6s,baz=293,slow=3.7,SNR=4.2
ILAR PKKPbc **PKKPdf 10 28 47.1 -2.3**
comp=Z,0.6nm,0.7s,baz=104,slow=2.4,SNR=9.9
JOF Joensuu 97.12 333 *e*P Pdif 10 12 05.0 -3.1
JOF pmax pmax
comp=Z,2.0nm,0.6s
JOF Joensuu 97.12 333 *ep* Pdif 10 12 05.0 -3.1
comp=Z,2.2nm,0.6s
AKASG Malin Array Be 97.98 320 P Pdif 10 12 10.6 -1.6
AKASG Malin Array Be 97.98 320 P Pdif 10 12 10.6 -1.6
AKASG Malin Array Be 97.98 320 P Pdif 10 12 10.6 -1.6
comp=Z,4.9nm,0.5s,baz=75,slow=4.9,SNR=4.1
ARCES ARCESS Array B 99.29 339 P **Pdif 10 12 15.9 -1.8**
ARCES PKiKP **PKiKP 10 16 42.4 -0.5**
ARCES ARCESS Array B 99.29 339 P **Pdif 10 12 15.9 -1.8**
comp=Z,1.9nm,0.5s,baz=87,slow=5.9,SNR=11
ARCES PKiKP **PKiKP 10 16 42.4 -0.5**
comp=Z,3.5nm,0.8s,baz=90,slow=2.4,SNR=6.2
KAF Kangasniemi 99.46 332 *e*P **Pdif 10 12 16.0 -2.5**
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 99.46 332 *ep* **Pdif 10 12 16.0 -2.5**
comp=Z,1.8nm,0.5s
FINES FINESS Array B 99.60 331 P **Pdif 10 12 17.7 -1.5**
FINES PKiKP **PKiKP 10 16 43.4 -0.2**
FINES FINESS Array B 99.60 331 P **Pdif 10 12 17.7 -1.5**
comp=Z,1.6nm,0.6s,baz=62,slow=4.9,SNR=6.5
FINES PKiKP **PKiKP 10 16 43.4 -0.2**
comp=Z,1.6nm,0.4s,baz=118,slow=3.3,SNR=9.0
NOA NORSAR Array B 106.74 332 Pdif **Pdif 10 12 48.9 -2.1**
NOA PKiKP **PKiKP 10 16 56.3 -0.5**
NOA NORSAR Array B 106.74 332 Pdiff **Pdif 10 12 48.9 -2.1**
comp=Z,0.9nm,0.7s,baz=74,slow=4.6,SNR=3.5
NOA PKiKP **PKiKP 10 16 56.3 -0.5**
comp=Z,1.0nm,0.6s,baz=262,slow=3.2,SNR=3.9
CLL Collm 108.11 322 *e*PKiKP **PKiKP 10 17 00.0 +0.4**
GERES GERESS Array B 108.14 319 PKiKP **PKiKP 10 16 59.5 -0.4**
GERES GERESS Array B 108.14 319 PKiKP **PKiKP 10 16 59.5 -0.4**
comp=Z,0.7nm,0.5s,baz=56,slow=1.8,SNR=6.2
MYKA Terra Mystica 108.56 317 ⇑*i*P **PKiKP 10 17 01.4 +0.7**
MYKA Terra Mystica 108.56 317 ⇑*i*PKiKP **PKiKP 10 17 01.4 +0.7**
comp=Z,4.4nm,0.9s
ABTA Abfaltersbach 109.31 317 ⇑*i*P **PKiKP 10 17 01.6 -0.5**
ABTA Abfaltersbach 109.31 317 ⇑*i*PKiKP **PKiKP 10 17 01.6 -0.5**
comp=Z,5.2nm,0.7s
WTTA Wattenberg 109.80 318 ⇑*i*P **PKiKP 10 17 03.1 0.0**
WTTA Wattenberg 109.80 318 ⇑*i*PKiKP **PKiKP 10 17 03.1 0.0**
comp=Z,13nm,1.0s
FETA Feichten 110.45 318 ⇑*i*P **PKiKP 10 17 04.3 -0.1**
FETA Feichten 110.45 318 ⇑*i*PKiKP **PKiKP 10 17 04.3 -0.1**
comp=Z,5.9nm,0.9s
YKA Yellowknife Ar 110.66 25 Pdif **Pdif 10 13 08.8 +0.4**
YKA PKiKP **PKiKP 10 17 03.5 -0.6**
YKA SKP **SKPdf 10 19 37.6 -1.1**
YKA PKKPbc **PKKPbc 10 28 02.9 -4.4**
YKA Yellowknife Ar 110.66 25 Pdiff **Pdif 10 13 08.8 +0.4**
comp=Z,0.1nm,0.7s,baz=303,slow=4.3,SNR=3.3
YKA PKiKP **PKiKP 10 17 03.5 -0.6**
comp=Z,3.8nm,0.6s,baz=309,slow=1.8,SNR=93
YKA SKP **SKPdf 10 19 37.6 -1.1**
comp=Z,0.9nm,0.6s,baz=299,slow=1.8,SNR=12
YKA PKKPbc **PKKPbc 10 28 02.9 -4.4**
comp=Z,0.6nm,0.6s,baz=113,slow=3.4,SNR=9.6
DAVA Damuels 110.96 318 ⇑*i*P **PKiKP 10 17 05.3 0.0**
DAVA Damuels 110.96 318 ⇑*i*PKiKP **PKiKP 10 17 05.3 0.0**
comp=Z,11nm,0.8s
DAVOX Davos/Dischmat 111.07 317 PKiKP **PKiKP 10 17 05.5 -0.1**
DAVOX Davos/Dischmat 111.07 317 PKiKP **PKiKP 10 17 05.5 -0.1**
comp=Z,3.2nm,0.6s,baz=142,slow=5.8,SNR=4.7
CDF Champ du Feu 112.39 320 *e*PKiKP **PKiKP 10 17 06.7 -1.2**
HINF Hinteralfeld 112.82 319 *e*PKiKP **PKiKP 10 17 07.7 -1.0**
comp=Z,8.9nm,0.5s
HAU Haudompre 113.10 319 *e*PKiKP **PKiKP 10 17 08.4 -0.8**
GIVF Givet 113.45 322 *e*PKiKP **PKiKP 10 17 09.5 -0.3**
LPG La Plagne 113.49 317 *e*PKiKP **PKiKP 10 17 09.9 -0.5**
KEST Kesra 113.49 306 PKiKP **PKiKP 10 17 10.8 +0.4**
KEST Kesra 113.49 306 PKiKP **PKiKP 10 17 10.8 +0.4**
comp=Z,1.1nm,0.6s,baz=148,slow=2.5,SNR=5.4
LPL La Plagne 113.50 317 *e*PKiKP **PKiKP 10 17 09.8 -0.5**
MEZF Maizieres J'vi 113.79 320 *e*PKiKP **PKiKP 10 17 09.8 -0.7**
BAIF Baives 113.84 322 *e*PKiKP **PKiKP 10 17 10.4 -0.1**
ORIF Oris-en-Rattie 114.23 316 *e*PKiKP PKPdf 10 17 10.9 -0.7
comp=Z,7.3nm,0.5s
SMRF Simiane la Rot 114.68 315 *e*PKiKP PKPdf 10 17 12.3 -0.1
comp=Z,29nm,0.9s
NEW Newport 114.72 40 ⇑PKiKP **PKiKP 10 17 13.0 +0.6**
baz=115
LOR Lormes 114.92 319 *e*PKiKP PKPdf 10 17 12.2 -0.5
comp=Z,6.6nm,0.5s
WCN Washoe City 115.21 50 ⇓PKiKP **PKiKP 10 17 14.1 +0.3**
baz=115
SSF Saint Saulge 115.21 319 *e*PKiKP **PKPdf 10 17 12.9 -0.4**
comp=Z,16nm,0.6s
AVF Avril sur Loir 115.40 319 *e*PKiKP **PKPdf 10 17 12.9 -0.7**
comp=Z,7.5nm,0.6s
A12A Yaak River Ran 115.42 39 ⇓PKiKP **PKiKP 10 17 14.0 +0.3**
baz=115
BMO Blue Mountains 115.61 43 *e*PKiKP **PKPdf 10 17 14.0 -0.3**
BMO Blue Mountains 115.61 43 *e*PKPdf **PKPdf 10 17 14.0 -0.3**
B12A Libby 115.62 39 ⇓PKiKP **PKiKP 10 17 14.3 +0.2**
baz=116
BGF Bois d'Agland 115.80 319 *e*PKiKP **PKPdf 10 17 14.2 -0.2**
comp=Z,35nm,0.6s
C12B Naegeli Ranch, 115.94 40 ⇑PKiKP **PKPdf 10 17 14.4 -0.3**
baz=116
PKM Peak Mountain 116.00 55 ⇓PKiKP **PKiKP 10 17 16.3 +0.8**
baz=116
A13A Flathead Natio 116.19 38 ⇓PKiKP **PKiKP 10 17 16.1 +0.9**
baz=116
D12A Red Ives Fores 116.24 41 ⇑PKiKP **PKPdf 10 17 15.2 -0.1**
baz=116
E12A Beaver Dam Sad 116.30 41 ⇑PKiKP **PKPdf 10 17 15.5 -0.1**
baz=116
TCF Toulx Ste Croi 116.30 319 *e*PKiKP **PKPdf 10 17 14.9 -0.5**
BSMT Bassoo Peak 116.33 40 *e*PKPdf **PKPdf 10 17 15.6 -0.1**
B13A Whitefish 116.35 39 ⇑PKiKP **PKiKP 10 17 15.7 +0.2**
baz=116
VES Vestal, Richgr 116.42 54 ⇑PKiKP **PKiKP 10 17 16.2 +0.2**
baz=116
NVAR Mina Array Bea 116.51 51 PKP **PKPdf 10 17 17.3 +1.0**
NVAR SKP **SKPdf 10 19 50.8 -0.2**
NVAR PKKPbc **PKKPbc 10 27 46.7 -0.8**
NVAR PKKPab **PKKPab 10 27 53.6 +0.4**
NVAR Mina Array Bea 116.51 51 PKP **PKPdf 10 17 17.3 +1.0**
comp=Z,3.0nm,0.7s,baz=260,slow=2.5,SNR=28
NVAR SKP **SKPdf 10 19 50.8 -0.2**
comp=Z,0.7nm,0.9s,baz=280,slow=2.4,SNR=4.7
NVAR PKKPbc **PKKPbc 10 27 46.7 -0.8**
comp=Z,0.8nm,0.8s,baz=130,slow=5.2,SNR=6.7
NVAR PKKPab **PKKPab 10 27 53.6 +0.4**
comp=Z,0.7nm,0.8s,baz=131,slow=4.5,SNR=4.4
C13A Hot Springs 116.53 40 ⇓PKiKP **PKPdf 10 17 15.5 -0.4**
baz=116
ARVC Arvin 116.76 54 ⇑PKiKP **PKiKP 10 17 17.2 +0.6**
baz=117
A14A Double T Ranch 116.78 38 ⇓PKiKP **PKPdf 10 17 16.0 -0.4**
baz=117
D13A Huson 116.80 40 ⇓PKiKP **PKPdf 10 17 16.1 -0.4**
baz=117
CAF Calviac 116.83 317 *e*PKIKP **PKPdf 10 17 16.5 0.0**
comp=Z,21nm,0.9s
G12A Big Creek, Yel 116.87 43 ⇑PKiKP **PKiKP 10 17 17.2 +0.4**
baz=117
ISA Isabella 116.94 54 ⇑PKiKP **PKiKP 10 17 17.2 +0.1**
baz=117
SWMT Swartz Lake 116.95 40 *e*PKPdf **PKPdf 10 17 16.5 -0.2**
LDF La Druitiere 117.00 322 *e*PKIKP **PKPdf 10 17 15.9 -0.8**
MFID Camas Ranch 117.05 45 *e*PKPdf **PKPdf 10 17 17.7 +0.6**
MFID Camas Ranch 117.05 45 ⇓PKiKP **PKiKP 10 17 17.6 +0.4**
baz=117
RJF Les Rejaudoux 117.08 318 *e*PKIKP **PKPdf 10 17 16.8 -0.1**
comp=Z,13nm,0.8s
B14A Marquette Ranc 117.10 39 ⇑PKiKP **PKiKP 10 17 17.2 +0.1**
baz=117
E13A Victor 117.20 41 ⇑PKiKP **PKPdf 10 17 17.3 0.0**
baz=117
A15A Johnson Ranch, 117.20 38 ⇑PKiKP **PKPdf 10 17 16.9 -0.3**
baz=117
MSO Missoula 117.22 40 ⇓PKiKP **PKPdf 10 17 17.2 -0.1**
baz=117
F13A Darby 117.32 42 ⇑PKiKP **PKPdf 10 17 17.3 -0.3**
baz=117
SLMT Seeley Lake 117.37 40 *e*PKPdf **PKPdf 10 17 17.4 -0.2**
SCI San Clemente I 117.37 57 ⇑PKiKP **PKiKP 10 17 18.2 +0.3**
baz=117
I12A Atlanta 117.42 44 ⇑PKiKP **PKiKP 10 17 18.0 +0.1**
baz=117
D14A Greenough 117.42 40 ⇓PKiKP **PKPdf 10 17 17.4 -0.3**
baz=117
EDW2 Edwards Air Fo 117.48 54 ⇑PKiKP **PKiKP 10 17 19.2 +1.0**
baz=118
GRAC Grapevine Rang 117.54 52 ⇓PKiKP **PKiKP 10 17 19.1 +0.9**
baz=118
B15A Bradely Ranch, 117.56 39 ⇑PKiKP **PKPdf 10 17 17.5 -0.4**
baz=118
G13A Cobalt 117.62 42 ⇑PKiKP **PKiKP 10 17 18.4 +0.2**
baz=118
CHMT Chamberlain Mo 117.64 40 *e*PKPdf **PKPdf 10 17 18.2 0.0**
MPMC Manual Prospec 117.65 53 ⇓PKiKP **PKiKP 10 17 19.5 +0.9**
baz=118
E14A Clinton 117.66 41 ⇓PKiKP **PKiKP 10 17 18.7 +0.4**
baz=118
LFF La Frestale 117.72 317 *e*PKIKP **PKPdf 10 17 18.3 +0.2**
comp=Z,26nm,0.7s
C15A Salmond Ranch, 117.73 39 ⇑PKiKP **PKPdf 10 17 18.1 -0.2**
baz=118
MFF Saint Martin d 117.73 319 *e*PKIKP **PKPdf 10 17 17.6 -0.5**
comp=Z,17nm,0.6s
H13A Challis 117.77 43 ⇑PKiKP **PKiKP 10 17 19.1 +0.5**
baz=118
BFSC Mount Baldy Ra 117.88 55 ⇓PKiKP **PKiKP 10 17 19.3 +0.3**
baz=118
A16A West Butte Ran 117.91 38 ⇓PKiKP **PKPdf 10 17 18.7 +0.1**
baz=118
F14A Wisdom 117.95 41 ⇑PKiKP **PKiKP 10 17 19.1 +0.2**
baz=118
HLID Hailey 117.98 44 *e*PKPdf **PKPdf 10 17 20.1 +1.1**
HLID Hailey 117.98 44 ⇑PKiKP **PKiKP 10 17 20.3 +1.3**
baz=118
B16A M & M Farms, S 118.05 38 ⇓PKiKP **PKPdf 10 17 18.4 -0.4**
baz=118
FURC Furnace Creek, 118.06 52 ⇑PKiKP **PKiKP 10 17 20.0 +1.0**
baz=118
D15A Lincoln 118.06 40 ⇑PKiKP **PKiKP 10 17 19.2 +0.2**
baz=118
I13A Wildhorse Cree 118.08 44 ⇑PKiKP **PKiKP 10 17 20.3 +1.0**
baz=118
G14A Jackson 118.08 42 ⇑PKiKP **PKiKP 10 17 19.3 0.0**
baz=118
J13A Cove Ranch, Pi 118.20 44 ⇓PKiKP **PKiKP 10 17 20.5 +1.1**
baz=118
E15A Deer Lodge 118.21 41 ⇓PKiKP **PKiKP 10 17 19.5 +0.2**
baz=118
ELK Elko 118.23 47 *e*PKPdf **PKPdf 10 17 20.2 +0.6**
TAM Tamanrasset 118.27 292 *e*PKIKP **PKPdf 10 17 21.2 +1.1**
TAM Tamanrasset 118.27 292 *e*PKPdf **PKPdf 10 17 21.2 +1.1**
GSC Goldstone 118.35 54 ⇓PKiKP **PKiKP 10 17 21.0 +1.1**
baz=118
H14A Leadore 118.36 43 ⇓PKiKP **PKiKP 10 17 20.5 +0.8**
baz=118
A17A Triple J Farms 118.45 37 ⇑PKiKP **PKiKP 10 17 19.9 +0.3**
baz=118
F15A Butte 118.51 41 ⇑PKiKP **PKiKP 10 17 20.3 +0.3**
baz=118
I14A Mackay 118.53 43 ⇑PKiKP **PKiKP 10 17 20.7 +0.7**
baz=118
R11A Troy Canyon, C 118.60 50 ⇑PKiKP **PKiKP 10 17 21.2 +0.8**
baz=119
EPF Esparros 118.60 316 *e*PKIKP **PKPdf 10 17 20.1 +0.1**
HRY Holter Researc 118.62 40 *e*PKPdf **PKPdf 10 17 20.1 +0.1**
MCMT McKenzie Canyo 118.63 42 *e*PKPdf **PKPdf 10 17 21.2 +0.9**
SHOC Shoshone 118.64 53 ⇓PKiKP **PKiKP 10 17 21.0 +0.7**
baz=119
B17A L&G Farms, Che 118.65 38 ⇓PKiKP **PKPdf 10 17 20.0 0.0**
baz=119
D16A Dana Ranch, Ca 118.68 40 ⇓PKiKP **PKiKP 10 17 20.5 +0.3**
baz=119
G15A Dillon 118.75 42 ⇓PKiKP **PKiKP 10 17 21.3 +0.8**
baz=119
E16A East Helena 118.79 40 ⇓PKiKP **PKiKP 10 17 20.7 +0.3**
baz=119
H15A Lima 118.84 42 ⇓PKiKP **PKiKP 10 17 21.2 +0.5**
baz=119
C17A Wharram Farm, 118.94 39 ⇑PKiKP **PKPdf 10 17 20.4 -0.2**
baz=119
A18A Metzger Ranch, 118.97 37 ⇑PKiKP **PKPdf 10 17 20.3 -0.2**
baz=119
ROSF Rostrenen 119.03 322 *e*PKIKP **PKPdf 10 17 19.8 -0.8**
F16A Kennard Place, 119.10 41 ⇑PKiKP **PKiKP 10 17 21.7 +0.6**
baz=119
BOZ Bozeman (W) 119.14 41 ⇓PKiKP **PKiKP 10 17 21.7 +0.5**
baz=119
MONP Monument Peak 119.15 56 ⇓PKiKP **PKPdf 10 17 21.5 -0.1**
baz=119
I15A Monteview 119.16 43 ⇑PKiKP **PKiKP 10 17 22.2 +0.9**
baz=119
K14A Jones Ranch, D 119.17 45 ⇑PKiKP **PKiKP 10 17 22.5 +1.2**
baz=119
D17A Six Diamond Ra 119.17 39 ⇓PKiKP **PKPdf 10 17 20.8 -0.3**
baz=119
G16A Moss Hill, Enn 119.18 42 ⇑PKiKP **PKiKP 10 17 22.1 +0.8**
baz=119
B18A Beardsley Farm 119.23 38 ⇑PKiKP **PKiKP 10 17 21.2 0.0**
baz=119
BELC Belle Mtn. Jos 119.27 55 ⇓PKiKP **PKiKP 10 17 23.0 +1.2**
baz=119
L14A Malta 119.28 45 ⇓PKiKP **PKiKP 10 17 22.6 +1.0**
baz=119
E17A Martinsdale 119.34 40 ⇓PKiKP **PKiKP 10 17 21.6 +0.1**
baz=119
GMRC Granite Mounta 119.38 54 ⇓PKiKP **PKiKP 10 17 23.3 +1.4**
baz=119
J15A Blackfoot 119.40 44 ⇑PKiKP **PKiKP 10 17 22.9 +1.2**
baz=119
EGMT Eagleton 119.40 38 *e*PKPdf **PKPdf 10 17 21.7 +0.3**
EGMT Eagleton 119.40 38 ⇓PKiKP **PKiKP 10 17 22.0 +0.5**
baz=119
K15A Arbon 119.57 45 ⇑PKiKP **PKiKP 10 17 23.5 +1.4**
baz=120
A19A Klindworth Far 119.63 37 ⇑PKiKP **PKiKP 10 17 22.0 +0.1**
baz=120
SJPF Ste Jean 119.66 316 *e*PKIKP **PKPdf 10 17 21.8 -0.2**
F17A Fitzpatrick Pl 119.68 41 ⇓PKiKP **PKiKP 10 17 22.9 +0.7**
baz=120
B19A Brinkman Farms 119.71 37 ⇓PKiKP **PKiKP 10 17 22.2 +0.1**
baz=120
D18A Linhart Farms, 119.71 39 ⇑PKiKP **PKiKP 10 17 22.2 0.0**
baz=120
H16A Russell Place, 119.74 42 ⇑PKiKP **PKiKP 10 17 23.5 +1.1**
baz=120
BC3 Big Chuckawall 119.79 55 ⇓PKiKP **PKiKP 10 17 24.1 +1.3**
baz=120
G17A Pierce Place, 119.85 41 ⇓PKiKP **PKiKP 10 17 23.7 +1.2**
baz=120
R13A O'Grain Ranch, 119.87 50 ⇓PKiKP **PKiKP 10 17 23.7 +0.8**
baz=120
I16A Newdale 119.88 43 ⇑PKiKP **PKiKP 10 17 23.6 +0.9**
baz=120
L15A Malad City 119.89 45 ⇑PKiKP **PKiKP 10 17 23.4 +0.6**
baz=120
E18A Harlowton 119.89 40 ⇓PKiKP **PKiKP 10 17 22.7 +0.1**
baz=120
IRM Iron Mountain 119.93 55 ⇓PKiKP **PKiKP 10 17 24.0 +1.1**
baz=120
C19A Slack Wire Ran 119.95 38 ⇑PKiKP **PKiKP 10 17 22.9 +0.3**
baz=120
J16A Bone 120.00 44 ⇓PKiKP **PKiKP 10 17 23.7 +0.7**
baz=120
M15A Larsen Ranch, 120.03 46 ⇓PKiKP **PKiKP 10 17 23.4 +0.4**
baz=120
DUG Dugway 120.16 47 *e*PKIKP **PKPdf 10 17 24.2 +1.0**
DUG Dugway 120.16 47 *e*PKPdf **PKPdf 10 17 24.2 +1.0**
DUG Dugway 120.16 47 ⇓PKiKP **PKiKP 10 17 24.0 +0.7**
baz=120
K16A Soda Springs 120.17 44 ⇑PKiKP **PKiKP 10 17 24.1 +0.8**
baz=120
RRI2 Red Ridge 120.18 43 *e*PKPdf **PKPdf 10 17 24.3 +1.0**
DCID1 Drake Creek 120.18 43 *e*PKPdf **PKPdf 10 17 24.3 +1.1**
IMW Indian Meadow 120.24 43 *e*PKPdf **PKPdf 10 17 24.3 +0.8**
B20A Solberg Farm, 120.27 37 ⇓PKiKP **PKiKP 10 17 23.7 +0.5**
baz=120
F18A Big Timber 120.28 40 ⇑PKiKP **PKiKP 10 17 24.1 +0.7**
baz=120
D19A Cripps Ranch, 120.30 39 ⇑PKiKP **PKPdf 10 17 23.2 0.0**
baz=120
FFC Flin Flon 120.30 29 *e*PKIKP **PKPdf 10 17 22.7 -0.1**
FFC Flin Flon 120.30 29 *e*PKPdf **PKPdf 10 17 22.7 -0.1**
H17A Grant Village 120.30 42 ⇓PKiKP **PKiKP 10 17 25.2 +1.6**
baz=120
TPAW Teton Pass 120.38 43 *e*PKPdf **PKPdf 10 17 24.8 +1.1**
O15A The Old Anders 120.38 47 ⇑PKiKP **PKiKP 10 17 24.8 +1.0**
baz=120
GLA Glamis 120.43 56 ⇑PKiKP **PKiKP 10 17 24.6 +0.6**
baz=120
I17A Pilgrim Ck. 120.48 43 ⇓PKiKP **PKiKP 10 17 25.0 +1.0**
baz=120
REDW Red Top Meadow 120.49 43 *e*PKPdf **PKPdf 10 17 24.9 +1.0**
SNOW Snow King Moun 120.52 43 *e*PKPdf **PKPdf 10 17 25.1 +1.2**
Y12C Blythe 120.53 55 ⇑PKiKP **PKiKP 10 17 25.0 +1.0**
baz=120
L16A Fish Haven 120.56 45 ⇓PKiKP **PKiKP 10 17 24.5 +0.3**
baz=120
LOHW Long Hollow 120.57 43 *e*PKPdf **PKPdf 10 17 25.0 +1.0**
J17A Brown Place, J 120.59 43 ⇓PKiKP **PKiKP 10 17 25.0 +0.9**
baz=120
C20A Veseth Ranch, 120.60 38 ⇓PKiKP **PKiKP 10 17 24.2 +0.3**
baz=120
HWUT Hardware Ranch 120.61 45 *e*PKPdf **PKPdf 10 17 24.6 +0.5**
E19A Rath Farm, Rou 120.65 39 ⇓PKiKP **PKiKP 10 17 24.1 +0.1**
baz=121
A21A Bergtoll Ranch 120.67 36 ⇑PKiKP **PKPdf 10 17 23.7 -0.1**
baz=121
PDMCI Parker Dam,Lak 120.71 54 ⇑PKiKP **PKiKP 10 17 24.7 +0.3**
baz=121
W13A Hualapai Mount 120.73 53 ⇑PKiKP **PKiKP 10 17 25.5 +0.8**
baz=121
P15A Leamington 120.74 48 ⇑PKiKP **PKiKP 10 17 25.1 +0.6**
baz=121
D20A Manuel Ranch, 120.79 38 ⇓PKiKP **PKiKP 10 17 24.3 0.0**
baz=121
F19A Roth Farm, Mol 120.80 40 ⇑PKiKP **PKPdf 10 17 24.3 +0.1**
baz=121
H18A Shoshone NF, C 120.80 42 ⇑PKiKP **PKiKP 10 17 24.8 +0.2**
baz=121
B21A Ellsworth Farm 120.87 37 ⇓PKiKP **PKiKP 10 17 24.7 +0.3**
baz=121
RLMT Red Lodge 120.88 41 ⇓PKiKP **PKiKP 10 17 25.2 +0.5**
baz=121
L17A Cokeville 120.92 45 ⇓PKiKP **PKiKP 10 17 25.1 +0.2**
baz=121
N16A Rees Ranch, Co 120.93 46 ⇓PKiKP **PKiKP 10 17 25.5 +0.5**
baz=121
E20A Meyer Farm, Mu 121.04 39 ⇓PKiKP **PKiKP 10 17 24.8 0.0**
baz=121
I18A Diamond G Ranc 121.07 43 ⇑PKiKP **PKPdf 10 17 25.1 +0.1**
baz=121
C21A Desert Coulee 121.10 37 ⇓PKiKP **PKiKP 10 17 25.0 +0.2**
baz=121
J18A Kendall Valley 121.11 43 ⇑PKiKP **PKiKP 10 17 25.3 0.0**
baz=121
MSU Marysvale 121.13 49 *e*PKIKP **PKPdf 10 17 27.0 +1.7**
MSU Marysvale 121.13 49 *e*PKPdf **PKPdf 10 17 27.0 +1.7**
R15A Junction 121.14 49 ⇓PKiKP **PKiKP 10 17 25.9 +0.5**
baz=121
P16A Fountain Green 121.18 48 ⇑PKiKP **PKiKP 10 17 26.0 +0.5**
baz=121
H19A Powell 121.25 41 ⇓PKiKP **PKiKP 10 17 26.0 +0.7**
baz=121
M17A Scullys Gap (B 121.28 45 ⇓PKiKP **PKiKP 10 17 25.9 +0.3**
baz=121
K18A Toltan Ranch, 121.31 44 ⇑PKiKP **PKiKP 10 17 26.4 +0.8**
baz=121
F20A Billings 121.33 40 ⇓PKiKP **PKiKP 10 17 25.7 +0.3**
baz=121
N17A Moffit Pass 121.35 46 ⇓PKiKP **PKiKP 10 17 26.6 +0.8**
baz=121
I19A Meeteetse 121.49 42 ⇓PKiKP **PKiKP 10 17 26.3 +0.3**
baz=121
D21A La Casta Ranch 121.50 38 ⇓PKiKP **PKiKP 10 17 26.0 +0.3**
baz=121
G20A Bridger 121.53 40 ⇑PKiKP **PKiKP 10 17 26.1 +0.2**
baz=121
B22A Reddig Ranch S 121.53 36 ⇓PKiKP **PKiKP 10 17 25.9 +0.3**
baz=121
L18A Fontenelle, Gr 121.57 45 ⇑PKiKP **PKiKP 10 17 27.2 +1.0**
baz=122
PD01 Pinedale Array 121.57 44 *e*PKPdf **PKPdf 10 17 26.2 +0.3**
PD02 Pinedale Array 121.58 44 *e*PKPdf **PKPdf 10 17 26.2 +0.2**
BW06 Boulder Array 121.59 44 ⇑PKiKP **PKPdf 10 17 26.1 +0.1**
baz=122
PDAR Pinedale Array 121.59 44 PKP **PKPdf 10 17 26.2 +0.2**
PDAR PKKPbc **PKKPbc 10 27 28.9 -0.7**
PDAR Pinedale Array 121.59 44 PKP **PKPdf 10 17 26.2 +0.2**
comp=Z,2.1nm,0.5s,baz=104,slow=1.7,SNR=37
PDAR PKKPbc **PKKPbc 10 27 28.9 -0.7**
comp=Z,1.6nm,0.6s,baz=113,slow=7.1,SNR=12
TMUT Trail Mountain 121.61 48 *e*PKPdf **PKPdf 10 17 27.3 +1.1**
U15A North Rim 121.64 51 ⇑PKiKP **PKiKP 10 17 28.0 +1.4**
baz=122
O17A Robinson Place 121.66 47 ⇑PKiKP **PKiKP 10 17 27.6 +1.2**
baz=122
E21A Keefer Ranch, 121.68 39 ⇑PKiKP **PKiKP 10 17 26.8 +0.8**
baz=122
Y14A Wickenburg 121.71 54 ⇑PKiKP **PKiKP 10 17 27.1 +0.7**
baz=122
R16A Teasdale 121.72 49 ⇑PKiKP **PKiKP 10 17 27.6 +1.0**
baz=122
M18A Lyman 121.72 45 ⇑PKiKP **PKiKP 10 17 27.1 +0.6**
baz=122
J19A Crowheart 121.75 43 ⇑PKiKP **PKiKP 10 17 27.0 +0.6**
baz=122
Q16A Castle Valley 121.76 48 ⇓PKiKP **PKiKP 10 17 27.4 +0.8**
baz=122
S16A Weppner Ranch, 121.80 50 ⇓PKiKP **PKiKP 10 17 27.5 +0.8**
baz=122
C22A Vida 121.86 37 ⇑PKiKP **PKiKP 10 17 26.8 +0.5**
baz=122
A23A Redstone 121.87 35 ⇓PKiKP **PKiKP 10 17 26.3 0.0**
baz=122
P17A Butcher Ranch, 121.90 48 ⇑PKiKP **PKiKP 10 17 27.3 +0.5**
baz=122
D22A Cohagen 121.96 38 ⇓PKiKP **PKiKP 10 17 27.4 +0.8**
baz=122
H20A Greybull 121.97 41 ⇓PKiKP **PKiKP 10 17 27.2 +0.4**
baz=122
F21A Absaloka Mine, 121.97 39 ⇑PKiKP **PKiKP 10 17 27.0 +0.4**
baz=122
L19A Farson 121.98 44 ⇓PKiKP **PKiKP 10 17 27.4 +0.5**
baz=122
B23A Brockton 122.05 36 ⇑PKiKP **PKiKP 10 17 27.3 +0.6**

baz=122
K19A **Absolon Red Bu** 122.06 43 ⇑PKiKP **PKiKP** 10 17 27.5 +0.4
baz=122
114A **Black Gap (USA** 122.09 56 ⇓PKiKP **PKiKP** 10 17 27.5 +0.4
baz=122
I20A **Worland** 122.10 42 ⇑PKiKP **PKiKP** 10 17 27.7 +0.6
baz=122
O18A **Roosevelt** 122.17 46 ⇑PKiKP **PKiKP** 10 17 28.0 +0.6
baz=122
G21A **Lodge Grass** 122.17 40 ⇓PKiKP **PKiKP** 10 17 27.4 +0.3
baz=122
SRU **San Rafael** 122.17 48 *e*PKIKP **PKPdf** 10 17 27.9 +0.7
SRU **San Rafael** 122.17 48 *e*PKPdf **PKPdf** 10 17 27.9 +0.7
SRU **San Rafael** 122.17 48 ⇓PKiKP **PKPdf** 10 17 27.9 +0.7
baz=122
P18A **Preston Nutter** 122.21 47 ⇑PKiKP **PKiKP** 10 17 28.2 +0.5
baz=122
C23A **Lambert** 122.25 37 ⇓PKiKP **PKiKP** 10 17 28.0 +0.9
baz=122
R17A **Hanksville Air** 122.26 49 ⇑PKiKP **PKiKP** 10 17 28.3 +0.8
baz=122
TORD **Torodi Ar. Bea** 122.28 281 PKP **PKPdf** 10 17 27.4 -0.3
TORD SKP **SKPdf** 10 20 02.6 +0.1
TORD **Torodi Ar. Bea** 122.28 281 PKP **PKPdf** 10 17 27.4 -0.3
comp=Z,17nm,0.7s,baz=76,slow=1.9,SNR=105
TORD SKP **SKPdf** 10 20 02.6 +0.1
comp=Z,1.1nm,0.8s,baz=69,slow=1.5,SNR=3.9
M19A **Rock Springs** 122.33 45 ⇓PKiKP **PKiKP** 10 17 28.4 +0.7
baz=122
J20A **Shoshoni** 122.37 42 ⇓PKiKP **PKiKP** 10 17 27.9 +0.3
baz=122
A24A **Westby** 122.39 35 ⇓PKiKP **PKiKP** 10 17 27.7 +0.3
baz=122
E22A **Miles City** 122.43 38 ⇓PKiKP **PKiKP** 10 17 28.0 +0.5
baz=122
S17A **Black Ridge (B** 122.43 50 ⇓PKiKP **PKiKP** 10 17 28.2 +0.3
baz=122
K20A **Yellowstone Ra** 122.46 43 ⇑PKiKP **PKiKP** 10 17 28.0 +0.1
baz=122
Q18A **Rafter H Ranch** 122.47 48 ⇑PKiKP **PKiKP** 10 17 27.9 0.0
baz=122
DGMT **Dagmar** 122.50 36 ⇓PKiKP **PKiKP** 10 17 27.9 +0.3
baz=122
F22A **Rosebud** 122.53 39 ⇑PKiKP **PKiKP** 10 17 27.8 +0.1
baz=122
N19A **John Jarvie Ra** 122.54 45 ⇓PKiKP **PKiKP** 10 17 28.3 +0.2
baz=122
WUAZ **Wupatki** 122.60 52 *e*PKPdf **PKPdf** 10 17 29.3 +1.2
WUAZ **Wupatki** 122.60 52 ⇓PKiKP **PKiKP** 10 17 28.7 +0.4
baz=123
U16A **Tuba City** 122.62 51 ⇓PKiKP **PKiKP** 10 17 29.6 +1.3
baz=123
T17A **Navajo Res., N** 122.62 50 ⇓PKiKP **PKiKP** 10 17 29.7 +1.3
baz=123
I21A **Big Trails, Te** 122.71 42 ⇑PKiKP **PKPdf** 10 17 27.9 -0.1
baz=123
L20A **Wamsutter** 122.72 44 ⇓PKiKP **PKiKP** 10 17 28.8 +0.4
baz=123
G22A **Birney** 122.76 40 ⇑PKiKP **PKiKP** 10 17 28.6 +0.4
baz=123
ESDC **Sonseca Array** 122.77 313 PKP **PKPdf** 10 17 28.2 +0.1
ESDC **Sonseca Array** 122.77 313 PKP **PKPdf** 10 17 28.2 +0.1
comp=Z,2.4nm,0.6s,baz=23,slow=2.9,SNR=8.6
O19A **Miners Draw (B** 122.79 46 ⇑PKiKP **PKiKP** 10 17 28.6 +0.1
baz=123
E23A **Ismay** 122.79 38 ⇑PKiKP **PKiKP** 10 17 28.8 +0.6
baz=123
J21A **Lysite** 122.80 42 ⇓PKiKP **PKiKP** 10 17 28.9 +0.4
baz=123
C24A **Savage** 122.83 37 ⇓PKiKP **PKiKP** 10 17 28.9 +0.6
baz=123
U17A **Shonto** 122.85 51 ⇑PKiKP **PKiKP** 10 17 29.9 +1.1
baz=123
X16A **Lo Mia Camp, P** 122.85 53 ⇓PKiKP **PKiKP** 10 17 30.0 +1.2
baz=123
R18A **Canyonlands Na** 122.87 49 ⇑PKiKP **PKiKP** 10 17 29.3 +0.5
baz=123
H22A **Clearmont** 122.99 40 ⇓PKiKP **PKiKP** 10 17 29.0 +0.2
baz=123
M20A **Sweetwater, Wa** 123.02 45 ⇑PKiKP **PKiKP** 10 17 29.8 +0.7
baz=123
S18A **Hurst Farm, Bl** 123.02 49 ⇑PKiKP **PKiKP** 10 17 30.1 +0.9
baz=123
V17A **Tonalea, Kykot** 123.03 52 ⇑PKiKP **PKiKP** 10 17 29.9 +0.7
baz=123
F23A **Volborg** 123.09 39 ⇑PKiKP **PKiKP** 10 17 28.9 0.0
baz=123
D24A **Glendive** 123.09 37 ⇑PKiKP **PKiKP** 10 17 29.4 +0.6
baz=123
P19A **Cripple Cowboy** 123.13 47 ⇑PKiKP **PKiKP** 10 17 29.8 +0.5
baz=123
Q19A **Hogan Spring (** 123.15 48 ⇑PKiKP **PKiKP** 10 17 30.0 +0.7
baz=123
I22A **9 Mile Ranch,** 123.20 41 ⇑PKiKP **PKiKP** 10 17 29.1 -0.1
baz=123
N20A **Spence Gulch,** 123.21 45 ⇓PKiKP **PKiKP** 10 17 30.3 +0.8
baz=123
K21A **Alcova** 123.21 43 ⇑PKiKP **PKiKP** 10 17 29.7 +0.3
baz=123
T18A **Mexican Hat** 123.29 50 ⇓PKiKP **PKiKP** 10 17 30.6 +1.0
baz=123
G23A **Biddle** 123.33 39 ⇓PKiKP **PKiKP** 10 17 29.4 0.0
baz=123
E24A **Baker** 123.37 38 ⇓PKiKP **PKiKP** 10 17 29.8 +0.4
baz=123
X17A **Forest Lakes** 123.37 53 ⇓PKiKP **PKiKP** 10 17 30.8 +0.8
baz=123
R19A **Curley Farm, L** 123.38 48 ⇑PKiKP **PKiKP** 10 17 30.4 +0.5
baz=123
L21A **Rawlins** 123.40 44 ⇑PKiKP **PKiKP** 10 17 30.0 +0.2
baz=123
J22A **Midwest** 123.41 42 ⇑PKiKP **PKPdf** 10 17 29.4 0.0
baz=123
O20A **White River Ci** 123.48 46 ⇑PKiKP **PKiKP** 10 17 30.7 +0.7
baz=123
U18A **Rough Rock, Ch** 123.51 51 ⇓PKiKP **PKiKP** 10 17 30.3 +0.1
baz=124
M21A **Separation Pea** 123.54 44 ⇓PKiKP **PKiKP** 10 17 30.1 -0.1
baz=124
P20A **De Beque** 123.60 47 ⇓PKiKP **PKiKP** 10 17 30.7 +0.5
baz=124
F24A **Ekalaka** 123.63 38 ⇑PKiKP **PKiKP** 10 17 29.9 0.0
baz=124
S19A **Harvey Farm, M** 123.65 49 ⇑PKiKP **PKiKP** 10 17 30.9 +0.5
baz=124
V18A **Ganado** 123.67 52 ⇓PKiKP **PKiKP** 10 17 31.5 +1.0
baz=124
K22A **Casper** 123.70 43 ⇓PKiKP **PKiKP** 10 17 30.2 -0.1
baz=124
N21A **Black Mountain** 123.76 45 ⇓PKiKP **PKiKP** 10 17 31.7 +1.1
baz=124
Q20A **Ridgley Place,** 123.86 47 ⇑PKiKP **PKiKP** 10 17 31.6 +0.8
baz=124
G24A **Alzada** 123.89 39 ⇓PKiKP **PKPdf** 10 17 30.2 0.0
baz=124
PV01 **Paradox Valley** 123.94 48 *e*PKPdf **PKPdf** 10 17 31.6 +1.0
O21A **Pagoda** 124.00 46 ⇑PKiKP **PKiKP** 10 17 31.9 +0.8
baz=124
X18A **Snowflake** 124.00 53 ⇑PKiKP **PKiKP** 10 17 32.0 +0.8
baz=124
L22A **Ellis Ranch, M** 124.01 43 ⇑PKiKP **PKiKP** 10 17 32.1 +1.1
baz=124
T19A **Beclabito** 124.03 50 ⇓PKiKP **PKiKP** 10 17 31.8 +0.6
baz=124
U19A **Dine' College,** 124.06 51 ⇑PKiKP **PKiKP** 10 17 31.9 +0.7
baz=124
R20A **Redvale** 124.06 48 ⇓PKiKP **PKiKP** 10 17 32.2 +1.0
baz=124
H24A **Dirks Ranch, A** 124.07 40 ⇓PKiKP **PKiKP** 10 17 30.8 -0.1
baz=124
S20A **Disappointment** 124.20 49 ⇑PKiKP **PKiKP** 10 17 32.2 +0.7
baz=124
K23A **Bowen Ranch, D** 124.25 42 ⇑PKiKP **PKPdf** 10 17 31.1 +0.1
baz=124
P21A **Newcastle** 124.27 46 ⇓PKiKP **PKiKP** 10 17 32.2 +0.6
baz=124
MVCO **Mesa Verde** 124.30 49 *e*PKPdf **PKPdf** 10 17 32.7 +1.3
MVCO **Mesa Verde** 124.30 49 ⇓PKiKP **PKPdf** 10 17 32.7 +1.3
baz=124
V19A **Window Rock** 124.36 51 ⇓PKiKP **PKiKP** 10 17 32.8 +0.9
baz=124
I24A **Kuemmerle Ranc** 124.43 41 ⇓PKiKP **PKPdf** 10 17 31.3 +0.1
baz=124
Q21A **Lamborn Mesa,** 124.43 47 ⇓PKiKP **PKiKP** 10 17 32.8 +0.9
baz=124
L23A **Garrett** 124.47 43 ⇑PKiKP **PKPdf** 10 17 31.5 -0.1
baz=124
N22A **Wattenberg Ran** 124.49 45 ⇑PKiKP **PKiKP** 10 17 32.5 +0.4
baz=124
U20A **Newcomb** 124.56 50 ⇑PKiKP **PKiKP** 10 17 33.1 +0.9
baz=124
R21A **Cimarron** 124.61 48 ⇑PKiKP **PKiKP** 10 17 33.1 +0.8
baz=124
J24A **Dixon Ranch, L** 124.64 41 ⇓PKiKP **PKPdf** 10 17 31.9 +0.2
baz=124
O22A **Krumling** 124.67 45 ⇓PKiKP **PKiKP** 10 17 32.8 +0.3
baz=125
S21A **Coal Bank Pass** 124.68 49 ⇑PKiKP **PKiKP** 10 17 33.9 +1.3
baz=125
RSSD **Black Hills** 124.69 40 *e*PKIKP **PKPdf** 10 17 31.6 -0.3
RSSD **Black Hills** 124.69 40 *e*PKPdf **PKPdf** 10 17 31.6 -0.3
Y19A **Nutrioso** 124.72 53 ⇑PKiKP **PKiKP** 10 17 33.2 +0.5
baz=125
M23A **Laramie** 124.73 44 ⇓PKiKP **PKiKP** 10 17 32.8 +0.3
baz=125
P22A **Eagle** 124.74 46 ⇑PKiKP **PKiKP** 10 17 33.2 +0.7
baz=125
V20A **Brimhall** 124.78 51 ⇓PKiKP **PKiKP** 10 17 33.3 +0.6
baz=125
N23A **Red Feather La** 124.81 44 ⇓PKiKP **PKiKP** 10 17 33.3 +0.6
baz=125
Q22A **Crested Butte,** 124.90 47 ⇓PKiKP **PKiKP** 10 17 33.8 +0.8
baz=125
W20A **Ramah** 124.96 52 ⇓PKiKP **PKiKP** 10 17 33.9 +0.8
baz=125
O23A **Lake Granby, G** 125.10 45 ⇓PKiKP **PKiKP** 10 17 34.5 +1.2
baz=125
T21A **Navajo Lake** 125.10 49 ⇑PKiKP **PKiKP** 10 17 34.9 +1.6
baz=125
X20A **Quemado** 125.14 52 ⇑PKiKP **PKiKP** 10 17 35.0 +1.5
baz=125
U21A **Nageezi** 125.20 50 ⇑PKiKP **PKiKP** 10 17 35.2 +1.7
baz=125
R22A **Saguache, Gunn** 125.25 48 ⇓PKiKP **PKiKP** 10 17 35.1 +1.4
baz=125
M24A **Cheyenne** 125.34 43 ⇓PKiKP **PKiKP** 10 17 34.3 +0.7
baz=125
S22A **4UR Ranch, Cre** 125.37 48 ⇑PKiKP **PKiKP** 10 17 35.2 +1.2
baz=125
319A **Douglas** 125.39 56 ⇓PKiKP **PKiKP** 10 17 35.5 +1.6
baz=125
MDT **Midelt** 125.39 305 PKP **PKPdf** 10 17 34.2 +0.8
MDT **Midelt** 125.39 305 PKP **PKPdf** 10 17 34.2 +0.8
comp=Z,3.7nm,0.6s,baz=99,slow=1.1,SNR=9.1
V21A **Milan** 125.42 51 ⇓PKiKP **PKiKP** 10 17 35.2 +1.2
baz=125
Y20A **Horse Springs,** 125.43 53 ⇓PKiKP **PKiKP** 10 17 35.2 +1.1
baz=125
MDND **Maddock** 125.44 34 ⇓PKiKP **PKiKP** 10 17 33.5 +0.1
baz=125
ISCO **Idaho Springs** 125.47 45 ⇑PKiKP **PKiKP** 10 17 35.0 +0.9
baz=125
P23A **Jefferson** 125.48 46 ⇓PKiKP **PKiKP** 10 17 35.0 +0.8
baz=125
Z20A **Nine Sixteen R** 125.48 54 ⇑PKiKP **PKiKP** 10 17 35.1 +0.9
baz=125
N24A **Carr** 125.57 44 ⇓PKiKP **PKiKP** 10 17 34.9 +0.8
baz=126
T22A **Edith** 125.57 49 ⇓PKiKP **PKiKP** 10 17 35.5 +1.3
baz=126
120A **U Bar Ranch, L** 125.61 55 ⇓PKiKP **PKiKP** 10 17 35.8 +1.4
baz=126
W21A **San Fidel** 125.63 52 ⇑PKiKP **PKiKP** 10 17 35.8 +1.4
baz=126
Q23A **Hartsel** 125.67 47 ⇓PKiKP **PKiKP** 10 17 35.7 +1.2
baz=126
O24A **Longmont** 125.73 45 ⇓PKiKP **PKiKP** 10 17 35.7 +1.3
baz=126
X21A **Alamocita Cree** 125.73 52 ⇓PKiKP **PKiKP** 10 17 36.4 +1.7
baz=126
U22A **Llaves** 125.83 50 ⇓PKiKP **PKiKP** 10 17 36.5 +1.7
baz=126
220A **Playas Peak, P** 125.87 56 ⇑PKiKP **PKiKP** 10 17 36.0 +1.1
baz=126
K26A **Motz Farm, Whi** 125.89 41 ⇑PKiKP **PKiKP** 10 17 34.5 -0.1
baz=126
V22A **San Miguel Ran** 125.94 50 ⇓PKiKP **PKiKP** 10 17 36.5 +1.5
baz=126
R23A **Moffat** 125.94 47 ⇑PKiKP **PKiKP** 10 17 36.5 +1.4
baz=126
Y21A **Point of Rocks** 125.95 53 ⇑PKiKP **PKiKP** 10 17 36.9 +1.8
baz=126
ULM **Lac du Bonnet** 125.98 30 PKP **PKPdf** 10 17 33.5 -0.3
ULM SKPab SKiKP 10 19 49.0 -21
ULM **Lac du Bonnet** 125.98 30 PKP **PKPdf** 10 17 33.5 -0.3
comp=Z,7.6nm,0.6s,baz=300,slow=2.4,SNR=20
ULM SKPab SKiKP 10 19 49.0 -21
comp=Z,2.2nm,0.5s,baz=313,slow=4.8,SNR=5.4
S23A **Nye Farm, Mont** 125.99 48 ⇓PKiKP **PKiKP** 10 17 36.8 +1.7
baz=126
320A **Kipp Ranch, An** 126.02 56 ⇑PKiKP **PKiKP** 10 17 36.7 +1.5
baz=126
P24A **Kohler Place,** 126.09 46 ⇑PKiKP **PKiKP** 10 17 36.3 +1.1
baz=126
Q24A **Divide** 126.14 46 ⇑PKiKP **PKiKP** 10 17 35.8 +0.3
baz=126
Z21A **St. Cloud Mine** 126.17 54 ⇓PKiKP **PKiKP** 10 17 35.9 +0.4
baz=126
L26A **Underwood Farm** 126.26 42 ⇑PKiKP **PKiKP** 10 17 35.8 +0.5
baz=126
121A **Cookes Peak, D** 126.30 55 ⇑PKiKP **PKiKP** 10 17 37.2 +1.4
baz=126
X22A **Bernardo** 126.32 52 ⇑PKiKP **PKiKP** 10 17 37.5 +1.7
baz=126
U23A **El Rito** 126.34 50 ⇓PKiKP **PKiKP** 10 17 37.3 +1.4
baz=126
SDCO **Great Sand Dun** 126.35 48 *e*PKPdf **PKPdf** 10 17 37.0 +1.7
SDCO **Great Sand Dun** 126.35 48 ⇓PKiKP **PKiKP** 10 17 36.9 +1.0
baz=126
O25A **Wiggins** 126.40 45 ⇓PKiKP **PKiKP** 10 17 36.3 +0.6
baz=126
R24A **Sanders Place,** 126.45 47 ⇑PKiKP **PKiKP** 10 17 36.6 +0.6
baz=126
M26A **McRoberts Ranc** 126.48 43 ⇑PKiKP **PKiKP** 10 17 35.6 -0.2
baz=126
K27A **Flueckinger Fa** 126.51 41 ⇑PKiKP **PKiKP** 10 17 35.8 0.0
baz=126
Y22A **Socorro** 126.54 53 ⇑PKiKP **PKiKP** 10 17 37.5 +1.3
baz=126
V23A **Ortiz Mt. (NFS** 126.55 50 ⇑PKiKP **PKiKP** 10 17 38.0 +1.8
baz=126
S24A **Houchin Ranch,** 126.60 48 ⇓PKiKP **PKiKP** 10 17 37.6 +1.2
baz=126
ANMO **Albuquerque** 126.61 51 *e*PKPdf **PKPdf** 10 17 37.6 +1.8
P25A **Willow Gulch B** 126.61 45 ⇑PKiKP **PKiKP** 10 17 37.2 +1.0
baz=126
Z22A **Elephant Butte** 126.75 54 ⇑PKiKP **PKiKP** 10 17 37.9 +1.3
baz=127
W23A **Werner Place,** 126.78 51 ⇓PKiKP **PKiKP** 10 17 37.8 +1.1
baz=127
Q25A **Bedland, Calha** 126.80 46 ⇑PKiKP **PKiKP** 10 17 37.2 +0.6
baz=127
122A **Conniff Cattle** 126.89 54 ⇓PKiKP **PKiKP** 10 17 38.2 +1.3
baz=127
T24A **Torres, Weston** 126.93 48 ⇑PKiKP **PKiKP** 10 17 38.1 +1.1
baz=127
222A **Williams Famil** 126.98 55 ⇑PKiKP **PKiKP** 10 17 38.1 +1.0
baz=127
U24A **Moreno Valley** 127.00 49 ⇑PKiKP **PKiKP** 10 17 38.1 +0.9
baz=127
R25A **Fountain Ranch** 127.08 47 ⇓PKiKP **PKiKP** 10 17 37.5 +0.4
baz=127
S25A **Robets Cordova** 127.16 47 ⇑PKiKP **PKiKP** 10 17 38.4 +1.0
baz=127
P26A **Davis Ranch, A** 127.17 45 ⇑PKiKP **PKiKP** 10 17 37.7 +0.4
baz=127
N27A **Anderson Farm,** 127.18 43 ⇑PKiKP **PKiKP** 10 17 37.8 +0.6
baz=127
V24A **Rampart Ranch,** 127.25 50 ⇑PKiKP **PKiKP** 10 17 38.9 +1.2
baz=127
Y23A **Lovelace Mesa,** 127.26 52 ⇑PKiKP **PKiKP** 10 17 38.6 +1.0
baz=127
Q26A **Hugo** 127.31 46 ⇓PKiKP **PKiKP** 10 17 38.6 +1.0
baz=127
Z23A **Rita Site, Whi** 127.33 53 ⇑PKiKP **PKiKP** 10 17 39.0 +1.3
baz=127
W24A **Lazy 6 Ranch,** 127.33 51 ⇓PKiKP **PKiKP** 10 17 39.0 +1.2
baz=127
T25A **Trinidad** 127.38 48 ⇑PKiKP **PKiKP** 10 17 39.0 +1.1
baz=127
O27A **Beecher Island** 127.50 44 ⇑PKiKP **PKiKP** 10 17 38.5 +0.7
baz=127
X24A **Lazy VL Ranch,** 127.53 51 ⇑PKiKP **PKiKP** 10 17 38.5 +0.2
baz=128
R26A **Arlington** 127.62 46 ⇑PKiKP **PKiKP** 10 17 39.4 +1.2
baz=128
U25A **Circle Dot Ran** 127.66 49 ⇑PKiKP **PKiKP** 10 17 39.4 +1.0
baz=128
V25A **Rancho No Teng** 127.71 50 ⇓PKiKP **PKiKP** 10 17 39.6 +1.1
baz=128
Y24A **Capitan** 127.74 52 ⇑PKiKP **PKiKP** 10 17 39.7 +1.0
baz=128
S26A **Kim** 127.88 47 ⇓PKiKP **PKiKP** 10 17 39.5 +0.8
baz=128
KSCO **Kaye Shedlock'** 127.91 45 ⇓PKiKP **PKiKP** 10 17 39.3 +0.6
baz=128
T26A **Comanche Natio** 127.97 48 ⇑PKiKP **PKiKP** 10 17 39.7 +0.7
baz=128
Z24A **Sheeppen Canyo** 128.00 53 ⇓PKiKP **PKiKP** 10 17 40.4 +1.2
baz=128
W25A **X Bar L Ranch,** 128.05 50 ⇓PKiKP **PKiKP** 10 17 40.4 +1.2
baz=128
R27A **Eads** 128.09 46 ⇓PKiKP **PKiKP** 10 17 39.9 +0.8
baz=128
124A **Stringfield Ra** 128.13 54 ⇑PKiKP **PKiKP** 10 17 41.0 +1.5
baz=128
U26A **Atchley Ranch,** 128.16 49 ⇑PKiKP **PKiKP** 10 17 40.4 +1.0
baz=128
224A **Cornudas Mount** 128.26 54 ⇑PKiKP **PKiKP** 10 17 40.9 +1.2
baz=128
Y25A **Mesa, Roswell** 128.33 52 ⇓PKiKP **PKiKP** 10 17 40.4 +0.7
baz=128
324A **Moseley Ranch,** 128.49 55 ⇓PKiKP **PKiKP** 10 17 40.9 +0.7
baz=128
MNTX **Cornudas Mount** 128.50 55 *e*PKPdf **PKPdf** 10 17 40.9 +1.7
MNTX **Cornudas Mount** 128.50 55 ⇑PKiKP **PKPdf** 10 17 41.0 +1.7
baz=128
Z25A **Roswell** 128.52 53 ⇓PKiKP **PKiKP** 10 17 40.9 +0.8
baz=128
DBIC **Dimbokro** 128.54 273 PKP **PKPdf** 10 17 39.9 +0.1
DBIC SKPbc SKiKP 10 20 00.6 -15
DBIC **Dimbokro** 128.54 273 PKP **PKPdf** 10 17 39.9 +0.1
comp=Z,6.7nm,0.4s,baz=85,slow=2.4,SNR=17
DBIC SKPbc SKiKP 10 20 00.6 -15
comp=Z,6.3nm,0.5s,baz=93,slow=3.9,SNR=11
W26A **Owens Ranch, T** 128.63 50 ⇓PKiKP **PKiKP** 10 17 40.7 +0.4
baz=129
T27A **Campo** 128.65 47 ⇑PKiKP **PKiKP** 10 17 41.5 +1.2
baz=129
LIC **Lamto** 128.68 272 *e*PKIKP **PKPdf** 10 17 40.2 +0.2
comp=Z,18nm,0.5s
125A **Gardner Draw,** 128.78 53 ⇑PKiKP **PKiKP** 10 17 41.5 +0.8
baz=129
X26A **CR and CF Fran** 128.79 51 ⇓PKiKP **PKiKP** 10 17 41.4 +0.7
baz=129
225A **Deer Hill, Car** 128.82 54 ⇓PKiKP **PKiKP** 10 17 41.7 +0.9
baz=129
Y26A **Elida** 129.00 52 ⇓PKiKP **PKiKP** 10 17 41.7 +0.6
baz=129
T28A **Walsh** 129.07 47 ⇑PKiKP **PKiKP** 10 17 41.4 +0.3
baz=129
425A **Indio Mountain** 129.09 56 ⇓PKiKP **PKiKP** 10 17 41.8 +0.4
baz=129
Z26A **Caprock** 129.11 52 ⇓PKiKP **PKiKP** 10 17 41.6 +0.3
baz=129
W27A **Bowe Ranch, En** 129.18 50 ⇑PKiKP **PKiKP** 10 17 42.1 +0.7
baz=129
126A **Clayton Basin,** 129.29 53 ⇓PKiKP **PKiKP** 10 17 42.4 +0.7
baz=129
X27A **F and S Farms,** 129.30 50 ⇓PKiKP **PKiKP** 10 17 42.4 +0.7
baz=129
ECSD **EROS Data Cent** 129.49 37 *e*PKPdf **PKPdf** 10 17 40.4 -0.4
Y27A **Causey** 129.53 51 ⇑PKiKP **PKiKP** 10 17 42.5 +0.4
baz=130
V28A **Channing** 129.54 49 ⇑PKiKP **PKiKP** 10 17 42.8 +0.7
baz=130
EYMN **Ely** 129.66 30 *e*PKPdf **PKPdf** 10 17 40.6 -0.4
Z27A **Tatum** 129.69 52 ⇓PKiKP **PKiKP** 10 17 42.9 +0.4
baz=130
326A **Caldwell Ranch** 129.75 55 ⇓PKiKP **PKiKP** 10 17 42.7 +0.1
baz=130
BGNE **Belgrade** 129.79 40 ⇓PKiKP **PKPdf** 10 17 41.8 +0.4
baz=130
127A **Arkansas Junct** 129.80 53 ⇓PKiKP **PKiKP** 10 17 43.1 +0.3
baz=130
MSTX **Muleshoe** 129.80 51 ⇓PKiKP **PKiKP** 10 17 42.8 +0.1
baz=130
426A **McDonald Obser** 129.91 56 ⇓PKiKP **PKiKP** 10 17 43.5 +0.4
baz=130
CBKS **Cedar Bluff** 130.01 44 ⇓PKiKP **PKiKP** 10 17 43.3 +0.4
baz=130
V29A **Stinnett** 130.02 48 ⇑PKiKP **PKiKP** 10 17 43.4 +0.4
baz=130
X28A **Dimmitt** 130.04 50 ⇓PKiKP **PKiKP** 10 17 43.7 +0.6
baz=130
626A **Big Bend Ranch** 130.16 57 ⇓PKiKP **PKiKP** 10 17 43.8 +0.3
baz=130
W29A **Amarillo** 130.22 49 ⇓PKiKP **PKiKP** 10 17 43.2 -0.3
baz=130
Y28A **McKinney Farm,** 130.23 51 ⇓PKiKP **PKiKP** 10 17 44.1 +0.6
baz=130
AMTX **Amarillo** 130.29 50 ⇑PKiKP **PKiKP** 10 17 44.2 +0.6
baz=130
Z28A **Tucker Farm, M** 130.35 52 ⇑PKiKP **PKPdf** 10 17 43.1 +0.3
baz=130
427A **Hayter Ranch,** 130.37 55 ⇓PKiKP **PKiKP** 10 17 44.3 +0.4
baz=130
527A **Woodward Ranch** 130.42 56 ⇑PKiKP **PKiKP** 10 17 44.1 0.0
baz=130
X29A **Tulia** 130.45 50 ⇑PKiKP **PKiKP** 10 17 44.1 +0.2
baz=130
TXAR **Lajitas Array** 130.61 57 PKP **PKPdf** 10 17 44.5 +1.0
TXAR SKPbc **SKPab** 10 20 08.2 -0.3
TXAR **Lajitas Array** 130.61 57 PKhKP PKPpre 10 17 28.1
comp=Z,0.4nm,0.9s,baz=18,slow=3.2,SNR=3.6
TXAR PKP **PKPdf** 10 17 44.5 +1.0
comp=Z,1.9nm,0.5s,baz=202,slow=2.1,SNR=25
TXAR SKPbc **SKPab** 10 20 08.2 -0.3
comp=Z,2.5nm,0.5s,baz=242,slow=3.0,SNR=32
328A **Wristen Ranch,** 130.68 54 ⇓PKiKP **PKiKP** 10 17 44.6 +0.1
baz=131
Y29A **Porterfield Fa** 130.69 51 ⇓PKiKP **PKiKP** 10 17 44.7 +0.3
baz=131
SPMN **St. Paul** 130.77 33 ⇓PKiKP **PKiKP** 10 17 44.2 +0.1
baz=131
PLCA **Paso Flores** 130.78 166 PKP **PKPdf** 10 17 44.2 +0.8
PLCA SKPbc **SKPbc** 10 20 08.0 0.0
PLCA **Paso Flores** 130.78 166 PKP **PKPdf** 10 17 44.2 +0.8
comp=Z,2.7nm,0.6s,baz=5.1,slow=3.3,SNR=13
PLCA SKPbc **SKPbc** 10 20 08.0 0.0
comp=Z,8.9nm,1.1s,baz=204,slow=2.4,SNR=9.8
Z29A **Hungry Hill Ra** 130.89 52 ⇑PKiKP **PKiKP** 10 17 44.9 0.0
baz=131
428A **Kincaid Ranch,** 130.99 55 ⇑PKiKP **PKiKP** 10 17 46.1 +0.9
baz=131
129A **Stewart Farms,** 131.00 52 ⇑PKiKP **PKiKP** 10 17 45.1 0.0
baz=131
528A **Cox Ranch, San** 131.09 56 ⇓PKiKP **PKiKP** 10 17 46.0 +0.6
baz=131
628A **Black Gap, Mar** 131.22 57 ⇑PKiKP **PKiKP** 10 17 46.1 +0.5
baz=131
SCHQ **Schefferville** 131.66 8 PKP **PKPdf** 10 17 44.5 0.0
SCHQ SKPbc **SKPbc** 10 20 09.8 -0.7
SCHQ **Schefferville** 131.66 8 PKP **PKPdf** 10 17 44.5 0.0
comp=Z,8.4nm,0.5s,baz=342,slow=1.4,SNR=44
SCHQ SKPbc **SKPbc** 10 20 09.8 -0.7
comp=Z,14nm,1.0s,baz=329,slow=2.7,SNR=10
KSU1 **Kansas State U** 131.99 42 *e*PKPdf **PKPdf** 10 17 47.0 +1.3
WMOK **Wichita Mounta** 132.53 48 *e*PKIKP **PKPdf** 10 17 47.4 +0.6
WMOK **Wichita Mounta** 132.53 48 *e*PKPdf **PKPdf** 10 17 47.4 +0.6
JCT **Junction City** 133.41 54 ⇓PKiKP **PKiKP** 10 17 50.2 +0.2
baz=133
TUL1 **Tulsa** 134.16 46 ⇓PKiKP **PKiKP** 10 17 51.2 -0.1
baz=134
MIAR **Mount Ida** 136.41 46 *e*PKIKP **PKPdf** 10 17 54.5 +0.5
MIAR **Mount Ida** 136.41 46 *e*PKPdf **PKPdf** 10 17 54.5 +0.5
FVM **French Village** 136.64 40 *e*PKIKP **PKPdf** 10 17 53.9 -0.4
FVM **French Village** 136.64 40 *e*PKPdf **PKPdf** 10 17 53.9 -0.4
SFIN **Scholer Farm** 137.12 35 ⇓PKiKP **PKiKP** 10 17 56.8 -0.3
baz=137
OLIL **Olney** 137.61 37 *e*PKPdf **PKPdf** 10 17 56.3 +0.2
WVT **Waverly** 139.41 40 PKHKP PKPpre 10 17 51.6
WVT **Waverly** 139.41 40 PKPpre PKPpre 10 17 51.6
ACSO **Alum Creek Sta** 139.45 31 PKPpre PKPpre 10 17 51.1
PLAL **Pickwick Lake** 139.95 42 PKPpre PKPpre 10 17 53.3
BINY **Binghamton** 141.05 23 PKPpre PKPpre 10 17 56.8
SWET **Sewanee** 141.19 40 PKPpre PKPpre 10 17 57.2
SSPA **Standing Stone** 141.57 26 *e*PKPdf **PKPdf** 10 17 59.1 -4.1
TZTN **Tazewell** 141.76 36 *e*PKPdf **PKPdf** 10 18 01.3 -2.4
LRAL **Lakeview Retre** 141.82 43 *e*PKPdf **PKPdf** 10 18 00.1 -3.7
CPCT **Cooper Cave** 141.92 38 *e*PKPdf **PKPdf** 10 17 59.8 -4.2
TKL **Tuckaleechee C** 142.23 37 *e*PKPdf **PKPdf** 10 18 01.3 -3.3
BRNJ **Basking Ridge** 142.90 23 *e*PKPdf **PKPdf** 10 18 04.0 -1.5

BRAL	**Brewton**	**142.93**	**46**	*e*PKPdf	**PKPdf**	**10 18 04.7**	**-1.2**
BLA	**Blacksburg**	**143.03**	**32**	*e*PKIKP	PKPab	10 18 04.0	0.0
BLA	**Blacksburg**	**143.03**	**32**	*e*PKPdf	PKPab	10 18 04.0	0.0
SDMD	**Soldier's Deli**	**143.04**	**26**	*e*PKPdf	PKPab	10 18 03.9	0.0
GOGA	**Godfrey**	**143.91**	**40**	*e*PKIKP	PKPbc	10 18 07.2	+0.1
GOGA	**Godfrey**	**143.91**	**40**	*e*PKPbc	PKPbc	10 18 07.2	+0.1
KMSC	**Kings Mountain** baz=144	**144.03**	**36**	⇓*i*PKIKP	**PKPab**	**10 18 07.9**	**0.0**
JSC	**Jenkinsville**	**144.68**	**37**	*e*PKIKP	PKPbc	10 18 09.7	+0.3
JSC	**Jenkinsville**	**144.68**	**37**	*e*PKPbc	PKPbc	10 18 09.7	+0.3
CAM4	**Nova Friburgo**	**147.66**	**205**	⇓*i*P	**PKPbc**	**10 18 19.1**	**+0.9**
CAM4				*i*		10 18 22.2	
CAM4				*i*		10 18 23.7	
CAM4				*i*		10 18 28.1	
CAM4				*i*		10 18 38.8	
CAM4				*i*		10 18 49.0	
LVC	**Limon Verde**	**148.19**	**158**	*e*PKPbc	**PKPbc**	**10 18 21.1**	**+1.5**
TGUH	**Tegucigalpa,Un**	**149.18**	**74**	*e*PKPbc	**PKPbc**	**10 18 22.8**	**+1.0**
NNA	**Nana**	**152.46**	**133**	*e*PKPdf	**PKPdf**	**10 18 22.8**	**+1.0**
NNA				*e*PKPbc	**PKiKP**	**10 18 29.9**	**+0.4**
NNA				*e*PKPab	**PKPab**	**10 18 43.9**	**+0.8**
LPAZ	**La Paz**	**154.21**	**154**	*e*PKPdf	**PKPdf**	**10 18 26.2**	**+1.3**
BDFB	**Brasilia**	**155.87**	**201**	PKP	**PKPdf**	**10 18 26.4**	**-0.1**
BDFB				PKPab	**PKPab**	**10 18 58.0**	**+0.5**
BDFB	**Brasilia** comp=Z,2.2nm,0.6s,baz=74,slow=4.1,SNR=4.0	**155.87**	**201**	PKP	**PKPdf**	**10 18 26.4**	**-0.1**
BDFB	comp=Z,5.4nm,0.8s,baz=156,slow=8.4,SNR=6.0			PKPab	**PKPab**	**10 18 58.0**	**+0.5**

DDA 06 10:05:52.1,38°26N×38°13E,h7km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKCD	**Akcadag**	**0.17**	**283**	*i* P	Pg	10 05 55.7	0.0
AKCD				*i* S	Sg	10 05 58.6	+0.4
ELZG	**Elazig**	**0.71**	**70**	*i* P	Pg	10 06 06.2	+0.1
ELZG				*i* S	Sb	10 06 16.8	-0.6
KEMA	**Kemaliye**	**1.05**	**16**	*i* P	Pg	10 06 10.8	-1.6
KEMA				*i* S	Sb	10 06 27.4	+0.6

*NEIC **06** 10:27:04.9±2.4, 1.26N×127.11E,h56km±23km,mb4.3/5, Error ellipse: s-maj=21.5km s-min=8.5km az=70.0*
*IDC **06** 10:27:06.7±2.3, 1.26N×127.11E,h72km±20km,mb3.8/11, mb1 4.0/13,mb1mx3.8/21,mbtmp3.9/13,MS3.3/1, Ms1 3.3/1,ms1mx2.4/33,Error ellipse: s-maj=30.6km s-min=12.2km az=79.0*
*DJA **06** 10:27:07, 1.36N×126.86E,h34km,MLv4.6/6*

ISC 06 10:27:07.4±1.1,1.18N±0.07×126.9E±0.1,h80km±8km,n34, σ1°10/44,mb4.2/13,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**9.40**	**229**	P	**Pn**	**10 29 21.1**	**+1.0**
KAPI				*e*Pn	Pn	10 29 21.6	+1.5
KAPI				S	**Sn**	**10 31 01.7**	**-2.5**
KAPI				*e*Sn	Sn	10 31 09.1	+4.9
KAPI	**Kappang** 3.8nm,0.3s,baz=51,slow=13,SNR=5.2	**9.40**	**229**	P	**Pn**	**10 29 21.1**	**+1.0**
KAPI	2.9nm,0.3s,baz=197,slow=17,SNR=4.4			S	**Sn**	**10 31 01.7**	**-2.5**
FITZ	**Fitzroy Crossi** 1.8nm,0.5s	**19.20**	**184**	*e*P	**P**	**10 31 23.2**	**-1.8**
FITZ	**Fitzroy Crossi** 0.6nm,0.3s,baz=9.6,slow=8.8,SNR=5.3	**19.20**	**184**	P	**P**	**10 31 25.1**	**+0.1**
WRAB	**Tennant Creek** 12nm,0.8s	**22.23**	**161**	*e*P	**P**	**10 31 57.4**	**-0.3**
WRA	**Warramunga Arr**	**22.23**	**161**	P	**P**	**10 31 57.3**	**-0.4**
WRA	**Warramunga Arr** 9.3nm,0.6s,baz=340,slow=11,SNR=111	**22.23**	**161**	P	**P**	**10 31 57.3**	**-0.4**
WRA	comp=Z,66nm,18.1s,baz=50,slow=35			LR	LR	10 40 11.7	
AS31	**Alice Springs**	**25.62**	**165**	*e*P	**P**	**10 32 30.0**	**+0.3**
ASAR	**Alice Springs**	**25.63**	**165**	P	**P**	**10 32 30.0**	**+0.3**
ASAR				PcP	**PcP**	**10 35 59.0**	**+0.2**
ASAR				S	S	10 37 00.4	+8.1
ASAR	**Alice Springs** 4.0nm,0.3s,baz=348,slow=12,SNR=34	**25.63**	**165**	P	**P**	**10 32 30.0**	**+0.3**
ASAR	0.4nm,0.5s,baz=357,slow=1.9,SNR=4.1			PcP	**PcP**	**10 35 59.0**	**+0.2**
ASAR	1.4nm,0.7s,baz=346,slow=20,SNR=6.8			S	S	10 37 00.4	+8.1
NWAO	**Narrogin (SRO)** 10nm,0.9s	**35.12**	**194**	*e*P	**P**	**10 33 53.9**	**+0.6**
NWAO	**Narrogin (SRO)** 9.0nm,0.9s,baz=27,slow=6.8,SNR=5.3	**35.12**	**194**	P	**P**	**10 33 54.4**	**+1.1**
STKA	**Stephens Creek** 0.5nm,0.4s	**35.72**	**158**	*e*P	**P**	**10 33 59.2**	**+0.7**
STKA	**Stephens Creek** 4.5nm,0.7s,baz=334,slow=9.2,SNR=15	**35.72**	**158**	P	**P**	**10 33 59.1**	**+0.7**
KSAR	**Wonju Array Be**	**36.10**	**1**	P	**P**	**10 34 01.0**	**-0.6**
KSRS	**Korea Array** 0.6nm,0.5s,baz=176,slow=11,SNR=3.5	**36.11**	**1**	P	**P**	**10 34 01.0**	**-0.7**
MJAR	**Matsushiro Arr**	**36.72**	**15**	P	**P**	**10 34 04.6**	**-2.4**
MJAR	**Matsushiro Arr** 0.9nm,0.5s,baz=192,slow=9.4,SNR=4.3	**36.72**	**15**	P	**P**	**10 34 04.6**	**-2.4**
SONM	**Songino Array**	**49.75**	**342**	P	**P**	**10 35 52.2**	**+0.3**
SONM				pP	**pP**	**10 36 11.8**	**+0.2**
SONM				ScP	**ScP**	**10 40 59.8**	**-0.6**
SONM	**Songino Array** 1.8nm,0.8s,baz=152,slow=8.4,SNR=14	**49.75**	**342**	P	**P**	**10 35 52.2**	**+0.3**
SONM	1.6nm,0.7s,baz=154,slow=9.1,SNR=7.4			pP	**pP**	**10 36 11.8**	**+0.2**
SONM	0.5nm,1.0s,baz=148,slow=3.2,SNR=3.6			ScP	**ScP**	**10 40 59.8**	**-0.6**
MK31	**Makanchi Array**	**59.73**	**326**	*e*P	**P**	**10 37 04.6**	**+0.7**
MKAR	**Makanchi Array**	**59.73**	**326**	P	**P**	**10 37 04.6**	**+0.7**
MKAR				ScP	**ScP**	**10 41 44.0**	**-0.1**
MKAR	**Makanchi Array** 1.7nm,0.5s,baz=120,slow=8.2,SNR=27	**59.73**	**326**	P	**P**	**10 37 04.6**	**+0.7**
MKAR	0.4nm,0.8s,baz=112,slow=4.4,SNR=4.0			ScP	**ScP**	**10 41 44.0**	**-0.1**
ZALV	**Zalesovo Beam**	**62.91**	**334**	P	**P**	**10 37 25.0**	**-0.2**
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=141,slow=9.3,SNR=3.1	**62.91**	**334**	P	**P**	**10 37 25.0**	**-0.2**
KURK	**Kurchatov** 8.6nm,0.8s	**63.96**	**328**	*e*P	**P**	**10 37 32.9**	**+0.8**
AKTO	**Aktyubinsk**	**75.73**	**322**	P	**P**	**10 38 46.4**	**+1.9**
AKTO	**Aktyubinsk** 1.2nm,0.5s,baz=96,slow=9.2,SNR=6.9	**75.73**	**322**	P	**P**	**10 38 46.4**	**+1.9**
ILAR	**Eielson Array**	**87.34**	**25**	P	**P**	**10 39 43.9**	**-1.5**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=243,slow=5.7,SNR=6.0	**87.34**	**25**	P	**P**	**10 39 43.9**	**-1.5**
TXAR	**Lajitas Array**	**123.02**	**54**	PKPpre	PKPpre	10 45 48.9	
TXAR				PKP	**PKPdf**	**10 45 55.6**	**+0.1**
TXAR	**Lajitas Array** 0.7nm,1.1s,baz=11,slow=1.3,SNR=4.0	**123.02**	**54**	PKhKP	PKPpre	10 45 48.9	
TXAR	0.3nm,0.6s,baz=170,slow=2.5,SNR=3.7			PKP	**PKPdf**	**10 45 55.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**123.81**	**287**	PKP	**PKPdf**	**10 45 57.4**	**+0.2**
TORD	**Torodi Ar. Bea** 0.2nm,0.4s,baz=87,slow=2.0,SNR=6.2	**123.81**	**287**	PKP	**PKPdf**	**10 45 57.4**	**+0.2**

*ISCJB **06** 10:36:24.7±0.3,35.73N±0.03×24.58E±0.04,h93km±4km, mb3.6/3,Error ellipse: s-maj=5.8km s-min=3.6km az=44.4*
*HLW **06** 10:36:25.2,35.83N×24.77E,h33km±29km,Md0.0,Ml3.9*
*ATH **06** 10:36:26.5,35.86N×24.57E,h52km±4km,MD3.5/21*
*CSEM **06** 10:36:27.5±0.1,35.83N×24.56E,h60km,MD3.5,Error ellipse: s-maj=2.8km s-min=1.9km az=45.0*
*IDC **06** 10:36:27.9±3.1,35.55N×24.84E,h86km±32km,mb3.4/3, mb1 3.4/7,mb1mx3.2/28,mbtmp3.3/7,Error ellipse: s-maj=36.2km s-min=21.6km az=140.0*
*THE **06** 10:36:28.2,35.85N×24.57E,h50km±4km,ML3.3/4,Error ellipse: s-maj=4.4km s-min=0.5km az=202.0*

ISC 06 10:36:26.1±0.8,35.77N±0.03×24.55E±0.03,h82km±6km, n94,σ1°35/123,mb3.6/3,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAM	**Vamos**	**0.46**	**219**	P	**Pn**	**10 36 39.7**	**+0.1**
VAM				S	**Sn**	**10 36 48.5**	**-1.1**
VAM	**Vamos**	**0.46**	**219**	*e*P	**Pn**	**10 36 39.6**	**0.0**
VAM				*e*S	**Sn**	**10 36 48.6**	**-1.1**
VAM	**Vamos**	**0.46**	**219**	*e*P	**Pn**	**10 36 39.6**	**0.0**
VAM				*e*S	**Sn**	**10 36 48.6**	**-1.1**
IDI	**Anoyia**	**0.55**	**150**	P	**Pn**	**10 36 40.4**	**-0.1**
IDI				S	**Sn**	**10 36 49.9**	**-1.3**
IDI	**Anoyia**	**0.55**	**150**	*e*P	**Pn**	**10 36 40.3**	**-0.2**
IDI				*e*S	**Sn**	**10 36 49.6**	**-1.6**
IDI	**Anoyia**	**0.55**	**150**	P	**Pn**	**10 36 40.4**	**-0.1**
IDI				S	**Sn**	**10 36 49.9**	**-1.3**
KARN	**Karanos**	**0.63**	**235**	P	**Pn**	**10 36 41.6**	**+0.3**
KARN				S	**Sn**	**10 36 51.8**	**-0.6**
KARN	**Karanos**	**0.63**	**235**	*e*P	**Pn**	**10 36 41.5**	**+0.3**
KARN				*e*S	**Sn**	**10 36 51.2**	**-1.2**
KARN	**Karanos**	**0.63**	**235**	*e*P	**Pn**	**10 36 41.5**	**+0.3**
KARN				S	**Sn**	**10 36 51.8**	**-0.6**
SIVA	**Sivas**	**0.78**	**164**	P	**Pn**	**10 36 43.9**	**+1.2**
SIVA				S	**Sn**	**10 36 55.7**	**+0.7**
SIVA	**Sivas**	**0.78**	**164**	*e*P	**Pn**	**10 36 43.8**	**+1.1**
SIVA				*e*S	**Sn**	**10 36 55.4**	**+0.4**
SIVA	**Sivas**	**0.78**	**164**	*e*P	**Pn**	**10 36 43.8**	**+1.1**
SIVA				*e*S	**Sn**	**10 36 55.4**	**+0.4**
LAST	**Lasithi**	**0.97**	**128**	P	**Pn**	**10 36 45.5**	**+0.5**
LAST				S	**Sn**	**10 36 59.1**	**+0.1**
LAST	**Lasithi**	**0.97**	**128**	*e*P	**Pn**	**10 36 45.4**	**+0.5**
LAST	**Lasithi**	**0.97**	**128**	*e*P	**Pn**	**10 36 45.4**	**+0.5**
LAST				S	**Sn**	**10 36 59.1**	**+0.1**
GVD	**Gavdhos**	**1.00**	**202**	P	**Pn**	**10 36 46.6**	**+1.3**
GVD	**Gavdhos**	**1.00**	**202**	*e*P	**Pn**	**10 36 46.5**	**+1.3**
GVD	**Gavdhos**	**1.00**	**202**	*e*P	**Pn**	**10 36 46.5**	**+1.3**
NPS	**Neapolis**	**1.00**	**120**	P	**Pn**	**10 36 45.8**	**+0.6**
NPS				S	**Sn**	**10 37 00.7**	**+1.2**
NPS	**Neapolis**	**1.00**	**120**	*e*P	**Pn**	**10 36 45.3**	**+0.1**
NPS	**Neapolis**	**1.00**	**120**	P	**Pn**	**10 36 45.8**	**+0.6**
NPS				S	**Sn**	**10 37 00.7**	**+1.2**
XRY	**Khrisi**	**1.29**	**133**	*e*P	**Pn**	**10 36 50.5**	**+1.8**
XRY	**Khrisi**	**1.29**	**133**	*e*P	**Pn**	**10 36 50.5**	**+1.8**
KYTH	**Kithira**	**1.33**	**293**	P	**Pn**	**10 36 49.2**	**-0.1**
KYTH				S	**Sn**	**10 37 06.8**	**0.0**
KYTH	**Kithira**	**1.33**	**293**	*e*P	**Pn**	**10 36 49.2**	**-0.1**
KYTH	**Kithira**	**1.33**	**293**	*e*P	**Pn**	**10 36 49.2**	**-0.1**
KYTH				S	**Sn**	**10 37 06.8**	**0.0**
ZKR	**Zakros**	**1.51**	**115**	P	**Pn**	**10 36 52.9**	**+1.4**
ZKR				S	**Sn**	**10 37 12.7**	**+1.9**
ZKR	**Zakros**	**1.51**	**115**	*e*P	**Pn**	**10 36 52.8**	**+1.3**
ZKR	**Zakros**	**1.51**	**115**	*e*P	**Pn**	**10 36 52.8**	**+1.3**
ZKR				S	**Sn**	**10 37 12.7**	**+1.9**
APE	**Apeiranthos**	**1.52**	**31**	P	**Pn**	**10 36 51.7**	**-0.1**
APE				S	**Sn**	**10 37 09.6**	**-1.6**
APE	**Apeiranthos**	**1.52**	**31**	*e*P	**Pn**	**10 36 51.5**	**-0.3**
APE	**Apeiranthos**	**1.52**	**31**	P	**Pn**	**10 36 51.7**	**-0.1**
APE				S	**Sn**	**10 37 09.6**	**-1.6**
VLI	**Veliai**	**1.61**	**307**	P	**Pn**	**10 36 53.1**	**+0.1**
VLI				S	**Sn**	**10 37 12.7**	**-0.6**
VLI	**Veliai**	**1.61**	**307**	*e*P	**Pn**	**10 36 53.0**	**+0.1**
VLI	**Veliai**	**1.61**	**307**	P	**Pn**	**10 36 53.1**	**+0.1**
VLI				S	**Sn**	**10 37 12.7**	**-0.6**
DIDY	**Didyma**	**2.02**	**328**	P	**Pn**	**10 36 58.9**	**+0.6**
DIDY				S	**Sn**	**10 37 23.1**	**+0.2**
DIDY	**Didyma**	**2.02**	**328**	P	**Pn**	**10 36 58.9**	**+0.6**
DIDY				S	**Sn**	**10 37 23.1**	**+0.2**
DID	**Didima**	**2.03**	**329**	P	**Pn**	**10 36 59.0**	**+0.5**
DID				S	**Sn**	**10 37 22.4**	**-0.8**
DID	**Didima**	**2.03**	**329**	*e*P	**Pn**	**10 36 58.9**	**+0.5**
DID	**Didima**	**2.03**	**329**	*e*P	**Pn**	**10 36 58.9**	**+0.5**
DID				S	**Sn**	**10 37 22.4**	**-0.8**
KARP	**Karpathos**	**2.13**	**95**	P	**Pn**	**10 37 00.4**	**+0.6**
KARP	**Karpathos**	**2.13**	**95**	*e*P	**Pn**	**10 37 00.3**	**+0.5**
KARP	**Karpathos**	**2.13**	**95**	P	**Pn**	**10 37 00.4**	**+0.6**
NAIG	**Nisos Aigina**	**2.16**	**337**	*e*P	**Pn**	**10 37 00.8**	**+0.6**
NAIG	**Nisos Aigina**	**2.16**	**337**	*e*P	**Pn**	**10 37 00.8**	**+0.6**
PTL	**Penteli**	**2.34**	**347**	P	**Pn**	**10 37 03.7**	**+1.1**
PTL	**Penteli**	**2.34**	**347**	*e*P	**Pn**	**10 37 03.5**	**+0.9**
PTL	**Penteli**	**2.34**	**347**	*e*P	**Pn**	**10 37 03.5**	**+0.9**
VLX	**Vlachokerasia**	**2.37**	**313**	P	**Pn**	**10 37 04.3**	**+1.3**
VLX	**Vlachokerasia**	**2.37**	**313**	*e*P	**Pn**	**10 37 04.0**	**+1.0**
VLX	**Vlachokerasia**	**2.37**	**313**	*e*P	**Pn**	**10 37 04.0**	**+1.0**
PYL	**PYLOS**	**2.53**	**297**	*e*P	**Pn**	**10 37 05.4**	**+0.3**
PYL	**PYLOS**	**2.53**	**297**	*e*P	**Pn**	**10 37 05.4**	**+0.3**
ITM	**Ithomi**	**2.54**	**304**	P	**Pn**	**10 37 06.5**	**+1.2**
ITM	**Ithomi**	**2.54**	**304**	*e*P	**Pn**	**10 37 06.4**	**+1.2**
ITM	**Ithomi**	**2.54**	**304**	*e*P	**Pn**	**10 37 06.4**	**+1.2**
LTK	**Loutraki**	**2.59**	**331**	P	**Pn**	**10 37 06.9**	**+1.0**
LTK				S	**Sn**	**10 37 36.2**	**-0.2**
LTK	**Loutraki**	**2.59**	**331**	*e*PB	**Pn**	**10 37 06.9**	**+1.0**
LTK	**Loutraki**	**2.59**	**331**	P	**Pn**	**10 37 06.9**	**+1.0**
LTK				S	**Sn**	**10 37 36.2**	**-0.2**
LTK	**Loutraki**	**2.59**	**331**	*e*Pb	**Pn**	**10 37 06.9**	**+1.0**
SMG	**Samos**	**2.67**	**43**	*e*P	**Pn**	**10 37 07.4**	**+0.4**
SMG	**Samos**	**2.67**	**43**	*e*P	**Pn**	**10 37 07.4**	**+0.4**
CHOS	**Chios island**	**2.88**	**24**	*e*P	**Pn**	**10 37 10.0**	**+0.2**
CHOS	**Chios island**	**2.88**	**24**	*e*P	**Pn**	**10 37 10.0**	**+0.2**
AYDN	**Tasoluk**	**3.27**	**54**	*i* P	Pn	10 37 42.9	+28
				i S	**Sn**	**10 37 50.3**	**-2.8**
AYDN	**Tasoluk**	**3.27**	**54**	*i* S	**Sn**	**10 37 50.3**	**-2.8**
TURN	**Turunc**	**3.45**	**70**	*i* P	Pn	10 37 14.2	-3.3
TURN				*i* S	Sn	10 37 46.6	-11
TURN	**Turunc**	**3.45**	**70**	*i* P	Pn	10 37 14.2	-3.3
AKAS	**Kas**	**4.12**	**82**	*i* P	**Pn**	**10 37 25.6**	**-1.2**
AKAS				*i* S	**Sn**	**10 38 12.1**	**-1.8**
AKAS	**Kas**	**4.12**	**82**	*i* P	**Pn**	**10 37 25.6**	**-1.2**
AKAS				*i* S	**Sn**	**10 38 12.1**	**-1.8**
GOLH	**Golhisar**	**4.29**	**69**	*i* P	**Pn**	**10 37 30.6**	**+1.5**
GOLH	**Golhisar**	**4.29**	**69**	*i* P	**Pn**	**10 37 30.6**	**+1.5**
SLUM		**4.30**	**172**	P	**Pn**	**10 37 27.8**	**-1.3**
HMAT	**Matruh**	**5.12**	**155**	S	**Sn**	**10 38 33.6**	**-4.5**
HMAT	**Matruh** baz=157	**5.12**	**155**	S	**Sn**	**10 38 33.6**	**-4.5**
HMAT	comp=N,80μm,0.2s,logA/T=5.5,baz=157			AMP		10 38 00.0	
SWA2		**6.55**	**173**	P	**Pn**	**10 37 58.7**	**-1.1**
SWA2	baz=174	**6.55**	**173**	P	**Pn**	**10 37 58.7**	**-1.1**
SWA2	comp=N,110μm,0.3s,logA/T=5.6,baz=174			AMP		10 39 00.0	
HBRG	**Burj al 'Arab** baz=139	**6.81**	**138**	S	Sn	10 39 13.6	-5.9
HNAT	**Natroun**	**7.97**	**138**	P	**Pn**	**10 38 17.2**	**-1.9**
HNAT	**Natroun** baz=139	**7.97**	**138**	P	**Pn**	**10 38 17.2**	**-1.9**
BRTR	**Keskin Array B** comp=N,0.2nm,0.3s,baz=246,slow=15,SNR=6.2	**8.21**	**59**	P	**Pn**	**10 38 25.0**	**+2.5**
HSAF	**As Saff** baz=135	**8.51**	**134**	P	**Pn**	**10 38 24.1**	**-2.4**
GLL	**Jalalah** baz=135	**8.63**	**134**	P	**Pn**	**10 38 25.8**	**-2.4**
AMAG	**Maghara** baz=123	**8.87**	**123**	P	Pn	10 38 27.9	-3.6
SUZ		**9.13**	**128**	P	**Pn**	**10 38 32.8**	**-2.2**
SUZ	baz=129	**9.13**	**128**	P	**Pn**	**10 38 32.8**	**-2.2**
HFRF	**Wahat Farafira**	**9.17**	**159**	P	**Pn**	**10 38 33.6**	**-1.9**
HFRF	**Wahat Farafira** baz=159	**9.17**	**159**	P	**Pn**	**10 38 33.6**	**-1.9**
MMAI	**Mount Meron Ar** baz=288,slow=12,SNR=2.8	**9.38**	**104**	P	**Pn**	**10 38 35.4**	**-3.0**
EIL	**Elat** comp=N,0.9nm,0.3s,baz=346,slow=4.2,SNR=19	**10.66**	**122**	P	**Pn**	**10 38 52.9**	**-3.0**
EIL	comp=N,0.4nm,0.3s,baz=79,slow=19,SNR=3.1			S	Sn	10 40 43.2	-10
GERES	**GERESS Array B** comp=N,0.2nm,0.3s,baz=140,slow=12,SNR=5.8	**15.31**	**332**	P	**P**	**10 40 01.8**	**+1.2**
TORD	**Torodi Ar. Bea** comp=N,0.6nm,0.5s,baz=37,slow=9.2,SNR=6.9	**30.51**	**228**	P	**P**	**10 42 33.5**	**+1.9**
MKAR	**Makanchi Array** comp=N,0.3nm,0.3s,baz=269,slow=7.7,SNR=13	**43.86**	**57**	P	**P**	**10 44 25.2**	**+1.1**
MKAR				pP	**pP**	**10 44 46.2**	**+2.4**
ZALV	**Zalesovo Beam** comp=N,0.5nm,0.4s,baz=262,slow=8.6,SNR=1.8	**44.95**	**47**	P	**P**	**10 44 33.0**	**+0.4**

*CSEM **06** 10:36:50.1,38.37N×22.02E,h5km,MD3.2,After ATH*

ATH 06 10:36:50.1,38.37N×22.02E,h5km,MD3.2/4,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.11**	**302**	*e*PG	Pg	10 36 52.4	+0.1
EFP				*e*SG	Sg	10 36 54.3	+0.4
EFP	**Efpalio**	**0.11**	**302**	*e*Pg	Pg	10 36 52.4	+0.1
EFP				*e*Sg	Sg	10 36 54.3	+0.4
UPR	**University Cam**	**0.20**	**245**	*e*PG	Pg	10 36 54.2	+0.1
UPR				*e*SG	Sg	10 36 57.6	+0.8
UPR	**University Cam**	**0.20**	**245**	*e*Pg	Pg	10 36 54.2	+0.1
UPR				*e*Sg	Sg	10 36 57.6	+0.8
GUR	**Goura**	**0.50**	**149**	*e*PG	Pg	10 36 59.6	-0.3
GUR				*e*SB	Sg	10 37 07.6	+1.0
GUR	**Goura**	**0.50**	**149**	*e*Pg	Pg	10 36 59.6	-0.3
GUR				*e*Sb	Sg	10 37 07.6	+1.0
RLS	**Riolos of Patr**	**0.54**	**235**	*e*PG	Pg	10 37 00.3	-0.1
RLS				*e*SB	Sb	10 37 08.9	-1.1
RLS	**Riolos of Patr**	**0.54**	**235**	*e*Pg	Pg	10 37 00.3	-0.1
RLS				*e*Sb	Sb	10 37 08.9	-1.1
EVR	**Evrytania**	**0.57**	**343**	*e*PG	Pg	10 37 00.7	-0.6
EVR				*e*SB	Sg	10 37 09.9	+1.1
EVR	**Evrytania**	**0.57**	**343**	*e*Pg	Pg	10 37 00.7	-0.6
EVR				*e*Sb	Sg	10 37 09.9	+1.1
LKR	**Lokris**	**0.82**	**70**	*e*PG	Pg	10 37 05.6	-0.2
LKR	**Lokris**	**0.82**	**70**	*e*Pg	Pg	10 37 05.6	-0.2

IDC 06 10:44:36.0±17.0,17.81S×177.79W,h520km±160km, mb3.1/3,mb1 3.3/3,mb1mx2.9/17,mbtmp3.1/3,Error ellipse: s-maj=130.2km s-min=71.2km az=112.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek** 1.0nm,0.7s,baz=90,slow=12,SNR=3.0	**39.19**	**241**	P	P	10 51 19.8	+0.6
WRA	**Warramunga Arr** 1.0nm,0.4s,baz=94,slow=7.3,SNR=47	**45.23**	**259**	P	P	10 52 06.5	-0.3
WRA	0.2nm,0.3s,baz=89,slow=3.6,SNR=5.0			PcP	PcP	10 53 34.5	-1.5
ASAR	**Alice Springs** 2.0nm,0.4s,baz=90,slow=8.2,SNR=42	**45.38**	**254**	P	P	10 52 08.0	-0.1
ASAR	0.5nm,0.6s,baz=104,slow=3.7,SNR=6.3			PcP	PcP	10 53 35.2	-1.4
BRTR	**Keskin Array B** 0.7nm,0.9s,baz=66,slow=3.9,SNR=4.1	**145.13**	**315**	PKPbc	PKPbc	11 03 15.1	-0.3
GERES	**GERESS Array B** 0.4nm,0.5s,baz=348,slow=4.1,SNR=2.7	**147.67**	**346**	PKPbc	PKPbc	11 03 21.8	-0.2

*ISK **06** 10:54:58.7,39.97N×28.87E,h5km,MD2.6*
*DDA **06** 10:54:58.6,39.98N×28.86E,h13km,MD2.7*
*ISCJB **06** 10:54:59.1±0.4,39.96N±0.03×28.86E±0.03,h6km±5km, Error ellipse: s-maj=5.0km s-min=3.4km az=44.2*
*CSEM **06** 10:54:59.1±0.1,39.97N×28.88E,h5km,MD2.6,Error ellipse: s-maj=2.2km s-min=1.9km az=117.0*

ISC 06 10:54:59.1±0.9,39.97N±0.02×28.87E±0.02,h7km±6km, n32,σ0°47/56,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ORLT	**Orhaneli**	**0.08**	**14**	*e*PG	**Pg**	**10 55 01.0**	**-0.2**
ORLT				*e*SG	**Sg**	**10 55 02.8**	**+0.2**
ORLT	**Orhaneli**	**0.08**	**14**	*e*Pg	**Pg**	**10 55 01.0**	**-0.2**
ORLT				*e*Sg	**Sg**	**10 55 02.8**	**+0.2**
ULDT	**Uludag**	**0.27**	**49**	*i* P	**Pg**	**10 55 04.5**	**+0.1**
ULDT				*i* S	**Sg**	**10 55 08.4**	**+0.4**
ULDT	**Uludag**	**0.27**	**49**	*i* P	**Pg**	**10 55 04.5**	**+0.1**
ULDT				*i* S	**Sg**	**10 55 08.4**	**+0.4**
DST	**Dursunbey**	**0.41**	**208**	*e*PG	**Pg**	**10 55 07.2**	**+0.1**
DST				*e*SG	**Sg**	**10 55 13.2**	**+0.6**
DST	**Dursunbey**	**0.41**	**208**	*e*Pg	**Pg**	**10 55 07.2**	**+0.1**
DST				*e*Sg	**Sg**	**10 55 13.2**	**+0.6**
DURS	**Dursunbey**	**0.48**	**220**	*i* P	**Pg**	**10 55 08.5**	**+0.1**
DURS				*i* S	**Sg**	**10 55 14.8**	**+0.2**
DURS	**Dursunbey**	**0.48**	**220**	*i* P	**Pg**	**10 55 08.5**	**+0.1**
DURS				*i* S	**Sg**	**10 55 14.8**	**+0.2**
KCTX	**Karacabey (Bur**	**0.49**	**307**	*e*PG	**Pg**	**10 55 09.2**	**+0.5**
KCTX				*e*SG	**Sb**	**10 55 16.7**	**-0.9**
KCTX	**Karacabey (Bur**	**0.49**	**307**	*e*Pg	**Pg**	**10 55 09.2**	**+0.5**
KCTX				*e*Sg	**Sb**	**10 55 16.7**	**-0.9**
ARMT	**Armutlu**	**0.60**	**359**	*e*PG	**Pg**	**10 55 10.8**	**+0.2**
ARMT				*e*SG	**Sg**	**10 55 19.2**	**+0.8**
ARMT	**Armutlu**	**0.60**	**359**	*e*Pg	**Pg**	**10 55 10.8**	**+0.2**
ARMT				*e*Sg	**Sg**	**10 55 19.2**	**+0.8**
BALB	**Balikesir**	**0.83**	**247**	*e*PG	**Pg**	**10 55 14.8**	**-0.2**
BALB				*e*SG	**Sg**	**10 55 26.6**	**+0.7**
BALB	**Balikesir**	**0.83**	**247**	*e*Pg	**Pg**	**10

SPN	**Mys Shipunski**	**1.61**	**30**	*e*P	Pb	11 03 14.7	+0.3
SPN				*i* S	Sb	11 03 36.5	+2.3
MKZ	**Mys Kozlova**	**3.38**	**32**	*e*P	Pn	11 03 37.9	+1.2
MKZ				*i* S	Sn	11 04 17.5	+1.4
KBTR	**Krutoberegovo**	**5.12**	**27**	*e*P	Pn	11 04 02.0	+1.4
KBTR				*i* S	Sn	11 04 59.6	+0.8

IDC 06 11:05:24.4±1.8, 1°06'N×126°50'E, *h*0 km, mb3.3/4, mb1 3.4/4, mb1mx3.3/18, mbtmp3.3/4, Error ellipse: s-maj=183.6km s-min=22.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.25**	**160**	P	P	11 10 21.7	-1.3
	0.5nm,0.6s,baz=338,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**25.61**	**164**	P	P	11 10 56.5	+0.9
	0.3nm,0.4s,baz=344,slow=11,SNR=8.1						
MKAR	**Makanchi Array**	**59.62**	**326**	P	P	11 15 30.2	-0.1
	0.2nm,0.5s,baz=116,slow=6.6,SNR=3.3						
KURBB	**Kurchatov Arra**	**63.86**	**328**	P	P	11 15 58.7	0.0
	0.2nm,0.4s,baz=129,slow=6.6,SNR=5.4						

*IDC **06** 11:14:44.4±1.3, 51°58'N×178°60'E, h0 km, mb3.9/10, mb1 4.1/11, mb1mx3.9/29, mbtmp3.9/11, ML4.2/1, MS3.5/3, Ms1 3.5/3, ms1mx2.9/51, Error ellipse: s-maj=44.9km s-min=17.1km az=172.0*

*ISCJB **06** 11:14:50.5±0.8, 51°.5N±0°.1×178°.50E±0°.05, h65 km±6 km, mb3.9/11, Error ellipse: s-maj=24.3km s-min=4.6km az=5.5*

*NEIC **06** 11:14:51.8±0.7, 51°.58N×178°.55E, h57 km±6 km, mb4.1/3, ML3.8(AEIC), Error ellipse: s-maj=20.8km s-min=5.3km az=182.0*

ISC 06 11:14:52.3±1.3, 51°.7N±0°.2×178°.54E±0°.04, h59 km±11 km, n44, σ0§90/49, mb4.0/11, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAKI	**Gareloi-Kavalg**	**1.66**	**94**	P	**Pn**	**11 15 17.8**	**-1.2**
GANE	**Gareloi Northe**	**1.67**	**85**	P	**Pn**	**11 15 18.8**	**-0.5**
GALAA	**Gareloi Lava P**	**1.67**	**87**	P	**Pn**	**11 15 18.9**	**-0.3**
GALAA				S	**Sn**	**11 15 40.7**	**+1.1**
TASE	**Tanaga Southea**	**2.13**	**85**	P	**Pn**	**11 15 25.2**	**-0.3**
TASE				S	**Sn**	**11 15 52.0**	**+1.1**
TAFP	**Tanaga Falls P**	**2.17**	**83**	P	**Pn**	**11 15 25.4**	**-0.5**
TAFP				S	**Sn**	**11 15 52.5**	**+0.8**
TAFL	**Tanaga Flats**	**2.22**	**87**	P	**Pn**	**11 15 26.5**	**-0.1**
KIMD	**Kanaga Island**	**2.63**	**87**	P	**Pn**	**11 15 31.8**	**-0.4**
SMY	**Shemya**	**2.92**	**292**	P	**Pn**	**11 15 36.6**	**+0.5**
SMY				S	**Sn**	**11 16 12.4**	**+2.4**
ADK	**Adak**	**2.97**	**85**	P	**Pn**	**11 15 36.5**	**-0.4**
ADK				S	**Sn**	**11 16 12.4**	**+1.1**
ETKA	**Kagalaska Isla**	**3.14**	**85**	P	**Pn**	**11 15 39.7**	**+0.5**
GSCK	**Great Sitkin C**	**3.30**	**83**	P	**Pn**	**11 15 41.2**	**-0.2**
GSMY	**Great Sitkin M**	**3.37**	**82**	P	**Pn**	**11 15 42.2**	**-0.2**
FX1	**Attu Island--F**	**3.50**	**292**	P	**Pn**	**11 15 44.3**	**+0.1**
FX1				Sn	**Sn**	**11 16 23.8**	**-0.5**
FX1				S		11 16 26.0	
FX1	**Attu Island--F**	**3.50**	**292**	Pn	**Pn**	**11 15 42.5**	**-1.7**
	40nm,0.3s,baz=182,slow=2.7,SNR=79						
FX1				Sn	**Sn**	**11 16 23.8**	**-0.5**
	49nm,0.3s,baz=82,slow=24,SNR=4.2						
ATKA	**Atka Island**	**4.52**	**81**	P	**Pn**	**11 15 58.1**	**0.0**
ATKA				S	**Sn**	**11 16 49.6**	**+0.3**
PETK	**Petropavlovsk-**	**12.80**	**284**	Pn	**Pn**	**11 17 51.3**	**+0.1**
PETK	**Petropavlovsk-**	**12.80**	**284**	Pn	**Pn**	**11 17 51.3**	**+0.1**
	0.2nm,0.3s,baz=96,slow=16,SNR=5.7						
PETK				LR	LR	11 21 59.3	
	comp=Z,47nm,18.3s,baz=59,slow=34						
KDAK	**Kodiak Island**	**17.66**	**59**	P	**Pn**	**11 18 51.5**	**-2.2**
KDAK	**Kodiak Island**	**17.66**	**59**	P	**Pn**	**11 18 51.5**	**-2.2**
	0.9nm,0.3s,baz=285,slow=9.2,SNR=14						
SEW	**Seward**	**19.64**	**52**	*e*P	**Pn**	**11 19 18.2**	**+0.7**
	17nm,0.9s						
SML	**Sawmill**	**20.55**	**48**	*e*P	Pn	11 19 28.4	+0.1
	1.5nm,0.5s						
ILAR	**Eielson Array**	**22.05**	**40**	P	**P**	**11 19 41.4**	**-0.3**
ILAR	**Eielson Array**	**22.05**	**40**	P	**P**	**11 19 41.4**	**-0.3**
	1.2nm,0.5s,baz=241,slow=8.6,SNR=44						
EGAK	**Eagle**	**24.41**	**42**	*e*P	**P**	**11 20 05.9**	**+1.2**
	8.2nm,0.9s						
ASAJ	**Asahikawa**	**25.05**	**267**	P	**P**	**11 20 11.8**	**+1.1**
ASAJ	**Asahikawa**	**25.05**	**267**	P	**P**	**11 20 11.8**	**+1.1**
	2.8nm,0.4s,baz=180,slow=0.7,SNR=5.0						
INK	**Inuvik**	**28.16**	**36**	P	**P**	**11 20 39.2**	**+0.9**
INK	**Inuvik**	**28.16**	**36**	P	**P**	**11 20 39.2**	**+0.9**
	0.7nm,0.4s,baz=275,slow=9.2,SNR=14						
YKA	**Yellowknife Ar**	**36.21**	**46**	P	**P**	**11 21 49.0**	**+0.2**
YKA	**Yellowknife Ar**	**36.21**	**46**	P	**P**	**11 21 49.0**	**+0.2**
	1.1nm,0.5s,baz=282,slow=8.2,SNR=22						
SONM	**Songino Array**	**45.01**	**295**	P	**P**	**11 23 01.7**	**0.0**
SONM	**Songino Array**	**45.01**	**295**	P	**P**	**11 23 01.7**	**0.0**
	0.6nm,0.6s,baz=60,slow=8.2,SNR=7.0						
NVAR	**Mina Array Bea**	**45.15**	**81**	P	**P**	**11 23 03.0**	**0.0**
NVAR	**Mina Array Bea**	**45.15**	**81**	P	**P**	**11 23 03.0**	**0.0**
	1.6nm,0.7s,baz=300,slow=7.1,SNR=3.7						
PDAR	**Pinedale Array**	**47.78**	**71**	P	**P**	**11 23 22.6**	**-1.0**
PDAR	**Pinedale Array**	**47.78**	**71**	P	**P**	**11 23 22.6**	**-1.0**
	1.4nm,0.6s,baz=310,slow=3.3,SNR=15						
ULM	**Lac du Bonnet**	**50.88**	**56**	P	**P**	**11 23 47.5**	**+0.7**
ULM	**Lac du Bonnet**	**50.88**	**56**	P	**P**	**11 23 47.5**	**+0.7**
	0.9nm,0.5s,baz=309,slow=6.5,SNR=2.5						
MKAR	**Makanchi Array**	**58.52**	**307**	P	**P**	**11 24 41.4**	**-0.7**
MKAR	**Makanchi Array**	**58.52**	**307**	P	**P**	**11 24 41.4**	**-0.7**
	0.2nm,0.5s,baz=55,slow=5.5,SNR=3.2						
TXAR	**Lajitas Array**	**60.24**	**79**	P	**P**	**11 24 53.9**	**-0.4**
TXAR	**Lajitas Array**	**60.24**	**79**	P	**P**	**11 24 53.9**	**-0.4**
	1.4nm,0.7s,baz=300,slow=5.0,SNR=22						
CTA	**Charters Tower**	**76.87**	**211**	LR	LR	11 58 18.1	
	comp=Z,47nm,18.2s,baz=227,slow=34						
NWAO	**Narrogin (SRO)**	**99.92**	**228**	LR	LR	12 16 49.5	
	comp=Z,54nm,18.3s,baz=0.9,slow=37						

*ISCJB **06** 11:36:07.0±0.8, 30°.5N±0°.1×67°.66E±0°.10, h14 km, mb3.6/12, MS3.0/2, Error ellipse: s-maj=17.1km s-min=8.0km az=36.2*

*IDC **06** 11:36:06.4±1.1, 30°.48N×67°.42E, h0 km, mb3.7/12, mb1 3.9/14, mb1mx3.8/31, mbtmp3.8/14, ML4.0/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/38, Error ellipse: s-maj=25.7km s-min=20.5km az=72.0*

ISC 06 11:36:08.5±1.0, 30°.5N±0°.1×67°.6E±0°.1, h14 km, n27, σ1§54/24, mb3.8/12, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**9.05**	**88**	*e*PKP	Pn	11 38 21.5	+2.7
DDI				*e*S	Sn	11 40 49.5	+49
AAK	**Ala-Archa**	**13.37**	**23**	Pn	**Pn**	**11 39 17.5**	**-0.4**
	0.8nm,0.3s,baz=198,slow=9.5,SNR=12						
KOLN	**Koldanda**	**14.26**	**97**	*e*P	**Pn**	**11 39 28.9**	**-1.3**
	13nm,0.5s						
DANN	**Dangsing**	**14.26**	**94**	*e*P	**Pn**	**11 39 28.3**	**-2.0**
	34nm,0.8s						
GKN	**Gorkha**	**15.09**	**95**	*e*P	**Pn**	**11 39 38.2**	**-3.3**
KKN	**Kakani**	**15.70**	**95**	*e*P	**Pn**	**11 39 47.9**	**-1.6**
PKI	**Pulchoki**	**15.86**	**96**	*e*P	**Pn**	**11 39 50.5**	**-1.2**
GUN	**Gumba**	**16.18**	**94**	*e*P	**Pn**	**11 39 52.8**	**-3.1**
	76nm,0.8s						
JIRN	**Jiri**	**16.51**	**95**	*e*P	**Pn**	**11 39 58.8**	**-1.3**
	8.7nm,0.6s						
RAMN	**Ramite**	**17.05**	**97**	*e*P	**Pn**	**11 40 06.3**	**-0.5**
	22nm,0.5s						
ODAN	**Odare**	**17.75**	**97**	*e*P	**P**	**11 40 16.2**	**-0.1**
	24nm,0.7s						
TAPN	**Taplejung**	**17.89**	**95**	*e*P	**Pn**	**11 40 16.5**	**-0.8**
MKAR	**Makanchi Array**	**19.91**	**31**	P	**P**	**11 40 38.7**	**-0.9**
	0.3nm,0.3s,baz=211,slow=10,SNR=24						
AKTO	**Aktyubinsk**	**21.22**	**343**	P	**P**	**11 40 53.5**	**-0.3**
	0.9nm,0.6s,baz=180,slow=13,SNR=2.8						
KURBB	**Kurchatov Arra**	**21.76**	**19**	P	**P**	**11 40 58.2**	**-1.4**
	2.9nm,0.8s,baz=208,slow=9.7,SNR=23						
BVAR	**Borovoye Array**	**22.66**	**4**	P	**P**	**11 41 08.8**	**-0.4**
	2.2nm,0.6s,baz=170,slow=9.9,SNR=15						
ASF	**Jabal al Asfar**	**26.23**	**282**	LR	LR	11 53 29.0	
	comp=Z,22nm,18.1s,baz=66,slow=40						
ZALV	**Zalesovo Beam**	**26.59**	**23**	P	**P**	**11 41 46.8**	**+0.7**
	2.7nm,0.5s,baz=229,slow=9.7,SNR=10						
EIL	**Elat**	**28.20**	**277**	LR	LR	11 54 26.4	
	comp=Z,53nm,18.8s,baz=97,slow=39						
CMAR	**Chiang Mai Arr**	**30.84**	**105**	P	**P**	**11 42 25.1**	**+0.8**
	0.4nm,0.4s,baz=308,slow=8.3,SNR=4.3						
SONM	**Songino Array**	**34.32**	**49**	P	**P**	**11 42 57.3**	**+2.7**
	0.2nm,0.5s,baz=238,slow=10.0,SNR=3.0						
FINES	**FINESS Array B**	**41.15**	**331**	P	**P**	**11 43 51.3**	**-0.7**
	2.9nm,1.0s,baz=105,slow=11,SNR=3.0						
TORD	**Torodi Ar. Bea**	**62.76**	**270**	P	**P**	**11 46 32.4**	**-1.3**
	0.6nm,0.8s,baz=53,slow=6.2,SNR=3.8						
ILAR	**Eielson Array**	**81.35**	**14**	P	**P**	**11 48 25.6**	**+1.3**
	0.3nm,0.9s,baz=324,slow=4.5,SNR=3.5						
WRA	**Warramunga Arr**	**81.39**	**119**	P	**P**	**11 48 26.2**	**+1.0**
	0.5nm,0.8s,baz=316,slow=5.7,SNR=3.4						
ASAR	**Alice Springs**	**83.30**	**122**	P	**P**	**11 48 35.7**	**+0.6**
	0.5nm,0.7s,baz=313,slow=5.0,SNR=6.7						
YKA	**Yellowknife Ar**	**87.37**	**1**	P	**P**	**11 48 55.0**	**+0.2**
	0.8nm,0.8s,baz=349,slow=5.0,SNR=19						

*IDC **06** 11:39:40.2±2.8, 37°.58N×67°.31E, h0 km, mb4.1/3, mb1 3.9/6, mb1mx3.5/30, mbtmp3.9/6, ML3.3/3, MS2.6/2, Ms1 2.6/2, ms1mx2.4/36, Error ellipse: s-maj=43.3km s-min=17.5km az=158.0*

ISC 06 11:39:42.6±2.6, 37°.8N±0°.2×67°.4E±0°.1, h10 km, n10, σ1§85/13, mb4.0/3, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.79**	**23**	⇑Pn	**Pn**	**11 41 11.4**	**+2.8**
	0.6nm,0.2s,baz=360,slow=5.3,SNR=8.5						
KK31				⇑Pg	Pg	11 41 31.8	-1.7
	5.0nm,0.7s,baz=205,slow=15,SNR=4.6						
KK31				⇑Sn	**Sn**	**11 42 15.3**	**+0.3**
	1.4nm,0.3s,baz=188,slow=15,SNR=4.3						
KK31				⇓Lg	Lg	11 42 45.9	
	7.0nm,0.4s,baz=204,slow=31,SNR=7.8						
AAK	**Ala-Archa**	**7.26**	**46**	Pn	**Pn**	**11 41 30.7**	**+1.8**
	0.7nm,0.3s,baz=217,slow=13,SNR=5.1						
AAK				Sn	**Sn**	**11 42 53.9**	**+2.3**
	0.4nm,0.3s,baz=260,slow=14,SNR=3.9						
AAK				LR	LR	11 44 32.5	
	comp=Z,40nm,18.0s,baz=213,slow=29						
TKM2	**Tokmak 2**	**8.08**	**48**	⇓Pn	**Pn**	**11 41 40.3**	**+0.1**
	1.7nm,0.6s						
TKM2				⇑Sn	**Sn**	**11 43 08.7**	**-3.1**
	5.2nm,0.8s						
MKAR	**Makanchi Array**	**14.20**	**46**	Pn	**Pn**	**11 43 03.6**	**-0.1**
	0.0nm,0.3s,baz=236,slow=12,SNR=2.4						
KURBB	**Kurchatov Arra**	**15.07**	**28**	Pn	**Pn**	**11 43 15.8**	**+0.4**
	0.0nm,0.3s,baz=222,slow=10.0,SNR=2.8						
KURBB				Lg	Lg	11 47 49.8	
	0.0nm,0.3s,baz=213,slow=26,SNR=3.5						
BVAR	**Borovoye Array**	**15.34**	**7**	Pn	**Pn**	**11 43 16.3**	**-2.8**
	0.5nm,0.3s,baz=185,slow=12,SNR=7.7						
BVAR				Sn	Sn	11 46 02.1	-6.9
	0.3nm,0.3s,baz=192,slow=26,SNR=5.0						
BVAR				LR	LR	11 50 05.8	
	comp=Z,25nm,18.1s,baz=290,slow=40						
FINES	**FINESS Array B**	**34.77**	**326**	P	**P**	**11 46 32.7**	**-0.1**
	1.3nm,0.6s,baz=121,slow=9.2,SNR=4.4						
HFS	**Hagfors**	**40.23**	**321**	P	**P**	**11 47 19.6**	**+0.5**
	4.1nm,0.7s,baz=106,slow=9.1,SNR=12						
NB2	**NORSAR Subarra**	**41.57**	**322**	P	**P**	**11 47 30.1**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=98,slow=8.6						
NOA	**NORSAR Array B**	**41.57**	**322**	P	**P**	**11 47 30.4**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=98,slow=8.1,SNR=5.5						

MEX 06 11:55:14.5±0.5, 15°.80N×92°.81W, h173 km±4 km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.40**	**256**	*e*P	Pn	11 55 36.7	-1.4
PCIG				*i* S	Sn	11 55 54.2	-1.9
CCIG	**Comitan**	**0.81**	**54**	*i* P	Pn	11 55 38.9	-1.4
CCIG				*i* S	Sn	11 55 58.0	-2.2
TGIG		**1.02**	**343**	*i* P	Pn	11 55 40.3	-1.3
TGIG				*i* S	Sn	11 56 00.2	-2.6
THIG		**1.03**	**149**	*i* P	Pn	11 55 40.2	-1.6
THIG				*i* S	Sn	11 56 00.4	-2.8
CMIG	**Matias Romero**	**2.37**	**303**	*e*P	Pn	11 55 54.5	-0.7
CMIG				*i* S	Sn	11 56 24.6	-2.2
HUIG	**Huatulco**	**3.17**	**270**	*i* P	Pn	11 56 03.0	-1.9
HUIG				*i* S	Sn	11 56 41.5	-2.7
VHO	**Vista Hermosa**	**3.97**	**289**	*i* P	Pn	11 56 14.4	-0.8
VHO				*i* S	Sn	11 57 00.1	-2.7
PNIG	**Pinotepa**	**5.14**	**277**	*i* P	Pn	11 56 29.9	-0.4
PNIG				*i* S	Sn	11 57 28.4	-1.2

*IDC **06** 11:57:59.5±1.8, 23°.31S×170°.57E, h0 km, mb3.8/6, mb1 4.0/7, mb1mx3.9/16, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=66.9km s-min=24.7km az=167.0*

*ISCJB **06** 11:58:02.7±0.8, 23°.4S±0°.1×170°.50E±0°.10, h32 km, mb4.2/12, Error ellipse: s-maj=21.1km s-min=12.5km az=6.7*

*NEIC **06** 11:58:03.8±0.8, 23°.37S×170°.68E, h35 km, mb4.8/6, Error ellipse: s-maj=27.4km s-min=12.7km az=164.0*

ISC 06 11:58:04.0±0.8, 23°.3S±0°.2×170°.56E±0°.08, h32 km, n25, σ1§44/28, mb4.2/12, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.99**	**287**	*e*Pn	**Pn**	**11 59 02.2**	**-0.7**
DZM				*e*Sn	**Sn**	**11 59 44.6**	**-4.0**
DZM				Sn	**Sn**	**11 59 48.2**	**-0.4**
DZM	**Mont Dzumac**	**3.99**	**287**	Pn	**Pn**	**11 59 02.8**	**-0.2**
	2.2nm,0.3s,baz=130,slow=19,SNR=47						
DZM				Sn	**Sn**	**11 59 48.2**	**-0.4**
	1.3nm,0.3s,baz=84,slow=18,SNR=3.8						
AFI	**Afiamalu**	**19.14**	**64**	*e*P	**P**	**12 02 21.4**	**-3.3**
	11nm,0.6s						
CTAO	**Charters Tower**	**22.80**	**273**	*e*P	**P**	**12 03 06.0**	**+1.8**
	0.7nm,0.4s						
ASAR	**Alice Springs**	**33.57**	**262**	P	**P**	**12 04 42.0**	**+0.6**
ASAR	**Alice Springs**	**33.57**	**262**	P	**P**	**12 04 42.0**	**+0.6**
	2.5nm,1.1s,baz=90,slow=7.7,SNR=7.5						
WRAB	**Tennant Creek**	**33.78**	**269**	*e*P	**P**	**12 04 43.5**	**+0.4**
	14nm,1.5s						
WRA	**Warramunga Arr**	**33.79**	**269**	P	**P**	**12 04 42.7**	**-0.5**
WRA	**Warramunga Arr**	**33.79**	**269**	P	**P**	**12 04 42.7**	**-0.5**
	0.2nm,0.4s,baz=97,slow=8.3,SNR=5.2						
FITZ	**Fitzroy Crossi**	**42.22**	**268**	*e*P	**P**	**12 05 55.0**	**+0.7**
MBWA	**Marble Bar**	**46.91**	**262**	*e*P	**P**	**12 06 30.7**	**-1.0**
	4.1nm,0.9s						
NWAO	**Narrogin (SRO)**	**47.59**	**246**	*e*P	**P**	**12 06 36.5**	**-0.5**
	15nm,1.0s						
KAPI	**Kappang**	**52.19**	**282**	*e*P	**P**	**12 07 13.4**	**+1.3**
	25nm,1.1s						
CASY	**Casey**	**56.97**	**205**	*e*P	**P**	**12 07 45.1**	**-0.8**
	22nm,1.3s						
PETK	**Petropavlovsk-**	**76.87**	**352**	P	**P**	**12 09 54.0**	**+1.5**
PETK	**Petropavlovsk-**	**76.87**	**352**	P	**P**	**12 09 54.0**	**+1.5**
	4.6nm,0.9s,baz=160,slow=8.9,SNR=4.0						
NVAR	**Mina Array Bea**	**90.55**	**48**	P	**P**	**12 11 04.0**	**+0.8**
NVAR	**Mina Array Bea**	**90.55**	**48**	P	**P**	**12 11 04.0**	**+0.8**
	0.1nm,0.3s,baz=245,slow=5.8,SNR=2.5						
SONM	**Songino Array**	**91.16**	**323**	P	**P**	**12 11 07.5**	**+1.8**
SONM	**Songino Array**	**91.16**	**323**	P	**P**	**12 11 07.5**	**+1.8**
	0.4nm,0.9s,baz=151,slow=3.3,SNR=3.1						
ILAR	**Eielson Array**	**93.70**	**17**	P	**P**	**12 11 15.7**	**-1.1**
ILAR	**Eielson Array**	**93.70**	**17**	P	**P**	**12 11 15.7**	**-1.1**
	0.6nm,0.9s,baz=238,slow=4.9,SNR=4.7						
CLL	**Collm**	**147.07**	**334**	*e*PKPbc	**PKPab**	**12 17 44.0**	**-0.9**
GERES	**GERESS Array B**	**148.60**	**330**	PKPbc	**PKPbc**	**12 17 48.1**	**+0.4**
GERES	**GERESS Array B**	**148.60**	**330**	PKPbc	**PKPbc**	**12 17 48.1**	**+0.4**
	0.4nm,0.2s,baz=62,slow=3.2,SNR=6.1						

*IDC **06** 12:03:09.2±0.9, 23°.17S×170°.56E, h0 km, mb4.2/11, mb1 4.3/12, mb1mx4.3/18, mbtmp4.2/12, ML3.9/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/19, Error ellipse: s-maj=27.4km s-min=20.8km az=155.0*

*ISCJB **06** 12:03:11.8±0.7, 23°.2S±0°.1×170°.49E±0°.07, h28 km, mb4.2/13, MS3.8/2, Error ellipse: s-maj=19.5km s-min=8.6km az=10.4*

*NEIC **06** 12:03:14.8±0.7, 23°.15S×170°.46E, h35 km, mb4.5/3, Error ellipse: s-maj=20.4km s-min=13.3km az=160.0*

ISC 06 12:03:13.7±0.7, 23°.1S±0°.2×170°.53E±0°.08, h28 km, n35, σ0§83/37, mb4.2/13, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.92**	**285**	*e*P	**Pn**	**12 04 10.7**	**-1.4**
DZM				*e*S	**Sn**	**12 04 57.0**	**-0.3**
DZM	**Mont Dzumac**	**3.92**	**285**	*e*Pn	**Pn**	**12 04 11.6**	**-0.6**
DZM				Sn	**Sn**	**12 04 58.1**	**+0.8**
DZM				*e*Sn	Sb	12 04 58.3	-11
DZM	**Mont Dzumac**	**3.92**	**285**	Pn	**Pn**	**12 04 12.5**	**+0.4**
	7.3nm,0.3s,baz=93,slow=16,SNR=55						
DZM				Sn	**Sn**	**12 04 58.1**	**+0.8**
	12nm,0.3s,baz=122,slow=17,SNR=6.8						
NOUC	**Port Laguerre**	**4.04**	**284**	*e*P	**Pn**	**12 04 12.8**	**-0.8**
NOUC				*e*S	**Sn**	**12 04 59.6**	**-0.4**
AFI	**Afiamalu**	**19.11**	**64**	LR	LR	12 13 26.8	
	comp=Z,112nm,20.2s,baz=288,slow=32						
STKA	**Stephens Creek**	**27.03**	**245**	P	**P**	**12 08 54.1**	**+0.5**
STKA	**Stephens Creek**	**27.03**	**245**	P	**P**	**12 08 54.1**	**+0.5**
	2.1nm,1.0s,baz=81,slow=13,SNR=3.7						
STKA				LR	LR	12 18 13.3	
	comp=Z,108nm,19.5s,baz=27,slow=33						
ASAR	**Alice Springs**	**33.56**	**262**	P	**P**	**12 09 51.3**	**-0.2**
ASAR	**Alice Springs**	**33.56**	**262**	P	**P**	**12 09 51.3**	**-0.2**
	5.1nm,1.1s,baz=86,slow=9.5,SNR=21						
WRAB	**Tennant Creek**	**33.75**	**268**	*e*P	**P**	**12 09 51.2**	**-2.0**
	7.8nm,1.2s						
WRA	**Warramunga Arr**	**33.76**	**268**	P	**P**	**12 09 51.9**	**-1.3**
WRA	**Warramunga Arr**	**33.76**	**268**	P	**P**	**12 09 51.9**	**-1.3**
	0.9nm,0.8s,baz=99,slow=8.3,SNR=16						
FITZ	**Fitzroy Crossi**	**42.19**	**268**	*e*P	**P**	**12 11 04.2**	**-0.1**
	7.2nm,0.9s						
FITZ	**Fitzroy Crossi**	**42.19**	**268**	P	**P**	**12 11 03.5**	**-0.8**
	7.4nm,1.0s,baz=111,slow=2.7,SNR=4.5						
MBWA	**Marble Bar**	**46.90**	**262**	*e*P	**P**	**12 11 42.0**	**+0.1**
	4.6nm,0.7s						
MJAR	**Matsushiro Arr**	**66.74**	**332**	P	**P**	**12 14 02.5**	**+0.1**
MJAR	**Matsushiro Arr**	**66.74**	**332**	P	**P**	**12 14 02.5**	**+0.1**
	2.2nm,1.0s,baz=161,slow=8.0,SNR=4.0						
QSPA	**South Pole Qui**	**66.93**	**180**	P	**P**	**12 14 03.0**	**-0.4**
QSPA	**South Pole Qui**	**66.93**	**180**	P	**P**	**12 14 03.0**	**-0.4**
	2.0nm,1.0s,baz=51,slow=2.5,SNR=6.6						
PETK	**Petropavlovsk-**	**76.74**	**352**	P	**P**	**12 15 02.0**	**-0.1**
PETK	**Petropavlovsk-**	**76.74**	**352**	P	**P**	**12 15 02.0**	**-0.1**
	8.1nm,0.8s,baz=168,slow=10,SNR=6.8						
CMAR	**Chiang Mai Arr**	**81.20**	**294**	P	**P**	**12 15 28.7**	**+1.4**
CMAR	**Chiang Mai Arr**	**81.20**	**294**	P	**P**	**12 15 28.7**	**+1.4**
	0.9nm,0.6s,baz=136,slow=4.1,SNR=6.7						
NVAR	**Mina Array Bea**	**90.49**	**48**	P	**P**	**12 16 13.7**	**+0.4**
NVAR	**Mina Array Bea**	**90.49**	**48**	P	**P**	**12 16 13.7**	**+0.4**
	0.6nm,0.8s,baz=226,slow=8.4,SNR=5.7						
SONM	**Songino Array**	**91.04**	**323**	P	**P**	**12 16 16.1**	**+0.7**
SONM	**Songino Array**	**91.04**	**323**	P	**P**	**12 16 16.1**	**+0.7**
	0.9nm,0.9s,baz=148,slow=4.0,SNR=5.9						
ILAR	**Eielson Array**	**93.59**	**17**	P	**P**	**12 16 25.3**	**-1.4**
ILAR	**Eielson Array**	**93.59**	**17**	P	**P**	**12 16 25.3**	**-1.4**
	0.9nm,0.8s,baz=214,slow=4.6,SNR=10						
PDAR	**Pinedale Array**	**98.38**	**47**	LR	LR	12 57 36.4	
	comp=Z,61nm,19.3s,baz=83,slow=33						
CRVS	**Cervenica-Dubn**	**144.55**	**324**	*e*PKP	**PKPdf**	**12 22 47.7**	**+0.3**
BRG	**Berggiesshubel**	**146.88**	**333**	*e*P	**PKPab**	**12 22 54.0**	**-0.5**
	3.0nm,0.7s						
CLL	**Collm**	**146.94**	**334**	*e*PKPbc	**PKPab**	**12 22 54.0**	**-0.7**
	comp=Z,7.0nm,1.0s						
GERES	**GERESS Array B**	**148.47**	**330**	PKPbc	**PKPbc**	**12 22 58.2**	**+0.6**
GERES	**GERESS Array B**	**148.47**	**330**	PKPbc	**PKPbc**	**12 22 58.2**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=40,slow=2.3,SNR=17						

*GUC **06** 12:34:07.0±0.3, 42°.87S×72°.63W, h20 km±2 km, ML3.3*

*IDC **06** 12:34:07.9±1.9, 42°.96S×72°.41W, h0 km, mb3.7/2, mb1 4.2/3, mb1mx3.9/13, mbtmp3.8/3, ML4.0/1, Error ellipse: s-maj=52.9km s-min=22.6km az=131.0*

ISC 06 12:34:09.1±2.0, 42°.8S±0°.1×72°.3W±0°.2, h10 km, n8, σ1§11/8, 1C, Southern Chile

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

	0.6nm,0.2s,SNR=7.9								
CLLI				S	**Sn**	**12**	**56**	**13.8**	**-2.6**
	0.4nm,0.3s,SNR=6.1								

*SOF **06** 13:18:18.9, 41˝.57N×23˝.48E, h18km, MD2.8*
*THE **06** 13:18:19.7, 41˝.57N×23˝.47E, h8km, ML2.9/9, Error ellipse: s-maj=0.6km s-min=0.3km az=309.0*
*CSEM **06** 13:18:19.7±0.1, 41˝.56N×23˝.48E, h10km, MD2.8, Error ellipse: s-maj=2.6km s-min=2.2km az=114.0*
*BEO **06** 13:18:19.9±1.6, 41˝.50N×23˝.35E, h5km±10km, ML3.0/8*
*ISCJB **06** 13:18:19.0±0.4, 41˝.58N±0˝.02×23˝.46E±0˝.03, h6km±4km, Error ellipse: s-maj=3.4km s-min=2.8km az=14.0*
*ATH **06** 13:18:19.7, 41˝.55N×23˝.55E, h24km±1km, MD3.1/4*
*SKO **06** 13:18:20.2, 41˝.58N×23˝.44E, h0km, M2.2, ML2.6*

ISC 06 13:18:19.7±0.9, 41˝.56N±0˝.02×23˝.48E±0˝.02, h11km±7km, n77, σ0§62/107, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
MMB	**Musomiste**	**0.19**	**82**	*i* Pg	**Pg**	**13**	**18**	**24.0**	**+0.2**
MMB	**Musomiste**	**0.19**	**82**	*i* Pg	**Pg**	**13**	**18**	**24.0**	**+0.2**
NVR	**Nevrokopi**	**0.36**	**126**	P	**Pg**	**13**	**18**	**26.9**	**0.0**
NVR	**Nevrokopi**	**0.36**	**126**	*e*PB	**Pg**	**13**	**18**	**26.9**	**0.0**
NVR				*e*SB	**Sg**	**13**	**18**	**32.0**	**+0.4**
NVR	**Nevrokopi**	**0.36**	**126**	P	**Pg**	**13**	**18**	**26.9**	**0.0**
NVR				*e*Sb	**Sg**	**13**	**18**	**32.0**	**+0.4**
KKB	**Krupnik**	**0.42**	**316**	*i* Pg	**Pg**	**13**	**18**	**27.2**	**-0.8**
KKB	**Krupnik**	**0.42**	**316**	*i* Pg	**Pg**	**13**	**18**	**27.2**	**-0.8**
SRS	**Serrai**	**0.45**	**169**	P	**Pg**	**13**	**18**	**28.8**	**+0.2**
SRS				S	**Sb**	**13**	**18**	**35.5**	**-1.0**
SRS	**Serrai**	**0.45**	**169**	P	**Pg**	**13**	**18**	**28.8**	**+0.2**
SRS				S	**Sb**	**13**	**18**	**35.5**	**-1.0**
KNT	**Kendrikon**	**0.59**	**228**	P	**Pg**	**13**	**18**	**31.2**	**0.0**
KNT				S	**Sg**	**13**	**18**	**39.2**	**+0.2**
KNT	**Kendrikon**	**0.59**	**228**	P	**Pg**	**13**	**18**	**31.2**	**0.0**
KNT				S	**Sg**	**13**	**18**	**39.2**	**+0.2**
VAY	**Valandovo**	**0.72**	**251**	*e*Pg	**Pg**	**13**	**18**	**33.0**	**-0.7**
VAY				*e*Sg	**Sg**	**13**	**18**	**42.7**	**-0.4**
VAY				*e*Lg	Lg	13	18	46.5	
	comp=E,180nm,0.4s								
VAY				*e*Lg	Lg	13	18	46.8	
	comp=N,178nm,0.4s								
VAY	**Valandovo**	**0.72**	**251**	*e*Pg	**Pg**	**13**	**18**	**33.5**	**-0.2**
VAY				*e*Sg	**Sg**	**13**	**18**	**43.2**	**+0.1**
VAY				*e*Lg	Lg	13	18	47.2	
	comp=N,178nm,0.4s								
SOH	**Sokhos**	**0.75**	**187**	P	**Pg**	**13**	**18**	**33.9**	**-0.2**
SOH				S	**Sb**	**13**	**18**	**44.6**	**-0.4**
SOH	**Sokhos**	**0.75**	**187**	P	**Pg**	**13**	**18**	**33.9**	**-0.2**
SOH				S	**Sb**	**13**	**18**	**44.6**	**-0.4**
RZN	**Rozhen**	**0.94**	**82**	*i* P	**Pg**	**13**	**18**	**37.0**	**-0.8**
RZN				*i* Pg	**Pg**	**13**	**18**	**37.5**	**-0.3**
RZN	**Rozhen**	**0.94**	**82**	*i* P	**Pg**	**13**	**18**	**37.0**	**-0.8**
RZN	**Rozhen**	**0.94**	**82**	*i* Pg	**Pg**	**13**	**18**	**37.5**	**-0.3**
KAVA	**Kavala**	**0.96**	**126**	P	**Pg**	**13**	**18**	**37.8**	**-0.5**
KAVA				S	**Sn**	**13**	**18**	**52.4**	**-0.5**
KAVA	**Kavala**	**0.96**	**126**	P	**Pg**	**13**	**18**	**37.8**	**-0.5**
KAVA				S	**Sn**	**13**	**18**	**52.4**	**-0.5**
HORT	**Hortiatis**	**1.01**	**197**	P	**Pg**	**13**	**18**	**38.9**	**-0.1**
HORT				S	**Sb**	**13**	**18**	**53.2**	**+0.7**
HORT	**Hortiatis**	**1.01**	**197**	P	**Pg**	**13**	**18**	**38.9**	**-0.1**
HORT				S	**Sb**	**13**	**18**	**53.2**	**+0.7**
THE	**Thessaloniki**	**1.01**	**203**	P	**Pg**	**13**	**18**	**38.8**	**-0.3**
THE				S	**Sb**	**13**	**18**	**52.9**	**+0.5**
THE	**Thessaloniki**	**1.01**	**203**	P	**Pg**	**13**	**18**	**38.8**	**-0.3**
THE				S	**Sb**	**13**	**18**	**52.9**	**+0.5**
GRG	**Griva**	**1.01**	**234**	P	**Pg**	**13**	**18**	**39.0**	**-0.2**
GRG				S	**Sb**	**13**	**18**	**53.4**	**+0.8**
GRG	**Griva**	**1.01**	**234**	P	**Pg**	**13**	**18**	**39.0**	**-0.2**
GRG				S	**Sb**	**13**	**18**	**53.4**	**+0.8**
VTS	**Vitosha**	**1.05**	**349**	P	**Pg**	**13**	**18**	**39.1**	**-0.7**
VTS	**Vitosha**	**1.05**	**349**	*i* P	**Pg**	**13**	**18**	**38.9**	**-0.9**
VTS	**Vitosha**	**1.05**	**349**	*e*Pg	**Pg**	**13**	**18**	**39.2**	**-0.6**
VTS				*e*Sg	**Sb**	**13**	**18**	**54.5**	**+0.8**
VTS	**Vitosha**	**1.05**	**349**	P	**Pg**	**13**	**18**	**39.1**	**-0.7**
VTS				*e*Sg	**Sb**	**13**	**18**	**54.5**	**+0.8**
PLD	**Plovdiv**	**1.06**	**59**	P	**Pg**	**13**	**18**	**39.5**	**-0.6**
PLD				S	**Sn**	**13**	**18**	**55.2**	**-0.2**
PLD	**Plovdiv**	**1.06**	**59**	*i* Pg	**Pn**	**13**	**18**	**41.5**	**+0.9**
PLD	**Plovdiv**	**1.06**	**59**	*e*Pg	**Pn**	**13**	**18**	**41.1**	**+0.5**
PLD	**Plovdiv**	**1.06**	**59**	P	**Pg**	**13**	**18**	**39.5**	**-0.6**
PLD	**Plovdiv**	**1.06**	**59**	*e*Pg	**Pn**	**13**	**18**	**41.1**	**+0.5**
PGB	**Panagyurishte**	**1.11**	**27**	*i* P	**Pg**	**13**	**18**	**39.9**	**-1.2**
PGB	**Panagyurishte**	**1.11**	**27**	*i* P	**Pg**	**13**	**18**	**39.9**	**-1.2**
PLG	**Polygyros**	**1.19**	**181**	P	**Pb**	**13**	**18**	**41.8**	**-0.5**
PLG				S	**Sn**	**13**	**18**	**58.9**	**+0.4**
PLG	**Polygyros**	**1.19**	**181**	*e*PN	**Pb**	**13**	**18**	**41.8**	**-0.5**
PLG	**Polygyros**	**1.19**	**181**	P	**Pb**	**13**	**18**	**41.8**	**-0.5**
PLG				S	**Sn**	**13**	**18**	**58.9**	**+0.4**
OUR	**Ouranopolis**	**1.29**	**163**	P	**Pn**	**13**	**18**	**43.4**	**-0.2**
OUR	**Ouranopolis**	**1.29**	**163**	P	**Pn**	**13**	**18**	**43.4**	**-0.2**
KDZ	**Kurdzhali**	**1.46**	**86**	*i* P	**Pn**	**13**	**18**	**45.4**	**-0.6**
KDZ	**Kurdzhali**	**1.46**	**86**	*i* P	**Pn**	**13**	**18**	**45.4**	**-0.6**
DIM	**Dimitrovgrad**	**1.61**	**72**	*i* P	**Pg**	**13**	**18**	**50.1**	**-0.5**
DIM	**Dimitrovgrad**	**1.61**	**72**	*i* P	**Pg**	**13**	**18**	**50.1**	**-0.5**
LIT	**Litokhoron**	**1.64**	**207**	P	**Pn**	**13**	**18**	**48.2**	**-0.3**
LIT				S	**Sn**	**13**	**19**	**10.2**	**+0.5**
LIT	**Litokhoron**	**1.64**	**207**	*e*PN	**Pn**	**13**	**18**	**49.2**	**+0.7**
LIT	**Litokhoron**	**1.64**	**207**	P	**Pn**	**13**	**18**	**48.2**	**-0.3**
LIT	**Litokhoron**	**1.64**	**207**	*e*Pn	**Pn**	**13**	**18**	**49.3**	**+0.7**
LIT				S	**Sn**	**13**	**19**	**10.2**	**+0.5**
PAIG	**Paliouri**	**1.64**	**175**	P	**Pn**	**13**	**18**	**48.2**	**-0.3**
PAIG	**Paliouri**	**1.64**	**175**	P	**Pn**	**13**	**18**	**48.2**	**-0.3**
BARS	**Barje**	**1.76**	**316**	*e*Pn	**Pn**	**13**	**18**	**50.3**	**+0.2**
BARS				*e*Sg	**Sg**	**13**	**19**	**15.4**	**-0.8**
BARS	**Barje**	**1.76**	**316**	*e*Pn	**Pn**	**13**	**18**	**50.3**	**+0.2**
BARS				*e*Sg	**Sg**	**13**	**19**	**15.4**	**-0.8**
MPEP	**Malo Peshtene**	**1.80**	**6**	*i* Pg	**Pg**	**13**	**18**	**53.8**	**-0.4**
ALN	**Alexandroupoli**	**2.05**	**108**	P	**Pn**	**13**	**18**	**54.0**	**-0.1**
ALN				S	**Sn**	**13**	**19**	**20.9**	**+1.3**
ALN	**Alexandroupoli**	**2.05**	**108**	*e*PN	**Pn**	**13**	**18**	**54.2**	**+0.1**
ALN	**Alexandroupoli**	**2.05**	**108**	P	**Pn**	**13**	**18**	**54.0**	**-0.1**
ALN				S	**Sn**	**13**	**19**	**20.9**	**+1.3**
LIA	**Limnos Island**	**2.11**	**142**	P	**Pn**	**13**	**18**	**54.6**	**-0.3**
LIA	**Limnos Island**	**2.11**	**142**	P	**Pn**	**13**	**18**	**54.6**	**-0.3**
XOR	**Xorichti**	**2.21**	**186**	P	**Pn**	**13**	**18**	**56.2**	**-0.1**
XOR	**Xorichti**	**2.21**	**186**	P	**Pn**	**13**	**18**	**56.2**	**-0.1**
THL	**Klokotos Trika**	**2.29**	**210**	P	**Pn**	**13**	**18**	**56.8**	**-0.5**
SELS	**Selova**	**2.41**	**314**	*e*Pn	**Pn**	**13**	**19**	**00.0**	**+1.0**
SELS	**Selova**	**2.41**	**314**	*e*Pn	**Pn**	**13**	**19**	**00.0**	**+1.0**
AOS	**Alonnisos**	**2.41**	**173**	P	**Pn**	**13**	**18**	**58.5**	**-0.6**
AOS	**Alonnisos**	**2.41**	**173**	P	**Pn**	**13**	**18**	**58.5**	**-0.6**
SZH	**Strazhica**	**2.49**	**46**	*i* Pg	**Pg**	**13**	**19**	**08.3**	**+0.9**
SZH	**Strazhica**	**2.49**	**46**	*i* Pg	**Pg**	**13**	**19**	**08.3**	**+0.9**
BOLS	**Boljevac**	**2.53**	**334**	*e*Pn	**Pn**	**13**	**19**	**02.4**	**+1.7**
BOLS	**Boljevac**	**2.53**	**334**	*e*Pn	**Pn**	**13**	**19**	**02.4**	**+1.7**
GRUS	**Gruza**	**3.09**	**320**	*e*Pn	**Pn**	**13**	**19**	**08.7**	**+0.3**
IVAS	**Ivanjica**	**3.17**	**310**	*e*Pn	**Pn**	**13**	**19**	**09.7**	**+0.1**
TRUS	**Trudelj**	**3.49**	**321**	*e*Pn	**Pn**	**13**	**19**	**14.7**	**+0.8**
TRUS	**Trudelj**	**3.49**	**321**	*e*Pn	**Pn**	**13**	**19**	**14.7**	**+0.8**
DIVS	**Divibare**	**3.60**	**316**	*e*Pn	**Pn**	**13**	**19**	**15.5**	**-0.1**
DIVS	**Divibare**	**3.60**	**316**	*e*Pn	**Pn**	**13**	**19**	**15.5**	**-0.1**

*NIED **06** 13:52:00, 23˝.90N×121˝.70E, h35km, Mw4.3 Best double couple: M0 3.58000×10^15 NP1:φ=21.00000°, δ54.00000°, λ52.00000°. NP2:φ=254.00000°, δ51.00000°, λ131.00000°.*
*IDC **06** 13:52:05.8±0.7, 23˝.86N×121˝.83E, h0km, mb3.9/13, mb1 4.1/13, mb1mx3.9/23, mbtmp3.9/13, MS3.4/10, Ms1 3.5/10, ms1mx3.1/42, Error ellipse: s-maj=27.5km s-min=15.6km az=65.0*
*MOS **06** 13:52:09.4±1.4, 23˝.71N×121˝.64E, h33km, mb4.2/13, Error ellipse: s-maj=20.8km s-min=11.9km az=110.1*
*ISCJB **06** 13:52:11.8±0.3, 23˝.80N±0˝.01×121˝.72E±0˝.02, h32km±2km, mb4.0/19, MS3.4/7, Error ellipse: s-maj=2.8km s-min=1.9km az=141.0*
*BJI **06** 13:52:12.5, 24˝.05N×121˝.50E, h15km, mB4.3/2, mb3.9/10, ML4.2/6, Ms4.0/5, Ms7 3.8/3*
*TAP **06** 13:52:12.1, 23˝.81N×121˝.65E, h38km, ML4.8, B*
*JMA **06** 13:52:12.1±0.2, 23˝.88N×121˝.66E, h72km, M4.4*

ISC 06 13:52:09.5±0.7, 23˝.79N±0˝.02×121˝.74E±0˝.02, h19km±2km, n116, σ1§26/167, mb4.0/19, MS3.5/7, 32C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
TEGC	**Jichi Village**	**0.20**	**245**	*e*P	Pg	13	52	19.2	+4.7
	baz=218								
HWA	**Hwalien**	**0.22**	**327**	⇓*i*P	Pg	13	52	18.9	+4.1
	baz=349								
ESF	**Shoufeng Towns**	**0.22**	**291**	P	Pg	13	52	18.9	+4.0
ESF	baz=294			*e*S	**Sg**	**13**	**52**	**23.8**	**+5.2**
ESL	**Shilin**	**0.28**	**275**	⇓*i*P	**Pn**	**13**	**52**	**19.0**	**+0.4**
	baz=270								
TWD	**Chiawan**	**0.31**	**336**	⇓*i*P	**Pn**	**13**	**52**	**19.8**	**+0.7**
	baz=357								
EHY	**Hungye**	**0.47**	**233**	⇑*i*P	**Pn**	**13**	**52**	**21.3**	**0.0**
EHY	baz=222			*e*S	**Sb**	**13**	**52**	**27.8**	**+1.9**
EHP	**Heping Village**	**0.52**	**1**	*e*P	**Pn**	**13**	**52**	**22.6**	**+0.8**
EHP	baz=20			*e*S	**Sn**	**13**	**52**	**31.4**	**+1.3**
WHF	**Hehuan Shan**	**0.56**	**309**	⇓*i*P	**Pn**	**13**	**52**	**22.6**	**-0.2**
	baz=314								
TWF1	**Yuli**	**0.59**	**223**	⇑*i*P	**Pn**	**13**	**52**	**23.1**	**+0.2**
	baz=222								
TWF1	baz=222			*e*S	**Sg**	**13**	**52**	**31.1**	**+1.7**
ENA	**Nanau**	**0.63**	**1**	⇑*i*P	**Pn**	**13**	**52**	**24.6**	**+1.1**
	baz=16								
TWT	**Tachien**	**0.69**	**312**	⇑*i*P	**Pn**	**13**	**52**	**25.1**	**+0.7**
	baz=315								
TWT	baz=315			*e*S	**Sg**	**13**	**52**	**33.5**	**+1.1**
NNS	**Nan Shan**	**0.72**	**333**	⇑*i*P	**Pn**	**13**	**52**	**25.3**	**+0.4**
	baz=339								
NNS	baz=339			*e*S	**Sg**	**13**	**52**	**34.0**	**+0.5**
CHKT	**Chengkung**	**0.77**	**206**	P	**Pn**	**13**	**52**	**26.1**	**+0.8**
	baz=187								
CHKT	baz=187			*e*S	**Sn**	**13**	**52**	**38.0**	**+1.7**
SMLT	**Sun Moon Lake**	**0.77**	**277**	⇑*i*P	**Pn**	**13**	**52**	**25.8**	**+0.4**
	baz=278								
SMLT	baz=278			S	**Sb**	**13**	**52**	**35.0**	**+0.5**
TYC	**Yuchr**	**0.81**	**278**	⇑*i*P	**Pg**	**13**	**52**	**26.2**	**+0.8**
	baz=283								
TYC	baz=283			*e*S	**Sb**	**13**	**52**	**35.4**	**-0.1**
TWC	**Suao**	**0.82**	**7**	⇑*i*P	**Pn**	**13**	**52**	**27.6**	**+1.6**
	baz=22								
TWC	baz=22			*e*S	**Sn**	**13**	**52**	**39.4**	**+1.7**
ENTT	**Nioudou**	**0.86**	**350**	⇑*i*P	**Pn**	**13**	**52**	**27.5**	**+0.9**
	baz=355								
ELDTW	**Lidau**	**0.89**	**228**	⇓P	**Pb**	**13**	**52**	**27.2**	**+0.8**
	baz=217								
ALS	**Alishan**	**0.90**	**252**	⇑P	**Pn**	**13**	**52**	**28.3**	**+1.0**
	baz=249								
ALS	baz=249			*e*S	**Sb**	**13**	**52**	**38.4**	**+0.1**
TWE	**Neicheng**	**0.93**	**356**	⇑*i*P	**Pg**	**13**	**52**	**28.6**	**+1.0**
	baz=353								
TWE	baz=353			*e*S	**Sn**	**13**	**52**	**43.0**	**+2.7**
NSK	**Sanguang**	**0.94**	**339**	⇑*i*P	**Pg**	**13**	**52**	**28.8**	**+0.9**
	baz=343								
NSK	baz=343			S	**Sb**	**13**	**52**	**39.7**	**+0.2**
WNT	**Mingjian**	**0.97**	**275**	⇑*i*P	**Pg**	**13**	**52**	**29.5**	**+1.2**
	baz=274								
WNT	baz=274			S	**Sg**	**13**	**52**	**41.6**	**+0.5**
ILA	**Ilan**	**0.97**	**1**	*e*P	**Pg**	**13**	**52**	**29.5**	**+1.1**
	baz=355								
CHN5	**Tsauling**	**0.99**	**259**	⇑*i*P	**Pg**	**13**	**52**	**29.7**	**+1.0**
	baz=257								
CHN5	baz=257			*e*S	**Sg**	**13**	**52**	**42.2**	**+0.4**
TCU	**Taichung**	**1.03**	**290**	⇑P	**Pg**	**13**	**52**	**30.6**	**+1.1**
	baz=291								
TCU	baz=291			*e*S	**Sn**	**13**	**52**	**43.5**	**+0.7**
TWQ1	**Liyutan**	**1.04**	**302**	⇑*i*P	**Pg**	**13**	**52**	**30.8**	**+1.1**
	baz=304								
TWQ1	baz=304			S	**Sn**	**13**	**52**	**43.6**	**+0.6**
NSTT	**Nanjuang**	**1.07**	**321**	⇑*i*P	**Pg**	**13**	**52**	**31.3**	**+1.0**
	baz=310								
NSTT	baz=310			*i* S	**Sn**	**13**	**52**	**44.2**	**+0.4**
WGK	**Gukeng**	**1.08**	**265**	⇑*i*P	**Pg**	**13**	**52**	**31.1**	**+0.6**
	baz=263								
WGK	baz=263			S	**Sn**	**13**	**52**	**45.0**	**+1.0**
NSY	**Sanyi**	**1.08**	**305**	*i* P	**Pg**	**13**	**52**	**31.5**	**+0.9**
	baz=306								
NSY	baz=306			S	**Sg**	**13**	**52**	**45.4**	**+0.5**
STYT	**Tauyuan**	**1.09**	**235**	⇑P	**Pb**	**13**	**52**	**31.1**	**+1.3**
	baz=226								
STYT	baz=226			*e*S	**Sb**	**13**	**52**	**44.9**	**+1.1**
CHN4	**Tsaushan**	**1.14**	**247**	*e*P	**Pg**	**13**	**52**	**32.2**	**+0.6**
	baz=245								
CHN4	baz=245			*e*S	**Sn**	**13**	**52**	**46.8**	**+1.3**
TWG	**Pinlang**	**1.14**	**212**	⇓*i*P	**Pn**	**13**	**52**	**30.4**	**-0.1**
	baz=197								
WTP	**Ta-pu**	**1.16**	**242**	⇑P	**Pg**	**13**	**52**	**32.5**	**+0.4**
	baz=239								
WTP	baz=239			*e*S	**Sn**	**13**	**52**	**47.2**	**+1.1**
TTN	**Taitung**	**1.17**	**208**	*e*P	**Pn**	**13**	**52**	**31.3**	**+0.5**
	baz=202								
CHN2	**Minshiung**	**1.18**	**258**	*e*P	**Pg**	**13**	**52**	**32.7**	**+0.3**
	baz=256								
CHN2	baz=256			*e*S	**Sn**	**13**	**52**	**47.7**	**+1.1**
TWA	**Mucha**	**1.19**	**353**	⇑P	**Pg**	**13**	**52**	**32.9**	**+0.3**
	baz=358								
TWA	baz=358			*e*S	**Sn**	**13**	**52**	**47.1**	**+0.3**
HSN	**Hsinchu**	**1.22**	**325**	*e*P	**Pg**	**13**	**52**	**35.0**	**+1.7**
	baz=329								
TWB1	**Santiao Chiao**	**1.23**	**11**	P	**Pg**	**13**	**52**	**34.2**	**+0.8**
	baz=19								
TWB1	baz=19			*e*S	**Sg**	**13**	**52**	**50.8**	**+1.2**
CHY	**Chiayi**	**1.24**	**257**	*e*P	**Pb**	**13**	**52**	**33.5**	**+1.2**
	baz=255								
CHY	baz=255			*e*S	**Sb**	**13**	**52**	**48.5**	**+0.7**
TAP1	**Taipei**	**1.26**	**351**	*e*P	**Pb**	**13**	**52**	**32.9**	**+0.4**
	baz=355								
TAP1	baz=355			*e*S	**Sb**	**13**	**52**	**48.7**	**+0.4**
TWK	**Hsinying**	**1.26**	**246**	*e*P	**Pb**	**13**	**52**	**33.6**	**+1.0**
	baz=243								
TWK	baz=243			*e*S	**Sn**	**13**	**52**	**50.0**	**+1.4**
CHN1	**Nanshi**	**1.26**	**242**	⇑P	**Pb**	**13**	**52**	**33.9**	**+1.2**
	baz=239								
CHN1	baz=239			*e*S	**Sb**	**13**	**52**	**50.1**	**+1.6**
SGST	**Jiashian**	**1.27**	**236**	P	**Pg**	**13**	**52**	**34.4**	**+0.3**
	baz=234								
SGST	baz=234			*e*S	**Sg**	**13**	**52**	**50.8**	**0.0**
NCU	**National Centr**	**1.27**	**337**	⇑P	**Pg**	**13**	**52**	**34.3**	**+0.1**
	baz=339								
NCU	baz=339			*e*S	**Sg**	**13**	**52**	**50.8**	**-0.1**
NWF	**Wu-fen Shan**	**1.27**	**2**	⇑P	**Pg**	**13**	**52**	**34.3**	**+0.1**
	baz=352								
NWF	baz=352			*e*S	**Sg**	**13**	**52**	**52.3**	**+1.4**
TWS1	**Kuangyinshan**	**1.33**	**348**	⇑P	**Pb**	**13**	**52**	**34.8**	**+0.9**
	baz=1.0								
TWS1	baz=1.0			*e*S	**Sg**	**13**	**52**	**52.2**	**-0.6**
YOJ	**Yonaguni jima**	**1.34**	**60**	⇓P	**Pg**	**13**	**52**	**35.7**	**+0.2**
	baz=65								
YOJ	baz=65			S	**Sg**	**13**	**52**	**53.1**	**+0.1**
YOJ	**Yonaguni jima**	**1.34**	**60**	P	**Pg**	**13**	**52**	**35.7**	**+0.2**
YOJ				S	**Sg**	**13**	**52**	**53.3**	**+0.3**
ECL	**Taimali**	**1.39**	**211**	*e*P	**Pn**	**13**	**52**	**33.5**	**-0.4**
	baz=198								
WSF	**Szhu**	**1.40**	**264**	*e*P	**Pb**	**13**	**52**	**35.4**	**+0.4**
	baz=263								
WSF	baz=263			*e*S	**Sn**	**13**	**52**	**52.9**	**+1.1**
CHN3	**Shinhua**	**1.45**	**241**	*e*P	**Pb**	**13**	**52**	**37.5**	**+1.6**
	baz=239								
CHN3	baz=239			*e*S	**Sg**	**13**	**52**	**56.8**	**+0.5**
SSD	**Sandimen**	**1.45**	**224**	*e*P	**Pn**	**13**	**52**	**36.1**	**+1.4**
	baz=220								
SSD	baz=220			*e*S	**Sb**	**13**	**52**	**56.3**	**+2.2**
CHN8	**Yiju**	**1.47**	**253**	⇑*i*P	**Pb**	**13**	**52**	**36.5**	**+0.3**
	baz=251								
CHN8	baz=251			S	**Sn**	**13**	**52**	**54.5**	**+1.0**
TWY	**Chenhua**	**1.48**	**355**	*e*P	**Pb**	**13**	**52**	**36.3**	**-0.1**
	baz=358								
SCLT	**Jiali**	**1.54**	**247**	P	**Pb**	**13**	**52**	**38.0**	**+0.6**
	baz=245								
SCLT	baz=245			S	**Sb**	**13**	**52**	**57.3**	**+0.7**
TWM1	**Shoushan**	**1.54**	**232**	*e*P	**Pg**	**13**	**52**	**39.3**	**0.0**
	baz=229								
SGLT	**Jiouru**	**1.56**	**227**	⇓P	**Pg**	**13**	**52**	**39.9**	**+0.3**
	baz=225								
SGLT	baz=225			*e*S	**Sg**	**13**	**53**	**00.1**	**+0.1**
TAI1	**Yung-k'ang**	**1.57**	**242**	*e*P	**Pb**	**13**	**52**	**38.4**	**+0.4**
	baz=254								
TAI1	baz=254			S	**Sb**	**13**	**52**	**58.0**	**+0.5**
EAST	**Anshuo**	**1.62**	**210**	*e*P	**Pn**	**13**	**52**	**37.3**	**+0.1**
	baz=199								
TAW	**Tawu**	**1.62**	**209**	*e*P	**Pb**	**13**	**52**	**38.9**	**+0.1**
	baz=197								
SCZT	**Fangliau**	**1.75**	**216**	*e*P	**Pn**	**13**	**52**	**40.2**	**+1.5**
	baz=213								
LAY	**Lan-yu**	**1.75**	**186**	P	**Pn**	**13**	**52**	**39.2**	**+0.3**
	baz=182								
IRIF	**Iriomote-Funau**	**1.90**	**73**	P	**Pb**	**13**	**52**	**43.8**	**+0.2**
IRIF				*e*S	**Sb**	**13**	**53**	**08.1**	**+1.1**
HATJ	**Hateruma jima**	**1.91**	**82**	P	**Pb**	**13**	**52**	**43.8**	**0.0**
HATJ				S	**Sb**	**13**	**53**	**07.6**	**+0.3**
TWP	**Hsiaoliuchiu**	**1.92**	**222**	*e*P	**Pb**	**13**	**52**	**43.5**	**-0.3**
	baz=220								
HEN	**Hengchun**	**2.00**	**208**	*e*P	**Pb**	**13**	**52**	**45.0**	**-0.3**
	baz=192								
PNG	**Penghu**	**2.01**	**264**	⇑*i*P	**Pn**	**13**	**52**	**43.2**	**+0.8**
	baz=265								
PNG	baz=265			*e*S	**Sn**	**13**	**53**	**05.7**	**-1.3**
TWK1	**Hengchun**	**2.03**	**205**	*e*P	**Pn**	**13**	**52**	**44.2**	**+1.6**
	baz=197								
TWK1	baz=197			*e*S	**Sn**	**13**	**53**	**09.0**	**+1.5**
TSEB	**Hengchuen, Pin**	**2.04**	**202**	*e*P	**Pb**	**13**	**52**	**45.5**	**-0.4**
	baz=192								
JKRS	**Kuro-shima**	**2.13**	**78**	P	**Pb**	**13**	**52**	**47.2**	**-0.2**
JKRS				*e*S	**Sb**	**13**	**53**	**13.9**	**+0.5**
JIJ	**Ishigaki jima**	**2.27**	**75**	P	**Pn**	**13**	**52**	**48.5**	**+2.5**
JIJ				S	**Sn**	**13**	**53**	**15.7**	**+2.2**
JTJ	**Tarama**	**2.84**	**72**	P	**Pn**	**13**	**52**	**56.2**	**+2.4**
JTJ				*e*S	**Sn**	**13**	**53**	**30.1**	**+2.7**
KNM	**Kinmen**	**3.08**	**282**	P	**Pn**	**13**	**52**	**58.7**	**+1.6**
	baz=280								
QZH	**Quanzhou**	**3.09**	**292**	⇑*i*Pn	**Pn**	**13**	**52**	**57.9**	**+0.7**
QZH				Sn	**Sn**	**13**	**53**	**30.5**	**-3.1**
QZH				smax	smax				
	comp=N,2μm,0.3s								
JMJ	**Miyako jima 2**	**3.40**	**72**	*e*P	**Pn**	**13**	**53**	**03.8**	**+2.2**
	baz=74								
JMJ	**Miyako jima 2**	**3.40**	**72**	P	Pn	13	53	04.7	+3.1
JMJ				*e*S	**Sn**	**13**	**53**	**44.0**	**+2.6**
JOGS	**Gusukube**	**3.49**	**73**	P	Pn	13	53	06.0	+3.3
JOGS				*e*S	**Sn**	**13**	**53**	**46.4**	**+2.9**
JKE	**Kume jima 2**	**5.23**	**60**	P	**Pn**	**13**	**53**	**28.9**	**+2.2**
JKE				*e*S	**Sn**	**13**	**54**	**27.1**	**+0.6**
JAGN	**Aguni-jima**	**5.71**	**60**	P	**Pn**	**13**	**53**	**35.7**	**+2.4**
JAGN				*e*S	**Sn**	**13**	**54**	**38.4**	**0.0**
JIH	**Iheya**	**6.49**	**59**	P	**Pn**	**13**	**53**	**45.6**	**+1.6**
JIH				*e*S	**Sn**	**13**	**54**	**57.0**	**-0.6**
JOW	**Kunigami**	**6.65**	**62**	⇑*e*P	**Pn**	**13**	**53**	**47.0**	**+0.9**
	baz=64								
JOW	**Kunigami**	**6.65**	**62**	P	**Pn**	**13**	**53**	**47.0**	**+0.9**
JOW				*e*S	**Sn**	**13**	**55**	**00.0**	**-1.4**
JOW	**Kunigami**

comp=Z,0.7nm,0.6s,baz=344,slow=8.7,SNR=8.6
ASAR Alice Springs 48.63 165 P **P 14 00 52.2 -0.1**
comp=Z,1.0nm,0.9s,baz=343,slow=6.9,SNR=17
ARU Arti 55.72 323*d i*P **P 14 01 42.7 -1.9**
ARU 14 03 46.1
ARU pmax pmax
comp=Z,9.0nm,2.5s
STKA Stephens Creek 58.52 160 P **P 14 02 04.6 0.0**
comp=Z,0.9nm,0.6s,baz=344,slow=11,SNR=3.5
KIV Kislovodsk 66.22 309 P **P 14 02 57.0 +0.7**
KIV pmax pmax
comp=Z,5.0nm,0.8s
LVZ Lovozero 67.11 336⇑*i*P P 14 02 57.6 -3.9
LVZ pmax pmax
comp=Z,93nm,1.4s
ILAR Eielson Array 69.33 27 P **P 14 03 14.5 -0.9**
comp=Z,0.7nm,0.7s,baz=297,slow=7.5,SNR=19
FINES FINESS Array B 72.04 330 P **P 14 03 29.6 -2.3**
comp=Z,1.6nm,0.9s,baz=51,slow=6.1,SNR=5.6
BRTR Keskin Array B 73.81 307 P **P 14 03 42.3 -0.8**
comp=Z,1.3nm,0.8s,baz=98,slow=5.6,SNR=7.2
NOA NORSAR Array B 78.80 332 LR LR 14 42 50.2
comp=Z,47nm,18.1s,baz=350,slow=39
YKA Yellowknife Ar 83.13 23 P **P 14 04 33.1 -0.8**
comp=Z,0.5nm,0.4s,baz=314,slow=5.1,SNR=18
GERES GERESS Array B 83.46 321 P **P 14 04 35.6 -0.4**
comp=Z,1.0nm,0.7s,baz=63,slow=6.1,SNR=8.6

IDC 06 14:04:22.8±1.9, 39°46N×110°50E, h0km, mb 3.5/4, mb1 3.7/5, mb1mx3.4/25, mbtmp3.6/5, ML2.6/1, Error ellipse: s-maj=39.8km s-min=23.8km az=88.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**8.88**	**342**	Pn	Pn	14 06 32.0	-0.6
	0.1nm,0.3s,baz=155,slow=13,SNR=17						
SONM				Sn	Sn	14 08 12.3	-1.1
	0.2nm,0.3s,baz=160,slow=18,SNR=4.4						
SONM				Lg	Lg	14 09 03.1	
	0.1nm,0.3s,baz=162,slow=29,SNR=4.2						
MKAR	**Makanchi Array**	**21.78**	**299**	P	P	14 09 16.9	+0.9
	2.1nm,0.8s,baz=98,slow=10,SNR=26						
CMAR	**Chiang Mai Arr**	**23.20**	**209**	P	P	14 09 30.5	-0.9
	0.4nm,0.8s,baz=15,slow=9.7,SNR=4.1						
KURBB	**Kurchatov Arra**	**25.00**	**307**	P	P	14 09 48.3	+0.2
	1.7nm,1.0s,baz=105,slow=9.4,SNR=6.9						
YKA	**Yellowknife Ar**	**72.12**	**20**	P	P	14 15 48.9	+0.3
	0.1nm,0.5s,baz=324,slow=5.6,SNR=4.6						

*ISCJB **06** 14:09:15.6±0.5, 6°.89N±0°.06×73°.07W±0°.07, h163km±6km, mb3.4/5, Error ellipse: s-maj=13.5km s-min=7.1km az=32.9*
*FUNV **06** 14:09:16.8, 6°.79N×73°.15W, h156km, MW3.4*
*IDC **06** 14:09:16.7±2.7, 6°.79N×73°.10W, h160km±22km, mb3.2/5, mb1 3.5/6, mb1mx3.2/21, mbtmp3.2/6, Error ellipse: s-maj=41.6km s-min=17.7km az=73.0*
ISC 06 14:09:16.4±0.8, 6°.87N±0°.06×73°.06W±0°.08, h159km±7km, n23, σ0°73/30, mb3.4/5, 3C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.23**	**37**⇑*i*P		**Pn**	**14 09 45.1**	**+0.8**
CAPV				*e*S	**Sn**	**14 10 05.8**	**+0.1**
ROSC	**El Rosal**	**2.37**	**212**	P	**Pn**	**14 09 57.2**	**+0.4**
	46nm,0.3s,baz=86,slow=16,SNR=89						
ROSC				S	**Sn**	**14 10 26.6**	**-1.3**
	25nm,0.3s,baz=82,slow=18,SNR=7.4						
VIGV	**El Vigia**	**2.58**	**41**⇑*i*P		**Pn**	**14 09 59.5**	**+0.5**
VIGV				*e*S	**Sn**	**14 10 31.2**	**-0.7**
SOCV	**Socops**	**2.60**	**57**⇑*e*P		**Pn**	**14 09 59.8**	**+0.6**
SOCV				*e*S	**Sn**	**14 10 31.6**	**-0.6**
ELOV	**Elorza**	**3.55**	**88**	*e*P	**Pn**	**14 10 11.1**	**0.0**
VIRV	**Villa del Rosa**	**3.66**	**10**	*e*P	**Pn**	**14 10 12.2**	**-0.4**
VIRV				*e*S	**Sn**	**14 10 54.2**	**-2.1**
QARV	**Quebrada Arrib**	**4.16**	**37**	*e*P	**Pn**	**14 10 19.7**	**+0.7**
DABV	**Dabajuro**	**4.68**	**31**	*e*P	**Pn**	**14 10 26.1**	**+0.3**
TEPV	**Terepaima**	**4.91**	**51**⇓*e*P		**Pn**	**14 10 28.9**	**+0.1**
SIQV	**Siquisique**	**4.94**	**40**	*e*P	**Pn**	**14 10 30.1**	**+0.8**
BAUV	**El Baul**	**5.38**	**67**	*e*P	**Pn**	**14 10 34.7**	**-0.3**
IMOV	**Isla Los Monje**	**5.85**	**21**	*e*P	**Pn**	**14 10 41.5**	**+0.3**
MONV	**Montecano**	**5.90**	**31**	*e*P	**Pn**	**14 10 41.3**	**-0.6**
TURV	**Turiamo**	**6.27**	**55**	*e*P	**Pn**	**14 10 47.0**	**+0.2**
SIV	**San Ignacio**	**25.63**	**152**	P	**P**	**14 14 31.2**	**-0.2**
	0.4nm,0.4s,baz=308,slow=12,SNR=3.1						
TXAR	**Lajitas Array**	**36.47**	**312**	P	**P**	**14 16 07.1**	**+0.7**
	0.2nm,0.5s,baz=100,slow=9.2,SNR=2.6						
ULM	**Lac du Bonnet**	**47.26**	**340**	P	**P**	**14 17 33.4**	**-0.1**
	1.3nm,0.5s,baz=137,slow=13,SNR=2.9						
PDAR	**Pinedale Array**	**48.07**	**324**	P	**P**	**14 17 40.4**	**+0.2**
	0.3nm,0.5s,baz=133,slow=9.0,SNR=3.2						
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**14 19 28.1**	**+0.5**
	0.4nm,0.5s,baz=133,slow=6.8,SNR=12						
YKA				pP		**PcP 14 20 04.1**	**+0.6**
	0.2nm,0.5s,baz=130,slow=6.6,SNR=3.2						
MKAR	**Makanchi Array**	**122.25**	**20**	PKP		**PKPdf 14 27 52.3**	**-0.4**
	0.1nm,0.4s,baz=324,slow=2.7,SNR=5.6						
SONM	**Songino Array**	**125.53**	**0**	PKP		**PKPdf 14 27 59.8**	**+0.7**
	0.1nm,0.4s,baz=351,slow=0.5,SNR=3.4						
ASAR	**Alice Springs**	**149.19**	**234**	PKPbc		**PKPbc 14 28 46.2**	**-0.9**
	0.9nm,0.7s,baz=118,slow=3.4,SNR=4.9						
ASAR				PKPab		**PKPab 14 28 51.8**	**-0.1**
	0.9nm,0.6s,baz=122,slow=3.7,SNR=9.2						
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc		**PKPbc 14 28 49.4**	**-0.7**
	0.9nm,0.4s,baz=106,slow=3.0,SNR=27						

IDC 06 14:17:52.9±2.2, 0°.39S×133°.20E, h0km, mb 3.4/3, mb1 3.5/4, mb1mx3.3/17, mbtmp3.4/4, Error ellipse: s-maj=119.9km s-min=23.8km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.46**	**177**	P	P	14 22 21.6	+0.1
	0.1nm,0.3s,baz=356,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**23.15**	**178**	P	P	14 23 01.0	-0.1
	0.7nm,0.7s,baz=359,slow=10.0,SNR=21						
STKA	**Stephens Creek**	**32.31**	**167**	P	P	14 24 23.7	0.0
	1.1nm,0.9s,baz=306,slow=8.7,SNR=2.4						
MKAR	**Makanchi Array**	**64.64**	**324**	P	P	14 28 32.5	0.0
	0.2nm,0.9s,baz=112,slow=6.4,SNR=2.1						

*CSEM **06** 14:22:16.1, 39°.48N×0°.25W, h17km, ML2.0, After MDD*
MDD 06 14:22:16.1±0.6, 39°.48N×0°.25W, h17km±7km, mb4.1/1, mbLg2.0/16, Error ellipse: s-maj=5.5km s-min=3.9km az=136.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECHE	**Chera**	**0.57**	**282**	Pg	Pg	14 22 25.8	-1.6
	7.2nm,0.3s,SNR=15						
ECHE				Lg	Lg	14 22 34.2	
	47nm,0.4s,SNR=16						
ECHE	**Chera**	**0.57**	**282**	Pg	Pg	14 22 25.8	-1.6
	7.2nm,0.3s,SNR=15						
ECHE				Lg	Lg	14 22 34.2	
	47nm,0.4s,SNR=16						
EMOS	**Mosqueruela**	**0.90**	**349**	Pg	Pb	14 22 32.4	-1.1
	7.1nm,0.3s,SNR=41						
EMOS				Lg	Lg	14 22 43.4	
	32nm,0.5s,SNR=22						
EMOS	**Mosqueruela**	**0.90**	**349**	Pg	Pb	14 22 32.4	-1.1
	7.1nm,0.3s,SNR=41						
EMOS				Lg	Lg	14 22 43.4	
	32nm,0.5s,SNR=22						
ETOB	**Tobarra**	**1.31**	**231**	Pg	Pn	14 22 39.8	+0.1
	4.5nm,0.3s,SNR=14						
ETOB				Lg	Lg	14 22 58.2	
	8.5nm,0.3s,SNR=6.0						
ETOB	**Tobarra**	**1.31**	**231**	Pg	Pn	14 22 39.8	+0.1
	4.5nm,0.3s,SNR=14						
ETOB				Lg	Lg	14 22 58.2	
	8.5nm,0.3s,SNR=6.0						
EIBI	**Ibiza**	**1.32**	**110**	Pg	Pn	14 22 39.7	0.0
	0.1nm,0.1s,SNR=7.9						
EIBI				Sn	Sn	14 22 54.1	-2.8
	22nm,0.6s,SNR=7.9						
EIBI	**Ibiza**	**1.32**	**110**	Pg	Pn	14 22 39.7	0.0
	0.1nm,0.1s,SNR=7.9						
EIBI				Sn	Sn	14 22 54.1	-2.8
	22nm,0.6s,SNR=7.9						
ERTA	**Horta de San J**	**1.54**	**17**	Pn	Pn	14 22 41.5	-1.3
	5.1nm,0.5s,SNR=7.9						
ERTA				Pg	Pb	14 22 43.8	-0.4
	1.0nm,0.1s,SNR=7.9						
ERTA				Lg	Lg	14 23 02.5	
	43nm,1.0s,SNR=7.9						
ERTA	**Horta de San J**	**1.54**	**17**	Pn	Pn	14 22 41.5	-1.4
	5.1nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**1.81**	**206**	Lg	Lg	14 23 07.9	
	13nm,0.8s,SNR=7.9						
EMUR	**La Murta**	**1.81**	**206**	Lg	Lg	14 23 07.9	
	13nm,0.8s,SNR=7.9						
ETOR	**Torete**	**1.93**	**315**	Pg	Pb	14 22 50.4	-0.5
	27nm,0.3s,SNR=37						
ETOR				Sn	Sn	14 23 11.4	-0.8
	1.2nm,0.7s,SNR=7.9						
ETOR				Lg	Lg	14 23 17.0	
	33nm,1.0s,SNR=7.9						
ETOR	**Torete**	**1.93**	**315**	Pg	Pb	14 22 50.4	-0.5
	27nm,0.3s,SNR=37						
ETOR				Sn	Sn	14 23 11.4	-0.8
	1.2nm,0.7s,SNR=7.9						
ETOR				Lg	Lg	14 23 17.0	
	33nm,1.0s,SNR=7.9						
EVIA	**Vianos**	**1.94**	**245**	Pg	Pb	14 22 51.0	-0.3
	0.5nm,0.1s,SNR=7.9						
EVIA				Sn	Sn	14 23 10.6	-2.1
	2.9nm,0.4s,SNR=7.9						
EVIA				Lg	Lg	14 23 17.0	
	16nm,0.3s,SNR=7.0						
EVIA	**Vianos**	**1.94**	**245**	Pg	Pb	14 22 51.0	-0.2
	0.5nm,0.1s,SNR=7.9						
EVIA				Sn	Sn	14 23 10.6	-2.0
	2.9nm,0.4s,SNR=7.9						
EVIA				Lg	Lg	14 23 17.0	
	16nm,0.3s,SNR=7.0						
EPOB	**Poblet**	**2.13**	**28**	Pg	Pb	14 22 54.4	+0.1
	2.7nm,0.2s,SNR=7.9						
EPOB				Lg	Lg	14 23 20.2	
	3.3nm,0.3s,SNR=7.2						
EPOB	**Poblet**	**2.13**	**28**	Pg	Pb	14 22 54.4	+0.1
	2.7nm,0.2s,SNR=7.9						
EPOB				Lg	Lg	14 23 20.2	
	3.3nm,0.3s,SNR=7.2						
ESAC	**San Caprasio**	**2.25**	**356**	Pg	Pb	14 22 57.3	+0.9
	44nm,0.3s,SNR=6.7						
ESAC				Lg	Lg	14 23 24.9	
	100nm,0.4s,SNR=7.6						
ESAC	**San Caprasio**	**2.25**	**356**	Pg	Pb	14 22 57.3	+1.0
	44nm,0.3s,SNR=6.7						
ESAC				Lg	Lg	14 23 24.9	
	100nm,0.4s,SNR=7.6						
ETOS	**Mallorca**	**2.38**	**82**	Pn	Pn	14 22 52.6	-1.8
	0.3nm,0.1s,SNR=7.9						
ETOS				Sn	Sn	14 23 20.6	-2.8
	1.8nm,0.7s,SNR=7.9						
ETOS	**Mallorca**	**2.38**	**82**	Pn	Pn	14 22 52.6	-1.8
	0.3nm,0.1s,SNR=7.9						
ETOS				Sn	Sn	14 23 20.6	-2.7
	1.8nm,0.7s,SNR=7.9						
EQES	**Quesada**	**2.77**	**234**	Pg	Pg	14 23 07.5	-1.9
	0.3nm,0.1s,SNR=7.9						
EQES				Lg	Lg	14 23 43.8	
	3.7nm,0.8s,SNR=7.9						
EQES	**Quesada**	**2.77**	**234**	Pg	Pg	14 23 07.5	-1.9
	0.3nm,0.1s,SNR=7.9						
EQES				Lg	Lg	14 23 43.8	
	3.7nm,0.8s,SNR=7.9						
EMIR	**Miracle**	**2.78**	**28**	Pg	Pb	14 23 06.5	+1.0
	0.1nm,0.1s,SNR=4.0						
EMIR				Sn	Sn	14 23 31.9	-1.3
	6.6nm,0.6s,SNR=4.0						
EMIR				Lg	Lg	14 23 43.8	
	7.1nm,0.7s,SNR=5.6						
EMIR	**Miracle**	**2.78**	**28**	Pg	Pb	14 23 06.5	+1.0
	0.1nm,0.1s,SNR=4.0						
EMIR				Sn	Sn	14 23 31.9	-1.4
	6.6nm,0.6s,SNR=4.0						
EMIR				Lg	Lg	14 23 43.8	
	7.1nm,0.7s,SNR=5.6						
ESDC	**Sonseca Array**	**2.88**	**275**	Lg	Lg	14 23 43.9	
	2.0nm,0.4s,baz=93,slow=30,SNR=6.3						
ESDC	**Sonseca Array**	**2.88**	**275**	Lg	Lg	14 23 43.9	
	2.0nm,0.4s,SNR=6.3						
CSOR	**Sort**	**3.08**	**19**	Sn	Sn	14 23 37.6	-3.0
	4.7nm,0.7s,SNR=5.6						
CSOR				Lg	Lg	14 23 49.7	
	7.7nm,2.3s,SNR=7.9						
CSOR	**Sort**	**3.08**	**19**	Sn	Sn	14 23 37.6	-3.0
	4.7nm,0.7s,SNR=5.6						
CSOR				Lg	Lg	14 23 49.7	
	7.7nm,2.3s,SNR=7.9						
IEPA	**Eparoz**	**3.38**	**347**	Lg	Lg	14 24 01.5	
	4.4nm,1.9s,SNR=7.9						
IEPA	**Eparoz**	**3.38**	**347**	Lg	Lg	14 24 01.5	
	4.4nm,1.9s,SNR=7.9						
IELO	**Elcoad**	**3.44**	**348**	Pg	Pb	14 23 18.1	+1.4
	0.4nm,0.2s,SNR=7.9						
IELO				Lg	Lg	14 24 00.8	
	3.7nm,0.3s,SNR=7.9						
IELO	**Elcoad**	**3.44**	**348**	Pg	Pb	14 23 18.1	+1.4
	0.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.62**	**250**	Lg	Lg	14 24 07.9	
	11nm,2.8s,SNR=7.9						

IDC 06 14:26:12.4±2.4, 6°.14S×130°.32E, h0km, mb 3.5/1, mb1 3.6/4, mb1mx3.4/15, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=107.1km s-min=27.7km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.74**	**201**	Pn	Pn	14 29 14.1	-0.9
	0.1nm,0.3s,baz=16,slow=10.0,SNR=3.8						
FITZ				Sn	Sn	14 31 19.8	-18
	0.3nm,0.3s,baz=120,slow=20,SNR=4.2						
WRA	**Warramunga Arr**	**14.27**	**164**	Pn	Pn	14 29 36.9	+1.0
	0.4nm,0.3s,baz=349,slow=11,SNR=13						
WRA				Sn	Sn	14 32 01.2	-14
	0.2nm,0.3s,baz=334,slow=22,SNR=4.6						
ASAR	**Alice Springs**	**17.77**	**169**	P	Pn	14 30 21.3	-0.1
	0.2nm,0.3s,baz=344,slow=9.8,SNR=18						
MKAR	**Makanchi Array**	**67.68**	**326**	P	P	14 37 11.6	0.0
	0.2nm,0.4s,baz=115,slow=8.2,SNR=8.4						

*CSEM **06** 14:27:38.2±1.3, 36°.87N×38°.64E, h7km±6km, MD2.9, Error ellipse: s-maj=24.0km s-min=11.6km az=147.0*
*ISK **06** 14:27:40.0, 37°.09N×38°.55E, h4km, MD2.9*
*DDA **06** 14:27:41.8, 37°.09N×38°.83E, h7km, MD3.0*
ISC 06 14:27:37.6±2.3, 36°.92N±0°.09×38°.78E±0°.07, h7km±12km, n15, σ1°.42/24, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.52**	**4**	*e*PG	**Pb**	**14 27 48.9**	**-0.2**
URFA				*e*SG	**Sb**	**14 27 54.5**	**-2.4**
URFA	**Urfa**	**0.52**	**4**	*e*Pg	**Pb**	**14 27 48.9**	**-0.2**
URFA				*e*Sg	**Sb**	**14 27 54.5**	**-2.4**
ATAB	**Bozova**	**0.67**	**325**	*i* P	**Pn**	**14 27 52.8**	**-0.7**
ATAB				*i* S	**Sb**	**14 28 00.9**	**-0.2**
ATAB	**Bozova**	**0.67**	**325**	*i* P	**Pn**	**14 27 52.8**	**-0.7**
ATAB				*i* S	**Sb**	**14 28 00.9**	**-0.2**
GZT	**Gaziantep**	**1.06**	**294**	*i* P	**Pn**	**14 28 01.7**	**+2.7**
GZT				*i* S	**Sn**	**14 28 16.7**	**+2.6**
GAZ	**Gaziantep**	**1.28**	**282**	*e*PG	**Pg**	**14 28 00.5**	**-1.6**
GAZ	**Gaziantep**	**1.28**	**282**	*e*Pg	**Pg**	**14 28 00.5**	**-1.6**
MALT	**Malatya**	**1.42**	**349**	*e*PN	**Pg**	**14 28 04.2**	**-0.6**
MALT				*e*SN	**Sn**	**14 28 22.2**	**-0.6**
MALT	**Malatya**	**1.42**	**349**	*e*Pn	**Pg**	**14 28 04.2**	**-0.6**
MALT				*e*Sn	**Sn**	**14 28 22.2**	**-0.6**
SVRC	**Sivrice-ELAZID**	**1.51**	**16**	*e*PN	**Pg**	**14 28 07.6**	**+0.9**
SVRC	**Sivrice-ELAZID**	**1.51**	**16**	*e*Pn	**Pg**	**14 28 07.6**	**+0.9**
AKCD	**Akcadag**	**1.53**	**334**	*i* P	**Pg**	**14 28 08.6**	**+1.6**
AKCD				*i* S	**Sg**	**14 28 27.1**	**+0.3**
AKCD	**Akcadag**	**1.53**	**334**	*i* P	**Pg**	**14 28 08.6**	**+1.6**
AKCD				*i* S	**Sg**	**14 28 27.1**	**+0.3**
PTK	**Pertek**	**2.03**	**14**	*e*PN	**Pb**	**14 28 15.0**	**+0.1**
PTK	**Pertek**	**2.03**	**14**	*e*Pn	**Pb**	**14 28 15.0**	**+0.1**

IDC 06 14:29:17.3±2.0, 0°.44S×132°.52E, h0km, mb 3.8/4, mb1 4.0/5, mb1mx3.7/17, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=95.5km s-min=19.8km az=66.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.47**	**175**	P	P	14 33 45.7	-0.2
	0.3nm,0.3s,baz=355,slow=12,SNR=7.2						
WRA				S	Sn	14 37 16.4	-10
	0.1nm,0.3s,baz=356,slow=23,SNR=4.1						
ASAR	**Alice Springs**	**23.13**	**177**	P	P	14 34 25.7	+0.3
	1.8nm,0.5s,baz=353,slow=11,SNR=34						
STKA	**Stephens Creek**	**32.43**	**166**	P	P	14 35 49.1	-0.2
	1.3nm,0.8s,baz=342,slow=11,SNR=2.9						
CMAR	**Chiang Mai Arr**	**37.96**	**301**	P	P	14 36 36.5	-0.6
	0.4nm,0.4s,baz=119,slow=6.6,SNR=5.3						
MKAR	**Makanchi Array**	**64.28**	**324**	P	P	14 39 54.8	+0.2
	1.0nm,0.6s,baz=110,slow=8.4,SNR=25						

IDC 06 14:34:55.5±2.6, 23°.35S×170°.49E, h0km, mb 3.5/2, mb1 3.7/3, mb1mx3.5/3, MLB.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/11, Error ellipse: s-maj=90.2km s-min=43.2km az=4.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.95**	**288**	Pn	Pn	14 35 59.0	+1.5
	1.6nm,0.3s,baz=104,slow=22,SNR=30						
DZM				Sn	Sn	14 36 44.9	+0.2
	0.7nm,0.3s,baz=330,slow=20,SNR=2.5						
STKA	**Stephens Creek**	**26.91**	**245**	LR	LR	14 49 32.6	
	comp=Z,81nm,18.1s,baz=206,slow=33						
ASAR	**Alice Springs**	**33.49**	**262**	P	P	14 41 37.4	+0.5
	1.0nm,1.1s,baz=101,slow=10,SNR=5.4						
WRA	**Warramunga Arr**	**33.72**	**269**	P	P	14 41 37.6	-1.2
	0.4nm,0.9s,baz=99,slow=8.5,SNR=3.1						
GERES	**GERESS Array B**	**148.64**	**330**	PKPbc	PKPbc	14 54 44.2	-0.4
	0.3nm,0.2s,baz=343,slow=6.4,SNR=4.1						

MEX 06 15:06:39.9±0.8, 17°.18N×100°.28W, h31km±7km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.13**	**177**	*e*P	Pb	15 06 43.7	-1.9
CAIG				*i* S	Sn	15 06 48.2	-1.0
ACX	**Acapulco**	**0.50**	**127**	*i* P	Pb	15 06 48.4	-2.1
ACX				*i* S	Sb	15 06 55.2	-2.5
MEIG	**Mezcala**	**0.97**	**40**	*e*P	Pn	15 06 54.9	-2.6
MEIG				*i* S	Sn	15 07 07.9	-2.6
ZIIG	**Zihuatanejo**	**1.22**	**291**	*i* P	Pn	15 06 57.9	-2.9
ZIIG				*i* S	Sn	15 07 14.0	-2.1
PLIG	**Platanillo**	**1.42**	**31**	*i* P	Pn	15 07 01.5	-2.2
PLIG				*i* S	Sn	15 07 18.5	-2.9
YAIG	**Yautepec**	**2.03**	**34**	*i* P	Pn	15 07 11.1	-1.1
YAIG				*i* S	Sn	15 07 34.4	-2.3
PNIG	**Pinotepa**	**2.20**	**110**	*i* P	Pn	15 07 12.4	-2.0
PNIG				*i* S	Sn	15 07 38.0	-2.6
UTMO	**Huajuapan**	**2.45**	**74**	*i* P	Pn	15 07 16.7	-1.3
UTMO				*i* S	Sn	15 07 45.5	-1.6
PPM	**Popocatepetl**	**2.45**	**40**	*i* P	Pn	15 07 17.7	-0.8

*IDC **06** 15:06:57.8±1.0, 35°.48N×58°.39E, h0km, mb3.5/10, mb1 3.8/12, mb1mx3.6/28, mbtmp3.7/12, ML4.0/2, Error ellipse: s-maj=25.3km s-min=17.4km az=8.0*
*CSEM **06** 15:07:00.4±0.1, 35°.68N×58°.52E, h10km, ML4.0, Error ellipse: s-maj=4.2km s-min=2.9km az=128.0*
*TEH **06** 15:07:01.2, 35°.63N×58°.48E, h3km, ML4.0*
*THR **06** 15:07:02.5±0.6, 35°.61N×58°.40E, h38km±8km, ML4.0*
*NNC **06** 15:07:03.6±1.6, 35°.96N×59°.23E, h0km, mb3.5, Error ellipse: s-maj=14.9km s-min=11.9km az=97.0*
ISC 06 15:07:01.2±1.4, 35°.67N±0°.03×58°.51E±0°.03, h20km±5km, n86, σ1°.13/98, mb3.7/7, 13C-5D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMOG	**Moghan**	**0.80**	**57**	*e*Pg	**Pb**	**15 07 15.6**	**-1.1**
IMOG				*e*Sg	**Sn**	**15 07 28.9**	**-0.3**
IMOG				*e*		15 07 29.1	
	comp=Z,23μm,0.2s						
IMOG	**Moghan**	**0.80**	**57**	*e*Pg	**Pb**	**15 07 15.6**	**-1.1**
IPAY	**Payeh**	**0.87**	**27**	*e*Pg	**Pb**	**15 07 17.0**	**-0.8**
IPAY				*e*		15 07 37.2	
	comp=Z,29μm,0.2s						
IPAY	**Payeh**	**0.87**	**27**	*e*Pg	**Pb**	**15 07 17.0**	**-0.8**
IAKL	**Akhelmad**	**0.95**	**12**	*e*Pg	**Pb**	**15 07 17.8**	**-1.4**
IAKL				*e*Sg	**Sb**	**15 07 31.8**	**+0.4**
IAKL				*e*		15 07 32.9	
	comp=Z,52μm,0.1s						
ISRO	**Mashad**	**1.00**	**51**	*e*Pg	**Pb**	**15 07 19.4**	**-0.6**
ISRO				*e*Sg	**Sb**	**15 07 33.0**	**+0.1**
ISRO	**Mashad**	**1.00**	**51**	*e*Pg	**Pb**	**15 07 19.4**	**-0.6**
ISRO				*e*Sg	**Sb**	**15 07 33.0**	**+0.1**
MHI	**Mashad**	**1.00**	**51**⇑*e*Pg		**Pb**	**15 07 20.2**	**+0.2**
MHI				*e*Sg	**Sn**	**15 07 34.5**	**+0.5**
MHI				*e*		15 07 35.3	
	comp=Z,36μm,0.1s						
MHI	**Mashad**	**1.00**	**51**⇑*e*Pg		**Pb**	**15 07 20.2**	**+0.2**
MHI				*e*Sg	**Sn**	**15 07 34.5**	**+0.5**
IKRD	**Kardeh**	**1.10**	**0**⇑*e*Pg		Pg	15 07 26.8	+4.1
IKRD				*e*Sg	Sg	15 07 46.3	+9.1
IKRD				*e*		15 07 48.4	
	comp=Z,24μm,0.2s						
ISFR	**Sfrayin**	**1.44**	**343**	*e*	Pg	15 07 36.6	+7.6
	comp=Z,17μm,0.2s						
IMYA	**Miami**	**1.45**	**62**	*e*Pn	**Pb**	**15 07 28.2**	**+0.5**
IMYA				*e*Sg	**Sg**	**15 07 47.9**	**-0.4**
IMYA				*e*		15 07 51.9	
	comp=Z,12μm,0.1s						
IMYA	**Miami**	**1.45**	**62**	*e*Pn	**Pb**	**15 07 28.2**	**+0.5**
IMYA			

ISHM				*e*Pn	**Pn**	**15 08 05.6**	**+0.5**
ILAS	**Lasjerd**	**4.54**	**268**	*e*Pn	**Pn**	**15 08 10.0**	**+0.9**
ILAS	**Lasjerd**	**4.54**	**268**	*e*Pn	**Pn**	**15 08 10.0**	**+0.9**
IALA	**Alasht**	**4.65**	**277**	*e*Pn	**Pn**	**15 08 11.1**	**+0.5**
IALA				*e*		15 09 02.2	
	comp=Z,1μm,0.0s						
IALA	**Alasht**	**4.65**	**277**	*e*Pn	**Pn**	**15 08 11.1**	**+0.5**
IBAF	**Bafgh**	**4.76**	**212**	*e*Pn	**Pn**	**15 08 12.5**	**+0.5**
IBAF				*e*		15 09 47.2	
	comp=Z,2μm,0.4s						
IBAF	**Bafgh**	**4.76**	**212**	*e*Pn	**Pn**	**15 08 12.5**	**+0.5**
ICHK	**Chekchek**	**4.83**	**226**	*e*Pn	**Pn**	**15 08 13.4**	**+0.3**
ICHK				*e*		15 09 42.5	
	comp=Z,1μm,0.2s						
ICHK	**Chekchek**	**4.83**	**226**	*e*Pn	**Pn**	**15 08 13.4**	**+0.3**
IPRN	**Peran**	**5.04**	**278**	*e*Pn	**Pn**	**15 08 16.6**	**+0.7**
IPRN				*e*		15 08 36.2	
	comp=Z,958nm,0.3s						
DAMV	**Damavand**	**5.33**	**271**	*e*Pn	**Pn**	**15 08 20.5**	**+0.6**
DAMV	**Damavand**	**5.33**	**271**	*e*Pn	**Pn**	**15 08 20.5**	**+0.6**
IMEH	**Mehriz**	**5.37**	**218**	*e*Pn	**Pn**	**15 08 21.2**	**+0.7**
IMEH				*e*		15 10 07.2	
	comp=Z,860nm,0.3s						
IMEH	**Mehriz**	**5.37**	**218**	*e*Pn	**Pn**	**15 08 21.2**	**+0.7**
ISAD	**Sadrabad**	**5.50**	**228**	*e*Pn	**Pn**	**15 08 22.2**	**-0.1**
ISAD				*e*		15 10 00.5	
	comp=Z,2μm,0.4s						
ISAD	**Sadrabad**	**5.50**	**228**	*e*Pn	**Pn**	**15 08 22.2**	**-0.1**
NASN	**Na'in**	**5.53**	**240**	*e*Pn	**Pn**	**15 08 22.7**	**0.0**
NASN	**Na'in**	**5.53**	**240**	*e*Pn	**Pn**	**15 08 22.7**	**0.0**
KRBR	**Kerman**	**5.86**	**195**	*e*Pn	**Pn**	**15 08 28.4**	**+1.1**
KRBR				AML	AML	15 10 19.8	
	comp=E,122nm,0.6s						
KRBR				AML	AML	15 10 21.1	
	comp=N,120nm,0.6s						
KRBR	**Kerman**	**5.86**	**195**	*e*Pn	**Pn**	**15 08 28.4**	**+1.1**
ASAO	**Ashtian**	**7.04**	**263**	*e*Pn	**Pn**	**15 08 44.2**	**+0.7**
ASAO	**Ashtian**	**7.04**	**263**	*e*Pn	**Pn**	**15 08 44.2**	**+0.7**
KK31	**Karatay Array**	**11.88**	**48**	⇑Pn	**Pn**	**15 09 49.0**	**-0.5**
	comp=N,0.5nm,0.4s,baz=239,slow=18,SNR=12						
KK31				⇑Sn	**Sn**	**15 11 58.4**	**-3.0**
	comp=N,0.6nm,0.5s						
KK31	**Karatay Array**	**11.88**	**48**	Pn	**Pn**	**15 09 49.0**	**-0.5**
	comp=N,0.5nm,0.4s,SNR=12						
AB31	**Akbulak array**	**13.61**	**4**	⇓Pn	**Pn**	**15 10 13.9**	**+0.8**
	comp=N,0.4nm,0.5s,baz=201,slow=14,SNR=14						
AB31				⇑Sn	**Sn**	**15 12 43.0**	**-0.7**
	comp=N,2.2nm,0.8s,baz=203,slow=22,SNR=3.0						
AB31	**Akbulak array**	**13.61**	**4**	Pn	**Pn**	**15 10 13.9**	**+0.8**
	comp=N,0.4nm,0.5s,baz=201,SNR=14						
AB31				Sn	**Sn**	**15 12 43.0**	**-0.7**
	comp=N,2.2nm,0.8s,baz=203,SNR=3.0						
AAK	**Ala-Archa**	**14.21**	**56**	Pn	**Pn**	**15 10 21.5**	**+0.1**
	comp=N,0.9nm,0.3s,baz=257,slow=4.6,SNR=40						
AAK				Sn	**Sn**	**15 13 01.1**	**+2.6**
	comp=N,0.1nm,0.3s,baz=175,slow=11,SNR=3.7						
AKTO	**Aktyubinsk**	**14.76**	**359**	⇓Pn	**Pn**	**15 10 29.3**	**+0.6**
	comp=N,0.2nm,0.5s						
AKTO				⇑Sn	**Sn**	**15 13 11.8**	**+0.2**
	comp=N,0.4nm,0.7s						
AKTO	**Aktyubinsk**	**14.76**	**359**	Pn	Pn	15 10 25.7	-3.0
	comp=N,0.4nm,0.3s,baz=173,slow=16,SNR=8.1						
AKTO				Sn	Sn	15 13 05.6	-6.0
	comp=N,0.1nm,0.3s,baz=180,slow=19,SNR=2.3						
AKTO	**Aktyubinsk**	**14.76**	**359**	Pn	**Pn**	**15 10 29.3**	**+0.6**
	comp=N,0.2nm,0.5s						
AKTO				Sn	**Sn**	**15 13 11.8**	**+0.2**
	comp=N,0.4nm,0.7s						
TKM2	**Tokmak 2**	**15.06**	**56**	⇓Pn	**Pn**	**15 10 29.8**	**-3.4**
	comp=N,5.1nm,1.0s						
VOSK	**Vostochnaya**	**19.20**	**24**	⇑Pn	**P**	**15 11 24.1**	**+0.4**
	comp=N,3.8nm,1.1s						
BRVK	**Borovoye**	**19.27**	**22**	⇑Pn	**P**	**15 11 25.1**	**+0.7**
	comp=N,8.2nm,1.2s						
BRVK				⇑Sn	**Sn**	**15 14 56.4**	**-4.4**
	comp=N,2.2nm,0.9s						
BRVK	**Borovoye**	**19.27**	**22**	Pn	**P**	**15 11 25.1**	**+0.7**
	comp=N,8.2nm,1.2s						
BVA0	**Borovoye Array**	**19.27**	**22**	⇓Pn	**P**	**15 11 25.4**	**+0.9**
	comp=N,0.6nm,1.1s,baz=208,slow=12,SNR=9.2						
BVA0				⇑Sn	**Sn**	**15 14 56.6**	**-4.3**
	comp=N,0.4nm,1.4s,baz=261,slow=43,SNR=5.9						
BVA0	**Borovoye Array**	**19.27**	**22**	Pn	**P**	**15 11 25.4**	**+0.9**
	comp=N,0.6nm,1.1s,SNR=9.2						
BVAR	**Borovoye Array**	**19.27**	**22**	P	**P**	**15 11 25.0**	**+0.6**
	comp=N,0.3nm,0.3s,baz=209,slow=11,SNR=9.9						
BRTR	**Keskin Array B**	**20.07**	**289**	P	**P**	**15 11 33.1**	**-0.4**
	comp=N,0.5nm,0.6s,baz=95,slow=9.0,SNR=3.4						
KURBB	**Kurchatov Arra**	**20.80**	**38**	P	Pn	15 11 43.1	-0.4
	comp=N,0.3nm,0.6s,baz=231,slow=7.0,SNR=4.4						
MK31	**Makanchi Array**	**20.97**	**51**	⇓Pn	**P**	**15 11 43.9**	**+0.8**
	comp=N,1.0nm,0.7s,baz=234,slow=8.8,SNR=16						
MK31	**Makanchi Array**	**20.97**	**51**	Pn	**P**	**15 11 43.9**	**+0.8**
	comp=N,1.0nm,0.7s,SNR=16						
MKAR	**Makanchi Array**	**20.97**	**51**	P	**P**	**15 11 44.0**	**+1.0**
	comp=N,0.8nm,0.8s,baz=239,slow=11,SNR=9.5						
AKASG	**Malin Array Be**	**25.89**	**315**	P	**P**	**15 12 33.7**	**+2.0**
	comp=N,0.4nm,0.3s,baz=121,slow=8.6,SNR=4.2						
FINES	**FINESS Array B**	**32.93**	**332**	P	**P**	**15 13 34.6**	**+0.6**
	comp=N,1.5nm,0.7s,baz=116,slow=13,SNR=2.9						
NB2	**NORSAR Subarra**	**39.11**	**325**	P	**P**	**15 14 26.6**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=109,slow=8.6						
NB2	**NORSAR Subarra**	**39.11**	**325**	P	**P**	**15 14 26.6**	**-0.4**
	comp=Z,1.0nm,0.6s,SNR=3.8						
NOA	**NORSAR Array B**	**39.11**	**325**	P	**P**	**15 14 26.7**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=110,slow=8.1,SNR=2.7						
CMAR	**Chiang Mai Arr**	**39.56**	**105**	P	**P**	**15 14 31.9**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=301,slow=8.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**55.58**	**261**	P	**P**	**15 16 33.7**	**-2.0**
	comp=Z,0.5nm,0.5s,baz=44,slow=6.8,SNR=5.3						
WRA	**Warramunga Arr**	**90.53**	**114**	P	**P**	**15 20 01.6**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=322,slow=4.2,SNR=8.2						
ASAR	**Alice Springs**	**92.49**	**117**	P	**P**	**15 20 10.9**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=306,slow=5.9,SNR=4.6						

JMA 06 15:19:29.2,35.19N×136.77E,h15km±1km, M3.1,1C-1D Broadband fault plane solution: P waves. NP1: ϕ_s330.00000°,δ65.00000°,λ70.00000°. **NP2:** ϕ_s191.00000°,δ31.00000°,λ127.00000°. **Principal axes:** T Plg64.0000°, Azm207.0000°; N Plg18.0000°, Azm339.0000°; P Plg18.0000°, Azm75.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEG	**Eigenji**	**0.32**	**260**	⇓P	Pg	15 19 35.6	-0.2
JEG				S	Sg	15 19 40.1	-0.3
JGM	**Miyama**	**0.51**	**355**	⇑P	Pg	15 19 39.3	-0.1
TSUJ	**Tsu 2**	**0.56**	**211**	P	Pg	15 19 39.9	-0.3
JIE	**Ise**	**0.80**	**184**	P	Pg	15 19 44.3	-0.4
JKN2	**Miekihoku**	**1.03**	**203**	P	Pb	15 19 48.0	-0.8
MAT	**Matsushiro**	**1.78**	**40**	P	Pn	15 20 00.0	+0.5
MAT				S	Sb	15 20 24.8	+0.9

PRE 06 15:22:40.0±1.6,21.19S×33.41E,h10km,ML3.1, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLWY	**Bulawayo**	**4.61**	**282**	*i* P	Pn	15 23 48.0	-2.1
BLWY				*i*		15 23 48.4	
	baz=143,slow=28						
BLWY				*i* S	Sb	15 24 56.3	-0.8
SLR	**Silverton**	**6.53**	**225**	*e*P	Pn	15 24 18.4	+2.1
SLR				*e*S	Sn	15 25 27.1	-3.9
SLR				AML	AML	15 26 08.6	
	comp=Z,23nm,0.5s						
ERPM	**east rand prop**	**6.98**	**222**	*e*P	Pn	15 24 24.0	+1.4
ERPM				*e*S	Sn	15 25 38.9	-3.3
ERPM				AML	AML	15 26 21.7	
	comp=Z,14nm,0.6s						
PRYS	**Parys**	**7.94**	**223**	*e*P	Pn	15 24 36.9	+1.0
PRYS				*e*S	Sn	15 26 02.2	-3.8
PRYS				AML	AML	15 27 04.8	
	comp=Z,10nm,0.7s						
LBTB	**Lobatse**	**8.13**	**241**	*e*P	Pn	15 24 38.5	+0.2
LBTB				*e*S	Sn	15 26 07.4	-3.2
LBTB				AML	AML	15 26 58.5	
	comp=Z,12nm,0.5s						
SEK	**Senekal**	**8.83**	**215**	*e*S	Sn	15 26 22.8	-5.0
SEK				AML	AML	15 27 20.9	
	comp=Z,12nm,0.9s						
BOSA	**Boshof**	**10.45**	**223**	*e*P	Pn	15 25 10.6	+0.4
BOSA				*e*S	Sn	15 27 02.1	-5.5
BOSA				AML	AML	15 28 08.6	
	comp=Z,5.6nm,0.7s						

IDC 06 15:28:25.2±2.4,6.87S×129.65E,h0km,mb3.3/1, mb1 3.5/4,mb1mx3.4/16,mbtmp3.4/4,ML3.3/2,Error ellipse: s-maj=103.8km s-min=28.6km az=76.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.83**	**199**	Pn	Pn	15 31 16.1	+0.8
	baz=20,slow=12						
FITZ				Sn	Sn	15 33 17.7	-10
	0.3nm,0.3s,baz=45,slow=14,SNR=4.0						
WRA	**Warramunga Arr**	**13.76**	**161**	Pn	Pn	15 31 41.0	-0.8
	0.2nm,0.3s,baz=335,slow=14,SNR=12						
WRA				Sn	Sn	15 34 00.3	-15
	0.5nm,0.3s,baz=334,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**17.19**	**167**	P	Pn	15 32 26.9	-0.1
	0.1nm,0.3s,baz=339,slow=9.3,SNR=14						
ASAR				S	Sn	15 35 23.7	-15
	0.1nm,0.3s,baz=345,slow=24,SNR=4.7						
MKAR	**Makanchi Array**	**67.93**	**327**	P	P	15 39 25.9	0.0
	0.2nm,0.6s,baz=132,slow=6.0,SNR=5.2						

IDC 06 15:32:28.8±2.2,0.43S×133.05E,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.6/17,mbtmp3.8/4,MS4.7/1,Ms1 4.7/1, ms1mx2.8/24,Error ellipse: s-maj=116.4km s-min=25.8km az=72.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.43**	**176**	P	P	15 36 57.2	+0.2
	0.4nm,0.3s,baz=356,slow=11,SNR=14						
WRA				S	Sn	15 40 21.3	-16
	0.1nm,0.3s,baz=3.6,slow=23,SNR=5.5						
ASAR	**Alice Springs**	**23.11**	**178**	P	P	15 37 36.4	-0.2
	1.0nm,0.4s,baz=355,slow=8.0,SNR=19						
ASAR				S	S	15 41 41.1	-8.0
	0.3nm,0.9s,baz=342,slow=22,SNR=3.4						
JOW	**Kunigami**	**27.49**	**351**	LR	LR	15 47 13.3	
	comp=Z,2μm,21.9s,baz=313,slow=32						
STKA	**Stephens Creek**	**32.31**	**166**	P	P	15 38 59.4	-0.2
	0.8nm,0.3s,baz=324,slow=8.7,SNR=5.9						
MKAR	**Makanchi Array**	**64.58**	**324**	P	P	15 43 08.2	+0.2
	0.3nm,0.8s,baz=126,slow=7.2,SNR=4.2						

*DJA **06** 15:34:14.2,2.34N×95.97E,h24km,MLv3.5/5*
IDC 06 15:34:12.5±3.1,2.40N×96.18E,h0km,mb3.8/4,mb1 3.8/5, mb1mx3.5/23,mbtmp3.7/5,Error ellipse: s-maj=112.2km s-min=27.0km az=60.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.19**	**9**	Pn	P	15 38 03.2	-1.6
	baz=198,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**43.54**	**122**	P	P	15 42 18.3	-0.1
	0.7nm,0.8s,baz=303,slow=9.0,SNR=2.9						
MKAR	**Makanchi Array**	**45.84**	**347**	P	P	15 42 36.5	0.0
	0.7nm,0.5s,baz=158,slow=8.9,SNR=20						
SONM	**Songino Array**	**46.11**	**10**	P	P	15 42 38.4	-0.3
	0.7nm,0.6s,baz=191,slow=9.5,SNR=7.4						
ZALV	**Zalesovo Beam**	**52.22**	**352**	P	P	15 43 24.5	-0.7
	0.7nm,0.4s,baz=180,slow=8.5,SNR=2.7						

IDC 06 15:54:42.4±7.4,19.09S×69.97W,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.6/15,mbtmp3.7/2,Error ellipse: s-maj=319.8km s-min=65.7km az=21.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**77.51**	**71**	P	P	16 06 40.6	+0.1
	0.4nm,0.6s,baz=233,slow=6.7,SNR=3.7						
YKA	**Yellowknife Ar**	**88.60**	**341**	P	P	16 07 36.7	0.0
	0.4nm,0.6s,baz=134,slow=4.9,SNR=7.4						
MKAR	**Makanchi Array**	**144.22**	**33**	PKP	PKPdf	16 14 19.8	-0.7
	0.7nm,0.7s,baz=326,slow=3.4,SNR=7.2						

IDC 06 16:10:35.6±4.7,19.76S×178.58W,h637km±54km, mb2.8/6,mb1 3.2/7,mb1mx3.0/17,mbtmp2.9/7,Error ellipse: s-maj=97.3km s-min=23.3km az=154.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.18**	**258**	P	P	16 13 37.4	+2.4
	0.6nm,0.3s,baz=185,slow=19,SNR=5.4						
ASAR	**Alice Springs**	**44.16**	**256**	P	P	16 17 50.8	+0.2
	0.6nm,0.5s,baz=90,slow=8.0,SNR=24						
ASAR				PcP	PcP	16 19 20.5	-0.4
	0.7nm,0.8s,baz=101,slow=4.2,SNR=8.7						
WRA	**Warramunga Arr**	**44.17**	**261**	P	P	16 17 50.0	-0.6
	0.2nm,0.3s,baz=97,slow=7.0,SNR=18						
NVAR	**Mina Array Bea**	**80.86**	**44**	P	P	16 21 45.6	+0.2
	0.7nm,0.7s,baz=229,slow=6.8,SNR=6.3						
TXAR	**Lajitas Array**	**87.12**	**58**	P	P	16 22 16.3	+0.2
	1.1nm,1.0s,baz=231,slow=8.0,SNR=4.3						
ILAR	**Eielson Array**	**87.71**	**13**	P	P	16 22 17.4	-0.5
	0.5nm,0.4s,baz=217,slow=5.7,SNR=7.3						
PDAR	**Pinedale Array**	**88.80**	**43**	P	P	16 22 23.6	-0.2
	0.5nm,0.5s,baz=197,slow=2.8,SNR=5.0						
MKAR	**Makanchi Array**	**110.29**	**314**	PKiKP	PKiKP	16 27 55.7	-1.1
	0.2nm,0.6s,baz=10,slow=1.7,SNR=3.2						
AKASG	**Malin Array Be**	**142.10**	**331**	PKhKP	PKPpre	16 28 53.3	
	1.4nm,0.5s,baz=40,slow=3.8,SNR=8.4						
BRTR	**Keskin Array B**	**145.94**	**313**	PKPbc	PKPbc	16 29 06.2	+0.2
	1.0nm,0.6s,baz=103,slow=4.0,SNR=7.0						
GERES	**GERESS Array B**	**149.34**	**344**	PKPbc	PKPbc	16 29 14.5	+0.2
	0.6nm,0.6s,baz=5.5,slow=3.1,SNR=6.0						

MEX 06 16:13:27.4±0.6,17.23N×101.45W,h16km±8km,MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.38**	**357**	*i* P	Pg	16 13 33.9	-1.3
ZIIG				*i* S	Sg	16 13 39.0	-1.5
CAIG	**El Cayaco**	**1.14**	**99**	*e*P	Pn	16 13 44.8	-4.0
CAIG				*i* S	Sb	16 13 57.9	-5.4
ACX	**Acapulco**	**1.56**	**103**	*i* P	Pn	16 13 50.8	-3.7
ACX				*i* S	Sn	16 14 07.9	-6.5
MEIG	**Mezcala**	**1.88**	**68**	*i* P	Pn	16 13 56.1	-2.8
MEIG				*i* S	Sn	16 14 17.2	-5.2
MMIG	**Aquila**	**2.10**	**301**	*i* P	Pn	16 13 58.0	-3.9
MMIG				*i* S	Sn	16 14 22.6	-5.1
PLIG	**Platanillo**	**2.19**	**58**	*i* P	Pn	16 14 00.5	-2.8
PLIG				*i* S	Sn	16 14 25.4	-4.7
YAIG	**Yautepec**	**2.79**	**54**	*i* P	Pn	16 14 09.1	-2.5
YAIG				*i* S	Sn	16 14 40.3	-4.8
PPM	**Popocatepetl**	**3.25**	**55**	*i* P	Pn	16 14 16.2	-2.2
PPM				*i* S	Sn	16 14 53.5	-3.7

*ISCJB **06** 16:14:51.6±0.5,23.61N±0.03×122.08E±0.03,h19km±6km, Error ellipse: s-maj=5.0km s-min=2.8km az=138.6*
*TAP **06** 16:14:52.5,23.66N×122.00E,h22km,ML2.9,D*
*JMA **06** 16:14:52.7±0.2,23.49N×122.17E,h32km,M2.2*
ISC 06 16:14:52.0±1.1,23.62N±0.03×122.05E±0.03,h25km±13km, n35,σ0s59/61,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESL	**Shilin**	**0.60**	**289**	*i* P	**Pb**	**16 15 03.7**	**-0.2**
	baz=286						
ESL				*e*S	**Sb**	**16 15 11.5**	**-0.5**
	baz=286						
TWD	**Chiawan**	**0.62**	**318**	*i* P	**Pb**	**16 15 04.1**	**-0.1**
	baz=319						
TWD				*e*S	**Sb**	**16 15 12.4**	**-0.2**
	baz=319						
EHY	**Hungye**	**0.68**	**261**	*i* P	**Pb**	**16 15 05.5**	**+0.3**
	baz=255						
EHY				*e*S	**Sb**	**16 15 15.2**	**+0.9**
	baz=255						
TWF1	**Yuli**	**0.74**	**249**	*i* P	**Pb**	**16 15 06.5**	**+0.2**
	baz=243						
TWF1				*e*S	**Sn**	**16 15 17.2**	**-0.2**
	baz=243						
CHKT	**Chengkung**	**0.82**	**231**	P	**Pn**	**16 15 08.2**	**+0.3**
	baz=225						
CHKT				*e*S	**Sb**	**16 15 17.1**	**-1.0**
	baz=225						
ENA	**Nanau**	**0.85**	**341**	*i* P	**Pb**	**16 15 08.1**	**-0.1**
	baz=343						
ENA				S	**Sb**	**16 15 19.4**	**+0.1**
	baz=343						
WHF	**Hehuan Shan**	**0.89**	**306**	*i* P	**Pb**	**16 15 08.8**	**-0.2**
	baz=305						
WHF				*e*S	**Sb**	**16 15 20.3**	**-0.4**
	baz=305						
TWC	**Suao**	**1.00**	**349**	P	**Pn**	**16 15 10.5**	**+0.1**
	baz=352						
TWC				*e*S	**Sn**	**16 15 23.6**	**-0.1**
	baz=352						
TWT	**Tachien**	**1.02**	**308**	*e*P	**Pn**	**16 15 11.1**	**+0.2**
	baz=307						
NNS	**Nan Shan**	**1.02**	**323**	P	**Pn**	**16 15 11.0**	**+0.1**
	baz=323						
NNS				S	**Sb**	**16 15 24.1**	**-0.2**
	baz=323						
ELDTW	**Lidau**	**1.04**	**246**	*i* P	**Pn**	**16 15 10.6**	**-0.5**
	baz=242						
ELDTW				*e*S	**Sb**	**16 15 22.9**	**-1.8**
	baz=242						
SMLT	**Sun Moon Lake**	**1.09**	**284**	*e*P	**Pn**	**16 15 12.1**	**+0.4**
	baz=282						
ENTT	**Nioudou**	**1.11**	**337**	P	**Pn**	**16 15 12.1**	**+0.1**
	baz=338						
ENTT				*e*S	**Sb**	**16 15 26.4**	**-0.2**
	baz=338						
TYC	**Yuchr**	**1.13**	**285**	*e*P	**Pn**	**16 15 12.7**	**+0.5**
	baz=283						
ALS	**Alishan**	**1.15**	**265**	*i* P	**Pb**	**16 15 13.5**	**+0.2**
	baz=261						
ALS				*e*S	**Sn**	**16 15 28.2**	**+0.4**
	baz=261						
TWG	**Pinlang**	**1.20**	**229**	*e*P	**Pb**	**16 15 14.8**	**+0.7**
	baz=225						
TWG				*e*S	**Sn**	**16 15 26.6**	**-2.1**
	baz=225						
YOJ	**Yonaguni jima**	**1.21**	**46**	P	**Pb**	**16 15 14.3**	**0.0**
YOJ				*e*S	**Sb**	**16 15 29.8**	**+0.2**
NSK	**Sanguang**	**1.23**	**329**	*e*P	**Pn**	**16 15 14.0**	**+0.4**
	baz=330						
NSK				*e*S	**Sn**	**16 15 29.2**	**-0.3**
	baz=330						
CHN5	**Tsauling**	**1.26**	**269**	*e*P	**Pb**	**16 15 15.2**	**+0.1**
	baz=266						
CHN5				*e*S	**Sb**	**16 15 31.0**	**+0.1**
	baz=266						
STYT	**Tauyuan**	**1.27**	**249**	P	**Pn**	**16 15 14.7**	**+0.5**
	baz=246						
STYT				*e*S	**Sn**	**16 15 30.5**	**0.0**
	baz=246						
CHN4	**Tsaushan**	**1.36**	**259**	*e*P	**Pn**	**16 15 16.1**	**+0.6**
	baz=256						
CHN4				*e*S	**Sb**	**16 15 33.9**	**-0.1**
	baz=256						
WTP	**Ta-pu**	**1.37**	**255**	*e*P	**Pn**	**16 15 16.2**	**+0.7**
	baz=251						
WTP				*e*S	**Sb**	**16 15 35.1**	**+1.0**
	baz=251						
TWQ1	**Liyutan**	**1.38**	**302**	*e*P	**Pn**	**16 15 16.4**	**+0.8**
	baz=301						
NSTT	**Nanjuang**	**1.39**	**317**	*e*P	**Pn**	**16 15 16.1**	**+0.3**
	baz=316						
NSTT				*e*S	**Sb**	**16 15 34.3**	**-0.3**
	baz=316						
TWA	**Mucha**	**1.42**	**343**	*e*P	**Pb**	**16 15 17.7**	**-0.2**
	baz=344						
ECL	**Taimali**	**1.43**	**225**	*e*P	**Pb**	**16 15 17.9**	**-0.2**
	baz=221						
SGST	**Jiashian**	**1.45**	**249**	*e*P	**Pb**	**16 15 17.9**	**-0.5**
	baz=245						
SGST				*e*S	**Sb**	**16 15 36.9**	**+0.5**
	baz=245						
CHN1	**Nanshi**	**1.46**	**253**	*e*P	**Pb**	**16 15 18.8**	**+0.2**
	baz=250						
CHN1				*e*S	**Sb**	**16 15 37.5**	**+0.7**
	baz=250						
SSD	**Sandimen**	**1.57**	**237**	*e*P	**Pb**	**16 15 19.6**	**-0.7**
	baz=233						
LAY	**Lan-yu**	**1.64**	**196**	*e*P	**Pn**	**16 15 19.3**	**+0.1**
	baz=193						
EAST	**Anshuo**	**1.66**	**222**	*e*P	**Pn**	**16 15 20.8**	**+1.3**
	baz=219						
HATJ	**Hateruma jima**	**1.66**	**75**	P	**Pn**	**16 15 19.6**	**0.0**
HATJ				*e*S	**Sn**	**16 15 39.3**	**-0.8**
IRIF	**Iriomote-Funau**	**1.69**	**65**	P	**Pn**	**16 15 20.2**	**+0.3**
IRIF				*e*S	**Sn**	**16 15 40.6**	**-0.2**
JKRS	**Kuro-shima**	**1.90**	**71**	P	**Pn**	**16 15 23.2**	**+0.5**
JKRS				*e*S	**Sn**	**16 15 46.2**	**+0.4**
JIJ	**Ishigaki jima**	**2.05**	**68**	P	**Pn**	**16 15 25.6**	**+0.7**
JIJ				*e*S	**Sn**	**16 15 49.3**	**-0.4**

MEX 06 16:33:57.9±1.2,17.29N×94.97W,h139km±11km,MD3.6, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.21**	**158**	*e*P	Pn	16 34 15.6	-1.3
CMIG				*i* S	Sn	16 34 28.6	-2.7
VHO	**Vista Hermosa**	**1.70**	**263**	*i* P	Pn	16 34 28.3	-0.8
VHO				*i* S	Sn	16 34 51.9	-1.2
TGIG		**1.84**	**106**	*e*P	Pn	16 34 29.7	-0.9
TGIG				*i* S	Sn	16 34 54.0	-1.6
HUIG	**Huatulco**	**1.87**	**216**	*i* P	Pn	16 34 28.8	-2.1
HUIG				*i* S	Sn	16 34 54.7	-1.4
PCIG		**2.30**	**133**	*e*P	Pn	16 34 35.6	-0.4
PCIG				*i* S	Sn	16 35 03.0	-2.3
**CCI

ellipse: s-maj=23.8km s-min=13.7km az=113.3

ISC 06 16:54:28.3±3.6, 35°57N±0°05×141°82E±0°07, h17km±22km, n34, σ1§15/40, mb3.8/11, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.79**	**280**	P	**Pb**	**16 54 43.4**	**-0.2**
CHOJ				S	**Sn**	**16 54 56.3**	**+0.3**
BSO1	**Boso 1**	**1.15**	**217**	P	**Pn**	**16 54 47.9**	**-1.1**
BSO1				*e*S	**Sb**	**16 55 04.1**	**+0.4**
BSO2	**Boso 2**	**1.19**	**227**	*e*S	**Sb**	**16 55 05.2**	**-0.1**
KTR	**Katsuura**	**1.30**	**251**	P	**Pn**	**16 54 51.2**	**-0.4**
BSO3	**Boso 3**	**1.32**	**235**	P	**Pn**	**16 54 50.9**	**-0.7**
JFK	**Kawauchi**	**1.94**	**337**	P	**Pn**	**16 54 59.6**	**-1.0**
JAG	**Ashikaga**	**2.10**	**295**	P	**Pn**	**16 55 02.1**	**-0.5**
JIM2	**Oshima 3**	**2.13**	**247**	P	**Pn**	**16 55 01.5**	**-1.6**
JIM2				S	**Sn**	**16 55 27.9**	**-1.3**
JOD2	**Odawara 2**	**2.25**	**263**	P	**Pn**	**16 55 04.1**	**-0.6**
JOD2				*e*S	**Sn**	**16 55 31.3**	**-0.8**
JFT	**Otama**	**2.28**	**329**	P	**Pn**	**16 55 05.4**	**+0.3**
JKT	**Katashina**	**2.40**	**301**	P	**Pn**	**16 55 07.0**	**+0.2**
JRY	**Ryogami san**	**2.41**	**25**	P	**Pn**	**16 55 07.3**	**+0.3**
JMM	**Marumori**	**2.43**	**341**	P	**Pn**	**16 55 06.5**	**-0.7**
JYN	**Shimob**	**2.67**	**269**	P	**Pn**	**16 55 10.3**	**-0.3**
MJAR	**Matsushiro Arr** 4.7nm,0.3s,baz=94,slow=13,SNR=57	**3.08**	**289**	Pn	**Pn**	**16 55 17.1**	**+0.9**
MJAR	2.9nm,0.3s,baz=143,slow=4.9,SNR=4.6			Sn	**Sb**	**16 55 56.6**	**-3.3**
MAT	**Matsushiro**	**3.08**	**289**	P	**Pn**	**16 55 16.8**	**+0.6**
MAT				*e*S	**Sn**	**16 55 56.3**	**+3.7**
ASAJ	**Asahikawa** 0.6nm,0.3s,baz=208,slow=11,SNR=11	**8.55**	**4**	Pn	**Pn**	**16 56 30.4**	**-0.9**
ASAJ	0.3nm,0.3s,baz=268,slow=11,SNR=2.9			Sn	**Sn**	**16 58 06.5**	**-0.9**
ASAJ	comp=Z,217nm,19.0s,baz=120,slow=45			LR	LR	17 00 52.3	
JNU	**Nakatsue** 0.2nm,0.3s,baz=18,slow=7.6,SNR=3.3	**9.37**	**258**	Pn	**Pn**	**16 56 43.4**	**+0.8**
KSRS	**Korea Array** comp=Z,109nm,18.3s,baz=342,slow=38	**11.34**	**284**	LR	LR	17 01 41.0	
USRK	**Ussuriysk Arra** 0.2nm,0.3s,baz=141,slow=19,SNR=5.5	**11.44**	**322**	Pn	**Pn**	**16 57 12.2**	**+1.4**
SONM	**Songino Array** 1.0nm,0.6s,baz=106,slow=8.6,SNR=9.1	**28.86**	**306**	P	**P**	**17 00 27.4**	**+1.2**
BOD	**Bodaibo**	**28.94**	**329**	*e*P	**P**	**17 00 26.8**	**+0.4**
BOD	comp=Z,5.0nm,1.2s			pmax	pmax		
ZAK	**Zakamensk**	**31.44**	**310**	*e*P	**P**	**17 00 49.1**	**+0.4**
ZAK	comp=Z,1.0nm,1.2s			pmax	pmax		
ZALV	**Zalesovo Beam**	**43.15**	**314**	P	**P**	**17 02 28.1**	**+0.4**
ZALV	comp=Z,1.0nm,0.4s			pmax	pmax		
ZALV	**Zalesovo Beam** comp=Z,1.1nm,0.4s,baz=111,slow=8.0,SNR=5.0	**43.15**	**314**	P	**P**	**17 02 28.1**	**+0.4**
MKAR	**Makanchi Array**	**45.18**	**303**	P	**P**	**17 02 44.2**	**+0.1**
MKAR	comp=Z,1.0nm,0.7s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,0.8nm,0.7s,baz=84,slow=9.8,SNR=11	**45.18**	**303**	P	**P**	**17 02 44.2**	**+0.1**
ILAR	**Eielson Array** comp=Z,0.4nm,0.8s,baz=269,slow=5.9,SNR=4.8	**50.56**	**32**	P	**P**	**17 03 26.4**	**+0.9**
WRA	**Warramunga Arr** comp=Z,0.8nm,0.4s,baz=2.9,slow=7.5,SNR=11	**55.66**	**189**	P	**P**	**17 04 02.5**	**-1.1**
ASAR	**Alice Springs** comp=Z,0.8nm,0.8s,baz=2.6,slow=6.3,SNR=9.8	**59.39**	**188**	P	**P**	**17 04 29.6**	**-0.2**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.7s,baz=297,slow=6.6,SNR=3.6	**64.91**	**30**	P	**P**	**17 05 06.8**	**+0.5**
AKASG	**Malin Array Be**	**75.65**	**323**	P	**P**	**17 06 11.0**	**-1.3**
AKASG	comp=Z,1.0nm,0.4s			pmax	pmax		
AKASG	**Malin Array Be** comp=Z,0.6nm,0.4s,baz=47,slow=5.3,SNR=4.6	**75.65**	**323**	P	**P**	**17 06 11.0**	**-1.3**
BRTR	**Keskin Array B** comp=Z,0.3nm,0.5s,baz=62,slow=6.7,SNR=3.3	**80.06**	**312**	P	**P**	**17 06 37.6**	**+0.3**

*MOS **06** 17:11:32.4±0.8,36°.56N×70°.98E,h211km,mb4.3/28,Error ellipse: s-maj=9.4km s-min=5.1km az=86.3*

*ISCJB **06** 17:11:32.7±0.3,36°.56N±0°.02×71°.01E±0°.03,h212km±3km, mb4.3/62,Error ellipse: s-maj=4.3km s-min=2.8km az=160.6*

*BJI **06** 17:11:32.5,36°.72N×70°.84E,h216km,mB4.6/26,mb4.5/35*

*IDC **06** 17:11:34.9±0.9,36°.59N×71°.00E,h222km±7km,mb4.0/19, mb1 4.1/24,mb1mx3.9/30,mbtmp4.0/24,Error ellipse: s-maj=9.6km s-min=9.2km az=138.0*

*NEIC **06** 17:11:34.3±0.3,36°.59N×70°.98E,mb4.5/26,Error ellipse: s-maj=6.2km s-min=6.1km az=91.0*

NEIC Felt [II] at Kabul. Also felt at Feyzabad.

*NNC **06** 17:11:36.2±1.7,36°.92N×70°.72E,h163km±21km,mb4.2, mpv5.5,Error ellipse: s-maj=13.8km s-min=10.2km az=21.0*

ISC 06 17:11:34.0±0.3, 36°59N±0°.04×70°99E±0°.03, h211km±2km, h211km: pP-P, n208, σ1§50/308, mb4.3/62, 15C-18D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.58**	**218**	*e*PN	**Pn**	**17 12 19.7**	**0.0**
KBL				*e*		17 12 52.6	
KBL	**Kabul**	**2.58**	**218**	*e*Pn	**Pn**	**17 12 19.7**	**0.0**
KBL				*e*Sn	**S**	**17 12 52.6**	**-2.5**
CEP	**Cherat**	**2.86**	**164**	⇓P	**Pn**	**17 12 23.5**	**+0.7**
CEP				S	**S**	**17 13 01.0**	**+0.5**
CHCP	**Chirah Chowk**	**3.46**	**147**	⇓P	**Pn**	**17 12 30.8**	**+1.0**
THW	**Thamme Wali**	**3.83**	**170**	P	**Pn**	**17 12 34.8**	**+0.6**
SARP	**Sargodha**	**4.86**	**163**	P	**Pn**	**17 12 46.8**	**-0.1**
SARP				S	**S**	**17 13 41.0**	**-3.1**
KSH	**Kashi**	**4.91**	**52**	P	Pn	17 12 43.0	-4.5
KSH				S	S	17 13 34.2	-11
KSH	comp=N,600nm,0.3s			smax	smax		
KSH	comp=E,730nm,0.3s			smax	smax		
THN	**Thein Dam**	**5.69**	**135**	*e*PKP	**Pn**	**17 12 56.6**	**-0.8**
THN				*e*S	**S**	**17 14 00.8**	**-2.5**
DLH	**Dalhousie**	**5.76**	**133**	*e*PKP	**Pn**	**17 12 59.0**	**+0.5**
DLH				*e*S	**S**	**17 14 03.0**	**-2.2**
AML	**Almayashu** SNR=2228	**5.92**	**20**	P	**Pn**	**17 13 00.3**	**-0.4**
AML	SNR=2228			P	**Pn**	**17 13 00.3**	**-0.4**
PONG	**Pong**	**6.18**	**137**	*e*PKP	**Pn**	**17 13 05.0**	**+1.3**
PONG				*e*S	**S**	**17 14 10.5**	**-4.3**
UCH	**Uchtor** SNR=132	**6.26**	**25**	P	**Pn**	**17 13 05.1**	**0.0**
UCH	SNR=132			P	**Pn**	**17 13 05.1**	**0.0**
KZA	**Kyzart** SNR=209	**6.40**	**30**	P	**Pn**	**17 13 06.1**	**-0.7**
KZA	SNR=209			P	**Pn**	**17 13 06.1**	**-0.7**
EKS2	**Erkin-Say**	**6.44**	**19**	*e*PN	**Pn**	**17 13 06.6**	**-0.4**
EKS2	comp=Z,176nm,0.6s			pmax	pmax		
EKS2	**Erkin-Say** comp=Z,176nm,0.6s	**6.44**	**19**	*e*Pn	**Pn**	**17 13 06.6**	**-0.4**
EKS2				*e*Sn	S	17 14 09.8	-11
EKS2	**Erkin-Say** SNR=225	**6.44**	**19**	P	**Pn**	**17 13 06.9**	**-0.1**
EKS2	SNR=225			P	**Pn**	**17 13 06.9**	**-0.1**
KK31	**Karatay Array** comp=Z,59nm,0.4s,baz=177,slow=13,SNR=1851	**6.52**	**357**	⇓Pn	**Pn**	**17 13 06.7**	**-1.3**
KK31	comp=Z,105nm,0.4s,baz=183,slow=23,SNR=14			⇓Sn	**S**	**17 14 18.0**	**-4.7**
KK31	**Karatay Array**	**6.52**	**357**	*i* PN	**Pn**	**17 13 07.3**	**-0.7**
KK31	comp=Z,201nm,0.4s			pmax	pmax		
KKAR	**Karatay Array**	**6.52**	**357**	*e*PN	**Pn**	**17 13 07.2**	**-0.8**
KKAR	comp=Z,121nm,0.4s			pmax	pmax		
KKAR	**Karatay Array** comp=Z,122nm,0.4s	**6.52**	**357**	*e*Pn	**Pn**	**17 13 07.2**	**-0.8**
KKAR				*e*Sn	S	17 14 14.7	-8.0
AAK	**Ala-Archa**	**6.62**	**23**	*e*PN	**Pn**	**17 13 09.3**	**-0.1**
AAK				S	**S**	**17 14 22.7**	**-2.5**
AAK	comp=Z,2μm,0.4s			pmax	pmax		
AAK	**Ala-Archa** comp=Z,2μm,0.4s	**6.62**	**23**	*e*Pn	**Pn**	**17 13 09.3**	**-0.1**
AAK				S	**S**	**17 14 22.7**	**-2.5**
AAK	**Ala-Archa** SNR=302	**6.62**	**23**	P	**Pn**	**17 13 09.5**	**+0.1**
AAK	SNR=302			P	**Pn**	**17 13 09.5**	**+0.1**
AAK	**Ala-Archa** comp=Z,104nm,0.3s,baz=178,slow=6.2,SNR=1605	**6.62**	**23**	P	**Pn**	**17 13 09.3**	**-0.1**
AAK	comp=Z,17nm,0.3s,baz=114,slow=20,SNR=7.5			S	**S**	**17 14 22.7**	**-2.5**
KBK	**Karagaybulak** SNR=105	**6.79**	**26**	P	**Pn**	**17 13 11.9**	**+0.2**
KBK	SNR=105			P	**Pn**	**17 13 11.9**	**+0.2**
FRU	**Bishkek**	**6.84**	**23**	⇓*i*PN	**Pn**	**17 13 11.8**	**-0.3**
FRU				*e*S	**S**	**17 14 28.8**	**-1.3**
FRU	comp=Z,230nm,1.2s			pmax	pmax		
FRU	comp=E,300nm,1.4s			smax	smax		
BHK	**Bhakra**	**6.85**	**137**	*e*PKP	**Pn**	**17 13 12.8**	**+0.4**
BHK				*ex*	x	17 14 14.0	
ULHL	**Ulahol** SNR=159	**6.96**	**34**	P	**Pn**	**17 13 13.4**	**-0.6**
ULHL	SNR=159			P	**Pn**	**17 13 13.4**	**-0.6**
CHMS	**Chumysh** SNR=135	**7.03**	**23**	P	**Pn**	**17 13 14.1**	**-0.5**
CHMS	SNR=135			P	**Pn**	**17 13 14.1**	**-0.5**
SDNR	**Sundarnagar**	**7.10**	**134**	*e*PKP	**Pn**	**17 13 15.0**	**-0.6**
SDNR				*e*S	**S**	**17 14 31.0**	**-5.4**
USP	**Ospenovka** SNR=177	**7.20**	**21**	P	**Pn**	**17 13 15.8**	**-1.0**
USP	SNR=177			P	**Pn**	**17 13 15.8**	**-1.0**
TKM2	**Tokmak 2** comp=E,574nm,1.1s	**7.26**	**28**	⇓Pn	**Pn**	**17 13 16.7**	**-1.0**
TKM2	comp=E,134nm,1.1s			⇑Sn	**S**	**17 14 37.0**	**-3.2**
TKM2	**Tokmak 2**	**7.26**	**28**	*i* PN	**Pn**	**17 13 17.5**	**-0.1**
TKM2	**Tokmak 2**	**7.26**	**28**	*e*Pn	**Pn**	**17 13 17.2**	**-0.5**
TKM2	**Tokmak 2** SNR=114	**7.26**	**28**	P	**Pn**	**17 13 17.6**	**-0.1**
TKM2	SNR=114			P	**Pn**	**17 13 17.6**	**-0.1**
SMLA	**Simla**	**7.49**	**135**	*i* P	**Pn**	**17 13 20.2**	**-0.4**
SMLA				*i* S	**S**	**17 14 40.9**	**-4.5**
SMLA				*i* S	S	17 14 41.0	-4.4
SMLA	comp=E,324nm,0.3s			AML	AML	17 14 42.8	
SMLA	comp=N,200nm,0.2s			AML	AML	17 14 43.5	
KNDC	**Almaty** comp=N,345nm,0.7s	**8.06**	**33**	⇑Pn	**Pn**	**17 13 28.2**	**+0.3**
KNDC	comp=N,85nm,0.9s			⇓Sn	**S**	**17 14 56.6**	**-2.4**
DDI	**Dehra Dun**	**8.59**	**135**	*ex*	**Pn**	**17 13 32.0**	**-3.0**
DDI				*ex*	x	17 15 11.8	
KHET	**Khetri**	**9.41**	**153**	*e*PKP	**Pn**	**17 13 43.2**	**-2.3**
KHET				*e*S	S	17 15 21.2	-10
AYAN	**Aya Nagar**	**9.60**	**146**	*e*PKP	**Pn**	**17 13 46.5**	**-1.4**
AYAN				*e*S	S	17 15 26.7	-8.8
KUDL	**Kundal**	**9.61**	**150**	*e*PKP	**Pn**	**17 13 46.3**	**-1.8**
KUDL				*e*S	S	17 15 26.1	-10
AGRA	**Agra**	**11.04**	**146**	*e*PKP	**Pn**	**17 14 04.9**	**-1.4**
AGRA				*e*S	S	17 15 59.5	-9.0
AGRA	comp=N,89nm,0.5s			AML	AML	17 16 21.9	
AGRA	comp=E,98nm,0.5s			AML	AML	17 16 25.8	
MK31	**Makanchi Array**	**13.23**	**36**	*e*P	**Pn**	**17 14 32.8**	**-1.0**
MK31	**Makanchi Array**	**13.23**	**36**	*e*Pn	**Pn**	**17 14 32.8**	**-1.0**
MKAR	**Makanchi Array**	**13.23**	**36**	P	**Pn**	**17 14 32.6**	**-1.2**
MKAR	**Makanchi Array**	**13.23**	**36**	P	**Pn**	**17 14 32.5**	**-1.2**
MKAR				S	**S**	**17 17 03.9**	**+3.6**
MKAR	**Makanchi Array** comp=E,3.1nm,0.3s,baz=215,slow=14,SNR=169	**13.23**	**36**	P	**Pn**	**17 14 32.5**	**-1.2**
MKAR	baz=247,slow=22,SNR=2.2			S	**S**	**17 17 03.9**	**+3.6**
DANN	**Dangsing** comp=E,51nm,0.4s	**13.54**	**124**	*e*P	**Pn**	**17 14 37.5**	**-0.7**
KOLN	**Koldanda** comp=E,44nm,0.4s	**13.82**	**126**	*e*P	**Pn**	**17 14 40.6**	**-0.9**
GKN	**Gorkha** comp=E,60nm,0.3s	**14.36**	**123**	*e*P	**Pn**	**17 14 47.5**	**-0.6**
WMQ	**Urumqi**	**14.66**	**55**	⇑*i*P	**Pn**	**17 14 51.8**	**+0.3**
WMQ				sP		17 15 46.2	
WMQ				S	**S**	**17 17 32.2**	**-1.5**
WMQ	comp=Z,18nm,0.9s			pmax	pmax		
WMQ	comp=Z,170nm,6.2s			pmax	pmax		
DMN	**Daman** comp=Z,50nm,0.5s	**14.93**	**123**	*e*P	**Pn**	**17 14 54.4**	**-0.7**
DMN				*e*S	S	17 17 31.7	-8.9
KKN	**Kakani** comp=Z,114nm,0.5s	**14.93**	**122**	*e*P	**Pn**	**17 14 53.6**	**-1.5**
AB31	**Akbulak array** comp=Z,18nm,0.5s,baz=148,slow=12	**15.00**	**331**	⇓Pn	**Pn**	**17 14 55.0**	**-0.6**
AB31	comp=Z,9.9nm,0.6s,baz=151,slow=23			⇑Sn	**S**	**17 17 38.2**	**-3.3**
AB31	**Akbulak array**	**15.00**	**331**	*ce*P	**Pn**	**17 14 54.2**	**-1.3**
AB31	comp=Z,22nm,0.5s			pmax	pmax		
ABKAR	**Akbulak array** comp=Z,30nm,0.6s	**15.00**	**331**	*e*Pn	**Pn**	**17 14 53.9**	**-1.6**
ABKAR				*e*Sn	S	17 17 33.1	-8.4
KURBB	**Kurchatov Arra** comp=Z,2.7nm,0.5s	**15.05**	**19**	Pn	**P**	**17 14 56.8**	**+0.4**
KURBB	**Kurchatov Arra** comp=Z,1.5nm,0.3s,baz=208,slow=12,SNR=61	**15.05**	**19**	P	**Pn**	**17 14 54.6**	**-1.4**
KURBB	baz=204,slow=20,SNR=4.7			S	**S**	**17 17 42.1**	**-0.3**
KURK	**Kurchatov** comp=Z,26nm,1.0s	**15.15**	**19**	⇑Pn	**P**	**17 14 58.2**	**+0.6**
KURK	comp=Z,21nm,0.9s			⇑Sn	**S**	**17 17 45.6**	**+0.7**
KURK	**Kurchatov**	**15.15**	**19**	P	**Pn**	**17 14 54.6**	**-2.7**
KURK				S	**S**	**17 17 42.1**	**-2.8**
KURK	**Kurchatov**	**15.15**	**19**	P	**Pn**	**17 14 54.6**	**-2.7**
KURK				*e*Pn	**P**	**17 14 55.2**	**-2.3**
KURK				S	**S**	**17 17 42.1**	**-2.8**
PKI	**Pulchoki**	**15.16**	**122**	*e*P	**Pn**	**17 14 57.5**	**-0.5**
GUN	**Gumba** comp=Z,59nm,0.4s	**15.27**	**120**	*e*P	**Pn**	**17 14 59.0**	**-0.3**
JIRN	**Jiri** comp=Z,41nm,0.4s	**15.64**	**120**	*e*P	**Pn**	**17 15 03.8**	**0.0**
VOSK	**Vostochnaya** comp=Z,48nm,0.7s	**16.14**	**360**	⇓Pn	**Pn**	**17 15 09.2**	**0.0**
VOSK	comp=Z,6.9nm,0.8s			⇓Sn	**S**	**17 18 06.4**	**-0.4**
RAMN	**Ramite** comp=Z,56nm,0.5s	**16.37**	**122**	*e*P	**Pn**	**17 15 12.1**	**-0.4**
ZRNK	**Zerenda** comp=Z,38nm,1.1s	**16.42**	**356**	⇓Pn	**Pn**	**17 15 12.4**	**-0.1**
ZRNK	comp=Z,16nm,1.3s			⇓Sn	**S**	**17 18 13.0**	**+0.4**
BVA0	**Borovoye Array** comp=Z,2.6nm,0.6s	**16.45**	**359**	⇑Pn	**Pn**	**17 15 13.5**	**+0.7**
BVA0	comp=Z,5.1nm,1.4s,baz=342,slow=42,SNR=7.0			⇓Sn	**S**	**17 18 14.6**	**+1.5**
BVAR	**Borovoye Array**	**16.45**	**359**	P	**Pn**	**17 15 12.4**	**-0.4**
BVAR				S	**S**	**17 18 12.2**	**-0.8**
BVAR	**Borovoye Array**	**16.45**	**359**	P	**Pn**	**17 15 12.4**	**-0.4**
BVAR				S	**S**	**17 18 12.2**	**-0.8**
BVAR	**Borovoye Array** comp=Z,8.9nm,0.3s,baz=160,slow=11,SNR=129	**16.45**	**359**	P	**Pn**	**17 15 12.4**	**-0.4**
BVAR	comp=Z,0.7nm,0.3s,baz=167,slow=21,SNR=5.9			S	**S**	**17 18 12.2**	**-0.8**
BRVK	**Borovoye** comp=Z,40nm,0.6s	**16.48**	**359**	⇓Pn	**Pn**	**17 15 13.8**	**+0.6**
BRVK	comp=Z,35nm,1.0s			⇑Sn	**S**	**17 18 14.7**	**+1.0**
BRVK	**Borovoye**	**16.48**	**359**	*e*P	**P**	**17 15 12.4**	**+0.2**
BRVK				*e*S	**S**	**17 18 11.7**	**-2.0**
BRVK	comp=Z,27nm,0.6s			pmax	pmax		
BRVK	**Borovoye** comp=Z,27nm,0.6s	**16.48**	**359**	*e*P	**P**	**17 15 12.4**	**+0.2**
BRVK				*e*S	**S**	**17 18 11.7**	**-2.0**
AKTO	**Aktyubinsk** comp=Z,3.6nm,0.6s	**16.70**	**330**	⇓Pn	**Pn**	**17 15 16.1**	**+0.2**
AKTO	comp=Z,2.2nm,0.8s			⇑Sn	**S**	**17 18 19.3**	**+1.1**
AKTO	**Aktyubinsk**	**16.70**	**330**	P	**Pn**	**17 15 15.7**	**-0.2**
AKTO				S	**S**	**17 18 16.0**	**-2.2**
AKTO	**Aktyubinsk**	**16.70**	**330**	P	**Pn**	**17 15 15.7**	**-0.2**
AKTO				S	**S**	**17 18 16.0**	**-2.2**
TAPN	**Taplejung** comp=Z,79nm,0.7s	**16.90**	**118**	*e*P	**Pn**	**17 15 18.2**	**-0.6**
NGP	**Nagpur**	**16.91**	**153**	*ex*	**P**	**17 15 17.1**	**-0.2**
NGP				*ex*	x	17 18 13.5	
ODAN	**Odare**	**16.97**	**120**	*e*P	**Pn**	**17 15 20.0**	**+0.4**
POO	**Poona**	**18.16**	**171**	*ex*	**P**	**17 15 34.0**	**+3.1**
LSA	**Lhasa**	**18.21**	**106**	P	**Pn**	**17 15 34.3**	**-0.1**
LSA	**Lhasa**	**18.21**	**106**	*e*P	**Pn**	**17 15 34.2**	**-0.1**
LSA	comp=Z,15nm,0.6s			pmax	pmax		
LSA	**Lhasa** comp=Z,15nm,0.6s	**18.21**	**106**	*e*P	**Pn**	**17 15 34.2**	**-0.1**
ZAA0	**Zalesovo Array**	**19.84**	**25**	*e*P	**P**	**17 15 48.5**	**-0.1**
ZALV	**Zalesovo Beam**	**19.84**	**25**	P	**P**	**17 15 48.8**	**+0.2**
ZALV				S	**S**	**17 19 18.1**	**-2.0**
ZALV	**Zalesovo Beam**	**19.84**	**25**	P	**P**	**17 15 48.8**	**+0.2**
ZALV				S	**S**	**17 19 18.1**	**-2.0**
ZALV	**Zalesovo Beam** comp=Z,4.4nm,0.3s,baz=226,slow=10,SNR=24	**19.84**	**25**	P	**P**	**17 15 48.8**	**+0.2**
ZALV				S	**S**	**17 19 18.1**	**-2.0**
NVS	**Novosibirsk**	**20.11**	**21**	*e*P	**P**	**17 15 50.5**	**-0.9**
NVS				*e*		17 16 51.0	
NVS				*e*S	**S**	**17 19 21.9**	**-3.3**
NVS	comp=N,7.0nm,0.5s			pmax	pmax		
NVS	comp=E,3.0nm,0.5s			pmax	pmax		
NVS	comp=Z,8.0nm,0.5s			pmax	pmax		
NVS	comp=N,19nm,1.1s			smax	smax		
NVS	comp=E,22nm,1.2s			smax	smax		
HYB	**Hyderabad**	**20.23**	**159**	*i* P	**P**	**17 15 54.0**	**+0.9**
HYB				*e*		17 16 17.0	
HYB				*e*sP	**sP**	**17 16 58.0**	**+3.3**
MIB	**Mutribah**	**20.88**	**258**	*e*P	**P**	**17 16 00.1**	**+0.2**
MIB	comp=Z,14nm,1.0s			AMb	AMB	17 16 04.3	
SHL	**Shillong**	**20.95**	**116**	*ex*	**P**	**17 16 02.2**	**+1.3**
RDF	**Al-Radifah**	**21.11**	**256**	*e*P	**P**	**17 16 02.2**	**0.0**
RDF	comp=Z,8.5nm,0.3s			AMb	AMB	17 16 06.8	
NAY	**Al-Naaiem**	**21.20**	**257**	*e*P	**P**	**17 16 03.1**	**-0.1**
NAY	comp=Z,8.1nm,0.7s			AMb	AMB	17 16 05.2	
SVE	**Sverdlovsk**	**21.41**	**344**	⇑*e*P	**P**	**17 16 06.6**	**+1.5**
SVE	comp=Z,13nm,0.8s			pmax	pmax		
ARU	**Arti**	**21.55**	**341**	*c i*P	**P**	**17 16 07.8**	**+1.3**
ARU				S	**S**	**17 19 56.0**	**+5.2**
ARU	comp=Z,10.0nm,1.0s			pmax	pmax		
ARU	**Arti** comp=Z,9.6nm,0.8s	**21.55**	**341**	*e*P	**P**	**17 16 07.0**	**+0.6**
ARU				*e*S	**S**	**17 19 51.0**	**+0.2**
ZEI	**Tsey**	**21.69**	**295**	*e*P	**P**	**17 16 09.7**	**+1.4**
ZEI	comp=Z,6.0nm,1.6s			pmax	pmax		
GTA	**Gaotai**	**22.85**	**74**	P	**P**	**17 16 20.8**	**+1.8**
GTA				pP	**pP**	**17 17 01.4**	**+4.8**
GTA				sP	sP	17 17 30.3	+7.1
GTA				S	**S**	**17 20 15.9**	**+3.5**
GTA				SS	SS	17 21 24.3	-32
GTA	comp=Z,10.0nm,1.1s			pmax	pmax		
GTA	comp=Z,130nm,6.4s			LR	LR		
GTA	comp=N,74nm,14.5s			LR	LR		
GTA	comp=E,59nm,15.2s			LR	LR		
GTA	comp=Z,71nm,15.9s			LR	LR		
LZH	**Lanzhou**	**26.41**	**81**	P	**P**	**17 16 52.5**	**+1.3**
LZH				pP	**pP**	**17 17 34.1**	**+0.6**
LZH				PP	**PnPn**	**17 17 46.5**	**+1.8**
LZH				sP	**sP**	**17 17 58.0**	**0.0**
LZH	comp=Z,21nm,1.0s			pmax	pmax		
LZH	comp=Z,63nm,4.2s			pmax	pmax		
VORD	**Divnogorie**	**26.77**	**312**	*e*P	**P**	**17 16 57.7**	**+3.6**
VORD	comp=Z,2.0nm,0.6s			pmax	pmax		
VORD	comp=N,8.0nm,0.9s			pmax	pmax		
VORD	comp=E,8.0nm,0.7s			pmax	pmax		
VSR	**Storozhevoye**	**26.94**	**313**	*e*P	**P**	**17 16 55.7**	**+0.2**
VSR	comp=N,3.0nm,0.6s			pmax	pmax		
VSR	comp=E,3.0nm,0.6s			pmax	pmax		
VSR	comp=Z,3.0nm,0.6s			pmax	pmax		
ZAK	**Zakamensk**	**26.94**	**49**	*e*P	**P**	**17 16 57.0**	**+1.2**
ZAK				*e*		17 17 39.4	
ZAK	comp=Z,2.0nm,1.1s			pmax	pmax		
TLY	**Talaya**	**27.59**	**47**	*e*P	**P**	**17 17 02.1**	**+0.7**
TLY	comp=Z,2.0nm,0.7s			pmax	pmax		
CD2	**Chengdu**	**27.75**	**92**	P	**P**	**17 17 02.8**	**-0.3**
CD2				pP	**pP**	**17 17 45.0**	**-0.5**
CD2				sP	**sP**	**17 18 09.6**	**-0.4**
CD2				PcP	**PcP**	**17 20 13.9**	**-0.1**
CD2				S	**S**	**17 21 27.9**	**-1.9**
CD2				sS	**sS**	**17 22 43.0**	**-3.0**
CD2				SS	SS	17 23 08.6	-28
CD2	comp=Z,10.0nm,0.4s			pmax	pmax		
CD2	comp=Z,110nm,4.5s			pmax	pmax		
CD2	comp=N,150nm,7.0s			LR	LR		
CD2	comp=Z,160nm,6.0s			LR	LR		
SONM	**Songino Array**	**28.30**	**55**	P	**P**	**17 17 09.1**	**+1.3**
SONM				pP	**pP**	**17 17 53.8**	**+3.4**
SONM	**Songino Array** comp=Z,3.8nm,0.7s,baz=263,slow=9.4,SNR=42	**28.30**	**55**	P	**P**	**17 17 09.1**	**+1.3**
SONM	comp=Z,0.6nm,0.8s,baz=251,slow=9.0,SNR=1.4			pP	**pP**	**17 17 53.8**	**+3.4**
ULN	**Ulaanbaatar** comp=Z,2.5nm,0.7s	**28.74**	**56**	*e*P	**P**	**17 17 12.6**	**+0.8**
ULN				*ep*P	pP	17 18 03.0	+8.6
MMAI	**Mount Meron Ar**	**29.33**	**274**	PcP	**PcP**	**17 20 18.8**	**+0.9**
MMAI	**Mount Meron Ar** comp=Z,1.8nm,0.5s,baz=67,slow=4.8,SNR=6.3	**29.33**	**274**	PcP	**PcP**	**17 20 18.8**	**+0.9**
BR131	**Keskin Array S** comp=Z,0.9nm,0.6s	**29.40**	**288**	*e*P	**P**	**17 17 18.2**	**+0.5**
BRTR	**Keskin Array B**	**29.40**	**288**	P	**P**	**17 17 18.5**	**+0.8**
BRTR				PcP	**PcP**	**17 20 17.8**	**-0.3**
BRTR	**Keskin Array B** comp=Z,0.9nm,0.6s,baz=103,slow=9.8,SNR=8.3	**29.40**	**288**	P	**P**	**17 17 18.5**	**+0.8**
BRTR	comp=Z,0.6nm,0.4s,baz=133,slow=3.5,SNR=4.6			PcP	**PcP**	**17 20 17.8**	**-0.3**
KMI	**Kunming**	**29.43**	**104**	P	**P**	**17 17 19.4**	**+1.2**
KMI	comp=Z,7.0nm,0.5s			pmax	pmax		
OBN	**Obninsk**	**29.87**	**319**	⇓*e*P	**P**	**17 17 22.3**	**+0.9**
OBN				*PP	**pP**	**17 18 03.0**	**-1.1**
OBN				*SP	**sP**	**17 18 27.0**	**-1.6**
OBN	comp=Z,9.0nm,0.4s			pmax	pmax		
OBN	**Obninsk**	**29.87**	**319**	P	**P**	**17 17 21.9**	**+0.6**
CHTO	**Chiang Mai**	**30.27**	**118**	*e*P	**P**	**17 17 26.

comp=Z,1.7nm,0.9s,baz=299,slow=4.0,SNR=6.7
XAN Xi'an 30.93 83 P **P** **17 17 31.8 +0.7**
XAN pmax pmax
comp=Z,3.0nm,0.9s
XAN pmax pmax
comp=Z,14nm,4.6s
KLMR Klimovskoe 31.40 331 *e*P **P** **17 17 34.6 -0.2**
KLMR pmax pmax
comp=Z,24nm,1.7s
HHC Hu-ho-hao-te 31.75 70 *e*P **P** **17 17 38.3 +0.1**
HHC pP **pP** **17 18 24.1 +2.9**
HHC sP **sP** **17 18 49.9 +4.3**
HHC *e*S **S** **17 22 29.9 -2.4**
HHC sS **ScP** **17 23 46.9 -0.4**
HHC SS SS 17 24 36.0 -21
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,120nm,5.2s
GYA Guiyang 31.89 98⇑ *i*P **P** **17 17 40.0 +0.4**
GYA pP **pP** **17 18 24.3 +1.7**
GYA sP **sP** **17 18 49.6 +2.6**
GYA PP **PP** **17 18 55.6 -0.5**
GYA PcP **PcP** **17 20 26.5 +1.6**
GYA S **S** **17 22 35.0 +0.2**
GYA ScP **ScP** **17 23 48.4 +0.3**
GYA PcS **PcS** **17 24 10.9 +0.8**
GYA ScS **ScS** **17 27 45.6 -1.6**
GYA pmax pmax
comp=Z,10.0nm,0.8s
ENH Enshi 32.59 90 *e*P **P** **17 17 46.6 +1.0**
comp=Z,5.7nm,0.6s
AKASG Malin Array Be 32.88 309*c**e*P **P** **17 17 48.2 +0.3**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 32.88 309 P **P** **17 17 48.2 +0.3**
AKASG Malin Array Be 32.88 309 P **P** **17 17 48.2 +0.3**
comp=Z,3.6nm,0.6s,baz=81,slow=7.7,SNR=12
BOD Bodaibo 35.29 39 *e*P **P** **17 18 08.7 +0.3**
BOD pmax pmax
comp=Z,5.0nm,0.9s
BOD pmax pmax
comp=Z,7.0nm,1.7s
JOF Joensuu 35.79 330 *e*P **P** **17 18 12.9 +0.3**
JOF pmax pmax
comp=Z,12nm,0.4s
JOF Joensuu 35.79 330 *e*p **P** **17 18 12.9 +0.3**
comp=Z,12nm,0.4s
WHN Wuhan 36.40 87 P **P** **17 18 20.0 +1.8**
KWP Kalwaria Pacla 36.95 306 P **P** **17 18 23.1 +0.5**
KWP Kalwaria Pacla 36.95 306 P **P** **17 18 23.1 +0.5**
FINES FINESS Array B 37.41 326 P **P** **17 18 27.0 +0.7**
FINES FINESS Array B 37.41 326 P **P** **17 18 27.0 +0.7**
comp=Z,6.1nm,0.4s,baz=120,slow=9.6,SNR=79
KAF Kangasniemi 37.55 327 *e*P **P** **17 18 27.1 -0.3**
KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 37.55 327 *e*p **P** **17 18 27.1 -0.3**
comp=Z,2.8nm,0.5s
APA Apatity 37.55 337⇓ *e*P P 17 18 37.0 +10
APA MLR MLR
comp=Z,700nm,10.0s
QIZ Qiongzhong 38.25 107 P **P** **17 18 33.8 -0.1**
QIZ pP **pP** **17 19 17.5 -0.5**
QIZ sP **sP** **17 19 42.2 +0.2**
QIZ S **S** **17 24 12.4 +0.5**
QIZ sS **sS** **17 25 30.5 +0.5**
QIZ ScS **ScS** **17 28 21.5 -0.2**
QIZ pmax pmax
comp=Z,120nm,4.0s
NJ2 Nanjing 39.47 82 *e*P **P** **17 18 42.6 -1.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.9s
MORC Moravsky Berou 40.30 306 P **P** **17 18 52.0 +1.5**
MORC pmax pmax
comp=Z,2.0nm,0.9s
MORC Moravsky Berou 40.30 306 P **P** **17 18 52.0 +1.5**
comp=Z,2.5nm,0.9s
KEV Kevo 40.72 338 *e*P **P** **17 18 53.9 +0.4**
KEV pmax pmax
comp=Z,7.0nm,0.6s
KEV Kevo 40.72 338 *e*p **P** **17 18 53.9 +0.4**
comp=Z,7.1nm,0.6s
ARCES ARCESS Array B 41.06 338 P **P** **17 18 57.5 +1.1**
ARCES ARCESS Array B 41.06 338 P **P** **17 18 57.5 +1.1**
comp=Z,8.8nm,0.6s,baz=115,slow=8.1,SNR=50
ARE0 ARCESS Array S 41.06 338 *e*P **P** **17 18 56.9 +0.6**
CN2 Changchun 41.58 63 *e*P **P** **17 19 03.2 +2.3**
CN2 pmax pmax
comp=Z,10.0nm,0.4s
YAK Yakutsk 43.90 36 *i*P **P** **17 19 19.4 +0.1**
YAK pmax pmax
comp=Z,14nm,0.7s
YAK Yakutsk 43.90 36 *e*P **P** **17 19 19.1 -0.2**
comp=Z,15nm,0.8s
NB2 NORSAR Subarra 44.31 323 P **P** **17 19 22.4 -0.2**
comp=Z,6.5nm,0.6s,baz=96,slow=7.9
NOA NORSAR Array B 44.31 323 P **P** **17 19 22.6 0.0**
NOA NORSAR Array B 44.31 323 P **P** **17 19 22.6 0.0**
comp=Z,6.3nm,0.6s,baz=103,slow=7.5,SNR=32
NAO01 NORSAR Array S 44.45 323 P **P** **17 19 23.3 -0.4**
KSAR Wonju Array Be 44.84 71 P **P** **17 19 27.6 +0.6**
KSAR PcP **PcP** **17 21 04.6 -0.4**
KSRS Korea Array 44.86 71 P **P** **17 19 27.6 +0.4**
comp=Z,1.1nm,0.5s,baz=273,slow=7.0,SNR=8.2
KSRS PcP **PcP** **17 21 04.6 -0.5**
comp=Z,1.1nm,0.6s,baz=289,slow=3.6,SNR=5.2
HABR Khabarovsk 47.38 54 *e*P **P** **17 19 45.5 -1.1**
HABR *e**PP **pP** **17 20 29.0 -3.5**
HABR *e**SP **sP** **17 20 51.7 -4.4**
HABR *e* 17 21 12.1
HABR *e* 17 21 38.8
HABR S **S** **17 26 25.0 +1.0**
HABR *e**SS **sS** **17 27 42.2 -2.4**
HABR *e* 17 29 17.6
HABR *e*SS **SS** **17 29 57.1 +3.0**
HABR pmax pmax
comp=N,9.0nm,1.5s
HABR pmax pmax
comp=E,17nm,1.5s
HABR pmax pmax
comp=Z,12nm,1.5s
HABR MLR MLR
comp=Z,17nm,18.0s
SEY Seymchan 54.35 34⇓ *i*P **P** **17 20 38.5 +0.1**
BILL Bilibino 58.54 26⇓ *e*P **P** **17 21 08.9 +1.1**
BILL *e* 17 21 57.6
BILL *e* 17 22 20.8
BILL pmax pmax
comp=Z,17nm,1.8s
BILL Bilibino 58.54 26 *e*P **P** **17 21 08.7 +0.9**
comp=Z,6.7nm,0.7s
SUMG Summit 60.98 341 *i*P **P** **17 21 24.7 -0.1**
SUMG pmax pmax
comp=Z,6.0nm,0.8s
SUMG Summit 60.98 341 *i*P **P** **17 21 24.7 -0.1**
comp=Z,5.5nm,0.8s
TOA0 Torodi Ar. Sit 65.71 269 *e*P **P** **17 21 54.3 -1.9**
TORD Torodi Ar. Bea 65.71 269 P **P** **17 21 54.4 -1.8**
TORD Torodi Ar. Bea 65.71 269 P **P** **17 21 54.4 -1.8**
comp=Z,4.4nm,0.4s,baz=50,slow=6.0,SNR=98
FX1 Attu Island--F 68.34 40 P **P** **17 22 11.5 -0.6**
FX1 Attu Island--F 68.34 40 P **P** **17 22 11.5 -0.6**
comp=Z,9.9nm,0.7s,baz=270,slow=3.0,SNR=2.9
RES Resolute Bay 68.61 356 *e*P **P** **17 22 13.5 0.0**
comp=Z,1.8nm,0.5s
COLD Coldfoot 71.89 16 *e*P **P** **17 22 33.3 -0.1**
comp=Z,8.9nm,0.9s
INK Inuvik 73.82 9 *e*P **P** **17 22 45.4 +0.6**
comp=Z,13nm,0.9s
INK *e*pP **pP** **17 23 35.6 +0.8**
COLA College 74.40 16 *e*P **P** **17 22 48.4 +0.3**
COLA pmax pmax
comp=Z,8.0nm,0.8s
COLA College 74.40 16 *e*P **P** **17 22 48.4 +0.3**
comp=Z,7.8nm,0.8s
DBIC Dimbokro 74.69 267 *e*P **P** **17 22 49.0 -1.7**
comp=Z,16nm,1.4s
DBIC Dimbokro 74.69 267 P **P** **17 22 49.4 -1.2**
comp=Z,1.2nm,0.4s,baz=51,slow=6.5,SNR=4.1
ILAR Eielson Array 74.70 16 P **P** **17 22 49.5 -0.4**
ILAR pP **pP** **17 23 42.3 +2.2**
ILAR Eielson Array 74.70 16 P **P** **17 22 49.5 -0.4**
comp=Z,2.2nm,0.7s,baz=338,slow=4.6,SNR=37
ILAR pP **pP** **17 23 42.3 +2.2**
comp=Z,1.6nm,1.1s,baz=318,slow=5.0,SNR=3.4
LBTB Lobatse 74.73 222 *e*P **P** **17 22 50.6 -0.1**
comp=Z,6.7nm,0.6s
FITZ Fitzroy Crossi 74.95 127 *e*P **P** **17 22 51.6 -0.4**
comp=Z,22nm,1.1s
FITZ *e*pP **pP** **17 23 42.1 -0.1**
TSUM Tsumeb 74.96 232 *e*P **P** **17 22 51.6 -0.5**
comp=Z,3.2nm,0.8s
MCK McKinley 75.12 17 *e*P **P** **17 22 52.0 -0.4**
MCK McKinley 75.12 17 *e*P **P** **17 22 52.0 -0.4**
PAX Paxson 76.58 16 *e*P **P** **17 23 00.7 0.0**
PAX pmax pmax
comp=Z,6.0nm,0.6s
PAX Paxson 76.58 16 *e*P **P** **17 23 00.7 0.0**
comp=Z,5.6nm,0.6s
DAWY Dawson 76.84 13 *e*P **P** **17 23 01.9 -0.3**
BOSA Boshof 77.80 220 *e*P **P** **17 23 07.5 -0.5**
comp=Z,14nm,1.0s
BOSA Boshof 77.80 220 P **P** **17 23 07.7 -0.3**
comp=Z,7.1nm,0.8s,baz=26,slow=4.5,SNR=12
YKA Yellowknife Ar 81.16 3 P **P** **17 23 25.6 +0.1**
YKA pP **pP** **17 24 17.8 +1.4**
YKA Yellowknife Ar 81.16 3 P **P** **17 23 25.6 +0.1**
comp=Z,4.7nm,0.5s,baz=349,slow=5.4,SNR=94
YKA pP **pP** **17 24 17.7 +1.4**
comp=Z,1.6nm,0.8s,baz=348,slow=5.3,SNR=3.7
SCHQ Schefferville 82.01 337 P **P** **17 23 30.5 +0.4**
SCHQ Schefferville 82.01 337 P **P** **17 23 30.5 +0.4**
comp=Z,1.5nm,0.8s,baz=18,slow=6.4,SNR=2.7
WRA Warramunga Arr 82.05 122 P **P** **17 23 29.6 -1.2**
WRA Warramunga Arr 82.05 122 P **P** **17 23 29.6 -1.2**
comp=Z,10nm,0.7s,baz=322,slow=4.9,SNR=134
WRAB Tennant Creek 82.05 122 *e*P **P** **17 23 29.1 -1.6**
WRAB pmax pmax
comp=Z,16nm,0.9s
WRAB Tennant Creek 82.05 122 *e*P **P** **17 23 29.1 -1.6**
comp=Z,16nm,0.9s
AS31 Alice Springs 84.31 125 *e*P **P** **17 23 41.0 -1.2**
ASAR Alice Springs 84.31 125 P **P** **17 23 41.0 -1.2**
ASAR Alice Springs 84.31 125 P **P** **17 23 41.0 -1.2**
comp=Z,8.6nm,0.7s,baz=310,slow=4.7,SNR=160
FFC Flin Flon 88.86 356 *e*P **P** **17 24 04.3 +0.5**
FFC pmax pmax
comp=Z,3.0nm,0.7s
FFC Flin Flon 88.86 356 *e*P **P** **17 24 04.2 +0.5**
comp=Z,3.2nm,0.7s
ULM Lac du Bonnet 92.76 352 P **P** **17 24 22.2 +0.2**
ULM Lac du Bonnet 92.76 352 P **P** **17 24 22.2 +0.2**
comp=Z,1.6nm,0.6s,baz=44,slow=3.9,SNR=4.5
STKA Stephens Creek 94.85 126 *e*P **P** **17 24 29.9 -1.7**
comp=Z,0.2nm,0.7s
STKA Stephens Creek 94.85 126 P **P** **17 24 30.1 -1.7**
comp=Z,0.6nm,0.5s,baz=324,slow=8.7,SNR=3.8
PLCA Paso Flores 149.84 250 PKPbc **PKPbc** **17 30 58.4 -0.4**
PLCA Paso Flores 149.84 250 PKPbc **PKPbc** **17 30 58.4 -0.4**
comp=Z,6.8nm,1.1s,baz=74,slow=1.0,SNR=6.2

PRE 06 17:24:48.2±2.4, 26°38S×27°48E, h2km, ML2.5, 1D, South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.12**	**75**	*e*P		Pg	17 24 49.2	-1.7
KLOF				*e*S		Sg	17 24 52.3	-0.4
KLOF				AML		AML	17 24 54.2	
	comp=Z,2μm,0.7s							
PRYS	**Parys**	**0.55**	**191**	*e*P		Pg	17 24 59.5	+0.5
PRYS				*e*S		Sg	17 25 06.5	+0.1
PRYS				AML		AML	17 25 11.5	
	comp=Z,79nm,0.5s							
ERPM	**east rand prop**	**0.69**	**87**⇓	*i*P		Pb	17 25 02.6	-0.6
ERPM				*e*S		Sg	17 25 10.6	-0.3
ERPM				AML		AML	17 25 11.1	
	comp=Z,59nm,0.5s							
SLR	**Silverton**	**0.97**	**49**	*e*P		Pb	17 25 08.0	0.0
SLR				*e*S		Sg	17 25 20.6	+0.8
SLR				AML		AML	17 25 26.1	
	comp=Z,48nm,0.2s							
SEK	**Senekal**	**1.94**	**176**	*e*P		Pb	17 25 24.3	-0.2
SEK				*e*S		Sn	17 25 47.7	+0.1
SEK				AML		AML	17 25 49.7	
	comp=Z,72nm,0.7s							
SWZ	**Schweizer**	**2.08**	**247**	*e*P		Pb	17 25 26.7	-0.1
SWZ				*e*S		Sn	17 25 50.2	-0.6
SWZ				AML		AML	17 25 54.3	
	comp=Z,58nm,0.3s							
LBTB	**Lobatse**	**2.17**	**308**	*e*P		Pn	17 25 24.5	-1.1
LBTB				*e*S		Sn	17 25 54.3	+1.1
LBTB				AML		AML	17 25 58.8	
	comp=Z,51nm,0.5s							
BOSA	**Boshof**	**2.97**	**221**	*e*P		Pn	17 25 37.0	+0.5
BOSA				*e*S		Sn	17 26 12.7	-0.3
BOSA				AML		AML	17 26 27.1	
	comp=Z,9.1nm,0.5s							

IDC 06 17:56:05.1±2.8, 0°31S×133°43E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.3/17, mbtmp3.4/3, ML3.7/1, MS3.0/1, Ms1 3.0/1, ms1mx2.2/16, Error ellipse: s-maj=132.3km s-min=28.8km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**17.86**	**39**	LR		LR	18 06 34.8	
	comp=Z,44nm,19.0s,baz=108,slow=35							
WRA	**Warramunga Array**	**19.54**	**177**	P		P	18 00 34.6	+0.1
	0.2nm,0.3s,baz=357,slow=11,SNR=13							
WRA				S		Sn	18 03 59.9	-16
	0.1nm,0.3s,baz=358,slow=23,SNR=5.6							
ASAR	**Alice Springs**	**23.23**	**179**	P		P	18 01 13.9	-0.2
	0.7nm,0.5s,baz=4.3,slow=9.9,SNR=9.2							
MKAR	**Makanchi Array**	**64.70**	**324**	P		P	18 06 45.2	+0.1
	0.1nm,0.5s,baz=104,slow=7.2,SNR=3.3							

*ISCJB **06** 18:14:26.9±0.2, 38°14N±0°02×57°60E±0°03, h10km, mb3.6/4, Error ellipse: s-maj=3.3km s-min=2.5km az=151.9*
*CSEM **06** 18:14:27.2±0.1, 38°15N×57°55E, h2km, ML4.0, Error ellipse: s-maj=4.0km s-min=3.3km az=74.0*
*TEH **06** 18:14:28.4, 38°13N×57°51E, h6km, ML4.0*
*IDC **06** 18:14:29.1±1.6, 38°21N×57°60E, h0km, mb3.1/3, mb1 3.7/9, mb1mx3.5/32, mbtmp3.7/9, ML3.7/5, MS2.7/4, Ms1 2.7/4, ms1mx2.4/26, Error ellipse: s-maj=23.6km s-min=9.5km az=164.0*
*NNC **06** 18:14:31.4±1.6, 38°46N×58°02E, h0km, mb3.8, Error ellipse: s-maj=13.9km s-min=10.7km az=169.0*
*MOS **06** 18:14:32.4±1.8, 38°31N×57°59E, h33km, mb4.3/2, Error ellipse: s-maj=11.4km s-min=8.3km az=108.1*

ISC 06 18:14:28.3±0.5, 38°16N±0°03×57°62E±0°04, h10km, n122, σ1§65/131, mb3.7/4, 9C-13D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ISHV	**Shirvan**	**0.62**	**174**⇓	*e*Pg		**Pg**	**18 14 39.2**	**-1.2**
ISHV				*e*Sg		**Sg**	**18 14 48.1**	**-0.5**
ISHV	**Shirvan**	**0.62**	**174**⇓	*e*Pg		**Pg**	**18 14 39.2**	**-1.2**
ISHV				*e*Sg		**Sg**	**18 14 48.1**	**-0.5**
IEMG	**Emamgholi**	**1.10**	**132**⇓	*e*Pg		**Pb**	**18 14 48.8**	**-0.8**
IEMG				*e*			18 14 49.7	
	comp=Z,32μm,0.1s							
IEMG				*e*Sg		**Sg**	**18 15 04.4**	**+0.6**
IEMG	**Emamgholi**	**1.10**	**132**⇓	*e*Pg		**Pb**	**18 14 48.8**	**-0.8**
IEMG				*e*Sg		**Sg**	**18 15 04.4**	**+0.6**
ISFR	**Sfrayin**	**1.14**	**165**⇓	*e*Pg		**Pb**	**18 14 49.0**	**-1.2**
ISFR				*e*Sg		**Sb**	**18 15 04.1**	**-1.1**
ISFR				*e*			18 15 12.9	
	comp=Z,62μm,0.2s							
IQHU	**Qucahn**	**1.30**	**146**	*e*Pg		**Pn**	**18 14 51.9**	**-0.8**
IQHU				*e*			18 15 33.0	
	comp=Z,64μm,0.3s							
IKRD	**Kardeh**	**1.55**	**152**	*e*Sg		Sg	18 15 34.6	+16
IKRD				*e*Pn		Pg	18 15 04.4	+6.4
IKRD				*e*			18 15 47.3	
	comp=Z,11μm,0.3s							
IAKL	**Akhelmad**	**1.79**	**149**	*e*Sg		**Sg**	**18 15 26.2**	**+0.2**
IAKL				*e*			18 15 34.1	
	comp=Z,14μm,0.3s							
IAKL	**Akhelmad**	**1.79**	**149**	*e*Sg		**Sg**	**18 15 26.2**	**+0.2**
IPAY	**Payeh**	**2.02**	**147**	*e*Sg		**Sg**	**18 15 33.5**	**+0.1**
IPAY				*e*Pn		**Pb**	**18 15 04.8**	**-0.5**
IPAY				*e*			18 15 48.2	
	comp=Z,13μm,0.3s							
ISRO	**Mashad**	**2.36**	**141**	*e*Sg		**Sg**	**18 15 42.9**	**-1.2**
ISRO				*e*Pn		**Pb**	**18 15 08.7**	**-2.3**
ISRO				*e*			18 15 48.2	
	comp=Z,18μm,0.5s							
MHI	**Mashad**	**2.36**	**141**	*e*Sg		**Sg**	**18 15 44.1**	**0.0**
MHI				*e*Pn		**Pn**	**18 15 08.1**	**+0.9**
MHI				*e*			18 15 52.8	
	comp=Z,8μm,0.3s							
IMOG	**Moghan**	**2.46**	**146**	*e*Sg		**Sb**	**18 15 45.3**	**+2.0**
IMOG				*e*Pn		**Pn**	**18 15 09.0**	**+0.2**
IMOG				*e*			18 15 54.9	
	comp=Z,6μm,0.2s							
IMYA	**Miami**	**2.68**	**132**	*e*Pn		**Pn**	**18 15 13.1**	**+1.4**
IMYA				*e*			18 16 14.5	
	comp=Z,9μm,0.4s							
IMYA	**Miami**	**2.68**	**132**	*e*Pn		**Pn**	**18 15 13.1**	**+1.4**
IKIA	**Kiasar**	**3.70**	**239**	*e*Pn		**Pn**	**18 15 25.9**	**+0.2**
IKIA				*e*			18 16 22.2	
	comp=Z,2μm,0.3s							
IKIA	**Kiasar**	**3.70**	**239**	*e*Pn		**Pn**	**18 15 25.9**	**+0.2**
IANJ	**Anjilo**	**4.01**	**229**	*e*Pn		**Pn**	**18 15 29.0**	**-1.0**
IANJ				*e*			18 16 37.2	
	comp=Z,2μm,0.3s							
IANJ	**Anjilo**	**4.01**	**229**	*e*Pn		**Pn**	**18 15 29.0**	**-1.0**
IALA	**Alasht**	**4.37**	**243**	*e*Pn		**Pn**	**18 15 33.7**	**-1.3**
IALA				*e*			18 16 30.5	
	comp=Z,4μm,0.4s							
IALA	**Alasht**	**4.37**	**243**	*e*Pn		**Pn**	**18 15 33.7**	**-1.3**
IPRN	**Peran**	**4.63**	**247**	*e*Pn		**Pn**	**18 15 37.4**	**-1.0**
IPRN				*e*			18 16 38.9	
	comp=Z,3μm,0.2s							
IFIR	**Firoozkooh**	**4.64**	**239**	*e*Pn		**Pn**	**18 15 40.6**	**+1.9**
IFIR				*e*			18 15 55.9	
	comp=Z,926nm,0.2s							
ILAS	**Lasjerd**	**4.66**	**235**	*e*Pn		**Pn**	**18 15 37.9**	**-1.0**
ILAS				*e*			18 16 58.5	
	comp=Z,1μm,0.3s							
ILAS	**Lasjerd**	**4.66**	**235**	*e*Pn		**Pn**	**18 15 37.9**	**-1.0**
IDMV	**Damavand**	**5.17**	**242**	*e*Pn		**Pn**	**18 15 47.7**	**+1.7**
IDMV				*e*			18 16 06.8	
	comp=Z,761nm,0.3s							
IMON	**Monand**	**5.22**	**161**	*e*Pn		**Pn**	**18 15 48.5**	**+1.8**
IMON				*e*			18 15 54.3	
	comp=Z,727nm,0.1s							
IMON	**Monand**	**5.22**	**161**	*e*Pn		**Pn**	**18 15 48.5**	**+1.8**
ITEG	**Tejag**	**5.33**	**170**	*e*Pn		**Pn**	**18 15 48.3**	**+0.2**
ITEG				*e*			18 16 03.0	
	comp=Z,553nm,0.3s							
ITEG	**Tejag**	**5.33**	**170**	*e*Pn		**Pn**	**18 15 48.3**	**+0.2**
IVRN	**Varamin**	**5.70**	**238**	*e*Pn		**Pn**	**18 15 52.0**	**-1.0**
IVRN				*e*Sg		Sb	18 17 22.2	+6.0
IVRN				*e*			18 17 35.2	
	comp=Z,444nm,0.2s							
IVRN	**Varamin**	**5.70**	**238**	*e*Pn		**Pn**	**18 15 52.0**	**-1.0**
IDAH	**Dahanechah**	**5.71**	**161**	*e*Pn		**Pn**	**18 15 54.5**	**+1.2**
IDAH				*e*			18 16 03.4	
	comp=Z,314nm,0.2s							
IDAH	**Dahanechah**	**5.71**	**161**	*e*Pn		**Pn**	**18 15 54.5**	**+1.2**
ISFB	**Sefidab**	**5.77**	**231**	*e*Pn		**Pn**	**18 15 52.7**	**-1.4**
ISFB				*e*			18 17 58.7	
	comp=Z,284nm,0.2s							
ISFB	**Sefidab**	**5.77**	**231**	*e*Pn		**Pn**	**18 15 52.7**	**-1.4**
IKOO	**Kooshah**	**5.83**	**168**	*e*Pn		**Pn**	**18 15 55.1**	**+0.1**
IKOO	**Kooshah**	**5.83**	**168**	*e*Pn		**Pn**	**18 15 55.1**	**+0.1**
ICHK	**Chekchek**	**6.46**	**205**	*e*Pn		**Pn**	**18 16 03.0**	**-0.6**
ICHK				*e*			18 17 22.7	
	comp=Z,556nm,0.2s							
ICHK	**Chekchek**	**6.46**	**205**	*e*Pn		**Pn**	**18 16 03.0**	**-0.6**
IRAZ	**Razeghan**	**6.76**	**248**	*e*Pn		**Pn**	**18 16 07.6**	**-0.1**
IRAZ				*e*			18 18 22.2	
	comp=Z,350nm,0.3s							
IRAZ	**Razeghan**	**6.76**	**248**	*e*Pn		**Pn**	**18 16 07.6**	**-0.1**
IBAF	**Bafgh**	**6.76**	**195**	*e*			18 16 18.6	
	comp=Z,262nm,0.2s							
IBAF				*e*Pn		**Pn**	**18 16 08.1**	**+0.3**
IZEF	**Zefreh**	**6.79**	**221**	*e*Pn		**Pn**	**18 16 06.9**	**-1.4**
IZEF				*e*			18 18 32.0	
	comp=Z,242nm,0.6s							
IZEF	**Zefreh**	**6.79**	**221**	*e*Pn		**Pn**	**18 16 06.9**	**-1.4**
IKLH	**Kolahrood**	**6.89**	**227**	*e*			18 18 33.4	
	comp=Z,628nm,0.7s							
ISAD	**Sadrabad**	**7.01**	**209**	*e*Pn		**Pn**	**18 16 10.0**	**-1.3**
ISAD				*e*			18 18 23.3	
	comp=Z,409nm,0.5s							
ISAD	**Sadrabad**	**7.01**	**209**	*e*Pn		**Pn**	**18 16 10.0**	**-1.3**
IMEH	**Mehriz**	**7.19**	**201**	*e*Pn		**Pn**	**18 16 12.3**	**-1.4**
IMEH				*e*			18 18 37.6	
	comp=Z,444nm,0.6s							
IMEH	**Mehriz**	**7.19**	**201**	*e*Pn		**Pn**	**18 16 12.3**	**-1.4**
ISRB	**Sarab**	**7.87**	**271**	*e*Pn		**Pn**	**18 16 21.2**	**-1.8**
ISRB				*e*			18 16 27.5	
	comp=Z,961nm,0.2s							
ISRB	**Sarab**	**7.87**	**271**	*e*Pn		**Pn**	**18 16 21.2**	**-1.8**
IHRS	**Heris**	**8.33**	**274**	*e*Pn		**Pn**	**18 16 27.4**	**-1.9**
IHRS				*e*			18 16 37.1	
	comp=Z,403nm,0.2s							
IHRS	**Heris**	**8.33**	**274**	*e*Pn		**Pn**	**18 16 27.4**	**-1.9**
ITBZ	**Tabriz**	**9.04**	**274**	*e*Pn		**Pn**	**18 16 37.7**	**-1.3**
ITBZ	**Tabriz**	**9.04**	**274**	*e*Pn		**Pn**	**18 16 37.7**	**-1.3**
MAK	**Makhachkala**	**9.07**	**305**	*e*P		Pn	18 16 42.1	+2.9
MAK				MLR		MLR		
	comp=Z,118nm,10.0s							
IMRD	**Marand**	**9.37**	**277**	*e*Pn		**Pn**	**18 16 42.1**	**-1.4**
IMRD				*e*			18 17 03.5	
	comp=Z,345nm,0.2s							
IMRD	**Marand**	**9.37**	**277**	*e*Pn		**Pn**	**18 16 42.1**	**-1.4**
GNI	**Garni**	**10.20**	**285**	Pn		Pn	18 16 57.3	+2.3
	comp=Z,0.9nm,0.3s,baz=346,slow=4.2,SNR=6.9							
GNI					Sn	**Sn**	**18 18 53.6**	**+4.2**
	comp=Z,0.2nm,0.3s,baz=108,slow=20,SNR=2.6							
GNI					LR	LR	18 22 13.8	
	comp=Z,52nm,21.1s,baz=230,slow=46							
KK31	**Karatay Array**	**10.97**	**59**⇑	Pn		**Pn**	**18 17 06.1**	**+0.8**
	comp=Z,6.2nm,0.9s,baz=238,slow=16,SNR=41							
KK31					⇓Sn	**Sn**	**18 19 09.3**	**+1.4**
	comp=Z,7.4nm,0.9s,baz=236,slow=26,SNR=2.8							
KK31					⇓Lg	Lg	18 20 02.2	
	comp=Z,18nm,1.0s							
KK31	**Karatay Array**	**10.97**	**59**	Pn		**Pn**	**18 17 06.1**	**+0.8**
	comp=Z,6.2nm,0.9s,baz=238,SNR=41							
KK31					Sn	**Sn**	**18 19 09.3**	**+1.4**
	comp=Z,7.4nm,0.9s,baz=236,SNR=2.8							
KK31					Lg	Lg	18 20 02.2	
	comp=Z,18nm,1.0s							
AB31	**Akbulak array**	**11.22**	**8**	Pn		**Pn**	**18 17 08.1**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=194,slow=14,SNR=20							
AB31					⇑Sn	**Sn**	**18 19 11.3**	**-2.8**
	comp=Z,1.8nm,0.4s,baz=290,slow=30,SNR=5.6							
AB31	**Akbulak array**	**11.22**	**8**	Pn		**Pn**	**18 17 08.1**	**-0.6**
	comp=Z,2.7nm,0.7s,SNR=20							
ZEI	**Tsey**	**11.42**	**298**	*e*P		**Pn**	**18 17 12.3**	**+0.6**
ZEI				pmax		pmax		
	comp=Z,2.0nm,0.7s							
ZEI	**Tsey**	**11.42**	**298**	*e*P		**Pn**	**18 17 12.3**	**+0.6**
	comp=Z,2.0nm,0.7s							
AKTK	**Aktyubinsk**	**12.28**	**1**	P		**Pn**	**18 17 23.2**	**+0.1**
	comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**12.28**	**1**⇑	Pn		**Pn**	**18 17 22.8**	**-0.3**
	comp=Z,1.2nm,0.9s							
AKTO					⇑Sn	**Sn**	**18 19 38.3**	**-1.7**
	comp=Z,1.5nm,0.7s							
AKTO	**Aktyubinsk**	**12.28**	**1**	P		**Pn**	**18 17 23.2**	**+0.1**
AKTO							18 19 37.3	
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AKTO				smax		smax		
	comp=N,1.0nm,0.3s							
AKTO				MLR		MLR		
	comp=Z,32nm,18.8s							
AKTO	**Aktyubinsk**	**12.28**	**1**	Pn		**Pn**	**18 17 23.1**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=186,slow=14,SNR=22							
AKTO					Sn	**Sn**	**18 19 37.3**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=270,slow=20,SNR=4.9							
AKTO					LR	LR	18 22 04.1	
	comp=Z,32nm,18.

AAK	**Ala-Archa**	**13.61**	**66**	P	**Pn**	**18 17 41.7**	**+0.2**
AAK						18 20 11.9	
AAK				MLR	MLR		
	comp=Z,58nm,21.5s						
AAK	**Ala-Archa**	**13.61**	**66**	Pn	**Pn**	**18 17 41.7**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=236,slow=9.0,SNR=9.9						
AAK				Sn	**Sn**	**18 20 11.9**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=49,slow=20,SNR=2.7						
AAK				LR	LR	18 23 44.9	
	comp=Z,58nm,21.5s,baz=73,slow=41						
AAK	**Ala-Archa**	**13.61**	**66**	P	**Pn**	**18 17 41.7**	**+0.2**
	comp=Z,58nm,21.5s						
AAK				S	**Sn**	**18 20 11.9**	**-0.9**
ZRNK	**Zerenda**	**16.77**	**24**	⇓Pn	**Pn**	**18 18 22.0**	**-1.2**
	comp=Z,2.6nm,0.7s						
ZRNK				⇓Sn	**Sn**	**18 21 25.5**	**-3.9**
	comp=Z,4.0nm,0.8s						
ZRNK	**Zerenda**	**16.77**	**24**	Pn	**Pn**	**18 18 22.0**	**-1.2**
	comp=Z,2.6nm,0.7s						
VOSK	**Vostochnaya**	**17.28**	**28**	⇓Pn	**Pn**	**18 18 27.8**	**-1.7**
	comp=Z,3.7nm,1.4s						
VOSK				⇓Sn	**Sn**	**18 21 36.9**	**-4.7**
	comp=Z,4.1nm,0.8s						
BRVK	**Borovoye**	**17.29**	**26**	⇑Pn	**P**	**18 18 29.0**	**-2.1**
	comp=Z,6.8nm,0.8s						
BRVK				⇓Sn	**Sn**	**18 21 38.6**	**-3.4**
	comp=Z,11nm,1.3s						
BRVK	**Borovoye**	**17.29**	**26**	*e*P	**P**	**18 18 32.2**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BRVK	**Borovoye**	**17.29**	**26**	Pn	**P**	**18 18 29.0**	**-2.1**
	comp=Z,6.8nm,0.8s						
BRVK	**Borovoye**	**17.29**	**26**	*e*P	**P**	**18 18 32.2**	**+1.1**
	comp=Z,4.0nm,0.7s						
BVA0	**Borovoye Array**	**17.30**	**27**	Pn	**P**	**18 18 28.8**	**-2.4**
	comp=Z,1.0nm,0.8s,baz=215,slow=12,SNR=55						
BVA0				⇑Sn	**Sn**	**18 21 38.0**	**-4.2**
	comp=Z,0.4nm,0.7s,baz=217,slow=22,SNR=6.9						
BVA0	**Borovoye Array**	**17.30**	**27**	Pn	**P**	**18 18 28.8**	**-2.4**
	comp=Z,1.0nm,0.8s,baz=215,SNR=55						
BVAR	**Borovoye Array**	**17.30**	**27**	P	**P**	**18 18 28.8**	**-2.5**
BVAR						18 21 33.4	
BVAR	**Borovoye Array**	**17.30**	**27**	Pn	**P**	**18 18 28.8**	**-2.5**
	comp=Z,0.3nm,0.3s,baz=210,slow=11,SNR=12						
BVAR				Sn	Sn	18 21 33.4	-8.8
	comp=Z,0.3nm,0.3s,baz=220,slow=20,SNR=5.5						
ASF	**Jabal al Asfar**	**17.95**	**257**	LR	LR	18 25 41.1	
	comp=Z,18nm,18.6s,baz=341,slow=37						
VORD	**Divnogorie**	**18.23**	**321**	*e*P	**P**	**18 18 43.2**	**+1.8**
VORD				pmax	pmax		
	comp=Z,5.0nm,0.6s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.7s						
VORD				pmax	pmax		
	comp=E,8.0nm,0.6s						
VORD	**Divnogorie**	**18.23**	**321**	*e*P	**P**	**18 18 43.2**	**+1.8**
	comp=E,10.0nm,0.7s						
ARU	**Arti**	**18.30**	**2***d*	*i*P	**P**	**18 18 43.9**	**+1.8**
ARU				S	**S**	**18 22 10.6**	**-0.6**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ARU	**Arti**	**18.30**	**2**	*i*P	**P**	**18 18 43.9**	**+1.8**
	comp=Z,5.0nm,0.8s						
ARU				S	**S**	**18 22 10.6**	**-0.6**
VSR	**Storozhevoye**	**18.44**	**321**	*e*P	**Pn**	**18 18 43.8**	**-0.1**
VSR				*e*S	Sn	18 22 01.4	-8.4
VSR				pmax	pmax		
	comp=N,2.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,3.0nm,0.6s						
VSR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
VSR				smax	smax		
	comp=N,90nm,2.0s						
VSR				smax	smax		
	comp=Z,50nm,2.0s						
VSR				smax	smax		
	comp=E,10.0nm,1.0s						
VSR	**Storozhevoye**	**18.44**	**321**	*e*P	**Pn**	**18 18 43.8**	**-0.1**
BRTR	**Keskin Array B**	**18.71**	**282**	P	**Pn**	**18 18 49.6**	**+2.1**
	comp=E,0.1nm,0.3s,baz=81,slow=11,SNR=4.0						
SVE	**Sverdlovsk**	**18.79**	**5**	*e*P	Pn	18 18 52.5	+4.5
KURBB	**Kurchatov Arra**	**19.38**	**43**	P	**Pn**	**18 18 56.9**	**+1.8**
	comp=E,0.1nm,0.3s,baz=245,slow=12,SNR=3.1						
KURBB				S	**S**	**18 22 35.9**	**+2.8**
	comp=E,0.1nm,0.3s,baz=180,slow=25,SNR=3.3						
KURK	**Kurchatov**	**19.47**	**43**	⇑Pn	**Pn**	**18 18 59.3**	**+3.0**
	comp=E,3.1nm,1.2s						
KURK				⇑Sn	**Sn**	**18 22 31.1**	**-3.6**
	comp=E,4.9nm,1.2s						
KURK	**Kurchatov**	**19.47**	**43**	P	**Pn**	**18 18 56.9**	**+0.6**
KURK				S	**S**	**18 22 35.9**	**+0.9**
KURK	**Kurchatov**	**19.47**	**43**	P	**Pn**	**18 18 56.9**	**+0.6**
KURK				S	**S**	**18 22 35.9**	**+0.9**
MK31	**Makanchi Array**	**20.07**	**57**	Pn	Pn	18 19 04.2	+0.7
	comp=E,0.8nm,0.6s,baz=241,slow=10,SNR=11						
MK31				⇑Sn	Sn	18 22 48.7	-0.6
	comp=E,1.7nm,0.9s						
MK31	**Makanchi Array**	**20.07**	**57**	Pn	Pn	18 19 04.2	+0.6
	comp=E,0.8nm,0.6s,SNR=11						
MK31				Sn	Sn	18 22 48.7	-0.7
	comp=E,1.7nm,0.9s						
MKAR	**Makanchi Array**	**20.07**	**57**	P	Pn	18 19 04.4	+0.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**20.07**	**57**	P	Pn	18 19 04.3	+0.8
	comp=Z,0.5nm,0.5s,baz=244,slow=12,SNR=10						
MKAR				S	Sn	18 22 48.9	-0.5
	comp=Z,0.5nm,0.8s,baz=251,slow=23,SNR=2.9						
MKAR	**Makanchi Array**	**20.07**	**57**	P	Pn	18 19 04.4	+0.8
	comp=Z,1.0nm,0.5s						
OBN	**Obninsk**	**22.14**	**327**	*e*P	**P**	**18 19 25.6**	**+1.7**
OBN				pmax	pmax		
	comp=Z,11nm,1.2s						
OBN	**Obninsk**	**22.14**	**327**	*e*P	**P**	**18 19 25.6**	**+1.7**
	comp=Z,11nm,1.2s						
AKASG	**Malin Array Be**	**23.68**	**311**	P	**P**	**18 19 41.0**	**+1.1**
AKASG	**Malin Array Be**	**23.68**	**311**	P	**P**	**18 19 41.0**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=115,slow=6.9,SNR=3.7						
AKASG	**Malin Array Be**	**23.68**	**311**	P	**P**	**18 19 41.0**	**+1.1**
DANN	**Dangsing**	**23.88**	**106**	*e*P	**P**	**18 19 43.9**	**+1.6**
KOLN	**Koldanda**	**24.06**	**108**	*e*P	**P**	**18 19 46.3**	**+2.3**
	comp=Z,6.8nm,0.9s						
MLR	**Muntele Rosu**	**24.60**	**297**	P	**P**	**18 19 51.6**	**+2.9**
	comp=Z,0.4nm,0.8s,baz=272,slow=12,SNR=5.5						
GKN	**Gorkha**	**24.72**	**106**	*e*P	**P**	**18 19 51.9**	**+2.0**
DMN	**Daman**	**25.28**	**106**	*e*P	**P**	**18 19 58.6**	**+3.5**
	comp=Z,17nm,1.1s						
KKN	**Kakani**	**25.32**	**106**	*e*P	P	18 19 59.1	+3.7
	comp=Z,5.2nm,0.5s						
PKI	**Pulchoki**	**25.53**	**106**	*e*P	**P**	**18 20 00.5**	**+3.1**
	comp=Z,25nm,1.0s						
GUN	**Gumba**	**25.71**	**105**	*e*P	P	18 20 02.7	+3.6
	comp=Z,25nm,1.1s						
JIRN	**Jiri**	**26.07**	**105**	*e*P	P	18 20 06.7	+4.2
	comp=Z,2.1nm,0.7s						
RAMN	**Ramite**	**26.75**	**106**	*e*P	P	18 20 12.3	+3.8
	comp=Z,7.2nm,0.7s						
KBS	**Kingsbay**	**44.76**	**349**	*e*P	P	18 22 45.3	+3.9
BILL	**Bilibino**	**61.62**	**24**	P	P	18 24 49.0	+3.4
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s						
PMG	**Port Moresby**	**95.37**	**98**	*e*P	P	18 27 55.4	+2.2

*ISCJB **06** 18:42:24.9±0.7, 16°.03N±0°.09×92°.92W±0°.05, h208km±5km, mb3.2/3, Error ellipse: s-maj=14.3km s-min=7.2km az=15.1*

*IDC **06** 18:42:24.5±1.7, 16°.02N×92°.58W, h196km±16km, mb3.2/3, mb1 3.6/6, mb1mx3.3/23, mbtmp3.3/6, Error ellipse: s-maj=30.9km s-min=18.6km az=41.0*

*MEX **06** 18:42:26.2±0.7, 16°.08N×92°.92W, h214km±6km, MD4.1*

ISC 06 18:42:25.1±1.0, 16°.03N±0°.09×92°.89W±0°.06, h208km±7km, n16, σ1°24/25, mb3.2/3, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.46**	**225**	*e*P	**Pn**	**18 42 53.2**	**+0.1**
PCIG				*i*S	S	**18 43 14.0**	**-0.8**
CCIG	**Comitan**	**0.76**	**71**	*i*P	**Pn**	**18 42 54.9**	**+0.3**
CCIG				*i*S	**S**	**18 43 17.8**	**+0.5**
TGIG		**0.78**	**343**	*e*P	**Pn**	**18 42 54.8**	**+0.3**
TGIG				*i*S	**S**	**18 43 16.4**	**-1.0**
THIG		**1.27**	**152**	*i*P	**Pn**	**18 42 58.3**	**+0.6**
THIG				*i*S	**S**	**18 43 24.1**	**+1.3**
CMIG	**Matias Romero**	**2.19**	**299**	*e*P	**Pn**	**18 43 06.0**	**-0.2**
CMIG				*i*S	**S**	**18 43 37.3**	**-0.4**
CMIG	**Matias Romero**	**2.19**	**299**	P	**Pn**	**18 43 06.9**	**+0.7**
	12nm,0.3s,baz=114,slow=7.5,SNR=94						
CMIG				S	**S**	**18 43 37.1**	**-0.6**
	38nm,0.3s,baz=107,slow=19,SNR=60						
HUIG	**Huatulco**	**3.11**	**266**	*e*P	**Pn**	**18 43 16.0**	**-0.5**
HUIG				*i*S	**S**	**18 43 56.4**	**+0.1**
OXX	**Oaxaca**	**3.83**	**286**	*i*P	**Pn**	**18 43 28.0**	**+2.7**
VHO	**Vista Hermosa**	**3.83**	**286**	*i*P	**Pn**	**18 43 25.9**	**+0.5**
VHO				*i*S	**S**	**18 44 11.1**	**-1.0**
UTMO	**Huajuapan**	**5.04**	**291**	*i*P	**Pn**	**18 43 39.8**	**-0.6**
UTMO				*i*S	**S**	**18 44 38.5**	**-0.9**
PNIG	**Pinotepa**	**5.05**	**275**	*e*P	**Pn**	**18 43 40.4**	**0.0**
PNIG				*i*S	**S**	**18 44 38.2**	**-1.2**
TEIG	**Tepich**	**6.05**	**46**	P	**Pn**	**18 43 50.5**	**-2.6**
	9.0nm,0.3s,baz=235,slow=2.3,SNR=36						
TXAR	**Lajitas Array**	**16.54**	**325**	P	**Pn**	**18 46 08.3**	**+2.6**
	0.2nm,0.3s,baz=152,slow=14,SNR=14						
NVAR	**Mina Array Bea**	**31.57**	**320**	P	P	18 48 31.6	+3.2
	0.4nm,0.6s,baz=141,slow=7.9,SNR=2.8						
SIV	**San Ignacio**	**44.70**	**134**	P	**P**	**18 50 16.6**	**-1.3**
	0.9nm,0.4s,baz=331,slow=7.7,SNR=6.4						
YKA	**Yellowknife Ar**	**48.86**	**347**	P	**P**	**18 50 49.2**	**-0.1**
	0.5nm,0.5s,baz=148,slow=7.4,SNR=12						

MEX 06 19:00:40.1±0.5, 14°.09N×93°.22W, h5km±14km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.23**	**49**	*i*P	Pg	19 01 00.4	-3.4
THIG				*i*S	Sg	19 01 15.8	-4.0
PCIG		**1.60**	**0**	*e*P	Pn	19 01 05.1	-4.0
PCIG				*i*S	Sn	19 01 24.8	-5.5
CCIG	**Comitan**	**2.42**	**26**	*e*P	Pn	19 01 17.4	-3.1
CCIG				*i*S	Sn	19 01 46.7	-4.0
TGIG		**2.67**	**2**	*i*P	Pn	19 01 20.9	-3.0
TGIG				*i*S	Sn	19 01 53.0	-3.9
HUIG	**Huatulco**	**3.25**	**301**	*i*P	Pn	19 01 29.1	-2.7
HUIG				*i*S	Sn	19 02 06.8	-4.1
CMIG	**Matias Romero**	**3.39**	**332**	*e*P	Pn	19 01 31.4	-2.3
CMIG				*i*S	Sn	19 02 11.4	-2.8

*IDC **06** 19:31:20.7±1.6, 59°.85N×153°.33W, h97km±26km, mb3.7/4, mb1 3.5/8, mb1mx3.2/28, mbtmp3.4/8, Error ellipse: s-maj=35.8km s-min=11.5km az=107.0*

*ISCJB **06** 19:31:21.6±0.3, 59°.80N±0°.03×153°.13W±0°.06, h131km±3km, mb3.8/4, Error ellipse: s-maj=6.4km s-min=3.5km az=41.0*

*NEIC **06** 19:31:24.0, 59°.80N×153°.16W, h117km, MG3.2(AEIC), After AEIC.*

ISC 06 19:31:22.6±0.8, 59°.81N±0°.03×153°.18W±0°.04, h125km±6km, n88, σ0°98/102, mb3.9/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPT	**Oil Point**	**0.16**	**190**	P	**Pn**	**19 31 39.7**	**-0.1**
ILS	**Iliamna Low So**	**0.16**	**20**	P	**Pn**	**19 31 39.8**	**-0.1**
ILS				S	**Sn**	**19 31 52.0**	**-1.0**
ILW	**Iliamna West**	**0.26**	**4**	P	**Pn**	**19 31 39.8**	**-0.4**
INE	**Iliamna NE**	**0.26**	**13**	P	**Pn**	**19 31 40.0**	**-0.2**
AUNW	**Augustine NWes**	**0.46**	**200**	P	**Pn**	**19 31 40.9**	**0.0**
AUE	**Augustine Isla**	**0.46**	**193**	P	**Pn**	**19 31 40.8**	**-0.1**
AUW	**Augustine West**	**0.46**	**199**	P	**Pn**	**19 31 40.9**	**0.0**
PDB	**Pedro Bay**	**0.51**	**268**	P	**Pn**	**19 31 40.9**	**-0.3**
RSO	**Redoubt South**	**0.69**	**18**	*e*Pn	**Pn**	**19 31 42.1**	**-0.5**
RSO				*e*Sn	**Sn**	**19 31 56.7**	**-1.1**
RDN	**Redoubt North**	**0.74**	**16**	P	**Pn**	**19 31 42.9**	**0.0**
NCT	**North Crescent**	**0.77**	**9**	P	**Pn**	**19 31 43.0**	**-0.1**
HOM	**Homer**	**0.79**	**100**	P	**Pn**	**19 31 43.5**	**+0.4**
HOM				S	**Sn**	**19 31 59.1**	**+0.5**
DFR	**Drift River**	**0.83**	**17**	P	**Pn**	**19 31 43.5**	**0.0**
MCNL	**McNeil River**	**0.86**	**224**	P	**Pn**	**19 31 43.5**	**-0.3**
FOSS	**Fourpeaked Sta**	**1.04**	**195**	P	**Pn**	**19 31 45.4**	**-0.1**
FOPK	**Fourpeaked Vol**	**1.06**	**188**	P	**Pn**	**19 31 45.3**	**-0.4**
BRLK	**Bradley Lake**	**1.16**	**91**	P	**Pn**	**19 31 46.6**	**0.0**
BRLK				S	**Sn**	**19 32 04.2**	**-0.7**
NKA	**Nikishka**	**1.35**	**45**	P	**Pn**	**19 31 50.6**	**+2.0**
KAPH	**Katmai Pasha**	**1.35**	**207**	P	**Pn**	**19 31 48.9**	**+0.1**
KAPH				S	**Sn**	**19 32 07.5**	**-1.1**
CKL	**Chakachamna La**	**1.46**	**16**	P	**Pn**	**19 31 50.2**	**+0.3**
KARR	**Katmai Rainbow**	**1.53**	**212**	P	**Pn**	**19 31 51.0**	**+0.3**
SPNW	**Spurr Northwes**	**1.57**	**10**	P	**Pn**	**19 31 51.6**	**+0.4**
SPCG	**Spurr Capps Gl**	**1.60**	**20**	P	**Pn**	**19 31 51.8**	**+0.3**
SLKM	**Skilak Lake**	**1.64**	**63**	P	**Pn**	**19 31 52.1**	**+0.1**
KAKN	**Katmai Knife C**	**1.80**	**214**	P	**Pn**	**19 31 54.0**	**+0.1**
STLK	**Strandline Lak**	**1.82**	**21**	P	**Pn**	**19 31 54.4**	**+0.3**
KCE	**Katmai Mt Cerb**	**1.88**	**214**	P	**Pn**	**19 31 55.5**	**+0.7**
KABU	**Katmai Buttres**	**1.89**	**216**	P	**Pn**	**19 31 55.3**	**+0.4**
SEW	**Seward**	**1.90**	**79**	P	**Pn**	**19 31 55.2**	**+0.2**
SEW				S	**Sn**	**19 32 18.4**	**-1.3**
KABR	**Katmai Barrier**	**1.92**	**210**	P	**Pn**	**19 31 55.3**	**-0.1**
FIB	**Fire Island**	**2.02**	**46**	P	**Pn**	**19 31 57.5**	**+1.1**
FIB				S	**Sn**	**19 32 23.6**	**+1.3**
SUA	**Susitna One**	**2.05**	**35**	P	**Pn**	**19 31 57.4**	**+0.4**
SUA				S	**Sn**	**19 32 23.4**	**+0.1**
KDAK	**Kodiak Island**	**2.05**	**171**	P	**Pn**	**19 31 56.0**	**-1.0**
KDAK				S	**Sn**	**19 32 20.6**	**-2.6**
KDAK	**Kodiak Island**	**2.05**	**171**	P	**Pn**	**19 31 55.9**	**-1.0**
	11nm,0.3s,baz=13,slow=8.6,SNR=113						
KDAK				S	**Sn**	**19 32 20.6**	**-2.6**
	30nm,0.3s,baz=300,slow=20,SNR=37						
RC01	**Rabbit Creek A**	**2.14**	**51**	P	**Pn**	**19 31 58.0**	**0.0**
RC01				S	**Sn**	**19 32 24.3**	**-0.7**
SKT	**Skwentna**	**2.33**	**20**	P	**Pn**	**19 32 00.4**	**+0.1**
PMR	**Palmer**	**2.68**	**46**	P	**Pn**	**19 32 04.0**	**-0.8**
KNK	**Knik Glacier**	**2.83**	**53**	P	**Pn**	**19 32 06.1**	**-0.7**
CUT	**Chulitna**	**2.96**	**27**	P	**Pn**	**19 32 08.5**	**0.0**
SML	**Sawmill**	**3.11**	**48**	P	**Pn**	**19 32 09.6**	**-0.8**
PPLA	**Purkeypile**	**3.14**	**8**	P	**Pn**	**19 32 11.8**	**+0.9**
TT01	**Tatalina**	**3.40**	**337**	P	**Pn**	**19 32 13.9**	**-0.3**
SCM	**Sheep Creek Mo**	**3.51**	**52**	P	**Pn**	**19 32 15.1**	**-0.7**
VLZ	**Valdez**	**3.64**	**66**	P	**Pn**	**19 32 17.0**	**-0.3**
DIV	**Divide**	**3.90**	**67**	P	**Pn**	**19 32 19.4**	**+0.5**
TRF	**Thorofare Moun**	**3.91**	**19**	P	**Pn**	**19 32 20.8**	**-0.2**
KLU	**Klutina**	**3.95**	**62**	P	**Pn**	**19 32 20.9**	**-0.6**
RND	**Reindeer**	**4.16**	**28**	P	**Pn**	**19 32 23.7**	**-0.7**
GOAT	**Goat Mountain**	**4.29**	**76**	P	**Pn**	**19 32 26.1**	**0.0**
DHY	**Denali Highway**	**4.30**	**38**	P	**Pn**	**19 32 25.8**	**-0.6**
BMRM	**Bremner River**	**4.41**	**71**	P	**Pn**	**19 32 27.9**	**+0.3**
MCK	**McKinley**	**4.42**	**25**	P	**Pn**	**19 32 27.9**	**+0.1**
HARP	**HAARP**	**4.69**	**53**	P	**Pn**	**19 32 31.0**	**-0.2**
VNHG	**Veniaminof 1**	**4.80**	**224**	P	**Pn**	**19 32 33.5**	**+0.6**
VNSG	**Veniaminof 6**	**4.85**	**223**	P	**Pn**	**19 32 33.9**	**+0.4**
PAX	**Paxson**	**4.88**	**46**	P	**Pn**	**19 32 33.7**	**-0.2**
WRH	**Wood River Hil**	**5.25**	**25**	P	**Pn**	**19 32 38.3**	**-0.6**
BARK	**Barkley Ridge**	**5.38**	**79**	P	**Pn**	**19 32 40.4**	**-0.3**
ISLE	**Juniper Island**	**5.46**	**77**	P	**Pn**	**19 32 41.9**	**+0.1**
CCB	**Clear Creek Bu**	**5.47**	**25**	P	**Pn**	**19 32 40.9**	**-0.8**
MENT	**Mentasta**	**5.53**	**51**	*e*Pn	**Pn**	**19 32 42.0**	**-0.6**
BAGL	**Bagley Icefiel**	**5.58**	**78**	P	**Pn**	**19 32 43.9**	**+0.7**
MESA	**MESA**	**5.65**	**81**	P	**Pn**	**19 32 44.8**	**+0.4**
COLA	**College**	**5.66**	**24**	*e*Pn	**Pn**	**19 32 43.1**	**-1.1**
COLA				*e*Sn	**Sn**	**19 33 43.7**	**-4.2**
MDM	**Murphy Dome**	**5.66**	**22**	P	**Pn**	**19 32 43.8**	**-0.5**
IL1	**Eielson Array**	**5.78**	**28**	P	**Pn**	**19 32 45.2**	**-0.7**
ILAR	**Eielson Array**	**5.78**	**28**	P	**Pn**	**19 32 45.3**	**-0.6**
ILAR				S	**Sn**	**19 33 47.2**	**-3.7**
ILAR	**Eielson Array**	**5.78**	**28**	P	**Pn**	**19 32 45.3**	**-0.6**
	1.3nm,0.3s,baz=216,slow=13,SNR=77						
ILAR				S	**Sn**	**19 33 47.2**	**-3.7**
	1.6nm,0.3s,baz=212,slow=23,SNR=6.6						
DOT	**Dot Lake**	**5.80**	**44**	*e*Pn	**Pn**	**19 32 46.4**	**+0.2**
TABL	**Table Mountain**	**6.05**	**79**	P	**Pn**	**19 32 50.0**	**+0.2**
IM3	**Indian Mountai**	**6.21**	**358**	P	**Pn**	**19 32 52.1**	**+0.5**
BCA3	**Beaver Creek A**	**6.37**	**2**	P	**Pn**	**19 32 53.6**	**-0.3**
DT1	**Dutton Round H**	**6.80**	**230**	P	**Pn**	**19 32 59.8**	**+0.1**
PNL	**Peninsula**	**6.97**	**85**	P	**Pn**	**19 33 01.7**	**-0.3**
DAWY	**Dawson**	**7.77**	**51**	P	**Pn**	**19 33 12.4**	**-0.4**
BM3	**Burnt Mountain**	**8.53**	**23**	P	**Pn**	**19 33 22.8**	**-0.3**
INK	**Inuvik**	**12.05**	**37**	P	**Pn**	**19 34 10.3**	**+0.4**
INK	**Inuvik**	**12.05**	**37**	P	**Pn**	**19 34 10.3**	**+0.4**
	0.1nm,0.3s,baz=240,slow=13,SNR=2.5						
YKA	**Yellowknife Ar**	**18.61**	**65**	P	**Pn**	**19 35 31.5**	**-0.2**
YKA	**Yellowknife Ar**	**18.61**	**65**	P	**Pn**	**19 35 31.5**	**-0.2**
	0.1nm,0.3s,baz=277,slow=9.9,SNR=7.9						
SONM	**Songino Array**	**54.83**	**306**	P	**P**	**19 40 41.0**	**+1.6**
SONM	**Songino Array**	**54.83**	**306**	P	**P**	**19 40 41.0**	**+1.6**
	0.6nm,0.5s,baz=50,slow=5.7,SNR=5.4						
ZALV	**Zalesovo Beam**	**57.48**	**324**	P	**P**	**19 40 58.6**	**+0.7**
ZALV	**Zalesovo Beam**	**57.48**	**324**	P	**P**	**19 40 58.6**	**+0.7**
	3.0nm,0.4s,baz=28,slow=7.3,SNR=9.6						
KURK	**Kurchatov**	**62.14**	**326**	P	**P**	**19 41 30.4**	**+0.6**
KURBB	**Kurchatov Arra**	**62.25**	**326**	P	**P**	**19 41 30.4**	**-0.1**
	0.8nm,0.3s,baz=26,slow=6.2,SNR=3.6						
MKAR	**Makanchi Array**	**64.53**	**321**	P	**P**	**19 41 45.6**	**-0.1**
MKAR	**Makanchi Array**	**64.53**	**321**	P	**P**	**19 41 45.6**	**-0.1**
	0.3nm,0.5s,baz=41,slow=7.2,SNR=13						

*IDC **06** 19:37:25.2±1.8, 56°.06S×142°.89W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.8/11, mbtmp3.7/3, MS4.2/14, Ms1 4.2/14, ms1mx4.1/19, Error ellipse: s-maj=56.9km s-min=44.3km az=59.0*

*ISCJB **06** 19:37:26.1±1.7, 56°.2S±0°.1×143°.2W±0°.7, h10km, mb3.8/3, MS4.3/14, Error ellipse: s-maj=53.7km s-min=16.1km az=177.2*

ISC 06 19:37:27.2±1.6, 56°.1S±0°.1×143°.0W±0°.4, h10km, n24, σ1°01/7, mb3.7/3, MS4.2/14, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**33.10**	**349**	*e*S	**S**	**19 49 23.0**	**+1.0**
	198nm,29.5s						
TBI				*e*LR	LR	19 52 41.9	
	1μm,29.5s,baz=171						
TBI				*e*T	T	20 18 47.7	
	50nm,0.3s						
RKT	**Rikitea**	**33.51**	**13**	*e*LQ	LQ	19 51 33.0	
	750nm,33.5s						
RKT				*e*LR	LR	19 52 59.0	
	895nm,29.5s,baz=180						
RKT				*e*T	T	20 19 24.6	
	5.0nm,0.3s						
QSPA	**South Pole Qui**	**34.01**	**180**	P	**P**	**19 44 11.3**	**+0.5**
	5.1nm,0.9s,baz=72,slow=6.4,SNR=3.8						
QSPA				LR	LR	19 55 01.6	
	comp=Z,483nm,20.5s,baz=69,slow=31						
RAR	**Rarotonga**	**37.06**	**333**	LR	LR	19 55 44.0	
	comp=Z,374nm,20.0s,baz=131,slow=30						
RPN	**Rapa Nui**	**37.70**	**54**	LR	LR	19 56 13.1	
	comp=Z,330nm,18.4s,baz=250,slow=30						
MEH	**Mehetia**	**38.40**	**352**	*e*T	T	20 25 25.8	
	86nm,0.3s						
TVO	**Taravao**	**38.59**	**350**	*e*T	T	20 25 45.3	
	8.1nm,0.3s						
PPT2	**Papeete2**	**38.81**	**350**	*e*S	**S**	**19 50 49.3**	**-0.3**
	236nm,26.2s						
PPT2				*e*LR	LR	19 55 16.1	
	1μm,28.8s						
USHA	**Ushuaia**	**40.33**	**121**	LR	LR	19 56 56.3	
	comp=Z,348nm,18.0s,baz=213,slow=29						
PLCA	**Paso Flores**	**48.15**	**103**	LR	LR	20 01 44.9	
	comp=Z,266nm,18.4s,baz=56,slow=30						
DZM	**Mont Dzumac**	**50.27**	**291**	*e*LR	LR	19 59 40.2	
	230nm,24.1s						
MAW	**Mawson**	**55.08**	**192**	LR	LR	20 07 08.8	
	comp=Z,240nm,21.9s,baz=339,slow=32						
STKA	**Stephens Creek**	**56.27**	**262**	LR	LR	20 06 35.9	
	comp=Z,255nm,19.2s,baz=37,slow=31						
CTA	**Charters Tower**	**62.86**	**274**	LR	LR	20 12 01.1	
	comp=Z,159nm,19.3s,baz=39,slow=33						
ASAR	**Alice Springs**	**66.91**	**262**	P	**P**	**19 48 19.9**	**+0.3**
	0.5nm,1.0s,baz=141,slow=6.6,SNR=3.6						
NWAO	**Narrogin (SRO)**	**68.39**	**243**	LR	LR	20 10 16.7	
	comp=Z,157nm,19.3s,baz=338,slow=29						
WRA	**Warramunga Arr**	**69.64**	**264**	P	**P**	**19 48 36.7**	**0.0**
	0.3nm,0.8s,baz=145,slow=5.4,SNR=2.9						
FITZ	**Fitzroy Crossi**	**75.94**	**259**	LR	LR	20 18 24.5	
	comp=Z,219nm,19.8s,baz=147,slow=32						
BDFB	**Brasilia**	**79.89**	**103**	LR	LR	20 21 10.2	
	comp=Z,290nm,19.7s,baz

BAYT	Ayd¯–ntepe-Bay	1.63	268	*e*PN		Pn	19 47 59.4	-1.0
BAYT	Ayd¯–ntepe-Bay	1.63	268	*e*Pn		Pn	19 47 59.4	-1.0
CLDR	Caldiran	1.82	136	*e*PN		Pn	19 48 02.6	-0.4
CLDR	Caldiran	1.82	136	*e*Pn		Pn	19 48 02.6	-0.4
GNI	Garni	1.91	99	*e*PN		Pn	19 48 04.5	+0.3
GNI	Garni	1.91	99	*e*Pn		Pn	19 48 04.5	+0.3
MACK	Trabzon	1.97	285	*i* P		Pg	19 48 08.8	-1.0
GUMT	Gumushane	2.13	271	*e*PN		Pn	19 48 06.5	-0.7
GUMT	Gumushane	2.13	271	*e*Pn		Pn	19 48 06.5	-0.7
ERZN	Erzincan	2.15	247	*e*PN		Pn	19 48 06.8	-0.6
TBLG	Delisi	2.25	55	P		Pn	19 48 02.1	-6.6
ONI	Oni	2.31	22	P		Pb	19 48 11.8	-1.6
EZC	Erzincan	2.35	253	*e*Pn		Pn	19 48 06.8	-3.5
DGRG	David-gareji	2.54	66	P		Pb	19 48 18.4	+0.9
ESPY	Espiye-Giresun	2.74	281	*e*PN		Pn	19 48 15.1	-0.4
ESPY	Espiye-Giresun	2.74	281	*e*Pn		Pn	19 48 15.1	-0.4

IDC ***06*** *19:55:41.4±1.5, 36°.94N×3°.65E, h0km, mb3.2/3, mb1 3.2/5, mb1mx3.0/28, mbtmp3.1/5, ML3.4/2, Error ellipse: s-maj=33.1km s-min=29.1km az=132.0*
CRAAG ***06*** *19:55:43.6, 36°.98N×3°.68E, Ml4.0*
MDD ***06*** *19:55:44.2±0.5, 37°.04N×3°.69E, h0km, mb4.2/15, Error ellipse: s-maj=6.7km s-min=4.7km az=52.0, PRXIMO*
CSEM ***06*** *19:55:45.1±0.3, 36°.95N×3°.69E, h20km, ML4.0, Error ellipse: s-maj=8.3km s-min=5.9km az=39.0*

ISC 06 19:55:43.5±1.5, 37°.05N±0°.04×3°.68E±0°.03, h14km±11km, n61, σ1°61/89, mb3.3/3, 1C, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.57**	**244**	P	**Pb**	**19 55 55.0**	**-0.4**
ABA	**Alger-Bouzarea**	**0.57**	**244**	P	**Pb**	**19 55 55.0**	**-0.4**
ABA	**Alger-Bouzarea**	**0.57**	**244**	P	**Pb**	**19 55 55.0**	**-0.4**
AKF	**Akfadou**	**0.83**	**120**	P	**Pg**	**19 55 58.8**	**-0.8**
AKF	**Akfadou**	**0.83**	**120**	P	**Pg**	**19 55 58.8**	**-0.8**
AKF	**Akfadou**	**0.83**	**120**	P	**Pg**	**19 55 58.8**	**-0.8**
ADJB	**Djebel Djouab**	**0.92**	**192**	P	**Pg**	**19 56 00.7**	**-0.6**
ADJB	**Djebel Djouab**	**0.92**	**192**	P	**Pg**	**19 56 00.7**	**-0.6**
ADJB	**Djebel Djouab**	**0.92**	**192**	P	**Pg**	**19 56 00.7**	**-0.6**
AKET	**Djebel Ketaf**	**1.02**	**171**	P	**Pb**	**19 56 01.7**	**-1.3**
AKET	**Djebel Ketaf**	**1.02**	**171**	P	**Pb**	**19 56 01.7**	**-1.3**
AKET	**Djebel Ketaf**	**1.02**	**171**	P	**Pb**	**19 56 01.7**	**-1.3**
SET	**Setif**	**1.62**	**121**	P	**Pb**	**19 56 14.0**	**+0.7**
SET	**Setif**	**1.62**	**121**	P	**Pb**	**19 56 14.0**	**+0.7**
SET	**Setif**	**1.62**	**121**	P	**Pb**	**19 56 14.0**	**+0.7**
CASM	**Ain Smara**	**2.39**	**108**	P	**Pb**	**19 56 27.0**	**+0.6**
CASM	**Ain Smara**	**2.39**	**108**	P	**Pb**	**19 56 27.0**	**+0.6**
CASM	**Ain Smara**	**2.39**	**108**	P	**Pb**	**19 56 27.0**	**+0.6**
EIBI	**Ibiza**	**2.70**	**318**	P	**Pb**	**19 56 30.8**	**-0.8**
	2.2nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**19 56 59.0**	**0.0**
	17nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**2.70**	**318**	P	**Pb**	**19 56 30.8**	**-0.8**
	2.2nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**19 56 59.0**	**0.0**
	17nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**2.79**	**346**	P	**Pn**	**19 56 28.8**	**+1.0**
	25nm,0.3s,SNR=29						
ETOS				S	**Sn**	**19 56 59.8**	**-1.5**
	7.8nm,0.2s						
ETOS				T	T	19 58 35.1	
	SNR=6.0						
CMAH	**Djebel Manchou**	**3.03**	**97**	P	**Pn**	**19 56 31.0**	**-0.1**
CMAH	**Djebel Manchou**	**3.03**	**97**	P	**Pn**	**19 56 31.0**	**-0.1**
CMAH	**Djebel Manchou**	**3.03**	**97**	P	**Pn**	**19 56 31.0**	**-0.1**
EMUR	**La Murta**	**3.99**	**283**	P	**Pn**	**19 56 46.5**	**+2.1**
	2.2nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	**19 57 29.2**	**-1.8**
	6.6nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.99**	**283**	P	**Pn**	**19 56 46.5**	**+2.1**
	2.2nm,0.3s,SNR=7.9						
EMUR				S	**Sn**	**19 57 29.2**	**-1.8**
	6.6nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.43**	**293**	P	**Pn**	**19 56 52.4**	**+2.0**
	2.3nm,0.2s,SNR=13						
ETOB				S	**Sn**	**19 57 40.9**	**-0.9**
	3.0nm,0.2s						
ETOB	**Tobarra**	**4.43**	**293**	P	**Pn**	**19 56 52.4**	**+2.0**
	2.3nm,0.2s,SNR=13						
ETOB				S	**Sn**	**19 57 40.9**	**-0.9**
	3.0nm,0.2s						
ECHE	**Chera**	**4.45**	**306**	⇑P	**Pn**	**19 56 53.0**	**+2.4**
	5.4nm,0.2s,SNR=18						
ECHE				S	**Sn**	**19 57 40.4**	**-1.8**
	0.9nm,0.2s,SNR=4.0						
ECHE	**Chera**	**4.45**	**306**	P	**Pn**	**19 56 53.0**	**+2.4**
	5.4nm,0.2s,SNR=18						
ECHE				S	**Sn**	**19 57 40.4**	**-1.8**
	0.9nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**4.63**	**317**	P	**Pn**	**19 56 54.7**	**+1.4**
	1.9nm,0.3s,SNR=7.9						
EMOS				S	**Sn**	**19 57 45.5**	**-1.4**
	1.4nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.63**	**317**	P	**Pn**	**19 56 54.7**	**+1.4**
	1.9nm,0.3s,SNR=7.9						
EMOS				S	**Sn**	**19 57 45.5**	**-1.4**
	1.4nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**4.69**	**327**	S	**Sn**	**19 57 46.1**	**-1.9**
	2.6nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**4.69**	**327**	S	**Sn**	**19 57 46.1**	**-1.9**
	2.6nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**4.74**	**336**	P	**Pn**	**19 56 56.2**	**+1.5**
	9.1nm,0.4s,SNR=6.4						
EPOB				S	**Sn**	**19 57 47.3**	**-2.2**
	9.3nm,0.4s,SNR=7.9						
EPOB	**Poblet**	**4.74**	**336**	P	**Pn**	**19 56 56.2**	**+1.5**
	9.1nm,0.4s,SNR=6.4						
EPOB				S	**Sn**	**19 57 47.3**	**-2.2**
	9.3nm,0.4s,SNR=7.9						
KEST	**Kesra**	**4.76**	**104**	Pn	**Pn**	**19 56 56.5**	**+1.6**
	0.2nm,0.3s,baz=272,slow=12,SNR=9.2						
KEST				Sn	**Sn**	**19 57 49.3**	**-0.5**
	0.2nm,0.3s,baz=153,slow=2.3,SNR=3.0						
CFON	**Fontmartina**	**4.80**	**349**	P	**Pn**	**19 56 56.7**	**+1.2**
	16nm,0.3s,SNR=26						
CFON				S	**Sn**	**19 57 48.7**	**-2.2**
	3.2nm,0.3s						
CFON	**Fontmartina**	**4.80**	**349**	P	**Pn**	**19 56 56.7**	**+1.2**
	16nm,0.3s,SNR=26						
CFON				S	**Sn**	**19 57 48.7**	**-2.2**
	3.2nm,0.3s						
EHUE	**Huescar**	**5.05**	**281**	P	**Pn**	**19 57 01.3**	**+2.4**
	6.7nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**5.05**	**281**	P	**Pn**	**19 57 01.3**	**+2.4**
	6.7nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**5.13**	**342**	P	**Pn**	**19 57 02.4**	**+2.4**
	12nm,0.2s,SNR=18						
EMIR				S	**Sn**	**19 57 57.4**	**-1.6**
	19nm,0.3s,SNR=5.6						
EMIR	**Miracle**	**5.13**	**342**	P	**Pn**	**19 57 02.4**	**+2.4**
	12nm,0.2s,SNR=18						
EMIR				S	**Sn**	**19 57 57.4**	**-1.6**
	19nm,0.3s,SNR=5.6						
EVIA	**Vianos**	**5.14**	**290**	P	**Pn**	**19 57 01.1**	**+0.9**
	SNR=7.9						
EVIA				S	**Sn**	**19 57 56.5**	**-2.9**
	2.0nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**5.14**	**290**	P	**Pn**	**19 57 01.1**	**+0.9**
	SNR=7.9						
EVIA				S	**Sn**	**19 57 56.5**	**-2.9**
	2.0nm,0.2s,SNR=7.9						
EBER	**Berja**	**5.26**	**270**	P	**Pn**	**19 57 04.0**	**+2.1**
	0.1nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**19 58 01.4**	**-1.0**
	1.7nm,0.3s,SNR=7.9						
EBER	**Berja**	**5.26**	**270**	P	**Pn**	**19 57 04.0**	**+2.1**
	0.1nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**19 58 01.4**	**-1.0**
	1.7nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**5.42**	**354**	P	**Pn**	**19 57 06.0**	**+2.0**
	4.3nm,0.1s,SNR=16						
EJON	**La Jonquera**	**5.42**	**354**	P	**Pn**	**19 57 06.0**	**+2.0**
	4.3nm,0.1s,SNR=16						
EQES	**Quesada**	**5.42**	**280**	P	**Pn**	**19 57 06.4**	**+2.3**
	2.9nm,0.3s,SNR=12						
EQES				S	**Sn**	**19 58 07.6**	**+1.2**
	3.1nm,0.3s						
EQES	**Quesada**	**5.42**	**280**	P	**Pn**	**19 57 06.4**	**+2.3**
	2.9nm,0.3s,SNR=12						
EQES				S	**Sn**	**19 58 07.6**	**+1.2**
	3.1nm,0.3s						
CLLI	**Llivia**	**5.58**	**347**	P	**Pn**	**19 57 08.8**	**+2.7**
	1.7nm,0.2s,SNR=7.7						
CLLI				S	**Sn**	**19 58 08.8**	**-1.3**
	2.5nm,0.3s						
CLLI	**Llivia**	**5.58**	**347**	P	**Pn**	**19 57 08.8**	**+2.7**
	1.7nm,0.2s,SNR=7.7						
CLLI				S	**Sn**	**19 58 08.8**	**-1.3**
	2.5nm,0.3s						
CSOR	**Sort**	**5.67**	**341**	P	**Pn**	**19 57 10.1**	**+2.7**
	1.3nm,0.3s,SNR=6.6						
CSOR				S	**Sn**	**19 58 11.6**	**-0.7**
	3.0nm,0.3s						
CSOR	**Sort**	**5.67**	**341**	P	**Pn**	**19 57 10.1**	**+2.7**
	1.3nm,0.3s,SNR=6.6						
CSOR				S	**Sn**	**19 58 11.6**	**-0.7**
	3.0nm,0.3s						
ESDC	**Sonseca Array**	**6.55**	**296**	P	**Pn**	**19 57 20.3**	**+0.8**
	1.7nm,0.3s,baz=112,slow=14,SNR=4.3						
ESDC	**Sonseca Array**	**6.55**	**296**	Pn	**Pn**	**19 57 20.7**	**+1.2**
	0.7nm,0.3s,baz=113,slow=14,SNR=5.4						
ESDC	**Sonseca Array**	**6.55**	**296**	P	**Pn**	**19 57 20.3**	**+0.8**
	1.7nm,0.3s,baz=112,slow=14,SNR=4.3						
TORD	**Torodi Ar. Bea**	**23.87**	**185**	P	**P**	**20 00 55.2**	**-1.5**
	0.2nm,0.5s,baz=349,slow=9.0,SNR=1.9						
KURBB	**Kurchatov Arra**	**53.44**	**50**	P	**P**	**20 05 03.2**	**+0.4**
	0.2nm,0.4s,baz=285,slow=7.9,SNR=4.2						
MKAR	**Makanchi Array**	**57.01**	**53**	P	**P**	**20 05 29.0**	**+0.3**
	0.3nm,0.9s,baz=275,slow=5.9,SNR=5.2						

IDC 06 19:56:49.3±2.3, 6°.30S×130°.23E, h0km, mb3.2/1, mb1 3.6/4, mb1mx3.4/15, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=90.7km s-min=29.5km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.56**	**201**	Pn	Pn	19 59 48.3	-1.1
	0.1nm,0.3s,baz=20,slow=15,SNR=4.4						
FITZ				Sn	Sn	20 01 47.2	-23
	0.2nm,0.3s,baz=249,slow=17,SNR=3.5						
WRA	**Warramunga Arr**	**14.14**	**164**	Pn	Pn	20 00 11.7	+0.6
	0.3nm,0.3s,baz=348,slow=13,SNR=10						
WRA				Sn	Sn	20 02 34.5	-14
	0.1nm,0.3s,baz=331,slow=23,SNR=4.0						
ASAR	**Alice Springs**	**17.63**	**169**	P	Pn	20 00 56.8	+0.3
	0.1nm,0.3s,baz=356,slow=11,SNR=8.4						
ASAR				S	Sn	20 04 01.4	-12
	0.1nm,0.3s,baz=312,slow=33,SNR=3.5						
MKAR	**Makanchi Array**	**67.77**	**327**	P	P	20 07 49.1	+0.1
	0.2nm,0.7s,baz=116,slow=9.3,SNR=4.2						

ISCJB ***06*** *20:01:38.9±0.5, 9°.49N±0°.07×93°.23E±0°.09, h29km, mb4.2/17, MS4.0/2, Error ellipse: s-maj=13.8km s-min=7.7km az=146.9*
IDC ***06*** *20:01:49.6±6.4, 9°.92N×93°.56E, h100km±55km, mb3.8/12, mb1 3.9/13, mb1mx3.7/27, mbtmp3.8/13, MS4.0/2, Ms1 4.0/2, ms1mx2.9/31, Error ellipse: s-maj=49.3km s-min=12.2km az=54.0*
NEIC ***06*** *20:01:54.1±2.2, 10°.05N×93°.75E, h142km±18km, mb4.4/10, Error ellipse: s-maj=19.4km s-min=6.6km az=52.0*

ISC 06 20:01:41.4±0.7, 9°.5N±0°.1×93°.3E±0°.1, h29km, n64, σ1°25/63, mb4.3/17, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**10.44**	**31**	*e*Pn	**Pn**	**20 04 11.0**	**+1.8**
	10nm,0.6s						
CM31				*e*		20 04 14.5	
CMAR	**Chiang Mai Arr**	**10.44**	**31**	P	**Pn**	**20 04 11.3**	**+2.1**
CMAR	**Chiang Mai Arr**	**10.44**	**31**	P	**Pn**	**20 04 11.3**	**+2.1**
	1.1nm,0.3s,baz=223,slow=15,SNR=51						
CHTO	**Chiang Mai**	**10.74**	**30**	*e*Pn	**Pn**	**20 04 15.1**	**+1.8**
	9.3nm,0.8s						
VIS	**Vishakhapatnam**	**12.62**	**311**	*i* P	Pn	20 04 31.9	-7.1
VIS				*i* S	Sn	20 06 37.3	-21
VIS				*i* S		20 06 37.6	
VIS				*ex*	x	20 06 41.3	
	comp=E,40nm,0.3s						
VIS				*ex*	x	20 06 44.0	
	comp=N,36nm,0.4s						
SHL	**Shillong**	**16.00**	**355**	*e*PKP	**Pn**	**20 05 25.8**	**+1.2**
ODAN	**Odare**	**18.10**	**343**	*e*P	**Pn**	**20 05 51.8**	**+0.8**
	comp=N,21nm,0.4s						
RAMN	**Ramite**	**18.43**	**341**	*e*P	**Pn**	**20 05 56.5**	**+1.5**
	comp=N,46nm,0.4s						
TAPN	**Taplejung**	**18.48**	**344**	*e*P	**Pn**	**20 05 56.3**	**+0.6**
	comp=N,18nm,0.3s						
JIRN	**Jiri**	**19.22**	**341**	*e*P	**P**	**20 06 04.8**	**+1.1**
	comp=N,13nm,0.3s						
PKI	**Pulchoki**	**19.41**	**339**	*e*P	**P**	**20 06 06.8**	**+1.1**
DMN	**Daman**	**19.55**	**338**	*e*P	**P**	**20 06 08.2**	**+1.0**
	comp=N,22nm,0.7s						
GUN	**Gumba**	**19.56**	**340**	*e*P	**P**	**20 06 08.3**	**+1.0**
	comp=N,70nm,0.5s						
KKN	**Kakani**	**19.65**	**339**	*e*P	**P**	**20 06 09.3**	**+1.1**
	comp=N,23nm,0.4s						
GKN	**Gorkha**	**20.09**	**337**	*e*P	**P**	**20 06 14.0**	**+1.1**
	comp=N,67nm,0.3s						
LSA	**Lhasa**	**20.16**	**355**	⇓*i* P	**P**	**20 06 12.6**	**-1.4**
	comp=N,27nm,0.6s						
LSA				*e*S	S	20 09 47.8	-11
KOLN	**Koldanda**	**20.30**	**335**	*e*P	**P**	**20 06 16.7**	**+1.5**
	comp=N,42nm,0.6s						
DANN	**Dangsing**	**20.74**	**336**	*e*P	**P**	**20 06 21.2**	**+1.1**
ENH	**Enshi**	**25.59**	**34**	*e*P	**P**	**20 07 04.2**	**-4.0**
	comp=N,4.7nm,0.4s						
KBL	**Kabul**	**33.33**	**322**	*e*P	**P**	**20 08 17.9**	**+0.7**
	comp=N,2.3nm,0.6s						
TKM2	**Tomak 2**	**36.67**	**338**	*e*P	**P**	**20 08 45.2**	**-0.7**
AML	**Almayashu**	**36.74**	**335**	P	**P**	**20 08 46.5**	**-0.1**
	SNR=13						
AML				P	**P**	**20 08 46.5**	**-0.1**
	SNR=13						
AAK	**Ala-Archa**	**36.84**	**337**	*e*P	**P**	**20 08 46.8**	**-0.5**
	comp=N,19nm,1.0s						
AAK	**Ala-Archa**	**36.84**	**337**	P	**P**	**20 08 47.5**	**+0.3**
	SNR=7.0						
AAK				P	**P**	**20 08 47.5**	**+0.3**
	SNR=7.0						
AAK	**Ala-Archa**	**36.84**	**337**	P	**P**	**20 08 47.6**	**+0.3**
	comp=N,3.5nm,0.7s,baz=138,slow=4.9,SNR=18						
CHMS	**Chumysh**	**37.05**	**337**	P	**P**	**20 08 48.4**	**-0.5**
	SNR=5.1						
CHMS				P	**P**	**20 08 48.4**	**-0.5**
	SNR=5.1						
EKS2	**Erkin-Say**	**37.15**	**336**	*e*P	**P**	**20 08 49.6**	**-0.3**
	comp=N,5.6nm,0.7s						
EKS2	**Erkin-Say**	**37.15**	**336**	P	**P**	**20 08 50.2**	**+0.4**
	SNR=9.0						
EKS2				P	**P**	**20 08 50.2**	**+0.4**
	SNR=9.0						
USP	**Ospenovka**	**37.38**	**337**	P	**P**	**20 08 51.4**	**-0.3**
	SNR=10						
USP				P	**P**	**20 08 51.4**	**-0.3**
	SNR=10						
MK31	**Makanchi Array**	**38.29**	**348**	*e*P	P	20 08 56.9	-2.4
MKAR	**Makanchi Array**	**38.29**	**348**	P	**P**	**20 08 57.2**	**-2.0**
MKAR	**Makanchi Array**	**38.29**	**348**	P	**P**	**20 08 57.2**	**-2.0**
	comp=N,1.4nm,0.7s,baz=165,slow=8.7,SNR=17						
KKAR	**Karatay Array**	**38.90**	**333**	*e*P	**P**	**20 09 03.8**	**-0.7**
	comp=N,2.5nm,0.8s						
SONM	**Songino Array**	**39.75**	**14**	P	P	20 09 08.1	-3.5
SONM	**Songino Array**	**39.75**	**14**	P	P	20 09 08.1	-3.5
	comp=N,0.3nm,0.3s,baz=206,slow=8.5,SNR=6.3						
ULN	**Ulaanbaatar**	**39.94**	**14**	*e*P	P	20 09 07.9	-5.3
KURBB	**Kurchatov Arra**	**42.73**	**346**	P	**P**	**20 09 34.2**	**-1.7**
	comp=N,0.7nm,0.4s,baz=164,slow=7.5,SNR=12						
KURK	**Kurchatov**	**42.80**	**346**	P	**P**	**20 09 34.2**	**-2.2**
ZAA0	**Zalesovo Array**	**44.81**	**353**	P	**P**	**20 09 50.6**	**-1.9**
ZALV	**Zalesovo Beam**	**44.81**	**353**	P	**P**	**20 09 50.5**	**-2.1**
ZALV	**Zalesovo Beam**	**44.81**	**353**	P	**P**	**20 09 50.5**	**-2.1**
	comp=N,2.4nm,0.3s,baz=175,slow=7.9,SNR=5.5						
BVAR	**Borovoye Array**	**47.15**	**341**	P	P	20 10 08.7	-2.3
BVAR	**Borovoye Array**	**47.15**	**341**	P	P	20 10 08.7	-2.3
	comp=N,0.5nm,0.4s,baz=135,slow=8.2,SNR=9.3						
ABKAR	**Akbulak array**	**48.36**	**331**	*e*P	**P**	**20 10 19.6**	**-0.9**
WRA	**Warramunga Arr**	**49.93**	**126**	P	**P**	**20 10 33.6**	**+0.7**
WRA				PcP	**PcP**	**20 11 52.6**	**-0.4**
WRA	**Warramunga Arr**	**49.93**	**126**	P	**P**	**20 10 33.6**	**+0.7**
	comp=N,2.5nm,0.4s,baz=301,slow=9.7,SNR=86						
WRA				PcP	**PcP**	**20 11 52.6**	**-0.4**
	comp=N,0.5nm,0.5s,baz=315,slow=3.0,SNR=6.0						
WRAB	**Tennant Creek**	**49.94**	**126**	*e*P	**P**	**20 10 33.5**	**+0.5**
	comp=N,4.5nm,0.4s						
AS31	**Alice Springs**	**51.65**	**130**	*e*P	**P**	**20 10 45.4**	**-0.5**
ASAR	**Alice Springs**	**51.65**	**130**	P	**P**	**20 10 45.8**	**-0.1**
ASAR				PcP	**PcP**	**20 11 58.8**	**-0.6**
ASAR	**Alice Springs**	**51.65**	**130**	P	**P**	**20 10 45.8**	**-0.1**
	comp=N,2.9nm,0.5s,baz=303,slow=6.8,SNR=79						
ASAR				PcP	**PcP**	**20 11 58.8**	**-0.6**
	comp=N,0.9nm,0.7s,baz=307,slow=3.6,SNR=7.0						
ARU	**Arti**	**54.03**	**337**	*e*P	P	20 11 00.4	-2.5
ASAJ	**Asahikawa**	**54.75**	**42**	LR	LR	20 35 48.2	
	comp=N,104nm,20.2s,baz=160,slow=38						
KIV	**Kislovodsk**	**55.51**	**317**	*e*P	**P**	**20 11 14.8**	**+0.8**
BRTR	**Keskin Array B**	**60.69**	**310**	P	**P**	**20 11 49.5**	**-1.0**
BRTR	**Keskin Array B**	**60.69**	**310**	P	**P**	**20 11 49.5**	**-1.0**
	comp=N,0.4nm,0.4s,baz=133,slow=5.9,SNR=3.1						
STKA	**Stephens Creek**	**61.88**	**134**	*e*P	**P**	**20 11 59.0**	**+0.6**
	comp=N,0.7nm,0.8s						
STKA	**Stephens Creek**	**61.88**	**134**	P	**P**	**20 11 59.3**	**+1.0**
	comp=N,2.1nm,0.4s,baz=337,slow=3.2,SNR=5.3						
FINES	**FINESS Array B**	**70.84**	**332**	P	**P**	**20 12 55.0**	**-0.2**
FINES	**FINESS Array B**	**70.84**	**332**	P	**P**	**20 12 55.0**	**-0.2**
	comp=N,5.2nm,1.1s,baz=116,slow=8.3,SNR=3.2						
ARCES	**ARCESS Array B**	**73.42**	**340**	P	**P**	**20 13 09.4**	**-1.1**
ARCES	**ARCESS Array B**	**73.42**	**340**	P	**P**	**20 13 09.5**	**-1.1**
	comp=N,3.1nm,1.0s,baz=81,slow=6.7,SNR=4.8						
ESDC	**Sonseca Array**	**89.49**	**310**	LR	LR	20 54 49.1	
	comp=N,99nm,21.0s,baz=310,slow=36						
PLCA	**Paso Flores**	**145.78**	**202**	PKPbc	**PKPdf**	**20 21 19.3**	**+1.6**
PLCA	**Paso Flores**	**145.78**	**202**	PKPbc	**PKPdf**	**20 21 19.3**	**+1.6**
	comp=N,2.3nm,0.8s,baz=182,slow=5.2,SNR=3.8						

ISK ***06*** *20:27:04.5, 36°.97N×27°.78E, h5km, MD2.7*
ISCJB ***06*** *20:27:05.8±0.9, 36°.96N±0°.07×27°.78E±0°.04, h11km±6km, Error ellipse: s-maj=11.5km s-min=5.5km az=10.3*
DDA ***06*** *20:27:05.3, 36°.95N×27°.78E, h7km, MD2.8*
CSEM ***06*** *20:27:05.8±0.3, 36°.97N×27°.78E, h10km, MD2.8, Error ellipse: s-maj=7.1km s-min=4.0km az=12.0*

ISC 06 20:27:05.5±1.1, 36°.96N±0°.06×27°.78E±0°.03, h13km±10km, n15, σ0°63/24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.29**	**292**	*i* P	**Pg**	**20 27 11.5**	**0.0**
BDRM				*i* S	**Sg**	**20 27 16.2**	**+0.6**
BDRM	**Kayabasi**	**0.29**	**292**	*i* P	**Pg**	**20 27 11.5**	**0.0**
BDRM				*i* S	**Sg**	**20 27 16.2**	**+0.6**
BODT	**Bodrum**	**0.39**	**286**	*e*PG	**Pb**	**20 27 13.6**	**-0.7**
BODT				*e*SG	**Sb**	**20 27 19.6**	**-0.6**
BODT	**Bodrum**	**0.39**	**286**	*e*Pg	**Pb**	**20 27 13.6**	**-0.7**
BODT				*e*Sg	**Sb**	**20 27 19.6**	**-0.6**
YER	**Yerkesik**	**0.44**	**66**	*e*PG	**Pg**	**20 27 13.7**	**-0.5**
YER				*e*SG	**Sb**	**20 27 21.8**	**+0.2**
YER	**Yerkesik**	**0.44**	**66**	*e*Pg	**Pg**	**20 27 13.7**	**-0.5**
YER				*e*Sg	**Sb**	**20 27 21.8**	**+0.2**
TURN	**Turunc**	**0.66**	**97**	*i* P	Pg	20 27 13.3	-5.1
TURN				*i* S	Sg	20 27 20.3	-6.9
AYDN	**Tasoluk**	**0.71**	**6**	*i* P	**Pg**	**20 27 19.1**	**-0.1**
AYDN				*i* S	**Sg**	**20 27 28.5**	**-0.1**
AYDN	**Tasoluk**	**0.71**	**6**	*i* P	**Pg**	**20 27 19.1**	**-0.1**
AYDN				*i* S	**Sg**	**20 27 28.5**	**-0.1**
GCAM	**G?zelcaml?**	**0.86**	**330**	*i* P	**Pg**	**20 27 21.4**	**-0.8**
GCAM				*i* S	**Sb**	**20 27 34.7**	**+1.0**
GCAM	**G?zelcaml?**	**0.86**	**330**	*i* P	**Pg**	**20 27 21.4**	**-0.8**
GCAM				*i* S	**Sb**	**20 27 34.7**	**+1.0**
FETY	**Fethiye**	**1.09**	**107**	*e*PN	**Pn**	**20 27 27.2**	**+0.8**
FETY	**Fethiye**	**1.09**	**107**	*e*Pn	**Pn**	**20 27 27.3**	**+0.8**
ELL	**Elmali**	**1.72**	**96**	*e*PN	**Pb**	**20 27 36.4**	**-0.5**
ELL	**Elmali**	**1.72**	**96**	*e*Pn	**Pb**	**20 27 36.4**	**-0.5**

PRE 06 20:36:15.7±1.6, 0°.71S×35°.07E, h10km, ML3.8, Kenya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**2.23**	**101**	*e*P	Pn	20 36 53.8	+0.8
KMBO				*e*S	Sn	20 37 21.2	+0.4
KMBO				AML	AML	20 37 32.3	
	comp=Z,1µm,0.7s						
MBAR	**Mbarara**	**4.33**	**271**	*e*P

*ISCJB **06** 21:33:47.9±0.8, 46.6°N±0.2×151.4°E±0.2, h125km, mb3.5/7, Error ellipse: s-maj=38.9km s-min=8.1km az=145.3*
*JMA **06** 21:33:54.6±0.4, 45.89°N×151.40°E, h171km, M3.3*
*IDC **06** 21:33:55.7±3.2, 46.99°N×150.82°E, h198km±31km, mb3.0/7, mb1 3.3/8, mb1mx3.1/23, mbtmp3.1/8, Error ellipse: s-maj=22.9km s-min=17.7km az=113.0*

ISC 06 21:33:49.3±1.0, 46.4°N±0.3×151.5°E±0.2, h125km, n18, σ2§09/16, mb3.4/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**5.13**	**236**	P		**Pn**	**21 35 05.9**	**+1.9**
NEM2				eS		**Sn**	**21 36 01.0**	**-1.2**
JTKR	**Abashiri--Toko**	**5.93**	**248**	P		**Pn**	**21 35 17.8**	**+3.1**
JAK	**Akkeshi**	**5.96**	**237**	P		**Pn**	**21 35 16.8**	**+1.6**
JAK				eS		**Sn**	**21 36 20.2**	**-2.0**
JAR	**Ashorobuto**	**6.35**	**243**	P		**Pn**	**21 35 22.9**	**+2.5**
JOB	**Onbets**	**6.53**	**240**	eS		**Sn**	**21 36 33.7**	**-2.2**
ASAJ	**Asahikawa**	**6.72**	**253**	P		Pn	21 35 28.7	+3.2
ASAJ	**Asahikawa** 1.1nm,0.3s,baz=84,slow=12,SNR=14	**6.72**	**253**	P		Pn	21 35 28.6	+3.1
JKK2	**Kamakawa 2**	**6.72**	**251**	P		**Pn**	**21 35 28.4**	**+2.9**
JCH	**Churui**	**6.98**	**240**	P		**Pn**	**21 35 30.3**	**+1.4**
JCH				eS		**Sn**	**21 36 43.9**	**-2.9**
JNB	**Noboribetsu**	**8.49**	**246**	P		**Pn**	**21 35 50.2**	**+0.9**
JKB	**Kayabe**	**8.81**	**243**	P		**Pn**	**21 35 53.4**	**-0.2**
ILAR	**Eielson Array** 0.5nm,0.9s,baz=267,slow=5.7,SNR=4.2	**37.48**	**38**	P		**P**	**21 40 48.6**	**-1.7**
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=68,slow=8.3,SNR=3.3	**46.13**	**297**	P		P	21 41 55.1	-5.8
NVAR	**Mina Array Bea** 0.3nm,0.5s,baz=297,slow=6.7,SNR=2.9	**63.54**	**61**	P		**P**	**21 44 06.5**	**-0.1**
FINES	**FINESS Array B** 2.8nm,1.1s,baz=36,slow=7.4,SNR=6.1	**63.87**	**334**	P		P	21 44 01.5	-6.5
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=19,slow=6.6,SNR=4.4	**67.86**	**197**	P		**P**	**21 44 34.4**	**+0.4**
NOA	**NORSAR Array B** 0.4nm,0.7s,baz=20,slow=5.3,SNR=3.3	**68.18**	**340**	P		P	21 44 29.5	-6.2
ASAR	**Alice Springs** 0.4nm,0.6s,baz=11,slow=5.5,SNR=4.2	**71.57**	**197**	P		**P**	**21 44 58.3**	**+1.6**

IDC 06 21:45:17.1±2.0, 16.72S×175.41W, h254km±17km, mb3.3/5, mb1 3.6/6, mb1mx3.3/17, mbtmp3.3/6, Error ellipse: s-maj=88.8km s-min=14.0km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 9.2nm,0.3s,baz=234,slow=13,SNR=6.2	**4.48**	**52**	P		Pn	21 46 28.8	+1.9
AFI	41nm,0.3s,baz=25,slow=23,SNR=13			S		S	21 47 21.9	-0.6
STKA	**Stephens Creek** 2.3nm,0.6s,baz=96,slow=8.9,SNR=6.0	**41.71**	**241**	P		P	21 52 41.3	-0.3
WRA	**Warramunga Arr** 2.4nm,0.5s,baz=96,slow=7.0,SNR=73	**47.67**	**258**	P		P	21 53 28.4	-0.3
ASAR	**Alice Springs** 25nm,0.6s,baz=88,slow=8.6,SNR=257	**47.87**	**253**	P		P	21 53 30.2	0.0
NVAR	**Mina Array Bea** 0.5nm,0.7s,baz=235,slow=9.5,SNR=2.0	**76.60**	**43**	P		P	21 56 40.3	+0.1
TXAR	**Lajitas Array** 0.3nm,0.5s,baz=226,slow=6.8,SNR=4.4	**82.95**	**57**	P		P	21 57 14.0	-0.2
ILAR	**Eielson Array** 0.5nm,0.9s,baz=210,slow=5.2,SNR=3.9	**84.11**	**12**	P		P	21 57 19.4	+0.2

MAN 06 21:52:51, 11.32N×122.53E, h68km, mb4.1, ML2.9, MS2.7, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.69**	**175**	eP		Pn	21 53 07.7	+2.0
GUIM				eS		Sn	21 53 20.6	+4.1
ENPP	**El Nido**	**3.05**	**268**	eP		Pn	21 53 39.0	+2.1
IPIL	**Ipil**	**3.51**	**179**	eP		Pn	21 53 45.3	+2.2

IDC 06 21:59:25.6±18.0, 18.72S×177.90W, h601km±181km, mb2.7/3, mb1 2.9/3, mb1mx2.7/17, mbtmp2.7/3, Error ellipse: s-maj=138.0km s-min=92.8km az=107.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.3nm,0.6s,baz=114,slow=12,SNR=2.6	**38.67**	**242**	P		P	22 05 59.1	-0.2
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=97,slow=7.8,SNR=8.2	**44.96**	**260**	P		P	22 06 48.7	-0.2
ASAR	**Alice Springs** 1.0nm,0.7s,baz=94,slow=8.3,SNR=9.6	**45.04**	**255**	P		P	22 06 49.5	+0.1
ASAR				PcP		PcP	22 08 17.1	-0.2
BRTR	**Keskin Array B** 0.6nm,1.0s,baz=48,slow=2.1,SNR=5.0	**145.69**	**314**	PKPbc		PKPdf	22 17 56.9	0.0
GERES	**GERESS Array B** 0.3nm,0.4s,baz=319,slow=3.9,SNR=3.6	**148.52**	**345**	PKPbc		PKPbc	22 18 05.8	+0.1

*NIED **06** 22:15:00, 26.70N×129.50E, h8km, Mw3.9 Best double couple: M0 8.52000×10^14 NP1:φs 181.00000°, δ63.00000°, λ-129.00000°. NP2:φs 62.00000°, δ46.00000°, λ-38.00000°.*
*ISCJB **06** 22:15:14.8±1.6, 26.65N±0.03×129.51E±0.03, h31km±13km, mb3.6/12, MS2.7/1, Error ellipse: s-maj=6.2km s-min=4.5km az=151.2*
*JMA **06** 22:15:14.8±0.1, 26.65N×129.54E, h41km, M3.9*
*IDC **06** 22:15:17.8±0.7, 26.70N×129.36E, h36km±5km, mb3.5/13, mb1 3.7/15, mb1mx3.6/27, mbtmp3.6/15, ML4.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/28, Error ellipse: s-maj=16.8km s-min=13.4km az=66.0*

ISC 06 22:15:14.0±3.3, 26.67N±0.04×129.52E±0.04, h14km±20km, n29, σ1§00/41, mb3.8/12, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**1.12**	**278**	P		**Pb**	**22 15 35.0**	**-0.3**
JOW				eS		**Sb**	**22 15 49.3**	**-0.5**
JOW	**Kunigami** 277nm,0.3s,baz=114,slow=25,SNR=978	**1.12**	**278**	Pn		**Pb**	**22 15 34.9**	**-0.3**
JOW	baz=131,slow=19			Sn		**Sb**	**22 15 49.2**	**-0.5**
JTK	**Tokunoshima**	**1.22**	**336**	P		**Pn**	**22 15 36.5**	**-0.1**
JTK				eS		**Sb**	**22 15 51.7**	**-0.7**
JIH	**Iheya**	**1.43**	**285**	P		**Pn**	**22 15 39.4**	**-0.2**
JIH				eS		**Sn**	**22 15 57.0**	**-1.2**
JJT2	**Tamagusuku 2**	**1.67**	**252**	P		**Pn**	**22 15 43.0**	**+0.1**
JJT2				eS		**Sn**	**22 16 03.6**	**-0.6**
JZK	**Kikaishima**	**1.68**	**14**	P		**Pn**	**22 15 43.4**	**+0.4**
JZK				eS		**Sn**	**22 16 04.4**	**0.0**
NAH1	**Naha**	**1.71**	**254**	P		**Pn**	**22 15 43.5**	**+0.2**
NAH1				eS		**Sn**	**22 16 04.0**	**-0.9**
JAM	**Amami Oshima**	**1.73**	**3**	P		**Pn**	**22 15 43.2**	**-0.5**
JAM				eS		**Sn**	**22 16 04.9**	**-0.7**
JMZ	**Minamidaito 2**	**1.75**	**119**	P		**Pn**	**22 15 42.9**	**-1.0**
JMZ				eS		**Sn**	**22 16 04.4**	**-1.7**
JAGN	**Aguni-jima**	**2.04**	**268**	P		**Pn**	**22 15 48.0**	**+0.1**
JAGN				eS		**Sn**	**22 16 12.1**	**-1.1**
JKE	**Kume jima 2**	**2.47**	**263**	P		**Pn**	**22 15 53.3**	**-0.6**
JNN	**Nakanoshima**	**3.17**	**6**	P		**Pn**	**22 16 03.1**	**-0.4**
JOGS	**Gusukube**	**4.17**	**244**	P		**Pn**	**22 16 17.3**	**+0.1**
JOGS				eS		**Sn**	**22 17 04.3**	**-1.5**
JNU	**Nakatsue** 9.0nm,0.3s,baz=341,slow=22,SNR=128	**6.53**	**10**	Pn		**Pn**	**22 16 51.0**	**+1.2**
JNU	baz=104,slow=4.2,SNR=1.6			Sn		**Sn**	**22 18 00.2**	**-3.9**
KSRS	**Korea Array** 0.2nm,0.3s,baz=173,slow=15,SNR=3.6	**10.83**	**353**	Pn		Pn	22 17 53.0	+4.3
USRK	**Ussuriysk Arra** 0.1nm,0.3s,baz=194,slow=12,SNR=4.2	**17.60**	**6**	P		**P**	**22 19 20.6**	**+0.8**
ASAJ	**Asahikawa** 4.1nm,0.6s,baz=196,slow=8.8,SNR=5.8	**20.36**	**28**	P		Pn	22 19 53.6	+1.4
ASAJ	comp=Z,34nm,20.8s,baz=329,slow=38			LR		LR	22 28 18.4	
SONM	**Songino Array** 0.5nm,0.8s,baz=124,slow=5.9,SNR=3.8	**27.82**	**325**	P		**P**	**22 21 03.5**	**+0.5**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=91,slow=11,SNR=5.1	**42.10**	**311**	P		**P**	**22 23 04.8**	**-0.9**
MKAR				PcP		**PcP**	**22 25 00.7**	**+0.5**
KURBB	**Kurchatov Arra** 0.4nm,0.4s,baz=102,slow=9.3,SNR=3.4	**45.33**	**316**	P		**P**	**22 23 30.7**	**-0.8**
KURBB				pP		pP	22 23 41.3	+5.5
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=104,slow=8.9,SNR=4.2 0.8nm,0.4s,baz=354,slow=8.5,SNR=11	**46.58**	**174**	P		**P**	**22 23 41.8**	**+0.2**
WRA	1.1nm,0.6s,baz=353,slow=8.4,SNR=4.2			pP		pP	22 23 52.4	+6.5
ASAR	**Alice Springs** 0.7nm,0.5s,baz=5.4,slow=14,SNR=11	**50.23**	**175**	P		**P**	**22 24 10.9**	**+1.2**
ASAR	0.7nm,0.6s,baz=3.1,slow=15,SNR=4.2			pP		pP	22 24 22.7	+8.6
ILAR	**Eielson Array** 0.4nm,1.0s,baz=276,slow=7.0,SNR=4.4	**63.50**	**28**	P		**P**	**22 25 43.1**	**-0.4**
INK	**Inuvik** 1.0nm,0.8s,baz=270,slow=7.1,SNR=4.1	**68.03**	**23**	P		**P**	**22 26 12.9**	**+0.3**
FINES	**FINESS Array B** 1.8nm,0.7s,baz=60,slow=9.1,SNR=7.9	**73.04**	**331**	P		**P**	**22 26 43.4**	**+0.1**
FINES	2.8nm,0.9s,baz=64,slow=8.7,SNR=2.3			pP		PcP	22 26 54.1	-5.9
RES	**Resolute Bay** 0.7nm,0.6s,baz=297,slow=9.9,SNR=4.3	**74.89**	**11**	P		**P**	**22 26 54.8**	**+0.9**
YKA	**Yellowknife Ar** 0.4nm,0.8s,baz=301,slow=5.6,SNR=8.1	**77.63**	**25**	P		**P**	**22 27 10.6**	**+1.0**
BRTR	**Keskin Array B** 0.8nm,0.8s,baz=100,slow=6.0,SNR=5.2	**77.67**	**308**	P		**P**	**22 27 10.6**	**0.0**
BRTR	0.5nm,0.6s,baz=54,slow=5.9,SNR=2.9			pP		**PcP**	**22 27 21.8**	**+1.1**
NOA	**NORSAR Array B** 0.6nm,0.7s,baz=56,slow=4.6,SNR=3.1	**79.42**	**334**	P		**P**	**22 27 19.4**	**-0.2**

ISC 06 22:29:43.5±3.6, 39.0°N±0.2×73.8°E±0.1, h47km, n12, σ1§37/17, 3C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.74**	**72**	Pg		**Pn**	**22 30 11.7**	**+0.3**
KSH				Sg		**Sn**	**22 30 31.0**	**-1.4**
KSH	comp=N,110nm,0.8s			smax		smax		
KSH	comp=E,82nm,0.7s			smax		smax		
AML	**Almayashu** SNR=34	**3.13**	**358**	P		**Pn**	**22 30 30.2**	**-0.5**
AML	SNR=34			P		**Pn**	**22 30 30.2**	**-0.5**
KZA	**Kyzart** SNR=28	**3.26**	**19**	P		**Pn**	**22 30 33.0**	**+0.5**
KZA	SNR=28			P		**Pn**	**22 30 33.0**	**+0.5**
UCH	**Uchtor** SNR=6.7	**3.27**	**9**	P		**Pn**	**22 30 33.9**	**+1.3**
UCH	SNR=6.7			P		**Pn**	**22 30 33.9**	**+1.3**
EKS2	**Erkin-Say** SNR=12	**3.66**	**359**	P		**Pn**	**22 30 39.7**	**+1.9**
EKS2	SNR=12			P		**Pn**	**22 30 39.7**	**+1.9**
AAK	**Ala-Archa** SNR=8.3	**3.67**	**8**	P		**Pn**	**22 30 38.0**	**+0.2**
AAK	SNR=8.3			P		**Pn**	**22 30 38.0**	**+0.2**
ULHL	**Ulahol** SNR=14	**3.73**	**29**	P		Pn	22 30 42.5	+3.8
ULHL	SNR=14			P		Pn	22 30 42.5	+3.8
KBK	**Karagaybulak** SNR=8.7	**3.75**	**13**	P		**Pn**	**22 30 40.1**	**+1.1**
KBK	SNR=8.7			P		**Pn**	**22 30 40.1**	**+1.1**
CHMS	**Chumysh** SNR=10	**4.06**	**10**	P		Pn	22 30 47.2	+4.1
CHMS	SNR=10			P		Pn	22 30 47.2	+4.1
TKM2	**Tokmak 2** comp=E,4.8nm,0.5s	**4.14**	**18**	⇑Pg		**Pn**	**22 30 46.6**	**+2.2**
TKM2	comp=E,10.0nm,0.5s			⇓Lg		Lg	22 31 31.7	
USP	**Ospenovka** SNR=13	**4.30**	**6**	P		Pn	22 30 51.5	+5.2
USP	SNR=13			P		Pn	22 30 51.5	+5.2
KK31	**Karatay Array** comp=E,0.3nm,0.3s,baz=127,slow=13,SNR=23	**4.81**	**330**	Pn		**Pn**	**22 30 54.3**	**+0.9**
KK31	comp=E,0.5nm,0.2s,baz=140,slow=15,SNR=11			⇑Pg			22 31 03.5	
KK31	comp=E,1.8nm,0.3s,baz=133,slow=24,SNR=4.3			⇑Sn		**Sn**	**22 31 45.8**	**-2.0**
KK31	comp=E,4.6nm,0.5s,baz=129,slow=31,SNR=4.0			⇓Lg		Lg	22 32 00.9	

IDC 06 22:40:27.2±47.0, 22.63S×171.49W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/17, mbtmp4.0/3, Error ellipse: s-maj=915.7km s-min=199.3km az=88.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.9nm,0.7s,baz=85,slow=11,SNR=3.3	**42.44**	**247**	P		P	22 48 22.0	-1.9
ASAR	**Alice Springs** 1.0nm,0.4s,baz=93,slow=7.3,SNR=18	**49.96**	**258**	P		P	22 49 23.6	+0.3
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=99,slow=6.7,SNR=5.0	**50.32**	**262**	P		P	22 49 26.9	+0.9

*ISCJB **06** 22:41:19.9±1.2, 71.27N±0.04×11.24W±0.09, h12km±8km, mb3.7/8, Error ellipse: s-maj=7.5km s-min=4.3km az=158.4*
*CSEM **06** 22:41:20.4±0.2, 71.36N×11.17W, h10km, ML4.3, Error ellipse: s-maj=6.4km s-min=3.4km az=149.0*
*IDC **06** 22:41:20.3±0.8, 71.34N×11.09W, h0km, mb3.7/6, mb1 4.0/9, mb1mx3.7/27, mbtmp3.9/9, ML3.3/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/32, Error ellipse: s-maj=27.4km s-min=13.8km az=13.0*
*BER **06** 22:41:22.5±1.6, 71.51N×10.77W, h3km±9km, MD3.7, ML3.6, ML4.3(NAO)*
*NAO **06** 22:41:22.0±6.4, 71.49N×10.63W, ML4.3*
*REY **06** 22:41:22.1, 70.79N×9.62W, h10km, ML3.5, ML3.6*

ISC 06 22:41:20.9±4.2, 71.31N±0.07×10.91W±0.04, h7km±29km, n48, σ1§31/59, mb3.7/8, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**0.81**	**117**	eP		**Pn**	**22 41 38.1**	**-0.5**
JMI				eS		**Sn**	**22 41 49.9**	**-0.9**
JMI	comp=Z,2μm,0.3s			AML		AML	22 41 50.6	
JMI	**Jan Mayen** SNR=92	**0.81**	**117**	eP		**Pn**	**22 41 38.1**	**-0.5**
JMI	comp=Z,2μm,0.3s,SNR=92			eS		**Sn**	**22 41 49.9**	**-0.9**
JMIC	**Jan Mayen**	**0.84**	**111**	Pg		**Pn**	**22 41 38.4**	**-0.8**
JMIC				Lg		Lg	22 41 50.5	
JMIC	**Jan Mayen**	**0.84**	**111**	Pg		**Pn**	**22 41 38.4**	**-0.8**
JMIC				Lg		Lg	22 41 50.5	
JMIC	**Jan Mayen** comp=Z,77nm,0.3s,baz=215,slow=1.0,SNR=50	**0.84**	**111**	Pn		**Pn**	**22 41 38.4**	**-0.8**
JMIC	comp=Z,790nm,0.3s,baz=189,slow=19,SNR=159			Sn		**Sn**	**22 41 50.3**	**-1.5**
JMIC	**Jan Mayen**	**0.84**	**111**	Pg		**Pn**	**22 41 38.4**	**-0.8**
JMIC				Lg		Lg	22 41 50.5	
JNW	**Jan Mayen West**	**0.85**	**108**	eP		**Pn**	**22 41 38.2**	**-1.1**
JNW				eS		**Sn**	**22 41 50.7**	**-1.2**
JNW	comp=Z,2μm,0.3s			AML		AML	22 41 51.6	
JNW	**Jan Mayen West** SNR=92	**0.85**	**108**	eP		**Pn**	**22 41 38.2**	**-1.1**
JNW	comp=Z,2μm,0.3s,SNR=92			eS		**Sn**	**22 41 50.7**	**-1.2**
JNE	**Jan Mayen East**	**0.91**	**109**	eP		**Pn**	**22 41 39.0**	**-1.0**
JNE				eS		**Sb**	**22 41 50.7**	**-0.4**
JNE	comp=Z,2μm,0.2s			AML		AML	22 41 54.0	
JNE	**Jan Mayen East** SNR=53	**0.91**	**109**	eP		**Pn**	**22 41 39.0**	**-1.0**
JNE	comp=Z,2μm,0.2s,SNR=53			eS		**Sb**	**22 41 50.7**	**-0.4**
ILEI	**Leirhofn**	**5.32**	**205**	P		**Pn**	**22 42 39.0**	**-1.6**
ILEI				S		**Sn**	**22 43 40.6**	**-1.4**
IGRI	**Grimsey**	**5.43**	**212**	P		**Pn**	**22 42 42.4**	**+0.4**
IGRI				S		**Sn**	**22 43 44.7**	**+0.1**
IGIL	**Gilhagi**	**5.62**	**203**	P		**Pn**	**22 42 43.6**	**-1.0**
IHED	**Heoinshofoi**	**5.74**	**207**	P		**Pn**	**22 42 45.1**	**-1.3**
IHED				S		**Sn**	**22 43 51.5**	**-0.9**
IBRE	**Brettingsstaoi**	**5.79**	**209**	P		**Pn**	**22 42 47.1**	**0.0**
IDIM	**Dimmadalsˆjs**	**5.80**	**205**	P		**Pn**	**22 42 46.1**	**-1.1**
IDIM				S		**Sn**	**22 43 52.9**	**-1.0**
IGRA	**Granastaoir**	**5.94**	**207**	P		**Pn**	**22 42 48.4**	**-0.6**
IGRA				S		**Sn**	**22 43 57.5**	**+0.4**
IGRS	**Grimsstaoir**	**6.01**	**201**	P		**Pn**	**22 42 49.1**	**-1.0**
IGRS				S		**Sn**	**22 43 56.1**	**-2.9**
IHLA	**Hella**	**6.04**	**210**	P		**Pn**	**22 42 50.6**	**+0.2**
IHLA				S		**Sn**	**22 43 59.7**	**+0.1**
BORG	**Borgarnes** comp=Z,3.6nm,0.3s,baz=39,slow=6.1,SNR=14	**7.65**	**216**	Pn		Pn	22 43 15.4	+3.0
BORG	comp=Z,0.3nm,0.3s,baz=348,slow=20,SNR=2.9			Sn		Sn	22 44 45.8	+6.6
KBS	**Kingsbay**	**9.54**	**27**	Pn		**Pn**	**22 43 36.0**	**-2.3**
KBS	**Kingsbay**	**9.54**	**27**	Pn		**Pn**	**22 43 36.0**	**-2.3**
KBS	**Kingsbay**	**9.54**	**27**	Pn		**Pn**	**22 43 36.0**	**-2.3**
SPA0	**Spitsbergen Ar** baz=234,slow=14	**9.82**	**34**	Pn		**Pn**	**22 43 42.4**	**+0.1**
SPA0	**Spitsbergen Ar** baz=234,slow=14	**9.82**	**34**	Pn		**Pn**	**22 43 42.4**	**+0.1**
SPA0	**Spitsbergen Ar** baz=234,slow=13,SNR=5.8	**9.82**	**34**	Pn		**Pn**	**22 43 42.4**	**+0.1**
SPITS	**Spitsbergen Ar** baz=226,slow=13,SNR=81	**9.82**	**34**	Pn		**Pn**	**22 43 40.9**	**-1.4**
SPITS	comp=Z,149nm,19.6s,baz=235,slow=32			LR		LR	22 46 35.7	
ARA0	**ARCESS Array S** baz=287,slow=12	**12.21**	**81**	Pn		**Pn**	**22 44 16.1**	**+1.2**
ARA0	**ARCESS Array S** baz=287,slow=12	**12.21**	**81**	Pn		**Pn**	**22 44 16.1**	**+1.2**
ARA0	**ARCESS Array S** baz=287,slow=12,SNR=5.1	**12.21**	**81**	Pn		**Pn**	**22 44 16.1**	**+1.2**
ARCES	**ARCESS Array B** comp=Z,0.4nm,0.3s,baz=294,slow=12,SNR=6.0	**12.21**	**81**	Pn		**Pn**	**22 44 15.9**	**+1.0**
ARCES	comp=Z,26nm,18.5s,baz=359,slow=36			LR		LR	22 48 35.4	
HFS	**Hagfors** comp=Z,0.2nm,0.3s,baz=345,slow=10,SNR=7.8	**14.93**	**126**	Pn		**P**	**22 44 59.5**	**+1.7**
KAF	**Kangasniemi** comp=Z,2.1nm,0.6s	**17.03**	**104**	ep		**P**	**22 45 22.6**	**+1.7**
KAF	**Kangasniemi** comp=Z,2.1nm,0.6s	**17.03**	**104**	eP		**P**	**22 45 22.6**	**+1.7**
FIA0	**FINESS Array S** baz=316,slow=11	**17.46**	**106**	P		**P**	**22 45 27.0**	**+1.2**
FIA0	**FINESS Array S** baz=316,slow=11	**17.46**	**106**	Pn		**P**	**22 45 27.0**	**+1.2**
FIA0	**FINESS Array S** baz=316,slow=11,SNR=9.8	**17.46**	**106**	P		**P**	**22 45 27.0**	**+1.2**
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=317,slow=11,SNR=7.4	**17.46**	**106**	P		**P**	**22 45 27.2**	**+1.5**
JOF	**Joensuu** comp=Z,2.7nm,0.7s	**18.03**	**96**	ep		**Pn**	**22 45 28.3**	**-3.2**
FRB	**Frobisher Bay** comp=Z,0.6nm,0.3s,baz=24,slow=10.0,SNR=3.6	**22.39**	**280**	P		**P**	**22 46 19.3**	**0.0**
RES	**Resolute Bay** comp=Z,0.9nm,0.6s,baz=58,slow=12,SNR=3.7	**22.85**	**317**	P		P	22 46 27.6	+3.5
GERES	**GERESS Array B** comp=Z,0.5nm,0.7s,baz=350,slow=7.3,SNR=4.7	**25.27**	**140**	P		P	22 46 51.8	+4.4
YKA	**Yellowknife Ar** comp=Z,0.8nm,0.7s,baz=29,slow=8.6,SNR=12	**36.59**	**311**	P		**P**	**22 48 27.1**	**+0.3**
KURBB	**Kurchatov Arra** baz=322,slow=7.1	**42.97**	**69**	P		**P**	**22 49 21.6**	**+1.6**
MKAR	**Makanchi Array** comp=Z,0.9nm,0.7s,baz=332,slow=6.1,SNR=16	**47.51**	**68**	P		**P**	**22 49 58.0**	**+1.8**
PDAR	**Pinedale Array** comp=Z,1.1nm,1.1s,baz=22,slow=4.8,SNR=4.5	**52.79**	**294**	P		**P**	**22 50 34.7**	**-1.8**
TORD	**Torodi Ar. Bea** comp=Z,2.4nm,1.1s,baz=345,slow=8.0,SNR=8.6	**58.64**	**166**	P		**P**	**22 51 20.1**	**+1.7**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.5s,baz=44,slow=6.9,SNR=5.1	**63.40**	**283**	P		**P**	**22 51 50.6**	**-0.1**

IDC 06 22:55:01.1±12.0, 19.79S×178.10W, h536km±133km, mb3.5/5, mb1 3.7/5, mb1mx3.2/18, mbtmp3.5/5, Error ellipse: s-maj=59.5km s-min=35.0km az=73.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower** 6.0nm,0.4s,baz=80,slow=9.5,SNR=9.7	**33.47**	**263**	P		P	23 00 56.6	+0.4
ASAR	**Alice Springs** 3.2nm,0.5s,baz=89,slow=8.6,SNR=9.8	**44.59**	**256**	P		P	23 02 25.9	-0.1
WRA	**Warramunga Arr** 1.7nm,0.3s,baz=95,slow=7.6,SNR=12	**44.61**	**261**	P		P	23 02 25.3	-0.8
QSPA	**South Pole Qui** 1.2nm,0.3s,baz=42,slow=1.7,SNR=4.2	**70.28**	**180**	P		P	23 05 20.2	-0.1
ILAR	**Eielson Array** 0.8nm,0.9s,baz=216,slow=5.5,SNR=8.1	**87.65**	**13**	P		P	23 06 51.9	-0.1
BRTR	**Keskin Array B** 0.6nm,0.6s,baz=125,slow=5.0,SNR=4.6	**146.29**	**313**	PKPbc		PKPbc	23 13 41.6	-0.5

*IDC **06** 22:55:44.9±0.9, 0.86S×133.37E, h0km, mb4.1/5, mb1 4.4/7, mb1mx4.1/18, mbtmp4.2/7, ML4.3/2, MS3.3/7, Ms1 3.3/7, ms1mx3.1/31, Error ellipse: s-maj=51.7km s-min=13.5km az=85.0*
*ISCJB **06** 22:55:47.4±0.8, 0.75S±0.08×133.46E±0.08, h29km, mb4.1/5, MS3.4/4, Error ellipse: s-maj=12.1km s-min=11.9km az=12.5*
*DJA **06** 22:55:48, 0.70S×133.11E, h10km, MLv4.8/6*

ISC 06 22:55:49.7±0.8, 0.77S±0.09×133.35E±0.09, h29km, n22, σ1§55/18, mb4.3/5, MS3.4/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SWI	**Sorong**	**2.09**	**267**	P		**Pn**	**22 56 22.0**	**-0.7**
FAKI	**Fak Fak**	**2.40**	**207**	P		**Pn**	**22 56 27.5**	**+0.4**
BAKI	**Biak**	**2.79**	**99**	P		**Pb**	**22 56 39.9**	**+1.0**
TLE	**Tual**	**4.88**	**187**	P		Pn	22 57 05.3	+4.2
BNDI	**Bandanaira**	**5.07**	**223**	P		**Pn**	**22 57 06.8**	**+3.0**
MSAI	**Masohi**	**5.11**	**240**	P		**Pn**	**22 57 06.5**	**+2.2**
LBMI	**Labuha** 233nm,1.0s,2μm0.7nm	**5.85**	**271**	P		**Pn**	**22 57 16.0**	**+1.5**
AAI	**Ambon** 568nm,0.7s,5μm1.7nm	**5.91**	**241**	P		**Pn**	**22 57 15.8**	**+0.5**
NLAI	**Namlea** 227nm,0.6s,3μm0.7nm	**6.71**	**248**	P		**Pn**	**22 57 26.3**	**0.0**
KAPI	**Kappang** 1.6nm,0.3s,baz=139,slow=5.0,SNR=8.9	**14.21**	**252**	Pn		**Pn**	**22 59 11.7**	**+2.5**
KAPI				LR		LR	23 03 47.7	
GUMO	**Guam** comp=Z,111nm,21.9s,baz=86,slow=35	**18.27**	**38**	LR		LR	23 06 22.7	
FITZ	**Fitzroy Crossi** 1.1nm,0.3s,baz=45,slow=8.1,SNR=11	**18.82**	**203**	P		**P**	**23 00 04.3**	**-2.9**
FITZ	0.9nm,0.3s,baz=55,slow=20,SNR=6.3			S		Sn	23 03 20.4	-17
FITZ	comp=Z,66nm,21.7s,baz=30,slow=38			LR		LR	23 07 38.3	
WRA	**Warramunga Arr** 0.9nm,0.3s,baz=359,slow=12,SNR=39	**19.08**	**177**	P		**P**	**23 00 09.7**	**-0.5**
WRA	0.6nm,0.3s,baz=346,slow=23,SNR=6.0			S		Sn	23 03 32.2	-12
ASAR	**Alice Springs** 7.8nm,0.6s,baz=0.2,slow=8.8,SNR=48	**22.77**	**179**	P		**P**	**23 00 49.8**	**-0.2**
ASAR	2.4nm,1.0s,baz=359,slow=23,SNR=6.0			S		**S**	**23 04 57.7**	**+0.5**
CTA	**Charters Tower** comp=Z,104nm,18.0s,baz=47,slow=38	**22.98**	**147**	LR		LR	23 10 13.2	
JOW	**Kunigami** comp=Z,92nm,18.7s,baz=147,slow=32	**27.87**	**350**	LR		LR	23 10 43.9

Mining induced.
*BUG **06** 23:15:29.2, 51°.49N×6°.62E, h1km, ML2.3*
*BNS **06** 23:15:29.2±0.8, 51°.53N×6°.57E, h1km, ML2.4*
*BGR **06** 23:15:30.0±0.6, 51°.49N×6°.57E, h1km, ML2.5/7, Error ellipse: s-maj=7.8km s-min=3.3km az=125.0*
*STR **06** 23:15:34.8±0.9, 51°.27N×6°.80E, h5km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 06 23:15:27.9±0.6, 51°.49N±0°.02×6°.47E±0°.02, h0km, n119, σ1§30/173, 1D, Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LAUG	**Laupendahl**	**0.33**	**114**	*e*Pg		**Pg**		**23 15 34.8**	**+0.7**
LAUG	**Laupendahl**	**0.33**	**114**	Pg		**Pg**		**23 15 34.8**	**+0.7**
RODG	**Roetgen-Dahlhe**	**0.39**	**208**	*e*Pg		**Pg**		**23 15 38.0**	**+0.4**
RODG				*i* Sg		**Sb**		**23 15 44.8**	**+0.7**
RODG	**Roetgen-Dahlhe**	**0.39**	**208**	Pg		**Pb**		**23 15 38.0**	**+0.4**
BUG	**Bochum--Univer**	**0.50**	**95**	*e*Pg		**Pg**		**23 15 37.9**	**+0.4**
BUG				Sg		**Sg**		**23 15 44.3**	**+0.3**
WTSB	**Winterswijk**	**0.52**	**23**	*e*Pg		**Pg**		**23 15 39.2**	**+1.2**
WTSB				*e*Sg		**Sg**		**23 15 45.9**	**+1.2**
WTSB	**Winterswijk**	**0.52**	**23**	*e*Pg		**Pg**		**23 15 39.2**	**+1.2**
WTSB				*e*Sg		**Sg**		**23 15 45.9**	**+1.2**
BNS	**Bensberg**	**0.69**	**139**	*e*Pg		**Pg**		**23 15 42.4**	**+1.4**
BNS	**Bensberg**	**0.69**	**139**	Pg		**Pg**		**23 15 42.4**	**+1.4**
HOBG	**Hohbusch**	**0.74**	**132**	*e*Pg		**Pg**		**23 15 43.1**	**+1.0**
HOBG	**Hohbusch**	**0.74**	**132**	Pg		**Pg**		**23 15 43.1**	**+1.0**
HGN	**Heimansgroeve** 4.2nm,0.2s	**0.80**	**205**	*e*Pn		**Pb**		**23 15 45.3**	**+0.7**
HGN				*e*Pg		**Pn**		**23 15 46.9**	**+0.5**
	74nm,0.2s								
HGN				*e*Sn		**Sb**		**23 15 56.7**	**+0.8**
HGN				*e*Sg		**Sn**		**23 15 59.5**	**+0.6**
HGN	**Heimansgroeve** 4.2nm,0.2s	**0.80**	**205**	*e*Pn		**Pb**		**23 15 45.3**	**+0.7**
DREG	**Dreilaegerbach** SNR=43	**0.84**	**190**	*e*Pg		**Pb**		**23 15 45.8**	**+0.5**
DREG				*e*Sg		**Sb**		**23 15 58.2**	**+1.1**
DREG	**Dreilaegerbach** SNR=43	**0.84**	**190**	Pg		**Pb**		**23 15 45.8**	**+0.5**
DREG				Sg		**Sb**		**23 15 58.2**	**+1.1**
KLL	**Kalltalsperre**	**0.84**	**187**	*e*Pg		**Pb**		**23 15 46.2**	**+0.8**
KLL	**Kalltalsperre**	**0.84**	**187**	Pg		**Pb**		**23 15 46.2**	**+0.8**
BEBN	**Eben Emael**	**0.85**	**216**	P		**Pb**		**23 15 47.0**	**+1.5**
BEBN	**Eben Emael**	**0.85**	**216**	P		**Pb**		**23 15 47.0**	**+1.5**
STB	**Steinbach**	**0.92**	**165**	*e*Pg		**Pb**		**23 15 47.5**	**+0.7**
STB				*e*Sg		**Sb**		**23 16 00.5**	**+1.0**
	106nm,0.2s								
STB	**Steinbach**	**0.92**	**165**	Pg		**Pb**		**23 15 47.5**	**+0.7**
STB				Sg		**Sb**		**23 16 00.5**	**+1.0**
	106nm,0.2s								
MEM	**Membach**	**0.92**	**199**	P		**Pb**		**23 15 47.4**	**+0.6**
MEM	**Membach**	**0.92**	**199**	P		**Pb**		**23 15 47.4**	**+0.6**
IBBN	**Ibbenburen** SNR=6.0	**1.15**	**44**	*e*Pg		**Pg**		**23 15 50.6**	**+0.7**
IBBN				*e*Sg		**Sg**		**23 16 05.4**	**+0.7**
IBBN	**Ibbenburen** SNR=6.0	**1.15**	**44**	Pg		**Pg**		**23 15 50.6**	**+0.7**
IBBN				Sg		**Sg**		**23 16 05.4**	**+0.7**
HILG	**Hillesheim**	**1.20**	**174**	*e*Pg		**Pb**		**23 15 52.5**	**+0.9**
HILG	**Hillesheim**	**1.20**	**174**	Pg		**Pb**		**23 15 52.5**	**+0.9**
BCLA	**Clavier**	**1.30**	**215**	P		**Pb**		**23 15 54.0**	**+0.8**
BCLA	**Clavier**	**1.30**	**215**	P		**Pb**		**23 15 53.9**	**+0.8**
KOE	**Koeppel**	**1.33**	**143**	*e*Pg		**Pg**		**23 15 53.7**	**+0.4**
KOE	**Koeppel**	**1.33**	**143**	Pg		**Pg**		**23 15 53.7**	**+0.4**
SNF	**Seneffe**	**1.69**	**236**	P		**Pg**		**23 16 01.2**	**+0.8**
SNF	**Seneffe**	**1.69**	**236**	P		**Pg**		**23 16 01.1**	**+0.8**
GIVF	**Givet**	**1.73**	**218**	*e*Pn		**Pn**		**23 16 00.0**	**+0.7**
GIVF	**Givet**	**1.73**	**218**	*e*P		**Pg**		**23 16 01.8**	**+0.7**
	SNR=1.0								
GIVF				*e*Sn		**Sn**		**23 16 21.9**	**-0.2**
GIVF				*e*Sg		**Sg**		**23 16 26.2**	**+2.6**
	48nm,0.3s,SNR=1.0								
GIVF	**Givet**	**1.73**	**218**	*e*Pn		**Pn**		**23 16 00.0**	**+0.7**
GIVF	**Givet**	**1.73**	**218**	*e*P		**Pg**		**23 16 01.8**	**+0.7**
	SNR=1.0								
GIVF				*e*Sn		**Sn**		**23 16 21.9**	**-0.2**
GIVF				*e*Sg		**Sg**		**23 16 26.2**	**+2.6**
	24nm,0.3s,SNR=1.0								
ABH	**Alteburg**	**1.75**	**156**	Pn		**Pn**		**23 16 00.4**	**+0.9**
ABH				Sg		**Sn**		**23 16 23.4**	**+1.0**
TNS	**Taunus Mts** SNR=6.1	**1.78**	**134**	*e*Pn		**Pn**		**23 16 01.1**	**+1.1**
TNS				*e*Pg		**Pb**		**23 16 02.3**	**+0.9**
	SNR=2.9								
TNS	**Taunus Mts** SNR=6.1	**1.78**	**134**	Pn		**Pn**		**23 16 01.1**	**+1.1**
RUP	**Ruppelstein**	**1.82**	**168**	Pn		**Pb**		**23 16 02.8**	**+0.6**
RUP				Sg		**Sn**		**23 16 25.9**	**+1.5**
DOU	**Dourbes**	**1.83**	**221**	P		**Pn**		**23 16 02.0**	**+1.4**
DOU	**Dourbes**	**1.83**	**221**	P		**Pn**		**23 16 01.9**	**+1.4**
WLF	**Walferdange**	**1.83**	**186**	P		**Pb**		**23 16 03.5**	**+1.2**
WLF	**Walferdange** SNR=7.3	**1.83**	**186**	*e*Pg		**Pg**		**23 16 03.9**	**+0.9**
WLF	**Walferdange**	**1.83**	**186**	P		**Pb**		**23 16 03.4**	**+1.2**
WLF	**Walferdange** SNR=7.3	**1.83**	**186**	Pg		**Pg**		**23 16 03.9**	**+0.9**
BAIF	**Baives**	**2.02**	**226**	*e*Pn		**Pn**		**23 16 03.6**	**+0.4**
BAIF	**Baives** SNR=1.0	**2.02**	**226**	*e*Pg		**Pg**		**23 16 08.2**	**+1.5**
BAIF				*e*Sn		**Sn**		**23 16 28.9**	**-0.3**
	SNR=1.0								
BAIF				*e*Sg		**Sg**		**23 16 35.0**	**+2.1**
	20nm,0.4s,SNR=1.0								
BAIF	**Baives**	**2.02**	**226**	*e*Pn		**Pn**		**23 16 03.6**	**+0.4**
BAIF	**Baives** SNR=1.0	**2.02**	**226**	*e*Pg		**Pg**		**23 16 08.2**	**+1.5**
BAIF				*e*Sn		**Sn**		**23 16 28.9**	**-0.3**
	SNR=1.0								
BAIF				*e*Sg		**Sg**		**23 16 35.0**	**+2.1**
	9.9nm,0.4s,SNR=1.0								
UBBA	**Unterbreizbach** SNR=3.8	**2.32**	**105**	*e*Pg		**Pb**		**23 16 12.1**	**+1.5**
UBBA	**Unterbreizbach** SNR=3.8	**2.32**	**105**	Pg		**Pb**		**23 16 12.1**	**+1.5**
TOD	**Tromm**	**2.40**	**141**	Pn		**Pn**		**23 16 08.8**	**+0.3**
CLZ	**Clausthal** SNR=1.4	**2.46**	**80**	*e*Pn		**Pn**		**23 16 08.7**	**-0.6**
CLZ	**Clausthal** SNR=1.4	**2.46**	**80**	Pn		**Pn**		**23 16 08.7**	**-0.6**
PAGF	**Fort de Pagny** baz=21	**2.97**	**190**	*e*Pn		**Pn**		**23 16 16.5**	**+0.2**
PAGF	**Fort de Pagny**	**2.97**	**190**	*e*Pg		**Pg**		**23 16 25.3**	**+0.5**
PAGF				*e*Sg		**Sg**		**23 17 04.6**	**+1.3**
	2.2nm,0.3s								
PAGF	**Fort de Pagny** baz=21	**2.97**	**190**	*e*Pn		**Pn**		**23 16 16.5**	**+0.2**
PAGF	**Fort de Pagny**	**2.97**	**190**	*e*Pg		**Pg**		**23 16 25.3**	**+0.5**
PAGF				*e*Sg		**Sg**		**23 17 04.6**	**+1.3**
	1.1nm,0.3s								
CDF	**Champ du Feu** SNR=1.0	**3.12**	**170**	*e*Pn		**Pn**		**23 16 18.7**	**+0.3**
CDF				*e*Sn		**Sn**		**23 16 54.7**	**-1.7**
	SNR=1.0								
CDF				*e*Sg		**Sg**		**23 17 08.0**	**-0.1**
	4.4nm,0.3s,SNR=1.0								
CDF	**Champ du Feu** SNR=1.0	**3.12**	**170**	*e*Pn		**Pn**		**23 16 18.7**	**+0.3**
CDF				*e*Sn		**Sn**		**23 16 54.7**	**-1.7**
	SNR=1.0								
CDF				*e*Sg		**Sg**		**23 17 08.0**	**-0.1**
	2.2nm,0.3s,SNR=1.0								
MEZF	**Maizieres J'vi** baz=22	**3.12**	**198**	*e*Pn		**Pn**		**23 16 18.6**	**+0.2**
MEZF				*e*Sg		**Sg**		**23 17 09.5**	**+1.3**
	16nm,0.5s,SNR=1.0								
MEZF	**Maizieres J'vi** baz=22	**3.12**	**198**	*e*Pn		**Pn**		**23 16 18.6**	**+0.2**
MEZF				*e*Sg		**Sg**		**23 17 09.5**	**+1.3**
	8.2nm,0.5s,SNR=1.0								
MOX	**Moxa** SNR=1.9	**3.35**	**103**	*e*Pn		**Pn**		**23 16 21.6**	**0.0**
MOX	**Moxa** SNR=1.9	**3.35**	**103**	Pn		**Pn**		**23 16 21.6**	**0.0**
BFO	**Black Forest** SNR=3.3	**3.38**	**158**	*e*Pn		**Pn**		**23 16 22.2**	**+0.3**
BFO	**Black Forest** SNR=3.3	**3.38**	**158**	Pn		**Pn**		**23 16 22.2**	**+0.3**
SFTF	**Sexfontaines**	**3.41**	**196**	*e*Pn		**Pn**		**23 16 22.8**	**+0.5**
SFTF	**Sexfontaines**	**3.41**	**196**	*e*Pg		**Pg**		**23 16 33.5**	**+0.3**
SFTF				*e*Sg		**Sg**		**23 17 18.2**	**+0.8**
	12nm,0.3s								
SFTF	**Sexfontaines**	**3.41**	**196**	*e*Pn		**Pn**		**23 16 22.8**	**+0.5**
SFTF	**Sexfontaines**	**3.41**	**196**	*e*Pg		**Pg**		**23 16 33.5**	**+0.3**
SFTF				*e*Sg		**Sg**		**23 17 18.2**	**+0.8**
	5.9nm,0.3s								
HAU	**Haudompre**	**3.48**	**181**	*e*Pn		**Pn**		**23 16 23.6**	**+0.2**
HAU	**Haudompre**	**3.48**	**181**	*e*P		Pn		23 16 26.6	+3.2
HAU	**Haudompre**	**3.48**	**181**	*e*Pg		**Pg**		**23 16 34.7**	**+0.1**
HAU				*e*Sg		**Sg**		**23 17 20.6**	**+0.8**
	8.1nm,0.3s								
HAU	**Haudompre**	**3.48**	**181**	*e*Pn		**Pn**		**23 16 23.6**	**+0.2**
HAU	**Haudompre**	**3.48**	**181**	*e*P		Pn		23 16 26.6	+3.2
HAU	**Haudompre**	**3.48**	**181**	*e*Pg		**Pg**		**23 16 34.7**	**+0.1**
HAU				*e*Sg		**Sg**		**23 17 20.6**	**+0.8**
	4.1nm,0.3s								
HINF	**Hinteralfeld**	**3.68**	**176**	*e*Pn		**Pn**		**23 16 26.0**	**-0.1**
HINF	**Hinteralfeld**	**3.68**	**176**	*e*P		Pn		23 16 29.4	+3.3
HINF	**Hinteralfeld**	**3.68**	**176**	*e*Pg		**Pg**		**23 16 38.1**	**-0.3**
HINF				*e*Sg		**Sg**		**23 17 26.3**	**+0.2**
	1.5nm,0.2s								
HINF	**Hinteralfeld**	**3.68**	**176**	*e*Pn		**Pn**		**23 16 26.0**	**-0.1**
HINF	**Hinteralfeld**	**3.68**	**176**	*e*P		Pn		23 16 29.4	+3.3
HINF	**Hinteralfeld**	**3.68**	**176**	*e*Pg		**Pg**		**23 16 38.1**	**-0.3**
HINF				*e*Sg		**Sg**		**23 17 26.3**	**+0.2**
	0.8nm,0.2s								
PLN	**Plauen** SNR=1.5	**3.73**	**103**	*e*Pn		**Pn**		**23 16 26.9**	**+0.2**
PLN	**Plauen** SNR=1.5	**3.73**	**103**	Pn		**Pn**		**23 16 26.9**	**+0.2**
WERD	**Werda** SNR=2.2	**3.83**	**103**	*e*Pn		**Pn**		**23 16 28.2**	**0.0**
WERD	**Werda** SNR=2.2	**3.83**	**103**	Pn		**Pn**		**23 16 28.2**	**0.0**
WERN	**Wernitzgruen** SNR=2.1	**3.93**	**105**	*e*Pn		**Pn**		**23 16 30.0**	**+0.6**
WERN	**Wernitzgruen** SNR=2.1	**3.93**	**105**	Pn		**Pn**		**23 16 30.0**	**+0.6**
ROTZ	**Rotzenmuhle** SNR=2.6	**4.04**	**113**	*e*Pg		**Pg**		**23 16 44.3**	**-1.0**
ROTZ	**Rotzenmuhle** SNR=2.6	**4.04**	**113**	Pg		**Pg**		**23 16 44.3**	**-1.0**
CLL	**Collm**	**4.10**	**90**	*e*Sg		**Sg**		**23 17 40.0**	**+0.6**
LOR	**Lormes** baz=21,SNR=1.0	**4.55**	**203**	*e*Pn		**Pn**		**23 16 38.4**	**+0.4**
LOR				*e*Sn		**Sn**		**23 17 29.3**	**-2.3**
	SNR=1.0								
LOR				*e*Sg		**Sg**		**23 17 53.9**	**-0.1**
	5.8nm,0.3s								
LOR	**Lormes** baz=21,SNR=1.0	**4.55**	**203**	*e*Pn		**Pn**		**23 16 38.4**	**+0.4**
LOR				*e*Sn		**Sn**		**23 17 29.3**	**-2.3**
	SNR=1.0								
LOR				*e*Sg		**Sg**		**23 17 53.9**	**-0.1**
	2.9nm,0.3s								
BRG	**Berggiesshubel** 1.6nm,0.2s	**4.74**	**95**	SG		**Sg**		**23 17 58.3**	**-1.8**
SSF	**Saint Saulge** SNR=1.0	**4.83**	**205**	*e*Pn		**Pn**		**23 16 41.9**	**0.0**
SSF				*e*Sn		**Sn**		**23 17 34.0**	**-4.5**
	SNR=1.0								
SSF				*e*Sg		**Sg**		**23 18 02.9**	**-0.2**
	6.2nm,0.4s								
SSF	**Saint Saulge** SNR=1.0	**4.83**	**205**	*e*Pn		**Pn**		**23 16 41.9**	**0.0**
SSF				*e*Sn		**Sn**		**23 17 34.0**	**-4.5**
	SNR=1.0								
SSF				*e*Sg		**Sg**		**23 18 02.9**	**-0.2**
	3.1nm,0.4s								
CABF	**La Chapelle** SNR=1.0	**4.88**	**183**	*e*Pn		**Pn**		**23 16 42.8**	**+0.1**
CABF	**La Chapelle** SNR=1.0	**4.88**	**183**	*e*Pn		**Pn**		**23 16 42.8**	**+0.1**
AVF	**Avril sur Loir** SNR=1.0	**5.12**	**205**	*e*Pn		**Pn**		**23 16 45.7**	**-0.1**
AVF	**Avril sur Loir** SNR=1.0	**5.12**	**205**	*e*Pn		**Pn**		**23 16 45.7**	**-0.1**
LDF	**La Druitiere** SNR=1.0	**5.14**	**238**	*e*Pn		**Pn**		**23 16 46.6**	**+0.6**
LDF				*e*Sn		**Sn**		**23 17 42.4**	**-3.6**
LDF	**La Druitiere** SNR=1.0	**5.14**	**238**	*e*Pn		**Pn**		**23 16 46.6**	**+0.6**
LDF				*e*Sn		**Sn**		**23 17 42.4**	**-3.6**
SMF	**Signal de Mont** SNR=1.0	**5.14**	**201**	*e*Pn		**Pn**		**23 16 47.2**	**+1.1**
SMF				*e*Sg		**Sg**		**23 18 12.1**	**-0.9**
	4.6nm,0.4s,SNR=1.0								
SMF	**Signal de Mont** SNR=1.0	**5.14**	**201**	*e*Pn		**Pn**		**23 16 47.2**	**+1.1**
SMF				*e*Sg		**Sg**		**23 18 12.1**	**-0.9**
	2.3nm,0.4s,SNR=1.0								
FLN	**La Foliniere** baz=65,SNR=1.0	**5.24**	**241**	*e*Pn		**Pn**		**23 16 47.3**	**-0.1**
FLN				*e*Sn		**Sn**		**23 17 44.1**	**-4.3**
	7.6nm,0.6s,SNR=1.0								
FLN	**La Foliniere** baz=65,SNR=1.0	**5.24**	**241**	*e*Pn		**Pn**		**23 16 47.3**	**-0.1**
FLN				*e*Sn		**Sn**		**23 17 44.1**	**-4.3**
	3.8nm,0.6s,SNR=1.0								
BGF	**Bois d'Agland** SNR=1.0	**5.48**	**207**	*e*Pn		**Pn**		**23 16 50.7**	**0.0**
BGF				*e*Sn		**Sn**		**23 17 50.9**	**-3.5**
BGF				*e*Sg		**Sg**		**23 18 22.3**	**-1.4**
	10nm,0.4s,SNR=1.0								
BGF	**Bois d'Agland** SNR=1.0	**5.48**	**207**	*e*Pn		**Pn**		**23 16 50.7**	**0.0**
GRR	**Gorron**	**5.66**	**240**	*e*Pn		**Pn**		**23 16 53.5**	**+0.4**
GRR				*e*Sn		**Sn**		**23 17 55.2**	**-3.5**
	4.4nm,0.3s,SNR=1.0								
GRR	**Gorron**	**5.66**	**240**	*e*Pn		**Pn**		**23 16 53.5**	**+0.4**
TCF	**Toulx Ste Croi**	**5.91**	**210**	*e*Pn		**Pn**		**23 16 56.7**	**0.0**
TCF				*e*Sn		**Sn**		**23 18 01.4**	**-3.7**
TCF				*e*Sg		**Sg**		**23 18 36.8**	**-0.8**
	3.1nm,0.5s,SNR=1.0								
TCF	**Toulx Ste Croi**	**5.91**	**210**	*e*Pn		**Pn**		**23 16 56.7**	**0.0**
TCF				*e*Sg		**Sg**		**23 18 36.8**	**-0.8**
	1.5nm,0.5s,SNR=1.0								
MFF	**Saint Martin d** 5.7nm,0.8s,SNR=1.0	**6.54**	**224**	*e*Sn		**Sn**		**23 18 16.2**	**-4.3**
SGMF	**Saint Gilles**	**6.67**	**245**	*e*Pn		**Pn**		**23 17 07.0**	**-0.1**
SGMF	**Saint Gilles**	**6.67**	**245**	*e*Pn		**Pn**		**23 17 07.0**	**-0.1**
RJF	**Les Rejaudoux**	**7.01**	**210**	*e*Pn		**Pn**		**23 17 11.5**	**-0.2**
RJF	**Les Rejaudoux**	**7.01**	**210**	*e*Pn		**Pn**		**23 17 11.5**	**-0.2**

*ISCJB **06** 23:28:44.7±1.7, 36°.97N±0°.08×28°.37E±0°.10, h23km±16km, Error ellipse: s-maj=16.8km s-min=9.0km az=44.0*
*DDA **06** 23:28:45.9, 36°.98N×28°.17E, h7km, MD2.7*

ISC 06 23:28:44.6±1.5, 36°.91N±0°.08×28°.22E±0°.08, h12km±12km, n5, σ1§01/9, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.23**	**13**	*e*Pg		**Pg**		**23 28 49.9**	**+0.4**
YER				*e*Sg		**Sg**		**23 28 53.1**	**+0.4**
TURN	**Turunc**	**0.31**	**98**	*i* P		**Pg**		**23 28 50.5**	**-0.3**
TURN				*i* S		**Sg**		**23 28 54.1**	**-1.0**
BDRM	**Kayabasi**	**0.64**	**284**	*i* P		**Pb**		**23 28 57.6**	**-0.1**
BDRM				*i* S		**Sn**		**23 29 00.3**	**-0.3**
FETY	**Fethiye**	**0.75**	**112**	*e*PG		**Pn**		**23 29 02.4**	**+1.4**
AYDN	**Tasoluk**	**0.79**	**340**	*i* P		**Pb**		**23 29 00.0**	**-0.4**
AYDN				*i* S		**Sb**		**23 29 09.9**	**-1.3**

*NEIC **06** 23:38:43.6, 19°.59N×66°.27W, h30km, MD3.3(RSPR), After RSPR.*

RSPR 06 23:38:43.6, 19°.59N×66°.27W, h30km±18km, MD3.3/6, 9C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.37**	**163**	*e*Pn		**Pn**		**23 39 04.2**	**-2.6**
CBYP				*e*Sn		Sn		23 39 21.3	-2.6
LRS	**Lares**	**1.40**	**203**	*e*Pn		Pn		23 39 05.3	-1.9
LRS				*e*Sn		Sn		23 39 24.2	-0.5
SJG	**San Juan**	**1.48**	**176**	*e*P		Pn		23 39 06.5	-1.6
SJG	**San Juan**	**1.48**	**176**	*e*P		Pn		23 39 06.8	-1.3
SJG				*e*S		Sn		23 39 24.4	-2.1
SJG	**San Juan**	**1.48**	**176**	*e*Pn		Pn		23 39 06.1	-2.0
SJG				*e*Sn		Sn		23 39 24.3	-2.1
HUMP	**Col San Antoni**	**1.50**	**164**	*e*P		Pn		23 39 06.5	-1.9
HUMP	**Col San Antoni**	**1.50**	**164**	*e*P		Pn		23 39 06.5	-1.9
HUMP				*e*S		Sn		23 39 24.8	-2.1
CELP	**Cerrillos**	**1.54**	**191**	*e*P		Pn		23 39 07.1	-1.9
CELP				*e*S		Sn		23 39 25.9	-2.1
CELP	**Cerrillos**	**1.54**	**191**	*e*Pn		Pn		23 39 07.3	-1.6
CELP				*e*Sn		Sn		23 39 25.4	-2.5
OBIP	**Obispado Ponce**	**1.57**	**192**	*e*Pn		Pn		23 39 06.9	-2.6
OBIP				*e*Sn		Sn		23 39 28.6	-0.3
CPD	**Cerro la Pandu**	**1.58**	**168**	*e*P		Pn		23 39 08.2	-1.4
CPD	**Cerro la Pandu**	**1.58**	**168**	*e*P		Pn		23 39 08.2	-1.4
LSP	**Las Mesas**	**1.60**	**209**	*e*Pn		Pn		23 39 07.3	-2.7
LSP				*e*Sn		Sn		23 39 28.0	-1.7
MTP	**Monte Pirata**	**1.63**	**155**	*e*S		Sn		23 39 28.7	-1.7
MTP	**Monte Pirata**	**1.63**	**155**	*e*P		Pn		23 39 08.6	-1.8
MTP	**Monte Pirata**	**1.63**	**155**	*e*Pn		Pn		23 39 08.8	-1.6
MTP				*e*Sn		Sn		23 39 26.8	-3.5
STVI	**Saint Thomas**	**1.75**	**134**	*e*Pn		Pn		23 39 11.4	-0.6
STVI				*e*Sn		Sn		23 39 32.2	-1.1
CRPR	**Cabo Rojo, PR**	**1.76**	**207**	*e*P		Pn		23 39 10.9	-1.2
CRPR	**Cabo Rojo, PR**	**1.76**	**207**	*e*S		Sn		23 39 31.6	-1.9
CRPR	**Cabo Rojo, PR**	**1.76**	**207**	*e*Pn		Pn		23 39 10.9	-1.2
CRPR				*e*Sn		Sn		23 39 31.2	-2.3
CDVI	**St. Croix**	**2.32**	**142**	*e*Pn		Pn		23 39 20.0	+0.3
SDDR	**Presa de Saban**	**4.78**	**264**	*e*Pn		Pn		23 39 54.0	+0.4
SDDR				*e*Sn		Sn		23 40 48.2	+0.1

*BJI **06** 23:51:09.7, 36°.69N×26°.98E, h80km, mb4.6/4*
*MOS **06** 23:51:16.5±1.2, 36°.57N×27°.60E, h119km, mb4.4/9, Error ellipse: s-maj=14.9km s-min=10.0km az=91.8*
*ISCJB **06** 23:51:16.1±0.1, 36°.58N±0°.01×27°.60E±0°.02, h120km±1km, mb4.2/23, Error ellipse: s-maj=2.7km s-min=2.1km az=36.2*
*ATH **06** 23:51:17.1, 36°.67N×27°.56E, h114km±2km*
*CSEM **06** 23:51:17.4±0.1, 36°.58N×27°.61E, h110km±1km, ML3.8/2, Mw4.0, Error ellipse: s-maj=2.4km s-min=1.8km az=47.0*
*IDC **06** 23:51:17.2±1.4, 36°.52N×27°.63E, h110km±13km, mb3.9/11, mb1 3.9/19, mb1mx3.7/32, mbtmp3.9/19, Error ellipse: s-maj=13.5km s-min=10.6km az=172.0*
*ISK **06** 23:51:18.3, 36°.77N×27°.54E, h107km, MD3.6, ML3.6*
*THE **06** 23:51:19.9, 36°.66N×27°.54E, h110km±2km, ML3.8/2, Error ellipse: s-maj=2.2km s-min=1.0km az=100.0*
*NIC **06** 23:51:21.0±0.2, 36°.82N×28°.02E, h36km, mb4.5, ML4.0, MW3.7*
*HLW **06** 23:51:21.0, 36°.16N×27°.68E, h33km±34km, Md4.3, Ml4.4*
*DDA **06** 23:51:24.4, 36°.93N×27°.87E, h28km, MD3.7*

ISC 06 23:51:17.3±0.5, 36°.62N±0°.03×27°.60E±0°.03, h110km±4km, n358, σ1§23/409, mb4.3/23, 7C-4D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIS1	**Nisyros Isl.**	**0.34**	**267**	P		**Pn**		**23 51 34.0**	**+0.7**
NIS1				S		**Sn**		**23 51 45.2**	**-0.1**
NIS1	**Nisyros Isl.**	**0.34**	**267**	P		**Pn**		**23 51 34.0**	**+0.7**
BDRM	**Kayabasi**	**0.46**	**344**	*i* P		**Pn**		**23 51 34.2**	**+0.2**
BDRM				*i* S		**Sn**		**23 51 45.8**	**-0.7**
BDRM	**Kayabasi**	**0.46**	**344**	*i* P		**Pn**		**23 51 34.2**	**+0.2**
BDRM				*i* S		**Sn**		**23 51 45.8**	**-0.7**
BODT	**Bodrum**	**0.50**	**332**	*e*PG		**Pn**		**23 51 34.5**	**+0.3**
BODT				*e*SG		**Sn**		**23 51 46.3**	**-0.6**
BODT	**Bodrum**	**0.50**	**332**	*e*Pg		**Pn**		**23 51 34.6**	**+0.3**
BODT				*e*Sg		**Sn**		**23 51 46.3**	**-0.6**
ARG	**Arkhangelos**	**0.58**	**134**	P		**Pn**		**23 51 36.5**	**+1.8**
ARG				S		**Sn**		**23 51 48.1**	**+0.2**
ARG	**Arkhangelos**	**0.58**	**134**	*e*P		**Pn**		**23 51 36.6**	**+1.8**
ARG				*e*S		**Sn**		**23 51 49.7**	**+1.8**
ARG	**Arkhangelos**	**0.58**	**134**	*e*P		**Pn**		**23 51 36.6**	**+1.8**
ARG				*e*S		**Sn**		**23 51 49.7**	**+1.8**
YER	**Yerkesik**	**0.75**	**47**	*e*PG		**Pn**		**23 51 37.3**	**+1.1**
YER	**Yerkesik**	**0.75**	**47**	*e*Pg		**Pn**		**23 51 37.3**	**+1.1**
YER				*e*Sg		**Sn**		**23 51 50.1**	**-0.3**
TURN	**Turunc**	**0.84**	**72**	*i* P		**Pn**		**23 51 35.4**	**-1.5**
TURN				*i* S		**Sn**		**23 51 47.8**	**-3.9**
TURN	**Turunc**	**0.84**	**72**	*i* P		**Pn**		**23 51 35.4**	**-1.5**
TURN				*i* S		**Sn**		**23 51 47.8**	**-3.9**
AYDN	**Tasoluk**	**1.06**	**12**	*i* P		**Pn**		**23 51 39.8**	**+0.6**
AYDN				*i* S		**Sn**		**23 51 55.5**	**-0.3**
AYDN	**Tasoluk**	**1.06**	**12

SIVA					S		**Sn**	**23 52 33.5**	**0.0**
PRK	**Paraskevi**	**2.82**	**338**	*e*	P		**Pn**	**23 52 01.7**	**+0.7**
PRK	**Paraskevi**	**2.82**	**338**	*e*	P		**Pn**	**23 52 01.7**	**+0.7**
SUTC	**Sutluce-Ispart**	**2.85**	**72**	*e*	PN		**Pn**	**23 52 04.1**	**+2.7**
SUTC	**Sutluce-Ispart**	**2.85**	**72**	*e*	Pn		**Pn**	**23 52 04.1**	**+2.7**
GDZ	**Gediz**	**2.88**	**31**	*i*	P		**Pn**	**23 52 02.3**	**+0.5**
GDZ				*i*	S		**Sn**	**23 52 34.4**	**-1.6**
GDZ	**Gediz**	**2.88**	**31**	*i*	P		**Pn**	**23 52 02.3**	**+0.5**
GDZ				*i*	S		**Sn**	**23 52 34.4**	**-1.6**
VAM	**Vamos**	**3.02**	**247**		P		**Pn**	**23 52 03.9**	**+0.4**
VAM	**Vamos**	**3.02**	**247**	*e*	P		**Pn**	**23 52 03.8**	**+0.3**
VAM	**Vamos**	**3.02**	**247**	*e*	P		**Pn**	**23 52 03.8**	**+0.3**
BALB	**Balikesir**	**3.02**	**4**	*e*	PN		**Pn**	**23 52 03.3**	**-0.3**
BALB	**Balikesir**	**3.02**	**4**	*e*	Pn		**Pn**	**23 52 03.3**	**-0.3**
SHUT	**Suhut-Afyon**	**3.03**	**50**	*e*	PN		**Pn**	**23 52 05.0**	**+1.1**
SHUT	**Suhut-Afyon**	**3.03**	**50**	*e*	Pn		**Pn**	**23 52 05.0**	**+1.1**
DST	**Dursunbey**	**3.08**	**15**	*e*	PN		**Pn**	**23 52 04.0**	**-0.5**
DST	**Dursunbey**	**3.08**	**15**	*e*	Pn		**Pn**	**23 52 04.0**	**-0.5**
ALT	**Altintas**	**3.14**	**38**	*e*	PN		**Pn**	**23 52 06.0**	**+0.8**
ALT	**Altintas**	**3.14**	**38**	*e*	Pn		**Pn**	**23 52 06.0**	**+0.8**
KARN	**Karanos**	**3.23**	**249**		P		**Pn**	**23 52 06.9**	**+0.5**
KARN	**Karanos**	**3.23**	**249**		P		**Pn**	**23 52 06.9**	**+0.5**
PTL	**Penteli**	**3.30**	**297**	*e*	P		**Pn**	**23 52 08.2**	**+0.8**
PTL	**Penteli**	**3.30**	**297**	*e*	P		**Pn**	**23 52 08.2**	**+0.8**
EZN	**Ezine**	**3.35**	**343**	*e*	PN		**Pn**	**23 52 08.3**	**+0.3**
EZN	**Ezine**	**3.35**	**343**	*e*	Pn		**Pn**	**23 52 08.3**	**+0.3**
GONE	**Gonen-Balikesi**	**3.42**	**1**	*e*	PN		**Pn**	**23 52 09.4**	**+0.6**
GONE	**Gonen-Balikesi**	**3.42**	**1**	*e*	Pn		**Pn**	**23 52 09.4**	**+0.6**
NAIG	**Nisos Aigina**	**3.48**	**290**	*e*	P		**Pn**	**23 52 10.2**	**+0.6**
NAIG	**Nisos Aigina**	**3.48**	**290**	*e*	P		**Pn**	**23 52 10.2**	**+0.6**
ORLT	**Orhaneli**	**3.57**	**16**	*e*	PN		**Pn**	**23 52 11.0**	**+0.1**
ORLT	**Orhaneli**	**3.57**	**16**	*e*	Pn		**Pn**	**23 52 11.0**	**+0.1**
DID	**Didima**	**3.60**	**285**	*e*	P		**Pn**	**23 52 12.4**	**+1.0**
DID	**Didima**	**3.60**	**285**	*e*	P		**Pn**	**23 52 12.4**	**+1.0**
KYTH	**Kithira**	**3.70**	**266**		P		**Pn**	**23 52 13.4**	**+0.8**
KYTH	**Kithira**	**3.70**	**266**	*e*	P		**Pn**	**23 52 13.5**	**+0.8**
KYTH	**Kithira**	**3.70**	**266**		P		**Pn**	**23 52 13.4**	**+0.8**
VLI	**Veliai**	**3.75**	**273**	*e*	P		**Pn**	**23 52 14.1**	**+0.8**
VLI	**Veliai**	**3.75**	**273**	*e*	P		**Pn**	**23 52 14.1**	**+0.8**
KRBG	**Karabiga-Canak**	**3.77**	**356**	*e*	PN		**Pn**	**23 52 13.9**	**+0.3**
KRBG	**Karabiga-Canak**	**3.77**	**356**	*e*	Pn		**Pn**	**23 52 13.9**	**+0.3**
ESKT	**Eskisehir**	**3.86**	**41**	*e*	PN		**Pn**	**23 52 15.9**	**+1.0**
ESKT	**Eskisehir**	**3.86**	**41**	*e*	Pn		**Pn**	**23 52 15.9**	**+1.0**
GELI	**Tayfur-Gelibol**	**3.87**	**347**	*e*	PN		**Pn**	**23 52 15.3**	**+0.4**
GELI	**Tayfur-Gelibol**	**3.87**	**347**	*e*	Pn		**Pn**	**23 52 15.3**	**+0.4**
MDNY	**Mudanya-Bursa**	**3.87**	**15**	*e*	PN		**Pn**	**23 52 15.2**	**+0.3**
MDNY	**Mudanya-Bursa**	**3.87**	**15**	*e*	Pn		**Pn**	**23 52 15.2**	**+0.3**
LTK	**Loutraki**	**3.95**	**292**	*e*	P		**Pn**	**23 52 17.1**	**+1.1**
LTK	**Loutraki**	**3.95**	**292**	*e*	P		**Pn**	**23 52 17.1**	**+1.1**
KONT	**Konya--Tatoy**	**4.02**	**69**	*e*	PN		**Pn**	**23 52 18.5**	**+1.6**
KONT	**Konya--Tatoy**	**4.02**	**69**	*e*	Pn		**Pn**	**23 52 18.5**	**+1.6**
ARMT	**Armutlu**	**4.06**	**14**	*e*	PN		**Pn**	**23 52 17.7**	**+0.2**
ARMT	**Armutlu**	**4.06**	**14**	*e*	Pn		**Pn**	**23 52 17.7**	**+0.2**
KIZT	**Kizilcal**	**4.07**	**55**	*e*	PN		**Pn**	**23 52 18.8**	**+1.1**
KIZT	**Kizilcal**	**4.07**	**55**	*e*	Pn		**Pn**	**23 52 18.8**	**+1.1**
RKY	**Sarkoy-Tekirda**	**4.07**	**355**	*e*	PN		**Pn**	**23 52 17.7**	**0.0**
RKY	**Sarkoy-Tekirda**	**4.07**	**355**	*e*	Pn		**Pn**	**23 52 17.7**	**0.0**
LADK	**Ladik-KONYA**	**4.10**	**66**	*e*	PN		**Pn**	**23 52 19.4**	**+1.3**
LADK	**Ladik-KONYA**	**4.10**	**66**	*e*	Pn		**Pn**	**23 52 19.5**	**+1.3**
ADVT	**Abdulvahap**	**4.16**	**23**	*e*	PN		**Pn**	**23 52 19.4**	**+0.6**
ADVT	**Abdulvahap**	**4.16**	**23**	*e*	Pn		**Pn**	**23 52 19.4**	**+0.6**
AKMC	**Akamas**	**4.16**	**111**	⇑	P		**Pn**	**23 52 18.9**	**+0.1**
AKMC	**Akamas**	**4.16**	**111**	⇑	P		**Pn**	**23 52 18.9**	**+0.1**
YLV	**Yalova**	**4.17**	**19**	*e*	PN		**Pn**	**23 52 20.1**	**+1.1**
YLV	**Yalova**	**4.17**	**19**	*e*	Pn		**Pn**	**23 52 20.1**	**+1.1**
SVRH	**Sivrihisar-ESK**	**4.19**	**46**	*e*	PN		**Pn**	**23 52 20.1**	**+0.9**
SVRH	**Sivrihisar-ESK**	**4.19**	**46**	*e*	Pn		**Pn**	**23 52 20.1**	**+0.9**
PPCY	**Paphos**	**4.23**	**113**		P		**Pn**	**23 52 19.7**	**0.0**
PPCY	**Paphos**	**4.23**	**113**		P		**Pn**	**23 52 19.7**	**0.0**
VLX	**Vlachokerasia**	**4.25**	**282**	*e*	P		**Pn**	**23 52 21.4**	**+1.3**
VLX	**Vlachokerasia**	**4.25**	**282**	*e*	P		**Pn**	**23 52 21.4**	**+1.3**
ALFC	**Alevga**	**4.31**	**108**	⇓	P		**Pn**	**23 52 20.7**	**-0.2**
	19nm,0.3s								
ALFC					S		**Sn**	**23 53 07.4**	**-2.8**
ALFC	**Alevga**	**4.31**	**108**	⇓	*e* P		**Pn**	**23 52 20.7**	**-0.2**
	19nm,0.3s								
ALFC					S		**Sn**	**23 53 07.4**	**-2.8**
GUR	**Goura**	**4.40**	**289**	*e*	P		**Pn**	**23 52 23.7**	**+1.6**
GUR	**Goura**	**4.40**	**289**	*e*	P		**Pn**	**23 52 23.7**	**+1.6**
GULT	**Gulveren**	**4.44**	**30**	*e*	PN		**Pn**	**23 52 23.0**	**+0.4**
GULT	**Gulveren**	**4.44**	**30**	*e*	Pn		**Pn**	**23 52 23.0**	**+0.4**
CRLT	**Corlu**	**4.50**	**1**	*e*	PN		**Pn**	**23 52 23.5**	**+0.1**
CRLT	**Corlu**	**4.50**	**1**	*e*	Pn		**Pn**	**23 52 23.5**	**+0.1**
SZAC	**Souni-Zanaja**	**4.68**	**112**		P		**Pn**	**23 52 25.8**	**-0.1**
SZAC					S		**Sn**	**23 53 17.5**	**-1.7**
SZAC	**Souni-Zanaja**	**4.68**	**112**		P		**Pn**	**23 52 25.8**	**-0.1**
SZAC					S		**Sn**	**23 53 17.5**	**-1.7**
PYL	**PYLOS**	**4.71**	**275**	*e*	P		**Pn**	**23 52 26.1**	**-0.2**
PYL	**PYLOS**	**4.71**	**275**	*e*	P		**Pn**	**23 52 26.1**	**-0.2**
MDUB	**Mudurnu**	**4.76**	**35**	*e*	PN		**Pn**	**23 52 27.6**	**+0.6**
MDUB	**Mudurnu**	**4.76**	**35**	*e*	Pn		**Pn**	**23 52 27.6**	**+0.6**
MAMC	**Mammari**	**4.78**	**106**		P		**Pn**	**23 52 26.8**	**-0.4**
MAMC	**Mammari**	**4.78**	**106**		P		**Pn**	**23 52 26.8**	**-0.4**
EFP	**Efpalio**	**4.88**	**293**	*e*	P		**Pn**	**23 52 30.5**	**+2.1**
EFP	**Efpalio**	**4.88**	**293**	*e*	P		**Pn**	**23 52 30.5**	**+2.1**
CSS	**Prodhromos**	**4.94**	**108**		P		**Pn**	**23 52 29.5**	**+0.1**
	3.4nm,0.3s								
CSS					S		**Sn**	**23 53 22.0**	**-3.4**
CSS	**Prodhromos**	**4.94**	**108**		P		**Pn**	**23 52 29.0**	**-0.4**
CSS	**Prodhromos**	**4.94**	**108**		P		**Pn**	**23 52 29.0**	**-0.4**
CSS	**Prodhromos**	**4.94**	**108**		Pn		**Pn**	**23 52 29.3**	**-0.1**
CSS					Sn		**Sn**	**23 53 21.4**	**-4.0**
CSS					S			23 53 22.0	
SULT	**Sultanhani-AKS**	**4.96**	**70**	*e*	PN		**Pn**	**23 52 31.3**	**+1.6**
SULT	**Sultanhani-AKS**	**4.96**	**70**	*e*	Pn		**Pn**	**23 52 31.3**	**+1.6**
AFSR	**Afˇar-Bala (A**	**5.15**	**55**	*e*	PN		**Pn**	**23 52 33.5**	**+1.2**
AFSR	**Afˇar-Bala (A**	**5.15**	**55**	*e*	Pn		**Pn**	**23 52 33.5**	**+1.2**
KDZ	**Kurdzhali**	**5.30**	**342**	*e*	P		**Pn**	**23 52 35.0**	**+0.8**
KDZ	**Kurdzhali**	**5.30**	**342**	*e*	P		**Pn**	**23 52 35.0**	**+0.8**
PHNC	**Paralimni**	**5.47**	**105**		P		**Pn**	**23 52 38.3**	**+1.9**
	3.2nm,0.5s								
PHNC					S		**Sn**	**23 53 38.7**	**+0.6**
PHNC	**Paralimni**	**5.47**	**105**		P		**Pn**	**23 52 38.3**	**+1.9**
	3.2nm,0.5s								
PHNC					S		**Sn**	**23 53 38.7**	**+0.6**
LTBQ	**Tobruq**	**5.48**	**215**	*i*	P		**Pn**	**23 52 36.6**	**0.0**
	SNR=131								
SLUM		**5.49**	**202**		P		**Pn**	**23 52 34.9**	**-1.8**
SLUM		**5.49**	**202**		P		**Pn**	**23 52 34.9**	**-1.8**
	baz=205								
SLUM					AMP			23 53 00.0	
	comp=E,410µm,0.4s,logA/T=6.1,baz=205								
HMAT	**Matruh**	**5.53**	**185**		AMP			23 53 00.0	
	comp=N,370µm,0.5s,logA/T=5.9,baz=186								
RZN	**Rozhen**	**5.53**	**337**	*e*	P		**Pn**	**23 52 38.0**	**+0.5**
RZN	**Rozhen**	**5.53**	**337**	*e*	P		**Pn**	**23 52 38.0**	**+0.5**
BRTR	**Keskin Array B**	**5.67**	**55**		P		**Pn**	**23 52 41.1**	**+1.8**
	comp=N,3.5nm,0.3s,baz=228,slow=14,SNR=254								
BRTR					S		**Sn**	**23 53 45.5**	**+2.2**
	comp=N,0.9nm,0.3s,baz=226,slow=26,SNR=12								
BRTR	**Keskin Array B**	**5.67**	**55**		P		**Pn**	**23 52 41.2**	**+1.8**
	comp=N,4.0nm,0.3s								
BRTR					S		**Sn**	**23 53 45.5**	**+2.2**
	comp=N,1.0nm,0.3s								
MMB	**Musomiste**	**5.80**	**330**	*e*	P		**Pn**	**23 52 41.9**	**+0.9**
MMB	**Musomiste**	**5.80**	**330**	*e*	P		**Pn**	**23 52 41.9**	**+0.9**
PLD	**Plovdiv**	**5.92**	**339**	*e*	P		**Pn**	**23 52 43.8**	**+1.3**
PLD	**Plovdiv**	**5.92**	**339**	*e*	P		**Pn**	**23 52 43.8**	**+1.3**
GRG	**Griva**	**5.94**	**318**		P		**Pn**	**23 52 44.8**	**+2.0**
GRG	**Griva**	**5.94**	**318**		P		**Pn**	**23 52 44.8**	**+2.0**
VTS	**Vitosha**	**6.86**	**332**	*e*	P		**Pn**	**23 52 55.8**	**+0.4**
VTS	**Vitosha**	**6.86**	**332**	*e*	P		**Pn**	**23 52 55.8**	**+0.4**
NAQL	**Naqoura**	**7.11**	**117**	*e*	P		**Pn**	**23 52 57.8**	**-0.9**
BHL	**Bhannes**	**7.12**	**110**	*e*	P		**Pn**	**23 52 57.9**	**-1.1**
BHL	**Bhannes**	**7.12**	**110**	*e*	P		**Pn**	**23 52 57.8**	**-1.1**
HNTI	**Hanita**	**7.15**	**117**		Pn		**Pn**	**23 52 59.0**	**-0.3**
HWQ	**Hawqa**	**7.20**	**107**	*e*	P		**Pn**	**23 52 59.5**	**-0.5**
HWQ	**Hawqa**	**7.20**	**107**	*e*	P		**Pn**	**23 52 59.5**	**-0.5**
OFRI	**'Ofer**	**7.28**	**121**		Pn		**Pn**	**23 53 00.0**	**-1.0**
HMYD	**Mayadein**	**7.32**	**158**		P		**Pn**	**23 52 59.8**	**-1.7**
HMYD	**Mayadein**	**7.32**	**158**		P		**Pn**	**23 52 59.9**	**-1.7**
	baz=156								
MMC7	**Mount Meron ar**	**7.34**	**117**		Pn		**Pn**	**23 53 01.1**	**-0.8**
MMA0	**Mount Meron ar**	**7.35**	**117**		Pn		**Pn**	**23 53 01.1**	**-1.0**
MMAI	**Mount Meron Ar**	**7.35**	**117**		P		**Pn**	**23 53 01.4**	**-0.7**
	comp=N,45nm,0.3s,baz=307,slow=12,SNR=589								
MMAI					S		**Sn**	**23 54 19.1**	**-5.0**
	comp=N,43nm,0.3s,baz=304,slow=28,SNR=18								
BLGI	**Bet Lehem HaGe**	**7.36**	**120**		Pn		**Pn**	**23 53 01.3**	**-0.7**
SQR		**7.36**	**155**		P		**Pn**	**23 53 00.6**	**-1.6**
SQR		**7.36**	**155**		P		**Pn**	**23 53 00.6**	**-1.6**
	baz=153								
HNAT	**Natroun**	**7.41**	**159**		P		**Pn**	**23 53 00.8**	**-2.1**
HNAT	**Natroun**	**7.41**	**159**		P		**Pn**	**23 53 00.8**	**-2.1**
	baz=158								
RCY	**Rachaya**	**7.43**	**112**	*e*	P		**Pn**	**23 53 02.4**	**-0.8**
RCY	**Rachaya**	**7.43**	**112**	*e*	P		**Pn**	**23 53 02.4**	**-0.8**
KSDI	**Kefar Szold**	**7.45**	**115**		Pn		**Pn**	**23 53 02.7**	**-0.6**
HAWK	**Haweek**	**7.47**	**104**	*e*	P		**Pn**	**23 53 02.7**	**-1.0**
	SNR=45								
SLTI	**Sal'it**	**7.54**	**123**		Pn		**Pn**	**23 53 03.9**	**-0.6**
KOT	**Kottamia**	**7.55**	**151**		P		**Pn**	**23 53 03.8**	**-1.0**
KOT	**Kottamia**	**7.55**	**151**		P		**Pn**	**23 53 03.8**	**-1.0**
	baz=149								
SWA2		**7.58**	**194**		P		**Pn**	**23 53 03.3**	**-1.8**
SWA2		**7.58**	**194**		P		**Pn**	**23 53 03.3**	**-1.8**
	baz=196								
SWA2					AMP			23 54 00.0	
	comp=E,320µm,0.4s,logA/T=5.9,baz=196								
RSH		**7.60**	**136**		P		**Pn**	**23 53 05.0**	**-0.4**
RSH		**7.60**	**136**		P		**Pn**	**23 53 05.0**	**-0.4**
	baz=134								
MMLI	**Mount Malkishu**	**7.68**	**121**		Pn		**Pn**	**23 53 05.7**	**-0.8**
MMLI					Sn		**Sn**	**23 54 29.6**	**-2.3**
HSAF	**As Saff**	**7.73**	**154**		P		**Pn**	**23 53 05.3**	**-1.9**
HSAF	**As Saff**	**7.73**	**154**		P		**Pn**	**23 53 05.3**	**-1.9**
	baz=152								
HMDT	**Nahal Hemdat**	**7.86**	**121**		Pn		**Pn**	**23 53 09.2**	**+0.3**
KZIT	**Kziot**	**8.03**	**133**		Pn		**Pn**	**23 53 10.7**	**-0.5**
SUZ		**8.05**	**146**		P		**Pn**	**23 53 10.8**	**-0.8**
SUZ		**8.05**	**146**		P		**Pn**	**23 53 10.8**	**-0.8**
	baz=144								
RTMI	**Retamim**	**8.10**	**131**		Pn		**Pn**	**23 53 11.6**	**-0.5**
DSI	**Dead Sea**	**8.18**	**126**		Pn		**Pn**	**23 53 12.7**	**-0.6**
HBNS	**Bani Suwayf**	**8.23**	**157**		P		**Pn**	**23 53 12.7**	**-1.2**
HBNS	**Bani Suwayf**	**8.23**	**157**		P		**Pn**	**23 53 12.7**	**-1.2**
	baz=156								
MZDA	**Masada**	**8.34**	**127**		Pn		**Pn**	**23 53 14.8**	**-0.6**
MZDA					Sn		**Sn**	**23 54 44.4**	**-3.4**
AWBH		**8.35**	**172**		P		**Pn**	**23 53 14.0**	**-1.6**
AWBH		**8.35**	**172**		P		**Pn**	**23 53 14.0**	**-1.6**
	baz=172								
LJBD	**Adjabya**	**8.39**	**229**	*i*	P		**Pn**	**23 53 15.2**	**-0.9**
	SNR=114								
ZAF		**8.41**	**149**		P		**Pn**	**23 53 15.1**	**-1.3**
ZAF		**8.41**	**149**		P		**Pn**	**23 53 15.2**	**-1.3**
	baz=147								
RMNI	**Mount Ramon**	**8.47**	**133**		Pn		**Pn**	**23 53 16.5**	**-0.7**
SALA	**Sala**	**8.47**	**115**	*e*	P		**Pn**	**23 53 18.2**	**+0.9**
	SNR=45								
ZNM		**8.47**	**147**		P		**Pn**	**23 53 15.7**	**-1.5**
ZNM		**8.47**	**147**		P		**Pn**	**23 53 15.7**	**-1.5**
	baz=145								
PRNI	**Paran**	**8.79**	**133**		Pn		**Pn**	**23 53 20.4**	**-1.1**
KRMI	**Paran Flat**	**8.80**	**135**		Pn		**Pn**	**23 53 20.9**	**-0.8**
ZALF	**Zalf**	**8.81**	**112**	*e*	P		**Pn**	**23 53 20.9**	**-1.0**
	SNR=45								
ASF	**Jabal al Asfar**	**8.87**	**117**		P		**Pn**	**23 53 21.8**	**-0.8**
	comp=E,3.1nm,0.3s,baz=185,slow=4.5,SNR=37								
ASF					S		**Sn**	**23 54 57.6**	**-3.3**
	comp=E,1.0nm,0.3s,baz=209,slow=19,SNR=2.8								
MLR	**Muntele Rosu**	**8.95**	**352**		P		**Pn**	**23 53 23.6**	**-0.1**
	comp=E,0.0nm,0.3s,baz=150,slow=7.8,SNR=3.6								
MLR	**Muntele Rosu**	**8.95**	**352**		P		**Pn**	**23 53 23.6**	**-0.1**
HRFI	**Mount Harif**	**9.04**	**134**		Pn		**Pn**	**23 53 25.3**	**+0.3**
MBRI	**Mt Berech**	**9.15**	**136**		Pn		**Pn**	**23 53 25.9**	**-0.7**
EIL	**Elat**	**9.27**	**136**		P		**Pn**	**23 53 26.9**	**-1.1**
	comp=E,3.4nm,0.3s,baz=339,slow=12,SNR=63								
EIL					S		Sn	23 55 04.3	-6.2
	comp=E,4.3nm,0.3s,baz=322,slow=13,SNR=7.0								
EIL	**Elat**	**9.27**	**136**		Pn		**Pn**	**23 53 27.5**	**-0.5**
HFRF	**Wahat Farafira**	**9.46**	**176**		P		**Pn**	**23 53 29.2**	**-1.5**
HFRF	**Wahat Farafira**	**9.46**	**176**		P		**Pn**	**23 53 29.2**	**-1.5**
	baz=176								
HBST	**Basata**	**9.51**	**139**		P		**Pn**	**23 53 30.4**	**-0.9**
HBST	**Basata**	**9.51**	**139**		P		**Pn**	**23 53 30.4**	**-0.9**
	baz=137								
TR2		**9.70**	**146**		P		**Pn**	**23 53 32.8**	**-1.1**
TR2		**9.70**	**146**		P		**Pn**	**23 53 32.8**	**-1.1**
	baz=145								
HKAT	**Jabal Katrina**	**9.71**	**144**		P		**Pn**	**23 53 33.3**	**-0.8**
HKAT	**Jabal Katrina**	**9.71**	**144**		P		**Pn**	**23 53 33.3**	**-0.8**
	baz=143								
ASUT		**9.79**	**159**		P		**Pn**	**23 53 34.4**	**-0.7**
ASUT		**9.79**	**159**		P		**Pn**	**23 53 34.4**	**-0.7**
	baz=158								
HDHB	**Dhahab**	**9.85**	**141**		P		**Pn**	**23 53 35.3**	**-0.5**
HDHB	**Dhahab**	**9.85**	**141**		P		**Pn**	**23 53 35.3**	**-0.5**
	baz=139								
TR1		**10.13**	**146**		P		**Pn**	**23 53 38.6**	**-1.1**
TR1		**10.13**	**146**		P		**Pn**	**23 53 38.6**	**-1.1**
	baz=145								
KIV	**Kislovodsk**	**13.63**	**53**	*α*	*i* P		**P**	**23 54 33.5**	**+2.4**
KIV					pmax		pmax		
	comp=Z,34nm,1.1s								
KIV	**Kislovodsk**	**13.63**	**53**	*i*	P		**P**	**23 54 33.5**	**+2.4**
	comp=Z,34nm,1.1s								
ZEI	**Tsey**	**13.96**	**59**	*e*	P		**P**	**23 54 36.4**	**+1.5**
ZEI					pmax		pmax		
	comp=Z,16nm,1.0s								
ZEI	**Tsey**	**13.96**	**59**	*e*	P		**P**	**23 54 36.4**	**+1.5**
	comp=Z,16nm,1.0s								
KEST	**Kesra**	**14.78**	**272**		P		**Pn**	**23 54 42.0**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=359,slow=10,SNR=5.4								
KBA	**Koelnbreinsper**	**14.88**	**319**	⇑	*i* P		**P**	**23 54 45.3**	**+0.3**
	comp=Z,8.9nm,0.7s								
KBA	**Koelnbreinsper**	**14.88**	**319**		P		**P**	**23 54 45.3**	**+0.3**
	comp=Z,8.9nm,0.7s								
VRAC	**Vranov**	**15.00**	**331**		P		**P**	**23 54 46.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=134,slow=9.5,SNR=14								
VRAC	**Vranov**	**15.00**	**331**		P		**P**	**23 54 46.2**	**0.0**
GERES	**GERESS Array B**	**15.89**	**325**		P		**P**	**23 54 55.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=134,slow=13,SNR=7.3								
GERES					ScP		**ScP**	**00 03 07.8**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=106,slow=4.3,SNR=3.5								
WTTA	**Wattenberg**	**15.91**	**317**	⇑	*i* Pn		**P**	**23 54 56.2**	**-0.3**
	comp=Z,14nm,1.0s								
WTTA	**Wattenberg**	**15.91**	**317**		Pn		**P**	**23 54 56.2**	**-0.3**
	comp=Z,14nm,1.0s								
WATA	**Walderalm**	**15.99**	**317**	⇑	*i* Pn		**Pn**	**23 54 56.3**	**+0.4**
	comp=Z,5.0nm,0.6s								
WATA	**Walderalm**	**15.99**	**317**		Pn		**Pn**	**23 54 56.3**	**+0.4**
	comp=Z,5.0nm,0.6s								
MOTA	**Moosalm**	**16.25**	**316**	⇓	*i* Pn		**Pn**	**23 54 59.7**	**+0.5**
	comp=Z,10nm,1.0s								
MOTA	**Moosalm**	**16.25**	**316**		Pn		**Pn**	**23 54 59.7**	**+0.5**
	comp=Z,10nm,1.0s								
FETA	**Feichten**	**16.28**	**315**	⇓	*i* Pn		**P**	**23 55 01.6**	**+1.0**
	comp=Z,17nm,1.1s								
FETA	**Feichten**	**16.28**	**315**		P		**P**	**23 55 01.6**	**+1.0**
	comp=Z,17nm,1.1s								
DAVOX	**Davos/Dischmat**	**16.64**	**313**		P		**P**	**23 55 04.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=184,slow=14,SNR=3.3								
BRG	**Berggiesshubel**	**17.29**	**330**	*e*	P		**Pn**	**23 55 12.4**	**+0.8**
	comp=Z,5.2nm,1.1s								
BRG	**Berggiesshubel**	**17.29**	**330**	*e*	P		**Pn**	**23 55 12.4**	**+0.8**
BRG					pmax		pmax		
	comp=Z,5.0nm,1.1s								
BRG	**Berggiesshubel**	**17.29**	**330**	*e*	P		**Pn**	**23 55 12.4**	**+0.8**
	comp=Z,5.0nm,1.1s								
GRF	**Grafenberg Arr**	**17.65**	**323**	*e*	P		**Pn**	**23 55 17.9**	**+1.8**
MBDF	**Montbardon**	**17.72**	**304**	*e*	P		**P**	**23 55 14.9**	**-1.5**
	comp=Z,11nm,0.7s								
MIB	**Mutribah**	**17.84**	**107**	*e*	P		**Pn**	**23 55 19.4**	**+0.8**
MIB					AMb		AMB	23 55 21.0	
	comp=Z,32nm,0.6s								
MIB	**Mutribah**	**17.84**	**107**	*e*	P		**Pn**	**23 55 19.4**	**+0.8**
	comp=Z,32nm,0.6s								
CLL	**Colm**	**18.00**	**329**	*e*	P		**P**	**23 55 19.0**	**-0.3**
LPG	**La Plagne**	**18.01**	**306**	*e*	P		**P**	**23 55 18.7**	**-1.1**
	comp=Z,26nm,0.9s								
NAY	**Al-Naaiem**	**18.03**	**108**	*e*	P		**Pn**	**23 55 21.1**	**+0.3**
NAY					AMb		AMB	23 55 24.5	
	comp=Z,4.9nm,1.0s								
NAY	**Al-Naaiem**	**18.03**	**108**	*e*	P		**Pn**	**23 55 21.1**	**+0.3**
	comp=Z,4.9nm,1.0s								
LPL	**La Plagne**	**18.03**	**306**	*e*	P		**P**	**23 55 19.3**	**-0.6**
	comp=Z,14nm,0.6s								
UMR	**Umm Al-Rimmam**	**18.25**	**107**	*e*	P		**Pn**	**23 55 23.7**	**+0.3**
UMR					AMb		AMB	23 55 25.8	
	comp=Z,40nm,0.5s								
UMR	**Umm Al-Rimmam**	**18.25**	**107**	*e*	P		**Pn**	**23 55 23.7**	**+0.3**
	comp=Z,40nm,0.5s								
CABF	**La Chapelle**	**18.88**	**309**	*e*	P		**P**	**23 55 28.1**	**-0.9**
	comp=Z,21nm,0.8s								
HINF	**Hinteralfeld**	**18.95**	**313**	*e*	P		**P**	**23 55 29.2**	**-0.5**
CDF	**Champ du Feu**	**19.00**	**315**	*e*	P		**P**	**23 55 30.2**	**-0.1**
	comp=Z,14nm,0.8s								
CDF	**Champ du Feu**	**19.00**	**315**	*e*	P		**P**	**23 55 30.2**	**-0.1**
	comp=Z,7.2nm,0.8s								
VIVF	**Saint-Julien-l**	**19.18**	**302**	*e*	P		**P**	**23 55 31.3**	**-0.9**
HAU	**Haudompre**	**19.34**	**313**	*e*	P		**P**	**23 55 33.6**	**-0.3**
	comp=Z,15nm,0.9s								
OBN	**Obninsk**	**19.49**	**16**		P		**P**	**23 55 36.0**	**+0.6**
OBN					pmax		pmax		
	comp=Z,5.0nm,0.8s								
OBN	**Obninsk**	**19.49**	**16**		P		**P**	**23 55 36.0**	**+0.6**
	comp=Z,5.0nm,0

YSS	**Yuzh-Sakhalins**	**2.72**	**312**	⇑*i*PN	**Pn**	**00 48 51.4**	**-0.9**
YSS				*e*S	**S**	**00 49 29.0**	**-2.9**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS				smax	smax		
	comp=E,80nm,1.2s						
JFR	**Furan**	**3.02**	**229**	P	**Pn**	**00 48 57.3**	**+1.7**
JCH	**Churui**	**3.08**	**214**	P	**Pn**	**00 48 56.4**	**+0.2**
JCH				*e*S	**S**	**00 49 36.6**	**-2.3**
JNBK	**Urakawa-nobuka**	**3.60**	**218**	P	**Pn**	**00 49 01.9**	**-0.1**
JNBK				*e*S	**S**	**00 49 46.9**	**-2.5**
ERM	**Erimo**	**3.67**	**211**	*c*PN	**Pn**	**00 49 03.9**	**+1.2**
JKB	**Kayabe**	**4.73**	**228**	P	**Pn**	**00 49 15.2**	**0.0**
JKB				*e*S	**S**	**00 50 09.1**	**-4.1**
JOT	**Ohata**	**5.10**	**224**	P	**Pn**	**00 49 19.0**	**-0.6**
JOT				*e*S	**S**	**00 50 17.0**	**-4.3**
MJA0	**Matsu Arr-Jizo**	**10.31**	**216**	*e*PN	**P**	**00 50 28.7**	**-1.0**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**10.32**	**216**	P	**Pn**	**00 50 26.8**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=27,slow=10,SNR=5.8						
PETK	**Petropavlovsk-**	**11.15**	**40**	PN	**Pn**	**00 50 34.1**	**-0.9**
PETK	**Petropavlovsk-**	**11.15**	**40**	P	**Pn**	**00 50 34.1**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=232,slow=12,SNR=3.0						
KSRS	**Korea Array**	**15.41**	**246**	P	**Pn**	**00 51 28.6**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=56,slow=11,SNR=7.7						
MKAR	**Makanchi Array**	**43.02**	**296**	P	**P**	**00 55 36.4**	**-0.1**
MKAR	**Makanchi Array**	**43.02**	**296**	P	**P**	**00 55 36.4**	**-0.1**
	comp=Z,0.2nm,0.8s,baz=59,slow=3.7,SNR=3.8						
WRA	**Warramunga Arr**	**65.63**	**192**	P	**P**	**00 58 20.9**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=7.6,slow=6.5,SNR=3.0						
NVAR	**Mina Array Bea**	**67.69**	**58**	P	**P**	**00 58 32.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=297,slow=6.5,SNR=4.0						
NOA	**NORSAR Array B**	**67.89**	**338**	P	**P**	**00 58 31.1**	**-1.7**
	comp=Z,0.6nm,0.7s,baz=36,slow=4.4,SNR=4.2						
PDAR	**Pinedale Array**	**69.77**	**49**	P	**P**	**00 58 44.9**	**0.0**
	comp=Z,0.3nm,0.6s,baz=323,slow=1.4,SNR=3.9						
ULM	**Lac du Bonnet**	**70.98**	**37**	P	**P**	**00 58 53.7**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=284,slow=8.3,SNR=2.7						
GERES	**GERESS Array B**	**77.41**	**330**	P	**P**	**00 59 28.2**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=26,slow=4.7,SNR=3.0						
TXAR	**Lajitas Array**	**82.70**	**55**	P	**P**	**00 59 57.9**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=302,slow=4.1,SNR=6.2						

*IDC **07** 00:48:13.2±15.0, 36°.31N×71°.19E, h218km±180km, mb3.3/3, mb1 3.3/4, mb1mx2.8/26, mbtmp3.2/4, Error ellipse: s-maj=95.2km s-min=60.2km az=95.0*
*ISCJB **07** 00:48:16.3±0.6, 36°.81N±0°.04×70°.7E±0°.1, h200km, mb3.6/2, Error ellipse: s-maj=12.9km s-min=5.4km az=176.4*
*NNC **07** 00:48:22.5±3.4, 37°.13N×71°.00E, h236km±28km, mb2.5, mpv3.8, Error ellipse: s-maj=31.8km s-min=17.9km az=6.0*

IDC 07 00:48:17.2±0.9, 36°.79N±0°.06×70°.9E±0°.1, h200km, n23, σ1§37/31, 6C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.07**	**164**	⇓P	**Pn**	**00 49 08.9**	**+1.0**
CEP				S	**Sn**	**00 49 48.0**	**+0.5**
CHCP	**Chirah Chowk**	**3.67**	**148**	P	**Pn**	**00 49 15.7**	**+0.7**
THW	**Thamme Wali**	**4.05**	**170**	⇓P	**Pn**	**00 49 19.8**	**+0.1**
AML	**Almayashu**	**5.75**	**21**	P	**Pn**	**00 49 42.9**	**+1.4**
	SNR=47						
AML				P	**Pn**	**00 49 42.9**	**+1.4**
	SNR=47						
UCH	**Uchtor**	**6.10**	**26**	P	**Sn**	**00 50 56.7**	**+0.3**
	SNR=14						
UCH				P	**Sn**	**00 50 56.7**	**+0.3**
	SNR=14						
KZA	**Kyzart**	**6.25**	**31**	P	**Pn**	**00 49 49.2**	**+1.2**
	SNR=11						
KZA				P	**Pn**	**00 49 49.2**	**+1.2**
	SNR=11						
EKS2	**Erkin-Say**	**6.26**	**20**	P	**Pn**	**00 49 50.2**	**+2.3**
	SNR=14						
EKS2				P	**Pn**	**00 49 50.2**	**+2.3**
	SNR=14						
KK31	**Karatay Array**	**6.31**	**357**	P	**Pn**	**00 49 50.6**	**+2.2**
	6.4nm,0.6s,baz=176,slow=16,SNR=122						
KK31				⇑S	**Sn**	**00 50 59.5**	**-1.2**
	4.6nm,0.5s,baz=183,slow=23,SNR=6.4						
AAK	**Ala-Archa**	**6.45**	**24**	P	**Pn**	**00 49 52.4**	**+2.0**
	SNR=8.6						
AAK				P	**Pn**	**00 49 52.4**	**+2.0**
	SNR=8.6						
ULHL	**Ulahol**	**6.82**	**35**	P	**Pn**	**00 49 56.4**	**+1.2**
	SNR=7.8						
ULHL				P	**Pn**	**00 49 56.4**	**+1.2**
	SNR=7.8						
TKM2	**Tokmak 2**	**7.10**	**29**	⇑P	**Pn**	**00 49 59.9**	**+1.1**
	2.2nm,0.5s						
TKM2				⇓S	**Sn**	**00 51 19.9**	**+0.3**
	12nm,0.7s						
MK31	**Makanchi Array**	**13.09**	**37**	⇑P	**Pn**	**00 51 14.7**	**-1.0**
	0.7nm,0.5s,baz=224,slow=9.2,SNR=24						
MKAR	**Makanchi Array**	**13.09**	**37**	P	**Pn**	**00 51 14.4**	**-1.3**
	baz=222,slow=14,SNR=6.1						
AB31	**Akbulak array**	**14.79**	**331**	⇓P	**P**	**00 51 38.3**	**+0.7**
	0.4nm,0.4s,baz=123,slow=10,SNR=25						
KURBB	**Kurchatov Arra**	**14.87**	**19**	⇓P	**Pn**	**00 51 36.1**	**-1.4**
	0.2nm,0.5s						
KURK	**Kurchatov**	**14.98**	**19**	⇓P	**Pn**	**00 51 37.1**	**-1.7**
	2.2nm,0.9s						
VOSK	**Vostochnaya**	**15.93**	**0**	⇑P	**Pn**	**00 51 50.3**	**-0.1**
	2.4nm,0.7s						
ZRNK	**Zerenda**	**16.21**	**356**	⇑P	**P**	**00 51 52.8**	**-0.4**
	2.4nm,0.8s						
BVA0	**Borovoye Array**	**16.23**	**359**	⇓P	**Pn**	**00 51 55.0**	**+0.9**
	0.2nm,0.3s,baz=268,slow=40,SNR=21						
AKTO	**Aktyubinsk**	**16.49**	**330**	⇑P	**P**	**00 51 55.8**	**-0.6**
	0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**19.68**	**25**	P	**P**	**00 52 29.3**	**-1.5**
	1.4nm,0.5s,baz=215,slow=11,SNR=4.6						
FINES	**FINESS Array B**	**37.20**	**326**	P	**P**	**00 55 07.4**	**-1.4**
	4.8nm,1.1s,baz=114,slow=14,SNR=4.5						
TORD	**Torodi Ar. Bea**	**65.66**	**268**	P	P	00 58 35.7	-4.6
	0.6nm,0.6s,baz=51,slow=5.6,SNR=6.5						

IDC 07 00:49:17.6×55.0, 15°.66S×166°.66E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/17, mbtmp4.1/3, Error ellipse: s-maj=921.5km s-min=100.4km az=67.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.95**	**230**	P	P	00 55 09.6	-0.4
	2.3nm,0.3s,baz=56,slow=9.1,SNR=13						
WRA	**Warramunga Arr**	**31.04**	**257**	P	P	00 55 37.8	+0.2
	0.3nm,0.4s,baz=89,slow=9.0,SNR=7.8						
ASAR	**Alice Springs**	**31.80**	**250**	P	P	00 55 44.4	+0.1
	2.0nm,0.5s,baz=75,slow=9.6,SNR=34						

*ISK **07** 00:50:49.5, 36°.98N×28°.25E, h7km, MD2.6*
*DDA **07** 00:50:49.3, 36°.98N×28°.16E, h7km, MD2.8*
*CSEM **07** 00:50:50.1±0.3, 36°.98N×28°.22E, h5km, MD2.6, Error ellipse: s-maj=5.7km s-min=3.9km az=16.0*

ISC 07 00:50:49.3±1.1, 36°.97N±0°.03×28°.22E±0°.02, h0km±9km, n28, σ1§20/56, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.17**	**16**	*e*PG	**Pg**	**00 50 53.0**	**+0.4**
YER				*e*SG	**Sg**	**00 50 56.4**	**+1.6**
YER	**Yerkesik**	**0.17**	**16**	*e*Pg	**Pg**	**00 50 53.0**	**+0.4**
YER				*e*Sg	**Sg**	**00 50 56.4**	**+1.6**
TURN	**Turunc**	**0.32**	**108**	*i* P	**Pg**	**00 50 53.6**	**-1.9**
TURN				*i* S	**Sg**	**00 50 57.3**	**-2.3**
TURN	**Turunc**	**0.32**	**108**	*i* P	**Pg**	**00 50 53.6**	**-1.9**
TURN				*i* S	**Sg**	**00 50 57.3**	**-2.3**
BDRM	**Kayabasi**	**0.63**	**279**	*i* P	**Pg**	**00 51 01.0**	**-0.4**
BDRM				*i* S	**Sb**	**00 51 12.0**	**-0.7**
BDRM	**Kayabasi**	**0.63**	**279**	*i* P	**Pg**	**00 51 01.0**	**-0.4**
BDRM				*i* S	**Sb**	**00 51 12.0**	**-0.7**
BODT	**Bodrum**	**0.74**	**277**	*e*PG	**Pb**	**00 51 04.7**	**-0.4**
BODT				*e*SG	**Sb**	**00 51 15.7**	**0.0**
BODT	**Bodrum**	**0.74**	**277**	*e*Pg	**Pb**	**00 51 04.7**	**-0.4**
BODT				*e*Sg	**Sb**	**00 51 15.7**	**0.0**
AYDN	**Tasoluk**	**0.74**	**338**	*i* P	**Pg**	**00 51 03.9**	**+0.4**
AYDN				*i* S	**Sg**	**00 51 13.9**	**+0.8**
AYDN	**Tasoluk**	**0.74**	**338**	*i* P	**Pg**	**00 51 03.9**	**+0.4**
AYDN				*i* S	**Sg**	**00 51 13.9**	**+0.8**
FETY	**Fethiye**	**0.77**	**116**	*e*PG	**Pg**	**00 51 04.2**	**+0.2**
FETY				*e*SG	**Sg**	**00 51 15.3**	**+1.3**
FETY	**Fethiye**	**0.77**	**116**	*e*Pg	**Pg**	**00 51 04.2**	**+0.2**
FETY				*e*Sg	**Sg**	**00 51 15.3**	**+1.3**
DNZL	**Cakiroluk**	**0.97**	**42**	*i* P	**Pg**	**00 51 07.7**	**-0.3**
DNZL				*i* S	**Sn**	**00 51 23.9**	**-1.1**
DNZL	**Cakiroluk**	**0.97**	**42**	*i* P	**Pg**	**00 51 07.7**	**-0.3**
DNZL				*i* S	**Sn**	**00 51 23.9**	**-1.1**
GOLH	**Golhisar**	**1.10**	**76**	*i* P	**Pb**	**00 51 11.5**	**+0.1**
GOLH				*i* S	**Sn**	**00 51 28.4**	**+0.3**
GOLH	**Golhisar**	**1.10**	**76**	*i* P	**Pb**	**00 51 11.5**	**+0.1**
GOLH				*i* S	**Sn**	**00 51 28.4**	**+0.3**
AKAS	**Kas**	**1.33**	**123**	*i* P	**Pb**	**00 51 16.6**	**+1.3**
AKAS				*i* S	**Sn**	**00 51 37.2**	**+3.3**
AKAS	**Kas**	**1.33**	**123**	*i* P	**Pb**	**00 51 16.6**	**+1.3**
AKAS				*i* S	**Sn**	**00 51 37.2**	**+3.3**
ELL	**Elmali**	**1.37**	**99**	*e*PN	**Pn**	**00 51 15.4**	**-0.4**
ELL				*e*SN	**Sn**	**00 51 34.8**	**0.0**
ELL	**Elmali**	**1.37**	**99**	*e*Pn	**Pn**	**00 51 15.4**	**-0.4**
ELL				*e*Sn	**Sn**	**00 51 34.8**	**0.0**
MANT	**Manisa**	**1.54**	**10**	*i* P	**Pg**	**00 51 19.1**	**+0.2**
MANT				*i* S	**Sn**	**00 51 37.8**	**-1.3**
MANT	**Manisa**	**1.54**	**10**	*i* P	**Pg**	**00 51 19.1**	**+0.2**
MANT				*i* S	**Sn**	**00 51 37.8**	**-1.3**
KULA	**Kula-Manisa**	**1.58**	**13**	*e*PN	**Pn**	**00 51 18.5**	**-0.2**
KULA				*e*SN	**Sb**	**00 51 39.5**	**-0.5**
KULA	**Kula-Manisa**	**1.58**	**13**	*e*Pn	**Pn**	**00 51 18.5**	**-0.2**
KULA				*e*Sn	**Sb**	**00 51 39.5**	**-0.5**
KORT	**Korkueli**	**1.70**	**88**	*i* P	**Pb**	**00 51 21.0**	**-0.6**
KORT				*i* S	**Sg**	**00 51 46.4**	**+2.3**
KORT	**Korkueli**	**1.70**	**88**	*i* P	**Pb**	**00 51 21.0**	**-0.6**
KORT				*i* S	**Sg**	**00 51 46.4**	**+2.3**
KHAL	**Karahalli**	**1.72**	**35**	*i* P	**Pb**	**00 51 21.6**	**-0.3**
KHAL				*i* S	**Sn**	**00 51 42.4**	**-1.0**
KHAL	**Karahalli**	**1.72**	**35**	*i* P	**Pb**	**00 51 21.6**	**-0.3**
KHAL				*i* S	**Sn**	**00 51 42.4**	**-1.0**

IDC 07 00:58:03.0±1.5, 5°.18S×147°.19E, h0km, mb3.5/4, mb1 3.9/6, mb1mx3.7/17, mbtmp3.7/6, ML3.7/2, Error ellipse: s-maj=53.2km s-min=22.8km az=109.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.20**	**180**	Pn	Pn	00 59 09.2	+0.9
	4.3nm,0.3s,baz=353,slow=8.1,SNR=9.3						
PMG				Sn	Sn	00 59 50.2	-7.9
	7.7nm,0.3s,baz=207,slow=21,SNR=6.6						
WRA	**Warramunga Arr**	**19.28**	**219**	P	P	01 02 29.6	+0.2
	0.8nm,0.3s,baz=42,slow=12,SNR=53						
ASAR	**Alice Springs**	**22.40**	**214**	P	P	01 03 02.4	-0.9
	0.6nm,0.5s,baz=47,slow=8.7,SNR=9.6						
FITZ	**Fitzroy Crossi**	**24.66**	**237**	P	P	01 03 26.1	+0.5
	3.3nm,0.5s,baz=54,slow=10,SNR=6.1						
SONM	**Songino Array**	**63.78**	**331**	P	P	01 08 38.0	+1.0
	0.1nm,0.4s,baz=131,slow=7.9,SNR=3.2						
ILAR	**Eielson Array**	**84.66**	**23**	P	P	01 10 37.7	-0.6
	0.2nm,0.8s,baz=262,slow=4.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**145.06**	**286**	PKPbc	PKPbc	01 17 41.5	-1.3
	0.3nm,0.6s,baz=67,slow=3.6,SNR=3.3						

*DDA **07** 01:25:17.4, 37°.78N×37°.75E, h5km, MD2.8*
*ISCJB **07** 01:25:18.5±0.8, 37°.77N±0°.03×37°.79E±0°.06, h0km±12km, Error ellipse: s-maj=8.1km s-min=5.4km az=17.8*

ISC 07 01:25:17.9±1.6, 37°.75N±0°.04×37°.82E±0°.05, h6km±13km, n7, σ1§17/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZT	**Gaziantep**	**0.45**	**207**	*i* P	**Pg**	**01 25 26.4**	**-0.2**
GZT				*i* S	**Sb**	**01 25 33.6**	**-1.7**
ATAB	**Bozova**	**0.47**	**127**	*i* P	**Pb**	**01 25 28.4**	**-0.2**
ATAB				*i* S	**Sb**	**01 25 37.0**	**+1.2**
AKCD	**Akcadag**	**0.55**	**8**	*i* P	**Pg**	**01 25 28.4**	**0.0**
AKCD				*i* S	**Sb**	**01 25 36.7**	**-1.4**
MALT	**Malatya**	**0.73**	**40**	*e*PG	Pg	01 25 27.9	-4.1
MALT				*e*SG	**Sb**	**01 25 43.4**	**-0.3**
URFA	**Urfa**	**0.85**	**111**	*e*PN	**Pn**	**01 25 36.8**	**+0.3**
KUZU	**Kuzuini**	**1.15**	**212**	*i* P	**Pb**	**01 25 39.8**	**-0.3**
KUZU				*i* S	**Sn**	**01 25 55.9**	**-0.7**
ANDN	**Andirin**	**1.19**	**262**	*i* P	**Pn**	**01 25 43.1**	**+2.0**
ANDN				*i* S	**Sn**	**01 25 57.3**	**-0.3**

IDC 07 02:06:10.7±7.5, 18°.35S×178°.17W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.7/17, mbtmp4.0/2, Error ellipse: s-maj=302.7km s-min=67.4km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.78**	**260**	P	P	02 14 26.8	+0.4
	0.5nm,0.3s,baz=93,slow=8.2,SNR=15						
ASAR	**Alice Springs**	**44.89**	**255**	P	P	02 14 26.8	-0.7
	4.5nm,0.9s,baz=91,slow=8.3,SNR=26						
BRTR	**Keskin Array B**	**145.25**	**315**	PKPbc	PKPbc	02 25 49.6	-0.9
	0.4nm,0.7s,baz=64,slow=3.4,SNR=3.6						

*ISCJB **07** 02:33:15.9±0.6, 36°.96N±0°.04×28°.24E±0°.03, h10km±4km, Error ellipse: s-maj=7.0km s-min=4.1km az=11.0*
*ISK **07** 02:33:16.4, 37°.06N×28°.23E, h18km, MD2.7*
*DDA **07** 02:33:16.2, 36°.98N×28°.20E, h7km, MD2.8*
*CSEM **07** 02:33:16.6±0.2, 37°.02N×28°.20E, h15km, MD2.7, Error ellipse: s-maj=6.1km s-min=3.8km az=9.0*

ISC 07 02:33:16.2±0.9, 37°.00N±0°.03×28°.22E±0°.02, h10km±7km, n34, σ1§43/53, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.15**	**19**	*e*PG	**Pg**	**02 33 19.9**	**+0.4**
YER				*e*SG	**Sg**	**02 33 23.1**	**+1.3**
YER	**Yerkesik**	**0.15**	**19**	*e*Pg	**Pg**	**02 33 19.9**	**+0.4**
YER				*e*Sg	**Sg**	**02 33 23.2**	**+1.3**
TURN	**Turunc**	**0.33**	**112**	*i* P	**Pg**	**02 33 20.3**	**-2.4**
TURN				*i* S	**Sg**	**02 33 24.1**	**-3.0**
TURN	**Turunc**	**0.33**	**112**	*i* P	**Pg**	**02 33 20.3**	**-2.4**
TURN				*i* S	**Sg**	**02 33 24.1**	**-3.0**
BDRM	**Kayabasi**	**0.63**	**276**	*i* P	**Pg**	**02 33 27.5**	**-0.9**
BDRM				*i* S	**Sb**	**02 33 38.3**	**+0.1**
BDRM	**Kayabasi**	**0.63**	**276**	*i* P	**Pg**	**02 33 27.5**	**-0.9**
BDRM				*i* S	**Sb**	**02 33 38.3**	**+0.1**
AYDN	**Tasoluk**	**0.72**	**338**	*i* P	**Pg**	**02 33 30.0**	**-0.1**
AYDN				*i* S	**Sb**	**02 33 40.6**	**-0.2**
AYDN	**Tasoluk**	**0.72**	**338**	*i* P	**Pg**	**02 33 30.0**	**-0.1**
AYDN				*i* S	**Sb**	**02 33 40.6**	**-0.2**
BODT	**Bodrum**	**0.73**	**275**	*e*PG	**Pb**	**02 33 31.3**	**+0.2**
BODT				*e*SG	**Sb**	**02 33 42.1**	**+0.9**
BODT	**Bodrum**	**0.73**	**275**	*e*Pg	**Pb**	**02 33 31.3**	**+0.2**
BODT				*e*Sg	**Sb**	**02 33 42.1**	**+0.9**
FETY	**Fethiye**	**0.78**	**117**	*e*PG	**Pb**	**02 33 32.5**	**+0.6**
FETY	**Fethiye**	**0.78**	**117**	*e*Pg	**Pb**	**02 33 32.5**	**+0.6**
DNZL	**Cakiroluk**	**0.95**	**43**	*i* P	**Pg**	**02 33 34.5**	**-0.1**
DNZL				*i* S	**Sn**	**02 33 48.8**	**-0.9**
DNZL	**Cakiroluk**	**0.95**	**43**	*i* P	**Pg**	**02 33 34.5**	**-0.1**
DNZL				*i* S	**Sn**	**02 33 48.8**	**-0.9**
GCAM	**G?zelcaml?**	**1.05**	**312**	*i* P	**Pg**	**02 33 35.5**	**-1.0**
GCAM				*i* S	**Sn**	**02 33 52.2**	**+0.4**
GCAM	**G?zelcaml?**	**1.05**	**312**	*i* P	**Pg**	**02 33 35.5**	**-1.0**
GCAM				*i* S	**Sn**	**02 33 52.2**	**+0.4**
GOLH	**Golhisar**	**1.10**	**77**	*i* P	**Pn**	**02 33 37.9**	**+0.1**
GOLH				*i* S	**Sn**	**02 33 55.9**	**+2.8**
GOLH	**Golhisar**	**1.10**	**77**	*i* P	**Pn**	**02 33 37.9**	**+0.1**
GOLH				*i* S	**Sn**	**02 33 55.9**	**+2.8**
AKAS	**Kas**	**1.35**	**124**	*i* P	**Pn**	**02 33 42.0**	**+0.7**
AKAS				*i* S	**Sg**	**02 34 05.3**	**+5.7**
AKAS	**Kas**	**1.35**	**124**	*i* P	**Pn**	**02 33 42.0**	**+0.7**
ELL	**Elmali**	**1.38**	**100**	*e*PN	**Pn**	**02 33 41.3**	**-0.3**
ELL	**Elmali**	**1.38**	**100**	*e*Pn	**Pn**	**02 33 41.3**	**-0.3**
KULA	**Kula-Manisa**	**1.55**	**13**	*e*Pn	**Pn**	**02 33 42.8**	**-1.2**
KULA	**Kula-Manisa**	**1.55**	**13**	*e*Pn	**Pn**	**02 33 42.8**	**-1.2**
IZM	**Izmir**	**1.59**	**332**	*e*PN	**Pn**	**02 33 43.5**	**-1.0**
IZM	**Izmir**	**1.59**	**332**	*e*Pn	**Pn**	**02 33 43.5**	**-1.0**
BLCB	**Balcova**	**1.67**	**326**	*e*PN	**Pn**	**02 33 45.0**	**-0.6**
BLCB	**Balcova**	**1.67**	**326**	*e*Pn	**Pn**	**02 33 45.0**	**-0.6**
KHL	**Karahalli**	**1.68**	**38**	*e*PN	**Pn**	**02 33 44.7**	**-1.1**
KHL	**Karahalli**	**1.68**	**38**	*e*Pn	**Pn**	**02 33 44.7**	**-1.1**
KHAL	**Karahalli**	**1.70**	**36**	*i* P	**Pb**	**02 33 46.9**	**-0.8**
KHAL				*i* S	**Sb**	**02 34 09.2**	**0.0**
KHAL	**Karahalli**	**1.70**	**36**	*i* P	**Pb**	**02 33 46.9**	**-0.8**
KHAL				*i* S	**Sb**	**02 34 09.2**	**0.0**
BCK	**Bucak**	**1.94**	**76**	*e*PN	**Pn**	**02 33 49.2**	**-0.2**
BCK	**Bucak**	**1.94**	**76**	*e*Pn	**Pn**	**02 33 49.2**	**-0.2**

*DDA **07** 02:49:24.1, 36°.97N×28°.23E, h7km, MD2.6*

ISC 07 02:49:21.8±3.6, 36°.8N±0°.2×28°.2E±0°.1, h2km±26km, n4, σ0§21/7, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.30**	**14**	*e*PG	**Pg**	**02 49 27.8**	**+0.2**
YER				*e*SG	**Sg**	**02 49 31.3**	**-0.1**
TURN	**Turunc**	**0.33**	**85**	*i* P	**Pg**	**02 49 28.2**	**+0.1**
TURN				*i* S	**Sg**	**02 49 32.1**	**-0.2**
AYDN	**Tasoluk**	**0.85**	**343**	*i* P	**Pg**	**02 49 38.1**	**0.0**
AYDN				*i* S	**Sg**	**02 49 49.2**	**0.0**
ELL	**Elmali**	**1.38**	**93**	*e*PG	**Pn**	**02 49 48.2**	**0.0**
ELL				*e*SG	Sg	02 50 13.1	+6.9

*ISCJB **07** 03:00:09.9±0.5, 50°.15N±0°.03×18°.38E±0°.03, h0km, Error ellipse: s-maj=4.0km s-min=2.7km az=22.4*
*CSEM **07** 03:00:10.9±0.3, 50°.17N×18°.37E, h2km, ML2.7/10, Error ellipse: s-maj=5.7km s-min=3.6km az=12.0*
*IPEC **07** 03:00:11.8±0.2, 50°.07N×18°.50E, h12km±2km, ML2.1/4, Error ellipse: s-maj=2.0km s-min=1.1km az=162.0*
*PRU **07** 03:00:12.6, 50°.11N×18°.38E, h0km*
*WAR **07** 03:00:12.0, 50°.08N×18°.45E*

ISC 07 03:00:11.7±0.8, 50°.09N±0°.03×18°.45E±0°.02, h0km, n38, σ0§91/66, 4C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.17**	**268**	*e*Sg	**Sg**	**03 00 19.1**	**+2.1**
OKC	**Ostrava-Krasne**	**0.32**	**218**	*e*PG	**Pg**	**03 00 18.5**	**+0.7**
OKC				*e*SG	**Sg**	**03 00 21.8**	**-0.1**
	comp=Z,71nm,0.7s						
OKC	**Ostrava-Krasne**	**0.32**	**218**	*e*Pg	**Pg**	**03 00 18.4**	**+0.7**
	baz=45						
OKC				Sg	**Sg**	**03 00 21.8**	**-0.1**
	71nm,0.7s						
MORC	**Moravsky Berou**	**0.66**	**242**	⇓*i*P	**Pg**	**03 00 24.4**	**0.0**
MORC	**Moravsky Berou**	**0.66**	**242**	⇓*i*P	**Pg**	**03 00 24.4**	**0.0**
MORC				*e*Sg	**Sg**	**03 00 33.8**	**+0.8**
	40nm,0.4s,baz=65						
OJC	**Ojcow**	**0.88**	**81**	*e*Pg	**Pg**	**03 00 28.1**	**-0.4**
OJC				*e*Sg	**Sg**	**03 00 40.0**	**+0.2**
OJC	**Ojcow**	**0.88**	**81**	*e*Pg	**Pg**	**03 00 28.4**	**-0.1**
	baz=260						
OJC				*e*Sg	**Sg**	**03 00 40.5**	**+0.7**
JAVC	**Velka Javorina**	**1.33**	**203**	*e*Sg	**Sn**	**03 00 57.0**	**+1.0**
	17nm,0.7s						
NIE	**Niedzica**	**1.38**	**118**	*e*Pg	**Pg**	**03 00 38.0**	**-0.1**
NIE				*e*Sg	**Sb**	**03 00 57.1**	**+0.5**
NIE	**Niedzica**	**1.38**	**118**	*e*Pg	**Pg**	**03 00 38.3**	**+0.2**
NIE				*e*Sg	**Sn**	**03 00 57.9**	**+0.7**
DPC	**Dobruska-Polom**	**1.39**	**282**	*e*PG	**Pn**	**03 00 37.7**	**-0.7**
DPC				*e*SG	**Sg**	**03 00 55.7**	**-0.7**
	comp=Z,20nm,0.5s						
DPC	**Dobruska-Polom**	**1.39**	**282**	*e*Pg	**Pn**	**03 00 37.6**	**-0.8**
	baz=101						
DPC				Sg	**Sg**	**03 00 55.7**	**-0.7**
	20nm,0.5s						
VRAC	**Vranov**	**1.44**	**238**	⇑*i*P	**Pn**	**03 00 38.6**	**-0.4**
VRAC	**Vranov**	**1.44**	**238**	*e*Pg	**Pn**	**03 00 38.2**	**-0.8**
	baz=58						
VRAC				*e*Sg	**Sg**	**03 00 57.1**	**-0.7**
	13nm,0.2s,baz=58						
KSP	**Ksiaz**	**1.57**	**300**	*e*Pn	**Pn**	**03 00 40.0**	**-0.9**
KSP				*e*Sn	**Sg**	**03 01 03.1**	**+0.9**
KSP	**Ksiaz**	**1.57**	**300**	*e*Pn	**Pn**	**03 00 40.0**	**-0.9**
KSP				*e*Sn	**Sg**	**03 01 03.1**	**+0.9**
KSP	**Ksiaz**	**1.57**	**300**	*e*Pg	**Pn**	**03 00 39.9**	**-0.9**
KSP				*e*Sg	**Sb**	**03 01 02.4**	**+0.3**
VYHS	**Vyhne**	**1.61**	**171**	*e*PN	**Pn**	**03 00 40.7**	**-0.8**
VYHS				*e*SN	**Sn**	**03 01 03.1**	**+0.1**
VYHS				*e*SG	**S

LIA					S	Sb	03 01 16.9 +0.6	VTS	Vitosha	2.93 319	*i* P	Pn	03 01 38.9 +0.6	JRA			*e*S	Sn	03 04 32.5 +1.4
LIA	**Limnos Island**	0.72 224	*e*PN	Pb	03 01 06.0 -0.2	VTS	Vitosha	2.93 319	P	Pn	03 01 38.8 +0.5	**JNK**	**Nakash**	2.16 255	P	Pn	03 04 15.0 +0.6
LIA			*e*SN	Sb	03 01 16.5 +0.2	**HRT**	**Hereke**	2.94 81	*e*PN	Pn	03 01 38.6 +0.1	JNK			*e*S	Sn	03 04 40.0 0.0
LIA	**Limnos Island**	0.72 224	P	Pb	03 01 06.0 -0.2	**HRT**	**Hereke**	2.94 81	*e*Pn	Pn	03 01 38.6 +0.1	**JAK**	**Akkeshi**	2.41 242	P	Pn	03 04 17.7 -0.1
LIA			*e*Sn	Sb	03 01 16.5 +0.2	**ADVT**	**Abdulvahap**	2.98 89	*e*PN	Pn	03 01 39.4 +0.5	JAK			*e*S	Sn	03 04 45.0 -1.2
LIA			S	Sb	03 01 16.9 +0.6	**ADVT**	**Abdulvahap**	2.98 89	*e*Pn	Pn	03 01 39.4 +0.5	**JTKR**	**Abashiri--Toko**	2.66 267	P	Pn	03 04 22.6 +1.4
RKY	**Sarkoy-Tekirda**	1.06 75	*e*PN	Pg	03 01 11.4 -0.1	**SILT**	**Sile**	2.98 75	*e*PN	Pn	03 01 39.4 +0.5	JTKR			*e*S	Sn	03 04 54.6 +2.4
RKY	**Sarkoy-Tekirda**	1.06 75	*e*Pn	Pg	03 01 11.4 -0.1	**SILT**	**Sile**	2.98 75	*e*Pn	Pn	03 01 39.4 +0.5	**JAR**	**Ashorobuto**	2.91 254	P	Pn	03 04 25.9 +1.3
SART	**Tekirdag**	1.06 75	*i* P	Pg	03 01 10.8 -0.8	**PRD**	**Provadia**	3.01 22	*i* P	Pn	03 01 40.0 +0.7	JAR			*e*S	Sn	03 04 59.6 +1.3
SART			*i* S	Sn	03 01 28.1 +0.5	**PRD**	**Provadia**	3.01 22	*i* P	Pn	03 01 40.0 +0.7	**JOB**	**Onbets**	3.02 246	P	Pn	03 04 26.9 +0.9
SART	**Tekirdag**	1.06 75	*i* P	Pg	03 01 10.8 -0.8	**THL**	**Klokotos Trika**	3.06 255	*e*PN	Pn	03 01 39.5 -0.5	JOB			*e*S	Sn	03 05 00.0 -0.9
SART			*i* S	Sn	03 01 28.1 +0.5	**THL**	**Klokotos Trika**	3.06 255	*e*Pn	Pn	03 01 39.5 -0.5	**JMP**	**Maruseppu**	3.05 268	P	Pn	03 04 28.3 +1.7
KRBG	**Karabiga-Canak**	1.12 91	*e*PN	Pg	03 01 12.6 -0.1	**CAVI**	**Cavuskoy**	3.07 93	*e*PN	Pn	03 01 40.4 +0.2	**JCH**	**Churui**	3.46 244	*e*S	Sn	03 05 11.6 -0.2
KRBG	**Karabiga-Canak**	1.12 91	*e*Pn	Pg	03 01 12.6 -0.1	**CAVI**	**Cavuskoy**	3.07 93	*e*Pn	Pn	03 01 40.4 +0.2	**JKK2**	**Kamakawa 2**	3.50 267	P	Pn	03 04 35.1 +2.3
KAVA	**Kavala**	1.16 300	P	Pg	03 01 13.1 -0.3	**GDZ**	**Gediz**	3.11 114	*i* P	Pn	03 01 41.6 +0.7	**ASAJ**	**Asahikawa**	3.59 271	P	Pn	03 04 35.1 +1.1
KAVA			S	Sn	03 01 29.0 -0.8	GDZ			*i* S	Sn	03 02 19.7 +1.4	**ASAJ**	**Asahikawa**	3.59 271	P	Pn	03 04 35.1 +1.1
MFT	**Murefte**	1.16 71	*e*PN	Pn	03 01 13.8 -0.2	**GDZ**	**Gediz**	3.11 114	*i* P	Pn	03 01 41.6 +0.7		comp=E,5.5nm,0.3s,baz=75,slow=17,SNR=36				
MFT	**Murefte**	1.16 71	*e*Pn	Pn	03 01 13.8 -0.2	GDZ			*i* S	Sn	03 02 19.7 +1.4	ASAJ			LR	LR	03 06 09.6
PRK	**Paraskevi**	1.22 164	P	Pg	03 01 14.8 +0.1	**LTK**	**Loutraki**	3.27 224	*e*PN	Pn	03 01 43.0 0.0		comp=E,287nm,21.7s,baz=340,slow=42				
PRK			S	Sn	03 01 32.0 +0.5	**LTK**	**Loutraki**	3.27 224	*e*Pn	Pn	03 01 43.0 0.0	**JSE**	**Soyaes**	3.66 284	P	Pn	03 04 36.6 +1.8
PRK	**Paraskevi**	1.22 164	*e*PN	Pg	03 01 14.8 +0.1	**MPEP**	**Malo Peshtene**	3.32 333	*i* P	Pn	03 01 44.3 +0.7	**JFR**	**Furan**	3.77 256	*e*S	Sn	03 05 19.5 +0.1
PRK			*e*SN	Sn	03 01 32.0 +0.5	**EVR**	**Evrytania**	3.45 245	*e*PN	Pn	03 01 44.9 -0.6	**ERM**	**Erimo**	3.90 238	*e*PN	Pn	03 04 40.2 +2.0
PRK	**Paraskevi**	1.22 164	P	Pg	03 01 14.8 +0.1	**EVR**	**Evrytania**	3.45 245	*e*Pn	Pn	03 01 44.9 -0.6	ERM			*e*		03 05 24.3
PRK			S	Sn	03 01 32.0 +0.5	**KHL**	**Karahalli**	3.55 125	*e*PN	Pn	03 01 47.4 +0.6	**ERM**	**Erimo**	3.90 238	*e*Pn	Pn	03 04 40.2 +2.0
KDZ	**Kurdzhali**	1.26 346	*i* P	Pn	03 01 14.7 -0.7	**KHL**	**Karahalli**	3.55 125	*e*Pn	Pn	03 01 47.4 +0.6	ERM			*e*Sn	Sn	03 05 24.3 +1.6
KDZ	**Kurdzhali**	1.26 346	*i* P	Pn	03 01 14.7 -0.7	**DID**	**Didima**	3.55 216	*e*PN	Pn	03 01 46.5 -0.3	**JNBK**	**Urakawa-nobuka**	4.01 243	P	Pn	03 04 40.6 +0.9
AYVA	**Ayvalik**	1.29 149	*i* P	Pg	03 01 16.0 -0.1	**DID**	**Didima**	3.55 216	*e*Pn	Pn	03 01 46.5 -0.3	**JBT2**	**Biratori 2**	4.05 252	P	Pn	03 04 42.1 +1.8
AYVA			*i* S	Sn	03 01 34.2 +0.9	**ALT**	**Altintas**	3.57 111	*e*PN	Pn	03 01 47.4 +0.3	**YSS**	**Yuzh-Sakhalins**	4.38 311	⇓*i*PN	Pn	03 04 47.7 +3.0
AYVA	**Ayvalik**	1.29 149	*i* P	Pg	03 01 16.0 -0.1	**ALT**	**Altintas**	3.57 111	*e*Pn	Pn	03 01 47.4 +0.3	YSS			*e*S	Sn	03 05 34.9 +0.5
AYVA			*i* S	Sn	03 01 34.2 +0.9	**GULT**	**Gulveren**	3.57 88	*e*PN	Pn	03 01 48.1 +1.0	YSS			pmax	pmax	
TKR	**Tekirdag**	1.41 66	*e*PN	Pn	03 01 16.9 -0.4	**GULT**	**Gulveren**	3.57 88	*e*Pn	Pn	03 01 48.2 +1.0		comp=N,50nm,0.4s				
TKR	**Tekirdag**	1.41 66	*e*Pn	Pn	03 01 16.9 -0.4	**BORA**	**Eskisehir**	3.58 97	*i* P	Pn	03 01 47.0 -0.3	YSS			pmax	pmax	
OUR	**Ouranopolis**	1.42 267	P	Pn	03 01 16.4 -1.0	**BORA**	**Eskisehir**	3.58 97	*i* P	Pn	03 01 47.0 -0.3		comp=E,90nm,0.4s				
OUR			S	Sg	03 01 37.6 +0.8	**GUR**	**Goura**	3.68 229	*e*PN	Pn	03 01 47.9 -0.7	YSS			pmax	pmax	
OUR	**Ouranopolis**	1.42 267	P	Pn	03 01 16.4 -1.0	**GUR**	**Goura**	3.68 229	*e*Pn	Pn	03 01 47.9 -0.7		comp=Z,160nm,0.4s				
OUR			S	Sg	03 01 37.6 +0.8	**PSN**	**Preselentsi**	3.69 27	*i* P	Pn	03 01 48.2 -0.5	YSS			smax	smax	
GONE	**Gonen-Balikesi**	1.47 104	*e*PN	Pn	03 01 18.1 0.0	**PSN**	**Preselentsi**	3.69 27	*i* P	Pn	03 01 48.2 -0.5		comp=N,50nm,0.6s				
GONE	**Gonen-Balikesi**	1.47 104	*e*Pn	Pn	03 01 18.1 0.0	**YER**	**Yerkesik**	3.80 149	*e*PN	Pn	03 01 50.8 +0.5	YSS			smax	smax	
RZN	**Rozhen**	1.52 327	*i* P	Pn	03 01 18.7 -0.3	**YER**	**Yerkesik**	3.80 149	*e*Pn	Pn	03 01 50.8 +0.5		comp=E,90nm,0.6s				
RZN	**Rozhen**	1.52 327	*i* P	Pn	03 01 18.7 -0.3	**BARS**	**Barje**	3.84 310	⇓*i*Pn	Pn	03 01 51.4 +0.6	**YSS**	**Yuzh-Sakhalins**	4.38 311	*e*PN	Pn	03 04 46.2 +1.5
BALY	**Balya**	1.53 116	*i* P	Pb	03 01 19.6 -0.4	**ESKT**	**Eskisehir**	3.96 102	*e*PN	Pn	03 01 53.2 +0.7	**YSS**	**Yuzh-Sakhalins**	4.38 311	⇓*i*P	Pn	03 04 47.7 +3.0
BALY			*i* S	Sb	03 01 39.9 +0.3	**ESKT**	**Eskisehir**	3.96 102	*e*Pn	Pn	03 01 53.2 +0.7	YSS			AMB	AMB	03 04 48.1
BALY	**Balya**	1.53 116	*i* P	Pb	03 01 19.6 -0.4	**MDUB**	**Mudurnu**	4.09 88	*e*PN	Pn	03 01 55.3 +1.0		comp=E,160nm,0.4s				
BALY			*i* S	Sb	03 01 39.9 +0.3	**MDUB**	**Mudurnu**	4.09 88	*e*Pn	Pn	03 01 55.3 +1.0	YSS			AMB	AMB	03 04 48.1
EDC	**Edincik**	1.55 92	*e*PN	Pn	03 01 18.9 -0.4	**SHUT**	**Suhut-Afyon**	4.10 116	*e*PN	Pn	03 01 55.3 +0.9		comp=E,50nm,0.4s				
EDC	**Edincik**	1.55 92	*e*Pn	Pn	03 01 18.9 -0.4	**SHUT**	**Suhut-Afyon**	4.10 116	*e*Pn	Pn	03 01 55.3 +0.9	YSS			AMB	AMB	03 04 48.1
BNT	**Bandirma**	1.59 92	*e*PN	Pn	03 01 19.5 -0.4	**TIRR**	**Tirgusor**	4.46 24	⇓*i*P	Pn	03 02 00.1 +0.9		comp=E,90nm,0.4s				
BNT	**Bandirma**	1.59 92	*e*Pn	Pn	03 01 19.5 -0.4	**TIRR**	**Tirgusor**	4.46 24	⇓*i*P	Pn	03 02 00.1 +0.9	YSS			*e*S	Sn	03 05 34.9 +0.5
CRLT	**Corlu**	1.61 63	*e*PN	Pn	03 01 19.7 -0.3	**BOLS**	**Boljevac**	4.46 321	⇑*i*Pn	Pn	03 01 58.4 -0.9	YSS			A	A	03 05 39.0
CRLT	**Corlu**	1.61 63	*e*Pn	Pn	03 01 19.7 -0.3	**SVRH**	**Sivrihisar-ESK**	4.48 101	*e*PN	Pn	03 02 00.3 +0.7		comp=E,50nm,0.6s				
DIM	**Dimitrovgrad**	1.64 352	*i* P	Pg	03 01 22.0 -0.7	**SVRH**	**Sivrihisar-ESK**	4.48 101	*e*Pn	Pn	03 02 00.3 +0.7	YSS			A	A	03 05 39.0
PAIG	**Paliouri**	1.72 254	P	Pn	03 01 20.6 -1.0	**ELL**	**Elmali**	4.86 138	*e*PN	Pn	03 02 05.9 +1.0		comp=E,90nm,0.6s				
PAIG	**Paliouri**	1.72 254	P	Pn	03 01 20.6 -1.0	**ELL**	**Elmali**	4.86 138	*e*Pn	Pn	03 02 05.9 +1.0	**UGL**	**Uglegorsk**	6.20 324	*e*P	Pn	03 05 13.2 +3.6
BALB	**Balikesir**	1.75 116	*e*PN	Pn	03 01 21.9 -0.2	**KIZT**	**Kizilcal**	4.92 106	*e*PN	Pn	03 02 07.3 +1.7	UGL			AMB	AMB	03 05 14.0
BALB	**Balikesir**	1.75 116	*e*Pn	Pn	03 01 21.9 -0.2	**KIZT**	**Kizilcal**	4.92 106	*e*Pn	Pn	03 02 07.3 +1.7		comp=E,43nm,0.6s				
NVR	**Nevrokopi**	1.76 302	P	Pn	03 01 21.8 -0.4	**VOIR**		5.04 354	⇓*i*P	Pn	03 02 08.4 +1.1	**TYV**	**Tymovskoe**	7.47 335	*e*P	Pn	03 05 27.8 +0.8
NVR			S	Sb	03 01 46.0 -0.1	**VOIR**		5.04 354	⇓*i*P	Pn	03 02 08.4 +1.1	TYV			AMB	AMB	03 05 32.0
NVR	**Nevrokopi**	1.76 302	*e*PN	Pn	03 01 21.9 -0.3	**MLR**	**Muntele Rosu**	5.06 1	⇑*i*P	Pn	03 02 09.9 +2.2		comp=E,5.0nm,0.6s				
NVR			*e*SN	Sn	03 01 43.8 -1.0	**MLR**	**Muntele Rosu**	5.06 1	⇑*i*P	Pn	03 02 09.9 +2.2	TYV			AMB	AMB	03 05 32.0
NVR	**Nevrokopi**	1.76 302	P	Pn	03 01 21.8 -0.4	**GRUS**	**Gruza**	5.14 314	⇓*i*Pn	Pn	03 02 08.5 -0.1		comp=E,18nm,0.8s				
NVR			*e*Sn	Sn	03 01 43.8 -1.0	**IVAS**	**Ivanjica**	5.28 309	*e*Pn	Pn	03 02 10.7 +0.2	**TEY**	**Ternei**	7.89 280	*e*P	Pn	03 05 40.1 +7.4
NVR			S	Sb	03 01 46.0 -0.1	**GZR**	**Gura Zlata**	5.45 337	⇑*i*P	Pn	03 02 12.4 -0.5	TEY			AMB	AMB	03 05 40.8
PLG	**Polygyros**	1.82 269	P	Pn	03 01 22.2 -0.9	**GZR**	**Gura Zlata**	5.45 337	⇑*i*P	Pn	03 02 12.4 -0.5		comp=E,17nm,1.0s				
PLG			S	Sb	03 01 48.3 +0.3	**PLOR**	**Plostina**	5.46 6	⇓*i*P	Pn	03 02 15.0 +2.0	**SKR**	**Severo-Kuril's**	8.70 39	*e*PN	Pn	03 05 46.1 +2.4
PLG	**Polygyros**	1.82 269	*e*PN	Pn	03 01 22.4 -0.7	**PLOR**	**Plostina**	5.46 6	⇓*i*P	Pn	03 02 15.0 +2.0	SKR			*e*		03 07 24.0
PLG	**Polygyros**	1.82 269	*e*Pn	Pn	03 01 22.4 -0.7	**VRI**	**Vrincioaia**	5.48 7	⇓*i*P	Pn	03 02 14.7 +1.4	SKR			pmax	pmax	
PLG			S	Sb	03 01 48.3 +0.3	**VRI**	**Vrincioaia**	5.48 7	⇓*i*P	Pn	03 02 14.7 +1.4		comp=N,25nm,2.1s				
SRS	**Serrai**	1.84 293	P	Pn	03 01 22.6 -0.6	**LADK**	**Ladik-KONYA**	5.53 112	*e*PN	Pn	03 02 16.0 +1.9	HABR			pmax	pmax	
SRS			S	Sb	03 01 48.5 +0.1	**LADK**	**Ladik-KONYA**	5.53 112	*e*Pn	Pn	03 02 16.0 +1.9		comp=Z,49nm,2.1s				
SRS	**Serrai**	1.84 293	P	Pn	03 01 22.6 -0.6	**KONT**	**Konya--Tatoy**	5.64 114	*e*PN	Pn	03 02 17.3 +1.8	HABR			pmax	pmax	
SRS			S	Sb	03 01 48.5 +0.1	**KONT**	**Konya--Tatoy**	5.64 114	*e*Pn	Pn	03 02 17.3 +1.8		comp=E,35nm,1.7s				
PLD	**Plovdiv**	1.88 333	P	Pn	03 01 23.9 +0.1	**AFSR**	**Af˙ar-Bala (A**	5.65 98	*e*PN	Pn	03 02 16.6 +0.9	HABR			MLR	MLR	
PLD			S	Sg	03 01 50.7 -1.1	**AFSR**	**Af˙ar-Bala (A**	5.65 98	*e*Pn	Pn	03 02 16.6 +0.9		comp=Z,146nm,18.0s				
PLD	**Plovdiv**	1.88 333	*i* P	Pg	03 01 26.6 -0.8	**DIVS**	**Divibare**	5.68 312	*e*Pn	Pn	03 02 15.9 -0.2	**NKL**	**Nikolayevsk**	10.06 336	*e*P	Pn	03 06 00.5 -1.9
PLD	**Plovdiv**	1.88 333	P	Pn	03 01 23.9 +0.1	**BZS**	**Buzias**	6.04 331	⇑*i*P	Pn	03 02 20.6 -0.3	NKL			AMB	AMB	03 06 04.0
PLD			S	Sg	03 01 50.7 -1.1	**BZS**	**Buzias**	6.04 331	⇑*i*P	Pn	03 02 20.6 -0.3		comp=Z,10.0nm,1.1s				
SOH	**Sokhos**	1.93 283	P	Pn	03 01 23.9 -0.6	**TESR**		6.11 5	⇓*i*P	Pn	03 02 22.0 0.0	**MJAR**	**Matsushiro Arr**	10.46 226	P	Pn	03 06 07.1 -0.9
SOH			S	Sb	03 01 50.6 -0.4	**TESR**		6.11 5	⇓*i*P	Pn	03 02 22.0 0.0	**MJAR**	**Matsushiro Arr**	10.46 226	P	Pn	03 06 07.1 -0.9
SOH	**Sokhos**	1.93 283	P	Pn	03 01 23.9 -0.6								comp=Z,0.4nm,0.3s,baz=27,slow=13,SNR=6.3				
SOH			S	Sb	03 01 50.6 -0.4							MJAR			LR	LR	03 10 35.1
KCTX	**Karacabey (Bur**	1.93 94	*e*PN	Pn	03 01 24.2 -0.3								comp=Z,67nm,21.6s,baz=125,slow=40				
KCTX	**Karacabey (Bur**	1.93 94	*e*Pn	Pn	03 01 24.2 -0.3							**MAJO**	**Matsushiro**	10.46 226	*e*PN	Pn	03 06 08.8 +0.8
AOS	**Alonnisos**	1.96 231	P	Pn	03 01 23.9 -1.0							**MAJO**	**Matsushiro**	10.46 226	*e*Pn	Pn	03 06 08.8 +0.8
AOS	**Alonnisos**	1.96 231	P	Pn	03 01 23.9 -1.0							**PEA0B**	**Petropavlovsk-**	11.15 33	*e*Pn	Pn	03 06 17.9 +0.7
MMB	**Musomiste**	1.97 307	P	Pn	03 01 24.5 -0.6							**PETK**	**Petropavlovsk-**	11.15 33	PN	Pn	03 06 15.7 -1.5
MMB	**Musomiste**	1.97 307	*i* P	Pn	03 01 34.5 -0.6							**PETK**	**Petropavlovsk-**	11.15 33	P	Pn	03 06 15.7 -1.5
SLVT	**Silivri**	1.97 65	*e*PN	Pn	03 01 25.0 -0.1							**PETK**	**Petropavlovsk-**	11.15 33	P	Pn	03 06 15.7 -1.5
SLVT	**Silivri**	1.97 65	*e*Pn	Pn	03 01 25.0 -0.1								comp=Z,2.6nm,0.3s,baz=196,slow=13,SNR=30				
CHOS	**Chios island**	2.04 175	P	Pn	03 01 26.3 +0.2							**USRK**	**Usurijsk Arra**	11.20 276	LR	LR	03 10 45.0
CHOS	**Chios island**	2.04 175	*e*PN	Pn	03 01 26.3 +0.2								comp=Z,79nm,18.4s,baz=355,slow=38				
HORT	**Hortiatis**	2.09 276	P	Pn	03 01 26.3 -0.5							**KLR**	**Kul'dur**	11.98 300	*e*PN	Pn	03 06 28.8 +0.1
HORT	**Hortiatis**	2.09 276	P	Pn	03 01 26.3 -0.5							KLR			MLR	MLR	
ELBA	**Catalca**	2.10 69	*i* P	Pn	03 01 24.9 -1.9								comp=Z,600nm,14.0s				
ELBA			*i* S	Sn	03 01 52.5 -0.7							**KSRS**	**Korea Array**	16.32 252	P	Pn	03 07 25.7 -0.3
ELBA	**Catalca**	2.10 69	*i* P	Pn	03 01 24.9 -1.9								baz=60,slow=11,SNR=3.1				
ELBA			*i* S	Sn	03 01 52.5 -0.7							KSRS			LR	LR	03 13 57.9
JMB	**Yambol**	2.12 15	P	Pn	03 01 28.0 +0.9								comp=Z,25nm,19.5s,baz=95,slow=38				
JMB			S	Sb	03 01 56.0 -0.4							**KSAR**	**Wonju Array Be**	16.35 252	P	Pn	03 07 25.7 -0.7
JMB	**Yambol**	2.12 15	*i* P	Pn	03 01 27.9 +0.9							**ZEA**	**Zeya**	16.37 313	*e*P	Pn	03 07 25.1 -1.5
JMB	**Yambol**	2.12 15	P	Pn	03 01 28.0 +0.9							ZEA			AMB	AMB	03 07 26.3
JMB			S	Sb	03 01 56.0 -0.4								comp=Z,15nm,1.0s				
CTYL	**Yal??k??y-??at**	2.13 60	*e*PN	Pn	03 01 27.2 -0.1							**FX1**	**Attu Island--F**	18.96 54	P	**P**	**03 07 57.1 +0.1**
CTYL	**Yal??k??y-??at**	2.13 60	*e*Pn	Pn	03 01 27.2 -0.1							**FX1**	**Attu Island--F**	18.96 54	P	**P**	**03 07 57.1 +0.1**
URLA	**Izmir**	2.14 164	*i* P	Pn	03 01 27.7 +0.3								comp=Z,1.9nm,0.3s,baz=264,slow=9.2,SNR=4.4				
URLA			*i* S	Sn	03 01 55.7 +1.4							**SEY**	**Seymchan**	18.99 7	*e*P	**P**	**03 07 56.8 -0.5**
AKHS	**Akhisar**	2.17 135	*i* P	Pn	03 01 28.6 +0.8							**YAK**	**Yakutsk**	20.73 336	*e*P	**P**	**03 08 14.5 -1.6**
AKHS			*i* S	Sb	03 01 56.5 -1.5							YAK			pmax	pmax	
AKHS	**Akhisar**	2.17 135	*i* P	Pn	03 01 28.6 +0.8								comp=Z,23nm,0.9s				
AKHS			*i* S	Sb	03 01 56.5 -1.5							YAK			pmax	pmax	
AKS	**Akhisar**	2.17 135	*e*PN	Pn	03 01 27.7 -0.1								comp=N,9.0nm,1.1s				
AKS	**Akhisar**	2.17 135	*e*Pn	Pn	03 01 27.7 -0.1							YAK			pmax	pmax	
CTKS	**Kestanelik-??a**	2.18 67	*e*PN	Pn	03 01 28.0 0.0								comp=E,8.0nm,1.4s				
CTKS	**Kestanelik-??a**	2.18 67	*e*Pn	Pn	03 01 28.0 0.0							**BILL**	**Bilibino**	25.86 16	*e*P	**P**	**03 09 06.8 +0.3**
DURS	**Dursunbey**	2.19 111	*i* P	Pn	03 01 28.7 +0.6							BILL			pmax	pmax	
DURS			*i* S	Sb	03 01 57.1 -1.4								comp=Z,2.0nm,1.2s				
DURS	**Dursunbey**	2.19 111	*i* P	Pn	03 01 28.7 +0.6							**SONM**	**Songino Array**	28.60 292	P	**P**	**03 09 32.3 +0.8**
DURS			*i* S	Sb	03 01 57.1 -1.4							**SONM**	**Songino Array**	28.60 292	P	**P**	**03 09 32.3 +0.8**
BLCB	**Balcova**	2.24 155	*e*PN	Pn	03 01 28.5 -0.2								comp=Z,0.9nm,0.5s,baz=81,slow=8.7,SNR=10.0				
BLCB	**Balcova**	2.24 155	*e*Pn	Pn	03 01 28.5 -0.2							**LZH**	**Lanzhou**	34.08 272	*e*P	**P**	**03 10 20.0 +0.2**
DST	**Dursunbey**	2.29 110	*e*PN	Pn	03 01 29.6 +0.1							LZH			pmax	pmax	
DST	**Dursunbey**	2.29 110	*e*Pn	Pn	03 01 29.6 +0.1								comp=Z,1nm,1.0s				
NEO	**Neokhori**	2.30 242	P	Pn	03 01 28.3 -1.3							**KDAK**	**Kodiak Island**	38.72 48	P	**P**	**03 10 59.0 +0.2**
NEO	**Neokhori**	2.30 242	P	Pn	03 01 28.3 -1.3							**KDAK**	**Kodiak Island**	38.72 48	P	**P**	**03 10 59.0 +0.2**
IZM	**Izmir**	2.31 151	*e*PN	Pn	03 01 29.3 -0.4								comp=Z,10nm,0.8s,baz=242,slow=5.6,SNR=8.4				
IZM	**Izmir**	2.31 151	*e*Pn	Pn	03 01 29.3 -0.4							**MCK**	**McKinley**	40.10 38	*e*P	**P**	**03 11 10.5 +0.2**
ARMT	**Armutlu**	2.31 86	*e*PN	Pn	03 01 30.1 +0.3							MCK			pmax	pmax	
ARMT	**Armutlu**	2.31 86	*e*Pn	Pn	03 01 30.1 +0.3								comp=Z,9.0nm,1.1s				
MDNY	**Mudanya-Bursa**	2.33 90	*e*PN	Pn	03 01 30.1 +0.1							**MCK**	**McKinley**	40.10 38	*e*P	**P**	**03 11 10.5 +0.2**
MDNY	**Mudanya-Bursa**	2.33 90	*e*Pn	Pn	03 01 30.1 +0.1								comp=Z,8.6nm,1.1s				
KNT	**Kendrikon**	2.35 289	P	Pn	03 01 30.1 -0.1							**SML**	**Sawmill**	40.48 41	*e*P	**P**	**03 11 13.9 +0.4**
KNT			S	Sn	03 02 00.8 +1.5							SML			pmax	pmax	
KNT	**Kendrikon**	2.35 289	P	Pn	03 01 30.1 -0.1								comp=Z,5.0nm,0.8s				
KNT			S	Sn	03 02 00.8 +1.5							**SML**	**Sawmill**	40.48 41	*e*P	**P**	**03 11 13.9 +0.4**
BGKT	**Bogazkoy**	2.35 70	*e*PN	Pn	03 01 30.6 +0.3								comp=Z,5.5nm,0.8s				
BGKT	**Bogazkoy**	2.35 70	*e*Pn	Pn	03 01 30.6 +0.3							**COLA**	**College**	40.53 36	*e*P	**P**	**03 11 14.5 +0.7**
ISK	**Istanbul-Kandi**	2.53 74	*e*PN	Pn	03 01 33.0 +0.3							COLA			pmax	pmax	
ISK	**Istanbul-Kandi**	2.53 74	*e*Pn	Pn	03 01 33.0 +0.3								comp=Z,4.0nm,0.7s				
GEMT	**Gemlik**	2.56 89	*e*PN	Pn	03 01 33.8 +0.7							**COLA**	**College**	40.53 36	*e*P	**P**	**03 11 14.5 +0.7**
GEMT	**Gemlik**	2.56 89	*e*Pn	Pn	03 01 33.8 +0.7								comp=Z,3.8nm,0.7s				
KLYT	**Kilyos**	2.57 70	*e*PN	Pn	03 01 33.6 +0.3							**ILAR**	**Eielson Array**	40.95 37	P	**P**	**03 11 17.5 +0.2**
KLYT	**Kilyos**	2.57 70	*e*Pn	Pn	03 01 33.6 +0.3							ILAR			PcP	**PcP**	**03 13 16.5 +0.1**
DEMI	**Demirci**	2.62 121	*i* P	Pn	03 01 34.6 +0.6							**ILAR**	**Eielson Array**	40.95 37	P	**P**	**03 11 17.5 +0.2**
DEMI			*i* S	Sn	03 02 02.7 -3.3								comp=Z,1.9nm,0.5s,baz=272,slow=7.4,SNR=18				
DEMI	**Demirci**	2.62 121	*i* P	Pn	03 01 34.6 +0.6							ILAR			PcP	**PcP**	**03 13 16.5 +0.1**
DEMI			*i* S	Sn	03 02 02.7 -3.3								comp=Z,0.3nm,0.4s,baz=284,slow=3.8,SNR=3.7				
VAY	**Valandovo**	2.63 291	*e*Pn	Pn	03 01 33.8 -0.3							**ZALV**	**Zalesovo Beam**	40.99 307	P	**P**	**03 11 17.6 -0.1**
VAY			*i* Sn	Sg	03 02 16.0 +0.2							ZALV					03 13 17.3
VAY	**Valandovo**	2.63 291	*e*Pn	Pn	03 01 34.2 +0.1							**ZALV**	**Zalesovo Beam**	40.99 307	P	**P**	**03 11 17.6 -0.1**
GRG	**Griva**	2.66 283	P	Pn	03 01 34.8 +0.2							ZALV			PcP	**PcP**	**03 13 17.3 +0.5**
GRG	**Griva**	2.66 283	P	Pn	03 01 34.8 +0.2							**ZALV**	**Zalesovo Beam**	40.99 307	P	**P**	**03 11 17.6 -0.1**
SZH	**Strazhica**	2.84 1	*i* P	Pn	03 01 37.0 0.0								comp=Z,0.5nm,0.3s,baz=52,slow=9.3,SNR=2.9				
SZH	**Strazhica**	2.84 1	*i* P	Pn	03 01 37.0 0.0							ZALV			PcP	**PcP**	**03 13 17.3 +0.5**
MANT	**Manisa**	2.86 132	*i* P	Pn	03 01 38.9 +1.4								comp=Z,4.6nm,0.5s,baz=86,slow=3.3

MKAR **Makanchi Array** 44.67 297 P P 03 11 47.2 -0.3
MKAR PcP PcP 03 13 29.7 +0.4
MKAR Makanchi Array 44.67 297 P P 03 11 47.2 -0.3
comp=Z,2.7nm,0.8s,baz=76,slow=8.2,SNR=25
MKAR PcP PcP 03 13 29.7 +0.4
comp=Z,1.5nm,0.6s,baz=68,slow=4.2,SNR=8.1
KURK Kurchatov 45.55 304 *e*P P 03 11 54.5 0.0
KURK *e* 03 13 32.1
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 45.55 304 *e*P P 03 11 54.5 0.0
comp=Z,3.8nm,0.8s
KURK *e*PcP PcP 03 13 32.1 -0.1
INK Inuvik 45.87 31 *e*P P 03 11 56.9 +0.1
comp=Z,5.1nm,0.9s
INK Inuvik 45.87 31 P P 03 11 56.7 0.0
comp=Z,2.3nm,0.5s,baz=294,slow=7.4,SNR=24
CHTO Chiang Mai 47.71 254 *e*P P 03 12 12.6 +0.8
CHTO pmax pmax
comp=Z,4.0nm,0.5s
CHTO Chiang Mai 47.71 254 *e*P P 03 12 12.6 +0.8
comp=Z,3.6nm,0.5s
CMAR Chiang Mai Arr 47.95 254 P P 03 12 13.9 +0.2
CMAR Chiang Mai Arr 47.95 254 P P 03 12 13.9 +0.2
comp=Z,3.2nm,0.8s,baz=42,slow=7.1,SNR=20
BRVK Borovoye 49.52 309 *e*P P 03 12 25.3 0.0
BRVK pmax pmax
comp=Z,5.0nm,1.7s
DLBC Dease Lake 50.14 43 P P 03 12 30.3 +0.3
DLBC Dease Lake 50.14 43 P P 03 12 30.3 +0.3
comp=Z,1.6nm,0.4s,baz=306,slow=17,SNR=2.5
TAPN Taplejung 50.32 271 *e*P P 03 12 33.2 +1.2
JIRN Jiri 51.23 273 *e*P P 03 12 40.0 +1.0
GUN Gumba 51.31 273 *e*P P 03 12 40.0 +0.5
RAMN Ramite 51.35 272 *e*P P 03 12 40.2 +0.5
comp=Z,24nm,0.3s
AAK Ala-Archa 51.46 295 *e*P P 03 12 40.4 +0.2
AAK pmax pmax
comp=Z,9.0nm,0.7s
AAK Ala-Archa 51.46 295 *e*P P 03 12 40.4 +0.2
comp=Z,9.2nm,0.7s
KKN Kakani 51.81 273 *e*P P 03 12 44.1 +1.0
PKI Pulchoki 51.84 273 *e*P P 03 12 43.6 +0.1
EKS2 Erkin-Say 51.91 296 *e*P P 03 12 43.9 +0.4
EKS2 *e* 03 13 55.9
EKS2 pmax pmax
comp=Z,6.0nm,1.1s
EKS2 Erkin-Say 51.91 296 *e*P P 03 12 43.9 +0.4
comp=Z,5.9nm,1.1s
EKS2 *e*PcP PcP 03 13 55.9 +0.4
DMN Daman 52.04 273 *e*P P 03 12 45.8 +0.9
GKN Gorkha 52.14 274 *e*P P 03 12 46.1 +0.6
comp=Z,9.2nm,0.3s
DANN Dangsing 52.57 275 *e*P P 03 12 50.0 +1.1
KOLN Koldanda 53.02 275 *e*P P 03 12 52.9 +0.8
KKAR Karatay Array 53.79 298 *e*P P 03 12 57.3 0.0
KKAR pmax pmax
comp=Z,1.0nm,0.4s
KKAR Karatay Array 53.79 298 *e*P P 03 12 57.3 0.0
comp=Z,0.9nm,0.4s
ARU Arti 54.25 317 *c i*P P 03 13 00.0 -0.4
ARU 03 14 58.7
ARU S S 03 20 32.2 -1.0
ARU SS SS 03 24 11.0 -4.0
ARU pmax pmax
comp=Z,18nm,2.5s
ARU Arti 54.25 317 *e*P P 03 13 00.3 -0.1
comp=Z,2.9nm,0.5s
RES Resolute Bay 54.46 17 *e*P P 03 13 01.1 -0.5
RES Resolute Bay 54.46 17 P P 03 13 01.5 -0.1
comp=Z,5.1nm,0.8s,baz=310,slow=6.6,SNR=19
YKA Yellowknife Ar 55.27 34 P P 03 13 08.0 +0.4
YKA PcP PcP 03 14 08.2 +0.5
YKA Yellowknife Ar 55.27 34 P P 03 13 08.0 +0.4
comp=Z,1.3nm,0.5s,baz=302,slow=7.0,SNR=26
YKA PcP PcP 03 14 08.2 +0.5
comp=Z,0.5nm,0.5s,baz=301,slow=3.4,SNR=5.3
ABKAR Akbulak array 57.04 309 *e*P P 03 13 20.6 +0.2
comp=Z,3.2nm,0.4s
ARCES ARCESS Array B 58.95 340 P P 03 13 32.1 -1.5
ARCES ARCESS Array B 58.95 340 P P 03 13 32.1 -1.5
comp=Z,6.3nm,1.1s,baz=46,slow=10,SNR=7.1
KBL Kabul 59.34 290 *e*P P 03 13 36.3 -0.7
KBL pmax pmax
comp=Z,4.0nm,0.6s
KBL Kabul 59.34 290 *e*P P 03 13 36.3 -0.7
comp=Z,4.4nm,0.6s
JOF Joensuu 61.85 332 *e*P P 03 13 52.1 -1.3
JOF pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 61.85 332 *ep* P 03 13 52.1 -1.3
comp=Z,1.3nm,0.4s
YBH Yreka Blue Hor 62.39 58 P P 03 13 58.0 +0.5
YBH Yreka Blue Hor 62.39 58 P P 03 13 58.0 +0.5
comp=Z,1.1nm,0.5s,baz=270,slow=2.0,SNR=3.2
KAF Kangasniemi 64.07 333 *e*P P 03 14 06.3 -1.8
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 64.07 333 *ep* P 03 14 06.3 -1.8
comp=Z,1.5nm,0.5s
FINES FINESS Array B 64.63 333 P P 03 14 10.9 -0.9
FINES PcP PcP 03 14 44.7 -0.5
FINES FINESS Array B 64.63 333 P P 03 14 10.9 -0.9
comp=Z,1.8nm,0.5s,baz=40,slow=6.6,SNR=18
FINES PcP PcP 03 14 44.7 -0.5
comp=Z,2.5nm,0.8s,baz=57,slow=5.1,SNR=3.9
WRAB Tennant Creek 64.94 194 *e*P P 03 14 14.6 +0.3
WRAB pmax pmax
comp=Z,6.0nm,0.9s
WRAB Tennant Creek 64.94 194 *e*P P 03 14 14.6 +0.3
comp=Z,5.7nm,0.9s
WRA Warramunga Arr 64.96 194 P P 03 14 14.0 -0.4
WRA Warramunga Arr 64.96 194 P P 03 14 14.0 -0.4
comp=Z,3.0nm,0.8s,baz=10,slow=6.7,SNR=14
OBN Obninsk 65.15 324 *e*P P 03 14 15.8 +0.5
OBN *e* 03 14 36.6
OBN *e* 03 16 37.8
OBN pmax pmax
comp=Z,4.0nm,1.4s
FFC Flin Flon 65.16 37 *e*P P 03 14 15.6 +0.2
FFC pmax pmax
comp=Z,7.0nm,0.8s
FFC Flin Flon 65.16 37 *e*P P 03 14 15.6 +0.2
comp=Z,6.8nm,0.8s
VRHR Novokhopersk 65.53 318 *e*P P 03 14 16.2 -1.6
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,7.0nm,0.9s
BOZ Bozeman (W) 66.38 49 *e*P P 03 14 24.5 +0.9
BOZ pmax pmax
comp=Z,3.0nm,0.9s
BOZ Bozeman (W) 66.38 49 *e*P P 03 14 24.5 +0.9
comp=Z,3.2nm,0.9s
VSR Storozhevoye 66.61 319 *e*P P 03 14 23.8 -0.9
VSR pmax pmax
comp=N,1.0nm,0.4s
VSR pmax pmax
comp=Z,4.0nm,0.4s
VSR pmax pmax
comp=E,1.0nm,0.2s
NVAR Mina Array Bea 67.08 58 P P 03 14 29.4 +1.2
NVAR Mina Array Bea 67.08 58 P P 03 14 29.4 +1.2
comp=E,3.1nm,0.6s,baz=294,slow=7.6,SNR=23
MOOW Moose Ponds 68.09 50 *e*P P 03 14 35.2 +0.7
comp=E,2.1nm,0.8s
TPAW Teton Pass 68.14 50 *e*P P 03 14 35.7 +0.7
comp=E,7.4nm,1.3s
LOHW Long Hollow 68.25 50 *e*P P 03 14 36.4 +0.8
comp=E,1.7nm,0.8s
DGMT Dagmar 68.36 43 *e*P P 03 14 35.7 -0.2
comp=E,68nm,1.1s
ASAR Alice Springs 68.67 193 P P 03 14 38.7 +0.7
ASAR Alice Springs 68.67 193 P P 03 14 38.7 +0.7
comp=E,0.7nm,0.6s,baz=10,slow=6.4,SNR=11
NB2 NORSAR Subarra 69.31 339 P P 03 14 40.8 -0.8
comp=Z,1.4nm,0.5s,baz=31,slow=6.5
NOA NORSAR Array B 69.31 339 P P 03 14 40.8 -0.8
NOA NORSAR Array B 69.31 339 P P 03 14 40.8 -0.8
comp=Z,1.7nm,0.5s,baz=32,slow=6.2,SNR=21
PD01 Pinedale Array 69.37 50 *e*P P 03 14 42.8 +0.3
PD02 Pinedale Array 69.38 50 *e*P P 03 14 42.6 +0.1
PDAR Pinedale Array 69.39 50 P P 03 14 43.0 +0.4
PDAR Pinedale Array 69.39 50 P P 03 14 43.0 +0.4
comp=Z,2.6nm,0.9s,baz=254,slow=1.8,SNR=16
KIV Kislovodsk 69.71 312 *d*P P 03 14 44.6 +0.2
KIV pmax pmax
comp=Z,13nm,1.0s
KIV Kislovodsk 69.71 312 *e*P P 03 14 45.4 +1.0
comp=Z,12nm,0.7s
ZEI Tsey 69.85 310 *e*P P 03 14 45.7 +0.3
ZEI pmax pmax
comp=Z,6.0nm,0.6s
ULM Lac du Bonnet 70.96 37 P P 03 14 52.0 +0.1
ULM Lac du Bonnet 70.96 37 P P 03 14 52.0 +0.1
comp=Z,1.8nm,0.4s,baz=327,slow=6.7,SNR=5.6
GNI Garni 71.13 308 *e*P P 03 14 54.3 +1.1
comp=Z,4.9nm,0.7s
AKASG Malin Array Be 71.42 324 *i*P P 03 14 53.7 -0.8
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 71.42 324 P P 03 14 54.7 +0.1
AKASG Malin Array Be 71.42 324 P P 03 14 54.7 +0.1
comp=Z,1.2nm,0.4s,baz=39,slow=6.2,SNR=5.9
KIEV Kiev 71.43 324 *e*P P 03 14 54.2 -0.4
KIEV pmax pmax
comp=Z,4.0nm,0.8s
KIEV Kiev 71.43 324 *e*P P 03 14 54.2 -0.4
comp=Z,3.7nm,0.8s
KWP Kalwaria Pacla 74.92 326 *e*P P 03 15 15.9 +0.6
KWP pmax pmax
comp=Z,3.0nm,0.4s
KWP Kalwaria Pacla 74.92 326 *e*P P 03 15 15.9 +0.6
comp=Z,2.9nm,0.4s
KWP Kalwaria Pacla 74.92 326 *i*P P 03 15 16.3 +1.0
BUR08 Bucovina Ar. S 75.46 324 *e*P P 03 15 18.6 +0.1
BURAR Bucovina Array 75.47 324 *i*P P 03 15 19.3 +0.7
OJC Ojcow 75.58 328 *e*P P 03 15 20.1 +1.1
OJC Ojcow 75.58 328 *e*P P 03 15 20.6 +1.6
KOLS Kolonicke sedl 75.65 326 *e*P P 03 15 19.7 +0.2
KOLS pmax pmax
comp=Z,11nm,1.7s
KOLS Kolonicke sedl 75.65 326 *e*P P 03 15 19.7 +0.2
TESR 75.71 322 *i*P P 03 15 20.8 +1.0
NIE Niedzica 76.03 328 *e*P P 03 15 23.0 +1.4
NIE Niedzica 76.03 328 *e*P P 03 15 23.0 +1.4
CFR Carcaliu 76.07 321 *i*P P 03 15 19.9 -1.9
VRI Vrincioaia 76.17 322 *i*P P 03 15 23.5 +1.0
TRPA Tarpa 76.18 326 *i*P P 03 15 23.3 +0.9
TIRR Tirgusor 76.49 320 *i*P P 03 15 24.6 +0.3
DPC Dobruska-Polom 76.74 330 *e*P P 03 15 26.2 +0.5
DPC Dobruska-Polom 76.74 330 *e*P P 03 15 26.2 +0.5
MORC Moravsky Berou 76.78 329 *e*P P 03 15 26.1 +0.2
MORC pmax pmax
comp=Z,2.0nm,0.8s
MORC Moravsky Berou 76.78 329 *e*P P 03 15 26.1 +0.2
comp=Z,2.4nm,0.8s
MORC Moravsky Berou 76.78 329 *i*P P 03 15 26.7 +0.8
MLR Muntele Rosu 76.81 322 *i*P P 03 15 26.9 +0.6
CLL Collm 77.08 333 *i*P P 03 15 27.4 0.0
CLL *e* 03 15 33.0
CLL pmax pmax
comp=Z,9.0nm,0.6s
CLL Collm 77.08 333 *i*P P 03 15 27.4 0.0
comp=Z,9.0nm,0.6s
SCHQ Schefferville 77.11 20 P P 03 15 27.7 +0.1
SCHQ Schefferville 77.11 20 P P 03 15 27.7 +0.1
comp=Z,2.9nm,0.7s,baz=279,slow=8.4,SNR=10
BRG Berggiesshubel 77.13 332 *e*P P 03 15 27.6 -0.2
comp=Z,2.3nm,0.8s
BRG Berggiesshubel 77.13 332 *e*P P 03 15 27.6 -0.2
BRG pmax pmax
comp=Z,2.0nm,0.8s
PVCC Panska Ves 77.21 331 *e*P P 03 15 28.6 +0.4
PVCC Panska Ves 77.21 331 *e*P P 03 15 28.6 +0.4
VOIR 77.25 323 *i*P P 03 15 29.6 +1.0
VYHS Vyhne 77.35 328 *e*P P 03 15 28.9 -0.2
VYHS pmax pmax
comp=Z,5.0nm,1.5s
VYHS Vyhne 77.35 328 *e*P P 03 15 28.9 -0.2
PSZ Piszkesteto 77.41 327 *e*P P 03 15 29.9 +0.4
PSZ pmax pmax
comp=Z,5.0nm,1.0s
PSZ Piszkesteto 77.41 327 *e*P P 03 15 29.9 +0.4
comp=Z,5.0nm,1.0s
BR131 Keskin Array S 77.47 314 *e*P P 03 15 30.4 +0.3
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 77.47 314 P P 03 15 30.6 +0.5
BRTR Keskin Array B 77.47 314 P P 03 15 30.6 +0.5
comp=Z,1.8nm,0.6s,baz=83,slow=2.7,SNR=18
VRAC Vranov 77.51 330 *i*P P 03 15 30.9 +0.9
PRU Pruhonice 77.67 331 *e*P P 03 15 31.0 +0.2
PRU Pruhonice 77.67 331 *e*P P 03 15 31.0 +0.2
TREC Trest 77.92 330 *e*P P 03 15 32.8 +0.5
TREC Trest 77.92 330 *e*P P 03 15 32.8 +0.5
NKC Novy Kostel 78.18 332 *e*P P 03 15 33.9 +0.2
NKC Novy Kostel 78.18 332 *e*P P 03 15 33.9 +0.2
KHC Kasperske Hory 78.73 331 *e*P P 03 15 37.2 +0.4
KHC Kasperske Hory 78.73 331 *e*P P 03 15 37.2 +0.4
GERES GERESS Array B 78.93 331 P P 03 15 37.9 0.0
GERES GERESS Array B 78.93 331 P P 03 15 37.9 0.0
comp=Z,1.4nm,0.5s,baz=42,slow=5.4,SNR=12
GERES LR LR 03 51 14.7
comp=Z,58nm,18.1s,baz=220,slow=36
AMTX Amarillo 79.28 51 *e*P P 03 15 39.2 -0.8
CSS Prodhromos 81.17 311 *e*P P 03 15 50.1 -0.1
comp=Z,5.8nm,0.8s
CDF Champ du Feu 81.43 335 *e*P P 03 15 51.4 0.0
comp=Z,6.3nm,0.8s
PAGF Fort de Pagny 81.77 336 *e*P P 03 15 53.3 +0.2
MEZF Maizieres J'vi 82.02 336 *e*P P 03 15 54.6 +0.3
HAU Haudompre 82.07 335 *e*P P 03 15 55.5 +0.8
comp=Z,4.3nm,0.5s
TXAR Lajitas Array 82.15 57 P P 03 15 56.4 +0.9
TXAR Lajitas Array 82.15 57 P P 03 15 56.4 +0.9
comp=Z,4.0nm,0.6s,baz=292,slow=4.0,SNR=75
FLN La Foliniere 83.30 339 *e*P P 03 16 00.9 -0.1
LDF La Druitiere 83.36 339 *e*P P 03 16 01.1 -0.2
LOR Lormes 83.48 336 *e*P P 03 16 01.9 -0.1
JCT Junction City 83.58 53 *e*P P 03 16 02.6 -0.3
JCT pmax pmax
comp=Z,6.0nm,0.9s
JCT Junction City 83.58 53 *e*P P 03 16 02.6 -0.3
comp=Z,6.1nm,0.9s
GRR Gorron 83.74 339 *e*P P 03 16 03.5 +0.3
comp=Z,12nm,0.5s
SSF Saint Saulge 83.77 336 *e*P P 03 16 04.3 +0.9
comp=Z,8.0nm,0.7s
HYF Humbligny 83.83 337 *e*P P 03 16 05.0 +1.2
LPL La Plagne 84.17 334 *e*P P 03 16 06.3 +0.5
LPG La Plagne 84.18 333 *e*P P 03 16 06.5 +0.6
comp=Z,19nm,0.9s
BGF Bois d'Agland 84.42 336 *e*P P 03 16 07.0 +0.2
comp=Z,26nm,1.0s
WCI Wyandotte Cave 84.60 40 *e*P P 03 16 07.2 -0.7
WCI pmax pmax
comp=Z,8.0nm,0.9s
WCI Wyandotte Cave 84.60 40 *e*P P 03 16 07.2 -0.7
comp=Z,8.1nm,0.9s
QUIF Quistinic 84.74 341 *e*P P 03 16 08.6 +0.3
TCF Toulx Ste Croi 84.84 337 *e*P P 03 16 09.5 +0.6
MBDF Montbardon 84.86 333 *e*P P 03 16 08.9 -0.3
comp=Z,5.4nm,0.5s
ORIF Oris-en-Rattie 84.98 334 *e*P P 03 16 10.2 +0.5
MFF Saint Martin d 85.20 338 *e*P P 03 16 11.2 +0.5
WVT Waverly 85.58 42 *e*P P 03 16 12.8 +0.1
WVT pmax pmax
comp=Z,4.0nm,0.9s
WVT Waverly 85.58 42 *e*P P 03 16 12.8 +0.1
comp=Z,3.7nm,0.9s
CAF Calviac 86.13 336 *e*P P 03 16 14.4 +1.0
LFF La Frestale 86.49 337 *e*P P 03 16 18.1 +1.0
TKL Tuckaleechee C 87.86 40 P P 03 16 23.9 0.0
TKL Tuckaleechee C 87.86 40 P P 03 16 23.9 0.0
comp=Z,3.8nm,0.6s,baz=262,slow=11,SNR=6.5
TORD Torodi Ar. Bea 115.04 323 PKP PKPdf 03 22 14.8 -0.8
TORD Torodi Ar. Bea 115.04 323 PKP PKPdf 03 22 14.8 -0.8
comp=Z,0.2nm,0.3s,baz=20,slow=2.2,SNR=11
DBIC Dimbokro 123.60 327 PKP PKPdf 03 22 31.4 -0.7
DBIC Dimbokro 123.60 327 PKP PKPdf 03 22 31.4 -0.7
comp=Z,1.9nm,0.8s,baz=27,slow=4.5,SNR=3.3
BDFB Brasilia 148.62 30 PKPbc PKPbc 03 23 21.6 0.0
BDFB Brasilia 148.62 30 PKPbc PKPbc 03 23 21.6 0.0
comp=Z,6.2nm,0.8s,baz=331,slow=1.9,SNR=7.8
CFAA Coronel Fontan 149.31 78 PKPbc PKPbc 03 23 23.1 +0.2
CFAA Coronel Fontan 149.31 78 PKPbc PKPbc 03 23 23.1 +0.2
comp=Z,0.2nm,0.5s,baz=306,slow=1.2,SNR=3.4
VNA2 Neumayer--Watz 150.49 196 *e* PKPbc 03 23 25.3 +0.8
baz=106,slow=0.9
VNA3 Neumayer Olymp 150.67 195 *e* PKPbc 03 23 25.2 +0.2
PLCA Paso Flores 151.82 96 PKPbc PKPbc 03 23 28.8 +0.1
PLCA Paso Flores 151.82 96 PKPbc PKPbc 03 23 28.8 +0.1
comp=Z,1.5nm,0.8s,baz=300,slow=8.9,SNR=2.2

ISCJB ***07*** *03:11:54.9±0.7,6.90N±0.08×72.95W±0.07,h172km±6km, mb3.6/7, Error ellipse: s-maj=13.3km s-min=10.7km az=160.1*

IDC ***07*** *03:11:54.9±2.5,6.68N×73.01W,h165km±20km, mb3.4/8, mb1 3.7/9, mb1mx3.4/22, mbtmp3.5/9, Error ellipse: s-maj=41.6km s-min=21.2km az=87.0*

FUNV ***07*** *03:11:56.7,6.97N×73.06W,h176km, MW4.1*

ISC 07 03:11:55.3±0.9,6.93N±0.06×73.04W±0.07,h162km±8km, n24,σ1s72/31,mb3.5/7,5C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.18**	**38**	⇑*i*	*i*P	**Pn**	**03 12 24.3 +1.3**
CAPV					*e*S	**Sn**	**03 12 45.9 +1.6**
ROSC	**El Rosal**	**2.42**	**212**		P	**Pn**	**03 12 35.7 -0.8**
	64nm,0.3s,baz=330,slow=2.2,SNR=175						
ROSC					S	**Sn**	**03 13 04.5 -3.8**
	109nm,0.3s,baz=73,slow=19,SNR=12						
VIGV	**El Vigia**	**2.52**	**41**	⇑*i*	*i*P	**Pn**	**03 12 38.6 +1.2**
VIGV					*e*S	**Sn**	**03 13 09.1 -0.9**
SOCV	**Socops**	**2.55**	**58**	⇑*i*	*i*P	**Pn**	**03 12 38.9 +1.2**
SOCV					*e*S	**Sn**	**03 13 09.9 -0.6**
ELOV	**Elorza**	**3.53**	**89**	*e*	P	**Pn**	**03 12 50.4 +0.5**
ELOV					*e*S	**Sn**	**03 13 30.8 -1.6**
VIRV	**Villa del Rosa**	**3.61**	**10**	⇑*i*	*i*P	**Pn**	**03 12 50.9 0.0**
VIRV					*e*S	**Sn**	**03 13 30.5 -3.7**
QARV	**Quebrada Arrib**	**4.10**	**37**	*e*	S	**Sn**	**03 13 41.7 -3.9**
DABV	**Dabajuro**	**4.63**	**31**	*e*	P	**Pn**	**03 13 04.0 0.0**
DABV					*e*S	**Sn**	**03 13 54.2 -3.6**
TEPV	**Terepaima**	**4.86**	**51**	⇑*i*	*i*P	**Pn**	**03 13 07.6 +0.4**
BAUV	**El Baul**	**5.34**	**68**	*e*	P	**Pn**	**03 13 13.0 -0.5**
MONV	**Montecano**	**5.84**	**31**	*e*	P	**Pn**	**03 13 19.8 -0.3**
JACV	**Jacura**	**5.87**	**45**	*e*	P	**Pn**	**03 13 20.1 -0.3**
MERV	**Las Mercedes**	**7.07**	**70**	*e*	P	**Pn**	**03 13 35.8 -0.5**
CUPV	**Cepira**	**7.82**	**66**	*e*	P	**Pn**	**03 13 45.3 -1.1**
TEIG	**Tepich**	**19.83**	**313**		P	**Pn**	**03 16 17.1 +0.1**
	18nm,1.1s,baz=300,slow=18,SNR=6.3						
TXAR	**Lajitas Array**	**36.45**	**312**		P	**P**	**03 18 46.0 +1.1**
	0.4nm,0.4s,baz=125,slow=9.1,SNR=11						
ULM	**Lac du Bonnet**	**47.22**	**340**		P	**P**	**03 20 11.9 +0.2**
	2.1nm,0.5s,baz=140,slow=7.0,SNR=5.4						
SCHQ	**Schefferville**	**48.03**	**5**		P	**P**	**03 20 19.7 +1.7**
	1.2nm,0.6s,baz=179,slow=10,SNR=5.8						
PDAR	**Pinedale Array**	**48.04**	**324**		P	**P**	**03 20 17.7 -0.9**
	0.4nm,0.5s,baz=126,slow=8.1,SNR=4.1						
NVAR	**Mina Array Bea**	**51.47**	**315**		P	**P**	**03 20 45.6 +1.1**
	0.4nm,0.6s,baz=113,slow=9.1,SNR=8.4						
YKA	**Yellowknife Ar**	**63.19**	**340**		P	**P**	**03 22 06.5 +0.6**
	1.1nm,0.5s,baz=134,slow=6.7,SNR=33						
INK	**Inuvik**	**72.96**	**340**		P	**P**	**03 23 07.0 +0.3**
	0.7nm,0.8s,baz=146,slow=7.3,SNR=3.1						
ASAR	**Alice Springs**	**149.24**	**234**		PKPbc	**PKPbc**	**03 31 24.2 -1.5**
	0.3nm,0.6s,baz=119,slow=3.8,SNR=4.9						
WRA	**Warramunga Arr**	**150.46**	**241**		PKPbc	**PKPbc**	**03 31 28.0 -0.7**
	0.2nm,0.3s,baz=106,slow=2.9,SNR=10						

MAN 07 03:22:09,13.79N×122.81E,h33km,mb3.8,ML2.6,MS2.2, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GQP	**Guinayangan**	**0.38**	**288**	⇑*e*	*e*P	**Pn**	**03 22 20.2 +2.0**
GQP					*e*S	**Sn**	**03 22 26.3 +2.1**
AUQP	**San Andres**	**0.48**	**196**		*e*P	**Pn**	**03 22 21.0 +1.4**
AUQP					*e*S	**Sb**	**03 22 24.4 -2.0**
BOAC	**Boac**	**1.00**	**251**		*e*P	**Pb**	**03 22 29.0 +1.2**
BOAC					*e*S	**Sb**	**03 22 42.6 +2.0**
LUBP	**Lubang**	**2.50**	**269**		*e*P	**Pb**	**03 23 06.2 +13**

SKHL 07 03:27:29.6±0.8,54.79N×124.91E,h9km±3km,mb3.8/8,1C, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNDR	**Tynda**	**0.37**	**343**		*e*Pg	Pg	03 27 36.7 -0.3
TNDR					*e*Sg	Sg	03 27 41.8 -0.2
KROS	**Kirovskiy**	**1.25**	**106**	⇑*i*	*i*Pg	Pn	03 27 51.7 -1.6
KROS					AMB	AMB	03 27 54.2
	18nm,0.4s						
KROS					AMB	AMB	03 27 54.2
	23nm,0.4s						
KROS					AMB	AMB	03 27 54.2
	31nm,0.4s						
KROS					*e*Sg	Sb	03 28 08.9 -0.7
KROS					A	A	03 28 11.9
	370nm,0.3s						
KROS					A	A	03 28 11.9
	420nm,0.3s						
KROS					A	A	03 28 11.9
	160nm,0.3s						
IENR	**Iengra**	**1.44**	**359**		*e*Pg	Pn	03 27 55.7 -0.2
IENR					*e*Sg	Sn	03 28 14.6 -0.4
ZEA	**Zeya**	**1.73**	**127**		*e*Pg	Pb	03 28 01.5 0.0
ZEA					AMB	AMB	03 28 02.3
	110nm,0.2s						
ZEA					*e*Sn	Sb	03 28 23.6 +0.2
ZEA					*e*Sg	Sg	03 28 25.0 -0.2
ZEA					A	A	03 28 26.3
	120nm,0.3s						
ZEA					A	A	03 28 26.3
	200nm,0.3s						
ZEA					A	A	03 28 26.3
	60nm,0.3s						
CLNS	**Chul'man**	**2.05**	**360**		*e*Pg	Pb	03 28 06.9 -0.2
CLNS					AMB	AMB	03 28 08.4
	4.0nm,0.2s						
CLNS					*e*Sg	Sb	03 28 33.2 +0.4
CLNS					A	A	03 28 37.3
	87nm,0.3s						
BMKR	**Bomnak**	**2.28**	**90**		*e*Pn	Pn	03 28 07.8 +0.4
BMKR					*e*Pg	Pb	03 28 10.2 -0.7
BMKR					AMB	AMB	03 28 10.7
	22nm,0.4s						
BMKR					pPg	Pg	03 28 12.5 -0.8
BMKR					*e*Sn	Sn	03 28 36.7 +1.1
BMKR					*e*Sg	Sb	03 28 40.0 +0.8
BMKR					A	A	03 28 41.0
	180nm,0.4s						
YASR	**Yasnyy**	**2.35**	**128**		*e*Pn	Pn	03 28 08.5 +0.1
YASR					*e*Pg	Pb	03 28 10.8 -1.4
YASR					AMB	AMB	03 28 12.1
	8.0nm,0.4s						
YASR					*e*Sg	Sb	03 28 41.3 0.0
YASR					A	A	03 28 44.0
	50nm,0.2s						
TUP	**Tupik**	**2.91**	**265**		*e*Pn	Pn	03 28 16.1 0.0
TUP					*e*Pg	Pb	03 28 21.9 +0.3
TUP					AMB	AMB	03 28 25.8
	9.0nm,0.2s						
TUP					*e*Sn	Sn	03 28 51.5 +0.4
TUP					*e*Sg	Sb	03 28 59.1 +1.8
TUP					A	A	03 29 09.3
	67nm,0.8s						
KHN	**Khani**	**3.59**	**309**		*e*Pn	Pn	03 28 24.4 -1.1
KHN					*e*Sg	Sb	03 29 17.5 +0.5
CRS	**Chara**	**4.30**	**302**		*e*Pn	Pn	03 28 37.0 +1.8
CRS					*e*Pg	Pb	03 28 45.6 +0.2
CRS					AMB	AMB	03 29 01.4
	19nm,1.1s						
CRS					*e*Sg	Sg	03 29 45.5 -2.2
CRS					A	A	03 29 50.3
	35nm,0.9s						
EKMR	**Ekimchan**	**5.05**	**107**		*e*Pn	Pn	03 28 45.2 -0.3
EKMR					AMB	AMB	03 28 46.3
	3.0nm,0.3s						
EKMR					sPn	sPn	03 28 50.5 +1.6
EKMR					*e*Sg	Sg	03 30 07.2 -4.7
EKMR					A	A	03 30 13.3
	8.0nm,0.6s						

IDC ***07*** *03:33:49.8±0.6,25.17S×176.55W,h0km,mb4.5/17, mb1 4.7/17,mb1mx4.7/18,mbtmp4.5/17,MS4.0/16,*

Ms1 4.0/16,ms1mx3.9/27,Error ellipse: s-maj=21.5km s-min=16.5km az=164.0
*ISCJB **07** 03:33:55.1±0.2,25°.19S±0'.08×176°.64W±0'.05,h40km, mb4.9/72,MS4.2/19,Error ellipse: s-maj=11.6km s-min=5.7km az=157.4*
*BJI **07** 03:33:55.5,24°.57S×176°.23W,h37km,mB5.4/19, mb5.1/21,Ms5.3/13,Ms7 4.9/15*
*NEIC **07** 03:34:00.7±0.8,25°.25S×176°.65W,h80km±7km,mb4.9/52, Error ellipse: s-maj=7.1km s-min=5.0km az=153.0*
ISC 07 03:33:55.8±0.3,25°.03S±0'.08×176°.43W±0'.07,h35km±5km, h36km:pP-P,n400,σ1§28/417,mb5.0/74,MS4.1/19, 100C-101D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.41**	**197**	*e*Pn	**Pn**	**03 34 59.2**	**-1.0**
MSVF	**Nonsavu**	**8.90**	**324**	*e*Pn	Pn	03 36 08.2	+6.2
AFI	**Afiamalu**	**11.90**	**22**	*e*Pn	Pn	03 36 38.8	-4.3
AFI				*e*Sn	Sn	03 38 46.7	-8.1
AFI	**Afiamalu**	**11.90**	**22**	Pn	Pn	03 36 38.9	-4.2
	43nm,0.3s,baz=39,slow=1.7,SNR=26						
AFI				Sn	Sn	03 38 43.2	-12
	8.8nm,0.3s,baz=183,slow=19,SNR=3.8						
URZ	**Urewera**	**14.28**	**201**	*e*Pn	**Pn**	**03 37 17.4**	**+2.0**
RAR	**Rarotonga**	**15.79**	**79**	*e*Pn	Pn	03 37 31.6	-4.0
	42nm,0.6s						
RAR				*e*Sn	Sn	03 40 07.8	-22
RAR	**Rarotonga**	**15.79**	**79**	Pn	**Pn**	**03 37 32.2**	**-3.3**
	4.9nm,0.3s,baz=212,slow=3.3,SNR=7.1						
RAR				Sn	Sn	03 40 09.9	-20
	4.0nm,0.3s,baz=72,slow=19,SNR=3.1						
RAR				LR	LR	03 42 13.2	
	comp=Z,525nm,20.3s,baz=260,slow=32						
DZM	**Mont Dzumac**	**15.98**	**277**	*e*P	P	03 37 46.8	+5.5
	183nm,1.4s						
DZM				*e*LR	LR	03 41 20.0	
	1µm,26.1s						
DZM	**Mont Dzumac**	**15.98**	**277**	*e*Pn	**P**	**03 37 43.3**	**+2.0**
	93nm,1.0s						
DZM	**Mont Dzumac**	**15.98**	**277**	Pn	**P**	**03 37 43.3**	**+2.0**
	0.9nm,0.3s,baz=86,slow=15,SNR=9.9						
NOUC	**Port Laguerre**	**16.10**	**277**	*e*P	**P**	**03 37 43.5**	**+1.1**
TBI	**Tubuai**	**24.65**	**92**	*e*LQ	LQ	03 43 56.6	
	743nm,31.0s						
TBI				*e*LR	LR	03 44 58.7	
	985nm,29.0s,baz=254						
PPT2	**Papeete2**	**26.06**	**79**	*e*LQ	LQ	03 44 28.7	
	1µm,27.8s						
PPT2				*e*LR	LR	03 45 51.2	
	1µm,26.0s,baz=253						
HNR	**Honiara**	**27.31**	**300**	LR	LR	03 48 10.5	
	comp=Z,438nm,19.7s,baz=115,slow=32						
CTA	**Charters Tower**	**34.74**	**270**	P	**P**	**03 40 42.6**	**-0.3**
CTA	**Charters Tower**	**34.74**	**270**	*e*P	**P**	**03 40 41.8**	**-1.0**
	11nm,0.6s						
CTA	**Charters Tower**	**34.74**	**270**	P	**P**	**03 40 42.6**	**-0.3**
	20nm,0.7s,baz=94,slow=11,SNR=9.8						
CTA				LR	LR	03 52 58.8	
	comp=Z,330nm,18.6s,baz=301,slow=33						
CTAO	**Charters Tower**	**34.74**	**270**	*e*P	**P**	**03 40 42.7**	**-0.2**
	537nm,2.9s						
STKA	**Stephens Creek**	**37.35**	**250**	*e*P	**P**	**03 41 04.7**	**-0.5**
	15nm,2.1s						
STKA	**Stephens Creek**	**37.35**	**250**	*e*P	**P**	**03 41 03.5**	**-1.6**
	5.7nm,0.6s						
STKA	**Stephens Creek**	**37.35**	**250**	P	**P**	**03 41 03.7**	**-1.4**
	4.3nm,0.5s,baz=102,slow=9.6,SNR=14						
STKA				LR	LR	03 54 46.0	
	comp=Z,419nm,19.5s,baz=39,slow=34						
RKT	**Rikitea**	**37.80**	**96**	*e*LR	LR	03 51 04.1	
	503nm,28.2s,baz=260						
PMG	**Port Moresby**	**37.94**	**288**	*e*P	**P**	**03 41 08.9**	**-1.3**
	26nm,0.8s						
PMG	**Port Moresby**	**37.94**	**288**	P	**P**	**03 41 08.3**	**-1.9**
	18nm,0.7s,baz=77,slow=9.7,SNR=3.4						
COEN	**Coen**	**39.50**	**278**	*e*P	**P**	**03 41 23.1**	**-0.3**
	91nm,0.7s						
COEN	**Coen**	**39.50**	**278**	*e*P	**P**	**03 41 22.7**	**-0.6**
	77nm,0.7s						
BBOO	**Buckleboo**	**42.02**	**248**	*e*P	**P**	**03 41 41.4**	**-2.5**
	2µm,1.9s						
AS31	**Alice Springs**	**45.06**	**261**	*e*P	**P**	**03 42 07.0**	**-1.7**
ASAR	**Alice Springs**	**45.06**	**261**	P	**P**	**03 42 07.0**	**-1.6**
ASAR				PcP	**PcP**	**03 43 47.3**	**-1.8**
ASAR	**Alice Springs**	**45.06**	**261**	P	**P**	**03 42 07.0**	**-1.6**
	3.6nm,0.8s,baz=100,slow=8.2,SNR=21						
ASAR				PcP	**PcP**	**03 43 47.3**	**-1.8**
	1.7nm,0.7s,baz=110,slow=4.6,SNR=4.4						
WRA	**Warramunga Arr**	**45.58**	**266**	P	**P**	**03 42 09.7**	**-3.0**
WRA				ScP	**ScP**	**03 47 42.1**	**+0.9**
WRA	**Warramunga Arr**	**45.58**	**266**	P	**P**	**03 42 09.7**	**-3.0**
	4.9nm,0.7s,baz=103,slow=8.1,SNR=34						
WRA				ScP	**ScP**	**03 47 42.1**	**+0.9**
	2.1nm,1.1s,baz=105,slow=4.2,SNR=4.1						
WRA				LR	LR	03 59 02.2	
	comp=Z,217nm,20.6s,baz=105,slow=33						
FORT	**Forrest**	**48.98**	**250**	*e*P	**P**	**03 42 37.2**	**-1.8**
	37nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.98**	**265**	P	**P**	**03 43 15.2**	**-1.4**
FITZ	**Fitzroy Crossi**	**53.98**	**265**	P	**P**	**03 43 15.2**	**-1.4**
	6.9nm,1.1s,baz=231,slow=6.5,SNR=3.1						
RPN	**Rapa Nui**	**59.63**	**108**	LR	LR	04 05 27.8	
	comp=Z,58nm,18.9s,baz=270,slow=32						
QSPA	**South Pole Qui**	**65.06**	**180**	*e*P	**P**	**03 44 31.7**	**-0.7**
	16nm,0.9s						
QSPA				*e*pP	**pP**	**03 44 47.5**	**+4.2**
QSPA	**South Pole Qui**	**65.06**	**180**	P	**P**	**03 44 30.7**	**-1.8**
	2.7nm,0.8s,baz=17,slow=3.1,SNR=6.8						
MJAR	**Matsushiro Arr**	**74.70**	**324**	P	**P**	**03 45 30.7**	**-1.2**
MJAR	**Matsushiro Arr**	**74.70**	**324**	P	**P**	**03 45 30.7**	**-1.2**
	2.1nm,0.9s,baz=140,slow=6.2,SNR=4.9						
MJAR				LR	LR	04 13 22.8	
	comp=Z,84nm,20.9s,baz=230,slow=32						
MAW	**Mawson**	**77.81**	**200**	LR	LR	04 15 54.4	
	comp=Z,77nm,18.3s,baz=327,slow=32						
PETK	**Petropavlovsk-**	**81.01**	**345**	P	**P**	**03 46 06.3**	**-0.3**
PETK	**Petropavlovsk-**	**81.01**	**345**	P	**P**	**03 46 06.3**	**-0.3**
	3.3nm,0.9s,baz=135,slow=6.2,SNR=6.4						
PETK				LR	LR	04 13 23.6	
	comp=Z,60nm,21.5s,baz=44,slow=29						
KSRS	**Korea Array**	**81.23**	**318**	P	**P**	**03 46 08.1**	**0.0**
	1.5nm,0.9s,baz=123,slow=4.9,SNR=3.8						
KSRS				LR	LR	04 21 41.2	
	comp=Z,50nm,18.6s,baz=117,slow=35						
KSAR	**Wonju Array Be**	**81.24**	**318**	P	**P**	**03 46 08.1**	**-0.1**
EDW2	**Edwards Air Fo**	**81.33**	**45**	⇑P	**P**	**03 46 10.1**	**+1.3**
	baz=82,SNR=5.8						
ISA	**Isabella**	**81.51**	**44**	*e*P	**P**	**03 46 11.4**	**+1.7**
	15nm,1.0s						
ISA	**Isabella**	**81.51**	**44**	⇑P	**P**	**03 46 11.3**	**+1.5**
	baz=82,SNR=9.6						
CMB	**Columbia Colle**	**81.84**	**41**	*e*P	**P**	**03 46 12.1**	**+0.7**
	10nm,1.0s						
BELC	**Belle Mtn. Jos**	**82.09**	**47**	⇑P	**P**	**03 46 14.1**	**+1.2**
	baz=83						
WDC	**Whiskeytown Da**	**82.27**	**38**	*e*P	**P**	**03 46 15.3**	**+1.8**
	25nm,1.2s						
GLA	**Glamis**	**82.31**	**48**	⇓P	**P**	**03 46 15.6**	**+1.7**
	baz=83						
GSC	**Goldstone**	**82.35**	**45**	*e*P	**P**	**03 46 15.6**	**+1.4**
	9.4nm,1.1s						
HEC	**Hector,Ludlow**	**82.37**	**46**	⇑P	**P**	**03 46 15.5**	**+1.2**
	baz=83						
MPMC	**Manual Prospec**	**82.38**	**44**	⇑P	**P**	**03 46 15.9**	**+1.4**
	baz=83,SNR=8.4						
MTUM	**Tungsten Hills**	**82.52**	**43**	*e*P	**P**	**03 46 16.9**	**+1.7**
MLAC	**Mammoth Lakes**	**82.52**	**43**	⇓P	**P**	**03 46 16.9**	**+1.7**
	baz=83						
SYO	**Syowa Base**	**82.64**	**192**	‖*e*pP	pP	03 46 26.7	+0.5
IRM	**Iron Mountain**	**82.75**	**47**	⇓P	**P**	**03 46 17.9**	**+1.6**
	baz=83						
TUQ	**Turquoise Moun**	**83.00**	**46**	⇓P	**P**	**03 46 19.1**	**+1.4**
	baz=84						
FURC	**Furnace Creek,**	**83.03**	**44**	⇓P	**P**	**03 46 18.8**	**+1.2**
	baz=84						
GRAC	**Grapevine Rang**	**83.04**	**44**	⇑P	**P**	**03 46 19.4**	**+1.7**
	baz=84,SNR=7.8						
WCN	**Washoe City**	**83.04**	**41**	*e*P	**P**	**03 46 19.4**	**+1.6**
	9.9nm,1.0s						
WCN	**Washoe City**	**83.04**	**41**	⇓P	**P**	**03 46 19.2**	**+1.4**
	baz=84						
214A	**Organ Pipe Nat**	**83.05**	**50**	⇓P	**P**	**03 46 19.2**	**+1.3**
	baz=84						
SHOC	**Shoshone**	**83.06**	**45**	⇑P	**P**	**03 46 19.1**	**+1.4**
	baz=84						
NVAR	**Mina Array Bea**	**83.36**	**42**	P	**P**	**03 46 20.6**	**+1.0**
	5.2nm,0.8s,baz=223,slow=8.5,SNR=31						
SNAA	**Sanae**	**83.45**	**178**	*e*	P	03 46 12.6	-6.8
SNAA				*e*		03 46 26.9	
SNAA	**Sanae**	**83.45**	**178**	*e*P	P	03 46 12.7	-6.8
	9.4nm,0.9s						
SNAA				*e*pP	**PcP**	**03 46 26.6**	**+2.8**
USRK	**Ussuriysk Arra**	**83.50**	**325**	P	**P**	**03 46 21.2**	**+1.4**
	6.4nm,1.0s,baz=91,slow=4.2,SNR=6.6						
VNA3	**Neumayer Olymp**	**83.54**	**176**	*e*	P	03 46 15.1	-4.7
VNA3				*e*		03 46 33.6	
Z14A	**Wintersburg**	**83.77**	**49**	⇓P	**P**	**03 46 23.0**	**+1.6**
	baz=84						
NJ2	**Nanjing**	**83.87**	**309**	*e*P	**P**	**03 46 23.1**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VNA2	**Neumayer--Watz**	**83.99**	**176**	*e*	**P**	**03 46 21.6**	**-0.5**
VNA2				*e*		03 46 36.2	
Y14A	**Wickenburg**	**84.06**	**48**	⇓P	**P**	**03 46 24.4**	**+1.4**
	baz=85						
W13A	**Hualapai Mount**	**84.14**	**47**	⇑P	**P**	**03 46 25.1**	**+1.4**
	baz=85,SNR=5.6						
MOD	**Modoc**	**84.41**	**39**	*e*P	**P**	**03 46 26.1**	**+1.4**
	comp=Z,15nm,0.9s						
TUC	**Tucson**	**84.67**	**51**	*e*P	**P**	**03 46 27.6**	**+1.5**
	comp=Z,10nm,0.9s						
R11A	**Troy Canyon, C**	**84.98**	**44**	⇓P	**P**	**03 46 29.1**	**+1.4**
	baz=86						
MDJ	**Mudanjiang**	**85.04**	**325**	P	**P**	**03 46 29.9**	**+2.3**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,80nm,5.5s						
PLCA	**Paso Flores**	**85.13**	**133**	P	**P**	**03 46 28.5**	**0.0**
PLCA	**Paso Flores**	**85.13**	**133**	P	**P**	**03 46 28.5**	**0.0**
	comp=Z,2.9nm,1.2s,baz=164,slow=7.4,SNR=3.3						
PLCA				LR	LR	04 14 59.5	
	comp=Z,131nm,19.5s,baz=275,slow=29						
IPM	**Ipoh**	**85.14**	**277**	*e*P	**P**	**03 46 26.7**	**-2.2**
319A	**Douglas**	**85.22**	**52**	⇓P	**P**	**03 46 30.4**	**+1.4**
	baz=86,SNR=5.3						
X16A	**Lo Mia Camp, P**	**85.39**	**49**	⇓P	**P**	**03 46 31.5**	**+1.6**
	baz=86						
320A	**Kipp Ranch, An**	**85.74**	**53**	⇓P	**P**	**03 46 33.2**	**+1.6**
	baz=86,SNR=11						
R13A	**O'Grain Ranch,**	**85.90**	**44**	⇑P	**P**	**03 46 34.1**	**+1.7**
	baz=86						
CCUT	**Cedar City**	**85.92**	**45**	*e*P	**P**	**03 46 34.4**	**+1.9**
	comp=Z,11nm,1.2s						
U15A	**North Rim**	**85.97**	**47**	⇑P	**P**	**03 46 34.3**	**+1.4**
	baz=86,SNR=11						
ARUT	**Antelope Range**	**86.01**	**45**	*e*P	**P**	**03 46 34.0**	**+1.1**
	comp=Z,4.4nm,1.0s						
220A	**Playas Peak, P**	**86.05**	**52**	⇑P	**P**	**03 46 34.6**	**+1.5**
	baz=86,SNR=10						
WUAZ	**Wupatki**	**86.06**	**48**	*e*P	**P**	**03 46 35.0**	**+1.8**
	comp=Z,10nm,1.0s						
WUAZ	**Wupatki**	**86.06**	**48**	⇑P	**P**	**03 46 34.7**	**+1.6**
	baz=87,SNR=6.4						
120A	**U Bar Ranch, L**	**86.32**	**52**	⇑P	**P**	**03 46 36.0**	**+1.5**
	baz=87,SNR=6.3						
X18A	**Snowflake**	**86.48**	**49**	⇓P	**P**	**03 46 36.8**	**+1.6**
	baz=87						
U16A	**Tuba City**	**86.58**	**47**	⇑P	**P**	**03 46 37.5**	**+1.8**
	baz=87,SNR=6.6						
221A	**Mesquite Ranch**	**86.64**	**52**	⇑P	**P**	**03 46 37.8**	**+1.7**
	baz=87						
ELK	**Elko**	**86.64**	**42**	*e*P	**P**	**03 46 37.1**	**+1.1**
	comp=Z,4.6nm,1.0s						
Y19A	**Nutrioso**	**86.65**	**50**	⇓P	**P**	**03 46 37.8**	**+1.6**
	baz=87,SNR=6.8						
Z20A	**Nine Sixteen R**	**86.65**	**51**	⇑P	**P**	**03 46 38.0**	**+1.9**
	baz=87,SNR=7.7						
CN2	**Changchun**	**86.75**	**322**	*e*P	**P**	**03 46 36.3**	**+0.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,18.0s						
CN2				LR	LR		
	comp=E,200nm,18.0s						
CN2				LR	LR		
	comp=Z,300nm,19.0s						
121A	**Cookes Peak, D**	**86.92**	**52**	⇑P	**P**	**03 46 39.0**	**+1.5**
	baz=87						
W18A	**Petrified Fore**	**86.95**	**49**	⇓P	**P**	**03 46 39.1**	**+1.5**
	baz=87						
R15A	**Junction**	**87.00**	**45**	⇑P	**P**	**03 46 39.9**	**+2.1**
	baz=88						
V18A	**Ganado**	**87.14**	**48**	⇑P	**P**	**03 46 40.0**	**+1.5**
	baz=88,SNR=7.5						
U17A	**Shonto**	**87.15**	**47**	⇓P	**P**	**03 46 40.1**	**+1.6**
	baz=88,SNR=5.5						
S16A	**Weppner Ranch,**	**87.16**	**46**	⇓P	**P**	**03 46 39.9**	**+1.4**
	baz=88						
222A	**Williams Famil**	**87.18**	**53**	⇓P	**P**	**03 46 40.2**	**+1.5**
	baz=88,SNR=6.3						
MVU	**Marysvale**	**87.21**	**45**	*e*P	**P**	**03 46 40.7**	**+1.9**
	comp=Z,3.8nm,0.9s						
Y20A	**Horse Springs,**	**87.23**	**51**	⇓P	**P**	**03 46 41.0**	**+2.0**
	baz=88,SNR=6.6						
MSU	**Marysvale**	**87.24**	**45**	*e*P	**P**	**03 46 40.3**	**+1.4**
	comp=Z,8.0nm,1.3s						
T17A	**Navajo Res., N**	**87.27**	**47**	⇓P	**P**	**03 46 40.7**	**+1.6**
	baz=88,SNR=5.1						
Z21A	**St. Cloud Mine**	**87.41**	**51**	⇓P	**P**	**03 46 41.6**	**+1.7**
	baz=88,SNR=6.8						
U18A	**Rough Rock, Ch**	**87.58**	**48**	⇑P	**P**	**03 46 41.6**	**+1.0**
	baz=88,SNR=6.0						
HAWA	**Hanford**	**87.76**	**35**	*e*P	**P**	**03 46 42.3**	**+1.4**
	comp=Z,13nm,1.1s						
Y21A	**Point of Rocks**	**87.78**	**51**	⇑P	**P**	**03 46 43.3**	**+1.7**
	baz=88,SNR=10						
P15A	**Leamington**	**87.78**	**44**	⇑P	**P**	**03 46 42.5**	**+1.1**
	baz=88						
W20A	**Ramah**	**87.80**	**49**	⇓P	**P**	**03 46 43.2**	**+1.5**
	baz=88,SNR=6.2						
Z22A	**Elephant Butte**	**87.88**	**52**	⇓P	**P**	**03 46 43.5**	**+1.4**
	baz=88						
MFID	**Camas Ranch**	**87.92**	**39**	*e*P	**P**	**03 46 42.9**	**+0.9**
	comp=Z,64nm,3.0s						
MFID	**Camas Ranch**	**87.92**	**39**	⇑P	**P**	**03 46 42.7**	**+0.8**
	baz=88						
X21A	**Alamocita Cree**	**87.93**	**50**	⇓P	**P**	**03 46 43.9**	**+1.5**
	baz=88						
U19A	**Dine' College,**	**87.95**	**48**	⇑P	**P**	**03 46 43.7**	**+1.3**
	baz=88,SNR=6.4						
T18A	**Mexican Hat**	**87.97**	**47**	⇑P	**P**	**03 46 43.8**	**+1.4**
	baz=88,SNR=11						
425A	**Indio Mountain**	**88.05**	**55**	⇓P	**P**	**03 46 43.8**	**+1.0**
	baz=88						
626A	**Big Bend Ranch**	**88.06**	**56**	⇓P	**P**	**03 46 43.6**	**+0.7**
	baz=88						
O15A	**The Old Anders**	**88.07**	**43**	⇓P	**P**	**03 46 43.3**	**+0.5**
	baz=89						
V20A	**Brimhall**	**88.19**	**49**	⇑P	**P**	**03 46 44.3**	**+0.8**
	baz=89						
Y22A	**Socorro**	**88.24**	**51**	⇓P	**P**	**03 46 45.1**	**+1.4**
	baz=89,SNR=9.3						
TXAR	**Lajitas Array**	**88.30**	**57**	P	**P**	**03 46 44.7**	**+0.7**
TXAR	**Lajitas Array**	**88.30**	**57**	P	**P**	**03 46 44.7**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=213,slow=7.2,SNR=15						
TXAR				LR	LR	04 18 36.2	
	comp=Z,76nm,19.9s,baz=0.0,slow=30						
TMUT	**Trail Mountain**	**88.31**	**45**	*e*P	**P**	**03 46 45.2**	**+1.0**
	comp=Z,16nm,0.8s						
224A	**Cornudas Mount**	**88.31**	**53**	⇑P	**P**	**03 46 45.2**	**+1.1**
	baz=89						
LAZ	**Ladron**	**88.36**	**51**	*e*P	**P**	**03 46 45.7**	**+1.3**
	comp=Z,6.2nm,1.3s						
N15A	**Stansbury Isla**	**88.39**	**43**	⇓P	**P**	**03 46 45.1**	**+0.8**
	baz=89						
Z23A	**Rita Site, Whi**	**88.41**	**52**	⇑P	**P**	**03 46 45.9**	**+1.4**
	baz=89						
MPU	**Maple Canyon**	**88.44**	**44**	*e*P	**P**	**03 46 46.4**	**+1.7**
	comp=Z,5.6nm,1.0s						
I12A	**Atlanta**	**88.55**	**39**	⇑P	**P**	**03 46 45.8**	**+0.8**
	baz=89						
627A	**Terlingua Ranc**	**88.57**	**57**	⇑P	**P**	**03 46 45.8**	**+0.5**
	baz=89						
BNM	**Barren Site**	**88.59**	**51**	*e*P	**P**	**03 46 46.7**	**+1.2**
	comp=Z,2.0nm,0.8s						
SRU	**San Rafael**	**88.64**	**45**	*e*P	**P**	**03 46 46.7**	**+1.1**
	comp=Z,8.1nm,0.9s						
SRU	**San Rafael**	**88.64**	**45**	⇑P	**P**	**03 46 46.5**	**+1.0**
	baz=89,SNR=7.6						
R18A	**Canyonlands Na**	**88.65**	**46**	⇓P	**P**	**03 46 46.5**	**+0.9**
	baz=89,SNR=5.2						
LPM	**Los Pinos Moun**	**88.67**	**51**	*e*P	**P**	**03 46 47.4**	**+1.5**
124A	**Stringfield Ra**	**88.68**	**53**	⇑P	**P**	**03 46 46.7**	**+0.7**
	baz=89						
M15A	**Larsen Ranch,**	**88.77**	**42**	⇓P	**P**	**03 46 46.8**	**+0.7**
	baz=89,SNR=8.3						
S19A	**Harvey Farm, M**	**88.79**	**47**	⇓P	**P**	**03 46 46.8**	**+0.4**
	baz=89						
HLID	**Hailey**	**88.83**	**40**	*e*P	**P**	**03 46 47.5**	**+1.2**
	comp=Z,49nm,2.8s						
HLID	**Hailey**	**88.83**	**40**	⇓P	**P**	**03 46 47.3**	**+1.0**
	baz=89,SNR=6.0						
J13A	**Cove Ranch, Pi**	**88.87**	**40**	⇑P	**P**	**03 46 47.4**	**+0.9**
	baz=89,SNR=5.3						
Y23A	**Lovelace Mesa,**	**88.88**	**52**	⇑P	**P**	**03 46 47.7**	**+0.9**
	baz=89,SNR=7.4						
Q18A	**Rafter H Ranch**	**88.89**	**45**	⇑P	**P**	**03 46 47.5**	**+0.9**
	baz=89						
DAU	**Daniels Canyon**	**88.91**	**44**	*e*P	**P**	**03 46 47.3**	**+0.4**
K14A	**Jones Ranch, D**	**88.96**	**41**	⇑P	**P**	**03 46 47.9**	**+1.0**
	baz=90						
628A	**Black Gap, Mar**	**88.97**	**57**	⇓P	**P**	**03 46 47.6**	**+0.5**
	baz=89						
R19A	**Curley Farm, L**	**89.01**	**46**	⇓P	**P**	**03 46 48.0**	**+0.7**
	baz=90						
Z24A	**Sheeppen Canyo**	**89.07**	**52**	⇓P	**P**	**03 46 47.8**	**+0.1**
	baz=90						
U21A	**Nageezi**	**89.08**	**49**	⇓P	**P**	**03 46 48.9**	**+1.1**
	baz=90,SNR=16						
O17A	**Robinson Place**	**89.11**	**44**	⇓P	**P**	**03 46 49.1**	**+1.3**
	baz=90,SNR=16						
L15A	**Malad City**	**89.12**	**42**	⇓P	**P**	**03 46 48.5**	**+0.8**
	baz=90						
ANMO	**Albuquerque**	**89.13**	**51**	*e*P	**P**	**03 46 48.8**	**+0.9**
	comp=Z,10.0nm,1.0s						
H12A	**Diamond D Ranc**	**89.17**	**39**	⇑P	**P**	**03 46 48.7**	**+0.8**
	baz=90,SNR=8.4						
M16A	**Huntsville**	**89.19**	**43**	⇑P	**P**	**03 46 48.9**	**+0.8**
	baz=90						
I13A	**Wildhorse Cree**	**89.21**	**40**	⇑P	**P**	**03 46 49.1**	**+0.9**
	baz=90						
J14A	**Carey**	**89.21**	**41**	⇑P	**P**	**03 46 49.5**	**+1.4**
	baz=90						
GDL2	**Guadalupe Moun**	**89.22**	**54**	*e*P	**P**	**03 46 48.9**	**+0.5**
	comp=Z,2.5nm,0.7s						
G12A	**Big Creek, Yel**	**89.25**	**38**	⇑P	**P**	**03 46 48.9**	**+0.6**
	baz=90						
427A	**Hayter Ranch,**	**89.25**	**55**	⇑P	**P**	**03 46 49.3**	**+0.8**
	baz=90						
Y24A	**Capitan**	**89.32**	**52**	⇑P	**P**	**03 46 49.9**	**+1.0**
	baz=90,SNR=15						
Q19A	**Hogan Spring (**	**89.37**	**46**	⇑P	**P**	**03 46 49.5**	**+0.6**
	baz=90						
528A	**Cox Ranch, San**	**89.38**	**56**	⇓P	**P**	**03 46 49.5**	**+0.4**
	baz=90						
K15A	**Arbon**	**89.43**	**41**	⇑P	**P**	**03 46 49.7**	**+0.5**
	baz=90						
N17A	**Moffit Pass**	**89.47**	**44**	⇑P	**P**	**03 46 50.6**	**+1.1**
	baz=90						
Z25A	**Roswell**	**89.51**	**53**	⇓P	**P**	**03 46 50.8**	**+1.1**
	baz=90,SNR=5.9						
H13A	**Challis**	**89.52**	**39**	⇑P	**P**	**03 46 50.4**	**+0.9**
	baz=90,SNR=5.1						
I14A	**Mackay**	**89.61**	**40**	⇑P	**P**	**03 46 50.8**	**+0.8**
	baz=90,SNR=6.4						
S21A	**Coal Bank Pass**	**89.65**	**48**	⇓P	**P**	**03 46 51.4**	**+1.0**
	baz=90,SNR=5.1						
F12A	**Elk City**	**89.67**	**38**	⇓P	**P**	**03 46 50.9**	**+0.7**
	baz=90,SNR=20						
L16A	**Fish Haven**	**89.71**	**42**	⇑P	**P**	**03 46 50.9**	**+0.4**
	baz=90,SNR=6.0						
V23A	**Ortiz Mt. (NFS**	**89.73**	**50**	⇓P	**P**	**03 46 52.4**	**+1.6**
	baz=90,SNR=7.6						
CMIG	**Matias Romero**	**89.73**	**71**	LR	LR	04 15 37.9	
	comp=Z,88nm,21.6s,baz=208,slow=28						
ENH	**Enshi**	**89.76**	**304**	*e*P	**P**	**03 46 50.5**	**-0.3**
	comp=Z,6.3nm,0.5s						
G13A	**Cobalt**	**89.85**	**39**	⇓P	**P**	**03 46 51.6**	**+0.6**
	baz=90,SNR=8.6						
Y25A	**Mesa, Roswell**	**89.85**	**52**	⇓P	**P**	**03 46 51.9**	**+0.7**
	baz=90,SNR=7.4						
E12A	**Beaver Dam Sad**	**89.90**	**37**	⇓P	**P**	**03 46 51.3**	**+0.1**
	baz=90						
J15A	**Blackfoot**	**89.90**	**41**	⇓P	**P**	**03 46 52.7**	**+1.4**
	baz=90,SNR=7.3						
T22A	**Edith**	**89.90**	**49**	⇓P	**P**	**03 46 52.3**	**+0.7**
	baz=90						
W24A	**Lazy 6 Ranch,**	**90.00**	**51**	⇑P	**P**	**03 46 52.9**	**+0.9**
	baz=90,SNR=9.1						
Z26A	**Caprock**	**90.04**	**53**	⇓P	**P**	**03 46 52.7**	**+0.6**
	baz=90,SNR=6.2						
H14A	**Leadore**	**90.06**	**40**

V25A	**Rancho No Teng**	**90.87**	**51**	⇑P		**P**	**03 46 56.7**	**+0.6**
	baz=91,SNR=7.1							
G15A	**Dillon**	**90.89**	**39**	⇓P		**P**	**03 46 56.7**	**+0.8**
	baz=91,SNR=14							
J17A	**Brown Place, J**	**90.91**	**42**	⇓P		**P**	**03 46 56.9**	**+0.8**
	baz=91,SNR=8.0							
K18A	**Toltan Ranch,**	**90.91**	**43**	⇑P		**P**	**03 46 57.2**	**+1.1**
	baz=91,SNR=11							
D13A	**Huson**	**90.92**	**37**	⇓P		**P**	**03 46 56.8**	**+1.0**
	baz=91							
Y27A	**Causey**	**90.93**	**53**	⇓P		**P**	**03 46 56.7**	**+0.4**
	baz=91,SNR=6.5							
SNOW	**Snow King Moun**	**90.94**	**42**	*eP*		**P**	**03 46 57.7**	**+1.4**
	comp=Z,18nm,1.2s							
DLMT	**Dillon**	**90.94**	**39**	*eP*		**P**	**03 46 57.3**	**+1.2**
	comp=Z,11nm,1.0s							
L19A	**Farson**	**91.04**	**43**	⇑P		**P**	**03 46 57.1**	**+0.4**
	baz=92							
MSO	**Missoula**	**91.05**	**38**	*eP*		**P**	**03 46 56.8**	**+0.3**
	comp=Z,11nm,1.6s							
E14A	**Clinton**	**91.05**	**38**	⇑P		**P**	**03 46 57.0**	**+0.4**
	baz=92,SNR=7.3							
IMW	**Indian Meadow**	**91.07**	**41**	*eP*		**P**	**03 46 58.2**	**+1.3**
	comp=Z,12nm,1.1s							
MOOW	**Moose Ponds**	**91.11**	**41**	*eP*		**P**	**03 46 58.0**	**+1.0**
	comp=Z,98nm,3.0s							
LOHW	**Long Hollow**	**91.11**	**42**	*eP*		**P**	**03 46 58.1**	**+1.0**
	comp=Z,13nm,1.4s							
SDCO	**Great Sand Dun**	**91.24**	**49**	*eP*		**P**	**03 46 57.9**	**+0.1**
	comp=Z,3.7nm,0.9s							
SDCO	**Great Sand Dun**	**91.24**	**49**	⇓P		**P**	**03 46 58.4**	**+0.5**
	baz=92							
J18A	**Kendall Valley**	**91.24**	**42**	⇑P		**P**	**03 46 58.2**	**+0.5**
	baz=92,SNR=25							
R23A	**Moffat**	**91.25**	**48**	⇓P		**P**	**03 46 58.5**	**+0.6**
	baz=92							
MSTX	**Muleshoe**	**91.26**	**53**	⇑P		**P**	**03 46 58.2**	**+0.4**
	baz=92,SNR=5.7							
PD01	**Pinedale Array**	**91.27**	**43**	*eP*		**P**	**03 46 57.9**	**+0.1**
CFAA	**Coronel Fontan**	**91.27**	**126**	LR		LR	04 17 29.7	
	comp=Z,9.8nm,20.9s,baz=232,slow=29							
F15A	**Butte**	**91.28**	**39**	⇓P		**P**	**03 46 58.6**	**+0.9**
	baz=92,SNR=5.0							
BW06	**Boulder Array**	**91.28**	**43**	*eP*		**P**	**03 46 58.7**	**+0.9**
	comp=Z,5.3nm,1.0s							
BW06	**Boulder Array**	**91.28**	**43**	⇓P		**P**	**03 46 58.1**	**+0.2**
	baz=92,SNR=7.0							
PDAR	**Pinedale Array**	**91.28**	**43**	P		**P**	**03 46 58.6**	**+0.7**
PDAR	**Pinedale Array**	**91.28**	**43**	P		**P**	**03 46 58.6**	**+0.7**
	comp=Z,4.4nm,1.0s,baz=214,slow=4.3,SNR=21							
PD02	**Pinedale Array**	**91.28**	**43**	*eP*		**P**	**03 46 58.0**	**+0.2**
I17A	**Pilgrim Ck.**	**91.30**	**41**	⇓P		**P**	**03 46 59.4**	**+1.4**
	baz=92,SNR=6.6							
QLMT	**Earthquake Lak**	**91.31**	**40**	*eP*		**P**	**03 46 59.8**	**+1.8**
FLWY	**Flagg Ranch**	**91.32**	**41**	*eP*		**P**	**03 46 59.0**	**+1.0**
	comp=Z,17nm,1.0s							
G16A	**Moss Hill, Enn**	**91.32**	**40**	⇑P		**P**	**03 46 58.9**	**+1.0**
	baz=92,SNR=11							
H16A	**Russell Place,**	**91.35**	**40**	⇓P		**P**	**03 46 59.6**	**+1.5**
	baz=92,SNR=12							
A12A	**Yaak River Ran**	**91.39**	**35**	⇓P		**P**	**03 46 58.8**	**+0.8**
	baz=92							
D14A	**Greenough**	**91.44**	**37**	⇓P		**P**	**03 46 58.5**	**+0.2**
	baz=92,SNR=6.8							
N21A	**Black Mountain**	**91.48**	**45**	⇑P		**P**	**03 46 59.3**	**+0.4**
	baz=92							
CHMT	**Chamberlain Mo**	**91.48**	**38**	*eP*		**P**	**03 46 59.2**	**+0.5**
H17A	**Grant Village**	**91.57**	**41**	⇓P		**P**	**03 47 01.3**	**+2.1**
	baz=92,SNR=6.0							
W27A	**Bowe Ranch, En**	**91.59**	**52**	⇓P		**P**	**03 46 59.4**	**+0.1**
	baz=92							
L20A	**Wamsutter**	**91.62**	**44**	⇓P		**P**	**03 47 00.3**	**+0.9**
	baz=92							
I18A	**Diamond G Ranc**	**91.64**	**42**	⇑P		**P**	**03 47 00.4**	**+0.9**
	baz=92,SNR=5.6							
BOZ	**Bozeman (W)**	**91.66**	**39**	*eP*		**P**	**03 47 00.5**	**+1.0**
	comp=Z,11nm,0.9s							
BOZ	**Bozeman (W)**	**91.66**	**39**	⇑P		**P**	**03 47 00.4**	**+1.0**
	baz=92,SNR=10							
Z29A	**Hungry Hill Ra**	**91.69**	**54**	⇑P		**P**	**03 47 00.0**	**+0.2**
	baz=92							
F16A	**Kennard Place,**	**91.74**	**39**	⇓P		**P**	**03 47 00.9**	**+1.1**
	baz=92,SNR=7.7							
R24A	**Sanders Place,**	**91.75**	**48**	⇓P		**P**	**03 47 00.6**	**+0.5**
	baz=92							
U26A	**Atchley Ranch,**	**91.76**	**50**	⇑P		**P**	**03 47 00.6**	**+0.4**
	baz=92							
LKWY	**Lake**	**91.77**	**41**	*eP*		**P**	**03 47 00.6**	**+0.5**
	comp=Z,9.5nm,1.0s							
O22A	**Kremmling**	**91.79**	**46**	⇓P		**P**	**03 47 00.6**	**+0.3**
	baz=92							
J19A	**Crowheart**	**91.86**	**42**	⇑P		**P**	**03 47 01.1**	**+0.7**
	baz=92,SNR=8.0							
D15A	**Lincoln**	**91.96**	**38**	⇑P		**P**	**03 47 01.6**	**+0.8**
	baz=92,SNR=5.5							
K20A	**Yellowstone Ra**	**91.97**	**43**	⇑P		**P**	**03 47 01.6**	**+0.6**
	baz=92							
Y29A	**Porterfield Fa**	**92.00**	**53**	⇑P		**P**	**03 47 01.5**	**+0.2**
	baz=92							
E16A	**East Helena**	**92.14**	**39**	⇓P		**P**	**03 47 02.4**	**+0.8**
	baz=93,SNR=5.3							
HRY	**Holter Researc**	**92.16**	**38**	*eP*		**P**	**03 47 02.9**	**+1.2**
O23A	**Lake Granby, G**	**92.23**	**46**	⇓P		**P**	**03 47 03.1**	**+0.7**
	baz=93							
X29A	**Tulia**	**92.26**	**53**	⇓P		**P**	**03 47 02.8**	**+0.3**
	baz=93							
H18A	**Shoshone NF, C**	**92.27**	**41**	⇑P		**P**	**03 47 03.3**	**+0.9**
	baz=93							
B14A	**Marquette Ranc**	**92.31**	**37**	⇑P		**P**	**03 47 03.0**	**+0.7**
	baz=93							
I19A	**Meeteetse**	**92.32**	**42**	⇓P		**P**	**03 47 03.6**	**+1.0**
	baz=93,SNR=6.6							
F17A	**Fitzpatrick Pl**	**92.37**	**40**	⇓P		**P**	**03 47 04.0**	**+1.3**
	baz=93,SNR=6.2							
ILAR	**Eielson Array**	**92.41**	**12**	P		**P**	**03 47 02.0**	**-0.2**
ILAR				PP		**PP**	**03 50 41.9**	**-2.0**
ILAR	**Eielson Array**	**92.41**	**12**	P		**P**	**03 47 02.0**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=215,slow=4.2,SNR=5.4							
ILAR				PP		**PP**	**03 50 41.9**	**-2.0**
	comp=Z,0.6nm,0.8s,baz=222,slow=8.0,SNR=3.6							
ILAR				LR		LR	04 25 04.0	
	comp=Z,105nm,18.0s,baz=198,slow=33							
D16A	**Dana Ranch, Ca**	**92.50**	**38**	⇑P		**P**	**03 47 04.1**	**+0.8**
	baz=93,SNR=5.7							
J20A	**Shoshoni**	**92.50**	**43**	⇑P		**P**	**03 47 04.2**	**+0.8**
	baz=93,SNR=9.1							
A14A	**Double T Ranch**	**92.59**	**36**	⇑P		**P**	**03 47 04.0**	**+0.3**
	baz=93							
H19A	**Powell**	**92.67**	**41**	⇓P		**P**	**03 47 05.1**	**+1.0**
	baz=93,SNR=5.6							
KMI	**Kunming**	**92.67**	**296**	P		**P**	**03 47 06.6**	**+1.9**
KMI				pmax		pmax		
	comp=Z,6.0nm,0.5s							
G18A	**Lazy EL Ranch,**	**92.68**	**41**	⇑P		**P**	**03 47 05.2**	**+1.1**
	baz=93							
RLMT	**Red Lodge**	**92.75**	**41**	*eP*		**P**	**03 47 06.3**	**+1.7**
	comp=Z,6.4nm,1.1s							
I20A	**Worland**	**92.80**	**42**	⇑P		**P**	**03 47 05.4**	**+0.7**
	baz=93,SNR=5.1							
J21A	**Lysite**	**92.89**	**43**	⇓P		**P**	**03 47 06.1**	**+0.9**
	baz=93,SNR=9.6							
F18A	**Big Timber**	**92.92**	**40**	⇓P		**P**	**03 47 06.3**	**+1.1**
	baz=93							
CMAR	**Chiang Mai Arr**	**92.97**	**289**	P		**P**	**03 47 06.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**92.97**	**289**	P		**P**	**03 47 06.2**	**+0.3**
	comp=Z,3.3nm,0.5s,baz=134,slow=3.5,SNR=21							
D17A	**Six Diamond Ra**	**93.05**	**39**	⇓P		**P**	**03 47 06.8**	**+1.0**
	baz=94,SNR=9.4							
CHTO	**Chiang Mai**	**93.12**	**289**	*eP*		**P**	**03 47 06.7**	**0.0**
	comp=Z,5.5nm,0.8s							
H20A	**Greybull**	**93.16**	**42**	⇓P		**P**	**03 47 06.7**	**+0.3**
	baz=94							
I21A	**Big Trails, Te**	**93.24**	**43**	⇑P		**P**	**03 47 07.0**	**+0.2**
	baz=94							
C17A	**Wharram Farm,**	**93.28**	**38**	⇑P		**P**	**03 47 07.5**	**+0.7**
	baz=94,SNR=7.2							
R27A	**Eads**	**93.35**	**49**	⇑P		**P**	**03 47 07.9**	**+0.5**
	baz=94							
J22A	**Midwest**	**93.53**	**43**	⇓P		**P**	**03 47 08.7**	**+0.6**
	baz=94							
HHC	**Hu-ho-hao-te**	**93.53**	**314**	*eP*		**P**	**03 47 09.5**	**+1.4**
HHC				pP		**pP**	**03 47 19.7**	**+0.3**
HHC				sP		**sP**	**03 47 24.2**	**+0.7**
HHC				PP		**PP**	**03 50 58.1**	**+4.7**
HHC				SKS		**SKSac**	**03 57 38.9**	**-1.1**
HHC				S		**S**	**03 58 11.1**	**-3.0**
HHC				sS		**sS**	**03 58 31.1**	**-1.8**
HHC				SS		**SS**	**04 04 32.9**	**+0.4**
HHC				pmax		pmax		
	comp=Z,13nm,0.7s							
HHC				pmax		pmax		
	comp=Z,85nm,4.6s							
HHC				LR		LR		
	comp=N,85nm,11.9s							
HHC				LR		LR		
	comp=E,130nm,13.1s							
HHC				LR		LR		
	comp=Z,70nm,13.1s							
BILL	**Bilibino**	**93.68**	**354**	*eP*		**P**	**03 47 08.1**	**+0.1**
	comp=Z,3.7nm,0.9s							
E19A	**Rath Farm, Rou**	**93.76**	**40**	⇓P		**P**	**03 47 09.2**	**+0.1**
	baz=94							
I22A	**9 Mile Ranch,**	**93.78**	**43**	⇓P		**P**	**03 47 09.2**	**0.0**
	baz=94							
E20A	**Meyer Farm, Mu**	**94.17**	**40**	⇓P		**P**	**03 47 11.8**	**+1.0**
	baz=95							
ATAH	**Atahualpa**	**94.24**	**100**	LR		LR	04 19 38.0	
	comp=Z,91nm,21.8s,baz=302,slow=29							
CD2	**Chengdu**	**94.43**	**302**	P		**P**	**03 47 12.6**	**+0.2**
CD2				pP		**pP**	**03 47 24.3**	**+0.6**
CD2				sP		**sP**	**03 47 28.4**	**+0.7**
CD2				SKS		**SKSac**	**03 57 44.1**	**-1.1**
CD2				S		**S**	**03 58 19.4**	**-2.9**
CD2				sS		**sS**	**03 58 38.0**	**-3.0**
CD2				SS		**SS**	**04 04 45.7**	**+0.2**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,90nm,5.0s							
G23A	**Biddle**	**95.12**	**42**	⇓P		**P**	**03 47 15.5**	**+0.2**
	baz=96							
H24A	**Dirks Ranch, A**	**95.41**	**43**	⇑P		**P**	**03 47 16.5**	**-0.2**
	baz=96							
RSSD	**Black Hills**	**95.41**	**44**	*eP*		**P**	**03 47 17.2**	**+0.4**
	comp=Z,10nm,1.2s							
LZH	**Lanzhou**	**96.65**	**307**	*eP*		P	03 47 14.6	-8.0
LZH				pP		**PcP**	**03 47 23.7**	**+1.0**
LZH				sP		sP	03 47 27.7	-1.0
LZH				pmax		pmax		
	comp=Z,19nm,1.1s							
YKA	**Yellowknife Ar**	**100.01**	**25**	P		**Pdif**	**03 47 37.1**	**+0.3**
YKA	**Yellowknife Ar**	**100.01**	**25**	P		**Pdif**	**03 47 37.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=238,slow=4.1,SNR=4.6							
WMQ	**Urumqi**	**110.95**	**310**	*e*PKP		**PKiKP**	**03 52 25.0**	**-0.4**
WMQ				LR		LR		
	comp=Z,120nm,23.4s							
MK31	**Makanchi Array**	**115.32**	**312**	*e*PKP		**PKPdf**	**03 52 31.6**	**-1.9**
MKAR	**Makanchi Array**	**115.32**	**312**	PKP		**PKPdf**	**03 52 31.7**	**-1.9**
MKAR	**Makanchi Array**	**115.32**	**312**	PKP		**PKPdf**	**03 52 31.7**	**-1.9**
	comp=Z,0.8nm,0.7s,baz=92,slow=0.9,SNR=11							
KSH	**Kashi**	**118.61**	**303**	*e*PKPbc		**PKPdf**	**03 52 44.6**	**+4.3**
KSH				sPKP			03 52 58.6	
KSH				PP		PP	03 54 08.2	+10
KSH				PKS		**PKSdf**	**03 56 19.4**	**+2.4**
KSH				SKS		**SKSdf**	**03 59 51.6**	**+1.8**
KSH				SKKS		**SKKSac**	**04 00 56.1**	**+0.3**
KSH				SS		SS	04 10 20.7	+6.3
KSH				AMB		AMB		
	comp=Z,79nm,5.6s							
KSH				LR		LR		
	comp=N,90nm,4.6s							
KSH				LR		LR		
	comp=E,54nm,4.2s							
KSH				LR		LR		
	comp=Z,170nm,6.3s							
KSH	**Kashi**	**118.61**	**303**	*e*PKP		**PKPdf**	**03 52 42.5**	**+2.2**
KSH				PP		PP	03 54 05.6	+7.2
KSH				PKS		**PKSdf**	**03 56 16.4**	**-0.6**
KSH				SKS		**SKSdf**	**03 59 48.9**	**-0.9**
KSH				SKKS		**SKKSac**	**04 00 54.6**	**-1.2**
KSH				SS		**SS**	**04 10 16.9**	**+2.5**
KSH				AMB		AMB		
	comp=Z,79nm,5.6s							
KSH				LR		LR		
	comp=N,100nm,5.8s							
KSH				LR		LR		
	comp=E,130nm,5.3s							
KSH				LR		LR		
	comp=Z,200nm,5.2s							
KKAR	**Karatay Array**	**123.14**	**306**	*e*PKPdf		**PKPdf**	**03 52 47.8**	**-0.9**
KBL	**Kabul**	**123.26**	**296**	*e*PKPdf		**PKPdf**	**03 52 48.4**	**-1.0**
ARCES	**ARCESS Array B**	**133.62**	**350**	PKPpre		PKPpre	03 52 54.0	
ARCES				PKP		**PKPdf**	**03 53 07.8**	**-0.1**
ARCES	**ARCESS Array B**	**133.62**	**350**	PKhKP		PKPpre	03 52 54.0	
	comp=Z,5.4nm,1.0s,baz=62,slow=30,SNR=2.9							
ARCES				PKP		**PKPdf**	**03 53 07.8**	**-0.1**
	comp=Z,13nm,1.2s,baz=45,slow=0.7,SNR=5.8							
FINES	**FINESS Array B**	**140.51**	**343**	PKPpre		PKPpre	03 53 10.3	
FINES				PKP		**PKPdf**	**03 53 21.0**	**+0.2**
FINES	**FINESS Array B**	**140.51**	**343**	PKhKP		PKPpre	03 53 10.3	
	comp=Z,1.5nm,0.8s,baz=159,slow=36,SNR=3.4							
FINES				PKP		**PKPdf**	**03 53 21.0**	**+0.2**
	comp=Z,3.3nm,0.9s,baz=48,slow=2.8,SNR=5.1							
NB2	**NORSAR Subarra**	**143.63**	**354**	PKP		PKPab	03 53 23.4	+0.3
	comp=Z,0.6nm,0.6s,baz=10,slow=3.2							
NOA	**NORSAR Array B**	**143.63**	**354**	PKPpre		PKPpre	03 53 22.5	
NOA	**NORSAR Array B**	**143.63**	**354**	PKhKP		PKPpre	03 53 22.5	
	comp=Z,2.2nm,0.8s,baz=12,slow=2.3,SNR=7.2							
HAKT	**HAKKARI**	**143.76**	**300**	*i* P		PKPab	03 53 24.0	-0.6
ARTV	**Artvin**	**144.38**	**306**	*i* P		**PKPab**	**03 53 26.0**	**-0.8**
DAGI	**Agillar**	**144.42**	**306**	*i* P		**PKPab**	**03 53 25.6**	**-1.2**
DBAD	**Bademkaya**	**144.60**	**306**	*i* P		**PKPab**	**03 53 27.2**	**-0.2**
HOMI	**Horasan**	**144.68**	**305**	*i* P		PKPbc	03 53 27.8	-0.3
BEST	**Besiri**	**145.61**	**301**	*i* P		**PKPab**	**03 53 30.8**	**-0.4**
KOPT	**Kop Dagi**	**145.74**	**305**	*i* P		**PKPab**	**03 53 32.4**	**+0.5**
MARD	**Mardin**	**146.10**	**300**	*i* P		**PKPdf**	**03 53 31.8**	**+0.2**
KELT	**Kelkit**	**146.62**	**306**	*i* P		**PKPbc**	**03 53 33.5**	**-0.5**
GRSN	**GIRESUNGRSN**	**147.11**	**307**	*i* P		**PKPdf**	**03 53 33.7**	**+0.7**
ELZG	**Elazig**	**147.24**	**303**	*i* P		**PKPbc**	**03 53 36.4**	**+0.5**
SUSE	**Susehri**	**147.38**	**306**	*i* P		**PKPbc**	**03 53 36.4**	**+0.2**
KEMA	**Kemaliye**	**147.42**	**304**	*i* P		**PKPbc**	**03 53 36.0**	**-0.2**
SUW	**Suwalki**	**147.57**	**338**	*e*PKP		**PKPab**	**03 53 37.8**	**-0.3**
SUW	**Suwalki**	**147.57**	**338**	*e*PKP		**PKPab**	**03 53 37.8**	**-0.3**
SUW	**Suwalki**	**147.57**	**338**	*e*PKPbc		**PKPbc**	**03 53 36.4**	**+0.5**
AKASG	**Malin Array Be**	**147.65**	**329**	PKPbc		**PKPbc**	**03 53 34.8**	**-1.5**
AKASG	**Malin Array Be**	**147.65**	**329**	PKPbc		**PKPbc**	**03 53 34.8**	**-1.5**
	comp=Z,2.8nm,0.6s,baz=42,slow=3.9,SNR=8.3							
AKCD	**Akcadag**	**148.10**	**303**	*i* P		**PKPbc**	**03 53 37.9**	**-0.3**
SCER	**sogukcermik**	**148.27**	**306**	*i* P		**PKPbc**	**03 53 38.8**	**+0.2**
ERBA	**Erbaa**	**148.28**	**308**	*i* P		**PKPbc**	**03 53 37.6**	**-0.8**
GZT	**Gaziantep**	**148.60**	**301**	*i* P		**PKPbc**	**03 53 38.8**	**-0.7**
KUZU	**Kuzuini**	**149.11**	**300**	*i* P		**PKPbc**	**03 53 39.9**	**-0.8**
ANDN	**Andirin**	**149.49**	**302**	*i* P		**PKPbc**	**03 53 42.5**	**+0.8**
CTKT	**Corum**	**149.70**	**309**	*i* P		**PKPbc**	**03 53 41.4**	**-0.7**
COBT	**Iskenderun**	**149.81**	**308**	*i* P		**PKPbc**	**03 53 41.9**	**-0.7**
YAYL	**Yayladag**	**150.04**	**299**	*i* P		**PKPbc**	**03 53 41.8**	**-1.2**
ILGA	**Ilgaz**	**150.29**	**310**	*i* P		**PKPbc**	**03 53 41.0**	**-2.7**
BALT	**Daday**	**150.33**	**311**	*i* P		**PKPbc**	**03 53 43.3**	**-0.4**
CDAG	**Cicekdag**	**150.35**	**307**	*i* P		**PKPbc**	**03 53 43.0**	**-0.7**
GULE	**Gulek**	**150.77**	**302**	*i* P		**PKPbc**	**03 53 44.4**	**-0.4**
BR131	**Keskin Array S**	**150.85**	**308**	*e*PKPbc		**PKPbc**	**03 53 43.7**	**-1.2**
BRTR	**Keskin Array B**	**150.85**	**308**	PKPbc		**PKPbc**	**03 53 43.9**	**-1.0**
BRTR	**Keskin Array B**	**150.85**	**308**	PKPbc		**PKPbc**	**03 53 43.9**	**-1.0**
	comp=Z,4.3nm,0.7s,baz=137,slow=3.6,SNR=34							
KWP	**Kalwaria Pacla**	**151.28**	**334**	*e*PKP		**PKPbc**	**03 53 45.2**	**-0.2**
KWP	**Kalwaria Pacla**	**151.28**	**334**	*e*PKP		**PKPbc**	**03 53 45.2**	**-0.2**
KWP	**Kalwaria Pacla**	**151.28**	**334**	*e*PKPbc		**PKPbc**	**03 53 45.1**	**-0.2**
KWP	**Kalwaria Pacla**	**151.28**	**334**	⇓*i* P		**PKPbc**	**03 53 45.2**	**-0.2**
BBAL	**Bala**	**151.29**	**307**	*i* P		**PKPbc**	**03 53 45.3**	**-0.7**
BUR08	**Bucovina Ar. S**	**151.67**	**328**	*e*PKPbc		**PKPbc**	**03 53 47.0**	**+0.5**
BURAR	**Bucovina Array**	**151.69**	**328**	⇑*i* P		**PKPbc**	**03 53 47.0**	**+0.5**
TESR		**151.73**	**325**	⇑*i* P		**PKPbc**	**03 53 46.6**	**+0.1**
CFR	**Carcaliu**	**151.77**	**322**	⇓*i* P		**PKPbc**	**03 53 45.8**	**-0.8**
KOLS	**Kolonicke sedl**	**152.00**	**333**	*e*PKP		**PKPbc**	**03 53 48.9**	**+1.8**
TIRR	**Tirgusor**	**152.03**	**320**	⇑*i* P		**PKPbc**	**03 53 47.3**	**+0.1**
VRI	**Vrincioaia**	**152.11**	**324**	⇑*i* P		**PKPdf**	**03 53 43.6**	**+2.8**
PLOR	**Plostina**	**152.16**	**324**	⇑*i* P		PKPab	03 54 04.6	+7.3
CRVS	**Cervenica-Dubn**	**152.35**	**334**	*e*PKP		**PKPab**	**03 53 56.8**	**-1.2**
CSS	**Prodhromos**	**152.48**	**298**	*e*PKPbc		**PKPbc**	**03 53 48.0**	**-0.6**
MLR	**Muntele Rosu**	**152.77**	**324**	⇓*i* P		**PKPbc**	**03 53 48.5**	**-0.6**
CLL	**Collm**	**152.79**	**347**	*i* PKPbc		**PKPbc**	**03 53 48.2**	**-0.5**
	comp=Z,11nm,1.4s							
CLL				*i* PKPab		**PKPab**	**03 53 57.5**	**-2.1**
UPC	**Upice**	**152.81**	**342**	⇑*e*PKP		**PKPbc**	**03 53 51.8**	**+3.0**
DPC	**Dobruska-Polom**	**152.87**	**342**	⇑*e*PKP		**PKPbc**	**03 53 52.2**	**+3.2**
DPC				*e*PKPAB		**PKPab**	**03 54 00.3**	**+0.2**
BRG	**Berggiesshubel**	**152.99**	**345**	*e*PKP		**PKPbc**	**03 53 48.9**	**-0.3**
	comp=Z,4.9nm,1.1s							
BRG				*e*			03 54 16.2	
	comp=Z,6.3nm,0.9s							
MORC	**Moravsky Berou**	**153.01**	**340**	*e*PKPbc		**PKPbc**	**03 53 49.6**	**+0.3**
BORA	**Eskisehir**	**153.05**	**310**	*i* P		**PKPbc**	**03 53 48.8**	**-1.0**
PVCC	**Panska Ves**	**153.16**	**344**	⇑*e*PKP		**PKPbc**	**03 53 49.5**	**-0.1**
CIOR	**Ciorogarla**	**153.48**	**322**	⇑*i* P		**PKPdf**	**03 53 42.0**	**-0.8**
VYHS	**Vyhne**	**153.68**	**337**	*e*PKP		**PKPdf**	**03 53 43.8**	**+0.8**
VYHS				*e*			03 53 59.7	
VRAC	**Vranov**	**153.72**	**341**	⇑*i* P		**PKPab**	**03 54 02.4**	**-1.3**
PSZ	**Piszkesteto**	**153.77**	**335**	⇓*i* P		**PKPab**	**03 54 01.7**	**-2.3**
GRFO	**Grafenberg**	**154.67**	**348**	*e*PKPdf		**PKPdf**	**03 53 45.9**	**+1.5**
BZS	**Buzias**	**154.84**	**329**	⇑*i* P		**PKPdf**	**03 53 40.4**	**-4.3**
GERES	**GERESS Array B**	**154.94**	**344**	PKPbc		**PKPbc**	**03 53 53.3**	**-0.3**
GERES				PKPab		**PKPab**	**03 54 08.5**	**-0.5**
GERES	**GERESS Array B**	**154.94**	**344**	PKPbc		**PKPbc**	**03 53 53.3**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=31,slow=4.1,SNR=3.0							
GERES				PKPab		**PKPab**	**03 54 08.5**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=20,slow=6.6,SNR=2.7							
VTS	**Vitosha**	**156.16**	**322**	⇑*i* P		**PKPab**	**03 54 13.4**	**-1.1**
DBIC	**Dimbokro**	**160.04**	**155**	PKPab		**PKPab**	**03 54 30.8**	**-0.9**
DBIC	**Dimbokro**	**160.04**	**155**	PKPab		**PKPab**	**03 54 30.8**	**-0.9**
	comp=Z,2.4nm,0.8s,baz=206,slow=4.2,SNR=4.7							
TOA0	**Torodi Ar. Sit**	**168.04**	**171**	*e*PKPab		**PKPab**	**03 55 06.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**168.04**	**171**	PKP		**PKPdf**	**03 53 58.0**	**-1.3**
TORD				PKPab		**PKPab**	**03 55 06.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**168.04**	**171**	PKP		**PKPdf**	**03 53 58.0**	**-1.3**
	comp=Z,0.5nm,0.9s,baz=6.4,slow=2.3,SNR=5.1							
TORD				PKPab		**PKPab**	**03 55 06.0**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=186,slow=3.4,SNR=6.1							

*DDA **07** 03:33:53.7,39.20N×43.92E,h7km,MD3.0*
*ISK **07** 03:33:54.4,39.32N×43.88E,h5km,MD2.8*
*ISCJB **07** 03:33:55.5±0.9,39.29N±0.04×43.93E±0.06,h1km±6km,*
Error ellipse: s-maj=8.5km s-min=5.5km az=157.5
*CSEM **07** 03:33:55.6±0.3,39.34N×43.88E,h2km,MD2.8,Error*
ellipse: s-maj=7.8km s-min=6.5km az=72.0

ISC 07 03:33:55.4±1.2,39.31N±0.03×43.89E±0.05,h10km±10km,
n17,σ0.969/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.17**	**173**	*e*PG		**Pg**		**03 33 58.7**	**-0.5**
CLDR	**Caldiran**	**0.17**	**173**	*e*Pg		**Pg**		**03 33 58.7**	**-0.5**
DYDN	**Diyadin**	**0.28**	**327**	*i* P		**Pg**		**03 34 01.1**	**-0.2**
DYDN				*i* S		**Sb**		**03 34 07.9**	**+0.2**
DYDN	**Diyadin**	**0.28**	**327**	*i* P		**Pg**		**03 34 01.1**	**-0.2**
DYDN				*i* S		**Sb**		**03 34 07.9**	**+0.2**
AGRB	**Hanur-Agry**	**0.75**	**291**	*e*PG		**Pg**		**03 34 09.8**	**-0.1**
AGRB				*e*SG		**Sb**		**03 34 21.1**	**+0.2**
AGRB	**Hanur-Agry**	**0.75**	**291**	*e*Pg		**Pg**		**03 34 09.8**	**-0.1**
AGRB				*e*Sg		**Sb**		**03 34 21.1**	**+0.2**
VANB	**Van**	**0.81**	**209**	*e*PG		**Pg**		**03 34 11.4**	**+0.3**
VANB				*e*SG		**Sb**		**03 34 24.1**	**+1.4**
VANB	**Van**	**0.81**	**209**	*e*Pg		**Pg**		**03 34 11.4**	**+0.3**
VANB				*e*Sg		**Sb**		**03 34

KSRS	**Korea Array**	**13.27**	**300**	LR	LR	03 47 28.9			
	comp=Z,31nm,21.4s,baz=125,slow=34								
USRK	**Ussuriysk Arra**	**15.03**	**330**	LR	LR	03 49 05.7			
	comp=Z,27nm,20.6s,baz=193,slow=37								
SONM	**Songino Array**	**31.74**	**311**	P	P	03 46 12.2	+3.4		
	0.4nm,0.5s,baz=123,slow=8.0,SNR=4.3								
BILL	**Bilibino**	**39.12**	**14**	*e*P	**P**	**03 47 08.7**	**-3.0**		
BILL				pmax	pmax				
	comp=Z,4.0nm,1.1s								
MKAR	**Makanchi Array**	**47.84**	**307**	P	**P**	**03 48 24.5**	**+2.2**		
MKAR	**Makanchi Array**	**47.84**	**307**	P	**P**	**03 48 24.4**	**+2.2**		
	comp=Z,0.3nm,0.5s,baz=85,slow=9.8,SNR=9.1								
WRA	**Warramunga Arr**	**51.76**	**190**	P	**P**	**03 48 52.8**	**+0.6**		
	comp=Z,0.4nm,0.3s,baz=6.6,slow=7.7,SNR=10								
ILAR	**Eielson Array**	**53.78**	**30**	P	**P**	**03 49 06.3**	**-0.3**		
	comp=Z,0.5nm,0.6s,baz=263,slow=7.2,SNR=4.6								
YKA	**Yellowknife Ar**	**68.19**	**29**	P	**P**	**03 50 44.1**	**-0.3**		
	comp=Z,0.4nm,0.9s,baz=298,slow=5.7,SNR=3.7								
JOF	**Joensuu**	**71.18**	**333**	*e*P	**P**	**03 51 04.2**	**+1.5**		
JOF				pmax	pmax				
	comp=Z,1.0nm,0.5s								
JOF	**Joensuu**	**71.18**	**333**	*e*p	**P**	**03 51 04.2**	**+1.5**		
	comp=Z,0.6nm,0.5s								
KAF	**Kangasniemi**	**73.55**	**334**	*e*P	**P**	**03 51 17.4**	**+0.6**		
KAF				pmax	pmax				
	comp=Z,2.0nm,0.4s								
KAF	**Kangasniemi**	**73.55**	**334**	*e*p	**P**	**03 51 17.4**	**+0.6**		
	comp=Z,1.7nm,0.4s								
FINES	**FINESS Array B**	**74.04**	**333**	P	**P**	**03 51 20.7**	**+1.0**		
	comp=Z,0.8nm,0.4s,baz=52,slow=5.5,SNR=14								
NVAR	**Mina Array Bea**	**77.69**	**52**	P	**P**	**03 51 42.2**	**+0.9**		
	comp=Z,0.6nm,0.8s,baz=294,slow=6.0,SNR=4.1								
AKASG	**Malin Array Be**	**79.13**	**323**	P	**P**	**03 51 50.0**	**+1.3**		
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**79.13**	**323**	P	**P**	**03 51 50.0**	**+1.3**		
	comp=Z,0.6nm,0.4s,baz=51,slow=4.7,SNR=3.9								
NB2	**NORSAR Subarra**	**79.55**	**338**	P	**P**	**03 51 51.7**	**+0.9**		
	comp=Z,0.7nm,0.6s,baz=39,slow=5.9								
NOA	**NORSAR Array B**	**79.55**	**338**	P	**P**	**03 51 51.8**	**+0.9**		
	comp=Z,0.8nm,0.6s,baz=40,slow=5.5,SNR=4.4								
BRTR	**Keskin Array B**	**83.09**	**313**	P	**P**	**03 52 12.2**	**+1.9**		
	comp=Z,0.5nm,0.8s,baz=113,slow=2.8,SNR=5.4								
ULM	**Lac du Bonnet**	**83.66**	**33**	LR	LR	04 30 49.7			
	comp=Z,97nm,19.6s,baz=230,slow=37								
TORD	**Torodi Ar. Bea**	**121.70**	**313**	PKP	**PKPdf**	**03 58 39.1**	**+0.6**		
	comp=Z,0.2nm,0.5s,baz=18,slow=2.2,SNR=5.5								

JMA 07 03:40:25.7±0.1, 36.77N×141.25E, h50km±2km, M2.0, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.49**	**313**	P	Pn	03 40 36.6	-0.3
ONAJ				S	Sn	03 40 44.4	-0.6
JHO	**Hitachi**	**0.57**	**254**	P	Pn	03 40 37.5	-0.3
JHO				S	Sn	03 40 46.5	0.0
JFK	**Kawauchi**	**0.67**	**333**	P	Pn	03 40 39.0	-0.1
JFK				*e*S	Sn	03 40 48.1	-0.7

*ISCJB **07** 04:42:42.7±0.4, 51.53N±0.02×16.10E±0.04, h0km, Error ellipse: s-maj=3.6km s-min=2.9km az=38.7*
*IPEC **07** 04:42:44.0±0.3, 51.59N×16.13E, h0km, ML2.0/3, Error ellipse: s-maj=2.0km s-min=1.5km az=34.0*
*WAR **07** 04:42:45.1, 51.55N×16.06E*
*CSEM **07** 04:42:45.2±0.2, 51.49N×16.02E, h2km, ML3.1/9, Error ellipse: s-maj=4.1km s-min=3.4km az=13.0*
*PRU **07** 04:42:46.6, 51.44N×16.04E, h0km*
*IDC **07** 04:42:46.7±0.8, 51.47N×15.91E, h0km, mb1 3.3/5, mb1mx3.1/25, mbtmp3.2/5, ML2.8/5, Error ellipse: s-maj=17.5km s-min=7.2km az=99.0*
*VIE **07** 04:42:47.5±0.3, 51.29N×16.02E, h0km, mb2.3/4, ML2.5/4, Error ellipse: s-maj=2.2km s-min=1.8km az=0.0 72 km WNW of Wroclaw Suspected Mining induced.*

ISC 07 04:42:44.3±0.8, 51.56N±0.03×16.07E±0.02, h0km, n45, σ0s87/79, 4C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**169**	*e*Pg	**Pg**	**04 42 58.7**	**+0.4**
KSP				*e*Sg	**Sg**	**04 43 07.2**	**-0.4**
KSP	**Ksiaz**	**0.73**	**169**	*e*Pg	**Pg**	**04 42 58.7**	**+0.4**
KSP				*e*Sg	**Sg**	**04 43 07.2**	**-0.4**
KSP	**Ksiaz**	**0.73**	**169**	*e*Pg	**Pg**	**04 42 58.6**	**+0.4**
	baz=352						
KSP				*e*Sg	**Sg**	**04 43 07.0**	**-0.6**
UPC	**Upice**	**1.05**	**182**	*e*PG	**Pg**	**04 43 04.5**	**+0.1**
UPC	**Upice**	**1.05**	**182**	Pg	**Pg**	**04 43 04.5**	**+0.1**
DPC	**Dobruska-Polom**	**1.22**	**172**	*e*PG	**Pg**	**04 43 07.4**	**-0.2**
DPC				*e*SG	**Sg**	**04 43 21.9**	**-1.5**
	comp=Z,19nm,0.4s						
DPC	**Dobruska-Polom**	**1.22**	**172**	Pg	**Pg**	**04 43 07.4**	**-0.2**
DPC				*e*Sg	**Sg**	**04 43 22.5**	**-0.9**
	baz=354						
PVCC	**Panska Ves**	**1.40**	**223**	*e*PG	**Pn**	**04 43 11.1**	**+0.1**
PVCC				*e*SG	**Sg**	**04 43 29.1**	**-0.1**
	comp=Z,77nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**223**	Pg	**Pn**	**04 43 11.1**	**+0.1**
PVCC				Sg	**Sg**	**04 43 29.1**	**-0.1**
	77nm,0.3s						
BRG	**Berggiesshubel**	**1.50**	**244**	PN	**Pn**	**04 43 12.8**	**+0.4**
BRG				PG	**Pg**	**04 43 13.5**	**+0.5**
BRG				SG	**Sn**	**04 43 33.1**	**+0.4**
	31nm,0.3s						
PRU	**Pruhonice**	**1.85**	**212**	*e*PN	**Pn**	**04 43 16.9**	**-0.3**
PRU				*e*PG	**Pb**	**04 43 18.1**	**-0.8**
PRU				*e*SG	**Sn**	**04 43 41.5**	**+0.3**
	comp=Z,11nm,0.3s						
PRU	**Pruhonice**	**1.85**	**212**	Pn	**Pn**	**04 43 16.9**	**-0.3**
CLL	**Collm**	**1.94**	**264**	*i* Pn	**Pn**	**04 43 18.6**	**+0.2**
CLL				*i* Pg	**Pg**	**04 43 21.6**	**+0.3**
CLL				*i* Sg	**Sg**	**04 43 46.8**	**+0.4**
	comp=Z,11nm,0.5s						
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn	**Pn**	**04 43 19.5**	**0.0**
	baz=334						
MORC				*e*Sg	**Sb**	**04 43 47.9**	**+0.5**
	comp=Z,9.4nm,0.3s,baz=334						
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*PG	**Pb**	**04 43 25.2**	**+0.8**
OKC				*e*SG	**Sb**	**04 43 51.0**	**-0.8**
OKC	**Ostrava-Krasne**	**2.17**	**142**	Pg	**Pb**	**04 43 25.2**	**+0.8**
OKC				Sg	**Sb**	**04 43 51.0**	**-0.8**
VRAC	**Vranov**	**2.28**	**171**	Pn	**Pn**	**04 43 24.2**	**+1.1**
	comp=Z,1.7nm,0.3s,baz=341,slow=17,SNR=16						
VRAC				Lg	Lg	04 43 55.3	
	comp=Z,3.4nm,0.3s,baz=83,slow=16,SNR=8.4						
VRAC	**Vranov**	**2.28**	**171**	*e*Pn	**Pn**	**04 43 23.5**	**+0.4**
	baz=353						
VRAC				*e*Sg	**Sb**	**04 43 56.2**	**+1.3**
	comp=Z,9.5nm,0.3s,baz=353						
TREC	**Trest**	**2.30**	**190**	*e*PN	**Pn**	**04 43 24.3**	**+0.9**
TREC				*e*PG	**Pb**	**04 43 27.0**	**+0.5**
TREC	**Trest**	**2.30**	**190**	Pn	**Pn**	**04 43 24.3**	**+0.9**
KRUC	**Moravsky**	**2.51**	**175**	*e*Pn	**Pn**	**04 43 26.5**	**+0.2**
	baz=356						
KRUC				*e*Sg	**Sb**	**04 44 03.3**	**+1.8**
	comp=Z,4.7nm,0.2s,baz=356						
NKC	**Novy Kostel**	**2.65**	**241**	*e*PN	**Pn**	**04 43 29.2**	**+1.0**
NKC				*e*PG	**Pg**	**04 43 35.1**	**+0.1**
NKC				*e*SG	**Sg**	**04 44 09.2**	**-0.1**
	comp=Z,12nm,0.3s						
NKC	**Novy Kostel**	**2.65**	**241**	Pn	**Pn**	**04 43 29.2**	**+1.0**
OJC	**Ojcow**	**2.71**	**118**	*e*Pg	**Pg**	**04 43 37.0**	**+0.8**
OJC				*e*Sg	**Sg**	**04 44 11.1**	**-0.4**
OJC	**Ojcow**	**2.71**	**118**	*e*Pg	**Pg**	**04 43 37.3**	**+1.0**
OJC				*e*Sg	**Sg**	**04 44 11.6**	**+0.2**
KHC	**Kasperske Hory**	**2.91**	**214**	*e*PN	**Pn**	**04 43 31.8**	**0.0**
KHC				*e*PG	**Pb**	**04 43 37.7**	**+0.7**
KHC				*e*SN	**Sn**	**04 44 05.0**	**-2.4**
KHC				*e*SG	**Sb**	**04 44 14.4**	**+1.3**
	comp=Z,6.7nm,0.5s						
KHC	**Kasperske Hory**	**2.91**	**214**	Pn	**Pn**	**04 43 31.8**	**0.0**
GERES	**GERESS Array B**	**3.11**	**210**	Pn	**Pn**	**04 43 34.9**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=25,slow=12,SNR=18						
GERES				Pg	**Pb**	**04 43 41.5**	**+1.0**
	comp=Z,2.6nm,0.3s,baz=32,slow=17,SNR=35						
GERES				Lg	Lg	04 44 22.2	
	comp=Z,2.2nm,0.3s,baz=27,slow=26,SNR=8.2						
SMOL	**Smolenice**	**3.17**	**163**	*e*	**Pg**	**04 43 46.2**	**+1.2**
SMOL	**Smolenice**	**3.17**	**163**	*e*SG	**Sg**	**04 44 26.6**	**+0.6**
SMOL	**Smolenice**	**3.17**	**163**	*e*Sg	**Sg**	**04 44 26.7**	**+0.7**
NIE	**Niedzica**	**3.45**	**127**	*e*P	**Pg**	**04 43 50.0**	**-0.4**
NIE				*e*S	**Sg**	**04 44 35.0**	**-0.1**
VYHS	**Vyhne**	**3.55**	**149**	*e*PN	**Pn**	**04 43 41.2**	**+0.6**
VYHS				*e*		04 43 50.9	
VYHS	**Vyhne**	**3.55**	**149**	*e*Pn	**Pn**	**04 43 41.2**	**+0.6**
VYHS				*e*Sg	**Sg**	**04 44 38.7**	**+0.5**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**04 43 42.4**	**+0.8**
BSD				*e*S	**Sn**	**04 44 22.8**	**-2.3**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**04 43 42.4**	**+0.8**
CONA	**Conrad Observa**	**3.64**	**182**	⇑*i* Pn	**Pn**	**04 43 41.4**	**-0.4**
CONA				⇑*i* Sg	**Sg**	**04 44 39.1**	**-1.9**
	comp=Z,6.6nm,0.3s						
CONA	**Conrad Observa**	**3.64**	**182**	Pn	**Pn**	**04 43 41.4**	**-0.4**
CONA				Sg	**Sg**	**04 44 39.1**	**-1.9**
	comp=Z,6.6nm,0.3s						
MOA	**Molln**	**3.89**	**198**	⇑*i* Pn	**Pn**	**04 43 45.5**	**+0.2**
MOA				⇑*i* Sg	**Sg**	**04 44 48.0**	**-1.2**
	comp=Z,3.0nm,0.3s						
MOA	**Molln**	**3.89**	**198**	Pn	**Pn**	**04 43 45.5**	**+0.2**
MOA				Sg	**Sg**	**04 44 48.0**	**-1.2**
	comp=Z,3.0nm,0.3s						
HFS	**Hagfors**	**8.70**	**352**	Pn	**Pn**	**04 44 51.7**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=167,slow=15,SNR=9.8						
NOA	**NORSAR Array B**	**9.88**	**346**	Pn	**Pn**	**04 45 08.3**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=165,slow=11,SNR=3.8						
FINES	**FINESS Array B**	**11.33**	**25**	Pn	**Pn**	**04 45 27.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=217,slow=11,SNR=13						
KAF	**Kangasniemi**	**11.95**	**24**	*e*p	**Pn**	**04 45 35.2**	**-0.5**
	comp=Z,0.3nm,0.3s						
JOF	**Joensuu**	**14.01**	**30**	*e*p	**Pn**	**04 46 01.4**	**-2.4**
	comp=Z,0.6nm,0.6s						

MEX 07 04:47:47.9±0.6, 16.87N×100.31W, h4km±3km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.18**	**12**	*e*P	Pg	04 47 51.0	-0.5
CAIG				*i* S	Sg	04 47 54.5	+0.5
ACX	**Acapulco**	**0.43**	**89**	*e*P	Pg	04 47 55.0	-1.2
ACX				*i* S	Sg	04 47 59.9	-2.0
MEIG	**Mezcala**	**1.24**	**32**	*e*P	Pg	04 48 07.8	-4.0
MEIG				*i* S	Sg	04 48 23.9	-4.2
ZIIG	**Zihuatanejo**	**1.33**	**304**	*i* P	Pn	04 48 09.4	-3.8
ZIIG				*i* S	Sg	04 48 26.1	-4.6
PLIG	**Platanillo**	**1.70**	**27**	*i* P	Pn	04 48 15.2	-3.2
PLIG				*i* S	Sn	04 48 36.1	-4.7
PNIG	**Pinotepa**	**2.14**	**102**	*i* P	Pn	04 48 20.7	-3.7
PNIG				*i* S	Sn	04 48 47.7	-3.8
UTMO	**Huajuapan**	**2.58**	**68**	*i* P	Pn	04 48 28.1	-2.5
UTMO				*i* S	Sn	04 48 58.0	-4.7
PPM	**Popocatepetl**	**2.71**	**36**	*i* P	Pn	04 48 29.7	-3.2
PPM				*i* S	Sn	04 49 02.0	-4.5

*IDC **07** 04:52:48.2±0.4, 43.11N×66.33E, h0km, mb4.5/30, mb1 4.6/36, mb1mx4.6/38, mbtmp4.6/36, ML4.5/4, MS3.6/11, Ms1 3.6/11, ms1mx3.3/46, Error ellipse: s-maj=10.0km s-min=6.6km az=176.0*
*ISCJB **07** 04:52:49.1±0.1, 43.16N±0.02×66.32E±0.02, h15km, mb4.6/114, MS3.9/21, Error ellipse: s-maj=3.3km s-min=2.0km az=2.7*
*NEIC **07** 04:52:49.9±0.2, 43.20N×66.35E, h10km, mb4.8/56, MW4.3(USGS), Error ellipse: s-maj=5.0km s-min=3.1km az=183.0*
NEIC Felt [II] at Qyzylorda. Also felt at Shymkent and Shieli. Felt at Chirchik and Tashkent, Uzbekistan.
*BJI **07** 04:52:49.7, 43.38N×66.62E, h10km, mB4.9/29, mb4.7/36, ML4.6/1, Ms4.5/32, Ms7 4.3/30*
*TEH **07** 04:52:50.0, 43.22N×66.34E, h10km, ML4.9*
*NNC **07** 04:52:51.2±1.6, 43.63N×66.53E, h0km, mb4.8, mpv4.4, Error ellipse: s-maj=16.2km s-min=7.5km az=38.0*
*MOS **07** 04:52:51.6±1.1, 43.29N×66.40E, h33km, mb4.9/41, Error ellipse: s-maj=5.9km s-min=4.4km az=133.8*

ISC 07 04:52:50.6±0.3, 43.32N±0.04×66.35E±0.02, h16km±1km, h15km:pP-P, n415, σ1s69/491, mb4.7/114, MS3.8/21, 60C-24D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**3.05**	**93**	⇑Pn	**Pn**	**04 53 39.5**	**+1.3**
	71nm,0.3s,baz=278,slow=16,SNR=2875						
KK31				⇓Sn	**Sn**	**04 54 16.0**	**+1.6**
	605nm,0.5s,baz=280,slow=19,SNR=9.3						
KK31				⇓Lg	Lg	04 54 28.2	
	1µm,0.6s,baz=280,slow=25,SNR=18						
KK31	**Karatay Array**	**3.05**	**93**	*i* PN	**Pn**	**04 53 39.3**	**+1.1**
KK31				pmax	pmax		
	comp=Z,190nm,0.2s						
KKAR	**Karatay Array**	**3.05**	**93**	*e*PN	**Pn**	**04 53 39.5**	**+1.3**
KKAR	**Karatay Array**	**3.05**	**93**	*e*Pn	**Pn**	**04 53 39.5**	**+1.3**
EKS2	**Erkin-Say**	**5.49**	**94**	*e*PN	**Pn**	**04 54 13.1**	**+1.3**
EKS2				*e*		04 54 32.0	
EKS2	**Erkin-Say**	**5.49**	**94**	*e*Pn	**Pn**	**04 54 13.1**	**+1.3**
EKS2				*e*Pg	Pg	04 54 31.9	-3.7
EKS2				*e*Sg	**Sg**	**04 55 43.4**	**-3.3**
EKS2	**Erkin-Say**	**5.49**	**94**	P	**Pn**	**04 54 13.2**	**+1.3**
	SNR=98						
EKS2				P	**Pn**	**04 54 13.2**	**+1.3**
	SNR=98						
AML	**Almayashu**	**5.54**	**100**	P	**Pn**	**04 54 14.6**	**+1.9**
	SNR=81						
AML				P	**Pn**	**04 54 14.6**	**+1.9**
	SNR=81						
USP	**Ospenovka**	**5.95**	**88**	P	**Pn**	**04 54 18.9**	**+0.8**
	SNR=141						
USP				P	**Pn**	**04 54 18.9**	**+0.8**
	SNR=141						
AAK	**Ala-Archa**	**6.01**	**94**	PN	**Pn**	**04 54 19.4**	**+0.3**
AAK				*e*		04 55 48.6	
AAK	**Ala-Archa**	**6.01**	**94**	Pn	**Pn**	**04 54 19.4**	**+0.3**
AAK				*e*Sg	**Sb**	**04 55 48.6**	**+1.6**
AAK				Lg	Lg	04 55 58.3	
AAK	**Ala-Archa**	**6.01**	**94**	P	**Pn**	**04 54 20.7**	**+1.6**
	SNR=26						
AAK	**Ala-Archa**	**6.01**	**94**	P	**Pn**	**04 54 20.5**	**+1.4**
	SNR=195						
AAK				P	**Pn**	**04 54 20.5**	**+1.4**
	SNR=195						
AAK	**Ala-Archa**	**6.01**	**94**	Pn	**Pn**	**04 54 19.4**	**+0.3**
	comp=Z,28nm,0.3s,baz=254,slow=4.0,SNR=398						
AAK				Lg	Lg	04 55 58.3	
	comp=Z,28nm,0.3s,baz=46,slow=9.5,SNR=4.2						
AAK				LR	LR	04 56 31.1	
	comp=Z,156nm,19.9s,baz=254,slow=37						
FRU	**Bishkek**	**6.07**	**92**	⇑*i* PN	**Pn**	**04 54 20.0**	**+0.2**
FRU				*e*		04 54 52.0	
FRU				*i* S	**Sb**	**04 55 50.0**	**+1.5**
FRU				pmax	pmax		
	comp=Z,200nm,1.0s						
FRU				pmax	pmax		
	comp=N,1µm,1.8s						
UCH	**Uchtor**	**6.11**	**98**	P	**Pn**	**04 54 22.6**	**+2.0**
	SNR=19						
UCH				P	**Pn**	**04 54 22.6**	**+2.0**
	SNR=19						
CHMS	**Chumysh**	**6.15**	**90**	P	**Pn**	**04 54 22.0**	**+1.1**
	SNR=95						
CHMS				P	**Pn**	**04 54 22.0**	**+1.1**
	SNR=95						
KBK	**Karagaybulak**	**6.34**	**93**	P	**Pn**	**04 54 25.2**	**+1.6**
	SNR=50						
KBK				P	**Pn**	**04 54 25.2**	**+1.6**
	SNR=50						
KZA	**Kyzart**	**6.67**	**98**	P	**Pn**	**04 54 30.2**	**+1.9**
	SNR=53						
KZA				P	**Pn**	**04 54 30.2**	**+1.9**
	SNR=53						
TKM2	**Tokmak 2**	**6.78**	**90**	⇑Pn	**Pn**	**04 54 30.4**	**+0.8**
	comp=N,20nm,0.6s						
TKM2				⇑Lg	Lg	04 56 18.3	
	comp=N,235nm,0.6s						
TKM2	**Tokmak 2**	**6.78**	**90**	*i* PN	**Pn**	**04 54 30.6**	**+1.0**
TKM2	**Tokmak 2**	**6.78**	**90**	*e*Pn	**Pn**	**04 54 30.6**	**+1.0**
TKM2				*e*Pg	Pg	04 54 55.1	-5.2
TKM2				*e*Sg	**Sg**	**04 56 23.3**	**-4.8**
TKM2	**Tokmak 2**	**6.78**	**90**	P	**Pn**	**04 54 30.6**	**+1.0**
	SNR=36						
TKM2				P	**Pn**	**04 54 30.6**	**+1.0**
	SNR=36						
ULHL	**Ulahol**	**7.36**	**95**	P	Pn	04 54 40.8	+3.2
	SNR=12						
ULHL				P	Pn	04 54 40.8	+3.2
	SNR=12						
AB31	**Akbulak array**	**7.41**	**325**	⇓Pn	**Pn**	**04 54 38.1**	**+0.1**
	comp=N,18nm,0.4s						
AB31				⇑Sn	**Sn**	**04 55 59.9**	**-1.8**
	comp=N,63nm,0.5s,baz=149,slow=25,SNR=8.6						
AB31				⇓Lg	Lg	04 56 40.1	
	comp=N,78nm,0.5s,baz=159,slow=27,SNR=4.2						
AB31	**Akbulak array**	**7.41**	**325**	*i* P	**Pn**	**04 54 38.1**	**+0.1**
AB31				pmax	pmax		
	comp=Z,13nm,0.2s						
ABKAR	**Akbulak array**	**7.41**	**325**	*e*Pn	**Pn**	**04 54 38.2**	**+0.1**
ABKAR				*e*Sn	**Sn**	**04 55 60.0**	**-1.7**
ABKAR				*e*Sg	**Sg**	**04 56 44.9**	**-3.3**
KNDC	**Almaty**	**7.75**	**87**	⇑Pg	Pb	04 55 10.7	+6.1
	comp=Z,12nm,0.3s						
KNDC				⇑Lg	Lg	04 56 53.9	
	comp=Z,510nm,0.8s						
KSH	**Kashi**	**8.17**	**114**	P	**Pn**	**04 54 47.7**	**-0.9**
KSH				smax	smax		
	comp=N,170nm,0.9s						
KSH				smax	smax		
	comp=E,170nm,0.5s						
IEMG	**Emamgholi**	**8.33**	**227**	*e*P	Pn	04 54 47.7	-3.3
IMYA	**Miami**	**8.47**	**217**	*e*P	**Pn**	**04 54 49.8**	**-3.0**
ISHV	**Shirvan**	**8.77**	**232**	*e*P	**Pn**	**04 54 54.1**	**-2.9**
IKRD	**Kardeh**	**8.88**	**225**	*e*P	Pn	04 54 48.4	-10
IAKL	**Akhelmad**	**8.89**	**224**	*e*P	**Pn**	**04 54 56.2**	**-2.5**
IPAY	**Payeh**	**8.89**	**222**	*e*P	**Pn**	**04 54 56.4**	**-2.2**
ISFR	**Sfrayin**	**8.94**	**228**	*e*P	**Pn**	**04 54 56.5**	**-2.9**
IMOG	**Moghan**	**9.00**	**219**	*e*P	Pn	04 54 56.7	-3.6
KBL	**Kabul**	**9.02**	**166**	*e*P	**Pn**	**04 54 59.5**	**-0.9**
KBL				*e*		04 56 40.1	
KBL	**Kabul**	**9.02**	**166**	*e*Pn	**Pn**	**04 54 59.5**	**-0.9**
KBL				*e*Sn	**Sn**	**04 56 40.1**	**-1.6**
AKTO	**Aktyubinsk**	**9.12**	**324**	⇓Pn	**Pn**	**04 55 02.9**	**+1.4**
	comp=E,1.2nm,0.6s						
AKTO	**Aktyubinsk**	**9.12**	**324**	P	**Pn**	**04 55 02.8**	**+1.4**
AKTO						04 56 41.3	
AKTO	**Aktyubinsk**	**9.12**	**324**	Pn	**Pn**	**04 55 02.8**	**+1.4**
AKTO				Sn	**Sn**	**04 56 41.2**	**-2.4**
AKTO				Lg	Lg	04 57 43.8	
AKTO	**Aktyubinsk**	**9.12**	**324**	Pn	**Pn**	**04 55 02.8**	**+1.4**
	comp=E,1.7nm,0.3s,baz=129,slow=16,SNR=52						
AKTO				Sn	**Sn**	**04 56 41.2**	**-2.4**
	comp=E,7.0nm,0.3s,baz=62,slow=12,SNR=6.2						
AKTO				Lg	Lg	04 57 43.8	
	comp=E,3.8nm,0.3s,baz=4.4,slow=16,SNR=3.8						
AKTO				LR	LR	04 58 55.3	
	comp=E,433nm,18.8s,baz=145,slow=40						
ZRNK	**Zerenda**	**9.79**	**9**	⇑Sn	**Sn**	**04 56 55.5**	**-4.8**
	comp=E,92nm,0.8s						
VOSK	**Vostochnaya**	**9.90**	**17**	⇓Pn	**Pn**	**04 55 12.9**	**+0.7**
	comp=E,32nm,0.6s						
VOSK				⇓Sn	Sn	04 56 56.0	-6.9
	comp=E,49nm,0.6s						
BVA0	**Borovoye Array**	**10.07**	**14**	⇑Pn	**Pn**	**04 55 15.5**	**+0.9**
	comp=E,8.7nm,0.7s						
BVA0				⇑Sn	**Sn**	**04 57 04.4**	**-2.7**
	comp=E,9.9nm,0.5s						
BVA0	**Borovoye Array**	**10.07**	**14**	P	**Pn**	**04 55 15.4**	**+0.9**
BVA0						04 57 04.4	
BVA0				pmax	pmax		
	comp=Z,14nm,1.1s						
BVA0				smax	smax		
	comp=N,10.0nm,0.5s						
BVAR	**Borovoye Array**	**10.07**	**14**	P	**Pn**	**04 55 15.3**	**+0.8**
BVAR						04 57 04.5	
BVAR	**Borovoye Array**	**10.07**	**14**	Pn	**Pn**	**04 55 15.3**	**+0.8**
BVAR				Sn	**Sn**	**04 57 04.5**	**-2.7**
BVAR	**Borovoye Array**	**10.07**	**14**	Pn	**Pn**	**04 55 15.3**	**+0.8**
	comp=N,9.2nm,0.3s,baz=183,slow=13,SNR=233						
BVAR				Sn	**Sn**	**04 57 04.5**	**-2.7**
	comp=N,17nm,0.3s,baz=109,slow=33,SNR=7.5						
BVAR				LR	LR	04 59 29.4	
	comp=N,657nm,18.4s,baz=207,slow=39						
BRVK	**Borovoye**	**10.09**	**14**	*e*P	**Pn**	**04 55 15.6**	**+0.9**
BRVK				*e*		04 57 04.5	
BRVK	**Borovoye**	**10.09**	**14**	*e*Pn	**Pn**	**04 55 15.6**	**+0.9**
BRVK				*e*Sn	**Sn**	**04 57 04.5**	**-2.9**
BRVK	**Borovoye**	**10.09**	**14**	⇓P	**Pn**	**04 55 15.9**	**+1.2**
	SNR=54						
KURBB	**Kurchatov Arra**	**11.06**	**44**	Pn	**Pn**	**04 55 27.6**	**-0.5**
	comp=N,0.7nm,0.3s,baz=234,slow=13,SNR=51						
KURBB				Sn	Sn	04 57 25.0	-6.3
	comp=N,0.9nm,0.3s,baz=236,slow=16,SNR=5.5						
KURBB				LR	LR	05 00 10.8	
	comp=N,469nm,18.2s,baz=235,slow=39						
KURK	**Kurchatov**	**11.16**	**44**	⇓Pn	**Pn**	**04 55 29.1**	**-0.3**
	comp=N,18nm,0.7s						
KURK			

comp=N,890nm,8.2s
WMQ LR LR
comp=E,810nm,7.9s
WMQ LR LR
comp=Z,840nm,9.1s
DGRG David-gareji 15.61 270 P **Pn** **04 56 28.2 -1.8**
IBST Bostanabad 15.82 256 *e*P Pn 04 56 27.7 -5.2
NVS Novosibirsk 15.92 38 *e*P **Pn** **04 56 31.7 -2.1**
NVS *e*S **Sn** **04 59 26.6 -3.3**
NVS pmax pmax
comp=Z,16nm,1.0s
NVS pmax pmax
comp=N,11nm,1.2s
NVS pmax pmax
comp=E,8.0nm,0.7s
NVS smax smax
comp=N,138nm,1.0s
NVS smax smax
comp=E,236nm,1.0s
DDI Dehra Dun 15.98 140 *e*PKP Pn 04 56 29.0 -5.9
DDI *e*S Sn 04 59 17.8 -14
TBLG Delisi 16.01 272 P **Pn** **04 56 33.0 -2.1**
TBLG Delisi 16.01 272 P **Pn** **04 56 33.0 -2.1**
ZAA0 Zalesovo Array 16.13 42 *e*Pn **Pn** **04 56 36.5 -0.1**
ZAA0 *e*Sn **Sn** **04 59 28.4 -6.6**
ZALV Zalesovo Beam 16.13 42 P **Pn** **04 56 35.9 -0.7**
ZALV 04 59 43.9
ZALV Zalesovo Beam 16.13 42 Pn **Pn** **04 56 35.9 -0.7**
ZALV Sn **S** **04 59 43.9 -4.4**
ZALV Zalesovo Beam 16.13 42 Pn **Pn** **04 56 35.9 -0.7**
comp=E,0.9nm,0.3s,baz=241,slow=12,SNR=16
ZALV Sn **S** **04 59 43.9 -4.4**
comp=E,2.6nm,0.3s,baz=235,slow=23,SNR=10
ZALV LR LR 05 03 20.9
comp=E,334nm,18.1s,baz=233,slow=39
GOR Gori 16.41 273 P **Pn** **04 56 38.9 -1.4**
ZEI Tsey 16.42 276 *e*P **Pn** **04 56 36.6 -4.0**
ZEI pmax pmax
comp=Z,7.0nm,0.7s
GNI Garni 16.43 266 *e*Pn **Pn** **04 56 38.9 -1.8**
comp=Z,35nm,0.9s
GNI Garni 16.43 266 ⇑P **Pn** **04 56 38.9 -1.8**
SNR=6.1
GNI Garni 16.43 266 Pn **Pn** **04 56 38.9 -1.8**
comp=Z,2.4nm,0.3s,baz=7.2,slow=7.2,SNR=17
GNI LR LR 05 04 05.5
comp=Z,97nm,19.2s,baz=111,slow=41
KIV Kislovodsk 17.13 280⇑ *e*P **Pn** **04 56 46.5 -2.9**
KIV pmax pmax
comp=Z,37nm,0.6s
KIV MLR MLR
comp=Z,200nm,14.0s
KIV Kislovodsk 17.13 280 *e*Pn **Pn** **04 56 47.0 -2.4**
comp=Z,49nm,0.7s
KIV *e*Sn **Sn** **04 59 55.9 -3.7**
KIV Kislovodsk 17.13 280 ⇑P **Pn** **04 56 47.0 -2.4**
SNR=13
IPAR Pars 17.15 223 *e*P **Pn** **04 56 50.6 +0.7**
SOKR Solikamsk 17.29 343*c i*P **P** **04 56 53.3 +0.8**
SOKR S **Sn** **04 59 59.5 -3.5**
SOKR pmax pmax
comp=Z,40nm,1.3s
SOKR MLR MLR
comp=Z,440nm,15.0s
ISRV Sarvestan 17.50 222 *e*P **P** **04 56 55.5 +0.1**
TUTA Tutak 18.08 266 *i* P **P** **04 57 02.1 +0.4**
HAKT HAKKARI 18.15 259 *i* P **P** **04 57 03.7 +1.2**
DAGI Agillar 18.23 271 *i* P **Pn** **04 57 02.9 -0.1**
DDEM Demirkent 18.40 271 *i* P **Pn** **04 57 08.1 +3.0**
DBAD Bademkaya 18.41 271 *i* P **Pn** **04 57 05.9 +0.7**
VRHR Novokhopersk 18.45 304 *e*P **P** **04 57 03.2 -2.2**
VRHR *e*S Sn 05 00 23.6 -7.5
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,60nm,0.6s
VRHR pmax pmax
comp=Z,90nm,0.6s
VRHR smax smax
comp=N,30nm,0.8s
VRHR smax smax
comp=E,80nm,0.8s
VRHR smax smax
comp=Z,10.0nm,0.8s
VRHR MLR MLR
comp=N,150nm,17.0s
VRHR MLR MLR
comp=Z,480nm,17.0s
VRHR MLR MLR
comp=E,80nm,9.0s
HOMI Horasan 18.53 268 *i* P **Pn** **04 57 07.4 +0.6**
SOC Sochi 19.32 280 *e*P **Pn** **04 57 16.2 +0.2**
SOC *e* 05 00 43.3
SOC pmax pmax
comp=Z,21nm,0.7s
BNGL BINGOL 19.45 266 *i* P **Pn** **04 57 20.2 +2.3**
KOPT Kop Dagi 19.57 269 *i* P **Pn** **04 57 21.2 +1.8**
VORD Divnogorie 19.85 302 *e*P **P** **04 57 20.7 0.0**
VORD pmax pmax
comp=N,60nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=E,90nm,0.7s
BHD Baghdad 19.90 247 *ex* Pn 04 57 28.0 +4.9
BHD *ex* x 05 01 13.7
BHD *ex* x 05 03 58.3
VSR Storozhevoye 19.98 303 *e*P **P** **04 57 21.7 -0.4**
VSR *e*S S 05 00 54.0 -12
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR smax smax
comp=N,120nm,1.0s
VSR smax smax
comp=Z,7.0nm,0.5s
VSR smax smax
comp=E,30nm,1.0s
VSR MLR MLR
comp=Z,470nm,17.0s
VSR MLR MLR
comp=N,60nm,8.0s
VSR MLR MLR
comp=E,410nm,17.0s
VOR Voronezh 20.08 304 P **P** **04 57 22.0 -1.2**
VOR pmax pmax
comp=Z,250nm,1.2s
UMR Umm Al-Rimmam 20.28 233 *e*P **P** **04 57 26.1 +0.6**
UMR AMb AMB 04 57 26.8
comp=Z,141nm,0.7s
MIB Mutribah 20.32 235 *e*P **P** **04 57 26.1 +0.1**
MIB AMb AMB 04 57 27.5
comp=Z,158nm,0.9s
KELT Kelkit 20.43 270 *i* P Pn 04 57 29.6 0.0
DANN Dangsing 20.49 131 *e*P **P** **04 57 27.1 -1.1**
comp=Z,104nm,0.7s
KBD Kabd 20.57 233 *e*P **P** **04 57 28.5 -0.2**
KBD AMb AMB 04 57 30.0
comp=Z,181nm,0.7s
NAY Al-Naaiem 20.78 234 *e*P **P** **04 57 30.7 -0.3**
NAY AMb AMB 04 57 31.9
comp=Z,88nm,0.8s
ANN Anapa 20.79 284 *e*P P 04 57 21.8 -9.2
ANN *e* 04 57 39.2
ANN *e*SS Sn 05 01 26.3 -1.4
ANN pmax pmax
comp=Z,65nm,1.9s
ANN MLR MLR
comp=N,230nm,14.0s
ANN MLR MLR
comp=E,205nm,14.0s
ANN MLR MLR
comp=Z,287nm,14.0s
RDF Al-Radifah 20.84 233 *e*P **P** **04 57 31.4 -0.2**
RDF AMb AMB 04 57 32.9
comp=Z,164nm,0.6s
KOLN Koldanda 20.86 132 *e*P **P** **04 57 31.1 -1.0**
GRSN GIRESUNGRSN 20.93 273 *i* P **P** **04 57 33.5 +0.9**
SUSE Susehri 21.18 271 *i* P **P** **04 57 37.4 +2.0**
ELZG Elazig 21.19 266 *i* P **P** **04 57 37.5 +1.9**
GKN Gorkha 21.25 130 *e*P **P** **04 57 35.1 -1.1**
comp=Z,89nm,0.8s

KEMA Kemaliye 21.28 269 *i* P **P** **04 57 38.5 +2.1**
ARQ Araqi 21.53 205 ⇓P **P** **04 57 38.4 -0.7**
SNR=12
KKN Kakani 21.77 129 *e*P **P** **04 57 40.4 -1.5**
comp=Z,42nm,0.5s
DMN Daman 21.81 130 *e*P **P** **04 57 41.1 -1.3**
comp=Z,45nm,0.7s
BSY Bisya 21.88 203 ⇓P **P** **04 57 42.2 -0.7**
SNR=7.9
PKI Pulchoki 22.01 129 *e*P **P** **04 57 43.1 -1.5**
comp=Z,50nm,0.6s
GUN Gumba 22.02 128 *e*P **P** **04 57 43.3 -1.4**
comp=Z,108nm,0.8s
AKCD Akcadag 22.04 267 *i* P **P** **04 57 46.7 +2.0**
ERBA Erbaa 22.10 273 *i* P **P** **04 57 46.1 +0.9**
MOS Moscow 22.21 314 *e*P **P** **04 57 46.6 +0.4**
MOS *e* 04 57 59.3
MOS *e* 04 58 11.3
MOS *e*S **S** **05 01 54.6 +4.6**
MOS *e*SS SS 05 02 35.1
MOS pmax pmax
comp=Z,78nm,1.2s
JIRN Jiri 22.39 128 *e*P **P** **04 57 47.6 -1.1**
comp=Z,23nm,0.6s
OBN Obninsk 22.56 312 *i* P **P** **04 57 48.9 -1.0**
OBN *e* 04 57 55.6
OBN pmax pmax
comp=Z,106nm,1.2s
OBN MLR MLR
comp=Z,100nm,11.0s
OBN Obninsk 22.56 312 *e*P **P** **04 57 52.0 +2.2**
comp=Z,58nm,0.8s
PINB Pinarbasi 23.01 269 *i* P **P** **04 57 56.4 +1.4**
SIM Simferopol' **23.11 285***de*P **P** **04 57 56.3 +0.5**
SIM pmax pmax
comp=Z,31nm,1.0s
RAMN Ramite 23.17 128 *e*P **P** **04 57 55.7 -1.0**
comp=Z,88nm,0.6s
ANDN Andirin 23.47 266 *i* P **P** **04 58 02.8 +3.2**
TAPN Taplejung 23.51 126 *e*P **P** **04 57 58.9 -1.3**
comp=Z,59nm,0.8s
CTKT Corum 23.55 274 *i* P **P** **04 58 01.3 +0.9**
ODAN Odare 23.69 127 *e*P **P** **04 58 01.0 -0.9**
comp=Z,48nm,0.7s
KLMR Klimovskoe 23.80 327 *e*P **P** **04 58 02.6 +0.2**
KLMR pmax pmax
comp=Z,51nm,1.4s
LSA Lhasa 24.02 116 P **P** **04 58 06.2 +1.0**
LSA Lhasa 24.02 116 *e*P **P** **04 58 06.3 +1.0**
LSA pmax pmax
comp=Z,15nm,0.7s
LSA Lhasa 24.02 116 *e*P **P** **04 58 06.3 +1.0**
comp=Z,15nm,0.7s
AVNT Avonos 24.10 270 *i* P **P** **04 58 07.0 +1.3**
ILGA Ilgaz 24.21 276 *i* P **P** **04 58 08.2 +1.6**
YAYL Yayladag 24.30 263 *i* P **P** **04 58 07.6 +0.1**
BALT Daday 24.32 277 *i* P **P** **04 58 08.2 +0.6**
MOY Mondy 24.66 58 *e*P **P** **04 58 13.1 +2.5**
MOY pmax pmax
comp=Z,24nm,1.5s
BR131 Keskin Array S 24.66 273 *e*P **P** **04 58 11.7 +0.9**
comp=Z,22nm,0.8s
BRTR Keskin Array B 24.66 273 P **P** **04 58 10.4 -0.3**
BRTR Keskin Array B 24.66 273 P **P** **04 58 10.4 -0.3**
comp=Z,25nm,0.9s,baz=86,slow=7.2,SNR=132
GULE Gulek 24.73 267 *i* P **P** **04 58 13.8 +2.3**
BBAL Bala 25.10 273 *i* P **P** **04 58 15.6 +0.9**
GTA Gaotai 25.32 87 *e*P **P** **04 58 17.3 +0.7**
GTA pP **pP** **04 58 21.6 +0.2**
GTA sP **sP** **04 58 24.9 +1.5**
GTA S **S** **05 02 40.5 -1.7**
GTA sS **sS** **05 02 47.6 -2.5**
GTA SS **SnSn** **05 03 39.6 +6.1**
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA pmax pmax
comp=Z,110nm,4.7s
GTA LR LR
comp=N,150nm,11.4s
GTA LR LR
comp=E,190nm,11.6s
GTA LR LR
comp=Z,290nm,11.4s
ASF Jabal al Asfar 25.69 254 P **P** **04 58 20.2 +0.2**
ASF Jabal al Asfar 25.69 254 P **P** **04 58 20.2 +0.2**
comp=Z,5.2nm,0.8s,baz=318,slow=9.3,SNR=8.5
ZAK Zakamensk 26.01 61 ⇓*i*P **P** **04 58 23.5 +0.6**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
AKASG Malin Array Be 26.15 299 P **P** **04 58 24.4 +0.5**
AKASG Malin Array Be 26.15 299 P **P** **04 58 24.4 +0.5**
AKASG Malin Array Be 26.15 299 P **P** **04 58 24.4 +0.5**
comp=Z,11nm,0.6s,baz=78,slow=8.4,SNR=42
AKBB Malin Array Si 26.15 299 *e*P **P** **04 58 24.2 +0.3**
AKBB Malin Array Si 26.15 299 *e*P **P** **04 58 24.2 +0.3**
KIEV Kiev 26.16 299 *e*P **P** **04 58 24.5 +0.5**
KIEV pmax pmax
comp=Z,17nm,0.7s
KIEV Kiev 26.16 299 *e*P **P** **04 58 24.5 +0.5**
comp=Z,17nm,0.7s
MMAI Mount Meron Ar 26.28 257 P **P** **04 58 25.9 +0.5**
MMAI Mount Meron Ar 26.28 257 P **P** **04 58 25.9 +0.5**
comp=Z,8.1nm,0.9s,baz=79,slow=9.4,SNR=7.5
TLY Talaya 26.30 58 *e*P **P** **04 58 27.7 +2.4**
TLY *e* 04 59 23.0
TLY *e*S **S** **05 02 57.3 0.0**
TLY pmax pmax
comp=Z,5.0nm,1.1s
TLY MLR MLR
comp=Z,153nm,14.0s
TLY Talaya 26.30 58 *e*P **P** **04 58 25.8 +0.4**
comp=Z,3.5nm,0.7s
SEYT Eskypehyr 26.77 274 *i* P **P** **04 58 30.3 +0.5**
CSS Prodhromos 26.80 263 *e*P **P** **04 58 29.6 -0.4**
comp=Z,10nm,0.8s
TIRR Tirgusor 27.21 286 *e*P **P** **04 58 33.6 +0.1**
TIRR pmax pmax
comp=Z,6.0nm,1.0s
TIRR Tirgusor 27.21 286 *e*P **P** **04 58 33.6 +0.1**
comp=Z,5.6nm,1.0s
TIRR Tirgusor 27.21 286⇑ *i*P **P** **04 58 34.2 +0.7**
CFR Carcaliu 27.27 287 ⇑P **P** **04 58 34.1 0.0**
CFR Carcaliu 27.27 287⇑ *i*P **P** **04 58 34.1 0.0**
SHL Shillong 27.35 122 *e*PKP **P** **04 58 35.0 -0.2**
GDZ Gediz 27.91 274 *i* P **P** **04 58 39.1 -1.0**
VRI Vrincioaia 28.13 289 ⇓P **P** **04 58 43.9 +2.1**
VRI Vrincioaia 28.13 289⇓ *i*P **P** **04 58 43.8 +2.0**
SONM Songino Array 28.16 67 P **P** **04 58 43.4 +1.2**
SONM Songino Array 28.16 67 P **P** **04 58 43.4 +1.2**
comp=Z,3.4nm,1.0s,baz=273,slow=9.9,SNR=21
PLOR Plostina 28.19 289 ⇑P **P** **04 58 43.9 +1.5**
PLOR Plostina 28.19 289⇑ *i*P **P** **04 58 43.9 +1.5**
JOF Joensuu 28.20 326 *e*P **P** **04 58 43.2 +1.0**
JOF pmax pmax
comp=Z,3.0nm,0.8s
JOF Joensuu 28.20 326 *ep* **P** **04 58 43.2 +1.0**
comp=Z,2.9nm,0.8s
ISR Istrita 28.39 288 ⇑P **P** **04 58 46.3 +2.1**
ISR Istrita 28.39 288⇑ *i*P **P** **04 58 46.3 +2.1**
ULN Ulaanbaatar 28.60 67 *e*P **P** **04 58 47.8 +1.7**
comp=Z,21nm,0.7s
MLR Muntele Rosu 28.74 288 P **P** **04 58 48.3 +1.0**
MLR Muntele Rosu 28.74 288⇑ *i*P **P** **04 58 49.2 +1.8**
MLR Muntele Rosu 28.74 288 P **P** **04 58 48.3 +1.0**
comp=Z,2.0nm,0.8s,baz=46,slow=1.7,SNR=24
BURAR Bucovina Array 28.92 293 ⇓*i*P **P** **04 58 50.2 +1.3**
BUR08 Bucovina Ar. S 28.93 293 *e*P **P** **04 58 49.5 +0.5**
VOIR 29.37 289 ⇓P **P** **04 58 54.0 +1.1**
VOIR 29.37 289⇓ *i*P **P** **04 58 54.0 +1.1**
TURN Turunc 29.40 270 *i* P **P** **04 58 52.0 -1.2**
LVV L'vov 29.50 298 *e*P **P** **04 58 53.7 -0.2**
LVV MLR MLR
comp=N,100nm,15.0s
LVV MLR MLR
comp=E,200nm,15.0s
LVV MLR MLR
comp=Z,200nm,15.0s
LZH Lanzhou 29.55 91 *e*P **P** **04 58 56.5 +1.8**
LZH pP **pP** **04 59 00.3 +0.8**
LZH sP **sP** **04 59 03.1 +1.6**
LZH *e*S **S** **05 03 49.5 +0.5**
LZH sS **sS** **05 03 56.7 -0.3**
LZH pmax pmax
comp=Z,13nm,1.0s

LZH pmax pmax
comp=Z,93nm,4.3s
LZH LR LR
comp=N,370nm,13.0s
LZH LR LR
comp=E,370nm,10.9s
LZH LR LR
comp=Z,600nm,14.4s
AYDN Tasoluk 29.61 272 *i* P P 04 59 03.2 +8.1
FINES FINESS Array B 29.87 321 P **P** **04 58 58.0 +0.9**
FINES FINESS Array B 29.87 321 P **P** **04 58 58.0 +0.9**
comp=Z,1.7nm,0.6s,baz=119,slow=9.6,SNR=13
FINES LR LR 05 11 30.3
comp=Z,241nm,19.1s,baz=316,slow=37
APA Apatity 29.96 335⇑ *e*P P 04 59 01.0 +3.2
APA MLR MLR
comp=Z,700nm,10.0s
KWP Kalwaria Pacla 30.37 297 *e*P **P** **04 59 03.6 +2.0**
KWP Kalwaria Pacla 30.37 297 *e*P **P** **04 59 03.6 +2.0**
KWP Kalwaria Pacla 30.37 297 *e*P **P** **04 59 03.2 +1.6**
KWP pmax pmax
comp=Z,18nm,0.9s
KWP Kalwaria Pacla 30.37 297 *e*P **P** **04 59 03.2 +1.6**
comp=Z,18nm,0.9s
TRPA Tarpa 30.64 294⇓ *i*P **P** **04 59 05.8 +1.8**
KOLS Kolonicke sedl 30.72 296 *e*P **P** **04 59 06.0 +1.3**
KOLS pmax pmax
comp=Z,55nm,2.5s
KOLS Kolonicke sedl 30.72 296 *e*P **P** **04 59 06.0 +1.3**
DRGR 30.73 292 ⇑P **P** **04 59 06.5 +1.6**
DRGR 30.73 292⇑ *i*P **P** **04 59 06.5 +1.6**
CRVS Cervenica-Dubn 31.25 296 *e*P **P** **04 59 10.1 +0.7**
CRVS Cervenica-Dubn 31.25 296 *e*P **P** **04 59 10.1 +0.7**
VTS Vitosha 31.33 284 ⇓P **P** **04 59 11.9 +1.6**
VTS Vitosha 31.33 284⇓ *i*P **P** **04 59 11.9 +1.6**
BZS Buzias 31.70 290 ⇑P **P** **04 59 15.1 +1.8**
BZS Buzias 31.70 290⇑ *i*P **P** **04 59 15.1 +1.8**
NIE Niedzica 31.94 297 *e*P **P** **04 59 17.1 +1.6**
NIE Niedzica 31.94 297 *e*P **P** **04 59 17.6 +2.1**
CD2 Chengdu 32.04 100 P **P** **04 59 18.0 +1.5**
CD2 pP **pP** **04 59 22.4 +1.0**
CD2 sP **sP** **04 59 25.0 +1.6**
CD2 S **S** **05 04 28.3 +0.5**
CD2 sS **sS** **05 04 35.2 -0.6**
CD2 PcS **PcS** **05 05 52.0 +1.1**
CD2 SS **SnSn** **05 06 20.0 +2.6**
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 pmax pmax
comp=Z,150nm,5.1s
CD2 LR LR
comp=N,260nm,9.8s
CD2 LR LR
comp=Z,280nm,9.2s
OJC Ojcow 32.18 299 *e*P **P** **04 59 18.1 +0.5**
OJC Ojcow 32.18 299 *e*P **P** **04 59 18.7 +1.1**
OJC Ojcow 32.18 299 *e*P **P** **04 59 18.7 +1.1**
comp=Z,16nm,0.8s
PSZ Piszkesteto 32.43 295 *e*P **P** **04 59 20.9 +1.0**
PSZ pmax pmax
comp=Z,6.0nm,0.8s
PSZ Piszkesteto 32.43 295 *e*P **P** **04 59 20.9 +1.0**
comp=Z,6.4nm,0.8s
BOD Bodaibo 32.79 47 *e*P **P** **04 59 23.2 +0.4**
BOD pmax pmax
comp=Z,6.0nm,1.5s
VYHS Vyhne 33.03 296 *e*P **P** **04 59 26.8 +1.7**
VYHS pmax pmax
comp=Z,5.0nm,1.1s
VYHS Vyhne 33.03 296 *e*P **P** **04 59 26.8 +1.7**
HHC Hu-ho-hao-te 33.34 78 *e*P **P** **04 59 29.4 +1.5**
HHC pP **pP** **04 59 33.7 +0.9**
HHC sP **sP** **04 59 37.3 +2.6**
HHC PP **PP** **05 00 41.7 -1.5**
HHC S **S** **05 04 49.1 +1.1**
HHC sS **sS** **05 04 55.3 -0.7**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,46nm,4.9s
HHC LR LR
comp=N,130nm,5.3s
HHC LR LR
comp=E,190nm,8.7s
HHC LR LR
comp=Z,180nm,9.9s
ARCES ARCESS Array B 33.47 335 P **P** **04 59 30.1 +1.4**
ARCES ARCESS Array B 33.47 335 P **P** **04 59 30.1 +1.4**
comp=Z,3.0nm,0.6s,baz=118,slow=9.7,SNR=9.2
ARCES LR LR 05 14 50.7
comp=Z,68nm,18.2s,baz=238,slow=39
GKP Gorka Klasztor 33.54 305 *e*P **P** **04 59 31.0 +1.6**
GKP Gorka Klasztor 33.54 305 *e*P **P** **04 59 31.0 +1.6**
GKP Gorka Klasztor 33.54 305 *e*P **P** **04 59 31.0 +1.6**
GVD Gavdhos 33.59 270 *e*P **P** **04 59 29.9 -0.1**
comp=Z,78nm,0.6s
MORC Moravsky Berou 33.68 298 *e*P **P** **04 59 32.6 +1.8**
MORC pmax pmax
comp=Z,12nm,1.1s
MORC Moravsky Berou 33.68 298 *e*P **P** **04 59 32.6 +1.8**
comp=Z,12nm,1.1s
MORC Moravsky Berou 33.68 298⇑ *i*P **P** **04 59 32.2 +1.5**
XAN Xi'an 34.19 91 P **P** **04 59 35.5 +0.2**
XAN pP **pP** **04 59 41.3 +1.2**
XAN pmax pmax
comp=Z,3.0nm,0.8s
XAN pmax pmax
comp=Z,28nm,6.7s
KSP Ksiaz 34.34 300 *e*P **P** **04 59 37.9 +1.6**
KSP *e**PP **pP** **04 59 42.9 +1.7**
DPC Dobruska-Polom 34.38 300⇑ *i*P **P** **04 59 38.6 +1.8**
DPC Dobruska-Polom 34.38 300 *e*P **P** **04 59 38.5 +1.7**
comp=Z,17nm,1.0s
DPC Dobruska-Polom 34.38 300⇑ *i*P **P** **04 59 38.6 +1.8**
DPC *ep*P **pP** **04 59 43.2 +1.5**
UPC Upice 34.56 300⇑ *i*P **P** **04 59 40.0 +1.7**
UPC Upice 34.56 300⇑ *i*P **P** **04 59 40.0 +1.7**
UPC *ep*P **pP** **04 59 44.3 +1.2**
KMI Kunming 34.79 110 P **P** **04 59 41.0 +0.2**
KMI pP **pP** **04 59 44.7 -1.0**
KMI S **S** **05 05 10.7 -0.3**
KMI pmax pmax
comp=Z,11nm,0.6s
KMI pmax pmax
comp=Z,150nm,3.6s
KMI LR LR
comp=N,120nm,5.5s
KMI LR LR
comp=E,190nm,13.4s
KMI LR LR
comp=Z,190nm,12.7s
TREC Trest 35.08 298 *i* P **P** **04 59 45.1 +2.3**
TREC Trest 35.08 298⇑ *i*P **P** **04 59 45.1 +2.3**
TREC *ep*P **pP** **04 59 49.8 +2.1**
CONA Conrad Observa 35.09 296⇑ *i*P **P** **04 59 44.7 +1.7**
comp=Z,12nm,1.0s
CONA Conrad Observa 35.09 296⇑ *i*pP **P** **04 59 44.7 +1.7**
comp=Z,12nm,1.0s,SNR=8.8
ARSA Arzberg 35.46 294⇑ *i*P **P** **04 59 47.2 +1.1**
comp=Z,5.7nm,0.8s
ARSA Arzberg 35.46 294⇑ *i*P **P** **04 59 47.2 +1.1**
comp=Z,5.7nm,0.8s
PVCC Panska Ves 35.47 300 *i* P **P** **04 59 47.8 +1.7**
PVCC Panska Ves 35.47 300⇑ *i*P **P** **04 59 47.8 +1.7**
PVCC *ep*P **pP** **04 59 52.6 +1.6**
PRU Pruhonice 35.57 299⇑ *i*P **P** **04 59 48.5 +1.5**
PRU Pruhonice 35.57 299⇑ *i*P **P** **04 59 48.5 +1.5**
PRU *ep*P **pP** **04 59 53.4 +1.5**
BRG Berggiesshubel 35.81 301 *e*P **P** **04 59 50.5 +1.5**
comp=Z,13nm,0.7s
BRG *i* 04 59 55.5
comp=Z,13nm,0.7s
BRG Berggiesshubel 35.81 301 *e*P **P** **04 59 50.5 +1.5**
BRG pmax pmax
comp=Z,13nm,0.7s
BRG pmax pmax
comp=Z,13nm,0.7s
SOKA Soboth 35.92 294⇑ *i*P **P** **04 59 51.4 +1.2**
comp=Z,15nm,1.1s
SOKA Soboth 35.92 294⇑ *i*pP **P** **04 59 51.3 +1.2**
comp=Z,15nm,1.1s
GERES GERESS Array B 36.32 298 P **P** **04 59 55.3 +1.8**
GERES GERESS Array B 36.32 298 P **P** **04 59 55.3 +1.8**
comp=Z,8.4nm,0.8s,baz=70,slow=7.7,SNR=41

GERES LR LR 05 17 35.0
comp=Z,95nm,18.0s,baz=115,slow=41
CLL Collm 36.33 302⇑ *iP* **P 04 59 54.6 +1.2**
CLL pmax pmax
comp=Z,10.0nm,0.7s
CLL Collm 36.33 302⇑ *iP* **P 04 59 54.6 +1.2**
comp=Z,10.0nm,0.7s
CLL *i* pP **pP 04 59 59.5 +1.2**
comp=Z,17nm,1.1s
CLL *e*PP **PP 05 01 22.0 +6.0**
CLL *e* 05 04 00.0
CLL Lm MLR 05 17 00.0
comp=N,100nm,18.1s
CLL Lm MLR 05 17 00.0
comp=E,100nm,18.0s
KHC Kasperske Hory 36.34 298⇑ *iP* **P 04 59 55.2 +1.5**
KHC Kasperske Hory 36.34 298 *eP* P 04 59 58.1 +4.5
comp=E,12nm,0.9s
KHC Kasperske Hory 36.34 298⇑ *iP* **P 04 59 55.2 +1.5**
KHC *e*pP **pP 04 59 59.6 +1.0**
ENH Enshi 36.52 96 *eP* **P 04 59 55.6 +0.2**
comp=E,8.0nm,0.7s
GYA Guiyang 36.70 104 P **P 04 59 58.4 +1.4**
GYA PP **PP 05 01 22.0 +1.5**
GYA S **S 05 05 40.2 +0.3**
GYA ScP **ScP 05 06 07.8 +2.3**
GYA SS **SnSn 05 08 07.4 -3.1**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,460nm,17.8s
GYA LR LR
comp=E,450nm,18.6s
GYA LR LR
comp=Z,510nm,17.4s
CHTO Chiang Mai 36.72 121 *eP* **P 04 59 54.7 -2.4**
CHTO pmax pmax
comp=Z,5.0nm,0.9s
CHTO Chiang Mai 36.72 121 *eP* **P 04 59 54.7 -2.4**
comp=Z,5.4nm,0.9s
NB2 NORSAR Subarra 36.84 318 P **P 04 59 58.3 +0.5**
baz=94,slow=9.3
NB2 NORSAR Subarra 36.84 318 P **P 04 59 58.3 +0.5**
comp=Z,13nm,0.6s,baz=94,slow=9.3
NOA NORSAR Array B 36.84 318 P **P 04 59 58.2 +0.5**
NOA NORSAR Array B 36.84 318 P **P 04 59 58.2 +0.5**
comp=Z,12nm,0.6s,baz=94,slow=8.6,SNR=42
NKC Novy Kostel 36.85 300 *eP* **P 04 59 59.5 +1.5**
NKC *e**PP **pP 05 00 05.4 +2.5**
NKC Novy Kostel 36.85 300⇑ *eP* **P 04 59 59.5 +1.5**
NKC epP **pP 05 00 05.4 +2.5**
BJI Beijing 36.91 78 P **P 04 59 58.1 -0.5**
BJI S **S 05 05 43.3 +0.6**
BJI pmax pmax
comp=Z,12nm,0.7s
BJI pmax pmax
comp=Z,170nm,4.6s
BJI LR LR
comp=N,150nm,15.6s
BJI LR LR
comp=E,150nm,15.4s
BJI LR LR
comp=Z,79nm,16.5s
CMAR Chiang Mai Arr 36.99 122 P **P 04 59 58.2 -1.2**
CMAR PcP **PcP 05 02 20.6 +0.3**
CMAR Chiang Mai Arr 36.99 122 P **P 04 59 58.2 -1.2**
comp=Z,2.6nm,0.6s,baz=314,slow=7.7,SNR=9.6
CMAR PcP **PcP 05 02 20.6 +0.3**
comp=Z,1.9nm,0.5s,baz=300,slow=3.6,SNR=9.2
CMAR LR LR 05 18 19.9
comp=Z,67nm,18.6s,baz=305,slow=42
NAO01 NORSAR Array S 36.99 318 *eP* **P 04 59 59.2 +0.1**
comp=Z,9.4nm,0.7s
GRFO Grafenberg 37.74 299 *eP* **P 05 00 07.8 +2.3**
GRFO pmax pmax
comp=Z,21nm,0.9s
GRFO Grafenberg 37.74 299 *eP* **P 05 00 07.8 +2.3**
comp=Z,20nm,0.9s
WTTA Wattenberg 38.03 296⇑ *iP* **P 05 00 08.8 +0.6**
WTTA pmax pmax
comp=Z,17nm,1.1s
WTTA Wattenberg 38.03 296⇑ *iP* **P 05 00 08.8 +0.6**
comp=Z,17nm,1.1s
WTTA Wattenberg 38.03 296⇑ *iP* **P 05 00 08.8 +0.6**
comp=Z,17nm,1.1s
MOTA Moosalm 38.36 296⇑ *iP* **P 05 00 11.3 +0.4**
MOTA pmax pmax
comp=Z,10.0nm,0.7s
MOTA Moosalm 38.36 296⇑ *iP* **P 05 00 11.3 +0.4**
comp=Z,9.7nm,0.7s
MOTA Moosalm 38.36 296⇑ *iP* **P 05 00 11.3 +0.4**
comp=Z,9.7nm,0.7s,SNR=8.7
FETA Feichten 38.69 295⇑ *iP* **P 05 00 12.8 -1.0**
comp=Z,8.8nm,1.4s
FETA Feichten 38.69 295⇑ *iP* **P 05 00 12.8 -1.0**
comp=Z,8.8nm,1.4s
DAVA Damuels 39.18 296⇑ *iP* **P 05 00 18.2 +0.5**
comp=Z,18nm,1.2s
DAVA Damuels 39.18 296⇑ *iP* **P 05 00 18.3 +0.5**
comp=Z,18nm,1.2s,SNR=6.2
DAVOX Davos/Dischmat 39.32 295 P **P 05 00 19.2 +0.3**
DAVOX Davos/Dischmat 39.32 295 P **P 05 00 19.2 +0.3**
comp=Z,3.7nm,0.6s,baz=113,slow=8.8,SNR=5.3
BFO Black Forest 39.91 298 *eP* **P 05 00 25.3 +1.6**
BFO pmax pmax
comp=Z,144nm,2.8s
BFO Black Forest 39.91 298 *eP* **P 05 00 25.3 +1.6**
comp=Z,144nm,2.8s
SPITS Spitsbergen Ar 40.03 346 P **P 05 00 26.7 +2.4**
SPITS Spitsbergen Ar 40.03 346 P **P 05 00 26.7 +2.4**
comp=Z,4.3nm,0.5s,baz=119,slow=18,SNR=30
CDF Champ du Feu 40.56 298 *eP* **P 05 00 30.1 +0.9**
comp=Z,19nm,1.0s
YAK Yakutsk 40.77 40 *eP* **P 05 00 31.3 +0.7**
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=E,16nm,1.2s
YAK pmax pmax
comp=N,6.0nm,1.6s
YAK MLR MLR
comp=Z,278nm,13.0s
YAK MLR MLR
comp=E,219nm,13.0s
YAK Yakutsk 40.77 40 *eP* **P 05 00 32.1 +1.5**
comp=E,51nm,0.8s
HINF Hinteralfeld 41.00 298 *eP* **P 05 00 33.8 +1.0**
SENIN Lac Senin/Sane 41.14 295 *eP* **P 05 00 35.1 +1.0**
comp=E,11nm,0.8s
KBS Kingsbay 41.16 346 *eP* **P 05 00 33.6 0.0**
HAU Haudompre 41.27 298 *eP* **P 05 00 35.9 +0.9**
comp=E,27nm,1.1s
HAU *e*R
comp=E,87nm,19.8s
LPG La Plagne 41.78 294 *eP* **P 05 00 40.9 +1.4**
comp=E,9.7nm,0.8s
LPL La Plagne 41.78 294 *eP* **P 05 00 40.9 +1.4**
comp=E,12nm,0.7s
SBF Sospel 41.87 292 *eP* **P 05 00 41.1 +1.1**
comp=E,62nm,0.9s
MEZF Maizieres J'vi 41.96 299 *eP* **P 05 00 41.2 +0.7**
comp=E,26nm,0.9s
BNI Bardonecchia 41.97 294 *eP* **P 05 00 42.2 +1.3**
BNI pmax pmax
comp=Z,15nm,1.1s
BNI Bardonecchia 41.97 294 *eP* **P 05 00 42.2 +1.3**
comp=Z,15nm,1.1s
CN2 Changchun 42.02 68 *eP* **P 05 00 40.7 -0.4**
MBDF Montbardon 42.02 293 *eP* **P 05 00 42.8 +1.5**
comp=Z,47nm,1.0s
NJ2 Nanjing 42.41 87 *eP* **P 05 00 44.0 -0.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
VIVF Saint-Julien-l 43.38 294 *eP* **P 05 00 53.2 +1.0**
AVF Avril sur Loir 43.58 297 *eP* **P 05 00 54.5 +0.8**
LASF Ste Croix 44.21 294 *eP* **P 05 01 00.1 +1.3**
comp=Z,18nm,0.8s
KLR Kul'dur 44.32 59 *eP* **P 05 00 56.6 -3.0**
KLR MLR MLR
comp=Z,800nm,12.0s
MDJ Mudanjiang 44.50 65 P **P 05 01 00.1 -1.1**
MDJ pP **pP 05 01 03.0 -3.1**
MDJ ScP **ScP 05 06 31.9 -3.8**
MDJ PcS **PcS 05 06 33.3 -4.2**
MDJ S **S 05 07 39.0 +3.3**
MDJ ScS **ScS 05 10 56.7 -1.7**
MDJ pmax pmax
comp=Z,12nm,1.9s
MDJ pmax pmax
comp=Z,60nm,4.3s
MDJ LR LR
comp=N,340nm,64.3s
MDJ LR LR
comp=E,170nm,61.9s
MDJ LR LR
comp=Z,45nm,26.2s
USRK Ussuriysk Arra 46.26 65 P **P 05 01 15.9 +0.9**
comp=Z,7.6nm,0.5s,baz=290,slow=7.9,SNR=38
KSAR Wonju Array Be 46.31 75 P **P 05 01 15.8 +0.3**
KSRS Korea Array 46.33 75 P **P 05 01 15.8 +0.1**
comp=Z,4.8nm,0.8s,baz=304,slow=4.5,SNR=14
KSRS LR LR 05 22 51.1
comp=Z,50nm,18.8s,baz=268,slow=39
HABR Khabarovsk 46.63 59 *eP* **P 05 01 15.9 -2.0**
HABR *e* 05 03 05.5
HABR *e*S **S 05 08 05.7 -0.5**
HABR *e**SS **sS 05 08 11.2 -3.2**
HABR *e* 05 11 11.3
HABR *e*SSS SSS 05 12 30.5
HABR pmax pmax
comp=E,27nm,2.2s
HABR pmax pmax
comp=Z,38nm,2.2s
HABR pmax pmax
comp=N,17nm,2.0s
HABR MLR MLR
comp=Z,62nm,13.0s
DAG Danmarks Havn 47.16 342 *iP* **P 05 01 23.2 +1.5**
DAG pmax pmax
comp=Z,4.0nm,0.7s
DAG Danmarks Havn 47.16 342 *iP* **P 05 01 23.2 +1.5**
comp=Z,40nm,0.7s
DAG *i* 05 02 33.5
IPM Ipoh 49.35 132 *eP* **P 05 01 38.5 -0.9**
comp=Z,19nm,0.8s
JNU Nakatsue 50.56 79 P **P 05 01 49.0 +0.6**
JNU Nakatsue 50.56 79 P **P 05 01 49.0 +0.6**
comp=Z,10nm,0.9s,baz=4.3,slow=3.0,SNR=4.4
SEY Seymchan 50.87 36 *eP* **P 05 01 51.4 +1.1**
ESDC Sonseca Array 51.36 292 P **P 05 01 55.0 +0.6**
ESDC Sonseca Array 51.36 292 P **P 05 01 55.0 +0.6**
comp=Z,2.7nm,0.7s,baz=56,slow=8.1,SNR=11
KMBO Kilima Mbogo 51.38 218 *eP* **P 05 01 55.1 +0.2**
comp=Z,2.8nm,0.9s
YSS Yuzh-Sakhalins 52.01 58 *eP* **P 05 01 59.1 +0.1**
YSS pmax pmax
comp=Z,16nm,1.2s
ASAJ Asahikawa 53.18 61 P **P 05 02 08.6 +0.7**
ASAJ Asahikawa 53.18 61 P **P 05 02 08.6 +0.7**
comp=Z,5.7nm,0.8s,baz=292,slow=19,SNR=2.8
SUMG Summit 53.44 339 *iP* **P 05 02 12.0 +2.3**
SUMG pmax pmax
comp=Z,9.0nm,0.9s
SUMG Summit 53.44 339 *eP* **P 05 02 11.1 +1.4**
comp=Z,50nm,1.6s
SUMG Summit 53.44 339 *iP* **P 05 02 12.0 +2.3**
comp=Z,9.0nm,0.9s
TAM Tamanrasset 53.73 268 *eP* **P 05 02 12.6 +0.3**
TAM pmax pmax
comp=Z,3.0nm,0.9s
TAM Tamanrasset 53.73 268 *eP* **P 05 02 12.6 +0.3**
comp=Z,3.0nm,0.9s
MAJO Matsushiro 53.96 71 *eP* **P 05 02 13.5 -0.2**
MAJO Matsushiro 53.96 71 *eP* **P 05 02 13.4 -0.2**
MAT Matsushiro 53.96 71 P **P 05 02 13.2 -0.4**
MJAR Matsushiro Arr 53.96 71 P **P 05 02 14.0 +0.3**
MJAR Matsushiro Arr 53.96 71 P **P 05 02 14.0 +0.3**
comp=Z,3.6nm,0.6s,baz=290,slow=8.9,SNR=9.4
BILL Bilibino 54.11 27 P **P 05 02 14.9 +0.6**
BILL pmax pmax
comp=Z,5.0nm,1.0s
BILL MLR MLR
comp=Z,100nm,23.0s
BILL Bilibino 54.11 27 *eP* **P 05 02 16.6 +2.3**
comp=Z,7.3nm,1.0s
PETK Petropavlovsk- 57.65 46 P **P 05 02 40.7 +0.8**
PETK Petropavlovsk- 57.65 46 P **P 05 02 40.6 +0.8**
PETK Petropavlovsk- 57.65 46 P **P 05 02 40.7 +0.8**
comp=Z,1.9nm,0.7s,baz=355,slow=6.2,SNR=2.9
TOA0 Torodi Ar. Sit 62.69 262 *eP* **P 05 03 13.6 -1.3**
TORD Torodi Ar. Bea 62.69 262 P **P 05 03 14.0 -0.9**
TORD Torodi Ar. Bea 62.69 262 P **P 05 03 14.0 -0.9**
comp=Z,3.3nm,0.8s,baz=53,slow=5.4,SNR=40
COLD Coldfoot 66.33 15 *eP* **P 05 03 40.2 +2.3**
comp=Z,13nm,0.9s
INK Inuvik 67.70 8 *eP* **P 05 03 48.6 +2.1**
comp=Z,9.3nm,0.8s
LSZ Lusaka 67.99 220 *eP* **P 05 03 48.2 -1.0**
comp=Z,4.8nm,0.9s
COLA College 68.87 15 *eP* **P 05 03 55.7 +1.8**
COLA pmax pmax
comp=Z,10.0nm,0.8s
COLA College 68.87 15 *eP* **P 05 03 55.7 +1.8**
comp=Z,9.9nm,0.8s
ILAR Eielson Array 69.14 15 P **P 05 03 57.0 +1.3**
ILAR Eielson Array 69.14 15 P **P 05 03 57.0 +1.3**
comp=Z,3.9nm,0.8s,baz=332,slow=4.2,SNR=51
MCK McKinley 69.68 16 *eP* **P 05 04 00.8 +1.7**
MCK McKinley 69.68 16 *eP* **P 05 04 00.8 +1.7**
EGAK Eagle 70.10 12 *eP* **P 05 04 02.7 +1.2**
comp=Z,8.9nm,1.1s
DAWY Dawson 71.03 12 *eP* **P 05 04 09.2 +1.9**
PAX Paxson 71.04 15 *eP* **P 05 04 08.3 +0.8**
PAX pmax pmax
comp=Z,5.0nm,0.7s
PAX Paxson 71.04 15 *eP* **P 05 04 08.3 +0.8**
comp=Z,4.9nm,0.7s
DBIC Dimbokro 71.80 262 *eP* **P 05 04 11.3 -1.3**
comp=Z,7.2nm,0.7s
DBIC Dimbokro 71.80 262 P **P 05 04 11.5 -1.1**
comp=Z,5.2nm,0.7s,baz=31,slow=4.7,SNR=12
LIC Lamto 72.22 262 *eP* **P 05 04 14.0 -1.2**
comp=Z,24nm,0.9s
SCHQ Schefferville 74.41 334 P **P 05 04 28.1 +0.5**
SCHQ Schefferville 74.41 334 P **P 05 04 28.1 +0.5**
comp=Z,6.8nm,1.2s,baz=34,slow=4.0,SNR=7.2
YKA Yellowknife Ar 74.53 0 P **P 05 04 29.2 +1.2**
YKA Yellowknife Ar 74.53 0 P **P 05 04 29.2 +1.2**
comp=Z,5.1nm,0.6s,baz=356,slow=6.4,SNR=125
TSUM Tsumeb 76.64 227 *eP* **P 05 04 40.2 -0.6**
comp=Z,30nm,1.9s
LBTB Lobatse 77.64 217 *eP* **P 05 04 45.6 -0.7**
comp=Z,5.4nm,0.7s
MBWA Marble Bar 80.74 131 *eP* **P 05 05 02.0 -1.2**
comp=Z,8.7nm,0.7s
BOSA Boshof 80.92 216 *eP* **P 05 05 02.8 -1.3**
comp=Z,3.7nm,0.6s
BOSA Boshof 80.92 216 P **P 05 05 03.5 -0.7**
comp=Z,3.2nm,0.6s,baz=5.4,slow=5.7,SNR=10
FFC Flin Flon 81.82 353 *eP* **P 05 05 09.8 +1.2**
FFC pmax pmax
comp=Z,6.0nm,0.8s
FFC Flin Flon 81.82 353 *eP* **P 05 05 09.8 +1.2**
comp=Z,6.0nm,0.8s
ULM Lac du Bonnet 85.52 349 P **P 05 05 27.9 +0.3**
ULM Lac du Bonnet 85.52 349 P **P 05 05 27.9 +0.3**
comp=Z,1.7nm,0.7s,baz=21,slow=6.6,SNR=3.1
LONY Lake Ozonia 85.76 333 *eP* **P 05 05 30.8 +1.9**
comp=Z,12nm,0.9s
EYMN Ely 87.04 345 *eP* **P 05 05 36.1 +0.9**
comp=Z,5.5nm,0.9s
AGMN Agassiz Nation 87.43 348 *eP* **P 05 05 37.6 +0.6**
comp=Z,8.0nm,0.9s
WRA Warramunga Arr 88.54 119 P **P 05 05 41.8 -0.9**
WRA Warramunga Arr 88.54 119 P **P 05 05 41.8 -0.9**
comp=Z,7.9nm,0.7s,baz=327,slow=4.6,SNR=63
PMG Port Moresby 89.77 103 *eP* **P 05 05 49.2 +0.7**
comp=Z,24nm,0.9s
SLMT Seeley Lake 89.82 360 *eP* **P 05 05 50.0 +1.5**
comp=Z,3.7nm,0.8s
AS31 Alice Springs 91.00 122 *eP* **P 05 05 53.5 -0.6**
ASAR Alice Springs 91.00 122 P **P 05 05 53.5 -0.5**
ASAR Alice Springs 91.00 122 P **P 05 05 53.5 -0.5**
comp=Z,3.2nm,0.7s,baz=316,slow=4.6,SNR=30
ECSD EROS Data Cent 92.00 348 *eP* **P 05 05 60.0 +1.4**
comp=Z,80nm,2.8s
PDAR Pinedale Array 94.21 357 P **P 05 06 09.4 +0.3**
PDAR Pinedale Array 94.21 357 P **P 05 06 09.4 +0.3**
comp=Z,0.5nm,0.6s,baz=52,slow=2.4,SNR=4.5
LHS Liberty Hill 96.97 333 *eP* **P 05 06 20.8 -0.7**
LHS Liberty Hill 96.97 333 *eP* **P 05 06 20.8 -0.7**
SMCO Snowmass 97.66 355 *eP* **P 05 06 24.9 -0.1**
comp=Z,7.1nm,0.9s
PLCA Paso Flores 148.14 260 PKPbc **PKPbc 05 12 35.2 -0.2**
PLCA Paso Flores 148.14 260 PKPbc **PKPbc 05 12 35.2 -0.2**
comp=Z,5.3nm,0.9s,baz=35,slow=7.2,SNR=7.8

IDC 07 05:17:38.6±15.0, 16.01S×176.83W, h627km±203km, mb3.0/8, mb1 3.3/8, mb1mx3.1/18, mbtmp3.0/8, Error ellipse: s-maj=62.5km s-min=29.0km az=97.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.88**	**240**	P	P	05 24 28.9	+0.6
	2.3nm,0.9s,baz=86,slow=15,SNR=3.3						
WRA	**Warramunga Arr**	**46.49**	**258**	P	P	05 25 11.4	-0.3
	1.0nm,0.6s,baz=92,slow=7.5,SNR=13						
ASAR	**Alice Springs**	**46.78**	**252**	P	P	05 25 13.7	-0.2
	4.0nm,0.4s,baz=88,slow=7.8,SNR=60						
QSPA	**South Pole Qui**	**74.04**	**180**	P	P	05 28 11.9	0.0
	2.3nm,0.8s,baz=89,slow=3.5,SNR=6.1						
NVAR	**Mina Array Bea**	**77.01**	**43**	P	P	05 28 28.3	-0.6
	1.0nm,0.8s,baz=229,slow=9.1,SNR=6.2						
TXAR	**Lajitas Array**	**83.70**	**57**	P	P	05 29 04.5	+1.0
	0.5nm,0.8s,baz=197,slow=3.8,SNR=5.7						
ILAR	**Eielson Array**	**83.71**	**12**	P	P	05 29 03.2	+0.7
	0.5nm,0.6s,baz=218,slow=4.8,SNR=12						
PDAR	**Pinedale Array**	**84.94**	**43**	P	P	05 29 09.2	-0.2
	0.6nm,0.9s,baz=234,slow=5.5,SNR=3.0						

*ISK **07** 05:23:30.9, 38°.79N×28°.90E, h21km, MD2.7*
*DDA **07** 05:23:33.1, 38°.34N×28°.32E, h15km, MD2.5*
*CSEM **07** 05:23:33.7±0.3, 38°.32N×28°.38E, h2km, MD2.7, Error ellipse: s-maj=8.5km s-min=5.7km az=137.0*

ISC 07 05:23:32.8±1.0, 38°.34N±0°.04×28°.32E±0°.04, h11km±11km, n18, σ0°48/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULA	**Kula-Manisa**	**0.32**	**57**	*e*PG	**Pg**	**05 23 38.6**	**-0.7**
KULA				*e*SG	**Sg**	**05 23 44.1**	**+0.4**
KULA	**Kula-Manisa**	**0.32**	**57**	*e*Pg	**Pg**	**05 23 38.6**	**-0.7**
KULA				*e*Sg	**Sg**	**05 23 44.1**	**+0.4**
AKS	**Akhisar**	**0.67**	**324**	*e*PG	**Pn**	**05 23 48.0**	**-0.3**
AKS	**Akhisar**	**0.67**	**324**	*e*Pg	**Pn**	**05 23 48.0**	**-0.3**
AYDN	**Tasoluk**	**0.76**	**207**	*i* P	**Pg**	**05 23 47.2**	**-0.3**
AYDN				*i* S	**Sg**	**05 23 58.2**	**+0.7**
AYDN	**Tasoluk**	**0.76**	**207**	*i* P	**Pg**	**05 23 47.2**	**-0.3**
AYDN				*i* S	**Sg**	**05 23 58.2**	**+0.7**
DEMI	**Demirci**	**0.77**	**24**	*i* P	**Pb**	**05 23 48.6**	**+0.3**
DEMI				*i* S	**Sg**	**05 23 57.6**	**-0.2**
DEMI	**Demirci**	**0.77**	**24**	*i* P	**Pb**	**05 23 48.6**	**+0.3**
DEMI				*i* S	**Sg**	**05 23 57.6**	**-0.2**
IZM	**Izmir**	**0.83**	**274**	*e*PN	Pn	05 23 54.9	+4.4
IZM	**Izmir**	**0.83**	**274**	*e*Pn	Pn	05 23 54.9	+4.4
KHAL	**Karahalli**	**0.92**	**88**	*i* P	**Pn**	**05 23 51.6**	**-0.3**
KHAL				*i* S	**Sb**	**05 24 02.9**	**-0.4**
KHAL	**Karahalli**	**0.92**	**88**	*i* P	**Pn**	**05 23 51.6**	**-0.3**
KHAL				*i* S	**Sb**	**05 24 02.9**	**-0.4**
BLCB	**Balcova**	**1.00**	**273**	*e*PN	Pn	05 23 57.4	+4.6
GDZ	**Gediz**	**1.18**	**50**	*i* P	**Pg**	**05 23 55.9**	**+0.4**
GDZ				*i* S	**Sg**	**05 24 11.5**	**+0.7**
GDZ	**Gediz**	**1.18**	**50**	*i* P	**Pg**	**05 23 55.9**	**+0.4**
GDZ				*i* S	**Sg**	**05 24 11.5**	**+0.7**
DURS	**Dursunbey**	**1.27**	**5**	*i* P	**Pb**	**05 23 56.9**	**+0.2**
DURS				*i* S	**Sg**	**05 24 14.0**	**+0.4**
DURS	**Dursunbey**	**1.27**	**5**	*i* P	**Pb**	**05 23 56.9**	**+0.2**
DURS				*i* S	**Sg**	**05 24 14.0**	**+0.4**
GONE	**Gonen-Balikesi**	**1.77**	**344**	*e*PN	Pn	05 23 58.1	-5.4

IDC 07 05:29:49.2±2.8, 8.45S×118.69E, h164km±23km, mb2.9/3, mb1 3.2/6, mb1mx3.1/20, mbtmp3.0/6, Error ellipse: s-maj=52.2km s-min=12.1km az=54.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**3.57**	**17**	P	Pn	05 30 44.2	-0.2
	2.1nm,0.3s,baz=149,slow=10.0,SNR=5.7						
FITZ	**Fitzroy Crossi**	**11.74**	**146**	P	Pn	05 32 30.1	-1.7
	0.2nm,0.3s,baz=347,slow=14,SNR=4.9						
FITZ				S	Sn	05 34 31.0	-11
	0.8nm,0.3s,baz=161,slow=22,SNR=12						
WRA	**Warramunga Arr**	**18.98**	**129**	P	P	05 33 58.5	+0.2
	0.3nm,0.3s,baz=302,slow=12,SNR=20						
WRA				S	S	05 37 25.4	+0.2
	0.2nm,0.3s,baz=305,slow=24,SNR=5.0						
ASAR	**Alice Springs**	**21.01**	**138**	P	P	05 34 21.6	+1.4
	0.7nm,0.4s,baz=310,slow=9.1,SNR=13						
SONM	**Songino Array**	**57.09**	**350**	P	P	05 39 18.7	+0.2
	0.2nm,0.5s,baz=164,slow=6.6,SNR=1.4						
MKAR	**Makanchi Array**	**63.83**	**333**	P	P	05 40 03.4	-0.7
	0.1nm,0.3s,baz=152,slow=6.9,SNR=4.2						

WEL 07 05:31:01.3±1.5, 35.99S×178.59E, h187km±11km, ML3.7/12, 3C, Error ellipse: s-maj=23.3km s-min=19.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.59**	**188**	PN	Pn	05 31 34.7	+0.1
MXZ				*e*SN	Sn	05 31 59.3	-1.4
MWZ	**Matawai**	**2.49**	**200**	⇑PN	Pn	05 31 44.3	0.0
MWZ				*e*SN	Sn	05 32 18.9	+0.9
CNGZ	**Carnagh Statio**	**2.51**	**187**	PN	Pn	05 31 45.2	+0.8
URZ	**Urewera**	**2.56**	**207**	⇑PN	Pn	05 31 44.4	-0.6
URZ				SN	Sn	05 32 19.8	+0.6
KNZ	**Kokohu**	**3.11**	**193**	PN	Pn	05 31 51.0	-0.6
KNZ				SN	Sn	05 32 29.9	-1.0
RAHZ	**Arahi**	**3.16**	**202**	PN	Pn	05 31 51.6	-0.6
MHGZ	**Mahia Peninsul**	**3.21**	**190**	PN	Pn	05 31 52.7	0.0
NMHZ	**Naumai**	**3.41**	**204**	PN	Pn	05 31 54.9	-0.4
BKZ	**Black Stump Fm**	**3.58**	**207**	*e*PN	Pn	05 31 56.3	-1.2
MCHZ	**McNeill Hill**	**3.76**	**203**	PN	Pn	05 31 58.7	-0.9
CKHZ	**Cape Kidnapper**	**3.85**	**198**	PN	Pn	05 31 59.2	-1.5
KAHZ	**Kahuranaki**	**4.03**	**199**	PN	Pn	05 32 02.0	-1.0
PXZ	**Pawanui**	**4.26**	**198**	PN	Pn	05 32 04.0	-1.8
PNHZ	**Pukenui**	**4.35**	**205**	PN	Pn	05 32 05.2	-1.9
TSZ	**Takapari Road**	**4.56**	**206**	⇑PN	Pn	05 32 07.7	-2.0
BFZ	**Birch Farm**	**5.03**	**201**	PN	Pn	05 32 13.3	-2.5
MRZ	**Mangatainoka R**	**5.23**	**206**	PN	Pn	05 32 15.4	-2.9
HOWZ	**Holdsworth Sta**	**5.46**	**205**	PN	Pn	05 32 17.9	-3.4
OGWZ	**Otaki Gorge**	**5.52**	**208**	PN	Pn	05 32 18.7	-3.4
TMWZ	**Te Maipa**	**5.53**	**202**	PN	Pn	05 32 19.4	-2.9
KIW	**Kapiti Island**	**5.66**	**210**	PN	Pn	05 32 20.4	-3.4
MTW	**Mount Morrison**	**5.70**	**204**	PN	Pn	05 32 20.7	-3.7
CAW	**Cannon Point**	**5.81**	**207**	PN	Pn	05 32 22.2	-3.6
TCW	**Tory Channel**	**6.21**	**212**	PN	Pn	05 32 26.7	-4.4

*NEIC **07** 05:32:24.0, 60°.32N×139°.41W, h1km, ML3.1(PGC), ML3.1(AEIC), After PGC.*

PGC 07 05:32:24.0±4.9, 60.32N×139.41W, h1km, ML3.1/4, 5D, 113km Wsw of Haines Jct., Yt Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNL	**Peninsula**	**0.65**	**180**	P	Pg	05 32 35.6	-0.9
SAMH	**Samovar Hills**	**0.71**	**255**	P	Pg	05 32 35.9	-1.8
SAMH				S	Sg	05 32 46.1	-1.1
CHX	**Chaix Hills**	**0.89**	**254**	P	Pg	05 32 40.0	-1.2
CHX				S	Sg	05 32 50.4	-2.5
HYT	**Haines Junctio**	**1.07**	**61**	P	Pg	05 32 43.0	-1.6
HYT				S	Sg	05 32 57.1	-1.4
HYT	**Haines Junctio**	**1.07**	**61**	⇓P	Pg	05 32 43.0	-1.6
HYT				⇑S	Sg	05 32 57.1	-1.4
MESA	**MESA**	**1.28**	**265**	P	Pg	05 32 46.3	-2.4
MESA				S	Sg	05 33 03.5	-1.9
BARK	**Barkley Ridge**	**1.54**	**274**	P	Pn	05 32 49.7	-2.9
BARK				S	Sn	05 33 10.5	-2.9
KULT	**Kultieth River**	**1.65**	**269**	P	Pn	05 32 52.2	-2.1
KULT				S	Sn	05 33 14.0	-2.2
KHIT	**Khitrov Hills**	**1.91**	**275**	P	Pn	05 32 56.2	-1.6
GRIN	**Grindle Hills**	**1.95**	**271**	P	Pn	05 32 56.4	-1.8
BERG	**Berg Lake**	**2.14**	**274**	P	Pn	05 32 59.6	-1.2
SKAG	**Skagway**	**2.23**	**111**	*e*Pn	Pn	05 33 03.4	+1.4
SKAG				*e*Sg	Sb	05 33 33.1	0.0
WHY	**Whitehorse**	**2.27**	**79**	Pn	Pn	05 33 02.0	-0.7

WHY				Sg	Sb	05 33 33.8	-0.6
WHY	**Whitehorse**	**2.27**	**79**	⇓Pn	Pn	05 33 02.0	-0.7
WHY				⇑Sg	Sb	05 33 33.8	-0.6
NICHA	**Nichawak Mount**	**2.27**	**270**	P	Pn	05 33 00.3	-2.4
BMRM	**Bremner River**	**2.64**	**286**	P	Pn	05 33 06.2	-1.6
GOAT	**Goat Mountain**	**2.65**	**278**	P	Pn	05 33 06.0	-1.9
BCA3	**Beaver Creek A**	**2.98**	**339**	P	Pn	05 33 12.4	0.0
EYAK	**Cordova Ski Ar**	**3.15**	**277**	P	Pn	05 33 12.3	-2.4
DIV	**Divide**	**3.23**	**287**	P	Pn	05 33 13.9	-2.0
MENT	**Mentasta**	**3.34**	**324**	*e*Pn	Pn	05 33 18.1	+0.8
KLU	**Klutina**	**3.39**	**293**	P	Pn	05 33 16.8	-1.3
VLZ	**Valdez**	**3.50**	**286**	P	Pn	05 33 17.9	-1.5
DAWY	**Dawson**	**3.76**	**0**	*e*Pn	Pn	05 33 22.0	-1.1
DAWY	**Dawson**	**3.76**		⇑Pn	Pn	05 33 22.3	-0.8
PAX	**Paxson**	**3.93**	**315**	*e*Pn	Pn	05 33 24.0	-1.5
DOT	**Dot Lake**	**4.00**	**329**	*e*Pn	Pn	05 33 25.5	-0.8
SCM	**Sheep Creek Mo**	**4.14**	**295**	P	Pn	05 33 26.9	-1.4
EGAK	**Eagle**	**4.55**	**350**	*e*Pn	Pn	05 33 34.2	+0.4
SML	**Sawmill**	**4.59**	**293**	*e*Pn	Pn	05 33 32.5	-1.9
PMR	**Palmer**	**4.91**	**289**	*e*Pn	Pn	05 33 38.0	-0.8
RC01	**Rabbit Creek A**	**5.13**	**283**	P	Pn	05 33 40.6	-1.2
DLBC	**Dease Lake**	**5.15**	**107**	Pg	Pb	05 33 56.0	+1.1
DLBC				Sg	Sg	05 35 05.4	-4.2
DLBC	**Dease Lake**	**5.15**	**107**	⇓Pg	Pb	05 33 56.0	+1.1
DLBC				⇑Sg	Sg	05 35 05.4	-4.2
MCK	**McKinley** 4.1nm,0.6s	**5.64**	**311**	*e*Pn	Pn	05 33 50.2	+1.3
SUA	**Susitna One**	**5.65**	**287**	P	Pn	05 33 48.1	-1.0
TRF	**Thorofare Moun** 8.9nm,1.0s	**6.03**	**306**	*e*Pn	Pn	05 33 53.0	-1.4
GALN	**Gameti Lake**	**10.96**	**60**	Pn	Pn	05 35 01.3	-0.5
GALN	**Gameti Lake**	**10.96**	**60**	⇓Pn	Pn	05 35 01.3	-0.5
CTLN	**Castor Lake**	**11.57**	**59**	Pn	Pn	05 35 09.9	-0.2
CTLN	**Castor Lake**	**11.57**	**59**	⇓Pn	Pn	05 35 09.9	-0.2

IDC 07 05:39:33.8±4.4, 22°16S×148°12E, h0km, mb1 3.6/4, mb1mx3.5/14, mbtmp3.5/4, ML3.3/4, Error ellipse: s-maj=44.2km s-min=23.5km az=75.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**2.70**	**319**	Pn	Pn	05 40 20.0	+1.4
	2.5nm,0.3s,baz=138,slow=15,SNR=25						
CTA				Lg	Lg	05 40 59.4	
	11nm,0.3s,baz=62,slow=21,SNR=13						
STKA	**Stephens Creek**	**11.29**	**210**	Pn	Pn	05 42 15.6	-0.9
	0.2nm,0.3s,baz=49,slow=14,SNR=5.4						
STKA				Lg	Lg	05 45 40.5	
	0.2nm,0.3s,baz=288,slow=21,SNR=2.9						
WRA	**Warramunga Arr**	**13.06**	**277**	Pn	Pn	05 42 39.0	-1.7
	0.1nm,0.3s,baz=94,slow=13,SNR=4.6						
WRA				Lg	Lg	05 46 29.7	
	0.2nm,0.3s,baz=101,slow=28,SNR=5.4						
ASAR	**Alice Springs**	**13.19**	**261**	Pn	Pn	05 42 42.5	-0.1
	0.1nm,0.3s,baz=79,slow=14,SNR=3.0						
ASAR				Sn	Sn	05 45 06.0	-4.1
	0.1nm,0.3s,baz=85,slow=22,SNR=5.1						
ASAR				Lg	Lg	05 46 33.6	
	0.1nm,0.3s,baz=87,slow=30,SNR=4.2						

*ISCJB **07** 05:41:28.0±0.4, 8°04S×074°40W±0°06, h151km, mb3.9/16, Error ellipse: s-maj=8.0km s-min=7.7km az=33.5*
*IDC **07** 05:41:29.7±0.5, 8°06S×74°48W, h154km±4km, mb3.7/15, mb1 3.9/19, mb1mx3.8/24, mbtmp3.8/19, Error ellipse: s-maj=10.5km s-min=9.6km az=60.0*
ISC 07 05:41:29.7±0.5, 8°05S±0°07×74°46W±0°08, h151km, n33, σ0°74/41, mb4.0/16, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**4.01**	**283**	P	**Pn**	**05 42 30.9**	**+0.4**
	100nm,0.3s,baz=100,slow=5.2,SNR=299						
ATAH				S	**Sn**	**05 43 17.9**	**+0.3**
	62nm,0.3s,baz=236,slow=21,SNR=11						
NNA	**Nana**	**4.56**	**211**	P	**Pn**	**05 42 38.8**	**+1.4**
	16nm,0.3s,baz=28,slow=9.4,SNR=34						
NNA				S	**Sn**	**05 43 28.9**	**-1.3**
	50nm,0.3s,baz=152,slow=19,SNR=8.9						
ROSC	**El Rosal**	**12.82**	**1**	P	**Pn**	**05 44 28.6**	**+1.5**
	1.6nm,0.3s,baz=94,slow=22,SNR=5.4						
SIV	**San Ignacio**	**15.28**	**122**	P	**Pn**	**05 44 57.6**	**-0.1**
	3.4nm,0.3s,baz=308,slow=12,SNR=77						
CFAA	**Coronel Fontan**	**24.14**	**167**	P	**P**	**05 46 31.6**	**-0.1**
	0.6nm,0.6s,baz=350,slow=11						
BDFB	**Brasilia**	**26.93**	**109**	P	**P**	**05 46 57.6**	**+0.3**
	2.7nm,0.3s,baz=271,slow=10,SNR=10						
SJG	**San Juan**	**27.26**	**17**	P	**P**	**05 47 00.6**	**+0.6**
	18nm,0.4s,baz=268,slow=2.7,SNR=10						
PLCA	**Paso Flores**	**32.73**	**175**	P	**P**	**05 47 48.2**	**+0.1**
	2.8nm,0.5s,baz=346,slow=9.2,SNR=3.8						
TXAR	**Lajitas Array**	**46.61**	**324**	P	**P**	**05 49 43.3**	**+0.3**
	0.3nm,0.5s,baz=152,slow=8.4,SNR=10						
TXAR				pP	**pP**	**05 50 15.8**	**-1.2**
	0.7nm,0.4s,baz=152,slow=9.4,SNR=8.7						
ANMO	**Albuquerque**	**52.38**	**327**	pP	pP	05 51 00.3	-1.0
	1.6nm,0.8s,baz=153,slow=12,SNR=4.3						
SADO	**Sadowa**	**52.75**	**356**	P	**P**	**05 50 27.8**	**-1.1**
	1.3nm,0.4s,baz=196,slow=9.9,SNR=4.4						
PDAR	**Pinedale Array**	**59.84**	**331**	P	**P**	**05 51 18.8**	**-0.7**
	0.2nm,0.4s,baz=146,slow=8.3,SNR=3.7						
PDAR				pP	**pP**	**05 51 54.7**	**-0.4**
	0.7nm,0.9s,baz=134,slow=8.4,SNR=3.2						
ULM	**Lac du Bonnet**	**60.98**	**344**	pP	pP	05 52 01.8	-0.7
	2.8nm,0.6s,baz=167,slow=6.3,SNR=3.5						
NVAR	**Mina Array Bea**	**61.65**	**322**	pP	pP	05 52 08.6	+0.9
	0.5nm,0.6s,baz=97,slow=7.6,SNR=4.3						
SCHQ	**Schefferville**	**62.98**	**5**	P	**P**	**05 51 39.9**	**-0.2**
	2.4nm,0.7s,baz=308,slow=1.4,SNR=5.5						
DBIC	**Dimbokro**	**70.93**	**80**	P	**P**	**05 52 30.4**	**-0.8**
	4.3nm,0.3s,baz=240,slow=5.7,SNR=29						
DBIC				pP	**pP**	**05 53 09.6**	**+1.7**
	4.3nm,0.9s,baz=258,slow=6.8,SNR=2.6						
FRB	**Frobisher Bay**	**71.73**	**3**	P	**P**	**05 52 34.3**	**-0.6**
	1.4nm,0.5s,baz=189,slow=6.2,SNR=8.9						
FRB				pP	**pP**	**05 53 11.6**	**-0.1**
	1.6nm,0.5s,baz=196,slow=7.5,SNR=3.0						
YKA	**Yellowknife Ar**	**76.81**	**342**	P	**P**	**05 53 04.0**	**-0.3**
	0.8nm,0.6s,baz=141,slow=5.8,SNR=20						
YKA				pP	**pP**	**05 53 41.3**	**-0.2**
	0.8nm,0.7s,baz=141,slow=6.3,SNR=5.7						
TORD	**Torodi Ar. Bea**	**78.50**	**75**	P	**P**	**05 53 13.7**	**-1.0**
	2.0nm,0.6s,baz=266,slow=4.5,SNR=30						
ESDC	**Sonseca Array**	**80.41**	**48**	P	**P**	**05 53 24.5**	**-0.2**
	0.8nm,0.7s,baz=296,slow=4.3,SNR=4.0						
INK	**Inuvik**	**86.56**	**341**	P	**P**	**05 53 55.1**	**-0.2**
	0.4nm,0.5s,baz=359,slow=4.5,SNR=6.2						
INK				pP	**pP**	**05 54 33.8**	**+0.5**
	3.8nm,1.2s,baz=120,slow=14,SNR=3.3						
ILAR	**Eielson Array**	**89.86**	**336**	P	**P**	**05 54 10.6**	**-0.5**
	0.4nm,0.5s,baz=130,slow=3.6,SNR=12						
ILAR				pP	**pP**	**05 54 50.1**	**+0.8**
	1.9nm,1.2s,baz=145,slow=4.2,SNR=5.4						
KDAK	**Kodiak Island**	**90.48**	**328**	P	**P**	**05 54 13.9**	**-0.1**
	6.1nm,1.1s,baz=300,slow=19,SNR=4.7						
STKA	**Stephens Creek**	**127.44**	**219**	PKP	**PKPdf**	**06 00 17.8**	**+0.5**
	0.9nm,0.5s,baz=2.6,slow=20,SNR=4.1						
ZALV	**Zalesovo Beam**	**131.28**	**16**	PKP	**PKPdf**	**06 00 24.4**	**+0.6**
	0.6nm,0.3s,baz=299,slow=3.1,SNR=5.5						
ZALV				pPKP	**pPKPdf**	**06 01 05.3**	**+1.5**
	2.3nm,0.8s,baz=318,slow=2.0,SNR=3.6						
MKAR	**Makanchi Array**	**136.57**	**23**	PKP	**PKPdf**	**06 00 33.9**	**-0.2**
	0.6nm,0.7s,baz=284,slow=2.8,SNR=6.8						
MKAR				pPKP	**pPKPdf**	**06 01 15.0**	**+0.9**
	0.4nm,0.8s,baz=306,slow=2.9,SNR=3.2						
ASAR	**Alice Springs**	**138.02**	**221**	PKP	**PKPdf**	**06 00 37.1**	**-0.3**
	0.9nm,0.5s,baz=122,slow=2.2,SNR=8.4						
WRA	**Warramunga Arr**	**140.28**	**225**	PKhKP	PKPpre	06 00 35.5	
	0.4nm,0.3s,baz=129,slow=2.7,SNR=15						
WRA				PKP	**PKPdf**	**06 00 41.8**	**+0.2**
	1.6nm,0.4s,baz=121,slow=2.1,SNR=24						
DANN	**Dangsing**	**151.19**	**43**	*e*P	**PKPbc**	**06 01 06.7**	**+0.5**
	16nm,0.7s						
KOLN	**Koldanda**	**151.45**	**44**	*e*P	**PKPbc**	**06 01 06.6**	**-0.1**
GKN	**Gorkha**	**152.00**	**42**	*e*P	**PKPbc**	**06 01 08.4**	**+0.5**
	8.6nm,0.3s						
KKN	**Kakani**	**152.57**	**42**	*e*P	**PKPbc**	**06 01 09.3**	**0.0**
DMN	**Daman**	**152.57**	**42**	*e*P	**PKPbc**	**06 01 09.4**	**+0.1**

*IDC **07** 06:12:25.4±1.4, 32°26N×141°97E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.3/23, mbtmp3.3/5, ML3.3/1, Error ellipse: s-maj=41.2km s-min=26.8km az=73.0*

*ISCJB **07** 06:12:28.6±1.0, 32°39N±0°07×141°9E±0°1, h39km, mb3.3/4, Error ellipse: s-maj=18.1km s-min=7.8km az=161.4*
*JMA **07** 06:12:29.0±0.4, 32°40N×141°85E, h78km, M3.2*
ISC 07 06:12:30.9±1.2, 32°42N±0°09×141°9E±0°1, h39km, n14, σ1°83/21, mb3.3/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.91**	**292**	P	**Pn**	**06 12 59.1**	**-1.8**
BSO1	**Boso 1**	**2.37**	**341**	P	**Pn**	**06 13 06.1**	**-0.6**
BSO1				*e*S	**Sn**	**06 13 36.4**	**+2.1**
BSO2	**Boso 2**	**2.53**	**337**	*e*S	**Sn**	**06 13 41.0**	**+2.5**
BSO3	**Boso 3**	**2.66**	**334**	P	**Pn**	**06 13 10.0**	**-0.9**
BSO3				*e*S	**Sn**	**06 13 43.4**	**+1.6**
BSO4	**Boso 4**	**2.89**	**333**	P	**Pn**	**06 13 14.3**	**0.0**
BSO4				*e*S	**Sn**	**06 13 48.5**	**+0.8**
JOD2	**Odawara 2**	**3.70**	**321**	P	**Pn**	**06 13 24.3**	**-1.2**
JOD2				*e*S	**Sn**	**06 14 05.5**	**-2.3**
JHO	**Hitachi**	**4.33**	**345**	P	**Pn**	**06 13 33.0**	**-1.2**
JHO				*e*S	**Sn**	**06 14 21.5**	**-2.0**
JAG	**Ashikaga**	**4.49**	**334**	P	**Pn**	**06 13 35.8**	**-0.6**
JAG				S	**Sn**	**06 14 26.1**	**-1.3**
JFK	**Kawauchi**	**5.01**	**350**	P	**Pn**	**06 13 41.7**	**-1.9**
JFK				*e*S	**Sn**	**06 14 36.0**	**-4.3**
MJAR	**Matsushiro Arr**	**5.14**	**324**	Pn	**Pn**	**06 13 44.7**	**-0.6**
	0.9nm,0.3s,baz=142,slow=11,SNR=4.3						
SONM	**Songino Array**	**30.91**	**310**	P	**P**	**06 18 45.8**	**+1.9**
	0.2nm,0.5s,baz=115,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**47.05**	**306**	P	**P**	**06 20 59.1**	**+0.6**
	0.3nm,0.7s,baz=93,slow=7.4,SNR=4.1						
WRA	**Warramunga Arr**	**52.57**	**189**	P	**P**	**06 21 39.6**	**-0.9**
	0.3nm,0.5s,baz=5.6,slow=7.6,SNR=7.9						
ILAR	**Eielson Array**	**53.21**	**30**	P	**P**	**06 21 45.8**	**+0.9**
	0.3nm,0.9s,baz=262,slow=5.7,SNR=4.5						

*IDC **07** 06:23:34.8±1.0, 2°39N×127°41E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/19, mbtmp3.9/6, Error ellipse: s-maj=58.2km s-min=18.5km az=72.0*
*ISCJB **07** 06:23:39.6±0.8, 2°5N±0°1×127°9E±0°3, h51km, mb4.0/6, Error ellipse: s-maj=31.2km s-min=13.6km az=152.0*
ISC 07 06:23:41.3±1.1, 2°5N±0°2×127°9E±0°3, h51km, n14, σ0°30/14, mb3.9/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.16**	**164**	P	**P**	**06 28 43.4**	**-0.2**
	0.9nm,0.3s,baz=334,slow=11,SNR=32						
ASAR	**Alice Springs**	**26.63**	**168**	P	**P**	**06 29 15.7**	**+0.3**
	0.5nm,0.3s,baz=343,slow=11,SNR=9.5						
MJAR	**Matsushiro Arr**	**35.23**	**15**	P	**P**	**06 30 31.1**	**+0.2**
	1.9nm,0.6s,baz=188,slow=10,SNR=6.5						
TAPN	**Taplejung**	**45.67**	**307**	*e*P	**P**	**06 31 57.8**	**+0.1**
	3.0nm,0.4s						
ODAN	**Odare**	**45.72**	**306**	*e*P	**P**	**06 31 58.1**	**+0.1**
	8.8nm,0.7s						
RAMN	**Ramite**	**46.40**	**306**	*e*P	**P**	**06 32 03.9**	**+0.5**
JIRN	**Jiri**	**47.02**	**306**	*e*P	**P**	**06 32 08.5**	**+0.1**
	2.0nm,0.5s						
GUN	**Gumba**	**47.38**	**306**	*e*P	**P**	**06 32 11.3**	**+0.1**
	11nm,0.5s						
PKI	**Pulchoki**	**47.62**	**306**	*e*P	**P**	**06 32 13.3**	**+0.3**
KOLN	**Koldanda**	**49.17**	**305**	*e*P	**P**	**06 32 25.0**	**+0.2**
DANN	**Dangsing**	**49.27**	**306**	*e*P	**P**	**06 32 25.6**	**0.0**
	14nm,0.6s						
MKAR	**Makanchi Array**	**59.23**	**325**	P	**P**	**06 33 37.6**	**+0.1**
	1.5nm,0.3s,baz=121,slow=8.8,SNR=19						
KURBB	**Kurchatov Arra**	**63.41**	**327**	P	**P**	**06 34 05.3**	**-0.3**
	1.1nm,0.5s,baz=129,slow=6.1,SNR=14						
BVAR	**Borovoye Array**	**68.99**	**327**	P	**P**	**06 34 40.8**	**-0.6**
	0.4nm,0.6s,baz=117,slow=8.3,SNR=3.2						

*IDC **07** 06:24:14.4±0.7, 4°21N×126°78E, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.1/21, mbtmp4.2/13, Error ellipse: s-maj=50.5km s-min=15.7km az=66.0*
*ISCJB **07** 06:24:19.2±0.5, 4°1N±0°1×126°6E±0°2, h45km, mb4.3/23, Error ellipse: s-maj=30.0km s-min=9.0km az=154.0*
*NEIC **07** 06:24:19.8±0.4, 4°24N×126°84E, h35km, mb4.4/12, Error ellipse: s-maj=17.7km s-min=8.2km az=63.0*
ISC 07 06:24:21.0±0.6, 4°2N±0°1×126°7E±0°2, h45km, n38, σ0°74/40, mb4.4/23, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSM	**Kuching**	**16.59**	**261**	*e*P	**P**	**06 28 13.4**	**+0.9**
	12nm,0.7s						
QIZ	**Qiongzhong**	**22.13**	**313**	*e*P	**P**	**06 29 11.0**	**-1.9**
	72nm,1.4s						
WRAB	**Tennant Creek**	**25.09**	**163**	*e*P	**P**	**06 29 42.2**	**+0.6**
	8.3nm,0.9s						
WRA	**Warramunga Arr**	**25.10**	**163**	P	**P**	**06 29 40.9**	**-0.8**
WRA	**Warramunga Arr**	**25.10**	**163**	P	**P**	**06 29 40.9**	**-0.8**
	2.5nm,0.6s,baz=344,slow=10,SNR=8.0						
ASAR	**Alice Springs**	**28.53**	**166**	P	**P**	**06 30 13.1**	**+0.5**
ASAR	**Alice Springs**	**28.53**	**166**	P	**P**	**06 30 13.1**	**+0.5**
	0.5nm,0.5s,baz=344,slow=6.8,SNR=5.1						
CMAR	**Chiang Mai Arr**	**30.64**	**300**	P	**P**	**06 30 31.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**30.64**	**300**	P	**P**	**06 30 31.8**	**+0.4**
	2.2nm,0.4s,baz=111,slow=7.0,SNR=9.5						
BJT	**Baijiatuan**	**36.95**	**346**	*e*P	**P**	**06 31 27.0**	**+1.2**
	8.4nm,0.3s						
STKA	**Stephens Creek**	**38.54**	**159**	*e*P	**P**	**06 31 39.1**	**-0.2**
	1.1nm,0.9s						
STKA	**Stephens Creek**	**38.54**	**159**	P	**P**	**06 31 39.1**	**-0.2**
	3.0nm,0.6s,baz=330,slow=10,SNR=4.5						
ARMA	**Armidale**	**41.84**	**147**	*e*P	**P**	**06 32 07.0**	**+0.2**
	5.5nm,0.7s						
SONM	**Songino Array**	**46.89**	**341**	P	**P**	**06 32 47.7**	**+0.7**
SONM				PcP	**PcP**	**06 34 19.2**	**0.0**
SONM	**Songino Array**	**46.89**	**341**	P	**P**	**06 32 47.7**	**+0.7**
	0.6nm,0.4s,baz=155,slow=9.6,SNR=9.4						
SONM				PcP	**PcP**	**06 34 19.2**	**0.0**
	0.7nm,0.9s,baz=167,slow=4.1,SNR=5.3						
TLY	**Talaya**	**51.12**	**342**	*e*P	**P**	**06 33 20.3**	**+1.1**
	3.4nm,0.7s						
MKAR	**Makanchi Array**	**57.19**	**325**	P	**P**	**06 34 03.5**	**-0.1**
MKAR	**Makanchi Array**	**57.19**	**325**	P	**P**	**06 34 03.5**	**-0.1**
	2.4nm,0.4s,baz=120,slow=8.0,SNR=10.0						
ZALV	**Zalesovo Beam**	**60.20**	**333**	P	**P**	**06 34 23.0**	**-1.3**
ZALV	**Zalesovo Beam**	**60.20**	**333**	P	**P**	**06 34 23.0**	**-1.3**
	0.7nm,0.3s,baz=131,slow=6.9,SNR=5.6						
KURBB	**Kurchatov Arra**	**61.37**	**327**	P	**P**	**06 34 32.2**	**-0.1**
	4.1nm,0.6s,baz=127,slow=6.2,SNR=24						
KURK	**Kurchatov**	**61.37**	**327**	*e*P	**P**	**06 34 31.5**	**-0.8**
	4.6nm,0.6s						
KKAR	**Karatay Array**	**62.90**	**317**	*e*P	**P**	**06 34 43.5**	**+0.7**
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**66.95**	**327**	P	**P**	**06 35 09.1**	**+0.2**
BVAR	**Borovoye Array**	**66.95**	**327**	P	**P**	**06 35 09.1**	**+0.2**
	2.6nm,0.6s,baz=134,slow=8.5,SNR=15						
BRVK	**Borovoye**	**67.02**	**327**	*e*P	**P**	**06 35 09.5**	**+0.2**
	4.6nm,0.9s						
ABKAR	**Akbulak array**	**71.81**	**321**	*e*P	**P**	**06 35 38.4**	**-0.5**
	1.2nm,0.4s						
ARU	**Arti**	**74.56**	**328**	*e*P	**P**	**06 35 55.1**	**+0.1**
	2.6nm,0.3s						
ILAR	**Eielson Array**	**84.73**	**25**	P	**P**	**06 36 50.1**	**0.0**
ILAR	**Eielson Array**	**84.73**	**25**	P	**P**	**06 36 50.1**	**0.0**
	0.2nm,0.6s,baz=287,slow=5.2,SNR=4.3						
BRTR	**Keskin Array B**	**89.73**	**310**	P	**P**	**06 37 14.1**	**-0.9**
BRTR	**Keskin Array B**	**89.73**	**310**	P	**P**	**06 37 14.1**	**-0.9**
	0.8nm,0.8s,baz=141,slow=6.1,SNR=4.7						
ARCES	**ARCESS Array B**	**90.04**	**340**	P	**P**	**06 37 14.7**	**-0.9**
ARCES	**ARCESS Array B**	**90.04**	**340**	P	**P**	**06 37 14.7**	**-0.9**
	4.4nm,0.9s,baz=23,slow=6.6,SNR=3.8						
FINES	**FINESS Array B**	**91.45**	**332**	P	**P**	**06 37 21.5**	**-0.8**
FINES	**FINESS Array B**	**91.45**	**332**	P	**P**	**06 37 21.5**	**-0.8**
	1.0nm,0.6s,baz=80,slow=4.6,SNR=8.6						
TORD	**Torodi Ar. Bea**	**122.76**	**288**	PKP	**PKPdf**	**06 43 13.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**122.76**	**288**	PKP	**PKPdf**	**06 43 13.2**	**+0.1**
	1.0nm,0.8s,baz=86,slow=1.2,SNR=5.9						

MAN 07 06:25:11.7±1.9, 21°N×124°76E, h30km, mb3.9, ML2.6, MS2.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.51**	**271**	⇑*e*P	Pn	06 25 22.9	+0.7
BUKP	**Musuan**	**0.73**	**24**	*e*P	Pn	06 25 26.9	+1.5
BUKP				*e*S	Sn	06 25 36.7	+1.2
PAGZ	**Pagadian**	**1.51**	**295**	*e*P	Pn	06 25 37.0	+1.0
PAGZ				*e*S	Sn	06 25 50.5	-4.1

GUC 07 06:39:32.5±0.8, 23°05S×68°79W, h98km±6km, MD3.5, ML3.4,3C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.45**	**345**	⇓*i*P	Pn	06 39 48.5	+0.4
LVC				*i* S	Sn	06 40 00.4	+0.8
LVC				AML	AML	06 40 01.7	
	comp=N,400nm,0.4s						
SPCH	**San Pedro de A**	**0.56**	**75**	⇑*i*P	Pn	06 39 49.5	+0.6
SPCH				*i* S	Sn	06 40 02.1	+1.0
SPCH				AML	AML	06 40 13.0	
	comp=N,2μm,0.6s						
PB04	**Plate Boundary**	**1.02**	**320**	*e*P	Pn	06 39 58.8	+5.9
PB04				*i* S	Sn	06 40 18.3	+10
PB04				AML	AML	06 40 25.1	
	comp=N,966nm,0.3s						
MACH	**Maria Elena**	**1.24**	**313**	⇑*i*P	Pn	06 39 56.5	+0.7
MACH				*i* S	Sn	06 40 14.4	+1.1
PB09	**Plate Boundary**	**1.32**	**341**	⇓*i*P	Pn	06 39 58.4	+1.7
PB09				*i* S	Sn	06 40 17.8	+2.8
PB09				AML	AML	06 40 18.2	
	comp=N,1μm,0.5s						
CEN1	**Los Morros**	**1.34**	**255**	⇓*i*P	Pn	06 39 59.2	+2.3
CEN1				*i* S	Sn	06 40 20.3	+5.0
CEN1				AML	AML	06 40 22.7	
	comp=N,549nm,0.3s						
MECH	**Mejillones**	**1.53**	**268**	*e*P	Pn	06 40 00.2	+1.2
MECH				*i* S	Sn	06 40 20.6	+1.6
MECH				AML	AML	06 40 27.3	
	comp=E,1μm,0.5s						
ANCH	**Antofagasta**	**1.62**	**247**	*e*P	Pn	06 40 00.6	+0.6
ANCH				*i* S	Sn	06 40 22.0	+1.0
ANCH				AML	AML	06 40 27.9	
	comp=E,1μm,0.1s						
PB07	**Plate Boundary**	**1.67**	**322**	⇑*i*P	Pn	06 40 02.0	+1.0
PB07				*i* S	Sn	06 40 24.0	+1.5
PB07				AML	AML	06 40 30.7	
	comp=E,397nm,0.1s						

*ISCJB **07** 06:44:55.7±0.4, 38°29N±0°02×24°09E±0°02, h14km±3km, Error ellipse: s-maj=3.3km s-min=2.7km az=170.5*
*ATH **07** 06:44:55.4, 38°30N×24°07E, h26km±1km, ML3.7*
*CSEM **07** 06:44:55.8±0.1, 38°31N×24°07E, h12km, ML3.2/15, Error ellipse: s-maj=3.1km s-min=2.8km az=81.0*
*THE **07** 06:44:56.6, 38°30N×24°04E, h8km±1km, ML3.2/15, Error ellipse: s-maj=1.1km s-min=0.6km az=239.0*
ISC 07 06:44:56.2±0.9, 38°30N±0°02×24°07E±0°02, h14km±6km, n125, σ0°55/185, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERET	**Eretria**	**0.25**	**305**	P	**Pg**	**06 45 01.7**	**+0.1**
ERET				S	**Sg**	**06 45 05.6**	**+0.3**
ERET	**Eretria**	**0.25**	**305**	P	**Pg**	**06 45 01.7**	**+0.1**
PTL	**Penteli**	**0.30**	**212**	P	**Pg**	**06 45 02.2**	**-0.2**
PTL				S	**Sg**	**06 45 06.0**	**-0.6**
PTL	**Penteli**	**0.30**	**212**	*e*PB	**Pg**	**06 45 02.3**	**-0.2**
PTL				*e*SB	**Sg**	**06 45 06.0**	**-0.6**
PTL	**Penteli**	**0.30**	**212**	*e*Pb	**Pg**	**06 45 02.3**	**-0.2**
PTL				*e*Sb	**Sg**	**06 45 06.0**	**-0.6**
MRMA	**Marmari**	**0.35**	**135**	P	**Pg**	**06 45 03.5**	**+0.2**
MRMA				S	**Sg**	**06 45 08.5**	**+0.4**
MRMA	**Marmari**	**0.35**	**135**	P	**Pg**	**06 45 03.5**	**+0.2**
MRMA				S	**Sg**	**06 45 08.5**	**+0.4**
ATH	**Athens Observa**	**0.43**	**220**	P	**Pg**	**06 45 04.5**	**-0.2**
ATH				S	**Sg**	**06 45 10.2**	**-0.3**
ATH	**Athens Observa**	**0.43**	**220**	*e*PB	**Pg**	**06 45 04.6**	**-0.2**
ATH				*e*SB	**Sg**	**06 45 10.4**	**-0.1**
ATH	**Athens Observa**	**0.43**	**

MAKR	**Makrakomi, Fth**	**1.67**	**296**	P	**Pb**	**06 45 26.2 -0.6**
MAKR	**Makrakomi, Fth**	**1.67**	**296**	*e*P	**Pb**	**06 45 26.2 -0.6**
APE	**Apeiranthos**	**1.69**	**136**	P	**Pn**	**06 45 25.6 +0.1**
APE				S	**Sb**	**06 45 48.2 -0.1**
APE	**Apeiranthos**	**1.69**	**136**	*e*PN	**Pn**	**06 45 25.5 +0.1**
APE	**Apeiranthos**	**1.69**	**136**	*e*Pn	**Pn**	**06 45 25.5 +0.1**
APE				S	**Sb**	**06 45 48.2 -0.1**
EFP	**Efpalio**	**1.70**	**275**	P	**Pn**	**06 45 25.9 +0.4**
EFP	**Efpalio**	**1.70**	**275**	*e*PN	**Pn**	**06 45 25.9 +0.4**
EFP				*e*SN	**Sn**	**06 45 47.3 +0.2**
EFP	**Efpalio**	**1.70**	**275**	P	**Pn**	**06 45 25.9 +0.4**
EFP				*e*Sn	**Sn**	**06 45 47.3 +0.2**
UPR	**University Cam**	**1.79**	**270**	*e*PN	**Pn**	**06 45 27.4 +0.6**
UPR	**University Cam**	**1.79**	**270**	*e*Pn	**Pn**	**06 45 27.4 +0.6**
LIA	**Limnos Island**	**1.82**	**28**	P	**Pn**	**06 45 27.0 -0.1**
LIA	**Limnos Island**	**1.82**	**28**	*e*PB	**Pn**	**06 45 26.7 -0.4**
LIA	**Limnos Island**	**1.82**	**28**	*e*Pb	**Pn**	**06 45 26.7 -0.4**
LIA	**Limnos Island**	**1.82**	**28**	P	**Pn**	**06 45 27.0 -0.1**
VLI	**Veliai**	**1.82**	**210**	P	**Pn**	**06 45 27.0 -0.1**
VLI	**Veliai**	**1.82**	**210**	*e*PN	**Pn**	**06 45 27.0 -0.1**
VLI				*e*SN	**Sn**	**06 45 49.5 -0.4**
VLI	**Veliai**	**1.82**	**210**	P	**Pn**	**06 45 27.0 -0.1**
VLI				*e*Sn	**Sn**	**06 45 49.5 -0.4**
EVR	**Evrytania**	**1.87**	**290**	P	**Pn**	**06 45 29.0 +1.0**
EVR	**Evrytania**	**1.87**	**290**	*e*PN	**Pn**	**06 45 28.6 +0.6**
EVR				*e*SN	**Sn**	**06 45 52.5 +1.0**
EVR	**Evrytania**	**1.87**	**290**	*e*Pn	**Pn**	**06 45 28.6 +0.6**
EVR	**Evrytania**	**1.87**	**290**	P	**Pn**	**06 45 29.0 +1.0**
EVR				*e*Sn	**Sn**	**06 45 52.5 +1.0**
PRK	**Paraskevi**	**1.96**	**61**	*e*PB	**Pn**	**06 45 29.0 -0.1**
PRK	**Paraskevi**	**1.96**	**61**	*e*Pb	**Pn**	**06 45 29.0 -0.1**
OUR	**Ouranopolis**	**2.03**	**358**	P	**Pn**	**06 45 30.2 +0.2**
OUR	**Ouranopolis**	**2.03**	**358**	P	**Pn**	**06 45 30.2 +0.2**
ITM	**Ithomi**	**2.03**	**237**	P	**Pn**	**06 45 31.0 +0.9**
ITM	**Ithomi**	**2.03**	**237**	*e*PN	**Pn**	**06 45 30.1 0.0**
ITM				*e*SN	**Sn**	**06 45 55.6 +0.3**
ITM	**Ithomi**	**2.03**	**237**	*e*Pn	**Pn**	**06 45 30.1 0.0**
ITM	**Ithomi**	**2.03**	**237**	P	**Pn**	**06 45 31.0 +0.9**
ITM				*e*Sn	**Sn**	**06 45 55.6 +0.3**
THL	**Klokotos Trika**	**2.04**	**309**	*e*PB	**Pn**	**06 45 30.7 +0.6**
THL				*e*SN	**Sn**	**06 45 55.3 -0.1**
THL	**Klokotos Trika**	**2.04**	**309**	*e*Pb	**Pn**	**06 45 30.7 +0.6**
THL				*e*Sn	**Sn**	**06 45 55.3 -0.1**
RLS	**Riolos of Patr**	**2.06**	**264**	*e*PB	**Pn**	**06 45 30.9 +0.4**
RLS	**Riolos of Patr**	**2.06**	**264**	*e*Pb	**Pn**	**06 45 30.9 +0.4**
PLG	**Polygyros**	**2.12**	**347**	P	**Pn**	**06 45 31.4 +0.1**
PLG	**Polygyros**	**2.12**	**347**	*e*PB	**Pn**	**06 45 31.5 +0.1**
PLG				*e*SN	**Sn**	**06 45 56.1 -1.5**
PLG	**Polygyros**	**2.12**	**347**	*e*Pb	**Pn**	**06 45 31.5 +0.1**
PLG				*e*Sn	**Sn**	**06 45 56.1 -1.5**
LIT	**Litokhoron**	**2.17**	**326**	P	**Pn**	**06 45 32.3 +0.3**
LIT	**Litokhoron**	**2.17**	**326**	*e*PN	**Pn**	**06 45 32.0 0.0**
LIT	**Litokhoron**	**2.17**	**326**	*e*Pn	**Pn**	**06 45 32.0 0.0**
LIT	**Litokhoron**	**2.17**	**326**	P	**Pn**	**06 45 32.3 +0.3**
KYTH	**Kithira**	**2.18**	**202**	P	**Pn**	**06 45 32.3 +0.2**
KYTH	**Kithira**	**2.18**	**202**	*e*PN	**Pn**	**06 45 32.4 +0.3**
KYTH	**Kithira**	**2.18**	**202**	P	**Pn**	**06 45 32.3 +0.2**
SMG	**Samos**	**2.27**	**104**	*e*PN	**Pn**	**06 45 33.7 +0.4**
SMG	**Samos**	**2.27**	**104**	*e*Pn	**Pn**	**06 45 33.7 +0.4**
PYL	**PYLOS**	**2.32**	**233**	*e*PB	**Pn**	**06 45 34.8 +0.8**
PYL	**PYLOS**	**2.32**	**233**	*e*Pb	**Pn**	**06 45 34.8 +0.8**
KZN	**Kozani**	**2.68**	**319**	*e*PN	**Pn**	**06 45 38.4 -0.6**
KZN	**Kozani**	**2.68**	**319**	*e*Pn	**Pn**	**06 45 38.4 -0.6**
LKD2	**Lefkada island**	**2.72**	**281**	*e*PB	**Pn**	**06 45 41.0 +1.5**
LKD2	**Lefkada island**	**2.72**	**281**	*e*Pb	**Pn**	**06 45 41.0 +1.5**
VLS	**Valsamata**	**2.74**	**268**	*e*PN	**Pn**	**06 45 39.2 -0.6**
VLS	**Valsamata**	**2.74**	**268**	*e*Pn	**Pn**	**06 45 39.2 -0.6**
VAM	**Vamos**	**2.89**	**178**	*e*PN	**Pn**	**06 45 42.0 +0.1**
VAM	**Vamos**	**2.89**	**178**	*e*Pn	**Pn**	**06 45 42.0 +0.1**
KARN	**Karanos**	**2.90**	**182**	*e*PN	**Pn**	**06 45 43.0 +1.0**
KARN	**Karanos**	**2.90**	**182**	*e*Pn	**Pn**	**06 45 43.0 +1.0**
ALN	**Alexandroupoli**	**3.01**	**30**	*e*PN	**Pn**	**06 45 43.5 0.0**
ALN	**Alexandroupoli**	**3.01**	**30**	*e*Pn	**Pn**	**06 45 43.5 0.0**
NVR	**Nevrokopi**	**3.05**	**357**	*e*PN	**Pn**	**06 45 44.5 +0.4**
NVR	**Nevrokopi**	**3.05**	**357**	*e*Pn	**Pn**	**06 45 44.5 +0.4**
IDI	**Anoyia**	**3.08**	**167**	*e*PN	**Pn**	**06 45 44.2 -0.3**
IDI	**Anoyia**	**3.08**	**167**	*e*Pn	**Pn**	**06 45 44.2 -0.3**
LAST	**Lasithi**	**3.33**	**160**	*e*PN	**Pn**	**06 45 48.0 0.0**
LAST	**Lasithi**	**3.33**	**160**	*e*Pn	**Pn**	**06 45 48.0 0.0**

*ISCJB **07** 06:49:34.5±0.6, 36°.94N±0°.02×28°.20E±0°.03, h3km±4km,*
Error ellipse: s-maj=4.1km s-min=3.6km az=19.6
*DDA **07** 06:49:34.9, 37°.01N×28°.17E, h7km, MD3.0*
*ISK **07** 06:49:35.3, 37°.00N×28°.29E, h5km, MD2.9*
*CSEM **07** 06:49:35.1±0.2, 36°.97N×28°.20E, h2km, MD2.9, Error*
ellipse: s-maj=3.9km s-min=3.6km az=6.0
*ATH **07** 06:49:36.5, 36°.94N×28°.04E, h24km×1km, MD3.1/5*

ISC 07 06:49:34.1±1.1, 36°.95N±0°.02×28°.17E±0°.02, h3km±10km, n58, σ1§45/84, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.20**	**26**	*e*PG	**Pg**	**06 49 38.6**	**+0.5**
YER				*e*SG	**Sg**	**06 49 41.6**	**+0.7**
YER	**Yerkesik**	**0.20**	**26**	*e*Pg	**Pg**	**06 49 38.6**	**+0.5**
YER				*e*Sg	**Sg**	**06 49 41.6**	**+0.7**
TURN	**Turunc**	**0.36**	**103**	*i* P	**Pg**	**06 49 38.9**	**-2.1**
TURN				*i* S	**Sg**	**06 49 42.6**	**-3.0**
TURN	**Turunc**	**0.36**	**103**	*i* P	**Pg**	**06 49 38.9**	**-2.1**
TURN				*i* S	**Sg**	**06 49 42.6**	**-3.0**
BDRM	**Kayabasi**	**0.59**	**281**	*i* P	**Pg**	**06 49 45.6**	**+0.1**
BDRM				*i* S	**Sb**	**06 49 56.6**	**+0.7**
BDRM	**Kayabasi**	**0.59**	**281**	*i* P	**Pg**	**06 49 45.6**	**+0.1**
BDRM				*i* S	**Sb**	**06 49 56.6**	**+0.7**
BODT	**Bodrum**	**0.70**	**279**	*e*PG	**Pn**	**06 49 46.0**	**+0.2**
BODT	**Bodrum**	**0.70**	**279**	*e*Pg	**Pn**	**06 49 51.1**	**+0.2**
ARG	**Arkhangelos**	**0.73**	**183**	*e*PN	**Pn**	**06 49 50.2**	**-1.2**
ARG				*e*SN	**Sn**	**06 50 01.7**	**-1.3**
ARG	**Arkhangelos**	**0.73**	**183**	*e*Pn	**Pn**	**06 49 50.2**	**-1.2**
ARG				*e*Sn	**Sn**	**06 50 01.7**	**-1.3**
AYDN	**Tasoluk**	**0.74**	**342**	*i* P	**Pg**	**06 49 48.8**	**+0.4**
AYDN				*i* S	**Sb**	**06 49 59.2**	**-1.2**
AYDN	**Tasoluk**	**0.74**	**342**	*i* P	**Pg**	**06 49 48.8**	**+0.4**
AYDN				*i* S	**Sb**	**06 49 59.2**	**-1.2**
FETY	**Fethiye**	**0.80**	**113**	*e*PG	**Pb**	**06 49 50.0**	**-0.7**
FETY				*e*SG	**Sb**	**06 50 00.6**	**-1.3**
FETY	**Fethiye**	**0.80**	**113**	*e*Pg	**Pb**	**06 49 50.0**	**-0.7**
FETY				*e*Sg	**Sb**	**06 50 00.5**	**-1.3**
DNZL	**Cakiroluk**	**1.02**	**43**	*i* P	**Pg**	**06 49 53.5**	**-0.1**
DNZL				*i* S	**Sb**	**06 50 07.8**	**-0.5**
DNZL	**Cakiroluk**	**1.02**	**43**	*i* P	**Pg**	**06 49 53.5**	**-0.1**
DNZL				*i* S	**Sb**	**06 50 07.8**	**-0.5**
GCAM	**G?zelcaml?**	**1.06**	**315**	*i* P	**Pn**	**06 49 54.9**	**-0.9**
GCAM				*i* S	**Sn**	**06 50 10.3**	**-0.7**
GCAM	**G?zelcaml?**	**1.06**	**315**	*i* P	**Pn**	**06 49 54.9**	**-0.9**
GCAM				*i* S	**Sn**	**06 50 10.3**	**-0.7**
GOLH	**Golhisar**	**1.15**	**75**	*i* P	**Pn**	**06 49 57.3**	**+0.1**
GOLH				*i* S	**Sn**	**06 50 17.2**	**+3.8**
GOLH	**Golhisar**	**1.15**	**75**	*i* P	**Pn**	**06 49 57.3**	**+0.1**
SMG	**Samos**	**1.30**	**306**	*e*PN	**Pg**	**06 49 59.5**	**+0.4**
SMG				*e*SN	**Sg**	**06 50 17.2**	**+1.2**
SMG	**Samos**	**1.30**	**306**	*e*Pn	**Pg**	**06 49 59.5**	**+0.4**
SMG				*e*Sn	**Sg**	**06 50 17.2**	**+1.2**
AKAS	**Kas**	**1.36**	**121**	*i* P	**Pg**	**06 50 01.7**	**+1.5**
AKAS				*i* S	**Sg**	**06 50 22.5**	**+4.7**
AKAS	**Kas**	**1.36**	**121**	*i* P	**Pg**	**06 50 01.7**	**+1.5**
AKAS				*i* S	**Sg**	**06 50 22.5**	**+4.7**
KSL	**Kastellorizon**	**1.39**	**125**	*e*PN	**Pg**	**06 50 03.6**	**+2.8**
ELL	**Elmali**	**1.41**	**98**	*e*PN	**Pg**	**06 50 01.2**	**+0.1**
ELL	**Elmali**	**1.41**	**98**	*e*Pn	**Pg**	**06 50 01.3**	**+0.1**
KULA	**Kula-Manisa**	**1.61**	**14**	*e*PN	**Pb**	**06 50 04.1**	**-0.4**
KULA	**Kula-Manisa**	**1.61**	**14**	*e*Pn	**Pb**	**06 50 04.1**	**-0.4**
IZM	**Izmir**	**1.61**	**334**	*e*PN	**Pg**	**06 50 05.2**	**+0.1**
IZM	**Izmir**	**1.61**	**334**	*e*Pn	**Pg**	**06 50 05.2**	**+0.1**
KARP	**Karpathos**	**1.62**	**210**	*e*PN	**Pg**	**06 50 05.0**	**-0.2**
KARP				*e*SN	**Sb**	**06 50 25.6**	**+0.1**
KARP	**Karpathos**	**1.62**	**210**	*e*Pn	**Pg**	**06 50 05.0**	**-0.2**
KARP				*e*Sn	**Sb**	**06 50 25.6**	**+0.1**
BLCB	**Balcova**	**1.69**	**328**	*e*PN	**Pg**	**06 50 06.4**	**-0.1**
BLCB	**Balcova**	**1.69**	**328**	*e*Pn	**Pg**	**06 50 06.4**	**-0.1**
KHL	**Karahalli**	**1.74**	**38**	*e*PN	**Pb**	**06 50 05.7**	**-1.1**
KHL	**Karahalli**	**1.74**	**38**	*e*Pn	**Pb**	**06 50 05.7**	**-1.1**
KORT	**Korkueli**	**1.75**	**88**	*i* P	**Pg**	**06 50 08.9**	**+1.3**
KORT				*i* S	**Sg**	**06 50 34.1**	**+3.8**
KORT	**Korkueli**	**1.75**	**88**	*i* P	**Pg**	**06 50 08.9**	**+1.3**
KHAL	**Karahalli**	**1.76**	**36**	*i* P	**Pb**	**06 50 05.8**	**-1.4**
KHAL				*i* S	**Sb**	**06 50 28.8**	**-0.9**
KHAL	**Karahalli**	**1.76**	**36**	*i* P	**Pb**	**06 50 05.8**	**-1.4**
KHAL				*i* S	**Sb**	**06 50 28.8**	**-0.9**
AKS	**Akhisar**	**1.94**	**352**	*e*PN	**Pb**	**06 50 09.7**	**-0.5**
AKS	**Akhisar**	**1.94**	**352**	*e*Pn	**Pb**	**06 50 09.7**	**-0.5**
BCK	**Bucak**	**2.00**	**75**	*e*PN	**Pb**	**06 50 09.1**	**-2.0**
BCK	**Bucak**	**2.00**	**75**	*e*Pn	**Pb**	**06 50 09.1**	**-2.0**
ISP	**Isparta**	**2.07**	**64**	*e*PN	**Pb**	**06 50 10.6**	**-1.7**
ISP	**Isparta**	**2.07**	**64**	*e*Pn	**Pb**	**06 50 10.6**	**-1.7**
APE	**Apeiranthos**	**2.12**	**274**	*e*PN	**Pg**	**06 50 14.1**	**-0.6**
CHOS	**Chios island**	**2.21**	**311**	*e*PB	**Pb**	**06 50 13.4**	**-1.3**
CHOS	**Chios island**	**2.21**	**311**	*e*Pb	**Pb**	**06 50 13.4**	**-1.3**
ZKR	**Zakros**	**2.42**	**221**	*e*PN	**Pn**	**06 50 15.5**	**+0.9**
ZKR	**Zakros**	**2.42**	**221**	*e*Pn	**Pn**	**06 50 15.5**	**+0.9**
SHUT	**Suhut-Afyon**	**2.47**	**49**	*e*PN	**Pn**	**06 50 15.9**	**+0.5**
SHUT	**Suhut-Afyon**	**2.47**	**49**	*e*Pn	**Pn**	**06 50 15.9**	**+0.5**
ALT	**Altintas**	**2.60**	**36**	*e*PN	**Pn**	**06 50 17.7**	**+0.6**
ALT	**Altintas**	**2.60**	**36**	*e*Pn	**Pn**	**06 50 17.7**	**+0.6**
IDI	**Anoyia**	**3.13**	**239**	*e*PN	**Pn**	**06 50 25.0**	**+0.6**
IDI	**Anoyia**	**3.13**	**239**	*e*Pn	**Pn**	**06 50 25.0**	**+0.6**

IDC 07 07:07:34.2±31.0, 15°.26S×177°.79W, h458km±281km, mb2.9/3, mb1 3.2/3, mb1mx2.9/17, mbtmp2.9/3, Error ellipse: s-maj=357.5km s-min=59.1km az=132.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.75**	**257**	P	P	07 15 13.2	-0.4
	0.3nm,0.3s,baz=93,slow=6.8,SNR=11						
ASAR	**Alice Springs**	**46.13**	**252**	P	P	07 15 16.5	0.0
	2.0nm,0.4s,baz=84,slow=7.6,SNR=37						
ILAR	**Eielson Array**	**83.19**	**13**	P	P	07 19 10.9	0.0
	0.2nm,0.6s,baz=218,slow=5.9,SNR=5.0						
BRTR	**Keskin Array B**	**143.29**	**318**	PKP	PKPdf	07 26 15.3	-0.6
	0.8nm,0.7s,baz=108,slow=4.7,SNR=4.3						

*ISK **07** 07:10:07.2, 37°.32N×28°.22E, h18km, MD2.5*
*CSEM **07** 07:10:07.7±0.3, 36°.90N×28°.26E, h2km, MD2.5, Error*
ellipse: s-maj=6.9km s-min=4.1km az=5.0
*DDA **07** 07:10:08.7, 36°.98N×28°.24E, h7km, MD2.8*

ISC 07 07:10:08.4±1.0, 37°.01N±0°.03×28°.23E±0°.03, h10km±7km, n22, σ1§78/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.13**	**19**	*e*PG	**Pg**	**07 10 12.6**	**+1.0**
YER				*e*SG	**Sb**	**07 10 16.1**	**+2.3**
YER	**Yerkesik**	**0.13**	**19**	*e*Pg	**Pg**	**07 10 12.6**	**+1.0**
YER				*e*Sg	**Sb**	**07 10 16.1**	**+2.3**
TURN	**Turunc**	**0.33**	**114**	*i* P	**Pg**	**07 10 13.2**	**-1.8**
TURN				*i* S	**Sg**	**07 10 16.7**	**-2.6**
TURN	**Turunc**	**0.33**	**114**	*i* P	**Pg**	**07 10 13.2**	**-1.8**
TURN				*i* S	**Sg**	**07 10 16.7**	**-2.6**
BDRM	**Kayabasi**	**0.63**	**275**	*i* P	**Pg**	**07 10 19.4**	**-1.2**
BDRM				*i* S	**Sb**	**07 10 30.9**	**+0.5**
BDRM	**Kayabasi**	**0.63**	**275**	*i* P	**Pg**	**07 10 19.4**	**-1.2**
BDRM				*i* S	**Sb**	**07 10 30.9**	**+0.5**
AYDN	**Tasoluk**	**0.71**	**337**	*i* P	**Pb**	**07 10 23.3**	**+0.4**
AYDN				*i* S	**Sn**	**07 10 33.6**	**-2.0**
AYDN	**Tasoluk**	**0.71**	**337**	*i* P	**Pb**	**07 10 23.3**	**+0.4**
AYDN				*i* S	**Sn**	**07 10 33.6**	**-2.0**
BODT	**Bodrum**	**0.74**	**275**	*e*PG	**Pg**	**07 10 22.7**	**+0.1**
BODT				*e*SG	**Sn**	**07 10 34.2**	**-2.0**
BODT	**Bodrum**	**0.74**	**275**	*e*Pg	**Pg**	**07 10 22.7**	**+0.1**
BODT				*e*Sg	**Sn**	**07 10 34.2**	**-2.0**
DNZL	**Cakiroluk**	**0.94**	**43**	*i* P	**Pb**	**07 10 26.5**	**-0.5**
DNZL				*i* S	**Sb**	**07 10 38.9**	**-0.7**
DNZL	**Cakiroluk**	**0.94**	**43**	*i* P	**Pb**	**07 10 26.5**	**-0.5**
DNZL				*i* S	**Sb**	**07 10 38.9**	**-0.7**
GCAM	**G?zelcaml?**	**1.05**	**311**	*i* P	**Pn**	**07 10 30.2**	**+1.0**
GCAM				*i* S	**Sn**	**07 10 44.6**	**+0.6**
GCAM	**G?zelcaml?**	**1.05**	**311**	*i* P	**Pn**	**07 10 30.2**	**+1.0**
GCAM				*i* S	**Sn**	**07 10 44.6**	**+0.6**
AKAS	**Kas**	**1.35**	**124**	*i* P	**Pg**	**07 10 37.0**	**+2.7**
AKAS				*i* S	**Sg**	**07 10 57.4**	**+5.5**
AKAS	**Kas**	**1.35**	**124**	*i* P	**Pg**	**07 10 37.0**	**+2.7**
ELL	**Elmali**	**1.37**	**100**	*e*PN	**Pn**	**07 10 33.4**	**-0.3**
ELL	**Elmali**	**1.37**	**100**	*e*Pn	**Pn**	**07 10 33.4**	**-0.3**
KULA	**Kula-Manisa**	**1.54**	**13**	*e*PN	Pn	07 10 30.2	-5.9
KHL	**Karahalli**	**1.67**	**38**	*e*PN	Pn	07 10 33.0	-4.8
KHAL	**Karahalli**	**1.69**	**36**	*i* P	**Pg**	**07 10 40.6**	**-0.2**
KHAL				*i* S	**Sg**	**07 11 03.9**	**+1.1**
KHAL	**Karahalli**	**1.69**	**36**	*i* P	**Pg**	**07 10 40.6**	**-0.2**
KHAL				*i* S	**Sg**	**07 11 03.9**	**+1.1**

IDC 07 07:28:34.7±6.6, 34°.93S×105°.42W, h0km, mb3.5/3, mb1 4.0/3, mb1mx3.8/12, mbtmp3.5/3, MS3.5/1, Ms1 3.5/1, ms1mx3.1/7, Error ellipse: s-maj=324.1km s-min=67.8km az=58.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**49.22**	**43**	LR	LR	07 54 30.1	
	comp=Z,48nm,19.8s,baz=6.1,slow=32						
TXAR	**Lajitas Array**	**63.95**	**2**	P	P	07 39 09.8	+0.2
	0.2nm,0.7s,baz=168,slow=9.2,SNR=3.5						
NVAR	**Mina Array Bea**	**73.97**	**350**	P	P	07 40 12.3	+0.4
	0.9nm,0.9s,baz=185,slow=10.0,SNR=3.7						
PDAR	**Pinedale Array**	**77.42**	**357**	P	P	07 40 31.2	-0.5
	0.6nm,0.8s,baz=163,slow=6.7,SNR=5.5						
BRTR	**Keskin Array B**	**147.30**	**69**	PKPbc	PKPbc	07 48 19.5	-0.7
	0.2nm,0.4s,baz=222,slow=1.9,SNR=2.7						

*ISCJB **07** 08:02:35.2±0.4, 37°.73N±0°.04×13°.83E±0°.04, h16km±4km,*
Error ellipse: s-maj=8.2km s-min=3.8km az=39.3
*LDG **07** 08:02:35.8±0.5, 37°.60N×13°.71E, h10km, Ml3.0/2, Error*
ellipse: s-maj=14.7km s-min=6.7km az=27.0
*ROM **07** 08:02:35.2±0.1, 37°.72N×13°.86E, h7km±1km, Ml3.5/20,*
Error ellipse: s-maj=2.6km s-min=1.5km az=29.0
*CSEM **07** 08:02:35.2±0.2, 37°.70N×13°.83E, h15km, ML4.1/9, Error*
ellipse: s-maj=6.7km s-min=3.4km az=35.0

ISC 07 08:02:34.7±0.8, 37°.73N±0°.03×13°.84E±0°.03, h14km±5km, n66, σ1§26/84, 4D, Sicily

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALJA	**Alia**	**0.07**	**286**	Pg	**Pg**	**08 02 37.5**	**-0.1**
ALJA				Sg	**Sg**	**08 02 39.7**	**+0.1**
	13μm,1.0s						
ALJA	**Alia**	**0.07**	**286**	Pg	**Pg**	**08 02 37.5**	**-0.1**
ALJA				Sg	**Sg**	**08 02 39.7**	**+0.1**
	13μm,1.0s						
RESU	**Resuttano**	**0.19**	**115**	*i*Pg	**Pg**	**08 02 38.8**	**-0.4**
RESU				Sg	**Sb**	**08 02 43.2**	**-0.4**
	43μm,0.8s						
RESU	**Resuttano**	**0.19**	**115**	*i*Pg	**Pg**	**08 02 38.8**	**-0.4**
RESU				Sg	**Sb**	**08 02 43.2**	**-0.4**
	43μm,0.8s						
CSLB	**Castelbuono**	**0.27**	**40**	Pg	**Pg**	**08 02 41.0**	**+0.5**
CSLB	**Castelbuono**	**0.27**	**40**	Pg	**Pg**	**08 02 41.0**	**+0.5**
GIB	**Gibilmanna**	**0.30**	**30**	Pg	**Pb**	**08 02 42.1**	**+0.2**
GIB	**Gibilmanna**	**0.30**	**30**	Pg	**Pb**	**08 02 42.1**	**+0.2**
CORL	**Corleone**	**0.45**	**291**	Pg	**Pb**	**08 02 45.1**	**+0.7**
CORL				Sg	**Sb**	**08 02 52.8**	**+1.8**
	6μm,0.9s						
CORL	**Corleone**	**0.45**	**291**	Pg	**Pb**	**08 02 45.1**	**+0.7**
CORL				Sg	**Sb**	**08 02 52.8**	**+1.8**
	6μm,0.9s						
GALF	**Gagliano Caste**	**0.58**	**92**	Pg	**Pb**	**08 02 47.5**	**+0.9**
	2μm,0.7s						
GALF	**Gagliano Caste**	**0.58**	**92**	Pg	**Pb**	**08 02 47.5**	**+0.9**
	2μm,0.7s						
RAFF	**Raffo Rosso**	**0.66**	**140**	Pg	**Pb**	**08 02 48.0**	**+0.1**
RAFF				Sg	**Sn**	**08 02 58.0**	**-1.6**
	1μm,0.9s						
RAFF	**Raffo Rosso**	**0.66**	**140**	Pg	**Pb**	**08 02 48.0**	**+0.1**
RAFF				Sg	**Sn**	**08 02 58.0**	**-1.6**
	1μm,0.9s						
HVZN	**Vizzini**	**0.89**	**128**	Pg	**Pb**	**08 02 52.1**	**+0.2**
HVZN				Sg	**Sn**	**08 03 04.8**	**-0.7**
	7μm,0.9s						
HVZN	**Vizzini**	**0.89**	**128**	Pg	**Pb**	**08 02 52.1**	**+0.2**
HVZN				Sg	**Sn**	**08 03 04.8**	**-0.7**
	7μm,0.9s						
IACL	**Alicudi**	**0.90**	**27**	Pn	**Pg**	**08 02 52.7**	**+0.6**
	1μm,0.6s						
IACL	**Alicudi**	**0.90**	**27**	Pn	**Pg**	**08 02 52.7**	**+0.6**
	1μm,0.6s						
ESLN	**Serra La Nave**	**0.90**	**92**	Pn	**Pb**	**08 02 49.7**	**-2.5**
IFIL	**Filicudi I Eol**	**1.01**	**34**	Pn	**Pb**	**08 02 54.2**	**+0.3**
	1μm,0.5s						
IFIL	**Filicudi I Eol**	**1.01**	**34**	Pn	**Pb**	**08 02 54.2**	**+0.3**
	1μm,0.5s						
ERC	**Erice**	**1.03**	**288**	Pn	**Pn**	**08 02 56.7**	**+1.9**
ERC	**Erice**	**1.03**	**288**	Pn	**Pn**	**08 02 56.7**	**+1.9**
HCRL	**Carlentini**	**1.05**	**115**	Pn	**Pb**	**08 02 54.3**	**-0.3**
HCRL				Sn	**Sn**	**08 03 10.4**	**+1.1**
	630nm,0.7s						
HCRL	**Carlentini**	**1.05**	**115**	Pn	**Pb**	**08 02 54.3**	**-0.3**
HCRL				Sn	**Sn**	**08 03 10.4**	**+1.1**
	630nm,0.7s						
HMDC	**Modica**	**1.08**	**135**	Pn	**Pb**	**08 02 54.8**	**-0.3**
HMDC				Sn	**Sn**	**08 03 10.3**	**+0.2**
	791nm,0.6s						
HMDC	**Modica**	**1.08**	**135**	Pn	**Pb**	**08 02 54.8**	**-0.3**
HMDC				Sn	**Sn**	**08 03 10.3**	**+0.2**
	791nm,0.6s						
USI	**Ustica**	**1.10**	**332**	Pn	**Pn**	**08 02 56.2**	**+0.5**
	966nm,0.6s						
USI	**Ustica**	**1.10**	**332**	Pn	**Pn**	**08 02 56.2**	**+0.5**
	966nm,0.6s						
VPL	**Vulcano Piano**	**1.11**	**54**	Pn	**Pn**	**08 02 56.2**	**+0.4**
	1μm,0.6s						
VPL	**Vulcano Piano**	**1.11**	**54**	Pn	**Pn**	**08 02 56.2**	**+0.4**
	1μm,0.6s						
LLI	**Lipari**	**1.13**	**51**	Pn	**Pg**	**08 02 56.7**	**+0.2**
	4μm,0.6s						
LLI	**Lipari**	**1.13**	**51**	Pn	**Pg**	**08 02 56.7**	**+0.2**
	4μm,0.6s						
HAGA	**Augusta**	**1.14**	**113**	Pn	**Pb**	**08 02 55.8**	**-0.3**
HAGA				Sn	**Sn**	**08 03 11.7**	**+0.2**
	1μm,0.8s						
HAGA	**Augusta**	**1.14**	**113**	Pn	**Pb**	**08 02 55.8**	**-0.3**
HAGA				Sn	**Sn**	**08 03 11.7**	**+0.2**
	1μm,0.8s						
MMME	**Mongiuffi-Meli**	**1.14**	**79**	Pn	**Pg**	**08 02 57.6**	**+0.9**
	1μm,0.9s						
MMME	**Mongiuffi-Meli**	**1.14**	**79**	Pn	**Pg**	**08 02 57.6**	**+0.9**
	1μm,0.8s						
AGST	**Augusta-Monte**	**1.20**	**113**	Pn	**Pn**	**08 02 56.5**	**-0.5**
AGST				Sn	**Sb**	**08 03 12.6**	**0.0**
	2μm,0.8s						
AGST	**Augusta-Monte**	**1.20**	**113**	Pn	**Pn**	**08 02 56.5**	**-0.5**
AGST				Sn	**Sb**	**08 03 12.6**	**0.0**
	2μm,0.8s						
HAVL	**Avola**	**1.28**	**126**	⇓*i*Pn	**Pb**	**08 02 58.4**	**-0.2**
	2μm,0.8s						
HAVL	**Avola**	**1.28**	**126**	⇓*i*Pn	**Pb**	**08 02 58

comp=E,0.2nm,0.7s,baz=310,slow=2.6,SNR=2.6
SONM Songino Array 151.65 6 PKPbc **PKPbc 08 44 11.3 +1.0**
comp=E,0.8nm,0.5s,baz=17,slow=1.5,SNR=10

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*IDC **07** 08:49:51.5±6.3,36°.48N×70°.79E,h186km±57km,mb2.8/1, mb1 2.9/7,mb1mx2.8/30,mbtmp2.9/7,Error ellipse: s-maj=70.5km s-min=38.5km az=144.0*
*ISCJB **07** 08:49:55.2±1.6,36°.8N±0°.1×70°.9E±0°.1,h188km,mb3.1/1, Error ellipse: s-maj=17.9km s-min=13.1km az=151.1*
*NNC **07** 08:49:57.9±5.3,36°.91N×70°.77E,h167km±59km,mb2.5, mpv3.9,Error ellipse: s-maj=45.9km s-min=24.5km az=7.0*
ISC 07 08:49:53.5±1.9,**36°.6N**±0°.1×**70°.8E**±0°.1,**h188**km,**n19**, σ1**§43**/28,**3C-3D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.95**	**21**	P	**Pn**	**08 51 21.1**	**+0.9**
	SNR=62						
AML				P	**Pn**	**08 51 21.1**	**+0.9**
	SNR=62						
UCH	**Uchtor**	**6.30**	**26**	P	**Sn**	**08 52 35.5**	**-1.4**
	SNR=6.6						
UCH				P	**Sn**	**08 52 35.5**	**-1.4**
	SNR=6.6						
EKS2	**Erkin-Say**	**6.46**	**20**	P	**Pn**	**08 51 27.5**	**+0.8**
	SNR=15						
EKS2				P	**Pn**	**08 51 27.5**	**+0.8**
	SNR=15						
KK31	**Karatay Array**	**6.49**	**358**	⇓P	**Pn**	**08 51 27.9**	**+1.0**
	1.5nm,0.3s,baz=178,slow=13,SNR=134						
KK31				⇑S	**Sn**	**08 52 37.4**	**-3.5**
	4.0nm,0.4s,baz=181,slow=23,SNR=12						
AAK	**Ala-Archa**	**6.65**	**24**	P	**Pn**	**08 51 30.5**	**+1.3**
	SNR=10						
AAK				P	**Pn**	**08 51 30.5**	**+1.3**
	SNR=10						
AAK	**Ala-Archa**	**6.65**	**24**	P	**Pn**	**08 51 30.2**	**+1.0**
	2.9nm,0.3s,baz=158,slow=5.1,SNR=32						
AAK				S	**Sn**	**08 52 43.2**	**-1.6**
	0.6nm,0.3s,baz=330,slow=20,SNR=13						
USP	**Ospenovka**	**7.23**	**22**	P	**Pn**	**08 51 37.2**	**+0.7**
	SNR=7.6						
USP				P	**Pn**	**08 51 37.2**	**+0.7**
	SNR=7.6						
TKM2	**Tokmak 2**	**7.30**	**29**	⇓P	**Pn**	**08 51 38.4**	**+0.8**
	9.9nm,0.5s						
TKM2				⇑S	**Sn**	**08 52 59.2**	**-1.0**
	1.7nm,0.6s						
TKM2	**Tokmak 2**	**7.30**	**29**	P	**Pn**	**08 51 38.5**	**+0.8**
	SNR=14						
TKM2				P	**Pn**	**08 51 38.5**	**+0.8**
	SNR=14						
MK31	**Makanchi Array**	**13.29**	**36**	⇓P	**Pn**	**08 52 55.0**	**+0.2**
	0.9nm,0.7s,baz=200,slow=4.7,SNR=12						
MKAR	**Makanchi Array**	**13.29**	**36**	P	**Pn**	**08 52 55.3**	**+0.4**
	0.2nm,0.3s,baz=216,slow=13,SNR=10.0						
AB31	**Akbulak array**	**14.92**	**331**	P	**P**	**08 53 18.2**	**+2.2**
	0.2nm,0.4s,baz=147,slow=12,SNR=7.7						
KURBB	**Kurchatov Arra**	**15.07**	**19**	P	**Pn**	**08 53 16.0**	**-0.8**
	0.1nm,0.3s,baz=212,slow=11,SNR=8.0						
BVA0	**Borovoye Array**	**16.42**	**359**	P	**Pn**	**08 53 35.4**	**+2.2**
	0.1nm,0.7s,baz=160,slow=11,SNR=6.9						
BVAR	**Borovoye Array**	**16.42**	**359**	P	**Pn**	**08 53 33.3**	**+0.1**
	0.2nm,0.3s,baz=161,slow=11,SNR=6.5						
AKTO	**Aktyubinsk**	**16.62**	**330**	⇑P	**Pn**	**08 53 37.4**	**+1.9**
	0.2nm,0.7s						
AKTO	**Aktyubinsk**	**16.62**	**330**	P	**Pn**	**08 53 35.6**	**0.0**
	0.2nm,0.3s,baz=135,slow=8.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**19.88**	**25**	P	**P**	**08 54 09.8**	**-0.3**
	0.4nm,0.3s,baz=221,slow=11,SNR=14						
TORD	**Torodi Ar. Bea**	**65.58**	**268**	P	**P**	**09 00 14.9**	**-2.4**
	0.1nm,0.3s,baz=48,slow=6.0,SNR=2.9						

IDC 07 08:54:27.8±5.3,**49°.52S**×**124°.02E,h0**km,**mb3.5/2, mb1 3.8/2,mb1mx3.5/11,mbtmp3.5/2,MS3.3/2,Ms1 3.2/2, ms1mx2.8/11,Error ellipse: s-maj=283.9km s-min=72.7km az=97.0,Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**17.33**	**341**	LR	LR	09 03 35.4	
	comp=Z,95nm,18.4s,baz=331,slow=32						
STKA	**Stephens Creek**	**22.00**	**43**	LR	LR	09 06 10.8	
	comp=Z,67nm,18.4s,baz=23,slow=32						
ASAR	**Alice Springs**	**26.95**	**20**	P	P	09 00 11.0	+0.1
	0.7nm,0.6s,baz=192,slow=9.3,SNR=16						
WRA	**Warramunga Arr**	**30.64**	**19**	P	P	09 00 43.7	-0.1
	0.7nm,1.1s,baz=185,slow=8.2,SNR=3.0						
YKA	**Yellowknife Ar**	**146.03**	**45**	PKPbc	PKPdf	09 14 07.4	0.0
	0.4nm,0.9s,baz=267,slow=3.1,SNR=5.3						

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*BJI **07** 09:40:00.6, 12°.20N×89°.20W,h60km,mB5.1/2,Ms5.2/3, Ms7 4.8/2*
*ISCJB **07** 09:40:05.8±0.4, 13°.09N±0°.05×89°.22W±0°.04,h69km±2km, mb4.3/30,Error ellipse: s-maj=9.3km s-min=3.9km az=37.5*
*IDC **07** 09:40:05.3±0.7, 13°.24N×88°.92W,h55km±5km,mb3.7/12, mb1 3.9/13,mb1mx3.8/22,mbtmp3.7/13,MS3.4/4, Ms1 3.5/4,ms1mx3.0/31,Error ellipse: s-maj=24.8km s-min=12.3km az=53.0*
*NEIC **07** 09:40:05.9±0.4, 13°.03N×89°.24W,mb4.5/21, MD4.8(SNET),Error ellipse: s-maj=11.1km s-min=6.9km az=52.0*
NEIC Felt [IV] at San Salvador. Also felt at Santa Ana.
*CASC **07** 09:40:06.8±2.2, 13°.06N×89°.24W,h33km±5km,MD4.4, ML4.8,mb4.6(NEIC)*
ISC 07 09:40:05.9±0.5,**13°.11N**±0°.05×**89°.24W**±0°.04,**h60**km±3km, **h59**km**:pP-P,n201**,σ1**§32**/231,**mb4.4**/29,**MS4.2**/6,**60C-50D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AIES	**Las Flores**	**0.40**	**28**	*e*P	**Pn**	**09 40 16.5**	**-0.3**
AIES				AML	AML	09 40 24.8	
	comp=Z,62μm,0.3s						
AIES				*e*S	**Sn**	**09 40 24.8**	**+0.1**
LFRS	**El Faro**	**0.55**	**19**	⇓*i*P	**Pn**	**09 40 18.4**	**0.0**
SNET	**Serv Nac Est T**	**0.58**	**1**	⇓*i*P	**Pn**	**09 40 18.9**	**+0.1**
SNET				*e*S	**Sn**	**09 40 29.1**	**+0.9**
SNET				AML	AML	09 40 33.1	
	comp=E,43μm,0.3s						
BOQS	**Boqueron**	**0.63**	**357**	⇑*i*P	**Pn**	**09 40 19.8**	**+0.3**
SNVI	**San Vicente**	**0.64**	**38**	*i* P	**Pn**	**09 40 19.6**	**0.0**
LBRS	**Las Brisas**	**0.66**	**17**	⇓*i*P	**Pn**	**09 40 20.2**	**+0.5**
SBLS	**San Blas**	**0.82**	**333**	⇓*i*P	**Pn**	**09 40 22.0**	**+0.2**
SNJE	**San Jose**	**0.84**	**335**	*i* P	**Pn**	**09 40 22.3**	**+0.2**
RTR	**El Retiro**	**0.88**	**334**	⇓*i*P	**Pn**	**09 40 23.0**	**+0.4**
VSM	**San Miguel**	**1.00**	**71**	*i* P	**Pn**	**09 40 24.6**	**+0.4**
BLLM	**Bellamira**	**1.04**	**71**	⇑*i*P	**Pn**	**09 40 25.0**	**+0.5**
RBDL	**Robledal**	**1.09**	**337**	⇓*i*P	**Pn**	**09 40 26.2**	**+0.9**
CAHU	**Cacacuatique**	**1.20**	**57**	⇓*i*P	**Pn**	**09 40 28.1**	**+1.3**
MTO2	**Montecristo 2**	**1.29**	**355**	⇓*i*P	**Pn**	**09 40 29.0**	**+1.0**
MTO2				*e*S	**Sn**	**09 40 47.0**	**+2.5**
CNCH	**Conchagua**	**1.38**	**83**	*i* P	**Pn**	**09 40 29.4**	**+0.2**
CNCH				*e*S	**Sn**	**09 40 48.2**	**+1.7**
NBG	**Las Nubes**	**1.82**	**324**	*e*P	**Pn**	**09 40 37.4**	**+2.2**
NBG				*e*S	Sn	09 41 08.1	+11
PCG	**Pacaya**	**1.84**	**314**	*e*P	**Pn**	**09 40 37.6**	**+2.1**
PCG				*e*S	**Sn**	**09 41 03.6**	**+5.7**
MRL	**Marmol**	**2.00**	**348**	*e*P	**Pn**	**09 40 40.1**	**+2.6**
MRL				*e*S	Sn	09 41 17.5	+16
FUG	**Fuego 3**	**2.05**	**311**	*e*P	**Pn**	**09 40 39.6**	**+1.4**
TGUH	**Tegucigalpa,Un**	**2.14**	**64**	*e*Pn	**Pn**	**09 40 40.0**	**+0.8**
TGUH				Sn	Sn	09 41 12.1	+7.4
FG6		**2.15**	**312**	*e*P	**Pn**	**09 40 42.0**	**+2.3**
TP2	**Tecpan 2**	**2.40**	**314**	*e*P	**Pn**	**09 40 45.5**	**+2.4**
JAT	**Jato**	**2.62**	**298**	*e*P	**Pn**	**09 40 47.3**	**+1.5**
JTS	**JuntasAbangare**	**5.05**	**123**	P	**Pn**	**09 41 21.3**	**+2.1**
JTS				S	**Sn**	**09 42 18.1**	**+1.9**
JTS	**JuntasAbangare**	**5.05**	**123**	P	**Pn**	**09 41 21.3**	**+2.1**
	comp=E,6.5nm,0.3s,baz=302,slow=22,SNR=8.5						
JTS				S	**Sn**	**09 42 18.2**	**+1.9**
	comp=E,6.2nm,0.3s,baz=253,slow=19,SNR=2.8						
JTS				LR	LR	09 43 09.8	
	comp=E,142nm,18.8s,baz=54,slow=38						
SJS	**Escuela Geolog**	**5.98**	**121**	*e*P	**Pn**	**09 41 34.9**	**+2.8**
QCR	**Quepos**	**6.18**	**126**	⇓*e*P	**Pn**	**09 41 36.1**	**+1.5**
URSC	**Urasca**	**6.27**	**121**	*e*P	**Pn**	**09 41 37.4**	**+1.4**
BUS	**Buena Vista**	**6.43**	**123**	*e*P	**Pn**	**09 41 40.7**	**+2.2**
CMIG	**Matias Romero**	**6.74**	**307**	P	**Pn**	**09 41 44.0**	**+1.7**
CMIG				S	**Sn**	**09 42 58.7**	**+1.1**
CMIG	**Matias Romero**	**6.74**	**307**	P	**Pn**	**09 41 44.0**	**+1.7**
	comp=E,2.3nm,0.3s,baz=98,slow=9.7,SNR=49						
CMIG				S	**Sn**	**09 42 58.7**	**+1.1**
	comp=E,3.1nm,0.3s,baz=131,slow=12,SNR=3.7						
TEIG	**Tepich**	**7.14**	**7**	P	**Pn**	**09 41 49.9**	**+2.1**
TEIG	**Tepich**	**7.14**	**7**	P	**Pn**	**09 41 49.9**	**+2.1**
	comp=E,4.0nm,0.3s,baz=203,slow=3.0,SNR=19						
ACR	**Cerro Adams**	**7.43**	**126**	*e*P	**Pn**	**09 41 52.0**	**+0.2**
SDV	**Santo Domingo**	**18.74**	**101**	P	**P**	**09 44 19.4**	**-0.8**
	comp=E,7.7nm,0.8s						
JCT	**Junction City**	**19.85**	**332**	*e*P	**Pn**	**09 44 33.5**	**-0.7**
	comp=E,39nm,1.8s						
JCT	**Junction City**	**19.85**	**332**	⇑P	**Pn**	**09 44 33.4**	**-0.8**
	baz=20,SNR=5.5						
628A	**Black Gap, Mar**	**20.64**	**324**	⇑P	Pn	09 44 42.8	-0.7
	baz=21						
GOGA	**Godfrey**	**20.89**	**14**	*e*P	Pn	09 44 45.0	-1.3
	comp=E,9.7nm,0.7s						
GOGA				*e*pP	pP	09 45 01.7	+5.4
627A	**Terlingua Ranc**	**20.90**	**323**	⇑P	Pn	09 44 45.6	-1.1
	baz=21,SNR=6.4						
TXAR	**Lajitas Array**	**20.98**	**323**	P	Pn	09 44 46.7	-0.9
TXAR				*e*pP	pP	09 44 58.5	+1.1
TXAR	**Lajitas Array**	**20.98**	**323**	P	Pn	09 44 46.7	-0.9
	comp=E,1.9nm,0.6s,baz=146,slow=10,SNR=33						
TXAR				*e*pP	pP	09 44 58.5	+1.1
	comp=E,1.8nm,0.6s,baz=139,slow=10,SNR=7.3						
626A	**Big Bend Ranch**	**21.41**	**322**	⇑P	**P**	**09 44 51.0**	**+1.9**
	baz=22						
527A	**Woodward Ranch**	**21.55**	**324**	⇑P	**P**	**09 44 51.8**	**+1.3**
	baz=22						
NHSC	**New Hope**	**21.56**	**21**	P	**P**	**09 44 51.7**	**+1.2**
	comp=E,70nm,1.3s						
MIAR	**Mount Ida**	**21.70**	**350**	*e*P	**P**	**09 44 53.9**	**+1.9**
	comp=E,5.6nm,0.7s						
328A	**Wristen Ranch,**	**22.06**	**328**	⇑P	**P**	**09 44 56.6**	**+0.6**
	baz=22						
JSC	**Jenkinsville**	**22.29**	**18**	*e*P	**P**	**09 45 01.2**	**+2.9**
JSC				*e*pP	**pP**	**09 45 15.4**	**+3.9**
HBAR	**Harrisburg**	**22.39**	**357**	P	**P**	**09 44 59.5**	**+0.2**
HBAR				*e*pP	**pP**	**09 45 16.2**	**+3.8**
129A	**Stewart Farms,**	**22.61**	**331**	⇓P	**P**	**09 45 01.3**	**-0.5**
	baz=23						
326A	**Caldwell Ranch**	**22.64**	**326**	⇓P	**P**	**09 45 03.6**	**+1.4**
	baz=23						
CPCT	**Cooper Cave**	**22.65**	**10**	*e*P	**P**	**09 45 03.2**	**+1.0**
CPCT				*e*pP	**pP**	**09 45 17.7**	**+2.4**
CPCT				*e*pP	**pP**	**09 45 18.4**	**+3.1**
CPCT				*e*sP	**sP**	**09 45 23.8**	**+1.1**
425A	**Indio Mountain**	**22.82**	**323**	⇑P	**P**	**09 45 05.6**	**+1.5**
	baz=23						
128A	**Castleberry Fa**	**22.90**	**330**	⇓P	**P**	**09 45 03.8**	**-1.0**
	baz=23						
TKL	**Tuckaleechee C**	**22.99**	**11**	*e*P	**P**	**09 45 06.5**	**+0.8**
TKL				*e*pP	**pP**	**09 45 21.1**	**+2.2**
TKL	**Tuckaleechee C**	**22.99**	**11**	P	**P**	**09 45 05.1**	**-0.6**
	comp=E,3.9nm,0.7s,baz=175,slow=9.2,SNR=5.3						
TKL				LR	LR	09 54 20.2	
	comp=E,98nm,20.8s,baz=340,slow=38						
Z29A	**Hungry Hill Ra**	**23.06**	**333**	⇓P	**P**	**09 45 06.7**	**+0.3**
	baz=24						
KMSC	**Kings Mountain**	**23.08**	**17**	⇑P	**P**	**09 45 06.9**	**+0.4**
	baz=23						
WMOK	**Wichita Mounta**	**23.21**	**340**	*e*P	**P**	**09 45 07.9**	**+0.1**
	comp=E,22nm,1.7s						
WMOK				*e*pP	**pP**	**09 45 20.5**	**-0.8**
WMOK				*e*sP	**sP**	**09 45 29.4**	**+0.7**
Z28A	**Tucker Farm, M**	**23.40**	**331**	⇓P	**P**	**09 45 08.9**	**-0.8**
	baz=24						
324A	**Moseley Ranch,**	**23.58**	**323**	⇓P	**P**	**09 45 11.5**	**-0.1**
	baz=24						
Z27A	**Tatum**	**23.82**	**330**	⇓P	**P**	**09 45 13.4**	**-0.2**
	baz=24						
Y27A	**Causey**	**24.25**	**331**	⇓P	**P**	**09 45 17.6**	**0.0**
	baz=24						
X28A	**Dimmitt**	**24.34**	**333**	⇑P	**P**	**09 45 18.8**	**+0.4**
	baz=24						
AMTX	**Amarillo**	**24.43**	**335**	*e*P	**P**	**09 45 19.7**	**+0.5**
	comp=E,8.5nm,0.6s						
AMTX	**Amarillo**	**24.43**	**335**	⇑P	**P**	**09 45 19.5**	**+0.4**
	baz=25,SNR=6.3						
SIUC	**Southern Illin**	**24.51**	**0**	P	**P**	**09 45 20.1**	**+0.4**
	comp=E,30nm,0.9s						
SIUC				*e*pP	**pP**	**09 45 34.8**	**+0.5**
SIUC				*e*pP	**pP**	**09 45 35.1**	**+0.8**
Z25A	**Roswell**	**24.55**	**327**	⇓P	**P**	**09 45 20.2**	**-0.1**
	baz=25						
USIN	**University of**	**24.80**	**3**	P	**P**	**09 45 21.8**	**-0.5**
	comp=E,20nm,0.9s						
USIN				*e*pP	**pP**	**09 45 37.7**	**+0.8**
Y25A	**Mesa, Roswell**	**25.04**	**328**	⇑P	**P**	**09 45 25.9**	**+1.2**
	baz=25						
WCI	**Wyandotte Cave**	**25.16**	**5**	*e*P	**P**	**09 45 25.9**	**+0.3**
	comp=E,14nm,0.7s						
WCI				*e*pP	**pP**	**09 45 41.1**	**+0.9**
V28A	**Channing**	**25.40**	**335**	⇓P	**P**	**09 45 28.7**	**+0.7**
	baz=26,SNR=6.1						
W26A	**Owens Ranch, T**	**25.52**	**331**	⇑P	**P**	**09 45 30.2**	**+1.0**
	baz=26						
W25A	**X Bar L Ranch,**	**25.96**	**331**	⇑P	**P**	**09 45 34.0**	**+0.9**
	baz=26						
W24A	**Lazy 6 Ranch,**	**26.41**	**329**	⇓P	**P**	**09 45 38.8**	**+1.5**
	baz=27						
V25A	**Rancho No Teng**	**26.54**	**331**	⇑P	**P**	**09 45 39.1**	**+0.8**
	baz=27						
U26A	**Atchley Ranch,**	**26.60**	**333**	⇑P	**P**	**09 45 39.3**	**+0.4**
	baz=27						
U23A	**El Rito**	**27.69**	**330**	⇓P	**P**	**09 45 50.5**	**+1.8**
	baz=28						
V22A	**San Miguel Ran**	**27.73**	**328**	⇓P	**P**	**09 45 50.8**	**+1.7**
	baz=28						
R27A	**Eads**	**27.82**	**337**	⇓P	**P**	**09 45 50.9**	**+1.2**
	baz=28						
S25A	**Robets Cordova**	**27.96**	**334**	⇑P	**P**	**09 45 52.9**	**+1.8**
	baz=28						
SDCO	**Great Sand Dun**	**28.50**	**332**	⇑P	**P**	**09 45 57.7**	**+1.7**
	baz=29						
Q25A	**Bedland, Calha**	**28.94**	**335**	⇑P	**P**	**09 46 01.1**	**+1.2**
	baz=29						
S22A	**4UR Ranch, Cre**	**29.12**	**331**	⇓P	**P**	**09 46 03.0**	**+1.5**
	baz=29						
P23A	**Jefferson**	**29.99**	**334**	⇑P	**P**	**09 46 11.0**	**+1.7**
	baz=30						
Q22A	**Crested Butte,**	**30.05**	**332**	⇑P	**P**	**09 46 11.4**	**+1.7**
	baz=30						
P22A	**Eagle**	**30.58**	**333**	⇓P	**P**	**09 46 15.8**	**+1.5**
	baz=31						
O23A	**Lake Granby, G**	**30.73**	**335**	⇑P	**P**	**09 46 17.2**	**+1.5**
	baz=31						
O22A	**Kremmling**	**30.95**	**334**	⇓P	**P**	**09 46 18.7**	**+1.0**
	baz=31						
N22A	**Wattenberg Ran**	**31.44**	**334**	⇑P	**P**	**09 46 23.3**	**+1.3**
	baz=32						
R17A	**Hanksville Air**	**31.61**	**327**	⇑P	**P**	**09 46 25.2**	**+1.9**
	baz=32						
O20A	**White River Ci**	**31.69**	**332**	⇑P	**P**	**09 46 25.6**	**+1.5**
	baz=32						
SRU	**San Rafael**	**32.02**	**328**	⇑P	**P**	**09 46 28.4**	**+1.4**
	baz=32						
N20A	**Spence Gulch,**	**32.26**	**332**	⇓P	**P**	**09 46 30.8**	**+1.7**
	baz=32						
N19A	**John Jarvie Ra**	**32.72**	**331**	⇓P	**P**	**09 46 33.9**	**+0.8**
	baz=33						
L21A	**Rawlins**	**32.79**	**335**	⇑P	**P**	**09 46 34.4**	**+0.7**
	baz=33						
J21A	**Lysite**	**33.97**	**336**	⇓P	**P**	**09 46 45.9**	**+1.9**
	baz=34						
I22A	**9 Mile Ranch,**	**34.07**	**338**	⇑P	**P**	**09 46 45.6**	**+0.9**
	baz=34						
K19A	**Absolon Red Bu**	**34.12**	**334**	⇑P	**P**	**09 46 46.0**	**+0.7**
	baz=34						
H24A	**Dirks Ranch, A**	**34.14**	**340**	⇑P	**P**	**09 46 46.7**	**+1.4**
	baz=34						
MPMC	**Manual Prospec**	**34.16**	**317**	⇑P	**P**	**09 46 47.2**	**+1.5**
	baz=34						
PDAR	**Pinedale Array**	**34.38**	**333**	P	**P**	**09 46 48.6**	**+1.0**
PDAR				PcP	**PcP**	**09 49 21.5**	**-0.8**
PDAR	**Pinedale Array**	**34.38**	**333**	P	**P**	**09 46 48.6**	**+1.0**
	comp=E,0.4nm,0.5s,baz=129,slow=11,SNR=4.8						
PDAR				PcP	**PcP**	**09 49 21.5**	**-0.8**
	comp=E,0.6nm,0.5s,baz=138,slow=5.1,SNR=6.3						
L17A	**Cokeville**	**34.46**	**331**	⇑P	**P**	**09 46 48.2**	**0.0**
	baz=35						
K18A	**Toltan Ranch,**	**34.50**	**332**	⇓P	**P**	**09 46 49.8**	**+1.2**
	baz=35						
L16A	**Fish Haven**	**34.66**	**330**	⇑P	**P**	**09 46 50.5**	**+0.5**
	baz=35						
I20A	**Worland**	**34.75**	**336**	⇓P	**P**	**09 46 51.1**	**+0.5**
	baz=35						
EYMN	**Ely**	**34.78**	**357**	*e*P	**P**	**09 46 50.8**	**+0.1**
	comp=E,6.8nm,0.6s						
EYMN				*e*pP	**pP**	**09 47 06.0**	**+0.4**
G23A	**Biddle**	**34.82**	**340**	⇑P	**P**	**09 46 52.2**	**+1.1**
	baz=35						
H21A	**Big Horn, Sher**	**34.90**	**338**	⇓P	**P**	**09 46 52.7**	**+0.8**
	baz=35						
J18A	**Kendall Valley**	**34.94**	**333**	⇑P	**P**	**09 46 53.0**	**+0.6**
	baz=35						
F24A	**Ekalaka**	**35.08**	**341**	⇑P	**P**	**09 46 54.1**	**+0.7**
	baz=35,SNR=5.1						
G22A	**Birney**	**35.14**	**339**	⇑P	**P**	**09 46 54.5**	**+0.6**
	baz=35						
F23A	**Volborg**	**35.28**	**340**	⇓P	**P**	**09 46 56.0**	**+0.9**
	baz=35						
J17A	**Brown Place, J**	**35.37**	**333**	⇑P	**P**	**09 46 56.6**	**+0.5**
	baz=36						
REDW	**Red Top Meadow**	**35.43**	**332**	*e*P	**P**	**09 46 57.6**	**+1.0**
	comp=E,6.3nm,0.6s						
REDW				*e*pP	**pP**	**09 47 12.9**	**+1.3**
SNOW	**Snow King Moun**	**35.47**	**333**	*e*P	**P**	**09 46 58.2**	**+1.2**
	comp=E,56nm,2.1s						
AGMN	**Agassiz Nation**	**35.52**	**352**	*e*P	**P**	**09 46 56.9**	**0.0**
	comp=E,7.4nm,0.4s						
LOHW	**Long Hollow**	**35.52**	**333**	*e*P	**P**	**09 46 58.9**	**+1.5**
	comp=E,2.3nm,0.6s						
TPAW	**Teton Pass**	**35.58**	**332**	*e*P	**P**	**09 46 58.7**	**+0.8**
	comp=E,41nm,2.5s						
E24A	**Baker**	**35.68**	**342**	⇓P	**P**	**09 46 59.8**	**+1.3**
	baz=36						
MDND	**Maddock**	**35.70**	**348**	⇑P	**P**	**09 46 58.9**	**+0.3**
	baz=36						
IMW	**Indian Meadow**	**35.89**	**333**	*e*P	**P**	**09 47 01.9**	**+1.3**
	comp=E,2.2nm,0.6s						
K14A	**Jones Ranch, D**	**35.91**	**329**	⇑P	**P**	**09 47 00.8**	**+0.2**
	baz=36						
E23A	**Ismay**	**35.94**	**341**	⇓P	**P**	**09 47 01.2**	**+0.5**
	baz=36						
H18A	**Shoshone NF, C**	**35.97**	**335**	⇓P	**P**	**09 47 01.3**	**+0.1**
	baz=36						
NVAR	**Mina Array Bea**	**36.07**	**320**	P	**P**	**09 47 03.3**	**+1.2**
NVAR				pP	**pP**	**09 47 18.0**	**+1.0**
NVAR				PcP	**PcP**	**09 49 28.6**	**+1.3**
NVAR	**Mina Array Bea**	**36.07**	**320**	P	**P**	**09 47 03.3**	**+1.2**
	comp=E,1.0nm,0.8s,baz=140,slow=7.1,SNR=6.6						
NVAR				pP	**pP**	**09 47 18.0**	**+1.0**
	comp=E,1.7nm,0.7s,baz=135,slow=8.3,SNR=8.4						
NVAR				PcP	**PcP**	**09 49 28.6**	**+1.3**
	comp=E,0.9nm,0.7s,baz=141,slow=3.5,SNR=5.8						
NVAR				LR	LR	10 03 44.5	
	comp=E,85nm,20.4s,baz=17,slow=39						
RLMT	**Red Lodge**	**36.18**	**336**	⇑P	**P**	**09 47 03.9**	**+1.0**
	baz=36						
D24A	**Glendive**	**36.19**	**342**	⇓P	**P**	**09 47 03.8**	**+1.0**
	baz=36,SNR=5.9						
G18A	**Lazy EL Ranch,**	**36.46**	**336**	⇑P	**P**	**09 47 06.2**	**+1.0**
	baz=37						
C24A	**Savage**	**36.59**	**343**	⇓P	**P**	**09 47 07.3**	**+1.0**
	baz=37						
D22A	**Cohagen**	**36.79**	**341**	⇑P	**P**	**09 47 08.9**	**+1.0**
	baz=37,SNR=10						
E20A	**Meyer Farm, Mu**	**36.90**	**338**	⇓P	**P**	**09 47 10.0**	**+1.0**
	baz=37						
F18A	**Big Timber**	**37.00**	**336**	⇑P	**P**	**09 47 10.5**	**+0.7**
	baz=37						
C23A	**Lambert**	**37.06**	**342**	⇑P	**P**	**09 47 10.9**	**+0.7**
	baz=37						
DGMT	**Dagmar**	**37.38**	**344**	*e*P	**P**	**09 47 14.0**	**+1.1**
	comp=E,17nm,0.6s						
DGMT	**Dagmar**	**37.38**	**344**	⇑P	**P**	**09 47 13.6**	**+0.7**
	baz=38,SNR=8.4						
ULM	**Lac du Bonnet**	**37.44**	**353**	P	**P**	**09 47 12.0**	**-1.3**
ULM	**Lac du Bonnet**	**37.44**	**353**	P	**P**	**09 47 12.0**	**-1.3**
	comp=E,3.4nm,0.6s,baz=170,slow=8.3,SNR=8.3						
MCMT	**McKenzie Canyo**	**37.48**	**332**	*e*P	**P**	**09 47 15.8**	**+1.8**
	comp=E,1.2nm,0.7s						
BOZ	**Bozeman (W)**	**37.58**	**334**	⇓P	**P**	**09 47 15.2**	**+0.4**
	baz=38						
B23A	**Brockton**	**37.60**	**343**	⇑P	**P**	**09 47 16.0**	**+1.2**
	baz=38						
C21A	**Desert Coulee**	**37.69**	**340**	⇓P	**P**	**09 47 16.3**	**+0.8**
	baz=38						
A24A	**Westby**	**37.74**	**344**	⇓P	**P**	**09 47 16.6**	**+0.7**
	baz=38						
C20A	**Veseth Ranch,**	**37.89**	**339**	⇑P	**P**	**09 47 18.1**	**+0.8**
	baz=38						
C19A	**Slack Wire Ran**	**38.28**	**338**	⇑P	**P**	**09 47 21.7**	**+1.2**
	baz=38

comp=E,0.3nm,0.7s,baz=304,slow=0.5,SNR=3.6
MKAR Makanchi Array 119.89 7 PKP **PKPdf 09 58 48.2 -1.6**
MKAR Makanchi Array 119.89 7 PKP **PKPdf 09 58 48.2 -1.6**
comp=E,0.2nm,0.4s,baz=333,slow=3.1,SNR=7.0
BJI Beijing 122.09 337 PKP PKPdf 09 58 47.8 -6.4
BJI SS SS 10 17 05.5 +3.8
BJI LR LR
comp=N,110nm,15.7s
BJI LR LR
comp=E,170nm,15.2s
HHC Hu-ho-hao-te 122.96 341 *e*PKP PKPdf 09 58 48.3 -7.7
HHC PP **PP 10 00 34.6 +0.4**
HHC PKS PKSdf 10 02 23.7 -9.1
HHC SKS SKSdf 10 05 55.5 -7.7
HHC AMB AMB
comp=Z,62nm,4.1s
HHC LR LR
comp=N,110nm,9.7s
HHC LR LR
comp=E,130nm,15.5s
WMQ Urumqi 123.28 3 *e*PKP PKPdf 09 58 47.0 -9.5
WMQ LR LR
comp=Z,90nm,18.9s
KSH Kashi 125.87 14 *e*PKP **PKPdf 09 59 02.5 +0.8**
KSH sPKP 09 59 17.8
KSH PKS **PKSdf 10 02 37.6 -0.8**
KSH AMB AMB
comp=Z,96nm,5.6s
KSH LR LR
comp=N,46nm,5.0s
KSH LR LR
comp=E,46nm,4.3s
KSH LR LR
comp=Z,140nm,5.7s
LZH Lanzhou 129.53 346 *e*PKP PKPdf 09 59 02.5 -6.3
LZH sPKP 09 59 27.3
CD2 Chengdu 134.49 344 PKP PKPdf 09 59 10.4 -7.7
WRA Warramunga Arr 137.76 255 PKP **PKPdf 09 59 24.5 +0.1**
WRA pPKP **pPKPdf 09 59 40.8 -1.2**
WRA Warramunga Arr 137.76 255 PKP **PKPdf 09 59 24.5 +0.1**
comp=Z,0.3nm,0.4s,baz=89,slow=2.8,SNR=6.5
WRA pPKP **pPKPdf 09 59 40.7 -1.2**
comp=Z,0.6nm,0.5s,baz=91,slow=2.4,SNR=2.7
ASAR Alice Springs 137.87 249 PKP **PKPdf 09 59 24.8 +0.2**
ASAR pPKP **pPKPdf 09 59 41.1 -1.0**
ASAR Alice Springs 137.87 249 PKP **PKPdf 09 59 24.8 +0.2**
comp=Z,0.4nm,0.8s,baz=92,slow=2.7,SNR=4.1
ASAR pPKP **pPKPdf 09 59 41.1 -1.0**
comp=Z,0.8nm,0.9s,baz=105,slow=3.2,SNR=3.6
KMI Kunming 140.25 343 PKP PKPdf 09 59 20.7 -8.4
FITZ Fitzroy Crossi 146.07 257 PKPbc **PKPab 09 59 40.5 -0.3**
FITZ Fitzroy Crossi 146.07 257 PKPbc **PKPab 09 59 40.5 -0.3**
comp=Z,3.9nm,0.6s,baz=62,slow=2.9,SNR=8.2
CMAR Chiang Mai Arr 147.61 345 PKPbc **PKPbc 09 59 44.0 -0.6**
CMAR pPKPbc **pPKPbc 09 59 59.0 -3.0**
CMAR Chiang Mai Arr 147.61 345 PKPbc **PKPbc 09 59 43.9 -0.6**
comp=Z,2.0nm,0.7s,baz=350,slow=3.9,SNR=11
CMAR pPKPbc **pPKPbc 09 59 59.0 -3.0**
comp=Z,1.5nm,0.8s,baz=352,slow=4.0,SNR=2.8

IDC 07 09:57:38.2±3.1, 6.79S×147.55E, h70km±32km, mb3.4/6, mb1 3.6/8, mb1mx3.5/17, mbtmp3.5/8, ML3.3/2, Error ellipse: s-maj=52.4km s-min=16.6km az=116.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.63**	**188**	P		Pn	09 58 18.2	-0.2
	9.3nm,0.3s,baz=33,slow=10,SNR=27						
PMG				S		Sn	09 58 53.7	+4.5
	38nm,0.3s,baz=328,slow=21,SNR=6.2						
WRA	**Warramunga Arr**	**18.31**	**223**	P		P	10 01 47.2	+0.2
	0.3nm,0.3s,baz=51,slow=11,SNR=11						
WRA				S		Sn	10 05 05.6	-6.2
	0.1nm,0.3s,baz=49,slow=21,SNR=3.4						
ASAR	**Alice Springs**	**21.30**	**217**	P		P	10 02 19.0	-0.3
	1.8nm,0.4s,baz=52,slow=9.3,SNR=33						
ASAR				S		S	10 06 12.1	-0.2
	0.4nm,0.8s,baz=32,slow=27,SNR=3.1						
FITZ	**Fitzroy Crossi**	**24.14**	**240**	P		P	10 02 48.1	+0.3
	3.6nm,0.6s,baz=64,slow=9.7,SNR=8.8						
STKA	**Stephens Creek**	**25.57**	**192**	P		P	10 03 01.5	+0.7
	2.2nm,0.8s,baz=6.9,slow=9.0,SNR=3.8						
MKAR	**Makanchi Array**	**78.45**	**320**	P		P	10 09 31.2	-0.4
	0.1nm,0.3s,baz=105,slow=6.4,SNR=2.9						
ZALV	**Zalesovo Beam**	**79.97**	**328**	P		P	10 09 39.4	-0.3
	0.5nm,0.7s,baz=102,slow=5.3,SNR=3.1						
ILAR	**Eielson Array**	**85.99**	**23**	P		P	10 10 09.5	-1.1
	0.5nm,1.0s,baz=246,slow=4.7,SNR=5.3						
TORD	**Torodi Ar. Bea**	**145.81**	**283**	PKPbc		PKPab	10 17 11.9	+0.8
	0.3nm,0.5s,baz=85,slow=4.1,SNR=5.7						

IDC 07 10:03:42.5±4.0, 0.26N×121.99E, h144km±37km, mb3.4/6, mb1 3.5/6, mb1mx3.3/19, mbtmp3.4/6, Error ellipse: s-maj=50.8km s-min=11.7km az=69.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**5.69**	**203**	S		Sn	10 06 10.1	+0.4
	0.6nm,0.3s,baz=278,slow=19,SNR=1.8						
WRA	**Warramunga Arr**			P		P	10 08 38.7	-0.3
	1.5nm,0.5s,baz=326,slow=11,SNR=16						
WRA				PcP		PcP	10 12 19.6	-1.6
	0.2nm,0.5s,baz=337,slow=1.8,SNR=3.8						
WRA				S		S	10 12 43.3	+1.6
	1.0nm,1.0s,baz=342,slow=25,SNR=4.9						
ASAR	**Alice Springs**	**26.45**	**155**	P		P	10 09 06.5	+0.3
	0.6nm,0.5s,baz=332,slow=7.7,SNR=9.5						
ASAR				PcP		PcP	10 12 26.6	-1.3
	0.3nm,0.3s,baz=343,slow=2.0,SNR=11						
STKA	**Stephens Creek**	**36.95**	**152**	P		P	10 10 38.1	+0.3
	2.0nm,0.7s,baz=330,slow=11,SNR=4.1						
SONM	**Songino Array**	**49.29**	**346**	P		P	10 12 16.8	-0.1
	1.0nm,0.7s,baz=159,slow=7.8,SNR=8.6						
MKAR	**Makanchi Array**	**57.87**	**329**	P		P	10 13 19.9	+0.6
	0.8nm,0.5s,baz=137,slow=8.1,SNR=11						
ZALV	**Zalesovo Beam**	**61.67**	**336**	P		P	10 13 44.9	-0.2
	0.5nm,0.3s,baz=128,slow=6.1,SNR=2.6						

*NIED **07** 10:09:00, 44.00N×147.80E, h77km, Mw3.8 Best double couple: M0 5.78000×10^14 NP1:φ=249.00000°, δ=74.00000°, λ=-124.00000°. NP2:φ=137.00000°, δ=38.00000°, λ=-28.00000°.*
*SKHL **07** 10:09:30.0±2.3, 44.15N×148.68E, h43km±7km, mb5.8/3*
*MOS **07** 10:09:34.9±1.5, 44.49N×147.85E, h94km, mb4.3/23, Error ellipse: s-maj=12.9km s-min=8.6km az=118.8*
*ISCJB **07** 10:09:34.4±0.8, 44.28N±0.06×147.89E±0.08, h99km±7km, mb4.1/31, Error ellipse: s-maj=10.2km s-min=9.3km az=152.0*
*JMA **07** 10:09:37.4±0.2, 43.96N×147.79E, h88km, M4.0*
*IDC **07** 10:09:40.5±3.2, 44.82N×147.54E, h106km±32km, mb3.7/19, mb1 3.9/19, mb1mx3.7/28, mbtmp3.7/19, Error ellipse: s-maj=64.3km s-min=15.0km az=169.0*

ISC 07 10:09:34.3±1.1, 44.23N±0.06×147.96E±0.07, h83km±8km, n65, σ1.9s7/78, mb4.3/31, 2C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.01**	**356**	⇓*i*P		Pn	10 09 50.0	-3.6
KUR				*e*S		**Sn**	**10 10 05.0**	**-3.0**
KUR				pmax	pmax		
	comp=Z,760nm,0.6s						
KUR				pmax	pmax		
	comp=N,530nm,0.2s						
KUR				smax	smax		
	comp=N,2μm,0.7s						
KUR				smax	smax		
	comp=E,7μm,1.0s						
KUR				smax	smax		
	comp=N,2μm,1.0s						
KUR				smax	smax		
	comp=E,5μm,1.8s						
KUR	**Kuril'sk**	**1.01**	**356**	⇓*i*P		Pn	10 09 50.0	-3.6
KUR				⇓*i*P		Pn	10 09 50.0	-3.6
KUR				⇓*i*P		Pn	10 09 50.0	-3.6
KUR				AMB	AMB	10 09 50.5	
	comp=E,870nm,0.2s						
KUR				AMB	AMB	10 09 50.5	
	comp=E,830nm,0.4s						
KUR				*e*S		**Sn**	**10 10 05.0**	**-3.0**
KUR				A	A	10 10 05.5	
	comp=E,2μm,0.5s						
KUR				A	A	10 10 05.5	
	comp=E,3μm,0.5s						
KUR				A	A	10 10 06.0	
	comp=E,4μm,1.0s						
KUR				A	A	10 10 06.0	
	comp=E,5μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**1.52**	**264**	*i* PN		**Pn**	**10 10 01.3**	**+1.4**
YUK				*i* S		**Sn**	**10 10 19.3**	**0.0**
YUK				pmax	pmax		
	comp=E,203nm,0.1s						
YUK				pmax	pmax		
	comp=N,256nm,0.1s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				smax	smax		
	comp=N,2μm,0.3s						
YUK				smax	smax		
	comp=E,2μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.52**	**264**	⇓*i*P		**Pn**	**10 10 01.3**	**+1.4**
YUK				AMB	AMB	10 10 02.2	
	comp=E,260nm,0.1s						
YUK				AMB	AMB	10 10 02.2	
	comp=E,200nm,0.1s						
YUK				AMB	AMB	10 10 02.2	
	comp=E,142μm,0.2s						
YUK				*e*S		**Sn**	**10 10 19.3**	**0.0**
YUK				A	A	10 10 21.5	
	comp=E,2μm,0.3s						
YUK				A	A	10 10 21.5	
	comp=E,2μm,0.3s						
NEM2	**Nemuro 2**	**1.82**	**243**	P		**Pn**	**10 10 04.5**	**+0.7**
NEM2				*e*S		**Sn**	**10 10 25.1**	**-1.2**
JRA	**Rausu**	**2.06**	**263**	P		**Pn**	**10 10 08.8**	**+1.8**
JRA				*e*S		**Sn**	**10 10 33.2**	**+1.2**
JNK	**Nakash**	**2.43**	**256**	P		**Pn**	**10 10 13.1**	**+1.2**
JNK				*e*S		**Sn**	**10 10 40.7**	**-0.1**
JAK	**Akkeshi**	**2.67**	**244**	P		**Pn**	**10 10 15.8**	**+0.7**
JAK				*e*S		**Sn**	**10 10 44.3**	**-2.2**
JTKR	**Abashiri--Toko**	**2.93**	**266**	P		**Pn**	**10 10 20.4**	**+1.8**
JTKR				*e*S		**Sn**	**10 10 54.4**	**+1.6**
JAR	**Ashorobuto**	**3.17**	**254**	P		**Pn**	**10 10 23.8**	**+1.8**
JAR				*e*S		**Sn**	**10 10 59.2**	**+0.4**
JCH	**Churui**	**3.71**	**246**	P		**Pn**	**10 10 30.1**	**+0.8**
JCH				*e*S		**Sn**	**10 11 09.6**	**-2.3**
JKK2	**Kamakawa 2**	**3.77**	**266**	P		**Pn**	**10 10 32.5**	**+2.4**
ASAJ	**Asahikawa**	**3.86**	**270**	P		**Pn**	**10 10 33.5**	**+2.3**
	comp=E,1.6nm,0.3s,baz=80,slow=19,SNR=19						
JSE	**Soyaes**	**3.91**	**283**	P		**Pn**	**10 10 33.9**	**+2.0**
JFR	**Furan**	**4.03**	**257**	P		**Pn**	**10 10 35.8**	**+2.1**
ERM	**Erimo**	**4.15**	**239**	⇑*e*PN		**Pn**	**10 10 37.7**	**+2.5**
ERM	**Erimo**	**4.15**	**239**	*e*P		**Pn**	**10 10 37.7**	**+2.5**
JNBK	**Urakawa-nobuka**	**4.27**	**245**	P		**Pn**	**10 10 37.2**	**+0.3**
YSS	**Yuzh-Sakhalins**	**4.56**	**309**	*e*PN		Pn	10 10 44.3	+3.6
YSS				*e*S		**Sn**	**10 11 32.2**	**-0.2**
YSS				pmax	pmax		
	comp=Z,20nm,0.5s						
YSS				smax	smax		
	comp=N,40nm,0.9s						
YSS				smax	smax		
	comp=E,40nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.56**	**309**	*e*P		Pn	10 10 44.3	+3.6
YSS				AMB	AMB	10 10 47.8	
	comp=E,20nm,0.5s						
YSS				*e*sP		sPn	10 11 03.8	+1.9
YSS				*e*S		**Sn**	**10 11 32.2**	**-0.2**
YSS				A	A	10 11 34.0	
	comp=E,40nm,0.9s						
JKB	**Kayabe**	**5.58**	**248**	P		**Pn**	**10 10 55.5**	**+0.7**
JKB				*e*S		**Sn**	**10 11 53.0**	**-4.5**
JOT	**Ohata**	**5.82**	**243**	P		**Pn**	**10 10 58.3**	**+0.3**
JOT				*e*S		Sn	10 11 57.0	-6.3
HABR	**Khabarovsk**	**9.88**	**300**	PN		**Pn**	**10 11 54.1**	**+0.8**
HABR				*e*S		**Sn**	**10 13 44.3**	**+2.0**
HABR				pmax	pmax		
	comp=E,24nm,1.7s						
HABR				pmax	pmax		
	comp=Z,24nm,2.0s						
HABR				pmax	pmax		
	comp=N,20nm,2.2s						
HABR				MLR	MLR		
	comp=Z,64nm,18.0s						
YAK	**Yakutsk**	**20.80**	**335**	*e*P		**P**	**10 14 05.7**	**-2.8**
YAK				pmax	pmax		
	comp=Z,19nm,0.8s						
BILL	**Bilibino**	**25.74**	**16**	*e*P		**P**	**10 14 56.7**	**0.0**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**28.83**	**292**	P		**P**	**10 15 24.8**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=85,slow=9.0,SNR=13						
ILAR	**Eielson Array**	**40.76**	**37**	P		**P**	**10 17 08.8**	**+2.1**
	comp=Z,1.0nm,0.9s,baz=263,slow=6.5,SNR=10.0						
ZALV	**Zalesovo Beam**	**41.18**	**307**	P		**P**	**10 17 09.4**	**-0.9**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**41.18**	**307**	P		**P**	**10 17 09.4**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=81,slow=12,SNR=4.4						
MK31	**Makanchi Array**	**44.88**	**297**	*i* P		**P**	**10 17 40.3**	**0.0**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MKAR	**Makanchi Array**	**44.88**	**297**	P		**P**	**10 17 40.3**	**0.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**44.88**	**297**	P		**P**	**10 17 40.3**	**0.0**
	comp=Z,3.1nm,0.5s,baz=79,slow=8.6,SNR=34						
INK	**Inuvik**	**45.70**	**31**	P		**P**	**10 17 47.9**	**+1.5**
	comp=Z,2.1nm,0.3s,baz=296,slow=6.8,SNR=38						
KURK	**Kurchatov**	**45.75**	**304**	*i* P		**P**	**10 17 46.5**	**-0.5**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KURBB	**Kurchatov Arra**	**45.83**	**304**	P		**P**	**10 17 46.9**	**-0.9**
	comp=Z,4.6nm,0.5s,baz=75,slow=8.8,SNR=7.5						
BVAR	**Borovoye Array**	**49.65**	**309**	P		**P**	**10 18 17.1**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**49.65**	**309**	P		**P**	**10 18 17.1**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=73,slow=9.5,SNR=8.7						
BRVK	**Borovoye**	**49.70**	**309**	*i* P		**P**	**10 18 17.8**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AAK	**Ala-Archa**	**51.68**	**296**	⇑*e*P		**P**	**10 18 33.7**	**+0.9**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
AAK	**Ala-Archa**	**51.68**	**296**	P		**P**	**10 18 32.6**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=60,slow=8.1,SNR=3.1						
KK31	**Karatay Array**	**54.01**	**298**	*i* P		**P**	**10 18 49.6**	**-0.2**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
RES	**Resolute Bay**	**54.34**	**17**	P		**P**	**10 18 51.5**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=317,slow=7.0,SNR=6.7						
ARU	**Arti**	**54.40**	**317**	*d* P		**P**	**10 18 51.0**	**-1.3**
ARU							10 20 52.4	
ARU				S		**S**	**10 26 21.4**	**-2.7**
ARU				SS		**SS**	**10 30 08.5**	**+1.8**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.7s						
YKA	**Yellowknife Ar**	**55.08**	**34**	P		**P**	**10 18 59.0**	**+1.8**
	comp=Z,6.0nm,0.7s,baz=299,slow=6.9,SNR=9.7						
AB31	**Akbulak array**	**57.22**	**309**	*i* P		**P**	**10 19 12.3**	**-0.3**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKTO	**Aktyubinsk**	**57.67**	**311**	P		**P**	**10 19 15.4**	**-0.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKTO	**Aktyubinsk**	**57.67**	**311**	P		**P**	**10 19 15.4**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=48,slow=6.6,SNR=7.8						
KEV	**Kevo**	**58.47**	**339**	*e*P		**P**	**10 19 18.9**	**-2.1**
KEV				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KEV	**Kevo**	**58.47**	**339**	*e*p		**P**	**10 19 18.9**	**-2.1**
	comp=Z,1.8nm,0.3s						
ARCES	**ARCESS Array B**	**59.00**	**340**	P		**P**	**10 19 22.6**	**-2.2**
	comp=Z,2.9nm,0.7s,baz=47,slow=6.3,SNR=18						
JOF	**Joensuu**	**61.94**	**332**	*e*P		**P**	**10 19 43.3**	**-1.5**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JOF	**Joensuu**	**61.94**	**332**	*e*p		**P**	**10 19 43.3**	**-1.5**
	comp=Z,1.2nm,0.4s						
KAF	**Kangasniemi**	**64.15**	**334**	*e*P		**P**	**10 19 56.9**	**-2.5**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KAF	**Kangasniemi**	**64.15**	**334**	*e*p		**P**	**10 19 56.9**	**-2.5**
	comp=Z,1.3nm,0.6s						
FINES	**FINESS Array B**	**64.71**	**333**	P		**P**	**10 20 02.0**	**-1.1**
	comp=Z,5.2nm,0.7s,baz=37,slow=7.3,SNR=21						
OBN	**Obninsk**	**65.27**	**324**	*e*P		**P**	**10 20 05.6**	**-1.2**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NB2	**NORSAR Subarra**	**69.37**	**339**	P		**P**	**10 20 32.0**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.37**	**339**	P		**P**	**10 20 31.9**	**-0.7**
	comp=Z,1.8nm,0.4s,baz=31,slow=6.5,SNR=20						
KIV	**Kislovodsk**	**69.88**	**312**	*e*P		**P**	**10 20 35.6**	**-0.6**
KIV				*e*			10 20 56.3	
KIV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG	**Malin Array Be**	**71.54**	**324**	*e*P		**P**	**10 20 45.6**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	**Malin Array Be**	**71.54**	**324**	P		**P**	**10 20 45.6**	**-0.4**
	comp=Z,3.2nm,0.6s,baz=36,slow=6.1,SNR=10						
SCHQ	**Schefferville**	**76.98**	**20**	P		**P**	**10 21 18.4**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=339,slow=8.6,SNR=3.8						
BRTR	**Keskin Array B**	**77.64**	**314**	P		**P**	**10 21 21.7**	**0.0**
	comp=Z,0.4nm,0.7s,baz=60,slow=3.1,SNR=3.4						
GERES	**GERESS Array B**	**79.02**	**331**	P		**P**	**10 21 29.1**	**0.0**
	comp=Z,0.8nm,0.5s,baz=30,slow=6.0,SNR=6.8						
TXAR	**Lajitas Array**	**81.90**	**57**	P		**P**	**10 21 47.0**	**+2.1**
	comp=Z,0.1nm,0.5s,baz=298,slow=3.9,SNR=3.1						

WEL 07 10:20:38.6±0.3, 41.23S×172.57E, h214km±2km, ML3.6/18, 9C-2D, Error ellipse: s-maj=2.7km s-min=2.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QRZ	**Quartz Range**	**0.41**	**356**	PN		Pn	10 21 06.8	-0.3
QRZ				SN		S	10 21 28.1	-1.2
THZ	**Tophouse**	**0.59**	**155**	⇑PN		Pn	10 21 07.9	+0.2
THZ				SN		S	10 21 29.3	-1.3
NNZ	**Nelson**	**0.61**	**89**	⇑PN		Pn	10 21 07.5	-0.2
NNZ				SN		S	10 21 30.0	+0.1
DSZ	**Denniston Nort**	**0.77**	**228**	⇑PN		Pn	10 21 08.2	-0.3
DSZ				SN		S	10 21 30.0	-1.8
TUWZ	**Tuamarina**	**1.05**	**101**	PN		Pn	10 21 10.2	+0.1
BSWZ	**Blackbirch Sta**	**1.09**	**117**	PN		Pn	10 21 10.6	+0.2
DUWZ	**D'Urville Isla**	**1.11**	**68**	PN		Pn	10 21 10.3	-0.2
DUWZ				SN		S	10 21 34.8	-0.5
TCW	**Tory Channel**	**1.29**	**90**	PN		Pn	10 21 11.7	-0.1
KHZ	**Kahutara**	**1.39**	**149**	PN		Pn	10 21 12.6	0.0
LTZ	**Lake Taylor**	**1.56**	**188**	PN		Pn	10 21 14.1	0.0
LTZ				SN		S	10 21 40.6	-1.1
SNZO	**South Karori**	**1.61**	**93**	PN		Pn	10 21 13.9	-0.5
WEL	**Wellington**	**1.66**	**93**	PN		Pn	10 21 14.6	-0.3
BHW	**Baring Head**	**1.75**	**97**	PN		Pn	10 21 15.2	-0.4
KIW	**Kapiti Island**	**1.81**	**79**	PN		Pn	10 21 15.9	-0.5
CAW	**Cannon Point**	**1.89**	**87**	PN		Pn	10 21 16.6	-0.5
OGWZ	**Otaki Gorge**	**2.01**	**79**	PN		Pn	10 21 17.9	-0.3
MSWZ	**Moikau Station**	**2.03**	**96**	PN		Pn	10 21 18.0	-0.5
PLWZ	**Palliser**	**2.05**	**100**	PN		Pn	10 21 18.2	-0.4
PAWZ	**Paruwai Farm**	**2.16**	**95**	PN		Pn	10 21 19.4	-0.4
MTW	**Mount Morrison**	**2.22**	**89**	⇑PN		Pn	10 21 19.9	-0.4
HOWZ	**Holdsworth Sta**	**2.25**	**82**	PN		Pn	10 21 20.3	-0.5
WVZ	**Waitaha Valley**	**2.29**	**216**	⇑PN		Pn	10 21 20.2	-0.8
MRZ	**Mangatainoka R**	**2.35**	**77**	⇑PN		Pn	10 21 21.0	-0.8
TRWZ	**Traveller**	**2.36**	**95**	PN		Pn	10 21 21.7	-0.1
WAZ	**Wanganui**	**2.36**	**52**	⇓PN		Pn	10 21 21.4	-0.6
MQZ	**McQueen's Vall**	**2.47**	**179**	PN		Pn	10 21 22.3	-0.7
TMWZ	**Te Maipa**	**2.51**	**88**	PN		Pn	10 21 23.2	-0.3
TIWZ	**Tintock**	**2.55**	**81**	⇑PN		Pn	10 21 23.5	-0.4
POWZ	**Post Office Ro**	**2.57**	**72**	PN		Pn	10 21 23.2	-0.9
RPZ	**Rata Peaks**	**2.72**	**204**	⇓PN		Pn	10 21 25.2	-0.5
TSZ	**Takapari Road**	**2.84**	**67**	PN		Pn	10 21 26.1	-1.0
BFZ	**Birch Farm**	**2.84**	**80**	PN		Pn	10 21 26.7	-0.5
MTVZ	**Mangateitei**	**2.89**	**51**	PN		Pn	10 21 26.2	-1.6
DVHZ	**Dannevirke**	**2.89**	**72**	PN		Pn	10 21 26.7	-1.0
WNVZ	**Wahianoa**	**3.00**	**52**	PN		Pn	10 21 27.7	-1.5
MOVZ	**Moawhango**	**3.04**	**54**	PN		Pn	10 21 27.8	-1.8
PNHZ	**Pukenui**	**3.06**	**66**	PN		Pn	10 21 28.7	-1.1
TUVZ	**Tukino**	**3.07**	**51**	PN		Pn	10 21 28.6	-1.4
FOZ	**Fox Glacier**	**3.16**	**221**	⇑PN		Pn	10 21 28.3	-2.4
WPHZ	**Waipukurau**	**3.17**	**70**	PN		Pn	10 21 30.2	-0.8
BHHZ	**Black Hill Sta**	**3.19**	**58**	PN		Pn	10 21 29.5	-1.8
HIZ	**Hauiti**	**3.24**	**34**	PN		Pn	10 21 29.8	-1.9
PRHZ	**Porangahau**	**3.24**	**74**	PN		Pn	10 21 31.3	-0.5
PXZ	**Pawanui**	**3.48**	**71**	PN		Pn	10 21 33.8	-0.7
KAHZ	**Kahuranaki**	**3.58**	**68**	PN		Pn	10 21 35.3	-0.7
LBZ	**Lake Benmore**	**3.61**	**208**	PN		Pn	10 21 34.7	-1.3
BKZ	**Black Stump Fm**	**3.65**	**57**	PN		Pn	10 21 34.5	-2.2
NMHZ	**Naumai**	**3.88**	**58**	PN		Pn	10 21 38.8	-0.8
JCZ	**Jackson Bay**	**3.99**	**223**	PN		Pn	10 21 39.2	-1.7
WKZ	**Wanaka**	**4.44**	**215**	PN		Pn	10 21 44.4	-1.8
KNZ	**Kokohu**	**4.50**	**62**	PN		Pn	10 21 45.5	-1.5
MHGZ	**Mahia Peninsul**	**4.59**	**65**	PN		Pn	10 21 47.3	-0.8
URZ	**Urenewera**	**4.59**	**51**	PN		Pn	10 21 44.9	-3.3
MWZ	**Matawai**	**4.79**	**54**	*e*PN		Pn	10 21 47.8	-3.0
MSZ	**Milford Sound**	**4.84**	**223**	PN		Pn	10 21 49.6	-1.5
MLZ	**Mavora Lakes**	**5.21**	**216**	⇑PN		Pn	10 21 55.3	-0.7
WHZ	**Wether Hill Ro**	**5.74**	**214**	PN		Pn	10 22 00.5	-2.2

*ISCJB **07** 10:33:22.7±0.6, 36.93N±0.04×28.27E±0.04, h10km±5km, Error ellipse: s-maj=7.6km s-min=4.3km az=17.1*
*ISK **07** 10:33:22.4, 36.99N×28.26E, h20km, MD2.8*
*CSEM **07** 10:33:22.8±0.2, 36.96N×28.30E, h15km, MD2.8, Error ellipse: s-maj=5.7km s-min=3.2km az=16.0*
*DDA **07** 10:33:23.6, 36.98N×28.26E, h7km, MD2.7*

ISC 07 10:33:22.6±1.0, 36.93N±0.04×28.27E±0.03, h13km±7km, n22, σ0.961/35, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.20**	**2**

FKH	**Fakeheh**	**0.25**	**167**	*e*P	**Pg**	**11 06 30.6**	**-0.1**
FKH				*e*S	**Sg**	**11 06 35.0**	**+1.0**
FKH	**Fakeheh**	**0.25**	**167**	*e*P	**Pg**	**11 06 30.6**	**-0.1**
FKH				*e*S	**Sg**	**11 06 35.0**	**+1.0**
HWQ	**Hawqa**	**0.39**	**237**	*e*P	**Pg**	**11 06 32.9**	**-0.4**
HWQ				*e*S	**Sg**	**11 06 39.1**	**+0.8**
HWQ	**Hawqa**	**0.39**	**237**	*e*P	**Pg**	**11 06 32.9**	**-0.4**
HWQ				*e*S	**Sg**	**11 06 39.2**	**+0.8**
BIDA	**Albida** SNR=91	**0.52**	**358**⇑	*e*P	**Pg**	**11 06 35.9**	**+0.1**
BIDA	102nm,0.4s,SNR=59			*i* S	**Sb**	**11 06 44.3**	**-0.7**
BHL	**Bhannes**	**0.82**	**224**	*e*P	**Pg**	**11 06 41.0**	**-0.3**
BHL	**Bhannes**	**0.82**	**224**	*e*P	**Pg**	**11 06 41.0**	**-0.3**
RCY	**Rachaya**	**1.08**	**203**	*e*P	**Pg**	**11 06 45.7**	**-0.6**
RCY				*e*S	**Sg**	**11 07 01.0**	**+0.7**
TOTH	**TOTAH** SNR=57	**1.13**	**176**⇓	*e*P	**Pg**	**11 06 47.4**	**+0.1**
TOTH	SNR=49			*e*S	**Sn**	**11 07 03.7**	**+0.1**
YAYL	**Yayladag**	**1.55**	**353**	*i* P	**Pn**	**11 06 54.0**	**+0.3**
YAYL				*i* S	**Sg**	**11 07 16.2**	**+0.6**
YAYL	**Yayladag**	**1.55**	**353**	*i* P	**Pn**	**11 06 54.0**	**+0.3**
YAYL				*i* S	**Sg**	**11 07 16.2**	**+0.6**
ZALF	**Zalf** SNR=45	**1.77**	**152**⇓	*e*P	**Pn**	**11 06 55.7**	**-0.9**
ZALF	47nm,0.6s,SNR=40			*i* S	**Sb**	**11 07 21.2**	**+0.5**
SALA	**Sala** SNR=45	**1.80**	**169**⇑	*e*P	**Pb**	**11 06 58.7**	**-0.3**
SALA	7.3nm,0.4s,SNR=40			*i* S	**Sb**	**11 07 22.0**	**+0.1**

*IDC **07** 11:07:25.7±1.3,39°.87N×22°.78E,h0km,mb3.5/6, mb1 3.5/8,mb1mx3.4/27,mbtmp3.4/8,ML2.8/2,Error ellipse: s-maj=29.2km s-min=20.0km az=123.0*
*ISCJB **07** 11:07:26.6±0.4,39°.89N±0°.01×22°.87E±0°.02,h8km±3km, mb3.4/6,Error ellipse: s-maj=2.5km s-min=1.9km az=5.9*
*ATH **07** 11:07:26.7,39°.88N×22°.88E,h20km,ML3.1*
*CSEM **07** 11:07:26.5±0.1,39°.88N×22°.84E,h2km,ML3.1,Error ellipse: s-maj=3.0km s-min=2.1km az=94.0*
*THE **07** 11:07:27.3,39°.87N×22°.89E,h10km±1km,ML3.1/25,Error ellipse: s-maj=1.4km s-min=0.6km az=61.0*

ISC 07 11:07:27.3±1.0,**39°.88N**±0°.01×**22°.87E**±0°.01,**h9**km±7km, **n175,** σ0**83**/258,**mb3.4**/6,**4C-7D,Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LIT	**Litokhoron**	**0.37**	**307**	P		**Pg**	**11 07 34.1**	**-0.5**
LIT				S		**Sg**	**11 07 40.1**	**+0.6**
LIT	**Litokhoron**	**0.37**	**307**	*e*PB		**Pg**	**11 07 34.2**	**-0.4**
LIT				*e*SB		**Sg**	**11 07 40.0**	**+0.6**
LIT	**Litokhoron**	**0.37**	**307**	P		**Pg**	**11 07 34.1**	**-0.5**
LIT				S		**Sg**	**11 07 40.1**	**+0.6**
XOR	**Xorichti**	**0.57**	**154**	P		**Pg**	**11 07 37.8**	**-0.4**
XOR				S		**Sg**	**11 07 46.0**	**+0.3**
XOR	**Xorichti**	**0.57**	**154**	P		**Pg**	**11 07 37.8**	**-0.4**
XOR				S		**Sg**	**11 07 46.0**	**+0.3**
PAIG	**Paliouri**	**0.62**	**85**	P		**Pg**	**11 07 39.5**	**+0.2**
PAIG				S		**Sg**	**11 07 47.8**	**+0.3**
PAIG	**Paliouri**	**0.62**	**85**	P		**Pg**	**11 07 39.5**	**+0.2**
PAIG				S		**Sg**	**11 07 47.8**	**+0.3**
NEO	**Neokhori**	**0.63**	**154**	P		**Pg**	**11 07 39.1**	**-0.4**
NEO				S		**Sg**	**11 07 47.8**	**+0.1**
NEO	**Neokhori**	**0.63**	**154**	*e*PN		**Pg**	**11 07 39.0**	**-0.4**
NEO				*e*SN		**Sg**	**11 07 48.2**	**+0.5**
NEO	**Neokhori**	**0.63**	**154**	P		**Pg**	**11 07 39.1**	**-0.4**
NEO				S		**Sg**	**11 07 47.8**	**+0.1**
NEO				*e*Sn		**Sg**	**11 07 48.2**	**+0.5**
PLG	**Polygyros**	**0.66**	**41**	P		**Pg**	**11 07 40.1**	**0.0**
PLG				S		**Sb**	**11 07 50.1**	**-0.3**
PLG	**Polygyros**	**0.66**	**41**	*e*PN		**Pg**	**11 07 39.7**	**-0.4**
PLG				*e*SN		**Sg**	**11 07 48.9**	**+0.1**
PLG	**Polygyros**	**0.66**	**41**	*e*Pn		**Pg**	**11 07 39.7**	**-0.4**
PLG	**Polygyros**	**0.66**	**41**	P		**Pg**	**11 07 40.1**	**0.0**
PLG				*e*Sn		**Sg**	**11 07 48.9**	**+0.1**
PLG				S		**Sb**	**11 07 50.1**	**-0.3**
THL	**Klokotos Trika**	**0.73**	**245**	P		**Pg**	**11 07 40.6**	**-0.8**
THL				S		**Sg**	**11 07 50.8**	**-0.1**
THL	**Klokotos Trika**	**0.73**	**245**	*e*PN		**Pg**	**11 07 40.6**	**-0.8**
THL				*e*SN		**Sg**	**11 07 51.0**	**+0.1**
THL	**Klokotos Trika**	**0.73**	**245**	P		**Pg**	**11 07 40.6**	**-0.8**
THL				S		**Sg**	**11 07 50.8**	**-0.1**
HORT	**Hortiatis**	**0.74**	**14**	P		**Pg**	**11 07 41.5**	**-0.1**
HORT				S		**Sb**	**11 07 52.6**	**-0.1**
HORT	**Hortiatis**	**0.74**	**14**	P		**Pg**	**11 07 41.5**	**-0.1**
HORT				S		**Sb**	**11 07 52.6**	**-0.1**
THE	**Thessaloniki**	**0.76**	**5**	*e*PN		**Pg**	**11 07 41.2**	**-0.7**
THE				*e*SN		**Sb**	**11 07 52.7**	**-0.4**
THE	**Thessaloniki**	**0.76**	**5**	P		**Pg**	**11 07 41.6**	**-0.3**
THE	**Thessaloniki**	**0.76**	**5**	*e*Pn		**Pg**	**11 07 41.2**	**-0.7**
THE	**Thessaloniki**	**0.76**	**5**	P		**Pg**	**11 07 41.6**	**-0.3**
THE				*e*Sn		**Sb**	**11 07 52.7**	**-0.4**
SKIA	**Skiathos**	**0.84**	**147**	P		**Pg**	**11 07 43.4**	**-0.1**
SKIA				S		**Sb**	**11 07 55.2**	**-0.4**
SKIA	**Skiathos**	**0.84**	**147**	S		**Pg**	**11 07 43.4**	**-0.1**
SKIA				S		**Sb**	**11 07 55.2**	**-0.4**
KZN	**Kozani**	**0.95**	**297**	P		**Pg**	**11 07 44.2**	**-1.3**
KZN	**Kozani**	**0.95**	**297**	*e*PN		**Pg**	**11 07 45.0**	**-0.5**
KZN				*e*SN		**Sb**	**11 07 58.7**	**0.0**
KZN	**Kozani**	**0.95**	**297**	P		**Pg**	**11 07 44.2**	**-1.3**
KZN	**Kozani**	**0.95**	**297**	*e*Pn		**Pg**	**11 07 45.0**	**-0.5**
KZN				*e*Sn		**Sb**	**11 07 58.7**	**0.0**
OUR	**Ouranopolis**	**0.97**	**61**	P		**Pg**	**11 07 45.9**	**+0.1**
OUR				S		**Sb**	**11 07 59.0**	**-0.1**
OUR	**Ouranopolis**	**0.97**	**61**	P		**Pg**	**11 07 45.9**	**+0.1**
OUR				S		**Sb**	**11 07 59.0**	**-0.1**
SOH	**Sokhos**	**1.01**	**21**	P		**Pg**	**11 07 46.3**	**-0.5**
SOH				S		**Sb**	**11 08 00.4**	**-0.1**
SOH	**Sokhos**	**1.01**	**21**	P		**Pg**	**11 07 46.3**	**-0.5**
SOH				S		**Sb**	**11 08 00.4**	**-0.1**
MAKR	**Makrakomi, Fth**	**1.04**	**214**	P		**Pg**	**11 07 47.0**	**-0.2**
MAKR				S		**Sn**	**11 08 02.9**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.04**	**214**	P		**Pg**	**11 07 47.0**	**-0.2**
MAKR				S		**Sn**	**11 08 02.9**	**+0.2**
AOS	**Alonnisos**	**1.05**	**132**	P		**Pg**	**11 07 46.7**	**-0.8**
AOS				S		**Sb**	**11 08 01.5**	**0.0**
AOS	**Alonnisos**	**1.05**	**132**	P		**Pg**	**11 07 46.7**	**-0.8**
AOS				S		**Sb**	**11 08 01.5**	**0.0**
AXAR	**Agios Charalam**	**1.12**	**189**	P		**Pg**	**11 07 47.5**	**-1.3**
AXAR				S		**Sn**	**11 08 04.5**	**-0.3**
AXAR	**Agios Charalam**	**1.12**	**189**	P		**Pg**	**11 07 47.5**	**-1.3**
AXAR				S		**Sn**	**11 08 04.5**	**-0.3**
GRG	**Griva**	**1.14**	**342**	P		**Pg**	**11 07 47.5**	**-1.6**
GRG				S		**Sg**	**11 08 03.7**	**-0.2**
GRG	**Griva**	**1.14**	**342**	P		**Pg**	**11 07 47.5**	**-1.6**
GRG				S		**Sg**	**11 08 03.7**	**-0.2**
ATAL	**Atalanti**	**1.19**	**174**	P		**Pb**	**11 07 49.2**	**-0.8**
ATAL				S		**Sb**	**11 08 05.4**	**-0.1**
ATAL	**Atalanti**	**1.19**	**174**	P		**Pb**	**11 07 49.2**	**-0.8**
ATAL				S		**Sb**	**11 08 05.4**	**-0.1**
LKR	**Lokris**	**1.23**	**175**	P		**Pn**	**11 07 49.7**	**-1.0**
LKR	**Lokris**	**1.23**	**175**	*e*PN		**Pn**	**11 07 49.7**	**-1.0**
LKR				*e*SN		**Sg**	**11 08 06.8**	**0.0**
LKR	**Lokris**	**1.23**	**175**	P		**Pn**	**11 07 49.7**	**-1.0**
LKR				*e*Sn		**Sg**	**11 08 06.8**	**0.0**
EVR	**Evrytania**	**1.26**	**221**	P		**Pn**	**11 07 50.9**	**-0.3**
EVR	**Evrytania**	**1.26**	**221**	*e*PN		**Pn**	**11 07 51.0**	**-0.3**
EVR				*e*SN		**Sb**	**11 08 08.1**	**+0.3**
EVR	**Evrytania**	**1.26**	**221**	*e*Pn		**Pn**	**11 07 51.0**	**-0.3**
EVR				*e*Sn		**Sb**	**11 08 08.1**	**+0.3**
KNT	**Kendrikon**	**1.28**	**1**	P		**Pn**	**11 07 50.4**	**-1.1**
KNT	**Kendrikon**	**1.28**	**1**	P		**Pn**	**11 07 50.4**	**-1.1**
MRKA	**Markates**	**1.29**	**154**	P		**Pn**	**11 07 50.7**	**-0.9**
MRKA				S		**Sb**	**11 08 08.3**	**-0.3**
MRKA	**Markates**	**1.29**	**154**	P		**Pn**	**11 07 50.7**	**-0.9**
MRKA				S		**Sb**	**11 08 08.3**	**-0.3**
SRS	**Serrai**	**1.35**	**24**	P		**Pn**	**11 07 51.4**	**-1.0**
SRS	**Serrai**	**1.35**	**24**	P		**Pn**	**11 07 51.4**	**-1.0**
FNA	**Florina**	**1.46**	**309**	P		**Pn**	**11 07 53.7**	**-0.2**
FNA	**Florina**	**1.46**	**309**	P		**Pn**	**11 07 53.7**	**-0.2**
VAY	**Valandovo**	**1.46**	**351**	*i* Pn		**Pn**	**11 07 52.5**	**-1.3**
VAY				*e*Sn		**Sg**	**11 08 14.0**	**-0.3**
VAY	**Valandovo**	**1.46**	**351**	*i* Pn		**Pn**	**11 07 53.0**	**-0.9**
VAY				*e*Sn		**Sg**	**11 08 14.4**	**+0.1**
DESF	**Desfina**	**1.49**	**190**	P		**Pn**	**11 07 52.5**	**-1.8**
DESF				S		**Sn**	**11 08 12.0**	**-1.8**
DESF	**Desfina**	**1.49**	**190**	P		**Pn**	**11 07 52.5**	**-1.8**
DESF				S		**Sn**	**11 08 12.0**	**-1.8**
DSF	**Desfina**	**1.49**	**191**	P		**Pn**	**11 07 53.5**	**-0.8**
DSF				S		**Sn**	**11 08 12.9**	**-1.0**
DSF	**Desfina**	**1.49**	**191**	P		**Pn**	**11 07 53.5**	**-0.8**
DSF				S		**Sn**	**11 08 12.9**	**-1.0**
NEST	**Nestorio**	**1.50**	**292**	P		**Pn**	**11 07 54.8**	**+0.3**
NEST	**Nestorio**	**1.50**	**292**	P		**Pn**	**11 07 54.8**	**+0.3**
JAN	**Janina**	**1.57**	**263**	*e*PN		**Pn**	**11 07 56.0**	**+0.6**
JAN				*e*SN		**Sn**	**11 08 16.3**	**+0.3**
JAN	**Janina**	**1.57**	**263**	*e*Pn		**Pn**	**11 07 56.0**	**+0.6**
JAN				*e*Sn		**Sn**	**11 08 16.3**	**+0.3**
KALE	**Kalithea**	**1.59**	**201**	P		**Pn**	**11 07 55.4**	**-0.3**
KALE				S		**Sb**	**11 08 17.0**	**-0.1**
KALE	**Kalithea**	**1.59**	**201**	P		**Pn**	**11 07 55.4**	**-0.3**
KALE				S		**Sb**	**11 08 17.0**	**-0.1**
ERET	**Eretria**	**1.61**	**153**	P		**Pn**	**11 07 55.2**	**-0.7**
ERET	**Eretria**	**1.61**	**153**	P		**Pn**	**11 07 55.2**	**-0.7**
EFP	**Efpalio**	**1.63**	**208**	P		**Pn**	**11 07 56.3**	**+0.1**
EFP	**Efpalio**	**1.63**	**208**	*e*PN		**Pn**	**11 07 56.1**	**-0.1**
EFP				*e*SN		**Sb**	**11 08 18.4**	**+0.2**
EFP	**Efpalio**	**1.63**	**208**	P		**Pn**	**11 07 56.3**	**+0.1**
EFP				*e*Sn		**Sb**	**11 08 18.4**	**+0.2**
TRIZ	**Trizonia**	**1.63**	**203**	P		**Pn**	**11 07 55.7**	**-0.5**
TRIZ	**Trizonia**	**1.63**	**203**	P		**Pn**	**11 07 55.7**	**-0.5**
BIA	**Bitola**	**1.64**	**315**	*e*Pn		**Pn**	**11 07 55.5**	**-1.0**
BIA				*e*Sn		**Sg**	**11 08 24.1**	**+4.0**
BIA	**Bitola**	**1.64**	**315**	*e*Pn		**Pn**	**11 07 55.4**	**-1.0**
NVR	**Nevrokopi**	**1.65**	**27**	P		**Pn**	**11 07 55.5**	**-1.1**
NVR	**Nevrokopi**	**1.65**	**27**	*e*PB		**Pn**	**11 07 55.8**	**-0.8**
NVR				*e*SN		**Sn**	**11 08 18.4**	**+0.4**
NVR	**Nevrokopi**	**1.65**	**27**	P		**Pn**	**11 07 55.5**	**-1.1**
NVR	**Nevrokopi**	**1.65**	**27**	*e*Pb		**Pn**	**11 07 55.8**	**-0.8**
KAVA	**Kavala**	**1.68**	**48**	P		**Pn**	**11 07 55.8**	**-1.1**
KAVA	**Kavala**	**1.68**	**48**	P		**Pn**	**11 07 55.8**	**-1.1**
LAKA	**Lakka**	**1.78**	**203**	P		**Pn**	**11 07 57.5**	**-0.7**
LAKA	**Lakka**	**1.78**	**203**	P		**Pn**	**11 07 57.5**	**-0.7**
LIA	**Limnos Island**	**1.78**	**89**	*e*PN		**Pn**	**11 07 58.8**	**+0.6**
LIA				*e*SN		**Sn**	**11 08 21.6**	**+0.7**
LIA	**Limnos Island**	**1.78**	**89**	*e*Pn		**Pn**	**11 07 58.8**	**+0.6**
UPR	**University Cam**	**1.80**	**208**	*e*PN		**Pn**	**11 07 59.3**	**+0.8**
UPR				*e*SN		**Sn**	**11 08 22.4**	**+0.9**
UPR	**University Cam**	**1.80**	**208**	*e*Pn		**Pn**	**11 07 59.3**	**+0.8**
UPR				*e*Sn		**Sn**	**11 08 22.4**	**+0.9**
LTK	**Loutraki**	**1.85**	**178**	P		**Pn**	**11 07 58.6**	**-0.7**
LTK	**Loutraki**	**1.85**	**178**	*e*PB		**Pn**	**11 07 59.0**	**-0.3**
LTK	**Loutraki**	**1.85**	**178**	P		**Pn**	**11 07 58.6**	**-0.7**
LTK	**Loutraki**	**1.85**	**178**	*e*Pb		**Pn**	**11 07 59.0**	**-0.3**
GUR	**Goura**	**1.98**	**192**	P		**Pn**	**11 08 01.0**	**-0.1**
GUR	**Goura**	**1.98**	**192**	*e*PB		**Pn**	**11 08 01.0**	**-0.1**
GUR				*e*SN		**Sn**	**11 08 26.7**	**+0.6**
GUR	**Goura**	**1.98**	**192**	P		**Pn**	**11 08 01.0**	**-0.1**
GUR				*e*Sn		**Sn**	**11 08 26.7**	**+0.6**
PTL	**Penteli**	**1.98**	**157**	P		**Pn**	**11 08 01.2**	**+0.1**
PTL	**Penteli**	**1.98**	**157**	*e*PN		**Pn**	**11 08 01.6**	**+0.5**
PTL	**Penteli**	**1.98**	**157**	P		**Pn**	**11 08 01.2**	**+0.1**
PTL	**Penteli**	**1.98**	**157**	*e*Pn		**Pn**	**11 08 01.6**	**+0.5**
IGT	**Igoumenitsa**	**1.99**	**261**	P		**Pb**	**11 08 03.8**	**+0.1**
IGT	**Igoumenitsa**	**1.99**	**261**	P		**Pb**	**11 08 03.8**	**+0.1**
ATH	**Athens Observa**	**2.01**	**161**	*e*PN		**Pn**	**11 08 02.1**	**+0.7**
ATH	**Athens Observa**	**2.01**	**161**	*e*Pn		**Pn**	**11 08 02.1**	**+0.7**
LKD2	**Lefkada island**	**2.03**	**238**	*e*PB		**Pn**	**11 08 01.6**	**-0.1**
LKD2				*e*SN		**Sb**	**11 08 28.7**	**-1.1**
LKD2	**Lefkada island**	**2.03**	**238**	*e*Pb		**Pn**	**11 08 01.6**	**-0.1**
LKD2				*e*Sn		**Sb**	**11 08 28.7**	**-1.1**
RLS	**Riolos of Patr**	**2.12**	**212**	*e*PN		**Pn**	**11 08 03.6**	**+0.7**
RLS				*e*SN		**Sn**	**11 08 29.9**	**+0.5**
RLS	**Riolos of Patr**	**2.12**	**212**	*e*Pn		**Pn**	**11 08 03.6**	**+0.7**
RLS				*e*Sn		**Sn**	**11 08 29.9**	**+0.5**
NAIG	**Nisos Aigina**	**2.17**	**167**	*e*PB		**Pn**	**11 08 03.5**	**-0.1**
NAIG	**Nisos Aigina**	**2.17**	**167**	*e*Pb		**Pn**	**11 08 03.5**	**-0.1**
SRN	**Sarande**	**2.21**	**271**	*e*PN		**Pn**	**11 08 05.7**	**+1.6**
SRN				*e*SN		**Sn**	**11 08 33.0**	**+1.4**
SRN	**Sarande**	**2.21**	**271**	*e*Pn		**Pn**	**11 08 05.7**	**+1.6**
SRN				*e*Sn		**Sn**	**11 08 33.0**	**+1.4**
KEK	**Kerkira**	**2.37**	**267**	*e*PB		**Pn**	**11 08 07.7**	**+1.3**
KEK				*e*SN		**Sn**	**11 08 36.7**	**+1.0**
KEK	**Kerkira**	**2.37**	**267**	*e*Pb		**Pn**	**11 08 07.7**	**+1.3**
KEK				*e*Sn		**Sn**	**11 08 36.7**	**+1.0**
DID	**Didima**	**2.38**	**173**	P		**Pn**	**11 08 06.1**	**-0.5**
DID	**Didima**	**2.38**	**173**	*e*PN		**Pn**	**11 08 06.1**	**-0.5**
DID				*e*SN		**Sn**	**11 08 35.5**	**-0.5**
DID	**Didima**	**2.38**	**173**	P		**Pn**	**11 08 06.1**	**-0.5**
DID				*e*Sn		**Sn**	**11 08 35.5**	**-0.5**
VLS	**Valsamata**	**2.46**	**227**	*e*PB		**Pn**	**11 08 08.6**	**+1.0**
VLS				*e*SN		**Sn**	**11 08 38.7**	**+0.9**
VLS	**Valsamata**	**2.46**	**227**	*e*Pb		**Pn**	**11 08 08.6**	**+1.0**
VLS				*e*Sn		**Sn**	**11 08 38.7**	**+0.9**
VLX	**Vlachokerasia**	**2.53**	**189**	*e*PN		**Pn**	**11 08 09.2**	**+0.5**
VLX				*e*SN		**Sn**	**11 08 40.2**	**+0.5**
VLX	**Vlachokerasia**	**2.53**	**189**	*e*Pn		**Pn**	**11 08 09.2**	**+0.5**
VLX				*e*Sn		**Sn**	**11 08 40.2**	**+0.5**
PHP	**Peshkopia**	**2.58**	**315**	*e*PN		**Sn**	**11 08 40.2**	**-0.7**
ALN	**Alexandroupoli**	**2.63**	**66**	*e*PN		**Pn**	**11 08 10.5**	**+0.6**
ALN				*e*SN		**Sn**	**11 08 42.0**	**0.0**
ALN	**Alexandroupoli**	**2.63**	**66**	*e*Pn		**Pn**	**11 08 10.5**	**+0.6**
PRK	**Paraskevi**	**2.70**	**102**	*e*PN		**Pn**	**11 08 10.9**	**0.0**
PRK	**Paraskevi**	**2.70**	**102**	*e*Pn		**Pn**	**11 08 10.9**	**0.0**
VTS	**Vitosha**	**2.72**	**5**	P		**Pn**	**11 08 10.2**	**-1.2**
VTS	**Vitosha**	**2.72**	**5**⇑	*i*P		**Pn**	**11 08 11.8**	**+0.4**
VTS	**Vitosha**	**2.72**	**5**	P		**Pn**	**11 08 10.2**	**-1.2**
ITM	**Ithomi**	**2.79**	**196**	*e*PN		**Pn**	**11 08 12.9**	**+0.7**
ITM				*e*SN		**Sn**	**11 08 46.4**	**+0.4**
ITM	**Ithomi**	**2.79**	**196**	*e*Pn		**Pn**	**11 08 12.9**	**+0.7**
ITM				*e*Sn		**Sn**	**11 08 46.4**	**+0.4**
CHOS	**Chios island**	**2.89**	**120**	*e*PN		**Pn**	**11 08 14.0**	**+0.4**
CHOS	**Chios island**	**2.89**	**120**	*e*Pn		**Pn**	**11 08 14.0**	**+0.4**
PYL	**PYLOS**	**3.11**	**197**	*e*PN		**Pn**	**11 08 17.5**	**+1.0**
PYL	**PYLOS**	**3.11**	**197**	*e*Pn		**Pn**	**11 08 17.5**	**+1.0**
PUK	**Puka**	**3.13**	**315**	*e*PN		**Pn**	**11 08 17.8**	**+1.0**
PUK				*e*SN		**Sb**	**11 08 59.1**	**-2.3**
PUK	**Puka**	**3.13**	**315**	*e*Pn		**Pn**	**11 08 17.8**	**+1.0**
VLI	**Veliai**	**3.15**	**179**	*e*PN		**Pn**	**11 08 17.1**	**0.0**
VLI	**Veliai**	**3.15**	**179**	*e*Pn		**Pn**	**11 08 17.1**	**0.0**
BCI	**Bajram Curri**	**3.27**	**320**	*e*PN		**Sn**	**11 08 59.4**	**+1.6**
APE	**Apeiranthos**	**3.49**	**143**	*e*PN		**Pn**	**11 08 21.7**	**-0.2**
APE	**Apeiranthos**	**3.49**	**143**⇓	*i*P		**Pn**	**11 08 24.5**	**+2.6**
APE	**Apeiranthos**	**3.49**	**143**	*e*Pn		**Pn**	**11 08 21.7**	**-0.2**
APE	**Apeiranthos**	**3.49**	**143**⇓	*i*P		**Pn**	**11 08 24.5**	**+2.6**
KYTH	**Kithira**	**3.59**	**178**	*e*PN		**Pn**	**11 08 23.5**	**+0.3**
KYTH	**Kithira**	**3.59**	**178**	*e*Pn		**Pn**	**11 08 23.5**	**+0.3**
SMG	**Samos**	**3.78**	**124**	*e*PN		**Pn**	**11 08 26.9**	**+1.1**
SMG	**Samos**	**3.78**	**124**	*e*Pn		**Pn**	**11 08 26.9**	**+1.1**
KARN	**Karanos**	**4.54**	**169**	*e*PN		**Pn**	**11 08 37.7**	**+1.4**
KARN	**Karanos**	**4.54**	**169**	*e*Pn		**Pn**	**11 08 37.7**	**+1.4**
VAM	**Vamos**	**4.58**	**166**	*e*PN		**Pn**	**11 08 38.4**	**+1.6**
VAM	**Vamos**	**4.58**	**166**	*e*Pn		**Pn**	**11 08 38.4**	**+1.6**
LAST	**Lasithi**	**5.14**	**155**	*e*PN		**Pn**	**11 08 46.2**	**+1.6**
LAST	**Lasithi**	**5.14**	**155**	*e*Pn		**Pn**	**11 08 46.2**	**+1.6**
MRVN	**Minervino Murg**	**5.23**	**285**	*e*PN		**Pn**	**11 08 46.2**	**+0.5**
MRVN	**Minervino Murg**	**5.23**	**285**	*e*Pn		**Pn**	**11 08 46.2**	**+0.5**
KARP	**Karpathos**	**5.50**	**140**	*e*PN		**Pn**	**11 08 50.4**	**+1.0**
KARP	**Karpathos**	**5.50**	**140**	*e*Pn		**Pn**	**11 08 50.4**	**+1.0**
VOIR		**5.78**	**15**⇓	*i*P		**Pn**	**11 08 53.2**	**-0.2**
VOIR		**5.78**	**15**⇓	*i*P		**Pn**	**11 08 53.2**	**-0.2**
MLR	**Muntele Rosu**	**6.05**	**21**⇓	*i*P		**Pn**	**11 08 58.2**	**+1.1**
MLR	**Muntele Rosu** 0.1nm,0.3s,baz=190,slow=6.1,SNR=8.3	**6.05**	**21**	Pn		**Pn**	**11 08 58.1**	**+1.0**
MLR	**Muntele Rosu**	**6.05**	**21**⇓	*i*P		**Pn**	**11 08 58.2**	**+1.1**
TIRR	**Tirgusor**	**6.16**	**40**⇑	*i*P		**Pn**	**11 08 57.2**	**-1.1**
TIRR	**Tirgusor**	**6.16**	**40**⇑	*i*P		**Pn**	**11 08 57.2**	**-1.1**
PLOR	**Plostina**	**6.58**	**24**⇓	*i*P		**Pn**	**11 09 06.3**	**+2.0**
VRI	**Vrincioaia**	**6.62**	**24**⇑	*i*P		**Pn**	**11 09 06.3**	**+1.5**
BRTR	**Keskin Array B** 0.2nm,0.3s,baz=272,slow=13,SNR=5.5	**8.29**	**88**	Pn		**Pn**	**11 09 28.5**	**+0.7**
HFS	**Hagfors** 5.4nm,1.1s,baz=167,slow=13,SNR=3.2	**21.08**	**347**	P		**P**	**11 12 10.9**	**-0.7**
NOA	**NORSAR Array B** 0.9nm,0.8s,baz=157,slow=11,SNR=4.5	**22.38**	**345**	P		**P**	**11 12 25.4**	**-0.3**
TORD	**Torodi Ar. Bea** 0.4nm,0.4s,baz=30,slow=8.6,SNR=3.6	**32.51**	**221**	P		**P**	**11 13 58.0**	**-0.4**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=280,slow=9.2,SNR=4.9	**42.86**	**60**	P		**P**	**11 15 25.8**	**0.0**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=280,slow=8.5,SNR=3.7	**43.20**	**50**	P		**P**	**11 15 28.2**	**-0.2**
YKA	**Yellowknife Ar** 0.1nm,0.5s,baz=36,slow=5.0,SNR=3.7	**72.41**	**341**	P		**P**	**11 18 52.9**	**-0.5**

*IDC **07** 11:08:59.8±5.6,31°.28S×178°.50W,h0km,mb3.7/2, mb1 3.9/2,mb1mx3.6/14,mbtmp3.7/2,Error ellipse: s-maj=221.6km s-min=53.2km az=152.0*

ISC 07 11:09:46.1±2.4,**31°.0S**±0°.1×**179°.7E**±0°.3,**h350**km,**n6,** σ1**81**/9,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**7.19**	**189**	PN		**Pn**	**11 11 32.5**	**+1.8**
PUZ				*e*SN		**S**	**11 12 54.0**	**-1.7**
MWZ	**Matawai**	**7.57**	**193**	*e*PN		**Pn**	**11 11 37.1**	**+2.0**
MWZ				*e*SN		**S**	**11 13 02.2**	**-1.7**
URZ	**Urewera**	**7.59**	**196**	*e*PN		**Pn**	**11 11 36.6**	**+1.3**
URZ				*e*SN		**S**	**11 13 03.8**	**-0.4**
STKA	**Stephens Creek** 2.4nm,0.9s,baz=112,slow=11,SNR=2.6	**32.44**	**258**	P		**P**	**11 15 44.1**	**-0.8**
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=112,slow=8.1,SNR=9.9	**42.17**	**274**	P		**P**	**11 17 06.8**	**+0.9**
FINES	**FINESS Array B** 0.5nm,0.5s,baz=50,slow=4.3,SNR=7.4	**144.97**	**338**	PKPbc		**PKPdf**	**11 28 39.4**	**-1.8**

PRE 07 11:11:25.7±1.9,**21°.07S**×**33°.10E,h10**km,**ML3.4, Mozambique**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**2.90**	**213**	*e*P		Pn	11 12 13.3	+1.3
MOPA				*e*S		Sn	11 12 47.5	+0.5
MOPA				AML		AML	11 12 57.3	
BLWY	comp=Z,116nm,0.4s **Bulawayo**	**4.30**	**282**	*i* P		Pn	11 12 34.7	+3.2
BLWY	baz=344,slow=22			*i*			11 12 34.9	
BLWY				*i* S		Sg	11 13 45.8	+1.4
SLR	**Silverton**	**6.41**	**223**	*e*S		Sn	11 14 13.6	-0.3
S

PLG	**Polygyros**	**1.23**	**91**	*e*Pg	**Pn**	**12 19 41.1**	**-0.7**
PLG				*e*Sb	**Sb**	**12 19 57.6**	**-0.3**
EVR	**Evrytania**	**1.48**	**181**	*e*PB	**Pg**	**12 19 45.3**	**-0.4**
EVR	**Evrytania**	**1.48**	**181**	*e*Pb	**Pg**	**12 19 45.3**	**-0.4**
NEO	**Neokhori**	**1.53**	**135**	*e*PB	**Pb**	**12 19 46.5**	**0.0**
NEO	**Neokhori**	**1.53**	**135**	*e*Pb	**Pb**	**12 19 46.5**	**0.0**
NVR	**Nevrokopi**	**1.81**	**58**	*e*PN	**Pb**	**12 19 50.8**	**-0.4**
NVR	**Nevrokopi**	**1.81**	**58**	*e*Pn	**Pb**	**12 19 50.8**	**-0.4**

IDC 07 12:32:55.0±13.0, 27.72S×66.36W, h0km, mb3.9/1, mb1 3.9/1, mb1mx3.5/14, mbtmp3.9/1, Error ellipse: s-maj=790.7km s-min=116.8km az=3.0, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**77.40**	**68**	P	P	12 44 52.5	+0.1
	0.8nm,0.8s,baz=237,slow=7.4,SNR=5.3						
ZALV	**Zalesovo Beam**	**146.34**	**31**	PKPbc	PKPdf	12 52 36.5	+0.4
	0.4nm,0.3s,baz=334,slow=3.2,SNR=2.7						
MKAR	**Makanchi Array**	**148.91**	**44**	PKPbc	PKPbc	12 52 44.1	-0.6
	0.2nm,0.6s,baz=287,slow=2.9,SNR=4.1						

*DJA **07** 12:51:06,2.7N×95.44E,h17km,MLv4.3/9*
*ISCJB **07** 12:51:06.2±1.3,2.69N±0.06×95.48E±0.05,h29km±10km, mb4.5/42,MS3.9/13,Error ellipse: s-maj=11.3km s-min=7.0km az=36.2*
*MOS **07** 12:51:07.4±0.9,2.78N×95.64E,h39km,mb4.6/23,Error ellipse: s-maj=17.5km s-min=7.3km az=98.0*
*IDC **07** 12:51:07.0±1.2,2.71N×95.54E,h22km±4km,mb4.2/8, mb1 4.3/9,mb1mx4.0/21,mbtmp4.2/9,ML4.5/1,MS3.6/5, Ms1 3.6/5,ms1mx3.1/27,Error ellipse: s-maj=42.4km s-min=15.8km az=59.0*
*BJI **07** 12:51:08.9,2.87N×95.51E,h32km,mB4.7/18,mb4.6/34, Ms4.4/17,Ms7 4.1/19*
*NEIC **07** 12:51:09.2±0.5,2.78N×95.58E,h35km,mb4.6/16,Error ellipse: s-maj=12.0km s-min=6.7km az=220.0*
ISC 07 12:51:08.7±0.6, 2.71N±0.05×95.52E±0.06, h34km±1km, h35km:pP-P,n112,σ1s74/144,mb4.5/42,MS3.9/13,6C-1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.74**	**72**	P	**Pn**	**12 51 35.0**	**-1.5**
GSI	**Gunungsitoli**	**2.49**	**124**	P	**Pn**	**12 51 46.3**	**-0.5**
BSI	**Banda Aceh**	**2.77**	**355**	P	**Pn**	**12 51 49.0**	**-1.7**
TSI	**Tuntungan**	**3.14**	**75**	P	**Pn**	**12 51 56.7**	**+1.0**
PSI	**Prapat**	**3.40**	**88**	P	**Pn**	**12 51 59.5**	**0.0**
MNSI	**Mandailing Nat**	**4.48**	**115**	P	**Pn**	**12 52 14.9**	**+0.7**
IPM	**Ipoh**	**5.77**	**72**	*e*Pn	**Pn**	**12 52 31.9**	**-0.1**
IPM				*e*Sn	**Sn**	**12 53 33.0**	**-4.0**
IPM	**Ipoh**	**5.77**	**72**	P	**Pn**	**12 52 31.8**	**-0.1**
	64nm,0.8s,0.2nm						
PPI	**Padang Panjang**	**5.80**	**123**	P	**Pn**	**12 52 34.6**	**+2.2**
	51nm,0.8s,0.2nm						
BKNI	**Bangkinang**	**6.00**	**113**	P	Pn	12 52 40.6	+5.4
KSM	**Kuching**	**14.83**	**94**	Pn	**Pn**	**12 54 37.1**	**+1.1**
CM31	**Chiang Mai Arr**	**16.00**	**12**	*e*Pn	**Pn**	**12 54 51.5**	**+0.2**
	5.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**16.00**	**12**	Pn	**Pn**	**12 54 49.2**	**-2.1**
CMAR	**Chiang Mai Arr**	**16.00**	**12**	Pn	**Pn**	**12 54 49.2**	**-2.1**
	0.7nm,0.3s,baz=200,slow=11,SNR=70						
CMAR				LR	LR	13 01 50.2	
	comp=Z,110nm,18.3s,baz=195,slow=40						
CHTO	**Chiang Mai**	**16.35**	**12**	*e*P	**Pn**	**12 54 54.4**	**-1.4**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CHTO	**Chiang Mai**	**16.35**	**12**	*e*Pn	**Pn**	**12 54 54.4**	**-1.4**
	comp=Z,9.4nm,0.9s						
CHTO	**Chiang Mai**	**16.35**	**12**	P	**Pn**	**12 54 56.8**	**+1.1**
	comp=Z,14nm,1.2s						
KKM	**Kota Kinabalu**	**20.89**	**80**	*e*P	**P**	**12 55 48.8**	**+0.4**
	comp=Z,39nm,0.9s						
KKM	**Kota Kinabalu**	**20.89**	**80**	P	Pn	12 55 50.4	-0.7
QIZ	**Qiongzhong**	**21.43**	**40**	P	**P**	**12 55 54.2**	**+0.2**
QIZ				S	**S**	**12 59 52.7**	**+2.5**
QIZ				LR	LR		
	comp=Z,270nm,16.7s						
SHL	**Shillong**	**22.99**	**352**	*e*PKP	**P**	**12 56 09.5**	**-1.3**
KMI	**Kunming**	**23.34**	**17**	P	**P**	**12 56 15.5**	**+1.2**
KMI				S	**S**	**13 00 21.0**	**-4.0**
KMI				pmax	pmax		
	comp=Z,23nm,1.1s						
KMI				pmax	pmax		
	comp=Z,100nm,3.5s						
KMI				LR	LR		
	comp=N,350nm,10.9s						
KMI				LR	LR		
	comp=E,220nm,9.6s						
KMI				LR	LR		
	comp=Z,400nm,11.6s						
PCI	**Palu**	**24.57**	**98**	P	P	12 56 33.6	+7.8
ODAN	**Odare**	**25.24**	**343**	*e*P	**P**	**12 56 32.4**	**+0.5**
RAMN	**Ramite**	**25.57**	**341**	*e*P	**P**	**12 56 36.4**	**+1.5**
	comp=Z,13nm,0.6s						
TAPN	**Taplejung**	**25.61**	**344**	*e*P	**P**	**12 56 36.5**	**+1.1**
GYA	**Guiyang**	**25.92**	**23**	*e*P	**P**	**12 56 38.9**	**+0.9**
GYA				sP	**sP**	**12 56 53.4**	**+1.4**
GYA				PP	PP	12 57 22.0	
GYA				S	**S**	**13 01 05.6**	**-0.5**
GYA				ScP	**ScP**	**13 03 44.4**	**+0.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA				LR	LR		
	comp=N,430nm,17.8s						
GYA				LR	LR		
	comp=E,330nm,16.6s						
GYA				LR	LR		
	comp=Z,420nm,17.4s						
JIRN	**Jiri**	**26.36**	**341**	*e*P	**P**	**12 56 43.1**	**+0.9**
	comp=Z,4.1nm,0.6s						
PKI	**Pulchoki**	**26.54**	**340**	*e*P	**P**	**12 56 45.1**	**+1.3**
DMN	**Daman**	**26.68**	**339**	*e*P	**P**	**12 56 46.6**	**+1.6**
GUN	**Gumba**	**26.70**	**341**	*e*P	**P**	**12 56 46.0**	**+0.8**
	comp=Z,24nm,0.7s						
KKN	**Kakani**	**26.79**	**340**	*e*P	**P**	**12 56 46.8**	**+0.9**
LSA	**Lhasa**	**27.16**	**352**	*e*P	**P**	**12 56 50.6**	**+1.1**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LSA	**Lhasa**	**27.16**	**352**	*e*P	**P**	**12 56 50.6**	**+1.1**
	comp=Z,10nm,0.8s						
GKN	**Gorkha**	**27.21**	**339**	*e*P	**P**	**12 56 50.5**	**+0.8**
KOLN	**Koldanda**	**27.40**	**337**	*e*P	**P**	**12 56 52.1**	**+0.7**
	comp=Z,12nm,0.5s						
DANN	**Dangsing**	**27.85**	**337**	*e*P	**P**	**12 56 55.9**	**+0.3**
	comp=Z,25nm,0.8s						
CD2	**Chengdu**	**29.11**	**15**	P	**P**	**12 57 08.8**	**+2.4**
CD2				pP	**pP**	**12 57 18.7**	**+2.4**
CD2				sP	**sP**	**12 57 23.0**	**+2.5**
CD2				PcP	**PcP**	**13 00 16.0**	**+2.1**
CD2				S	**S**	**13 01 57.5**	**+1.4**
CD2				sS	**sS**	**13 02 14.0**	**+1.5**
CD2				SS	SS	13 03 29.0	-31
CD2				pmax	pmax		
	comp=Z,20nm,0.4s						
CD2				pmax	pmax		
	comp=Z,80nm,5.3s						
CD2				LR	LR		
	comp=N,330nm,11.2s						
CD2				LR	LR		
	comp=E,240nm,10.6s						
CD2				LR	LR		
	comp=Z,340nm,13.5s						
ENH	**Enshi**	**30.44**	**24**	*e*P	**P**	**12 57 17.1**	**-1.1**
	comp=Z,12nm,1.0s						
WHN	**Wuhan**	**32.92**	**31**	*e*P	**P**	**12 57 40.0**	**+0.1**
XAN	**Xi'an**	**33.58**	**20**	P	**P**	**12 57 44.6**	**-1.2**
XAN				pP	**pP**	**12 57 53.4**	**-2.3**
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
XAN				pmax	pmax		
	comp=Z,7.0nm,4.0s						
LZH	**Lanzhou**	**34.09**	**12**	*e*P	P	12 57 53.7	+3.4
LZH				pP	pP	12 58 03.3	+3.1
LZH				sP	sP	12 58 07.7	+3.3
LZH				*e*S	**S**	**13 03 17.1**	**+3.0**
LZH				sS	sS	13 03 33.2	+2.7
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				pmax	pmax		
	comp=Z,77nm,4.4s						
LZH				LR	LR		
	comp=N,360nm,14.6s						
LZH				LR	LR		
	comp=E,140nm,12.5s						
LZH				LR	LR		
	comp=Z,580nm,15.4s						
NJ2	**Nanjing**	**36.52**	**34**	*e*P	**P**	**12 58 11.1**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GTA	**Gaotai**	**36.73**	**6**	*e*P	**P**	**12 58 12.7**	**-0.2**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**40.63**	**19**	*e*P	**P**	**12 58 46.1**	**+0.5**
HHC				pP	**pP**	**12 58 55.6**	**-0.1**
HHC				sP	**sP**	**12 59 00.2**	**+0.4**
HHC				PP	**PnPn**	**13 00 23.3**	**-0.5**
HHC				S	**S**	**13 04 53.7**	**+0.4**
HHC				sS	**sS**	**13 05 09.7**	**-0.2**
HHC				SS	**SS**	**13 07 48.5**	**-5.9**
HHC				ScS	**ScS**	**13 08 46.6**	**-2.2**
HHC				pmax	pmax		
	comp=Z,14nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,4.0s						
HHC				LR	LR		
	comp=N,220nm,13.0s						
HHC				LR	LR		
	comp=E,110nm,8.4s						
HHC				LR	LR		
	comp=Z,220nm,12.1s						
KSH	**Kashi**	**40.72**	**337**	*e*P	**P**	**12 58 45.9**	**-0.4**
KSH				pP	**pP**	**12 58 55.8**	**-0.6**
KSH				sP	**sP**	**12 58 59.9**	**-0.7**
KSH				PP	**PnPn**	**13 00 23.6**	**-1.2**
KSH				PcP	**PcP**	**13 00 48.8**	**+1.3**
KSH				S	**S**	**13 04 52.9**	**-1.7**
KSH				sS	**sS**	**13 05 09.5**	**-1.7**
KSH				SS	SS	13 07 48.8	-7.3
KSH				ScS	**ScS**	**13 08 46.2**	**-3.2**
WMQ	**Urumqi**	**41.52**	**351**	P	**P**	**12 58 53.6**	**+0.8**
WMQ				pP	**pP**	**12 59 02.3**	**-0.6**
WMQ				sP	**sP**	**12 59 06.2**	**-0.8**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,200nm,4.5s						
BJI	**Beijing**	**41.61**	**24**	P	**P**	**12 58 54.7**	**+1.2**
BJI				S	**S**	**13 05 10.1**	**+2.6**
BJI				pmax	pmax		
	comp=Z,27nm,0.8s						
BJI				LR	LR		
	comp=N,120nm,24.2s						
BJI				LR	LR		
	comp=E,210nm,25.0s						
BJI				LR	LR		
	comp=Z,41nm,24.1s						
TKM2	**Tokmak 2**	**43.80**	**339**	*e*P	**P**	**12 59 12.6**	**+1.1**
TKM2				pmax	pmax		
	comp=Z,9.0nm,1.4s						
TKM2	**Tokmak 2**	**43.80**	**339**	*e*P	**P**	**12 59 12.6**	**+1.1**
	comp=Z,9.1nm,1.4s						
AAK	**Ala-Archa**	**43.96**	**338**	*e*P	**P**	**12 59 14.1**	**+1.3**
AAK				pmax	pmax		
	comp=Z,17nm,2.5s						
AAK				MLR	MLR		
	comp=Z,145nm,20.0s						
AAK	**Ala-Archa**	**43.96**	**338**	*e*P	**P**	**12 59 13.3**	**+0.5**
	comp=Z,15nm,0.9s						
WRA	**Warramunga Arr**	**44.26**	**122**	P	**P**	**12 59 15.1**	**-0.2**
WRA	**Warramunga Arr**	**44.26**	**122**	P	**P**	**12 59 15.1**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=299,slow=9.3,SNR=16						
WRA				LR	LR	13 17 40.5	
	comp=Z,64nm,21.4s,baz=45,slow=36						
WRAB	**Tennant Creek**	**44.26**	**122**	*e*P	**P**	**12 59 15.3**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WRAB	**Tennant Creek**	**44.26**	**122**	*e*P	**P**	**12 59 15.2**	**-0.1**
	comp=Z,7.6nm,1.1s						
EKS2	**Erkin-Say**	**44.26**	**337**	*e*P	**P**	**12 59 15.9**	**+0.8**
EKS2				pmax	pmax		
	comp=Z,3.0nm,0.7s						
EKS2	**Erkin-Say**	**44.26**	**337**	*e*P	**P**	**12 59 15.9**	**+0.8**
	comp=Z,2.7nm,0.7s						
MK31	**Makanchi Array**	**45.39**	**347**	*c*e*e*P	**P**	**12 59 23.9**	**0.0**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MK31	**Makanchi Array**	**45.39**	**347**	*e*P	**P**	**12 59 24.2**	**+0.3**
MKAR	**Makanchi Array**	**45.39**	**347**	P	**P**	**12 59 24.4**	**+0.5**
MKAR				*PP	**pP**	**12 59 31.7**	**-2.4**
MKAR				pmax	pmax		
	comp=Z,12nm,0.7s						
MKAR				pmax	pmax		
	comp=Z,11nm,0.7s						
MKAR	**Makanchi Array**	**45.39**	**347**	P	**P**	**12 59 24.4**	**+0.5**
MKAR				pP	**pP**	**12 59 31.7**	**-2.4**
MKAR	**Makanchi Array**	**45.39**	**347**	P	**P**	**12 59 24.4**	**+0.5**
	comp=Z,12nm,0.7s,baz=161,slow=8.4,SNR=145						
MKAR				pP	**pP**	**12 59 31.7**	**-2.4**
	comp=Z,11nm,0.7s,baz=164,slow=8.0,SNR=23						
KSAR	**Wonju Array Be**	**45.57**	**37**	P	**P**	**12 59 24.9**	**-0.5**
KSAR				pP	**pP**	**12 59 31.9**	**-3.8**
KSRS	**Korea Array**	**45.60**	**37**	P	**P**	**12 59 24.9**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=220,slow=9.0,SNR=4.5						
KSRS				pP	**pP**	**12 59 31.9**	**-4.0**
	comp=Z,1.9nm,0.7s,baz=216,slow=8.7,SNR=4.2						
ASAR	**Alice Springs**	**45.64**	**127**	P	**P**	**12 59 26.4**	**+0.1**
ASAR				pP	**pP**	**12 59 33.0**	**-3.6**
ASAR	**Alice Springs**	**45.64**	**127**	P	**P**	**12 59 26.4**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=299,slow=7.9,SNR=19						
ASAR				pP	**pP**	**12 59 33.0**	**-3.6**
	comp=Z,0.6nm,0.7s,baz=305,slow=7.9,SNR=3.4						
SONM	**Songino Array**	**45.92**	**10**	P	**P**	**12 59 28.3**	**0.0**
SONM				pP	**pP**	**12 59 34.9**	**-3.6**
SONM				PcP	**PcP**	**13 01 05.5**	**+0.6**
SONM				pPcP		13 01 13.0	
SONM	**Songino Array**	**45.92**	**10**	P	**P**	**12 59 28.3**	**0.0**
	comp=Z,4.2nm,0.9s,baz=194,slow=9.0,SNR=26						
SONM				pP	**pP**	**12 59 34.9**	**-3.6**
	comp=Z,4.8nm,0.8s,baz=188,slow=8.7,SNR=21						
SONM				PcP	**PcP**	**13 01 05.5**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=189,slow=3.6,SNR=5.1						
SONM				pPcP		13 01 13.0	
	comp=Z,1.4nm,0.7s,baz=189,slow=4.2,SNR=5.1						
SONM				LR	LR	13 20 02.9	
	comp=Z,69nm,20.2s,baz=298,slow=38						
KK31	**Karatay Array**	**45.97**	**334**	*c*e*e*P	**P**	**12 59 28.5**	**-0.1**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KKAR	**Karatay Array**	**45.97**	**334**	*e*P	**P**	**12 59 29.3**	**+0.7**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KKAR	**Karatay Array**	**45.97**	**334**	*e*P	**P**	**12 59 29.3**	**+0.7**
	comp=Z,2.6nm,0.5s						
ULN	**Ulaanbaatar**	**46.07**	**11**	*e*P	**P**	**12 59 28.9**	**-0.5**
	comp=Z,3.4nm,0.9s						
ZAK	**Zakamensk**	**47.95**	**7**	*e*P	**P**	**12 59 43.2**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
CN2	**Changchun**	**48.76**	**29**	*e*P	**P**	**12 59 52.9**	**+2.7**
TLY	**Talaya**	**49.27**	**7**	*e*P	**P**	**12 59 54.4**	**+0.4**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,50nm,17.0s						
KURK	**Kurchatov**	**49.92**	**346**	*e*P	**P**	**12 59 59.5**	**+0.6**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KURK	**Kurchatov**	**49.92**	**346**	*e*P	**P**	**12 59 59.5**	**+0.6**
	comp=Z,6.2nm,0.8s						
MJAR	**Matsushiro Arr**	**51.74**	**44**	LR	LR	13 25 38.4	
	comp=Z,51nm,19.8s,baz=30,slow=40						
ZAA0	**Zalesovo Array**	**51.82**	**352**	*e*P	**P**	**13 00 13.2**	**0.0**
ZALV	**Zalesovo Beam**	**51.82**	**352**	P	**P**	**13 00 13.5**	**+0.3**
ZALV				*PP	**pP**	**13 00 20.5**	**-3.0**
ZALV				pmax	pmax		
	comp=Z,11nm,0.6s						
ZALV				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ZALV	**Zalesovo Beam**	**51.82**	**352**	P	**P**	**13 00 13.5**	**+0.3**
ZALV				pP	**pP**	**13 00 20.5**	**-3.0**
ZALV	**Zalesovo Beam**	**51.82**	**352**	P	**P**	**13 00 13.5**	**+0.3**
	comp=Z,11nm,0.6s,baz=181,slow=6.6,SNR=83						
ZALV				pP	**pP**	**13 00 20.5**	**-3.0**
	comp=Z,6.6nm,0.6s,baz=183,slow=6.7,SNR=13						
NVS	**Novosibirsk**	**52.92**	**351**	*e*P	**P**	**13 00 20.0**	**-1.3**
NVS				*e*S	S	13 08 00.2	+12
NVS				pmax	pmax		
	comp=N,4.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.9s						
NVS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BRVK	**Borovoye**	**54.35**	**342**	*e*P	**P**	**13 00 32.0**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BRVK	**Borovoye**	**54.35**	**342**	*e*P	**P**	**13 00 32.0**	**+0.1**
	comp=Z,4.8nm,0.6s						
AB31	**Akbulak array**	**55.40**	**332**	*c*e*e*P	**P**	**13 00 39.1**	**-0.4**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ABKAR	**Akbulak array**	**55.40**	**332**	*e*P	**P**	**13 00 40.1**	**+0.6**
KLR	**Kul'dur**	**55.69**	**28**	*e*P	P	13 00 38.0	-3.6
BOD	**Bodaibo**	**56.86**	**12**	*e*P	**P**	**13 00 48.9**	**-0.9**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.9s						
SVE	**Sverdlovsk**	**60.68**	**339**	⇑*i*P	**P**	**13 01 16.8**	**+0.5**
SVE				pmax	pmax		
	comp=Z,13nm,0.8s						
ZEI	**Tsey**	**60.76**	**319**	*e*P	P	13 01 24.0	+6.5
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARU	**Arti**	**61.15**	**338**	*c*i*e*P	**P**	**13 01 19.4**	**-0.2**
ARU						13 03 33.6	
ARU				S	**S**	**13 09 41.7**	**+5.2**
ARU				SS	**SS**	**13 13 40.9**	**+4.0**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.7s						
ARU	**Arti**	**61.15**	**338**	*e*P	**P**	**13 01 19.1**	**-0.4**
	comp=Z,6.9nm,1.0s						
YAK	**Yakutsk**	**64.46**	**17**	*e*P	**P**	**13 01 40.0**	**-1.5**
YAK				pmax	pmax		
	comp=Z,14nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.4s						
YAK	**Yakutsk**	**64.46**	**17**	*e*P	**P**	**13 01 40.7**	**-0.8**
	comp=N,15nm,0.7s						
BRTR	**Keskin Array B**	**66.86**	**312**	pP	pP	13 02 04.6	-3.7
BRTR	**Keskin Array B**	**66.86**	**312**	pP	pP	13 02 04.6	-3.7
	comp=N,0.8nm,0.7s,baz=122,slow=8.1,SNR=3.8						
OBN	**Obninsk**	**70.46**	**329**	*e*P	**P**	**13 02 19.1**	**-0.4**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SEY	**Seymchan**	**73.05**	**24**	*i* P	**P**	**13 02 34.7**	**-0.3**
BOSA	**Boshof**	**74.09**	**239**	LR	LR	13 33 27.3	
	comp=Z,55nm,18.3s,baz=182,slow=34						
PUL	**Pulkovo**	**75.37**	**332**	*e*P	**P**	**13 02 47.5**	**-1.1**
PUL				pmax	pmax		
	comp=Z,133nm,0.4s						
FINES	**FINESS Array B**	**77.89**	**333**	P	**P**	**13 03 02.5**	**-0.3**
FINES				pP	**PcP**	**13 03 08.8**	**-3.8**
FINES	**FINESS Array B**	**77.89**	**333**	P	**P**	**13 03 02.5**	**-0.3**
	comp=Z,2.0nm,0.9s,baz=328,slow=6.8,SNR=3.6						
FINES				pP	**PcP**	**13 03 08.8**	**-3.8**
	comp=Z,1.2nm,0.6s,baz=106,slow=4.8,SNR=2.1						
GERES	**GERESS Array B**	**82.58**	**319**	pP	pP	13 03 36.3	-3.0
GERES	**GERESS Array B**	**82.58**	**319**	pP	pP	13 03 36.3	-3.0
	comp=Z,1.0nm,0.8s,baz=96,slow=4.2,SNR=6.3						
GRFO	**Grafenberg**	**84.25**	**319**	*e*P	**P**	**13 03 36.6**	**-0.3**
GRFO				pmax	pmax		
	comp=Z,28nm,1.6s						
GRFO	**Grafenberg**	**84.25**	**319**	*e*P	**P**	**13 03 36.6**	**-0.3**
	comp=Z,28nm,1.6s						
ILAR	**Eielson Array**	**98.96**	**23**	P	P	13 04 43.5	-2.0
ILAR	**Eielson Array**	**98.96**	**23**	P	P	13 04 43.5	-2.0
	comp=Z,0.3nm,0.9s,baz=303,slow=5.3,SNR=3.6						
TXAR	**Lajitas Array**	**143.21**	**29**	PKPpre	PKPpre	13 10 36.4	
TXAR				PKP	PKPbc	13 10 37.5	+0.4
TXAR	**Lajitas Array**	**143.21**	**29**	PKhKP	PKPpre	13 10 36.4	
	comp=Z,0.3nm,0.8s,baz=216,slow=2.9,SNR=3.2						
TXAR				PKP	PKPbc	13 10 37.5	+0.4
	comp=Z,0.3nm,0.8s,baz=48,slow=1.3,SNR=3.2						

*ISCJB **07** 13:11:06.9±0.5,38.94N±0.02×28.63E±0.03,h2km±5km, Error ellipse: s-maj=4.1km s-min=3.7km az=173.7*
*ISK **07** 13:11:06.9,38.96N×28.61E,h6km,MD2.9*
*DDA **07** 13:11:06.8,38.95N×28.64E,h7km,MD2.8*
*CSEM **07** 13:11:07.2±0.1,38.95N×28.62E,h5km,MD2.9,Error ellipse: s-maj=2.6km s-min=2.5km az=137.0*
ISC 07 13:11:07.0±1.0, 38.95N±0.02×28.63E±0.02, h13km±10km, n46,σ0s99/66, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULA	**Kula-Manisa**	**0.44**	**177**	PG	**Pb**	**13 11 16.3**	**-0.3**
KULA				*e*SG	**Sb**	**13 11 22.1**	**-1.0**
KULA	**Kula-Manisa**	**0.44**	**177**	*i* Pg	**Pb**	**13 11 16.3**	**-0.3**
KULA				*e*Sg	**Sb**	**13 11 22.1**	**-1.0**
AKHS	**Akhisar**	**0.64**	**264**	*i* P	**Pg**	**13 11 19.1**	**-0.3**
AKHS				*i* S	**Sb**	**13 11 29.1**	**+0.2**
AKHS	**Akhisar**	**0.64**	**264**	*i* P	**Pg**	**13 11 19.1**	**-0.3**
AKHS				*i* S	**Sb**	**13 11 29.1**	**+0.2**
AKS	**Akhisar**	**0.64**	**264**	*e*PG	**Pg**	**13 11 19.6**	**+0.2**
AKS				*e*SG	**Sb**	**13 11 28.7**	**-0.2**
AKS	**Akhisar**	**0.64**	**264**	*e*Pg	**Pg**	**13 11 19.6**	**+0.2**
AKS				*e*Sg	**Sb**	**13 11 28.7**	**-0.2**
DST	**Dursunbey**	**0.65**	**359**	*e*PG	**Pg**	**13 11 19.9**	**+0.2**
DST	**Dursunbey**	**0.65**	**359**	*e*Pg	**Pg**	**13 11 19.9**	**+0.2**
DURS	**Dursunbey**	**0.66**	**350**	*i* P	**Pg**	**13 11 19.5**	**-0.3**
DURS				*i* S	**Sg**	**13 11 28.8**	**+0.2**
DURS	**Dursunbey**	**0.66**	**350**	*i* P	**Pg**	**13 11 19.5**	**-0.3**
DURS				*i* S	**Sg**	**13 11 28.8**	**+0.2**
GDZ	**Gediz**	**0.68**	**78**	*i* P	**Pg**	**13 11 20.0**	**-0.2**
GDZ				*i* S	**Sg**	**13 11 29.4**	**+0.2**
GDZ	**Gediz**	**0.68**	**78**	*i* P	**Pg**	**13 11 20.0**	**-0.2**
GDZ				*i* S	**Sg**	**13 11 29.4**	**+0.2**
KHAL	**Karahalli**	**0.89**	**130**	*i* P	**Pb**	**13 11 24.4**	**0.0**
KHAL				*i* S	**Sg**	**13 11 35.4**	**-0.4**
KHAL	**Karahalli**	**0.89**	**130**	*i* P	**Pb**	**13 11 24.4**	**0.0**
KHAL				*i* S	**Sg**	**13 11 35.4**	**-0.4**
KHL	**Karahalli**	**0.94**	**132**	*e*PG	**Pb**	**13 11 25.7**	**+0.5**
KHL	**Karahalli**	**0.94**	**132**	*e*Pg	**Pb**	**13 11 25.7**	**+0.5**
BALY	**Balya**	**1.11**	**316**	*i* P	**Pn**	**13 11 28.8**	**+0.5**
BALY				*i* S	**Sn

s-min=17.4km az=54.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.62**	**59**	P	Pn	13 41 11.0	+0.5
	1.6nm,0.3s,baz=187,slow=19,SNR=8.1						
KAPI				S	Sn	13 42 31.3	-4.3
	1.1nm,0.3s,baz=280,slow=18,SNR=2.9						
KAPI				LR	LR	13 44 57.9	
	comp=Z,38nm,20.8s,baz=124,slow=44						
WRA	**Warramunga Arr**	**23.11**	**120**	P	P	13 44 22.8	-1.0
	2.1nm,1.0s,baz=296,slow=11,SNR=7.2						
WRA				pP	pP	13 44 35.3	-0.5
	1.0nm,0.6s,baz=298,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**24.55**	**129**	P	P	13 44 37.1	0.0
	0.9nm,0.6s,baz=302,slow=8.6,SNR=24						
ASAR				pP	pP	13 44 50.4	+0.1
	0.5nm,0.4s,baz=305,slow=9.2,SNR=4.1						
ASAR				PcP	PcP	13 48 15.3	+0.9
	0.2nm,0.4s,baz=304,slow=1.7,SNR=6.8						
STKA	**Stephens Creek**	**34.77**	**135**	P	P	13 46 07.8	0.0
	2.0nm,0.9s,baz=323,slow=9.5,SNR=4.7						
STKA				pP	pP	13 46 21.4	+0.4
	3.7nm,1.0s,baz=328,slow=13,SNR=2.8						
SONM	**Songino Array**	**56.95**	**355**	P	P	13 49 02.9	+0.7
	0.8nm,0.7s,baz=177,slow=8.7,SNR=5.7						
MKAR	**Makanchi Array**	**62.05**	**336**	P	P	13 49 37.0	-0.2
	1.0nm,0.5s,baz=149,slow=7.7,SNR=27						
ZALV	**Zalesovo Beam**	**67.19**	**342**	P	P	13 50 09.9	-0.7
	1.3nm,0.7s,baz=165,slow=5.2,SNR=8.8						
MMAI	**Mount Meron Ar**	**84.81**	**304**	LR	LR	14 32 36.0	
	comp=Z,16nm,18.4s,baz=265,slow=38						
BRTR	**Keskin Array B**	**87.80**	**311**	P	P	13 52 05.8	-0.3
	0.4nm,0.6s,baz=152,slow=8.4,SNR=3.9						

*IDC **07** 13:43:00.7±18.0,38°.31N×21°.24E,h0km,mb3.6/2,*
mb1 3.4/3,mb1mx3.2/24,mbtmp3.4/3,ML2.9/1,Error
ellipse: s-maj=397.5km s-min=95.8km az=18.0
*ISCJB **07** 13:43:05.7±0.3,38°.16N±0°.02×21°.93E±0°.02,h11km±2km,*
mb3.5/2,Error ellipse: s-maj=2.8km s-min=2.4km
az=137.4
*ATH **07** 13:43:05.4,38°.16N×21°.93E,h18km,ML2.9*
*CSEM **07** 13:43:05.7±0.1,38°.15N×21°.95E,h5km,ML3.1/15,Error*
ellipse: s-maj=2.4km s-min=2.0km az=39.0
*THE **07** 13:43:06.2,38°.16N×21°.98E,h0km±2km,ML3.1/15,Error*
ellipse: s-maj=2.1km s-min=0.6km az=345.0

ISC 07 13:43:06.2±0.8,38°.16N±0°.01×21°.95E±0°.01,h13km±4km,
n109,σ0s85/171,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAKA	**Lakka**	**0.08**	**15**	P	Pg	13 43 08.3	-0.6
LAKA				S	Sg	13 43 09.8	-1.1
LAKA	**Lakka**	**0.08**	**15**	P	Pg	13 43 08.3	-0.6
LAKA				S	Sg	13 43 09.8	-1.1
UPR	**University Cam**	**0.18**	**313**	P	Pg	13 43 10.1	-0.2
UPR	**University Cam**	**0.18**	**313**	*e*PB	Pg	13 43 10.0	-0.2
UPR				*e*SB	Sg	13 43 13.2	+0.2
UPR	**University Cam**	**0.18**	**313**	*e*Pb	Pg	13 43 10.0	-0.2
UPR				*e*Sb	Sg	13 43 13.2	+0.2
TRIZ	**Trizonia**	**0.23**	**25**	P	Pg	13 43 10.6	-0.4
TRIZ				S	Sg	13 43 13.9	-0.4
TRIZ	**Trizonia**	**0.23**	**25**	P	Pg	13 43 10.6	-0.4
TRIZ				S	Sg	13 43 13.9	-0.4
EFP	**Efpalio**	**0.27**	**352**	P	Pg	13 43 11.5	-0.3
EFP				S	Sg	13 43 15.5	0.0
EFP	**Efpalio**	**0.27**	**352**	*e*PB	Pg	13 43 11.5	-0.3
EFP				*e*SB	Sg	13 43 15.7	+0.2
EFP	**Efpalio**	**0.27**	**352**	P	Pg	13 43 11.5	-0.3
EFP				*e*Sb	Sg	13 43 15.7	+0.2
KALE	**Kalithea**	**0.27**	**33**	P	Pg	13 43 11.5	-0.4
KALE				S	Sg	13 43 16.1	+0.3
KALE	**Kalithea**	**0.27**	**33**	P	Pg	13 43 11.5	-0.4
KALE				S	Sg	13 43 16.1	+0.3
GUR	**Goura**	**0.38**	**126**	P	Pg	13 43 13.5	-0.3
GUR				S	Sg	13 43 19.2	+0.2
GUR	**Goura**	**0.38**	**126**	*e*PB	Pg	13 43 13.5	-0.3
GUR				*e*SB	Sb	13 43 19.6	-1.2
GUR	**Goura**	**0.38**	**126**	P	Pg	13 43 13.5	-0.3
GUR				S	Sg	13 43 19.2	+0.2
GUR				*e*Sb	Sb	13 43 19.6	-1.2
RLS	**Riolos of Patr**	**0.40**	**255**	P	Pg	13 43 13.5	-0.5
RLS				S	Sb	13 43 20.2	-0.9
RLS	**Riolos of Patr**	**0.40**	**255**	*e*PB	Pg	13 43 13.5	-0.5
RLS				*e*SB	Sg	13 43 19.0	-0.3
RLS	**Riolos of Patr**	**0.40**	**255**	P	Pg	13 43 13.5	-0.5
RLS				*e*Sb	Sg	13 43 19.0	-0.3
RLS				S	Sb	13 43 20.2	-0.9
DESF	**Desfina**	**0.52**	**61**	P	Pg	13 43 14.6	-1.8
DESF				S	Sg	13 43 23.4	0.0
DESF	**Desfina**	**0.52**	**61**	P	Pg	13 43 14.6	-1.8
DESF				S	Sg	13 43 23.4	0.0
EVR	**Evrytania**	**0.76**	**352**	P	Pg	13 43 20.1	-0.9
EVR				S	Sb	13 43 32.2	+0.4
EVR	**Evrytania**	**0.76**	**352**	*e*PN	Pg	13 43 20.2	-0.8
EVR				*e*SN	Sg	13 43 30.6	-0.4
EVR	**Evrytania**	**0.76**	**352**	P	Pg	13 43 20.1	-0.9
EVR				*e*Sn	Sg	13 43 30.6	-0.4
EVR				S	Sb	13 43 32.2	+0.4
LTK	**Loutraki**	**0.81**	**99**	P	Pg	13 43 21.2	-0.7
LTK				S	Sb	13 43 32.8	-0.3
LTK	**Loutraki**	**0.81**	**99**	*e*PN	Pg	13 43 21.2	-0.7
LTK				*e*SN	Sb	13 43 33.2	+0.1
LTK	**Loutraki**	**0.81**	**99**	P	Pg	13 43 21.2	-0.7
LTK				S	Sb	13 43 32.8	-0.3
LTK				*e*Sn	Sb	13 43 33.2	+0.1
AXAR	**Agios Charalam**	**0.82**	**42**	P	Pg	13 43 21.3	-0.8
AXAR	**Agios Charalam**	**0.82**	**42**	P	Pg	13 43 21.3	-0.8
VLX	**Vlachokerasia**	**0.86**	**157**	P	Pg	13 43 21.8	-1.0
VLX				S	Sb	13 43 34.6	0.0
VLX	**Vlachokerasia**	**0.86**	**157**	*e*PN	Pg	13 43 21.8	-1.0
VLX				*e*SN	Sb	13 43 34.5	0.0
VLX	**Vlachokerasia**	**0.86**	**157**	P	Pg	13 43 21.8	-1.0
VLX				*e*Sn	Sb	13 43 34.5	0.0
MAKR	**Makrakomi, Fth**	**0.86**	**9**	P	Pg	13 43 22.5	-0.4
MAKR				S	Sn	13 43 36.2	-0.4
MAKR	**Makrakomi, Fth**	**0.86**	**9**	P	Pg	13 43 22.5	-0.4
MAKR				S	Sn	13 43 36.2	-0.4
KFL	**Anninata**	**0.92**	**267**	P	Pb	13 43 23.8	-0.2
KFL				S	Sn	13 43 39.0	+1.1
KFL	**Anninata**	**0.92**	**267**	P	Pb	13 43 23.8	-0.2
LKR	**Lokris**	**0.96**	**59**	P	Pg	13 43 23.7	-0.9
LKR	**Lokris**	**0.96**	**59**	*e*PN	Pg	13 43 23.9	-0.7
LKR				*e*SN	Sb	13 43 37.8	+0.5
LKR	**Lokris**	**0.96**	**59**	P	Pg	13 43 23.7	-0.9
LKR				*e*Sn	Sb	13 43 37.8	+0.5
ITM	**Ithomi**	**0.98**	**181**	P	Pg	13 43 24.3	-0.8
ITM				S	Sn	13 43 40.5	+1.0
ITM	**Ithomi**	**0.98**	**181**	*e*PN	Pg	13 43 24.2	-0.8
ITM				*e*SN	Sb	13 43 37.9	0.0
ITM	**Ithomi**	**0.98**	**181**	P	Pg	13 43 24.3	-0.8
ITM				*e*Sn	Sb	13 43 37.9	0.0
ATAL	**Atalanti**	**0.99**	**57**	P	Pg	13 43 24.2	-1.1
ATAL	**Atalanti**	**0.99**	**57**	P	Pg	13 43 24.2	-1.1
VLS	**Valsamata**	**1.07**	**271**	P	Pg	13 43 25.8	-1.0
VLS				S	Sn	13 43 42.9	+1.1
VLS	**Valsamata**	**1.07**	**271**	*e*PN	Pg	13 43 25.3	-1.5
VLS				*e*SN	Sb	13 43 41.0	+0.4
VLS	**Valsamata**	**1.07**	**271**	*e*Pn	Pg	13 43 25.3	-1.5
VLS	**Valsamata**	**1.07**	**271**	P	Pg	13 43 25.8	-1.0
VLS				*e*Sn	Sb	13 43 41.0	+0.4
VLS				S	Sn	13 43 42.9	+1.1
LKD2	**Lefkada island**	**1.19**	**302**	P	Pg	13 43 27.8	-1.3
LKD2	**Lefkada island**	**1.19**	**302**	*e*PN	Pg	13 43 27.6	-1.5
LKD2				*e*SN	Sg	13 43 43.9	-0.8
LKD2	**Lefkada island**	**1.19**	**302**	P	Pg	13 43 27.8	-1.3
LKD2				*e*Sn	Sg	13 43 43.9	-0.8
DID	**Didima**	**1.21**	**122**	P	Pg	13 43 28.2	-1.2
DID				S	Sn	13 43 45.9	+0.7
DID	**Didima**	**1.21**	**122**	*e*PN	Pg	13 43 28.4	-1.0
DID				*e*SN	Sn	13 43 45.7	+0.5
DID	**Didima**	**1.21**	**122**	*e*Pn	Pg	13 43 28.4	-1.0
DID				*e*Sn	Sn	13 43 45.7	+0.5
DIDY	**Didyma**	**1.21**	**124**	P	Pg	13 43 28.5	-0.9
DIDY	**Didyma**	**1.21**	**124**	P	Pg	13 43 28.5	-0.9
PYL	**PYLOS**	**1.27**	**188**	P	Pn	13 43 29.5	-0.2
PYL	**PYLOS**	**1.27**	**188**	*e*PN	Pn	13 43 29.4	-0.2
PYL				*e*SN	Sb	13 43 46.7	+0.4
PYL	**PYLOS**	**1.27**	**188**	P	Pn	13 43 29.5	-0.2
PYL				*e*Sn	Sb	13 43 46.7	+0.4
NAIG	**Nisos Aigina**	**1.28**	**108**	*e*PN	Pg	13 43 30.2	-0.6
NAIG	**Nisos Aigina**	**1.28**	**108**	*e*Pn	Pg	13 43 30.2	-0.6
MRKA	**Markates**	**1.40**	**67**	P	Pb	13 43 31.9	-0.2
MRKA	**Markates**	**1.40**	**67**	P	Pb	13 43 31.9	-0.2
THL	**Klokotos Trika**	**1.40**	**2**	P	Pb	13 43 32.1	-0.2
THL	**Klokotos Trika**	**1.40**	**2**	*e*PN	Pb	13 43 32.0	-0.2
THL				*e*SN	Sg	13 43 51.3	0.0
THL	**Klokotos Trika**	**1.40**	**2**	P	Pb	13 43 32.1	-0.2
THL				*e*Sn	Sg	13 43 51.3	0.0
ATH	**Athens Observa**	**1.41**	**97**	*e*PN	Pb	13 43 32.3	0.0
ATH				*e*SN	Sg	13 43 51.9	+0.5
ATH	**Athens Observa**	**1.41**	**97**	*e*Pn	Pb	13 43 32.3	0.0
ATH				*e*Sn	Sg	13 43 51.9	+0.5
PTL	**Penteli**	**1.51**	**94**	P	Pn	13 43 33.3	+0.3
PTL	**Penteli**	**1.51**	**94**	*e*PN	Pb	13 43 34.0	-0.2
PTL				*e*SN	Sg	13 43 54.0	-0.9
PTL	**Penteli**	**1.51**	**94**	P	Pn	13 43 33.3	+0.3
PTL	**Penteli**	**1.51**	**94**	*e*Pn	Pb	13 43 34.0	-0.2
PTL				*e*Sn	Sg	13 43 54.0	-0.9
NEO	**Neokhori**	**1.52**	**41**	*e*PN	Pn	13 43 33.4	+0.3
NEO				*e*SN	Sg	13 43 54.4	-0.6
NEO	**Neokhori**	**1.52**	**41**	*e*Pn	Pn	13 43 33.4	+0.3
NEO				*e*Sn	Sg	13 43 54.4	-0.6
XOR	**Xorichti**	**1.55**	**38**	P	Pn	13 43 33.2	-0.3
XOR	**Xorichti**	**1.55**	**38**	P	Pn	13 43 33.2	-0.3
VLI	**Veliai**	**1.64**	**151**	P	Pb	13 43 35.7	-0.5
VLI	**Veliai**	**1.64**	**151**	*e*PN	Pb	13 43 35.8	-0.5
VLI				*e*SN	Sg	13 43 57.7	-1.2
VLI	**Veliai**	**1.64**	**151**	P	Pb	13 43 35.7	-0.5
VLI				*e*Sn	Sg	13 43 57.7	-1.2
JAN	**Janina**	**1.72**	**330**	*e*PN	Pn	13 43 36.5	+0.6
JAN	**Janina**	**1.72**	**330**	*e*Pn	Pn	13 43 36.5	+0.6
LIT	**Litokhoron**	**1.98**	**12**	P	Pn	13 43 40.1	+0.6
LIT	**Litokhoron**	**1.98**	**12**	*e*PN	Pn	13 43 40.6	+1.1
LIT	**Litokhoron**	**1.98**	**12**	P	Pn	13 43 40.1	+0.6
LIT	**Litokhoron**	**1.98**	**12**	*e*Pn	Pn	13 43 40.6	+1.1
KYTH	**Kithira**	**2.07**	**155**	P	Pn	13 43 42.2	+1.5
KYTH	**Kithira**	**2.07**	**155**	*e*PN	Pn	13 43 42.2	+1.5
KYTH	**Kithira**	**2.07**	**155**	P	Pn	13 43 42.2	+1.5
KZN	**Kozani**	**2.15**	**356**	*e*PN	Pn	13 43 42.5	+0.7
KZN	**Kozani**	**2.15**	**356**	*e*Pn	Pn	13 43 42.5	+0.7
KEK	**Kerkira**	**2.29**	**313**	*e*PN	Pn	13 43 44.5	+0.9
KEK	**Kerkira**	**2.29**	**313**	*e*Pn	Pn	13 43 44.5	+0.9
NEST	**Nestorio**	**2.36**	**343**	P	Pb	13 43 48.1	-0.5
PLG	**Polygyros**	**2.50**	**27**	*e*PN	Pn	13 43 47.1	+0.5
PLG	**Polygyros**	**2.50**	**27**	*e*Pn	Pn	13 43 47.1	+0.5
APE	**Apeiranthos**	**3.04**	**110**	*e*PN	Pn	13 43 55.2	+1.1
APE	**Apeiranthos**	**3.04**	**110**	*e*Pn	Pn	13 43 55.2	+1.1
VAM	**Vamos**	**3.29**	**146**	*e*PN	Pn	13 43 59.1	+1.7
VAM	**Vamos**	**3.29**	**146**	*e*Pn	Pn	13 43 59.1	+1.7
NVR	**Nevrokopi**	**3.51**	**24**	*e*PN	Pn	13 44 01.9	+1.4
NVR	**Nevrokopi**	**3.51**	**24**	*e*Pn	Pn	13 44 01.9	+1.4
PRK	**Paraskevi**	**3.55**	**71**	*e*PN	Pn	13 44 02.2	+1.2
PRK	**Paraskevi**	**3.55**	**71**	*e*Pn	Pn	13 44 02.2	+1.2
SMG	**Samos**	**3.89**	**95**	*e*PN	Pn	13 44 07.6	+1.9
SMG	**Samos**	**3.89**	**95**	*e*Pn	Pn	13 44 07.6	+1.9
STON	**Ston**	**5.71**	**327**	*i* Pn	Pn	13 44 31.7	+1.0
STON				Sn	Sn	13 45 34.0	-2.2
STON	**Ston**	**5.71**	**327**	*i* Pn	Pn	13 44 31.6	+1.0
BRTR	**Keskin Array B**	**9.24**	**77**	Pn	Pn	13 45 22.4	+3.1
	0.1nm,0.3s,baz=265,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**44.35**	**59**	P	**P**	**13 51 15.8**	**-0.3**
	0.3nm,0.5s,baz=276,slow=7.6,SNR=7.6						
ZALV	**Zalesovo Beam**	**44.86**	**48**	P	**P**	**13 51 18.7**	**-1.3**
	0.5nm,0.4s,baz=258,slow=9.6,SNR=3.9						

IDC 07 13:58:21.3±1.1,0°.67S×67°.01E,h0km,mb3.8/7,mb1 3.9/7,
mb1mx3.7/23,mbtmp3.8/7,MS3.3/6,Ms1 3.3/6,
ms1mx2.9/44,Error ellipse: s-maj=32.1km
s-min=25.4km az=69.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**36.69**	**57**	LR	LR	14 19 27.1	
	comp=Z,22nm,18.2s,baz=95,slow=34						
AAK	**Ala-Archa**	**43.63**	**8**	LR	LR	14 24 05.5	
	comp=Z,36nm,18.3s,baz=187,slow=35						
BOSA	**Boshof**	**48.59**	**231**	P	P	14 07 06.2	-0.9
	2.1nm,0.8s,baz=110,slow=7.9,SNR=3.2						
BOSA				LR	LR	14 24 15.1	
	comp=Z,46nm,19.7s,baz=260,slow=32						
MKAR	**Makanchi Array**	**49.13**	**14**	P	P	14 07 10.1	-0.7
	0.3nm,0.8s,baz=212,slow=8.5,SNR=3.9						
BRTR	**Keskin Array B**	**50.46**	**327**	P	P	14 07 22.4	+1.2
	0.7nm,0.8s,baz=150,slow=9.9,SNR=5.1						
AKTO	**Aktyubinsk**	**51.49**	**353**	LR	LR	14 27 36.8	
	comp=Z,24nm,18.1s,baz=168,slow=34						
BVAR	**Borovoye Array**	**53.58**	**3**	LR	LR	14 28 38.1	
	comp=Z,33nm,18.0s,baz=332,slow=34						
ZALV	**Zalesovo Beam**	**56.40**	**13**	P	P	14 08 03.6	-0.8
	0.9nm,0.7s,baz=213,slow=5.0,SNR=5.9						
SONM	**Songino Array**	**59.20**	**30**	P	P	14 08 24.2	-0.2
	1.1nm,0.9s,baz=221,slow=5.8,SNR=8.7						
KSRS	**Korea Array**	**67.68**	**49**	LR	LR	14 41 07.8	
	comp=Z,31nm,18.5s,baz=170,slow=38						
WRA	**Warramunga Arr**	**68.50**	**111**	P	P	14 09 26.3	+0.2
	1.5nm,1.0s,baz=290,slow=5.7,SNR=5.9						
ASAR	**Alice Springs**	**68.63**	**115**	P	P	14 09 27.2	+0.3
	0.7nm,0.7s,baz=284,slow=6.0,SNR=8.5						

*ISCJB **07** 13:58:32.8±0.8,36°.65N±0°.04×121°.42W±0°.07,h14km±5km,*
Error ellipse: s-maj=10.1km s-min=6.6km az=153.3
*NEIC **07** 13:58:33.7,36°.69N×121°.32W,h5km,ML3.1(NCEDC),*
After NCEDC.

ISC 07 13:58:33.2±1.2,36°.68N±0°.05×121°.33W±0°.06,h7km±10km,
n14,σ0s87/20,3C-6D,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAO	**San Andreas Ge**	**0.13**	**313**	*e*Pg	Pg	13 58 36.4	+0.4
SAO				*e*Sg	Sg	13 58 38.0	+0.1
CMB	**Columbia Colle**	**1.55**	**29**	*e*Sn	Sn	13 59 20.6	-1.0
SMMC	**Simmler**	**1.74**	**141**	⇓P	Pn	13 59 03.0	-0.8
	baz=1.7						
MCCM	**Marconi Confer**	**1.91**	**320**	*e*Pn	Pn	13 59 06.4	+0.2
VES	**Vestal, Richgr**	**2.00**	**114**	⇓P	Pn	13 59 07.1	-0.3
	baz=2.0						
VES				⇓S	Sn	13 59 32.7	+0.1
	baz=2.0						
PKM	**Peak Mountain**	**2.16**	**145**	⇓P	Pn	13 59 10.0	+0.2
	baz=2.2						
MLAC	**Mammoth Lakes**	**2.21**	**64**	⇓Pb	Pb	13 59 13.6	0.0
	baz=2.2						
MLAC				⇑Sb	Sg	13 59 43.1	-1.1
	baz=2.2						
TIN	**Tinemaha**	**2.52**	**80**	⇓Sb	Sb	13 59 51.7	+1.7
	baz=2.5						
ISA	**Isabella**	**2.52**	**113**	*e*Pn	Pn	13 59 15.4	+0.7
ISA				*e*Sn	Sn	13 59 46.4	+0.7
ISA	**Isabella**	**2.52**	**113**	⇑P	Pn	13 59 15.1	+0.5
	baz=2.5						
HOPS	**Hopland**	**2.69**	**330**	*e*Pn	Pn	13 59 16.7	-0.2
WCN	**Washoe City**	**2.90**	**25**	*e*Pn	Pn	13 59 20.5	+0.5
WCN				*e*Sn	Sn	13 59 54.6	-0.5
MPMC	**Manual Prospec**	**3.16**	**100**	⇑Pb	Pb	13 59 28.1	-1.7
	baz=3.1						
GSC	**Goldstone**	**3.92**	**109**	*e*Pn	Pn	13 59 34.3	+0.4
GSC				*e*Sn	Sn	14 00 21.2	+1.1

*ISCJB **07** 14:12:58.5±0.5,13°.41N±0°.08×144°.33E±0°.08,h129km,*
mb3.8/17,Error ellipse: s-maj=12.0km s-min=11.4km
az=31.3
*IDC **07** 14:12:59.7±0.4,13°.43N×144°.47E,h127km±4km,mb3.7/18,*
mb1 3.8/18,mb1mx3.8/26,mbtmp3.7/18,Error ellipse:
s-maj=16.6km s-min=12.3km az=90.0

ISC 07 14:13:00.1±0.6,13°.4N±0°.1×144°.4E±0°.1,h129km,n29,
σ0s93/31,mb3.9/17,1D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.46**	**71**	P	Pn	14 13 19.5	+0.6
	2µm,0.3s,baz=194,slow=1.4,SNR=1311						
GUMO				S	Sn	14 13 33.2	+0.2
	966nm,0.3s,baz=345,slow=23,SNR=32						
JOW	**Kunigami**	**20.15**	**314**	P	P	14 17 23.3	-1.0
	10nm,0.7s,baz=139,slow=12,SNR=8.7						
MJAR	**Matsushiro Arr**	**23.67**	**347**	P	P	14 17 59.5	-0.3
	5.2nm,0.7s,baz=167,slow=7.6,SNR=22						
MAT	**Matsushiro**	**23.67**	**347**	P	P	14 17 59.0	-0.9
KSRS	**Korea Array**	**28.08**	**331**	P	P	14 18 40.5	+0.9
	1.4nm,0.8s,baz=134,slow=10,SNR=4.4						
WRA	**Warramunga Arr**	**34.62**	**197**	P	P	14 19 36.5	-0.6
	1.5nm,0.8s,baz=12,slow=9.0,SNR=18						
ASAR	**Alice Springs**	**38.29**	**196**	P	P	14 20 07.7	-0.5
	0.5nm,0.4s,baz=15,slow=7.2,SNR=15						
CMAR	**Chiang Mai Arr**	**43.92**	**283**	P	P	14 20 55.0	+0.5
	1.3nm,0.3s,baz=85,slow=6.2,SNR=18						
CMAR				PcP	PcP	14 22 38.7	+0.3
	0.9nm,0.6s,baz=105,slow=2.6,SNR=7.3						
STKA	**Stephens Creek**	**45.14**	**183**	P	P	14 21 02.8	-1.0
	1.6nm,0.7s,baz=3.5,slow=9.0,SNR=4.0						
SONM	**Songino Array**	**46.60**	**325**	P	P	14 21 15.9	+0.6
	0.5nm,0.4s,baz=144,slow=7.5,SNR=12						
TAPN	**Taplejung**	**54.51**	**294**	*e*P	P	14 22 15.4	+0.1
RAMN	**Ramite**	**55.48**	**294**	*e*P	P	14 22 22.4	+0.2
JIRN	**Jiri**	**55.87**	**294**	*e*P	P	14 22 25.3	+0.2
	1.9nm,0.4s						
GUN	**Gumba**	**56.15**	**295**	*e*P	P	14 22 27.2	+0.1
	7.1nm,0.3s						
DANN	**Dangsing**	**58.04**	**295**	*e*P	P	14 22 40.2	-0.1
	19nm,0.5s						
KOLN	**Koldanda**	**58.17**	**294**	*e*P	P	14 22 40.8	-0.3
MKAR	**Makanchi Array**	**61.29**	**316**	P	P	14 23 02.5	+0.5
	0.7nm,0.5s,baz=91,slow=8.6,SNR=16						
ZALV	**Zalesovo Beam**	**61.49**	**325**	P	P	14 23 01.2	-1.9
	0.4nm,0.4s,baz=124,slow=7.4,SNR=3.7						
KDAK	**Kodiak Island**	**64.43**	**32**	P	P	14 23 22.1	-0.3
	2.4nm,0.7s,baz=197,slow=11,SNR=3.3						
KURBB	**Kurchatov Arra**	**64.45**	**320**	P	P	14 23 22.8	0.0
	2.6nm,0.4s,baz=103,slow=6.7,SNR=20						
ILAR	**Eielson Array**	**68.89**	**25**	P	P	14 23 49.2	-1.4
	0.6nm,0.4s,baz=252,slow=5.5,SNR=33						
BVAR	**Borovoye Array**	**69.77**	**322**	P	P	14 23 56.3	0.0
	0.7nm,0.3s,baz=104,slow=8.5,SNR=10						
YKA	**Yellowknife Ar**	**83.19**	**27**	P	P	14 25 11.5	-0.2
	0.3nm,0.4s,baz=287,slow=5.2,SNR=7.6						
NVAR	**Mina Array Bea**	**87.36**	**51**	P	P	14 25 34.5	+1.3
	1.5nm,0.7s,baz=266,slow=6.2,SNR=12						
FINES	**FINESS Array B**	**91.11**	**335**	P	P	14 25 49.4	-0.6
	2.8nm,1.0s,baz=124,slow=3.4,SNR=4.3						
PDAR	**Pinedale Array**	**92.38**	**45**	P	P	14 25 55.9	-0.8
	0.3nm,0.6s,baz=290,slow=3.7,SNR=2.7						
SYO	**Syowa Base**	**107.77**	**201**	⇓*e*P	**PKiKP**	**14 31 14.5**	**+3.0**
TORD	**Torodi Ar. Bea**	**134.58**	**304**	PKP	**PKPdf**	**14 32 05.2**	**+1.0**
	0.5nm,0.7s,baz=60,slow=2.7,SNR=3.6						
CFAA	**Coronel Fontan**	**145.03**	**127**	PKP	**PKPdf**	**14 32 22.7**	**-0.1**
	0.4nm,0.5s,baz=240,slow=3.2,SNR=5.5						

*ISCJB **07** 14:13:07.1±0.8,27°.89N±0°.06×57°.57E±0°.08,h10km,*
mb3.6/11,Error ellipse: s-maj=12.0km s-min=5.8km
az=35.8
*IDC **07** 14:13:07.3±2.3,27°.90N×57°.75E,h0km,mb3.6/12,*
mb1 3.7/12,mb1mx3.6/31,mbtmp3.6/12,Error ellipse:
s-maj=50.9km s-min=19.6km az=155.0
*TEH **07** 14:13:15.5,27°.84N×57°.82E,h26km,ML3.6*
*CSEM **07** 14:13:18.7±0.8,28°.18N×57°.23E,h2km,ML3.6,Error*
ellipse: s-maj=23.2km s-min=12.1km az=129.0
*THR **07** 14:13:18.6±0.4,28°.14N×57°.26E,h14km±5km,ML3.6*

ISC 07 14:13:09.2±1.1,27°.74N±0°.08×57°.81E±0°.07,h10km,n37,
σ2s08/35,mb3.6/11,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.49**	**257**	*e*Pg	**Pg**	**14 13 41.1**	**+3.2**
BNDS				AML	AML	14 14 10.6	
	comp=N,748nm,0.1s						
BNDS	**Bandar-Abbas**	**1.49**	**257**	*e*Pg	**Pg**	**14 13 41.1**	**+3.2**
KRBR	**Kerman**	**2.42**	**338**	*e*Pg	**Pb**	**14 13 53.1**	**+0.1**
KRBR				AML	AML	14 14 27.4	
	comp=E,865nm,0.6s						
KRBR	**Kerman**	**2.42**	**338**	*e*Pg

BKZ	**Black Stump Fm**	**3.23**	**201**	⇑PN	Pn	14 24 42.6	-0.9
MCHZ	**McNeill Hill**	**3.43**	**197**	PN	Pn	14 24 45.7	-0.2
NGZ	**Ngauruhoe**	**3.56**	**212**	PN	Pn	14 24 47.9	+0.3
CKHZ	**Cape Kidnapper**	**3.56**	**192**	⇓PN	Pn	14 24 46.7	-0.7
WPVZ	**Whakapapa**	**3.61**	**212**	PN	Pn	14 24 47.9	-0.2
TUVZ	**Tukino**	**3.62**	**210**	PN	Pn	14 24 47.7	-0.5
FWVZ	**Far West T-bar**	**3.65**	**211**	PN	Pn	14 24 48.1	-0.6
BHHZ	**Black Hill Sta**	**3.66**	**204**	PN	Pn	14 24 47.3	-1.3
WNVZ	**Wahianoa**	**3.69**	**210**	PN	Pn	14 24 48.3	-0.8
MOVZ	**Moawhango**	**3.70**	**208**	PN	Pn	14 24 47.8	-1.3
KAHZ	**Kahuranaki**	**3.73**	**193**	PN	Pn	14 24 48.8	-0.7
MTVZ	**Mangateitei**	**3.79**	**211**	PN	Pn	14 24 49.6	-0.6
PXZ	**Pawanui**	**3.96**	**193**	⇑PN	Pn	14 24 50.8	-1.4
PNHZ	**Pukenui**	**4.00**	**200**	PN	Pn	14 24 51.2	-1.6
WPHZ	**Waipukurau**	**4.08**	**197**	⇓PN	Pn	14 24 52.3	-1.4
TSZ	**Takapari Road**	**4.21**	**202**	PN	Pn	14 24 53.4	-1.9
TSZ				SN	S	14 25 44.7	-1.6
PRHZ	**Porangahau**	**4.24**	**194**	PN	Pn	14 24 54.0	-1.5
WAZ	**Wanganui**	**4.31**	**213**	PN	Pn	14 24 55.5	-0.9
DVHZ	**Dannevirke**	**4.38**	**199**	PN	Pn	14 24 55.3	-2.0
POWZ	**Post Office Ro**	**4.57**	**202**	PN	Pn	14 24 57.8	-1.9
BFZ	**Birch Farm**	**4.72**	**196**	PN	Pn	14 24 59.4	-2.1
MRZ	**Mangatainoka R**	**4.88**	**202**	PN	Pn	14 25 00.9	-2.6
TIWZ	**Tintock**	**4.90**	**199**	PN	Pn	14 25 01.6	-2.2
HOWZ	**Holdsworth Sta**	**5.11**	**202**	PN	Pn	14 25 03.6	-2.9
OGWZ	**Otaki Gorge**	**5.15**	**205**	PN	Pn	14 25 04.1	-2.8
TMWZ	**Te Maipa**	**5.21**	**198**	⇓PN	Pn	14 25 05.3	-2.3
KIW	**Kapiti Island**	**5.28**	**206**	PN	Pn	14 25 05.9	-2.7
MTW	**Mount Morrison**	**5.36**	**201**	PN	Pn	14 25 06.5	-3.0
CAW	**Cannon Point**	**5.45**	**204**	PN	Pn	14 25 07.4	-3.3
TRWZ	**Traveller**	**5.53**	**198**	PN	Pn	14 25 09.3	-2.5
PAWZ	**Paruwai Farm**	**5.58**	**200**	*e*PN	Pn	14 25 09.3	-3.1
MSWZ	**Moikau Station**	**5.67**	**201**	PN	Pn	14 25 10.2	-3.3
WEL	**Wellington**	**5.70**	**205**	PN	Pn	14 25 10.6	-3.3
BHW	**Baring Head**	**5.78**	**204**	PN	Pn	14 25 11.4	-3.5
PLWZ	**Palliser**	**5.81**	**201**	PN	Pn	14 25 11.9	-3.4
TCW	**Tory Channel**	**5.82**	**209**	PN	Pn	14 25 12.1	-3.3
TUWZ	**Tuamarina**	**6.14**	**210**	*e*PN	Pn	14 25 15.5	-3.9
THZ	**Tophouse**	**6.86**	**214**	PN	Pn	14 25 25.4	-3.4
KHZ	**Kahutara**	**7.14**	**208**	PN	Pn	14 25 28.5	-3.8

*ISK **07** 14:34:58.6,37.09N×27.92E, h5km, MD2.6*
*CSEM **07** 14:34:59.2±0.4, 37.01N×27.97E, h2km, MD2.6, Error ellipse: s-maj=10.3km s-min=5.8km az=5.0*
*DDA **07** 14:35:00, 37.07N×27.91E, h7km, MD2.7*
ISC 07 14:34:59.5±1.1, 37.04N±0.04×27.94E±0.02, h8km±9km, n16, σ1§18/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.29**	**71**	*e*PG	**Pg**	**14 35 05.8**	**+0.6**
YER				*e*SG	**Sg**	**14 35 10.5**	**+1.5**
YER	**Yerkesik**	**0.29**	**71**	*e*Pg	**Pg**	**14 35 05.8**	**+0.6**
YER				*e*Sg	**Sg**	**14 35 10.5**	**+1.5**
BDRM	**Kayabasi**	**0.40**	**273**	*i* P	**Pg**	**14 35 07.3**	**0.0**
BDRM				*i* S	**Sb**	**14 35 14.1**	**-0.9**
BDRM				*i* S	**Sg**	**14 35 14.3**	**+1.7**
BDRM	**Kayabasi**	**0.40**	**273**	*i* P	**Pg**	**14 35 07.3**	**0.0**
BDRM				*i* S	**Sb**	**14 35 14.1**	**-0.9**
BODT	**Bodrum**	**0.51**	**272**	*e*PG	**Pg**	**14 35 09.4**	**+0.1**
BODT				*e*SG	**Sb**	**14 35 17.2**	**-0.9**
BODT	**Bodrum**	**0.51**	**272**	*e*Pg	**Pg**	**14 35 09.4**	**+0.1**
BODT				*e*Sg	**Sb**	**14 35 17.2**	**-0.9**
TURN	**Turunc**	**0.56**	**108**	*i* P	Pg	14 35 07.3	-2.9
TURN				*i* S	**Sg**	**14 35 14.9**	**-2.6**
TURN	**Turunc**	**0.56**	**108**	*i* P	Pg	14 35 07.3	-2.9
TURN				*i* S	**Sg**	**14 35 14.9**	**-2.6**
AYDN	**Tasoluk**	**0.62**	**355**	*i* P	**Pg**	**14 35 11.2**	**-0.2**
AYDN				*i* S	**Sb**	**14 35 20.5**	**-0.9**
AYDN	**Tasoluk**	**0.62**	**355**	*i* P	**Pg**	**14 35 11.2**	**-0.2**
AYDN				*i* S	**Sb**	**14 35 20.5**	**-0.9**
FETY	**Fethiye**	**1.00**	**114**	*e*PG	**Pg**	**14 35 19.5**	**+0.8**
FETY				*e*SG	**Sn**	**14 35 35.7**	**+1.6**
FETY	**Fethiye**	**1.00**	**114**	*e*Pg	**Pg**	**14 35 19.5**	**+0.8**
DNZL	**Cakiroluk**	**1.09**	**53**	*i* P	**Pg**	**14 35 19.7**	**-0.7**
DNZL				*i* S	**Sn**	**14 35 38.0**	**+1.4**
DNZL	**Cakiroluk**	**1.09**	**53**	*i* P	**Pg**	**14 35 19.7**	**-0.7**
DNZL				*i* S	**Sn**	**14 35 38.0**	**+1.4**
KULA	**Kula-Manisa**	**1.57**	**21**	*e*PN	**Pb**	**14 35 28.5**	**-0.4**
KULA				*e*SN	**Sg**	**14 35 50.6**	**+0.4**
KULA	**Kula-Manisa**	**1.57**	**21**	*e*Pn	**Pb**	**14 35 28.5**	**-0.4**
KULA				*e*Sn	**Sg**	**14 35 50.6**	**+0.4**

IDC 07 14:49:24.5±2.9, 6.19N×126.38E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, Error ellipse: s-maj=254.1km s-min=25.9km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.12**	**163**	P	P	14 55 09.4	-0.1
	0.2nm,0.4s,baz=343,slow=10,SNR=4.4						
ASAR	**Alice Springs**	**30.57**	**166**	P	P	14 55 40.2	+0.1
	0.4nm,0.6s,baz=349,slow=7.5,SNR=5.6						
MKAR	**Makanchi Array**	**55.36**	**324**	P	P	14 59 00.3	-0.1
	0.1nm,0.4s,baz=111,slow=8.0,SNR=3.0						

*DDA **07** 14:49:35.0, 38.19N×26.73E, h7km, MD3.0*
*ATH **07** 14:49:34.4, 38.19N×26.74E, h34km±1km, MD3.0/5*
*ISCJB **07** 14:49:35.3±0.4, 38.19N±0.02×26.70E±0.03, h10km±3km, Error ellipse: s-maj=4.2km s-min=2.9km az=164.6*
*THE **07** 14:49:35.5, 38.19N×26.73E, h12km±1km, ML2.9/4, Error ellipse: s-maj=2.1km s-min=0.4km az=232.0*
*ISK **07** 14:49:35.3, 38.17N×26.79E, h6km, MD3.1*
*CSEM **07** 14:49:35.2±0.2, 38.18N×26.71E, h5km, MD3.0, Error ellipse: s-maj=4.7km s-min=3.4km az=79.0*
ISC 07 14:49:35.2±0.9, 38.19N±0.02×26.71E±0.02, h12km±6km, n66, σ1§05/97, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.20**	**333**	*i* P	**Pg**	**14 49 39.1**	**-0.4**
URLA				*i* S	**Sg**	**14 49 42.8**	**+0.3**
URLA	**Izmir**	**0.20**	**333**	*i* P	**Pg**	**14 49 39.1**	**-0.4**
URLA				*i* S	**Sg**	**14 49 42.8**	**+0.3**
BLCB	**Balcova**	**0.33**	**53**	*e*PG	**Pg**	**14 49 41.6**	**-0.3**
BLCB				*e*SG	**Sg**	**14 49 45.9**	**-0.5**
BLCB	**Balcova**	**0.33**	**53**	*e*Pg	**Pg**	**14 49 41.6**	**-0.3**
BLCB				*e*Sg	**Sg**	**14 49 45.9**	**-0.5**
IZM	**Izmir**	**0.48**	**64**	*e*PG	**Pg**	**14 49 44.5**	**-0.3**
IZM				*e*SG	**Sg**	**14 49 51.3**	**+0.1**
IZM	**Izmir**	**0.48**	**64**	*e*Pg	**Pg**	**14 49 44.5**	**-0.3**
IZM				*e*Sg	**Sg**	**14 49 51.3**	**+0.1**
SMG	**Samos**	**0.49**	**168**	P	**Pg**	**14 49 45.1**	**+0.3**
SMG				S	**Sb**	**14 49 52.9**	**+0.1**
SMG	**Samos**	**0.49**	**168**	*e*PB	**Pg**	**14 49 45.2**	**+0.4**
SMG				*e*SB	**Sb**	**14 49 53.0**	**+0.1**
SMG	**Samos**	**0.49**	**168**	*e*Pb	**Pg**	**14 49 45.2**	**+0.4**
SMG				S	**Sb**	**14 49 52.9**	**+0.1**
CHOS	**Chios island**	**0.55**	**291**	P	**Pg**	**14 49 46.2**	**+0.2**
CHOS				S	**Sb**	**14 49 55.3**	**+0.5**
CHOS	**Chios island**	**0.55**	**291**	*e*PN	**Pg**	**14 49 46.4**	**+0.4**
CHOS				*e*SN	**Sb**	**14 49 55.3**	**+0.5**
CHOS	**Chios island**	**0.55**	**291**	*e*Pn	**Pg**	**14 49 46.4**	**+0.4**
CHOS				S	**Sb**	**14 49 55.3**	**+0.5**
GCAM	**G?zelcaml?**	**0.64**	**139**	*i* P	**Pg**	**14 49 47.8**	**+0.2**
GCAM				*i* S	**Sb**	**14 49 57.0**	**-0.2**
GCAM	**G?zelcaml?**	**0.64**	**139**	*i* P	**Pg**	**14 49 47.8**	**+0.2**
GCAM				*i* S	**Sb**	**14 49 57.0**	**-0.2**
AKHS	**Akhisar**	**1.11**	**51**	*i* P	**Pb**	**14 49 55.7**	**-0.6**
AKHS				*i* S	**Sn**	**14 50 11.5**	**-0.3**
AKHS	**Akhisar**	**1.11**	**51**	*i* P	**Pb**	**14 49 55.7**	**-0.6**
AKHS				*i* S	**Sn**	**14 50 11.5**	**-0.3**
AKS	**Akhisar**	**1.11**	**51**	*e*PG	**Pb**	**14 49 56.0**	**-0.3**
AKS	**Akhisar**	**1.11**	**51**	*e*Pg	**Pb**	**14 49 56.1**	**-0.3**
PRK	**Paraskevi**	**1.11**	**342**	P	**Pb**	**14 49 55.6**	**-0.8**
PRK				S	**Sb**	**14 50 11.3**	**+0.5**
PRK	**Paraskevi**	**1.11**	**342**	*e*PN	**Pb**	**14 49 55.8**	**-0.6**
PRK				*e*SN	**Sb**	**14 50 11.4**	**+0.6**
PRK	**Paraskevi**	**1.11**	**342**	P	**Pb**	**14 49 55.6**	**-0.8**
PRK				S	**Sb**	**14 50 11.3**	**+0.5**
AYVA	**Ayvalik**	**1.12**	**359**	*i* P	**Pb**	**14 49 56.6**	**+0.1**
AYVA				*e*S	**Sb**	**14 50 11.2**	**+0.1**
AYVA	**Ayvalik**	**1.12**	**359**	*i* P	**Pb**	**14 49 56.6**	**+0.1**
AYVA				*e*S	**Sb**	**14 50 11.2**	**+0.1**
BODT	**Bodrum**	**1.22**	**157**	*e*PN	**Pn**	**14 49 58.2**	**+0.2**
BODT	**Bodrum**	**1.22**	**157**	*e*Pn	**Pn**	**14 49 58.3**	**+0.2**
BDRM	**Kayabasi**	**1.26**	**152**	*i* P	**Pn**	**14 49 58.1**	**-0.6**
BDRM				*i* S	**Sb**	**14 50 15.6**	**+0.4**
BDRM	**Kayabasi**	**1.26**	**152**	*i* P	**Pn**	**14 49 58.1**	**-0.6**
BDRM				*i* S	**Sb**	**14 50 15.6**	**+0.4**
APE	**Apeiranthos**	**1.46**	**220**	*e*PN	**Pb**	**14 50 03.3**	**+1.0**
APE	**Apeiranthos**	**1.46**	**220**	P	**Pn**	**14 50 00.5**	**-0.9**
APE	**Apeiranthos**	**1.46**	**220**	*e*PN	**Pn**	**14 50 00.5**	**-0.9**
APE				*e*SN	**Sn**	**14 50 19.9**	**-0.5**
APE	**Apeiranthos**	**1.46**	**220**	P	**Pn**	**14 50 00.5**	**-0.9**
APE	**Apeiranthos**	**1.46**	**220**	*e*Pn	**Pb**	**14 50 03.3**	**+1.0**
APE				*e*Sn	**Sn**	**14 50 19.9**	**-0.5**
KULA	**Kula-Manisa**	**1.57**	**77**	*e*PN	**Pb**	**14 50 03.9**	**-0.4**
KULA	**Kula-Manisa**	**1.57**	**77**	*e*Pn	**Pb**	**14 50 03.9**	**-0.4**
YER	**Yerkesik**	**1.63**	**130**	*e*PN	**Pn**	**14 50 04.2**	**+0.4**
YER	**Yerkesik**	**1.63**	**130**	*e*Pn	**Pn**	**14 50 04.2**	**+0.4**
EZN	**Ezine**	**1.66**	**350**	*e*PN	**Pb**	**14 50 06.2**	**+0.4**
EZN	**Ezine**	**1.66**	**350**	*e*Pn	**Pb**	**14 50 06.2**	**+0.4**
BALY	**Balya**	**1.71**	**24**	*e*P	**Pn**	**14 50 05.0**	**+0.1**
BALY				*e*S	**Sn**	**14 50 25.9**	**-0.7**
BALY	**Balya**	**1.71**	**24**	*e*P	**Pn**	**14 50 05.0**	**+0.1**
BALY				*e*S	**Sn**	**14 50 25.9**	**-0.7**
BALB	**Balikesir**	**1.71**	**32**	*e*PN	**Pn**	**14 50 06.1**	**+1.2**
BALB	**Balikesir**	**1.71**	**32**	*e*Pn	**Pn**	**14 50 06.1**	**+1.2**
GONE	**Gonen-Balikesi**	**2.01**	**22**	*e*PN	**Pn**	**14 50 10.6**	**+1.7**
GONE	**Gonen-Balikesi**	**2.01**	**22**	*e*Pn	**Pn**	**14 50 10.6**	**+1.7**
LIA	**Limnos Island**	**2.08**	**326**	*e*PN	**Pn**	**14 50 08.9**	**-1.0**
LIA				*e*SN	**Sn**	**14 50 34.9**	**-0.8**
LIA	**Limnos Island**	**2.08**	**326**	*e*Pn	**Pn**	**14 50 08.9**	**-1.0**
LIA				*e*Sn	**Sn**	**14 50 34.9**	**-0.8**
LPK	**Lapseki**	**2.18**	**1**	*e*PN	**Pn**	**14 50 13.4**	**+2.1**
LPK	**Lapseki**	**2.18**	**1**	*e*Pn	**Pn**	**14 50 13.4**	**+2.1**
GELI	**Tayfur-Gelibol**	**2.22**	**355**	*e*PN	**Pn**	**14 50 13.9**	**+2.1**
GELI	**Tayfur-Gelibol**	**2.22**	**355**	*e*Pn	**Pn**	**14 50 13.9**	**+2.1**
KRBG	**Karabiga-Canak**	**2.25**	**12**	*e*PN	**Pn**	**14 50 14.1**	**+1.9**
KRBG	**Karabiga-Canak**	**2.25**	**12**	*e*Pn	**Pn**	**14 50 14.1**	**+1.9**
EDC	**Edincik**	**2.34**	**22**	*e*PN	**Pn**	**14 50 14.6**	**+1.1**
EDC	**Edincik**	**2.34**	**22**	*e*Pn	**Pn**	**14 50 14.6**	**+1.1**
KCTX	**Karacabey (Bur**	**2.44**	**31**	*e*PN	**Pn**	**14 50 16.5**	**+1.6**
KCTX	**Karacabey (Bur**	**2.44**	**31**	*e*Pn	**Pn**	**14 50 16.5**	**+1.6**
FETY	**Fethiye**	**2.44**	**129**	*e*PN	**Pn**	**14 50 15.7**	**+0.8**
FETY	**Fethiye**	**2.44**	**129**	*e*Pn	**Pn**	**14 50 15.7**	**+0.8**
ERIK	**Erikli-Kesan**	**2.49**	**357**	*e*PN	**Pn**	**14 50 17.8**	**+2.3**
ERIK	**Erikli-Kesan**	**2.49**	**357**	*e*Pn	**Pn**	**14 50 17.8**	**+2.3**
RKY	**Sarkoy-Tekirda**	**2.52**	**8**	*e*PN	**Pn**	**14 50 18.0**	**+1.9**
RKY	**Sarkoy-Tekirda**	**2.52**	**8**	*e*Pn	**Pn**	**14 50 18.0**	**+1.9**
MFT	**Murefte**	**2.63**	**10**	*e*PN	**Pn**	**14 50 19.7**	**+2.1**
MFT	**Murefte**	**2.63**	**10**	*e*Pn	**Pn**	**14 50 19.7**	**+2.1**
ALN	**Alexandroupoli**	**2.75**	**350**	*e*PN	**Pn**	**14 50 17.9**	**-1.3**
ALN				*e*SN	**Sn**	**14 50 50.0**	**-2.4**
ALN	**Alexandroupoli**	**2.75**	**350**	*e*Pn	**Pn**	**14 50 17.9**	**-1.3**
ALN				*e*Sn	**Sn**	**14 50 50.0**	**-2.4**

IDC 07 14:50:20.7±3.9, 13.36S×167.23E, h180km±30km, mb3.7/12, mb1 3.8/12, mb1mx3.7/19, mbtmp3.7/12, Error ellipse: s-maj=34.6km s-min=15.2km az=119.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**8.14**	**298**	P	Pn	14 52 24.0	+8.1
	4.6nm,0.3s,baz=207,slow=2.3,SNR=3.9						
DZM	**Mont Dzumac**	**8.70**	**185**	P	Pn	14 52 30.7	+7.4
	1.9nm,0.3s,baz=26,slow=20,SNR=26						
DZM				S	Sn	14 54 05.7	+5.0
	0.3nm,0.3s,baz=135,slow=20,SNR=1.7						
CTA	**Charters Tower**	**21.17**	**249**	P	P	14 54 52.2	+0.2
	5.7nm,0.7s,baz=66,slow=14,SNR=5.0						
STKA	**Stephens Creek**	**29.87**	**228**	P	P	14 56 12.6	+1.2
	2.0nm,0.6s,baz=66,slow=11,SNR=8.3						
STKA				PcP	PcP	14 59 10.3	+0.4
	2.3nm,0.6s,baz=67,slow=4.1,SNR=8.5						
WRA	**Warramunga Arr**	**32.15**	**254**	P	P	14 56 30.4	-1.1
	0.5nm,0.5s,baz=86,slow=9.3,SNR=5.6						
ASAR	**Alice Springs**	**33.15**	**247**	P	P	14 56 39.3	-1.0
	1.4nm,0.4s,baz=75,slow=9.2,SNR=29						
ASAR				PcP	PcP	14 59 18.1	-0.9
	0.7nm,0.7s,baz=78,slow=2.4,SNR=6.3						
ASAR				ScP	ScP	15 02 45.9	-0.6
	0.9nm,0.8s,baz=88,slow=3.6,SNR=9.2						
MJAR	**Matsushiro Arr**	**56.68**	**332**	P	P	14 59 44.7	-0.8
	0.5nm,0.4s,baz=172,slow=8.0,SNR=6.4						
ASAJ	**Asahikawa**	**61.45**	**340**	P	P	15 00 18.8	+0.8
	4.2nm,0.6s,baz=205,slow=19,SNR=9.3						
PETK	**Petropavlovsk-**	**66.70**	**354**	P	P	15 00 52.5	+0.5
	2.5nm,0.7s,baz=163,slow=8.5,SNR=7.5						
CMAR	**Chiang Mai Arr**	**74.37**	**294**	P	P	15 01 39.9	+0.7
	1.5nm,0.8s,baz=128,slow=4.8,SNR=14						
SONM	**Songino Array**	**81.38**	**323**	P	P	15 02 17.6	+0.1
	0.4nm,0.6s,baz=140,slow=5.3,SNR=7.5						
ILAR	**Eielson Array**	**85.24**	**18**	P	P	15 02 36.0	-0.7
	1.6nm,0.6s,baz=244,slow=4.9,SNR=62						
MKAR	**Makanchi Array**	**96.19**	**316**	P	P	15 03 28.1	-0.1
	1.0nm,0.6s,baz=88,slow=7.7,SNR=10						
ZALV	**Zalesovo Beam**	**96.27**	**324**	P	P	15 03 26.7	-1.7
	0.5nm,0.5s,baz=117,slow=4.2,SNR=3.6						
ARCES	**ARCESS Array B**	**118.92**	**346**	PKP	PKPdf	15 08 46.7	-0.5
	1.8nm,0.4s,baz=89,slow=1.8,SNR=15						
BOSA	**Boshof**	**124.39**	**221**	PKP	PKPdf	15 08 59.2	0.0
	3.8nm,1.1s,baz=163,slow=6.5,SNR=3.1						
FINES	**FINESS Array B**	**124.44**	**339**	PKP	PKPdf	15 08 57.7	-0.3
	0.9nm,0.5s,baz=344,slow=2.0,SNR=11						
NOA	**NORSAR Array B**	**129.30**	**345**	PKP	PKPdf	15 09 06.4	-1.0
	0.7nm,0.7s,baz=31,slow=2.0,SNR=3.0						
GERES	**GERESS Array B**	**138.41**	**334**	PKP	PKPdf	15 09 25.0	+0.2
	0.2nm,0.6s,baz=113,slow=2.6,SNR=4.4						
KEST	**Kesra**	**150.12**	**322**	PKPbc	PKPbc	15 09 50.2	-0.4
	3.0nm,0.9s,baz=11,slow=5.2,SNR=4.1						
TORD	**Torodi Ar. Bea**	**165.92**	**271**	PKP	PKPdf	15 10 04.7	-0.3
	0.7nm,0.9s,baz=90,slow=0.1,SNR=3.0						
TORD				PKPab	PKPab	15 11 05.7	-0.3
	0.3nm,0.7s,baz=80,slow=4.8,SNR=2.5						

IDC 07 15:06:12.9±5.9, 5.36S×152.09E, h62km±48km, mb3.5/8, mb1 3.8/9, mb1mx3.6/18, mbtmp3.6/9, ML3.3/1, Error ellipse: s-maj=51.6km s-min=28.1km az=113.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.33**	**230**	P	Pn	15 07 45.5	+1.8
	4.5nm,0.3s,baz=34,slow=14,SNR=23						
PMG				S	Sn	15 08 53.6	-1.0
	15nm,0.3s,baz=158,slow=19,SNR=6.7						
WRA	**Warramunga Arr**	**22.55**	**228**	P	P	15 11 08.1	0.0
	5.0nm,0.6s,baz=52,slow=10.0,SNR=38						
ASAR	**Alice Springs**	**25.22**	**247**	P	P	15 11 34.1	+0.5
	1.7nm,0.4s,baz=57,slow=9.3,SNR=40						
FITZ	**Fitzroy Crossi**	**28.77**	**242**	P	P	15 12 04.7	-0.5
	1.3nm,0.4s,baz=83,slow=8.1,SNR=5.7						
CMAR	**Chiang Mai Arr**	**57.47**	**296**	P	P	15 15 56.5	+0.3
	0.3nm,0.5s,baz=128,slow=5.9,SNR=3.4						
SONM	**Songino Array**	**66.42**	**328**	P	P	15 16 56.1	+0.3
	0.4nm,0.5s,baz=133,slow=5.7,SNR=6.8						
MKAR	**Makanchi Array**	**80.28**	**319**	P	P	15 18 17.4	+0.1
	0.3nm,0.7s,baz=91,slow=4.9,SNR=3.8						
ZALV	**Zalesovo Beam**	**81.22**	**327**	P	P	15 18 21.6	-0.5
	0.3nm,0.4s,baz=112,slow=6.4,SNR=3.0						
ILAR	**Eielson Array**	**82.94**	**22**	P	P	15 18 30.1	-0.8
	0.3nm,0.6s,baz=247,slow=5.5,SNR=5.6						
TORD	**Torodi Ar. Bea**	**149.80**	**287**	PKPbc	PKPbc	15 25 57.1	0.0
	1.5nm,0.7s,baz=85,slow=2.4,SNR=11						

IDC 07 15:06:41.7±8.3, 23.11S×67.90W, h107km±75km, mb3.6/3, mb1 3.5/4, mb1mx3.4/15, mbtmp3.4/4, ML3.9/1, Error ellipse: s-maj=47.2km s-min=32.8km az=131.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**17.71**	**187**	P	P	15 10 41.2	+0.2
	0.1nm,0.3s,baz=342,slow=13,SNR=3.0						
BDFB	**Brasilia**	**20.16**	**72**	P	P	15 11 08.2	+0.3
	6.7nm,0.8s,baz=230,slow=13,SNR=9.8						
TORD	**Torodi Ar. Bea**	**77.03**	**70**	P	P	15 18 22.4	-1.0
	0.3nm,0.5s,baz=260,slow=6.4,SNR=4.4						
ULM	**Lac du Bonnet**	**77.13**	**342**	P	P	15 18 23.0	-0.2
	0.8nm,0.5s,baz=169,slow=5.2,SNR=2.2						
WRA	**Warramunga Arr**	**132.02**	**209**	PKP	PKPdf	15 25 42.6	-0.9
	0.2nm,0.5s,baz=152,slow=1.7,SNR=4.1						
MKAR	**Makanchi Array**	**146.35**	**38**	PKPbc	PKPab	15 26 11.2	+0.1
	0.3nm,0.8s,baz=306,slow=2.0,SNR=3.6						

*DJA **07** 15:12:05,0.32S×122.75E, h109km, MLv4.5/7*
IDC 07 15:12:09.7±7.9, 0.56S×122.70E, h116km±79km, mb3.2/3, mb1 3.4/4, mb1mx3.1/19, mbtmp3.3/4, ML4.3/1, Error ellipse: s-maj=67.6km s-min=23.0km az=53.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**5.31**	**214**	P	Pn	15 13 27.3	+0.5
	9.9nm,0.3s,baz=15,slow=8.1,SNR=29						
KAPI				S	Sn	15 14 27.2	+0.3
	3.8nm,0.3s,baz=90,slow=20,SNR=4.8						
WRA	**Warramunga Arr**	**22.38**	**150**	P	P	15 16 57.7	-1.0
	1.1nm,0.6s,baz=326,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**25.41**	**155**	P	P	15 17 27.3	+0.6
	0.5nm,0.4s,baz=343,slow=14,SNR=13						
MKAR	**Makanchi Array**	**58.93**	**329**	P	P	15 21 56.7	-0.1
	0.2nm,0.4s,baz=128,slow=8.5,SNR=5.3						

*CSEM **07** 15:13:09.9, 46.76N×9.45E, h5km±3km, ML0.7/4, After ZUR*
ZUR 07 15:13:09.9, 46.76N×9.45E, h5km±3km, ML0.7/4, 4C-2D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VDL	**Val di Lei**	**0.28**	**180**	⇑*i*Pg	Pg	15 13 15.8	+0.1
	18nm,0.2s						
VDL				*e*Sg	Sg	15 13 19.7	+0.1
	18nm,0.2s						
VDL	**Val di Lei**	**0.28**	**180**	⇑*i*Pg	Pg	15 13 15.8	+0.1
	18nm,0.2s						
VDL				*e*Sg	Sg	15 13 19.7	+0.1
	18nm,0.2s						
PLONS	**Plons/SG**	**0.29**	**351**	⇑*i*Pg	Pg	15 13 15.9	+0.2
	40nm,0.4s						
PLONS				*i* Sg	Sg	15 13 19.6	0.0
	40nm,0.4s						
PLONS	**Plons/SG**	**0.29**	**351**	⇑*i*Pg	Pg	15 13 15.9	+0.2
	40nm,0.4s						
PLONS				*i* Sg	Sg	15 13 19.6	0.0
	40nm,0.4s						
DAVOX	**Davos/Dischmat**	**0.30**	**87**	⇓*i*Pg	Pg	15 13 15.9	-0.1
	19nm,0.3s						
DAVOX				*i* Sg	Sg	15 13 20.1	0.0
	19nm,0.3s						
DAVOX	**Davos/Dischmat**	**0.30**	**87**	⇓*i*Pg	Pg	15 13 15.9	-0.1
	19nm,0.3s						
DAVOX				*i* Sg	Sg	15 13 20.1	0.0
	19nm,0.3s						
LLS	**Linth-Limmern**	**0.31**	**285**	*e*Pg	Pg	15 13 16.3	0.0
	8.9nm,0.1s						
FUORN	**Ofenpass-Fuorn**	**0.58**	**104**	*e*Pg	Pg	15 13 21.0	-0.4
FUORN	**Ofenpass-Fuorn**	**0.58**	**104**	*e*Pg	Pg	15 13 21.0	-0.4

*NNC **

TUP				pmax	pmax		
	comp=Z,88nm,0.3s						
TUP				smax	smax		
	comp=E,171nm,0.8s						
TUP	**Tupik**	**2.96**	**190**	⇑*i* Pn	**Pn**	**15 56 35.7**	**+0.6**
TUP				*e*		15 56 37.8	
TUP				⇓*i* Pg	**Pg**	**15 56 42.1**	**-2.2**
TUP				⇑*i*		15 56 47.3	
TUP				*i* Sg	**Sb**	**15 57 19.2**	**+2.1**
TUP				Pmax			
	comp=E,86nm,0.4s						
TUP				Smax			
	comp=E,199nm,1.3s						
BOD	**Bodaibo**	**3.73**	**280**	*i* Pn	**Pn**	**15 56 46.2**	**+0.6**
BOD				*e*Pg	**Pb**	**15 56 53.6**	**-0.2**
BOD				*e*		15 57 28.6	
BOD				*e*Sg	**Sb**	**15 57 39.8**	**+0.7**
BOD				Pmax			
	comp=E,10.0nm,0.4s						
BOD				Smax			
	comp=E,91nm,0.8s						
YOA	**Uoyan**	**5.17**	**260**	*e*Sg	**Sb**	**15 58 24.8**	**+4.1**
YOA				Smax			
	comp=E,240nm,1.8s						
KMO	**Kumora**	**5.53**	**259**	*e*Pg	Pb	15 57 27.3	+2.8
KMO				*i* Sg	Sg	15 58 38.3	-6.8
KMO				*e*		15 58 48.4	
KMO				Pmax			
	comp=E,5.0nm,0.7s						
KMO				max			
	comp=E,74nm,1.0s						
YLYR	**Ulyunkhan**	**5.96**	**250**	*e*P	Pb	15 57 35.8	+4.0
YLYR				pmax	pmax		
	comp=Z,1.0nm,0.1s						
YLYR	**Ulyunkhan**	**5.96**	**250**	*e*Pn	Pn	15 57 19.1	+2.8
YLYR				⇑*i*Pg	Pb	15 57 35.1	+3.3
YLYR				*i* Sg	Sg	15 58 50.9	-8.0
YLYR				Smax			
	comp=Z,44nm,1.4s						
NIZ	**Nizh Angarsk**	**6.45**	**261**	*e*	Pb	15 57 34.1	-6.1
NIZ				*e*Pg	Pg	15 57 43.9	-7.3
NIZ				*e*Sg	Sg	15 59 06.6	-8.1
NIZ				Pmax			
	comp=Z,1.0nm,0.7s						
NIZ				Smax			
	comp=Z,28nm,1.2s						
YAK	**Yakutsk**	**6.49**	**40**	*e*P	**Pn**	**15 57 23.5**	**0.0**
YAK				*e*		15 58 33.5	
YAK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YAK				pmax	pmax		
	comp=E,1.0nm,0.4s						
YAK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
YAK				pmax	pmax		
	comp=E,1.0nm,0.3s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.4s						
YAK				smax	smax		
	comp=N,19nm,0.6s						
YAK				smax	smax		
	comp=E,13nm,0.5s						
YAK				smax	smax		
	comp=E,40nm,0.4s						
YAK				smax	smax		
	comp=N,66nm,0.6s						
YAK				smax	smax		
	comp=Z,24nm,0.9s						
CIT	**Chita**	**6.80**	**222**	*e*Sg	Sg	15 59 17.3	-8.6
CIT				Smax			
	comp=Z,116nm,1.4s						
SYVR	**Suvo**	**7.18**	**244**	*e*Pg	Pb	15 57 57.5	+4.8
SYVR				*e*Sg	Sg	15 59 30.3	-7.8
SYVR				*e*		15 59 34.8	
SYVR				max			
	comp=Z,60nm,1.4s						
OGRR	**Ongureny**	**8.39**	**249**	*e*Sg	Sg	16 00 07.0	-10
OGRR				Smax			
	comp=Z,8.0nm,1.0s						
KPC	**Khapcheranga**	**9.15**	**217**	*e*Pn	Pn	15 58 03.2	+3.1
KPC				*e*Pg		15 58 32.1	
KPC				*e*		15 59 53.2	
KPC				*e*		16 00 26.8	
KPC				*e*Sg	Sn	16 00 31.4	+48
KPC				Smax			
	comp=Z,33nm,2.6s						
TRG	**Tyrgan**	**9.50**	**247**	*e*Sg	Sn	16 00 38.9	+47
TRG				Smax			
	comp=Z,19nm,2.4s						
KAB	**Kabansk**	**9.77**	**243**	*e*Sg	Sn	16 00 49.3	+51
KAB				Smax			
	comp=Z,74nm,1.5s						
TLY	**Talaya**	**11.48**	**248**	*e*Sg		16 01 42.1	
TLY				Smax			
	comp=Z,5.0nm,1.4s						
ARS	**Arshan**	**11.96**	**251**	*e*Sg		16 01 54.9	
ARS				*e*		16 02 07.6	
ARS				max			
	comp=Z,14nm,0.8s						
ZAK	**Zakamensk**	**12.47**	**244**	*e*Sg		16 02 13.5	
ZAK				Smax			
	comp=Z,4.0nm,1.4s						
ULN	**Ulaanbaatar**	**12.64**	**227**	*e*		16 02 06.0	
ULN				*e*Sg		16 02 17.4	
MOY	**Mondy**	**12.84**	**252**	*e*Sg		16 02 23.9	
MOY				Smax			
	comp=Z,31nm,1.2s						
ORL	**Orlik**	**13.00**	**257**	*e*Sg		16 02 30.3	
ORL				Smax			
	comp=Z,4.0nm,1.3s						

*CSEM **07** 15:59:20.6, 12°.11N×44°.05E, h8km, ML3.5, After DHMR*
DHMR 07 15:59:20.6±1.0, 12°.11N×44°.05E, h9km±6km, ML3.5, 3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**1.11**	**3**	⇓*i* P	Pg	15 59 41.5	-0.8
TRBA				*i* S	Sg	15 59 57.1	0.0
TRBA				AML	AML	16 00 05.4	
	comp=E,718nm,0.3s						
ADEN	**Aden**	**1.12**	**54**	⇓*i* P	Pg	15 59 41.7	-0.6
ADEN				*i* S	Sb	15 59 57.4	+0.4
ADEN				AML	AML	16 00 05.3	
	comp=E,1μm,0.4s						
ADEN	**Aden**	**1.12**	**54**	⇓*i* P	Pg	15 59 41.7	-0.5
ADEN				*i* S	Sb	15 59 57.4	+0.4
UDYN	**Al 'Udayn**	**1.85**	**357**	*i* P	Pn	15 59 53.6	+0.9
UDYN				*i* S	Sg	16 00 19.9	-0.6
UDYN				AML	AML	16 00 26.9	
	comp=E,369nm,0.6s						
UDYN	**Al 'Udayn**	**1.85**	**357**	*i* P	Pn	15 59 53.6	+0.8
UDYN				*i* S	Sg	16 00 19.9	-0.5
LBOS		**2.10**	**34**	*i* P	Pn	15 59 57.3	+0.8
LBOS				*i* S	Sb	16 00 27.0	+1.1
BDHA	**Al Bayda'**	**2.37**	**38**	*i* P	Pn	16 00 01.8	+1.7
BDHA				*i* S	Sb	16 00 34.3	+0.9
BDHA				AML	AML	16 00 41.9	
	comp=E,458nm,0.6s						
BDHA	**Al Bayda'**	**2.37**	**38**	*i* P	Pn	16 00 01.8	+1.7
BDHA				*i* S	Sb	16 00 34.3	+0.9
DHBB	**Dhamar BB**	**2.47**	**8**	*i* P	Pb	16 00 04.0	-1.6
DHBB				*i* S	Sb	16 00 37.2	+0.8
DHBB	**Dhamar BB**	**2.47**	**8**	*i* P	Pb	16 00 04.0	-1.6
DHBB				*i* S	Sb	16 00 37.2	+0.8
HAJJ	**Hajjah**	**3.59**	**353**	*i* P	Pn	16 00 19.3	+2.4
HAJJ				*i* S	Sb	16 01 04.7	-3.9
HAJJ				AML	AML	16 01 20.7	
	comp=Z,166nm,0.3s						
HAJJ	**Hajjah**	**3.59**	**353**	*i* P	Pn	16 00 19.3	+2.4
HAJJ				*i* S	Sb	16 01 04.7	-3.9

*NSSC **07** 15:59:24.1±16.0, 35°.13N×35°.82E, h152km±277km*
*ISCJB **07** 15:59:26.7±0.8, 34°.28N±0°.02×33°.78E±0°.03, h6km±6km, Error ellipse: s-maj=5.4km s-min=3.3km az=145.1*
*ISK **07** 15:59:26.1, 34°.27N×33°.75E, h7km, MD3.5, ML3.3*
*NIC **07** 15:59:28.9±0.3, 34°.39N×33°.88E, h51km, ML3.6, MW3.6*
*CSEM **07** 15:59:28.0±0.1, 34°.32N×33°.78E, h10km, Mw3.6, Error ellipse: s-maj=4.2km s-min=2.1km az=65.0*
ISC 07 15:59:27.7±1.3, 34°.32N±0°.03×33°.79E±0°.03, h10km±10km, n75, σ0°81/96, 5C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHNC	**Paralimni**	**0.71**	**16**	⇑P	**Pg**	**15 59 41.8**	**+0.3**
	50nm,0.2s						
PHNC				S	**Sb**	**15 59 51.9**	**-0.3**
PHNC	**Paralimni**	**0.71**	**16**	⇑*i* P	**Pg**	**15 59 41.8**	**+0.3**
	50nm,0.2s						
PHNC				S	**Sb**	**15 59 51.9**	**-0.3**
CSS	**Prodhromos**	**0.75**	**330**	P	**Pg**	**15 59 41.2**	**-0.9**
	28nm,0.3s						
CSS				S	**Sb**	**15 59 53.0**	**-0.1**
CSS	**Prodhromos**	**0.75**	**330**	*e*PG	**Pg**	**15 59 41.1**	**-0.9**
CSS				*e*SG	**Sg**	**15 59 52.4**	**+0.5**
CSS	**Prodhromos**	**0.75**	**330**	P	**Pg**	**15 59 41.2**	**-0.9**
	28nm,0.3s						
CSS				*e*Sg	**Sg**	**15 59 52.4**	**+0.5**
CSS				S	**Sb**	**15 59 53.0**	**-0.1**
SZAC	**Souni-Zanaja**	**0.87**	**301**	P	**Pb**	**15 59 44.8**	**-0.1**
SZAC				S	**Sb**	**15 59 57.0**	**+0.5**
SZAC	**Souni-Zanaja**	**0.87**	**301**	P	**Pb**	**15 59 44.8**	**-0.1**
SZAC				S	**Sb**	**15 59 57.0**	**+0.5**
MAMC	**Mammari**	**0.97**	**331**	P	**Pg**	**15 59 46.5**	**+0.1**
MAMC	**Mammari**	**0.97**	**331**	P	**Pg**	**15 59 46.5**	**+0.1**
LFK	**Lefkose**	**0.98**	**348**	*e*PG	**Pg**	**15 59 46.3**	**-0.3**
LFK				*e*SG	**Sn**	**16 00 01.1**	**-0.6**
LFK	**Lefkose**	**0.98**	**348**	*e*Pg	**Pg**	**15 59 46.3**	**-0.3**
LFK				*e*Sg	**Sn**	**16 00 01.1**	**-0.6**
LEF	**Lefka**	**1.09**	**318**	*e*PN	**Pb**	**15 59 48.1**	**-0.6**
LEF	**Lefka**	**1.09**	**318**	*e*Pn	**Pb**	**15 59 48.1**	**-0.6**
EREN	**Erenkoy**	**1.25**	**14**	*e*PN	**Pn**	**15 59 51.3**	**0.0**
EREN	**Erenkoy**	**1.25**	**14**	*e*Pn	**Pn**	**15 59 51.3**	**0.0**
ALFC	**Alevga**	**1.29**	**311**	P	**Pn**	**15 59 51.0**	**-0.8**
	52nm,0.3s						
ALFC				S	**Sb**	**16 00 08.2**	**-0.5**
ALFC	**Alevga**	**1.29**	**311**	P	**Pn**	**15 59 51.0**	**-0.8**
	52nm,0.3s						
ALFC				S	**Sb**	**16 00 08.2**	**-0.5**
PPCY	**Paphos**	**1.32**	**296**	⇑P	**Pn**	**15 59 51.8**	**-0.4**
PPCY	**Paphos**	**1.32**	**296**	⇑*e*P	**Pn**	**15 59 51.8**	**-0.4**
AKMC	**Akamas**	**1.39**	**301**	P	**Pn**	**15 59 53.1**	**-0.2**
AKMC	**Akamas**	**1.39**	**301**	P	**Pn**	**15 59 53.1**	**-0.2**
BHL	**Bhannes**	**1.60**	**104**	*e*P	**Pn**	**15 59 54.8**	**-1.4**
BHL	**Bhannes**	**1.60**	**104**	*e*P	**Pn**	**15 59 54.8**	**-1.4**
HNTI	**Hanita**	**1.69**	**136**	Pn	**Pn**	**15 59 57.2**	**-0.1**
HNTI				Sn	**Sn**	**16 00 19.0**	**0.0**
HWQ	**Hawqa**	**1.79**	**91**	*e*P	**Pn**	**15 59 57.7**	**-1.0**
HWQ	**Hawqa**	**1.79**	**91**	*e*P	**Pn**	**15 59 57.7**	**-1.0**
MMA0	**Mount Meron ar**	**1.87**	**133**	Pn	**Pn**	**15 59 59.7**	**-0.2**
MMA0				Sn	**Sn**	**16 00 22.9**	**-0.7**
RCY	**Rachaya**	**1.89**	**115**	*e*P	**Pn**	**15 59 59.7**	**-0.5**
RCY	**Rachaya**	**1.89**	**115**	*e*P	**Pn**	**15 59 59.7**	**-0.5**
KSDI	**Kefar Szold**	**1.92**	**125**	Pn	**Pn**	**16 00 00.0**	**-0.5**
OFRI	**'Ofer**	**1.97**	**149**	Pn	**Pn**	**16 00 00.9**	**-0.2**
BLGI	**Bet Lehem HaGe**	**1.97**	**143**	Pn	**Pn**	**16 00 01.6**	**+0.5**
BRBR	**Barbar**	**2.01**	**116**	⇓*e*P	**Pn**	**16 00 01.8**	**-0.1**
BRBR				⇑*i*P		**16 00 01.8**	**-0.1**
BRBR				*e*S	**Sn**	**16 00 24.7**	**-2.7**
KSHT	**Keshet**	**2.15**	**128**	Pn	**Pn**	**16 00 04.0**	**+0.3**
FKH	**Fakeheh**	**2.17**	**91**	*e*P	**Pn**	**16 00 03.6**	**-0.5**
FKH	**Fakeheh**	**2.17**	**91**	*e*P	**Pn**	**16 00 03.6**	**-0.5**
MMLI	**Mount Malkishu**	**2.32**	**143**	Pn	**Pn**	**16 00 06.0**	**0.0**
MMLI				Sn	**Sn**	**16 00 34.9**	**+0.3**
TCHB	**Talchebab**	**2.45**	**131**	⇓*e*P	**Pn**	**16 00 09.2**	**+1.3**
HMDT	**Nahal Hemdat**	**2.52**	**144**	Pn	**Pn**	**16 00 09.7**	**+1.0**
HMDT				Sn	**Sn**	**16 00 40.0**	**+0.5**
MERS	**Mersin**	**2.61**	**13**	*e*PN	**Pn**	**16 00 10.6**	**+0.5**
MERS	**Mersin**	**2.61**	**13**	*e*Pn	**Pn**	**16 00 10.6**	**+0.5**
HTY	**Hatay**	**2.63**	**46**	*e*PN	**Pn**	**16 00 10.8**	**+0.5**
HTY	**Hatay**	**2.63**	**46**	*e*Pn	**Pn**	**16 00 10.8**	**+0.5**
DSI	**Dead Sea**	**3.05**	**154**	Pn	**Pn**	**16 00 16.7**	**+0.7**
DSI				Sn	**Sn**	**16 00 53.2**	**+0.6**
CEYT	**Ceyhan**	**3.12**	**30**	*e*PN	**Pn**	**16 00 18.0**	**+0.9**
CEYT	**Ceyhan**	**3.12**	**30**	*e*Pn	**Pn**	**16 00 18.0**	**+0.9**
YTIR	**Yattir**	**3.15**	**159**	Pn	**Pn**	**16 00 18.5**	**+1.0**
MZDA	**Masada**	**3.28**	**156**	Pn	**Pn**	**16 00 19.4**	**+0.3**
MZDA				Sn	**Sn**	**16 00 58.8**	**+0.6**
RTMI	**Retamim**	**3.34**	**167**	Pn	**Pn**	**16 00 21.3**	**+1.3**
RSH		**3.35**	**181**	P	**Pn**	**16 00 19.2**	**-0.9**
KOZT	**Kozan**	**3.56**	**27**	*e*PN	**Pn**	**16 00 24.2**	**+1.1**
KOZT	**Kozan**	**3.56**	**27**	*e*Pn	**Pn**	**16 00 24.2**	**+1.1**
AMAG	**Maghara**	**3.70**	**188**	P	**Pn**	**16 00 23.9**	**-1.1**
KONT	**Konya--Tatoy**	**3.80**	**343**	*e*PN	**Pn**	**16 00 27.4**	**+1.1**
KONT	**Konya--Tatoy**	**3.80**	**343**	*e*Pn	**Pn**	**16 00 27.5**	**+1.1**
RMNI	**Mount Ramon**	**3.80**	**167**	Pn	**Pn**	**16 00 27.4**	**+1.0**
SUTC	**Sutluce-Ispart**	**3.88**	**325**	*e*PN	**Pn**	**16 00 28.4**	**+0.8**
SUTC	**Sutluce-Ispart**	**3.88**	**325**	*e*Pn	**Pn**	**16 00 28.4**	**+0.8**
ELL	**Elmali**	**3.99**	**309**	*e*PN	**Pn**	**16 00 29.8**	**+0.8**
ELL	**Elmali**	**3.99**	**309**	*e*Pn	**Pn**	**16 00 29.8**	**+0.8**
LADK	**Ladik-KONYA**	**4.04**	**344**	*e*PN	**Pn**	**16 00 30.7**	**+1.0**
LADK	**Ladik-KONYA**	**4.04**	**344**	*e*Pn	**Pn**	**16 00 30.7**	**+1.0**
KMRS	**Kahramanmaras**	**4.06**	**38**	*e*PN	**Pn**	**16 00 31.3**	**+1.3**
KMRS	**Kahramanmaras**	**4.06**	**38**	*e*Pn	**Pn**	**16 00 31.3**	**+1.3**
PRNI	**Paran**	**4.09**	**165**	Pn	**Pn**	**16 00 31.7**	**+1.4**
KRMI	**Paran Flat**	**4.26**	**169**	Pn	**Pn**	**16 00 34.0**	**+1.3**
HNKL	**Nakhl**	**4.38**	**178**	P	**Pn**	**16 00 33.0**	**-1.3**
HRFI	**Mount Harif**	**4.40**	**166**	Pn	**Pn**	**16 00 35.6**	**+1.0**
HHAG	**Hagoal**	**4.58**	**199**	P	**Pn**	**16 00 36.9**	**-0.2**
MBRI	**Mt Berech**	**4.61**	**168**	Pn	**Pn**	**16 00 38.7**	**+1.1**
MBRI				Sn	**Sn**	**16 01 31.8**	**+0.6**
KOT	**Kottamia**	**4.68**	**201**	P	**Pn**	**16 00 38.9**	**+0.4**
EIL	**Elat**	**4.74**	**168**	Pn	**Pn**	**16 00 40.8**	**+1.6**
ZNM		**4.99**	**189**	P	**Pn**	**16 00 42.3**	**-0.4**
HDHB	**Dhahab**	**5.62**	**173**	P	**Pn**	**16 00 50.8**	**-0.6**
TR2		**5.91**	**181**	P	**Pn**	**16 00 54.6**	**-0.8**

*ISCJB **07** 16:10:51.9±0.5, 36°.90N±0°.02×28°.20E±0°.02, h9km±4km, Error ellipse: s-maj=3.8km s-min=3.3km az=2.7*
*ISK **07** 16:10:52.0, 36°.98N×28°.23E, h8km, MD2.9*
*DDA **07** 16:10:52.2, 36°.96N×28°.22E, h24km, MD3.2*
*CSEM **07** 16:10:52.5±0.1, 36°.93N×28°.18E, h10km, MD2.9, Error ellipse: s-maj=3.6km s-min=3.1km az=176.0*
*ATH **07** 16:10:54.0, 36°.88N×27°.96E, h24km±1km, MD3.4/6*
ISC 07 16:10:51.3±1.1, 36°.94N±0°.02×28°.17E±0°.02, h2km±10km, n74, σ1°21/106, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.21**	**25**	*e*PG	**Pg**	**16 10 56.0**	**+0.6**
YER				*e*SG	**Sg**	**16 10 59.3**	**+1.1**
YER	**Yerkesik**	**0.21**	**25**	*e*Pg	**Pg**	**16 10 56.0**	**+0.6**
YER				*e*Sg	**Sg**	**16 10 59.3**	**+1.1**
TURN	**Turunc**	**0.35**	**101**	*i* P	**Pg**	**16 10 56.5**	**-1.6**
TURN				*i* S	**Sg**	**16 11 00.5**	**-2.2**
TURN	**Turunc**	**0.35**	**101**	*i* P	**Pg**	**16 10 56.5**	**-1.6**
TURN				*i* S	**Sg**	**16 11 00.5**	**-2.2**
BDRM	**Kayabasi**	**0.59**	**282**	*i* P	**Pb**	**16 11 04.4**	**0.0**
BDRM				*i* S	**Sn**	**16 11 15.3**	**-1.7**
BDRM	**Kayabasi**	**0.59**	**282**	*i* P	**Pb**	**16 11 04.4**	**0.0**
BDRM				*i* S	**Sn**	**16 11 15.3**	**-1.7**
BODT	**Bodrum**	**0.70**	**280**	*e*PG	**Pb**	**16 11 07.0**	**+0.8**
BODT				*e*SG	**Sb**	**16 11 17.5**	**+1.2**
BODT	**Bodrum**	**0.70**	**280**	*e*Pg	**Pb**	**16 11 07.0**	**+0.8**
BODT				*e*Sg	**Sb**	**16 11 17.5**	**+1.2**
ARG	**Arkhangelos**	**0.72**	**183**	*e*PN	**Pb**	**16 11 07.0**	**+0.4**
ARG				*e*SN	**Sb**	**16 11 17.7**	**+0.7**
ARG	**Arkhangelos**	**0.72**	**183**	*e*Pn	**Pb**	**16 11 07.0**	**+0.4**
ARG				*e*Sn	**Sb**	**16 11 17.7**	**+0.7**
AYDN	**Tasoluk**	**0.76**	**342**	*i* P	**Pb**	**16 11 07.0**	**-0.2**
AYDN				*i* S	**Sb**	**16 11 18.0**	**0.0**
AYDN	**Tasoluk**	**0.76**	**342**	*i* P	**Pb**	**16 11 07.0**	**-0.2**
AYDN				*i* S	**Sb**	**16 11 18.0**	**0.0**
FETY	**Fethiye**	**0.80**	**112**	*e*PG	**Pb**	**16 11 07.1**	**-0.7**
FETY				*e*SG	**Sb**	**16 11 17.9**	**-1.1**
FETY	**Fethiye**	**0.80**	**112**	*e*Pg	**Pb**	**16 11 07.1**	**-0.7**
FETY				*e*Sg	**Sb**	**16 11 17.9**	**-1.1**
DNZL	**Cakiroluk**	**1.02**	**43**	*i* P	**Pg**	**16 11 10.8**	**-0.1**
DNZL				*i* S	**Sb**	**16 11 25.7**	**-0.1**
DNZL	**Cakiroluk**	**1.02**	**43**	*i* P	**Pg**	**16 11 10.8**	**-0.1**
DNZL				*i* S	**Sb**	**16 11 25.7**	**-0.1**
GCAM	**G?zelcaml?**	**1.06**	**316**	*i* P	**Pn**	**16 11 13.0**	**-0.2**
GCAM				*i* S	**Sn**	**16 11 29.5**	**+0.9**
GCAM	**G?zelcaml?**	**1.06**	**316**	*i* P	**Pn**	**16 11 13.0**	**-0.2**
GCAM				*i* S	**Sn**	**16 11 29.5**	**+0.9**
GOLH	**Golhisar**	**1.15**	**75**	*i* P	**Pn**	**16 11 15.1**	**+0.6**
GOLH				*i* S	**Sn**	**16 11 35.0**	**+4.1**
GOLH	**Golhisar**	**1.15**	**75**	*i* P	**Pn**	**16 11 15.1**	**+0.6**
SMG	**Samos**	**1.31**	**306**	*e*PN	**Pb**	**16 11 17.6**	**+1.0**
SMG				*e*SN	**Sg**	**16 11 33.8**	**+0.4**
SMG	**Samos**	**1.31**	**306**	*e*Pn	**Pb**	**16 11 17.6**	**+1.0**
SMG				*e*Sn	**Sg**	**16 11 33.8**	**+0.4**
AKAS	**Kas**	**1.35**	**121**	*i* P	**Pb**	**16 11 17.2**	**-0.2**
AKAS				*i* S	**Sn**	**16 11 41.0**	**+5.0**
AKAS	**Kas**	**1.35**	**121**	*i* P	**Pb**	**16 11 17.2**	**-0.2**
KSL	**Kastellorizon**	**1.39**	**124**	*e*PN	Pg	16 11 21.3	+3.5
ELL	**Elmali**	**1.41**	**97**	*e*PN	**Pg**	**16 11 18.6**	**+0.3**
ELL	**Elmali**	**1.41**	**97**	*e*Pn	**Pg**	**16 11 18.6**	**+0.3**
MANT	**Manisa**	**1.58**	**11**	*i* P	**Pn**	**16 11 20.6**	**+0.1**
MANT				*i* S	**Sg**	**16 11 42.8**	**+0.8**
MANT	**Manisa**	**1.58**	**11**	*i* P	**Pn**	**16 11 20.6**	**+0.1**
MANT				*i* S	**Sg**	**16 11 42.8**	**+0.8**
KARP	**Karpathos**	**1.61**	**211**	*e*PN	**Pn**	**16 11 20.9**	**+0.1**
KARP				*e*SN	**Sn**	**16 11 40.9**	**-1.2**
KARP	**Karpathos**	**1.61**	**211**	*e*Pn	**Pn**	**16 11 20.9**	**+0.1**
KARP				*e*Sn	**Sn**	**16 11 40.9**	**-1.2**
KULA	**Kula-Manisa**	**1.62**	**14**	*e*PN	**Pn**	**16 11 20.9**	**0.0**
KULA	**Kula-Manisa**	**1.62**	**14**	*e*Pn	**Pn**	**16 11 20.9**	**0.0**
IZM	**Izmir**	**1.62**	**334**	*e*PN	**Pn**	**16 11 21.2**	**+0.2**
IZM	**Izmir**	**1.62**	**334**	*e*Pn	**Pn**	**16 11 21.2**	**+0.2**
BLCB	**Balcova**	**1.70**	**329**	*e*PN	**Pn**	**16 11 22.3**	**+0.4**
BLCB	**Balcova**	**1.70**	**329**	*e*Pn	**Pn**	**16 11 22.3**	**+0.4**
KORT	**Korkueli**	**1.75**	**87**	*i* P	**Pg**	**16 11 25.1**	**+0.3**
KORT				*i* S	**Sg**	**16 11 51.8**	**+4.3**
KORT	**Korkueli**	**1.75**	**87**	*i* P	**Pg**	**16 11 25.1**	**+0.3**
KHL	**Karahalli**	**1.75**	**38**	*e*PN	**Pn**	**16 11 22.7**	**0.0**
KHL	**Karahalli**	**1.75**	**38**	*e*Pn	**Pn**	**16 11 22.7**	**0.0**
KHAL	**Karahalli**	**1.77**	**36**	*i* P	**Pb**	**16 11 23.8**	**-0.7**
KHAL				*i* S	**Sn**	**16 11 45.5**	**-0.7**
KHAL	**Karahalli**	**1.77**	**36**	*i* P	**Pb**	**16 11 23.8**	**-0.7**
KHAL				*i* S	**Sn**	**16 11 45.5**	**-0.7**
AKHS	**Akhisar**	**1.96**	**352**	*i* P	**Pn**	**16 11 25.7**	**+0.2**
AKHS				*i* S	**Sn**	**16 11 47.2**	**-3.4**
AKHS	**Akhisar**	**1.96**	**352**	*i* P	**Pn**	**16 11 25.7**	**+0.2**
AKHS				*i* S	**Sn**	**16 11 47.2**	**-3.4**
AKS	**Akhisar**	**1.96**	**352**	*e*PN	**Pn**	**16 11 25.6**	**+0.1**
AKS	**Akhisar**	**1.96**	**352**	*e*Pn	**Pn**	**16 11 25.6**	**+0.1**
ANTB	**Antalya**	**1.99**	**90**	*e*PN	**Pb**	**16 11 27.1**	**-1.1**
ANTB	**Antalya**	**1.99**	**90**	*e*Pn	**Pb**	**16 11 27.1**	**-1.1**
BCK	**Bucak**	**2.00**	**74**	*e*PN	**Pn**	**16 11 26.9**	**+0.7**
BCK	**Bucak**	**2.00**	**74**	*e*Pn	**Pn**	**16 11 26.9**	**+0.7**
ISP	**Isparta**	**2.07**	**64**	*e*PN	**Pn**	**16 11 27.5**	**+0.4**
ISP	**Isparta**	**2.07**	**64**	*e*Pn	**Pn**	**16 11 27.5**	**+0.4**
APE	**Apeiranthos**	**2.12**	**274**	*e*PN	**Pb**	**16 11 29.9**	**-0.4**
APE	**Apeiranthos**	**2.12**	**274**	*e*PN	**Pn**	**16 11 28.0**	**+0.3**
APE				*e*SN	**Sn**	**16 11 53.3**	**-1.3**
APE	**Apeiranthos**	**2.12**	**274**	*e*Pn	**Pn**	**16 11 28.0**	**+0.3**
APE				*e*Sn	**Sn**	**16 11 53.3**	**-1.3**
CHOS	**Chios island**	**2.21**	**311**	*e*PN	**Pn**	**16 11 30.1**	**+1.0**
CHOS	**Chios island**	**2.21**	**311**	*e*Pn	**Pn**	**16 11 30.1**	**+1.0**
SUTC	**Sutluce-Ispart**	**2.32**	**76**	*e*PN	**Pn**	**16 11 31.0**	**+0.4**
SUTC	**Sutluce-Ispart**	**2.32**	**76**	*e*Pn	**Pn**	**16 11 31.0**	**+0.4**
SHUT	**Suhut-Afyon**	**2.48**	**49**	*e*PN	**Pn**	**16 11 33.2**	**+0.4**
SHUT	**Suhut-Afyon**	**2.48**	**49**	*e*Pn	**Pn**	**16 11 33.2**	**+0.4**
ALT	**Altintas**	**2.61**	**35**	*e*PN	**Pn**	**16 11 34.7**	**+0.1**
ALT	**Altintas**	**2.61**	**35**	*e*Pn	**Pn**	**16 11 34.7**	**+0.1**
NPS	**Neapolis**	**2.66**	**232**	*e*PN	**Pn**	**16 11 34.7**	**-0.5**
NPS	**Neapolis**	**2.66**	**232**	*e*Pn	**Pn**	**16 11 34.7**	**-0.5**
BALB	**Balikesir**	**2.70**	**355**	*e*PN	**Pn**	**16 11 36.3**	**+0.5**
BALB	**Balikesir**	**2.70**	**355**	*e*Pn	**Pn**	**16 11 36.3**	**+0.5**
PRK	**Paraskevi**	**2.75**	**328**	*e*PN	**Pb**	**16 11 39.1**	**-2.0**
PRK	**Paraskevi**	**2.75**	**328**	*e*Pn	**Pb**	**16 11 39.1**	**-2.0**
LAST	**Lasithi**	**2.81**	**232**	*e*PN	**Pn**	**16 11 37.4**	**+0.1**
LAST	**Lasithi**	**2.81**	**232**	*e*Pn	**Pn**	**16 11 37.4**	**+0.1**
IDI	**Anoyia**	**3.12**	**239**	*e*PN	**Pn**	**16 11 41.2**	**-0.4**
IDI	**Anoyia**	**3.12**	**239**	*e*Pn	**Pn**	**16 11 41.2**	**-0.4**

*ISCJB **07** 16:20:24.4±0.5, 39°.23N±0°.03×23°.02E±0°.07, h27km±5km, Error ellipse: s-maj=8.8km s-min=5.2km az=16.1*

	5.2nm,0.3s,baz=23,slow=7.9,SNR=26						
PMG			S	Sn	17 48 31.7	-1.1	
	13nm,0.3s,baz=149,slow=19,SNR=15						
DZM	**Mont Dzumac**	**21.91 142**	P	P	17 50 30.6	+0.7	
	7.5nm,0.8s,baz=286,slow=7.4,SNR=3.6						
WRA	**Warramunga Arr**	**22.86 228**	P	P	17 50 39.5	-0.4	
	2.3nm,0.5s,baz=53,slow=9.8,SNR=35						
ASAR	**Alice Springs**	**25.60 222**	P	P	17 51 05.0	0.0	
	0.3nm,0.3s,baz=55,slow=9.3,SNR=14						
FITZ	**Fitzroy Crossi**	**29.03 241**	P	P	17 51 35.2	-0.3	
	2.1nm,0.4s,baz=82,slow=6.6,SNR=7.2						
CMAR	**Chiang Mai Arr**	**57.38 295**	P	P	17 55 25.1	+1.7	
	1.6nm,0.8s,baz=108,slow=5.3,SNR=15						
PETK	**Petropavlovsk-**	**58.05 4**	P	P	17 55 26.6	-0.7	
	2.0nm,1.1s,baz=163,slow=7.6,SNR=4.2						
SONM	**Songino Array**	**66.13 328**	P	P	17 56 22.6	+0.8	
	0.5nm,0.5s,baz=142,slow=5.0,SNR=4.6						
MKAR	**Makanchi Array**	**80.04 319**	P	P	17 57 42.6	-1.1	
	0.4nm,0.7s,baz=94,slow=8.4,SNR=5.4						
ZALV	**Zalesovo Beam**	**80.94 326**	P	P	17 57 47.2	-1.1	
	0.5nm,0.5s,baz=100,slow=4.7,SNR=3.8						
ILAR	**Eielson Array**	**82.55 22**	P	P	17 57 55.4	-1.2	
	4.4nm,0.7s,baz=248,slow=5.5,SNR=58						
NVAR	**Mina Array Bea**	**92.68 52**	P	P	17 58 47.6	+1.2	
	0.6nm,0.7s,baz=247,slow=6.1,SNR=4.6						
YKA	**Yellowknife Ar**	**95.87 28**	P	P	17 59 00.5	+0.4	
	0.5nm,0.6s,baz=271,slow=4.9,SNR=16						
GERES	**GERESS Array B**	**123.87 328**	PKP	PKPdf	18 04 31.9	+0.2	
	0.2nm,0.5s,baz=29,slow=2.2,SNR=3.7						
TORD	**Torodi Ar. Bea**	**149.76 288**	PKPbc	PKPbc	18 05 23.7	-0.8	
	1.4nm,0.4s,baz=64,slow=2.0,SNR=16						

IDC 07 18:08:53.9±4.1,**6.85**N×**127.61E**,**h405**km±69km,**mb3.3**/1, **mb1 3.1**/4,**mb1mx2.8**/16,**mbtmp3.0**/4,**Error ellipse: s-maj=92.2km s-min=50.7km az=86.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.35**	**190**	P	P	18 11 27.9	+1.6
	0.5nm,0.3s,baz=13,slow=8.5,SNR=9.2						
WRA	**Warramunga Arr**	**14.56**	**154**	P	P	18 12 00.5	-1.1
	0.3nm,0.3s,baz=333,slow=12,SNR=27						
WRA				S	S	18 14 34.6	-2.3
	0.1nm,0.3s,baz=323,slow=21,SNR=4.7						
ASAR	**Alice Springs**	**17.78**	**161**	P	P	18 12 36.0	-0.1
	0.4nm,0.3s,baz=345,slow=12,SNR=40						
ASAR				S	S	18 15 41.2	+1.3
	0.1nm,0.3s,baz=330,slow=19,SNR=7.6						
STKA	**Stephens Creek**	**28.12**	**154**	P	P	18 14 10.4	-0.4
	2.6nm,1.0s,baz=346,slow=8.3,SNR=5.5						

*ATH **07** 18:16:09.7,37.04N×28.55E,h32km,MD3.0/3*
*ISK **07** 18:16:10.8,36.94N×28.11E,h6km,MD2.7*
*CSEM **07** 18:16:11.9±0.3,36.94N×28.16E,h2km,MD2.7,Error ellipse: s-maj=6.7km s-min=5.1km az=41.0*
*ISCJB **07** 18:16:12.3±0.6,36.94N±0.03×28.22E±0.04,h7km±5km, Error ellipse: s-maj=5.8km s-min=4.0km az=39.5*
*DDA **07** 18:16:12.9,36.97N×28.23E,h11km,MD3.1*

ISC 07 18:16:12.1±0.9,**36.95N**±0.03×**28.24E**±0.02,**h10**km±6km, **n34**,σ**0.78**/**50**,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.18**	**12**	*e*PG	**Pg**	**18 16 16.3**	**+0.2**
YER				*e*SG	**Sb**	**18 16 20.1**	**+1.3**
YER	**Yerkesik**	**0.18**	**12**	*e*Pg	**Pg**	**18 16 16.3**	**+0.2**
YER				*e*Sg	**Sb**	**18 16 20.1**	**+1.3**
TURN	**Turunc**	**0.30**	**105**	*i* P	**Pg**	**18 16 17.3**	**-0.9**
TURN				*i* S	**Sg**	**18 16 20.8**	**-1.5**
TURN	**Turunc**	**0.30**	**105**	*i* P	**Pg**	**18 16 17.3**	**-0.9**
TURN				*i* S	**Sg**	**18 16 20.8**	**-1.5**
BDRM	**Kayabasi**	**0.64**	**280**	*e*P	**Pg**	**18 16 24.7**	**+0.1**
BDRM				*i* S	**Sb**	**18 16 34.9**	**+0.3**
BDRM	**Kayabasi**	**0.64**	**280**	*e*P	**Pg**	**18 16 24.7**	**+0.1**
BDRM				*i* S	**Sb**	**18 16 34.9**	**+0.3**
ARG	**Arkhangelos**	**0.74**	**187**	*e*Pn	**Pg**	**18 16 26.8**	**+0.4**
ARG				*e*SN	**Sn**	**18 16 40.0**	**0.0**
ARG	**Arkhangelos**	**0.74**	**187**	*e*Pn	**Pg**	**18 16 26.8**	**+0.4**
ARG				*e*Sn	**Sn**	**18 16 40.0**	**0.0**
FETY	**Fethiye**	**0.75**	**115**	*e*PG	**Pb**	**18 16 27.8**	**+0.5**
FETY				*e*SG	**Sb**	**18 16 38.6**	**+0.9**
FETY	**Fethiye**	**0.75**	**115**	*e*Pg	**Pb**	**18 16 27.8**	**+0.5**
FETY				*e*Sg	**Sb**	**18 16 38.6**	**+0.9**
AYDN	**Tasoluk**	**0.76**	**338**	*e*P	**Pb**	**18 16 27.6**	**0.0**
AYDN				*i* S	**Sb**	**18 16 38.3**	**+0.2**
AYDN	**Tasoluk**	**0.76**	**338**	*e*P	**Pb**	**18 16 27.6**	**0.0**
AYDN				*i* S	**Sb**	**18 16 38.3**	**+0.2**
AKAS	**Kas**	**1.31**	**123**	*e*P	**Pg**	**18 16 37.9**	**+0.5**
AKAS				*e*S	Sg	18 17 03.1	+8.7
AKAS	**Kas**	**1.31**	**123**	*e*P	**Pg**	**18 16 37.9**	**+0.5**
SMG	**Samos**	**1.35**	**305**	*e*PN	**Pn**	**18 16 36.9**	**-0.2**
SMG				*e*SN	**Sg**	**18 16 55.8**	**+0.3**
SMG	**Samos**	**1.35**	**305**	*e*Pn	**Pn**	**18 16 36.9**	**-0.2**
SMG				*e*Sn	**Sg**	**18 16 55.8**	**+0.3**
ELL	**Elmali**	**1.36**	**98**	*e*PN	**Pg**	**18 16 39.4**	**+1.2**
ELL	**Elmali**	**1.36**	**98**	*e*Pn	**Pg**	**18 16 39.4**	**+1.2**
KULA	**Kula-Manisa**	**1.59**	**12**	*e*PN	**Pn**	**18 16 40.6**	**+0.1**
KULA	**Kula-Manisa**	**1.59**	**12**	*e*Pn	**Pn**	**18 16 40.6**	**+0.1**
IZM	**Izmir**	**1.64**	**332**	*e*PN	**Pn**	**18 16 39.9**	**-1.2**
IZM	**Izmir**	**1.64**	**332**	*e*Pn	**Pn**	**18 16 39.9**	**-1.2**
KARP	**Karpathos**	**1.65**	**212**	*e*PN	**Pn**	**18 16 41.0**	**-0.3**
KARP				*e*SN	**Sg**	**18 17 04.9**	**-0.3**
KARP	**Karpathos**	**1.65**	**212**	*e*Pn	**Pn**	**18 16 41.0**	**-0.3**
KARP				*e*Sn	**Sg**	**18 17 04.9**	**-0.3**
KHL	**Karahalli**	**1.71**	**36**	*e*PN	**Pb**	**18 16 43.1**	**-0.6**
KHL	**Karahalli**	**1.71**	**36**	*e*Pn	**Pb**	**18 16 43.1**	**-0.6**
BLCB	**Balcova**	**1.71**	**327**	*e*PN	**Pn**	**18 16 40.9**	**-1.2**
BLCB	**Balcova**	**1.71**	**327**	*e*Pn	**Pn**	**18 16 40.9**	**-1.2**
BCK	**Bucak**	**1.95**	**74**	*e*PN	**Pb**	**18 16 47.5**	**-0.3**
BCK	**Bucak**	**1.95**	**74**	*e*Pn	**Pb**	**18 16 47.5**	**-0.3**
SUTC	**Sutluce-Ispart**	**2.27**	**76**	*e*PN	**Pb**	**18 16 52.1**	**-1.2**
SUTC	**Sutluce-Ispart**	**2.27**	**76**	*e*Pn	**Pb**	**18 16 52.1**	**-1.2**
ALT	**Altintas**	**2.57**	**35**	*e*PN	**Pn**	**18 16 55.0**	**+1.0**
ALT	**Altintas**	**2.57**	**35**	*e*Pn	**Pn**	**18 16 55.0**	**+1.0**

DHMR 07 18:35:54.8±0.8,**12.04N**×**41.06E**,**h10**km,**ML3.9,1C, Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRBA	**At Turbah**	**3.21**	**68**	⇑*i*P	Pn	18 36 48.0	+2.4
TRBA				*i* S	Sb	18 37 29.7	-2.0
TRBA				AML	AML	18 37 36.5	
	comp=N,544nm,0.6s						
UDYN	**Al 'Udayn**	**3.42**	**56**	*i* P	Pn	18 36 51.4	+2.9
UDYN				*i* S	Sb	18 37 36.3	-1.4
UDYN				AML	AML	18 38 00.7	
	comp=E,475nm,0.7s						
FURI	**Furi**	**3.90**	**217**	P	Pb	18 37 04.1	-0.1
FURI				S	Sb	18 37 54.3	+2.5
DHBB	**Dhamar BB**	**4.11**	**52**	*i* P	Pn	18 37 00.8	+2.6
DHBB				*i* S	Sn	18 37 51.6	+5.1
LBOS		**4.48**	**66**	*i* P	Pn	18 37 05.2	+2.1
LBOS				*i* S	Sn	18 38 00.4	+4.8
BDHA	**Al Bayda'**	**4.80**	**66**	*i* P	Pn	18 37 09.4	+1.9
BDHA				*i* S	Sn	18 38 08.5	+5.0
BDHA				AML	AML	18 38 28.9	
	comp=N,350nm,0.8s						

*SOF **07** 18:39:27.6,42.85N×25.19E,h10km,MD3.4*
*ISCJB **07** 18:39:27.9±0.4,42.78N±0.01×25.19E±0.02,h4km±3km, mb3.3/3,Error ellipse: s-maj=2.5km s-min=1.9km az=154.9*
*THE **07** 18:39:28.3,42.86N×25.28E,h0km±2km,ML3.7/10,Error ellipse: s-maj=3.3km s-min=1.2km az=12.0*
*NEIC **07** 18:39:29.3,42.77N×25.23E,h2km,ML3.8(CSEM), ML3.7(THE),After CSEM.*
NEIC Felt in the Gabrovo area.
*BEO **07** 18:39:29.1±0.4,42.87N×25.24E,h8km±4km,ML3.6/1*
*CSEM **07** 18:39:29.1±0.1,42.77N×25.14E,h2km,MD3.4,Error ellipse: s-maj=2.9km s-min=2.4km az=117.0*
*IDC **07** 18:39:33.3±3.1,42.88N×25.34E,h35km±27km,mb3.0/4, mb1 3.3/9,mb1mx3.2/28,mbtmp3.2/9,ML3.1/4,Error ellipse: s-maj=22.7km s-min=16.8km az=102.0*
*DDA **07** 18:39:47.8,41.99N×26.34E,h65km,MD3.3*

ISC 07 18:39:28.7±1.0,**42.82N**±0.01×**25.22E**±0.01,**h5**km±8km,

n225,σ**1.15**/**297**,**mb3.4**/**3**,**36C-24D**,**Bulgaria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVL	**Pavlikeni**	**0.41**	**12**	*e*Pg	**Pg**	**18 39 33.9**	**-2.7**
SZH	**Strazhica**	**0.69**	**49**	*e*Pg	**Pg**	**18 39 42.0**	**+0.1**
SZH	**Strazhica**	**0.69**	**49**	*e*Pg	**Pg**	**18 39 42.0**	**+0.1**
DIM	**Dimitrovgrad**	**0.80**	**163**	*e*P	**Pg**	**18 39 44.5**	**+0.4**
DIM	**Dimitrovgrad**	**0.80**	**163**	*e*P	**Pg**	**18 39 44.5**	**+0.4**
PLD	**Plovdiv**	**0.81**	**208**	P	**Pg**	**18 39 43.6**	**-0.6**
PLD				S	**Sb**	**18 39 56.7**	**+0.3**
PLD	**Plovdiv**	**0.81**	**208**	*e*P	**Pg**	**18 39 43.4**	**-0.8**
PLD	**Plovdiv**	**0.81**	**208**	⇑*i*Pg	**Pg**	**18 39 43.6**	**-0.6**
PLD	**Plovdiv**	**0.81**	**208**	⇑*i*Pg	**Pg**	**18 39 43.6**	**-0.6**
PLD				S	**Sb**	**18 39 56.7**	**+0.3**
PGB	**Panagyurishte**	**0.82**	**251**	*i* Pg	**Pg**	**18 39 44.0**	**-0.5**
PGB	**Panagyurishte**	**0.82**	**251**	*i* Pg	**Pg**	**18 39 44.0**	**-0.5**
ZIMR		**0.84**	**7**	⇑*i*P	**Pb**	**18 39 46.2**	**+0.4**
ZIMR				S	**Sb**	**18 39 57.4**	**-0.1**
JMB	**Yambol**	**1.07**	**109**	P	**Pg**	**18 39 48.3**	**-0.8**
JMB				S	**Sg**	**18 40 03.1**	**+0.2**
JMB	**Yambol**	**1.07**	**109**	*e*P	**Pg**	**18 39 48.4**	**-0.7**
JMB	**Yambol**	**1.07**	**109**	*e*Pg	**Pg**	**18 39 48.4**	**-0.7**
JMB				*e*Sg	**Sg**	**18 40 02.9**	**0.0**
JMB	**Yambol**	**1.07**	**109**	*e*P	**Pg**	**18 39 48.4**	**-0.7**
JMB				S	**Sg**	**18 40 03.1**	**+0.2**
KDZ	**Kurdzhali**	**1.18**	**173**	*e*P	**Pg**	**18 39 51.0**	**-0.2**
KDZ	**Kurdzhali**	**1.18**	**173**	*e*P	**Pg**	**18 39 51.0**	**-0.2**
RZN	**Rozhen**	**1.19**	**198**	*e*P	**Pg**	**18 39 51.2**	**-0.3**
RZN	**Rozhen**	**1.19**	**198**	*e*P	**Pg**	**18 39 51.2**	**-0.3**
EDRB	**Edirne**	**1.49**	**130**	*e*PN	**Pn**	**18 39 56.1**	**0.0**
EDRB				*e*SN	**Sb**	**18 40 15.9**	**-0.1**
VTS	**Vitosha**	**1.50**	**262**	P	**Pn**	**18 39 56.5**	**+0.2**
VTS				S	**Sg**	**18 40 18.1**	**+1.1**
VTS	**Vitosha**	**1.50**	**262**	⇑*i*P	**Pn**	**18 39 56.5**	**+0.4**
VTS	**Vitosha**	**1.50**	**262**	*i* Pg	**Pn**	**18 39 56.6**	**+0.2**
VTS	**Vitosha**	**1.50**	**262**	*e*Pn	**Pn**	**18 39 56.6**	**+0.2**
VTS				*e*Sg	**Sg**	**18 40 18.0**	**+1.1**
VTS	**Vitosha**	**1.50**	**262**	*i* Pg	**Pn**	**18 39 56.6**	**+0.2**
VTS				S	**Sn**	**18 40 16.2**	**-0.1**
VTS				*e*Sg	**Sg**	**18 40 18.0**	**+1.1**
BUC1	**Bucharest**	**1.64**	**21**	⇑*i*P	**Pg**	**18 40 01.0**	**+0.9**
BUC1	**Bucharest**	**1.64**	**21**	⇑*i*P	**Pg**	**18 40 01.0**	**+0.9**
BUC1				S	**Sg**	**18 40 22.0**	**+0.7**
PRD	**Provadia**	**1.64**	**76**	*e*P	**Pb**	**18 39 58.8**	**-0.6**
PRD	**Provadia**	**1.64**	**76**	*e*P	**Pb**	**18 39 58.8**	**-0.6**
MMB	**Musomiste**	**1.65**	**223**	*e*P	**Pn**	**18 39 58.5**	**+0.1**
MMB	**Musomiste**	**1.65**	**223**	*e*P	**Pn**	**18 39 58.5**	**+0.1**
CIOR	**Ciorogarla**	**1.70**	**16**	S	**Sg**	**18 40 24.0**	**+0.7**
CIOR	**Ciorogarla**	**1.70**	**16**	S	**Sg**	**18 40 24.0**	**+0.7**
NVR	**Nevrokopi**	**1.78**	**215**	P	**Pn**	**18 40 00.3**	**+0.2**
NVR				S	**Sg**	**18 40 26.5**	**+0.6**
NVR	**Nevrokopi**	**1.78**	**215**	*e*P	**Pn**	**18 40 00.4**	**+0.2**
NVR				*e*S	**Sn**	**18 40 23.5**	**+0.4**
NVR	**Nevrokopi**	**1.78**	**215**	*e*P	**Pn**	**18 40 00.9**	**+0.8**
NVR	**Nevrokopi**	**1.78**	**215**	P	**Pn**	**18 40 00.3**	**+0.2**
NVR				S	**Sg**	**18 40 26.5**	**+0.6**
CRAR	**CRAIOVA**	**1.82**	**326**	⇑*i*P	**Pb**	**18 40 01.9**	**-0.6**
CRAR	**CRAIOVA**	**1.82**	**326**	⇑*i*P	**Pb**	**18 40 01.9**	**-0.6**
CRAR				S	**Sn**	**18 40 23.6**	**-0.5**
KKB	**Krupnik**	**1.85**	**240**	*e*P	**Pn**	**18 40 00.8**	**-0.2**
KKB	**Krupnik**	**1.85**	**240**	*e*P	**Pn**	**18 40 00.8**	**-0.2**
KAVA	**Kavala**	**1.90**	**196**	P	**Pn**	**18 40 01.8**	**+0.2**
KAVA				S	**Sg**	**18 40 29.1**	**-0.5**
KAVA	**Kavala**	**1.90**	**196**	P	**Pn**	**18 40 01.8**	**+0.2**
KAVA				S	**Sg**	**18 40 29.1**	**-0.5**
SULR		**2.00**	**22**	⇓*i*P	**Pb**	**18 40 04.9**	**-0.7**
SULR		**2.00**	**22**	⇓*i*P	**Pb**	**18 40 04.9**	**-0.7**
SULR				S	**Sb**	**18 40 31.8**	**+1.0**
ALN	**Alexandroupoli**	**2.02**	**162**	P	**Pn**	**18 40 03.5**	**+0.2**
ALN	**Alexandroupoli**	**2.02**	**162**	*e*P	**Pn**	**18 40 03.5**	**+0.2**
ALN				*e*S	**Sn**	**18 40 28.7**	**-0.1**
ALN	**Alexandroupoli**	**2.02**	**162**	*e*P	**Pn**	**18 40 03.5**	**+0.2**
ALN	**Alexandroupoli**	**2.02**	**162**	P	**Pn**	**18 40 03.4**	**+0.2**
SRS	**Serrai**	**2.09**	**216**	P	**Pn**	**18 40 04.8**	**+0.5**
SRS	**Serrai**	**2.09**	**216**	P	**Pn**	**18 40 04.8**	**+0.5**
ENEZ	**Enez**	**2.19**	**161**	*e*PN	**Pn**	**18 40 05.4**	**-0.3**
ENEZ				*e*SN	**Sn**	**18 40 33.1**	**-0.1**
SECR		**2.30**	**15**	⇑*i*P	**Pb**	**18 40 09.7**	**-0.9**
SECR		**2.30**	**15**	⇑*i*P	**Pb**	**18 40 09.7**	**-0.9**
PSN	**Preselentsi**	**2.33**	**67**	*e*P	**Pb**	**18 40 09.5**	**-1.6**
PSN	**Preselentsi**	**2.33**	**67**	*e*P	**Pb**	**18 40 09.5**	**-1.6**
ERIK	**Erikli-Kesan**	**2.35**	**155**	*e*PN	**Pn**	**18 40 07.6**	**-0.3**
AMRR	**Amara**	**2.36**	**40**	⇑*i*P	**Pb**	**18 40 11.5**	**-0.1**
AMRR	**Amara**	**2.36**	**40**	⇑*i*P	**Pb**	**18 40 11.5**	**-0.1**
AMRR				S	**Sg**	**18 40 43.0**	**-1.4**
KNT	**Kendrikon**	**2.40**	**227**	P	**Pn**	**18 40 09.0**	**+0.5**
KNT				S	**Sb**	**18 40 41.7**	**-0.4**
KNT	**Kendrikon**	**2.40**	**227**	P	**Pn**	**18 40 09.0**	**+0.5**
KNT				S	**Sb**	**18 40 41.7**	**-0.4**
SOH	**Sokhos**	**2.43**	**216**	P	**Pn**	**18 40 09.7**	**+0.6**
SOH	**Sokhos**	**2.43**	**216**	P	**Pn**	**18 40 09.7**	**+0.6**
PGOR	**Pogoanele**	**2.45**	**31**	⇓*i*P	**Pb**	**18 40 12.6**	**-0.5**
PGOR	**Pogoanele**	**2.45**	**31**	⇓*i*P	**Pb**	**18 40 12.6**	**-0.5**
PGOR				S	**Sb**	**18 40 44.5**	**+0.9**
VAY	**Valandovo**	**2.48**	**234**	*e*Pn	**Pn**	**18 40 10.2**	**+0.6**
VAY				*e*Sn	**Sg**	**18 40 49.8**	**+1.6**
VAY	**Valandovo**	**2.48**	**234**	*e*Pn	**Pn**	**18 40 10.7**	**+1.1**
ISR	**Istrita**	**2.49**	**22**	⇑*i*P	**Pb**	**18 40 12.2**	**-1.7**
ISR	**Istrita**	**2.49**	**22**	⇑*i*P	**Pb**	**18 40 12.2**	**-1.7**
ISR				S	**Sb**	**18 40 43.8**	**-1.1**
BARS	**Barje**	**2.50**	**271**	*e*Pg	**Pg**	**18 40 15.7**	**-1.0**
BARS				*e*Sg	**Sg**	**18 40 48.4**	**-0.7**
BARS	**Barje**	**2.50**	**271**	*e*Pg	**Pg**	**18 40 15.7**	**-1.0**
BARS				*e*Sg	**Sg**	**18 40 48.4**	**-0.7**
TKR	**Tekirdag**	**2.52**	**136**	*e*PN	**Pn**	**18 40 09.8**	**-0.3**
CRLT	**Corlu**	**2.52**	**131**	*e*PN	**Pn**	**18 40 10.1**	**-0.2**
CVD	**Cernavoda**	**2.53**	**53**	⇑*i*P	**Pb**	**18 40 15.0**	**+0.4**
CVD	**Cernavoda**	**2.53**	**53**	⇑*i*P	**Pb**	**18 40 15.0**	**+0.4**
CVD				S	**Sb**	**18 40 47.1**	**+1.1**
MFT	**Murefte**	**2.55**	**142**	*e*PN	**Pn**	**18 40 10.6**	**-0.1**
RKY	**Sarkoy-Tekirda**	**2.58**	**145**	*e*PN	**Pn**	**18 40 10.8**	**-0.4**
BOLS	**Boljevac**	**2.59**	**294**	⇑*i*Pn	**Pn**	**18 40 10.7**	**-0.5**
BOLS				*e*Sg	**Sg**	**18 40 50.7**	**-1.1**
BOLS	**Boljevac**	**2.59**	**294**	⇑*i*Pn	**Pn**	**18 40 10.7**	**-0.5**
BOLS				*e*Sg	**Sg**	**18 40 50.7**	**-1.1**
GELI	**Tayfur-Gelibol**	**2.59**	**158**	*e*PN	**Pn**	**18 40 11.1**	**-0.2**
VOIR		**2.62**	**357**	⇓*i*P	**Pn**	**18 40 13.6**	**+1.9**
VOIR		**2.62**	**357**	⇓*i*P	**Pn**	**18 40 13.6**	**+1.9**
VOIR				S	**Sn**	**18 40 44.6**	**+0.7**
CTYL	**Yal??k??y-??at**	**2.65**	**119**	*e*PN	**Pn**	**18 40 11.7**	**-0.3**
OUR	**Ouranopolis**	**2.65**	**201**	P	**Pn**	**18 40 11.6**	**-0.4**
OUR	**Ouranopolis**	**2.65**	**201**	P	**Pn**	**18 40 11.6**	**-0.4**
MANR	**Mangalia**	**2.65**	**67**	⇓*i*P	**Pb**	**18 40 17.4**	**+0.8**
MANR	**Mangalia**	**2.65**	**67**	⇓*i*P	**Pb**	**18 40 17.4**	**+0.8**
MANR				S	**Sb**	**18 40 50.4**	**+0.9**
LPK	**Lapseki**	**2.70**	**154**	*e*PN	**Pn**	**18 40 12.7**	**-0.1**
MLR	**Muntele Rosu**	**2.72**	**11**	⇓*i*P	**Pn**	**18 40 14.9**	**+1.8**
MLR	**Muntele Rosu**	**2.72**	**11**	Pn	**Pn**	**18 40 14.9**	**+1.8**
	0.6nm,0.3s,baz=222,slow=4.2,SNR=32						
MLR				Lg	Lg	18 40 57.0	
	3.0nm,0.3s,baz=270,slow=17,SNR=12						
MLR	**Muntele Rosu**	**2.72**	**11**	⇓*i*P	**Pn**	**18 40 14.9**	**+1.8**
MLR				S	**Sb**	**18 40 50.0**	**-1.6**
HORT	**Hortiatis**	**2.73**	**216**	P	**Pn**	**18 40 13.8**	**+0.6**
HORT	**Hortiatis**	**2.73**	**216**	P	**Pn**	**18 40 13.8**	**+0.6**
SLIVT	**Silivri**	**2.73**	**124**	*e*PN	**Pn**	**18 40 13.0**	**-0.2**
PLG	**Polygyros**	**2.78**	**209**	P	**Pn**	**18 40 14.1**	**+0.2**
PLG	**Polygyros**	**2.78**	**209**	*e*P	**Pn**	**18 40 14.2**	**+0.3**
PLG				*e*S	**Sg**	**18 40 58.2**	**+0.1**
PLG	**Polygyros**	**2.78**	**209**	*e*P	**Pn**	**18 40 14.1**	**+0.2**
PLG	**Polygyros**	**2.78**	**209**	P	**Pn**	**18 40 14.1**	**+0.2**
EFOR	**EFORIE**	**2.79**	**62**	S	**Sb**	**18 40 52.8**	**-0.5**
EFOR	**EFORIE**	**2.79**	**62**	S	**Sb**	**18 40 52.8**	**-0.5**
GRG	**Griva**	**2.81**	**229**	P	**Pn**	**18 40 15.2**	**+1.0**
GRG	**Griva**	**2.81**	**229**	P	**Pn**	**18 40 15.2**	**+1.0**
LOT	**Lotru**	**2.83**	**339**	⇓*i*P	**Pn**	**18 40 14.8**	**+0.2**
LOT	**Lotru**	**2.83**	**339**	⇓*i*P	**Pn**	**18 40 14.8**	**+0.2**
TIRR	**Tirgusor**	**2.84**	**54**	*e*Pn	**Pn**	**18 40 15.1**	**+0.5**
TIRR				*e*Sn	**Sb**	**18 40 54.4**	**-0.4**
TIRR	**Tirgusor**	**2.84**	**54**	⇓*i*P	**Pb**	**18 40 19.7**	**-0.1**
TIRR	**Tirgusor**	**2.84**	**54**	*e*Pn	**Pn**	**18 40 15.1**	**+0.5**
TIRR	**Tirgusor**	**2.84**	**54**	⇓*i*P	**Pb**	**18 40 19.7**	**-0.1**
TIRR				*e*Sn	**Sb**	**18 40 54.4**	**-0.4**
TIRR				S	**Sg**	**18 40 55.5**	**-4.4**
KRBG	**Karabiga-Canak**	**2.88**	**147**	*e*PN	**Pn**	**18 40 15.4**	**+0.2**
CTKS	**Kestanelik-??a**	**2.92**	**122**	*e*PN	**Pn**	**18 40 15.4**	**-0.2**
LIA	**Limnos Island**	**2.92**	**181**	*e*P	**Pn**	**18 40 15.4**	**-0.3**
LIA				*e*S	**Sg**	**18 41 03.9**	**+1.5**
LIA	**Limnos Island**	**2.92**	**181**	*e*P	**Pn**	**18 40 15.6**	**-0.1**
ELBA	**Catalca**	**2.92**	**124**	*e*P	**Pn**	**18 40 15.9**	**+0.2**
ELBA				*i* S	**Sn**	**18 40 50.0**	**-1.2**
ELBA	**Catalca**	**2.92**	**124**	*e*P	**Pn**	**18 40 15.9**	**+0.2**
ELBA				*i* S	**Sn**	**18 40 50.0**	**-1.2**
SKO	**Skopje**	**2.92**	**254**	*e*Pn	**Pg**	**18 40 24.9**	**+0.1**
SKO				*e*Sn	**Sg**	**18 41 03.5**	**+0.9**
SELS	**Selova**	**3.03**	**279**	*e*Pn	**Pn**	**18 40 18.3**	**+1.0**
SELS				*e*Sn	**Sn**	**18 40 54.7**	**+0.7**
SELS	**Selova**	**3.03**	**279**	*e*Pn	**Pn**	**18 40 18.3**	**+1.0**
SELS				*e*Sn	**Sn**	**18 40 54.7**	**+0.7**
EZN	**Ezine**	**3.10**	**164**	*e*PN	**Pn**	**18 40 18.4**	**+0.2**
PAIG	**Paliouri**	**3.11**	**202**	P	**Pn**	**18 40 18.0**	**-0.4**
PAIG	**Paliouri**	**3.11**	**202**	P	**Pn**	**18 40 18.0**	**-0.4**
BGKT	**Bogazkoy**	**3.11**	**121**	*e*PN	**Pn**	**18 40 18.4**	**0.0**
GZR	**Gura Zlata**	**3.12**	**326**	⇑*i*P	**Pn**	**18 40 18.2**	**-0.3**
GZR	**Gura Zlata**	**3.12**	**326**	⇑*i*P	**Pn**	**18 40 18.2**	**-0.3**
GZR				S	**Sn**	**18 40 54.6**	**-1.5**
DOPR	**Dopca**	**3.15**	**2**	S	**Sn**	**18 40 57.6**	**+0.7**
DOPR	**Dopca**	**3.15**	**2**	S	**Sn**	**18 40 57.6**	**+0.7**
CFR	**Carcaliu**	**3.16**	**41**	⇓*i*P	**Pn**	**18 40 18.7**	**-0.3**
CFR	**Carcaliu**	**3.16**	**41**	⇓*i*P	**Pn**	**18 40 18.7**	**-0.3**
CFR				S	**Sb**	**18 41 02.2**	**-1.9**
EDC	**Edincik**	**3.17**	**140**	*e*PN	**Pn**	**18 40 19.3**	**+0.2**
BNT	**Bandirma**	**3.19**	**140**	*e*PN	**Pn**	**18 40 19.2**	**-0.2**
PLOR	**Plostina**	**3.20**	**18**	⇓*i*P	**Pn**	**18 40 22.3**	**+2.7**
PLOR	**Plostina**	**3.20**	**18**	⇓*i*P	**Pn**	**18 40 22.3**	**+2.7**
VRI	**Vrincioaia**	**3.23**	**19**	⇓*i*P	**Pn**	**18 40 22.2**	**+2.1**
VRI	**Vrincioaia**	**3.23**	**19**	⇓*i*P	**Pn**	**18 40 22.2**	**+2.1**
VRI				S	**Sn**	**18 41 01.7**	**+2.8**
PETR		**3.24**	**26**	⇑*i*P	**Pn**	**18 40 22.1**	**+1.9**
PETR		**3.24**	**26**	⇑*i*P	**Pn**	**18 40 22.1**	**+1.9**
PETR		

0.2nm,0.6s,baz=282,slow=7.8,SNR=4.3
YKA Yellowknife Ar 70.20 341 P **P** 18 50 41.2 **-0.7**
0.2nm,0.6s,baz=40,slow=5.9,SNR=4.2

*ATH **07** 19:08:22.2, 36.97N×28.54E, h52km±14km, MD3.0/3*
*ISCJB **07** 19:08:23.5±0.5, 36.94N±0.02×28.22E±0.03, h3km±5km, Error ellipse: s-maj=4.3km s-min=3.9km az=32.0*
*ISK **07** 19:08:23.7, 36.98N×28.23E, h10km, MD3.0*
*CSEM **07** 19:08:23.7±0.2, 36.95N×28.20E, h5km, MD3.0, Error ellipse: s-maj=4.1km s-min=3.6km az=26.0*
*DDA **07** 19:08:24.3, 36.97N×28.13E, h5km, MD3.2*

ISC 07 19:08:23.4±1.2, 36.95N±0.02×28.19E±0.02, h0km±11km, n46, σ1°17/65, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YER	**Yerkesik**	**0.20**	**22**	*e*PG		**Pg**	**19 08 27.5**	**+0.2**
YER				*e*SG		**Sg**	**19 08 30.7**	**+0.8**
YER	**Yerkesik**	**0.20**	**22**	*e*Pg		**Pg**	**19 08 27.5**	**+0.2**
YER				*e*Sg		**Sg**	**19 08 30.7**	**+0.8**
TURN	**Turunc**	**0.34**	**103**	*i* P		**Pg**	**19 08 28.0**	**-2.0**
TURN				*i* S		**Sg**	**19 08 31.6**	**-2.8**
TURN	**Turunc**	**0.34**	**103**	*i* P		**Pg**	**19 08 28.0**	**-2.0**
TURN				*i* S		**Sg**	**19 08 31.6**	**-2.8**
BDRM	**Kayabasi**	**0.61**	**281**	*e*P		**Pg**	**19 08 35.1**	**0.0**
BDRM	**Kayabasi**	**0.61**	**281**	*e*P		**Pg**	**19 08 35.1**	**0.0**
BODT	**Bodrum**	**0.71**	**279**	*e*PG		**Pb**	**19 08 38.5**	**-0.2**
BODT				*e*SG		**Sb**	**19 08 49.4**	**+0.3**
BODT	**Bodrum**	**0.71**	**279**	*e*Pg		**Pb**	**19 08 38.5**	**-0.2**
ARG	**Arkhangelos**	**0.73**	**184**	*e*P		**Pg**	**19 08 38.2**	**+0.7**
ARG				*e*S		**Sb**	**19 08 50.7**	**+1.1**
ARG	**Arkhangelos**	**0.73**	**184**	*e*P		**Pg**	**19 08 38.2**	**+0.7**
ARG				*e*S		**Sb**	**19 08 50.7**	**+1.1**
AYDN	**Tasoluk**	**0.75**	**341**	*i* P		**Pg**	**19 08 38.3**	**+0.4**
AYDN				*i* S		**Sb**	**19 08 49.3**	**-1.0**
AYDN	**Tasoluk**	**0.75**	**341**	*i* P		**Pg**	**19 08 38.3**	**+0.4**
AYDN				*i* S		**Sb**	**19 08 49.3**	**-1.0**
FETY	**Fethiye**	**0.78**	**113**	*e*PG		**Pg**	**19 08 38.8**	**+0.3**
FETY				*e*SG		**Sb**	**19 08 50.2**	**-1.0**
FETY	**Fethiye**	**0.78**	**113**	*e*Pg		**Pg**	**19 08 38.8**	**+0.3**
FETY				*e*Sg		**Sb**	**19 08 50.2**	**-1.0**
DNZL	**Cakiroluk**	**1.01**	**43**	*e*P		**Pg**	**19 08 42.8**	**0.0**
DNZL	**Cakiroluk**	**1.01**	**43**	*e*P		**Pg**	**19 08 42.8**	**0.0**
SMG	**Samos**	**1.32**	**306**	*e*P		**Pg**	**19 08 48.7**	**0.0**
SMG				*e*S		**Sn**	**19 09 07.6**	**+0.2**
SMG	**Samos**	**1.32**	**306**	*e*P		**Pg**	**19 08 48.7**	**0.0**
SMG				*e*S		**Sn**	**19 09 07.6**	**+0.2**
AKAS	**Kas**	**1.35**	**122**	*e*P		**Pb**	**19 08 50.1**	**+0.5**
AKAS				*i* S		**Sn**	**19 09 11.5**	**+3.3**
AKAS	**Kas**	**1.35**	**122**	*e*P		**Pb**	**19 08 50.1**	**+0.5**
ELL	**Elmali**	**1.40**	**98**	*e*PN		**Pn**	**19 08 49.5**	**-0.8**
ELL	**Elmali**	**1.40**	**98**	*e*Pn		**Pn**	**19 08 49.5**	**-0.8**
KULA	**Kula-Manisa**	**1.61**	**13**	*e*PN		**Pn**	**19 08 52.4**	**-0.8**
KULA	**Kula-Manisa**	**1.61**	**13**	*e*Pn		**Pn**	**19 08 52.4**	**-0.8**
IZM	**Izmir**	**1.62**	**333**	*e*PN		**Pn**	**19 08 52.7**	**-0.7**
IZM	**Izmir**	**1.62**	**333**	*e*Pn		**Pn**	**19 08 52.7**	**-0.7**
KARP	**Karpathos**	**1.63**	**211**	*e*P		**Pn**	**19 08 51.8**	**-1.6**
KARP				*e*S		**Sn**	**19 09 14.0**	**-1.0**
KARP	**Karpathos**	**1.63**	**211**	*e*P		**Pn**	**19 08 51.8**	**-1.6**
KARP				*e*S		**Sn**	**19 09 14.0**	**-1.0**
BLCB	**Balcova**	**1.70**	**328**	*e*PN		**Pn**	**19 08 53.6**	**-0.8**
BLCB	**Balcova**	**1.70**	**328**	*e*Pn		**Pn**	**19 08 53.6**	**-0.8**
KORT	**Korkueli**	**1.73**	**88**	*e*P		**Pg**	**19 08 57.6**	**+0.9**
KORT				*i* S		**Sg**	**19 09 23.8**	**+4.7**
KORT	**Korkueli**	**1.73**	**88**	*e*P		**Pg**	**19 08 57.6**	**+0.9**
KHL	**Karahalli**	**1.73**	**37**	*e*PN		**Pn**	**19 08 54.5**	**-0.5**
KHL	**Karahalli**	**1.73**	**37**	*e*Pn		**Pn**	**19 08 54.5**	**-0.5**
KHAL	**Karahalli**	**1.76**	**36**	*e*P		**Pn**	**19 08 54.8**	**-0.4**
KHAL				*i* S		**Sg**	**19 09 19.6**	**-0.3**
KHAL	**Karahalli**	**1.76**	**36**	*e*P		**Pn**	**19 08 54.8**	**-0.4**
KHAL				*i* S		**Sg**	**19 09 19.6**	**-0.3**
AKS	**Akhisar**	**1.95**	**351**	*e*PN		**Pn**	**19 08 57.2**	**-0.6**
AKS	**Akhisar**	**1.95**	**351**	*e*Pn		**Pn**	**19 08 57.2**	**-0.6**
BCK	**Bucak**	**1.98**	**74**	*e*PN		**Pn**	**19 08 57.9**	**-0.4**
BCK	**Bucak**	**1.98**	**74**	*e*Pn		**Pn**	**19 08 57.9**	**-0.4**
ISP	**Isparta**	**2.05**	**64**	*e*PN		**Pn**	**19 08 59.7**	**+0.3**
ISP	**Isparta**	**2.05**	**64**	*e*Pn		**Pn**	**19 08 59.7**	**+0.3**
SUTC	**Sutluce-Ispart**	**2.31**	**76**	*e*PN		**Pn**	**19 09 02.5**	**-0.3**
SUTC	**Sutluce-Ispart**	**2.31**	**76**	*e*Pn		**Pn**	**19 09 02.5**	**-0.3**
LAST	**Lasithi**	**2.83**	**232**	*e*P		**Pn**	**19 09 10.6**	**+0.6**
LAST	**Lasithi**	**2.83**	**232**	*e*P		**Pn**	**19 09 10.6**	**+0.6**

IDC 07 19:32:02.2±6.6, 30.82S×177.11W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.8/14, mbtmp3.8/2, Error ellipse: s-maj=280.1km s-min=52.5km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**43.85**	**267**	P		P	19 40 10.3	-0.1
	0.6nm,0.7s,baz=109,slow=7.4,SNR=16							
WRA	**Warramunga Arr**	**44.88**	**272**	P		P	19 40 18.4	-0.2
	0.9nm,0.3s,baz=111,slow=8.1,SNR=42							
FINES	**FINESS Array B**	**145.80**	**340**	PKPbc		PKPdf	19 51 41.7	-0.4
	2.1nm,0.7s,baz=44,slow=4.5,SNR=14							

*IDC **07** 19:45:13.5±1.3, 14.57S×167.37E, h0km, mb4.2/11, mb1 4.3/13, mb1mx4.2/20, mbtmp4.2/13, ML4.6/2, MS3.6/5, Ms1 3.6/5, ms1mx3.0/31, Error ellipse: s-maj=32.4km s-min=19.4km az=108.0*
*NEIC **07** 19:45:15.7±0.9, 14.50S×167.07E, h10km, mb4.5/7, Error ellipse: s-maj=21.8km s-min=13.6km az=92.0*
*ISCJB **07** 19:45:20.8±0.7, 14.66S±0.06×167.16E±0.10, h67km, mb4.2/15, Error ellipse: s-maj=13.6km s-min=7.7km az=166.4*

ISC 07 19:45:22.0±0.8, 14.66S±0.07×167.2E±0.1, h67km, n40, σ1°30/34, mb4.3/14, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.41**	**186**	*e*P		Pn	19 47 04.2	-3.4
DZM	**Mont Dzumac**	**7.41**	**186**	Pn		**Pn**	**19 47 05.1**	**-2.5**
DZM				Sn		**Sn**	**19 48 31.9**	**+1.6**
DZM	**Mont Dzumac**	**7.41**	**186**	Pn		**Pn**	**19 47 05.1**	**-2.5**
	5.3nm,0.3s,baz=14,slow=22,SNR=29							
DZM				Sn		**Sn**	**19 48 31.9**	**+1.6**
	5.2nm,0.3s,baz=300,slow=16,SNR=4.4							
DZM				LR		LR	19 49 36.0	
	comp=Z,505nm,18.2s,baz=22,slow=35							
HNR	**Honiara**	**8.82**	**305**	*e*Pn		Pn	19 47 17.2	-10
	73nm,0.8s							
HNR				Sn		**Sn**	**19 49 05.7**	**+0.8**
HNR	**Honiara**	**8.82**	**305**	Pn		**Pn**	**19 47 24.2**	**-2.6**
	12nm,0.3s,baz=228,slow=3.6,SNR=3.3							
HNR				Sn		**Sn**	**19 49 05.6**	**+0.8**
	11nm,0.3s,baz=265,slow=22,SNR=4.9							
EIDS	**Eidsvold**	**18.53**	**232**	*e*P		**Pn**	**19 49 34.5**	**+0.4**
	7.6nm,0.7s							
CTA	**Charters Tower**	**20.74**	**252**	P		Pn	19 49 58.9	-1.3
CTA	**Charters Tower**	**20.74**	**252**	P		Pn	19 49 58.9	-1.3
	13nm,0.9s,baz=88,slow=14,SNR=5.1							
CTA				LR		LR	19 56 48.3	
	comp=Z,118nm,20.7s,baz=226,slow=33							
CTAO	**Charters Tower**	**20.74**	**252**	P		Pn	19 49 58.7	-1.6
STKA	**Stephens Creek**	**29.02**	**229**	P		**P**	**19 51 16.1**	**+0.4**
	1.2nm,0.6s							
STKA	**Stephens Creek**	**29.02**	**229**	P		**P**	**19 51 18.0**	**+2.3**
	5.2nm,0.5s,baz=32,slow=7.9,SNR=6.4							
STKA				LR		LR	20 02 12.0	
	comp=Z,109nm,18.2s,baz=245,slow=35							
WRAB	**Tennant Creek**	**31.80**	**256**	P		**P**	**19 51 39.5**	**-1.0**
	17nm,1.4s							
WRA	**Warramunga Arr**	**31.81**	**256**	P		**P**	**19 51 39.8**	**-0.8**
WRA	**Warramunga Arr**	**31.81**	**256**	P		**P**	**19 51 39.8**	**-0.8**
	0.8nm,0.6s,baz=85,slow=9.2,SNR=20							
AS31	**Alice Springs**	**32.67**	**249**	*e*P		**P**	**19 51 46.2**	**-1.9**
ASAR	**Alice Springs**	**32.67**	**249**	P		**P**	**19 51 47.5**	**-0.6**
ASAR	**Alice Springs**	**32.67**	**249**	P		**P**	**19 51 47.5**	**-0.6**
	1.8nm,0.8s,baz=70,slow=9.7,SNR=20							
FITZ	**Fitzroy Crossi**	**40.00**	**259**	*e*P		**P**	**19 52 49.8**	**-0.7**
	6.6nm,0.8s							
FITZ	**Fitzroy Crossi**	**40.00**	**259**	LR		LR	20 07 42.5	
	comp=Z,39nm,18.1s,baz=250,slow=34							
MJAR	**Matsushiro Arr**	**57.83**	**333**	P		**P**	**19 55 06.3**	**-0.4**
MJAR	**Matsushiro Arr**	**57.83**	**333**	P		**P**	**19 55 06.3**	**-0.4**
	2.6nm,0.9s,baz=179,slow=8.9,SNR=4.7							
MJAR				LR		LR	20 17 09.9	
	comp=Z,73nm,18.9s,baz=45,slow=33							
VNDA	**Vanda**	**62.93**	**181**	*e*P		P	19 55 47.3	+6.4
	6.4nm,1.0s							
KSRS	**Korea Array**	**63.67**	**326**	P		**P**	**19 55 46.9**	**+0.6**
	1.0nm,0.6s,baz=154,slow=6.8,SNR=5.4							
KSAR	**Wonju Array Be**	**63.68**	**326**	P		**P**	**19 55 46.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**74.89**	**294**	P		**P**	**19 56 58.2**	**+2.0**
CMAR	**Chiang Mai Arr**	**74.89**	**294**	P		**P**	**19 56 58.2**	**+2.0**
	2.7nm,0.9s,baz=124,slow=4.4,SNR=19							
CHTO	**Chiang Mai**	**75.02**	**294**	*e*P		**P**	**19 56 57.5**	**+0.7**
	8.5nm,1.5s							
QSPA	**South Pole Qui**	**75.37**	**180**	*e*P		**P**	**19 56 58.7**	**+0.5**
	12nm,0.9s							
SONM	**Songino Array**	**82.42**	**324**	P		**P**	**19 57 38.3**	**+1.3**
SONM	**Songino Array**	**82.42**	**324**	P		**P**	**19 57 38.3**	**+1.3**
	0.4nm,0.5s,baz=151,slow=6.3,SNR=5.3							
ILAR	**Eielson Array**	**86.47**	**18**	P		**P**	**19 57 57.0**	**+0.1**
ILAR	**Eielson Array**	**86.47**	**18**	P		**P**	**19 57 57.0**	**+0.1**
	0.7nm,0.8s,baz=233,slow=6.1,SNR=6.3							
SNAA	**Sanae**	**93.62**	**183**	*e*		**P**	**19 58 29.9**	**-0.7**
VNA2	**Neumayer--Watz**	**94.55**	**182**	*e*		P	19 58 42.9	+8.1
MKAR	**Makanchi Array**	**97.13**	**316**	P		Pdif	19 58 47.8	+0.8
MKAR	**Makanchi Array**	**97.13**	**316**	P		Pdif	19 58 47.8	+0.7
	1.5nm,0.8s,baz=95,slow=6.5,SNR=17							
ZALV	**Zalesovo Beam**	**97.32**	**324**	P		**P**	**19 58 47.0**	**-0.6**
ZALV	**Zalesovo Beam**	**97.32**	**324**	P		**P**	**19 58 47.0**	**-0.6**
	1.2nm,0.7s,baz=105,slow=3.2,SNR=7.2							
TORD	**Torodi Ar. Bea**	**165.89**	**266**	PKPab		**PKPab**	**20 06 20.7**	**+0.4**
TORD	**Torodi Ar. Bea**	**165.89**	**266**	PKPab		**PKPab**	**20 06 20.7**	**+0.4**
	1.3nm,1.1s,baz=126,slow=3.1,SNR=4.4							

*JMA **07** 19:46:35.5±0.3, 22.51N×123.06E, h31km, M2.4*
*TAP **07** 19:46:37.2, 22.58N×122.68E, h96km±1km, ML3.2, D*

ISC 07 19:46:34.1±3.1, 22.57N±0.06×122.84E±0.04, h17km±23km, n31, σ1°07/57, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LAY	**Lan-yu**	**1.31**	**247**	P		**Pb**	**19 46 58.8**	**+0.6**
	baz=246							
LAY				S		**Sb**	**19 47 14.7**	**0.0**
	baz=246							
CHKT	**Chengkung**	**1.46**	**292**	*e*P		**Pn**	**19 46 59.4**	**-0.4**
	baz=297							
CHKT				*e*S		**Sn**	**19 47 16.5**	**-2.0**
	baz=297							
TWF1	**Yuli**	**1.62**	**299**	*e*P		**Pn**	**19 47 02.0**	**0.0**
	baz=305							
TWF1				*e*S		**Sn**	**19 47 21.8**	**-0.8**
	baz=305							
TWG	**Pinlang**	**1.65**	**279**	P		**Pn**	**19 47 03.0**	**+0.6**
	baz=281							
TWG				*e*S		**Sn**	**19 47 22.7**	**-0.6**
	baz=281							
EHY	**Hungye**	**1.68**	**304**	*e*P		**Pn**	**19 47 02.8**	**0.0**
	baz=309							
EHY				*e*S		**Sn**	**19 47 23.8**	**-0.3**
	baz=309							
HATJ	**Hateruma jima**	**1.73**	**31**	P		**Pn**	**19 47 03.8**	**+0.4**
HATJ				*e*S		**Sn**	**19 47 24.6**	**-0.4**
ECL	**Taimali**	**1.75**	**271**	P		**Pn**	**19 47 04.0**	**+0.4**
	baz=270							
ECL				S		**Sn**	**19 47 24.7**	**-0.8**
	baz=270							
ELDTW	**Lidau**	**1.79**	**291**	P		**Pn**	**19 47 04.7**	**+0.3**
	baz=292							
ELDTW				*e*S		**Sn**	**19 47 25.1**	**-1.8**
	baz=292							
ESL	**Shilin**	**1.79**	**314**	*e*P		**Pn**	**19 47 05.0**	**+0.7**
	baz=317							
ESL				*e*S		**Sn**	**19 47 24.7**	**-2.0**
	baz=317							
EAST	**Anshuo**	**1.85**	**265**	P		**Pn**	**19 47 06.0**	**+0.9**
	baz=257							
EAST				S		**Sn**	**19 47 27.5**	**-0.7**
	baz=257							
YOJ	**Yonaguni jima**	**1.89**	**5**	P		**Pb**	**19 47 07.5**	**-0.7**
YOJ				*e*S		**Sb**	**19 47 31.8**	**+0.2**
IRIF	**Iriomote-Funau**	**1.94**	**25**	P		**Pn**	**19 47 07.3**	**+1.0**
IRIF				*e*S		**Sn**	**19 47 30.2**	**-0.1**
JKRS	**Kuro-shima**	**1.98**	**33**	P		**Pn**	**19 47 07.7**	**+0.9**
JKRS				*e*S		**Sn**	**19 47 31.0**	**-0.2**
STYT	**Tauyuan**	**2.01**	**288**	*e*P		**Pb**	**19 47 09.4**	**-0.9**
	baz=290							
SSD	**Sandimen**	**2.05**	**275**	*e*P		**Pn**	**19 47 09.0**	**+1.2**
	baz=275							
SSD				*e*S		**Sn**	**19 47 33.7**	**+0.7**
	baz=275							
ALS	**Alishan**	**2.10**	**297**	*e*P		**Pn**	**19 47 10.6**	**+1.8**
	baz=296							
ENA	**Nanau**	**2.11**	**332**	P		**Pn**	**19 47 09.7**	**+1.1**
	baz=335							
ENA				*e*S		**Sn**	**19 47 35.2**	**+0.7**
	baz=335							
WHF	**Hehuan Shan**	**2.14**	**318**	*e*P		**Pn**	**19 47 09.7**	**+0.3**
	baz=320							
WHF				*e*S		**Sn**	**19 47 35.1**	**-0.7**
	baz=320							
SGST	**Jiashian**	**2.15**	**284**	*e*P		**Pb**	**19 47 11.4**	**-1.1**
	baz=284							
SGST				*e*S		**Sn**	**19 47 34.0**	**-1.5**
	baz=284							
JIJ	**Ishigaki jima**	**2.15**	**33**	P		**Pn**	**19 47 09.5**	**+0.3**
JIJ				*e*S		**Sn**	**19 47 34.6**	**-0.9**
WTP	**Ta-pu**	**2.16**	**289**	*e*P		**Pb**	**19 47 11.7**	**-1.1**
	baz=291							
WTP				*e*S		**Sn**	**19 47 37.7**	**+1.8**
	baz=291							
CHN4	**Tsaushan**	**2.21**	**291**	*e*P		**Pb**	**19 47 13.0**	**-0.7**
	baz=292							
SMLT	**Sun Moon Lake**	**2.21**	**307**	*e*P		**Pn**	**19 47 12.2**	**+2.0**
	baz=312							
CHN1	**Nanshi**	**2.22**	**287**	P		**Pb**	**19 47 13.1**	**-0.8**
	baz=288							
CHN1				*e*S		**Sb**	**19 47 41.0**	**-0.1**
	baz=288							
CHN5	**Tsauling**	**2.24**	**298**	P		**Pb**	**19 47 13.6**	**-0.6**
	baz=300							
CHN5				*e*S		**Sb**	**19 47 41.2**	**-0.5**
	baz=300							
TYC	**Yuchr**	**2.26**	**306**	*e*P		**Pn**	**19 47 12.8**	**+2.1**
	baz=310							
TYC				*e*S		**Sn**	**19 47 38.6**	**+0.4**
	baz=310							
TWK	**Hsinying**	**2.28**	**288**	*e*P		**Pn**	**19 47 12.9**	**+1.9**
	baz=294							
TWK				*e*S		**Sn**	**19 47 38.8**	**0.0**
	baz=294							
NNS	**Nan Shan**	**2.30**	**324**	*e*P		**Pn**	**19 47 13.0**	**+1.6**
	baz=327							
NNS				*e*S		**Sn**	**19 47 40.2**	**+0.8**
	baz=327							
ENTT	**Nioudou**	**2.37**	**331**	*e*P		**Pn**	**19 47 14.2**	**+1.9**
	baz=334							
ENTT				*e*S		**Sn**	**19 47 42.1**	**+1.1**
	baz=334							
NSK	**Sanguang**	**2.50**	**327**	*e*P		**Pn**	**19 47 15.5**	**+1.4**
	baz=330							
JTJ	**Tarama**	**2.68**	**39**	P		**Pn**	**19 47 17.0**	**+0.6**
JTJ				*e*S		**Sn**	**19 47 47.6**	**-0.9**

*IDC **07** 19:57:01.1±0.6, 3.69N×128.56E, h0km, mb4.0/11, mb1 4.1/11, mb1mx4.0/20, mbtmp4.0/11, MS3.3/2, Ms1 3.4/2, ms1mx2.6/26, Error ellipse: s-maj=37.2km s-min=13.8km az=69.0*
*NEIC **07** 19:57:03.2±0.3, 3.69N×128.52E, h15km, mb4.6/13, Error ellipse: s-maj=12.3km s-min=7.0km az=67.0*
*ISCJB **07** 19:57:05.1±0.4, 3.67N±0.07×128.5E±0.1, h45km, mb4.3/23, MS3.7/1, Error ellipse: s-maj=15.2km s-min=8.6km az=156.5*

ISC 07 19:57:07.3±0.5, 3.69N±0.10×128.5E±0.1, h45km, n47, σ0°90/49, mb4.5/23, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**4.44**	**319**	LR		LR	19 59 15.7	
	comp=Z,186nm,20.8s,baz=85,slow=30							
KSM	**Kuching**	**18.29**	**264**	P		**P**	**20 01 16.8**	**-0.9**
	24nm,1.1s							
WRAB	**Tennant Creek**	**24.17**	**166**	*e*P		**P**	**20 02 18.3**	**-1.3**
	5.3nm,0.9s							
WRA	**Warramunga Arr**	**24.17**	**166**	P		**P**	**20 02 18.6**	**-1.1**
WRA	**Warramunga Arr**	**24.17**	**166**	P		**P**	**20 02 18.5**	**-1.1**
	0.9nm,0.4s,baz=343,slow=10,SNR=35							
ASAR	**Alice Springs**	**27.69**	**169**	P		**P**	**20 02 50.4**	**-1.0**
ASAR				PcP		**PcP**	**20 06 08.2**	**+0.4**
ASAR	**Alice Springs**	**27.69**	**169**	P		**P**	**20 02 50.4**	**-1.0**
	0.4nm,0.5s,baz=352,slow=6.9,SNR=17							
ASAR				PcP		**PcP**	**20 06 08.2**	**+0.4**
	1.1nm,0.6s,baz=353,slow=2.4,SNR=19							
CTA	**Charters Tower**	**29.37**	**144**	P		**P**	**20 03 06.7**	**+0.3**
CTA	**Charters Tower**	**29.37**	**144**	P		**P**	**20 03 06.7**	**+0.3**
	13nm,1.1s,baz=156,slow=3.9,SNR=2.6							
CMAR	**Chiang Mai Arr**	**32.41**	**299**	P		**P**	**20 03 34.7**	**+1.5**
CMAR	**Chiang Mai Arr**	**32.41**	**299**	P		**P**	**20 03 34.7**	**+1.5**
	0.9nm,0.8s,baz=115,slow=7.3,SNR=9.0							
CHTO	**Chiang Mai**	**32.55**	**300**	*e*P		**P**	**20 03 35.1**	**+0.6**
	1.3nm,0.6s							
MAJO	**Matsushiro**	**33.90**	**14**	P		**P**	**20 03 45.2**	**-0.8**
	13nm,1.1s							
MJAR	**Matsushiro Arr**	**33.90**	**14**	P		**P**	**20 03 45.6**	**-0.5**
MJAR	**Matsushiro Arr**	**33.90**	**14**	P		**P**	**20 03 45.6**	**-0.5**
	1.6nm,0.8s,baz=190,slow=9.4,SNR=3.9							
STKA	**Stephens Creek**	**37.50**	**162**	*e*P		**P**	**20 04 16.0**	**-0.9**
	0.6nm,0.7s							
STKA				PcP		**PcP**	**20 06 35.5**	**+0.9**
STKA	**Stephens Creek**	**37.50**	**162**	P		**P**	**20 04 16.4**	**-0.5**
	1.6nm,0.5s,baz=353,slow=9.8,SNR=7.1							
STKA				PcP		**PcP**	**20 06 35.5**	**+0.9**
	6.3nm,1.2s,baz=3.8,slow=9.7,SNR=4.1							
LSA	**Lhasa**	**43.79**	**310**	P		**P**	**20 05 09.5**	**0.0**
ULN	**Ulaanbaatar**	**47.72**	**341**	*e*P		**P**	**20 05 37.6**	**-2.2**
	6.9nm,1.4s							
SONM	**Songino Array**	**47.92**	**340**	P		**P**	**20 05 41.8**	**+0.4**
SONM	**Songino Array**	**47.92**	**340**	P		**P**	**20 05 41.8**	**+0.4**
	0.5nm,0.5s,baz=160,slow=8.8,SNR=5.3							
YAK	**Yakutsk**	**58.22**	**1**	P		**P**	**20 06 56.7**	**0.0**
	8.2nm,0.8s							
MK31	**Makanchi Array**	**58.60**	**324**	*e*P		**P**	**20 07 00.2**	**+0.4**
MKAR	**Makanchi Array**	**58.60**	**324**	P		**P**	**20 07 00.3**	**+0.6**
MKAR	**Makanchi Array**	**58.60**	**324**	P		**P**	**20 07 00.3**	**+0.6**
	6.5nm,0.4s,baz=114,slow=8.2,SNR=197							
TKM2	**Tokmak 2**	**60.95**	**318**	*e*P		**P**	**20 07 16.5**	**+0.3**
	2.4nm,0.6s							
ZAA0	**Zalesovo Array**	**61.43**	**332**	*e*P		**P**	**20 07 18.0**	**-0.9**
ZALV	**Zalesovo Beam**	**61.43**	**332**	P		**P**	**20 07 18.3**	**-0.7**
ZALV	**Zalesovo Beam**	**61.43**	**332**	P		**P**	**20 07 18.3**	**-0.7**
	0.9nm,0.4s,baz=123,slow=6.7,SNR=8.7							
AAK	**Ala-Archa**	**61.57**	**317**	*e*P		**P**	**20 07 20.9**	**+0.5**
	5.6nm,0.5s							
EKS2	**Erkin-Say**	**62.07**	**317**	*e*P		**P**	**20 07 24.3**	**+0.6**
	3.5nm,0.7s							
KURK	**Kurchatov**	**62.73**	**327**	*e*P		**P**	**20 07 27.8**	**+0.1**
	7.0nm,0.6s							
KBL	**Kabul**	**62.94**	**307**	*e*P		**P**	**20 07 29.4**	**-0.3**
	6.7nm,1.3s							
BRVK	**Borovoye**	**68.39**	**327**	*e*P		**P**	**20 08 04.2**	**-0.1**
	2.0nm,0.3s							
ARU	**Arti**	**75.91**	**327**	*e*P		**P**	**20 08 47.9**	**-1.3**
	3.1nm,0.6s							
MCK	**McKinley**	**83.42**	**26**	*e*P		**P**	**20 09 30.8**	**+1.0**
ILAR	**Eielson Array**	**84.39**	**25**	P		**P**	**20 09 35.0**	**+0.3**
ILAR	**Eielson Array**	**84.39**	**25**	P		**P**	**20 09 35.0**	**+0.3**
	0.3nm,0.8s,baz=260,slow=4.8,SNR=3.6							
FINES	**FINESS Array B**	**92.70**	**332**	P		**P**	**20 10 13.3**	**-1.0**
FINES	**FINESS Array B**	**92.70**	**332**	P		**P**	**20 10 13.3**	**-1.0**
	1.8nm,0.9s,baz=93,slow=5.6,SNR=4.4							
NOA	**NORSAR Array B**	**99.60**	**334**	LR		LR	20 58 06.2	
	comp=Z,21nm,18.3s,baz=180,slow=37							
TORD	**Torodi Ar. Bea**	**124.59**	**289**	PKP		**PKPdf**	**20 16 03.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**124.59**	**289**	PKP		**PKPdf**	**20 16 03.5**	**+0.5**
	0.9nm,0.6s,baz=61,slow=1.6,SNR=6.5							
PLCA	**Paso Flores**	**139.32**	**158**	PKP		**PKPdf**	**20 16 31.9**	**+1.8**
PLCA	**Paso Flores**	**139.32**	**158**	PKP		**PKPdf**	**20 16 31.9**	**+1.8**
	0.7nm,0.4s,baz=216,slow=19,SNR=7.4							
CFAA	**Coronel Fontan**	**148.08**	**152**	PKPbc		**PKPbc**	**20 16 49.5**	**+0.7**
CFAA	**Coronel Fontan**	**148.08**	**152**	PKPbc		**PKPbc**	**20 16 49.5**	**+0.7**
	0.8

comp=Z,51nm,19.3s,baz=75,slow=28
SAML Samuel 59.32 297 *e*P **P 20 31 30.2 +0.3**
7.4nm,0.8s
TOA0 Torodi Ar. Sit 65.56 15 *e*P **P 20 32 11.1 -0.4**
TORD Torodi Ar. Bea 65.56 15 P **P 20 32 11.5 0.0**
TORD Torodi Ar. Bea 65.56 15 P **P 20 32 11.5 0.0**
1.7nm,0.5s,baz=197,slow=6.8,SNR=41
TORD LR LR 20 55 59.1
comp=Z,30nm,20.0s,baz=170,slow=32
OTAV Otavalo 75.54 289 P **P 20 33 14.0 +0.8**
5.4nm,1.0s
STKA Stephens Creek 93.84 158 LR LR 21 11 42.4
comp=Z,82nm,18.8s,baz=207,slow=32
MKAR Makanchi Array 127.01 59 PKP **PKPdf 20 40 31.1 -0.1**
MKAR Makanchi Array 127.01 59 PKP **PKPdf 20 40 31.1 -0.1**
0.2nm,0.6s,baz=241,slow=1.2,SNR=3.7
YKA Yellowknife Ar 138.88 316 PKP **PKPdf 20 40 52.2 -0.7**
YKA Yellowknife Ar 138.88 316 PKP **PKPdf 20 40 52.2 -0.7**
0.3nm,0.6s,baz=95,slow=1.9,SNR=5.1
SONM Songino Array 141.20 71 PKP **PKPdf 20 40 58.1 +0.3**
SONM Songino Array 141.20 71 PKP **PKPdf 20 40 58.1 +0.3**
0.5nm,0.9s,baz=245,slow=4.9,SNR=3.7
INK Inuvik 147.69 323 *e*PKPbc **PKPbc 20 41 11.0 0.0**
ILAR Eielson Array 153.30 317 PKPbc **PKPbc 20 41 24.4 -0.3**
ILAR Eielson Array 153.30 317 PKPbc **PKPbc 20 41 24.4 -0.3**
1.3nm,1.0s,baz=356,slow=2.4,SNR=8.7

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*ISCJB **07** 21:21:06.3±0.7,30.84N±0.03×103.24E±0.02,h25km±5km, mb4.8/104,MS3.6/13,Error ellipse: s-maj=4.3km s-min=3.2km az=170.7*
*MOS **07** 21:21:06.4±1.0,30.85N×103.26E,h25km,mb5.0/42,Error ellipse: s-maj=8.3km s-min=4.8km az=111.9*
*BJI **07** 21:21:06.0,30.91N×103.16E,h20km,mB4.7/17,mb4.6/26, ML4.7/19,Ms4.4/41,Ms7 4.2/38*
*IDC **07** 21:21:07.5±2.3,30.86N×103.25E,h19km±13km,mb4.4/26, mb1 4.5/28,mb1mx4.4/33,mbtmp4.4/28,ML3.8/2,MS3.5/8, Ms1 3.5/8,ms1mx3.2/38,Error ellipse: s-maj=15.2km s-min=9.4km az=43.0*
*DJA **07** 21:21:09,30.86N×103.26E,h10km,mb4.9/7*
*NEIC **07** 21:21:10.6±0.6,30.88N×103.27E,h42km±6km,mb4.9/37, Error ellipse: s-maj=4.6km s-min=3.6km az=47.0*
NEIC Felt [II] at Chengdu.
ISC 07 21:21:06.9±0.5,30.86N±0.03×103.27E±0.03,h15km±2km, h14km:pP-P,n277,σ1§38/332,mb4.8/104,MS3.6/13, 24C-9D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
CD2	**Chengdu**	**0.43**	**83**	⇓*i*Pg	**Pg**	**21 21 15.5**	**0.0**
CD2				Sg	**Sg**	**21 21 22.1**	**+0.8**
CD2				smax	smax		
	comp=N,126μm,0.7s						
CD2				smax	smax		
	comp=E,44μm,0.8s						
LZH	**Lanzhou**	**5.24**	**5**	*e*Pn	**Pn**	**21 22 26.8**	**+2.0**
LZH				Sg	**Sg**	**21 23 55.5**	**+0.5**
LZH				smax	smax		
	comp=N,330nm,1.1s						
LZH				smax	smax		
	comp=E,370nm,1.2s						
LZH				LR	LR		
	comp=N,4μm,6.9s						
LZH				LR	LR		
	comp=E,6μm,8.4s						
LZH				LR	LR		
	comp=Z,4μm,8.9s						
GYA	**Guiyang**	**5.30**	**145**	⇑*i*Pn	**Pn**	**21 22 26.2**	**+0.4**
GYA				Sn	**Sn**	**21 23 24.6**	**-2.1**
GYA				Sg	Sg	21 23 50.5	-6.7
GYA				smax	smax		
	comp=N,810nm,0.8s						
GYA				smax	smax		
	comp=E,1μm,1.0s						
KMI	**Kunming**	**5.73**	**185**	Pn	**Pn**	**21 22 33.3**	**+1.5**
KMI				Sn	**Sn**	**21 23 35.8**	**-1.6**
KMI				Sg	**Sg**	**21 24 07.4**	**-3.6**
KMI				smax	smax		
	comp=N,270nm,0.9s						
KMI				smax	smax		
	comp=E,430nm,0.9s						
KMI				LR	LR		
	comp=N,2μm,7.3s						
KMI				LR	LR		
	comp=E,4μm,8.2s						
XAN	**Xi'an**	**5.74**	**55**	Pn	**Pn**	**21 22 30.2**	**-1.4**
XAN				Sn	Sn	21 23 43.4	+6.2
XAN				Sg	Sg	21 24 05.0	-6.0
XAN				smax	smax		
	comp=N,730nm,0.8s						
XAN				smax	smax		
	comp=E,630nm,0.8s						
XAN				LR	LR		
	comp=N,2μm,11.3s						
XAN				LR	LR		
	comp=E,460nm,9.8s						
XAN				LR	LR		
	comp=Z,280nm,9.3s						
GTA	**Gaotai**	**8.99**	**343**	*e*P	**Pn**	**21 23 18.8**	**+2.5**
GTA				pP	pP	21 23 23.1	
GTA				sP	sP	21 23 26.2	
GTA				S	**Sn**	**21 24 59.8**	**+2.5**
GTA				sS	sS	21 25 04.5	
GTA				pmax	pmax		
	comp=Z,92nm,5.0s						
GTA				LR	LR		
	comp=N,1μm,11.4s						
GTA				LR	LR		
	comp=E,2μm,11.9s						
GTA				LR	LR		
	comp=Z,820nm,10.2s						
WHN	**Wuhan**	**9.55**	**89**	P	**Pn**	**21 23 22.8**	**-1.1**
WHN				S	**Sn**	**21 25 07.3**	**-3.6**
IMP	**Imphal**	**10.24**	**236**	*e*PKP	**Pn**	**21 23 34.0**	**+0.6**
LSA	**Lhasa**	**10.54**	**267**	P	**Pn**	**21 23 39.2**	**+1.3**
LSA				S	**Sn**	**21 25 41.4**	**+5.4**
LSA				LR	LR		
	comp=E,1μm,10.6s						
LSA				LR	LR		
	comp=Z,2μm,10.0s						
SHL	**Shillong**	**11.34**	**245**	*e*PKP	**Pn**	**21 23 51.0**	**+2.4**
SHL				*i* x	x	21 27 14.0	
GZH	**Guangzhou**	**11.86**	**128**	P	**Pn**	**21 23 52.6**	**-2.9**
GZH				S	Sn	21 25 57.4	-10
GZH				LR	LR		
	comp=N,2μm,4.3s						
GZH				LR	LR		
	comp=E,850nm,3.5s						
HHC	**Hu-ho-hao-te**	**12.02**	**32**	*e*P	**Pn**	**21 23 56.6**	**-1.2**
HHC				pP	P	21 24 03.2	-7.6
HHC				sP		21 24 07.1	
HHC				S	**Sn**	**21 26 07.8**	**-3.9**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,3.7s						
HHC				LR	LR		
	comp=N,360nm,4.7s						
HHC				LR	LR		
	comp=E,540nm,5.2s						
HHC				LR	LR		
	comp=Z,280nm,6.8s						
CHTO	**Chiang Mai**	**12.62**	**199**	*e*P	**Pn**	**21 24 08.4**	**+2.4**
CHTO	**Chiang Mai**	**12.62**	**199**	*e*Pn	**Pn**	**21 24 08.4**	**+2.4**
CHTO	**Chiang Mai**	**12.62**	**199**	P	**Pn**	**21 24 09.0**	**+3.0**
	comp=Z,15nm,1.0s						
TIA	**Tai'an**	**12.73**	**62**	*e*P	**Pn**	**21 24 07.0**	**-0.4**
CM31	**Chiang Mai Arr**	**12.96**	**199**	Pn	**Pn**	**21 24 13.2**	**+2.6**
CMAR	**Chiang Mai Arr**	**12.96**	**199**	Pn	**Pn**	**21 24 11.3**	**+0.7**
CMAR				Lg	Lg	21 28 02.5	
CMAR	**Chiang Mai Arr**	**12.96**	**199**	Pn	**Pn**	**21 24 11.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=9.8,slow=26,SNR=6.0						
CMAR				Lg	Lg	21 28 02.5	
	comp=Z,0.1nm,0.3s,baz=228,slow=32,SNR=3.4						
QIZ	**Qiongzhong**	**13.20**	**152**	P	**Pn**	**21 24 16.6**	**+2.7**
QIZ				S	**Sn**	**21 26 46.3**	**+5.8**
QIZ				LR	LR		
	comp=N,1μm,5.4s						
QIZ				LR	LR		
	comp=E,1μm,6.5s						
QIZ				LR	LR		
	comp=Z,500nm,7.2s						
NJ2	**Nanjing**	**13.36**	**81**	*e*P	**Pn**	**21 24 16.1**	**0.0**
NJ2				S	**Sn**	**21 26 45.0**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,20nm,0.8s						
NJ2				LR	LR		
	comp=N,970nm,18.7s						
NJ2				LR	LR		
	comp=E,1μm,17.3s						
NJ2				LR	LR		
	comp=Z,1μm,17.0s						
BJI	**Beijing**	**13.94**	**45**	P	**Pn**	**21 24 23.0**	**-0.9**
BJI				S	**Sn**	**21 26 57.8**	**-0.5**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BJI				pmax	pmax		
	comp=Z,84nm,4.0s						
BJI				LR	LR		
	comp=N,650nm,24.4s						
BJI				LR	LR		
	comp=E,470nm,26.6s						
TAPN	**Taplejung**	**14.04**	**259**	*e*P	**Pn**	**21 24 25.3**	**-0.4**
	comp=E,58nm,0.8s						
ODAN	**Odare**	**14.47**	**258**	*e*P	**Pn**	**21 24 30.2**	**-1.3**
	comp=E,102nm,0.9s						
QZH	**Quanzhou**	**14.77**	**110**	P	**Pn**	**21 24 37.8**	**+2.5**
QZH				S	**Sn**	**21 27 23.0**	**+4.2**
QZH				LR	LR		
	comp=N,1μm,4.1s						
QZH				LR	LR		
	comp=E,2μm,5.6s						
QZH				LR	LR		
	comp=Z,2μm,9.0s						
RAMN	**Ramite**	**15.11**	**259**	*e*P	**Pn**	**21 24 38.3**	**-1.8**
JIRN	**Jiri**	**15.24**	**262**	*e*P	**Pn**	**21 24 40.6**	**-1.4**
	comp=Z,14nm,0.7s						
SSE	**Sheshan**	**15.38**	**85**	P	**Pn**	**21 24 42.0**	**-1.4**
SSE				S	**Sn**	**21 27 33.2**	**-0.3**
SSE				pmax	pmax		
	comp=Z,13nm,1.0s						
SSE				pmax	pmax		
	comp=Z,120nm,4.5s						
SSE				LR	LR		
	comp=N,1μm,12.5s						
SSE				LR	LR		
	comp=E,430nm,12.5s						
SSE				LR	LR		
	comp=Z,1μm,9.0s						
GUN	**Gumba**	**15.44**	**263**	*e*P	**Pn**	**21 24 42.3**	**-2.3**
	comp=Z,56nm,0.6s						
PKI	**Pulchoki**	**15.93**	**263**	*e*P	**Pn**	**21 24 48.6**	**-2.4**
	comp=Z,68nm,0.6s						
KKN	**Kakani**	**15.98**	**263**	*e*P	**Pn**	**21 24 49.1**	**-2.4**
	comp=Z,95nm,0.6s						
DMN	**Daman**	**16.18**	**263**	*e*P	**Pn**	**21 24 51.7**	**-2.4**
	comp=Z,79nm,0.8s						
GKN	**Gorkha**	**16.48**	**265**	*e*P	**Pn**	**21 24 54.6**	**-3.2**
DL2	**Dalian**	**17.05**	**57**	P	**P**	**21 25 08.6**	**+2.1**
DL2				*e*S	**Sn**	**21 28 15.1**	**+1.0**
DL2				pmax	pmax		
	comp=Z,20nm,1.1s						
DL2				pmax	pmax		
	comp=Z,110nm,3.6s						
SONM	**Songino Array**	**17.12**	**7**	P	**Pn**	**21 25 05.4**	**-0.3**
SONM	**Songino Array**	**17.12**	**7**	P	**Pn**	**21 25 05.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=189,slow=11,SNR=22						
DANN	**Dangsing**	**17.15**	**267**	*e*P	**Pn**	**21 25 03.1**	**-3.3**
	comp=Z,86nm,0.8s						
YHNB	**Yeheng**	**17.16**	**107**	*e*Pn	**P**	**21 25 09.0**	**+1.1**
SSLB	**Suanglung**	**17.21**	**110**	Pn	**P**	**21 25 08.2**	**-0.3**
	comp=Z,96nm,1.1s						
ULN	**Ulaanbaatar**	**17.23**	**9**	*e*Pn	**Pn**	**21 25 06.9**	**-0.2**
	comp=Z,18nm,1.2s						
ULN	**Ulaanbaatar**	**17.23**	**9**	P	**P**	**21 25 09.9**	**+1.3**
	comp=Z,14nm,1.1s						
KOLN	**Koldanda**	**17.43**	**265**	*e*P	**Pn**	**21 25 06.0**	**-3.8**
	comp=Z,34nm,0.8s						
WMQ	**Urumqi**	**17.87**	**321**	⇓*i*P	**P**	**21 25 15.8**	**+0.2**
WMQ				pP	**pP**	**21 25 19.6**	**-0.2**
WMQ				sP	**sP**	**21 25 22.9**	**+1.2**
WMQ				PP	PP	21 25 30.2	
WMQ				S	**Sn**	**21 28 30.2**	**-3.7**
WMQ				sS	**S**	**21 28 43.4**	**+2.9**
WMQ				pmax	pmax		
	comp=Z,16nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,240nm,4.2s						
WMQ				LR	LR		
	comp=N,1μm,8.5s						
WMQ				LR	LR		
	comp=E,1μm,8.5s						
WMQ				LR	LR		
	comp=Z,1μm,7.4s						
ZAK	**Zakamensk**	**19.50**	**0**	*e*P	**Pn**	**21 25 34.9**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SNY	**Shenyang**	**19.64**	**51**	⇓P	**Pn**	**21 25 38.5**	**+2.1**
SNY				S	**S**	**21 29 16.0**	**-0.1**
SNY				pmax	pmax		
	comp=Z,6.0nm,0.6s						
SNY				LR	LR		
	comp=N,210nm,4.5s						
SNY				LR	LR		
	comp=E,190nm,11.6s						
SNY				LR	LR		
	comp=Z,230nm,16.9s						
TLY	**Talaya**	**20.80**	**1**	*e*P	Pn	21 25 51.6	+1.5
TLY				*e*SS	**SnSn**	**21 29 57.1**	**-2.4**
TLY				pmax	pmax		
	comp=Z,9.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,259nm,11.0s						
TLY	**Talaya**	**20.80**	**1**	*e*P	**P**	**21 25 47.6**	**0.0**
	comp=Z,9.1nm,1.0s						
MOY	**Mondy**	**20.86**	**356**	*e*P	Pn	21 25 50.3	-0.5
MOY				pmax	pmax		
	comp=Z,57nm,2.9s						
KSAR	**Wonju Array Be**	**21.37**	**65**	P	**P**	**21 25 54.5**	**+0.7**
IRK	**Irkutsk**	**21.38**	**2**	*e*P	**P**	**21 25 55.0**	**+1.2**
IRK				pmax	pmax		
	comp=Z,74nm,1.7s						
KSRS	**Korea Array**	**21.41**	**65**	P	**P**	**21 25 54.5**	**+0.4**
	comp=Z,23nm,0.7s,baz=244,slow=9.1,SNR=39						
KSRS				LR	LR	21 34 01.6	
	comp=Z,148nm,21.9s,baz=107,slow=36						
CN2	**Changchun**	**21.78**	**47**	*e*P	**P**	**21 25 58.0**	**-0.2**
CN2				*e*S	S	21 29 51.3	-7.3
CN2				pmax	pmax		
	comp=Z,50nm,0.8s						
CN2				LR	LR		
	comp=N,200nm,12.0s						
CN2				LR	LR		
	comp=E,200nm,12.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
ASOR	**Ausora**	**22.21**	**271**	*e*PKP	**P**	**21 26 02.9**	**+0.1**
JOW	**Kunigami**	**22.25**	**94**	*e*P	**P**	**21 26 04.4**	**+1.0**
	comp=Z,17nm,1.2s						
JOW	**Kunigami**	**22.25**	**94**	P	**P**	**21 26 04.7**	**+1.3**
	comp=Z,19nm,0.6s,baz=271,slow=11,SNR=14						
JOW				LR	LR	21 35 41.1	
	comp=Z,172nm,18.5s,baz=259,slow=39						
AGRA	**Agra**	**22.42**	**267**	*e*PKP	**P**	**21 26 04.4**	**-0.7**
AGRA				AMb	AMB	21 26 05.2	
	comp=Z,82nm,1.1s						
CIT	**Chita**	**22.46**	**17**	*e*P	**P**	**21 26 06.3**	**+0.9**
CIT				*e*		21 26 12.8	
MK31	**Makanchi Array**	**22.70**	**320**	*e*P	**P**	**21 26 08.4**	**+0.4**
MK31				*e*		21 29 59.1	
MK31	**Makanchi Array**	**22.70**	**320**	*e*P	**P**	**21 26 08.4**	**+0.4**
MK31				*e*PcP	**PcP**	**21 29 59.0**	**-0.9**
MKAR	**Makanchi Array**	**22.70**	**320**	P	**P**	**21 26 08.6**	**+0.6**
MKAR						21 29 59.6	
MKAR	**Makanchi Array**	**22.70**	**320**	P	**P**	**21 26 08.6**	**+0.6**
MKAR				PcP	**PcP**	**21 29 59.6**	**-0.4**
MKAR				ScP	**ScP**	**21 33 36.3**	**-0.9**
MKAR	**Makanchi Array**	**22.70**	**320**	P	**P**	**21 26 08.6**	**+0.6**
	comp=Z,21nm,1.0s,baz=123,slow=8.8,SNR=99						
MKAR				PcP	**PcP**	**21 29 59.6**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=144,slow=4.3,SNR=4.3						
MKAR				ScP	**ScP**	**21 33 36.3**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=101,slow=5.1,SNR=7.0						
MKAR				LR	LR	21 34 27.1	
	comp=Z,21nm,20.2s,baz=316,slow=35						
KKR	**Kurukshetra**	**22.81**	**275**	*e*PKP	**P**	**21 26 08.4**	**-0.9**
KKR				AMb	AMB	21 26 24.7	
	comp=Z,177nm,0.3s						
AYAN	**Aya Nagar**	**22.82**	**271**	*e*PKP	**P**	**21 26 08.0**	**-1.4**
SONA	**Sohna**	**22.91**	**270**	*e*PKP	**P**	**21 26 09.1**	**-1.2**
SONA				AMb	AMB	21 26 14.9	
	comp=Z,34nm,1.1s						
BHGR	**Bahadurgarh**	**22.94**	**271**	*e*PKP	**P**	**21 26 10.6**	**0.0**
BHGR				AMb	AMB	21 26 13.4	
	comp=Z,305nm,0.1s						
TGY	**Tagaytay City**	**23.28**	**132**	P	**P**	**21 26 13.8**	**-0.5**
TGY	**Tagaytay City**	**23.28**	**132**	P	**P**	**21 26 13.8**	**-0.5**
	comp=Z,242nm,0.3s,baz=312,slow=17,SNR=3.5						
KUDL	**Kundal**	**23.44**	**270**	*e*PKP	**P**	**21 26 14.4**	**-1.3**
KUDL				AMb	AMB	21 26 17.9	
	comp=Z,25nm,1.1s						
JNU	**Nakatsue**	**23.50**	**77**	P	**P**	**21 26 15.2**	**-1.2**
JNU	**Nakatsue**	**23.50**	**77**	P	**P**	**21 26 15.2**	**-1.2**
	comp=Z,9.4nm,0.7s,baz=195,slow=5.4,SNR=3.7						
JNU				LR	LR	21 35 22.8	
	comp=Z,165nm,18.4s,baz=87,slow=36						
NGP	**Nagpur**	**23.77**	**252**	*ex*	**P**	**21 26 15.7**	**-3.3**
KSH	**Kashi**	**23.85**	**299**	P	**P**	**21 26 21.0**	**+1.2**
KSH				pP	**pP**	**21 26 25.1**	**+0.9**
KSH				sP	**sP**	**21 26 28.0**	**+1.9**
KSH				PP	PP	21 26 55.8	
KSH				PcP	**PcP**	**21 30 05.4**	**+2.7**
KSH				S	**S**	**21 30 34.7**	**-0.7**
KSH				SS	SS	21 31 25.1	
KSH				ScS	**ScS**	**21 37 27.7**	**+0.2**
KSH				pmax	pmax		
	comp=Z,23nm,1.2s						
KSH				LR	LR		
	comp=N,180nm,6.2s						
KSH				LR	LR		
	comp=E,260nm,7.4s						
KSH				LR	LR		
	comp=Z,350nm,8.3s						
KHET	**Khetri**	**24.05**	**270**	*e*PKP	**P**	**21 26 21.1**	**-0.6**
KHET				AMb	AMB	21 26 26.1	
	comp=Z,23nm,0.6s						
MDJ	**Mudanjiang**	**24.81**	**49**	P	**P**	**21 26 28.2**	**-0.2**
MDJ				pP	**pP**	**21 26 31.3**	**-1.6**
MDJ				PcP	**PcP**	**21 30 04.9**	**+0.4**
MDJ				S	**S**	**21 30 50.5**	**+0.1**
MDJ				ScP	**ScP**	**21 33 43.9**	**+1.0**
MDJ				PcS	**PcS**	**21 33 44.9**	**+0.4**
MDJ				ScS	**ScS**	**21 37 31.9**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,12nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,42nm,3.9s						
KZA	**Kyzart**	**25.05**	**304**	P	**P**	**21 26 33.1**	**+2.0**
	SNR=29						
KZA				P	**P**	**21 26 33.1**	**+2.0**
	SNR=29						
TKM2	**Tokmak 2**	**25.07**	**306**	*e*P	**P**	**21 26 32.3**	**+1.2**
TKM2				pmax	pmax		
	comp=Z,60nm,1.6s						
TKM2	**Tokmak 2**	**25.07**	**306**	*e*P	**P**	**21 26 32.3**	**+1.2**
	comp=Z,60nm,1.6s						
TKM2	**Tokmak 2**	**25.07**	**306**	P	**P**	**21 26 32.5**	**+1.4**
	SNR=17						
TKM2				P	**P**	**21 26 32.5**	**+1.4**
	SNR=17						
KBK	**Karagaybulak**	**25.44**	**305**	P	**P**	**21 26 36.2**	**+1.8**
	SNR=40						
KBK				P	**P**	**21 26 36.2**	**+1.8**
	SNR=40						
CHMS	**Chumysh**	**25.68**	**306**	P	**P**	**21 26 39.4**	**+3.0**
	SNR=9.8						
CHMS				P	**P**	**21 26 39.4**	**+3.0**
	SNR=9.8						
FRU	**Bishkek**	**25.73**	**306**	*e*P	**P**	**21 26 38.0**	**+1.2**
FRU				pmax	pmax		
	comp=Z,60nm,1.4s						
AAK	**Ala-Archa**	**25.75**	**305**	⇑*e*P	**P**	**21 26 38.6**	**+1.5**
AAK				pmax	pmax		
	comp=Z,151nm,1.7s						
AAK				MLR	MLR		
	comp=Z,277nm,18.0s						
AAK	**Ala-Archa**	**25.75**	**305**	*e*P	**P**	**21 26 38.4**	**+1.2**
	comp=Z,133nm,0.9s						
AAK	**Ala-Archa**	**25.75**	**305**	P	**P**	**21 26 41.2**	**+4.0**
	SNR=34						
AAK				P	**P**	**21 26 41.2**	**+4.0**
	SNR=34						
AAK	**Ala-Archa**	**25.75**	**305**	P	**P**	**21 26 38.6**	**+1.5**
	comp=Z,24nm,0.9s,baz=102,slow=6.1,SNR=61						
AAK				LR	LR	21 38 34.0	
	comp=Z,141nm,19.6s,baz=174,slow=41						
USP	**Ospenovka**	**25.95**	**307**	P	**P**	**21 26 39.8**	**+1.0**
	SNR=44						
USP				P	**P**	**21 26 39.8**	**+1.0**
	SNR=44						
HYB	**Hyderabad**	**26.15**	**245**	*i* P	**P**	**21 26 39.5**	**-1.3**
HYB				*e*		21 31 29.0	
AML	**Almayashu**	**26.17**	**304**	P	**P**	**21 26 43.0**	**+1.8**
	SNR=16						
AML				P	**P**	**21 26 43.0**	**+1.8**
	SNR=16						
USRK	**Ussuriysk Arra**	**26.24**	**51**	P	**P**	**21 26 43.1**	**+1.8**
	comp=Z,2.6nm,0.7s,baz=254,slow=11,SNR=5.4						
EKS2	**Erkin-Say**	**26.26**	**305**	*e*P	**P**	**21 26 42.9**	**+1.2**
EKS2				pmax	pmax		
	comp=Z,12nm,0.8s						
EKS2	**Erkin-Say**	**26.26**	**305**	*e*P	**P**	**21 26 42.9**	**+1.2**
	comp=Z,12nm,0.8s						
EKS2	**Erkin-Say**	**26.26**	**305**	P	**P**	**21 26 43.2**	**+1.5**
	SNR=15						
EKS2				P	**P**	**21 26 43.2**	**+1.5**
	SNR=15						
IPM	**Ipoh**	**26.32**	**185**	*e*P	**P**	**21 26 41.5**	**-0.9**
	comp=Z,9.9nm,0.7s						
IPM	**Ipoh**	**26.32**	**185**	P	P	21 26 47.3	+5.0
	comp=Z,16nm,0.8s						
ZAA0	**Zalesovo Array**	**26.64**	**335**	*e*P	**P**	**21 26 44.7**	**-0.1**
ZALV	**Zalesovo Beam**	**26.64**	**335**	P	**P**	**21 26 44.6**	**-0.2**
ZALV	**Zalesovo Beam**	**26.64**	**335**	P	**P**	**21 26 44.6**	**-0.2**
ZALV	**Zalesovo Beam**	**26.64**	**335**	P	**P**	**21 26 44.6**	**-0.2**
	comp=Z,13nm,0.9s,baz=136,slow=9.3,SNR=33						
KURBB	**Kurchatov Arra**	**27.01**	**324**	P	**P**	**21 26 48.4**	**+0.2**
	comp=Z,22nm,0.9s,baz=130,slow=9.5,SNR=85						
KURBB				PcP	**PcP**	**21 30 08.7**	**-0.7**
	comp=Z,3.0nm,0.8s,baz=118,slow=2.1,SNR=10						
KURBB				ScP	**ScP**	**21 33 48.3**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=127,slow=2.3,SNR=6.1						
KURK	**Kurchatov**	**27.02**	**324**	*e*P	**P**	**21 26 48.0**	**-0.3**
KURK						21 30 08.7	
KURK				pmax	pmax		
	comp=Z,23nm,1.0s						
KURK	**Kurchatov**	**27.02**	**324**	*e*P	**P**	**21 26 48.0**	**-0.3**
	comp=Z,23nm,1.0s						
KURK				PcP	**PcP**	**21 30 08.7**	**-0.7**
KURK				ScP	**ScP**	**21 33 48.3**	**-0.9**
LATR	**Latur**	**27.18**	**249**	*e*PKP	**P**	**21 26 49.0**	**-1.0**
LATR				*ex*	x	21 30 37.5	
TSI	**Tuntungan**	**27.57**	**190**	P	**P**	**21 26 55.7**	**+2.2**
	comp=Z,41nm,1.3s						
NVS	**Novosibirsk**	**27.91**	**335**	⇑*i*P	**P**	**21 26 55.0**	**-1.2**
NVS				pmax	pmax		
	comp=N,6.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.4s						
NVS				pmax	pmax		
	comp=Z,10.0nm,1.4s						
BOD	**Bodaibo**	**27.96**	**12**	*e*P	**P**	**21 26 56.2**	**-0.4**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KLR	**Kul'dur**	**28.25**	**41**	*e*P	**P**	**21 26 58.8**	**-0.5**
KLR				MLR	MLR		
	comp=Z,900nm,13.0s						
KBL	**Kabul**	**28.95**	**286**	*e*P	**P**	**21 27 06.6**	**+0.6**
KBL				pmax	pmax		
	comp=Z,12nm,0.8s						
KBL	**Kabul**	**28.95**	**286**	*e*P	**P**	**21 27 06.6**	**+0.6**
	comp=Z,12nm,0.8s						
MJAR	**Matsushiro Arr**	**29.51**	**69**	P	**P**	**21 27 12.4**	**+1.6**
MJAR	**Matsushiro Arr**	**29.51**	**69**	P	**P**	**21 27 12.4**	**+1.6**
	comp=Z,0.7nm,0.5s,baz=350,slow=13,SNR=2.9						
HABR	**Khabarovsk**	**29.84**	**45**	*e*P	**P**	**21 27 12.1**	**-1.3**
HABR				*e**PP	**pP**	**21 27 15.2**	**-2.8**
HABR				*e*		21 28 07.1	
HABR				*e*		21 30 15.7	
HABR				*e*S	**S**	**21 32 09.0**	**-0.7**
HABR				*e*SS	SS	21 33 39.2	-37
HABR				*e*		21 33 59.0	
HABR				*e*		21 37 52.8	
HABR				pmax	pmax		
	comp=N,14nm,1.

HABR pmax pmax
comp=E,22nm,1.4s
HABR pmax pmax
comp=Z,16nm,1.4s
HABR MLR MLR
comp=Z,97nm,16.0s
DAV Davao City (W) 31.57 134 LR LR 21 39 38.6
comp=Z,92nm,21.1s,baz=52,slow=35
BVAR Borovoye Array 32.54 322 P **P** **21 27 37.3 +0.1**
BVAR 21 30 23.0
BVAR Borovoye Array 32.54 322 P **P** **21 27 37.3 +0.1**
BVAR PcP **PcP** **21 30 23.0 -0.6**
BVAR ScP **ScP** **21 34 05.6 -1.4**
BVAR Borovoye Array 32.54 322 P **P** **21 27 37.3 +0.1**
comp=Z,3.8nm,0.9s,baz=121,slow=8.7,SNR=15
BVAR PcP **PcP** **21 30 23.0 -0.6**
comp=Z,4.5nm,0.7s,baz=146,slow=2.7,SNR=16
BVAR ScP **ScP** **21 34 05.6 -1.4**
comp=Z,1.0nm,0.9s,baz=116,slow=5.1,SNR=4.1
BRVK Borovoye 32.61 322 *eP* **P** **21 27 37.9 +0.1**
BRVK pmax pmax
comp=Z,11nm,1.0s
BRVK Borovoye 32.61 322 *eP* **P** **21 27 37.9 +0.1**
comp=Z,11nm,1.0s
YAK Yakutsk 35.59 21 *i* P **P** **21 28 04.1 +0.6**
AKTO Aktyubinsk 38.78 314 P **P** **21 28 30.8 0.0**
AKTO Aktyubinsk 38.78 314 P **P** **21 28 30.8 0.0**
AKTO Aktyubinsk 38.78 314 P **P** **21 28 30.8 0.0**
comp=Z,2.7nm,0.9s,baz=87,slow=9.0,SNR=9.7
SVE Sverdlovsk 39.27 324⇑ *iP* **P** **21 28 35.8 +1.0**
SVE *eS* S 21 34 40.9 +6.1
SVE pmax pmax
comp=Z,27nm,1.5s
ARU Arti 40.19 323 *c iP* **P** **21 28 42.5 +0.1**
ARU 21 30 12.3
ARU S **S** **21 34 50.8 +2.2**
ARU SS **SS** **21 37 45.5 -0.9**
ARU pmax pmax
comp=Z,36nm,1.7s
ARU Arti 40.19 323 *eP* **P** **21 28 42.4 -0.1**
comp=Z,19nm,1.0s
SOKR Solikamsk 42.20 327 *c iP* **P** **21 28 59.4 +0.5**
SOKR pmax pmax
comp=Z,20nm,0.9s
PETK Petropavlovsk- 44.87 44 P **P** **21 29 21.0 +0.4**
PETK Petropavlovsk- 44.87 44 P **P** **21 29 21.0 +0.4**
PETK Petropavlovsk- 44.87 44 P **P** **21 29 21.0 +0.4**
comp=Z,6.1nm,0.9s,baz=210,slow=8.6,SNR=4.3
MIB Mutribah 47.84 284 *eP* **P** **21 29 43.2 -1.1**
MIB AMb AMB 21 29 52.0
comp=Z,38nm,0.9s
RDF Al-Radifah 47.92 283 *eP* **P** **21 29 44.6 -0.2**
RDF AMb AMB 21 29 52.0
comp=Z,42nm,1.3s
NAY Al-Naaiem 48.08 283 *eP* **P** **21 29 44.5 -1.6**
NAY AMb AMB 21 29 53.7
comp=Z,22nm,0.8s
ZEI Tsey 48.09 302 *eP* **P** **21 29 46.6 +0.3**
ZEI pmax pmax
comp=Z,13nm,1.4s
KIV Kislovodsk 48.84 303⇓ *eP* **P** **21 29 52.7 +0.8**
KIV *e* 21 29 57.3
KIV pmax pmax
comp=Z,39nm,1.7s
KIV Kislovodsk 48.84 303 *eP* **P** **21 29 52.8 +0.9**
comp=Z,18nm,0.9s
VRHR Novokhopersk 49.18 313 *eP* **P** **21 29 53.0 -1.2**
VRHR pmax pmax
comp=Z,10.0nm,1.3s
VRHR pmax pmax
comp=N,3.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,1.3s
VSR Storozhevoye 50.72 313 *eP* **P** **21 30 05.0 -1.0**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,2.0nm,0.5s
VSR pmax pmax
comp=E,10.0nm,1.0s
KLMR Klimovskoe 50.86 326 *eP* **P** **21 30 05.2 -1.6**
KLMR pmax pmax
comp=Z,43nm,1.6s
SOC Sochi 51.03 303 *eP* **P** **21 30 07.3 -1.1**
SOC pmax pmax
comp=Z,8.0nm,0.6s
MOS Moscow 51.57 319 *eP* **P** **21 30 11.6 -0.6**
MOS pmax pmax
comp=Z,51nm,1.4s
BILL Bilibino 51.70 25 *eP* **P** **21 30 12.9 -0.2**
BILL pmax pmax
comp=Z,11nm,1.0s
BILL Bilibino 51.70 25 *eP* **P** **21 30 12.9 -0.2**
comp=Z,11nm,1.0s
OBN Obninsk 52.18 318⇑ *eP* **P** **21 30 16.0 -0.8**
OBN *e*PP* **pP** **21 30 20.0 -1.5**
OBN pmax pmax
comp=Z,29nm,1.7s
OBN MLR MLR
comp=Z,100nm,27.0s
ANN Anapa 52.48 305 *eP* P 21 30 08.2 -11
ANN *e*PP* pP 21 30 11.8 -12
ANN *e* 21 31 24.5
ANN pmax pmax
comp=Z,16nm,1.0s
FITZ Fitzroy Crossi 53.22 153 P **P** **21 30 24.7 -0.1**
FITZ Fitzroy Crossi 53.22 153 P **P** **21 30 24.7 -0.1**
comp=Z,3.6nm,0.8s,baz=117,slow=8.7,SNR=3.6
JOF Joensuu 54.85 328 *eP* **P** **21 30 34.9 -1.4**
JOF pmax pmax
comp=Z,7.0nm,0.6s
JOF Joensuu 54.85 328 *ep* **P** **21 30 34.9 -1.4**
comp=Z,7.1nm,0.6s
BR131 Keskin Array S 56.24 300 *eP* **P** **21 30 46.3 -0.5**
comp=Z,1.3nm,0.7s
BRTR Keskin Array B 56.24 300 P **P** **21 30 46.3 -0.5**
BRTR ScP **ScP** **21 35 44.0 +0.8**
BRTR Keskin Array B 56.24 300 P **P** **21 30 46.3 -0.5**
comp=Z,2.4nm,1.0s,baz=107,slow=4.7,SNR=11
BRTR ScP **ScP** **21 35 44.0 +0.8**
comp=Z,0.6nm,1.0s,baz=246,slow=6.2,SNR=3.5
AKASG Malin Array Be 57.03 313 P **P** **21 30 51.2 -0.8**
AKASG Malin Array Be 57.03 313 P **P** **21 30 51.2 -0.8**
AKASG Malin Array Be 57.03 313 P **P** **21 30 51.2 -0.8**
comp=Z,2.6nm,0.7s,baz=70,slow=6.9,SNR=7.1
ARCES ARCESS Array B 57.19 336 P **P** **21 30 52.8 -0.2**
ARCES ARCESS Array B 57.19 336 P **P** **21 30 52.8 -0.2**
comp=Z,5.2nm,1.0s,baz=90,slow=8.5,SNR=4.6
ARCES LR LR 21 57 07.2
comp=Z,48nm,19.4s,baz=353,slow=38
KAF Kangasniemi 57.20 327 *eP* **P** **21 30 51.8 -1.3**
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 57.20 327 *ep* **P** **21 30 51.8 -1.3**
comp=Z,3.8nm,0.6s
FINES FINESS Array B 57.37 326 P **P** **21 30 53.7 -0.6**
FINES FINESS Array B 57.37 326 P **P** **21 30 53.7 -0.6**
comp=Z,5.7nm,0.7s,baz=72,slow=7.5,SNR=26
WRAB Tennant Creek 58.67 145 *eP* **P** **21 31 04.0 0.0**
WRAB pmax pmax
comp=Z,19nm,0.8s
WRAB Tennant Creek 58.67 145 *eP* **P** **21 31 04.0 0.0**
comp=Z,20nm,0.8s
WRA Warramunga Arr 58.68 145 P **P** **21 31 03.9 -0.1**
WRA Warramunga Arr 58.68 145 P **P** **21 31 03.9 -0.1**
comp=Z,12nm,0.7s,baz=337,slow=7.4,SNR=72
ISP Isparta 59.09 298⇑ *iP* **P** **21 31 06.0 -0.9**
ISP Isparta 59.09 298⇑ *iP* **P** **21 31 06.0 -0.9**
VRI Vrincioaia 59.67 308⇑ *iP* **P** **21 31 09.8 -0.8**
VRI Vrincioaia 59.67 308⇑ *iP* **P** **21 31 09.8 -0.8**
PLOR Plostina 59.73 308⇑ *iP* **P** **21 31 11.1 0.0**
PLOR Plostina 59.73 308⇑ *iP* **P** **21 31 11.1 0.0**
ISR Istrita 59.98 307⇑ *iP* **P** **21 31 14.2 +1.3**
ISR Istrita 59.98 307⇑ *iP* **P** **21 31 14.2 +1.3**
VOIR 60.92 308⇑ *iP* **P** **21 31 17.6 -1.7**
VOIR 60.92 308⇑ *iP* **P** **21 31 17.6 -1.7**
KWP Kalwaria Pacla 61.35 313⇑ *iP* **P** **21 31 22.4 +0.4**
KWP Kalwaria Pacla 61.35 313 *eP* **P** **21 31 22.4 +0.4**
comp=Z,24nm,1.2s
KWP Kalwaria Pacla 61.35 313⇑ *iP* **P** **21 31 22.4 +0.4**
AS31 Alice Springs 61.66 148 *eP* **P** **21 31 24.9 +0.5**
ASAR Alice Springs 61.66 148 P **P** **21 31 24.4 +0.1**
ASAR Alice Springs 61.66 148 P **P** **21 31 24.4 +0.1**
comp=Z,3.4nm,0.7s,baz=330,slow=6.9,SNR=29
TNA Tin City 61.87 28 *eP* **P** **21 31 25.7 +0.5**

comp=Z,3.6nm,0.9s
DRGR 62.11 310⇓ *iP* **P** **21 31 27.7 +0.4**
DRGR 62.11 310⇓ *iP* **P** **21 31 27.7 +0.4**
CRVS Cervenica-Dubn 62.33 312 *eP* **P** **21 31 29.7 +1.0**
CRVS pmax pmax
comp=Z,7.0nm,1.5s
CRVS Cervenica-Dubn 62.33 312 *eP* **P** **21 31 29.7 +1.0**
OJC Ojcow 63.00 314 *eP* **P** **21 31 33.1 0.0**
OJC pmax pmax
comp=Z,64nm,2.2s
OJC Ojcow 63.00 314 *eP* **P** **21 31 33.1 0.0**
comp=Z,64nm,2.2s
VTS Vitosha 63.01 305⇑ *iP* **P** **21 31 33.2 -0.3**
VTS Vitosha 63.01 305⇑ *iP* **P** **21 31 33.2 -0.3**
BZS Buzias 63.18 309⇑ *iP* **P** **21 31 34.0 -0.3**
BZS Buzias 63.18 309⇑ *iP* **P** **21 31 34.0 -0.3**
VYHS Vyhne 64.11 313 *eP* **P** **21 31 39.9 -0.6**
VYHS pmax pmax
comp=Z,5.0nm,1.4s
VYHS Vyhne 64.11 313 *eP* **P** **21 31 39.9 -0.6**
NB2 NORSAR Subarra 64.48 327 P **P** **21 31 41.4 -1.3**
comp=Z,7.1nm,0.8s,baz=73,slow=6.9
NOA NORSAR Array B 64.48 327 P **P** **21 31 41.4 -1.3**
NOA NORSAR Array B 64.48 327 P **P** **21 31 41.4 -1.3**
comp=Z,4.6nm,0.7s,baz=74,slow=6.7,SNR=25
MORC Moravsky Berou 64.52 314 *eP* **P** **21 31 42.9 -0.3**
MORC pmax pmax
comp=Z,5.0nm,1.0s
MORC Moravsky Berou 64.52 314 *eP* **P** **21 31 42.9 -0.3**
comp=Z,5.0nm,1.0s
MORC Moravsky Berou 64.52 314⇑ *iP* **P** **21 31 43.3 +0.1**
PKSM Moragy 64.96 310⇓ *P* **P** **21 31 45.9 -0.1**
PKSM Moragy 64.96 310⇓ *iP* **P** **21 31 45.9 -0.1**
DPC Dobruska-Polom 65.08 315 *eP* **P** **21 31 46.3 -0.6**
DPC pmax pmax
comp=Z,51nm,1.9s
DPC Dobruska-Polom 65.08 315 *eP* **P** **21 31 46.2 -0.6**
comp=Z,51nm,1.9s
DPC Dobruska-Polom 65.08 315 *eP* **P** **21 31 47.2 +0.3**
UPC Upice 65.22 315 *eP* **P** **21 31 48.0 +0.3**
UPC Upice 65.22 315 *eP* **P** **21 31 48.0 +0.3**
VRAC Vranov 65.26 314⇓ *iP* **P** **21 31 48.5 +0.6**
CTA Charters Tower 65.36 135 P **P** **21 31 47.8 -1.1**
CTA Charters Tower 65.36 135 P **P** **21 31 47.8 -1.1**
comp=Z,3.5nm,0.7s,baz=328,slow=9.5,SNR=2.6
TREC Trest 65.94 314 *eP* **P** **21 31 50.6 -1.8**
TREC Trest 65.94 314 *eP* **P** **21 31 50.6 -1.8**
PVCC Panska Ves 66.08 316 *eP* **P** **21 31 54.4 +1.2**
PVCC Panska Ves 66.08 316 *eP* **P** **21 31 54.4 +1.2**
PRU Pruhonice 66.28 315 *eP* **P** **21 31 53.8 -0.7**
PRU Pruhonice 66.28 315 *eP* **P** **21 31 53.8 -0.7**
BRG Berggiesshubel 66.34 316 *eP* **P** **21 31 54.6 -0.3**
comp=Z,4.8nm,1.1s
BRG *e* 21 31 57.4
comp=Z,15nm,1.7s
BRG Berggiesshubel 66.34 316 *eP* **P** **21 31 54.6 -0.3**
BRG *e* 21 31 57.4
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG pmax pmax
comp=Z,15nm,1.7s
CLL Collm 66.74 317 *i* P **P** **21 31 56.9 -0.5**
CLL pmax pmax
comp=Z,8.0nm,1.2s
CLL Collm 66.74 317 *i* P **P** **21 31 56.9 -0.5**
comp=Z,8.0nm,1.2s
KHC Kasperske Hory 67.17 315 *eP* **P** **21 32 01.9 +1.6**
KHC Kasperske Hory 67.17 315 *eP* **P** **21 32 01.9 +1.6**
GERES GERESS Array B 67.20 314 P **P** **21 32 00.6 +0.1**
GERES GERESS Array B 67.20 314 P **P** **21 32 00.6 +0.1**
comp=Z,2.4nm,0.9s,baz=76,slow=5.6,SNR=12
GERES LR LR 22 01 23.0
comp=Z,70nm,18.8s,baz=113,slow=36
COLD Coldfoot 67.98 24 *eP* **P** **21 32 04.8 -0.2**
comp=Z,16nm,0.9s
COLA College 69.96 25 *eP* **P** **21 32 17.1 -0.2**
COLA pmax pmax
comp=Z,33nm,0.9s
COLA College 69.96 25 *eP* **P** **21 32 17.1 -0.2**
comp=Z,33nm,0.9s
MCK McKinley 70.12 27 *eP* **P** **21 32 17.7 -0.6**
MCK pmax pmax
comp=Z,9.0nm,0.9s
MCK McKinley 70.12 27 *eP* **P** **21 32 17.7 -0.6**
comp=Z,9.3nm,0.9s
ILAR Eielson Array 70.37 25 P **P** **21 32 18.4 -1.4**
ILAR Eielson Array 70.37 25 P **P** **21 32 18.4 -1.4**
comp=Z,5.6nm,1.0s,baz=287,slow=4.3,SNR=26
RC01 Rabbit Creek A 71.10 29 *eP* **P** **21 32 23.9 -0.4**
comp=Z,31nm,1.5s
PMR Palmer 71.10 29 *eP* **P** **21 32 23.9 -0.4**
PMR pmax pmax
comp=Z,21nm,0.9s
PMR Palmer 71.10 29 *eP* **P** **21 32 23.9 -0.4**
comp=Z,22nm,0.9s
CDF Champ du Feu 71.29 316 *eP* **P** **21 32 25.2 -0.7**
comp=Z,24nm,1.2s
SML Sawmill 71.32 28 *eP* **P** **21 32 25.3 -0.5**
SML pmax pmax
comp=Z,7.0nm,0.8s
SML Sawmill 71.32 28 *eP* **P** **21 32 25.3 -0.5**
comp=Z,6.5nm,0.8s
HINF Hinteralfeld 71.80 315 *eP* **P** **21 32 28.4 -0.5**
comp=Z,14nm,1.0s
PAX Paxson 71.85 27 *eP* **P** **21 32 28.6 -0.4**
PAX pmax pmax
comp=Z,7.0nm,1.0s
PAX Paxson 71.85 27 *eP* **P** **21 32 28.6 -0.4**
comp=Z,6.6nm,1.0s
GIVF Givet 71.99 318 *eP* **P** **21 32 29.5 -0.4**
DOT Dot Lake 72.01 26 *eP* **P** **21 32 29.8 -0.1**
comp=Z,6.8nm,0.8s
HAU Haudompre 72.02 316 *eP* **P** **21 32 29.5 -0.7**
comp=Z,20nm,1.2s
PAGF Fort de Pagny 72.15 316 *eP* **P** **21 32 29.8 -1.2**
comp=Z,3.8nm,0.9s
STKA Stephens Creek 72.20 146 *eP* **P** **21 32 30.9 -0.3**
comp=Z,31nm,2.8s
STKA Stephens Creek 72.20 146 P **P** **21 32 31.4 +0.1**
comp=Z,3.4nm,0.5s,baz=337,slow=5.3,SNR=12
BAIF Baives 72.36 318 *eP* **P** **21 32 32.0 -0.2**
comp=Z,29nm,1.2s
INK Inuvik 72.62 19 *eP* **P** **21 32 33.0 -0.4**
comp=Z,11nm,0.8s
SFTF Sexfontaines 72.72 316 *eP* **P** **21 32 33.7 -0.6**
comp=Z,18nm,0.9s
DIV Divide 72.73 28 *eP* **P** **21 32 34.1 -0.1**
comp=Z,17nm,1.0s
LPG La Plagne 72.89 313 *eP* **P** **21 32 35.7 -0.1**
comp=Z,26nm,0.8s
LPL La Plagne 72.89 313 *eP* **P** **21 32 35.6 -0.1**
comp=Z,38nm,1.1s
SBF Sospel 73.19 311 *eP* **P** **21 32 36.6 -0.7**
comp=Z,50nm,1.0s
MBDF Montbardon 73.22 312 *eP* **P** **21 32 36.3 -1.3**
comp=Z,16nm,0.9s
BMRM Bremner River 73.29 28 *eP* **P** **21 32 37.5 0.0**
comp=Z,52nm,1.1s
ORIF Oris-en-Rattie 73.70 313 *eP* **P** **21 32 39.1 -1.2**
comp=Z,26nm,1.1s
RES Resolute Bay 74.04 5 *eP* **P** **21 32 41.5 -0.2**
comp=Z,9.2nm,0.9s
SSF Saint Saulge 74.17 316 *eP* **P** **21 32 42.9 0.0**
comp=Z,23nm,1.3s
AVF Avril sur Loir 74.39 315 *eP* **P** **21 32 43.5 -0.7**
comp=Z,20nm,1.0s
SKAG Skagway 77.88 26 *eP* **P** **21 33 03.7 0.0**
comp=Z,29nm,0.9s
YKA Yellowknife Ar 82.13 17 P **P** **21 33 26.3 -0.4**
YKA PKKPbc **PKKPbc** **21 51 52.8 -3.2**
YKA Yellowknife Ar 82.13 17 P **P** **21 33 26.3 -0.4**
comp=Z,6.3nm,0.8s,baz=327,slow=4.9,SNR=83
YKA PKKPbc **PKKPbc** **21 51 52.7 -3.2**
comp=Z,0.3nm,0.7s,baz=164,slow=1.7,SNR=7.1
FFC Flin Flon 92.03 14 *eP* **P** **21 34 14.8 -0.3**
FFC pmax pmax
comp=Z,7.0nm,1.0s
FFC Flin Flon 92.03 14 *eP* **P** **21 34 14.8 -0.3**
comp=Z,6.6nm,1.0s
TORD Torodi Ar. Bea 93.02 287 P **P** **21 34 19.5 -0.9**
TORD Torodi Ar. Bea 93.02 287 P **P** **21 34 19.5 -0.9**
comp=Z,0.7nm,0.9s,baz=84,slow=4.1,SNR=3.5
NEW Newport 93.32 26 *eP* **P** **21 34 21.7 +0.4**
comp=Z,10nm,1.3s
BSMT Bassoo Peak 94.52 25 *eP* **P** **21 34 27.8 +0.8**
TXAR Lajitas Array 114.88 26 PKP PKPdf 21 39 47.0 -0.7

TXAR PKKPbc **PKKPbc** **21 50 22.9 -1.1**
TXAR Lajitas Array 114.88 26 PKP PKPdf 21 39 47.0 -0.7
comp=Z,0.2nm,0.7s,baz=349,slow=1.3,SNR=3.4
TXAR PKKPbc **PKKPbc** **21 50 23.0 -1.1**
comp=Z,0.2nm,0.6s,baz=158,slow=4.0,SNR=3.2
SNAA Sanae 124.03 202 *e* **PKPdf** **21 40 05.6 +1.8**
VNA2 Neumayer--Watz 125.58 202 *e* **PKPdf** **21 40 06.5 -0.2**
baz=107,slow=0.4
VNA3 Neumayer Olymp 126.25 202 *e* **PKPdf** **21 40 07.2 -0.8**
ROSC El Rosal 144.41 356 PKP PKPbc 21 40 42.7 +0.5
ROSC El Rosal 144.41 356 PKP PKPbc 21 40 42.7 +0.5
comp=Z,7.5nm,0.5s,baz=90,slow=22,SNR=3.3
OTAV Otavalo 149.03 3 *e* PKPdf **PKPdf** **21 40 52.6 +0.9**
BDFB Brasilia 149.69 293 PKPbc **PKPbc** **21 40 56.5 -0.4**
BDFB Brasilia 149.69 293 PKPbc **PKPbc** **21 40 56.5 -0.4**
comp=Z,3.1nm,1.0s,baz=90,slow=2.9,SNR=3.8

IDC 07 21:38:23.6±1.8, 0.°34S×132.°85E, h0km, mb3.7/3, mb1 4.0/5, mb1mx3.6/18, mbtmp3.8/5, ML3.7/2, Error ellipse: s-maj=61.2km s-min=24.4km az=69.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**13.88**	**250**	Pn	Pn	21 41 42.0	+0.2
	0.8nm,0.3s,baz=107,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**19.53**	**176**	P	P	21 42 53.3	+0.4
	0.2nm,0.3s,baz=354,slow=12,SNR=9.3						
ASAR	**Alice Springs**	**23.21**	**178**	P	P	21 43 32.6	+0.2
	1.6nm,0.5s,baz=355,slow=11,SNR=30						
STKA	**Stephens Creek**	**32.44**	**166**	P	P	21 44 55.1	-0.5
	1.9nm,0.5s,baz=348,slow=11,SNR=5.9						
MKAR	**Makanchi Array**	**64.40**	**324**	P	P	21 49 01.6	-0.1
	0.1nm,0.5s,baz=111,slow=8.3,SNR=6.3						

MEX 07 21:43:02.7±0.7, 14.°87N×94.°90W, h20km±32km, MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.47**	**308**	*eP*	Pn	21 43 25.1	-3.0
HUIG				*i* S	Sn	21 43 42.1	-4.7
PCIG		**1.82**	**63**	*i* P	Pn	21 43 29.6	-3.3
PCIG				*i* S	Sn	21 43 50.9	-4.5
CMIG	**Matias Romero**	**2.21**	**0**	*eP*	Pn	21 43 36.5	-1.8
CMIG				*i* S	Sn	21 44 01.4	-3.6
THIG		**2.55**	**89**	*i* P	Pn	21 43 39.7	-3.2
THIG				*i* S	Sn	21 44 10.6	-2.7
TGIG		**2.55**	**42**	*eP*	Pn	21 43 41.3	-1.8
TGIG				*i* S	Sn	21 44 10.0	-3.6
VHO	**Vista Hermosa**	**2.81**	**321**	*i* P	Pn	21 43 45.2	-1.6
VHO				*i* S	Sn	21 44 16.4	-3.9
CCIG	**Comitan**	**3.01**	**62**	*eP*	Pn	21 43 47.0	-2.4
CCIG				*i* S	Sn	21 44 21.5	-3.6
PNIG	**Pinotepa**	**3.46**	**296**	*i* P	Pn	21 43 54.1	-1.4
PNIG				*i* S	Sn	21 44 32.1	-3.9

MEX 07 21:50:43.1±0.5, 15.°00N×94.°83W, h16km±9km, MD3.7, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.46**	**302**	*eP*	Pn	21 51 05.2	-3.5
HUIG				*i* S	Sn	21 51 21.9	-5.6
PCIG		**1.70**	**65**	*i* P	Pn	21 51 08.7	-3.5
PCIG				*i* S	Sn	21 51 28.4	-5.3
CMIG	**Matias Romero**	**2.08**	**359**	*i* P	Pn	21 51 14.2	-3.3
CMIG				*i* S	Sn	21 51 38.6	-4.5
CCIG	**Comitan**	**2.89**	**63**	*i* P	Pn	21 51 25.3	-3.5
CCIG				*i* S	Sn	21 51 59.2	-4.1
PNIG	**Pinotepa**	**3.47**	**294**	*i* P	Pn	21 51 34.3	-2.2
PNIG				*i* S	Sn	21 52 12.8	-4.5

*DJA **07** 21:50:46, 20.°33S×175.°02W, h10km, mb6.0/12*
*IDC **07** 21:51:56.6±0.5, 20.°48S×178.°17W, h539km±4km, mb4.7/29, mb1 4.7/30, mb1mx4.7/30, mbtmp4.7/30, Error ellipse: s-maj=10.0km s-min=8.3km az=159.0*
*BJI **07** 21:51:56.2, 20.°17S×177.°84W, h551km, mB5.1/28, mb5.2/45*
*ISCJB **07** 21:51:56.4±0.5, 20.°56S±0.°04×178.°25W±0.°03, h551km±6km, mb5.1/173, Error ellipse: s-maj=6.3km s-min=4.0km az=157.8*
*NEIC **07** 21:51:56.4±0.1, 20.°54S×178.°21W, mb5.2/127, Error ellipse: s-maj=5.5km s-min=3.1km az=148.0*
*MOS **07** 21:51:56.1±0.9, 20.°37S×178.°26W, h541km, mb5.3/45, Error ellipse: s-maj=8.8km s-min=7.7km az=50.1*
*SZGRF **07** 21:51:57.0, 20.°87S×177.°40W, h557km, Fiji Islands region*
*BGS **07** 21:51:58.3±5.5, 20.°54S×178.°21W, h544km, mb5.2(NEIC)*

ISC 07 21:51:56.4±0.3, 20.°53S±0.°05×178.°13W±0.°04, h546km±2km, h546km:pP-P, n1306, σ1.°02/1517, mb5.2/174, 256C-253D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.56**	**307**	*eP*	**P**	**21 53 22.4**	**-0.2**
MSVF				*eS*	**S**	**21 54 32.4**	**-0.4**
MSVF	**Nonsavu**	**4.56**	**307**	*eP*	**P**	**21 53 22.4**	**-0.2**
MSVF				*eS*	**S**	**21 54 32.4**	**-0.4**
MSVF	**Nonsavu**	**4.56**	**307**	P	**P**	**21 53 22.7**	**+0.1**
	9µm,0.7s						
AFI	**Afiamalu**	**8.95**	**44**	*eP*	P	21 53 59.6	-4.2
AFI				*eS*	S	21 55 36.7	-12
AFI	**Afiamalu**	**8.95**	**44**	P	P	21 53 59.8	-4.0
	34nm,0.3s,baz=334,slow=0.7,SNR=36						
AFI				S	S	21 55 37.7	-11
	18nm,0.3s,baz=7.7,slow=21,SNR=9.0						
DZM	**Mont Dzumac**	**14.46**	**261**	*eP*	**P**	**21 55 00.6**	**0.0**
	157nm,1.0s						
DZM	**Mont Dzumac**	**14.46**	**261**	*eP*	**P**	**21 54 58.7**	**-1.9**
DZM	**Mont Dzumac**	**14.46**	**261**	*eP*	**P**	**21 55 00.3**	**-0.3**
	65nm,0.7s						
DZM	**Mont Dzumac**	**14.46**	**261**	P	**P**	**21 55 01.5**	**+0.9**
	2.5nm,0.3s,baz=80,slow=15,SNR=36						
NOUC	**Port Laguerre**	**14.60**	**261**	*eP*	**P**	**21 55 00.2**	**-1.6**
OUZ	**Omahuta**	**16.35**	**205**	*eP*	**P**	**21 55 20.2**	**+1.0**
	235nm,1.2s						
OUZ	**Omahuta**	**16.35**	**205**	PN	**P**	**21 55 19.7**	**+0.5**
RAR	**Rarotonga**	**17.17**	**96**	P	**P**	**21 55 26.9**	**0.0**
RAR	**Rarotonga**	**17.17**	**96**	P	**P**	**21 55 26.9**	**0.0**
	0.9nm,0.3s,baz=254,slow=8.5,SNR=4.2						
OTAZ	**Otara**	**17.45**	**199**	*ePN*	**P**	**21 55 31.2**	**+1.9**
PUZ	**Puketiti**	**17.76**	**189**	*ePN*	**P**	**21 55 31.1**	**-1.1**
TOZ	**Tahuroa Road**	**18.01**	**197**	*ePN*	**P**	**21 55 35.4**	**+1.0**
MWZ	**Matawai**	**18.14**	**191**	PN	**P**	**21 55 33.5**	**-2.1**
URZ	**Urewera**	**18.14**	**192**	*eP*	**P**	**21 55 32.8**	**-2.8**
	115nm,0.8s						
URZ				*eS*	S	21 58 26.4	-7.6
URZ	**Urewera**	**18.14**	**192**	*eP*	**P**	**21 55 32.9**	**-2.8**
SNZO	**South Karori**	**21.59**	**195**	*eP*	**P**	**21 56 06.1**	**-0.7**
	164nm,1.2s						
SNZO				*eS*	**S**	**21 59 25.4**	**-3.7**
THZ	**Tophouse**	**22.49**	**198**	*ePN*	**P**	**21 56 13.8**	**-1.2**
THZ				*eSN*	**S**	**21 59 38.7**	**-4.7**
KHZ	**Kahutara**	**22.92**	**196**	*eP*	**P**	**21 56 17.1**	**-1.6**
	54nm,0.9s						
KHZ	**Kahutara**	**22.92**	**196**	PN	**P**	**21 56 17.2**	**-1.6**
HNR	**Honiara**	**23.85**	**294**	*eP*	**P**	**21 56 28.8**	**+1.4**
	104nm,0.8s						
HNR	**Honiara**	**23.85**	**294**	P	**P**	**21 56 26.6**	**-0.8**
	52nm,0.6s,baz=204,slow=20,SNR=2.9						
WVZ	**Waitaha Valley**	**24.34**	**200**	*ePN*	**P**	**21 56 30.2**	**-1.1**
RPZ	**Rata Peaks**	**24.82**	**199**	*eP*	**P**	**21 56 34.4**	**-1.3**
	526nm,3.0s						
JCZ	**Jackson Bay**	**25.89**	**202**	*ePN*	**P**	**21 56 44.8**	**-0.4**
TBI	**Tubuai**	**26.72**	**101**	*eS*	**S**	**22 00 47.3**	**-2.9**
	276nm,29.0s						
PPT2	**Papeete2**	**27.13**	**89**	*eS*	S	22 00 47.3	-10
	225nm,26.8s						
WHZ	**Wether Hill Ro**	**27.76**	**201**	*eP*	**P**	**21 57 02.2**	**+0.8**
EIDS	**Eidsvold**	**28.72**	**255**	*eP*	**P**	**21 57 10.3**	**+0.2**
	65nm,0.6s						
ARMA	**Armidale**	**28.95**	**244**	*eP*	**P**	**21 57 12.9**	**+0.8**
	48nm,0.8s						
ARMA	**Armidale**	**28.95**	**244**	*eP*	**P**	**21 57 13.1**	**+0.9**
CNB	**Canberra Magne**	**32.11**	**236**	*eP*	**P**	**21 57 40.1**	**+0.9**
	318nm,0.9s						
CAN	**Canberra**	**32.39**	**236**	*eP*	**P**	**21 57 41.1**	**-0.6**
CAN				pmax	pmax		
	comp=Z,54nm,1.1s						

CAN Canberra 32.39 236 *e*P P 21 57 41.0 -0.6
comp=Z,54nm,1.1s
CTA Charters Tower 33.37 264 P P 21 57 50.3 +0.2
CTA Charters Tower 33.37 264 ⇓*i*P P 21 57 50.2 +0.2
comp=Z,156nm,0.7s
CTA Charters Tower 33.37 264 P P 21 57 50.3 +0.2
comp=Z,207nm,0.7s,baz=94,slow=10,SNR=170
CTAO Charters Tower 33.37 264 *e*P P 21 57 50.1 +0.1
CTAO pmax pmax
comp=Z,218nm,0.8s
CTAO Charters Tower 33.37 264 *e*P P 21 57 50.1 +0.1
comp=Z,218nm,0.8s
PMG Port Moresby 35.23 283 *e*P P 21 58 05.4 -0.3
comp=Z,147nm,0.8s
PMG Port Moresby 35.23 283 P P 21 58 05.5 -0.2
comp=Z,197nm,0.9s,comp=Z,2µm
PMG Port Moresby 35.23 283 P P 21 58 05.6 0.0
comp=Z,138nm,0.7s,baz=86,slow=5.7,SNR=30
COEN Coen 37.47 274 *e*P P 21 58 23.9 -0.2
comp=Z,1µm,1.3s
STKA Stephens Creek 37.67 244 *e*P P 21 58 26.2 +0.7
comp=Z,22nm,1.2s
STKA PcP **PcP** 22 00 29.6 +1.1
STKA Stephens Creek 37.67 244 *e*P P 21 58 26.2 +0.7
comp=Z,49nm,1.1s
STKA Stephens Creek 37.67 244 P P 21 58 26.3 +0.7
comp=Z,38nm,0.7s,baz=90,slow=9.4,SNR=57
STKA PcP **PcP** 22 00 29.6 +1.1
comp=Z,8.0nm,0.5s,baz=119,slow=6.2,SNR=3.5
BBOO Buckleboo 42.42 244 *e*P P 21 59 03.6 -0.1
comp=Z,2µm,1.1s
BBOO Buckleboo 42.42 244 *e*P P 21 59 03.5 -0.1
comp=Z,345nm,0.6s
AS31 Alice Springs 44.39 257 *e*P P 21 59 19.1 0.0
AS31 *e*PP **PP** 22 01 10.6 -2.4
AS31 *e*S **S** 22 05 13.0 -1.3
ASAR Alice Springs 44.40 257 P P 21 59 19.1 0.0
ASAR PcP **PcP** 22 00 51.5 +0.4
ASAR Alice Springs 44.40 257 P P 21 59 19.1 0.0
comp=Z,302nm,0.8s,baz=98,slow=7.6,SNR=2062
ASAR PcP **PcP** 22 00 51.5 +0.4
comp=Z,26nm,0.8s,baz=105,slow=3.6,SNR=11
WRAB Tennant Creek 44.47 262 *e*P P 21 59 18.9 -0.8
WRAB pmax pmax
comp=Z,243nm,1.1s
WRAB Tennant Creek 44.47 262 *e*P P 21 59 18.9 -0.8
comp=Z,243nm,1.1s
WRAB Tennant Creek 44.47 262 P P 21 59 18.0 -1.6
comp=Z,1µm,0.7s
WRA Warramunga Arr 44.48 262 P P 21 59 19.1 -0.6
WRA PcP **PcP** 22 00 53.1 +1.8
WRA Warramunga Arr 44.48 262 P P 21 59 19.1 -0.6
comp=Z,148nm,0.8s,baz=97,slow=7.8,SNR=944
WRA PcP **PcP** 22 00 53.1 +1.8
comp=Z,20nm,0.9s,baz=101,slow=3.5,SNR=9.9
SMPI Sarmi 45.95 288 P P 21 59 31.1 +0.1
comp=Z,235nm,1.0s,comp=Z,3µm
KIP Kipapa 46.10 26 ⇓*e*P P 21 59 29.7 -2.3
KIP pmax pmax
comp=Z,106nm,1.2s
FORT Forrest 49.17 247 *e*P P 21 59 54.5 -0.4
comp=Z,193nm,0.8s
FORT Forrest 49.17 247 *e*P P 21 59 54.3 -0.6
comp=Z,116nm,0.6s
GUMO Guam 49.73 310 *e*P P 21 59 59.3 +0.1
comp=Z,162nm,0.7s
GUMO Guam 49.73 310 P P 21 59 59.2 0.0
comp=Z,212nm,0.8s,baz=172,slow=9.6,SNR=8.6
FITZ Fitzroy Crossi 52.91 262 *e*P P 22 00 22.2 0.0
comp=Z,66nm,0.9s
FITZ Fitzroy Crossi 52.91 262 ⇓*i*P P 22 00 22.2 0.0
comp=Z,72nm,0.6s
FITZ Fitzroy Crossi 52.91 262 P P 22 00 22.2 0.0
comp=Z,54nm,0.7s,baz=120,slow=3.8,SNR=97
DRV Dumont d'Urvil 53.28 199 S S 22 06 34.0 -40
DRV SS **SKiKP** 22 10 42.0 +3.8
DRV L L 22 13 00.0
LBMI Labuha 56.65 283 P P 22 00 51.0 +2.6
TNTI Ternate 57.35 285 P P 22 00 53.6 +0.3
comp=Z,508nm,1.0s,comp=Z,4µm
MBWA Marble Bar 57.73 257 *e*P P 22 00 55.3 -0.4
comp=Z,126nm,0.8s
MBWA Marble Bar 57.73 257 P P 22 00 56.0 +0.3
SNR=5.1
VNDA Vanda 57.87 185 *e*P P 22 00 57.5 +1.8
comp=Z,39nm,1.7s
KLBR Kellerberrin 57.93 245 *e*P P 22 00 56.6 -0.4
comp=Z,178nm,1.0s
NWAO Narrogin (SRO) 58.25 243 *e*P P 22 00 59.1 0.0
comp=Z,20nm,0.7s
NWAO Narrogin (SRO) 58.25 243 P P 22 00 59.1 0.0
comp=Z,38nm,0.7s,baz=104,slow=6.3,SNR=23
BLDU Ballidu 58.93 246 *e*P P 22 01 02.7 -1.0
KDI Kendari 59.87 278 P P 22 01 09.7 -0.5
LUWI Luwuk 60.82 281 P P 22 01 17.0 +0.5
DAV Davao City (W) 61.73 290 P P 22 01 23.9 +1.5
DAV Davao City (W) 61.73 290 P P 22 01 23.9 +1.5
comp=Z,131nm,0.4s,baz=240,slow=16,SNR=5.5
KAPI Kappang 62.17 275 P P 22 01 24.4 -0.9
KAPI Kappang 62.17 275 P P 22 01 24.4 -0.9
comp=Z,19nm,0.7s,baz=184,slow=1.9,SNR=6.9
CTBH Cotabato--PC H 62.98 290 ⇓*e*P P 22 01 30.6 +0.1
TSM Tawau 67.43 284 P P 22 01 59.5 +1.0
SDKM Sandakan 68.60 285 P P 22 02 06.6 +1.0
TGY Tagaytay City 69.06 295 P P 22 02 09.4 +1.1
TGY Tagaytay City 69.06 295 P P 22 02 09.4 +1.1
comp=Z,94nm,0.5s,baz=292,slow=9.5,SNR=6.0
KDM Kudat 69.45 286 P P 22 02 11.9 +1.3
QSPA South Pole Qui 69.53 180 *e*P P 22 02 11.5 +1.1
comp=Z,13nm,0.8s
QSPA pP **pP** 22 04 01.9 -0.7
QSPA *e*pP **pwP** 22 04 02.6 0.0
QSPA South Pole Qui 69.53 180 P P 22 02 12.1 +1.6
comp=Z,12nm,0.7s,baz=38,slow=1.6,SNR=67
QSPA pP **pP** 22 04 01.9 -0.7
comp=Z,18nm,1.2s,baz=46,slow=2.7,SNR=5.0
JOW Kunigami 70.10 310 *e*P P 22 02 14.8 +0.6
JOW Kunigami 70.10 310 P P 22 02 15.1 +0.9
comp=Z,26nm,0.4s,baz=147,slow=6.4,SNR=14
MJAR Matsushiro Arr 70.17 324 P P 22 02 13.8 -0.6
MJAR Matsushiro Arr 70.17 324 P P 22 02 13.8 -0.6
comp=Z,14nm,0.7s,baz=166,slow=6.3,SNR=34
MAJO Matsushiro 70.17 324 *e*P P 22 02 14.4 -0.1
MAJO pmax pmax
comp=Z,61nm,1.2s
MAJO Matsushiro 70.17 324 *e*P P 22 02 14.4 -0.1
comp=Z,61nm,1.2s
MAT Matsushiro 70.17 324 P P 22 02 13.8 -0.7
MAT *e*S S 22 10 35.6 -7.1
BTM Bintulu 71.38 281 P P 22 02 23.2 +1.0
SBUM Sibu 71.89 280 P P 22 02 26.2 +1.1
SBUM Sibu 71.89 280 P P 22 02 26.3 +1.2
comp=Z,52nm,1.6s,comp=Z,685nm
JNU Nakatsue 72.22 317 *e*P P 22 02 26.3 -0.3
comp=Z,35nm,1.0s
JNU Nakatsue 72.22 317 P P 22 02 26.2 -0.3
comp=Z,64nm,1.0s,baz=80,slow=3.8,SNR=16
KSM Kuching 73.30 278 *e*P P 22 02 33.9 +0.6
comp=Z,154nm,1.1s
KSM Kuching 73.30 278 P P 22 02 34.2 +1.0
KSM Kuching 73.30 278 P P 22 02 33.8 +0.6
comp=Z,133nm,1.3s,comp=Z,1µm
NACB Ninganchiao 73.60 304 *e*P P 22 02 34.0 -0.6
comp=Z,152nm,1.3s
ASAJ Asahikawa 73.70 332 *e*P P 22 02 35.6 +0.8
comp=Z,64nm,1.0s
ASAJ Asahikawa 73.70 332 P P 22 02 36.2 +1.4
comp=Z,106nm,0.9s,baz=216,slow=7.3,SNR=30
SSLB Suanglung 73.89 304 *e*P P 22 02 35.1 -1.3
comp=Z,63nm,1.1s
TPUB Ta-pu 73.89 303 *e*P P 22 02 35.1 -1.3
comp=Z,153nm,0.9s
YHNB Yeheng 74.03 305 *e*P P 22 02 36.6 -0.5
comp=Z,78nm,1.1s
UNV Unalaska Valle 74.75 7 *e*P P 22 02 39.4 -1.0
comp=Z,180nm,1.2s
YSS Yuzh-Sakhalins 75.87 334 ⇓*i*P P 22 02 48.3 +1.5
YSS *e* 22 04 45.0
YSS pmax pmax
comp=E,60nm,1.0s
YSS pmax pmax
comp=Z,160nm,1.0s
YSS Yuzh-Sakhalins 75.87 334 *e*P P 22 02 47.6 +0.8
comp=Z,149nm,1.0s
PEA0B Petropavlovsk- 76.27 345 *e*P P 22 02 48.7 -0.3
PETK Petropavlovsk- 76.27 345 P P 22 02 48.9 -0.1
comp=Z,59nm,0.8s,baz=142,slow=8.8,SNR=58
QZH Quanzhou 76.33 303 ⇑*i*P P 22 02 51.4 +1.5
QZH pmax pmax
comp=Z,220nm,1.2s
KSRS Korea Array 76.83 319 P P 22 02 53.0 +0.6
comp=Z,20nm,1.0s,baz=144,slow=6.6,SNR=32
KSAR Wonju Array Be 76.85 319 P P 22 02 53.0 +0.5
BSC Santa Cruz Isl 77.71 46 ⇓P P 22 02 58.3 +1.1
baz=78
SCI San Clemente I 77.88 48 ⇓P P 22 02 59.0 +0.8
baz=78
PKM Peak Mountain 78.10 46 ⇓P P 22 03 01.1 +1.6
baz=78,SNR=6.6
SAO San Andreas Ge 78.13 43 *e*P P 22 03 00.5 +1.1
SAO pmax pmax
comp=Z,64nm,0.9s
SAO San Andreas Ge 78.13 43 *e*P P 22 03 00.5 +1.1
comp=Z,64nm,0.9s
BLG Laguna Peak 78.16 47 ⇓P P 22 03 00.4 +0.7
baz=78
CIS Catalina Islan 78.22 48 ⇑P P 22 03 00.9 +0.8
baz=78
VLA Vladivostok 78.24 325 ⇓*e*P P 22 03 00.3 +0.5
VLA pmax pmax
comp=Z,54nm,1.0s
KCPM Cahto Peak 78.60 40 *e*P P 22 03 03.2 +1.1
KIPM Iron Peak 78.73 40 *e*P P 22 03 04.2 +1.5
comp=Z,38nm,0.9s
PASC Pasadena Art C 78.80 47 *e*P P 22 03 04.3 +1.2
comp=Z,36nm,0.9s
109C Camp Elliot, M 78.84 49 ⇑P P 22 03 04.0 +0.7
baz=79,SNR=5.6
ARVC Arvin 78.90 46 ⇓P P 22 03 04.4 +0.8
baz=79,SNR=6.1
MWC Mount Wilson 78.92 47 *e*P P 22 03 04.8 +0.9
MWC pmax pmax
comp=Z,62nm,1.0s
MWC Mount Wilson 78.92 47 *e*P P 22 03 04.8 +0.9
comp=Z,62nm,1.0s
USRK Ussuriysk Arra 78.92 326 P P 22 03 04.6 +1.2
comp=Z,50nm,0.8s,baz=127,slow=3.2,SNR=103
BAR Barrett 79.03 49 *e*P P 22 03 05.6 +1.3
comp=Z,22nm,1.0s
VES Vestal, Richgr 79.14 45 ⇓P P 22 03 05.3 +0.5
baz=79,SNR=13
MURC Murrieta 79.16 48 ⇑P P 22 03 05.9 +0.8
baz=79,SNR=18
BFSC Mount Baldy Ra 79.20 47 ⇑P P 22 03 06.1 +0.8
baz=79
MONP Monument Peak 79.32 49 ⇓P P 22 03 07.1 +1.0
baz=80,SNR=21
EDW2 Edwards Air Fo 79.33 47 ⇑P P 22 03 06.7 +0.8
baz=80,SNR=37
MYKOM Kota Tinggi 79.42 276 P P 22 03 07.6 +0.7
MYKOM Kota Tinggi 79.42 276 P P 22 03 07.8 +1.0
comp=Z,103nm,1.1s,comp=Z,1µm
DVTC Desert V Tower 79.42 49 ⇓P P 22 03 07.8 +1.2
baz=80,SNR=8.5
ISA Isabella 79.44 46 *e*P P 22 03 07.3 +0.7
ISA pmax pmax
comp=Z,116nm,1.5s
ISA Isabella 79.44 46 *e*P P 22 03 07.3 +0.7
comp=Z,116nm,1.5s
ISA Isabella 79.44 46 ⇓P P 22 03 07.4 +0.9
baz=80,SNR=30
KRMB Red Mountain 79.56 38 *e*P P 22 03 08.3 +1.2
comp=Z,125nm,1.4s
CMB Columbia Colle 79.57 43 *e*P P 22 03 07.7 +0.6
CMB pmax pmax
comp=Z,61nm,1.0s
CMB Columbia Colle 79.57 43 *e*P P 22 03 07.7 +0.6
comp=Z,61nm,1.0s
OHCM Honcut 79.66 41 *e*P P 22 03 08.5 +1.1
PFO Pinyon Flat Ob 79.69 48 *e*P P 22 03 09.2 +1.2
comp=Z,58nm,1.4s
PFO Pinyon Flat Ob 79.69 48 ⇑P P 22 03 09.0 +1.1
baz=80,SNR=9.9
WDC Whiskeytown Da 79.78 40 *e*P P 22 03 09.1 +1.0
WDC pmax pmax
comp=Z,137nm,1.4s
WDC Whiskeytown Da 79.78 40 *e*P P 22 03 09.1 +1.0
comp=Z,138nm,1.4s
SWSC Sam W. Stewart 79.79 49 ⇓P P 22 03 09.2 +0.9
baz=80,SNR=14
NJ2 Nanjing 79.81 310 *e*P P 22 03 09.5 +1.1
NJ2 pmax pmax
comp=Z,60nm,1.0s
LRMC Laurel Mountai 79.87 46 ⇑P P 22 03 09.8 +1.0
baz=80,SNR=18
KGM Kluang 80.00 276 P P 22 03 10.9 +1.0
BELC Belle Mtn. Jos 80.22 48 ⇓P P 22 03 11.7 +1.0
baz=80,SNR=26
MPMC Manual Prospec 80.33 46 ⇓P P 22 03 12.0 +0.6
baz=81,SNR=36
MLAC Mammoth Lakes 80.33 44 ⇓P P 22 03 12.6 +1.3
baz=81,SNR=6.2
MTUM Tungsten Hills 80.35 44 *e*P P 22 03 12.3 +0.9
GSC Goldstone 80.37 47 *e*P P 22 03 12.3 +0.9
GSC pmax pmax
comp=Z,72nm,1.3s
GSC Goldstone 80.37 47 *e*P P 22 03 12.3 +0.9
comp=Z,72nm,1.3s
YBH Yreka Blue Hor 80.39 39 *e*P P 22 03 12.7 +1.3
comp=Z,74nm,1.0s
BC3 Big Chuckawall 80.41 49 ⇓P P 22 03 13.0 +1.2
baz=81,SNR=21
HABR Khabarovsk 80.42 331 *ce*P P 22 03 11.1 -0.1
HABR *e* 22 06 23.1
HABR *e*PPP PPP 22 08 17.6
HABR *e*S **S** 22 12 33.2 +0.7
HABR *e*SS **SS** 22 18 00.7 -0.1
HABR *e*SSS SSS 22 21 34.5
HABR pmax pmax
comp=N,31nm,1.5s
HABR pmax pmax
comp=Z,206nm,1.5s
HABR pmax pmax
comp=E,31nm,0.9s
HABR MLR MLR
comp=Z,49nm,22.0s
HEC Hector,Ludlow 80.44 47 ⇑P P 22 03 12.4 +0.6
baz=81,SNR=15
MDJ Mudanjiang 80.48 325 P P 22 03 12.6 +1.0
MDJ pP **pP** 22 05 08.0 -0.4
MDJ sP **sP** 22 06 03.5 -0.6
MDJ PP **PP** 22 06 25.0 -0.3
MDJ S **S** 22 12 34.7 +1.4
MDJ sS **sS** 22 15 59.0 -2.4
MDJ SS **SS** 22 18 02.1 +0.2
MDJ pmax pmax
comp=Z,63nm,1.0s
MDJ pmax pmax
comp=Z,200nm,5.2s
GLA Glamis 80.54 50 *e*P P 22 03 14.0 +1.7
GLA pmax pmax
comp=Z,106nm,1.1s
GLA Glamis 80.54 50 *e*P P 22 03 14.0 +1.7
comp=Z,106nm,1.1s
GLA Glamis 80.54 50 ⇓P P 22 03 13.6 +1.3
baz=81,SNR=17
LBCM Butte Creek Ri 80.65 40 P P 22 03 13.8 +0.9
WCN Washoe City 80.71 42 *e*P P 22 03 13.9 +0.7
WCN pmax pmax
comp=Z,68nm,1.0s
WCN Washoe City 80.71 42 *e*P P 22 03 13.9 +0.7
comp=Z,68nm,1.0s
WCN Washoe City 80.71 42 ⇑P P 22 03 14.1 +0.9
baz=81,SNR=33
QIZ Qiongzhong 80.76 294 P P 22 03 14.3 +0.6
QIZ sP **sP** 22 06 06.8 +0.6
QIZ pmax pmax
comp=Z,23nm,1.1s
HUMO Hull Mountain 80.79 38 *e*P P 22 03 14.7 +1.3
comp=Z,98nm,1.2s
GMRC Granite Mounta 80.87 48 ⇓P P 22 03 14.8 +0.7
baz=81,SNR=27
KDAK Kodiak Island 80.88 14 *e*P P 22 03 13.4 0.0
comp=Z,136nm,1.3s
IRM Iron Mountain 80.90 48 ⇓P P 22 03 15.1 +1.0
baz=81,SNR=36
GRAC Grapevine Rang 80.93 45 ⇑P P 22 03 15.2 +0.9
baz=81,SNR=35
FURC Furnace Creek, 80.98 46 ⇑P P 22 03 15.0 +0.7
baz=81,SNR=7.7
TUQ Turquoise Moun 81.05 47 ⇑P P 22 03 15.7 +0.7
baz=81,SNR=16
SHOC Shoshone 81.06 46 ⇑P P 22 03 15.5 +0.6
baz=81,SNR=9.4
Y12C Blythe 81.12 49 ⇓P P 22 03 16.3 +1.1
baz=81,SNR=19
NVAR Mina Array Bea 81.13 43 P P 22 03 16.1 +0.7
NVAR pP **pP** 22 05 11.6 -0.9
NVAR Mina Array Bea 81.13 43 P P 22 03 16.1 +0.7
comp=Z,38nm,0.9s,baz=224,slow=8.5,SNR=137
NVAR pP **pP** 22 05 11.6 -0.9
comp=Z,2.7nm,0.9s,baz=238,slow=9.1,SNR=1.9
113A Mohawk Valley, 81.15 50 ⇑P P 22 03 16.5 +1.1
baz=81,SNR=16
LDFC Landfair 81.42 48 *e*P P 22 03 18.2 +1.3
comp=Z,128nm,1.0s
214A Organ Pipe Nat 81.43 51 ⇓P P 22 03 18.1 +1.2
baz=82,SNR=13
MAW Mawson 81.49 200 P P 22 03 17.5 +1.0
MAW Mawson 81.49 200 P P 22 03 17.5 +1.0
comp=Z,51nm,1.1s,baz=64,slow=5.4,SNR=2.1
PDMCI Parker Dam,Lak 81.68 49 ⇑P P 22 03 19.2 +1.2
baz=82,SNR=19
114A Black Gap (USA 81.78 51 ⇓P P 22 03 19.5 +0.9
baz=82,SNR=11
MOD Modoc 81.92 40 *e*P P 22 03 20.1 +0.8
comp=Z,81nm,0.9s
FRIM Kepong 82.01 276 P P 22 03 21.3 +1.0
Z14A Wintersburg 82.05 50 ⇓P P 22 03 21.2 +1.2
baz=82,SNR=23
CN2 Changchun 82.25 322 ⇓P P 22 03 20.9 +0.1
CN2 *e*pP **pP** 22 05 18.4 +0.2
CN2 *e*S **S** 22 12 52.1 +0.9
CN2 pmax pmax
comp=Z,90nm,1.1s
CN2 pmax pmax
comp=Z,200nm,4.0s
W13A Hualapai Mount 82.28 48 ⇑P P 22 03 22.4 +1.0
baz=82,SNR=11
Y14A Wickenburg 82.30 50 ⇓P P 22 03 22.2 +0.9
baz=82,SNR=24
WHN Wuhan 82.37 306 ⇓P P 22 03 22.5 +0.9
KLR Kul'dur 82.50 330 *e*P P 22 03 19.4 -2.4
BMN Battle Mountai 82.96 42 *e*P P 22 03 25.4 +0.8
BMN pmax pmax
comp=Z,88nm,1.0s
BMN Battle Mountai 82.96 42 *e*P P 22 03 25.4 +0.8
comp=Z,88nm,1.0s
IPM Ipoh 83.02 277 *e*P P 22 03 25.7 +0.4
comp=Z,73nm,0.7s
IPM Ipoh 83.02 277 P P 22 03 26.2 +0.9
IPM Ipoh 83.02 277 P P 22 03 25.8 +0.4
comp=Z,134nm,0.9s,comp=Z,1µm
TUC Tucson 83.09 52 *e*P P 22 03 27.0 +1.6
TUC pmax pmax
comp=Z,89nm,1.2s
TUC Tucson 83.09 52 *e*P P 22 03 26.9 +1.6
comp=Z,89nm,1.2s
VIPM Ingram Point 83.30 37 P P 22 03 27.1 +0.8
VIPM Ingram Point 83.30 37 P P 22 03 27.1 +0.8
NLWA Neilton Lakou 83.33 34 *e*P P 22 03 26.9 +0.8
comp=Z,83nm,1.1s
SVW2 Sparrevohn 83.35 11 *e*P P 22 03 25.9 0.0
comp=Z,23nm,1.0s
TDL Tradedollar La 83.55 35 P P 22 03 28.4 +1.0
X16A Lo Mia Camp, P 83.66 50 ⇑P P 22 03 29.4 +1.1
baz=84,SNR=18
SEW Seward 83.68 14 *e*P P 22 03 27.4 -0.1
comp=Z,68nm,1.0s
319A Douglas 83.76 53 ⇑P P 22 03 30.5 +1.7
baz=84,SNR=35
R13A O'Grain Ranch, 83.84 46 ⇑P P 22 03 30.1 +0.9
baz=84
SLKM Skilak Lake 83.87 13 *e*P P 22 03 28.1 -0.4
SLKM Skilak Lake 83.87 13 *e*P P 22 03 28.1 -0.4
CCUT Cedar City 83.92 46 *e*P P 22 03 30.6 +1.0
comp=Z,57nm,1.3s
ARUT Antelope Range 83.99 46 *e*P P 22 03 30.8 +1.0
ARUT pmax pmax
comp=Z,54nm,1.4s
ARUT Antelope Range 83.99 46 *e*P P 22 03 30.8 +1.0
comp=Z,54nm,1.4s
LON Longmire 84.02 35 *e*P P 22 03 29.9 +0.3
LON pmax pmax
comp=Z,55nm,1.6s
LON Longmire 84.02 35 *e*P P 22 03 29.9 +0.3
comp=Z,55nm,1.6s
U15A North Rim 84.07 48 ⇓P P 22 03 31.6 +1.1
baz=84,SNR=67
X17A Forest Lakes 84.07 50 ⇓P P 22 03 31.7 +1.3
baz=84,SNR=8.2
SPU Mount Spurr 84.10 12 *e*P P 22 03 28.3 -1.4
WPW White Pass 84.13 35 P P 22 03 31.3 +1.1
GAMB Gambell 84.18 3 *e*P P 22 03 30.1 +0.2
comp=Z,101nm,1.1s
WUAZ Wupatki 84.25 49 *e*P P 22 03 32.7 +1.5
comp=Z,61nm,1.3s
WUAZ Wupatki 84.25 49 ⇑P P 22 03 32.3 +1.1
baz=84,SNR=15
320A Kipp Ranch, An 84.31 54 ⇓P P 22 03 33.5 +2.0
baz=84,SNR=22
PGC Sidney 84.35 33 *e*P P 22 03 32.1 +1.0
comp=Z,3.3nm,0.9s
PSI Prapat 84.38 275 P P 22 03 31.4 -0.8
comp=Z,77nm,1.1s,comp=Z,874nm
ELK Elko 84.39 43 *e*P P 22 03 32.1 +0.3
RC01 Rabbit Creek A 84.50 13 *e*P P 22 03 31.2 -0.4
comp=Z,117nm,1.1s
220A Playas Peak, P 84.58 53 ⇑P P 22 03 34.3 +1.5
baz=85,SNR=34
U16A Tuba City 84.74 48 ⇓P P 22 03 34.7 +1.2
baz=85,SNR=29
X18A Snowflake 84.78 50 ⇑P P 22 03 34.6 +0.8
baz=85,SNR=11
120A U Bar Ranch, L 84.80 53 ⇓P P 22 03 35.4 +1.5
baz=85,SNR=18
R15A Junction 84.99 46 ⇓P P 22 03 36.0 +1.2
baz=85,SNR=5.8
Y19A Nutrioso 85.01 51 ⇑P P 22 03 36.2 +1.2
baz=85,SNR=27
HAWA Hanford 85.05 36 *e*P P 22 03 35.5 +1.0
comp=Z,99nm,1.1s
PMR Palmer 85.08 13 *e*P P 22 03 34.0 -0.3
PMR pmax pmax
comp=Z,159nm,1.4s
PMR Palmer 85.08 13 *e*P P 22 03 34.0 -0.3
comp=Z,159nm,1.4s
Z20A Nine Sixteen R 85.10 52 ⇓P P 22 03 36.7 +1.3
baz=85,SNR=25
MVU Marysvale 85.19 46 *e*P P 22 03 36.9 +1.1
comp=Z,28nm,1.3s
221A Mesquite Ranch 85.19 53 ⇓P P 22 03 37.3 +1.5
baz=85,SNR=8.1
S16A Weppner Ranch, 85.21 47 ⇑P P 22 03 36.4 +0.6
baz=86,SNR=11
MSU Marysvale 85.22 46 *e*P P 22 03 37.0 +1.1
MSU Marysvale 85.22 46 *e*P P 22 03 37.0 +1.1
U17A Shonto 85.29 48 ⇑P P 22 03 37.2 +0.9
baz=86,SNR=16
T17A Navajo Res., N 85.39 48 ⇑P P 22 03 37.6 +0.9
baz=86,SNR=33
BMO Blue Mountains 85.42 39 *e*P P 22 03 36.9 +0.4
comp=Z,28nm,0.9s
121A Cookes Peak, D 85.43 53 ⇑P P 22 03 38.3 +1.3
baz=86,SNR=27
SML Sawmill 85.45 14 *e*P P 22 03 35.7 -0.5
SML pmax pmax
comp=Z,33nm,1.6s
SML Sawmill 85.45 14 *e*P P 22 03 35.7 -0.5
comp=Z,33nm,1.6s
DIV Divide 85.45 15 *e*P P 22 03 35.8 -0.4
comp=Z,84nm,1.1s
MFID Camas Ranch 85.49 40 *e*P P 22 03 37.7 +0.8
comp=Z,55nm,1.2s
MFID Camas Ranch 85.49 40 ⇓P P 22 03 37.4 +0.5
baz=86,SNR=22
R16A Teasdale 85.57 46 ⇓P P 22 03 38.5 +0.9
baz=86,SNR=8.5
BMRM Bremner River 85.60 16 *e*P P 22 03 36.7 -0.2
comp=Z,83nm,1.0s
Y20A Horse Springs, 85.63 51 ⇑P P 22 03 39.4 +1.4
baz=86,SNR=11
DUG Dugway 85.66 44 *e*P P 22 03 38.0 +0.1
DUG pmax pmax
comp=Z,89nm,2.3s
DUG Dugway 85.66 44 *e*P P 22 03 38.0 +0.1
comp=Z,89nm,2.3s

DUG **Dugway** 85.66 44 ⇑P P 22 03 38.6 +0.8
baz=86,SNR=8.3
P15A **Leamington** 85.69 45 ⇓P P 22 03 38.8 +0.7
baz=86
S17A **Black Ridge (B** 85.71 47 ⇑P P 22 03 38.3 +0.2
baz=86,SNR=24
222A **Williams Fami** 85.75 54 ⇓P P 22 03 39.6 +1.2
baz=86,SNR=9.5
U18A **Rough Rock, Ch** 85.76 49 ⇑P P 22 03 38.9 +0.4
baz=86,SNR=15
BJI **Beijing** 85.83 315 P P 22 03 38.9 +0.5
BJI pP pP 22 05 37.6 +0.5
BJI S S 22 13 28.8 +2.6
BJI pmax pmax
comp=Z,64nm,0.9s
Z21A **St. Cloud Mine** 85.87 52 ⇓P P 22 03 40.7 +1.6
baz=86,SNR=8.6
V19A **Window Rock** 86.00 50 ⇑P P 22 03 41.1 +1.4
baz=86,SNR=5.1
Q16A **Castle Valley** 86.10 46 ⇓P P 22 03 41.3 +1.3
baz=86,SNR=20
T18A **Mexican Hat** 86.11 48 ⇑P P 22 03 40.8 +0.8
baz=86,SNR=71
W20A **Ramah** 86.12 50 ⇑P P 22 03 41.2 +1.0
baz=86,SNR=29
I12A **Atlanta** 86.12 40 ⇑P P 22 03 40.8 +0.8
baz=86,SNR=62
R17A **Hanksville Air** 86.16 47 ⇓P P 22 03 40.7 +0.4
baz=86,SNR=18
U19A **Dine' College,** 86.17 49 ⇓P P 22 03 41.2 +0.7
baz=86,SNR=22
TNA **Tin City** 86.18 4 eP P 22 03 40.1 +0.6
comp=Z,22nm,0.9s
Y21A **Point of Rocks** 86.19 52 ⇓P P 22 03 42.0 +1.3
baz=86,SNR=11
TMUT **Trail Mountain** 86.26 46 eP P 22 03 42.1 +1.2
comp=Z,58nm,1.2s
S18A **Hurst Farm, Bl** 86.29 48 ⇓P P 22 03 41.3 +0.3
baz=86,SNR=7.8
X21A **Alamocita Cree** 86.32 51 ⇓P P 22 03 42.2 +1.0
baz=86,SNR=12
Z22A **Elephant Butte** 86.37 53 ⇓P P 22 03 42.3 +0.9
baz=87,SNR=28
SEY **Seymchan** 86.38 347 ⇓eP P 22 03 40.1 -0.4
HLID **Hailey** 86.43 41 eP P 22 03 42.3 +0.8
comp=Z,42nm,1.0s
HLID **Hailey** 86.43 41 ⇑P P 22 03 42.3 +0.8
baz=87,SNR=44
V20A **Brimhall** 86.46 50 ⇓P P 22 03 42.3 +0.5
baz=87
J13A **Cove Ranch, Pi** 86.49 41 ⇓P P 22 03 42.5 +0.8
baz=87,SNR=66
TRF **Thorofare Moun** 86.51 12 eP P 22 03 39.7 -1.6
comp=Z,93nm,1.0s
HVU **Hansel Valley** 86.51 43 eP P 22 03 42.6 +0.7
HVU pmax pmax
comp=Z,279nm,2.8s
HVU **Hansel Valley** 86.51 43 eP P 22 03 42.5 +0.7
comp=Z,279nm,2.8s
M15A **Larsen Ranch,** 86.56 43 ⇑P P 22 03 42.4 +0.3
baz=87,SNR=9.8
GYA **Guiyang** 86.56 300 ⇓iP P 22 03 42.7 +0.3
GYA pP pP 22 05 43.6 +2.2
GYA sP sP 22 06 36.8 +0.3
GYA PP PP 22 07 17.2 +2.5
GYA SKS SKSac 22 13 16.8 -0.6
GYA S S 22 13 33.0 -1.0
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.3s
123A **Bell Site, Whi** 86.62 53 ⇓P P 22 03 43.5 +1.0
baz=87
SRU **San Rafael** 86.63 46 eP P 22 03 43.2 +0.6
SRU pmax pmax
comp=Z,49nm,1.1s
SRU **San Rafael** 86.63 46 eP P 22 03 43.2 +0.6
comp=Z,49nm,1.1s
SRU **San Rafael** 86.63 46 ⇓P P 22 03 43.0 +0.4
baz=87,SNR=25
K14A **Jones Ranch, D** 86.66 42 ⇓P P 22 03 43.1 +0.6
baz=87,SNR=13
P17A **Butcher Ranch,** 86.67 46 ⇑P P 22 03 43.4 +0.7
baz=87,SNR=12
SYO **Syowa Base** 86.67 193 ⇑eP P 22 03 40.3 -1.6
324A **Moseley Ranch,** 86.68 55 ⇓P P 22 03 43.8 +0.9
baz=87,SNR=54
Y22A **Socorro** 86.69 52 ⇓P P 22 03 43.7 +0.8
baz=87,SNR=16
U20A **Newcomb** 86.69 49 ⇑P P 22 03 43.4 +0.6
baz=87,SNR=14
H12A **Diamond D Ranc** 86.70 40 ⇓P P 22 03 43.2 +0.5
baz=87,SNR=79
R18A **Canyonlands Na** 86.70 47 ⇓P P 22 03 43.2 +0.3
baz=87,SNR=38
G12A **Big Creek, Yel** 86.73 39 ⇑P P 22 03 43.2 +0.4
baz=87,SNR=99
JLU **Jordanelle** 86.76 44 eP P 22 03 44.1 +0.9
comp=Z,101nm,2.2s
LAZ **Ladron** 86.77 52 eP P 22 03 45.1 +1.8
comp=Z,15nm,1.4s
425A **Indio Mountain** 86.77 56 ⇑P P 22 03 44.5 +1.2
baz=87,SNR=61
LENM **Lemitar** 86.78 52 eP P 22 03 44.7 +1.3
DAU **Daniels Canyon** 86.79 45 eP P 22 03 44.6 +1.1
DAU **Daniels Canyon** 86.79 45 eP P 22 03 44.6 +1.1
I13A **Wildhorse Cree** 86.80 41 ⇓P P 22 03 44.2 +0.9
baz=87,SNR=25
J14A **Carey** 86.85 41 ⇑P P 22 03 44.7 +1.2
baz=87
L15A **Malad City** 86.87 43 ⇑P P 22 03 44.5 +0.9
baz=87,SNR=16
Q18A **Rafter H Ranch** 86.89 46 ⇓P P 22 03 44.1 +0.4
baz=87,SNR=17
626A **Big Bend Ranch** 86.90 57 ⇑P P 22 03 45.1 +1.2
baz=87,SNR=38
X22A **Bernardo** 86.91 51 ⇑P P 22 03 45.0 +1.1
baz=87
N16A **Rees Ranch, Co** 86.92 44 ⇑P P 22 03 44.7 +0.8
baz=87,SNR=5.1
S19A **Harvey Farm, M** 86.92 48 ⇑P P 22 03 44.4 +0.4
baz=87,SNR=16
Z23A **Rita Site, Whi** 86.92 53 ⇓P P 22 03 45.2 +1.2
baz=87,SNR=7.1
224A **Cornudas Mount** 86.93 54 ⇓P P 22 03 45.1 +1.1
baz=87,SNR=41
M16A **Huntsville** 87.01 44 ⇓P P 22 03 44.4 +0.2
baz=87,SNR=9.0
O17A **Robinson Place** 87.03 45 ⇑P P 22 03 45.2 +0.8
baz=87,SNR=30
BNM **Barren Site** 87.03 52 eP P 22 03 45.4 +0.8
comp=Z,58nm,1.6s
MCK **McKinley** 87.03 13 eP P 22 03 42.8 -0.8
MCK pmax pmax
comp=Z,103nm,1.1s
MCK **McKinley** 87.03 13 eP P 22 03 42.8 -0.8
comp=Z,103nm,1.1s
SKAG **Skagway** 87.05 20 eP P 22 03 44.4 +0.6
comp=Z,137nm,1.6s
V21A **Milan** 87.06 50 ⇓P P 22 03 45.1 +0.4
baz=87
H13A **Challis** 87.07 40 ⇓P P 22 03 45.1 +0.7
baz=87,SNR=37
P18A **Preston Nutter** 87.08 46 ⇑P P 22 03 45.4 +0.6
baz=87,SNR=12
R19A **Curley Farm, L** 87.09 47 ⇓P P 22 03 45.1 +0.3
baz=87,SNR=19
LPM **Los Pinos Moun** 87.10 52 eP P 22 03 46.2 +1.4
PAX **Paxson** 87.11 14 eP P 22 03 43.2 -0.9
PAX pmax pmax
comp=Z,56nm,1.4s
PAX **Paxson** 87.11 14 eP P 22 03 43.2 -0.9
comp=Z,56nm,1.4s
F12A **Elk City** 87.12 39 ⇑P P 22 03 44.9 +0.3
baz=87,SNR=157
K15A **Arbon** 87.14 42 ⇑P P 22 03 45.4 +0.6
baz=87,SNR=12
TXAR **Lajitas Array** 87.17 57 P P 22 03 46.5 +1.2
TXAR pP pP 22 05 45.0 +0.7
TXAR **Lajitas Array** 87.17 57 P P 22 03 46.5 +1.2
comp=Z,21nm,0.9s,baz=224,slow=5.2,SNR=105
TXAR pP pP 22 05 45.0 +0.7
comp=Z,6.8nm,1.1s,baz=208,slow=4.3,SNR=8.3
HWUT **Hardware Ranch** 87.20 44 eP P 22 03 45.8 +0.6
comp=Z,100nm,2.1s
I14A **Mackay** 87.22 41 ⇓P P 22 03 46.2 +1.0
baz=88,SNR=51

124A **Stringfield Ra** 87.26 54 ⇑P P 22 03 46.7 +1.0
baz=88,SNR=30
PV10 **Paradox Valley** 87.29 47 eP P 22 03 46.2 +0.5
comp=Z,195nm,0.8s
E12A **Beaver Dam Sad** 87.30 38 ⇓P P 22 03 45.6 +0.1
baz=88,SNR=34
U21A **Nageezi** 87.33 50 ⇑P P 22 03 46.6 +0.6
baz=88,SNR=37
N17A **Moffit Pass** 87.34 44 ⇓P P 22 03 46.4 +0.5
baz=88,SNR=8.4
Y23A **Lovelace Mesa,** 87.36 52 ⇓P P 22 03 46.6 +0.5
baz=88,SNR=18
G13A **Cobalt** 87.36 40 ⇑P P 22 03 46.3 +0.5
baz=88,SNR=48
PV04 **Paradox Valley** 87.39 47 eP P 22 03 46.5 +0.4
Q19A **Hogan Spring (** 87.41 47 ⇑P P 22 03 46.6 +0.4
baz=88,SNR=12
627A **Terlingua Ranc** 87.44 57 ⇑P P 22 03 47.4 +0.9
baz=88,SNR=44
426A **McDonald Obser** 87.46 56 ⇑P P 22 03 47.6 +0.9
baz=88,SNR=59
NEW **Newport** 87.47 36 eP P 22 03 46.5 +0.4
comp=Z,30nm,1.1s
NEW **Newport** 87.47 36 ⇑P P 22 03 46.1 0.0
baz=88,SNR=18
225A **Deer Hill, Car** 87.47 54 ⇑P P 22 03 47.7 +1.0
baz=88,SNR=28
L16A **Fish Haven** 87.49 43 ⇑P P 22 03 46.7 +0.1
baz=88,SNR=24
PV01 **Paradox Valley** 87.50 48 eP P 22 03 47.0 +0.3
comp=Z,476nm,0.6s
S20A **Disappointment** 87.50 48 ⇑P P 22 03 47.0 +0.3
baz=88,SNR=9.3
ANMO **Albuquerque** 87.52 51 eP P 22 03 47.5 +0.6
comp=Z,30nm,1.1s
O18A **Roosevelt** 87.55 45 ⇑P P 22 03 47.6 +0.8
baz=88,SNR=8.2
X23A **Hourglass Bar** 87.55 52 ⇑P P 22 03 47.3 +0.3
baz=88,SNR=13
527A **Woodward Ranch** 87.56 57 ⇑P P 22 03 47.7 +0.6
baz=88,SNR=35
J15A **Blackfoot** 87.57 42 ⇑P P 22 03 48.0 +1.3
baz=88,SNR=42
Z24A **Sheeppen Canyo** 87.60 53 ⇑P P 22 03 48.3 +1.0
baz=88,SNR=15
H14A **Leadore** 87.63 40 ⇑P P 22 03 48.1 +1.0
baz=88,SNR=42
V22A **San Miguel Ran** 87.63 50 ⇓P P 22 03 47.9 +0.5
baz=88,SNR=5.8
R20A **Redvale** 87.65 48 ⇑P P 22 03 48.0 +0.6
baz=88,SNR=7.3
F13A **Darby** 87.68 39 ⇑P P 22 03 47.4 +0.2
baz=88,SNR=78
C11A **Tepee Creek (N** 87.71 36 ⇓P P 22 03 47.8 +0.6
baz=88
M17A **Scullys Gap (B** 87.71 44 ⇑P P 22 03 47.7 +0.1
baz=88,SNR=9.0
D12A **Red Ives Fores** 87.78 37 ⇑P P 22 03 47.7 0.0
baz=88
K16A **Soda Springs** 87.81 42 ⇑P P 22 03 48.9 +0.9
baz=88,SNR=32
S21A **Coal Bank Pass** 87.81 48 ⇑P P 22 03 48.9 +0.6
baz=88,SNR=20
Y24A **Capitan** 87.81 53 ⇑P P 22 03 49.0 +0.8
baz=88,SNR=60
W23A **Werner Place,** 87.84 51 ⇓P P 22 03 48.8 +0.4
baz=88,SNR=7.0
125A **Gardner Draw,** 87.84 54 ⇓P P 22 03 49.2 +0.9
baz=88,SNR=25
I15A **Monteview** 87.85 41 ⇓P P 22 03 49.3 +1.2
baz=88,SNR=15
628A **Black Gap, Mar** 87.85 58 ⇑P P 22 03 49.2 +0.8
baz=88,SNR=26
GDL2 **Guadalupe Moun** 87.86 55 eP P 22 03 49.5 +1.1
U22A **Llaves** 87.88 50 ⇑P P 22 03 49.0 +0.5
baz=88,SNR=6.5
L17A **Cokeville** 87.89 43 ⇑P P 22 03 48.5 +0.1
baz=88
G14A **Jackson** 87.91 40 ⇑P P 22 03 49.1 +0.7
baz=88,SNR=41
P19A **Cripple Cowboy** 87.93 46 ⇓P P 22 03 49.1 +0.4
baz=88,SNR=14
SNAA **Sanae** 87.98 179 e P 22 03 43.1 -5.1
SNAA e 22 05 41.3
226A **Malaga, Loving** 88.01 55 ⇑P P 22 03 49.6 +0.6
baz=88,SNR=19
J16A **Bone** 88.02 42 ⇓P P 22 03 50.0 +1.0
baz=88,SNR=74
DOT **Dot Lake** 88.03 14 eP P 22 03 48.0 -0.3
comp=Z,73nm,1.2s
427A **Hayter Ranch,** 88.03 56 ⇓P P 22 03 50.3 +1.1
baz=88,SNR=45
MCMT **McKenzie Canyo** 88.06 40 eP P 22 03 49.9 +0.7
comp=Z,40nm,1.1s
XAN **Xi'an** 88.06 307 P P 22 03 48.0 -1.2
XAN pP pP 22 05 48.1 -0.5
XAN sP sP 22 06 42.5 -1.2
XAN PP PP 22 07 25.7 -0.6
XAN SKS SKSac 22 13 26.7 +0.8
XAN S S 22 13 45.6 -1.9
XAN pmax pmax
comp=Z,30nm,1.2s
XAN pmax pmax
comp=Z,39nm,5.4s
Z25A **Roswell** 88.07 53 ⇑P P 22 03 50.2 +0.8
baz=88,SNR=18
H15A **Lima** 88.07 41 ⇓P P 22 03 50.1 +0.9
baz=88,SNR=52
C12B **Naegeli Ranch,** 88.07 37 ⇑P P 22 03 49.3 +0.4
baz=88,SNR=17
Q20A **Ridgley Place,** 88.07 47 ⇓P P 22 03 49.6 +0.3
baz=88,SNR=27
V23A **Ortiz Mt. (NFS** 88.08 51 ⇓P P 22 03 50.5 +1.0
baz=88,SNR=6.0
M18A **Lyman** 88.08 44 ⇓P P 22 03 49.8 +0.4
baz=88,SNR=15
AHID **Auburn Hatcher** 88.08 43 eP P 22 03 50.1 +0.9
comp=Z,92nm,1.4s
VNA3 **Neumayer Olymp** 88.12 176 e P 22 03 49.0 +0.2
VNA3 e 22 05 46.5
E13A **Victor** 88.12 38 ⇑P P 22 03 49.1 -0.1
baz=88,SNR=17
N18A **Larsen Ranch,** 88.12 45 ⇓P P 22 03 49.6 +0.1
baz=88
T22A **Edith** 88.14 49 ⇓P P 22 03 50.2 +0.4
baz=88,SNR=9.3
O19A **Miners Draw (B** 88.16 46 ⇓P P 22 03 50.0 +0.4
baz=88,SNR=12
K17A **Gardner Place,** 88.19 43 ⇑P P 22 03 50.4 +0.6
baz=88,SNR=24
528A **Cox Ranch, San** 88.22 57 ⇑P P 22 03 50.9 +0.8
baz=88,SNR=22
RRI2 **Red Ridge** 88.24 42 eP P 22 03 50.6 +0.5
comp=Z,94nm,1.2s
RRI2 epP pP 22 05 50.6 +1.0
F14A **Wisdom** 88.26 39 ⇑P P 22 03 50.3 +0.2
baz=88,SNR=34
COLA **College** 88.27 12 eP P 22 03 48.3 -1.0
COLA e*PP pP 22 05 50.5 +1.6
COLA pmax pmax
comp=Z,90nm,0.9s
COLA **College** 88.27 12 eP P 22 03 48.3 -1.0
comp=Z,90nm,0.9s
COLA epP pP 22 05 50.5 +1.6
P20A **De Beque** 88.27 47 ⇓P P 22 03 50.7 +0.5
baz=88,SNR=23
R21A **Cimarron** 88.31 48 ⇓P P 22 03 51.3 +0.7
baz=88,SNR=37
D13A **Huson** 88.31 38 ⇑P P 22 03 49.7 -0.3
baz=89,SNR=23
126A **Clayton Basin,** 88.32 54 ⇓P P 22 03 50.9 +0.4
baz=88,SNR=7.7
U23A **El Rito** 88.34 50 ⇑P P 22 03 51.0 +0.3
baz=89,SNR=15
L18A **Fontenelle, Gr** 88.35 44 ⇓P P 22 03 50.9 +0.4
baz=89
Y25A **Mesa, Roswell** 88.37 53 ⇓P P 22 03 50.9 +0.2
baz=89,SNR=26
ILAR **Eielson Array** 88.37 13 P P 22 03 48.8 -1.0
ILAR pP pP 22 05 49.1 -0.3
ILAR **Eielson Array** 88.37 13 P P 22 03 48.8 -1.0
comp=Z,14nm,0.5s,baz=215,slow=5.3,SNR=234
ILAR pP pP 22 05 49.2 -0.3
comp=Z,4.6nm,1.1s,baz=227,slow=5.6,SNR=6.6
I16A **Newdale** 88.40 42 ⇓P P 22 03 51.8 +1.1
baz=89,SNR=60
N19A **John Jarvie Ra** 88.41 45 ⇑P P 22 03 50.6 -0.2
baz=89,SNR=13
W24A **Lazy 6 Ranch,** 88.41 51 ⇓P P 22 03 51.0 0.0
baz=89,SNR=24
B12A **Libby** 88.43 36 ⇓P P 22 03 51.1 +0.5
baz=89,SNR=13
DCID1 **Drake Creek** 88.45 42 eP P 22 03 52.5 +1.6
comp=Z,81nm,1.4s
G15A **Dillon** 88.45 40 ⇑P P 22 03 51.4 +0.5
baz=89,SNR=92
MSO **Missoula** 88.47 38 eP P 22 03 50.8 0.0
comp=Z,25nm,1.3s
MSO **Missoula** 88.47 38 ⇓P P 22 03 51.1 +0.3
baz=89,SNR=15
DLMT **Dillon** 88.49 40 eP P 22 03 51.9 +0.9
comp=Z,85nm,1.3s
E14A **Clinton** 88.51 39 ⇓P P 22 03 51.2 +0.1
baz=89,SNR=43
Q21A **Lamborn Mesa,** 88.51 47 ⇓P P 22 03 51.9 +0.5
baz=89,SNR=12
S22A **4UR Ranch, Cre** 88.53 49 ⇑P P 22 03 52.3 +0.7
baz=89,SNR=25
428A **Kincaid Ranch,** 88.53 56 ⇓P P 22 03 52.9 +1.3
baz=89,SNR=7.9
BSMT **Bassoo Peak** 88.54 37 eP P 22 03 51.2 0.0
REDW **Red Top Meadow** 88.54 42 eP P 22 03 52.1 +0.7
comp=Z,97nm,1.2s
TPAW **Teton Pass** 88.54 42 eP P 22 03 52.3 +0.8
comp=Z,50nm,1.1s
VNA2 **Neumayer--Watz** 88.56 177 e P 22 03 51.8 +1.0
baz=198,slow=2.5
VNA2 e 22 05 50.4
C13A **Hot Springs** 88.57 37 ⇓P P 22 03 50.9 -0.3
baz=89,SNR=12
Z26A **Caprock** 88.62 54 ⇑P P 22 03 52.1 +0.2
baz=89,SNR=35
J17A **Brown Place, J** 88.63 42 ⇑P P 22 03 52.5 +0.7
baz=89,SNR=60
SNOW **Snow King Moun** 88.65 42 eP P 22 03 53.0 +1.0
comp=Z,79nm,1.1s
A12A **Yaak River Ran** 88.65 36 ⇑P P 22 03 52.6 +1.0
baz=89,SNR=9.3
O20A **White River Ci** 88.67 46 ⇑P P 22 03 52.6 +0.5
baz=89,SNR=13
NVL **N'lazarevskaya** 88.68 183 eP P 22 03 51.7 +0.4
NVL pmax pmax
comp=Z,27nm,1.2s
K18A **Toltan Ranch,** 88.69 43 ⇓P P 22 03 52.8 +0.7
baz=89,SNR=25
M19A **Rock Springs** 88.72 45 ⇑P P 22 03 52.4 +0.2
baz=89,SNR=11
V24A **Rampart Ranch,** 88.73 51 ⇑P P 22 03 53.0 +0.4
baz=89,SNR=10
IMW **Indian Meadow** 88.75 42 eP P 22 03 53.3 +0.8
comp=Z,64nm,1.0s
JTMT **Jette** 88.77 37 eP P 22 03 52.3 0.0
T23A **Casias Ranch,** 88.77 50 ⇓P P 22 03 53.3 +0.6
baz=89,SNR=6.7
F15A **Butte** 88.80 40 ⇑P P 22 03 53.0 +0.4
baz=89,SNR=21
MOOW **Moose Ponds** 88.80 42 eP P 22 03 53.0 +0.3
comp=Z,40nm,1.4s
SWMT **Swartz Lake** 88.80 38 eP P 22 03 52.5 +0.1
R22A **Saguache, Gunn** 88.80 48 ⇑P P 22 03 53.7 +0.8
baz=89,SNR=12
LRM **Limekiln Ridge** 88.81 40 eP P 22 03 53.1 +0.4
LOHW **Long Hollow** 88.82 42 eP P 22 03 53.3 +0.6
comp=Z,71nm,1.4s
127A **Arkansas Junct** 88.84 54 ⇓P P 22 03 53.1 +0.2
baz=89,SNR=20
D14A **Greenough** 88.86 38 ⇑P P 22 03 52.6 -0.1
baz=89,SNR=26
L19A **Farson** 88.87 44 ⇑P P 22 03 53.5 +0.5
baz=89,SNR=27
G16A **Moss Hill, Enn** 88.90 40 ⇓P P 22 03 53.5 +0.6
baz=89,SNR=37
CHMT **Chamberlain Mo** 88.92 38 eP P 22 03 53.6 +0.6
P21A **Newcastle** 88.92 47 ⇓P P 22 03 54.4 +1.1
baz=89,SNR=6.0
QLMT **Earthquake Lak** 88.92 41 eP P 22 03 54.7 +1.5
SLMT **Seeley Lake** 88.95 38 eP P 22 03 53.2 +0.1
H16A **Russell Place,** 88.97 41 ⇓P P 22 03 54.5 +1.2
baz=89,SNR=80
YBMT **Yellow Bay** 88.98 37 eP P 22 03 53.2 -0.1
comp=Z,23nm,1.3s
Q22A **Crested Butte,** 88.99 48 ⇓P P 22 03 54.1 +0.4
baz=89,SNR=14
N20A **Spence Gulch,** 88.99 45 ⇑P P 22 03 53.9 +0.3
baz=89,SNR=35
J18A **Kendall Valley** 88.99 43 ⇓P P 22 03 54.1 +0.5
baz=89,SNR=120
I17A **Pilgrim Ck.** 88.99 42 ⇑P P 22 03 54.7 +1.2
baz=89,SNR=28
FLWY **Flagg Ranch** 89.00 42 eP P 22 03 54.6 +1.1
comp=Z,85nm,1.1s
B13A **Whitefish** 89.00 37 ⇓P P 22 03 53.0 -0.3
baz=89,SNR=14
E15A **Deer Lodge** 89.02 39 ⇓P P 22 03 53.7 +0.2
baz=89
Y26A **Elida** 89.02 53 ⇓P P 22 03 54.0 +0.2
baz=89,SNR=5.7
BILL **Bilibino** 89.06 354 diP P 22 03 52.4 -0.5
BILL pmax pmax
comp=Z,46nm,1.9s
BILL **Bilibino** 89.06 354 eP P 22 03 52.5 -0.4
comp=Z,11nm,0.8s
PD01 **Pinedale Array** 89.06 43 eP P 22 03 53.7 -0.2
BW06 **Boulder Array** 89.07 43 eP P 22 03 53.9 0.0
comp=Z,46nm,1.1s
BW06 **Boulder Array** 89.07 43 ⇓P P 22 03 53.9 0.0
baz=89,SNR=40
PD02 **Pinedale Array** 89.07 43 eP P 22 03 53.7 -0.2
PDAR **Pinedale Array** 89.07 43 P P 22 03 53.9 -0.1
PDAR PKKPbc PKKPbc 22 21 29.1 -0.6
PDAR **Pinedale Array** 89.07 43 P P 22 03 53.9 -0.1
comp=Z,22nm,0.8s,baz=212,slow=3.2,SNR=130
PDAR PKKPbc PKKPbc 22 21 29.1 -0.6
comp=Z,1.1nm,0.9s,baz=94,slow=4.9,SNR=6.2
C14A **Swan Lake** 89.08 37 ⇓P P 22 03 53.6 -0.1
baz=89
SMCO **Snowmass** 89.09 47 eP P 22 03 54.8 +0.5
comp=Z,33nm,1.3s
YFT **Old Faithful** 89.10 41 eP P 22 03 56.4 +2.4
comp=Z,62nm,1.1s
W25A **X Bar L Ranch,** 89.11 52 ⇓P P 22 03 54.3 +0.1
baz=89,SNR=23
YMR **Madison River** 89.13 41 eP P 22 03 55.4 +1.3
comp=Z,141nm,1.5s
BOZ **Bozeman (W)** 89.22 40 eP P 22 03 55.0 +0.6
BOZ e*PP pP 22 05 57.8 +3.6
BOZ pmax pmax
comp=Z,52nm,1.1s
BOZ **Bozeman (W)** 89.22 40 eP P 22 03 55.0 +0.6
comp=Z,52nm,1.1s
BOZ epP pP 22 05 57.8 +3.6
BOZ **Bozeman (W)** 89.22 40 ⇑P P 22 03 55.0 +0.6
baz=90,SNR=46
Z27A **Tatum** 89.22 54 ⇓P P 22 03 54.8 +0.1
baz=89,SNR=16
H17A **Grant Village** 89.23 41 ⇑P P 22 03 56.4 +1.8
baz=90,SNR=24
KMI **Kunming** 89.26 297 ⇓P P 22 03 56.5 +1.3
KMI pP pP 22 05 59.3 +4.3
KMI sP sP 22 06 52.5 +2.6
KMI PP PP 22 07 39.3 +3.2
KMI S S 22 13 57.9 -1.3
KMI pmax pmax
comp=Z,62nm,1.1s
KMI pmax pmax
comp=Z,290nm,4.1s
V25A **Rancho No Teng** 89.26 51 ⇓P P 22 03 55.2 +0.3
baz=90,SNR=29
F16A **Kennard Place,** 89.29 40 ⇑P P 22 03 55.5 +0.8
baz=90,SNR=28
HHC **Hu-ho-hao-te** 89.29 314 eP P 22 03 55.5 +0.7
HHC pP pP 22 05 55.0 +0.4
HHC sP sP 22 06 47.4 -2.1
HHC PP PP 22 07 38.4 +2.5
HHC SKS SKSac 22 13 32.8 -0.1
HHC S S 22 13 59.1 +0.5
HHC sS sS 22 17 29.6 -2.7
HHC SS SS 22 20 11.7 +1.3
HHC pmax pmax
comp=Z,46nm,0.9s
HHC pmax pmax
comp=Z,120nm,4.9s
X26A **CR and CF Fran** 89.30 53 ⇓P P 22 03 55.1 0.0
baz=90

YNR Norris Junctio 89.33 41 eP P 22 03 56.9 +1.9
comp=Z,67nm,1.4s
PLCA Paso Flores 89.34 134 P P 22 03 57.4 +2.2
PLCA Paso Flores 89.34 134 P P 22 03 57.4 +2.2
comp=Z,4.4nm,1.1s,baz=309,slow=4.8,SNR=3.6
M20A Sweetwater, Wa 89.35 45 ⇑P P 22 03 55.8 +0.6
baz=90,SNR=22
I18A Diamond G Ranc 89.36 42 ⇓P P 22 03 55.6 +0.3
baz=90,SNR=30
D15A Lincoln 89.41 39 ⇓P P 22 03 55.6 +0.3
baz=90
LKWY Lake 89.42 41 eP P 22 03 57.0 +1.5
LKWY pmax pmax
comp=Z,50nm,1.1s
LKWY Lake 89.42 41 eP P 22 03 57.0 +1.5
comp=Z,50nm,1.1s
R23A Moffat 89.44 49 ⇓P P 22 03 56.4 +0.6
baz=90,SNR=12
N21A Black Mountain 89.45 46 ⇓P P 22 03 56.4 +0.6
baz=90,SNR=22
SDCO Great Sand Dun 89.47 49 eP P 22 03 56.4 +0.5
comp=Z,36nm,1.5s
SDCO Great Sand Dun 89.47 49 ⇑P P 22 03 56.3 +0.3
baz=90,SNR=20
128A Castleberry Fa 89.48 55 ⇑P P 22 03 56.2 +0.3
baz=90
T24A Torres, Weston 89.49 50 ⇓P P 22 03 56.7 +0.7
baz=90,SNR=11
Y27A Causey 89.50 53 ⇓P P 22 03 55.9 0.0
baz=90,SNR=20
DAWY Dawson 89.53 16 eP P 22 03 55.3 +0.1
K19A Absolon Red Bu 89.55 43 ⇓P P 22 03 55.8 -0.3
baz=90,SNR=22
W26A Owens Ranch, T 89.56 52 ⇓P P 22 03 56.3 0.0
baz=90,SNR=6.1
G17A Pierce Place, 89.59 41 ⇓P P 22 03 57.3 +1.2
baz=90,SNR=14
S24A Houchin Ranch, 89.63 49 ⇑P P 22 03 57.1 +0.4
baz=90,SNR=18
J19A Crowheart 89.63 43 ⇓P P 22 03 56.7 +0.2
baz=90,SNR=44
E16A East Helena 89.64 39 ⇓P P 22 03 56.7 +0.3
baz=90,SNR=21
HRY Holter Researc 89.64 39 eP P 22 03 57.0 +0.7
U25A Circle Dot Ran 89.66 51 ⇓P P 22 03 57.1 +0.3
baz=90,SNR=17
EGAK Eagle 89.67 15 eP P 22 03 55.7 -0.2
comp=Z,73nm,1.0s
B14A Marquette Ranc 89.67 37 ⇑P P 22 03 56.3 -0.1
baz=90,SNR=48
WALA Waterton Lakes 89.68 36 eP P 22 03 56.8 +0.3
comp=Z,1.1nm,1.0s
C15A Salmond Ranch, 89.74 38 ⇓P P 22 03 56.5 -0.2
baz=90,SNR=19
K20A Yellowstone Ra 89.80 44 ⇓P P 22 03 56.8 -0.5
baz=90,SNR=18
MSTX Muleshoe 89.83 54 ⇓P P 22 03 57.6 +0.1
baz=90,SNR=12
O22A Kremmling 89.83 47 ⇓P P 22 03 57.9 +0.3
baz=90,SNR=29
X27A F and S Farms, 89.87 53 ⇑P P 22 03 57.6 -0.1
baz=90,SNR=7.0
A14A Double T Ranch 89.91 37 ⇑P P 22 03 57.6 +0.1
baz=90,SNR=27
COLD Coldfoot 89.93 11 eP P 22 03 57.1 +0.1
comp=Z,44nm,1.0s
F17A Fitzpatrick Pl 89.93 40 ⇑P P 22 03 58.8 +1.0
baz=90,SNR=23
H18A Shoshone NF, C 89.94 42 ⇓P P 22 03 58.6 +0.7
baz=90,SNR=9.1
M21A Separation Pea 89.95 45 ⇓P P 22 03 58.2 +0.1
baz=90,SNR=26
129A Stewart Farms, 89.96 55 ⇑P P 22 03 58.4 +0.3
baz=90,SNR=8.8
P23A Jefferson 89.96 48 ⇓P P 22 03 59.1 +0.8
baz=90,SNR=6.6
R24A Sanders Place, 89.96 49 ⇑P P 22 03 58.6 +0.4
baz=90,SNR=9.1
D16A Dana Ranch, Ca 89.97 39 ⇑P P 22 03 58.3 +0.4
baz=90,SNR=17
T25A Trinidad 89.98 50 ⇑P P 22 03 58.5 +0.3
baz=90,SNR=7.6
CM31 Chiang Mai Arr 90.01 290 eP P 22 04 00.1 +1.6
comp=Z,73nm,1.0s
CMAR Chiang Mai Arr 90.01 290 P P 22 04 00.0 +1.5
CMAR pP pP 22 06 00.0 +1.6
CMAR PP PP 22 07 44.2 +2.4
CMAR Chiang Mai Arr 90.01 290 P P 22 04 00.0 +1.5
comp=Z,48nm,0.9s,baz=123,slow=2.9,SNR=120
CMAR pP pP 22 06 00.0 +1.6
comp=Z,3.3nm,0.9s,baz=120,slow=3.1,SNR=6.0
CMAR PP PP 22 07 44.2 +2.4
comp=Z,3.5nm,1.1s,baz=131,slow=6.3,SNR=4.3
I19A Meeteetse 90.04 42 ⇓P P 22 03 58.9 +0.6
baz=90,SNR=28
B15A Bradely Ranch, 90.05 37 ⇑P P 22 03 58.1 0.0
baz=90,SNR=11
W27A Bowe Ranch, En 90.07 52 ⇑P P 22 03 58.5 -0.1
baz=90
RWWY Rawlins 90.09 45 eP P 22 03 59.0 +0.3
comp=Z,68nm,1.2s
L21A Rawlins 90.11 45 ⇓P P 22 03 58.7 0.0
baz=90,SNR=15
U26A Atchley Ranch, 90.14 51 ⇓P P 22 03 58.9 0.0
baz=90,SNR=21
CHTO Chiang Mai 90.14 290 eP P 22 04 00.2 +1.1
CHTO pmax pmax
comp=Z,59nm,0.8s
CHTO Chiang Mai 90.14 290 eP P 22 04 00.2 +1.1
comp=Z,59nm,0.8s
CHTO Chiang Mai 90.14 290 P P 22 04 00.0 +0.9
N22A Wattenberg Ran 90.19 46 ⇓P P 22 03 59.8 +0.6
baz=90,SNR=34
S25A Robets Cordova 90.19 50 ⇑P P 22 03 59.4 +0.2
baz=90,SNR=35
BTO Baotou 90.22 314 eP P 22 03 58.8 -0.3
C16A Fuhringer Ranc 90.25 38 ⇓P P 22 03 59.2 +0.1
baz=90,SNR=18
O23A Lake Granby, G 90.28 47 ⇑P P 22 04 00.4 +0.7
baz=90,SNR=17
J20A Shoshoni 90.30 43 ⇑P P 22 03 60.0 +0.5
baz=90,SNR=49
A15A Johnson Ranch, 90.30 37 ⇑P P 22 03 59.6 +0.3
baz=91,SNR=18
ISCO Idaho Springs 90.31 47 eP P 22 04 00.7 +0.9
ISCO pmax pmax
comp=Z,30nm,1.6s
ISCO Idaho Springs 90.31 47 eP P 22 04 00.7 +0.9
comp=Z,30nm,1.6s
ISCO Idaho Springs 90.31 47 ⇓P P 22 04 00.4 +0.6
baz=90,SNR=7.3
G18A Lazy EL Ranch, 90.31 41 ⇑P P 22 04 00.3 +0.8
baz=91,SNR=19
Z29A Hungry Hill Ra 90.34 55 ⇑P P 22 04 00.2 +0.4
baz=91,SNR=8.5
H19A Powell 90.36 42 ⇑P P 22 04 00.8 +1.1
baz=91,SNR=13
M22A Cedar Creek Ra 90.37 46 ⇑P P 22 04 00.1 +0.1
baz=91,SNR=25
K21A Alcova 90.50 44 ⇑P P 22 04 00.6 +0.1
baz=91,SNR=29
F18A Big Timber 90.50 40 ⇓P P 22 04 01.1 +0.8
baz=91,SNR=16
R25A Fountain Ranch 90.51 49 ⇑P P 22 04 01.2 +0.6
baz=91,SNR=15
D17A Six Diamond Ra 90.54 39 ⇓P P 22 04 01.2 +0.6
baz=91,SNR=36
I20A Worland 90.55 43 ⇓P P 22 04 01.2 +0.6
baz=91,SNR=13
N23A Red Feather La 90.57 46 ⇑P P 22 04 01.4 +0.5
baz=91,SNR=24
T26A Comanche Natio 90.58 50 ⇓P P 22 04 01.0 0.0
baz=91,SNR=6.2
B16A M & M Farms, S 90.59 38 ⇓P P 22 04 00.8 +0.2
baz=91,SNR=12
Y29A Porterfield Fa 90.61 54 ⇑P P 22 04 01.3 +0.2
baz=91,SNR=8.4
JCT Junction City 90.70 58 eP P 22 04 01.7 +0.2
JCT pmax pmax
comp=Z,13nm,0.9s
JCT Junction City 90.70 58 eP P 22 04 01.6 +0.2
comp=Z,13nm,0.9s
JCT Junction City 90.70 58 ⇓P P 22 04 01.3 -0.2
baz=91,SNR=5.8
J21A Lysite 90.70 44 ⇑P P 22 04 01.9 +0.5
baz=91,SNR=16
CD2 Chengdu 90.71 303 P P 22 04 00.9 -0.6
CD2 pP pP 22 06 01.4 -0.1
CD2 sP sP 22 06 54.8 -1.5
CD2 SKS SKSac 22 13 40.2 -1.1
CD2 S S 22 14 10.0 -1.6
CD2 sS sS 22 17 43.0 -3.2
CD2 SS SS 22 20 32.2 +1.4
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 pmax pmax
comp=Z,170nm,6.3s
E18A Harlowton 90.71 40 ⇓P P 22 04 02.2 +0.9
baz=91,SNR=17
C17A Wharram Farm, 90.74 39 ⇑P P 22 04 01.7 +0.4
baz=91,SNR=39
L22A Ellis Ranch, M 90.76 45 ⇑P P 22 04 02.5 +0.8
baz=91,SNR=28
S26A Kim 90.86 50 ⇑P P 22 04 01.8 -0.4
baz=91,SNR=23
H20A Greybull 90.89 42 ⇑P P 22 04 01.7 -0.4
baz=91,SNR=18
A16A West Butte Ran 90.92 37 ⇓P P 22 04 02.2 0.0
baz=91
F19A Roth Farm, Mol 90.95 41 ⇑P P 22 04 02.9 +0.5
baz=91,SNR=12
M23A Laramie 90.98 46 ⇑P P 22 04 03.3 +0.5
baz=91,SNR=6.8
V28A Channing 90.98 52 ⇓P P 22 04 02.7 -0.1
baz=91
K22A Casper 90.98 44 ⇓P P 22 04 03.0 +0.3
baz=91,SNR=9.7
I21A Big Trails, Te 91.02 43 ⇑P P 22 04 02.8 0.0
baz=91,SNR=32
AMTX Amarillo 91.03 53 eP P 22 04 03.4 +0.4
comp=Z,21nm,1.4s
B17A L&G Farms, Che 91.05 38 ⇑P P 22 04 03.2 +0.5
baz=91
PHWY Pilot Hill 91.08 46 eP P 22 04 04.0 +0.6
comp=Z,12nm,0.9s
D18A Linhart Farms, 91.09 39 ⇑P P 22 04 03.9 +0.9
baz=91,SNR=10
G20A Bridger 91.10 42 ⇓P P 22 04 03.5 +0.4
baz=91,SNR=6.5
R26A Arlington 91.17 49 ⇑P P 22 04 03.8 +0.2
baz=91,SNR=23
P25A Willow Gulch B 91.18 48 ⇑P P 22 04 04.4 +0.7
baz=91,SNR=6.6
N24A Carr 91.26 47 ⇑P P 22 04 04.9 +0.8
baz=92,SNR=12
L23A Garrett 91.28 45 ⇓P P 22 04 04.3 +0.2
baz=92,SNR=32
S27A Las Animas 91.30 50 ⇓P P 22 04 04.1 -0.1
baz=92,SNR=8.5
E19A Rath Farm, Rou 91.34 40 ⇓P P 22 04 05.0 +0.8
baz=92,SNR=9.0
J22A Midwest 91.36 44 ⇓P P 22 04 04.2 -0.2
baz=92,SNR=26
Q26A Hugo 91.38 49 ⇑P P 22 04 04.8 +0.2
baz=92,SNR=7.0
A17A Triple J Farms 91.43 38 ⇓P P 22 04 04.8 +0.3
baz=92,SNR=20
EGMT Eagleton 91.52 39 eP P 22 04 05.4 +0.4
comp=Z,20nm,1.0s
EGMT Eagleton 91.52 39 ⇑P P 22 04 05.6 +0.7
baz=92,SNR=11
H21A Big Horn, Sher 91.56 43 ⇓P P 22 04 06.0 +0.8
baz=92
I22A 9 Mile Ranch, 91.58 43 ⇓P P 22 04 05.6 +0.2
baz=92,SNR=17
M24A Cheyenne 91.58 46 ⇓P P 22 04 06.0 +0.5
baz=92,SNR=9.7
D19A Cripps Ranch, 91.62 40 ⇑P P 22 04 06.1 +0.7
baz=92
K23A Bowen Ranch, D 91.62 45 ⇓P P 22 04 06.1 +0.5
baz=92
R27A Eads 91.62 50 ⇑P P 22 04 05.3 -0.4
baz=92,SNR=11
T28A Walsh 91.63 51 ⇓P P 22 04 06.0 +0.3
baz=92,SNR=5.6
B18A Beardsley Farm 91.69 38 ⇑P P 22 04 06.4 +0.7
baz=92,SNR=11
E20A Meyer Farm, Mu 91.76 40 ⇓P P 22 04 07.1 +1.1
baz=92,SNR=7.9
L24A Wheatland 91.77 46 ⇑P P 22 04 06.9 +0.6
baz=92
C19A Slack Wire Ran 91.80 39 ⇑P P 22 04 06.9 +0.8
baz=92,SNR=38
A18A Metzger Ranch, 91.91 38 ⇑P P 22 04 07.3 +0.6
baz=92,SNR=24
H22A Clearmont 91.98 43 ⇓P P 22 04 07.5 +0.3
baz=92,SNR=5.7
D20A Manuel Ranch, 92.03 40 ⇑P P 22 04 08.1 +0.8
baz=92,SNR=14
KSCO Kaye Shedlock' 92.05 49 ⇑P P 22 04 08.2 +0.6
baz=92,SNR=11
YAK Yakutsk 92.10 338 *d* iP P 22 04 06.1 -1.0
YAK *e* 22 14 18.9
YAK pmax pmax
comp=Z,63nm,0.9s
YAK pmax pmax
comp=E,14nm,1.1s
YAK pmax pmax
comp=N,12nm,1.1s
YAK Yakutsk 92.10 338 eP P 22 04 06.5 -0.6
comp=N,73nm,0.8s
K24A Anderson Ranch 92.14 45 ⇑P P 22 04 08.4 +0.4
baz=92,SNR=8.3
B19A Brinkman Farms 92.20 39 ⇓P P 22 04 09.0 +1.0
baz=92,SNR=10
C20A Veseth Ranch, 92.41 39 ⇑P P 22 04 09.7 +0.8
baz=93,SNR=14
E21A Keefer Ranch, 92.42 41 ⇓P P 22 04 10.0 +1.0
baz=93,SNR=6.3
A19A Klindworth Far 92.55 38 ⇓P P 22 04 10.1 +0.5
baz=93,SNR=13
LZH Lanzhou 92.69 308 ⇑P P 22 04 12.1 +1.4
LZH pP pP 22 06 14.5 +3.6
LZH sP sP 22 07 02.6 -3.0
LZH pmax pmax
comp=Z,42nm,1.0s
LZH pmax pmax
comp=Z,210nm,4.3s
D21A La Casta Ranch 92.71 40 ⇑P P 22 04 11.5 +1.1
baz=93,SNR=6.3
K25A Mack Ranch, Ha 92.72 45 ⇑P P 22 04 11.5 +0.9
baz=93,SNR=5.6
A20A Cobblestone Ra 93.00 38 ⇓P P 22 04 12.0 +0.3
baz=93,SNR=18
C21A Desert Coulee 93.00 40 ⇑P P 22 04 12.2 +0.5
baz=93,SNR=8.1
E22A Miles City 93.07 41 ⇓P P 22 04 12.5 +0.5
baz=93
F23A Volborg 93.08 42 ⇑P P 22 04 12.8 +0.7
baz=93
H24A Dirks Ranch, A 93.20 43 ⇑P P 22 04 12.6 -0.2
baz=93,SNR=16
K26A Motz Farm, Whi 93.22 45 ⇓P P 22 04 13.5 +0.6
baz=94,SNR=11
D22A Cohagen 93.25 41 ⇑P P 22 04 13.7 +0.9
baz=94,SNR=7.2
RSSD Black Hills 93.26 44 eP P 22 04 13.4 +0.2
RSSD pmax pmax
comp=Z,27nm,1.3s
RSSD Black Hills 93.26 44 eP P 22 04 13.4 +0.2
comp=Z,27nm,1.3s
B21A Ellsworth Farm 93.33 39 ⇓P P 22 04 14.2 +1.0
baz=94,SNR=8.9
A21A Bergtoll Ranch 93.64 39 ⇓P P 22 04 15.6 +1.1
baz=94,SNR=7.0
B22A Reddig Ranch S 93.87 40 ⇑P P 22 04 16.3 +0.6
baz=94,SNR=6.9
CBKS Cedar Bluff 94.03 50 eP P 22 04 16.9 +0.3
CBKS pmax pmax
comp=Z,41nm,1.3s
CBKS Cedar Bluff 94.03 50 eP P 22 04 16.9 +0.3
comp=Z,41nm,1.3s
CBKS Cedar Bluff 94.03 50 ⇑P P 22 04 16.9 +0.3
baz=94,SNR=6.4
C23A Lambert 94.14 40 ⇓P P 22 04 18.3 +1.4
baz=94,SNR=9.8
INK Inuvik 94.34 15 eP P 22 04 16.5 -0.7
comp=Z,37nm,1.2s
B23A Brockton 94.55 40 ⇓P P 22 04 20.1 +1.3
baz=95,SNR=9.5
DGMT Dagmar 95.03 40 eP P 22 04 21.8 +0.9
comp=Z,48nm,1.1s
DGMT Dagmar 95.03 40 ⇓P P 22 04 21.8 +0.9
baz=95,SNR=7.1
ULN Ulaanbaatar 95.31 319 eP P 22 04 21.8 -0.5
comp=Z,8.2nm,0.8s
A24A Westby 95.34 40 ⇑P P 22 04 23.2 +0.9
baz=96,SNR=5.4
SONM Songino Array 95.70 319 P P 22 04 23.6 -0.5
SONM Songino Array 95.70 319 P P 22 04 23.6 -0.5
comp=Z,3.0nm,0.7s,baz=123,slow=3.6,SNR=30
BOD Bodaibo 96.06 330 eP P 22 04 23.2 -2.0
BOD pmax pmax
comp=Z,7.0nm,1.6s
BGNE Belgrade 96.15 48 ⇑P P 22 04 27.2 +1.1
baz=96,SNR=5.2
YKA Yellowknife Ar 96.59 25 P P 22 04 27.1 -0.4
YKA pP pP 22 06 28.6 +0.6
YKA PP PP 22 08 29.4 -2.0
YKA PKKPbc PKKPbc 22 21 08.7 -2.0
YKA Yellowknife Ar 96.59 25 P P 22 04 27.1 -0.4
comp=Z,3.5nm,0.9s,baz=242,slow=4.3,SNR=41
YKA pP pP 22 06 28.6 +0.6
comp=Z,0.1nm,0.4s,baz=105,slow=37,SNR=3.7
YKA PP PP 22 08 29.4 -2.0
comp=Z,0.7nm,0.9s,baz=238,slow=7.9,SNR=4.1
YKA PKKPbc PKKPbc 22 21 08.7 -2.0
comp=Z,0.2nm,0.6s,baz=52,slow=2.2,SNR=5.1
GTA Gaotai 96.90 309 eP P 22 04 29.8 +0.1
GTA pP pP 22 06 30.5 +0.3
GTA sP sP 22 07 22.8 -2.1
GTA pmax pmax
comp=Z,14nm,1.3s
ZAK Zakamensk 98.58 321 eP Pdif 22 04 35.8 -1.0
ZAK pmax pmax
comp=Z,3.0nm,1.1s
TLY Talaya 98.85 322 *i* P Pdif 22 04 37.3 -0.6
LSA Lhasa 100.50 298 P Pdif 22 04 52.2 +5.9
TAPN Taplejung 102.70 295 eP Pdif 22 04 55.7 -0.3
TAPN Taplejung 102.70 295 eP PKiKP 22 09 13.0 -0.4
comp=Z,12nm,0.8s
ODAN Odare 102.83 294 eP Pdif 22 04 56.6 +0.1
ODAN Odare 102.83 294 eP PKiKP 22 09 13.1 -0.5
comp=Z,18nm,1.0s
RAMN Ramite 103.54 294 eP PKiKP 22 09 14.1 -0.8
comp=Z,9.2nm,0.5s
JIRN Jiri 104.08 294 eP PKiKP 22 09 14.6 -1.4
comp=Z,1.6nm,0.4s
GUN Gumba 104.42 295 eP PKiKP 22 09 15.6 -1.0
PKI Pulchoki 104.73 294 eP PKiKP 22 09 15.4 -1.7
KKN Kakani 104.89 294 eP PKiKP 22 09 16.2 -1.1
DMN Daman 105.00 294 eP Pdif 22 05 06.5 +0.4
DMN Daman 105.00 294 eP PKiKP 22 09 16.7 -0.8
GKN Gorkha 105.50 294 eP Pdif 22 05 07.8 -0.4
GKN Gorkha 105.50 294 eP PKiKP 22 09 16.9 -1.4
KOLN Koldanda 106.33 294 eP PKiKP 22 09 18.8 -1.1
comp=Z,3.9nm,0.5s
WMQ Urumqi 106.86 311 Pdif Pdif 22 05 13.6 -0.2
WMQ *e*PP PP 22 09 50.0 +2.0
WMQ AMB AMB
comp=Z,170nm,9.8s
ZAA0 Zalesovo Array 110.44 321 ePKPdf PKiKP 22 09 25.5 -1.1
ZALV Zalesovo Beam 110.44 321 P Pdif 22 05 28.9 -0.4
ZALV *i* 22 09 25.1
ZALV Zalesovo Beam 110.44 321 Pdif Pdif 22 05 28.9 -0.4
ZALV PKiKP PKiKP 22 09 25.1 -1.5
ZALV Zalesovo Beam 110.44 321 Pdiff Pdif 22 05 28.9 -0.4
comp=Z,0.6nm,0.8s,baz=82,slow=3.1,SNR=2.9
ZALV PKiKP PKiKP 22 09 25.1 -1.5
comp=Z,4.4nm,0.6s,baz=128,slow=0.7,SNR=20
MK31 Makanchi Array 111.13 313 ePKIKP PKiKP 22 09 27.2 -1.0
MK31 Makanchi Array 111.13 313 ePKPdf PKiKP 22 09 27.2 -1.0
MKAR Makanchi Array 111.13 313 *c* iPKIKP PKiKP 22 09 27.1 -1.1
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 111.13 313 Pdif Pdif 22 05 34.1 +1.4
MKAR PKiKP PKiKP 22 09 27.1 -1.1
MKAR Makanchi Array 111.13 313 Pdiff Pdif 22 05 34.1 +1.4
comp=Z,1.0nm,0.6s,baz=86,slow=5.5,SNR=13
MKAR PKiKP PKiKP 22 09 27.1 -1.1
comp=Z,4.4nm,0.6s,baz=130,slow=0.5,SNR=40
NVS Novosibirsk 111.46 322 ePKIKP PKiKP 22 09 24.9 -3.5
NVS *e* 22 15 17.1
NVS pmax pmax
comp=N,4.0nm,1.3s
NVS pmax pmax
comp=E,7.0nm,1.3s
NVS pmax pmax
comp=Z,17nm,1.3s
KURK Kurchatov 113.94 317 ePKIKP PKiKP 22 09 32.0 -1.3
KURK 22 10 33.3
KURK Kurchatov 113.94 317 ePKPdf PKiKP 22 09 32.0 -1.3
KURK PP PP 22 10 33.3 -4.5
KURBB Kurchatov Arra 113.99 317 PKiKP PKiKP 22 09 32.1 -1.3
comp=Z,5.9nm,0.6s,baz=102,slow=1.7,SNR=45
KURBB PP PP 22 10 33.3 -4.9
comp=Z,3.9nm,1.0s,baz=98,slow=6.1,SNR=7.6
KSH Kashi 114.81 305 PKP PKPdf 22 09 35.0 -0.6
KSH PP PP 22 10 49.0 +4.6
KSH sPKP 22 12 34.7
KSH PKS PKSdf 22 13 11.1 -1.2
KSH SKS SKSdf 22 15 56.1 -0.1
KSH SKKS SKKSac 22 16 46.2 -2.5
KSH SS SS 22 26 02.5 +4.0
KSH AMB AMB
comp=Z,75nm,7.3s
TKM2 Tokmak 2 115.44 309 P PKPdf 22 09 35.8 -1.0
SNR=9.4
TKM2 P PKPdf 22 09 35.8 -1.0
SNR=9.4
KBK Karagaybulak 115.89 308 P PKPdf 22 09 37.4 -0.3
SNR=6.8
KBK P PKPdf 22 09 37.4 -0.3
SNR=6.8
CHMS Chumysh 116.06 309 P PKPdf 22 09 36.9 -0.9
SNR=6.1
CHMS P PKPdf 22 09 36.9 -0.9
SNR=6.1
AAK Ala-Archa 116.22 308 ePKIKP PKPdf 22 09 37.6 -0.7
AAK Ala-Archa 116.22 308 ePKPdf PKPdf 22 09 37.6 -0.7
AAK PKP PKPdf 22 09 38.0 -0.3
AAK Ala-Archa 116.22 308 P PKPdf 22 09 37.9 -0.3
SNR=6.7
AAK P PKPdf 22 09 37.9 -0.3
SNR=6.7
AAK Ala-Archa 116.22 308 PKP PKPdf 22 09 38.0 -0.3
comp=Z,3.4nm,0.7s,baz=161,slow=2.8,SNR=11
USP Ospenovka 116.27 309 P PKPdf 22 09 37.3 -0.8
SNR=11
USP P PKPdf 22 09 37.3 -0.8
SNR=11
EKS2 Erkin-Say 116.75 308 ePKIKP PKPdf 22 09 38.5 -0.7
EKS2 Erkin-Say 116.75 308 ePKPdf PKPdf 22 09 38.5 -0.7
EKS2 Erkin-Say 116.75 308 P PKPdf 22 09 39.1 -0.1
SNR=9.2
EKS2 P PKPdf 22 09 39.1 -0.1
SNR=9.2
AML Almayashu 116.78 308 P PKPdf 22 09 39.2 -0.4
SNR=16
AML P PKPdf 22 09 39.2 -0.4
SNR=16
SCHQ Schefferville 118.77 38 PKP PKPdf 22 09 41.9 -0.7
SCHQ Schefferville 118.77 38 PKP PKPdf 22 09 41.9 -0.7
comp=Z,5.0nm,0.8s,baz=240,slow=2.7,SNR=6.5
BVAR Borovoye Array 119.03 320 PKIKP PKPdf 22 09 42.2 -0.9
BVAR Borovoye Array 119.03 320 PKP PKPdf 22 09 42.2 -0.9
BVAR Borovoye Array 119.03 320 PKP PKPdf 22 09 42.2 -0.9
comp=Z,13nm,0.4s,baz=124,slow=2.0,SNR=126
BRVK Borovoye 119.09 320 ePKIKP PKPdf 22 09 42.3 -0.9
BRVK Borovoye 119.09 320 ePKPdf PKPdf 22 09 42.3 -0.9
BDFB Brasilia 119.23 122 PKP PKPdf 22 09 44.5 -0.3
BDFB PKKPbc PKKPbc 22 20 00.2 +0.7
BDFB Brasilia 119.23 122 PKP PKPdf 22 09 44.5 -0.3
comp=Z,4.6nm,0.9s,baz=255,slow=5.5,SNR=5.1
BDFB PKKPbc PKKPbc 22 20 00.2 +0.7
comp=Z,4.3nm,0.9s,baz=21,slow=2.7,SNR=10
KBL Kabul 119.80 299 ePKIKP PKPdf 22 09 45.2 -0.2
KBL Kabul 119.80 299 ePKPdf PKPdf 22 09 45.2 -0.2
SPB4 Spitsbergen Ar 121.89 357 ePKPdf PKPdf 22 09 47.5 -0.5
SPITS Spitsbergen Ar 121.89 357 PKP PKPdf 22 09 47.9 -0.1
SPITS Spitsbergen Ar 121.89 357 PKP PKPdf 22 09 47.9 -0.1
comp=Z,16nm,0.7s,baz=74,slow=6.2,SNR=8.0
DAG Danmarks Havn 122.78 6 *i* PKIKP PKPdf 22 09 47.9 -1.7
DAG pmax pmax
comp=Z,7.0nm,1.0s
DAG Danmarks Havn 122.78 6 *i* P PKPdf 22 09 47.9 -1.7
comp=Z,66nm,1.0s
SUMG Summit 123.21 13 *i* PKIKP PKPdf 22 09 50.9 -0.2
SUMG pmax pmax
comp=Z,12nm,1.2s
SUMG Summit 123.21 13 *e*PKPdf PKPdf 22 09 50.9 -0.2

SUMG **Summit** 123.21 13 *i* P **PKPdf** 22 09 50.9 -0.2
comp=Z,12nm,1.2s
SVE **Sverdlovsk** 123.95 325 ⇓ *i* PKIKP **PKPdf** 22 09 52.1 -0.3
SVE pmax pmax
comp=Z,47nm,1.2s
SUR **Sutherland** 124.35 199 *e* PKPdf **PKPdf** 22 09 55.0 +0.7
SOKR **Solikamsk** 125.05 329 *c i* PKIKP **PKPdf** 22 09 54.2 -0.2
SOKR pmax pmax
comp=Z,80nm,1.0s
BOSA **Boshof** 126.17 206 PKP **PKPdf** 22 09 58.1 +0.3
BOSA *e* PKPdf **PKiKP** 22 09 58.3 0.0
BOSA **Boshof** 126.17 206 PKP **PKPdf** 22 09 58.1 +0.3
comp=Z,9.4nm,1.0s,baz=206,slow=3.8,SNR=8.7
AKTO **Aktyubinsk** 127.01 318 PKIKP **PKPdf** 22 09 58.0 -0.5
AKTO **Aktyubinsk** 127.01 318 PKP **PKPdf** 22 09 58.0 -0.5
AKTO **Aktyubinsk** 127.01 318 PKP **PKPdf** 22 09 57.9 -0.5
comp=Z,16nm,0.9s
JMDO **Jabal Madar** 127.89 283 ⇓ P **PKPdf** 22 09 59.4 -1.6
SNR=5.7
SMDO **Samad** 128.05 284 ⇑ P **PKPdf** 22 10 01.2 -0.2
SNR=7.8
SCO **Scoresbysund** 128.07 10 *i* PKIKP **PKPdf** 22 09 59.7 -0.2
SCO pmax pmax
comp=Z,10.0nm,1.1s
SCO **Scoresbysund** 128.07 10 *i* P **PKPdf** 22 09 59.7 -0.2
comp=Z,9.9nm,1.1s
KEV **Kevo** 128.48 349 *e* PKIKP **PKPdf** 22 09 59.5 -1.2
KEV **Kevo** 128.48 349 *e* pkp **PKPdf** 22 09 59.5 -1.2
ARCES **ARCESS Array B** 128.93 350 PKP **PKPdf** 22 10 01.6 +0.1
ARCES **ARCESS Array B** 128.93 350 PKP **PKPdf** 22 10 01.6 +0.1
comp=Z,9.4nm,0.6s,baz=44,slow=1.1,SNR=25
KLMR **Klimovskoe** 131.86 336 *e* PKIKP **PKPdf** 22 10 05.5 -1.8
KLMR pmax pmax
comp=Z,44nm,1.3s
JOF **Joensuu** 133.13 342 *e* PKIKP **PKPdf** 22 10 07.9 -1.7
JOF pmax pmax
comp=Z,13nm,0.5s
JOF **Joensuu** 133.13 342 *e* pkp **PKPdf** 22 10 07.9 -1.7
comp=Z,13nm,0.5s
KAF **Kangasniemi** 135.15 344 *e* PKIKP **PKPdf** 22 10 09.9 -3.6
KAF pmax pmax
comp=Z,9.0nm,0.5s
KAF **Kangasniemi** 135.15 344 *e* pkp **PKPdf** 22 10 09.9 -3.6
comp=Z,9.0nm,0.5s
FINES **FINESS Array B** 135.77 344 PKPpre PKPpre 22 10 00.6
FINES PKP **PKPdf** **22 10 14.6 -0.1**
FINES SKPbc **SKPbc** **22 12 57.5 +2.4**
FINES **FINESS Array B** 135.77 344 PKhKP PKPpre 22 10 00.6
comp=Z,0.7nm,0.5s,baz=33,slow=4.6,SNR=8.3
FINES PKP **PKPdf** **22 10 14.6 -0.1**
comp=Z,11nm,0.8s,baz=42,slow=3.1,SNR=14
FINES SKPbc **SKPbc** **22 12 57.5 +2.4**
comp=Z,8.8nm,1.1s,baz=264,slow=3.8,SNR=6.0
MOS **Moscow** 135.87 332 *e* PKIKP **PKPdf** **22 10 13.9 -1.1**
MOS *e* 22 12 14.3
MOS *e* PPP PPP 22 16 13.4
MOS pmax pmax
comp=Z,36nm,1.0s
VRHR **Novokhopersk** 136.47 324 *e* PKIKP **PKPdf** **22 10 15.4 -0.8**
OBN **Obninsk** 136.73 332 ⇑ *i* PKIKP **PKPdf** **22 10 15.7 -0.9**
OBN pmax pmax
comp=Z,75nm,1.7s
OBN **Obninsk** 136.73 332 *e* PKPdf **PKPdf** **22 10 16.3 -0.3**
VSR **Storozhevoye** 137.74 325 *e* PKIKP **PKPdf** **22 10 18.1 -0.5**
VSR pmax pmax
comp=Z,20nm,0.8s
VSR pmax pmax
comp=N,2.0nm,0.4s
VSR pmax pmax
comp=E,2.0nm,0.4s
VORD **Divnogorie** 137.80 325 *e* PKIKP **PKPdf** **22 10 17.1 -1.6**
VORD pmax pmax
comp=Z,9.0nm,0.6s
VORD pmax pmax
comp=N,8.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.6s
ZEI **Tsey** 138.47 312 *e* PKHKP PKPpre 22 10 13.2
ZEI pmax pmax
comp=Z,3.0nm,0.9s
GNI **Garni** 138.63 308 *e* PKPdf **PKPdf** **22 10 21.6 +0.8**
GNI PKP **PKPdf** **22 10 21.8 +1.0**
GNI **Garni** 138.63 308 PKP **PKPdf** **22 10 21.8 +1.0**
comp=Z,4.6nm,0.7s,baz=148,slow=0.8,SNR=7.6
KIV **Kislovodsk** 138.89 314 ⇓ *i* PKIKP **PKPdf** **22 10 21.5 +0.4**
KIV *e* 22 13 17.3
KIV pmax pmax
comp=Z,13nm,1.0s
KIV **Kislovodsk** 138.89 314 *e* PKPdf **PKPdf** **22 10 21.0 -0.1**
NB2 **NORSAR Subarra** 139.00 353 PKP PKPpre 22 10 11.2
comp=Z,8.7nm,1.1s,baz=10,slow=3.2
NOA **NORSAR Array B** 139.00 353 PKPpre PKPpre 22 10 11.7
NOA PKP **PKiKP** **22 10 22.7 -0.4**
NOA SKPbc **SKiKP** **22 13 06.6 -0.9**
NOA **NORSAR Array B** 139.00 353 PKhKP PKPpre 22 10 11.7
comp=Z,5.4nm,0.8s,baz=11,slow=2.3,SNR=21
NOA PKP **PKiKP** **22 10 22.7 -0.4**
comp=Z,2.5nm,0.7s,baz=15,slow=4.1,SNR=4.8
NOA SKPbc **SKiKP** **22 13 06.6 -0.9**
comp=Z,4.0nm,1.0s,baz=14,slow=4.5,SNR=4.9
KMBO **Kilima Mbogo** 139.22 242 *e* PKPdf **PKPdf** **22 10 23.7 +0.9**
CLDR **Caldiran** 139.51 307 *e* P PKPdf 22 10 15.5 -7.0
HFS **Hagfors** 139.55 351 PKPpre PKPpre 22 10 13.1
HFS PKP **PKiKP** **22 10 23.8 -0.4**
HFS SKPbc **SKiKP** **22 13 08.0 -0.6**
HFS **Hagfors** 139.55 351 PKhKP PKPpre 22 10 13.1
comp=Z,9.5nm,0.4s,baz=70,slow=4.9,SNR=98
HFS PKP **PKiKP** **22 10 23.8 -0.4**
comp=Z,6.9nm,0.7s,baz=128,slow=6.4,SNR=5.8
HFS SKPbc **SKiKP** **22 13 08.0 -0.6**
comp=Z,6.0nm,0.9s,baz=173,slow=6.0,SNR=4.2
CUKT **Cukurca** 140.20 304 *e* P PKPdf 22 10 16.9 -6.8
IZAR **Zarasai** 140.38 339 *e* P PKPdf 22 10 15.4 -7.8
IZAR AMB AMB 22 10 26.4
comp=Z,11nm,1.0s
IZAR **Zarasai** 140.38 339 *e* P PKPdf 22 10 15.4 -7.8
IZAR AMB AMB 22 10 26.4
comp=Z,11nm,1.0s
ISAL **Salakas** 140.56 338 *e* P PKPdf 22 10 16.6 -6.9
ISAL AMB AMB 22 10 24.4
comp=Z,7.2nm,1.1s
ISAL **Salakas** 140.56 338 *e* P PKPdf 22 10 16.6 -6.9
ISAL AMB AMB 22 10 24.4
comp=Z,7.2nm,1.1s
IIGN **Ignalina** 140.71 338 *e* P PKPdf 22 10 16.8 -7.0
IIGN AMB AMB 22 10 24.8
comp=Z,9.5nm,1.1s
IIGN **Ignalina** 140.71 338 *e* P PKPdf 22 10 16.8 -7.0
IIGN AMB AMB 22 10 24.8
comp=Z,9.5nm,1.1s
MIGM **Minsk** 140.76 336 *e* P **PKPdf** 22 10 19.0 **-5.0**
MNK **Minsk** 140.78 336 *e* PKHKP PKPpre 22 10 19.0
NACGM **Naroch** 140.86 337 *e* PKPdf 22 10 16.0 -8.1
SOC **Sochi** 141.02 315 *e* PKHKP PKPpre 22 10 18.1
SOC pmax pmax
comp=Z,6.0nm,0.6s
SOC pmax pmax
comp=Z,22nm,1.1s
EZM **Erzurum** 141.19 309 *e* P **PKPdf** **22 10 20.8 -4.8**
VRTB **Varto-Mus** 141.34 308 *e* P **PKPdf** **22 10 22.2 -3.5**
BEST **Besiri** 141.84 306 *i* P **PKPdf** **22 10 23.0 -3.5**
BAYT **Ayd¨–ntepe-Bay** 141.91 310 *e* P **PKPdf** **22 10 22.8 -4.0**
ANN **Anapa** 141.97 318 *i* PKHKP PKPpre 22 10 19.5
ANN pmax pmax
comp=Z,51nm,1.4s
BNGB **Bing¨ll** 141.97 308 *e* P **PKPdf** **22 10 23.2 -3.6**
GUMT **Gumushane** 142.37 310 *e* P **PKPdf** **22 10 25.1 -2.4**
KELT **Kelkit** 142.63 310 *i* P **PKPdf** **22 10 25.4 -2.7**
EZC **Erzincan** 142.70 309 *e* P **PKPdf** **22 10 26.2 -1.9**
KAC **Achnashellach** 142.71 6 *e* P **PKPdf** **22 10 24.2 -3.2**
KAC **Achnashellach** 142.71 6 P **PKPdf** **22 10 24.2 -3.2**
KPL **Plockton** 142.83 7 *e* P **PKPdf** **22 10 24.4 -3.1**
KPL **Plockton** 142.83 7 P **PKPdf** **22 10 24.4 -3.1**
SUW **Suwalki** 142.83 339 *e* PKP PKPpre 22 10 23.2
SUW **Suwalki** 142.83 339 *e* PKP PKPpre 22 10 23.2
SUW **Suwalki** 142.83 339 *e* PKHKP PKPpre 22 10 23.2
PTK **Pertek** 142.95 308 *e* P **PKPdf** **22 10 26.7 -1.9**
SHEL **Horse Pasture** 142.97 168 *e* PKIKP **PKPdf** **22 10 28.8 -0.3**
SHEL **Horse Pasture** 142.97 168 *e* PKPdf **PKPdf** **22 10 28.8 -0.3**
AKASG **Malin Array Be** 142.99 331 PKHKP PKPpre 22 10 24.7
AKASG **Malin Array Be** 142.99 331 PKPpre PKPpre 22 10 24.7
AKASG **Malin Array Be** 142.99 331 PKhKP PKPpre 22 10 24.7
comp=Z,94nm,0.6s,baz=43,slow=4.3,SNR=301
KIEV **Kiev** 143.00 331 *e* PKHKP PKPpre 22 10 24.7

KIEV **Kiev** 143.00 331 *e* PKPdf PKPpre 22 10 24.7
SVRC **Sivrice-ELAZID** 143.18 307 *e* P PKPbc 22 10 27.9 +0.6
ILIC **ilic-Erzincan** 143.37 309 *e* P PKPbc 22 10 28.4 +0.6
ELZG **Elazig** 143.38 307 *i* P **PKPdf** **22 10 28.8 -0.6**
KEMA **Kemaliye** 143.49 309 *i* P PKPbc 22 10 28.6 +0.4
MUD **Monsted U'grnd** 143.72 353 ⇓ *i* PKIKP PKPab 22 10 27.6 -0.5
MUD pmax pmax
comp=Z,170nm,1.0s
MUD **Monsted U'grnd** 143.72 353 ⇓ *i* P PKPab 22 10 27.6 -0.5
comp=Z,168nm,1.0s
URFA **Urfa** 143.83 306 *e* P **PKPdf** **22 10 30.3 +0.3**
MALT **Malatya** 143.86 307 *e* P **PKPdf** **22 10 30.1 0.0**
RSDY **Resadiye-TOKAT** 143.92 311 *e* P **PKPdf** **22 10 29.9 -0.2**
SIM **Simferopol'** 143.94 320 *de* PKIKP PKPab 22 10 29.4 0.0
SIM pmax pmax
comp=Z,301nm,0.9s
COP **Copenhagen** 144.02 350 ⇓ *i* PKIKP PKPbc 22 10 28.4 -0.6
COP pmax pmax
comp=Z,97nm,1.0s
COP **Copenhagen** 144.02 350 ⇓ *i* P PKPbc 22 10 28.4 -0.6
comp=Z,97nm,1.0s
BSD **Bornholm Skovb** 144.09 347 ⇓ *i* PKIKP PKPbc 22 10 28.6 -0.7
BSD pmax pmax
comp=Z,190nm,1.0s
BSD **Bornholm Skovb** 144.09 347 ⇓ *i* P PKPbc 22 10 28.6 -0.7
comp=Z,190nm,1.0s
EAB **Aberfoyle** 144.10 6 *e* P PKPbc 22 10 28.5 -0.8
EAB **Aberfoyle** 144.10 6 P PKPbc 22 10 28.5 -0.8
ERBA **Erbaa** 144.21 312 *i* P PKPbc 22 10 29.9 -0.4
ATAB **Bozova** 144.22 306 *i* P PKPbc 22 10 30.5 +0.1
AKCD **Akcadag** 144.24 308 *i* P **PKPdf** **22 10 30.8 0.0**
SCER **sogukcermik** 144.26 310 *i* P **PKPab** **22 10 30.9 0.0**
LLD **Lille Linde** 144.39 350 *i* PKIKP PKPbc 22 10 29.8 -0.4
LLD pmax pmax
comp=Z,110nm,1.0s
LLD **Lille Linde** 144.39 350 *i* P PKPbc 22 10 29.8 -0.4
comp=Z,114nm,1.0s
PGBU **Glenifferbraes** 144.45 6 *e* P **PKPdf** **22 10 29.0 -1.4**
PGBU **Glenifferbraes** 144.45 6 P **PKPdf** **22 10 29.0 -1.4**
ESY **Stoneypath** 144.51 4 *e* P **PKPdf** **22 10 28.9 -1.6**
ESY **Stoneypath** 144.51 4 P **PKPdf** **22 10 28.9 -1.6**
EAU **Auchinoon** 144.52 5 *e* P **PKPdf** **22 10 30.3 -0.2**
EAU **Auchinoon** 144.52 5 P **PKPdf** **22 10 30.3 -0.2**
KVT **Kavak** 144.53 313 *e* P **PKPab** **22 10 31.7 -0.1**
EBL **Broad Law** 144.62 5 *e* P **PKPdf** **22 10 30.6 -0.1**
EBL **Broad Law** 144.62 5 P **PKPdf** **22 10 30.6 -0.1**
GZT **Gaziantep** 144.81 306 *i* P **PKPdf** **22 10 32.1 +0.2**
DIKM **Dikmen** 144.82 314 *e* P **PKPdf** **22 10 30.4 -1.1**
ESK **Eskdalemuir** 145.06 5 *e* P **PKPdf** **22 10 31.4 0.0**
ESK **Eskdalemuir** 145.06 5 P **PKPdf** **22 10 31.4 0.0**
ESK **Eskdalemuir** 145.06 5 *i* PKIKP **PKPbc** **22 10 32.4 +0.1**
GAZ **Gaziantep** 145.13 306 *e* P **PKPbc** **22 10 32.8 -0.4**
PINB **Pinarbasi** 145.22 309 *i* P **PKPbc** **22 10 33.8 +0.1**
GKP **Gorka Klasztor** 145.25 344 *e* PKP **PKPbc** **22 10 32.9 0.0**
GKP **Gorka Klasztor** 145.25 344 *e* PKP **PKPbc** **22 10 32.9 0.0**
GKP **Gorka Klasztor** 145.25 344 *e* PKIKP **PKPbc** **22 10 32.9 0.0**
KMRS **Kahramanmaras** 145.26 307 *e* P **PKPdf** **22 10 32.9 +0.4**
KUZU **Kuzuini** 145.36 305 *i* P **PKPbc** **22 10 34.0 +0.1**
BEL **Belsk** 145.44 339 *e* PKP **PKPbc** **22 10 33.6 +0.1**
BEL **Belsk** 145.44 339 *e* PKP **PKPbc** **22 10 33.6 +0.1**
BEL **Belsk** 145.44 339 *e* PKP2 **PKPbc** **22 10 33.6 +0.1**
BZK **Bozkurt** 145.51 316 *e* P **PKPbc** **22 10 34.0 -0.1**
BNN **Bunyan** 145.56 310 *e* P **PKPbc** **22 10 34.1 -0.4**
XAL **Allendale** 145.59 4 *e* P **PKPdf** **22 10 33.1 +0.7**
XAL **Allendale** 145.59 4 P **PKPdf** **22 10 33.1 +0.7**
CTKT **Corum** 145.59 313 *i* P **PKPab** **22 10 35.4 -0.7**
ANDN **Andirin** 145.65 307 *i* P **PKPbc** **22 10 34.1 -0.7**
KIS **Kishinev** 145.70 327 *e* PKIKP **PKPdf** **22 10 32.0 -0.8**
KIS pmax pmax
comp=Z,400nm,1.4s
KIS pmax pmax
comp=Z,400nm,1.4s
KIS **Kishinev** 145.70 327 ⇓ *i* P **PKPbc** **22 10 33.8 -0.6**
KIS **Kishinev** 145.70 327 *e* UNK **PKPdf** **22 10 32.0 -0.8**
KIS XM 22 10 34.0
comp=Z,400nm,1.4s
KESW **Keswick, Cumbr** 145.79 5 *e* P **PKPdf** **22 10 33.3 +0.5**
KESW **Keswick, Cumbr** 145.79 5 P **PKPdf** **22 10 33.3 +0.5**
GMM **Mts of Mourne** 145.82 8 *e* P **PKPbc** **22 10 33.7 -0.8**
GMM **Mts of Mourne** 145.82 8 P **PKPbc** **22 10 33.7 -0.8**
LVV **L'vov** 145.88 334 *e* PKIKP **PKPdf** **22 10 32.9 -0.2**
CORM **Corum** 145.89 312 *e* P **PKPbc** **22 10 35.5 +0.1**
TOS **Tosya** 145.93 314 *e* P **PKPbc** **22 10 36.0 +0.6**
BSEG **Bad Segeberg** 146.03 351 *e* PKPbc **PKPbc** **22 10 35.2 +0.1**
COBT **Iskenderun** 146.07 305 *i* P **PKPbc** **22 10 36.1 +0.1**
KOZT **Kozan** 146.07 307 *e* P **PKPbc** **22 10 36.2 +0.3**
HLG **Helgoland** 146.09 354 *e* PKPbc **PKPbc** **22 10 35.7 +0.4**
BALT **Daday** 146.12 315 *e* P **PKPdf** **22 10 33.5 -0.5**
IAS **Iasi** 146.21 328 ⇑ PKP2 **PKPbc** **22 10 36.2 +0.4**
IAS **Iasi** 146.21 328 ⇑ *i* P **PKPbc** **22 10 36.2 +0.4**
HTY **Hatay** 146.28 305 *e* P **PKPbc** **22 10 37.2 +0.8**
CEYT **Ceyhan** 146.29 306 *e* P **PKPbc** **22 10 36.7 +0.3**
AVNT **Avonos** 146.31 310 *i* P **PKPdf** **22 10 33.2 -1.1**
CDAG **Cicekdag** 146.31 312 *i* P **PKPdf** **22 10 35.1 +0.8**
LEOM **Leova** 146.34 326 ⇓ PKP2 **PKPbc** **22 10 36.1 -0.1**
LEOM **Leova** 146.34 326 ⇓ *i* P **PKPbc** **22 10 36.1 -0.1**
CANT **Cankiri** 146.40 314 *e* P **PKPbc** **22 10 37.0 +0.3**
KWP **Kalwaria Pacla** 146.56 335 *e* PKP **PKPbc** **22 10 36.7 -0.1**
KWP **Kalwaria Pacla** 146.56 335 *e* PKP **PKPbc** **22 10 36.7 -0.1**
KWP **Kalwaria Pacla** 146.56 335 *e* PKIKP **PKPdf** **22 10 34.2 -0.1**
KWP *e* 22 10 40.4
KWP **Kalwaria Pacla** 146.56 335 *e* PKPdf **PKPdf** **22 10 34.1 -0.1**
KWP *e* PKPbc **PKPbc** **22 10 36.6 -0.2**
KWP *e* PKPab **PKPab** **22 10 40.4 +1.0**
KWP **Kalwaria Pacla** 146.56 335 ⇓ *i* P **PKPbc** **22 10 36.7 -0.1**
FKH **Fakeheh** 146.60 301 *e* P **PKPbc** **22 10 37.8 +0.3**
DLF **Lyons Farm** 146.66 9 *e* P PKPdf 22 10 27.5 -6.7
DLF **Lyons Farm** 146.66 9 ⇑ *i* P **PKPbc** **22 10 36.9 0.0**
ASF **Jabal al Asfar** 146.69 298 PKP **PKPdf** **22 10 35.0 -0.1**
ASF PKPbc **PKPbc** **22 10 38.2 +0.4**
ASF **Jabal al Asfar** 146.69 298 PKP **PKPdf** **22 10 35.0 -0.1**
comp=Z,56nm,0.9s,baz=330,slow=1.1,SNR=53
ASF PKPbc **PKPbc** **22 10 38.2 +0.4**
comp=Z,56nm,0.9s,baz=323,slow=1.2,SNR=94
SAFT **Safranbolu** 146.72 315 *e* P **PKPbc** **22 10 37.0 -0.4**
PRAR **RASCA** 146.74 329 ⇑ *i* P **PKPbc** **22 10 37.3 0.0**
NIG **Nigde** 146.74 309 *e* P **PKPbc** **22 10 37.8 -0.1**
BR131 **Keskin Array S** 146.77 312 *e* PKPdf **PKPdf** **22 10 34.9 -0.2**
BR131 *e* PKPbc **PKPbc** **22 10 37.7 -0.1**
BRTR **Keskin Array B** 146.77 312 PKP **PKPdf** **22 10 34.4 -0.7**
BRTR PKPbc **PKPbc** **22 10 38.3 +0.4**
BRTR pPKPbc pPKPbc 22 12 42.6 -1.2
BRTR **Keskin Array B** 146.77 312 PKP **PKPdf** **22 10 34.4 -0.7**
comp=Z,32nm,0.7s,baz=129,slow=3.3,SNR=91
BRTR PKPbc **PKPbc** **22 10 38.3 +0.4**
comp=Z,32nm,0.7s,baz=131,slow=5.2,SNR=142
BRTR pPKPbc pPKPbc 22 12 42.6 -1.2
comp=Z,5.9nm,1.0s,baz=116,slow=2.9,SNR=6.0
RUE **Ruedersdorf** 146.80 347 *e* PKPdf **PKPdf** **22 10 34.4 -0.1**
RUE *e* PKPbc **PKPbc** **22 10 37.5 +0.3**
WME **Myndd Eilian** 146.85 7 *e* P **PKPdf** **22 10 35.9 +1.3**
WME **Myndd Eilian** 146.85 7 P **PKPdf** **22 10 35.9 +1.3**
TLCR 146.87 324 ⇑ PKP2 **PKPbc** **22 10 37.6 -0.1**
TLCR 146.87 324 ⇑ *i* P **PKPbc** **22 10 37.6 -0.1**
WLF1 **Llynfaes** 146.95 7 *e* P **PKPbc** **22 10 37.0 -0.6**
WLF1 **Llynfaes** 146.95 7 P **PKPbc** **22 10 37.0 -0.6**
YRC **Rhoscolyn** 146.97 7 *e* P **PKPdf** **22 10 35.8 +1.0**
YRC **Rhoscolyn** 146.97 7 P **PKPdf** **22 10 35.8 +1.0**
HWQ **Hawqa** 146.97 302 *e* P **PKPbc** **22 10 38.2 -0.3**
BUR08 **Bucovina Ar. S** 147.02 331 *e* PKPdf **PKPbc** **22 10 37.0 -1.2**
BUR08 *e* PKPbc **PKiKP** **22 10 39.0 -1.0**
BURAR **Bucovina Array** 147.03 330 ⇑ P **PKPbc** **22 10 38.8 +0.6**
WPM1 **Penmaenmawr** 147.03 6 *e* P **PKPbc** **22 10 36.7 -1.2**
WPM1 **Penmaenmawr** 147.03 6 P **PKPbc** **22 10 36.7 -1.2**
GHRR 147.05 327 ⇓ *i* P **PKPbc** **22 10 39.0 +0.8**
OJC **Ojcow** 147.15 339 *e* PKPdf **PKPbc** **22 10 38.0 -0.3**
OJC **Ojcow** 147.15 339 *e* PKP2 **PKPbc** **22 10 38.1 -0.3**
BBAL **Bala** 147.21 312 *e* P **PKPdf** **22 10 31.0 -4.8**
KBI1 **Birley Grange** 147.23 4 *e* P **PKPbc** **22 10 37.6 -0.8**
KBI1 **Birley Grange** 147.23 4 P **PKPbc** **22 10 37.6 -0.8**
CFR **Carcaliu** 147.24 325 ⇓ PKP2 **PKPbc** **22 10 38.5 -0.2**
CFR **Carcaliu** 147.24 325 ⇓ *i* P **PKPbc** **22 10 38.5 -0.2**
RCY **Rachaya** 147.26 300 *e* P **PKPbc** **22 10 39.5 +0.2**
MERS **Mersin** 147.26 307 *e* P **PKPbc** **22 10 38.8 -0.3**
BHL **Bhannes** 147.30 301 *e* P **PKPbc** **22 10 39.4 0.0**
LOD **Lodumlu** 147.31 313 *e* P **PKPbc** **22 10 39.3 +0.1**
PETR 147.37 326 ⇓ *i* P **PKPbc** **22 10 40.1 +1.1**
NRDL **Niedersach Rie** 147.46 351 *e* PKPdf **PKPdf** **22 10 35.4 -0.1**
NRDL *e* PKPbc **PKPbc** **22 10 38.9 0.0**
FOEL **Foel Wylfa** 147.47 6 *e* P **PKPbc** **22 10 38.6 -0.5**
FOEL **Foel Wylfa** 147.47 6 P **PKPbc** **22 10 38.6 -0.5**

SULT **Sultanhani-AKS** 147.50 310 *e* P **PKPbc** **22 10 38.7 -1.0**
UZH **Uzhgorod** 147.52 334 ⇑ *i* PKP2 **PKPbc** **22 10 39.1 -0.2**
VRI **Vrincioaia** 147.53 327 ⇑ PKP2 **PKPbc** **22 10 39.5 0.0**
VRI **Vrincioaia** 147.53 327 ⇑ *i* P **PKPbc** **22 10 39.5 0.0**
TIRR **Tirgusor** 147.55 323 *e* PKP2 **PKPbc** **22 10 39.6 +0.1**
TIRR **Tirgusor** 147.55 323 *e* PKPbc **PKPbc** **22 10 39.6 +0.1**
PLOR **Plostina** 147.58 327 ⇓ PKP2 **PKPbc** **22 10 39.4 -0.2**
PLOR **Plostina** 147.58 327 ⇓ *i* P **PKPbc** **22 10 39.3 -0.3**
CRVS **Cervenica-Dubn** 147.63 336 *e* PKIKP **PKPdf** **22 10 36.1 +0.1**
CRVS **Cervenica-Dubn** 147.63 336 *e* PKP **PKPdf** **22 10 36.1 +0.1**
CRVS *e* 22 10 40.4
NIE **Niedzica** 147.64 337 *e* PKPdf **PKPdf** **22 10 36.1 0.0**
NIE *e* PKIKP **PKPbc** **22 10 40.1 +0.4**
NIE **Niedzica** 147.64 337 *e* PKIKP **PKPdf** **22 10 36.9 +0.8**
NIE *i* 22 10 40.7
EFOR **EFORIE** 147.66 323 ⇓ *i* P **PKPbc** **22 10 40.5 +0.7**
KSP **Ksiaz** 147.69 343 *e* PKP **PKPbc** **22 10 40.0 +0.3**
KSP **Ksiaz** 147.69 343 *e* PKP **PKPbc** **22 10 40.0 +0.3**
KSP **Ksiaz** 147.69 343 *e* PKIKP **PKPdf** **22 10 35.8 -0.2**
KSP *e* 22 10 44.3
MMAI **Mount Meron Ar** 147.73 300 PKP **PKPdf** **22 10 37.1 +0.4**
MMAI PKPbc **PKPbc** **22 10 40.8 +0.3**
MMAI pPKPbc **pPKPbc** **22 12 45.3 -1.4**
MMAI **Mount Meron Ar** 147.73 300 PKP **PKPdf** **22 10 37.1 +0.4**
comp=Z,97nm,1.0s,baz=266,slow=22,SNR=26
MMAI PKPbc **PKPbc** **22 10 40.8 +0.3**
comp=Z,135nm,0.8s,baz=58,slow=5.0,SNR=160
MMAI pPKPbc **pPKPbc** **22 12 45.3 -1.4**
comp=Z,23nm,1.0s,baz=40,slow=6.6,SNR=4.8
GRER 147.73 326 ⇓ *i* P **PKPbc** **22 10 40.8 +0.8**
BMR **Baia Mare** 147.76 332 PKP2 **PKPbc** **22 10 40.2 +0.2**
BMR **Baia Mare** 147.76 332 ⇓ *i* P **PKPbc** **22 10 40.0 0.0**
TRPA **Tarpa** 147.82 334 ⇓ *i* P **PKPbc** **22 10 40.1 0.0**
TRPA **Tarpa** 147.82 334 ⇓ epPdiff **PKPbc** **22 10 39.9 -0.2**
MANR **Mangalia** 147.84 322 ⇑ *i* P **PKPbc** **22 10 40.6 +0.3**
CVD **Cernavoda** 147.85 324 ⇓ PKP2 **PKPab** **22 10 43.4 -1.4**
CVD **Cernavoda** 147.85 324 ⇓ *i* P **PKPab** **22 10 43.4 -1.4**
HLM1 **Long Mynd** 147.86 5 *e* P **PKPbc** **22 10 39.2 -0.9**
HLM1 **Long Mynd** 147.86 5 P **PKPbc** **22 10 39.2 -0.9**
IBBN **Ibbenburen** 147.96 353 *e* PKPbc **PKPbc** **22 10 40.4 +0.1**
EREN **Erenkoy** 147.99 305 *e* P **PKPbc** **22 10 40.7 -0.2**
OKC **Ostrava-Krasne** 148.02 340 *e* PKHKP **PKPdf** **22 10 36.7 +0.1**
OKC *e* 22 10 45.3
OKC **Ostrava-Krasne** 148.02 340 *e* PKPDF **PKPdf** **22 10 36.7 +0.1**
OKC ⇑ *i* PKP **PKPbc** **22 10 40.5 -0.1**
OKC *e* PKPAB **PKPab** **22 10 45.3 0.0**
PGOR **Pogoanele** 148.04 325 ⇓ *i* P **PKPbc** **22 10 41.4 +0.7**
AMRR **Amara** 148.04 325 PKP2 **PKPbc** **22 10 41.9 +1.2**
AMRR **Amara** 148.04 325 ⇓ *i* P **PKPbc** **22 10 41.6 +0.9**
CLZ **Clausthal** 148.06 350 *e* PKPbc **PKPbc** **22 10 40.9 +0.3**
CLL **Collm** 148.07 347 *e* PKPdf **PKPdf** **22 10 36.5 -0.1**
CLL *e* PKPbc **PKPbc** **22 10 40.7 +0.1**
CLL *e* pPKPbc **pPKPbc** **22 12 47.8 +0.8**
CLL **Collm** 148.07 347 ⇓ *e* PKHKP **PKPdf** **22 10 37.0 +0.4**
CLL *i* 22 10 45.0
CLL pmax pmax
comp=Z,35nm,1.3s
CLL pmax pmax
comp=Z,208nm,1.0s
CLL pmax pmax
comp=Z,82nm,0.9s
CLL **Collm** 148.07 347 *e* PKPdf **PKPdf** **22 10 37.0 +0.4**
comp=Z,35nm,1.3s
CLL ⇓ *i* PKPbc **PKPbc** **22 10 40.5 -0.1**
comp=Z,208nm,1.0s
CLL *i* PKPab **PKPab** **22 10 45.0 -0.4**
comp=Z,82nm,0.9s
CLL *e* pPKPbc **pPKPbc** **22 12 48.0 +1.0**
CLL *e* 22 13 07.0
CLL *es* PKPbc **sPKPbc** **22 13 40.0 -0.3**
CLL *e* PKSbc **PKSbc** **22 14 18.0 -1.2**
CLL *es* PKSKS 22 27 18.0
UPC **Upice** 148.07 343 *e* PKHKP **PKPdf** **22 10 36.5 -0.2**
UPC *e* 22 10 46.4
UPC **Upice** 148.07 343 *e* PKPDF **PKPdf** **22 10 36.5 -0.2**
UPC ⇑ *i* PKP **PKPbc** **22 10 41.0 +0.3**
UPC *e* PKPAB **PKPab** **22 10 46.4 +0.9**
UPC *ex* x 22 12 55.7
MDUB **Mudurnu** 148.08 315 *e* P **PKPbc** **22 10 40.9 -0.3**
DPC **Dobruska-Polom** 148.12 342 *e* PKHKP **PKPdf** **22 10 37.0 +0.2**
DPC *e* 22 10 46.7
DPC **Dobruska-Polom** 148.12 342 *e* PKPDF **PKPdf** **22 10 37.0 +0.2**
DPC ⇑ *i* PKP **PKPbc** **22 10 41.3 +0.4**
DPC *e* PKPAB **PKPab** **22 10 46.7 +0.9**
DPC *e* pPKP **pPKPdf** **22 12 47.9 +2.8**
ISR **Istrita** 148.13 326 ⇓ PKP2 **PKPbc** **22 10 41.1 0.0**
ISR **Istrita** 148.13 326 ⇓ *i* P **PKPbc** **22 10 41.1 0.0**
PSN **Preselentsi** 148.16 322 *i* P **PKPdf** **22 10 31.9 -5.1**
MLR **Muntele Rosu** 148.19 327 PKP **PKPdf** **22 10 36.6 -0.6**
MLR PKPbc **PKPbc** **22 10 40.6 -0.7**
MLR **Muntele Rosu** 148.19 327 ⇓ *i* P **PKPbc** **22 10 40.8 -0.5**
MLR **Muntele Rosu** 148.19 327 PKP **PKPdf** **22 10 36.6 -0.6**
comp=Z,12nm,1.2s,baz=27,slow=2.8,SNR=7.2
MLR PKPbc **PKPbc** **22 10 40.6 -0.7**
comp=Z,24nm,1.1s,baz=347,slow=3.8,SNR=56
BRG **Berggiesshubel** 148.26 345 *i* PKP **PKPdf** **22 10 37.2 +0.3**
comp=Z,45nm,1.4s
BRG *i* 22 10 41.6
comp=Z,191nm,1.4s
BRG *i* 22 10 46.1
comp=Z,87nm,1.0s
BRG *e* PKPPKP 22 12 46.6
comp=Z,20nm,1.5s
BRG *e* 22 14 12.4
comp=Z,6.6nm,1.2s
BRG **Berggiesshubel** 148.26 345 *e* PKPdf **PKPdf** **22 10 37.0 0.0**
BRG *e* PKPbc **PKPbc** **22 10 41.2 +0.1**
BRG *e* PKPab **PKPab** **22 10 46.3 +0.1**
BRG **Berggiesshubel** 148.26 345 *i* PKHKP **PKPdf** **22 10 37.2 +0.3**
BRG *i* **PKPab** **22 10 46.1 -0.1**
BRG *e* 22 14 12.4
BRG pmax pmax
comp=Z,45nm,1.4s
BRG pmax pmax
comp=Z,191nm,1.4s
BRG pmax pmax
comp=Z,87nm,1.0s
BRG pmax pmax
comp=Z,20nm,1.5s
BRG pmax pmax
comp=Z,7.0nm,1.2s
PHNC **Paralimni** 148.26 304 P PKPbc **22 10 41.4 -0.2**
comp=Z,2.0nm,0.9s
MORC **Moravsky Berou** 148.27 341 *e* PKHKP **PKPdf** **22 10 37.2 +0.1**
MORC *e* 22 10 47.4
MORC **Moravsky Berou** 148.27 341 *e* PKPdf **PKPdf** **22 10 37.1 +0.1**
MORC *e* PKPbc **PKiKP** **22 10 41.9 -0.5**
MORC *e* PKPab **PKPab** **22 10 47.4 +1.0**
MORC **Moravsky Berou** 148.27 341 ⇓ *i* P **PKPbc** **22 10 41.3 +0.1**
LADK **Ladik-KONYA** 148.32 310 *e* P **PKPbc** **22 10 40.9 -1.0**
FBE **Freiberg** 148.35 346 *e* PKPbc **PKPbc** **22 10 41.8 +0.5**
SVRH **Sivrihisar-ESK** 148.36 313 *e* P **PKPbc** **22 10 40.7 -1.2**
MCH1 **Michaelchurch** 148.37 6 *e* P **PKPbc** **22 10 40.3 -1.0

comp=Z,106nm,1.1s,baz=34,slow=1.3,SNR=57
SKP1 Kophill 148.80 3 eP PKPbc 22 10 41.3 -1.1
SKP1 Kophill 148.80 3 P PKPbc 22 10 41.3 -1.1
CSS Prodhromos 148.82 304 P PKPbc 22 10 42.7 -0.4
CSS Prodhromos 148.82 304 eP PKPbc 22 10 42.6 -0.4
CSS Prodhromos 148.82 304 ePKPbc PKPbc 22 10 42.6 -0.4
CSS Prodhromos 148.82 304 P PKPbc 22 10 42.6 -0.4
MAMC Mammari 148.84 305 P PKPbc 22 10 43.2 +0.1
BUG Bochum--Univer 148.87 353 ePKPdf PKPdf 22 10 37.7 -0.2
BUG ePKPbc PKPbc 22 10 42.6 +0.1
BORA Eskisehir 148.87 315 iP PKPbc 22 10 42.6 -0.5
HRT Hereke 148.90 317 eP PKPbc 22 10 42.6 -0.5
PRD Provadia 148.90 322 iP PKPdf 22 10 37.0 -1.2
PRU Pruhonice 148.93 344 ePKIKP PKPdf 22 10 37.6 -0.5
PRU e 22 10 49.4
PRU Pruhonice 148.93 344 ePKPDF PKPdf 22 10 37.6 -0.5
PRU ⇑iPKP PKPbc 22 10 42.8 0.0
PRU ePKPAB PKPab 22 10 49.4 +0.4
VYHS Vyhne 148.95 338 ePKHKP PKPdf 22 10 38.0 -0.2
VYHS e 22 10 49.9
VYHS Vyhne 148.95 338 ePKP PKPdf 22 10 38.0 -0.2
VYHS e 22 10 43.5
VYHS e 22 10 49.9
SWN1 Swindon 148.95 4 eP PKPbc 22 10 42.3 -0.5
SWN1 Swindon 148.95 4 P PKPbc 22 10 42.3 -0.5
VRAC Vranov 148.97 341 PKP PKPdf 22 10 38.0 -0.2
VRAC PKPbc PKPbc 22 10 43.0 +0.1
VRAC PKPab PKPab 22 10 50.0 +0.8
VRAC Vranov 148.97 341⇑iP PKPbc 22 10 43.3 +0.4
VRAC Vranov 148.97 341 PKP PKPdf 22 10 38.0 -0.2
comp=Z,41nm,1.0s,baz=21,slow=1.5,SNR=28
VRAC PKPbc PKPbc 22 10 43.0 +0.1
comp=Z,41nm,1.0s,baz=38,slow=1.1,SNR=41
VRAC PKPab PKPab 22 10 50.0 +0.8
comp=Z,40nm,1.0s,baz=346,slow=2.1,SNR=21
MOX Moxa 148.98 348 ePKPdf PKPdf 22 10 37.9 -0.3
MOX ePKPbc PKPbc 22 10 43.0 +0.1
MOX ePKPab PKPab 22 10 48.8 -0.4
PLN Plauen 149.02 347 ePKPdf PKPdf 22 10 38.1 -0.1
PLN ePKPbc PKPbc 22 10 43.1 +0.1
TANN Tannenbergstha 149.03 347 ePKPdf PKPdf 22 10 38.1 -0.2
TANN ePKPbc PKPbc 22 10 43.2 +0.1
WERD Werda 149.03 347 ePKPdf PKPdf 22 10 38.2 -0.1
WERD ePKPbc PKPbc 22 10 43.2 +0.1
PSZ Piszkesteto 149.04 336 ePKIKP PKPdf 22 10 38.1 -0.3
PSZ Piszkesteto 149.04 336 ePKPDF PKPdf 22 10 38.1 -0.3
PSZ ePKPbc PKPbc 22 10 42.7 -0.5
PSZ Piszkesteto 149.04 336⇓iP PKPbc 22 10 43.0 -0.2
ADVT Abdulvahap 149.06 316 eP PKPbc 22 10 43.0 -0.4
KLYT Kilyos 149.06 318 eP PKPbc 22 10 42.9 -0.5
BOLV Bolvadin 149.09 312 iP PKPbc 22 10 43.1 -0.7
GUNZ Gunzen 149.10 347 ePKPdf PKPdf 22 10 38.4 0.0
GUNZ ePKPbc PKPbc 22 10 43.5 +0.2
UBBA Unterbreizbach 149.10 350 ePKPdf PKPdf 22 10 38.6 +0.4
UBBA ePKPbc PKiKP 22 10 43.8 -0.1
LEF Lefka 149.11 305 eP PKPbc 22 10 43.4 -0.3
CAVI Cavuskoy 149.11 316 eP PKPbc 22 10 43.1 -0.5
ISK Istanbul-Kandi 149.16 318 eP PKPbc 22 10 42.6 -1.0
WERN Wernitzgruen 149.16 347 ePKPdf PKPdf 22 10 38.3 -0.2
WERN ePKPbc PKPbc 22 10 43.2 +0.4
WERN ePKPab PKPab 22 10 50.2 +0.2
WOL Wolverton 149.19 4 eP PKPbc 22 10 42.9 -0.5
WOL Wolverton 149.19 4 P PKPbc 22 10 42.9 -0.5
NKC Novy Kostel 149.20 347 ePKIKP PKPdf 22 10 38.4 -0.1
NKC e 22 10 50.2
NKC Novy Kostel 149.20 347 ePKPDF PKPdf 22 10 38.4 -0.1
NKC ⇑iPKP PKPbc 22 10 43.7 +0.2
NKC ePKPAB PKPab 22 10 50.2 0.0
HEX Exmoor 149.20 7 eP PKPbc 22 10 42.6 -0.8
HEX Exmoor 149.20 7 P PKPbc 22 10 42.6 -0.8
YLV Yalova 149.23 317 eP PKPbc 22 10 43.2 -0.7
BGKT Bogazkoy 149.27 318 eP PKPbc 22 10 42.9 -1.0
LOT Lotru 149.30 329⇓iP PKPbc 22 10 43.0 -1.0
TREC Trest 149.31 342 ePKIKP PKPdf 22 10 38.3 -0.4
TREC e 22 10 51.0
TREC Trest 149.31 342 ePKPDF PKPdf 22 10 38.3 -0.4
TREC ⇑iPKP PKPbc 22 10 43.7 -0.1
TREC ePKPAB PKPab 22 10 51.0 +0.3
ALFC Alevga 149.32 305 P PKPbc 22 10 43.4 -0.9
comp=Z,2.4nm,0.8s
DEV Deva 149.38 331 ⇑PKHKP PKPbc 22 10 44.6 +0.6
DEV Deva 149.38 331⇑iP PKPbc 22 10 44.6 +0.6
CTKS Kestanelik-??a 149.41 318 eP PKPbc 22 10 43.6 -0.6
GEMT Gemlik 149.42 316 eP PKPbc 22 10 44.1 -0.1
ELSH Elham, Standar 149.44 1 eP PKPbc 22 10 43.6 -0.3
ELSH Elham, Standar 149.44 1 P PKPbc 22 10 43.6 -0.3
SHUT Suhut-Afyon 149.44 312 eP PKPbc 22 10 44.2 -0.4
ALT Altintas 149.51 313 eP PKPbc 22 10 44.2 -0.5
ARMT Armutlu 149.56 317 eP PKPbc 22 10 43.8 -0.8
AKMC Akamas 149.57 305 P PKPbc 22 10 44.1 -0.8
SLVT Silivri 149.60 319 eP PKPbc 22 10 44.6 0.0
PPCY Paphos 149.61 305 P PKPbc 22 10 44.1 -0.8
SUTC Sutluce-Ispart 149.61 315 eP PKPbc 22 10 45.1 0.0
MDNY Mudanya-Bursa 149.65 317 eP PKPbc 22 10 44.2 -0.6
BEBN Eben Emael 149.65 355 PKP PKPdf 22 10 39.4 +0.3
BEBN PKPbc PKPbc 22 10 44.4 -0.1
BEBN PKPab PKPab 22 10 51.1 -0.8
HGN Heimansgroeve 149.66 355 ePKP PKPbc 22 10 44.1 -0.4
SZH Strazhica 149.69 324 iP PKPdf 22 10 37.5 -2.0
ROTZ Rotzenmuhle 149.69 347 ePKPbc PKPbc 22 10 44.9 +0.3
BUD Budapest 149.73 337⇓ePdiff PKPbc 22 10 44.5 -0.3
UCC Uccle 149.73 357 PKP PKPdf 22 10 38.3 -1.0
UCC PKPbc PKPbc 22 10 44.2 -0.5
UCC PKPab PKPab 22 10 52.0 -0.3
ZST Bratislava 149.79 340 ePKP2 PKPbc 22 10 46.2 +1.3
ZST Bratislava 149.79 340 ePKP PKPbc 22 10 46.2 +1.3
ZST e 22 10 53.9
ISP Isparta 149.80 311 eP PKPbc 22 10 44.4 -1.1
ISP Isparta 149.80 311 ⇓PKHKP PKPbc 22 10 44.3 -1.1
ISP Isparta 149.80 311 ePKPbc PKPbc 22 10 44.3 -1.1
ISP Isparta 149.80 311 P PKPbc 22 10 44.2 -1.2
ISP Isparta 149.80 311⇓iP PKPbc 22 10 44.3 -1.1
GZR Gura Zlata 149.81 330 PKIKP PKPbc 22 10 44.9 -0.2
GZR Gura Zlata 149.81 330⇓iP PKPbc 22 10 44.7 -0.4
MEM Membach 149.81 355 PKP PKPdf 22 10 39.4 0.0
MEM PKPbc PKPbc 22 10 45.0 +0.2
MEM PKPab PKPab 22 10 52.4 -0.3
JMB Yambol 149.83 322 P PKPbc 22 10 45.5 +0.3
JMB Yambol 149.83 322 iP PKPdf 22 10 38.5 -1.2
BCK Bucak 149.91 310 eP PKPbc 22 10 44.2 -1.4
GDZ Gediz 149.92 314 iP PKPbc 22 10 45.3 -0.4
TNS Taunus Mts 149.92 352 ePKPbc PKPbc 22 10 45.3 +0.1
TNS ePKPab PKPab 22 10 53.0 -0.2
CRLT Corlu 149.95 319 eP PKPbc 22 10 45.6 +0.1
GRF Grafenberg Arr 149.97 348 ePKPdf PKPdf 22 10 39.4 -0.3
GRF ePKPbc PKPbc 22 10 45.6 +0.3
GRF ePKPab PKPab 22 10 53.7 +0.3
GRFO Grafenberg 149.97 348 ePKIKP PKPdf 22 10 39.2 -0.5
GRFO e 22 10 53.8
GRFO Grafenberg 149.97 348 ePKPdf PKPdf 22 10 39.2 -0.5
GRFO ePKPbc PKiKP 22 10 46.0 0.0
GRFO ePKPab PKPab 22 10 53.8 +0.4
KHC Kasperske Hory 149.97 345 ePKIKP PKPdf 22 10 39.9 +0.1
KHC e 22 10 53.8
KHC Kasperske Hory 149.97 345 ePKPdf PKPdf 22 10 39.9 +0.1
KHC ePKPbc PKPbc 22 10 45.6 +0.3
KHC ePKPab PKPab 22 10 53.8 +0.3
KHC Kasperske Hory 149.97 345 ePKPDF PKPdf 22 10 39.7 -0.1
KHC ⇑iPKP PKPbc 22 10 45.5 +0.1
KHC ePKPAB PKPab 22 10 53.6 +0.2
KHC epPKP pPKPdf 22 12 51.5 +3.4
SNF Seneffe 150.03 357 PKPbc PKPbc 22 10 45.4 +0.1
SNF PKPab PKPab 22 10 53.8 +0.3
PKSG 150.04 337⇑e PKPbc 22 10 45.5 0.0
PKS7 Kunszentmiklos 150.04 336⇑e PKPbc 22 10 45.8 +0.3
KCTX Karacabey (Bur 150.04 317 eP PKPbc 22 10 46.1 -0.7
PVL Pavlikeni 150.05 324 iP PKPdf 22 10 36.9 -3.1
BCLA Clavier 150.05 356 PKP PKPdf 22 10 39.6 -0.2
BCLA PKPbc PKPbc 22 10 45.6 +0.2
BCLA PKPab PKPab 22 10 52.7 -0.9
CRAR CRAIOVA 150.09 327 ⇓PKHKP PKPbc 22 10 46.2 +0.5
CRAR CRAIOVA 150.09 327⇓iP PKPbc 22 10 46.2 +0.5
EDRB Edirne 150.12 321 eP PKPbc 22 10 45.3 -0.6
WET Wettzell 150.12 345 ePKPbc PKPbc 22 10 45.8 +0.1
BZS Buzias 150.17 332 PKHKP PKPbc 22 10 45.7 -0.2
BZS Buzias 150.17 332⇑iP PKPbc 22 10 45.6 -0.3
GEC2 GERESS Array S 150.20 344 ePKPbc PKPbc 22 10 45.9 -0.1
GERES GERESS Array B 150.20 344 PKP PKPdf 22 10 40.0 -0.2
GERES PKPbc PKiKP 22 10 46.7 +0.1
GERES PKPab PKPab 22 10 54.9 +0.4
comp=Z,51nm,1.2s
THEF They Montfort 152.17 354 PKIKP PKPdf 22 10 43.5 +0.4
THEF They Montfort 152.17 354 PKP PKPdf 22 10 43.5 +0.4
THEF They Montfort 152.17 354 PKP PKPdf 22 10 43.5 +0.4
WTTA Wattenberg 152.18 346⇑iPKIKP PKPdf 22 10 43.0 -0.4
WTTA Wattenberg 152.18 346⇑iP PKPdf 22 10 43.0 -0.4
WTTA Wattenberg 152.18 346⇑iP PKPab 22 11 03.1 +0.2
WTTA Wattenberg 152.18 346⇑iPKPdf PKPdf 22 10 42.9 -0.4
comp=Z,18nm,1.0s
WTTA ⇓iPKPbc PKPbc 22 10 50.3 -0.3
comp=Z,38nm,0.6s
WTTA ⇑iPKPab PKPab 22 11 03.1 +0.2
comp=Z,72nm,1.0s
KKB Krupnik 152.19 325 iP PKPdf 22 10 41.6 -1.7
MOTA Moosalm 152.22 346⇑iPKIKP PKPdf 22 10 42.5 -0.9
MOTA Moosalm 152.22 346⇑iP PKPdf 22 10 42.5 -0.9
MOTA Moosalm 152.22 346⇓iP PKPab 22 11 02.9 -0.2
MOTA Moosalm 152.22 346⇑iPKPdf PKPdf 22 10 42.5 -0.9
comp=Z,17nm,1.0s
MOTA ⇓iPKPbc PKPbc 22 10 49.8 -0.9
comp=Z,20nm,0.8s
MOTA ⇓iPKPab PKPab 22 11 02.9 -0.2
comp=Z,40nm,0.9s
MYKA Terra Mystica 152.25 342⇓iP PKPdf 22 10 41.8 -1.6
MYKA Terra Mystica 152.25 342⇓iP PKPbc 22 10 49.6 -1.0
MYKA Terra Mystica 152.25 342⇓iPKPdf PKPdf 22 10 41.8 -1.6
comp=Z,4.5nm,0.8s
MYKA ⇓iPKPbc PKPbc 22 10 49.6 -1.0
comp=Z,18nm,0.5s
MYKA ⇑iPKPab PKPab 22 11 02.7 -0.5
comp=Z,34nm,0.8s
FELD Feldberg im Sc 152.28 351 PKP PKPdf 22 10 43.5 0.0
SFTF Sexfontaines 152.28 355 ePKIKP PKPdf 22 10 42.1 -1.2
comp=Z,112nm,1.4s
HAU Haudompre 152.36 354 ePKIKP PKPdf 22 10 42.3 -1.1
comp=Z,65nm,1.6s
SRS Serrai 152.41 323 P PKPab 22 11 04.0 0.0
ABTA Abfaltersbach 152.45 344⇓iP PKPdf 22 10 42.7 -0.9
ABTA Abfaltersbach 152.45 344⇑iP PKPab 22 11 03.3 -0.7
ABTA Abfaltersbach 152.45 344⇓iPKPdf PKPdf 22 10 42.7 -0.9
comp=Z,28nm,1.0s
ABTA ⇑iPKPbc PKPbc 22 10 50.5 -0.6
comp=Z,38nm,0.6s
ABTA ⇑iPKPab PKPab 22 11 03.3 -0.7
comp=Z,48nm,0.9s
HINF Hinteralfeld 152.49 353 ePKIKP PKPdf 22 10 42.2 -1.4
comp=Z,55nm,1.5s
LJU Ljubljana 152.52 341 ePKPdf PKPdf 22 10 42.5 -1.2
LJU ePKPbc PKPbc 22 10 50.2 -0.9
LJU iPKPab PKPab 22 11 03.1 -1.1
DAVA Damuels 152.53 348⇑iP PKPdf 22 10 43.7 -0.2
DAVA Damuels 152.53 348⇑iP PKPbc 22 10 51.6 +0.2
DAVA ⇑iP PKPab 22 11 04.4 0.0
DAVA Damuels 152.53 348⇑iPKPdf PKPdf 22 10 43.7 -0.2
comp=Z,9.9nm,1.3s
DAVA ⇑iPKiKP PKPbc 22 10 51.6 +0.2
comp=Z,49nm,1.3s
DAVA ⇑iPKPab PKPab 22 11 04.4 0.0
comp=Z,31nm,1.1s
FETA Feichten 152.61 347⇑iP PKPdf 22 10 43.9 -0.1
FETA Feichten 152.61 347⇑iP PKPab 22 11 04.9 +0.1
FETA Feichten 152.61 347⇑iPKPdf PKPdf 22 10 43.9 -0.1
comp=Z,26nm,1.0s
FETA ⇑iPKiKP PKiKP 22 10 51.9 +0.2
comp=Z,34nm,1.0s
FETA ⇑iPKPab PKPab 22 11 04.9 +0.1
comp=Z,49nm,1.2s
VOY Vojsko 152.72 342 ePKPdf PKPdf 22 10 43.3 -0.8
VOY iPKPbc PKPbc 22 10 51.0 -0.7
VOY ePKPab PKPab 22 11 03.7 -1.5
VAY Valandovo 152.84 324 ePKP PKPbc 22 10 50.0 -2.0
PLG Polygyros 152.98 322 P PKPab 22 11 06.5 0.0
SKO Skopje 152.98 327 ePKP PKPbc 22 10 52.2 -0.1
DAVOX Davos/Dischmat 153.01 348 PKP PKPdf 22 10 44.9 +0.2
DAVOX PKPbc PKiKP 22 10 52.7 +0.1
DAVOX PKPab PKPab 22 11 06.0 -0.5
DAVOX Davos/Dischmat 153.01 348 PKP PKPdf 22 10 44.8 +0.2
comp=Z,7.2nm,0.7s
DAVOX PKPbc PKiKP 22 10 52.7 +0.1
comp=Z,22nm,0.6s,baz=270,slow=3.0,SNR=34
DAVOX PKPab PKPab 22 11 06.0 -0.5
comp=Z,20nm,0.9s,baz=155,slow=4.6,SNR=8.4
LOR Lormes 153.28 357 ePKIKP PKPdf 22 10 43.6 -1.2
comp=Z,42nm,1.4s
HYF Humbligny 153.32 359 ePKIKP PKPdf 22 10 44.0 -0.8
TUE Stuetta 153.41 348 ePKPdf PKPdf 22 10 44.7 -0.5
SSF Saint Saulge 153.50 357 ePKIKP PKPdf 22 10 44.0 -1.1
comp=Z,49nm,1.4s
LIT Litokhoron 153.71 322 P PKPab 22 11 09.4 -0.2
BIA Bitola 153.72 325 ePKP PKPdf 22 10 44.4 -1.3
AVF Avril sur Loir 153.78 358 ePKIKP PKPdf 22 10 44.0 -1.4
comp=Z,53nm,1.5s
MFF Saint Martin d 153.94 3 ePKIKP PKPdf 22 10 44.2 -1.5
comp=Z,90nm,1.4s
BGF Bois d'Agland 154.03 358 ePKIKP PKPdf 22 10 44.5 -1.3
TCF Toulx Ste Croi 154.31 359 ePKIKP PKPdf 22 10 45.1 -1.1
comp=Z,59nm,1.3s
LKR Lokris 154.35 319 P PKPab 22 11 11.4 -0.9
LPL La Plagne 154.76 352 ePKIKP PKPdf 22 10 46.3 -0.8
comp=Z,67nm,1.7s
LPG La Plagne 154.78 352 ePKIKP PKPdf 22 10 46.3 -1.0
comp=Z,56nm,1.7s
RJF Les Rejaudoux 155.29 1 ePKIKP PKPdf 22 10 46.4 -1.2
comp=Z,53nm,1.1s
MBDF Montbardon 155.53 352 ePKIKP PKPdf 22 10 46.9 -1.2
comp=Z,102nm,1.6s
LFF La Frestale 155.64 2 ePKIKP PKPdf 22 10 48.1 +0.1
comp=Z,75nm,1.4s
CAF Calviac 155.67 360 ePKIKP PKPdf 22 10 47.3 -0.8
comp=Z,62nm,1.5s
LASF Ste Croix 156.47 356 ePKIKP PKPdf 22 10 47.8 -1.4
comp=Z,34nm,1.1s
SJPF Ste Jean 157.34 6 ePKIKP PKPdf 22 10 49.0 -1.3
comp=Z,251nm,1.9s
PBRG Braganca 157.57 17 ePKPab PKPab 22 11 26.5 +0.4
POLO Lamas de Olo 157.66 19 ePKPdf PKPdf 22 10 51.0 +0.2
MVO Moncorvo 158.09 18 ePKPdf PKPdf 22 10 50.9 -0.4
MVO Moncorvo 158.09 18 ePKPab PKPab 22 11 28.4 0.0
PVIS Viseu 158.23 20 ePKPab PKPab 22 11 29.6 +0.6
PTOM Tomar 159.03 23 ePKPab PKPab 22 11 32.0 -0.5
PCBR Castelo Branco 159.15 21 ePKPdf PKPdf 22 10 52.9 +0.4
PCBR Castelo Branco 159.15 21 ePKPab PKPab 22 11 32.5 -0.5
PMRV Marv??o 159.55 21 ePKPdf PKPdf 22 10 53.5 +0.5
PMRV Marv??o 159.55 21 ePKPab PKPab 22 11 35.1 +0.3
PMTG Montargil 159.58 23 ePKPab PKPab 22 11 34.3 -0.6
PESTR Estremoz 159.99 22 ePKPdf PKPdf 22 10 54.4 +0.9
PESTR Estremoz 159.99 22 ePKPab PKPab 22 11 36.8 +0.1
EVO Evora 160.13 23 ePKPab PKPab 22 11 37.3 0.0
EVO Evora 160.13 23 ePKIKP PKPdf 22 10 52.6 -1.1
comp=Z,32nm,1.1s
ESDC Sonseca Array 160.28 13 PKP PKPdf 22 10 54.2 +0.3
ESDC PKPab PKPab 22 11 38.2 +0.3
ESDC Sonseca Array 160.28 13 PKP PKPdf 22 10 54.2 +0.3
comp=Z,0.3nm,0.4s,baz=306,slow=2.8,SNR=9.0
ESDC PKPab PKPab 22 11 38.2 +0.3
comp=Z,14nm,1.0s,baz=346,slow=4.4,SNR=21
PNCL Nicolau / Gran 160.30 25 ePKPdf PKPdf 22 10 55.0 +1.2
PNCL Nicolau / Gran 160.30 25 ePKPab PKPab 22 11 38.3 +0.2
PBEJ Beja 160.63 24 ePKPdf PKPdf 22 10 55.7 +1.5
PBAR Barrancos 160.80 22 ePKPdf PKPdf 22 10 55.1 +0.7
PBAR Barrancos 160.80 22 ePKPab PKPab 22 11 40.0 -0.2
PFVI Vila Bisbo 161.01 27 ePKPdf PKPdf 22 10 53.7 -0.9
PVAQ Vaqueiros 161.23 24 ePKPdf PKPdf 22 10 54.9 0.0
PVAQ Vaqueiros 161.23 24 ePKPab PKPab 22 11 41.8 -0.4
KEST Kesra 163.50 338 PKP PKPdf 22 10 57.7 +0.4
KEST PKPab PKPab 22 11 52.8 +0.5
KEST Kesra 163.50 338 PKP PKPdf 22 10 57.7 +0.4
comp=Z,2.2nm,0.8s,baz=237,slow=1.0,SNR=3.3
KEST PKPab PKPab 22 11 52.8 +0.5
comp=Z,4.4nm,0.7s,baz=267,slow=2.5,SNR=11
LIC Lamto 164.28 154⇓iPKIKP PKPdf 22 10 57.5 -1.0
comp=Z,88nm,1.1s
DBIC Dimbokro 164.75 154 PKP PKPdf 22 10 58.4 -0.5
DBIC PKPab PKPab 22 12 00.3 +2.2
DBIC Dimbokro 164.75 154 PKP PKPdf 22 10 58.4 -0.5
comp=Z,21nm,1.0s,baz=197,slow=2.6,SNR=11
DBIC PKPab PKPab 22 12 00.3 +2.2
comp=Z,2.0nm,0.6s,baz=50,slow=4.4,SNR=3.4
MDT Midelt 166.47 24 PKP PKPdf 22 11 01.4 +1.5
MDT Midelt 166.47 24 PKP PKPdf 22 11 01.4 +1.5
comp=Z,5.5nm,0.5s,baz=198,slow=2.4,SNR=6.4
TOA0 Torodi Ar. Sit 172.65 179 ePKPdf PKPdf 22 11 03.0 -0.8
TORD Torodi Ar. Bea 172.65 179 PKP PKPdf 22 10 42.6 -1.2
TORD PKPab PKPab 22 12 33.4 +0.4
GERES GERESS Array B 150.20 344 PKP PKPdf 22 10 40.0 -0.2
comp=Z,3.5nm,0.9s,baz=48,slow=2.0,SNR=24
GERES PKPbc PKiKP 22 10 46.7 +0.1
comp=Z,16nm,0.6s,baz=28,slow=1.9,SNR=81
GERES PKPab PKPab 22 10 54.9 +0.4
comp=Z,2.3nm,0.8s,baz=31,slow=13,SNR=7.3
TIM Timisoara 150.25 332⇑PKIKP PKPbc 22 10 47.0 +1.0
TIM Timisoara 150.25 332⇑iP PKPbc 22 10 47.0 +1.0
PKS6 Bocsa 150.25 335⇑e PKPbc 22 10 46.6 +0.6
KHAL Karahalli 150.26 313 iP PKPbc 22 10 45.9 -0.6
BNT Bandirma 150.27 317 eP PKPbc 22 10 45.8 -0.5
PKST T"s 150.28 338⇑e PKPbc 22 10 46.0 -0.1
KORT Korkueli 150.28 310 iP PKPbc 22 10 45.8 -0.9
GIVF Givet 150.40 356 ePKIKP PKPdf 22 10 40.6 +0.2
SOP Sopron 150.42 340⇓e PKPbc 22 10 46.4 0.0
DOU Dourbes 150.42 356 PKPbc PKPbc 22 10 46.3 0.0
CONA Conrad Observa 150.42 341 iP PKPdf 22 10 40.6 0.0
CONA Conrad Observa 150.42 341⇓iP PKPbc 22 10 46.6 0.0
CONA ⇑iP PKPab 22 10 56.3 +0.9
CONA Conrad Observa 150.42 341 iPKPdf PKPdf 22 10 40.6 0.0
comp=Z,15nm,1.2s,SNR=27
CONA ⇓iPKPbc PKPbc 22 10 46.6 0.0
comp=Z,113nm,1.3s
CONA ⇑iPKPab PKPab 22 10 56.3 +0.9
comp=Z,59nm,1.3s
MFT Murefte 150.43 319 eP PKPbc 22 10 45.5 -1.3
TOD Tromm 150.47 351 PKIKP PKPdf 22 10 40.2 -0.3
TOD Tromm 150.47 351 PKP PKPdf 22 10 40.2 -0.3
BAIF Baives 150.48 357 ePKIKP PKPdf 22 10 40.6 +0.1
comp=Z,13nm,1.0s
GONE Gonen-Balikesi 150.59 317 eP PKPbc 22 10 46.4 -0.6
RUP Ruppelstein 150.60 353 PKIKP PKPdf 22 10 41.3 +0.5
RUP Ruppelstein 150.60 353 PKP PKPdf 22 10 41.3 +0.5
KRBG Karabiga-Canak 150.64 318 eP PKPbc 22 10 46.6 -0.6
BALB Balikesir 150.69 316 eP PKPbc 22 10 46.4 -0.8
DIM Dimitrovgrad 150.70 322 iP PKPdf 22 10 40.9 -0.2
WLF Walferdange 150.73 354 PKP PKPdf 22 10 41.2 +0.4
WLF PKPbc PKiKP 22 10 47.4 -0.1
WLF PKPab PKPab 22 10 56.3 -0.2
WLF Walferdange 150.73 354 ePKIKP PKPbc 22 10 47.3 +0.3
WLF e 22 10 56.8
PKS9 Tamasi 150.76 336⇑e PKPbc 22 10 47.1 -0.1
KULA Kula-Manisa 150.76 314 eP PKPbc 22 10 47.3 -0.3
BALY Balya 150.80 317 iP PKPbc 22 10 46.9 -0.7
MANT Manisa 150.84 314 iP PKPbc 22 10 47.6 -0.4
DNZL Cakiroluk 150.90 312 iP PKPbc 22 10 47.9 -0.2
PKSM Moragy 150.94 336 ⇓PKIKP PKPbc 22 10 47.1 -0.5
PKSM Moragy 150.94 336⇓iP PKPbc 22 10 47.1 -0.5
PKSM Moragy 150.94 336⇓e PKPbc 22 10 47.1 -0.5
MOA Molln 150.96 343⇑iP PKPdf 22 10 40.8 -0.5
MOA Molln 150.96 343⇓iP PKPbc 22 10 47.1 -0.6
MOA ⇑iP PKPab 22 10 58.2 +0.6
MOA Molln 150.96 343⇑iPKPdf PKPdf 22 10 40.8 -0.5
comp=Z,13nm,1.8s
MOA ⇓iPKPbc PKPbc 22 10 47.1 -0.6
comp=Z,18nm,0.6s
MOA ⇑iPKPab PKPab 22 10 58.2 +0.6
comp=Z,79nm,1.6s
ERIK Erikli-Kesan 150.97 319 eP PKPbc 22 10 47.3 -0.6
LPK Lapseki 150.99 318 eP PKPbc 22 10 47.5 -0.4
KDZ Kurdzhali 151.02 322 iP PKPdf 22 10 39.7 -1.9
PGB Panagyurishte 151.13 325 iP PKPdf 22 10 39.9 -1.9
AKHS Akhisar 151.14 315 iP PKPbc 22 10 47.8 -0.6
GELI Tayfur-Gelibol 151.15 319 eP PKPbc 22 10 47.0 -1.3
AKAS Kas 151.15 309 iP PKPbc 22 10 46.8 -1.9
STU Stuttgart 151.22 350 ePKPdf PKPdf 22 10 41.5 -0.2
STU ePKPbc PKPbc 22 10 48.1 -0.1
STU ePKPab PKPab 22 10 58.6 0.0
STU epPKPbc pPKPbc 22 12 57.9 +2.6
STU Stuttgart 151.22 350 ePKIKP PKPdf 22 10 41.8 +0.1
STU e 22 10 58.5
STU Stuttgart 151.22 350 ePKPdf PKPdf 22 10 41.8 +0.1
STU ePKPbc PKiKP 22 10 48.7 +0.2
STU ePKPab PKPab 22 10 58.5 -0.1
LANF Langenberg 151.22 352 PKIKP PKPdf 22 10 42.2 +0.5
LANF Langenberg 151.22 352 PKP PKPdf 22 10 42.2 +0.5
LANF Langenberg 151.22 352 PKP PKPdf 22 10 42.2 +0.5
JSA Saint Aubin 151.23 6 eP PKPbc 22 10 47.6 -0.6
JSA Saint Aubin 151.23 6 P PKPbc 22 10 47.6 -0.6
RHK3 Tenkes 151.35 336⇓e PKPbc 22 10 48.2 -0.4
FETY Fethiye 151.36 310 eP PKPbc 22 10 48.4 -0.5
RZN Rozhen 151.40 323 iP PKPdf 22 10 39.4 -3.0
BEHE Becsehely 151.40 338⇓ePdiff PKPbc 22 10 48.1 -0.6
FUR Furstenfeldbru 151.41 347 ePKPbc PKPbc 22 10 48.5 -0.2
KOGS Kog 151.60 339 ePKPbc PKPbc 22 10 48.5 -0.6
KOGS ePKPab PKPab 22 11 00.1 -0.2
VTS Vitosha 151.62 326 ⇓PKIKP PKPbc 22 10 49.2 -0.3
VTS Vitosha 151.62 326 P PKPbc 22 10 49.1 -0.4
VTS Vitosha 151.62 326⇓iP PKPbc 22 10 49.2 -0.3
VTS Vitosha 151.62 326 iP PKPdf 22 10 41.3 -1.4
IZM Izmir 151.76 315 eP PKPbc 22 10 49.6 -0.3
FLN La Foliniere 151.77 3 ePKIKP PKPdf 22 10 40.7 -1.8
comp=Z,40nm,0.9s
BFO Black Forest 151.78 351 ePKPbc PKPbc 22 10 49.3 -0.2
BFO epPKPbc pPKPbc 22 12 58.9 +2.2
BFO Black Forest 151.78 351 ePKIKP PKPdf 22 10 42.1 -0.5
BFO e 22 11 01.3
BFO Black Forest 151.78 351 ePKPdf PKPdf 22 10 42.1 -0.5
BFO ePKPbc PKPbc 22 10 49.4 -0.2
BFO ePKPab PKPab 22 11 01.3 +0.2
SOKA Soboth 151.79 341⇑iP PKPdf 22 10 42.0 -0.7
SOKA Soboth 151.79 341⇑iP PKPbc 22 10 49.4 -0.3
SOKA Soboth 151.79 341⇑iPKPdf PKPdf 22 10 42.0 -0.7
comp=Z,9.9nm,1.2s
SOKA ⇑iPKPbc PKPbc 22 10 49.4 -0.3
comp=Z,44nm,1.2s
SOKA ⇑iPKPab PKPab 22 11 01.5 +0.3
comp=Z,52nm,1.2s
GROS Grobnik 151.84 340 iPKPdf PKPdf 22 10 42.3 -0.5
GROS iPKPbc PKPbc 22 10 49.2 -0.6
GROS iPKPab PKPab 22 11 00.8 -0.6
CDF Champ du Feu 151.85 352 ePKIKP PKPdf 22 10 41.2 -1.5
comp=Z,28nm,1.3s
PAGF Fort de Pagny 151.87 355 ePKIKP PKPdf 22 10 41.7 -0.9
comp=Z,35nm,1.6s
KBA Koelnbreinsper 151.92 343⇑iPKIKP PKPdf 22 10 40.9 -2.1
KBA Koelnbreinsper 151.92 343⇑iP PKPdf 22 10 40.9 -2.1
KBA Koelnbreinsper 151.92 343⇑iP PKPbc 22 10 49.5 -0.5
KBA Koelnbreinsper 151.92 343⇑iPKPdf PKPdf 22 10 40.9 -2.1
comp=Z,13nm,1.2s,SNR=8.4
KBA ⇑iPKPbc PKPbc 22 10 49.5 -0.5
comp=Z,22nm,0.6s
KBA ⇓iPKPab PKPab 22 11 02.6 +0.7
comp=Z,33nm,0.7s
SPAK Spaichingen-Ko 151.94 350 PKP PKPdf 22 10 42.4 -0.5
ROSF Rostrenen 151.95 7 ePKIKP PKPdf 22 10 42.0 -0.8
comp=Z,48nm,1.1s
LDF La Druitiere 151.96 3 ePKIKP PKPdf 22 10 41.1 -1.7
comp=Z,101nm,1.3s
KAVA Kavala 151.96 322 P PKPbc 22 10 49.3 -0.8
MEZF Maizieres J'vi 151.98 355 ePKIKP PKPdf 22 10 42.0 -0.8
comp=Z,72nm,1.4s
MMB Musomiste 152.02 323 iP PKPdf 22 10 40.8 -2.3
ECH Echery 152.06 352 ePKIKP PKPdf 22 10 43.3 +0.3
ECH e 22 11 02.1
ECH Echery 152.06 352 ePKPdf PKPdf 22 10 43.3 +0.3
ECH ePKPbc PKPbc 22 10 50.1 0.0
ECH ePKPab PKPab 22 11 02.1 -0.1
ECH Echery 152.06 352 PKP PKPdf 22 10 42.4 -0.6
NVR Nevrokopi 152.10 323 P PKPbc 22 10 49.6 -0.9
SGMF Saint Gilles 152.12 6 ePKIKP PKPdf 22 10 42.4 -0.6
comp=Z,72nm,1.3s
DOBS Dobrina 152.12 340 ePKPdf PKPdf 22 10 43.0 -0.1
DOBS ePKPbc PKPbc 22 10 49.8 -0.5
GRR Gorron 152.12 4 ePKIKP PKPdf 22 10 41.9 -1.1
comp=Z,75nm,1.3s
WATA Walderalm 152.12 346⇑iPKIKP PKPdf 22 10 42.8 -0.5
WATA Walderalm 152.12 346⇑iP PKPdf 22 10 42.8 -0.5
WATA Walderalm 152.12 346⇑iP PKPab 22 11 02.3 -0.4
WATA Walderalm 152.12 346⇑iPKPdf PKPdf 22 10 42.8 -0.5
comp=Z,5.7nm,0.8s,SNR=10
WATA ⇓iPKPbc PKPbc 22 10 49.7 -0.8
comp=Z,14nm,0.5s
WATA ⇑iPKPab PKPab 22 11 02.3 -0.4
comp=Z,61nm,1.2s
RETA Reutte 152.16 347⇑iP PKPdf 22 10 42.9 -0.3
RETA Reutte 152.16 347⇑iP PKPab 22 11 03.0 +0.2
RETA Reutte 152.16 347⇑iPKPdf PKPdf 22 10 42.9 -0.3
comp=Z,9.2nm,1.4s
RETA ⇑iPKPbc PKPbc 22 10 50.3 -0.1
comp=Z,18nm,1.0s
RETA ⇑iPKPab PKPab 22 11

TORD			PP	**PP**	**22 16 25.4**	**+1.6**
TORD	**Torodi Ar. Bea**	**172.65 179**	PKP	**PKPdf**	**22 11 02.6**	**-1.2**
	comp=Z,15nm,1.0s,baz=320,slow=1.3,SNR=54					
TORD			PKPab	**PKPab**	**22 12 33.4**	**+0.4**
	comp=Z,3.5nm,0.9s,baz=179,slow=3.8,SNR=7.5					
TORD			PP	**PP**	**22 16 25.4**	**+1.6**
	comp=Z,2.8nm,1.2s,baz=160,slow=3.7,SNR=3.6					
TAM	**Tamanrasset**	**175.93 304**	*e*PKIKP	**PKPdf**	**22 11 05.6**	**+0.7**
TAM	**Tamanrasset**	**175.93 304**	*e*PKPdf	**PKPdf**	**22 11 05.6**	**+0.7**

IDC 07 21:54:14.8±2.4, 9°.54S×73°.55W, h0km, mb4.1/3, mb1 4.1/3, mb1mx3.8/17, mbtmp4.1/3, Error ellipse: s-maj=94.7km s-min=40.7km az=22.0, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**70.30**	**79**	P	P	22 05 31.8	+1.0
	2.9nm,0.3s,baz=241,slow=8.5,SNR=13						
TORD	**Torodi Ar. Bea**	**78.02**	**74**	P	P	22 06 15.0	-0.9
	1.4nm,0.7s,baz=263,slow=5.6,SNR=20						
YKA	**Yellowknife Ar**	**78.49**	**342**	P	P	22 06 17.6	+0.2
	0.1nm,0.3s,baz=137,slow=5.6,SNR=6.6						
ASAR	**Alice Springs**	**137.46**	**219**	PKP	PKPdf	22 13 40.9	-0.7
	0.3nm,0.5s,baz=85,slow=2.5,SNR=3.8						
WRA	**Warramunga Arr**	**139.85**	**223**	PKP	PKPdf	22 13 45.8	-0.2
	0.5nm,0.5s,baz=121,slow=2.0,SNR=6.6						

*IDC **07** 21:56:02.8±0.7, 0°.41S×133°.06E, h0km, mb4.4/11, mb1 4.6/13, mb1mx4.4/22, mbtmp4.5/13, ML4.6/2, MS3.7/7, Ms1 3.7/7, ms1mx3.4/36, Error ellipse: s-maj=36.3km s-min=13.6km az=68.0*
*BJI **07** 21:56:04.0, 1°.27S×132°.52E, h38km, mB4.7/3, mb4.6/8, Ms5.0/2, Ms7 4.0/2*
*ISCJB **07** 21:56:05.9±0.5, 0°.45S±0°.05×132°.93E±0°.06, h32km, mb4.6/19, MS3.8/5, Error ellipse: s-maj=8.7km s-min=7.4km az=156.5*
*DJA **07** 21:56:08, 0°.52S×132°.80E, h77km, MLv5.1/12*
*NEIC **07** 21:56:08.2±0.4, 0°.48S×132°.96E, h35km, mb4.7/3, Error ellipse: s-maj=14.6km s-min=7.8km az=66.0*
ISC 07 21:56:07.5±0.6, 0°.43S±0°.08×132°.98E±0°.07, h32km, n58, σ1°08/51, mb4.6/19, MS3.7/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**1.77**	**256**	P	**Pn**	**21 56 33.6**	**-2.4**
FAKI	**Fak Fak**	**2.58**	**196**	P	**Pn**	**21 56 46.6**	**-0.5**
BAKI	**Biak**	**3.22**	**104**	P	**Pb**	**21 57 02.9**	**-1.1**
MSAI	**Masohi**	**4.98**	**234**	P	**Pn**	**21 57 20.8**	**+0.7**
BNDI	**Bandanaira**	**5.10**	**217**	P	**Pn**	**21 57 21.5**	**-0.2**
TLE	**Tual**	**5.18**	**183**	P	**Pn**	**21 57 23.7**	**+0.8**
LBMI	**Labuha**	**5.48**	**268**	P	**Pn**	**21 57 25.9**	**-1.1**
	234nm,1.1s,3μm1.0nm						
AAI	**Ambon**	**5.78**	**236**	P	**Pn**	**21 57 30.3**	**-0.8**
	632nm,0.5s,7μm2.5nm						
NLAI	**Namlea**	**6.51**	**245**	P	**Pn**	**21 57 40.7**	**-0.4**
	135nm,0.8s,7μm0.7nm						
LUWI	**Luwuk**	**10.23**	**267**	P	**Pn**	**21 58 31.0**	**-1.2**
	86nm,1.0s,1μm						
KDI	**Kendari**	**10.93**	**251**	P	**Pn**	**21 58 44.4**	**+2.6**
MRSI	**Marisa**	**11.08**	**275**	P	Pn	21 58 56.5	+13
BKSI	**Bulukumba**	**13.73**	**249**	P	**P**	**21 59 29.0**	**+0.7**
KAPI	**Kappang**	**13.97**	**251**	*e*Pn	**Pn**	**21 59 23.4**	**0.0**
	50nm,1.3s						
KAPI				Sn	S	22 02 08.7	-10
KAPI	**Kappang**	**13.97**	**251**	Pn	**Pn**	**21 59 25.4**	**+1.9**
	1.6nm,0.3s,baz=86,slow=7.8,SNR=8.5						
KAPI				Sn	S	22 02 08.7	-10
	0.3nm,0.3s,baz=226,slow=19,SNR=2.0						
KAPI				LR	LR	22 05 02.5	
	comp=Z,143nm,18.5s,baz=259,slow=38						
SMKI	**Samarinda**	**15.77**	**270**	P	**P**	**21 59 53.1**	**+2.1**
FITZ	**Fitzroy Crossi**	**18.99**	**202**	LR	LR	22 07 27.2	
	comp=Z,234nm,19.2s,baz=8.6,slow=36						
WRA	**Warramunga Arr**	**19.44**	**176**	P	**P**	**22 00 31.8**	**+0.2**
WRA	**Warramunga Arr**	**19.44**	**176**	P	**P**	**22 00 31.8**	**+0.2**
	2.4nm,0.3s,baz=355,slow=12,SNR=8.7						
SBUM	**Sibu**	**20.95**	**278**	P	Pn	22 00 51.5	+0.8
	21nm,1.1s						
STKI	**Sintang**	**21.51**	**271**	P	**P**	**22 00 56.2**	**+2.2**
	41nm,0.6s,45μm						
ASAR	**Alice Springs**	**23.12**	**178**	P	**P**	**22 01 10.4**	**-0.6**
ASAR	**Alice Springs**	**23.12**	**178**	P	**P**	**22 01 10.4**	**-0.6**
	61nm,0.7s,baz=4.3,slow=11,SNR=40						
CTA	**Charters Tower**	**23.46**	**147**	P	**P**	**22 01 15.8**	**+1.3**
CTA	**Charters Tower**	**23.46**	**147**	*e*P	**P**	**22 01 15.9**	**+1.4**
	17nm,0.8s						
CTA	**Charters Tower**	**23.46**	**147**	P	**P**	**22 01 15.8**	**+1.3**
	24nm,0.8s,baz=328,slow=11,SNR=6.9						
CTAO	**Charters Tower**	**23.46**	**147**	*e*P	**P**	**22 01 14.8**	**+0.3**
	23nm,0.8s						
CISI	**Cisompet, Garu**	**26.07**	**254**	P	**P**	**22 01 37.6**	**-0.9**
	193nm,0.9s						
STKA	**Stephens Creek**	**32.32**	**166**	*e*P	**P**	**22 02 32.7**	**-1.1**
	6.1nm,0.6s						
STKA	**Stephens Creek**	**32.32**	**166**	*e*P	**P**	**22 02 33.0**	**-0.8**
	28nm,0.7s						
STKA	**Stephens Creek**	**32.32**	**166**	P	**P**	**22 02 33.1**	**-0.7**
	37nm,0.7s,baz=337,slow=8.3,SNR=22						
STKA				LR	LR	22 16 53.4	
	comp=Z,269nm,18.7s,baz=29,slow=39						
CMSA	**Cobar Meteorol**	**33.20**	**160**	*e*P	**P**	**22 02 40.9**	**-0.6**
	126nm,1.5s						
JNU	**Nakatsue**	**33.43**	**357**	LR	LR	22 14 02.0	
	comp=Z,118nm,18.1s,baz=239,slow=32						
PSI	**Prapat**	**34.20**	**276**	P	**P**	**22 02 48.8**	**-1.8**
	15nm,1.8s,882nm						
ARMA	**Armidale**	**34.70**	**151**	*e*P	**P**	**22 02 55.0**	**+0.3**
NWAO	**Narrogin (SRO)**	**35.57**	**203**	LR	LR	22 17 56.4	
	comp=Z,138nm,18.8s,baz=111,slow=37						
COCO	**West Island**	**37.71**	**251**	P	**P**	**22 03 19.9**	**-0.6**
	266nm,2.0s						
KSRS	**Korea Array**	**37.98**	**353**	LR	LR	22 17 22.6	
	comp=Z,128nm,21.6s,baz=41,slow=34						
CMAR	**Chiang Mai Arr**	**38.35**	**301**	P	**P**	**22 03 25.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**38.35**	**301**	P	**P**	**22 03 25.7**	**-0.2**
	2.9nm,0.9s,baz=126,slow=7.2,SNR=21						
CHTO	**Chiang Mai**	**38.51**	**302**	P	**P**	**22 03 27.2**	**0.0**
	18nm,1.2s,850nm						
SONM	**Songino Array**	**53.34**	**338**	P	**P**	**22 05 25.2**	**+1.3**
SONM	**Songino Array**	**53.34**	**338**	P	**P**	**22 05 25.2**	**+1.3**
	0.9nm,0.7s,baz=161,slow=9.6,SNR=3.0						
PETK	**Petropavlovsk-**	**57.20**	**17**	LR	LR	22 26 43.9	
	comp=Z,58nm,19.6s,baz=331,slow=32						
MKAR	**Makanchi Array**	**64.54**	**324**	P	**P**	**22 06 42.2**	**+0.6**
MKAR	**Makanchi Array**	**64.54**	**324**	P	**P**	**22 06 42.2**	**+0.6**
	1.4nm,0.6s,baz=111,slow=8.3,SNR=18						
ZALV	**Zalesovo Beam**	**67.15**	**331**	P	**P**	**22 06 58.0**	**-0.2**
ZALV	**Zalesovo Beam**	**67.15**	**331**	P	**P**	**22 06 58.0**	**-0.2**
	1.3nm,0.7s,baz=127,slow=6.3,SNR=6.1						
AAK	**Ala-Archa**	**67.62**	**317**	P	**P**	**22 07 03.2**	**+1.6**
AAK	**Ala-Archa**	**67.62**	**317**	P	**P**	**22 07 03.2**	**+1.6**
	0.3nm,0.5s,baz=177,slow=11,SNR=2.9						
KURK	**Kurchatov**	**68.61**	**326**	*e*P	**P**	**22 07 07.5**	**+0.1**
	8.1nm,1.1s						
KURBB	**Kurchatov Arra**	**68.62**	**326**	P	**P**	**22 07 08.0**	**+0.6**
	2.9nm,0.8s,baz=122,slow=5.8,SNR=22						
BVAR	**Borovoye Array**	**74.21**	**326**	P	**P**	**22 07 41.4**	**+0.2**
BVAR	**Borovoye Array**	**74.21**	**326**	P	**P**	**22 07 41.4**	**+0.2**
	2.5nm,0.8s,baz=125,slow=5.6,SNR=15						
ILAR	**Eielson Array**	**86.17**	**25**	P	**P**	**22 08 45.0**	**-0.3**
ILAR	**Eielson Array**	**86.17**	**25**	P	**P**	**22 08 45.0**	**-0.3**
	0.9nm,0.7s,baz=262,slow=4.0,SNR=9.5						
QSPA	**South Pole Qui**	**89.50**	**180**	P	**P**	**22 09 01.1**	**-0.3**
QSPA	**South Pole Qui**	**89.50**	**180**	P	**P**	**22 09 01.1**	**-0.3**
	2.5nm,0.9s,baz=351,slow=2.7,SNR=13						

IDC 07 22:11:33.1±4.4, 3°.31S×100°.02E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/21, mbtmp3.3/4, Error ellipse: s-maj=177.8km s-min=24.7km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**37.34**	**119**	P	P	22 18 47.4	-0.3
	0.2nm,0.8s,baz=305,slow=8.4,SNR=3.2						
ASAR	**Alice Springs**	**38.49**	**125**	P	P	22 18 57.1	-0.2
	0.2nm,0.4s,baz=296,slow=7.8,SNR=4.8						
SONM	**Songino Array**	**51.23**	**6**	P	P	22 20 40.5	+1.8
	0.3nm,0.6s,baz=187,slow=6.9,SNR=3.6						
MKAR	**Makanchi Array**	**52.28**	**345**	P	P	22 20 45.1	-1.2
	0.3nm,0.5s,baz=156,slow=8.2,SNR=8.0						

*IDC **07** 22:18:34.6±1.1, 56°.40S×26°.51W, h0km, mb4.0/2, mb1 4.0/2, mb1mx3.8/12, mbtmp4.0/2, Error ellipse: s-maj=69.8km s-min=32.1km az=99.0*
ISC 07 22:18:40.4±1.3, 57°.15S±0°.2×27°.5W±0°.6, h10km, n8, σ2s 24/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**16.07**	**159**	*e*	**Pn**	**22 22 25.2**	**-0.9**
VNA2	**Neumayer--Watz**	**16.29**	**156**	*e*	**Pn**	**22 22 28.0**	**-0.9**
	baz=331,slow=15						
SNAA	**Sanae**	**17.86**	**155**	*e*	Pn	22 22 42.1	-6.5
QSPA	**South Pole Qui**	**33.16**	**180**	P	**P**	**22 25 17.6**	**+1.0**
	3.5nm,0.6s,baz=202,slow=2.0,SNR=40						
TORD	**Torodi Ar. Bea**	**74.04**	**30**	P	P	22 30 05.3	-11
	0.6nm,0.9s,baz=192,slow=6.1,SNR=4.1						
YKA	**Yellowknife Ar**	**136.83**	**317**	PKP	**PKPdf**	**22 37 57.9**	**-3.6**
	0.2nm,0.4s,baz=112,slow=1.4,SNR=5.3						
ILAR	**Eielson Array**	**150.68**	**310**	PKPbc	**PKPdf**	**22 38 26.9**	**+1.4**
	1.0nm,0.9s,baz=105,slow=1.5,SNR=8.9						
SONM	**Songino Array**	**150.93**	**89**	PKPbc	**PKPdf**	**22 38 27.5**	**+0.9**
	0.1nm,0.4s,baz=219,slow=3.1,SNR=4.5						
SONM				PKPab	**PKiKP**	**22 38 34.3**	**+1.3**
	0.7nm,0.9s,baz=234,slow=4.9,SNR=4.6						

IDC 07 22:45:29.3±2.0, 5°.67N×126°.68E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.7/4, Error ellipse: s-maj=154.5km s-min=26.1km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.54**	**164**	P	P	22 51 08.7	-0.4
	1.0nm,0.5s,baz=344,slow=10,SNR=95						
ASAR	**Alice Springs**	**30.00**	**167**	P	P	22 51 39.4	-0.5
	0.2nm,0.5s,baz=347,slow=6.7,SNR=6.2						
STKA	**Stephens Creek**	**39.95**	**160**	P	P	22 53 06.2	+0.6
	2.3nm,0.5s,baz=335,slow=6.6,SNR=11						
MKAR	**Makanchi Array**	**55.95**	**325**	P	P	22 55 09.3	-0.1
	0.3nm,0.6s,baz=136,slow=6.0,SNR=4.2						

*DJA **07** 22:57:07, 0°.62S×132°.65E, h135km, MLv3.9/3*
IDC 07 22:57:01.0±3.0, 0°.44S×133°.22E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/17, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=151.7km s-min=27.8km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.41**	**177**	P	P	23 01 29.0	0.0
	0.1nm,0.3s,baz=356,slow=12,SNR=5.9						
WRA				S	Sn	23 04 59.1	-9.5
	0.1nm,0.3s,baz=349,slow=22,SNR=4.9						
ASAR	**Alice Springs**	**23.10**	**178**	P	P	23 02 08.7	+0.1
	1.7nm,0.8s,baz=6.4,slow=10,SNR=9.6						
MKAR	**Makanchi Array**	**64.69**	**324**	P	P	23 07 40.9	-0.1
	0.4nm,0.7s,baz=114,slow=7.5,SNR=4.6						

GUC 07 23:00:14.8±0.5, 31°.46S×69°.12W, h21km±10km, MD3.6, ML3.3, 2C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OVCH	**Ovalle**	**1.98**	**295**	↓*i* P	Pn	23 00 48.0	+1.0
OVCH				*i* S	Sb	23 01 13.3	-0.9
CHNG	**Los Chungos**	**2.07**	**258**	*e*P	Pn	23 00 49.5	+1.2
CHNG				*i* S	Sb	23 01 15.7	-1.3
FCH	**Farellones**	**2.11**	**208**	↑*i* P	Pn	23 00 49.4	+0.1
FCH				*i* S	Sn	23 01 17.0	+1.8
PEL	**Peldehue**	**2.14**	**218**	*e*P	Pn	23 00 50.3	+1.0
PEL				*i* S	Sb	23 01 17.7	-1.5
PEL				AML	AML	23 01 19.6	
	comp=N,261nm,0.4s						
ROCH	**El Roble**	**2.20**	**226**	↓*i* P	Pn	23 00 51.0	+0.5
ROCH				*i* S	Sn	23 01 19.2	+1.9
ROCH				AML	AML	23 01 22.7	
	comp=N,186nm,0.2s						
CLCH	**Cerro Calan**	**2.27**	**211**	↓*i* P	Pn	23 00 52.5	+1.3
CLCH				*i* S	Sn	23 01 20.8	+2.1
CLCH				AML	AML	23 01 23.5	
	comp=E,280nm,0.5s						
LMEL	**Las Melosas**	**2.55**	**201**	↑*i* P	Pn	23 00 56.7	+1.5
LMEL				*i* S	Sn	23 01 28.3	+2.5

IDC 07 23:13:03.3±27.0, 20°.76S×172°.68W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.8/19, mbtmp4.2/4, Error ellipse: s-maj=497.1km s-min=166.8km az=75.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.42**	**264**	P	P	23 20 27.8	+0.9
	3.6nm,0.4s,baz=87,slow=7.4,SNR=6.6						
STKA	**Stephens Creek**	**42.18**	**245**	P	P	23 20 56.2	-1.8
	1.2nm,0.4s,baz=105,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**49.30**	**256**	P	P	23 21 54.2	-0.3
	1.0nm,0.5s,baz=101,slow=6.9,SNR=12						
WRA	**Warramunga Arr**	**49.49**	**261**	P	P	23 21 56.3	+0.4
	0.9nm,0.3s,baz=91,slow=8.5,SNR=14						

*ISK **07** 23:16:04.9, 34°.83N×40°.51E, h5km, ML3.5*
*ISCJB **07** 23:16:09.9±1.6, 35°.08N±0°.04×40°.46E±0°.05, h9km±13km, Error ellipse: s-maj=9.0km s-min=5.4km az=43.8*
*CSEM **07** 23:16:13.6±0.4, 35°.12N×40°.44E, h30km, ML2.9, Error ellipse: s-maj=9.7km s-min=5.6km az=141.0*
ISC 07 23:16:10.8±2.1, 35°.13N±0°.05×40°.45E±0°.05, h10km±14km, n57, σ1s 12/64, 6C, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNKR	**ALMNKUR**	**1.26**	**311**	*i* P	**Pg**	**23 16 34.9**	**-0.2**
	SNR=66						
SFNV	**Sufian**	**1.32**	**348**	↑*e*P	**Pn**	**23 16 35.2**	**-0.2**
	SNR=66						
SFNV				*i* S	**Sb**	**23 16 51.8**	**-1.0**
	451nm,0.4s,SNR=62						
KSRV	**Kasrt alli**	**1.39**	**302**	↑*i* P	**Pn**	**23 16 36.2**	**-0.2**
	SNR=66						
KSRV				*e*S	**Sb**	**23 16 53.6**	**-1.2**
	47nm,0.4s,SNR=62						
JHLN	**Al Jahlan**	**1.73**	**289**	*e*P	**Pn**	**23 16 40.7**	**-0.3**
	SNR=51						
KBSD	**Kabsdagh**	**1.87**	**2**	*e*P	**Pn**	**23 16 42.7**	**-0.3**
	SNR=51						
KBSD				*e*S	**Sn**	**23 17 07.1**	**+0.3**
	122nm,0.4s,SNR=49						
MARD	**Mardin**	**2.20**	**7**	*e*P	**Pn**	**23 16 48.6**	**+1.0**
MARD				*i* S	**Sb**	**23 17 18.1**	**-0.1**
URFA	**Urfa**	**2.66**	**331**	*e*PN	**Pn**	**23 16 54.4**	**+0.5**
URFA				*e*SN	**Sb**	**23 17 30.9**	**-0.4**
URFA	**Urfa**	**2.66**	**331**	*e*Pn	**Pn**	**23 16 54.4**	**+0.5**
DIYA	**Diyarbakir**	**2.81**	**355**	*e*P	**Pn**	**23 16 56.6**	**+0.8**
DIYA	**Diyarbakir**	**2.81**	**355**	*e*P	**Pn**	**23 16 56.6**	**+0.8**
BEST	**Besiri**	**2.84**	**13**	*e*P	**Pn**	**23 16 56.3**	**0.0**
SIRN	**S¯¯rnak**	**2.85**	**33**	*e*P	**Pn**	**23 16 57.7**	**+1.2**
SIRN	**S¯¯rnak**	**2.85**	**33**	*e*P	**Pn**	**23 16 57.7**	**+1.2**
ATAB	**Bozova**	**2.92**	**324**	*e*P	**Pn**	**23 16 57.7**	**+0.4**
ATAB	**Bozova**	**2.92**	**324**	*e*P	**Pn**	**23 16 57.7**	**+0.4**
KUZU	**Kuzuini**	**3.19**	**302**	*i* P	**Pn**	**23 17 01.7**	**+0.5**
KUZU	**Kuzuini**	**3.19**	**302**	*i* P	**Pn**	**23 17 01.7**	**+0.5**
GZT	**Gaziantep**	**3.22**	**314**	*e*P	**Pn**	**23 17 02.1**	**+0.4**
CUKT	**Cukurca**	**3.32**	**49**	*e*PN	**Pn**	**23 17 02.2**	**-0.7**
CUKT	**Cukurca**	**3.32**	**49**	*e*Pn	**Pn**	**23 17 02.3**	**-0.7**
GAZ	**Gaziantep**	**3.32**	**309**	*e*PN	**Pn**	**23 17 03.7**	**+0.7**
GAZ	**Gaziantep**	**3.32**	**309**	*e*Pn	**Pn**	**23 17 03.7**	**+0.7**
WRDH	**Warideh**	**3.32**	**278**	↑*e*P	**Pn**	**23 17 03.5**	**+0.5**
	SNR=51						
SVRC	**Sivrice-ELAZID**	**3.38**	**345**	*e*PN	**Pn**	**23 17 05.0**	**+1.3**
SVRC	**Sivrice-ELAZID**	**3.38**	**345**	*e*Pn	**Pn**	**23 17 05.1**	**+1.3**
HAWK	**Haweek**	**3.38**	**261**	↑*e*P	**Pn**	**23 17 06.2**	**+2.4**
	SNR=51						
ZALF	**Zalf**	**3.39**	**231**	↑*e*P	**Pn**	**23 17 04.7**	**+0.8**
	SNR=51						
ELZG	**Elazig**	**3.57**	**341**	*e*P	**Pn**	**23 17 07.7**	**+1.3**
ELZG				*i* S	**Sg**	**23 18 05.3**	**-0.1**
ELZG	**Elazig**	**3.57**	**341**	*e*P	**Pn**	**23 17 07.7**	**+1.3**
MALT	**Malatya**	**3.57**	**334**	*e*PN	**Pn**	**23 17 08.4**	**+2.0**
MALT	**Malatya**	**3.57**	**334**	*e*Pn	**Pn**	**23 17 08.4**	**+2.0**
HAKT	**HAKKARI**	**3.58**	**46**	*e*P	**Pn**	**23 17 05.6**	**-1.0**
HAKT	**HAKKARI**	**3.58**	**46**	*e*P	**Pn**	**23 17 05.6**	**-1.0**
MYA	**Malataya**	**3.58**	**334**	*e*PN	**Pn**	**23 17 07.7**	**+1.1**
MYA	**Malataya**	**3.58**	**334**	*e*Pn	**Pn**	**23 17 07.7**	**+1.1**
KMRS	**Kahramanmaras**	**3.72**	**311**	*e*PN	**Pn**	**23 17 08.4**	**-0.1**
KMRS	**Kahramanmaras**	**3.72**	**311**	*e*Pn	**Pn**	**23 17 08.4**	**-0.1**
BINT	**Bingol**	**3.74**	**0**	*e*Pn	**Pn**	**23 17 11.9**	**+3.1**
AKCD	**Akcadag**	**3.76**	**328**	*e*P	**Pn**	**23 17 09.2**	**+0.2**
AKCD	**Akcadag**	**3.76**	**328**	*e*P	**Pn**	**23 17 09.2**	**+0.2**
PTK	**Pertek**	**3.85**	**348**	*e*PN	**Pn**	**23 17 11.1**	**+0.7**
PTK	**Pertek**	**3.85**	**348**	*e*Pn	**Pn**	**23 17 11.1**	**+0.7**
BNGB	**Bing¨ll**	**3.86**	**3**	*e*PN	**Pn**	**23 17 11.9**	**+1.4**
SALA	**Sala**	**3.92**	**233**	↑*e*P	**Pn**	**23 17 12.3**	**+1.1**
	SNR=51						
SALA				*e*S	**Sn**	**23 17 56.2**	**-1.2**
	SNR=49						
VANB	**Van**	**4.19**	**33**	*e*PN	**Pn**	**23 17 16.3**	**+1.4**
VANB	**Van**	**4.19**	**33**	*e*Pn	**Pn**	**23 17 16.3**	**+1.4**
KOZT	**Kozan**	**4.41**	**304**	*e*PN	**Pn**	**23 17 18.9**	**+1.0**
KOZT	**Kozan**	**4.41**	**304**	*e*Pn	**Pn**	**23 17 18.9**	**+1.0**
KEMA	**Kemaliye**	**4.42**	**340**	*i* P	**Pn**	**23 17 18.9**	**+0.8**
KEMA	**Kemaliye**	**4.42**	**340**	*i* P	**Pn**	**23 17 18.9**	**+0.8**
ERZN	**Erzincan**	**4.49**	**353**	*e*PN	**Pn**	**23 17 20.1**	**+1.0**
ILIC	**ilic-Erzincan**	**4.57**	**341**	*e*PN	**Pn**	**23 17 21.2**	**+1.1**
ILIC	**ilic-Erzincan**	**4.57**	**341**	*e*Pn	**Pn**	**23 17 21.3**	**+1.1**
EZC	**Erzincan**	**4.70**	**350**	*e*Pn	**Pn**	**23 17 20.1**	**-1.9**
EZM	**Erzurum**	**4.83**	**8**	*e*PN	**Pn**	**23 17 25.6**	**+1.8**
AGRB	**Hanur-Agry**	**4.88**	**24**	*e*PN	**Pn**	**23 17 26.1**	**+1.6**
AGRB	**Hanur-Agry**	**4.88**	**24**	*e*Pn	**Pn**	**23 17 26.1**	**+1.6**

*NIED **07** 23:43:00, 37°.30N×135°.00E, h400km, Mw4.2 Best double couple: M0 1.99000×10^15 NP1:φ1 6.00000°, δ89.00000°, λ-128.00000°. NP2:φ2 85.00000°, δ38.00000°, λ-2.00000°.*
*ISCJB **07** 23:43:08.0±0.3, 37°.33N±0°.07×135°.07E±0°.08, h392km±5km, mb3.3/17, Error ellipse: s-maj=12.4km s-min=9.0km az=142.4*
*JMA **07** 23:43:08.4±0.2, 37°.32N×135°.04E, h386km±2km, M3.6*
*IDC **07** 23:43:08.6±0.6, 37°.28N×135°.00E, h381km±7km, mb3.0/16, mb1 3.2/21, mb1mx3.2/31, mbtmp3.1/21, Error ellipse: s-maj=12.3km s-min=10.9km az=41.0*
ISC 07 23:43:08.8±0.6, 37°.31N±0°.09×135°.04E±0°.07, h383km±7km, n40, σ0s 61/47, mb3.4/19, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JJH	**Hakui**	**1.45**	**105**	P	**Pn**	**23 44 00.2**	**+0.2**
JKG	**Kaga**	**1.46**	**134**	P	**Pn**	**23 44 00.1**	**0.0**
JKY	**Yasaka**	**1.68**	**178**	P	**Pn**	**23 44 01.5**	**+0.2**
JKY				*e*S	**S**	**23 44 43.7**	**+0.1**
JSZ	**Suzu**	**1.86**	**85**	P	**Pn**	**23 44 02.5**	**+0.3**
JWT	**Wachi**	**2.04**	**172**	P	**Pn**	**23 44 03.9**	**+0.4**
JWT				*e*S	**S**	**23 44 47.0**	**-0.6**
JGM	**Miyama**	**2.10**	**139**	P	**Pn**	**23 44 03.9**	**0.0**
JGM				*e*S	**S**	**23 44 48.3**	**-0.1**
JNG	**Nsakai**	**2.62**	**109**	P	**Pn**	**23 44 07.9**	**+0.2**
MAT	**Matsushiro**	**2.65**	**106**	P	**Pn**	**23 44 07.9**	**0.0**
MAT				S	**S**	**23 44 55.6**	**0.0**
MAT	**Matsushiro**	**2.65**	**106**	P	**Pn**	**23 44 07.8**	**-0.1**
MJAR	**Matsushiro Arr**	**2.66**	**106**	P	**Pn**	**23 44 08.3**	**+0.4**
	19nm,0.3s,baz=276,slow=9.9,SNR=266						
MJAR				S	**S**	**23 44 55.7**	**0.0**
	baz=171,slow=22,SNR=2.3						
JSD	**Sado**	**2.66**	**73**	P	**Pn**	**23 44 08.0**	**+0.2**
JHK	**Hiroka**	**3.18**	**90**	P	**Pn**	**23 44 12.2**	**+0.1**
JIE	**Ise**	**3.21**	**154**	P	**Pn**	**23 44 13.1**	**+0.5**
JNU	**Nakatsue**	**5.39**	**220**	P	**Pn**	**23 44 35.0**	**+0.8**
	0.5nm,0.3s,baz=81,slow=4.8,SNR=6.9						
KSRS	**Korea Array**	**5.67**	**274**	P	**Pn**	**23 44 37.9**	**+0.9**
	0.7nm,0.3s,baz=97,slow=12,SNR=29						
USRK	**Ussuriysk Arra**	**7.26**	**342**	P	**P**	**23 44 55.2**	**-0.4**
	1.2nm,0.3s,baz=167,slow=11,SNR=24						
ASAJ	**Asahikawa**	**8.90**	**38**	P	**Pn**	**23 45 13.3**	**-0.4**
	8.3nm,0.3s,baz=229,slow=12,SNR=36						
ASAJ				S	S	23

KNZ	**Kokohu**	**4.85**	**341**	PN	Pn	23 51 32.2	-0.1
BHHZ	**Black Hill Sta**	**4.96**	**325**	PN	Pn	23 51 33.4	-0.5
NMHZ	**Naumai**	**5.03**	**333**	PN	Pn	23 51 35.4	+0.6
RAHZ	**Arahi**	**5.10**	**336**	PN	Pn	23 51 35.7	-0.2
MQZ	**McQueen's Vall**	**5.13**	**267**	PN	Pn	23 51 35.2	-0.9
MQZ				*e*SN	Sn	23 52 26.9	-7.2
DUWZ	**D'Urville Isla**	**5.15**	**301**	PN	Pn	23 51 36.5	0.0
MOVZ	**Moawhango**	**5.16**	**323**	PN	Pn	23 51 36.7	0.0
WAZ	**Wanganui**	**5.24**	**316**	⇓PN	Pn	23 51 38.7	+1.0
NNZ	**Nelson**	**5.27**	**295**	PN	Pn	23 51 37.7	-0.4
NNZ				SN	Sn	23 52 32.0	-5.7
WNVZ	**Wahianoa**	**5.29**	**323**	PN	Pn	23 51 39.0	+0.4
MTVZ	**Mangateitei**	**5.30**	**322**	PN	Pn	23 51 39.4	+0.7
TUVZ	**Tukino**	**5.32**	**324**	PN	Pn	23 51 39.3	+0.4
TRVZ	**Turoa**	**5.34**	**323**	PN	Pn	23 51 39.7	+0.3
THZ	**Tophouse**	**5.36**	**288**	PN	Pn	23 51 37.7	-1.6
OTVZ	**Oturere**	**5.40**	**324**	PN	Pn	23 51 40.5	+0.5
WPVZ	**Whakapapa**	**5.42**	**323**	PN	Pn	23 51 41.0	+0.7
PKVZ	**Pokaka**	**5.43**	**321**	PN	Pn	23 51 41.0	+0.5
MWZ	**Matawai**	**5.54**	**342**	PN	Pn	23 51 41.1	-0.8
URZ	**Urewera**	**5.71**	**339**	PN	Pn	23 51 43.7	-0.5
QRZ	**Quartz Range**	**6.03**	**295**	*e*PN	Pn	23 51 48.4	-0.1
DSZ	**Denniston Nort**	**6.13**	**285**	*e*PN	Pn	23 51 49.3	-0.7

IDC 08 00:07:59.2±1.7, 56°34S×27°61W, h0km, mb3.4/1, mb1 3.4/1, mb1mx3.4/11, mbtmp3.4/1, Error ellipse: s-maj=88.9km s-min=61.9km az=155.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**73.42**	**30**	P	P	00 19 33.0	0.0
	0.2nm,0.5s,baz=200,slow=5.6,SNR=3.0						
YKA	**Yellowknife Ar**	**136.23**	**318**	PKP	PKPdf	00 27 19.8	-1.1
	0.1nm,0.5s,baz=122,slow=2.4,SNR=4.0						
INK	**Inuvik**	**145.88**	**320**	PKPbc	PKPdf	00 27 38.0	0.0
	1.0nm,0.6s,baz=116,slow=2.8,SNR=9.1						
ILAR	**Eielson Array**	**150.13**	**311**	PKPbc	PKPbc	00 27 50.0	-0.3
	1.0nm,0.6s,baz=125,slow=2.7,SNR=20						
SONM	**Songino Array**	**150.97**	**87**	PKPbc	PKPbc	00 27 52.8	-0.2
	0.9nm,0.4s,baz=242,slow=3.4,SNR=12						

*ISK **08** 00:25:34.0, 39°39N×40°71E, h4km, MD3.1*
*DDA **08** 00:25:34.6, 39°41N×40°71E, h7km, MD3.2*
*CSEM **08** 00:25:34.1±0.2, 39°36N×40°68E, h2km, MD3.1, Error ellipse: s-maj=6.9km s-min=5.6km az=139.0*

ISC 08 00:25:34.6±1.1, 39°38N±0°02×40°70E±0°02, h4km±11km, n37, σ1§01/50, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNGB	**Bing^¶l**	**0.39**	**182**	*e*PG	**Pg**	**00 25 42.4**	**+0.3**
BNGB				*e*SG	**Sg**	**00 25 48.2**	**+1.0**
BINT	**Bingol**	**0.53**	**198**	*e*Pg	**Pg**	**00 25 42.4**	**-2.3**
BINT				*e*Sg	**Sg**	**00 25 48.2**	**-3.4**
BNGL	**BINGOL**	**0.55**	**140**	*i* P	**Pg**	**00 25 45.6**	**+0.4**
BNGL				*i* S	**Sb**	**00 25 54.6**	**-0.7**
VRTB	**Varto-Mus**	**0.63**	**110**	*e*PG	**Pg**	**00 25 46.5**	**-0.2**
VRTB				*e*SG	**Sg**	**00 25 55.9**	**+1.1**
VRTB	**Varto-Mus**	**0.63**	**110**	*e*Pg	**Pg**	**00 25 46.5**	**-0.2**
VRTB				*e*Sg	**Sg**	**00 25 55.9**	**+1.1**
KOPT	**Kop Dagi**	**0.66**	**346**	*e*P	**Pg**	**00 25 46.8**	**-0.4**
KOPT				*i* S	**Sn**	**00 26 00.2**	**-1.7**
KOPT	**Kop Dagi**	**0.66**	**346**	*e*P	**Pg**	**00 25 46.8**	**-0.4**
KOPT				*i* S	**Sn**	**00 26 00.2**	**-1.7**
EZM	**Erzurum**	**0.74**	**44**	*e*PG	**Pg**	**00 25 48.4**	**-0.3**
ERZM	**Erzurum**	**0.74**	**44**	*i* P	**Pg**	**00 25 48.7**	**-0.1**
ERZM	**Erzurum**	**0.74**	**44**	*i* P	**Pg**	**00 25 48.7**	**-0.1**
BAYT	**Ayd¯–ntepe-Bay**	**1.10**	**337**	*e*PN	**Pg**	**00 25 55.4**	**-0.4**
BAYT	**Ayd¯–ntepe-Bay**	**1.10**	**337**	*e*Pn	**Pg**	**00 25 55.4**	**-0.4**
EZC	**Erzincan**	**1.10**	**290**	*e*PN	**Pg**	**00 25 55.8**	**0.0**
EZC	**Erzincan**	**1.10**	**290**	*e*Pn	**Pg**	**00 25 55.8**	**0.0**
PTK	**Pertek**	**1.12**	**245**	*e*PN	**Pg**	**00 25 56.3**	**+0.1**
PTK	**Pertek**	**1.12**	**245**	*e*Pn	**Pg**	**00 25 56.3**	**+0.1**
HOMI	**Horasan**	**1.15**	**54**	*e*P	**Pg**	**00 25 56.2**	**-0.4**
HOMI				*i* S	**Sn**	**00 26 13.4**	**-0.4**
KELT	**Kelkit**	**1.35**	**305**	*e*P	**Pn**	**00 25 60.0**	**-0.4**
KELT				*i* S	**Sn**	**00 26 21.0**	**+2.1**
KELT	**Kelkit**	**1.35**	**305**	*e*P	**Pn**	**00 26 00.0**	**-0.4**
KELT				*i* S	**Sn**	**00 26 21.0**	**+2.1**
GUMT	**Gumushane**	**1.43**	**319**	*e*PN	**Pn**	**00 26 01.4**	**0.0**
GUMT	**Gumushane**	**1.43**	**319**	*e*Pn	**Pn**	**00 26 01.4**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.48**	**228**	*e*PN	**Pb**	**00 26 02.4**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.48**	**228**	*e*Pn	**Pb**	**00 26 02.4**	**-0.2**
BEST	**Besiri**	**1.55**	**163**	*e*P	**Pb**	**00 26 03.9**	**0.0**
BEST				*i* S	**Sg**	**00 26 26.4**	**+1.9**
ELZG	**Elazig**	**1.60**	**237**	*e*P	**Pg**	**00 26 05.0**	**-0.2**
ELZG	**Elazig**	**1.60**	**237**	*e*P	**Pg**	**00 26 05.0**	**-0.2**
ILIC	**ilic-Erzincan**	**1.65**	**273**	*e*PN	**Pn**	**00 26 04.9**	**+0.4**
ILIC	**ilic-Erzincan**	**1.65**	**273**	*e*Pn	**Pn**	**00 26 04.9**	**+0.4**
KEMA	**Kemaliye**	**1.71**	**267**	*e*P	**Pb**	**00 26 06.4**	**-0.3**
KEMA				*i* S	**Sg**	**00 26 31.9**	**+2.3**
KEMA	**Kemaliye**	**1.71**	**267**	*e*P	**Pb**	**00 26 06.4**	**-0.3**
AGRB	**Hanur-Agry**	**1.79**	**83**	*e*PN	**Pn**	**00 26 06.5**	**+0.1**
AGRB	**Hanur-Agry**	**1.79**	**83**	*e*Pn	**Pn**	**00 26 06.5**	**+0.1**
PZAR	**Pazar-Rize**	**1.80**	**5**	*e*PN	**Pn**	**00 26 06.5**	**+0.1**
PZAR	**Pazar-Rize**	**1.80**	**5**	*e*Pn	**Pn**	**00 26 06.5**	**+0.1**
DAGI	**Agillar**	**1.94**	**28**	*e*P	**Pn**	**00 26 09.0**	**+0.6**
DAGI				*i* S	**Sg**	**00 26 36.6**	**-0.2**
BCA	**Borcka**	**2.18**	**19**	*e*PN	**Pn**	**00 26 11.8**	**+0.1**
BCA	**Borcka**	**2.18**	**19**	*e*Pn	**Pn**	**00 26 11.8**	**+0.1**

*NIED **08** 00:26:00, 27°20N×126°80E, h5km, Mw4.7 Best double couple: M0 1.16000×10^16 NP1:φs8.00000°, δ68.00000°, λ-145.00000°. NP2:φs264.00000°, δ58.00000°, λ-26.00000°.*
*IDC **08** 00:26:31.8±0.7, 27°20N×126°91E, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.9/25, mbtmp3.9/12, ML3.1/1, MS4.0/21, Ms1 4.0/21, ms1mx3.8/35, Error ellipse: s-maj=23.9km s-min=13.6km az=45.0*
*JMA **08** 00:26:31.6±0.2, 27°19N×126°77E, h11km±2km, M4.9*
JMA Felt I J1.
*ISCJB **08** 00:26:32.6±0.9, 27°18N±0°04×126°80E±0°04, h18km±8km, mb4.0/16, MS4.1/20, Error ellipse: s-maj=6.9km s-min=5.2km az=157.9*
*MOS **08** 00:26:34.0±1.0, 27°21N×126°86E, h28km, mb4.7/5, Error ellipse: s-maj=20.3km s-min=9.8km az=105.7*
*NEIC **08** 00:26:35.3±1.9, 27°18N×126°86E, h25km±15km, mb4.5/4, MW4.7(NIED), Error ellipse: s-maj=9.1km s-min=6.6km az=133.0*
NEIC Recorded [1 JMA] on Kuma-jima and Okinawa.

ISC 08 00:26:35.2±1.4, 27°06N±0°05×126°87E±0°05, h26km±12km, n72, σ1§23/64, mb4.2/16, MS4.0/20, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGN	**Aguni-jima**	**0.57**	**145**	P	**Pb**	**00 26 45.5**	**-1.1**
JAGN				S	**Sb**	**00 26 55.1**	**+0.7**
JKE	**Kume jima 2**	**0.73**	**186**	P	**Pn**	**00 26 47.8**	**-2.0**
JKE				*e*S	**Sb**	**00 26 58.9**	**-0.1**
JIH	**Iheya**	**0.97**	**91**	P	**Pn**	**00 26 51.5**	**-1.7**
JIH				*e*S	**Sb**	**00 27 06.5**	**+0.6**
NAH1	**Naha**	**1.12**	**139**	P	**Pn**	**00 26 55.1**	**-0.1**
NAH1				S	**Sb**	**00 27 11.5**	**+1.4**
JJT2	**Tamagusuku 2**	**1.21**	**139**	P	**Pn**	**00 26 56.5**	**+0.2**
JJT2				*e*S	**Sb**	**00 27 15.2**	**+2.7**
JOW	**Kunigami**	**1.27**	**100**	*e*Pn	**Pn**	**00 26 56.7**	**-0.5**
JOW				*e*Sn	**Sn**	**00 27 13.9**	**+0.5**
JOW	**Kunigami**	**1.27**	**100**	P	**Pn**	**00 26 56.5**	**-0.7**
JOW				*e*S	**Sb**	**00 27 15.1**	**+0.7**
JOW	**Kunigami**	**1.27**	**100**	Pn	**Pn**	**00 26 56.9**	**-0.4**
	224nm,0.3s,baz=280,slow=12,SNR=194						
JOW				Sn	**Sb**	**00 27 14.8**	**+0.4**
	1μm,0.3s,baz=126,slow=19,SNR=37						
JTK	**Tokunoshima**	**1.98**	**68**	P	**Pn**	**00 27 06.3**	**-0.7**
JAM	**Amami Oshima**	**2.77**	**60**	P	**Pn**	**00 27 18.5**	**+0.6**
JIJ	**Ishigaki jima**	**3.64**	**223**	P	**Pn**	**00 27 30.6**	**+0.7**
JMZ	**Minamidaito 2**	**4.09**	**107**	P	**Pn**	**00 27 34.7**	**-1.3**
JMZ				*e*S	**Sn**	**00 28 20.2**	**-2.8**
YHNB	**Yeheng**	**5.49**	**246**	*e*Pn	**Pn**	**00 27 55.1**	**-0.3**
	94nm,0.9s						
NACB	**Ninganchiao**	**5.56**	**240**	*e*Pn	**Pn**	**00 27 56.8**	**+0.5**
	61nm,1.0s						
YULB	**Yu-li**	**6.23**	**235**	*e*Pn	**Pn**	**00 28 06.0**	**+0.5**
	58nm,1.1s						
SSLB	**Suanglung**	**6.26**	**240**	*e*Pn	**Pn**	**00 28 06.6**	**+0.6**
	78nm,1.0s						
TPUB	**Ta-pu**	**6.78**	**238**	*e*Pn	Pn	00 28 16.1	+3.1
	258nm,1.4s						
JNU	**Nakatsue**	**6.97**	**29**	Pn	**Pn**	**00 28 14.7**	**-0.9**
	60nm,0.9s						
JNU	**Nakatsue**	**6.97**	**29**	Pn	Pn	00 28 21.4	+5.8
	2.0nm,0.3s,baz=205,slow=13,SNR=33						
JNU				LR	LR	00 31 10.1	
	comp=Z,1μm,20.5s,baz=215,slow=41						
KSAR	**Wonju Array Be**	**10.39**	**4**	Pn	**Pn**	**00 29 01.8**	**-0.7**
KSRS	**Korea Array**	**10.40**	**5**	Pn	**Pn**	**00 29 01.8**	**-0.8**
	baz=182,slow=11,SNR=3.1						
MJAR	**Matsushiro Arr**	**13.49**	**43**	Pn	**Pn**	**00 29 44.5**	**-0.5**
MJAR	**Matsushiro Arr**	**13.49**	**43**	Pn	**Pn**	**00 29 44.5**	**-0.5**
	0.1nm,0.3s,baz=239,slow=14,SNR=3.6						
MJAR				LR	LR	00 35 20.1	
	comp=Z,389nm,19.7s,baz=240,slow=40						
CBIJ	**Chichi jima**	**13.64**	**86**	LR	LR	00 34 05.8	
	comp=Z,114nm,19.1s,baz=195,slow=33						
USRK	**Ussuriysk Arra**	**17.60**	**12**	P	**P**	**00 30 41.5**	**+2.2**
	baz=197,slow=11,SNR=3.3						
ASAJ	**Asahikawa**	**21.23**	**33**	LR	LR	00 39 47.2	
	comp=Z,300nm,19.9s,baz=348,slow=38						
GUMO	**Guam**	**21.51**	**125**	LR	LR	00 38 17.4	
	comp=Z,155nm,21.5s,baz=256,slow=33						
KLR	**Kul'dur**	**22.46**	**8**	*e*P	**P**	**00 31 36.2**	**+4.1**
KLR				MLR	MLR		
	comp=E,700nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
ULN	**Ulaanbaatar**	**25.92**	**329**	*e*P	**P**	**00 32 05.0**	**-0.2**
	comp=Z,6.4nm,1.0s						
SONM	**Songino Array**	**26.20**	**328**	P	**P**	**00 32 07.9**	**+0.1**
SONM	**Songino Array**	**26.20**	**328**	P	**P**	**00 32 07.9**	**+0.1**
	comp=Z,8.6nm,1.1s,baz=141,slow=9.3,SNR=37						
SONM				LR	LR	00 43 32.6	
	comp=Z,493nm,18.7s,baz=292,slow=39						
CMAR	**Chiang Mai Arr**	**27.09**	**257**	LR	LR	00 44 36.6	
	comp=Z,260nm,18.3s,baz=68,slow=40						
ZAK	**Zakamensk**	**29.45**	**329**	*e*P	**P**	**00 32 36.1**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.8s						
PETK	**Petropavlovsk-**	**34.65**	**33**	LR	LR	00 46 31.2	
	comp=Z,179nm,19.6s,baz=218,slow=35						
MK31	**Makanchi Array**	**40.08**	**311**	*e*P	**P**	**00 34 07.3**	**-1.1**
MK31	**Makanchi Array**	**40.08**	**311**	*e*P	**P**	**00 34 07.3**	**-1.1**
MKAR	**Makanchi Array**	**40.08**	**311**	P	**P**	**00 34 07.8**	**-0.6**
MKAR	**Makanchi Array**	**40.08**	**311**	P	**P**	**00 34 07.8**	**-0.6**
MKAR	**Makanchi Array**	**40.08**	**311**	P	**P**	**00 34 07.8**	**-0.6**
	comp=Z,1.6nm,0.9s,baz=108,slow=8.2,SNR=15						
MKAR				LR	LR	00 51 51.6	
	comp=Z,136nm,19.3s,baz=170,slow=38						
ZAA0	**Zalesovo Array**	**40.86**	**323**	*e*P	**P**	**00 34 13.2**	**-1.4**
ZALV	**Zalesovo Beam**	**40.86**	**323**	P	**P**	**00 34 13.8**	**-0.9**
ZALV	**Zalesovo Beam**	**40.86**	**323**	P	**P**	**00 34 13.8**	**-0.9**
ZALV	**Zalesovo Beam**	**40.86**	**323**	P	**P**	**00 34 13.8**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=108,slow=8.0,SNR=13						
ZALV				LR	LR	00 52 33.4	
	comp=Z,348nm,18.2s,baz=75,slow=38						
KURK	**Kurchatov**	**43.39**	**316**	*e*P	**P**	**00 34 33.6**	**-1.7**
KURK				pmax	pmax		
	comp=Z,12nm,1.3s						
KURK	**Kurchatov**	**43.39**	**316**	*e*P	**P**	**00 34 33.5**	**-1.7**
	comp=Z,12nm,1.3s						
TKM2	**Tokmak 2**	**44.21**	**305**	*e*P	**P**	**00 34 41.8**	**-0.5**
TKM2				pmax	pmax		
	comp=Z,10.0nm,1.1s						
TKM2	**Tokmak 2**	**44.21**	**305**	*e*P	**P**	**00 34 41.8**	**-0.5**
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**47.28**	**170**	P	**P**	**00 35 07.0**	**+0.6**
WRA	**Warramunga Arr**	**47.28**	**170**	P	**P**	**00 35 07.0**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=352,slow=8.5,SNR=7.1						
WRA				LR	LR	00 53 20.9	
	comp=Z,100nm,19.8s,baz=30,slow=34						
BVAR	**Borovoye Array**	**48.85**	**318**	P	**P**	**00 35 17.8**	**-0.5**
BVAR	**Borovoye Array**	**48.85**	**318**	P	**P**	**00 35 17.8**	**-0.5**
BVAR	**Borovoye Array**	**48.85**	**318**	P	**P**	**00 35 17.8**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=100,slow=7.9,SNR=6.5						
BVAR				LR	LR	00 57 20.3	
	comp=Z,356nm,18.9s,baz=94,slow=38						
BRVK	**Borovoye**	**48.92**	**318**	*e*P	**P**	**00 35 17.2**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,11nm,1.1s						
BRVK	**Borovoye**	**48.92**	**318**	*e*P	**P**	**00 35 17.2**	**-1.6**
	comp=Z,11nm,1.1s						
ASAR	**Alice Springs**	**50.88**	**172**	P	**P**	**00 35 35.8**	**+1.8**
ASAR	**Alice Springs**	**50.88**	**172**	P	**P**	**00 35 35.8**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=356,slow=14,SNR=5.1						
STKA	**Stephens Creek**	**60.26**	**166**	P	P	00 36 44.3	+3.0
STKA	**Stephens Creek**	**60.26**	**166**	P	P	00 36 44.3	+3.0
	comp=Z,3.5nm,0.9s,baz=353,slow=8.1,SNR=1.7						
STKA				LR	LR	01 01 29.1	
	comp=Z,87nm,19.1s,baz=24,slow=35						
KIV	**Kislovodsk**	**67.78**	**309**	*e*P	P	00 37 40.9	+10
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,118nm,18.0s						
INK	**Inuvik**	**68.61**	**23**	LR	LR	01 07 44.9	
	comp=Z,68nm,19.4s,baz=35,slow=36						
ARCES	**ARCESS Array B**	**68.79**	**338**	LR	LR	01 10 17.4	
	comp=Z,83nm,18.4s,baz=101,slow=38						
FINES	**FINESS Array B**	**71.55**	**330**	LR	LR	01 13 21.9	
	comp=Z,168nm,18.1s,baz=129,slow=39						
AKASG	**Malin Array Be**	**74.11**	**319**	LR	LR	01 12 53.8	
	comp=Z,294nm,19.3s,baz=60,slow=38						
BRTR	**Keskin Array B**	**75.57**	**307**	P	**P**	**00 38 19.2**	**+1.4**
BRTR	**Keskin Array B**	**75.57**	**307**	P	**P**	**00 38 19.2**	**+1.4**
	comp=Z,0.4nm,0.9s,baz=88,slow=11,SNR=2.7						
BRTR				LR	LR	01 14 25.4	
	comp=Z,50nm,19.1s,baz=190,slow=38						
NOA	**NORSAR Array B**	**78.03**	**333**	LR	LR	01 16 21.2	
	comp=Z,128nm,19.7s,baz=100,slow=38						
YKA	**Yellowknife Ar**	**78.28**	**25**	P	**P**	**00 38 32.4**	**-0.1**
YKA	**Yellowknife Ar**	**78.28**	**25**	P	**P**	**00 38 32.4**	**-0.1**
	comp=Z,0.2nm,0.8s,baz=302,slow=5.2,SNR=4.5						
GERES	**GERESS Array B**	**83.81**	**322**	LR	LR	01 19 21.7	
	comp=Z,234nm,19.5s,baz=70,slow=38						
PDAR	**Pinedale Array**	**93.27**	**38**	P	**P**	**00 39 46.5**	**-1.4**
PDAR	**Pinedale Array**	**93.27**	**38**	P	**P**	**00 39 46.5**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=324,slow=4.5,SNR=3.3						
KEST	**Kesra**	**94.14**	**314**	LR	LR	01 31 41.0	
	comp=Z,41nm,18.9s,baz=329,slow=42						

*NEIC **08** 01:00:17.9, 19°02N×65°04W, h30km, MD3.2(RSPR), After RSPR.*

RSPR 08 01:00:17.9, 19°02N×65°04W, h30km±9km, MD3.2/11, 24C-9D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.67**	**173**	⇓*e*P	Pb	01 00 29.1	-2.1
STVI	**Saint Thomas**	**0.67**	**173**	⇓*e*P	Pb	01 00 29.1	-2.1
STVI				*e*S	Sb	01 00 37.7	-2.5
STVI	**Saint Thomas**	**0.67**	**173**	⇓*e*P	Pb	01 00 29.5	-1.7
STVI				*e*S	Sb	01 00 37.7	-2.5
MTP	**Monte Pirata**	**1.04**	**208**	⇑*e*P	Pn	01 00 34.6	-1.9
MTP	**Monte Pirata**	**1.04**	**208**	⇑*e*P	Pn	01 00 34.6	-1.9
MTP				*e*S	Sn	01 00 47.7	-2.4
MTP	**Monte Pirata**	**1.04**	**208**	⇑*e*P	Pn	01 00 34.6	-1.9
MTP				*e*S	Sn	01 00 47.7	-2.4
CBYP	**Canovanas**	**1.08**	**226**	⇑*e*P	Pn	01 00 35.2	-1.8
CBYP	**Canovanas**	**1.08**	**226**	⇑*e*P	Pn	01 00 35.2	-1.8
CBYP				*e*S	Sn	01 00 48.6	-2.5
CBYP	**Canovanas**	**1.08**	**226**	⇑*e*P	Pn	01 00 35.2	-1.8
CBYP				*e*S	Sn	01 00 48.6	-2.5
HUMP	**Col San Antoni**	**1.17**	**221**	⇑*e*P	Pn	01 00 36.3	-1.9
HUMP	**Col San Antoni**	**1.17**	**221**	⇑*e*P	Pn	01 00 36.3	-1.9
HUMP				*e*S	Sn	01 00 51.1	-2.0
HUMP	**Col San Antoni**	**1.17**	**221**	⇑*e*P	Pn	01 00 36.3	-1.9
HUMP				*e*S	Sn	01 00 51.1	-2.0
CPD	**Cerro la Pandu**	**1.29**	**220**	⇑*e*P	Pn	01 00 38.1	-1.8
CPD	**Cerro la Pandu**	**1.29**	**220**	⇑*e*P	Pn	01 00 38.1	-1.8
CPD				*e*S	Sn	01 00 53.9	-2.2
CPD	**Cerro la Pandu**	**1.29**	**220**	⇑*e*P	Pn	01 00 38.1	-1.8
CPD				*e*S	Sn	01 00 53.9	-2.2
CDVI	**St. Croix**	**1.29**	**168**	⇑*e*P	Pn	01 00 38.3	-1.6
CDVI	**St. Croix**	**1.29**	**168**	⇑*e*P	Pn	01 00 38.3	-1.6
CDVI				*e*S	Sn	01 00 54.1	-2.0
CDVI	**St. Croix**	**1.29**	**168**	⇑*e*P	Pn	01 00 38.3	-1.6
CDVI				*e*S	Sn	01 00 54.1	-2.0
SJG	**San Juan**	**1.39**	**230**	⇓*e*P	Pn	01 00 39.6	-1.7
SJG				*e*S	Sn	01 00 56.5	-2.1
SJG	**San Juan**	**1.39**	**230**	⇓*e*P	Pn	01 00 39.6	-1.7
SJG				*e*S	Sn	01 00 56.5	-2.1
CELP	**Cerrillos**	**1.74**	**237**	⇑*e*P	Pn	01 00 44.7	-1.4
CELP				*e*S	Sn	01 01 05.3	-2.0
CELP	**Cerrillos**	**1.74**	**237**	⇑*e*P	Pn	01 00 44.7	-1.4
CELP				*e*S	Sn	01 01 05.3	-2.0
CELP	**Cerrillos**	**1.74**	**237**	⇑*e*P	Pn	01 00 44.7	-1.4
CELP				*e*S	Sn	01 01 05.3	-2.0
AOPR	**Arecibo Observ**	**1.76**	**248**	⇑*e*P	Pn	01 00 44.8	-1.6
AOPR	**Arecibo Observ**	**1.76**	**248**	⇑*e*P	Pn	01 00 44.8	-1.6
AOPR	**Arecibo Observ**	**1.76**	**248**	⇑*e*P	Pn	01 00 44.8	-1.6
OBIP	**Obispado Ponce**	**1.78**	**237**	⇑*e*P	Pn	01 00 44.9	-1.7
OBIP	**Obispado Ponce**	**1.78**	**237**	⇑*e*P	Pn	01 00 44.9	-1.7
OBIP				*e*S	Sn	01 01 06.3	-2.0
OBIP	**Obispado Ponce**	**1.78**	**237**	⇑*e*P	Pn	01 00 44.9	-1.7
OBIP				*e*S	Sn	01 01 06.3	-2.0
LSP	**Las Mesas**	**2.12**	**247**	*e*Pn	Pn	01 00 50.9	-0.4
LSP				*e*Sn	Sn	01 01 16.2	-0.5
CRPR	**Cabo Rojo, PR**	**2.21**	**243**	⇓*e*P	Pn	01 00 51.1	-1.4
CRPR	**Cabo Rojo, PR**	**2.21**	**243**	⇓*e*P	Pn	01 00 51.1	-1.4
CRPR				*e*S	Sn	01 01 17.3	-1.6
CRPR	**Cabo Rojo, PR**	**2.21**	**243**	⇓*e*P	Pn	01 00 51.1	-1.4
CRPR				*e*S	Sn	01 01 17.3	-1.6

*DJA **08** 01:01:02, 0°36S×133°40E, h14km, MLv4.4/7*

IDC 08 01:01:03.1±1.5, 0°61S×133°02E, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.8/19, mbtmp3.9/6, ML3.9/2, MS3.1/2, Ms1 3.1/2, ms1mx2.3/33, Error ellipse: s-maj=53.2km s-min=18.2km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.84**	**202**	P	Pn	01 05 25.2	0.0
	0.3nm,0.3s,baz=26,slow=11,SNR=3.8						
FITZ				S	Sn	01 08 41.5	-15
	0.1nm,0.3s,baz=153,slow=20,SNR=2.1						
WRA	**Warramunga Arr**	**19.26**	**176**	P	P	01 05 29.1	-0.3
	0.3nm,0.3s,baz=355,slow=11,SNR=18						
WRA				S	Sn	01 08 52.7	-14
	0.2nm,0.3s,baz=352,slow=24,SNR=6.6						
WRA				LR	LR	01 12 47.9	
	comp=Z,38nm,19.6s,baz=15,slow=37						
ASAR	**Alice Springs**	**22.94**	**178**	P	P	01 06 08.8	-0.2
	6.0nm,0.8s,baz=357,slow=10,SNR=30						
ASAR				S	S	01 10 21.8	+1.3
	1.8nm,1.0s,baz=1.5,slow=24,SNR=5.8						
CTA	**Charters Tower**	**23.29**	**147**	P	P	01 06 13.7	+1.0
	5.4nm,0.7s,baz=314,slow=10.0,SNR=4.8						
STKA	**Stephens Creek**	**32.14**	**166**	P	P	01 07 31.5	-0.9
	4.0nm,0.8s,baz=340,slow=9.8,SNR=5.9						
MJAR	**Matsushiro Arr**	**37.28**	**7**	LR	LR	01 19 49.1	
	comp=Z,38nm,20.2s,baz=205,slow=30						
MKAR	**Makanchi Array**	**64.71**	**324**	P	P	01 11 43.1	0.0
	0.2nm,0.5s,baz=116,slow=6.8,SNR=2.5						

*TRN **08** 01:03:23.2, 18°80N×65°16W, h16km*

RSPR 08 01:03:24.3, 18°88N×64°90W, h51km±9km, 6C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.53**	**186**	⇑*e

baz=346
TAW **Tawu** **0.93 243** *e*P **Pb** **01 31 12.5 -1.0**
baz=251
TAW *e*S **Sb** **01 31 23.3 -2.1**
baz=251
EAST **Anshuo** **0.95 245**⇑*i*P **Pb** **01 31 13.3 -0.7**
baz=243
STYT **Tauyuan** **1.02 292** ⇑P **Pb** **01 31 14.3 -0.8**
baz=304
STYT *e*S **Sb** **01 31 26.3 -1.8**
baz=304
SSD **Sandimen** **1.06 268** ⇓P **Pn** **01 31 14.8 -1.1**
baz=268
ESL **Shilin** **1.07 343** *e*P **Pn** **01 31 15.2 -0.8**
baz=359
ESL *e*S **Sb** **01 31 28.0 -1.5**
baz=359
SGST **Jiashian** **1.15 285** *e*P **Pn** **01 31 17.0 0.0**
baz=287
SGST *e*S **Sn** **01 31 32.2 +0.2**
baz=287
SCZT **Fangliau** **1.15 249** ⇑P **Pn** **01 31 16.5 -0.6**
baz=248
ALS **Alishan** **1.15 309** *e*P **Pn** **01 31 17.4 +0.1**
baz=312
WTP **Ta-pu** **1.17 293** ⇑P **Pb** **01 31 17.6 +0.2**
baz=304
WTP *e*S **Sn** **01 31 33.0 +0.3**
baz=304
HWA **Hwalien** **1.20 352** *e*P **Pn** **01 31 17.0 -0.6**
baz=356
SGLT **Jiouru** **1.20 267** *e*P **Pb** **01 31 18.6 +0.5**
baz=268
SGLT *e*S **Sn** **01 31 34.1 +0.8**
baz=268
TSEB **Hengchuen, Pin** **1.20 223** *e*P **Pb** **01 31 19.6 +1.3**
baz=222
TSEB *e*S **Sb** **01 31 33.2 -0.1**
baz=222
CHN1 **Nanshi** **1.22 289** *e*P **Pb** **01 31 18.9 +0.3**
baz=299
CHN1 *e*S **Sb** **01 31 34.6 +0.6**
baz=299
TWK1 **Hengchun** **1.24 227** *e*P **Pn** **01 31 17.9 -0.3**
baz=225
TWK1 *e*S **Sn** **01 31 32.9 -1.4**
baz=225
HEN **Hengchun** **1.24 231** *e*P **Pb** **01 31 19.4 +0.5**
baz=229
TWM1 **Shoushan** **1.26 272** *e*P **Pb** **01 31 20.3 +1.1**
baz=273
TWM1 *e*S **Sb** **01 31 37.6 +2.7**
baz=273
TWK **Hsinying** **1.29 292** *e*P **Pb** **01 31 19.8 +0.1**
baz=294
TWK *e*S **Sb** **01 31 37.2 +1.4**
baz=294
TWD **Chiawan** **1.30 352** P **Pn** **01 31 18.4 -0.6**
baz=357
TWD *e*S **Sn** **01 31 34.2 -1.6**
baz=357
CHN5 **Tsauling** **1.30 309** *e*P **Pb** **01 31 20.2 +0.3**
baz=312
CHN5 *e*S **Sb** **01 31 37.5 +1.3**
baz=312
CHN3 **Shinhua** **1.34 283** *e*P **Pb** **01 31 22.4 +1.8**
baz=284
CHN3 *e*S **Sb** **01 31 40.9 +3.6**
baz=284
SMLT **Sun Moon Lake** **1.36 323** *e*P **Pn** **01 31 20.1 +0.1**
baz=338
TWP **Hsiaoliuchiu** **1.39 252** *e*P **Pb** **01 31 22.5 +1.2**
baz=234
TYC **Yuchr** **1.40 323** *e*P **Pn** **01 31 20.8 +0.3**
baz=336
CHN2 **Minshiung** **1.42 302** *e*P **Pb** **01 31 22.7 +0.9**
baz=305
CHN2 *e*S **Sb** **01 31 41.3 +1.9**
baz=305
WHF **Hehuan Shan** **1.43 341**⇓*i*P **Pn** **01 31 21.2 -0.1**
baz=345
WHF *e*S **Sn** **01 31 38.0 -1.7**
baz=345
WGK **Gukeng** **1.44 309** *e*P **Pb** **01 31 23.3 +1.1**
baz=326
CHY **Chiayi** **1.44 300** *e*P **Pb** **01 31 22.9 +0.7**
baz=303
CHY *e*S **Sb** **01 31 41.4 +1.3**
baz=303
WNT **Mingjian** **1.48 317** *e*P **Pb** **01 31 23.6 +0.6**
baz=322
WNT *e*S **Sb** **01 31 42.6 +1.1**
baz=322
SCLT **Jiali** **1.52 285** *e*P **Pb** **01 31 25.0 +1.4**
baz=286
CHN8 **Yiju** **1.55 291** *e*P **Pb** **01 31 24.1 -0.1**
baz=294
CHN8 *e*S **Sb** **01 31 44.3 +0.9**
baz=294
TWT **Tachien** **1.56 339** *e*P **Pb** **01 31 23.7 -0.8**
baz=343
TWT *e*S **Sn** **01 31 41.5 -1.1**
baz=343
ENA **Nanau** **1.63 359** *e*P **Pn** **01 31 23.7 0.0**
baz=14
ENA *e*S **Sn** **01 31 41.8 -2.3**
baz=14
NNS **Nan Shan** **1.69 347** *e*P **Pn** **01 31 24.9 +0.3**
baz=350
TCU **Taichung** **1.69 323** *e*P **Pb** **01 31 26.9 +0.3**
baz=327
TWC **Suao** **1.81 2** P **Pn** **01 31 26.8 +0.7**
baz=5.0
TWC S **Sn** **01 31 48.1 -0.4**
baz=5.0
ENTT **Nioudou** **1.85 354** *e*P **Pn** **01 31 26.4 -0.3**
baz=357
NSK **Sanguang** **1.92 348** P **Pn** **01 31 28.7 +1.0**
baz=352
NSK *e*S **Sn** **01 31 50.4 -0.8**
baz=352
TWE **Neicheng** **1.93 357** *e*P **Pn** **01 31 27.7 0.0**
baz=347
NSTT **Nanjuang** **1.97 339** *e*P **Pb** **01 31 30.1 -1.3**
baz=353
NSTT *e*S **Sb** **01 31 54.2 -1.2**
baz=353
YOJ **Yonaguni jima** **2.01 34** *e*P **Pn** **01 31 30.3 +1.4**
baz=35
YOJ **Yonaguni jima** **2.01 34** P **Pb** **01 31 30.4 -1.6**
YOJ *e*S **Sn** **01 31 53.5 +0.1**
TWA **Mucha** **2.19 355** *e*P **Pn** **01 31 32.3 +0.9**
baz=358
PNG **Penghu** **2.19 291** *e*P **Pn** **01 31 32.5 +1.1**
baz=294
PNG *e*S **Sn** **01 31 57.4 -0.5**
baz=294
TWB1 **Santiao Chiao** **2.22 5** *e*P **Pn** **01 31 32.7 +1.0**
baz=19
TWB1 *e*S **Sn** **01 31 58.6 +0.1**
baz=19
HATJ **Hateruma jima** **2.25 55** P **Pn** **01 31 33.4 +1.3**
HATJ *e*S **Sn** **01 31 59.0 -0.1**
NWF **Wu-fen Shan** **2.27 360** *e*P **Pn** **01 31 34.1 +1.6**
baz=352
NWF *e*S **Sn** **01 32 00.6 +0.6**
baz=352
TWS1 **Kuangyinshan** **2.33 352** *e*P **Pn** **01 31 35.1 +1.9**
baz=354
IRIF **Iriomote-Funau** **2.36 49** P **Pn** **01 31 35.3 +1.7**
IRIF *e*S **Sn** **01 32 03.3 +1.4**
JKRS **Kuro-shima** **2.50 54** P **Pn** **01 31 37.3 +1.7**
JKRS *e*S **Sn** **01 32 05.8 +0.3**
JIJ **Ishigaki jima** **2.67 54** P **Pn** **01 31 39.0 +1.0**
JIJ *e*S **Sn** **01 32 09.7 0.0**
JTJ **Tarama** **3.25 55** P **Pn** **01 31 47.5 +1.6**
JTJ *e*S **Sn** **01 32 24.8 +0.9**
KNM **Kinmen** **3.48 298** *e*P **Pn** **01 31 51.2 +2.2**
baz=298
QZH **Quanzhou** **3.63 307** Pn **Pn** **01 31 52.2 +1.1**
QZH Sn **Sn** **01 32 31.7 -1.5**
QZH smax smax
comp=N,160nm,0.4s
QZH smax smax
comp=E,140nm,0.6s
KSRS **Korea Array** **15.54 19** Pn **Pn** **01 34 34.4 +0.4**
comp=E,0.2nm,0.3s,baz=202,slow=11,SNR=2.6
CMAR **Chiang Mai Arr** **21.80 263** LR LR 01 45 42.1
comp=E,27nm,18.1s,baz=90,slow=41
MKAR **Makanchi Array** **39.73 317** P **P** **01 38 28.5 +1.4**
comp=E,0.5nm,0.7s,baz=106,slow=8.6,SNR=5.4
ZALV **Zalesovo Beam** **41.71 328** P **P** **01 38 43.3 0.0**
comp=E,0.6nm,0.4s,baz=123,slow=7.1,SNR=6.7
WRA **Warramunga Arr** **44.20 163** P **P** **01 39 01.8 -2.1**
comp=E,0.4nm,0.8s,baz=343,slow=8.7,SNR=2.7
AFI **Afiamalu** **74.56 113** LR LR 02 08 34.6
comp=E,108nm,21.1s,baz=302,slow=30

*ISK **08** 01:42:48.0,34°.83N×40°.38E, h5km, ML4.3*
*IDC **08** 01:42:53.0-1.3, 35°.09N×40°.57E, h0km, mb3.6/8, mb1 3.7/12, mb1mx3.6/28, mbtmp3.6/12, ML3.1/2, MS2.8/1, Ms1 2.8/1, ms1mx1.8/42, Error ellipse: s-maj=30.7km s-min=12.9km az=140.0*
*CSEM **08** 01:42:54.7±0.2, 35°.17N×40°.54E, h2km, ML3.0, Error ellipse: s-maj=6.8km s-min=4.6km az=124.0*
*KISR **08** 01:42:58.5±0.7, 33°.62N×40°.59E, h34km, ML3.5*
ISC 08 01:42:54.3±2.0, 35°.18N±0°.04×40°.54E±0°.03, h5km±13km, n75, σ1°.44/86, mb3.5/8, 4C-1D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFNV	**Sufian**	**1.29**	**344**	⇓*e*P	**Pb**	**01 43 19.2**	**+0.1**
	SNR=61						
SFNV				*e*S	**Sg**	**01 43 35.5**	**-0.2**
	SNR=62						
MNKR	**ALMNKUR**	**1.29**	**307**	⇑*i*P	**Pn**	**01 43 19.2**	**+0.2**
	SNR=61						
MNKR				*i* S	**Sg**	**01 43 35.8**	**0.0**
	SNR=62						
KSRV	**Kasrt alli**	**1.43**	**299**	⇑*i*P	**Pn**	**01 43 20.6**	**-0.3**
	SNR=61						
KSRV				*e*S	**Sg**	**01 43 37.4**	**-3.0**
	273nm,0.6s,SNR=62						
JHLN	**Al Jahlan**	**1.79**	**287**	⇑*i*P	**Pn**	**01 43 25.4**	**-0.4**
	SNR=47						
JHLN				*i* S	**Sb**	**01 43 50.4**	**+0.1**
	319nm,0.4s,SNR=49						
KBSD	**Kabsdagh**	**1.82**	**360**	⇑*i*P	**Pn**	**01 43 26.7**	**+0.4**
	SNR=47						
KBSD				*e*S	**Sn**	**01 43 48.5**	**-1.3**
	SNR=49						
MARD	**Mardin**	**2.14**	**5**	*i* P	**Pn**	**01 43 30.7**	**-0.1**
MARD				*i* S	**Sb**	**01 44 01.9**	**+1.3**
DIYA	**Diyarbakir**	**2.76**	**353**	*i* P	**Pn**	**01 43 40.2**	**+0.9**
DIYA				*i* S	**Sb**	**01 44 21.0**	**+2.6**
DIYA	**Diyarbakir**	**2.76**	**353**	*i* P	**Pn**	**01 43 40.2**	**+0.9**
BEST	**Besiri**	**2.77**	**12**	*i* P	**Pn**	**01 43 40.2**	**+0.8**
BEST				*i* S	**Sg**	**01 44 26.3**	**+2.9**
ROOS	**tl_alroos**	**2.87**	**250**	*i* P	**Pn**	**01 43 42.3**	**+1.6**
	SNR=47						
ROOS				*i* S	**Sn**	**01 44 18.0**	**+2.4**
	SNR=49						
ATAB	**Bozova**	**2.92**	**322**	*i* P	**Pn**	**01 43 41.3**	**-0.2**
ATAB				*i* S	**Sg**	**01 44 26.8**	**-1.4**
ATAB	**Bozova**	**2.92**	**322**	*i* P	**Pn**	**01 43 41.3**	**-0.2**
CUKT	**Cukurca**	**3.23**	**49**	*e*PN	**Pn**	**01 43 46.4**	**+0.7**
CUKT				*e*SN	**Sb**	**01 44 29.3**	**-2.5**
CUKT	**Cukurca**	**3.23**	**49**	*e*Pn	**Pn**	**01 43 46.4**	**+0.7**
CUKT				*e*Sn	**Sb**	**01 44 29.3**	**-2.5**
SVRC	**Sivrice-ELAZID**	**3.35**	**343**	*e*PN	**Pn**	**01 43 47.8**	**+0.4**
SVRC	**Sivrice-ELAZID**	**3.35**	**343**	*e*PN	**Pn**	**01 43 47.8**	**+0.4**
MALT	**Malatya**	**3.56**	**332**	*e*PN	**Pn**	**01 43 50.6**	**+0.3**
MALT	**Malatya**	**3.56**	**332**	*e*Pn	**Pn**	**01 43 50.6**	**+0.3**
MYA	**Malataya**	**3.58**	**332**	*e*PN	**Pn**	**01 43 50.6**	**+0.1**
MYA	**Malataya**	**3.58**	**332**	*e*Pn	**Pn**	**01 43 50.6**	**+0.1**
BINT	**Bingol**	**3.69**	**359**	*e*Pn	**Pn**	**01 43 55.0**	**+2.9**
BHD	**Baghdad**	**3.70**	**120**	*ex*	**Pn**	**01 43 52.5**	**+0.4**
BHD				*ex*	x	01 44 01.5	
BHD				*ex*	x	01 44 27.0	
BHD				*ex*	**Sn**	**01 44 36.5**	**+0.4**
BHD	**Baghdad**	**3.70**	**120**	*e*Pn	**Pn**	**01 43 52.5**	**+0.4**
BNGB	**Bing¶l**	**3.81**	**2**	*e*PN	**Pn**	**01 43 55.0**	**+1.3**
PTK	**Pertek**	**3.82**	**346**	*e*PN	**Pn**	**01 43 54.5**	**+0.5**
PTK	**Pertek**	**3.82**	**346**	*e*Pn	**Pn**	**01 43 54.5**	**+0.5**
HWQ	**Hawqa**	**3.89**	**258**	*e*P	**Pn**	**01 43 55.8**	**+0.9**
HWQ	**Hawqa**	**3.89**	**258**	*e*P	**Pn**	**01 43 55.8**	**+0.9**
VANT	**Van**	**3.91**	**33**	*e*PN	**Pn**	**01 43 56.9**	**+1.8**
VANT	**Van**	**3.91**	**33**	*e*Pn	**Pn**	**01 43 56.9**	**+1.8**
VRTB	**Varto-Mus**	**4.04**	**10**	*e*PN	**Pn**	**01 43 58.4**	**+1.4**
VRTB	**Varto-Mus**	**4.04**	**10**	*e*Pn	**Pn**	**01 43 58.4**	**+1.4**
VANB	**Van**	**4.10**	**33**	*e*PN	**Pn**	**01 43 59.5**	**+1.7**
VANB	**Van**	**4.10**	**33**	*e*Pn	**Pn**	**01 43 59.5**	**+1.7**
BHL	**Bhannes**	**4.23**	**254**	*e*P	**Pn**	**01 44 00.6**	**+1.1**
BHL	**Bhannes**	**4.23**	**254**	*e*P	**Pn**	**01 44 00.6**	**+1.1**
ASF	**Jabal al Asfar**	**4.27**	**226**	Pn	**Pn**	**01 44 00.2**	**+0.2**
	1.4nm,0.3s,baz=286,slow=11,SNR=9.9						
ASF				Sn	**Sn**	**01 44 48.7**	**-1.5**
	3.2nm,0.3s,baz=294,slow=15,SNR=5.8						
ASF				Lg	Lg	01 45 05.1	
	16nm,0.3s,baz=90,slow=22,SNR=12						
ERZN	**Erzincan**	**4.45**	**352**	*e*PN	**Pn**	**01 44 03.5**	**+1.0**
KSDI	**Kefar Szold**	**4.51**	**245**	Pn	**Pn**	**01 44 05.2**	**+2.0**
EZC	**Erzincan**	**4.67**	**349**	*e*PN	**Pn**	**01 44 06.6**	**+1.1**
EZC	**Erzincan**	**4.67**	**349**	*e*Pn	**Pn**	**01 44 06.6**	**+1.1**
EZM	**Erzurum**	**4.76**	**8**	*e*PN	**Pn**	**01 44 08.0**	**+0.9**
MMA0	**Mount Meron ar**	**4.78**	**245**	Pn	**Pn**	**01 44 06.3**	**-0.7**
MMAI	**Mount Meron Ar**	**4.78**	**245**	Pn	**Pn**	**01 44 08.0**	**+1.0**
	3.1nm,0.3s,baz=54,slow=15,SNR=29						
MMAI				Lg	Lg	01 45 21.9	
	36nm,0.3s,baz=59,slow=38,SNR=11						
CLDR	**Caldiran**	**4.79**	**33**	*e*PN	**Pn**	**01 44 08.4**	**+1.1**
CLDR	**Caldiran**	**4.79**	**33**	*e*Pn	**Pn**	**01 44 08.4**	**+1.1**
AGRB	**Hanur-Agry**	**4.80**	**23**	*e*PN	**Pn**	**01 44 09.2**	**+1.7**
AGRB	**Hanur-Agry**	**4.80**	**23**	*e*Pn	**Pn**	**01 44 09.2**	**+1.7**
MMLI	**Mount Malkishu**	**5.06**	**239**	Pn	**Pn**	**01 44 11.6**	**+0.7**
HMDT	**Nahal Hemdat**	**5.10**	**237**	Pn	**Pn**	**01 44 14.4**	**+3.1**
BAYT	**Ayd¨–ntepe-Bay**	**5.22**	**357**	*e*PN	**Pn**	**01 44 14.3**	**+1.2**
BAYT	**Ayd¨–ntepe-Bay**	**5.22**	**357**	*e*Pn	**Pn**	**01 44 14.3**	**+1.2**
SLTI	**Sal'it**	**5.44**	**239**	Pn	**Pn**	**01 44 15.8**	**-0.3**
GNI	**Garni**	**5.98**	**33**	*e*PN	**Pn**	**01 44 25.9**	**+2.3**
GNI	**Garni**	**5.98**	**33**	Pn	**Pn**	**01 44 25.1**	**+1.6**
	0.2nm,0.3s,baz=288,slow=8.0,SNR=3.7						
GNI				LR	LR	01 47 11.5	
	comp=Z,89nm,19.5s,baz=17,slow=43						
GNI	**Garni**	**5.98**	**33**	*e*Pn	**Pn**	**01 44 25.9**	**+2.3**
RTMI	**Retamim**	**6.40**	**232**	Pn	**Pn**	**01 44 28.3**	**-1.0**
PRNI	**Paran**	**6.70**	**226**	Pn	**Pn**	**01 44 34.6**	**+1.2**
HRFI	**Mount Harif**	**6.92**	**224**	Pn	**Pn**	**01 44 38.7**	**+2.3**
BRTR	**Keskin Array B**	**7.12**	**312**	Pn	**Pn**	**01 44 40.7**	**+1.4**
	0.3nm,0.3s,baz=136,slow=18,SNR=18						
EIL	**Elat**	**7.24**	**222**	Pn	Pn	01 44 46.8	+6.0
	0.2nm,0.3s,baz=34,slow=7.3,SNR=2.2						
EIL				Lg	Lg	01 46 43.1	
	1.1nm,0.3s,baz=6.1,slow=14,SNR=3.8						
MIB	**Mutribah**	**7.85**	**131**	*e*P	**Pn**	**01 44 46.0**	**-3.1**
MIB				*e*S	Sn	01 46 07.3	-11
MIB				AML	AML	01 46 20.0	
	comp=Z,12nm,0.5s						
MIB	**Mutribah**	**7.85**	**131**	*e*P	**Pn**	**01 44 46.0**	**-3.1**
MIB				*e*S	Sn	01 46 07.3	-11
	comp=Z,12nm,0.5s						
NAY	**Al-Naaiem**	**8.19**	**134**	*e*P	Pn	01 44 50.0	-3.8
NAY				*e*S	Sn	01 46 14.1	-13
NAY				AML	AML	01 46 24.2	
	comp=Z,4.4nm,0.8s						
NAY	**Al-Naaiem**	**8.19**	**134**	*e*P	Pn	01 44 50.0	-3.8
NAY				*e*S	Sn	01 46 14.1	-13
UMR	**Umm Al-Rimmam**	**8.26**	**131**	*e*P	**Pn**	**01 44 52.9**	**-1.8**
UMR	**Umm Al-Rimmam**	**8.26**	**131**	*e*P	**Pn**	**01 44 52.9**	**-1.8**
GERES	**GERESS Array B**	**24.02**	**313**	P	**P**	**01 48 10.7**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=112,slow=9.8,SNR=12						
FINES	**FINESS Array B**	**27.86**	**345**	P	**P**	**01 48 44.6**	**+0.1**
	comp=Z,2.3nm,1.0s,baz=161,slow=8.8,SNR=3.8						
HFS	**Hagfors**	**30.42**	**333**	P	**P**	**01 49 07.0**	**-0.3**
	comp=Z,3.6nm,0.9s,baz=138,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**33.21**	**57**	P	**P**	**01 49 32.7**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=259,slow=6.8,SNR=3.5						
ESDC	**Sonseca Array**	**35.36**	**291**	P	**P**	**01 49 51.0**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=72,slow=11,SNR=4.6						
ZALV	**Zalesovo Beam**	**35.97**	**45**	P	**P**	**01 49 55.1**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=238,slow=8.3,SNR=2.2						
TORD	**Torodi Ar. Bea**	**41.31**	**248**	P	**P**	**01 50 40.5**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=65,slow=3.9,SNR=2.6						
YKA	**Yellowknife Ar**	**80.63**	**349**	P	**P**	**01 55 06.6**	**-1.0**
	comp=Z,0.2nm,0.8s,baz=24,slow=5.5,SNR=4.4						

*ISK **08** 02:10:58.9, 37°.22N×36°.44E, h6km, MD3.0*
*ISCJB **08** 02:10:59.5±0.5, 37°.18N±0°.02×36°.44E±0°.03, h3km±4km,*
Error ellipse: s-maj=4.3km s-min=3.2km az=139.0
*DDA **08** 02:10:59.6, 37°.18N×36°.46E, h10km, MD3.3*
*CSEM **08** 02:10:59.7±0.1, 37°.19N×36°.43E, h5km, MD3.3, Error ellipse: s-maj=2.9km s-min=2.2km az=134.0*
ISC 08 02:10:59.6±1.0, 37°.20N±0°.02×36°.45E±0°.02, h8km±10km, n38, σ0°.45/60, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANDN	**Andirin**	**0.39**	**348**	*i* P	**Pb**	**02 11 08.4**	**-0.4**
ANDN				*i* S	**Sb**	**02 11 14.2**	**-0.8**
ANDN	**Andirin**	**0.39**	**348**	*i* P	**Pb**	**02 11 08.4**	**-0.4**
ANDN				*i* S	**Sb**	**02 11 14.2**	**-0.8**
KMRS	**Kahramanmaras**	**0.47**	**50**	*e*PG	**Pg**	**02 11 08.5**	**-0.3**
KMRS				*e*SG	**Sg**	**02 11 15.1**	**+0.1**
KMRS	**Kahramanmaras**	**0.47**	**50**	*e*Pg	**Pg**	**02 11 08.5**	**-0.3**
KMRS				*e*Sg	**Sg**	**02 11 15.1**	**+0.1**
KOZT	**Kozan**	**0.57**	**300**	*e*PG	**Pg**	**02 11 10.1**	**-0.4**
KOZT				*e*SG	**Sg**	**02 11 18.2**	**+0.2**
KOZT	**Kozan**	**0.57**	**300**	*e*Pg	**Pg**	**02 11 10.1**	**-0.4**
CEYT	**Ceyhan**	**0.59**	**251**	*e*PG	**Pg**	**02 11 10.9**	**0.0**
CEYT				*e*SG	**Sg**	**02 11 19.5**	**+0.8**
CEYT	**Ceyhan**	**0.59**	**251**	*e*Pg	**Pg**	**02 11 10.9**	**0.0**
GAZ	**Gaziantep**	**0.61**	**92**	*e*PG	**Pg**	**02 11 11.2**	**-0.2**
GAZ	**Gaziantep**	**0.61**	**92**	*e*Pg	**Pg**	**02 11 11.2**	**-0.2**
KUZU	**Kuzuini**	**0.66**	**130**	*i* P	**Pb**	**02 11 13.0**	**-0.4**
KUZU				*i* S	**Sb**	**02 11 22.1**	**-0.7**
KUZU	**Kuzuini**	**0.66**	**130**	*i* P	**Pb**	**02 11 13.0**	**-0.4**
KUZU				*i* S	**Sb**	**02 11 22.0**	**-0.7**
COBT	**Iskenderun**	**0.70**	**193**	*i* P	**Pg**	**02 11 12.9**	**-0.1**
COBT				*i* S	**Sg**	**02 11 21.7**	**-0.4**
COBT	**Iskenderun**	**0.70**	**193**	*i* P	**Pg**	**02 11 12.9**	**-0.1**
COBT				*i* S	**Sg**	**02 11 21.7**	**-0.4**
GZT	**Gaziantep**	**0.91**	**80**	*e*P	**Pb**	**02 11 17.4**	**-0.2**
KRTS	**Karatas**	**1.06**	**234**	*e*PG	**Pb**	**02 11 20.0**	**-0.2**
KRTS				*e*SG	**Sb**	**02 11 34.5**	**+0.3**
KRTS	**Karatas**	**1.06**	**234**	*e*Pg	**Pb**	**02 11 20.0**	**-0.2**
KRTS				*e*Sg	**Sb**	**02 11 34.5**	**+0.3**
HTY	**Hatay**	**1.10**	**193**	*e*PN	**Pb**	**02 11 21.0**	**+0.1**
HTY				*e*SN	**Sn**	**02 11 36.4**	**-0.3**
HTY	**Hatay**	**1.10**	**193**	*e*Pn	**Pb**	**02 11 21.0**	**+0.1**
HTY				*e*Sn	**Sn**	**02 11 36.4**	**-0.3**
YAYL	**Yayladag**	**1.20**	**193**	*e*P	**Pn**	**02 11 22.6**	**-0.1**
YAYL				*i* S	**Sb**	**02 11 38.0**	**-0.2**
YAYL	**Yayladag**	**1.20**	**193**	*e*P	**Pn**	**02 11 22.6**	**-0.1**
YAYL				*i* S	**Sb**	**02 11 38.0**	**-0.2**
ATAB	**Bozova**	**1.50**	**79**	*e*P	**Pg**	**02 11 28.2**	**-0.1**
ATAB				*i* S	**Sg**	**02 11 48.6**	**+0.8**
ATAB	**Bozova**	**1.50**	**79**	*e*P	**Pg**	**02 11 28.2**	**-0.1**
ATAB				*i* S	**Sg**	**02 11 48.6**	**+0.8**
MERS	**Mersin**	**1.57**	**258**	*e*PN	**Pn**	**02 11 28.3**	**+0.4**
MERS				*e*SN	**Sb**	**02 11 49.6**	**+0.5**
MERS	**Mersin**	**1.57**	**258**	*e*Pn	**Pn**	**02 11 28.3**	**+0.4**
MERS				*e*Sn	**Sb**	**02 11 49.6**	**+0.5**
AKCD	**Akcadag**	**1.60**	**47**	*e*P	**Pn**	**02 11 28.4**	**+0.1**
AKCD				*i* S	**Sg**	**02 11 51.2**	**+0.1**
AKCD	**Akcadag**	**1.60**	**47**	*e*P	**Pn**	**02 11 28.4**	**+0.1**
AKCD				*i* S	**Sg**	**02 11 51.2**	**+0.1**
BNN	**Bunyan**	**1.71**	**344**	*e*PN	**Pn**	**02 11 29.8**	**-0.1**
BNN	**Bunyan**	**1.71**	**344**	*e*Pn	**Pn**	**02 11 29.8**	**-0.1**
URFA	**Urfa**	**1.91**	**82**	*e*PN	**Pn**	**02 11 33.2**	**+0.7**
URFA	**Urfa**	**1.91**	**82**	*e*Pn	**Pn**	**02 11 33.2**	**+0.7**
MALT	**Malatya**	**1.92**	**54**	*e*PN	**Pn**	**02 11 33.2**	**+0.5**
MALT	**Malatya**	**1.92**	**54**	*e*Pn	**Pn**	**02 11 33.2**	**+0.5**
ELZG	**Elazig**	**2.39**	**56**	*e*P	**Pn**	**02 11 43.8**	**+0.8**
ILIC	**ilic-Erzincan**	**2.80**	**36**	*e*PN	**Pn**	**02 11 45.4**	**+0.6**
ILIC	**ilic-Erzincan**	**2.80**	**36**	*e*Pn	**Pn**	**02 11 45.4**	**+0.6**
PTK	**Pertek**	**2.88**	**53**	*e*PN	**Pn**	**02 11 46.5**	**+0.6**
PTK	**Pertek**	**2.88**	**53**	*e*Pn	**Pn**	**02 11 46.5**	**+0.6**

IDC 08 02:12:29.7±2.0, 3°.48N×128°.42E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/19, mbtmp3.4/4, Error ellipse: s-maj=142.2km s-min=25.9km az=67.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.99**	**166**	P	P	02 17 45.6	-0.7
	0.3nm,0.4s,baz=346,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**27.50**	**169**	P	P	02 18 18.9	+0.7
	0.5nm,1.0s,baz=355,slow=9.4,SNR=4.5						
STKA	**Stephens Creek**	**37.33**	**161**	P	P	02 19 43.6	-0.3
	1.5nm,0.9s,baz=342,slow=13,SNR=5.3						
MKAR	**Makanchi Array**	**58.73**	**325**	P	P	02 22 29.6	+0.1
	0.1nm,0.4s,baz=117,slow=8.1,SNR=4.0						

IDC 08 02:23:51.2±5.7, 0°.06N×18°.52W, h0km, mb3.7/3, mb1 4.1/5, mb1mx3.7/24, mbtmp4.1/5, ML4.6/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/26, Error ellipse: s-maj=110.6km s-min=72.3km az=20.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBTS	**Babate**	**14.64**	**8**	Pn	Pn	02 27 19.8	+0.1
	2.6nm,0.3s,baz=266,slow=8.2,SNR=7.2						
BBTS				Sn	Sn	02 29 56.4	-6.4
	1.2nm,0.3s,baz=96,slow=6.2,SNR=2.5						
DBIC	**Dimbokro**	**15.13**	**64**	Pn	Pn	02 27 26.5	+0.1
	2.3nm,0.3s,baz=245,slow=14,SNR=31						
DBIC				Sn	Sn	02 30 05.9	-9.0
	0.6nm,0.3s,baz=147,slow=11,SNR=5.2						
DBIC				LR	LR	02 32 40.3	
	comp=Z,44nm,19.5s,baz=139,slow=35						
TORD	**Torodi Ar. Bea**	**23.88**	**56**	P	P	02 29 06.6	-0.1
	2.5nm,0.7s,baz=236,slow=9.7,SNR=14						
BRTR	**Keskin Array B**	**61.72**	**44**	P	P	02 34 11.9	+0.2
	0.7nm,0.7s,baz=239,slow=6.8,SNR=6.5						
AKASG	**Malin Array Be**	**64.63**	**31**	P	P	02 34 30.4	-0.2
	0.1nm,0.3s,baz=235,slow=6.4,SNR=3.2						

*ISK **08** 02:33:08.2, 34°.34N×33°.87E, h3km, MD3.6, ML3.5*
*NIC **08** 02:33:10.3±0.3, 34°.30N×33°.95E, h37km, ML3.6, MW3.5*
*CSEM **08** 02:33:10.6±0.1, 34°.36N×33°.85E, h10km, Mw3.5, Error ellipse: s-maj=3.5km s-min=2.0km az=68.0*
*ISCJB **08** 02:33:11.1±0.5, 34°.34N±0°.02×33°.85E±0°.03, h25km±5km, Error ellipse: s-maj=4.3km s-min=2.7km az=162.4*
*DDA **08** 02:33:11.8, 34°.66N×34°.16E, h7km, MD3.5*
ISC 08 02:33:09.9±1.2, 34°.38N±0°.02×33°.88E±0°.03, h9km±10km, n87, σ1°.09/119, 2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHNC	**Paralimni**	**0.64**	**11**	⇓P	**Pb**	**02 33 24.2**	**+0.9**
	39nm,0.3s

ALFC				S	Sb	02 33 51.3	-0.4
PPCY	**Paphos**	**1.36**	**292**	P	Pn	02 33 34.4	-0.7
PPCY	**Paphos**	**1.36**	**292**	P	Pn	02 33 34.4	-0.7
AKMC	**Akamas**	**1.43**	**297**	P	Pn	02 33 35.7	-0.4
AKMC				S	Sn	02 33 54.4	-0.7
AKMC	**Akamas**	**1.43**	**297**	P	Pn	02 33 35.7	-0.4
AKMC				S	Sn	02 33 54.4	-0.7
BHL	**Bhannes**	**1.54**	**107**	*e*P	Pn	02 33 38.2	+0.5
BHL	**Bhannes**	**1.54**	**107**	*e*P	Pn	02 33 38.2	+0.5
NAQL	**Naqoura**	**1.64**	**140**	*e*P	Pn	02 33 38.7	-0.2
HNTI	**Hanita**	**1.68**	**140**	Sn	Sn	02 34 00.9	-0.3
HWQ	**Hawqa**	**1.71**	**93**	*e*P	Pn	02 33 40.6	+0.5
HWQ	**Hawqa**	**1.71**	**93**	*e*P	Pn	02 33 40.6	+0.5
RCY	**Rachaya**	**1.85**	**118**	*e*P	Pn	02 33 42.2	+0.2
RCY	**Rachaya**	**1.85**	**118**	*e*P	Pn	02 33 42.2	+0.2
MMA0	**Mount Meron ar**	**1.86**	**136**	Pn	Pn	02 33 42.4	+0.4
MMA0				Sn	Sn	02 34 05.2	-0.5
KSDI	**Kefar Szold**	**1.90**	**128**	Pn	Pn	02 33 42.6	+0.2
KSDI				Sn	Sn	02 34 06.1	-0.4
OFRI	**'Ofer**	**1.98**	**152**	Pn	Pn	02 33 43.7	+0.1
OFRI				Sn	Sn	02 34 07.6	-1.0
MMLI	**Mount Malkishu**	**2.32**	**146**	Pn	Pn	02 33 49.5	+1.1
MMLI				Sn	Sn	02 34 16.6	-0.5
SLTI	**Sal'it**	**2.34**	**155**	Pn	Pn	02 33 49.9	+1.3
YAYL	**Yayladag**	**2.46**	**47**	*i* P	Pn	02 33 50.2	-0.2
YAYL				*i* S	Sn	02 34 18.3	-2.4
YAYL	**Yayladag**	**2.46**	**47**	*i* P	Pn	02 33 50.2	-0.2
YAYL				*i* S	Sn	02 34 18.3	-2.4
HMDT	**Nahal Hemdat**	**2.53**	**146**	Pn	Pn	02 33 52.1	+1.0
HMDT				Sn	Sn	02 34 22.1	0.0
HTY	**Hatay**	**2.54**	**46**	*e*PN	Pn	02 33 52.5	+1.2
HTY	**Hatay**	**2.54**	**46**	*e*Pn	Pn	02 33 52.5	+1.2
MERS	**Mersin**	**2.54**	**12**	*e*PN	Pn	02 33 52.2	+0.8
MERS	**Mersin**	**2.54**	**12**	*e*Pn	Pn	02 33 52.2	+0.8
COBT	**Iskenderun**	**2.89**	**42**	*i* P	Pn	02 33 57.4	+1.1
COBT	**Iskenderun**	**2.89**	**42**	*i* P	Pn	02 33 57.4	+1.1
GULE	**Gulek**	**2.99**	**14**	*e*P	Pn	02 33 58.7	+1.0
GULE				*i* S	Sn	02 34 32.2	-1.6
GULE	**Gulek**	**2.99**	**14**	*e*P	Pn	02 33 58.7	+1.0
GULE				*i* S	Sn	02 34 32.2	-1.6
CEYT	**Ceyhan**	**3.04**	**30**	*e*PN	Pn	02 33 59.3	+1.2
CEYT	**Ceyhan**	**3.04**	**30**	*e*Pn	Pn	02 33 59.3	+1.2
DSI	**Dead Sea**	**3.07**	**155**	Pn	Pn	02 33 59.6	+1.0
RTMI	**Retamim**	**3.38**	**168**	Pn	Pn	02 34 03.2	+0.3
RSH		**3.41**	**182**	P	Pn	02 34 03.7	+0.4
KOZT	**Kozan**	**3.48**	**26**	*e*PN	Pn	02 34 05.5	+1.3
KOZT	**Kozan**	**3.48**	**26**	*e*Pn	Pn	02 34 05.5	+1.3
KZIT	**Kziot**	**3.49**	**173**	Pn	Pn	02 34 04.1	-0.3
KZIT				Sn	Sn	02 34 44.0	-1.8
KUZU	**Kuzuini**	**3.54**	**47**	*e*P	Pn	02 34 05.0	-0.1
KUZU				*i* S	Sn	02 34 44.9	-2.2
KUZU	**Kuzuini**	**3.54**	**47**	*e*P	Pn	02 34 05.0	-0.1
KUZU				*i* S	Sn	02 34 44.9	-2.2
AMAG	**Maghara**	**3.77**	**189**	P	Pn	02 34 08.8	+0.6
KONT	**Konya--Tatoy**	**3.77**	**341**	*e*PN	Pn	02 34 09.6	+1.4
KONT	**Konya--Tatoy**	**3.77**	**341**	*e*Pn	Pn	02 34 09.6	+1.4
ANDN	**Andirin**	**3.77**	**31**	*e*P	Pn	02 34 12.4	+4.0
ANDN				*i* S	Sn	02 34 52.0	-0.9
ANDN	**Andirin**	**3.77**	**31**	*e*P	Pn	02 34 12.4	+4.0
ANDN				*i* S	Sn	02 34 52.0	-0.9
SULT	**Sultanhani-AKS**	**3.83**	**356**	*e*PN	Pn	02 34 10.5	+1.4
SULT	**Sultanhani-AKS**	**3.83**	**356**	*e*Pn	Pn	02 34 10.5	+1.4
GAZ	**Gaziantep**	**3.89**	**43**	*e*PN	Pn	02 34 11.4	+1.5
GAZ	**Gaziantep**	**3.89**	**43**	*e*Pn	Pn	02 34 11.4	+1.5
KMRS	**Kahramanmaras**	**3.97**	**37**	*e*PN	Pn	02 34 12.7	+1.7
KMRS	**Kahramanmaras**	**3.97**	**37**	*e*Pn	Pn	02 34 12.7	+1.7
LADK	**Ladik-KONYA**	**4.01**	**340**	*e*PN	Pn	02 34 13.0	+1.4
LADK	**Ladik-KONYA**	**4.01**	**340**	*e*Pn	Pn	02 34 13.0	+1.4
ELL	**Elmali**	**4.01**	**307**	*e*PN	Pn	02 34 13.0	+1.4
ELL	**Elmali**	**4.01**	**307**	*e*Pn	Pn	02 34 13.0	+1.4
BCK	**Bucak**	**4.08**	**320**	*e*PN	Pn	02 34 14.0	+1.5
BCK	**Bucak**	**4.08**	**320**	*e*Pn	Pn	02 34 14.0	+1.5
PRNI	**Paran**	**4.12**	**166**	Pn	Pn	02 34 14.3	+1.2
KRMI	**Paran Flat**	**4.31**	**170**	Pn	Pn	02 34 16.3	+0.7
KRMI				Sn	Sn	02 35 04.8	-1.2
HNKL	**Nakhl**	**4.43**	**179**	P	Pn	02 34 18.2	+0.8
HNKL				S	Sn	02 35 05.8	-3.4
HRFI	**Mount Harif**	**4.44**	**167**	Pn	Pn	02 34 18.2	+0.8
SUZ		**4.61**	**191**	P	Pn	02 34 20.2	+0.4
MBRI	**Mt Berech**	**4.65**	**169**	Pn	Pn	02 34 21.1	+0.7
MBRI				Sn	Sn	02 35 13.5	-1.1
KOT	**Kottamia**	**4.76**	**202**	P	Pn	02 34 22.9	+1.0
EIL	**Elat**	**4.78**	**169**	Sn	Sn	02 35 16.6	-1.1
SHUT	**Suhut-Afyon**	**4.96**	**328**	*e*PN	Pn	02 34 26.6	+1.9
SHUT	**Suhut-Afyon**	**4.96**	**328**	*e*Pn	Pn	02 34 26.6	+1.9
KHL	**Karahalli**	**5.28**	**320**	*e*PN	Pn	02 34 31.2	+2.1
KHL	**Karahalli**	**5.28**	**320**	*e*Pn	Pn	02 34 31.2	+2.1
DARE	**Darende-Malaty**	**5.55**	**34**	*e*PN	Pn	02 34 28.6	-4.2
HKAT	**Jabal Katrina**	**5.84**	**179**	P	Pn	02 34 37.6	+0.8
TR2		**5.97**	**181**	P	Pn	02 34 39.3	+0.8

IDC 08 02:42:26.2±3.6, 6°10′S×148°78′E, *h*0km, mb3.6/2, mb1 3.9/4, mb1mx3.5/17, mbtmp3.7/4, ML2.9/1, Error ellipse: s-maj=108.1km s-min=35.1km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.66**	**206**	Pn	Pn	02 43 26.2	+2.0
	7.7nm,0.3s,baz=27,slow=8.7,SNR=18						
PMG				Sn	Sn	02 44 08.6	+0.5
	14nm,0.3s,baz=135,slow=20,SNR=8.5						
WRA	**Warramunga Arr**	**19.66**	**224**	P	P	02 46 56.6	-0.3
	0.3nm,0.3s,baz=51,slow=11,SNR=18						
ASAR	**Alice Springs**	**22.59**	**218**	P	P	02 47 28.1	-0.4
	0.6nm,0.4s,baz=55,slow=9.6,SNR=14						
FITZ	**Fitzroy Crossi**	**25.54**	**240**	P	P	02 47 56.3	-0.6
	2.3nm,0.8s,baz=58,slow=9.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**146.83**	**285**	PKPbc	PKPbc	03 02 11.0	-0.5
	0.1nm,0.4s,baz=83,slow=2.9,SNR=3.9						

*ISCJB **08** 03:00:00.6±0.7, 51°.44N±0°.04×16°.15E±0°.04, h0km, Error ellipse: s-maj=5.3km s-min=3.2km az=19.6*
*WAR **08** 03:00:01.4, 51°.54N×16°.07E*
*IPEC **08** 03:00:01.7±0.2, 51°.51N×16°.20E, h0km, ML1.6/3, Error ellipse: s-maj=1.6km s-min=1.0km az=29.0*
*CSEM **08** 03:00:02.0±0.3, 51°.45N×16°.14E, h2km, ML2.8/7, Error ellipse: s-maj=4.4km s-min=3.4km az=16.0*
*PRU **08** 03:00:04.2, 51°.39N×16°.17E, h0km*

ISC 08 03:00:01.1±0.9, 51°.53N±0°.03×16°.17E±0°.03, h0km, n28, σ0s89/51, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**174**	*e*Pg	**Pg**	**03 00 14.6**	**+0.3**
KSP				*e*Sg	**Sg**	**03 00 23.2**	**0.0**
KSP	**Ksiaz**	**0.69**	**174**	*e*Pg	**Pg**	**03 00 14.6**	**+0.3**
KSP				*e*Sg	**Sg**	**03 00 23.2**	**0.0**
KSP	**Ksiaz**	**0.69**	**174**	*e*Pg	**Pg**	**03 00 14.5**	**+0.3**
	baz=355						
KSP				*e*Sg	**Sg**	**03 00 22.8**	**-0.4**
	baz=355						
UPC	**Upice**	**1.03**	**186**	*e*PG	**Pg**	**03 00 20.7**	**0.0**
UPC	**Upice**	**1.03**	**186**	*e*Pg	**Pg**	**03 00 20.7**	**0.0**
	baz=6.5						
DPC	**Dobruska-Polom**	**1.18**	**175**	*e*PG	**Pg**	**03 00 23.5**	**-0.2**
DPC				*e*SG	**Sg**	**03 00 37.5**	**-1.5**
	comp=Z,8.4nm,0.4s						
DPC	**Dobruska-Polom**	**1.18**	**175**	Pg	**Pg**	**03 00 23.5**	**-0.2**
DPC				Sg	**Sg**	**03 00 37.5**	**-1.5**
	8.4nm,0.4s						
PVCC	**Panska Ves**	**1.42**	**226**	*e*PG	**Pn**	**03 00 28.3**	**+0.1**
PVCC				*e*SG	**Sg**	**03 00 46.4**	**-0.4**
	comp=Z,22nm,0.2s						
PVCC	**Panska Ves**	**1.42**	**226**	Pg	**Pn**	**03 00 28.3**	**+0.1**
PVCC				Sg	**Sg**	**03 00 46.4**	**-0.4**
	22nm,0.2s						
BRG	**Berggiesshubel**	**1.55**	**246**	PG	**Pb**	**03 00 30.7**	**+0.1**
BRG				SG	**Sg**	**03 00 51.0**	**+0.2**
	9.0nm,0.3s						
BRG	**Berggiesshubel**	**1.55**	**246**	*e*Pn	**Pb**	**03 00 30.5**	**-0.1**
	baz=65						
BRG				*e*Sg	**Sn**	**03 00 50.2**	**-0.5**
	baz=65						
PRU	**Pruhonice**	**1.86**	**215**	*e*PG	**Pb**	**03 00 35.3**	**-0.6**
PRU				*e*SG	**Sn**	**03 00 58.2**	**-0.1**
	comp=Z,6.0nm,0.4s						
PRU	**Pruhonice**	**1.86**	**215**	*e*Pn	**Pb**	**03 00 35.2**	**-0.6**
	baz=34						
PRU				*e*Sg	**Sn**	**03 00 58.7**	**+0.4**
	baz=34						
MORC	**Moravsky Berou**	**1.96**	**153**	*e*Pn	**Pn**	**03 00 35.5**	**-0.1**
	baz=334						
MORC				*e*Sg	**Sb**	**03 01 02.4**	**-0.1**
	3.8nm,0.2s,baz=334						
CLL	**Collm**	**2.00**	**265**	*e*Pg	**Pb**	**03 00 38.0**	**-0.2**
CLL				*e*		03 00 43.0	
CLL				*e*Sg	**Sg**	**03 01 06.0**	**+0.8**
OKC	**Ostrava-Krasne**	**2.11**	**143**	*e*SG	**Sb**	**03 01 06.7**	**-0.1**
OKC	**Ostrava-Krasne**	**2.11**	**143**	Sg	**Sb**	**03 01 06.7**	**-0.1**
VRAC	**Vranov**	**2.24**	**173**	*e*Pn	**Pn**	**03 00 39.6**	**+0.2**
	baz=354						
VRAC				*e*Sg	**Sb**	**03 01 10.6**	**0.0**
	3.3nm,0.2s,baz=354						
KRUC	**Moravsky**	**2.47**	**177**	*e*Pn	**Pn**	**03 00 43.6**	**+1.0**
	baz=357						
KRUC	**Moravsky**	**2.47**	**177**	*e*Pg	**Pb**	**03 00 47.0**	**+0.7**
	baz=357						
KRUC				*e*Sg	**Sg**	**03 01 18.8**	**-1.6**
	2.3nm,0.2s,baz=357						
OJC	**Ojcow**	**2.64**	**118**	*e*Pg	**Pg**	**03 00 52.1**	**+0.4**
OJC				*e*Sg	**Sg**	**03 01 27.0**	**+1.1**
OJC	**Ojcow**	**2.64**	**118**	*e*Pg	**Pg**	**03 00 52.6**	**+0.9**
OJC				*e*Sg	**Sg**	**03 01 27.2**	**+1.3**
NKC	**Novy Kostel**	**2.69**	**243**	*e*PG	**Pg**	**03 00 53.0**	**+0.4**
NKC				*e*SG	**Sg**	**03 01 28.3**	**+0.8**
	comp=Z,6.6nm,0.3s						
NKC	**Novy Kostel**	**2.69**	**243**	Pg	**Pg**	**03 00 53.0**	**+0.4**
NKC				Sg	**Sg**	**03 01 28.3**	**+0.8**
	6.6nm,0.3s						
KHC	**Kasperske Hory**	**2.92**	**216**	*e*PN	**Pn**	**03 00 49.1**	**+0.3**
KHC				*e*PG	**Pb**	**03 00 55.0**	**+1.0**
KHC				*e*SN	**Sn**	**03 01 22.4**	**-2.1**
KHC				*e*SG	**Sb**	**03 01 31.7**	**+1.5**
	comp=Z,3.2nm,0.5s						
KHC	**Kasperske Hory**	**2.92**	**216**	*e*Pn	**Pn**	**03 00 49.0**	**+0.3**
	baz=34						
BSD	**Bornholm Skovb**	**3.67**	**349**	*i* P	**Pn**	**03 00 59.5**	**+0.5**
BSD				*i* S	**Sn**	**03 01 39.4**	**-3.6**
BSD	**Bornholm Skovb**	**3.67**	**349**	*i* P	**Pn**	**03 00 59.5**	**+0.5**

IDC 08 03:11:22.5±2.1, 6°73′S×129°47′E, *h*0km, mb3.8/1, mb1 3.9/3, mb1mx3.5/15, mbtmp3.7/3, ML3.8/2, Error ellipse: s-maj=146.9km s-min=30.5km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.96**	**161**	Pn	Pn	03 14 42.0	+0.3
	0.5nm,0.3s,baz=343,slow=13,SNR=18						
WRA				Sn	Sn	03 17 04.5	-13
	1.1nm,0.3s,baz=333,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.37**	**166**	P	Pn	03 15 26.2	-0.2
	0.3nm,0.3s,baz=341,slow=9.3,SNR=21						
ASAR				S	Sn	03 18 24.6	-16
	0.1nm,0.3s,baz=350,slow=26,SNR=4.3						
MKAR	**Makanchi Array**	**67.72**	**327**	P	P	03 22 21.8	0.0
	0.4nm,0.3s,baz=126,slow=7.9,SNR=13						

*ISK **08** 03:30:31.3, 39°.56N×33°.84E, h3km, MD3.5*
*DDA **08** 03:30:31.2, 39°.54N×33°.84E, h4km, MD3.2*
*CSEM **08** 03:30:32.1±0.1, 39°.56N×33°.86E, h2km, MD3.2, Error ellipse: s-maj=2.2km s-min=2.0km az=170.0*

ISC 08 03:30:32.4±1.1, 39°.57N±0°.02×33°.85E±0°.02, h2km±10km, n67, σ0s66/91, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDAG	**Cicekdag**	**0.41**	**82**	*i* P	**Pg**	**03 30 40.1**	**-0.1**
CDAG				*i* S	**Sg**	**03 30 46.0**	**+0.5**
CDAG	**Cicekdag**	**0.41**	**82**	*i* P	**Pg**	**03 30 40.1**	**-0.1**
CDAG				*i* S	**Sg**	**03 30 46.0**	**+0.5**
BBAL	**Bala**	**0.56**	**268**	*i* P	**Pg**	**03 30 42.9**	**-0.2**
BBAL				*i* S	**Sg**	**03 30 50.4**	**0.0**
BBAL	**Bala**	**0.56**	**268**	*i* P	**Pg**	**03 30 42.9**	**-0.2**
BBAL				*i* S	**Sg**	**03 30 50.4**	**0.0**
AFSR	**Af ar-Bala (A**	**0.61**	**259**	*e*PG	**Pg**	**03 30 43.8**	**-0.3**
AFSR				*e*SG	**Sg**	**03 30 52.7**	**+0.6**
AFSR	**Af ar-Bala (A**	**0.61**	**259**	*e*Pg	**Pg**	**03 30 43.8**	**-0.3**
AFSR				*e*Sg	**Sg**	**03 30 52.7**	**+0.6**
CORM	**Corum**	**0.86**	**44**	*e*PG	**Pg**	**03 30 48.5**	**-0.3**
CORM				*e*SG	**Sg**	**03 31 01.4**	**+1.5**
CORM	**Corum**	**0.86**	**44**	*e*Pg	**Pg**	**03 30 48.5**	**-0.3**
CORM				*e*Sg	**Sg**	**03 31 01.4**	**+1.5**
LOD	**Lodumlu**	**0.90**	**291**	*e*PG	**Pg**	**03 30 49.4**	**-0.1**
LOD	**Lodumlu**	**0.90**	**291**	*e*Pg	**Pg**	**03 30 49.4**	**-0.1**
ELDT	**Eldivan**	**0.98**	**341**	*i* P	**Pg**	**03 30 50.7**	**-0.4**
ELDT				*i* S	**Sg**	**03 31 03.2**	**-0.6**
ELDT	**Eldivan**	**0.98**	**341**	*i* P	**Pg**	**03 30 50.7**	**-0.4**
ELDT				*i* S	**Sg**	**03 31 03.2**	**-0.6**
CANT	**Cankiri**	**1.05**	**350**	*e*PG	**Pg**	**03 30 51.9**	**-0.6**
CANT				*e*SG	**Sb**	**03 31 07.9**	**+0.3**
AVNT	**Avonos**	**1.11**	**135**	*i* P	**Pg**	**03 30 52.4**	**-1.2**
AVNT				*i* S	**Sg**	**03 31 08.1**	**+0.1**
AVNT	**Avonos**	**1.11**	**135**	*i* P	**Pg**	**03 30 52.4**	**-1.2**
AVNT				*i* S	**Sg**	**03 31 08.1**	**+0.1**
YOZ	**Yozgat**	**1.14**	**86**	*e*PN	**Pg**	**03 30 53.9**	**-0.3**
YOZ	**Yozgat**	**1.14**	**86**	*e*Pn	**Pg**	**03 30 53.9**	**-0.3**
CTKT	**Corum**	**1.28**	**34**	*i* P	**Pg**	**03 30 56.2**	**-0.7**
CTKT				*e*S	**Sg**	**03 31 11.9**	**-1.5**
CTKT	**Corum**	**1.28**	**34**	*i* P	**Pg**	**03 30 56.2**	**-0.7**
CTKT				*e*S	**Sg**	**03 31 11.9**	**-1.5**
SULT	**Sultanhani-AKS**	**1.39**	**191**	*e*PN	**Pn**	**03 30 58.5**	**-0.4**
SULT				*e*SN	**Sb**	**03 31 17.9**	**+0.5**
SULT	**Sultanhani-AKS**	**1.39**	**191**	*e*Pn	**Pn**	**03 30 58.5**	**-0.4**
SULT				*e*Sn	**Sb**	**03 31 17.9**	**+0.5**
TOS	**Tosya**	**1.47**	**5**	*e*PN	**Pn**	**03 30 59.6**	**-0.4**
TOS	**Tosya**	**1.47**	**5**	*e*Pn	**Pn**	**03 30 59.7**	**-0.4**
ILGA	**Ilgaz**	**1.49**	**356**	*i* P	**Pn**	**03 30 59.5**	**-0.8**
ILGA				*i* S	**Sn**	**03 31 19.9**	**-0.6**
ILGA	**Ilgaz**	**1.49**	**356**	*i* P	**Pn**	**03 30 59.5**	**-0.8**
ILGA				*i* S	**Sn**	**03 31 19.9**	**-0.6**
NIG	**Nigde**	**1.57**	**158**	*e*PN	**Pn**	**03 31 01.0**	**-0.5**
NIG	**Nigde**	**1.57**	**158**	*e*Pn	**Pn**	**03 31 01.0**	**-0.5**
KIZT	**Kizilcal**	**1.68**	**246**	*e*PN	**Pn**	**03 31 02.2**	**-0.6**
KIZT	**Kizilcal**	**1.68**	**246**	*e*Pn	**Pn**	**03 31 02.2**	**-0.6**
KDHN	**Kadinhani**	**1.71**	**233**	*i* P	**Pn**	**03 31 02.4**	**-0.8**
KDHN				*i* S	**Sn**	**03 31 25.1**	**-0.6**
KDHN	**Kadinhani**	**1.71**	**233**	*i* P	**Pn**	**03 31 02.4**	**-0.8**
KDHN				*i* S	**Sn**	**03 31 25.1**	**-0.6**
BNN	**Bunyan**	**1.71**	**114**	*e*PN	**Pn**	**03 31 02.6**	**-0.7**
BNN	**Bunyan**	**1.71**	**114**	*e*Pn	**Pn**	**03 31 02.6**	**-0.7**
LADK	**Ladik-KONYA**	**1.79**	**221**	*e*PN	**Pn**	**03 31 03.9**	**-0.5**
LADK	**Ladik-KONYA**	**1.79**	**221**	*e*Pn	**Pn**	**03 31 03.9**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.80**	**267**	*e*PN	**Pn**	**03 31 04.5**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.80**	**267**	*e*Pn	**Pn**	**03 31 04.5**	**-0.1**
SAFT	**Safranbolu**	**1.89**	**332**	*e*PN	**Pn**	**03 31 06.2**	**+0.5**
SAFT	**Safranbolu**	**1.89**	**332**	*e*Pn	**Pn**	**03 31 06.2**	**+0.5**
KONT	**Konya--Tatoy**	**1.99**	**216**	*e*PN	**Pn**	**03 31 06.7**	**-0.5**
KONT	**Konya--Tatoy**	**1.99**	**216**	*e*Pn	**Pn**	**03 31 06.7**	**-0.5**
TOKA	**Tokat**	**2.16**	**69**	*e*P	**Pn**	**03 31 09.4**	**0.0**
TOKA				*i* S	**Sb**	**03 31 40.1**	**+0.7**
TOKA	**Tokat**	**2.16**	**69**	*e*P	**Pn**	**03 31 09.4**	**0.0**
MDUB	**Mudurnu**	**2.23**	**295**	*e*PN	**Pn**	**03 31 10.2**	**-0.2**
MDUB	**Mudurnu**	**2.23**	**295**	*e*Pn	**Pn**	**03 31 10.2**	**-0.2**
ESKT	**Eskisehir**	**2.32**	**270**	*e*PN	**Pn**	**03 31 11.6**	**-0.1**
ESKT	**Eskisehir**	**2.32**	**270**	*e*Pn	**Pn**	**03 31 11.6**	**-0.1**
DIKM	**Dikmen**	**2.34**	**27**	*e*PN	**Pn**	**03 31 12.1**	**+0.2**
DIKM	**Dikmen**	**2.34**	**27**	*e*Pn	**Pn**	**03 31 12.1**	**+0.2**
SCER	**sogukcermik**	**2.55**	**82**	*e*P	**Pb**	**03 31 17.8**	**-1.1**
SCER				*i* S	**Sb**	**03 31 51.8**	**+1.1**
KOZT	**Kozan**	**2.60**	**143**	*e*PN	**Pn**	**03 31 15.7**	**+0.3**
KOZT	**Kozan**	**2.60**	**143**	*e*Pn	**Pn**	**03 31 15.7**	**+0.3**
GULT	**Gulveren**	**2.70**	**290**	*e*PN	**Pn**	**03 31 17.3**	**+0.4**
GULT	**Gulveren**	**2.70**	**290**	*e*Pn	**Pn**	**03 31 17.3**	**+0.4**
MERS	**Mersin**	**2.75**	**169**	*e*PN	**Pn**	**03 31 17.6**	**+0.1**
MERS	**Mersin**	**2.75**	**169**	*e*Pn	**Pn**	**03 31 17.6**	**+0.1**
RSDY	**Resadiye-TOKAT**	**2.80**	**72**	*e*PN	**Pn**	**03 31 18.1**	**-0.1**
RSDY	**Resadiye-TOKAT**	**2.80**	**72**	*e*Pn	**Pn**	**03 31 18.1**	**-0.1**
GPA	**Golpazari**	**2.81**	**286**	*e*PN	**Pn**	**03 31 19.2**	**+0.8**
GPA	**Golpazari**	**2.81**	**286**	*e*Pn	**Pn**	**03 31 19.2**	**+0.8**
SPNC	**Sapanca-Adapaz**	**2.94**	**294**	*e*PN	**Pn**	**03 31 20.6**	**+0.5**
SPNC	**Sapanca-Adapaz**	**2.94**	**294**	*e*Pn	**Pn**	**03 31 20.6**	**+0.5**
ALT	**Altintas**	**2.94**	**261**	*e*PN	**Pn**	**03 31 20.3**	**0.0**
ALT	**Altintas**	**2.94**	**261**	*e*Pn	**Pn**	**03 31 20.3**	**0.0**
KMRS	**Kahramanmaras**	**3.16**	**130**	*e*PN	**Pn**	**03 31 23.6**	**+0.5**
KMRS	**Kahramanmaras**	**3.16**	**130**	*e*Pn	**Pn**	**03 31 23.6**	**+0.5**
AKCD	**Akcadag**	**3.42**	**111**	*i* P	**Pb**	**03 31 36.1**	**+2.4**
AKCD				*i* S	**Sg**	**03 32 21.3**	**-0.9**

*IDC **08** 03:51:41.6±0.9, 51°.39N×178°.61W, h0km, mb3.8/18, mb1 4.0/19, mb1mx3.9/29, mbtmp3.9/19, ML4.4/1, MS3.1/2, Ms1 3.1/2, ms1mx2.5/40, Error ellipse: s-maj=26.9km s-min=15.7km az=168.0*
*MOS **08** 03:51:45.2±1.1, 51°.40N×178°.59W, h33km, mb4.3/7, Error ellipse: s-maj=17.1km s-min=11.4km az=68.3*
*BJI **08** 03:51:45.5, 51°.60N×179°.08W, h26km, mB5.0/11, mb4.7/18, Ms4.6/10, Ms7 4.4/10*
*NEIC **08** 03:51:51.4, 51°.55N×178°.11W, h9km, mb4.3/19, ML4.1(AEIC), After AEIC.*

ISC 08 03:51:46.4±0.6, 51°.4N±0°.1×178°.66W±0°.04, h32km±2km, n146, σ1s59/191, mb4.1/43, MS4.1/5, 9C-17D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.34**	**66**	P	**Pn**	**03 52 09.0**	**+0.1**
ADK				S	**Sn**	**03 52 25.3**	**-0.3**
ADK	**Adak**	**1.34**	**66**	P	**Pn**	**03 52 09.0**	**+0.1**
ADK				S	**Sn**	**03 52 25.2**	**-0.3**
ATKA	**Atka Island**	**2.90**	**71**	P	**Pn**	**03 52 31.2**	**+0.9**
ATKA				S	**Sn**	**03 53 03.5**	**-0.5**
KOKL	**Mount Kliuchef**	**2.93**	**69**	P	**Pn**	**03 52 33.4**	**+2.6**
KOFP	**Korovin Flat P**	**2.98**	**70**	P	**Pn**	**03 52 33.4**	**+2.0**
NIKO	**Nikolski**	**6.25**	**71**	P	**Pn**	**03 53 18.5**	**+2.3**
SPIA	**Saint Paul Isl**	**7.63**	**37**	P	Pn	03 53 38.7	+3.5
MREP	**Makushin Rep't**	**7.66**	**67**	P	Pn	03 53 39.1	+3.4
UNV	**Unalaska Valle**	**7.81**	**67**	P	**Pn**	**03 53 40.5**	**+2.8**
KDAK	**Kodiak Island**	**16.36**	**57**	Pn	**Pn**	**03 55 29.8**	**-3.6**
KDAK				Sn	**Sn**	**03 58 30.2**	**-3.6**
KDAK	**Kodiak Island**	**16.36**	**57**	Pn	**Pn**	**03 55 29.8**	**-3.6**
	1.3nm,0.3s,baz=252,slow=3.8,SNR=17						
KDAK				Sn	**Sn**	**03 58 30.2**	**-3.6**
	0.2nm,0.3s,baz=232,slow=19,SNR=3.3						
BILL	**Bilibino**	**18.29**	**342**	*e*P	Pn	03 56 03.3	+6.0
BILL				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BILL	**Bilibino**	**18.29**	**342**	*e*P	Pn	03 56 03.3	+6.0
	comp=Z,2.0nm,0.6s						
SEW	**Seward**	**18.49**	**50**	*e*P	**P**	**03 55 59.1**	**-0.4**
	comp=Z,5.8nm,0.4s						
MCK	**McKinley**	**19.96**	**40**	*e*P	**Pn**	**03 56 18.8**	**+1.3**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MCK	**McKinley**	**19.96**	**40**	*e*P	**Pn**	**03 56 18.8**	**+1.3**
	comp=Z,3.2nm,0.6s						
COLA	**College**	**20.88**	**38**	*e*P	Pn	03 56 29.7	+1.6
COLA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
COLA	**College**	**20.88**	**38**	*e*P	Pn	03 56 29.7	+1.6
	comp=Z

D22A	**Cohagen**	**45.72**	**65**	⇓P		**P**	**04 00 04.6**	**+0.4**
	baz=45,SNR=5.8							
PD01	**Pinedale Array**	**46.21**	**72**	*eP*		**P**	**04 00 08.1**	**-0.3**
PD02	**Pinedale Array**	**46.22**	**72**	*eP*		**P**	**04 00 08.0**	**-0.5**
BW06	**Boulder Array**	**46.23**	**72**	*eP*		**P**	**04 00 08.0**	**-0.6**
	comp=Z,29nm,2.4s							
PDAR	**Pinedale Array**	**46.23**	**72**	P		**P**	**04 00 08.7**	**+0.1**
PDAR	**Pinedale Array**	**46.23**	**72**	P		**P**	**04 00 08.7**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=306,slow=3.6,SNR=23							
SONM	**Songino Array**	**46.74**	**297**	P		**P**	**04 00 13.4**	**+1.1**
SONM				PcP		**PcP**	**04 01 44.6**	**-0.8**
SONM	**Songino Array**	**46.74**	**297**	P		**P**	**04 00 13.4**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=64,slow=8.5,SNR=8.5							
SONM				PcP		**PcP**	**04 01 44.6**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=69,slow=3.1,SNR=3.8							
SONM				LR		LR	04 20 28.6	
	comp=Z,35nm,20.5s,baz=154,slow=37							
F23A	**Volborg**	**46.96**	**67**	⇓P		**P**	**04 00 14.0**	**-0.1**
	baz=46,SNR=5.9							
HHC	**Hu-ho-hao-te**	**47.78**	**286**	*eP*		**P**	**04 00 18.5**	**-2.0**
HHC				pP		**pP**	**04 00 28.4**	**-1.7**
HHC				sP		**sP**	**04 00 32.3**	**-1.6**
HHC				PP		**PP**	**04 02 08.9**	**-3.3**
HHC				S		**S**	**04 07 10.9**	**-4.0**
HHC				sS		**sS**	**04 07 26.8**	**-3.9**
HHC				SS		SS	04 10 33.4	-10
HHC				pmax		pmax		
	comp=Z,5.0nm,0.7s							
HHC				pmax		pmax		
	comp=Z,160nm,6.4s							
HHC				LR		LR		
	comp=N,120nm,12.0s							
HHC				LR		LR		
	comp=E,150nm,12.4s							
HHC				LR		LR		
	comp=Z,89nm,12.3s							
O19A	**Miners Draw (B**	**47.97**	**75**	⇓P		**P**	**04 00 22.3**	**+0.3**
	baz=47,SNR=6.9							
P19A	**Cripple Cowboy**	**48.47**	**75**	⇓P		**P**	**04 00 26.0**	**0.0**
	baz=48,SNR=5.4							
PV04	**Paradox Valley**	**49.28**	**77**	*eP*		**P**	**04 00 31.7**	**-0.5**
PV01	**Paradox Valley**	**49.65**	**77**	*eP*		**P**	**04 00 34.8**	**-0.3**
O23A	**Lake Granby, G**	**49.95**	**73**	⇓P		**P**	**04 00 38.0**	**+0.5**
	baz=49,SNR=7.4							
SPITS	**Spitsbergen Ar**	**50.41**	**356**	P		**P**	**04 00 40.3**	**+0.3**
SPITS	**Spitsbergen Ar**	**50.41**	**356**	P		**P**	**04 00 40.3**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=344,slow=13,SNR=12							
FRB	**Frobisher Bay**	**53.00**	**32**	P		**P**	**04 00 58.5**	**-1.0**
FRB	**Frobisher Bay**	**53.00**	**32**	P		**P**	**04 00 58.5**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=307,slow=11,SNR=4.3							
ZALV	**Zalesovo Beam**	**54.11**	**314**	PcP		**PcP**	**04 02 12.1**	**0.0**
ZALV	**Zalesovo Beam**	**54.11**	**314**	PcP		**PcP**	**04 02 12.1**	**0.0**
	comp=Z,1.6nm,0.8s,baz=35,slow=5.3,SNR=6.7							
LZH	**Lanzhou**	**55.48**	**286**	*eP*		**P**	**04 01 18.5**	**+0.4**
LZH				pP		**pP**	**04 01 28.6**	**+0.7**
LZH				sP		**sP**	**04 01 32.8**	**+1.2**
LZH				pmax		pmax		
	comp=Z,19nm,1.0s							
GTA	**Gaotai**	**55.66**	**292**	*eP*		**P**	**04 01 21.4**	**+2.0**
GTA				pP		**pP**	**04 01 25.6**	**-3.5**
GTA				sP		**sP**	**04 01 28.9**	**-4.0**
GTA				pmax		pmax		
	comp=Z,7.0nm,0.9s							
ARCES	**ARCESS Array B**	**58.13**	**350**	P		**P**	**04 01 35.9**	**-0.4**
ARCES	**ARCESS Array B**	**58.13**	**350**	P		**P**	**04 01 35.9**	**-0.4**
	comp=Z,2.7nm,1.0s,baz=30,slow=9.0,SNR=7.1							
TXAR	**Lajitas Array**	**58.57**	**81**	P		**P**	**04 01 39.9**	**-0.1**
TXAR	**Lajitas Array**	**58.57**	**81**	P		**P**	**04 01 39.9**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=300,slow=3.8,SNR=5.1							
CD2	**Chengdu**	**59.07**	**282**	P		**P**	**04 01 44.0**	**+0.6**
CD2				pP		**pP**	**04 01 54.5**	**+1.3**
CD2				sP		**sP**	**04 01 58.7**	**+1.7**
CD2				ScP		**ScP**	**04 06 29.1**	**-0.9**
CD2				S		**S**	**04 09 45.8**	**-2.3**
CD2				sS		**sS**	**04 10 03.4**	**-0.8**
CD2				SS		**SS**	**04 13 41.3**	**-0.6**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.4s							
CD2				pmax		pmax		
	comp=Z,100nm,5.3s							
KURK	**Kurchatov**	**59.10**	**314**	*eP*		**P**	**04 01 46.1**	**+2.8**
KURK							04 02 33.0	
KURK				pmax		pmax		
	comp=Z,1.0nm,0.6s							
KURK	**Kurchatov**	**59.10**	**314**	*eP*		**P**	**04 01 46.1**	**+2.8**
	comp=Z,0.8nm,0.6s							
KURK				PcP		**PcP**	**04 02 33.0**	**+1.3**
KURBB	**Kurchatov Arra**	**59.21**	**314**	P		**P**	**04 01 43.7**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=41,slow=6.7,SNR=7.3							
KURBB				PcP		**PcP**	**04 02 33.0**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=43,slow=4.0,SNR=5.7							
WMQ	**Urumqi**	**59.43**	**303**	*eP*		**P**	**04 01 46.0**	**+0.2**
MK31	**Makanchi Array**	**60.12**	**309**	*eP*		**P**	**04 01 50.9**	**+0.5**
MK31	**Makanchi Array**	**60.12**	**309**	*eP*		**P**	**04 01 50.9**	**+0.5**
MKAR	**Makanchi Array**	**60.12**	**309**	P		**P**	**04 01 49.9**	**-0.5**
MKAR	**Makanchi Array**	**60.12**	**309**	P		**P**	**04 01 49.9**	**-0.5**
MKAR	**Makanchi Array**	**60.12**	**309**	P		**P**	**04 01 49.9**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=57,slow=7.6,SNR=5.5							
GYA	**Guiyang**	**60.41**	**276**	P		**P**	**04 01 53.0**	**+0.2**
GYA				pP		**pP**	**04 02 03.4**	**+0.8**
GYA				sP		**sP**	**04 02 09.6**	**+3.2**
GYA				PcP		**PcP**	**04 02 38.0**	**+0.5**
GYA				PP		**PP**	**04 04 08.2**	**+2.3**
GYA				ScP		**ScP**	**04 06 34.7**	**-1.4**
GYA				S		**S**	**04 10 03.0**	**-2.7**
GYA				sS		**sS**	**04 10 21.8**	**-0.1**
GYA				SS		**SS**	**04 14 02.5**	**-0.9**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
GYA				pmax		pmax		
	comp=Z,90nm,5.0s							
GYA				LR		LR		
	comp=N,470nm,18.8s							
GYA				LR		LR		
	comp=E,390nm,19.6s							
GYA				LR		LR		
	comp=Z,440nm,18.4s							
SFIN	**Scholer Farm**	**60.68**	**61**	⇓P		**P**	**04 01 54.3**	**0.0**
	baz=60,SNR=5.0							
MIAR	**Mount Ida**	**61.05**	**70**	*eP*		**P**	**04 01 56.7**	**-0.2**
MIAR				pmax		pmax		
	comp=Z,51nm,2.4s							
MIAR	**Mount Ida**	**61.05**	**70**	*eP*		**P**	**04 01 56.7**	**-0.2**
	comp=Z,51nm,2.4s							
OLIL	**Olney**	**61.27**	**63**	*eP*		**P**	**04 01 57.5**	**-0.8**
	comp=Z,9.5nm,0.8s							
WCI	**Wyandotte Cave**	**62.63**	**62**	*eP*		**P**	**04 02 06.9**	**-0.6**
WCI				pmax		pmax		
	comp=Z,6.0nm,0.6s							
WCI	**Wyandotte Cave**	**62.63**	**62**	*eP*		**P**	**04 02 06.9**	**-0.6**
	comp=Z,5.8nm,0.6s							
KMI	**Kunming**	**63.82**	**278**	P		**P**	**04 02 16.1**	**+0.3**
KMI				pmax		pmax		
	comp=Z,5.0nm,0.5s							
SWET	**Sewanee**	**64.99**	**64**	*eP*		**P**	**04 02 23.0**	**-0.1**
	comp=Z,7.3nm,0.9s							
FINES	**FINESS Array B**	**65.83**	**347**	P		**P**	**04 02 27.3**	**-0.7**
FINES	**FINESS Array B**	**65.83**	**347**	P		**P**	**04 02 27.3**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=357,slow=7.6,SNR=6.8							
TKL	**Tuckaleechee C**	**65.88**	**63**	*eP*		**P**	**04 02 28.2**	**-0.6**
EKS2	**Erkin-Say**	**67.27**	**310**	*eP*		**P**	**04 02 38.1**	**+0.3**
EKS2				pmax		pmax		
	comp=Z,1.0nm,0.7s							
EKS2	**Erkin-Say**	**67.27**	**310**	*eP*		**P**	**04 02 38.1**	**+0.3**
	comp=Z,1.0nm,0.7s							
KSH	**Kashi**	**68.58**	**307**	*eP*		**P**	**04 02 49.0**	**+2.9**
KSH				pP		**pP**	**04 02 59.9**	**+3.9**
KSH				sP		**sP**	**04 03 03.8**	**+4.1**
KSH				PcP		**PcP**	**04 03 14.0**	**+3.0**
KSH				PP		PP	04 05 23.6	+6.5
KSH				S		**S**	**04 11 49.0**	**+2.7**
KSH				sS		**sS**	**04 12 06.6**	**+3.9**
KSH				ScS		**ScS**	**04 12 43.3**	**-0.2**
KSH				SS		**SS**	**04 16 16.5**	**+6.6**
CMAR	**Chiang Mai Arr**	**71.10**	**276**	P		**P**	**04 03 02.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**71.10**	**276**	P		**P**	**04 03 02.4**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=22,slow=7.6,SNR=4.4							
TAPN	**Taplejung**	**71.30**	**290**	*eP*		**P**	**04 03 05.3**	**+2.2**
	comp=Z,29nm,0.9s							
ODAN	**Odare**	**71.85**	**290**	*eP*		**P**	**04 03 08.6**	**+2.2**
	comp=Z,6.3nm,0.6s							
GUN	**Gumba**	**71.95**	**292**	*eP*		**P**	**04 03 09.5**	**+2.4**
	comp=Z,62nm,0.4s							
JIRN	**Jiri**	**71.95**	**292**	*eP*		**P**	**04 03 09.6**	**+2.5**
	comp=Z,20nm,0.7s							
RAMN	**Ramite**	**72.25**	**291**	*eP*		**P**	**04 03 10.9**	**+2.1**
	comp=Z,29nm,0.5s							
KKN	**Kakani**	**72.39**	**292**	*eP*		**P**	**04 03 11.7**	**+2.2**
	comp=Z,27nm,0.6s							
PKI	**Pulchoki**	**72.48**	**292**	*eP*		**P**	**04 03 12.2**	**+2.0**
	comp=Z,14nm,0.5s							
GKN	**Gorkha**	**72.60**	**293**	*eP*		**P**	**04 03 12.7**	**+2.0**
	comp=Z,19nm,0.5s							
DMN	**Daman**	**72.62**	**292**	*eP*		**P**	**04 03 13.2**	**+2.2**
	comp=Z,14nm,0.7s							
DANN	**Dangsing**	**72.84**	**294**	*eP*		**P**	**04 03 14.4**	**+2.1**
	comp=Z,34nm,0.8s							
KOLN	**Koldanda**	**73.37**	**294**	*eP*		**P**	**04 03 17.4**	**+2.0**
	comp=Z,8.0nm,0.6s							
AKASG	**Malin Array Be**	**75.60**	**342**	P		**P**	**04 03 27.3**	**-0.3**
AKASG	**Malin Array Be**	**75.60**	**342**	P		**P**	**04 03 27.3**	**-0.3**
AKASG	**Malin Array Be**	**75.60**	**342**	P		**P**	**04 03 27.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=21,slow=7.8,SNR=3.6							
ZEI	**Tsey**	**79.23**	**330**	*eP*		**P**	**04 03 48.5**	**+0.1**
ZEI				pmax		pmax		
	comp=Z,5.0nm,1.2s							
BUR08	**Bucovina Ar. S**	**79.28**	**344**	*eP*		**P**	**04 03 48.4**	**0.0**
GERES	**GERESS Array B**	**79.62**	**352**	P		**P**	**04 03 50.0**	**-0.2**
GERES	**GERESS Array B**	**79.62**	**352**	P		**P**	**04 03 50.0**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=23,slow=7.2,SNR=3.8							
BRTR	**Keskin Array B**	**85.01**	**336**	P		**P**	**04 04 19.2**	**+0.6**
BRTR	**Keskin Array B**	**85.01**	**336**	P		**P**	**04 04 19.2**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=43,slow=3.7,SNR=11							
ASAR	**Alice Springs**	**85.53**	**223**	P		**P**	**04 04 21.2**	**+0.1**
ASAR	**Alice Springs**	**85.53**	**223**	P		**P**	**04 04 21.2**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=17,slow=6.0,SNR=5.7							
ESDC	**Sonseca Array**	**89.23**	**4**	P		**P**	**04 04 38.6**	**-0.3**
ESDC	**Sonseca Array**	**89.23**	**4**	P		**P**	**04 04 38.6**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=344,slow=4.0,SNR=3.0							
TORD	**Torodi Ar. Bea**	**115.77**	**360**	PKP		**PKPdf**	**04 10 25.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**115.77**	**360**	PKP		**PKPdf**	**04 10 25.3**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=347,slow=1.4,SNR=5.0							
DBIC	**Dimbokro**	**121.96**	**7**	PKP		**PKPdf**	**04 10 37.3**	**-0.4**
DBIC	**Dimbokro**	**121.96**	**7**	PKP		**PKPdf**	**04 10 37.3**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=329,slow=3.5,SNR=3.8							
BOSA	**Boshof**	**151.06**	**313**	PKPbc		**PKPbc**	**04 11 36.0**	**0.0**
BOSA	**Boshof**	**151.06**	**313**	PKPbc		**PKPbc**	**04 11 36.0**	**0.0**
	comp=Z,1.2nm,0.6s,baz=7.8,slow=4.0,SNR=7.2							

IDC 08 03:59:43.7±2.4, 6°16S×129°89E, h0km, mb3.2/1, mb1 3.3/3, mb1mx3.2/15, mbtmp3.1/3, ML3.1/2, Error ellipse: s-maj=140.2km s-min=32.9km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.37**	**163**	Pn	Pn	04 03 09.6	+1.0
	0.1nm,0.3s,baz=346,slow=14,SNR=6.6						
WRA				Sn	Sn	04 05 33.0	-16
	0.4nm,0.3s,baz=331,slow=23,SNR=8.5						
ASAR	**Alice Springs**	**17.83**	**168**	P	Pn	04 03 52.7	-0.7
	0.0nm,0.3s,baz=347,slow=9.7,SNR=3.7						
ASAR				S	Sn	04 06 58.0	-15
	0.1nm,0.3s,baz=353,slow=20,SNR=4.3						
MKAR	**Makanchi Array**	**67.47**	**327**	P	P	04 10 41.5	0.0
	0.1nm,0.4s,baz=124,slow=7.0,SNR=4.2						

*ISCJB **08** 04:00:42.4±0.6, 79°.67N×0°.05×108°.4W×0°.3, h10km, mb3.4/6, Error ellipse: s-maj=9.0km s-min=6.9km az=168.1*
*IDC **08** 04:00:42.8±0.9, 79°.98N×108°.77W, h0km, mb3.5/6, mb1 3.6/11, mb1mx3.5/30, mbtmp3.5/11, ML3.6/5, Error ellipse: s-maj=24.0km s-min=18.3km az=90.0*
*OTT **08** 04:00:46.8±1.1, 79°.78N×107°.96W, h18km, ML3.8/5, 150km northwest from Isachsen, Nu Gustaf-Lougheed Arch Seismic Zone.*

ISC 08 04:00:43.7±0.7, 79°.77N±0°.06×108°33W±0°.07, h10km, n24, σ1°91/31, mb3.4/6, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	**Eureka**	**3.85**	**75**	PN	**Pn**	**04 01 44.0**	**+1.0**
EUNU				SN	**Sn**	**04 02 24.4**	**-3.8**
EUNU				Trac		04 02 30.3	
	comp=Z,44nm,0.6s						
RES	**Resolute Bay**	**5.89**	**143**	PN	**Pn**	**04 02 12.9**	**+2.1**
RES				SN	**Sn**	**04 03 18.1**	**-0.1**
RES				Trac		04 03 31.7	
	comp=Z,5.2nm,0.1s						
RES	**Resolute Bay**	**5.89**	**143**	Pn	**Pn**	**04 02 13.6**	**+2.8**
	1.3nm,0.3s,baz=329,slow=13,SNR=35						
RES				Sn	**Sn**	**04 03 19.0**	**+0.8**
	2.6nm,0.3s,baz=57,slow=21,SNR=3.5						
CB31	**Cambridge Bay**	**10.73**	**174**	PN	**Pn**	**04 03 17.8**	**+0.6**
CB31				SN	**Sn**	**04 05 13.2**	**-4.0**
CB31				Trac		04 05 18.5	
	comp=Z,21nm,0.4s						
ILON	**Igloolik, Nuna**	**12.38**	**132**	PN	**Pn**	**04 03 39.6**	**-0.1**
ILON				SN	Sn	04 05 50.5	-7.0
ILON				Trac		04 05 54.7	
	comp=Z,2.3nm,0.3s						
INK	**Inuvik**	**13.22**	**224**	PN	**Pn**	**04 03 51.8**	**+0.7**
INK				SN	Sn	04 06 10.3	-7.4
INK	**Inuvik**	**13.22**	**224**	Pn	**Pn**	**04 03 49.9**	**-1.2**
	0.2nm,0.3s,baz=15,slow=14,SNR=7.1						
INK				Sn	Sn	04 06 08.9	-8.8
	0.2nm,0.3s,baz=126,slow=17,SNR=3.7						
JERN	**Jeri Cho Mine,**	**13.85**	**185**	PN	**Pn**	**04 03 59.3**	**-0.4**
JERN				SN	Sn	04 06 26.6	-6.7
BULN	**Bullion Camp,**	**14.05**	**154**	PN	**Pn**	**04 04 01.4**	**-1.1**
BULN				SN	Sn	04 06 31.6	-6.6
BULN				Trac		04 06 47.9	
	comp=Z,5.2nm,0.6s						
WAGN	**Wager Bay**	**14.88**	**149**	PN	**Pn**	**04 04 13.8**	**+0.1**
WAGN				SN	**Sn**	**04 06 55.1**	**-3.1**
NUNN	**Nunuq Camp, NU**	**15.38**	**152**	PN	**Pn**	**04 04 21.0**	**+0.6**
NUNN				SN	**Sn**	**04 07 09.2**	**-1.4**
CTLN	**Castor Lake**	**15.57**	**192**	PN	**Pn**	**04 04 23.1**	**+0.2**
CTLN				SN	Sn	04 07 06.7	-8.5
GALN	**Gameti Lake**	**15.94**	**194**	PN	**Pn**	**04 04 26.7**	**-1.0**
GALN				SN	Sn	04 07 13.5	-11
COKN	**Cook Lake**	**16.59**	**181**	PN	**Pn**	**04 04 35.3**	**-0.6**
COKN				SN	**Sn**	**04 07 35.1**	**-4.6**
YKW3	**Yellowknife Ar**	**17.39**	**190**	PN	**P**	**04 04 46.8**	**-0.6**
YKW3				SN	Sn	04 07 47.6	-12
YKW3				Trac		04 07 54.4	
	comp=Z,1.4nm,0.4s						
YKA	**Yellowknife Ar**	**17.46**	**190**	P	**P**	**04 04 48.3**	**+0.3**
	0.4nm,0.3s,baz=357,slow=12,SNR=17						
YKA				S	Sn	04 07 49.8	-11
	0.2nm,0.3s,baz=1.4,slow=22,SNR=9.3						
ILAR	**Eielson Array**	**18.40**	**238**	P	**P**	**04 05 00.6**	**+2.2**
	0.0nm,0.3s,baz=14,slow=11,SNR=4.8						
FRB	**Frobisher Bay**	**19.55**	**122**	P	**Pn**	**04 05 13.9**	**+1.6**
	0.2nm,0.3s,baz=345,slow=16,SNR=4.6						
KURBB	**Kurchatov Arra**	**49.80**	**354**	P	**P**	**04 09 34.4**	**-1.6**
	0.3nm,0.8s,baz=356,slow=7.3,SNR=4.7						
TXAR	**Lajitas Array**	**50.57**	**175**	P	**P**	**04 09 44.1**	**+2.0**
	0.3nm,0.8s,baz=10,slow=5.5,SNR=2.8						
SONM	**Songino Array**	**51.09**	**330**	P	**P**	**04 09 45.1**	**-0.8**
	0.4nm,0.8s,baz=5.1,slow=4.9,SNR=4.9						
MKAR	**Makanchi Array**	**53.55**	**351**	P	**P**	**04 10 02.4**	**-1.7**
	0.4nm,0.7s,baz=35,slow=4.4,SNR=4.6						
ESDC	**Sonseca Array**	**53.74**	**68**	P	**P**	**04 10 06.9**	**+1.4**
	0.1nm,0.3s,baz=350,slow=7.4,SNR=4.9						
TORD	**Torodi Ar. Bea**	**80.63**	**68**	P	**P**	**04 12 56.9**	**+0.6**
	0.8nm,1.0s,baz=343,slow=6.0,SNR=4.0						

JMA 08 04:12:46.4±0.2, 37°.57N×134°.87E, h402km, M3.5, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**1.95**	**174**	P	P	04 13 42.2	-0.1
JKSM	**Kasumi**	**1.99**	**185**	P	P	04 13 42.1	-0.4
JWT	**Wachi**	**2.32**	**169**	P	P	04 13 44.7	0.0
JNG	**Nsakai**	**2.83**	**113**	P	P	04 13 49.1	+0.6
MAT	**Matsushiro**	**2.86**	**110**	P	P	04 13 48.0	-0.6
MAT	**Matsushiro**	**2.86**	**110**	P	P	04 13 49.3	+0.7
JHU	**Hanno**	**3.94**	**114**	P	P	04 13 59.1	+1.2
JHU				*eS*	S	04 14 53.0	-3.1
JFT	**Otama**	**4.34**	**89**	P	P	04 14 02.9	+1.2
JYT	**Yasato**	**4.47**	**106**	P	P	04 14 03.5	+0.6
JHO	**Hitachi**	**4.66**	**100**	*eS*	S	04 15 03.4	-5.4
JMM	**Marumori**	**4.71**	**85**	P	P	04 14 05.8	+0.6
JFK	**Kawauchi**	**4.78**	**91**	P	P	04 14 05.8	-0.3
JRG	**Rokugo**	**4.88**	**66**	P	P	04 14 07.8	+0.9
BSO4	**Boso 4**	**5.11**	**119**	P	P	04 14 10.1	+0.8
BSO4				*eS*	S	04 15 15.3	-1.9
JMK	**Ichinoseki**	**5.18**	**73**	P	P	04 14 11.0	+0.9
BSO3	**Boso 3**	**5.33**	**120**	P	P	04 14 11.5	+0.1
BSO3				*eS*	S	04 15 17.8	-3.2

GUC 08 04:36:51.6±0.4, 42°.87S×72°.61W, h19km±3km, ML3.5, 1C-1D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUNY	**Huinay**	**0.51**	**16**	⇓*iP*	Pg	04 37 01.5	-0.4
HUNY				*eP*	Pb	04 37 01.6	-0.3
HUNY				*i* S	Sb	04 37 08.9	0.0
HUNY				AML	AML	04 37 14.3	
	comp=N,2μm,0.6s						
ILCA	**Isla Las Cabra**	**0.81**	**4**	⇑*iP*	Pb	04 37 06.6	-0.4
ILCA				*i* S	Sg	04 37 18.1	-0.1
HOCH	**HornopirØn**	**0.97**	**9**	*i* S	Sg	04 37 23.4	+0.1
HOCH				AML	AML	04 37 29.9	
	comp=E,1μm,0.7s						
COYC	**Coyhaique**	**2.73**	**172**	AML	AML	04 38 20.3	
	comp=E,91nm,0.5s						

*CSEM **08** 04:53:25.0±0.3, 31°.43N×57°.09E, h2km, ML3.5, Error ellipse: s-maj=10.1km s-min=6.0km az=152.0*
*TEH **08** 04:53:27.0, 31°.57N×57°.04E, h4km, ML3.5*

ISC 08 04:53:24.9±2.1, 31°49N±0°.05×57°10E±0°.03, h6km±18km, n33, σ1°86/43, 1D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**1.31**	**275**	*e*Pg	**Pn**	**04 53 49.0**	**-0.9**
IBAF				*e*Sg	**Sb**	**04 54 06.4**	**-0.8**
IBAF				*e*		04 54 17.0	
	comp=Z,6μm,0.1s						
IBAF	**Bafgh**	**1.31**	**275**	*e*Pg	**Pn**	**04 53 49.0**	**-0.9**
IBAF				*e*Sg	**Sb**	**04 54 06.4**	**-0.8**
KRBR	**Kerman**	**1.53**	**191**	*e*Pg	**Pn**	**04 53 51.5**	**-1.6**
KRBR				*e*Sg	**Sn**	**04 54 11.3**	**-2.1**
IKOO	**Kooshah**	**1.87**	**60**	*e*Pn	**Pb**	**04 53 59.6**	**0.0**
IKOO				*e*Sg	**Sg**	**04 54 25.9**	**+0.9**
IKOO				*e*		04 54 29.9	
	comp=Z,7μm,0.1s						
IKOO	**Kooshah**	**1.87**	**60**	*e*Pn	**Pb**	**04 53 59.6**	**0.0**
IKOO				*e*Sg	**Sg**	**04 54 25.9**	**+0.9**
ITEG	**Tejag**	**1.98**	**45**	*e*Pn	**Pb**	**04 54 01.3**	**-0.2**
ITEG				*e*Sg	**Sb**	**04 54 27.8**	**+1.4**
ITEG				*e*		04 54 37.3	
	comp=Z,3μm,0.1s						
ITEG	**Tejag**	**1.98**	**45**	*e*Pn	**Pb**	**04 54 01.3**	**-0.2**
ITEG				*e*Sg	**Sb**	**04 54 27.8**	**+1.4**
IMEH	**Mehriz**	**2.13**	**268**	*e*Pn	**Pn**	**04 54 02.8**	**+1.6**
IMEH				*e*Sg	**Sb**	**04 54 30.7**	**0.0**
IMEH				*e*		04 54 34.2	
	comp=Z,3μm,0.2s						
IMEH	**Mehriz**	**2.13**	**268**	*e*Pn	**Pn**	**04 54 02.8**	**+1.6**
IMEH				*e*Sg	**Sb**	**04 54 30.7**	**0.0**
TABS	**Tabas**	**2.15**	**0**	*e*Pg	**Pb**	**04 54 03.0**	**-1.3**
ICHK	**Chekchek**	**2.41**	**289**	*e*Sg	**Sb**	**04 54 39.8**	**+0.9**
ICHK				⇓*e*Pn	**Pn**	**04 54 06.5**	**+1.4**
ICHK				*e*		04 54 44.9	
	comp=Z,4μm,0.2s						
IDAH	**Dahanechah**	**2.66**	**61**	*e*Pn	**Pn**	**04 54 10.7**	**+2.2**
IDAH				*e*		04 54 21.8	
	comp=Z,2μm,0.3s						
IDAH	**Dahanechah**	**2.66**	**61**	*e*Pn	**Pn**	**04 54 10.7**	**+2.2**
IMON	**Monand**	**2.76**	**51**	*e*Pn	**Pn**	**04 54 11.5**	**+1.7**
IMON				*e*		04 54 28.4	
	comp=Z,2μm,0.1s						
IMON	**Monand**	**2.76**	**51**	*e*Pn	**Pn**	**04 54 11.5**	**+1.7**
ISAD	**Sadrabad**	**2.94**	**279**	*e*Pn	**Pn**	**04 54 14.2**	**+1.8**
ISAD				*e*		04 55 02.8	
	comp=Z,2μm,0.2s						
ISAD	**Sadrabad**	**2.94**	**279**	*e*Pn	**Pn**	**04 54 14.2**	**+1.8**
SHRT	**Shahrakht**	**3.45**	**51**	*e*Pn	**Pn**	**04 54 20.2**	**+1.0**
IPAR	**Pars**	**3.86**	**246**	*e*Pn	**Pn**	**04 54 26.8**	**+1.7**
IPAR				*e*		04 55 46.2	
	comp=Z,639nm,0.4s						
IPAR	**Pars**	**3.86**	**246**	*e*Pn	**Pn**	**04 54 26.8**	**+1.7**
ISRV	**Sarvestan**	**4.03**	**

YULB	**Yu-li**	**0.56**	**7**	*e*Pg	**Pg**	**05 19 05.3**	**-1.0**
TAW	**Tawu**	**0.56**	**213**	⇑*i*P	**Pg**	**05 19 05.7**	**-0.6**
	baz=211						
TAW				*e*S	**Sg**	**05 19 13.1**	**-0.7**
	baz=211						
EAST	**Anshuo**	**0.57**	**218**	⇑*i*P	**Pg**	**05 19 05.8**	**-0.7**
	baz=209						
EAST				*e*S	**Sg**	**05 19 13.1**	**-1.0**
	baz=209						
SGST	**Jiashian**	**0.64**	**293**	⇑*i*P	**Pg**	**05 19 07.1**	**-0.7**
	baz=295						
SGST				*e*S	**Sg**	**05 19 15.7**	**-0.6**
	baz=295						
EHY	**Hungye**	**0.68**	**8**	*e*P	**Pg**	**05 19 07.1**	**-1.4**
	baz=15						
EHY				*e*S	**Sg**	**05 19 15.9**	**-1.6**
	baz=15						
SGLT	**Jiouru**	**0.68**	**261**	P	**Pg**	**05 19 08.2**	**-0.4**
	baz=257						
SGLT				*e*S	**Sg**	**05 19 17.2**	**-0.5**
	baz=257						
WTP	**Ta-pu**	**0.69**	**306**	⇑*i*P	**Pg**	**05 19 08.2**	**-0.6**
	baz=310						
WTP				*e*S	**Sg**	**05 19 16.6**	**-1.5**
	baz=310						
TPUB	**Ta-pu**	**0.72**	**310**	*e*Pg	**Pg**	**05 19 08.4**	**-0.9**
TPUB				*e*Sg	**Sg**	**05 19 17.9**	**-0.8**
SCZT	**Fangliau**	**0.72**	**231**	⇑*i*P	**Pg**	**05 19 08.5**	**-0.8**
	baz=219						
CHN1	**Nanshi**	**0.73**	**299**	⇑*i*P	**Pg**	**05 19 09.2**	**-0.3**
	baz=304						
CHN1				*e*S	**Sg**	**05 19 19.3**	**+0.2**
	baz=304						
TWM1	**Shoushan**	**0.74**	**269**	⇑*i*P	**Pg**	**05 19 09.6**	**0.0**
	baz=264						
ALS	**Alishan**	**0.78**	**330**	⇑P	**Pg**	**05 19 09.7**	**-0.7**
	baz=343						
ALS				*e*S	**Sg**	**05 19 19.6**	**-1.1**
	baz=343						
CHN4	**Tsaushan**	**0.78**	**312**	P	**Pg**	**05 19 09.9**	**-0.4**
	baz=325						
CHN4				*e*S	**Sg**	**05 19 19.9**	**-0.7**
	baz=325						
TWK	**Hsinying**	**0.80**	**303**	*e*P	**Pb**	**05 19 10.2**	**-0.6**
	baz=306						
CHN3	**Shinhua**	**0.83**	**287**	P	**Pn**	**05 19 12.1**	**-0.1**
	baz=287						
CHN3				*e*S	**Sn**	**05 19 25.9**	**+1.8**
	baz=287						
LAY	**Lan-yu**	**0.85**	**159**	*e*P	**Pb**	**05 19 11.1**	**-0.5**
	baz=156						
KAU	**Kaohsiung**	**0.89**	**253**	*e*S	**Sn**	**05 19 27.4**	**+1.9**
	baz=248						
CHN5	**Tsauling**	**0.91**	**327**	⇑*i*P	**Pb**	**05 19 12.3**	**-0.4**
	baz=332						
TWP	**Hsiaoliuchiu**	**0.93**	**239**	*e*P	**Pn**	**05 19 15.2**	**+1.6**
	baz=228						
TWP				*e*S	**Sn**	**05 19 28.6**	**+1.9**
	baz=228						
HEN	**Hengchun**	**0.94**	**209**	*e*P	**Pb**	**05 19 12.7**	**-0.4**
	baz=194						
HEN				*e*S	**Sn**	**05 19 26.7**	**-0.1**
	baz=194						
TAI1	**Yung-k'ang**	**0.94**	**283**	*e*P	**Pn**	**05 19 13.9**	**+0.1**
	baz=283						
TAI1				*e*S	**Sn**	**05 19 27.1**	**+0.3**
	baz=283						
TWK1	**Hengchun**	**0.97**	**204**	*e*P	**Pb**	**05 19 12.5**	**-1.1**
	baz=191						
CHN2	**Minshiung**	**0.98**	**315**	P	**Pg**	**05 19 14.2**	**0.0**
	baz=320						
CHN2				*e*S	**Sn**	**05 19 28.3**	**+0.5**
	baz=320						
TSEB	**Hengchuen, Pin**	**0.98**	**198**	*e*P	**Pn**	**05 19 14.4**	**+0.1**
	baz=183						
SSLB	**Suanglung**	**0.98**	**345**	*e*Pg	**Pb**	**05 19 12.7**	**-1.1**
SSLB				*e*Sg	**Sn**	**05 19 28.4**	**+0.5**
CHY	**Chiayi**	**0.99**	**312**	P	**Pb**	**05 19 13.8**	**-0.1**
	baz=316						
CHY				S	**Sn**	**05 19 27.9**	**-0.2**
	baz=316						
ESL	**Shilin**	**0.99**	**11**	*e*P	**Pb**	**05 19 14.1**	**0.0**
	baz=29						
SCLT	**Jiali**	**1.01**	**290**	*e*P	**Pb**	**05 19 14.5**	**+0.2**
	baz=301						
SCLT				*e*S	**Sn**	**05 19 29.1**	**+0.5**
	baz=301						
WGK	**Gukeng**	**1.04**	**325**	*e*P	**Pg**	**05 19 15.4**	**0.0**
	baz=329						
WGK				*e*S	**Sn**	**05 19 30.1**	**+0.7**
	baz=329						
CHN8	**Yiju**	**1.06**	**299**	*e*P	**Pb**	**05 19 14.9**	**-0.3**
	baz=302						
CHN8				*e*S	**Sn**	**05 19 30.1**	**+0.2**
	baz=302						
SMLT	**Sun Moon Lake**	**1.08**	**344**	⇑P	**Pb**	**05 19 15.3**	**-0.4**
	baz=355						
SMLT				*e*S	**Sb**	**05 19 30.2**	**+0.5**
	baz=355						
TYC	**Yuchr**	**1.12**	**343**	P	**Pb**	**05 19 16.1**	**0.0**
	baz=353						
TYC				*e*S	**Sg**	**05 19 32.3**	**+0.9**
	baz=353						
WNT	**Mingjian**	**1.15**	**335**	⇑P	**Pg**	**05 19 17.4**	**0.0**
	baz=340						
WNT				S	**Sg**	**05 19 32.9**	**+0.4**
	baz=340						
HWA	**Hwalien**	**1.19**	**17**	*e*P	**Pg**	**05 19 19.6**	**+1.4**
	baz=20						
HWA				*e*S	**Sg**	**05 19 35.2**	**+1.5**
	baz=20						
WSF	**Szhu**	**1.22**	**311**	*e*P	**Pn**	**05 19 17.0**	**-0.6**
	baz=315						
WSF				*e*S	**Sn**	**05 19 34.2**	**+0.4**
	baz=315						
TWD	**Chiawan**	**1.29**	**15**	*e*P	**Pn**	**05 19 18.3**	**-0.3**
	baz=34						
WHF	**Hehuan Shan**	**1.30**	**2**	*e*P	**Pn**	**05 19 18.1**	**-1.1**
	baz=5.0						
WHF				*e*S	**Sb**	**05 19 36.2**	**-0.1**
	baz=5.0						
NACB	**Ninganchiao**	**1.38**	**14**	*e*Pn	**Pn**	**05 19 17.6**	**-2.2**
NACB				*e*S	**Sn**	**05 19 35.4**	**-2.3**
TCU	**Taichung**	**1.40**	**339**	*e*P	**Pb**	**05 19 21.3**	**+0.3**
	baz=344						
TCU				*e*S	**Sg**	**05 19 40.3**	**-0.2**
	baz=344						
TWT	**Tachien**	**1.41**	**358**	*e*P	**Pn**	**05 19 20.5**	**0.0**
	baz=8.0						
TWT				*e*S	**Sn**	**05 19 39.0**	**+0.2**
	baz=8.0						
TWQ1	**Liyutan**	**1.56**	**345**	⇑P	**Pb**	**05 19 24.4**	**+0.6**
	baz=334						
TWQ1				*e*S	**Sg**	**05 19 46.2**	**+0.6**
	baz=334						
NNS	**Nan Shan**	**1.60**	**5**	*e*P	**Pb**	**05 19 25.3**	**+0.8**
	baz=7.0						
NSY	**Sanyi**	**1.63**	**345**	P	**Pb**	**05 19 25.2**	**+0.3**
	baz=335						
NSY				S	**Sg**	**05 19 47.9**	**+0.1**
	baz=335						
ENA	**Nanau**	**1.66**	**17**	*e*P	**Pn**	**05 19 22.0**	**-1.6**
	baz=32						
PNG	**Penghu**	**1.70**	**296**	P	**Pn**	**05 19 23.1**	**-1.1**
	baz=298						
PNG				*e*S	**Sn**	**05 19 43.4**	**-2.2**
	baz=298						
NSTT	**Nanjuang**	**1.80**	**354**	*e*P	**Pn**	**05 19 26.5**	**+0.9**
	baz=356						
NSTT				*e*S	**Sb**	**05 19 51.1**	**+1.0**
	baz=356						
ENTT	**Nioudou**	**1.82**	**10**	*e*P	**Pn**	**05 19 25.9**	**-0.1**
	baz=25						
YHNB	**Yeheng**	**1.83**	**4**	*e*Pn	**Pn**	**05 19 26.2**	**+0.1**
YHNB				*e*S	**Sn**	**05 19 47.9**	**-1.2**
NSK	**Sanguang**	**1.84**	**4**	*e*P	**Pn**	**05 19 26.2**	**0.0**
	baz=6.0						
TWC	**Suao**	**1.86**	**18**	*e*P	**Pn**	**05 19 27.0**	**+0.6**
	baz=33						
TWE	**Neicheng**	**1.92**	**12**	*e*P	**Pb**	**05 19 29.1**	**-0.8**
	baz=27						
ILA	**Ilan**	**1.98**	**14**	*e*P	**Pb**	**05 19 29.9**	**-1.0**
	baz=27						
NCU	**National Centr**	**2.13**	**359**	*e*P	**Pb**	**05 19 34.1**	**+0.7**
	baz=2.0						
TATO	**Taipei**	**2.15**	**6**	*e*Pn	**Pn**	**05 19 30.3**	**-0.1**
TATO				*e*Sn	**Sn**	**05 19 56.6**	**0.0**
TWA	**Mucha**	**2.16**	**9**	*e*P	**Pb**	**05 19 33.1**	**-0.9**
	baz=29						
TAP1	**Taipei**	**2.21**	**7**	*e*P	**Pb**	**05 19 34.2**	**-0.6**
	baz=28						
TWS1	**Kuangyinshan**	**2.26**	**4**	*e*P	**Pb**	**05 19 34.6**	**-1.1**
	baz=354						
TWB1	**Santiao Chiao**	**2.27**	**18**	*e*P	**Pb**	**05 19 34.4**	**-1.5**
	baz=35						
NWF	**Wu-fen Shan**	**2.29**	**13**	*e*P	**Pn**	**05 19 32.8**	**+0.4**
	baz=26						
YOJ	**Yonaguni jima**	**2.31**	**45**	*e*P	**Pn**	**05 19 34.0**	**+1.4**
	baz=45						
YOJ	**Yonaguni jima**	**2.31**	**45**	P	**Pn**	**05 19 33.9**	**+1.4**
YOJ				*e*S	**Sn**	**05 20 01.2**	**+0.6**
HATJ	**Hateruma jima**	**2.67**	**62**	P	**Pn**	**05 19 37.9**	**+0.4**
HATJ				*e*S	**Sn**	**05 20 09.4**	**-0.1**
IRIF	**Iriomote-Funau**	**2.74**	**57**	P	**Pn**	**05 19 39.2**	**+0.6**
IRIF				*e*S	**Sn**	**05 20 11.5**	**+0.1**
JKRS	**Kuro-shima**	**2.91**	**61**	P	**Pn**	**05 19 41.7**	**+0.8**
JKRS				*e*S	**Sn**	**05 20 15.8**	**+0.2**
KNM	**Kinmen**	**3.00**	**302**	*e*P	**Pn**	**05 19 42.8**	**+0.6**
	baz=303						
JIJ	**Ishigaki jima**	**3.08**	**60**	P	**Pn**	**05 19 43.5**	**+0.3**
JIJ				*e*S	**Sn**	**05 20 18.6**	**-1.2**
QZH	**Quanzhou**	**3.19**	**312**	Pn	**Pn**	**05 19 45.0**	**+0.2**
QZH				Sn	**Sn**	**05 20 20.2**	**-2.3**
QZH				smax	smax		
	comp=N,310nm,0.6s						
QZH				smax	smax		
	comp=E,280nm,0.8s						
JTJ	**Tarama**	**3.66**	**60**	P	**Pn**	**05 19 52.2**	**+1.0**
JTJ				*e*S	**Sn**	**05 20 34.4**	**+0.3**
JMJ	**Miyako jima 2**	**4.22**	**61**	*e*S	**Sn**	**05 20 48.4**	**+0.6**
JOGS	**Gusukube**	**4.29**	**63**	P	**Pn**	**05 20 00.9**	**+1.1**
JOGS				*e*S	**Sn**	**05 20 48.9**	**-0.6**
JOW	**Kunigami**	**7.54**	**57**	Pn	**Pn**	**05 20 42.2**	**-2.4**
JOW	**Kunigami**	**7.54**	**57**	Pn	**Pn**	**05 20 42.2**	**-2.4**
	comp=E,1.6nm,0.3s,baz=166,slow=17,SNR=2.3						
KSAR	**Wonju Array Be**	**15.65**	**20**	Pn	**Pn**	**05 22 35.0**	**0.0**
KSRS	**Korea Array**	**15.67**	**20**	Pn	**Pn**	**05 22 35.0**	**-0.3**
	comp=E,0.0nm,0.3s,baz=204,slow=13,SNR=3.0						
KSRS				LR	LR	05 29 20.5	
	comp=E,70nm,18.1s,baz=200,slow=40						
LZH	**Lanzhou**	**20.04**	**315**	*e*P	Pn	05 23 31.0	+1.3
LZH				pP	pP	05 23 39.1	+6.8
LZH				sP	sP	05 23 42.2	+7.8
LZH				pmax	pmax		
	comp=Z,12nm,1.0s						
MJAR	**Matsushiro Arr**	**20.07**	**43**	P	**P**	**05 23 25.7**	**-2.2**
MJAR	**Matsushiro Arr**	**20.07**	**43**	P	**P**	**05 23 25.7**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=236,slow=10.0,SNR=2.8						
CMAR	**Chiang Mai Arr**	**21.29**	**262**	P	**P**	**05 23 43.1**	**+1.8**
CMAR	**Chiang Mai Arr**	**21.29**	**262**	P	**P**	**05 23 43.1**	**+1.8**
	comp=Z,2.9nm,0.9s,baz=62,slow=8.3,SNR=14						
CMAR				LR	LR	05 33 29.2	
	comp=Z,90nm,18.7s,baz=75,slow=41						
GTA	**Gaotai**	**24.58**	**317**	*e*P	**P**	**05 24 16.0**	**+1.3**
GTA				pP	**pP**	**05 24 20.8**	**+1.3**
GTA				sP	**sP**	**05 24 23.9**	**+2.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ULN	**Ulaanbaatar**	**27.43**	**339**	*e*P	**P**	**05 24 40.9**	**+0.5**
	comp=Z,1.2nm,0.8s						
SONM	**Songino Array**	**27.62**	**338**	P	**P**	**05 24 42.7**	**+0.6**
SONM	**Songino Array**	**27.62**	**338**	P	**P**	**05 24 42.7**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=153,slow=8.9,SNR=13						
MK31	**Makanchi Array**	**39.34**	**317**	*e*P	**P**	**05 26 25.1**	**+1.4**
MKAR	**Makanchi Array**	**39.34**	**317**	P	**P**	**05 26 25.2**	**+1.5**
MKAR				PcP	**PcP**	**05 28 32.5**	**+0.4**
MKAR	**Makanchi Array**	**39.34**	**317**	P	**P**	**05 26 25.2**	**+1.5**
	comp=Z,3.8nm,0.9s,baz=109,slow=10,SNR=30						
MKAR				PcP	**PcP**	**05 28 32.5**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=103,slow=4.6,SNR=4.3						
PETK	**Petropavlovsk-**	**40.97**	**33**	LR	LR	05 44 37.6	
	comp=Z,56nm,20.6s,baz=51,slow=38						
ZAA0	**Zalesovo Array**	**41.40**	**328**	*e*P	**P**	**05 26 40.6**	**0.0**
ZALV	**Zalesovo Beam**	**41.40**	**328**	P	**P**	**05 26 40.4**	**-0.2**
ZALV	**Zalesovo Beam**	**41.40**	**328**	P	**P**	**05 26 40.4**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=115,slow=8.0,SNR=15						
WRA	**Warramunga Arr**	**44.40**	**162**	P	**P**	**05 27 02.8**	**-2.5**
WRA	**Warramunga Arr**	**44.40**	**162**	P	**P**	**05 27 02.8**	**-2.5**
	comp=Z,0.6nm,0.5s,baz=344,slow=8.7,SNR=6.9						
ASAR	**Alice Springs**	**47.84**	**164**	P	**P**	**05 27 30.7**	**-1.7**
ASAR	**Alice Springs**	**47.84**	**164**	P	**P**	**05 27 30.7**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=342,slow=6.9,SNR=4.5						
FINES	**FINESS Array B**	**72.62**	**330**	P	**P**	**05 30 20.9**	**-0.8**
FINES	**FINESS Array B**	**72.62**	**330**	P	**P**	**05 30 20.9**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=346,slow=3.9,SNR=5.4						
BRTR	**Keskin Array B**	**74.00**	**307**	P	**P**	**05 30 31.5**	**+1.0**
BRTR	**Keskin Array B**	**74.00**	**307**	P	**P**	**05 30 31.5**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=91,slow=6.2,SNR=8.3						
NB2	**NORSAR Subarra**	**79.43**	**332**	P	**P**	**05 30 59.8**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=57,slow=5.6						
NOA	**NORSAR Array B**	**79.43**	**332**	P	**P**	**05 30 59.9**	**-0.7**
NOA	**NORSAR Array B**	**79.43**	**332**	P	**P**	**05 30 59.9**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=58,slow=5.6,SNR=4.9						
NOA				LR	LR	06 06 47.3	
	comp=Z,21nm,19.9s,baz=285,slow=36						
GERES	**GERESS Array B**	**83.90**	**321**	P	**P**	**05 31 25.3**	**+0.8**
GERES	**GERESS Array B**	**83.90**	**321**	P	**P**	**05 31 25.3**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=48,slow=4.0,SNR=4.0						
YKA	**Yellowknife Ar**	**84.19**	**23**	P	**P**	**05 31 24.4**	**-1.2**
YKA	**Yellowknife Ar**	**84.19**	**23**	P	**P**	**05 31 24.4**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=317,slow=4.4,SNR=7.0						
SDV	**Santo Domingo**	**146.41**	**22**	*e*PKPdf	**PKPdf**	**05 38 35.2**	**-0.1**

*ISK **08** 05:26:15.3,36.96N×28.27E, h5km, MD2.9*
*DDA **08** 05:26:16.1,36.97N×28.24E, h7km, MD2.5*
*CSEM **08** 05:26:16.0±0.3,36.93N×28.26E, h2km, MD2.9, Error ellipse: s-maj=9.5km s-min=5.6km az=15.0*

ISC 08 05:26:14.7±1.2, 36.89N±0.04×28.24E±0.03, h6km±10km, n20, σ0.83/30, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.24**	**8**	*e*PG	**Pg**	**05 26 19.0**	**-0.5**
YER				*e*SG	**Sg**	**05 26 23.0**	**+0.3**
YER	**Yerkesik**	**0.24**	**8**	*e*Pg	**Pg**	**05 26 19.0**	**-0.5**
YER				*e*Sg	**Sg**	**05 26 23.0**	**+0.3**
TURN	**Turunc**	**0.29**	**94**	*i* P	**Pg**	**05 26 20.3**	**-0.1**
TURN				*i* S	**Sg**	**05 26 23.7**	**-0.6**
TURN	**Turunc**	**0.29**	**94**	*i* P	**Pg**	**05 26 20.3**	**-0.1**
TURN				*i* S	**Sg**	**05 26 23.7**	**-0.6**
BDRM	**Kayabasi**	**0.66**	**285**	*e*P	**Pg**	**05 26 27.0**	**-0.4**
BDRM				*i* S	**Sb**	**05 26 38.4**	**+0.3**
BDRM	**Kayabasi**	**0.66**	**285**	*e*P	**Pg**	**05 26 27.0**	**-0.4**
BDRM				*i* S	**Sb**	**05 26 38.4**	**+0.3**
FETY	**Fethiye**	**0.73**	**111**	*e*PG	**Pn**	**05 26 30.6**	**-1.0**
FETY				*e*SG	**Sn**	**05 26 42.0**	**-1.1**
FETY	**Fethiye**	**0.73**	**111**	*e*Pg	**Pn**	**05 26 30.6**	**-1.0**
FETY				*e*Sg	**Sn**	**05 26 42.0**	**-1.1**
BODT	**Bodrum**	**0.76**	**283**	*e*PG	**Pb**	**05 26 31.2**	**+0.8**
BODT				*e*SG	**Sn**	**05 26 43.3**	**-0.6**
BODT	**Bodrum**	**0.76**	**283**	*e*Pg	**Pb**	**05 26 31.2**	**+0.8**
BODT				*e*Sg	**Sn**	**05 26 43.3**	**-0.6**
ELL	**Elmali**	**1.35**	**96**	*e*PN	**Pg**	**05 26 41.9**	**+1.3**
ELL	**Elmali**	**1.35**	**96**	*e*Pn	**Pg**	**05 26 41.9**	**+1.3**
KULA	**Kula-Manisa**	**1.65**	**12**	*e*PN	**Pg**	**05 26 45.8**	**-0.6**
KULA	**Kula-Manisa**	**1.65**	**12**	*e*Pn	**Pg**	**05 26 45.8**	**-0.6**
KHL	**Karahalli**	**1.75**	**35**	*e*PN	**Pb**	**05 26 47.2**	**-0.2**
KHL	**Karahalli**	**1.75**	**35**	*e*Pn	**Pb**	**05 26 47.2**	**-0.2**
BLCB	**Balcova**	**1.77**	**328**	*e*PN	**Pg**	**05 26 48.0**	**-0.5**
BLCB	**Balcova**	**1.77**	**328**	*e*Pn	**Pg**	**05 26 48.0**	**-0.5**
ALT	**Altintas**	**2.62**	**34**	*e*PN	**Pn**	**05 26 59.2**	**+1.6**
ALT	**Altintas**	**2.62**	**34**	*e*Pn	**Pn**	**05 26 59.2**	**+1.6**

*IDC **08** 05:35:49.7±19.0, 12.56N×60.87W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.5/20, mbtmp3.5/4, Error ellipse: s-maj=405.3km s-min=97.9km az=151.0*
*ISCJB **08** 05:36:13.5±0.5, 12.96N±0.03×61.46W±0.07, h172km±4km, mb3.3/4, Error ellipse: s-maj=11.5km s-min=4.6km az=12.1*
*FUNV **08** 05:36:14.1, 13.06N×61.11W, h109km, MW3.4*
*TRN **08** 05:36:15.0, 13.01N×61.44W, h156km, MD3.5, M3.7(FDF)*

ISC 08 05:36:13.9±0.9, 12.93N±0.04×61.42W±0.07, h172km±6km, n30, σ1.31/45, mb3.3/4, 4C-2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FCV	**Fort Charlotte**	**0.28**	**37**	*e*P	**Pn**	**05 36 36.9**	**-0.1**
SVB	**Belmont**	**0.38**	**26**	⇓*i*P	**Pn**	**05 36 37.4**	**+0.1**
SVB				*e*S	**Sn**	**05 36 54.0**	**-1.3**
SVV	**Soufriere Volc**	**0.43**	**28**	*e*P	**Pn**	**05 36 37.8**	**+0.3**
SVV				*e*S	**Sn**	**05 36 54.3**	**-1.4**
GRSS	**Sisters**	**0.65**	**196**	*e*P	**Pn**	**05 36 39.3**	**+0.8**
GRSS				*e*S	**Sn**	**05 36 56.6**	**-0.9**
GRIC	**Isle de Caille**	**0.66**	**194**	⇓*e*P	**Pn**	**05 36 39.6**	**+1.1**
GRIC				*e*S	**Sn**	**05 36 56.8**	**-0.7**
GRHS	**Sauteurs**	**0.73**	**197**	⇑*e*P	**Pn**	**05 36 39.9**	**+1.0**
GRHS				*e*S	**Sn**	**05 36 57.0**	**-1.2**
GRW	**Mount Saint Ca**	**0.80**	**197**	*e*P	**Pn**	**05 36 41.1**	**+1.6**
GRW				*e*S	**Sn**	**05 36 59.1**	**-0.1**
MCLT	**Moule a Chique**	**0.91**	**31**	*e*P	**Pn**	**05 36 40.4**	**+0.3**
MCLT				*e*S	**Sn**	**05 36 59.3**	**-1.1**
SLB	**Belfond**	**0.97**	**23**	*e*P	**Pn**	**05 36 42.5**	**+2.0**
SLB				*e*S	**Sn**	**05 37 00.7**	**-0.5**
BIM	**Bigot**	**1.61**	**12**	*e*P	**Pn**	**05 36 46.2**	**-0.1**
MVM	**Montagne Vaucl**	**1.69**	**18**	*e*P	**Pn**	**05 36 47.6**	**+0.4**
MVM				*e*S	**Sn**	**05 37 12.3**	**-0.7**
FDF	**Fort de France**	**1.81**	**8**	⇑*e*P	**Pn**	**05 36 48.1**	**-0.3**
FDF				⇑*e*S	**Sn**	**05 37 17.3**	**+2.1**
TOSP	**Speyside**	**1.84**	**152**	*e*P	**Pn**	**05 36 50.4**	**+1.7**
TOSP				*e*S	**Sn**	**05 37 16.0**	**+0.4**
TPR	**Prospect**	**1.84**	**160**	*e*P	**Pn**	**05 36 51.1**	**+2.4**
TPR				*e*S	**Sn**	**05 37 16.9**	**+1.1**
TRN	**Trinidad (W)**	**2.27**	**180**	*e*S	**Sn**	**05 37 25.2**	**+1.0**
GUIV	**Guiria**	**2.40**	**199**	⇑*e*P	**Pn**	**05 36 54.8**	**-0.2**
GUIV				*e*S	**Sn**	**05 37 24.1**	**-2.8**
TBH	**Brigand Hill**	**2.46**	**172**	*e*S	**Sn**	**05 37 29.2**	**+1.1**
CRUV	**Carupano**	**2.86**	**219**	*e*P	**Pn**	**05 37 01.2**	**+0.7**
CRUV				*e*S	**Sn**	**05 37 37.0**	**+0.3**
GUNV	**Guanoco**	**3.13**	**209**	*e*P	**Pn**	**05 37 04.2**	**+0.4**
GUNV				*e*S	**Sn**	**05 37 41.5**	**-1.1**
PCRV	**Puerto La Cruz**	**4.17**	**229**	*e*P	**Pn**	**05 37 17.6**	**+0.6**
RIOV	**Rio Grande**	**4.85**	**185**	*e*P	**Pn**	**05 37 26.0**	**+0.3**
RIOV				*e*S	**Sn**	**05 38 18.3**	**-3.8**
CUPV	**Cœpira**	**5.14**	**237**	*e*P	**Pn**	**05 37 31.7**	**+2.1**
GURV	**El Guri**	**5.39**	**198**	*e*P	**Pn**	**05 37 33.1**	**+0.2**
MERV	**Las Mercedes**	**6.02**	**233**	*e*P	**Pn**	**05 37 42.4**	**+1.3**
LUEV	**Luepa**	**7.04**	**180**	*e*P	**Pn**	**05 37 53.9**	**-0.9**
BAUV	**El Baul**	**7.61**	**239**	*e*P	**Pn**	**05 38 04.2**	**+2.1**
TXAR	**Lajitas Array**	**42.39**	**299**	P	**P**	**05 43 51.2**	**-0.5**
	0.1nm,0.5s,baz=112,slow=8.8,SNR=3.7						
ULM	**Lac du Bonnet**	**46.64**	**330**	P	P	05 44 24.1	-0.8
	1.2nm,0.3s,baz=126,slow=7.2,SNR=3.9						
PDAR	**Pinedale Array**	**50.98**	**315**	P	**P**	**05 44 58.7**	**+0.3**
	0.4nm,0.6s,baz=117,slow=9.1,SNR=4.1						
YKA	**Yellowknife Ar**	**62.08**	**335**	P	**P**	**05 46 15.9**	**-0.2**
	0.2nm,0.4s,baz=106,slow=7.1,SNR=6.8						

MAN 08 05:41:44,14.03N×119.96E,h40km,mb4.0,ML2.8,MS2.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.40**	**136**	*e*P	Pn	05 41 56.1	+2.6
LUBP				*e*S	Sn	05 42 03.6	+3.5
TGY	**Tagaytay City**	**0.95**	**85**	⇑*e*P	Pn	05 42 02.7	+1.7
TGY				*e*S	Sn	05 42 15.5	+2.0
BOAC	**Boac**	**1.92**	**107**	*e*P	Pn	05 42 15.4	+1.2
BALP	**Baler**	**2.31**	**42**	*e*P	Pn	05 42 21.4	+1.8
BOLP	**Bolinao**	**2.34**	**359**	*e*P	Pn	05 42 21.4	+1.4
OTRP	**Odiongan**	**2.60**	**129**	*e*P	Pn	05 42 30.2	+6.6
ENPP	**El Nido**	**2.85**	**191**	*e*P	Pn	05 42 29.1	+2.1

TRN 08 05:48:57.1,15.37N×61.05W,h139km,MD3.6,M2.8(FDF), 7C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGG	**Marie-Galante**	**0.60**	**335**	⇑*i*P	Pn	05 49 19.1	+1.3
MGG				⇑*e*S	Sn	05 49 34.7	+1.2
FDF	**Fort de France**	**0.64**	**189**	⇓*e*P	Pn	05 49 19.3	+1.1
FDF				⇓*e*S	Sn	05 49 35.3	+1.2
TBG	**Guadaloupe-3**	**0.75**	**310**	⇑*i*P	Pn	05 49 19.5	+0.8
MVM	**Montagne Vaucl**	**0.82**	**169**	*e*P	Pn	05 49 20.8	+1.3
MVM				*e*S	Sn	05 49 37.3	+0.9
BIM	**Bigot**	**0.85**	**181**	*e*P	Pn	05 49 20.7	+1.0
BIM	**Bigot**	**0.85**	**181**	*e*P	Pn	05 49 20.7	+1.1
BIM				*e*S	Sn	05 49 38.1	+1.4
BIM				*e*S		05 49 38.8	
DOG	**Dongo Capester**	**0.85**	**320**	*e*P	Pn	05 49 20.5	+0.8
PHG	**Guadaloupe-2**	**0.86**	**318**	*e*P	Pn

OTAV **Otavalo** 43.71 53 *e*P P 06 42 38.2 +1.3
14nm,1.2s
JTS **JuntasAbangare** 47.60 37 LR LR 06 57 46.1
comp=Z,658nm,20.9s,baz=41,slow=29
CMIG **Matias Romero** 49.46 22 P P 06 43 22.1 +0.8
CMIG **Matias Romero** 49.46 22 P P 06 43 22.1 +0.8
4.3nm,0.9s,baz=214,slow=15,SNR=2.6
CMIG LR LR 06 59 10.2
comp=Z,510nm,20.9s,baz=185,slow=30
ROSC **El Rosal** 49.87 53 P P 06 43 26.6 +1.5
ROSC **El Rosal** 49.87 53 P P 06 43 26.6 +1.5
9.3nm,0.9s,baz=252,slow=5.3,SNR=11
ROSC LR LR 07 01 02.2
comp=Z,1µm,18.8s,baz=109,slow=32
SAML **Samuel** 50.00 76 *e*P P 06 43 25.7 +0.1
8.8nm,1.0s
TEIG **Tepich** 54.73 27 LR LR 07 02 50.4
comp=Z,519nm,18.5s,baz=204,slow=31
SDV **Santo Domingo** 55.30 52 *e*P P 06 44 04.8 -0.2
29nm,1.3s
URZ **Urewera** 58.12 241 *e*P P 06 44 26.4 +1.8
31nm,1.2s
TXAR **Lajitas Array** 59.37 8 P P 06 44 33.0 -0.4
TXAR **Lajitas Array** 59.37 8 P P 06 44 33.0 -0.4
1.9nm,0.9s,baz=200,slow=9.6,SNR=10.0
TXAR LR LR 07 05 18.1
comp=Z,529nm,20.3s,baz=110,slow=31
627A **Terlingua Ranc** 59.52 9 ⇑P P 06 44 34.8 +0.4
baz=60,SNR=17
626A **Big Bend Ranch** 59.53 8 ⇓P P 06 44 35.1 +0.6
baz=60,SNR=19
BDFB **Brasilia** 59.93 92 P P 06 44 37.4 -0.2
BDFB **Brasilia** 59.93 92 P P 06 44 37.4 -0.2
3.6nm,1.1s,baz=253,slow=9.9,SNR=4.3
BDFB LR LR 07 07 35.8
comp=Z,453nm,18.0s,baz=223,slow=33
527A **Woodward Ranch** 60.17 8 ⇓P P 06 44 39.1 +0.2
baz=60
QSPA **South Pole Qui** 60.34 180 P P 06 44 40.1 +0.3
QSPA **South Pole Qui** 60.34 180 P P 06 44 40.1 +0.3
2.9nm,1.0s,baz=102,slow=4.0,SNR=5.6
426A **McDonald Obser** 60.64 8 ⇓P P 06 44 42.4 +0.2
baz=61
425A **Indio Mountain** 60.65 7 ⇓P P 06 44 42.5 +0.3
baz=61
428A **Kincaid Ranch,** 60.87 9 ⇓P P 06 44 44.2 +0.6
baz=61,SNR=14
427A **Hayter Ranch,** 60.89 8 ⇑P P 06 44 44.2 +0.4
baz=61,SNR=23
320A **Kipp Ranch, An** 60.92 3 ⇑P P 06 44 44.5 +0.4
baz=61
319A **Douglas** 60.93 3 ⇑P P 06 44 44.2 +0.2
baz=61
JCT **Junction City** 61.08 12 *e*P P 06 44 44.8 -0.2
JCT pmax pmax
comp=Z,42nm,1.1s
JCT **Junction City** 61.08 12 *e*P P 06 44 44.8 -0.2
comp=Z,42nm,1.1s
JCT **Junction City** 61.08 12 ⇓P P 06 44 45.0 0.0
baz=61,SNR=20
324A **Moseley Ranch,** 61.25 6 ⇑P P 06 44 45.7 -0.5
baz=62,SNR=18
HKT **Hockley** 61.40 16 *e*P P 06 44 47.2 +0.2
HKT pmax pmax
comp=Z,81nm,1.8s
HKT **Hockley** 61.40 16 *e*P P 06 44 47.2 +0.2
comp=Z,81nm,1.8s
328A **Wristen Ranch,** 61.50 9 ⇑P P 06 44 47.7 -0.2
baz=62
MNTX **Cornudas Mount** 61.51 6 *e*P P 06 44 47.1 -0.8
comp=Z,11nm,1.1s
MNTX **Cornudas Mount** 61.51 6 ⇓P P 06 44 47.4 -0.5
baz=62,SNR=12
TUC **Tucson** 61.82 1 *e*P P 06 44 49.8 -0.2
TUC pmax pmax
comp=Z,8.0nm,1.1s
TUC **Tucson** 61.82 1 *e*P P 06 44 49.8 -0.2
comp=Z,8.1nm,1.1s
224A **Cornudas Mount** 61.87 6 ⇓P P 06 44 50.3 -0.2
baz=62,SNR=38
225A **Deer Hill, Car** 61.98 7 ⇑P P 06 44 50.7 -0.5
baz=62
GDL2 **Guadalupe Moun** 62.11 7 *e*P P 06 44 52.0 0.0
120A **U Bar Ranch, L** 62.12 3 ⇓P P 06 44 52.6 +0.4
baz=62
121A **Cookes Peak, D** 62.16 4 ⇓P P 06 44 52.5 +0.1
baz=62
124A **Stringfield Ra** 62.50 6 ⇑P P 06 44 55.0 +0.3
baz=63,SNR=20
125A **Gardner Draw,** 62.54 7 ⇓P P 06 44 54.5 -0.3
baz=63,SNR=36
126A **Clayton Basin,** 62.59 7 ⇑P P 06 44 54.6 -0.6
baz=63
127A **Arkansas Junct** 62.70 8 ⇑P P 06 44 55.0 -1.0
baz=63
128A **Castleberry Fa** 62.76 9 ⇓P P 06 44 55.8 -0.5
baz=63
Z22A **Elephant Butte** 62.93 5 ⇓P P 06 44 57.8 +0.3
baz=63
Z21A **St. Cloud Mine** 62.93 4 ⇑P P 06 44 58.2 +0.6
baz=63,SNR=21
Z24A **Sheeppen Canyo** 63.13 6 ⇑P P 06 44 58.5 -0.4
baz=63,SNR=5.3
Z25A **Roswell** 63.15 7 ⇓P P 06 44 58.7 -0.2
baz=63,SNR=14
Z26A **Caprock** 63.22 7 ⇑P P 06 44 58.6 -0.8
baz=64,SNR=23
BC3 **Big Chuckawall** 63.24 357 ⇓P P 06 44 59.5 -0.1
baz=64,SNR=5.3
Z27A **Tatum** 63.35 8 ⇑P P 06 44 59.7 -0.5
baz=64,SNR=12
Y20A **Horse Springs,** 63.49 3 ⇑P P 06 45 01.8 +0.4
baz=64,SNR=5.2
Z29A **Hungry Hill Ra** 63.50 10 ⇓P P 06 45 00.8 -0.4
baz=64
Y19A **Nutrioso** 63.50 2 ⇓P P 06 45 02.0 +0.6
baz=64,SNR=17
BELC **Belle Mtn. Jos** 63.61 356 ⇑P P 06 45 02.5 +0.5
baz=64
Y21A **Point of Rocks** 63.63 4 ⇑P P 06 45 02.8 +0.5
baz=64,SNR=14
Y23A **Lovelace Mesa,** 63.67 5 ⇓P P 06 45 02.9 +0.4
baz=64,SNR=20
Y24A **Capitan** 63.72 6 ⇓P P 06 45 03.2 +0.4
baz=64,SNR=23
Y25A **Mesa, Roswell** 63.78 7 ⇑P P 06 45 02.8 -0.3
baz=64,SNR=12
LENM **Lemitar** 63.83 5 *e*P P 06 45 04.0 +0.4
Y27A **Causey** 63.92 8 ⇑P P 06 45 03.4 -0.7
baz=64,SNR=19
MSTX **Muleshoe** 64.05 8 ⇓P P 06 45 04.2 -0.6
baz=64,SNR=23
X18A **Snowflake** 64.05 2 ⇑P P 06 45 05.7 +0.7
baz=64,SNR=13
LAZ **Ladron** 64.06 4 *e*P P 06 45 05.3 +0.3
comp=Z,7.8nm,1.3s
X21A **Alamocita Cree** 64.06 4 ⇑P P 06 45 05.5 +0.4
baz=64,SNR=12
X20A **Quemado** 64.12 3 ⇑P P 06 45 06.0 +0.5
baz=64
RFTA **Plano** 64.15 14 *e*P P 06 45 05.8 +0.4
X23A **Hourglass Bar** 64.30 5 ⇓P P 06 45 06.7 +0.1
baz=65
HEC **Hector,Ludlow** 64.46 356 ⇑P P 06 45 06.9 -0.6
baz=65
X26A **CR and CF Fran** 64.50 7 ⇑P P 06 45 07.6 -0.3
baz=65
LDFC **Landfair** 64.64 357 P P 06 45 11.7 +2.9
comp=Z,31nm,1.3s
ANMO **Albuquerque** 64.64 5 *e*P P 06 45 08.6 -0.2
comp=Z,14nm,1.7s
X29A **Tulia** 64.66 9 ⇓P P 06 45 08.5 -0.3
baz=65
W20A **Ramah** 64.70 3 ⇓P P 06 45 09.1 -0.2
baz=65
W23A **Werner Place,** 64.88 5 ⇑P P 06 45 10.7 +0.3
baz=65,SNR=16
GSC **Goldstone** 64.96 356 *e*P P 06 45 11.6 +0.8
GSC pmax pmax
comp=Z,12nm,1.0s
GSC **Goldstone** 64.96 356 *e*P P 06 45 11.6 +0.8
comp=Z,12nm,1.0s
GSC **Goldstone** 64.96 356 ⇑P P 06 45 11.3 +0.5
baz=65
W24A **Lazy 6 Ranch,** 64.99 6 ⇓P P 06 45 11.3 +0.2
baz=65,SNR=25
WUAZ **Wupatki** 65.01 0 *e*P P 06 45 12.6 +1.4
comp=Z,12nm,1.3s

W25A **X Bar L Ranch,** 65.09 7 ⇓P P 06 45 11.6 -0.1
baz=65
W27A **Bowe Ranch, En** 65.09 8 ⇓P P 06 45 11.7 0.0
baz=65
AMTX **Amarillo** 65.10 9 *e*P P 06 45 11.0 -0.7
comp=Z,14nm,0.9s
AMTX **Amarillo** 65.10 9 ⇓P P 06 45 11.5 -0.2
baz=65
LRMC **Laurel Mountai** 65.20 355 ⇑P P 06 45 12.6 +0.2
baz=66,SNR=6.1
V20A **Brimhall** 65.37 3 ⇑P P 06 45 13.8 +0.2
baz=66,SNR=6.0
U16A **Tuba City** 65.64 1 ⇑P P 06 45 15.8 +0.6
baz=66
V25A **Rancho No Teng** 65.69 6 ⇑P P 06 45 14.9 -0.7
baz=66
MPMC **Manual Prospec** 65.76 355 ⇑P P 06 45 16.5 +0.4
baz=66,SNR=6.0
V28A **Channing** 65.88 9 ⇓P P 06 45 16.4 -0.3
baz=66
U15A **North Rim** 65.92 360 ⇓P P 06 45 17.4 +0.2
baz=66
U18A **Rough Rock, Ch** 65.94 2 ⇑P P 06 45 17.5 +0.3
baz=66,SNR=19
U21A **Nageezi** 66.04 4 ⇑P P 06 45 17.8 -0.1
baz=66,SNR=5.7
U22A **Lloves** 66.04 4 ⇑P P 06 45 18.1 +0.2
baz=66
U23A **El Rito** 66.04 5 ⇑P P 06 45 18.2 +0.3
baz=66,SNR=23
U17A **Shonto** 66.10 1 ⇓P P 06 45 18.3 0.0
baz=66,SNR=5.8
FURC **Furnace Creek,** 66.12 356 ⇓P P 06 45 19.3 +1.2
baz=66
U24A **Moreno Valley** 66.19 6 ⇓P P 06 45 19.8 +0.9
baz=66
U25A **Circle Dot Ran** 66.27 7 ⇑P P 06 45 19.4 +0.1
baz=67
U26A **Atchley Ranch,** 66.33 7 ⇑P P 06 45 19.4 -0.3
baz=67,SNR=13
MIAR **Mount Ida** 66.34 16 *e*P P 06 45 19.3 -0.3
MIAR pmax pmax
comp=Z,31nm,1.5s
MIAR **Mount Ida** 66.34 16 *e*P P 06 45 19.3 -0.3
comp=Z,31nm,1.5s
T19A **Bebito** 66.37 3 ⇑P P 06 45 20.1 +0.1
baz=67,SNR=16
T17A **Navajo Res., N** 66.49 1 ⇓P P 06 45 21.4 +0.6
baz=67,SNR=17
T21A **Navajo Lake** 66.61 4 ⇓P P 06 45 21.6 +0.1
baz=67
T18A **Mexican Hat** 66.65 2 ⇑P P 06 45 22.0 +0.3
baz=67,SNR=16
T22A **Edith** 66.67 4 ⇑P P 06 45 22.5 +0.5
baz=67
MVCO **Mesa Verde** 66.78 3 *e*P P 06 45 22.8 +0.2
comp=Z,38nm,1.3s
MVCO **Mesa Verde** 66.78 3 ⇑P P 06 45 22.7 +0.1
baz=67,SNR=15
LRAL **Lakeview Retre** 66.84 23 *e*P P 06 45 23.1 +0.4
comp=Z,14nm,1.1s
T24A **Torres, Weston** 66.87 6 ⇓P P 06 45 23.7 +0.4
baz=67
T25A **Trinidad** 67.00 7 ⇓P P 06 45 24.3 +0.3
baz=67
CCUT **Cedar City** 67.05 359 *e*P P 06 45 25.3 +0.9
comp=Z,20nm,1.4s
T26A **Comanche Natio** 67.12 7 ⇑P P 06 45 24.7 0.0
baz=67,SNR=18
S17A **Black Ridge (B** 67.13 1 ⇓P P 06 45 25.2 +0.5
baz=67,SNR=12
T28A **Walsh** 67.24 8 ⇓P P 06 45 25.4 0.0
baz=68
S21A **Coal Bank Pass** 67.26 4 ⇓P P 06 45 25.8 +0.1
baz=68,SNR=10
S19A **Harvey Farm, M** 67.28 2 ⇓P P 06 45 25.9 0.0
baz=68
ARUT **Antelope Range** 67.29 359 P P 06 45 26.1 +0.3
ARUT pmax pmax
comp=Z,4.0nm,0.7s
ARUT **Antelope Range** 67.29 359 P P 06 45 26.1 +0.3
comp=Z,3.6nm,0.7s
S20A **Disappointment** 67.40 3 ⇑P P 06 45 26.8 +0.2
baz=68,SNR=5.5
S22A **4UR Ranch, Cre** 67.40 4 ⇑P P 06 45 26.4 -0.3
baz=68,SNR=5.9
SDCO **Great Sand Dun** 67.50 5 *e*P P 06 45 22.7 -4.6
comp=Z,13nm,1.0s
S25A **Robets Cordova** 67.51 6 ⇓P P 06 45 27.1 -0.1
baz=68
S26A **Kim** 67.57 7 ⇓P P 06 45 27.4 -0.1
baz=68,SNR=14
SNAA **Sanae** 67.68 161 *e*P P 06 45 22.9 -4.9
comp=Z,25nm,1.4s
PV01 **Paradox Valley** 67.69 3 *e*P P 06 45 27.6 -0.8
comp=Z,686nm,1.1s
R20A **Redvale** 67.76 3 ⇑P P 06 45 28.9 +0.1
baz=68,SNR=14
R16A **Teasdale** 67.77 0 ⇓P P 06 45 29.0 +0.1
baz=68,SNR=6.8
R19A **Curley Farm, L** 67.82 2 ⇓P P 06 45 29.1 -0.2
baz=68,SNR=18
R18A **Canyonlands Na** 67.90 2 ⇑P P 06 45 29.7 0.0
baz=68
R17A **Hanksville Air** 67.91 1 ⇓P P 06 45 29.6 -0.1
baz=68,SNR=6.9
R23A **Moffat** 67.92 5 ⇑P P 06 45 29.7 -0.2
baz=68
R11A **Troy Canyon, C** 67.92 357 ⇓P P 06 45 30.3 +0.5
baz=68
PV04 **Paradox Valley** 67.94 3 *e*P P 06 45 30.0 +0.1
R21A **Cimarron** 67.98 4 ⇓P P 06 45 30.4 +0.2
baz=68,SNR=11
MVU **Marysvale** 67.99 360 *e*P P 06 45 30.5 +0.2
comp=Z,34nm,2.0s
MSU **Marysvale** 68.00 360 *e*P P 06 45 30.4 +0.1
MSU pmax pmax
comp=Z,24nm,2.0s
MSU **Marysvale** 68.00 360 *e*P P 06 45 30.4 +0.1
comp=Z,24nm,2.0s
R25A **Fountain Ranch** 68.01 6 ⇑P P 06 45 29.8 -0.5
baz=68,SNR=5.2
NVAR **Mina Array Bea** 68.18 355 P P 06 45 32.0 +0.6
NVAR **Mina Array Bea** 68.18 355 P P 06 45 32.0 +0.6
comp=Z,2.9nm,0.9s,baz=183,slow=9.0,SNR=13
R26A **Arlington** 68.25 7 ⇑P P 06 45 31.7 0.0
baz=68,SNR=5.6
PLAL **Pickwick Lake** 68.28 21 P P 06 45 31.1 -0.8
comp=Z,11nm,1.1s
R27A **Eads** 68.31 8 ⇑P P 06 45 31.8 -0.3
baz=69
Q16A **Castle Valley** 68.41 1 ⇑P P 06 45 32.9 0.0
baz=69,SNR=6.2
GOGA **Godfrey** 68.42 25 *e*P P 06 45 30.7 -2.1
GOGA pmax pmax
comp=Z,18nm,1.4s
GOGA **Godfrey** 68.42 25 *e*P P 06 45 30.7 -2.1
comp=Z,18nm,1.4s
Q21A **Lamboorn Mesa,** 68.44 4 ⇓P P 06 45 33.3 +0.3
baz=69,SNR=6.1
Q19A **Hogan Spring (** 68.48 2 ⇓P P 06 45 32.9 -0.3
baz=69,SNR=6.7
Q22A **Crested Butte,** 68.51 4 ⇑P P 06 45 33.4 -0.3
baz=69
Q20A **Ridgley Place,** 68.52 3 ⇓P P 06 45 33.3 -0.2
baz=69
Q18A **Rafter H Ranch** 68.61 1 ⇓P P 06 45 33.7 -0.3
baz=69,SNR=7.0
SRU **San Rafael** 68.61 1 *e*P P 06 45 34.0 -0.1
SRU pmax pmax
comp=Z,21nm,1.0s
SRU **San Rafael** 68.61 1 *e*P P 06 45 34.0 -0.1
comp=Z,21nm,1.0s
SRU **San Rafael** 68.61 1 ⇑P P 06 45 33.5 -0.6
baz=69,SNR=20
GNAR **Gosnell** 68.62 19 *e*P P 06 45 33.0 -1.0
Q25A **Bedland, Calha** 68.77 6 ⇑P P 06 45 35.1 0.0
baz=69,SNR=15
TMUT **Trail Mountain** 68.78 1 *e*P P 06 45 35.3 0.0
comp=Z,14nm,1.2s
SMCO **Snowmass** 68.82 4 *e*P P 06 45 35.8 +0.2
comp=Z,13nm,1.0s
Q26A **Hugo** 68.86 7 ⇑P P 06 45 35.5 -0.1
baz=69
KSCO **Kaye Shedlock'** 69.04 8 ⇑P P 06 45 36.7 0.0
baz=69
P18A **Preston Nutter** 69.13 1 ⇑P P 06 45 37.2 -0.3
baz=69

P19A **Cripple Cowboy** 69.17 2 ⇓P P 06 45 37.3 -0.3
baz=70
WCN **Washoe City** 69.17 353 *e*P P 06 45 43.9 +6.3
WCN pmax pmax
comp=Z,16nm,1.4s
WCN **Washoe City** 69.17 353 *e*P P 06 45 43.9 +6.3
comp=Z,16nm,1.4s
SWET **Sewanee** 69.19 23 *e*P P 06 45 37.2 -0.4
comp=Z,19nm,1.0s
CBKS **Cedar Bluff** 69.24 10 *e*P P 06 45 37.4 -0.4
CBKS pmax pmax
comp=Z,28nm,1.2s
CBKS **Cedar Bluff** 69.24 10 *e*P P 06 45 37.4 -0.4
comp=Z,28nm,1.2s
CBKS **Cedar Bluff** 69.24 10 ⇓P P 06 45 37.5 -0.4
baz=70
P22A **Eagle** 69.25 4 ⇓P P 06 45 38.3 +0.2
baz=70,SNR=16
P25A **Willow Gulch B** 69.37 6 ⇓P P 06 45 38.7 -0.1
baz=70,SNR=5.3
WVT **Waverly** 69.42 21 *e*P P 06 45 38.1 -0.8
WVT pmax pmax
comp=Z,5.0nm,0.8s
WVT **Waverly** 69.42 21 *e*P P 06 45 38.1 -0.8
comp=Z,5.4nm,0.8s
MPU **Maple Canyon** 69.50 0 *e*P P 06 45 40.6 +1.0
comp=Z,15nm,1.2s
P26A **Davis Ranch, A** 69.50 7 ⇑P P 06 45 39.7 +0.1
baz=70,SNR=12
ISCO **Idaho Springs** 69.53 5 *e*P P 06 45 40.2 +0.2
ISCO pmax pmax
comp=Z,11nm,1.1s
ISCO **Idaho Springs** 69.53 5 *e*P P 06 45 40.1 +0.2
comp=Z,11nm,1.1s
ISCO **Idaho Springs** 69.53 5 ⇓P P 06 45 40.0 +0.1
baz=70
P27A **Ficken Ranch,** 69.58 8 ⇑P P 06 45 40.7 +0.6
baz=70
DUG **Dugway** 69.68 359 *e*P P 06 45 41.3 +0.6
DUG pmax pmax
comp=Z,9.0nm,1.1s
DUG **Dugway** 69.68 359 *e*P P 06 45 41.3 +0.6
comp=Z,8.9nm,1.1s
DUG **Dugway** 69.68 359 ⇓P P 06 45 41.2 +0.5
baz=70
O22A **Kremmling** 69.82 4 ⇓P P 06 45 41.9 +0.2
baz=70
CPCT **Cooper Cave** 69.88 24 *e*P P 06 45 41.9 +0.1
O24A **Longmont** 69.90 6 ⇓P P 06 45 42.5 +0.5
baz=70
DAU **Daniels Canyon** 69.90 1 *e*P P 06 45 42.0 -0.2
DAU **Daniels Canyon** 69.90 1 *e*P P 06 45 42.0 -0.2
O25A **Wiggins** 69.97 6 ⇓P P 06 45 42.8 +0.3
baz=70,SNR=5.4
KSU1 **Kansas State U** 70.05 13 *e*P P 06 45 43.3 +0.5
comp=Z,19nm,0.9s
JLU **Jordanelle** 70.09 0 *e*P P 06 45 42.8 -0.5
comp=Z,30nm,1.4s
BMN **Battle Mountai** 70.09 356 *e*P P 06 45 43.0 -0.2
BMN pmax pmax
comp=Z,19nm,1.2s
BMN **Battle Mountai** 70.09 356 *e*P P 06 45 43.0 -0.2
comp=Z,19nm,1.2s
N16A **Rees Ranch, Co** 70.37 0 ⇓P P 06 45 45.1 +0.1
baz=71
N20A **Spence Gulch,** 70.40 3 ⇑P P 06 45 45.0 -0.2
baz=71
FVM **French Village** 70.40 18 *e*P P 06 45 44.6 -0.4
FVM pmax pmax
comp=Z,12nm,0.8s
FVM **French Village** 70.40 18 *e*P P 06 45 44.6 -0.4
comp=Z,12nm,0.8s
N19A **John Jarvie Ra** 70.42 2 ⇑P P 06 45 45.0 -0.3
baz=71
N17A **Moffit Pass** 70.43 1 ⇓P P 06 45 45.7 +0.3
baz=71,SNR=22
N22A **Wattenberg Ran** 70.47 4 ⇓P P 06 45 46.2 +0.5
baz=71,SNR=13
SIUC **Southern Illin** 70.48 19 *e*P P 06 45 45.3 -0.1
comp=Z,41nm,1.1s
N18A **Larsen Ranch,** 70.49 2 ⇑P P 06 45 45.6 -0.1
baz=71
N23A **Red Feather La** 70.59 5 ⇓P P 06 45 46.6 +0.2
baz=71
WDC **Whiskeytown Da** 70.75 351 *e*P P 06 45 48.5 +1.4
WDC pmax pmax
comp=Z,19nm,1.3s
WDC **Whiskeytown Da** 70.75 351 *e*P P 06 45 48.5 +1.4
comp=Z,19nm,1.3s
KMSC **Kings Mountain** 70.77 26 ⇑P P 06 45 47.4 +0.1
baz=71
M16A **Huntsville** 70.80 0 ⇓P P 06 45 47.7 +0.2
baz=71
M18A **Lyman** 70.93 1 ⇓P P 06 45 48.0 -0.4
baz=71
M20A **Sweetwater, Wa** 71.06 3 ⇑P P 06 45 48.8 -0.3
baz=71
M22A **Cedar Creek Ra** 71.06 4 ⇑P P 06 45 49.2 0.0
baz=71
HWUT **Hardware Ranch** 71.09 0 *e*P P 06 45 54.0 +4.7
comp=Z,5.4nm,0.9s
TZTN **Tazewell** 71.20 24 *e*P P 06 45 50.8 +0.9
comp=Z,15nm,1.0s
M24A **Cheyenne** 71.25 6 ⇓P P 06 45 50.7 +0.4
baz=72,SNR=16
RWWY **Rawlins** 71.30 4 *e*P P 06 45 49.8 -0.9
comp=Z,14nm,1.1s
L18A **Fontenelle, Gr** 71.43 1 ⇓P P 06 45 51.0 -0.4
baz=72
L16A **Fish Haven** 71.50 0 ⇑P P 06 45 51.4 -0.5
baz=72,SNR=7.3
L14A **Malta** 71.53 359 ⇓P P 06 45 51.5 -0.4
baz=72,SNR=5.1
L20A **Wamsutter** 71.56 3 ⇑P P 06 45 52.0 -0.2
baz=72,SNR=5.3
L19A **Farson** 71.62 2 ⇑P P 06 45 51.9 -0.7
baz=72,SNR=7.5
OLIL **Olney** 71.75 19 *e*P P 06 45 52.4 -0.7
comp=Z,28nm,1.2s
MOD **Modoc** 71.80 353 *e*P P 06 45 56.4 +2.8
comp=Z,17nm,1.1s
K14A **Jones Ranch, D** 72.04 359 ⇓P P 06 45 54.6 -0.3
baz=72
K18A **Toltan Ranch,** 72.14 1 ⇓P P 06 45 55.1 -0.6
baz=72
WVOR **Wild Horse Val** 72.18 355 *e*P P 06 45 56.2 +0.4
WVOR pmax pmax
comp=Z,11nm,1.1s
WVOR **Wild Horse Val** 72.18 355 *e*P P 06 45 56.2 +0.4
comp=Z,11nm,1.1s
K20A **Yellowstone Ra** 72.21 3 ⇑P P 06 45 55.0 -1.0
baz=72,SNR=5.3
K17A **Gardner Place,** 72.24 1 ⇓P P 06 45 55.5 -0.7
baz=72
K21A **Alcova** 72.24 4 ⇓P P 06 45 55.9 -0.3
baz=72,SNR=5.6
AHID **Auburn Hatcher** 72.25 1 *e*P P 06 45 55.5 -0.8
comp=Z,12nm,1.2s
BW06 **Boulder Array** 72.28 2 *e*P P 06 45 55.6 -0.9
comp=Z,24nm,1.5s
BW06 **Boulder Array** 72.28 2 ⇑P P 06 45 55.5 -1.0
baz=73
PDAR **Pinedale Array** 72.28 2 P P 06 45 55.5 -1.1
PDAR **Pinedale Array** 72.28 2 P P 06 45 55.5 -1.1
comp=Z,3.9nm,0.9s,baz=166,slow=7.9,SNR=16
PDAR LR LR 07 12 39.7
comp=Z,726nm,19.8s,baz=192,slow=32
PD01 **Pinedale Array** 72.29 2 *e*P P 06 45 55.3 -1.3
PD02 **Pinedale Array** 72.29 2 *e*P P 06 45 55.6 -1.0
K22A **Casper** 72.30 4 ⇑P P 06 45 56.4 -0.1
baz=73,SNR=14
K19A **Absolon Red Bu** 72.36 2 ⇑P P 06 45 55.9 -1.0
baz=73
DZM **Mont Dzumac** 72.42 254 *e*S S 06 55 17.5 -4.6
comp=Z,394nm,25.1s
DZM *e*LR LR 07 07 56.6
comp=Z,3µm,28.1s
K23A **Bowen Ranch, D** 72.47 5 ⇓P P 06 45 57.7 +0.2
baz=73
K25A **Mack Ranch, Ha** 72.47 6 ⇓P P 06 45 57.7 +0.2
baz=73
K26A **Motz Farm, Whi** 72.63 7 ⇑P P 06 45 59.1 +0.6
baz=73
J18A **Kendall Valley** 72.71 1 ⇓P P 06 45 58.1 -1.0
baz=73,SNR=7.6
K27A **Flueckinger Fa** 72.73 7 ⇓P P 06 45 59.5 +0.4
baz=73
J16A **Bone** 72.76 0 ⇓P P 06 45 59.1 -0.2

baz=73,SNR=21
J14A Carey 72.82 359 ⇓P P 06 46 00.0 +0.4
baz=73
RRI2 Red Ridge 72.83 0 *e*P P 06 45 59.6 -0.2
comp=Z,20nm,1.2s
REDW Red Top Meadow 72.85 1 *e*P P 06 45 59.3 -0.6
comp=Z,24nm,1.5s
J15A Blackfoot 72.88 360 ⇓P P 06 45 59.9 -0.1
baz=73,SNR=6.9
J13A Cove Ranch, Pi 72.91 358 ⇓P P 06 46 00.2 +0.1
baz=73
J20A Shoshoni 72.92 3 ⇑P P 06 46 00.2 0.0
baz=73,SNR=13
J21A Lysite 72.94 3 ⇑P P 06 46 00.4 0.0
baz=73,SNR=17
SNOW Snow King Moun 72.95 1 *e*P P 06 46 05.2 +4.7
comp=Z,18nm,1.4s
TPAW Teton Pass 72.98 1 *e*P P 06 46 00.2 -0.5
comp=Z,17nm,1.0s
MFID Camas Ranch 72.98 357 *e*P P 06 46 01.5 +0.9
comp=Z,19nm,1.6s
MFID Camas Ranch 72.98 357 ⇓P P 06 46 01.3 +0.7
baz=73
J22A Midwest 73.06 4 ⇑P P 06 46 00.1 -1.0
baz=73
DCID1 Drake Creek 73.08 1 *e*P P 06 46 01.1 -0.1
comp=Z,31nm,1.1s
HLID Hailey 73.08 358 ⇑P P 06 46 01.4 +0.3
baz=73,SNR=26
LOHW Long Hollow 73.10 1 *e*P P 06 46 00.9 -0.4
comp=Z,11nm,1.1s
HDIL Hopedale 73.11 18 *e*P P 06 46 00.2 -1.0
comp=Z,102nm,1.9s
I18A Diamond G Ranc 73.21 2 ⇑P P 06 46 01.5 -0.6
baz=74,SNR=5.3
MOOW Moose Ponds 73.24 1 *e*P P 06 46 01.7 -0.5
comp=Z,6.2nm,1.0s
I16A Newdale 73.36 0 ⇑P P 06 46 03.0 +0.2
baz=74
IMW Indian Meadow 73.38 1 *e*P P 06 46 02.9 -0.2
comp=Z,12nm,1.0s
I17A Pilgrim Ck. 73.41 1 ⇑P P 06 46 03.1 -0.1
baz=74
I21A Big Trails, Te 73.42 3 ⇓P P 06 46 02.5 -0.6
baz=74,SNR=29
I14A Mackay 73.42 359 ⇓P P 06 46 03.5 +0.3
baz=74,SNR=16
I13A Wildhorse Cree 73.42 358 ⇓P P 06 46 03.1 -0.2
baz=74,SNR=6.3
I20A Worland 73.51 3 ⇓P P 06 46 03.1 -0.5
baz=74,SNR=5.6
I22A 9 Mile Ranch, 73.54 4 ⇓P P 06 46 03.4 -0.5
baz=74,SNR=6.4
I19A Meeteetse 73.57 2 ⇓P P 06 46 03.6 -0.5
baz=74,SNR=5.5
FLWY Flagg Ranch 73.57 1 *e*P P 06 46 04.0 -0.1
comp=Z,18nm,0.9s
RSSD Black Hills 73.95 6 *e*P P 06 46 06.2 -0.2
RSSD pmax pmax
comp=Z,11nm,0.9s
RSSD Black Hills 73.95 6 *e*P P 06 46 06.2 -0.2
comp=Z,11nm,0.9s
H13A Challis 74.08 358 ⇓P P 06 46 07.2 +0.2
baz=74
H15A Lima 74.10 359 ⇑P P 06 46 07.4 +0.2
baz=74,SNR=6.5
H18A Shoshone NF, C 74.19 2 ⇓P P 06 46 07.2 -0.5
baz=74,SNR=6.0
H16A Russell Place, 74.19 0 ⇑P P 06 46 07.9 +0.2
baz=74,SNR=17
H19A Powell 74.20 2 ⇓P P 06 46 07.3 -0.4
baz=74
QLMT Earthquake Lak 74.31 0 *e*P P 06 46 08.3 -0.1
MCMT McKenzie Canyo 74.31 359 *e*P P 06 46 08.4 -0.1
comp=Z,7.1nm,1.3s
BMO Blue Mountains 74.50 356 *e*P P 06 46 09.8 +0.4
comp=Z,18nm,1.6s
G13A Cobalt 74.60 358 ⇑P P 06 46 09.8 -0.2
baz=75
G15A Dillon 74.65 360 ⇑P P 06 46 10.1 -0.3
baz=75
G12A Big Creek, Yel 74.67 357 ⇑P P 06 46 10.2 -0.3
baz=75
G20A Bridger 74.78 3 ⇑P P 06 46 10.2 -0.8
baz=75,SNR=18
G18A Lazy EL Ranch, 74.83 2 ⇑P P 06 46 11.1 -0.3
baz=75,SNR=5.2
G22A Birney 74.88 4 ⇓P P 06 46 10.7 -0.8
baz=75
G23A Biddle 74.92 5 ⇑P P 06 46 11.2 -0.6
baz=75,SNR=5.1
G24A Alzada 75.12 5 ⇑P P 06 46 12.3 -0.6
baz=75
BOZ Bozeman (W) 75.13 0 *e*P P 06 46 12.7 -0.4
BOZ pmax pmax
comp=Z,12nm,1.4s
BOZ Bozeman (W) 75.13 0 *e*P P 06 46 12.7 -0.4
comp=Z,12nm,1.4s
BOZ Bozeman (W) 75.13 0 ⇑P P 06 46 12.9 -0.2
baz=75
F16A Kennard Place, 75.27 0 ⇓P P 06 46 13.7 -0.1
baz=76,SNR=6.3
F12A Elk City 75.30 358 ⇓P P 06 46 13.9 -0.1
baz=76
GCMT Greycliff 75.30 2 *e*P P 06 46 13.3 -0.8
comp=Z,3.0nm,1.0s
F13A Darby 75.30 358 ⇓P P 06 46 13.7 -0.3
baz=76,SNR=7.0
F14A Wisdom 75.31 359 ⇑P P 06 46 13.4 -0.7
baz=76
F15A Butte 75.32 360 ⇓P P 06 46 14.4 +0.1
baz=76
F19A Roth Farm, Mol 75.38 2 ⇓P P 06 46 13.7 -0.8
baz=76
F17A Fitzpatrick Pl 75.39 1 ⇓P P 06 46 14.8 +0.2
baz=76
F18A Big Timber 75.41 2 ⇓P P 06 46 14.3 -0.3
baz=76
F23A Volborg 75.43 5 ⇓P P 06 46 14.3 -0.4
baz=76,SNR=17
E15A Deer Lodge 75.91 359 ⇑P P 06 46 16.6 -1.0
baz=76,SNR=5.6
E13A Victor 75.95 358 ⇑P P 06 46 17.0 -0.7
baz=76,SNR=5.7
E12A Beaver Dam Sad 75.97 357 ⇓P P 06 46 17.2 -0.7
baz=76
E16A East Helena 76.02 0 ⇑P P 06 46 18.5 +0.4
baz=76,SNR=21
E20A Meyer Farm, Mu 76.06 3 ⇑P P 06 46 18.2 -0.1
baz=76
E18A Harlowton 76.07 1 ⇑P P 06 46 18.8 +0.3
baz=76,SNR=5.1
HAWA Hanford 76.19 355 *e*P P 06 46 22.6 +3.7
comp=Z,74nm,2.5s
HRY Holter Researc 76.19 0 *e*P P 06 46 19.2 +0.1
MSO Missoula 76.33 359 *e*P P 06 46 25.6 +5.7
comp=Z,7.6nm,1.1s
MSO Missoula 76.33 359 ⇑P P 06 46 19.8 0.0
baz=77
CHMT Chamberlain Mo 76.41 359 *e*P P 06 46 20.7 +0.3
D12A Red Ives Fores 76.60 358 ⇑P P 06 46 21.0 -0.4
baz=77
D13A Huson 76.61 358 ⇓P P 06 46 21.3 -0.1
baz=77
D17A Six Diamond Ra 76.64 1 ⇑P P 06 46 22.2 +0.5
baz=77,SNR=6.3
D20A Manuel Ranch, 76.65 3 ⇑P P 06 46 21.3 -0.3
baz=77
D21A La Casta Ranch 76.68 3 ⇑P P 06 46 22.0 +0.3
baz=77
D18A Linhart Farms, 76.70 1 ⇑P P 06 46 22.7 +0.8
baz=77
SLMT Seeley Lake 76.74 359 *e*P P 06 46 22.2 0.0
LON Longmire 76.76 353 P P 06 46 25.1 +2.9
LON pmax pmax
comp=Z,29nm,1.9s
LON Longmire 76.76 353 P P 06 46 25.1 +2.9
comp=Z,29nm,1.9s
D22A Cohagen 76.81 4 ⇓P P 06 46 22.8 +0.3
baz=77,SNR=15
D23A Lindsay 76.89 5 ⇓P P 06 46 23.4 +0.4
baz=77,SNR=17
D24A Glendive 76.90 5 ⇓P P 06 46 22.5 -0.5
baz=77
SWMT Swartz Lake 77.01 359 *e*P P 06 46 23.8 +0.1
C17A Wharram Farm, 77.12 1 ⇑P P 06 46 24.5 +0.3
baz=77,SNR=5.2
C13A Hot Springs 77.20 358 ⇓P P 06 46 24.7 0.0
baz=78,SNR=6.4
JTMT Jette 77.26 358 *e*P P 06 46 24.8 -0.3
C15A Salmond Ranch, 77.26 360 ⇓P P 06 46 25.5 +0.4
baz=78
C19A Slack Wire Ran 77.26 2 ⇓P P 06 46 25.6 +0.5
baz=78,SNR=5.8
C14A Swan Lake 77.27 359 ⇑P P 06 46 25.5 +0.4
baz=78
C16A Fuhringer Ranc 77.28 0 ⇓P P 06 46 25.4 +0.2
baz=78
C24A Savage 77.31 5 ⇓P P 06 46 25.5 +0.2
baz=78,SNR=13
YBMT Yellow Bay 77.37 359 P P 06 46 25.6 -0.2
comp=Z,16nm,1.4s
BSMT Bassoo Peak 77.38 358 *e*P P 06 46 25.5 -0.4
C22A Vida 77.42 4 ⇑P P 06 46 26.2 +0.3
baz=78,SNR=5.1
C11A Tepee Creek (N 77.42 357 ⇑P P 06 46 26.2 +0.3
baz=78
C21A Desert Coulee 77.43 3 ⇑P P 06 46 26.1 +0.1
baz=78
C23A Lambert 77.52 5 ⇓P P 06 46 26.5 0.0
baz=78
EGMT Eagleton 77.53 1 *e*P P 06 46 27.4 +0.9
comp=Z,25nm,1.1s
EGMT Eagleton 77.53 1 ⇑P P 06 46 27.2 +0.7
baz=78,SNR=5.1
B17A L&G Farms, Che 77.78 1 ⇓P P 06 46 28.4 +0.4
baz=78,SNR=6.3
B15A Bradely Ranch, 77.80 360 ⇓P P 06 46 27.5 -0.6
baz=78
B14A Marquette Ranc 77.85 359 ⇑P P 06 46 28.9 +0.4
baz=78,SNR=7.1
NEW Newport 77.89 356 *e*P P 06 46 29.5 +1.0
NEW Newport 77.89 356 ⇓P P 06 46 28.6 +0.1
baz=78,SNR=5.2
B13A Whitefish 77.89 358 ⇑P P 06 46 28.6 +0.1
baz=78
B18A Beardsley Farm 77.90 1 ⇑P P 06 46 29.3 +0.7
baz=78,SNR=5.9
B22A Reddig Ranch S 77.96 4 ⇑P P 06 46 29.4 +0.5
baz=78
B19A Brinkman Farms 77.98 2 ⇑P P 06 46 30.1 +1.1
baz=78
B20A Solberg Farm, 78.00 3 ⇓P P 06 46 29.2 0.0
baz=78
B23A Brockton 78.19 5 ⇑P P 06 46 30.6 +0.4
baz=78
DGMT Dagmar 78.26 5 *e*P P 06 46 31.2 +0.7
comp=Z,44nm,1.1s
DGMT Dagmar 78.26 5 ⇓P P 06 46 31.1 +0.5
baz=79
A18A Metzger Ranch, 78.42 1 ⇓P P 06 46 32.2 +0.8
baz=79
A16A West Butte Ran 78.43 0 ⇓P P 06 46 32.6 +1.0
baz=79
A17A Triple J Farms 78.44 1 ⇓P P 06 46 32.4 +0.9
baz=79,SNR=16
A20A Cobblestone Ra 78.44 3 ⇑P P 06 46 32.5 +1.0
baz=79
A13A Flathead Natio 78.45 358 ⇑P P 06 46 32.0 +0.4
baz=79
A19A Klindworth Far 78.46 2 ⇑P P 06 46 32.2 +0.5
baz=79
A14A Double T Ranch 78.47 359 ⇓P P 06 46 32.3 +0.5
baz=79,SNR=6.3
A21A Bergtoll Ranch 78.60 3 ⇓P P 06 46 32.6 +0.2
baz=79
A22A Carney Farms, 78.66 4 ⇓P P 06 46 33.1 +0.3
baz=79,SNR=5.8
AGMN Agassiz Nation 79.10 11 *e*P P 06 46 35.5 +0.3
comp=Z,16nm,1.2s
SYO Syowa Base 79.24 170⇓ *e*P P 06 46 34.2 -1.6
SYO Syowa Base 79.24 170⇓ *e*PcP PcP 06 46 44.4 +0.3
EYMN Ely 79.57 14 *e*P P 06 46 37.1 -0.6
comp=Z,9.1nm,1.3s
SADO Sadowa 80.04 23 P P 06 46 38.3 -2.0
SADO Sadowa 80.04 23 P P 06 46 38.3 -2.0
comp=Z,8.9nm,1.0s,baz=286,slow=7.4,SNR=3.5
ULM Lac du Bonnet 81.00 10 P P 06 46 44.6 -0.7
ULM Lac du Bonnet 81.00 10 P P 06 46 44.6 -0.7
comp=Z,3.5nm,0.7s,baz=208,slow=5.8,SNR=10
ULM LR LR 07 19 18.1
comp=Z,301nm,18.3s,baz=217,slow=33
LONY Lake Ozonia 81.55 26 *e*P P 06 46 54.5 +6.0
comp=Z,18nm,1.0s
MAW Mawson 82.78 178 LR LR 07 22 06.6
comp=Z,860nm,18.2s,baz=178,slow=34
FFC Flin Flon 84.65 6 *e*P P 06 47 03.7 -0.5
FFC pmax pmax
comp=Z,17nm,1.1s
FFC Flin Flon 84.65 6 *e*P P 06 47 03.7 -0.5
comp=Z,17nm,1.1s
YKA Yellowknife Ar 92.03 359 P P 06 47 38.2 -1.1
YKA Yellowknife Ar 92.03 359 P P 06 47 38.2 -1.1
comp=Z,0.6nm,0.8s,baz=169,slow=5.0,SNR=13
SCHQ Schefferville 92.80 24 P P 06 47 41.7 -1.4
SCHQ Schefferville 92.80 24 P P 06 47 41.7 -1.4
comp=Z,2.9nm,0.9s,baz=233,slow=2.9,SNR=4.1
SCHQ LR LR 07 24 54.5
comp=Z,303nm,20.2s,baz=192,slow=33
ASAR Alice Springs 97.40 238 P P 06 48 05.1 -0.1
ASAR PP **PP** 06 52 03.5 +1.9
ASAR Alice Springs 97.40 238 P P 06 48 05.1 -0.1
comp=Z,0.6nm,1.0s,baz=123,slow=4.5,SNR=3.7
ASAR PP **PP** 06 52 03.5 +1.9
comp=Z,0.4nm,0.8s,baz=126,slow=8.4,SNR=4.8
ILAR Eielson Array 98.17 346 P P 06 48 07.1 -0.3
ILAR Eielson Array 98.17 346 P P 06 48 07.1 -0.3
comp=Z,0.7nm,1.1s,baz=178,slow=5.8,SNR=3.1
ILAR LR LR 07 23 36.1
comp=Z,411nm,19.0s,baz=253,slow=30
INK Inuvik 99.16 352 P Pdif 06 48 11.4 -0.3
INK Inuvik 99.16 352 P Pdif 06 48 11.4 -0.3
comp=Z,3.2nm,1.3s,baz=177,slow=3.1,SNR=3.3
WRA Warramunga Arr 99.29 241 P Pdif 06 48 13.3 -0.3
WRA Warramunga Arr 99.29 241 P Pdif 06 48 13.3 -0.3
comp=Z,0.4nm,0.8s,baz=128,slow=4.2,SNR=2.8
TORD Torodi Ar. Bea 116.79 90 PKP PKPdf 06 53 14.8 -1.4
TORD Torodi Ar. Bea 116.79 90 PKP PKPdf 06 53 14.8 -1.4
comp=Z,0.7nm,1.0s,baz=279,slow=2.5,SNR=2.5
MDJ Mudanjiang 129.99 305 PKP PKPdf 06 53 42.1 +1.5
CN2 Changchun 132.91 304 *e*PKP PKPdf 06 53 44.0 -2.2
GERES GERESS Array B 134.90 49 PKP PKPdf 06 53 49.8 -0.1
GERES GERESS Array B 134.90 49 PKP PKPdf 06 53 49.8 -0.1
comp=Z,0.6nm,0.9s,baz=289,slow=3.0,SNR=4.7
BOD Bodaibo 137.88 325 *e*PKIKP PKPdf 06 53 53.1 -1.9
VYHS Vyhne 138.32 49 *e*PKIKP PKPdf 06 54 02.0 +5.9
VYHS Vyhne 138.32 49 *e*PKP PKPdf 06 54 02.0 +5.9
BJI Beijing 139.72 298 PKP PKPdf 06 53 59.0 +0.1
BJI SS SS 07 15 17.0 +1.2
BJI LR LR
comp=N,210nm,19.1s
BJI LR LR
comp=E,160nm,17.5s
BJI LR LR
comp=Z,140nm,27.4s
BURAR Bucovina Array 142.69 49 ⇓ *i*P PKPdf 06 54 00.2 -4.0
HHC Hu-ho-hao-te 143.22 299 *e*PKP PKPdf 06 54 06.0 +0.6
HHC PP PP 06 57 20.9 +4.5
HHC PKS PKSdf 06 57 40.2 -0.9
HHC SKS SKSdf 07 01 14.1 -1.1
HHC SKKS SKKSac 07 04 10.1 +0.9
HHC SS SS 07 15 58.9 +2.1
HHC AMB AMB
comp=Z,150nm,6.6s
HHC LR LR
comp=N,160nm,17.5s
HHC LR LR
comp=E,260nm,19.2s
HHC LR LR
comp=Z,230nm,20.6s
MLR Muntele Rosu 143.61 53 ⇓ *i*P PKPbc 06 54 03.3 0.0
KLMR Klimovskoe 143.63 23 *e*PKIKP PKPab 06 54 01.9 0.0
KIEV Kiev 144.31 43 *e*PKIKP PKPab 06 54 04.4 -0.3
KIEV Kiev 144.31 43 *e*PKPdf PKPab 06 54 04.4 -0.3
AKASG Malin Array Be 144.32 43 PKIKP PKPab 06 54 04.7 -0.1
AKASG Malin Array Be 144.32 43 PKP PKPab 06 54 04.7 -0.1
AKASG Malin Array Be 144.32 43 PKP PKPab 06 54 04.7 -0.1
comp=Z,4.3nm,0.8s,baz=284,slow=3.8,SNR=16
BTO Baotou 144.40 299 *e*PKP PKPab 06 54 04.6 -1.0
ULN Ulaanbaatar 145.18 312 *e*PKPbc PKPab 06 54 08.3 0.0
CFR Carcaliu 145.19 53 ⇓ *i*PKIKP PKPbc 06 54 07.4 -0.7
CFR Carcaliu 145.19 53 ⇓ *i*P PKPbc 06 54 07.4 -0.7
KIS Kishinev 145.21 49 *e*PKIKP PKPbc 06 54 07.5 -0.6
KIS *e* 06 54 13.0
KIS pmax pmax
comp=Z,200nm,2.2s
KIS Kishinev 145.21 49 *e*UNK PKPbc 06 54 07.5 -0.6
KIS XM 06 54 09.0
comp=Z,200nm,2.2s
IRK Irkutsk 145.25 320 *e*PKP2 PKPbc 06 54 06.6 -1.5
IRK pmax pmax
comp=Z,84nm,2.2s
XAN Xi'an 145.26 288 PKPbc PKPdf 06 54 09.1 0.0
SONM Songino Array 145.61 312 PKPbc PKPdf 06 54 09.0 -0.3
SONM Songino Array 145.61 312 PKPbc PKPdf 06 54 09.0 -0.3
comp=Z,9.1nm,1.0s,baz=98,slow=0.6,SNR=23
TLY Talaya 145.84 320 *e*PKP2 PKPdf 06 54 09.4 -0.1
TLY pmax pmax
comp=Z,24nm,1.5s
TLY MLR MLR
comp=Z,153nm,19.0s
TLY Talaya 145.84 320 *e*PKPbc PKPab 06 54 10.9 +0.5
GYA Guiyang 145.93 274 *i*PKPbc PKPbc 06 54 11.1 -0.1
GYA PKS PKSdf 06 57 44.8 -1.4
GYA SKKS 07 04 24.0
GYA SS SS 07 16 29.6 +0.9
GYA AMB AMB
comp=Z,120nm,7.9s
GYA LR LR
comp=N,120nm,20.8s
GYA LR LR
comp=E,110nm,21.6s
GYA LR LR
comp=Z,140nm,22.4s
OBN Obninsk 146.17 33⇑ *i*PKP2 PKPbc 06 54 10.8 0.0
OBN *e* 06 57 31.1
OBN pmax pmax
comp=Z,53nm,1.4s
OBN MLR MLR
comp=Z,300nm,20.0s
MOS Moscow 146.28 31 *e*PKIKP PKPdf 06 54 08.4 -1.6
MOS pmax pmax
comp=Z,46nm,1.2s
ZAK Zakamensk 146.61 318⇑ *i*PKP2 PKPbc 06 54 12.8 +0.3
ZAK pmax pmax
comp=Z,10.0nm,1.6s
MOY Mondy 147.32 321 *e*PKP2 PKPbc 06 54 15.4 +1.0
MOY pmax pmax
comp=Z,47nm,2.9s
KMI Kunming 148.98 270 PKPbc PKPdf 06 54 17.8 +2.0
KMI PP PP 06 57 54.5 +3.4
KMI SKS SKSdf 07 01 21.7 -2.8
KMI SS SS 07 17 05.8 +2.5
KMI AMB AMB
comp=Z,95nm,6.2s
KMI LR LR
comp=Z,220nm,21.5s
CD2 Chengdu 149.29 281 PKPbc PKPdf 06 54 15.0 -0.9
CD2 pPKP PKPab 06 54 26.0 +1.2
CD2 PKS PKSdf 06 57 49.0 -1.9
CD2 PP PP 06 57 55.0 +2.4
CD2 SKS SKSdf 07 01 21.0 -3.3
CD2 SKKS SKKSac 07 04 42.7 -1.1
CD2 SS SS 07 17 05.4 -0.9
CD2 AMB AMB
comp=Z,130nm,7.8s
CD2 LR LR
comp=E,390nm,20.6s
CD2 LR LR
comp=Z,470nm,23.1s
SIM Simferopol' 149.34 51 PKP2 PKPbc 06 54 20.6 +0.8
SIM pmax pmax
comp=Z,13nm,1.1s
LZH Lanzhou 149.48 291 *e*PKPbc PKPbc 06 54 21.9 +1.2
LZH PKS PP 06 57 55.2 +1.5
LZH PP PP 06 58 01.2 +7.5
LZH SS SS 07 17 09.7 +1.3
LZH AMB AMB
comp=Z,200nm,4.7s
LZH LR LR
comp=N,380nm,18.0s
LZH LR LR
comp=E,400nm,17.9s
LZH LR LR
comp=Z,580nm,19.7s
VSR Storozhevoye 149.67 37 *e*PKP2 PKPbc 06 54 20.0 -0.4
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s
CM31 Chiang Mai Arr 149.75 255 *e*PKPbc PKPbc 06 54 23.0 +1.4
CM31 *e*PKPab PKPab 06 54 29.0 +2.1
CMAR Chiang Mai Arr 149.75 255 PKP PKPdf 06 54 17.1 +0.2
CMAR PKPbc PKiKP 06 54 22.5 -0.1
CMAR Chiang Mai Arr 149.75 255 PKP PKPdf 06 54 17.1 +0.2
comp=Z,1.9nm,0.3s,baz=240,slow=1.8,SNR=5.7
CMAR PKPbc PKiKP 06 54 22.5 -0.1
comp=Z,7.3nm,0.9s,baz=110,slow=1.0,SNR=28
VORD Divnogorie 149.88 37 *e*PKP2 PKPab 06 54 24.5 -1.9
VORD pmax pmax
comp=Z,10.0nm,0.6s
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,60nm,0.8s
CHTO Chiang Mai 149.91 256 *e*PKIKP PKPdf 06 54 17.5 +0.4
CHTO *e* 06 54 22.9
CHTO Chiang Mai 149.91 256 *e*PKPdf PKPdf 06 54 17.5 +0.4
CHTO *e*PKPbc PKiKP 06 54 22.9 -0.1
CHTO *e*PKPab PKPab 06 54 28.8 +1.3
BR131 Keskin Array S 150.19 61 *e*PKPbc PKPbc 06 54 22.3 +0.1
BR131 *e*PKPab PKPab 06 54 29.1 +0.8
BRTR Keskin Array B 150.19 61 PKP PKPdf 06 54 16.2 -0.9
BRTR PKPbc PKPbc 06 54 21.9 -0.3
BRTR Keskin Array B 150.19 61 PKP PKPdf 06 54 16.2 -0.9
comp=E,0.7nm,0.9s,baz=145,slow=3.5,SNR=3.6
BRTR PKPbc PKPbc 06 54 21.9 -0.3
comp=E,3.0nm,0.9s,baz=170,slow=1.3,SNR=16
CSS Prodhromos 150.30 71 *e*PKPbc PKPbc 06 54 23.3 +0.8
CSS *e*PKPab PKPab 06 54 29.0 +0.2
VRHR Novokhopersk 151.01 35 *e*PKIKP PKPbc 06 54 23.3 -0.3
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,1.0s
VRHR pmax pmax
comp=Z,50nm,1.0s
GTA Gaotai 152.32 299 *e*PKPbc PKPbc 06 54 26.6 -0.6
GTA AMB AMB
comp=Z,130nm,5.5s
GTA LR LR
comp=N,91nm,13.3s
GTA LR LR
comp=E,190nm,18.5s
GTA LR LR
comp=Z,180nm,17.6s
SVE Sverdlovsk 152.52 9 *i*PKIKP PKPbc 06 54 25.7 -1.2
SVE pmax pmax
comp=Z,16nm,1.6s
ARU Arti 152.58 12 *i*PKIKP PKPdf 06 54 20.2 +0.2
ARU Arti 152.58 12 *e*PKPdf PKPdf 06 54 20.0 0.0
ARU *e*PKPbc PKPbc 06 54 27.0 0.0
ARU *e*PKPab PKPab 06 54 37.5 0.0
ZAA0 Zalesovo Array 153.02 338 *e*PKPdf PKPdf 06 54 19.9 -0.9
ZAA0 *e*PKPab PKPab 06 54 45.1 +5.7
ZALV Zalesovo Beam 153.02 338 PKIKP PKPdf 06 54 20.1 -0.7
ZALV 06 54 26.1
ZALV Zalesovo Beam 153.02 338 PKP PKPdf 06 54 20.1 -0.7
ZALV PKPbc PKPbc 06 54 26.1 -2.0
ZALV Zalesovo Beam 153.02 338 PKP PKPdf 06 54 20.1 -0.7
comp=Z,2.2nm,1.1s,baz=284,slow=2.4,SNR=8.0
ZALV PKPbc PKPbc 06 54 26.1 -2.0
comp=Z,2.1nm,0.9s,baz=355,slow=1.8,SNR=6.5
KIV Kislovodsk 155.40 48 *e*PKIKP PKPdf 06 54 23.7 -0.9
KIV *e* 07 18 10.6
KIV pmax pmax
comp=Z,4.0nm,1.0s
BVAR Borovoye Array 156.77 356 PKIKP PKPdf 06 54 26.3 +0.4
BVAR Borovoye Array 156.77 356 PKP PKPdf 06 54 26.3 +0.4
BVAR PKPab PKPab 06 54 54.8 -0.7
BVAR Borovoye Array 156.77 356 PKP PKPdf 06 54 26.3 +0.4
comp=Z,0.8nm,0.8s,baz=329,slow=1.7,SNR=4.4
BVAR PKPab PKPab 06 54 54.8 -0.7
comp=Z,1.0nm,0.6s,baz=5.7,slow=2.9,SNR=4.4
KURK Kurchatov 157.70 342 *i*PKP PKPdf 06 54 27.3 +0.1
AKTO Aktyubinsk 158.07 17 PKP2 PKPab 06 54 59.5 -1.6

AKTO	**Aktyubinsk**	**158.07**	**17**	PKPab	**PKPab**	**06 54 59.5**	**-1.6**
AKTO	**Aktyubinsk**	**158.07**	**17**	PKPab	**PKPab**	**06 54 59.5**	**-1.6**
	comp=Z,1.7nm,1.0s,baz=0.0,slow=2.0,SNR=4.2						
MAK	**Makhachkala**	**158.95**	**46**	*e*PKIKP	PKPdf	06 54 37.5	+8.6
WMQ	**Urumqi**	**159.07**	**317**	*e*PKP	**PKPdf**	**06 54 29.2**	**0.0**
WMQ				LR	LR		
	comp=Z,230nm,30.0s						
MKAR	**Makanchi Array**	**159.79**	**331**	PKIKP	**PKPdf**	**06 54 29.1**	**-0.8**
MKAR						06 55 07.9	
MKAR	**Makanchi Array**	**159.79**	**331**	PKP	**PKPdf**	**06 54 29.1**	**-0.8**
MKAR				PKPab	**PKPab**	**06 55 07.9**	**-0.8**
MKAR	**Makanchi Array**	**159.79**	**331**	PKP	**PKPdf**	**06 54 29.1**	**-0.8**
	comp=Z,1.1nm,1.1s,baz=23,slow=2.2,SNR=4.8						
MKAR				PKPab	**PKPab**	**06 55 07.9**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=48,slow=1.8,SNR=3.9						
KSH	**Kashi**	**168.38**	**328**	*e*PKP	**PKPdf**	**06 54 39.2**	**+1.2**
KSH				PKS	**PKSdf**	**06 58 11.1**	**+0.5**
KSH				PP	PP	06 59 41.7	+6.3
KSH				SKS	**SKSdf**	**07 01 42.0**	**+0.1**
KSH				SKKS	**SKKSac**	**07 06 27.7**	**+4.5**
KSH				SS	**SS**	**07 20 32.1**	**+5.6**

*CSEM **08** 06:37:23.3±0.2, 37.64N×38.81E, h10km, MD2.6, Error ellipse: s-maj=4.0km s-min=2.5km az=105.0*
*DDA **08** 06:37:23.4, 37.67N×38.79E, h7km, MD2.6*
ISK 08 06:37:22.9, 37.65N×38.82E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URFA	**Urfa**	**0.21**	**179**	*e*PG		Pg	06 37 27.4	+0.2
URFA				*e*SG		Sg	06 37 31.1	+1.1
URFA	**Urfa**	**0.21**	**179**	*e*Pg		Pg	06 37 27.4	+0.2
URFA				*e*Sg		Sg	06 37 31.2	+1.1
ATAB	**Bozova**	**0.45**	**247**	*i* P		Pg	06 37 32.2	+0.5
ATAB				*i* S		Sg	06 37 37.5	-0.2
ATAB	**Bozova**	**0.45**	**247**	*i* P		Pg	06 37 32.2	+0.5
ATAB				*i* S		Sg	06 37 37.5	-0.2
MALT	**Malatya**	**0.73**	**335**	*e*PG		Pb	06 37 37.7	-0.5
MALT				*e*SG		Sb	06 37 47.8	-0.7
MALT	**Malatya**	**0.73**	**335**	*e*Pg		Pb	06 37 37.7	-0.5
MALT				*e*Sg		Sb	06 37 47.8	-0.7
MYA	**Malataya**	**0.74**	**336**	*e*PG		Pg	06 37 37.6	+0.2
MYA				*e*SG		Sb	06 37 48.8	-0.1
MYA	**Malataya**	**0.74**	**336**	*e*Pg		Pg	06 37 37.6	+0.2
MYA				*e*Sg		Sb	06 37 48.8	-0.1
SVRC	**Sivrice-ELAZID**	**0.82**	**28**	*e*PG		Pg	06 37 39.3	+0.3
SVRC				*e*SG		Sb	06 37 51.1	-0.3
SVRC	**Sivrice-ELAZID**	**0.82**	**28**	*e*Pg		Pg	06 37 39.3	+0.2
SVRC				*e*Sg		Sb	06 37 51.1	-0.3
ELZG	**Elazig**	**0.86**	**9**	*i* P		Pg	06 37 39.7	0.0
ELZG				*i* S		Sb	06 37 52.6	+0.3
ELZG	**Elazig**	**0.86**	**9**	*i* P		Pg	06 37 39.7	0.0
ELZG				*i* S		Sb	06 37 52.6	+0.3
AKCD	**Akcadag**	**0.96**	**313**	*i* P		Pg	06 37 41.3	-0.2
AKCD				*i* S		Sg	06 37 54.2	+0.1
AKCD	**Akcadag**	**0.96**	**313**	*i* P		Pg	06 37 41.3	-0.2
AKCD				*i* S		Sg	06 37 54.2	+0.1
GZT	**Gaziantep**	**1.04**	**254**	*i* P		Pg	06 37 43.2	+0.1
GZT				*i* S		Sb	06 37 57.4	0.0
PTK	**Pertek**	**1.32**	**20**	*e*PN		Pb	06 37 48.4	0.0
PTK	**Pertek**	**1.32**	**20**	*e*Pn		Pb	06 37 48.4	+0.1
GAZ	**Gaziantep**	**1.36**	**250**	*e*PN		Pb	06 37 49.0	+0.1
GAZ	**Gaziantep**	**1.36**	**250**	*e*Pn		Pb	06 37 49.0	+0.1
BNGB	**Bing¯¶ı**	**1.99**	**47**	*e*PN		Pn	06 37 57.8	+0.7

RSPR 08 06:39:25.5, 19.81N×63.14W, h66km±16km, MD3.8/10, 20C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SABA	**Saba**	**2.18**	**183**	*e*P		Pn	06 39 58.6	-1.0
SABA	**Saba**	**2.18**	**183**	*e*P		Pn	06 39 58.6	-1.0
STVI	**Saint Thomas**	**2.25**	**230**	*e*P		Pn	06 39 59.8	-0.6
STVI	**Saint Thomas**	**2.25**	**230**	*e*P		Pn	06 39 59.8	-0.6
STVI				*e*S		Sn	06 40 26.4	-0.7
CDVI	**St. Croix**	**2.56**	**217**	*e*P		Pn	06 40 04.6	-0.1
CDVI	**St. Croix**	**2.56**	**217**	*e*P		Pn	06 40 04.6	-0.1
CDVI				*e*S		Sn	06 40 34.7	-0.1
MTP	**Monte Pirata**	**2.85**	**234**	*e*P		Pn	06 40 08.2	-0.4
MTP	**Monte Pirata**	**2.85**	**234**	*e*P		Pn	06 40 08.2	-0.4
MTP				*e*S		Sn	06 40 41.1	-0.7
CBYP	**Canovanas**	**2.99**	**240**	*e*P		Pn	06 40 10.3	-0.4
CBYP	**Canovanas**	**2.99**	**240**	*e*P		Pn	06 40 10.3	-0.4
CBYP				*e*S		Sn	06 40 45.2	-0.3
HUMP	**Col San Antoni**	**3.05**	**237**	*e*P		Pn	06 40 10.8	-0.6
HUMP	**Col San Antoni**	**3.05**	**237**	*e*P		Pn	06 40 10.8	-0.6
HUMP				*e*S		Sn	06 40 46.2	-0.6
CPD	**Cerro la Pandu**	**3.16**	**237**	*e*P		Pn	06 40 13.0	0.0
CPD	**Cerro la Pandu**	**3.16**	**237**	*e*P		Pn	06 40 13.0	0.0
CPD				*e*S		Sn	06 40 49.5	-0.1
SJG	**San Juan**	**3.31**	**240**	*e*P		Pn	06 40 14.4	-0.6
SJG	**San Juan**	**3.31**	**240**	*e*P		Pn	06 40 14.4	-0.5
SJG	**San Juan**	**3.31**	**240**	*e*P		Pn	06 40 14.4	-0.6
SJG	**San Juan**	**3.31**	**240**	*e*P		Pn	06 40 14.4	-0.5
SJG				*e*S		Sn	06 40 52.6	-0.5
CELP	**Cerrillos**	**3.68**	**243**	*e*P		Pn	06 40 19.5	-0.6
CELP	**Cerrillos**	**3.68**	**243**	*e*P		Pn	06 40 19.5	-0.6
AOPR	**Arecibo Observ**	**3.71**	**247**	*e*P		Pn	06 40 20.3	-0.2
AOPR	**Arecibo Observ**	**3.71**	**247**	*e*P		Pn	06 40 20.3	-0.2
AOPR				*e*S		Sn	06 41 03.3	+0.2
SEG	**Port Louis**	**3.73**	**155**	*e*P		Pn	06 40 16.4	-4.3
LZG	**Guadaloupe-1**	**3.88**	**160**	*e*P		Pn	06 40 18.3	-4.4
BCG	**Bois Riant Cap**	**3.98**	**158**	*e*P		Pn	06 40 19.7	-4.5
SCG	**Saint Claude**	**4.01**	**159**	*e*P		Pn	06 40 20.2	-4.5
SCG				*e*S		Sn	06 41 04.4	-6.1
PHG	**Guadaloupe-2**	**4.04**	**159**	*e*P		Pn	06 40 20.9	-4.1
HMG	**Houelmont**	**4.05**	**160**	*e*P		Pn	06 40 21.2	-3.9
CRPR	**Cabo Rojo, PR**	**4.16**	**245**	*e*P		Pn	06 40 26.9	+0.3
CRPR	**Cabo Rojo, PR**	**4.16**	**245**	*e*P		Pn	06 40 26.9	+0.3
CRPR				*e*S		Sn	06 41 14.3	+0.3
TBG	**Guadaloupe-3**	**4.19**	**160**	*e*P		Pn	06 40 23.0	-4.0

IDC 08 06:41:19.8±3.2, 30.08S×111.48W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.8/14, mbtmp3.7/3, Error ellipse: s-maj=197.1km s-min=47.6km az=112.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NVAR	**Mina Array Bea**	**68.46**	**354**	P		P	06 52 23.9	+0.1
	0.5nm,0.8s,baz=181,slow=8.8,SNR=3.7							
PDAR	**Pinedale Array**	**72.51**	**1**	P		P	06 52 48.4	-0.1
	0.4nm,0.9s,baz=175,slow=3.3,SNR=2.7							
ULM	**Lac du Bonnet**	**81.17**	**10**	P		P	06 53 36.7	-0.1
	0.8nm,0.6s,baz=190,slow=6.1,SNR=2.5							
SONM	**Songino Array**	**146.05**	**312**	PKPbc		PKPdf	07 01 00.5	-0.2
	1.0nm,0.9s,baz=84,slow=1.8,SNR=5.9							
CMAR	**Chiang Mai Arr**	**150.04**	**254**	PKPbc		PKPbc	07 01 12.4	-0.5
	0.7nm,0.3s,baz=113,slow=2.1,SNR=2.6							
ZALV	**Zalesovo Beam**	**153.38**	**338**	PKPbc		PKPbc	07 01 19.9	+0.4
	0.1nm,0.3s,baz=40,slow=2.5,SNR=2.3							

*ISCJB **08** 06:56:23.2±0.2, 62.23N±0.02×150.19W±0.05, h75km±5km, mb3.5/1, Error ellipse: s-maj=3.7km s-min=3.1km az=28.0*
*IDC **08** 06:56:23.0±1.6, 62.21N×150.15W, h59km±34km, mb3.3/1, mb1 3.6/4, mb1mx3.1/25, mbtmp3.4/4, ML3.5/4, Error ellipse: s-maj=45.5km s-min=9.5km az=113.0*
*NEIC **08** 06:56:25.1, 62.21N×150.24W, h57km, ML3.5(AEIC), After AEIC.*
ISC 08 06:56:23.8±0.9, 62.24N±0.03×150.22W±0.03, h63km±8km, n87, σ0.992/101, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TRAP	**Trapper Creek**	**0.10**	**354**	P		**Pn**	**06 56 33.4**	**+0.2**
CUT	**Chulitna**	**0.17**	**353**	P		**Pn**	**06 56 33.9**	**+0.4**
SKT	**Skwentna**	**0.67**	**248**	P		**Pn**	**06 56 38.0**	**+0.1**
SKT				S		**Sn**	**06 56 48.6**	**+0.4**
GHO	**Glory Hole Cre**	**0.77**	**127**	P		**Pn**	**06 56 39.5**	**+0.3**
HUR	**Hurricane**	**0.79**	**20**	P		**Pn**	**06 56 40.2**	**+0.8**
SUA	**Susitna One**	**0.81**	**198**	P		**Pn**	**06 56 39.9**	**+0.2**
SUA				S		**Sn**	**06 56 51.2**	**-0.2**
PMR	**Palmer**	**0.83**	**141**	P		**Pn**	**06 56 39.7**	**0.0**
PMR				S		**Sn**	**06 56 51.8**	**+0.2**
SML	**Sawmill**	**0.99**	**115**	P		**Pn**	**06 56 42.1**	**+0.2**
SML				S		**Sn**	**06 56 56.9**	**+1.6**
STLK	**Strandline Lak**	**1.06**	**227**	P		**Pn**	**06 56 42.9**	**0.0**
FIB	**Fire Island**	**1.07**	**179**	P		**Pn**	**06 56 43.8**	**+0.9**
PPLA	**Purkeypile**	**1.13**	**307**	P		**Pn**	**06 56 44.1**	**+0.4**
PPLA				S		**Sn**	**06 56 58.6**	**0.0**
RC01	**Rabbit Creek A**	**1.17**	**168**	P		**Pn**	**06 56 44.2**	**-0.1**
RC01				S		**Sn**	**06 57 00.7**	**+1.3**
KNK	**Knik Glacier**	**1.18**	**134**	P		**Pn**	**06 56 44.8**	**+0.5**
TRF	**Thorofare Moun**	**1.22**	**359**	P		**Pn**	**06 56 45.1**	**+0.1**
NCG	**North Capps Gl**	**1.24**	**229**	P		**Pn**	**06 56 45.1**	**-0.1**
SPCG	**Spurr Capps Gl**	**1.28**	**223**	P		**Pn**	**06 56 45.7**	**0.0**
RND	**Reindeer**	**1.33**	**28**	P		**Pn**	**06 56 47.1**	**+0.7**
SPU	**Mount Spurr**	**1.37**	**220**	*e*Pn		**Pn**	**06 56 46.9**	**0.0**
SPU				*e*Sn		**Sn**	**06 57 05.2**	**+1.0**
SCM	**Sheep Creek Mo**	**1.42**	**105**	P		**Pn**	**06 56 48.4**	**+0.8**
CKL	**Chakachamna La**	**1.45**	**225**	P		**Pn**	**06 56 48.0**	**0.0**
DHY	**Denali Highway**	**1.56**	**56**	P		**Pn**	**06 56 50.1**	**+0.6**
MCK	**McKinley**	**1.61**	**21**	P		**Pn**	**06 56 51.2**	**+1.1**
SLKM	**Skilak Lake**	**1.73**	**180**	P		**Pn**	**06 56 51.9**	**+0.1**
CHUM	**Lake Minchumin**	**1.91**	**331**	P		**Pn**	**06 56 54.8**	**+0.8**
DFR	**Drift River**	**2.03**	**217**	P		**Pn**	**06 56 56.5**	**+0.8**
RDN	**Redoubt North**	**2.12**	**216**	P		**Pn**	**06 56 57.3**	**+0.3**
NCT	**North Crescent**	**2.13**	**219**	P		**Pn**	**06 56 58.2**	**+1.1**
RSO	**Redoubt South**	**2.16**	**216**	*e*Pn		**Pn**	**06 57 00.0**	**+2.4**
VLZ	**Valdez**	**2.16**	**119**	P		**Pn**	**06 56 57.4**	**0.0**
KLU	**Klutina**	**2.17**	**108**	P		**Pn**	**06 56 57.8**	**+0.2**
SEW	**Seward**	**2.17**	**170**	P		**Pn**	**06 56 58.2**	**+0.6**
PAX	**Paxson**	**2.32**	**69**	P		**Pn**	**06 57 01.1**	**+1.4**
DIV	**Divide**	**2.40**	**116**	P		**Pn**	**06 57 00.6**	**-0.1**
NEA	**Nenana**	**2.41**	**12**	P		**Pn**	**06 57 02.1**	**+1.3**
WRH	**Wood River Hil**	**2.44**	**22**	P		**Pn**	**06 57 02.1**	**+0.8**
BRLK	**Bradley Lake**	**2.50**	**188**	P		**Pn**	**06 57 03.5**	**+1.4**
DDM	**Donnelly Dome**	**2.52**	**50**	P		**Pn**	**06 57 04.7**	**+2.2**
INE	**Iliamna NE**	**2.58**	**213**	P		**Pn**	**06 57 04.3**	**+1.0**
ILW	**Iliamna West**	**2.60**	**214**	P		**Pn**	**06 57 04.8**	**+1.2**
HDA	**Harding Lake**	**2.63**	**33**	P		**Pn**	**06 57 05.0**	**+1.2**
CCB	**Clear Creek Bu**	**2.65**	**23**	P		**Pn**	**06 57 04.8**	**+0.7**
EYAK	**Cordova Ski Ar**	**2.74**	**126**	P		**Pn**	**06 57 05.4**	**+0.2**
TT01	**Tatalina**	**2.77**	**287**	P		**Pn**	**06 57 05.7**	**0.0**
SVW2	**Sparrevohn**	**2.80**	**248**	*e*Pn		**Pn**	**06 57 06.2**	**0.0**
MLY	**Manley**	**2.81**	**356**	P		**Pn**	**06 57 07.0**	**+0.6**
COLA	**College**	**2.85**	**21**	P		**Pn**	**06 57 07.6**	**+0.8**
MDM	**Murphy Dome**	**2.87**	**17**	P		**Pn**	**06 57 07.9**	**+0.7**
ILAR	**Eielson Array**	**2.95**	**29**	P		**Pn**	**06 57 09.1**	**+0.8**
ILAR				S		**Sn**	**06 57 41.6**	**-0.8**
ILAR	**Eielson Array**	**2.95**	**29**	P		**Pn**	**06 57 09.1**	**+0.8**
	18nm,0.3s,baz=209,slow=14,SNR=1113							
ILAR				S		**Sn**	**06 57 41.6**	**-0.8**
	17nm,0.3s,baz=336,slow=26,SNR=38							
IL1	**Eielson Array**	**2.95**	**29**	P		**Pn**	**06 57 09.0**	**+0.8**
BMRM	**Bremner River**	**2.97**	**113**	P		**Pn**	**06 57 08.2**	**-0.4**
OPT	**Oil Point**	**2.98**	**211**	P		**Pn**	**06 57 10.3**	**+1.7**
GLM	**Gilmore Dome**	**3.04**	**23**	P		**Pn**	**06 57 10.4**	**+1.0**
MENT	**Mentasta**	**3.09**	**74**	*e*Pn		**Pn**	**06 57 11.0**	**+0.9**
GOAT	**Goat Mountain**	**3.12**	**120**	P		**Pn**	**06 57 10.7**	**+0.2**
DOT	**Dot Lake**	**3.15**	**61**	P		**Pn**	**06 57 12.2**	**+1.2**
AUE	**Augustine Isla**	**3.27**	**210**	P		**Pn**	**06 57 14.5**	**+1.9**
AUW	**Augustine West**	**3.29**	**210**	P		**Pn**	**06 57 15.7**	**+2.9**
MID	**Middleton Isla**	**3.40**	**144**	*e*Pn		**Pn**	**06 57 15.5**	**+1.2**
NICHA	**Nichawak Mount**	**3.63**	**121**	P		**Pn**	**06 57 17.4**	**-0.1**
BERG	**Berg Lake**	**3.65**	**118**	P		**Pn**	**06 57 17.7**	**0.0**
KHIT	**Khitrov Hills**	**3.81**	**115**	P		**Pn**	**06 57 20.1**	**+0.1**
FOPK	**Fourpeaked Vol**	**3.84**	**206**	P		**Pn**	**06 57 21.3**	**+0.9**
PRP	**Porcupine Dome**	**3.89**	**30**	P		**Pn**	**06 57 22.5**	**+1.3**
GCSA	**Galena City Sc**	**3.91**	**313**	P		**Pn**	**06 57 22.1**	**+0.9**
BCA3	**Beaver Creek A**	**3.98**	**74**	P		**Pn**	**06 57 22.9**	**+0.6**
IM3	**Indian Mountai**	**4.07**	**339**	P		**Pn**	**06 57 23.9**	**+0.5**
ISLE	**Juniper Island**	**4.13**	**110**	P		**Pn**	**06 57 24.1**	**-0.3**
BARK	**Barkley Ridge**	**4.16**	**113**	P		**Pn**	**06 57 25.5**	**+0.8**
BAGL	**Bagley Icefiel**	**4.29**	**110**	P		**Pn**	**06 57 26.5**	**+0.1**
MESA	**MESA**	**4.50**	**114**	P		**Pn**	**06 57 30.0**	**+0.4**
KDAK	**Kodiak Island**	**4.62**	**196**	P		**Pn**	**06 57 30.4**	**-0.6**
KDAK				S		**Sn**	**06 58 22.2**	**-1.1**
KDAK	**Kodiak Island**	**4.62**	**196**	P		**Pn**	**06 57 30.4**	**-0.6**
	1.0nm,0.3s,baz=26,slow=12,SNR=18							
KDAK				S		**Sn**	**06 58 22.2**	**-1.1**
	5.0nm,0.3s,baz=346,slow=18,SNR=7.0							
KAKN	**Katmai Knife C**	**4.63**	**214**	P		**Pn**	**06 57 32.1**	**+0.9**
TABL	**Table Mountain**	**4.73**	**108**	P		**Pn**	**06 57 32.9**	**+0.2**
KABR	**Katmai Barrier**	**4.75**	**212**	P		**Pn**	**06 57 33.9**	**+1.0**
EGAK	**Eagle**	**4.79**	**54**	*e*Pn		**Pn**	**06 57 33.9**	**+0.6**
COLD	**Coldfoot**	**5.01**	**0**	P		**Pn**	**06 57 36.6**	**+0.3**
DAWY	**Dawson**	**5.24**	**65**	P		**Pn**	**06 57 40.6**	**+1.1**
BM3	**Burnt Mountain**	**5.73**	**22**	P		**Pn**	**06 57 47.1**	**+0.9**
PNL	**Peninsula**	**5.87**	**111**	*e*Pn		**Pn**	**06 57 49.8**	**+1.7**
PNL				*e*Sn		**Sn**	**06 58 53.3**	**-0.6**
INK	**Inuvik**	**9.25**	**42**	*e*Pn		**Pn**	**06 58 34.7**	**+0.6**
	4.6nm,0.7s							
INK				*e*Sn		**Sn**	**07 00 14.1**	**-2.3**
INK				S			07 00 15.5	
INK	**Inuvik**	**9.25**	**42**	P		**Pn**	**06 58 34.8**	**+0.6**
	0.6nm,0.3s,baz=240,slow=14,SNR=47							
INK				S		**Sn**	**07 00 15.5**	**-0.9**
	0.2nm,0.3s,baz=306,slow=19,SNR=2.6							
YKA	**Yellowknife Ar**	**16.40**	**73**	P		**Pn**	**07 00 09.6**	**0.0**
YKA	**Yellowknife Ar**	**16.40**	**73**	P		**Pn**	**07 00 09.5**	**0.0**
	0.1nm,0.3s,baz=285,slow=10.0,SNR=13							
SONM	**Songino Array**	**54.56**	**306**	P		**P**	**07 05 44.8**	**-0.3**
SONM	**Songino Array**	**54.56**	**306**	P		**P**	**07 05 44.8**	**-0.3**
	0.3nm,0.7s,baz=34,slow=6.2,SNR=4.6							

*IDC **08** 07:24:27.0±0.6, 24.73S×176.94W, h0km, mb4.5/15, mb1 4.7/18, mb1mx4.6/23, mbtmp4.6/18, ML3.6/3, MS4.5/24, Ms1 4.5/24, ms1mx4.4/33, Error ellipse: s-maj=24.2km s-min=15.4km az=155.0*
*ISCJB **08** 07:24:28.0±3.9, 24.69S±0.07×177.03W±0.06, h7km±24km, mb4.9/72, MS4.6/30, Error ellipse: s-maj=11.8km s-min=8.6km az=167.6*
*BJI **08** 07:24:29.8, 24.70S×176.80W, h10km, mB5.4/9, mb5.2/14, Ms5.3/13, Ms7 5.0/14*
*NEIC **08** 07:24:31.6±2.0, 24.72S×177.03W, h25km±14km, mb5.0/52, Error ellipse: s-maj=9.8km s-min=6.2km az=152.0*
*MOS **08** 07:24:32.0±1.6, 24.59S×176.98W, h33km, mb5.2/20, Error ellipse: s-maj=11.4km s-min=9.0km az=59.2*
*DJA **08** 07:24:58, 24.33S×176.36W, h302km, mb4.9/6*
ISC 08 07:24:30.3±0.5, 24.76S±0.06×176.81W±0.06, h16km±2km, h15km:pP-P, n448, σ1.949/455, mb4.9/71, MS4.5/30, 102C-99D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**4.59**	**192**	*e*Pn		**Pn**	**07 25 40.0**	**+1.0**
MSVF	**Nonsavu**	**8.47**	**325**	*e*P		**Pn**	**07 26 32.0**	**-0.5**
MSVF	**Nonsavu**	**8.47**	**325**	*e*Pn		**Pn**	**07 26 32.0**	**-0.5**
MSVF	**Nonsavu**	**8.47**	**325**	Pn		**Pn**	**07 26 33.7**	**+1.2**
	681nm,0.8s,SNR=6.4							
AFI	**Afiamalu**	**11.79**	**25**	*e*Pn		**Pn**	**07 27 16.1**	**-1.8**
AFI				*e*Sn		Sn	07 29 17.6	-12
AFI				Sn		Sn	07 29 19.8	-10
AFI	**Afiamalu**	**11.79**	**25**	Pn		**Pn**	**07 27 15.6**	**-2.3**
	3.7nm,0.3s,baz=301,slow=12,SNR=5.4							
AFI				Sn		Sn	07 29 19.8	-9.5
	6.7nm,0.3s,baz=41,slow=20,SNR=5.7							
OUZ	**Omahuta**	**13.33**	**216**	*e*Pn		Pn	07 27 42.5	+3.6
URZ	**Urewera**	**14.42**	**200**	*e*Pn		**Pn**	**07 27 54.4**	**+0.6**
DZM	**Mont Dzumac**	**15.61**	**276**	*e*P		**P**	**07 28 12.6**	**-1.4**
	396nm,1.5s							
DZM				*e*LQ		LQ	07 31 00.5	
	2μm,37.3s							
DZM				*e*LR		LR	07 31 48.7	
	5μm,25.4s							
DZM	**Mont Dzumac**	**15.61**	**276**	*e*P		**Pn**	**07 28 06.3**	**-3.5**
DZM	**Mont Dzumac**	**15.61**	**276**	*e*Pn		**Pn**	**07 28 07.3**	**-2.5**
	278nm,1.5s							
DZM	**Mont Dzumac**	**15.61**	**276**	Pn		**Pn**	**07 28 07.9**	**-1.9**
	0.2nm,0.3s,baz=109,slow=4.8,SNR=3.8							
DZM				LR		LR	07 32 53.4	
	comp=Z,3μm,19.0s,baz=100,slow=33							
NOUC	**Port Laguerre**	**15.73**	**276**	*e*P		**P**	**07 28 13.7**	**-1.5**
RAR	**Rarotonga**	**16.08**	**81**	*e*Pn		**Pn**	**07 28 15.8**	**0.0**
	143nm,1.2s							
RAR				*e*Sn		Sn	07 31 03.1	-11
RAR				Sn		S	07 31 04.2	-23
RAR				TT			07 44 05.0	
RAR	**Rarotonga**	**16.08**	**81**	Pn		**Pn**	**07 28 15.5**	**-0.3**
	1.9nm,0.3s,baz=258,slow=7.0,SNR=5.4							
RAR				Sn		Sn	07 31 04.1	-10
	2.6nm,0.3s,baz=93,slow=17,SNR=4.7							
RAR				LR		LR	07 32 37.6	
	comp=Z,2μm,21.8s,baz=256,slow=30							
RAR				T		T	07 44 05.0	
	21nm,0.3s,baz=94,slow=19,SNR=8.1							

TBI	**Tubuai**	**25.00**	**92**	*e*LQ		LQ	07 34 55.6	
	3μm,26.2s							
TBI				*e*LR		LR	07 36 05.3	
	3μm,28.2s,baz=262							
PPT2	**Papeete2**	**26.34**	**80**	*e*LQ		LQ	07 35 25.6	
	4μm,24.8s							
PPT2				*e*LR		LR	07 36 41.6	
	3μm,25.0s,baz=249							
HNR	**Honiara**	**26.87**	**301**	LR		LR	07 38 45.6	
	comp=Z,1μm,21.4s,baz=124,slow=32							
ARMA	**Armidale**	**28.48**	**251**	*e*P		P	07 30 28.8	+3.8
EIDS	**Eidsvold**	**29.06**	**262**	P		**P**	**07 30 27.1**	**-3.0**
	50nm,1.1s							
EIDS	**Eidsvold**	**29.06**	**262**	*e*P		**P**	**07 30 28.7**	**-1.4**
	122nm,0.9s							
RMQ	**Roma**	**31.05**	**259**	*e*P		**P**	**07 30 47.1**	**-0.5**
	52nm,0.9s							
CTA	**Charters Tower**	**34.39**	**270**	P		P	**07 31 15.3**	**-1.7**
CTA	**Charters Tower**	**34.39**	**270**	*e*P		P	**07 31 15.5**	**-1.5**
	62nm,1.1s							
CTA	**Charters Tower**	**34.39**	**270**	P		P	**07 31 15.3**	**-1.7**
	10.0nm,0.9s,baz=103,slow=11,SNR=5.2							
CTA				LR		LR	07 40 55.8	
	comp=Z,317nm,21.2s,baz=102,slow=29							
CTAO	**Charters Tower**	**34.39**	**270**	*e*P		**P**	**07 31 15.7**	**-1.3**
CTAO				pmax		pmax		
	comp=Z,135nm,1.1s							
CTAO	**Charters Tower**	**34.39**	**270**	*e*P		**P**	**07 31 15.7**	**-1.3**
	comp=Z,135nm,1.1s							
STKA	**Stephens Creek**	**37.13**	**249**	P		**P**	**07 31 39.1**	**-1.2**
STKA	**Stephens Creek**	**37.13**	**249**	*e*P		P	07 31 43.7	+3.3
	comp=Z,5.8nm,1.1s							
STKA	**Stephens Creek**	**37.13**	**249**	P		**P**	**07 31 39.1**	**-1.2**
	comp=Z,2.5nm,0.8s,baz=90,slow=15,SNR=2.2							
STKA				LR		LR	07 44 11.2	
	comp=Z,899nm,19.6s,baz=202,slow=32							
PMG	**Port Moresby**	**37.53**	**288**	P		**P**	**07 31 42.2**	**-1.7**
PMG	**Port Moresby**	**37.53**	**288**	P		**P**	**07 31 42.2**	**-1.7**
	comp=Z,9.6nm,0.8s,baz=146,slow=7.3,SNR=4.2							
RKT	**Rikitea**	**38.16**	**96**	*e*LR		LR	07 42 09.1	
	comp=Z,2μm,26.2s							
COEN	**Coen**	**39.12**	**278**	*e*P		P	07 32 00.7	+3.3
	comp=Z,206nm,1.0s							
AS31	**Alice Springs**	**44.77**	**261**	*e*P		**P**	**07 32 42.5**	**-1.0**
ASAR	**Alice Springs**	**44.77**	**261**	P		**P**	**07 32 42.2**	**-1.3**
ASAR	**Alice Springs**	**44.77**	**261**	P		**P**	**07 32 42.2**	**-1.3**
	comp=Z,4.8nm,1.1s,baz=107,slow=8.3,SNR=15							
WRAB	**Tennant Creek**	**45.25**	**266**	*e*P		**P**	**07

comp=Z,37nm,1.0s
NVAR **Mina Array Bea** 83.38 42 P P 07 36 57.8 +0.7
NVAR **Mina Array Bea** 83.38 42 P P 07 36 57.8 +0.7
comp=Z,2.8nm,0.6s,baz=221,slow=8.0,SNR=23
PDMCI **Parker Dam,Lak** 83.57 48 ⇑P P 07 36 59.2 +1.4
baz=84,SNR=5.0
Z14A **Wintersburg** 83.84 49 ⇓P P 07 37 01.0 +1.7
baz=84
Y14A **Wickenburg** 83.13 49 ⇓P P 07 37 01.9 +1.2
baz=84,SNR=10
W13A **Hualapai Mount** 84.20 47 ⇓P P 07 37 02.7 +1.3
baz=84,SNR=8.4
MOD **Modoc** 84.41 39 *e*P P 07 37 02.7 +0.6
comp=Z,10nm,1.0s
MDJ **Mudanjiang** 84.62 325 P P 07 37 05.8 +2.9
MDJ pP **pP** 07 37 09.0 +0.8
MDJ sP **sP** 07 37 10.4 +0.3
MDJ S **SKKSac** 07 47 34.2 +2.3
MDJ sS **ScS** 07 47 40.2 -0.5
MDJ pmax pmax
comp=Z,3.0nm,0.7s
MDJ pmax pmax
comp=Z,86nm,3.4s
MDJ LR LR
comp=N,110nm,25.8s
MDJ LR LR
comp=E,49nm,21.0s
MDJ LR LR
comp=Z,100nm,24.2s
HABR **Khabarovsk** 84.67 330 *e*P P 07 37 03.6 +0.6
HABR *e* 07 40 18.7
HABR *i* 07 42 16.4
HABR *e*S **S** 07 47 26.8 -2.9
HABR *e*SS **SS** 07 53 02.8 +0.8
HABR *e*SSS SSS 07 56 33.2
HABR pmax pmax
comp=N,39nm,2.6s
HABR pmax pmax
comp=E,57nm,2.6s
HABR pmax pmax
comp=Z,63nm,2.6s
HABR MLR MLR
comp=Z,42nm,21.0s
KDAK **Kodiak Island** 84.69 13 LR LR 08 05 46.4
comp=Z,420nm,21.1s,baz=278,slow=29
TUC **Tucson** 84.76 51 *e*P P 07 37 06.1 +2.1
TUC pmax pmax
comp=Z,10.0nm,0.9s
TUC **Tucson** 84.76 51 *e*P P 07 37 06.1 +2.1
comp=Z,9.9nm,0.9s
319A **Douglas** 85.33 52 ⇑P P 07 37 08.4 +1.5
baz=86
X16A **Lo Mia Camp, P** 85.47 49 ⇑P P 07 37 09.2 +1.5
baz=86,SNR=15
PLCA **Paso Flores** 85.57 133 LR LR 08 06 48.2
comp=Z,306nm,18.7s,baz=79,slow=30
WVOR **Wild Horse Val** 85.70 39 *e*P P 07 37 08.9 +0.3
WVOR pmax pmax
comp=Z,5.0nm,0.9s
WVOR **Wild Horse Val** 85.70 39 *e*P P 07 37 08.9 +0.3
comp=Z,5.2nm,0.9s
320A **Kipp Ranch, An** 85.85 53 ⇑P P 07 37 11.4 +1.9
baz=86
R13A **O'Grain Ranch,** 85.94 45 ⇑P P 07 37 11.2 +1.2
baz=86
CCUT **Cedar City** 85.97 45 *e*P P 07 37 11.3 +1.1
comp=Z,5.9nm,0.9s
U15A **North Rim** 86.03 47 ⇑P P 07 37 12.0 +1.5
baz=86,SNR=12
ARUT **Antelope Range** 86.06 45 *e*P P 07 37 11.1 +0.6
ARUT pmax pmax
comp=Z,4.0nm,0.9s
ARUT **Antelope Range** 86.06 45 *e*P P 07 37 11.1 +0.6
comp=Z,4.0nm,0.9s
WUAZ **Wupatki** 86.13 48 *e*P P 07 37 12.2 +1.3
comp=Z,7.8nm,1.0s
WUAZ **Wupatki** 86.13 48 ⇓P P 07 37 12.1 +1.2
baz=86
220A **Playas Peak, P** 86.15 52 ⇑P P 07 37 12.8 +1.7
baz=86
CN2 **Changchun** 86.33 322 *e*P P 07 37 15.0 +3.6
CN2 *ep*P pP 07 37 19.0 +2.3
CN2 *e*S **S** 07 47 49.3 +3.0
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,600nm,17.0s
CN2 LR LR
comp=E,800nm,17.0s
CN2 LR LR
comp=Z,900nm,19.0s
120A **U Bar Ranch, L** 86.42 52 ⇑P P 07 37 14.0 +1.6
baz=87
X18A **Snowflake** 86.56 50 ⇓P P 07 37 14.5 +1.5
baz=87,SNR=12
U16A **Tuba City** 86.64 48 ⇑P P 07 37 14.9 +1.5
baz=87,SNR=7.4
Y19A **Nutrioso** 86.73 50 ⇑P P 07 37 15.7 +1.7
baz=87,SNR=20
Z20A **Nine Sixteen R** 86.75 51 ⇑P P 07 37 15.8 +1.8
baz=87,SNR=12
121A **Cookes Peak, D** 87.02 52 ⇑P P 07 37 17.1 +1.7
baz=87,SNR=6.5
U17A **Shonto** 87.21 47 ⇑P P 07 37 17.6 +1.4
baz=88,SNR=6.4
S16A **Weppner Ranch,** 87.22 46 ⇑P P 07 37 17.6 +1.4
baz=88,SNR=5.3
MVU **Marysvale** 87.26 45 *e*P P 07 37 18.1 +1.7
comp=Z,13nm,1.4s
222A **Williams Famil** 87.28 53 ⇓P P 07 37 18.1 +1.5
baz=88,SNR=5.4
MSU **Marysvale** 87.28 45 *e*P P 07 37 18.2 +1.6
MSU **Marysvale** 87.28 45 *e*P P 07 37 18.1 +1.6
Y20A **Horse Springs,** 87.32 51 ⇓P P 07 37 18.6 +1.7
baz=88,SNR=8.0
Z21A **St. Cloud Mine** 87.50 52 ⇓P P 07 37 19.7 +1.9
baz=88,SNR=11
X20A **Quemado** 87.57 50 ⇑P P 07 37 19.7 +1.7
baz=88,SNR=6.6
R16A **Teasdale** 87.61 46 ⇓P P 07 37 19.1 +0.9
baz=88
BBB **Bella Bella** 87.63 28 LR LR 08 12 18.4
comp=Z,282nm,19.0s,baz=250,slow=33
U18A **Rough Rock, Ch** 87.64 48 ⇑P P 07 37 19.2 +0.9
baz=88
SLKM **Skilak Lake** 87.68 13 *e*P P 07 37 17.4 -0.3
SLKM **Skilak Lake** 87.68 13 *e*P P 07 37 17.4 -0.3
Y21A **Point of Rocks** 87.87 51 ⇑P P 07 37 21.3 +1.8
baz=88,SNR=12
W20A **Ramah** 87.88 50 ⇑P P 07 37 21.0 +1.5
baz=88,SNR=13
MFID **Camas Ranch** 87.92 40 *e*P P 07 37 20.3 +0.9
comp=Z,9.2nm,1.5s
Z22A **Elephant Butte** 87.98 52 ⇓P P 07 37 21.3 +1.4
baz=88,SNR=15
X21A **Alamocita Cree** 88.02 51 ⇑P P 07 37 21.7 +1.5
baz=88,SNR=6.2
U19A **Dine' College,** 88.02 48 ⇓P P 07 37 21.3 +1.1
baz=88
T18A **Mexican Hat** 88.03 47 ⇑P P 07 37 21.1 +1.1
baz=88
324A **Moseley Ranch,** 88.13 54 ⇑P P 07 37 21.8 +1.2
baz=88
Q16A **Castle Valley** 88.16 45 ⇓P P 07 37 21.8 +1.0
baz=88
425A **Indio Mountain** 88.17 55 ⇓P P 07 37 22.1 +1.2
baz=88
R17A **Hanksville Air** 88.18 46 ⇑P P 07 37 21.5 +0.7
baz=88
626A **Big Bend Ranch** 88.19 56 ⇑P P 07 37 22.3 +1.4
baz=88
MNTX **Cornudas Mount** 88.33 54 *e*P P 07 37 22.0 +0.5
comp=Z,6.6nm,1.0s
MNTX **Cornudas Mount** 88.33 54 ⇑P P 07 37 22.5 +1.1
baz=89,SNR=7.6
Y22A **Socorro** 88.33 51 ⇓P P 07 37 23.0 +1.4
baz=89,SNR=7.7
TMUT **Trail Mountain** 88.35 45 *e*P P 07 37 23.3 +1.5
comp=Z,16nm,0.8s
224A **Cornudas Mount** 88.42 54 ⇓P P 07 37 23.4 +1.3
baz=89,SNR=7.5
TXAR **Lajitas Array** 88.44 57 P P 07 37 23.2 +1.1
TXAR **Lajitas Array** 88.44 57 P P 07 37 23.2 +1.1
comp=Z,1.9nm,0.9s,baz=212,slow=8.2,SNR=19
TXAR LR LR 08 10 38.3
comp=Z,278nm,18.7s,baz=185,slow=31
LAZ **Ladron** 88.45 51 *e*P P 07 37 23.9 +1.7
comp=Z,4.0nm,1.1s
W21A **San Fidel** 88.47 50 ⇓P P 07 37 24.0 +1.7
baz=89
Z23A **Rita Site, Whi** 88.51 52 ⇑P P 07 37 24.0 +1.6
baz=89,SNR=5.5
I12A **Atlanta** 88.56 40 ⇓P P 07 37 22.9 +0.5
baz=89
BNM **Barren Site** 88.68 51 *e*P P 07 37 24.5 +1.1
comp=Z,2.4nm,0.8s
SRU **San Rafael** 88.69 45 *e*P P 07 37 23.9 +0.7
SRU pmax pmax
comp=Z,9.0nm,0.9s
SRU **San Rafael** 88.69 45 *e*P P 07 37 23.9 +0.7
comp=Z,9.1nm,0.9s
SRU **San Rafael** 88.69 45 ⇓P P 07 37 24.0 +0.7
baz=89
R18A **Canyonlands Na** 88.70 46 ⇓P P 07 37 23.9 +0.7
baz=89
627A **Terlingua Ranc** 88.71 57 ⇑P P 07 37 24.3 +0.8
baz=89
LPM **Los Pinos Moun** 88.76 51 *e*P P 07 37 25.1 +1.4
124A **Stringfield Ra** 88.78 53 ⇓P P 07 37 25.2 +1.4
baz=89,SNR=5.5
426A **McDonald Obser** 88.82 55 ⇑P P 07 37 25.2 +1.1
baz=89
HLID **Hailey** 88.84 40 *e*P P 07 37 24.7 +0.9
comp=Z,18nm,2.2s
HLID **Hailey** 88.84 40 ⇓P P 07 37 24.4 +0.6
baz=89
V21A **Milan** 88.84 49 ⇓P P 07 37 24.4 +0.4
baz=89
S19A **Harvey Farm, M** 88.86 47 ⇑P P 07 37 25.0 +1.0
baz=89
J13A **Cove Ranch, Pi** 88.88 40 ⇑P P 07 37 24.7 +0.8
baz=89
PMR **Palmer** 88.89 13 *e*P P 07 37 26.7 +3.4
PMR pmax pmax
comp=Z,35nm,1.5s
PMR **Palmer** 88.89 13 *e*P P 07 37 26.7 +3.4
comp=Z,35nm,1.5s
Q18A **Rafter H Ranch** 88.94 46 ⇓P P 07 37 24.9 +0.6
baz=89
225A **Deer Hill, Car** 88.95 54 ⇑P P 07 37 25.7 +1.1
baz=89
Y23A **Lovelace Mesa,** 88.98 52 ⇑P P 07 37 25.6 +0.9
baz=89,SNR=7.8
R19A **Curley Farm, L** 89.07 47 ⇑P P 07 37 25.8 +0.8
baz=89
628A **Black Gap, Mar** 89.10 57 ⇑P P 07 37 25.8 +0.6
baz=89
O17A **Robinson Place** 89.15 44 ⇓P P 07 37 26.5 +1.1
baz=90
U21A **Nageezi** 89.15 49 ⇓P P 07 37 26.5 +1.0
baz=90,SNR=17
P18A **Preston Nutter** 89.15 45 ⇑P P 07 37 26.0 +0.5
baz=90
H12A **Diamond D Ranc** 89.17 39 ⇓P P 07 37 25.5 +0.2
baz=90
Z24A **Sheeppen Canyo** 89.17 53 ⇑P P 07 37 26.9 +1.3
baz=90,SNR=7.7
ANMO **Albuquerque** 89.22 51 *e*P P 07 37 26.8 +1.0
comp=Z,7.9nm,1.0s
X23A **Hourglass Bar** 89.22 51 ⇑P P 07 37 26.9 +1.1
baz=90
M16A **Huntsville** 89.22 43 ⇑P P 07 37 26.0 +0.4
baz=90
J14A **Carey** 89.22 41 ⇑P P 07 37 26.6 +1.0
baz=90
G12A **Big Creek, Yel** 89.25 38 ⇓P P 07 37 25.7 0.0
baz=90
BMRM **Bremner River** 89.33 15 *e*P P 07 37 25.8 +0.4
comp=Z,18nm,0.9s
GDL2 **Guadalupe Moun** 89.33 54 *e*P P 07 37 27.8 +1.5
125A **Gardner Draw,** 89.34 53 ⇓P P 07 37 27.5 +1.1
baz=90
427A **Hayter Ranch,** 89.38 56 ⇑P P 07 37 27.7 +1.2
baz=90
Y24A **Capitan** 89.42 52 ⇑P P 07 37 27.9 +1.1
baz=90,SNR=24
N17A **Moffit Pass** 89.51 44 ⇑P P 07 37 28.0 +0.9
baz=90
H13A **Challis** 89.52 39 ⇓P P 07 37 27.8 +0.9
baz=90
W23A **Werner Place,** 89.54 51 ⇓P P 07 37 29.3 +2.0
baz=90
Z25A **Roswell** 89.61 53 ⇑P P 07 37 28.9 +1.4
baz=90,SNR=10
F12A **Elk City** 89.66 38 ⇑P P 07 37 27.8 +0.3
baz=90
GYA **Guiyang** 89.70 299 P P 07 37 31.0 +2.9
GYA PP **PP** 07 41 04.8 +4.3
GYA SKS **SKSac** 07 47 59.2 +0.8
GYA S **S** 07 48 20.6 +1.1
GYA SS **SS** 07 54 20.0 +3.3
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=N,520nm,19.8s
GYA LR LR
comp=E,480nm,20.6s
GYA LR LR
comp=Z,540nm,18.4s
L16A **Fish Haven** 89.74 43 ⇑P P 07 37 28.3 +0.2
baz=90
G13A **Cobalt** 89.85 39 ⇓P P 07 37 28.2 -0.2
baz=90
Y25A **Mesa, Roswell** 89.95 52 ⇓P P 07 37 30.0 +0.9
baz=90,SNR=10
CMIG **Matias Romero** 89.97 71 LR LR 08 07 53.7
comp=Z,108nm,19.7s,baz=278,slow=29
P19A **Cripple Cowboy** 89.98 46 ⇓P P 07 37 29.3 +0.1
baz=90
Q20A **Ridgley Place,** 90.06 47 ⇓P P 07 37 29.8 +0.2
baz=90
H14A **Leadore** 90.07 40 ⇑P P 07 37 30.3 +0.8
baz=90
W24A **Lazy 6 Ranch,** 90.09 51 ⇑P P 07 37 30.5 +0.7
baz=90,SNR=5.6
K16A **Soda Springs** 90.10 42 ⇑P P 07 37 30.6 +0.9
baz=90
U23A **El Rito** 90.11 50 ⇓P P 07 37 31.0 +1.0
baz=90
Z26A **Caprock** 90.14 53 ⇑P P 07 37 30.9 +0.9
baz=90,SNR=9.2
NEW **Newport** 90.18 35 ⇓P P 07 37 30.1 +0.3
baz=90
F13A **Darby** 90.20 38 ⇓P P 07 37 30.2 +0.1
baz=90
O19A **Miners Draw (B** 90.24 45 ⇓P P 07 37 31.1 +0.6
baz=91
M18A **Lyman** 90.26 44 ⇑P P 07 37 31.0 +0.5
baz=91
N18A **Larsen Ranch,** 90.26 44 ⇑P P 07 37 31.1 +0.6
baz=91
127A **Arkansas Junct** 90.31 54 ⇓P P 07 37 31.2 +0.4
baz=91
TRF **Thorofare Moun** 90.37 12 *e*P P 07 37 29.3 -1.2
comp=Z,17nm,0.9s
G14A **Jackson** 90.38 39 ⇓P P 07 37 31.6 +0.6
baz=91
C11A **Tepee Creek (N** 90.38 36 ⇓P P 07 37 31.2 +0.5
baz=91
S22A **4UR Ranch, Cre** 90.41 48 ⇑P P 07 37 32.5 +1.1
baz=91
V24A **Rampart Ranch,** 90.45 51 ⇑P P 07 37 32.5 +1.0
baz=91
K17A **Gardner Place,** 90.46 42 ⇑P P 07 37 32.9 +1.4
baz=91
H15A **Lima** 90.49 40 ⇓P P 07 37 32.3 +0.8
baz=91
MCMT **McKenzie Canyo** 90.49 40 *e*P P 07 37 31.9 +0.3
comp=Z,2.9nm,1.0s
RRI2 **Red Ridge** 90.55 42 *e*P P 07 37 32.1 +0.2
comp=Z,11nm,1.3s
I16A **Newdale** 90.75 41 ⇑P P 07 37 33.5 +0.8
baz=91
SEY **Seymchan** 90.75 346 *ce*P P 07 37 31.2 -0.8
F14A **Wisdom** 90.76 39 ⇑P P 07 37 32.8 0.0
baz=91
W25A **X Bar L Ranch,** 90.76 51 ⇑P P 07 37 33.5 +0.5
baz=91
REDW **Red Top Meadow** 90.84 42 *e*P P 07 37 33.9 +0.7
comp=Z,8.4nm,1.2s
MCK **McKinley** 90.88 12 *e*P P 07 37 32.2 -0.4
MCK pmax pmax
comp=Z,15nm,1.2s
MCK **McKinley** 90.88 12 *e*P P 07 37 32.1 -0.4
comp=Z,15nm,1.2s
G15A **Dillon** 90.89 40 ⇑P P 07 37 33.6 +0.2
baz=91
PAX **Paxson** 90.90 14 *e*P P 07 37 38.5 +5.7
PAX pmax pmax
comp=Z,12nm,1.3s
PAX **Paxson** 90.90 14 *e*P P 07 37 38.5 +5.7
comp=Z,12nm,1.3s
J17A **Brown Place, J** 90.93 42 ⇓P P 07 37 34.4 +0.8
baz=91
Q22A **Crested Butte,** 90.93 47 ⇑P P 07 37 34.5 +0.6
baz=91
K18A **Toltan Ranch,** 90.94 43 ⇓P P 07 37 34.5 +0.8
baz=91
DLMT **Dillon** 90.94 39 *e*P P 07 37 34.3 +0.8
comp=Z,9.2nm,1.4s
SNOW **Snow King Moun** 90.96 42 *e*P P 07 37 34.8 +1.0
comp=Z,58nm,2.1s
V25A **Rancho No Teng** 90.96 51 ⇑P P 07 37 34.4 +0.5
baz=91
Y27A **Causey** 91.04 53 ⇓P P 07 37 34.8 +0.6
baz=91,SNR=8.7
E14A **Clinton** 91.04 38 ⇓P P 07 37 34.2 +0.2
baz=91
SMCO **Snowmass** 91.05 47 *e*P P 07 37 35.1 +0.6
comp=Z,8.0nm,1.4s
L19A **Farson** 91.07 43 ⇓P P 07 37 34.6 +0.3
baz=91
N20A **Spence Gulch,** 91.08 45 ⇓P P 07 37 34.7 +0.3
baz=91
IMW **Indian Meadow** 91.09 41 *e*P P 07 37 34.9 +0.5
comp=Z,6.1nm,1.1s
LOHW **Long Hollow** 91.13 42 *e*P P 07 37 35.3 +0.7
comp=Z,4.1nm,1.0s
MENT **Mentasta** 91.26 14 *e*P P 07 37 34.6 +0.2
J18A **Kendall Valley** 91.27 42 ⇓P P 07 37 35.7 +0.4
baz=92
LRM **Limekiln Ridge** 91.29 39 *e*P P 07 37 35.7 +0.5
PD01 **Pinedale Array** 91.30 43 *e*P P 07 37 34.9 -0.4
BW06 **Boulder Array** 91.31 43 *e*P P 07 37 35.5 +0.1
comp=Z,4.3nm,1.0s
BW06 **Boulder Array** 91.31 43 ⇓P P 07 37 35.6 +0.1
baz=92
PDAR **Pinedale Array** 91.31 43 P P 07 37 35.5 0.0
PDAR **Pinedale Array** 91.31 43 P P 07 37 35.5 0.0
comp=Z,3.3nm,0.9s,baz=212,slow=3.2,SNR=19
PD02 **Pinedale Array** 91.31 43 *e*P P 07 37 35.0 -0.4
R23A **Moffat** 91.31 48 ⇑P P 07 37 36.2 +0.5
baz=92
I17A **Pilgrim Ck.** 91.32 41 ⇑P P 07 37 36.4 +1.0
baz=92
QLMT **Earthquake Lak** 91.32 40 *e*P P 07 37 36.4 +1.0
G16A **Moss Hill, Enn** 91.33 40 ⇑P P 07 37 35.8 +0.5
baz=92
FLWY **Flagg Ranch** 91.34 41 *e*P P 07 37 36.8 +1.3
comp=Z,6.8nm,0.9s
H16A **Russell Place,** 91.36 40 ⇓P P 07 37 36.7 +1.2
baz=92
MSTX **Muleshoe** 91.36 53 ⇓P P 07 37 36.0 +0.3
baz=92
129A **Stewart Farms,** 91.38 55 ⇑P P 07 37 36.7 +0.9
baz=92
D14A **Greenough** 91.42 38 ⇑P P 07 37 35.5 -0.2
baz=92
CHMT **Chamberlain Mo** 91.47 38 *e*P P 07 37 35.7 -0.3
comp=Z,5.3nm,1.3s
DLBC **Dease Lake** 91.53 23 LR LR 08 12 12.3
comp=Z,180nm,18.8s,baz=160,slow=31
H17A **Grant Village** 91.58 41 ⇑P P 07 37 38.8 +2.1
baz=92
I18A **Diamond G Ranc** 91.66 42 ⇓P P 07 37 37.4 +0.4
baz=92
BOZ **Bozeman (W)** 91.67 40 *e*P P 07 37 37.6 +0.7
BOZ pmax pmax
comp=Z,6.0nm,1.0s
BOZ **Bozeman (W)** 91.67 40 *e*P P 07 37 37.6 +0.7
comp=Z,5.8nm,1.0s
BOZ **Bozeman (W)** 91.67 40 ⇓P P 07 37 37.1 +0.3
baz=92
Y28A **McKinney Farm,** 91.72 53 ⇑P P 07 37 37.7 +0.4
baz=92
F16A **Kennard Place,** 91.74 39 ⇑P P 07 37 37.9 +0.7
baz=92
T25A **Trinidad** 91.75 50 ⇓P P 07 37 38.2 +0.6
baz=92
DOT **Dot Lake** 91.80 14 *e*P P 07 37 37.5 +0.6
comp=Z,9.3nm,1.0s
Z29A **Hungry Hill Ra** 91.80 54 ⇓P P 07 37 38.1 +0.4
baz=92
O22A **Kremmling** 91.84 46 ⇓P P 07 37 38.4 +0.3
baz=92
J19A **Crowheart** 91.89 43 ⇓P P 07 37 38.3 +0.3
baz=92
S25A **Robets Cordova** 92.00 49 ⇓P P 07 37 38.9 +0.2
baz=92
K20A **Yellowstone Ra** 92.00 43 ⇓P P 07 37 38.4 -0.2
baz=92
M21A **Separation Pea** 92.07 45 ⇓P P 07 37 39.3 +0.3
baz=92
Y29A **Porterfield Fa** 92.11 54 ⇑P P 07 37 39.4 +0.2
baz=92
COLA **College** 92.12 12 *e*P P 07 37 38.4 +0.1
COLA pmax pmax
comp=Z,8.0nm,0.9s
COLA **College** 92.12 12 *e*P P 07 37 38.4 +0.1
comp=Z,8.1nm,0.9s
HRY **Holter Researc** 92.15 39 *e*P P 07 37 39.5 +0.4
comp=Z,3.8nm,0.9s
ILAR **Eielson Array** 92.21 12 P P 07 37 37.7 -1.0
ILAR **Eielson Array** 92.21 12 P P 07 37 37.7 -1.0
comp=Z,1.7nm,0.8s,baz=223,slow=5.0,SNR=20
ILAR LR LR 08 12 18.0
comp=Z,235nm,19.2s,baz=309,slow=31
KMI **Kunming** 92.24 297 P P 07 37 42.9 +2.8
KMI pP **pP** 07 37 46.8 +1.3
KMI PP PP 07 41 25.9 +5.0
KMI S **S** 07 48 42.7 -0.3
KMI pmax pmax
comp=Z,6.0nm,0.5s
KMI LR LR
comp=Z,220nm,25.4s
O23A **Lake Granby, G** 92.28 46 ⇑P P 07 37 40.1 0.0
baz=93
B14A **Marquette Ranc** 92.30 37 ⇑P P 07 37 39.6 -0.2
baz=93
I19A **Meeteetse** 92.34 42 ⇓P P 07 37 40.7 +0.6
baz=93
F17A **Fitzpatrick Pl** 92.37 40 ⇓P P 07 37 40.3 +0.1
baz=93
J20A **Shoshoni** 92.53 43 ⇑P P 07 37 41.3 +0.3
baz=93
CMAR **Chiang Mai Arr** 92.56 289 P P 07 37 40.5 -1.0
CMAR **Chiang Mai Arr** 92.56 289 P P 07 37 40.5 -1.0
comp=Z,0.9nm,0.3s,baz=107,slow=4.8,SNR=3.7
A14A **Double T Ranch** 92.57 36 ⇑P P 07 37 40.7 -0.2
baz=93
S26A **Kim** 92.64 50 ⇑P P 07 37 40.9 -0.7
baz=93
K21A **Alcova** 92.67 44 ⇑P P 07 37 42.2 +0.5
baz=93
G18A **Lazy EL Ranch,** 92.69 41 ⇓P P 07 37 42.6 +1.0
baz=93
Q25A **Bedland, Calha** 92.75 48 ⇑P P 07 37 42.3 +0.1
baz=93
I20A **Worland** 92.82 42 ⇓P P 07 37 42.5 +0.2
baz=93
J21A **Lysite** 92.92 43 ⇓P P 07 37 43.5 +0.7
baz=93
R26A **Arlington** 92.99 49 ⇓P P 07 37 43.0 -0.1
baz=93
D17A **Six Diamond Ra** 93.05 39 ⇓P P 07 37 42.9 -0.3
baz=93
HHC **Hu-ho-hao-te** 93.09 314 *e*P P 07 37 43.1 -0.4
HHC sP **sP** 07 37 50.1 -0.6
HHC PP **PP** 07 41 29.7 +2.6
HHC SKS **SKSac** 07 48 15.5 -1.6
HHC S **S** 07 48 46.5 -3.2
HHC SS **SS** 07 55 06.3 +1.1
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,90nm,7.0s
HHC LR LR
comp=N,180nm,17.5s

HHC LR LR
comp=E,170nm,17.7s
HHC LR LR
comp=Z,330nm,19.8s
P25A Willow Gulch B 93.10 48 ⇓P **P 07 37 43.9 +0.2**
baz=93
I21A Big Trails, Te 93.26 43 ⇓P **P 07 37 44.6 +0.2**
baz=94
BILL Bilibino 93.36 354⇑ *e*P **P 07 37 46.3 +2.3**
BILL *e* 07 41 28.3
BILL *e*S **SKSac 07 48 20.9 +3.8**
BILL pmax pmax
comp=Z,5.0nm,0.9s
BILL Bilibino 93.36 354 *e*P **P 07 37 45.3 +1.3**
comp=Z,5.6nm,0.9s
EGAK Eagle 93.42 14 *e*P P 07 37 49.3 +5.0
comp=Z,33nm,1.7s
A16A West Butte Ran 93.54 37 ⇑P **P 07 37 45.3 -0.1**
baz=94
J22A Midwest 93.56 43 ⇑P **P 07 37 45.7 0.0**
baz=94
I22A 9 Mile Ranch, 93.81 43 ⇑P **P 07 37 46.6 -0.2**
baz=94
NNA Nana 93.90 105 LR LR 08 10 56.0
comp=Z,259nm,20.0s,baz=194,slow=30
CD2 Chengdu 93.99 302 P **P 07 37 49.0 +1.2**
CD2 pP **pP 07 37 54.0 +0.8**
CD2 sP **sP 07 37 56.0 +1.0**
CD2 SKS **SKSac 07 48 23.0 +0.6**
CD2 S **S 07 48 57.1 -0.8**
CD2 sS **sS 07 49 05.0 -1.7**
CD2 SS **SS 07 55 21.9 +3.6**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 pmax pmax
comp=Z,150nm,6.0s
CD2 LR LR
comp=E,280nm,21.1s
CD2 LR LR
comp=Z,340nm,24.0s
RSSD Black Hills 95.45 44 *e*P **P 07 37 54.1 -0.3**
RSSD pmax pmax
comp=Z,7.0nm,1.1s
RSSD Black Hills 95.45 44 *e*P **P 07 37 54.1 -0.3**
comp=Z,6.5nm,1.1s
LZH Lanzhou 96.21 307 *e*P P 07 38 02.5 +4.5
LZH pP pP 07 38 07.8 +4.5
LZH sP sP 07 38 11.0 +5.8
LZH pmax pmax
comp=Z,24nm,1.4s
INK Inuvik 98.08 15 LR LR 08 16 55.1
comp=Z,192nm,18.3s,baz=356,slow=32
YKA Yellowknife Ar 99.90 25 P **Pdif 07 38 12.8 -0.9**
YKA PP **PP 07 42 15.6 -3.4**
YKA Yellowknife Ar 99.90 25 P **Pdif 07 38 12.8 -0.9**
comp=Z,0.2nm,0.7s,baz=246,slow=4.4,SNR=5.6
YKA PP **PP 07 42 15.6 -3.4**
comp=Z,0.3nm,0.9s,baz=249,slow=6.6,SNR=3.8
WMQ Urumqi 110.51 310 *e*PKP **PKiKP 07 42 57.5 -4.5**
WMQ sPKP 07 43 12.0
WMQ *e*PP **PP 07 43 38.0 -0.3**
WMQ AMB AMB
comp=Z,140nm,4.2s
WMQ LR LR
comp=N,370nm,21.0s
WMQ LR LR
comp=E,380nm,21.8s
WMQ LR LR
comp=Z,360nm,19.4s
ZALV Zalesovo Beam 114.47 320 PKIKP PKPdf 07 43 06.5 -2.6
ZALV Zalesovo Beam 114.47 320 PKP PKPdf 07 43 06.5 -2.7
ZALV Zalesovo Beam 114.47 320 PKP PKPdf 07 43 06.4 -2.7
comp=Z,0.7nm,0.7s,baz=5.7,slow=1.4,SNR=3.6
MK31 Makanchi Array 114.88 312 *e*PKIKP PKPdf 07 43 07.3 -2.9
MK31 Makanchi Array 114.88 312 *e*PKPdf PKPdf 07 43 07.3 -2.9
MKAR Makanchi Array 114.88 312 PKIKP PKPdf 07 43 07.6 -2.6
MKAR 07 53 49.8
MKAR Makanchi Array 114.88 312 PKP PKPdf 07 43 07.5 -2.7
MKAR PKKPbc **PKKPbc 07 53 49.8 +1.9**
MKAR Makanchi Array 114.88 312 PKP PKPdf 07 43 07.5 -2.7
comp=Z,0.4nm,0.6s,baz=96,slow=1.4,SNR=8.3
MKAR PKKPbc **PKKPbc 07 53 49.8 +1.9**
comp=Z,0.4nm,0.8s,baz=304,slow=2.6,SNR=4.2
KURK Kurchatov 117.83 316 PKIKP **PKPdf 07 43 13.1 -2.6**
KURK Kurchatov 117.83 316 PKP **PKPdf 07 43 13.1 -2.6**
KURBB Kurchatov Arra 117.88 316 PKP **PKPdf 07 43 13.1 -2.8**
comp=Z,0.7nm,0.5s,baz=104,slow=2.0,SNR=7.1
KSH Kashi 118.17 303 PKP **PKPdf 07 43 16.5 -0.4**
KSH PP **PP 07 44 37.6 +4.9**
KSH PKS **PKSdf 07 46 52.9 -0.8**
KSH SKS **SKSdf 07 50 27.7 -0.9**
KSH SKKS **SKKSac 07 51 29.3 -3.1**
KSH SS **SS 08 00 51.6 +3.8**
BVAR Borovoye Array 123.01 318 PKIKP **PKPdf 07 43 23.3 -2.3**
BVAR Borovoye Array 123.01 318 PKP **PKPdf 07 43 23.3 -2.3**
BVAR Borovoye Array 123.01 318 PKP **PKPdf 07 43 23.3 -2.3**
comp=Z,0.8nm,0.6s,baz=153,slow=1.3,SNR=9.3
ARU Arti 129.29 324 *i* PKIKP **PKPdf 07 43 40.1 +2.6**
ARU 07 45 48.4
ARU SS SS 08 03 06.6 -0.3
AKTO Aktyubinsk 130.93 316 PKIKP **PKPdf 07 43 39.6 -1.2**
AKTO Aktyubinsk 130.93 316 PKP **PKPdf 07 43 39.6 -1.2**
AKTO Aktyubinsk 130.93 316 PKP **PKPdf 07 43 39.6 -1.2**
comp=Z,1.5nm,0.9s,baz=94,slow=3.4,SNR=5.2
ARCES ARCESS Array B 133.29 349 PKP **PKPdf 07 43 44.5 -0.2**
ARCES ARCESS Array B 133.29 349 PKP **PKPdf 07 43 44.5 -0.2**
comp=Z,2.6nm,0.8s,baz=45,slow=1.4,SNR=6.0
FINES FINESS Array B 140.15 343 PKPpre PKPpre 07 43 50.2
FINES PKP **PKPdf 07 43 57.6 0.0**
FINES FINESS Array B 140.15 343 PKhKP PKPpre 07 43 50.2
comp=Z,1.2nm,0.9s,baz=46,slow=4.0,SNR=3.2
FINES PKP **PKPdf 07 43 57.6 0.0**
comp=Z,3.4nm,0.9s,baz=72,slow=4.5,SNR=5.1
KIV Kislovodsk 142.63 311 *e*PKIKP **PKPdf 07 44 04.9 +2.1**
KIV pmax pmax
comp=Z,4.0nm,1.0s
NB2 NORSAR Subarra 143.32 353 PKP PKPab 07 43 59.9 +0.6
comp=Z,4.5nm,1.2s,baz=17,slow=2.6
NOA NORSAR Array B 143.32 353 PKPpre PKPpre 07 43 59.7
NOA NORSAR Array B 143.32 353 PKhKP PKPpre 07 43 59.7
comp=Z,1.4nm,0.8s,baz=7.4,slow=2.2,SNR=5.1
HFS Hagfors 143.90 351 PKPpre PKPpre 07 43 60.0
HFS Hagfors 143.90 351 PKhKP PKPpre 07 43 60.0
comp=Z,5.7nm,0.8s,baz=87,slow=3.2,SNR=8.7
KONO Kongsberg 144.84 354 *e*PKIKP **PKPab 07 44 03.3 -1.7**
KONO Kongsberg 144.84 354 *e*PKPdf **PKPab 07 44 03.3 -1.7**
MICGM Minsk 145.09 335 *e* **PKPbc 07 44 04.0 -2.1**
MNK Minsk 145.11 335 *e*PKIKP **PKPbc 07 44 04.0 -2.1**
NACGM Naroch 145.21 336 *e* **PKPbc 07 44 02.0 -4.4**
ANN Anapa 145.85 314 *i* PKP2 **PKPab 07 44 12.4 +3.2**
ANN pmax pmax
comp=Z,46nm,0.7s
GRSN GIRESUNGRSN 146.67 308 *i* P **PKPab 07 44 15.4 +2.8**
KEMA Kemaliye 146.98 305 *i* P **PKPdf 07 44 11.0 +0.5**
SUW Suwalki 147.19 338 *e*PKIKP **PKPdf 07 44 08.9 -1.2**
SUW Suwalki 147.19 338 *e*PKPdf **PKPdf 07 44 08.9 -1.2**
AKASG Malin Array Be 147.23 329 PKIKP **PKPdf 07 44 10.2 -0.2**
AKASG Malin Array Be 147.23 329 PKPbc **PKPdf 07 44 10.2 -0.2**
AKASG Malin Array Be 147.23 329 PKPbc **PKPdf 07 44 10.2 -0.2**
comp=Z,3.9nm,0.7s,baz=43,slow=3.9,SNR=13
AKBB Malin Array Si 147.23 329 *e*PKIKP **PKPdf 07 44 10.2 -0.2**
AKBB Malin Array Si 147.23 329 *e*PKPdf **PKPdf 07 44 10.2 -0.2**
KIEV Kiev 147.25 329 *e*PKIKP **PKPdf 07 44 10.1 -0.3**
KIEV Kiev 147.25 329 *e*PKPdf **PKPdf 07 44 10.1 -0.3**
SIM Simferopol' 147.89 317 PKP2 **PKPab 07 44 19.7 +2.5**
SIM pmax pmax
comp=Z,20nm,1.1s
MUD Monsted U'grnd 148.03 354 *i* PKP2 **PKPab 07 44 17.4 +0.1**
MUD pmax pmax
comp=Z,13nm,0.8s
MUD Monsted U'grnd 148.03 354 *i* P **PKPab 07 44 17.4 +0.1**
comp=Z,13nm,0.8s
GZT Gaziantep 148.17 301 *i* P **PKPab 07 44 18.4 -0.3**
LVV L'vov 150.19 332 *e*PKP2 **PKPbc 07 44 22.8 +2.5**
GULE Gulek 150.34 302 *i* P **PKPbc 07 44 20.0 -1.3**
BR131 Keskin Array S 150.41 308 *e*PKPdf **PKPdf 07 44 16.7 +0.6**
BRTR Keskin Array B 150.41 308 PKPbc **PKPbc 07 44 18.9 -2.5**
BRTR Keskin Array B 150.41 308 PKPbc **PKPbc 07 44 18.9 -2.5**
comp=Z,1.6nm,0.8s,baz=135,slow=1.9,SNR=10.0
MMAI Mount Meron Ar 150.71 294 PKPbc **PKPbc 07 44 20.0 -2.1**
MMAI Mount Meron Ar 150.71 294 PKPbc **PKPbc 07 44 20.0 -2.1**
comp=Z,4.5nm,0.6s,baz=64,slow=3.4,SNR=5.2
BUR08 Bucovina Ar. S 151.26 328 *e*PKPbc **PKPbc 07 44 23.0 -0.1**
BUR08 *e*PKPab **PKPab 07 44 31.5 +0.5**
BURAR Bucovina Array 151.27 328 ⇓*i*P **PKPbc 07 44 22.7 -0.4**
TESR 151.31 325 ⇑*i*P **PKPdf 07 44 19.9 +2.8**
CFR Carcaliu 151.34 322 ⇑PKIKP **PKPbc 07 44 21.9 -1.2**
CFR Carcaliu 151.34 322 ⇑*i*P **PKPbc 07 44 21.9 -1.2**
EIL Elat 151.39 287 PKPbc **PKPbc 07 44 21.3 -2.4**
EIL Elat 151.39 287 PKPbc **PKPbc 07 44 21.3 -2.4**
comp=Z,3.8nm,0.8s,baz=146,slow=3.6,SNR=2.4
OJC Ojcow 151.50 337 *e*PKP **PKPbc 07 44 21.1 -2.3**
OJC Ojcow 151.50 337 *e*PKIKP **PKPbc 07 44 21.7 -1.7**
KOLS Kolonicke sedl 151.60 333 *e*PKIKP **PKPbc 07 44 23.1 -0.6**
KOLS *e* 07 44 30.1
KOLS Kolonicke sedl 151.60 333 *e*PKP **PKPbc 07 44 23.1 -0.6**
KOLS *e* 07 44 30.1
VRI Vrincioaia 151.68 324 ⇓PKIKP **PKPdf 07 44 20.3 +2.6**
VRI Vrincioaia 151.68 324 ⇓*i*P **PKPdf 07 44 20.3 +2.6**
UZH Uzhgorod 151.83 333 ⇓*i*PKIKP **PKPbc 07 44 27.3 +3.1**
UZH *i* 07 44 30.5
UZH *i* 07 44 41.7
CRVS Cervenica-Dubn 151.96 334 *e*PKIKP **PKPbc 07 44 23.9 -0.6**
CRVS *e* 07 44 31.6
CRVS Cervenica-Dubn 151.96 334 *e*PKP **PKPbc 07 44 23.9 -0.6**
CRVS *e* 07 44 31.6
NIE Niedzica 151.98 336 *e*PKP **PKPbc 07 44 23.1 -1.5**
NIE Niedzica 151.98 336 *e*PKIKP **PKPbc 07 44 23.7 -0.9**
KSP Ksiaz 152.06 342 *e*PKIKP **PKPbc 07 44 23.6 -1.0**
TRPA Tarpa 152.11 332 ⇓*i*P **PKPbc 07 44 23.9 -0.9**
MLR Muntele Rosu 152.34 324 ⇓*i*P **PKPbc 07 44 29.4 +3.8**
CLL Collm 152.44 347 ⇓*i*PKIKP **PKPbc 07 44 24.3 -1.1**
CLL *e* 07 44 34.0
CLL pmax pmax
comp=Z,10.0nm,0.8s
CLL Collm 152.44 347 ⇓*i*PKPbc **PKPbc 07 44 24.3 -1.1**
comp=Z,10.0nm,0.8s
CLL *e* 07 44 28.0
CLL *i* PKPab **PKPab 07 44 34.2 -1.4**
comp=Z,9.0nm,0.8s
CLL *i* (sPKiKP) 07 44 36.2
CLL *i* pPKPab **pPKPab 07 44 41.2 +0.3**
UPC Upice 152.44 342 *e*PKIKP **PKPbc 07 44 24.3 -1.2**
UPC *e* 07 44 29.3
UPC *e* 07 44 40.5
UPC Upice 152.44 342⇑ *e*PKP **PKPbc 07 44 24.3 -1.2**
UPC *e*pPKP **PKiKP 07 44 29.3 +3.5**
UPC *ex* 07 44 40.5
DPC Dobruska-Polom 152.50 342 *e*PKIKP **PKPbc 07 44 23.4 -2.3**
DPC Dobruska-Polom 152.50 342⇑ *e*PKP **PKPbc 07 44 23.4 -2.3**
KRLC Kraliky 152.61 341⇑ *e*PKP **PKPbc 07 44 24.7 -1.3**
MORC Moravsky Berou 152.63 340 PKIKP **PKPdf 07 44 17.5 -1.5**
MORC *e* 07 44 24.9
MORC Moravsky Berou 152.63 340 PKPdf **PKPdf 07 44 17.5 -1.5**
MORC *e*PKPbc **PKPbc 07 44 24.9 -1.1**
MORC Moravsky Berou 152.63 340 ⇓*i*P **PKPbc 07 44 24.8 -1.2**
BRG Berggiesshubel 152.64 345 *e*PKP **PKPbc 07 44 24.4 -1.5**
comp=Z,7.6nm,0.9s
BRG *e* 07 44 37.1
comp=Z,8.7nm,0.8s
BRG Berggiesshubel 152.64 345 *e*PKIKP **PKPbc 07 44 24.4 -1.5**
BRG *e* 07 44 37.1
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG pmax pmax
comp=Z,9.0nm,0.8s
PVCC Panska Ves 152.81 344 *e*PKIKP **PKPbc 07 44 25.3 -1.0**
PVCC Panska Ves 152.81 344⇑ *e*PKP **PKPbc 07 44 25.3 -1.0**
VOIR 152.85 325 ⇓PKIKP **PKPbc 07 44 27.2 +0.5**
VOIR 152.85 325 ⇓*i*P **PKPbc 07 44 27.2 +0.5**
DRGR 153.04 330 ⇓PKIKP **PKPbc 07 44 26.2 -0.9**
DRGR 153.04 330 ⇓*i*P **PKPbc 07 44 26.2 -0.9**
VYHS Vyhne 153.29 336 *e*PKIKP **PKPdf 07 44 23.4 +3.4**
VYHS Vyhne 153.29 336 *e*PKP **PKPdf 07 44 23.4 +3.4**
VYHS *e* 07 44 26.6
PRU Pruhonice 153.31 344 *e*PKIKP **PKPbc 07 44 25.5 -1.9**
PRU *e* 07 44 41.5
PRU Pruhonice 153.31 344⇑ *e*PKP **PKPbc 07 44 25.5 -1.9**
PRU *e*PKPAB **PKPab 07 44 41.5 +2.2**
VRAC Vranov 153.34 340 PKPab **PKPab 07 44 38.4 -1.1**
VRAC Vranov 153.34 340 ⇓*i*P PKPab 07 44 45.1 +5.6
VRAC Vranov 153.34 340 PKPab **PKPab 07 44 38.4 -1.1**
comp=Z,3.4nm,0.8s,baz=6.3,slow=9.2,SNR=3.3
TREC Trest 153.68 342 *e*PKIKP **PKPbc 07 44 24.7 -3.6**
KHAL Karahalli 153.91 308 *i* P **PKPbc 07 44 25.8 -3.5**
GZR Gura Zlata 154.03 327 ⇑PKIKP **PKPbc 07 44 29.7 +0.4**
GZR Gura Zlata 154.03 327 ⇑*i*P **PKPbc 07 44 29.7 +0.4**
GRF Grafenberg Arr 154.33 348 *e*PKPbc **PKPab 07 44 47.0 +3.3**
KHC Kasperske Hory 154.34 344 *e*PKIKP **PKPdf 07 44 22.9 +1.4**
KHC *e* 07 44 42.8
KHC Kasperske Hory 154.34 344 *e*PKPdf **PKPdf 07 44 22.9 +1.4**
KHC *e*PKPab **PKPab 07 44 42.8 -1.0**
KHC Kasperske Hory 154.34 344⇑ *e*PKP **PKPbc 07 44 27.4 -2.4**
KHC *e*PKPAB **PKPab 07 44 42.8 -1.0**
GERES GERESS Array B 154.58 344 PKP **PKPdf 07 44 19.2 -2.7**
GERES PKPbc **PKiKP 07 44 30.6 +0.3**
GERES PKPab **PKPab 07 44 44.0 -0.9**
GERES GERESS Array B 154.58 344 PKP **PKPdf 07 44 19.2 -2.7**
comp=Z,0.2nm,0.7s,baz=354,slow=3.0,SNR=2.8
GERES PKPbc **PKiKP 07 44 30.6 +0.3**
comp=Z,0.8nm,0.8s,baz=207,slow=2.0,SNR=6.3
GERES PKPab **PKPab 07 44 44.0 -0.9**
comp=Z,1.3nm,0.8s,baz=26,slow=3.4,SNR=7.4
PKSM Moragy 155.26 334 ⇓PKIKP **PKPdf 07 44 27.1 +4.4**
PKSM Moragy 155.26 334 ⇓*i*P **PKPdf 07 44 27.1 +4.4**
TORD Torodi Ar. Bea 168.37 173 PKP **PKPdf 07 44 36.4 -0.7**
TORD PKPab **PKPab 07 45 44.7 -0.9**
TORD PP **PP 07 49 34.0 +0.9**
TORD Torodi Ar. Bea 168.37 173 PKP **PKPdf 07 44 36.4 -0.7**
comp=Z,0.8nm,0.9s,baz=115,slow=0.4,SNR=3.3
TORD PKPab **PKPab 07 45 44.7 -0.9**
comp=Z,3.1nm,0.9s,baz=179,slow=2.3,SNR=5.6
TORD PP **PP 07 49 34.0 +0.9**
comp=Z,0.6nm,0.9s,baz=214,slow=7.0,SNR=2.5
YKA Yellowknife Ar 115.28 23 PKP **PKPdf 07 53 52.6 -0.1**
0.2nm,0.5s,baz=311,slow=1.8,SNR=4.8

*IDC **08** 08:02:11.4±1.2,52.°93N×166.°85W,h0km,mb3.6/15, mb1 3.8/16,mb1mx3.7/30,mbtmp3.6/16,ML3.3/1,MS3.9/3, Ms1 3.9/3,ms1mx3.2/51,Error ellipse: s-maj=32.2km s-min=16.7km az=9.0*
*NEIC **08** 08:02:12.4,52.°77N×166.°77W,h2km,ML3.4(AEIC),After AEIC.*
ISC 08 08:02:12.5±0.7,52.°77N±0.°07×166.°71W±0.°04,h10km,n43, σ1s02/48,mb3.5/15,MS3.9/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**0.97**	**312**	P	**Pn**	**08 02 31.3**	**-0.8**
OKFG				S	**Sn**	**08 02 47.6**	**+1.7**
MREP	**Makushin Rep't**	**1.04**	**359**	P	**Pn**	**08 02 33.2**	**+0.1**
MSOM	**Makushin Julie**	**1.06**	**352**	P	**Pn**	**08 02 32.8**	**-0.5**
UNV	**Unalaska Valle**	**1.08**	**6**	P	**Pg**	**08 02 33.1**	**-0.2**
UNV				S	**Sn**	**08 02 51.5**	**+2.8**
OKCE	**Okmok Cone E**	**1.10**	**307**	P	**Pn**	**08 02 33.8**	**-0.1**
OKCE				S	**Sn**	**08 02 49.7**	**+0.6**
OKRE	**Okmok R'deer P**	**1.16**	**311**	P	**Pn**	**08 02 35.0**	**+0.3**
OKWE	**Okmok W'ng Wal**	**1.16**	**308**	P	**Pn**	**08 02 35.1**	**+0.4**
MCIR	**Makushin Cirqu**	**1.19**	**355**	P	**Pg**	**08 02 35.9**	**+0.7**
NIKO	**Nikolski**	**1.32**	**280**	P	**Pg**	**08 02 36.8**	**-0.9**
NIKO				S	**Sg**	**08 02 55.9**	**+1.1**
NIKO				*e*S	**Sn**	**08 02 57.1**	**+2.7**
ZRO	**Akutan Zero**	**1.39**	**18**	P	**Pg**	**08 02 38.7**	**-0.5**
AKRB	**Akutan Reef Bi**	**1.41**	**15**	P	**Pg**	**08 02 39.4**	**-0.2**
AKLV	**Akutan Long Va**	**1.47**	**18**	P	**Pg**	**08 02 40.1**	**-0.5**
AKUT	**Akutan**	**1.48**	**22**	P	**Pb**	**08 02 39.7**	**-0.2**
AKGG	**Akutan Green G**	**1.49**	**16**	P	**Pg**	**08 02 40.5**	**-0.6**
WESE	**West Dahl East**	**2.12**	**36**	P	**Pb**	**08 02 49.6**	**-1.4**
KDAK	**Kodiak Island**	**9.49**	**52**	Pn	**Pn**	**08 04 28.9**	**0.0**
KDAK	**Kodiak Island**	**9.49**	**52**	Pn	**Pn**	**08 04 28.9**	**0.0**
	0.2nm,0.3s,baz=202,slow=19,SNR=3.4						
BMRM	**Bremner River**	**14.55**	**47**	*e*P	**P**	**08 05 46.3**	**+1.5**
ILAR	**Eielson Array**	**15.72**	**32**	Pn	**Pn**	**08 05 52.3**	**-1.4**
ILAR	**Eielson Array**	**15.72**	**32**	Pn	**Pn**	**08 05 52.3**	**-1.4**
	0.1nm,0.3s,baz=217,slow=9.8,SNR=5.9						
PETK	**Petropavlovsk-**	**21.32**	**285**	P	**P**	**08 06 59.8**	**+0.5**
PETK	**Petropavlovsk-**	**21.32**	**285**	P	**P**	**08 06 59.8**	**+0.5**
	1.7nm,0.4s,baz=88,slow=12,SNR=9.1						
INK	**Inuvik**	**22.12**	**33**	P	**P**	**08 07 06.8**	**-0.8**
INK	**Inuvik**	**22.12**	**33**	P	**P**	**08 07 06.8**	**-0.8**
	1.2nm,0.6s,baz=231,slow=12,SNR=9.6						
YKA	**Yellowknife Ar**	**28.75**	**50**	P	**P**	**08 08 10.6**	**+0.9**
YKA	**Yellowknife Ar**	**28.75**	**50**	P	**P**	**08 08 10.5**	**+0.9**
	0.2nm,0.5s,baz=287,slow=8.0,SNR=5.3						
YKA				PcP	**PcP**	**08 11 19.8**	**+0.4**
	0.1nm,0.5s,baz=273,slow=2.9,SNR=5.1						
NVAR	**Mina Array Bea**	**36.06**	**94**	P	**P**	**08 09 15.4**	**+1.2**
NVAR	**Mina Array Bea**	**36.06**	**94**	P	**P**	**08 09 15.4**	**+1.2**
	0.4nm,0.8s,baz=322,slow=8.4,SNR=3.2						
PDAR	**Pinedale Array**	**38.73**	**81**	P	**P**	**08 09 37.6**	**+0.8**
PDAR	**Pinedale Array**	**38.73**	**81**	P	**P**	**08 09 37.6**	**+0.8**
	0.7nm,0.9s,baz=292,slow=5.7,SNR=3.6						
TXAR	**Lajitas Array**	**51.12**	**91**	P	**P**	**08 11 16.2**	**+0.8**
TXAR	**Lajitas Array**	**51.12**	**91**	P	**P**	**08 11 16.2**	**+0.8**
	0.2nm,0.8s,baz=318,slow=5.3,SNR=3.3						
SONM	**Songino Array**	**52.48**	**302**	P	**P**	**08 11 24.8**	**-0.5**
SONM	**Songino Array**	**52.48**	**302**	P	**P**	**08 11 24.8**	**-0.5**
	0.2nm,0.5s,baz=59,slow=7.2,SNR=3.5						
ARCES	**ARCESS Array B**	**57.68**	**355**	P	**P**	**08 12 01.6**	**-0.8**
	4.0nm,1.0s,baz=7.0,slow=8.2,SNR=2.7						
BVAR	**Borovoye Array**	**64.30**	**326**	P	**P**	**08 12 46.7**	**-0.9**
	0.4nm,0.6s,baz=45,slow=6.3,SNR=3.6						
MKAR	**Makanchi Array**	**64.69**	**315**	P	**P**	**08 12 49.3**	**-1.0**
	0.2nm,0.7s,baz=46,slow=4.4,SNR=2.7						
FINES	**FINESS Array B**	**65.68**	**353**	P	**P**	**08 12 55.2**	**-1.1**
	2.5nm,0.7s,baz=19,slow=7.8,SNR=9.1						
FINES				LR	LR	08 43 00.5	
	comp=Z,116nm,19.0s,baz=66,slow=37						
NOA	**NORSAR Array B**	**66.53**	**1**	LR	LR	08 46 51.7	
	comp=Z,56nm,18.0s,baz=55,slow=40						
AKTO	**Aktyubinsk**	**70.45**	**331**	P	**P**	**08 13 25.6**	**-1.0**
	1.2nm,0.7s,baz=52,slow=8.6,SNR=5.2						
AKASG	**Malin Array Be**	**76.03**	**350**	P	**P**	**08 13 58.4**	**-1.0**
	1.6nm,0.5s,baz=12,slow=5.8,SNR=7.1						
GERES	**GERESS Array B**	**78.76**	**360**	P	**P**	**08 14 15.0**	**0.0**
	0.2nm,0.5s,baz=353,slow=3.2,SNR=3.3						
BRTR	**Keskin Array B**	**86.20**	**344**	P	**P**	**08 14 54.5**	**+0.5**
	0.4nm,0.7s,baz=348,slow=3.9,SNR=3.2						
BRTR				LR	LR	08 56 21.0	
	comp=Z,51nm,19.3s,baz=4.2,slow=38						

IDC 08 08:14:20.8±8.7,11.°95S×166.°41E,h0km,mb3.7/3, mb1 3.8/3,mb1mx3.5/17,mbtmp3.7/3,MS3.0/1,Ms1 3.0/1, ms1mx2.7/26,Error ellipse: s-maj=263.2km s-min=55.3km az=125.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.82**	**291**	LR	LR	08 18 13.2	
	comp=Z,115nm,20.5s,baz=79,slow=34						
WRA	**Warramunga Arr**	**31.80**	**251**	P	P	08 20 47.1	-0.2
	0.5nm,0.9s,baz=84,slow=9.1,SNR=5.2						
ASAR	**Alice Springs**	**32.98**	**245**	P	P	08 20 57.9	+0.2
	0.6nm,0.6s,baz=68,slow=9.8,SNR=12						
MKAR	**Makanchi Array**	**94.62**	**317**	P	P	08 27 43.6	-0.2
	0.4nm,0.6s,baz=92,slow=5.1,SNR=4.9						

*ISCJB **08** 08:30:45.6±0.7,7.°58S±0.°06×76.°43W±0.°06,h135km±6km, mb4.3/29,Error ellipse: s-maj=12.6km s-min=6.5km az=137.5*
*BJI **08** 08:30:46.7,7.°60S×76.°30W,h134km,mB5.0/3*
*IDC **08** 08:30:47.6±0.5,7.°65S×76.°59W,h137km±5km, mb3.9/14, mb1 4.1/16,mb1mx4.0/21,mbtmp3.9/16,MS4.0/1, Ms1 4.0/1,ms1mx2.8/24,Error ellipse: s-maj=11.5km s-min=7.8km az=43.0*
*NEIC **08** 08:30:47.5±0.3,7.°60S×76.°44W,mb4.6/15,Error ellipse: s-maj=11.3km s-min=6.2km az=57.0*
NEIC Felt [II] at Pucallpa. Also felt at Bellavista, Campoverde, Tingo Maria and Tocache Nuevo.
ISC 08 08:30:47.2±0.4,7.°68S±0.°05×76.°55W±0.°07,h135km±3km, h135km:pP-P,n194,σ1s03/222,mb4.5/29,49C-60D, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**1.91**	**286**	P	**Pn**	**08 31 21.0**	**+0.3**
ATAH				S	**Sn**	**08 31 46.4**	**+0.1**
ATAH	**Atahualpa**	**1.91**	**286**	P	**Pn**	**08 31 21.0**	**+0.3**
	329nm,0.3s,baz=123,slow=12,SNR=1394						
ATAH				S	**Sn**	**08 31 46.4**	**+0.1**
	610nm,0.3s,baz=72,slow=20,SNR=22						
NNA	**Nana**	**4.29**	**184**	*e*Pn	**Pn**	**08 31 52.3**	**+1.3**
NNA				*e*Sn	**Sn**	**08 32 39.4**	**-1.2**
NNA	**Nana**	**4.29**	**184**	P	**Pn**	**08 31 53.2**	**+2.2**
	6.5nm,0.3s,baz=352,slow=12,SNR=22						
NNA				S	**Sn**	**08 32 39.5**	**-1.2**
	18nm,0.3s,baz=346,slow=17,SNR=6.1						
OTAV	**Otavalo**	**8.09**	**346**	*e*Pn	**Pn**	**08 32 40.6**	**-1.6**
	9.1nm,0.6s						
OTAV				*e*Sn	**Sn**	**08 34 16.1**	**+3.6**
LPAZ	**La Paz**	**11.87**	**137**	*e*Pn	**Pn**	**08 33 31.1**	**-1.8**
ROSC	**El Rosal**	**12.64**	**10**	P	**P**	**08 33 48.3**	**-0.4**
ROSC	**El Rosal**	**12.64**	**10**	P	**P**	**08 33 48.3**	**-0.4**
	1.0nm,0.3s,baz=162,slow=2.4,SNR=9.3						
SAML	**Samuel**	**13.29**	**96**	*e*Pn	Pn	08 33 46.2	-4.5
	27nm,0.5s						
SAML				*e*S	Sn	08 36 07.9	-10
SIV	**San Ignacio**	**17.25**	**120**	P	**P**	**08 34 39.7**	**+0.3**
SIV	**San Ignacio**	**17.25**	**120**	P	**P**	**08 34 39.7**	**+0.3**
	1.0nm,0.3s,baz=309,slow=12,SNR=19						
SDV	**Santo Domingo**	**17.48**	**20**	*e*P	**P**	**08 34 41.1**	**-1.0**
	11nm,1.0s						
SDV				*e*S	S	08 37 42.1	-15
CFAA	**Coronel Fontan**	**25.04**	**163**	P	**P**	**08 35 59.7**	**+0.8**
CFAA	**Coronel Fontan**	**25.04**	**163**	P	**P**	**08 35 59.7**	**+0.8**
	0.1nm,0.6s,baz=312,slow=9.4,SNR=3.7						
SJG	**San Juan**	**27.60**	**22**	P	**P**	**08 36 22.1**	**+0.2**
SJG	**San Juan**	**27.60**	**22**	P	**P**	**08 36 22.1**	**+0.2**
	26nm,0.8s,baz=269,slow=0.7,SNR=4.6						
BDFB	**Brasilia**	**29.02**	**108**	P	**P**	**08 36 35.5**	**+0.7**
BDFB	**Brasilia**	**29.02**	**108**	P	**P**	**08 36 35.5**	**+0.7**
	5.3nm,0.8s,baz=253,slow=11,SNR=8.1						
TEIG	**Tepich**	**30.03**	**338**	P	**P**	**08 36 44.1**	**+0.6**
TEIG	**Tepich**	**30.03**	**338**	P	**P**	**08 36 44.1**	**+0.6**

14nm,1.0s,baz=79,slow=0.7,SNR=4.6
PLCA Paso Flores 33.35 172 P **P** **08 37 13.9 +1.4**
PLCA PcP **PcP** **08 39 52.9 +1.7**
PLCA Paso Flores 33.35 172 P **P** **08 37 13.9 +1.4**
0.7nm,0.4s,baz=333,slow=9.7,SNR=5.2
PLCA PcP **PcP** **08 39 52.9 +1.7**
2.0nm,1.1s,baz=297,slow=5.3,SNR=3.3
RPN Rapa Nui 36.60 234 LR LR 08 48 43.2
comp=Z,203nm,18.5s,baz=333,slow=29
LRAL Lakeview Retre 41.69 347 *eP* **P** **08 38 22.2 -0.4**
54nm,2.5s
627A Terlingua Ranc 45.05 326 ⇑P **P** **08 38 50.8 +1.0**
baz=45
TXAR Lajitas Array 45.12 326 P **P** **08 38 51.2 +0.9**
TXAR PcP **PcP** **08 40 28.6 -0.1**
TXAR Lajitas Array 45.12 326 P **P** **08 38 51.2 +0.9**
1.0nm,0.5s,baz=147,slow=8.5,SNR=27
TXAR PcP **PcP** **08 40 28.6 -0.1**
0.3nm,0.5s,baz=154,slow=7.6,SNR=4.5
626A Big Bend Ranch 45.55 326 ⇑P **P** **08 38 54.1 +0.4**
baz=46
527A Woodward Ranch 45.71 327 ⇑P **P** **08 38 55.7 +0.6**
baz=46
426A McDonald Obser 46.34 327 ⇑P **P** **08 39 00.6 +0.5**
baz=46
TUL1 Tulsa 46.98 339 ⇑P **P** **08 39 05.1 +0.4**
baz=47
WMOK Wichita Mounta 47.13 335 *eP* **P** **08 39 06.0 +0.1**
2.3nm,0.8s
FVM French Village 47.23 345 *eP* **P** **08 39 05.6 -1.0**
6.8nm,0.6s
Y29A Porterfield Fa 47.69 331 ⇓P **P** **08 39 10.4 +0.1**
baz=48
324A Moseley Ranch, 47.74 326 ⇓P **P** **08 39 10.8 0.0**
baz=48
MNTX Cornudas Mount 47.88 326 ⇓P **P** **08 39 12.2 +0.5**
baz=48
Z27A Tatum 48.00 330 ⇓P **P** **08 39 12.8 0.0**
baz=48
X29A Tulia 48.18 332 ⇓P **P** **08 39 14.2 +0.1**
baz=48
224A Cornudas Mount 48.24 327 ⇑P **P** **08 39 15.0 +0.3**
baz=48
MSTX Muleshoe 48.31 331 ⇓P **P** **08 39 15.5 +0.4**
baz=48
Z26A Caprock 48.35 329 ⇓P **P** **08 39 16.1 +0.7**
baz=48
124A Stringfield Ra 48.68 327 ⇓P **P** **08 39 18.9 +0.8**
baz=49
Z25A Roswell 48.74 328 ⇓P **P** **08 39 18.6 +0.1**
baz=49
Z24A Sheeppen Canyo 49.12 328 ⇑P **P** **08 39 22.1 +0.7**
baz=49
X26A CR and CF Fran 49.28 330 ⇑P **P** **08 39 22.8 +0.3**
baz=50
W27A Bowe Ranch, En 49.33 331 ⇓P **P** **08 39 23.3 +0.4**
baz=50
HDIL Hopedale 49.41 347 *eP* **P** **08 39 21.7 -1.5**
34nm,0.6s
V28A Channing 49.50 332 ⇓P **P** **08 39 24.5 +0.3**
baz=50
220A Playas Peak, P 49.81 324 ⇑P **P** **08 39 27.0 +0.3**
baz=50
Z22A Elephant Butte 49.92 326 ⇓P **P** **08 39 28.3 +0.9**
baz=50
W25A X Bar L Ranch, 50.14 330 ⇓P **P** **08 39 29.3 +0.3**
baz=50
W24A Lazy 6 Ranch, 50.60 329 ⇑P **P** **08 39 32.9 +0.2**
baz=51
V25A Rancho No Teng 50.71 330 ⇑P **P** **08 39 33.6 +0.2**
baz=51
Z20A Nine Sixteen R 50.73 325 ⇑P **P** **08 39 34.1 +0.6**
baz=51
U26A Atchley Ranch, 50.73 332 ⇑P **P** **08 39 33.6 0.0**
baz=51
V24A Rampart Ranch, 50.94 330 ⇑P **P** **08 39 35.6 +0.4**
baz=51
ANMO Albuquerque 50.94 328 *eP* **P** **08 39 36.1 +0.9**
4.2nm,1.2s
X21A Alamocita Cree 51.27 327 ⇑P **P** **08 39 38.4 +0.7**
baz=51
S26A Kim 51.61 333 ⇓P **P** **08 39 40.4 +0.5**
baz=52
T25A Trinidad 51.65 332 ⇑P **P** **08 39 40.9 +0.5**
baz=52
R27A Eads 51.85 334 ⇓P **P** **08 39 42.4 +0.6**
baz=52
S25A Robets Cordova 52.08 332 ⇓P **P** **08 39 44.2 +0.6**
baz=52
R26A Arlington 52.15 333 ⇓P **P** **08 39 44.4 +0.4**
baz=52
SDCO Great Sand Dun 52.65 331 *eP* P 08 39 43.3 -4.6
6.8nm,0.8s
R23A Moffat 53.16 331 ⇓P **P** **08 39 52.3 +0.7**
baz=53
P23A Jefferson 54.11 332 ⇑P **P** **08 39 59.8 +1.2**
baz=54
ECSD EROS Data Cent 54.31 342 *eP* **P** **08 39 58.1 -1.4**
4.9nm,0.7s
R20A Redvale 54.42 329 ⇓P **P** **08 40 01.8 +1.2**
baz=55
S19A Harvey Farm, M 54.47 328 ⇑P **P** **08 40 01.2 +0.1**
baz=55
PV01 Paradox Valley 54.47 329 *eP* **P** **08 40 02.0 +0.9**
52nm,0.5s
SMCO Snowmass 54.49 331 *eP* **P** **08 40 00.8 -0.6**
18nm,2.0s
T17A Navajo Res., N 54.80 327 ⇑P **P** **08 40 04.4 +1.0**
baz=55
O23A Lake Granby, G 54.82 333 ⇓P **P** **08 40 04.4 +0.8**
baz=55
S16A Weppner Ranch, 55.76 327 ⇓P **P** **08 40 10.5 +0.2**
baz=56
P19A Cripple Cowboy 55.82 330 ⇑P **P** **08 40 11.5 +0.7**
baz=56
SRU San Rafael 56.21 328 *eP* **P** **08 40 14.0 +0.5**
74nm,2.9s
SRU San Rafael 56.21 328 ⇓P **P** **08 40 14.0 +0.5**
baz=56
O19A Miners Draw (B 56.40 330 ⇓P **P** **08 40 15.4 +0.6**
baz=57
P18A Preston Nutter 56.46 329 ⇑P **P** **08 40 15.9 +0.6**
baz=57
TUQ Turquoise Moun 56.70 322 ⇓P **P** **08 40 17.4 +0.4**
baz=57
SCI San Clemente I 56.82 318 ⇓P **P** **08 40 17.7 0.0**
baz=57
M20A Sweetwater, Wa 56.88 332 ⇓P **P** **08 40 18.7 +0.5**
baz=57
N18A Larsen Ranch, 57.19 331 ⇑P **P** **08 40 21.2 +0.8**
baz=57
JLU Jordanelle 57.80 329 *eP* **P** **08 40 25.1 +0.5**
28nm,2.0s
I22A 9 Mile Ranch, 58.04 335 ⇓P **P** **08 40 25.8 -0.4**
baz=58
M17A Scullys Gap (B 58.05 330 ⇓P **P** **08 40 26.1 -0.4**
baz=58
K19A Absolon Red Bu 58.23 332 ⇓P **P** **08 40 27.4 -0.2**
baz=58
AGMN Agassiz Station 58.28 345 *eP* **P** **08 40 26.2 -1.4**
5.9nm,0.8s
J20A Shoshoni 58.30 333 ⇓P **P** **08 40 27.9 -0.1**
baz=58
M16A Huntsville 58.42 329 ⇑P **P** **08 40 28.9 0.0**
baz=59
PDAR Pinedale Array 58.51 332 P **P** **08 40 29.1 -0.5**
PDAR PcP **PcP** **08 41 17.9 -0.7**
PDAR Pinedale Array 58.51 332 P **P** **08 40 29.1 -0.5**
1.5nm,0.9s,baz=134,slow=7.7,SNR=8.5
PDAR PcP **PcP** **08 41 17.9 -0.7**
0.5nm,0.6s,baz=128,slow=5.8,SNR=4.8
L17A Cokeville 58.63 331 ⇑P **P** **08 40 30.0 -0.4**
baz=59
K18A Toltan Ranch, 58.64 332 ⇑P **P** **08 40 30.5 0.0**
baz=59
J19A Crowheart 58.67 333 ⇑P **P** **08 40 30.3 -0.3**
baz=59
I20A Worland 58.79 334 ⇑P **P** **08 40 31.3 -0.1**
baz=59
L16A Fish Haven 58.84 330 ⇓P **P** **08 40 31.5 -0.4**
baz=59,SNR=5.1
H21A Big Horn, Sher 58.87 335 ⇓P **P** **08 40 31.5 -0.4**
baz=59
MDND Maddock 58.92 342 ⇑P **P** **08 40 32.3 +0.2**
baz=59
J18A Kendall Valley 59.07 332 ⇓P **P** **08 40 33.0 -0.5**
baz=59
F23A Volborg 59.11 337 ⇑P **P** **08 40 33.0 -0.5**
baz=59
H20A Greybull 59.17 334 ⇓P **P** **08 40 33.4 -0.5**
baz=59
L15A Malad City 59.31 330 ⇓P **P** **08 40 35.1 +0.1**
baz=60
I18A Diamond G Ranc 59.36 332 ⇑P **P** **08 40 35.6 +0.2**
baz=60
J17A Brown Place, J 59.51 332 ⇑P **P** **08 40 36.6 +0.1**
baz=60
RRI2 Red Ridge 59.79 331 *eP* **P** **08 40 38.9 +0.5**
5.8nm,0.8s
G20A Bridger 59.84 335 ⇑P **P** **08 40 38.0 -0.6**
baz=60
ULM Lac du Bonnet 60.09 346 P **P** **08 40 38.6 -1.4**
ULM pP **pP** **08 41 12.1 -0.1**
ULM Lac du Bonnet 60.09 346 P **P** **08 40 38.6 -1.4**
6.6nm,0.8s,baz=149,slow=6.9,SNR=16
ULM pP **pP** **08 41 12.1 -0.1**
5.3nm,0.8s,baz=165,slow=5.4,SNR=5.5
NVAR Mina Array Bea 60.09 323 P **P** **08 40 40.2 -0.3**
NVAR pP **pP** **08 41 13.3 +0.6**
NVAR Mina Array Bea 60.09 323 P **P** **08 40 40.2 -0.3**
0.7nm,0.8s,baz=132,slow=5.3,SNR=4.7
NVAR pP **pP** **08 41 13.3 +0.6**
0.9nm,0.8s,baz=111,slow=7.0,SNR=3.1
J15A Blackfoot 60.37 331 ⇓P **P** **08 40 42.4 +0.2**
baz=60,SNR=5.7
G18A Lazy EL Ranch, 60.50 334 ⇓P **P** **08 40 43.2 +0.1**
baz=61
D22A Cohagen 60.59 337 ⇑P **P** **08 40 44.0 +0.5**
baz=61,SNR=6.1
F19A Roth Farm, Mol 60.66 335 ⇓P **P** **08 40 44.0 -0.1**
baz=61,SNR=5.4
H16A Russell Place, 60.78 332 ⇓P **P** **08 40 46.2 +1.1**
baz=61,SNR=5.4
I15A Monteview 60.84 331 ⇓P **P** **08 40 46.5 +1.1**
baz=61
E20A Meyer Farm, Mu 60.84 336 ⇓P **P** **08 40 45.8 +0.6**
baz=61
J14A Carey 60.84 330 ⇓P **P** **08 40 46.0 +0.5**
baz=61
C22A Vida 60.97 338 ⇑P **P** **08 40 46.6 +0.5**
baz=61
F18A Big Timber 61.03 334 ⇑P **P** **08 40 46.9 +0.3**
baz=61,SNR=7.2
E19A Rath Farm, Rou 61.08 335 ⇓P **P** **08 40 47.2 +0.3**
baz=61
B23A Brockton 61.25 339 ⇑P **P** **08 40 48.4 +0.5**
baz=61
A24A Westby 61.29 340 ⇓P **P** **08 40 48.9 +0.7**
baz=62
D20A Manuel Ranch, 61.31 336 ⇓P **P** **08 40 48.6 +0.2**
baz=62
G16A Moss Hill, Enn 61.44 332 ⇓P **P** **08 40 49.9 +0.4**
baz=62
C21A Desert Coulee 61.50 337 ⇑P **P** **08 40 49.9 +0.2**
baz=62,SNR=6.1
I13A Wildhorse Cree 61.57 330 ⇑P **P** **08 40 51.1 +0.7**
baz=62,SNR=6.7
BOZ Bozeman (W) 61.68 333 ⇓P **P** **08 40 51.2 +0.1**
baz=62
G15A Dillon 61.71 332 ⇓P **P** **08 40 51.5 +0.2**
baz=62
H14A Leadore 61.72 331 ⇓P **P** **08 40 52.1 +0.7**
baz=62,SNR=5.3
E17A Martinsdale 61.96 334 ⇓P **P** **08 40 52.9 -0.1**
baz=62
A22A Carney Farms, 62.02 339 ⇓P **P** **08 40 53.6 +0.5**
baz=62
D18A Linhart Farms, 62.08 335 ⇑P **P** **08 40 54.0 +0.3**
baz=62
C19A Slack Wire Ran 62.20 336 ⇑P **P** **08 40 54.5 +0.1**
baz=62
E16A East Helena 62.38 333 ⇓P **P** **08 40 56.1 +0.5**
baz=62
A21A Bergtoll Ranch 62.39 338 ⇓P **P** **08 40 56.4 +0.8**
baz=63
G13A Cobalt 62.49 331 ⇓P **P** **08 40 56.6 +0.2**
baz=63
A20A Cobblestone Ra 62.68 337 ⇑P **P** **08 40 57.6 +0.1**
baz=63
EGMT Eagleton 62.72 336 ⇓P **P** **08 40 57.8 0.0**
baz=63
B19A Brinkman Farms 62.73 336 ⇑P **P** **08 40 57.8 -0.1**
baz=63
SCHQ Schefferville 62.81 6 P **P** **08 40 57.9 -0.3**
SCHQ Schefferville 62.81 6 P **P** **08 40 57.9 -0.3**
3.4nm,0.7s,baz=199,slow=3.0,SNR=7.8
C17A Wharram Farm, 62.83 335 ⇓P **P** **08 40 58.4 -0.1**
baz=63
B18A Beardsley Farm 63.02 336 ⇑P **P** **08 41 00.3 +0.5**
baz=63
A19A Kilnworth Far 63.04 337 ⇑P **P** **08 41 00.0 +0.1**
baz=63,SNR=6.2
E14A Clinton 63.11 332 ⇑P **P** **08 41 00.8 +0.3**
baz=63
C16A Fuhringer Ranc 63.38 334 ⇑P **P** **08 41 02.4 +0.1**
baz=64
A18A Metzger Ranch, 63.47 336 ⇓P **P** **08 41 02.6 -0.1**
baz=64
MSO Missoula 63.63 332 ⇑P **P** **08 41 03.6 -0.3**
baz=64
C15A Salmond Ranch, 63.73 334 ⇓P **P** **08 41 04.1 -0.5**
baz=64
A16A West Butte Ran 64.20 335 ⇓P **P** **08 41 07.6 -0.1**
baz=64
C14A Swan Lake 64.24 333 ⇓P **P** **08 41 07.8 -0.1**
baz=64
A13A Flathead Natio 65.40 334 ⇑P **P** **08 41 15.5 +0.2**
baz=66
C11A Tepee Creek (N 65.44 332 ⇑P **P** **08 41 15.9 +0.3**
baz=66
DBIC Dimbokro 72.91 81 P **P** **08 42 02.5 +0.2**
DBIC Dimbokro 72.91 81 P **P** **08 42 02.5 +0.2**
4.5nm,0.4s,baz=251,slow=6.9,SNR=15
YKA Yellowknife Ar 75.83 343 P **P** **08 42 17.6 -0.5**
YKA pP **pP** **08 42 51.9 +0.2**
YKA Yellowknife Ar 75.83 343 P **P** **08 42 17.6 -0.5**
1.0nm,0.4s,baz=141,slow=6.0,SNR=39
YKA pP **pP** **08 42 51.8 +0.2**
0.3nm,0.4s,baz=139,slow=6.1,SNR=3.2
TORD Torodi Ar. Bea 80.40 75 P **P** **08 42 44.6 +0.3**
TORD pP **pP** **08 43 19.1 +0.8**
TORD Torodi Ar. Bea 80.40 75 P **P** **08 42 44.6 +0.3**
5.4nm,0.7s,baz=260,slow=5.7,SNR=26
TORD pP **pP** **08 43 19.1 +0.8**
1.3nm,0.7s,baz=286,slow=4.4,SNR=2.9
ESDC Sonseca Array 81.69 48 P **P** **08 42 51.6 +0.8**
ESDC Sonseca Array 81.69 48 P **P** **08 42 51.6 +0.8**
1.3nm,0.7s,baz=251,slow=4.8,SNR=8.3
SUMG Summit 83.77 11 *i* P **P** **08 43 01.7 +0.5**
9.8nm,0.8s
ILAR Eielson Array 88.68 336 P **P** **08 43 24.4 -0.5**
ILAR pP **pP** **08 44 00.1 +0.6**
ILAR Eielson Array 88.68 336 P **P** **08 43 24.4 -0.5**
1.1nm,0.9s,baz=119,slow=3.1,SNR=9.9
ILAR pP **pP** **08 44 00.1 +0.6**
1.0nm,0.8s,baz=118,slow=3.1,SNR=6.1
STKA Stephens Creek 126.40 221 PKP **PKPdf** **08 49 35.3 +0.6**
STKA Stephens Creek 126.40 221 PKP **PKPdf** **08 49 35.3 +0.6**
2.0nm,1.1s,baz=42,slow=1.2,SNR=4.7
BVAR Borovoye Array 127.41 25 PKP **PKPdf** **08 49 36.3 +0.4**
BVAR Borovoye Array 127.41 25 PKP **PKPdf** **08 49 36.3 +0.4**
1.0nm,0.7s,baz=300,slow=2.8,SNR=7.3
ZALV Zalesovo Beam 131.47 15 PKP **PKPdf** **08 49 43.8 +0.2**
ZALV Zalesovo Beam 131.47 15 PKP **PKPdf** **08 49 43.8 +0.2**
1.6nm,0.4s,baz=272,slow=2.0,SNR=14
KURK Kurchatov 132.40 21 PKP **PKPdf** **08 49 45.8 +0.3**
KURK pPKP **pPKPdf** **08 50 23.7 +2.0**
KURBB Kurchatov Arra 132.44 21 PKP **PKPdf** **08 49 45.8 +0.2**
2.2nm,0.9s,baz=315,slow=2.5,SNR=13
KURBB pPKP **pPKPdf** **08 50 23.7 +2.0**
0.7nm,0.6s,baz=295,slow=1.5,SNR=2.8
ASAR Alice Springs 136.92 223 PKPpre PKPpre 08 49 46.2
ASAR PKP **PKPdf** **08 49 54.6 -0.2**
ASAR Alice Springs 136.92 223 PKhKP PKPpre 08 49 46.2
0.3nm,0.6s,baz=124,slow=3.3,SNR=4.4
ASAR PKP **PKPdf** **08 49 54.6 -0.2**
1.4nm,0.9s,baz=90,slow=2.8,SNR=6.8
MKAR Makanchi Array 137.01 21 PKP **PKPdf** **08 49 54.1 -0.2**
MKAR Makanchi Array 137.01 21 PKP **PKPdf** **08 49 54.1 -0.2**
1.2nm,0.7s,baz=347,slow=1.9,SNR=14
WRA Warramunga Arr 139.04 227 PKPpre PKPpre 08 49 51.3
WRA PKP **PKPdf** **08 49 58.2 -0.6**
WRA Warramunga Arr 139.04 227 PKhKP PKPpre 08 49 51.3
0.7nm,0.8s,baz=124,slow=2.7,SNR=3.8
WRA PKP **PKPdf** **08 49 58.2 -0.6**
2.5nm,0.8s,baz=121,slow=1.9,SNR=4.8
KSH Kashi 139.84 34 *e*PKP **PKPdf** **08 49 55.8 -4.1**
KSH PP **PP** **08 52 56.1 -0.5**
KSH PKS PKSdf 08 53 29.3 -6.7
SONM Songino Array 139.90 357 PKPpre PKPpre 08 49 50.6
SONM PKP **PKPdf** **08 49 59.6 -0.1**
SONM Songino Array 139.90 357 PKhKP PKPpre 08 49 50.6
0.2nm,0.2s,baz=342,slow=1.8,SNR=5.3
SONM PKP **PKPdf** **08 49 59.6 -0.1**
0.8nm,0.9s,baz=334,slow=1.8,SNR=4.5
WMQ Urumqi 141.45 18 *e*PKP **PKPdf** **08 50 07.2 +4.7**
KSRS Korea Array 142.96 327 PKhKP PKPpre 08 50 00.4
0.9nm,0.7s,baz=64,slow=2.8,SNR=3.9
KSRS PKP **PKPdf** **08 50 05.2 0.0**
2.0nm,0.8s,baz=358,slow=0.9,SNR=6.8
KSAR Wonju Array Be 142.99 327 PKPpre PKPpre 08 50 00.4
KSAR PKP **PKPdf** **08 50 05.2 -0.1**
BJI Beijing 145.82 342 PKPbc **PKPdf** **08 50 08.3 -1.9**
HHC Hu-ho-hao-te 146.18 349 *e*PKPbc PKPdf 08 50 05.2 -5.8
HHC pPKP pPKPdf 08 50 47.3 +0.1
HHC sPKP 08 51 04.5
HHC PP **PP** **08 53 33.0 -1.0**
HHC PKS PKSdf 08 53 40.1 -6.3
HHC AMB AMB
comp=Z,71nm,5.6s
LZH Lanzhou 151.72 359 *e*PKPbc **PKPdf** **08 50 19.4 -0.7**
LZH pPKP **pPKPdf** **08 52 52.2 -4.1**
LZH sPKP 08 51 07.5
CD2 Chengdu 156.88 359 PKP **PKPdf** **08 50 24.6 -2.7**
GYA Guiyang 161.07 351 *e*PKP **PKPdf** **08 50 30.0 -2.4**
GYA pPKP **pPKPdf** **08 51 06.8 -2.0**
GYA PKPab **PKPab** **08 51 20.4 +4.5**
GYA PKS **PKSdf** **08 54 02.3 -3.6**
GYA PP **PP** **08 55 01.2 +3.5**
GYA AMB AMB
comp=Z,80nm,8.0s
KMI Kunming 162.64 2 PKP **PKPdf** **08 50 31.4 -2.8**
CMAR Chiang Mai Arr 168.42 22 PKP **PKPdf** **08 50 38.5 -0.3**
CMAR PKPab **PKPab** **08 51 47.9 -0.4**
CMAR Chiang Mai Arr 168.42 22 PKP **PKPdf** **08 50 38.5 -0.3**
comp=Z,0.8nm,0.4s,baz=286,slow=1.7,SNR=5.0
CMAR PKPab **PKPab** **08 51 47.9 -0.4**
comp=Z,0.9nm,0.4s,baz=324,slow=4.5,SNR=5.1

*IDC **08** 09:21:30.6±4.9, 9°.65N×84°.10W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.7/21, mbtmp3.7/6, MS3.5/10, Ms1 3.5/10, ms1mx3.3/29, Error ellipse: s-maj=97.7km s-min=61.8km az=145.0*
*NEIC **08** 09:21:35.3±1.6, 9°.62N×83°.88W, h35km, mb4.3/2, Error ellipse: s-maj=34.8km s-min=28.0km az=64.0*
NEIC Felt at Cariblanco, Rio Cuarto, San Carlos, San Miguel and Venecia.
*ISCJB **08** 09:21:36.2±0.5, 10°.39N±0°.05×84°.14W±0°.04, h10km, mb3.8/8, MS3.5/7, Error ellipse: s-maj=7.9km s-min=4.5km az=38.0*
*CASC **08** 09:21:36.4±1.4, 10°.30N×84°.24W, h0km±5km, MD4.3, mb4.3(NEIC)*

ISC 08 09:21:36.6±0.7, 10°.26N±0°.06×84°.26W±0°.05, h10km, n36, σ1§59/32, mb3.9/8, MS3.5/7, 4C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGA2	**Cerro Gallo 2**	**0.31**	**220**	*e*P	**Pb**	**09 21 44.4**	**0.0**
SJS	**Escuela Geolog**	**0.38**	**147**⇑	*e*P	**Pb**	**09 21 45.8**	**+0.3**
URSC	**Rasca**	**0.63**	**131**⇑	*e*P	**Pb**	**09 21 50.4**	**+0.4**
QCR	**Quepos**	**0.83**	**174**⇑	*e*P	**Pb**	**09 21 53.8**	**+0.6**
PTEN	**Parque Tenorio**	**0.85**	**303**	*i* P	**Pb**	**09 21 52.9**	**-0.6**
BUS	**Buena Vista**	**0.85**	**145**⇑	*e*P	**Pb**	**09 21 54.1**	**+0.2**
CUI	**Cuipilapa**	**0.97**	**294**	*i* P	**Pg**	**09 21 55.0**	**-0.4**
COLC	**Colonia**	**1.01**	**294**	*i* P	**Pb**	**09 21 56.0**	**-0.3**
LAPC	**Finca la Perla**	**1.26**	**294**	*i* P	**Pn**	**09 21 59.8**	**-0.5**
LAPC				*i* S	**Sn**	**09 22 19.6**	**+2.2**
GBS2	**Las Lilas**	**1.31**	**296**	*i* P	**Pb**	**09 22 00.9**	**-0.4**
GBS2				*i* S	**Sg**	**09 22 20.5**	**+1.8**
NY14	**Universidad de**	**1.31**	**287**	*i* P	**Pb**	**09 22 00.9**	**-0.4**
NY14				*i* S	**Sg**	**09 22 20.5**	**+1.7**
ACR	**Cerro Adams**	**1.92**	**146**	*e*P	**Pb**	**09 22 12.0**	**+0.2**
TGUH	**Tegucigalpa,Un**	**4.79**	**322**	*e*Pn	Pb	09 22 56.3	-4.4
	81nm,0.7s						
TGUH				*e*Sn	**Sb**	**09 23 60.0**	**+1.5**
TEIG	**Tepich**	**10.64**	**339**	LR	LR	09 28 26.7	
	comp=Z,286nm,18.0s,baz=150,slow=37						
ROSC	**El Rosal**	**11.21**	**118**	LR	LR	09 28 58.8	
	comp=Z,76nm,18.3s,baz=18,slow=42						
ATAH	**Atahualpa**	**18.24**	**161**	LR	LR	09 32 02.2	
	comp=Z,182nm,20.3s,baz=230,slow=36						
TKL	**Tuckaleechee C**	**25.29**	**1**	P	**P**	**09 27 04.9**	**+1.6**
TKL	**Tuckaleechee C**	**25.29**	**1**	P	**P**	**09 27 04.9**	**+1.6**
	3.1nm,0.9s,baz=181,slow=8.4,SNR=2.4						
TKL				LR	LR	09 36 18.6	
	comp=Z,112nm,19.7s,baz=273,slow=34						
MIAR	**Mount Ida**	**25.63**	**342**	*e*P	**P**	**09 27 06.8**	**+0.4**
	3.1nm,0.6s						
TXAR	**Lajitas Array**	**26.26**	**319**	P	**P**	**09 27 13.5**	**+1.2**
TXAR	**Lajitas Array**	**26.26**	**319**	P	**P**	**09 27 13.5**	**+1.2**
	0.2nm,0.7s,baz=145,slow=11,SNR=3.4						
TXAR				LR	LR	09 40 22.4	
	comp=Z,36nm,19.2s,baz=180,slow=42						
ACSO	**Alum Creek Sta**	**29.87**	**2**	*e*P	**P**	**09 27 45.6**	**+1.2**
	8.4nm,1.0s						
SADO	**Sadowa**	**34.67**	**6**	P	**P**	**09 28 27.6**	**+1.2**
SADO	**Sadowa**	**34.67**	**6**	P	**P**	**09 28 27.6**	**+1.2**
	4.6nm,0.7s,baz=194,slow=5.5,SNR=3.8						
SADO				LR	LR	09 42 24.4	
	comp=Z,91nm,20.0s,baz=82,slow=36						
SIV	**San Ignacio**	**34.74**	**138**	LR	LR	09 43 34.9	
	comp=Z,67nm,18.1s,slow=39						
ULM	**Lac du Bonnet**	**41.01**	**349**	P	**P**	**09 29 18.9**	**-1.0**
ULM	**Lac du Bonnet**	**41.01**	**349**	P	**P**	**09 29 18.9**	**-1.0**
	1.8nm,0.8s,baz=158,slow=6.3,SNR=3.6						
BDFB	**Brasilia**	**44.16**	**125**	LR	LR	09 48 39.6	
	comp=Z,128nm,18.9s,baz=4.4,slow=37						
YKA	**Yellowknife Ar**	**56.56**	**344**	P	**P**	**09 31 18.7**	**-0.4**
YKA	**Yellowknife Ar**	**56.56**	**344**	P	**P**	**09 31 18.7**	**-0.4**
	0.3nm,0.7s,baz=141,slow=6.9,SNR=9.7						
ILAR	**Eielson Array**	**69.28**	**336**	P	**P**	**09 32 43.6**	**-0.2**
ILAR	**Eielson Array**	**69.28**	**336**	P	**P**	**09 32 43.6**	**-0.2**
	0.4nm,0.8s,baz=124,slow=4.6,SNR=6.3						
NOA	**NORSAR Array B**	**83.75**	**29**	LR	LR	10 11 36.7	
	comp=Z,28nm,19.1s,baz=265,slow=36						
TORD	**Torodi Ar. Bea**	**83.82**	**78**	LR	LR	10 10 20.8	
	comp=Z,37nm,18.7s,baz=305,slow=35						
ASAR	**Alice Springs**	**141.27**	**245**	PKP	**PKPdf**	**09 41 03.9**	**-4.7**
ASAR	**Alice Springs**	**141.27**	**245**	PKP	**PKPdf**	**09 41 03.9**	**-4.7**
	0.4nm,1.0s,baz=119,slow=4.5,SNR=4.9						

IDC 08 09:27:25.3±22.0, 17°.21S×178°.69W, h486km±207km, mb3.1/3, mb1 3.4/3, mb1mx3.0/17, mbtmp3.1/3, Error ellipse: s-maj=303.3km s-min=65.6km az=137.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.50**	**259**	P	P	09 34 52.8	-0.2
	0.8nm,0.5s,baz=93,slow=7.2,SNR=9.1						
ASAR	**Alice Springs**	**44.73**	**254**	P	P	09 34 54.6	-0.1
	4.5nm,0.6s,baz=88,slow=8.3,SNR=93						
ILAR	**Eielson Array**	**85.27**	**13**	P	P	09 39 09.6	0.0
	1.1nm,1.2s,baz=222,slow=5.2,SNR=8.7						
GERES	**GERESS Array B**	**146.87**	**345**	PKPbc	PKPbc	09 46 11.9	-0.7
	0.5nm,0.5s,baz=19,slow=3.3,SNR=6.9						

IDC 08 09:30:46.8±2.6, 28°.78S×67°.47W, h133km±20km, mb3.4/2, mb1 3.2/4, mb1mx3.1/17, mbtmp3.2/4, Error ellipse: s-maj=74.1km s-min=21.6km az=113.0, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**2.89**	**193**	P	Pn	09 31 32.6	+0.4
	1.1nm,0.3s,baz=11,slow=13,SNR=240						
CFAA				S	Sn	09 32 07.6	+0.3
	1.9nm,0.3s,baz=287,slow=23,SNR=16						
SIV	**San Ignacio**	**14.03**	**26**	P	Pn	09 34 00.3	+0.4
	0.2nm,0.3s,baz=190,slow=12,SNR=4.2						
QSPA	**South Pole Qui**	**61.45**	**180**	P	P	09 40 49.7	+0.8
	1.0nm,0.6s,baz=119,slow=3.0,SNR=5.2						
TORD	**Torodi Ar. Bea**	**78.70**	**68**	P	P	09 42 33.7	-1.1
	3.9nm,1.4s,baz=246,slow=5.7,SNR=4.1						
ASAR	**Alice Springs**	**123.94**	**204**	PKP	PKPdf	09 49 28.8	-1.1

0.2nm,0.4s,baz=143,slow=1.7,SNR=6.1
WRA Warramunga Arr 127.18 206 PKP PKPdf 09 49 35.3 -0.8
0.5nm,0.4s,baz=157,slow=1.7,SNR=6.5
AAK Ala-Archa 146.46 55 PKPbc PKPab 09 50 13.7 0.0
0.4nm,0.3s,baz=304,slow=3.6,SNR=3.7
ZALV Zalesovo Beam 147.75 31 PKPbc PKPbc 09 50 15.4 -0.1
0.6nm,0.4s,baz=313,slow=1.8,SNR=4.2
MKAR Makanchi Array 150.35 44 PKPbc PKPbc 09 50 21.6 -0.7
0.4nm,0.7s,baz=304,slow=1.5,SNR=4.9
MKAR PKPab PKPab 09 50 28.5 -0.6
0.1nm,0.4s,baz=316,slow=1.8,SNR=3.2

*DDA **08** 09:31:52.5, 36.98N×28.19E, h7km, MD2.5*
*ISK **08** 09:31:52.2, 37.03N×28.31E, h17km, MD2.6*
*CSEM **08** 09:31:52.7±0.4, 36.99N×28.24E, h10km, MD2.6, Error ellipse: s-maj=10.5km s-min=6.1km az=20.0*
ISC 08 09:31:52.0±1.1, 36.96N±0.03×28.25E±0.02, h3km±10km, n30, σ1§24/45, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.18**	**9**	*e*PG	**Pg**	**09 31 56.0**	**+0.5**
YER				*e*SG	**Sg**	**09 31 58.9**	**+1.0**
YER	**Yerkesik**	**0.18**	**9**	*e*Pg	**Pg**	**09 31 56.0**	**+0.5**
YER				*e*Sg	**Sg**	**09 31 58.9**	**+1.0**
TURN	**Turunc**	**0.30**	**107**	*i* P	**Pg**	**09 31 56.4**	**-1.3**
TURN				*i* S	**Sg**	**09 31 59.7**	**-1.9**
TURN	**Turunc**	**0.30**	**107**	*i* P	**Pg**	**09 31 56.4**	**-1.3**
TURN				*i* S	**Sg**	**09 31 59.7**	**-1.9**
BDRM	**Kayabasi**	**0.65**	**280**	*i* P	**Pg**	**09 32 03.8**	**-0.7**
BDRM				*i* S	**Sg**	**09 32 14.1**	**+1.0**
BDRM	**Kayabasi**	**0.65**	**280**	*i* P	**Pg**	**09 32 03.8**	**-0.7**
BDRM				*i* S	**Sg**	**09 32 14.0**	**+1.0**
FETY	**Fethiye**	**0.74**	**115**	*e*PG	**Pg**	**09 32 07.3**	**+1.0**
FETY				*e*SG	**Sg**	**09 32 17.4**	**+1.4**
FETY	**Fethiye**	**0.74**	**115**	*e*Pg	**Pg**	**09 32 07.3**	**+1.0**
FETY				*e*Sg	**Sg**	**09 32 17.4**	**+1.4**
BODT	**Bodrum**	**0.76**	**278**	*e*PG	**Pb**	**09 32 08.5**	**+0.6**
BODT	**Bodrum**	**0.76**	**278**	*e*Pg	**Pb**	**09 32 08.5**	**+0.6**
AYDN	**Tasoluk**	**0.76**	**337**	*i* P	**Pg**	**09 32 06.8**	**+0.2**
AYDN				*i* S	**Sb**	**09 32 17.7**	**-1.0**
AYDN	**Tasoluk**	**0.76**	**337**	*i* P	**Pg**	**09 32 06.8**	**+0.2**
AYDN				*i* S	**Sb**	**09 32 17.7**	**-1.0**
DNZL	**Cakiroluk**	**0.97**	**41**	*i* P	**Pb**	**09 32 11.2**	**-0.4**
DNZL				*i* S	**Sn**	**09 32 28.1**	**+1.0**
DNZL	**Cakiroluk**	**0.97**	**41**	*i* P	**Pb**	**09 32 11.2**	**-0.4**
GOLH	**Golhisar**	**1.09**	**75**	*i* P	**Pn**	**09 32 15.3**	**+1.1**
GOLH				*i* S	Sn	09 32 36.0	+6.1
GOLH	**Golhisar**	**1.09**	**75**	*i* P	**Pn**	**09 32 15.3**	**+1.1**
GCAM	**G?zelcaml?**	**1.10**	**313**	*i* P	**Pb**	**09 32 13.4**	**-0.2**
GCAM				*i* S	**Sn**	**09 32 31.0**	**+1.0**
GCAM	**G?zelcaml?**	**1.10**	**313**	*i* P	**Pb**	**09 32 13.4**	**-0.2**
GCAM				*i* S	**Sn**	**09 32 31.0**	**+1.0**
AKAS	**Kas**	**1.31**	**123**	*i* P	**Pg**	**09 32 19.3**	**+2.2**
AKAS				*i* S	Sg	09 32 41.1	+7.0
AKAS	**Kas**	**1.31**	**123**	*i* P	**Pg**	**09 32 19.3**	**+2.2**
ELL	**Elmali**	**1.35**	**98**	*e*PN	**Pn**	**09 32 16.1**	**-1.7**
ELL	**Elmali**	**1.35**	**98**	*e*Pn	**Pn**	**09 32 16.2**	**-1.7**
KHL	**Karahalli**	**1.70**	**36**	*e*PN	**Pn**	**09 32 20.9**	**-1.8**
KHL	**Karahalli**	**1.70**	**36**	*e*Pn	**Pn**	**09 32 20.9**	**-1.8**
BLCB	**Balcova**	**1.71**	**326**	*e*PN	**Pn**	**09 32 21.6**	**-1.2**
BLCB	**Balcova**	**1.71**	**326**	*e*Pn	**Pn**	**09 32 21.6**	**-1.2**
KHAL	**Karahalli**	**1.72**	**35**	*i* P	**Pb**	**09 32 24.2**	**-0.1**
KHAL				*i* S	**Sg**	**09 32 48.6**	**+1.3**
KHAL	**Karahalli**	**1.72**	**35**	*i* P	**Pb**	**09 32 24.2**	**-0.1**
KHAL				*i* S	**Sg**	**09 32 48.6**	**+1.3**
BCK	**Bucak**	**1.94**	**74**	*e*PN	**Pn**	**09 32 24.7**	**-1.2**
BCK	**Bucak**	**1.94**	**74**	*e*Pn	**Pn**	**09 32 24.7**	**-1.2**

*IDC **08** 09:32:52.4±5.6, 37.56N×72.24E, h102km±39km, mb3.4/5, mb1 3.4/10, mb1mx3.2/29, mbtmp3.3/10, Error ellipse: s-maj=56.0km s-min=33.2km az=161.0*
*ISCJB **08** 09:32:54.0±0.5, 37.86N±0.04×72.1E±0.1, h113km, mb3.6/5, Error ellipse: s-maj=11.3km s-min=4.9km az=6.8*
*NNC **08** 09:32:59.3±6.1, 38.48N×71.32E, h0km, mb3.4, mpv3.6, Error ellipse: s-maj=59.9km s-min=45.9km az=89.0*
ISC 08 09:32:55.1±0.7, 37.89N±0.05×72.2E±0.1, h113km, n26, σ1§17/39, mb3.7/5, 3C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**4.06**	**184**	P	**Pn**	**09 33 55.8**	**+0.3**
CEP				S	**Sn**	**09 34 40.0**	**-2.3**
CHCP	**Chirah Chowk**	**4.30**	**168**	P	**Pn**	**09 34 00.1**	**+1.5**
AML	**Almayashu**	**4.39**	**14**	P	**Pn**	**09 34 00.9**	**+0.9**
	SNR=59						
AML				P	**Pn**	**09 34 00.9**	**+0.9**
	SNR=59						
UCH	**Uchtor**	**4.68**	**21**	P	**Sn**	**09 34 55.0**	**-2.5**
	SNR=8.5						
UCH				P	**Sn**	**09 34 55.0**	**-2.5**
	SNR=8.5						
KZA	**Kyzart**	**4.79**	**28**	P	**Pn**	**09 34 05.9**	**+0.5**
	SNR=28						
KZA				P	**Pn**	**09 34 05.9**	**+0.5**
	SNR=28						
EKS2	**Erkin-Say**	**4.92**	**13**	P	**Pn**	**09 34 08.4**	**+1.5**
	SNR=68						
EKS2				P	**Pn**	**09 34 08.4**	**+1.5**
	SNR=68						
AAK	**Ala-Archa**	**5.05**	**19**	P	**Pn**	**09 34 09.9**	**+1.2**
	SNR=20						
AAK				P	**Pn**	**09 34 09.9**	**+1.2**
	SNR=20						
AAK	**Ala-Archa**	**5.05**	**19**	P	**Pn**	**09 34 10.0**	**+1.2**
	4.3nm,0.3s,baz=174,slow=6.5,SNR=37						
AAK				S	**Sn**	**09 35 06.4**	**+0.3**
	2.0nm,0.3s,baz=308,slow=23,SNR=19						
THW	**Thamme Wali**	**5.09**	**185**	P	**Pn**	**09 34 08.1**	**-1.2**
KBK	**Karagaybulak**	**5.20**	**23**	P	**Pn**	**09 34 11.8**	**+1.0**
	SNR=8.2						
KBK				P	**Pn**	**09 34 11.8**	**+1.0**
	SNR=8.2						
ULHL	**Ulahol**	**5.33**	**34**	P	**Pn**	**09 34 12.8**	**+0.2**
	SNR=6.5						
ULHL				P	**Pn**	**09 34 12.8**	**+0.2**
	SNR=6.5						
KK31	**Karatay Array**	**5.38**	**346**	⇑Pn	**Pn**	**09 34 13.6**	**+0.6**
	2.3nm,0.2s,baz=162,slow=12,SNR=149						
KK31				Sn	**Sn**	**09 35 12.6**	**-1.1**
	8.5nm,0.5s,baz=172,slow=23,SNR=11						
CHMS	**Chumysh**	**5.46**	**20**	P	**Pn**	**09 34 15.4**	**+1.3**
	SNR=12						
CHMS				P	**Pn**	**09 34 15.4**	**+1.3**
	SNR=12						
USP	**Ospenovka**	**5.65**	**17**	P	**Pn**	**09 34 17.5**	**+0.7**
	SNR=16						
USP				P	**Pn**	**09 34 17.5**	**+0.7**
	SNR=16						
TKM2	**Tokmak 2**	**5.65**	**26**	P	**Pn**	**09 34 17.9**	**+1.0**
	SNR=8.0						
TKM2				P	**Pn**	**09 34 17.9**	**+1.0**
	SNR=8.0						
MKAR	**Makanchi Array**	**11.60**	**37**	P	**Pn**	**09 35 37.0**	**-0.1**
	0.1nm,0.3s,baz=223,slow=15,SNR=8.5						
AB31	**Akbulak array**	**14.42**	**326**	P	**Pn**	**09 36 12.9**	**-0.8**
	0.3nm,0.5s,baz=160,slow=11,SNR=12						
AB31				⇑Sn	Sn	09 38 39.8	-13
	0.1nm,0.2s,baz=149,slow=22,SNR=3.1						
BVAR	**Borovoye Array**	**15.20**	**356**	P	**P**	**09 36 25.7**	**-0.2**
	0.2nm,0.3s,baz=172,slow=12,SNR=4.1						
AKTO	**Aktyubinsk**	**16.13**	**326**	⇓Pn	**P**	**09 36 35.9**	**-0.3**
	0.2nm,0.8s						
AKTO				⇑Sn	Sn	09 39 24.0	-10
	0.3nm,1.2s						
AKTO	**Aktyubinsk**	**16.13**	**326**	P	**P**	**09 36 37.6**	**+1.3**
	0.3nm,0.3s,baz=109,slow=13,SNR=4.5						
ZALV	**Zalesovo Beam**	**18.25**	**24**	P	**Pn**	**09 37 02.6**	**+1.7**
	0.1nm,0.3s,baz=201,slow=12,SNR=2.9						
FINES	**FINESS Array B**	**36.90**	**325**	P	**P**	**09 39 52.8**	**+0.3**
	2.0nm,0.9s,baz=124,slow=9.5,SNR=5.4						
ARCES	**ARCESS Array B**	**40.25**	**337**	P	**P**	**09 40 21.1**	**+0.7**
	1.2nm,0.8s,baz=99,slow=7.5,SNR=6.2						
NOA	**NORSAR Array B**	**43.88**	**322**	P	**P**	**09 40 50.0**	**0.0**
	0.1nm,0.4s,baz=105,slow=8.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**66.73**	**269**	P	**P**	**09 43 33.3**	**-1.1**
	0.2nm,0.4s,baz=44,slow=4.9,SNR=4.1						
YKA	**Yellowknife Ar**	**79.81**	**3**	P	**P**	**09 44 50.7**	**+0.2**
	0.6nm,0.4s,baz=350,slow=5.6,SNR=26						

*NEIC **08** 09:45:44.3±0.2, 16.38S×173.25W, h10km, mb4.6/9, Error ellipse: s-maj=10.8km s-min=6.6km az=148.0*
*IDC **08** 09:45:49.6±0.8, 16.29S×173.39W, h43km±6km, mb3.9/11, mb1 4.1/12, mb1mx4.0/20, mbtmp3.9/12, ML3.4/1, MS3.5/6, Ms1 3.5/6, ms1mx3.3/22, Error ellipse: s-maj=28.1km s-min=15.2km az=141.0*
ISC 08 09:45:48.7±0.6, 16.47S±0.10×173.20W±0.10, h42km±5km, h42km:pP-P, n85, σ0§90/83, mb4.5/20, MS3.6/5, 8C-4D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.89**	**29**	*e*Pn	Pn	09 46 25.9	-6.5
AFI				*e*Sn	**Sn**	**09 47 05.5**	**-0.4**
AFI	**Afiamalu**	**2.89**	**29**	P	Pn	09 46 25.6	-6.8
	16nm,0.3s,baz=114,slow=21,SNR=23						
AFI				S	Sn	09 46 54.8	-11
	39nm,0.3s,baz=41,slow=23,SNR=15						
RAR	**Rarotonga**	**13.56**	**112**	P	**Pn**	**09 48 56.5**	**-2.0**
RAR	**Rarotonga**	**13.56**	**112**	P	**Pn**	**09 48 56.5**	**-2.0**
	0.6nm,0.3s,baz=275,slow=12,SNR=3.9						
RAR				LR	LR	09 52 51.3	
	comp=Z,123nm,21.8s,baz=267,slow=31						
DZM	**Mont Dzumac**	**20.00**	**251**	*e*LR	LR	09 55 15.1	
	190nm,24.8s						
DZM	**Mont Dzumac**	**20.00**	**251**	P	**P**	**09 50 17.4**	**-0.6**
DZM	**Mont Dzumac**	**20.00**	**251**	P	**P**	**09 50 17.4**	**-0.6**
	0.1nm,0.3s,baz=82,slow=17,SNR=2.2						
DZM				LR	LR	09 56 17.2	
	comp=Z,64nm,21.9s,baz=288,slow=32						
PAE	**Paea**	**22.61**	**96**	*e*T	T	10 13 58.9	
	2.4nm,0.3s						
PPT2	**Papeete2**	**22.61**	**96**	*e*LR	LR	09 56 03.3	
	68nm,25.2s						
PPT2				*e*T	T	10 14 00.5	
	2.9nm,0.3s						
TVO	**Taravao**	**22.92**	**97**	*e*T	T	10 14 22.7	
	5.8nm,0.4s						
URZ	**Urewera**	**23.32**	**200**	*e*P	**P**	**09 50 53.8**	**+0.6**
	8.9nm,0.8s						
TBI	**Tubuai**	**23.33**	**111**	*e*T	T	10 15 00.2	
	10nm,0.3s						
HNR	**Honiara**	**27.07**	**282**	LR	LR	10 00 19.2	
	comp=Z,300nm,19.2s,baz=256,slow=32						
ARMA	**Armidale**	**34.97**	**240**	*e*P	**P**	**09 52 36.5**	**-0.8**
	5.6nm,0.9s						
RKT	**Rikitea**	**36.49**	**107**	*e*T	T	10 31 24.8	
	3.6nm,0.4s						
STKA	**Stephens Creek**	**43.68**	**241**	*e*P	**P**	**09 53 49.0**	**-0.7**
	0.9nm,0.8s						
STKA	**Stephens Creek**	**43.68**	**241**	P	**P**	**09 53 49.3**	**-0.4**
	2.8nm,0.6s,baz=85,slow=10.0,SNR=7.6						
WRAB	**Tennant Creek**	**49.79**	**258**	*e*P	**P**	**09 54 38.1**	**+0.4**
	5.8nm,1.0s						
WRA	**Warramunga Arr**	**49.80**	**258**	P	**P**	**09 54 36.7**	**-1.1**
WRA	**Warramunga Arr**	**49.80**	**258**	P	**P**	**09 54 36.7**	**-1.1**
	0.8nm,0.4s,baz=95,slow=6.7,SNR=12						
WRA				LR	LR	10 14 18.0	
	comp=Z,62nm,18.2s,baz=65,slow=34						
AS31	**Alice Springs**	**49.97**	**253**	*e*P	**P**	**09 54 38.6**	**-0.5**
ASAR	**Alice Springs**	**49.97**	**253**	P	**P**	**09 54 37.7**	**-1.4**
ASAR	**Alice Springs**	**49.97**	**253**	P	**P**	**09 54 37.7**	**-1.4**
	4.8nm,0.5s,baz=90,slow=8.3,SNR=94						
ASAJ	**Asahikawa**	**72.54**	**328**	P	**P**	**09 57 11.4**	**0.0**
ASAJ	**Asahikawa**	**72.54**	**328**	P	**P**	**09 57 11.4**	**0.0**
	5.7nm,0.8s,baz=153,slow=4.5,SNR=4.6						
QSPA	**South Pole Qui**	**73.58**	**180**	*e*P	**P**	**09 57 20.1**	**+2.6**
	3.4nm,0.6s						
QSPA	**South Pole Qui**	**73.58**	**180**	P	**P**	**09 57 20.1**	**+2.6**
	3.7nm,0.7s,baz=44,slow=1.0,SNR=13						
PETK	**Petropavlovsk-**	**73.70**	**342**	P	**P**	**09 57 18.1**	**+0.1**
PETK	**Petropavlovsk-**	**73.70**	**342**	P	**P**	**09 57 18.1**	**+0.1**
	2.1nm,0.7s,baz=141,slow=9.3,SNR=2.9						
NVAR	**Mina Array Bea**	**74.99**	**42**	P	**P**	**09 57 26.6**	**+0.5**
NVAR	**Mina Array Bea**	**74.99**	**42**	P	**P**	**09 57 26.6**	**+0.5**
	1.6nm,0.8s,baz=231,slow=9.4,SNR=11						
NVAR				LR	LR	10 22 26.7	
	comp=Z,79nm,21.2s,baz=22,slow=29						
KSRS	**Korea Array**	**77.05**	**316**	LR	LR	10 24 28.3	
	comp=Z,16nm,20.2s,baz=15,slow=30						
TXAR	**Lajitas Array**	**81.04**	**56**	P	**P**	**09 58 00.3**	**+0.5**
TXAR				pP	**pP**	**09 58 13.7**	**+1.3**
TXAR	**Lajitas Array**	**81.04**	**56**	P	**P**	**09 58 00.3**	**+0.5**
	0.2nm,0.8s,baz=230,slow=7.0,SNR=3.3						
TXAR				pP	**pP**	**09 58 13.7**	**+1.3**
	0.8nm,1.0s,baz=213,slow=6.7,SNR=3.4						
PV10	**Paradox Valley**	**81.11**	**46**	*e*P	**P**	**09 58 00.2**	**+0.1**
	24nm,0.7s						
PV01	**Paradox Valley**	**81.32**	**46**	*e*P	**P**	**09 58 01.4**	**+0.2**
	133nm,0.9s						
MCK	**McKinley**	**82.13**	**11**	*e*P	**P**	**09 58 04.0**	**-0.6**
	5.9nm,0.8s						
PD01	**Pinedale Array**	**82.92**	**42**	*e*P	**P**	**09 58 09.4**	**-0.1**
PD02	**Pinedale Array**	**82.93**	**42**	*e*P	**P**	**09 58 09.0**	**-0.5**
PDAR	**Pinedale Array**	**82.93**	**42**	P	**P**	**09 58 09.6**	**0.0**
PDAR				pP	**pP**	**09 58 22.8**	**+0.5**
PDAR	**Pinedale Array**	**82.93**	**42**	P	**P**	**09 58 09.6**	**0.0**
	2.1nm,0.8s,baz=215,slow=3.2,SNR=17						
PDAR				pP	**pP**	**09 58 22.8**	**+0.5**
	1.4nm,0.9s,baz=244,slow=3.4,SNR=5.8						
SDCO	**Great Sand Dun**	**83.28**	**48**	*e*P	**P**	**09 58 13.8**	**+2.3**
	12nm,1.3s						
COLA	**College**	**83.37**	**11**	*e*P	**P**	**09 58 09.9**	**-1.1**
	4.8nm,0.9s						
ILAR	**Eielson Array**	**83.45**	**11**	P	**P**	**09 58 10.6**	**-0.8**
ILAR				pP	**pP**	**09 58 24.6**	**+0.5**
ILAR	**Eielson Array**	**83.45**	**11**	P	**P**	**09 58 10.6**	**-0.8**
	1.0nm,0.6s,baz=232,slow=6.1,SNR=27						
ILAR				pP	**pP**	**09 58 24.6**	**+0.5**
	0.4nm,0.5s,baz=240,slow=6.0,SNR=2.2						
HRY	**Holter Researc**	**83.57**	**37**	*e*P	**P**	**09 58 12.8**	**+0.2**
	3.6nm,0.8s						
YKA	**Yellowknife Ar**	**90.99**	**23**	P	**P**	**09 58 47.6**	**-0.4**
YKA				pP	**pP**	**09 59 01.8**	**+1.0**
YKA	**Yellowknife Ar**	**90.99**	**23**	P	**P**	**09 58 47.6**	**-0.4**
	0.3nm,0.7s,baz=238,slow=4.5,SNR=6.7						
YKA				pP	**pP**	**09 59 01.8**	**+1.0**
	0.3nm,0.9s,baz=233,slow=4.2,SNR=2.8						
MKAR	**Makanchi Array**	**111.71**	**314**	PKiKP	**PKiKP**	**10 04 18.7**	**-0.3**
MKAR	**Makanchi Array**	**111.71**	**314**	PKiKP	**PKiKP**	**10 04 18.7**	**-0.3**
	0.2nm,0.5s,baz=140,slow=1.7,SNR=4.5						
BVAR	**Borovoye Array**	**118.84**	**322**	PKP	**PKPdf**	**10 04 32.5**	**+0.1**
BVAR	**Borovoye Array**	**118.84**	**322**	PKP	**PKPdf**	**10 04 32.5**	**+0.1**
	0.8nm,0.8s,baz=48,slow=2.2,SNR=4.0						
ARCES	**ARCESS Array B**	**125.69**	**352**	PKP	**PKPdf**	**10 04 45.2**	**+0.1**
ARCES	**ARCESS Array B**	**125.69**	**352**	PKP	**PKPdf**	**10 04 45.3**	**+0.1**
	2.4nm,0.7s,baz=56,slow=2.2,SNR=9.8						
FINES	**FINESS Array B**	**133.02**	**347**	PKP	**PKPdf**	**10 04 59.5**	**+0.3**
FINES	**FINESS Array B**	**133.02**	**347**	PKP	**PKPdf**	**10 04 59.5**	**+0.3**
	1.1nm,0.6s,baz=29,slow=4.4,SNR=6.2						
CLL	**Collm**	**144.89**	**353**	*e*PKPdf	**PKPdf**	**10 05 21.0**	**-0.2**
DPC	**Dobruska-Polom**	**145.34**	**349**	*e*PKP	**PKPab**	**10 05 22.2**	**+0.1**
NIE	**Niedzica**	**145.34**	**344**	*e*PKPdf	**PKPdf**	**10 05 22.1**	**0.0**
BUR08	**Bucovina Ar. S**	**145.41**	**338**	*e*PKPdf	**PKPab**	**10 05 23.2**	**+0.7**
OKC	**Ostrava-Krasne**	**145.47**	**347**	*e*PKP	**PKPab**	**10 05 22.7**	**+0.2**
CRVS	**Cervenica-Dubn**	**145.51**	**343**	*e*PKP	**PKPab**	**10 05 23.7**	**+1.0**
MORC	**Moravsky Berou**	**145.65**	**348**	*e*PKPdf	**PKPab**	**10 05 23.2**	**0.0**
PRU	**Pruhonice**	**145.98**	**351**	*e*PKP	**PKPab**	**10 05 24.3**	**-0.1**
NKC	**Novy Kostel**	**146.01**	**354**	*e*PKP	**PKPbc**	**10 05 24.0**	**0.0**
VYHS	**Vyhne**	**146.57**	**345**	*e*PKP	**PKPbc**	**10 05 25.4**	**-0.3**
GRF	**Grafenberg Arr**	**146.67**	**355**	*e*PKPbc	**PKPab**	**10 05 27.2**	**+0.1**
KHC	**Kasperske Hory**	**146.96**	**352**	*e*PKP	**PKPbc**	**10 05 27.4**	**+0.6**
BR131	**Keskin Array S**	**147.10**	**320**	*e*PKPbc	**PKPbc**	**10 05 27.9**	**+0.2**
BRTR	**Keskin Array B**	**147.10**	**320**	PKPbc	**PKPbc**	**10 05 27.8**	**+0.2**
BRTR				pPKPbc	**pPKPbc**	**10 05 38.4**	**-2.4**
BRTR	**Keskin Array B**	**147.10**	**320**	PKPbc	**PKPbc**	**10 05 27.8**	**+0.2**
	5.5nm,0.8s,baz=121,slow=2.7,SNR=32						
BRTR				pPKPbc	**pPKPbc**	**10 05 38.4**	**-2.4**
	2.2nm,0.9s,baz=202,slow=1.3,SNR=4.7						
GERES	**GERESS Array B**	**147.22**	**352**	PKPbc	**PKPbc**	**10 05 27.7**	**+0.1**
GERES	**GERESS Array B**	**147.22**	**352**	PKPbc	**PKPbc**	**10 05 27.7**	**+0.1**
	2.2nm,0.7s,baz=20,slow=3.1,SNR=24						
CONA	**Conrad Observa**	**147.75**	**349**	⇑*i*P	**PKPbc**	**10 05 30.0**	**+0.9**
CONA	**Conrad Observa**	**147.75**	**349**	⇑*i*SPKPdf	sPKPdf	10 05 30.0	-14
	5.9nm,0.6s						
KBA	**Koelnbreinsper**	**149.00**	**351**	⇑*i*P	**PKPbc**	**10 05 33.0**	**+0.5**
KBA	**Koelnbreinsper**	**149.00**	**351**	⇑*i*PKiKP	**PKPbc**	**10 05 33.0**	**+0.5**
	3.2nm,0.7s						
WTTA	**Wattenberg**	**149.03**	**354**	⇑*i*P	**PKPbc**	**10 05 32.9**	**+0.3**
WTTA	**Wattenberg**	**149.03**	**354**	⇑*i*PKiKP	**PKPbc**	**10 05 32.9**	**+0.3**
	7.5nm,0.6s						
FETA	**Feichten**	**149.36**	**355**	⇓*i*P	**PKPbc**	**10 05 34.2**	**+0.8**
FETA	**Feichten**	**149.36**	**355**	⇓*i*PKiKP	**PKPbc**	**10 05 34.2**	**+0.8**
	5.7nm,1.0s						
MYKA	**Terra Mystica**	**149.39**	**351**	⇓*i*P	**PKPbc**	**10 05 33.1**	**-0.3**
	3.0nm,0.6s						
ABTA	**Abfaltersbach**	**149.44**	**352**	⇑*i*P	**PKPbc**	**10 05 33.2**	**-0.3**
ABTA	**Abfaltersbach**	**149.44**	**352**	⇑*i*sPKPdf	sPKPdf	10 05 33.2	-14
	8.7nm,0.8s						

CASC 08 10:00:19.1±2.1, 15.88N×89.70W, h15km, MD3.7, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRL	**Marmol**	**0.81**	**179**	*e*P	Pg	10 00 30.6	-4.5
NBG	**Las Nubes**	**1.43**	**206**	*e*P	Pn	10 00 43.9	-1.0
NBG				*e*S	Sb	10 01 04.4	+0.3
MTO2	**Montecristo 2**	**1.50**	**167**	*e*P	Pn	10 00 43.0	-2.9
MTO2				*e*S	Sn	10 01 01.3	-4.1
GCG	**Guatemala City**	**1.52**	**212**	*e*P	Pn	10 00 45.0	-1.0
GCG				*e*P	Pb	10 00 45.7	-1.4
GCG				*e*S	Sb	10 01 06.4	0.0
TP2	**Tecpan 2**	**1.68**	**230**	*e*P	Pn	10 00 49.1	+0.7
PCG	**Pacaya**	**1.72**	**211**	*e*P	Pn	10 00 49.0	+0.2
RBDL	**Robledal**	**1.75**	**180**	*e*P	Pn	10 00 47.8	-1.5
FUG	**Fuego 3**	**1.80**	**218**	*e*P	Pn	10 00 50.0	+0.2
FUG				*e*S	Sg	10 01 18.2	+0.7
RTR	**El Retiro**	**1.97**	**178**	*e*P	Pn	10 00 51.7	-0.5
RTR				*e*S	Sn	10 01 17.5	+0.7
SNJE	**San Jose**	**2.00**	**177**	*e*P	Pn	10 00 51.9	-0.8
SBLS	**San Blas**	**2.03**	**178**	*e*P	Pn	10 00 52.7	-0.4
BOQS	**Boqueron**	**2.17**	**169**	*e*P	Pn	10 00 54.3	-0.7
BOQS				*e*S	Sn	10 01 22.2	+0.4
LBRS	**Las Brisas**	**2.22**	**163**	*e*P	Pn	10 00 55.1	-0.4
LFRS	**El Faro**	**2.33**	**165**	*e*P	Pn	10 00 57.3	+0.3
SNVI	**San Vicente**	**2.40**	**160**	*e*P	Pn	10 00 58.4	+0.3
CAHU	**Cacaquatique**	**2.54**	**145**	*e*P	Pn	10 01 01.6	+1.5
BLLM	**Bellamira**	**2.80**	**150**	*e*P	Pn	10 01 04.6	+1.1

*ISCJB **08** 10:22:26.0±2.5, 11.86S±0.09×166.4E±0.1, h56km±20km, mb4.2/13, MS3.6/8, Error ellipse: s-maj=22.8km s-min=14.6km az=173.2*
*IDC **08** 10:22:26.6±1.2, 11.85S×166.41E, h47km±8km, mb4.0/10, mb1 4.1/12, mb1mx4.0/19, mbtmp4.0/12, ML3.9/2, MS3.6/9, Ms1 3.7/9, ms1mx3.5/18, Error ellipse: s-maj=30.4km s-min=18.7km az=120.0*
*NEIC **08** 10:22:28.5±1.6, 11.85S×166.38E, h65km±13km, mb4.4/4, Error ellipse: s-maj=15.5km s-min=10.9km az=84.0*
ISC 08 10:22:26.4±0.9, 11.84S±0.09×166.5E±0.1, h47km±6km, h47km:pP-pP, n37, σ0§87/45, mb4.2/13, MS3.6/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.84**	**290**	*e*Pn	**Pn**	**10 24 05.1**	**+0.9**
	82nm,0.7s						
HNR	**Honiara**	**6.84**	**290**	P	**Pn**	**10 24 05.2**	**+0.9**
	10nm,0.3s,baz=150,slow=6.2,SNR=4.5						
DZM	**Mont Dzumac**	**10.18**	**180**	*e*Pn	**Pn**	**10 24 49.7**	**-0.4**
	3.5nm,0.3s						
DZM				*e*LR	LR	10 27 15.5	
	389nm,25.4s						
DZM	**Mont Dzumac**	**10.18**	**180**	P	**Pn**	**10 24 51.6**	**+1.5**
DZM	**Mont Dzumac**	**10.18**	**180**	P	**Pn**	**10 24 51.6**	**+1.5**
	0.3nm,0.3s,baz=318,slow=16,SNR=5.4						
DZM				LR	LR	10 28 11.2	
	comp=Z,302nm,18.7s,baz=356,slow=34						
EIDS	**Eidsvold**	**19.81**	**225**	*e*P	**Pn**	**10 26 55.0**	**0.0**
	6.5nm,0.8s						
CTA	**Charters Tower**	**21.07

AYDN				*i* S		**Sb**	**10 39 00.7**	**+0.6**
AYDN	**Tasoluk**	**0.38**	**111**	*i* P		**Pb**	**10 38 54.5**	**+0.5**
AYDN				*i* S		**Sb**	**10 39 00.7**	**+0.6**
IZM	**Izmir**	**0.61**	**348**	*e*PG		**Pb**	**10 38 58.3**	**+0.3**
IZM	**Izmir**	**0.61**	**348**	*e*Pg		**Pb**	**10 38 58.3**	**+0.3**
BLCB	**Balcova**	**0.66**	**332**	*e*PG		**Pb**	**10 38 59.8**	**+1.0**
BLCB				*e*SG		**Sb**	**10 39 09.7**	**+1.6**
BLCB	**Balcova**	**0.66**	**332**	*e*Pg		**Pb**	**10 38 59.8**	**+1.0**
BLCB				*e*Sg		**Sb**	**10 39 09.7**	**+1.6**
BDRM	**Kayabasi**	**0.73**	**179**	*i* P		**Pn**	**10 39 01.1**	**-0.5**
BDRM				*i* S		**Sb**	**10 39 09.5**	**-0.6**
BDRM	**Kayabasi**	**0.73**	**179**	*i* P		**Pn**	**10 39 01.1**	**-0.5**
BDRM				*i* S		**Sb**	**10 39 09.5**	**-0.6**
URLA	**Izmir**	**0.86**	**311**	*i* P		**Pg**	**10 39 00.2**	**-1.5**
URLA				*i* S		**Sn**	**10 39 15.9**	**-0.3**
YER	**Yerkesik**	**0.95**	**134**	*e*PG		**Pn**	**10 39 05.2**	**+0.6**
YER				*e*SG		**Sn**	**10 39 18.9**	**+0.6**
YER	**Yerkesik**	**0.95**	**134**	*e*Pg		**Pn**	**10 39 05.2**	**+0.6**
YER				*e*Sg		**Sn**	**10 39 18.9**	**+0.6**
AKS	**Akhisar**	**1.12**	**15**	*e*PG		**Pn**	**10 39 07.8**	**+0.8**
AKS	**Akhisar**	**1.12**	**15**	*e*Pg		**Pn**	**10 39 07.8**	**+0.8**
KULA	**Kula-Manisa**	**1.20**	**53**	*e*PN		**Pg**	**10 39 09.2**	**+1.0**
KULA	**Kula-Manisa**	**1.20**	**53**	*e*Pn		**Pg**	**10 39 09.2**	**+1.0**
TURN	**Turunc**	**1.31**	**134**	*i* P		**Pn**	**10 39 08.9**	**-0.7**
TURN				*i* S		**Sg**	**10 39 26.6**	**-0.7**
TURN	**Turunc**	**1.31**	**134**	*i* P		**Pn**	**10 39 08.9**	**-0.7**
TURN				*i* S		**Sg**	**10 39 26.6**	**-0.7**
APE	**Apeiranthos**	**1.68**	**245**	*e*PN		**Pg**	**10 39 18.2**	**+1.0**
APE	**Apeiranthos**	**1.68**	**245**	*e*Pn		**Pg**	**10 39 18.3**	**+1.0**
KHAL	**Karahalli**	**1.72**	**70**	*i* P		**Pg**	**10 39 18.0**	**-0.1**
KHAL				*i* S		**Sg**	**10 39 39.4**	**-1.1**
KHAL	**Karahalli**	**1.72**	**70**	*i* P		**Pg**	**10 39 18.0**	**-0.1**
KHAL				*i* S		**Sg**	**10 39 39.4**	**-1.1**
KHL	**Karahalli**	**1.73**	**72**	*e*PN		**Pb**	**10 39 16.9**	**-0.2**
KHL	**Karahalli**	**1.73**	**72**	*e*Pn		**Pb**	**10 39 16.9**	**-0.2**
BALB	**Balikesir**	**1.87**	**11**	*e*PN		**Pb**	**10 39 19.0**	**-0.4**
BALB	**Balikesir**	**1.87**	**11**	*e*Pn		**Pb**	**10 39 19.0**	**-0.4**
GONE	**Gonen-Balikesi**	**2.25**	**5**	*e*PN		**Pb**	**10 39 24.6**	**-1.3**
GONE	**Gonen-Balikesi**	**2.25**	**5**	*e*Pn		**Pb**	**10 39 24.6**	**-1.3**
ENEZ	**Enez**	**3.10**	**342**	*e*PN		**Pb**	**10 39 37.5**	**-2.8**
ENEZ	**Enez**	**3.10**	**342**	*e*Pn		**Pb**	**10 39 37.5**	**-2.8**

*IDC **08** 11:26:04.9±4.8,28°.41S×178°.43W,h0km,mb3.7/2, mb1 3.9/2,mb1mx3.7/14,mbtmp3.7/2, Error ellipse: s-maj=246.5km s-min=42.8km az=158.0*

ISC 08 11:26:45.7±1.8,30°.2S±0°.1×179°.3W±0°.3,h350km,n11, σ1§47/13,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**8.12**	**194**	*e*Pn	**Pn**	**11 28 40.6**	**-0.6**
PUZ				*e*Sn	**Sn**	**11 30 17.0**	**+1.6**
CNGZ	**Carnagh Statio**	**8.53**	**193**	*e*PN	**P**	**11 28 48.0**	**-0.6**
MWZ	**Matawai**	**8.54**	**197**	*e*PN	**Pn**	**11 28 46.0**	**-0.2**
MWZ				*e*SN	**S**	**11 30 26.5**	**+1.9**
URZ	**Urewera**	**8.58**	**199**	*e*PN	**Pn**	**11 28 44.7**	**-2.0**
URZ				*e*SN	**S**	**11 30 26.9**	**+1.5**
BFZ	**Birch Farm**	**11.08**	**198**	*e*SN	**S**	**11 31 20.6**	**+0.3**
MRZ	**Mangatainoka R**	**11.25**	**200**	*e*SN	**S**	**11 31 23.0**	**-1.2**
ASAR	**Alice Springs**	**42.00**	**267**	P	**P**	**11 34 04.5**	**+0.4**
	0.4nm,0.7s,baz=101,slow=7.7,SNR=6.9						
WRA	**Warramunga Arr**	**42.97**	**273**	P	**P**	**11 34 12.2**	**+0.3**
	0.8nm,0.4s,baz=109,slow=7.6,SNR=16						
FINES	**FINESS Array B**	**144.56**	**339**	PKP	PKPbc	11 45 37.2	-2.6
	2.2nm,0.3s,baz=59,slow=3.6,SNR=43						
NOA	**NORSAR Array B**	**148.37**	**350**	PKPbc	**PKPdf**	**11 45 48.7**	**+2.1**
	0.4nm,0.5s,baz=14,slow=3.9,SNR=3.0						
AKASG	**Malin Array Be**	**150.45**	**322**	PKPbc	**PKPbc**	**11 45 54.5**	**-1.4**
	1.3nm,0.6s,baz=46,slow=2.8,SNR=4.7						

IDC 08 11:35:51.3±1.6,23°.06S×66°.31W,h214km±14km, mb3.7/13,mb1 3.9/18,mb1mx3.8/22,mbtmp3.8/18,Error ellipse: s-maj=15.9km s-min=12.6km az=35.0,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**8.59**	**36**	P	Pn	11 37 52.3	0.0
	5.0nm,0.3s,baz=236,slow=12,SNR=83						
SIV				S	S	11 39 18.9	-10
	0.2nm,0.3s,baz=251,slow=20,SNR=3.3						
CFAA	**Coronel Fontan**	**8.68**	**191**	P	Pn	11 37 52.1	-1.3
	0.4nm,0.3s,baz=16,slow=14,SNR=65						
CFAA				S	S	11 39 24.3	-7.0
	1.2nm,0.3s,baz=283,slow=21,SNR=20						
NNA	**Nana**	**14.90**	**316**	P	P	11 39 12.9	+0.6
	1.4nm,0.3s,baz=175,slow=8.4,SNR=8.6						
PLCA	**Paso Flores**	**17.98**	**190**	P	P	11 39 46.8	+0.8
	0.6nm,0.3s,baz=12,slow=12,SNR=28						
BDFB	**Brasilia**	**18.76**	**70**	P	P	11 39 56.1	+1.4
	4.9nm,0.3s,baz=248,slow=11,SNR=63						
TEIG	**Tepich**	**48.07**	**332**	P	P	11 44 08.6	-0.8
	3.1nm,0.4s,baz=170,slow=0.5,SNR=5.5						
TXAR	**Lajitas Array**	**63.29**	**324**	P	P	11 45 57.2	-0.4
	1.2nm,0.7s,baz=151,slow=7.4,SNR=22						
DBIC	**Dimbokro**	**66.90**	**72**	P	P	11 46 20.3	-0.7
	3.6nm,0.5s,baz=217,slow=6.9,SNR=9.5						
ANMO	**Albuquerque**	**69.13**	**325**	P	P	11 46 35.3	+0.6
	1.8nm,0.6s,baz=136,slow=8.0,SNR=11						
TORD	**Torodi Ar. Bea**	**75.64**	**69**	P	P	11 47 12.6	-0.7
	4.6nm,0.4s,baz=266,slow=6.6,SNR=77						
PDAR	**Pinedale Array**	**76.67**	**329**	P	P	11 47 18.9	0.0
	0.7nm,0.6s,baz=126,slow=8.7,SNR=6.9						
SCHQ	**Schefferville**	**77.57**	**360**	P	P	11 47 23.1	-0.2
	1.6nm,0.9s,baz=186,slow=9.2,SNR=2.8						
ELK	**Elko**	**78.08**	**324**	P	P	11 47 27.1	+0.4
	1.2nm,0.6s,baz=116,slow=4.2,SNR=8.2						
NVAR	**Mina Array Bea**	**78.21**	**321**	P	P	11 47 28.0	+0.6
	0.8nm,0.6s,baz=152,slow=5.2,SNR=6.1						
BOSA	**Boshof**	**80.59**	**117**	P	P	11 47 40.2	-0.4
	1.0nm,0.4s,baz=212,slow=5.5,SNR=5.4						
YBH	**Yreka Blue Hor**	**82.92**	**321**	P	P	11 47 51.3	-1.0
	1.3nm,0.7s,baz=148,slow=9.5,SNR=4.8						
ESDC	**Sonseca Array**	**85.28**	**43**	P	P	11 48 04.4	+0.3
	3.1nm,1.0s,baz=243,slow=5.0,SNR=6.8						
YKA	**Yellowknife Ar**	**93.47**	**340**	P	P	11 48 41.7	-0.3
	0.5nm,0.5s,baz=131,slow=4.4,SNR=18						
YKA				pP	pP	11 49 38.6	+4.0
	0.1nm,0.4s,baz=127,slow=47,SNR=2.3						
ASAR	**Alice Springs**	**129.57**	**204**	PKP	PKPdf	11 54 35.1	-0.4
	0.5nm,0.8s,baz=164,slow=2.1,SNR=5.9						
WRA	**Warramunga Arr**	**132.75**	**207**	PKP	PKPdf	11 54 41.5	0.0
	0.4nm,0.5s,baz=154,slow=1.8,SNR=5.9						
ZALV	**Zalesovo Beam**	**142.27**	**28**	PKhKP	PKPpre	11 54 53.8	
	0.4nm,0.5s,baz=331,slow=4.7,SNR=3.4						
ZALV				SKPbc	SKPbc	11 58 14.4	-0.8
	0.6nm,0.6s,baz=315,slow=4.0,SNR=3.7						
MKAR	**Makanchi Array**	**145.40**	**39**	PKPbc	PKPab	11 55 04.5	0.0
	1.2nm,0.4s,baz=350,slow=2.5,SNR=27						
MKAR				SKPbc	SKPbc	11 58 22.6	-0.3
	0.9nm,0.8s,baz=318,slow=1.6,SNR=6.8						
CMAR	**Chiang Mai Arr**	**165.47**	**106**	PKPab	PKPab	11 56 30.6	+0.1
	1.1nm,0.5s,baz=247,slow=5.2,SNR=5.8						

*IGIL **08** 11:39:30.9,36°.19N×12°.07W,h31km,ML1.9*
*MDD **08** 11:39:30.5±2.0,36°.35N×11°.84W,h0km,mb3.7/3, mbLg2.3/6,Error ellipse: s-maj=19.9km s-min=16.5km az=163.0,PRXIMO*
*INMG **08** 11:39:31.5±1.0,36°.25N×12°.04W,h23km±50km,ML2.0, Error ellipse: s-maj=47.8km s-min=6.5km az=61.0*
*CSEM **08** 11:39:33.1±0.4,36°.44N×11°.75W,h20km,ML2.3,Error ellipse: s-maj=8.2km s-min=7.1km az=161.0*

ISC 08 11:39:29.2±3.8,36°.4N±0°.1×11°.9W±0°.2,h10km,n57, σ1§25/94,Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.56**	**72**	*e*Pn	**Pn**	**11 40 11.6**	**+0.9**
PFVI				*e*Sn	**Sn**	**11 40 41.3**	**-0.6**
PFVI				A	A	11 40 44.9	
	4.3nm,0.2s						
PFVI	**Vila Bisbo**	**2.56**	**72**	P	**Pn**	**11 40 11.6**	**+0.9**
	0.9nm,0.1s,SNR=7.5						
PFVI				S	**Sn**	**11 40 41.3**	**-0.6**
	3.1nm,0.1s,SNR=7.6						
PFVI	**Vila Bisbo**	**2.56**	**72**	P	**Pn**	**11 40 11.6**	**+0.9**
	0.9nm,0.1s,SNR=7.5						
PFVI				S	**Sn**	**11 40 41.3**	**-0.6**
	3.1nm,0.1s,SNR=7.6						
MORF	**Marmelete**	**2.75**	**69**	*e*Sn	**Sn**	**11 40 46.6**	**0.0**
MORF				A	A	11 40 48.9	
	3.9nm,0.3s						
MORF	**Marmelete**	**2.75**	**69**	P	**Pn**	**11 40 14.3**	**+0.9**
MORF				S	**Sn**	**11 40 46.6**	**0.0**
	3.9nm,0.3s						
MORF	**Marmelete**	**2.75**	**69**	P	**Pn**	**11 40 14.3**	**+0.9**
MORF				S	**Sn**	**11 40 46.6**	**0.0**
	3.9nm,0.3s						
PTEO	**Sao Teotonio**	**2.78**	**64**	*e*Sn	**Sn**	**11 40 47.9**	**+0.5**
PTEO	**Sao Teotonio**	**2.78**	**64**	S	**Sn**	**11 40 47.9**	**+0.5**
PTEO	**Sao Teotonio**	**2.78**	**64**	S	**Sn**	**11 40 47.9**	**+0.5**
PNCL	**Nicolau / Gran**	**3.18**	**56**	*e*Pn	**Pn**	**11 40 21.3**	**+2.0**
PNCL				*e*Sn	**Sn**	**11 40 57.5**	**+0.2**
PNCL				A	A	11 41 01.0	
	2.1nm,0.6s						
PNCL	**Nicolau / Gran**	**3.18**	**56**	*e*Pn	**Pn**	**11 40 21.3**	**+2.0**
PNCL				*e*Sn	**Sn**	**11 40 57.5**	**+0.2**
	2.1nm,0.6s						
MESJ	**Messejana**	**3.27**	**62**	*e*P	**Pn**	**11 40 22.3**	**+1.8**
MESJ				*e*S	**Sn**	**11 40 59.4**	**0.0**
MESJ				AML	AML	11 41 02.5	
	comp=E,2.1nm,0.1s						
MESJ	**Messejana**	**3.27**	**62**	*e*P	**Pn**	**11 40 22.3**	**+1.8**
MESJ				*e*S	**Sn**	**11 40 59.4**	**0.0**
MESJ	**Messejana**	**3.27**	**62**	P	**Pn**	**11 40 22.3**	**+1.8**
MESJ				S	**Sn**	**11 40 59.4**	**0.0**
MESJ	**Messejana**	**3.27**	**62**	P	**Pn**	**11 40 22.3**	**+1.8**
MESJ				S	**Sn**	**11 40 59.4**	**0.0**
PBDV	**Barranco-do-Ve**	**3.28**	**73**	*e*Pn	**Pn**	**11 40 22.0**	**+1.3**
PBDV				*e*Sn	**Sn**	**11 40 59.0**	**-0.7**
PBDV				A	A	11 41 04.4	
	comp=E,1.8nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.28**	**73**	P	**Pn**	**11 40 22.0**	**+1.3**
PBDV				S	**Sn**	**11 40 59.0**	**-0.7**
	comp=E,1.8nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.28**	**73**	P	**Pn**	**11 40 22.0**	**+1.3**
PBDV				S	**Sn**	**11 40 59.0**	**-0.7**
	comp=E,1.8nm,0.2s						
PMAFR	**Mafra**	**3.30**	**38**	*e*Pn	**Pn**	**11 40 21.8**	**+0.8**
PMAFR				*e*Sn	**Sn**	**11 41 00.4**	**+0.2**
PMAFR				A	A	11 41 02.2	
	comp=E,12nm,0.2s						
PMAFR	**Mafra**	**3.30**	**38**	P	**Pn**	**11 40 21.6**	**+0.7**
	comp=E,1.4nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**11 41 00.5**	**+0.2**
	comp=E,11nm,0.2s,SNR=10						
PMAFR	**Mafra**	**3.30**	**38**	*e*Pn	**Pn**	**11 40 21.8**	**+0.8**
PMAFR				S	**Sn**	**11 41 00.5**	**+0.2**
	comp=E,11nm,0.2s,SNR=10						
PCVE	**Castro Verde**	**3.31**	**66**	*e*Pn	**Pn**	**11 40 22.4**	**+1.3**
PCVE				*e*Sn	**Sn**	**11 41 00.5**	**-0.1**
PCVE				A	A	11 41 05.1	
	comp=E,1.4nm,0.1s						
PCVE	**Castro Verde**	**3.31**	**66**	P	**Pn**	**11 40 22.4**	**+1.3**
PCVE				S	**Sn**	**11 41 00.5**	**-0.1**
	comp=E,1.4nm,0.1s						
PCVE	**Castro Verde**	**3.31**	**66**	P	**Pn**	**11 40 22.4**	**+1.3**
PCVE				S	**Sn**	**11 41 00.5**	**-0.1**
	comp=E,1.4nm,0.1s						
PVAQ	**Vaqueiros**	**3.48**	**71**	*e*Pn	**Pn**	**11 40 24.8**	**+1.3**
PVAQ				*e*Sn	**Sn**	**11 41 04.5**	**-0.3**
PVAQ				A	A	11 41 09.1	
	comp=E,3.0nm,0.1s						
PVAQ	**Vaqueiros**	**3.48**	**71**	P	**Pn**	**11 40 24.8**	**+1.3**
PVAQ				S	**Sn**	**11 41 04.5**	**-0.3**
	comp=E,3.0nm,0.1s						
PVAQ	**Vaqueiros**	**3.48**	**71**	P	**Pn**	**11 40 24.8**	**+1.3**
PVAQ				S	**Sn**	**11 41 04.5**	**-0.3**
	comp=E,3.0nm,0.1s						
PBEJ	**Beja**	**3.60**	**61**	*e*Sn	**Sn**	**11 41 07.3**	**-0.3**
PBEJ	**Beja**	**3.60**	**61**	S	**Sn**	**11 41 07.3**	**-0.3**
PBEJ	**Beja**	**3.60**	**61**	S	**Sn**	**11 41 07.3**	**-0.3**
EGRO	**El Granado**	**3.70**	**70**	S	**Sn**	**11 41 09.6**	**-0.5**
	comp=E,2.0nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.70**	**70**	S	**Sn**	**11 41 09.6**	**-0.5**
	comp=E,2.0nm,0.1s,SNR=7.9						
PESTR	**Estremoz**	**4.21**	**52**	*e*Sn	**Sn**	**11 41 22.5**	**-0.3**
PESTR	**Estremoz**	**4.21**	**52**	S	**Sn**	**11 41 22.5**	**-0.3**
PESTR	**Estremoz**	**4.21**	**52**	S	**Sn**	**11 41 22.5**	**-0.3**
PBAR	**Barrancos**	**4.25**	**63**	*e*Pn	**Pn**	**11 40 35.6**	**+1.6**
PBAR				*e*Sn	**Sn**	**11 41 23.1**	**-0.6**
PBAR				A	A	11 41 26.1	
	comp=E,0.8nm,0.2s						
PBAR	**Barrancos**	**4.25**	**63**	P	**Pn**	**11 40 35.6**	**+1.6**
PBAR				S	**Sn**	**11 41 23.1**	**-0.6**
	comp=E,0.8nm,0.2s						
PBAR	**Barrancos**	**4.25**	**63**	P	**Pn**	**11 40 35.6**	**+1.6**
PBAR				S	**Sn**	**11 41 23.1**	**-0.6**
	comp=E,0.8nm,0.2s						
EMIN	**Mina Concepcio**	**4.38**	**70**	P	**Pn**	**11 40 36.6**	**+0.8**
	comp=E,0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**11 41 25.3**	**-1.6**
	comp=E,0.3nm,0.1s,SNR=8.6						
EMIN	**Mina Concepcio**	**4.38**	**70**	P	**Pn**	**11 40 36.6**	**+0.8**
	comp=E,0.2nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**11 41 25.3**	**-1.6**
	comp=E,0.3nm,0.1s,SNR=8.6						
EBAD	**Badajoz**	**4.54**	**57**	P	**Pn**	**11 40 38.9**	**+1.0**
	comp=E,0.2nm,0.0s,SNR=7.9						
EBAD				S	**Sn**	**11 41 30.0**	**-0.7**
	comp=E,0.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.54**	**57**	P	**Pn**	**11 40 38.9**	**+1.0**
	comp=E,0.2nm,0.0s,SNR=7.9						
EBAD				S	**Sn**	**11 41 30.0**	**-0.7**
	comp=E,0.7nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**4.68**	**48**	*e*Pn	**Pn**	**11 40 41.1**	**+1.2**
PMRV				*e*Sn	**Sn**	**11 41 32.7**	**-1.5**
PMRV				A	A	11 41 34.1	
	comp=E,1.1nm,0.1s						
PMRV	**Marv??o**	**4.68**	**48**	P	**Pn**	**11 40 41.1**	**+1.2**
PMRV				S	**Sn**	**11 41 32.7**	**-1.5**
	comp=E,1.1nm,0.1s						
PMRV	**Marv??o**	**4.68**	**48**	P	**Pn**	**11 40 41.1**	**+1.2**
PMRV				S	**Sn**	**11 41 32.7**	**-1.5**
	comp=E,1.1nm,0.1s						
ESPR	**Espera**	**4.86**	**82**	P	**Pn**	**11 40 43.2**	**+0.8**
	comp=E,0.6nm,0.1s,SNR=4.0						
ESPR				S	**Sn**	**11 41 37.0**	**-1.7**
	comp=E,2.0nm,0.1s,SNR=7.9						
ESPR	**Espera**	**4.86**	**82**	P	**Pn**	**11 40 43.2**	**+0.8**
	comp=E,0.6nm,0.1s,SNR=4.0						
ESPR				S	**Sn**	**11 41 37.0**	**-1.7**
	comp=E,2.0nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**5.87**	**49**	S	**Sn**	**11 42 03.0**	**-0.5**
	comp=E,2.5nm,0.2s,SNR=7.9						
EPLA	**Plasencia**	**5.87**	**49**	S	**Sn**	**11 42 03.0**	**-0.5**
	comp=E,2.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.08**	**71**	S	**Sn**	**11 42 07.2**	**-1.8**
	comp=E,0.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.08**	**71**	S	**Sn**	**11 42 07.2**	**-1.8**
	comp=E,0.4nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.10**	**37**	P	**Pn**	**11 41 00.3**	**+0.8**
	comp=E,0.2nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**11 42 07.0**	**-2.5**
	comp=E,0.5nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.10**	**37**	P	**Pn**	**11 41 00.3**	**+0.8**
	comp=E,0.2nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**11 42 07.0**	**-2.5**
	comp=E,0.5nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.24**	**27**	S	**Sn**	**11 42 10.1**	**-2.8**
	comp=E,0.1nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.24**	**27**	S	**Sn**	**11 42 10.1**	**-2.8**
	comp=E,0.1nm,0.1s,SNR=7.9						
ERON	**Agron**	**6.51**	**82**	S	**Sn**	**11 42 16.2**	**-3.4**
	comp=E,0.2nm,0.2s,SNR=7.9						
ERON	**Agron**	**6.51**	**82**	S	**Sn**	**11 42 16.2**	**-3.4**
	comp=E,0.2nm,0.2s,SNR=7.9						

*ISCJB **08** 11:57:37.1±1.9,34°.37N±0°.04×36°.82E±0°.10,h0km±14km, Error ellipse: s-maj=13.8km s-min=6.6km az=6.6*
*CSEM **08** 11:57:37.1±0.2,34°.35N×36°.84E,h2km,ML2.1,Error ellipse: s-maj=3.9km s-min=2.2km az=91.0*
*GRAL **08** 11:57:38.9±0.3,34°.38N×36°.79E,h0km±95km,MD3.1*

ISC 08 11:57:38.0±2.1,34°.39N±0°.05×36°.8E±0°.1,h12km±12km,n9, σ0§27/15,3C,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAWK	**Haweek**	**0.34**	**293**	*e*P	**Pg**	**11 57 44.4**	**-0.4**
	SNR=132						
HAWK				*e*S	**Sg**	**11 57 49.3**	**-0.1**
	433nm,0.3s,SNR=130						
FKH	**Fakeheh**	**0.34**	**245**	*e*P	**Pg**	**11 57 45.0**	**+0.1**
FKH				*e*S	**Sg**	**11 57 49.6**	**+0.1**
HWQ	**Hawqa**	**0.70**	**261**	*e*P	**Pg**	**11 57 51.6**	**0.0**
HWQ				*e*S	**Sg**	**11 58 01.1**	**+0.3**
HWQ	**Hawqa**	**0.70**	**261**	*e*P	**Pg**	**11 57 51.6**	**0.0**
HWQ				*e*S	**Sg**	**11 58 01.1**	**+0.3**
BIDA	**Albida**	**0.73**	**329**	*e*P	**Pg**	**11 57 52.1**	**0.0**
	SNR=97						
BIDA				*e*S	**Sb**	**11 58 02.9**	**+0.2**
	158nm,0.5s,SNR=96						
BHL	**Bhannes**	**1.05**	**243**	*e*P	**Pg**	**11 57 58.5**	**+0.2**
WRDH	**Warideh**	**1.16**	**345**	*e*P	**Pg**	**11 58 00.5**	**+0.3**
	SNR=93						
WRDH				*e*S	**Sn**	**11 58 16.0**	**+0.1**
	72nm,0.4s,SNR=93						
RCY	**Rachaya**	**1.19**	**222**	*e*P	**Pn**	**11 58 00.2**	**-0.4**
SALA	**Sala**	**1.68**	**181**	*e*P	**Pn**	**11 58 07.1**	**-0.2**
	SNR=57						

*MOS **08** 12:24:59.7±1.2,52°.96N×160°.03E,h55km,mb4.0/8,Error ellipse: s-maj=13.8km s-min=7.0km az=83.4*
*ISCJB **08** 12:25:00.4±0.5,52°.89N±0°.04×160°.06E±0°.06,h59km±3km, mb3.9/21,Error ellipse: s-maj=8.2km s-min=3.5km az=43.8*
*IDC **08** 12:25:00.5±0.7,53°.10N×159°.79E,h42km±6km,mb3.5/15, mb1 3.8/16,mb1mx3.7/25,mbtmp3.6/16,ML4.3/1,Error ellipse: s-maj=20.0km s-min=12.6km az=143.0*
*KRSC **08** 12:25:00.6±0.8,52°.88N×160°.15E,h42km±22km,ML4.5*

ISC 08 12:24:59.9±0.6,52°.85N±0°.04×160°.13E±0°.04,h46km±5km, n81,σ1§55/110,mb3.9/21,1C,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.26**	**346**	PN	**Pn**	**12 25 08.3**	**0.0**
SPN	**Mys Shipunski**	**0.26**	**346**	*i* P	**Pn**	**12 25 08.3**	**0.0**
NLC	**Nalytchevo**	**0.57**	**305**	PN	**Pn**	**12 25 11.6**	**-0.2**
NLC	**Nalytchevo**	**0.57**	**305**	*i* P	**Pn**	**12 25 11.6**	**-0.2**
SDLR	**Sedlovina**	**0.86**	**300**	*i* P	**Pn**	**12 25 15.9**	**+0.1**
UGLR	**Uglovaya**	**0.87**	**295**	*i* P	**Pn**	**12 25 16.1**	**+0.3**
SMAR	**Somma**	**0.90**	**298**	*i* P	**Pn**	**12 25 16.3**	**-0.1**
PET	**Petropavlovsk**	**0.91**	**282**	PN	**Pn**	**12 25 16.6**	**+0.3**
PET				S	**Sn**	**12 25 27.9**	**-0.4**
PET	**Petropavlovsk**	**0.91**	**282**	*i* P	**Pn**	**12 25 16.6**	**+0.3**
PET				*i* S	**Sn**	**12 25 27.9**	**-0.4**
AVH	**Avacha**	**0.94**	**297**	*i* P	**Pn**	**12 25 17.2**	**+0.4**
AVH				*e*S	**Sn**	**12 25 28.9**	**-0.2**
KOK	**Koryaka**	**1.00**	**297**	*i* P	**Pn**	**12 25 18.0**	**+0.3**
RUS	**Russkaya**	**1.07**	**248**	PN	**Pn**	**12 25 19.3**	**+0.9**
RUS				S	**Sn**	**12 25 32.7**	**+0.6**
RUS	**Russkaya**	**1.07**	**248**	*i* P	**Pn**	**12 25 19.3**	**+0.9**
RUS				*i* S	**Sn**	**12 25 32.7**	**+0.6**
MTVR	**Mutnovka**	**1.24**	**254**	*i* P	**Pn**	**12 25 22.0**	**+1.1**
MTVR				*i* S	**Sn**	**12 25 37.8**	**+1.2**
KII	**Karymskiy**	**1.26**	**341**	*i* P	**Pn**	**12 25 21.6**	**+0.5**
KII				*i* S	**Sn**	**12 25 36.3**	**-0.6**
ASAK	**Asacha**	**1.44**	**252**	*i* P	**Pn**	**12 25 25.3**	**+1.7**
ASAK				*i* S	**Sn**	**12 25 43.2**	**+1.9**
PETK	**Petropavlovsk-**	**1.49**	**281**	PN	**Pn**	**12 25 25.4**	**+1.1**
PETK				S	**Sn**	**12 25 42.8**	**+0.3**
PETK				pmax	pmax		
	comp=Z,147nm,0.3s						
PETK				smax	smax		
	comp=N,160nm,0.3s						
PETK	**Petropavlovsk-**	**1.49**	**281**	P	**Pn**	**12 25 25.4**	**+1.1**
	comp=N,146nm,0.3s,baz=92,slow=20,SNR=1879						
PETK				S	**Sn**	**12 25 42.8**	**+0.3**
	comp=N,160nm,0.3s,baz=95,slow=16,SNR=20						
MKZ	**Mys Kozlova**	**1.96**	**28**	PN	**Pn**	**12 25 30.9**	**+0.3**
MKZ				S	**Sn**	**12 25 52.7**	**-1.2**
MKZ	**Mys Kozlova**	**

BAIF	**Baives**	**75.46**	**344**	*e*P	**P**	**12 36 38.7**	**0.0**
	comp=Z,5.0nm,0.7s						
WRA	**Warramunga Arr**	**75.87**	**205**	P	**P**	**12 36 42.2**	**+0.9**
	comp=Z,0.5nm,0.9s,baz=17,slow=6.4,SNR=3.5						
WRA				pP	**pP**	**12 36 56.1**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=19,slow=6.1,SNR=1.7						
CDF	**Champ du Feu**	**76.50**	**342**	*e*P	**P**	**12 36 44.8**	**0.0**
	comp=Z,4.1nm,0.6s						
PAGF	**Fort de Pagny**	**76.65**	**343**	*e*P	**P**	**12 36 45.9**	**+0.4**
MEZF	**Maizieres J'vi**	**76.82**	**343**	*e*P	**P**	**12 36 46.7**	**+0.2**
HAU	**Haudompre**	**77.07**	**342**	*e*P	**P**	**12 36 47.1**	**-0.8**
SFTF	**Sexfontaines**	**77.11**	**343**	*e*P	**P**	**12 36 48.0**	**-0.1**
GRR	**Gorron**	**77.85**	**347**	*e*P	**P**	**12 36 52.0**	**-0.2**
	comp=Z,13nm,0.8s						
SGMF	**Saint Gilles**	**78.20**	**348**	*e*P	**P**	**12 36 54.2**	**0.0**
LOR	**Lormes**	**78.22**	**344**	*e*P	**P**	**12 36 54.3**	**-0.1**
	comp=Z,6.1nm,0.7s						
SSF	**Saint Saulge**	**78.48**	**344**	*e*P	**P**	**12 36 55.7**	**-0.1**
	comp=Z,12nm,1.0s						
AVF	**Avril sur Loir**	**78.77**	**344**	*e*P	**P**	**12 36 56.9**	**-0.4**
LPL	**La Plagne**	**79.39**	**341**	*e*P	**P**	**12 37 02.0**	**+0.9**
	comp=Z,7.3nm,0.5s						
LPG	**La Plagne**	**79.41**	**341**	*e*P	**P**	**12 37 02.2**	**+1.0**
TCF	**Toulx Ste Croi**	**79.45**	**345**	*e*P	**P**	**12 37 01.2**	**+0.1**
ASAR	**Alice Springs**	**79.54**	**204**	P	**P**	**12 37 03.4**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=16,slow=5.8,SNR=9.3						
ASAR				pP	**pP**	**12 37 16.9**	**+1.8**
	comp=Z,0.2nm,0.7s,baz=14,slow=5.5,SNR=2.0						
ORIF	**Oris-en-Rattie**	**80.13**	**342**	*e*P	**P**	**12 37 05.8**	**+0.9**
EPF	**Esparros**	**82.92**	**345**	*e*P	**P**	**12 37 20.8**	**+1.2**
ETSF	**Etsaut**	**83.18**	**346**	*e*P	**P**	**12 37 22.1**	**+1.1**
ESDC	**Sonseca Array**	**86.82**	**348**	P	**P**	**12 37 39.0**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=4.5,slow=5.1,SNR=4.3						

*BJI **08** 12:35:05.6, 1˚.24S×133˚.84E, h15km, mB5.0/2, mb4.8/5*
*IDC **08** 12:35:10.1±0.7, 0˚.60S×133˚.37E, h0km, mb4.3/10, mb1 4.4/13, mb1mx4.3/21, mbtmp4.3/13, ML4.3/3, MS3.5/11, Ms1 3.5/11, ms1mx3.2/30, Error ellipse: s-maj=30.2km s-min=13.5km az=78.0*
*ISCJB **08** 12:35:13.2±0.3, 0˚.61S±0˚.04×133˚.29E±0˚.05, h28km, mb4.4/22, MS3.6/7, Error ellipse: s-maj=7.7km s-min=5.7km az=163.4*
*NEIC **08** 12:35:15.7±0.3, 0˚.65S×133˚.31E, h35km, mb4.6/17, Error ellipse: s-maj=11.3km s-min=5.9km az=69.0*
*DJA **08** 12:35:16, 0˚.71S×133˚.32E, h36km, mb4.8/11*

ISC 08 12:35:14.2±0.5, 0˚.60S±0˚.06×133˚.43E±0˚.07, h28km, n75, σ0s96/78, mb4.6/22, MS3.6/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**2.18**	**263**	P	**Pn**	**12 35 47.6**	**-1.1**
FAKI	**Fak Fak**	**2.59**	**207**	P	**Pn**	**12 35 53.7**	**-0.6**
BAKI	**Biak**	**2.74**	**102**	P	**Pb**	**12 36 00.1**	**-2.5**
TLE	**Tual**	**5.05**	**188**	P	**Pn**	**12 36 31.2**	**+3.0**
	222nm,0.8s,4µm1.9nm						
BNDI	**Bandanaira**	**5.25**	**222**	P	**Pn**	**12 36 30.8**	**-0.1**
	529nm,0.6s,7µm3.1nm						
MSAI	**Masohi**	**5.26**	**239**	P	**Pn**	**12 36 33.4**	**+2.3**
	67nm,0.7s,0.3nm						
LBMI	**Labuha**	**5.93**	**270**	P	**Pn**	**12 36 40.8**	**+0.6**
	137nm,1.0s,2µm0.4nm						
AAI	**Ambon**	**6.06**	**240**	P	**Pn**	**12 36 41.5**	**-0.6**
DAV	**Davao City (W)**	**10.92**	**314**	LR	LR	12 42 24.1	
	comp=Z,239nm,19.4s,baz=324,slow=40						
KAPI	**Kappang**	**14.34**	**252**	*e*Pn	**Pn**	**12 38 37.1**	**+1.5**
KAPI	**Kappang**	**14.34**	**252**	Pn	**Pn**	**12 38 35.4**	**-0.2**
	1.2nm,0.3s,baz=109,slow=5.1,SNR=7.7						
KAPI				LR	LR	12 45 00.5	
	comp=Z,58nm,18.2s,baz=262,slow=41						
PMG	**Port Moresby**	**16.23**	**123**	Pn	**P**	**12 39 04.1**	**+0.8**
PMG	**Port Moresby**	**16.23**	**123**	Pn	**P**	**12 39 04.1**	**+0.8**
	0.2nm,0.3s,baz=304,slow=15,SNR=2.6						
COEN	**Coen**	**16.41**	**144**	*e*P	**P**	**12 39 05.8**	**+0.4**
	81nm,1.0s						
GUMO	**Guam**	**18.09**	**38**	LR	LR	12 45 50.7	
	comp=Z,69nm,20.7s,baz=147,slow=35						
FITZ	**Fitzroy Crossi**	**19.01**	**203**	*e*P	**P**	**12 39 32.9**	**-1.1**
	7.9nm,0.6s						
FITZ				*e*S	Sn	12 42 48.8	-18
FITZ	**Fitzroy Crossi**	**19.01**	**203**	P	**P**	**12 39 32.5**	**-1.4**
	0.8nm,0.3s,baz=27,slow=11,SNR=14						
FITZ				S	Sn	12 42 48.5	-19
	0.6nm,0.3s,baz=168,slow=13,SNR=6.2						
WRAB	**Tennant Creek**	**19.24**	**177**	*e*P	**P**	**12 39 35.2**	**-1.3**
	9.5nm,0.6s						
WRAB				*e*S	Sn	12 43 00.3	-12
WRA	**Warramunga Arr**	**19.25**	**177**	P	**P**	**12 39 35.9**	**-0.7**
WRA				S	Sn	12 42 57.3	-16
WRA	**Warramunga Arr**	**19.25**	**177**	P	**P**	**12 39 35.9**	**-0.7**
	0.9nm,0.3s,baz=355,slow=11,SNR=34						
WRA				S	Sn	12 42 57.3	-16
	0.5nm,0.3s,baz=0.5,slow=23,SNR=6.9						
WRA				LR	LR	12 47 46.8	
	comp=Z,70nm,18.9s,baz=15,slow=39						
AS31	**Alice Springs**	**22.94**	**179**	*e*P	**P**	**12 40 16.0**	**-0.4**
ASAR	**Alice Springs**	**22.94**	**179**	P	**P**	**12 40 15.7**	**-0.7**
ASAR				S	**S**	**12 44 24.9**	**0.0**
ASAR	**Alice Springs**	**22.94**	**179**	P	**P**	**12 40 15.7**	**-0.7**
	13nm,0.7s,baz=356,slow=11,SNR=152						
ASAR				S	**S**	**12 44 24.9**	**0.0**
	3.6nm,0.9s,baz=360,slow=21,SNR=5.5						
CTA	**Charters Tower**	**23.08**	**148**	P	**P**	**12 40 19.7**	**+1.8**
CTA	**Charters Tower**	**23.08**	**148**	P	**P**	**12 40 19.7**	**+1.8**
	11nm,1.0s,baz=324,slow=9.1,SNR=5.2						
CTA				LR	LR	12 50 10.2	
	comp=Z,269nm,19.1s,baz=143,slow=39						
CTAO	**Charters Tower**	**23.08**	**148**	*e*P	**P**	**12 40 18.0**	**+0.1**
	14nm,0.9s						
MBWA	**Marble Bar**	**24.42**	**212**	*e*P	**P**	**12 40 29.5**	**-1.2**
	13nm,0.7s						
JOW	**Kunigami**	**27.72**	**350**	LR	LR	12 50 13.0	
	comp=Z,146nm,19.3s,baz=158,slow=33						
FORT	**Forrest**	**30.45**	**189**	*e*P	**P**	**12 41 25.0**	**+0.5**
	23nm,0.7s						
STKA	**Stephens Creek**	**32.06**	**167**	*e*P	**P**	**12 41 38.6**	**-0.1**
	1.0nm,0.5s						
STKA	**Stephens Creek**	**32.06**	**167**	P	**P**	**12 41 38.6**	**-0.1**
	5.3nm,0.5s,baz=343,slow=8.0,SNR=19						
STKA				LR	LR	12 56 17.4	
	comp=Z,208nm,18.0s,baz=27,slow=40						
JNU	**Nakatsue**	**33.62**	**356**	LR	LR	12 54 15.5	
	comp=Z,52nm,19.3s,baz=63,slow=34						
MJAR	**Matsushiro Arr**	**37.22**	**6**	P	**P**	**12 42 22.9**	**-0.4**
MJAR	**Matsushiro Arr**	**37.22**	**6**	P	**P**	**12 42 22.9**	**-0.4**
	1.6nm,0.9s,baz=185,slow=7.9,SNR=3.7						
MJAR				LR	LR	12 54 36.1	
	comp=Z,67nm,19.1s,baz=185,slow=31						
KSRS	**Korea Array**	**38.20**	**353**	LR	LR	12 58 00.4	
	comp=Z,53nm,18.6s,baz=356,slow=36						
CMAR	**Chiang Mai Arr**	**38.82**	**301**	P	**P**	**12 42 36.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**38.82**	**301**	P	**P**	**12 42 36.4**	**-0.7**
	0.6nm,0.8s,baz=118,slow=5.9,SNR=6.0						
BJI	**Beijing**	**43.41**	**341**	P	**P**	**12 43 15.9**	**+1.4**
BJI				pmax	pmax		
	comp=Z,17nm,1.0s						
RAMN	**Ramite**	**52.70**	**305**	*e*P	**P**	**12 44 26.4**	**-0.5**
	comp=Z,9.0nm,0.6s						
JIRN	**Jiri**	**53.31**	**306**	*e*P	**P**	**12 44 31.0**	**-0.6**
ULN	**Ulaanbaatar**	**53.45**	**338**	*e*P	**P**	**12 44 33.6**	**+1.6**
	comp=Z,3.8nm,1.1s						
GUN	**Gumba**	**53.67**	**306**	*e*P	**P**	**12 44 33.8**	**-0.4**
	comp=Z,9.1nm,0.7s						
SONM	**Songino Array**	**53.67**	**338**	P	**P**	**12 44 33.1**	**-0.4**
SONM				PcP	**PcP**	**12 45 39.9**	**+0.2**
SONM	**Songino Array**	**53.67**	**338**	P	**P**	**12 44 33.1**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=152,slow=6.5,SNR=4.9						
SONM				PcP	**PcP**	**12 45 39.9**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=153,slow=5.0,SNR=6.4						
DMN	**Daman**	**54.18**	**305**	*e*P	**P**	**12 44 37.0**	**-0.8**
	comp=Z,7.7nm,0.7s						
KOLN	**Koldanda**	**55.47**	**305**	*e*P	**P**	**12 44 46.8**	**-0.3**
	comp=Z,11nm,0.6s						
DANN	**Dangsing**	**55.56**	**305**	*e*P	**P**	**12 44 47.3**	**-0.6**
	comp=Z,9.4nm,0.6s						
PETK	**Petropavlovsk-**	**57.23**	**17**	LR	LR	13 06 57.2	
	comp=Z,70nm,18.4s,baz=224,slow=33						
MK31	**Makanchi Array**	**64.94**	**324**	*e*P	**P**	**12 45 52.2**	**+0.8**
MKAR	**Makanchi Array**	**64.94**	**324**	P	**P**	**12 45 52.3**	**+0.9**
MKAR	**Makanchi Array**	**64.94**	**324**	P	**P**	**12 45 52.3**	**+0.9**
	comp=Z,6.6nm,0.6s,baz=114,slow=7.8,SNR=112						
KZA	**Kyzart**	**67.32**	**317**	P	**P**	**12 46 08.8**	**+1.6**
	SNR=5.9						
KZA				P	**P**	**12 46 08.8**	**+1.6**
	SNR=5.9						
TKM2	**Tokmak 2**	**67.41**	**318**	*e*P	**P**	**12 46 08.1**	**+0.5**
	comp=Z,3.4nm,0.6s						
TKM2	**Tokmak 2**	**67.41**	**318**	P	**P**	**12 46 07.9**	**+0.3**
	SNR=6.8						
TKM2				P	**P**	**12 46 07.9**	**+0.3**
	SNR=6.8						
ZAA0	**Zalesovo Array**	**67.51**	**331**	*e*P	**P**	**12 46 07.7**	**0.0**
ZALV	**Zalesovo Beam**	**67.51**	**331**	P	**P**	**12 46 07.9**	**+0.2**
ZALV	**Zalesovo Beam**	**67.51**	**331**	P	**P**	**12 46 07.9**	**+0.2**
	comp=Z,4.0nm,1.0s,baz=114,slow=5.5,SNR=15						
AAK	**Ala-Archa**	**68.05**	**317**	*e*P	**P**	**12 46 12.3**	**+0.8**
	comp=Z,5.2nm,0.6s						
USP	**Ospenovka**	**68.29**	**318**	P	**P**	**12 46 13.5**	**+0.5**
	SNR=10.0						
USP				P	**P**	**12 46 13.5**	**+0.5**
	SNR=10.0						
AML	**Almayashu**	**68.41**	**316**	P	**P**	**12 46 15.2**	**+1.1**
	SNR=8.9						
AML				P	**P**	**12 46 15.2**	**+1.1**
	SNR=8.9						
EKS2	**Erkin-Say**	**68.55**	**317**	*e*P	**P**	**12 46 15.6**	**+1.0**
	comp=Z,4.1nm,0.8s						
EKS2	**Erkin-Say**	**68.55**	**317**	P	**P**	**12 46 15.9**	**+1.2**
	SNR=5.1						
EKS2				P	**P**	**12 46 15.9**	**+1.2**
	SNR=5.1						
KURK	**Kurchatov**	**69.00**	**326**	*e*P	**P**	**12 46 18.1**	**+1.0**
	comp=Z,10nm,0.8s						
KKAR	**Karatay Array**	**70.95**	**316**	*e*P	**P**	**12 46 29.7**	**+0.4**
	comp=Z,17nm,1.0s						
BRVK	**Borovoye**	**74.67**	**326**	*e*P	**P**	**12 46 51.4**	**+0.3**
	comp=Z,1.7nm,0.4s						
ABKAR	**Akbulak array**	**79.72**	**320**	*e*P	**P**	**12 47 19.5**	**0.0**
	comp=Z,2.2nm,0.8s						
MCK	**McKinley**	**85.07**	**26**	*e*P	**P**	**12 47 48.2**	**+1.0**
	comp=Z,7.6nm,1.0s						
ILAR	**Eielson Array**	**86.14**	**25**	P	**P**	**12 47 52.8**	**+0.3**
ILAR	**Eielson Array**	**86.14**	**25**	P	**P**	**12 47 52.8**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=248,slow=5.4,SNR=26						
QSPA	**South Pole Qui**	**89.34**	**180**	*e*P	**P**	**12 48 07.7**	**-0.3**
	comp=Z,5.6nm,0.9s						
QSPA	**South Pole Qui**	**89.34**	**180**	P	**P**	**12 48 08.0**	**0.0**
	comp=Z,4.8nm,0.9s,baz=301,slow=3.1,SNR=20						
YKA	**Yellowknife Ar**	**100.53**	**26**	P	**Pdif**	**12 48 59.2**	**+0.3**
YKA	**Yellowknife Ar**	**100.53**	**26**	P	**Pdif**	**12 48 59.2**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=289,slow=4.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**130.60**	**287**	PKP	**PKPdf**	**12 54 23.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**130.60**	**287**	PKP	**PKPdf**	**12 54 23.1**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=75,slow=1.7,SNR=2.8						

*IDC **08** 12:39:42.1±2.0, 17˚.41S×178˚.81W, h513km±24km, mb3.4/8, mb1 3.6/9, mb1mx3.3/21, mbtmp3.4/9, Error ellipse: s-maj=27.2km s-min=15.2km az=160.0*
*ISCJB **08** 12:39:43.2±0.6, 17˚.3S±0˚.2×178˚.9W±0˚.1, h539km, mb3.9/10, Error ellipse: s-maj=34.2km s-min=8.8km az=156.7*

ISC 08 12:39:43.7±0.7, 17˚.3S±0˚.2×178˚.8W±0˚.1, h539km, n17, σ0s99/18, mb4.0/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.54**	**64**	P	**P**	**12 41 34.8**	**-2.0**
	5.9nm,0.3s,baz=36,slow=7.8,SNR=11						
AFI				S	**S**	**12 43 09.0**	**-0.4**
	1.3nm,0.3s,baz=78,slow=19,SNR=2.0						
DZM	**Mont Dzumac**	**14.70**	**249**	P	**P**	**12 42 50.9**	**+0.5**
	0.4nm,0.3s,baz=94,slow=22,SNR=5.9						
EIDS	**Eidsvold**	**29.14**	**249**	*e*P	**P**	**12 45 01.6**	**+0.1**
	34nm,1.0s						
ARMA	**Armidale**	**29.94**	**239**	*e*P	**P**	**12 45 08.8**	**+0.3**
RMQ	**Roma**	**31.40**	**247**	*e*P	**P**	**12 45 21.0**	**0.0**
	7.1nm,0.7s						
PMG	**Port Moresby**	**34.01**	**279**	P	**P**	**12 45 42.3**	**-0.9**
	7.3nm,0.8s,baz=81,slow=13,SNR=3.8						
STKA	**Stephens Creek**	**38.61**	**240**	*e*P	**P**	**12 46 21.5**	**+0.6**
	3.0nm,0.6s						
STKA	**Stephens Creek**	**38.61**	**240**	P	**P**	**12 46 21.6**	**+0.6**
	2.0nm,0.3s,baz=91,slow=8.6,SNR=11						
WRA	**Warramunga Arr**	**44.39**	**259**	P	**P**	**12 47 06.0**	**-0.8**
	0.9nm,0.2s,baz=90,slow=8.2,SNR=33						
ASAR	**Alice Springs**	**44.62**	**254**	P	**P**	**12 47 08.5**	**-0.1**
	12nm,0.5s,baz=89,slow=7.8,SNR=82						
FITZ	**Fitzroy Crossi**	**52.78**	**260**	P	**P**	**12 48 08.3**	**-0.8**
	2.3nm,0.7s,baz=121,slow=5.9,SNR=3.4						
QSPA	**South Pole Qui**	**72.75**	**180**	P	**P**	**12 50 16.6**	**-0.5**
	3.2nm,0.8s,baz=89,slow=0.7,SNR=13						
TXAR	**Lajitas Array**	**85.97**	**58**	P	**P**	**12 51 29.6**	**+2.1**
	0.2nm,0.6s,baz=248,slow=7.4,SNR=4.5						
PDAR	**Pinedale Array**	**87.16**	**44**	P	**P**	**12 51 34.3**	**+1.3**
	0.2nm,0.6s,baz=215,slow=3.0,SNR=3.4						
MKAR	**Makanchi Array**	**108.46**	**314**	PKiKP	**PKiKP**	**12 57 10.8**	**-0.4**
	0.2nm,0.7s,baz=132,slow=2.1,SNR=2.6						
BRTR	**Keskin Array B**	**144.10**	**315**	PKP	**PKPdf**	**12 58 19.2**	**+0.6**
	0.4nm,0.7s,baz=92,slow=3.3,SNR=2.4						
GERES	**GERESS Array B**	**146.93**	**345**	PKPbc	**PKPbc**	**12 58 26.8**	**+0.9**
	0.4nm,0.5s,baz=11,slow=2.7,SNR=6.1						

*IDC **08** 12:48:18.4±1.1, 31˚.12N×103˚.59E, h0km, mb3.4/6, mb1 3.5/7, mb1mx3.4/25, mbtmp3.4/7, ML3.2/1, Error ellipse: s-maj=43.9km s-min=19.4km az=57.0*
*ISCJB **08** 12:48:19.6±0.5, 31˚.17N±0˚.03×103˚.92E±0˚.06, h14km, mb3.3/5, Error ellipse: s-maj=7.7km s-min=4.3km az=6.4*

ISC 08 12:48:22.1±0.8, 31˚.14N±0˚.03×103˚.85E±0˚.06, h14km, n11, σ2s29/19, mb3.3/5, 1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.24**	**199**	↓*i*Pg	**Pg**	**12 48 26.7**	**-0.7**
CD2				Sg	**Sg**	**12 48 31.6**	**+0.7**
CD2				smax	smax		
	comp=N,6µm,0.7s						
CD2				smax	smax		
	comp=E,5µm,0.5s						
LZH	**Lanzhou**	**4.93**	**360**	*e*Pg	**Pg**	**12 49 58.3**	**+1.7**
LZH				Sn	**Sb**	**12 50 48.0**	**+0.4**
LZH				Sg	**Sg**	**12 51 03.2**	**+2.7**
LZH				smax	smax		
	comp=N,30nm,0.7s						
LZH				smax	smax		
	comp=E,43nm,1.0s						
LZH				LR	LR		
	comp=N,160nm,5.2s						
LZH				LR	LR		
	comp=E,170nm,4.5s						
LZH				LR	LR		
	comp=Z,190nm,5.3s						
XAN	**Xi'an**	**5.16**	**55**	Pn	**Pn**	**12 49 40.7**	**+1.7**
XAN				Pg	**Pg**	**12 50 00.4**	**-0.6**
XAN				Sn	**Sn**	**12 50 37.4**	**-1.0**
XAN				Sg	**Sg**	**12 51 05.1**	**-2.7**
XAN				smax	smax		
	comp=N,32nm,0.9s						
XAN				smax	smax		
	comp=E,9.0nm,1.1s						
GYA	**Guiyang**	**5.28**	**151**	*e*Pn	**Pn**	**12 49 39.0**	**-1.6**
GYA				Pg	Pb	12 49 58.4	+4.2
GYA				Sn	**Sn**	**12 50 45.5**	**+4.2**
GYA				Sg	**Sg**	**12 51 15.3**	**+3.8**
GYA				smax	smax		
	comp=N,30nm,0.9s						
GYA				smax	smax		
	comp=E,40nm,0.9s						
SONM	**Songino Array**	**16.79**	**6**	Pn	**Pn**	**12 52 17.7**	**+0.9**
	comp=E,0.1nm,0.3s,baz=190,slow=16,SNR=4.3						
KSRS	**Korea Array**	**20.83**	**66**	P	**P**	**12 53 02.7**	**-0.5**
	comp=E,0.7nm,0.7s,baz=260,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**22.81**	**319**	P	**P**	**12 53 20.9**	**-3.6**
	comp=E,0.3nm,0.5s,baz=142,slow=15,SNR=3.0						
ZALV	**Zalesovo Beam**	**26.59**	**334**	P	**P**	**12 53 58.1**	**-1.6**
	comp=E,0.5nm,0.7s,baz=142,slow=7.3,SNR=3.2						
KURBB	**Kurchatov Arra**	**27.08**	**323**	P	**P**	**12 54 01.1**	**-3.0**
	comp=E,0.5nm,0.9s,baz=132,slow=9.0,SNR=5.8						
WRA	**Warramunga Arr**	**58.62**	**146**	P	**P**	**12 58 18.1**	**-0.7**
	comp=E,0.6nm,0.5s,baz=338,slow=7.6,SNR=9.8						
ASAR	**Alice Springs**	**61.63**	**149**	P	**P**	**12 58 39.0**	**-0.5**
	comp=E,0.3nm,0.8s,baz=339,slow=6.1,SNR=5.4						

IDC 08 13:42:48.5±1.1, 42˚.84S×72˚.44W, h0km, mb3.9/3, mb1 4.3/4, mb1mx4.0/14, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=47.1km s-min=19.1km az=125.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**2.54**	**35**	Pn	Pn	**13 43 32.9**	**+1.9**
	4.4nm,0.3s,baz=218,slow=17,SNR=49						
PLCA				Lg	Lg	13 44 09.6	
	24nm,0.3s,baz=307,slow=18,SNR=19						
SIV	**San Ignacio**	**28.47**	**23**	P	P	13 48 43.3	-2.0
	0.9nm,0.8s,baz=234,slow=9.0,SNR=4.9						
TXAR	**Lajitas Array**	**77.35**	**332**	P		13 54 45.5	+0.5
	0.7nm,0.9s,baz=145,slow=9.0,SNR=6.5						
PDAR	**Pinedale Array**	**91.51**	**334**	P	P	13 55 57.0	+0.2
	0.6nm,0.8s,baz=131,slow=6.7,SNR=5.3						
ILAR	**Eielson Array**	**121.84**	**331**	PKP	PKPdf	14 01 42.5	-0.8
	0.9nm,1.2s,baz=124,slow=1.1,SNR=4.6						
AKTO	**Aktyubinsk**	**145.70**	**60**	PKPbc	PKPbc	14 02 28.6	+0.1
	0.6nm,0.3s,baz=229,slow=3.5,SNR=6.1						
CMAR	**Chiang Mai Arr**	**154.62**	**161**	PKP	PKPdf	14 02 43.9	+0.8
	0.2nm,0.3s,baz=224,slow=3.8,SNR=3.0						
CMAR				PKPbc	PKPbc	14 02 51.5	0.0
	0.2nm,0.3s,baz=216,slow=4.6,SNR=4.9						
MKAR	**Makanchi Array**	**161.67**	**69**	PKPab	PKPab	14 03 34.4	-1.7
	0.6nm,0.9s,baz=254,slow=2.1,SNR=5.0						
SONM	**Songino Array**	**174.94**	**9**	PKPab	PKPab	14 04 33.5	-1.1
	0.3nm,0.8s,baz=330,slow=5.1,SNR=3.5						

*NEIC **08** 13:57:33.0, 36˚.02N×117˚.78W, h2km, ML3.1(PAS), After PAS.*

ISC 08 13:57:32.5±1.0, 36˚.03N±0˚.02×117˚.76W±0˚.02, h9km±10km, n33, σ0s96/48, 9C-16D, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPMC	**Manual Prospec**	**0.22**	**81**	⇓P	**Pg**	**13 57 37.4**	**+0.3**
	baz=0.2,SNR=1000						
MPMC				⇑S	**Sg**	**13 57 40.9**	**+0.7**
	baz=0.2						
LRMC	**Laurel Mountai**	**0.55**	**174**	P	**Pg**	**13 57 43.1**	**-0.1**
	baz=0.5,SNR=107						
LRMC				⇓S	**Sg**	**13 57 50.7**	**+0.3**
	baz=0.5						
ISA	**Isabella**	**0.69**	**238**	*e*Pg	**Pg**	**13 57 45.4**	**-0.3**
ISA				*e*Sg	**Sg**	**13 57 54.7**	**0.0**
ISA	**Isabella**	**0.69**	**238**	⇑P	**Pg**	**13 57 45.5**	**-0.3**
	baz=0.7						
ISA				⇑S	**Sg**	**13 57 54.5**	**-0.3**
	baz=0.7						
FURC	**Furnace Creek,**	**0.85**	**58**	⇑P	**Pb**	**13 57 49.3**	**-0.1**
	baz=0.9						
FURC				⇓S	**Sb**	**13 58 01.1**	**+0.1**
	baz=0.9						
GRAC	**Grapevine Rang**	**1.02**	**18**	⇓P	**Pg**	**13 57 52.0**	**-0.1**
	baz=1.0						
GRAC				⇓S	**Sb**	**13 58 06.4**	**+0.4**
	baz=1.0						
GSC	**Goldstone**	**1.06**	**133**	*e*Pg	**Pg**	**13 57 52.3**	**-0.5**
GSC	**Goldstone**	**1.06**	**133**	⇓P	**Pg**	**13 57 52.5**	**-0.3**
	baz=1.1,SNR=24						
GSC				⇓S	**Sg**	**13 58 07.1**	**+0.5**
	baz=1.1						
VES	**Vestal, Richgr**	**1.09**	**261**	⇓P	**Pg**	**13 57 53.0**	**-0.5**
	baz=1.1						
VES				⇓S	**Sg**	**13 58 07.0**	**-0.7**
	baz=1.1						
TIN	**Tinemaha**	**1.10**	**340**	⇓P	**Pg**	**13 57 53.3**	**-0.2**
	baz=1.1						
TIN				⇑S	**Sb**	**13 58 08.6**	**+0.4**
	baz=1.1						
EDW2	**Edwards Air Fo**	**1.16**	**190**	P	**Pg**	**13 57 53.8**	**-1.0**
	baz=1.2,SNR=124						
SHOC	**Shoshone**	**1.21**	**96**	⇑P	**Pg**	**13 57 55.3**	**-0.4**
	baz=1.2,SNR=88						
ARVC	**Arvin**	**1.25**	**225**	⇑P	**Pg**	**13 57 55.8**	**-0.8**
	baz=1.2,SNR=107						
RRX	**Edison Barstow**	**1.30**	**151**	⇓Pb	**Pn**	**13 57 57.7**	**+0.8**
	baz=1.3,SNR=13						
TUQ	**Turquoise Moun**	**1.60**	**111**	⇓Pn	**Pn**	**13 58 01.0**	**-0.2**
	baz=1.6,SNR=62						
HEC	**Hector,Ludlow**	**1.67**	**135**	⇑Pb	**Pb**	**13 58 03.4**	**-0.1**
	baz=1.7,SNR=9.8						
BFSC	**Mount Baldy Ra**	**1.78**	**177**	⇓Pb	**Pb**	**13 58 05.2**	**-0.3**
	baz=1.8,SNR=26						
MWC	**Mount Wilson**	**1.81**	**188**	*e*Pn	**Pn**	**13 58 04.4**	**+0.3**
MWC				*e*S	**Sb**	**13 58 29.6**	**+0.7**
MLAC	**Mammoth Lakes**	**1.82**

ISC 08 14:12:48.3±1.0, 38°54N±0°.03×39°52E±0°.03, h14km±8km, n22, σ0°43/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.24**	**226**	*e*PG	**Pg**	**14 12 53.4**	**-0.1**
SVRC				*e*SG	**Sb**	**14 12 58.0**	**-0.6**
SVRC	**Sivrice-ELAZID**	**0.24**	**226**	*e*Pg	**Pg**	**14 12 53.4**	**-0.1**
SVRC				*e*Sg	**Sb**	**14 12 58.0**	**-0.6**
PTK	**Pertek**	**0.36**	**344**	*e*PG	**Pg**	**14 12 55.8**	**0.0**
PTK				*e*SG	**Sb**	**14 13 02.1**	**-0.2**
PTK	**Pertek**	**0.36**	**344**	*e*Pg	**Pg**	**14 12 55.8**	**0.0**
PTK				*e*Sg	**Sb**	**14 13 02.1**	**-0.2**
ELZG	**Elazig**	**0.42**	**264**	*i* P	**Pg**	**14 12 56.7**	**-0.2**
ELZG				*i* S	**Sg**	**14 13 03.0**	**+0.4**
ELZG	**Elazig**	**0.42**	**264**	*i* P	**Pg**	**14 12 56.7**	**-0.2**
ELZG				*i* S	**Sg**	**14 13 03.0**	**+0.4**
BINT	**Bingol**	**0.83**	**66**	*e*Pg	**Pn**	**14 13 06.7**	**+1.1**
MYA	**Malataya**	**0.89**	**256**	*e*PG	**Pg**	**14 13 05.8**	**+0.3**
MYA	**Malataya**	**0.89**	**256**	*e*PG	**Pg**	**14 13 05.8**	**+0.3**
MALT	**Malatya**	**0.89**	**255**	*e*PG	**Pg**	**14 13 05.9**	**+0.4**
MALT				*e*SG	**Sn**	**14 13 19.2**	**0.0**
MALT	**Malatya**	**0.89**	**255**	*e*Pg	**Pg**	**14 13 05.9**	**+0.4**
MALT				*e*Sg	**Sn**	**14 13 19.2**	**0.0**
BNGB	**Bing¶ll**	**1.01**	**63**	*e*PG	**Pb**	**14 13 06.7**	**-0.9**
ERZN	**Erzincan**	**1.05**	**8**	*e*PG	**Pn**	**14 13 08.2**	**-0.6**
KEMA	**Kemaliye**	**1.08**	**312**	*i* P	**Pb**	**14 13 08.1**	**-0.7**
KEMA				*i* S	**Sb**	**14 13 22.8**	**-0.1**
KEMA	**Kemaliye**	**1.08**	**312**	*i* P	**Pb**	**14 13 08.1**	**-0.7**
KEMA				*i* S	**Sb**	**14 13 22.8**	**-0.1**
EZC	**Erzincan**	**1.21**	**354**	*e*PN	**Pb**	**14 13 11.2**	**0.0**
EZC	**Erzincan**	**1.21**	**354**	*e*Pn	**Pb**	**14 13 11.2**	**0.0**
URFA	**Urfa**	**1.23**	**207**	*e*PN	**Pb**	**14 13 11.5**	**+0.1**
URFA	**Urfa**	**1.23**	**207**	*e*Pn	**Pb**	**14 13 11.5**	**+0.1**
BEST	**Besiri**	**1.52**	**115**	*i* P	**Pg**	**14 13 17.4**	**-0.2**
BEST				*i* S	**Sg**	**14 13 37.5**	**+0.2**
KELT	**Kelkit**	**1.62**	**353**	*i* P	**Pg**	**14 13 19.4**	**+0.1**
KELT				*i* S	**Sb**	**14 13 38.9**	**+0.5**

*IDC **08** 14:13:20.6±1.9, 13°.99N×89°.21W, h0km, mb3.4/4, mb1 3.8/6, mb1mx3.6/21, mbtmp3.5/6, ML3.4/2, MS3.7/2, Ms1 3.7/2, ms1mx2.9/24, Error ellipse: s-maj=58.6km s-min=27.1km az=37.0*

*ISCJB **08** 14:13:22.4±0.8, 13°.11N±0°.06×89°.86W±0°.04, h29km, mb3.6/3, MS3.7/2, Error ellipse: s-maj=7.9km s-min=6.0km az=3.7*

*CASC **08** 14:13:23.5±0.9, 13°.17N×89°.81W, h25km±5km, MD3.8, ML3.6*

ISC 08 14:13:22.1±1.0, 13°.11N±0°.07×89°.83W±0°.04, h29km, n28, σ1¶13/30, mb3.6/3, 5C-8D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.75**	**15**	⇓*i*P	**Pn**	**14 13 37.0**	**0.0**
SBLS				*e*S	**Sn**	**14 13 47.6**	**0.0**
SNJE	**San Jose**	**0.78**	**16**	⇓*i*P	**Pn**	**14 13 37.4**	**0.0**
RTR	**El Retiro**	**0.80**	**13**	⇓*i*P	**Pn**	**14 13 37.8**	**+0.2**
SNET	**Serv Nac Est T**	**0.81**	**45**	⇓*i*P	**Pn**	**14 13 37.8**	**+0.1**
SNET				*e*S	**Sn**	**14 13 48.9**	**0.0**
SNET				AML	AML	14 13 56.0	
	comp=Z,2μm,0.3s						
BOQS	**Boqueron**	**0.81**	**41**	⇑*e*P	**Pn**	**14 13 38.1**	**+0.2**
BOQS				*e*S	**Sn**	**14 13 49.5**	**+0.4**
LFRS	**El Faro**	**0.90**	**56**	⇓*i*P	**Pb**	**14 13 39.2**	**0.0**
LBRS	**Las Brisas**	**0.98**	**51**	⇓*i*P	**Pb**	**14 13 40.7**	**0.0**
LBRS				*e*S	**Sb**	**14 13 53.9**	**+0.6**
RBDL	**Robledal**	**1.00**	**8**	⇓*i*P	**Pb**	**14 13 40.9**	**-0.2**
SNVI	**San Vicente**	**1.08**	**63**	⇑*e*P	**Pb**	**14 13 42.2**	**-0.2**
MTO2	**Montecristo 2**	**1.36**	**19**	⇓*e*P	**Pn**	**14 13 46.0**	**+0.6**
VSM	**San Miguel**	**1.54**	**78**	*e*P	**Pn**	**14 13 49.3**	**+1.4**
NBG	**Las Nubes**	**1.55**	**341**	*e*P	**Pb**	**14 13 50.0**	**-0.4**
BLLM	**Bellamira**	**1.58**	**78**	⇑*e*P	**Pn**	**14 13 49.7**	**+1.4**
FUG	**Fuego 3**	**1.65**	**323**	*e*P	**Pn**	**14 13 50.0**	**+0.6**
CAHU	**Cacaquatique**	**1.70**	**67**	⇑*e*P	**Pn**	**14 13 51.1**	**+1.0**
CNCH	**Conchagua**	**1.95**	**85**	⇑*e*P	**Pn**	**14 13 54.7**	**+1.3**
MRL	**Marmol**	**1.95**	**4**	*e*P	**Pn**	**14 13 55.2**	**+1.8**
TP2	**Tecpan 2**	**2.03**	**325**	*e*P	**Pn**	**14 13 56.6**	**+1.9**
JTS	**JuntasAbangare**	**5.54**	**120**	Pn	Pn	14 14 46.5	+3.8
	comp=Z,2.2nm,0.3s,baz=305,slow=22,SNR=11						
JTS				Sn	**Sn**	**14 15 44.0**	**-1.4**
	baz=274,slow=17,SNR=1.7						
JTS				Lg	Lg	14 16 06.5	
	comp=Z,1.4nm,0.3s,baz=74,slow=23,SNR=6.8						
CMIG	**Matias Romero**	**6.29**	**310**	Pn	**Pn**	**14 14 55.3**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=66,slow=12,SNR=5.4						
CMIG				Sn	**Sn**	**14 16 02.0**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=86,slow=13,SNR=3.3						
TEIG	**Tepich**	**7.23**	**12**	Pn	**Pn**	**14 15 07.0**	**+1.1**
	comp=Z,2.1nm,0.3s,baz=291,slow=12,SNR=11						
TXAR	**Lajitas Array**	**20.63**	**324**	P	**P**	**14 17 59.8**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=148,slow=9.7,SNR=4.4						
NVAR	**Mina Array Bea**	**35.70**	**320**	P	**P**	**14 20 19.0**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=138,slow=8.8,SNR=7.1						
SCHQ	**Schefferville**	**45.35**	**19**	P	P	14 21 32.6	-5.1
	comp=Z,1.1nm,0.7s,baz=236,slow=11,SNR=4.3						
YKA	**Yellowknife Ar**	**52.38**	**346**	P	**P**	**14 22 29.0**	**-2.5**
	comp=Z,0.2nm,0.5s,baz=145,slow=7.8,SNR=6.9						
FRB	**Frobisher Bay**	**52.72**	**12**	LR	LR	14 45 31.1	
	comp=Z,67nm,18.7s,baz=26,slow=37						
RES	**Resolute Bay**	**61.63**	**358**	LR	LR	14 48 35.9	
	comp=Z,62nm,20.5s,baz=225,slow=35						
CMAR	**Chiang Mai Arr**	**147.46**	**344**	PKPbc	**PKPdf**	**14 33 02.6**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=337,slow=4.4,SNR=5.6						

*ATH **08** 14:15:16.3, 34°.12N×23°.50E, h23km±2km, MD3.6/13*

*CSEM **08** 14:15:16.3, 34°.12N×23°.50E, h23km, MD3.6, After ATH*

*IDC **08** 14:15:18.5±1.3, 34°.58N×24°.08E, h0km, mb3.8/7, mb1 3.8/10, mb1mx3.7/29, mbtmp3.8/10, ML4.1/3, Error ellipse: s-maj=26.9km s-min=22.1km az=146.0*

ISC 08 14:15:15.5±2.6, 34°.06N±0°.10×23°.48E±0°.06, h16km±12km, n37, σ1¶30/40, mb3.9/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.92**	**33**	*e*PN	**Pg**	**14 15 33.6**	**+0.2**
GVD				*e*SN	**Sb**	**14 15 45.0**	**-0.2**
GVD	**Gavdhos**	**0.92**	**33**	*e*Pn	**Pg**	**14 15 33.6**	**+0.2**
GVD				*e*Sn	**Sb**	**14 15 45.0**	**-0.2**
KARN	**Karanos**	**1.38**	**15**	*e*PN	**Pb**	**14 15 41.0**	**0.0**
KARN	**Karanos**	**1.38**	**15**	*e*Pn	**Pb**	**14 15 41.0**	**0.0**
SIVA	**Sivas**	**1.45**	**49**	*e*PN	**Pb**	**14 15 42.4**	**+0.2**
SIVA	**Sivas**	**1.45**	**49**	*e*Pn	**Pb**	**14 15 42.4**	**+0.2**
VAM	**Vamos**	**1.47**	**24**	*e*PN	**Pb**	**14 15 42.1**	**-0.3**
VAM				*e*SN	**Sg**	**14 16 02.7**	**-0.1**
VAM	**Vamos**	**1.47**	**24**	*e*Pn	**Pb**	**14 15 42.1**	**-0.3**
VAM				*e*Sn	**Sg**	**14 16 02.7**	**-0.1**
IDI	**Anoyia**	**1.69**	**43**	*e*PN	**Pb**	**14 15 45.7**	**-0.5**
IDI	**Anoyia**	**1.69**	**43**	*e*Pn	**Pb**	**14 15 45.7**	**-0.5**
LAST	**Lasithi**	**1.98**	**56**	*e*PN	**Pb**	**14 15 50.1**	**-1.1**
LAST	**Lasithi**	**1.98**	**56**	*e*Pn	**Pb**	**14 15 50.1**	**-1.1**
NPS	**Neapolis**	**2.13**	**55**	*e*PB	**Pn**	**14 15 52.1**	**+1.7**
NPS	**Neapolis**	**2.13**	**55**	*e*Pb	**Pn**	**14 15 52.1**	**+1.7**
KYTH	**Kithira**	**2.24**	**351**	*e*PN	**Pn**	**14 15 53.3**	**+1.3**
KYTH	**Kithira**	**2.24**	**351**	*e*Pn	**Pn**	**14 15 53.3**	**+1.3**
ZKR	**Zakros**	**2.49**	**64**	*e*PN	**Pn**	**14 15 57.3**	**+1.9**
ZKR	**Zakros**	**2.49**	**64**	*e*Pn	**Pn**	**14 15 57.3**	**+1.9**
VLI	**Veliai**	**2.69**	**351**	*e*PN	**Pn**	**14 16 00.2**	**+2.1**
VLI	**Veliai**	**2.69**	**351**	*e*Pn	**Pn**	**14 16 00.2**	**+2.1**
ITM	**Ithomi**	**3.36**	**338**	*e*PN	**Pn**	**14 16 09.4**	**+2.0**
ITM	**Ithomi**	**3.36**	**338**	*e*Pn	**Pn**	**14 16 09.4**	**+2.0**
KARP	**Karpathos**	**3.37**	**63**	*e*PN	**Pn**	**14 16 09.3**	**+1.7**
KARP				*e*SN	**Sn**	**14 16 48.5**	**+1.2**
KARP	**Karpathos**	**3.37**	**63**	*e*Pn	**Pn**	**14 16 09.3**	**+1.7**
KARP				*e*Sn	**Sn**	**14 16 48.5**	**+1.2**
APE	**Apeiranthos**	**3.43**	**29**	*e*PN	**Pn**	**14 16 09.6**	**+1.2**
APE	**Apeiranthos**	**3.43**	**29**	*e*Pn	**Pn**	**14 16 09.6**	**+1.2**
BRTR	**Keskin Array B**	**9.90**	**52**	Pn	Pn	14 17 32.8	-4.5
	0.0nm,0.3s,baz=226,slow=14,SNR=2.5						
VRAC	**Vranov**	**16.07**	**344**	Pn	**P**	**14 19 02.4**	**-1.6**
	0.4nm,0.3s,baz=122,slow=11,SNR=4.5						
GERES	**GERESS Array B**	**16.46**	**337**	Pn	**P**	**14 19 09.4**	**+0.9**
	0.2nm,0.3s,baz=144,slow=12,SNR=7.1						
AKASG	**Malin Array Be**	**17.15**	**12**	Pn	**Pn**	**14 19 11.5**	**-2.9**
	0.6nm,0.3s,baz=208,slow=10,SNR=3.0						
HFS	**Hagfors**	**26.86**	**349**	P	**P**	**14 20 54.9**	**-0.3**
	1.5nm,0.4s,baz=152,slow=13,SNR=12						
NOA	**NORSAR Array B**	**28.13**	**347**	P	P	14 21 10.0	+3.3
	0.5nm,0.7s,baz=161,slow=9.4,SNR=8.7						
TORD	**Torodi Ar. Bea**	**28.73**	**229**	P	**P**	14 21 24.2	+12
	0.3nm,0.5s,baz=40,slow=8.8,SNR=3.6						
AKTO	**Aktyubinsk**	**30.01**	**46**	P	**P**	**14 21 23.1**	**-0.2**
	0.3nm,0.2s,baz=229,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**45.53**	**55**	P	**P**	**14 23 34.4**	**0.0**
	2.6nm,0.6s,baz=280,slow=6.6,SNR=49						
ZALV	**Zalesovo Beam**	**46.76**	**45**	P	**P**	**14 23 42.8**	**-1.1**
	0.6nm,0.4s,baz=280,slow=8.3,SNR=5.7						
SONM	**Songino Array**	**61.25**	**50**	P	**P**	**14 25 30.2**	**+0.2**
	0.8nm,0.8s,baz=287,slow=8.8,SNR=7.4						

*LDG **08** 14:33:10.0±0.1, 34°.26N×73°.47E, h10km, Mb4.7/14, Ms3.8/1, Error ellipse: s-maj=6.8km s-min=3.9km az=15.0*

*NDI **08** 14:33:11.9±3.1, 34°.50N×73°.10E, h10km, ML4.4, mb4.6(NEIC)*

*IDC **08** 14:33:11.7±0.6, 34°.43N×73°.47E, h0km, mb4.4/21, mb1 4.5/26, mb1mx4.4/33, mbtmp4.3/26, ML4.0/4, MS3.5/11, Ms1 3.5/11, ms1mx3.2/33, Error ellipse: s-maj=14.5km s-min=12.6km az=33.0*

*NEIC **08** 14:33:13.0±1.1, 34°.40N×73°.48E, h9km±7km, mb4.6/10, Error ellipse: s-maj=6.1km s-min=5.2km az=86.0*

*MOS **08** 14:33:13.4±1.1, 34°.45N×73°.55E, h22km, mb4.5/20, Error ellipse: s-maj=9.4km s-min=5.4km az=94.9*

*ISCJB **08** 14:33:14.6±0.5, 34°.41N±0°.02×73°.55E±0°.04, h34km±5km, mb4.5/56, MS3.5/12, Error ellipse: s-maj=5.4km s-min=3.2km az=160.9*

*NNC **08** 14:33:19.0±3.8, 34°.94N×72°.96E, h0km, mb4.2, mpv4.6, Error ellipse: s-maj=41.9km s-min=26.4km az=69.0*

*BJI **08** 14:33:22.6, 34°.74N×74°.24E, h50km, mB4.4/2, mb4.2/21, ML4.1/4, Ms4.6/4, Ms7 4.4/4*

ISC 08 14:33:17.3±0.3, 34°.42N±0°.03×73°.50E±0°.04, h39km±3km, n196, σ1¶57/213, mb4.6/56, MS3.5/12, 14C-21D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirak Chowk**	**0.79**	**194**	⇓P	**Pn**	**14 33 30.9**	**-1.0**
NIL	**Nilore**	**0.80**	**195**	P	Pn	14 33 27.5	-4.6
CEP	**Cherat**	**1.45**	**246**	P	**Pn**	**14 33 42.6**	**+1.5**
CEP				S	**Sn**	**14 34 04.0**	**+5.1**
THW	**Thamme Wali**	**2.19**	**222**	P	Pn	14 33 54.0	+2.9
SARP	**Sargodha**	**2.59**	**196**	P	Pn	14 33 59.5	+2.9
THN	**Thein Dam**	**2.72**	**136**	*e*PKP	**Pn**	**14 33 59.9**	**+1.5**
THN				*ex*	x	14 34 36.9	
DLH	**Dalhousie**	**2.79**	**132**	*e*PKP	**Pn**	**14 34 00.0**	**+0.4**
DLH				*e*S	**Sn**	**14 34 36.0**	**+3.8**
KBL	**Kabul**	**3.68**	**273**	*e*P	Pn	14 34 14.6	+2.8
KBL	**Kabul**	**3.68**	**273**	*e*Pn	Pn	14 34 14.6	+2.8
BHK	**Bhakra**	**3.88**	**140**	*e*PKP	Pn	14 34 17.0	+2.6
BHK				*e*S	**Sn**	**14 35 02.4**	**+3.7**
SDNR	**Sundarnagar**	**4.13**	**134**	*e*PKP	**Pn**	**14 34 19.0**	**+1.2**
SDNR				*e*S	**Sn**	**14 35 06.6**	**+1.8**
SMLA	**Simla**	**4.51**	**136**	*i* P	**Pn**	**14 34 25.2**	**+2.1**
SMLA				*i* S	**Sn**	**14 35 16.7**	**+2.5**
SMLA				⇓AML	AML	14 35 18.9	
	comp=N,12μm,0.3s						
SMLA				⇓AML	AML	14 35 19.7	
	comp=E,20μm,0.2s						
KSH	**Kashi**	**5.46**	**21**	*e*P	Pn	14 34 33.2	-3.0
KSH				smax	smax		
	comp=N,160nm,0.7s						
KSH				smax	smax		
	comp=E,210nm,1.0s						
DDI	**Dehra Dun**	**5.62**	**135**	*e*PKP	**Pn**	**14 34 38.4**	**0.0**
DDI				*ex*	**Sn**	**14 35 40.2**	**-1.5**
KHET	**Khetri**	**6.63**	**162**	*e*PKP	**Pn**	**14 34 51.9**	**-0.3**
KHET				*e*S	**Sn**	**14 36 04.2**	**-2.3**
KUDL	**Kundal**	**6.76**	**157**	*e*PKP	**Pn**	**14 34 53.9**	**-0.1**
KUDL				*e*S	**Sn**	**14 36 07.3**	**-2.4**
PTH	**Pithoragarh**	**7.50**	**129**	*e*PKP	**Pn**	**14 35 06.0**	**+1.8**
PTH				*ex*	x	14 36 32.0	
LGTI	**Lohaghat**	**7.58**	**129**	*e*PKP	**Pn**	**14 35 05.2**	**0.0**
LGTI				*ex*	**Sn**	**14 36 29.3**	**-0.6**
AML	**Almayashu**	**7.70**	**1**	P	**Pn**	**14 35 08.1**	**+0.9**
	SNR=68						
AML				P	**Pn**	**14 35 08.1**	**+0.9**
	SNR=68						
KZA	**Kyzart**	**7.77**	**10**	P	**Pn**	**14 35 09.5**	**+1.4**
	SNR=39						
KZA				P	**Pn**	**14 35 09.5**	**+1.4**
	SNR=39						
AJM	**Ajmer**	**7.98**	**173**	*e*PKP	**Pn**	**14 35 10.0**	**-0.7**
AJM				*ex*	**Sn**	**14 36 37.0**	**-2.7**
ULHL	**Ulahol**	**8.10**	**15**	P	**Pn**	**14 35 14.2**	**+1.6**
	SNR=10						
ULHL				P	**Pn**	**14 35 14.2**	**+1.6**
	SNR=10						
AGRA	**Agra**	**8.12**	**151**	*e*PKP	**Pn**	**14 35 11.7**	**-1.0**
AGRA				*e*S	**Sn**	**14 36 41.4**	**-1.9**
AGRA				AML	AML	14 37 29.0	
	comp=N,126nm,0.6s						
AGRA				AML	AML	14 37 30.5	
	comp=E,136nm,0.5s						
EKS2	**Erkin-Say**	**8.23**	**1**	*e*P	**Pn**	**14 35 15.4**	**+1.2**
EKS2				pmax	pmax		
	comp=Z,26nm,0.7s						
EKS2	**Erkin-Say**	**8.23**	**1**	*e*P	**Pn**	**14 35 15.3**	**+1.2**
	comp=Z,26nm,0.7s						
EKS2	**Erkin-Say**	**8.23**	**1**	P	**Pn**	**14 35 15.4**	**+1.2**
	SNR=38						
EKS2				P	**Pn**	**14 35 15.4**	**+1.2**
	SNR=38						
AAK	**Ala-Archa**	**8.24**	**5**	P	**Pn**	**14 35 13.8**	**-0.5**
AAK						14 36 46.0	
AAK	**Ala-Archa**	**8.24**	**5**	Pn	**Pn**	**14 35 13.8**	**-0.5**
AAK				Sn	**Sn**	**14 36 46.0**	**-0.2**
AAK	**Ala-Archa**	**8.24**	**5**	P	**Pn**	**14 35 15.6**	**+1.2**
	SNR=11						
AAK				P	**Pn**	**14 35 15.6**	**+1.2**
	SNR=11						
AAK	**Ala-Archa**	**8.24**	**5**	Pn	**Pn**	**14 35 13.8**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=175,slow=14,SNR=11						
AAK				Sn	**Sn**	**14 36 46.0**	**-0.2**
	comp=Z,1.5nm,0.3s,baz=311,slow=19,SNR=7.5						
AAK				LR	LR	14 38 45.4	
	comp=Z,321nm,20.0s,baz=184,slow=40						
KBK	**Karagaybulak**	**8.30**	**7**	P	**Pn**	**14 35 17.1**	**+1.9**
	SNR=16						
KBK				P	**Pn**	**14 35 17.1**	**+1.9**
	SNR=16						
FRU	**Bishkek**	**8.44**	**6**	*e*P	**Pn**	**14 35 18.0**	**+0.9**
FRU				pmax	pmax		
	comp=Z,80nm,1.9s						
CHMS	**Chumysh**	**8.62**	**6**	P	**Pn**	**14 35 20.9**	**+1.5**
	SNR=11						
CHMS				P	**Pn**	**14 35 20.9**	**+1.5**
	SNR=11						
TKM2	**Tokmak 2**	**8.64**	**10**	*i* P	**Pn**	**14 35 21.4**	**+1.4**
TKM2	**Tokmak 2**	**8.64**	**10**	P	**Pn**	**14 35 21.4**	**+1.4**
	SNR=19						
TKM2				P	**Pn**	**14 35 21.4**	**+1.4**
	SNR=19						
USP	**Ospenovka**	**8.87**	**5**	P	**Pn**	**14 35 24.4**	**+1.6**
	SNR=6.2						
USP				P	**Pn**	**14 35 24.4**	**+1.6**
	SNR=6.2						
KK31	**Karatay Array**	**8.97**	**346**	Pn	**Pn**	**14 35 24.6**	**+0.3**
	comp=Z,14nm,0.5s,baz=163,slow=12,SNR=468						
KK31				⇓Sn	**Sn**	**14 37 00.8**	**-3.3**
	comp=Z,37nm,0.6s,baz=164,slow=22,SNR=10						
KKAR	**Karatay Array**	**8.97**	**346**	*e*P	**Pn**	**14 35 24.7**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,23nm,0.4s						
KKAR	**Karatay Array**	**8.97**	**346**	*e*P	**Pn**	**14 35 24.6**	**+0.4**
	comp=Z,24nm,0.4s						
DANN	**Dangsing**	**10.65**	**122**	*e*P	**Pn**	**14 35 45.5**	**-2.1**
	comp=Z,28nm,0.2s						
KOLN	**Koldanda**	**10.90**	**125**	*e*P	**Pn**	**14 35 48.7**	**-2.3**
	comp=Z,42nm,0.3s						
GKN	**Gorkha**	**11.48**	**121**	*e*P	**Pn**	**14 35 55.8**	**-3.0**
	comp=Z,58nm,0.5s						
DMN	**Daman**	**12.05**	**121**	*e*P	Pn	14 36 03.3	-3.4
	comp=Z,54nm,0.5s						
KKN	**Kakani**	**12.06**	**120**	*e*P	**Pn**	**14 36 03.8**	**-3.1**
	comp=Z,117nm,0.6s						
KKN				*e*S	Sn	14 38 11.4	-8.8
PKI	**Pulchoki**	**12.29**	**121**	*e*P	Pn	14 36 06.3	-3.7
	comp=Z,84nm,0.6s						
GUN	**Gumba**	**12.43**	**118**	*e*P	**Pn**	**14 36 09.1**	**-2.8**
	comp=Z,148nm,0.9s						
JBP	**Jabalpur**	**12.57**	**151**	⇓*ix*	**Pn**	**14 36 10.6**	**-3.0**
JBP				*ex*	x	14 36 25.9	
	comp=Z,18nm,0.7s						
JBP				*i* S	Sn	14 38 23.6	-8.6
JIRN	**Jiri**	**12.80**	**118**	*e*P	**Pn**	**14 36 14.0**	**-3.0**
	comp=Z,35nm,0.4s						
RAMN	**Ramite**	**13.51**	**120**	*e*P	Pn	14 36 22.9	-3.7
RAMN				*e*S	Sn	14 38 47.1	-8.4
MK31	**Makanchi Array**	**14.04**	**26**	⇑P	**Pn**	**14 36 32.6**	**-0.8**
	comp=Z,7.3nm,0.8s,baz=108,slow=8.4,SNR=84						
MK31	**Makanchi Array**	**14.04**	**26**	*e*P	**Pn**	**14 36 31.0**	**-2.5**
MK31	**Makanchi Array**	**14.04**	**26**	*e*P	**Pn**	**14 36 31.0**	**-2.5**
MKAR	**Makanchi Array**	**14.04**	**26**	P	**Pn**	**14 36 31.9**	**-1.6**
MKAR	**Makanchi Array**	**14.04**	**26**	Pn	**Pn**	**14 36 31.9**	**-1.6**
MKAR	**Makanchi Array**	**14.04**	**26**	Pn	**Pn**	**14 36 31.9**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=203,slow=8.1,SNR=32						
MKAR				LR	LR	14 42 47.3	
	comp=Z,136nm,18.3s,baz=219,slow=41						
TAPN	**Taplejung**	**14.09**	**116**	*e*P	Pn	14 36 30.5	-4.0
	comp=Z,25nm,0.4s						
ODAN	**Odare**	**14.13**	**118**	*e*P	**Pn**	**14 36 31.9**	**-3.1**
	comp=Z,129nm,0.8s						
WMQ	**Urumqi**	**14.46**	**45**	P	**P**	**14 36 45.3**	**-0.1**
WMQ				pP	pP	14 36 51.0	
WMQ				sP		14 36 55.0	
WMQ				PP	PnPn	14 37 01.5	+14
WMQ				S	**S**	**14 39 38.0**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,27nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,140nm,4.9s						
WMQ				LR	LR		
	comp=N,800nm,15.0s						
WMQ				LR	LR		
	comp=E,760nm,18.0s						
WMQ				LR	LR		
	comp=Z,640nm,20.0s						
LSA	**Lhasa**	**15.69**	**103**	P	**Pn**	**14 36 51.9**	**-4.0**
POO	**Poona**	**15.83**	**179**	*e*PKP	**Pn**	**14 36 56.5**	**-0.9**
POO				*i* x	x	14 39 57.5	
KURBB	**Kurchatov Arra**	**16.60**	**11**	⇓P	**Pn**	**14 37 04.8**	**-2.1**
	comp=Z,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**16.60**	**11**	Pn	**Pn**	**14 37 03.4**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=202,slow=11,SNR=26						
KURBB				LR	LR	14 43 45.0	
	comp=Z,193nm,19.2s,baz=210,slow=38						
KURK	**Kurchatov**	**16.71**	**11**	P	Pn	14 37 03.4	-4.8
KURK	**Kurchatov**	**16.71**	**11**	Pn	Pn	14 37 03.4	-4.8
KAD	**Karad**	**17.05**	**178**	*e*PKP	**Pn**	**14 37 10.0**	**-2.9**
HYB	**Hyderabad**	**17.53**	**164**	*i* P	**P**	**14 37 20.0**	**+0.5**
HYB				*e*S	**Sn**	**14 40 29.5**	**-3.5**
AB31	**Akbulak array**	**17.89**	**330**	⇓P	**Pn**	**14 37 21.9**	**-1.0**
	comp=Z,5.0nm,0.7s,baz=135,slow=8.7,SNR=95						
AB31				⇓S	Sn	14 40 32.0	-9.3
	comp=Z,3.5nm,0.7s,baz=145,slow=22,SNR=4.8						
ABKAR	**Akbulak array**	**17.89**	**330**	*e*P	**Pn**	**14 37 21.0**	**-1.9**
VOSK	**Vostochnaya**	**18.38**	**355**	⇑P	**Pn**	**14 37 29.5**	**+0.6**
	comp=Z,7.0nm,1.1s						
BVA0	**Borovoye Array**	**18.73**	**354**	⇑P	**P**	**14 37 30.8**	**-1.7**
	comp=Z,2.4nm,1.1s,baz=163,slow=17,SNR=38						
BVA0				⇓S	**Sn**	**14 41 00.0**	**-1.5**
	comp=Z,2.0nm,1.3s						
BVAR	**Borovoye Array**	**18.73**	**354**	P	**P**	**14 37 31.1**	**-1.3**
BVAR	**Borovoye Array**	**18.73**	**354**	P	**P**	**14 37 31.1**	**-1.3**
BVAR	**Borovoye Array**	**18.73**	**354**	P	**P**	**14 37 31.1**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=160,slow=9.6,SNR=18						
BVAR				LR	LR	14 45 10.9	
	comp=Z,98nm,20.7s,baz=334,slow=38						
BRVK	**Borovoye**	**18.77**	**354**	⇑P	**P**	**14 37 33.1**	**+0.2**
	comp=Z,30nm,0.9s						
BRVK				⇓S	**Sn**	**14 41 00.9**	**-1.6**
	comp=Z,10nm,1.1s						
BRVK	**Borovoye**	**18.77**	**354**	*e*P	**P**	**14 37 31.4**	**-1.5**
BRVK

ULN	**Ulaanbaatar**	**28.37**	**52**	*e*P		**P**	**14 39 08.5**	**+0.7**
	comp=Z,3.8nm,0.9s							
BRTR	**Keskin Array B**	**32.05**	**291**	P		**P**	**14 39 41.2**	**+0.8**
BRTR	**Keskin Array B**	**32.05**	**291**	P		**P**	**14 39 41.2**	**+0.8**
	comp=Z,1.5nm,0.7s,baz=92,slow=9.8,SNR=5.8							
OBN	**Obninsk**	**32.84**	**320**⇑	*e*P		**P**	**14 39 49.2**	**+2.4**
OBN				*e*			14 40 56.7	
OBN				*e*S		S	14 45 07.3	+6.0
OBN				*e*SS		**SnSn**	**14 47 06.7**	**+6.9**
OBN				pmax		pmax		
	comp=Z,7.0nm,0.7s							
OBN				MLR		MLR		
	comp=Z,100nm,18.0s							
KLMR	**Klimovskoe**	**34.28**	**331**	*e*P		**P**	**14 39 58.5**	**-0.9**
KLMR				pmax		pmax		
	comp=Z,20nm,1.4s							
AKASG	**Malin Array Be**	**35.84**	**311**	*ce*P		**P**	**14 40 12.5**	**-0.4**
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.6s							
AKASG	**Malin Array Be**	**35.84**	**311**	P		**P**	**14 40 12.4**	**-0.4**
AKASG	**Malin Array Be**	**35.84**	**311**	P		P	**14 40 12.4**	**-0.4**
	comp=Z,6nm,0.6s,baz=80,slow=7.4,SNR=11							
MLR	**Muntele Rosu**	**37.59**	**302**⇓	*i*P		**P**	**14 40 30.2**	**+2.1**
BUR08	**Bucovina Ar. S**	**38.15**	**305**	*e*P		**P**	**14 40 33.1**	**+0.4**
VOIR		**38.22**	**302**⇓	*i*P		**P**	**14 40 34.5**	**+1.2**
FINES	**FINESS Array B**	**40.34**	**327**	P		**P**	**14 40 50.2**	**-0.4**
FINES	**FINESS Array B**	**40.34**	**327**	P		**P**	**14 40 50.2**	**-0.4**
	comp=Z,3.4nm,0.7s,baz=129,slow=5.4,SNR=5.8							
FINES				LR		LR	14 57 23.3	
	comp=Z,52nm,20.5s,baz=4.5,slow=36							
KSAR	**Wonju Array Be**	**43.63**	**70**	P		**P**	**14 41 18.2**	**+0.3**
KSRS	**Korea Array**	**43.66**	**70**	P		**P**	**14 41 18.2**	**+0.1**
	comp=Z,2.0nm,1.0s,baz=284,slow=5.6,SNR=4.6							
KSRS				LR		LR	15 02 36.6	
	comp=Z,29nm,20.7s,baz=280,slow=40							
ARCES	**ARCESS Array B**	**43.84**	**338**	P		**P**	**14 41 19.9**	**+0.8**
ARCES	**ARCESS Array B**	**43.84**	**338**	P		**P**	**14 41 19.9**	**+0.8**
	comp=Z,3.7nm,0.7s,baz=112,slow=6.8,SNR=14							
ARCES				LR		LR	15 00 44.8	
	comp=Z,161nm,18.1s,baz=32,slow=38							
CONA	**Conrad Observa**	**44.43**	**306**⇑	*i*P		**P**	**14 41 25.4**	**+1.1**
	comp=Z,7.9nm,1.0s							
CONA	**Conrad Observa**	**44.43**	**306**⇑	*i*pP		**P**	**14 41 25.4**	**+1.1**
	comp=Z,7.9nm,1.0s							
YAK	**Yakutsk**	**44.51**	**34**	*e*P		**P**	**14 41 24.8**	**+0.3**
YAK				pmax		pmax		
	comp=Z,5.0nm,1.0s							
SOKA	**Soboth**	**45.11**	**304**⇓	*i*P		**P**	**14 41 30.5**	**+0.8**
	comp=Z,7.2nm,0.8s							
SOKA	**Soboth**	**45.11**	**304**⇓	*i*pP		**P**	**14 41 30.5**	**+0.8**
	comp=Z,7.2nm,0.8s							
USRK	**Ussuriysk Arra**	**45.45**	**59**	LR		LR	15 01 37.1	
	comp=Z,60nm,20.4s,baz=148,slow=38							
MOA	**Molln**	**45.51**	**306**⇓	*i*P		**P**	**14 41 33.1**	**+0.4**
	comp=Z,6.3nm,0.9s							
MOA	**Molln**	**45.51**	**306**⇓	*i*pP		**P**	**14 41 33.1**	**+0.4**
	comp=Z,6.3nm,0.9s							
BRG	**Berggiesshubel**	**45.51**	**310**	*e*P		**P**	**14 41 33.8**	**+1.1**
	comp=Z,5.3nm,1.0s							
BRG	**Berggiesshubel**	**45.51**	**310**	*e*P		**P**	**14 41 33.8**	**+1.1**
BRG				pmax		pmax		
	comp=Z,5.0nm,1.0s							
GERES	**GERESS Array B**	**45.80**	**307**	P		**P**	**14 41 35.8**	**+0.6**
GERES	**GERESS Array B**	**45.80**	**307**	P		**P**	**14 41 35.8**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=86,slow=7.2,SNR=6.1							
HFS	**Hagfors**	**45.95**	**323**	P		**P**	**14 41 35.8**	**-0.2**
HFS	**Hagfors**	**45.95**	**323**	P		**P**	**14 41 35.8**	**-0.2**
	comp=Z,6.3nm,0.6s,baz=99,slow=9.3,SNR=24							
CLL	**Collm**	**46.08**	**311**	*e*P		**P**	14 41 45.0	+7.8
NB2	**NORSAR Subarra**	**47.26**	**324**	P		**P**	**14 41 45.4**	**-0.9**
	comp=Z,3.8nm,0.6s,baz=97,slow=7.9							
NOA	**NORSAR Array B**	**47.26**	**324**	P		**P**	**14 41 45.7**	**-0.6**
NOA	**NORSAR Array B**	**47.26**	**324**	P		**P**	**14 41 45.7**	**-0.6**
	comp=Z,4.9nm,0.7s,baz=96,slow=7.7,SNR=17							
NOA				LR		LR	15 05 21.7	
	comp=Z,27nm,19.6s,baz=300,slow=41							
MOTA	**Moosalm**	**47.70**	**305**⇓	*i*P		**P**	**14 41 49.3**	**-0.8**
MOTA				pmax		pmax		
	comp=Z,6.0nm,0.9s							
MOTA	**Moosalm**	**47.70**	**305**⇓	*i*P		**P**	**14 41 49.3**	**-0.8**
	comp=Z,6.2nm,0.9s							
MOTA	**Moosalm**	**47.70**	**305**⇓	*i*P		**P**	**14 41 49.3**	**-0.8**
	comp=Z,6.2nm,0.9s							
CDF	**Champ du Feu**	**50.08**	**307**	*e*P		**P**	**14 42 08.4**	**+0.2**
HINF	**Hinteralfeld**	**50.46**	**307**	*e*P		**P**	**14 42 10.0**	**-1.1**
	comp=Z,19nm,1.1s							
HAU	**Haudompre**	**50.76**	**307**	*e*P		**P**	**14 42 12.4**	**-0.9**
LPG	**La Plagne**	**50.98**	**304**	*e*P		**P**	**14 42 15.6**	**+0.3**
	comp=Z,18nm,0.7s							
LPL	**La Plagne**	**50.99**	**304**	*e*P		**P**	**14 42 15.6**	**+0.3**
	comp=Z,40nm,1.1s							
PAGF	**Fort de Pagny**	**51.07**	**308**	*e*P		**P**	**14 42 15.4**	**-0.2**
MBDF	**Montbardon**	**51.13**	**303**	*e*P		**P**	**14 42 15.9**	**-0.4**
	comp=Z,16nm,0.8s							
GIVF	**Givet**	**51.38**	**310**	*e*P		**P**	**14 42 17.6**	**-0.3**
MEZF	**Maizieres J'vi**	**51.52**	**308**	*e*P		**P**	**14 42 18.5**	**-0.5**
ORIF	**Oris-en-Rattie**	**51.71**	**303**	*e*P		**P**	**14 42 20.2**	**-0.3**
	comp=Z,27nm,1.2s							
BAIF	**Baives**	**51.78**	**310**	*e*P		**P**	**14 42 20.5**	**-0.4**
YSS	**Yuzh-Sakhalins**	**52.38**	**54**	*e*P		P	14 42 29.7	+4.4
LOR	**Lormes**	**52.56**	**306**	*e*P		**P**	**14 42 26.7**	**0.0**
	comp=Z,15nm,1.1s							
SSF	**Saint Saulge**	**52.84**	**306**	*e*P		**P**	**14 42 28.6**	**-0.2**
	comp=Z,21nm,1.2s							
AVF	**Avril sur Loir**	**53.00**	**306**	*e*P		**P**	**14 42 29.6**	**-0.4**
	comp=Z,26nm,1.0s							
HYF	**Humbligny**	**53.37**	**307**	*e*P		**P**	**14 42 32.1**	**-0.6**
TCF	**Toulx Ste Croi**	**53.89**	**306**	*e*P		**P**	**14 42 36.5**	**0.0**
	comp=Z,33nm,1.1s							
CAF	**Calviac**	**54.34**	**304**	*e*P		**P**	**14 42 39.4**	**-0.4**
LDF	**La Druitiere**	**54.86**	**309**	*e*P		**P**	**14 42 43.4**	**-0.1**
FLN	**La Foliniere**	**55.05**	**309**	*e*P		**P**	**14 42 45.0**	**+0.1**
LFF	**La Frestale**	**55.24**	**304**	*e*P		**P**	**14 42 45.8**	**-0.5**
GRR	**Gorron**	**55.38**	**309**	*e*P		**P**	**14 42 47.5**	**+0.2**
ETSF	**Etsaut**	**56.73**	**302**	*e*P		**P**	**14 42 57.3**	**+0.2**
BILL	**Bilibino**	**59.58**	**26**⇑	*e*P		**P**	**14 43 17.2**	**+0.7**
BILL				*e*			14 45 30.3	
BILL				pmax		pmax		
	comp=Z,4.0nm,1.3s							
BILL				MLR		MLR		
	comp=Z,100nm,15.0s							
ESDC	**Sonseca Array**	**60.24**	**300**	P		**P**	**14 43 21.6**	**0.0**
ESDC	**Sonseca Array**	**60.24**	**300**	P		**P**	**14 43 21.6**	**0.0**
	comp=Z,1.7nm,0.8s,baz=69,slow=7.5,SNR=6.4							
TORD	**Torodi Ar. Bea**	**67.75**	**271**	P		**P**	**14 44 10.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**67.75**	**271**	P		**P**	**14 44 10.9**	**-0.2**
	comp=Z,4.4nm,0.9s,baz=43,slow=5.8,SNR=22							
COLD	**Coldfoot**	**73.40**	**16**	*e*P		**P**	**14 44 45.5**	**+0.7**
	comp=Z,6.5nm,0.9s							
INK	**Inuvik**	**75.61**	**10**	P		**P**	**14 44 58.4**	**+0.9**
INK	**Inuvik**	**75.61**	**10**	P		**P**	**14 44 58.4**	**+0.9**
	comp=Z,4.0nm,0.5s,baz=360,slow=7.0,SNR=48							
COLA	**College**	**75.89**	**17**	*e*P		**P**	**14 44 59.5**	**+0.3**
COLA				pmax		pmax		
	comp=Z,6.0nm,0.8s							
COLA	**College**	**75.89**	**17**	*e*P		**P**	**14 44 59.5**	**+0.3**
	comp=Z,6.2nm,0.8s							
ILAR	**Eielson Array**	**76.20**	**17**	P		**P**	**14 45 00.8**	**-0.2**
ILAR	**Eielson Array**	**76.20**	**17**	P		**P**	**14 45 00.8**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=296,slow=5.2,SNR=29							
DBIC	**Dimbokro**	**76.66**	**269**	P		**P**	**14 45 04.0**	**-0.5**
DBIC	**Dimbokro**	**76.66**	**269**	P		**P**	**14 45 04.0**	**-0.5**
	comp=Z,7.5nm,0.9s,baz=55,slow=7.3,SNR=9.4							
LIC	**Lamto**	**77.05**	**269**⇑	*i*P		**P**	**14 45 06.7**	**0.0**
	comp=Z,14nm,0.7s							
BOSA	**Boshof**	**77.53**	**222**	P		**P**	**14 45 09.6**	**+0.5**
BOSA	**Boshof**	**77.53**	**222**	P		**P**	**14 45 09.6**	**+0.5**
	comp=Z,4.9nm,0.8s,baz=58,slow=9.5,SNR=7.8							
DAWY	**Dawson**	**78.46**	**14**	*e*P		**P**	**14 45 13.7**	**-0.1**
WRA	**Warramunga Arr**	**79.16**	**123**	P		**P**	**14 45 18.6**	**+0.4**
WRA	**Warramunga Arr**	**79.16**	**123**	P		**P**	**14 45 18.6**	**+0.4**
	comp=Z,3.7nm,0.7s,baz=324,slow=5.2,SNR=42							
AS31	**Alice Springs**	**81.39**	**126**	*e*P		**P**	**14 45 30.4**	**+0.3**
ASAR	**Alice Springs**	**81.39**	**126**	P		**P**	**14 45 30.6**	**+0.5**
ASAR	**Alice Springs**	**81.39**	**126**	P		**P**	**14 45 30.6**	**+0.5**
	comp=Z,5.2nm,0.8s,baz=309,slow=5.2,SNR=67							
YKA	**Yellowknife Ar**	**83.20**	**4**	P		**P**	**14 45 39.2**	**+0.2**
YKA	**Yellowknife Ar**	**83.20**	**4**	P		**P**	**14 45 39.2**	**+0.2**
	comp=Z,7nm,0.7s,baz=347,slow=5.2,SNR=102							
FFC	**Flin Flon**	**91.13**	**357**	*ce*P		**P**	**14 46 19.1**	**+1.4**
PLCA	**Paso Flores**	**150.96**	**247**	PKPbc		**PKPbc**	**14 53 04.7**	**-1.1**
PLCA	**Paso Flores**	**150.96**	**247**	PKPbc		**PKPbc**	**14 53 04.7**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=93,slow=3.8,SNR=3.2							

TAP 08 14:47:47.6,24.85N×122.01E,h4km±1km, ML2.6, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.16**	**354**	*i* P	Pg	14 47 51.1	+0.4
	baz=356						
TWC	**Suao**	**0.28**	**211**	P	Pg	14 47 53.4	+0.4
	baz=209						
NWF	**Wu-fen Shan**	**0.30**	**317**	*e*P	Pg	14 47 54.1	+0.6
	baz=317						
TWE	**Neicheng**	**0.34**	**248**	*i* P	Pg	14 47 54.6	+0.5
	baz=245						
TWA	**Mucha**	**0.41**	**289**	*e*P	Pg	14 47 56.1	+0.7
	baz=288						
ENTT	**Nioudou**	**0.45**	**243**	P	Pg	14 47 57.0	+0.7
	baz=241						
ENA	**Nanau**	**0.48**	**210**	*e*P	Pb	14 47 58.1	-0.6
	baz=209						
TWY	**Chenhua**	**0.56**	**319**	*e*P	Pb	14 47 59.4	-0.7
	baz=319						
TWS1	**Kuangyinshan**	**0.59**	**295**	*e*P	Pb	14 48 00.3	-0.2
	baz=295						
NSK	**Sanguang**	**0.61**	**254**	*e*P	Pg	14 47 59.6	+0.1
	baz=253						
NNS	**Nan Shan**	**0.71**	**235**	*e*P	Pb	14 48 02.1	-0.5
	baz=234						
NSTT	**Nanjuang**	**0.94**	**257**	*e*P	Pb	14 48 06.4	-0.1
	baz=256						
NSTT	**Nanjuang**	**0.94**	**257**	*e*P	Pb	14 48 06.7	+0.2
	baz=257						
TWT	**Tachien**	**0.96**	**232**	*e*P	Pn	14 48 08.1	0.0
	baz=232						
TWT	**Tachien**	**0.96**	**232**	*e*P	Pn	14 48 08.3	+0.2
	baz=234						
WHF	**Hehuan Shan**	**0.97**	**224**	*e*P	Pg	14 48 07.1	+0.2
	baz=223						
WHF	**Hehuan Shan**	**0.97**	**224**	*e*P	Pb	14 48 07.4	-0.3
	baz=226						

TAP 08 14:47:48.5,24.85N×122.07E,h15km, ML2.7, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.18**	**336**	P	Pb	14 47 53.5	0.0
	baz=338						
TWB1				S	Sb	14 47 56.7	-0.1
	baz=338						
TWC	**Suao**	**0.31**	**220**	P	Pb	14 47 55.6	-0.1
	baz=218						
TWC				*e*S	Sg	14 47 59.0	-0.3
	baz=218						
NWF	**Wu-fen Shan**	**0.34**	**311**	*e*P	Pb	14 47 56.4	0.0
	baz=310						
NWF				*e*S	Sb	14 48 02.0	+0.2
	baz=310						
TWE	**Neicheng**	**0.38**	**251**	*e*P	Pb	14 47 56.9	-0.2
	baz=250						
TWA	**Mucha**	**0.46**	**287**	*e*P	Pb	14 47 58.2	-0.1
	baz=287						
TWA				*e*S	Sb	14 48 05.4	+0.4
	baz=287						
ENTT	**Nioudou**	**0.50**	**246**	*e*P	Pb	14 47 59.1	+0.1
	baz=245						
ENA	**Nanau**	**0.51**	**216**	*e*P	Pb	14 47 58.9	-0.3
	baz=214						
TWY	**Chenhua**	**0.60**	**315**	*e*P	Pg	14 47 59.9	-0.4
	baz=315						
TWS1	**Kuangyinshan**	**0.64**	**294**	*e*P	Pb	14 48 01.4	-0.1
	baz=293						
NSK	**Sanguang**	**0.67**	**256**	*e*P	Pg	14 48 01.3	-0.3
	baz=255						
NNS	**Nan Shan**	**0.75**	**238**	*e*P	Pb	14 48 03.5	0.0
	baz=236						
ESL	**Shilin**	**1.18**	**210**	*e*P	Pn	14 48 10.3	-0.1
	baz=209						
SMLT	**Sun Moon Lake**	**1.43**	**228**	*e*P	Pn	14 48 14.5	+0.4
	baz=227						
TYC	**Yuchr**	**1.45**	**230**	*e*P	Pn	14 48 13.0	-1.2
	baz=229						
TWF1	**Yuli**	**1.64**	**205**	*e*P	Pn	14 48 16.9	0.0
	baz=205						
ALS	**Alishan**	**1.76**	**221**	*e*P	Pb	14 48 20.8	-0.1
	baz=220						
CHN5	**Tsauling**	**1.77**	**226**	*e*P	Pb	14 48 20.8	-0.1
	baz=225						
CHN1	**Nanshi**	**2.17**	**221**	*e*P	Pb	14 48 27.1	-0.5
	baz=220						

*ISCJB **08** 14:59:30.6±0.4, 38.30N±0.02×24.05E±0.03, h12km±3km, Error ellipse: s-maj=3.8km s-min=3.0km az=4.1*
*ATH **08** 14:59:30.0, 38.30N×24.06E, h23km±1km, MD3.2/9, ML3.9*
*CSEM **08** 14:59:30.8±0.2, 38.30N×24.04E, h12km, ML3.4/16, Error ellipse: s-maj=3.9km s-min=2.9km az=94.0*
*THE **08** 14:59:31.1, 38.29N×24.03E, h8km±1km, ML3.4/16, Error ellipse: s-maj=1.4km s-min=0.6km az=262.0*

ISC 08 14:59:30.8±0.9, 38.30N±0.02×24.04E±0.02, h15km±6km, n95, σ0.976/128, 1C, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERET	**Eretria**	**0.23**	**307**	P	**Pg**	**14 59 36.3**	**+0.4**
ERET				S	**Sg**	**14 59 39.9**	**+0.5**
ERET	**Eretria**	**0.23**	**307**	P	**Pg**	**14 59 36.3**	**+0.4**
PTL	**Penteli**	**0.29**	**209**	P	**Pb**	**14 59 36.8**	**-0.9**
PTL				*S*	**Sg**	**14 59 40.6**	**-0.4**
PTL	**Penteli**	**0.29**	**209**	*e*PB	**Pb**	**14 59 36.8**	**-0.9**
PTL				*e*SB	**Sg**	**14 59 40.6**	**-0.4**
PTL	**Penteli**	**0.29**	**209**	P	**Pb**	**14 59 36.8**	**-0.9**
PTL				*e*Sb	**Sg**	**14 59 40.6**	**-0.4**
MRMA	**Marmari**	**0.36**	**132**	P	**Pb**	**14 59 38.2**	**-0.7**
MRMA				S	**Sg**	**14 59 43.0**	**-0.2**
MRMA	**Marmari**	**0.36**	**132**	P	**Pb**	**14 59 38.2**	**-0.7**
MRMA				S	**Sg**	**14 59 43.0**	**-0.2**
ATH	**Athens Observa**	**0.42**	**218**	P	**Pb**	**14 59 39.0**	**-0.8**
ATH				S	**Sg**	**14 59 44.5**	**-0.2**
ATH	**Athens Observa**	**0.42**	**218**	*e*PB	**Pb**	**14 59 39.0**	**-0.8**
ATH				*e*SB	**Sg**	**14 59 44.6**	**-0.2**
ATH	**Athens Observa**	**0.42**	**218**	P	**Pb**	**14 59 39.0**	**-0.8**
ATH				*e*Sb	**Sg**	**14 59 44.6**	**-0.2**
MRKA	**Markates**	**0.54**	**319**	P	**Pb**	**14 59 41.5**	**-0.4**
MRKA				S	**Sb**	**14 59 49.1**	**-0.4**
MRKA	**Markates**	**0.54**	**319**	P	**Pb**	**14 59 41.5**	**-0.4**
MRKA				S	**Sb**	**14 59 49.1**	**-0.4**
NAIG	**Nisos Aigina**	**0.69**	**219**	*e*PN	**Pb**	**14 59 44.2**	**-0.4**
NAIG	**Nisos Aigina**	**0.69**	**219**	*e*Pn	**Pb**	**14 59 44.2**	**-0.4**
AOS	**Alonnisos**	**0.88**	**352**	P	**Pb**	**14 59 47.6**	**-0.1**
AOS				S	**Sb**	**14 59 59.9**	**+0.6**
AOS	**Alonnisos**	**0.88**	**352**	P	**Pb**	**14 59 47.6**	**-0.1**
AOS				S	**Sb**	**14 59 59.9**	**+0.6**
LKR	**Lokris**	**0.89**	**293**	P	**Pg**	**14 59 46.9**	**-1.0**
LKR				S	**Sn**	**15 00 01.1**	**-0.3**
LKR	**Lokris**	**0.89**	**293**	*e*PN	**Pg**	**14 59 47.0**	**-1.0**
LKR				*e*SN	**Sn**	**15 00 01.0**	**-0.3**
LKR	**Lokris**	**0.89**	**293**	P	**Pg**	**14 59 46.9**	**-1.0**
LKR				S	**Sn**	**15 00 01.1**	**-0.3**
ATAL	**Atalanti**	**0.89**	**296**	P	**Pg**	**14 59 47.2**	**-0.8**
ATAL				S	**Sn**	**15 00 01.3**	**-0.2**
ATAL	**Atalanti**	**0.89**	**296**	P	**Pg**	**14 59 47.2**	**-0.8**
ATAL				S	**Sn**	**15 00 01.3**	**-0.2**
LTK	**Loutraki**	**0.89**	**252**	P	**Pb**	**14 59 48.2**	**+0.2**
LTK				S	**Sb**	**14 59 59.4**	**-0.3**
LTK	**Loutraki**	**0.89**	**252**	*e*PN	**Pb**	**14 59 47.9**	**-0.1**
LTK				*e*SN	**Sb**	**15 00 00.7**	**+1.0**
LTK	**Loutraki**	**0.89**	**252**	*e*Pn	**Pb**	**14 59 47.9**	**-0.1**
LTK	**Loutraki**	**0.89**	**252**	P	**Pb**	**14 59 48.2**	**+0.2**
LTK				S	**Sb**	**14 59 59.4**	**-0.3**
SKIA	**Skiathos**	**0.97**	**333**	P	**Pn**	**14 59 50.0**	**0.0**
SKIA				S	**Sb**	**15 00 02.9**	**+0.8**
SKIA	**Skiathos**	**0.97**	**333**	P	**Pn**	**14 59 50.0**	**0.0**
SKIA				S	**Sb**	**15 00 02.9**	**+0.8**
DID	**Didima**	**1.02**	**219**	P	**Pb**	**14 59 50.2**	**+0.1**
DID				S	**Sb**	**15 00 04.0**	**+0.7**
DID	**Didima**	**1.02**	**219**	*e*PN	**Pb**	**14 59 50.3**	**+0.1**
DID				*e*SN	**Sb**	**15 00 03.7**	**+0.4**
DID	**Didima**	**1.02**	**219**	P	**Pb**	**14 59 50.2**	**+0.1**
DID				S	**Sb**	**15 00 04.0**	**+0.7**
DIDY	**Didyma**	**1.05**	**219**	P	**Pb**	**14 59 50.9**	**+0.1**
DIDY	**Didyma**	**1.05**	**219**	P	**Pb**	**14 59 50.9**	**+0.1**
AXAR	**Agios Charalam**	**1.18**	**294**	P	**Pb**	**14 59 52.1**	**-0.8**
AXAR	**Agios Charalam**	**1.18**	**294**	P	**Pb**	**14 59 52.1**	**-0.8**
NEO	**Neokhori**	**1.19**	**328**	*e*PN	**Pn**	**14 59 53.2**	**+0.3**
NEO				*e*SN	**Sn**	**15 00 09.2**	**+0.3**
NEO	**Neokhori**	**1.19**	**328**	*e*Pn	**Pn**	**14 59 53.2**	**+0.3**
DESF	**Desfina**	**1.19**	**276**	P	**Pb**	**14 59 51.8**	**-1.3**
DESF	**Desfina**	**1.19**	**276**	P	**Pb**	**14 59 51.8**	**-1.3**
XOR	**Xorichti**	**1.25**	**328**	P	**Pg**	**14 59 54.4**	**-0.5**
XOR	**Xorichti**	**1.25**	**328**	P	**Pg**	**14 59 54.4**	**-0.5**
GUR	**Goura**	**1.39**	**255**	P	**Pn**	**14 59 56.0**	**+0.3**
GUR				S	**Sb**	**15 00 13.7**	**-0.4**
GUR	**Goura**	**1.39**	**255**	*e*PN	**Pn**	**14 59 56.1**	**+0.3**
GUR				*e*SN	**Sg**	**15 00 15.3**	**-0.2**
GUR	**Goura**	**1.39**	**255**	*e*Pn	**Pn**	**14 59 56.1**	**+0.3**
GUR				S	**Sb**	**15 00 13.7**	**-0.4**
KALE	**Kalithea**	**1.50**	**274**	P	**Pn**	**14 59 57.6**	**+0.4**
KALE	**Kalithea**	**1.50**	**274**	P	**Pn**	**14 59 57.6**	**+0.4**
TRIZ	**Trizonia**	**1.55**	**273**	P	**Pn**	**14 59 58.4**	**+0.6**
TRIZ	**Trizonia**	**1.55**	**273**	P	**Pn**	**14 59 58.4**	**+0.6**
CHOS	**Chios island**	**1.59**	**86**	P	**Pn**	**14 59 59.2**	**+0.7**
CHOS	**Chios island**	**1.59**	**86**	P	**Pn**	**14 59 59.2**	**+0.7**
VLX	**Vlachokerasia**	**1.61**	**235**	P	**Pn**	**14 59 59.5**	**+0.7**
VLX	**Vlachokerasia**	**1.61**	**235**	*e*PN	**Pn**	**14 59 59.5**	**+0.7**
VLX				*e*SN	**Sn**	**15 00 20.1**	**+0.7**
VLX	**Vlachokerasia**	**1.61**	**235**	P	**Pn**	**14 59 59.5**	**+0.7**
LAKA	**Lakka**	**1.62**	**268**	P	**Pb**	**14 59 59.8**	**-0.7**
LAKA	**Lakka**	**1.62**	**268**	P	**Pb**	**14 59 59.8**	**-0.7**
PAIG	**Paliouri**	**1.65**	**350**	P	**Pn**	**14 59 59.3**	**+0.1**
PAIG	**Paliouri**	**1.65**	**350**	P	**Pn**	**14 59 59.3**	**+0.1**
EFP	**Efpalio**	**1.68**	**275**	P	**Pb**	**15 00 00.6**	**-0.8**
EFP	**Efpalio**	**1.68**	**275**	*e*PN	**Pb**	**15 00 00.7**	**-0.7**
EFP	**Efpalio**	**1.68**	**275**	P	**Pb**	**15 00 00.6**	**-0.8**
APE	**Apeiranthos**	**1.71**	**136**	P	**Pn**	**15 00 00.2**	**+0.1**
APE				S	**Sb**	**15 00 23.9**	**+0.7**
APE	**Apeiranthos**	**1.71**	**136**	*e*PN	**Pn**	**15 00 00.4**	**+0.3**
APE	**Apeiranthos**	**1.71**	**136**	P	**Pn**	**15 00 00.2**	**+0.1**
VLI	**Veliai**	**1.81**	**209**	P	**Pn**	**15 00 01.8**	**+0.4**
VLI	**Veliai**	**1.81**	**209**	*e*PN	**Pn**	**15 00 01.9**	**+0.5**
VLI	**Veliai**	**1.81**	**209**	P	**Pn**	**15 00 01.8**	**+0.4**
LIA	**Limnos Island**	**1.82**	**29**	P	**Pn**	**15 00 01.5**	**-0.1**
LIA	**Limnos Island**	**1.82**	**29**	P	**Pn**	**15 00 01.5**	**-0.1**
EVR	**Evrytania**	**1.85**	**290**	*e*PB	**Pn**	**15 00 02.1**	**0.0**
EVR	**Evrytania**	**1.85**	**290**	*e*Pb	**Pn**	**15 00 02.1**	**0.0**
ITM	**Ithomi**	**2.02**	**237**	*e*PN	**Pn**	**15 00 05.6**	**+1.3**
ITM	**Ithomi**	**2.02**	**237**	*e*Pn	**Pn**	**15 00 05.6**	**+1.3**
OUR	**Ouranopolis**	**2.03**	**359**	P	**Pn**	**15 00 04.8**	**+0.3**
OUR	**Ouranopolis**	**2.03**	**359**	P	**Pn**	**15 00 04.8**	**+0.3**
RLS	**Riolos of Patr**	**2.04**	**264**	*e*PN	**Pb**	**15 00 06.2**	**-1.4**
RLS	**Riolos of Patr**	**2.04**	**264**	*e*Pn	**Pb**	**15 00 06.2**	**-1.4**
PLG	**Polygyros**	**2.12**	**348**	P	**Pn**	**15 00 06.0**	**+0.2**
PLG	**Polygyros**	**2.12**	**348**	P	**Pn**	**15 00 06.0**	**+0.2**
LIT	**Litokhoron**	**2.16**	**327**	P	**Pn**	**15 00 07.1**	**+0.8**
LIT	**Litokhoron**	**2.16**	**327**	P	**Pn**	**15 00 07.1**	**+0.8**
KYTH	**Kithira**	**2.17**	**202**	P	**Pn**	**15 00 06.9**	**+0.5**
KYTH	**Kithira**	**2.17**	**202**	*e*PN	**Pn**	**15 00 06.9**	**+0.5**
KYTH	**Kithira**	**2.17**	**202**	P	**Pn**	**15 00 06.9**	**+0.5**
KZN	**Kozani**	**2.67**	**319**	*e*PN	**Pn**	**15 00 14.9**	**+1.6**
KZN	**Kozani**	**2.67**	**319**	*e*Pn	**Pn**	**15 00 14.9**	**+1.6**
VLS	**Valsamata**	**2.72**	**268**	*e*PB	**Pn**	**15 00 16.4**	**+2.4**
VLS	**Valsamata**	**2.72**	**

KMI Sn **Sn** **15 19 55.9 +1.0**
KMI Sg **Sg** **15 20 30.3 -2.3**
KMI smax smax
comp=N,88nm,1.6s
KMI smax smax
comp=E,120nm,1.8s
KMI LR LR
comp=N,1μm,8.1s
KMI LR LR
comp=E,2μm,9.1s
GTA Gaotai 8.74 339 *e*P **Pn** **15 19 19.2 +1.8**
GTA pP 15 19 23.3
GTA sP 15 19 26.3
GTA S **Sn** **15 20 56.9 +1.2**
GTA sS 15 21 03.1
GTA pmax pmax
comp=Z,67nm,5.0s
GTA LR LR
comp=N,390nm,10.5s
GTA LR LR
comp=E,930nm,10.2s
WHN Wuhan 8.98 92 ‖P **Pn** **15 19 20.3 -0.2**
WHN S **Sn** **15 20 58.8 -2.5**
WHN LR LR
comp=N,4μm,9.0s
WHN LR LR
comp=E,2μm,9.1s
WHN LR LR
comp=Z,2μm,11.4s
BTO Baotou 10.49 26 *e*P **Pn** **15 19 38.7 -2.6**
BTO S Sn 15 22 03.1 +24
BTO LR LR
comp=N,470nm,9.9s
BTO LR LR
comp=E,450nm,7.9s
LSA Lhasa 11.15 265 P **Pn** **15 19 50.7 0.0**
HHC Hu-ho-hao-te 11.33 31 *e*P Pn 15 20 05.2 +12
HHC S Sn 15 21 52.0 -7.1
HHC LR LR
comp=N,810nm,5.4s
HHC LR LR
comp=E,570nm,6.0s
GZH Guangzhou 11.71 132 P **Pn** **15 19 55.8 -2.2**
GZH S Sn 15 21 59.7 -8.8
GZH LR LR
comp=N,2μm,11.2s
GZH LR LR
comp=E,1μm,9.0s
TIA Tai'an 12.01 62 *e*P **Pn** **15 20 01.8 -0.2**
NJ2 Nanjing 12.73 83 *e*P **Pn** **15 20 13.5 +1.7**
NJ2 S **Sn** **15 22 38.5 +5.3**
NJ2 pmax pmax
comp=Z,20nm,0.8s
NJ2 LR LR
comp=N,670nm,12.8s
NJ2 LR LR
comp=E,740nm,13.6s
NJ2 LR LR
comp=Z,860nm,11.9s
BJI Beijing 13.20 45 P **Pn** **15 20 17.6 -0.7**
BJI pmax pmax
comp=Z,11nm,0.5s
CHTO Chiang Mai 13.25 201 *e*P **Pn** **15 20 20.3 +1.3**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 13.25 201 *e*P **Pn** **15 20 20.3 +1.3**
comp=Z,7.9nm,0.8s
CM31 Chiang Mai Arr 13.58 201 P **Pn** **15 20 24.7 +1.1**
comp=Z,11nm,0.6s
CMAR Chiang Mai Arr 13.58 201 Pn **Pn** **15 20 25.2 +1.7**
CMAR ScP **ScP** **15 29 23.1 +0.7**
CMAR Chiang Mai Arr 13.58 201 Pn **Pn** **15 20 25.2 +1.7**
comp=Z,0.4nm,0.3s,baz=13,slow=11,SNR=46
CMAR LR LR 15 26 15.5
comp=Z,210nm,18.0s,baz=0.0,slow=40
CMAR ScP **ScP** **15 29 23.1 +0.7**
comp=Z,0.0nm,0.3s,baz=276,slow=1.7,SNR=4.3
TAPN Taplejung 14.70 258 *e*P **Pn** **15 20 38.8 -0.2**
comp=Z,14nm,0.8s
ODAN Odare 15.13 257 *e*P **Pn** **15 20 43.8 -1.1**
comp=Z,24nm,0.8s
RAMN Ramite 15.76 258 *e*P **Pn** **15 20 52.3 -0.8**
comp=Z,14nm,0.7s
JIRN Jiri 15.88 261 *e*P **Pn** **15 20 54.1 -0.6**
comp=Z,5.5nm,0.8s
GUN Gumba 16.07 262 *e*P **Pn** **15 20 56.3 -0.8**
comp=Z,47nm,0.8s
DL2 Dalian 16.32 58 P **Pn** **15 21 01.0 +1.1**
DL2 S **Sn** **15 24 05.6 +5.0**
DL2 pmax pmax
comp=Z,10.0nm,1.1s
DL2 pmax pmax
comp=Z,120nm,5.8s
PKI Pulchoki 16.57 262 *e*P **Pn** **15 21 02.1 -1.4**
comp=Z,32nm,0.7s
SONM Songino Array 16.60 6 Pn **Pn** **15 21 02.9 -0.7**
SONM Songino Array 16.60 6 Pn **Pn** **15 21 02.9 -0.7**
comp=Z,0.1nm,0.3s,baz=188,slow=13,SNR=14
SONM LR LR 15 28 00.6
comp=Z,113nm,18.6s,baz=140,slow=39
KKN Kakani 16.61 263 *e*P **Pn** **15 21 03.2 -0.8**
comp=Z,67nm,0.9s
ULN Ulaanbaatar 16.69 7 *e*P **Pn** **15 21 04.5 -0.3**
comp=Z,10nm,1.0s
DMN Daman 16.81 262 *e*P **Pn** **15 21 04.8 -1.7**
comp=Z,55nm,0.8s
SSLB Suanglung 16.84 112 P **P** **15 21 09.7 +0.9**
comp=Z,36nm,0.9s
GKN Gorkha 17.10 264 *e*P **Pn** **15 21 08.1 -1.9**
comp=Z,70nm,0.9s
DANN Dangsing 17.75 266 *e*P **Pn** **15 21 16.3 -2.0**
comp=Z,52nm,0.9s
WMQ Urumqi 17.89 319 *e*P **P** **15 21 20.4 +0.1**
WMQ pP **pP** **15 21 28.4 +3.7**
WMQ pmax pmax
comp=Z,8.0nm,1.0s
KOLN Koldanda 18.04 264 *e*P **Pn** **15 21 18.4 -3.4**
comp=Z,16nm,0.6s
ZAK Zakamensk 19.05 359 *e*P **Pn** **15 21 34.0 +0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
TLY Talaya 20.34 359 *e*P Pn 15 21 51.2 +2.1
TLY *e*S **S** **15 25 32.6 -1.8**
TLY *e*SS **SnSn** **15 25 55.4 +2.8**
TLY pmax pmax
comp=Z,4.0nm,1.2s
TLY MLR MLR
comp=Z,95nm,11.0s
MOY Mondy 20.44 355 *e*P Pn 15 21 49.6 -0.8
KSAR Wonju Array Be 20.66 66 P **P** **15 21 50.1 -0.4**
KSRS Korea Array 20.69 66 P **P** **15 21 50.1 -0.7**
comp=Z,15nm,0.7s,baz=258,slow=10,SNR=70
KSRS LR LR 15 29 33.4
comp=Z,72nm,21.5s,baz=158,slow=36
IRK Irkutsk 20.91 1 *e*P Pn 15 21 54.9 -0.8
IRK pmax pmax
comp=Z,54nm,1.1s
CN2 Changchun 21.05 48 ‖P **P** **15 21 55.6 +0.9**
JOW Kunigami 21.72 96 P **P** **15 22 02.1 0.0**
JOW Kunigami 21.72 96 P **P** **15 22 02.1 0.0**
comp=Z,12nm,0.8s,baz=187,slow=1.8,SNR=9.0
MK31 Makanchi Array 22.72 319 *e*P **P** **15 22 12.3 -0.3**
MK31 Makanchi Array 22.72 319 *e*P **P** **15 22 12.3 -0.3**
MKAR Makanchi Array 22.72 319 P **P** **15 22 13.3 +0.7**
MKAR Makanchi Array 22.72 319 P **P** **15 22 13.3 +0.7**
MKAR Makanchi Array 22.72 319 P **P** **15 22 13.3 +0.7**
comp=Z,2.2nm,0.6s,baz=120,slow=11,SNR=30
JNU Nakatsue 22.84 78 P **P** **15 22 13.9 -0.1**
JNU Nakatsue 22.84 78 P **P** **15 22 13.9 -0.1**
comp=Z,8.1nm,0.8s,baz=277,slow=3.8,SNR=8.3
TKM2 Tokmak 2 25.27 305 P **P** **15 22 38.6 +1.4**
TKM2 pmax pmax
comp=Z,50nm,1.0s
TKM2 Tokmak 2 25.27 305 P **P** **15 22 38.6 +1.4**
comp=Z,50nm,1.0s
USRK Ussuriysk Arra 25.50 52 P **P** **15 22 38.3 -0.7**
comp=Z,3.7nm,0.7s,baz=240,slow=8.8,SNR=6.5
AAK Ala-Archa 25.96 304 P **P** **15 22 43.1 -0.4**
AAK pmax pmax
comp=Z,1.0nm,0.5s
AAK MLR MLR
comp=Z,175nm,18.5s
AAK Ala-Archa 25.96 304 *e*P **P** **15 22 43.4 -0.1**
AAK Ala-Archa 25.96 304 P **P** **15 22 43.1 -0.4**
comp=Z,0.5nm,0.5s,baz=95,slow=12,SNR=2.6
AAK LR LR 15 34 03.8
comp=Z,175nm,18.5s,baz=88,slow=39
ZAA0 Zalesovo Array 26.46 334 *e*P **P** **15 22 47.6 -0.1**
ZALV Zalesovo Beam 26.46 334 P **P** **15 22 47.8 +0.1**
ZALV Zalesovo Beam 26.46 334 P **P** **15 22 47.8 +0.1**
ZALV Zalesovo Beam 26.46 334 P **P** **15 22 47.8 +0.1**
comp=Z,2.8nm,0.5s,baz=128,slow=9.6,SNR=14
ZALV LR LR 15 32 45.8
comp=Z,76nm,18.8s,baz=142,slow=36
EKS2 Erkin-Say 26.48 304 *e*P **P** **15 22 47.4 -0.7**
EKS2 Erkin-Say 26.48 304 *e*P **P** **15 22 47.4 -0.7**
KURBB Kurchatov Arra 26.98 323 P **P** **15 22 52.4 +0.1**
comp=Z,3.2nm,0.9s,baz=129,slow=9.1,SNR=18
KURBB PcP **PcP** **15 26 13.0 -0.7**
comp=Z,0.7nm,0.5s,baz=123,slow=1.8,SNR=5.3
KURBB LR LR 15 34 50.3
comp=Z,88nm,20.0s,baz=305,slow=39
KURK Kurchatov 26.99 323 *e*P **P** **15 22 53.2 +0.8**
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURK Kurchatov 26.99 323 *e*P **P** **15 22 52.4 0.0**
KURK PcP **PcP** **15 26 13.0 -0.7**
KLR Kul'dur 27.52 41 *e*P **P** **15 22 56.0 -1.2**
MJAR Matsushiro Arr 28.81 70 P **P** **15 23 08.4 -0.5**
MJAR Matsushiro Arr 28.81 70 P **P** **15 23 08.4 -0.5**
comp=Z,1.4nm,0.6s,baz=279,slow=11,SNR=6.0
KKAR Karatay Array 28.92 303 *e*P **P** **15 23 09.9 +0.1**
KKAR pmax pmax
comp=Z,1.0nm,0.6s
KKAR Karatay Array 28.92 303 *e*P **P** **15 23 09.8 +0.1**
comp=Z,0.9nm,0.6s
BVAR Borovoye Array 32.53 322 P **P** **15 23 41.8 +0.2**
BVAR 15 26 27.2
BVAR Borovoye Array 32.53 322 P **P** **15 23 41.8 +0.2**
BVAR PcP **PcP** **15 26 27.2 -0.7**
BVAR Borovoye Array 32.53 322 P **P** **15 23 41.8 +0.2**
comp=Z,1.1nm,0.7s,baz=108,slow=9.3,SNR=4.4
BVAR PcP **PcP** **15 26 27.2 -0.7**
comp=Z,0.9nm,0.5s,baz=116,slow=3.4,SNR=5.0
ASAJ Asahikawa 32.84 56 P **P** **15 23 43.9 -0.5**
ASAJ Asahikawa 32.84 56 P **P** **15 23 43.9 -0.5**
comp=Z,4.7nm,0.9s,baz=289,slow=32,SNR=4.6
YAK Yakutsk 34.95 21 *e*P **P** **15 24 03.2 +0.8**
YAK pmax pmax
comp=Z,7.0nm,1.3s
ABKAR Akbulak array 37.42 312 *e*P **P** **15 24 23.4 -0.3**
comp=Z,2.6nm,0.7s
AKTO Aktyubinsk 38.88 313 P **P** **15 24 37.2 +1.1**
AKTO Aktyubinsk 38.88 313 P **P** **15 24 37.1 +1.1**
AKTO Aktyubinsk 38.88 313 P **P** **15 24 37.1 +1.1**
comp=Z,1.2nm,0.6s,baz=92,slow=11,SNR=7.1
SVE Sverdlovsk 39.24 323‖ *e*P P 15 24 42.9 +4.0
SVE pmax pmax
comp=Z,11nm,1.0s
ARU Arti 40.17 322 *c i*P P 15 24 50.0 +3.3
ARU 15 26 16.8
ARU S S 15 30 59.3 +6.7
ARU pmax pmax
comp=Z,7.0nm,0.7s
ARU Arti 40.17 322 *e*P **P** **15 24 45.5 -1.2**
comp=Z,7.6nm,0.8s
KIV Kislovodsk 49.08 303 *e*P P 15 26 03.0 +4.9
KIV pmax pmax
comp=Z,6.0nm,1.1s
KLMR Klimovskoe 50.80 325 *e*P P 15 26 13.9 +3.1
KLMR pmax pmax
comp=Z,19nm,1.4s
VSR Storozhevoye 50.83 313 *e*P P 15 26 14.9 +3.7
BILL Bilibino 51.04 25‖ *e*P **P** **15 26 12.2 -0.3**
BILL *e*S S 15 33 16.9 -12
BILL *e*SS **SS** **15 37 01.0 -2.6**
BILL pmax pmax
comp=Z,4.0nm,1.2s
OBN Obninsk 52.22 318‖ *e*P **P** **15 26 24.0 +2.5**
OBN *e*S **S** **15 33 50.8 +5.3**
OBN pmax pmax
comp=Z,13nm,1.4s
JOF Joensuu 54.77 328 *e*P **P** **15 26 39.7 -0.3**
JOF pmax pmax
comp=Z,3.0nm,0.5s
JOF Joensuu 54.77 328 *ep* **P** **15 26 39.7 -0.3**
comp=Z,3.2nm,0.5s
KEV Kevo 56.48 336 *e*P **P** **15 26 50.6 -1.6**
KEV pmax pmax
comp=Z,5.0nm,0.8s
KEV Kevo 56.48 336 *ep* **P** **15 26 50.6 -1.6**
comp=Z,5.1nm,0.8s
BRTR Keskin Array B 56.51 299 P **P** **15 26 52.6 -0.5**
BRTR PcP **PcP** **15 27 52.4 +2.5**
BRTR Keskin Array B 56.51 299 P **P** **15 26 52.6 -0.5**
comp=Z,0.7nm,0.8s,baz=36,slow=11,SNR=4.0
BRTR PcP **PcP** **15 27 52.4 +2.5**
comp=Z,1.3nm,0.9s,baz=64,slow=8.4,SNR=4.1
ARCES ARCESS Array B 57.00 336 P **P** **15 26 55.6 -0.4**
ARCES PcP **PcP** **15 27 50.5 -0.4**
ARCES ARCESS Array B 57.00 336 P **P** **15 26 55.6 -0.4**
comp=Z,5.0nm,0.9s,baz=89,slow=7.0,SNR=14
ARCES PcP **PcP** **15 27 50.5 -0.4**
comp=Z,6.0nm,1.1s,baz=75,slow=5.1,SNR=4.3
KAF Kangasniemi 57.13 327 *e*P **P** **15 26 55.0 -2.0**
KAF pmax pmax
comp=Z,3.0nm,0.7s
KAF Kangasniemi 57.13 327 *ep* **P** **15 26 55.0 -2.0**
comp=Z,2.6nm,0.7s
AKASG Malin Array Be 57.13 313 P **P** **15 26 56.0 -1.2**
AKASG Malin Array Be 57.13 313 P **P** **15 26 56.0 -1.2**
AKASG Malin Array Be 57.13 313 P **P** **15 26 56.0 -1.2**
comp=Z,0.5nm,0.4s,baz=70,slow=7.4,SNR=2.6
FINES FINESS Array B 57.31 326 P **P** **15 26 57.8 -0.5**
FINES FINESS Array B 57.31 326 P **P** **15 26 57.8 -0.5**
comp=Z,3.7nm,0.8s,baz=94,slow=5.7,SNR=11
WRAB Tennant Creek 58.73 146 *e*P **P** **15 27 09.1 +0.4**
WRAB pmax pmax
comp=Z,11nm,0.6s
WRAB Tennant Creek 58.73 146 *e*P **P** **15 27 09.1 +0.4**
comp=Z,11nm,0.6s
WRA Warramunga Arr 58.73 146 P **P** **15 27 09.0 +0.3**
WRA Warramunga Arr 58.73 146 P **P** **15 27 09.0 +0.3**
comp=Z,4.2nm,0.3s,baz=339,slow=7.8,SNR=124
AS31 Alice Springs 61.75 149 P **P** **15 27 29.2 -0.1**
ASAR Alice Springs 61.75 149 P **P** **15 27 29.8 +0.4**
ASAR Alice Springs 61.75 149 P **P** **15 27 29.8 +0.4**
comp=Z,1.2nm,0.5s,baz=338,slow=6.8,SNR=44
NB2 NORSAR Subarra 64.40 327 P **P** **15 27 45.0 -1.6**
comp=Z,1.3nm,0.6s,baz=73,slow=6.9
NOA NORSAR Array B 64.40 327 P **P** **15 27 45.7 -0.8**
NOA NORSAR Array B 64.40 327 P **P** **15 27 45.7 -0.8**
comp=Z,1.3nm,0.6s,baz=62,slow=4.2,SNR=7.0
GERES GERESS Array B 67.29 314 P **P** **15 28 05.1 -0.4**
GERES GERESS Array B 67.29 314 P **P** **15 28 05.1 -0.4**
comp=Z,0.7nm,0.8s,baz=46,slow=3.9,SNR=4.7
COLD Coldfoot 67.33 24 *e*P **P** **15 28 04.7 -0.6**
comp=Z,6.9nm,0.8s
COLA College 69.29 26 *e*P **P** **15 28 17.4 -0.2**
COLA pmax pmax
comp=Z,9.0nm,0.8s
COLA College 69.29 26 *e*P **P** **15 28 17.4 -0.2**
comp=Z,9.2nm,0.8s
MCK McKinley 69.44 27 *e*P **P** **15 28 18.3 -0.3**
MCK McKinley 69.44 27 *e*P **P** **15 28 18.3 -0.3**
ILAR Eielson Array 69.70 26 P **P** **15 28 19.0 -1.2**
ILAR Eielson Array 69.70 26 P **P** **15 28 19.0 -1.2**
comp=Z,1.5nm,0.5s,baz=295,slow=4.2,SNR=32
PAX Paxson 71.18 27 *e*P **P** **15 28 28.6 -0.7**
PAX Paxson 71.18 27 *e*P **P** **15 28 28.6 -0.7**
INK Inuvik 72.00 19 *e*P **P** **15 28 33.5 -0.5**
comp=Z,5.9nm,0.9s
STKA Stephens Creek 72.27 147 *e*P **P** **15 28 36.1 +0.1**
STKA Stephens Creek 72.27 147 P **P** **15 28 35.7 -0.4**
comp=Z,1.8nm,0.6s,baz=311,slow=12,SNR=3.8
BMRM Bremner River 72.61 28 *e*P **P** **15 28 37.9 -0.1**
comp=Z,9.0nm,0.6s
LPG La Plagne 73.00 313 *e*P **P** **15 28 40.1 -0.7**
comp=Z,40nm,1.3s
MBDF Montbardon 73.34 312 *e*P **P** **15 28 41.6 -1.0**
YKA Yellowknife Ar 81.53 17 P **P** **15 29 27.5 -0.4**
YKA Yellowknife Ar 81.53 17 P **P** **15 29 27.5 -0.4**
comp=Z,1.8nm,0.6s,baz=330,slow=5.2,SNR=52
FFC Flin Flon 91.44 15 *ce*P **P** **15 30 17.3 +0.5**
TORD Torodi Ar. Bea 93.43 288 P **P** **15 30 26.3 -0.4**
TORD Torodi Ar. Bea 93.43 288 P **P** **15 30 26.3 -0.4**
comp=Z,0.7nm,1.1s,baz=67,slow=4.4,SNR=3.8
SCHQ Schefferville 93.83 355 P **P** **15 30 26.9 -1.0**
SCHQ Schefferville 93.83 355 P **P** **15 30 26.9 -1.0**
comp=Z,0.8nm,0.7s,baz=221,slow=16,SNR=4.2
TXAR Lajitas Array 114.21 26 PKP PKPdf 15 35 50.0 -0.8
comp=Z,0.1nm,0.7s,baz=19,slow=12,SNR=3.2
TXAR Lajitas Array 114.21 26 PKP PKPdf 15 35 50.0 -0.7
comp=Z,0.1nm,0.7s,baz=19,slow=12,SNR=3.2

MEX 08 15:22:59.5±0.5, 17.01N×99.65W, h6km±3km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.24**	**235**	*i* P		Pg 15 23 04.8	+0.5
ACX				*i* S		Sg 15 23 09.6	+2.0
CAIG	**El Cayaco**	**0.59**	**274**	*i* P		Pg 15 23 09.8	-1.1
CAIG				*i* S		Sg 15 23 18.8	+0.2
MEIG	**Mezcala**	**0.91**	**2**	*e*P		Pg 15 23 14.7	-2.4
MEIG				*i* S		Sg 15 23 27.3	-1.7
PLIG	**Platanillo**	**1.38**	**6**	*i* P		Pn 15 23 21.8	-3.7
PLIG				*i* S		Sb 15 23 39.7	-4.2
PNIG	**Pinotepa**	**1.59**	**113**	*i* P		Pn 15 23 23.9	-4.3
PNIG				*i* S		Sn 15 23 44.2	-4.8
ZIIG	**Zihuatanejo**	**1.83**	**289**	*i* P		Pn 15 23 28.0	-3.5
ZIIG				*i* S		Sn 15 23 50.6	-4.4
YAIG	**Yautepec**	**1.92**	**17**	*i* P		Pn 15 23 30.0	-3.0
YAIG				*i* S		Sn 15 23 52.6	-5.1
UTMO	**Huajuapan**	**1.94**	**65**	*i* P		Pn 15 23 29.8	-3.6
UTMO				*i* S		Sn 15 23 53.7	-4.7
PPM	**Popocatepetl**	**2.27**	**25**	*i* P		Pn 15 23 34.6	-3.6
PPM				*i* S		Sn 15 24 01.7	-5.3

JMA 08 15:31:21.1±0.4, 26.62N×131.98E, h0km, M3.8, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMZ	**Minamidaito 2**	**1.05**	**221**	P		Pg 15 31 41.5	+0.3
JMZ				S		Sb 15 31 56.0	-0.4
JZK	**Kikaishima**	**2.46**	**314**	P		Pn 15 32 04.2	+1.8
JZK				*e*S		Sb 15 32 35.4	-1.6
JAM	**Amami Oshima**	**2.76**	**311**	P		Pn 15 32 08.1	+1.5
JAM				S		Sn 15 32 41.2	+0.5
JTK	**Tokunoshima**	**2.94**	**294**	P		Pn 15 32 09.7	+0.6
JTK				S		Sn 15 32 46.5	+1.4
JOW	**Kunigami**	**3.32**	**274**	P		Pn 15 32 14.6	+0.2
JOW				S		Sn 15 32 53.3	-1.3
JIH	**Iheya**	**3.61**	**277**	P		Pn 15 32 18.8	+0.5
JIH				S		Sn 15 33 00.7	-0.9
JAGN	**Aguni-jima**	**4.24**	**271**	P		Pn 15 32 27.1	+0.1
JAGN				*e*S		Sn 15 33 15.6	-1.6

BJI ***08*** *15:34:32.5, 6.62S×148.18E, h60km, mB5.5/36, mb5.4/67, Ms5.2/57, Ms7 5.0/57*

MOS ***08*** *15:34:34.5±1.0, 6.08S×147.78E, h33km, mb5.7/46, MS5.2/37, Error ellipse: s-maj=8.2km s-min=5.4km az=95.3*

ISCJB ***08*** *15:34:35.5±0.7, 6.14S±0.02×147.87E±0.02, h43km±6km, mb5.6/175, MS5.2/201, Error ellipse: s-maj=4.4km s-min=3.8km az=40.3*

NEIC ***08*** *15:34:37.2±0.1, 6.12S×147.82E, mb5.5/69, MS5.3/143, MW5.6, MW5.5, Error ellipse: s-maj=4.7km s-min=3.6km az=90.0, Moment Tensor Solution. s31 Moment tensor: Scale 10^{17}Nm; M_{rr}2.05; $M_{\theta\theta}$-2.14; $M_{\phi\phi}$0.09; $M_{r\theta}$0.63; $M_{\theta\phi}$0.46; $M_{\phi r}$-0.20; Best double couple: M_o2.30000×10^{17} NP1:ϕ_s279.00000°, δ37.00000°, λ86.00000°. NP2: ϕ_s103.00000°, δ54.00000°, λ93.00000°. Principal axes: T 2.1500, Plg81.0000°, Azm25.0000°; N 0.1800, Plg2.0000°, Azm281.0000°; P -2.3300, Plg8.0000°, Azm191.0000°;*

IDC ***08*** *15:34:37.8±0.5, 6.20S×147.78E, h47km±4km, mb5.3/26, mb1 5.3/31, mb1mx5.3/31, mbtmp5.3/31, MS5.0/28, Ms1 5.0/28, ms1mx4.9/34 Error ellipse: s-maj=10.4km s-min=6.1km az=104.0*

DJA ***08*** *15:34:43, 6.40S×147.78E, h86km, Mw5.6/49*

NEIC ***08*** *15:34:53.1±0.0, 6.16S×147.76E, h36km, Moment Tensor Solution. s134 Moment tensor: Scale 10^{17}Nm; M_{rr}2.22; $M_{\theta\theta}$-2.64; $M_{\phi\phi}$0.42; $M_{r\theta}$1.12; $M_{\theta\phi}$0.48; $M_{\phi r}$-0.41; Best double couple: M_o2.70000×10^{17} NP1:ϕ_s105.00000°, δ58.00000°, λ97.00000°. NP2:ϕ_s271.00000°, δ33.00000°, λ78.00000°. Principal axes: T 2.5100, Plg75.0000°, Azm36.0000°; N 0.4600, Plg6.0000°, Azm281.0000°; P -2.9800, Plg12.0000°, Azm189.0000°;*

ISC 08 15:34:38.3±0.2, 6.18S±0.03×147.85E±0.04, h55km±1km, h55km:pP-P, n733, σ1§52/831, mb5.5/173, MS5.2/202, 82C-52D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.28**	**192**‖	*i* P	**Pn**	**15 35 26.9**	**-0.4**
PMG				S	**Sn**	**15 36 04.4**	**-0.7**
PMG	**Port Moresby**	**3.28**	**192**	P	**Pn**	**15 35 26.5**	**-0.8**
PMG	**Port Moresby**	**3.28**	**192**	P	**Pn**	**15 35 27.0**	**-0.3**
726nm,0.3s,baz=24,slow=5.4,SNR=1126							
PMG				S	**Sn**	**15 36 04.4**	**-0.7**
328nm,0.3s,baz=199,slow=23,SNR=8.6							
JAY	**Jayapura**	**7.99**	**297**	P	Pn	15 36 36.4	+4.4
651nm,1.0s,7μm3.6nm							
COEN	**Coen**	**8.99**	**210**	*e*P	**Pn**	**15 36 44.0**	**-1.7**
1μm,1.0s							
HNR	**Honiara**	**12.42**	**106**	*e*P	**Pn**	**15 37 33.1**	**+0.6**
659nm,0.9s							
HNR	**Honiara**	**12.42**	**106**	P	**Pn**	**15 37 33.0**	**+0.6**
baz=170,slow=4.4,SNR=34							
HNR				LR	LR	15 42 01.2	
comp=Z,2μm,21.9s,baz=270,slow=36							
BAKI	**Biak**	**12.71**	**292**	P	P	15 37 42.2	-3.8
487nm,1.1s,4μm							
CTA	**Charters Tower**	**13.91**	**186**	P	**Pn**	**15 37 52.8**	**0.0**
CTA	**Charters Tower**	**13.91**	**186**	*e*P	**Pn**	**15 37 52.8**	**0.0**
63nm,0.6s							
CTA				*e*S	**Sn**	**15 40 26.4**	**+0.6**
CTA	**Charters Tower**	**13.91**	**186**	P	**Pn**	**15 37 52.8**	**0.0**
2.8nm,0.3s,baz=6.1,slow=14,SNR=46							
CTAO	**Charters Tower**	**13.91**	**186**	*e*P	**Pn**	**15 37 52.2**	**-0.6**
CTAO				pmax	pmax		
comp=Z,77nm,0.7s							
CTAO	**Charters Tower**	**13.91**	**186**	*e*P	**Pn**	**15 37 52.2**	**-0.6**
comp=Z,78nm,0.7s							
TLE	**Tual**	**15.04**	**271**	P	P	**15 38 11.4**	**-0.5**
comp=Z,1μm,1.2s,comp=Z,11μm							
FAKI	**Fak Fak**	**15.88**	**281**	P	**Pn**	**15 38 18.7**	**+0.3**
comp=Z,187nm,1.5s,comp=Z,5μm							
SWI	**Sorong**	**17.37**	**287**	P	P	**15 38 37.9**	**+0.2**
comp=Z,666nm,1.3s,comp=Z,6μm							
BNDI	**Bandanaira**	**17.94**	**274**	P	**Pn**	**15 38 46.7**	**+2.7**
comp=Z,1μm,1.9s,comp=Z,20μm							
WRAB	**Tennant Creek**	**18.95**	**223**	*e*P	P	**15 38 54.8**	**-0.3**
WRAB				pmax	pmax		
comp=Z,217nm,0.8s							
WRAB	**Tennant Creek**	**18.95**	**223**	*e*P	P	**15 38 54.8**	**-0.3**
comp=Z,217nm,0.8s							
WRAB	**Tennant Creek**	**18.95**	**223**	P	P	**15 38 55.0**	**-0.1**
comp=Z,2μm,0.7s							
WRA	**Warramunga Arr**	**18.96**	**223**	P	P	**15 38 55.1**	**-0.1**
WRA				S	**S**	**15 42 25.9**	**-2.0**
WRA				PcP	**PcP**	**15 43 20.6**	**+1.3**
WRA	**Warramunga Arr**	**18.96**	**223**	P	P	**15 38 55.1**	**-0.1**
comp=Z,14nm,0.3s,baz=46,slow=11,SNR=213							
WRA				S	**S**	**15 42 25.9**	**-2.0**
baz=43,slow=22,SNR=18							
WRA				PcP	**PcP**	**15 43 20.6**	**+1.3**
baz=54,slow=4.2,SNR=4.6							
WRA				LR	LR	15 46 58.5	
comp=Z,8μm,18.9s,baz=50,slow=39							
MSAI	**Masohi**	**19.06**	**278**	P	**Pn**	**15 38 58.3**	**+0.7**
comp=Z,148nm,0.9s,comp=Z,2μm							
EIDS	**Eidsvold**	**19.34**	**171**	*e*P	P	**15 38 59.9**	**+0.6**
comp=Z,220nm,0.6s							
AAI	**Ambon**	**19.73**	**276**	P	P	**15 39 04.4**	**+0.7**
comp=Z,784nm,0.8s,comp=Z,8μm							
GUMO	**Guam**	**19.86**	**351**	*e*P	**Pn**	**15 39 07.5**	**+0.6**
GUMO	**Guam**	**19.86**	**351**	P	P	**15 39 04.5**	**-0.5**
comp=Z,8.5nm,0.3s,baz=190,slow=9.2,SNR=17							
GUMO				LR	LR	15 45 56.5	
comp=Z,3μm,19.2s,baz=164,slow=34							
LBMI	**Labuha**	**21.03**	**284**	P	P	**15 39 21.3**	**+3.5**
comp=Z,417nm,1.2s,comp=Z,6μm							
TNTI	**Ternate**	**21.58**	**288**	P	P	15 39 31.7	+8.1
comp=Z,256nm,1.4s,comp=Z,5μm							
AS31	**Alice Springs**	**21.96**	**216**	*e*P	P	**15 39 27.6**	**0.0**
ASAR	**Alice Springs**	**21.96**	**216**	P	P	**15 39 27.5**	**-0.2**
ASAR				S	**S**	**15 43 27.1**	**-0.2**
ASAR				ScP	**ScP**	**15 46 59.1**	**+1.4**

ASAR PKiKP **PKiKP** **15 51 10.1 -1.2**
ASAR Alice Springs 21.96 216 P **P** **15 39 27.5 -0.2**
comp=Z,245nm,0.7s,baz=53,slow=9.1,SNR=1348
ASAR S **S** **15 43 27.1 -0.2**
comp=Z,146nm,0.8s,baz=29,slow=23,SNR=19
ASAR ScP **ScP** **15 46 59.1 +1.4**
comp=Z,11nm,1.0s,baz=23,slow=4.1,SNR=4.2
ASAR PKiKP **PKiKP** **15 51 10.1 -1.2**
comp=Z,2.8nm,0.9s,baz=70,slow=1.1,SNR=4.2
NOUC Port Laguerre 23.85 133 *e*P **P** **15 39 45.4 -1.3**
DZM Mont Dzumac 23.93 133 *e*P **P** **15 39 46.3 -1.2**
comp=Z,489nm,1.4s
DZM *e*S **S** **15 43 54.1 -6.3**
comp=Z,3μm,26.1s
DZM *e*LR LR 15 45 34.8
comp=Z,10μm,26.4s
DZM Mont Dzumac 23.93 133 *e*P **P** **15 39 46.1 -1.4**
DZM Mont Dzumac 23.93 133 P **P** **15 39 48.1 +0.5**
DZM Mont Dzumac 23.93 133 P **P** **15 39 48.1 +0.5**
comp=Z,87nm,1.1s,baz=309,slow=7.0,SNR=20
DZM LR LR 15 48 35.9
comp=Z,2μm,18.1s,baz=308,slow=35
MNI Manado 24.18 288 P **P** **15 39 51.8 +1.9**
comp=Z,251nm,0.9s,comp=Z,5μm
ARMA Armidale 24.38 172 *e*P **P** **15 39 52.1 +0.5**
comp=Z,122nm,0.9s
ARMA Armidale 24.38 172 *e*P **P** **15 39 52.2 +0.7**
ARMA *e*S **S** **15 44 11.6 +4.1**
FITZ Fitzroy Crossi 24.70 239 *e*P **P** **15 39 55.2 +0.8**
comp=Z,556nm,0.8s
FITZ Fitzroy Crossi 24.70 239 *e*P **P** **15 39 54.6 +0.1**
comp=Z,972nm,0.6s
FITZ *e*S **S** **15 44 12.8 +0.2**
FITZ Fitzroy Crossi 24.70 239 P **P** **15 39 55.4 +0.9**
comp=Z,547nm,0.7s,baz=67,slow=8.5,SNR=557
FITZ LR LR 15 51 02.5
comp=Z,6μm,18.2s,baz=67,slow=40
KDI Kendari 25.22 274 P **P** **15 39 59.8 +0.5**
comp=Z,179nm,1.3s,comp=Z,2μm
MMRI Maumere 25.51 263 P **P** **15 40 02.1 +0.2**
comp=Z,585nm,1.2s,comp=Z,6μm
LUWI Luwuk 25.53 281 P **P** **15 40 03.4 +1.3**
comp=Z,553nm,1.2s,comp=Z,8μm
DAV Davao City (W) 25.82 300 LR LR 15 51 00.5
comp=Z,1μm,19.0s,baz=35,slow=38
TARA Tarawa 26.13 74 PFAKE 15 40 20.0 +12
TARA LR LR
comp=Z,1μm,20.0s
STKA Stephens Creek 26.23 192 *e*P **P** **15 40 08.1 -0.1**
comp=Z,48nm,0.8s
STKA Stephens Creek 26.23 192 ⇓*i*P **P** **15 40 08.1 -0.1**
comp=Z,135nm,0.7s
STKA *e*S **S** **15 44 34.2 -2.5**
STKA Stephens Creek 26.23 192 P **P** **15 40 08.2 0.0**
comp=Z,157nm,0.7s,baz=0.6,slow=9.0,SNR=127
STKA LR LR 15 50 59.1
comp=Z,8μm,21.8s,baz=348,slow=38
CTBH Cotabato--PC H 27.05 299 ⇓*i*P P 15 40 10.7 -5.1
WSI Waingapu 27.50 261 P **P** **15 40 20.7 +0.9**
comp=Z,1μm,1.1s,comp=Z,17μm
BKSI Bulukumba 27.59 270 P **P** **15 40 21.2 +0.5**
comp=Z,142nm,1.1s,comp=Z,2μm
RIV Riverview 27.69 174 *e*P **P** **15 40 22.4 +1.1**
KAPI Kappang 27.98 271 *e*P **P** **15 40 23.5 -0.6**
comp=Z,278nm,1.2s
KAPI LR LR
comp=Z,2μm,21.0s
KAPI Kappang 27.98 271 ⇑P **P** **15 40 24.0 -0.2**
SNR=13
KAPI Kappang 27.98 271 P **P** **15 40 24.0 -0.2**
comp=Z,1μm,1.1s,SNR=18
KAPI Kappang 27.98 271 P **P** **15 40 23.9 -0.2**
comp=Z,211nm,1.2s,comp=Z,2μm
KAPI Kappang 27.98 271 P **P** **15 40 23.9 -0.2**
comp=Z,158nm,1.1s,baz=94,slow=5.0,SNR=37
BBOO Buckleboo 28.68 201 *e*P **P** **15 40 30.3 +0.1**
comp=Z,883nm,0.7s
CAN Canberra 29.02 178 *e*P **P** **15 40 33.8 +0.5**
CAN pmax pmax
comp=Z,42nm,0.9s
CAN MLR MLR
comp=Z,7μm,22.0s
CAN Canberra 29.02 178 *e*P **P** **15 40 33.8 +0.5**
comp=Z,42nm,0.9s
CAN LR LR
comp=Z,7μm,22.0s
CNB Canberra Magne 29.03 177 *e*P **P** **15 40 33.2 -0.1**
comp=Z,292nm,1.1s
FORT Forrest 30.73 215 *e*P **P** **15 40 48.8 +0.5**
comp=Z,100nm,0.7s
FORT Forrest 30.73 215 *e*P **P** **15 40 48.7 +0.5**
comp=Z,84nm,0.6s
MBWA Marble Bar 31.03 239 *e*P **P** **15 40 51.6 +0.5**
comp=Z,150nm,0.7s
MBWA LR LR
comp=Z,5μm,20.0s
SMKI Samarinda 31.10 279 P P 15 40 55.1 +3.3
comp=Z,172nm,1.1s,comp=Z,3μm
TOO Toolangi 31.32 184 *e*P **P** **15 40 54.4 +0.9**
comp=Z,81nm,0.9s
WAKE Wake Island 31.36 36 PFAKE 15 41 10.0 +16
WAKE LR LR
comp=Z,4μm,22.0s
MSVF Nonsavu 31.64 114 *e*P **P** **15 40 57.5 +0.9**
MSVF pmax pmax
comp=Z,76nm,1.0s
MSVF MLR MLR
comp=Z,1μm,20.0s
MSVF Nonsavu 31.64 114 *e*P **P** **15 40 57.5 +0.9**
comp=Z,76nm,1.0s
MSVF LR LR
comp=Z,1μm,20.0s
MSVF Nonsavu 31.64 114 P **P** **15 40 58.9 +2.2**
comp=Z,341nm,1.0s,SNR=8.1
TSM Tawau 31.68 288 P **P** **15 40 59.6 +2.7**
KHKI Kahang-Kahang 32.05 264 P P 15 41 03.4 +3.3
comp=Z,116nm,1.0s
SDKM Sandakan 32.77 290 P P 15 41 10.1 +3.5
BBKI Banjar Baru 32.99 273 P **P** **15 41 09.3 +0.9**
comp=Z,284nm,1.2s,comp=Z,3μm
TGY Tagaytay City 33.45 307 P **P** **15 41 12.3 -0.1**
TGY Tagaytay City 33.45 307 P **P** **15 41 12.3 -0.1**
comp=Z,68nm,0.6s,baz=179,slow=2.3,SNR=4.5
JAGI Jajag, Banyuwa 33.49 264 P **P** **15 41 12.2 -0.6**
comp=Z,115nm,1.7s,comp=Z,2μm
CBIJ Chichi jima 33.53 351 P **P** **15 41 13.4 +0.6**
CBIJ Chichi jima 33.53 351 P **P** **15 41 13.4 +0.6**
comp=Z,341nm,0.8s,baz=146,slow=1.4,SNR=9.5
CBIJ LR LR 15 52 55.4
comp=Z,1μm,19.8s,baz=165,slow=33
KKM Kota Kinabalu 33.82 290 PFAKE 15 41 30.0 +14
KKM LR LR
comp=Z,869nm,22.0s
BLJI Banyuglugur 34.03 265 P **P** **15 41 19.0 +1.6**
comp=Z,88nm,1.0s
KRKI Karangkates 35.16 265 P P 15 41 31.4 +4.1
comp=Z,258nm,1.2s
SJI Sawahan 35.84 265 P **P** **15 41 34.3 +1.1**
comp=Z,111nm,0.9s
BTM Bintulu 35.94 284 P **P** **15 41 36.2 +2.3**
PBKI Pangkalan Bun 36.22 274 P **P** **15 41 38.0 +1.6**
comp=Z,849nm,1.1s,comp=Z,9μm
PCJI Pacitan 36.43 265 P **P** **15 41 39.7 +1.6**
comp=Z,353nm,1.4s
TAU Tasmania Unive 36.59 181 PFAKE 15 41 50.0 +11
TAU LR LR
comp=Z,5μm,22.0s
SBUM Sibu 36.59 282 P **P** **15 41 40.8 +1.4**
SBUM Sibu 36.59 282 P **P** **15 41 42.3 +2.8**
comp=Z,25nm,2.5s
STKI Sintang 36.82 278 P **P** **15 41 43.4 +1.9**
comp=Z,79nm,1.3s,comp=Z,7μm
OUZ Omahuta 37.38 144 *e*P **P** **15 41 46.4 +0.5**
comp=Z,23nm,0.8s
KLBR Kellerberrin 37.83 224 ⇑*i*P **P** **15 41 49.7 -0.1**
comp=Z,172nm,0.6s
JOW Kunigami 37.90 331 *e*P **P** **15 41 50.9 +0.6**
comp=Z,63nm,1.0s
JOW Kunigami 37.90 331 P **P** **15 41 51.4 +1.0**
comp=Z,105nm,0.9s,baz=158,slow=8.4,SNR=22
JOW LR LR 15 54 26.3
comp=Z,4μm,21.9s,baz=221,slow=31
KSM Kuching 38.24 280 PFAKE 15 42 00.0 +6.5
KSM LR LR
comp=Z,729nm,22.0s
KSM Kuching 38.24 280 P **P** **15 41 55.1 +1.7**
KSM Kuching 38.24 280 P P 15 41 57.1 +3.6
comp=Z,44nm,1.3s,comp=Z,833nm
TWG Pinlang 38.94 319 *e*P **P** **15 41 57.2 -1.9**
NWAO Narrogin (SRO) 38.97 223 *e*P **P** **15 41 59.3 0.0**
comp=Z,58nm,0.7s
NWAO Narrogin (SRO) 38.97 223 P **P** **15 41 59.5 +0.2**
comp=Z,53nm,0.7s,baz=56,slow=6.8,SNR=23
NWAO LR LR 15 59 29.8
comp=Z,5μm,18.4s,baz=51,slow=38
YULB Yu-li 39.20 319 *e*P **P** **15 42 01.0 -0.3**
comp=Z,29nm,0.6s
NACB Ninganchiao 39.56 321 *e*P **P** **15 42 04.1 -0.2**
comp=Z,267nm,1.3s
TPUB Ta-pu 39.56 319 *e*P **P** **15 42 04.0 -0.4**
comp=Z,86nm,0.8s
RAO Raoul Island 39.62 130 *e*P **P** **15 42 05.7 +0.9**
comp=Z,504nm,0.9s
SSLB Suanglung 39.70 320 *e*P **P** **15 42 05.4 -0.1**
comp=Z,53nm,0.8s
CISI Cisompet, Garu 39.76 266 P **P** **15 42 06.0 -0.2**
comp=Z,404nm,0.8s,comp=Z,6μm
LEM Lembang 39.97 267 P **P** **15 42 08.7 +0.6**
comp=Z,212nm,2.2s,comp=Z,5μm
YHNB Yeheng 40.06 321 *e*P **P** **15 42 08.7 +0.2**
comp=Z,196nm,0.9s
YHNB LR LR
comp=Z,2μm,21.0s
TPI Tanjungpandan 40.20 273 P **P** **15 42 12.1 +2.2**
comp=Z,370nm,0.9s,comp=Z,3μm
TATO Taipei 40.21 321 *e*P **P** **15 42 09.9 +0.2**
comp=Z,681nm,1.3s
TATO LR LR
comp=Z,3μm,22.0s
AFI Afiamalu 40.45 104 *e*P **P** **15 42 12.4 +0.5**
comp=Z,368nm,1.0s
AFI LR LR
comp=Z,2μm,21.0s
AFI Afiamalu 40.45 104 P **P** **15 42 12.7 +0.8**
comp=Z,262nm,1.0s,baz=281,slow=3.6,SNR=23
CBJI Citeko 40.74 267 P **P** **15 42 14.1 -0.2**
comp=Z,505nm,0.9s
DBJI Dramaga 40.84 267 P **P** **15 42 15.1 0.0**
comp=Z,223nm,1.3s
PPBI Pangkal Pinang 41.78 274 P **P** **15 42 24.3 +1.5**
comp=Z,346nm,1.1s,comp=Z,3μm
QZH Quanzhou 42.04 319 ⇑*i*P **P** **15 42 25.2 +0.5**
QZH S **S** **15 48 39.3 -0.8**
QZH pmax pmax
comp=Z,190nm,0.9s
QZH LR LR
comp=N,3μm,22.7s
QZH LR LR
comp=E,5μm,23.0s
QZH LR LR
comp=Z,3μm,25.6s
JNU Nakatsue 42.27 339 *e*P **P** **15 42 26.9 +0.4**
comp=Z,71nm,1.0s
JNU Nakatsue 42.27 339 P **P** **15 42 27.1 +0.5**
comp=Z,126nm,0.9s,baz=134,slow=5.1,SNR=62
SNZO South Karori 42.40 150 PFAKE 15 42 40.0 +13
SNZO LR LR
comp=Z,2μm,19.0s
RPZ Rata Peaks 42.59 155 *e*P **P** **15 42 29.5 +0.5**
comp=Z,32nm,0.6s
KHZ Kahutara 42.67 152 *e*P **P** **15 42 30.2 +0.6**
comp=Z,133nm,1.3s
PMBI Palembang 43.05 272 P **P** **15 42 35.4 +2.3**
comp=Z,883nm,1.2s
MJAR Matsushiro Arr 43.44 349 P **P** **15 42 36.2 +0.3**
MJAR pP **pP** **15 42 48.0 -2.4**
MJAR Matsushiro Arr 43.44 349 P **P** **15 42 36.2 +0.3**
comp=Z,150nm,0.9s,baz=177,slow=8.5,SNR=209
MJAR pP **pP** **15 42 48.0 -2.4**
comp=Z,65nm,0.9s,baz=173,slow=6.7,SNR=7.4
MJAR LR LR 16 00 56.1
comp=Z,2μm,18.3s,baz=160,slow=36
MAJO Matsushiro 43.44 349 *e*P **P** **15 42 36.5 +0.5**
MAJO pmax pmax
comp=Z,327nm,1.1s
MAJO MLR MLR
comp=Z,1μm,19.0s
MAJO Matsushiro 43.44 349 *e*P **P** **15 42 36.5 +0.5**
comp=Z,327nm,1.1s
MAJO LR LR
comp=Z,1μm,19.0s
LWLI Liwa 43.58 269 P **P** **15 42 37.1 -0.5**
comp=Z,949nm,1.0s,comp=Z,8μm
MYKOM Kota Tinggi 44.63 279 P **P** **15 42 47.9 +2.1**
MYKOM Kota Tinggi 44.63 279 P **P** **15 42 49.0 +3.1**
comp=Z,60nm,1.7s,comp=Z,1μm
SSE Sheshan 44.98 327 P **P** **15 42 48.3 0.0**
SSE sP **sP** **15 43 07.2 -2.0**
SSE S **S** **15 49 26.1 +3.1**
SSE sS **sS** **15 49 51.4 +4.1**
SSE pmax pmax
comp=Z,190nm,0.7s
SSE pmax pmax
comp=Z,260nm,6.0s
SSE LR LR
comp=N,1μm,24.7s
SSE LR LR
comp=E,1μm,24.7s
SSE LR LR
comp=Z,2μm,26.5s
QIZ Qiongzhong 45.05 305 P **P** **15 42 49.0 0.0**
QIZ sP **sP** **15 43 08.5 -1.4**
QIZ S **S** **15 49 24.6 +0.3**
QIZ sS **sS** **15 49 48.0 -0.6**
QIZ pmax pmax
comp=Z,22nm,1.2s
QIZ LR LR
comp=N,710nm,23.7s
QIZ LR LR
comp=E,310nm,21.4s
QIZ LR LR
comp=Z,2μm,24.3s
KSI Kapahiang 45.15 271 P **P** **15 42 49.2 -0.8**
comp=Z,307nm,0.8s,comp=Z,4μm
KGM Kluang 45.20 279 P **P** **15 42 51.8 +1.5**
RGRI Rengat 45.78 276 P **P** **15 42 57.8 +2.8**
comp=Z,481nm,1.3s,comp=Z,31μm
KRJI Kerinci 46.42 273 P **P** **15 43 00.8 +0.6**
comp=Z,1μm,0.9s,comp=Z,12μm
NJ2 Nanjing 46.99 326 *e*P **P** **15 43 05.1 +0.9**
NJ2 pP **pP** **15 43 16.8 -1.9**
NJ2 sP **sP** **15 43 22.8 -2.3**
NJ2 S **S** **15 49 52.5 +0.6**
NJ2 sS **sS** **15 50 17.5 +1.2**
NJ2 pmax pmax
comp=Z,200nm,0.9s
NJ2 pmax pmax
comp=Z,480nm,4.5s
NJ2 LR LR
comp=N,2μm,24.2s
NJ2 LR LR
comp=E,880nm,20.7s
NJ2 LR LR
comp=Z,2μm,24.4s
FRIM Kepong 47.09 280 P **P** **15 43 06.2 +0.9**
BKNI Bangkinang 47.16 276 P **P** **15 43 07.0 +1.2**
comp=Z,181nm,0.9s,comp=Z,2μm
KSRS Korea Array 47.22 338 P **P** **15 43 06.5 +0.8**
comp=Z,59nm,1.0s,baz=157,slow=9.2,SNR=155
KSRS LR LR 16 01 44.5
comp=Z,2μm,20.9s,baz=141,slow=34
KSAR Wonju Array Be 47.22 338 P **P** **15 43 06.5 +0.7**
PPI Padang Panjang 47.69 275 P **P** **15 43 09.8 -0.1**
comp=Z,339nm,1.1s,comp=Z,3μm
INCN Inchon 47.73 337 *e*P **P** **15 43 10.6 +0.8**
comp=Z,124nm,1.0s
INCN LR LR
comp=Z,2μm,22.0s
INCN Inchon 47.73 337 ⇑P **P** **15 43 10.5 +0.6**
SNR=9.3
IPM Ipoh 47.93 282 *e*P **P** **15 43 11.7 -0.1**
comp=Z,51nm,0.9s
IPM Ipoh 47.93 282 P **P** **15 43 12.7 +0.9**
IPM Ipoh 47.93 282 P **P** **15 43 12.6 +0.8**
comp=Z,45nm,1.1s,comp=Z,776nm
ERM Erimo 48.15 355 PFAKE 15 43 20.0 +7.1
ERM LR LR
comp=Z,3μm,21.0s
WHN Wuhan 48.60 321 ⇑P **P** **15 43 17.5 +0.9**
WHN S **S** **15 50 16.0 +1.3**
WHN pmax pmax
comp=Z,200nm,1.0s
WHN LR LR
comp=Z,2μm,20.3s
PSI Prapat 49.66 279 P **P** **15 43 25.3 +0.1**
comp=Z,74nm,2.2s,comp=Z,2μm
YUK Yuzh-Kuril'sk 50.01 358 *i*P **P** **15 43 26.4 -0.7**
YUK *i* 15 45 21.3
YUK *i*S **S** **15 50 38.2 +4.3**
YUK *i*SS SS 15 53 58.4 -9.4
YUK *i*SSS SSS 15 55 39.2
YUK pmax pmax
comp=E,242nm,1.5s
YUK pmax pmax
comp=Z,490nm,1.5s
YUK pmax pmax
comp=N,36nm,0.5s
YUK pmax pmax
comp=Z,1μm,2.1s
ASAJ Asahikawa 50.28 355 *e*P **P** **15 43 30.6 +1.4**
ASAJ Asahikawa 50.28 355 P **P** **15 43 30.6 +1.3**
comp=Z,62nm,1.1s,baz=235,slow=14,SNR=16
ASAJ LR LR 16 01 40.9
comp=Z,1μm,21.8s,baz=283,slow=32
COCO West Island 50.65 259 *e*P **P** **15 43 33.1 +0.6**
COCO pmax pmax
comp=Z,307nm,1.0s
COCO MLR MLR
comp=Z,772nm,21.0s
COCO West Island 50.65 259 *e*P **P** **15 43 33.1 +0.6**
comp=Z,307nm,1.0s
COCO LR LR
comp=Z,772nm,21.0s
COCO West Island 50.65 259 P P 15 43 35.7 +3.2
comp=Z,2μm,0.8s,SNR=5.5
COCO West Island 50.65 259 P **P** **15 43 35.4 +2.9**
comp=Z,266nm,1.1s
GSI Gunungsitoli 50.73 277 P **P** **15 43 33.0 -0.2**
comp=Z,130nm,1.3s,comp=Z,2μm
DL2 Dalian 51.02 334 P **P** **15 43 35.1 +0.3**
DL2 pP **pP** **15 43 47.1 -2.4**
DL2 S **S** **15 50 48.5 +0.4**
DL2 sS **sS** **15 51 14.8 +2.0**
DL2 pmax pmax
comp=Z,50nm,1.0s
DL2 pmax pmax
comp=Z,130nm,6.8s
DL2 LR LR
comp=N,610nm,21.0s
DL2 LR LR
comp=E,690nm,20.1s
DL2 LR LR
comp=Z,1μm,20.8s
TIA Tai'an 51.07 328 *e*P **P** **15 43 34.9 -0.4**
TIA pmax pmax
comp=Z,140nm,0.9s
VLA Vladivostok 51.16 345 ⇑*i*P **P** **15 43 35.9 +0.1**
VLA S **S** **15 50 49.4 -0.5**
VLA pmax pmax
comp=Z,72nm,1.2s
GYA Guiyang 51.43 311 ⇑*i*P **P** **15 43 39.8 +1.5**
GYA pP **pP** **15 43 55.0 +2.0**
GYA sP **sP** **15 44 02.3 +2.9**
GYA PP **PP** **15 45 38.7 +2.6**
GYA ScP **ScP** **15 48 43.2 -1.2**
GYA S **S** **15 50 53.8 -0.7**
GYA sS **sS** **15 51 20.0 +0.7**
GYA SS **SS** **15 54 28.7 -2.5**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,160nm,5.3s
GYA LR LR
comp=N,820nm,17.8s
GYA LR LR
comp=E,780nm,18.6s
GYA LR LR
comp=Z,940nm,17.4s
TPTI 51.45 279 P **P** **15 43 41.2 +2.6**
comp=Z,92nm,1.1s
USRK Ussuriysk Arra 52.14 346 P **P** **15 43 44.2 +1.1**
comp=Z,45nm,1.0s,baz=169,slow=7.5,SNR=62
USRK pP **pP** **15 43 57.6 -0.2**
comp=Z,30nm,0.7s,baz=172,slow=6.9,SNR=11
USRK LR LR 16 03 59.4
comp=Z,921nm,20.1s,baz=329,slow=34
SNY Shenyang 52.67 337 ⇑P **P** **15 43 47.4 +0.3**
SNY S **S** **15 51 11.9 +1.2**
SNY pmax pmax
comp=Z,46nm,1.0s
SNY pmax pmax
comp=Z,470nm,3.6s
SNY LR LR
comp=N,1μm,24.5s
SNY LR LR
comp=E,1μm,21.2s
SNY LR LR
comp=Z,2μm,26.5s
RAR Rarotonga 52.79 112 *e*P **P** **15 43 49.4 +1.0**
RAR Rarotonga 52.79 112 P **P** **15 43 48.1 -0.3**
comp=Z,30nm,0.9s,baz=223,slow=6.4,SNR=8.1
YSS Yuzh-Sakhalins 53.09 356 *ce*P **P** **15 43 51.0 +1.0**
YSS *e**PP **pP** **15 44 05.0 +0.2**
YSS *e*S **S** **15 51 17.0 +0.8**
YSS pmax pmax
comp=Z,90nm,1.0s
YSS MLR MLR
comp=N,1μm,17.0s
YSS MLR MLR
comp=Z,1μm,17.0s
YSS Yuzh-Sakhalins 53.09 356 *e*P **P** **15 43 51.1 +1.0**
comp=Z,96nm,1.1s
YSS LR LR
comp=Z,537nm,22.0s
MDJ Mudanjiang 53.16 344 P **P** **15 43 51.2 +0.5**
MDJ pP **pP** **15 44 04.9 -0.6**
MDJ sP **sP** **15 44 10.9 -0.9**
MDJ ScP **ScP** **15 48 51.4 +0.1**
MDJ PcS **PcS** **15 48 57.2 +0.3**
MDJ S **S** **15 51 19.2 +1.8**
MDJ sS **sS** **15 51 42.6 +0.4**
MDJ pmax pmax
comp=Z,49nm,1.3s
MDJ pmax pmax
comp=Z,330nm,5.7s
MDJ LR LR
comp=N,860nm,28.7s
MDJ LR LR
comp=E,750nm,27.0s
MDJ LR LR
comp=Z,1μm,31.0s
CN2 Changchun 53.71 340 ⇑P **P** **15 43 55.2 +0.5**
CN2 *e*sP **sP** **15 44 15.6 -0.2**
CN2 *e*S **S** **15 51 24.3 -0.5**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,1μm,17.0s
CN2 LR LR
comp=E,900nm,17.0s
CN2 LR LR
comp=Z,2μm,19.0s
BSI Banda Aceh 53.72 281 P **P** **15 43 54.7 -0.7**
comp=Z,51nm,1.2s,comp=Z,738nm
KMI Kunming 53.77 307 P **P** **15 43 56.2 +0.4**
KMI pP **pP** **15 44 12.5 +1.9**
KMI sP **sP** **15 44 19.2 +2.3**
KMI PcP **PcP** **15 45 02.6 +1.3**
KMI PP **PP** **15 46 01.1 +3.7**
KMI ScP **ScP** **15 48 54.0 -0.7**
KMI PcS **PcS** **15 49 00.2 -0.7**
KMI S **S** **15 51 26.8 0.0**
KMI sS **sS** **15 51 52.6 +0.9**
KMI ScS **ScS** **15 53 38.2 -2.8**
KMI SS **SS** **15 55 07.5 -1.0**
KMI pmax pmax
comp=Z,11nm,1.3s
KMI pmax pmax
comp=Z,210nm,6.3s
KMI LR LR
comp=N,430nm,15.5s
KMI LR LR
comp=E,580nm,20.9s
KMI LR LR
comp=Z,1μm,21.3s
CM31 Chiang Mai Arr 54.07 298 *e*P **P** **15 43 57.6 -0.3**
comp=Z,31nm,0.9s
CM31 LR LR

comp=Z,505nm,20.0s
CMAR Chiang Mai Arr 54.07 298 P P 15 43 57.9 0.0
CMAR P'P' 16 14 11.0
CMAR ⇑*e* 16 14 30.5
CMAR Chiang Mai Arr 54.07 298 P P 15 43 57.9 0.0
comp=Z,9.7nm,0.9s,baz=120,slow=5.9,SNR=46
CMAR LR LR 16 05 31.9
comp=Z,454nm,21.1s,baz=114,slow=34
CMAR PKPPKP **P'P'df 16 14 11.0 -4.0**
comp=Z,1.4nm,1.0s,baz=329,slow=5.1,SNR=6.0
CMAR PKP2bc 16 14 30.5
comp=Z,6.9nm,1.1s,baz=279,slow=4.0,SNR=9.9
CHTO Chiang Mai 54.21 298 *e*P **P 15 43 57.7 -1.1**
CHTO pmax pmax
comp=Z,37nm,1.2s
CHTO MLR MLR
comp=Z,496nm,22.0s
CHTO Chiang Mai 54.21 298 *e*P **P 15 43 57.7 -1.1**
comp=Z,37nm,1.2s
CHTO LR LR
comp=Z,496nm,22.0s
CHTO Chiang Mai 54.21 298 ⇓P **P 15 43 58.6 -0.2**
SNR=8.0
CHTO Chiang Mai 54.21 298 P **P 15 43 58.9 +0.1**
comp=Z,18nm,1.2s,comp=Z,628nm
XAN Xi'an 54.35 320 P **P 15 43 59.2 -0.5**
XAN pP **pP 15 44 13.3 -1.2**
XAN sP **sP 15 44 19.9 -0.9**
XAN PcP **PcP 15 45 02.0 -1.1**
XAN PP **PP 15 46 00.7 -1.6**
XAN S **S 15 51 30.2 -3.8**
XAN ScS **ScS 15 53 41.2 -3.2**
XAN SS **SS 15 55 12.9 -4.2**
XAN pmax pmax
comp=Z,32nm,1.5s
XAN pmax pmax
comp=Z,67nm,13.9s
XAN LR LR
comp=N,510nm,20.6s
XAN LR LR
comp=E,200nm,25.2s
XAN LR LR
comp=Z,330nm,24.1s
BJI Beijing 54.47 330 P **P 15 44 00.1 -0.2**
BJI sP **sP 15 44 19.6 -1.8**
BJI S **S 15 51 37.9 +2.8**
BJI sS **sS 15 52 02.0 +1.9**
BJI pmax pmax
comp=Z,79nm,1.4s
BJI pmax pmax
comp=Z,310nm,3.4s
BJI LR LR
comp=N,2μm,19.1s
BJI LR LR
comp=E,520nm,21.3s
BJI LR LR
comp=Z,1μm,25.5s
XMAS Kiritimati 55.23 83 *e*P **P 15 44 07.0 +0.7**
comp=Z,189nm,0.9s
HABR Khabarovsk 55.57 350*ce*P **P 15 44 07.3 -0.7**
HABR *e**PP **pP 15 44 20.0 -2.9**
HABR *e* 15 45 04.4
HABR S **S 15 51 48.7 -0.9**
HABR *e**SS **sS 15 52 11.3 -3.3**
HABR *e* 15 53 50.9
HABR *e*SSS SSS 15 57 45.3
HABR pmax pmax
comp=N,93nm,1.8s
HABR pmax pmax
comp=Z,221nm,1.3s
HABR pmax pmax
comp=E,82nm,1.8s
HABR pmax pmax
comp=Z,433nm,1.7s
HABR MLR MLR
comp=Z,789nm,21.0s
CD2 Chengdu 56.00 314 P **P 15 44 12.4 +0.8**
CD2 pP **pP 15 44 27.5 +1.0**
CD2 sP **sP 15 44 33.7 +0.9**
CD2 ScP **ScP 15 49 03.4 -0.8**
CD2 S **S 15 51 56.0 -0.1**
CD2 sS **sS 15 52 20.6 -0.6**
CD2 ScS **ScS 15 53 53.6 -2.8**
CD2 SS **SS 15 55 42.6 -0.5**
CD2 pmax pmax
comp=Z,60nm,0.7s
CD2 pmax pmax
comp=Z,440nm,5.3s
CD2 LR LR
comp=N,530nm,19.6s
CD2 LR LR
comp=E,1μm,19.0s
CD2 LR LR
comp=Z,1μm,17.1s
KLR Kul'dur 56.94 347κ *i*P **P 15 44 15.7 -2.1**
KLR *e* 15 44 29.4
KLR eS S 15 52 29.0 +21
KLR *e*SS **SS 15 55 59.5 +2.3**
KLR pmax pmax
comp=N,57nm,1.6s
KLR pmax pmax
comp=E,80nm,1.6s
KLR pmax pmax
comp=Z,370nm,1.6s
HHC Hu-ho-hao-te 57.43 328⇑ *i*P **P 15 44 22.0 +0.4**
HHC pP **pP 15 44 38.1 +1.6**
HHC sP **sP 15 44 45.0 +2.2**
HHC PP **PP 15 46 31.1 +1.4**
HHC S **S 15 52 13.6 -1.1**
HHC sS **sS 15 52 42.5 +2.6**
HHC SS **SS 15 56 05.5 +0.1**
HHC pmax pmax
comp=Z,53nm,1.2s
HHC pmax pmax
comp=Z,370nm,5.2s
HHC LR LR
comp=N,930nm,18.1s
HHC LR LR
comp=E,820nm,19.1s
HHC LR LR
comp=Z,2μm,20.1s
BTO Baotou 58.09 327 *e*P **P 15 44 26.0 -0.2**
BTO pmax pmax
comp=Z,20nm,0.8s
LZH Lanzhou 58.89 319 ⇑P **P 15 44 32.7 +0.7**
LZH pP **pP 15 44 45.2 -1.8**
LZH sP **sP 15 44 56.0 +2.7**
LZH PP **PP 15 46 46.5 +3.7**
LZH S **S 15 52 38.6 +4.4**
LZH sS **sS 15 52 57.3 -2.1**
LZH pmax pmax
comp=Z,80nm,1.2s
LZH pmax pmax
comp=Z,270nm,4.2s
LZH LR LR
comp=N,930nm,15.8s
LZH LR LR
comp=E,1μm,17.5s
LZH LR LR
comp=Z,2μm,18.4s
PEA0B Petropavlovsk- 59.65 7 *e*P **P 15 44 38.1 +1.4**
PETK Petropavlovsk- 59.65 7 P **P 15 44 37.4 +0.7**
PETK *PP **pP 15 44 49.7 -2.0**
PETK Petropavlovsk- 59.65 7 P **P 15 44 37.4 +0.7**
PETK pP **pP 15 44 49.7 -2.0**
PETK Petropavlovsk- 59.65 7 P **P 15 44 37.4 +0.7**
comp=Z,95nm,0.8s,baz=166,slow=7.2,SNR=53
PETK pP **pP 15 44 49.7 -2.0**
comp=Z,76nm,0.9s,baz=167,slow=6.8,SNR=10
PETK LR LR 16 06 34.7
comp=Z,2μm,21.4s,baz=202,slow=32
PET Petropavlovsk 59.68 8 *e*P **P 15 44 38.2 +1.3**
PET eS **S 15 52 46.0 +2.7**
PET pmax pmax
comp=Z,155nm,1.0s
KIP Kipapa 59.74 61*ce*P **P 15 44 38.5 +0.6**
KIP pmax pmax
comp=Z,69nm,1.2s
PAE Paea 62.04 107 *e*P **P 15 44 55.3 +1.7**
comp=Z,24nm,1.2s
PPT2 Papeete2 62.04 107 *e*P **P 15 44 55.6 +1.9**
comp=Z,100nm,1.1s
PPT2 *e*S **S 15 53 14.5 -0.4**
comp=Z,603nm,26.0s
PPT2 *e*LR LR 16 03 18.0
comp=Z,1μm,27.0s
TIAR Tiarei 62.26 107 *e*P **P 15 44 57.1 +2.0**
comp=Z,351nm,1.1s
TVO Taravao 62.36 107 *e*P **P 15 44 57.9 +2.1**
comp=Z,315nm,1.2s
TBI Tubuai 62.53 113 *e*P **P 15 44 58.5 +1.7**
comp=Z,493nm,1.1s
TBI *e*S **S 15 53 20.2 -0.5**
comp=Z,1μm,26.8s
TBI *e*LR LR 16 03 31.2
comp=Z,1μm,37.8s
GTA Gaotai 63.41 320 P **P 15 45 02.9 +0.3**
GTA pP **pP 15 45 19.4 +1.7**
GTA sP **sP 15 45 25.9 +2.0**
GTA S **S 15 53 30.2 -1.3**
GTA sS **sS 15 53 57.0 0.0**
GTA SS **SS 15 57 39.4 0.0**
GTA pmax pmax
comp=Z,40nm,1.3s
GTA pmax pmax
comp=Z,440nm,6.9s
GTA LR LR
comp=N,470nm,21.8s
GTA LR LR
comp=E,490nm,19.5s
GTA LR LR
comp=Z,620nm,23.3s
PMOR Pomariorio Ree 63.59 104 *e*P **P 15 45 06.0 +2.0**
comp=Z,502nm,1.1s
PMOR *ep*P **pP 15 45 18.9 -0.2**
comp=Z,271nm,1.0s
ULN Ulaanbaatar 64.67 331 *e*P **P 15 45 11.1 +0.4**
comp=Z,52nm,0.9s
ULN LR LR
comp=Z,1μm,20.0s
ULN Ulaanbaatar 64.67 331 ⇑P **P 15 45 11.3 +0.7**
SNR=37
ULN Ulaanbaatar 64.67 331 P **P 15 45 10.9 +0.3**
comp=Z,72nm,1.6s,comp=Z,928nm
CIT Chita 64.94 337 *e*P **P 15 45 13.1 +0.9**
CIT *e* 15 45 22.8
CIT pmax pmax
comp=Z,305nm,1.6s
SONM Songino Array 64.97 331 P **P 15 45 12.3 -0.3**
SONM pP **pP 15 45 26.0 -1.7**
SONM ⇑*e* 16 14 01.6
SONM Songino Array 64.97 331 P **P 15 45 12.3 -0.3**
comp=Z,36nm,1.1s,baz=153,slow=3.7,SNR=165
SONM pP **pP 15 45 26.0 -1.7**
comp=Z,44nm,1.1s,baz=142,slow=6.6,SNR=13
SONM LR LR 16 13 01.8
comp=Z,2μm,21.1s,baz=142,slow=36
SONM PKP2bc 16 14 01.6
comp=Z,6.1nm,1.0s,baz=309,slow=1.2,SNR=16
LSA Lhasa 65.02 307 P **P 15 45 13.6 -0.1**
CLNS Chul'man 65.55 346 *e*P **P 15 45 17.1 +1.1**
CLNS *e* 15 45 45.1
CLNS *e* 15 47 44.4
CLNS *e*PPP PPP 15 49 19.6
CLNS *e*S S 15 54 10.3 +13
CLNS *e*SS **SS 15 58 06.8 -5.0**
CLNS pmax pmax
comp=Z,62nm,1.1s
CLNS pmax pmax
comp=N,33nm,1.2s
CLNS pmax pmax
comp=E,13nm,1.2s
CLNS pmax pmax
comp=N,14nm,1.1s
CLNS pmax pmax
comp=Z,9.0nm,1.1s
CLNS pmax pmax
comp=E,12nm,1.1s
CLNS smax smax
comp=E,416nm,12.0s
CLNS smax smax
comp=N,362nm,12.8s
CLNS MLR MLR
comp=E,533nm,18.0s
CLNS MLR MLR
comp=N,402nm,19.0s
CLNS MLR MLR
comp=Z,328nm,18.0s
TAPN Taplejung 66.95 303 *e*P **P 15 45 25.4 -0.5**
comp=Z,33nm,0.8s
ODAN Odare 67.05 302 *e*P **P 15 45 25.9 -0.6**
comp=Z,66nm,0.9s
RAMN Ramite 67.74 302 *e*P **P 15 45 30.1 -0.8**
ZAK Zakamensk 68.20 331 *e*P **P 15 45 32.8 -0.3**
ZAK *e* 15 45 46.0
ZAK pmax pmax
comp=Z,50nm,1.1s
JIRN Jiri 68.32 303 *e*P **P 15 45 34.0 -0.7**
comp=Z,7.2nm,0.6s
GUN Gumba 68.67 303 *e*P **P 15 45 36.2 -0.6**
comp=Z,62nm,0.7s
TLY Talaya 68.89 332 *e*P **P 15 45 35.2 -2.1**
TLY *e* 15 45 51.5
TLY *e*S S 15 54 44.0 +6.7
TLY *e*PS **PnS 15 55 03.5 -5.4**
TLY *e*SS **SS 15 58 59.7 -4.1**
TLY pmax pmax
comp=Z,34nm,1.1s
TLY Talaya 68.89 332 *e*P **P 15 45 37.5 +0.2**
comp=Z,105nm,1.6s
TLY LR LR
comp=Z,1μm,21.0s
TLY Talaya 68.89 332 P **P 15 45 37.9 +0.7**
SNR=25
TLY Talaya 68.89 332 P **P 15 45 37.5 +0.2**
comp=Z,165nm,1.0s,SNR=18
PKI Pulchoki 68.95 303 *e*P **P 15 45 37.4 -1.1**
IRK Irkutsk 68.98 333 *e*P **P 15 45 37.5 -0.3**
IRK pmax pmax
comp=Z,79nm,1.6s
SEY Seymchan 69.00 2*ce*P **P 15 45 38.3 +0.7**
KKN Kakani 69.13 303 *e*P **P 15 45 38.6 -0.9**
comp=Z,46nm,0.8s
DMN Daman 69.21 302 *e*P **P 15 45 39.6 -0.5**
comp=Z,48nm,0.8s
BOD Bodaibo 69.41 341 *e*P **P 15 45 39.7 -0.6**
BOD *e* 15 45 50.9
BOD pmax pmax
comp=Z,46nm,1.4s
BOD pmax pmax
comp=Z,57nm,1.2s
YAK Yakutsk 69.44 351*c i*P **P 15 45 40.7 +0.3**
YAK *e* 15 45 51.8
YAK *e**PP **PcP 15 46 07.0 +3.6**
YAK *e* 15 48 14.3
YAK *e*PPP PPP 15 49 56.9
YAK *e*S **S 15 54 41.4 -1.9**
YAK *e**SS **SKiKP 15 55 24.1 -0.5**
YAK *e* 15 55 31.8
YAK *e*SS **SS 15 59 12.5 +0.7**
YAK pmax pmax
comp=Z,69nm,1.3s
YAK pmax pmax
comp=N,45nm,1.4s
YAK pmax pmax
comp=E,11nm,1.5s
YAK pmax pmax
comp=Z,126nm,3.0s
YAK pmax pmax
comp=N,187nm,5.4s
YAK pmax pmax
comp=E,41nm,2.2s
YAK smax smax
comp=N,126nm,4.5s
YAK smax smax
comp=E,128nm,4.4s
YAK Yakutsk 69.44 351 *e*P **P 15 45 40.6 +0.2**
comp=E,206nm,1.3s
YAK LR LR
comp=Z,1μm,22.0s
GKN Gorkha 69.73 303 *e*P **P 15 45 42.3 -0.9**
comp=Z,22nm,0.3s
MOY Mondy 70.13 331 *e*P **P 15 45 45.2 +0.2**
MOY pmax pmax
comp=Z,108nm,1.8s
KOLN Koldanda 70.53 302 *e*P **P 15 45 47.4 -0.7**
comp=Z,68nm,0.7s
DANN Dangsing 70.58 303 *e*P **P 15 45 47.6 -0.9**
comp=Z,48nm,0.7s
MIR Mirnyy 70.90 200 *e*P **P 15 45 50.0 +0.7**
MIR pmax pmax
comp=Z,176nm,1.2s
VNDA Vanda 71.69 177 *e*P **P 15 45 54.4 +0.4**
comp=Z,36nm,1.0s
VNDA LR LR
comp=Z,1μm,19.0s
HYB Hyderabad 72.31 290 *i* P **P 15 45 56.5 -2.3**
SBA Scott Base 72.32 176 P **P 15 45 59.2 +1.5**
SBA pmax pmax
comp=Z,30nm,1.3s
SBA MLR MLR
comp=Z,1μm,22.0s
SBA Scott Base 72.32 176 P **P 15 45 59.2 +1.5**
comp=Z,30nm,1.3s
SBA LR LR
comp=Z,1μm,22.0s
WMQ Urumqi 73.47 319 P **P 15 46 04.3 -0.9**
WMQ pP **pP 15 46 19.8 -0.9**
WMQ sP **sP 15 46 28.0 +1.2**
WMQ PP PP 15 48 55.0 +5.3
WMQ S **SKiKP 15 55 35.0 +3.7**
WMQ sS **SKSac 15 56 03.0 -4.2**
WMQ pmax pmax
comp=Z,23nm,1.8s
WMQ pmax pmax
comp=Z,170nm,4.0s
WMQ LR LR
comp=N,1μm,21.7s
WMQ LR LR
comp=E,1μm,18.6s
WMQ LR LR
comp=Z,1μm,22.6s
DGAR Diego Garcia 74.79 264 *e*P **P 15 46 14.2 +0.8**
DGAR pmax pmax
comp=Z,756nm,1.3s
DGAR MLR MLR
comp=Z,862nm,19.0s
DGAR Diego Garcia 74.79 264 *e*P **P 15 46 14.2 +0.8**
comp=Z,756nm,1.3s
DGAR LR LR
comp=Z,862nm,19.0s
DGAR Diego Garcia 74.79 264 P **P 15 46 14.9 +1.5**
comp=Z,3μm,1.0s,SNR=11
DGAR Diego Garcia 74.79 264 ⇓P **P 15 46 13.1 -0.3**
SNR=6.5
KAAM Kaadhehdhoo 74.99 272 P **P 15 46 17.2 +2.6**
comp=Z,327nm,0.9s
BILL Bilibino 75.18 7⇑ *i*P **P 15 46 14.9 +0.4**
BILL pmax pmax
comp=Z,52nm,1.7s
BILL Bilibino 75.18 7 *e*P **P 15 46 14.7 +0.2**
comp=Z,47nm,1.3s
BILL LR LR
comp=Z,718nm,20.0s
RKT Rikitea 75.83 112 *e*P **P 15 46 21.3 +2.1**
comp=Z,154nm,1.0s
RKT *ep*P **pP 15 46 35.1 +0.4**
comp=Z,143nm,1.0s
RKT *e*S **S 15 55 57.6 -0.1**
comp=Z,522nm,28.2s
RKT *e*LR LR 16 09 40.6
comp=Z,1μm,33.5s
GAMB Gambell 76.09 17 *e*P **P 15 46 19.8 0.0**
comp=Z,70nm,1.7s
MK31 Makanchi Array 78.17 320 *e*P **P 15 46 31.1 -0.8**
MK31 Makanchi Array 78.17 320 *e*P **P 15 46 31.1 -0.8**
MKAR Makanchi Array 78.17 320*ce*P **P 15 46 31.2 -0.7**
MKAR pmax pmax
comp=Z,24nm,0.8s
MKAR Makanchi Array 78.17 320 P **P 15 46 31.3 -0.6**
MKAR PKKPbc **PKKPbc 16 05 31.2 -1.7**
MKAR ⇑*e* 16 13 21.0
MKAR Makanchi Array 78.17 320 P **P 15 46 31.3 -0.6**
comp=Z,24nm,0.8s,baz=108,slow=4.7,SNR=95
MKAR PKKPbc **PKKPbc 16 05 31.2 -1.7**
comp=Z,1.0nm,0.8s,baz=300,slow=2.3,SNR=7.8
MKAR PKP2bc 16 13 21.0
comp=Z,0.2nm,0.7s,baz=322,slow=2.5,SNR=5.0
MKAR LR LR 16 23 05.8
comp=Z,399nm,19.8s,baz=112,slow=37
TNA Tin City 78.51 17 *e*P **P 15 46 34.0 +0.7**
comp=Z,13nm,1.0s
ZAA0 Zalesovo Array 79.61 328 *e*P **P 15 46 37.8 -1.7**
ZALV Zalesovo Beam 79.61 328 P **P 15 46 38.0 -1.6**
ZALV Zalesovo Beam 79.61 328 P **P 15 46 38.0 -1.6**
ZALV PKKPbc **PKKPbc 16 05 28.4 -1.6**
ZALV ⇑*e* 16 13 16.0
ZALV Zalesovo Beam 79.61 328 P **P 15 46 38.0 -1.6**
comp=Z,13nm,0.6s,baz=113,slow=5.6,SNR=58
ZALV PKKPbc **PKKPbc 16 05 28.4 -1.6**
comp=Z,5.2nm,0.9s,baz=307,slow=3.0,SNR=15
ZALV PKP2bc 16 13 16.0
comp=Z,1.2nm,0.8s,baz=290,slow=4.4,SNR=4.1
ZALV LR LR 16 21 56.8
comp=Z,992nm,21.4s,baz=100,slow=36
KDAK Kodiak Island 79.66 28 PFAKE 15 46 50.0 +10
KDAK LR LR
comp=Z,2μm,22.0s
KSH Kashi 80.12 312⇑ *i*P **P 15 46 43.3 +0.4**
KSH pP **pP 15 47 00.3 +1.8**
KSH sP **sP 15 47 07.9 +3.3**
KSH PP **PP 15 49 48.8 +3.0**
KSH S **S 15 56 43.3 -0.3**
KSH SKS **SKSac 15 56 51.6 -4.4**
KSH sS **sS 15 57 11.1 +1.2**
KSH SS **SS 16 01 58.6 +3.3**
KSH pmax pmax
comp=Z,39nm,1.5s
KSH LR LR
comp=N,150nm,5.4s
KSH LR LR
comp=E,240nm,5.9s
KSH LR LR
comp=Z,730nm,21.8s
NIL Nilore 80.71 305 PFAKE 15 47 00.0 +14
NIL LR LR
comp=Z,94nm,19.0s
ULHL Ulahol 80.71 314 P **P 15 46 45.8 -0.3**
SNR=21
ULHL P **P 15 46 45.8 -0.3**
SNR=21
NVS Novosibirsk 80.83 328 *i* P **P 15 46 44.6 -1.5**
NVS *e*S S 15 56 56.8 +6.8
NVS *e* 15 57 56.9
NVS pmax pmax
comp=Z,132nm,1.9s
NVS pmax pmax
comp=N,26nm,1.6s
NVS pmax pmax
comp=E,41nm,1.6s
NVS smax smax
comp=E,87nm,2.4s
TKM2 Tokmak 2 81.36 315 *i* P **P 15 46 48.9 -0.6**
TKM2 Tokmak 2 81.36 315 PFAKE 15 47 00.0 +10
TKM2 LR LR
comp=Z,440nm,20.0s
TKM2 Tokmak 2 81.36 315 P **P 15 46 49.0 -0.6**
SNR=29
TKM2 P **P 15 46 49.0 -0.6**
SNR=29
KZA Kyzart 81.37 314 P **P 15 46 50.2 +0.3**
SNR=46
KZA P **P 15 46 50.2 +0.3**
SNR=46
KBK Karagaybulak 81.75 315 P **P 15 46 51.2 -0.3**
SNR=17
KBK P **P 15 46 51.2 -0.3**
SNR=17
KURK Kurchatov 81.85 323 *e*P **P 15 46 50.5 -1.2**
KURK pmax pmax
comp=Z,74nm,1.4s
KURK Kurchatov 81.85 323 *e*P **P 15 46 50.5 -1.2**
comp=Z,74nm,1.4s
KURK PKKPbc **PKKPbc 16 05 23.6 -1.0**
KURK Kurchatov 81.85 323 P **P 15 46 51.3 -0.3**
SNR=18
KURK Kurchatov 81.85 323 P **P 15 46 50.4 -1.2**
comp=Z,202nm,1.1s,SNR=20
KURBB Kurchatov Arra 81.88 323 PKKPbc PKKPbc 16 05 23.6 -1.0
comp=Z,2.5nm,0.8s,baz=292,slow=2.8,SNR=12
KURBB LR LR 16 25 09.1
comp=Z,504nm,20.4s,baz=110,slow=37
CHMS Chumysh 81.98 315 P **P 15 46 51.9 -0.6**
SNR=21
CHMS P **P 15 46 51.9 -0.6**
SNR=21
FRU Bishkek 82.03 315 *i* P **P 15 46 52.0 -0.8**

FRU					pmax	pmax			
	comp=Z,110nm,2.0s								
SLKM	**Skilak Lake**	**82.03**	**26**	*eP*	**P**		**15 46 51.4**	**-1.0**	
SLKM	**Skilak Lake**	**82.03**	**26**	*eP*	**P**		**15 46 51.4**	**-1.0**	
AAK	**Ala-Archa**	**82.06**	**314**	*i* P	**P**		**15 46 52.8**	**-0.3**	
AAK					pmax	pmax			
	comp=Z,79nm,1.2s								
AAK	**Ala-Archa**	**82.06**	**314**	*eP*	**P**		**15 46 52.2**	**-1.0**	
	comp=Z,94nm,0.9s								
AAK	**Ala-Archa**	**82.06**	**314**	P	**P**		**15 46 52.0**	**-1.2**	
	comp=Z,135nm,0.9s,SNR=18								
AAK	**Ala-Archa**	**82.06**	**314**	P	**P**		**15 46 53.0**	**-0.1**	
	SNR=17								
AAK	**Ala-Archa**	**82.06**	**314**	P	**P**		**15 46 52.9**	**-0.3**	
	SNR=24								
AAK					P	**P**	**15 46 52.9**	**-0.3**	
	SNR=24								
AAK	**Ala-Archa**	**82.06**	**314**		LR	LR	16 24 50.6		
	comp=Z,549nm,21.8s,baz=83,slow=37								
USP	**Ospenovka**	**82.23**	**315**		P	**P**	**15 46 53.5**	**-0.4**	
	SNR=30								
USP					P	**P**	**15 46 53.5**	**-0.4**	
	SNR=30								
MAW	**Mawson**	**82.41**	**203**		P	**P**	**15 46 53.9**	**-0.3**	
MAW	**Mawson**	**82.41**	**203**		P	**P**	**15 46 53.9**	**-0.3**	
	comp=Z,32nm,0.8s,baz=92,slow=9.9,SNR=5.2								
MAW					LR	LR	16 22 26.6		
	comp=Z,1μm,20.9s,baz=96,slow=35								
AML	**Almayashu**	**82.50**	**314**		P	**P**	**15 46 55.4**	**-0.4**	
	SNR=59								
AML					P	**P**	**15 46 55.4**	**-0.4**	
	SNR=59								
RC01	**Rabbit Creek A**	**82.51**	**26**	*eP*	**P**		**15 46 53.7**	**-1.2**	
	comp=Z,79nm,1.4s								
EKS2	**Erkin-Say**	**82.58**	**314**	*eP*	**P**		**15 46 55.2**	**-0.6**	
EKS2					pmax	pmax			
	comp=Z,39nm,0.9s								
EKS2	**Erkin-Say**	**82.58**	**314**	*eP*	**P**		**15 46 55.2**	**-0.6**	
	comp=Z,39nm,0.9s								
EKS2	**Erkin-Say**	**82.58**	**314**	P	**P**		**15 46 55.3**	**-0.5**	
	SNR=52								
EKS2					P	**P**	**15 46 55.3**	**-0.5**	
	SNR=52								
PMR	**Palmer**	**83.00**	**25**	*eP*	**P**		**15 46 56.2**	**-1.2**	
PMR					pmax	pmax			
	comp=Z,25nm,1.0s								
PMR	**Palmer**	**83.00**	**25**	*eP*	**P**		**15 46 56.2**	**-1.2**	
	comp=Z,26nm,1.0s								
TRF	**Thorofare Moun**	**83.39**	**24**	*eP*	**P**		**15 46 56.9**	**-2.7**	
	comp=Z,17nm,0.8s								
SML	**Sawmill**	**83.44**	**25**	*eP*	**P**		**15 46 58.8**	**-0.9**	
SML					pmax	pmax			
	comp=Z,22nm,1.1s								
SML	**Sawmill**	**83.44**	**25**	*eP*	**P**		**15 46 58.8**	**-0.9**	
	comp=Z,22nm,1.1s								
QSPA	**South Pole Qui**	**83.79**	**180**	*eP*	**P**		**15 47 01.7**	**+0.1**	
	comp=Z,76nm,0.8s								
QSPA					PKiKP	**PKiKP**	**15 52 17.9**	**+0.5**	
QSPA	**South Pole Qui**	**83.79**	**180**		P	**P**	**15 47 01.8**	**+0.2**	
	comp=Z,58nm,0.7s,baz=341,slow=1.4,SNR=197								
QSPA					PKiKP	**PKiKP**	**15 52 17.9**	**+0.5**	
	comp=Z,3.0nm,0.9s,baz=288,slow=3.2,SNR=9.8								
QSPA					LR	LR	16 22 38.5		
	comp=Z,1μm,21.1s,baz=4.5,slow=34								
MCK	**McKinley**	**84.05**	**24**	*eP*	**P**		**15 47 00.5**	**-2.3**	
MCK					pmax	pmax			
	comp=Z,73nm,1.1s								
MCK	**McKinley**	**84.05**	**24**	*eP*	**P**		**15 47 00.5**	**-2.3**	
	comp=Z,72nm,1.1s								
DIV	**Divide**	**84.27**	**27**	*eP*	**P**		**15 47 03.2**	**-0.8**	
	comp=Z,56nm,1.1s								
KBL	**Kabul**	**84.31**	**306**	*eP*	**P**		**15 47 03.5**	**-1.5**	
KBL					pmax	pmax			
	comp=Z,5.0nm,0.8s								
KBL	**Kabul**	**84.31**	**306**	*eP*	**P**		**15 47 03.5**	**-1.5**	
	comp=Z,4.7nm,0.8s								
BMRM	**Bremner River**	**84.73**	**27**	*eP*	**P**		**15 47 05.9**	**-0.4**	
	comp=Z,66nm,1.2s								
COLA	**College**	**84.98**	**23**	*eP*	**P**		**15 47 05.5**	**-1.9**	
COLA					pmax	pmax			
	comp=Z,35nm,0.9s								
COLA					MLR	MLR			
	comp=Z,765nm,20.0s								
COLA	**College**	**84.98**	**23**	*eP*	**P**		**15 47 05.5**	**-1.9**	
	comp=Z,35nm,0.9s								
COLA					LR	LR			
	comp=Z,765nm,20.0s								
PAX	**Paxson**	**85.14**	**25**	*eP*	**P**		**15 47 06.9**	**-1.5**	
PAX					pmax	pmax			
	comp=Z,23nm,1.4s								
PAX	**Paxson**	**85.14**	**25**	*eP*	**P**		**15 47 06.9**	**-1.5**	
	comp=Z,23nm,1.4s								
COLD	**Coldfoot**	**85.21**	**20**	*eP*	**P**		**15 47 08.3**	**-0.2**	
	comp=Z,39nm,1.3s								
ILAR	**Eielson Array**	**85.31**	**23**		P	**P**	**15 47 07.0**	**-2.1**	
ILAR					PKKPbc	**PKKPbc**	**16 05 14.3**	**-2.9**	
ILAR					P'P'		16 13 18.3		
ILAR	**Eielson Array**	**85.31**	**23**		P	**P**	**15 47 07.0**	**-2.1**	
	comp=Z,11nm,0.9s,baz=254,slow=4.3,SNR=85								
ILAR					PKKPbc	**PKKPbc**	**16 05 14.3**	**-2.9**	
	comp=Z,1.0nm,0.8s,baz=352,slow=1.1,SNR=7.8								
ILAR					PKPPKP	**P'P'df**	**16 13 18.3**	**-1.0**	
	comp=Z,0.9nm,1.0s,baz=317,slow=2.0,SNR=6.1								
ILAR					LR	LR	16 21 51.0		
	comp=Z,566nm,21.5s,baz=260,slow=33								
MENT	**Mentasta**	**85.86**	**25**	*eP*	**P**		**15 47 11.4**	**-0.5**	
BVAR	**Borovoye Array**	**87.41**	**324**		PKKPbc	PKKPbc	16 05 10.4	-1.2	
BVAR	**Borovoye Array**	**87.41**	**324**		PKKPbc	PKKPbc	16 05 10.4	-1.2	
	comp=Z,0.9nm,0.8s,baz=292,slow=2.7,SNR=5.9								
BVAR					LR	LR	16 31 06.4		
	comp=Z,506nm,18.7s,baz=97,slow=39								
BRVK	**Borovoye**	**87.48**	**324**		P	**P**	**15 47 18.3**	**-1.6**	
	comp=Z,120nm,0.8s,SNR=21								
EGAK	**Eagle**	**87.58**	**24**	*eP*	**P**		**15 47 19.4**	**-0.7**	
	comp=Z,37nm,1.1s								
EGAK					LR	LR			
	comp=Z,1μm,20.0s								
DAWY	**Dawson**	**88.08**	**25**	*eP*	**P**		**15 47 22.4**	**-0.3**	
SKAG	**Skagway**	**88.64**	**30**	*eP*	**P**		**15 47 25.0**	**-0.3**	
	comp=Z,97nm,1.3s								
WRAK	**Wrangell Islan**	**89.49**	**33**		PFAKE		15 47 40.0	+11	
WRAK					LR	LR			
	comp=Z,2μm,21.0s								
SYO	**Syowa Base**	**90.72**	**200**	⇓*eP*		**P**	**15 47 33.2**	**-1.7**	
INK	**Inuvik**	**91.51**	**21**	*eP*		**P**	**15 47 37.0**	**-1.4**	
	comp=Z,25nm,1.2s								
MSEY	**Mahe Island**	**91.85**	**265**		PFAKE		15 47 50.0	+8.6	
MSEY					LR	LR			
	comp=Z,544nm,21.0s								
NLWA	**Neilton Lookou**	**93.34**	**43**		PFAKE		15 48 00.0	+13	
NLWA					LR	LR			
	comp=Z,1μm,20.0s								
ABKT	**Ailbek**	**93.53**	**308**		P	**P**	**15 47 47.5**	**-1.2**	
	comp=Z,83nm,1.5s,SNR=9.0								
HUMO	**Hull Mountain**	**93.54**	**48**	*eP*		**P**	**15 47 48.3**	**-0.3**	
	comp=Z,24nm,1.1s								
SVE	**Sverdlovsk**	**93.59**	**327**	⇑*eP*		**P**	**15 47 46.6**	**-1.8**	
SVE				*e*			15 51 38.0		
SVE				*e*SS		SS	16 05 26.2	+15	
SVE					pmax	pmax			
	comp=Z,24nm,1.4s								
SVE					MLR	MLR			
	comp=Z,738nm,20.0s								
YBH	**Yreka Blue Hor**	**93.65**	**49**	*eP*		**P**	**15 47 49.8**	**+0.7**	
YBH	**Yreka Blue Hor**	**93.65**	**49**	P		**P**	**15 47 49.4**	**+0.2**	
	comp=Z,16nm,1.1s,baz=182,slow=2.8,SNR=12								
YBH					LR	LR	16 24 10.2		
	comp=Z,2μm,20.6s,baz=357,slow=32								
ARU	**Arti**	**94.70**	**326**	*ci* P		**P**	**15 47 51.1**	**-2.4**	
ARU				*PP		pP	15 48 04.0	-5.4	
ARU							15 51 38.6		
ARU					S	**SKSac**	**15 58 21.5**	**-2.6**	
ARU					SP	**SP**	**16 00 16.6**	**-1.4**	
ARU					SS	**SS**	**16 05 22.6**	**-4.3**	
ARU					pmax	pmax			
	comp=Z,26nm,1.5s								
ARU	**Arti**	**94.70**	**326**	*eP*		**P**	**15 47 50.6**	**-2.9**	
	comp=Z,35nm,1.4s								
ARU					LR	LR			
	comp=Z,565nm,22.0s								
MOD	**Modoc**	**95.46**	**49**	*eP*		**P**	**15 47 57.7**	**+0.1**	
	comp=Z,20nm,1.3s								
WCN	**Washoe City**	**95.72**	**51**	*eP*		**P**	**15 47 58.8**	**0.0**	
WCN					pmax	pmax			
	comp=Z,7.0nm,1.0s								
WCN	**Washoe City**	**95.72**	**51**	*eP*		**P**	**15 47 58.8**	**0.0**	
	comp=Z,6.8nm,1.0s								
WCN	**Washoe City**	**95.72**	**51**	⇓P		**P**	**15 47 58.9**	**0.0**	
	baz=96								
VES	**Vestal, Richgr**	**96.06**	**55**	⇑P		**P**	**15 48 00.2**	**0.0**	
	baz=96								
HAWA	**Hanford**	**96.24**	**44**		PFAKE		15 48 10.0	+9.3	
HAWA					LR	LR			
	comp=Z,808nm,21.0s								
ISA	**Isabella**	**96.55**	**55**	*eP*		**P**	**15 48 01.9**	**-0.6**	
ISA					pmax	pmax			
	comp=Z,12nm,1.1s								
ISA	**Isabella**	**96.55**	**55**	*eP*		**P**	**15 48 01.9**	**-0.6**	
	comp=Z,12nm,1.1s								
ISA	**Isabella**	**96.55**	**55**	⇓P		**P**	**15 48 02.1**	**-0.5**	
	baz=97								
WVOR	**Wild Horse Val**	**96.72**	**48**	*eP*		**P**	**15 48 03.0**	**-0.2**	
WVOR					pmax	pmax			
	comp=Z,6.0nm,1.0s								
WVOR					MLR	MLR			
	comp=Z,1μm,20.0s								
WVOR	**Wild Horse Val**	**96.72**	**48**	*eP*		**P**	**15 48 03.0**	**-0.2**	
	comp=Z,5.7nm,1.0s								
WVOR					LR	LR			
	comp=Z,1μm,20.0s								
NVAR	**Mina Array Bea**	**96.81**	**52**		P	**P**	**15 48 03.8**	**0.0**	
NVAR					pP	**pP**	**15 48 19.3**	**-0.5**	
NVAR					PP	**PP**	**15 51 59.1**	**-0.4**	
NVAR					PKKPbc	**PKKPdf**	**16 04 48.4**	**-0.3**	
NVAR	**Mina Array Bea**	**96.81**	**52**		P	**P**	**15 48 03.8**	**0.0**	
	comp=Z,4.6nm,1.0s,baz=255,slow=5.5,SNR=22								
NVAR					pP	**pP**	**15 48 19.3**	**-0.5**	
	comp=Z,2.5nm,0.8s,baz=253,slow=6.3,SNR=5.9								
NVAR					PP	**PP**	**15 51 59.1**	**-0.4**	
	comp=Z,0.5nm,0.5s,baz=261,slow=8.5,SNR=4.6								
NVAR					PKKPbc	**PKKPdf**	**16 04 48.4**	**-0.3**	
	comp=Z,0.4nm,0.6s,baz=81,slow=1.2,SNR=3.8								
NVAR					LR	LR	16 26 05.9		
	comp=Z,616nm,18.1s,baz=92,slow=32								
MWC	**Mount Wilson**	**96.82**	**56**	*eP*		**P**	**15 48 04.8**	**+0.9**	
MWC					pmax	pmax			
	comp=Z,29nm,1.1s								
MWC	**Mount Wilson**	**96.82**	**56**	*eP*		**P**	**15 48 04.8**	**+0.9**	
	comp=Z,29nm,1.1s								
EDW2	**Edwards Air Fo**	**96.90**	**56**	⇓P		**P**	**15 48 03.7**	**-0.4**	
	baz=97								
BFSC	**Mount Baldy Ra**	**97.15**	**56**	⇑P	Pdif		15 48 05.4	0.0	
	baz=97								
MPMC	**Manual Prospec**	**97.36**	**55**	⇑P	Pdif		15 48 06.6	+0.2	
	baz=97								
TPH	**Tonopah**	**97.65**	**52**		PFAKE		15 48 20.0	+12	
TPH					LR	LR			
	comp=Z,1μm,19.0s								
BMN	**Battle Mountai**	**97.72**	**50**		PFAKE		15 48 20.0	+12	
BMN					LR	LR			
	comp=Z,769nm,21.0s								
BMO	**Blue Mountains**	**97.75**	**46**		PFAKE		15 48 20.0	+12	
BMO					LR	LR			
	comp=Z,978nm,21.0s								
NVL	**N'lazarevskaya**	**97.83**	**193**	*eP*		**P**	**15 48 07.1**	**-0.3**	
NVL				*eS*		**SKSac**	**15 58 40.9**	**+0.8**	
NVL					pmax	pmax			
	comp=Z,22nm,1.7s								
NVL					MLR	MLR			
	comp=Z,2μm,19.0s								
FURC	**Furnace Creek,**	**97.89**	**54**	⇓P	Pdif		15 48 08.9	+0.4	
	baz=98								
NEW	**Newport**	**97.92**	**42**		PFAKE		15 48 20.0	+12	
NEW					LR	LR			
	comp=Z,952nm,19.0s								
NEW	**Newport**	**97.92**	**42**	⇓P		**P**	**15 48 08.2**	**-0.2**	
	baz=98								
PFO	**Pinyon Flat Ob**	**98.12**	**57**		PFAKE		15 48 20.0	+10	
PFO					LR	LR			
	comp=Z,1μm,19.0s								
C11A	**Tepee Creek (N**	**98.50**	**43**	⇓P		**P**	**15 48 10.9**	**-0.1**	
	baz=98								
RPN	**Rapa Nui**	**98.52**	**119**		LR	LR	16 24 10.4		
	comp=Z,432nm,18.5s,baz=355,slow=30								
GMRC	**Granite Mounta**	**98.82**	**56**	⇑P		**P**	**15 48 12.7**	**-0.1**	
	baz=99								
YKA	**Yellowknife Ar**	**98.94**	**28**		P	**P**	**15 48 11.7**	**-0.8**	
YKA					PP	**PP**	**15 52 13.7**	**-1.0**	
YKA					PKKPbc	**PKKPbc**	**16 04 38.5**	**-3.2**	
YKA	**Yellowknife Ar**	**98.94**	**28**		P	**P**	**15 48 11.7**	**-0.8**	
	comp=Z,1.3nm,1.0s,baz=273,slow=4.4,SNR=10								
YKA					PP	**PP**	**15 52 13.7**	**-1.0**	
	comp=Z,2.6nm,1.0s,baz=271,slow=7.9,SNR=9.2								
YKA					PKKPbc	**PKKPbc**	**16 04 38.5**	**-3.2**	
	comp=Z,2.2nm,0.8s,baz=88,slow=3.0,SNR=28								
R11A	**Troy Canyon, C**	**98.94**	**52**	⇑P		**P**	**15 48 13.1**	**-0.3**	
	baz=99								
E12A	**Beaver Dam Sad**	**98.98**	**44**	⇑P		**P**	**15 48 13.2**	**-0.1**	
	baz=99								
D12A	**Red Ives Fores**	**99.12**	**43**	⇑P		**Pdif**	**15 48 13.8**	**0.0**	
	baz=99								
G12A	**Big Creek, Yel**	**99.16**	**45**	⇑P		**Pdif**	**15 48 13.9**	**-0.2**	
	baz=99								
I12A	**Atlanta**	**99.31**	**47**	⇓P		**Pdif**	**15 48 15.3**	**+0.4**	
	baz=99								
BSMT	**Bassoo Peak**	**99.49**	**43**	*e*Pdif		**Pdif**	**15 48 15.4**	**-0.2**	
	comp=Z,16nm,1.5s								
B13A	**Whitefish**	**99.69**	**42**	⇑P		**Pdif**	**15 48 15.8**	**-0.5**	
	baz=100								
HLID	**Hailey**	**99.83**	**47**		PFAKE		15 48 30.0	+13	
HLID					LR	LR			
	comp=Z,1μm,20.0s								
HLID	**Hailey**	**99.83**	**47**	⇑P		**Pdif**	**15 48 17.2**	**0.0**	
	baz=100								
F13A	**Darby**	**99.85**	**45**	⇓P		**Pdif**	**15 48 16.7**	**-0.5**	
	baz=100								
G13A	**Cobalt**	**99.93**	**45**	⇑P		**Pdif**	**15 48 17.1**	**-0.5**	
	baz=100								
SNAA	**Sanae**	**99.96**	**189**	*e*Pdif		**Pdif**	**15 48 10.3**	**-6.8**	
	comp=Z,23nm,1.3s								
J13A	**Cove Ranch, Pi**	**100.01**	**47**	⇓P		**Pdif**	**15 48 17.7**	**-0.3**	
	baz=100								
I13A	**Wildhorse Cree**	**100.04**	**47**	⇑P		**Pdif**	**15 48 17.9**	**-0.3**	
	baz=100								
MSO	**Missoula**	**100.09**	**44**		PFAKE		15 48 30.0	+12	
MSO					LR	LR			
	comp=Z,659nm,22.0s								
L14A	**Malta**	**100.72**	**49**	⇓P		**Pdif**	**15 48 21.3**	**+0.1**	
	baz=101								
K14A	**Jones Ranch, D**	**100.76**	**48**	⇑P		**Pdif**	**15 48 21.2**	**-0.1**	
	baz=101								
A15A	**Johnson Ranch,**	**100.81**	**41**	⇓P		**Pdif**	**15 48 21.1**	**-0.3**	
	baz=101								
C15A	**Salmond Ranch,**	**100.96**	**43**	⇑P		**Pdif**	**15 48 21.7**	**-0.4**	
	baz=101								
E15A	**Deer Lodge**	**101.00**	**44**	⇑P		**Pdif**	**15 48 22.3**	**0.0**	
	baz=101								
DUG	**Dugway**	**101.09**	**50**		PFAKE		15 48 30.0	+7.2	
DUG					LR	LR			
	comp=Z,749nm,20.0s								
N15A	**Stansbury Isla**	**101.30**	**50**	⇓P		**Pdif**	**15 48 24.0**	**+0.2**	
	baz=101								
A16A	**West Butte Ran**	**101.56**	**41**	⇑P		**Pdif**	**15 48 24.9**	**+0.1**	
	baz=102								
MVU	**Marysvale**	**101.59**	**52**		PFAKE		15 48 40.0	+15	
MVU					LR	LR			
	comp=Z,1μm,19.0s								
G16A	**Moss Hill, Enn**	**101.65**	**45**	⇑P		**Pdif**	**15 48 25.5**	**+0.2**	
	baz=102								
F16A	**Kennard Place,**	**101.74**	**45**	⇑P		**Pdif**	**15 48 25.7**	**+0.1**	
	baz=102								
BOZ	**Bozeman (W)**	**101.75**	**45**		PFAKE		15 48 40.0	+14	
BOZ					LR	LR			
	comp=Z,691nm,20.0s								
BOZ	**Bozeman (W)**	**101.75**	**45**	⇓P		**Pdif**	**15 48 25.5**	**-0.2**	
	baz=102								
K16A	**Soda Springs**	**101.92**	**48**	⇑P		**Pdif**	**15 48 26.7**	**+0.2**	
	baz=102								
HWUT	**Hardware Ranch**	**101.99**	**49**		PFAKE		15 48 40.0	+13	
HWUT					LR	LR			
	comp=Z,669nm,20.0s								
B17A	**L&G Farms, Che**	**102.14**	**42**	⇓P		**Pdif**	**15 48 27.3**	**+0.1**	
	baz=102								
C17A	**Wharram Farm,**	**102.21**	**43**	⇑P		**Pdif**	**15 48 27.4**	**-0.1**	
	baz=102								
AHID	**Auburn Hatcher**	**102.28**	**48**		PFAKE		15 48 40.0	+12	
AHID					LR	LR			
	comp=Z,1μm,20.0s								
D17A	**Six Diamond Ra**	**102.30**	**43**	⇓P		**Pdif**	**15 48 27.7**	**-0.4**	
	baz=102								
WUAZ	**Wupatki**	**102.33**	**55**		PFAKE		15 48 40.0	+12	
WUAZ					LR	LR			
	comp=Z,754nm,21.0s								
Q16A	**Castle Valley**	**102.39**	**52**	⇑P		**Pdif**	**15 48 29.3**	**+0.5**	
	baz=102								
F17A	**Fitzpatrick Pl**	**102.41**	**44**	⇑P		**Pdif**	**15 48 29.1**	**+0.5**	
	baz=102								
J17A	**Brown Place, J**	**102.53**	**47**	⇓P		**Pdif**	**15 48 30.0**	**+0.7**	
	baz=102								
M17A	**Scullys Gap (B**	**102.67**	**49**	⇓P		**Pdif**	**15 48 29.5**	**-0.4**	
	baz=103								
O17A	**Robinson Place**	**102.68**	**50**	⇑P		**Pdif**	**15 48 30.0**	**0.0**	
	baz=103								
LKWY	**Lake**	**102.68**	**46**		PFAKE		15 48 40.0	+10	
LKWY					LR	LR			
	comp=Z,2μm,20.0s								
EGMT	**Eagleton**	**102.86**	**42**		PFAKE		15 48 40.0	+10	
EGMT					LR	LR			
	comp=Z,506nm,20.0s								
TUC	**Tucson**	**102.88**	**58**		PFAKE		15 48 40.0	+9.1	
TUC					LR	LR			
	comp=Z,1μm,21.0s								
I18A	**Diamond G Ranc**	**103.16**	**47**	⇑P		**Pdif**	**15 48 32.0**	**-0.1**	
	baz=103								
B19A	**Brinkman Farms**	**103.36**	**42**	⇓P		**Pdif**	**15 48 32.8**	**+0.2**	
	baz=103								
PD01	**Pinedale Array**	**103.39**	**48**	*e*Pdif		**Pdif**	**15 48 32.0**	**-1.2**	
PD02	**Pinedale Array**	**103.41**	**48**	*e*Pdif		**Pdif**	**15 48 32.5**	**-0.7**	
BW06	**Boulder Array**	**103.41**	**48**		PFAKE		15 48 40.0	+6.7	
BW06					LR	LR			
	comp=Z,2μm,22.0s								
BW06	**Boulder Array**	**103.41**	**48**	⇑P		**Pdif**	**15 48 32.6**	**-0.7**	
	baz=103								
PDAR	**Pinedale Array**	**103.41**	**48**		Pdif	**Pdif**	**15 48 32.3**	**-0.9**	
PDAR					PP	PP	15 52 42.6	-6.8	
PDAR	**Pinedale Array**	**103.41**	**48**		Pdiff	**Pdif**	**15 48 32.3**	**-0.9**	
	comp=Z,3.7nm,1.0s,baz=243,slow=3.3,SNR=13								
PDAR					PP	PP	15 52 42.6	-6.8	
	comp=Z,1.8nm,1.1s,baz=270,slow=3.0,SNR=5.5								
A19A	**Klindworth Far**	**103.44**	**41**	⇑P		**Pdif**	**15 48 33.4**	**+0.4**	
	baz=103								
D19A	**Cripps Ranch,**	**103.53**	**43**	⇓P		**Pdif**	**15 48 34.9**	**+1.5**	
	baz=104								
K19A	**Absolon Red Bu**	**103.93**	**48**	⇑P		**Pdif**	**15 48 35.2**	**-0.3**	
	baz=104								
GNI	**Garni**	**103.97**	**310**		PFAKE		15 48 50.0	+14	
GNI					LR	LR			
	comp=Z,409nm,22.0s								
A20A	**Cobblestone Ra**	**103.98**	**41**	⇑P		**Pdif**	**15 48 35.9**	**+0.6**	
	baz=104								
P19A	**Cripple Cowboy**	**104.06**	**51**	⇓P		**Pdif**	**15 48 36.4**	**+0.3**	
	baz=104								
KBS	**Kingsbay**	**104.06**	**352**		PFAKE		15 48 50.0	+15	
KBS					LR	LR			
	comp=Z,608nm,21.0s								
KLMR	**Klimovskoe**	**104.25**	**331**	*eP*		**Pdif**	**15 48 32.3**	**-3.9**	
KLMR				*e*			15 52 51.0		
KLMR					pmax	pmax			
	comp=Z,37nm,1.3s								
LVZ	**Lovozero**	**104.31**	**339**		PFAKE		15 48 50.0	+14	
LVZ					LR	LR			
	comp=Z,693nm,21.0s								
MVCO	**Mesa Verde**	**104.58**	**53**		PFAKE		15 48 50.0	+11	
MVCO					LR	LR			
	comp=Z,712nm,21.0s								
APA	**Apatity**	**104.87**	**339**	⇑*eP*		**Pdif**	**15 48 48.0**	**+9.2**	
APA					MLR	MLR			
	comp=Z,1μm,16.0s								
KIV	**Kislovodsk**	**105.17**	**314**		PFAKE		15 53 10.0		
KIV					LR	LR			
	comp=Z,499nm,21.0s								
SMCO	**Snowmass**	**105.64**	**51**	*e*Pdif		**Pdif**	**15 48 42.5**	**-0.9**	
	comp=Z,9.3nm,1.3s								
KEV	**Kevo**	**106.12**	**342**		PFAKE		15 53 10.0		
KEV					LR	LR			
	comp=Z,883nm,19.0s								
ANMO	**Albuquerque**	**106.38**	**56**		PFAKE		15 53 10.0		
ANMO					LR	LR			
	comp=Z,518nm,20.0s								
DGMT	**Dagmar**	**106.49**	**41**		PFAKE		15 53 10.0		
DGMT					LR	LR			
	comp=Z,877nm,21.0s								
FFC	**Flin Flon**	**106.62**	**35**		PFAKE		15 53 10.0		
FFC					LR	LR			
	comp=Z,1μm,20.0s								
ISCO	**Idaho Springs**	**106.63**	**50**		PFAKE		15 53 10.0		
ISCO					LR	LR			
	comp=Z,673nm,20.0s								
ARCES	**ARCESS Array B**	**106.69**	**342**		Pdif	**Pdif**	**15 48 44.6**	**-2.2**	
ARCES					PKiKP	**PKiKP**	**15 52 56.5**	**-0.4**	
ARCES					PKKPbc	**PKKPbc**	**16 04 15.7**	**-3.3**	
ARCES	**ARCESS Array B**	**106.69**	**342**		Pdiff	**Pdif**	**15 48 44.6**	**-2.2**	
	comp=Z,6.2nm,0.9s,baz=62,slow=8.6,SNR=5.0								
ARCES					PKiKP	**PKiKP**	**15 52 56.5**	**-0.4**	
	comp=Z,4.9nm,1.0s,baz=106,slow=1.8,SNR=6.4								
ARCES					PKKPbc	**PKKPbc**	**16 04 15.7**	**-3.3**	
	comp=Z,2.9nm,0.8s,baz=251,slow=3.4,SNR=13								
SDCO	**Great Sand D

AKASG **Malin Array Be** 112.67 323 PKiKP **PKiKP** 15 53 07.7 -1.0
comp=Z,2.4nm,0.7s,baz=66,slow=2.2,SNR=7.8
AKASG PP **PP** 15 53 55.6 -0.7
comp=Z,3.6nm,0.9s,baz=58,slow=6.3,SNR=11
AKASG PKKPbc **PKKPbc** 16 03 57.1 -1.9
comp=Z,3.8nm,0.9s,baz=257,slow=3.8,SNR=7.7
WMOK Wichita Mounta 112.67 55 PFAKE 15 53 20.0
WMOK LR LR
comp=Z,1μm,21.0s
KIEV Kiev 112.68 323 PFAKE 15 53 20.0
KIEV LR LR
comp=Z,568nm,22.0s
CSS Prodhromos 113.57 305 PFAKE 15 53 20.0
CSS LR LR
comp=Z,459nm,22.0s
KSU1 Kansas State U 113.62 50 PFAKE 15 53 20.0
KSU1 LR LR
comp=Z,847nm,19.0s
KVTX Kingsville 114.33 63 PFAKE 15 53 20.0 +7.4
KVTX LR LR
comp=Z,851nm,19.0s
BOSA Boshof 114.83 235 *e*PKiKP PKPdf 15 53 14.2 +0.5
BOSA LR LR
comp=Z,882nm,20.0s
BOSA Boshof 114.83 235 PKP PKPdf 15 53 13.7 -0.1
comp=Z,8.7nm,1.0s,baz=284,slow=0.9,SNR=14
EYMN Ely 114.83 40 PFAKE 15 53 20.0 +7.0
EYMN LR LR
comp=Z,1μm,21.0s
CFR Carcaliu 115.09 317 ⇓PKIKP PKPdf 15 53 08.2 -5.3
ISP Isparta 115.26 309 PFAKE 15 53 30.0 +16
ISP LR LR
comp=Z,262nm,21.0s
SCIA State Center 115.48 46 PFAKE 15 53 30.0 +16
SCIA LR LR
comp=Z,582nm,19.0s
LBTB Lobatse 115.87 239 *e*PKPdf **PKPdf** 15 53 16.6 +0.8
LBTB LR LR
comp=Z,679nm,19.0s
BURAR Bucovina Array 116.19 321 ⇓*i*P **PKPdf** 15 53 16.9 +1.1
BURAR Bucovina Array 116.19 321 ⇓*i*P **PKKPbc** 16 03 47.2 +0.1
NB2 NORSAR Subarra 116.43 338 PKPdf **PKPdf** 15 53 16.1 +0.4
comp=Z,3.2nm,1.0s,baz=44,slow=1.9
NOA NORSAR Array B 116.43 338 PKP **PKPdf** 15 53 13.8 -2.0
NOA PKKPbc **PKKPbc** 16 03 44.6 -2.0
NOA NORSAR Array B 116.43 338 PKP **PKPdf** 15 53 13.8 -2.0
comp=Z,3.6nm,1.0s,baz=54,slow=2.1,SNR=5.0
NOA PKKPbc **PKKPbc** 16 03 44.6 -2.0
comp=Z,2.6nm,0.8s,baz=232,slow=3.7,SNR=8.3
MLR Muntele Rosu 116.46 318 ⇓*i*P **PKPdf** 15 53 16.2 -0.2
NATX Nacogdoches 116.55 58 PFAKE 15 53 30.0 +13
NATX LR LR
comp=Z,931nm,21.0s
SUR Sutherland 116.73 229 PFAKE 15 53 30.0 +13
SUR LR LR
comp=Z,1μm,20.0s
MBAR Mbarara 116.87 266 PFAKE 15 53 30.0 +12
MBAR LR LR
comp=Z,474nm,19.0s
MIAR Mount Ida 116.94 54 PFAKE 15 53 30.0 +13
MIAR LR LR
comp=Z,1μm,20.0s
KWP Kalwaria Pacla 116.95 323 PFAKE 15 53 30.0 +13
KWP LR LR
comp=Z,668nm,20.0s
COWI Conover 116.98 41 PFAKE 15 53 30.0 +13
COWI LR LR
comp=Z,946nm,20.0s
VOIR 117.07 318 ⇑PKIKP **PKPdf** 15 53 17.4 -0.1
VOIR 117.07 318 ⇑*i*P **PKPdf** 15 53 16.9 -0.6
VOIR 117.07 318 ⇑*i*P **PKKPab** 16 03 44.0 -2.4
TRPA Tarpa 117.67 322 ⇓*i*P **PKPdf** 15 53 18.6 +0.2
TRPA Tarpa 117.67 322 ⇑*i*P **PKKPab** 16 03 40.9 -2.7
KONO Kongsberg 117.95 337 PFAKE 15 53 30.0 +11
KONO LR LR
comp=Z,935nm,19.0s
CRVS Cervenica-Dubn 118.00 323 *e*PKIKP **PKPdf** 15 53 20.4 +1.3
CRVS Cervenica-Dubn 118.00 323 *e*PKP **PKPdf** 15 53 20.4 +1.3
DRGR 118.09 320 ⇓PKIKP **PKPdf** 15 53 18.7 -0.7
DRGR 118.09 320 ⇓*i*P **PKPdf** 15 53 18.7 -0.7
DRGR 118.09 320 ⇓*i*P **PKKPab** 16 03 39.9 -2.0
OJC Ojcow 118.39 325 *e*PKiKP **PKPdf** 15 53 19.0 -0.7
OJC Ojcow 118.39 325 *i* PKIKP **PKPdf** 15 53 19.3 -0.5
NIE Niedzica 118.46 324 *e*PKiKP **PKPdf** 15 53 19.1 -0.9
NIE Niedzica 118.46 324 *e*PX **PKKPab** 16 03 38.1 -2.1
NIE Niedzica 118.46 324 *i* PKIKP **PKPdf** 15 53 19.6 -0.4
GZR Gura Zlata 118.58 319 ⇓PKIKP **PKPdf** 15 53 19.4 -1.0
HDIL Hopedale 118.70 47 *e*PKPdf **PKPdf** 15 53 20.9 +0.3
HDIL LR LR
comp=Z,858nm,20.0s
BZS Buzias 119.25 320 ⇑PKIKP **PKPdf** 15 53 20.6 -0.9
BZS Buzias 119.25 320 ⇓*i*P **PKPdf** 15 53 21.0 -0.5
BZS Buzias 119.25 320 ⇑*i*P **PKKPbc** 16 03 36.0 0.0
VTS Vitosha 119.30 316 ⇓PKIKP **PKPdf** 15 53 21.1 -0.8
VTS Vitosha 119.30 316 ⇓*i*P **PKPdf** 15 53 21.2 -0.7
PSZ Piszkesteto 119.37 323 *e*PKIKP **PKPdf** 15 53 21.5 -0.3
PSZ MLR MLR
comp=Z,379nm,20.0s
PSZ Piszkesteto 119.37 323 *e*PKPdf **PKPdf** 15 53 21.5 -0.3
PSZ LR LR
comp=Z,379nm,20.0s
PSZ Piszkesteto 119.37 323 ⇓*i*P **PKPdf** 15 53 21.1 -0.7
OKC Ostrava-Krasne 119.52 325 *e*PKIKP **PKPdf** 15 53 22.4 +0.5
OKC MLR MLR
comp=Z,500nm,17.2s
OKC Ostrava-Krasne 119.52 325 *e*PKPdf **PKPdf** 15 53 22.4 +0.5
OKC AMS AMS 16 48 50.0
comp=Z,500nm,17.2s
VYHS Vyhne 119.74 323 *e*PKIKP **PKPdf** 15 53 22.8 +0.4
VYHS *e* 15 54 43.9
VYHS Vyhne 119.74 323 *e*PKP **PKPdf** 15 53 22.8 +0.4
VYHS *e*PP **PP** 15 54 43.9 -1.9
VYHS *e* 16 03 32.9
MORC Moravsky Berou 119.89 325 ⇓PKIKP **PKPdf** 15 53 22.5 -0.2
MORC Moravsky Berou 119.89 325 *e*PKPdf **PKPdf** 15 53 22.3 -0.4
MORC Moravsky Berou 119.89 325 ⇑*i*P **PKPdf** 15 53 22.6 -0.2
VBMS Vicksburg 119.92 56 PFAKE 15 53 30.0 +6.8
VBMS LR LR
comp=Z,682nm,21.0s
OLIL Olney 120.14 49 *e*PKPdf **PKPdf** 15 53 23.7 +0.3
DPC Dobruska-Polom 120.29 326 *e*PKIKP **PKPdf** 15 53 21.3 -2.2
DPC *e* 15 53 36.9
DPC MLR MLR
comp=Z,700nm,23.9s
DPC Dobruska-Polom 120.29 326 *e*PKPdf **PKPdf** 15 53 21.3 -2.2
DPC *ep*PKP **pPKPdf** 15 53 36.9 -3.0
DPC *e*PKP **PKKPab** 16 03 30.8 -1.4
DPC AMS AMS 16 41 20.0
comp=Z,700nm,23.9s
OXF Oxford 120.29 54 PFAKE 15 53 40.0 +16
OXF LR LR
comp=Z,1μm,20.0s
SFIN Scholer Farm 120.35 46 ⇑P **PKPdf** 15 53 23.7 -0.1
baz=120
UPC Upice 120.38 327 *e*PKIKP **PKPdf** 15 53 23.1 -0.5
UPC *e* 15 53 38.3
UPC Upice 120.38 327 *e*PKPdf **PKPdf** 15 53 23.1 -0.5
UPC *ep*PKP **pPKPdf** 15 53 38.3 -1.7
UPC *e*PKKP **PKKPab** 16 03 31.3 -0.4
GLMI Grayling 120.41 41 PFAKE 15 53 40.0 +16
GLMI LR LR
comp=Z,1μm,21.0s
USIN University of 120.69 49 *e*PKPdf **PKPdf** 15 53 24.4 -0.2
PKSM Moragy 120.89 321 ⇓PKIKP **PKPdf** 15 53 23.9 -0.8
PKSM Moragy 120.89 321 ⇑*i*P **PKPdf** 15 53 24.1 -0.6
ZST Bratislava 120.90 324 *e*PKIKP **PKPdf** 15 53 25.8 +1.2
ZST Bratislava 120.90 324 *e*PKP **PKPdf** 15 53 25.8 +1.2
WVT Waverly 121.11 51 *e*PKIKP **PKPdf** 15 53 24.8 -0.6
WVT Waverly 121.11 51 *e*PKPdf **PKPdf** 15 53 24.8 -0.6
PVCC Panska Ves 121.15 327 *e*PKIKP **PKPdf** 15 53 25.9 +0.8
PVCC *e* 15 53 35.8
PVCC MLR MLR
comp=Z,700nm,18.6s
PVCC Panska Ves 121.15 327 *e*PKPdf **PKPdf** 15 53 25.9 +0.8
PVCC *ep*PKP **pPKPdf** 15 53 35.8 -5.7
PVCC AMS AMS 16 47 10.0
comp=Z,700nm,18.6s
BLO Bloomington 121.17 48 *e*PKIKP **PKPdf** 15 53 25.1 -0.3
BLO Bloomington 121.17 48 *e*PKPdf **PKPdf** 15 53 25.1 -0.3
PLAL Pickwick Lake 121.23 53 PFAKE 15 53 40.0 +14
PLAL LR LR
comp=Z,726nm,20.0s
TREC Trest 121.29 326 AMS AMS 16 50 50.0

comp=Z,600nm,15.8s
BRG Berggiesshubel 121.30 328 *e*PDIF **Pdif** 15 49 47.5 -4.7
comp=Z,3.0nm,0.9s
BRG Berggiesshubel 121.30 328 *i* PKP **PKPdf** 15 53 24.3 -1.0
comp=Z,18nm,1.0s
BRG PP **PP** 15 54 58.0 +1.8
BRG SS SS 16 11 38.0 +12
BRG *e*PKPPKP **P'P'df** 16 12 15.6 +3.8
comp=Z,9.4nm,1.5s
BRG
comp=N,670nm,25.7s
BRG
comp=E,410nm,22.6s
BRG
comp=Z,1μm,30.4s
BRG Berggiesshubel 121.30 328 *i* PKIKP **PKPdf** 15 53 24.3 -1.0
BRG 15 54 58.0
BRG SS SS 16 11 38.0 +12
BRG pmax pmax
comp=Z,18nm,1.0s
BRG pmax pmax
comp=Z,9.0nm,1.5s
BRG MLR MLR
comp=N,670nm,25.7s
BRG MLR MLR
comp=E,410nm,22.6s
BRG MLR MLR
comp=Z,1μm,30.4s
PRU Pruhonice 121.45 327 *e*PKIKP **PKPdf** 15 53 24.9 -0.7
PRU *e* 15 53 36.6
PRU MLR MLR
comp=Z,800nm,22.7s
PRU Pruhonice 121.45 327 *e*PKPdf **PKPdf** 15 53 24.9 -0.7
PRU *ep*PKP **pPKPdf** 15 53 36.6 -5.5
PRU *e*PKKP **PKKPab** 16 03 26.9 -0.1
PRU AMS AMS 16 47 40.0
comp=Z,800nm,22.7s
PLCA Paso Flores 121.51 146 PKP **PKPdf** 15 53 26.1 -0.1
PLCA *e*PKPdf **PKiKP** 15 53 26.9 +0.5
PLCA PKKPbc **PKKPbc** 16 03 26.3 -1.3
PLCA LR LR
comp=Z,579nm,19.0s
PLCA Paso Flores 121.51 146 PKP **PKPdf** 15 53 26.1 -0.1
comp=Z,17nm,0.8s,baz=220,slow=2.4,SNR=35
PLCA PKKPbc **PKKPbc** 16 03 26.3 -1.3
comp=Z,3.4nm,0.9s,baz=18,slow=6.5,SNR=6.3
CLL Collm 121.55 329 *e*PKIKP **PKPdf** 15 53 25.0 -0.8
CLL *e* 15 53 36.0
CLL *e* 15 55 03.0
CLL pmax pmax
comp=Z,17nm,0.9s
CLL MLR MLR
comp=Z,1μm,20.7s
CLL Collm 121.55 329 *e*PKPdf **PKPdf** 15 53 25.0 -0.8
CLL *i* PKPdfmax 15 53 26.3
comp=Z,17nm,0.9s
CLL *e* 15 53 36.0
CLL *e*PP **PP** 15 55 03.0 +5.1
CLL *e*PPP PPP 15 57 48.0
CLL *e*PKKPbc **PKKPab** 16 03 27.0 +0.5
CLL *e*PS **PS** 16 04 48.0 -3.9
CLL *e*PPS PPS 16 06 18.0
CLL *e* 16 13 00.0
CLL *e*SSS SSS 16 16 30.0
CLL *e* 16 25 12.0
CLL Lm MLR 16 48 00.0
comp=N,700nm,20.6s
CLL Lm MLR 16 48 00.0
comp=E,800nm,20.9s
CLL Lm MLR 16 48 00.0
comp=Z,1μm,20.7s
WCI Wyandotte Cave 121.64 49 *e*PKIKP **PKPdf** 15 53 26.4 0.0
WCI *e* 15 53 40.2
WCI Wyandotte Cave 121.64 49 *e*PKPdf **PKPdf** 15 53 26.4 0.0
WCI *e* 15 53 40.2
CONA Conrad Observa 121.76 324 ⇑*i*P **PKPdf** 15 53 24.9 -1.6
CONA Conrad Observa 121.76 324 ⇑*i*PKPdf **PKPdf** 15 53 24.9 -1.6
comp=Z,9.7nm,0.9s
AAM Ann Arbor 122.06 43 *e*PKIKP **PKPdf** 15 53 26.8 -0.3
AAM MLR MLR
comp=Z,595nm,21.0s
AAM Ann Arbor 122.06 43 *e*PKPdf **PKPdf** 15 53 26.8 -0.3
AAM LR LR
comp=Z,595nm,21.0s
TIR Tirane 122.07 316 PFAKE 15 53 40.0 +13
TIR LR LR
comp=Z,536nm,22.0s
KHC Kasperske Hory 122.44 326 *e*PKIKP **PKPdf** 15 53 27.1 -0.5
KHC *e* 15 53 41.9
KHC MLR MLR
comp=Z,700nm,17.4s
KHC Kasperske Hory 122.44 326 *e*PKPdf **PKPdf** 15 53 26.6 -1.0
KHC Kasperske Hory 122.44 326 *e*PKPdf **PKPdf** 15 53 27.1 -0.5
KHC *ep*PKP **pPKPdf** 15 53 41.9 -2.2
KHC AMS AMS 16 48 30.0
comp=Z,700nm,17.4s
NKC Novy Kostel 122.45 328 *e*PKIKP **PKPdf** 15 53 26.9 -0.7
NKC *e* 15 53 37.5
NKC MLR MLR
comp=Z,1μm,17.2s
NKC Novy Kostel 122.45 328 *e*PKPdf **PKPdf** 15 53 26.9 -0.7
NKC *ep*PKP **pPKPdf** 15 53 37.5 -6.5
NKC AMS AMS 16 50 10.0
comp=Z,1μm,17.2s
GERES GERESS Array B 122.53 326 PKP **PKPdf** 15 53 27.1 -0.8
GERES PKKPbc **PKKPab** 16 03 22.9 +0.3
GERES GERESS Array B 122.53 326 PKP **PKPdf** 15 53 27.1 -0.8
comp=Z,6.9nm,0.8s,baz=48,slow=2.0,SNR=37
GERES PKKPbc **PKKPab** 16 03 22.9 +0.3
comp=Z,0.8nm,0.8s,baz=205,slow=2.8,SNR=7.1
LRAL Lakeview Retre 122.61 55 *e*PKPdf **PKPdf** 15 53 28.3 0.0
LRAL LR LR
comp=Z,745nm,20.0s
MOA Molln 122.73 325 ⇑*i*P **PKPdf** 15 53 26.5 -1.8
MOA Molln 122.73 325 ⇑*i*PKPdf **PKPdf** 15 53 26.5 -1.8
comp=Z,7.1nm,1.4s
SWET Sewanee 122.85 52 *e*PKPdf **PKPdf** 15 53 28.1 -0.7
SOKA Soboth 122.87 323 ⇑*i*P **PKPdf** 15 53 27.4 -1.2
SOKA Soboth 122.87 323 ⇑*i*PKPdf **PKPdf** 15 53 27.4 -1.2
comp=Z,15nm,0.9s
BRAL Brewton 123.07 57 PFAKE 15 53 40.0 +11
BRAL LR LR
comp=Z,680nm,21.0s
ACSO Alum Creek Sta 123.34 45 *e*PKPdf **PKPdf** 15 53 29.1 -0.4
ACSO LR LR
comp=Z,726nm,19.0s
GRF Grafenberg Arr 123.41 328 *e*PKPdf **PKPdf** 15 53 30.4 +1.0
VISS Visnje 123.42 322 *i* PKP **PKPdf** 15 53 29.7 +0.1
KBA Koelnbreinsper 123.66 324 ⇑*i*PKIKP **PKPdf** 15 53 28.9 -1.4
KBA Koelnbreinsper 123.66 324 ⇑*i*P **PKPdf** 15 53 28.9 -1.4
KBA Koelnbreinsper 123.66 324 ⇑*i*PKPdf **PKPdf** 15 53 28.9 -1.4
comp=Z,8.4nm,0.8s
TEIG Tepich 123.86 70 PFAKE 15 53 40.0 +8.9
TEIG LR LR
comp=Z,556nm,21.0s
CPCT Cooper Cave 123.88 51 *e*PKPdf **PKPdf** 15 53 30.3 -0.5
CPCT *e* 15 53 44.4
SCHQ Schefferville 124.07 23 PKP **PKPdf** 15 53 30.5 -0.1
SCHQ PKKPbc **PKKPbc** 16 03 18.4 +0.5
SCHQ LR LR
comp=Z,1μm,22.0s
SCHQ Schefferville 124.07 23 PKP **PKPdf** 15 53 30.5 -0.1
comp=Z,3.1nm,0.8s,baz=30,slow=2.0,SNR=6.0
SCHQ PKKPbc **PKKPbc** 16 03 18.4 +0.5
comp=Z,4.2nm,0.9s,baz=130,slow=3.8,SNR=6.6
ABTA Abfaltersbach 124.32 324 ⇑*i*P **PKPdf** 15 53 29.6 -1.8
ABTA Abfaltersbach 124.32 324 ⇑*i*PKPdf **PKPdf** 15 53 29.6 -1.8
comp=Z,18nm,0.9s
TKL Tuckaleechee C 124.39 51 PKP **PKPdf** 15 53 31.3 -0.4
TKL *e*PKPdf **PKiKP** 15 53 31.6 -0.5
TKL pPKP **pPKPdf** 15 53 45.7 -2.5
TKL Tuckaleechee C 124.39 51 PKP **PKPdf** 15 53 31.3 -0.4
comp=Z,17nm,0.9s,baz=176,slow=1.6,SNR=17
TKL pPKP **pPKPdf** 15 53 45.7 -2.5
comp=Z,7.9nm,0.7s,baz=113,slow=1.6,SNR=6.6
WATA Walderalm 124.54 325 ⇓*i*PKIKP **PKPdf** 15 53 30.8 -1.1
WATA Walderalm 124.54 325 ⇓*i*P **PKPdf** 15 53 30.8 -1.1
WATA Walderalm 124.54 325 ⇓*i*PKPdf **PKPdf** 15 53 30.8 -1.1
comp=Z,13nm,0.9s
WTTA Wattenberg 124.55 325 ⇓*i*PKIKP **PKPdf** 15 53 31.2 -0.7
WTTA Wattenberg 124.55 325 ⇓*i*P **PKPdf** 15 53 31.2 -0.7
WTTA Wattenberg 124.55 325 ⇓*i*PKiKP **PKPdf** 15 53 31.2 -0.7
comp=Z,30nm,1.0s
ERPA Erie 124.61 42 PFAKE 15 53 40.0 +8.0
ERPA LR LR
comp=Z,719nm,21.0s
MOTA Moosalm 124.80 325 ⇓*i*PKIKP **PKPdf** 15 53 31.3 -1.1
MOTA Moosalm 124.80 325 ⇓*i*P **PKPdf** 15 53 31.3 -1.1
MOTA Moosalm 124.80 325 ⇓*i*PKPdf **PKPdf** 15 53 31.3 -1.1
comp=Z,18nm,0.7s
TSUM Tsumeb 124.91 242 PKP **PKPdf** 15 53 34.6 +1.3
TSUM Tsumeb 124.91 242 PKP **PKPdf** 15 53 34.6 +1.3
comp=Z,44nm,1.0s,baz=120,slow=2.2,SNR=82
STU Stuttgart 125.03 328 PKIKP **PKPdf** 15 53 31.9 -0.7
STU Stuttgart 125.03 328 PKPdf **PKPdf** 15 53 31.9 -0.7
TIP Timpagrande 125.11 314 PFAKE 15 53 40.0 +6.9
TIP LR LR
comp=Z,482nm,21.0s
FETA Feichten 125.20 325 ⇑*i*P **PKPdf** 15 53 32.3 -0.9
FETA Feichten 125.20 325 ⇑*i*PKPdf **PKPdf** 15 53 32.3 -0.9
comp=Z,21nm,1.0s
TGUH Tegucigalpa,Un 125.28 77 PFAKE 15 53 50.0 +16
TGUH LR LR
comp=Z,659nm,20.0s
GOGA Godfrey 125.34 53 *e*PKIKP **PKPdf** 15 53 33.7 +0.1
GOGA MLR MLR
comp=Z,844nm,20.0s
GOGA Godfrey 125.34 53 *e*PKPdf **PKPdf** 15 53 33.7 +0.1
GOGA LR LR
comp=Z,844nm,20.0s
MEM Membach 125.48 331 PKP **PKPdf** 15 53 33.3 0.0
MEM APKP **pPKPdf** 15 53 47.6 -2.2
DAVA Damuels 125.52 326 ⇑*i*P **PKPdf** 15 53 33.4 -0.4
DAVA Damuels 125.52 326 ⇑*i*PKiKP **PKPdf** 15 53 33.3 -0.4
comp=Z,26nm,1.0s
BFO Black Forest 125.75 328 PFAKE 15 53 50.0 +16
BFO LR LR
comp=Z,722nm,20.0s
ESK Eskdalemuir 125.81 340 PFAKE 15 53 50.0 +16
ESK LR LR
comp=Z,1μm,19.0s
BCLA Clavier 125.95 331 PKP **PKPdf** 15 53 34.7 +0.5
AQU L'Aquila 126.00 319 PFAKE 15 53 50.0 +15
AQU LR LR
comp=Z,883nm,22.0s
WLF Walferdange 126.03 330 PKP **PKPdf** 15 53 34.4 -0.1
WLF APKP **pPKPdf** 15 53 49.3 -1.6
WLF Walferdange 126.03 330 PFAKE 15 53 50.0 +16
WLF LR LR
comp=Z,1μm,21.0s
CDF Champ du Feu 126.25 328 *e*PKIKP **PKPdf** 15 53 33.6 -1.4
comp=Z,22nm,1.2s
TUE Stuetta 126.29 325 *e*PKPdf **PKPdf** 15 53 34.5 -0.8
TUE LR LR
comp=Z,1μm,22.0s
BLA Blacksburg 126.35 48 *e*PKIKP **PKPdf** 15 53 35.8 +0.3
BLA MLR MLR
comp=Z,678nm,19.0s
BLA Blacksburg 126.35 48 *e*PKPdf **PKPdf** 15 53 35.8 +0.3
BLA LR LR
comp=Z,678nm,19.0s
SNF Seneffe 126.37 332 PKP **PKPdf** 15 53 36.4 +1.3
GIVF Givet 126.39 331 *e*PKIKP **PKPdf** 15 53 34.6 -0.5
comp=Z,103nm,1.5s
KMSC Kings Mountain 126.44 50 ⇑P **PKPdf** 15 53 35.6 0.0
baz=126
ECH Echery 126.44 328 PFAKE 15 53 50.0 +15
ECH LR LR
comp=Z,1μm,20.0s
DOU Dourbes 126.50 331 PKP **PKPdf** 15 53 35.5 +0.2
DOU APKP **pPKPdf** 15 53 50.0 -1.7
SSPA Standing Stone 126.69 43 *e*PKPdf **PKPdf** 15 53 35.7 -0.3
BAIF Baives 126.71 332 *e*PKIKP **PKPdf** 15 53 35.2 -0.5
comp=Z,36nm,1.2s
JSC Jenkinsville 126.79 51 *e*PKIKP **PKPdf** 15 53 37.3 +1.0
JSC Jenkinsville 126.79 51 *e*PKPdf **PKPdf** 15 53 37.3 +1.0
LONY Lake Ozonia 126.79 37 PFAKE 15 53 50.0 +14
LONY LR LR
comp=Z,798nm,19.0s
HINF Hinteralfeld 126.85 328 *e*PKIKP **PKPdf** 15 53 34.9 -1.2
comp=Z,70nm,1.2s
PAGF Fort de Pagny 126.96 329 *e*PKIKP **PKPdf** 15 53 35.6 -0.7
comp=Z,9.3nm,1.1s
VLC Villacollemand 126.97 322 PFAKE 15 53 50.0 +14
VLC LR LR
comp=Z,597nm,19.0s
HAU Haudompre 126.99 328 *e*PKIKP **PKPdf** 15 53 35.3 -1.1
comp=Z,61nm,1.1s
HAU *e*R
comp=Z,1μm,20.8s
BINY Binghamton 127.19 40 PFAKE 15 53 50.0 +13
BINY LR LR
comp=Z,1μm,21.0s
FRNY Flat Rock 127.26 36 *e*PKPdf **PKPdf** 15 53 36.1 -0.8
MEZF Maizieres J'vi 127.34 330 *e*PKIKP **PKPdf** 15 53 36.2 -0.8
SFTF Sexfontaines 127.54 329 *e*PKIKP **PKPdf** 15 53 36.3 -1.1
MDV Middlebury 127.97 37 *e*PKIKP **PKPdf** 15 53 38.1 -0.2
TRQA Tornquist 127.97 150 PFAKE 15 53 50.0 +11
TRQA LR LR
comp=Z,394nm,20.0s
NHSC New Hope 128.04 52 PFAKE 15 53 50.0 +11
NHSC LR LR
comp=Z,980nm,21.0s
CBN Corbin 128.14 45 PFAKE 15 53 50.0 +11
CBN LR LR
comp=Z,744nm,20.0s
LPG La Plagne 128.33 326 *e*PKIKP **PKPdf** 15 53 38.5 -0.9
comp=Z,21nm,1.0s
LPL La Plagne 128.33 326 *e*PKIKP **PKPdf** 15 53 38.5 -0.8
comp=Z,38nm,1.1s
LBNH Lisbon 128.58 36 PKIKP **PKPdf** 15 53 37.7 -1.8
LBNH MLR MLR
comp=Z,1μm,22.0s
LBNH Lisbon 128.58 36 PKPdf **PKPdf** 15 53 37.7 -1.8
LBNH LR LR
comp=Z,1μm,22.0s
BNI Bardonecchia 128.64 325 PFAKE 15 53 50.0 +10
BNI LR LR
comp=Z,1μm,20.0s
PGF Pioggiola 128.70 321 *e*PKIKP **PKPdf** 15 53 38.9 -1.0
comp=Z,83nm,1.2s
LOR Lormes 128.75 329 *e*PKIKP **PKPdf** 15 53 39.1 -0.7
comp=Z,44nm,1.3s
LOR *e*R
comp=Z,1μm,22.8s
SBF Sospel 128.90 324 *e*PKIKP **PKPdf** 15 53 39.0 -1.2
comp=Z,142nm,1.4s
CNNC Cliffs of the 129.01 49 PFAKE 15 53 50.0 +9.5
CNNC LR LR
comp=Z,972nm,21.0s
LCO Las Campanas 129.02 135 *e*PKPdf **PKPdf** 15 53 42.2 +1.0
SSF Saint Saulge 129.07 329 *e*PKIKP **PKPdf** 15 53 39.7 -0.6
comp=Z,26nm,1.0s
ORIF Oris-en-Rattie 129.17 326 *e*PKIKP **PKPdf** 15 53 39.9 -0.8
comp=Z,43nm,1.3s
ORIF *e*R
comp=Z,2μm,22.8s
AVF Avril sur Loir 129.33 329 *e*PKIKP **PKPdf** 15 53 39.8 -1.0
HYF Humbligny 129.37 330 *e*PKIKP **PKPdf** 15 53 40.7 -0.2
BGF Bois d'Agland 129.75 329 *e*PKIKP **PKPdf** 15 53 41.1 -0.5
LDF La Druitiere 129.76 333 *e*PKIKP **PKPdf** 15 53 40.6 -1.0
comp=Z,53nm,1.2s
LMR La Mourre 129.76 324 *e*PKIKP **PKPdf** 15 53 41.1 -0.6
comp=Z,65nm,1.4s
FLN La Foliniere 129.79 333 *e*PKIKP **PKPdf** 15 53 40.7 -0.9
FLN *e*R
comp=Z,799nm,21.0s
VIVF Saint-Julien-l 129.88 326 *e*PKIKP **PKPdf** 15 53 41.1 -0.9
comp=Z,51nm,1.3s
SMRF Simiane la Rot 129.92 325 *e*PKIKP **PKPdf** 15 53 40.9 -1.2
GRR Gorron 130.24 333 *e*PKIKP **PKPdf** 15 53 41.8 -0.7
comp=Z,162nm,1.6s
TCF Toulx Ste Croi 130.25 329 *e*PKIKP **PKPdf** 15 53 42.3 -0.3
comp=Z,24nm,0.9s
LASF Ste Croix 130.83 326 *e*PKIKP **PKPdf** 15 53 43.2 -0.6
comp=Z,83nm,1.3s
MFF Saint Martin d 131.20 331 *e*PKIKP **PKPdf** 15 53 43.9 -0.5
comp=Z,173nm,1.8s
CAF Calviac 131.24 328 *e*PKIKP **PKPdf** 15 53 44.0 -0.6
LFF La Frestale 131.93 329 *e*PKIKP **PKPdf** 15 53 44.4 -1.4
comp=Z,62nm,1.2s
ATAH Atahualpa 132.01 105 PKP **PKPdf** 15 53 49.6 +2.2
ATAH SKPbc **SKPab** 15 57 14.3 +4.3
ATAH Atahualpa 132.01 105 PKP **PKPdf** 15 53 49.6 +2.2
comp=Z,60nm,1.1s,baz=287,slow=2.3,SNR=40
ATAH SKPbc **SKPab** 15 57 14.3 +4.3
comp=Z,7.4nm,0.6s,baz=117,slow=2.4,SNR=3.8
NNA Nana 132.04 112 *e*PKPdf **PKPdf** 15 53 47.6 +0.6
NNA PKP **PKPdf** 15 53 48.6 +1.6

NNA					LR	LR			
	comp=Z,375nm,21.0s								
NNA	**Nana**	**132.04**	**112**		PKP	**PKPdf**	**15 53 48.6**	**+1.6**	
	comp=Z,83nm,1.2s,baz=286,slow=3.5,SNR=12								
BCIP	**Isla Barro Col**	**132.68**	**83**		PFAKE		15 54 00.0	+12	
BCIP					LR	LR			
	comp=Z,692nm,19.0s								
OTAV	**Otavalo**	**133.43**	**96**	*e*	PKPdf	**PKPdf**	**15 53 50.7**	**+0.6**	
OTAV				*e*			15 54 03.9		
OTAV					LR	LR			
	comp=Z,310nm,19.0s								
ETSF	**Etsaut**	**134.01**	**328**	*e*	PKIKP	**PKPdf**	**15 53 48.9**	**-1.0**	
	comp=Z,24nm,0.9s								
LVC	**Limon Verde**	**134.04**	**130**	*e*	PKPdf	**PKPdf**	**15 53 51.8**	**+0.9**	
SJPF	**Ste Jean**	**134.21**	**328**	*e*	PKIKP	**PKPdf**	**15 53 49.1**	**-1.1**	
LPAZ	**La Paz**	**137.98**	**123**	*e*	PKPpre	PKPpre	15 53 47.0		
LPAZ					PKPdf	**PKPdf**	**15 53 59.7**	**+1.0**	
LPAZ					LR	LR			
	comp=Z,281nm,21.0s								
ROSC	**El Rosal**	**138.01**	**90**	*e*	PKPpre	PKPpre	15 53 52.7		
ROSC					PKPpre	PKPpre	15 53 53.2		
ROSC					ePKPdf	**PKPdf**	**15 53 58.8**	**+0.3**	
ROSC					PKP	**PKiKP**	**15 53 59.6**	**-1.0**	
ROSC	**El Rosal**	**138.01**	**90**		PKhKP	PKPpre	15 53 53.2		
	comp=Z,14nm,0.6s,baz=79,slow=16,SNR=8.1								
ROSC					PKP	**PKiKP**	**15 53 59.6**	**-1.0**	
	comp=Z,54nm,0.8s,baz=141,slow=2.2,SNR=22								
ESDC	**Sonseca Array**	**138.10**	**327**		PKP	**PKPdf**	**15 53 59.1**	**+1.5**	
ESDC					PP	PP	15 56 51.5	+5.8	
ESDC	**Sonseca Array**	**138.10**	**327**		PKP	**PKPdf**	**15 53 59.1**	**+1.5**	
	comp=Z,0.6nm,0.5s,baz=357,slow=3.0,SNR=4.4								
ESDC					PP	PP	15 56 51.5	+5.8	
	comp=Z,0.5nm,0.6s,baz=22,slow=6.3,SNR=4.3								
ESLA	**Sonseca Array**	**138.10**	**327**		PFAKE		15 54 10.0	+12	
ESLA					LR	LR			
	comp=Z,4μm,22.0s								
PAB	**San Pablo**	**138.40**	**327**		PFAKE		15 54 10.0	+12	
PAB					LR	LR			
	comp=Z,1μm,19.0s								
MVO	**Moncorvo**	**138.57**	**331**	*e*	PKPdf	**PKPdf**	**15 54 00.4**	**+2.0**	
SDDR	**Presa de Saban**	**139.85**	**68**		PFAKE		15 54 10.0	+8.7	
SDDR					LR	LR			
	comp=Z,686nm,20.0s								
BBSR	**BB Station**	**140.02**	**45**		PFAKE		15 54 10.0	+8.8	
BBSR					LR	LR			
	comp=Z,739nm,21.0s								
PMRV	**Marv??o**	**140.07**	**330**	*e*	PKPdf	**PKPdf**	**15 54 02.0**	**+0.8**	
PMRV				*i*	P	**PKiKP**	**15 54 05.5**	**+1.9**	
TAM	**Tamanrasset**	**140.12**	**298**		PFAKE		15 54 10.0	+8.1	
TAM					LR	LR			
	comp=Z,377nm,20.0s								
PBAR	**Barrancos**	**140.83**	**328**	*e*	PKPdf	**PKPdf**	**15 54 01.6**	**-0.9**	
EVO	**Evora**	**141.07**	**329**	*e*	PKIKP	**PKPdf**	**15 54 04.2**	**+1.2**	
	comp=Z,42nm,1.3s								
EVO				*e*	R				
	comp=Z,691nm,20.8s								
PBEJ	**Beja**	**141.38**	**329**	*i*	P	**PKPdf**	**15 54 08.6**	**+5.1**	
PNCL	**Nicolau / Gran**	**141.65**	**329**	*i*	P	**PKPdf**	**15 54 09.0**	**+5.0**	
PCVE	**Castro Verde**	**141.76**	**328**	*i*	P	**PKPdf**	**15 54 09.2**	**+5.0**	
SDV	**Santo Domingo**	**141.77**	**84**	*e*	PKPpre	PKPpre	15 53 59.5		
SDV				*e*	PKPdf	**PKPdf**	**15 54 05.2**	**+0.1**	
SDV					LR	LR			
	comp=Z,149nm,20.0s								
PBDV	**Barranco-do-Ve**	**142.00**	**328**	*i*	P	PKPdf	15 54 11.9	+7.2	
RTC	**Rabat Centre**	**143.74**	**323**		PFAKE		15 54 20.0	+12	
RTC					LR	LR			
	comp=Z,514nm,20.0s								
SIV	**San Ignacio**	**143.88**	**128**		PKP	PKPbc	15 54 06.5	+0.1	
SIV	**San Ignacio**	**143.88**	**128**		PKP	PKPbc	15 54 06.5	+0.1	
	comp=Z,65nm,0.9s,baz=237,slow=4.4,SNR=87								
CRPR	**Cabo Rojo, PR**	**143.93**	**68**	*e*	PKPpre	PKPpre	15 54 04.0		
LRS	**Lares**	**144.10**	**67**	*e*	PKPpre	PKPpre	15 54 05.8		
OBIP	**Obispado Ponce**	**144.39**	**68**	*e*	PKPpre	PKPpre	15 54 07.2		
CELP	**Cerrillos**	**144.40**	**68**	*e*	PKPpre	PKPpre	15 54 07.1		
SJG	**San Juan**	**144.79**	**67**	*e*	PKPpre	PKPpre	15 54 07.2		
SJG					PKP	**PKPab**	**15 54 08.4**	**-0.6**	
SJG					LR	LR			
	comp=Z,681nm,20.0s								
SJG	**San Juan**	**144.79**	**67**		PKP	**PKPab**	**15 54 08.4**	**-0.6**	
	comp=Z,96nm,1.1s,baz=86,slow=0.9,SNR=14								
MTP	**Monte Pirata**	**145.34**	**67**	*e*	PKP	**PKPdf**	**15 54 10.9**	**-0.1**	
SAML	**Samuel**	**145.61**	**116**	*e*	PKP	**PKPbc**	**15 54 11.9**	**0.0**	
SAML					LR	LR			
	comp=Z,433nm,21.0s								
STVI	**Saint Thomas**	**145.81**	**66**	*e*	PKPdf	**PKPdf**	**15 54 10.9**	**-0.9**	
SHEL	**Horse Pasture**	**145.83**	**230**	*e*	PKP2	**PKPab**	**15 54 13.9**	**+0.9**	
SHEL	**Horse Pasture**	**145.83**	**230**	*e*	PKPbc	**PKPab**	**15 54 13.9**	**+0.9**	
TOA0	**Torodi Ar. Sit**	**145.95**	**284**	*e*	PKPdf	**PKPdf**	**15 54 12.2**	**0.0**	
TORD	**Torodi Ar. Bea**	**145.95**	**284**		PKPbc	**PKPdf**	**15 54 11.8**	**-0.3**	
TORD					SKKPbc	SKKPbc	16 05 39.7	-1.0	
TORD	**Torodi Ar. Bea**	**145.95**	**284**		PKPbc	**PKPdf**	**15 54 11.8**	**-0.3**	
	comp=Z,94nm,0.8s,baz=66,slow=3.4,SNR=205								
TORD					SKKPbc	SKKPbc	16 05 39.7	-1.0	
	comp=Z,6.9nm,1.1s,baz=263,slow=3.6,SNR=7.3								
CDVI	**St. Croix**	**146.15**	**67**	*e*	PKPdf	**PKPdf**	**15 54 12.2**	**-0.1**	
SPB	**Sao Paulo**	**146.86**	**154**	*e*	PKPdf	**PKPdf**	**15 54 14.1**	**+0.6**	
SPB					LR	LR			
	comp=Z,441nm,20.0s								
LZG	**Guadaloupe-1**	**149.34**	**69**	*e*	P	**PKPbc**	**15 54 22.4**	**+0.3**	
PMPS	**Porto Santo**	**149.47**	**333**	*e*	PKPbc	**PKPdf**	**15 54 19.5**	**+2.0**	
PHG	**Guadaloupe-2**	**149.50**	**69**	*e*	P	**PKPbc**	**15 54 23.3**	**+0.7**	
DOG	**Dongo Capester**	**149.52**	**69**	*e*	P	**PKPbc**	**15 54 23.6**	**+1.0**	
TBG	**Guadaloupe-3**	**149.54**	**69**	*e*	P	**PKPbc**	**15 54 22.7**	**+0.1**	
PMAR	**Madeira**	**150.01**	**334**	*e*	PKPbc	**PKPbc**	**15 54 23.6**	**0.0**	
FDF	**Fort de France**	**150.28**	**71**	*e*	PKIKP	**PKPbc**	**15 54 24.9**	**+0.4**	
FDF					MLR	MLR			
	comp=Z,2μm,21.0s								
FDF	**Fort de France**	**150.28**	**71**	*e*	PKPbc	**PKPbc**	**15 54 24.9**	**+0.4**	
FDF					LR	LR			
	comp=Z,2μm,21.0s								
FDF	**Fort de France**	**150.28**	**71**	*e*	P	**PKPbc**	**15 54 24.7**	**+0.2**	
GRGR	**Grenville**	**150.30**	**76**	*e*	PKPdf	**PKPdf**	**15 54 20.4**	**+1.1**	
GRGR					LR	LR			
	comp=Z,342nm,20.0s								
BIM	**Bigot**	**150.40**	**71**	*e*	P	**PKPbc**	**15 54 25.2**	**+0.5**	
SVB	**Belmont**	**150.49**	**74**	*e*		**PKPbc**	**15 54 24.4**	**-0.6**	
TRN	**Trinidad (W)**	**150.74**	**79**	*e*		**PKPbc**	**15 54 27.7**	**+2.1**	
TBH	**Brigand Hill**	**151.08**	**80**	*e*		**PKPbc**	**15 54 30.1**	**+3.8**	
TPR	**Prospect**	**151.28**	**78**	*e*		**PKPbc**	**15 54 29.9**	**+3.1**	
TOSP	**Speyside**	**151.50**	**78**	*e*		**PKPbc**	**15 54 28.5**	**+1.2**	
DBIC	**Dimbokro**	**152.87**	**273**	*e*	PKPdf	**PKPdf**	**15 54 23.2**	**0.0**	
DBIC					PKP	**PKPdf**	**15 54 23.5**	**+0.3**	
DBIC					ePKPbc	**PKiKP**	**15 54 30.5**	**-0.1**	
DBIC					PKPbc	PKPab	15 54 31.1	-10	
DBIC					PKPab	PKPab	15 54 42.1	+0.5	
DBIC					LR	LR			
	comp=Z,737nm,21.0s								
DBIC	**Dimbokro**	**152.87**	**273**		PKP	**PKPdf**	**15 54 23.5**	**+0.3**	
	comp=Z,21nm,1.1s,baz=52,slow=3.9,SNR=7.4								
DBIC					PKPbc	**PKiKP**	**15 54 31.1**	**+0.5**	
	comp=Z,39nm,0.8s,baz=96,slow=2.5,SNR=24								
DBIC					PKPab	**PKPab**	**15 54 42.1**	**+0.5**	
	comp=Z,50nm,0.8s,baz=80,slow=6.1,SNR=12								
LIC	**Lamto**	**153.03**	**272**	*e*	PKIKP	**PKPdf**	**15 54 22.7**	**-0.8**	
	comp=Z,150nm,1.0s								
LIC				*e*	R				
	comp=Z,536nm,20.5s								
BDFB	**Brasilia**	**153.23**	**144**		PKP	**PKPdf**	**15 54 24.9**	**+1.1**	
BDFB					PKPbc	**PKiKP**	**15 54 31.8**	**+0.4**	
BDFB	**Brasilia**	**153.23**	**144**		PKP	**PKPdf**	**15 54 24.9**	**+1.1**	
	comp=Z,22nm,0.9s,baz=230,slow=1.1,SNR=25								
BDFB					PKPbc	**PKiKP**	**15 54 31.8**	**+0.4**	
	comp=Z,135nm,0.8s,baz=218,slow=1.6,SNR=72								
RCBR	**Riachuelo**	**167.50**	**163**	*e*	PKPdf	**PKPdf**	**15 54 38.4**	**-1.1**	
RCBR					PKP		15 54 39.6		
RCBR					PKPab	**PKPab**	**15 55 45.4**	**+0.5**	
RCBR					LR	LR			
	comp=Z,1μm,21.0s								
RCBR	**Riachuelo**	**167.50**	**163**		PKP	**PKPdf**	**15 54 39.6**	**+0.1**	
	comp=Z,26nm,1.0s,baz=45,slow=1.4,SNR=9.8								
RCBR					PKPab	**PKPab**	**15 55 45.4**	**+0.5**	
	comp=Z,6.9nm,0.9s,baz=191,slow=9.1,SNR=3.8								
SACV	**Santiago Islan**	**167.88**	**317**		PFAKE		15 54 50.0	+10	
SACV					LR	LR			
	comp=Z,578nm,20.0s								

IDC 08 15:44:47.6±2.3, 6.71S×129.85E, h0km, mb3.3/1, mb1 4.1/4, mb1mx3.7/16, mbtmp3.9/4, ML3.9/3, Error ellipse: s-maj=86.6km s-min=29.0km az=77.0, Banda Sea

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

FITZ	**Fitzroy Crossi**	**12.05**	**200**		Pn	Pn	15 47 40.9	+0.2	
	0.5nm,0.3s,baz=22,slow=11,SNR=16								
FITZ					Sn	Sn	15 49 40.6	-15	
	0.6nm,0.3s,baz=308,slow=19,SNR=5.2								
WRA	**Warramunga Arr**	**13.86**	**162**		Pn	Pn	15 48 05.3	-0.2	
	0.7nm,0.3s,baz=345,slow=14,SNR=14								
WRA					Sn	Sn	15 50 28.5	-12	
	0.6nm,0.3s,baz=319,slow=28,SNR=6.7								
ASAR	**Alice Springs**	**17.30**	**167**		P	Pn	15 48 50.7	-0.1	
	0.3nm,0.3s,baz=336,slow=9.0,SNR=5.4								
ASAR					S	Sn	15 51 51.6	-12	
	0.1nm,0.3s,baz=340,slow=32,SNR=3.6								
MKAR	**Makanchi Array**	**67.90**	**327**		P	P	15 55 48.1	0.0	
	0.3nm,0.8s,baz=119,slow=7.6,SNR=4.5								

IDC 08 16:16:53.1±1.2, 3.50S×145.91E, h0km, mb3.7/10, mb1 3.9/12, mb1mx3.9/19, mbtmp3.8/12, ML4.0/1, MS3.7/7, Ms1 3.7/7, ms1mx3.4/28, Error ellipse: s-maj=39.3km s-min=16.9km az=94.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.99**	**168**	Pn	Pn	16 18 23.9	+0.7
	0.5nm,0.3s,baz=343,slow=18,SNR=3.1						
PMG				Sn	Sn	16 19 32.2	-0.3
	1.1nm,0.3s,baz=130,slow=10,SNR=3.2						
HNR	**Honiara**	**15.14**	**114**	LR	LR	16 24 19.8	
	comp=Z,317nm,19.0s,baz=76,slow=30						
WRA	**Warramunga Arr**	**19.86**	**214**	P	P	16 21 26.1	+0.1
	0.5nm,0.3s,baz=33,slow=11,SNR=32						
WRA				LR	LR	16 29 30.4	
	comp=Z,250nm,18.7s,baz=115,slow=38						
ASAR	**Alice Springs**	**23.16**	**209**	P	P	16 22 01.9	+0.5
	3.5nm,0.7s,baz=42,slow=8.8,SNR=44						
FITZ	**Fitzroy Crossi**	**24.59**	**232**	P	P	16 22 14.3	-0.9
	5.6nm,0.7s,baz=189,slow=4.2,SNR=4.4						
FITZ				LR	LR	16 32 23.8	
	comp=Z,183nm,18.6s,baz=66,slow=38						
DZM	**Mont Dzumac**	**27.16**	**135**	LR	LR	16 31 39.5	
	comp=Z,205nm,18.2s,baz=265,slow=33						
JOW	**Kunigami**	**34.64**	**332**	LR	LR	16 34 55.1	
	comp=Z,117nm,19.7s,baz=129,slow=31						
JNU	**Nakatsue**	**39.11**	**340**	LR	LR	16 37 37.8	
	comp=Z,112nm,18.4s,baz=63,slow=32						
KSRS	**Korea Array**	**44.05**	**339**	P	P	16 25 02.8	0.0
	1.1nm,0.8s,baz=162,slow=9.4,SNR=4.4						
KSRS				LR	LR	16 39 43.3	
	comp=Z,66nm,19.9s,baz=145,slow=31						
CMAR	**Chiang Mai Arr**	**51.14**	**297**	P	P	16 25 59.5	+1.2
	1.0nm,0.9s,baz=121,slow=6.3,SNR=6.4						
SONM	**Songino Array**	**61.71**	**331**	P	P	16 27 13.8	+0.5
	0.2nm,0.7s,baz=103,slow=3.1,SNR=3.6						
MKAR	**Makanchi Array**	**74.89**	**320**	P	P	16 28 36.2	+0.3
	0.1nm,0.3s,baz=113,slow=3.3,SNR=4.5						
ZALV	**Zalesovo Beam**	**76.33**	**328**	P	P	16 28 42.6	-1.4
	0.5nm,0.6s,baz=106,slow=4.7,SNR=3.0						
KURBB	**Kurchatov Arra**	**78.59**	**323**	P	P	16 28 56.8	+0.1
	0.4nm,0.7s,baz=128,slow=6.0,SNR=3.9						
ILAR	**Eielson Array**	**83.63**	**23**	P	P	16 29 23.9	+0.6
	0.3nm,0.8s,baz=238,slow=5.2,SNR=3.4						
BVAR	**Borovoye Array**	**84.12**	**324**	P	P	16 29 25.1	-1.0
	0.4nm,0.7s,baz=150,slow=3.2,SNR=3.1						

MEX 08 16:39:22.2±0.5, 17.19N×100.25W, h25km±9km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.14**	**185**	*i* P	Pb	16 39 26.0	-1.3
CAIG				*i* S	Sb	16 39 29.6	-1.1
ACX	**Acapulco**	**0.50**	**130**	*i* P	Pb	16 39 30.0	-2.4
ACX				*i* S	Sb	16 39 36.5	-2.9
MEIG	**Mezcala**	**0.95**	**40**	*i* P	Pn	16 39 36.7	-3.4
MEIG				*i* S	Sb	16 39 49.2	-3.2
ZIIG	**Zihuatanejo**	**1.23**	**290**	*i* P	Pn	16 39 41.2	-2.6
ZIIG				*i* S	Sn	16 39 56.6	-3.0
PLIG	**Platanillo**	**1.39**	**31**	*e* P	Pn	16 39 43.9	-2.3
PLIG				*i* S	Sn	16 40 00.5	-3.3
YAIG	**Yautepec**	**2.01**	**34**	*i* P	Pn	16 39 52.8	-2.0
YAIG				*i* S	Sn	16 40 15.2	-4.0
PNIG	**Pinotepa**	**2.19**	**111**	*i* P	Pn	16 39 55.3	-1.7
PNIG				*i* S	Sn	16 40 20.4	-2.9
PPM	**Popocatepetl**	**2.42**	**39**	*i* P	Pn	16 39 59.1	-1.8
PPM				*i* S	Sn	16 40 26.4	-3.8
UTMO	**Huajuapan**	**2.42**	**74**	*i* P	Pn	16 39 58.3	-2.2
UTMO				*i* S	Sn	16 40 26.8	-2.8

*ISCJB **08** 17:00:56.9±0.4, 8.57S±0.05×118.35E±0.05, h152km, mb3.8/10, Error ellipse: s-maj=7.9km s-min=6.6km az=141.1*

*IDC **08** 17:00:56.1±1.9, 8.64S×118.21E, h127km±16km, mb3.6/10, mb1 3.7/13, mb1mx3.6/22, mbtmp3.6/13, Error ellipse: s-maj=25.5km s-min=10.9km az=73.0*

*DJA **08** 17:00:58, 8.62S×118.34E, h128km, MLv4.7/10*

ISC 08 17:00:58.5±0.6, 8.61S±0.06×118.35E±0.06, h152km, n25, σ1s55/27, mb4.0/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**2.19**	**119**	P	**Pn**	**17 01 35.6**	**-0.4**
KHKI	**Kahang-Kahang**	**2.72**	**275**	P	**Pn**	**17 01 41.5**	**-1.0**
IGBI	**Denpasar**	**3.17**	**266**	P	**Pn**	**17 01 47.9**	**-0.3**
BKSI	**Bulukumba**	**3.71**	**28**	P	**Pn**	**17 01 54.1**	**-1.1**
KAPI	**Kappang**	**3.84**	**21**	P	**Pn**	**17 01 55.1**	**-1.7**
KAPI	**Kappang**	**3.84**	**21**	P	**Pn**	**17 01 55.4**	**-1.4**
	15nm,0.3s,baz=207,slow=7.6,SNR=76						
KAPI				S	**Sn**	**17 02 39.7**	**-2.4**
	5.6nm,0.3s,baz=211,slow=22,SNR=6.3						
MMRI	**Maumere**	**3.84**	**91**	P	**Pn**	**17 01 56.8**	**-0.1**
JAGI	**Jajag, Banyuwa**	**4.15**	**272**	P	**Pn**	**17 01 59.8**	**-1.1**
BLJI	**Banyuglugur**	**4.79**	**280**	P	Pn	17 02 11.8	+2.6
KDI	**Kendari**	**6.28**	**43**	P	**Pn**	**17 02 32.0**	**+3.0**
FITZ	**Fitzroy Crossi**	**11.80**	**144**	P	**Pn**	**17 03 40.5**	**-1.6**
	0.5nm,0.3s,baz=310,slow=7.1,SNR=8.5						
FITZ				S	Sn	17 05 42.3	-10
	1.7nm,0.3s,baz=286,slow=20,SNR=14						
WRA	**Warramunga Arr**	**19.13**	**128**	P	**P**	**17 05 10.2**	**+0.1**
	0.5nm,0.3s,baz=302,slow=12,SNR=32						
WRA				S	**S**	**17 08 35.6**	**-3.5**
	0.2nm,0.3s,baz=306,slow=22,SNR=4.4						
WRA				ScP	**ScP**	**17 12 51.4**	**+1.6**
	0.0nm,0.3s,baz=322,slow=2.1,SNR=4.8						
ASAR	**Alice Springs**	**21.11**	**137**	P	**P**	**17 05 32.4**	**+0.9**
	2.7nm,0.5s,baz=310,slow=8.9,SNR=103						
ASAR				S	S	17 09 25.4	+7.6
	0.8nm,0.5s,baz=302,slow=21,SNR=5.6						
ASAR				ScP	**ScP**	**17 12 56.9**	**+2.5**
	1.0nm,0.6s,baz=326,slow=1.5,SNR=6.9						
NWAO	**Narrogin (SRO)**	**24.22**	**182**	P	**P**	**17 06 00.8**	**-0.4**
	3.6nm,0.6s,baz=283,slow=7.0,SNR=5.8						
NWAO				S	S	17 10 27.8	+19
	5.9nm,0.9s,baz=24,slow=10.0,SNR=2.9						
STKA	**Stephens Creek**	**31.66**	**140**	P	**P**	**17 07 07.3**	**-0.2**
	2.2nm,0.7s,baz=311,slow=12,SNR=5.1						
CMAR	**Chiang Mai Arr**	**33.02**	**325**	P	**P**	**17 07 20.2**	**+0.7**
	0.6nm,0.5s,baz=155,slow=7.3,SNR=6.7						
KSRS	**Korea Array**	**46.70**	**10**	P	**P**	**17 09 13.4**	**+1.4**
	0.9nm,0.9s,baz=193,slow=9.2,SNR=4.6						
SONM	**Songino Array**	**57.19**	**350**	P	**P**	**17 10 29.7**	**0.0**
	1.4nm,0.7s,baz=166,slow=8.2,SNR=12						
MKAR	**Makanchi Array**	**63.82**	**333**	P	**P**	**17 11 14.3**	**-0.3**
	0.8nm,0.6s,baz=139,slow=7.5,SNR=7.5						
ZALV	**Zalesovo Beam**	**68.45**	**339**	P	**P**	**17 11 42.9**	**-1.0**
	1.4nm,0.6s,baz=136,slow=4.6,SNR=11						
PETK	**Petropavlovsk-**	**69.98**	**24**	P	**P**	**17 11 54.9**	**+1.5**
	4.8nm,0.9s,baz=209,slow=7.9,SNR=3.3						
BVAR	**Borovoye Array**	**73.66**	**332**	P	**P**	**17 12 14.4**	**-0.9**
	0.5nm,0.7s,baz=136,slow=7.3,SNR=5.6						
YKA	**Yellowknife Ar**	**114.10**	**24**	PKP	PKPdf	17 19 20.1	+0.7
	0.2nm,0.6s,baz=306,slow=1.7,SNR=5.2						
TORD	**Torodi Ar. Bea**	**117.76**	**280**	PKP	**PKPdf**	**17 19 28.4**	**+0.6**
	1.3nm,0.7s,baz=62,slow=2.0,SNR=12						
NVAR	**Mina Array Bea**	**121.27**	**50**	PKP	**PKPdf**	**17 19 35.8**	**+1.6**
	0.2nm,0.5s,baz=238,slow=2.8,SNR=2.8						

WEL 08 17:13:23.2±0.2, 45.54S×167.07E, h76km±1km, ML3.9/8, 3C-4D, Error ellipse: s-maj=2.0km s-min=1.3km az=90.0, South Island

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

DCZ	**Deep Cove**	**0.08**	**45**	⇑	PN	Pn	17 13 33.6	-0.5	
DCZ					SN	Sn	17 13 41.7	-0.5	
PYZ	**Puysegur Point**	**0.69**	**203**	⇑	PN	Pn	17 13 38.4	0.0	
PYZ					SN	Sn	17 13 49.4	-0.3	
WHZ	**Wether Hill Ro**	**0.71**	**121**		SN	Sn	17 13 49.8	-0.4	
MLZ	**Mavora Lakes**	**0.80**	**77**		PN	Pn	17 13 38.6	-1.1	
MLZ					SN	Sn	17 13 51.3	-0.6	
MSZ	**Milford Sound**	**1.06**	**35**		PN	Pn	17 13 42.4	-0.3	
MSZ					SN	Sn	17 13 56.9	-0.3	
APZ	**The Paps**	**1.45**	**154**	⇑	PN	Pn	17 13 47.7	0.0	
WKZ	**Wanaka**	**1.55**	**63**	⇓	PN	Pn	17 13 49.0	0.0	
EAZ	**Earnscleugh**	**1.60**	**80**	⇓	PN	Pn	17 13 49.4	-0.3	
SYZ	**Scrubby Hill**	**1.75**	**126**	⇓	PN	Pn	17 13 51.2	-0.5	
TUZ	**Tuapeka**	**1.84**	**104**		PN	Pn	17 13 52.2	-0.6	
JCZ	**Jackson Bay**	**1.89**	**40**		PN	Pn	17 13 53.3	-0.4	
LBZ	**Lake Benmore**	**2.49**	**64**	⇓	PN	Pn	17 13 59.8	-1.7	
FOZ	**Fox Glacier**	**2.72**	**44**		PN	Pn	17 14 04.2	-0.4	
WVZ	**Waitaha Valley**	**3.60**	**48**		PN	Pn	17 14 15.2	-1.4	
MQZ	**McQueen's Vall**	**4.38**	**67**		PN	Pn	17 14 24.3	-3.0	
DSZ	**Denniston Nort**	**5.11**	**44**		PN	Pn	17 14 34.6	-2.7	
KHZ	**Kahutara**	**5.61**	**59**		PN	Pn	17 14 41.2	-2.8	
QRZ	**Quartz Range**	**6.17**	**42**	*e*	PN	Pn	17 14 50.4	-1.3	

IDC 08 17:17:52.5±2.6, 47.31N×154.92E, h0km, mb3.4/7, mb1 3.5/8, mb1mx3.4/24, mbtmp3.4/8, ML3.0/1, Error ellipse: s-maj=65.3km s-min=21.4km az=155.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.08**	**16**	P	Pn	17 19 24.4	+0.8
	0.4nm,0.3s,baz=182,slow=13,SNR=9.0						
PETK				S	Sn	17 20 38.3	+4.6
	baz=190,slow=32,SNR=2.0						
KSRS	**Korea Array**	**22.14**	**253**	P	P	17 22 50.8	+1.1
	0.3nm,0.4s,baz=55,slow=12,SNR=3.5						
SONM	**Songino Array**	**32.31**	**289**	P	P	17 24 22.5	-0.7
	0.3nm,0.9s,baz=70,slow=8.9,SNR=4.4						
ILAR	**Eielson Array**	**35.34**	**39**	P	P	17 24 48.9	-0.3
	0.1nm,0.5s,baz=252,slow=7.5,SNR=4.9						
ZALV	**Zalesovo Beam**	**43.28**	**306**	P	P	17 25 55.2	-0.4
	0.2nm,0.4s,baz=74,slow=6.2,SNR=2.9						
MKAR	**Makanchi Array**	**47.78**	**298**	P	P	17 26 30.9	-0.4
	0.2nm,0.5s,baz=70,slow=7.6,SNR=6.4						
YKA	**Yellowknife Ar**	**49.73**	**37**	P	P	17 26 45.7	-0.4
	0.3nm,0.5s,baz=295,slow=7.3,SNR=6.0						
FINES	**FINESS Array B**	**64.05**	**335**	P	P	17 28 28.1	+0.5
	1.7nm,0.7s,baz=24,slow=7.2,SNR=9.3						

*ISCJB **08** 17:27:47.6±0.4, 41.48N±0.03×141.98E±0.05, h71km±4km, mb3.6/8, Error ellipse: s-maj=6.7km s-min=3.9km az=40.7*

*MOS **08** 17:27:48.8±1.3, 41.49N×142.21E, h94km, mb3.9/5, Error ellipse: s-maj=21.5km s-min=13.6km az=74.8*

*JMA **08** 17:27:48.4±0.1, 41.48N×141.98E, h62km±2km, M3.4 Broadband fault plane solution: P waves. NP1: φs28.00000°, δ68.00000°, λ103.00000°. NP2: φs177.00000°, δ26.00000°, λ61.00000°. Principal axes: T Plg65.0000°, Azm320.0000°; N Plg12.0000°, Azm203.0000°; P Plg22.0000°, Azm108.0000°;*

JMA Felt I J1.

*IDC **08** 17:27:49.8±1.9, 41.

JAR				*e*S	Sn	17 32 19.6	+2.5	
JOB	**Onbets**	**3.19**	**252**	P	Pn	17 31 41.6	+1.6	
JOB				*e*S	Sn	17 32 21.1	+2.3	
JCH	**Churui**	**3.62**	**250**	P	Pn	17 31 47.0	+1.1	
JNBK	**Urakawa-nobuka**	**4.17**	**248**	P	Pn	17 31 55.7	+2.2	
JKB	**Kayabe**	**5.50**	**250**	P	Pn	17 32 13.6	+1.9	
JKB				*e*S	Sn	17 33 16.5	+0.9	

IDC 08 17:32:06.6±3.8, 8°22S×115°84E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.1/17, mbtmp3.0/3, Error ellipse: s-maj=280.9km s-min=26.8km az=49.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.37**	**125**	P	P	17 36 55.6	-0.2
	0.3nm,0.7s,baz=291,slow=9.1,SNR=2.8						
ASAR	**Alice Springs**	**23.14**	**134**	P	P	17 37 14.8	+0.1
	0.3nm,0.6s,baz=312,slow=9.0,SNR=7.5						
MKAR	**Makanchi Array**	**62.38**	**335**	P	P	17 42 31.2	0.0
	0.1nm,0.3s,baz=146,slow=5.8,SNR=4.6						

*ISCJB **08** 18:13:40.5±0.7, 37°.48N±0°.04×50°.3E±0°.1, h10km, mb3.5/2, Error ellipse: s-maj=12.5km s-min=6.0km az=2.5*
*CSEM **08** 18:13:44.0±0.6, 37°.60N×50°.13E, h20km, ML3.2, Error ellipse: s-maj=26.2km s-min=11.1km az=98.0*
*NNC **08** 18:13:55.7±2.6, 38°.40N×51°.43E, h0km, mb3.4, Error ellipse: s-maj=47.8km s-min=19.0km az=92.0*

ISC 08 18:13:42.7±1.0, 37°.58N±0°.07×50°.17E±0°.09, h10km, n21, σ1§31/20, 7C, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZNJK	**Zanjan**	**1.49**	**233**	*e*Pg	**Pn**	**18 14 10.1**	**+0.4**
THKV	**Tehran--Karaj**	**1.75**	**161**	*e*Pg	**Pn**	**18 14 13.4**	**+0.1**
THKV				*e*Sg	**Sn**	**18 14 34.1**	**-1.7**
CHTH	**Charan**	**1.83**	**155**	*e*Pg	**Pn**	**18 14 14.2**	**-0.3**
DAMV	**Damavand**	**2.42**	**143**	*e*Pn	**Pn**	**18 14 23.6**	**+1.0**
ASAO	**Ashtian**	**3.02**	**182**	*e*Pn	**Pn**	**18 14 31.5**	**+0.7**
NASN	**Na'in**	**5.23**	**155**	*e*Pn	**Pn**	**18 15 02.2**	**+0.9**
AB31	**Akbulak array**	**13.65**	**28**	Pn	Pn	18 16 53.7	-2.5
	0.4nm,0.5s,baz=207,slow=13,SNR=14						
AB31				⇑Sn	Sn	18 19 14.3	-14
	1.0nm,0.6s,baz=206,slow=18,SNR=3.6						
AB31	**Akbulak array**	**13.65**	**28**	Pn	Pn	18 16 53.7	-2.5
	0.4nm,0.5s,SNR=14						
AB31				Sn	Sn	18 19 14.3	-14
	1.0nm,0.6s,SNR=3.6						
AKTO	**Aktyubinsk**	**14.03**	**21**	⇑Pn	**Pn**	**18 16 59.5**	**-1.9**
	0.6nm,1.1s						
AKTO				⇑Sn	Sn	18 19 26.6	-11
	0.8nm,1.0s						
AKTO	**Aktyubinsk**	**14.03**	**21**	Pn	**Pn**	**18 16 59.5**	**-1.9**
	0.6nm,1.1s						
AKTO				Sn	Sn	18 19 26.6	-11
	0.8nm,1.0s						
KK31	**Karatay Array**	**16.45**	**64**	⇑P	**Pn**	**18 17 32.7**	**-0.9**
	0.4nm,0.5s,baz=254,slow=11,SNR=10						
KK31	**Karatay Array**	**16.45**	**64**	P	**Pn**	**18 17 32.7**	**-0.9**
	0.4nm,0.5s,SNR=10						
ZRNK	**Zerenda**	**20.21**	**34**	⇑P	**P**	**18 18 18.9**	**+1.4**
	1.7nm,0.8s						
ZRNK	**Zerenda**	**20.21**	**34**	P	**P**	**18 18 18.9**	**+1.4**
	1.7nm,0.8s						
BRVK	**Borovoye**	**20.86**	**36**	⇑P	**P**	**18 18 25.7**	**+1.1**
	4.6nm,0.8s						
BRVK	**Borovoye**	**20.86**	**36**	P	**P**	**18 18 25.7**	**+1.1**
	4.6nm,0.8s						
BVA0	**Borovoye Array**	**20.89**	**36**	P	**P**	**18 18 26.1**	**+1.2**
	0.6nm,0.8s,baz=228,slow=9.7,SNR=23						
BVA0	**Borovoye Array**	**20.89**	**36**	P	**P**	**18 18 26.1**	**+1.2**
	0.6nm,0.8s,SNR=23						
VOSK	**Vostochnaya**	**20.98**	**37**	⇑P	**P**	**18 18 26.7**	**+0.8**
	2.9nm,0.9s						
MK31	**Makanchi Array**	**25.38**	**58**	P	**P**	**18 19 11.6**	**+1.6**
	0.7nm,0.7s,baz=252,slow=6.2,SNR=9.7						
MK31	**Makanchi Array**	**25.38**	**58**	P	**P**	**18 19 11.6**	**+1.6**
	0.7nm,0.7s,SNR=9.7						

*ISCJB **08** 18:17:55.7±0.5, 38°.04N±0°.02×30°.06E±0°.03, h6km±4km, Error ellipse: s-maj=4.1km s-min=3.3km az=166.7*
*ISK **08** 18:17:55.4, 38°.04N×30°.05E, h13km, MD3.2*
*DDA **08** 18:17:55.1, 38°.03N×30°.09E, h5km, MD2.9*
*CSEM **08** 18:17:55.9±0.1, 38°.03N×30°.06E, h8km, MD3.2, Error ellipse: s-maj=3.4km s-min=2.9km az=69.0*

ISC 08 18:17:55.9±1.1, 38°.03N±0°.02×30°.07E±0°.02, h8km±9km, n68, σ0§54/92, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ISP	**Isparta**	**0.41**	**119**	*e*PG	**Pg**	**18 18 03.6**	**-0.4**
ISP	**Isparta**	**0.41**	**119**	*e*Pg	**Pg**	**18 18 03.6**	**-0.4**
KHL	**Karahalli**	**0.52**	**305**	*e*PG	**Pg**	**18 18 05.9**	**-0.1**
KHL				*e*SG	**Sg**	**18 18 13.2**	**+0.4**
KHL	**Karahalli**	**0.52**	**305**	*e*Pg	**Pg**	**18 18 05.9**	**-0.1**
KHL				*e*Sg	**Sg**	**18 18 13.2**	**+0.4**
KHAL	**Karahalli**	**0.57**	**307**	*i* P	**Pg**	**18 18 06.3**	**-0.6**
KHAL				*i* S	**Sb**	**18 18 16.4**	**0.0**
KHAL	**Karahalli**	**0.57**	**307**	*i* P	**Pg**	**18 18 06.3**	**-0.6**
KHAL				*i* S	**Sb**	**18 18 16.4**	**0.0**
SHUT	**Suhut-Afyon**	**0.65**	**36**	*e*PG	**Pg**	**18 18 08.4**	**-0.1**
SHUT				*e*SG	**Sb**	**18 18 18.1**	**-0.7**
SHUT	**Suhut-Afyon**	**0.65**	**36**	*e*Pg	**Pg**	**18 18 08.4**	**-0.1**
SHUT				*e*Sg	**Sb**	**18 18 18.1**	**-0.7**
BCK	**Bucak**	**0.70**	**143**	*e*PG	**Pb**	**18 18 09.8**	**-0.6**
BCK				*e*SG	**Sb**	**18 18 20.2**	**0.0**
BCK	**Bucak**	**0.70**	**143**	*e*Pg	**Pb**	**18 18 09.8**	**-0.6**
BCK				*e*Sg	**Sb**	**18 18 20.2**	**0.0**
DNZL	**Cakiroluk**	**0.87**	**248**	*i* P	**Pg**	**18 18 11.7**	**-1.0**
DNZL				*i* S	**Sn**	**18 18 28.9**	**+1.4**
DNZL	**Cakiroluk**	**0.87**	**248**	*i* P	**Pg**	**18 18 11.7**	**-1.0**
GOLH	**Golhisar**	**0.88**	**207**	*i* P	**Pg**	**18 18 12.4**	**-0.5**
GOLH				*i* S	**Sb**	**18 18 26.3**	**+0.8**
GOLH	**Golhisar**	**0.88**	**207**	*i* P	**Pg**	**18 18 12.4**	**-0.5**
GOLH				*i* S	**Sb**	**18 18 26.3**	**+0.8**
SUTC	**Sutluce-Ispart**	**0.92**	**126**	*e*PG	**Pb**	**18 18 13.9**	**-0.3**
SUTC	**Sutluce-Ispart**	**0.92**	**126**	*e*Pg	**Pb**	**18 18 13.9**	**-0.3**
BOLV	**Bolvadin**	**0.98**	**45**	*i* P	**Pg**	**18 18 14.2**	**-0.5**
BOLV				*i* S	**Sb**	**18 18 28.2**	**-0.2**
BOLV	**Bolvadin**	**0.98**	**45**	*i* P	**Pg**	**18 18 14.2**	**-0.5**
BOLV				*i* S	**Sb**	**18 18 28.2**	**-0.2**
ALT	**Altintas**	**1.03**	**2**	*e*PG	**Pb**	**18 18 15.5**	**-0.5**
ALT				*e*SG	**Sb**	**18 18 29.4**	**-0.3**
ALT	**Altintas**	**1.03**	**2**	*e*Pg	**Pb**	**18 18 15.5**	**-0.5**
ALT				*e*Sg	**Sb**	**18 18 29.4**	**-0.3**
KORT	**Korkueli**	**1.05**	**167**	*i* P	**Pn**	**18 18 16.7**	**-0.2**
KORT				*i* S	**Sn**	**18 18 31.8**	**0.0**
KORT	**Korkueli**	**1.05**	**167**	*i* P	**Pn**	**18 18 16.7**	**-0.2**
KORT				*i* S	**Sn**	**18 18 31.8**	**0.0**
GDZ	**Gediz**	**1.16**	**337**	*i* P	**Pn**	**18 18 18.1**	**-0.4**
GDZ				*i* S	**Sn**	**18 18 35.1**	**+0.6**
GDZ	**Gediz**	**1.16**	**337**	*i* P	**Pn**	**18 18 18.1**	**-0.4**
GDZ				*i* S	**Sn**	**18 18 35.1**	**+0.6**
KULA	**Kula-Manisa**	**1.21**	**294**	*e*PN	**Pb**	**18 18 18.1**	**-0.9**
KULA	**Kula-Manisa**	**1.21**	**294**	*e*Pn	**Pb**	**18 18 18.1**	**-0.9**
ELL	**Elmali**	**1.28**	**186**	*e*PN	**Pb**	**18 18 19.9**	**-0.4**
ELL	**Elmali**	**1.28**	**186**	*e*Pn	**Pb**	**18 18 19.9**	**-0.4**
DEMI	**Demirci**	**1.47**	**314**	*i* P	**Pg**	**18 18 23.9**	**-0.1**
DEMI				*i* S	**Sg**	**18 18 44.9**	**+1.9**
DEMI	**Demirci**	**1.47**	**314**	*i* P	**Pg**	**18 18 23.9**	**-0.1**
DEMI				*i* S	**Sg**	**18 18 44.9**	**+1.9**
ESKT	**Eskisehir**	**1.61**	**22**	*e*PN	**Pn**	**18 18 24.4**	**-0.4**
ESKT	**Eskisehir**	**1.61**	**22**	*e*Pn	**Pn**	**18 18 24.4**	**-0.4**
SEYT	**Eskypehyr**	**1.61**	**22**	*i* P	**Pg**	**18 18 26.3**	**-0.5**
SEYT				*i* S	**Sb**	**18 18 46.5**	**0.0**
SEYT	**Eskypehyr**	**1.61**	**22**	*i* P	**Pg**	**18 18 26.3**	**-0.5**
SEYT				*i* S	**Sb**	**18 18 46.5**	**0.0**
KIZT	**Kizilcal**	**1.66**	**59**	*e*PN	**Pn**	**18 18 25.2**	**-0.2**
KIZT	**Kizilcal**	**1.66**	**59**	*e*Pn	**Pn**	**18 18 25.2**	**-0.2**
YER	**Yerkesik**	**1.67**	**238**	*e*PN	**Pn**	**18 18 25.2**	**-0.2**
YER	**Yerkesik**	**1.67**	**238**	*e*Pn	**Pn**	**18 18 25.3**	**-0.2**
KONT	**Konya--Tatoy**	**1.82**	**92**	*e*PN	**Pn**	**18 18 27.8**	**+0.3**
KONT	**Konya--Tatoy**	**1.82**	**92**	*e*Pn	**Pn**	**18 18 27.8**	**+0.3**
LADK	**Ladik-KONYA**	**1.82**	**84**	*e*PN	**Pn**	**18 18 27.5**	**-0.1**
LADK	**Ladik-KONYA**	**1.82**	**84**	*e*Pn	**Pn**	**18 18 27.5**	**-0.1**
AKAS	**Kas**	**1.83**	**192**	*e*P	**Pg**	**18 18 30.5**	**-0.4**
AKAS	**Kas**	**1.83**	**192**	*e*P	**Pg**	**18 18 30.5**	**-0.4**
BORA	**Eskisehir**	**1.88**	**9**	*e*P	**Pn**	**18 18 28.9**	**+0.6**
BORA				*i* S	**Sg**	**18 18 57.3**	**+1.1**
BORA	**Eskisehir**	**1.88**	**9**	*e*P	**Pn**	**18 18 28.9**	**+0.6**
AKS	**Akhisar**	**1.96**	**296**	*e*PN	**Pn**	**18 18 28.9**	**-0.5**
AKS	**Akhisar**	**1.96**	**296**	*e*Pn	**Pn**	**18 18 28.9**	**-0.5**
IZM	**Izmir**	**2.24**	**280**	*e*Pn	**Pn**	**18 18 33.1**	**-0.2**
IZM	**Izmir**	**2.24**	**280**	*e*Pn	**Pn**	**18 18 33.1**	**-0.2**
BALB	**Balikesir**	**2.35**	**314**	*e*PN	**Pn**	**18 18 34.2**	**-0.5**
BALB	**Balikesir**	**2.35**	**314**	*e*Pn	**Pn**	**18 18 34.2**	**-0.5**
BLCB	**Balcova**	**2.41**	**280**	*e*PN	**Pn**	**18 18 35.4**	**-0.2**
BLCB	**Balcova**	**2.41**	**280**	*e*Pn	**Pn**	**18 18 35.4**	**-0.2**
ADVT	**Abdulvahap**	**2.42**	**354**	*e*PN	**Pn**	**18 18 35.4**	**-0.3**
ADVT	**Abdulvahap**	**2.42**	**354**	*e*Pn	**Pn**	**18 18 35.4**	**-0.3**
GULT	**Gulveren**	**2.43**	**8**	*e*PN	**Pn**	**18 18 35.6**	**-0.3**
GULT	**Gulveren**	**2.43**	**8**	*e*Pn	**Pn**	**18 18 35.6**	**-0.3**
GEMT	**Gemlik**	**2.50**	**344**	*e*PN	**Pn**	**18 18 36.5**	**-0.3**
GEMT	**Gemlik**	**2.50**	**344**	*e*Pn	**Pn**	**18 18 36.5**	**-0.3**
YLV	**Yalova**	**2.59**	**348**	*e*PN	**Pn**	**18 18 38.6**	**+0.4**
YLV	**Yalova**	**2.59**	**348**	*e*Pn	**Pn**	**18 18 38.6**	**+0.4**
MDUB	**Mudurnu**	**2.60**	**19**	*e*PN	**Pn**	**18 18 38.1**	**-0.1**
MDUB	**Mudurnu**	**2.60**	**19**	*e*Pn	**Pn**	**18 18 38.1**	**-0.1**
KCTX	**Karacabey (Bur**	**2.60**	**330**	*e*PN	**Pn**	**18 18 38.2**	**-0.1**
KCTX	**Karacabey (Bur**	**2.60**	**330**	*e*Pn	**Pn**	**18 18 38.2**	**-0.1**
GONE	**Gonen-Balikesi**	**2.74**	**318**	*e*PN	**Pn**	**18 18 39.9**	**-0.2**
GONE	**Gonen-Balikesi**	**2.74**	**318**	*e*Pn	**Pn**	**18 18 39.9**	**-0.2**

IDC 08 18:18:13.8±1.4, 7°.78S×156°.55E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/17, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=38.7km s-min=26.8km az=9.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.74**	**116**	Pn	Pn	18 19 11.3	-1.5
	6.0nm,0.3s,baz=270,slow=7.1,SNR=8.4						
HNR				Sn	Sn	18 19 58.3	+0.7
	17nm,0.3s,baz=272,slow=15,SNR=2.8						
WRA	**Warramunga Arr**	**24.68**	**238**	P	P	18 23 36.8	-0.1
	1.4nm,0.5s,baz=63,slow=9.3,SNR=21						
ASAR	**Alice Springs**	**26.86**	**231**	P	P	18 23 55.9	-0.6
	0.4nm,0.7s,baz=57,slow=10.0,SNR=9.8						
MKAR	**Makanchi Array**	**85.01**	**318**	P	P	18 30 50.5	-0.9
	0.7nm,0.7s,baz=102,slow=6.1,SNR=8.5						
TORD	**Torodi Ar. Bea**	**154.72**	**284**	PKPbc	PKPbc	18 38 20.4	+2.3
	0.3nm,0.8s,baz=62,slow=2.6,SNR=2.5						

IDC 08 18:20:19.0±5.3, 12°.40S×166°.75E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=267.3km s-min=32.8km az=140.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.98**	**252**	P	P	18 26 47.6	+0.4
	0.3nm,0.7s,baz=81,slow=8.6,SNR=2.8						
ASAR	**Alice Springs**	**33.10**	**246**	P	P	18 26 56.5	-0.5
	0.2nm,0.5s,baz=76,slow=9.5,SNR=9.2						
ILAR	**Eielson Array**	**84.48**	**18**	P	P	18 32 53.4	0.0
	0.2nm,0.6s,baz=239,slow=5.2,SNR=6.8						

MEX 08 18:22:00.5±0.5, 16°.64N×96°.38W, h70km±8km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.55**	**322**	*e*P	Pn	18 22 12.7	-1.3
VHO				*i* S	Sn	18 22 22.1	-1.8
HUIG	**Huatulco**	**0.91**	**163**	*e*P	Pn	18 22 16.7	-1.1
HUIG				*i* S	Sn	18 22 28.6	-2.1
CMIG	**Matias Romero**	**1.50**	**72**	*e*P	Pn	18 22 23.9	-1.6
CMIG				*i* S	Sn	18 22 42.5	-1.8
PNIG	**Pinotepa**	**1.69**	**262**	*e*P	Pn	18 22 25.9	-2.1
PNIG				*i* S	Sn	18 22 46.3	-2.7
UTMO	**Huajuapan**	**1.80**	**311**	*i* P	Pn	18 22 29.1	-0.6
UTMO				*i* S	Sn	18 22 49.1	-2.8

IDC 08 18:32:20.2±3.4, 6°.14S×149°.98E, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.2/16, mbtmp3.3/3, ML2.1/1, Error ellipse: s-maj=129.3km s-min=37.2km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.28**	**221**	Pn	Pn	18 33 28.1	+1.4
	0.8nm,0.3s,baz=32,slow=13,SNR=5.0						
PMG				Sn	Sn	18 34 17.9	+0.5
	3.6nm,0.3s,baz=118,slow=22,SNR=7.8						
WRA	**Warramunga Arr**	**20.48**	**226**	P	P	18 36 59.2	-0.5
	0.6nm,0.5s,baz=52,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**23.30**	**220**	P	P	18 37 29.6	-0.3
	0.3nm,0.8s,baz=55,slow=9.7,SNR=5.1						
TORD	**Torodi Ar. Bea**	**147.99**	**285**	PKPbc	PKPbc	18 52 08.1	-0.6
	0.3nm,0.6s,baz=70,slow=1.8,SNR=5.5						

*IDC **08** 18:37:22.9±0.7, 28°.76S×177°.40W, h0km, mb4.2/10, mb1 4.4/10, mb1mx4.2/16, mbtmp4.2/10, MS3.7/5, Ms1 3.7/5, ms1mx3.3/28, Error ellipse: s-maj=28.9km s-min=20.8km az=157.0*
*ISCJB **08** 18:37:29.5±0.7, 28°.65S±0°.08×177°.6W±0°.1, h54km, mb4.2/11, MS3.9/3, Error ellipse: s-maj=18.1km s-min=9.4km az=29.2*
*NEIC **08** 18:37:31.2±1.4, 28°.78S×177°.45W, h63km±12km, mb4.6/3, Error ellipse: s-maj=20.2km s-min=14.0km az=169.0*

ISC 08 18:37:30.5±0.7, 28°.7S±0°.1×177°.4W±0°.1, h54km, n49, σ0§74/39, mb4.2/11, MS3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.67**	**220**	*e*Pn	**Pn**	**18 37 43.6**	**-0.4**
RAO				*e*Sn	**Sn**	**18 37 53.4**	**-0.4**
OUZ	**Omahuta**	**9.99**	**227**	*e*Pn	**Pn**	**18 39 53.2**	**+1.8**
	28nm,0.9s						
DZM	**Mont Dzumac**	**16.00**	**291**	*e*LR	LR	18 44 42.5	
	250nm,23.9s						
DZM	**Mont Dzumac**	**16.00**	**291**	LR	LR	18 45 21.1	
	comp=Z,94nm,19.1s,baz=296,slow=30						
RAR	**Rarotonga**	**17.66**	**69**	LR	LR	18 46 19.8	
	comp=Z,292nm,18.8s,baz=232,slow=30						
TBI	**Tubuai**	**25.66**	**84**	*e*T	T	19 08 28.8	
	12nm,0.3s						
PAE	**Paea**	**27.80**	**73**	*e*T	T	19 11 25.3	
	3.7nm,0.3s						
PPT2	**Papeete2**	**27.84**	**73**	*e*LR	LR	18 50 10.3	
	173nm,26.2s						
PPT2				*e*T	T	19 11 29.4	
	2.6nm,0.3s						
TVO	**Taravao**	**28.02**	**73**	*e*T	T	19 11 41.2	
	3.9nm,0.4s						
CTA	**Charters Tower**	**34.06**	**276**	P	**P**	**18 44 10.2**	**+0.3**
CTA	**Charters Tower**	**34.06**	**276**	P	**P**	**18 44 10.2**	**+0.3**
	2.4nm,0.4s,baz=129,slow=14,SNR=5.4						
CTAO	**Charters Tower**	**34.06**	**276**	*e*P	**P**	**18 44 09.8**	**-0.1**
	45nm,1.8s						
STKA	**Stephens Creek**	**35.37**	**255**	P	**P**	**18 44 20.7**	**-0.3**
STKA	**Stephens Creek**	**35.37**	**255**	P	**P**	**18 44 20.7**	**-0.3**
	1.6nm,0.6s,baz=121,slow=15,SNR=4.5						
AS31	**Alice Springs**	**43.72**	**265**	*e*P	**P**	**18 45 30.4**	**-0.3**
ASAR	**Alice Springs**	**43.72**	**265**	P	**P**	**18 45 30.2**	**-0.4**
ASAR	**Alice Springs**	**43.72**	**265**	P	**P**	**18 45 30.2**	**-0.4**
	1.9nm,0.7s,baz=106,slow=7.7,SNR=33						
WRAB	**Tennant Creek**	**44.55**	**270**	*e*P	**P**	**18 45 35.8**	**-1.6**
	4.8nm,1.0s						
WRA	**Warramunga Arr**	**44.56**	**270**	P	**P**	**18 45 36.5**	**-0.9**
WRA	**Warramunga Arr**	**44.56**	**270**	P	**P**	**18 45 36.5**	**-0.9**
	3.0nm,0.9s,baz=110,slow=6.4,SNR=14						
FITZ	**Fitzroy Crossi**	**52.88**	**268**	LR	LR	19 08 08.2	
	comp=Z,53nm,18.9s,baz=60,slow=35						
GUMO	**Guam**	**55.67**	**314**	LR	LR	19 06 09.5	
	comp=Z,92nm,18.3s,baz=96,slow=31						
QSPA	**South Pole Qui**	**61.37**	**180**	*e*P	**P**	**18 47 40.6**	**0.0**
	2.8nm,0.6s						
QSPA				P	pP	18 47 40.9	-15
QSPA	**South Pole Qui**	**61.37**	**180**	P	**P**	**18 47 40.9**	**+0.2**
	3.9nm,1.1s,baz=42,slow=3.7,SNR=5.7						
MJAR	**Matsushiro Arr**	**77.17**	**325**	P	**P**	**18 49 18.7**	**+0.2**
MJAR	**Matsushiro Arr**	**77.17**	**325**	P	**P**	**18 49 18.7**	**+0.2**
	2.0nm,0.9s,baz=174,slow=7.3,SNR=5.6						
PETK	**Petropavlovsk-**	**84.33**	**345**	P	**P**	**18 49 57.4**	**+1.1**
PETK	**Petropavlovsk-**	**84.33**	**345**	P	**P**	**18 49 57.4**	**+1.1**
	4.2nm,1.0s,baz=117,slow=5.0,SNR=3.2						
NVAR	**Mina Array Bea**	**86.68**	**42**	P	**P**	**18 50 09.3**	**+0.7**
NVAR	**Mina Array Bea**	**86.68**	**42**	P	**P**	**18 50 09.3**	**+0.7**
	1.8nm,0.8s,baz=222,slow=8.1,SNR=11						
NVAR				LR	LR	19 22 28.2	
	comp=Z,79nm,18.7s,baz=17,slow=31						
TXAR	**Lajitas Array**	**91.07**	**57**	P	**P**	**18 50 29.2**	**-0.3**
TXAR	**Lajitas Array**	**91.07**	**57**	P	**P**	**18 50 29.2**	**-0.3**
	0.6nm,0.8s,baz=210,slow=9.4,SNR=5.1						
PDAR	**Pinedale Array**	**94.59**	**43**	P	**P**	**18 50 45.8**	**+0.3**
PDAR	**Pinedale Array**	**94.59**	**43**	P	**P**	**18 50 45.8**	**+0.3**
	0.5nm,0.9s,baz=197,slow=3.1,SNR=3.7						
MKAR	**Makanchi Array**	**117.08**	**311**	PKP	**PKPdf**	**18 56 07.5**	**-1.7**
MKAR	**Makanchi Array**	**117.08**	**311**	PKP	**PKPdf**	**18 56 07.5**	**-1.7**
	0.3nm,0.4s,baz=196,slow=1.0,SNR=11						
FINES	**FINESS Array B**	**143.75**	**341**	PKPpre	PKPpre	18 56 55.9	
FINES	**FINESS Array B**	**143.75**	**341**	PKhKP	PKPpre	18 56 55.9	
	2.8nm,0.7s,baz=0.0,slow=3.8,SNR=6.0						
NB2	**NORSAR Subarra**	**147.18**	**352**	PKP	**PKPbc**	**18 57 07.4**	**+0.3**
	comp=Z,2.9nm,1.0s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**147.18**	**352**	PKPbc	**PKPbc**	**18 57 06.6**	**-0.5**
NOA	**NORSAR Array B**	**147.18**	**352**	PKPbc	**PKPbc**	**18 57 06.6**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=14,slow=4.6,SNR=4.7						
AKASG	**Malin Array Be**	**150.25**	**325**	PKPbc	**PKPbc**	**18 57 15.1**	**-0.2**
AKASG	**Malin Array Be**	**150.25**	**325**	PKPbc	**PKPbc**	**18 57 15.1**	**-0.2**
	comp=Z,6.7nm,0.8s,baz=46,slow=3.0,SNR=15						
BRTR	**Keskin Array B**	**152.20**	**301**	PKPbc	**PKPbc**	**18 57 20.1**	**-0.3**
BRTR	**Keskin Array B**	**152.20**	**301**	PKPbc	**PKPbc**	**18 57 20.1**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=145,slow=5.0,SNR=7.0						
GERES	**GERESS Array B**	**158.17**	**340**	PKPab	**PKPab**	**18 57 55.8**	**+0.5**
GERES	**GERESS Array B**	**158.17**	**340**	PKPab	**PKPab**	**18 57 55.8**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=60,slow=6.0,SNR=2.7						
TORD	**Torodi Ar. Bea**	**164.47**	**177**	PKPab	**PKPab**	**18 58 23.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**164.47**	**177**	PKPab	**PKPab**	**18 58 23.1**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=188,slow=4.8,SNR=3.2						

IDC 08 18:49:40.5±1.9, 16°.25S×179°.23W, h0km, mb3.9/3, mb1 4.2/4, mb1mx3.7/18, mbtmp4.1/4, ML2.6/1, Error ellipse: s-maj=147.8km s-min=30.9km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.57**	**73**	Pn	Pn	18 51 32.2	0.0
	5.0nm,0.3s,baz=288,slow=20,SNR=12						
AFI				Sn	Sn	18 52 43.4	-15
	0.7nm,0.3s,baz=246,slow=18,SNR=4.1						
STKA	**Stephens Creek**	**38.77**	**239**	P	P	18 57 07.5	+0.5
	1.3nm,0.7s,baz=76,slow=8.3,SNR=2.6						
WRA	**Warramunga Arr**	**44.18**	**258**	P	P	18 57 50.7	-0.8
	0.2nm,0.3s,baz=94,slow=8.2,SNR=14						
ASAR	**Alice Springs**	**44.51**	**253**	P	P	18 57 54.1	0.0
	3.1nm,0.5s,baz=86,slow=8.3,SNR=143						

*DJA **08** 19:08:16.0°62N×97°.61E, h49km, MLv3.6/6*
IDC 08 19:08:07.8±2.4, 0°.21N×97°.49E, h0km, mb3.7/6, mb1 3.8/7, mb1mx3.6/22, mbtmp3.7/7, Error ellipse: s-maj=78.9km s-min=20.4km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.19**	**4**	P	Pn	19 12 20.9	-1.0
	baz=193,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**41.27**	**121**	P	P	19 15 54.9	-0.3
	0.3nm,0.4s,baz=305,slow=8.7,SNR=6.2						
ASAR	**Alice Springs**	**42.57**	**126**	P	P	19 16 05.8	0.0
	0.5nm,0.5s

VOSK	**Vostochnaya**	**13.37**	**343**	⇑Pn		Pn	19 13 44.7	-4.8
	comp=E,2.0nm,1.1s							
VOSK				⇓Lg		Lg	19 17 37.6	
	comp=E,0.1nm,0.6s							
GKN	**Gorkha**	**13.51**	**151**	*eP*		**Pn**	**19 13 51.8**	**0.0**
	comp=E,3.5nm,0.2s							
BVA0	**Borovoye Array**	**13.78**	**343**	Pn		**Pn**	**19 13 53.4**	**-1.8**
	comp=E,0.3nm,0.9s,baz=152,slow=12,SNR=15							
BVA0				⇓Lg		Lg	19 17 48.0	
	comp=E,1.6nm,1.1s,baz=158,slow=28,SNR=10							
BVAR	**Borovoye Array**	**13.78**	**343**	Pn		Pn	19 13 53.0	-2.2
	comp=E,0.2nm,0.3s,baz=154,slow=11,SNR=19							
BVAR				Lg		Lg	19 17 44.1	
	comp=E,0.1nm,0.3s,baz=148,slow=26,SNR=12							
KKN	**Kakani**	**13.95**	**149**	*eP*		**Pn**	**19 13 57.7**	**-0.1**
	comp=E,7.3nm,0.6s							
DMN	**Daman**	**14.04**	**150**	*eP*		**Pn**	**19 13 59.5**	**+0.4**
	comp=E,3.4nm,0.4s							
ZRNK	**Zerenda**	**14.06**	**339**	⇓Pn		Pn	19 13 56.3	-2.7
	comp=E,2.5nm,0.8s							
GUN	**Gumba**	**14.09**	**147**	*eP*		**Pn**	**19 13 59.9**	**+0.1**
	comp=E,5.9nm,0.5s							
PKI	**Pulchoki**	**14.19**	**149**	*eP*		**Pn**	**19 14 00.9**	**-0.4**
	comp=E,9.0nm,0.5s							
JIRN	**Jiri**	**14.44**	**146**	*eP*		**Pn**	**19 14 04.5**	**-0.1**
	comp=E,1.9nm,0.4s							
ZALV	**Zalesovo Beam**	**14.83**	**18**	Pn		**Pn**	**19 14 09.5**	**+0.2**
	comp=E,0.2nm,0.3s,baz=210,slow=17,SNR=4.2							
AB31	**Akbulak array**	**15.30**	**313**	⇑Pn		**Pn**	**19 14 13.7**	**-2.0**
	comp=E,1.3nm,0.9s,baz=117,slow=12,SNR=6.8							
TAPN	**Taplejung**	**15.39**	**142**	*eP*		**Pn**	**19 14 17.9**	**+0.7**
ODAN	**Odare**	**15.66**	**144**	*eP*		**Pn**	**19 14 20.6**	**-0.1**
	comp=E,6.5nm,0.6s							
AKTO	**Aktyubinsk**	**16.98**	**314**	Pn		**Pn**	**19 14 34.9**	**-2.1**
	comp=E,0.1nm,0.3s,baz=121,slow=13,SNR=3.9							
SONM	**Songino Array**	**22.32**	**60**	P		**P**	**19 15 36.6**	**-0.4**
	comp=E,0.1nm,0.3s,baz=266,slow=10,SNR=2.6							
YKA	**Yellowknife Ar**	**77.36**	**6**	P		**P**	**19 22 33.5**	**+0.5**
	comp=E,0.2nm,0.6s,baz=351,slow=5.6,SNR=7.9							

*ISK **08** 19:11:00.2,37.°59N×35.°72E,h15km,MD2.8*
*CSEM **08** 19:11:01.8±0.8,37.°53N×35.°74E,h15km,MD2.8, Error ellipse: s-maj=17.6km s-min=8.7km az=150.0*
*ISCJB **08** 19:11:02.4±0.9,37.°52N±0.°07×35.°77E±0.°05,h13km±5km, Error ellipse: s-maj=11.1km s-min=6.1km az=167.6*
*DDA **08** 19:11:02.7,37.°48N×35.°68E,h7km,ML2.4*
ISC 08 19:11:01.4±1.3,37.°57N±0.°08×35.°77E±0.°04,h15km±5km, n11,σ0°29/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.10**	**153**	*e*PG	**Pg**	**19 11 04.3**	**-0.3**
KOZT				*e*SG	**Sg**	**19 11 07.1**	**+0.4**
KOZT	**Kozan**	**0.10**	**153**	*e*Pg	**Pg**	**19 11 04.3**	**-0.3**
KOZT				*e*Sg	**Sg**	**19 11 07.1**	**+0.4**
ANDN	**Andirin**	**0.46**	**88**	*i* P	**Pn**	**19 11 13.3**	**-0.2**
ANDN				*i* S	**Sn**	**19 11 21.8**	**+0.4**
ANDN	**Andirin**	**0.46**	**88**	*i* P	**Pn**	**19 11 13.3**	**-0.2**
ANDN				*i* S	**Sn**	**19 11 21.8**	**+0.4**
CEYT	**Ceyhan**	**0.56**	**182**	*e*PG	**Pg**	**19 11 11.8**	**-0.5**
CEYT				*e*SG	**Sb**	**19 11 20.7**	**+0.1**
CEYT	**Ceyhan**	**0.56**	**182**	*e*Pg	**Pg**	**19 11 11.8**	**-0.5**
CEYT				*e*Sg	**Sb**	**19 11 20.7**	**+0.1**
GULE	**Gulek**	**0.84**	**251**	*e*P	**Pn**	**19 11 19.2**	**+0.3**
GULE				*i* S	**Sg**	**19 11 28.7**	**-0.1**
KMRS	**Kahramanmaras**	**0.90**	**94**	*e*PG	**Pb**	**19 11 18.7**	**0.0**
KMRS				*e*SG	**Sn**	**19 11 32.3**	**0.0**
KMRS	**Kahramanmaras**	**0.90**	**94**	*e*Pg	**Pb**	**19 11 18.7**	**0.0**
KMRS				*e*Sg	**Sn**	**19 11 32.3**	**0.0**
KUZU	**Kuzuini**	**1.31**	**127**	*e*P	**Pn**	**19 11 25.3**	**+0.1**
KUZU				*i* S	**Sb**	**19 11 42.4**	**+0.1**
KUZU	**Kuzuini**	**1.31**	**127**	*e*P	**Pn**	**19 11 25.3**	**+0.1**
KUZU				*i* S	**Sb**	**19 11 42.4**	**+0.1**

*IDC **08** 19:21:34.0±0.8,37.°00N×32.°47W,h0km,mb4.0/15, mb1 4.2/15,mb1mx4.1/27,mbtmp4.0/15,MS3.8/19, Ms1 3.8/19,ms1mx3.7/32,Error ellipse: s-maj=28.0km s-min=15.6km az=5.0*
*ISCJB **08** 19:21:34.5±0.6,37.°1N±0.°1×32.°49W±0.°08,h13km, mb4.3/25,MS3.8/19,Error ellipse: s-maj=16.9km s-min=9.5km az=179.0*
*NEIC **08** 19:21:37.9±0.3,37.°01N×32.°45W,h25km,mb4.7/10,Error ellipse: s-maj=8.9km s-min=5.0km az=178.0*
ISC 08 19:21:36.1±0.6,37.°0N±0.°1×32.°46W±0.°09,h13km,n54, σ0°36/45,mb4.3/25,MS3.9/19,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**22.47**	**74**	P	**P**	**19 26 34.8**	**-0.3**
ESDC	**Sonseca Array**	**22.47**	**74**	P	**P**	**19 26 34.8**	**-0.3**
	3.3nm,1.0s,baz=277,slow=9.0,SNR=7.9						
ESDC				LR	LR	19 33 32.3	
	comp=Z,102nm,19.0s,baz=255,slow=32						
MDT	**Midelt**	**23.18**	**92**	LR	LR	19 34 14.1	
	comp=Z,250nm,18.1s,baz=346,slow=33						
BBTS	**Babate**	**26.40**	**143**	LR	LR	19 35 24.5	
	comp=Z,276nm,18.0s,baz=11,slow=32						
SCHQ	**Schefferville**	**29.40**	**318**	LR	LR	19 38 05.5	
	comp=Z,448nm,20.6s,baz=242,slow=34						
SFJD	**Kangerlussuaq**	**31.77**	**347**	LR	LR	19 38 01.0	
	comp=Z,397nm,18.4s,baz=156,slow=31						
STU	**Stuttgart**	**32.31**	**55**	*e*P	**P**	**19 28 04.2**	**-0.4**
	16nm,0.6s						
SJG	**San Juan**	**35.05**	**247**	LR	LR	19 39 00.3	
	comp=Z,43nm,18.2s,baz=360,slow=30						
GERES	**GERESS Array B**	**35.29**	**56**	LR	LR	19 41 00.4	
	comp=Z,34nm,18.3s,baz=263,slow=33						
NOA	**NORSAR Array B**	**36.35**	**35**	P	**P**	**19 28 39.8**	**+0.3**
NOA	**NORSAR Array B**	**36.35**	**35**	P	**P**	**19 28 39.8**	**+0.3**
	2.2nm,0.9s,baz=249,slow=8.6,SNR=4.0						
NOA				LR	LR	19 41 39.0	
	comp=Z,46nm,18.1s,baz=180,slow=33						
TORD	**Torodi Ar. Bea**	**38.68**	**119**	P	**P**	**19 28 59.7**	**0.0**
TORD	**Torodi Ar. Bea**	**38.68**	**119**	P	**P**	**19 28 59.7**	**0.0**
	3.7nm,1.0s,baz=306,slow=5.0,SNR=12						
TORD				LR	LR	19 43 37.3	
	comp=Z,152nm,20.4s,baz=305,slow=34						
DBIC	**Dimbokro**	**39.31**	**133**	LR	LR	19 44 13.0	
	comp=Z,218nm,18.2s,baz=281,slow=35						
TKL	**Tuckaleechee C**	**40.94**	**284**	P	**P**	**19 29 17.5**	**-0.8**
TKL	**Tuckaleechee C**	**40.94**	**284**	P	**P**	**19 29 17.5**	**-0.8**
	5.8nm,1.0s,baz=96,slow=11,SNR=4.0						
ARCES	**ARCESS Array B**	**44.73**	**25**	LR	LR	19 44 04.1	
	comp=Z,76nm,20.7s,baz=354,slow=30						
AKASG	**Malin Array Be**	**45.25**	**52**	P	**P**	**19 29 52.9**	**-0.1**
AKASG	**Malin Array Be**	**45.25**	**52**	P	**P**	**19 29 52.9**	**-0.1**
	0.8nm,0.6s,baz=270,slow=8.0,SNR=4.2						
ULM	**Lac du Bonnet**	**46.40**	**308**	P	**P**	**19 30 02.6**	**+0.5**
ULM	**Lac du Bonnet**	**46.40**	**308**	P	**P**	**19 30 02.6**	**+0.5**
	3.0nm,0.8s,baz=104,slow=6.3,SNR=6.0						
ULM				LR	LR	19 50 31.0	
	comp=Z,160nm,18.5s,baz=22,slow=37						
AGMN	**Agassiz Nation**	**46.72**	**305**	*e*P	**P**	**19 30 04.7**	**+0.1**
	7.1nm,0.8s						
RES	**Resolute Bay**	**47.44**	**341**	*e*P	**P**	**19 30 09.8**	**0.0**
	7.7nm,1.2s						
ECSD	**EROS Data Cent**	**48.25**	**299**	*e*P	**P**	**19 30 16.8**	**+0.2**
	8.5nm,0.9s						
FFC	**Flin Flon**	**49.40**	**314**	*e*P	**P**	**19 30 25.8**	**+0.6**
	5.0nm,0.8s						
ROSC	**El Rosal**	**49.88**	**240**	LR	LR	19 47 50.9	
	comp=Z,62nm,18.3s,baz=47,slow=32						
BRTR	**Keskin Array B**	**50.83**	**65**	LR	LR	19 52 01.1	
	comp=Z,35nm,19.3s,baz=282,slow=36						
YKA	**Yellowknife Ar**	**54.43**	**326**	P	**P**	**19 31 02.6**	**0.0**
YKA				PcP	**PcP**	**19 32 05.3**	**-0.7**
YKA	**Yellowknife Ar**	**54.43**	**326**	P	**P**	**19 31 02.6**	**0.0**
	2.3nm,0.9s,baz=75,slow=7.2,SNR=18						
YKA				PcP	**PcP**	**19 32 05.3**	**-0.7**
	0.8nm,0.8s,baz=73,slow=4.3,SNR=5						
PDAR	**Pinedale Array**	**57.51**	**302**	P	**P**	**19 31 24.8**	**-0.4**
PDAR	**Pinedale Array**	**57.51**	**302**	P	**P**	**19 31 24.8**	**-0.4**
	2.8nm,0.9s,baz=71,slow=5.3,SNR=10						
PDAR				LR	LR	19 54 03.2	
	comp=Z,208nm,22.0s,baz=81,slow=34						
PD02	**Pinedale Array**	**57.51**	**302**	*e*P	**P**	**19 31 24.9**	**-0.4**
PD01	**Pinedale Array**	**57.52**	**302**	*e*P	**P**	**19 31 25.2**	**-0.1**
YMR	**Madison River**	**57.73**	**304**	*e*P	**P**	**19 31 27.0**	**+0.2**
	9.1nm,0.9s						
RRI2	**Red Ridge**	**58.48**	**303**	*e*P	**P**	**19 31 31.9**	**-0.2**
	6.2nm,0.9s						
TXAR	**Lajitas Array**	**58.84**	**285**	P	**P**	**19 31 34.7**	**0.0**
	2.0nm,0.9s,baz=98,slow=6.6,SNR=13						
TXAR				LR	LR	19 54 16.1	
	comp=Z,111nm,19.6s,baz=0.0,slow=33						
ARU	**Arti**	**60.63**	**40**	*e*P	**P**	**19 31 46.4**	**0.0**
	11nm,1.2s						
LPAZ	**La Paz**	**62.78**	**219**	*e*P	**P**	**19 32 02.4**	**+0.4**
	15nm,1.5s						
NVAR	**Mina Array Bea**	**65.38**	**300**	P	**P**	**19 32 18.6**	**+0.1**
NVAR	**Mina Array Bea**	**65.38**	**300**	P	**P**	**19 32 18.6**	**+0.1**
	1.2nm,0.8s,baz=60,slow=6.3,SNR=6.9						
ILAR	**Eielson Array**	**66.44**	**335**	P	**P**	**19 32 25.0**	**+0.4**
ILAR	**Eielson Array**	**66.44**	**335**	P	**P**	**19 32 25.0**	**+0.4**
	0.7nm,0.9s,baz=37,slow=6.6,SNR=6.0						
ILAR				LR	LR	19 58 47.7	
	comp=Z,115nm,19.3s,baz=55,slow=34						
KURK	**Kurchatov**	**73.76**	**38**	*e*P	**P**	**19 33 10.1**	**+0.4**
	2.6nm,0.9s						
ZALV	**Zalesovo Beam**	**74.53**	**33**	P	**P**	**19 33 14.2**	**-0.1**
ZALV	**Zalesovo Beam**	**74.53**	**33**	P	**P**	**19 33 14.2**	**-0.1**
	1.2nm,1.0s,baz=284,slow=8.6,SNR=6.2						
MK31	**Makanchi Array**	**78.15**	**40**	*e*P	**P**	**19 33 35.1**	**+0.1**
MKAR	**Makanchi Array**	**78.15**	**40**	P	**P**	**19 33 34.8**	**-0.2**
MKAR	**Makanchi Array**	**78.15**	**40**	P	**P**	**19 33 34.8**	**-0.2**
	1.3nm,0.9s,baz=310,slow=4.6,SNR=8.7						
BOSA	**Boshof**	**84.82**	**132**	LR	LR	20 06 03.6	
	comp=Z,97nm,21.5s,baz=324,slow=32						
PLCA	**Paso Flores**	**84.89**	**208**	P	**P**	**19 34 10.6**	**+0.1**
PLCA	**Paso Flores**	**84.89**	**208**	P	**P**	**19 34 10.6**	**+0.1**
	2.4nm,0.9s,baz=40,slow=12,SNR=3.2						
PLCA				LR	LR	20 07 52.6	
	comp=Z,101nm,18.3s,baz=185,slow=33						
SONM	**Songino Array**	**87.89**	**26**	P	**P**	**19 34 25.7**	**+0.2**
SONM	**Songino Array**	**87.89**	**26**	P	**P**	**19 34 25.7**	**+0.2**
	0.4nm,0.7s,baz=328,slow=5.2,SNR=2.9						

TAP 08 19:31:39.0,24.°05N×121.°56E,h15km,ML2.0,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.04**	**43**	*i* P	Pg	19 31 42.2	+0.4
	baz=48						
ESL	**Shilin**	**0.26**	**207**	*e*P	Pb	19 31 45.4	-0.1
	baz=205						
ESL				*e*S	Sb	19 31 49.9	+0.1
	baz=205						
WHF	**Hehuan Shan**	**0.29**	**290**	*e*P	Pg	19 31 45.9	+0.2
	baz=290						
ENA	**Nanau**	**0.41**	**23**	*e*P	Pg	19 31 47.1	-0.2
	baz=24						
NNS	**Nan Shan**	**0.43**	**336**	*e*P	Pg	19 31 47.2	-0.6
	baz=337						
ENTT	**Nioudou**	**0.59**	**0**	*e*P	Pb	19 31 51.2	0.0
	baz=1.0						
TWC	**Suao**	**0.62**	**25**	*e*P	Pb	19 31 51.6	0.0
	baz=25						
NSK	**Sanguang**	**0.65**	**343**	*e*P	Pg	19 31 51.7	-0.2
	baz=344						

TAP 08 19:31:41.7,24.°12N×121.°68E,h9km,ML1.9,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.09**	**242**	P	Pg	19 31 44.5	+0.5
	baz=239						
TWD				*i* S	Sg	19 31 46.5	+0.9
	baz=239						
ENA	**Nanau**	**0.31**	**10**	*e*P	Pb	19 31 49.0	-0.5
	baz=11						
ENA				*e*S	Sb	19 31 53.7	-1.0
	baz=11						
WHF	**Hehuan Shan**	**0.38**	**274**	*e*P	Pg	19 31 50.3	+0.5
	baz=273						
WHF				*e*S	Sg	19 31 55.8	+0.6
	baz=273						
NNS	**Nan Shan**	**0.42**	**318**	P	Pb	19 31 51.2	-0.3
	baz=318						
NNS				*e*S	Sb	19 31 57.5	-0.7
	baz=318						
TWC	**Suao**	**0.51**	**17**	*e*P	Pb	19 31 52.5	-0.3
	baz=18						
TWC				*e*S	Sb	19 32 00.3	0.0
	baz=18						
ENTT	**Nioudou**	**0.53**	**348**	*e*P	Pb	19 31 52.6	-0.6
	baz=348						
ENTT				*e*S	Sb	19 32 00.6	-0.4
	baz=348						
NSK	**Sanguang**	**0.63**	**332**	*e*P	Pb	19 31 54.8	-0.1
	baz=332						
NSK				*e*S	Sb	19 32 03.9	0.0
	baz=332						

*ISK **08** 19:44:02.9,39.°82N×28.°69E,h9km,MD2.9*
*ISCJB **08** 19:44:03.2±0.5,39.°83N±0.°03×28.°70E±0.°04,h6km±6km, Error ellipse: s-maj=5.7km s-min=4.1km az=17.8*
*CSEM **08** 19:44:03.5±0.1,39.°82N×28.°69E,h10km,ML2.7,Error ellipse: s-maj=1.6km s-min=1.3km az=109.0*
*DDA **08** 19:44:06.1,39.°67N×28.°68E,h7km,ML2.7*
ISC 08 19:44:03.6±1.0,39.°82N±0.°02×28.°69E±0.°02,h10km±9km, n38,σ0°32/48,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DST	**Dursunbey**	**0.22**	**195**	*e*PG	**Pg**	**19 44 07.9**	**-0.3**
DST				*e*SG	**Sg**	**19 44 11.5**	**+0.3**
DST	**Dursunbey**	**0.22**	**195**	*e*Pg	**Pg**	**19 44 07.9**	**-0.3**
DST				*e*Sg	**Sg**	**19 44 11.5**	**+0.3**
DURS	**Dursunbey**	**0.27**	**218**	*i* P	**Pg**	**19 44 09.2**	**0.0**
DURS				*i* S	**Sg**	**19 44 13.1**	**+0.2**
DURS	**Dursunbey**	**0.27**	**218**	*i* P	**Pg**	**19 44 09.2**	**0.0**
DURS				*i* S	**Sg**	**19 44 13.1**	**+0.2**
ORLT	**Orhaneli**	**0.28**	**34**	*e*PG	**Pg**	**19 44 08.9**	**-0.3**
ORLT	**Orhaneli**	**0.28**	**34**	*e*Pg	**Pg**	**19 44 09.0**	**-0.3**
KCTX	**Karacabey (Bur**	**0.52**	**330**	*e*PG	**Pg**	**19 44 13.6**	**-0.1**
KCTX				*e*SG	**Sg**	**19 44 21.1**	**+0.6**
KCTX	**Karacabey (Bur**	**0.52**	**330**	*e*Pg	**Pg**	**19 44 13.6**	**-0.1**
KCTX				*e*Sg	**Sg**	**19 44 21.1**	**+0.6**
BALB	**Balikesir**	**0.65**	**254**	*e*PG	**Pg**	**19 44 15.9**	**-0.1**
BALB	**Balikesir**	**0.65**	**254**	*e*Pg	**Pg**	**19 44 16.1**	**-0.1**
GEMT	**Gemlik**	**0.72**	**31**	*e*PG	**Pg**	**19 44 17.5**	**-0.1**
GEMT	**Gemlik**	**0.72**	**31**	*e*Pg	**Pg**	**19 44 17.5**	**-0.1**
DEMI	**Demirci**	**0.77**	**179**	*i* P	**Pg**	**19 44 18.6**	**0.0**
DEMI	**Demirci**	**0.77**	**179**	*i* P	**Pg**	**19 44 18.6**	**0.0**
BNT	**Bandirma**	**0.80**	**312**	*e*PG	**Pg**	**19 44 19.1**	**0.0**
BNT	**Bandirma**	**0.80**	**312**	*e*Pg	**Pg**	**19 44 19.1**	**0.0**
GONE	**Gonen-Balikesi**	**0.81**	**287**	*e*PG	**Pg**	**19 44 18.9**	**-0.3**
GONE	**Gonen-Balikesi**	**0.81**	**287**	*e*Pg	**Pg**	**19 44 18.9**	**-0.3**
EDC	**Edincik**	**0.83**	**310**	*e*PG	**Pg**	**19 44 19.5**	**-0.1**
EDC	**Edincik**	**0.83**	**310**	*e*Pg	**Pg**	**19 44 19.5**	**-0.1**
YLV	**Yalova**	**0.91**	**35**	*e*PG	**Pg**	**19 44 21.6**	**+0.4**
YLV	**Yalova**	**0.91**	**35**	*e*Pg	**Pg**	**19 44 21.6**	**+0.4**
GDZ	**Gediz**	**0.95**	**140**	*i* P	**Pg**	**19 44 22.7**	**+0.8**
GDZ				*i* S	**Sg**	**19 44 34.5**	**+0.3**
GDZ	**Gediz**	**0.95**	**140**	*i* P	**Pg**	**19 44 22.7**	**+0.8**
GDZ				*i* S	**Sg**	**19 44 34.5**	**+0.3**
CAVI	**Cavuskoy**	**0.96**	**66**	*e*PG	**Pg**	**19 44 21.7**	**-0.4**
CAVI	**Cavuskoy**	**0.96**	**66**	*e*Pg	**Pg**	**19 44 21.7**	**-0.4**
ADVT	**Abdulvahap**	**1.01**	**52**	*e*PG	**Pg**	**19 44 22.6**	**-0.4**
ADVT	**Abdulvahap**	**1.01**	**52**	*e*Pg	**Pg**	**19 44 22.7**	**-0.4**
AKHS	**Akhisar**	**1.16**	**216**	*i* P	**Pb**	**19 44 25.7**	**-0.1**
AKHS				*i* S	**Sb**	**19 44 40.7**	**-0.2**
AKHS	**Akhisar**	**1.16**	**216**	*i* P	**Pb**	**19 44 25.7**	**-0.1**
AKHS				*i* S	**Sb**	**19 44 40.7**	**-0.2**
AKS	**Akhisar**	**1.16**	**216**	*e*PN	**Pb**	**19 44 25.6**	**-0.2**
AKS	**Akhisar**	**1.16**	**216**	*e*Pn	**Pb**	**19 44 25.6**	**-0.2**
KRBG	**Karabiga-Canak**	**1.22**	**299**	*e*PN	**Pn**	**19 44 26.8**	**+0.1**
KRBG	**Karabiga-Canak**	**1.22**	**299**	*e*Pn	**Pn**	**19 44 26.8**	**+0.1**
ALT	**Altintas**	**1.34**	**124**	*e*PN	**Pn**	**19 44 28.1**	**-0.4**
ALT	**Altintas**	**1.34**	**124**	*e*Pn	**Pn**	**19 44 28.1**	**-0.4**
KLYT	**Kilyos**	**1.46**	**10**	*e*PN	**Pn**	**19 44 30.1**	**+0.1**
KLYT	**Kilyos**	**1.46**	**10**	*e*Pn	**Pn**	**19 44 30.2**	**+0.1**

IDC 08 20:28:26.8±3.3,42.°48N×125.°88W,h0km,mb2.9/2, mb1 3.2/4,mb1mx3.1/25,mbtmp2.9/4,ML2.9/2,Error ellipse: s-maj=75.8km s-min=18.4km az=47.0,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YBH	**Yreka Blue Hor**	**2.47**	**106**	Pn	Pn	20 29 08.8	+0.4
	0.6nm,0.3s,baz=289,slow=14,SNR=9.2						
NVAR	**Mina Array Bea**	**7.05**	**122**	Pn	**Pn**	20 30 12.5	+1.0
	0.1nm,0.3s,baz=293,slow=13,SNR=4.1						
YKA	**Yellowknife Ar**	**21.13**	**15**	P	P	20 33 12.5	-0.4
	0.4nm,0.9s,baz=206,slow=11,SNR=4.5						
ILAR	**Eielson Array**	**25.32**	**339**	P	P	20 33 55.1	+0.2
	0.4nm,0.9s,baz=134,slow=7.7,SNR=4.1						

*ISCJB **08** 20:39:49.7±1.8,21.°24N±0.°06×144.°6E±0.°1,h142km±15km, mb4.2/30,Error ellipse: s-maj=16.8km s-min=10.4km az=175.8*
*IDC **08** 20:39:50.0±2.6,21.°28N×144.°53E,h123km±22km, mb3.8/16,mb1 3.9/19,mb1mx3.9/27,mbtmp3.8/19,Error ellipse: s-maj=19.2km s-min=12.1km az=93.0*
*NEIC **08** 20:39:51.0±1.4,21.°25N×144.°51E,h136km±12km,mb4.5/9, Error ellipse: s-maj=13.0km s-min=7.1km az=85.0*
ISC 08 20:39:50.0±2.0,21.°27N±0.°08×144.°5E±0.°1,h125km±16km, n69,σ0°93/79,mb4.3/30,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**6.18**	**340**	P	**Pn**	**20 41 20.1**	**+1.3**
CBIJ				S	**Sn**	**20 42 25.9**	**-2.4**
CBIJ	**Chichi jima**	**6.18**	**340**	P	**Pn**	**20 41 20.1**	**+1.3**
	6.3nm,0.3s,baz=218,slow=19,SNR=3.5						
CBIJ				S	**Sn**	**20 42 25.9**	**-2.4**
	25nm,0.3s,baz=164,slow=15,SNR=11						
MJAR	**Matsushiro Arr**	**16.18**	**341**	P	**Pn**	**20 43 29.6**	**-0.6**
MJAR	**Matsushiro Arr**	**16.18**	**341**	P	**Pn**	**20 43 29.6**	**-0.6**
	0.6nm,0.3s,baz=172,slow=10,SNR=9.2						
JNU	**Nakatsue**	**16.92**	**317**	P	**Pn**	**20 43 40.7**	**+1.5**
JNU	**Nakatsue**	**16.92**	**317**	P	**Pn**	**20 43 40.7**	**+1.5**
	0.6nm,0.3s,baz=89,slow=6.1,SNR=6.7						
KSRS	**Korea Array**	**21.62**	**322**	P	**P**	**20 44 31.7**	**+1.7**
	9.0nm,0.8s,baz=143,slow=8.6,SNR=46						
KSAR	**Wonju Array Be**	**21.63**	**322**	P	**P**	**20 44 31.7**	**+1.5**
USRK	**Ussuriysk Arra**	**25.12**	**338**	P	**P**	**20 45 03.6**	**+0.5**
	1.3nm,0.6s,baz=138,slow=12,SNR=4.6						
COEN	**Coen**	**35.03**	**182**	*e*P	**P**	**20 46 29.6**	**-1.3**
KAPI	**Kappang**	**35.68**	**226**	*e*P	**P**	**20 46 36.3**	**-0.1**
	7.5nm,1.0s						
ULN	**Ulaanbaatar**	**40.09**	**320**	*e*P	**P**	**20 47 11.7**	**-1.6**
	1.5nm,0.6s						
SONM	**Songino Array**	**40.47**	**320**	P	**P**	**20 47 16.8**	**+0.4**
SONM				PcP	**PcP**	**20 49 16.9**	**+0.2**
SONM	**Songino Array**	**40.47**	**320**	P	**P**	**20 47 16.8**	**+0.4**
	2.1nm,0.5s,baz=126,slow=7.6,SNR=59						
SONM				PcP	**PcP**	**20 49 16.9**	**+0.2**
	0.2nm,0.6s,baz=115,slow=1.7,SNR=4.4						
WRAB	**Tennant Creek**	**42.15**	**194**	*e*P	**P**	**20 47 30.0**	**-0.2**
	3.5nm,0.5s						
WRA	**Warramunga Arr**	**42.16**	**194**	P	**P**	**20 47 30.4**	**+0.1**
WRA	**Warramunga Arr**	**42.16**	**194**	P	**P**	**20 47 30.4**	**+0.1**
	2.0nm,0.4s,baz=21,slow=8.4,SNR=42						
CMAR	**Chiang Mai Arr**	**42.86**	**275**	P	**P**	**20 47 36.6**	**+0.5**
CMAR				PcP	**PcP**	**20 49 26.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**42.86**	**275**	P	**P**	**20 47 36.6**	**+0.5**
	1.3nm,0.6s,baz=84,slow=6.4,SNR=19						
CMAR				PcP	**PcP**	**20 49 26.4**	**+1.4**
	0.7nm,0.7s,baz=83,slow=1.8,SNR=9.0						
ASAR	**Alice Springs**	**45.85**	**194**	P	**P**	**20 47 59.5**	**-0.2**
ASAR	**Alice Springs**	**45.85**	**194**	P	**P**	**20 47 59.5**	**-0.2**
	1.1nm,0.5s,baz=10,slow=10.0,SNR=24						
TAPN	**Taplejung**	**51.77**	**289**	*e*P	**P**	**20 48 46.6**	**+1.2**
	4.3nm,0.3s						
ODAN	**Odare**	**52.11**	**288**	*e*P	**P**	**20 48 46.6**	**-1.3**
	4.5nm,0.4s						
RAMN	**Ramite**	**52.80**	**288**	*e*P	**P**	**20 48 52.5**	**-0.5**
STKA	**Stephens Creek**	**52.92**	**183**	P	**P**	**20 48 52.9**	**-0.4**
STKA	**Stephens Creek**	**52.92**	**183**	P	**P**	**20 48 52.9**	**-0.4**
	0.7nm,0.3s,baz=7.7,slow=12,SNR=3.0						
JIRN	**Jiri**	**53.08**	**289**	*e*P	**P**	**20 48 55.9**	**+0.8**
	4.4nm,0.7s						
GUN	**Gumba**	**53.32**	**290**	*e*P	**P**	**20 48 57.7**	**+0.8**

Troncal and Salinas.
*IGQ **08** 20:49:24.8,2°.57S×79°.18W,h88$^{km}_{\pm}$14^{km},Mb4.9,Ms4.8, Error ellipse: s-maj=1.9km s-min=0.8km az=4.1*
*BJI **08** 20:49:25.0,2°.50S×79°.00W,h88^{km},mB5.2/6,Ms5.5/4, Ms7 5.3/4*

ISC 08 20:49:24.8±0.3,**2°.61S**±0°.03×**79°.14W**±0°.05,**h94**$^{km}_{\pm}$2^{km}, **h93**^{km}:**pP-P,n407,**σ1$48/446,**mb4.8**/69,**122C-184D,Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.22**	**24**	⇓P	**Pn**	**20 49 47.5**	**-0.4**
BMAS	**Trigal station**	**1.28**	**31**	⇓S	**Sn**	**20 50 05.5**	**-0.7**
BMAS	**Trigal station**	**1.28**	**31**	⇓P	**Pn**	**20 49 48.2**	**-0.3**
ARRY	**Arrayan**	**1.29**	**32**	⇓P	**Pn**	**20 49 48.0**	**-0.5**
PAT1	**Patacocha**	**1.30**	**33**	⇓P	**Pn**	**20 49 48.5**	**-0.2**
YANT	**Yantaza**	**1.30**	**163**	⇓S	**Sn**	**20 50 06.3**	**+0.2**
YANT	**Yantaza**	**1.30**	**163**	⇓P	**Pn**	**20 49 48.5**	**+0.1**
BIL2	**Estacion Bilba**	**1.31**	**29**	⇓P	**Pn**	**20 49 48.7**	**0.0**
BBIL	**Ulba Tungurahu**	**1.32**	**30**	⇓S	**Sn**	**20 50 06.9**	**-0.2**
BBIL	**Ulba Tungurahu**	**1.32**	**30**	⇓P	**Pn**	**20 49 48.9**	**0.0**
RETU	**Refugio**	**1.34**	**31**	⇓P	**Pn**	**20 49 49.2**	**-0.2**
JUI6	**Juive**	**1.35**	**30**	⇓P	**Pn**	**20 49 49.0**	**-0.2**
ULBA	**Ulba**	**1.36**	**32**	⇓S	**Sn**	**20 50 08.4**	**+0.4**
ULBA	**Ulba**	**1.36**	**32**	⇓P	**Pn**	**20 49 49.5**	**+0.1**
CATE	**Catamayo**	**1.36**	**190**	⇓S	**Sn**	**20 50 08.7**	**+1.0**
CATE	**Catamayo**	**1.36**	**190**	⇓P	**Pn**	**20 49 49.9**	**+0.7**
BULB	**Ulba Tungurahu**	**1.37**	**32**	⇓S	**Sn**	**20 50 09.7**	**+1.5**
BULB	**Ulba Tungurahu**	**1.37**	**32**	⇓P	**Pn**	**20 49 51.4**	**+1.8**
RUN5	**Runtun**	**1.38**	**31**	⇓P	**Pn**	**20 49 49.6**	**-0.1**
BRUN	**Tungurahua Vol**	**1.39**	**32**	⇓S	**Sn**	**20 50 07.6**	**-0.8**
BRUN	**Tungurahua Vol**	**1.39**	**32**	⇓P	**Pn**	**20 49 49.4**	**-0.3**
PISA	**Pisayambo**	**1.71**	**26**	⇑P	**Pn**	**20 49 54.2**	**+0.2**
BMOR	**Cotopaxi Volca**	**1.98**	**20**	⇓P	**Pn**	**20 49 58.0**	**+0.5**
MOV1	**Cotopaxi Vol s**	**2.01**	**20**	⇓P	**Pn**	**20 49 58.1**	**+0.2**
BREF	**Cotopaxi Volca**	**2.05**	**20**	⇓P	**Pn**	**20 49 59.1**	**+0.7**
TAMB	**Tambo**	**2.05**	**22**	⇓P	**Pn**	**20 49 58.9**	**+0.5**
BTAM	**Cotopaxi Volca**	**2.06**	**21**	⇓P	**Pn**	**20 49 58.8**	**+0.3**
NAS2	**Nasa**	**2.06**	**19**	⇓P	**Pn**	**20 49 59.9**	**+1.4**
BVC2	**Cotopaxi Volca**	**2.07**	**21**	⇓P	**Pn**	**20 49 59.1**	**+0.5**
VC1	**Cotopaxi 1**	**2.09**	**21**	⇓P	**Pn**	**20 49 59.4**	**+0.6**
COV1	**Cotopaxi Volc**	**2.09**	**22**	⇓P	**Pn**	**20 49 59.2**	**+0.2**
PITA	**Cotopaxi Volc**	**2.15**	**19**	⇓P	**Pn**	**20 50 00.5**	**+0.8**
CHIS	**Cerro-Chispas-**	**2.22**	**314**	⇑P	**Pn**	**20 49 59.5**	**-0.5**
ANTI	**Antisana**	**2.36**	**25**	⇓P	**Pn**	**20 50 03.0**	**+0.6**
JUA2	**San Juan 2**	**2.44**	**13**	P	**Pn**	**20 50 04.3**	**+0.9**
TERV	**Terraza Guagua**	**2.48**	**12**	⇑P	**Pn**	**20 50 05.6**	**+1.6**
GGP	**Refugio Guagua**	**2.48**	**13**	⇑P	**Pn**	**20 50 05.1**	**+1.1**
PINO	**Pino**	**2.49**	**12**	⇑P	**Pn**	**20 50 04.7**	**+0.5**
YANA	**Yana**	**2.54**	**13**	P	**Pn**	**20 50 05.6**	**+0.8**
JAMA	**Jama**	**2.56**	**335**	S	**Sn**	**20 50 32.3**	**-3.0**
JAMA	**Jama**	**2.56**	**335**	P	**Pn**	**20 50 03.5**	**-1.2**
GOLV	**Golondrinas**	**2.80**	**0**	P	**Pn**	**20 50 06.8**	**-1.0**
CAYA	**Cayambe**	**2.90**	**23**	⇑P	**Pn**	**20 50 10.7**	**+1.1**
CHAR	**Charly**	**2.90**	**30**	P	**Pn**	**20 50 10.2**	**+0.6**
OTAV	**Otavalo**	**2.91**	**14**	*e*Pn	**Pn**	**20 50 10.2**	**+0.5**
OTAV				*e*Sn	Sn	20 50 37.8	-6.3
OTAV	**Otavalo**	**2.91**	**14**	⇓P	**Pn**	**20 50 10.4**	**+0.7**
LAV4	**Lava4-Reventad**	**2.92**	**31**	⇓P	**Pn**	**20 50 10.1**	**+0.5**
CONE	**Cono NE Rev Vo**	**2.93**	**31**	⇓P	**Pn**	**20 50 10.4**	**+0.6**
COTA	**Cotacachi**	**3.03**	**15**	⇓P	**Pn**	**20 50 12.8**	**+1.4**
ATAH	**Atahualpa**	**4.56**	**171**	P	**Pn**	**20 50 33.0**	**+1.2**
ATAH				S	**Sn**	**20 51 26.5**	**+2.6**
ATAH	**Atahualpa** 77nm,0.3s,baz=12,slow=11,SNR=239	**4.56**	**171**	P	**Pn**	**20 50 33.0**	**+1.2**
ATAH	67nm,0.3s,baz=229,slow=19,SNR=5.1			S	**Sn**	**20 51 26.5**	**+2.6**
ATAH	comp=Z,442nm,20.2s,baz=344,slow=31			LR	LR	20 51 47.0	
ROSC	**El Rosal**	**8.84**	**33**	*e*Pn	**Pn**	**20 51 28.2**	**-1.9**
ROSC	**El Rosal** 2.3nm,0.3s,baz=258,slow=23,SNR=5.2	**8.84**	**33**	P	**Pn**	**20 51 30.2**	**+0.1**
NNA	**Nana**	**9.59**	**166**	*e*Pn	**Pn**	**20 51 39.0**	**-1.1**
NNA				S	**Sn**	**20 53 25.3**	**-0.9**
NNA	**Nana** 117nm,0.3s,baz=344,slow=12,SNR=162	**9.59**	**166**	P	**Pn**	**20 51 40.6**	**+0.5**
NNA	56nm,0.3s,baz=188,slow=17,SNR=20			S	**Sn**	**20 53 25.3**	**-0.9**
PAYG	**Puerto Ayora**	**11.31**	**280**	*e*Pn	**Pn**	**20 52 04.2**	**+0.7**
JTS	**JuntasAbangare**	**14.06**	**336**	P	**Pn**	**20 52 41.8**	**+1.9**
JTS	**JuntasAbangare** 0.2nm,0.3s,baz=286,slow=7.2,SNR=2.8	**14.06**	**336**	P	**Pn**	**20 52 41.8**	**+1.9**
JTS	comp=Z,246nm,21.6s,baz=2.5,slow=32			LR	LR	20 56 55.3	
SDV	**Santo Domingo**	**14.22**	**37**	*e*Pn	Pn	20 52 38.6	-3.5
SAML	**Samuel** 200nm,1.4s	**17.07**	**112**	*e*Pn	Pn	20 53 12.7	-5.1
LPAZ	**La Paz** 8.8nm,0.7s	**17.38**	**142**	*e*Pn	**P**	**20 53 20.3**	**-1.9**
SIV	**San Ignacio**	**22.21**	**128**	P	**P**	**20 54 13.3**	**-0.6**
SIV	**San Ignacio** 3.8nm,0.5s,baz=321,slow=12,SNR=16	**22.21**	**128**	P	**P**	**20 54 13.3**	**-0.6**
SIV	comp=Z,125nm,20.6s,slow=35			LR	LR	21 02 24.3	
LVC	**Limon Verde** 2.3nm,1.2s	**22.23**	**154**	*e*P	**P**	**20 54 15.8**	**+1.6**
CELP	**Cerrillos**	**23.99**	**31**	*e*P	**P**	**20 54 29.9**	**-1.0**
SJG	**San Juan**	**24.24**	**31**	P	**P**	**20 54 32.5**	**-0.6**
SJG	**San Juan** 28nm,0.7s,baz=263,slow=0.4,SNR=8.9	**24.24**	**31**	P	**P**	**20 54 32.5**	**-0.6**
SJG	comp=Z,92nm,21.6s,baz=90,slow=38			LR	LR	21 04 34.3	
TEIG	**Tepich** comp=Z,144nm,21.2s,baz=353,slow=33	**24.40**	**339**	LR	LR	21 02 56.8	
CBYP	**Canovanas** 64nm,1.3s	**24.53**	**32**	*e*P	**P**	**20 54 35.3**	**-0.5**
CBYP				*e*pP	**pP**	**20 54 58.0**	**+1.4**
BDFB	**Brasilia**	**33.28**	**115**	P	**P**	**20 55 53.1**	**-0.7**
BDFB	**Brasilia** 3.3nm,0.4s,baz=269,slow=10,SNR=9.8	**33.28**	**115**	P	**P**	**20 55 53.1**	**-0.7**
BDFB	comp=Z,119nm,19.8s,baz=293,slow=38			LR	LR	21 10 13.1	
LRAL	**Lakeview Retre** 7.1nm,0.6s	**36.22**	**349**	*e*P	**P**	**20 56 17.8**	**-0.9**
LRAL				*e*pP	**pP**	**20 56 39.0**	**-1.3**
SWET	**Sewanee**	**38.16**	**351**	*e*P	**P**	**20 56 35.2**	**+0.1**
CPCT	**Cooper Cave**	**38.19**	**353**	*e*P	**P**	**20 56 35.9**	**+0.5**
TKL	**Tuckaleechee C**	**38.31**	**354**	P	**P**	**20 56 37.0**	**+0.6**
TKL	**Tuckaleechee C** 3.9nm,1.0s,baz=181,slow=13,SNR=3.0	**38.31**	**354**	P	**P**	**20 56 37.0**	**+0.6**
PLAL	**Pickwick Lake** 11nm,1.2s	**38.32**	**348**	*e*P	**P**	**20 56 35.5**	**-1.0**
PLCA	**Paso Flores**	**38.74**	**170**	*e*P	**P**	**20 56 41.4**	**+1.4**
PLCA				*e*pP	**pP**	**20 57 05.5**	**+3.7**
PLCA	**Paso Flores** 5.5nm,0.4s,baz=339,slow=9.3,SNR=38	**38.74**	**170**	P	**P**	**20 56 40.8**	**+0.7**
TZTN	**Tazewell** 49nm,1.8s	**39.17**	**354**	*e*P	**P**	**20 56 43.2**	**-0.4**
TZTN				*e*pP	**pP**	**20 57 04.8**	**-0.6**
627A	**Terlingua Ranc** baz=40	**39.44**	**326**	⇑P	**P**	**20 56 49.1**	**+3.0**
TXAR	**Lajitas Array**	**39.51**	**325**	P	**P**	**20 56 48.5**	**+1.9**
TXAR				pP	**pP**	**20 57 08.1**	**-0.3**
TXAR				PcP	**PcP**	**20 58 54.7**	**+2.0**
TXAR				pPcP		20 59 17.6	
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=143,slow=9.1,SNR=3.4	**39.51**	**325**	P	**P**	**20 56 48.5**	**+1.9**
TXAR	2.1nm,0.9s,baz=153,slow=8.4,SNR=7.6			pP	**pP**	**20 57 08.1**	**-0.3**
TXAR	0.4nm,0.6s,baz=152,slow=7.9,SNR=3.6			PcP	**PcP**	**20 58 54.7**	**+2.0**
TXAR	1.3nm,0.9s,baz=149,slow=5.1,SNR=5.2			pPcP		20 59 17.6	
528A	**Cox Ranch, San** baz=40	**39.65**	**327**	⇑P	**P**	**20 56 50.2**	**+2.4**
626A	**Big Bend Ranch** baz=40	**39.94**	**325**	⇓P	**P**	**20 56 53.2**	**+3.0**
428A	**Kincaid Ranch,** baz=40	**40.04**	**328**	⇑pP	pP	20 57 13.9	+1.0
527A	**Woodward Ranch** baz=40	**40.09**	**326**	⇓P	**P**	**20 56 53.7**	**+2.2**
329A	**Wagon Wheel Ra** baz=40	**40.27**	**329**	⇓P	**P**	**20 56 54.9**	**+2.0**
328A	**Wristen Ranch,** baz=41	**40.62**	**328**	⇑pP	pP	20 57 17.0	-0.6
426A	**McDonald Obser** baz=41	**40.72**	**326**	⇓pP	pP	20 57 18.6	-0.2
WCI	**Wyandotte Cave** 14nm,1.1s	**41.17**	**351**	*e*P	**P**	**20 56 59.5**	**-0.6**
326A	**Caldwell Ranch** baz=41	**41.19**	**327**	⇑pP	pP	20 57 22.4	-0.1
SIUC	**Southern Illin** 27nm,1.0s	**41.19**	**348**	*e*P	**P**	**20 57 00.1**	**-0.2**
425A	**Indio Mountain**	**41.35**	**325**	⇓pP	pP	20 57 23.9	0.0
227A	**Bennet, Jal** baz=42	**41.36**	**328**	⇓pP	pP	20 57 23.2	-0.7
128A	**Castleberry Fa** baz=42	**41.43**	**330**	⇓pP	pP	20 57 23.8	-0.6
FVM	**French Village** 15nm,0.9s	**41.72**	**347**	*e*P	**P**	**20 57 04.2**	**-0.3**
127A	**Arkansas Junct** baz=42	**41.92**	**329**	⇓pP	pP	20 57 28.0	-0.5
OLIL	**Olney** 16nm,0.9s	**41.96**	**350**	*e*P	**P**	**20 57 05.3**	**-1.2**
126A	**Clayton Basin,** baz=42	**42.24**	**328**	⇑pP	pP	20 57 30.9	-0.3
MNTX	**Cornudas Mount** baz=42	**42.26**	**326**	pP	pP	20 57 30.9	-0.2
225A	**Deer Hill, Car** baz=42	**42.26**	**327**	⇑pP	pP	20 57 30.5	-0.9
Y28A	**McKinney Farm,** baz=43	**42.35**	**331**	⇓pP	pP	20 57 31.7	-0.3
Z27A	**Tatum** baz=43	**42.35**	**330**	⇑P	**P**	**20 57 12.4**	**+2.5**
125A	**Gardner Draw,** baz=43	**42.59**	**328**	⇑P	**P**	**20 57 14.5**	**+2.6**
Z26A	**Caprock** baz=43,SNR=8.5	**42.71**	**329**	⇑P	**P**	**20 57 15.3**	**+2.5**
ACSO	**Alum Creek Sta** 16nm,1.2s	**42.78**	**356**	*e*P	**P**	**20 57 12.1**	**-1.0**
Y27A	**Causey** baz=43	**42.78**	**330**	⇑pP	pP	20 57 34.7	-0.8
SSPA	**Standing Stone**	**43.05**	**1**	*es*P	sP	20 57 45.6	-2.5
SSPA	**Standing Stone** 17nm,1.1s	**43.05**	**1**	*e*P	**P**	**20 57 14.6**	**-0.7**
SSPA				*e*pP	**pP**	**20 57 36.7**	**-0.8**
124A	**Stringfield Ra** baz=43	**43.05**	**327**	⇓pP	pP	20 57 37.2	-0.7
Z25A	**Roswell** baz=43	**43.10**	**328**	⇓P	**P**	**20 57 18.9**	**+2.8**
RCBR	**Riachuelo**	**43.23**	**96**	P	**P**	**20 57 15.8**	**-1.5**
RCBR	**Riachuelo** 4.3nm,0.5s,baz=273,slow=7.4,SNR=6.7	**43.23**	**96**	P	**P**	**20 57 15.8**	**-1.5**
222A	**Williams Famil** baz=44	**43.54**	**325**	⇓pP	pP	20 57 42.6	+0.9
Y25A	**Mesa, Roswell** baz=44	**43.59**	**329**	⇑P	**P**	**20 57 22.0**	**+2.0**
W27A	**Bowe Ranch, En** baz=44	**43.68**	**331**	⇓P	**P**	**20 57 23.1**	**+2.5**
320A	**Kipp Ranch, An** baz=44	**43.83**	**323**	⇑pP	pP	20 57 44.7	+0.6
Y24A	**Capitan** baz=44	**43.98**	**328**	⇓pP	pP	20 57 45.7	+0.4
220A	**Playas Peak, P** baz=44,SNR=6.2	**44.23**	**323**	⇓pP	pP	20 57 47.7	+0.3
121A	**Cookes Peak, D** baz=44	**44.24**	**325**	⇓pP	pP	20 57 47.5	0.0
319A	**Douglas** baz=44	**44.32**	**322**	⇓pP	pP	20 57 47.6	-0.4
Y23A	**Lovelace Mesa,** baz=44	**44.32**	**327**	⇑pP	pP	20 57 46.8	-1.3
W25A	**X Bar L Ranch,** baz=45	**44.49**	**330**	⇑pP	pP	20 57 48.4	-0.9
120A	**U Bar Ranch, L** baz=45	**44.75**	**324**	⇓pP	pP	20 57 51.2	-0.3
W24A	**Lazy 6 Ranch,** baz=45,SNR=5.5	**44.96**	**329**	⇑pP	pP	20 57 52.6	-0.6
V25A	**Rancho No Teng** baz=45,SNR=6.5	**45.05**	**330**	⇓pP	pP	20 57 53.5	-0.4
U26A	**Atchley Ranch,** baz=45	**45.08**	**332**	⇓P	**P**	**20 57 34.2**	**+2.4**
Z20A	**Nine Sixteen R** baz=45	**45.13**	**324**	⇓P	**P**	**20 57 35.4**	**+3.1**
T27A	**Campo** baz=45	**45.15**	**333**	⇑P	**P**	**20 57 34.7**	**+2.4**
Y21A	**Point of Rocks** baz=46	**45.26**	**326**	⇑pP	pP	20 57 55.0	-0.7
V24A	**Rampart Ranch,** baz=46	**45.29**	**330**	⇓P	**P**	**20 57 36.0**	**+2.3**
V24A	baz=46,SNR=6.8			⇓pP	**pP**	**20 57 55.2**	**-0.8**
V24A	baz=46,SNR=6.8			⇓pP	**pP**	**20 57 55.2**	**-0.8**
W23A	**Werner Place,** baz=46,SNR=5.6	**45.30**	**328**	⇑pP	pP	20 57 56.0	0.0
ANMO	**Albuquerque** 16nm,0.9s	**45.31**	**328**	*e*P	**P**	**20 57 35.5**	**+1.8**
ANMO				*e*pP	**pP**	**20 57 54.8**	**-1.2**
U25A	**Circle Dot Ran** baz=46	**45.40**	**331**	⇓pP	pP	20 57 56.7	0.0
Y20A	**Horse Springs,** baz=46	**45.58**	**325**	⇓pP	pP	20 57 58.2	-0.1
X21A	**Alamocita Cree** baz=46	**45.65**	**326**	⇓P	**P**	**20 57 39.4**	**+3.0**
X21A	baz=46			⇑pP	**pP**	**20 57 58.1**	**-0.7**
X21A	baz=46			⇑pP	**pP**	**20 57 58.1**	**-0.7**
TUC	**Tucson**	**45.88**	**322**	*e*P	**P**	**20 57 38.4**	**+0.2**
TUC				*e*pP	**pP**	**20 57 59.5**	**-1.0**
S26A	**Kim** baz=46	**45.95**	**333**	⇓P	**P**	**20 57 41.4**	**+2.8**
T25A	**Trinidad** baz=46	**45.99**	**332**	⇑P	**P**	**20 57 41.7**	**+2.6**
T25A	baz=46			⇑pP	**pP**	**20 58 01.5**	**0.0**
T25A	baz=46			⇑pP	**pP**	**20 58 01.5**	**0.0**
SCIA	**State Center** 29nm,1.2s	**46.11**	**345**	*e*P	**P**	**20 57 39.7**	**0.0**
X20A	**Quemado** baz=46	**46.11**	**326**	⇓pP	pP	20 58 02.5	0.0
R27A	**Eads** baz=46,SNR=7.0	**46.20**	**334**	⇑P	**P**	**20 57 42.5**	**+1.9**
R27A	baz=46,SNR=6.1			⇑pP	**pP**	**20 58 02.1**	**-0.8**
R27A	baz=46,SNR=6.1			⇑pP	**pP**	**20 58 02.1**	**-0.8**
U23A	**El Rito** baz=46,SNR=7.2	**46.23**	**329**	⇑pP	pP	20 58 04.1	+0.7
S25A	**Robets Cordova** baz=47	**46.42**	**332**	⇓P	**P**	**20 57 44.6**	**+2.1**
R26A	**Arlington** baz=47	**46.50**	**333**	⇓P	**P**	**20 57 45.2**	**+2.3**
V21A	**Milan** baz=47	**46.58**	**328**	⇓P	**P**	**20 57 46.4**	**+2.6**
V21A	baz=47			⇓pP	**pP**	**20 58 05.9**	**-0.2**
V21A	baz=47			⇓pP	**pP**	**20 58 05.9**	**-0.2**
KSCO	**Kaye Shedlock'** baz=47	**46.73**	**335**	⇑pP	pP	20 58 06.2	-0.9
R25A	**Fountain Ranch** baz=47	**46.75**	**333**	⇑pP	pP	20 58 06.7	-0.6
S24A	**Houchin Ranch,** baz=47	**46.78**	**331**	⇓pP	pP	20 58 07.6	-0.1
214A	**Organ Pipe Nat** baz=47	**46.93**	**320**	⇓pP	pP	20 58 08.7	0.0
SDCO	**Great Sand Dun** 14nm,1.1s	**47.00**	**331**	*e*P	**P**	**20 57 49.1**	**+2.0**
SDCO				*e*pP	**pP**	**20 58 08.3**	**-1.1**
SDCO	**Great Sand Dun** baz=47,SNR=6.6	**47.00**	**331**	⇑P	**P**	**20 57 49.6**	**+2.5**
SDCO	baz=47			⇓pP	**pP**	**20 58 08.7**	**-0.8**
SDCO	baz=47			⇓pP	**pP**	**20 58 08.7**	**-0.8**
SDCO	baz=47			⇓pP	**pP**	**20 58 08.7**	**-0.8**
SDCO	baz=47			⇓pP	**pP**	**20 58 08.7**	**-0.8**
U21A	**Nageezi** baz=47	**47.06**	**328**	⇑pP	pP	20 58 09.5	-0.4
W18A	**Petrified Fore** baz=48	**47.23**	**325**	⇑pP	pP	20 58 11.4	+0.2
X17A	**Forest Lakes** baz=48	**47.30**	**324**	⇑pP	pP	20 58 12.1	+0.3
Q25A	**Bedland, Calha** baz=48	**47.36**	**333**	⇑pP	pP	20 58 12.2	0.0
T21A	**Navajo Lake** baz=48	**47.43**	**329**	⇑pP	pP	20 58 12.4	-0.4
U20A	**Newcomb** baz=48	**47.48**	**328**	⇓pP	pP	20 58 12.3	-0.8
X16A	**Lo Mia Camp, P** baz=48,SNR=7.7	**47.73**	**323**	⇑pP	pP	20 58 15.1	0.0
P25A	**Willow Gulch B** baz=48	**47.81**	**334**	⇑pP	pP	20 58 14.5	-1.2
113A	**Mohawk Valley,** baz=48	**48.07**	**320**	⇑pP	pP	20 58 16.2	-1.3
S21A	**Coal Bank Pass** baz=48	**48.07**	**329**	⇓pP	pP	20 58 16.9	-1.0
MVCO	**Mesa Verde**	**48.09**	**328**	*e*pP	pP	20 58 18.6	+0.6
Y14A	**Wickenburg** baz=49	**48.35**	**322**	⇓pP	pP	20 58 18.1	-1.8
WUAZ	**Wupatki** 31nm,1.0s	**48.45**	**324**	*e*P	**P**	**20 57 58.3**	**+0.1**
WUAZ				*e*pP	**pP**	**20 58 20.3**	**-0.4**
WUAZ	**Wupatki** baz=49	**48.45**	**324**	⇓P	**P**	**20 58 00.6**	**+2.4**
WUAZ	baz=49,SNR=7.6			⇓pP	**pP**	**20 58 20.9**	**+0.2**
WUAZ	baz=49,SNR=7.6			⇓pP	**pP**	**20 58 20.9**	**+0.2**
Q22A	**Crested Butte,** baz=49	**48.56**	**331**	⇓P	**P**	**20 58 01.2**	**+2.1**
Q22A	baz=49,SNR=6.4			⇓pP	**pP**	**20 58 21.8**	**+0.2**
Q22A	baz=49,SNR=6.4			⇓pP	**pP**	**20 58 21.8**	**+0.2**
ISCO	**Idaho Springs**	**48.69**	**333**	*e*P	**P**	**20 58 02.1**	**+2.0**
ISCO				*e*pP	**pP**	**20 58 22.7**	**0.0**
ISCO	**Idaho Springs** baz=49	**48.69**	**333**	⇑P	**P**	**20 58 02.1**	**+2.0**
ISCO	baz=49			⇓pP	**pP**	**20 58 21.6**	**-1.0**
ISCO	baz=49			⇓pP	**pP**	**20 58 21.6**	**-1.0**
ECSD	**EROS Data Cent** 9.5nm,1.2s	**48.73**	**343**	*e*P	**P**	**20 57 59.6**	**-0.3**
T18A	**Mexican Hat** baz=49,SNR=5.9	**48.77**	**327**	⇑pP	pP	20 58 21.9	-1.2
S19A	**Harvey Farm, M** baz=49	**48.83**	**328**	⇓P	**P**	**20 58 03.6**	**+2.5**
S19A	baz=49			⇑pP	**pP**	**20 58 22.5**	**-1.2**
S19A	baz=49			⇑pP	**pP**	**20 58 22.5**	**-1.2**
P22A	**Eagle** baz=49	**49.06**	**332**	⇑pP	pP	20 58 25.0	-0.4
O23A	**Lake Granby, G** baz=49,SNR=5.4	**49.16**	**333**	⇓P	**P**	**20 58 06.0**	**+2.3**
O23A	baz=49			⇑pP	**pP**	**20 58 26.3**	**0.0**
O23A	baz=49			⇑pP	**pP**	**20 58 26.3**	**0.0**
T17A	**Navajo Res., N** baz=49	**49.18**	**326**	⇓pP	pP	20 58 25.9	-0.5
PV04	**Paradox Valley**	**49.20**	**329**	*e*pP	pP	20 58 26.7	+0.3
P21A	**Newcastle** baz=50	**49.34**	**331**	⇓P	**P**	**20 58 07.2**	**+2.2**
O22A	**Kremmling** baz=50	**49.41**	**332**	⇑P	**P**	**20 58 07.2**	**+1.6**
U15A	**North Rim** baz=50,SNR=6.3	**49.62**	**325**	⇑pP	pP	20 58 29.7	-0.2
BC3	**Big Chuckawall** baz=50	**49.72**	**320**	⇓pP	pP	20 58 30.4	-0.1
N23A	**Red Feather La** baz=50	**49.73**	**333**	⇓P	**P**	**20 58 10.0**	**+2.1**
IRM	**Iron Mountain** baz=50	**49.85**	**320**	⇓pP	pP	20 58 30.9	-0.4
N22A	**Wattenberg Ran** baz=50	**49.88**	**333**	⇓pP	pP	20 58 31.1	-0.6
PFO	**Pinyon Flat Ob**	**50.35**	**319**	*e*pP	pP	20 58 36.2	+0.9
Q18A	**Rafter H Ranch** baz=51	**50.36**	**329**	⇑pP	pP	20 58 33.6	-1.6
R16A	**Teasdale** baz=51	**50.48**	**327**	⇑pP	pP	20 58 35.2	-1.2
GMRC	**Granite Mounta** baz=51	**50.57**	**321**	⇓pP	pP	20 58 36.0	-0.9
SRU	**San Rafael**	**50.57**	**328**	*e*pP	pP	20 58 36.9	-0.1
SRU	**San Rafael** baz=51	**50.57**	**328**	⇓pP	pP	20 58 36.4	-0.6
N20A	**Spence Gulch,** baz=51	**50.75**	**332**	⇑P	**P**	**20 58 17.4**	**+1.8**
MURC	**Murrieta** baz=51	**50.83**	**318**	⇑pP	pP	20 58 38.8	0.0
R15A	**Junction** baz=51	**50.87**	**326**	⇑pP	pP	20 58 38.9	-0.3
RWWY	**Rawlins**	**50.93**	**333**	*e*P	**P**	**20 58 18.4**	**+1.4**
RWWY				*e*pP	**pP**	**20 58 39.7**	**0.0**
M21A	**Separation Pea** baz=51	**50.94**	**333**	⇓pP	pP	20 58 38.8	-0.9
HEC	**Hector,Ludlow** baz=51	**51.02**	**320**	⇑pP	pP	20 58 40.6	+0.3
L21A	**Rawlins** baz=51	**51.22**	**333**	⇓P	**P**	**20 58 21.2**	**+2.1**
M20A	**Sweetwater, Wa** baz=51	**51.22**	**332**	⇓P	**P**	**20 58 21.2**	**+2.1**
M20A	baz=51			⇓pP	**pP**	**20 58 41.8**	**-0.1**
M20A	baz=51			⇓pP	**pP**	**20 58 41.8**	**-0.1**
N19A	**John Jarvie Ra** baz=51	**51.23**	**331**	⇓P	**P**	**20 58 21.0**	**+1.9**
N19A	baz=51			⇑pP	**pP**	**20 58 41.6**	**-0.3**
N19A	baz=51			⇑pP	**pP**	**20 58 41.6**	**-0.3**
O17A	**Robinson Place** baz=52	**51.49**	**329**	⇓pP	pP	20 58 43.8	0.0
N18A	**Larsen Ranch,** baz=52	**51.54**	**331**	⇑pP	pP	20 58 43.9	-0.4
RSSD	**Black Hills** 7.1nm,0.9s	**51.59**	**337**	*e*P	**P**	**20 58 21.9**	**+0.1**
RSSD				*e*pP	**pP**	**20 58 43.9**	**-0.7**
GSC	**Goldstone**	**51.62**	**320**	*e*pP	pP	20 58 44.7	-0.2
MPU	**Maple Canyon**	**51.82**	**328**	*e*pP	pP	20 58 46.0	-0.4
P15A	**Leamington** baz=52	**51.84**	**327**	⇓pP	pP	20 58 45.4	-1.1
J22A	**Midwest** baz=52	**52.00**	**335**	⇑P	**P**	**20 58 26.5**	**+1.8**
J22A	baz=52			⇓pP	**pP**	**20 58 46.1**	**-1.4**
J22A	baz=52			⇓pP	**pP**	**20 58 46.1**	**-1.4**
M18A	**Lyman** baz=52	**52.08**	**331**	⇑P	**P**	**20 58 27.3**	**+1.8**
N17A	**Moffit Pass** baz=52	**52.09**	**330**	⇓pP	pP	20 58 48.1	-0.3
EDW2	**Edwards Air Fo** baz=52	**52.13**	**319**	⇓pP	pP	20 58 48.4	-0.2
JLU	**Jordanelle**	**52.15**	**329**	*e*pP	pP	20 58 49.6	+0.7
K20A	**Yellowstone Ra** baz=52	**52.21**	**333**	⇑P	**P**	**20 58 28.5**	**+2.1**
K20A	baz=52			⇓pP	**pP**	**20 58 48.3**	**-0.9**
K20A	baz=52			⇓pP	**pP**	**20 58 48.3**	**-0.9**
H24A	**Dirks Ranch, A** baz=52	**52.32**	**337**	⇓P	**P**	**20 58 29.0**	**+1.9**
I22A	**9 Mile Ranch,** baz=53	**52.39**	**335**	⇓P	**P**	**20 58 29.5**	**+1.9**
I22A	baz=53			⇓pP	**pP**	**20 58 49.1**	**-1.4**
I22A	baz=53			⇓pP	**pP**	**20 58 49.1**	**-1.4**
FURC	**Furnace Creek,** baz=53	**52.40**	**322**	⇑pP	pP	20 58

baz=53
R11A Troy Canyon, C 52.85 324 ⇓pP pP 20 58 54.2 +0.2
baz=53,SNR=6.1
BW06 Boulder Array 52.86 332 ⇑P **P** **20 58 33.0 +1.8**
baz=53
PDAR Pinedale Array 52.86 332 P **P** **20 58 31.8 +0.6**
PDAR Pinedale Array 52.86 332 P **P** **20 58 31.8 +0.6**
1.3nm,0.7s,baz=128,slow=9.1,SNR=9.4
PDAR LR LR 21 24 39.5
comp=Z,62nm,18.9s,baz=271,slow=40
ISA Isabella 52.92 320 *e*pP pP 20 58 55.1 +0.7
ISA Isabella 52.92 320 ⇓pP pP 20 58 54.3 -0.2
baz=53
HWUT Hardware Ranch 52.95 330 *e*P **P** **20 58 33.7 +1.8**
7.8nm,0.9s
HWUT *e*pP **pP** **20 58 52.3 -2.5**
K18A Toltan Ranch, 52.98 332 ⇓P **P** **20 58 34.4 +2.2**
baz=53
K18A ⇓pP **pP** **20 58 54.3 -0.8**
baz=53
K18A ⇓pP **pP** **20 58 54.3 -0.8**
baz=53
J19A Crowheart 53.01 333 ⇓P **P** **20 58 34.3 +2.0**
baz=53
I20A Worland 53.14 334 ⇓P **P** **20 58 35.1 +1.9**
baz=53
I20A ⇓pP **pP** **20 58 54.9 -1.1**
baz=53
I20A ⇓pP **pP** **20 58 54.9 -1.1**
baz=53
CWC Cottonwood Cre 53.14 321 ⇑pP pP 20 58 56.0 -0.2
baz=53
L16A Fish Haven 53.19 330 ⇓P **P** **20 58 35.4 +1.7**
baz=53
L16A ⇓pP **pP** **20 58 55.0 -1.6**
baz=53
L16A ⇓pP **pP** **20 58 55.0 -1.6**
baz=53
M15A Larsen Ranch, 53.30 329 ⇑P **P** **20 58 36.0 +1.6**
baz=54
J18A Kendall Valley 53.42 332 ⇑P **P** **20 58 36.8 +1.5**
baz=54,SNR=6.1
J18A ⇑pP **pP** **20 58 57.5 -0.8**
baz=54
J18A ⇑pP **pP** **20 58 57.5 -0.8**
baz=54
VES Vestal, Richgr 53.42 319 ⇓pP pP 20 58 57.6 -0.5
baz=54
F23A Volborg 53.46 337 ⇓P **P** **20 58 36.9 +1.4**
baz=54,SNR=6.3
H20A Greybull 53.51 335 ⇓P **P** **20 58 37.0 +1.1**
baz=54
L15A Malad City 53.66 330 ⇑P **P** **20 58 38.7 +1.7**
baz=54
L15A ⇓pP **pP** **20 58 59.1 -0.8**
baz=54
L15A ⇓pP **pP** **20 58 59.1 -0.8**
baz=54
HVU Hansel Valley 53.70 329 *e*pP pP 20 59 00.7 +0.5
I18A Diamond G Ranc 53.70 333 ⇑P **P** **20 58 38.8 +1.4**
baz=54
E24A Baker 53.76 339 ⇑pP pP 20 59 00.1 -0.4
baz=54
G21A Lodge Grass 53.77 336 ⇑P **P** **20 58 39.0 +1.3**
baz=54
G21A ⇑pP **pP** **20 58 59.4 -1.2**
baz=54
G21A ⇑pP **pP** **20 58 59.4 -1.2**
baz=54
J17A Brown Place, J 53.86 332 ⇑P **P** **20 58 40.4 +1.9**
baz=54
REDW Red Top Meadow 53.92 332 *e*P **P** **20 58 41.5 +2.4**
12nm,1.3s
RRI2 Red Ridge 54.13 331 *e*P **P** **20 58 42.2 +1.5**
8.5nm,0.9s
RRI2 *e*pP **pP** **20 59 02.9 -0.6**
MOOW Moose Ponds 54.17 332 *e*pP pP 20 59 02.6 -1.2
G20A Bridger 54.19 335 ⇓P **P** **20 58 41.8 +1.0**
baz=54
G20A ⇑pP **pP** **20 59 02.5 -1.3**
baz=54
G20A ⇑pP **pP** **20 59 02.5 -1.3**
baz=54
J16A Bone 54.22 331 ⇑P **P** **20 58 43.3 +2.2**
baz=54
D24A Glendive 54.24 339 ⇓P **P** **20 58 43.2 +2.2**
baz=54,SNR=7.8
D24A ⇑pP **pP** **20 59 03.4 -0.6**
baz=54
D24A ⇑pP **pP** **20 59 03.4 -0.6**
baz=54
FLWY Flagg Ranch 54.40 332 *e*P **P** **20 58 41.6 -0.9**
21nm,1.5s
FLWY *e*pP **pP** **20 59 05.3 -0.2**
K14A Jones Ranch, D 54.46 329 ⇓P **P** **20 58 44.2 +1.4**
baz=55
K14A ⇓pP **pP** **20 59 04.9 -0.9**
baz=55
K14A ⇓pP **pP** **20 59 04.9 -0.9**
baz=55
NVAR Mina Array Bea 54.52 322 P **P** **20 58 46.0 +2.5**
NVAR pP **pP** **20 59 06.5 +0.1**
NVAR Mina Array Bea 54.52 322 P **P** **20 58 46.0 +2.5**
0.8nm,0.6s,baz=120,slow=6.3,SNR=6.9
NVAR pP **pP** **20 59 06.5 +0.1**
3.8nm,0.9s,baz=140,slow=7.4,SNR=8.5
ULM Lac du Bonnet 54.58 347 P **P** **20 58 42.4 -1.0**
ULM Lac du Bonnet 54.58 347 P **P** **20 58 42.4 -1.0**
8.3nm,0.9s,baz=162,slow=7.2,SNR=16
D23A Lindsay 54.61 338 ⇑pP pP 20 59 05.9 -0.8
baz=55
I16A Newdale 54.61 332 ⇑pP pP 20 59 06.3 -0.7
baz=55
C24A Savage 54.63 339 ⇑P **P** **20 58 45.7 +1.9**
baz=55
C24A ⇑pP **pP** **20 59 06.2 -0.6**
baz=55
C24A ⇑pP **pP** **20 59 06.2 -0.6**
baz=55
LKWY Lake 54.63 333 *e*P **P** **20 58 42.3 -1.9**
6.1nm,0.9s
J15A Blackfoot 54.71 331 ⇓P **P** **20 58 46.9 +2.2**
baz=55
J15A ⇓pP **pP** **20 59 07.3 -0.4**
baz=55
J15A ⇓pP **pP** **20 59 07.3 -0.4**
baz=55
D22A Cohagen 54.95 338 ⇓P **P** **20 58 48.2 +2.1**
baz=55,SNR=9.9
D22A ⇑pP **pP** **20 59 08.4 -0.8**
baz=55
D22A ⇑pP **pP** **20 59 08.4 -0.8**
baz=55
F19A Roth Farm, Mol 55.01 335 ⇑P **P** **20 58 48.0 +1.4**
baz=55
C23A Lambert 55.13 339 ⇑P **P** **20 58 49.3 +1.9**
baz=55
C23A ⇑pP **pP** **20 59 10.3 -0.2**
baz=55
C23A ⇑pP **pP** **20 59 10.3 -0.2**
baz=55
E20A Meyer Farm, Mu 55.19 336 ⇓P **P** **20 58 50.1 +2.1**
baz=55,SNR=5.6
E20A ⇑pP **pP** **20 59 10.2 -0.8**
baz=55
E20A ⇑pP **pP** **20 59 10.2 -0.8**
baz=55
D21A La Casta Ranch 55.19 337 ⇓P **P** **20 58 50.1 +2.1**
baz=55
D21A ⇓pP **pP** **20 59 10.4 -0.6**
baz=55
D21A ⇓pP **pP** **20 59 10.4 -0.6**
baz=55
J14A Carey 55.19 330 ⇓P **P** **20 58 50.3 +2.1**
baz=55
J14A ⇑pP **pP** **20 59 10.7 -0.4**
baz=55
J14A ⇑pP **pP** **20 59 10.7 -0.4**
baz=55
QLMT Earthquake Lak 55.31 332 *e*P **P** **20 58 49.9 +0.9**
QLMT *e*pP **pP** **20 59 11.4 -0.6**
C22A Vida 55.34 338 ⇓P **P** **20 58 50.9 +2.0**
baz=56,SNR=7.8
C22A ⇓pP **pP** **20 59 11.2 -0.8**
baz=56
C22A ⇓pP **pP** **20 59 11.2 -0.8**
baz=56
F18A Big Timber 55.38 334 ⇓P **P** **20 58 51.5 +2.2**
baz=56,SNR=17
E19A Rath Farm, Rou 55.42 335 ⇓P **P** **20 58 51.6 +1.9**
baz=56,SNR=5.8
J13A Cove Ranch, Pi 55.58 330 ⇑P **P** **20 58 52.8 +2.0**
baz=56
I14A Mackay 55.60 330 ⇑P **P** **20 58 53.4 +2.3**
baz=56
B23A Brockton 55.62 339 ⇓P **P** **20 58 53.2 +2.2**
baz=56,SNR=6.3
D20A Manuel Ranch, 55.66 336 ⇓P **P** **20 58 53.0 +1.7**
baz=56,SNR=6.2
A24A Westby 55.68 340 ⇑P **P** **20 58 53.5 +2.2**
baz=56,SNR=5.7
HLID Hailey 55.82 330 ⇓P **P** **20 58 54.8 +2.2**
baz=56
C21A Desert Coulee 55.86 338 ⇓P **P** **20 58 54.8 +2.1**
baz=56,SNR=11
I13A Wildhorse Cree 55.92 330 ⇓P **P** **20 58 55.7 +2.3**
baz=56
E18A Harlowton 55.98 335 ⇓P **P** **20 58 55.6 +2.0**
baz=56
A23A Redstone 56.01 340 ⇑P **P** **20 58 56.0 +2.3**
baz=56
BOZ Bozeman (W) 56.02 333 *e*P **P** **20 58 55.3 +1.3**
4.3nm,0.8s
BOZ Bozeman (W) 56.02 333 ⇓P **P** **20 58 55.7 +1.7**
baz=56,SNR=6.8
D19A Cripps Ranch, 56.02 336 ⇓P **P** **20 58 55.9 +1.9**
baz=56
H14A Leadore 56.06 331 ⇓P **P** **20 58 56.7 +2.3**
baz=56
E17A Martinsdale 56.31 334 ⇓P **P** **20 58 58.2 +2.2**
baz=56
I12A Atlanta 56.35 329 ⇑P **P** **20 58 58.6 +2.2**
baz=57
A22A Carney Farms, 56.40 339 ⇓P **P** **20 58 58.6 +2.1**
baz=57
MFID Camas Ranch 56.44 329 *e*P **P** **20 58 59.2 +2.2**
9.6nm,1.0s
MFID *e*pP **pP** **20 59 20.2 +0.1**
MFID Camas Ranch 56.44 329 ⇑P **P** **20 58 59.4 +2.4**
baz=57
C19A Slack Wire Ran 56.55 336 ⇑P **P** **20 58 59.8 +2.1**
baz=57
E16A East Helena 56.72 334 ⇑P **P** **20 59 01.0 +2.1**
baz=57
H12A Diamond D Ranc 56.75 330 ⇓P **P** **20 59 01.5 +2.3**
baz=57
A21A Bergtoll Ranch 56.76 338 ⇓P **P** **20 59 01.6 +2.5**
baz=57
D17A Six Diamond Ra 56.77 335 ⇓P **P** **20 59 00.9 +1.6**
baz=57
D16A Dana Ranch, Ca 57.05 334 ⇑P **P** **20 59 03.0 +1.8**
baz=57
EGMT Eagleton 57.07 336 *e*P **P** **20 59 02.0 +0.7**
11nm,1.1s
EGMT Eagleton 57.07 336 ⇑P **P** **20 59 02.9 +1.6**
baz=57
B19A Brinkman Farms 57.09 337 ⇑P **P** **20 59 03.1 +1.7**
baz=57
C17A Wharram Farm, 57.18 335 ⇑P **P** **20 59 03.7 +1.6**
baz=57,SNR=6.8
B18A Beardsley Farm 57.37 336 ⇓P **P** **20 59 05.0 +1.6**
baz=58
A19A Klindworth Far 57.39 337 ⇓P **P** **20 59 04.9 +1.3**
baz=58,SNR=6.1
E14A Clinton 57.46 332 ⇓P **P** **20 59 05.8 +1.7**
baz=58
C16A Fuhringer Ranc 57.73 335 ⇓P **P** **20 59 08.1 +2.1**
baz=58
F12A Elk City 57.81 331 ⇓P **P** **20 59 08.3 +1.7**
baz=58
A18A Metzger Ranch, 57.82 337 ⇑P **P** **20 59 08.0 +1.4**
baz=58,SNR=6.7
SCHQ Schefferville 58.14 8 *e*P **P** **20 59 08.3 -0.2**
SCHQ Schefferville 58.14 8 P **P** **20 59 08.0 -0.6**
5.8nm,0.8s,baz=186,slow=3.7,SNR=13
A17A Triple J Farms 58.18 336 ⇓P **P** **20 59 10.8 +1.7**
baz=58
B15A Bradely Ranch, 58.47 334 ⇑P **P** **20 59 12.6 +1.5**
baz=59,SNR=5.4
D12A Red Ives Fores 58.79 332 ⇓P **P** **20 59 15.1 +1.7**
baz=59
JTMT Jette 58.80 333 *e*P **P** **20 59 14.2 +0.6**
B14A Marquette Ranc 58.81 334 ⇓P **P** **20 59 15.4 +1.9**
baz=59,SNR=6.8
A15A Johnson Ranch, 59.05 335 ⇓P **P** **20 59 17.0 +1.8**
baz=59
A14A Double T Ranch 59.34 334 ⇑P **P** **20 59 19.2 +2.0**
baz=60
B13A Whitefish 59.35 333 ⇓P **P** **20 59 19.3 +2.1**
baz=60
WALA Waterton Lakes 59.62 334 *e*P **P** **20 59 20.3 +1.2**
0.3nm,0.8s
WALA *e*pP **pP** **20 59 41.6 -0.8**
A13A Flathead Natio 59.74 334 ⇑P **P** **20 59 22.2 +2.3**
baz=60
FFC Flin Flon 60.18 345 *e*P **P** **20 59 23.4 +0.7**
14nm,1.4s
NEW Newport 60.49 332 ⇓P **P** **20 59 26.9 +1.9**
baz=61
YKA Yellowknife Ar 70.26 343 P **P** **21 00 27.9 +0.3**
YKA pP **PcP** **21 00 48.9 +0.1**
YKA Yellowknife Ar 70.26 343 P **P** **21 00 27.9 +0.3**
1.7nm,0.7s,baz=141,slow=5.9,SNR=34
YKA pP **PcP** **21 00 48.8 +0.1**
1.5nm,0.8s,baz=134,slow=6.1,SNR=5.7
LIC Lamto 74.51 83 *e*P **P** **21 00 53.5 -0.5**
58nm,1.1s,baz=260
DBIC Dimbokro 74.72 82 *e*P **P** **21 00 54.8 -0.3**
32nm,1.0s
DBIC Dimbokro 74.72 82 P **P** **21 00 54.8 -0.3**
11nm,0.6s,baz=244,slow=5.6,SNR=19
MORF Marmelete 76.19 51 *e*P **P** **21 01 03.8 +0.7**
PNCL Nicolau / Gran 76.48 50 *e*P **P** **21 01 05.2 +0.5**
PBDV Barranco-do-Ve 76.73 51 *e*P **P** **21 01 06.3 +0.1**
39nm,1.6s
PCVE Castro Verde 76.74 51 *e*P **P** **21 01 06.9 +0.7**
35nm,1.4s
PTOM Tomar 76.94 48 *e*P **P** **21 01 08.2 +0.9**
47nm,1.6s
PMTG Mmargil 76.94 49 *e*P **P** **21 01 07.5 +0.2**
28nm,1.7s
EVO Evora 76.97 50 *e*P **P** **21 01 07.8 +0.3**
33nm,1.9s
EVO Evora 76.97 50 *e*P **P** **21 01 06.9 -0.6**
9.9nm,0.6s
PESTR Estremoz 77.38 49 *e*P **P** **21 01 10.2 +0.4**
42nm,1.4s
PVIS Viseu 77.60 47 *e*P **P** **21 01 10.9 -0.1**
37nm,1.8s
PCBR Castelo Branco 77.69 48 *e*P **P** **21 01 11.6 +0.1**
24nm,1.8s
MVO Moncorvo 78.34 47 *e*P **P** **21 01 15.5 +0.3**
52nm,1.7s
PBRG Braganca 78.71 47 *e*P **P** **21 01 17.4 +0.3**
44nm,1.9s
SUMG Summit 79.33 12 *e*P **P** **21 01 21.0 +0.7**
295nm,3.0s
SUMG Summit 79.33 12 *i* P **P** **21 01 20.8 +0.5**
7.4nm,1.0s
INK Inuvik 79.96 342 P **P** **21 01 24.1 +0.9**
INK Inuvik 79.96 342 P **P** **21 01 24.1 +0.9**
3.6nm,0.8s,baz=133,slow=5.6,SNR=11
PAB San Pablo 79.98 49 *e*P **P** **21 01 23.9 -0.2**
281nm,2.9s
ESDC Sonseca Array 80.30 49 P **P** **21 01 26.4 +0.6**
ESDC Sonseca Array 80.30 49 P **P** **21 01 26.4 +0.6**
5.7nm,0.8s,baz=262,slow=6.1,SNR=22
EGAK Eagle 80.79 337 *e*P **P** **21 01 28.9 +1.1**
196nm,3.0s
EGAK *e*pP **pP** **21 01 52.3 0.0**
TOA0 Torodi Ar. Sit 81.67 76 *e*P **P** **21 01 32.7 -0.8**
TORD Torodi Ar. Bea 81.67 76 P **P** **21 01 32.8 -0.8**
TORD Torodi Ar. Bea 81.67 76 P **P** **21 01 32.8 -0.8**
3.5nm,0.4s,baz=283,slow=5.8,SNR=123
ROSF Rostrenen 82.58 41 *e*P **P** **21 01 37.8 +0.2**
82nm,1.4s
SJPF Ste Jean 82.97 46 *e*P **P** **21 01 39.3 -0.4**
36nm,1.0s
ILAR Eielson Array 83.03 336 P **P** **21 01 40.1 +0.5**
ILAR pP **pP** **21 02 03.1 -1.0**
ILAR Eielson Array 83.03 336 P **P** **21 01 40.1 +0.5**
1.5nm,0.8s,baz=110,slow=3.5,SNR=17
ILAR pP **pP** **21 02 03.1 -1.0**
1.8nm,1.0s,baz=132,slow=2.8,SNR=5.6
EPF Esparros 84.09 46 *e*P **P** **21 01 44.9 -0.6**
GRR Gorron 84.17 41 *e*P **P** **21 01 43.5 -2.2**
25nm,1.0s
MFF Saint Martin d 84.33 43 *e*P **P** **21 01 46.5 -0.1**
26nm,0.9s
FLN La Foliniere 84.48 41 *e*P **P** **21 01 45.8 -1.5**
LFF La Frestale 84.67 45 *e*P **P** **21 01 48.1 -0.2**
8.9nm,0.6s
RJF Les Rejaudoux 85.27 44 *e*P **P** **21 01 50.0 -1.4**
19nm,1.1s
DAG Danmarks Havn 86.02 12 *i* P **P** **21 01 54.6 +0.2**
18nm,0.9s
TAM Tamanrasset 86.08 67 *e*P **P** **21 01 56.2 +0.2**
17nm,1.5s
TAM *e*pP **pP** **21 02 21.2 +0.4**
BGF Bois d'Agland 86.36 43 *e*P **P** **21 01 56.0 -0.7**
40nm,1.3s
BAIF Baives 87.70 40 *e*P **P** **21 02 02.4 -0.7**
30nm,1.2s
DAVOX Davos/Dischmat 91.21 43 LR LR 21 36 54.9
comp=Z,62nm,19.6s,baz=263,slow=31
HFS Hagfors 93.66 30 LR LR 21 41 50.1
comp=Z,53nm,18.5s,baz=63,slow=34
SPITS Spitsbergen Ar 93.67 12 LR LR 21 48 35.5
comp=Z,53nm,19.0s,baz=35,slow=38
VRAC Vranov 95.71 41 LR LR 21 40 57.2
comp=Z,38nm,19.0s,baz=64,slow=32
ZALV Zalesovo Beam 127.15 12 PKP **PKPdf** **21 08 18.9 +0.7**
ZALV pPKP **pPKPdf** **21 08 43.5 -0.7**
ZALV Zalesovo Beam 127.15 12 PKP **PKPdf** **21 08 18.9 +0.7**
1.0nm,0.5s,baz=271,slow=3.5,SNR=9.6
ZALV pPKP **pPKPdf** **21 08 43.5 -0.7**
1.2nm,0.5s,baz=327,slow=2.4,SNR=3.9
STKA Stephens Creek 128.33 225 pPKP pPKPdf 21 08 45.9 -1.3
2.4nm,0.7s,baz=141,slow=6.5,SNR=2.8
MDJ Mudanjiang 131.09 333 PKP **PKPdf** **21 08 26.9 +0.9**
MKAR Makanchi Array 133.12 17 PKP **PKPdf** **21 08 30.3 +0.5**
MKAR pPKP **pPKPdf** **21 08 54.9 -0.8**
MKAR Makanchi Array 133.12 17 PKP **PKPdf** **21 08 30.3 +0.5**
0.5nm,0.7s,baz=338,slow=2.1,SNR=12
MKAR pPKP **pPKPdf** **21 08 54.9 -0.8**
0.3nm,0.5s,baz=311,slow=2.0,SNR=3.0
CN2 Changchun 133.54 335 *e*PKP **PKPdf** **21 08 30.0 -0.6**
SONM Songino Array 134.69 355 PKP **PKPdf** **21 08 32.9 0.0**
SONM pPKP **pPKPdf** **21 08 57.8 -1.0**
SONM Songino Array 134.69 355 PKP **PKPdf** **21 08 32.9 0.0**
0.2nm,0.6s,baz=12,slow=0.6,SNR=3.6
SONM pPKP **pPKPdf** **21 08 57.8 -1.0**
0.7nm,0.8s,baz=16,slow=0.5,SNR=4.8
KSH Kashi 136.85 28 *e*PKP **PKPdf** **21 08 37.6 +0.5**
KSH sPKP 21 09 15.2
KSH PP **PP** **21 11 24.8 +4.7**
KSH PKS **PKSdf** **21 12 12.4 -1.1**
KSH SKS **SKSdf** **21 15 36.3 -3.6**
KSH SKKS **SKKSac** **21 18 04.1 -3.0**
KSH SS **SS** **21 29 17.8 +1.1**
WMQ Urumqi 137.33 14 *e*PKP **PKPdf** **21 08 36.2 -1.6**
KSRS Korea Array 137.33 328 PKP **PKPdf** **21 08 39.3 +1.4**
0.6nm,0.6s,baz=56,slow=1.8,SNR=3.8
KSRS pPKP **pPKPdf** **21 09 03.4 -0.4**
2.9nm,1.0s,baz=6.6,slow=1.4,SNR=4.9
KSAR Wonju Array Be 137.36 328 PKP **PKPdf** **21 08 39.3 +1.3**
KSAR pPKP **pPKPdf** **21 09 03.4 -0.5**
ASAR Alice Springs 138.57 229 PKP **PKPdf** **21 08 42.2 +1.6**
ASAR pPKP **pPKPdf** **21 09 05.7 -0.9**
ASAR Alice Springs 138.57 229 PKhKP PKPpre 21 08 32.8
0.4nm,0.4s,baz=126,slow=2.7,SNR=6.7
ASAR PKP **PKPdf** **21 08 42.2 +1.6**
1.5nm,1.0s,baz=119,slow=2.0,SNR=7.9
ASAR pPKP pPKPdf 21 09 05.7 -0.9
2.3nm,0.8s,baz=134,slow=2.0,SNR=7.7
WRA Warramunga Arr 140.22 234 PKPpre PKPpre 21 08 36.3
WRA PKP **PKiKP** **21 08 45.8 -0.4**
WRA Warramunga Arr 140.22 234 PKhKP PKPpre 21 08 36.3
0.7nm,0.5s,baz=126,slow=2.4,SNR=13
WRA PKP **PKiKP** **21 08 45.8 -0.4**
1.7nm,0.6s,baz=117,slow=2.1,SNR=16
HHC Hu-ho-hao-te 140.72 347 *e*PKP **PKPdf** **21 08 41.0 -3.2**
HHC sPKP 21 09 18.4
HHC PP **PP** **21 11 45.1 +1.6**
HHC PKS **PKSdf** **21 12 15.3 -4.9**
HHC SKS **SKSdf** **21 15 39.9 -6.3**
HHC SKKS **SKKSac** **21 18 24.6 -5.1**
HHC SS **SS** **21 30 00.3 -1.1**
HHC AMB AMB
comp=Z,76nm,7.6s
HHC LR LR
comp=N,160nm,20.6s
HHC LR LR
comp=E,170nm,19.8s
HHC LR LR
comp=Z,220nm,20.6s
LZH Lanzhou 146.57 356 *e*PKPbc **PKPab** **21 08 57.6 +0.3**
LZH pPKP **pPKPdf** **21 09 22.8 +2.2**
LZH sPKP 21 09 31.3
LZH PP PP 21 12 26.0 +7.5
LZH AMB AMB
comp=Z,210nm,5.6s
LZH LR LR
comp=N,350nm,18.8s
LZH LR LR
comp=E,400nm,19.3s
LZH LR LR
comp=Z,480nm,19.8s
FITZ Fitzroy Crossi 148.07 229 PKPbc **PKPbc** **21 09 01.2 +0.6**
FITZ Fitzroy Crossi 148.07 229 PKPbc **PKPbc** **21 09 01.2 +0.6**
comp=Z,5.2nm,0.6s,baz=136,slow=2.3,SNR=11
DANN Dangsing 149.65 31 *e*P **PKPbc** **21 09 05.8 +1.1**
comp=Z,49nm,0.9s
KOLN Koldanda 150.03 32 *e*P **PKPbc** **21 09 06.0 +0.4**
comp=Z,8.2nm,0.8s
GKN Gorkha 150.37 30 *e*P **PKPbc** **21 09 07.2 +0.9**
comp=Z,40nm,0.9s
KKN Kakani 150.87 29 *e*P **PKPbc** **21 09 08.5 +0.9**
comp=Z,23nm,0.9s
DMN Daman 150.93 30 *e*P **PKPbc** **21 09 08.7 +0.9**
comp=Z,36nm,1.2s
GUN Gumba 151.05 28 *e*P **PKPbc** **21 09 09.2 +1.0**
comp=Z,81nm,1.3s
PKI Pulchoki 151.11 29 *e*P **PKPbc** **21 09 08.1 -0.2**
comp=Z,32nm,1.1s
JIRN Jiri 151.41 28 *e*P **PKPbc** **21 09 09.2 +0.2**
comp=Z,2.2nm,0.6s
CD2 Chengdu 151.72 355 PKPbc **PKPdf** **21 09 02.1 -0.8**
RAMN Ramite 152.20 28 *e*P **PKPbc** **21 09 11.2 +0.5**
comp=Z,25nm,0.8s
TAPN Taplejung 152.36 26 *e*P **PKPbc** **21 09 11.8 +0.7**
comp=Z,7.2nm,0.6s
ODAN Odare 152.65 27 *e*P **PKPbc** **21 09 12.2 +0.5**
comp=Z,12nm,0.8s
GYA Guiyang 155.64 347 *e*PKP **PKPdf** **21 09 07.2 -1.5**
GYA pPKP **pPKPdf** **21 09 32.0 -2.7**
GYA PKS **PKSdf** **21 12 40.0 -3.0**
GYA PP **PP** **21 13 12.8 +2.3**
GYA AMB AMB
comp=Z,70nm,8.0s
KMI Kunming 157.54 356 PKP **PKPdf** **21 09 11.3 0.0**
CMAR Chiang Mai Arr 164.14 7 PKP **PKPdf** **21 09 18.2 -0.1**
CMAR pPKP **pPKPdf** **21 09 42.8 -1.6**
CMAR PKPab **PKPab** **21 10 11.7 -0.2**
CMAR Chiang Mai Arr 164.14 7 PKP **PKPdf** **21 09 18.2 -0.1**
comp=Z,0.5nm,0.7s,baz=319,slow=1.6,SNR=5.3
CMAR pPKP **pPKPdf** **21 09 42.8 -1.6**
comp=Z,1.6nm,0.9s,baz=292,slow=1.9,SNR=7.2
CMAR PKPab **PKPab** **21 10 11.7 -0.2**
comp=Z,1.9nm,1.0s,baz=332,slow=4.4,SNR=9.3

NIED ***08*** *21:09:00,29.˚20N×141.˚30E,h77km,Mw4.2 Best double couple: M₀2.27000×10¹⁵ NP1:φ₈322.00000°,δ71.00000°, λ95.00000°. NP2:φ₈127.00000°,δ19.00000°,λ76.00000°.*
IDC ***08*** *21:09:20.2₀0.7,29.˚17N×141.˚05E,h0km,mb3.8/9, mb1 4.1/10,mb1mx3.8/23,mbtmp3.8/10,ML4.1/1,MS3.0/3, Ms1 3.0/3,ms1mx2.6/40,Error ellipse: s-maj=30.0km s-min=16.2km az=76.0*
NEIC ***08*** *21:09:22.8₀3.5,29.˚17N×141.˚03E,h17km±22km,mb3.8/3, Error ellipse: s-maj=13.6km s-min=7.4km az=67.0*
ISC 08 21:09:25.6±1.1,29.˚21N±0.˚07×141.˚3E±0.˚2,h46km±15km, n44,σ1≈52/39,mb3.7/12,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
CBIJ	**Chichi jima**	**2.24**	**160**	Pn	**Pn**	**21 10 00.2**	**0.0**
CBIJ				Sn	**Sn**	**21 10 27.5**	**+0.9**
CBIJ	**Chichi jima**	**2.24**	**160**	P	**Pn**	**21 10 00.4**	**+0.2**
CBIJ				S	**Sn**	**21 10 27.1**	**+0.5**

CBIJ	**Chichi jima**	**2.24**	**160**	Pn		**Pn**	**21**	**10**	**00.2 0.0**
	48nm,0.3s,baz=323,slow=10,SNR=19								
CBIJ				Sn		**Sn**	**21**	**10**	**27.5 +0.9**
	91nm,0.3s,baz=285,slow=20,SNR=12								
JHHJ	**Haha-jima-NKT**	**2.68**	**163**	P		**Pn**	**21**	**10**	**06.7 +0.4**
JHHJ				S		**Sn**	**21**	**10**	**36.4 -1.1**
JHJ2	**Mitsune**	**4.10**	**342**	P		**Pn**	**21**	**10**	**26.4 +0.7**
JHJ2				S		**Sn**	**21**	**11**	**10.6 -1.8**
BSO1	**Boso 1**	**5.43**	**357**	P		**Pn**	**21**	**10**	**44.5 +0.9**
BSO3	**Boso 3**	**5.62**	**353**	P		**Pn**	**21**	**10**	**48.9 +2.6**
BSO4	**Boso 4**	**5.82**	**352**	P		**Pn**	**21**	**10**	**49.9 +0.6**
BSO4				S		**Sn**	**21**	**11**	**56.2 +1.5**
JHU	**Hanno**	**6.84**	**346**	P		**Pn**	**21**	**11**	**05.8 +2.4**
JAG	**Ashikaga**	**7.37**	**348**	P		**Pn**	**21**	**11**	**11.5 +0.9**
JAG				S		**Sn**	**21**	**12**	**31.1 -1.7**
JHO	**Hitachi**	**7.41**	**355**	P		**Pn**	**21**	**11**	**11.3 +0.2**
JHO				S		**Sn**	**21**	**12**	**29.5 -4.3**
MJAR	**Matsushiro Arr**	**7.77**	**341**	Pn		**Pn**	**21**	**11**	**19.1 +3.0**
MJAR	**Matsushiro Arr**	**7.77**	**341**	Pn		**Pn**	**21**	**11**	**19.1 +3.0**
	1.3nm,0.3s,baz=153,slow=8.8,SNR=17								
MAJO	**Matsushiro**	**7.77**	**341**	*e*Pn		Pn	21	11	14.3 -1.8
MAT	**Matsushiro**	**7.77**	**341**	P		Pn	21	11	20.6 +4.5
MAT				*e*S		**Sn**	**21**	**12**	**42.2 -0.5**
JNU	**Nakatsue**	**9.76**	**296**	*e*Pn		Pn	21	11	39.4 -4.1
JNU	**Nakatsue**	**9.76**	**296**	LR		LR	21	15	04.7
	comp=Z,65nm,18.6s,baz=56,slow=36								
KSRS	**Korea Array**	**13.89**	**310**	LR		LR	21	17	52.0
	comp=Z,28nm,19.4s,baz=65,slow=37								
CHTO	**Chiang Mai**	**39.89**	**265**	*e*P		**P**	**21**	**16**	**53.6 -1.6**
	1.1nm,0.7s								
ZALV	**Zalesovo Beam**	**47.41**	**318**	PcP		**PcP**	**21**	**19**	**26.1 +0.9**
ZALV	**Zalesovo Beam**	**47.41**	**318**	PcP		**PcP**	**21**	**19**	**26.1 +0.9**
	1.2nm,0.7s,baz=131,slow=2.8,SNR=5.8								
CTA	**Charters Tower**	**49.24**	**174**	LR		LR	21	37	34.1
	comp=Z,52nm,18.2s,baz=311,slow=34								
CTAO	**Charters Tower**	**49.24**	**174**	*e*P		P	21	18	10.4 +0.7
WRAB	**Tennant Creek**	**49.32**	**189**	*e*P		**P**	**21**	**18**	**10.1 -0.2**
	1.9nm,0.5s								
WRA	**Warramunga Arr**	**49.33**	**189**	P		**P**	**21**	**18**	**10.7 +0.3**
WRA				PcP		PcP	21	19	34.2 +1.7
WRA	**Warramunga Arr**	**49.33**	**189**	P		**P**	**21**	**18**	**10.7 +0.3**
	3.3nm,0.7s,baz=9.6,slow=8.1,SNR=34								
WRA				PcP		PcP	21	19	34.2 +1.7
	0.7nm,0.5s,baz=1.9,slow=3.9,SNR=8.7								
KURK	**Kurchatov**	**50.98**	**313**	P		**P**	**21**	**18**	**21.1 -1.5**
KURBB	**Kurchatov Arra**	**51.03**	**313**	P		**P**	**21**	**18**	**21.1 -1.9**
	0.2nm,0.3s,baz=91,slow=7.6,SNR=4.8								
ASAR	**Alice Springs**	**53.05**	**189**	P		**P**	**21**	**18**	**38.2 0.0**
ASAR				PcP		**PcP**	**21**	**19**	**47.5 +1.2**
ASAR	**Alice Springs**	**53.05**	**189**	P		**P**	**21**	**18**	**38.2 0.0**
	0.7nm,0.8s,baz=1.8,slow=5.4,SNR=6.5								
ASAR				PcP		**PcP**	**21**	**19**	**47.5 +1.2**
	0.8nm,0.9s,baz=48,slow=1.9,SNR=4.3								
BVAR	**Borovoye Array**	**55.99**	**316**	P		**P**	**21**	**18**	**59.9 +0.6**
BVAR				PcP		**PcP**	**21**	**19**	**58.3 +1.0**
BVAR	**Borovoye Array**	**55.99**	**316**	P		**P**	**21**	**18**	**59.9 +0.6**
	0.3nm,0.4s,baz=100,slow=5.7,SNR=5.4								
BVAR				PcP		**PcP**	**21**	**19**	**58.3 +1.0**
	0.6nm,0.6s,baz=80,slow=3.4,SNR=3.8								
BRVK	**Borovoye**	**56.05**	**317**	*e*P		**P**	**21**	**18**	**59.0 -0.7**
	0.3nm,0.4s								
ILAR	**Eielson Array**	**56.23**	**29**	P		P	21	19	04.2 +3.3
ILAR	**Eielson Array**	**56.23**	**29**	P		P	21	19	04.2 +3.3
	0.2nm,0.6s,baz=272,slow=7.0,SNR=3.2								
FINES	**FINESS Array B**	**75.72**	**333**	P		P	21	21	06.5 +0.5
FINES	**FINESS Array B**	**75.72**	**333**	P		P	21	21	06.5 +0.5
	5.3nm,1.1s,baz=64,slow=6.3,SNR=5.2								
NVAR	**Mina Array Bea**	**79.81**	**52**	P		P	21	21	31.3 +1.7
NVAR	**Mina Array Bea**	**79.81**	**52**	P		P	21	21	31.3 +1.7
	0.4nm,0.5s,baz=264,slow=7.5,SNR=4.3								
NB2	**NORSAR Subarra**	**81.37**	**338**	P		pP	21	21	55.8 +5.1
	comp=Z,0.1nm,0.6s,baz=50,slow=5.9								
BRTR	**Keskin Array B**	**84.02**	**312**	P		P	21	21	53.0 +1.4
BRTR	**Keskin Array B**	**84.02**	**312**	P		P	21	21	53.0 +1.4
	comp=Z,1.4nm,0.8s,baz=69,slow=4.5,SNR=7.3								
TXAR	**Lajitas Array**	**94.94**	**53**	P		P	21	22	44.4 +0.9
TXAR	**Lajitas Array**	**94.94**	**53**	P		P	21	22	44.4 +0.9
	comp=Z,0.3nm,0.7s,baz=299,slow=1.9,SNR=3.8								

*TAP **08** 21:14:18.7,24.°13N×121.°68E,h10km,ML3.6,B*
ISC 08 21:14:18.5±0.9,24.°12N±0.°02×121.°71E±0.°03,h12km±5km,
n57,σ0°80/94,14C-4D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.11**	**250**	⇑*i*P		**Pg**	**21 14 21.4**	**-0.1**
	baz=232							
TWD				*i* S		**Sg**	**21 14 23.2**	**-0.4**
	baz=232							
HWA	**Hwalien**	**0.17**	**215**	⇓P		**Pg**	**21 14 22.8**	**+0.5**
	baz=200							
HWA				*e*S		**Sg**	**21 14 25.9**	**+0.8**
	baz=200							
EHP	**Heping Village**	**0.19**	**8**	*e*P		**Pg**	**21 14 22.8**	**0.0**
	baz=20							
EHP				*e*S		**Sg**	**21 14 26.2**	**+0.5**
	baz=20							
ESF	**Shoufeng Towns**	**0.31**	**217**	*e*P		**Pg**	**21 14 24.3**	**-0.5**
	baz=220							
ESF				*e*S		**Sg**	**21 14 29.8**	**+0.9**
	baz=220							
ENA	**Nanau**	**0.31**	**5**	⇑*i*P		**Pg**	**21 14 25.0**	**+0.1**
	baz=12							
ENA				*i* S		**Sg**	**21 14 29.2**	**+0.1**
	baz=12							
ESL	**Shilin**	**0.40**	**220**	⇑P		**Pg**	**21 14 26.2**	**-0.2**
	baz=221							
ESL				*e*S		**Sg**	**21 14 31.8**	**+0.2**
	baz=221							
WHF	**Hehuan Shan**	**0.41**	**274**	⇑*i*P		**Pg**	**21 14 26.4**	**-0.4**
	baz=272							
WHF				*i* S		**Sg**	**21 14 31.5**	**-0.8**
	baz=272							
NNS	**Nan Shan**	**0.45**	**316**	⇑*i*P		**Pg**	**21 14 27.3**	**-0.1**
	baz=318							
NNS				*i* S		**Sg**	**21 14 33.0**	**-0.3**
	baz=318							
TWC	**Suao**	**0.51**	**14**	⇑P		**Pg**	**21 14 28.7**	**+0.2**
	baz=10.0							
TWC				S		**Sg**	**21 14 35.6**	**+0.4**
	baz=10.0							
TWT	**Tachien**	**0.51**	**286**	*i* P		**Pg**	**21 14 28.7**	**+0.2**
	baz=284							
TWT				*i* S		**Sg**	**21 14 35.6**	**+0.3**
	baz=284							
ENTT	**Nioudou**	**0.54**	**346**	⇑*i*P		**Pg**	**21 14 29.2**	**+0.1**
	baz=349							
ENTT				*e*S		**Sg**	**21 14 36.2**	**0.0**
	baz=349							
TWE	**Neicheng**	**0.60**	**356**	⇑*i*P		**Pg**	**21 14 30.6**	**+0.3**
TWE				*i* S		**Sg**	**21 14 38.5**	**+0.2**
NSK	**Sanguang**	**0.64**	**330**	P		**Pg**	**21 14 31.0**	**-0.1**
	baz=332							
NSK				S		**Sg**	**21 14 39.0**	**-0.6**
	baz=332							
ILA	**Ilan**	**0.65**	**3**	⇑P		**Pb**	**21 14 31.7**	**-0.1**
	baz=359							
ILA				S		**Sb**	**21 14 40.4**	**-0.3**
	baz=359							
EHY	**Hungye**	**0.70**	**210**	*e*P		**Pg**	**21 14 31.7**	**-0.5**
	baz=214							
SMLT	**Sun Moon Lake**	**0.78**	**253**	⇑P		**Pg**	**21 14 33.4**	**-0.2**
	baz=250							
SMLT				*e*S		**Sg**	**21 14 43.3**	**-0.5**
	baz=250							
TYC	**Yuchr**	**0.81**	**255**	⇑P		**Pg**	**21 14 33.7**	**-0.5**
	baz=253							
TYC				*e*S		**Sg**	**21 14 43.7**	**-1.0**
	baz=253							
NSTT	**Nanjuang**	**0.82**	**308**	P		**Pb**	**21 14 34.6**	**-0.2**
	baz=309							
NSTT				*e*S		**Sb**	**21 14 44.9**	**-1.0**
	baz=309							
TWF1	**Yuli**	**0.85**	**207**	*e*P		**Pg**	**21 14 33.6**	**-1.3**
	baz=215							
TWA	**Mucha**	**0.87**	**352**	⇑P		**Pb**	**21 14 35.5**	**0.0**
	baz=354							
TWA				*e*S		**Sg**	**21 14 45.8**	**-0.8**
	baz=354							
TWQ1	**Liyutan**	**0.89**	**285**	⇑P		**Pn**	**21 14 36.2**	**-0.7**
	baz=295							
TWQ1				*e*S		**Sn**	**21 14 49.6**	**-0.1**
	baz=295							
NSY	**Sanyi**	**0.92**	**289**	*e*P		**Pn**	**21 14 37.0**	**-0.3**
	baz=289							
NSY				*e*S		**Sn**	**21 14 50.0**	**-0.4**
	baz=289							
TWB1	**Santiao Chiao**	**0.92**	**16**	*e*P		**Pg**	**21 14 36.2**	**-0.1**
	baz=10.0							
TWB1				*e*S		**Sg**	**21 14 48.0**	**-0.4**
	baz=10.0							
TAP1	**Taipei**	**0.93**	**349**	*e*P		**Pn**	**21 14 37.5**	**+0.1**
	baz=342							
TAP1				S		**Sb**	**21 14 49.2**	**+0.2**
	baz=342							
TCU	**Taichung**	**0.95**	**272**	⇓*i*P		**Pn**	**21 14 38.2**	**+0.6**
	baz=262							
TCU				*e*S		**Sn**	**21 14 51.2**	**+0.1**
	baz=262							
NWF	**Wu-fen Shan**	**0.95**	**4**	P		**Pb**	**21 14 37.4**	**+0.3**
	baz=355							
NWF				S		**Sg**	**21 14 49.2**	**-0.2**
	baz=355							
HSN	**Hsinchu**	**0.96**	**315**	*e*P		**Pn**	**21 14 38.1**	**+0.3**
	baz=318							
HSN				*e*S		**Sn**	**21 14 51.6**	**+0.2**
	baz=318							
WNT	**Mingjian**	**0.97**	**256**	*e*P		**Pn**	**21 14 37.8**	**-0.2**
	baz=249							
WNT				*e*S		**Sn**	**21 14 51.7**	**+0.1**
	baz=249							
NCU	**National Centr**	**0.97**	**331**	*e*P		**Pn**	**21 14 38.3**	**+0.2**
	baz=332							
NCU				*e*S		**Sn**	**21 14 52.3**	**+0.5**
	baz=332							
TWS1	**Kuangyinshan**	**1.01**	**345**	*e*P		**Pn**	**21 14 38.8**	**+0.2**
	baz=346							
TWS1				*e*S		**Sn**	**21 14 53.2**	**+0.4**
	baz=346							
ALS	**Alishan**	**1.03**	**234**	⇓P		**Pg**	**21 14 38.4**	**0.0**
	baz=233							
CHKT	**Chengkung**	**1.06**	**197**	*e*P		**Pb**	**21 14 37.4**	**-1.5**
	baz=182							
CHN5	**Tsauling**	**1.08**	**241**	⇑P		**Pn**	**21 14 39.8**	**+0.2**
	baz=240							
CHN5				S		**Sn**	**21 14 55.0**	**+0.5**
	baz=240							
ELDTW	**Lidau**	**1.12**	**215**	*e*P		**Pb**	**21 14 38.6**	**-1.4**
	baz=213							
WGK	**Gukeng**	**1.14**	**248**	*e*P		**Pn**	**21 14 40.6**	**+0.4**
	baz=247							
TWY	**Chenhua**	**1.16**	**355**	*e*P		**Pn**	**21 14 41.6**	**+1.1**
	baz=343							
YOJ	**Yonaguni jima**	**1.23**	**74**	*e*P		**Pn**	**21 14 41.9**	**+0.2**
	baz=70							
CHN2	**Minshiung**	**1.27**	**243**	*e*P		**Pg**	**21 14 43.0**	**0.0**
	baz=243							
CHN4	**Tsaushan**	**1.28**	**234**	*e*P		**Pg**	**21 14 43.8**	**+0.7**
	baz=220							
CHN4				*e*S		**Sg**	**21 15 02.4**	**+2.7**
	baz=220							
STYT	**Tauyuan**	**1.29**	**223**	*e*P		**Pn**	**21 14 42.2**	**-0.3**
	baz=221							
STYT				*e*S		**Sg**	**21 15 00.8**	**+0.7**
	baz=221							
WTP	**Ta-pu**	**1.33**	**229**	*e*P		**Pb**	**21 14 43.5**	**0.0**
	baz=216							
CHY	**Chiayi**	**1.33**	**243**	*e*P		**Pg**	**21 14 45.2**	**+1.1**
	baz=242							
TWK	**Hsinying**	**1.41**	**233**	*e*P		**Pb**	**21 14 45.0**	**+0.2**
	baz=233							
TWK				*e*S		**Sg**	**21 15 06.4**	**+2.6**
	baz=233							
TWG	**Pinlang**	**1.42**	**205**	*e*P		**Pn**	**21 14 43.2**	**-1.0**
	baz=204							
CHN1	**Nanshi**	**1.43**	**230**	⇓P		**Pg**	**21 14 45.5**	**-0.4**
	baz=218							
WSF	**Szhu**	**1.44**	**251**	*e*P		**Pb**	**21 14 44.9**	**-0.5**
	baz=251							
WSF				*e*S		**Sg**	**21 15 06.8**	**+1.7**
	baz=251							
SGST	**Jiashian**	**1.46**	**225**	*e*P		**Pb**	**21 14 45.7**	**0.0**
	baz=217							
SGST				*e*S		**Sg**	**21 15 07.9**	**+2.3**
	baz=217							
CHN8	**Yiju**	**1.57**	**241**	*e*P		**Pb**	**21 14 47.5**	**-0.1**
	baz=241							
CHN8				*e*S		**Sg**	**21 15 09.5**	**+0.3**
	baz=241							
CHN3	**Shinhua**	**1.61**	**230**	*e*P		**Pg**	**21 14 50.4**	**+0.9**
	baz=231							
ECL	**Taimali**	**1.67**	**205**	*e*P		**Pn**	**21 14 46.9**	**-0.7**
	baz=191							
SSD	**Sandimen**	**1.69**	**216**	*e*P		**Pb**	**21 14 49.2**	**-0.3**
	baz=216							
SSD				*e*S		**Sg**	**21 15 12.1**	**-0.7**
	baz=216							
TWM1	**Shoushan**	**1.75**	**223**	*e*P		**Pn**	**21 14 49.5**	**+0.8**
	baz=223							
EAST	**Anshuo**	**1.90**	**205**	*e*P		**Pn**	**21 14 51.6**	**+0.8**
	baz=193							
SCZT	**Fangliau**	**2.01**	**210**	*e*P		**Pn**	**21 14 53.6**	**+1.4**
	baz=203							
PNG	**Penghu**	**2.05**	**255**	*e*P		**Pb**	**21 14 54.8**	**-0.9**
	baz=256							
QZH	**Quanzhou**	**2.96**	**287**	Pn		**Pn**	**21 15 05.7**	**+0.4**
QZH				Sn		**Sn**	**21 15 38.6**	**-2.2**
QZH				smax		smax		
	comp=N,110nm,0.3s							
QZH				smax		smax		
	comp=E,70nm,0.6s							
KNM	**Kinmen**	**3.01**	**276**	*e*P		**Pn**	**21 15 07.6**	**+1.7**
	baz=276							

*IDC **08** 21:23:06.2±0.6,6.°59S×81.°22W,h0km,mb4.5/18,*
mb1 4.6/20,mb1mx4.6/23,mbtmp4.5/20,ML4.0/2,MS4.3/23,
Ms1 4.3/23,ms1mx4.2/35,Error ellipse: s-maj=22.0km
s-min=12.1km az=55.0
*ISCJB **08** 21:23:10.6±0.3,6.°60S±0.°05×81.°08W±0.°04,h34km,*
mb5.0/110,MS4.4/27,Error ellipse: s-maj=9.2km
s-min=3.8km az=38.1
*MOS **08** 21:23:10.9±1.4,6.°60S×81.°04W,h35km,mb5.2/25,Error*
ellipse: s-maj=17.3km s-min=7.3km az=113.1
*BJI **08** 21:23:14.9,6.°60S×80.°70W,h44km,mB5.4/13,Ms5.5/14,*
Ms7 5.1/15
*NEIC **08** 21:23:17.2±1.1,6.°76S×80.°89W,h76km±10km,mb5.1/75,*
Error ellipse: s-maj=12.2km s-min=5.8km az=54.0
NEIC Felt [II] at Chiclayo and Morrope. Also felt at Cajamarca,
Paita, Pimentel, Piura, Sechura and Tumbes. Felt at
Machala, Ecuador.
ISC 08 21:23:12.1±0.3,6.°73S±0.°06×81.°02W±0.°06,h34km,n339,
σ1°60/332,mb5.1/110,MS4.3/27,63C-36D,Near coast of
northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.64**	**99**	Pn		**Pn**	**21 23 55.5**	**+2.8**
ATAH				Sn		**Sb**	**21 24 29.5**	**-1.7**
ATAH	**Atahualpa**	**2.64**	**99**	Pn		**Pn**	**21 23 55.5**	**+2.8**
	16nm,0.3s,baz=278,slow=5.5,SNR=69							
ATAH				Sn		**Sb**	**21 24 29.5**	**-1.7**
	65nm,0.3s,baz=321,slow=20,SNR=6.1							
NNA	**Nana**	**6.66**	**142**	*e*Pn		**Pn**	**21 24 49.5**	**+1.8**
NNA	**Nana**	**6.66**	**142**	Pn		**Pn**	**21 24 48.6**	**+0.9**
	3.7nm,0.3s,baz=320,slow=11,SNR=10							
NNA				Sn		**Sn**	**21 26 02.4**	**-0.1**
	10.0nm,0.3s,baz=202,slow=23,SNR=5.6							
NNA				LR		LR	21 27 21.4	
	comp=Z,2µm,20.9s,baz=311,slow=37							
OTAV	**Otavalo**	**7.38**	**20**	*e*Pn		Pn	21 24 55.2	-2.7
PAYG	**Puerto Ayora**	**11.03**	**303**	*e*Pn		Pn	21 25 44.0	-3.6
	119nm,0.6s							
LPAZ	**La Paz**	**15.80**	**128**	*e*Pn		**P**	**21 26 55.1**	**-1.2**
	225nm,1.1s							
JTS	**JuntasAbangare**	**17.35**	**347**	LR		LR	21 32 38.8	
	comp=Z,990nm,18.3s,baz=350,slow=33							
SAML	**Samuel**	**17.81**	**98**	*e*Pn		**Pn**	**21 27 16.5**	**-1.0**
	66nm,1.1s							
SAML				*e*Sn		**Sn**	**21 30 33.3**	**-1.8**
SDV	**Santo Domingo**	**18.65**	**34**	*e*P		**P**	**21 27 25.4**	**-2.0**
	14nm,0.8s							
LVC	**Limon Verde**	**19.64**	**145**	*e*Pn		**Pn**	**21 27 41.5**	**+1.6**
	5.3nm,1.2s							
TGUH	**Tegucigalpa,Un**	**21.56**	**343**	*e*P		P	21 28 05.6	+6.8
	947nm,2.6s							
SIV	**San Ignacio**	**21.60**	**117**	P		**P**	**21 28 01.3**	**+1.9**
SIV	**San Ignacio**	**21.60**	**117**	P		**P**	**21 28 01.3**	**+1.9**
	48nm,0.9s,baz=303,slow=9.8,SNR=131							
SIV				LR		LR	21 38 23.1	
	comp=Z,2µm,18.3s,slow=42							
CMIG	**Matias Romero**	**27.35**	**330**	LR		LR	21 36 55.1	
	comp=Z,424nm,21.3s,baz=277,slow=31							
CFAA	**Coronel Fontan**	**27.49**	**156**	P		**P**	**21 28 56.2**	**+0.7**
CFAA	**Coronel Fontan**	**27.49**	**156**	P		**P**	**21 28 56.2**	**+0.7**
	0.8nm,0.9s,baz=337,slow=8.8,SNR=9.2							
CFAA				LR		LR	21 38 51.4	
	comp=Z,150nm,18.2s,baz=196,slow=34							
TEIG	**Tepich**	**27.72**	**345**	LR		LR	21 38 53.3	
	comp=Z,724nm,19.4s,baz=164,slow=34							
CELP	**Cerrillos**	**28.47**	**30**	*e*P		**P**	**21 29 05.7**	**+1.4**
LRS	**Lares**	**28.52**	**29**	*e*P		**P**	**21 29 05.3**	**+0.6**
AOPR	**Arecibo Observ**	**28.61**	**29**	*e*P		P	21 29 10.2	+4.6
	53nm,0.9s							
SJG	**San Juan**	**28.71**	**31**	*e*P		**P**	**21 29 06.0**	**-0.4**
	97nm,1.2s							
SJG	**San Juan**	**28.71**	**31**	P		**P**	**21 29 06.2**	**-0.2**
	46nm,0.9s,baz=271,slow=3.1,SNR=10.0							
BDFB	**Brasilia**	**33.53**	**108**	P		**P**	**21 29 50.5**	**+1.4**
BDFB	**Brasilia**	**33.53**	**108**	P		**P**	**21 29 50.5**	**+1.4**
	10.0nm,0.9s,baz=274,slow=12,SNR=14							
BDFB				LR		LR	21 44 25.3	
	comp=Z,1µm,19.1s,baz=97,slow=38							
RPN	**Rapa Nui**	**33.69**	**230**	LR		LR	21 39 18.1	
	comp=Z,627nm,21.0s,baz=295,slow=29							
PLCA	**Paso Flores**	**35.13**	**166**	*e*P		**P**	**21 30 04.2**	**+1.6**
PLCA	**Paso Flores**	**35.13**	**166**	P		**P**	**21 30 03.7**	**+1.0**
	4.7nm,0.8s,baz=336,slow=12,SNR=4.9							
PLCA				LR		LR	21 42 25.1	
	comp=Z,475nm,19.6s,baz=187,slow=33							
TRQA	**Tornquist**	**35.65**	**154**	*e*P		**P**	**21 30 07.3**	**+0.2**
	12nm,0.9s							
SPB	**Sao Paulo**	**36.36**	**121**	*e*P		**P**	**21 30 13.2**	**-0.1**
	47nm,0.9s							
HKT	**Hockley**	**39.14**	**339**	*e*P		**P**	**21 30 38.7**	**+2.1**
HKT				pmax		pmax		
	comp=Z,61nm,1.3s							
HKT	**Hockley**	**39.14**	**339**	*e*P		**P**	**21 30 38.7**	**+2.1**
	comp=Z,61nm,1.3s							
NHSC	**New Hope**	**39.62**	**1**	*e*P		**P**	**21 30 43.2**	**+2.7**
	comp=Z,76nm,1.1s							
LRAL	**Lakeview Retre**	**39.95**	**352**	*e*P		**P**	**21 30 42.9**	**-0.4**
	comp=Z,16nm,1.2s							
GOGA	**Godfrey**	**39.98**	**357**	*e*P		**P**	**21 30 41.7**	**-1.9**
GOGA				pmax		pmax		
	comp=Z,29nm,1.3s							
GOGA	**Godfrey**	**39.98**	**357**	*e*P		**P**	**21 30 41.6**	**-1.9**
	comp=Z,29nm,1.3s							
NATX	**Nacogdoches**	**40.42**	**342**	*e*P		P	21 30 54.5	+7.2
	comp=Z,92nm,1.0s							
JCT	**Junction City**	**41.14**	**335**	*e*P		**P**	**21 30 55.6**	**+2.3**
JCT				pmax		pmax		
	comp=Z,25nm,1.0s							
JCT	**Junction City**	**41.14**	**335**	*e*P		**P**	**21 30 55.6**	**+2.3**
	comp=Z,24nm,1.0s							
628A	**Black Gap, Mar**	**41.70**	**331**	⇑P		**P**	**21 30 56.6**	**-1.3**
	baz=42,SNR=5.4							
TXAR	**Lajitas Array**	**41.95**	**330**	P		**P**	**21 30 57.8**	**-2.3**
TXAR	**Lajitas Array**	**41.95**	**330**	P		**P**	**21 30 57.8**	**-2.3**
	comp=Z,1.8nm,1.1s,baz=182,slow=8.1,SNR=8.2							
TXAR				LR		LR	21 46 11.5	
	comp=Z,281nm,18.9s,baz=95,slow=33							
PLAL	**Pickwick Lake**	**42.01**	**351**	*e*P		**P**	**21 31 02.1**	**+1.8**
	comp=Z,26nm,1.5s							
CPCT	**Cooper Cave**	**42.08**	**356**	*e*P		**P**	**21 30 58.6**	**-2.3**
TKL	**Tuckaleechee C**	**42.24**	**357**	*e*P		**P**	**21 31 00.0**	**-2.1**
TKL	**Tuckaleechee C**	**42.24**	**357**	P		**P**	**21 30 59.6**	**-2.5**
	comp=Z,7.9nm,0.9s,baz=165,slow=8.9,SNR=6.2							
TKL				LR		LR	21 48 11.2	
	comp=Z,645nm,19.4s,baz=265,slow=36							
626A	**Big Bend Ranch**	**42.37**	**329**	⇓P		**P**	**21 31 01.5**	**-1.9**
	baz=43,SNR=6.0							
527A	**Woodward Ranch**	**42.59**	**331**	⇓P		**P**	**21 31 03.3**	**-2.0**
	baz=43							
428A	**Kincaid Ranch,**	**42.63**	**332**	⇑P		**P**	**21 31 03.8**	**-1.8**
	baz=43							
MIAR	**Mount Ida**	**42.73**	**345**	*e*P		**P**	**21 31 04.3**	**-1.8**
MIAR				pmax		pmax		
	comp=Z,25nm,0.9s							
MIAR	**Mount Ida**	**42.73**	**345**	*e*P		**P**	**21 31 04.3**	**-1.8**
	comp=Z,26nm,0.9s							
526A	**Mary Lane Ranc**	**42.76**	**330**	⇑P		**P**	**21 31 05.0**	**-1.7**
	baz=43							
TZTN	**Tazewell**	**43.10**	**357**	*e*P		**P**	**21 31 11.5**	**+2.3**
	comp=Z,27nm,1.1s							
426A	**McDonald Obser**	**43.23**	**331**	⇑P		**P**	**21 31 08.8**	**-1.8**
	baz=44							
328A	**Wristen Ranch,**	**43.24**	**332**	⇑P		**P**	**21 31 09.2**	**-1.3**
	baz=44							
326A	**Caldwell Ranch**	**43.73**	**331**	⇑P		**P**	**21 31 13.0**	**-1.5**
	baz=44							
425A	**Indio Mountain**	**43.80**	**330**	⇓P		**P**	**21 31 12.7**	**-2.4**
	baz=44							
Z29A	**Hungry Hill Ra**	**44.35**	**335**	⇑P		**P**	**21 31 17.6**	**-1.7**
	baz=45,SNR=5.5							
226A	**Malaga, Loving**	**44.41**	**332**	⇓P		**P

W26A **Owens Ranch, T** 46.80 334 ⇑P P 21 31 37.8 -0.9
baz=47,SNR=5.8
Y23A **Lovelace Mesa,** 46.88 331 ⇓P P 21 31 38.8 -0.7
baz=47,SNR=7.0
120A **U Bar Ranch, L** 47.08 328 ⇓P P 21 31 40.2 -0.8
baz=47,SNR=5.4
W25A **X Bar L Ranch,** 47.21 334 ⇓P P 21 31 41.8 -0.2
baz=48,SNR=5.7
SSPA **Standing Stone** 47.21 3 *e*P P 21 31 48.1 +6.4
comp=Z,46nm,1.5s
Y22A **Socorro** 47.32 330 ⇑P P 21 31 42.3 -0.6
baz=48,SNR=6.2
BNM **Barren Site** 47.33 331 *e*P P 21 31 44.9 +1.8
comp=Z,16nm,1.3s
X23A **Hourglass Bar** 47.47 332 ⇓P P 21 31 43.3 -0.8
baz=48,SNR=5.9
Z20A **Nine Sixteen R** 47.49 328 ⇓P P 21 31 43.5 -0.8
baz=48
HDIL **Hopedale** 47.66 351 *e*P P 21 31 46.8 +1.6
comp=Z,27nm,0.8s
Y21A **Point of Rocks** 47.73 330 ⇓P P 21 31 45.5 -0.7
baz=48,SNR=6.9
V25A **Rancho No Teng** 47.80 334 ⇑P P 21 31 45.5 -1.1
baz=48,SNR=20
X22A **Bernardo** 47.80 331 ⇓P P 21 31 44.7 -1.9
baz=48
KSU1 **Kansas State U** 47.83 344 *e*P P 21 31 44.7 -1.9
comp=Z,41nm,0.8s
T28A **Walsh** 47.87 337 ⇑P P 21 31 46.2 -0.9
baz=48,SNR=5.3
ANMO **Albuquerque** 47.90 332 *e*P P 21 31 46.5 -1.0
comp=Z,29nm,1.2s
ANMO **Albuquerque** 47.90 332 P P 21 31 46.4 -1.0
comp=Z,13nm,1.3s,baz=142,slow=10.0,SNR=8.3
W23A **Werner Place,** 47.93 332 ⇓P P 21 31 46.8 -0.9
baz=48,SNR=5.1
V24A **Rampart Ranch,** 47.99 333 ⇓P P 21 31 47.1 -1.1
baz=48,SNR=5.4
Y20A **Horse Springs,** 48.01 329 ⇓P P 21 31 47.2 -1.1
baz=48,SNR=6.0
T27A **Campo** 48.06 337 ⇑P P 21 31 47.1 -1.4
baz=48,SNR=5.3
TUC **Tucson** 48.07 326 *e*P P 21 31 51.9 +3.2
TUC pmax pmax
comp=Z,8.0nm,0.9s
TUC **Tucson** 48.07 326 *e*P P 21 31 51.9 +3.2
comp=Z,7.9nm,0.9s
X21A **Alamocita Cree** 48.13 330 ⇑P P 21 31 48.3 -1.0
baz=48,SNR=12
ALLY **Alegheny Colle** 48.15 1 *e*P P 21 31 53.7 +4.7
comp=Z,54nm,1.5s
U25A **Circle Dot Ran** 48.18 335 ⇑P P 21 31 48.4 -1.2
baz=48,SNR=6.3
Y19A **Nutrioso** 48.50 328 ⇑P P 21 31 51.8 -0.3
baz=49
T26A **Comanche Natio** 48.51 336 ⇓P P 21 31 52.2 +0.2
baz=49
CBKS **Cedar Bluff** 48.53 340 *e*P P 21 31 54.1 +2.1
CBKS pmax pmax
comp=Z,45nm,1.1s
CBKS **Cedar Bluff** 48.53 340 *e*P P 21 31 54.1 +2.1
comp=Z,45nm,1.1s
X20A **Quemado** 48.57 329 ⇓P P 21 31 52.2 -0.4
baz=49
S27A **Las Animas** 48.67 337 ⇓P P 21 31 53.4 +0.2
baz=49
T25A **Trinidad** 48.81 335 ⇑P P 21 31 54.9 +0.4
baz=49,SNR=16
S26A **Kim** 48.84 336 ⇑P P 21 31 54.4 -0.2
baz=49,SNR=14
AAM **Ann Arbor** 48.85 357 *e*P P 21 32 00.2 +5.9
AAM pmax pmax
comp=Z,78nm,1.4s
AAM **Ann Arbor** 48.85 357 *e*P P 21 32 00.2 +5.9
comp=Z,78nm,1.4s
V22A **San Miguel Ran** 48.90 332 ⇓P P 21 31 54.0 -1.1
baz=49,SNR=7.3
BINY **Binghamton** 48.91 5 *e*P P 21 31 52.9 -1.9
comp=Z,443nm,2.9s
R27A **Eads** 49.15 337 ⇑P P 21 31 56.8 -0.1
baz=49,SNR=16
S25A **Robets Cordova** 49.27 335 ⇑P P 21 31 56.9 -1.0
baz=50,SNR=6.0
R26A **Arlington** 49.42 337 ⇑P P 21 31 58.4 -0.6
baz=50,SNR=27
T23A **Casias Ranch,** 49.43 334 ⇑P P 21 31 58.1 -1.1
baz=50,SNR=5.3
V20A **Brimhall** 49.55 331 ⇑P P 21 31 60.0 -0.1
baz=50
S24A **Houchin Ranch,** 49.58 335 ⇑P P 21 31 59.7 -0.7
baz=50
114A **Black Gap (USA** 49.59 324 ⇑P P 21 31 59.5 -0.7
baz=50
X17A **Forest Lakes** 49.61 327 ⇑P P 21 32 00.2 -0.5
baz=50
SCIA **State Center** 49.66 348 *e*P P 21 32 01.3 +0.7
comp=Z,7.6nm,0.3s
TRY **Troy** 49.67 7 *e*P P 21 32 07.3 +6.6
SDCO **Great Sand Dun** 49.79 335 *e*P P 21 32 02.6 +0.6
comp=Z,21nm,1.3s
SDCO **Great Sand Sun** 49.79 335 ⇑P P 21 32 01.1 -0.9
baz=50,SNR=14
Q26A **Hugo** 49.98 337 ⇑P P 21 32 03.7 +0.4
baz=50,SNR=5.3
X16A **Lo Mia Camp, P** 50.01 327 ⇑P P 21 32 02.6 -1.1
baz=50,SNR=5.9
S22A **4UR Ranch, Cre** 50.37 333 ⇓P P 21 32 05.3 -1.1
baz=51,SNR=5.3
Y14A **Wickenburg** 50.53 325 ⇓P P 21 32 05.5 -1.9
baz=51,SNR=5.2
T19A **Beclabito** 50.64 331 ⇓P P 21 32 07.1 -1.3
baz=51,SNR=5.4
MVCO **Mesa Verde** 50.70 332 *e*P P 21 32 10.3 +1.5
comp=Z,141nm,2.4s
U18A **Rough Rock, Ch** 50.73 330 ⇑P P 21 32 08.5 -0.6
baz=51
WUAZ **Wupatki** 50.81 328 *e*P P 21 32 12.1 +2.5
comp=Z,33nm,1.1s
WUAZ **Wupatki** 50.81 328 ⇓P P 21 32 08.0 -1.6
baz=51,SNR=6.0
S20A **Disappointment** 51.13 332 ⇑P P 21 32 11.6 -0.5
baz=51,SNR=5.6
U17A **Shonto** 51.27 329 ⇑P P 21 32 12.3 -0.8
baz=52,SNR=5.6
SADO **Sadowa** 51.28 2 LR LR 21 52 23.9
comp=Z,281nm,19.2s,baz=210,slow=34
T18A **Mexican Hat** 51.30 330 ⇑P P 21 32 11.9 -1.3
baz=52,SNR=7.1
P23A **Jefferson** 51.30 335 ⇑P P 21 32 12.2 -1.3
baz=52,SNR=20
Q22A **Crested Butte,** 51.33 334 ⇑P P 21 32 12.8 -0.8
baz=52,SNR=6.9
S19A **Harvey Farm, M** 51.43 331 ⇓P P 21 32 13.1 -1.2
baz=52,SNR=7.4
R20A **Redvale** 51.43 332 ⇓P P 21 32 14.1 -0.2
baz=52,SNR=6.9
ISCO **Idaho Springs** 51.57 336 *e*P P 21 32 16.6 +1.2
ISCO pmax pmax
comp=Z,18nm,1.4s
ISCO **Idaho Springs** 51.57 336 *e*P P 21 32 16.6 +1.2
comp=Z,18nm,1.4s
ISCO **Idaho Springs** 51.57 336 ⇑P P 21 32 14.5 -0.9
baz=52
SMCO **Snowmass** 51.62 334 *e*P P 21 32 18.0 +2.2
comp=Z,22nm,1.4s
O24A **Longmont** 51.63 337 ⇑P P 21 32 14.6 -1.0
baz=52
T17A **Navajo Res., N** 51.65 330 ⇓P P 21 32 14.9 -1.1
baz=52,SNR=7.2
S18A **Hurst Farm, Bl** 51.80 331 ⇑P P 21 32 16.6 -0.5
baz=52,SNR=7.5
W13A **Hualapai Mount** 51.87 326 ⇑P P 21 32 16.0 -1.6
baz=52,SNR=7.1
R19A **Curley Farm, L** 51.92 332 ⇑P P 21 32 16.4 -1.6
baz=52,SNR=6.8
U15A **North Rim** 51.98 328 ⇑P P 21 32 18.0 -0.5
baz=52,SNR=5.8
P21A **Newcastle** 52.11 334 ⇑P P 21 32 18.7 -0.6
baz=52,SNR=12
ECSD **EROS Data Cent** 52.17 346 *e*P P 21 32 17.0 -2.5
comp=Z,20nm,1.3s
GMRC **Granite Mounta** 52.66 324 ⇑P P 21 32 20.9 -2.5
baz=53
Q18A **Rafter H Ranch** 52.98 332 ⇑P P 21 32 23.8 -1.8
baz=53,SNR=5.7
SRU **San Rafael** 53.17 331 *e*P P 21 32 26.7 -0.4
SRU pmax pmax
comp=Z,32nm,1.4s
SRU **San Rafael** 53.17 331 *e*P P 21 32 26.7 -0.4
comp=Z,32nm,1.4s
SRU **San Rafael** 53.17 331 ⇑P P 21 32 25.9 -1.2
baz=53,SNR=5.6
CCUT **Cedar City** 53.39 328 *e*P P 21 32 28.4 -0.4
comp=Z,19nm,1.1s
MSU **Marysvale** 53.51 330 *e*P P 21 32 35.1 +5.4
MSU **Marysvale** 53.51 330 *e*P P 21 32 35.1 +5.4
MVU **Marysvale** 53.52 330 *e*P P 21 32 31.2 +1.4
comp=Z,14nm,1.1s
GSC **Goldstone** 53.69 324 *e*P P 21 32 36.9 +5.9
GSC pmax pmax
comp=Z,16nm,1.1s
GSC **Goldstone** 53.69 324 *e*P P 21 32 36.9 +5.9
comp=Z,16nm,1.1s
MWC **Mount Wilson** 53.72 322 *e*P P 21 32 37.5 +6.2
MWC pmax pmax
comp=Z,20nm,1.2s
MWC **Mount Wilson** 53.72 322 *e*P P 21 32 37.5 +6.2
comp=Z,20nm,1.2s
MPU **Maple Canyon** 54.41 331 *e*P P 21 32 42.0 +5.7
comp=Z,13nm,1.2s
DAU **Daniels Canyon** 54.54 332 *e*P P 21 32 39.2 +1.9
DAU **Daniels Canyon** 54.54 332 *e*P P 21 32 39.2 +1.9
JLU **Jordanelle** 54.78 332 *e*P P 21 32 40.6 +1.6
comp=Z,17nm,1.0s
ISA **Isabella** 54.93 323 *e*P P 21 32 41.3 +1.3
ISA pmax pmax
comp=Z,14nm,1.4s
ISA **Isabella** 54.93 323 *e*P P 21 32 41.3 +1.3
comp=Z,14nm,1.4s
DUG **Dugway** 55.12 331 *e*P P 21 32 40.5 -0.8
DUG **Dugway** 55.12 331 *e*P P 21 32 40.5 -0.8
DUG **Dugway** 55.12 331 ⇓P P 21 32 40.8 -0.5
baz=55,SNR=6.0
R11A **Troy Canyon, C** 55.17 327 ⇑P P 21 32 41.1 -0.6
baz=55,SNR=6.2
PDAR **Pinedale Array** 55.68 335 LR LR 21 55 50.2
comp=Z,163nm,18.8s,baz=341,slow=35
MTUM **Tungsten Hills** 56.13 324 *e*P P 21 32 51.0 +2.2
AGMN **Agassiz Nation** 56.32 348 *e*P P 21 32 47.5 -2.1
comp=Z,23nm,1.2s
HVU **Hansel Valley** 56.33 332 *e*P P 21 32 55.9 +5.9
HVU pmax pmax
comp=Z,71nm,2.3s
HVU **Hansel Valley** 56.33 332 *e*P P 21 32 55.9 +5.9
comp=Z,71nm,2.3s
REDW **Red Top Meadow** 56.72 334 *e*P P 21 32 55.2 +2.5
comp=Z,45nm,1.5s
NVAR **Mina Array Bea** 56.73 325 P P 21 32 52.2 -0.7
NVAR **Mina Array Bea** 56.73 325 P P 21 32 52.2 -0.7
comp=Z,6.5nm,1.0s,baz=137,slow=7.3,SNR=8.9
ELK **Elko** 56.74 329 *e*P P 21 32 52.4 -0.6
ELK **Elko** 56.74 329 LR LR 21 55 36.8
comp=Z,356nm,18.6s,baz=18,slow=34
TPAW **Teton Pass** 56.86 334 *e*P P 21 32 59.5 +5.6
comp=Z,27nm,1.4s
RRI2 **Red Ridge** 56.91 334 *e*P P 21 32 53.3 -0.9
comp=Z,35nm,1.3s
MOOW **Moose Ponds** 56.98 335 *e*P P 21 32 56.0 +1.3
comp=Z,3.3nm,1.3s
DCID1 **Drake Creek** 57.05 334 *e*P P 21 33 01.6 +6.5
comp=Z,15nm,0.8s
LKWY **Lake** 57.50 335 *e*P P 21 33 05.3 +6.9
LKWY pmax pmax
comp=Z,14nm,1.1s
LKWY **Lake** 57.50 335 *e*P P 21 33 05.2 +6.9
comp=Z,14nm,1.1s
YMR **Madison River** 57.82 335 *e*P P 21 33 01.3 +0.7
comp=Z,34nm,1.4s
QLMT **Earthquake Lak** 58.15 335 *e*P P 21 33 05.9 +3.1
ULM **Lac du Bonnet** 58.19 349 P P 21 33 00.8 -1.9
ULM **Lac du Bonnet** 58.19 349 P P 21 33 00.8 -1.9
comp=Z,8.7nm,1.0s,baz=152,slow=5.4,SNR=8.9
J13A **Cove Ranch, Pi** 58.23 332 ⇑P P 21 33 02.9 -0.5
baz=58,SNR=5.3
I14A **Mackay** 58.31 333 ⇑P P 21 33 03.9 -0.1
baz=59,SNR=13
F18A **Big Timber** 58.33 337 ⇓P P 21 33 03.1 -0.8
baz=59,SNR=5.0
HLID **Hailey** 58.47 332 *e*P P 21 33 04.2 -0.9
comp=Z,17nm,1.2s
HLID **Hailey** 58.47 332 ⇓P P 21 33 04.2 -0.9
baz=59,SNR=6.3
H15A **Lima** 58.49 334 ⇓P P 21 33 04.6 -0.6
baz=59,SNR=6.3
I13A **Wildhorse Cree** 58.60 332 ⇓P P 21 33 05.1 -0.9
baz=59,SNR=6.3
BOZ **Bozeman (W)** 58.89 335 *e*P P 21 33 06.3 -1.6
BOZ pmax pmax
comp=Z,20nm,1.3s
BOZ **Bozeman (W)** 58.89 335 *e*P P 21 33 06.3 -1.6
comp=Z,20nm,1.3s
MFID **Camas Ranch** 59.03 331 *e*P P 21 33 07.4 -1.5
comp=Z,26nm,1.1s
MFID **Camas Ranch** 59.03 331 ⇑P P 21 33 08.1 -0.8
baz=59,SNR=6.5
DLMT **Dillon** 59.07 335 *e*P P 21 33 09.0 -0.1
comp=Z,20nm,1.3s
LRM **Limekiln Ridge** 59.37 335 *e*P P 21 33 17.0 +5.6
EGMT **Eagleton** 60.10 338 *e*P P 21 33 22.3 +6.1
comp=Z,14nm,1.1s
F13A **Darby** 60.16 334 ⇑P P 21 33 15.7 -0.9
baz=60,SNR=6.2
MOD **Modoc** 60.23 327 *e*P P 21 33 17.3 +0.1
comp=Z,30nm,1.2s
MSO **Missoula** 60.80 335 *e*P P 21 33 20.0 -0.9
comp=Z,20nm,1.4s
YBH **Yreka Blue Hor** 61.45 325 LR LR 21 58 26.0
comp=Z,148nm,19.1s,baz=272,slow=35
BSMT **Bassoo Peak** 61.96 335 *e*P P 21 33 29.5 +0.6
comp=Z,12nm,1.4s
SCHQ **Schefferville** 62.47 9 *e*P P 21 33 28.5 -3.5
comp=Z,21nm,1.0s
SCHQ **Schefferville** 62.47 9 P P 21 33 28.8 -3.2
comp=Z,9.4nm,0.8s,baz=197,slow=6.4,SNR=16
SCHQ LR LR 21 59 26.7
comp=Z,211nm,18.5s,baz=192,slow=35
PPT2 **Papeete2** 67.59 254 *e*S S 21 43 00.7 -0.4
comp=Z,131nm,24.2s
PPT2 *e*LR LR 21 54 23.4
comp=Z,553nm,25.8s
FRB **Frobisher Bay** 70.91 6 LR LR 22 03 28.5
comp=Z,158nm,18.7s,baz=208,slow=34
YKA **Yellowknife Ar** 73.67 344 P P 21 34 40.1 -1.9
YKA **Yellowknife Ar** 73.67 344 P P 21 34 40.1 -1.9
comp=Z,0.3nm,0.6s,baz=140,slow=5.9,SNR=7.1
LIC **Lamto** 76.91 82 *e*P P 21 35 02.4 +0.6
comp=Z,64nm,1.4s,baz=256
LIC *e*R
comp=Z,604nm,19.0s
DBIC **Dimbokro** 77.14 82 P P 21 35 04.2 +1.1
DBIC **Dimbokro** 77.14 82 P P 21 35 04.2 +1.1
comp=Z,10nm,0.8s,baz=236,slow=5.3,SNR=12
DBIC LR LR 22 08 45.7
comp=Z,432nm,18.1s,baz=200,slow=35
SNAA **Sanae** 79.94 162 *e*P P 21 35 11.6 -5.9
comp=Z,9.3nm,0.8s
MORF **Marmelete** 80.23 50 *e*P P 21 35 21.1 +1.4
comp=Z,62nm,1.6s
PNCL **Nicolau / Gran** 80.55 50 *e*P P 21 35 21.6 +0.3
comp=Z,44nm,1.6s
PBDV **Barranco-do-Ve** 80.77 51 *e*P P 21 35 24.0 +1.5
comp=Z,47nm,1.5s
PCVE **Castro Verde** 80.79 50 *e*P P 21 35 23.7 +1.1
comp=Z,25nm,1.2s
PMTG **Montargil** 81.04 49 *e*P P 21 35 24.4 +0.5
comp=Z,36nm,1.2s
EVO **Evora** 81.06 49 *e*P P 21 35 24.7 +0.7
comp=Z,28nm,1.8s
EVO **Evora** 81.06 49 *e*P P 21 35 23.4 -0.6
comp=Z,35nm,1.0s
EVO *e*R
comp=Z,213nm,19.8s
RES **Resolute Bay** 81.72 356 LR LR 22 08 15.6
comp=Z,140nm,20.6s,baz=180,slow=33
PVIS **Viseu** 81.75 47 *e*P P 21 35 28.0 +0.3
comp=Z,58nm,1.8s
PVRL **Vila Real** 82.03 47 *e*P P 21 35 29.6 +0.5
comp=Z,48nm,2.3s
MVO **Moncorvo** 82.50 47 *e*P P 21 35 32.3 +0.7
comp=Z,36nm,2.0s
PBRG **Bragança** 82.88 46 *e*P P 21 35 33.7 +0.1
comp=Z,50nm,1.8s
INK **Inuvik** 83.29 343 *e*P P 21 35 36.0 +1.0
comp=Z,9.2nm,1.2s
QSPA **South Pole Qui** 83.37 180 P P 21 35 36.6 +0.9
QSPA **South Pole Qui** 83.37 180 P P 21 35 36.6 +0.9
comp=Z,2.3nm,0.3s,baz=154,slow=2.6,SNR=11
SUMG **Summit** 83.72 12 *i* P P 21 35 36.6 -1.0
SUMG pmax pmax
comp=Z,6.0nm,1.0s
SUMG **Summit** 83.72 12 *i* P P 21 35 36.6 -1.0
comp=Z,5.8nm,1.0s
EGAK **Eagle** 83.87 338 *e*P P 21 35 40.1 +2.0
comp=Z,21nm,1.4s
PAB **San Pablo** 84.07 49 *e*P P 21 35 39.5 -0.3
PAB pmax pmax
comp=Z,36nm,1.1s
PAB **San Pablo** 84.07 49 *e*P P 21 35 39.5 -0.3
comp=Z,36nm,1.1s
ESDC **Sonseca Array** 84.39 49 P P 21 35 41.1 -0.3
ESDC **Sonseca Array** 84.39 49 P P 21 35 41.1 -0.3
comp=Z,14nm,0.8s,baz=269,slow=4.8,SNR=55
ESLA **Sonseca Array** 84.39 49 *e*P P 21 35 41.4 0.0
comp=Z,16nm,1.1s
TOA0 **Torodi Ar. Sit** 84.47 76 *e*P P 21 35 41.5 -0.7
TORD **Torodi Ar. Bea** 84.47 76 P P 21 35 41.5 -0.7
TORD **Torodi Ar. Bea** 84.47 76 P P 21 35 41.5 -0.7
comp=Z,8.3nm,0.8s,baz=294,slow=5.2,SNR=31
TORD LR LR 22 15 30.6
comp=Z,352nm,18.4s,baz=250,slow=37
ILAR **Eielson Array** 86.05 337 P P 21 35 49.2 +0.2
ILAR PP PP 21 39 12.7 +3.1
ILAR **Eielson Array** 86.05 337 P P 21 35 49.2 +0.2
comp=Z,0.9nm,0.9s,baz=150,slow=3.4,SNR=6.4
ILAR PP PP 21 39 12.7 +3.1
comp=Z,1.0nm,1.1s,baz=104,slow=6.3,SNR=4.2
ILAR LR LR 22 13 57.0
comp=Z,166nm,18.5s,baz=142,slow=36
SJPF **Ste Jean** 87.16 46 *e*P P 21 35 53.8 -1.1
comp=Z,53nm,1.2s
ETSF **Etsaut** 87.59 46 *e*P P 21 35 55.8 -1.3
comp=Z,59nm,1.5s
EPF **Esparros** 88.26 46 *e*P P 21 35 59.9 -0.4
comp=Z,27nm,1.2s
GRR **Gorron** 88.49 41 *e*P P 21 36 00.4 -0.7
MFF **Saint Martin d** 88.60 43 *e*P P 21 36 01.2 -0.6
comp=Z,29nm,1.1s
FLN **La Foliniere** 88.81 41 *e*P P 21 36 01.6 -1.0
comp=Z,32nm,1.0s
FLN *e*R
comp=Z,155nm,21.5s
LFF **La Frestale** 88.90 45 *e*P P 21 36 02.1 -1.1
LDF **La Druitiere** 89.01 41 *e*P P 21 36 02.4 -1.2
comp=Z,62nm,1.2s
TAM **Tamanrasset** 89.40 67 *e*P P 21 36 05.3 -0.9
TAM pmax pmax
comp=Z,8.0nm,1.1s
TAM **Tamanrasset** 89.40 67 *e*P P 21 36 05.3 -0.9
comp=Z,8.2nm,1.1s
RJF **Les Rejaudoux** 89.51 44 *e*P P 21 36 04.5 -1.5
comp=Z,30nm,1.1s
RJF *e*R
comp=Z,147nm,20.2s
CAF **Calviac** 89.82 45 *e*P P 21 36 07.0 -0.6
comp=Z,38nm,1.2s
TCF **Toulx Ste Croi** 90.15 44 *e*P P 21 36 07.6 -1.5
comp=Z,20nm,1.1s
DAG **Danmarks Havn** 90.41 12 *i* P P 21 36 07.8 -1.7
DAG *i* 21 36 16.6
DAG pmax pmax
comp=Z,4.0nm,0.9s
DAG **Danmarks Havn** 90.41 12 *i* P P 21 36 07.8 -1.7
comp=Z,41nm,0.9s
DAG *i* 21 36 16.6
BGF **Bois d'Agland** 90.63 43 *e*P P 21 36 09.0 -2.2
comp=Z,56nm,1.2s
LASF **Ste Croix** 90.96 46 *e*P P 21 36 12.4 -0.5
SFTF **Sexfontaines** 92.34 42 *e*P P 21 36 18.3 -0.8
CDF **Champ du Feu** 93.85 42 *e*P P 21 36 24.8 -1.4
NOA **NORSAR Array B** 96.92 29 LR LR 22 17 07.8
comp=Z,98nm,18.4s,baz=285,slow=34
GERES **GERESS Array B** 98.12 42 P P 21 36 45.6 0.0
GERES **GERESS Array B** 98.12 42 P P 21 36 45.7 0.0
comp=Z,0.5nm,0.9s,baz=303,slow=9.0,SNR=4.0
GERES LR LR 22 16 16.2
comp=Z,63nm,18.2s,baz=282,slow=32
DZM **Mont Dzumac** 108.04 244 *e*LR LR 22 13 22.7
comp=Z,151nm,29.9s
BVAR **Borovoye Array** 128.28 22 PKIKP PKPdf 21 42 14.4 -0.7
BVAR **Borovoye Array** 128.28 22 PKP PKPdf 21 42 14.4 -0.7
BVAR **Borovoye Array** 128.28 22 PKP PKPdf 21 42 14.4 -0.7
comp=Z,1.9nm,0.7s,baz=242,slow=1.9,SNR=18
NVS **Novosibirsk** 130.38 12 *e*PKIKP PKPdf 21 42 17.7 -1.3
ZAA0 **Zalesovo Array** 131.53 11 *e*PKPdf PKPdf 21 42 19.6 -1.7
ZALV **Zalesovo Beam** 131.53 11 PKIKP PKPdf 21 42 19.5 -1.7
ZALV **Zalesovo Beam** 131.53 11 PKP PKPdf 21 42 19.5 -1.7
ZALV **Zalesovo Beam** 131.53 11 PKP PKPdf 21 42 19.5 -1.7
comp=Z,4.8nm,0.9s,baz=336,slow=1.8,SNR=16
USRK **Ussuriysk Arra** 132.83 328 PKP PKPdf 21 42 20.6 -3.4
comp=Z,0.6nm,0.6s,baz=90,slow=3.9,SNR=3.1
KURK **Kurchatov** 132.98 18 *e*PKIKP PKPdf 21 42 22.4 -1.7
KURK **Kurchatov** 132.98 18 *e*PKPdf PKPdf 21 42 22.4 -1.7
KURBB **Kurchatov Arra** 133.04 18 PKP PKPdf 21 42 21.2 -2.9
comp=Z,1.8nm,0.6s,baz=327,slow=2.3,SNR=16
MDJ **Mudanjiang** 133.78 330 PKP PKPdf 21 42 26.8 +1.0
ASAR **Alice Springs** 134.44 227 PKP PKPdf 21 42 25.1 -2.6
ASAR PP PP 21 45 01.0 +1.5
ASAR **Alice Springs** 134.44 227 PKP PKPdf 21 42 25.1 -2.6
comp=Z,0.7nm,0.7s,baz=112,slow=2.8,SNR=4.2
ASAR PP PP 21 45 01.0 +1.5
comp=Z,1.5nm,1.2s,baz=120,slow=4.5,SNR=4.4
WRA **Warramunga Arr** 136.27 232 PKP PKPdf 21 42 28.9 -2.2
WRA **Warramunga Arr** 136.27 232 PKP PKPdf 21 42 28.9 -2.2
comp=Z,2.2nm,0.8s,baz=119,slow=2.0,SNR=9.5
ZAK **Zakamensk** 136.34 356 *e*PKIKP PKPdf 21 42 24.5 -6.0
ZAK pmax pmax
comp=Z,1.0nm,1.3s
CN2 **Changchun** 136.39 332 *e*PKP PKPdf 21 42 31.0 +0.4
CN2 *es*PKP 21 42 45.8
CN2 *e*PP PP 21 45 15.4 +4.5
CN2 *e*SS SS 22 03 11.6 +1.7
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,200nm,20.0s
CN2 LR LR
comp=E,300nm,20.0s
CN2 LR LR
comp=Z,300nm,22.0s
MK31 **Makanchi Array** 137.58 17 *e*PKIKP PKPdf 21 42 31.4 -1.4
MK31 **Makanchi Array** 137.58 17 *e*PKPdf PKPdf 21 42 31.4 -1.4
MKAR **Makanchi Array** 137.58 17 PKHKP PKPpre 21 42 24.7
MKAR 21 42 31.4
MKAR **Makanchi Array** 137.58 17 PKPpre PKPpre 21 42 24.6
MKAR PKP PKPdf 21 42 31.4 -1.5
MKAR **Makanchi Array** 137.58 17 PKhKP PKPpre 21 42 24.6
comp=Z,0.3nm,0.7s,baz=342,slow=2.5,SNR=4.5
MKAR PKP PKPdf 21 42 31.4 -1.5
comp=Z,2.9nm,0.9s,baz=338,slow=2.4,SNR=18
EKS2 **Erkin-Say** 137.85 28 *e*PKIKP PKPdf 21 42 33.5 -0.1
EKS2 **Erkin-Say** 137.85 28 *e*PKPdf PKPdf 21 42 33.5 -0.1
AAK **Ala-Archa** 138.21 27 *e*PKIKP PKPdf 21 42 34.3 0.0
AAK **Ala-Archa** 138.21 27 *e*PKPdf PKPdf 21 42 34.3 0.0
SONM **Songino Array** 138.55 352 PKPpre PKPpre 21 42 22.8
SONM PKP PKPdf 21 42 31.2 -3.6
SONM **Songino Array** 138.55 352 PKhKP PKPpre 21 42 22.8
comp=Z,0.7nm,0.9s,baz=4.1,slow=2.6,SNR=5.6
SONM PKP PKPdf 21 42 31.2 -3.6
comp=Z,2.0nm,0.9s,baz=355,slow=1.7,SNR=4.1
KSRS **Korea Array** 139.65 323 PKP PKPdf 21 42 34.8 -2.0
comp=Z,1.4nm,0.8s,baz=19,slow=2.0,SNR=6.7
KSAR **Wonju Array Be** 139.68 324 PKP PKPdf 21 42 34.8 -2.1
KSH **Kashi** 141.34 29 PKP PKPdf 21 42 39.2 -0.8
KSH PP PP 21 45 45.9 +4.1
KSH PKS PKSdf 21 46 13.7 -2.3
KSH SKS SKSdf 21 49 44.6 -3.3
KSH SKKS SKKSac 21 52 31.9 -1.9
KSH SS SS 22 04 08.2 -0.5
WMQ **Urumqi** 141.75 13 *e*PKP PKPdf 21 42 42.0 +1.4
WMQ sPKP 21 42 56.0
WMQ *e*PP PP 21 45 47.0 +3.3
WMQ AMB AMB
comp=Z,180nm,5.5s
WMQ LR LR
comp=N,140nm,21.0s
WMQ LR LR
comp=E,97nm,21.0s
WMQ LR LR
comp=Z,100nm,21.1s

BJI	**Beijing**	**143.41**	**338**	PKP	**PKPdf**	**21 42 44.8**	**+1.3**
BJI				LR	LR			
	comp=Z,92nm,19.4s							
HHC	**Hu-ho-hao-te**	**144.21**	**344**	*e*PKP	**PKPdf**	**21 42 43.9**	**-1.1**
HHC				pPKP	**pPKPdf**	**21 42 54.6**	**-1.6**
HHC				PP	**PP**	**21 46 02.9**	**+4.2**
HHC				PKS	**PKSdf**	**21 46 18.4**	**-2.3**
HHC				SKS	**SKSdf**	**21 49 48.9**	**-3.4**
HHC				SKKS	**SKKSac**	**21 52 46.0**	**-4.1**
HHC				SS	**SS**	**22 04 41.4**	**+0.3**
HHC				AMB	AMB			
	comp=Z,95nm,7.1s							
HHC				LR	LR			
	comp=N,180nm,20.4s							
HHC				LR	LR			
	comp=E,94nm,19.6s							
HHC				LR	LR			
	comp=Z,140nm,19.7s							
BTO	**Baotou**	**144.85**	**345**	*e*PKP	**PKPab**	**21 42 43.5**	**-1.6**
GTA	**Gaotai**	**147.45**	**359**	*e*PKPbc	**PKPdf**	**21 42 51.2**	**+0.6**
GTA				pPKP	**pPKPdf**	**21 43 01.3**	**-0.5**
GTA				sPKP		21 43 05.9		
GTA				PP	**PP**	**21 46 22.7**	**+5.0**
GTA				PKS	**PKSdf**	**21 46 24.8**	**-1.2**
GTA				SKS	**SKSdf**	**21 49 54.8**	**-2.3**
GTA				SKKS	**SKKSac**	**21 53 05.3**	**-3.1**
GTA				SS	**SS**	**22 05 17.8**	**+0.2**
GTA				AMB	AMB			
	comp=Z,130nm,8.8s							
GTA				LR	LR			
	comp=N,130nm,8.6s							
GTA				LR	LR			
	comp=E,77nm,8.8s							
GTA				LR	LR			
	comp=Z,150nm,8.6s							
LZH	**Lanzhou**	**150.44**	**352**	*e*PKPbc	**PKPbc**	**21 43 00.6**	**-0.3**
LZH				pPKP	**PKPab**	**21 43 11.0**	**+3.7**
LZH				PP	PP	21 46 44.0	+8.8
LZH				AMB	AMB			
	comp=Z,140nm,5.1s							
LZH				LR	LR			
	comp=N,320nm,19.0s							
LZH				LR	LR			
	comp=E,280nm,18.2s							
LZH				LR	LR			
	comp=Z,410nm,20.4s							
WHN	**Wuhan**	**152.26**	**331**	PKPbc	**PKPbc**	**21 43 06.5**	**+1.5**
CD2	**Chengdu**	**155.53**	**350**	PKP	**PKPdf**	**21 43 03.3**	**+0.3**
GYA	**Guiyang**	**159.05**	**340**	PKP	**PKPdf**	**21 43 07.7**	**0.0**
GYA				pPKP	**pPKPdf**	**21 43 18.8**	**-0.1**
GYA				PKPab	**PKPab**	**21 43 46.2**	**+2.1**
GYA				PKS	**PKSdf**	**21 46 40.0**	**-1.5**
GYA				PP	**PP**	**21 47 27.8**	**+4.2**
GYA				SKKS		21 54 11.0		
GYA				SS	**SS**	**22 07 26.4**	**+1.3**
GYA				AMB	AMB			
	comp=Z,130nm,7.8s							
GYA				LR	LR			
	comp=N,150nm,18.8s							
GYA				LR	LR			
	comp=E,130nm,10.6s							
GYA				LR	LR			
	comp=Z,140nm,18.4s							
KMI	**Kunming**	**161.35**	**349**	PKP	**PKPdf**	**21 43 10.7**	**+0.3**
KMI				pPKP	**pPKPdf**	**21 43 22.0**	**+0.4**
KMI				sPKP		21 43 26.0		
CMAR	**Chiang Mai Arr**	**168.34**	**0**	PKP	**PKPdf**	**21 43 15.3**	**-1.0**
CMAR				PKPab	**PKPab**	**21 44 22.6**	**-2.2**
CMAR	**Chiang Mai Arr**	**168.34**	**0**	PKP	**PKPdf**	**21 43 15.3**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=325,slow=1.1,SNR=6.8							
CMAR				PKPab	**PKPab**	**21 44 22.6**	**-2.2**
	comp=Z,0.9nm,0.8s,baz=345,slow=5.5,SNR=5.7							

IDC 08 21:47:21.3±9.6, 18°.88N×145°.06E, h436km±114km, mb3.0/11, mb1 3.2/11, mb1mx3.1/23, mbtmp3.0/11, Error ellipse: s-maj=28.9km s-min=16.4km az=63.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.99**	**196**	P	P	21 54 16.6	-0.2
	0.5nm,0.4s,baz=8.0,slow=8.2,SNR=16						
SONM	**Songino Array**	**42.63**	**322**	P	P	21 54 37.8	+0.1
	0.5nm,0.6s,baz=137,slow=8.2,SNR=5.4						
CMAR	**Chiang Mai Arr**	**43.60**	**277**	P	P	21 54 44.2	-1.3
	0.4nm,0.3s,baz=66,slow=7.6,SNR=7.6						
ASAR	**Alice Springs**	**43.67**	**195**	P	P	21 54 46.1	+0.1
	0.3nm,0.4s,baz=15,slow=6.5,SNR=5.7						
ZALV	**Zalesovo Beam**	**57.51**	**323**	P	P	21 56 26.4	-0.9
	0.3nm,0.3s,baz=124,slow=7.4,SNR=4.5						
MKAR	**Makanchi Array**	**57.90**	**314**	P	P	21 56 31.6	+1.4
	0.8nm,0.6s,baz=92,slow=7.3,SNR=11						
KURBB	**Kurchatov Arra**	**60.78**	**318**	P	P	21 56 49.5	+0.1
	2.0nm,0.5s,baz=94,slow=7.4,SNR=35						
ILAR	**Eielson Array**	**63.75**	**26**	P	P	21 57 07.9	-0.7
	0.4nm,0.6s,baz=257,slow=5.9,SNR=9.1						
YKA	**Yellowknife Ar**	**78.11**	**28**	P	P	21 58 33.8	+0.2
	0.4nm,0.6s,baz=291,slow=5.6,SNR=8.4						
NVAR	**Mina Array Bea**	**83.50**	**52**	P	P	21 59 03.4	+0.8
	0.3nm,0.5s,baz=254,slow=5.4,SNR=4.2						
FINES	**FINESS Array B**	**86.47**	**335**	P	P	21 59 15.2	-1.1
	3.7nm,1.0s,baz=85,slow=3.7,SNR=9.5						

*THR **08** 22:11:48.1±0.4, 33°.54N×56°.28E, h6km±5km, ML3.7*
*CSEM **08** 22:11:48.9±0.1, 33°.52N×56°.29E, h2km, ML3.8, Error ellipse: s-maj=4.8km s-min=2.7km az=176.0*
*ISCJB **08** 22:11:49.0±0.4, 33°.54N±0°.05×56°.30E±0°.03, h10km, Error ellipse: s-maj=7.5km s-min=3.8km az=173.1*
*TEH **08** 22:11:49.6, 33°.49N×56°.30E, h6km, ML3.8*

ISC 08 22:11:48.4±0.8, 33°.52N±0°.03×56°.30E±0°.02, h10km, n56, σ1s75/77, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TABS	**Tabas**	**0.70**	**79**	*e*Pg	**Pg**	**22 12 01.9**	**0.0**
TABS				*e*Sg	**Sb**	**22 12 11.9**	**-0.6**
TABS	**Tabas**	**0.70**	**79**	*e*Pg	**Pg**	**22 12 01.9**	**0.0**
TABS				*e*Sg	**Sb**	**22 12 11.9**	**-0.6**
IBAF	**Bafgh**	**2.02**	**198**	*e*Pn	**Pb**	**22 12 24.1**	**-1.2**
IBAF				*e*		22 12 56.9		
	comp=Z,18μm,0.3s							
IBAF	**Bafgh**	**2.02**	**198**	*e*Pn	**Pb**	**22 12 24.1**	**-1.2**
ICHK	**Chekchek**	**2.04**	**232**	*e*Pn	**Pb**	**22 12 24.6**	**-1.0**
ICHK				*e*Sg	**Sb**	**22 12 52.1**	**+1.0**
ICHK				*e*		22 12 54.6		
	comp=Z,17μm,0.1s							
ICHK	**Chekchek**	**2.04**	**232**	*e*Pn	**Pb**	**22 12 24.6**	**-1.0**
ICHK				*e*Sg	**Sb**	**22 12 52.1**	**+1.0**
ITEG	**Tejag**	**2.15**	**106**	*e*Pn	**Pb**	**22 12 25.9**	**-1.6**
ITEG				*e*Sg	**Sg**	**22 12 56.4**	**-1.0**
ITEG				*e*		22 13 01.7		
	comp=Z,6μm,0.2s							
ITEG	**Tejag**	**2.15**	**106**	*e*Pn	**Pb**	**22 12 25.9**	**-1.6**
ITEG				*e*Sg	**Sg**	**22 12 56.4**	**-1.0**
IKOO	**Kooshah**	**2.52**	**115**	*e*Pn	**Pn**	**22 12 31.0**	**+1.3**
IKOO				*e*Sg	**Sb**	**22 13 06.8**	**+1.7**
IKOO				*e*		22 13 09.9		
	comp=Z,7μm,0.2s							
IKOO	**Kooshah**	**2.52**	**115**	*e*Pn	**Pn**	**22 12 31.0**	**+1.3**
IKOO				*e*Sg	**Sb**	**22 13 06.8**	**+1.7**
IMEH	**Mehriz**	**2.56**	**214**	*e*Pn	**Pn**	**22 12 31.3**	**+1.2**
IMEH				*e*		22 13 14.9		
	comp=Z,3μm,0.2s							
IMEH	**Mehriz**	**2.56**	**214**	*e*Pn	**Pn**	**22 12 31.3**	**+1.2**
ISAD	**Sadrabad**	**2.72**	**235**	*e*Pn	**Pn**	**22 12 33.8**	**+1.3**
ISAD				*e*Sg	**Sb**	**22 13 13.1**	**+2.2**
ISAD				*e*		22 13 18.6		
	comp=Z,12μm,0.1s							
ISAD	**Sadrabad**	**2.72**	**235**	*e*Pn	**Pn**	**22 12 33.8**	**+1.3**
ISAD				*e*Sg	**Sb**	**22 13 13.1**	**+2.2**
IANJ	**Anjilo**	**2.77**	**315**	*e*	**Sg**	**22 13 20.2**	**+2.8**
	comp=Z,5μm,0.1s							
IMON	**Monand**	**2.84**	**96**	*e*Pn	**Pn**	**22 12 35.5**	**+1.5**
IMON				*e*		22 13 03.2		
	comp=Z,2μm,0.1s							
IMON	**Monand**	**2.84**	**96**	*e*Pn	**Pn**	**22 12 35.5**	**+1.5**
NASN	**Na'in**	**3.01**	**257**	*e*Pn	**Pn**	**22 12 38.6**	**+2.1**
NASN				AML	AML	22 13 26.2		
	comp=E,214nm,0.3s							
NASN				AML	AML	22 13 28.8		
	comp=N,247nm,0.4s							
NASN	**Na'in**	**3.01**	**257**	*e*Pn	**Pn**	**22 12 38.6**	**+2.1**
IDAH	**Dahanechah**	**3.09**	**104**	*e*Pn	**Pn**	**22 12 39.1**	**+1.5**
IDAH				*e*		22 12 52.0		
	comp=Z,986nm,0.2s							
IDAH	**Dahanechah**	**3.09**	**104**	*e*Pn	**Pn**	**22 12 39.1**	**+1.5**
ILAS	**Lasjerd**	**3.33**	**305**	*e*Pn	**Pn**	**22 12 42.8**	**+2.0**
ILAS				*e*		22 13 43.0		
	comp=Z,2μm,0.2s							
ILAS	**Lasjerd**	**3.33**	**305**	*e*Pn	**Pn**	**22 12 42.8**	**+2.0**
SHRT	**Shahrakht**	**3.33**	**87**	*e*Pn	**Pn**	**22 12 43.0**	**+2.3**
SHRT	**Shahrakht**	**3.33**	**87**	*e*Pn	**Pn**	**22 12 43.0**	**+2.3**
ISHM	**Shahmirzad**	**3.37**	**314**	*e*Pn	**Pn**	**22 12 43.4**	**+2.0**
ISHM				*e*Sg	**Sg**	**22 13 34.8**	**-1.9**
ISHM				*e*		22 13 50.8		
	comp=Z,4μm,0.2s							
ISHM	**Shahmirzad**	**3.37**	**314**	*e*Pn	**Pn**	**22 12 43.4**	**+2.0**
ISHM				*e*Sg	**Sg**	**22 13 34.8**	**-1.9**
IZEF	**Zefreh**	**3.38**	**261**	*e*Pn	**Pn**	**22 12 43.0**	**+1.4**
IZEF				*e*Sg	**Sg**	**22 13 34.4**	**-2.8**
IZEF				*e*		22 13 38.7		
	comp=Z,2μm,0.1s							
IZEF	**Zefreh**	**3.38**	**261**	*e*Pn	**Pn**	**22 12 43.0**	**+1.4**
IZEF				*e*Sg	**Sg**	**22 13 34.4**	**-2.8**
ISFB	**Sefidab**	**3.48**	**285**	*e*Pn	**Pn**	**22 12 44.2**	**+1.6**
ISFB				*e*Sg	**Sg**	**22 13 37.3**	**-2.7**
ISFB				*e*		22 13 47.7		
	comp=Z,2μm,0.2s							
ISFB	**Sefidab**	**3.48**	**285**	*e*Pn	**Pn**	**22 12 44.2**	**+1.6**
ISFB				*e*Sg	**Sg**	**22 13 37.3**	**-2.7**
KRBR	**Kerman**	**3.55**	**174**	*e*PN5	**Pn**	**22 12 46.2**	**+2.4**
KRBR				AML	AML	22 13 51.4		
	comp=E,240nm,0.4s							
KRBR				AML	AML	22 13 55.1		
	comp=N,128nm,0.8s							
IMOG	**Moghan**	**3.60**	**43**	*e*Pn	**Pn**	**22 12 46.6**	**+2.1**
IMOG	**Moghan**	**3.60**	**43**	*e*Pn	**Pn**	**22 12 46.6**	**+2.1**
IFIR	**Firoozkooh**	**3.61**	**307**	*e*Pn	**Pn**	**22 12 45.8**	**+1.1**
IFIR				*e*		22 13 50.1		
	comp=Z,2μm,0.2s							
IFIR	**Firoozkooh**	**3.61**	**307**	*e*Pn	**Pn**	**22 12 45.8**	**+1.1**
IPAY	**Payeh**	**3.67**	**36**	*e*Pn	**Pn**	**22 12 47.0**	**+1.5**
IPAY				*e*		22 12 53.0		
	comp=Z,1μm,0.1s							
IPAY	**Payeh**	**3.67**	**36**	*e*Pn	**Pn**	**22 12 47.0**	**+1.5**
IKRD	**Kardeh**	**3.72**	**29**	*e*Pn	**Pb**	**22 12 54.0**	**-0.4**
IKRD				*e*		22 13 13.3		
	comp=Z,467nm,0.3s							
IKRD	**Kardeh**	**3.72**	**29**	*e*Pn	**Pb**	**22 12 54.0**	**-0.4**
IGAR	**Gharneh**	**3.75**	**254**	*e*Pn	**Pn**	**22 12 48.4**	**+1.9**
IGAR				*e*		22 13 49.0		
	comp=Z,1μm,0.2s							
ISRO	**Mashad**	**3.81**	**42**	*e*Pn	**Pn**	**22 12 49.4**	**+2.1**
ISRO				*e*Sg	**Sg**	**22 13 48.4**	**-2.5**
ISRO	**Mashad**	**3.81**	**42**	*e*Pn	**Pn**	**22 12 49.4**	**+2.1**
ISRO				*e*Sg	**Sg**	**22 13 48.4**	**-2.5**
IKLH	**Kolahrood**	**3.95**	**268**	*e*Pn	**Pn**	**22 12 50.6**	**+1.2**
IKLH				*e*		22 14 19.8		
	comp=Z,828nm,0.2s							
IKLH	**Kolahrood**	**3.95**	**268**	*e*Pn	**Pn**	**22 12 50.6**	**+1.2**
IVRN	**Varamin**	**4.06**	**293**	*e*Pn	**Pn**	**22 12 52.2**	**+1.5**
IVRN				*e*Pn	**Pn**	**22 12 52.3**	**+1.5**
IVRN				*e*Sg	**Sg**	**22 13 56.5**	**-2.4**
IVRN				*e*		22 14 05.0		
	comp=Z,645nm,0.2s							
IVRN	**Varamin**	**4.06**	**293**	*e*Pn	**Pn**	**22 12 52.2**	**+1.5**
IVRN				*e*Sg	**Sg**	**22 13 56.5**	**-2.4**
DAMV	**Damavand**	**4.15**	**302**	*e*PN5	**Pn**	**22 12 53.8**	**+1.7**
IMYA	**Miami**	**4.21**	**47**	*e*Pn	**Pn**	**22 12 54.2**	**+1.4**
IMYA				*e*		22 13 13.2		
	comp=Z,495nm,0.2s							
IMYA	**Miami**	**4.21**	**47**	*e*Pn	**Pn**	**22 12 54.2**	**+1.4**
IPIR	**Pirpir**	**4.61**	**261**	*e*Pn	**Pn**	**22 12 59.6**	**+1.1**
IPIR				*e*		22 14 19.0		
	comp=Z,952nm,0.3s							
IPIR	**Pirpir**	**4.61**	**261**	*e*Pn	**Pn**	**22 12 59.6**	**+1.1**
ASAO	**Ashtian**	**5.31**	**283**	*e*Pn	**Pn**	**22 13 09.8**	**+1.8**
ASAO	**Ashtian**	**5.31**	**283**	*e*Pn	**Pn**	**22 13 09.8**	**+1.8**
IRAZ	**Razeghan**	**5.59**	**291**	*e*Pn	**Pn**	**22 13 13.2**	**+1.4**
IRAZ				*e*		22 15 07.5		
	comp=Z,362nm,0.2s							
IRAZ	**Razeghan**	**5.59**	**291**	*e*Pn	**Pn**	**22 13 13.2**	**+1.4**

IDC 08 22:24:37.5±11.0, 32°.46S×179°.53E, h546km±112km, mb3.4/4, mb1 3.5/4, mb1mx3.2/15, mbtmp3.4/4, Error ellipse: s-maj=84.8km s-min=19.7km az=59.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**32.15**	**284**	P	P	22 30 20.1	-0.5
	4.0nm,0.6s,baz=103,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**40.95**	**270**	P	P	22 31 32.7	-0.3
	1.8nm,0.8s,baz=114,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**42.13**	**276**	P	P	22 31 42.5	+0.1
	1.8nm,0.3s,baz=112,slow=8.1,SNR=66						
QSPA	**South Pole Qui**	**57.66**	**180**	P	P	22 33 36.1	+0.6
	3.0nm,0.5s,baz=57,slow=2.3,SNR=12						
MKAR	**Makanchi Array**	**117.47**	**310**	PKP	PKPdf	22 42 21.4	+0.4
	0.4nm,0.9s,baz=136,slow=1.0,SNR=3.0						
KURBB	**Kurchatov Arra**	**120.96**	**313**	PKP	PKPdf	22 42 27.4	-0.1
	0.7nm,0.8s,baz=110,slow=1.7,SNR=5.1						
BVAR	**Borovoye Array**	**126.38**	**315**	PKP	PKPdf	22 42 37.6	-0.2
	0.8nm,0.9s,baz=259,slow=1.5,SNR=4.3						
KEV	**Kevo**	**139.62**	**346**	*ep*	PKPdf	22 42 59.7	-2.4
	8.8nm,1.0s						
JOF	**Joensuu**	**143.49**	**336**	*ep*	PKPab	22 43 05.4	-2.4
	1.5nm,0.7s						
KAF	**Kangasniemi**	**145.72**	**338**	*ep*	PKPdf	22 43 12.7	-0.3
	2.1nm,0.7s						
FINES	**FINESS Array B**	**146.28**	**337**	PKPbc	PKPbc	22 43 15.4	-0.8
	1.6nm,0.5s,baz=54,slow=3.2,SNR=22						
NOA	**NORSAR Array B**	**150.40**	**348**	PKPbc	PKPbc	22 43 25.7	-0.9
	1.2nm,0.9s,baz=13,slow=4.1,SNR=3.0						
AKASG	**Malin Array Be**	**151.55**	**319**	PKPbc	PKPbc	22 43 29.5	0.0
	0.2nm,0.3s,baz=45,slow=2.0,SNR=3.5						
BRTR	**Keskin Array B**	**151.62**	**295**	PKPbc	PKPbc	22 43 31.2	+0.9
	1.2nm,0.9s,baz=146,slow=2.4,SNR=5.1						
TORD	**Torodi Ar. Bea**	**160.68**	**186**	PKPab	PKPab	22 44 18.4	-2.5
	0.4nm,0.9s,baz=141,slow=0.9,SNR=2.8						

*ISCJB **08** 22:28:56.2±0.4, 52°.09N±0°.07×178°.11E±0°.04, h138km±3km, mb4.1/32, Error ellipse: s-maj=12.1km s-min=3.9km az=179.9*
*IDC **08** 22:28:56.1±1.8, 52°.10N×178°.14E, h124km±15km, mb3.8/19, mb1 4.1/22, mb1mx3.9/31, mbtmp3.9/22, MS3.8/1, Ms1 3.8/1, ms1mx2.7/39, Error ellipse: s-maj=20.4km s-min=8.5km az=164.0*
*NEIC **08** 22:28:58.2, 52°.14N×178°.07E, h139km, mb4.4/20, After AEIC.*

ISC 08 22:28:57.2±0.8, 52°.1N±0°.1×178°.09E±0°.04, h135km±8km, n102, σ0s79/108, mb4.3/42, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GANE	**Gareloi Northe**	**1.96**	**96**	P	Pn	**22 29 31.3**	**+0.5**
TANO	**Tanaga North**	**2.35**	**92**	P	Pn	**22 29 36.2**	**+0.6**
TASE	**Tanaga Southea**	**2.41**	**94**	P	Pn	**22 29 36.6**	**+0.2**
TAFP	**Tanaga Falls P**	**2.43**	**93**	P	Pn	**22 29 36.7**	**0.0**
TAFP				S	Sn	**22 30 06.6**	**-0.5**
SMY	**Shemya**	**2.53**	**286**	P	Pn	**22 29 37.6**	**-0.2**
SMY				S	Sn	**22 30 09.0**	**-0.2**
TAPA	**Tanaga Point A**	**2.55**	**94**	P	Pn	**22 29 38.1**	**-0.1**
FX1	**Attu Island--F**	**3.12**	**287**	P	Pn	**22 29 44.6**	**-0.8**
FX1				S	Sn	**22 30 21.1**	**-1.6**
FX1	**Attu Island--F**	**3.12**	**287**	P	Pn	**22 29 45.0**	**-0.5**
	74nm,0.3s,baz=177,slow=3.8,SNR=102						
FX1				S	Sn	**22 30 21.1**	**-1.6**
	108nm,0.3s,baz=92,slow=22,SNR=14						
ADK	**Adak**	**3.23**	**91**	P	Pn	**22 29 46.5**	**-0.4**
ADK				S	Sn	**22 30 24.8**	**-0.6**
ETKA	**Kagalaska Isla**	**3.41**	**91**	P	Pn	**22 29 49.7**	**+0.5**
GSMY	**Great Sitkin M**	**3.61**	**88**	P	Pn	**22 29 51.4**	**-0.5**
KOKL	**Mount Kliuchef**	**4.75**	**84**	P	Pn	**22 30 07.2**	**+0.3**
ATKA	**Atka Island**	**4.75**	**85**	P	Pn	**22 30 06.6**	**-0.3**
KOFP	**Korovin Flat P**	**4.81**	**85**	P	Pn	**22 30 07.8**	**+0.1**
SPIA	**Saint Paul Isl**	**8.47**	**48**	P	Pn	**22 30 57.9**	**+1.2**
OKFG	**Magazine Ridge**	**8.60**	**76**	P	Pn	**22 30 58.6**	**+0.2**
MSOM	**Makushin Julie**	**9.20**	**73**	P	Pn	**22 31 06.5**	**-0.1**
UNV	**Unalaska Valle**	**9.47**	**73**	P	Pn	**22 31 10.7**	**+0.6**
PETK	**Petropavlovsk-**	**12.44**	**283**	P	Pn	**22 31 50.9**	**+1.4**
PETK				S	Sn	**22 34 06.5**	**0.0**
PETK	**Petropavlovsk-**	**12.44**	**283**	P	Pn	**22 31 50.9**	**+1.4**
	1.2nm,0.3s,baz=100,slow=18,SNR=8.9						
PETK				S	Sn	**22 34 06.5**	**0.0**
	0.6nm,0.3s,baz=233,slow=45,SNR=3.5						
TNA	**Tin City**	**15.28**	**22**	*e*Pn	P	**22 32 29.3**	**+2.2**
	25nm,1.7s						
KDAK	**Kodiak Island**	**17.70**	**60**	P	P	**22 32 52.7**	**-1.2**
KDAK	**Kodiak Island**	**17.70**	**60**	P	P	**22 32 52.7**	**-1.2**
	3.9nm,0.3s,baz=270,slow=6.2,SNR=22						
SPU	**Mount Spurr**	**18.62**	**49**	*e*Pn	Pn	**22 33 05.8**	**0.0**
SEW	**Seward**	**19.63**	**53**	*e*P	P	**22 33 15.9**	**+1.0**
	42nm,0.9s						
RC01	**Rabbit Creek A**	**19.69**	**50**	*e*P	P	**22 33 16.5**	**+1.0**
	24nm,0.9s						
PMR	**Palmer**	**20.09**	**49**	*e*P	P	**22 33 20.6**	**+0.9**
	14nm,1.0s						
TRF	**Thorofare Moun**	**20.10**	**43**	*e*P	P	**22 33 20.3**	**+0.2**
	29nm,0.6s						
SML	**Sawmill**	**20.50**	**49**	*e*P	P	**22 33 25.5**	**+1.3**
	12nm,1.1s						
MCK	**McKinley**	**20.77**	**43**	*e*P	P	**22 33 28.2**	**+1.2**
	14nm,1.0s						
DIV	**Divide**	**21.59**	**51**	*e*P	P	**22 33 36.4**	**+0.4**
	55nm,1.4s						
ILAR	**Eielson Array**	**21.95**	**41**	P	P	**22 33 37.9**	**-1.7**
ILAR	**Eielson Array**	**21.95**	**41**	P	P	**22 33 37.9**	**-1.7**
	3.3nm,0.4s,baz=246,slow=8.6,SNR=78						
PAX	**Paxson**	**22.07**	**46**	*e*P	P	**22 33 40.7**	**-0.2**
	19nm,0.7s						
BMRM	**Bremner River**	**22.13**	**52**	*e*P	P	**22 33 41.2**	**-0.3**
	27nm,1.3s						
DOT	**Dot Lake**	**22.83**	**45**	*e*P	P	**22 33 47.3**	**-1.0**
	4.7nm,0.7s						
MENT	**Mentasta**	**22.84**	**47**	*e*P	P	**22 33 48.9**	**+0.5**
EGAK	**Eagle**	**24.32**	**43**	*e*P	P	**22 34 01.8**	**0.0**
	47nm,0.8s						
DAWY	**Dawson**	**24.94**	**45**	*e*P	P	**22 34 08.2**	**+0.6**
INK	**Inuvik**	**28.02**	**36**	*e*P	P	**22 34 35.5**	**+0.5**
	7.7nm,0.4s						
INK	**Inuvik**	**28.02**	**36**	P	P	**22 34 35.5**	**+0.5**
	5.2nm,0.4s,baz=248,slow=8.5,SNR=56						
DLBC	**Dease Lake**	**29.59**	**57**	P	P	**22 34 50.0**	**+0.8**
DLBC	**Dease Lake**	**29.59**	**57**	P	P	**22 34 50.0**	**+0.8**
	2.2nm,0.6s,baz=276,slow=7.9,SNR=8.6						
USRK	**Ussuriysk Arra**	**31.30**	**274**	P	P	**22 35 04.0**	**-0.1**
	2.8nm,0.5s,baz=55,slow=10,SNR=12						
MJAR	**Matsushiro Arr**	**32.02**	**257**	P	P	**22 35 11.0**	**+0.3**
MJAR	**Matsushiro Arr**	**32.02**	**257**	P	P	**22 35 11.0**	**+0.3**
	3.9nm,0.6s,baz=35,slow=6.5,SNR=3.6						
YKA	**Yellowknife Ar**	**36.15**	**47**	P	P	**22 35 46.3**	**+0.4**
YKA	**Yellowknife Ar**	**36.15**	**47**	P	P	**22 35 46.3**	**+0.4**
	8.4nm,0.6s,baz=283,slow=8.4,SNR=147						
KSRS	**Korea Array**	**37.72**	**267**	P	P	**22 36 01.1**	**+1.7**
	1.9nm,0.7s,baz=62,slow=8.1,SNR=8.6						
KSAR	**Wonju Array Be**	**37.75**	**267**	P	P	**22 36 01.1**	**+1.4**
HAWA	**Hanford**	**40.01**	**73**	*e*P	P	**22 36 18.3**	**-0.2**
	5.1nm,0.8s						
NEW	**Newport**	**40.44**	**69**	*e*P	P	**22 36 21.4**	**-0.6**
	5.3nm,0.8s						
WALA	**Waterton Lakes**	**41.86**	**66**	*e*P	P	**22 36 33.3**	**-0.5**
	0.2nm,0.8s						
BSMT	**Bassoo Peak**	**41.99**	**68**	*e*P	P	**22 36 34.4**	**-0.5**
MOD	**Modoc**	**42.04**	**79**	*e*P	P	**22 36 35.8**	**+0.5**
	4.8nm,0.6s						
BLMT	**Blacktail Moun**	**42.15**	**68**	*e*P	P	**22 36 35.8**	**-0.4**
HLID	**Hailey**	**44.60**	**73**	*e*P	P	**22 36 54.8**	**-1.0**
	4.0nm,1.3s						
SONM	**Songino Array**	**44.60**	**294**	P	P	**22 36 56.6**	**+0.9**
SONM				PcP	PcP	**22 38 36.3**	**+0.2**
SONM	**Songino Array**	**44.60**	**294**	P	P	**22 36 56.6**	**+0.9**
	1.4nm,0.6s,baz=62,slow=7.9,SNR=15						
SONM				PcP	PcP	**22 38 36.3**	**+0.2**
	0.4nm,0.6s,baz=58,slow=2.6,SNR=3.8						
BOZ	**Bozeman (W)**	**45.02**	**69**	*e*P	P	**22 36 58.2**	**-0.9**
	3.1nm,0.8s						
NVAR	**Mina Array Bea**	**45.37**	**81**	P	P	**22 37 02.2**	**+0.2**
NVAR	**Mina Array Bea**	**45.37**	**81**	P	P	**22 37 02.2**	**+0.2**
	2.1nm,0.5s,baz=300,slow=7.3,SNR=22						
ELK	**Elko**	**45.79**	**77**	*e*P	P	**22 37 05.3**	**-0.1**
DUG	**Dugway**	**47.58**	**76**	*e*P	P	**22 37 19.1**	**-0.1**
	5.8nm,1.0s						
PD01	**Pinedale Array**	**47.90**	**71**	*e*P	P	**22 37 20.2**	**-1.5**
BW06	**Boulder Array**	**47.92**	**71**	*e*P	P	**22 37 21.0**	**-0.9**
	23nm,1.9s						

mb1 4.3/3, mb1mx3.7/17, mbtmp4.1/3, Error ellipse: s-maj=1010.0km s-min=198.8km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.83**	**241**	P	P	22 46 36.1	+0.1
	2.5nm,1.0s,baz=78,slow=6.9,SNR=3.0						
WRA	**Warramunga Arr**	**48.82**	**258**	P	P	22 47 23.1	-0.5
	0.6nm,0.5s,baz=95,slow=7.0,SNR=6.0						
ASAR	**Alice Springs**	**49.02**	**253**	P	P	22 47 25.1	0.0
	4.5nm,0.6s,baz=88,slow=8.4,SNR=59						

*TAP **08** 22:54:59.8, 25°.34N×122°.31E, h257km±1km, ML3.9, C*
*ISCJB **08** 22:55:02.2±0.9, 25°.24N±0°.09×122°.22E±0°.04, h236km±6km, Error ellipse: s-maj=15.0km s-min=6.0km az=175.9*
*JMA **08** 22:55:02.5±0.2, 25°.37N×122°.20E, h226km, M4.0*
ISC 08 22:55:02.9±2.8, 25°.2N±0°.1×122°.21E±0°.05, h233km±16km, n40, σ0°42/53, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.30**	**223**	P	**Pn**	**22 55 33.1**	**-0.2**
	baz=221						
NWF	**Wu-fen Shan**	**0.42**	**248**	*eP*	**Pn**	**22 55 33.5**	**-0.2**
	baz=253						
TWY	**Chenhua**	**0.56**	**275**	*eP*	**Pn**	**22 55 33.6**	**-0.4**
	baz=257						
TWA	**Mucha**	**0.62**	**247**	P	**Pn**	**22 55 34.1**	**-0.2**
	baz=250						
TWA				*eS*	**S**	**22 55 59.8**	**+1.1**
	baz=250						
TWC	**Suao**	**0.70**	**208**	P	**Pn**	**22 55 34.3**	**-0.3**
	baz=210						
TWE	**Neicheng**	**0.71**	**224**	P	**Pn**	**22 55 34.7**	**+0.1**
	baz=225						
TWE				*eS*	**S**	**22 56 00.7**	**+1.4**
	baz=225						
TWS1	**Kuangyinshan**	**0.73**	**260**	*eP*	**Pn**	**22 55 34.4**	**-0.3**
	baz=251						
ENTT	**Nioudou**	**0.83**	**225**	P	**Pn**	**22 55 35.0**	**-0.3**
	baz=231						
ENA	**Nanau**	**0.91**	**208**	*eP*	**Pn**	**22 55 35.8**	**+0.2**
	baz=210						
NSK	**Sanguang**	**0.95**	**235**	⇑*iP*	**Pn**	**22 55 35.2**	**-0.7**
	baz=241						
NSK				*eS*	**S**	**22 56 00.9**	**-0.8**
	baz=241						
YOJ	**Yonaguni jima**	**1.05**	**136**	P	**Pn**	**22 55 36.2**	**-0.2**
YOJ				*eS*	**S**	**22 56 02.7**	**+0.1**
NNS	**Nan Shan**	**1.10**	**224**	P	**Pn**	**22 55 36.6**	**-0.3**
	baz=233						
NNS				*eS*	**S**	**22 56 03.6**	**+0.3**
	baz=233						
NSTT	**Nanjuang**	**1.25**	**242**	P	**Pn**	**22 55 37.2**	**-0.5**
	baz=240						
NSTT				S	**S**	**22 56 04.8**	**-0.1**
	baz=240						
TWD	**Chiawan**	**1.28**	**206**	P	**Pn**	**22 55 37.6**	**-0.3**
	baz=217						
TWD				*eS*	**S**	**22 56 05.2**	**-0.1**
	baz=217						
TWT	**Tachien**	**1.35**	**224**	P	**Pn**	**22 55 38.8**	**+0.1**
	baz=228						
WHF	**Hehuan Shan**	**1.38**	**219**	*eP*	**Pn**	**22 55 39.3**	**+0.1**
	baz=222						
NSY	**Sanyi**	**1.55**	**239**	P	**Pn**	**22 55 40.2**	**+0.1**
	baz=229						
TWQ1	**Liyutan**	**1.58**	**236**	P	**Pn**	**22 55 40.0**	**-0.2**
	baz=235						
ESL	**Shilin**	**1.58**	**207**	*eP*	**Pn**	**22 55 39.5**	**-0.7**
	baz=203						
ESL				*eS*	**S**	**22 56 09.7**	**+0.2**
	baz=203						
IRIF	**Iriomote-Funau**	**1.64**	**123**	P	**Pn**	**22 55 40.5**	**-0.2**
IRIF				S	**S**	**22 56 10.3**	**0.0**
SMLT	**Sun Moon Lake**	**1.80**	**222**	*eP*	**Pn**	**22 55 42.3**	**0.0**
	baz=229						
TYC	**Yuchr**	**1.81**	**223**	P	**Pn**	**22 55 42.0**	**-0.2**
	baz=229						
HATJ	**Hateruma jima**	**1.86**	**129**	P	**Pn**	**22 55 43.1**	**+0.4**
HATJ				S	**S**	**22 56 14.1**	**+0.4**
EHY	**Hungye**	**1.90**	**206**	*eP*	**Pn**	**22 55 42.7**	**-0.4**
	baz=204						
JKRS	**Kuro-shima**	**1.91**	**121**	P	**Pn**	**22 55 43.3**	**+0.2**
JKRS				S	**S**	**22 56 14.5**	**0.0**
JIJ	**Ishigaki jima**	**1.95**	**116**	P	**Pn**	**22 55 43.1**	**-0.4**
JIJ				S	**S**	**22 56 14.2**	**-1.1**
TWF1	**Yuli**	**2.05**	**204**	*eP*	**Pn**	**22 55 43.9**	**-0.6**
	baz=207						
ALS	**Alishan**	**2.14**	**217**	*eP*	**Pn**	**22 55 46.0**	**+0.3**
	baz=224						
CHN5	**Tsauling**	**2.15**	**221**	*eP*	**Pn**	**22 55 45.6**	**+0.1**
	baz=227						
CHKT	**Chengkung**	**2.26**	**200**	*eP*	**Pn**	**22 55 46.4**	**-0.1**
	baz=205						
ELDTW	**Lidau**	**2.31**	**209**	*eP*	**Pn**	**22 55 47.4**	**+0.2**
	baz=206						
JTJ	**Tarama**	**2.33**	**104**	P	**Pn**	**22 55 47.1**	**-0.1**
JTJ				S	**S**	**22 56 22.1**	**+0.2**
STYT	**Tauyuan**	**2.45**	**213**	*eP*	**Pn**	**22 55 48.7**	**+0.2**
	baz=218						
WTP	**Ta-pu**	**2.46**	**217**	P	**Pn**	**22 55 48.3**	**-0.3**
	baz=224						
TWK	**Hsinying**	**2.51**	**219**	*eP*	**Pn**	**22 55 48.9**	**-0.2**
	baz=224						
CHN1	**Nanshi**	**2.55**	**217**	P	**Pn**	**22 55 49.2**	**-0.3**
	baz=224						
TWG	**Pinlang**	**2.62**	**204**	*eP*	**Pn**	**22 55 49.9**	**-0.3**
	baz=202						
JMJ	**Miyako jima 2**	**2.83**	**98**	P	**Pn**	**22 55 52.4**	**0.0**
SSD	**Sandimen**	**2.87**	**211**	P	**Pn**	**22 55 53.0**	**+0.1**
	baz=211						
JOGS	**Gusukube**	**2.94**	**99**	P	**Pn**	**22 55 53.8**	**+0.2**

*IDC **08** 22:58:36.3±2.2, 24°.00N×91°.41E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/27, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=75.5km s-min=22.0km az=62.0*
*ISCJB **08** 22:58:38.2±1.3, 23°.89N±0°.08×91°.4E±0°.2, h30km, mb3.6/4, Error ellipse: s-maj=26.0km s-min=10.7km az=169.9*
ISC 08 22:58:41.3±0.9, 24°.07N±0°.08×91°.5E±0°.1, h30km, n8, σ0°94/9, mb3.6/4, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGT	**Agartala**	**0.30**	**233**	*ex*	**Pb**	**22 58 50.0**	**+1.2**
AGT				*ex*	x	23 00 04.0	
SHL	**Shillong**	**1.53**	**13**	*iP*	**Pn**	**22 59 07.0**	**+0.2**
SHL				*iS*	**Sb**	**22 59 28.0**	**-0.2**
IMP	**Imphal**	**2.32**	**72**	*ex*	**Pn**	**22 59 19.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**8.89**	**127**	Pn	**Pn**	**23 00 47.0**	**-0.9**
	0.5nm,0.3s,baz=40,slow=26,SNR=4.3						
MKAR	**Makanchi Array**	**23.86**	**344**	P	**P**	**23 03 51.5**	**-0.4**
	1.2nm,0.6s,baz=155,slow=10,SNR=22						
SONM	**Songino Array**	**26.51**	**23**	P	**P**	**23 04 16.7**	**+0.5**
	0.9nm,0.6s,baz=210,slow=9.3,SNR=11						
KURBB	**Kurchatov Arra**	**28.36**	**342**	P	**P**	**23 04 32.1**	**-0.5**
	0.3nm,0.4s,baz=158,slow=7.8,SNR=4.1						
WRA	**Warramunga Arr**	**60.45**	**133**	P	**P**	**23 08 48.1**	**-0.4**
	1.0nm,0.6s,baz=322,slow=7.2,SNR=9.3						

*CSEM **08** 23:36:42.8, 12°.22N×44°.12E, h7km, ML3.8, After DHMR*
DHMR 08 23:36:42.8±0.9, 12°.22N×44°.12E, h8km±6km, ML3.8, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.00**	**360**	*iP*	Pg	23 37 01.3	-1.2
TRBA				*iS*	Sb	23 37 16.3	-0.1
TRBA				AML	AML	23 37 18.8	
	comp=E,3μm,0.3s						
ADEN	**Aden**	**1.00**	**57**	*iP*	Pg	23 37 01.3	-0.9
ADEN				*iS*	Sb	23 37 16.4	+0.5
ADEN				AML	AML	23 37 27.4	
	comp=E,3μm,0.6s						
ADEN	**Aden**	**1.00**	**57**	*iP*	Pg	23 37 01.3	-0.8
ADEN				*iS*	Sb	23 37 16.4	+0.5
	comp=E,2μm,0.6s						
UDYN	**Al 'Udayn**	**1.74**	**355**	*iP*	Pb	23 37 14.7	-0.6
UDYN				*iS*	Sg	23 37 38.6	-0.6
UDYN				AML	AML	23 37 46.6	
	comp=N,922nm,0.5s						
UDYN	**Al 'Udayn**	**1.74**	**355**	*iP*	Pb	23 37 14.7	-0.6
UDYN				*iS*	Sg	23 37 38.6	-0.6
	comp=N,461nm,0.5s						
LBOS		**1.97**	**34**	*iP*	Pn	23 37 17.7	+0.7
LBOS				*iS*	Sb	23 37 45.2	+0.8
BDHA	**Al Bayda'**	**2.24**	**39**	*iP*	Pn	23 37 22.1	+1.5
BDHA				*iS*	Sb	23 37 52.8	+0.8
BDHA				AML	AML	23 37 59.5	
	comp=N,1μm,0.3s						
BDHA	**Al Bayda'**	**2.24**	**39**	*iP*	Pn	23 37 22.1	+1.5
BDHA				*iS*	Sb	23 37 52.8	+0.8
	comp=N,503nm,0.3s						
DHBB	**Dhamar BB**	**2.35**	**6**	*iP*	Pb	23 37 24.2	-1.6
DHBB				*iS*	Sb	23 37 55.7	+0.4
DHBB	**Dhamar BB**	**2.35**	**6**	*iP*	Pb	23 37 24.2	-1.6
DHBB				*iS*	Sb	23 37 55.7	+0.4
HAJJ	**Hajjah**	**3.49**	**352**	*iP*	Pn	23 37 40.0	+2.3
HAJJ				*iS*	Sb	23 38 25.2	-2.8
HAJJ				AML	AML	23 38 38.1	
	comp=N,344nm,0.5s						
HAJJ	**Hajjah**	**3.49**	**352**	*iP*	Pn	23 37 40.0	+2.2
HAJJ				*iS*	Sb	23 38 25.2	-2.8
	comp=N,172nm,0.5s						

*IDC **08** 23:40:09.0±1.2, 6°.40S×143°.03E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.8/14, mbtmp3.8/6, ML3.0/2, MS3.4/3, Ms1 3.4/3, ms1mx2.8/30, Error ellipse: s-maj=30.4km s-min=24.9km az=79.0*
*ISCJB **08** 23:40:12.1±0.8, 6°.54S±0°.09×142°.96E±0°.07, h33km, mb3.8/4, MS3.5/2, Error ellipse: s-maj=13.6km s-min=9.6km az=21.5*
*NEIC **08** 23:40:14.1±0.8, 6°.49S×142°.91E, h35km, mb4.3/3, Error ellipse: s-maj=17.6km s-min=14.2km az=113.0*
ISC 08 23:40:14.0±1.0, 6°.5S±0°.1×142°.94E±0°.09, h35km, n19, σ1°01/19, mb3.8/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.07**	**125**	Pn	**Pn**	**23 41 28.0**	**+0.4**
PMG				Sn	**Sn**	**23 42 24.6**	**-0.4**
PMG	**Port Moresby**	**5.07**	**125**	Pn	**Pn**	**23 41 28.0**	**+0.4**
	1.2nm,0.3s,baz=310,slow=7.9,SNR=3.2						
PMG				Sn	**Sn**	**23 42 24.6**	**-0.4**
	2.9nm,0.3s,baz=7.4,slow=19,SNR=5.7						
CTA	**Charters Tower**	**13.87**	**167**	LR	LR	23 48 23.3	
	comp=Z,81nm,19.8s,baz=40,slow=35						
WRAB	**Tennant Creek**	**15.73**	**211**	*eP*	**Pn**	**23 43 53.4**	**+0.3**
	8.4nm,0.9s						
WRA	**Warramunga Arr**	**15.74**	**211**	Pn	**Pn**	**23 43 51.0**	**-2.2**
WRA	**Warramunga Arr**	**15.74**	**211**	Pn	**Pn**	**23 43 51.0**	**-2.2**
	0.3nm,0.3s,baz=30,slow=12,SNR=4.6						
AS31	**Alice Springs**	**19.13**	**206**	*eP*	**Pn**	**23 44 35.5**	**+0.2**
ASAR	**Alice Springs**	**19.14**	**206**	P	**Pn**	**23 44 35.9**	**+0.5**
ASAR	**Alice Springs**	**19.14**	**206**	P	**Pn**	**23 44 35.9**	**+0.5**
	0.3nm,0.3s,baz=31,slow=10,SNR=27						
FITZ	**Fitzroy Crossi**	**20.42**	**234**	*eP*	**P**	**23 44 48.2**	**-0.2**
	25nm,1.6s						
FITZ	**Fitzroy Crossi**	**20.42**	**234**	P	**P**	**23 44 49.3**	**+0.9**
	7.5nm,1.1s,baz=49,slow=9.3,SNR=3.9						
FITZ				LR	LR	23 53 19.5	
	comp=Z,129nm,18.2s,baz=254,slow=38						
STKA	**Stephens Creek**	**25.26**	**183**	P	**P**	**23 45 38.3**	**+1.2**
STKA	**Stephens Creek**	**25.26**	**183**	P	**P**	**23 45 37.2**	**+0.2**
	1.5nm,0.5s,baz=0.9,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**75.36**	**322**	P	**P**	**23 51 54.9**	**+0.8**
MKAR	**Makanchi Array**	**75.36**	**322**	P	**P**	**23 51 54.9**	**+0.8**
	0.3nm,0.7s,baz=111,slow=6.8,SNR=5.2						
AAK	**Ala-Archa**	**78.85**	**316**	*eP*	**P**	**23 52 13.4**	**-0.5**
	2.9nm,0.7s						
AAK	**Ala-Archa**	**78.85**	**316**	LR	LR	00 27 39.4	
	comp=Z,29nm,18.0s,baz=215,slow=36						
ILAR	**Eielson Array**	**87.56**	**24**	P	**P**	**23 52 57.5**	**-0.7**
ILAR	**Eielson Array**	**87.56**	**24**	P	**P**	**23 52 57.5**	**-0.7**
	0.4nm,0.7s,baz=256,slow=5.2,SNR=5.8						

IDC 08 23:41:39.0±8.4, 30°.74S×178°.74W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.9/14, mbtmp4.0/2, Error ellipse: s-maj=361.1km s-min=54.7km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.45**	**268**	P	P	23 49 35.2	-0.7
	1.1nm,0.9s,baz=97,slow=6.6,SNR=3.9						
WRA	**Warramunga Arr**	**43.47**	**273**	P	P	23 49 44.6	+0.4
	1.4nm,0.3s,baz=114,slow=7.9,SNR=10						
FINES	**FINESS Array B**	**145.24**	**339**	PKPbc	PKPbc	00 01 16.7	-0.9
	2.9nm,0.8s,baz=29,slow=3.2,SNR=12						

IDC 09 00:03:59.7±1.7, 42°.87S×72°.39W, h0km, mb3.7/1, mb1 4.2/2, mb1mx3.8/13, mbtmp3.7/2, Error ellipse: s-maj=51.3km s-min=20.5km az=127.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**2.54**	**33**	Pn	Pn	00 04 43.2	+0.9
	5.9nm,0.3s,baz=215,slow=14,SNR=74						
PLCA				Pg	Pb	00 04 45.9	-0.3
	6.3nm,0.3s,baz=221,slow=17,SNR=82						
PLCA				Lg	Lg	00 05 20.1	
	17nm,0.3s,baz=310,slow=23,SNR=12						
TXAR	**Lajitas Array**	**77.39**	**332**	P	P	00 15 56.6	+0.1
	0.6nm,0.9s,baz=148,slow=5.2,SNR=4.2						
KURBB	**Kurchatov Arra**	**158.72**	**59**	PKP	PKPdf	00 23 58.7	+0.1
	0.2nm,0.5s,baz=287,slow=1.5,SNR=4.5						
MKAR	**Makanchi Array**	**161.64**	**69**	PKPab	PKPab	00 24 45.9	-1.4
	0.7nm,0.9s,baz=267,slow=2.4,SNR=5.4						

IDC 09 00:04:58.7±4.7, 29°.76S×178°.24W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, Error ellipse: s-maj=196.8km s-min=71.6km az=159.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.43**	**256**	P	P	00 11 47.5	-0.5
	1.9nm,0.6s,baz=82,slow=7.1,SNR=3.9						
ASAR	**Alice Springs**	**42.94**	**266**	P	P	00 12 59.6	0.0
	0.6nm,0.6s,baz=106,slow=7.4,SNR=5.9						
WRA	**Warramunga Arr**	**43.87**	**272**	P	P	00 13 07.2	+0.1
	0.6nm,0.4s,baz=111,slow=7.7,SNR=5.6						
FINES	**FINESS Array B**	**144.47**	**340**	PKP	PKPdf	00 24 35.7	-0.6
	2.4nm,1.0s,baz=46,slow=4.0,SNR=5.8						

IDC 09 00:31:05.0±6.3, 33°.87N×72°.75E, h0km, mb3.2/2, mb1 3.3/4, mb1mx3.1/27, mbtmp3.3/4, ML3.2/2, 1C, Error ellipse: s-maj=181.4km s-min=30.0km az=131.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**8.86**	**8**	Pn	Pn	00 33 17.6	+3.2
	0.4nm,0.3s,baz=176,slow=11,SNR=6.8						
KK31	**Karatay Array**	**9.39**	**350**	⇑Pn	Pn	00 33 16.6	-4.9
	0.2nm,0.2s,baz=178,slow=13,SNR=33						
KK31				Sn	Sn	00 34 28.4	-39
	3.6nm,0.4s,baz=179,slow=22,SNR=17						
MKAR	**Makanchi Array**	**14.80**	**26**	Pn	Pn	00 34 38.0	+2.4
	0.1nm,0.3s,baz=216,slow=14,SNR=6.3						
ZALV	**Zalesovo Beam**	**21.82**	**19**	P	P	00 35 57.3	-1.3
	0.3nm,0.3s,baz=226,slow=13,SNR=3.3						
TORD	**Torodi Ar. Bea**	**67.14**	**271**	P	P	00 42 01.1	+0.1
	0.1nm,0.6s,baz=45,slow=5.7,SNR=4.1						

*ISCJB **09** 01:00:17.4±0.7, 40°.30N±0°.02×25°.73E±0°.04, h6km±4km, Error ellipse: s-maj=4.7km s-min=4.0km az=148.7*
*ISK **09** 01:00:17.1, 40°.31N×25°.83E, h5km, MD3.0*
*ATH **09** 01:00:17.7, 40°.33N×25°.84E, h26km, MD3.1/6*
*DDA **09** 01:00:18.4, 40°.33N×25°.90E, h7km, MD2.8*
*CSEM **09** 01:00:18.0±0.2, 40°.31N×25°.77E, h5km, MD3.0, Error ellipse: s-maj=4.1km s-min=3.6km az=96.0*
ISC 09 01:00:17.2±1.3, 40°.33N±0°.02×25°.82E±0°.02, h5km±11km, n61, σ0°64/83, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.48**	**32**	*ePg*	**Pb**	**01 00 27.7**	**-0.4**
ENEZ				*eSg*	**Sb**	**01 00 35.8**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.50**	**82**	*ePG*	**Pb**	**01 00 28.4**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.50**	**82**	*ePg*	**Pb**	**01 00 28.4**	**-0.1**
BOZC	**Bozcaada**	**0.52**	**160**	*iP*	**Pb**	**01 00 28.4**	**-0.4**
BOZC				*iS*	**Sb**	**01 00 35.5**	**-1.1**
ALN	**Alexandroupoli**	**0.59**	**17**	*ePn*	**Pb**	**01 00 29.5**	**-0.6**
ALN				*eSn*	**Sb**	**01 00 37.8**	**-0.9**
ALN	**Alexandroupoli**	**0.59**	**17**	*ePn*	**Pb**	**01 00 29.5**	**-0.6**
ALN				*eSn*	**Sb**	**01 00 37.8**	**-0.9**
ERIK	**Erikli-Kesan**	**0.63**	**57**	*ePG*	**Pb**	**01 00 30.9**	**+0.2**
ERIK	**Erikli-Kesan**	**0.63**	**57**	*ePg*	**Pb**	**01 00 30.9**	**+0.2**
EZN	**Ezine**	**0.63**	**142**	*ePG*	**Pb**	**01 00 30.2**	**-0.5**
EZN				*eSG*	**Sb**	**01 00 39.8**	**-0.1**
EZN	**Ezine**	**0.63**	**142**	*ePg*	**Pb**	**01 00 30.2**	**-0.5**
EZN				*eSg*	**Sb**	**01 00 39.8**	**-0.1**
LIA	**Limnos Island**	**0.65**	**229**	*ePN*	**Pb**	**01 00 31.1**	**0.0**
LIA				*eSN*	**Sb**	**01 00 40.7**	**+0.3**
LIA	**Limnos Island**	**0.65**	**229**	*ePn*	**Pb**	**01 00 31.1**	**0.0**
LIA				*eSn*	**Sb**	**01 00 40.7**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.09**	**70**	*ePN*	**Pn**	**01 00 39.3**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.09**	**70**	*ePn*	**Pn**	**01 00 39.3**	**+0.1**
KRBG	**Karabiga-Canak**	**1.13**	**86**	*ePN*	**Pb**	**01 00 39.3**	**+0.1**
KRBG	**Karabiga-Canak**	**1.13**	**86**	*ePn*	**Pb**	**01 00 39.3**	**+0.1**
PRK	**Paraskevi**	**1.14**	**162**	*ePN*	**Pn**	**01 00 39.5**	**-0.2**
PRK				*eSN*	**Sn**	**01 00 55.3**	**-0.4**
PRK	**Paraskevi**	**1.14**	**162**	*ePn*	**Pn**	**01 00 39.5**	**-0.2**
PRK				*eSn*	**Sn**	**01 00 55.3**	**-0.4**
MFT	**Murefte**	**1.20**	**67**	*ePN*	**Pn**	**01 00 41.0**	**+0.3**
MFT	**Murefte**	**1.20**	**67**	*ePn*	**Pn**	**01 00 41.0**	**+0.3**
AYVA	**Ayvalik**	**1.22**	**146**	*iP*	**Pn**	**01 00 41.0**	**+0.1**
AYVA				*iS*	**Sn**	**01 00 58.0**	**+0.3**
GONE	**Gonen-Balikesi**	**1.46**	**101**	*ePN*	**Pg**	**01 00 45.5**	**+0.4**
GONE	**Gonen-Balikesi**	**1.46**	**101**	*ePn*	**Pg**	**01 00 45.5**	**+0.4**
TKR	**Tekirdag**	**1.46**	**63**	*ePN*	**Pg**	**01 00 45.8**	**+0.6**
TKR	**Tekirdag**	**1.46**	**63**	*ePn*	**Pg**	**01 00 45.8**	**+0.6**
BALY	**Balya**	**1.50**	**113**	*iP*	**Pg**	**01 00 46.3**	**+0.3**
BALY				*iS*	**Sg**	**01 01 06.2**	**+0.8**
BALY	**Balya**	**1.50**	**113**	*iP*	**Pg**	**01 00 46.3**	**+0.3**
BALY				*iS*	**Sg**	**01 01 06.2**	**+0.8**
EDC	**Edincik**	**1.56**	**89**	*ePN*	**Pg**	**01 00 47.0**	**-0.1**
EDC	**Edincik**	**1.56**	**89**	*ePn*	**Pg**	**01 00 47.0**	**-0.1**
BNT	**Bandirma**	**1.60**	**88**	*ePN*	**Pg**	**01 00 47.6**	**-0.3**
BNT	**Bandirma**	**1.60**	**88**	*ePn*	**Pg**	**01 00 47.6**	**-0.3**
CRLT	**Corlu**	**1.66**	**61**	*ePN*	**Pg**	**01 00 48.7**	**-0.3**
CRLT	**Corlu**	**1.66**	**61**	*ePn*	**Pg**	**01 00 48.7**	**-0.3**
EDRB	**Edirne**	**1.67**	**24**	*ePN*	**Pb**	**01 00 48.7**	**+0.3**
EDRB	**Edirne**	**1.67**	**24**	*ePn*	**Pb**	**01 00 48.7**	**+0.3**
BALB	**Balikesir**	**1.72**	**113**	*ePN*	**Pb**	**01 00 49.4**	**0.0**
BALB	**Balikesir**	**1.72**	**113**	*ePn*	**Pb**	**01 00 49.4**	**0.0**
NVR	**Nevrokopi**	**1.80**	**305**	*ePB*	**Pn**	**01 00 49.0**	**0.0**
NVR				*eSN*	**Sn**	**01 01 12.7**	**+0.4**
NVR	**Nevrokopi**	**1.80**	**305**	*ePb*	**Pn**	**01 00 49.0**	**0.0**
NVR				*eSn*	**Sn**	**01 01 12.7**	**+0.4**
PLG	**Polygyros**	**1.82**	**272**	*ePN*	**Pn**	**01 00 48.9**	**-0.3**
PLG				*eSN*	**Sn**	**01 01 12.7**	**+0.1**
PLG	**Polygyros**	**1.82**	**272**	*ePn*	**Pn**	**01 00 48.9**	**-0.3**
PLG				*eSn*	**Sn**	**01 01 12.7**	**+0.1**
KCTX	**Karacabey (Bur**	**1.94**	**91**	*ePN*	**Pb**	**01 00 52.4**	**-0.6**
KCTX	**Karacabey (Bur**	**1.94**	**91**	*ePn*	**Pb**	**01 00 52.4**	**-0.6**
CHOS	**Chios island**	**1.95**	**175**	*ePB*	**Pn**	**01 00 51.1**	**+0.1**
CHOS	**Chios island**	**1.95**	**175**	*ePb*	**Pn**	**01 00 51.1**	**+0.1**
AKHS	**Akhisar**	**2.11**	**133**	*iP*	**Pn**	**01 00 53.9**	**+0.7**
AKHS				*iS*	**Sn**	**01 01 20.9**	**+1.1**
AKHS	**Akhisar**	**2.11**	**133**	*iP*	**Pn**	**01 00 53.9**	**+0.7**
AKHS				*iS*	**Sn**	**01 01 20.9**	**+1.1**
DURS	**Dursunbey**	**2.16**	**109**	*iP*	**Pg**	**01 00 57.9**	**-0.8**
DURS				*iS*	**Sn**	**01 01 21.9**	**+0.8**
DURS	**Dursunbey**	**2.16**	**109**	*iP*	**Pg**	**01 00 57.9**	**-0.8**
DURS				*iS*	**Sn**	**01 01 22.0**	**+0.8**
CTYL	**Yal??k??y-??at**	**2.19**	**58**	*ePN*	**Pb**	**01 00 56.3**	**-1.0**
CTYL	**Yal??k??y-??at**	**2.19**	**58**	*ePn*	**Pb**	**01 00 56.3**	**-1.0**
CTKS	**Kestanelik-??a**	**2.23**	**65**	*ePN*	**Pb**	**01 00 57.1**	**-0.8**
CTKS	**Kestanelik-??a**	**2.23**	**65**	*ePn*	**Pb**	**01 00 57.2**	**-0.8**
DST	**Dursunbey**	**2.27**	**108**	*ePN*	**Pb**	**01 00 57.1**	**-1.5**
DST	**Dursunbey**	**2.27**	**108**	*ePn*	**Pb**	**01 00 57.2**	**-1.5**
MDNY	**Mudanya-Bursa**	**2.34**	**88**	*ePN*	**Pb**	**01 00 58.6**	**-1.3**
MDNY	**Mudanya-Bursa**	**2.34**	**88**	*ePn*	**Pb**	**01 00 58.6**	**-1.3**
BGKT	**Bogazkoy**	**2.40**	**68**	*ePN*	**Pb**	**01 00 59.1**	**-1.7**
BGKT	**Bogazkoy**	**2.40**	**68**	*ePn*	**Pb**	**01 00 59.1**	**-1.7**
DEMI	**Demirci**	**2.58**	**119**	*iP*	**Pg**	**01 01 06.4**	**-0.2**

*IDC **09** 01:17:50.6±2.9, 21°.38N×146°.02E, h30km±20km, mb4.6/30, mb1 4.8/34, mb1mx4.7/35, mbtmp4.7/34, ML4.6/4, MS4.8/24, Ms1 4.8/24, ms1mx4.6/35, Error ellipse: s-maj=16.2km s-min=12.6km az=85.0*
*MOS **09** 01:17:51.6±0.9, 21°.38N×145°.83E, h49km, mb5.5/74, MS5.0/20, Error ellipse: s-maj=8.5km s-min=4.7km az=106.9*
*ISCJB **09** 01:17:53.0±0.7, 21°.38N±0°.03×145°.86E±0°.02, h60km±5km, mb5.2/198, MS5.0/65, Error ellipse: s-maj=4.5km s-min=3.1km az=9.0*
*NEIC **09** 01:17:53.3±0.8, 21°.43N×145°.91E, h49km±7km, mb5.2/112, Error ellipse: s-maj=4.4km s-min=3.9km az=

JTM	**Tenmabayashi**	**19.75**	**349**	P	**P**	**01 22 18.4**	**-1.5**
JEW	**Eniwo**	**21.69**	**351**	P	**P**	**01 22 42.1**	**+1.3**
JSH	**Shimam**	**21.74**	**348**	P	P	01 22 46.0	+4.8
KSRS	**Korea Array**	**22.31**	**320**	P	**P**	**01 22 44.8**	**-2.7**
	comp=Z,25nm,0.8s,baz=154,slow=8.3,SNR=51						
KSRS				ScP	**ScP**	**01 30 16.4**	**+4.5**
	comp=Z,0.6nm,0.3s,baz=129,slow=3.4,SNR=4.2						
KSRS				LR	LR	01 31 47.5	
	comp=Z,4μm,18.1s,baz=126,slow=37						
KSAR	**Wonju Array Be**	**22.33**	**320**	P	**P**	**01 22 44.8**	**-2.9**
KSAR				ScP	**ScP**	**01 30 16.4**	**+4.4**
NACB	**Ninganchiao**	**22.56**	**282**	*e*P	**P**	**01 22 49.5**	**-0.8**
	comp=Z,43nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**22.57**	**360**	*d* P	**P**	**01 22 47.8**	**-2.3**
YUK				*i* S	**S**	**01 26 49.5**	**-2.8**
YUK				pmax	pmax		
	comp=Z,221nm,8.1s						
YUK				MLR	MLR		
	comp=Z,2μm,19.0s						
JMP	**Maruseppu**	**22.64**	**355**	P	**P**	**01 22 51.6**	**+0.7**
YHNB	**Yeheng**	**22.79**	**283**	*e*P	**P**	**01 22 52.1**	**-0.7**
	comp=Z,64nm,0.9s						
ASAJ	**Asahikawa**	**22.81**	**354**	*e*P	**P**	**01 22 53.2**	**+0.5**
	comp=Z,58nm,1.3s						
ASAJ	**Asahikawa**	**22.81**	**354**	P	**P**	**01 22 52.3**	**-0.4**
ASAJ	**Asahikawa**	**22.81**	**354**	P	**P**	**01 22 53.0**	**+0.3**
	comp=Z,27nm,0.9s,baz=183,slow=15,SNR=6.8						
INCN	**Inchon**	**23.12**	**318**	*e*P	**P**	**01 22 55.7**	**-0.2**
	comp=Z,129nm,1.1s						
INCN	**Inchon**	**23.12**	**318**	⇓P	**P**	**01 22 55.4**	**-0.5**
	SNR=9.1						
SSLB	**Suanglung**	**23.14**	**281**	*e*P	**P**	**01 22 55.6**	**-0.6**
	comp=Z,276nm,1.7s						
DAV	**Davao City (W)**	**24.26**	**237**	P	**P**	**01 23 09.1**	**+2.7**
DAV	**Davao City (W)**	**24.26**	**237**	P	**P**	**01 23 09.1**	**+2.7**
	comp=Z,170nm,0.4s,baz=202,slow=5.4,SNR=3.9						
DAV				LR	LR	01 31 46.9	
	comp=Z,1μm,18.0s,baz=61,slow=34						
VLA	**Vladivostok**	**24.61**	**335**	*c i* P	**P**	**01 23 10.7**	**+1.4**
VLA				pmax	pmax		
	comp=Z,93nm,1.7s						
QZH	**Quanzhou**	**25.32**	**283**	⇑*i* P	**P**	**01 23 14.7**	**-1.4**
QZH				sP	**sP**	**01 23 43.2**	**+1.8**
QZH				S	**S**	**01 27 32.4**	**-4.8**
QZH				pmax	pmax		
	comp=Z,1μm,11.3s						
QZH				LR	LR		
	comp=N,2μm,10.3s						
QZH				LR	LR		
	comp=E,2μm,15.8s						
QZH				LR	LR		
	comp=Z,3μm,13.2s						
USRK	**Ussuriysk Arra**	**25.48**	**336**	P	**P**	**01 23 18.2**	**+1.0**
	comp=Z,39nm,0.8s,baz=145,slow=8.7,SNR=49						
YSS	**Yuzh-Sakhalins**	**25.61**	**355**	⇑*e*P	**P**	**01 23 19.6**	**+1.2**
YSS				*e*S	**S**	**01 27 40.0**	**-1.2**
YSS				pmax	pmax		
	comp=Z,400nm,4.0s						
YSS				MLR	MLR		
	comp=Z,2μm,15.0s						
YSS				MLR	MLR		
	comp=N,2.0nm,16.0s						
YSS				MLR	MLR		
	comp=E,2μm,14.0s						
YSS	**Yuzh-Sakhalins**	**25.61**	**355**	P	**P**	**01 23 18.8**	**+0.4**
	comp=E,50nm,1.0s						
NJ2	**Nanjing**	**26.30**	**299**	*e*P	**P**	**01 23 24.1**	**-0.8**
NJ2				pP	**pP**	**01 23 39.2**	**-2.6**
NJ2				sP	**sP**	**01 23 51.4**	**+1.1**
NJ2				PP	**PnPn**	**01 24 09.5**	**+1.6**
NJ2				S	**S**	**01 27 53.0**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,50nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,650nm,10.8s						
NJ2				LR	LR		
	comp=N,2μm,15.7s						
NJ2				LR	LR		
	comp=E,2μm,13.4s						
NJ2				LR	LR		
	comp=Z,2μm,14.7s						
MDJ	**Mudanjiang**	**26.78**	**334**	P	**P**	**01 23 29.9**	**+0.9**
MDJ				pP	**pP**	**01 23 46.7**	**+0.8**
MDJ				sP	**sP**	**01 23 54.9**	**+0.5**
MDJ				ScP	**ScP**	**01 30 21.4**	**-2.8**
MDJ				PcS	**PcS**	**01 30 28.2**	**-3.4**
MDJ				ScS	**ScS**	**01 34 12.6**	**-2.3**
MDJ				pmax	pmax		
	comp=Z,21nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,570nm,6.3s						
MDJ				LR	LR		
	comp=N,3μm,13.8s						
MDJ				LR	LR		
	comp=E,1μm,10.7s						
MDJ				LR	LR		
	comp=Z,3μm,15.3s						
DL2	**Dalian**	**27.15**	**315**	⇑*i* P	**P**	**01 23 33.6**	**+1.2**
DL2				S	**S**	**01 28 08.1**	**+2.4**
DL2				pmax	pmax		
	comp=Z,50nm,1.3s						
DL2				pmax	pmax		
	comp=Z,420nm,6.9s						
DL2				LR	LR		
	comp=E,2μm,14.1s						
DL2				LR	LR		
	comp=Z,2μm,14.5s						
SNY	**Shenyang**	**27.70**	**322**	⇑P	**P**	**01 23 36.7**	**-0.6**
SNY				pmax	pmax		
	comp=Z,23nm,0.8s						
SNY				pmax	pmax		
	comp=Z,490nm,9.8s						
SNY				LR	LR		
	comp=N,2μm,12.0s						
SNY				LR	LR		
	comp=E,3μm,14.5s						
SNY				LR	LR		
	comp=Z,2μm,16.4s						
CN2	**Changchun**	**28.05**	**327**	*e*P	**P**	**01 23 40.6**	**+0.2**
CN2				pmax	pmax		
	comp=Z,20nm,1.3s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,4μm,19.0s						
CN2				LR	LR		
	comp=E,3μm,19.0s						
CN2				LR	LR		
	comp=Z,3μm,19.0s						
LBMI	**Labuha**	**28.34**	**222**	P	P	01 23 48.0	+4.8
HABR	**Khabarovsk**	**28.37**	**345**	*e*P	**P**	**01 23 42.7**	**-0.4**
HABR				*e**PP	**pP**	**01 24 00.4**	**+0.2**
HABR				*e*S	**S**	**01 28 24.9**	**+0.2**
HABR				*e*SS	**SnSn**	**01 29 51.1**	**+1.7**
HABR				*e*		01 34 18.9	
HABR				pmax	pmax		
	comp=N,60nm,1.7s						
HABR				pmax	pmax		
	comp=Z,75nm,1.3s						
HABR				pmax	pmax		
	comp=E,24nm,1.0s						
HABR				MLR	MLR		
	comp=Z,1μm,16.0s						
TIA	**Tai'an**	**29.07**	**307**	*e*P	**P**	**01 23 50.4**	**+0.9**
WHN	**Wuhan**	**29.70**	**294**	⇓*i* P	**P**	**01 23 54.8**	**-0.3**
WHN				pmax	pmax		
	comp=Z,77nm,1.1s						
WHN				pmax	pmax		
	comp=Z,600nm,8.4s						
WHN				LR	LR		
	comp=N,3μm,12.7s						
WHN				LR	LR		
	comp=E,4μm,15.9s						
WHN				LR	LR		
	comp=Z,5μm,14.6s						
KLR	**Kul'dur**	**29.96**	**341**	⇓*i* P	**P**	**01 23 54.2**	**-3.0**
KLR				*e*		01 24 04.7	
KLR				*e*S	S	01 28 43.5	-6.2
KLR				pmax	pmax		
	comp=E,43nm,1.4s						
KLR				pmax	pmax		
	comp=Z,130nm,1.4s						
KLR				MLR	MLR		
	comp=Z,6μm,14.0s						
PMG	**Port Moresby**	**30.64**	**178**	P	P	01 24 09.5	+5.9
BJI	**Beijing**	**31.37**	**313**	P	**P**	**01 24 10.9**	**+1.1**
BJI				S	**S**	**01 29 13.4**	**+1.5**
BJI				pmax	pmax		
	comp=Z,111nm,1.2s						
BJI				pmax	pmax		
	comp=Z,460nm,13.2s						
BJI				LR	LR		
	comp=N,2μm,16.3s						
BJI				LR	LR		
	comp=E,2μm,16.3s						
BJI				LR	LR		
	comp=Z,1μm,17.9s						
KKM	**Kota Kinabalu**	**32.53**	**246**	*e*P	**P**	**01 24 20.8**	**+0.5**
	comp=Z,60nm,1.1s						
KKM	**Kota Kinabalu**	**32.53**	**246**	P	**P**	**01 24 21.5**	**+1.2**
	comp=Z,46nm,1.1s						
PETK	**Petropavlovsk-**	**32.92**	**13**	P	**P**	**01 24 23.1**	**-0.2**
PETK	**Petropavlovsk-**	**32.92**	**13**	P	**P**	**01 24 23.1**	**-0.2**
PETK	**Petropavlovsk-**	**32.92**	**13**	P	**P**	**01 24 23.1**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=198,slow=7.0,SNR=3.3						
PETK				LR	LR	01 35 38.6	
	comp=Z,429nm,19.7s,baz=194,slow=32						
PET	**Petropavlovsk**	**33.05**	**14**	*e*P	P	01 24 32.4	+8.1
PET				*e*S	S	01 29 47.6	+10
PET				MLR	MLR		
	comp=Z,2μm,20.0s						
TIY	**Taiyuan**	**33.11**	**307**	*e*P	**P**	**01 24 25.1**	**-0.1**
TIY				S	**S**	**01 29 43.7**	**+4.3**
TIY				LR	LR		
	comp=N,370nm,10.0s						
TIY				LR	LR		
	comp=E,2μm,14.3s						
TIY				LR	LR		
	comp=Z,2μm,14.7s						
QIZ	**Qiongzhong**	**33.87**	**273**	P	**P**	**01 24 32.4**	**+0.5**
QIZ				PP	**PP**	**01 25 49.8**	**+0.1**
QIZ				S	**S**	**01 29 49.7**	**-1.5**
QIZ				sS	**sS**	**01 30 18.6**	**-2.2**
QIZ				pmax	pmax		
	comp=Z,290nm,8.2s						
QIZ				LR	LR		
	comp=N,630nm,15.5s						
QIZ				LR	LR		
	comp=Z,1μm,19.4s						
XAN	**Xi'an**	**34.88**	**299**	P	**P**	**01 24 39.4**	**-1.1**
XAN				S	**S**	**01 30 02.5**	**-4.1**
XAN				pmax	pmax		
	comp=Z,110nm,7.2s						
XAN				LR	LR		
	comp=N,960nm,14.6s						
XAN				LR	LR		
	comp=E,520nm,18.0s						
XAN				LR	LR		
	comp=Z,480nm,15.4s						
HHC	**Hu-ho-hao-te**	**34.90**	**312**	⇑*i* P	**P**	**01 24 40.1**	**-0.5**
HHC				pP	**pP**	**01 24 58.2**	**+0.3**
HHC				sP	**sP**	**01 25 07.3**	**+1.0**
HHC				PP	**PP**	**01 26 00.4**	**-0.5**
HHC				S	**S**	**01 30 05.8**	**-1.1**
HHC				sS	**sS**	**01 30 36.3**	**-0.2**
HHC				pmax	pmax		
	comp=Z,36nm,1.3s						
HHC				pmax	pmax		
	comp=Z,360nm,8.6s						
HHC				LR	LR		
	comp=N,2μm,16.5s						
HHC				LR	LR		
	comp=E,2μm,15.7s						
HHC				LR	LR		
	comp=Z,2μm,15.6s						
BTO	**Baotou**	**35.89**	**310**	*e*P	**P**	**01 24 48.3**	**-0.9**
GYA	**Guiyang**	**36.11**	**286**	P	**P**	**01 24 50.1**	**-1.1**
GYA				pP	**pP**	**01 25 08.3**	**-0.3**
GYA				sP	**sP**	**01 25 17.3**	**+0.3**
GYA				PP	**PnPn**	**01 26 13.9**	**-0.6**
GYA				PcP	**PcP**	**01 27 15.1**	**-0.8**
GYA				S	**S**	**01 30 27.4**	**+1.6**
GYA				sS	**sS**	**01 30 53.8**	**-1.7**
GYA				SS	**SnSn**	**01 32 48.9**	**-8.8**
GYA				pmax	pmax		
	comp=Z,20nm,1.1s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,880nm,13.9s						
GYA				LR	LR		
	comp=E,1μm,16.4s						
GYA				LR	LR		
	comp=Z,1μm,17.4s						
KAPI	**Kappang**	**36.69**	**227**	*e*P	**P**	**01 24 55.7**	**-0.4**
	comp=Z,25nm,1.1s						
KAPI	**Kappang**	**36.69**	**227**	P	**P**	**01 24 56.4**	**+0.3**
	comp=Z,21nm,1.2s						
SBUM	**Sibu**	**37.79**	**245**	P	**P**	**01 25 06.5**	**+1.0**
	comp=Z,87nm,1.3s,comp=Z,1μm						
CLNS	**Chul'man**	**38.62**	**342**	*e*P	**P**	**01 25 12.3**	**+0.3**
CLNS				*e**PP	pP	01 25 23.1	-6.4
CLNS				*e*		01 26 40.7	
CLNS				*e*		01 27 20.7	
CLNS				*e*S	**S**	**01 31 05.2**	**+2.2**
CLNS				*e*SS	**SS**	**01 33 52.7**	**-3.1**
CLNS				pmax	pmax		
	comp=Z,10.0nm,1.3s						
CLNS				pmax	pmax		
	comp=E,38nm,1.1s						
CLNS				pmax	pmax		
	comp=N,25nm,1.2s						
CLNS				pmax	pmax		
	comp=E,5.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,11nm,1.0s						
CLNS				pmax	pmax		
	comp=N,21nm,1.2s						
CLNS				smax	smax		
	comp=E,221nm,10.1s						
CLNS				smax	smax		
	comp=N,266nm,11.5s						
CD2	**Chengdu**	**38.79**	**293**	⇓*i* P	**P**	**01 25 13.7**	**-0.1**
CD2				pP	**pP**	**01 25 32.6**	**+1.3**
CD2				sP	**sP**	**01 25 42.0**	**+2.3**
CD2				PcP	**PcP**	**01 27 24.5**	**+0.5**
CD2				S	**ScP**	**01 31 04.5**	**-1.4**
CD2				pmax	pmax		
	comp=Z,90nm,1.0s						
CD2				pmax	pmax		
	comp=Z,410nm,7.6s						
CD2				LR	LR		
	comp=N,3μm,15.7s						
CD2				LR	LR		
	comp=E,2μm,16.2s						
CD2				LR	LR		
	comp=Z,3μm,14.9s						
LZH	**Lanzhou**	**39.35**	**301**	⇑P	**P**	**01 25 19.1**	**+0.6**
LZH				pP	**pP**	**01 25 36.5**	**+0.4**
LZH				sP	**sP**	**01 25 44.8**	**+0.4**
LZH				PP	**PnPn**	**01 26 52.4**	**-1.0**
LZH				S	**ScP**	**01 31 06.3**	**-1.8**
LZH				sS	sS	01 31 35.5	-9.2
LZH				pmax	pmax		
	comp=Z,110nm,1.0s						
LZH				pmax	pmax		
	comp=Z,450nm,4.0s						
LZH				LR	LR		
	comp=N,1μm,15.4s						
LZH				LR	LR		
	comp=E,1μm,14.0s						
LZH				LR	LR		
	comp=Z,2μm,16.7s						
CIT	**Chita**	**39.48**	**329**	*e*P	**P**	**01 25 20.1**	**+0.8**
CIT				*e*		01 25 30.9	
CIT				*e*		01 25 40.5	
CIT				pmax	pmax		
	comp=Z,215nm,1.5s						
KMI	**Kunming**	**39.69**	**284**	P	**P**	**01 25 21.6**	**0.0**
KMI				pP	**pP**	**01 25 40.4**	**+1.2**
KMI				sP	**sP**	**01 25 49.6**	**+2.1**
KMI				PP	**PnPn**	**01 26 58.7**	**+1.0**
KMI				S	**S**	**01 31 16.7**	**-3.6**
KMI				sS	**sS**	**01 31 49.4**	**-0.9**
KMI				pmax	pmax		
	comp=Z,22nm,1.0s						
KMI				pmax	pmax		
	comp=Z,350nm,6.0s						
KMI				LR	LR		
	comp=N,820nm,16.1s						
KMI				LR	LR		
	comp=E,290nm,14.3s						
KMI				LR	LR		
	comp=Z,600nm,17.3s						
ULN	**Ulaanbaatar**	**40.80**	**320**	*e*P	**P**	**01 25 30.7**	**+0.4**
	comp=Z,32nm,1.2s						
ULN	**Ulaanbaatar**	**40.80**	**320**	⇓P	**P**	**01 25 29.1**	**-1.2**
	SNR=12						
ULN	**Ulaanbaatar**	**40.80**	**320**	P	**P**	**01 25 30.6**	**+0.3**
	comp=Z,30nm,1.6s,comp=Z,622nm						
SONM	**Songino Array**	**41.18**	**319**	P	**P**	**01 25 33.7**	**+0.2**
SONM				ScP	**ScP**	**01 31 19.3**	**+4.3**
SONM	**Songino Array**	**41.18**	**319**	P	**P**	**01 25 33.7**	**+0.2**
	comp=Z,9.9nm,1.0s,baz=126,slow=9.3,SNR=55						
SONM				ScP	**ScP**	**01 31 19.3**	**+4.3**
	comp=Z,0.9nm,0.9s,baz=137,slow=3.6,SNR=3.8						
SONM				LR	LR	01 43 58.1	
	comp=Z,2μm,18.0s,baz=121,slow=38						
CTA	**Charters Tower**	**41.24**	**179**	*e*P	**P**	**01 25 31.1**	**-2.9**
	comp=Z,7.5nm,0.8s						
CTAO	**Charters Tower**	**41.24**	**179**	*e*P	**P**	**01 25 32.5**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CTAO	**Charters Tower**	**41.24**	**179**	*e*P	**P**	**01 25 32.5**	**-1.5**
	comp=Z,8.0nm,0.8s						
SEY	**Seymchan**	**41.74**	**4**	*c e*P	**P**	**01 25 39.2**	**+1.6**
YAK	**Yakutsk**	**42.11**	**349**	*e*P	**P**	**01 25 39.5**	**-1.1**
YAK				*e*		01 27 17.2	
YAK				*e*S	**S**	**01 31 57.2**	**+2.5**
YAK				*e*		01 35 37.5	
YAK				*e*SSS	SSS	01 35 38.9	
YAK				pmax	pmax		
	comp=Z,27nm,1.0s						
YAK				pmax	pmax		
	comp=N,15nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,698nm,8.9s						
YAK				smax	smax		
	comp=E,193nm,3.8s						
YAK				smax	smax		
	comp=N,309nm,4.7s						
YAK				MLR	MLR		
	comp=Z,1μm,18.0s						
YAK				MLR	MLR		
	comp=N,567nm,15.0s						
YAK				MLR	MLR		
	comp=E,948nm,14.0s						
WRAB	**Tennant Creek**	**42.61**	**196**	*e*P	**P**	**01 25 44.6**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,84nm,1.0s						
WRAB	**Tennant Creek**	**42.61**	**196**	*e*P	**P**	**01 25 44.6**	**-0.6**
	comp=Z,84nm,1.0s						
WRAB	**Tennant Creek**	**42.61**	**196**	P	**P**	**01 25 44.5**	**-0.6**
	comp=Z,422nm,0.9s,SNR=24						
WRA	**Warramunga Arr**	**42.62**	**196**	P	**P**	**01 25 44.7**	**-0.6**
WRA	**Warramunga Arr**	**42.62**	**196**	P	**P**	**01 25 44.7**	**-0.6**
	comp=Z,47nm,0.9s,baz=16,slow=8.8,SNR=85						
WRA				LR	LR	01 42 59.6	
	comp=Z,1μm,18.2s,baz=10.0,slow=35						
GTA	**Gaotai**	**43.09**	**305**	⇑P	**P**	**01 25 49.4**	**+0.2**
GTA				pP	**pP**	**01 26 07.5**	**+0.6**
GTA				sP	**sP**	**01 26 16.9**	**+1.7**
GTA				S	**S**	**01 32 07.8**	**-2.4**
GTA				sS	**sS**	**01 32 40.6**	**+0.2**
GTA				SS	SS	01 35 16.2	-8.7
GTA				pmax	pmax		
	comp=Z,64nm,1.6s						
GTA				pmax	pmax		
	comp=Z,510nm,6.9s						
GTA				LR	LR		
	comp=N,1μm,17.1s						
GTA				LR	LR		
	comp=E,1μm,15.4s						
GTA				LR	LR		
	comp=Z,1μm,15.9s						
BOD	**Bodaibo**	**43.12**	**336**	*e*P	**P**	**01 25 48.9**	**0.0**
BOD				pmax	pmax		
	comp=Z,21nm,1.2s						
FITZ	**Fitzroy Crossi**	**43.99**	**208**	*e*P	**P**	**01 25 56.1**	**-0.2**
	comp=Z,28nm,0.9s						
FITZ	**Fitzroy Crossi**	**43.99**	**208**	*e*P	**P**	**01 25 55.2**	**-1.1**
	comp=Z,41nm,0.8s						
CHTO	**Chiang Mai**	**44.04**	**275**	*e*P	**P**	**01 25 57.0**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CHTO	**Chiang Mai**	**44.04**	**275**	*e*P	**P**	**01 25 57.0**	**+0.2**
	comp=Z,6.9nm,0.8s						
CHTO	**Chiang Mai**	**44.04**	**275**	P	**P**	**01 25 57.4**	**+0.6**
	comp=Z,12nm,1.3s						
CMAR	**Chiang Mai Arr**	**44.11**	**275**	P	**P**	**01 25 57.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**44.11**	**275**	P	**P**	**01 25 57.8**	**+0.4**
	comp=Z,4.5nm,0.9s,baz=56,slow=8.7,SNR=26						
ZAK	**Zakamensk**	**44.13**	**321**	*e*P	**P**	**01 25 56.4**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,13nm,1.1s						
IRK	**Irkutsk**	**44.40**	**324**	*e*P	**P**	**01 25 58.9**	**-0.4**
IRK				pmax	pmax		
	comp=Z,70nm,1.8s						
TLY	**Talaya**	**44.49**	**323**	*e*P	**P**	**01 26 00.5**	**+0.5**
TLY				*e*S	S	01 32 38.8	+8.9
TLY				*e*SS	**SS**	**01 35 58.0**	**+6.6**
TLY				pmax	pmax		
	comp=Z,21nm,1.2s						
TLY				MLR	MLR		
	comp=Z,909nm,18.0s						
TLY	**Talaya**	**44.49**	**323**	*e*P	**P**	**01 26 00.8**	**+0.8**
	comp=Z,44nm,1.4s						
TLY	**Talaya**	**44.49**	**323**	⇓P	**P**	**01 25 58.7**	**-1.3**
	SNR=14						
TLY	**Talaya**	**44.49**	**323**	P	**P**	**01 26 00.1**	**+0.1**
	comp=Z,102nm,1.5s,SNR=6.1						
AS31	**Alice Springs**	**46.30**	**195**	*e*P	**P**	**01 26 14.1**	**-0.5**
ASAR	**Alice Springs**	**46.30**	**195**	P	**P**	**01 26 14.1**	**-0.5**
ASAR				PcP	**PcP**	**01 27 48.5**	**-0.4**
ASAR				S	**S**	**01 32 57.5**	**+1.0**
ASAR	**Alice Springs**	**46.30**	**195**	P	**P**	**01 26 14.1**	**-0.5**
	comp=Z,12nm,0.7s,baz=11,slow=6.9,SNR=79						
ASAR				PcP	**PcP**	**01 27 48.5**	**-0.4**
	comp=Z,4.9nm,0.9s,baz=27,slow=3.6,SNR=4.9						
ASAR				S	**S**	**01 32 57.5**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=14,slow=17,SNR=4.4						
IPM	**Ipoh**	**46.64**	**255**	*e*P	**P**	**01 26 18.0**	**+0.5**
	comp=Z,19nm,1.0s						
IPM	**Ipoh**	**46.64**	**255**	P	**P**	**01 26 18.8**	**+1.3**
	comp=Z,25nm,1.3s						
NOUC	**Port Laguerre**	**47.61**	**154**	*e*P	**P**	**01 26 26.4**	**+1.7**
DZM	**Mont Dzumac**	**47.64**	**154**	*e*P	P	01 26 30.3	+5.2
	comp=Z,198nm,1.1s						
DZM				*e*S	S	01 33 22.8	+7.1
	comp=Z,248nm,25.3s						
DZM				*e*LR	LR	01 40 02.5	
	comp=Z,2μm,22.4s						
DZM	**Mont Dzumac**	**47.64**	**154**	*e*P	**P**	**01 26 24.2**	**-0.9**
DZM	**Mont Dzumac**	**47.64**	**154**	*e*P	**P**	**01 26 25.1**	**0.0**
	comp=Z,108nm,1.1s						
BILL	**Bilibino**	**48.34**	**10**	*e*P	**P**	**01 26 30.1**	**+0.3**
BILL				*i*		01 26 40.1	
BILL				*i*		01 27 56.9	
BILL				*i*		01 28 27.0	
BILL				*i* S	**S**	**01 33 29.3**	**+4.9**
BILL				pmax	pmax		
	comp=Z,18nm,1.0s						
BILL				MLR	MLR		
	comp=Z,900nm,18.0s						
BILL	**Bilibino**	**48.34**	**10**	*e*P	**P**	**01 26 29.8**	**0.0**
	comp=Z,34nm,1.0s						
PSI	**Prapat**	**49.25**	**255**	P	**P**	**01 26 38.9**	**+1.1**
	comp=Z,26nm,1.3s						
LSA	**Lhasa**	**49.69**	**291**	P	**P**	**01 26 42.3**	**+0.9**
LSA				S	**S**	**01 33 45.3**	**-0.1**
LSA				LR	LR		
	comp=E,770nm,17.4s						
LSA				LR	LR		
	comp=Z,710nm,16.4s						
MSVF	**Nonsavu**	**50.06**	**139**	*e*P	**P**	**01 26 43.8**	**+0.1**
MSVF				pmax	pmax		
	comp=Z,53nm,1.3s						
MSVF	**Nonsavu**	**50.06**	**139**	*e*P	**P**	**01 26 43.8**	**+0.1**
	comp=Z,53nm,1.3s						
GAMB	**Gambell**	**50.90**	**23**	*e*P	**P**	**01 26 49.2**	**-0.1**
	comp=Z,34nm,1.3s						
ARMA	**Armidale**	**51.82**	**174**	*e*P	**P**	**01 26 56.1**	**-0.6**
	comp=Z,38nm,1.2s						
ARMA	**Armidale**	**51.82**	**174**	*e*P	**P**	**01 26 55.8**	**-1.0**
WMQ	**Urumqi**	**52.71**	**309**	P	**P**	**01 27 03.9**	**+0.6**

WMQ pP **pP** **01 27 22.3 +0.7**
WMQ sP **sP** **01 27 31.0 +1.3**
WMQ PcP **PcP** **01 28 11.5 -0.7**
WMQ PP **PP** **01 29 05.5 +2.4**
WMQ S **S** **01 34 24.7 -1.2**
WMQ sS **sS** **01 34 55.4 -1.6**
WMQ ScS **ScS** **01 36 43.0 -3.5**
WMQ pmax pmax
comp=Z,67nm,1.7s
WMQ pmax pmax
comp=Z,410nm,4.5s
WMQ LR LR
comp=N,2µm,13.0s
WMQ LR LR
comp=E,1µm,16.0s
WMQ LR LR
comp=Z,1µm,19.3s
TAPN Taplejung 52.93 289 *e*P **P** **01 27 06.0 +0.6**
STKA Stephens Creek 53.14 185 *e*P **P** **01 27 04.3 -2.1**
comp=Z,37nm,2.8s
STKA Stephens Creek 53.14 185 *e*P **P** **01 27 03.6 -2.8**
comp=Z,5.6nm,0.8s
STKA Stephens Creek 53.14 185 P **P** **01 27 04.5 -1.8**
comp=Z,11nm,1.0s,baz=1.8,slow=5.9,SNR=9.1
STKA LR LR 01 49 48.7
comp=Z,1µm,20.7s,baz=5.3,slow=36
TNA Tin City 53.25 22 *e*P **P** **01 27 07.5 +0.8**
comp=Z,24nm,1.3s
ODAN Odare 53.27 288 *e*P **P** **01 27 08.3 +0.4**
CHGN Chignik 53.56 35 *e*P **P** **01 27 06.9 -2.2**
RAMN Ramite 53.96 288 *e*P **P** **01 27 13.3 +0.4**
JIRN Jiri 54.23 289 *e*P **P** **01 27 15.7 +0.7**
comp=Z,23nm,0.8s
GUN Gumba 54.47 290 *e*P **P** **01 27 17.2 +0.4**
comp=Z,210nm,1.2s
FORT Forrest 54.64 199 *e*P **P** **01 27 17.1 -0.2**
comp=Z,77nm,0.9s
FORT Forrest 54.64 199 *e*P **P** **01 27 14.7 -2.6**
comp=Z,64nm,0.9s
PKI Pulchoki 54.93 289 *e*P **P** **01 27 20.0 -0.1**
comp=Z,81nm,1.1s
KKN Kakani 55.01 290 *e*P **P** **01 27 20.6 +0.1**
comp=Z,88nm,1.0s
DMN Daman 55.19 289 *e*P **P** **01 27 22.0 +0.2**
comp=Z,28nm,0.6s
GKN Gorkha 55.55 290 *e*P **P** **01 27 24.8 +0.5**
comp=Z,417nm,1.5s
ZAA0 Zalesovo Array 56.01 321 *e*P **P** **01 27 26.6 -0.3**
ZALV Zalesovo Beam 56.01 321 P **P** **01 27 26.7 -0.2**
ZALV Zalesovo Beam 56.01 321 P **P** **01 27 26.7 -0.2**
ZALV Zalesovo Beam 56.01 321 P **P** **01 27 26.7 -0.2**
comp=Z,16nm,0.7s,baz=99,slow=6.7,SNR=103
ZALV LR LR 01 54 15.9
comp=Z,839nm,18.0s,baz=297,slow=39
DANN Dangsing 56.27 290 *e*P **P** **01 27 30.2 +0.6**
comp=Z,323nm,0.7s
KOLN Koldanda 56.49 290 *e*P **P** **01 27 31.2 +0.1**
comp=Z,119nm,1.3s
MK31 Makanchi Array 56.75 313 *i* P **P** **01 27 32.0 -0.4**
MK31 pmax pmax
comp=Z,31nm,1.1s
MK31 Makanchi Array 56.75 313 *e*P **P** **01 27 32.3 -0.1**
MKAR Makanchi Array 56.75 313 *ce*P **P** **01 27 32.7 +0.3**
MKAR pmax pmax
comp=Z,13nm,0.9s
MKAR Makanchi Array 56.75 313 P **P** **01 27 32.7 +0.3**
MKAR Makanchi Array 56.75 313 P **P** **01 27 32.7 +0.3**
comp=Z,12nm,0.9s,baz=92,slow=9.2,SNR=71
MKAR LR LR 01 53 04.2
comp=Z,704nm,18.6s,baz=89,slow=37
NVS Novosibirsk 57.07 322 ⇑*i*P **P** **01 27 34.1 -0.4**
NVS *e* 01 28 32.4
NVS *e*S **S** **01 35 22.2 -1.6**
NVS pmax pmax
comp=Z,116nm,1.8s
NVS pmax pmax
comp=E,44nm,1.4s
NVS smax smax
comp=E,31nm,2.3s
TOO Toolangi 58.66 180 *e*P **P** **01 27 45.5 -0.3**
comp=E,74nm,0.9s
BLDU Ballidu 58.83 209 *e*P **P** **01 27 45.7 -1.4**
SEW Seward 59.08 32 *e*P **P** **01 27 47.8 -0.6**
comp=E,41nm,1.0s
KLBR Kellerberrin 59.20 208 *e*P **P** **01 27 48.7 -0.9**
comp=E,24nm,0.9s
KURK Kurchatov 59.40 317 *e*P **P** **01 27 50.7 -0.1**
KURK pmax pmax
comp=Z,92nm,1.4s
KURK Kurchatov 59.40 317 *e*P **P** **01 27 50.7 -0.1**
comp=Z,92nm,1.4s
KURK Kurchatov 59.40 317 P **P** **01 27 51.2 +0.4**
SNR=21
TRF Thorofare Moun 59.41 28 *e*P **P** **01 27 49.4 -1.4**
comp=Z,35nm,0.9s
KURBB Kurchatov Arra 59.46 317 P **P** **01 27 51.1 -0.1**
comp=Z,33nm,1.0s,baz=92,slow=7.5,SNR=178
KURBB LR LR 01 54 59.9
comp=Z,2µm,18.2s,baz=85,slow=37
SML Sawmill 59.94 30 *e*P **P** **01 27 53.8 -0.6**
SML pmax pmax
comp=Z,10.0nm,1.0s
SML Sawmill 59.94 30 *e*P **P** **01 27 53.8 -0.6**
comp=Z,9.9nm,1.0s
MCK McKinley 60.06 28 *e*P **P** **01 27 53.9 -1.3**
MCK pmax pmax
comp=Z,46nm,1.4s
MCK McKinley 60.06 28 *e*P **P** **01 27 53.9 -1.3**
comp=Z,46nm,1.4s
COLD Coldfoot 60.41 24 *e*P **P** **01 27 57.8 +0.4**
comp=Z,16nm,1.0s
COLA College 60.77 27 *e*P **P** **01 27 59.2 -0.7**
COLA pmax pmax
comp=Z,9.0nm,0.8s
COLA College 60.77 27 *e*P **P** **01 27 59.1 -0.7**
comp=Z,9.1nm,0.8s
DDI Dehra Dun 60.91 294 *ex* **P** **01 28 00.0 -1.5**
ULHL Ulahol 61.07 307 P **P** **01 28 03.8 +1.1**
SNR=8.2
ULHL P **P** **01 28 03.8 +1.1**
SNR=8.2
ILAR Eielson Array 61.15 27 P **P** **01 28 00.6 -2.0**
ILAR Eielson Array 61.15 27 P **P** **01 28 00.6 -2.0**
comp=Z,7.5nm,0.9s,baz=258,slow=4.8,SNR=72
ILAR LR LR 01 53 44.0
comp=Z,798nm,18.7s,baz=55,slow=35
PAX Paxson 61.46 29 *e*P **P** **01 28 04.4 -0.3**
PAX pmax pmax
comp=Z,56nm,1.6s
PAX Paxson 61.46 29 *e*P **P** **01 28 04.4 -0.3**
comp=Z,56nm,1.6s
KSH Kashi 61.48 304 ⇑*i*P P 01 28 09.5 +4.1
KSH pP pP 01 28 29.3 +5.2
KSH sP sP 01 28 37.6 +5.5
KSH PcP **PcP** **01 28 49.0 +2.3**
KSH PP PP 01 30 28.0 +6.7
KSH S **S** **01 36 25.1 +3.6**
KSH sS sS 01 36 58.6 +5.3
KSH ScS **SKKSac** **01 37 50.3 -0.3**
KSH SS **SS** **01 40 29.3 +6.0**
KSH pmax pmax
comp=Z,44nm,1.0s
KSH pmax pmax
comp=Z,320nm,5.0s
KSH LR LR
comp=N,790nm,13.4s
KSH LR LR
comp=E,1µm,16.4s
KSH LR LR
comp=Z,900nm,16.7s
TKM2 Tokmak 2 61.51 308 *e*P **P** **01 28 06.8 +1.2**
TKM2 pmax pmax
comp=Z,42nm,1.2s
TKM2 Tokmak 2 61.51 308 *e*P **P** **01 28 06.8 +1.2**
comp=Z,42nm,1.2s
TKM2 Tokmak 2 61.51 308 P **P** **01 28 06.6 +1.0**
SNR=39
TKM2 P **P** **01 28 06.6 +1.0**
SNR=39
AGRA Agra 61.53 290 *e*PKP **P** **01 28 05.6 -0.1**
BMRM Bremner River 61.58 31 *e*P **P** **01 28 04.8 -0.7**
comp=Z,31nm,1.0s
KZA Kyzart 61.82 307 P **P** **01 28 09.6 +1.6**
SNR=41
KZA P **P** **01 28 09.6 +1.6**
SNR=41

KBK Karagaybulak 62.00 308 P **P** **01 28 09.8 +0.9**
SNR=23
KBK P **P** **01 28 09.8 +0.9**
SNR=23
AYAN Aya Nagar 62.01 292 *e*PKP **P** **01 28 09.0 +0.1**
AYAN AMb AMB 01 28 10.2
comp=Z,85nm,1.2s
KKR Kurukshetra 62.02 293 *e*PKP **P** **01 28 09.8 +0.8**
CHMS Chumysh 62.12 308 P **P** **01 28 10.2 +0.7**
SNR=10.0
CHMS P **P** **01 28 10.2 +0.7**
SNR=10.0
BHGR Bahadurgarh 62.14 292 *e*PKP **P** **01 28 10.7 +0.9**
DOT Dot Lake 62.18 28 *e*P **P** **01 28 09.0 -0.5**
comp=Z,44nm,1.5s
USP Ospenovka 62.29 309 P **P** **01 28 11.0 +0.3**
SNR=29
USP P **P** **01 28 11.0 +0.3**
SNR=29
AAK Ala-Archa 62.34 308 *e*P **P** **01 28 11.6 +0.5**
AAK *e* 01 30 27.9
AAK pmax pmax
comp=Z,110nm,1.3s
AAK Ala-Archa 62.34 308 *e*P **P** **01 28 11.6 +0.5**
comp=Z,110nm,1.3s
AAK *e*PP **PP** **01 30 27.9 -0.9**
AAK Ala-Archa 62.34 308 P **P** **01 28 11.8 +0.7**
SNR=17
AAK P **P** **01 28 11.8 +0.7**
SNR=17
AAK Ala-Archa 62.34 308 P **P** **01 28 11.9 +0.7**
comp=Z,10nm,1.0s,baz=92,slow=5.7,SNR=23
AAK LR LR 01 56 03.1
comp=Z,752nm,18.7s,baz=137,slow=37
UCH Uchtor 62.36 307 P **P** **01 28 13.4 +1.8**
SNR=5.9
UCH P **P** **01 28 13.4 +1.8**
SNR=5.9
THN Thein Dam 62.55 296 *ex* **P** **01 28 10.6 -1.9**
KUDL Kundal 62.63 291 *e*PKP **P** **01 28 13.3 +0.3**
EKS2 Erkin-Say 62.86 308 *e*P **P** **01 28 15.2 +0.6**
EKS2 pmax pmax
comp=Z,25nm,1.1s
EKS2 Erkin-Say 62.86 308 *e*P **P** **01 28 15.2 +0.6**
comp=Z,25nm,1.1s
EKS2 Erkin-Say 62.86 308 P **P** **01 28 15.3 +0.7**
SNR=20
EKS2 P **P** **01 28 15.3 +0.7**
SNR=20
AML Almayashu 62.97 307 P **P** **01 28 17.0 +1.3**
SNR=41
AML P **P** **01 28 17.0 +1.3**
SNR=41
HYB Hyderabad 63.21 279 *i* P **P** **01 28 17.0 -0.1**
HYB *e* 01 28 29.0
HYB *e*S **S** **01 36 48.0 +4.4**
KHET Khetri 63.23 291 *e*PKP **P** **01 28 17.9 +0.8**
EGAK Eagle 63.58 27 *e*P **P** **01 28 18.2 -0.5**
comp=Z,17nm,1.0s
VOSK Vostochnaya 64.18 319 P **P** **01 28 22.4 -0.5**
VOSK pmax pmax
comp=Z,69nm,1.4s
DAWY Dawson 64.28 28 *e*P **P** **01 28 23.3 -0.2**
BVA0 Borovoye Array 64.53 320 *i* P **P** **01 28 24.6 -0.6**
BVA0 pmax pmax
comp=Z,15nm,1.2s
BVAR Borovoye Array 64.53 320 P **P** **01 28 25.4 +0.2**
BVAR Borovoye Array 64.53 320 P **P** **01 28 25.4 +0.2**
BVAR Borovoye Array 64.53 320 P **P** **01 28 25.4 +0.2**
comp=Z,30nm,0.7s,baz=89,slow=6.7,SNR=185
AJM Ajmer 64.57 290 *e*PKP **P** **01 28 25.0 -1.0**
BRVK Borovoye 64.59 320 *e*P **P** **01 28 25.8 +0.3**
BRVK pmax pmax
comp=Z,113nm,1.3s
BRVK Borovoye 64.59 320 *e*P **P** **01 28 25.8 +0.3**
comp=Z,113nm,1.3s
KK31 Karatay Array 65.21 309 *i* P **P** **01 28 29.1 -0.7**
KK31 pmax pmax
comp=Z,80nm,1.2s
KKAR Karatay Array 65.21 309 *e*P **P** **01 28 30.4 +0.6**
KKAR pmax pmax
comp=Z,53nm,1.1s
KKAR Karatay Array 65.21 309 *e*P **P** **01 28 30.4 +0.6**
comp=Z,53nm,1.1s
ZRNK Zerenda 65.37 320 P **P** **01 28 29.9 -0.7**
ZRNK pmax pmax
comp=Z,83nm,1.4s
URZ Urewera 66.20 154 *e*P **P** **01 28 36.4 +0.4**
comp=Z,29nm,1.2s
INK Inuvik 66.83 24 *e*P **P** **01 28 39.1 -0.5**
comp=Z,21nm,1.1s
POO Peona 67.22 282 ⇑*i*P **P** **01 28 42.0 -1.1**
comp=Z,60nm,1.0s
KAD Karad 67.25 280 *e*PKP **P** **01 28 44.0 +0.7**
KBL Kabul 67.68 300 *e*P **P** **01 28 46.3 +0.3**
KBL pmax pmax
comp=Z,90nm,1.0s
KBL Kabul 67.68 300 *e*P **P** **01 28 46.3 +0.3**
comp=Z,90nm,1.0s
RPZ Rata Peaks 68.80 161 *e*P **P** **01 28 51.0 -1.3**
DLBC Dease Lake 68.95 34 *e*P **P** **01 28 53.7 +0.4**
SVE Sverdlovsk 69.79 324 ‖*e*P **P** **01 28 58.8 +0.4**
SVE *e*PPP PPP 01 33 11.5
SVE *e*S **S** **01 38 03.5 +1.6**
SVE *e* 01 38 54.2
SVE *e*SS **SS** **01 42 30.4 -0.8**
SVE pmax pmax
comp=Z,76nm,1.2s
SVE MLR MLR
comp=Z,784nm,16.0s
ARU Arti 70.98 324 *ci*P **P** **01 29 05.8 +0.1**
ARU *PP **pP** **01 29 24.5 -0.3**
ARU 01 31 42.0
ARU PPP PPP 01 33 21.6
ARU S **S** **01 38 16.9 +1.1**
ARU SS **SS** **01 42 54.3 +4.8**
ARU pmax pmax
comp=Z,107nm,1.7s
ARU MLR MLR
comp=Z,569nm,17.0s
ARU Arti 70.98 324 *e*P **P** **01 29 05.4 -0.2**
comp=Z,80nm,1.2s
ARU Arti 70.98 324 P **P** **01 29 05.0 -0.7**
comp=Z,285nm,0.9s,SNR=17
SOKR Solikamsk 71.35 328 *di*P **P** **01 29 07.0 -0.8**
SOKR pmax pmax
comp=Z,40nm,1.0s
SOKR MLR MLR
comp=Z,2µm,17.0s
AB31 Akbulak array 71.50 316 P **P** **01 29 08.0 -0.9**
AB31 pmax pmax
comp=Z,20nm,0.8s
ABKAR Akbulak array 71.50 316 *e*P **P** **01 29 08.9 -0.1**
comp=Z,49nm,1.2s
AKTO Aktyubinsk 72.48 318 P **P** **01 29 13.9 -0.9**
AKTO pmax pmax
comp=Z,2.0nm,1.0s
AKTO Aktyubinsk 72.48 318 P **P** **01 29 14.2 -0.6**
AKTO Aktyubinsk 72.48 318 P **P** **01 29 14.2 -0.6**
comp=Z,6.4nm,0.8s,baz=80,slow=5.5,SNR=15
PPT2 Papeete2 74.14 116 *e*S S 01 39 00.6 +7.5
comp=Z,301nm,25.2s
PPT2 *e*LR LR 01 52 04.4
comp=Z,395nm,19.8s
ALE Alert 75.41 4 P **P** **01 29 30.2 -1.1**
comp=Z,84nm,1.2s,SNR=5.8
ABKT Aitbek 75.48 305 P **P** **01 29 33.1 +0.5**
comp=Z,183nm,1.2s,SNR=14
YKA Yellowknife Ar 75.53 28 P **P** **01 29 31.4 -0.8**
YKA Yellowknife Ar 75.53 28 P **P** **01 29 31.4 -0.8**
comp=Z,5.6nm,0.8s,baz=287,slow=5.5,SNR=68
JCW Jim Creek 75.76 44 P **P** **01 29 34.4 +0.4**
TDL Tradedollar La 76.09 45 P **P** **01 29 36.5 +0.5**
LON Longmire 76.25 45 *e*P **P** **01 29 36.6 -0.2**
LON pmax pmax
comp=Z,113nm,2.4s
LON Longmire 76.25 45 *e*P **P** **01 29 36.6 -0.2**
comp=Z,113nm,2.4s
RCS Mount Rainier- 76.26 45 P **P** **01 29 37.6 +0.4**
SPITS Spitsbergen Ar 76.54 351 P **P** **01 29 38.0 +0.2**
SPITS Spitsbergen Ar 76.54 351 P **P** **01 29 38.0 +0.2**
comp=Z,14nm,1.2s,baz=100,slow=22,SNR=4.1
KHMM Horse Mountain 76.59 51 *e*P **P** **01 29 39.8 +0.7**
comp=Z,25nm,1.0s
HUMO Hull Mountain 76.65 49 *e*P **P** **01 29 39.6 +0.5**
comp=Z,72nm,1.8s

RES Resolute Bay 76.76 14 *e*P **P** **01 29 38.5 -0.6**
comp=Z,3.9nm,0.3s
TBM Table Mountain 76.92 44 P **P** **01 29 40.7 0.0**
ETW Entiat 76.96 44 P **P** **01 29 40.9 0.0**
KCPM Cahto Peak 77.05 52 *e*P **P** **01 29 41.6 +0.1**
comp=Z,22nm,0.8s
TBI Tubuai 77.07 122 *e*S **S** **01 39 29.4 +4.3**
comp=Z,474nm,23.5s
TBI *e*LR LR 01 53 33.5
comp=Z,596nm,22.5s,baz=308
YBH Yreka Blue Hor 77.08 50 *e*P **P** **01 29 41.7 0.0**
comp=Z,16nm,0.9s
WDC Whiskeytown Da 77.54 51 *e*P **P** **01 29 45.9 +1.8**
WDC pmax pmax
comp=Z,101nm,2.1s
WDC Whiskeytown Da 77.54 51 *e*P **P** **01 29 45.9 +1.8**
comp=Z,101nm,2.1s
VIPM Ingram Point 77.71 47 P **P** **01 29 44.9 -0.3**
VIPM Ingram Point 77.71 47 P **P** **01 29 44.9 -0.3**
HAWA Hanford 77.85 45 *e*P **P** **01 29 45.7 0.0**
comp=Z,14nm,0.8s
APA Apatity 78.56 339 ⇑*i*P **P** **01 29 50.0 +0.8**
APA *e*S **S** **01 39 40.0 +0.2**
APA *i* SS **SS** **01 44 46.0 +2.1**
APA pmax pmax
comp=Z,54nm,1.2s
APA MLR MLR
comp=Z,600nm,14.0s
MOD Modoc 78.74 49 *e*P **P** **01 29 50.4 -0.5**
comp=Z,12nm,0.9s
NEW Newport 78.80 43 *e*P **P** **01 29 50.7 -0.3**
comp=Z,55nm,1.8s
NEW Newport 78.80 43 ⇑P **P** **01 29 50.6 -0.3**
baz=79,SNR=14
KLMR Klimovskoe 79.17 331 *e*P **P** **01 29 51.0 -1.7**
KLMR pmax pmax
comp=Z,77nm,1.5s
KLMR pmax pmax
comp=Z,71nm,4.4s
KLMR MLR MLR
comp=Z,753nm,15.0s
KEV Kevo 79.43 342 *e*P **P** **01 29 54.0 +0.1**
KEV Kevo 79.43 342 *ep* **P** **01 29 54.0 +0.1**
A12A Yaak River Ran 79.49 42 ⇑P **P** **01 29 55.0 +0.3**
baz=79
C11A Tepee Creek (N 79.49 43 ⇑P **P** **01 29 54.5 -0.4**
baz=79
BMO Blue Mountains 79.83 46 *e*P **P** **01 29 56.2 -0.5**
comp=Z,15nm,0.9s
CMB Columbia Colle 79.93 53 *e*P **P** **01 29 57.0 -0.4**
CMB pmax pmax
comp=Z,26nm,1.0s
CMB Columbia Colle 79.93 53 *e*P **P** **01 29 57.0 -0.4**
comp=Z,26nm,1.0s
WCN Washoe City 79.98 52 *e*P **P** **01 29 58.0 +0.2**
WCN pmax pmax
comp=Z,168nm,2.8s
WCN Washoe City 79.98 52 *e*P **P** **01 29 58.0 +0.2**
comp=Z,168nm,2.8s
WCN Washoe City 79.98 52 ⇓P **P** **01 29 57.5 -0.2**
baz=80
ARCES ARCESS Array B 79.98 342 P **P** **01 29 57.0 0.0**
ARCES ARCESS Array B 79.98 342 P **P** **01 29 57.0 0.0**
comp=Z,16nm,1.0s,baz=31,slow=7.2,SNR=8.8
ARCES LR LR 02 10 36.9
comp=Z,388nm,18.1s,baz=159,slow=40
C12B Naegeli Ranch, 80.03 43 ⇓P **P** **01 29 57.7 0.0**
baz=80
A13A Flathead Natio 80.25 41 ⇑P **P** **01 29 58.9 -0.1**
baz=80
D12A Red Ives Fores 80.34 43 ⇓P **P** **01 29 59.1 -0.3**
baz=80
BSMT Bassoo Peak 80.41 42 *e*P **P** **01 30 00.3 +0.4**
B13A Whitefish 80.42 42 ⇑P **P** **01 29 59.9 +0.1**
baz=80,SNR=16
E12A Beaver Dam Sad 80.43 44 ⇓P **P** **01 29 59.6 -0.4**
baz=80
HOQ Hoqain 80.47 292 P **P** **01 30 01.1 +0.6**
SNR=15
WALA Waterton Lakes 80.52 41 *e*P **P** **01 30 00.6 +0.2**
comp=Z,0.7nm,1.0s
C13A Hot Springs 80.61 42 ⇑P **P** **01 30 00.5 -0.3**
baz=80,SNR=16
BLMT Blacktail Moun 80.62 42 *e*P **P** **01 30 01.5 +0.4**
JTMT Jette 80.77 42 *e*P **P** **01 30 00.8 -1.0**
BSY Bisya 80.84 291 ⇓P **P** **01 30 03.2 +0.7**
SNR=13
A14A Double T Ranch 80.85 41 ⇑P **P** **01 30 02.5 +0.3**
baz=81,SNR=14
F12A Elk Cy 80.87 44 ⇑P **P** **01 30 02.0 -0.4**
baz=81,SNR=8.0
D13A Huson 80.90 43 ⇓P **P** **01 30 02.1 -0.3**
baz=81
SWMT Swartz Lake 81.03 43 *e*P **P** **01 30 02.8 -0.4**
G12A Big Creek, Yel 81.05 45 ⇓P **P** **01 30 02.6 -0.8**
baz=81
HATD Hatta, Dubai 81.08 293 ⇓P **P** **01 30 03.4 -0.3**
SNR=6.8
C14A Swan Lake 81.10 42 ⇓P **P** **01 30 03.2 -0.2**
baz=81
B14A Marquette Ranc 81.17 42 ⇑P **P** **01 30 04.0 +0.1**
baz=81,SNR=16
MLAC Mammoth Lakes 81.22 53 ⇓P **P** **01 30 04.2 -0.3**
baz=81
A15A Johnson Ranch, 81.27 41 ⇓P **P** **01 30 04.0 -0.4**
baz=81,SNR=22
E13A Victor 81.31 44 ⇑P **P** **01 30 04.0 -0.6**
baz=81
MSO Missoula 81.32 43 *e*P **P** **01 30 04.2 -0.5**
comp=Z,11nm,1.3s
MSO Missoula 81.32 43 ⇑P **P** **01 30 03.8 -0.9**
baz=81
MFID Camas Ranch 81.33 47 *e*P **P** **01 30 04.6 -0.2**
comp=Z,24nm,1.0s
MFID Camas Ranch 81.33 47 ⇓P **P** **01 30 04.6 -0.2**
baz=81,SNR=19
NVAR Mina Array Bea 81.34 52 P **P** **01 30 04.8 -0.3**
NVAR Mina Array Bea 81.34 52 P **P** **01 30 04.8 -0.3**
comp=Z,6.6nm,0.8s,baz=263,slow=5.8,SNR=43
NVAR LR LR 01 58 31.9
comp=Z,702nm,19.9s,baz=355,slow=30
RCTC Rector, Farmer 81.37 54 ⇑P **P** **01 30 04.5 -0.5**
baz=81
PKM Peak Mountain 81.41 56 ⇑P **P** **01 30 04.8 -0.8**
baz=81
BMN Battle Mountai 81.42 50 *e*P **P** **01 30 06.1 +0.6**
BMN pmax pmax
comp=Z,12nm,1.0s
BMN Battle Mountai 81.42 50 *e*P **P** **01 30 06.1 +0.6**
comp=Z,12nm,1.0s
SLMT Seeley Lake 81.45 43 *e*P **P** **01 30 05.9 +0.4**
F13A Darby 81.46 44 ⇑P **P** **01 30 04.4 -1.1**
baz=81,SNR=22
D14A Greenough 81.50 43 ⇑P **P** **01 30 04.7 -1.0**
baz=81
MTUM Tungsten Hills 81.52 53 *e*P **P** **01 30 05.6 -0.4**
MAK Makhachkala 81.57 313 *e*P **P** **01 30 05.1 -0.8**
MAK *e* 01 33 10.6
MAK *e*PPP PPP 01 35 02.8
MAK *i*S **S** **01 40 11.2 -1.1**
MAK *e*SS **SS** **01 45 25.7 -4.3**
MAK pmax pmax
comp=Z,95nm,0.9s
H12A Diamond D Ranc 81.57 46 ⇓P **P** **01 30 05.7 -0.5**
baz=81,SNR=11
B15A Bradely Ranch, 81.62 41 ⇑P **P** **01 30 05.8 -0.5**
baz=81,SNR=15
JOF Joensuu 81.65 335 *e*P **P** **01 30 05.9 0.0**
JOF pmax pmax
comp=Z,37nm,0.8s
JOF Joensuu 81.65 335 *ep* **P** **01 30 05.9 0.0**
comp=Z,37nm,0.8s
VES Vestal, Richgr 81.65 55 ⇑P **P** **01 30 05.3 -1.2**
baz=82,SNR=14
I12A Atlanta 81.67 46 ⇑P **P** **01 30 05.7 -1.0**
baz=82
CHMT Chamberlain Mo 81.73 43 *e*P **P** **01 30 06.3 -0.6**
E14A Clinton 81.77 43 ⇓P **P** **01 30 06.2 -1.0**
baz=82
G13A Cobalt 81.78 45 ⇓P **P** **01 30 06.4 -0.8**
baz=82,SNR=24
C15A Salmond Ranch, 81.81 42 ⇑P **P** **01 30 06.9 -0.4**
baz=82,SNR=10
TIN Tinemaha 81.88 54 ⇑P **P** **01 30 06.7 -1.1**
baz=82
A16A West Butte Ran 81.97 41 ⇓P **P** **01 30 06.9 -1.2**
baz=82

H13A **Challis** 81.97 45 ⇓P P 01 30 07.9 -0.3
baz=82,SNR=8.0
F14A **Wisdom** 82.07 44 ⇑P P 01 30 08.2 -0.6
baz=82
ARVC **Arvin** 82.09 55 ⇑P P 01 30 08.4 -0.4
baz=82
B16A **M & M Farms, S** 82.11 41 ⇑P P 01 30 08.7 -0.1
baz=82
D15A **Lincoln** 82.14 43 ⇑P P 01 30 08.6 -0.5
baz=82
ISA **Isabella** 82.18 55 *e*P P 01 30 08.4 -1.0
ISA pmax pmax
comp=Z,16nm,1.3s
ISA **Isabella** 82.18 55 *e*P P 01 30 08.4 -1.0
comp=Z,16nm,1.3s
ISA **Isabella** 82.18 55 ⇑P P 01 30 08.1 -1.3
baz=82
CWC **Cottonwood Cre** 82.20 54 ⇑P P 01 30 08.6 -1.0
baz=82
G14A **Jackson** 82.23 44 ⇑P P 01 30 08.6 -1.1
baz=82
HLID **Hailey** 82.24 46 ⇓P P 01 30 09.3 -0.4
baz=82,SNR=12
BLG **Laguna Peak** 82.27 57 ⇑P P 01 30 09.1 -0.7
baz=82
MOS **Moscow** 82.30 327 *e*P P 01 30 06.6 -2.8
MOS pmax pmax
comp=Z,66nm,1.2s
MOS pmax pmax
comp=Z,100nm,1.8s
I13A **Wildhorse Cree** 82.30 46 ⇑P P 01 30 09.5 -0.6
baz=82,SNR=8.1
E15A **Deer Lodge** 82.31 43 ⇑P P 01 30 09.3 -0.6
baz=82,SNR=13
C16A **Fuhringer Ranc** 82.33 42 ⇑P P 01 30 09.6 -0.4
baz=82,SNR=14
J13A **Cove Ranch, Pi** 82.46 46 ⇓P P 01 30 10.4 -0.4
baz=82,SNR=8.4
A17A **Triple J Farms** 82.51 40 ⇑P P 01 30 10.3 -0.6
baz=82
H14A **Leadore** 82.53 45 ⇓P P 01 30 10.8 -0.4
baz=82,SNR=13
GRAC **Grapevine Rang** 82.54 53 ⇑P P 01 30 10.9 -0.3
baz=82,SNR=10
F15A **Butte** 82.63 44 ⇑P P 01 30 11.3 -0.4
baz=82,SNR=13
LRM **Limekiln Ridge** 82.66 44 *e*P P 01 30 11.4 -0.5
HRY **Holter Researc** 82.71 43 *e*P P 01 30 12.2 +0.2
B17A **L&G Farms, Che** 82.72 41 ⇓P P 01 30 11.8 -0.2
baz=82,SNR=20
ELK **Elko** 82.72 49 *e*P P 01 30 11.4 -0.9
I14A **Mackay** 82.74 46 ⇓P P 01 30 12.0 -0.3
baz=82,SNR=14
DLMT **Dillon** 82.75 44 *e*P P 01 30 12.9 +0.6
comp=Z,10.0nm,1.1s
D16A **Dana Ranch, Ca** 82.76 42 ⇑P P 01 30 11.9 -0.3
baz=83,SNR=9.1
MPMC **Manual Prospec** 82.78 54 ⇑P P 01 30 12.0 -0.7
baz=83,SNR=26
MCMT **McKenzie Canyo** 82.79 45 *e*P P 01 30 12.7 0.0
comp=Z,2.3nm,0.8s
EDW2 **Edwards Air Fo** 82.83 55 ⇓P P 01 30 11.8 -0.9
baz=83
E16A **East Helena** 82.88 43 ⇓P P 01 30 12.7 -0.2
baz=83,SNR=12
G15A **Dillon** 82.90 44 ⇓P P 01 30 12.4 -0.7
baz=83
J14A **Carey** 82.93 46 ⇑P P 01 30 13.1 -0.2
baz=83
C17A **Wharram Farm,** 83.00 42 ⇓P P 01 30 12.5 -1.0
baz=83,SNR=9.4
MWC **Mount Wilson** 83.01 56 *e*P P 01 30 13.4 -0.5
MWC pmax pmax
comp=Z,27nm,1.1s
MWC **Mount Wilson** 83.01 56 *e*P P 01 30 13.4 -0.5
comp=Z,27nm,1.1s
A18A **Metzger Ranch,** 83.03 40 ⇑P P 01 30 13.4 -0.1
baz=83,SNR=9.2
FURC **Furnace Creek,** 83.11 54 ⇑P P 01 30 13.8 -0.2
baz=83,SNR=11
OBN **Obninsk** 83.12 327 ⇑*i*P P 01 30 13.5 -0.2
OBN *e* 01 33 26.4
OBN *i* S S 01 40 31.6 +4.0
OBN pmax pmax
comp=Z,108nm,1.6s
F16A **Kennard Place,** 83.21 43 ⇓P P 01 30 14.1 -0.5
baz=83
D17A **Six Diamond Ra** 83.25 42 ⇑P P 01 30 14.4 -0.4
baz=83,SNR=15
BOZ **Bozeman (W)** 83.26 44 *e*P P 01 30 14.9 0.0
BOZ pmax pmax
comp=Z,4.0nm,0.6s
BOZ **Bozeman (W)** 83.26 44 *e*P P 01 30 14.9 0.0
comp=Z,4.0nm,0.6s
BOZ **Bozeman (W)** 83.26 44 ⇑P P 01 30 14.7 -0.2
baz=83,SNR=13
B18A **Beardsley Farm** 83.29 41 ⇑P P 01 30 14.7 -0.2
baz=83,SNR=7.9
BFSC **Mount Baldy Ra** 83.31 56 ⇑P P 01 30 15.1 -0.3
baz=83
G16A **Moss Hill, Enn** 83.31 44 ⇓P P 01 30 14.6 -0.6
baz=83,SNR=19
I15A **Monteview** 83.36 45 ⇑P P 01 30 14.9 -0.5
baz=83
R11A **Troy Canyon, C** 83.36 52 ⇓P P 01 30 15.0 -0.6
baz=83,SNR=20
E17A **Martinsdale** 83.42 43 ⇑P P 01 30 15.8 +0.1
baz=83
EGMT **Eagleton** 83.46 41 *e*P P 01 30 15.8 0.0
comp=Z,50nm,1.8s
EGMT **Eagleton** 83.46 41 ⇓P P 01 30 15.3 -0.5
baz=83
K14A **Jones Ranch, D** 83.46 47 ⇑P P 01 30 16.0 0.0
baz=83,SNR=9.1
VSR **Storozhevoye** 83.49 323 *c*⇓P P 01 30 15.9 +0.2
VSR *e*S S 01 40 31.3 -0.3
VSR pmax pmax
comp=Z,110nm,1.1s
VSR pmax pmax
comp=N,30nm,0.9s
VSR pmax pmax
comp=E,70nm,1.1s
VSR smax smax
comp=E,330nm,5.8s
VSR smax smax
comp=Z,90nm,4.9s
VSR smax smax
comp=N,200nm,5.4s
VSR MLR MLR
comp=Z,1μm,16.0s
VSR MLR MLR
comp=N,580nm,18.0s
VSR MLR MLR
comp=E,680nm,20.0s
GSC **Goldstone** 83.58 55 *e*P P 01 30 16.6 -0.1
GSC pmax pmax
comp=Z,22nm,1.1s
GSC **Goldstone** 83.58 55 *e*P P 01 30 16.6 -0.1
comp=Z,22nm,1.1s
GSC **Goldstone** 83.58 55 ⇓P P 01 30 16.2 -0.5
baz=83,SNR=11
L14A **Malta** 83.62 47 ⇑P P 01 30 16.4 -0.4
baz=83
J15A **Blackfoot** 83.63 46 ⇓P P 01 30 16.8 0.0
baz=83,SNR=15
A19A **Klindworth Far** 83.69 40 ⇓P P 01 30 16.7 -0.3
baz=84,SNR=12
QLMT **Earthquake Lak** 83.72 44 *e*P P 01 30 18.0 +0.7
SHOC **Shoshone** 83.75 54 ⇓P P 01 30 17.1 -0.4
baz=84
B19A **Brinkman Farms** 83.77 40 ⇑P P 01 30 17.1 -0.2
baz=84,SNR=8.3
F17A **Fitzpatrick Pl** 83.78 43 ⇓P P 01 30 17.5 0.0
baz=84,SNR=6.2
D18A **Linhart Farms,** 83.78 42 ⇓P P 01 30 16.7 -0.8
baz=84
K15A **Arbon** 83.85 47 ⇓P P 01 30 17.7 -0.3
baz=84
H16A **Russell Place,** 83.89 44 ⇑P P 01 30 18.6 +0.4
baz=84,SNR=14
MURC **Murrieta** 83.90 56 ⇑P P 01 30 17.2 -1.0
baz=84
E18A **Harlowton** 83.97 42 ⇓P P 01 30 18.6 +0.1
baz=84,SNR=17
C19A **Slack Wire Ran** 84.02 41 ⇓P P 01 30 18.9 +0.3
baz=84,SNR=6.7
KAF **Kangasniemi** 84.03 336 *e*P P 01 30 17.3 -1.0
KAF pmax pmax
comp=Z,28nm,0.9s
KAF **Kangasniemi** 84.03 336 *e*P P 01 30 17.3 -1.0
comp=Z,28nm,0.9s
HVU **Hansel Valley** 84.04 48 *e*P P 01 30 18.7 -0.3
HVU pmax pmax
comp=Z,163nm,2.5s
HVU **Hansel Valley** 84.04 48 *e*P P 01 30 18.6 -0.3
comp=Z,163nm,2.5s
I16A **Newdale** 84.07 45 ⇑P P 01 30 19.2 +0.1
baz=84,SNR=7.8
YMR **Madison River** 84.09 44 *e*P P 01 30 20.1 +0.8
comp=Z,22nm,0.8s
ZEI **Tsey** 84.09 314 *e*P P 01 30 18.9 -0.4
ZEI pmax pmax
comp=Z,31nm,0.9s
HEC **Hector,Ludlow** 84.11 55 ⇓P P 01 30 18.3 -1.1
baz=84
A20A **Cobblestone Ra** 84.20 40 ⇑P P 01 30 18.8 -0.7
baz=84,SNR=8.5
L15A **Malad City** 84.22 47 ⇑P P 01 30 19.5 -0.4
baz=84,SNR=8.5
J16A **Bone** 84.23 46 ⇑P P 01 30 20.0 0.0
baz=84,SNR=11
109C **Camp Elliot, M** 84.23 57 ⇓P P 01 30 19.6 -0.4
baz=84
YFT **Old Faithful** 84.26 44 *e*P P 01 30 22.4 +2.2
comp=Z,22nm,0.9s
B20A **Solberg Farm,** 84.33 40 ⇑P P 01 30 20.0 -0.2
baz=84,SNR=7.0
F18A **Big Timber** 84.38 43 ⇓P P 01 30 20.3 -0.2
baz=84,SNR=8.1
RRI2 **Red Ridge** 84.39 46 *e*P P 01 30 20.9 0.0
comp=Z,15nm,1.0s
KIV **Kislovodsk** 84.42 315 *e*P P 01 30 20.4 -0.4
KIV *e* 01 40 36.1
KIV *e*SS SS 01 46 13.9 +1.5
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,851nm,19.0s
KIV **Kislovodsk** 84.42 315 *e*P P 01 30 19.1 -1.6
comp=Z,25nm,1.0s
IMW **Indian Meadow** 84.42 45 *e*P P 01 30 21.8 +0.7
comp=Z,21nm,1.0s
K16A **Soda Springs** 84.42 46 ⇓P P 01 30 21.4 +0.4
baz=84,SNR=13
H17A **Grant Village** 84.45 44 ⇑P P 01 30 21.3 +0.1
baz=84,SNR=10
GCMT **Greycliff** 84.45 43 *e*P P 01 30 21.4 +0.5
comp=Z,18nm,1.3s
PFO **Pinyon Flat Ob** 84.47 56 *e*P P 01 30 20.1 -1.2
comp=Z,21nm,1.2s
LKWY **Lake** 84.50 44 *e*P P 01 30 23.2 +1.8
LKWY pmax pmax
comp=Z,69nm,1.6s
LKWY **Lake** 84.50 44 *e*P P 01 30 23.2 +1.8
comp=Z,69nm,1.6s
FLWY **Flagg Ranch** 84.50 45 *e*P P 01 30 22.4 +1.0
comp=Z,35nm,1.0s
FINES **FINESS Array B** 84.51 335 P P 01 30 20.1 -0.7
FINES **FINESS Array B** 84.51 335 P P 01 30 20.1 -0.7
comp=Z,13nm,0.6s,baz=67,slow=4.4,SNR=114
FINES LR LR 02 09 08.4
comp=Z,473nm,19.8s,baz=328,slow=36
GNI **Garni** 84.55 311 *e*P P 01 30 22.6 +1.0
comp=Z,67nm,1.3s
GNI **Garni** 84.55 311 P P 01 30 21.3 -0.4
comp=Z,9.4nm,1.0s,baz=14,slow=19,SNR=12
N15A **Stansbury Isla** 84.57 48 ⇓P P 01 30 21.5 -0.2
baz=84
TPAW **Teton Pass** 84.58 45 *e*P P 01 30 22.3 +0.5
comp=Z,34nm,1.3s
R13A **O'Grain Ranch,** 84.60 51 ⇓P P 01 30 21.5 -0.5
baz=84,SNR=9.3
MOOW **Moose Ponds** 84.61 45 *e*P P 01 30 22.2 +0.3
comp=Z,15nm,1.1s
DUG **Dugway** 84.64 49 *e*P P 01 30 22.0 0.0
DUG pmax pmax
comp=Z,27nm,1.2s
DUG **Dugway** 84.64 49 *e*P P 01 30 22.0 0.0
comp=Z,27nm,1.2s
DUG **Dugway** 84.64 49 ⇓P P 01 30 21.6 -0.4
baz=84,SNR=17
GMRC **Granite Mounta** 84.64 55 ⇑P P 01 30 21.4 -0.7
baz=84,SNR=11
I17A **Pilgrim Ck.** 84.65 45 ⇑P P 01 30 22.3 +0.2
baz=84,SNR=9.2
C20A **Veseth Ranch,** 84.66 41 ⇑P P 01 30 21.9 0.0
baz=84,SNR=11
BELC **Belle Mtn. Jos** 84.68 56 ⇑P P 01 30 21.8 -0.6
baz=84
REDW **Red Top Meadow** 84.70 45 *e*P P 01 30 22.6 +0.2
comp=Z,19nm,1.3s
G18A **Lazy EL Ranch,** 84.72 43 ⇓P P 01 30 21.8 -0.6
baz=84
E19A **Rath Farm, Rou** 84.72 42 ⇑P P 01 30 22.1 -0.2
baz=84,SNR=8.5
FFC **Flin Flon** 84.73 33 *e*P P 01 30 21.9 0.0
FFC pmax pmax
comp=Z,20nm,1.1s
FFC **Flin Flon** 84.73 33 *e*P P 01 30 21.9 0.0
comp=Z,20nm,1.1s
A21A **Bergtoll Ranch** 84.74 39 ⇓P P 01 30 21.8 -0.4
baz=84,SNR=15
LOHW **Long Hollow** 84.76 45 *e*P P 01 30 22.6 -0.1
comp=Z,14nm,1.2s
MONP **Monument Peak** 84.77 57 ⇑P P 01 30 22.4 -0.5
baz=85
J17A **Brown Place, J** 84.79 45 ⇑P P 01 30 22.6 -0.2
baz=85
O15A **The Old Anders** 84.84 49 ⇑P P 01 30 22.5 -0.6
baz=85
D20A **Manuel Ranch,** 84.85 41 ⇑P P 01 30 22.6 -0.3
baz=85,SNR=14
L16A **Fish Haven** 84.86 47 ⇓P P 01 30 22.9 -0.3
baz=85,SNR=9.8
F19A **Roth Farm, Mol** 84.89 43 ⇑P P 01 30 22.9 -0.2
baz=85,SNR=7.6
K17A **Gardner Place,** 84.91 46 ⇓P P 01 30 23.1 -0.2
baz=85
H18A **Shoshone NF, C** 84.93 44 ⇑P P 01 30 23.7 +0.2
baz=85,SNR=8.5
HWUT **Hardware Ranch** 84.94 47 *e*P P 01 30 23.3 -0.2
comp=Z,138nm,0.6s
B21A **Ellsworth Farm** 84.94 40 ⇑P P 01 30 23.3 +0.1
baz=85
E20A **Meyer Farm, Mu** 85.11 42 ⇑P P 01 30 23.6 -0.6
baz=85
C21A **Desert Coulee** 85.16 40 ⇑P P 01 30 24.2 -0.2
baz=85,SNR=25
L17A **Cokeville** 85.21 47 ⇓P P 01 30 24.3 -0.6
baz=85
BC3 **Big Chuckawall** 85.23 56 ⇓P P 01 30 24.4 -0.7
baz=85,SNR=9.9
I18A **Diamond G Ranc** 85.24 45 ⇓P P 01 30 24.6 -0.6
baz=85
P15A **Leamington** 85.26 49 ⇓P P 01 30 24.7 -0.5
baz=85,SNR=12
IRM **Iron Mountain** 85.27 55 ⇑P P 01 30 24.5 -0.7
baz=85
RBK **Rabkut** 85.28 287 ⇓P P 01 30 25.7 +0.2
SNR=15
CCUT **Cedar City** 85.29 52 *e*P P 01 30 25.8 +0.3
comp=Z,21nm,1.1s
J18A **Kendall Valley** 85.31 45 ⇑P P 01 30 25.3 -0.2
baz=85,SNR=20
N16A **Rees Ranch, Co** 85.32 48 ⇑P P 01 30 25.1 -0.4
baz=85
A22A **Carney Farms,** 85.33 39 ⇓P P 01 30 24.4 -0.8
baz=85,SNR=10
H19A **Powell** 85.37 44 ⇓P P 01 30 25.8 +0.2
baz=85,SNR=9.5
F20A **Billings** 85.41 42 ⇑P P 01 30 25.4 -0.4
baz=85
JLU **Jordanelle** 85.43 48 *e*P P 01 30 26.1 0.0
comp=Z,21nm,1.0s
MPU **Maple Canyon** 85.54 49 *e*P P 01 30 27.0 +0.4
comp=Z,23nm,1.2s
K18A **Toltan Ranch,** 85.54 46 ⇓P P 01 30 26.4 -0.2
baz=85,SNR=7.8
D21A **La Casta Ranch** 85.56 41 ⇑P P 01 30 25.8 -0.7
baz=85,SNR=10.0
M17A **Scullys Gap (B** 85.61 47 ⇑P P 01 30 25.8 -1.1
baz=85,SNR=9.7
G20A **Bridger** 85.62 43 ⇑P P 01 30 26.4 -0.5
baz=85,SNR=8.3
I19A **Meeteetse** 85.64 44 ⇑P P 01 30 27.1 +0.1
baz=85,SNR=5.5
DAU **Daniels Canyon** 85.64 48 *e*P P 01 30 28.3 +1.1
DAU **Daniels Canyon** 85.64 48 *e*P P 01 30 28.3 +1.1
N17A **Moffit Pass** 85.71 48 ⇓P P 01 30 26.7 -0.9
baz=86,SNR=7.4
MVU **Marysvale** 85.74 50 *e*P P 01 30 27.8 +0.1
comp=Z,14nm,1.1s
E21A **Keefer Ranch,** 85.75 41 ⇑P P 01 30 27.3 -0.1
baz=86
MSU **Marysvale** 85.76 50 *e*P P 01 30 28.0 +0.2
MSU **Marysvale** 85.76 50 *e*P P 01 30 28.0 +0.2
PD01 **Pinedale Array** 85.79 46 *e*P P 01 30 27.1 -0.8
PD02 **Pinedale Array** 85.80 46 *e*P P 01 30 27.2 -0.7
BW06 **Boulder Array** 85.81 46 ⇓P P 01 30 27.5 -0.4
baz=86
PDAR **Pinedale Array** 85.81 46 P P 01 30 27.2 -0.7
PDAR **Pinedale Array** 85.81 46 P P 01 30 27.2 -0.7
comp=Z,2.3nm,0.7s,baz=208,slow=1.3,SNR=20
PDAR LR LR 02 02 55.4
comp=Z,440nm,20.2s,baz=313,slow=32
R15A **Junction** 85.81 51 ⇑P P 01 30 28.1 +0.1
baz=86
L18A **Fontenelle, Gr** 85.84 47 ⇑P P 01 30 27.8 -0.3
baz=86,SNR=9.2
W13A **Hualapai Mount** 85.87 54 ⇑P P 01 30 27.5 -0.8
baz=86,SNR=8.8
Y12C **Blythe** 85.91 55 ⇓P P 01 30 28.0 -0.3
baz=86
J19A **Crowheart** 85.93 45 ⇓P P 01 30 28.1 -0.3
baz=86,SNR=18
GLA **Glamis** 85.94 56 ⇑P P 01 30 28.3 -0.2
baz=86
A23A **Redstone** 85.95 39 ⇓P P 01 30 28.0 -0.3
baz=86
D22A **Cohagen** 86.02 41 ⇑P P 01 30 28.4 -0.2
baz=86,SNR=15
M18A **Lyman** 86.03 47 ⇓P P 01 30 28.5 -0.6
baz=86
H20A **Greybull** 86.08 44 ⇑P P 01 30 28.9 -0.2
baz=86,SNR=6.4
O17A **Robinson Place** 86.09 48 ⇑P P 01 30 29.1 -0.3
baz=86,SNR=16
B23A **Brockton** 86.12 39 ⇑P P 01 30 29.0 -0.1
baz=86,SNR=10
TMUT **Trail Mountain** 86.13 49 *e*P P 01 30 31.2 +1.5
comp=Z,207nm,2.6s
ABTO **Aybut** 86.14 287 ⇑P P 01 30 30.2 +0.4
SNR=14
SUMG **Summit** 86.21 1 *e*P P 01 30 30.3 +0.8
SUMG pmax pmax
comp=Z,43nm,1.1s
SUMG **Summit** 86.21 1 *e*P P 01 30 30.3 +0.8
comp=Z,43nm,1.1s
SUMG **Summit** 86.21 1 *i*P P 01 30 29.7 +0.2
SUMG *i* 01 30 45.5
L19A **Farson** 86.23 46 ⇑P P 01 30 29.4 -0.5
baz=86
I20A **Worland** 86.24 44 ⇓P P 01 30 29.9 0.0
baz=86,SNR=10.0
K19A **Absolon Red Bu** 86.26 45 ⇑P P 01 30 29.2 -0.9
baz=86,SNR=13
G21A **Lodge Grass** 86.26 43 ⇑P P 01 30 29.5 -0.4
baz=86
Q16A **Castle Valley** 86.31 50 ⇑P P 01 30 30.3 -0.1
baz=86,SNR=5.6
C23A **Lambert** 86.32 40 ⇑P P 01 30 30.1 0.0
baz=86,SNR=9.4
R16A **Teasdale** 86.36 50 ⇓P P 01 30 30.5 -0.2
baz=86,SNR=9.2
P17A **Butcher Ranch,** 86.39 49 ⇑P P 01 30 30.4 -0.4
baz=86,SNR=12
UMR **Umm Al-Rimmam** 86.41 300 *e*P P 01 30 30.2 -0.6
A24A **Westby** 86.48 38 ⇓P P 01 30 30.3 -0.5
baz=86
E22A **Miles City** 86.49 41 ⇑P P 01 30 30.9 -0.1
baz=86
S16A **Weppner Ranch,** 86.50 51 ⇓P P 01 30 31.0 -0.4
baz=86
U15A **North Rim** 86.53 52 ⇓P P 01 30 31.1 -0.6
baz=86,SNR=8.3
J20A **Shoshoni** 86.53 45 ⇑P P 01 30 30.8 -0.6
baz=86
QRN **Al-Qurain** 86.56 299 *e*P P 01 30 31.3 -0.2
QRN AMb AMB 01 30 32.6
comp=Z,65nm,1.0s
O18A **Roosevelt** 86.57 48 ⇓P P 01 30 31.4 -0.2
baz=86
DGMT **Dagmar** 86.58 39 ⇓P P 01 30 31.3 0.0
baz=86
D23A **Lindsay** 86.60 40 ⇓P P 01 30 31.2 -0.3
baz=86,SNR=7.8
H21A **Big Horn, Sher** 86.63 43 ⇑P P 01 30 31.9 +0.1
baz=86,SNR=6.9
K20A **Yellowstone Ra** 86.66 45 ⇓P P 01 30 31.2 -0.8
baz=86,SNR=14
P18A **Preston Nutter** 86.67 49 ⇓P P 01 30 31.4 -0.9
baz=86
SRU **San Rafael** 86.69 49 *e*P P 01 30 32.0 -0.3
SRU pmax pmax
comp=Z,29nm,1.0s
SRU **San Rafael** 86.69 49 *e*P P 01 30 32.0 -0.3
comp=Z,30nm,1.0s
SRU **San Rafael** 86.69 49 ⇓P P 01 30 31.6 -0.7
baz=86,SNR=16
RDF **Al-Radifah** 86.78 300 *e*P P 01 30 32.2 -0.4
RDF AMb AMB 01 30 33.6
comp=Z,87nm,1.2s
G22A **Birney** 86.84 42 ⇓P P 01 30 32.2 -0.5
baz=87
I21A **Big Trails, Te** 86.84 44 ⇑P P 01 30 32.3 -0.6
baz=87
R17A **Hanksville Air** 86.85 50 ⇑P P 01 30 32.3 -0.7
baz=87,SNR=11
N19A **John Jarvie Ra** 86.87 47 ⇓P P 01 30 32.6 -0.5
baz=87
113A **Mohawk Valley,** 86.88 56 ⇑P P 01 30 33.1 +0.1
baz=87
C24A **Savage** 86.90 40 ⇓P P 01 30 32.4 -0.6
baz=87
NAY **Al-Naaiem** 86.91 300 *e*P P 01 30 32.7 -0.6
NAY AMb AMB 01 30 34.7
comp=Z,80nm,1.1s
J21A **Lysite** 86.95 44 ⇓P P 01 30 33.2 -0.3
baz=87
L20A **Wamsutter** 86.95 46 ⇑P P 01 30 33.2 -0.3
baz=87
Q18A **Rafter H Ranch** 86.97 49 ⇓P P 01 30 33.1 -0.5
baz=87
Y14A **Wickenburg** 86.99 55 ⇑P P 01 30 33.1 -0.6
baz=87,SNR=19
H22A **Clearmont** 87.09 43 ⇓P P 01 30 33.8 -0.2
baz=87
S17A **Black Ridge (B** 87.11 51 ⇑P P 01 30 33.8 -0.5
baz=87
D24A **Glendive** 87.15 40 ⇓P P 01 30 34.2 +0.1
baz=87
F23A **Volborg** 87.16 42 ⇓P P 01 30 34.0 -0.3
baz=87
O19A **Miners Draw (B** 87.16 48 ⇑P P 01 30 34.3 -0.3
baz=87
Z14A **Wintersburg** 87.27 55 ⇓P P 01 30 34.9 -0.1
baz=87
M20A **Sweetwater, Wa** 87.28 46 ⇓P P 01 30 34.8 -0.3
baz=87
I22A **9 Mile Ranch,** 87.32 44 ⇑P P 01 30 35.1 -0.1
baz=87
T17A **Navajo Res., N** 87.38 51 ⇑P P 01 30 35.1 -0.6
baz=87,SNR=9.0
K21A **Alcova** 87.39 45 ⇑P P 01 30 35.0 -0.7
baz=87,SNR=13
G23A **Biddle** 87.41 42 ⇓P P 01 30 35.5 0.0
baz=87
E24A **Baker** 87.43 41 ⇑P P 01 30 35.3 -0.2
baz=87
ANN **Anapa** 87.43 317 *e*P P 01 30 34.3 -1.2
ANN *e*S S 01 41 02.5 -8.1
R18A **Canyonlands Na** 87.45 50 ⇑P P 01 30 35.2 -0.8
baz=87,SNR=11
N20A **Spence Gulch,** 87.52 47 ⇓P P 01 30 36.0 -0.3
baz=87,SNR=9.1
J22A **Midwest** 87.55 44 ⇑P P 01 30 36.1 -0.2
baz=87,SNR=5.9
P19A **Cripple Cowboy** 87.55 48 ⇑P P 01 30 36.1 -0.4
baz=87,SNR=18
114A **Black Gap (USA** 87.56 56 ⇓P P 01 30 35.9 -0.4
baz=87
BHD **Baghdad** 87.57 305 *ex* P 01 30 32.0 -4.4
BHD *ex* x 01 40 45.3

BHD ex x 01 41 10.7
WUAZ Wupatki 87.58 53 *e*P **P 01 30 37.1 +0.5**
comp=Z,22nm,1.0s
WUAZ Wupatki 87.58 53 ⇓P **P 01 30 36.6 0.0**
baz=87,SNR=7.6
L21A Rawlins 87.62 46 ⇓P **P 01 30 36.4 -0.3**
baz=87,SNR=14
Q19A Hogan Spring (87.65 49 ⇑P **P 01 30 36.6 -0.2**
baz=88
U17A Shonto 87.65 52 ⇓P **P 01 30 36.9 -0.1**
baz=88,SNR=13
S18A Hurst Farm, Bl 87.67 50 ⇑P **P 01 30 36.2 -0.9**
baz=88
MICGM Minsk 87.74 329⇓*e*P **P 01 30 35.0 -1.7**
MNK Minsk 87.76 329⇓*e*P **P 01 30 35.0 -1.8**
MNK pmax pmax
comp=Z,170nm,1.0s
M21A Separation Pea 87.78 46 ⇓P **P 01 30 37.0 -0.6**
baz=88,SNR=9.0
O20A White River Ci 87.84 48 ⇑P **P 01 30 37.3 -0.6**
baz=88,SNR=6.7
RWWY Rawlins 87.85 46 *e*P **P 01 30 38.3 +0.4**
comp=Z,38nm,1.3s
K22A Casper 87.86 45 ⇑P **P 01 30 37.5 -0.4**
baz=88
R19A Curley Farm, L 87.94 50 ⇓P **P 01 30 37.7 -0.6**
baz=88,SNR=6.9
214A Organ Pipe Nat 87.94 57 ⇑P **P 01 30 38.1 -0.1**
baz=88
SCO Scoresbysund 87.96 356 *i* P **P 01 30 37.1 -0.4**
SCO pmax pmax
comp=Z,6.0nm,1.0s
SCO Scoresbysund 87.96 356 *i* P **P 01 30 37.1 -0.4**
comp=Z,5.6nm,1.0s
X16A Lo Mia Camp, P 87.98 54 ⇑P **P 01 30 38.6 0.0**
baz=88,SNR=9.6
T18A Mexican Hat 87.99 51 ⇓P **P 01 30 37.7 -0.8**
baz=88,SNR=9.0
P20A De Beque 88.02 48 ⇑P **P 01 30 38.1 -0.6**
baz=88
NACGM Naroch 88.03 330 *e* **P 01 30 35.0 -3.1**
N21A Black Mountain 88.06 47 ⇓P **P 01 30 38.4 -0.5**
baz=88,SNR=9.5
PV04 Paradox Valley 88.14 49 *e*P **P 01 30 39.2 0.0**
H24A Dirks Ranch, A 88.15 42 ⇓P **P 01 30 39.0 -0.1**
baz=88
L22A Ellis Ranch, M 88.21 45 ⇑P **P 01 30 39.2 -0.3**
baz=88
S19A Harvey Farm, M 88.26 50 ⇑P **P 01 30 39.0 -0.9**
baz=88,SNR=7.5
U18A Rough Rock, Ch 88.30 51 ⇑P **P 01 30 40.3 +0.2**
baz=88,SNR=7.4
Q20A Ridgley Place, 88.33 49 ⇓P **P 01 30 39.6 -0.5**
baz=88,SNR=26
O21A Pagoda 88.34 47 ⇑P **P 01 30 39.7 -0.5**
baz=88
M22A Cedar Creek Ra 88.39 46 ⇓P **P 01 30 40.3 -0.2**
baz=88,SNR=9.7
X17A Forest Lakes 88.49 54 ⇑P **P 01 30 40.8 -0.3**
baz=88
PV01 Paradox Valley 88.49 49 *e*P **P 01 30 40.4 -0.6**
comp=Z,1μm,0.9s
I24A Kuemmerle Ranc 88.53 43 ⇑P **P 01 30 40.4 -0.5**
baz=88
R20A Redvale 88.61 49 ⇓P **P 01 30 41.0 -0.5**
baz=88,SNR=10
L23A Garrett 88.65 45 ⇓P **P 01 30 41.1 -0.6**
baz=88,SNR=6.0
P21A Newcastle 88.66 48 ⇑P **P 01 30 41.4 -0.4**
baz=88
T19A Beclabito 88.74 51 ⇑P **P 01 30 41.9 -0.2**
baz=88,SNR=11
N22A Wattenberg Ran 88.76 46 ⇑P **P 01 30 41.6 -0.7**
baz=89
S20A Disappointment 88.78 50 ⇓P **P 01 30 41.8 -0.6**
baz=89
U19A Dine' College, 88.84 51 ⇓P **P 01 30 42.0 -0.7**
baz=89
RKT Rikitea 88.85 115 *e*LR LR 01 59 00.5
comp=Z,469nm,22.8s
Q21A Lamborn Mesa, 88.88 48 ⇑P **P 01 30 42.9 +0.2**
baz=89,SNR=9.9
M23A Laramie 88.94 46 ⇑P **P 01 30 42.4 -0.6**
baz=89
MVCO Mesa Verde 88.95 50 ⇑P **P 01 30 42.7 -0.4**
baz=89,SNR=10
W18A Petrified Fore 88.96 53 ⇓P **P 01 30 42.8 -0.3**
baz=89
O22A Kremmling 88.99 47 ⇑P **P 01 30 42.9 -0.5**
baz=89,SNR=8.2
X18A Snowflake 89.05 53 ⇑P **P 01 30 43.4 -0.2**
baz=89
N23A Red Feather La 89.06 46 ⇓P **P 01 30 43.9 +0.3**
baz=89,SNR=10
P22A Eagle 89.10 48 ⇓P **P 01 30 43.8 0.0**
baz=89,SNR=10
R21A Cimarron 89.11 49 ⇑P **P 01 30 43.8 -0.1**
baz=89,SNR=15
SMCO Snowmass 89.15 48 *e*P **P 01 30 44.5 +0.2**
comp=Z,24nm,1.0s
AKASG Malin Array Be 89.19 325*ce*P **P 01 30 43.0 -0.7**
AKASG pmax pmax
comp=Z,16nm,0.9s
AKASG Malin Array Be 89.19 325 P **P 01 30 43.0 -0.7**
AKASG Malin Array Be 89.19 325 P **P 01 30 43.0 -0.7**
comp=Z,16nm,0.9s,baz=47,slow=5.0,SNR=39
AKASG LR LR 02 15 29.7
comp=Z,673nm,18.1s,baz=55,slow=39
AKBB Malin Array Si 89.19 325 *e*P **P 01 30 42.9 -0.8**
AKBB Malin Array Si 89.19 325 *e*P **P 01 30 42.9 -0.8**
KIEV Kiev 89.20 325 *e*P **P 01 30 43.0 -0.7**
KIEV pmax pmax
comp=Z,27nm,1.1s
KIEV Kiev 89.20 325 *e*P **P 01 30 43.0 -0.7**
comp=Z,27nm,1.1s
S21A Coal Bank Pass 89.25 50 ⇑P **P 01 30 44.5 -0.2**
baz=89,SNR=6.2
U20A Newcomb 89.30 51 ⇑P **P 01 30 44.7 -0.1**
baz=89
Q22A Crested Butte, 89.33 48 ⇓P **P 01 30 45.0 -0.1**
baz=89,SNR=12
TUC Tucson 89.36 55 *e*P **P 01 30 44.6 -0.4**
TUC pmax pmax
comp=Z,17nm,1.3s
TUC Tucson 89.36 55 *e*P **P 01 30 44.6 -0.4**
comp=Z,17nm,1.3s
O23A Lake Granby, G 89.39 47 ⇑P **P 01 30 44.9 -0.4**
baz=89
M24A Cheyenne 89.54 45 ⇓P **P 01 30 45.5 -0.2**
baz=89
V20A Brimhall 89.60 52 ⇑P **P 01 30 45.9 -0.3**
baz=89
R22A Saguache, Gunn 89.73 49 ⇓P **P 01 30 46.4 -0.5**
baz=90
T21A Navajo Lake 89.74 50 ⇑P **P 01 30 46.8 0.0**
baz=90
ISCO Idaho Springs 89.79 47 *e*P **P 01 30 47.6 +0.4**
ISCO pmax pmax
comp=Z,21nm,1.4s
ISCO Idaho Springs 89.79 47 *e*P **P 01 30 47.6 +0.4**
comp=Z,20nm,1.4s
ISCO Idaho Springs 89.79 47 ⇑P **P 01 30 47.0 -0.1**
baz=90,SNR=7.2
N24A Carr 89.80 46 ⇓P **P 01 30 46.9 -0.1**
baz=90
Y19A Nutrioso 89.82 53 ⇓P **P 01 30 47.5 +0.1**
baz=90,SNR=7.0
P23A Jefferson 89.84 47 ⇓P **P 01 30 47.6 +0.2**
baz=90,SNR=10
W20A Ramah 89.87 52 ⇑P **P 01 30 47.1 -0.4**
baz=90
S22A 4UR Ranch, Cre 89.90 49 ⇑P **P 01 30 47.5 -0.1**
baz=90,SNR=7.8
U21A Nageezi 89.90 51 ⇑P **P 01 30 47.1 -0.5**
baz=90
HFS Hagfors 89.95 338 P **P 01 30 45.8 -1.3**
HFS Hagfors 89.95 338 P **P 01 30 45.8 -1.3**
comp=Z,2.2nm,0.5s,baz=103,slow=4.7,SNR=11
O24A Longmont 90.01 46 ⇓P **P 01 30 47.8 -0.2**
baz=90
NB2 NORSAR Subarra 90.11 340 P **P 01 30 46.7 -1.1**
comp=Z,9.5nm,0.9s,baz=43,slow=5.1
NOA NORSAR Array B 90.11 340 P **P 01 30 47.1 -0.7**
NOA NORSAR Array B 90.11 340 P **P 01 30 47.1 -0.7**
comp=Z,9.1nm,1.0s,baz=46,slow=4.5,SNR=13
NOA LR LR 02 13 52.1
comp=Z,390nm,18.3s,baz=40,slow=37
X20A Quemado 90.13 53 ⇓P **P 01 30 49.2 +0.5**
baz=90,SNR=6.9
T22A Edith 90.18 50 ⇓P **P 01 30 48.6 -0.3**
baz=90
SUW Suwalki 90.25 330 *e*P **P 01 30 47.5 -1.1**
SUW Suwalki 90.25 330 *e*P **P 01 30 47.5 -1.1**
SUW Suwalki 90.25 330 *e*P **P 01 30 47.3 -1.2**
SUW pmax pmax
comp=Z,62nm,1.0s
SUW Suwalki 90.25 330 *e*P **P 01 30 47.3 -1.2**
comp=Z,62nm,1.0s
ULM Lac du Bonnet 90.28 34 P **P 01 30 47.8 -0.9**
ULM Lac du Bonnet 90.28 34 P **P 01 30 47.8 -0.9**
comp=Z,3.6nm,1.0s,baz=296,slow=6.2,SNR=4.2
ULM LR LR 02 10 57.6
comp=Z,250nm,18.5s,baz=309,slow=35
R23A Moffat 90.40 48 ⇑P **P 01 30 49.9 -0.1**
baz=90
P24A Kohler Place, 90.41 47 ⇓P **P 01 30 50.0 +0.1**
baz=90
Y20A Horse Springs, 90.50 53 ⇓P **P 01 30 51.0 +0.5**
baz=90,SNR=6.1
W21A San Fidel 90.50 52 ⇓P **P 01 30 50.5 +0.1**
baz=90
Q24A Divide 90.50 48 ⇓P **P 01 30 50.2 -0.3**
baz=90
U22A Llaves 90.50 50 ⇓P **P 01 30 50.1 -0.3**
baz=90
K27A Flueckinger Fa 90.61 43 ⇓P **P 01 30 50.4 -0.2**
baz=90
O25A Wiggins 90.65 46 ⇑P **P 01 30 51.3 +0.3**
baz=90
Z20A Nine Sixteen R 90.68 54 ⇑P **P 01 30 51.4 +0.2**
baz=90,SNR=19
X21A Alamocita Cree 90.70 52 ⇓P **P 01 30 51.4 +0.1**
baz=90
SDCO Great Sand Dun 90.83 49 ⇑P **P 01 30 51.1 -0.9**
baz=91
R24A Sanders Place, 90.88 48 ⇑P **P 01 30 52.2 +0.1**
baz=91
120A U Bar Ranch, L 90.90 54 ⇑P **P 01 30 52.0 -0.2**
baz=91
P25A Willow Gulch B 90.91 47 ⇓P **P 01 30 52.0 -0.2**
baz=91
319A Douglas 90.92 56 ⇓P **P 01 30 51.9 -0.4**
baz=91
Y21A Point of Rocks 90.97 53 ⇑P **P 01 30 52.1 -0.6**
baz=91
U23A El Rito 91.00 50 ⇑P **P 01 30 52.7 -0.1**
baz=91,SNR=8.6
S24A Houchin Ranch, 91.08 49 ⇑P **P 01 30 52.7 -0.5**
baz=91
O26A Horse Wrangler 91.13 46 ⇑P **P 01 30 52.5 -0.7**
baz=91
Q25A Bedland, Calha 91.14 47 ⇑P **P 01 30 53.0 -0.3**
baz=91,SNR=7.4
220A Playas Peak, P 91.26 55 ⇑P **P 01 30 53.8 -0.1**
baz=91,SNR=7.6
V23A Ortiz Mt. (NFS 91.28 51 ⇑P **P 01 30 53.5 -0.6**
baz=91
Z21A St. Cloud Mine 91.29 53 ⇑P **P 01 30 54.2 +0.1**
baz=91,SNR=9.0
N27A Anderson Farm, 91.37 45 ⇑P **P 01 30 54.0 -0.2**
baz=91
AGMN Agassiz Nation 91.40 36 *e*P **P 01 30 53.9 -0.2**
comp=Z,244nm,1.4s
ANMO Albuquerque 91.44 52 *e*P **P 01 30 55.1 +0.3**
comp=Z,22nm,1.4s
P26A Davis Ranch, A 91.44 46 ⇓P **P 01 30 54.5 -0.1**
baz=91
R25A Fountain Ranch 91.49 48 ⇓P **P 01 30 54.6 -0.2**
baz=91
320A Kipp Ranch, An 91.51 56 ⇑P **P 01 30 54.9 -0.2**
baz=91
Y22A Socorro 91.53 53 ⇑P **P 01 30 54.8 -0.4**
baz=91
121A Cookes Peak, D 91.55 54 ⇓P **P 01 30 55.2 -0.1**
baz=91
W23A Werner Place, 91.57 51 ⇑P **P 01 30 55.2 -0.2**
baz=91
S25A Robets Cordova 91.62 48 ⇑P **P 01 30 55.1 -0.4**
baz=91
BNM Barren Site 91.68 52 *e*P **P 01 30 56.2 +0.2**
comp=Z,18nm,1.6s
O27A Beecher Island 91.71 45 ⇓P **P 01 30 55.4 -0.4**
baz=92
Z22A Elephant Butte 91.84 53 ⇑P **P 01 30 56.5 -0.1**
baz=92
T25A Trinidad 91.88 49 ⇑P **P 01 30 56.2 -0.6**
baz=92
V24A Rampart Ranch, 91.94 50 ⇓P **P 01 30 56.2 -1.0**
baz=92
R26A Arlington 91.99 47 ⇓P **P 01 30 56.6 -0.6**
baz=92,SNR=8.8
W24A Lazy 6 Ranch, 92.08 51 ⇓P **P 01 30 57.4 -0.3**
baz=92,SNR=6.6
KSCO Kaye Shedlock' 92.20 47 ⇑P **P 01 30 57.7 -0.5**
baz=92
Y23A Lovelace Mesa, 92.21 52 ⇓P **P 01 30 57.8 -0.5**
baz=92
U25A Circle Dot Ran 92.24 49 ⇑P **P 01 30 58.2 -0.3**
baz=92,SNR=7.5
S26A Kim 92.31 48 ⇑P **P 01 30 58.3 -0.4**
baz=92
V25A Rancho No Teng 92.36 50 ⇓P **P 01 30 58.4 -0.6**
baz=92
BR131 Keskin Array S 92.36 314 *e*P **P 01 30 58.1 -0.7**
comp=Z,7.3nm,1.0s
BRTR Keskin Array B 92.36 314 P **P 01 30 58.1 -0.7**
BRTR Keskin Array B 92.36 314 P **P 01 30 58.1 -0.7**
comp=Z,5.2nm,0.9s,baz=97,slow=3.4,SNR=25
BRTR LR LR 02 17 00.9
comp=Z,311nm,18.6s,baz=243,slow=38
Z23A Rita Site, Whi 92.38 53 ⇓P **P 01 30 58.6 -0.5**
baz=92
LVV L'vov 92.42 327 *e*P **P 01 30 57.6 -1.1**
T26A Comanche Natio 92.44 48 ⇓P **P 01 30 59.4 +0.1**
baz=92
R27A Eads 92.44 47 ⇑P **P 01 30 59.0 -0.2**
baz=92
Y24A Capitan 92.67 52 ⇑P **P 01 30 59.6 -0.8**
baz=92
U26A Atchley Ranch, 92.71 49 ⇓P **P 01 31 00.3 -0.3**
baz=92
BEL Belsk 92.75 329 *e*P **P 01 31 00.1 0.0**
BEL Belsk 92.75 329 *e*P **P 01 31 00.1 0.0**
BEL Belsk 92.75 329 *e*P **P 01 31 00.1 0.0**
W25A X Bar L Ranch, 92.77 51 ⇑P **P 01 31 00.2 -0.6**
baz=93
X25A Clemmons Ranch 92.95 51 ⇓P **P 01 31 01.3 -0.4**
baz=93
V26A Tequesquite Ra 92.97 50 ⇓P **P 01 31 00.9 -0.9**
baz=93
T27A Campo 93.10 48 ⇓P **P 01 31 01.9 -0.4**
baz=93
BUR08 Bucovina Ar. S 93.11 324 *e*P **P 01 31 01.4 -0.7**
BURAR Bucovina Array 93.12 324⇑*i*P **P 01 31 02.0 -0.1**
KWP Kalwaria Pacla 93.21 327 *e*P **P 01 31 02.1 -0.2**
KWP Kalwaria Pacla 93.21 327 *e*P **P 01 31 02.1 -0.2**
KWP Kalwaria Pacla 93.21 327 *e*P **P 01 31 02.3 -0.1**
KWP pmax pmax
comp=Z,54nm,1.0s
KWP Kalwaria Pacla 93.21 327 *e*P **P 01 31 02.3 -0.1**
comp=Z,54nm,1.0s
KWP Kalwaria Pacla 93.21 327⇓*i*P **P 01 31 02.2 -0.2**
Y25A Mesa, Roswell 93.21 52 ⇓P **P 01 31 02.5 -0.4**
baz=93
124A Stringfield Ra 93.22 53 ⇑P **P 01 31 02.7 -0.4**
baz=93
VRI Vrincioaia 93.31 322 ⇓P P 01 31 07.2 +4.3
VRI Vrincioaia 93.31 322⇓*i*P P 01 31 07.2 +4.3
224A Cornudas Mount 93.46 54 ⇑P **P 01 31 03.5 -0.6**
baz=93,SNR=10
T28A Walsh 93.49 48 ⇑P **P 01 31 03.7 -0.3**
baz=93
Z25A Roswell 93.50 52 ⇑P **P 01 31 04.0 -0.2**
baz=93
ECSD EROS Data Cent 93.55 40 *e*P **P 01 31 03.9 -0.2**
comp=Z,22nm,1.4s
X26A CR and CF Fran 93.55 51 ⇓P **P 01 31 04.1 -0.4**
baz=93
MNTX Cornudas Mount 93.74 54 *e*P **P 01 31 05.3 0.0**
comp=Z,7.7nm,1.0s
MNTX Cornudas Mount 93.74 54 ⇓P **P 01 31 04.9 -0.3**
baz=94,SNR=9.9
324A Moseley Ranch, 93.79 54 ⇓P **P 01 31 04.9 -0.7**
baz=94
125A Gardner Draw, 93.83 53 ⇑P **P 01 31 05.1 -0.6**
baz=94
KOLS Kolonicke sedl 93.87 327 *e*P **P 01 31 05.6 +0.2**
KOLS pmax pmax
comp=Z,12nm,1.5s
KOLS Kolonicke sedl 93.87 327 *e*P **P 01 31 05.6 +0.2**
BMR Baia Mare 94.01 325 ⇓P **P 01 31 06.5 +0.4**
BMR Baia Mare 94.01 325⇓*i*P **P 01 31 06.4 +0.4**
Z26A Caprock 94.04 52 ⇑P **P 01 31 06.5 -0.2**
baz=94
UZH Uzhgorod 94.05 326⇑*i*P **P 01 31 06.2 0.0**
UZH *e* 01 31 29.6
V28A Channing 94.10 49 ⇑P **P 01 31 06.8 -0.1**
baz=94
TRPA Tarpa 94.23 326⇓*i*P **P 01 31 08.5 +1.4**
CBKS Cedar Bluff 94.24 46 ⇓P **P 01 31 07.2 -0.2**
baz=94
OJC Ojcow 94.28 329 *e*P **P 01 31 06.1 -1.2**
OJC pmax pmax
comp=Z,16nm,1.4s
OJC Ojcow 94.28 329 *e*P **P 01 31 06.1 -1.2**
comp=Z,16nm,1.4s
CRVS Cervenica-Dubn 94.30 327 *e*P **P 01 31 07.5 +0.1**
CRVS pmax pmax
comp=Z,23nm,1.4s
CRVS Cervenica-Dubn 94.30 327 *e*P **P 01 31 07.5 +0.1**
126A Clayton Basin, 94.31 53 ⇓P **P 01 31 07.6 -0.4**
baz=94
Z27A Tatum 94.58 52 ⇓P **P 01 31 08.5 -0.6**
baz=94
SPMN St. Paul 94.90 37 ⇑P **P 01 31 09.5 -0.7**
baz=95
DRGR 94.98 325 ⇑P **P 01 31 10.3 -0.3**
DRGR 94.98 325⇑*i*P **P 01 31 10.3 -0.3**
X29A Tulia 95.12 50 ⇑P **P 01 31 11.1 -0.5**
baz=95
Z28A Tucker Farm, M 95.20 51 ⇑P **P 01 31 11.1 -0.9**
baz=95
426A McDonald Obser 95.25 54 ⇑P **P 01 31 11.9 -0.5**
baz=95
OKC Ostrava-Krasne 95.33 329 *e*P **P 01 31 09.4 -2.6**
OKC *e* 01 31 21.2
OKC MLR MLR
comp=Z,1μm,15.1s
OKC Ostrava-Krasne 95.33 329 *e*P **P 01 31 09.4 -2.6**
OKC *ep*P PcP 01 31 21.2 +8.9
OKC AMS AMS 02 19 00.0
comp=Z,1μm,15.1s
KSP Ksiaz 95.51 331 *e*P **P 01 31 12.4 -0.5**
KSP Ksiaz 95.51 331 *e*P **P 01 31 12.4 -0.5**
KSP Ksiaz 95.51 331 *e*P **P 01 31 12.3 -0.5**
KSP *e* 01 35 02.5
427A Hayter Ranch, 95.64 54 ⇓P **P 01 31 14.0 0.0**
baz=96
MORC Moravsky Berou 95.66 329 ⇑P **P 01 31 13.3 -0.3**
MORC Moravsky Berou 95.66 329⇑*i*P **P 01 31 13.3 -0.3**
Z29A Hungry Hill Ra 95.71 51 ⇑P **P 01 31 14.0 -0.3**
baz=96
DPC Dobruska-Polom 95.83 330 *e*P **P 01 31 14.1 -0.3**
DPC *e* 01 31 24.6
DPC *e* 01 35 07.6
DPC *e*SS SS 01 49 03.9 +7.4
DPC MLR MLR
comp=Z,800nm,14.5s
DPC Dobruska-Polom 95.83 330 *e*P **P 01 31 14.2 -0.2**
comp=Z,127nm,2.7s
DPC Dobruska-Polom 95.83 330 *e*P **P 01 31 14.1 -0.3**
DPC *ep*P pP 01 31 24.6 -10
DPC *e*PP **PP 01 35 07.6 +1.2**
DPC *e*SS SS 01 49 03.9 +7.4
DPC AMS AMS 02 22 30.0
comp=Z,800nm,14.5s
UPC Upice 95.87 330 *e*P **P 01 31 14.2 -0.3**
UPC *e* 01 35 06.1
UPC Upice 95.87 330 *e*P **P 01 31 14.2 -0.3**
UPC *e*PP **PP 01 35 06.1 -0.5**
VYHS Vyhne 95.89 328 *e*P **P 01 31 14.4 -0.3**
VYHS pmax pmax
comp=Z,9.0nm,1.6s
VYHS Vyhne 95.89 328 *e*P **P 01 31 14.4 -0.3**
VYHS *e*PP **PP 01 35 04.3 -2.5**
TXAR Lajitas Array 96.16 55 P **P 01 31 17.4 +0.9**
TXAR Lajitas Array 96.16 55 P **P 01 31 17.4 +0.9**
comp=Z,2.4nm,0.9s,baz=225,slow=1.6,SNR=3.6
TXAR LR LR 02 12 31.6
comp=Z,193nm,18.3s,baz=140,slow=34
428A Kincaid Ranch, 96.24 54 ⇑P **P 01 31 16.7 -0.1**
baz=96
VRAC Vranov 96.43 329⇓*i*P **P 01 31 16.9 -0.2**
PVCC Panska Ves 96.51 331 *e*P **P 01 31 17.3 -0.1**
PVCC MLR MLR
comp=Z,900nm,15.4s
PVCC Panska Ves 96.51 331 *e*P **P 01 31 17.3 -0.1**
PVCC AMS AMS 02 23 50.0
comp=Z,900nm,15.4s
BRG Berggiesshubel 96.54 332 *e*PDIF **P 01 31 17.3 -0.2**
comp=Z,14nm,1.6s
BRG Berggiesshubel 96.54 332 *e*PKP PP 01 35 00.8 -11
comp=Z,5.1nm,1.1s
BRG *e* 01 35 12.1
comp=Z,9.7nm,1.4s
BRG SKS SKSac 01 41 58.0 +10
BRG SDIF 01 44 05.0
BRG *e* 01 49 11.0
comp=N,672nm,13.7s
BRG
comp=E,563nm,16.6s
BRG
comp=Z,182nm,16.4s
BRG Berggiesshubel 96.54 332 *e*P **P 01 31 17.3 -0.2**
BRG pmax pmax
comp=Z,14nm,1.6s
CLL Collm 96.64 332 *i* P **P 01 31 16.8 -1.2**
CLL *i* 01 31 26.7
CLL *i* 01 35 12.4
CLL *e*S **S 01 42 32.0 -1.3**
CLL pmax pmax
comp=Z,13nm,1.3s
CLL pmax pmax
comp=Z,13nm,1.4s
CLL MLR MLR
comp=Z,900nm,17.8s
CLL Collm 96.64 332 *i* P **P 01 31 16.8 -1.2**
comp=Z,13nm,1.3s
CLL *i* 01 31 26.7
CLL *i* PP **PP 01 35 12.4 -0.1**
comp=Z,13nm,1.4s
CLL *e* 01 35 35.0
CLL *e*S **S 01 42 32.0 -1.3**
CLL *e*(SP) 01 43 48.0
CLL *e*PS **PS 01 44 02.0 -0.4**
CLL *e*SS **SS 01 49 07.0 -0.6**
CLL *e*SSS SSS 01 53 18.0
CLL *e*SSSS 01 56 30.0
628A Black Gap, Mar 96.68 55 ⇑P **P 01 31 18.3 -0.4**
baz=96
PRU Pruhonice 96.91 331 *e*P **P 01 31 18.9 -0.3**
PRU *e* 01 35 14.2
PRU *e*SS SS 01 49 19.6 +8.1
PRU MLR MLR
comp=Z,800nm,16.3s
PRU Pruhonice 96.91 331 *e*P **P 01 31 18.9 -0.3**
PRU *e*PP **PP 01 35 14.2 -0.4**
PRU *e*SS SS 01 49 19.6 +8.1
PRU AMS AMS 02 23 00.0
comp=Z,800nm,16.3s
TREC Trest 96.96 330 *e*P **P 01 31 19.2 -0.3**
TREC MLR MLR
comp=Z,900nm,15.6s
TREC Trest 96.96 330 *e*P **P 01 31 19.2 -0.3**
TREC AMS AMS 02 20 10.0
comp=Z,900nm,15.6s
NKC Novy Kostel 97.66 332 AMS AMS 02 24 00.0
comp=Z,900nm,14.7s
CONA Conrad Observa 97.73 329⇑*i*P **P 01 31 22.5 -0.7**
comp=Z,6.1nm,1.2s
CONA Conrad Observa 97.73 329⇑*i*PcP **P 01 31 22.5 -0.7**
comp=Z,6.1nm,1.2s
KHC Kasperske Hory 97.96 331 *e*P **P 01 31 22.8 -1.3**
KHC *e* 01 35 23.4
KHC MLR MLR
comp=Z,900nm,14.5s
KHC Kasperske Hory 97.96 331 *e*P **P 01 31 22.8 -1.3**
KHC *e*PP **PP 01 35 23.4 +0.7**
KHC AMS AMS 02 23 40.0

	comp=Z,900nm,14.5s							
GERES	**GERESS Array B**	**98.11**	**330**	P		**P**	**01 31 23.7**	**-1.1**
GERES				PP		**PP**	**01 35 24.9**	**+1.0**
GERES	**GERESS Array B**	**98.11**	**330**	P		**P**	**01 31 23.7**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=17,slow=5.6,SNR=7.9							
GERES				PP		**PP**	**01 35 24.9**	**+1.0**
	comp=Z,1.5nm,1.1s,baz=56,slow=8.2,SNR=6.8							
GERES				LR		LR	02 20 39.5	
	comp=Z,521nm,18.9s,baz=243,slow=38							
MOA	**Molln**	**98.55**	**329**	*i*P		**P**	**01 31 26.6**	**-0.1**
	comp=Z,7.1nm,1.5s							
MOA	**Molln**	**98.55**	**329**	*i*Pdiff		**P**	**01 31 26.6**	**-0.1**
	comp=Z,7.1nm,1.5s							
GRF	**Grafenberg Arr**	**98.60**	**332**	*e*Pdiff		Pdif	01 31 27.0	+0.1
SCHQ	**Schefferville**	**99.07**	**18**	LR		LR	02 13 13.1	
	comp=Z,318nm,20.0s,baz=1.0,slow=34							
ESDC	**Sonseca Array**	**113.03**	**335**	PP		PP	01 37 13.0	-0.9
ESDC	**Sonseca Array**	**113.03**	**335**	PP		PP	01 37 13.0	-0.9
	comp=Z,2.8nm,1.0s,baz=33,slow=7.4,SNR=7.5							
TORD	**Torodi Ar. Bea**	**130.86**	**311**	PKP		**PKPdf**	**01 37 00.0**	**+0.1**
TORD				PP		PP	01 39 03.7	-12
TORD	**Torodi Ar. Bea**	**130.86**	**311**	PKP		**PKPdf**	**01 37 00.0**	**+0.1**
	comp=Z,2.4nm,1.1s,baz=31,slow=2.4,SNR=7.3							
TORD				PP		PP	01 39 03.7	-12
	comp=Z,1.2nm,1.1s,baz=39,slow=6.6,SNR=4.2							
SDV	**Santo Domingo**	**133.18**	**54**	*e*PKPdf		**PKPdf**	**01 37 05.2**	**+0.7**
PLCA	**Paso Flores**	**143.66**	**130**	PKP		PKPbc	01 37 21.4	+0.9
PLCA	**Paso Flores**	**143.66**	**130**	PKP		PKPbc	01 37 21.4	+0.9
	comp=Z,4.0nm,0.9s,baz=235,slow=6.9,SNR=9.8							
LPAZ	**La Paz**	**147.44**	**87**	*e*PKPbc		**PKPbc**	**01 37 33.9**	**+0.7**
SAML	**Samuel**	**149.40**	**71**	*e*PKPbc		**PKPbc**	**01 37 37.3**	**-0.3**
TRQA	**Tornquist**	**150.81**	**131**	*e*PKPbc		**PKPbc**	**01 37 40.2**	**-0.2**

IDC 09 01:51:52.4±1.2, 35°.32N×106°.79E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/26, mbtmp3.5/6, ML2.9/1, Error ellipse: s-maj=47.3km s-min=21.8km az=58.0, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**12.51**	**359**	Pn	Pn	01 54 52.6	+0.7
	0.1nm,0.3s,baz=179,slow=12,SNR=4.9						
SONM				Sn	Sn	01 57 13.4	+1.4
	0.0nm,0.3s,baz=170,slow=17,SNR=2.6						
MKAR	**Makanchi Array**	**21.65**	**309**	P	P	01 56 43.8	-0.6
	1.1nm,0.6s,baz=105,slow=11,SNR=18						
ZALV	**Zalesovo Beam**	**24.14**	**327**	P	P	01 57 10.5	+0.6
	0.7nm,0.5s,baz=116,slow=9.8,SNR=3.5						
KURBB	**Kurchatov Arra**	**25.51**	**316**	P	P	01 57 22.4	0.0
	1.4nm,0.8s,baz=122,slow=8.7,SNR=13						
WRA	**Warramunga Arr**	**60.86**	**150**	P	P	02 02 06.9	+0.1
	0.9nm,0.8s,baz=342,slow=7.2,SNR=4.1						
YKA	**Yellowknife Ar**	**77.00**	**18**	P	P	02 03 46.4	-0.3
	0.2nm,0.6s,baz=325,slow=5.1,SNR=6.3						

*ISCJB **09** 02:30:41.1±0.8, 17°.1S±0°.4×179°.1W±0°.2, h533km, mb3.9/10, Error ellipse: s-maj=55.5km s-min=11.3km az=152.5*

*IDC **09** 02:30:43.3±1.9, 17°.27S×178°.92W, h555km±26km, mb3.5/9, mb1 3.8/11, mb1mx3.6/20, mbtmp3.6/11, Error ellipse: s-maj=72.3km s-min=12.2km az=152.0*

ISC 09 02:30:42.3±0.9, 17°.0S±0°.4×179°.1W±0°.2, h533km, n15, σ1s06/14, mb3.8/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.67**	**68**	P	**P**	**02 32 37.8**	**+1.5**
	4.0nm,0.3s,baz=333,slow=4.5,SNR=7.6						
DZM	**Mont Dzumac**	**14.56**	**247**	P	**P**	**02 33 49.3**	**+1.7**
	1.5nm,0.3s,baz=76,slow=18,SNR=20						
ARMA	**Armidale**	**29.88**	**238**	*e*P	**P**	**02 36 05.2**	**-1.6**
CTA	**Charters Tower**	**32.98**	**259**	*e*P	**P**	**02 36 34.0**	**+0.6**
	3.8nm,0.6s						
STKA	**Stephens Creek**	**38.53**	**240**	*e*P	**P**	**02 37 18.0**	**-1.2**
	8.5nm,0.6s						
STKA	**Stephens Creek**	**38.53**	**240**	P	**P**	**02 37 18.1**	**-1.2**
	10nm,0.5s,baz=90,slow=9.9,SNR=35						
WRA	**Warramunga Arr**	**44.18**	**259**	P	**P**	**02 38 04.1**	**-0.1**
	4.0nm,0.5s,baz=94,slow=7.1,SNR=29						
ASAR	**Alice Springs**	**44.44**	**253**	P	**P**	**02 38 06.0**	**-0.1**
	42nm,0.6s,baz=88,slow=8.3,SNR=433						
FITZ	**Fitzroy Crossi**	**52.56**	**260**	P	**P**	**02 39 07.0**	**+0.5**
	1.2nm,0.3s,baz=53,slow=2.0,SNR=6.4						
NVAR	**Mina Array Bea**	**79.14**	**44**	P	**P**	**02 41 52.1**	**-0.3**
	1.2nm,0.7s,baz=224,slow=8.4,SNR=12						
ILAR	**Eielson Array**	**85.12**	**13**	P	**P**	**02 42 21.4**	**-0.2**
	0.5nm,0.4s,baz=223,slow=5.2,SNR=22						
TXAR	**Lajitas Array**	**86.04**	**58**	P	**P**	**02 42 26.4**	**-0.5**
	1.3nm,0.6s,baz=222,slow=5.6,SNR=9.9						
PDAR	**Pinedale Array**	**87.11**	**44**	P	**P**	**02 42 31.1**	**-0.8**
	1.0nm,0.5s,baz=212,slow=3.9,SNR=9.8						
YKA	**Yellowknife Ar**	**93.75**	**25**	P	**P**	**02 43 01.2**	**-0.5**
	0.2nm,0.5s,baz=235,slow=4.6,SNR=6.1						
BRTR	**Keskin Array B**	**143.67**	**315**	PKP	PKPbc	02 49 16.2	+0.3
	0.9nm,1.0s,baz=102,slow=1.6,SNR=4.6						

IDC 09 02:37:32.0±2.4, 0°.82N×129°.11E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.5/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/22, Error ellipse: s-maj=155.3km s-min=27.4km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.26**	**166**	P	P	02 42 19.6	-0.5
	2.2nm,0.8s,baz=346,slow=11,SNR=9.5						
ASAR	**Alice Springs**	**24.78**	**169**	P	P	02 42 56.1	+0.3
	1.0nm,0.7s,baz=1.2,slow=9.7,SNR=8.7						
USRK	**Ussuriysk Arra**	**43.27**	**3**	LR	LR	03 03 04.9	
	comp=Z,74nm,19.8s,baz=259,slow=35						
MKAR	**Makanchi Array**	**61.28**	**325**	P	P	02 47 49.3	0.0
	0.2nm,0.4s,baz=118,slow=7.0,SNR=4.4						

*NIED **09** 02:59:00, 32°.60N×130°.70E, h5km, Mw3.5 Best double couple: M₀2.08000×10¹⁴ NP1:φs193.00000°, δ59.00000°, λ123.00000°. NP2:φs321.00000°, δ44.00000°, λ48.00000°.*

JMA 09 02:59:19.8, 32°.61N×130°.71E, h6km±1km, M3.3, 3C-1D Broadband fault plane solution: P waves. NP1: φs309.00000°, δ69.00000°, λ47.00000°. **NP2:** φs199.00000°, δ47.00000°, λ151.00000°. **Principal axes:** T Plg47.0000°, Azm174.0000°; N Plg40.0000°, Azm328.0000°; P Plg13.0000°, Azm69.0000°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIU2	**Izumi 2**	**0.11**	**126**	⇓P	Pg	02 59 22.4	+0.2
JIU2				S	Sg	02 59 24.3	+0.5
JTA	**Tamana**	**0.38**	**337**	⇑P	Pg	02 59 27.6	+0.3
JZO	**Okuchi**	**0.48**	**191**	⇑P	Pg	02 59 29.3	+0.2
JTZ	**Takazaki**	**0.78**	**156**	⇑P	Pb	02 59 35.6	-0.1
JTZ				S	Sb	02 59 46.0	-0.5

MEX 09 02:59:35.8±0.5, 17°.54N×93°.93W, h44km±31km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.02**	**244**	*e*P	Pn	02 59 51.8	-1.9
CMIG				*i* S	Sn	03 00 04.7	-2.1
PCIG		**1.95**	**159**	*e*P	Pn	03 00 05.0	-1.4
PCIG				*i* S	Sn	03 00 27.6	-2.1
CCIG	**Comitan**	**2.12**	**126**	*e*P	Pn	03 00 07.5	-1.5
CCIG				*i* S	Sn	03 00 33.0	-1.4
VHO	**Vista Hermosa**	**2.72**	**261**	*i* P	Pn	03 00 16.2	-1.0
VHO				*i* S	Sn	03 00 47.3	-1.8
HUIG	**Huatulco**	**2.73**	**230**	*i* P	Pn	03 00 15.7	-1.5
HUIG				*i* S	Sn	03 00 47.5	-1.5
PNIG	**Pinotepa**	**4.18**	**255**	*e*P	Pn	03 00 34.5	-2.6
PNIG				*i* S	Sn	03 01 21.8	-2.9

IDC 09 03:00:42.9±3.8, 1°.55N×130°.86E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, Error ellipse: s-maj=296.7km s-min=21.2km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.63**	**171**	P	P	03 05 34.5	-0.4
	1.5nm,0.9s,baz=352,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**25.24**	**173**	P	P	03 06 11.0	+0.2
	0.8nm,0.7s,baz=359,slow=9.1,SNR=8.1						
MKAR	**Makanchi Array**	**61.71**	**324**	P	P	03 11 02.8	-0.3
	0.3nm,0.7s,baz=132,slow=8.0,SNR=3.1						
KURBB	**Kurchatov Arra**	**65.81**	**326**	P	P	03 11 30.8	+0.8
	0.4nm,0.3s,baz=121,slow=5.7,SNR=5.0						
BVAR	**Borovoye Array**	**71.40**	**326**	P	P	03 12 04.5	-0.4
	0.4nm,0.3s,baz=91,slow=10,SNR=4.5						

PRE 09 03:09:09.5±1.3, 26°.86S×26°.86E, h2km, ML1.8, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFSD	**Buffelsfontein**	**0.07**	**267**	*e*P	Pg	03 09 11.4	+0.3
BFSD				*e*S	Sg	03 09 12.8	+0.6
BFSD				AML	AML	03 09 14.1	
	comp=Z,517nm,0.3s						
MOAB	**Moab Khotsong**	**0.14**	**205**	*e*P	Pg	03 09 12.8	+0.4
MOAB				*e*S	Sg	03 09 14.5	+0.1
MOAB				AML	AML	03 09 15.8	
	comp=Z,296nm,0.2s						
PRYS	**Parys**	**0.45**	**98**	*e*P	Pg	03 09 18.8	+0.5
PRYS				*e*S	Sg	03 09 25.2	+0.9
PRYS				AML	AML	03 09 31.5	
	comp=Z,19nm,0.5s						
ERPM	**east rand prop**	**1.34**	**68**	*e*P	Pb	03 09 35.8	+0.3
ERPM				*e*S	Sn	03 09 55.1	+1.1
ERPM				AML	AML	03 09 59.4	
	comp=Z,3.7nm,0.3s						
SWZ	**Schweizer**	**1.40**	**256**	*e*P	Pb	03 09 36.8	+0.2
SWZ				*e*S	Sb	03 09 55.4	+0.2
SWZ				AML	AML	03 09 57.6	
	comp=Z,11nm,0.3s						
SEK	**Senekal**	**1.61**	**155**	*e*P	Pn	03 09 39.0	-0.1
SEK				*e*S	Sb	03 10 01.0	-0.1
SEK				AML	AML	03 10 03.7	
	comp=Z,13nm,0.2s						
LBTB	**Lobatse**	**2.16**	**328**	*e*P	Pn	03 09 46.7	-0.1
LBTB				*e*S	Sn	03 10 15.0	+0.8
LBTB				AML	AML	03 10 19.9	
	comp=Z,8.6nm,0.4s						
BOSA	**Boshof**	**2.25**	**219**	*e*P	Pn	03 09 48.0	-0.1
BOSA				*e*S	Sn	03 10 17.1	+0.6
BOSA				AML	AML	03 10 20.5	
	comp=Z,1.8nm,0.4s						

MEX 09 03:18:12.3±0.8, 13°.70N×93°.12W, h16km±29km, MD3.6, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.46**	**35**	*e*P	Pn	03 18 34.0	-3.9
THIG				*i* S	Sn	03 18 51.5	-5.2
PCIG		**1.99**	**357**	*e*P	Pn	03 18 41.6	-3.8
PCIG				*i* S	Sn	03 19 05.1	-4.9
CCIG	**Comitan**	**2.73**	**20**	*e*P	Pn	03 18 53.7	-2.1
CCIG				*i* S	Sn	03 19 24.5	-4.2
HUIG	**Huatulco**	**3.54**	**306**	*i* P	Pn	03 19 03.5	-3.2
HUIG				*i* S	Sn	03 19 45.1	-3.2
CMIG	**Matias Romero**	**3.77**	**333**	*e*P	Pn	03 19 07.8	-2.1
CMIG				*i* S	Sn	03 19 49.8	-4.2
PNIG	**Pinotepa**	**5.53**	**300**	*i* P	Pn	03 19 31.8	-2.2
PNIG				*i* S	Sn	03 20 33.4	-3.9
PNIG				*i* S	Sb	03 20 34.2	-20

IDC 09 03:26:40.8±0.9, 46°.03N×154°.10E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.7/26, mbtmp3.7/11, ML2.9/2, Error ellipse: s-maj=24.3km s-min=20.5km az=114.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.46**	**17**	Pn	Pn	03 28 31.1	+0.3
	0.5nm,0.3s,baz=183,slow=15,SNR=4.6						
MJAR	**Matsushiro Arr**	**15.22**	**237**	Pn	P	03 30 24.2	+2.0
	0.3nm,0.3s,baz=43,slow=5.7,SNR=4.3						
USRK	**Ussuriysk Arra**	**15.70**	**271**	Pn	Pn	03 30 24.3	+1.2
	0.2nm,0.3s,baz=80,slow=12,SNR=4.4						
SONM	**Songino Array**	**32.22**	**291**	P	P	03 33 11.7	+1.0
	0.1nm,0.4s,baz=78,slow=9.9,SNR=2.7						
MKAR	**Makanchi Array**	**47.88**	**298**	P	P	03 35 19.6	-0.7
	0.3nm,0.5s,baz=65,slow=6.7,SNR=9.8						
KURBB	**Kurchatov Arra**	**48.42**	**304**	P	P	03 35 23.5	-1.0
	0.6nm,0.5s,baz=71,slow=8.4,SNR=5.6						
YKA	**Yellowknife Ar**	**51.10**	**37**	P	P	03 35 44.7	+0.1
	0.2nm,0.8s,baz=287,slow=7.1,SNR=3.6						
FINES	**FINESS Array B**	**64.98**	**335**	P	P	03 37 20.3	-1.6
	2.0nm,0.8s,baz=38,slow=9.6,SNR=4.1						
WRA	**Warramunga Arr**	**68.06**	**200**	P	P	03 37 41.5	-0.6
	0.5nm,0.6s,baz=17,slow=6.2,SNR=5.5						
NOA	**NORSAR Array B**	**69.13**	**342**	P	P	03 37 49.7	+1.3
	0.5nm,0.7s,baz=25,slow=6.4,SNR=2.8						
ASAR	**Alice Springs**	**71.75**	**199**	P	P	03 38 05.2	+0.5
	1.4nm,0.7s,baz=12,slow=5.5,SNR=13						
TXAR	**Lajitas Array**	**77.25**	**61**	P	P	03 38 36.8	-0.2
	0.5nm,0.6s,baz=296,slow=4.3,SNR=6.1						

*IDC **09** 03:41:25.5±0.9, 35°.25N×21°.43E, h0km, mb3.9/13, mb1 3.9/19, mb1mx3.9/32, mbtmp3.8/19, ML3.4/5, MS3.4/3, Ms1 3.4/3, ms1mx2.7/47, Error ellipse: s-maj=18.9km s-min=16.7km az=179.0*

*ATH **09** 03:41:27.9, 35°.20N×21°.26E, h78km±3km, ML3.7*

*THE **09** 03:41:28.6, 35°.08N×21°.19E, h32km±52km, ML3.8/3, Error ellipse: s-maj=52.4km s-min=1.2km az=86.0*

*CSEM **09** 03:41:29.9±0.4, 35°.19N×21°.26E, h44km±2km, mb4.2/13, Ms3.9, Error ellipse: s-maj=9.6km s-min=4.0km az=38.0*

*MOS **09** 03:41:29.5±1.2, 35°.44N×21°.37E, h33km, mb4.2/11, Error ellipse: s-maj=17.1km s-min=6.2km az=79.4*

*VIE **09** 03:41:34.8±0.8, 36°.03N×21°.37E, h10km, mb3.2/3, Ms3.9/3, Error ellipse: s-maj=9.3km s-min=5.6km az=67.0 246 km WNW of Chania*

ISC 09 03:41:26.9±3.0, 35°.23N±0°.04×21°.32E±0°.04, h12km±19km, n234, σ1s42/267, mb4.2/18, 11C-9D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**1.70**	**12**	P	**Pn**	**03 41 57.6**	**+1.1**
PYL				S	**Sb**	03 42 21.2	+1.7
PYL	**PYLOS**	**1.70**	**12**	*e*P	**Pn**	**03 41 57.5**	**+1.1**
PYL				*e*S	**Sn**	03 42 19.2	+1.0
PYL	**PYLOS**	**1.70**	**12**	P	**Pn**	**03 41 57.6**	**+1.1**
PYL				*e*S	**Sn**	03 42 19.2	+1.0
KYTH	**Kithira**	**1.75**	**53**	P	**Pn**	**03 41 58.8**	**+1.7**
KYTH	**Kithira**	**1.75**	**53**	*e*P	**Pn**	**03 41 58.8**	**+1.7**
KYTH	**Kithira**	**1.75**	**53**	*e*P	**Pn**	**03 41 58.8**	**+1.7**
VLI	**Veliai**	**1.98**	**41**	P	**Pb**	**03 42 02.6**	**-0.4**
VLI				S	**Sb**	03 42 28.2	+0.5
VLI	**Veliai**	**1.98**	**41**	*e*P	**Pn**	**03 42 02.3**	**+1.9**
VLI				*e*S	**Sn**	03 42 26.2	+1.1
VLI	**Veliai**	**1.98**	**41**	*e*P	**Pn**	**03 42 02.3**	**+1.9**
VLI				*e*S	**Sn**	03 42 26.3	+1.1
ITM	**Ithomi**	**2.01**	**14**	P	**Pn**	**03 42 02.4**	**+1.7**
ITM				S	**Sb**	03 42 28.2	-0.2
ITM	**Ithomi**	**2.01**	**14**	*e*P	**Pn**	**03 42 01.7**	**+1.0**
ITM	**Ithomi**	**2.01**	**14**	P	**Pn**	**03 42 02.4**	**+1.7**
ITM				S	**Sb**	03 42 28.2	-0.2
KARN	**Karanos**	**2.13**	**85**	P	**Pn**	**03 42 03.6**	**+1.1**
KARN				S	**Sn**	03 42 30.4	+1.5
KARN	**Karanos**	**2.13**	**85**	*e*P	**Pn**	**03 42 03.5**	**+1.1**
KARN	**Karanos**	**2.13**	**85**	P	**Pn**	**03 42 03.6**	**+1.1**
KARN				S	**Sn**	03 42 30.4	+1.5
VLX	**Vlachokerasia**	**2.30**	**22**	P	**Pn**	**03 42 06.5**	**+1.6**
VLX				S	**Sb**	03 42 36.9	-0.1
VLX	**Vlachokerasia**	**2.30**	**22**	*e*P	**Pn**	**03 42 06.0**	**+1.1**
VLX	**Vlachokerasia**	**2.30**	**22**	P	**Pn**	**03 42 06.5**	**+1.6**
VLX				S	**Sb**	03 42 36.9	-0.1
VAM	**Vamos**	**2.36**	**85**	P	**Pn**	**03 42 06.9**	**+1.3**
VAM				S	**Sn**	03 42 36.2	+1.7
VAM	**Vamos**	**2.36**	**85**	*e*P	**Pn**	**03 42 06.5**	**+0.9**
VAM	**Vamos**	**2.36**	**85**	P	**Pn**	**03 42 06.9**	**+1.3**
VAM				S	**Sn**	03 42 36.2	+1.7
DID	**Didima**	**2.75**	**34**	P	**Pn**	**03 42 12.3**	**+1.4**
DID				S	**Sb**	03 42 48.0	-1.8
DID	**Didima**	**2.75**	**34**	*e*P	**Pn**	**03 42 11.6**	**+0.7**
DID				*e*S	**Sn**	03 42 44.4	+0.2
DID	**Didima**	**2.75**	**34**	P	**Pn**	**03 42 12.3**	**+1.4**
DID				*e*S	**Sn**	03 42 44.4	+0.2
GUR	**Goura**	**2.83**	**17**	P	**Pn**	**03 42 14.5**	**+2.4**
GUR				*e*S	**Sn**	03 42 46.0	-0.1
GUR	**Goura**	**2.83**	**17**	*e*P	**Pn**	**03 42 14.4**	**+2.4**
GUR				*e*S	**Sn**	03 42 46.0	-0.1
RLS	**Riolos of Patr**	**2.83**	**2**	P	**Pn**	**03 42 14.3**	**+2.4**
RLS				S	**Sn**	03 42 47.4	+1.5
RLS	**Riolos of Patr**	**2.83**	**2**	*e*P	**Pn**	**03 42 13.5**	**+1.6**
RLS	**Riolos of Patr**	**2.83**	**2**	*e*P	**Pn**	**03 42 13.5**	**+1.6**
RLS				S	**Sn**	03 42 47.4	+1.5
SIVA	**Sivas**	**2.87**	**93**	P	**Pn**	**03 42 14.4**	**+1.9**
SIVA				S	**Sn**	03 42 47.6	+0.6
SIVA	**Sivas**	**2.87**	**93**	*e*P	**Pn**	**03 42 14.3**	**+1.8**
SIVA	**Sivas**	**2.87**	**93**	*e*P	**Pn**	**03 42 14.3**	**+1.8**
SIVA				S	**Sn**	03 42 47.6	+0.6
KFL	**Anninata**	**2.91**	**352**	P	**Pn**	**03 42 14.6**	**+1.5**
KFL	**Anninata**	**2.91**	**352**	P	**Pn**	**03 42 14.6**	**+1.5**
IDI	**Anoyia**	**2.92**	**88**	*e*P	**Pn**	**03 42 14.2**	**+0.9**
IDI				*e*S	**Sn**	03 42 48.4	-0.1
IDI	**Anoyia**	**2.92**	**88**	*e*P	**Pn**	**03 42 14.2**	**+0.9**
IDI				*e*S	**Sn**	03 42 48.4	-0.1
VLS	**Valsamata**	**3.00**	**349**	P	**Pn**	**03 42 15.8**	**+1.4**
VLS	**Valsamata**	**3.00**	**349**	*e*P	**Pn**	**03 42 15.1**	**+0.7**
VLS				*e*S	**Sn**	03 42 49.7	-0.6
VLS	**Valsamata**	**3.00**	**349**	*e*P	**Pn**	**03 42 15.1**	**+0.7**
VLS				*e*S	**Sn**	03 42 49.7	-0.6
LAKA	**Lakka**	**3.05**	**10**	P	**Pn**	**03 42 18.0**	**+2.9**
LAKA				S	**Sn**	03 42 55.1	+3.5
LAKA	**Lakka**	**3.05**	**10**	P	**Pn**	**03 42 18.0**	**+2.9**
LAKA				S	**Sn**	03 42 55.1	+3.5
NAIG	**Nisos Aigina**	**3.07**	**34**	*e*P	**Pn**	**03 42 16.4**	**+1.1**
NAIG	**Nisos Aigina**	**3.07**	**34**	*e*P	**Pn**	**03 42 16.4**	**+1.1**
LTK	**Loutraki**	**3.09**	**25**	P	**Pn**	**03 42 17.2**	**+1.6**
LTK	**Loutraki**	**3.09**	**25**	*e*P	**Pn**	**03 42 17.2**	**+1.6**
LTK	**Loutraki**	**3.09**	**25**	*e*P	**Pn**	**03 42 17.2**	**+1.6**
TRIZ	**Trizonia**	**3.19**	**11**	P	Pn	03 42 20.2	+3.3
TRIZ	**Trizonia**	**3.19**	**11**	P	Pn	03 42 20.2	+3.3
KALE	**Kalithea**	**3.23**	**12**	P	**Pn**	**03 42 20.4**	**+2.9**
KALE				S	**Sn**	03 42 59.0	+3.1
KALE	**Kalithea**	**3.23**	**12**	P	**Pn**	**03 42 20.4**	**+2.9**
KALE				S	**Sn**	03 42 59.0	+3.1
EFP	**Efpalio**	**3.23**	**8**	P	**Pn**	**03 42 20.4**	**+3.0**
EFP				S	**Sn**	03 43 00.0	+4.2
EFP	**Efpalio**	**3.23**	**8**	*e*P	**Pn**	**03 42 20.0**	**+2.6**
EFP	**Efpalio**	**3.23**	**8**	*e*P	**Pn**	**03 42 20.0**	**+2.6**
EFP				S	**Sn**	03 43 00.0	+4.2
DSF	**Desfina**	**3.32**	**17**	P	**Pn**	**03 42 20.3**	**+1.5**
DSF	**Desfina**	**3.32**	**17**	P	**Pn**	**03 42 20.3**	**+1.5**
ATH	**Athens Observa**	**3.35**	**34**	*e*P	**Pn**	**03 42 20.5**	**+1.4**
ATH	**Athens Observa**	**3.35**	**34**	*e*P	**Pn**	**03 42 20.5**	**+1.4**
LAST	**Lasithi**	**3.41**	**90**	P	**Pn**	**03 42 21.5**	**+1.6**
LAST	**Lasithi**	**3.41**	**90**	*e*P	**Pn**	**03 42 21.4**	**+1.4**
LAST				*e*S	**Sn**	**03 43 00.7**	**+0.3**
LAST	**Lasithi**	**3.41**	**90**	*e*P	**Pn**	**03 42 21.4**	**+1.4**
LAST				*e*S	**Sn**	**03 43 00.7**	**+0.3**
PTL	**Penteli**	**3.48**	**35**	*e*P	**Pn**	**03 42 21.6**	**+0.6**
PTL				*e*S	**Sn**	**03 43 00.9**	**-1.3**
PTL	**Penteli**	**3.48**	**35**	*e*P	**Pn**	**03 42 21.6**	**+0.6**
PTL				*e*S	**Sn**	**03 43 00.9**	**-1.3**
NPS	**Neapolis**	**3.52**	**88**	P	**Pn**	**03 42 23.1**	**+1.7**
NPS	**Neapolis**	**3.52**	**88**	*e*P	**Pn**	**03 42 22.9**	**+1.5**
NPS				*e*S	**Sn**	**03 43 01.9**	**-1.1**
NPS	**Neapolis**	**3.52**	**88**	*e*P	**Pn**	**03 42 22.9**	**+1.5**
NPS				*e*S	**Sn**	**03 43 01.9**	**-1.1**
LKD2	**Lefkada island**	**3.59**	**352**	P	**Pn**	**03 42 24.3**	**+1.8**
LKD2	**Lefkada island**	**3.59**	**352**	P	**Pn**	**03 42 24.3**	**+1.8**
LKR	**Lokris**	**3.67**	**21**	P	**Pn**	**03 42 25.0**	**+1.4**
LKR	**Lokris**	**3.67**	**21**	*e*P	**Pn**	**03 42 24.8**	**+0.7**
LKR	**Lokris**	**3.67**	**21**	P	**Pn**	**03 42 25.0**	**+1.4**
AXAR	**Agios Charalam**	**3.69**	**17**	P	**Pn**	**03 42 25.6**	**+1.7**
AXAR	**Agios Charalam**	**3.69**	**17**	P	**Pn**	**03 42 25.6**	**+1.7**
EVR	**Evrytania**	**3.70**	**6**	*e*P	**Pn**	**03 42 26.4**	**+2.3**
EVR	**Evrytania**	**3.70**	**6**	*e*P	**Pn**	**03 42 26.4**	**+2.3**
ATAL	**Atalanti**	**3.72**	**21**	P	**Pn**	**03 42 25.8**	**+1.6**
ATAL	**Atalanti**	**3.72**	**21**	P	**Pn**	**03 42 25.8**	**+1.6**
ERET	**Eretria**	**3.78**	**31**	P	**Pn**	**03 42 26.6**	**+1.5**
ERET	**Eretria**	**3.78**	**31**	P	**Pn**	**03 42 26.6**	**+1.5**
APE	**Apeiranthos**	**3.87**	**60**	*e*P	Pb	03 42 32.6	-2.6
APE	**Apeiranthos**	**3.87**	**60**	⇓*i*P	**Sn**	**03 43 10.6**	**-1.2**
RGA	**Parga**	**4.16**	**350**	P	**Pn**	**03 42 31.6**	**+1.3**
RGA	**Parga**	**4.16**	**350**	P	**Pn**	**03 42 31.6**	**+1.3**
NEO	**Neokhori**	**4.35**	**

BRTR	Keskin Array B	10.77	62	P		Pn	03 44 01.5	+0.4
MLR	Muntele Rosu	10.84	18⇑	*i*P		Pn	03 44 04.0	+2.0
MLR	Muntele Rosu	10.84	18	Pn		Pn	03 44 03.7	+1.7
	0.0nm,0.3s,baz=270,slow=9.6,SNR=4.4							
MLR	Muntele Rosu	10.84	18	P		Pn	03 44 03.7	+1.7
GULE	Gulek	11.06	75	*i* P		Pn	03 44 05.5	+0.4
PKSM	Moragy	11.16	350	⇓P		Pn	03 44 04.7	-1.5
PKSM	Moragy	11.16	350	⇓*i*P		Pn	03 44 04.7	-1.5
BOJS	Bojanci	11.25	338	*i* Pn		Pn	03 44 07.1	-0.4
BOJS				*i* Sn		Sn	03 46 05.4	-7.8
PLOR	Plostina	11.36	19	⇑P		Pn	03 44 11.8	+2.8
PLOR	Plostina	11.36	19	⇑*i*P		Pn	03 44 11.8	+2.8
PLOR	Plostina	11.36	19	P		Pn	03 44 11.8	+2.8
MMAI	Mount Meron Ar	11.88	97	Pn		Pn	03 44 13.9	-2.4
	0.2nm,0.3s,baz=284,slow=12,SNR=2.7							
MMAI				Sn		Sn	03 46 17.9	-11
	1.3nm,0.3s,baz=306,slow=20,SNR=3.4							
JAVS	Javornik	11.99	335	*i* Pn		Pn	03 44 18.7	+0.9
JAVS				*i* Sn		Sn	03 46 21.4	-10
GROS	Grobnik	12.05	340	*i* Pn		Pn	03 44 16.9	-1.6
GROS				*i* Sn		Sn	03 46 20.6	-12
OBKA	Obir	12.37	338	⇓*i* Pn		Pn	03 44 21.5	-1.4
OBKA				⇓*i* Sn		Sn	03 46 32.6	-8.2
OBKA	Obir	12.37	338	Pn		Pn	03 44 21.5	-1.4
SOKA	Soboth	12.38	339	⇓*i* Pn		Pn	03 44 21.6	-1.5
SOKA				⇓*i* Sn		Sn	03 46 32.0	-8.9
SOKA	Soboth	12.38	339	Pn		Pn	03 44 21.6	-1.5
EIL	Elat	12.77	112	Pn		Pn	03 44 26.4	-2.0
	0.5nm,0.3s,baz=195,slow=9.1,SNR=8.1							
EIL				Sn		Sn	03 46 36.2	-14
	0.5nm,0.3s,baz=330,slow=16,SNR=3.9							
VYHS	Vyhne	13.38	353	*e*P		Pn	03 44 34.0	-2.7
VYHS	Vyhne	13.38	353	*e*PN		Pn	03 44 34.0	-2.7
MOA	Molln	13.66	340	⇑*i* Pn		Pn	03 44 38.1	-2.4
MOA				⇑*i* Sn		Sn	03 47 03.2	-9.0
DAVOX	Davos/Dischmat	14.39	327	Pn		Pn	03 44 50.8	+0.1
	baz=156,slow=19							
GERES	GERESS Array B	14.72	340	Pn		Pn	03 44 54.8	-0.3
	0.1nm,0.3s,baz=168,slow=14,SNR=4.9							
AKASG	Malin Array Be	16.50	18	P		Pn	03 45 18.6	+0.5
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.3s							
AKASG	Malin Array Be	16.50	18	Pn		Pn	03 45 18.6	+0.5
	comp=Z,2.8nm,0.3s,baz=200,slow=11,SNR=8.3							
AKASG	Malin Array Be	16.50	18	P		Pn	03 45 18.6	+0.5
	comp=Z,3.0nm,0.3s							
KIV	Kislovodsk	18.59	56	*e*P		P	03 45 43.4	-0.7
KIV				pmax		pmax		
	comp=Z,11nm,1.1s							
KIV	Kislovodsk	18.59	56	*e*P		P	03 45 43.4	-0.7
	comp=Z,11nm,1.1s							
GNI	Garni	19.16	68	LR		LR	03 53 59.7	
	comp=Z,49nm,18.4s,baz=97,slow=40							
ESDC	Sonseca Array	20.53	290	P		Pn	03 46 07.5	0.0
	comp=Z,1.8nm,0.7s,baz=81,slow=8.9,SNR=11							
OBN	Obninsk	22.51	23⇑	*i* P		P	03 46 25.0	-1.3
OBN				*e*			03 47 01.4	
OBN				pmax		pmax		
	comp=Z,30nm,1.1s							
OBN	Obninsk	22.51	23	*i* P		P	03 46 25.0	-1.3
	comp=Z,30nm,1.1s							
MIB	Mutribah	22.57	97	*e*P		P	03 46 26.8	-0.4
MIB				AMb		AMB	03 46 34.3	
	comp=Z,13nm,0.8s							
MIB	Mutribah	22.57	97	*e*P		P	03 46 26.8	-0.4
NAY	Al-Naaiem	22.69	98	*e*P		P	03 46 27.5	-0.9
NAY				AMb		AMB	03 46 33.2	
	comp=Z,9.8nm,1.1s							
NAY	Al-Naaiem	22.69	98	*e*P		P	03 46 27.5	-0.9
	comp=Z,9.8nm,1.1s							
HFS	Hagfors	25.41	351	P		P	03 46 53.9	-0.2
	comp=Z,1.6nm,0.5s,baz=157,slow=12,SNR=10							
HFS	Hagfors	25.41	351	P		P	03 46 53.9	-0.2
	comp=Z,2.0nm,0.5s							
FINES	FINESS Array B	26.41	5	P		P	03 47 02.9	-0.2
	comp=Z,1.2nm,0.6s,baz=166,slow=11,SNR=7.0							
FINES	FINESS Array B	26.41	5	P		P	03 47 02.9	-0.2
	comp=Z,1.0nm,0.6s							
NOA	NORSAR Array B	26.63	349	P		P	03 47 05.8	+0.6
	comp=Z,1.7nm,0.9s,baz=159,slow=9.8,SNR=3.1							
NOA	NORSAR Array B	26.63	349	P		P	03 47 05.8	+0.6
	comp=Z,2.0nm,0.9s							
KAF	Kangasniemi	27.09	5	*e*P		P	03 47 09.2	-0.1
KAF	Kangasniemi	27.09	5	*e*p		P	03 47 09.2	-0.1
KAF	Kangasniemi	27.09	5	*e*P		P	03 47 09.2	-0.1
TORD	Torodi Ar. Bea	28.24	224	P		P	03 47 21.6	+1.6
	comp=Z,0.6nm,0.4s,baz=34,slow=9.1,SNR=22							
TORD				LR		LR	03 58 43.8	
	comp=Z,61nm,18.0s,baz=170,slow=37							
JOF	Joensuu	28.41	10	*e*P		P	03 47 20.0	-1.0
JOF	Joensuu	28.41	10	*e*p		P	03 47 20.0	-1.0
JOF	Joensuu	28.41	10	*e*P		P	03 47 20.0	-1.0
ARCES	ARCESS Array B	34.44	3	P		P	03 48 13.2	-0.8
	comp=Z,3.0nm,0.9s,baz=186,slow=9.8,SNR=11							
ARCES	ARCESS Array B	34.44	3	P		P	03 48 13.2	-0.8
	comp=Z,3.0nm,0.9s							
KURBB	Kurchatov Arra	43.53	51	P		P	03 49 30.2	-0.1
	comp=Z,1.9nm,0.7s,baz=279,slow=8.5,SNR=13							
KURK	Kurchatov	43.58	51	P		P	03 49 30.2	-0.5
KURK				pmax		pmax		
	comp=Z,2.0nm,0.7s							
KURK	Kurchatov	43.58	51	P		P	03 49 30.2	-0.5
	comp=Z,2.0nm,0.7s							
NVS	Novosibirsk	46.26	45	*e*P		P	03 49 51.9	-0.1
NVS	Novosibirsk	46.26	45	*e*P		P	03 49 51.9	-0.1
MKAR	Makanchi Array	46.36	56	P		P	03 49 52.6	-0.3
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.7s							
MKAR	Makanchi Array	46.36	56	P		P	03 49 52.6	-0.3
	comp=Z,3.3nm,0.7s,baz=281,slow=6.9,SNR=43							
MKAR	Makanchi Array	46.36	56	P		P	03 49 52.6	-0.3
	comp=Z,3.0nm,0.7s							
ZALV	Zalesovo Beam	47.23	46	P		P	03 49 59.2	-0.3
ZALV				pmax		pmax		
	comp=Z,4.0nm,0.3s							
ZALV	Zalesovo Beam	47.23	46	P		P	03 49 59.2	-0.3
	comp=Z,3.5nm,0.3s,baz=275,slow=8.7,SNR=19							
ZALV	Zalesovo Beam	47.23	46	P		P	03 49 59.2	-0.3
	comp=Z,4.0nm,0.3s							
DANN	Dangsing	52.76	79	*e*P		P	03 50 42.9	+0.5
	comp=Z,36nm,0.7s							
GKN	Gorkha	53.61	79	*e*P		P	03 50 48.5	+0.1
	comp=Z,20nm,0.6s							
DMN	Daman	54.15	79	*e*P		P	03 50 52.4	-0.1
	comp=Z,19nm,0.7s							
KKN	Kakani	54.22	79	*e*P		P	03 50 52.8	-0.1
	comp=Z,12nm,0.6s							
PKI	Pulchoki	54.41	79	*e*P		P	03 50 54.4	-0.1
	comp=Z,3.6nm,0.3s							
GUN	Gumba	54.65	78	*e*P		P	03 50 56.2	0.0
ZAK	Zakamensk	59.04	48	*e*P		P	03 51 26.3	-0.5
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.1s							
ZAK	Zakamensk	59.04	48	*e*P		P	03 51 26.3	-0.5
	comp=Z,2.0nm,1.1s							
SCHQ	Schefferville	61.08	319	P		P	03 51 41.2	+0.7
	comp=Z,2.1nm,0.9s,baz=43,slow=13,SNR=4.2							
SONM	Songino Array	61.86	50	P		P	03 51 46.3	+0.2
	comp=Z,1.8nm,0.8s,baz=285,slow=7.2,SNR=14							
SONM	Songino Array	61.86	50	P		P	03 51 46.3	+0.2
	comp=Z,2.0nm,0.8s							
BOD	Bodaibo	62.32	37	*e*P		P	03 51 47.9	-0.9
BOD				pmax		pmax		
	comp=Z,4.0nm,1.0s							
BOD	Bodaibo	62.32	37	*e*P		P	03 51 47.9	-0.9
	comp=Z,4.0nm,1.0s							
BOSA	Boshof	63.61	176	LR		LR	04 22 28.7	
	comp=Z,77nm,18.5s,baz=170,slow=39							
YKA	Yellowknife Ar	76.38	341	P		P	03 53 14.9	-0.8
	comp=Z,0.2nm,0.6s,baz=36,slow=6.1,SNR=4.3							
YKA	Yellowknife Ar	76.38	341	P		P	03 53 14.9	-0.8
ILAR	Eielson Array	79.90	355	P		P	03 53 36.1	+0.8
	comp=Z,0.5nm,0.6s,baz=347,slow=2.2,SNR=7.0							
ILAR	Eielson Array	79.90	355	P		P	03 53 36.1	+0.8
	comp=Z,1.0nm,0.6s							
WRA	Warramunga Arr	119.73	94	PKP		PKPdf	04 00 16.8	-0.6
	comp=Z,0.5nm,0.6s,baz=294,slow=4.8,SNR=5.2							
ASAR	Alice Springs	121.17	98	PKP		PKPdf	04 00 20.2	+0.2
	comp=Z,0.3nm,0.3s,baz=319,slow=1.6,SNR=4.3							

IDC 09 03:51:15.2±6.1,18°35S×176°32W,h0km,mb3.9/2, mb1 4.2/2,mb1mx3.6/17,mbtmp3.9/2,Error ellipse: s-maj=309.0km s-min=45.2km az=146.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.51	260	P	P	03 59 44.8	+0.1
	0.5nm,0.3s,baz=98,slow=7.8,SNR=8.7						
ASAR	Alice Springs	46.59	255	P	P	03 59 45.2	-0.1
	1.1nm,0.5s,baz=87,slow=8.0,SNR=12						
BRTR	Keskin Array B	146.49	316	PKPbc	PKPdf	04 10 57.0	-0.5
	0.6nm,0.7s,baz=150,slow=4.1,SNR=4.4						
GERES	GERESS Array B	148.51	347	PKPbc	PKPbc	04 11 04.1	0.0
	0.6nm,0.8s,baz=46,slow=3.9,SNR=5.6						

*IDC **09** 03:57:55.6±0.7,35°.33N×21°.38E,h0km,mb4.0/14, mb1 4.0/20,mb1mx4.0/31,mbtmp3.9/20,ML3.8/6,MS3.2/2, Ms1 3.2/2,ms1mx2.4/37,Error ellipse: s-maj=17.5km s-min=15.0km az=120.0*

*NEIC **09** 03:57:57.7±2.3,35°.30N×21°.40E,h16km±14km,mb4.6/3, Error ellipse: s-maj=8.2km s-min=4.9km az=207.0*

*MOS **09** 03:57:58.9±1.0,35°.38N×21°.37E,h33km,mb4.4/4,Error ellipse: s-maj=13.4km s-min=5.4km az=82.5*

*ATH **09** 03:57:58.0,35°.15N×21°.25E,h44km±6km,ML3.7*

*CSEM **09** 03:57:59.6±0.1,35°.17N×21°.29E,h40km,mb4.2/8,Ms4.0, Mw4.7,Error ellipse: s-maj=4.1km s-min=2.7km az=63.0*

*THE **09** 03:58:00.0,35°.23N×21°.38E,h89km±7km,ML3.7/5,Error ellipse: s-maj=8.3km s-min=0.9km az=50.0*

*HLW **09** 03:58:06.6,35°.13N×22°.27E,h33km±19km,Md3.8,Ml3.6*

*VIE **09** 03:58:08.4±0.6,35°.96N×20°.98E,h30km,mb3.4/1,Ms4.0/2, Error ellipse: s-maj=6.7km s-min=4.5km az=57.0*

ISC 09 03:57:55.1±1.6,35°.20N±0°.03×21°.38E±0°.03,h1km±10km, n327,σ1$41/378,mb4.5/29,11C-1D,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	1.72	10	P	Pb	03 58 27.8	+0.3
PYL				S	Sb	03 58 49.5	-0.1
PYL	PYLOS	1.72	10	*e*P	Pb	03 58 27.8	+0.3
PYL	PYLOS	1.72	10	P	Pb	03 58 27.8	+0.3
PYL				S	Sb	03 58 49.5	-0.1
KYTH	Kithira	1.73	51	P	Pg	03 58 28.7	+0.5
KYTH	Kithira	1.73	51	*e*P	Pg	03 58 28.8	+0.5
KYTH	Kithira	1.73	51	P	Pg	03 58 28.7	+0.5
VLI	Veliai	1.97	39	P	Pb	03 58 32.5	+0.7
VLI				S	Sb	03 58 56.5	-0.4
VLI	Veliai	1.97	39	*e*P	Pb	03 58 32.3	+0.5
VLI	Veliai	1.97	39	*e*P	Pb	03 58 32.3	+0.5
VLI				S	Sb	03 58 56.5	-0.4
ITM	Ithomi	2.03	12	P	Pb	03 58 32.2	-0.6
ITM				S	Sn	03 58 56.8	+0.4
ITM	Ithomi	2.03	12	*e*P	Pb	03 58 32.0	-0.8
ITM	Ithomi	2.03	12	P	Pb	03 58 32.2	-0.6
ITM				S	Sn	03 58 56.8	+0.4
KARN	Karanos	2.08	84	P	Pb	03 58 33.3	-0.4
KARN				S	Sb	03 58 59.4	-0.8
KARN	Karanos	2.08	84	*e*P	Pb	03 58 33.3	-0.4
KARN				*e*S	Sb	03 58 59.7	-0.5
KARN	Karanos	2.08	84	P	Pb	03 58 33.3	-0.4
KARN				S	Sb	03 58 59.4	-0.8
GVD	Gavdhos	2.25	98	*e*Pn	Pb	03 58 35.5	-1.0
GVD				*e*Sn	Sn	03 58 59.5	-2.4
GVD	Gavdhos	2.25	98	P	Pb	03 58 36.2	-0.3
GVD				S	Sn	03 59 03.5	+1.6
GVD	Gavdhos	2.25	98	*e*P	Pb	03 58 35.6	-1.0
GVD				*e*S	Sn	03 59 03.2	+1.3
GVD	Gavdhos	2.25	98	*e*P	Pb	03 58 35.6	-1.0
GVD				*e*Sn	Sn	03 58 59.5	-2.4
GVD				*e*S	Sn	03 59 03.2	+1.3
VLX	Vlachokerasia	2.31	20	P	Pb	03 58 36.4	-1.3
VLX				S	Sn	03 59 03.9	+0.3
VLX	Vlachokerasia	2.31	20	*e*P	Pb	03 58 37.2	-0.5
VLX	Vlachokerasia	2.31	20	P	Pb	03 58 36.4	-1.3
VLX				S	Sn	03 59 03.9	+0.3
VAM	Vamos	2.31	84	P	Pn	03 58 36.4	+2.1
VAM				S	Sn	03 59 05.0	+1.5
VAM	Vamos	2.31	84	*e*P	Pn	03 58 36.5	+2.1
VAM				*e*S	Sn	03 59 04.8	+1.3
VAM	Vamos	2.31	84	*e*P	Pn	03 58 36.5	+2.1
VAM				S	Sn	03 59 05.0	+1.5
DID	Didima	2.75	33	P	Pn	03 58 42.0	+1.6
DID	Didima	2.75	33	*e*P	Pn	03 58 42.2	+1.8
DID				*e*S	Sn	03 59 14.8	+0.5
DID	Didima	2.75	33	*e*P	Pn	03 58 42.2	+1.8
DID				*e*S	Sn	03 59 14.8	+0.5
SIVA	Sivas	2.82	93	P	Pn	03 58 43.8	+2.5
SIVA				S	Sn	03 59 17.6	+1.7
SIVA	Sivas	2.82	93	P	Pn	03 58 43.8	+2.5
SIVA				S	Sn	03 59 17.6	+1.7
GUR	Goura	2.84	16	P	Pn	03 58 44.3	+2.6
GUR				S	Sn	03 59 17.6	+1.0
GUR	Goura	2.84	16	*e*P	Pn	03 58 44.1	+2.4
GUR				*e*S	Sn	03 59 16.7	+0.1
GUR	Goura	2.84	16	*e*P	Pn	03 58 44.1	+2.4
GUR				*e*S	Sn	03 59 16.7	+0.1
RLS	Riolos of Patr	2.85	1	P	Pn	03 58 44.5	+2.7
RLS				S	Sn	03 59 17.4	+0.6
RLS	Riolos of Patr	2.85	1	*e*P	Pn	03 58 43.9	+2.1
RLS	Riolos of Patr	2.85	1	*e*P	Pn	03 58 43.9	+2.1
RLS				S	Sn	03 59 17.4	+0.6
IDI	Anoyia	2.87	87	*e*Pn	Pn	03 58 44.2	+2.0
IDI				*e*Sn	Sn	03 59 13.6	-3.8
IDI	Anoyia	2.87	87	P	Pn	03 58 44.1	+2.0
IDI	Anoyia	2.87	87	*e*P	Pn	03 58 44.0	+1.9
IDI				*e*S	Sn	03 59 18.1	+0.7
IDI	Anoyia	2.87	87	*e*Pn	Pn	03 58 44.2	+2.0
IDI				*e*S	Sn	03 59 18.1	+0.7
KFL	Anninata	2.94	351	P	Pn	03 58 44.7	+1.7
KFL				S	Sn	03 59 19.9	+0.8
KFL	Anninata	2.94	351	P	Pn	03 58 44.7	+1.7
KFL				S	Sn	03 59 19.9	+0.8
VLS	Valsamata	3.04	348	P	Pn	03 58 45.4	+1.0
VLS				S	Sn	03 59 21.2	-0.2
VLS	Valsamata	3.04	348	*e*P	Pn	03 58 45.6	+1.2
VLS				*e*S	Sn	03 59 20.6	-0.8
VLS	Valsamata	3.04	348	P	Pn	03 58 45.4	+1.0
VLS				S	Sn	03 59 21.2	-0.2
LAKA	Lakka	3.07	9	P	Pn	03 58 47.6	+2.7
LAKA				S	Sn	03 59 23.2	+0.9
LAKA	Lakka	3.07	9	P	Pn	03 58 47.6	+2.7
LAKA				S	Sn	03 59 23.2	+0.9
LTK	Loutraki	3.09	24	P	Pn	03 58 47.1	+2.0
LTK	Loutraki	3.09	24	*e*P	Pn	03 58 47.1	+2.0
LTK	Loutraki	3.09	24	P	Pn	03 58 47.1	+2.0
TRIZ	Trizonia	3.21	10	P	Pn	03 58 50.0	+3.3
TRIZ				S	Sn	03 59 26.5	+0.9
TRIZ	Trizonia	3.21	10	P	Pn	03 58 50.0	+3.3
TRIZ				S	Sn	03 59 26.5	+0.9
KALE	Kalithea	3.24	11	P	Pn	03 58 50.0	+2.8
KALE	Kalithea	3.24	11	P	Pn	03 58 50.0	+2.8
EFP	Efpalio	3.25	7	P	Pn	03 58 50.5	+3.3
EFP				S	Sn	03 59 27.8	+1.2
EFP	Efpalio	3.25	7	*e*P	Pn	03 58 50.2	+3.0
EFP	Efpalio	3.25	7	*e*P	Pn	03 58 50.2	+3.0
EFP				S	Sn	03 59 27.8	+1.2
DSF	Desfina	3.34	16	P	Pn	03 58 50.0	+1.5
DSF	Desfina	3.34	16	P	Pn	03 58 50.0	+1.5
ATH	Athens Observa	3.35	33	*e*P	Pn	03 58 51.1	+2.5
ATH	Athens Observa	3.35	33	*e*P	Pn	03 58 51.1	+2.5
LAST	Lasithi	3.36	89	P	Pn	03 58 51.3	+2.5
LAST				S	Sn	03 59 30.3	+0.9
LAST	Lasithi	3.36	89	*e*P	Pn	03 58 50.9	+2.1
LAST				*e*S	Sn	03 59 30.3	+0.9
LAST	Lasithi	3.36	89	*e*P	Pn	03 58 50.9	+2.1
LAST				S	Sn	03 59 30.3	+0.9
NPS	Neapolis	3.46	88	P	Pn	03 58 52.5	+2.3
NPS	Neapolis	3.46	88	*e*P	Pn	03 58 52.1	+1.9
NPS				*e*S	Sn	03 59 33.0	+1.1
NPS	Neapolis	3.46	88	P	Pn	03 58 52.5	+2.3
NPS				*e*S	Sn	03 59 33.0	+1.1
PTL	Penteli	3.48	34	P	Pn	03 58 51.9	+1.5
PTL	Penteli	3.48	34	*e*P	Pn	03 58 52.1	+1.7
PTL	Penteli	3.48	34	*e*P	Pn	03 58 52.1	+1.7
LKD2	Lefkada island	3.63	351	P	Pn	03 58 54.4	+1.9
LKD2	Lefkada island	3.63	351	*e*P	Pn	03 58 54.3	+1.8
LKD2	Lefkada island	3.63	351	*e*P	Pn	03 58 54.3	+1.8
LKR	Lokris	3.68	20	P	Pn	03 58 54.5	+1.3
LKR	Lokris	3.68	20	*e*P	Pn	03 58 55.7	+2.5
LKR	Lokris	3.68	20	P	Pn	03 58 54.5	+1.3
AXAR	Agios Charalam	3.71	16	P	Pn	03 58 55.9	+2.4
AXAR	Agios Charalam	3.71	16	P	Pn	03 58 55.9	+2.4
ATAL	Atalanti	3.73	20	P	Pn	03 58 55.1	+1.3
ATAL	Atalanti	3.73	20	P	Pn	03 58 55.1	+1.3
EVR	Evrytania	3.73	5	*e*P	Pn	03 58 56.9	+3.0
EVR	Evrytania	3.73	5	*e*P	Pn	03 58 56.9	+3.0
ERET	Eretria	3.78	30	P	Pn	03 58 56.0	+1.4
ERET	Eretria	3.78	30	P	Pn	03 58 56.0	+1.4
LTBQ	Tobruq	3.78	145	*i* P	Pn	03 58 57.7	+3.1
	SNR=45						
APE	Apeiranthos	3.84	60	*e*P	Pn	03 58 55.6	+0.2
APE	Apeiranthos	3.84	60	*e*P	Pn	03 58 57.6	+2.2
APE	Apeiranthos	3.84	60	*e*P	Pn	03 58 57.6	+2.2
MRKA	Markates	3.92	26	P	Pn	03 58 57.7	+1.2
MRKA	Markates	3.92	26	P	Pn	03 58 57.7	+1.2
RGA	Parga	4.20	349	P	Pn	03 59 01.4	+1.1
RGA	Parga	4.20	349	P	Pn	03 59 01.4	+1.1
SKIA	Skiathos	4.30	22	P	Pn	03 59 02.6	+1.0
SKIA	Skiathos	4.30	22	P	Pn	03 59 02.6	+1.0
NEO	Neokhori	4.36	19	*e*P	Pn	03 59 04.4	+1.9
NEO	Neokhori	4.36	19	*e*P	Pn	03 59 04.4	+1.9
THL	Klokotos Trika	4.39	6	P	Pn	03 59 04.4	+1.5
THL	Klokotos Trika	4.39	6	*e*P	Pn	03 59 04.8	+1.9
THL	Klokotos Trika	4.39	6	P	Pn	03 59 04.4	+1.5
LJBD	Adjabya	4.39	193	*i* P	Pn	03 59 04.0	+1.1
	SNR=45						
IGT	Igoumenitsa	4.41	349	P	Pn	03 59 03.9	+0.8
IGT	Igoumenitsa	4.41	349	P	Pn	03 59 03.9	+0.8
AOS	Alonnisos	4.44	26	P	Pn	03 59 04.6	+1.0
AOS	Alonnisos	4.44	26	P	Pn	03 59 04.6	+1.0
KEK	Kerkira	4.68	345	P	Pn	03 59 08.2	+1.3
KEK				S	Sn	04 00 01.6	-0.2
KEK	Kerkira	4.68	345	P	Pn	03 59 08.2	+1.3
KEK				S	Sn	04 00 01.6	-0.2
KARP	Karpathos	4.74	84	P	Pn	03 59 09.2	+1.5
KARP	Karpathos	4.74	84	P	Pn	03 59 09.2	+1.5
SLUM		4.89	138	P	Pn	03 59 10.0	+0.2
SLUM		4.89	138	S	Sn	03 59 58.8	-8.4
	baz=145						
SLUM				AMP		04 00 00.0	
	comp=E,110μm,0.3s,logA/T=5.5,baz=145						
CHOS	Chios island	4.92	48	P	Pn	03 59 11.7	+1.4
CHOS	Chios island	4.92	48	P	Pn	03 59 11.7	+1.4
LIT	Litokhoron	4.97	10	*e*P	Pn	03 59 12.4	+1.5
LIT				*e*S	Sn	04 00 08.0	-1.1
LIT	Litokhoron	4.97	10	*e*P	Pn	03 59 12.4	+1.5
BODT	Bodrum	5.15	67	*e*P	Pn	03 59 14.1	+0.7
BDRM	Kayabasi	5.25	67	*i* P	Pn	03 59 15.9	+1.2
BDRM	Kayabasi	5.25	67	*i* P	Pn	03 59 15.9	+1.2
TIP	Timpagrande	5.42	318	*e*Pn	Pn	03 59 16.6	-0.6
	comp=E,15nm,0.6s						
TIP				*e*Sn	Sn	04 00 15.1	-5.2
TIP	Timpagrande	5.42	318	*e*Pn	Pn	03 59 16.6	-0.6
	comp=E,15nm,0.6s						
TIP				*e*Sn	Sn	04 00 15.1	-5.2
BLCB	Balcova	5.54	53	*e*P	Pn	03 59 18.9	+0.1
IZM	Izmir	5.70	54	*e*P	Pn	03 59 21.4	+0.3
AYDN	Tasoluk	5.79	63	*i* P	Pn	03 59 24.4	+2.3
GRG	Griva	5.80	8	P	Pn	03 59 24.4	+2.0
GRG	Griva	5.80	8	P	Pn	03 59 24.4	+2.0
YER	Yerkesik	5.91	69	*e*P	Pn	03 59 25.0	+1.1
LUJL	Ujela	6.06	181	*i* P	Pn	03 59 25.9	0.0
	SNR=45						
TURN	Turunc	6.09	72	*i* P	Pn	03 59 24.0	-2.2
VAY	Valandovo	6.18	8	*e*Pn	Pn	03 59 27.7	+0.2
TIR	Tirane	6.25	349	*e*P	Pn	03 59 29.1	+0.6
TIR				*e*		04 00 31.8	
TIR	Tirane	6.25	349	*e*Pn	Pn	03 59 29.1	+0.6
TIR				*e*Sn	Sn	04 00 31.8	-8.8
TIR	Tirane	6.25	349	*e*P	Pn	03 59 29.1	+0.6
FETY	Fethiye	6.41	75	*e*P	Pn	03 59 31.8	+1.1
CUC	Castrocucco	6.51	319	*e*Pn	Pn	03 59 33.4	+1.3
CUC				*e*Sn	Sn	04 00 44.3	-2.8
CUC	Castrocucco	6.51	319	*e*Pn	Pn	03 59 33.4	+1.3
CUC				*e*Sn	Sn	04 00 44.3	-2.8
GELI	Tayfur-Gelibol	6.57	36	*e*P	Pn	03 59 31.8	-1.1

OBKA				⇓*i*Sn	Sn	04 03 01.7	-10
OBKA	**Obir**	**12.42**	**338**	Pn	**Pn**	**04 00 51.7**	**-1.4**
EIL	**Elat**	**12.71**	**112**	Pn	**Pn**	**04 00 56.8**	**-0.3**
EIL				Sn	Sn	04 03 07.7	-12
EIL	**Elat**	**12.71**	**112**	Pn	**Pn**	**04 00 56.8**	**-0.3**
	comp=E,0.5nm,0.3s,baz=206,slow=19,SNR=7.6						
EIL				Sn	Sn	04 03 07.7	-12
	comp=E,1.4nm,0.3s,baz=329,slow=10,SNR=9.2						
EIL	**Elat**	**12.71**	**112**	Pn	**Pn**	**04 00 56.8**	**-0.3**
HBST	**Basata**	**12.78**	**114**	P	**Pn**	**04 00 58.3**	**+0.3**
HBST	**Basata**	**12.78**	**114**	P	**Pn**	**04 00 58.3**	**+0.3**
	baz=115						
MOA	**Molln**	**13.71**	**339**	⇑*i*Pn	**Pn**	**04 01 09.5**	**-1.1**
MOA	**Molln**	**13.71**	**339**	Pn	**Pn**	**04 01 09.5**	**-1.1**
DAVOX	**Davos/Dischmat**	**14.45**	**327**	Pn	**Pn**	**04 01 20.6**	**-0.3**
DAVOX	**Davos/Dischmat**	**14.45**	**327**	Pn	**Pn**	**04 01 20.6**	**-0.3**
	comp=E,0.1nm,0.3s,baz=147,slow=17,SNR=3.2						
DAVOX	**Davos/Dischmat**	**14.45**	**327**	Pn	**Pn**	**04 01 20.6**	**-0.3**
TUE	**Stuetta**	**14.46**	**325**	*e*Pn	**Pn**	**04 01 21.0**	**-0.1**
TUE	**Stuetta**	**14.46**	**325**	*e*Pn	**Pn**	**04 01 21.0**	**-0.1**
VRAC	**Vranov**	**14.53**	**347**	Pn	Pn	04 01 20.1	-1.7
VRAC	**Vranov**	**14.53**	**347**	Pn	Pn	04 01 20.1	-1.7
	comp=E,0.2nm,0.3s,baz=240,slow=16,SNR=2.2						
GERES	**GERESS Array B**	**14.77**	**340**	Pn	**Pn**	**04 01 23.8**	**-1.4**
GERES	**GERESS Array B**	**14.77**	**340**	Pn	**Pn**	**04 01 23.8**	**-1.4**
	comp=E,0.1nm,0.3s,baz=163,slow=14,SNR=5.2						
GERES	**GERESS Array B**	**14.77**	**340**	Pn	**Pn**	**04 01 23.8**	**-1.4**
OJC	**Ojcow**	**15.06**	**356**	*e*P	**Pn**	**04 01 29.5**	**+0.6**
OJC	**Ojcow**	**15.06**	**356**	*e*Pn	**Pn**	**04 01 29.5**	**+0.6**
OJC	**Ojcow**	**15.06**	**356**	*e*Pn	**Pn**	**04 01 29.5**	**+0.6**
KHC	**Kasperske Hory**	**15.06**	**340**	*e*P	**Pn**	**04 01 29.1**	**0.0**
KHC	**Kasperske Hory**	**15.06**	**340**	*e*Pn	**Pn**	**04 01 29.1**	**0.0**
KHC	**Kasperske Hory**	**15.06**	**340**	*e*Pn	**Pn**	**04 01 29.0**	**0.0**
KIEV	**Kiev**	**16.50**	**18**	*e*P	**Pn**	**04 01 47.2**	**-0.5**
KIEV				pmax	pmax		
	comp=Z,7.0nm,0.4s						
KIEV	**Kiev**	**16.50**	**18**	*e*Pn	**Pn**	**04 01 47.2**	**-0.5**
	comp=Z,6.8nm,0.4s						
KIEV	**Kiev**	**16.50**	**18**	*e*Pn	**Pn**	**04 01 47.2**	**-0.5**
	comp=Z,6.8nm,0.4s						
AKASG	**Malin Array Be**	**16.51**	**18**	P	**Pn**	**04 01 46.0**	**-1.8**
AKASG	**Malin Array Be**	**16.51**	**18**	Pn	**Pn**	**04 01 46.0**	**-1.8**
AKASG	**Malin Array Be**	**16.51**	**18**	Pn	**Pn**	**04 01 46.0**	**-1.8**
	comp=Z,1.6nm,0.3s,baz=208,slow=12,SNR=8.2						
AKBB	**Malin Array Si**	**16.51**	**18**	*e*P	**Pn**	**04 01 47.3**	**-0.5**
AKBB	**Malin Array Si**	**16.51**	**18**	*e*Pn	**Pn**	**04 01 47.3**	**-0.5**
AKBB	**Malin Array Si**	**16.51**	**18**	*e*Pn	**Pn**	**04 01 47.3**	**-0.5**
KIV	**Kislovodsk**	**18.57**	**55**	*e*P	**P**	**04 02 13.4**	**-0.1**
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
KIV	**Kislovodsk**	**18.57**	**55**	*e*P	**P**	**04 02 12.8**	**-0.6**
KIV	**Kislovodsk**	**18.57**	**55**	*e*P	**P**	**04 02 13.4**	**-0.1**
	comp=Z,11nm,1.1s						
SUW	**Suwalki**	**18.85**	**3**	*e*P	**P**	**04 02 15.3**	**-1.1**
SUW				pmax	pmax		
	comp=Z,47nm,0.6s						
SUW	**Suwalki**	**18.85**	**3**	*e*Pn	**P**	**04 02 15.3**	**-1.1**
	comp=Z,47nm,0.6s						
SUW	**Suwalki**	**18.85**	**3**	*e*P	**P**	**04 02 15.3**	**-1.1**
	comp=Z,47nm,0.6s						
GNI	**Garni**	**19.12**	**68**	*e*P	**P**	**04 02 18.6**	**-1.1**
GNI	**Garni**	**19.12**	**68**	*e*P	**P**	**04 02 18.6**	**-1.1**
NACGM	**Naroch**	**20.05**	**9**	*e*	**P**	**04 02 26.0**	**-3.5**
ESDC	**Sonseca Array**	**20.59**	**290**	P	**P**	**04 02 36.1**	**+0.5**
ESDC	**Sonseca Array**	**20.59**	**290**	P	**P**	**04 02 36.1**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=79,slow=9.1,SNR=9.3						
ESDC	**Sonseca Array**	**20.59**	**290**	P	**P**	**04 02 36.1**	**+0.5**
MIB	**Mutribah**	**22.52**	**97**	*e*P	**P**	**04 02 56.5**	**+0.2**
MIB				AMb	AMB	04 02 59.4	
	comp=Z,15nm,0.6s						
MIB	**Mutribah**	**22.52**	**97**	*e*P	**P**	**04 02 56.5**	**+0.2**
	comp=Z,15nm,0.6s						
OBN	**Obninsk**	**22.52**	**23**	⇑*i*P	**P**	**04 02 55.2**	**-0.9**
OBN				pmax	pmax		
	comp=Z,17nm,0.7s						
OBN	**Obninsk**	**22.52**	**23**	*e*P	**P**	**04 02 54.5**	**-1.6**
	comp=Z,17nm,0.7s						
OBN	**Obninsk**	**22.52**	**23**	*i* P	**P**	**04 02 55.2**	**-0.9**
	comp=Z,17nm,0.7s						
NAY	**Al-Naaiem**	**22.64**	**98**	*e*P	**P**	**04 02 57.4**	**-0.2**
NAY				AMb	AMB	04 03 02.9	
	comp=Z,7.3nm,0.7s						
NAY	**Al-Naaiem**	**22.64**	**98**	*e*P	**P**	**04 02 57.4**	**-0.2**
HFS	**Hagfors**	**25.45**	**351**	P	**P**	**04 03 23.3**	**-0.9**
HFS	**Hagfors**	**25.45**	**351**	P	**P**	**04 03 23.3**	**-0.9**
	comp=Z,2.3nm,0.5s,baz=163,slow=11,SNR=17						
HFS	**Hagfors**	**25.45**	**351**	P	**P**	**04 03 23.3**	**-0.9**
FINES	**FINESS Array B**	**26.43**	**5**	P	**P**	**04 03 33.0**	**-0.2**
FINES	**FINESS Array B**	**26.43**	**5**	P	**P**	**04 03 33.0**	**-0.2**
	comp=Z,1.7nm,0.4s,baz=163,slow=10,SNR=15						
FINES				LR	LR	04 14 13.0	
	comp=Z,50nm,18.1s,baz=157,slow=37						
FINES	**FINESS Array B**	**26.43**	**5**	P	**P**	**04 03 33.0**	**-0.2**
NB2	**NORSAR Subarra**	**26.67**	**349**	P	**P**	**04 03 36.6**	**+1.2**
	comp=Z,1.2nm,0.8s,baz=161,slow=10						
NB2	**NORSAR Subarra**	**26.67**	**349**	P	**P**	**04 03 36.6**	**+1.2**
	comp=Z,1.2nm,0.8s,SNR=4.1						
NOA	**NORSAR Array B**	**26.67**	**349**	P	**P**	**04 03 34.5**	**-0.9**
NOA	**NORSAR Array B**	**26.67**	**349**	P	**P**	**04 03 34.5**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=158,slow=8.9,SNR=5.7						
NOA	**NORSAR Array B**	**26.67**	**349**	P	**P**	**04 03 34.5**	**-0.9**
KAF	**Kangasniemi**	**27.11**	**5**	*e*P	**P**	**04 03 38.8**	**-0.5**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KAF	**Kangasniemi**	**27.11**	**5**	*e*p	**P**	**04 03 38.8**	**-0.5**
	comp=Z,1.3nm,0.4s						
KAF	**Kangasniemi**	**27.11**	**5**	*e*P	**P**	**04 03 38.8**	**-0.5**
	comp=Z,1.0nm,0.4s						
TORD	**Torodi Ar. Bea**	**28.25**	**224**	P	**P**	**04 03 51.4**	**+1.5**
TORD				PcP	**PcP**	**04 07 05.3**	**+1.8**
TORD	**Torodi Ar. Bea**	**28.25**	**224**	P	**P**	**04 03 51.4**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=32,slow=8.8,SNR=13						
TORD				PcP	**PcP**	**04 07 05.3**	**+1.8**
	comp=Z,0.2nm,0.8s,baz=61,slow=1.1,SNR=3.0						
TORD				LR	LR	04 14 45.9	
	comp=Z,51nm,20.5s,baz=135,slow=36						
JOF	**Joensuu**	**28.43**	**10**	*e*P	**P**	**04 03 50.3**	**-0.7**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JOF	**Joensuu**	**28.43**	**10**	*e*p	**P**	**04 03 50.3**	**-0.7**
	comp=Z,0.8nm,0.3s						
JOF	**Joensuu**	**28.43**	**10**	*e*P	**P**	**04 03 50.3**	**-0.7**
	comp=Z,1.0nm,0.3s						
ABKAR	**Akbulak array**	**31.45**	**52**	*e*P	**P**	**04 04 17.2**	**-0.8**
ABKAR	**Akbulak array**	**31.45**	**52**	*e*P	**P**	**04 04 17.2**	**-0.8**
ARCES	**ARCESS Array B**	**34.47**	**3**	P	**P**	**04 04 43.4**	**-0.7**
ARCES	**ARCESS Array B**	**34.47**	**3**	P	**P**	**04 04 43.4**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=183,slow=10.0,SNR=20						
ARCES	**ARCESS Array B**	**34.47**	**3**	P	**P**	**04 04 43.4**	**-0.7**
ARE0	**ARCESS Array S**	**34.47**	**3**	*e*P	**P**	**04 04 45.1**	**+1.0**
ARE0	**ARCESS Array S**	**34.47**	**3**	*e*P	**P**	**04 04 45.1**	**+1.0**
DBIC	**Dimbokro**	**37.26**	**226**	P	**P**	**04 05 09.0**	**+0.4**
DBIC	**Dimbokro**	**37.26**	**226**	P	**P**	**04 05 09.0**	**+0.4**
	comp=Z,3.2nm,1.1s,baz=24,slow=18,SNR=2.7						
KKAR	**Karatay Array**	**38.45**	**63**	*e*P	**P**	**04 05 18.4**	**0.0**
KKAR	**Karatay Array**	**38.45**	**63**	*e*P	**P**	**04 05 18.4**	**0.0**
KKAR	**Karatay Array**	**38.45**	**63**	*e*P	**P**	**04 05 18.4**	**0.0**
MK31	**Makanchi Array**	**46.33**	**56**	*e*P	**P**	**04 06 22.4**	**-0.2**
MK31				*e*		04 07 58.0	
MK31	**Makanchi Array**	**46.33**	**56**	*e*P	**P**	**04 06 22.4**	**-0.2**
MK31				*e*PcP	**PcP**	**04 07 58.0**	**+0.2**
MK31	**Makanchi Array**	**46.33**	**56**	*e*P	**P**	**04 06 22.4**	**-0.2**
MKAR	**Makanchi Array**	**46.33**	**56**	P	**P**	**04 06 22.4**	**-0.2**
MKAR						04 07 59.0	
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MKAR	**Makanchi Array**	**46.33**	**56**	*e*P	**P**	**04 06 22.5**	**-0.2**
MKAR				PcP	**PcP**	**04 07 59.0**	**+1.2**
MKAR	**Makanchi Array**	**46.33**	**56**	P	**P**	**04 06 22.4**	**-0.2**
	comp=Z,3.6nm,0.4s,baz=268,slow=7.8,SNR=125						
MKAR				PcP	**PcP**	**04 07 59.0**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=260,slow=3.6,SNR=3.2						
MKAR	**Makanchi Array**	**46.33**	**56**	P	**P**	**04 06 22.4**	**-0.2**
	comp=Z,4.0nm,0.4s						
ZAA0	**Zalesovo Array**	**47.21**	**46**	*e*P	**P**	**04 06 28.6**	**-0.7**
ZAA0	**Zalesovo Array**	**47.21**	**46**	*e*P	**P**	**04 06 28.6**	**-0.7**
ZALV	**Zalesovo Beam**	**47.21**	**46**	P	**P**	**04 06 28.9**	**-0.4**
ZALV	**Zalesovo Beam**	**47.21**	**46**	P	**P**	**04 06 28.9**	**-0.4**
ZALV	**Zalesovo Beam**	**47.21**	**46**	P	**P**	**04 06 28.9**	**-0.4**
	comp=Z,6.2nm,0.4s,baz=265,slow=9.9,SNR=22						
ZALV	**Zalesovo Beam**	**47.21**	**46**	P	**P**	**04 06 28.9**	**-0.4**
DANN	**Dangsing**	**52.72**	**79**	*e*P	**P**	**04 07 12.9**	**+1.0**
	comp=Z,42nm,0.7s						
KOLN	**Koldanda**	**52.83**	**80**	*e*P	**P**	**04 07 12.9**	**+0.3**
	comp=Z,5.6nm,0.6s						
GKN	**Gorkha**	**53.57**	**79**	*e*P	**P**	**04 07 18.3**	**+0.3**
	comp=Z,26nm,0.6s						
DMN	**Daman**	**54.11**	**79**	*e*P	**P**	**04 07 22.5**	**+0.4**
	comp=Z,28nm,0.7s						
KKN	**Kakani**	**54.17**	**79**	*e*P	**P**	**04 07 22.6**	**+0.1**
	comp=Z,14nm,0.5s						
PKI	**Pulchoki**	**54.37**	**79**	*e*P	**P**	**04 07 24.3**	**+0.2**
	comp=Z,15nm,0.7s						
GUN	**Gumba**	**54.60**	**78**	*e*P	**P**	**04 07 26.2**	**+0.4**
	comp=Z,15nm,0.4s						
JIRN	**Jiri**	**54.96**	**79**	*e*P	**P**	**04 07 29.0**	**+0.6**
	comp=Z,4.7nm,0.7s						
TAPN	**Taplejung**	**56.31**	**78**	*e*P	**P**	**04 07 38.4**	**+0.3**
	comp=Z,8.6nm,0.8s						
ZAK	**Zakamensk**	**59.02**	**48**	*e*P	**P**	**04 07 56.6**	**0.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ZAK	**Zakamensk**	**59.02**	**48**	*e*P	**P**	**04 07 56.6**	**0.0**
	comp=Z,2.0nm,1.0s						
SCHQ	**Schefferville**	**61.13**	**319**	P	**P**	**04 08 11.4**	**+0.5**
SCHQ	**Schefferville**	**61.13**	**319**	P	**P**	**04 08 11.4**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=75,slow=12,SNR=3.9						
SCHQ	**Schefferville**	**61.13**	**319**	P	**P**	**04 08 11.4**	**+0.5**
SONM	**Songino Array**	**61.84**	**50**	P	**P**	**04 08 16.2**	**+0.3**
SONM	**Songino Array**	**61.84**	**50**	P	**P**	**04 08 16.2**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=283,slow=6.6,SNR=18						
SONM	**Songino Array**	**61.84**	**50**	P	**P**	**04 08 16.2**	**+0.3**
BOD	**Bodaibo**	**62.31**	**37**	*e*P	**P**	**04 08 18.3**	**-0.4**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.3s						
BOD	**Bodaibo**	**62.31**	**37**	*e*P	**P**	**04 08 18.3**	**-0.4**
	comp=Z,4.0nm,1.3s						
YKA	**Yellowknife Ar**	**76.42**	**341**	P	**P**	**04 09 44.4**	**-1.6**
YKA	**Yellowknife Ar**	**76.42**	**341**	P	**P**	**04 09 44.4**	**-1.6**
	comp=Z,0.1nm,0.5s,baz=44,slow=5.1,SNR=3.4						
YKA	**Yellowknife Ar**	**76.42**	**341**	P	**P**	**04 09 44.4**	**-1.6**
ILAR	**Eielson Array**	**79.93**	**355**	P	**P**	**04 10 06.5**	**+1.1**
ILAR	**Eielson Array**	**79.93**	**355**	P	**P**	**04 10 06.5**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=341,slow=3.6,SNR=18						
ILAR	**Eielson Array**	**79.93**	**355**	P	**P**	**04 10 06.5**	**+1.1**
PDAR	**Pinedale Array**	**90.40**	**326**	P	**P**	**04 10 57.9**	**-0.7**
PDAR	**Pinedale Array**	**90.40**	**326**	P	**P**	**04 10 57.9**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=64,slow=4.1,SNR=3.2						
PDAR	**Pinedale Array**	**90.40**	**326**	P	**P**	**04 10 57.9**	**-0.7**
WRAB	**Tennant Creek**	**119.68**	**94**	*e*PKIKP	**PKPdf**	**04 16 47.2**	**-0.2**
WRAB	**Tennant Creek**	**119.68**	**94**	*e*PKPdf	**PKPdf**	**04 16 47.1**	**-0.2**
ASAR	**Alice Springs**	**121.11**	**98**	PKP	**PKPdf**	**04 16 50.9**	**+0.9**
ASAR	**Alice Springs**	**121.11**	**98**	PKP	**PKPdf**	**04 16 50.9**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=304,slow=2.0,SNR=4.3						

*IDC **09** 04:08:06.2±0.7, 6.°40N×92.°67E, h0km, mb4.3/13, mb1 4.4/14, mb1mx4.2/25, mbtmp4.3/14, ML4.4/1, MS3.4/2, Ms1 3.5/2, ms1mx2.9/25, Error ellipse: s-maj=32.9km s-min=15.9km az=51.0*

*ISCJB **09** 04:08:08.4±0.5, 6.°32N±0.°08×92.°8E±0.°1, h26km, mb4.3/16, MS3.5/2, Error ellipse: s-maj=15.4km s-min=9.9km az=151.2*

ISC 09 04:08:10.3±0.7, 6.°4N±0.°1×92.°7E±0.°1, h26km, n53, σ0°71/58, mb4.4/16, 1C-4D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**13.48**	**26**	Pn	**Pn**	**04 11 20.1**	**+0.1**
	0.6nm,0.3s,baz=231,slow=14,SNR=43						
ODAN	**Odare**	**21.00**	**347**	*e*P	**P**	**04 12 53.1**	**+0.9**
RAMN	**Ramite**	**21.29**	**345**	*e*P	**P**	**04 12 56.0**	**+0.8**
TAPN	**Taplejung**	**21.41**	**348**	*e*P	**P**	**04 12 56.7**	**+0.1**
	45nm,0.8s						
POO	**Poona**	**21.99**	**305**	*e*S	**S**	**04 17 03.0**	**-1.3**
JIRN	**Jiri**	**22.07**	**344**	*e*P	**P**	**04 13 04.3**	**+0.6**
	4.5nm,0.6s						
PKI	**Pulchoki**	**22.20**	**343**	*e*P	**P**	**04 13 05.4**	**+0.2**
DMN	**Daman**	**22.33**	**342**	*e*P	**P**	**04 13 08.0**	**+1.6**
GUN	**Gumba**	**22.39**	**344**	*e*P	**P**	**04 13 06.8**	**-0.4**
KKN	**Kakani**	**22.45**	**343**	*e*P	**P**	**04 13 08.9**	**+1.2**
GKN	**Gorkha**	**22.84**	**341**	*e*P	**P**	**04 13 12.7**	**+0.9**
KOLN	**Koldanda**	**22.98**	**339**	*e*P	**P**	**04 13 14.3**	**+1.1**
DANN	**Dangsing**	**23.45**	**340**	*e*P	**P**	**04 13 18.1**	**0.0**
ULHL	**Ulahol**	**38.60**	**340**	P	**P**	**04 15 31.5**	**0.0**
	SNR=5.4						
ULHL				P	**P**	**04 15 31.5**	**0.0**
	SNR=5.4						
KBK	**Karagaybulak**	**39.41**	**339**	P	**P**	**04 15 39.3**	**+1.1**
	SNR=9.3						
KBK				P	**P**	**04 15 39.3**	**+1.1**
	SNR=9.3						
AML	**Almayashu**	**39.41**	**338**	P	**P**	**04 15 39.3**	**+0.8**
	SNR=17						
AML				P	**P**	**04 15 39.3**	**+0.8**
	SNR=17						
AAK	**Ala-Archa**	**39.55**	**339**	P	**P**	**04 15 40.5**	**+1.1**
	SNR=7.0						
AAK				P	**P**	**04 15 40.5**	**+1.1**
	SNR=7.0						
EKS2	**Erkin-Say**	**39.84**	**338**	P	**P**	**04 15 42.9**	**+1.2**
	SNR=7.9						
EKS2				P	**P**	**04 15 42.9**	**+1.2**
	SNR=7.9						
USP	**Ospenovka**	**40.11**	**339**	P	**P**	**04 15 44.2**	**+0.3**
	SNR=12						
USP				P	**P**	**04 15 44.2**	**+0.3**
	SNR=12						
MKAR	**Makanchi Array**	**41.27**	**349**	P	**P**	**04 15 52.7**	**-0.7**
	2.6nm,0.7s,baz=168,slow=8.2,SNR=33						
SONM	**Songino Array**	**42.95**	**14**	P	**P**	**04 16 06.5**	**-0.7**
	1.9nm,0.7s,baz=195,slow=8.9,SNR=18						
SONM				PcP	**PcP**	**04 17 58.0**	**+0.5**
	0.6nm,0.7s,baz=196,slow=3.0,SNR=3.5						
KSRS	**Korea Array**	**44.54**	**41**	LR	LR	04 35 58.6	
	comp=Z,34nm,18.2s,baz=245,slow=38						
ZALV	**Zalesovo Beam**	**47.88**	**354**	P	**P**	**04 16 45.5**	**-0.4**
	6.5nm,0.8s,baz=163,slow=7.5,SNR=23						
WRA	**Warramunga Arr**	**48.59**	**124**	P	**P**	**04 16 52.0**	**0.0**
	3.7nm,0.8s,baz=302,slow=9.0,SNR=18						
ASAR	**Alice Springs**	**50.08**	**128**	P	**P**	**04 17 03.7**	**+0.3**
	3.8nm,0.7s,baz=306,slow=7.5,SNR=32						
STKA	**Stephens Creek**	**60.13**	**132**	P	**P**	**04 18 15.5**	**-0.3**
	2.7nm,0.8s,baz=307,slow=10,SNR=4.1						
BRTR	**Keskin Array B**	**62.34**	**312**	P	**P**	**04 18 30.1**	**-0.8**
	1.7nm,0.8s,baz=128,slow=7.8,SNR=12						
VRI	**Vrincioaia**	**68.81**	**317**	⇑*i*P	**P**	**04 19 12.9**	**+0.5**
PLOR	**Plostina**	**68.86**	**317**	⇓*i*P	**P**	**04 19 13.5**	**+0.8**
TESR		**69.01**	**317**	⇓*i*P	**P**	**04 19 13.7**	**+0.1**
VOIR		**69.86**	**316**	⇓*i*P	**P**	**04 19 18.3**	**-0.7**
VTS	**Vitosha**	**70.65**	**313**	⇓*i*P	**P**	**04 19 24.0**	**0.0**
FINES	**FINESS Array B**	**73.38**	**333**	P	**P**	**04 19 38.8**	**-0.9**
	2.4nm,0.7s,baz=128,slow=5.6,SNR=5.4						
ARCES	**ARCESS Array B**	**76.20**	**340**	P	**P**	**04 19 55.8**	**-0.1**
	5.5nm,1.0s,baz=97,slow=7.4,SNR=2.6						
GERES	**GERESS Array B**	**78.00**	**318**	P	**P**	**04 20 06.8**	**+0.2**
	2.4nm,0.7s,baz=95,slow=4.6,SNR=28						
HFS	**Hagfors**	**79.04**	**330**	P	**P**	**04 20 11.4**	**-0.6**
	5.2nm,1.1s,baz=80,slow=12,SNR=3.9						
NOA	**NORSAR Array B**	**80.34**	**331**	LR	LR	04 58 05.0	
	comp=Z,28nm,19.1s,baz=180,slow=37						
CDF	**Champ du Feu**	**82.25**	**318**	*e*P	**P**	**04 20 29.1**	**-0.4**
LPG	**La Plagne**	**82.67**	**315**	*e*P	**P**	**04 20 32.2**	**+0.1**
	4.4nm,0.6s						
MBDF	**Montbardon**	**82.67**	**314**	*e*P	**P**	**04 20 32.0**	**+0.1**
LPL	**La Plagne**	**82.68**	**315**	*e*P	**P**	**04 20 32.2**	**+0.2**
	16nm,1.0s						
HAU	**Haudompre**	**82.88**	**318**	*e*P	**P**	**04 20 33.1**	**+0.4**
GIVF	**Givet**	**83.81**	**320**	*e*P	**P**	**04 20 37.8**	**+0.4**
VIVF	**Saint-Julien-l**	**84.16**	**314**	*e*P	**P**	**04 20 38.9**	**-0.5**
	8.0nm,0.7s						
BAIF	**Baives**	**84.20**	**320**	*e*P	**P**	**04 20 39.5**	**0.0**
LOR	**Lormes**	**84.59**	**317**	*e*P	**P**	**04 20 41.3**	**-0.2**
RJF	**Les Rejaudoux**	**86.36**	**315**	*e*P	**P**	**04 20 50.8**	**+0.4**
SGMF	**Saint Gilles**	**88.80**	**318**	*e*P	**P**	**04 21 01.1**	**-0.9**
TORD	**Torodi Ar. Bea**	**89.55**	**283**	P	**P**	**04 21 07.2**	**+1.0**
	0.3nm,0.7s,baz=86,slow=1.4,SNR=3.6						
ESDC	**Sonseca Array**	**91.09**	**310**	P	**P**	**04 21 13.4**	**+0.4**
	1.5nm,1.0s,baz=50,slow=3.9,SNR=20						
NVAR	**Mina Array Bea**	**126.94**	**30**	PKP	**PKPdf**	**04 27 12.9**	**+0.2**
	0.8nm,0.6s,baz=11,slow=1.5,SNR=6.4						
PDAR	**Pinedale Array**	**127.08**	**20**	PKP	**PKPdf**	**04 27 13.3**	**+0.5**
	0.7nm,0.7s,baz=75,slow=1.2,SNR=7.8						
TXAR	**Lajitas Array**	**141.18**	**23**	PKhKP	PKPpre	04 27 34.7	
	0.1nm,0.4s,baz=70,slow=1.1,SNR=2.8						
TXAR				PKP	**PKiKP**	**04 27 41.1**	**-1.0**
	0.5nm,0.6s,baz=259,slow=0.5,SNR=7.3						

*DJA **09** 04:27:17, 0.°05S×96.°77E, h20km, MLv4.2/6*

IDC 09 04:27:25.8±1.2, 0.°17N×97.°45E, h22km±4km, mb3.6/6, mb1 3.8/7, mb1mx3.6/22, mbtmp3.6/7, ML4.1/1, Error ellipse: s-maj=52.0km s-min=14.8km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.23**	**5**	P	P	04 31 37.7	0.0
	0.2nm,0.3s,baz=193,slow=12,SNR=7.0						
WRA	**Warramunga Arr**	**41.29**	**121**	P	P	04 35 09.3	-0.6
	1.3nm,0.7s,baz=303,slow=9.0,SNR=6.1						
WRA				pP	pP	04 35 16.4	-0.3
	1.1nm,0.6s,baz=302,slow=9.0,SNR=4.9						
ASAR	**Alice Springs**	**42.58**	**126**	P	P	04 35 20.8	+0.3
	1.6nm,0.6s,baz=295,slow=7.8,SNR=15						
ASAR				pP	pP	04 35 27.2	-0.1
	1.6nm,0.8s,baz=304,slow=8.1,SNR=6.2						
SONM	**Songino Array**	**48.11**	**8**	P	P	04 36 04.3	+0.2
	0.3nm,0.5s,baz=194,slow=9.8,SNR=6.4						
MKAR	**Makanchi Array**	**48.30**	**346**	P	P	04 36 06.0	+0.6
	0.4nm,0.6s,baz=153,slow=7.5,SNR=7.4						
MKAR				pP	pP	04 36 12.3	0.0
	0.8nm,0.7s,baz=163,slow=7.2,SNR=7.6						
ZALV	**Zalesovo Beam**	**54.61**	**351**	P	P	04 36 51.3	-1.2
	1.6nm,0.6s,baz=167,slow=6.6,SNR=10						
ZALV				pP	pP	04 36 59.4	-0.1
	5.2nm,1.1s,baz=176,slow=6.6,SNR=5.4						
BRTR	**Keskin Array B**	**69.99**	**313**	P	P	04 38 36.1	0.0
	0.4nm,0.7s,baz=111,slow=6.7,SNR=2.7						
BRTR				pP	pP	04 38 43.3	+0.1
	0.5nm,0.7s,baz=136,slow=9.7,SNR=3.1						
TXAR	**Lajitas Array**	**144.40**	**33**	PKP	PKPdf	04 47 00.7	-0.5
	0.2nm,0.7s,baz=286,slow=3.7,SNR=2.4						

MEX 09 04:31:49.5±0.9, 15.°85N×96.°28W, h24km±20km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.19**	**116**	*e*P	Pb	04 31 53.6	-1.4
HUIG				*i* S	Sb	04 31 57.5	-1.2
VHO	**Vista Hermosa**	**1.29**	**341**	*e*P	Pn	04 32 08.7	-3.6
VHO				*i* S	Sn	04 32 25.4	-3.5
OXX	**Oaxaca**	**1.29**	**341**	*i* P	Pn	04 32 09.7	-2.6
OXX				*i* S	Sn	04 32 25.4	-3.7
CMIG	**Matias Romero**	**1.82**	**47**	*e*P	Pn	04 32 17.4	-2.0
CMIG				*i* S	Sn	04 32 39.1	-2.6
**P

ASAR				S	S	05 30 42.4	+6.3		
ASAR	**Alice Springs**	**23.16**	**177**	P	P	05 26 28.5	+2.0		
	5.4nm,0.5s,baz=352,slow=7.6,SNR=85								
ASAR				S	S	05 30 42.4	+6.3		
	1.4nm,1.1s,baz=3.8,slow=31,SNR=4.5								
CTA	**Charters Tower**	**23.74**	**146**	P	P	05 26 31.5	-0.6		
CTA	**Charters Tower**	**23.74**	**146**	P	P	05 26 31.5	-0.6		
	5.7nm,1.1s,baz=319,slow=11,SNR=2.3								
CTA				LR	LR	05 35 27.0			
	comp=Z,99nm,19.1s,baz=199,slow=36								
CBIJ	**Chichi jima**	**28.88**	**18**	LR	LR	05 36 52.5			
	comp=Z,61nm,20.9s,baz=127,slow=33								
STKA	**Stephens Creek**	**32.46**	**166**	*e*P	P	05 27 50.4	+0.4		
	0.3nm,0.5s								
STKA	**Stephens Creek**	**32.46**	**166**	P	P	05 27 50.7	+0.7		
	1.6nm,0.5s,baz=334,slow=11,SNR=3.4								
STKA				LR	LR	05 43 02.7			
	comp=Z,102nm,18.1s,baz=24,slow=40								
KSRS	**Korea Array**	**37.91**	**354**	LR	LR	05 41 37.8			
	comp=Z,35nm,20.4s,baz=170,slow=32								
CMAR	**Chiang Mai Arr**	**37.94**	**301**	P	P	05 28 38.4	+1.0		
CMAR	**Chiang Mai Arr**	**37.94**	**301**	P	P	05 28 38.4	+1.0		
	0.4nm,0.3s,baz=122,slow=6.8,SNR=6.3								
TAPN	**Taplejung**	**51.10**	**306**	*e*P	P	05 30 22.7	-0.1		
	17nm,1.2s								
ODAN	**Odare**	**51.16**	**306**	*e*P	P	05 30 22.8	-0.3		
	8.8nm,0.7s								
RAMN	**Ramite**	**51.84**	**305**	*e*P	P	05 30 28.2	0.0		
	13nm,0.7s								
GUN	**Gumba**	**52.81**	**306**	*e*P	P	05 30 35.2	-0.4		
	8.3nm,0.6s								
SONM	**Songino Array**	**53.15**	**338**	P	P	05 30 37.2	-0.3		
SONM	**Songino Array**	**53.15**	**338**	P	P	05 30 37.2	-0.3		
	0.5nm,0.9s,baz=140,slow=4.9,SNR=3.3								
KOLN	**Koldanda**	**54.61**	**305**	*e*P	P	05 30 48.8	+0.2		
	16nm,0.7s								
DANN	**Dangsing**	**54.70**	**306**	*e*P	P	05 30 49.5	+0.1		
	17nm,0.8s								
MK31	**Makanchi Array**	**64.25**	**324**	*e*P	P	05 31 54.6	+0.1		
MKAR	**Makanchi Array**	**64.25**	**324**	P	P	05 31 54.8	+0.2		
MKAR	**Makanchi Array**	**64.25**	**324**	P	P	05 31 54.8	+0.2		
	3.2nm,0.8s,baz=118,slow=7.9,SNR=37								
ZALV	**Zalesovo Beam**	**66.91**	**332**	P	P	05 32 10.8	-0.7		
ZALV	**Zalesovo Beam**	**66.91**	**332**	P	P	05 32 10.8	-0.7		
	1.1nm,0.6s,baz=115,slow=6.7,SNR=6.6								
KURK	**Kurchatov**	**68.33**	**326**	*e*P	P	05 32 20.4	-0.2		
	3.2nm,0.8s								
KKAR	**Karatay Array**	**70.18**	**317**	*e*P	P	05 32 32.7	+0.4		
	1.5nm,0.7s								
BRVK	**Borovoye**	**74.00**	**326**	*e*P	P	05 32 55.0	+0.1		
	3.9nm,0.8s								
ABKAR	**Akbulak array**	**78.99**	**320**	*e*P	P	05 33 15.0	-8.3		
	4.9nm,1.0s								
ILAR	**Eielson Array**	**86.35**	**25**	P	P	05 33 59.3	-1.9		
ILAR	**Eielson Array**	**86.35**	**25**	P	P	05 33 59.3	-1.9		
	0.6nm,0.9s,baz=258,slow=5.0,SNR=7.1								

CSEM ***09*** *05:41:35.6, 44.°23N×42.°46E, h8km, mb3.8, After OBN*

MOS 09 05:41:35.6±1.4, 44.°23N×42.°46E, h8km, mb3.8/1, 1C-3D, Error ellipse: s-maj=24.2km s-min=8.7km az=119.2, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIV	**Kislovodsk**	**0.32**	**150**	⇓*i* Pg	Pg	05 41 42.5	+0.5
KIV				*e*S	Sb	05 41 51.8	+2.7
KIV	**Kislovodsk**	**0.32**	**150**	*i* Pg	Pg	05 41 42.5	+0.5
KIV				*e*Sg	Sb	05 41 51.8	+2.7
SHAR	**Shatzhatmas**	**0.51**	**163**	⇓*i* Pg	Pg	05 41 46.4	+0.6
SHAR				*e*S	Sn	05 41 58.5	-0.1
SHAR	**Shatzhatmas**	**0.51**	**163**	*i* Pg	Pg	05 41 46.4	+0.6
SHAR				*e*Sg	Sn	05 41 58.5	-0.1
KUBR	**Kubataba**	**0.81**	**122**	⇑*e* Pg	Pg	05 41 48.8	-2.4
KUBR				*e*S	Sb	05 42 02.9	-0.2
KUBR	**Kubataba**	**0.81**	**122**	*e*Pg	Pg	05 41 48.8	-2.4
KUBR				*e*Sg	Sb	05 42 02.9	-0.2
LSNR	**Lesken**	**1.37**	**134**	*e*PG	Pg	05 42 02.0	0.0
LSNR				*i* S	Sg	05 42 23.6	+3.8
LSNR	**Lesken**	**1.37**	**134**	*e*Pg	Pg	05 42 02.0	0.0
LSNR				*i* Sg	Sg	05 42 23.6	+3.8
DIGR	**Digorskoe uzhe**	**1.56**	**148**	⇓*i* PG	Pn	05 42 04.3	+0.4
DIGR				*i* S	Sg	05 42 28.3	+2.1
DIGR	**Digorskoe uzhe**	**1.56**	**148**	*i* Pg	Pn	05 42 04.3	+0.4
DIGR				*i* Sg	Sg	05 42 28.3	+2.1
KMSR	**Komsomolskaya**	**1.58**	**122**	*e*PG	Pg	05 42 05.5	-0.4
KMSR				*e*S	Sg	05 42 29.7	+3.3
KMSR	**Komsomolskaya**	**1.58**	**122**	*e*Pg	Pg	05 42 05.5	-0.4
KMSR				*e*Sg	Sg	05 42 29.7	+3.3
KORR	**Kora**	**1.63**	**134**	*e*PN	Pb	05 42 06.1	+0.1
KORR				*e*S	Sg	05 42 31.0	+2.8
KORR	**Kora**	**1.63**	**134**	*e*Pn	Pb	05 42 06.1	+0.1
KORR				*e*Sg	Sg	05 42 31.0	+2.8
ZEI	**Tsey**	**1.79**	**144**	*e*PN	Pn	05 42 08.0	+0.8
ZEI				*i* S	Sg	05 42 34.0	+0.2
ZEI	**Tsey**	**1.79**	**144**	*e*Pn	Pn	05 42 08.0	+0.8
ZEI				*i* Sg	Sg	05 42 34.0	+0.2
LACR	**Lac**	**1.94**	**136**	*e*PN	Pb	05 42 10.3	-1.0
LACR				*e*S	Sg	05 42 38.1	0.0
LACR	**Lac**	**1.94**	**136**	*e*Pn	Pb	05 42 10.3	-1.0
LACR				*e*Sg	Sg	05 42 38.1	0.0

IDC 09 05:59:09.1±3.0, 19.°66S×178.°02W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/16, mbtmp3.7/5, Error ellipse: s-maj=178.7km s-min=27.8km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.70**	**256**	P	P	06 07 24.1	-0.2
	0.6nm,0.5s,baz=96,slow=7.4,SNR=7.8						
WRA	**Warramunga Arr**	**44.71**	**261**	P	P	06 07 24.3	-0.1
	0.4nm,0.4s,baz=96,slow=8.4,SNR=3.3						
NVAR	**Mina Array Bea**	**80.43**	**43**	P	P	06 11 22.8	-0.3
	0.4nm,0.6s,baz=217,slow=8.6,SNR=2.6						
ILAR	**Eielson Array**	**87.51**	**13**	P	P	06 11 58.0	-0.3
	0.2nm,0.5s,baz=217,slow=5.1,SNR=5.7						
PDAR	**Pinedale Array**	**88.36**	**43**	P	P	06 12 03.8	+0.5
	0.5nm,0.7s,baz=197,slow=2.8,SNR=3.9						

NNC ***09*** *06:35:40.2±2.2, 41.°93N×78.°42E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=23.7km s-min=7.8km az=162.0*

ISC 09 06:35:47.6±2.2, 42.°3N±0.°2×78.°16E±0.°10, h12km, n13, σ1s25/23, 3C-3D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.42**	**268**	P	Pn	06 36 07.1	-6.4
	SNR=19						
ULHL				P	Pn	06 36 07.1	-6.4
	SNR=19						
TKM2	**Tokmak 2**	**1.98**	**288**	⇑Pn	**Pn**	**06 36 19.5**	**-1.7**
TKM2	12nm,0.3s			⇑Sn	**Sb**	**06 36 49.7**	**+1.2**
	23nm,0.5s						
TKM2	**Tokmak 2**	**1.98**	**288**	P	**Pn**	**06 36 19.5**	**-1.7**
	SNR=45						
TKM2				P	**Pn**	**06 36 19.5**	**-1.7**
	SNR=45						
KZA	**Kyzart**	**2.17**	**265**	P	**Pn**	**06 36 22.1**	**-2.0**
	SNR=13						
KZA				P	**Pn**	**06 36 22.1**	**-2.0**
	SNR=13						
KBK	**Karagaybulak**	**2.40**	**279**	P	**Pn**	**06 36 25.8**	**-1.0**
	SNR=16						
KBK				P	**Pn**	**06 36 25.8**	**-1.0**
	SNR=16						
CHMS	**Chumysh**	**2.60**	**286**	P	**Pn**	**06 36 28.7**	**-0.9**
	SNR=6.8						
CHMS				P	**Pn**	**06 36 28.7**	**-0.9**
	SNR=6.8						
UCH	**Uchtor**	**2.71**	**269**	P	**Pn**	**06 36 30.5**	**-0.9**
	SNR=5.7						
UCH				P	**Pn**	**06 36 30.5**	**-0.9**
	SNR=5.7						
AAK	**Ala-Archa**	**2.73**	**278**	P	**Pn**	**06 36 30.6**	**-0.8**
	SNR=8.6						
AAK				P	**Pn**	**06 36 30.6**	**-0.8**
	SNR=8.6						
USP	**Ospenovka**	**2.85**	**291**	P	**Pn**	**06 36 31.7**	**-1.3**
	SNR=12						
USP				P	**Pn**	**06 36 31.7**	**-1.3**
	SNR=12						
EKS2	**Erkin-Say**	**3.26**	**277**	P	**Pn**	**06 36 38.6**	**0.0**
	SNR=12						
EKS2				P	**Pn**	**06 36 38.6**	**0.0**
	SNR=12						
AML	**Almayashu**	**3.32**	**268**	P	**Pn**	**06 36 40.4**	**+0.7**
	SNR=12						
AML				P	**Pn**	**06 36 40.4**	**+0.7**
	SNR=12						
MK31	**Makanchi Array**	**5.36**	**32**	Pn	**Pn**	**06 37 08.0**	**+0.6**
	0.7nm,0.5s,baz=207,slow=13,SNR=25						
MK31				⇓Pg	**Pb**	**06 37 21.8**	**+0.7**
	1.5nm,0.6s,baz=208,slow=16						
MK31				⇓Sn	Sn	06 38 16.1	+7.1
	2.7nm,0.7s,baz=207,slow=21						
MK31				⇑Lg	Lg	06 38 36.4	
	2.6nm,0.6s,baz=208,slow=25						
KK31	**Karatay Array**	**5.69**	**280**	⇓Pn	**Pn**	**06 37 13.2**	**+1.3**
	0.8nm,0.6s,baz=98,slow=15,SNR=6.7						

IDC 09 07:07:27.0±34.0, 23.°69S×179.°90E, h576km±421km, mb3.1/6, mb1 3.4/6, mb1mx3.2/16, mbtmp3.1/6, Error ellipse: s-maj=129.9km s-min=35.3km az=82.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.72**	**248**	P	P	07 13 29.8	-0.1
	1.4nm,0.5s,baz=81,slow=13,SNR=2.9						
ASAR	**Alice Springs**	**41.98**	**260**	P	P	07 14 28.7	-0.1
	1.7nm,0.4s,baz=98,slow=7.5,SNR=21						
WRA	**Warramunga Arr**	**42.33**	**266**	P	P	07 14 31.3	-0.3
	2.2nm,0.3s,baz=103,slow=8.3,SNR=13						
QSPA	**South Pole Qui**	**66.39**	**180**	P	P	07 17 19.3	-0.1
	2.5nm,1.0s,baz=236,slow=1.4,SNR=6.0						
TXAR	**Lajitas Array**	**90.40**	**58**	P	P	07 19 28.3	+0.4
	0.3nm,0.6s,baz=223,slow=7.7,SNR=4.9						
PDAR	**Pinedale Array**	**92.60**	**44**	P	P	07 19 37.2	-0.7
	0.2nm,0.5s,baz=230,slow=5.6,SNR=2.9						

IDC ***09*** *07:11:44.0±1.2, 39.°48N×73.°80E, h0km, mb3.6/6, mb1 3.6/12, mb1mx3.5/31, mbtmp3.4/12, ML3.0/5, Error ellipse: s-maj=22.0km s-min=15.9km az=113.0*

ISC 09 07:11:46.8±1.0, 39.°62N±0.°08×74.°11E±0.°07, h28km, n23, σ1s89/32, mb3.6/6, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.45**	**93**	*e*Pg	**Pn**	**07 12 10.2**	**-1.1**
KSH				Sg	**Sn**	**07 12 27.3**	**-2.1**
KSH				smax	smax		
	comp=N,240nm,0.6s						
KSH				smax	smax		
	comp=E,270nm,0.5s						
AML	**Almayashu**	**2.53**	**353**	P	**Pb**	**07 12 31.5**	**-0.3**
	SNR=56						
AML				P	**Pb**	**07 12 31.5**	**-0.3**
	SNR=56						
KZA	**Kyzart**	**2.61**	**19**	P	**Pb**	**07 12 33.6**	**+0.5**
	SNR=32						
KZA				P	**Pb**	**07 12 33.6**	**+0.5**
	SNR=32						
UCH	**Uchtor**	**2.62**	**7**	P	**Pb**	**07 12 33.4**	**-0.1**
	SNR=17						
UCH				P	**Pb**	**07 12 33.4**	**-0.1**
	SNR=17						
AAK	**Ala-Archa**	**3.03**	**5**	P	**Pb**	**07 12 38.4**	**-1.7**
	SNR=31						
AAK				P	**Pb**	**07 12 38.4**	**-1.7**
	SNR=31						
AAK	**Ala-Archa**	**3.03**	**5**	Pn	**Pb**	**07 12 38.2**	**-1.9**
	comp=E,5.8nm,0.3s,baz=168,slow=7.0,SNR=53						
AAK				Sn	**Sb**	**07 13 18.5**	**+1.8**
	comp=E,9.8nm,0.3s,baz=190,slow=17,SNR=5.0						
AAK				Lg	Lg	07 13 22.6	
	comp=E,14nm,0.3s,baz=316,slow=20,SNR=12						
EKS2	**Erkin-Say**	**3.05**	**355**	P	**Pb**	**07 12 38.4**	**-2.1**
	SNR=12						
EKS2				P	**Pb**	**07 12 38.4**	**-2.1**
	SNR=12						
ULHL	**Ulahol**	**3.08**	**31**	P	**Pb**	**07 12 39.9**	**-1.2**
	SNR=54						
ULHL				P	**Pb**	**07 12 39.9**	**-1.2**
	SNR=54						
KBK	**Karagaybulak**	**3.10**	**12**	P	**Pb**	**07 12 41.0**	**-0.4**
	SNR=10						
KBK				P	**Pb**	**07 12 41.0**	**-0.4**
	SNR=10						
CHMS	**Chumysh**	**3.41**	**8**	P	**Pb**	**07 12 43.6**	**-3.0**
	SNR=9.7						
CHMS				P	**Pb**	**07 12 43.6**	**-3.0**
	SNR=9.7						
TKM2	**Tokmak 2**	**3.49**	**18**	P	**Pb**	**07 12 45.1**	**-2.9**
	SNR=16						
TKM2				P	**Pb**	**07 12 45.1**	**-2.9**
	SNR=16						
USP	**Ospenovka**	**3.66**	**4**	P	**Pb**	07 12 46.6	-4.1
	SNR=9.4						
USP				P	**Pb**	07 12 46.6	-4.1
	SNR=9.4						
MKAR	**Makanchi Array**	**9.33**	**37**	Pn	Pn	07 14 04.9	+5.5
	comp=E,0.0nm,0.3s,baz=213,slow=13,SNR=3.7						
MKAR				Lg	Lg	07 16 44.1	
	comp=E,0.1nm,0.3s,baz=221,slow=22,SNR=3.6						
KURBB	**Kurchatov Arra**	**11.44**	**14**	Pn	Pn	07 14 31.3	+3.1
	comp=E,0.0nm,0.3s,baz=208,slow=11,SNR=3.3						
KURBB				Lg	Lg	07 17 48.1	
	comp=E,0.0nm,0.3s,baz=207,slow=30,SNR=9.9						
BVAR	**Borovoye Array**	**13.65**	**350**	Pn	**Pn**	**07 14 58.1**	**-0.3**
	comp=E,0.2nm,0.3s,baz=158,slow=12,SNR=4.2						
BVAR				Sn	**Sn**	**07 17 31.2**	**+2.2**
	comp=E,0.1nm,0.3s,baz=268,slow=40,SNR=1.5						
BVAR				Lg	Lg	07 18 50.0	
	comp=E,0.1nm,0.3s,baz=172,slow=23,SNR=2.9						
AKTO	**Aktyubinsk**	**15.66**	**319**	Pn	**Pn**	**07 15 24.7**	**-0.7**
	comp=E,0.1nm,0.3s,baz=124,slow=16,SNR=5.7						
AKTO				Sn	**Sn**	**07 18 13.0**	**-4.9**
	comp=E,0.2nm,0.3s,baz=267,slow=10.0,SNR=2.2						
ZALV	**Zalesovo Beam**	**16.07**	**23**	Pn	**P**	**07 15 34.3**	**+0.5**
	comp=E,0.1nm,0.3s,baz=229,slow=13,SNR=3.7						
SONM	**Songino Array**	**24.59**	**60**	P	P	07 17 09.7	+5.1
	comp=E,0.1nm,0.3s,baz=264,slow=1.4,SNR=3.2						
FINES	**FINESS Array B**	**36.37**	**323**	P	**P**	**07 18 48.2**	**0.0**
	comp=E,1.6nm,0.8s,baz=120,slow=8.2,SNR=3.3						
ARCES	**ARCESS Array B**	**39.27**	**335**	P	**P**	**07 19 14.3**	**+1.7**
	comp=E,2.1nm,0.8s,baz=109,slow=9.1,SNR=4.7						
TORD	**Torodi Ar. Bea**	**68.23**	**269**	P	**P**	**07 22 45.3**	**+0.1**
	comp=E,0.3nm,0.5s,baz=49,slow=5.6,SNR=5.7						
YKA	**Yellowknife Ar**	**77.99**	**4**	P	**P**	**07 23 43.5**	**+1.4**
	comp=E,0.1nm,0.7s,baz=353,slow=5.1,SNR=3.7						
WRA	**Warramunga Arr**	**81.64**	**124**	P	**P**	**07 24 04.0**	**+1.6**
	comp=E,0.4nm,0.6s,baz=329,slow=4.9,SNR=2.3						

ISK ***09*** *07:24:12.8, 36.°04N×36.°05E, h6km, MD3.0*
ISCJB ***09*** *07:24:13.5±0.8, 36.°10N±0.°03×36.°03E±0.°06, h2km±6km, Error ellipse: s-maj=7.8km s-min=4.3km az=176.9*
DDA ***09*** *07:24:13.3, 36.°10N×36.°06E, h2km, MD3.3*
CSEM ***09*** *07:24:13.6±0.2, 36.°09N×36.°04E, h2km, MD3.3, Error ellipse: s-maj=5.1km s-min=3.0km az=81.0*

ISC 09 07:24:14.0±0.9, 36.°09N±0.°03×36.°05E±0.°04, h7km±6km, n30, σ0s77/39, 2C, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAYL	**Yayladag**	**0.07**	**141**	*i* P	**Pg**	**07 24 15.4**	**-0.5**
YAYL	**Yayladag**	**0.07**	**141**	*i* P	**Pg**	**07 24 15.4**	**-0.5**
HTY	**Hatay**	**0.08**	**64**	PG	**Pg**	**07 24 15.2**	**-0.7**
HTY				*e*SG	**Sg**	**07 24 18.0**	**+0.8**
HTY	**Hatay**	**0.08**	**64**	*i* Pg	**Pg**	**07 24 15.2**	**-0.7**
HTY				*e*Sg	**Sg**	**07 24 18.0**	**+0.8**
COBT	**Iskenderun**	**0.46**	**21**	*e*P	**Pg**	**07 24 21.2**	**-1.8**
COBT	**Iskenderun**	**0.46**	**21**	*e*P	**Pg**	**07 24 21.2**	**-1.8**
WRDH	**Warideh**	**0.65**	**153**	*i* P	**Pg**	**07 24 26.3**	**-0.2**
	SNR=75						
WRDH				*i* S	**Sb**	**07 24 36.1**	**-0.9**
	166nm,0.4s,SNR=59						
CEYT	**Ceyhan**	**0.95**	**345**	*e*PG	**Pb**	**07 24 32.6**	**-0.3**
CEYT	**Ceyhan**	**0.95**	**345**	*e*Pg	**Pb**	**07 24 32.6**	**-0.3**
KUZU	**Kuzuini**	**1.07**	**50**	*i* P	**Pg**	**07 24 34.3**	**-0.3**
KUZU				*i* S	**Sb**	**07 24 49.1**	**-0.1**
KUZU	**Kuzuini**	**1.07**	**50**	*i* P	**Pg**	**07 24 34.3**	**-0.3**
BIDA	**Albida**	**1.09**	**168**	⇑*e* P	**Pg**	**07 24 34.5**	**-0.5**
	SNR=57						
BIDA				*i* S	**Sb**	**07 24 50.3**	**+0.4**
	184nm,0.7s,SNR=59						
KOZT	**Kozan**	**1.40**	**353**	*e*PN	**Pn**	**07 24 40.0**	**-0.1**
KOZT				*e*SN	**Sn**	**07 24 59.7**	**+0.8**
KOZT	**Kozan**	**1.40**	**353**	*e*Pn	**Pn**	**07 24 40.0**	**-0.1**
KOZT				*e*Sn	**Sn**	**07 24 59.7**	**+0.8**
GAZ	**Gaziantep**	**1.43**	**40**	*e*PN	**Pn**	**07 24 40.6**	**+0.1**
GAZ	**Gaziantep**	**1.43**	**40**	*e*Pn	**Pn**	**07 24 40.6**	**+0.1**
MERS	**Mersin**	**1.46**	**303**	*e*PN	**Pn**	**07 24 40.7**	**-0.2**
MERS	**Mersin**	**1.46**	**303**	*e*Pn	**Pn**	**07 24 40.7**	**-0.2**
KMRS	**Kahramanmaras**	**1.57**	**25**	*e*PN	**Pn**	**07 24 42.5**	**0.0**
KMRS	**Kahramanmaras**	**1.57**	**25**	*e*Pn	**Pn**	**07 24 42.5**	**0.0**
GULE	**Gulek**	**1.57**	**320**	*i* P	**Pn**	**07 24 42.8**	**+0.2**
GULE				*i* S	**Sg**	**07 25 06.7**	**+2.1**
GULE	**Gulek**	**1.57**	**320**	*i* P	**Pn**	**07 24 42.8**	**+0.2**
HAWK	**Haweek**	**1.59**	**169**	⇑*e* P	**Pn**	**07 24 42.8**	**+0.1**
	SNR=57						
HAWK				*e*S	**Sg**	**07 25 04.6**	**-0.5**
	SNR=49						
JHLN	**Al Jahlan**	**1.98**	**101**	*e*P	**Pn**	**07 24 47.5**	**-0.6**
	SNR=45						
URFA	**Urfa**	**2.60**	**58**	*e*PN	**Pn**	**07 24 57.2**	**+0.5**
URFA	**Urfa**	**2.60**	**58**	*e*Pn	**Pn**	**07 24 57.2**	**+0.5**
MALT	**Malatya**	**2.92**	**40**	*e*PN	**Pn**	**07 25 02.0**	**+1.0**
MALT	**Malatya**	**2.92**	**40**	*e*Pn	**Pn**	**07 25 02.1**	**+1.0**
MYA	**Malataya**	**2.93**	**40**	*e*PN	**Pn**	**07 25 01.5**	**+0.3**
MYA	**Malataya**	**2.93**	**40**	*e*Pn	**Pn**	**07 25 01.5**	**+0.3**

NSSP ***09*** *07:25:06.0, 38.°58N×43.°40E, h5km, Ms2.7*
DDA ***09*** *07:25:11.7, 38.°70N×43.°58E, h3km, MD3.3*
CSEM ***09*** *07:25:12.9±0.3, 38.°73N×43.°52E, h10km, MD3.2, Error ellipse: s-maj=7.3km s-min=4.6km az=111.0*
ISK ***09*** *07:25:13.2, 38.°76N×43.°50E, h9km, MD3.2*

ISC 09 07:25:13.6±0.9, 38.°71N±0.°02×43.°51E±0.°03, h14km±8km, n39, σ1s01/51, 1C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.15**	**219**	*e*PG	**Pb**	**07 25 17.8**	**-0.5**
VANB	**Van**	**0.15**	**219**	*e*Pg	**Pb**	**07 25 17.8**	**-0.5**
TVAN	**Van**	**0.20**	**204**	*i* P	**Pg**	**07 25 17.8**	**-0.4**
TVAN	**Van**	**0.20**	**204**	*i* P	**Pg**	**07 25 17.8**	**-0.4**
VANT	**Van**	**0.35**	**213**	*e*PG	**Pg**	**07 25 20.6**	**-0.1**
VANT				*e*SG	**Sb**	**07 25 27.5**	**+0.4**
VANT	**Van**	**0.35**	**213**	*e*Pg	**Pg**	**07 25 20.6**	**-0.1**
VANT				*e*Sg	**Sb**	**07 25 27.5**	**+0.4**
CLDR	**Caldiran**	**0.54**	**36**	*e*PG	**Pg**	**07 25 23.2**	**-1.1**
CLDR				*e*SG	**Sg**	**07 25 31.6**	**+0.2**
CLDR	**Caldiran**	**0.54**	**36**	*e*Pg	**Pg**	**07 25 23.2**	**-1.1**
CLDR				*e*Sg	**Sg**	**07 25 31.6**	**+0.2**
DYDN	**Diyadin**	**0.84**	**10**	*i* P	**Pg**	**07 25 27.9**	**-2.1**
DYDN				*i* S	**Sg**	**07 25 41.3**	**+0.1**
DYDN	**Diyadin**	**0.84**	**10**	*i* P	**Pg**	**07 25 27.9**	**-2.1**
DYDN				*i* S	**Sg**	**07 25 41.3**	**+0.1**
TUTA	**Tutak**	**0.88**	**322**	*i* P	**Pg**	**07 25 29.1**	**-1.5**
TUTA				*i* S	**Sb**	**07 25 43.0**	**+0.5**
TUTA	**Tutak**	**0.88**	**322**	*i* P	**Pg**	**07 25 29.1**	**-1.5**
TUTA				*i* S	**Sb**	**07 25 43.0**	**+0.5**
AGRB	**Hanur-Agry**	**0.95**	**335**	*e*PG	**Pg**	**07 25 30.6**	**-1.4**
AGRB	**Hanur-Agry**	**0.95**	**335**	*e*Pg	**Pg**	**07 25 30.6**	**-1.4**
TATV	**Tatvan**	**0.99**	**259**	*i* P	**Pg**	**07 25 31.8**	**-0.9**
TATV				*i* S	**Sn**	**07 25 46.7**	**-0.6**
TATV	**Tatvan**	**0.99**	**259**	*i* P	**Pb**	**07 25 31.8**	**-0.9**
TATV				*i* S	**Sn**	**07 25 46.7**	**-0.6**
HAKT	**HAKKARI**	**1.16**	**172**	*e*P	**Pb**	**07 25 33.7**	**-1.9**
HAKT	**HAKKARI**	**1.16**	**172**	*e*P	**Pb**	**07 25 33.7**	**-1.9**
CUKT	**Cukurca**	**1.46**	**177**	*e*PN	**Pb**	**07 25 40.5**	**-0.2**
CUKT	**Cukurca**	**1.46**	**177**	*e*Pn	**Pb**	**07 25 40.5**	**-0.2**
VRTB	**Varto-Mus**	**1.66**	**286**	*e*PN	**Pn**	**07 25 43.2**	**+0.7**
VRTB	**Varto-Mus**	**1.66**	**286**	*e*Pn	**Pn**	**07 25 43.2**	**+0.7**
GNI	**Garni**	**1.73**	**33**	*e*PN	**Pn**	**07 25 43.7**	**+0.3**
GNI	**Garni**	**1.73**	**33**	⇓*i* P	**Pn**	**07 25 44.1**	**+0.7**
GNI				⇑*i* S	**Sg**	**07 26 10.5**	**+1.3**
GNI	**Garni**	**1.73**	**33**	*e*Pn	**Pn**	**07 25 43.7**	**+0.3**
GNI	**Garni**	**1.73**	**33**	⇓P	**Pn**	**07 25 44.1**	**+0.7**
HOMI	**Horasan**	**1.82**	**318**	*e*P	**Pb**	**07 25 46.9**	**0.0**
BNGL	**BINGOL**	**1.86**	**278**	*i* P	**Pg**	**07 25 48.6**	**-0.7**
KARS	**Kars**	**1.94**	**350**	*e*PN	**Pn**	**07 25 46.3**	**-0.1**
KARS	**Kars**	**1.94**	**350**	*e*Pn	**Pn**	**07 25 46.3**	**-0.1**
ERZM	**Erzurum**	**2.05**	**306**	*i* P	**Pg**	**07 25 52.4**	**-0.5**
EZM	**Erzurum**	**2.05**	**306**	*e*PN	**Pn**	**07 25 48.6**	**+0.7**
BNGB	**Bing¶ll**	**2.23**	**278**	*e*PN	**Pn**	**07 25 51.7**	**+1.5**
VADZ	**Vardenis**	**2.27

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.52**	**173**	Sn	Sn	07 56 55.2	+2.5
	2.0nm,0.3s,baz=216,slow=15,SNR=6.6						
WRA	**Warramunga Arr**	**19.14**	**218**	P	Pn	07 59 15.2	-0.3
	0.2nm,0.3s,baz=42,slow=10,SNR=6.7						
ASAR	**Alice Springs**	**22.32**	**212**	P	P	07 59 48.8	-0.4
	0.3nm,0.4s,baz=46,slow=7.6,SNR=4.8						
FITZ	**Fitzroy Crossi**	**24.34**	**236**	P	P	08 00 09.2	-0.3
	4.0nm,0.9s,baz=66,slow=10.0,SNR=4.4						
ILAR	**Eielson Array**	**84.63**	**23**	P	P	08 07 25.1	+0.2
	0.3nm,0.7s,baz=243,slow=5.2,SNR=4.4						

NIED ***09*** *07:58:00, 25.50N× 122.70E, h300km, Mw4.5 Best double couple: M0 6.28000×10^15 NP1:φ=292.00000°, δ=73.00000°, λ=18.00000°. NP2:φ=197.00000°, δ=73.00000°, λ=163.00000°.*

ISCJB ***09*** *07:58:39.9±0.3, 25.59N±0.06× 122.74E±0.03, h274km±3km, mb3.4/12, Error ellipse: s-maj=8.2km s-min=3.8km az=159.1*

TAP ***09*** *07:58:39.6, 25.61N× 122.80E, h283km, ML4.7, D*

IDC ***09*** *07:58:40.3±2.3, 25.59N× 122.70E, h272km±23km, mb3.3/12, mb1 3.4/16, mb1mx3.2/30, mbtmp3.3/16, Error ellipse: s-maj=22.9km s-min=16.1km az=32.0*

JMA ***09*** *07:58:43.3±0.3, 25.52N× 122.72E, h250km, M4.5*

ISC 09 07:58:40.1±0.6, 25.59N±0.06× 122.78E±0.04, h273km±6km, n68, σ1°39/111, mb3.4/12, 6C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.92**	**231**	i P	**Pn**	**07 59 18.1**	**+0.9**
	baz=232						
TWB1				S	**S**	**07 59 46.0**	**-0.5**
	baz=232						
NWF	**Wu-fen Shan**	**1.04**	**241**	*i* P	**Pn**	**07 59 18.9**	**+0.9**
	baz=248						
NWF				*e*S	**S**	**07 59 47.5**	**-0.3**
	baz=248						
TWY	**Chenhua**	**1.11**	**254**	*e*P	**Pn**	**07 59 19.3**	**+1.1**
	baz=261						
TWY				*e*S	**S**	**07 59 48.1**	**-0.2**
	baz=261						
YOJ	**Yonaguni jima**	**1.14**	**170**	P	**Pn**	**07 59 19.0**	**+0.6**
YOJ				S	**S**	**07 59 47.6**	**-1.1**
TWA	**Mucha**	**1.24**	**241**	*e*P	**Pn**	**07 59 20.0**	**+1.0**
	baz=236						
TWA				*e*S	**S**	**07 59 49.0**	**-0.7**
	baz=236						
TWC	**Suao**	**1.29**	**221**	P	**Pn**	**07 59 19.3**	**0.0**
	baz=222						
TWC				S	**S**	**07 59 47.8**	**-2.4**
	baz=222						
TWS1	**Kuangyinshan**	**1.33**	**249**	*e*P	**Pn**	**07 59 21.7**	**+2.3**
	baz=254						
TWE	**Neicheng**	**1.33**	**230**	P	**Pn**	**07 59 20.8**	**+1.3**
	baz=224						
TWE				*e*S	**S**	**07 59 50.2**	**-0.4**
	baz=224						
ENTT	**Nioudou**	**1.45**	**230**	P	**Pn**	**07 59 21.3**	**+1.0**
	baz=227						
ENTT				*e*S	**S**	**07 59 51.5**	**-0.7**
	baz=227						
ENA	**Nanau**	**1.49**	**220**	i *i*P	**Pn**	**07 59 21.1**	**+0.5**
	baz=225						
ENA				*e*S	**S**	**07 59 51.4**	**-1.3**
	baz=225						
IRIF	**Iriomote-Funau**	**1.52**	**145**	P	**Pn**	**07 59 21.3**	**+0.5**
IRIF				*e*S	**S**	**07 59 51.2**	**-1.7**
NSK	**Sanguang**	**1.58**	**235**	P	**Pn**	**07 59 21.3**	**0.0**
	baz=242						
NSK				*e*S	**S**	**07 59 52.4**	**-1.5**
	baz=242						
NNS	**Nan Shan**	**1.72**	**228**	*e*P	**Pn**	**07 59 22.7**	**+0.3**
	baz=226						
NNS				*e*S	**S**	**07 59 55.2**	**-0.6**
	baz=226						
JIJ	**Ishigaki jima**	**1.73**	**134**	P	**Pn**	**07 59 23.3**	**+0.9**
JIJ				*e*S	**S**	**07 59 54.0**	**-1.9**
JKRS	**Kuro-shima**	**1.75**	**140**	P	**Pn**	**07 59 23.8**	**+1.3**
JKRS				S	**S**	**07 59 55.0**	**-1.0**
HATJ	**Hateruma jima**	**1.79**	**148**	P	**Pn**	**07 59 24.1**	**+1.3**
HATJ				*e*S	**S**	**07 59 55.4**	**-1.2**
TWD	**Chiawan**	**1.85**	**216**	P	**Pn**	**07 59 23.4**	**+0.1**
	baz=223						
TWD				S	**S**	**07 59 55.5**	**-2.0**
	baz=223						
NSTT	**Nanjuang**	**1.88**	**240**	*e*P	**Pn**	**07 59 23.9**	**+0.3**
	baz=240						
NSTT				*e*S	**S**	**07 59 56.0**	**-1.9**
	baz=240						
HWA	**Hwalien**	**1.93**	**214**	P	**Pn**	**07 59 24.5**	**+0.5**
	baz=214						
HWA				*e*S	**S**	**07 59 58.2**	**-0.5**
	baz=214						
TWT	**Tachien**	**1.97**	**228**	P	**Pn**	**07 59 25.4**	**+0.8**
	baz=227						
TWT				*e*S	**S**	**07 59 58.6**	**-1.1**
	baz=227						
JTJ	**Tarama**	**1.98**	**118**	P	**Pn**	**07 59 26.2**	**+1.9**
JTJ				*e*S	**S**	**07 59 59.2**	**-0.2**
WHF	**Hehuan Shan**	**1.99**	**224**	i *i*P	**Pn**	**07 59 25.6**	**+0.6**
	baz=220						
WHF				S	**S**	**07 59 58.6**	**-1.9**
	baz=220						
ESL	**Shilin**	**2.15**	**215**	*e*P	**Pn**	**07 59 25.6**	**-0.3**
	baz=215						
ESL				*e*S	**S**	**07 59 59.6**	**-2.5**
	baz=215						
TWQ1	**Liyutan**	**2.20**	**236**	*e*P	**Pn**	**07 59 26.8**	**+0.4**
	baz=237						
TWQ1				S	**S**	**08 00 01.2**	**-1.8**
	baz=237						
JMJ	**Miyako jima 2**	**2.40**	**108**	P	**Pn**	**07 59 30.2**	**+2.1**
JMJ				*e*S	**S**	**08 00 06.3**	**+0.1**
SMLT	**Sun Moon Lake**	**2.41**	**226**	P	**Pn**	**07 59 28.9**	**+0.5**
	baz=221						
SMLT				*e*S	**S**	**08 00 05.5**	**-1.1**
	baz=221						
TYC	**Yuchr**	**2.42**	**227**	P	**Pn**	**07 59 28.9**	**+0.5**
	baz=234						
TYC				*e*S	**S**	**08 00 05.2**	**-1.5**
	baz=234						
EHY	**Hungye**	**2.46**	**213**	*e*P	**Pn**	**07 59 28.0**	**-0.7**
	baz=215						
JOGS	**Gusukube**	**2.52**	**109**	P	**Pn**	**07 59 31.5**	**+2.3**
JOGS				S	**S**	**08 00 08.5**	**+0.4**
TWF1	**Yuli**	**2.61**	**212**	P	**Pn**	**07 59 29.4**	**-0.8**
	baz=216						
TWF1				*e*S	**S**	**08 00 07.0**	**-2.9**
	baz=216						
ALS	**Alishan**	**2.74**	**221**	i *i*P	**Pn**	**07 59 32.5**	**+0.7**
	baz=222						
ALS				*e*S	**S**	**08 00 12.2**	**-0.7**
	baz=222						
CHN5	**Tsauling**	**2.76**	**224**	P	**Pn**	**07 59 32.3**	**+0.6**
	baz=232						
CHN5				*e*S	**S**	**08 00 11.7**	**-1.0**
	baz=232						
ELDTW	**Lidau**	**2.88**	**214**	P	**Pn**	**07 59 33.4**	**+0.4**
	baz=213						
ELDTW				*e*S	**S**	**08 00 14.2**	**-0.8**
	baz=213						
CHN4	**Tsaushan**	**2.99**	**222**	P	**Pn**	**07 59 34.7**	**+0.7**
	baz=218						
CHN4				*e*S	**S**	**08 00 16.0**	**-0.9**
	baz=218						
STYT	**Tauyuan**	**3.04**	**218**	P	**Pn**	**07 59 35.4**	**+0.8**
	baz=224						
STYT				*e*S	**S**	**08 00 17.0**	**-0.9**
	baz=224						
WTP	**Ta-pu**	**3.06**	**221**	i *i*P	**Pn**	**07 59 35.3**	**+0.5**
	baz=220						
WTP				*e*S	**S**	**08 00 16.6**	**-1.6**
	baz=220						
TWK	**Hsinying**	**3.12**	**223**	*i* P	**Pn**	**07 59 36.0**	**+0.6**
	baz=219						
TWK				*e*S	**S**	**08 00 18.5**	**-0.8**
	baz=219						
CHN1	**Nanshi**	**3.15**	**221**	i *i*P	**Pn**	**07 59 36.4**	**+0.7**
	baz=219						
CHN1				*e*S	**S**	**08 00 18.6**	**-1.5**
	baz=219						
TWG	**Pinlang**	**3.17**	**210**	*e*P	**Pn**	**07 59 37.3**	**+1.4**
	baz=210						
SGST	**Jiashian**	**3.20**	**219**	P	**Pn**	**07 59 37.2**	**+1.0**
	baz=224						
SGST				*e*S	**S**	**08 00 19.9**	**-1.0**
	baz=224						
SSD	**Sandimen**	**3.44**	**215**	P	**Pn**	**07 59 39.9**	**+1.1**
	baz=222						
SSD				*e*S	**S**	**08 00 24.1**	**-1.5**
	baz=222						
TWM1	**Shoushan**	**3.50**	**219**	*e*P	**Pn**	**07 59 40.9**	**+1.4**
	baz=213						
EAST	**Anshuo**	**3.65**	**209**	*e*P	**Pn**	**07 59 42.1**	**+1.0**
	baz=216						
JKE	**Kume jima 2**	**3.68**	**78**	P	**Pn**	**07 59 43.0**	**+1.7**
JKE				*e*S	**S**	**08 00 31.0**	**+0.9**
LAY	**Lan-yu**	**3.71**	**198**	*e*P	**Pn**	**07 59 42.7**	**+0.9**
	baz=195						
SCZT	**Fangliau**	**3.76**	**212**	*e*P	**Pn**	**07 59 43.3**	**+0.9**
	baz=208						
TWK1	**Hengchun**	**4.06**	**207**	*e*P	**Pn**	**07 59 46.6**	**+0.9**
	baz=208						
KNM	**Kinmen**	**4.12**	**254**	*e*P	**Pn**	**07 59 47.5**	**+1.3**
	baz=255						
JAGN	**Aguni-jima**	**4.13**	**75**	P	**Pn**	**07 59 48.9**	**+2.5**
JAGN				*e*S	**S**	**08 00 38.1**	**-1.3**
JOW	**Kunigami**	**5.09**	**75**	P	**Pn**	**07 59 57.5**	**-0.2**
JOW				*e*S	**S**	**08 00 55.1**	**-4.7**
JOW	**Kunigami**	**5.09**	**75**	P	**Pn**	**07 59 57.7**	**+0.1**
	4.0nm,0.3s,baz=141,slow=21,SNR=21						
JOW				S	**S**	**08 00 55.3**	**-4.5**
	13nm,0.3s,baz=318,slow=30,SNR=15						
JTK	**Tokunoshima**	**5.94**	**67**	*e*S	**S**	**08 01 12.7**	**-5.7**
JNU	**Nakatsue**	**10.30**	**41**	P	**Pn**	**08 01 03.5**	**+1.3**
	0.5nm,0.3s,baz=162,slow=7.9,SNR=5.2						
KSRS	**Korea Array**	**12.61**	**19**	P	**P**	**08 01 32.2**	**+0.1**
	0.4nm,0.3s,baz=200,slow=13,SNR=11						
MJAR	**Matsushiro Arr**	**17.12**	**47**	P	**Pn**	**08 02 23.5**	**-0.9**
	0.3nm,0.3s,baz=242,slow=12,SNR=6.7						
SONM	**Songino Array**	**25.69**	**334**	P	**P**	**08 03 45.9**	**+0.2**
	1.6nm,0.7s,baz=153,slow=10.0,SNR=19						
MKAR	**Makanchi Array**	**38.38**	**314**	P	**P**	**08 05 35.1**	**-0.2**
	3.6nm,0.5s,baz=100,slow=9.8,SNR=93						
MKAR				PcP	**PcP**	**08 07 43.4**	**+0.7**
	0.1nm,0.4s,baz=70,slow=4.7,SNR=2.9						
ZALV	**Zalesovo Beam**	**39.89**	**325**	P	**P**	**08 05 46.6**	**-1.0**
	1.8nm,0.5s,baz=107,slow=8.1,SNR=8.5						
KURBB	**Kurchatov Arra**	**42.00**	**318**	P	**P**	**08 06 04.5**	**-0.3**
	0.7nm,0.4s,baz=106,slow=28,SNR=13						
AAK	**Ala-Archa**	**42.84**	**306**	P	**P**	**08 06 12.0**	**+0.1**
	0.8nm,0.5s,baz=54,slow=8.1,SNR=3.8						
WRA	**Warramunga Arr**	**46.63**	**165**	P	**P**	**08 06 42.2**	**+0.5**
	0.3nm,0.4s,baz=347,slow=8.4,SNR=4.4						
BVAR	**Borovoye Array**	**47.53**	**320**	P	**P**	**08 06 47.9**	**-0.3**
	0.9nm,0.5s,baz=106,slow=9.0,SNR=6.8						
ILAR	**Eielson Array**	**67.30**	**28**	P	**P**	**08 09 05.6**	**+0.2**
	0.2nm,0.4s,baz=274,slow=5.6,SNR=6.0						
FINES	**FINESS Array B**	**70.97**	**330**	P	**P**	**08 09 27.7**	**-0.2**
	2.1nm,0.7s,baz=45,slow=5.7,SNR=5.2						
BRTR	**Keskin Array B**	**73.51**	**306**	P	**P**	**08 09 43.6**	**+0.1**
	0.5nm,0.6s,baz=126,slow=6.3,SNR=3.5						
NB2	**NORSAR Subarra**	**77.66**	**332**	P	**P**	**08 10 06.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=54,slow=6.2						
NOA	**NORSAR Array B**	**77.66**	**332**	P	**P**	**08 10 06.1**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=54,slow=7.8,SNR=3.2						
YKA	**Yellowknife Ar**	**81.11**	**23**	P	**P**	**08 10 25.3**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=310,slow=5.4,SNR=16						

GUC ***09*** *08:15:07.6±0.5, 42.87S× 72.60W, h17km±6km, ML3.3*

ISCJB ***09*** *08:15:08.6±1.0, 42.81S±0.06× 72.74W±0.2, h10km, mb3.9/4, Error ellipse: s-maj=20.5km s-min=7.4km az=169.9*

IDC ***09*** *08:15:09.0±1.1, 42.74S× 72.63W, h0km, mb3.9/4, mb1 4.2/5, mb1mx4.0/15, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=33.9km s-min=15.8km az=121.0*

ISC 09 08:15:09.8±1.4, 42.75S±0.08× 72.6W±0.1, h10km, n11, σ0°74/12, mb4.0/4, 1C, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUNY	**Huinay**	**0.40**	**22**	*e*P	**Pg**	**08 15 17.3**	**-0.3**
HUNY				*i* S	**Sb**	**08 15 25.0**	**0.0**
HUNY				AML	AML	08 15 26.3	
	comp=N,2μm,0.3s						
ILCA	**Isla Las Cabra**	**0.69**	**5**	i *i*P	**Pg**	**08 15 22.5**	**-0.6**
ILCA				*i* S	**Sb**	**08 15 33.9**	**+0.5**
ILCA				AML	AML	08 15 36.4	
	comp=E,596nm,0.5s						
PMCH	**Puerto Montt**	**1.27**	**351**	*i* P	**Pn**	**08 15 32.8**	**-0.9**
PMCH				*i* S	**Sg**	**08 15 51.9**	**+1.2**
PMCH				AML	AML	08 15 56.8	
	comp=N,667nm,0.3s						
PLCA	**Paso Flores**	**2.54**	**38**	Pn	**Pn**	**08 15 51.2**	**+0.1**
	comp=N,3.1nm,0.3s,baz=216,slow=15,SNR=32						
PLCA				Pg	**Pb**	**08 15 55.2**	**-0.3**
	comp=N,9.5nm,0.3s,baz=220,slow=17,SNR=95						
PLCA				Lg	Lg	08 16 31.1	
	comp=N,36nm,0.3s,baz=126,slow=22,SNR=26						
COYC	**Coyhaique**	**2.85**	**172**	AML	AML	08 16 39.9	
	comp=N,92nm,0.8s						
SIV	**San Ignacio**	**28.44**	**24**	P	**P**	**08 21 04.7**	**-0.1**
	comp=N,0.6nm,0.7s,baz=211,slow=12,SNR=3.6						
QSPA	**South Pole Qui**	**47.50**	**180**	P	P	08 23 45.9	+1.0
	comp=N,4.4nm,1.1s,baz=150,slow=5.1,SNR=6.8						
TXAR	**Lajitas Array**	**77.21**	**332**	P	P	08 27 05.5	+1.7
	comp=N,1.0nm,1.1s,baz=159,slow=8.5,SNR=5.5						
PDAR	**Pinedale Array**	**91.37**	**334**	P	**P**	**08 28 15.9**	**+0.2**
	comp=N,1.0nm,1.0s,baz=182,slow=7.2,SNR=4.0						
CMAR	**Chiang Mai Arr**	**154.75**	**161**	PKPbc	**PKPbc**	**08 35 12.8**	**+1.3**
	comp=N,0.5nm,0.4s,baz=203,slow=4.1,SNR=4.1						
MKAR	**Makanchi Array**	**161.76**	**69**	PKPab	**PKPab**	**08 35 55.5**	**-0.6**
	comp=N,0.4nm,1.0s,baz=258,slow=6.1,SNR=4.6						

ISK ***09*** *08:23:25.1, 40.27N× 32.14E, h5km, MD3.5*

DDA ***09*** *08:23:25.8, 40.26N× 32.09E, h26km, MD3.2, ML3.5*

CSEM ***09*** *08:23:26.4±0.1, 40.25N× 32.13E, h2km, MD3.5, Error ellipse: s-maj=3.1km s-min=2.2km az=1.0*

ISC 09 08:23:26.2±1.1, 40.26N±0.02× 32.12E±0.01, h1km±10km, n102, σ0°68/138, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOD	**Lodumlu**	**0.61**	**126**	*e*PG	**Pg**	**08 23 38.0**	**0.0**
LOD				*e*SG	**Sb**	**08 23 47.5**	**-1.5**
LOD	**Lodumlu**	**0.61**	**126**	*e*Pg	**Pg**	**08 23 38.0**	**0.0**
LOD				*e*Sg	**Sb**	**08 23 47.5**	**-1.5**
MDUB	**Mudurnu**	**0.74**	**287**	*e*PG	**Pg**	**08 23 40.4**	**+0.1**
MDUB				*e*SG	**Sb**	**08 23 52.1**	**-0.4**
MDUB	**Mudurnu**	**0.74**	**287**	*e*Pg	**Pg**	**08 23 40.4**	**+0.1**
MDUB				*e*Sg	**Sb**	**08 23 52.2**	**-0.4**
SVRH	**Sivrihisar-ESK**	**0.93**	**210**	*e*PG	**Pg**	**08 23 44.3**	**+0.3**
SVRH				*e*SG	**Sb**	**08 23 59.0**	**+0.9**
SVRH	**Sivrihisar-ESK**	**0.93**	**210**	*e*Pg	**Pg**	**08 23 44.3**	**+0.3**
ELDT	**Eldivan**	**1.02**	**76**	*i* P	**Pg**	**08 23 45.7**	**-0.2**
ELDT				*i* S	**Sb**	**08 24 00.3**	**-0.6**
ELDT	**Eldivan**	**1.02**	**76**	*i* P	**Pg**	**08 23 45.7**	**-0.2**
ELDT				*i* S	**Sb**	**08 24 00.3**	**-0.6**
BBAL	**Bala**	**1.05**	**132**	*i* P	**Pg**	**08 23 46.4**	**+0.1**
BBAL				*i* S	**Sb**	**08 24 00.9**	**-0.6**
BBAL	**Bala**	**1.05**	**132**	*i* P	**Pg**	**08 23 46.4**	**+0.1**
BBAL				*i* S	**Sb**	**08 24 00.9**	**-0.6**
SAFT	**Safranbolu**	**1.07**	**23**	*e*PG	**Pg**	**08 23 46.6**	**-0.2**
SAFT				*e*SG	**Sb**	**08 24 02.2**	**0.0**
SAFT	**Safranbolu**	**1.07**	**23**	*e*Pg	**Pg**	**08 23 46.6**	**-0.2**
SAFT				*e*Sg	**Sb**	**08 24 02.2**	**0.0**
AFSR	**Afˇar-Bala (A**	**1.09**	**138**	*e*PN	**Pg**	**08 23 47.3**	**+0.2**
AFSR	**Afˇar-Bala (A**	**1.09**	**138**	*e*Pn	**Pg**	**08 23 47.3**	**+0.2**
HENT	**Hendek**	**1.09**	**302**	*i* P	**Pg**	**08 23 46.4**	**-0.7**
HENT				*i* S	**Sn**	**08 24 03.5**	**-0.9**
HENT	**Hendek**	**1.09**	**302**	*i* P	**Pg**	**08 23 46.4**	**-0.7**
HENT				*i* S	**Sn**	**08 24 03.5**	**-0.9**
KDZE	**Karadeniz Ereo**	**1.18**	**334**	*e*PN	**Pg**	**08 23 48.5**	**-0.3**
KDZE	**Karadeniz Ereo**	**1.18**	**334**	*e*Pn	**Pg**	**08 23 48.5**	**-0.3**
CANT	**Cankiri**	**1.20**	**72**	*e*PN	**Pg**	**08 23 49.2**	**0.0**
ESKT	**Eskisehir**	**1.22**	**233**	*e*PN	**Pg**	**08 23 49.4**	**-0.3**
ESKT	**Eskisehir**	**1.22**	**233**	*e*Pn	**Pg**	**08 23 49.4**	**-0.3**
SEYT	**Eskypehyr**	**1.22**	**233**	*i* P	**Pg**	**08 23 48.8**	**-0.8**
SEYT				*i* S	**Sg**	**08 24 05.0**	**-0.5**
SEYT	**Eskypehyr**	**1.22**	**233**	*i* P	**Pg**	**08 23 48.8**	**-0.8**
SEYT				*i* S	**Sg**	**08 24 05.0**	**-0.5**
GULT	**Gulveren**	**1.24**	**279**	*e*PN	**Pb**	**08 23 50.2**	**-0.3**
GULT	**Gulveren**	**1.24**	**279**	*e*Pn	**Pb**	**08 23 50.2**	**-0.3**
BORA	**Eskisehir**	**1.33**	**254**	*i* P	**Pg**	**08 23 49.9**	**-1.9**
BORA				*i* S	**Sb**	**08 24 09.9**	**+0.2**
BORA	**Eskisehir**	**1.33**	**254**	*i* P	**Pg**	**08 23 49.9**	**-1.9**
BORA				*i* S	**Sb**	**08 24 09.9**	**+0.2**
GPA	**Golpazari**	**1.39**	**272**	*e*PN	**Pn**	**08 23 52.4**	**-0.4**
GPA	**Golpazari**	**1.39**	**272**	*e*Pn	**Pn**	**08 23 52.4**	**-0.4**
KIZT	**Kizilcal**	**1.39**	**188**	*e*PN	**Pg**	**08 23 52.8**	**0.0**
KIZT	**Kizilcal**	**1.39**	**188**	*e*Pn	**Pg**	**08 23 52.8**	**0.0**
SPNC	**Sapanca-Adapaz**	**1.45**	**288**	*e*PN	**Pb**	**08 23 53.8**	**-0.2**
SPNC	**Sapanca-Adapaz**	**1.45**	**288**	*e*Pn	**Pb**	**08 23 53.8**	**-0.2**
BALT	**Daday**	**1.60**	**36**	*i* P	**Pn**	**08 23 55.0**	**-0.8**
BALT				*i* S	**Sg**	**08 24 19.0**	**+1.5**
BALT	**Daday**	**1.60**	**36**	*i* P	**Pn**	**08 23 55.0**	**-0.8**
BALT				*i* S	**Sg**	**08 24 19.0**	**+1.5**
TOS	**Tosya**	**1.64**	**61**	*e*PN	**Pn**	**08 23 56.2**	**-0.2**
TOS	**Tosya**	**1.64**	**61**	*e*Pn	**Pn**	**08 23 56.2**	**-0.2**
KDHN	**Kadinhani**	**1.73**	**180**	*i* P	**Pn**	**08 23 57.1**	**-0.4**
KDHN				*e*S	**Sg**	**08 24 22.5**	**+0.7**
KDHN	**Kadinhani**	**1.73**	**180**	*i* P	**Pn**	**08 23 57.1**	**-0.4**
KDHN				*e*S	**Sg**	**08 24 22.5**	**+0.7**
CAVI	**Cavuskoy**	**1.75**	**269**	*e*PN	**Pn**	**08 23 57.9**	**+0.2**
CAVI	**Cavuskoy**	**1.75**	**269**	*e*Pn	**Pn**	**08 23 57.9**	**+0.2**
BOLV	**Bolvadin**	**1.78**	**211**	*i* P	**Pn**	**08 23 57.6**	**-0.7**
BOLV				*i* S	**Sn**	**08 24 21.7**	**+0.1**
BOLV	**Bolvadin**	**1.78**	**211**	*i* P	**Pn**	**08 23 57.6**	**-0.7**
BOLV				*i* S	**Sn**	**08 24 21.7**	**+0.1**
ADVT	**Abdulvahap**	**1.83**	**276**	*e*PN	**Pn**	**08 23 59.0**	**+0.3**
ADVT	**Abdulvahap**	**1.83**	**276**	*e*Pn	**Pn**	**08 23 59.1**	**+0.3**
CDAG	**Cicekdag**	**1.84**	**109**	*i* P	**Pb**	**08 24 00.0**	**-0.8**
CDAG				*i* S	**Sn**	**08 24 22.9**	**-0.2**
CDAG	**Cicekdag**	**1.84**	**109**	*i* P	**Pb**	**08 24 00.0**	**-0.8**
CDAG				*i* S	**Sn**	**08 24 22.9**	**-0.2**
CORM	**Corum**	**1.92**	**91**	*e*PN	**Pn**	**08 24 00.1**	**-0.1**
CORM	**Corum**	**1.92**	**91**	*e*Pn	**Pn**	**08 24 00.1**	**-0.1**
HRT	**Hereke**	**1.95**	**288**	*e*PN	**Pn**	**08 24 01.2**	**+0.7**
HRT	**Hereke**	**1.95**	**288**	*e*Pn	**Pn**	**08 24 01.2**	**+0.7**
ALT	**Altintas**	**1.96**	**233**	*e*PN	**Pn**	**08 24 00.9**	**+0.2**
ALT	**Altintas**	**1.96**	**233**	*e*Pn	**Pn**	**08 24 00.9**	**+0.2**
LADK	**Ladik-KONYA**	**2.06**	**175**	*e*PN	**Pn**	**08 24 03.1**	**+1.0**
LADK	**Ladik-KONYA**	**2.06**	**175**	*e*Pn	**Pn**	**08 24 03.1**	**+1.0**
CTKT	**Corum**	**2.07**	**79**	*i* P	**Pn**	**08 24 02.1**	**-0.2**
CTKT				*i* S	**Sn**	**08 24 29.6**	**+0.8**
CTKT	**Corum**	**2.07**	**79**	*i* P	**Pn**	**08 24 02.1**	**-0.2**
CTKT				*i* S	**Sn**	**08 24 29.6**	**+0.8**
SILT	**Sile**	**2.09**	**296**	*e*PN	**Pn**	**08 24 03.0**	**+0.7**
SILT	**Sile**	**2.09**	**296**	*e*Pn	**Pn**	**08 24 03.0**	**+0.7**
SHUT	**Suhut-Afyon**	**2.09**	**216**	*e*PN	**Pn**	**08 24 03.0**	**+0.5**
SHUT	**Suhut-Afyon**	**2.09**	**216**	*e*Pn	**Pn**	**08 24 03.0**	**+0.5**
YLV	**Yalova**	**2.12**	**279**	*e*PN	**Pn**	**08 24 03.6**	**+0.7**
YLV	**Yalova**	**2.12**	**279**	*e*Pn	**Pn**	**08 24 03.6**	**+0.7**
BZK	**Bozkurt**	**2.22**	**39**	*e*PN	**Pn**	**08 24 04.2**	**0.0**
BZK	**Bozkurt**	**2.22**	**39**	*e*Pn	**Pn**	**08 24 04.2**	**0.0**
ULDT	**Uludag**	**2.29**	**268**	*i* P	**Pb**	**08 24 08.5**	**+0.1**
ULDT				*i* S	**Sg**	**08 24 39.1**	**-0.7**
ULDT	**Uludag**	**2.29**	**268**	*i* P	**Pb**	**08 24 08.5**	**+0.1**
ULDT				*i* S	**Sg**	**08 24 39.1**	**-0.7**
KONT	**Konya--Tatoy**	**2.31**	**175**	*e*PN	**Pn**	**08 24 06.0**	**+0.5**
KONT	**Konya--Tatoy**	**2.31**	**175**	*e*Pn	**Pn**	**08 24 06.0**	**+0.5**
BYBT	**Boyabat**	**2.34**	**58**	*e*PN	**Pn**	**08 24 06.1**	**+0.2**
BYBT	**Boyabat**	**2.34**	**58**	*e*Pn	**Pn**	**08 24 06.1**	**+0.2**
GDZ	**Gediz**	**2.35**	**241**	*i* P	**Pb**	**08 24 09.0**	**-0.4**
GDZ				*i* S	**Sb**	**08 24 40.2**	**+1.3**
GDZ	**Gediz**	**2.35**	**241**	*i* P	**Pb**	**08 24 09.0**	**-0.4**
GDZ				*i* S	**Sb**	**08 24 40.2**	**+1.3**
ISK	**Istanbul-Kandi**	**2.46**	**290**	*e*PN	**Pn**	**08 24 08.0**	**+0.5**
ISK	**Istanbul-Kandi**	**2.46**	**290**	*e*Pn	**Pn**	**08 24 08.0**	**+0.5**
MDNY	**Mudanya-Bursa**	**2.48**	**274**	*e*PN	**Pn**	**08 24 08.2**	**+0.6**
MDNY	**Mudanya-Bursa**	**2.48**	**274**	*e*Pn	**Pn**	**08 24 08.3**	**+0.6**
ORLT	**Orhaneli**	**2.48**	**266**	*e*PN	**Pn**	**08 24 08.7**	**+0.9**
ORLT	**Orhaneli**	**2.48**	**266**	*e*Pn	**Pn**	**08 24 08.7**	**+0.9**
ARMT	**Armutlu**	**2.51**	**278**	*e*PN	**Pn**	**08 24 08.9**	**+0.8**
ARMT	**Armutlu**	**2.51**	**278**	*e*Pn	**Pn**	**08 24 08.9**	**+0.8**
YOZ	**Yozgat**	**2.54**	**103**	*e*PN	**Pn**	**08 24 09.1**	**+0.5**
YOZ	**Yozgat**	**2.54**	**103**	*e*Pn	**Pn**	**08 24 09.1**	**+0.5**
KLYT	**Kilyos**	**2.54**	**294**	*e*PN	**P

ETSF				eSg	Sg	08 38 38.5	-1.0
ETSF	**Etsaut**	**0.33**	**220**	ePg	Pg	08 38 34.8	-0.1
ETSF				Lg	Lg	08 38 38.5	
ETSF				eSg	Sg	08 38 38.5	-1.0
VIEF	**Viey**	**0.35**	**141**	Pg	Pg	08 38 35.0	-0.1
VIEF	**Viey**	**0.35**	**141**	Pg	Pg	08 38 35.0	-0.1
VIEF	**Viey**	**0.35**	**141**	Pg	Pg	08 38 35.0	-0.1
EPF	**Esparros**	**0.46**	**105**	ePg	Pg	08 38 37.8	+0.6
	SNR=1.0						
EPF				eSg	Sb	08 38 45.4	+0.5
EPF	**Esparros**	**0.46**	**105**	ePg	Pg	08 38 37.8	+0.6
EPF				eSg	Sb	08 38 45.4	+0.5
EPF	**Esparros**	**0.46**	**105**	ePg	Pg	08 38 37.8	+0.6
EPF				Lg	Lg	08 38 45.4	
EPF				eSg	Sb	08 38 45.4	+0.5
ORDF	**Ordiarp**	**0.49**	**277**	Pg	Pb	08 38 39.2	+0.7
ORDF				Sg	Sg	08 38 45.5	+1.2
ORDF	**Ordiarp**	**0.49**	**277**	Pg	Pb	08 38 39.2	+0.7
ORDF				Sg	Sg	08 38 45.5	+1.2
ORDF	**Ordiarp**	**0.49**	**277**	Pg	Pb	08 38 39.2	+0.7
ORDF				Sg	Sg	08 38 45.5	+1.2
LARF	**Larrau**	**0.54**	**258**	Pg	Pg	08 38 39.5	+0.9
LARF				Sg	Sg	08 38 45.0	-0.8
LARF	**Larrau**	**0.54**	**258**	Pg	Pg	08 38 39.5	+0.9
LARF				Sg	Sg	08 38 45.0	-0.8
LARF	**Larrau**	**0.54**	**258**	Pg	Pg	08 38 39.5	+0.9
LARF				Sg	Sg	08 38 45.0	-0.8
RESF	**Ens**	**0.57**	**128**	Pg	Pg	08 38 39.3	+0.1
RESF	**Ens**	**0.57**	**128**	Pg	Pg	08 38 39.3	+0.1
RESF	**Ens**	**0.57**	**128**	Pg	Pg	08 38 39.3	+0.1
SJPF	**Ste Jean**	**0.70**	**267**	ePg	Pg	08 38 42.4	+0.7
	SNR=1.0						
SJPF				eSg	Sb	08 38 52.4	+0.8
	911nm,0.3s						
SJPF	**Ste Jean**	**0.70**	**267**	ePg	Pg	08 38 42.4	+0.7
SJPF				eSg	Sb	08 38 52.4	+0.8
SJPF	**Ste Jean**	**0.70**	**267**	ePg	Pg	08 38 42.4	+0.7
SJPF				eSg	Sb	08 38 52.4	+0.8
	456nm,0.3s						
OSSF	**Osses**	**0.73**	**278**	Pg	Pg	08 38 42.2	-0.1
OSSF	**Osses**	**0.73**	**278**	Pg	Pg	08 38 42.2	-0.1
OSSF	**Osses**	**0.73**	**278**	Pg	Pg	08 38 42.2	-0.1
IELO	**Elcoad**	**0.77**	**247**	⇓Pg	Pg	08 38 43.5	+0.4
	127nm,0.2s,SNR=18						
IELO				Lg	Lg	08 38 54.2	
	2µm,0.4s,SNR=7.9						
IELO	**Elcoad**	**0.77**	**247**	Pg	Pg	08 38 43.5	+0.4
	127nm,0.2s,SNR=18						
IELO				Lg	Lg	08 38 54.2	
	2µm,0.4s,SNR=7.9						
EORO	**Oroz-Betelu**	**0.81**	**251**	⇓Pg	Pg	08 38 44.2	+0.5
	122nm,0.2s,SNR=18						
EORO				Lg	Lg	08 38 56.0	
	672nm,0.2s,SNR=26						
EORO	**Oroz-Betelu**	**0.81**	**251**	Pg	Pg	08 38 44.2	+0.5
	122nm,0.2s,SNR=18						
EORO				Lg	Lg	08 38 56.0	
	672nm,0.2s,SNR=26						
IEPA	**Eparoz**	**0.82**	**243**	⇓Pg	Pn	08 38 45.5	+0.2
	171nm,0.2s,SNR=18						
IEPA				Lg	Lg	08 38 56.0	
	2µm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**0.82**	**243**	Pg	Pn	08 38 45.5	+0.2
	171nm,0.2s,SNR=18						
IEPA				Lg	Lg	08 38 56.0	
	2µm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**0.87**	**247**	Pg	Pb	08 38 45.5	+0.5
	55nm,0.2s,SNR=55						
IPRE				Lg	Lg	08 38 57.0	
	795nm,0.3s,SNR=5.0						
IPRE	**Itoiz**	**0.87**	**247**	Pg	Pb	08 38 45.5	+0.5
	55nm,0.2s,SNR=55						
IPRE				Lg	Lg	08 38 57.0	
	795nm,0.3s,SNR=5.0						
IZUN	**Zunzarren**	**0.92**	**252**	Pg	Pb	08 38 46.2	+0.4
	48nm,0.1s,SNR=7.9						
IZUN				Lg	Lg	08 38 59.6	
	346nm,0.2s,SNR=7.9						
IZUN	**Zunzarren**	**0.92**	**252**	Pg	Pb	08 38 46.2	+0.4
	48nm,0.1s,SNR=7.9						
IZUN				Lg	Lg	08 38 59.6	
	346nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.99**	**247**	⇓Pg	Pn	08 38 48.5	+0.9
	86nm,0.1s,SNR=18						
IUNC				Lg	Lg	08 39 02.2	
	1µm,0.3s,SNR=9.9						
IUNC	**Unciti**	**0.99**	**247**	Pg	Pn	08 38 48.5	+0.9
	86nm,0.1s,SNR=18						
IUNC				Lg	Lg	08 39 02.2	
	1µm,0.3s,SNR=9.9						
MLS	**Moulis**	**1.02**	**101**	Pg	Pg	08 38 48.5	+0.8
MLS				Sg	Sn	08 39 03.3	+1.1
MLS	**Moulis**	**1.02**	**101**	Pg	Pg	08 38 48.5	+0.8
MLS				Sg	Sn	08 39 03.3	+1.1
MLS	**Moulis**	**1.02**	**101**	Pg	Pg	08 38 48.5	+0.8
MLS				Sg	Sn	08 39 03.3	+1.1
EARA	**Aranguren**	**1.03**	**249**	Pg	Pg	08 38 49.2	+1.2
	98nm,0.2s,SNR=24						
EARA				Lg	Lg	08 39 03.2	
	444nm,0.2s,SNR=14						
EARA	**Aranguren**	**1.03**	**249**	Pg	Pg	08 38 49.2	+1.2
	98nm,0.2s,SNR=24						
EARA				Lg	Lg	08 39 03.2	
	444nm,0.2s,SNR=14						
SALF	**Salau**	**1.14**	**110**	Pg	Pn	08 38 50.4	+0.7
SALF				Sg	Sb	08 39 03.3	-1.1
SALF	**Salau**	**1.14**	**110**	Pg	Pn	08 38 50.4	+0.7
SALF				Sg	Sb	08 39 03.3	-1.1
SALF	**Salau**	**1.14**	**110**	Pg	Pn	08 38 50.4	+0.7
SALF				Sg	Sb	08 39 03.3	-1.1
CSOR	**Sort**	**1.29**	**127**	Pg	Pb	08 38 53.1	+0.8
	82nm,0.2s,SNR=109						
CSOR				Lg	Lg	08 39 11.6	
	1µm,0.2s,SNR=5.0						
CSOR	**Sort**	**1.29**	**127**	Pg	Pb	08 38 53.1	+0.8
	82nm,0.2s,SNR=109						
CSOR				Lg	Lg	08 39 11.6	
	1µm,0.2s,SNR=5.0						
ESAC	**San Caprasio**	**1.44**	**186**	⇓Pg	Pb	08 38 55.7	+1.0
	744nm,0.2s,SNR=18						
ESAC				Lg	Lg	08 39 14.5	
	12µm,0.4s,SNR=5.0						
ESAC	**San Caprasio**	**1.44**	**186**	Pg	Pb	08 38 55.7	+1.0
	744nm,0.2s,SNR=18						
ESAC				Lg	Lg	08 39 14.5	
	12µm,0.4s,SNR=5.0						
CLLI	**Llivia**	**1.78**	**111**	Pn	Pg	08 39 02.5	+0.2
	9.4nm,0.2s,SNR=64						
CLLI				Pg	Pb	08 39 05.5	+4.9
	33nm,0.1s,SNR=13						
CLLI				Lg	Lg	08 39 26.9	
	208nm,0.2s,SNR=18						
CLLI	**Llivia**	**1.78**	**111**	Pn	Pg	08 39 02.5	+0.2
	9.4nm,0.2s,SNR=64						
CARF	**Carcanieres**	**1.80**	**103**	Pg	Pb	08 39 02.4	+1.5
CARF				Sg	Sg	08 39 26.5	+0.6
CARF	**Carcanieres**	**1.80**	**103**	Pg	Pb	08 39 02.4	+1.5
CARF				Sg	Sg	08 39 26.5	+0.6
CARF	**Carcanieres**	**1.80**	**103**	Pg	Pb	08 39 02.4	+1.5
CARF				Sg	Sg	08 39 26.5	+0.6
EMIR	**Miracle**	**1.82**	**132**	Pn	Pb	08 39 02.6	+1.5
	122nm,0.1s,SNR=107						
EMIR				Lg	Lg	08 39 27.2	
	842nm,0.3s,SNR=5.0						
EMIR	**Miracle**	**1.82**	**132**	Pn	Pb	08 39 02.6	+1.5
	122nm,0.1s,SNR=107						
EMIR				Lg	Lg	08 39 27.2	
	842nm,0.3s,SNR=5.0						
VALF	**Valcebollere**	**1.84**	**113**	Pg	Pg	08 39 04.9	+1.5
VALF				Sg	Sg	08 39 29.6	+2.2
VALF	**Valcebollere**	**1.84**	**113**	Pg	Pg	08 39 04.9	+1.5
VALF				Sg	Sg	08 39 29.6	+2.2
VALF	**Valcebollere**	**1.84**	**113**	Pg	Pg	08 39 04.9	+1.5
VALF				Sg	Sg	08 39 29.6	+2.2
LFF	**La Frestale**	**1.93**	**22**	ePn	Pb	08 39 02.5	-0.5
	SNR=1.0						
LFF	**La Frestale**	**1.93**	**22**	ePg	Pg	08 39 07.0	+2.0
LFF				eSn	Sn	08 39 26.2	+1.7
	SNR=1.0						
LFF				eSg	Sg	08 39 32.6	+2.6
	821nm,0.3s						
LFF	**La Frestale**	**1.93**	**22**	ePn	Pb	08 39 02.5	-0.5
LFF				ePg	Pg	08 39 07.0	+2.0
LFF				eSn	Sn	08 39 26.2	+1.7
LFF				eSg	Sg	08 39 32.6	+2.6
LFF	**La Frestale**	**1.93**	**22**	ePn	Pb	08 39 02.5	-0.5
LFF	**La Frestale**	**1.93**	**22**	ePg	Pg	08 39 07.0	+2.0
LFF				eSn	Sn	08 39 26.2	+1.7
	SNR=1.0						
LFF				eSg	Sg	08 39 32.6	+2.6
	410nm,0.3s						
EPOB	**Poblet**	**2.06**	**150**	Pn	Pb	08 39 06.5	+1.2
	48nm,0.1s,SNR=210						
EPOB				Lg	Lg	08 39 32.4	
	243nm,0.2s,SNR=5.0						
EPOB	**Poblet**	**2.06**	**150**	Pn	Pb	08 39 06.5	+1.2
	48nm,0.1s,SNR=210						
EPOB				Lg	Lg	08 39 32.4	
	243nm,0.2s,SNR=5.0						
LRDF	**Laroque-de-Fa**	**2.07**	**95**	Pg	Pg	08 39 07.6	-0.1
LRDF				Sg	Sg	08 39 35.2	+0.6
LRDF	**Laroque-de-Fa**	**2.07**	**95**	Pg	Pg	08 39 07.6	-0.1
LRDF				Sg	Sg	08 39 35.2	+0.6
LRDF	**Laroque-de-Fa**	**2.07**	**95**	Pg	Pg	08 39 07.6	-0.1
LRDF				Sg	Sg	08 39 35.2	+0.6
FILF	**Fillols**	**2.17**	**105**	Pg	Pb	08 39 08.3	+1.2
FILF				Sg	Sb	08 39 35.2	+1.4
FILF	**Fillols**	**2.17**	**105**	Pg	Pb	08 39 08.3	+1.2
FILF				Sg	Sb	08 39 35.2	+1.4
FILF	**Fillols**	**2.17**	**105**	Pg	Pb	08 39 08.3	+1.2
FILF				Sg	Sb	08 39 35.2	+1.4
ERTA	**Horta de San J**	**2.24**	**168**	Pn	Pn	08 39 07.1	+2.3
	2.6nm,0.1s,SNR=20						
ERTA				Pg	Pb	08 39 10.2	+1.9
	41nm,0.2s,SNR=10						
ERTA				Lg	Lg	08 39 39.0	
	217nm,0.2s,SNR=18						
ERTA	**Horta de San J**	**2.24**	**168**	Pn	Pn	08 39 07.1	+2.3
	2.6nm,0.1s,SNR=20						
ELAN	**Lanestosa**	**2.31**	**273**	Pn	Pb	08 39 10.1	+0.6
	6.5nm,0.2s,SNR=30						
ELAN				Lg	Lg	08 39 40.8	
	74nm,0.3s,SNR=8.5						
ELAN	**Lanestosa**	**2.31**	**273**	Pn	Pb	08 39 10.1	+0.6
	6.5nm,0.2s,SNR=30						
ELAN				Lg	Lg	08 39 40.8	
	74nm,0.3s,SNR=8.5						
EJON	**La Jonquera**	**2.43**	**106**	Pn	Pb	08 39 12.4	+0.9
	2.2nm,0.1s,SNR=28						
EJON				Pg	Pg	08 39 15.1	+0.5
	31nm,0.2s,SNR=8.3						
EJON				Lg	Lg	08 39 48.4	
	146nm,0.3s,SNR=15						
EJON	**La Jonquera**	**2.43**	**106**	Pn	Pb	08 39 12.4	+0.9
	2.2nm,0.1s,SNR=28						
CFON	**Fontmartina**	**2.44**	**124**	⇓Pn	Pb	08 39 11.0	-0.7
	32nm,0.2s,SNR=18						
CFON				Pg	Pg	08 39 14.8	0.0
	88nm,0.1s,SNR=12						
CFON				Lg	Lg	08 39 45.6	
	935nm,0.3s,SNR=5.0						
CFON	**Fontmartina**	**2.44**	**124**	Pn	Pb	08 39 11.0	-0.7
	32nm,0.2s,SNR=18						
CAF	**Calviac**	**2.44**	**43**	ePn	Pn	08 39 08.7	+1.1
	SNR=1.0						
CAF	**Calviac**	**2.44**	**43**	ePg	Pg	08 39 16.1	+1.2
CAF				eSn	Sn	08 39 38.1	+0.8
	SNR=1.0						
CAF				eSg	Sg	08 39 48.2	+1.7
	324nm,0.2s						
CAF	**Calviac**	**2.44**	**43**	ePn	Pn	08 39 08.7	+1.1
CAF				ePg	Pg	08 39 16.1	+1.2
CAF				eSn	Sn	08 39 38.1	+0.8
CAF				eSg	Sg	08 39 48.2	+1.7
CAF	**Calviac**	**2.44**	**43**	ePn	Pn	08 39 08.7	+1.1
CAF	**Calviac**	**2.44**	**43**	ePg	Pg	08 39 16.1	+1.2
CAF				eSn	Sn	08 39 38.1	+0.8
	SNR=1.0						
CAF				eSg	Sg	08 39 48.2	+1.7
	162nm,0.2s						
RJF	**Les Rejaudoux**	**2.50**	**30**	ePn	Pn	08 39 09.6	+1.2
	SNR=1.0						
RJF	**Les Rejaudoux**	**2.50**	**30**	ePg	Pg	08 39 17.4	+1.4
RJF				eSn	Sn	08 39 40.2	+1.4
	SNR=1.0						
RJF				eSg	Sg	08 39 50.6	+2.1
	485nm,0.3s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.50**	**30**	ePn	Pn	08 39 09.6	+1.2
RJF				ePg	Pg	08 39 17.4	+1.4
RJF				eSn	Sn	08 39 40.2	+1.4
RJF				eSg	Sg	08 39 50.6	+2.1
RJF	**Les Rejaudoux**	**2.50**	**30**	ePn	Pn	08 39 09.6	+1.2
RJF	**Les Rejaudoux**	**2.50**	**30**	ePg	Pg	08 39 17.4	+1.4
RJF				eSn	Sn	08 39 40.2	+1.4
	SNR=1.0						
RJF				eSg	Sg	08 39 50.6	+2.1
	243nm,0.3s,SNR=1.0						
ETOR	**Torete**	**2.69**	**210**	⇓Pn	Pn	08 39 13.4	+2.4
	296nm,0.2s,SNR=18						
ETOR				Pg	Pb	08 39 17.7	+1.7
	251nm,0.3s,SNR=7.9						
ETOR				Sn	Sn	08 39 44.7	+1.3
	397nm,0.3s,SNR=9.1						
ETOR				Lg	Lg	08 39 52.8	
	559nm,0.2s,SNR=5.0						
ETOR	**Torete**	**2.69**	**210**	Pn	Pn	08 39 13.4	+2.4
	296nm,0.2s,SNR=18						
EMOS	**Mosqueruela**	**2.79**	**183**	Pn	Pn	08 39 14.6	+2.1
	3.6nm,0.1s,SNR=35						
EMOS				Pg	Pg	08 39 21.9	+0.3
	45nm,0.3s,SNR=14						
EMOS				Sn	Sn	08 39 45.1	-1.0
	39nm,0.2s,SNR=7.9						
EMOS				Lg	Lg	08 39 54.5	
	94nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.79**	**183**	Pn	Pn	08 39 14.6	+2.1
	3.6nm,0.1s,SNR=35						
LASF	**Ste Croix**	**3.14**	**72**	ePn	Pn	08 39 18.6	+1.5
	SNR=1.0						
LASF	**Ste Croix**	**3.14**	**72**	ePg	Pg	08 39 28.4	+0.3
LASF				eSg	Sg	08 40 08.6	-0.1
	159nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**3.14**	**72**	ePn	Pn	08 39 18.6	+1.5
LASF				ePg	Pg	08 39 28.4	+0.3
LASF				eSg	Sg	08 40 08.6	-0.1
LASF	**Ste Croix**	**3.14**	**72**	ePn	Pn	08 39 18.6	+1.5
LASF	**Ste Croix**	**3.14**	**72**	ePg	Pg	08 39 28.4	+0.3
LASF				eSg	Sg	08 40 08.6	-0.1
	79nm,0.3s,SNR=1.0						
VERF	**Verneugheol**	**3.26**	**36**	Pn	Pn	08 39 20.0	+1.2
VERF	**Verneugheol**	**3.26**	**36**	Pn	Pn	08 39 20.0	+1.2
VERF	**Verneugheol**	**3.26**	**36**	Pn	Pn	08 39 20.0	+1.2
LBL	**Lubilhac**	**3.27**	**49**	Pn	Pn	08 39 20.0	+1.0
LBL	**Lubilhac**	**3.27**	**49**	Pn	Pn	08 39 20.0	+1.0
LBL	**Lubilhac**	**3.27**	**49**	Pn	Pn	08 39 20.0	+1.0
MFF	**Saint Martin d**	**3.45**	**1**	ePn	Pn	08 39 23.1	+1.7
	SNR=1.0						
MFF	**Saint Martin d**	**3.45**	**1**	ePg	Pg	08 39 35.4	+1.3
MFF				eSn	Sn	08 40 02.4	+0.4
	SNR=1.0						
MFF				eSg	Sg	08 40 18.7	0.0
	120nm,0.2s,SNR=1.0						
MFF	**Saint Martin d**	**3.45**	**1**	ePn	Pn	08 39 23.1	+1.7
MFF				ePg	Pg	08 39 35.4	+1.3
MFF				eSn	Sn	08 40 02.4	+0.4
MFF				eSg	Sg	08 40 18.7	0.0
MFF	**Saint Martin d**	**3.45**	**1**	ePn	Pn	08 39 23.1	+1.7
MFF	**Saint Martin d**	**3.45**	**1**	ePg	Pg	08 39 35.4	+1.3
MFF				eSn	Sn	08 40 02.4	+0.4
	SNR=1.0						
MFF				eSg	Sg	08 40 18.7	0.0
	60nm,0.2s,SNR=1.0						
PYM	**Petit Puy Mans**	**3.50**	**41**	Pn	Pn	08 39 23.7	+1.6
PYM	**Petit Puy Mans**	**3.50**	**41**	Pn	Pn	08 39 23.7	+1.6
PYM	**Petit Puy Mans**	**3.50**	**41**	Pn	Pn	08 39 23.7	+1.6
TCF	**Toulx Ste Croi**	**3.60**	**29**	ePn	Pn	08 39 25.4	+2.0
TCF	**Toulx Ste Croi**	**3.60**	**29**	ePg	Pg	08 39 37.4	+0.5
TCF				eSg	Sg	08 40 24.2	+0.7
	240nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.60**	**29**	ePn	Pn	08 39 25.4	+2.0
TCF				ePg	Pg	08 39 37.4	+0.5
TCF				eSg	Sg	08 40 24.2	+0.7
TCF	**Toulx Ste Croi**	**3.60**	**29**	ePn	Pn	08 39 25.4	+2.0
TCF	**Toulx Ste Croi**	**3.60**	**29**	ePg	Pg	08 39 37.4	+0.5
TCF				eSg	Sg	08 40 24.2	+0.7
	120nm,0.3s,SNR=1.0						
ECHE	**Chera**	**3.60**	**189**	Pn	Pn	08 39 25.2	+1.7
	12nm,0.3s,SNR=13						
ECHE				Sn	Sn	08 40 06.3	+0.5
	24nm,0.3s,SNR=5.8						
ECHE				Lg	Lg	08 40 21.4	
	65nm,0.3s,SNR=5.0						
ECHE	**Chera**	**3.60**	**189**	Pn	Pn	08 39 25.2	+1.7
	12nm,0.3s,SNR=13						
ECHE				Sn	Sn	08 40 06.3	+0.5
	24nm,0.3s,SNR=5.8						
ECHE				Lg	Lg	08 40 21.4	
	65nm,0.3s,SNR=5.0						
EARI	**Arriondas**	**3.61**	**274**	Pn	Pn	08 39 27.6	+3.9
	5.8nm,0.2s,SNR=24						
EARI				Sn	Sn	08 40 09.8	+3.6
	18nm,0.3s,SNR=5.0						
EARI	**Arriondas**	**3.61**	**274**	Pn	Pn	08 39 27.6	+3.9
	5.8nm,0.2s,SNR=24						
EARI				Sn	Sn	08 40 09.8	+3.6
	18nm,0.3s,SNR=5.0						
AGO	**Saint Agoulin**	**3.78**	**39**	Pn	Pn	08 39 24.4	-1.6
AGO	**Saint Agoulin**	**3.78**	**39**	Pn	Pn	08 39 24.4	-1.6
GUD	**Guadarrama**	**3.83**	**230**	⇓Pn	Pn	08 39 29.3	+2.5
	1.0nm,0.1s,SNR=18						
GUD				Sn	Sn	08 40 13.6	+1.8
	55nm,0.2s,SNR=10.0						
GUD				Lg	Lg	08 40 28.4	
	42nm,0.2s,SNR=5.0						
GUD	**Guadarrama**	**3.83**	**230**	Pn	Pn	08 39 29.3	+2.5
	1.0nm,0.1s,SNR=18						
GUD				Sn	Sn	08 40 13.6	+1.8
	55nm,0.2s,SNR=10.0						
GUD				Lg	Lg	08 40 28.4	
	42nm,0.2s,SNR=5.0						
VIVF	**Saint-Julien-l**	**3.95**	**63**	ePn	Pn	08 39 30.2	+1.9
	SNR=1.0						
VIVF	**Saint-Julien-l**	**3.95**	**63**	ePg	Pg	08 39 44.1	+0.4
VIVF				eSg	Sg	08 40 34.4	-0.5
	139nm,0.3s						
VIVF	**Saint-Julien-l**	**3.95**	**63**	ePn	Pn	08 39 30.2	+1.9
VIVF				ePg	Pg	08 39 44.1	+0.4
VIVF				eSg	Sg	08 40 34.4	-0.5
VIVF	**Saint-Julien-l**	**3.95**	**63**	ePn	Pn	08 39 30.2	+1.9
VIVF	**Saint-Julien-l**	**3.95**	**63**	ePg	Pg	08 39 44.1	+0.4
VIVF				eSg	Sg	08 40 34.4	-0.5
	70nm,0.3s						
SSB	**Saint Sauveur**	**4.06**	**57**	Pn	Pn	08 39 31.4	+1.6
SSB	**Saint Sauveur**	**4.06**	**57**	Pn	Pn	08 39 31.4	+1.6
SSB	**Saint Sauveur**	**4.06**	**57**	Pn	Pn	08 39 31.4	+1.6
BGF	**Bois d'Agland**	**4.06**	**32**	ePn	Pn	08 39 31.2	+1.4
BGF	**Bois d'Agland**	**4.06**	**32**	ePg	Pg	08 39 46.4	+0.6
BGF				eSg	Sg	08 40 37.7	-0.7
	983nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**4.06**	**32**	ePn	Pn	08 39 31.2	+1.4
BGF				ePg	Pg	08 39 46.4	+0.6
BGF				eSg	Sg	08 40 37.7	-0.7
BGF	**Bois d'Agland**	**4.06**	**32**	ePn	Pn	08 39 31.2	+1.4
BGF	**Bois d'Agland**	**4.06**	**32**	ePg	Pg	08 39 46.4	+0.6
BGF				eSg	Sg	08 40 37.7	-0.7
	492nm,0.4s,SNR=1.0						
ETOS	**Mallorca**	**4.10**	**145**	Pn	Pn	08 39 32.5	+2.1
	4.6nm,0.2s,SNR=18						
ETOS				Sn	Sn	08 40 18.6	+0.4
	13nm,0.2s,SNR=6.4						
ETOS	**Mallorca**	**4.10**	**145**	Pn	Pn	08 39 32.5	+2.1
	4.6nm,0.2s,SNR=18						
ETOS				Sn	Sn	08 40 18.6	+0.4
	13nm,0.2s,SNR=6.4						
OCF	**Saint Nazaire**	**4.27**	**69**	Pg	Pg	08 39 50.4	+0.5
OCF	**Saint Nazaire**	**4.27**	**69**	Pg	Pg	08 39 50.4	+0.5
OG26	**St.-Nazaire-De**	**4.27**	**69**	Pg	Pg	08 39 50.4	+0.5
OG26	**St.-Nazaire-De**	**4.27**	**69**	Pg	Pg	08 39 50.4	+0.5
EIBI	**Ibiza**	**4.30**	**163**	Pn	Pn	08 39 34.7	+1.6
	4.2nm,0.1s,SNR=7.9						
EIBI				Sn	Sn	08 40 20.8	-2.2
	42nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**4.30**	**163**	Pn	Pn	08 39 34.7	+1.6
	4.2nm,0.1s,SNR=7.9						
SMRF	**Simiane la Rot**	**4.33**	**77**	ePn	Pn	08 39 35.2	+1.7
SMRF	**Simiane la Rot**	**4.33**	**77**	ePg	Pg	08 39 50.2	-0.7
SMRF				eSg	Sg	08 40 46.0	-0.9
	80nm,0.6s						
SMRF	**Simiane la Rot**	**4.33**	**77**	ePn	Pn	08 39 35.2	+1.7
SMRF				ePg	Pg	08 39 50.2	-0.7
SMRF				eSg	Sg	08 40 46.0	-0.9
SMRF	**Simiane la Rot**	**4.33**	**77**	ePn	Pn	08 39 35.2	+1.7
SMRF	**Simiane la Rot**	**4.33**	**77**	ePg	Pg	08 39 50.2	-0.7
SMRF				Lg	Lg	08 40 46.0	
	40nm,0.6s						
ESDC	**Sonseca Array**	**4.45**	**220**	Pn	Pn	08 39 36.5	+1.3
ESDC				Sn	Sn	08 40 26.8	-0.1
ESDC				Lg	Lg	08 40 46.9	
ESDC	**Sonseca Array**	**4.45**	**220**	⇓Pn	Pn	08 39 36.6	+1.3
	32nm,0.1s,baz=41,slow=14,SNR=18						
ESDC				Sn	Sn	08 40 25.7	-1.1
	15nm,0.1s,baz=40,slow=24,SNR=9.0						
ESDC				Lg	Lg	08 40 47.7	
	26nm,0.5s,baz=45,slow=30,SNR=6.5						
ESDC	**Sonseca Array**	**4.45**	**220**	Pn	Pn	08 39 36.5	+1.3
	11nm,0.3s,baz=42,slow=14,SNR=64						
ESDC				Sn	Sn	08 40 26.8	-0.1
	18nm,0.3s,baz=36,slow=18,SNR=5.3						
ESDC				Lg	Lg	08 40 46.9	
	15nm,0.3s,baz=48,slow=29,SN

SSF	**Saint Saulge**	**4.73**	**33**	*e*Pn	**Pn**	**08 39 39.8 +0.8**
SSF	**Saint Saulge**	**4.73**	**33**	*e*Pg	**Pg**	**08 39 58.5 -0.1**
SSF				*e*Sn	**Sn**	**08 40 33.7 0.0**
	SNR=1.0					
SSF				*e*Sg	**Sg**	**08 40 59.9 0.0**
	71nm,0.4s					
ORIF	**Oris-en-Rattie**	**4.77**	**66**	*e*Pn	**Pn**	**08 39 40.7 +1.1**
	SNR=1.0					
ORIF	**Oris-en-Rattie**	**4.77**	**66**	*e*Pg	**Pg**	**08 39 58.7 -0.7**
ORIF				*e*Sg	**Sg**	**08 41 00.0 -1.2**
	76nm,0.8s					
ORIF	**Oris-en-Rattie**	**4.77**	**66**	*e*Pn	**Pn**	**08 39 40.7 +1.1**
ORIF				*e*Pg	**Pg**	**08 39 58.7 -0.7**
ORIF				*e*Sg	**Sg**	**08 41 00.0 -1.2**
ORIF	**Oris-en-Rattie**	**4.77**	**66**	*e*Pn	**Pn**	**08 39 40.7 +1.1**
ORIF	**Oris-en-Rattie**	**4.77**	**66**	*e*Pg	**Pg**	**08 39 58.7 -0.7**
ORIF				*e*Sg	**Sg**	**08 41 00.0 -1.2**
	38nm,0.8s					
EVIA	**Vianos**	**4.82**	**201**	Pn	**Pn**	**08 39 42.4 +2.1**
	5.2nm,0.2s,SNR=12					
EVIA				Lg	Lg	08 41 00.0
	65nm,0.6s,SNR=5.0					
EVIA	**Vianos**	**4.82**	**201**	Pn	**Pn**	**08 39 42.4 +2.1**
	5.2nm,0.2s,SNR=12					
EVIA				Lg	Lg	08 41 00.0
	65nm,0.6s,SNR=5.0					
ECAL	**Calabor**	**4.93**	**258**	Pn	**Pn**	**08 39 44.3 +2.5**
	9.6nm,0.1s,SNR=19					
ECAL				Sn	**Sn**	**08 40 40.6 +1.9**
	57nm,0.3s,SNR=6.6					
ECAL				Lg	Lg	08 41 02.4
	60nm,0.3s,SNR=5.7					
ECAL	**Calabor**	**4.93**	**258**	Pn	**Pn**	**08 39 44.3 +2.5**
	9.6nm,0.1s,SNR=19					
ECAL				Sn	**Sn**	**08 40 40.6 +1.9**
	57nm,0.3s,SNR=6.6					
ECAL				Lg	Lg	08 41 02.4
	60nm,0.3s,SNR=5.7					
LMR	**La Mourre**	**4.96**	**86**	*e*Pn	**Pn**	**08 39 44.0 +1.9**
LMR	**La Mourre**	**4.96**	**86**	*e*Pg	**Pg**	**08 40 01.6 -1.3**
LMR				*e*Sn	**Sn**	**08 40 37.2 -2.0**
	SNR=1.0					
LMR				*e*Sg	**Sg**	**08 41 05.1 -2.0**
	18nm,0.3s,SNR=1.0					
LMR	**La Mourre**	**4.96**	**86**	*e*Pn	**Pn**	**08 39 44.0 +1.9**
LMR				*e*Pg	**Pg**	**08 40 01.6 -1.3**
LMR				*e*Sn	**Sn**	**08 40 37.2 -2.0**
LMR				*e*Sg	**Sg**	**08 41 05.1 -2.0**
LMR	**La Mourre**	**4.96**	**86**	*e*Pn	**Pn**	**08 39 44.0 +1.9**
LMR	**La Mourre**	**4.96**	**86**	*e*Pg	**Pg**	**08 40 01.6 -1.3**
LMR				*e*Sn	**Sn**	**08 40 37.2 -2.0**
	SNR=1.0					
LMR				*e*Sg	**Sg**	**08 41 05.1 -2.0**
	8.8nm,0.3s,SNR=1.0					
PBRG	**Braganca**	**4.97**	**256**	*e*Pn	**Pn**	**08 39 44.9 +2.5**
PBRG				*e*Sn	**Sn**	**08 40 40.2 +0.5**
PBRG				A	A	08 40 43.4
	32nm,0.5s					
PBRG	**Braganca**	**4.97**	**256**	Pn	**Pn**	**08 39 44.9 +2.5**
PBRG				Sn	**Sn**	**08 40 40.2 +0.5**
	16nm,0.5s					
PBRG	**Braganca**	**4.97**	**256**	Pn	**Pn**	**08 39 44.9 +2.5**
PBRG				*e*Sn	**Sn**	**08 40 40.2 +0.5**
	32nm,0.5s					
EPON	**Pontenova**	**5.03**	**274**	Pn	Pn	08 39 47.3 +4.2
	2.8nm,0.2s,SNR=14					
EPON				Sn	**Sn**	**08 40 44.0 +3.0**
	8.1nm,0.2s,SNR=4.7					
EPON	**Pontenova**	**5.03**	**274**	Pn	Pn	08 39 47.3 +4.2
	2.8nm,0.2s,SNR=14					
EPON				Sn	**Sn**	**08 40 44.0 +3.0**
	8.1nm,0.2s,SNR=4.7					
LOR	**Lormes**	**5.04**	**34**	*e*Pn	**Pn**	**08 39 43.8 +0.5**
	baz=216					
LOR	**Lormes**	**5.04**	**34**	*e*Pg	**Pg**	**08 40 03.5 -1.1**
	baz=223					
LOR				*e*Sg	**Sg**	**08 41 08.6 -1.2**
	80nm,0.4s,SNR=1.0					
LOR	**Lormes**	**5.04**	**34**	*e*Pn	**Pn**	**08 39 43.8 +0.5**
LOR				*e*Pg	**Pg**	**08 40 03.5 -1.1**
LOR				*e*Sg	**Sg**	**08 41 08.6 -1.2**
LOR	**Lormes**	**5.04**	**34**	*e*Pn	**Pn**	**08 39 43.8 +0.5**
LOR	**Lormes**	**5.04**	**34**	*e*Pg	**Pg**	**08 40 03.5 -1.1**
LOR				*e*Sg	**Sg**	**08 41 08.6 -1.2**
	40nm,0.4s,SNR=1.0					
ERUA	**La Rua**	**5.12**	**264**	Pn	Pn	08 39 47.6 +3.3
	8.2nm,0.2s,SNR=7.9					
ERUA				Sn	**Sn**	**08 40 44.8 +1.6**
	64nm,0.3s,SNR=7.9					
ERUA	**La Rua**	**5.12**	**264**	Pn	Pn	08 39 47.6 +3.3
	8.2nm,0.2s,SNR=7.9					
ERUA				Sn	**Sn**	**08 40 44.8 +1.6**
	64nm,0.3s,SNR=7.9					
QUIF	**Quistinic**	**5.18**	**338**	*e*Pn	**Pn**	**08 39 47.3 +2.2**
	SNR=1.0					
QUIF	**Quistinic**	**5.18**	**338**	*e*Pg	**Pg**	**08 40 06.4 -0.7**
QUIF				*e*Sn	**Sn**	**08 40 43.8 -0.8**
QUIF				*e*Sg	**Sg**	**08 41 13.9 -0.3**
	24nm,0.2s					
QUIF	**Quistinic**	**5.18**	**338**	*e*Pn	**Pn**	**08 39 47.3 +2.2**
QUIF				*e*Pg	**Pg**	**08 40 06.4 -0.7**
QUIF				*e*Sn	**Sn**	**08 40 43.8 -0.8**
QUIF				*e*Sg	**Sg**	**08 41 13.9 -0.3**
QUIF	**Quistinic**	**5.18**	**338**	*e*Pn	**Pn**	**08 39 47.3 +2.2**
QUIF	**Quistinic**	**5.18**	**338**	*e*Pg	**Pg**	**08 40 06.4 -0.7**
QUIF				*e*Sn	**Sn**	**08 40 43.8 -0.8**
QUIF				*e*Sg	**Sg**	**08 41 13.9 -0.3**
	12nm,0.2s					
GRR	**Gorron**	**5.25**	**356**	*e*Pn	**Pn**	**08 39 47.3 +1.2**
	SNR=1.0					
GRR	**Gorron**	**5.25**	**356**	*e*Pg	**Pg**	**08 40 07.9 -0.6**
GRR				*e*Sn	**Sn**	**08 40 45.8 -0.6**
GRR				*e*Sg	**Sg**	**08 41 16.1 -0.4**
	94nm,0.5s					
GRR	**Gorron**	**5.25**	**356**	*e*Pn	**Pn**	**08 39 47.3 +1.2**
GRR				*e*Pg	**Pg**	**08 40 07.9 -0.6**
GRR				*e*Sn	**Sn**	**08 40 45.8 -0.6**
GRR				*e*Sg	**Sg**	**08 41 16.1 -0.4**
GRR	**Gorron**	**5.25**	**356**	*e*Pn	**Pn**	**08 39 47.3 +1.2**
GRR	**Gorron**	**5.25**	**356**	*e*Pg	**Pg**	**08 40 07.9 -0.6**
GRR				*e*Sn	**Sn**	**08 40 45.8 -0.6**
GRR				*e*Sg	**Sg**	**08 41 16.1 -0.4**
	47nm,0.5s					
MBDF	**Montbardon**	**5.32**	**70**	*e*Pg	**Pg**	**08 40 09.4 -0.5**
MBDF				*e*Sg	**Sg**	**08 41 16.9 -1.9**
	23nm,0.6s					
MBDF	**Montbardon**	**5.32**	**70**	*e*Pg	**Pg**	**08 40 09.4 -0.5**
MBDF				*e*Sg	**Sg**	**08 41 16.9 -1.9**
MBDF	**Montbardon**	**5.32**	**70**	*e*Pg	**Pg**	**08 40 09.4 -0.5**
MBDF				*e*Sg	**Sg**	**08 41 16.9 -1.9**
	12nm,0.6s					
EPLA	**Plasencia**	**5.34**	**237**	Pn	**Pn**	**08 39 49.4 +2.0**
	5.8nm,0.2s,SNR=20					
EPLA				Sn	**Sn**	**08 40 46.8 -1.9**
	4.4nm,0.2s,SNR=5.0					
EPLA				Lg	Lg	08 41 17.7
	10nm,0.3s,SNR=6.5					
EPLA	**Plasencia**	**5.34**	**237**	Pn	**Pn**	**08 39 49.4 +2.0**
	5.8nm,0.2s,SNR=20					
EPLA				Sn	**Sn**	**08 40 46.8 -1.9**
	4.4nm,0.2s,SNR=5.0					
EPLA				Lg	Lg	08 41 17.7
	10nm,0.3s,SNR=6.5					
SGMF	**Saint Gilles**	**5.34**	**343**	*e*Pn	**Pn**	**08 39 49.0 +1.6**
	SNR=1.0					
SGMF	**Saint Gilles**	**5.34**	**343**	*e*Pg	**Pg**	**08 40 10.4 +0.1**
SGMF				*e*Sn	**Sn**	**08 40 48.3 -0.5**
	SNR=1.0					
SGMF				*e*Sg	**Sg**	**08 41 19.0 -0.5**
	81nm,0.5s,SNR=1.0					
SGMF	**Saint Gilles**	**5.34**	**343**	*e*Pn	**Pn**	**08 39 49.0 +1.6**
SGMF				*e*Pg	**Pg**	**08 40 10.4 +0.1**
SGMF				*e*Sn	**Sn**	**08 40 48.3 -0.5**
SGMF				*e*Sg	**Sg**	**08 41 19.0 -0.5**
SGMF	**Saint Gilles**	**5.34**	**343**	*e*Pn	**Pn**	**08 39 49.0 +1.6**
SGMF	**Saint Gilles**	**5.34**	**343**	*e*Pg	**Pg**	**08 40 10.4 +0.1**
SGMF				*e*Sn	**Sn**	**08 40 48.3 -0.5**
	SNR=1.0					
SGMF				*e*Sg	**Sg**	**08 41 19.0 -0.5**
	40nm,0.5s,SNR=1.0					
MVO	**Moncorvo**	**5.40**	**251**	*e*Pn	**Pn**	**08 39 50.6 +2.3**
MVO				*e*Sn	**Sn**	**08 40 50.5 +0.2**
MVO				A	A	08 41 17.1
	38nm,0.5s					
MVO	**Moncorvo**	**5.40**	**251**	Pn	**Pn**	**08 39 51.2 +2.9**
	2.6nm,0.2s,SNR=8.2					
MVO				Sn	**Sn**	**08 40 49.9 -0.4**
	7.5nm,0.1s,SNR=5.0					
MVO				Lg	Lg	08 41 17.0
	42nm,0.4s,SNR=5.8					
MVO	**Moncorvo**	**5.40**	**251**	*e*Pn	**Pn**	**08 39 50.6 +2.3**
MVO				Lg	Lg	08 41 17.0
	42nm,0.4s,SNR=5.8					
LDF	**La Druitiere**	**5.44**	**1**	*e*Pn	**Pn**	**08 39 50.0 +1.3**
	SNR=1.0					
LDF	**La Druitiere**	**5.44**	**1**	*e*Pg	**Pg**	**08 40 11.7 -0.5**
LDF				*e*Sn	**Sn**	**08 40 48.8 -2.3**
	SNR=1.0					
LDF				*e*Sg	**Sg**	**08 41 21.4 -1.2**
	56nm,0.3s,SNR=1.0					
LDF	**La Druitiere**	**5.44**	**1**	*e*Pn	**Pn**	**08 39 50.0 +1.3**
LDF				*e*Pg	**Pg**	**08 40 11.7 -0.5**
LDF				*e*Sn	**Sn**	**08 40 48.8 -2.3**
LDF				*e*Sg	**Sg**	**08 41 21.4 -1.2**
LDF	**La Druitiere**	**5.44**	**1**	*e*Pn	**Pn**	**08 39 50.0 +1.3**
	SNR=1.0					
LDF	**La Druitiere**	**5.44**	**1**	*e*Pg	**Pg**	**08 40 11.7 -0.5**
LDF				*e*Sg	**Sg**	**08 41 21.4 -1.2**
	28nm,0.3s,SNR=1.0					
LPL	**La Plagne**	**5.55**	**62**	*e*P	Pn	08 39 56.3 +5.8
LPL				*e*Sg	**Sg**	**08 41 24.7 -1.4**
	32nm,0.6s					
LPL	**La Plagne**	**5.55**	**62**	*e*P	Pn	08 39 56.3 +5.8
LPL				*e*Sg	**Sg**	**08 41 24.7 -1.4**
LPL	**La Plagne**	**5.55**	**62**	*e*Sg	**Sg**	**08 41 24.7 -1.4**
	16nm,0.6s					
LPG	**La Plagne**	**5.55**	**63**	*e*Pn	**Pn**	**08 39 52.7 +2.1**
LPG				*e*Sg	**Sg**	**08 41 24.8 -1.5**
	34nm,0.5s					
LPG	**La Plagne**	**5.55**	**63**	*e*Pn	**Pn**	**08 39 52.7 +2.1**
LPG				*e*Sg	**Sg**	**08 41 24.8 -1.5**
LPG	**La Plagne**	**5.55**	**63**	*e*Pn	**Pn**	**08 39 52.7 +2.1**
LPG				*e*Sg	**Sg**	**08 41 24.8 -1.5**
	17nm,0.5s					
ROSF	**Rostrenen**	**5.59**	**339**	*e*Pn	**Pn**	**08 39 52.3 +1.5**
	SNR=1.0					
ROSF	**Rostrenen**	**5.59**	**339**	*e*Pg	**Pg**	**08 40 14.6 -0.4**
ROSF				*e*Sn	**Sn**	**08 40 53.4 -1.4**
ROSF				*e*Sg	**Sg**	**08 41 26.7 -0.7**
	87nm,0.6s					
ROSF	**Rostrenen**	**5.59**	**339**	*e*Pn	**Pn**	**08 39 52.3 +1.5**
ROSF				*e*Pg	**Pg**	**08 40 14.6 -0.4**
ROSF				*e*Sn	**Sn**	**08 40 53.4 -1.4**
ROSF				*e*Sg	**Sg**	**08 41 26.7 -0.7**
ROSF	**Rostrenen**	**5.59**	**339**	*e*Pn	**Pn**	**08 39 52.3 +1.5**
ROSF	**Rostrenen**	**5.59**	**339**	*e*Pg	**Pg**	**08 40 14.6 -0.4**
ROSF				*e*Sg	**Sg**	**08 41 26.7 -0.7**
	44nm,0.6s					
FLN	**La Foliniere**	**5.61**	**359**	*e*Pn	**Pn**	**08 39 52.7 +1.6**
	baz=183,SNR=1.0					
FLN	**La Foliniere**	**5.61**	**359**	*e*Pg	**Pg**	**08 40 15.1 -0.3**
	baz=180					
FLN				*e*Sn	**Sn**	**08 40 54.7 -0.6**
FLN				*e*Sg	**Sg**	**08 41 27.6 -0.4**
	56nm,0.4s					
FLN	**La Foliniere**	**5.61**	**359**	*e*Pn	**Pn**	**08 39 52.7 +1.6**
FLN				*e*Pg	**Pg**	**08 40 15.1 -0.3**
FLN				*e*Sn	**Sn**	**08 40 54.7 -0.6**
FLN				*e*Sg	**Sg**	**08 41 27.6 -0.4**
FLN	**La Foliniere**	**5.61**	**359**	*e*Pn	**Pn**	**08 39 52.7 +1.6**
FLN	**La Foliniere**	**5.61**	**359**	*e*Pg	**Pg**	**08 40 15.1 -0.3**
FLN				*e*Sn	**Sn**	**08 40 54.7 -0.6**
FLN				*e*Sg	**Sg**	**08 41 27.6 -0.4**
	28nm,0.4s					
SBF	**Sospel**	**5.65**	**80**	*e*Pn	**Pn**	**08 39 54.2 +2.5**
SBF				*e*Sg	**Sg**	**08 41 26.8 -2.5**
	14nm,0.4s					
SBF	**Sospel**	**5.65**	**80**	*e*Pn	**Pn**	**08 39 54.2 +2.5**
SBF				*e*Sg	**Sg**	**08 41 26.8 -2.5**
SBF	**Sospel**	**5.65**	**80**	*e*Pn	**Pn**	**08 39 54.2 +2.5**
SBF				Lg	Lg	08 41 26.8
	3.6nm,0.4s					
EQES	**Quesada**	**5.76**	**203**	Pn	**Pn**	**08 39 55.5 +2.3**
	9.2nm,0.3s,SNR=17					
EQES				Sn	**Sn**	**08 40 57.1 -2.0**
	16nm,0.4s,SNR=5.0					
EQES				Lg	Lg	08 41 30.3
	23nm,0.4s,SNR=60					
EQES	**Quesada**	**5.76**	**203**	Pn	**Pn**	**08 39 55.5 +2.3**
	9.2nm,0.3s,SNR=17					
EQES				Lg	Lg	08 41 30.3
	23nm,0.4s,SNR=60					
PVRL	**Vila Real**	**5.84**	**254**	*e*Pn	**Pn**	**08 39 56.3 +2.0**
PVRL	**Vila Real**	**5.84**	**254**	Pn	**Pn**	**08 39 56.3 +2.0**
PVRL	**Vila Real**	**5.84**	**254**	Pn	**Pn**	**08 39 56.3 +2.0**
POLO	**Lamas de Olo**	**5.86**	**255**	*e*Pn	**Pn**	**08 39 56.6 +2.0**
POLO				*e*Sn	**Sn**	**08 41 01.1 -0.5**
POLO				A	A	08 41 35.3
	13nm,0.5s					
POLO	**Lamas de Olo**	**5.86**	**255**	*e*Pn	**Pn**	**08 39 56.6 +2.0**
ELOB	**Lobios**	**5.90**	**260**	Pn	**Pn**	**08 39 57.3 +2.1**
	2.9nm,0.2s,SNR=7.1					
ELOB				Sn	**Sn**	**08 41 03.9 +1.3**
	28nm,0.3s,SNR=5.2					
ELOB				Lg	Lg	08 41 35.8
	18nm,0.4s,SNR=5.0					
ELOB	**Lobios**	**5.90**	**260**	Pn	**Pn**	**08 39 57.3 +2.1**
	2.9nm,0.2s,SNR=7.1					
ELOB				Sn	**Sn**	**08 41 03.9 +1.3**
	28nm,0.3s,SNR=5.2					
ELOB				Lg	Lg	08 41 35.8
	18nm,0.4s,SNR=5.0					
PCAB	**Cabril**	**5.92**	**259**	*e*Pn	**Pn**	**08 39 57.8 +2.4**
PCAB				*e*Sn	**Sn**	**08 41 04.6 +1.6**
PCAB				*e*Sg	**Sg**	**08 41 33.4 -4.6**
PCAB				A	A	08 41 49.7
	30nm,0.4s					
PCAB	**Cabril**	**5.92**	**259**	Pn	**Pn**	**08 39 57.8 +2.4**
PCAB				Sn	**Sn**	**08 41 04.6 +1.6**
PCAB				Lg	Lg	08 41 33.4
	15nm,0.4s					
PCAB	**Cabril**	**5.92**	**259**	Pn	**Pn**	**08 39 57.8 +2.4**
PCAB				Sn	**Sn**	**08 41 04.6 +1.6**
PCAB				Lg	Lg	08 41 33.4
	15nm,0.4s					
EADA	**Adamuz**	**5.96**	**215**	Pn	**Pn**	**08 39 57.7 +1.8**
	4.7nm,0.2s,SNR=27					
EADA				Sn	**Sn**	**08 41 02.6 -1.5**
	6.7nm,0.3s,SNR=5.0					
EADA				Lg	Lg	08 41 35.2
	23nm,0.3s,SNR=5.7					
EADA	**Adamuz**	**5.96**	**215**	Pn	**Pn**	**08 39 57.7 +1.8**
	4.7nm,0.2s,SNR=27					
EADA				Lg	Lg	08 41 35.2
	23nm,0.3s,SNR=5.7					
PGAV	**Gavieira, Arco**	**6.03**	**261**	*e*Pn	**Pn**	**08 39 59.4 +2.5**
PGAV				*e*Sn	**Sn**	**08 41 07.2 +1.5**
PGAV				A	A	08 41 22.5
	15nm,0.4s					
PGAV	**Gavieira, Arco**	**6.03**	**261**	*e*Pn	**Pn**	**08 39 59.4 +2.5**
PGAV				*e*Sn	**Sn**	**08 41 07.2 +1.5**
	15nm,0.4s					
PVIS	**Viseu**	**6.19**	**249**	*e*Pn	**Pn**	**08 40 01.4 +2.4**
PVIS				*e*Sn	**Sn**	**08 41 08.9 -0.7**
PVIS				A	A	08 41 56.2
	20nm,0.7s					
PVIS	**Viseu**	**6.19**	**249**	Pn	**Pn**	**08 40 01.4 +2.4**
PVIS				Sn	**Sn**	**08 41 08.9 -0.7**
	9.9nm,0.7s					
PVIS	**Viseu**	**6.19**	**249**	Pn	**Pn**	**08 40 01.4 +2.4**
SFTF	**Sexfontaines**	**6.27**	**35**	*e*Pn	**Pn**	**08 40 01.9 +1.8**
SFTF				*e*Sg	**Sg**	**08 41 47.0 -2.2**
	76nm,0.5s					
SFTF	**Sexfontaines**	**6.27**	**35**	*e*Pn	**Pn**	**08 40 01.9 +1.8**
SFTF				*e*Sg	**Sg**	**08 41 47.0 -2.2**
SFTF	**Sexfontaines**	**6.27**	**35**	*e*Pn	**Pn**	**08 40 01.9 +1.8**
SFTF				Lg	Lg	08 41 47.0
	38nm,0.5s					
EZAM	**Zamans**	**6.29**	**264**	Pn	**Pn**	**08 40 02.5 +2.0**
	3.0nm,0.2s,SNR=7.9					
EZAM				Sn	**Sn**	**08 41 12.3 +0.1**
	30nm,0.5s,SNR=7.9					
EZAM	**Zamans**	**6.29**	**264**	Pn	**Pn**	**08 40 02.5 +2.0**
	3.0nm,0.2s,SNR=7.9					
PCBR	**Castelo Branco**	**6.34**	**241**	*e*Pn	**Pn**	**08 40 02.6 +1.5**
PCBR				*e*Sn	**Sn**	**08 41 11.2 -2.2**
PCBR				*e*Sg	Sg	08 41 45.6 -6.0
PCBR				A	A	08 41 55.8
	17nm,0.4s					
PCBR	**Castelo Branco**	**6.34**	**241**	Pn	**Pn**	**08 40 02.6 +1.5**
PCBR				Sn	**Sn**	**08 41 11.2 -2.2**
PCBR				Lg	Lg	08 41 45.6
	8.6nm,0.4s					
PCBR	**Castelo Branco**	**6.34**	**241**	Pn	**Pn**	**08 40 02.6 +1.5**
PCBR				Lg	Lg	08 41 45.6
	8.6nm,0.4s					
EMAZ	**Mazaricos**	**6.38**	**271**	Pn	**Pn**	**08 40 03.7 +2.0**
	6.0nm,0.2s,SNR=5.3					
EMAZ				Sn	**Sn**	**08 41 13.5 -0.9**
	7.9nm,0.1s,SNR=5.0					
EMAZ	**Mazaricos**	**6.38**	**271**	Pn	**Pn**	**08 40 03.7 +2.0**
	6.0nm,0.2s,SNR=5.3					
ECOG	**Cogollos-Vega**	**6.39**	**204**	Pn	**Pn**	**08 40 04.4 +2.5**
	5.8nm,0.2s,SNR=7.9					
ECOG	**Cogollos-Vega**	**6.39**	**204**	Pn	**Pn**	**08 40 04.4 +2.5**
	5.8nm,0.2s,SNR=7.9					
EQUE	**Quentar**	**6.42**	**203**	Pn	**Pn**	**08 40 05.0 +2.7**
	3.5nm,0.2s,SNR=14					
EQUE				Sn	**Sn**	**08 41 13.3 -2.1**
	5.0nm,0.4s,SNR=5.0					
EQUE				Lg	Lg	08 41 50.7
	5.4nm,0.3s,SNR=7.2					
EQUE	**Quentar**	**6.42**	**203**	Pn	**Pn**	**08 40 05.0 +2.7**
	3.5nm,0.2s,SNR=14					
EQUE				Lg	Lg	08 41 50.7
	5.4nm,0.3s,SNR=7.2					
MEZF	**Maizieres J'vi**	**6.51**	**33**	*e*Pg	**Pg**	**08 40 30.8 -1.8**
MEZF				*e*Sg	**Sg**	**08 41 55.3 -1.6**
	109nm,0.5s					
MEZF	**Maizieres J'vi**	**6.51**	**33**	*e*Pg	**Pg**	**08 40 30.8 -1.8**
MEZF				*e*Sg	**Sg**	**08 41 55.3 -1.6**
MEZF	**Maizieres J'vi**	**6.51**	**33**	*e*Pg	**Pg**	**08 40 30.8 -1.8**
MEZF				*e*Sg	**Sg**	**08 41 55.3 -1.6**
	54nm,0.5s					
PMRV	**Marv??o**	**6.53**	**238**	*e*Pn	**Pn**	**08 40 05.2 +1.5**
PMRV				*e*Sn	**Sn**	**08 41 17.0 -1.0**
PMRV				*e*Sg	**Sg**	**08 41 54.5 -3.0**
PMRV				A	A	08 42 09.0
	22nm,0.6s					
PMRV	**Marv??o**	**6.53**	**238**	Pn	**Pn**	**08 40 05.2 +1.5**
PMRV				Sn	**Sn**	**08 41 17.0 -1.0**
PMRV				Lg	Lg	08 41 54.5
	22nm,0.6s					
PMRV	**Marv??o**	**6.53**	**238**	Pn	**Pn**	**08 40 05.2 +1.5**
PMRV				Lg	Lg	08 41 54.5
	22nm,0.6s					
EBER	**Berja**	**6.56**	**199**	Pn	Pn	08 40 07.5 +3.1
	6.2nm,0.4s,SNR=7.4					
EBER	**Berja**	**6.56**	**199**	Pn	Pn	08 40 07.5 +3.1
	6.2nm,0.4s,SNR=7.4					
ELOJ	**Sierra Loja**	**6.70**	**208**	Pn	**Pn**	**08 40 08.5 +2.4**
	6.9nm,0.3s,SNR=7.9					
ELOJ	**Sierra Loja**	**6.70**	**208**	Pn	**Pn**	**08 40 08.5 +2.4**
	6.9nm,0.3s,SNR=7.9					
ERON	**Agron**	**6.70**	**205**	Pn	**Pn**	**08 40 08.7 +2.5**
	4.8nm,0.2s,SNR=7.9					
ERON	**Agron**	**6.70**	**205**	Pn	**Pn**	**08 40 08.7 +2.5**
	4.8nm,0.2s,SNR=7.9					
HAU	**Haudompre**	**6.71**	**41**	*e*Pg	**Pg**	**08 40 34.9 -1.6**
HAU				*e*Sg	**Sg**	**08 42 00.7 -2.7**
	29nm,0.5s					
HAU	**Haudompre**	**6.71**	**41**	*e*Pg	**Pg**	**08 40 34.9 -1.6**
HAU				*e*Sg	**Sg**	**08 42 00.7 -2.7**
HAU	**Haudompre**	**6.71**	**41**	*e*Pg	**Pg**	**08 40 34.9 -1.6**
HAU				Lg	Lg	08 42 00.7
	7.3nm,0.5s					
EBAD	**Badajoz**	**6.73**	**232**	Pn	**Pn**	**08 40 07.9 +1.4**
	7.5nm,0.3s,SNR=12					
EBAD				Sn	**Sn**	**08 41 21.0 -2.0**
	12nm,0.2s,SNR=5.0					
EBAD	**Badajoz**	**6.73**	**232**	Pn	**Pn**	**08 40 07.9 +1.4**
	7.5nm,0.3s,SNR=12					
PAGF	**Fort de Pagny**	**6.83**	**36**	*e*Pn	**Pn**	**08 40 09.7 +1.9**
	baz=212					
PAGF				*e*Sg	**Sg**	**08 42 04.8 -2.3**
	26nm,0.7s					
PAGF	**Fort de Pagny**	**6.83**	**36**	*e*Pn	**Pn**	**08 40 09.7 +1.9**
PAGF				*e*Sg	**Sg**	**08 42 04.8 -2.3**
PAGF	**Fort de Pagny**	**6.83**	**36**	*e*Pn	**Pn**	**08 40 09.7 +1.9**
	baz=212					
PAGF				*e*Sg	**Sg**	**08 42 04.8 -2.3**
	13nm,0.7s					
HINF	**Hinteralfeld**	**6.84**	**45**	*e*Pg	**Pg**	**08 40 36.7 -2.2**
HINF				*e*Sg	**Sg**	**08 42 05.0 -2.4**
	21nm,0.4s					
HINF	**Hinteralfeld**	**6.84**	**45**	*e*Pg	**Pg**	**08 40 36.7 -2.2**
HINF				*e*Sg	**Sg**	**08 42 05.0 -2.4**
PGF	**Pioggiola**	**6.84**	**92**	*e*Pn	**Pn**	**08 40 10.1 +2.0**
	SNR=1.0					
PGF				*e*Sn	**Sn**	**08 41 23.1 -2.7**
	10.0nm,0.4s					
PGF	**Pioggiola**	**6.84**	**92**	*e*Pn	**Pn**	**08 40 10.1 +2.0**
PGF				*e*Sn	**Sn**	**08 41 23.1 -2.7**
PGF	**Pioggiola**	**6.84**	**92**	*e*Pn	**Pn**	**08 40 10.1 +2.0**
PESTR	**Estremoz**	**7.00**	**235**	*e*Pn	**Pn**	**08 40 11.5 +1.3**
PESTR				*e*Sn	**Sn**	**08 41 27.6 -2.0**
PESTR				A	A	08 42 16.1
	13nm,0.6s					
PESTR	**Estremoz**	**7.00**	**235**	Pn	**Pn**	**08 40 11.5 +1.3**
PESTR				Sn	**Sn**	**08 41 27.6 -2.0**
	13nm,0.6s					
PESTR	**Estremoz**	**7.00**	**235**	Pn	**Pn**	**08 40 11.5 +1

BAIF	**Baives**	**7.56**	**22**	*e*Pn		**Pn**	**08 40 19.5**	**+1.7**
BAIF				*e*Sg		**Sg**	**08 42 28.3**	**-2.2**
	43nm,0.7s							
BAIF	**Baives**	**7.56**	**22**	*e*Pn		**Pn**	**08 40 19.5**	**+1.7**
BAIF				*e*Sg		**Sg**	**08 42 28.3**	**-2.2**
BAIF	**Baives**	**7.56**	**22**	*e*Pn		**Pn**	**08 40 19.5**	**+1.7**
BAIF				*e*Sg		**Sg**	**08 42 28.3**	**-2.2**
	21nm,0.7s							
ESPR	**Espera**	**7.60**	**216**	Pn		**Pn**	**08 40 20.9**	**+2.5**
	3.8nm,0.2s,SNR=7.9							
ESPR				Sn		**Sn**	**08 41 41.9**	**-2.5**
	2.1nm,0.2s,SNR=5.7							
ESPR	**Espera**	**7.60**	**216**	Pn		**Pn**	**08 40 20.9**	**+2.5**
	3.8nm,0.2s,SNR=7.9							
MOE	**Montemor**	**7.67**	**236**	*e*Pn		**Pn**	**08 40 20.9**	**+1.5**
MOE				*e*Sn		**Sn**	**08 41 43.8**	**-2.4**
MOE	**Montemor**	**7.67**	**236**	Pn		**Pn**	**08 40 20.9**	**+1.5**
MOE				Sn		**Sn**	**08 41 43.8**	**-2.4**
MOE	**Montemor**	**7.67**	**236**	Pn		**Pn**	**08 40 20.9**	**+1.5**
PBEJ	**Beja**	**7.72**	**231**	*e*Pn		**Pn**	**08 40 21.1**	**+1.0**
PBEJ				*e*Sn		**Sn**	**08 41 45.2**	**-2.1**
PBEJ				A		A	08 42 41.2	
	7.0nm,0.6s							
PBEJ	**Beja**	**7.72**	**231**	Pn		**Pn**	**08 40 21.1**	**+1.0**
PBEJ				Sn		**Sn**	**08 41 45.2**	**-2.1**
	3.5nm,0.6s							
PBEJ	**Beja**	**7.72**	**231**	Pn		**Pn**	**08 40 21.1**	**+1.0**
GIVF	**Givet**	**7.78**	**25**	*e*Sg		**Sg**	**08 42 34.8**	**-2.8**
	32nm,0.6s							
GIVF	**Givet**	**7.78**	**25**	*e*Sg		**Sg**	**08 42 34.8**	**-2.8**
GIVF	**Givet**	**7.78**	**25**	Lg		Lg	08 42 34.8	
	7.9nm,0.6s							
EJIF	**Jimena Fronter**	**7.80**	**213**	Pn		Pn	08 40 24.2	+3.1
	5.6nm,0.3s,SNR=7.9							
EJIF	**Jimena Fronter**	**7.80**	**213**	Pn		Pn	08 40 24.2	+3.1
	5.6nm,0.3s,SNR=7.9							
EGRO	**El Granado**	**7.86**	**227**	Pn		**Pn**	**08 40 22.7**	**+0.7**
	4.8nm,0.3s,SNR=7.9							
EGRO				Sn		**Sn**	**08 41 47.0**	**-3.8**
	6.5nm,0.3s,SNR=8.6							
EGRO				Lg		Lg	08 42 38.6	
	8.5nm,0.4s,SNR=7.9							
EGRO	**El Granado**	**7.86**	**227**	Pn		**Pn**	**08 40 22.7**	**+0.7**
	4.8nm,0.3s,SNR=7.9							
EGRO				Lg		Lg	08 42 38.6	
	8.5nm,0.4s,SNR=7.9							
PNCL	**Nicolau / Gran**	**8.05**	**234**	*e*Pn		**Pn**	**08 40 25.7**	**+1.2**
PNCL				*e*Sn		**Sn**	**08 41 53.2**	**-2.1**
PNCL				A		A	08 42 54.1	
	6.2nm,0.7s							
PNCL	**Nicolau / Gran**	**8.05**	**234**	*e*Pn		**Pn**	**08 40 25.7**	**+1.2**
DAVOX	**Davos/Dischmat**	**8.06**	**60**	Pn		Pn	08 40 35.6	+11
DAVOX				Lg		Lg	08 42 54.7	
DAVOX	**Davos/Dischmat**	**8.06**	**60**	Pn		Pn	08 40 35.6	+11
	0.6nm,0.3s,baz=195,slow=12,SNR=4.0							
DAVOX				Lg		Lg	08 42 54.7	
	0.3nm,0.3s,baz=325,slow=23,SNR=4.9							
PVAQ	**Vaqueiros**	**8.08**	**227**	*e*Pn		**Pn**	**08 40 25.8**	**+0.8**
PVAQ				*e*Sn		**Sn**	**08 41 53.4**	**-2.9**
PVAQ				A		A	08 43 06.6	
	9.3nm,0.7s							
PVAQ	**Vaqueiros**	**8.08**	**227**	Pn		**Pn**	**08 40 25.8**	**+0.8**
PVAQ				Sn		**Sn**	**08 41 53.4**	**-2.9**
	9.3nm,0.7s							
PVAQ	**Vaqueiros**	**8.08**	**227**	Pn		**Pn**	**08 40 25.8**	**+0.8**
PCVE	**Castro Verde**	**8.10**	**230**	*e*Pn		**Pn**	**08 40 25.9**	**+0.7**
PCVE				*e*Sn		**Sn**	**08 41 54.1**	**-2.4**
PCVE				A		A	08 43 03.5	
	11nm,0.7s							
PCVE	**Castro Verde**	**8.10**	**230**	Pn		**Pn**	**08 40 25.9**	**+0.7**
PCVE				Sn		**Sn**	**08 41 54.1**	**-2.4**
	11nm,0.7s							
PCVE	**Castro Verde**	**8.10**	**230**	Pn		**Pn**	**08 40 25.9**	**+0.7**
MORF	**Marmelete**	**8.67**	**230**	*e*Pn		**Pn**	**08 40 33.8**	**+0.7**
MORF				*e*Sn		**Sn**	**08 42 06.7**	**-4.0**
MORF				A		A	08 42 10.1	
	4.0nm,0.6s							
MORF	**Marmelete**	**8.67**	**230**	Pn		**Pn**	**08 40 33.8**	**+0.7**
MORF				Sn		**Sn**	**08 42 06.7**	**-4.0**
	4.0nm,0.6s							
MORF	**Marmelete**	**8.67**	**230**	Pn		**Pn**	**08 40 33.8**	**+0.7**
PFVI	**Vila Bisbo**	**8.89**	**230**	*e*Pn		**Pn**	**08 40 37.2**	**+1.1**
PFVI				*e*Sn		**Sn**	**08 42 13.2**	**-2.9**
PFVI				A		A	08 42 17.6	
	6.8nm,0.9s							
PFVI	**Vila Bisbo**	**8.89**	**230**	*e*Pn		**Pn**	**08 40 37.2**	**+1.1**
GERES	**GERESS Array B**	**11.26**	**55**	Pn		Pn	08 41 18.7	+10
GERES				Lg		Lg	08 44 44.4	
GERES	**GERESS Array B**	**11.26**	**55**	Pn		Pn	08 41 18.7	+10
	0.2nm,0.3s,baz=241,slow=14,SNR=4.8							
GERES				Lg		Lg	08 44 44.4	
	0.1nm,0.3s,baz=237,slow=30,SNR=2.7							
TORD	**Torodi Ar. Bea**	**29.95**	**176**	P		**P**	**08 44 36.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**29.95**	**176**	P		**P**	**08 44 36.8**	**+0.9**
	0.3nm,0.8s,baz=351,slow=9.8,SNR=2.9							
TORD	**Torodi Ar. Bea**	**29.95**	**176**	P		**P**	**08 44 36.8**	**+0.9**

***IDC* 09 08:41:13.9±2.9, 47.70N×152.36E, h0km, mb3.6/9, mb1 3.7/12, mb1mx3.6/29, mbtmp3.6/12, ML3.1/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/32, Error ellipse: s-maj=73.3km s-min=18.4km az=158.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.40**	**30**	Pn	Pn	08 42 49.0	-0.4
	0.6nm,0.3s,baz=190,slow=14,SNR=8.4						
ASAJ	**Asahikawa**	**7.70**	**246**	Pn	Pn	08 43 06.2	-1.0
	0.5nm,0.3s,baz=48,slow=15,SNR=3.0						
USRK	**Ussuriysk Arra**	**14.59**	**264**	Pn	Pn	08 44 42.2	+0.8
	0.2nm,0.3s,baz=77,slow=16,SNR=3.5						
SONM	**Songino Array**	**30.55**	**288**	P	P	08 47 30.0	+0.9
	0.6nm,1.0s,baz=81,slow=8.9,SNR=2.7						
ILAR	**Eielson Array**	**36.13**	**39**	P	P	08 48 18.7	+1.4
	0.5nm,1.0s,baz=250,slow=5.0,SNR=4.2						
INK	**Inuvik**	**41.13**	**33**	P	P	08 48 59.4	+0.2
	0.3nm,0.4s,baz=324,slow=5.8,SNR=5.0						
ZALV	**Zalesovo Beam**	**41.65**	**305**	P	P	08 49 01.9	-1.7
	1.0nm,0.6s,baz=68,slow=7.2,SNR=3.6						
MKAR	**Makanchi Array**	**46.06**	**296**	P	P	08 49 39.1	-0.1
	0.3nm,0.5s,baz=71,slow=8.2,SNR=4.2						
MKAR				LR	LR	09 10 43.5	
	comp=Z,31nm,18.4s,baz=356,slow=38						
KURBB	**Kurchatov Arra**	**46.51**	**303**	P	P	08 49 42.7	0.0
	1.5nm,0.7s,baz=68,slow=8.5,SNR=14						
BVAR	**Borovoye Array**	**49.86**	**309**	P	P	08 50 09.3	+0.7
	0.6nm,0.4s,baz=51,slow=7.8,SNR=4.6						
YKA	**Yellowknife Ar**	**50.47**	**37**	P	P	08 50 11.4	-1.6
	0.1nm,0.6s,baz=298,slow=6.7,SNR=3.7						
FINES	**FINESS Array B**	**62.96**	**334**	P	P	08 51 41.2	-0.6
	1.2nm,0.7s,baz=38,slow=7.2,SNR=3.7						

DDA ***09*** *08:52:06.3, 40.45N×42.34E, h7km, MD3.0*
CSEM ***09*** *08:52:06.3, 40.45N×42.34E, h7km, MD3.0, After DDA*
ISC 09 08:52:06.4±1.0, 40.43N±0.03×42.35E±0.03, h15km±10km, n16, σ1s12/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.51**	**222**	*i* P	**Pg**	**08 52 15.9**	**-0.6**
HOMI				*i* S	**Sb**	**08 52 24.2**	**-0.3**
DDEM	**Demirkent**	**0.65**	**316**	*i* P	**Pg**	**08 52 18.8**	**-0.3**
DDEM				*i* S	**Sg**	**08 52 27.6**	**-0.1**
DDEM	**Demirkent**	**0.65**	**316**	*i* P	**Pg**	**08 52 18.8**	**-0.3**
DDEM				*i* S	**Sg**	**08 52 27.6**	**-0.1**
DAGI	**Agillar**	**0.73**	**333**	*i* P	**Pg**	**08 52 20.4**	**-0.2**
DAGI				*i* S	**Sb**	**08 52 30.8**	**+0.1**
ARTV	**Artvin**	**0.82**	**337**	*i* P	**Pg**	**08 52 22.0**	**-0.4**
ARTV				*i* S	**Sb**	**08 52 33.2**	**-0.3**
ARTV	**Artvin**	**0.82**	**337**	*i* P	**Pg**	**08 52 22.0**	**-0.4**
ARTV				*i* S	**Sb**	**08 52 33.2**	**-0.3**
DBOC	**Borcka**	**1.05**	**331**	*i* P	**Pg**	**08 52 25.5**	**-1.2**
DBOC				*i* S	**Sb**	**08 52 40.5**	**+0.6**
DBOC	**Borcka**	**1.05**	**331**	*i* P	**Pg**	**08 52 25.5**	**-1.2**
DBOC				*i* S	**Sb**	**08 52 40.5**	**+0.6**
TUTA	**Tutak**	**1.08**	**160**	*i* P	**Pg**	**08 52 25.7**	**-1.7**
TUTA				*i* S	**Sn**	**08 52 43.2**	**+1.0**
TUTA	**Tutak**	**1.08**	**160**	*i* P	**Pg**	**08 52 25.7**	**-1.7**
TUTA				*i* S	**Sn**	**08 52 43.2**	**+1.0**
AKH	**Akhalkalaki**	**1.31**	**41**	P	**Pg**	**08 52 31.4**	**-0.3**
AKH				S	**Sg**	**08 52 50.2**	**+1.4**
DYDN	**Diyadin**	**1.36**	**130**	*i* P	**Pn**	**08 52 30.4**	**-0.6**
DYDN				*i* S	**Sg**	**08 52 52.3**	**+2.1**
DYDN	**Diyadin**	**1.36**	**130**	*i* P	**Pn**	**08 52 30.4**	**-0.6**
DYDN				*i* S	**Sg**	**08 52 52.3**	**+2.1**
KOPT	**Kop Dagi**	**1.47**	**254**	*i* P	**Pg**	**08 52 34.7**	**0.0**
KOPT				*i* S	**Sg**	**08 52 55.6**	**+1.7**
KOPT	**Kop Dagi**	**1.47**	**254**	*i* P	**Pg**	**08 52 34.7**	**0.0**
KOPT				*i* S	**Sg**	**08 52 55.6**	**+1.7**
DGRG	**David-gareji**	**2.51**	**65**	P	**Pb**	**08 52 50.2**	**-1.0**
DGRG				S	**Sg**	**08 53 29.2**	**+2.1**

BJI ***09*** *09:06:28.6, 9.17N×56.69E, h10km, mB5.2/8, mb4.6/17, Ms4.9/2, Ms7 4.4/2*
IDC ***09*** *09:06:35.7±0.5, 10.04N×57.29E, h0km, mb4.3/23, mb1 4.4/23, mb1mx4.3/29, mbtmp4.3/23, MS3.6/17, Ms1 3.7/17, ms1mx3.6/25, Error ellipse: s-maj=16.0km s-min=12.9km az=129.0*
MOS ***09*** *09:06:35.4±1.1, 10.00N×57.19E, h10km, mb4.9/35, Error ellipse: s-maj=9.8km s-min=5.6km az=100.4*
ISCJB ***09*** *09:06:35.9±0.4, 10.02N±0.05×57.05E±0.05, h13km, mb4.7/81, MS3.7/20, Error ellipse: s-maj=8.0km s-min=6.8km az=148.1*
NEIC ***09*** *09:06:37.3±0.3, 10.03N×57.18E, h10km, mb4.8/21, Error ellipse: s-maj=9.3km s-min=7.1km az=123.0*
CSEM ***09*** *09:06:39.7±0.3, 10.08N×57.06E, h20km, mb4.7/42, Ms3.5, Error ellipse: s-maj=12.8km s-min=8.6km az=119.0*
ISC 09 09:06:37.9±0.5, 10.01N±0.07×57.20E±0.08, h13km, n289, σ1s26/286, mb4.8/82, MS3.7/20, 47C-20D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMDO	**Jabal Madar**	**12.32**	**4**	⇑P	**Pn**	**09 09 35.9**	**+2.7**
	SNR=5.2						
JMDO	**Jabal Madar**	**12.32**	**4**	P	**Pn**	**09 09 35.9**	**+2.7**
	SNR=5.2						
ARQ	**Araqi**	**13.27**	**357**	⇑P	Pn	09 09 49.5	+3.4
	SNR=6.1						
HOQ	**Hoqain**	**13.50**	**0**	⇑P	Pn	09 09 53.3	+4.0
	SNR=12						
HOQ	**Hoqain**	**13.50**	**0**	P	Pn	09 09 53.3	+4.0
	SNR=12						
ATD	**Arta Tunnel**	**14.18**	**277**	LR	LR	09 14 32.4	
	comp=Z,115nm,20.9s,baz=36,slow=33						
QRN	**Al-Qurain**	**20.57**	**336**	*e*P	**P**	**09 11 15.2**	**-1.3**
QRN				AMb	AMB	09 11 20.3	
	comp=Z,142nm,0.9s						
KBD	**Kabd**	**21.05**	**336**	*e*P	**P**	**09 11 20.7**	**-1.0**
KBD				AMb	AMB	09 11 25.4	
	comp=Z,81nm,0.7s						
KBD	**Kabd**	**21.05**	**336**	*e*P	**P**	**09 11 20.7**	**-1.0**
	comp=Z,81nm,0.7s						
NAY	**Al-Naaiem**	**21.29**	**335**	*e*P	**P**	**09 11 22.8**	**-1.5**
NAY				AMb	AMB	09 11 26.4	
	comp=Z,50nm,1.2s						
NAY	**Al-Naaiem**	**21.29**	**335**	*e*P	**P**	**09 11 22.8**	**-1.5**
	comp=Z,50nm,1.2s						
MIB	**Mutribah**	**21.74**	**336**	*e*P	**P**	**09 11 27.7**	**-1.5**
MIB				AMb	AMB	09 11 30.4	
	comp=Z,120nm,1.5s						
MIB	**Mutribah**	**21.74**	**336**	*e*P	**P**	**09 11 27.7**	**-1.5**
	comp=Z,120nm,1.5s						
KMBO	**Kilima Mbogo**	**22.73**	**242**	*e*P	**P**	**09 11 39.0**	**-1.1**
	comp=Z,56nm,1.6s						
KMBO	**Kilima Mbogo**	**22.73**	**242**	⇑P	**P**	**09 11 39.4**	**-0.7**
	SNR=14						
KMBO	**Kilima Mbogo**	**22.73**	**242**	P	**P**	**09 11 39.4**	**-0.7**
	SNR=14						
KBL	**Kabul**	**26.72**	**22**	*e*P	**P**	**09 12 18.4**	**+1.0**
KBL				pmax	pmax		
	comp=Z,27nm,1.4s						
KBL	**Kabul**	**26.72**	**22**	*e*P	**P**	**09 12 18.4**	**+1.0**
	comp=Z,27nm,1.4s						
KBL	**Kabul**	**26.72**	**22**	*e*P	**P**	**09 12 18.4**	**+1.0**
	comp=Z,27nm,1.4s						
EIL	**Elat**	**28.54**	**316**	LR	LR	09 23 49.2	
	comp=Z,83nm,18.1s,baz=272,slow=36						
ASF	**Jabal al Asfar**	**28.96**	**323**	LR	LR	09 24 19.2	
	comp=Z,95nm,19.8s,baz=7.1,slow=37						
OPO	**Ambohidratompo**	**30.06**	**199**	P	**P**	**09 12 47.9**	**+0.6**
OPO	**Ambohidratompo**	**30.06**	**199**	P	**P**	**09 12 47.9**	**+0.6**
	comp=Z,4.7nm,0.9s,baz=31,slow=13,SNR=3.5						
OPO				LR	LR	09 21 36.8	
	comp=Z,318nm,22.0s,baz=48,slow=30						
OPO	**Ambohidratompo**	**30.06**	**199**	P	**P**	**09 12 47.9**	**+0.6**
GNI	**Garni**	**32.00**	**342**	*e*P	**P**	**09 13 04.7**	**+0.6**
	comp=Z,19nm,1.1s						
GNI	**Garni**	**32.00**	**342**	P	**P**	**09 13 05.1**	**+1.0**
	comp=Z,11nm,0.8s,baz=212,slow=3.7,SNR=6.0						
GNI	**Garni**	**32.00**	**342**	*e*P	**P**	**09 13 04.7**	**+0.6**
	comp=Z,19nm,1.1s						
ZEI	**Tsey**	**34.65**	**343**	*e*P	**P**	**09 13 28.8**	**+1.5**
ZEI				pmax	pmax		
	comp=Z,29nm,1.4s						
ZEI	**Tsey**	**34.65**	**343**	*e*P	**P**	**09 13 28.8**	**+1.5**
	comp=Z,29nm,1.4s						
KKAR	**Karatay Array**	**34.96**	**17**	*e*P	**P**	**09 13 30.3**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KKAR	**Karatay Array**	**34.96**	**17**	*e*P	**P**	**09 13 30.3**	**+0.6**
	comp=Z,7.9nm,0.9s						
KKAR	**Karatay Array**	**34.96**	**17**	*e*P	**P**	**09 13 30.3**	**+0.6**
	comp=Z,7.9nm,0.9s						
AML	**Almayashu**	**35.12**	**22**	P	**P**	**09 13 34.0**	**+2.4**
AML				P	**P**	**09 13 34.0**	**+2.4**
	SNR=7.5						
EKS2	**Erkin-Say**	**35.62**	**21**	*e*P	**P**	**09 13 37.6**	**+2.1**
EKS2				pmax	pmax		
	comp=Z,38nm,1.2s						
EKS2	**Erkin-Say**	**35.62**	**21**	*e*P	**P**	**09 13 37.6**	**+2.1**
	comp=Z,38nm,1.2s						
EKS2	**Erkin-Say**	**35.62**	**21**	P	**P**	**09 13 37.9**	**+2.3**
	SNR=36						
EKS2				P	**P**	**09 13 37.9**	**+2.3**
	SNR=36						
EKS2	**Erkin-Say**	**35.62**	**21**	*e*P	**P**	**09 13 37.6**	**+2.1**
	comp=Z,38nm,1.2s						
KZA	**Kyzart**	**35.66**	**23**	P	**P**	**09 13 38.4**	**+2.1**
	SNR=18						
KZA				P	**P**	**09 13 38.4**	**+2.1**
	SNR=18						
AAK	**Ala-Archa**	**35.85**	**22**	P	**P**	**09 13 37.6**	**0.0**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
AAK	**Ala-Archa**	**35.85**	**22**	*e*P	**P**	**09 13 38.4**	**+0.7**
AAK	**Ala-Archa**	**35.85**	**22**	⇑P	**P**	**09 13 40.4**	**+2.8**
	SNR=6.4						
AAK	**Ala-Archa**	**35.85**	**22**	P	**P**	**09 13 40.2**	**+2.6**
	SNR=11						
AAK				P	**P**	**09 13 40.2**	**+2.6**
	SNR=11						
AAK	**Ala-Archa**	**35.85**	**22**	P	**P**	**09 13 37.6**	**0.0**
	comp=Z,9.1nm,1.1s,baz=189,slow=9.1,SNR=15						
AAK	**Ala-Archa**	**35.85**	**22**	*e*P	**P**	**09 13 38.3**	**+0.7**
KBK	**Karagaybulak**	**36.04**	**22**	P	**P**	**09 13 41.8**	**+2.5**
	SNR=5.6						
KBK				P	**P**	**09 13 41.8**	**+2.5**
	SNR=5.6						
KIV	**Kislovodsk**	**36.09**	**342**	*e*P	**P**	**09 13 40.0**	**+0.5**
KIV				pmax	pmax		
	comp=Z,30nm,0.9s						
KIV				MLR	MLR		
	comp=Z,64nm,15.0s						
KIV	**Kislovodsk**	**36.09**	**342**	*e*P	**P**	**09 13 39.8**	**+0.2**
	comp=Z,38nm,1.2s						
KIV	**Kislovodsk**	**36.09**	**342**	⇓P	**P**	**09 13 41.0**	**+1.5**
	SNR=6.0						
KIV	**Kislovodsk**	**36.09**	**342**	P	**P**	**09 13 41.0**	**+1.5**
	SNR=6.0						
ULHL	**Ulahol**	**36.20**	**24**	P	**P**	**09 13 42.7**	**+2.1**
	SNR=13						
ULHL				P	**P**	**09 13 42.7**	**+2.1**
	SNR=13						
BRTR	**Keskin Array B**	**36.27**	**329**	P	**P**	**09 13 42.1**	**+0.9**
BRTR	**Keskin Array B**	**36.27**	**329**	P	**P**	**09 13 42.1**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=145,slow=7.8,SNR=12						
BRTR	**Keskin Array B**	**36.27**	**329**	P	**P**	**09 13 42.1**	**+0.9**
	comp=Z,3.0nm,0.8s						
BR131	**Keskin Array S**	**36.27**	**329**	*e*P	**P**	**09 13 42.0**	**+0.9**
	comp=Z,3.1nm,0.9s						
BR131	**Keskin Array S**	**36.27**	**329**	*e*P	**P**	**09 13 42.0**	**+0.9**
	comp=Z,3.1nm,0.9s						
TKM2	**Tokmak 2**	**36.52**	**23**	*i* P	**P**	**09 13 44.9**	**+1.6**
TKM2	**Tokmak 2**	**36.52**	**23**	P	**P**	**09 13 45.0**	**+1.6**
	SNR=5.1						
TKM2				P	**P**	**09 13 45.0**	**+1.6**
	SNR=5.1						
TKM2	**Tokmak 2**	**36.52**	**23**	*i* P	**P**	**09 13 44.9**	**+1.6**
LSZ	**Lusaka**	**38.17**	**229**	*e*P	**P**	**09 13 57.6**	**0.0**
	comp=Z,5.3nm,0.8s						
LSZ	**Lusaka**	**38.17**	**229**	*e*P	**P**	**09 13 57.6**	**0.0**
	comp=Z,5.3nm,0.8s						
ABKAR	**Akbulak array**	**39.19**	**3**	*e*P	**P**	**09 14 05.5**	**-0.1**
	comp=Z,10.0nm,1.1s						
ABKAR	**Akbulak array**	**39.19**	**3**	*e*P	**P**	**09 14 05.5**	**-0.1**
	comp=Z,10.0nm,1.1s						
AKTK	**Aktyubinsk**	**40.31**	**1**	P	**P**	**09 14 15.2**	**+0.3**
	comp=Z,9.0nm,1.0s						
AKTO	**Aktyubinsk**	**40.31**	**1**	P	**P**	**09 14 15.2**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
AKTO	**Aktyubinsk**	**40.31**	**1**	P	**P**	**09 14 15.2**	**+0.3**
AKTO	**Aktyubinsk**	**40.31**	**1**	P	**P**	**09 14 15.2**	**+0.3**
	comp=Z,8.9nm,1.0s,baz=184,slow=12,SNR=13						
AKTO	**Aktyubinsk**	**40.31**	**1**	P	**P**	**09 14 15.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**41.25**	**73**	P	**P**	**09 14 23.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**41.25**	**73**	P	**P**	**09 14 23.1**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=269,slow=7.7,SNR=12						
CMAR				LR	LR	09 29 50.2	
	comp=Z,48nm,19.4s,baz=79,slow=34						
CMAR	**Chiang Mai Arr**	**41.25**	**73**	P	**P**	**09 14 23.2**	**+0.1**
	comp=Z,1.0nm,0.3s						
MK31	**Makanchi Array**	**42.41**	**26**	*e*P	**P**	**09 14 32.4**	**+0.1**
MK31	**Makanchi Array**	**42.41**	**26**	*e*P	**P**	**09 14 32.4**	**+0.1**
MK31	**Makanchi Array**	**42.41**	**26**	*e*P	**P**	**09 14 32.4**	**+0.1**
MKAR	**Makanchi Array**	**42.41**	**26**	P	**P**	**09 14 32.4**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MKAR				MLR	MLR		
	comp=Z,95nm,21.6s						
MKAR	**Makanchi Array**	**42.41**	**26**	P	**P**	**09 14 32.4**	**+0.2**
MKAR	**Makanchi Array**	**42.41**	**26**	P	**P**	**09 14 32.4**	**+0.2**
	comp=Z,8.9nm,1.1s,baz=210,slow=7.0,SNR=30						
MKAR				LR	LR	09 31 54.5	
	comp=Z,95nm,21.6s,baz=55,slow=36						
MKAR	**Makanchi Array**	**42.41**	**26**	P	**P**	**09 14 32.4**	**+0.2**
	comp=Z,95nm,21.6s						
WMQ	**Urumqi**	**42.83**	**33**	P	**P**	**09 14 36.0**	**+0.3**
WMQ				pP	**pP**	**09 14 42.0**	**+2.2**
WMQ				sP	sP	09 14 50.6	+9.2
WMQ				*e*S	S	09 21 10.0	+10
WMQ				pmax	pmax		
	comp=Z,11nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,310nm,4.4s						
WMQ				LR	LR		
	comp=N,150nm,19.2s						
WMQ				LR	LR		
	comp=E,200nm,22.3s						
WMQ				LR	LR		
	comp=Z,160nm,20.8s						
VORD	**Divnogorie**	**43.41**	**344**	*e*P	**P**	**09 14 41.0**	**+0.8**
VORD				pmax	pmax		
	comp=Z,20nm,0.9s						
VORD				pmax	pmax		
	comp=N,20nm,0.6s						
VORD				pmax	pmax		
	comp=E,30nm,0.7s						
VORD	**Divnogorie**	**43.41**	**344**	*e*P	**P**	**09 14 41.0**	**+0.8**
	comp=E,20nm,0.6s						
VSR	**Storozhevoye**	**43.67**	**344**	*e*P	**P**	**09 14 41.6**	**-0.7**
VSR				pmax	pmax		
	comp=Z,30nm,1.1s						
VSR				pmax	pmax		
	comp=N,20nm,0.9s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.1s						
VSR	**Storozhevoye**	**43.67**	**344**	*e*P	**P**	**09 14 41.6**	**-0.7**
	comp=E,20nm,0.9s						
ISR	**Istrita**	**43.79**	**329**	⇑P	**P**	**09 14 44.9**	**+1.4**
ISR	**Istrita**	**43.79**	**329**	*i*P	**P**	**09 14 44.9**	**+1.4**
ISR	**Istrita**	**43.79**	**329**	P	**P**	**09 14 44.9**	**+1.4**
VTS	**Vitosha**	**43.99**	**324**	⇓P	**P**	**09 14 45.6**	**+0.4**
VTS	**Vitosha**	**43.99**	**324**	*i*P	**P**	**09 14 45.6**	**+0.4**
VTS	**Vitosha**	**43.99**	**324**	P	**P**	**09 14 45.6**	**+0.4**
BRVK	**Borovoye**	**44.22**	**11**	⇑*e*P	**P**	**09 14 47.2**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.7s						
BRVK	**Borovoye**	**44.22**	**11**	*e*P	**P**	**09 14 47.2**	**+0.5**
	comp=Z,9.0nm,1.7s						
BRVK	**Borovoye**	**44.22**	**11**	⇑Sn	**P**	**09 14 47.6**	**+0.9**
	comp=Z,12nm,0.7s						
VRI	**Vrincioaia**	**44.22**	**329**	⇑P	**P**	**09 14 47.1**	**+0.3**
VRI	**Vrincioaia**	**44.22**	**329**	*i*P	**P**	**09 14 47.1**	**+0.3**
VRI	**Vrincioaia**	**44.22**	**329**	P	**P**	**09 14 47.1**	**+0.3**
PLOR	**Plostina**	**44.25**	**329**	⇓P	**P**	**09 14 48.2**	**+1.1**
PLOR	**Plostina**	**44.25**	**329**	*i*P	**P**	**09 14 48.2**	**+1

	comp=Z,20nm,1.6s								
TSUM	**Tsumeb**	**48.65**	**233**	P		**P**	**09 15 23.4**	**+1.3**
TSUM	**Tsumeb**	**48.65**	**233**	P		**P**	**09 15 23.4**	**+1.3**
	comp=Z,3.8nm,1.0s,baz=61,slow=8.2,SNR=5.2								
TSUM	**Tsumeb**	**48.65**	**233**	P		**P**	**09 15 23.4**	**+1.3**
KWP	**Kalwaria Pacla**	**48.77**	**331**	⇓P		**P**	**09 15 22.7**	**+0.2**
KWP	**Kalwaria Pacla**	**48.77**	**331**	⇓*i*P		**P**	**09 15 22.7**	**+0.2**
KWP	**Kalwaria Pacla**	**48.77**	**331**	P		**P**	**09 15 22.7**	**+0.2**
CRVS	**Cervenica-Dubn**	**48.91**	**329**	*e*P		**P**	**09 15 24.8**	**+1.2**
CRVS					pmax	pmax			
	comp=Z,19nm,1.5s								
CRVS	**Cervenica-Dubn**	**48.91**	**329**	*e*P		**P**	**09 15 24.8**	**+1.2**
CRVS	**Cervenica-Dubn**	**48.91**	**329**	*e*P		**P**	**09 15 24.8**	**+1.2**
	comp=Z,19nm,1.5s								
ZAA0	**Zalesovo Array**	**49.07**	**21**	*e*P		**P**	**09 15 23.9**	**-0.7**
ZAA0	**Zalesovo Array**	**49.07**	**21**	*e*P		**P**	**09 15 24.0**	**-0.7**
ZALV	**Zalesovo Beam**	**49.07**	**21**	P		**P**	**09 15 23.1**	**-1.6**
ZALV					pmax	pmax			
	comp=Z,8.0nm,1.0s								
ZALV					MLR	MLR			
	comp=Z,49nm,19.8s								
ZALV	**Zalesovo Beam**	**49.07**	**21**	P		**P**	**09 15 23.1**	**-1.6**
ZALV	**Zalesovo Beam**	**49.07**	**21**	P		**P**	**09 15 23.1**	**-1.6**
	comp=Z,8.0nm,1.0s,baz=238,slow=8.5,SNR=12								
ZALV					LR	LR	09 37 25.7		
	comp=Z,49nm,19.8s,baz=244,slow=38								
ZALV	**Zalesovo Beam**	**49.07**	**21**	P		**P**	**09 15 23.1**	**-1.6**
	comp=Z,49nm,19.8s								
NVS	**Novosibirsk**	**49.25**	**20**	*e*P		**P**	**09 15 26.1**	**+0.1**
NVS					pmax	pmax			
	comp=N,21nm,1.7s								
NVS					pmax	pmax			
	comp=Z,35nm,1.7s								
NVS	**Novosibirsk**	**49.25**	**20**	*e*P		**P**	**09 15 26.1**	**+0.1**
BOSA	**Boshof**	**49.26**	**218**	P		**P**	**09 15 26.9**	**+0.3**
BOSA	**Boshof**	**49.26**	**218**	P		**P**	**09 15 26.9**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=49,slow=11,SNR=4.4								
BOSA					LR	LR	09 33 42.1		
	comp=Z,190nm,20.1s,baz=340,slow=33								
BOSA	**Boshof**	**49.26**	**218**	P		**P**	**09 15 27.0**	**+0.3**
	comp=Z,3.0nm,0.7s								
LZH	**Lanzhou**	**49.54**	**51**	*e*P		**P**	**09 15 27.0**	**-1.8**
LZH				pP		**pP**	**09 15 33.6**	**+0.7**
LZH				sP		**sP**	**09 15 37.3**	**+2.8**
LZH					pmax	pmax			
	comp=Z,15nm,1.0s								
VYHS	**Vyhne**	**50.01**	**327**	*e*P		**P**	**09 15 31.3**	**-0.7**
VYHS					pmax	pmax			
	comp=Z,9.0nm,1.7s								
VYHS	**Vyhne**	**50.01**	**327**	*e*P		**P**	**09 15 31.3**	**-0.7**
VYHS	**Vyhne**	**50.01**	**327**	*e*P		**P**	**09 15 31.3**	**-0.7**
	comp=Z,9.0nm,1.7s								
MICGM	**Minsk**	**50.12**	**338**	*e*		**P**	**09 15 30.0**	**-2.7**
MNK	**Minsk**	**50.14**	**338**	*e*P		**P**	**09 15 30.0**	**-2.8**
MNK	**Minsk**	**50.14**	**338**	*e*P		**P**	**09 15 30.0**	**-2.8**
NACGM	**Naroch**	**50.84**	**338**	*e*		P	09 15 34.0	-4.1
ARSA	**Arzberg**	**51.13**	**324**	⇑*i*P		**P**	**09 15 39.8**	**-0.7**
	comp=Z,6.9nm,1.1s								
ARSA	**Arzberg**	**51.13**	**324**	⇑*i*P		**P**	**09 15 39.8**	**-0.7**
	comp=Z,6.9nm,1.1s								
ARSA	**Arzberg**	**51.13**	**324**	⇑*i*P		**P**	**09 15 39.8**	**-0.7**
	comp=Z,6.9nm,1.1s								
CONA	**Conrad Observa**	**51.31**	**325**	⇑*i*P		**P**	**09 15 41.4**	**-0.5**
	comp=Z,9.6nm,1.2s								
CONA	**Conrad Observa**	**51.31**	**325**	⇑*i*P		**P**	**09 15 41.4**	**-0.5**
	comp=Z,9.6nm,1.2s								
CONA	**Conrad Observa**	**51.31**	**325**	⇑*i*P		**P**	**09 15 41.4**	**-0.5**
	comp=Z,9.6nm,1.2s								
MORC	**Moravsky Berou**	**51.46**	**328**	⇑P		**P**	**09 15 42.3**	**-0.7**
MORC	**Moravsky Berou**	**51.46**	**328**	⇑*i*P		**P**	**09 15 42.3**	**-0.7**
MORC	**Moravsky Berou**	**51.46**	**328**	P		**P**	**09 15 42.3**	**-0.7**
MYKA	**Terra Mystica**	**51.90**	**323**	⇑*i*P		**P**	**09 15 46.0**	**-0.3**
	comp=Z,18nm,1.2s								
MYKA	**Terra Mystica**	**51.90**	**323**	⇑*i*P		**P**	**09 15 46.0**	**-0.3**
	comp=Z,18nm,1.2s								
MYKA	**Terra Mystica**	**51.90**	**323**	⇑*i*P		**P**	**09 15 46.0**	**-0.3**
	comp=Z,18nm,1.2s								
MOA	**Molln**	**52.17**	**324**	⇓*i*P		**P**	**09 15 47.6**	**-0.7**
	comp=Z,9.2nm,0.9s								
MOA	**Molln**	**52.17**	**324**	⇓*i*P		**P**	**09 15 47.6**	**-0.7**
	comp=Z,9.2nm,0.9s								
MOA	**Molln**	**52.17**	**324**	⇓*i*P		**P**	**09 15 47.6**	**-0.7**
	comp=Z,9.2nm,0.9s								
KBA	**Koelnbreinsper**	**52.30**	**323**	⇓*i*P		**P**	**09 15 49.1**	**-0.4**
KBA					pmax	pmax			
	comp=Z,11nm,1.0s								
KBA	**Koelnbreinsper**	**52.30**	**323**	⇓*i*P		**P**	**09 15 49.0**	**-0.4**
	comp=Z,11nm,1.0s								
KBA	**Koelnbreinsper**	**52.30**	**323**	⇓*i*P		**P**	**09 15 49.0**	**-0.4**
	comp=Z,11nm,1.1s								
KBA	**Koelnbreinsper**	**52.30**	**323**	⇓*i*P		**P**	**09 15 49.0**	**-0.4**
	comp=Z,11nm,1.0s								
KLMR	**Klimovskoe**	**52.41**	**349**	*e*P		**P**	**09 15 46.8**	**-3.0**
KLMR					pmax	pmax			
	comp=Z,42nm,1.3s								
DPC	**Dobruska-Polom**	**52.43**	**328**	*e*P		**P**	**09 15 48.9**	**-1.3**
DPC	**Dobruska-Polom**	**52.43**	**328**	*e*P		**P**	**09 15 48.9**	**-1.3**
DPC	**Dobruska-Polom**	**52.43**	**328**	*e*P		**P**	**09 15 48.9**	**-1.3**
ABTA	**Abfaltersbach**	**52.63**	**323**	⇑*i*P		**P**	**09 15 51.3**	**-0.5**
	comp=Z,11nm,1.3s								
ABTA	**Abfaltersbach**	**52.63**	**323**	⇑*i*P		**P**	**09 15 51.3**	**-0.5**
	comp=Z,11nm,1.3s								
ABTA	**Abfaltersbach**	**52.63**	**323**	⇑*i*P		**P**	**09 15 51.3**	**-0.5**
	comp=Z,11nm,1.3s								
GERES	**GERESS Array B**	**53.01**	**325**	P		**P**	**09 15 52.8**	**-1.8**
GERES	**GERESS Array B**	**53.01**	**325**	P		**P**	**09 15 52.8**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=116,slow=6.1,SNR=4.4								
GERES					LR	LR	09 39 32.2		
	comp=Z,31nm,18.7s,baz=85,slow=37								
GERES	**GERESS Array B**	**53.01**	**325**	P		**P**	**09 15 52.8**	**-1.8**
	comp=Z,31nm,18.7s								
PGF	**Pioggiola**	**53.02**	**316**	*e*P		**P**	**09 15 53.0**	**-1.8**
	comp=Z,83nm,1.3s								
PGF	**Pioggiola**	**53.02**	**316**	*e*P		**P**	**09 15 53.0**	**-1.8**
	comp=Z,42nm,1.3s								
KHC	**Kasperske Hory**	**53.23**	**326**	*e*P		**P**	**09 15 54.7**	**-1.4**
KHC	**Kasperske Hory**	**53.23**	**326**	*e*P		**P**	**09 15 54.7**	**-1.4**
KHC	**Kasperske Hory**	**53.23**	**326**	*e*P		**P**	**09 15 54.7**	**-1.4**
WTTA	**Wattenberg**	**53.41**	**323**	⇑*i*P		**P**	**09 15 56.5**	**-1.1**
WTTA					pmax	pmax			
	comp=Z,20nm,1.2s								
WTTA	**Wattenberg**	**53.41**	**323**	⇑*i*P		**P**	**09 15 56.5**	**-1.1**
	comp=Z,20nm,1.2s								
WTTA	**Wattenberg**	**53.41**	**323**	⇑*i*P		**P**	**09 15 56.5**	**-1.1**
	comp=Z,20nm,1.2s								
WTTA	**Wattenberg**	**53.41**	**323**	⇑*i*P		**P**	**09 15 56.5**	**-1.1**
	comp=Z,20nm,1.2s								
MOTA	**Moosalm**	**53.77**	**323**	⇓*i*P		**P**	**09 15 58.5**	**-1.7**
MOTA					pmax	pmax			
	comp=Z,11nm,0.8s								
MOTA	**Moosalm**	**53.77**	**323**	⇓*i*P		**P**	**09 15 58.5**	**-1.7**
	comp=Z,11nm,0.8s								
MOTA	**Moosalm**	**53.77**	**323**	⇓*i*P		**P**	**09 15 58.5**	**-1.7**
	comp=Z,11nm,0.8s								
MOTA	**Moosalm**	**53.77**	**323**	⇓*i*P		**P**	**09 15 58.5**	**-1.7**
	comp=Z,11nm,0.8s								
FETA	**Feichten**	**53.84**	**322**	⇑*i*P		**P**	**09 15 59.9**	**-0.9**
	comp=Z,10nm,1.1s								
FETA	**Feichten**	**53.84**	**322**	⇑*i*P		**P**	**09 15 59.9**	**-0.9**
	comp=Z,10nm,1.1s								
FETA	**Feichten**	**53.84**	**322**	⇑*i*P		**P**	**09 15 59.8**	**-0.9**
	comp=Z,10nm,1.1s								
TORD	**Torodi Ar. Bea**	**54.38**	**279**	P		**P**	**09 16 05.1**	**+0.1**
TORD				PcP		**PcP**	**09 17 08.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**54.38**	**279**	P		**P**	**09 16 05.1**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=94,slow=5.8,SNR=14								
TORD				PcP		**PcP**	**09 17 08.6**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=110,slow=1.2,SNR=3.6								
TORD	**Torodi Ar. Bea**	**54.38**	**279**	P		**P**	**09 16 05.1**	**+0.1**
DAVA	**Damuels**	**54.48**	**322**	⇑*i*P		**P**	**09 16 04.3**	**-1.1**
	comp=Z,12nm,0.7s								
DAVA	**Damuels**	**54.48**	**322**	⇑*i*P		**P**	**09 16 04.3**	**-1.1**
	comp=Z,12nm,0.7s								
DAVA	**Damuels**	**54.48**	**322**	⇑*i*P		**P**	**09 16 04.3**	**-1.1**
	comp=Z,12nm,0.7s								
MOY	**Mondy**	**54.70**	**32**	*e*P		**P**	**09 16 08.3**	**+1.4**
MOY					pmax	pmax			
	comp=Z,19nm,1.6s								
MOY	**Mondy**	**54.70**	**32**	*e*P		**P**	**09 16 08.3**	**+1.4**
	comp=Z,19nm,1.6s								
CLL	**Collm**	**54.71**	**328**	*e*P		**P**	**09 16 05.0**	**-1.8**
CLL	**Collm**	**54.71**	**328**	*e*P		**P**	**09 16 05.0**	**-1.8**
LMR	**La Mourre**	**55.01**	**316**	*e*P		**P**	**09 16 06.2**	**-3.0**
	comp=Z,67nm,1.2s								
LMR	**La Mourre**	**55.01**	**316**	*e*P		**P**	**09 16 06.2**	**-3.0**
	comp=Z,34nm,1.2s								
ZAK	**Zakamensk**	**55.25**	**34**	*e*P		P	09 16 02.5	-8.4
ZAK				*e*			09 16 10.9		
ZAK					pmax	pmax			
	comp=Z,3.0nm,1.3s								
MBDF	**Montbardon**	**55.36**	**318**	*e*P		**P**	**09 16 10.0**	**-1.9**
	comp=Z,19nm,1.2s								
MBDF	**Montbardon**	**55.36**	**318**	*e*P		**P**	**09 16 10.0**	**-1.9**
	comp=Z,9.4nm,1.2s								
LPG	**La Plagne**	**55.67**	**319**	*e*P		**P**	**09 16 12.4**	**-1.9**
	comp=Z,20nm,0.8s								
LPL	**La Plagne**	**55.70**	**319**	*e*P		**P**	**09 16 13.6**	**-0.7**
	comp=Z,21nm,0.6s								
SONM	**Songino Array**	**55.86**	**38**	P		**P**	**09 16 15.8**	**+0.5**
SONM	**Songino Array**	**55.86**	**38**	P		**P**	**09 16 15.8**	**+0.5**
	comp=Z,5.8nm,1.1s,baz=238,slow=6.3,SNR=22								
SONM					LR	LR	09 40 20.7		
	comp=Z,88nm,19.8s,baz=130,slow=36								
JOF	**Joensuu**	**56.01**	**346**	*e*P		**P**	**09 16 15.0**	**-1.0**
JOF	**Joensuu**	**56.01**	**346**	*e*p		**P**	**09 16 15.0**	**-1.0**
JOF	**Joensuu**	**56.01**	**346**	*e*P		**P**	**09 16 15.0**	**-1.0**
ORIF	**Oris-en-Rattie**	**56.02**	**318**	*e*P		**P**	**09 16 15.1**	**-1.4**
ORIF				*e*R					
	comp=Z,69nm,19.8s								
TLY	**Talaya**	**56.11**	**33**	*e*P		**P**	**09 16 17.3**	**+0.4**
TLY				*e*S		S	09 23 54.9	-11	
TLY					pmax	pmax			
	comp=Z,8.0nm,1.0s								
TLY					MLR	MLR			
	comp=Z,57nm,17.0s								
TLY	**Talaya**	**56.11**	**33**	*e*P		**P**	**09 16 17.9**	**+1.0**
	comp=Z,6.2nm,1.0s								
FINES	**FINESS Array B**	**56.18**	**343**	P		**P**	**09 16 15.9**	**-1.3**
FINES	**FINESS Array B**	**56.18**	**343**	P		**P**	**09 16 15.9**	**-1.3**
	comp=Z,10.0nm,1.0s,baz=140,slow=7.4,SNR=8.2								
FINES					LR	LR	09 42 20.1		
	comp=Z,56nm,18.6s,baz=135,slow=38								
CDF	**Champ du Feu**	**56.55**	**322**	*e*P		**P**	**09 16 18.7**	**-1.5**
	comp=Z,75nm,1.3s								
HINF	**Hinteralfeld**	**56.55**	**322**	*e*P		**P**	**09 16 18.3**	**-1.9**
	comp=Z,8.8nm,0.6s								
KAF	**Kangasniemi**	**56.65**	**343**	*e*P		P	09 16 16.0	-4.5
KAF	**Kangasniemi**	**56.65**	**343**	*e*p		P	09 16 16.0	-4.5
HAU	**Haudompre**	**56.94**	**322**	*e*P		**P**	**09 16 21.0**	**-1.9**
PAGF	**Fort de Pagny**	**57.54**	**322**	*e*P		**P**	**09 16 25.8**	**-1.4**
	comp=Z,8.4nm,1.0s								
SFTF	**Sexfontaines**	**57.82**	**321**	*e*P		**P**	**09 16 27.9**	**-1.2**
	comp=Z,44nm,0.8s								
MEZF	**Maizieres J'vi**	**57.93**	**322**	*e*P		**P**	**09 16 28.8**	**-1.1**
LOR	**Lormes**	**58.20**	**320**	*e*P		**P**	**09 16 30.3**	**-1.5**
	comp=Z,41nm,1.0s								
LOR				*e*R					
	comp=Z,37nm,18.5s								
SSF	**Saint Saulge**	**58.35**	**320**	*e*P		**P**	**09 16 31.2**	**-1.6**
	comp=Z,41nm,1.0s								
AVF	**Avril sur Loir**	**58.35**	**319**	*e*P		**P**	**09 16 31.0**	**-1.8**
	comp=Z,20nm,1.0s								
BGF	**Bois d'Agland**	**58.59**	**319**	*e*P		**P**	**09 16 33.4**	**-1.2**
	comp=Z,53nm,1.0s								
GIVF	**Givet**	**58.71**	**323**	*e*P		**P**	**09 16 34.2**	**-1.1**
TCF	**Toulx Ste Croi**	**58.92**	**318**	*e*P		**P**	**09 16 35.3**	**-1.6**
BAIF	**Baives**	**59.06**	**323**	*e*P		**P**	**09 16 36.7**	**-1.0**
ETSF	**Etsaut**	**59.78**	**314**	*e*P		**P**	**09 16 42.3**	**-0.7**
	comp=Z,30nm,1.0s								
SJPF	**Ste Jean**	**60.31**	**314**	*e*P		**P**	**09 16 45.9**	**-0.6**
	comp=Z,48nm,1.2s								
MFF	**Saint Martin d**	**60.56**	**318**	*e*P		**P**	**09 16 46.5**	**-1.6**
NOA	**NORSAR Array B**	**61.06**	**336**	P		**P**	**09 16 49.9**	**-1.4**
NOA	**NORSAR Array B**	**61.06**	**336**	P		**P**	**09 16 49.9**	**-1.4**
	comp=Z,1.1nm,0.8s,baz=120,slow=8.7,SNR=3.3								
NOA					LR	LR	09 45 45.8		
	comp=Z,49nm,18.5s,baz=280,slow=38								
LDF	**La Druitiere**	**61.17**	**320**	*e*P		**P**	**09 16 50.5**	**-1.7**
	comp=Z,59nm,0.9s								
DBIC	**Dimbokro**	**61.42**	**272**	P		**P**	**09 16 56.5**	**+2.0**
DBIC	**Dimbokro**	**61.42**	**272**	P		**P**	**09 16 56.5**	**+2.0**
	comp=Z,8.2nm,0.9s,baz=128,slow=6.6,SNR=6.5								
DBIC					LR	LR	09 46 40.5		
	comp=Z,38nm,18.1s,baz=326,slow=39								
FLN	**La Foliniere**	**61.45**	**320**	*e*P		**P**	**09 16 52.3**	**-1.8**
	comp=Z,204nm,1.8s								
FLN				*e*R					
	comp=Z,63nm,18.4s								
ESDC	**Sonseca Array**	**61.55**	**310**	P		**P**	**09 16 54.7**	**-0.3**
ESDC	**Sonseca Array**	**61.55**	**310**	P		**P**	**09 16 54.7**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=82,slow=6.8,SNR=7.6								
GRR	**Gorron**	**61.57**	**320**	*e*P		**P**	**09 16 52.6**	**-2.3**
ARCES	**ARCESS Array B**	**62.85**	**348**	LR		LR	09 48 11.7		
	comp=Z,44nm,20.8s,baz=198,slow=40								
KSAR	**Wonju Array Be**	**68.67**	**54**	P		**P**	**09 17 39.6**	**-1.7**
KSRS	**Korea Array**	**68.70**	**54**	P		**P**	**09 17 39.6**	**-1.8**
	comp=Z,2.0nm,0.8s,baz=262,slow=6.9,SNR=8.3								
KSRS					LR	LR	09 48 53.0		
	comp=Z,40nm,18.4s,baz=308,slow=37								
USRK	**Ussuriysk Arra**	**72.20**	**47**	LR		LR	09 50 34.4		
	comp=Z,79nm,18.3s,baz=175,slow=37								
KBS	**Kingsbay**	**72.34**	**352**	⇑*e*P		**P**	**09 18 02.6**	**-0.3**
KBS					pmax	pmax			
	comp=Z,26nm,1.4s								
MJAR	**Matsushiro Arr**	**76.92**	**55**	P		**P**	**09 18 29.8**	**-0.6**
MJAR	**Matsushiro Arr**	**76.92**	**55**	P		**P**	**09 18 29.8**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=296,slow=7.0,SNR=4.8								
MJAR					LR	LR	09 54 05.2		
	comp=Z,58nm,18.1s,baz=85,slow=37								
YSS	**Yuzh-Sakhalins**	**79.75**	**44**	*e*P		**P**	**09 18 45.1**	**-0.6**
YSS					pmax	pmax			
	comp=Z,10.0nm,0.7s								
WRA	**Warramunga Arr**	**81.51**	**112**	P		**P**	**09 18 54.3**	**-1.4**
WRA	**Warramunga Arr**	**81.51**	**112**	P		**P**	**09 18 54.3**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=302,slow=2.9,SNR=5.2								
ASAR	**Alice Springs**	**82.03**	**116**	P		**P**	**09 18 57.1**	**-1.3**
ASAR	**Alice Springs**	**82.03**	**116**	P		**P**	**09 18 57.1**	**-1.3**
	comp=Z,0.7nm,0.9s,baz=296,slow=5.3,SNR=6.5								
BILL	**Bilibino**	**87.77**	**21**	*e*P		**P**	**09 19 26.4**	**0.0**
BILL					pmax	pmax			
	comp=Z,4.0nm,1.2s								
YKA	**Yellowknife Ar**	**107.44**	**356**	PP		PP	09 25 20.6	-1.8
YKA	**Yellowknife Ar**	**107.44**	**356**	PP		PP	09 25 20.6	-1.8
	comp=Z,0.5nm,1.1s,baz=12,slow=6.8,SNR=5.4								
YKA	**Yellowknife Ar**	**107.44**	**356**	PP		PP	09 25 20.6	-1.8
PDAR	**Pinedale Array**	**126.10**	**348**	PKP		**PKPdf**	**09 25 40.2**	**-0.5**
PDAR	**Pinedale Array**	**126.10**	**348**	PKP		**PKPdf**	**09 25 40.2**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=50,slow=2.3,SNR=4.0								
PDAR	**Pinedale Array**	**126.10**	**348**	PKIKP		**PKPdf**	**09 25 40.2**	**-0.5**
NVAR	**Mina Array Bea**	**131.63**	**355**	PKP		**PKPdf**	**09 25 51.8**	**+0.5**
NVAR	**Mina Array Bea**	**131.63**	**355**	PKP		**PKPdf**	**09 25 51.8**	**+0.5**
	comp=Z,2.2nm,0.3s,baz=350,slow=4.8,SNR=2.9								
NVAR	**Mina Array Bea**	**131.63**	**355**	PKIKP		**PKPdf**	**09 25 51.8**	**+0.5**
TXAR	**Lajitas Array**	**136.75**	**335**	PKP		**PKPdf**	**09 25 60.0**	**-1.0**
TXAR	**Lajitas Array**	**136.75**	**335**	PKP		**PKPdf**	**09 25 60.0**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=101,slow=2.7,SNR=4.3								

NNC 09 09:13:00.2±0.7, 50.48N×74.84E, h0km, mb3.1, mpv2.7, 5C-8D, Error ellipse: s-maj=12.2km s-min=3.4km az=24.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.36**	**85**	⇓Pn	Pn	09 13 40.9	+0.8
	0.7nm,0.6s						
KURBB				⇓Sn	Sn	09 14 11.0	+1.2
	3.6nm,0.6s						
KURK	**Kurchatov**	**2.42**	**83**	⇓Pn	Pn	09 13 40.9	-0.2
	2.7nm,0.6s						
KURK				⇑Sn	Sn	09 14 12.0	+0.7
	9.7nm,0.8s						
VOSK	**Vostochnaya**	**3.29**	**314**	⇑Pn	Pn	09 13 53.4	+0.4
	2.7nm,0.7s						
VOSK				⇓Sn	Sn	09 14 33.1	+0.2
	12nm,0.7s						
BVA0	**Borovoye Array**	**3.76**	**314**	⇑Pn	Pn	09 13 59.7	+0.2
	0.4nm,0.8s,baz=108,slow=16,SNR=6.8						
BVA0				⇓Sn	Sn	09 14 45.3	+0.9
	0.6nm,0.6s,baz=107,slow=26,SNR=6.1						
BRVK	**Borovoye**	**3.83**	**314**	⇑Pn	Pn	09 14 00.7	+0.3
	2.4nm,0.7s						
ZRNK	**Zerenda**	**4.39**	**307**	⇓Pn	Pn	09 14 08.0	-0.2
	0.5nm,0.7s						
ZRNK				⇑Sn	Sn	09 15 01.7	+1.8
	5.7nm,0.7s						
MK31	**Makanchi Array**	**6.16**	**124**	Pn	Pn	09 14 33.9	+1.3
	8.9nm,0.9s,baz=212,slow=9.8,SNR=39						
MK31				⇓Sn	Sn	09 15 50.7	+7.0
	0.8nm,0.7s						
MK31				⇓Lg	Lg	09 16 13.8	
	2.5nm,0.7s,baz=339,slow=28,SNR=6.2						

NNC 09 09:18:06.8±2.7, 54.03N×85.66E, h0km, mb3.5, mpv3.1, 5C-3D, Error ellipse: s-maj=24.9km s-min=11.8km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.44**	**235**	⇑Pn	Pn	09 19 29.4	+0.4
	0.9nm,0.5s						
KURK				⇑Lg	Lg	09 20 59.3	
	1.5nm,0.6s						
KURBB	**Kurchatov Arra**	**5.54**	**235**	Pn	Pn	09 19 30.8	+0.3
	0.2nm,0.3s						
MK31	**Makanchi Array**	**7.55**	**198**	Pn	Pn	09 20 00.4	+2.3
	1.0nm,0.6s,baz=26,slow=13,SNR=50						
MK31				⇑Sn	Sn	09 21 31.0	+6.6
	0.5nm,0.6s,baz=28,slow=28,SNR=4.0						
MK31				⇑Lg	Lg	09 22 04.4	
	2.5nm,0.8s,baz=59,slow=27,SNR=4.8						
VOSK	**Vostochnaya**	**8.88**	**267**	⇓Pn	Pn	09 20 17.1	+0.9
	0.9nm,0.5s						
VOSK				⇑Sn	Sn	09 21 56.5	-0.4
	2.0nm,0.7s						
ZRNK	**Zerenda**	**9.99**	**271**	⇓Pn	Pn	09 20 32.4	+1.0
	1.1nm,0.5s						
ZRNK				⇓Sn	Sn	09 22 24.7	+0.5
	1.8nm,0.9s						

IDC 09 09:40:41.1±2.7, 4.70S×136.29E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.3/13, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=119.5km s-min=31.6km az=85.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.27**	**187**	Pn	Pn	09 44 19.8	+1.6
	0.2nm,0.3s,baz=8.6,slow=13,SNR=3.7						
ASAR	**Alice Springs**	**18.99**	**187**	P	P	09 45 03.8	-0.7
	0.1nm,0.3s,baz=13,slow=12,SNR=5.6						
SONM	**Songino Array**	**58.54**	**337**	P	P	09 50 39.5	-0.1
	0.4nm,0.7s,baz=138,slow=6.9,SNR=3.8						

GRAL ***09*** *09:50:28.5±0.4, 34.36N×36.82E, h4km±6km, MD3.0*
CSEM ***09*** *09:50:29.4±0.6, 34.42N×36.68E, h2km, ML1.9, Error ellipse: s-maj=13.5km s-min=7.1km az=33.0*
ISC 09 09:50:29.6±1.7, 34.40N±0.07×36.69E±0.07, h10km±12km, n8, σ0s68/14, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAWK	**Haweek**	**0.27**	**298**	*i* P	**Pg**	**09 50 34.4**	**-0.6**
	SNR=105						
HAWK				*i* S	**Sg**	**09 50 39.2**	**+0.5**
	253nm,0.3s,SNR=108						
FKH	**Fakeheh**	**0.28**	**237**	*e*P	**Pg**	**09 50 34.8**	**-0.4**
FKH				*e*S	**Sg**	**09 50 39.7**	**+0.8**
HWQ	**Hawqa**	**0.62**	**259**	*e*P	**Pg**	**09 50 41.7**	**0.0**
HWQ				*e*S	**Sb**	**09 50 51.1**	**-0.4**
HWQ	**Hawqa**	**0.62**	**259**	*e*P	**Pg**	**09 50 41.7**	**0.0**
HWQ				*e*S	**Sb**	**09 50 51.1**	**-0.4**
BHL	**Bhannes**	**0.99**	**241**	*e*P	**Pg**	**09 50 47.6**	**-1.0**
BHL	**

SHI	**Shiraz**	**0.38**	**308**⇓	*e*Pg		**Pg**	**10 34 47.0**	**-0.3**
SHI				*e*Sg		**Sg**	**10 34 52.6**	**+0.3**
SHI				*e*			10 34 53.0	
	comp=Z,93µm,0.1s							
SHI	**Shiraz**	**0.38**	**308**⇓	*e*Pg		**Pg**	**10 34 47.0**	**-0.3**
SHI				*e*Sg		**Sg**	**10 34 52.6**	**+0.3**
IPAR	**Pars**	**0.46**	**21**⇑	*e*Pg		**Pg**	**10 34 48.2**	**-0.6**
IPAR				*e*Sg		**Sg**	**10 34 55.5**	**+0.5**
IPAR				*e*			10 35 01.5	
	comp=Z,32µm,0.2s							
IPAR	**Pars**	**0.46**	**21**⇑	*e*Pg		**Pg**	**10 34 48.2**	**-0.6**
IPAR				*e*Sg		**Sg**	**10 34 55.5**	**+0.5**
GHIR	**Ghir-Karzin**	**1.12**	**174**	*e*Pg		**Pn**	**10 35 01.9**	**+0.2**
GHIR				AML		AML	10 35 27.2	
	comp=E,2µm,0.7s							
GHIR	**Ghir-Karzin**	**1.12**	**174**	*e*Pg		**Pn**	**10 35 02.0**	**+0.2**
IMEH	**Mehriz**	**2.49**	**37**	*e*Pn		**Pb**	**10 35 23.2**	**-1.6**
IMEH				*e*			10 36 10.6	
	comp=Z,3µm,0.3s							
IMEH	**Mehriz**	**2.49**	**37**	*e*Pn		**Pb**	**10 35 23.2**	**-1.6**
ISAD	**Sadrabad**	**2.60**	**16**	*e*Pn		**Pn**	**10 35 24.0**	**+1.8**
ISAD	**Sadrabad**	**2.60**	**16**	*e*Pn		**Pn**	**10 35 24.0**	**+1.8**
IGAR	**Gharneh**	**3.07**	**347**	*e*Pn		**Pn**	**10 35 30.3**	**+1.7**
IGAR				*e*			10 35 46.2	
	comp=Z,2µm,0.3s							
ICHK	**Chekchek**	**3.12**	**25**	*e*Pn		**Pn**	**10 35 30.9**	**+1.5**
ICHK				*e*			10 35 41.4	
	comp=Z,2µm,0.3s							
ICHK	**Chekchek**	**3.12**	**25**	*e*Pn		**Pn**	**10 35 30.9**	**+1.5**
IBAF	**Bafgh**	**3.19**	**46**	*e*Pn		**Pn**	**10 35 31.8**	**+1.6**
IBAF				*e*			10 36 29.1	
	comp=Z,2µm,0.3s							
IBAF	**Bafgh**	**3.19**	**46**	*e*Pn		**Pn**	**10 35 31.8**	**+1.6**
NASN	**Na'in**	**3.38**	**359**	*e*Pn		**Pn**	**10 35 34.8**	**+1.8**
NASN	**Na'in**	**3.38**	**359**	*e*Pn		**Pn**	**10 35 34.8**	**+1.8**
KRBR	**Kerman**	**3.44**	**79**	*e*Pn		**Pn**	**10 35 36.6**	**+2.8**
KRBR				AML		AML	10 36 43.9	
	comp=N,158nm,0.8s							
KRBR				AML		AML	10 36 48.6	
	comp=E,202nm,0.6s							
KRBR	**Kerman**	**3.44**	**79**	*e*Pn		**Pn**	**10 35 36.6**	**+2.8**
IZEF	**Zefreh**	**3.50**	**353**	*e*Pn		**Pn**	**10 35 35.9**	**+1.3**
IZEF				*e*			10 36 16.2	
	comp=Z,917nm,0.3s							
IZEF	**Zefreh**	**3.50**	**353**	*e*Pn		**Pn**	**10 35 35.9**	**+1.3**
BNDS	**Bandar-Abbas**	**3.54**	**124**	*e*Pn		**Pn**	**10 35 36.8**	**+1.8**
BNDS				AML		AML	10 37 03.1	
	comp=N,125nm,0.5s							
BNDS	**Bandar-Abbas**	**3.54**	**124**	*e*Pn		**Pn**	**10 35 36.8**	**+1.8**
IPIR	**Pirpir**	**3.67**	**333**	*e*Pn		**Pn**	**10 35 38.4**	**+1.4**
IPIR				*e*			10 36 48.3	
	comp=Z,2µm,0.4s							
IPIR	**Pirpir**	**3.67**	**333**	*e*Pn		**Pn**	**10 35 38.4**	**+1.4**
QRN	**Al-Qurain**	**4.37**	**262**	*e*P		**Pn**	**10 35 47.9**	**+1.5**
QRN				AML		AML	10 36 34.8	
	comp=Z,56nm,0.4s							
KBD	**Kabd**	**4.52**	**268**	*e*P		**Pn**	**10 35 50.3**	**+2.0**
KBD				AML		AML	10 36 42.5	
	comp=Z,30nm,0.5s							
KBD	**Kabd**	**4.52**	**268**	*e*P		**Pn**	**10 35 50.3**	**+2.0**
MIB	**Mutribah**	**4.82**	**276**	*e*P		**Pn**	**10 35 54.4**	**+1.9**
MIB				AML		AML	10 36 51.6	
	comp=Z,88nm,0.6s							
MIB	**Mutribah**	**4.82**	**276**	*e*P		**Pn**	**10 35 54.4**	**+1.9**
NAY	**Al-Naaiem**	**4.91**	**270**	*e*P		**Pn**	**10 35 55.1**	**+1.5**
NAY	**Al-Naaiem**	**4.91**	**270**	*e*P		**Pn**	**10 35 55.1**	**+1.5**
ISFB	**Sefidab**	**4.96**	**354**	*e*Pn		**Pn**	**10 35 55.4**	**+1.0**
ISFB	**Sefidab**	**4.96**	**354**	*e*Pn		**Pn**	**10 35 55.4**	**+1.0**
IVRN	**Varamin**	**5.65**	**351**	*e*Pn		**Pn**	**10 36 04.7**	**+0.7**
IVRN				*e*Pn		**Pn**	**10 36 04.9**	**+0.9**
IVRN	**Varamin**	**5.65**	**351**	*e*Pn		**Pn**	**10 36 04.9**	**+0.9**
ITEG	**Tejag**	**6.13**	**54**	*e*Pn		**Pn**	**10 36 12.2**	**+1.6**
ITEG	**Tejag**	**6.13**	**54**	*e*Pn		**Pn**	**10 36 12.2**	**+1.6**
IDMV	**Damavand**	**6.19**	**354**	*e*Pn		**Pn**	**10 36 12.2**	**+0.7**
IDMV	**Damavand**	**6.19**	**354**	*e*Pn		**Pn**	**10 36 12.2**	**+0.7**
IFIR	**Firoozkooh**	**6.22**	**359**	*e*Pn		**Pn**	**10 36 12.9**	**+1.0**
IFIR	**Firoozkooh**	**6.22**	**359**	*e*Pn		**Pn**	**10 36 12.9**	**+1.0**
DAMV	**Damavand**	**6.25**	**353**	*e*Pn		**Pn**	**10 36 13.8**	**+1.5**
DAMV	**Damavand**	**6.25**	**353**	*e*Pn		**Pn**	**10 36 13.8**	**+1.5**
IRAZ	**Razeghan**	**6.47**	**338**	*e*Pn		**Pn**	**10 36 15.9**	**+0.6**
IRAZ	**Razeghan**	**6.47**	**338**	*e*Pn		**Pn**	**10 36 15.9**	**+0.6**
IKOM	**Komasi**	**6.58**	**318**	*e*Pn		**Pn**	**10 36 17.7**	**+0.9**
IKOM	**Komasi**	**6.58**	**318**	*e*Pn		**Pn**	**10 36 17.7**	**+0.9**
IVIS	**Veis**	**7.22**	**317**	*e*Pn		**Pn**	**10 36 25.3**	**-0.2**
IVIS	**Veis**	**7.22**	**317**	*e*Pn		**Pn**	**10 36 25.3**	**-0.2**
IGHG	**Ghaleghazi**	**7.26**	**314**	*e*Pn		**Pn**	**10 36 27.2**	**+1.1**
IGHG	**Ghaleghazi**	**7.26**	**314**	*e*Pn		**Pn**	**10 36 27.2**	**+1.1**
IDHR	**Dehrash**	**7.61**	**316**	*e*Pn		**Pn**	**10 36 31.0**	**0.0**
IDHR				*e*			10 38 08.0	
	comp=Z,747nm,0.2s							
IDHR	**Dehrash**	**7.61**	**316**	*e*Pn		**Pn**	**10 36 31.0**	**0.0**
BHD	**Baghdad**	**8.21**	**300**	*ex*		**Pn**	**10 36 39.5**	**+0.5**
BHD				*ex*		**Sn**	**10 38 12.2**	**+0.4**
BHD	**Baghdad**	**8.21**	**300**	*e*Pn		**Pn**	**10 36 39.5**	**+0.5**
BHD				*e*Sn		**Sn**	**10 38 12.2**	**+0.4**
ASF	**Jabal al Asfar**	**13.99**	**285**	Pn		**Pn**	**10 37 56.5**	**-1.8**
	comp=Z,0.9nm,0.3s,baz=343,slow=19,SNR=12							
ZEI	**Tsey**	**15.16**	**334**	*e*P		**P**	**10 38 18.3**	**-1.1**
ZEI				pmax		pmax		
	comp=Z,6.0nm,0.9s							
ZEI	**Tsey**	**15.16**	**334**	*e*P		**P**	**10 38 18.3**	**-1.1**
	comp=Z,6.0nm,0.9s							
MMAI	**Mount Meron Ar**	**15.36**	**288**	Pn		**Pn**	**10 38 18.1**	**+1.3**
	comp=Z,1.7nm,0.3s,baz=90,slow=14,SNR=3.5							
BRTR	**Keskin Array B**	**18.84**	**308**	P		**P**	**10 38 60.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=133,slow=9.9,SNR=7.4							
BRTR	**Keskin Array B**	**18.84**	**308**	P		**P**	**10 39 00.0**	**-0.1**
AKTO	**Aktyubinsk**	**21.36**	**9**	P		**P**	**10 39 24.8**	**-2.4**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.4s							
AKTO	**Aktyubinsk**	**21.36**	**9**	P		**P**	**10 39 24.8**	**-2.4**
	comp=Z,1.4nm,0.4s,baz=198,slow=14,SNR=8.2							
AAK	**Ala-Archa**	**21.84**	**47**	P		**P**	**10 39 34.4**	**+1.8**
AAK				pmax		pmax		
	comp=Z,1.0nm,0.5s							
AAK				MLR		MLR		
	comp=Z,55nm,20.6s							
AAK	**Ala-Archa**	**21.84**	**47**	P		**P**	**10 39 34.4**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=193,slow=14,SNR=2.6							
AAK				LR		LR	10 48 20.2	
	comp=Z,55nm,20.6s,baz=57,slow=38							
AAK	**Ala-Archa**	**21.84**	**47**	P		**P**	**10 39 34.4**	**+1.8**
	comp=Z,55nm,20.6s							
MLR	**Muntele Rosu**	**26.55**	**315**	P		**P**	**10 40 19.0**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=248,slow=19,SNR=2.4							
MLR	**Muntele Rosu**	**26.55**	**315**	P		**P**	**10 40 19.0**	**+1.0**
BVAR	**Borovoye Array**	**26.89**	**24**	P		**P**	**10 40 21.7**	**+1.0**
BVAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
BVAR	**Borovoye Array**	**26.89**	**24**	P		**P**	**10 40 21.7**	**+1.0**
	comp=Z,1.5nm,0.7s,baz=213,slow=7.4,SNR=10.0							
BVAR	**Borovoye Array**	**26.89**	**24**	P		**P**	**10 40 21.7**	**+1.0**
	comp=Z,2.0nm,0.7s							
KOLN	**Koldanda**	**27.01**	**86**	*e*P		**P**	**10 40 21.4**	**-1.0**
DANN	**Dangsing**	**27.04**	**85**	*e*P		**P**	**10 40 23.5**	**+0.7**
	comp=Z,13nm,0.7s							
AKASG	**Malin Array Be**	**27.70**	**327**	P		**P**	**10 40 27.8**	**-0.3**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**27.70**	**327**	P		**P**	**10 40 27.8**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=131,slow=9.3,SNR=3.3							
AKASG	**Malin Array Be**	**27.70**	**327**	P		**P**	**10 40 27.8**	**-0.3**
	comp=Z,1.0nm,0.4s							
DMN	**Daman**	**28.35**	**86**	*e*P		**P**	**10 40 34.1**	**-0.3**
KKN	**Kakani**	**28.47**	**85**	*e*P		**P**	**10 40 35.6**	**+0.2**
PKI	**Pulchoki**	**28.62**	**86**	*e*P		**P**	**10 40 36.9**	**0.0**
MKAR	**Makanchi Array**	**28.71**	**45**	P		**P**	**10 40 37.1**	**-0.1**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**28.71**	**45**	P		**P**	**10 40 37.0**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=237,slow=6.7,SNR=6.0							
MKAR	**Makanchi Array**	**28.71**	**45**	P		**P**	**10 40 37.1**	**-0.1**
	comp=Z,1.0nm,0.8s							
GUN	**Gumba**	**28.96**	**85**	*e*P		**P**	**10 40 39.9**	**-0.1**
JIRN	**Jiri**	**29.28**	**85**	*e*P		**P**	**10 40 43.0**	**+0.1**
RAMN	**Ramite**	**29.79**	**86**	*e*P		**P**	**10 40 45.2**	**-2.0**
ZALV	**Zalesovo Beam**	**33.73**	**34**	P		**P**	**10 41 21.6**	**+0.3**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.6s							
ZALV	**Zalesovo Beam**	**33.73**	**34**	P		**P**	**10 41 21.6**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=262,slow=9.6,SNR=3.5							
ZALV	**Zalesovo Beam**	**33.73**	**34**	P		**P**	**10 41 21.6**	**+0.3**
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**36.61**	**339**	P		**P**	**10 41 45.2**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=143,slow=10,SNR=9.2							
FINES	**FINESS Array B**	**36.61**	**339**	P		**P**	**10 41 45.3**	**-0.6**
	comp=Z,1.0nm,0.5s							
NB2	**NORSAR Subarra**	**41.92**	**331**	P		**P**	**10 42 29.3**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=120,slow=8.6							
NB2	**NORSAR Subarra**	**41.92**	**331**	P		**P**	**10 42 29.3**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=120,slow=8.1,SNR=4.3							
NOA	**NORSAR Array B**	**41.92**	**331**	P		**P**	**10 42 29.0**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=121,slow=8.2,SNR=4.8							
NOA				LR		LR	11 03 22.0	
	comp=Z,25nm,18.2s,baz=175,slow=41							
SONM	**Songino Array**	**44.73**	**50**	P		**P**	**10 42 54.6**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=256,slow=7.6,SNR=3.6							
SONM	**Songino Array**	**44.73**	**50**	P		**P**	**10 42 54.6**	**+1.2**
YKA	**Yellowknife Ar**	**87.87**	**354**	P		**P**	**10 47 28.7**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=12,slow=5.4,SNR=5.2							
YKA	**Yellowknife Ar**	**87.87**	**354**	P		**P**	**10 47 28.7**	**-0.6**

IDC ***09*** *10:47:45.6±0.4, 1°.30N×123°.42E, h0km, mb4.5/22, mb1 4.6/22,mb1mx4.6/25,mbtmp4.5/22,ML5.2/2,MS4.6/22, Ms1 4.6/22,ms1mx4.5/33,Error ellipse: s-maj=20.1km s-min=9.0km az=71.0*

BJI ***09*** *10:47:46.2, 1°.35N×123°.66E,h10km,mB5.3/49,mb4.9/54, Ms5.0/61,MS7 4.8/58*

NEIC ***09*** *10:47:49.4±1.8, 1°.32N×123°.47E,h24km±12km,mb5.2/36, Error ellipse: s-maj=7.6km s-min=4.0km az=74.0*

MOS ***09*** *10:47:49.5±1.2, 1°.38N×123°.46E,h35km,mb5.3/36, MS4.5/7,Error ellipse: s-maj=13.5km s-min=5.8km az=110.7*

ISCJB ***09*** *10:47:50.2±0.5, 1°.35N±0°.02×123°.47E±0°.03,h41km±4km, mb5.0/108,MS4.7/45,Error ellipse: s-maj=4.9km s-min=3.6km az=173.0*

DJA ***09*** *10:47:53, 1°.29N×123°.50E,h46km, mb5.4/26*

MAN ***09*** *10:48:46, 5°.63N×123°.73E,h40km, mb4.8,ML3.7,MS3.7*

ISC 09 10:47:49.5±0.3, 1°.33N±0°.03×123°.53E±0°.04, h22km±2km, h22km:pP-P,n312,σ1s72/369, mb5.0/108, MS4.7/46, 16C-18D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**1.31**	**85**	P	**Pb**	**10 48 13.7**	**+0.2**
LUWI	**Luwuk**	**2.48**	**198**	P	**Pn**	**10 48 28.8**	**+0.3**
SGSI	**Sangihe**	**3.08**	**40**	P	**Pn**	**10 48 38.9**	**+2.1**
TNTI	**Ternate**	**3.87**	**98**	P	**Pb**	**10 48 58.1**	**+1.0**
LBMI	**Labuha**	**4.42**	**116**	P	Pn	10 48 58.6	+3.2
KDI	**Kendari**	**5.33**	**190**	P	**Pn**	**10 49 08.7**	**+0.9**
	1µm,1.5s,20µm5.4nm						
CTBH	**Cotabato--PC H**	**5.89**	**7**⇑	*i*P	**Pn**	**10 49 13.3**	**-2.3**
DMPH	**Davao City--Mi**	**6.04**	**19**⇑	*e*P	Pn	10 49 21.6	+4.0
DAV	**Davao City (W)**	**6.06**	**20**	Pn	**Pn**	**10 49 17.8**	**0.0**
	403nm,0.7s						
DAV	**Davao City (W)**	**6.06**	**20**	P	Pn	10 49 23.9	+6.1
	66nm,1.2s,11µm2.9nm						
DAV	**Davao City (W)**	**6.06**	**20**	Pn	Pn	10 49 21.2	+3.4
	37nm,0.3s,baz=61,slow=1.1,SNR=23						
TSM	**Tawau**	**6.37**	**298**	P	**Pn**	**10 49 19.2**	**-3.0**
PAGZ	**Pagadian**	**6.48**	**359**	*e*P	**Pn**	**10 49 23.0**	**-0.6**
IPIL	**Ipil**	**6.49**	**352**	*e*P	**Pn**	**10 49 23.6**	**-0.1**
SMKI	**Samarinda**	**6.56**	**254**	P	Pn	10 49 28.0	+3.2
	554nm,1.1s,6µm3.3nm						
BUKP	**Musuan**	**6.68**	**13**	*e*P	**Pn**	**10 49 27.0**	**+0.6**
AAI	**Ambon**	**6.82**	**137**	P	Pn	10 49 32.7	+4.4
	387nm,0.9s,4µm1.5nm						
MSAI	**Mohi**	**7.12**	**131**	P	Pn	10 49 36.5	+4.1
	154nm,1.1s,2µm0.5nm						
KAPI	**Kappang**	**7.35**	**211**	*e*Pn	**Pn**	**10 49 34.7**	**-0.8**
KAPI				Sn	**Sn**	**10 50 58.5**	**+0.2**
KAPI	**Kappang**	**7.35**	**211**	Pn	**Pn**	**10 49 34.6**	**-0.9**
	5µm,1.1s,SNR=24						
KAPI	**Kappang**	**7.35**	**211**	P	**Pn**	**10 49 34.6**	**-0.9**
	823nm,1.1s,7µm3.3nm						
KAPI	**Kappang**	**7.35**	**211**	Pn	**Pn**	**10 49 34.0**	**-1.5**
	40nm,0.3s,baz=7.8,slow=7.1,SNR=69						
KAPI				Sn	**Sn**	**10 50 58.5**	**+0.2**
	24nm,0.3s,baz=223,slow=23,SNR=9.3						
KAPI				LR	LR	10 53 01.2	
	comp=Z,12µm,18.1s,baz=43,slow=43						
BKSI	**Bulukumba**	**7.43**	**207**	P	**Pn**	**10 49 37.6**	**+0.9**
	428nm,1.1s,4µm3.6nm						
SDKM	**Sandakan**	**7.64**	**304**	P	**Pn**	**10 49 38.0**	**-1.5**
BUTP	**Butuan**	**7.87**	**15**	*e*P	Pn	10 49 46.3	+3.6
SWI	**Sorong**	**8.03**	**106**	P	Pb	10 50 00.5	-7.5
KKM	**Kota Kinabalu**	**8.67**	**303**	*e*Pn	**Pn**	**10 49 52.4**	**-1.5**
KKM	**Kota Kinabalu**	**8.67**	**303**	P	**Pn**	**10 49 53.4**	**-0.4**
KKM	**Kota Kinabalu**	**8.67**	**303**	P	Pn	10 50 00.7	+6.9
KDM	**Kuantan**	**8.68**	**310**	P	**Pn**	**10 49 55.8**	**+1.9**
FAKI	**Fak Fak**	**9.68**	**116**	P	Pn	10 50 10.9	+3.3
	30nm,1.0s,873nm						
PLP	**Palo**	**9.88**	**8**⇓	*e*P	Pn	10 50 14.8	+4.5
BBKI	**Banjar Baru**	**9.91**	**241**	P	Pn	10 50 14.5	+3.8
	216nm,0.7s,3µm						
MMRI	**Maumere**	**9.98**	**187**	P	Pn	10 50 16.8	+5.1
BTM	**Bintulu**	**10.60**	**280**	P	Pn	10 50 28.3	+8.0
SBUM	**Sibu**	**11.36**	**276**	P	**Pn**	**10 50 30.3**	**-0.2**
SBUM	**Sibu**	**11.36**	**276**	P	**Pn**	**10 50 29.9**	**-0.7**
	20nm,1.5s,1µm						
KHKI	**Kahang-Kahang**	**12.46**	**219**	P	**P**	**10 50 57.7**	**+0.4**
IGBI	**Denpasar**	**13.10**	**220**	P	**P**	**10 51 04.6**	**+0.2**
NBBI	**Negara**	**13.11**	**223**	P	**P**	**10 51 06.8**	**+2.3**
KSM	**Kuching**	**13.22**	**271**	Pn	**Pn**	**10 50 56.0**	**0.0**
KSM	**Kuching**	**13.22**	**271**	P	**P**	**10 51 07.3**	**+1.5**
KSM	**Kuching**	**13.22**	**271**	P	**P**	**10 51 07.7**	**+1.9**
BLJI	**Banyuglugur**	**13.40**	**228**	P	P	10 51 13.7	+5.9
JAGI	**Jajag, Banyuwa**	**13.50**	**224**	P	Pn	10 51 03.4	+3.6
	512nm,1.1s,5µm						
KRKI	**Karangkates**	**14.52**	**229**	P	**P**	**10 51 19.5**	**-0.8**
SJI	**Sawahan**	**14.79**	**232**	P	**Pn**	**10 51 20.4**	**+2.8**
	126nm,0.8s,5µm						
PCJI	**Pacitan**	**15.53**	**232**	P	P	10 51 41.9	+10
YOGI	**Yogyakarta**	**16.03**	**235**	P	P	10 51 42.2	+5.2
PPBI	**Pangkal Pinang**	**17.73**	**259**	P	**Pn**	**10 51 55.3**	**+0.1**
	76nm,1.1s						
LEM	**Lembang**	**17.83**	**243**	P	P	10 52 03.9	+6.7
CISI	**Cisompet, Garu**	**17.99**	**240**	P	**P**	**10 52 03.5**	**+4.7**
CBJI	**Citeko**	**18.35**	**245**	P	**P**	**10 52 01.8**	**-0.9**
	531nm,0.9s,20µm						
FITZ	**Fitzroy Crossi**	**19.42**	**174**	*e*P	**P**	**10 52 14.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**19.42**	**174**	*e*P	**P**	**10 52 14.0**	**-0.4**
	290nm,0.8s						
FITZ				*e*S	**S**	**10 55 51.0**	**-2.0**
FITZ	**Fitzroy Crossi**	**19.42**	**174**	P	**P**	**10 52 13.6**	**-0.8**
	5.5nm,0.3s,baz=6.1,slow=10,SNR=112						
FITZ				LR	LR	10 59 36.5	
	comp=Z,1µm,20.5s,baz=228,slow=37						
MYKOM	**Kota Tinggi**	**19.68**	**272**	P	**Pn**	**10 52 18.3**	**-0.6**
MYKOM	**Kota Tinggi**	**19.68**	**272**	P	**P**	**10 52 18.1**	**+0.8**
	190nm,1.3s,2µm						
KGM	**Kluang**	**20.22**	**272**	P	**P**	**10 52 23.3**	**+0.1**
LWLI	**Liwa**	**20.45**	**252**	P	Pn	10 52 30.4	+2.3
	219nm,1.0s						
TWG	**Pinlang**	**21.50**	**354**	*e*P	**P**	**10 52 37.5**	**+0.6**
	63nm,0.9s						
KSI	**Kapahiang**	**21.50**	**257**	P	**P**	**10 52 37.3**	**+0.1**
	210nm,1.0s,24µm						
FRIM	**Kepong**	**21.97**	**275**	P	**P**	**10 52 45.5**	**+3.4**
TPUB	**Ta-pu**	**22.02**	**353**	*e*P	**P**	**10 52 43.3**	**+0.7**
	746nm,1.8s						
YULB	**Yu-li**	**22.04**	**355**	*e*P	**P**	**10 52 41.3**	**-1.4**
	56nm,1.1s						
QIZ	**Qiongzhong**	**22.12**	**324**	P	**P**	**10 52 43.4**	**-0.3**
QIZ				sP	**sP**	**10 52 48.5**	**-4.2**
QIZ				S	**S**	**10 56 47.9**	**+1.2**
QIZ				sS	**sS**	**10 56 54.9**	**-1.8**
QIZ				LR	LR		
	comp=N,2µm,14.3s						
QIZ				LR	LR		
	comp=Z,2µm,16.9s						
KRJI	**Kerinci**	**22.33**	**261**	P	**P**	**10 52 48.6**	**+2.5**
	comp=Z,588nm,1.5s,comp=Z,15µm						
SSLB	**Suanglung**	**22.46**	**354**	*e*P	**P**	**10 52 46.6**	**-0.7**
	comp=Z,65nm,0.9s						
BKNI	**Bangkinang**	**22.51**	**268**	P	**P**	**10 52 49.8**	**+1.8**
	comp=Z,222nm,1.1s,comp=Z,3µm						
MBWA	**Marble Bar**	**22.66**	**189**	*e*P	**P**	**10 52 47.4**	**-2.0**
	comp=Z,147nm,1.4s						
MBWA	**Marble Bar**	**22.66**	**189**	*e*P	**P**	**10 52 47.2**	**-2.2**
IPM	**Ipoh**	**22.69**	**278**	*e*P	**P**	**10 52 48.1**	**-1.7**
	comp=Z,92nm,1.1s						
IPM	**Ipoh**	**22.69**	**278**	P	**P**	**10 52 48.7**	**-1.2**
IPM	**Ipoh**	**22.69**	**278**	P	**P**	**10 52 49.4**	**-0.5**
	comp=Z,60nm,1.9s,comp=Z,1µm						
PPI	**Padang Panjang**	**23.20**	**266**	P	**P**	**10 52 55.1**	**0.0**
	comp=Z,119nm,1.1s,comp=Z,1µm						
YHNB	**Yeheng**	**23.30**	**355**	*e*P	**P**	**10 52 55.0**	**-1.0**
	comp=Z,90nm,1.2s						
WRAB	**Tennant Creek**	**23.65**	**154**	*e*P	**P**	**10 52 59.0**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,118nm,1.2s						
WRAB	**Tennant Creek**	**23.65**	**154**	*e*P	**P**	**10 52 59.0**	**-0.5**
	comp=Z,118nm,1.2s						
WRAB	**Tennant Creek**	**23.65**	**154**	P	**P**	**10 52 59.2**	**-0.3**
	comp=Z,373nm,0.6s,SNR=22						
WRA	**Warramunga Arr**	**23.65**	**154**	P	**P**	**10 52 58.5**	**-1.0**
WRA				S	**S**	**10 57 17.0**	**+3.8**
WRA	**Warramunga Arr**	**23.65**	**154**	P	**P**	**10 52 58.5**	**-1.0**
	comp=Z,29nm,0.6s,baz=335,slow=10.0,SNR=200						
WRA				S	**S**	**10 57 17.0**	**+3.8**
	comp=Z,5.2nm,1.1s,baz=342,slow=18,SNR=3.1						
GZH	**Guangzhou**	**23.78**	**336**	P	**P**	**10 53 05.0**	**+4.3**
GZH				S	**S**	**10 57 21.5**	**+6.3**
GZH				LR	LR		
	comp=N,1µm,17.6s						
GZH				LR	LR		
	comp=E,3µm,16.1s						
GZH				LR	LR		
	comp=Z,4µm,16.6s						
QZH	**Quanzhou**	**23.95**	**349**⇑	*i*P	**P**	**10 53 02.7**	**+0.4**
QZH				S	**S**	**10 57 17.9**	**0.0**
QZH				pmax	pmax		
	comp=Z,1µm,6.9s						
QZH				LR	LR		
	comp=N,6µm,23.7s						
QZH				LR	LR		
	comp=E,3µm,19.9s						
QZH				LR	LR		
	comp=Z,4µm,19.2s						
GUMO	**Guam**	**24.38**	**59**	LR	LR	11 00 49.9	
	comp=Z,1µm,21.1s,baz=233,slow=32						
PSI	**Prapat**	**24.63**	**274**	P	**P**	**10 53 07.9**	**-1.0**
	comp=Z,190nm,1.1s,comp=Z,2µm						
COEN	**Coen**	**24.69**	**129**	*e*P	**P**	**10 53 10.0**	**+0.8**
	comp=Z,266nm,0.6s						
TSI	**Tuntungan**	**25.04**	**275**	P	P	10 53 17.8	+5.4
	comp=Z,260nm,1.3s						
JOW	**Kunigami**	**25.76**	**10**	LR	LR	11 03 17.9	
	comp=Z,905nm,18.6s,baz=136,slow=36						
PMG	**Port Moresby**	**25.84**	**115**	P	**P**	**10 53 22.6**	**+3.0**
	comp=Z,66nm,1.0s,comp=Z,1µm						
PMG	**Port Moresby**	**25.84**	**115**	P	**P**	**10 53 20.7**	**+1.1**
	comp=Z,68nm,1.0s,baz=335,slow=7.0,SNR=6.0						
GSI	**Gunungsitoli**	**25.95**	**270**	P	**P**	**10 53 19.2**	**-1.5**
	comp=Z,173nm,1.3s,comp=Z,4µm						
TPTI		**26.40**	**275**	P	**P**	**10 53 28.9**	**+4.2**
	comp=Z,208nm,0.8s,comp=Z,8µm						
AS31	**Alice Springs**	**26.82**	**159**	*e*P	**P**	**10 53 28.8**	**+0.4**
ASAR	**Alice Springs**	**26.82**	**159**	P	**P**	**10 53 28.9**	**+0.5**
ASAR	**Alice Springs**

comp=Z,20nm,0.7s
CD2 pmax pmax
comp=Z,180nm,4.5s
CD2 LR LR
comp=N,1µm,15.7s
CD2 LR LR
comp=E,1µm,16.8s
CD2 LR LR
comp=Z,1µm,15.1s
XAN Xi'an 35.30 339 P **P** **10 54 42.8 -0.2**
XAN S **S** **11 00 16.5 +0.5**
XAN pmax pmax
comp=Z,3.0nm,1.2s
XAN pmax pmax
comp=Z,24nm,3.6s
XAN LR LR
comp=N,790nm,19.8s
XAN LR LR
comp=E,410nm,15.4s
XAN LR LR
comp=Z,560nm,15.9s
BBOO Buckleboo 35.96 162 *e*P **P** **10 54 48.1 -0.5**
comp=Z,878nm,1.0s
KSAR Wonju Array Be 36.16 6 P **P** **10 54 50.1 -0.2**
KSRS Korea Array 36.17 6 P **P** **10 54 50.1 -0.3**
comp=Z,1.6nm,1.0s,baz=185,slow=13,SNR=4.5
KSRS LR LR 11 12 56.7
comp=Z,640nm,18.3s,baz=170,slow=42
STKA Stephens Creek 37.20 154 *e*P **P** **10 54 59.6 +0.3**
STKA Stephens Creek 37.20 154 *e*P **P** **10 54 59.3 0.0**
comp=Z,24nm,0.9s
STKA *e*S S 11 00 55.0 +10
STKA Stephens Creek 37.20 154 P **P** **10 54 58.2 -1.1**
STKA LR LR 11 10 31.3
comp=Z,656nm,19.9s,baz=148,slow=37
DL2 Dalian 37.44 358 P **P** **10 55 01.7 +0.5**
DL2 S **S** **11 00 49.3 +0.9**
DL2 pmax pmax
comp=Z,160nm,2.9s
DL2 LR LR
comp=E,450nm,14.7s
DL2 LR LR
comp=Z,480nm,15.7s
MAJO Matsushiro 37.58 20 *e*P **P** **10 55 01.8 -0.6**
MAJO pmax pmax
comp=Z,30nm,1.1s
MAJO Matsushiro 37.58 20 *e*P **P** **10 55 01.8 -0.6**
comp=Z,30nm,1.1s
MAT Matsushiro 37.58 20 P **P** **10 55 01.3 -1.2**
MAT S **S** **11 00 47.0 -3.8**
MJAR Matsushiro Arr 37.58 20 P **P** **10 55 01.5 -0.9**
MJAR Matsushiro Arr 37.58 20 P **P** **10 55 01.5 -0.9**
comp=Z,7.4nm,0.9s,baz=197,slow=9.9,SNR=24
MJAR LR LR 11 09 15.9
comp=Z,794nm,19.0s,baz=210,slow=34
EIDS Eidsvold 37.62 137 *e*P **P** **10 55 02.1 -0.9**
comp=Z,22nm,1.3s
SHL Shillong 38.87 311 *e*PKP **P** **10 55 14.6 +0.9**
SHL *e*S **S** **11 01 08.0 -2.9**
BJT Baijiatuau 39.09 351 *e*P **P** **10 55 15.3 +0.3**
comp=Z,49nm,1.3s
BJI Beijing 39.11 351 P **P** **10 55 15.1 -0.1**
BJI PP **PnPn** **10 56 47.3 -0.4**
BJI S **S** **11 01 11.5 -2.2**
BJI pmax pmax
comp=Z,26nm,1.0s
BJI pmax pmax
comp=Z,280nm,5.3s
BJI LR LR
comp=N,620nm,21.8s
BJI LR LR
comp=E,340nm,18.6s
BJI LR LR
comp=Z,580nm,20.6s
LZH Lanzhou 39.11 334 ⇑P **P** **10 55 17.3 +1.8**
LZH pP **pP** **10 55 24.0 +1.8**
LZH sP **sP** **10 55 28.4 +3.5**
LZH PP **PnPn** **10 56 50.4 +2.4**
LZH S **S** **11 01 16.1 +1.9**
LZH sS **sS** **11 01 23.6 -1.6**
LZH pmax pmax
comp=Z,35nm,1.0s
LZH pmax pmax
comp=Z,340nm,4.5s
LZH LR LR
comp=N,1µm,14.6s
LZH LR LR
comp=E,1µm,15.8s
LZH LR LR
comp=Z,2µm,16.2s
SNY Shenyang 40.31 0 ⇑P **P** **10 55 25.6 +0.4**
SNY pmax pmax
comp=Z,17nm,1.1s
SNY pmax pmax
comp=Z,340nm,5.6s
SNY LR LR
comp=N,1µm,19.3s
SNY LR LR
comp=E,380nm,15.6s
SNY LR LR
comp=Z,1µm,19.4s
HHC Hu-ho-hao-te 40.80 346 *e*P **P** **10 55 29.7 +0.2**
HHC sP **sP** **10 55 36.8 -2.1**
HHC PP **PnPn** **10 57 08.4 +0.4**
HHC S **S** **11 01 39.8 +0.4**
HHC sS **sS** **11 01 49.2 -1.3**
HHC SS **SS** **11 04 38.9 -2.0**
HHC ScS **ScS** **11 05 32.5 -1.2**
HHC pmax pmax
comp=Z,18nm,1.1s
HHC pmax pmax
comp=Z,350nm,7.8s
HHC LR LR
comp=N,1µm,16.1s
HHC LR LR
comp=E,660nm,16.1s
HHC LR LR
comp=Z,1µm,15.9s
BTO Baotou 40.97 344 *e*P **P** **10 55 29.7 -1.1**
ARMA Armidale 41.39 142 *e*P **P** **10 55 36.3 +1.8**
comp=Z,56nm,1.4s
ARMA Armidale 41.39 142 *e*P **P** **10 55 36.0 +1.5**
LSA Lhasa 41.76 316 P **P** **10 55 39.8 +1.9**
LSA Lhasa 41.76 316 *e*P **P** **10 55 37.7 -0.3**
LSA pmax pmax
comp=Z,20nm,0.8s
LSA Lhasa 41.76 316 *e*P **P** **10 55 37.7 -0.3**
comp=Z,20nm,0.8s
CN2 Changchun 42.32 2 *e*P **P** **10 55 41.1 -0.6**
CN2 *e*S **S** **11 02 01.1 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,400nm,15.0s
CN2 LR LR
comp=E,600nm,15.0s
CN2 LR LR
comp=Z,800nm,15.0s
YNG Young 42.44 149 *e*P **P** **10 55 44.3 +1.4**
comp=Z,25nm,1.2s
USRK Ussuriysk Arra 43.34 9 P **P** **10 55 50.6 +0.7**
comp=Z,5.0nm,0.8s,baz=206,slow=9.6,SNR=8.4
USRK LR LR 11 12 39.7
comp=Z,515nm,20.5s,baz=360,slow=34
MDJ Mudanjiang 43.44 6 P **P** **10 55 52.3 +1.6**
MDJ pP **pP** **10 55 55.5 -2.0**
MDJ sP **sP** **10 55 56.9 -3.3**
MDJ PP **PP** **10 57 33.4 +1.4**
MDJ PcP **PcP** **10 57 39.1 +0.3**
MDJ ScP **ScP** **11 01 31.5 +2.3**
MDJ PcS **PcS** **11 01 33.3 +2.0**
MDJ S **S** **11 02 14.5 -3.4**
MDJ sS **sS** **11 02 27.6 -1.4**
MDJ pmax pmax
comp=Z,5.0nm,1.0s
MDJ pmax pmax
comp=Z,150nm,4.8s
MDJ LR LR
comp=N,430nm,19.5s
MDJ LR LR
comp=E,490nm,14.2s
MDJ LR LR
comp=Z,640nm,14.2s

MDJ Mudanjiang 43.44 6 *e*P **P** **10 55 49.4 -1.3**
comp=Z,10nm,1.0s
CAN Canberra 43.55 149 *e*P **P** **10 55 52.8 +0.9**
CAN pmax pmax
comp=Z,30nm,0.6s
CAN Canberra 43.55 149 *e*P **P** **10 55 52.8 +0.9**
comp=Z,30nm,0.6s
GTA Gaotai 43.64 333 P **P** **10 55 53.9 +1.2**
GTA pP **pP** **10 55 57.9 -1.5**
GTA sP **sP** **10 56 01.6 -0.5**
GTA S **S** **11 02 23.1 +1.7**
GTA sS **sS** **11 02 30.2 -2.3**
GTA SS **SS** **11 05 32.9 -4.0**
GTA ScS **ScS** **11 05 48.8 -2.5**
GTA pmax pmax
comp=Z,34nm,1.2s
GTA pmax pmax
comp=Z,240nm,5.5s
GTA LR LR
comp=N,600nm,16.2s
GTA LR LR
comp=E,1µm,17.3s
GTA LR LR
comp=Z,1µm,17.1s
TOO Toolangi 43.72 155 *e*P **P** **10 55 54.4 +1.2**
comp=Z,80nm,1.1s
CNB Canberra Magne 43.73 149 *e*P **P** **10 55 55.0 +1.7**
comp=Z,124nm,1.0s
MDRS Chennai 44.41 287 *ex* P 10 55 55.2 -3.8
MDRS *ex* x 11 03 25.2
MDRS *ex* x 11 06 44.2
MDRS *ex* x 11 17 57.2
MDRS *ex* x 11 26 06.2
YUK Yuzh-Kuril'sk 46.92 22 P P 10 56 28.8 +10
YUK *e* 10 58 15.6
YUK *e*S **S** **11 03 06.4 -1.9**
YUK *i* SS **SS** **11 06 32.4 -3.0**
YUK MLR MLR
comp=Z,639nm,20.0s
HYB Hyderabad 47.00 293 *i* P **P** **10 56 18.0 -1.5**
HYB *e* 10 56 23.0
HYB *e*S **S** **11 03 10.0 -0.3**
HIA Hailar 47.87 357 *e*P **P** **10 56 25.8 0.0**
comp=Z,38nm,1.5s
DZM Mont Dzumac 47.89 122 *e*P **P** **10 56 28.1 +1.6**
comp=Z,50nm,1.4s
DZM *e*S **S** **11 03 26.5 +3.5**
comp=Z,525nm,25.2s
DZM *e*LR LR 11 10 03.1
comp=Z,591nm,27.9s
HABR Khabarovsk 48.00 10 *e*P **P** **10 56 24.0 -2.7**
HABR *e* 10 56 37.9
HABR *e*PPP PPP 10 59 03.5
HABR *e*S **S** **11 03 19.6 -3.9**
HABR *e**SS **sS** **11 03 36.5 +1.8**
HABR *e* 11 06 14.4
HABR *e*SS **SS** **11 06 50.3 -2.4**
HABR *e*SSS SSS 11 07 58.2
HABR pmax pmax
comp=N,16nm,1.8s
HABR pmax pmax
comp=E,25nm,1.5s
HABR pmax pmax
comp=Z,40nm,1.8s
HABR MLR MLR
comp=Z,307nm,19.0s
KLR Kul'dur 48.24 7 *e*P P 10 56 24.2 -4.4
YSS Yuzh-Sakhalins 48.44 18 *e*P **P** **10 56 29.0 -1.1**
YSS *e*PPP PPP 10 58 21.0
YSS *e*S **S** **11 03 26.0 -3.7**
YSS pmax pmax
comp=Z,20nm,1.0s
YSS MLR MLR
comp=Z,500nm,16.0s
ULN Ulaanbaatar 48.50 345 *e*P **P** **10 56 30.7 -0.1**
comp=Z,30nm,1.2s
ULN Ulaanbaatar 48.50 345 P **P** **10 56 31.2 +0.3**
comp=Z,24nm,1.2s
SONM Songino Array 48.65 345 P **P** **10 56 32.1 +0.2**
SONM Songino Array 48.65 345 P **P** **10 56 32.1 +0.2**
comp=Z,11nm,1.0s,baz=162,slow=8.1,SNR=62
SONM LR LR 11 18 53.5
comp=Z,1µm,18.4s,baz=162,slow=38
ZAK Zakamensk 51.82 344 *e*P **P** **10 56 55.0 -0.9**
ZAK *e* 10 57 04.5
ZAK pmax pmax
comp=Z,7.0nm,1.3s
TLY Talaya 52.89 345 *e*P **P** **10 57 02.7 -1.0**
TLY *e* 10 59 08.0
TLY *e*S S 11 04 24.9 -6.6
TLY pmax pmax
comp=Z,16nm,1.1s
TLY MLR MLR
comp=Z,595nm,17.0s
TLY Talaya 52.89 345 *e*P **P** **10 57 04.4 +0.6**
comp=Z,22nm,1.2s
TLY Talaya 52.89 345 P **P** **10 57 04.3 +0.6**
comp=Z,82nm,1.0s,SNR=6.0
WMQ Urumqi 52.95 328 *e*P **P** **10 57 06.5 +2.1**
WMQ pP **pP** **10 57 12.3 +1.0**
WMQ sP **sP** **10 57 14.2 +0.3**
WMQ PP PP 10 59 10.0 +5.8
WMQ S **S** **11 04 33.5 +0.8**
WMQ sS **sS** **11 04 44.7 +0.7**
WMQ ScS **ScS** **11 06 49.4 -3.6**
WMQ SS **SS** **11 08 13.0 +1.0**
WMQ pmax pmax
comp=Z,12nm,1.2s
WMQ pmax pmax
comp=Z,320nm,4.1s
WMQ LR LR
comp=N,1µm,15.7s
WMQ LR LR
comp=E,810nm,16.8s
WMQ LR LR
comp=Z,1µm,23.4s
IRK Irkutsk 53.24 345 *e*P P 10 57 00.4 -5.9
IRK *e* 10 59 08.6
IRK pmax pmax
comp=Z,33nm,0.8s
MOY Mondy 53.62 343 *e*P **P** **10 57 09.7 +0.5**
MOY pmax pmax
comp=Z,70nm,2.9s
CLNS Chul'man 55.35 1 *e*P **P** **10 57 20.2 -1.4**
CLNS *e**PP **pP** **10 57 29.4 +0.9**
CLNS *e* 10 58 18.9
CLNS *e* 10 59 23.0
CLNS *e*PPP PPP 11 00 37.9
CLNS *e*S **S** **11 05 06.3 +1.7**
CLNS *e*SS **SS** **11 08 48.2 -1.2**
CLNS pmax pmax
comp=Z,3.0nm,0.7s
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,2.0nm,0.7s
CLNS pmax pmax
comp=E,2.0nm,1.1s
CLNS pmax pmax
comp=Z,4.0nm,1.1s
CLNS pmax pmax
comp=N,5.0nm,1.1s
CLNS smax smax
comp=E,237nm,14.3s
CLNS smax smax
comp=N,134nm,13.3s
CLNS MLR MLR
comp=Z,433nm,13.0s
CLNS MLR MLR
comp=E,334nm,16.0s
CLNS MLR MLR
comp=N,326nm,16.0s
BOD Bodaibo 56.83 354 *e*P **P** **10 57 31.9 -0.2**
BOD pmax pmax
comp=Z,14nm,1.4s
KSH Kashi 57.56 317 P P 10 57 42.0 +4.2
KSH pP pP 10 57 47.5 +2.8
KSH sP sP 10 57 49.0 +1.6
KSH PcP **PcP** **10 58 34.7 +3.6**
KSH PP PP 10 59 52.9 +7.3
KSH S **S** **11 05 38.9 +4.3**
KSH sS sS 11 05 47.5 +1.4
KSH ScS **ScS** **11 07 27.7 +1.3**
KSH SS SS 11 09 31.9 +7.0
KSH pmax pmax
comp=Z,6.0nm,1.0s
KSH pmax pmax
comp=Z,140nm,4.2s
KSH LR LR
comp=N,640nm,17.3s
KSH LR LR
comp=E,240nm,11.4s
KSH LR LR
comp=Z,730nm,18.4s
MK31 Makanchi Array 57.77 328 *e*P **P** **10 57 39.2 +0.1**
MK31 Makanchi Array 57.77 328 *e*P **P** **10 57 39.2 +0.1**
MKAR Makanchi Array 57.77 328 *ce*P **P** **10 57 39.2 +0.2**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 57.77 328 P **P** **10 57 38.9 -0.1**
MKAR Makanchi Array 57.77 328 P **P** **10 57 38.9 -0.1**
comp=Z,2.7nm,0.5s,baz=124,slow=8.4,SNR=19
MKAR LR LR 11 24 46.1
comp=Z,562nm,18.6s,baz=118,slow=38
PETK Petropavlovsk- 58.86 23 P **P** **10 57 47.0 +0.5**
PETK Petropavlovsk- 58.86 23 P **P** **10 57 47.0 +0.5**
PETK Petropavlovsk- 58.86 23 P **P** **10 57 47.0 +0.5**
comp=Z,6.0nm,0.8s,baz=195,slow=5.2,SNR=5.2
PETK LR LR 11 24 09.6
comp=Z,303nm,19.1s,baz=209,slow=37
KZA Kyzart 59.29 320 P **P** **10 57 51.2 +1.0**
SNR=7.7
KZA P **P** **10 57 51.2 +1.0**
SNR=7.7
TKM2 Tokmak 2 59.49 321 *i* P **P** **10 57 52.5 +1.2**
TKM2 Tokmak 2 59.49 321 *e*P **P** **10 57 52.5 +1.2**
comp=Z,12nm,0.8s
TKM2 Tokmak 2 59.49 321 P **P** **10 57 52.5 +1.2**
SNR=12
TKM2 P **P** **10 57 52.5 +1.2**
SNR=12
KBK Karagaybulak 59.77 320 P **P** **10 57 54.9 +1.7**
SNR=5.4
KBK P **P** **10 57 54.9 +1.7**
SNR=5.4
AAK Ala-Archa 60.05 320 *de*P **P** **10 57 55.5 +0.4**
AAK pmax pmax
comp=Z,25nm,1.6s
AAK Ala-Archa 60.05 320 *e*P **P** **10 57 54.3 -0.9**
comp=Z,56nm,0.8s
AAK Ala-Archa 60.05 320 P **P** **10 57 56.1 +1.0**
comp=Z,2.3nm,0.8s,baz=111,slow=5.6,SNR=6.8
AML Almayashu 60.33 319 P **P** **10 57 59.0 +1.6**
SNR=8.1
AML P **P** **10 57 59.0 +1.6**
SNR=8.1
EKS2 Erkin-Say 60.53 320 *e*P **P** **10 57 59.1 +0.7**
EKS2 pmax pmax
comp=Z,21nm,1.0s
EKS2 Erkin-Say 60.53 320 *e*P **P** **10 57 59.1 +0.7**
comp=Z,21nm,1.0s
EKS2 Erkin-Say 60.53 320 P **P** **10 57 59.9 +1.5**
SNR=8.6
EKS2 P **P** **10 57 59.9 +1.5**
SNR=8.6
YAK Yakutsk 60.73 3 *e*P **P** **10 57 58.6 -0.5**
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=N,13nm,1.0s
YAK Yakutsk 60.73 3 *e*P **P** **10 57 58.9 -0.2**
comp=N,47nm,0.8s
ZAA0 Zalesovo Array 61.33 335 *e*P **P** **10 58 02.1 -1.3**
ZALV Zalesovo Beam 61.33 335 P **P** **10 58 02.3 -1.1**
ZALV Zalesovo Beam 61.33 335 P **P** **10 58 02.3 -1.1**
ZALV Zalesovo Beam 61.33 335 P **P** **10 58 02.3 -1.1**
comp=N,3.4nm,0.5s,baz=116,slow=6.8,SNR=20
ZALV LR LR 11 25 32.4
comp=N,673nm,18.0s,baz=117,slow=37
RPZ Rata Peaks 61.73 143 *e*P **P** **10 58 07.9 +1.6**
comp=N,123nm,1.2s
KURBB Kurchatov Arra 62.09 329 P **P** **10 58 08.5 -0.1**
comp=N,5.6nm,0.8s,baz=128,slow=6.1,SNR=28
KURK Kurchatov 62.10 329 *c* *i*P **P** **10 58 08.5 -0.1**
KURK pmax pmax
comp=Z,27nm,1.2s
KURK Kurchatov 62.10 329 *e*P **P** **10 58 08.2 -0.4**
comp=Z,33nm,1.0s
NVS Novosibirsk 62.62 335 *e*P **P** **10 58 09.9 -2.1**
NVS pmax pmax
comp=Z,47nm,1.6s
NVS pmax pmax
comp=N,16nm,1.4s
NVS pmax pmax
comp=E,30nm,1.8s
KK31 Karatay Array 62.86 319 *i* P **P** **10 58 13.4 -0.5**
KK31 pmax pmax
comp=Z,12nm,1.0s
KKAR Karatay Array 62.86 319 *e*P **P** **10 58 13.5 -0.4**
KKAR Karatay Array 62.86 319 *e*P **P** **10 58 13.5 -0.4**
SEY Seymchan 65.10 14 ⇑*e*P **P** **10 58 29.8 +1.6**
VOSK Vostochnaya 67.17 328 P **P** **10 58 41.2 -0.5**
VOSK pmax pmax
comp=Z,15nm,1.2s
BVA0 Borovoye Array 67.63 328 *i* P **P** **10 58 43.3 -1.3**
BVA0 pmax pmax
comp=Z,9.0nm,1.5s
BVAR Borovoye Array 67.63 328 P **P** **10 58 43.6 -1.1**
BVAR Borovoye Array 67.63 328 P **P** **10 58 43.6 -1.1**
BVAR Borovoye Array 67.63 328 P **P** **10 58 43.6 -1.1**
comp=Z,2.8nm,0.5s,baz=127,slow=9.5,SNR=23
BRVK Borovoye 67.70 328 *ce*P **P** **10 58 44.8 -0.3**
BRVK pmax pmax
comp=Z,15nm,1.0s
BRVK Borovoye 67.70 328 *e*P **P** **10 58 44.2 -0.8**
comp=Z,21nm,1.0s
BRVK Borovoye 67.70 328 P **P** **10 58 45.2 +0.1**
comp=Z,120nm,1.3s,SNR=7.8
ZRNK Zerenda 68.32 328 *i* P **P** **10 58 48.4 -0.6**
ZRNK pmax pmax
comp=Z,31nm,1.1s
DRV Dumont d'Urvil 68.85 173 PP PP 11 00 59.0 -25
DRV S SKiKP 11 08 27.0 -16
MIR Mirnyy 71.12 192 ⇑*i*P **P** **10 59 05.6 -0.3**
MIR pmax pmax
comp=Z,47nm,1.2s
AB31 Akbulak array 72.01 322 *i* P **P** **10 59 11.4 -0.3**
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 72.01 322 *e*P **P** **10 59 10.9 -0.7**
BILL Bilibino 72.69 16 *e*P **P** **10 59 15.8 +0.5**
BILL *i* 10 59 28.9
BILL pmax pmax
comp=Z,9.0nm,1.6s
AKTO Aktyubinsk 73.58 323 *i* P **P** **10 59 19.8 -1.2**
AKTO pmax pmax
comp=Z,4.0nm,0.9s
AKTO Aktyubinsk 73.58 323 P **P** **10 59 20.2 -0.7**
AKTO Aktyubinsk 73.58 323 P **P** **10 59 20.2 -0.7**
comp=Z,9.4nm,0.8s,baz=105,slow=9.0,SNR=19
SVE Sverdlovsk 74.36 329 ‖ *e*P **P** **10 59 27.2 +1.8**
SVE pmax pmax
comp=Z,28nm,1.1s
ARU Arti 75.28 329 *c* *i*P **P** **10 59 31.4 +0.7**
ARU 11 02 23.3
ARU S **S** **11 09 10.7 +2.0**
ARU SS **SS** **11 13 58.5 -0.2**
ARU pmax pmax
comp=Z,11nm,1.2s
ARU Arti 75.28 329 *e*P **P** **10 59 30.8 +0.1**
comp=Z,16nm,1.0s
MAK Makhachkala 78.88 313 *e*P P 10 59 47.3 -3.9
BHD Baghdad 80.20 303 *ex* P 10 59 51.7 -6.9
BHD *ex* x 11 09 53.0
MAW Mawson 80.42 200 LR LR 11 30 14.0
comp=Z,504nm,20.4s,baz=39,slow=32
VNDA Vanda 81.48 172 *e*P **P** **11 00 04.6 0.0**
comp=Z,30nm,1.1s
ZEI Tsey 81.48 313 *e*P **P** **11 00 04.0 -1.6**
ZEI pmax pmax
comp=Z,9.0nm,1.2s
KIV Kislovodsk 82.48 314 *e*P **P** **11 00 08.1 -2.6**
KIV *e*S **S** **11 10 23.2 -3.2**
KIV *e*SS **SS** **11 15 45.5 -2.2**
KIV pmax pmax
comp=Z,4.0nm,0.8s
KLMR Klimovskoe 85.92 331 *e*P **P** **11 00 25.0 -2.6**
KLMR S S 11 10 46.1 -14
KLMR pmax pmax
comp=Z,45nm,1.4s
KLMR pmax pmax

comp=Z,146nm,6.0s
ANN Anapa 86.30 315 *e*P **P 11 00 29.3 -0.5**
ANN *e*S S 11 10 53.5 -11
ANN pmax pmax
comp=Z,50nm,0.7s
KMBO Kilima Mbogo 86.31 269 *e*P **P 11 00 29.6 -1.3**
comp=Z,12nm,1.2s
OBN Obninsk 87.17 325 ⇓*i*P **P 11 00 32.4 -1.5**
OBN *e* 11 00 42.4
OBN pmax pmax
comp=Z,21nm,1.2s
OBN MLR MLR
comp=Z,200nm,16.0s
COLD Coldfoot 87.33 23 *e*P **P 11 00 37.5 +3.0**
comp=Z,5.8nm,0.9s
PPT2 Papeete2 87.43 108 *e*S **S 11 11 14.9 -1.5**
comp=Z,431nm,26.0s
PPT2 *e*LR LR 11 28 25.2
comp=Z,223nm,26.0s
ILAR Eielson Array 88.63 25 P **P 11 00 40.0 -0.7**
ILAR Eielson Array 88.63 25 P **P 11 00 40.0 -0.7**
comp=Z,0.3nm,0.5s,baz=253,slow=4.1,SNR=12
ILAR LR LR 11 43 39.4
comp=Z,235nm,18.1s,baz=125,slow=38
SYO Syowa Base 89.05 201 ⇓*e*X **P 11 00 39.5 -3.0**
BRTR Keskin Array B 89.08 310 P **P 11 00 41.4 -2.2**
BRTR Keskin Array B 89.08 310 P **P 11 00 41.4 -2.2**
comp=Z,0.8nm,0.9s,baz=76,slow=6.1,SNR=2.4
BRTR LR LR 11 43 45.0
comp=Z,114nm,21.7s,baz=208,slow=38
QSPA South Pole Qui 91.25 180 *e*P **P 11 00 53.0 -0.1**
comp=Z,39nm,1.1s
QSPA South Pole Qui 91.25 180 LR LR 11 40 31.1
comp=Z,483nm,20.9s,baz=348,slow=35
ARCES ARCESS Array B 91.58 340 P **P 11 00 53.3 -1.1**
ARCES ARCESS Array B 91.58 340 P **P 11 00 53.3 -1.1**
comp=Z,3.7nm,0.9s,baz=69,slow=6.8,SNR=6.8
ARCES LR LR 11 47 37.3
comp=Z,471nm,18.3s,baz=260,slow=39
AKASG Malin Array Be 91.72 321 P **P 11 00 53.0 -2.3**
AKASG Malin Array Be 91.72 321 P **P 11 00 53.0 -2.3**
AKASG Malin Array Be 91.72 321 P **P 11 00 53.0 -2.3**
comp=Z,0.5nm,0.4s,baz=69,slow=5.0,SNR=3.4
AKASG LR LR 11 50 48.6
comp=Z,234nm,18.1s,baz=65,slow=41
FINES FINESS Array B 92.41 332 P **P 11 00 58.3 -0.1**
FINES FINESS Array B 92.41 332 P **P 11 00 58.3 -0.1**
comp=Z,2.9nm,0.8s,baz=106,slow=4.9,SNR=3.6
FINES LR LR 11 45 21.3
comp=Z,387nm,20.0s,baz=334,slow=37
NACGM Naroch 92.81 325 *e* P 11 00 57.0 -3.3
LSZ Lusaka 95.50 255 *e*P **P 11 01 11.5 -2.2**
comp=Z,12nm,1.1s
CRVS Cervenica-Dubn 96.93 319 *e*P **P 11 01 20.6 +1.2**
CRVS Cervenica-Dubn 96.93 319 *e*P **P 11 01 20.6 +1.2**
BOSA Boshof 97.90 241 LR LR 11 40 05.3
comp=Z,444nm,20.2s,baz=166,slow=32
VYHS Vyhne 98.71 319 *e*P **P 11 01 27.0 -0.4**
VYHS Vyhne 98.71 319 PDIF **P 11 01 27.0 -0.4**
NOA NORSAR Array B 99.47 333 LR LR 11 50 57.2
comp=Z,383nm,19.2s,baz=55,slow=38
RES Resolute Bay 100.71 10 *e*Pdif **Pdif 11 01 43.6 +7.9**
CLL Collm 101.66 323 *e*Sdif Sdif 11 13 28.0 +7.6
CLL *e*PS **PS 11 14 51.0 -4.2**
CLL *e*PPS PPS 11 15 58.0
CLL *e*SS SKKPbc 11 21 00.0 -29
CLL *e*SSS SSS 11 24 12.0
CLL *e* 11 29 06.0
CLL LmV 11 55 00.0
comp=Z,400nm,18.8s
CLL Lm(360 12 51 00.0
comp=Z,200nm,20.0s
YKA Yellowknife Ar 102.98 24 Pdif **Pdif 11 01 47.1 +1.1**
YKA PKiKP **PKiKP 11 06 04.9 -1.1**
YKA PKKPbc **PKKPdf 11 17 50.3 -2.7**
YKA Yellowknife Ar 102.98 24 Pdiff **Pdif 11 01 47.1 +1.1**
comp=Z,0.1nm,0.4s,baz=302,slow=5.0,SNR=6.0
YKA PKiKP **PKiKP 11 06 04.9 -1.1**
comp=Z,0.2nm,0.5s,baz=315,slow=1.8,SNR=6.3
YKA PKKPbc **PKKPdf 11 17 50.3 -2.7**
comp=Z,0.3nm,0.9s,baz=102,slow=2.8,SNR=5.2
GRFO Grafenberg 103.23 322 *e*P **Pdif 11 01 50.3 +2.8**
GRFO Grafenberg 103.23 322 *e*Pdif **Pdif 11 01 50.3 +2.8**
NVAR Mina Array Bea 110.88 48 PKiKP **PKiKP 11 06 23.4 +1.7**
NVAR Mina Array Bea 110.88 48 PKiKP **PKiKP 11 06 23.5 +1.7**
comp=Z,0.4nm,0.7s,baz=232,slow=1.0,SNR=4.7
B17A L&G Farms, Che 111.85 36 ⇓P **PKiKP 11 06 22.9 -0.1**
baz=112
D16A Dana Ranch, Ca 112.00 37 ⇓P **PKiKP 11 06 22.7 -0.8**
baz=112
D22A Cohagen 115.11 35 ⇓P **PKPdf 11 06 29.4 +0.1**
baz=115
PDAR Pinedale Array 115.25 41 PKKPbc PKKPbc 11 17 06.7 +0.6
PDAR Pinedale Array 115.25 41 PKKPbc PKKPbc 11 17 06.7 +0.6
comp=Z,0.6nm,0.9s,baz=122,slow=4.9,SNR=3.7
S20A Disappointment 118.32 45 ⇑P **PKPdf 11 06 36.7 +0.6**
baz=118
ULM Lac du Bonnet 118.57 28 PKP **PKPdf 11 06 34.4 -1.4**
ULM Lac du Bonnet 118.57 28 PKP **PKPdf 11 06 34.4 -1.4**
comp=Z,1.5nm,0.6s,baz=68,slow=1.2,SNR=3.2
S21A Coal Bank Pass 118.80 45 ⇓P **PKPdf 11 06 37.2 +0.1**
baz=119
Z20A Nine Sixteen R 120.17 50 ⇓P **PKPdf 11 06 39.8 +0.2**
baz=120
X21A Alamocita Cree 120.22 48 ⇑P **PKPdf 11 06 39.9 +0.1**
baz=120
TORD Torodi Ar. Bea 120.56 286 PKP **PKPdf 11 06 39.0 -1.6**
TORD PKKPbc PKKPab 11 16 56.1 +8.6
TORD Torodi Ar. Bea 120.56 286 PKP **PKPdf 11 06 39.0 -1.6**
comp=Z,1.7nm,0.9s,baz=70,slow=1.3,SNR=7.4
TORD PKKPbc PKKPab 11 16 56.1 +8.6
comp=Z,1.4nm,0.9s,baz=256,slow=3.4,SNR=4.9
Z22A Elephant Butte 121.35 49 ⇑P **PKPdf 11 06 41.7 -0.1**
baz=121
R26A Arlington 121.50 42 ⇓P **PKPdf 11 06 41.5 -0.5**
baz=121
V25A Rancho No Teng 121.91 45 ⇓P **PKPdf 11 06 43.5 +0.6**
baz=122
T26A Comanche Natio 121.97 44 ⇓P **PKPdf 11 06 43.3 +0.3**
baz=122
Y25A Mesa, Roswell 122.75 48 ⇓P **PKPdf 11 06 44.7 +0.2**
baz=123
MNTX Cornudas Mount 123.23 50 ⇓P **PKPdf 11 06 45.9 +0.5**
baz=123
SCHQ Schefferville 123.38 7 PKP **PKPdf 11 06 45.3 +0.4**
SCHQ Schefferville 123.38 7 PKP **PKPdf 11 06 45.3 +0.4**
comp=Z,2.9nm,0.5s,baz=276,slow=2.8,SNR=16
Z27A Tatum 124.13 47 ⇑P **PKPdf 11 06 46.7 -0.5**
baz=124
129A Stewart Farms, 125.45 48 ⇓P **PKPdf 11 06 50.0 +0.3**
baz=125
TXAR Lajitas Array 125.58 52 PKP **PKPdf 11 06 50.5 +0.5**
TXAR Lajitas Array 125.58 52 PKP **PKPdf 11 06 50.5 +0.5**
comp=Z,0.8nm,0.9s,baz=227,slow=2.6,SNR=7.7
428A Kincaid Ranch, 125.73 50 ⇓P **PKPdf 11 06 50.7 +0.5**
baz=126
627A Terlingua Ranc 125.75 52 ⇓P **PKPdf 11 06 50.5 +0.1**
baz=126
JCT Junction City 128.03 49 *e*PKiKP **PKPdf 11 06 55.3 +0.7**
JCT Junction City 128.03 49 *e*PKPdf **PKPdf 11 06 55.3 +0.7**
JCT Junction City 128.03 49 ⇑P **PKPdf 11 06 55.1 +0.5**
baz=128
WVT Waverly 132.65 35 *e*PKiKP **PKPdf 11 07 03.5 +0.4**
WVT Waverly 132.65 35 *e*PKPdf **PKPdf 11 07 03.5 +0.4**
CFAA Coronel Fontan 147.90 161 PKPbc **PKPbc 11 07 33.6 -0.1**
CFAA Coronel Fontan 147.90 161 PKPbc **PKPbc 11 07 33.6 -0.1**
comp=Z,2.2nm,0.5s,baz=223,slow=3.0,SNR=36
LCO Las Campanas 149.31 155 *e*PKPdf **PKPdf 11 07 33.0 -0.4**
LPAZ La Paz 161.21 143 *e*PKPdf **PKPdf 11 07 50.2 0.0**
BDFB Brasilia 163.51 210 PKP **PKPdf 11 07 51.1 -0.7**
BDFB PKPab **PKPab 11 08 41.4 -1.5**
BDFB Brasilia 163.51 210 PKP **PKPdf 11 07 51.1 -0.7**
comp=Z,2.9nm,0.9s,baz=184,slow=19,SNR=2.7
BDFB PKPab **PKPab 11 08 41.4 -1.5**
comp=Z,3.9nm,0.9s,baz=170,slow=6.7,SNR=3.3
SIV San Ignacio 164.74 163 PKP **PKPdf 11 07 51.9 -1.0**
SIV PKPab **PKPab 11 08 47.6 -0.6**
SIV San Ignacio 164.74 163 PKP **PKPdf 11 07 51.9 -1.0**
comp=Z,1.3nm,0.8s,baz=53,slow=6.0,SNR=4.6
SIV PKPab **PKPab 11 08 47.6 -0.6**
comp=Z,6.4nm,1.0s,baz=194,slow=4.9,SNR=9.0

*GUC **09** 10:59:40.5±0.5, 42.°87S×72.°56W, h2km±21km, ML3.3*
*IDC **09** 10:59:41.5±1.0, 42.°78S×72.°58W, h0km, mb4.0/4,*

mb1 4.2/5, mb1mx4.0/15, mbtmp4.0/5, ML3.9/1, Error ellipse: s-maj=42.2km s-min=17.2km az=119.0

ISC 09 10:59:42.7±1.7, 42.°7S×0.°1×72.°3W×0.°2, h10km, n12, σ0.°59/10, mb3.8/4, 2C, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
HUNY	**Huinay**	**0.37**	**341**	⇑*i*P	**Pg**	**10 59 50.0**	**0.0**
HUNY				*i* S	**Sb**	**10 59 57.8**	**+0.7**
HUNY				AML	AML	11 00 00.0	
	comp=E,2μm,0.7s						
ILCA	**Isla Las Cabra**	**0.70**	**343**	⇑*i*P	**Pg**	**10 59 55.2**	**-1.0**
ILCA				*i* S	**Sb**	**11 00 06.8**	**+0.2**
ILCA				AML	AML	11 00 07.7	
	comp=E,600nm,0.5s						
HOCH	**HornopirØn**	**0.83**	**352**	*i* S	**Sn**	**11 00 12.7**	**0.0**
HOCH				AML	AML	11 00 16.0	
	comp=E,1μm,0.4s						
PLCA	**Paso Flores**	**2.37**	**33**	Pn	**Pb**	**11 00 25.6**	**+0.2**
	comp=E,5.1nm,0.3s,baz=218,slow=17,SNR=102						
PLCA				Lg	Lg	11 01 04.0	
	comp=E,29nm,0.3s,baz=305,slow=22,SNR=24						
COYC	**Coyhaique**	**2.85**	**178**	AML	AML	11 01 19.9	
	comp=E,96nm,0.6s						
SIV	**San Ignacio**	**28.32**	**23**	P	**P**	**11 05 36.5**	**-0.1**
	comp=E,1.1nm,0.7s,baz=219,slow=5.5,SNR=5.2						
QSPA	**South Pole Qui**	**47.52**	**180**	P	P	11 08 18.8	+0.9
	comp=E,0.4nm,1.0s,baz=149,slow=4.5,SNR=5.7						
TXAR	**Lajitas Array**	**77.31**	**332**	P	P	11 11 38.0	+0.7
	comp=E,0.6nm,0.8s,baz=155,slow=6.9,SNR=4.8						
PDAR	**Pinedale Array**	**91.47**	**333**	P	P	11 12 49.8	+0.7
	comp=E,0.4nm,0.7s,baz=132,slow=6.2,SNR=3.7						
CMAR	**Chiang Mai Arr**	**154.68**	**160**	PKPbc	**PKPbc**	**11 19 44.7**	**+0.4**
	comp=E,0.3nm,0.3s,baz=215,slow=2.5,SNR=4.2						
MKAR	**Makanchi Array**	**161.50**	**69**	PKPab	**PKPab**	**11 20 27.3**	**-0.6**
	comp=E,0.8nm,1.0s,baz=272,slow=3.2,SNR=3.6						
SONM	**Songino Array**	**174.80**	**10**	PKPab	**PKPab**	**11 21 27.1**	**+0.5**
	comp=E,0.2nm,0.5s,baz=347,slow=4.4,SNR=3.1						

IDC 09 11:11:33.9±10.0, 20.°78S×177.°92W, h409km±113km, mb3.0/7, mb1 3.4/7, mb1mx3.2/16, mbtmp3.0/7, Error ellipse: s-maj=51.9km s-min=31.0km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
ASAR	**Alice Springs**	**44.53**	**257**	P	P	11 19 08.0	+0.4
	0.3nm,0.4s,baz=89,slow=8.6,SNR=19						
ASAR				PcP	PcP	11 20 41.5	-1.1
	0.5nm,0.9s,baz=101,slow=3.7,SNR=5.6						
WRA	**Warramunga Arr**	**44.64**	**262**	P	P	11 19 07.5	-0.9
	0.5nm,0.6s,baz=97,slow=7.6,SNR=14						
MJAR	**Matsushiro Arr**	**70.48**	**324**	P	P	11 22 05.8	+0.1
	0.2nm,0.3s,baz=146,slow=9.5,SNR=3.4						
TXAR	**Lajitas Array**	**87.14**	**57**	P	P	11 23 36.0	+0.6
	0.2nm,0.7s,baz=253,slow=5.6,SNR=3.1						
ILAR	**Eielson Array**	**88.57**	**13**	P	P	11 23 40.1	-1.0
	0.2nm,0.4s,baz=215,slow=5.4,SNR=12						
PDAR	**Pinedale Array**	**89.11**	**43**	P	P	11 23 44.4	-0.1
	0.5nm,0.8s,baz=208,slow=5.0,SNR=3.4						
CMAR	**Chiang Mai Arr**	**90.28**	**290**	P	P	11 23 51.5	+1.3
	0.4nm,0.4s,baz=116,slow=2.1,SNR=4.7						

IDC 09 11:27:18.9±37.0, 18.°82S×169.°14E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/16, mbtmp4.1/4, MS4.0/2, Ms1 4.0/2, ms1mx3.3/25, Error ellipse: s-maj=639.3km s-min=111.9km az=78.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.10**	**218**	LR	LR	11 29 12.1	
	comp=Z,150nm,19.9s,baz=256,slow=28						
NOUC	**Port Laguerre**	**4.21**	**219**	*e*P	Pg	11 28 53.4	+14
STKA	**Stephens Creek**	**27.99**	**237**	P	P	11 33 12.4	+0.8
	1.2nm,0.5s,baz=91,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**32.82**	**262**	P	P	11 33 53.8	-0.6
	0.5nm,0.3s,baz=97,slow=8.6,SNR=15						
ASAR	**Alice Springs**	**33.14**	**255**	P	P	11 33 57.2	0.0
	6.3nm,0.6s,baz=82,slow=9.0,SNR=108						
FITZ	**Fitzroy Crossi**	**41.19**	**264**	P	P	11 35 05.4	-0.2
	1.3nm,0.5s,baz=90,slow=12,SNR=3.5						
DAV	**Davao City (W)**	**50.06**	**297**	LR	LR	11 54 29.1	
	comp=Z,233nm,19.5s,baz=226,slow=33						
NVAR	**Mina Array Bea**	**88.49**	**49**	LR	LR	12 12 15.7	
	comp=Z,49nm,19.8s,baz=52,slow=30						

*IDC **09** 11:41:29.4±0.7, 3.°15S×148.°47E, h0km, mb4.2/16, mb1 4.4/17, mb1mx4.4/19, mbtmp4.2/17, ML3.9/1, MS4.1/18, Ms1 4.1/18, ms1mx4.0/25, Error ellipse: s-maj=24.6km s-min=13.6km az=95.0*
*ISCJB **09** 11:41:30.7±0.4, 3.°11S±0.°04×148.°40E±0.°10, h18km, mb4.4/36, MS4.2/15, Error ellipse: s-maj=14.1km s-min=6.1km az=179.0*
*NEIC **09** 11:41:30.8±0.4, 3.°10S×148.°46E, h10km, mb4.8/8, Error ellipse: s-maj=12.0km s-min=6.1km az=89.0*
*BJI **09** 11:41:31.1, 3.°00S×148.°40E, h10km, mB5.1/3, mb4.4/7, Ms5.0/1, Ms7 4.7/2*
*MOS **09** 11:41:33.1±0.9, 3.°17S×148.°33E, h36km, mb4.6/17, Error ellipse: s-maj=17.5km s-min=8.8km az=91.5*

ISC 09 11:41:32.5±0.5, 3.°05S±0.°05×148.°5E±0.°1, h18km, n89, σ1.°24/84, mb4.6/36, MS4.2/15, 1C-2D, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PMG	**Port Moresby**	**6.46**	**192**	*e*Pn	**Pn**	**11 43 06.5**	**-0.3**
	52nm,0.7s						
PMG				Sn	**Sn**	**11 44 23.7**	**+3.7**
PMG	**Port Moresby**	**6.46**	**192**	Pn	**Pn**	**11 43 07.6**	**+0.8**
	1.0nm,0.3s,baz=355,slow=12,SNR=5.0						
PMG				Sn	**Sn**	**11 44 23.7**	**+3.7**
	0.9nm,0.3s,baz=9.3,slow=19,SNR=2.5						
HNR	**Honiara**	**13.03**	**120**	LR	LR	11 47 46.9	
	comp=Z,231nm,20.2s,baz=93,slow=29						
GUMO	**Guam**	**16.92**	**348**	LR	LR	11 51 01.7	
	comp=Z,428nm,18.6s,baz=114,slow=34						
CTA	**Charters Tower**	**17.08**	**187**	Pn	**Pn**	**11 45 29.6**	**-0.9**
CTA	**Charters Tower**	**17.08**	**187**	Pn	**Pn**	**11 45 29.6**	**-0.9**
	0.3nm,0.3s,baz=34,slow=12,SNR=3.0						
CTA				LR	LR	11 51 38.2	
	comp=Z,886nm,20.8s,baz=7.5,slow=36						
WRAB	**Tennant Creek**	**21.73**	**218**	*e*P	**P**	**11 46 21.4**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,27nm,0.7s						
WRAB	**Tennant Creek**	**21.73**	**218**	*e*P	**P**	**11 46 21.4**	**-1.7**
	comp=Z,27nm,0.7s						
WRA	**Warramunga Arr**	**21.75**	**218**	P	**P**	**11 46 21.2**	**-2.0**
WRA	**Warramunga Arr**	**21.75**	**218**	P	**P**	**11 46 21.2**	**-2.0**
	comp=Z,7.8nm,0.8s,baz=44,slow=11,SNR=21						
EIDS	**Eidsvold**	**22.33**	**174**	*e*P	**P**	**11 46 28.7**	**-0.7**
	comp=Z,45nm,1.4s						
EIDS	**Eidsvold**	**22.33**	**174**	*e*P	**P**	**11 46 29.2**	**-0.3**
	comp=Z,72nm,1.1s						
QLP	**Quilpie**	**23.75**	**190**	*e*P	**P**	**11 46 43.0**	**-1.0**
AS31	**Alice Springs**	**24.88**	**213**	*e*P	**P**	**11 46 52.7**	**-1.8**
ASAR	**Alice Springs**	**24.89**	**213**	P	**P**	**11 46 52.5**	**-2.0**
ASAR	**Alice Springs**	**24.89**	**213**	P	**P**	**11 46 52.5**	**-2.0**
	comp=Z,9.2nm,0.6s,baz=40,slow=7.2,SNR=36						
DZM	**Mont Dzumac**	**25.72**	**139**	*e*LR	LR	11 53 22.3	
	comp=Z,1μm,26.1s						
DZM	**Mont Dzumac**	**25.72**	**139**	P	**P**	**11 47 01.6**	**-0.5**
DZM	**Mont Dzumac**	**25.72**	**139**	P	**P**	**11 47 01.6**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=336,slow=20,SNR=3.3						
DZM				LR	LR	11 55 40.7	
	comp=Z,1μm,20.4s,baz=108,slow=33						
FITZ	**Fitzroy Crossi**	**26.93**	**235**	*e*P	**P**	**11 47 13.6**	**+0.4**
	comp=Z,16nm,0.8s						
FITZ	**Fitzroy Crossi**	**26.93**	**235**	*e*P	**P**	**11 47 14.1**	**+1.0**
	comp=Z,24nm,0.7s						
FITZ	**Fitzroy Crossi**	**26.93**	**235**	P	**P**	**11 47 13.1**	**0.0**
	comp=Z,11nm,0.7s,baz=58,slow=9.5,SNR=20						
FITZ				LR	LR	11 58 08.0	
	comp=Z,429nm,20.4s,baz=60,slow=37						
KAPI	**Kappang**	**28.74**	**265**	P	**P**	**11 47 28.8**	**-0.5**
	comp=Z,20nm,1.2s						
STKA	**Stephens Creek**	**29.40**	**192**	P	**P**	**11 47 32.4**	**-2.6**
STKA	**Stephens Creek**	**29.40**	**192**	P	**P**	**11 47 32.4**	**-2.6**
	comp=Z,2.0nm,0.7s,baz=348,slow=9.3,SNR=5.5						
STKA				LR	LR	12 00 20.0	
	comp=Z,694nm,19.2s,baz=267,slow=39						
CBIJ	**Chichi jima**	**30.58**	**349**	LR	LR	11 57 52.6	
	comp=Z,832nm,21.7s,baz=100,slow=32						
YNG	**Young**	**31.09**	**180**	*e*P	**P**	**11 47 49.2**	**-0.7**
	comp=Z,7.1nm,0.9s						
FORT	**Forrest**	**33.67**	**213**	*e*P	**P**	**11 48 13.8**	**+1.2**
	comp=Z,14nm,0.6s						
YHNB	**Yeheng**	**38.12**	**318**	*e*P	**P**	**11 48 50.9**	**0.0**
	comp=Z,22nm,0.8s						
JNU	**Nakatsue**	**39.65**	**337**	P	**P**	**11 49 03.0**	**-0.5**
JNU	**Nakatsue**	**39.65**	**337**	P	**P**	**11 49 03.0**	**-0.5**
	comp=Z,14nm,0.9s,baz=107,slow=3.3,SNR=7.3						
JNU				LR	LR	12 03 35.4	
	comp=Z,175nm,20.7s,baz=313,slow=33						
MJAR	**Matsushiro Arr**	**40.54**	**347**	P	**P**	**11 49 09.3**	**-1.5**
MJAR	**Matsushiro Arr**	**40.54**	**347**	P	**P**	**11 49 09.3**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=167,slow=11,SNR=2.8						
MJAR				LR	LR	12 03 58.6	
	comp=Z,228nm,19.2s,baz=170,slow=33						
NWAO	**Narrogin (SRO)**	**41.71**	**221**	LR	LR	12 07 45.0	
	comp=Z,594nm,18.6s,baz=192,slow=38						
KSRS	**Korea Array**	**44.60**	**337**	P	**P**	**11 49 43.8**	**0.0**
	comp=Z,0.8nm,0.6s,baz=146,slow=12,SNR=3.1						
KSRS				LR	LR	12 06 58.0	
	comp=Z,186nm,21.4s,baz=152,slow=34						
KSAR	**Wonju Array Be**	**44.60**	**336**	P	**P**	**11 49 43.8**	**0.0**
ASAJ	**Asahikawa**	**47.25**	**354**	LR	LR	12 08 34.0	
	comp=Z,200nm,18.8s,baz=190,slow=34						
USRK	**Ussuriysk Arra**	**49.31**	**344**	P	**P**	**11 50 22.2**	**+1.8**
	comp=Z,1.3nm,0.5s,baz=199,slow=7.3,SNR=4.8						
USRK				LR	LR	12 09 10.3	
	comp=Z,187nm,19.4s,baz=317,slow=34						
KMI	**Kunming**	**52.46**	**305**	P	**P**	**11 50 46.3**	**+1.4**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.2s						
CMAR	**Chiang Mai Arr**	**53.25**	**296**	P	**P**	**11 50 51.1**	**+0.6**
CMAR	**Chiang Mai Arr**	**53.25**	**296**	P	**P**	**11 50 51.1**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=117,slow=5.7,SNR=12						
RAR	**Rarotonga**	**53.41**	**114**	LR	LR	12 06 59.8	
	comp=Z,130nm,21.6s,baz=263,slow=29						
PETK	**Petropavlovsk-**	**56.48**	**7**	P	**P**	**11 51 14.8**	**+1.4**
PETK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PETK	**Petropavlovsk-**	**56.48**	**7**	P	**P**	**11 51 14.8**	**+1.4**
PETK	**Petropavlovsk-**	**56.48**	**7**	P	**P**	**11 51 14.8**	**+1.4**
	comp=Z,4.7nm,0.8s,baz=166,slow=6.1,SNR=8.8						
PETK				LR	LR	12 11 47.9	
	comp=Z,188nm,19.9s,baz=200,slow=32						
LZH	**Lanzhou**	**57.01**	**317**	*e*P	**P**	**11 51 17.5**	**-0.2**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
GTA	**Gaotai**	**61.48**	**319**	*e*P	**P**	**11 51 48.6**	**+0.1**
GTA				pP	**pP**	**11 51 52.8**	**-1.6**
GTA				sP	**sP**	**11 51 56.3**	**-0.2**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
PPT2	**Papeete2**	**62.35**	**108**	*e*LR	LR	12 10 26.4	
	comp=Z,194nm,27.8s						
SONM	**Songino Array**	**62.60**	**329**	P	**P**	**11 51 56.4**	**+0.6**
SONM	**Songino Array**	**62.60**	**329**	P	**P**	**11 51 56.4**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=151,slow=5.8,SNR=14						
ZAK	**Zakamensk**	**65.81**	**330**	*e*P	**P**	**11 52 16.9**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
SEY	**Seymchan**	**65.87**	**2**	⇓*e*P	**P**	**11 52 17.2**	**+0.4**
TLY	**Talaya**	**66.46**	**331**	*e*P	**P**	**11 52 21.9**	**+1.0**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.4s						
BOD	**Bodaibo**	**66.68**	**341**	*e*P	**P**	**11 52 22.0**	**-0.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,2.5s						
GUN	**Gumba**	**67.55**	**302**	*e*P	**P**	**11 52 28.2**	**-0.5**
	comp=Z,9.4nm,0.6s						
GUN	**Gumba**	**67.55**	**302**	*e*P	**P**	**11 52 28.2**	**-0.5**
	comp=Z,9.4nm,0.6s						
MOY	**Mondy**	**67.74**	**330**	*e*P	**P**	**11 52 30.4**	**+1.3**
MOY				pmax	pmax		
	comp=Z,18nm,1.5s						
KKN	**Kakani**	**68.03**	**301**	*e*P	**P**	**11 52 31.1**	**-0.5**
KKN	**Kakani**	**68.03**	**301**	*e*P	**P**	**11 52 31.1**	**-0.5**
DMN	**Daman**	**68.12**	**301**	*e*P	**P**	**11 52 31.9**	**-0.3**
DMN	**Daman**	**68.12**	**301**	*e*P	**P**	**11 52 31.9**	**-0.3**
GKN	**Gorkha**	**68.63**	**302**	*e*P	**P**	**11 52 34.9**	**-0.4**
GKN	**Gorkha**	**68.63**	**302**	*e*P	**P**	**11 52 34.9**	**-0.4**
KOLN	**Koldanda**	**69.45**	**301**	*e*P	**P**	**11 52 38.8**	**-1.7**
	comp=Z,11nm,0.8s						
KOLN	**Koldanda**	**69.45**	**301**	*e*P	**P**	**11 52 38.8**	**-1.7**
	comp=Z,11nm,0.8s						
DANN	**Dangsing**	**69.47**	**302**	*e*P	**P**	**11 52 39.2**	**-1.5**
DANN	**Dangsing**	**69.47**	**302**	*e*P	**P**	**11 52 39.2**	**-1.5**
BILL	**Bilibino**	**72.02**	**7**	*e*P	**P**	**11 52 57.7**	**+2.7**
BILL				*i*		11 53 14.1	
BILL				pmax	pmax		
	comp=Z,11nm,1.6s						
MK31	**Makanchi Array**	**76.20**	**320**	*e*P	**P**	**11 53 20.0**	**+0.1**
MK31	**Makanchi Array**	**76.20**	**320**	*e*P	**P**	**11 53 19.4**	**-0.5**
MKAR	**Makanchi Array**	**76.20**	**320**	P	**P**	**11 53 20.0**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**76.20**	**320**	P	**P**	**11 53 20.0**	**+0.1**
MKAR	**Makanchi Array**	**76.20**	**320**	P	**P**	**11 53 20.0**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=103,slow=5.5,SNR=11						
MKAR				LR	LR	12 26 06.1	
	comp=Z,123nm,18.2s,baz=259,slow=35						
ZALV	**Zalesovo Beam**	**77.34**	**327**	P	**P**	**11 53 25.7**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZALV				MLR	MLR		
	comp=Z,133nm,18.8s						
ZALV	**Zalesovo Beam**	**77.34**	**327**	P	**P**	**11 53 25.6**	**-0.4**
ZALV	**Zalesovo Beam**	**77.34**	**327**	P	**P**	**11 53 25.6**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=116,slow=6.6,SNR=2.8						
ZALV				LR	LR	12 27 44.1	
	comp=Z,133nm,18.8s,baz=241,slow=36						
NVS	**Novosibirsk**	**78.54**	**328**	*i* P	**P**	**11 53 33.2**	**+0.4**
NVS				*e*		11 58 26.8	
NVS				pmax	pmax		
	comp=Z,31nm,2.2s						
NVS				pmax	pmax		
	comp=N,7.0nm,1.6s						
NVS				pmax	pmax		
	comp=E,12nm,1.6s						
KURK	**Kurchatov**	**79.77**	**323**	*e*P	**P**	**11 53 39.4**	**-0.2**
KURK				p

TARZ	**Mount Tarawera**	**2.94 276**	⇓PN	Pn	11 46 05.1	-0.1
BKZ	**Black Stump Fm**	**2.97 258**	PN	Pn	11 46 04.9	-0.7
PXZ	**Pawanui**	**2.98 240**	PN	Pn	11 46 03.8	-1.8
OPRZ	**Ohinepanea**	**2.98 283**	PN	Pn	11 46 04.5	-1.2
PRRZ	**Plateau Road**	**3.00 270**	PN	Pn	11 46 05.4	-0.6
ALRZ	**Allen Road**	**3.04 269**	PN	Pn	11 46 06.4	-0.1
HRRZ	**Handcock Road**	**3.09 272**	PN	Pn	11 46 07.1	-0.2
KARZ	**Kaharoa**	**3.18 279**	PN	Pn	11 46 07.0	-1.5
TGRZ	**Tauranga**	**3.23 284**	⇓PN	Pn	11 46 08.1	-1.1
PRHZ	**Porangahau**	**3.24 238**	PN	Pn	11 46 07.4	-1.9
WPHZ	**Waipukurau**	**3.28 242**	PN	Pn	11 46 08.2	-1.6
BHHZ	**Black Hill Sta**	**3.36 253**	PN	Pn	11 46 10.2	-0.9
PNHZ	**Pukenui**	**3.39 246**	PN	Pn	11 46 10.2	-1.2
RITZ	**Rihia Road**	**3.43 262**	⇑PN	Pn	11 46 12.2	+0.3
RATZ	**Rangitukua**	**3.49 264**	PN	Pn	11 46 12.3	-0.5
DVHZ	**Dannevirke**	**3.57 240**	PN	Pn	11 46 12.1	-1.8
MOVZ	**Moawhango**	**3.58 255**	PN	Pn	11 46 14.1	+0.1
OTVZ	**Oturere**	**3.60 259**	PN	Pn	11 46 14.2	-0.3
KRVZ	**Karewarewa**	**3.61 260**	PN	Pn	11 46 14.0	-0.5
TSZ	**Takapari Road**	**3.62 245**	PN	Pn	11 46 12.6	-1.9
WTVZ	**West Tongariro**	**3.65 260**	PN	Pn	11 46 14.9	-0.2
WNVZ	**Wahianoa**	**3.68 257**	PN	Pn	11 46 15.8	+0.3
WPVZ	**Whakapapa**	**3.70 259**	PN	Pn	11 46 15.3	-0.4
BFZ	**Birch Farm**	**3.71 234**	PN	Pn	11 46 13.0	-2.8
POWZ	**Post Office Ro**	**3.89 241**	PN	Pn	11 46 16.8	-1.4
KUZ	**Kuaotunu**	**4.01 296**	PN	Pn	11 46 18.4	-1.5
MRZ	**Mangatainoka R**	**4.14 238**	PN	Pn	11 46 19.0	-2.6
TMWZ	**Te Maipa**	**4.18 232**	PN	Pn	11 46 18.7	-3.5
HIZ	**Hauiti**	**4.21 269**	PN	Pn	11 46 22.4	-0.2
WAZ	**Wanganui**	**4.23 252**	PN	Pn	11 46 23.3	+0.4
HOWZ	**Holdsworth Sta**	**4.30 236**	PN	Pn	11 46 20.9	-2.9
MTW	**Mount Morrison**	**4.45 233**	PN	Pn	11 46 22.3	-3.6
TRWZ	**Traveller**	**4.47 230**	PN	Pn	11 46 22.1	-4.1
OGWZ	**Otaki Gorge**	**4.49 239**	PN	Pn	11 46 24.2	-2.2
OTAZ	**Otara**	**4.50 290**	*e*PN	Pn	11 46 24.2	-2.4
RAEZ	**Rainy Point**	**4.60 259**	PN	Pn	11 46 28.4	+0.5
PAWZ	**Paruwai Farm**	**4.62 231**	PN	Pn	11 46 24.3	-4.0
KIW	**Kapiti Island**	**4.68 239**	PN	Pn	11 46 27.0	-2.2
CAW	**Cannon Point**	**4.70 236**	PN	Pn	11 46 26.3	-3.1
DREZ	**Durham Road**	**4.74 261**	PN	Pn	11 46 30.8	+1.0
MSWZ	**Moikau Station**	**4.75 232**	PN	Pn	11 46 26.0	-4.1
NEZ	**North Egmont**	**4.82 260**	*e*PN	Pn	11 46 32.2	+1.0
PKE	**Pukeiti**	**4.90 261**	*e*PN	Pn	11 46 33.0	+0.8
NRZ	**Ngariki Road**	**4.96 259**	*e*PN	Pn	11 46 34.0	+1.2
TCW	**Tory Channel**	**5.27 238**	PN	Pn	11 46 33.8	-3.3
DUWZ	**D'Urville Isla**	**5.34 244**	*e*PN	Pn	11 46 35.7	-2.4
WCZ	**Waipu Caves**	**5.38 298**	PN	Pn	11 46 38.0	-0.6
TUWZ	**Tuamarina**	**5.59 237**	SN	Sn	11 47 38.9	-5.8
CTZ	**Chatham Island**	**5.67 156**	*e*PN	Pn	11 46 43.7	+1.1
BSWZ	**Blackbirch Sta**	**5.78 235**	*e*PN	Pn	11 46 39.7	-4.4
QRZ	**Quartz Range**	**6.34 247**	PN	Pn	11 46 48.9	-2.9
THZ	**Tophouse**	**6.44 238**	PN	Pn	11 46 49.0	-4.3
THZ			SN	Sn	11 47 60.0	-5.7
DSZ	**Denniston Nort**	**7.18 241**	*e*PN	Pn	11 46 59.4	-4.0
LTZ	**Lake Taylor**	**7.35 233**	*e*PN	Pn	11 47 01.7	-4.1
CRLZ	**Canterbury Las**	**7.60 227**	*e*PN	Pn	11 47 04.1	-5.0
MQZ	**McQueen's Vall**	**7.67 226**	*e*PN	Pn	11 47 05.2	-4.8
WVZ	**Waitaha Valley**	**8.47 235**	SN	Sn	11 48 46.7	-8.8
RPZ	**Rata Peaks**	**8.60 231**	*e*PN	Pn	11 47 18.7	-4.3
RPZ			SN	Sn	11 48 48.4	-10
FOZ	**Fox Glacier**	**9.38 235**	SN	Sn	11 49 05.1	-13
LBZ	**Lake Benmore**	**9.50 229**	*e*PN	Pn	11 47 31.7	-3.5
ODZ	**Otahua Downs**	**9.62 225**	*e*PN	Pn	11 47 33.0	-3.9
EAZ	**Earnscleugh**	**10.49 227**	*e*PN	Pn	11 47 44.8	-4.0
TUZ	**Tuapeka**	**10.75 223**	*e*PN	Pn	11 47 48.7	-3.6
SYZ	**Scrubby Hill**	**11.39 222**	*e*PN	Pn	11 47 57.8	-3.1

IDC 09 11:46:12.1±6.6, 18°25S×178°34W, h596km±82km, mb3.1/8, mb1 3.4/9, mb1mx3.2/19, mbtmp3.1/9, Error ellipse: s-maj=77.5km s-min=32.2km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.79**	**253**	P	P	11 49 17.6	-1.0
	0.2nm,0.3s,baz=78,slow=19,SNR=5.0						
CTA	**Charters Tower**	**33.46**	**261**	P	P	11 52 04.0	+0.4
	4.2nm,0.9s,baz=85,slow=9.9,SNR=3.8						
STKA	**Stephens Creek**	**38.53**	**242**	P	P	11 52 44.3	-0.7
	1.7nm,0.7s,baz=93,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**44.64**	**260**	P	P	11 53 32.6	-0.7
	1.3nm,0.4s,baz=99,slow=6.9,SNR=9.2						
ASAR	**Alice Springs**	**44.77**	**255**	P	P	11 53 34.6	+0.4
	3.5nm,0.6s,baz=89,slow=9.0,SNR=23						
TXAR	**Lajitas Array**	**86.12**	**58**	P	P	11 57 51.8	+0.4
	0.9nm,0.8s,baz=218,slow=5.9,SNR=10						
ILAR	**Eielson Array**	**86.20**	**13**	P	P	11 57 50.5	-0.4
	0.4nm,0.4s,baz=217,slow=5.0,SNR=25						
PDAR	**Pinedale Array**	**87.55**	**43**	P	P	11 57 57.8	-0.2
	0.4nm,0.8s,baz=232,slow=4.4,SNR=3.1						
YKA	**Yellowknife Ar**	**94.61**	**25**	P	P	11 58 29.6	0.0
	0.2nm,0.5s,baz=240,slow=4.5,SNR=5.0						
ARCES	**ARCESS Array B**	**126.66**	**350**	PKP	PKPdf	12 04 07.4	-0.6
	7.8nm,1.1s,baz=64,slow=2.8,SNR=4.7						

*NIED **09** 11:52:00, 41°.70N×144°.30E, h20km, Mw3.7 Best double couple: M₀3.91000×10¹⁴ NP1:φ₀18.00000°, δ62.00000°, λ64.00000°. NP2:φ₀244.00000°, δ37.00000°, λ130.00000°.*
*IDC **09** 11:52:28.5±2.2, 41°.71N×144°.50E, h0km, mb3.7/5, mb1 3.7/7, mb1mx3.4/24, mbtmp3.6/7, ML3.1/2, Error ellipse: s-maj=45.2km s-min=29.0km az=149.0*
*ISCJB **09** 11:52:30.6±1.1, 41°.64N±0°.07×144°.4E±0°.1, h25km, mb3.5/5, Error ellipse: s-maj=13.9km s-min=9.0km az=22.6*
*JMA **09** 11:52:33.6±0.2, 41°.75N×144°.27E, h31km±3km, M3.6*
ISC 09 11:52:32.4±1.2, 41°.74N±0°.07×144°.4E±0°.1, h25km, n13, σ0s47/15, mb3.4/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.96**	**287**	P	**Pn**	**11 52 50.3**	**-0.1**
JCH	**Churui**	**1.16**	**319**	P	**Pn**	**11 52 52.9**	**-0.2**
JCH				*e*S	**Sn**	**11 53 07.4**	**-0.7**
JOB	**Onbets**	**1.23**	**340**	P	**Pb**	**11 52 54.6**	**-0.4**
JAK	**Akkeshi**	**1.27**	**10**	P	**Pb**	**11 52 55.3**	**-0.4**
JAK				*e*S	**Sb**	**11 53 11.9**	**+0.3**
JNBK	**Urakawa-nobuka**	**1.34**	**294**	P	**Pn**	**11 52 55.9**	**+0.4**
JAR	**Ashorobuto**	**1.62**	**344**	P	**Pn**	**11 52 59.4**	**0.0**
ASAJ	**Asahikawa**	**2.71**	**331**	Pn	**Pn**	**11 53 15.1**	**+0.6**
	1.9nm,0.3s,baz=291,slow=13,SNR=9.2						
MJAR	**Matsushiro Arr**	**7.08**	**225**	Pn	**Pn**	**11 54 14.3**	**-0.1**
	0.3nm,0.3s,baz=26,slow=14,SNR=4.7						
SONM	**Songino Array**	**27.44**	**296**	P	**P**	**11 58 16.2**	**-0.2**
	0.5nm,0.6s,baz=70,slow=5.6,SNR=5.4						
ZALV	**Zalesovo Beam**	**40.62**	**308**	P	**P**	**12 00 10.3**	**+0.3**
	0.9nm,0.3s,baz=90,slow=8.6,SNR=3.1						
MKAR	**Makanchi Array**	**43.74**	**299**	P	**P**	**12 00 36.0**	**+0.5**
	0.4nm,0.6s,baz=77,slow=9.6,SNR=4.3						
ILAR	**Eielson Array**	**44.30**	**35**	P	**P**	**12 00 39.2**	**-0.5**
	0.5nm,1.1s,baz=267,slow=9.8,SNR=3.6						
FINES	**FINESS Array B**	**65.72**	**332**	P	**P**	**12 03 15.2**	**+0.8**
	1.6nm,0.8s,baz=58,slow=7.2,SNR=3.6						

PRE 09 11:57:45.9±1.2, 26°.82S×26°.76E, h2km, ML2.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOAB	**Moab Khotsong**	**0.17**	**168**	*e*P	Pg	11 57 49.6	+0.1
MOAB				*e*S	Sg	11 57 52.0	+0.1
MOAB				AML	AML	11 57 53.6	
	comp=Z,2μm,0.2s						
PRYS	**Parys**	**0.55**	**101**	*e*P	Pg	11 57 56.3	-0.4
PRYS				*e*S	Sg	11 58 03.5	-0.4
PRYS				AML	AML	11 58 09.2	
	comp=Z,83nm,0.7s						
SWZ	**Schweizer**	**1.32**	**254**	*e*P	Pb	11 58 11.8	+0.1
SWZ				*e*S	Sb	11 58 29.5	+0.2
SWZ				AML	AML	11 58 34.0	
	comp=Z,97nm,0.2s						
ERPM	**east rand prop**	**1.41**	**71**	*e*P	Pg	11 58 13.8	+0.6
ERPM				*e*S	Sn	11 58 34.3	+2.1
ERPM				AML	AML	11 58 36.8	
	comp=Z,31nm,0.2s						
SEK	**Senekal**	**1.69**	**153**	*e*P	Pn	11 58 16.3	-0.3
SEK				*e*S	Sb	11 58 40.1	+0.4
SEK				AML	AML	11 58 40.6	
	comp=Z,76nm,0.2s						
SLR	**Silverton**	**1.74**	**52**	*e*P	Pb	11 58 18.5	-0.3
SLR				*e*S	Sb	11 58 41.3	0.0
SLR				AML	AML	11 58 45.0	
	comp=Z,105nm,0.4s						
LBTB	**Lobatse**	**2.08**	**330**	*e*P	Pb	11 58 23.3	-1.2
LBTB				*e*S	Sn	11 58 48.5	-0.1
LBTB				AML	AML	11 58 55.4	
	comp=Z,36nm,0.5s						
BOSA	**Boshof**	**2.23**	**216**	*e*P	Pn	11 58 24.6	+0.6
BOSA				*e*S	Sn	11 58 53.0	+0.6
BOSA				AML	AML	11 58 57.0	
	comp=Z,16nm,0.3s						

IDC 09 12:05:18.8±2.3, 6°.01S×130°.05E, h0km, mb3.5/1, mb1 4.0/4, mb1mx3.6/15, mbtmp3.8/4, ML3.9/3, Error ellipse: s-maj=93.5km s-min=28.5km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.76**	**199**	Pn	Pn	12 08 22.7	+1.0
	0.4nm,0.3s,baz=271,slow=9.1,SNR=22						
FITZ				Sn	Sn	12 10 36.1	-8.5
	0.3nm,0.3s,baz=52,slow=19,SNR=3.7						
WRA	**Warramunga Arr**	**14.46**	**164**	Pn	Pn	12 08 43.1	-1.9
	0.7nm,0.3s,baz=344,slow=13,SNR=25						
WRA				Sn	Sn	12 11 13.8	-12
	0.3nm,0.3s,baz=344,slow=21,SNR=4.4						
ASAR	**Alice Springs**	**17.94**	**168**	P	Pn	12 09 30.2	+0.3
	0.5nm,0.3s,baz=347,slow=11,SNR=49						
ASAR				S	Sn	12 12 39.6	-11
	0.1nm,0.3s,baz=0.0,slow=29,SNR=4.4						
MKAR	**Makanchi Array**	**67.43**	**327**	P	P	12 16 16.4	0.0
	0.2nm,0.4s,baz=114,slow=8.3,SNR=5.0						

*ISCJB **09** 12:08:11.6±0.6, 38°.36N±0°.03×26°.45E±0°.04, h8km±5km, Error ellipse: s-maj=6.2km s-min=4.6km az=139.9*
*ATH **09** 12:08:11.8, 38°.36N×26°.43E, h12km±6km, MD2.8/3*
*CSEM **09** 12:08:11.5±0.2, 38°.36N×26°.46E, h5km, MD2.7, Error ellipse: s-maj=4.8km s-min=3.5km az=58.0*
*DDA **09** 12:08:12.6, 38°.41N×26°.63E, h3km, MD2.7*
ISC 09 12:08:11.6±0.9, 38°.37N±0°.03×26°.47E±0°.03, h12km±6km, n18, σ0s59/34, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.10**	**95**	*i* P	**Pg**	**12 08 14.3**	**-0.1**
URLA				*i* S	**Sg**	**12 08 16.7**	**+0.1**
URLA	**Izmir**	**0.10**	**95**	*i* P	**Pg**	**12 08 14.3**	**-0.1**
URLA				*i* S	**Sg**	**12 08 16.7**	**+0.1**
CHOS	**Chios island**	**0.33**	**273**	*e*PG	**Pg**	**12 08 18.1**	**-0.1**
CHOS				*e*SG	**Sg**	**12 08 22.3**	**-0.3**
CHOS	**Chios island**	**0.33**	**273**	*e*Pg	**Pg**	**12 08 18.1**	**-0.1**
CHOS				*e*Sg	**Sg**	**12 08 22.3**	**-0.3**
SMG	**Samos**	**0.72**	**156**	*e*PB	**Pb**	**12 08 26.1**	**0.0**
SMG				*e*SB	**Sg**	**12 08 35.6**	**+0.6**
SMG	**Samos**	**0.72**	**156**	*e*Pb	**Pb**	**12 08 26.1**	**0.0**
SMG				*e*Sb	**Sg**	**12 08 35.6**	**+0.6**
PRK	**Paraskevi**	**0.89**	**350**	*e*PG	**Pg**	**12 08 28.6**	**-0.2**
PRK				*e*SB	**Sb**	**12 08 41.2**	**+0.4**
PRK	**Paraskevi**	**0.89**	**350**	*e*Pg	**Pg**	**12 08 28.6**	**-0.2**
PRK				*e*Sb	**Sb**	**12 08 41.2**	**+0.4**
GCAM	**G?zelcaml?**	**0.90**	**138**	*i* P	**Pg**	**12 08 28.5**	**-0.5**
GCAM				*i* S	**Sb**	**12 08 41.7**	**+0.7**
GCAM	**G?zelcaml?**	**0.90**	**138**	*i* P	**Pg**	**12 08 28.5**	**-0.5**
GCAM				*i* S	**Sb**	**12 08 41.7**	**+0.7**
AYVA	**Ayvalik**	**0.95**	**10**	*i* P	**Pg**	**12 08 29.6**	**-0.4**
AYVA				*i* S	**Sg**	**12 08 42.3**	**-0.1**
AYVA	**Ayvalik**	**0.95**	**10**	*i* P	**Pg**	**12 08 29.6**	**-0.4**
AYVA				*i* S	**Sg**	**12 08 42.3**	**-0.1**
AYDN	**Tasoluk**	**1.32**	**122**	*i* P	**Pn**	**12 08 35.7**	**-0.2**
AYDN				*i* S	**Sb**	**12 08 51.8**	**-1.4**
AYDN	**Tasoluk**	**1.32**	**122**	*i* P	**Pn**	**12 08 35.7**	**-0.2**
AYDN				*i* S	**Sb**	**12 08 51.8**	**-1.4**
APE	**Apeiranthos**	**1.50**	**210**	*e*PB	**Pb**	**12 08 39.6**	**+0.3**
APE	**Apeiranthos**	**1.50**	**210**	*e*Pb	**Pb**	**12 08 39.6**	**+0.3**
MANT	**Manisa**	**1.65**	**85**	*i* P	**Pg**	**12 08 42.9**	**-0.3**
MANT				*i* S	**Sb**	**12 09 04.0**	**+1.2**
MANT	**Manisa**	**1.65**	**85**	*i* P	**Pg**	**12 08 42.9**	**-0.3**
MANT				*i* S	**Sb**	**12 09 04.0**	**+1.2**

*ISK **09** 12:08:32.7, 39°.87N×41°.97E, h12km, MD2.9*
*DDA **09** 12:08:32.7, 39°.88N×41°.99E, h7km, MD2.7*
*CSEM **09** 12:08:32.5±0.3, 39°.86N×41°.93E, h15km, MD2.7, Error ellipse: s-maj=7.9km s-min=5.2km az=20.0*
*ISCJB **09** 12:08:33.0±0.6, 39°.85N±0°.03×41°.96E±0°.04, h11km±5km, Error ellipse: s-maj=5.0km s-min=4.5km az=44.1*
ISC 09 12:08:32.6±1.1, 39°.85N±0°.03×41°.94E±0°.03, h12km±11km, n18, σ0s78/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.20**	**351**	*i* P	**Pg**	**12 08 37.0**	**-0.1**
ERZM	**Erzurum**	**0.45**	**277**	*i* P	**Pg**	**12 08 41.4**	**-0.1**
ERZM				*i* S	**Sb**	**12 08 50.0**	**+0.6**
ERZM	**Erzurum**	**0.45**	**277**	*i* P	**Pg**	**12 08 41.4**	**-0.1**
ERZM				*i* S	**Sb**	**12 08 50.0**	**+0.6**
EZM	**Erzurum**	**0.45**	**277**	*e*PG	**Pg**	**12 08 42.0**	**+0.4**
EZM				*e*SG	**Sb**	**12 08 49.7**	**+0.3**
VRTB	**Varto-Mus**	**0.79**	**209**	*e*PG	**Pg**	**12 08 48.7**	**+0.9**
VRTB				*e*SG	**Sb**	**12 09 00.4**	**+1.4**
VRTB	**Varto-Mus**	**0.79**	**209**	*e*Pg	**Pg**	**12 08 48.7**	**+0.9**
VRTB				*e*Sg	**Sb**	**12 09 00.4**	**+1.4**
TUTA	**Tutak**	**0.81**	**123**	*i* P	**Pg**	**12 08 48.2**	**-0.1**
TUTA				*i* S	**Sb**	**12 09 00.6**	**+0.9**
TUTA	**Tutak**	**0.81**	**123**	*i* P	**Pg**	**12 08 48.2**	**-0.1**
TUTA				*i* S	**Sb**	**12 09 00.6**	**+0.9**
AGRB	**Hanur-Agry**	**0.85**	**108**	*e*PG	**Pg**	**12 08 49.2**	**+0.1**
AGRB				*e*SG	**Sb**	**12 09 01.7**	**+0.8**
AGRB	**Hanur-Agry**	**0.85**	**108**	*e*Pg	**Pg**	**12 08 49.3**	**+0.1**
AGRB				*e*Sg	**Sb**	**12 09 01.7**	**+0.8**
DDEM	**Demirkent**	**1.05**	**352**	*i* P	**Pb**	**12 08 52.5**	**-0.3**
DDEM				*i* S	**Sb**	**12 09 06.6**	**+0.1**
DDEM	**Demirkent**	**1.05**	**352**	*i* P	**Pb**	**12 08 52.5**	**-0.3**
DDEM				*i* S	**Sb**	**12 09 06.6**	**+0.1**
BNGL	**BINGOL**	**1.09**	**215**	*i* P	**Pb**	**12 08 51.6**	**-1.9**
BNGL				*i* S	**Sb**	**12 09 07.5**	**-0.2**
DAGI	**Agillar**	**1.23**	**359**	*i* P	**Pn**	**12 08 55.2**	**-0.5**
DAGI				*i* S	**Sg**	**12 09 12.8**	**+0.7**
BNGB	**Bing¯¶l**	**1.30**	**229**	*e*PN	**Pg**	**12 08 58.1**	**+0.4**
BAYT	**Ayd¯–ntepe-Bay**	**1.48**	**292**	*e*PN	**Pn**	**12 08 59.8**	**+0.5**
BAYT	**Ayd¯–ntepe-Bay**	**1.48**	**292**	*e*Pn	**Pn**	**12 08 59.8**	**+0.5**
BINT	**Bingol**	**1.49**	**230**	*e*Pn	**Pn**	**12 08 58.1**	**-1.2**

*ISCJB **09** 12:15:31.6±0.7, 24°.42N±0°.05×122°.89E±0°.02, h82km±7km, Error ellipse: s-maj=8.4km s-min=3.5km az=179.4*
*TAP **09** 12:15:31.6, 24°.46N×122°.88E, h88km, ML3.1, C*
*JMA **09** 12:15:32.0±0.1, 24°.54N×122°.94E, h85km±1km, M2.2*
ISC 09 12:15:32.0±1.6, 24°.42N±0°.07×122°.89E±0°.03, h82km±12km, n32, σ0s71/56, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.12**	**70**	P	**Pn**	**12 15 44.1**	**+0.3**
YOJ				S	**Sn**	**12 15 53.2**	**+0.8**
IRIF	**Iriomote-Funau**	**0.77**	**96**	P	**Pn**	**12 15 48.6**	**+0.1**
IRIF				S	**Sn**	**12 16 00.9**	**0.0**
HATJ	**Hateruma jima**	**0.91**	**113**	P	**Pn**	**12 15 50.6**	**+0.5**
HATJ				*e*S	**Sn**	**12 16 04.3**	**+0.7**
TWC	**Suao**	**0.97**	**281**	P	**Pn**	**12 15 50.5**	**-0.3**
	baz=279						
TWC				S	**Sn**	**12 16 03.8**	**-0.9**
	baz=279						
TWB1	**Santiao Chiao**	**1.01**	**306**	*e*P	**Pn**	**12 15 51.3**	**0.0**
	baz=298						
JKRS	**Kuro-shima**	**1.04**	**100**	P	**Pn**	**12 15 51.9**	**+0.3**
JKRS				S	**Sn**	**12 16 06.9**	**+0.6**
ENA	**Nanau**	**1.05**	**271**	*e*P	**Pn**	**12 15 51.8**	**+0.1**
	baz=260						
ENA				*e*S	**Sn**	**12 16 05.7**	**-0.8**
	baz=260						
JIJ	**Ishigaki jima**	**1.14**	**93**	P	**Pn**	**12 15 52.6**	**-0.3**
JIJ				S	**Sn**	**12 16 07.8**	**-0.8**
TWE	**Neicheng**	**1.15**	**285**	*e*P	**Pn**	**12 15 52.9**	**-0.1**
	baz=283						
TWE				*e*S	**Sn**	**12 16 08.3**	**-0.4**
	baz=283						
ENTT	**Nioudou**	**1.23**	**281**	P	**Pn**	**12 15 54.3**	**+0.3**
	baz=278						
ENTT				*e*S	**Sn**	**12 16 10.3**	**-0.1**
	baz=278						
TWD	**Chiawan**	**1.23**	**254**	*e*P	**Pn**	**12 15 53.5**	**-0.4**
	baz=252						
NNS	**Nan Shan**	**1.38**	**271**	*e*P	**Pn**	**12 15 55.9**	**-0.2**
	baz=262						
NNS				*e*S	**Sn**	**12 16 13.5**	**-0.6**
	baz=262						
NSK	**Sanguang**	**1.42**	**281**	*e*P	**Pn**	**12 15 56.7**	**+0.2**
	baz=279						
NSK				*e*S	**Sn**	**12 16 14.8**	**0.0**
	baz=279						
ESL	**Shilin**	**1.46**	**246**	P	**Pn**	**12 15 56.3**	**-0.6**
	baz=238						
ESL				*e*S	**Sn**	**12 16 15.0**	**-0.7**
	baz=238						
WHF	**Hehuan Shan**	**1.51**	**260**	P	**Pn**	**12 15 57.6**	**-0.3**
	baz=258						
WHF				*e*S	**Sn**	**12 16 16.7**	**-0.8**
	baz=258						
TWT	**Tachien**	**1.57**	**264**	P	**Pn**	**12 15 59.2**	**+0.7**
	baz=262						
TWT				*e*S	**Sn**	**12 16 18.5**	**-0.1**
	baz=262						
JTJ	**Tarama**	**1.67**	**82**	P	**Pn**	**12 15 59.3**	**-0.2**
JTJ				*e*S	**Sn**	**12 16 19.1**	**-1.3**
EHY	**Hungye**	**1.70**	**238**	*e*P	**Pn**	**12 15 59.3**	**-0.7**
	baz=235						
EHY				*e*S	**Sn**	**12 16 20.6**	**-0.6**
	baz=235						
NSTT	**Nanjuang**	**1.73**	**277**	*e*P	**Pn**	**12 16 00.8**	**+0.4**
	baz=276						
NSTT				*e*S	**Sn**	**12 16 21.9**	**-0.1**
	baz=276						
TWF1	**Yuli**	**1.80**	**234**	P	**Pn**	**12 16 01.1**	**-0.3**
	baz=228						
TWF1				*e*S	**Sn**	**12 16 22.9**	**-0.8**
	baz=228						
SMLT	**Sun Moon Lake**	**1.90**	**254**	*e*P	**Pn**	**12 16 03.1**	**+0.4**
	baz=250						
SMLT				*e*S	**Sn**	**12 16 25.7**	**-0.3**
	baz=250						
CHKT	**Chengkung**	**1.92**	**227**	*e*P	**Pn**	**12 16 01.9**	**-0.9**
	baz=220						
CHKT				*e*S	**Sn**	**12 16 25.0**	**-1.4**
	baz=220						
TYC	**Yuchr**	**1.93**	**255**	P	**Pn**	**12 16 03.6**	**+0.6**
	baz=247						
ELDTW	**Lidau**	**2.11**	**235**	P	**Pn**	**12 16 05.0**	**-0.5**
	baz=226						
ALS	**Alishan**	**2.11**	**245**	P	**Pn**	**12 16 06.6**	**+0.8**
	baz=237						
CHN5	**Tsauling**	**2.18**	**248**	*e*P	**Pn**	**12 16 07.2**	**+0.8**
	baz=239						
CHN5				*e*S	**Sn**	**12 16 34.5**	**+1.7**
	baz=239						
TWG	**Pinlang**	**2.31**	**227**	P	**Pn**	**12 16 07.5**	**-0.5**
	baz=233						
TWG				*e*S	**Sn**	**12 16 35.1**	**-0.5**
	baz=233						
STYT	**Tauyuan**	**2.32**	**238**	*e*P	**Pn**	**12 16 08.9**	**+0.6**
	baz=236						
STYT				*e*S	**Sn**	**12 16 36.6**	**+0.5**
	baz=236						
WTP	**Ta-pu**	**2.39**	**241**	*e*P	**Pn**	**12 16 10.4**	**+1.2**
	baz=239						
CHN1	**Nanshi**	**2.49**	**241**	*e*P	**Pn**	**12 16 11.3**	**+0.8**
	baz=239						
CHN1				*e*S	**Sn**	**12 16 41.7**	**+1.7**
	baz=239						
SGST	**Jiashian**	**2.50**	**238**	*e*P	**Pn**	**12 16 11.7**	**+1.0**
	baz=242						
SSD	**Sandimen**	**2.66**	**232**	*e*P	**Pn**	**12 16 13.6**	**+0.8**
	baz=228						

MEX 09 12:18:02.7±1.0, 18°.12N×99°.02W, h55km±14km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**0.54**	**301**	*e*P	Pn	12 18 13.1	-1.8
PLIG				*i* S	Sn	12 18 22.4	-1.2
MEIG	**Mezcala**	**0.60**	**252**	*e*P	Pn	12 18 13.7	-2.0
MEIG				*i* S	Sn	12 18 23.4	-1.6
YAIG	**Yautepec**	**0.74**	**356**	*e*P	Pn	12 18 15.4	-2.1
YAIG				*i* S	Sn	12 18 25.7	-2.5
PPM	**Popocatepetl**	**1.02**	**21**	*e*P	Pn	12 18 19.4	-2.0
PPM				*i* S	Sn	12 18 33.4	-1.9
MZVM		**1.09**	**349**	*e*P	Pn	12 18 21.2	-0.6
MZVM				*i* S	Sn	12 18 33.9	-2.0
SZVM	**Salazar**	**1.25**	**344**	*i* P	Pn	12

JMZ	**Minamidaito 2**	**4.12**	**112**	P		**Pn**	**12 52 15.3**	**+0.4**
JMZ				*eS*		**Sn**	**12 52 59.1**	**-4.2**
JKRS	**Kuro-shima**	**4.18**	**221**	P		**Pn**	**12 52 14.6**	**-1.3**
IRIF	**Iriomote-Funau**	**4.28**	**224**	P		**Pn**	**12 52 15.6**	**-1.5**
YOJ	**Yonaguni jima**	**4.67**	**231**	P		**Pn**	**12 52 21.7**	**-0.4**
JNU	**Nakatsue**	**6.57**	**30**	P		**Pn**	**12 52 48.4**	**+1.2**
	0.5nm,0.3s,baz=2.1,slow=12,SNR=5.6							
SONM	**Songino Array**	**25.93**	**327**	P		**P**	**12 56 31.8**	**+1.9**
	1.2nm,0.4s,baz=142,slow=11,SNR=19							
MKAR	**Makanchi Array**	**39.90**	**311**	P		**P**	**12 58 30.4**	**-0.4**
	0.6nm,0.4s,baz=90,slow=9.7,SNR=20							
WRA	**Warramunga Arr**	**47.65**	**171**	P		**P**	**12 59 33.9**	**+1.2**
	0.6nm,0.9s,baz=355,slow=9.5,SNR=3.5							
YKA	**Yellowknife Ar**	**77.88**	**25**	P		**P**	**13 02 52.3**	**+0.2**
	0.1nm,0.5s,baz=295,slow=5.6,SNR=5.6							

*IDC **09** 12:59:25.0±4.8, 16°.51S×173°.87W, h62km±34km, mb3.6/8, mb1 3.9/8, mb1mx3.7/18, mbtmp3.6/8, ML3.1/1, Error ellipse: s-maj=104.9km s-min=18.6km az=150.0*
*ISCJB **09** 12:59:29.2±0.6, 16°.5S±0°.1×173°.9W±0°.2, h111km, mb3.7/8, Error ellipse: s-maj=26.6km s-min=11.8km az=36.2*

ISC 09 12:59:30.4±0.8, 16°.5S±0°.2×173°.9W±0°.2, h111km, n15, σ1§15/14, mb3.5/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.29**	**38**	P		P	Pn	13 00 14.3	-6.2
	114nm,0.3s,baz=227,slow=0.2,SNR=238								
AFI				S		S	Sn	13 00 48.4	-11
	112nm,0.3s,baz=39,slow=23,SNR=9.6								
DZM	**Mont Dzumac**	**19.38**	**250**	P		P	**Pn**	**13 03 50.8**	**+0.9**
	0.4nm,0.3s,baz=85,slow=16,SNR=10								
MWZ	**Matawai**	**23.00**	**198**	*ePN*		**P**	**13 04 24.5**	**-1.2**
URZ	**Urewera**	**23.06**	**198**	*ePN*		**P**	**13 04 24.3**	**-1.9**
TOZ	**Tahuroa Road**	**23.11**	**202**	PN		P	**13 04 26.8**	**+0.1**
QRZ	**Quartz Range**	**26.93**	**203**	PN		P	**13 05 03.8**	**+2.6**
WRA	**Warramunga Arr**	**49.16**	**258**	P		P	**13 08 06.5**	**-0.9**
	0.3nm,0.6s,baz=96,slow=7.0,SNR=7.0								
ASAR	**Alice Springs**	**49.34**	**253**	P		P	**13 08 08.6**	**-0.2**
	2.6nm,0.5s,baz=89,slow=8.3,SNR=66								
YBH	**Yreka Blue Hor**	**74.76**	**37**	P		P	**13 10 59.1**	**+0.7**
	1.3nm,0.6s,baz=174,slow=9.4,SNR=6.2								
NVAR	**Mina Array Bea**	**81.61**	**58**	P		P	**13 11 02.8**	**+0.1**
	0.8nm,0.8s,baz=231,slow=9.4,SNR=4.7								
TXAR	**Lajitas Array**	**81.61**	**58**	P		P	**13 11 36.8**	**+0.3**
	0.4nm,0.7s,baz=218,slow=8.4,SNR=5.3								
PDAR	**Pinedale Array**	**83.40**	**42**	P		P	**13 11 45.6**	**-0.1**
	2.9nm,0.8s,baz=211,slow=3.4,SNR=23								
ILAR	**Eielson Array**	**83.63**	**11**	P		P	**13 11 45.8**	**-0.2**
	0.4nm,0.8s,baz=233,slow=5.5,SNR=8.8								
YKA	**Yellowknife Ar**	**91.31**	**24**	P		P	**13 12 23.1**	**+0.1**
	0.3nm,0.9s,baz=255,slow=4.2,SNR=4.2								
BRTR	**Keskin Array B**	**146.73**	**320**	PKPbc		**PKPab**	**13 19 00.7**	**-0.6**
	1.3nm,0.7s,baz=148,slow=3.5,SNR=7.0								

PRE 09 13:06:13.2±0.8, 26°.48S×27°.28E, h2km, ML2.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.46**	**170**	*eP*		Pg	Pg	13 06 22.6	+0.4
PRYS				*eS*		Sg	Sg	13 06 27.9	-0.3
PRYS				AML		AML	AML	13 06 32.4	
	comp=Z,22nm,0.2s								
SLR	**Silverton**	**1.17**	**51**	*eP*		Pg	Pg	13 06 35.3	-0.6
SLR				*eS*		Sb	Sb	13 06 52.1	+0.1
SLR				AML		AML	AML	13 06 56.2	
	comp=Z,28nm,0.3s								
SEK	**Senekal**	**1.87**	**170**	*eP*		Pn	Pn	13 06 47.0	+0.6
SEK				*eS*		Sb	Sb	13 07 12.1	-0.1
SEK				AML		AML	AML	13 07 16.2	
	comp=Z,15nm,0.7s								
SWZ	**Schweizer**	**1.87**	**247**	*eP*		Pn	Pn	13 06 47.1	+0.6
SWZ				*eS*		Sb	Sb	13 07 12.2	-0.2
SWZ				AML		AML	AML	13 07 17.2	
	comp=Z,24nm,0.2s								
LBTB	**Lobatse**	**2.10**	**313**	*eP*		Pn	Pn	13 06 49.7	+0.2
LBTB				*eS*		Sn	Sn	13 07 17.3	+0.9
LBTB				AML		AML	AML	13 07 23.5	
	comp=Z,12nm,0.5s								
BOSA	**Boshof**	**2.78**	**220**	*eP*		Pn	Pn	13 06 59.4	+0.4
BOSA				*eS*		Sn	Sn	13 07 33.3	0.0
BOSA				AML		AML	AML	13 07 42.1	
	comp=Z,4.9nm,0.3s								

*BJI **09** 13:10:43.7, 0°.95N×123°.69E, h28km, mB5.0/5, mb4.5/9*
*IDC **09** 13:10:43.9±0.8, 1°.36N×123°.62E, h0km, mb3.9/9, mb1 4.2/11, mb1mx4.0/22, mbtmp4.0/11, ML4.3/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/34, Error ellipse: s-maj=31.4km s-min=13.8km az=73.0*
*ISCJB **09** 13:10:47.4±0.4, 1°.35N±0°.04×123°.48E±0°.06, h32km, mb3.9/11, MS3.2/4, Error ellipse: s-maj=8.5km s-min=5.7km az=6.5*
*DJA **09** 13:10:48, 1°.39N×123°.48E, h26km, MLv4.6/4*

ISC 09 13:10:48.6±0.5, 1°.38N±0°.06×123°.63E±0°.07, h32km, n35, σ1§57/33, mb4.0/11, MS3.2/4, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.88**	**157**	P		P	**Pb**	**13 11 05.5**	**+0.2**
MNI	**Manado**	**1.21**	**87**	P		P	**Pb**	**13 11 11.7**	**+0.8**
MRSI	**Marisa**	**1.92**	**242**	P		Pn	13 11 14.5		-4.5
LUWI	**Luwuk**	**2.56**	**200**	P		P	**Pn**	**13 11 27.1**	**-0.7**
LBMI	**Labuha**	**4.36**	**117**	P		P	**Pb**	**13 12 01.8**	**-2.7**
KDI	**Kendari**	**5.40**	**191**	P		P	**Pn**	**13 12 06.9**	**-0.1**
	149nm,1.0s,1μm0.5nm								
TTSI	**Tana Toraja**	**5.82**	**221**	P		P	**Pn**	**13 12 11.8**	**-0.9**
	243nm,0.9s,2μm0.8nm								
CTBH	**Cotabato--PC H**	**5.83**	**6**	*ιiP*		P	**Pn**	**13 12 13.4**	**+0.5**
SPSI	**Sidrap Palu**	**6.57**	**216**	P		P	**Pn**	**13 12 23.9**	**+0.9**
	98nm,0.9s,1μm0.3nm								
KAPI	**Kappang**	**7.44**	**211**	P		P	**Pn**	**13 12 34.9**	**-0.1**
	96nm,1.1s,719nm0.3nm								
KAPI	**Kappang**	**7.44**	**211**	P		Pn	**Pn**	**13 12 32.7**	**-2.3**
	4.4nm,0.3s,baz=33,slow=6.8,SNR=29								
KAPI				Sn		Sn	**Sn**	**13 13 58.4**	**-0.1**
	2.8nm,0.3s,baz=78,slow=22,SNR=6.8								
KAPI				LR		LR	LR	13 15 58.3	
	comp=Z,423nm,18.0s,baz=47,slow=42								
BKSI	**Bulukumba**	**7.53**	**208**	P		P	**Pn**	**13 12 38.7**	**+2.5**
	63nm,1.0s,0.3nm								
JAGI	**Jajag, Banyuwa**	**13.61**	**224**	P		P	**P**	**13 14 07.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.46**	**174**	P		P	**P**	**13 15 12.3**	**-0.5**
	0.7nm,0.3s,baz=0.5,slow=8.0,SNR=20								
PPI	**Padang Panjang**	**23.31**	**266**	P		P	**P**	**13 15 55.8**	**+1.8**
WRA	**Warramunga Arr**	**23.65**	**154**	P		P	**P**	**13 15 56.6**	**-0.7**
	3.9nm,0.7s,baz=335,slow=9.9,SNR=34								
GUMO	**Guam**	**24.26**	**59**	LR		LR	LR	13 23 23.1	
	comp=Z,63nm,19.5s,baz=233,slow=31								
PMG	**Port Moresby**	**25.77**	**115**	P		P	**P**	**13 16 20.4**	**+3.6**
	14nm,1.0s,baz=302,slow=13,SNR=3.2								
ASAR	**Alice Springs**	**26.83**	**159**	P		P	**P**	**13 16 26.4**	**+0.1**
	0.7nm,0.6s,baz=341,slow=7.8,SNR=13								
CMAR	**Chiang Mai Arr**	**29.57**	**307**	P		P	**P**	**13 16 51.0**	**+0.2**
	0.2nm,0.3s,baz=141,slow=5.8,SNR=2.7								
CMAR				LR		LR	LR	13 28 29.7	
	comp=Z,38nm,20.7s,baz=130,slow=36								
JNU	**Nakatsue**	**32.30**	**11**	LR		LR	LR	13 27 41.5	
	comp=Z,64nm,21.7s,baz=246,slow=32								
KSRS	**Korea Array**	**36.11**	**6**	LR		LR	LR	13 32 21.1	
	comp=Z,54nm,18.1s,baz=147,slow=36								
STKA	**Stephens Creek**	**37.20**	**154**	P		P	**P**	**13 17 57.1**	**+0.1**
	2.9nm,0.8s,baz=2.3,slow=9.0,SNR=4.5								
MJAR	**Matsushiro Arr**	**37.50**	**19**	P		P	**P**	**13 17 59.4**	**-0.2**
	1.3nm,0.8s,baz=195,slow=9.3,SNR=8.5								
LSA	**Lhasa**	**41.79**	**315**	P		P		13 18 26.1	-10
TAPN	**Taplejung**	**43.03**	**310**	*eP*		**P**	**P**	**13 18 46.9**	**+1.1**
GTA	**Gaotai**	**43.64**	**333**	*eP*		**P**	**P**	**13 18 51.8**	**+1.4**
GTA				pP		**pP**	**pP**	**13 18 56.3**	**-3.6**
GTA				sP		**sP**	**sP**	**13 18 59.8**	**-4.0**
GTA				pmax		pmax	pmax		
	comp=Z,6.0nm,0.8s								
RAMN	**Ramite**	**43.68**	**309**	*eP*		**P**	**P**	**13 18 52.0**	**+0.9**
GUN	**Gumba**	**44.71**	**310**	*eP*		**P**	**P**	**13 18 58.9**	**-0.5**
KOLN	**Koldanda**	**46.42**	**308**	*eP*		**P**	**P**	**13 19 12.7**	**-0.1**
	comp=Z,12nm,0.9s								
DANN	**Dangsing**	**46.56**	**309**	*eP*		**P**	**P**	**13 19 13.7**	**-0.3**
SONM	**Songino Array**	**48.62**	**345**	P		P	**P**	**13 19 29.9**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=154,slow=7.8,SNR=13								
MKAR	**Makanchi Array**	**57.78**	**328**	P		P	**P**	**13 20 37.5**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=119,slow=9.2,SNR=12								
AAK	**Ala-Archa**	**60.08**	**320**	P		P	**P**	**13 20 53.9**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=146,slow=11,SNR=4.0								
ZALV	**Zalesovo Beam**	**61.33**	**335**	P		P	**P**	**13 21 00.4**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=121,slow=5.7,SNR=3.7								

IDC 09 13:13:47.9±5.2, 0°.57N×123°.55E, h238km±53km, mb3.4/6, mb1 3.5/7, mb1mx3.3/19, mbtmp3.3/7, Error ellipse: s-maj=47.1km s-min=14.1km az=73.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.67**	**174**	P		P	P	13 17 48.2	-0.5
	0.7nm,0.3s,baz=354,slow=9.1,SNR=6.6								
WRA	**Warramunga Arr**	**22.96**	**153**	P		P	P	13 18 32.0	0.0
	3.1nm,0.3s,baz=329,slow=11,SNR=53								
ASAR	**Alice Springs**	**26.11**	**158**	P		P	P	13 19 00.5	+0.2
	0.7nm,0.5s,baz=341,slow=11,SNR=9.8								
ASAR				PcP		PcP	PcP	13 22 21.4	0.0
	0.2nm,0.4s,baz=339,slow=2.3,SNR=4.7								
STKA	**Stephens Creek**	**36.52**	**154**	P		P	P	13 20 30.8	-0.1
	2.2nm,0.7s,baz=321,slow=8.8,SNR=4.3								
MJAR	**Matsushiro Arr**	**38.29**	**19**	P		P	P	13 20 45.4	-0.3
	0.7nm,0.6s,baz=193,slow=10,SNR=3.5								
SONM	**Songino Array**	**49.38**	**345**	P		P	P	13 22 13.5	-0.3
	1.0nm,0.8s,baz=158,slow=9.6,SNR=5.0								
MKAR	**Makanchi Array**	**58.42**	**328**	P		P	P	13 23 19.1	+0.2
	1.0nm,0.4s,baz=121,slow=8.8,SNR=17								
MKAR				PcP		PcP	PcP	13 24 06.6	-0.3
	0.5nm,0.4s,baz=161,slow=3.0,SNR=8.0								
TORD	**Torodi Ar. Bea**	**120.79**	**286**	PKP		PKPdf	PKPdf	13 32 12.0	-0.8
	0.5nm,1.1s,baz=11,slow=1.5,SNR=2.8								

*IDC **09** 13:55:04.3±1.2, 18°.92N×59°.66W, h0km, mb3.3/5, mb1 3.7/5, mb1mx3.5/21, mbtmp3.3/5, Error ellipse: s-maj=33.2km s-min=25.1km az=87.0*
*TRN **09** 13:55:10.5, 18°.47N×60°.15W, h3km, MD4.0*

ISC 09 13:55:06.9±1.2, 18°.84N±0°.07×60°.0W±0°.1, h10km, n20, σ1§85/23, mb3.5/5, 5C-2D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SEG	**Port Louis**	**2.84**	**212**	*ιiP*		P	**Pn**	**13 55 53.8**	**+1.4**
SKI	**Saint Kitts**	**3.04**	**241**	*ιeP*		P	**Pn**	**13 55 57.1**	**+2.0**
SKI				*eS*		S	**Sn**	**13 56 31.8**	**0.0**
BCG	**Bois Riant Cap**	**3.17**	**210**	*eP*		P	**Pn**	**13 55 58.9**	**+1.9**
MGG	**Marie-Galante**	**3.19**	**204**	*eP*		P	**Pn**	**13 55 58.5**	**+1.4**
LZG	**Guadaloupe-1**	**3.20**	**213**	*eP*		P	**Pn**	**13 55 59.0**	**+1.7**
DOG	**Dongo Capester**	**3.21**	**210**	*ιiP*		P	**Pn**	**13 55 59.6**	**+2.1**
PHG	**Guadaloupe-2**	**3.24**	**210**	*ιiP*		P	**Pn**	**13 55 60.0**	**+2.0**
SCG	**Saint Claude**	**3.25**	**211**	*eP*		P	**Pn**	**13 56 00.1**	**+2.1**
TBG	**Guadaloupe-3**	**3.38**	**209**	*eP*		P	**Pn**	**13 56 01.6**	**+1.8**
DLPL	**La Plaine**	**3.70**	**200**	*eP*		P	**Pn**	**13 56 05.8**	**+1.6**
DLPL				*eS*		S	**Sn**	**13 56 46.4**	**-1.6**
FDF	**Fort de France**	**4.24**	**196**	*ιiP*		P	**Pn**	**13 56 12.3**	**+0.6**
FDF	**Fort de France**	**4.24**	**196**	*ιeP*		P	**Pn**	**13 56 12.5**	**+0.8**
FDF				*ιeS*		S	**Sn**	**13 56 58.6**	**-2.7**
MVM	**Montagne Vaucl**	**4.36**	**192**	*eP*		P	**Pn**	**13 56 14.5**	**+1.3**
BIM	**Bigot**	**4.43**	**194**	*eP*		P	**Pn**	**13 56 15.5**	**+1.2**
BIM				*eS*		S	**Sn**	**13 57 04.6**	**-1.3**
SJG	**San Juan**	**5.93**	**264**	Pn		Pn	Pn	13 56 25.4	-9.4
	8.4nm,0.3s,baz=270,slow=19,SNR=6.5								
SJG				Sn		Sn	**Sn**	**13 57 38.9**	**-3.9**
	14nm,0.3s,baz=270,slow=22,SNR=13								
TXAR	**Lajitas Array**	**41.05**	**293**	P		P	**P**	**14 02 52.1**	**+1.3**
	0.1nm,0.4s,baz=80,slow=10,SNR=2.3								
PDAR	**Pinedale Array**	**48.00**	**311**	P		P	**P**	**14 03 47.2**	**+0.8**
	0.2nm,0.5s,baz=116,slow=10,SNR=2.9								
YKA	**Yellowknife Ar**	**57.41**	**333**	P		P	**P**	**14 04 54.2**	**-1.2**
	0.4nm,0.7s,baz=106,slow=7.4,SNR=8.0								
TORD	**Torodi Ar. Bea**	**59.29**	**86**	P		P	P	14 05 06.7	-2.7
	0.4nm,0.6s,baz=272,slow=7.9,SNR=3.1								
ILAR	**Eielson Array**	**71.84**	**333**	P		P	**P**	**14 06 28.6**	**-1.1**
	0.3nm,0.7s,baz=95,slow=5.0,SNR=5.8								

*IDC **09** 14:09:00.4±0.5, 6°.55S×81°.31W, h0km, mb4.7/24, mb1 4.8/27, mb1mx4.8/28, mbtmp4.7/27, ML4.1/3, MS5.4/22, Ms1 5.4/22, ms1mx5.3/26, Error ellipse: s-maj=19.9km s-min=10.7km az=62.0*
*BGS **09** 14:09:01.0±3.2, 6°.57S×81°.15W, h10km, mb5.4*
*BJI **09** 14:09:02.9, 6°.60S×81°.10W, h15km, mB5.9/36, Ms5.9/40, Ms7 5.7/39*
*ISCJB **09** 14:09:02.7±0.2, 6°.55S±0°.03×81°.22W±0°.03, h22km, mb5.4/234, MS5.5/209, Error ellipse: s-maj=4.7km s-min=2.8km az=40.9*
*NEIC **09** 14:09:03.0±0.2, 6°.57S×81°.15W, h15km, mb5.5/143, ME5.6, MS5.5/156, MW6.0, MW5.9, Error ellipse: s-maj=6.2km s-min=3.8km az=57.0, Moment Tensor Solution. s79 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.00; $M_{\theta\theta}$=0.00; $M_{\phi\phi}$=0.00; $M_{r\theta}$=0.00; $M_{r\phi}$=0.00; $M_{\theta\phi}$=0.00; Best double couple: M_0=1.10000×10^{18} NP1:ϕ_s=324.00000°, δ=17.00000°, λ=66.00000°. NP2:ϕ_s=169.00000°, δ=75.00000°, λ=97.00000°. Principal axes: T 1.1400, Plg59.0000°, Azm88.0000°; N -0.0900, Plg6.0000°, Azm346.0000°; P -1.0400, Plg29.0000°, Azm253.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
*MOS **09** 14:09:04.6±1.1, 6°.45S×81°.20W, h32km, mb5.5/56, MS5.4/47 Error ellipse: s-maj=11.5km s-min=5.4km az=102.5*
*NEIC **09** 14:09:20.8±0.0, 6°.54S×81°.36W, h18km, Moment Tensor Solution. s142 Moment tensor: Scale 10^{17}Nm; M_{rr}=4.26; $M_{\theta\theta}$=0.54; $M_{\phi\phi}$=-3.73; $M_{r\theta}$=1.12; $M_{r\phi}$=1.13; $M_{\theta\phi}$=-7.14; Best double couple: M_0=8.30000×10^{17} NP1:ϕ_s=336.00000°, δ=15.00000°, λ=77.00000°. NP2:ϕ_s=170.00000°, δ=75.00000°, λ=94.00000°. Principal axes: T 8.4600, Plg59.0000°, Azm84.0000°; N -0.2500, Plg3.0000°, Azm348.0000°; P -8.2300, Plg29.0000°, Azm256.0000°;*

ISC 09 14:09:03.4±0.4, 6°.66S±0°.04×81°.17W±0°.04, h21km±3km, h21km:pP-P, n1059, σ1§41/1053, mb5.5/226, MS5.5/211, 222C-212D, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.79**	**100**	Pn		Pn	**Pb**	**14 09 50.7**	**-2.2**
ATAH				Sn		**Sb**	**Sb**	**14 10 26.8**	**-0.1**
ATAH				Lg		Lg	Lg	14 10 40.0	
ATAH	**Atahualpa**	**2.79**	**100**	Pn		Pb	**Pb**	**14 09 50.7**	**-2.2**
	36nm,0.3s,baz=279,slow=6.1,SNR=138								
ATAH				Sn		**Sb**	**Sb**	**14 10 26.8**	**-0.1**
	154nm,0.3s,baz=87,slow=18,SNR=6.3								
ATAH				Lg		Lg	Lg	14 10 40.0	
	204nm,0.3s,baz=147,slow=15,SNR=7.0								
NNA	**Nana**	**6.80**	**141**	*eP*		**Pn**	**Pn**	**14 10 42.5**	**+0.4**
	464nm,1.0s								
NNA				Sn		Sn	**Sn**	**14 11 55.4**	**-3.7**
NNA				Lg		Lg	Lg	14 12 33.7	
NNA	**Nana**	**6.80**	**141**	Pn		Pn	**Pn**	**14 10 42.6**	**+0.4**
	906nm,0.7s,SNR=11								
NNA	**Nana**	**6.80**	**141**	Pn		Pn	**Pn**	**14 10 44.0**	**+1.9**
	6.2nm,0.3s,baz=322,slow=8.8,SNR=26								
NNA				Sn		Sn	**Sn**	**14 11 55.4**	**-3.7**
	13nm,0.3s,baz=186,slow=18,SNR=2.1								
NNA				Lg		Lg	Lg	14 12 33.7	
	19nm,0.3s,baz=236,slow=19,SNR=2.8								
NNA				LR		LR	LR	14 13 17.8	
	comp=Z,37μm,21.3s,baz=118,slow=37								
OTAV	**Otavalo**	**7.36**	**22**	*eP*		**Pn**	**Pn**	**14 10 48.9**	**-1.2**
	417nm,1.2s								
PAYG	**Puerto Ayora**	**10.86**	**303**	*eP*		Pn	Pn	14 11 33.7	-4.1
	176nm,0.6s								
ROSC	**El Rosal**	**13.32**	**31**	P		**Pn**	**Pn**	**14 12 12.1**	**+0.4**
ROSC				Lg		Lg	Lg	14 15 53.7	
ROSC	**El Rosal**	**13.32**	**31**	Pn		Pn	Pn	14 12 16.2	+4.5
	1.6nm,0.3s,baz=99,slow=19,SNR=2.1								
ROSC				Lg		Lg	Lg	14 15 53.7	
	2.9nm,0.3s,baz=107,slow=19,SNR=5.3								
BCIP	**Isla Barro Col**	**15.77**	**5**	*eP*		**Pn**	**Pn**	**14 12 41.5**	**-2.9**
	748nm,2.0s								
LPAZ	**La Paz**	**15.96**	**128**	*eP*		**Pn**	**Pn**	**14 12 46.2**	**-1.1**
	31nm,1.1s								
QCR	**Quepos**	**16.25**	**349**	*eP*		**Pn**	**Pn**	**14 12 51.8**	**+1.3**
BUS	**Buena Vista**	**16.31**	**351**	*eP*		**Pn**	**Pn**	**14 12 52.9**	**+1.2**
URSC	**Urasca**	**16.59**	**351**	*eP*		**Pn**	**Pn**	**14 12 55.2**	**+0.2**
LAJ	**Bijagual**	**16.67**	**350**	*eP*		**Pn**	**Pn**	**14 12 55.2**	**-0.9**
JTS	**JuntasAbangare**	**17.25**	**347**	P		**Pn**	**Pn**	**14 13 03.3**	**+0.1**
JTS				S		S	**Sn**	**14 16 17.2**	**+2.6**
JTS	**JuntasAbangare**	**17.25**	**347**	Pn		P	**P**	**14 13 04.8**	**+0.2**
	492nm,1.5s,SNR=6.2								
JTS	**JuntasAbangare**	**17.25**	**347**	P		**Pn**	**Pn**	**14 13 03.3**	**+0.1**
	0.3nm,0.3s,baz=156,slow=14,SNR=4.2								
JTS				S		**Sn**	**Sn**	**14 16 17.3**	**+2.6**
	0.2nm,0.3s,baz=35,slow=17,SNR=1.6								
JTS				LR		LR	LR	14 17 13.8	
	comp=Z,7μm,19.1s,baz=173,slow=29								
SAML	**Samuel**	**17.96**	**98**	*eP*		**Pn**	**Pn**	**14 13 07.6**	**-4.5**
	10nm,1.3s								
SDV	**Santo Domingo**	**18.67**	**34**	*eP*		**P**	**P**	**14 13 16.5**	**-4.0**
	85nm,1.1s								
LVC	**Limon Verde**	**19.78**	**145**	*eP*		**Pn**	**Pn**	**14 13 35.6**	**+1.4**
	44nm,1.6s								
TGUH	**Tegucigalpa,Un**	**21.45**	**344**	*eP*		**P**	**P**	**14 13 51.8**	**+1.4**
	458nm,1.3s								
TGUH				LR		LR	LR		
	comp=Z,5μm,19.0s								
SIV	**San Ignacio**	**21.76**	**117**	P		P	**P**	**14 13 55.4**	**+1.5**
SIV				S		S	**S**	**14 17 55.7**	**+1.7**
SIV	**San Ignacio**	**21.76**	**117**	P		P	**P**	**14 13 55.4**	**+1.5**
	comp=Z,128nm,0.9s,baz=306,slow=10.0,SNR=261								
SIV				S		S	**S**	**14 17 55.7**	**+1.7**
	comp=Z,10nm,1.0s,baz=16,slow=20,SNR=1.8								
SIV				LR		LR	LR	14 23 51.4	
	comp=Z,11μm,18.9s,slow=41								
LCO	**Las Campanas**	**24.34**	**157**	P		P	**P**	**14 14 17.8**	**-2.4**
	comp=Z,157nm,1.6s								
LCO				LR		LR	LR		
	comp=Z,12μm,19.0s								
MCJ	**Malvern**	**24.66**	**8**	*iP*		P	**P**	**14 14 25.2**	**+2.2**
HOJ	**Hope**	**24.89**	**10**	*iP*		P	**P**	**14 14 27.8**	**+2.9**
STH	**Stony Hill**	**24.95**	**10**	*iP*		P	**P**	**14 14 27.7**	**+2.2**
GWJ	**Greenwich**	**24.96**	**10**	*iP*		P	**P**	**14 14 27.8**	**+2.1**
MTDJ	**Mount Denham**	**24.98**	**8**	*eP*		P	**P**	**14 14 27.0**	**+1.1**
	comp=Z,325nm,1.2s								
MTDJ				LR		LR	LR		
	comp=Z,7μm,21.0s								
BBJ	**Bamboo Saint A**	**25.18**	**9**	*iP*		P	**P**	**14 14 30.9**	**+3.3**
LMGC	**Las Mercedes**	**26.86**	**9**	*e*		P	**P**	**14 14 44.3**	**+1.5**
GRGR	**Grenville**	**26.92**	**46**	*eP*		P	**P**	**14 14 44.1**	**+0.7**
	comp=Z,262nm,0.9s								
GRGR				LR		LR	LR		
	comp=Z,10μm,20.0s								
RCC	**Rio Carpintero**	**27.02**	**11**	*e*		P	**P**	**14 14 43.6**	**-0.6**
GTBY	**Guantanamo Bay**	**27.08**	**13**	*eP*		P	**P**	**14 14 44.6**	**-0.1**
	comp=Z,148nm,1.3s								
GTBY				LR		LR	LR		
	comp=Z,8μm,19.0s								
TOSP	**Speyside**	**27.20**	**49**	*eP*		P	**P**	**14 14 47.4**	**+1.6**
CMIG	**Matias Romero**	**27.21**	**330**	P		P	**P**	**14 14 47.1**	**+1.1**
CMIG	**Matias Romero**	**27.21**	**330**	P		P	**P**	**14 14 47.1**	**+1.1**
	comp=Z,4.3nm,0.9s,baz=137,slow=6.7,SNR=4.3								
CMIG				LR		LR	LR	14 23 00.0	
	comp=Z,7μm,21.8s,baz=144,slow=31								
SDDR	**Presa de Saban**	**27.27**	**21**	*eP*		**P**	**P**	**14 14 47.5**	**+1.0**
	comp=Z,146nm,1.4s								
SDDR				LR		LR	LR		
	comp=Z,8μm,20.0s								
CFAA	**Coronel Fontan**	**27.61**	**156**	P		P	**P**	**14 14 51.0**	**+1.5**
CFAA	**Coronel Fontan**	**27.61**	**156**	P		P	**P

GOGA LR LR
comp=Z,9µm,20.0s
NATX Nacogdoches 40.31 342 *eP* **P 14 16 40.4 +1.0**
NATX LR LR
comp=Z,2µm,22.0s
CAM4 Nova Friburgo 40.34 117 (P) pP 14 16 40.9 -5.7
CAM4 *i* **P 14 16 40.7 +0.6**
CAM4 *i* 14 16 47.9
CAM4 *i* 14 16 53.2
CAM4 *i* 14 16 55.0
CAM4 *i* 14 17 07.9
JSC Jenkinsville 40.71 360 *eP* **P 14 16 41.9 -0.8**
JSC Jenkinsville 40.71 360 *eP* **P 14 16 41.9 -0.8**
JCT Junction City 41.02 335 *eP* **P 14 16 45.9 +0.6**
JCT pmax pmax
comp=Z,81nm,1.3s
JCT MLR MLR
comp=Z,2µm,21.0s
JCT Junction City 41.02 335 *eP* **P 14 16 45.9 +0.6**
comp=Z,81nm,1.3s
JCT LR LR
comp=Z,2µm,21.0s
JCT Junction City 41.02 335 ⇑P **P 14 16 46.2 +0.9**
baz=41
JCT ⇓S **S 14 22 58.2 +1.5**
baz=41
JCT ⇓S **S 14 22 58.2 +1.5**
baz=41
JCT ⇓S **S 14 22 58.2 +1.5**
baz=41
628A Black Gap, Mar 41.56 331 ⇓P **P 14 16 50.3 +0.5**
baz=42,SNR=14
628A ⇓S **S 14 23 06.8 +1.9**
baz=42
628A ⇓S **S 14 23 06.8 +1.9**
baz=42
628A ⇓S **S 14 23 06.8 +1.9**
baz=42
KMSC Kings Mountain 41.57 360 ⇓P **P 14 16 49.1 -0.7**
baz=42,SNR=10.0
KMSC ⇑S **S 14 23 03.4 -1.4**
baz=42
KMSC ⇑S **S 14 23 03.4 -1.4**
baz=42
KMSC ⇑S **S 14 23 03.4 -1.4**
baz=42
OXF Oxford 41.68 350 *eP* **P 14 16 49.8 -0.8**
OXF pmax pmax
comp=Z,77nm,1.0s
OXF MLR MLR
comp=Z,3µm,19.0s
OXF Oxford 41.68 350 *eP* **P 14 16 49.8 -0.8**
comp=Z,77nm,1.0s
OXF LR LR
comp=Z,3µm,19.0s
627A Terlingua Ranc 41.78 330 ⇓P **P 14 16 52.2 +0.6**
baz=42
627A ⇓S **S 14 23 09.7 +1.4**
baz=42
627A ⇓S **S 14 23 09.7 +1.4**
baz=42
627A ⇓S **S 14 23 09.7 +1.4**
baz=42
CNNC Cliffs of the 41.78 4 PFAKE 14 17 00.0 +8.6
CNNC LR LR
comp=Z,5µm,21.0s
TXAR Lajitas Array 41.82 330 P **P 14 16 51.7 -0.3**
TXAR PcP **PcP 14 18 49.0 +1.0**
TXAR Lajitas Array 41.82 330 P **P 14 16 51.7 -0.3**
comp=Z,5.0nm,1.0s,baz=148,slow=9.7,SNR=14
TXAR PcP **PcP 14 18 49.0 +1.0**
comp=Z,2.2nm,0.9s,baz=160,slow=6.5,SNR=4.7
TXAR LR LR 14 32 05.3
comp=Z,4µm,18.3s,baz=270,slow=33
BBSR BB Station 41.86 21 PFAKE 14 17 00.0 +7.9
BBSR LR LR
comp=Z,4µm,20.0s
SWET Sewanee 41.89 354 *eP* **P 14 16 51.1 -1.2**
comp=Z,145nm,1.7s
PLAL Pickwick Lake 41.92 352 *eP* **P 14 16 51.6 -1.0**
comp=Z,244nm,2.1s
PLAL LR LR
comp=Z,2µm,19.0s
CPCT Cooper Cave 42.00 356 *eP* **P 14 16 52.0 -1.2**
528A Cox Ranch, San 42.08 332 ⇑P **P 14 16 54.1 0.0**
baz=42,SNR=12
RFTA Plano 42.12 340 P **P 14 16 54.8 +0.6**
TKL Tuckaleechee C 42.16 357 *eP* **P 14 16 53.7 -0.8**
TKL Tuckaleechee C 42.16 357 P **P 14 16 53.9 -0.6**
comp=Z,26nm,1.1s,baz=179,slow=9.3,SNR=14
626A Big Bend Ranch 42.23 330 ⇓P **P 14 16 54.8 -0.6**
baz=42,SNR=23
MET Memphis--Engin 42.37 349 P **P 14 16 57.6 +1.4**
527A Woodward Ranch 42.46 331 ⇓P **P 14 16 56.3 -1.0**
baz=43,SNR=28
428A Kincaid Ranch, 42.50 332 ⇓P **P 14 16 57.2 -0.3**
baz=43,SNR=11
MIAR Mount Ida 42.62 345 *eP* **P 14 16 58.2 -0.1**
MIAR pmax pmax
comp=Z,147nm,1.4s
MIAR MLR MLR
comp=Z,2µm,22.0s
MIAR Mount Ida 42.62 345 *eP* **P 14 16 58.2 -0.1**
comp=Z,147nm,1.4s
MIAR LR LR
comp=Z,2µm,22.0s
HBAR Harrisburg 42.92 349 *eP* **P 14 17 00.7 0.0**
427A Hayter Ranch, 42.94 331 ⇓P **P 14 17 01.3 +0.2**
baz=43,SNR=21
WVT Waverly 43.02 352 *eP* **P 14 16 59.8 -1.7**
WVT pmax pmax
comp=Z,58nm,1.3s
WVT Waverly 43.02 352 *eP* **P 14 16 59.8 -1.7**
comp=Z,58nm,1.3s
TZTN Tazewell 43.03 357 *eP* **P 14 17 00.9 -0.7**
comp=Z,67nm,1.2s
426A McDonald Obser 43.09 331 ⇓P **P 14 17 02.7 +0.2**
baz=43,SNR=31
328A Wristen Ranch, 43.11 333 ⇑P **P 14 17 02.4 0.0**
baz=43,SNR=16
GLAT Glass 43.37 350 P **P 14 17 04.0 -0.4**
327A Balmorhea Ranc 43.42 332 ⇓P **P 14 17 05.1 +0.2**
baz=44
326A Caldwell Ranch 43.60 331 ⇑P **P 14 17 06.6 +0.1**
baz=44,SNR=15
BLA Blacksburg 43.64 1 *eP* **P 14 17 06.0 -0.6**
BLA pmax pmax
comp=Z,98nm,1.4s
BLA MLR MLR
comp=Z,8µm,19.0s
BLA Blacksburg 43.64 1 *eP* **P 14 17 06.0 -0.6**
comp=Z,98nm,1.4s
BLA LR LR
comp=Z,8µm,19.0s
425A Indio Mountain 43.66 330 ⇑P **P 14 17 07.1 +0.1**
baz=44,SNR=28
129A Stewart Farms, 43.75 334 ⇓P **P 14 17 07.4 -0.2**
baz=44
PARMO Parma 43.84 350 P **P 14 17 07.5 -0.5**
227A Bennet, Jal 43.86 333 ⇓P **P 14 17 09.2 +0.7**
baz=44
JSRW J. Sargeant Re 44.23 4 *eP* **P 14 17 08.7 -2.4**
Z29A Hungry Hill Ra 44.23 335 ⇓P **P 14 17 11.7 +0.3**
baz=44,SNR=12
226A Malaga, Loving 44.28 332 ⇓P **P 14 17 12.6 +0.8**
baz=44,SNR=19
CLNB Carlsbad 44.34 332 P **P 14 17 13.7 +1.3**
comp=Z,16nm,1.4s
WMOK Wichita Mounta 44.40 339 *eP* **P 14 17 12.5 -0.2**
WMOK pmax pmax
comp=Z,61nm,1.1s
WMOK MLR MLR
comp=Z,3µm,19.0s
WMOK Wichita Mounta 44.40 339 *eP* **P 14 17 12.5 -0.2**
comp=Z,61nm,1.1s
WMOK LR LR
comp=Z,3µm,19.0s
324A Moseley Ranch, 44.44 330 ⇓P **P 14 17 13.2 0.0**
baz=45,SNR=24
127A Arkansas Junct 44.45 333 ⇑P **P 14 17 13.3 0.0**
baz=45
TUL1 Tulsa 44.52 343 ⇓P **P 14 17 13.9 +0.3**
baz=45,SNR=11
GDL2 Guadalupe Moun 44.52 332 *eP* **P 14 17 13.9 +0.1**
comp=Z,82nm,1.2s
Z28A Tucker Farm, M 44.54 334 ⇑P **P 14 17 13.9 0.0**
baz=45
MNTX Cornudas Mount 44.60 330 *eP* **P 14 17 12.9 -1.4**
comp=Z,56nm,1.2s
MNTX LR LR
comp=Z,3µm,20.0s
MNTX Cornudas Mount 44.60 330 ⇓P **P 14 17 14.0 -0.3**
baz=45,SNR=41
225A Deer Hill, Car 44.66 331 ⇑P **P 14 17 14.5 -0.5**
baz=45
126A Clayton Basin, 44.73 332 ⇑P **P 14 17 15.8 +0.4**
baz=45,SNR=5.5
Y29A Porterfield Fa 44.73 336 ⇑P **P 14 17 16.1 +0.6**
baz=45,SNR=8.2
CBN Corbin 44.77 4 PFAKE 14 17 30.0 +15
CBN LR LR
comp=Z,4µm,22.0s
SIUC Southern Illin 44.77 351 *eP* **P 14 17 14.9 -0.6**
comp=Z,86nm,1.1s
USIN University of 44.80 353 *eP* **P 14 17 14.6 -1.2**
comp=Z,97nm,1.0s
WCI Wyandotte Cave 44.91 354 *eP* **P 14 17 14.7 -2.0**
WCI pmax pmax
comp=Z,55nm,1.3s
WCI Wyandotte Cave 44.91 354 *eP* **P 14 17 14.7 -2.0**
comp=Z,55nm,1.3s
Z27A Tatum 44.92 334 ⇑P **P 14 17 17.3 +0.3**
baz=45,SNR=12
224A Cornudas Mount 44.98 330 ⇓P **P 14 17 18.0 +0.5**
baz=45,SNR=14
CPRX Cap Rock 44.98 333 *eP* **P 14 17 18.8 +1.3**
comp=Z,115nm,1.0s
RCBR Riachuelo 44.99 92 *eP* **P 14 17 18.9 +1.1**
comp=Z,108nm,1.1s
RCBR LR LR
comp=Z,22µm,19.0s
Y28A McKinney Farm, 45.02 335 ⇑P **P 14 17 18.2 +0.5**
baz=45,SNR=13
125A Gardner Draw, 45.03 332 ⇑P **P 14 17 18.6 +0.7**
baz=45,SNR=27
Z26A Caprock 45.23 333 ⇑P **P 14 17 20.1 +0.7**
baz=45,SNR=53
FVM French Village 45.24 350 *eP* **P 14 17 18.5 -0.8**
FVM pmax pmax
comp=Z,218nm,1.8s
FVM French Village 45.24 350 *eP* **P 14 17 18.5 -0.8**
comp=Z,218nm,1.8s
X29A Tulia 45.25 336 ⇑P **P 14 17 20.2 +0.7**
baz=45
MSTX Muleshoe 45.29 334 ⇓P **P 14 17 20.2 +0.3**
baz=45,SNR=11
223A Chaparral, Ant 45.37 329 ⇓P **P 14 17 20.7 +0.2**
baz=46
Y27A Causey 45.38 334 ⇑P **P 14 17 21.1 +0.4**
baz=46,SNR=14
124A Stringfield Ra 45.45 331 ⇓P **P 14 17 22.0 +0.7**
baz=46,SNR=42
X28A Dimmitt 45.52 335 ⇑P **P 14 17 22.3 +0.6**
baz=46
Z25A Roswell 45.58 332 ⇓P **P 14 17 22.6 +0.4**
baz=46
OLIL Olney 45.61 352 *eP* **P 14 17 20.6 -1.6**
comp=Z,111nm,1.2s
AMTX Amarillo 45.63 336 *eP* **P 14 17 22.4 -0.1**
AMTX LR LR
comp=Z,2µm,22.0s
AMTX Amarillo 45.63 336 ⇓P **P 14 17 22.8 +0.3**
baz=46
Y26A Elida 45.71 333 ⇓P **P 14 17 23.7 +0.4**
baz=46
123A Bell Site, Whi 45.79 330 ⇓P **P 14 17 24.4 +0.4**
baz=46
222A Williams Famil 45.79 329 ⇑P **P 14 17 24.6 +0.6**
baz=46,SNR=15
W29A Amarillo 45.82 336 ⇑P **P 14 17 24.2 +0.2**
baz=46
Z24A Sheeppen Canyo 45.92 331 ⇑P **P 14 17 25.5 +0.5**
baz=46
320A Kipp Ranch, An 45.95 327 ⇓P **P 14 17 25.7 +0.5**
baz=46,SNR=17
SDMD Soldier's Deli 46.01 5 *eP* **P 14 17 24.5 -0.9**
comp=Z,48nm,1.3s
X27A F and S Farms, 46.01 335 ⇑P **P 14 17 25.9 +0.3**
baz=46
221A Mesquite Ranch 46.07 328 ⇑P **P 14 17 25.7 -0.4**
baz=46
Y25A Mesa, Roswell 46.10 333 ⇓P **P 14 17 26.7 +0.4**
baz=46,SNR=15
W28A Vega 46.16 336 ⇑P **P 14 17 27.1 +0.3**
baz=46
122A Conniff Cattle 46.21 329 ⇓P **P 14 17 26.3 -1.0**
baz=46
X26A CR and CF Fran 46.23 334 ⇑P **P 14 17 27.5 +0.2**
baz=46
Z23A Rita Site, Whi 46.28 331 ⇑P **P 14 17 28.7 +0.9**
baz=46,SNR=12
220A Playas Peak, P 46.38 327 ⇓P **P 14 17 29.2 +0.6**
baz=46,SNR=20
319A Douglas 46.39 326 ⇑P **P 14 17 29.4 +0.8**
baz=46,SNR=20
V29A Stinnett 46.43 337 ⇓P **P 14 17 29.2 +0.3**
baz=47
Y24A Capitan 46.45 332 ⇓P **P 14 17 29.5 +0.4**
baz=47,SNR=15
121A Cookes Peak, D 46.48 329 ⇑P **P 14 17 30.2 +0.8**
baz=47,SNR=9.2
X25A Clemmons Ranch 46.59 333 ⇓P **P 14 17 30.5 +0.2**
baz=47
V28A Channing 46.60 336 ⇓P **P 14 17 30.4 +0.2**
baz=47
Z22A Elephant Butte 46.64 330 ⇑P **P 14 17 30.9 +0.3**
baz=47,SNR=32
W26A Owens Ranch, T 46.67 334 ⇓P **P 14 17 31.4 +0.6**
baz=47,SNR=11
ACSO Alum Creek Sta 46.68 358 *eP* **P 14 17 29.3 -1.3**
comp=Z,42nm,0.9s
ACSO LR LR
comp=Z,7µm,20.0s
Y23A Lovelace Mesa, 46.74 331 ⇑P **P 14 17 31.9 +0.4**
baz=47,SNR=24
120A U Bar Ranch, L 46.94 328 ⇑P **P 14 17 32.7 -0.3**
baz=47,SNR=14
X24A Lazy VL Ranch, 46.97 332 ⇑P **P 14 17 33.2 -0.1**
baz=47
Z21A St. Cloud Mine 47.04 329 ⇑P **P 14 17 34.2 +0.4**
baz=47
W25A X Bar L Ranch, 47.08 334 ⇑P **P 14 17 34.7 +0.7**
baz=47,SNR=11
SFIN Scholer Farm 47.12 354 ⇑P **P 14 17 33.0 -1.0**
baz=47
SSPA Standing Stone 47.15 3 *eP* **P 14 17 33.1 -1.2**
comp=Z,124nm,1.6s
Y22A Socorro 47.19 330 ⇓P **P 14 17 35.8 +0.9**
baz=47,SNR=18
BNM Barren Site 47.20 331 *eP* **P 14 17 35.5 +0.5**
comp=Z,32nm,1.3s
Y22D IRIS PASSCAL I 47.28 331 ⇑P **P 14 17 35.0 -0.6**
baz=47
LPM Los Pinos Moun 47.33 331 *eP* **P 14 17 37.0 +0.9**
comp=Z,34nm,1.5s
X23A Hourglass Bar 47.34 332 ⇑P **P 14 17 36.3 +0.1**
baz=48
Z20A Nine Sixteen R 47.36 328 ⇓P **P 14 17 36.7 +0.4**
baz=48,SNR=24
LENM Lemitar 47.38 331 *eP* **P 14 17 37.6 +1.2**
comp=Z,21nm,1.3s
W24A Lazy 6 Ranch, 47.50 333 ⇓P **P 14 17 37.7 +0.3**
baz=48
HDIL Hopedale 47.57 352 *eP* **P 14 17 36.5 -1.1**
comp=Z,56nm,0.7s
HDIL LR LR
comp=Z,3µm,20.0s
Y21A Point of Rocks 47.60 330 ⇑P **P 14 17 39.0 +0.8**
baz=48,SNR=19
X22A Bernardo 47.67 331 ⇑P **P 14 17 38.7 0.0**
baz=48
V25A Rancho No Teng 47.67 334 ⇓P **P 14 17 39.2 +0.5**
baz=48,SNR=21
KSU1 Kansas State U 47.72 344 *eP* **P 14 17 38.0 -0.8**
comp=Z,151nm,1.1s
KSU1 LR LR
comp=Z,2µm,19.0s
T28A Walsh 47.75 337 ⇓P **P 14 17 39.4 +0.2**
baz=48
ANMO Albuquerque 47.76 332 *eP* **P 14 17 39.1 -0.3**
comp=Z,72nm,1.3s
ANMO LR LR
comp=Z,3µm,20.0s
U26A Atchley Ranch, 47.77 335 ⇓P **P 14 17 39.5 0.0**
baz=48
W23A Werner Place, 47.80 332 ⇓P **P 14 17 40.2 +0.5**
baz=48,SNR=20
V24A Rampart Ranch, 47.87 333 ⇓P **P 14 17 40.5 +0.3**
baz=48
Y20A Horse Springs, 47.87 329 ⇓P **P 14 17 40.1 -0.2**
baz=48
TUC Tucson 47.93 326 *eP* **P 14 17 40.0 -0.6**
TUC pmax pmax
comp=Z,57nm,1.5s
TUC MLR MLR
comp=Z,5µm,20.0s
TUC Tucson 47.93 326 *eP* **P 14 17 40.0 -0.6**
comp=Z,57nm,1.5s
TUC LR LR
comp=Z,5µm,20.0s
T27A Campo 47.94 337 ⇑P **P 14 17 40.9 +0.3**
baz=48
X21A Alamocita Cree 48.00 330 ⇑P **P 14 17 41.7 +0.4**
baz=48,SNR=28
U25A Circle Dot Ran 48.06 335 ⇓P **P 14 17 42.3 +0.6**
baz=48,SNR=16
W22A Albuquerque 48.06 331 ⇓P **P 14 17 41.5 -0.2**
baz=48
ALLY Alegheny Colle 48.08 1 P **P 14 17 39.9 -1.6**
V23A Ortiz Mt. (NFS 48.29 333 ⇓P **P 14 17 43.7 +0.2**
baz=48
Y19A Nutrioso 48.36 328 ⇑P **P 14 17 45.0 +0.8**
baz=48,SNR=11
T26A Comanche Natio 48.38 336 ⇓P **P 14 17 44.6 +0.4**
baz=48
CBKS Cedar Bluff 48.41 341 *eP* **P 14 17 44.2 0.0**
CBKS pmax pmax
comp=Z,100nm,1.2s
CBKS MLR MLR
comp=Z,3µm,22.0s
CBKS Cedar Bluff 48.41 341 *eP* **P 14 17 44.2 0.0**
comp=Z,100nm,1.2s
CBKS LR LR
comp=Z,3µm,22.0s
CBKS Cedar Bluff 48.41 341 ⇑P **P 14 17 44.9 +0.7**
baz=48
X20A Quemado 48.43 330 ⇓P **P 14 17 45.4 +0.8**
baz=48,SNR=14
U24A Moreno Valley 48.44 334 ⇓P **P 14 17 45.3 +0.6**
baz=49
W21A San Fidel 48.47 331 ⇓P **P 14 17 45.6 +0.7**
baz=49
S27A Las Animas 48.55 337 ⇑P **P 14 17 46.0 +0.6**
baz=49
ERPA Erie 48.55 1 *eP* **P 14 17 43.7 -1.4**
comp=Z,116nm,1.5s
ERPA LR LR
comp=Z,5µm,20.0s
T25A Trinidad 48.69 335 ⇓P **P 14 17 47.6 +1.1**
baz=49,SNR=18
S26A Kim 48.72 336 ⇑P **P 14 17 47.4 +0.7**
baz=49,SNR=16
V22A San Miguel Ran 48.77 332 ⇑P **P 14 17 47.9 +0.7**
baz=49
AAM Ann Arbor 48.77 358 *eP* **P 14 17 45.7 -1.1**
AAM pmax pmax
comp=Z,141nm,0.3s
AAM MLR MLR
comp=Z,10µm,19.0s
AAM Ann Arbor 48.77 358 *eP* **P 14 17 45.7 -1.1**
comp=Z,141nm,0.3s
AAM LR LR
comp=Z,10µm,19.0s
EFI East Falkland 48.78 161⇑ *eP* **P 14 17 48.3 +1.6**
EFI East Falkland 48.78 161 PFAKE 14 18 00.0 +13
EFI LR LR
comp=Z,11µm,19.0s
U23A El Rito 48.78 333 ⇓P **P 14 17 47.8 +0.5**
baz=49
214A Organ Pipe Nat 48.84 324 ⇑P **P 14 17 47.7 +0.2**
baz=49
BINY Binghamton 48.85 5 *eP* **P 14 17 46.5 -0.9**
comp=Z,150nm,1.5s
BINY LR LR
comp=Z,3µm,19.0s
W20A Ramah 48.90 330 ⇑P **P 14 17 48.8 +0.5**
baz=49
T24A Torres, Weston 48.90 335 ⇓P **P 14 17 48.9 +0.6**
baz=49
V21A Milan 49.02 331 ⇓P **P 14 17 49.6 +0.5**
baz=49
R27A Eads 49.03 337 ⇑P **P 14 17 49.2 +0.2**
baz=49,SNR=5.4
USHA Ushuaia 49.12 170 P **P 14 17 51.6 +2.3**
USHA Ushuaia 49.12 170 P **P 14 17 51.6 +2.3**
comp=Z,9.2nm,0.8s,baz=327,slow=11,SNR=2.8
U22A Llaves 49.12 332 ⇑P **P 14 17 50.9 +1.0**
baz=49,SNR=12
S25A Robets Cordova 49.14 336 ⇑P **P 14 17 50.5 +0.5**
baz=49
X18A Snowflake 49.17 328 ⇓P **P 14 17 50.5 +0.3**
baz=49
R26A Arlington 49.30 337 ⇑P **P 14 17 51.7 +0.7**
baz=49,SNR=21
T23A Casias Ranch, 49.30 334 ⇑P **P 14 17 51.8 +0.5**
baz=49
V20A Brimhall 49.42 331 ⇓P **P 14 17 52.1 0.0**
baz=50
S24A Houchin Ranch, 49.45 335 ⇑P **P 14 17 52.8 +0.4**
baz=50
114A Black Gap (USA 49.45 324 ⇑P **P 14 17 53.0 +0.7**
baz=50,SNR=6.5
X17A Forest Lakes 49.47 327 ⇓P **P 14 17 52.3 -0.3**
baz=50
R25A Fountain Ranch 49.50 336 ⇓P **P 14 17 53.2 +0.6**
baz=50,SNR=6.6
W18A Petrified Fore 49.51 329 ⇑P **P 14 17 53.4 +0.6**
baz=50
U21A Nageezi 49.53 332 ⇑P **P 14 17 54.3 +1.2**
baz=50,SNR=14
SCIA State Center 49.57 348 *eP* **P 14 17 52.3 -0.6**
comp=Z,230nm,1.5s
SCIA LR LR
comp=Z,3µm,19.0s
KSCO Kaye Shedlock' 49.60 338 ⇑P **P 14 17 53.7 +0.3**
baz=50
TRY Troy 49.62 7 *eP* **P 14 17 53.0 -0.3**
comp=Z,770nm,1.6s
V19A Window Rock 49.63 330 ⇑P **P 14 17 54.4 +0.6**
baz=50
SDCO Great Sand Dun 49.66 335 *eP* **P 14 17 54.8 +0.7**
comp=Z,41nm,1.2s
SDCO LR LR
comp=Z,2µm,19.0s
SDCO Great Sand Dun 49.66 335 ⇑P **P 14 17 55.1 +1.0**
baz=50,SNR=28
T22A Edith 49.67 333 ⇓P **P 14 17 55.0 +0.9**
baz=50
S23A Nye Farm, Mont 49.84 334 ⇓P **P 14 17 56.2 +0.8**
baz=50
Q26A Hugo 49.86 337 ⇓P **P 14 17 56.2 +0.8**
baz=50
X16A Lo Mia Camp, P 49.88 327 ⇑P **P 14 17 56.0 +0.4**
baz=50,SNR=16
U20A Newcomb 49.90 331 ⇑P **P 14 17 56.2 +0.4**
baz=50,SNR=23
R24A Sanders Place, 49.91 335 ⇑P **P 14 17 56.7 +0.9**
baz=50
Z14A Wintersburg 49.93 325 ⇑P **P 14 17 56.9 +1.0**
baz=50
T21A Navajo Lake 49.94 332 ⇑P **P 14 17 57.0 +0.9**
baz=50
113A Mohawk Valley, 49.98 324 ⇑P **P 14 17 56.0 -0.2**
baz=50
Q25A Bedland, Calha 50.14 337 ⇓P **P 14 17 58.1 +0.5**
baz=50,SNR=5.9
U19A Dine' College, 50.17 330 ⇓P **P 14 17 58.4 +0.4**
baz=50
R23A Moffat 50.17 335 ⇑P **P 14 17 58.1 +0.1**
baz=50
S22A 4UR Ranch, Cre 50.24 333 ⇑P **P 14 17 59.3 +0.8**
baz=50,SNR=12
ACCN Adirondack Com 50.27 7 *eP* **P 14 17 57.5 -0.7**
comp=Z,110nm,1.5s
BGNE Belgrade 50.30 343 ⇓P **P 14 17 58.5 0.0**
baz=50
P26A Davis Ranch, A 50.35 338 ⇓P **P 14 17 59.6 +0.5**
baz=50
Y14A Wickenburg 50.38 325 ⇑P **P 14 17 59.7 +0.3**
baz=50,SNR=11
Q24A Divide 50.55 336 ⇑P **P 14 18 01.3 +0.5**
baz=51

O27A **Beecher Island** 50.59 339 ⇓P P 14 18 00.9 +0.1
baz=51
U18A **Rough Rock, Ch** 50.60 330 ⇑P P 14 18 01.6 +0.5
baz=51
S21A **Coal Bank Pass** 50.60 333 ⇑P P 14 18 01.9 +0.7
baz=51
R22A **Saguache, Gunn** 50.60 334 ⇓P P 14 18 01.7 +0.5
baz=51
P25A **Willow Gulch B** 50.62 337 ⇑P P 14 18 01.8 +0.6
baz=51
WUAZ **Wupatki** 50.67 328 eP P 14 18 02.3 +0.6
comp=Z,62nm,1.2s
WUAZ LR LR
comp=Z,4µm,19.0s
WUAZ **Wupatki** 50.67 328 ⇓P P 14 18 02.1 +0.4
baz=51,SNR=8.5
Q23A **Hartsel** 50.78 335 ⇑P P 14 18 03.0 +0.5
baz=51
GLA **Glamis** 50.81 323 eP P 14 18 02.2 -0.4
GLA pmax pmax
comp=Z,57nm,1.3s
GLA **Glamis** 50.81 323 eP P 14 18 02.2 -0.4
comp=Z,57nm,1.3s
GLA **Glamis** 50.81 323 ⇑P P 14 18 03.0 +0.4
baz=51
P24A **Kohler Place,** 50.92 336 ⇑P P 14 18 04.0 +0.6
baz=51
MDV **Middlebury** 50.93 7 eP P 14 18 02.8 -0.4
comp=Z,1µm,0.5s
O26A **Horse Wrangler** 50.94 338 ⇑P P 14 18 04.2 +0.7
baz=51
S20A **Disappointment** 51.00 332 ⇓P P 14 18 04.8 +0.6
baz=51,SNR=17
R21A **Cimarron** 51.07 333 ⇓P P 14 18 05.2 +0.5
baz=51
OGNE **Ogallala** 51.10 340 eP P 14 18 04.5 -0.2
OGNE LR LR
comp=Z,167nm,1.6s
comp=Z,3µm,21.0s
OGNE **Ogallala** 51.10 340 ⇓P P 14 18 05.2 +0.5
baz=51
Y12C **Blythe** 51.12 324 ⇓P P 14 18 05.6 +0.7
baz=51
O25A **Wiggins** 51.12 337 ⇓P P 14 18 05.7 +0.8
baz=51
N27A **Anderson Farm,** 51.15 339 ⇓P P 14 18 05.4 +0.4
baz=51
T18A **Mexican Hat** 51.17 330 ⇑P P 14 18 05.6 +0.3
baz=51,SNR=23
P23A **Jefferson** 51.17 335 ⇓P P 14 18 06.3 +0.7
baz=51,SNR=9.2
Q22A **Crested Butte,** 51.20 334 ⇑P P 14 18 06.1 +0.3
baz=51,SNR=12
PDMCI **Parker Dam,Lak** 51.29 325 ⇑P P 14 18 07.2 +1.1
baz=51
S19A **Harvey Farm, M** 51.30 332 ⇓P P 14 18 07.0 +0.6
baz=51
R20A **Redvale** 51.30 333 ⇑P P 14 18 07.3 +0.9
baz=51,SNR=19
SWSC **Sam W. Stewart** 51.31 322 ⇓P P 14 18 07.0 +0.7
baz=51
GLMI **Grayling** 51.34 357 eP P 14 18 04.5 -1.7
GLMI LR LR
comp=Z,13µm,20.0s
LBNH **Lisbon** 51.34 9 PFAKE 14 18 20.0 +14
LBNH LR LR
comp=Z,3µm,22.0s
PV01 **Paradox Valley** 51.34 332 eP P 14 18 07.8 +1.1
comp=Z,3µm,1.3s
LONY **Lake Ozonia** 51.38 6 eP P 14 18 05.2 -1.4
comp=Z,72nm,1.5s
LONY LR LR
comp=Z,4µm,19.0s
N26A **Koester Ranch,** 51.42 339 ⇑P P 14 18 07.9 +0.8
baz=52
ISCO **Idaho Springs** 51.44 336 eP P 14 18 08.2 +0.6
ISCO pmax pmax
comp=Z,39nm,1.2s
ISCO MLR MLR
comp=Z,3µm,22.0s
ISCO **Idaho Springs** 51.44 336 eP P 14 18 08.2 +0.6
comp=Z,40nm,1.2s
ISCO LR LR
comp=Z,3µm,22.0s
ISCO **Idaho Springs** 51.44 336 ⇑P P 14 18 08.1 +0.5
baz=52,SNR=7.2
Q21A **Lamborn Mesa,** 51.47 334 ⇓P P 14 18 08.2 +0.6
baz=52
SMCO **Snowmass** 51.49 334 eP P 14 18 08.2 +0.3
comp=Z,47nm,1.3s
O24A **Longmont** 51.50 337 ⇓P P 14 18 08.3 +0.5
baz=52
BC3 **Big Chuckawall** 51.60 323 ⇑P P 14 18 09.1 +0.4
baz=52
MONP **Monument Peak** 51.66 322 ⇑P P 14 18 08.8 -0.3
baz=52
S18A **Hurst Farm, Bl** 51.66 331 ⇑P P 14 18 09.2 0.0
baz=52,SNR=23
FRNY **Flat Rock** 51.70 7 eP P 14 18 08.5 -0.5
comp=Z,382nm,2.2s
N25A **Grover** 51.72 338 ⇓P P 14 18 10.0 +0.6
baz=52
W13A **Hualapai Mount** 51.73 326 ⇓P P 14 18 09.9 +0.3
baz=52,SNR=11
MSNY **Massena** 51.73 6 eP P 14 18 08.2 -0.9
comp=Z,337nm,0.9s
M27A **Reverse DX Ran** 51.74 340 ⇓P P 14 18 09.9 +0.4
baz=52
P22A **Eagle** 51.74 335 ⇑P P 14 18 10.5 +0.8
baz=52,SNR=5.8
IRM **Iron Mountain** 51.78 324 ⇑P P 14 18 09.3 -0.5
baz=52
R19A **Curley Farm, L** 51.79 332 ⇓P P 14 18 10.1 0.0
baz=52
U15A **North Rim** 51.85 328 ⇑P P 14 18 10.1 -0.5
baz=52
Q20A **Ridgley Place,** 51.88 333 ⇑P P 14 18 10.9 +0.2
baz=52
O23A **Lake Granby, G** 51.92 336 ⇑P P 14 18 11.8 +0.8
baz=52,SNR=10
M26A **McRoberts Ranc** 51.95 339 ⇑P P 14 18 11.9 +0.8
baz=52
P21A **Newcastle** 51.98 334 ⇓P P 14 18 12.3 +0.8
baz=52,SNR=20
S17A **Black Ridge (B** 52.01 330 ⇑P P 14 18 12.3 +0.7
baz=52
WVL **Waterville** 52.03 10 eP P 14 18 11.6 +0.2
comp=Z,203nm,1.4s
N24A **Carr** 52.03 337 ⇑P P 14 18 12.6 +0.9
baz=52
ECSD **EROS Data Cent** 52.07 346 eP P 14 18 10.5 -1.2
comp=Z,38nm,1.1s
ECSD LR LR
comp=Z,3µm,21.0s
109C **Camp Elliot, M** 52.09 321 ⇑P P 14 18 12.3 +0.3
baz=52
O22A **Kremmling** 52.13 335 ⇑P P 14 18 13.1 +0.4
baz=52
R18A **Canyonlands Na** 52.17 331 ⇑P P 14 18 13.1 +0.3
baz=52
PFO **Pinyon Flat Ob** 52.17 322 P P 14 18 14.0 +1.1
comp=Z,23nm,1.1s
PFO LR LR
comp=Z,3µm,19.0s
PFO **Pinyon Flat Ob** 52.17 322 ⇑P P 14 18 13.4 +0.5
baz=52
L27A **T5 Ranch, Ells** 52.21 340 ⇑P P 14 18 13.6 +0.7
baz=52
M25A **Palm-Egli Farm** 52.25 338 ⇑P P 14 18 14.0 +0.7
baz=52
Q19A **Hogan Spring (** 52.33 332 ⇑P P 14 18 14.8 +0.9
baz=52,SNR=10
P20A **De Beque** 52.37 333 ⇓P P 14 18 14.7 +0.4
baz=52
L26A **Underwood Farm** 52.43 339 ⇓P P 14 18 15.2 +0.6
baz=53
S16A **Weppner Ranch,** 52.48 330 ⇓P P 14 18 15.7 +0.6
baz=53
N23A **Red Feather La** 52.51 336 ⇑P P 14 18 16.2 +0.8
baz=53
GMRC **Granite Mounta** 52.52 324 ⇑P P 14 18 15.6 +0.2
baz=53
O21A **Pagoda** 52.56 335 ⇓P P 14 18 16.6 +0.8
baz=53
M24A **Cheyenne** 52.56 338 ⇓P P 14 18 16.8 +1.1
baz=53
R17A **Hanksville Air** 52.58 331 ⇓P P 14 18 16.7 +0.8
baz=53,SNR=15

MURC **Murrieta** 52.62 322 ⇑P P 14 18 16.9 +0.8
baz=53
N22A **Wattenberg Ran** 52.63 336 ⇑P P 14 18 17.3 +0.9
baz=53
SPMN **St. Paul** 52.69 350 ⇑P P 14 18 16.3 0.0
baz=53
K27A **Flueckinger Fa** 52.73 341 ⇑P P 14 18 17.5 +0.7
baz=53
P19A **Cripple Cowboy** 52.75 333 ⇑P P 14 18 17.8 +0.7
baz=53
O20A **White River Ci** 52.83 334 ⇓P P 14 18 18.8 +1.1
baz=53,SNR=6.0
L25A **Engebretsen Ra** 52.85 339 ⇑P P 14 18 18.3 +0.6
baz=53
Q18A **Rafter H Ranch** 52.85 332 ⇓P P 14 18 18.5 +0.7
baz=53,SNR=19
R16A **Teasdale** 52.86 330 ⇑P P 14 18 18.8 +0.8
baz=53,SNR=9.6
BBRC **Big Bear Solar** 52.90 323 ⇑P P 14 18 18.7 +0.3
baz=53
M23A **Laramie** 52.91 337 ⇓P P 14 18 18.6 +0.3
baz=53
HEC **Hector,Ludlow** 52.94 324 ⇓P P 14 18 19.1 +0.6
baz=53
N21A **Black Mountain** 53.04 335 ⇓P P 14 18 20.4 +1.1
baz=53
SRU **San Rafael** 53.04 331 eP P 14 18 19.4 +0.1
SRU pmax pmax
comp=Z,58nm,1.3s
SRU **San Rafael** 53.04 331 eP P 14 18 19.4 +0.1
comp=Z,58nm,1.3s
SRU **San Rafael** 53.04 331 ⇓P P 14 18 19.8 +0.5
baz=53,SNR=16
K26A **Motz Farm, Whi** 53.05 340 ⇑P P 14 18 19.7 +0.5
baz=53
SCI **San Clemente I** 53.05 320 ⇓P P 14 18 19.7 +0.5
baz=53
L24A **Wheatland** 53.10 338 ⇑P P 14 18 20.2 +0.5
baz=53
TUQ **Turquoise Moun** 53.13 324 ⇓P P 14 18 20.3 +0.3
baz=53
R15A **Junction** 53.20 329 ⇓P P 14 18 21.4 +0.9
baz=53
Q16A **Castle Valley** 53.20 331 ⇑P P 14 18 21.2 +0.7
baz=53
K25A **Mack Ranch, Ha** 53.21 339 ⇑P P 14 18 21.2 +0.8
baz=53
CIS **Catalina Islan** 53.24 321 ⇓P P 14 18 20.9 +0.2
baz=53
CCUT **Cedar City** 53.26 328 eP P 14 18 21.8 +0.9
comp=Z,43nm,1.2s
P18A **Preston Nutter** 53.32 332 ⇑P P 14 18 21.5 0.0
baz=53,SNR=8.2
BRSD **Miller** 53.33 344 ⇓P P 14 18 20.7 -0.4
baz=54
BFSC **Mount Baldy Ra** 53.34 322 ⇑P P 14 18 21.3 -0.1
baz=53
O19A **Miners Draw (B** 53.35 333 ⇓P P 14 18 22.0 +0.5
baz=54
RRX **Edison Barstow** 53.37 323 ⇓P P 14 18 21.4 -0.2
baz=54
MSU **Marysvale** 53.38 330 eP P 14 18 22.3 +0.5
MSU pmax pmax
comp=Z,35nm,1.3s
MSU **Marysvale** 53.38 330 eP P 14 18 22.3 +0.5
comp=Z,35nm,1.3s
MVU **Marysvale** 53.39 330 eP P 14 18 23.3 +1.4
comp=Z,54nm,1.4s
MVU LR LR
comp=Z,3µm,21.0s
N20A **Spence Gulch,** 53.41 335 ⇓P P 14 18 22.5 +0.4
baz=54
P17A **Butcher Ranch,** 53.43 332 ⇑P P 14 18 22.9 +0.8
baz=54,SNR=18
L23A **Garrett** 53.45 337 ⇓P P 14 18 23.0 +0.7
baz=54
ARUT **Antelope Range** 53.47 328 eP P 14 18 23.2 +0.7
ARUT pmax pmax
comp=Z,55nm,1.3s
ARUT **Antelope Range** 53.47 328 eP P 14 18 23.2 +0.7
comp=Z,55nm,1.3s
TMUT **Trail Mountain** 53.51 331 eP P 14 18 24.1 +1.2
comp=Z,31nm,1.2s
GSC **Goldstone** 53.55 324 eP P 14 18 24.5 +1.5
GSC pmax pmax
comp=Z,45nm,1.3s
GSC **Goldstone** 53.55 324 eP P 14 18 24.5 +1.5
comp=Z,45nm,1.3s
GSC **Goldstone** 53.55 324 ⇑P P 14 18 23.5 +0.5
baz=54
PASC **Pasadena Art C** 53.61 322 P P 14 18 24.3 +0.9
K24A **Anderson Ranch** 53.65 338 ⇓P P 14 18 24.2 +0.5
baz=54
L22A **Ellis Ranch, M** 53.67 337 ⇑P P 14 18 24.4 +0.5
baz=54
M21A **Separation Pea** 53.68 336 ⇓P P 14 18 24.7 +0.7
baz=54
O18A **Roosevelt** 53.72 333 ⇓P P 14 18 25.3 +1.1
baz=54,SNR=6.2
N19A **John Jarvie Ra** 53.86 334 ⇓P P 14 18 25.5 +0.3
baz=54,SNR=6.5
M20A **Sweetwater, Wa** 53.92 335 ⇓P P 14 18 26.2 +0.5
baz=54
EDW2 **Edwards Air Fo** 53.97 322 ⇑P P 14 18 26.6 +0.6
baz=54
P16A **Fountain Green** 53.97 331 ⇑P P 14 18 27.1 +1.0
baz=54
K23A **Bowen Ranch, D** 53.98 338 ⇑P P 14 18 26.6 +0.5
baz=54
L21A **Rawlins** 53.98 336 ⇑P P 14 18 26.4 +0.3
baz=54,SNR=7.8
O17A **Robinson Place** 54.00 332 ⇓P P 14 18 26.8 +0.5
baz=54,SNR=7.8
R13A **O'Grain Ranch,** 54.04 328 ⇓P P 14 18 26.9 +0.3
baz=54
BLG **Laguna Peak** 54.12 321 ⇓P P 14 18 27.6 +0.6
baz=54
J24A **Dixon Ranch, L** 54.12 339 ⇑P P 14 18 28.0 +1.0
baz=54
LRMC **Laurel Mountai** 54.19 323 ⇓P P 14 18 28.1 +0.4
baz=54
RKT **Rikitea** 54.20 246 eP P 14 18 28.0 +0.2
comp=Z,94nm,1.3s
RKT eS S 14 26 04.8 +0.6
comp=Z,4µm,25.8s
RKT eLR LR 14 34 09.5
comp=Z,8µm,26.8s
K22A **Casper** 54.23 337 ⇓P P 14 18 28.4 +0.5
baz=54
P15A **Lemington** 54.24 331 ⇑P P 14 18 29.1 +1.0
baz=54,SNR=9.7
MPU **Maple Canyon** 54.28 331 eP P 14 18 28.8 +0.4
comp=Z,31nm,1.2s
M19A **Rock Springs** 54.35 334 ⇑P P 14 18 28.9 +0.1
baz=54
FURC **Furnace Creek,** 54.40 325 ⇓P P 14 18 28.7 -0.3
baz=54
DAU **Daniels Canyon** 54.41 332 eP P 14 18 30.5 +1.1
DAU pmax pmax
comp=Z,97nm,1.3s
DAU **Daniels Canyon** 54.41 332 eP P 14 18 30.5 +1.1
comp=Z,97nm,1.3s
L20A **Wamsutter** 54.42 335 ⇑P P 14 18 29.6 +0.2
baz=54
MPMC **Manual Prospec** 54.48 324 ⇓P P 14 18 30.0 +0.1
baz=55
K21A **Alcova** 54.50 337 ⇑P P 14 18 30.3 +0.4
baz=55,SNR=15
J23A **Dilts Ranch, B** 54.51 338 ⇑P P 14 18 30.4 +0.5
baz=55
I24A **Kuemmerle Ranc** 54.57 339 ⇓P P 14 18 31.0 +0.7
baz=55
RSSD **Black Hills** 54.60 340 eP P 14 18 30.5 -0.1
RSSD pmax pmax
comp=Z,45nm,1.3s
RSSD **Black Hills** 54.60 340 eP P 14 18 30.5 -0.1
comp=Z,45nm,1.3s
N17A **Moffit Pass** 54.64 333 ⇑P P 14 18 31.9 +0.8
baz=55,SNR=6.3
ARVC **Arvin** 54.65 322 ⇓P P 14 18 31.6 +0.8
baz=55
JLU **Jordanelle** 54.65 332 eP P 14 18 31.4 +0.3
comp=Z,80nm,1.4s
M18A **Lyman** 54.68 334 ⇑P P 14 18 31.6 +0.3
baz=55,SNR=6.5
DAC **Darwin (Calif)** 54.69 324 PFAKE 14 18 40.0 +8.6
DAC LR LR
comp=Z,2µm,19.0s

ISA **Isabella** 54.79 323 P P 14 18 32.8 +0.8
ISA pmax pmax
comp=Z,84nm,1.9s
ISA **Isabella** 54.79 323 P P 14 18 32.8 +0.8
comp=Z,84nm,1.9s
ISA **Isabella** 54.79 323 ⇑P P 14 18 32.1 +0.1
baz=55
J22A **Midwest** 54.86 338 ⇓P P 14 18 32.7 +0.3
baz=55,SNR=17
N16A **Rees Ranch, Co** 54.87 332 ⇓P P 14 18 33.3 +0.6
baz=55
O15A **The Old Anders** 54.89 331 ⇓P P 14 18 33.4 +0.7
baz=55
L19A **Farson** 54.92 335 ⇓P P 14 18 33.5 +0.5
baz=55
I23A **Meade Ranch, G** 54.96 339 ⇑P P 14 18 33.4 +0.3
baz=55
K20A **Yellowstone Ra** 54.96 336 ⇑P P 14 18 33.3 +0.1
baz=55,SNR=16
M17A **Scullys Gap (B** 54.99 333 ⇑P P 14 18 33.5 0.0
baz=55
R11A **Troy Canyon, C** 55.03 327 ⇓P P 14 18 34.7 +0.9
baz=55,SNR=25
GRAC **Grapevine Rang** 55.06 325 ⇑P P 14 18 34.7 +0.8
baz=55
L18A **Fontenelle, Gr** 55.07 334 ⇓P P 14 18 34.7 +0.6
baz=55
CWC **Cottonwood Cre** 55.08 324 ⇓P P 14 18 34.9 +0.6
baz=55
EYMN **Ely** 55.12 352 eP P 14 18 32.9 -1.2
comp=Z,148nm,1.5s
EYMN LR LR
comp=Z,3µm,20.0s
J21A **Lysite** 55.18 337 ⇑P P 14 18 35.7 +0.9
baz=55
I22A **9 Mile Ranch,** 55.27 338 ⇑P P 14 18 35.5 +0.1
baz=55,SNR=12
VES **Vestal, Richgr** 55.28 323 ⇑P P 14 18 36.5 +1.1
baz=55,SNR=8.0
K19A **Absolon Red Bu** 55.30 335 ⇓P P 14 18 35.6 -0.1
baz=55,SNR=6.5
H24A **Dirks Ranch, A** 55.32 340 ⇑P P 14 18 35.5 -0.2
baz=56,SNR=7.5
N15A **Stansbury Isla** 55.38 331 ⇑P P 14 18 37.0 +0.7
baz=56
J20A **Shoshoni** 55.44 336 ⇑P P 14 18 37.6 +1.0
baz=56
H23A **Clabaugh Cattl** 55.46 339 ⇓P P 14 18 36.9 +0.2
baz=56
SMMC **Simmler** 55.48 322 ⇑P P 14 18 37.1 +0.1
baz=56
HWUT **Hardware Ranch** 55.50 333 eP P 14 18 36.9 -0.3
comp=Z,94nm,1.1s
HWUT LR LR
comp=Z,5µm,19.0s
I21A **Big Trails, Te** 55.51 337 ⇓P P 14 18 36.9 -0.3
baz=56,SNR=16
BW06 **Boulder Array** 55.55 335 PFAKE 14 18 50.0 +12
BW06 LR LR
comp=Z,3µm,21.0s
BW06 **Boulder Array** 55.55 335 ⇑P P 14 18 37.4 -0.2
baz=56,SNR=7.1
PDAR **Pinedale Array** 55.55 335 P P 14 18 36.8 -0.8
PDAR **Pinedale Array** 55.55 335 P P 14 18 36.8 -0.8
comp=Z,2.5nm,0.8s,baz=133,slow=8.1,SNR=21
PDAR LR LR 14 42 05.7
comp=Z,2µm,18.5s,baz=337,slow=36
PD02 **Pinedale Array** 55.57 335 eP P 14 18 36.3 -1.4
PD01 **Pinedale Array** 55.57 335 eP P 14 18 36.7 -1.0
L17A **Cokeville** 55.58 333 ⇑P P 14 18 37.7 -0.1
baz=56
TIN **Tinemaha** 55.59 324 ⇓P P 14 18 37.8 0.0
baz=56
K18A **Toltan Ranch,** 55.65 334 ⇓P P 14 18 38.9 +0.6
baz=56,SNR=18
TPH **Tonopah** 55.73 326 PFAKE 14 18 50.0 +11
TPH LR LR
comp=Z,2µm,21.0s
J19A **Crowheart** 55.75 336 ⇑P P 14 18 39.2 +0.3
baz=56,SNR=5.5
L16A **Fish Haven** 55.76 333 ⇓P P 14 18 39.4 +0.3
baz=56,SNR=6.7
G24A **Alzada** 55.79 340 ⇑P P 14 18 39.2 +0.2
baz=56,SNR=9.8
M15A **Larsen Ranch,** 55.80 332 ⇑P P 14 18 39.7 +0.5
baz=56
H22A **Clearmont** 55.83 338 ⇑P P 14 18 39.4 +0.1
baz=56
I20A **Worland** 55.95 337 ⇑P P 14 18 41.0 +0.8
baz=56
G23A **Biddle** 56.01 340 ⇑P P 14 18 40.8 +0.2
baz=56
H21A **Big Horn, Sher** 56.11 338 ⇓P P 14 18 41.6 +0.2
baz=56
J18A **Kendall Valley** 56.11 335 ⇑P P 14 18 41.6 +0.1
baz=56
K17A **Gardner Place,** 56.12 334 ⇓P P 14 18 41.7 +0.1
baz=56
L15A **Malad City** 56.19 332 ⇑P P 14 18 41.9 -0.2
baz=56,SNR=7.0
HVU **Hansel Valley** 56.20 332 eP P 14 18 42.3 +0.2
HVU pmax pmax
comp=Z,15nm,1.0s
HVU **Hansel Valley** 56.20 332 eP P 14 18 42.2 +0.2
comp=Z,15nm,1.0s
AHID **Auburn Hatcher** 56.22 334 PFAKE 14 18 50.0 +7.7
AHID LR LR
comp=Z,3µm,20.0s
AGMN **Agassiz Nation** 56.23 348 eP P 14 18 41.5 -0.4
comp=Z,36nm,1.0s
AGMN LR LR
comp=Z,2µm,19.0s
F24A **Ekalaka** 56.25 341 ⇑P P 14 18 42.5 +0.2
baz=56,SNR=11
MLAC **Mammoth Lakes** 56.34 324 ⇓P P 14 18 42.9 -0.4
baz=56
G22A **Birney** 56.34 339 ⇓P P 14 18 43.0 0.0
baz=56
H20A **Greybull** 56.35 337 ⇓P P 14 18 42.8 -0.3
baz=56
I19A **Meeteetse** 56.37 336 ⇑P P 14 18 43.7 +0.4
baz=56
I18A **Diamond G Ranc** 56.43 335 ⇓P P 14 18 43.9 +0.1
baz=57,SNR=5.3
F23A **Volborg** 56.47 340 ⇓P P 14 18 44.0 +0.2
baz=57
K16A **Soda Springs** 56.48 333 ⇑P P 14 18 45.0 +0.8
baz=57,SNR=6.3
J17A **Brown Place, J** 56.53 334 ⇓P P 14 18 45.0 +0.5
baz=57,SNR=22
NVAR **Mina Array Bea** 56.58 325 P P 14 18 45.1 +0.1
NVAR ⇑e 14 48 58.0
NVAR **Mina Array Bea** 56.58 325 P P 14 18 45.1 +0.1
comp=Z,8.7nm,1.1s,baz=142,slow=6.3,SNR=19
NVAR PKP2bc 14 48 58.0
comp=Z,0.9nm,0.9s,baz=256,slow=3.3,SNR=4.5
REDW **Red Top Meadow** 56.59 334 eP P 14 18 45.0 +0.1
comp=Z,89nm,1.3s
ELK **Elko** 56.61 329 eP P 14 18 44.7 -0.4
L14A **Malta** 56.61 332 ⇓P P 14 18 45.3 +0.2
baz=57
SNOW **Snow King Moun** 56.63 335 eP P 14 18 44.7 -0.5
comp=Z,48nm,1.2s
MDND **Maddock** 56.66 345 ⇓P P 14 18 45.5 +0.4
baz=57
LOHW **Long Hollow** 56.69 335 eP P 14 18 45.1 -0.5
comp=Z,50nm,1.4s
TPAW **Teton Pass** 56.73 334 P P 14 18 46.2 +0.2
comp=Z,63nm,1.3s
RRI2 **Red Ridge** 56.78 334 eP P 14 18 46.0 -0.4
comp=Z,153nm,1.5s
K15A **Arbon** 56.79 333 ⇓P P 14 18 46.3 0.0
baz=57,SNR=7.1
F22A **Rosebud** 56.81 339 ⇓P P 14 18 46.4 0.0
baz=57
E24A **Baker** 56.84 341 ⇓P P 14 18 46.8 +0.3
baz=57
J16A **Bone** 56.85 334 ⇓P P 14 18 47.0 +0.2
baz=57,SNR=21
MOOW **Moose Ponds** 56.85 335 eP P 14 18 44.5 -2.4
comp=Z,17nm,1.2s
H19A **Powell** 56.89 337 ⇓P P 14 18 47.2 +0.2
baz=57
DCID1 **Drake Creek** 56.92 334 eP P 14 18 48.8 +1.6
comp=Z,118nm,1.3s
I17A **Pilgrim Ck.** 56.92 335 ⇑P P 14 18 47.9 +0.6
baz=57,SNR=5.9
K14A **Jones Ranch, D** 56.98 332 ⇑P P 14 18 47.2 -0.4

	baz=57,SNR=10.0								
G20A	**Bridger**	**57.05**	**337**	⇓	P		**P**	**14 18 48.0**	**-0.1**
	baz=57								
IMW	**Indian Meadow**	**57.06**	**335**		*e*P		**P**	**14 18 47.2**	**-1.1**
	comp=Z,59nm,1.5s								
FLWY	**Flagg Ranch**	**57.11**	**335**		*e*P		**P**	**14 18 48.7**	**+0.1**
	comp=Z,126nm,1.5s								
E23A	**Ismay**	**57.11**	**340**	⇑	P		**P**	**14 18 48.5**	**+0.1**
	baz=57								
F21A	**Absaloka Mine,**	**57.16**	**339**	⇑	P		**P**	**14 18 48.9**	**+0.1**
	baz=57								
H18A	**Shoshone NF, C**	**57.17**	**336**	⇑	P		**P**	**14 18 49.0**	**0.0**
	baz=57,SNR=11								
I16A	**Newdale**	**57.27**	**334**	⇑	P		**P**	**14 18 50.3**	**+0.5**
	baz=57,SNR=6.7								
E22A	**Miles City**	**57.28**	**340**	⇑	P		**P**	**14 18 49.5**	**0.0**
	baz=57								
H17A	**Grant Village**	**57.31**	**335**	⇑	P		**P**	**14 18 51.4**	**+1.3**
	baz=57,SNR=6.7								
J15A	**Blackfoot**	**57.31**	**333**	⇓	P		**P**	**14 18 50.1**	**+0.1**
	baz=57,SNR=16								
D24A	**Glendive**	**57.34**	**341**	⇓	P		**P**	**14 18 50.7**	**+0.7**
	baz=58								
LKWY	**Lake**	**57.38**	**336**		*e*P		**P**	**14 18 51.7**	**+1.1**
LKWY					pmax		pmax		
	comp=Z,69nm,1.4s								
LKWY					MLR		MLR		
	comp=Z,5µm,19.0s								
LKWY	**Lake**	**57.38**	**336**		*e*P		**P**	**14 18 51.6**	**+1.1**
	comp=Z,69nm,1.4s								
LKWY					LR		LR		
	comp=Z,5µm,19.0s								
BMN	**Battle Mountai**	**57.41**	**328**		*e*P		**P**	**14 18 53.5**	**+2.8**
BMN					pmax		pmax		
	comp=Z,42nm,1.4s								
BMN					MLR		MLR		
	comp=Z,3µm,21.0s								
BMN	**Battle Mountai**	**57.41**	**328**		*e*P		**P**	**14 18 53.5**	**+2.8**
	comp=Z,42nm,1.4s								
BMN					LR		LR		
	comp=Z,3µm,21.0s								
F20A	**Billings**	**57.52**	**338**	⇑	P		**P**	**14 18 51.8**	**+0.5**
	baz=58								
YNR	**Norris Junctio**	**57.61**	**335**		*e*P		**P**	**14 18 52.9**	**+0.6**
	comp=Z,47nm,1.4s								
G18A	**Lazy EL Ranch,**	**57.66**	**337**	⇑	P		**P**	**14 18 53.0**	**+0.6**
	baz=58								
YMR	**Madison River**	**57.69**	**335**		*e*P		**P**	**14 18 53.4**	**+0.7**
	comp=Z,163nm,1.5s								
C24A	**Savage**	**57.74**	**342**	⇑	P		**P**	**14 18 53.4**	**+0.6**
	baz=58								
E21A	**Keefer Ranch,**	**57.76**	**339**	⇓	P		**P**	**14 18 53.4**	**+0.4**
	baz=58								
I15A	**Monteview**	**57.81**	**334**	⇑	P		**P**	**14 18 54.6**	**+1.1**
	baz=58								
H16A	**Russell Place,**	**57.84**	**335**	⇓	P		**P**	**14 18 54.5**	**+0.7**
	baz=58,SNR=16								
F19A	**Roth Farm, Mol**	**57.86**	**337**	⇓	P		**P**	**14 18 53.8**	**+0.1**
	baz=58,SNR=14								
D22A	**Cohagen**	**57.98**	**340**	⇑	P		**P**	**14 18 55.2**	**+0.7**
	baz=58,SNR=15								
WCN	**Washoe City**	**58.01**	**325**	⇑	P		**P**	**14 18 54.9**	**-0.1**
	baz=58								
GCMT	**Greycliff**	**58.09**	**337**		*e*P		**P**	**14 18 55.9**	**+0.5**
	comp=Z,82nm,1.4s								
ULM	**Lac du Bonnet**	**58.09**	**349**		P		**P**	**14 18 54.4**	**-0.7**
ULM	**Lac du Bonnet**	**58.09**	**349**		P		**P**	**14 18 54.4**	**-0.7**
	comp=Z,7.0nm,0.9s,baz=162,slow=6.5,SNR=9.7								
ULM					LR		LR	14 47 38.4	
	comp=Z,2µm,18.2s,baz=153,slow=40								
J13A	**Cove Ranch, Pi**	**58.10**	**332**	⇓	P		**P**	**14 18 56.3**	**+0.7**
	baz=58,SNR=20								
E20A	**Meyer Farm, Mu**	**58.11**	**338**	⇓	P		**P**	**14 18 56.1**	**+0.6**
	baz=58,SNR=14								
G17A	**Pierce Place,**	**58.13**	**336**	⇑	P		**P**	**14 18 57.0**	**+1.3**
	baz=58,SNR=8.3								
D21A	**La Casta Ranch**	**58.18**	**339**	⇓	P		**P**	**14 18 56.5**	**+0.5**
	baz=58,SNR=13								
I14A	**Mackay**	**58.18**	**333**	⇓	P		**P**	**14 18 56.8**	**+0.7**
	baz=58,SNR=18								
F18A	**Big Timber**	**58.20**	**337**	⇓	P		**P**	**14 18 56.6**	**+0.4**
	baz=58,SNR=19								
C23A	**Lambert**	**58.22**	**341**	⇓	P		**P**	**14 18 56.5**	**+0.4**
	baz=58								
E19A	**Rath Farm, Rou**	**58.31**	**338**	⇑	P		**P**	**14 18 57.2**	**+0.3**
	baz=58,SNR=17								
HLID	**Hailey**	**58.34**	**332**		*e*P		**P**	**14 18 56.9**	**-0.4**
	comp=Z,35nm,1.1s								
HLID					LR		LR		
	comp=Z,2µm,22.0s								
HLID	**Hailey**	**58.34**	**332**	⇓	P		**P**	**14 18 58.0**	**+0.8**
	baz=58,SNR=48								
H15A	**Lima**	**58.37**	**334**	⇑	P		**P**	**14 18 58.0**	**+0.6**
	baz=58,SNR=22								
C22A	**Vida**	**58.40**	**341**	⇑	P		**P**	**14 18 57.7**	**+0.4**
	baz=58,SNR=15								
I13A	**Wildhorse Cree**	**58.48**	**333**	⇓	P		**P**	**14 18 58.9**	**+0.6**
	baz=59,SNR=22								
DGMT	**Dagmar**	**58.50**	**342**		*e*P		**P**	**14 18 56.9**	**-1.2**
	comp=Z,30nm,0.9s								
DGMT					LR		LR		
	comp=Z,2µm,19.0s								
DGMT	**Dagmar**	**58.50**	**342**	⇑	P		**P**	**14 18 58.7**	**+0.7**
	baz=59								
F17A	**Fitzpatrick Pl**	**58.58**	**336**	⇑	P		**P**	**14 18 59.9**	**+1.1**
	baz=59,SNR=8.8								
D20A	**Manuel Ranch,**	**58.61**	**339**	⇓	P		**P**	**14 18 59.3**	**+0.4**
	baz=59,SNR=13								
H14A	**Leadore**	**58.69**	**334**	⇓	P		**P**	**14 19 00.5**	**+0.8**
	baz=59,SNR=7.6								
G15A	**Dillon**	**58.74**	**335**	⇓	P		**P**	**14 19 00.9**	**+0.9**
	baz=59								
B23A	**Brockton**	**58.74**	**342**	⇑	P		**P**	**14 19 00.6**	**+0.9**
	baz=59								
BOZ	**Bozeman (W)**	**58.76**	**335**		*e*P		**P**	**14 18 59.8**	**-0.3**
BOZ					pmax		pmax		
	comp=Z,93nm,1.5s								
BOZ					MLR		MLR		
	comp=Z,2µm,22.0s								
BOZ	**Bozeman (W)**	**58.76**	**335**		*e*P		**P**	**14 18 59.8**	**-0.3**
	comp=Z,93nm,1.5s								
BOZ					LR		LR		
	comp=Z,2µm,22.0s								
BOZ	**Bozeman (W)**	**58.76**	**335**	⇓	P		**P**	**14 19 00.8**	**+0.7**
	baz=59,SNR=41								
E18A	**Harlowton**	**58.83**	**337**	⇓	P		**P**	**14 19 00.8**	**+0.3**
	baz=59								
A24A	**Westby**	**58.85**	**343**	⇑	P		**P**	**14 19 01.0**	**+0.5**
	baz=59,SNR=11								
I12A	**Atlanta**	**58.85**	**332**	⇓	P		**P**	**14 19 01.5**	**+0.6**
	baz=59,SNR=7.8								
F16A	**Kennard Place,**	**58.87**	**336**	⇓	P		**P**	**14 19 00.9**	**+0.1**
	baz=59								
C21A	**Desert Coulee**	**58.87**	**340**	⇑	P		**P**	**14 19 01.3**	**+0.6**
	baz=59,SNR=18								
MFID	**Camas Ranch**	**58.90**	**331**		*e*P		**P**	**14 19 00.8**	**-0.3**
	comp=Z,93nm,1.4s								
MFID	**Camas Ranch**	**58.90**	**331**	⇓	P		**P**	**14 19 01.6**	**+0.6**
	baz=59,SNR=18								
B22A	**Reddig Ranch S**	**58.92**	**341**	⇓	P		**P**	**14 19 01.7**	**+0.7**
	baz=59								
DLMT	**Dillon**	**58.94**	**335**		P		**P**	**14 19 01.6**	**+0.2**
	comp=Z,75nm,1.2s								
H13A	**Challis**	**59.04**	**333**	⇑	P		**P**	**14 19 02.3**	**+0.2**
	baz=59,SNR=7.9								
C20A	**Veseth Ranch,**	**59.09**	**339**	⇑	P		**P**	**14 19 02.4**	**+0.2**
	baz=59,SNR=10								
A23A	**Redstone**	**59.14**	**342**	⇑	P		**P**	**14 19 03.2**	**+0.6**
	baz=59								
G14A	**Jackson**	**59.22**	**334**	⇑	P		**P**	**14 19 04.0**	**+0.7**
	baz=59,SNR=7.6								
F15A	**Butte**	**59.28**	**335**	⇑	P		**P**	**14 19 04.1**	**+0.4**
	baz=59								
PMSA	**Palmer Station**	**59.28**	**172**		PFAKE			14 19 20.0	+17
PMSA					LR		LR		
	comp=Z,4µm,21.0s								
H12A	**Diamond D Ranc**	**59.30**	**333**	⇓	P		**P**	**14 19 03.7**	**-0.2**
	baz=59,SNR=21								
D18A	**Linhart Farms,**	**59.31**	**338**	⇓	P		**P**	**14 19 04.2**	**+0.3**
	baz=59								
B21A	**Ellsworth Farm**	**59.37**	**340**	⇓	P		**P**	**14 19 04.7**	**+0.6**
	baz=60								
G13A	**Cobalt**	**59.44**	**333**	⇑	P		**P**	**14 19 05.7**	**+0.9**
	baz=60,SNR=8.6								
C19A	**Slack Wire Ran**	**59.48**	**339**	⇓	P		**P**	**14 19 05.3**	**+0.4**
	baz=60,SNR=22								
A22A	**Carney Farms,**	**59.50**	**341**	⇑	P		**P**	**14 19 05.6**	**+0.6**
	baz=60								
E16A	**East Helena**	**59.50**	**336**	⇑	P		**P**	**14 19 05.7**	**+0.5**
	baz=60,SNR=6.9								
D17A	**Six Diamond Ra**	**59.61**	**337**	⇓	P		**P**	**14 19 06.5**	**+0.5**
	baz=60,SNR=22								
F14A	**Wisdom**	**59.63**	**334**	⇓	P		**P**	**14 19 06.5**	**+0.4**
	baz=60								
B20A	**Solberg Farm,**	**59.72**	**340**	⇓	P		**P**	**14 19 06.8**	**+0.3**
	baz=60								
E15A	**Deer Lodge**	**59.81**	**335**	⇑	P		**P**	**14 19 07.5**	**+0.2**
	baz=60								
A21A	**Bergtoll Ranch**	**59.82**	**341**	⇓	P		**P**	**14 19 07.6**	**+0.3**
	baz=60,SNR=12								
D16A	**Dana Ranch, Ca**	**59.85**	**336**	⇓	P		**P**	**14 19 07.5**	**-0.1**
	baz=60,SNR=10.0								
EGMT	**Eagleton**	**59.98**	**338**		*e*P		**P**	**14 19 08.7**	**+0.3**
	comp=Z,46nm,1.1s								
EGMT					LR		LR		
	comp=Z,2µm,20.0s								
EGMT	**Eagleton**	**59.98**	**338**	⇓	P		**P**	**14 19 08.4**	**0.0**
	baz=60,SNR=9.3								
F13A	**Darby**	**60.03**	**334**	⇑	P		**P**	**14 19 09.4**	**+0.5**
	baz=60,SNR=14								
C17A	**Wharram Farm,**	**60.04**	**337**	⇑	P		**P**	**14 19 09.0**	**+0.2**
	baz=60,SNR=18								
B19A	**Brinkman Farms**	**60.05**	**339**	⇑	P		**P**	**14 19 09.7**	**+0.8**
	baz=60								
A20A	**Cobblestone Ra**	**60.06**	**340**	⇓	P		**P**	**14 19 09.2**	**+0.3**
	baz=60								
MOD	**Modoc**	**60.09**	**327**		*e*P		**P**	**14 19 09.8**	**+0.4**
	comp=Z,82nm,1.3s								
E14A	**Clinton**	**60.16**	**335**	⇓	P		**P**	**14 19 10.0**	**+0.3**
	baz=60,SNR=7.4								
D15A	**Lincoln**	**60.25**	**336**	⇓	P		**P**	**14 19 10.7**	**+0.3**
	baz=60								
B18A	**Beardsley Farm**	**60.30**	**338**	⇑	P		**P**	**14 19 10.5**	**-0.1**
	baz=60,SNR=8.2								
A19A	**Klindworth Far**	**60.38**	**339**	⇓	P		**P**	**14 19 11.3**	**+0.2**
	baz=60								
F12A	**Elk City**	**60.41**	**333**	⇓	P		**P**	**14 19 11.6**	**+0.1**
	baz=60,SNR=7.2								
CHMT	**Chamberlain Mo**	**60.45**	**335**		P		**P**	**14 19 12.7**	**+0.9**
	comp=Z,16nm,1.4s								
WDC	**Whiskeytown Da**	**60.45**	**325**		*e*P		**P**	**14 19 13.3**	**+1.6**
WDC					pmax		pmax		
	comp=Z,21nm,1.5s								
WDC	**Whiskeytown Da**	**60.45**	**325**		*e*P		**P**	**14 19 13.3**	**+1.6**
	comp=Z,21nm,1.5s								
E13A	**Victor**	**60.48**	**334**	⇓	P		**P**	**14 19 12.1**	**+0.2**
	baz=61								
C16A	**Fuhringer Ranc**	**60.56**	**337**	⇓	P		**P**	**14 19 13.2**	**+0.8**
	baz=61,SNR=20								
B17A	**L&G Farms, Che**	**60.60**	**338**	⇓	P		**P**	**14 19 12.6**	**0.0**
	baz=61								
MSO	**Missoula**	**60.67**	**335**		*e*P		**P**	**14 19 13.5**	**+0.3**
	comp=Z,97nm,1.4s								
MSO					LR		LR		
	comp=Z,2µm,19.0s								
MSO	**Missoula**	**60.67**	**335**	⇓	P		**P**	**14 19 13.9**	**+0.7**
	baz=61,SNR=8.1								
BMO	**Blue Mountains**	**60.68**	**331**		*e*P		**P**	**14 19 15.2**	**+1.9**
	comp=Z,30nm,1.6s								
BMO					LR		LR		
	comp=Z,2µm,19.0s								
D14A	**Greenough**	**60.69**	**335**	⇓	P		**P**	**14 19 14.0**	**+0.7**
	baz=61								
A18A	**Metzger Ranch,**	**60.77**	**339**	⇓	P		**P**	**14 19 13.9**	**+0.2**
	baz=61								
SLMT	**Seeley Lake**	**60.81**	**335**		*e*P		**P**	**14 19 15.2**	**+1.0**
	comp=Z,27nm,1.3s								
C15A	**Salmond Ranch,**	**60.88**	**336**	⇑	P		**P**	**14 19 15.5**	**+0.8**
	baz=61								
SACV	**Santiago Islan**	**60.96**	**69**		PFAKE			14 19 30.0	+14
SACV					LR		LR		
	comp=Z,5µm,19.0s								
B16A	**M & M Farms, S**	**61.04**	**337**	⇓	P		**P**	**14 19 16.0**	**+0.3**
	baz=61								
HOG	**Hogback Mounta**	**61.09**	**327**		P		**P**	**14 19 17.1**	**+0.9**
A17A	**Triple J Farms**	**61.10**	**338**	⇓	P		**P**	**14 19 16.3**	**+0.2**
	baz=61								
D13A	**Huson**	**61.10**	**335**	⇓	P		**P**	**14 19 16.8**	**+0.7**
	baz=61								
LAMM	**Antelope Mount**	**61.18**	**325**		P		P	14 19 20.7	+3.9
SWMT	**Swartz Lake**	**61.23**	**335**		P		**P**	**14 19 18.0**	**+1.0**
	comp=Z,36nm,1.3s								
B15A	**Bradely Ranch,**	**61.29**	**337**	⇑	P		**P**	**14 19 17.8**	**+0.4**
	baz=61								
YBH	**Yreka Blue Hor**	**61.30**	**326**		*e*P		**P**	**14 19 16.3**	**-1.3**
	comp=Z,18nm,1.1s								
A16A	**West Butte Ran**	**61.44**	**338**	⇓	P		**P**	**14 19 19.1**	**+0.8**
	baz=62								
YBMT	**Yellow Bay**	**61.52**	**335**		*e*P		**P**	**14 19 20.1**	**+1.1**
	comp=Z,61nm,1.3s								
C13A	**Hot Springs**	**61.61**	**335**	⇑	P		**P**	**14 19 20.7**	**+1.3**
	baz=62								
B14A	**Marquette Ranc**	**61.61**	**336**	⇑	P		**P**	**14 19 20.4**	**+0.8**
	baz=62,SNR=22								
BSMT	**Bassoo Peak**	**61.83**	**335**		*e*P		**P**	**14 19 21.6**	**+0.5**
	comp=Z,31nm,1.1s								
A15A	**Johnson Ranch,**	**61.90**	**337**	⇑	P		**P**	**14 19 22.5**	**+1.0**
	baz=62								
C12B	**Naegeli Ranch,**	**62.01**	**334**	⇑	P		**P**	**14 19 23.3**	**+1.1**
	baz=62								
B13A	**Whitefish**	**62.11**	**336**	⇓	P		**P**	**14 19 24.1**	**+1.3**
	baz=62								
A14A	**Double T Ranch**	**62.16**	**337**	⇓	P		**P**	**14 19 23.5**	**+0.2**
	baz=62,SNR=6.9								
SCHQ	**Schefferville**	**62.42**	**9**		*e*P		**P**	**14 19 23.2**	**-1.6**
	comp=Z,49nm,1.1s								
SCHQ	**Schefferville**	**62.42**	**9**		P		**P**	**14 19 23.7**	**-1.0**
	comp=Z,16nm,0.8s,baz=196,slow=3.9,SNR=22								
SCHQ					LR		LR	14 47 13.5	
	comp=Z,2µm,18.4s,baz=329,slow=37								
WALA	**Waterton Lakes**	**62.43**	**336**		P		**P**	**14 19 24.2**	**-0.8**
	comp=Z,1.0nm,1.0s								
C11A	**Tepee Creek (N**	**62.45**	**334**	⇓	P		**P**	**14 19 25.9**	**+0.7**
	baz=63								
HAWA	**Hanford**	**62.87**	**331**		PFAKE			14 19 40.0	+12
HAWA					LR		LR		
	comp=Z,2µm,19.0s								
A12A	**Yaak River Ran**	**63.04**	**335**	⇑	P		**P**	**14 19 30.3**	**+1.3**
	baz=63								
NEW	**Newport**	**63.15**	**334**		PFAKE			14 19 40.0	+10
NEW					LR		LR		
	comp=Z,2µm,19.0s								
NEW	**Newport**	**63.15**	**334**	⇓	P		**P**	**14 19 30.9**	**+1.1**
	baz=63								
OD2	**Odessa Site #2**	**63.21**	**332**		P		P	14 19 36.5	+6.3
MXC	**Moxie City**	**63.37**	**331**		P		P	14 19 38.4	+7.1
FFC	**Flin Flon**	**63.59**	**347**		*e*P		**P**	**14 19 31.2**	**-1.2**
FFC					pmax		pmax		
	comp=Z,70nm,1.8s								
FFC					MLR		MLR		
	comp=Z,2µm,20.0s								
FFC	**Flin Flon**	**63.59**	**347**		*e*P		**P**	**14 19 31.2**	**-1.2**
	comp=Z,70nm,1.8s								
FFC					LR		LR		
	comp=Z,2µm,20.0s								
NLWA	**Neilton Lookou**	**65.70**	**330**		PFAKE			14 20 00.0	+14
NLWA					LR		LR		
	comp=Z,4µm,19.0s								
PMOR	**Pomariorio Ree**	**65.86**	**257**		*e*P		**P**	**14 19 48.3**	**+0.2**
	comp=Z,167nm,1.3s								
MEH	**Mehetia**	**66.03**	**253**		*e*P		**P**	**14 19 50.0**	**+0.9**
	comp=Z,94nm,1.1s								
TVO	**Taravao**	**67.16**	**254**		*e*P		**P**	**14 19 56.6**	**+0.2**
	comp=Z,112nm,1.4s								
PPT2	**Papeete2**	**67.47**	**254**		*e*P		**P**	**14 19 58.6**	**+0.2**
	comp=Z,51nm,1.3s								
PPT2					*e*S		**S**	**14 28 50.4**	**-3.6**
	comp=Z,7µm,29.5s								
PPT2					*e*LR		LR	14 40 17.5	
	comp=Z,9µm,25.2s,baz=89								
PAE	**Paea**	**67.47**	**254**		*e*P		**P**	**14 19 58.6**	**+0.3**
	comp=Z,16nm,1.2s								
TBI	**Tubuai**	**67.48**	**248**		*e*S		**S**	**14 28 52.8**	**-1.0**
	comp=Z,5µm,28.8s								
TBI					*e*LR		LR	14 40 08.4	
	comp=Z,4µm,27.2s,baz=81								
CMLA	**Cha da Macela**	**68.03**	**45**		PFAKE			14 20 10.0	+8.5
CMLA					LR		LR		
	comp=Z,3µm,21.0s								
FRB	**Frobisher Bay**	**70.85**	**6**		P		**P**	**14 20 17.5**	**-0.8**
FRB	**Frobisher Bay**	**70.85**	**6**		P		**P**	**14 20 17.5**	**-0.8**
	baz=206,slow=9.7								
BBB	**Bella Bella**	**70.92**	**332**		LR		LR	14 49 18.5	
	comp=Z,1µm,21.2s,baz=341,slow=34								
PMOZ	**Porto Moniz, M**	**72.25**	**53**		*e*P		**P**	**14 20 29.1**	**+1.5**
	comp=Z,116nm,1.3s								
PMOZ					*e*SKS		**SKiKP**	**14 29 56.6**	**-6.5**
PMOZ					*e*LR		LR	14 43 26.1	
	comp=Z,2µm,16.0s								
PMAR	**Madeira**	**72.44**	**53**		*e*P		**P**	**14 20 30.5**	**+1.7**
	comp=Z,82nm,1.8s								
PMPS	**Porto Santo**	**73.01**	**53**		*e*P		**P**	**14 20 34.3**	**+2.4**
	comp=Z,216nm,1.7s								
YKA	**Yellowknife Ar**	**73.56**	**345**		P		**P**	**14 20 34.0**	**-0.6**
YKA	**Yellowknife Ar**	**73.56**	**345**		P		**P**	**14 20 34.0**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=138,slow=6.5,SNR=18								
SHEL	**Horse Pasture**	**74.22**	**105**		PFAKE			14 20 50.0	+11
SHEL					LR		LR		
	comp=Z,4µm,19.0s								
XMAS	**Kiritimati**	**76.62**	**274**		PFAKE			14 21 10.0	+17
XMAS					LR		LR		
	comp=Z,6µm,20.0s								
SFJD	**Kangerlussuaq**	**76.68**	**12**		*e*P		**P**	**14 20 50.9**	**-1.5**
	comp=Z,68nm,1.5s								
SFJD					LR		LR		
	comp=Z,2µm,21.0s								
SFJD	**Kangerlussuaq**	**76.68**	**12**		*i* P		**P**	**14 20 51.6**	**-0.8**
	comp=Z,9.6nm,0.8s								
SFJD									
	comp=Z,2µm,16.0s								
SFJD	**Kangerlussuaq**	**76.68**	**12**		P		**P**	**14 20 52.1**	**-0.4**
	comp=Z,8.5nm,0.9s,baz=133,slow=7.0,SNR=5.2								
RAR	**Rarotonga**	**77.02**	**250**		LR		LR	14 46 03.7	
	comp=Z,1µm,20.1s,baz=66,slow=29								
LIC	**Lamto**	**77.05**	**82**	⇑	*i* P		**P**	**14 20 56.9**	**+1.2**
	comp=Z,142nm,1.4s,baz=254								
DBIC	**Dimbokro**	**77.28**	**82**		*e*P		**P**	**14 20 57.9**	**+1.0**
	comp=Z,207nm,1.6s								
DBIC	**Dimbokro**	**77.28**	**82**		P		**P**	**14 20 58.2**	**+1.2**
	comp=Z,19nm,0.8s,baz=247,slow=6.5,SNR=25								
DBIC					LR		LR	14 54 49.7	
	comp=Z,6µm,18.4s,baz=199,slow=36								
VNA3	**Neumayer Olymp**	**77.83**	**162**		*e*		**P**	**14 21 00.3**	**+1.3**
VNA1	**Neumayer--Stat**	**78.12**	**161**		*e*		**P**	**14 21 03.0**	**+2.5**
VNA2	**Neumayer--Watz**	**78.47**	**161**		*e*		**P**	**14 21 03.7**	**+1.2**
	baz=299,slow=5.2								
VNA2					*e*			14 21 06.9	
VNA2					*e*			14 21 09.5	
SNAA	**Sanae**	**80.05**	**162**		*e*		P	14 21 06.4	-4.8
SNAA					*e*			14 21 10.8	
SNAA					*e*			14 21 13.6	
SNAA	**Sanae**	**80.05**	**162**		*e*P		P	14 21 05.8	-5.5
	comp=Z,54nm,0.9s								
PFVI	**Vila Bisbo**	**80.12**	**51**		*e*P		**P**	**14 21 13.1**	**+1.0**
	comp=Z,196nm,1.8s								
MORF	**Marmelete**	**80.30**	**50**		*e*P		**P**	**14 21 15.3**	**+2.1**
	comp=Z,131nm,1.7s								
MORF	**Marmelete**	**80.30**	**50**		*e*P		**P**	**14 21 13.0**	**-0.2**
MORF					*e*S		**S**	**14 31 18.1**	**+0.1**
PTEO	**Sao Teotonio**	**80.31**	**50**		*e*P		**P**	**14 21 14.5**	**+1.3**
	comp=Z,107nm,1.5s								
LIS	**Lisbon**	**80.32**	**49**		*e*P		**P**	**14 21 13.2**	**0.0**
LIS					*e*S		**S**	**14 31 18.1**	**+0.1**
LIS					AMS		AMS	14 56 05.1	
	comp=Z,3µm,17.4s								
LIS	**Lisbon**	**80.32**	**49**		*e*P		**P**	**14 21 13.2**	**0.0**
LIS					*e*S		**S**	**14 31 18.0**	**+0.1**
PNCL	**Nicolau / Gran**	**80.62**	**50**		*i* P		**P**	**14 21 16.3**	**+1.5**
	comp=Z,67nm,1.9s								
MESJ	**Messejana**	**80.78**	**50**		*e*P		**P**	**14 21 15.7**	**+0.1**
MESJ					*e*S		**S**	**14 31 23.4**	**+0.6**
MESJ					AMS		AMS	15 03 03.1	
	comp=E,2µm,17.5s								
MESJ	**Messejana**	**80.78**	**50**		*e*P		**P**	**14 21 15.7**	**+0.1**
MESJ					*e*S		**S**	**14 31 23.4**	**+0.6**
MESJ	**Messejana**	**80.78**	**50**		*e*P		**P**	**14 21 15.7**	**+0.1**
MESJ					*e*S		**S**	**14 31 23.3**	**+0.6**
PBDV	**Barranco-do-Ve**	**80.84**	**51**		*i* P		**P**	**14 21 17.6**	**+1.6**
	comp=E,70nm,1.6s								
RTC	**Rabat Centre**	**80.84**	**54**		PFAKE			14 21 30.0	+14
RTC					LR		LR		
	comp=Z,3µm,19.0s								
PCVE	**Castro Verde**	**80.86**	**50**		*i* P		**P**	**14 21 18.0**	**+1.9**
	comp=Z,64nm,1.6s								
PVAQ	**Vaqueiros**	**81.04**	**51**		*i* P		**P**	**14 21 19.1**	**+2.0**
	comp=Z,44nm,2.4s								
PVAQ					*e*SKS		**S**	**14 31 29.6**	**+4.0**
PVAQ					*e*LR		LR	14 57 32.5	
	comp=Z,3µm,18.0s

comp=Z,23nm,0.8s,baz=267,slow=4.7,SNR=56
ESDC LR LR 14 58 05.4
comp=Z,2µm,18.7s,baz=245,slow=35
ESLA Sonseca Array 84.46 49 *e*P **P 14 21 35.5 +0.6**
comp=Z,99nm,1.6s
ESLA LR LR
comp=Z,12µm,19.0s
PAX Paxson 84.58 336 *e*P **P 14 21 34.8 -0.2**
PAX pmax pmax
comp=Z,61nm,1.7s
PAX Paxson 84.58 336 *e*P **P 14 21 34.8 -0.2**
comp=Z,61nm,1.7s
TORD Torodi Ar. Bea 84.59 76 P **P 14 21 36.4 +0.3**
TORD Torodi Ar. Bea 84.59 76 P **P 14 21 36.4 +0.3**
comp=Z,17nm,0.8s,baz=300,slow=4.2,SNR=62
TORD LR LR 14 59 10.9
comp=Z,4µm,18.4s,baz=240,slow=36
MAIT Maitri 84.72 161 *e*P **P 14 21 38.2 +2.7**
NVL N'lazarevskaya 84.76 161 *d i*P **P 14 21 36.0 +0.3**
NVL *e**PP **pP 14 21 43.7 +1.1**
NVL *e**SP **sP 14 21 49.1 +4.0**
NVL pmax pmax
comp=Z,10.0nm,1.0s
SML Sawmill 85.31 334 P **P 14 21 40.6 +2.0**
SML pmax pmax
comp=Z,10.0nm,1.1s
SML Sawmill 85.31 334 P **P 14 21 40.6 +2.0**
comp=Z,10nm,1.1s
KDAK Kodiak Island 85.85 329 PFAKE 14 21 50.0 +8.7
KDAK LR LR
comp=Z,1µm,21.0s
ILAR Eielson Array 85.92 337 P **P 14 21 41.3 -0.3**
ILAR PP **PP 14 24 59.2 -2.3**
ILAR Eielson Array 85.92 337 P **P 14 21 41.3 -0.3**
comp=Z,0.8nm,0.8s,baz=148,slow=4.5,SNR=6.7
ILAR PP **PP 14 24 59.2 -2.3**
comp=Z,0.8nm,1.0s,baz=126,slow=7.5,SNR=3.2
ILAR LR LR 15 01 40.4
comp=Z,2µm,20.2s,baz=332,slow=37
COLA College 86.34 337 *e*P **P 14 21 43.5 -0.1**
COLA pmax pmax
comp=Z,44nm,1.7s
COLA MLR MLR
comp=Z,1µm,19.0s
COLA College 86.34 337 *e*P **P 14 21 43.5 -0.1**
comp=Z,44nm,1.7s
COLA LR LR
comp=Z,1µm,19.0s
SCO Scoresbysund 86.42 17 *i*P **P 14 21 44.2 +0.3**
SCO pmax pmax
comp=Z,5.0nm,0.9s
SCO MLR MLR
comp=Z,2µm,18.0s
SCO Scoresbysund 86.42 17 *i*P **P 14 21 44.2 +0.3**
comp=Z,4.5nm,0.9s
SCO
comp=Z,2µm,18.0s
TRF Thorofare Moun 86.77 335 *e*P **P 14 21 45.2 -0.9**
comp=Z,28nm,1.3s
SJPF Ste Jean 87.21 46 *e*P **P 14 21 49.1 +0.7**
comp=Z,71nm,1.3s
ETSF Etsaut 87.65 47 *e*P **P 14 21 51.2 +0.6**
comp=Z,64nm,1.5s
WPM1 Penmaenmawr 87.73 36 *e*P **P 14 21 50.8 +0.1**
WPM1 Penmaenmawr 87.73 36 P **P 14 21 50.8 +0.1**
KPL Plockton 87.82 32 *e*P **P 14 21 49.3 -1.6**
KPL AMB AMB 14 21 49.6
comp=Z,82nm,2.8s
KPL Plockton 87.82 32 P **P 14 21 49.3 -1.6**
KPL AMB AMB 14 21 49.6
comp=Z,82nm,2.8s
MCH1 Michaelchurch 87.97 37 *e*P **P 14 21 49.7 -2.1**
MCH1 AMB AMB 14 21 54.2
comp=Z,102nm,6.7s
MCH1 Michaelchurch 87.97 37 P **P 14 21 49.7 -2.1**
MCH1 AMB AMB 14 21 54.2
comp=Z,102nm,6.7s
SBA Scott Base 88.08 191 PFAKE 14 22 00.0 +8.1
SBA LR LR
comp=Z,2µm,19.0s
COLD Coldfoot 88.15 339 *e*P **P 14 21 53.5 +1.1**
comp=Z,56nm,1.4s
HLM1 Long Mynd 88.16 37 *e*P **P 14 21 50.8 -1.9**
HLM1 AMB AMB 14 21 55.9
comp=Z,94nm,3.4s
HLM1 Long Mynd 88.16 37 P **P 14 21 50.8 -1.9**
HLM1 AMB AMB 14 21 55.9
comp=Z,94nm,3.4s
EPF Esparros 88.32 47 *e*P **P 14 21 54.3 +0.5**
comp=Z,67nm,1.3s
GRR Gorron 88.53 41 *e*P **P 14 21 54.7 +0.2**
ESK Eskdalemuir 88.63 34 *e*P **P 14 21 55.2 +0.4**
ESK AMB AMB 14 21 56.3
comp=Z,83nm,1.9s
ESK Eskdalemuir 88.63 34 P **P 14 21 55.2 +0.4**
ESK AMB AMB 14 21 56.3
comp=Z,83nm,1.9s
ESK Eskdalemuir 88.63 34 *e*P **P 14 21 55.2 +0.4**
ESK pmax pmax
comp=Z,15nm,1.1s
ESK MLR MLR
comp=Z,2µm,19.0s
ESK Eskdalemuir 88.63 34 *e*P **P 14 21 55.1 +0.4**
comp=Z,15nm,1.1s
ESK LR LR
comp=Z,2µm,19.0s
ECK Cauldkaine Hil 88.64 34 *e*P **P 14 21 53.0 -1.9**
ECK Cauldkaine Hil 88.64 34 P **P 14 21 53.0 -1.9**
MFF Saint Martin d 88.65 43 *e*P **P 14 21 55.4 +0.2**
comp=Z,233nm,1.7s
LFF La Frestale 88.95 45 *e*P **P 14 21 56.9 +0.3**
comp=Z,98nm,1.2s
AFI Afiamalu 89.01 256 LR LR 14 49 23.5
comp=Z,20nm,21.1s,baz=277,slow=27
LDF La Druitiere 89.05 41 *e*P **P 14 21 57.3 +0.3**
comp=Z,94nm,1.2s
ESY Stoneypath 89.09 33 *e*P **P 14 21 57.0 0.0**
ESY Stoneypath 89.09 33 P **P 14 21 57.0 0.0**
VNDA Vanda 89.18 191 *e*P **P 14 21 58.8 +1.7**
comp=Z,8.4nm,0.8s
VNDA LR LR
comp=Z,1µm,19.0s
SKP1 Kophill 89.23 38 *e*P **P 14 21 58.5 +0.7**
SKP1 Kophill 89.23 38 P **P 14 21 58.5 +0.7**
ALE Alert 89.46 2 P **P 14 21 58.0 -0.3**
comp=Z,97nm,1.4s,SNR=6.2
TAM Tamanrasset 89.51 67 *e*P **P 14 22 01.2 +1.3**
TAM pmax pmax
comp=Z,33nm,1.4s
TAM MLR MLR
comp=Z,4µm,20.0s
TAM Tamanrasset 89.51 67 *e*P **P 14 22 01.2 +1.3**
comp=Z,33nm,1.4s
TAM LR LR
comp=Z,4µm,20.0s
RJF Les Rejaudoux 89.56 44 *e*P **P 14 21 59.5 0.0**
comp=Z,100nm,1.4s
RJF *e*R
comp=Z,2µm,21.8s
CAF Calviac 89.88 45 *e*P **P 14 22 01.2 +0.2**
comp=Z,38nm,1.1s
TCF Toulx Ste Croi 90.20 44 *e*P **P 14 22 03.0 +0.5**
comp=Z,111nm,1.5s
DAG Danmarks Havn 90.37 12 *i*P **P 14 22 02.8 +0.2**
DAG pmax pmax
comp=Z,7.0nm,1.0s
DAG MLR MLR
comp=Z,2µm,18.0s
DAG Danmarks Havn 90.37 12 *i*P **P 14 22 02.8 +0.2**
comp=Z,69nm,1.0s
DAG
comp=Z,3µm,18.0s
JMIC Jan Mayen 90.67 18 *e* **P 14 22 04.9 +0.8**
BGF Bois d'Agland 90.68 43 *e*P **P 14 22 04.9 +0.2**
comp=Z,186nm,1.5s
LASF Ste Croix 91.02 46 *e*P **P 14 22 06.8 +0.5**
comp=Z,72nm,1.4s
AVF Avril sur Loir 91.06 43 *e*P **P 14 22 06.3 -0.1**
comp=Z,70nm,1.3s
SSF Saint Saulge 91.20 43 *e*P **P 14 22 06.9 -0.2**
comp=Z,103nm,1.7s
LOR Lormes 91.47 43 *e*P **P 14 22 08.3 -0.1**
comp=Z,92nm,1.6s
LOR *e*R
comp=Z,1µm,18.8s
VIVF Saint-Julien-l 91.70 45 *e*P **P 14 22 10.0 +0.5**
comp=Z,66nm,1.4s

BAIF Baives 92.09 40 *e*P **P 14 22 11.7 +0.6**
SMRF Simiane la Rot 92.23 46 *e*P **P 14 22 12.8 +0.8**
SFTF Sexfontaines 92.39 42 *e*P **P 14 22 12.6 +0.1**
MEZF Maizieres J'vi 92.43 42 *e*P **P 14 22 14.9 +2.2**
GIVF Givet 92.48 40 *e*P **P 14 22 13.7 +0.8**
comp=Z,224nm,1.6s
ORIF Oris-en-Rattie 92.56 45 *e*P **P 14 22 14.5 +0.9**
comp=Z,75nm,1.3s
ORIF *e*R
comp=Z,3µm,18.2s
RAO Raoul Island 92.64 240 PFAKE 14 22 30.0 +16
RAO LR LR
comp=Z,2µm,19.0s
LMR La Mourre 92.83 47 *e*P **P 14 22 14.9 +0.2**
PAGF Fort de Pagny 92.88 42 *e*P **P 14 22 15.5 +0.7**
comp=Z,30nm,1.3s
BNI Bardonecchia 93.14 45 PFAKE 14 22 30.0 +14
BNI LR LR
comp=Z,2µm,19.0s
MBDF Montbardon 93.17 46 *e*P **P 14 22 17.0 +0.6**
comp=Z,38nm,1.3s
HAU Haudompre 93.23 42 *e*P **P 14 22 16.6 +0.1**
comp=Z,100nm,1.6s
HAU *e*R
comp=Z,2µm,20.2s
LPG La Plagne 93.24 45 *e*P **P 14 22 18.2 +1.3**
comp=Z,64nm,1.5s
WLF Walferdange 93.29 41 PFAKE 14 22 30.0 +13
WLF LR LR
comp=Z,2µm,19.0s
HINF Hinteralfeld 93.55 42 *e*P **P 14 22 18.1 +0.1**
ECH Echery 93.80 42 PFAKE 14 22 30.0 +11
ECH LR LR
comp=Z,1µm,19.0s
CDF Champ du Feu 93.89 42 *e*P **P 14 22 19.6 0.0**
comp=Z,25nm,1.0s
FOO Floro 94.00 29 *e*P **P 14 22 20.4 +0.8**
FOO *e*PP **PP 14 26 06.5 +0.8**
BER Bergen 94.00 30 *e*P **P 14 22 17.4 -2.3**
BER *e*PP **PP 14 26 03.7 -2.1**
BUG Bochum--Univer 94.18 39 *e*P **P 14 22 21.9 +1.2**
comp=Z,94nm,2.0s
SYO Syowa Base 94.34 162⇑ *e*P **P 14 22 20.2 -0.9**
SYO Syowa Base 94.34 162⇑ *e*pP **P 14 22 24.2 +3.1**
MSKU Masuku 94.56 92 LR LR 15 05 52.8
comp=Z,6µm,18.9s,baz=45,slow=36
BFO Black Forest 94.58 42 PFAKE 14 22 30.0 +7.3
BFO LR LR
comp=Z,1µm,20.0s
TNS Taunus Mts 94.82 40 *e*P **P 14 22 25.0 +1.2**
comp=Z,53nm,1.8s
TUE Stuetta 95.13 44 PFAKE 14 22 40.0 +15
TUE LR LR
comp=Z,1µm,20.0s
DAVOX Davos/Dischmat 95.52 44 P **P 14 22 28.2 +1.0**
DAVOX Davos/Dischmat 95.52 44 P **P 14 22 28.2 +1.0**
comp=Z,2.5nm,0.8s,baz=194,slow=7.0,SNR=3.4
MUD Monsted U'grnd 95.68 34 *i*P P 14 22 19.4 -8.0
MUD MLR MLR
comp=Z,1µm,18.0s
MUD Monsted U'grnd 95.68 34 *i*P P 14 22 19.4 -8.0
MUD
comp=Z,1µm,18.0s
VLC Villacollemand 95.70 46 PFAKE 14 22 40.0 +12
VLC LR LR
comp=Z,2µm,22.0s
NRDL Niedersach Rie 96.00 38 *e*P **P 14 22 30.4 +1.5**
comp=Z,52nm,1.9s
KONO Kongsberg 96.08 31 *e* **P 14 22 27.4 -1.8**
KONO *e*PP **PP 14 26 21.4 -0.6**
KONO Kongsberg 96.08 31 PFAKE 14 22 40.0 +11
KONO LR LR
comp=Z,2µm,21.0s
FETA Feichten 96.11 43⇑ *i*P **P 14 22 31.1 +1.3**
comp=Z,16nm,1.7s
FETA Feichten 96.11 43⇑ *i*PcP **P 14 22 31.2 +1.3**
comp=Z,16nm,1.7s
CLZ Clausthal 96.13 39 *e*P **P 14 22 31.3 +1.6**
comp=Z,36nm,1.5s
SNZO South Karori 96.14 227 PFAKE 14 22 40.0 +10
SNZO LR LR
comp=Z,3µm,22.0s
RETA Reutte 96.16 43⇑ *i*P **P 14 22 30.9 +0.9**
comp=Z,12nm,1.4s
RETA Reutte 96.16 43⇑ *i*PcP **P 14 22 30.9 +0.9**
comp=Z,12nm,1.4s
BSEG Bad Segeberg 96.20 36 *e*P **P 14 22 31.4 +1.5**
comp=Z,74nm,1.6s
MOTA Moosalm 96.38 43⇑ *i*P **P 14 22 31.8 +0.7**
MOTA pmax pmax
comp=Z,10.0nm,0.8s
MOTA Moosalm 96.38 43⇑ *i*P **P 14 22 31.8 +0.7**
comp=Z,10nm,0.8s
MOTA Moosalm 96.38 43⇑ *i*PcP **P 14 22 31.8 +0.7**
comp=Z,10nm,0.8s
SUR Sutherland 96.50 124 PFAKE 14 22 40.0 +7.9
SUR LR LR
comp=Z,3µm,21.0s
GRF Grafenberg Arr 96.57 41 *e*P **P 14 22 32.5 +0.8**
comp=Z,20nm,1.3s
GRF *e*L L 14 59 21.7
comp=Z,1µm,22.0s
WTTA Wattenberg 96.74 43⇑ *i*P **P 14 22 32.9 +0.1**
WTTA pmax pmax
comp=Z,33nm,1.6s
WTTA Wattenberg 96.74 43⇑ *i*P **P 14 22 32.9 +0.1**
comp=Z,33nm,1.6s
WTTA Wattenberg 96.74 43⇑ *i*PcP **P 14 22 32.9 +0.1**
comp=Z,33nm,1.6s
NAO01 NORSAR Array S 96.77 30 PFAKE 14 22 40.0 +7.7
NAO01 LR LR
comp=Z,2µm,20.0s
NOA NORSAR Array B 96.93 29 P **P 14 22 33.4 +0.3**
NOA NORSAR Array B 96.93 29 P **P 14 22 33.4 +0.3**
comp=Z,1.3nm,0.8s,baz=270,slow=5.0,SNR=3.1
NOA LR LR 15 03 13.1
comp=Z,1µm,19.7s,baz=270,slow=34
NC602 NORSAR Array S 97.08 30 *e*PP PP 14 26 25.9 -3.8
KBS Kingsbay 97.09 11 *e* Pdif 14 22 39.0 +5.5
KBS *e*PP **PP 14 26 32.2 +2.9**
KBS Kingsbay 97.09 11 PFAKE 14 22 40.0 +6.5
KBS LR LR
comp=Z,2µm,21.0s
PLN Plauen 97.20 40 *e*P Pdif 14 22 35.9 +1.3
comp=Z,618nm,2.6s
ROTZ Rotzenmuhle 97.21 41 *e*P Pdif 14 22 36.0 +1.3
comp=Z,51nm,2.2s
GUNZ Gunzen 97.31 40 *e*P Pdif 14 22 36.3 +1.1
comp=Z,114nm,2.4s
NKC Novy Kostel 97.38 40 *e*P Pdif 14 22 37.3 +1.8
NKC MLR MLR
comp=Z,1µm,18.4s
NKC Novy Kostel 97.38 40 *e*P Pdif 14 22 37.3 +1.8
NKC AMS AMS 15 19 10.0
comp=Z,1µm,18.4s
TANN Tannenbergstha 97.39 40 *e*P Pdif 14 22 36.1 +0.5
comp=Z,95nm,2.4s
COP Copenhagen 97.48 35 *i*P P 14 22 28.5 -7.1
COP MLR MLR
comp=Z,570nm,19.0s
COP Copenhagen 97.48 35 *i*P P 14 22 28.5 -7.1
COP
comp=Z,560nm,19.0s
WET Wettzell 97.64 41 *e*P Pdif 14 22 37.0 +0.4
comp=Z,12nm,0.9s
CLL Collm 97.76 39 *e*P Pdif 14 22 38.0 +0.9
CLL *e* **PP 14 26 31.0 -4.2**
CLL *e* **SKSac 14 33 15.0 +1.6**
CLL *e*S **ScS 14 34 02.0 +0.1**
CLL pmax pmax
comp=Z,9.0nm,1.2s
CLL MLR MLR
comp=Z,1µm,18.8s
CLL Collm 97.76 39 *e*P Pdif 14 22 38.0 +0.9
comp=Z,9.0nm,1.2s
CLL *e*PP **PP 14 26 31.0 -4.2**
CLL *e*PPP PPP 14 28 42.0
CLL *e*SKSac **SKSac 14 33 15.0 +1.6**
CLL *e*S **ScS 14 34 02.0 +0.1**
CLL *e*PS **PS 14 35 29.0 +1.7**
CLL *e*PPS PPS 14 36 13.0
CLL *e* 14 37 06.0
CLL *e*SS **SS 14 40 37.0 -5.4**
CLL *e*SSS SSS 14 44 30.0
CLL LmV 15 06 00.0

comp=Z,1µm,18.8s
AQU L'Aquila 97.81 48 PFAKE 14 22 50.0 +12
AQU LR LR
comp=Z,2µm,20.0s
FBE Freiberg 97.97 40 *e*P Pdif 14 22 40.2 +2.2
comp=Z,37nm,2.0s
SPA0 Spitsbergen Ar 98.02 12 *e* **P 14 22 35.9 -1.8**
KHC Kasperske Hory 98.09 41 *e*P Pdif 14 22 39.6 +0.9
KHC *e* 14 26 37.7
KHC *e* 14 33 16.2
KHC *e*S **S 14 34 06.4 +1.6**
KHC *e* 14 35 22.4
KHC *e*SS **SS 14 40 53.8 +6.4**
KHC MLR MLR
comp=Z,1µm,18.4s
KHC Kasperske Hory 98.09 41 *e*P Pdif 14 22 39.6 +0.9
KHC *e*PP **PP 14 26 37.7 -0.2**
KHC *e*SKS **SKSac 14 33 16.2 +0.8**
KHC *e*S **S 14 34 06.4 +1.6**
KHC *ex* x 14 35 22.4
KHC *e*SS **SS 14 40 53.8 +6.4**
KHC AMS AMS 15 23 40.0
comp=Z,1µm,18.4s
GERES GERESS Array B 98.17 42 P Pdif 14 22 39.5 +0.3
GERES GERESS Array B 98.17 42 P Pdif 14 22 39.4 +0.3
comp=Z,0.8nm,0.7s,baz=186,slow=4.9,SNR=4.0
GERES LR LR 15 05 23.8
comp=Z,803nm,19.0s,baz=264,slow=34
MSVF Nonsavu 98.18 251 PFAKE 14 22 50.0 +10
MSVF LR LR
comp=Z,2µm,20.0s
SKDS Skadanscina 98.33 45 *e*Pdiff Pdif 14 22 40.4 +0.6
SKDS *e*PP **PP 14 26 39.9 0.0**
SKDS *e*SKSac **SKSac 14 33 19.3 +2.6**
BRG Berggiesshubel 98.34 40 *e*P Pdif 14 22 41.2 +1.5
comp=Z,23nm,1.9s
BRG *e* 14 22 55.2
comp=Z,11nm,1.5s
BRG PP **PP 14 26 41.0 +1.3**
BRG SKS **SKSac 14 33 22.0 +5.5**
BRG S S 14 34 17.0 +10
BRG SS **SS 14 40 54.0 +3.3**
BRG
comp=N,844nm,16.6s
BRG
comp=E,868nm,20.9s
BRG
comp=Z,2µm,17.1s
BRG Berggiesshubel 98.34 40 *e*P Pdif 14 22 41.2 +1.5
BRG *e* 14 22 55.2
BRG 14 26 41.0
BRG SS SS 14 40 54.0 +3.3
BRG pmax pmax
comp=Z,23nm,1.9s
BRG pmax pmax
comp=Z,11nm,1.5s
BRG MLR MLR
comp=N,844nm,16.6s
BRG MLR MLR
comp=Z,868nm,17.1s
WDD Wield Dalam 98.46 55 PFAKE 14 22 50.0 +9.4
WDD LR LR
comp=Z,2µm,19.0s
FUNA Funafuti 98.48 260 PFAKE 14 22 50.0 +8.9
FUNA LR LR
comp=Z,6µm,19.0s
MOA Molln 98.54 43⇓ *i*P Pdif 14 22 41.5 +0.8
comp=Z,21nm,1.5s
MOA Molln 98.54 43⇓ *i*Pdiff Pdif 14 22 41.5 +0.8
comp=Z,21nm,1.5s
LJU Ljubljana 98.70 45 *e*Pdiff Pdif 14 22 41.9 +0.5
LJU *e*PP **PP 14 26 43.0 +0.4**
LJU *e*SKSac **SKSac 14 33 20.6 +2.1**
LJU *e* 14 33 58.5
LJU *e* 14 35 35.3
PRU Pruhonice 98.73 41 *e*P **P 14 22 39.4 -2.0**
PRU *e* 14 26 42.3
PRU *e* 14 33 21.9
PRU *e*S **S 14 34 09.2 -0.8**
PRU MLR MLR
comp=Z,1µm,16.8s
PRU Pruhonice 98.73 41 *e*PDIFF **P 14 22 39.4 -2.0**
PRU *e*PP **PP 14 26 42.3 -0.3**
PRU *e*SKS **SKSac 14 33 21.9 +3.5**
PRU *e*S **S 14 34 09.2 -0.8**
PRU *ex* x 14 35 05.5
PRU *ex* x 14 40 42.7
PRU AMS AMS 15 22 10.0
comp=Z,1µm,16.8s
PVCC Panska Ves 98.74 40 AMS AMS 15 16 10.0
comp=Z,1µm,19.7s
BSD Bornholm Skovb 98.90 35 *i*P P 14 22 35.8 -6.2
BSD MLR MLR
comp=Z,1µm,21.0s
BSD Bornholm Skovb 98.90 35 *i*P P 14 22 35.8 -6.2
BSD
comp=Z,1µm,21.0s
BOJS Bojanci 99.20 45 *e*Pdiff **Pdif 14 22 43.6 -0.1**
BOJS *e*PP **PP 14 26 47.0 +0.5**
TREC Trest 99.35 41 *e*SKS **SKSac 14 33 21.7 +0.1**
TREC *e*SDIF **Sdif 14 34 21.4 +6.1**
TREC *e*SP **SP 14 35 38.5 -3.0**
TREC *e*SS **SS 14 41 10.0 +5.1**
TREC AMS AMS 15 15 40.0
comp=Z,1µm,16.0s
CUC Castrocucco 99.58 51 PFAKE 14 23 00.0 +14
CUC LR LR
comp=Z,1µm,19.0s
TRO Tromso 99.72 20 *e*PP PP 14 26 48.0 -1.5
KSP Ksiaz 99.83 40 *e*P **Pdif 14 22 47.5 +1.2**
KSP *e* 14 26 50.5
KSP *e* 14 33 27.0
KSP *e*S S 14 34 27.0 +7.7
KSP *e*SP **SP 14 35 43.0 -3.7**
KSP *e*SS **SS 14 41 18.0 +6.4**
DPC Dobruska-Polom 99.87 40 *e*P **Pdif 14 22 47.2 +0.7**
DPC *e* 14 26 50.0
DPC *e* 14 33 27.4
DPC *e*S **S 14 34 24.5 +4.8**
DPC *e* 14 35 43.9
DPC *e*SS **SS 14 41 06.2 -5.9**
DPC MLR MLR
comp=Z,800nm,15.8s
DPC Dobruska-Polom 99.87 40 *e*PDIFF **Pdif 14 22 47.2 +0.7**
DPC *e*PP **PP 14 26 50.0 -1.4**
DPC *e*SKS **SKSac 14 33 27.4 +3.2**
DPC *e*SDIF **S 14 34 24.5 +4.8**
DPC *e*SP **SP 14 35 43.9 -3.2**
DPC *e*SS **SS 14 41 06.2 -5.9**
DPC AMS AMS 15 20 20.0
comp=Z,800nm,15.8s
HOPEN Hopen 100.19 13 *e*PP PP 14 26 51.7 -1.3
TIP Timpagrande 100.31 51 PFAKE 14 23 00.0 +11
TIP LR LR
comp=Z,2µm,22.0s
OKC Ostrava-Krasne 101.06 41 *e*P **Pdif 14 22 52.1 +0.3**
OKC *e* 14 27 00.6
OKC *e* 14 33 33.9
OKC *e* 14 35 58.3
OKC *e*SS SS 14 41 34.5 +5.8
OKC MLR MLR
comp=Z,900nm,19.8s
OKC Ostrava-Krasne 101.06 41 *e*PDIFF **Pdif 14 22 52.1 +0.3**
OKC *e*PP **PP 14 27 00.6 +0.2**
OKC *e*SKS 14 33 33.9
OKC *e*XS **sS 14 34 39.7 -1.5**
OKC *e*SP **SP 14 35 58.3 -1.5**
OKC *e*SS **SS 14 41 34.5 +5.8**
OKC AMS AMS 15 22 20.0
comp=Z,900nm,19.8s
BOSA Boshof 101.08 121 PFAKE 14 23 00.0 +7.4
BOSA LR LR
comp=Z,4µm,19.0s
KTK1 Kautokeino 101.33 21 *e*PP PP 14 26 59.8 -2.1
VYHS Vyhne 101.58 42 *e*P **Pdif 14 22 55.6 +1.4**
VYHS pmax pmax
comp=Z,15nm,2.0s
VYHS Vyhne 101.58 42 PDIF **Pdif 14 22 55.6 +1.4**
MAW Mawson 101.64 167 PFAKE 14 23 10.0 +16
MAW LR LR
comp=Z,5µm,19.0s
LBTB Lobatse 102.21 117 PFAKE 14 23 10.0 +12
LBTB LR LR

comp=Z,3µm,20.0s
PSZ Piszkesteto 102.32 43 PFAKE 14 23 10.0 +12
PSZ LR LR
comp=Z,1µm,19.0s
KEV Kevo 102.46 20 PFAKE 14 23 10.0 +12
KEV LR LR
comp=Z,1µm,20.0s
TIR Tirane 102.64 49 PFAKE 14 23 10.0 +11
TIR LR LR
comp=Z,1µm,19.0s
UZH Uzhgorod 103.86 42 *e*P **Pdif 14 23 03.0 -1.3**
UZH *i* 14 33 43.0
KWP Kalwaria Pacla 104.03 41 PFAKE 14 23 20.0 +15
KWP LR LR
comp=Z,1µm,19.0s
BILL Bilibino 104.48 339 *e*P **Pdif 14 23 08.0 +1.4**
BILL *i* 14 27 27.6
BILL *i* 14 34 49.9
BILL *i* SS SS 14 42 12.4 -2.3
BILL pmax pmax
comp=Z,2.0nm,1.1s
BILL Bilibino 104.48 339 PFAKE 14 23 20.0 +13
BILL LR LR
comp=Z,2µm,19.0s
KKB Krupnik 105.02 49 *e*P **PP 14 27 29.5 -0.8**
VTS Vitosha 105.06 48 *e*P **PP 14 27 25.9 -4.8**
MPEP Malo Peshtene 105.38 47 *e*P **PP 14 27 31.9 -1.0**
MMB Musomiste 105.53 49 *e*P **PP 14 27 33.4 -0.7**
LVZ Lovozero 105.68 21 PFAKE 14 27 40.0
LVZ LR LR
comp=Z,1µm,21.0s
TARA Tarawa 105.96 270 PFAKE 14 27 40.0
TARA LR LR
comp=Z,4µm,20.0s
PLD Plovdiv 106.20 48 *e*P **PP 14 27 36.8 -2.2**
RZN Rozhen 106.25 49 *e*P **PP 14 27 37.1 -2.5**
SZH Strazhica 106.98 47 *e*P **PP 14 27 43.5 -1.2**
DZM Mont Dzumac 107.94 244 *e*PP PP 14 27 42.6 -10
comp=Z,267nm,25.2s
DZM *e*SKSac **SKSac 14 33 59.2 -3.6**
comp=Z,1µm,25.1s
DZM *e*SP **SP 14 37 11.1 -2.0**
comp=Z,1µm,26.5s
DZM *e*SS **SS 14 43 05.4 +1.1**
comp=Z,1µm,25.1s
DZM *e*LR LR 14 59 11.0
comp=Z,3µm,29.6s
KIEV Kiev 107.99 39 PFAKE 14 27 40.0
KIEV LR LR
comp=Z,1µm,20.0s
AKASG Malin Array Be 108.00 39 PP PP 14 27 51.2 -0.6
AKASG Malin Array Be 108.00 39 PP PP 14 27 51.2 -0.6
comp=Z,0.1nm,0.3s,baz=270,slow=6.4,SNR=7.0
KIS Kishinev 108.44 43 *e*P **Pdif 14 23 20.0 -4.7**
KIS *e* 14 27 52.0
KIS *e* 14 34 04.0
KIS *e*PPS PPS 14 38 28.0
KIS *e*SS SS 14 43 05.0 -4.8
KIS MLR MLR
comp=Z,500nm,19.0s
KIS MLR MLR
comp=Z,600nm,20.0s
KIS Kishinev 108.44 43 *e*P **Pdif 14 23 20.0 -4.7**
KIS Kishinev 108.44 43 *e*PP PP 14 27 52.0 -3.2
KIS *e*SKS **SKSac 14 34 04.0 +0.4**
KIS *e*SKKS **SKKSac 14 34 54.0 -3.9**
KIS *e*S **Sdif 14 35 34.0 +2.8**
KIS Kishinev 108.44 43 *e*PS PS 14 37 40.0 +20
KIS Kishinev 108.44 43 *e*PPS PPS 14 38 28.0
KIS *e*SS SS 14 43 05.0 -4.8
KIS LRM MLR 15 13 20.0
comp=Z,600nm,20.0s
PSN Preselentsi 108.55 46 *e*P **PP 14 27 53.0 -3.1**
OBN Obninsk 111.09 33 P Pdif 14 23 47.5 +11
OBN *i* 14 28 18.7
OBN *e*SS SS 14 43 50.7 +6.0
OBN pmax pmax
comp=Z,6.0nm,1.4s
OBN Obninsk 111.09 33 PFAKE 14 27 50.0
OBN LR LR
comp=Z,1µm,20.0s
MOS Moscow 111.44 32 *e*P Pdif 14 23 53.4 +16
MBAR Mbarara 111.68 93 PFAKE 14 27 50.0
MBAR LR LR
comp=Z,1µm,21.0s
SIM Simferopol' 112.48 44 P **Pdif 14 23 44.0 +1.3**
SIM *e*SS SS 14 44 20.0 +16
SIM pmax pmax
comp=Z,1µm,19.0s
SIM MLR MLR
comp=Z,900nm,19.0s
BR131 Keskin Array S 113.25 50 PFAKE 14 27 50.0
BR131 LR LR
comp=Z,518nm,19.0s
BRTR Keskin Array B 113.25 50 PKiKP **PKiKP 14 27 41.3 +1.2**
BRTR PKKPab **PKKPab 14 38 33.0 +0.1**
BRTR Keskin Array B 113.25 50 PKiKP **PKiKP 14 27 41.3 +1.2**
comp=Z,0.3nm,0.5s,baz=235,slow=5.1,SNR=3.2
BRTR PKKPab **PKKPab 14 38 33.0 +0.1**
comp=Z,0.7nm,0.8s,baz=148,slow=5.9,SNR=4.3
CSS Prodhromos 113.83 55 PFAKE 14 27 50.0
CSS LR LR
comp=Z,798nm,20.0s
TAU Tasmania Unive 113.93 217 PFAKE 14 27 50.0
TAU LR LR
comp=Z,3µm,19.0s
ANN Anapa 114.80 44 *i* PKIKP PKPdf 14 27 45.1 +2.4
ANN *e* 14 28 38.5
ANN *e* 14 34 29.6
ANN *e*SP SP 14 38 18.3 +1.5
ANN *e*SS **SS 14 44 35.4 +0.9**
ANN pmax pmax
comp=Z,57nm,0.9s
ANN MLR MLR
comp=N,516nm,20.0s
ANN MLR MLR
comp=E,526nm,20.0s
ANN MLR MLR
comp=Z,951nm,20.0s
SOC Sochi 116.72 44*c i* PKIKP **PKPdf 14 27 45.2 -1.2**
SOC *i* 14 28 53.4
SOC *i* PPP PPP 14 31 19.2
SOC *e*PS **PS 14 38 36.5 -1.2**
CAN Canberra 117.00 225 PFAKE 14 28 00.0 +13
CAN LR LR
comp=Z,2µm,19.0s
HNR Honiara 117.05 256 PFAKE 14 28 00.0 +12
HNR LR LR
comp=Z,1µm,21.0s
KMBO Kilima Mbogo 118.06 95 PFAKE 14 28 00.0 +10
KMBO LR LR
comp=Z,3µm,21.0s
KIV Kislovodsk 118.64 43 *e*P **Pdif 14 24 06.4 -3.8**
KIV *e* 14 29 04.4
KIV *e* 14 34 37.6
KIV *e*PS **PS 14 38 49.7 -5.6**
KIV *e*SS SS 14 45 19.3 -5.5
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,887nm,21.0s
KIV Kislovodsk 118.64 43 PFAKE 14 28 00.0 +10
KIV LR LR
comp=Z,883nm,20.0s
ARU Arti 121.12 25 *i* PKIKP **PKPdf 14 27 55.8 +1.3**
ARU 14 29 28.1
ARU PPP PPP 14 32 04.1
ARU 14 34 51.6
ARU PS **PS 14 39 15.3 -1.3**
ARU MLR MLR
comp=Z,1µm,21.0s
ARU Arti 121.12 25 PFAKE 14 28 10.0 +16
ARU LR LR
comp=Z,2µm,22.0s
GNI Garni 121.37 47 PFAKE 14 28 10.0 +14
GNI LR LR
comp=Z,495nm,20.0s
ABPO Ambohimpanom 123.12 118 PFAKE 14 28 10.0 +10
ABPO LR LR
comp=Z,4µm,20.0s
STKA Stephens Creek 124.05 224 PKP **PKPdf 14 28 01.1 +0.2**
STKA Stephens Creek 124.05 224 PKP **PKPdf 14 28 01.1 +0.2**
comp=Z,3.4nm,1.0s,baz=214,slow=3.6,SNR=2.7
YUK Yuzh-Kuril'sk 124.62 320*de*PKIKP **PKPdf 14 27 59.6 -2.0**
YUK *e* 14 29 50.1
YUK PPP PPP 14 32 26.0
YUK *i* 14 35 10.0
YUK *i* PS **PS 14 39 45.6 -2.5**
YUK *i* SS SS 14 46 41.2 +0.6
AKTO Aktyubinsk 124.70 31 PKIKP **PKPdf 14 28 02.0 +0.4**
AKTO pmax pmax
comp=Z,3.0nm,2.0s
YSS Yuzh-Sakhalins 125.03 325 *i* PKIKP PKPdf 14 28 08.0 +5.7
YSS *e*SS SS 14 46 42.0 -3.5
YSS Yuzh-Sakhalins 125.03 325 PFAKE 14 28 10.0 +7.7
YSS LR LR
comp=Z,460nm,19.0s
CTAO Charters Tower 126.33 239 PFAKE 14 28 20.0 +14
CTAO LR LR
comp=Z,2µm,22.0s
AB31 Akbulak array 126.41 31*c i* PKIKP **PKPdf 14 28 05.5 +0.6**
AB31 pmax pmax
comp=Z,7.0nm,0.9s
ABKAR Akbulak array 126.41 31 *e*PKPdf **PKPdf 14 28 05.2 +0.3**
ERM Erimo 127.32 319 PFAKE 14 28 20.0 +13
ERM LR LR
comp=Z,867nm,20.0s
BOD Bodaibo 127.61 350 *e*PKIKP **PKPdf 14 28 05.9 -1.0**
BOD pmax pmax
comp=Z,6.0nm,1.8s
ZRNK Zerenda 127.81 22 PKIKP **PKPdf 14 28 07.5 0.0**
ZRNK pmax pmax
comp=Z,16nm,1.1s
BRVK Borovoye 128.20 22*c i* PKIKP **PKPdf 14 28 07.8 -0.4**
BRVK pmax pmax
comp=Z,14nm,1.7s
BRVK Borovoye 128.20 22 *e*PKPdf **PKPdf 14 28 06.3 -1.9**
BRVK LR LR
comp=Z,2µm,20.0s
HABR Khabarovsk 128.26 330 P **Pdif 14 24 53.2 +0.4**
HABR *i* 14 28 09.2
HABR *e* 14 28 24.5
HABR *e*PS **PS 14 40 20.8 +1.1**
HABR *e* 14 41 49.9
HABR *e*SS SS 14 47 27.4 +1.9
HABR *e*SSS SSS 14 52 12.5
BVA0 Borovoye Array 128.27 21 *i* PKIKP **PKPdf 14 28 07.2 -1.1**
BVA0 pmax pmax
comp=Z,2.0nm,1.7s
VOSK Vostochnaya 128.72 21 PKIKP **PKPdf 14 28 09.1 -0.1**
VOSK pmax pmax
comp=Z,18nm,2.0s
PMG Port Moresby 129.27 252 PFAKE 14 28 20.0 +8.7
PMG LR LR
comp=Z,1µm,20.0s
KLR Kul'dur 129.31 333 *e*PKIKP **PKPdf 14 28 05.3 -5.1**
NVS Novosibirsk 130.34 12 *i* PKIKP **PKPdf 14 28 12.0 -0.2**
NVS pmax pmax
comp=N,6.0nm,1.6s
NVS pmax pmax
comp=Z,27nm,1.6s
NVS pmax pmax
comp=E,12nm,1.4s
ZAA0 Zalesovo Array 131.50 11 *e*PKPdf **PKPdf 14 28 14.1 -0.3**
ZALV Zalesovo Beam 131.50 11 PKIKP **PKPdf 14 28 14.1 -0.3**
ZALV Zalesovo Beam 131.50 11 PKP **PKPdf 14 28 14.1 -0.3**
ZALV SKPbc **SKPbc 14 31 37.9 -0.7**
ZALV Zalesovo Beam 131.50 11 PKP **PKPdf 14 28 14.1 -0.3**
comp=E,8.2nm,0.9s,baz=318,slow=2.0,SNR=26
ZALV SKPbc **SKPbc 14 31 37.9 -0.7**
comp=E,5.9nm,0.9s,baz=318,slow=3.9,SNR=7.5
USRK Ussuriysk Arra 132.69 328 PKP **PKPdf 14 28 17.2 +0.3**
comp=E,2.4nm,0.8s,baz=233,slow=1.9,SNR=5.5
KURK Kurchatov 132.96 17 *e*PKIKP **PKPdf 14 28 17.0 -0.3**
KURK MLR MLR
comp=Z,2µm,21.0s
KURK Kurchatov 132.96 17 *e*PKPdf **PKPdf 14 28 17.0 -0.3**
KURK LR LR
comp=Z,2µm,21.0s
MAJO Matsushiro 133.36 315 PFAKE 14 28 30.0 +11
MAJO LR LR
comp=Z,1µm,22.0s
MAT Matsushiro 133.36 315 *e*PKP **PKPdf 14 28 23.3 +4.8**
MJAR Matsushiro Arr 133.36 315 PKPpre PKPpre 14 28 10.9
MJAR PKP **PKPdf 14 28 18.3 -0.2**
MJAR SKPbc **SKPbc 14 31 44.9 -0.9**
MJAR Matsushiro Arr 133.36 315 PKhKP PKPpre 14 28 10.9
comp=Z,1.1nm,0.8s,baz=90,slow=0.1,SNR=4.4
MJAR PKP **PKPdf 14 28 18.3 -0.2**
comp=Z,1.7nm,0.6s,baz=83,slow=2.0,SNR=4.5
MJAR SKPbc **SKPbc 14 31 44.9 -0.9**
comp=Z,4.6nm,1.2s,baz=52,slow=1.5,SNR=8.0
MDJ Mudanjiang 133.65 330 PKP **PKPdf 14 28 18.1 -0.7**
MDJ PP **PP 14 30 47.5 +0.7**
MDJ PKS **PKSdf 14 31 55.5 +0.4**
MDJ SKS **SKSdf 14 35 30.4 +1.4**
MDJ SS **SS 14 48 34.2 +2.7**
MDJ AMB AMB
comp=Z,200nm,7.5s
MDJ LR LR
comp=N,350nm,20.9s
MDJ LR LR
comp=E,1µm,20.9s
MDJ LR LR
comp=Z,960nm,19.0s
MDJ Mudanjiang 133.65 330 PFAKE 14 28 30.0 +11
MDJ LR LR
comp=Z,1µm,20.0s
HIA Hailar 134.01 341 PFAKE 14 28 30.0 +11
HIA LR LR
comp=Z,2µm,20.0s
IRK Irkutsk 134.33 355 *e*PKIKP **PKPdf 14 28 14.9 -4.9**
IRK pmax pmax
comp=Z,68nm,2.2s
ASAR Alice Springs 134.38 227 PKPpre PKPpre 14 28 10.8
ASAR PKP **PKPdf 14 28 21.2 +0.3**
ASAR PP **PP 14 30 48.8 -3.5**
ASAR Alice Springs 134.38 227 PKhKP PKPpre 14 28 10.8
comp=Z,0.2nm,0.7s,baz=112,slow=2.3,SNR=3.6
ASAR PKP **PKPdf 14 28 21.2 +0.3**
comp=Z,1.2nm,0.7s,baz=114,slow=2.4,SNR=8.9
ASAR PP **PP 14 30 48.7 -3.5**
comp=Z,1.3nm,1.1s,baz=99,slow=5.7,SNR=3.3
TLY Talaya 134.94 356 *i* PKIKP **PKPdf 14 28 21.2 +0.2**
TLY *e* 14 30 52.9
TLY *e*SS SS 14 48 42.7 -3.4
TLY pmax pmax
comp=Z,5.0nm,1.4s
TLY MLR MLR
comp=Z,854nm,21.0s
TLY Talaya 134.94 356 PFAKE 14 28 30.0 +9.0
TLY LR LR
comp=Z,985nm,20.0s
MOY Mondy 135.09 358 *e*PKIKP **PKPdf 14 28 23.2 +1.8**
MSEY Mahe Island 135.29 103 PFAKE 14 28 30.0 +7.2
MSEY LR LR
comp=Z,3µm,19.0s
WRAB Tennant Creek 136.19 232 *e*PKIKP **PKPdf 14 28 24.6 +0.3**
WRAB MLR MLR
comp=Z,1µm,21.0s
WRAB Tennant Creek 136.19 232 *e*PKPdf **PKPdf 14 28 24.6 +0.3**
WRAB LR LR
comp=Z,1µm,21.0s
WRA Warramunga Arr 136.19 232 PKP **PKPdf 14 28 23.0 -1.3**
WRA Warramunga Arr 136.19 232 PKP **PKPdf 14 28 23.0 -1.3**
comp=Z,4.5nm,0.9s,baz=115,slow=2.2,SNR=15
CN2 Changchun 136.25 332 *e*PKP **PKPdf 14 28 20.4 -3.3**
CN2 SS SS 14 49 00.3 -2.4
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,900nm,16.0s
CN2 LR LR
comp=E,400nm,16.0s
CN2 LR LR
comp=Z,1µm,18.0s
ZAK Zakamensk 136.26 356 *e*PKHKP PKPpre 14 28 12.6
ZAK *e* 14 30 59.1
ZAK pmax pmax
comp=Z,3.0nm,1.2s
NWAO Narrogin (SRO) 136.92 203 PFAKE 14 28 40.0 +15
NWAO LR LR
comp=Z,1µm,19.0s
MK31 Makanchi Array 137.55 17 *e*PKHKP PKPpre 14 28 19.0
MK31 Makanchi Array 137.55 17 *e*PKPpre PKPpre 14 28 19.0
MKAR Makanchi Array 137.55 17 PKHKP PKPpre 14 28 15.6
MKAR 14 28 25.6
MKAR Makanchi Array 137.55 17 PKPpre PKPpre 14 28 15.6
MKAR PKP **PKPdf 14 28 25.6 -0.5**
MKAR Makanchi Array 137.55 17 PKhKP PKPpre 14 28 15.6
comp=Z,0.5nm,0.7s,baz=325,slow=2.2,SNR=6.1
MKAR PKP **PKPdf 14 28 25.6 -0.5**
comp=Z,4.1nm,1.0s,baz=348,slow=2.0,SNR=17
FRU Bishkek 138.11 27 *e*PKIKP **PKPdf 14 28 28.0 +0.8**
FRU pmax pmax
comp=Z,40nm,2.0s
AAK Ala-Archa 138.21 27 *e*PKIKP **PKPdf 14 28 29.1 +1.5**
AAK MLR MLR
comp=Z,958nm,19.0s
AAK Ala-Archa 138.21 27 *e*PKPdf **PKPdf 14 28 29.1 +1.5**
AAK LR LR
comp=Z,958nm,19.0s
ULN Ulaanbaatar 138.34 352 PFAKE 14 28 40.0 +12
ULN LR LR
comp=Z,1µm,21.0s
SONM Songino Array 138.46 352 PKPpre PKPpre 14 28 17.5
SONM PP **PP 14 31 13.0 -3.7**
SONM Songino Array 138.46 352 PKhKP PKPpre 14 28 17.5
comp=Z,1.1nm,1.0s,baz=349,slow=4.5,SNR=6.6
SONM PP **PP 14 31 13.0 -3.7**
comp=Z,1.6nm,1.1s,baz=353,slow=3.5,SNR=3.8
KSRS Korea Array 139.51 323 PKP **PKPdf 14 28 28.7 -1.1**
comp=Z,4.3nm,0.9s,baz=26,slow=1.7,SNR=12
KSAR Wonju Array Be 139.54 323 PKP **PKPdf 14 28 28.7 -1.2**
INCN Inchon 140.24 325 PFAKE 14 28 40.0 +8.8
INCN LR LR
comp=Z,1µm,19.0s
KSH Kashi 141.35 29 *e*PKP PKPdf 14 28 28.0 -5.3
KSH sPKP 14 28 43.3
KSH PKS PKSdf 14 32 03.8 -5.5
KSH AMB AMB
comp=Z,390nm,7.0s
KSH LR LR
comp=N,680nm,15.9s
KSH LR LR
comp=E,900nm,18.3s
KSH LR LR
comp=Z,1µm,21.2s
WMQ Urumqi 141.71 13 PKP **PKPdf 14 28 33.8 0.0**
WMQ PP **PP 14 31 40.3 +3.7**
WMQ SKS **SKSdf 14 35 45.6 +2.7**
WMQ SKKS **SKKSac 14 38 25.0 -5.1**
WMQ AMB AMB
comp=Z,1µm,6.8s
WMQ LR LR
comp=N,1µm,19.3s
WMQ LR LR
comp=E,1µm,16.7s
WMQ LR LR
comp=Z,1µm,19.9s
DL2 Dalian 141.86 331 *e*PKP PKPdf 14 28 43.7 +10
DL2 PP PP 14 31 48.0 +10
DL2 SS SS 14 50 26.7 +18
DL2 LR LR
comp=E,380nm,20.1s
DL2 LR LR
comp=Z,390nm,23.0s
BJI Beijing 143.29 337 PKP PKPbc 14 28 33.2 -0.3
BJI SKS **SKSdf 14 35 46.5 +1.2**
BJI SS **SS 14 50 24.9 0.0**
BJI AMB AMB
comp=Z,360nm,10.6s
BJI LR LR
comp=N,1µm,18.9s
BJI LR LR
comp=E,640nm,18.1s
BJI LR LR
comp=Z,1µm,19.3s
BJT Baijiatuan 143.31 337 PFAKE 14 28 50.0 +13
BJT LR LR
comp=Z,2µm,20.0s
HHC Hu-ho-hao-te 144.10 343 *e*PKP **PKPab 14 28 33.5 -2.1**
HHC pPKP **pPKPdf 14 28 44.2 -1.0**
HHC sPKP 14 28 47.9
HHC PP **PP 14 31 51.0 -0.2**
HHC PKS PKSdf 14 32 07.7 -6.1
HHC AMB AMB
comp=Z,450nm,10.9s
HHC LR LR
comp=N,900nm,19.2s
HHC LR LR
comp=E,560nm,18.4s
HHC LR LR
comp=Z,1µm,20.1s
BTO Baotou 144.74 345 *e*PKP **PKPab 14 28 35.0 -3.0**
MBWA Marble Bar 145.58 216 *e*PKP **PKPdf 14 28 40.8 -0.3**
MBWA LR LR
comp=Z,1µm,20.0s
TIY Taiyuan 146.70 340 *e*PKPbc **PKPbc 14 28 44.6 +0.4**
TIY PP PP 14 32 15.3 +8.6
TIY LR LR
comp=N,640nm,15.9s
TIY LR LR
comp=E,140nm,9.0s
TIY LR LR
comp=Z,970nm,18.8s
GTA Gaotai 147.38 359 *e*PKPbc **PKPdf 14 28 44.8 +1.0**
GTA PP PP 14 32 16.5 +6.1
GTA PKS **PKSdf 14 32 17.7 -1.4**
GTA SKS **SKSdf 14 35 48.6 -3.1**
GTA SKKS **SKKSac 14 38 59.8 -2.8**
GTA SS **SS 14 51 10.7 -0.5**
GTA AMB AMB
comp=Z,580nm,11.2s
GTA LR LR
comp=N,970nm,20.0s
GTA LR LR
comp=E,870nm,20.7s
GTA LR LR
comp=Z,1µm,19.7s
SSE Sheshan 147.91 322 PKPbc **PKPbc 14 28 47.5 -0.2**
SSE SS SS 14 51 24.3 +5.7
SSE LR LR
comp=N,330nm,37.0s
SSE LR LR
comp=E,650nm,37.5s
SSE LR LR
comp=Z,720nm,21.2s
NJ2 Nanjing 148.58 326 *e*PKPbc **PKPdf 14 28 45.4 -0.4**
NJ2 pPKP **PKPbc 14 28 48.9 -0.5**
NJ2 sPKP 14 28 50.3
NJ2 PKPab **PKPab 14 28 52.2 -0.6**
NJ2 PP **PP 14 32 20.0 +2.0**
NJ2 SKS **SKSdf 14 35 54.0 +0.7**
NJ2 SKKS **SKKSac 14 39 06.0 -3.5**
NJ2 AMB AMB
comp=Z,300nm,8.7s
NJ2 LR LR
comp=N,390nm,18.2s
NJ2 LR LR
comp=E,570nm,30.1s
NJ2 LR LR
comp=Z,450nm,28.8s
DDI Dehra Dun 149.42 37 *e*PKP **PKPdf 14 28 47.5 +0.2**
DGAR Diego Garcia 150.21 118 PFAKE 14 29 00.0 0.0
DGAR LR LR
comp=Z,3µm,20.0s
LZH Lanzhou 150.35 352 PKPbc **PKPbc 14 28 54.5 +0.6**
LZH pPKP **PKPab 14 29 03.8 +3.7**
LZH sPKP 14 29 07.8
LZH PKS **PKSdf 14 32 23.0 -0.7**
LZH PP PP 14 32 39.1 +11
LZH SKS 14 39 31.0
LZH SS **SS 14 51 47.2 +2.5**
LZH AMB AMB
comp=Z,440nm,7.1s
LZH LR LR
comp=N,1µm,16.3s
LZH LR LR
comp=E,870nm,15.6s
LZH LR LR
comp=Z,2µm,20.0s
TATO Taipei 151.68 313 PFAKE 14 29 00.0 +2.9
TATO LR LR
comp=Z,1µm,19.0s
YHNB Yeheng 151.94 312 PFAKE 14 29 00.0 +2.1
YHNB LR LR
comp=Z,1µm,20.0s
WHN Wuhan 152.12 330 PKPbc **PKPbc 14 28 57.0 -1.0**
WHN PP PP 14 32 46.5 +8.2
WHN SS SS 14 52 01.2 -3.7
WHN LR LR
comp=Z,2µm,18.8s

POO	**Poona**	**152.96**	**62**	*e*PKP		**PKPdf**	**14 28 51.0**	**-2.0**	
POO				*i* x		x	14 29 12.0		
DAV	**Davao City (W)**	**153.44**	**272**	PFAKE			14 29 10.0	-3.6	
DAV				LR		LR			
	comp=Z,1µm,21.0s								
QZH	**Quanzhou**	**153.76**	**316**	PKPbc		**PKPdf**	**14 28 48.8**	**-5.1**	
QZH				PP		**PP**	**14 32 51.8**	**+3.6**	
QZH				LR		LR			
	comp=N,4µm,14.2s								
QZH				LR		LR			
	comp=E,3µm,15.3s								
QZH				LR		LR			
	comp=Z,2µm,16.2s								
GOA	**Goa**	**153.96**	**68⇑**	*e*PKP		**PKPdf**	**14 28 52.3**	**-2.1**	
DANN	**Dangsing**	**154.13**	**32**	*e*P		**PKPdf**	**14 28 55.5**	**+0.7**	
ENH	**Enshi**	**154.46**	**338**	*e*PKPdf		**PKPdf**	**14 28 55.1**	**+0.2**	
ENH				*e*PKPbc		**PKiKP**	**14 29 03.5**	**+0.3**	
ENH				LR		LR			
	comp=Z,1µm,22.0s								
KOLN	**Koldanda**	**154.51**	**33**	*e*P		**PKPdf**	**14 28 55.1**	**-0.1**	
GKN	**Gorkha**	**154.86**	**31**	*e*P		**PKPdf**	**14 28 55.8**	**+0.2**	
KKN	**Kakani**	**155.36**	**30**	*e*P		**PKPdf**	**14 28 56.3**	**-0.1**	
	comp=Z,67nm,1.2s								
DMN	**Daman**	**155.42**	**30**	*e*P		**PKPdf**	**14 28 56.4**	**-0.1**	
	comp=Z,145nm,1.5s								
CD2	**Chengdu**	**155.43**	**350**	PKP		**PKPdf**	**14 28 55.4**	**-0.8**	
CD2				PKS		**PKSdf**	**14 32 28.0**	**-2.4**	
CD2				PP		**PP**	**14 32 59.2**	**+2.7**	
CD2				SKS		**SKSdf**	**14 35 56.2**	**-5.7**	
CD2				SKKS		**SKKSac**	**14 39 43.3**	**-3.5**	
CD2				AMB		AMB			
	comp=Z,600nm,6.1s								
CD2				LR		LR			
	comp=N,920nm,19.1s								
CD2				LR		LR			
	comp=E,960nm,19.1s								
CD2				LR		LR			
	comp=Z,1µm,24.5s								
GUN	**Gumba**	**155.55**	**29**	*e*P		**PKPdf**	**14 28 56.9**	**+0.1**	
PKI	**Pulchoki**	**155.60**	**30**	*e*P		**PKPdf**	**14 28 56.5**	**-0.4**	
JIRN	**Jiri**	**155.91**	**28**	*e*P		**PKPdf**	**14 28 57.4**	**+0.1**	
LSA	**Lhasa**	**155.96**	**17**	PKP		**PKPdf**	**14 28 57.3**	**-0.1**	
LSA	**Lhasa**	**155.96**	**17**	*e*PKIKP		**PKPdf**	**14 28 58.4**	**+0.9**	
LSA				MLR		MLR			
	comp=Z,1µm,21.0s								
LSA	**Lhasa**	**155.96**	**17**	*e*PKPdf		**PKPdf**	**14 28 58.4**	**+0.9**	
LSA				LR		LR			
	comp=Z,1µm,21.0s								
NGP	**Nagpur**	**156.04**	**51**	*e*PKP		**PKPdf**	**14 28 55.4**	**-1.8**	
NGP				*ex*		x	14 29 18.4		
	comp=Z,66nm,1.7s								
KAPI	**Kappang**	**156.12**	**241**	PFAKE			14 29 10.0	+13	
KAPI				LR		LR			
	comp=Z,960nm,20.0s								
RAMN	**Ramite**	**156.70**	**29**	*e*P		**PKPdf**	**14 28 58.3**	**+0.1**	
TAPN	**Taplejung**	**156.86**	**26**	*e*P		**PKPdf**	**14 28 58.7**	**+0.2**	
ODAN	**Odare**	**157.15**	**27**	*e*P		**PKPdf**	**14 28 58.5**	**-0.3**	
HYB	**Hyderabad**	**157.50**	**60**	*i* PKP		**PKPdf**	**14 28 59.0**	**-0.2**	
HYB				*e*PKPAB		**PKPab**	**14 29 30.0**	**-0.8**	
HYB				*e*PP		**PP**	**14 33 10.0**	**+0.2**	
GYA	**Guiyang**	**158.94**	**340**	PKP		**PKPdf**	**14 29 00.3**	**-0.5**	
GYA				PKPab		**PKPab**	**14 29 38.0**	**+1.2**	
GYA				PKS		PKSdf	14 32 28.3	-6.3	
GYA				PP		**PP**	**14 33 19.0**	**+2.8**	
GYA				SKS		**SKSdf**	**14 36 05.3**	**-0.4**	
GYA				SKKS		**SKKSac**	**14 40 04.5**	**-1.2**	
GYA				SS		**SS**	**14 53 17.5**	**-0.8**	
GYA				AMB		AMB			
	comp=Z,450nm,8.3s								
GYA				LR		LR			
	comp=N,520nm,23.9s								
GYA				LR		LR			
	comp=E,430nm,25.7s								
GYA				LR		LR			
	comp=Z,1µm,22.6s								
SHL	**Shillong**	**160.06**	**19**	*e*PKP		**PKPdf**	**14 29 02.0**	**-0.2**	
SHL				*ex*		x	14 33 38.7		
MDRS	**Chennai**	**160.62**	**69**	*ex*		**PKPab**	**14 29 42.2**	**-2.2**	
MDRS				*ex*		x	14 33 56.2		
COCO	**West Island**	**161.17**	**174**	PFAKE			14 29 10.0	+6.6	
COCO				LR		LR			
	comp=Z,1µm,19.0s								
CAL	**Calcutta**	**161.24**	**32**	*e*PKP		**PKPdf**	**14 29 01.3**	**-2.0**	
CAL				AMS		AMS	14 47 53.7		
	comp=Z,603nm,18.2s								
KMI	**Kunming**	**161.26**	**349**	PKP		**PKPdf**	**14 29 02.8**	**-0.8**	
KMI				pPKP		**pPKPdf**	**14 29 09.5**	**-1.2**	
KMI				sPKP			14 29 12.2		
KKM	**Kota Kinabalu**	**162.71**	**269**	PFAKE			14 29 20.0	+15	
KKM				LR		LR			
	comp=Z,857nm,22.0s								
QIZ	**Qiongzhong**	**163.69**	**320**	PKP		**PKPdf**	**14 29 05.2**	**-0.6**	
QIZ				PP		**PP**	**14 33 42.0**	**-0.2**	
QIZ				SS		SS	14 54 09.3	+0.1	
QIZ				LR		LR			
	comp=N,890nm,19.7s								
QIZ				LR		LR			
	comp=Z,1µm,21.8s								
QIZ	**Qiongzhong**	**163.69**	**320**	PFAKE			14 29 20.0	+14	
QIZ				LR		LR			
	comp=Z,1µm,19.0s								
KSM	**Kuching**	**167.45**	**246**	PFAKE			14 29 20.0	+11	
KSM				LR		LR			
	comp=Z,1µm,21.0s								
CHTO	**Chiang Mai**	**167.91**	**359**	*e*PKIKP		**PKPdf**	**14 29 10.1**	**+0.8**	
CHTO				MLR		MLR			
	comp=Z,966nm,19.0s								
CHTO	**Chiang Mai**	**167.91**	**359**	*e*PKPdf		**PKPdf**	**14 29 10.1**	**+0.8**	
CHTO				LR		LR			
	comp=Z,966nm,19.0s								
CMAR	**Chiang Mai Arr**	**168.27**	**359**	PKP		**PKPdf**	**14 29 09.6**	**0.0**	
CMAR				PKPab		**PKPab**	**14 30 16.4**	**-1.3**	
CMAR				PP		**PP**	**14 34 06.5**	**+1.6**	
CMAR	**Chiang Mai Arr**	**168.27**	**359**	PKP		**PKPdf**	**14 29 09.6**	**0.0**	
	comp=Z,0.5nm,0.4s,baz=290,slow=1.8,SNR=10.0								
CMAR				PKPab		**PKPab**	**14 30 16.4**	**-1.3**	
	comp=Z,3.1nm,1.0s,baz=349,slow=4.8,SNR=7.1								
CMAR				PP		**PP**	**14 34 06.5**	**+1.6**	
	comp=Z,0.2nm,0.5s,baz=327,slow=4.3,SNR=4.1								

*IDC **09** 14:10:48.3±12.0, 36.°01N×70.°20E, h0km, mb3.5/2, mb1 3.5/3, mb1mx3.3/26, mbtmp3.5/3, ML3.1/1, Error ellipse: s-maj=200.2km s-min=95.1km az=76.0*
*ISCJB **09** 14:11:17.4±0.5, 37.°14N±0.°05×72.°07E±0.°09, h152km, mb3.0/1, Error ellipse: s-maj=11.0km s-min=5.5km az=156.5*
*NNC **09** 14:11:23.9±1.8, 37.°94N×71.°24E, h0km, mb3.5, mpv3.5, Error ellipse: s-maj=20.2km s-min=13.2km az=89.0*

ISC 09 14:11:17.5±0.8, 37.°23N±0.°06×72.°3E±0.°1, h152km, n18, σ1°58/19, 2C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CEP	**Cherat**	**3.41**	**186**	P		**Pn**	**14 12 11.3**	**+0.9**
CEP				S		**Sn**	**14 12 49.0**	**-2.3**
THW	**Thamme Wali**	**4.45**	**186**	P		**Pn**	**14 12 24.1**	**+0.3**
KK31	**Karatay Array**	**6.03**	**347**	Pn		**Pn**	**14 12 45.7**	**+1.1**
	2.9nm,0.5s,baz=174,slow=12,SNR=87							
KK31				⇓Sn		**Sn**	**14 13 50.0**	**-2.8**
	9.5nm,0.3s,baz=172,slow=21,SNR=22							
MKAR	**Makanchi Array**	**12.09**	**35**	Pn		**P**	**14 14 09.1**	**-2.0**
	0.1nm,0.3s,baz=229,slow=14,SNR=6.1							
DANN	**Dangsing**	**13.06**	**129**	*e*P		**Pn**	**14 14 19.1**	**+1.3**
KOLN	**Koldanda**	**13.38**	**132**	*e*P		**Pn**	**14 14 22.0**	**+0.2**
	7.8nm,0.5s							
GKN	**Gorkha**	**13.85**	**128**	*e*P		**P**	**14 14 29.4**	**-1.7**
KKN	**Kakani**	**14.41**	**127**	*e*P		**P**	**14 14 36.5**	**-0.8**
DMN	**Daman**	**14.43**	**128**	*e*P		**P**	**14 14 36.9**	**-0.6**
	12nm,0.7s							
PKI	**Pulchoki**	**14.64**	**127**	*e*P		**P**	**14 14 39.0**	**-1.0**
GUN	**Gumba**	**14.71**	**125**	*e*P		**P**	**14 14 40.8**	**0.0**
AB31	**Akbulak array**	**15.01**	**327**	Pn		**Pn**	**14 14 41.9**	**+0.1**
	1.1nm,0.7s,baz=136,slow=13,SNR=25							
AB31				⇑Sn		Sn	14 17 18.5	-10
	1.3nm,0.6s,baz=152,slow=22,SNR=9.6							
JIRN	**Jiri**	**15.09**	**125**	*e*P		**P**	**14 14 45.1**	**+0.2**
RAMN	**Ramite**	**15.84**	**126**	*e*P		**P**	**14 14 54.3**	**+1.2**
TAPN	**Taplejung**	**16.30**	**123**	*e*P		**P**	**14 15 00.1**	**+1.8**
	4.0nm,0.3s							
AKTO	**Aktyubinsk**	**16.72**	**327**	⇓Pn		**Pn**	**14 15 05.1**	**+2.4**
	0.1nm,0.7s							
AKTO				⇑Sn		S	14 18 00.1	-8.2
	0.3nm,0.8s							
ZALV	**Zalesovo Beam**	**18.82**	**23**	P		**Pn**	**14 15 29.4**	**+1.8**
	1.6nm,0.4s,baz=222,slow=9.1,SNR=14							
SONM	**Songino Array**	**27.05**	**56**	P		P	14 16 51.1	+5.4
	0.3nm,0.7s,baz=261,slow=7.2,SNR=2.7							

*CSEM **09** 14:20:05.5, 43.°34N×13.°27E, h6km, MD1.8/7, After ROM*
ROM 09 14:20:05.5±0.2, 43.°34N×13.°27E, h6km, Md1.8/7, Ml1.3/4, 6C, Error ellipse: s-maj=2.0km s-min=0.9km az=78.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CING	**Cingoli**	**0.07**	**308⇑**	*i* Pg		Pg	14 20 07.7	+0.5
CING				Sg		Sg	14 20 08.8	+0.4
CING	**Cingoli**	**0.07**	**308⇑**	*i* Pg		Pg	14 20 07.7	+0.5
CING				Sg		Sg	14 20 08.8	+0.4
SNTG	**Esanatoglia**	**0.25**	**252⇑**	*i* Pg		Pg	14 20 11.3	+0.8
SNTG				Sg		Sg	14 20 15.2	+1.3
SNTG	**Esanatoglia**	**0.25**	**252⇑**	*i* Pg		Pg	14 20 11.3	+0.8
SNTG				Sg		Sg	14 20 15.2	+1.3
ARVD	**Arcevia**	**0.29**	**305⇑**	*i* Pg		Pg	14 20 11.9	+0.7
ARVD				Sg		Sb	14 20 16.8	-1.5
ARVD	**Arcevia**	**0.29**	**305⇑**	*i* Pg		Pg	14 20 11.9	+0.7
ARVD				Sg		Sb	14 20 16.8	-1.5
FDMO	**Fiordimonte**	**0.33**	**204**	Pg		Pb	14 20 12.9	-0.9
FDMO				Sg		Sb	14 20 18.4	-1.0
	122nm,1.7s							
FDMO	**Fiordimonte**	**0.33**	**204**	Pg		Pb	14 20 12.9	-0.9
FDMO				Sg		Sb	14 20 18.4	-1.0
	122nm,1.7s							
CESI	**CESI - Serrava**	**0.42**	**219**	Pg		Pg	14 20 14.6	+0.8
CESI				Sg		Sb	14 20 21.6	-0.6
	12nm,0.5s							
CESI	**CESI - Serrava**	**0.42**	**219**	Pg		Pg	14 20 14.6	+0.8
CESI				Sg		Sb	14 20 21.6	-0.6
	12nm,0.5s							
MURB	**Monte Urbino**	**0.55**	**263**	Pg		Pb	14 20 17.2	-0.4
MURB				Sg		Sb	14 20 25.5	-0.3
	46nm,0.6s							
MURB	**Monte Urbino**	**0.55**	**263**	Pg		Pb	14 20 17.2	-0.4
MURB				Sg		Sb	14 20 25.5	-0.3
	46nm,0.6s							
PIEI	**Pieia**	**0.57**	**291**	Pg		Pg	14 20 17.0	+0.4
PIEI				Sg		Sb	14 20 26.3	-0.1
	193nm,3.7s							
PIEI	**Pieia**	**0.57**	**291**	Pg		Pg	14 20 17.0	+0.4
PIEI				Sg		Sb	14 20 26.3	-0.1
	193nm,3.7s							

IDC 09 14:24:25.5±1.2, 52.°24N×171.°47W, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.5/27, mbtmp3.4/7, ML3.4/1, Error ellipse: s-maj=39.7km s-min=22.3km az=162.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ILAR	**Eielson Array**	**17.80**	**36**	P		P	14 28 35.4	+0.2
	0.1nm,0.3s,baz=234,slow=9.9,SNR=5.5							
INK	**Inuvik**	**24.17**	**34**	P		P	14 29 42.6	-0.4
	0.4nm,0.5s,baz=252,slow=6.6,SNR=7.9							
YKA	**Yellowknife Ar**	**31.30**	**48**	P		P	14 30 46.7	-0.1
	0.1nm,0.4s,baz=274,slow=7.8,SNR=4.5							
NVAR	**Mina Array Bea**	**38.95**	**89**	P		P	14 31 53.3	0.0
	0.3nm,0.6s,baz=313,slow=8.5,SNR=2.9							
MKAR	**Makanchi Array**	**62.95**	**312**	P		P	14 34 53.0	-0.5
	0.1nm,0.5s,baz=48,slow=6.4,SNR=3.0							
CMAR	**Chiang Mai Arr**	**75.39**	**281**	P		P	14 36 12.0	+1.0
	0.9nm,0.7s,baz=28,slow=6.2,SNR=5.0							
ASAR	**Alice Springs**	**89.33**	**228**	P		P	14 37 23.0	-0.6
	0.4nm,0.7s,baz=22,slow=4.9,SNR=6.7							

*IDC **09** 14:29:14.5±6.6, 31.°00S×179.°04W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/14, mbtmp3.4/2, MS4.1/1, Ms1 4.1/1, ms1mx3.7/12, Error ellipse: s-maj=276.6km s-min=53.5km az=157.0*

ISC 09 14:29:41.8±2.0, 30.°5S±0.°2×180.°0W±0.°4, h200km, n12, σ1°81/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PUZ	**Puketiti**	**7.66**	**190**	*e*PN		Pn	14 31 33.0	+2.5
PUZ				SN		Sn	14 32 48.6	-8.4
MWZ	**Matawai**	**8.04**	**194**	*e*PN		**Pn**	**14 31 37.9**	**+2.3**
URZ	**Urewera**	**8.07**	**196**	*e*PN		**Pn**	**14 31 36.9**	**+1.1**
URZ				SN		Sn	14 32 57.4	-9.3
TSZ	**Takapari Road**	**10.06**	**198**	*e*PN		**Pn**	**14 31 59.7**	**-2.1**
BFZ	**Birch Farm**	**10.57**	**196**	*e*PN		**Pn**	**14 32 08.5**	**+0.2**
MRZ	**Mangatainoka R**	**10.72**	**198**	*e*PN		**Pn**	**14 32 07.7**	**-2.6**
MRZ				SN		Sn	14 33 51.3	-19
THZ	**Tophouse**	**12.58**	**205**	PN		Pn	14 32 30.2	-3.8
AFI	**Afiamalu**	**18.20**	**26**	LR		LR	14 39 21.3	
	comp=Z,561nm,18.3s,baz=260,slow=33							
ASAR	**Alice Springs**	**41.38**	**268**	P		**P**	**14 37 09.2**	**+0.5**
	0.2nm,0.4s,baz=110,slow=7.1,SNR=7.4							
WRA	**Warramunga Arr**	**42.38**	**273**	P		**P**	**14 37 17.6**	**+0.8**
	0.3nm,0.3s,baz=111,slow=8.1,SNR=14							
KAF	**Kangasniemi**	**144.09**	**339**	*ep*		**PKPab**	**14 48 50.9**	**0.0**
FINES	**FINESS Array B**	**144.66**	**339**	PKPbc		**PKPdf**	**14 48 52.8**	**-1.0**
	1.4nm,0.3s,baz=57,slow=3.4,SNR=20							

MAN 09 14:37:41, 8.°76N×126.°08E, h12km, mb4.7, ML3.6, MS3.5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
BUTP	**Butuan**	**0.50**	**294**	*e*P		Pb	14 37 51.5	-0.3
BUTP				*e*S		Sn	14 38 01.0	-1.7
BUKP	**Musuan**	**1.34**	**229**	*e*P		Pn	14 38 04.8	-0.8
BUKP				*e*S		Sg	14 38 24.5	+0.2
DMPH	**Davao City--Mi**	**1.76**	**199⇑**	*i* P		Pn	14 38 12.0	+0.7
MATI	**Mati**	**1.81**	**175**	*e*P		Pn	14 38 10.8	-1.2
MSLP	**Maasin**	**1.82**	**319**	*e*P		Pn	14 38 12.1	-0.1
CTBH	**Cotabato--PC H**	**2.38**	**230⇓**	*i* P		Pn	14 38 19.9	0.0
PAGZ	**Pagadian**	**2.82**	**251**	*e*P		Pn	14 38 27.8	+1.8

*IDC **09** 14:42:07.5±3.5, 37.°50N×72.°09E, h123km±29km, mb3.6/12, mb1 3.7/16, mb1mx3.5/29, mbtmp3.6/16, Error ellipse: s-maj=26.4km s-min=16.5km az=176.0*
*ISCJB **09** 14:42:08.6±0.3, 37.°50N±0.°03×72.°43E±0.°07, h176km, mb3.8/12, Error ellipse: s-maj=7.7km s-min=3.5km az=161.8*
*NNC **09** 14:42:12.4±1.8, 38.°32N×70.°97E, h0km, mb4.1, mpv4.2, Error ellipse: s-maj=23.2km s-min=13.8km az=84.0*

ISC 09 14:42:09.1±0.6, 37.°59N±0.°05×72.°62E±0.°08, h176km, n51, σ2°19/44, mb3.7/12, 11C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CEP	**Cherat**	**3.80**	**189**	P		**Pn**	**14 43 05.3**	**-2.5**
CEP				S		**Sn**	**14 43 50.0**	**-3.6**
CHCP	**Chirah Chowk**	**3.96**	**172**	P		**Pn**	**14 43 09.8**	**+0.1**
THW	**Thamme Wali**	**4.84**	**189**	P		Pn	14 43 17.7	-3.3
AAK	**Ala-Archa**	**5.24**	**15**	P		**Pn**	**14 43 26.7**	**+0.5**
	5.1nm,0.3s,baz=155,slow=5.9,SNR=38							
AAK				S		**Sn**	**14 44 25.7**	**-1.0**
	5.0nm,0.3s,baz=12,slow=18,SNR=11							
KK31	**Karatay Array**	**5.74**	**344**	Pn		Pn	14 43 28.7	-3.9
	13nm,0.3s,baz=169,slow=22,SNR=113							
KK31				⇑Sn		Sn	14 44 28.7	-10
	153nm,0.7s,baz=156,slow=24,SNR=3.5							
SMLA	**Simla**	**7.46**	**148**	*i* P		**Pn**	**14 43 55.6**	**+0.3**
SMLA				*i* S		**Sn**	**14 45 14.5**	**-4.7**
SMLA				⇓AML		AML	14 45 20.0	
	comp=N,2µm,0.3s							
SMLA				⇓AML		AML	14 45 20.9	
	comp=E,3µm,0.3s							
DDI	**Dehra Dun**	**8.54**	**147**	*ex*		**Sn**	**14 45 44.3**	**-0.7**
BHGR	**Bahadurgarh**	**9.58**	**157**	*e*S		Sn	14 46 01.8	-8.3
NDI	**New Delhi**	**9.68**	**155**	*ex*		x	14 46 02.0	
KHET	**Khetri**	**9.86**	**163**	*e*PKP		**Pn**	**14 44 24.6**	**-2.3**
KHET				*e*S		Sn	14 46 06.6	-10
KHET				AML		AML	14 46 13.1	
	comp=E,38nm,0.4s							
KHET				AML		AML	14 46 13.3	
	comp=N,23nm,0.4s							
KUDL	**Kundal**	**9.96**	**160**	*e*PKP		**Pn**	**14 44 26.3**	**-1.9**
KUDL				*e*S		Sn	14 46 09.6	-10
KUDL				AML		AML	14 46 16.2	
	comp=E,27nm,0.6s							
KUDL				AML		AML	14 46 17.9	
	comp=N,24nm,0.2s							
AGRA	**Agra**	**11.26**	**155**	*e*S		Sn	14 46 40.9	-9.3
AGRA				AML		AML	14 46 52.1	
	comp=E,74nm,0.4s							
AGRA				AML		AML	14 46 53.6	
	comp=N,79nm,0.5s							
MKAR	**Makanchi Array**	**11.65**	**35**	P		**P**	**14 44 54.3**	**-2.0**
	comp=N,0.1nm,0.3s,baz=221,slow=13,SNR=8.8							
DANN	**Dangsing**	**13.12**	**131**	*e*P		**Pn**	**14 45 10.0**	**+0.8**
	comp=N,24nm,0.3s							
KOLN	**Koldanda**	**13.45**	**134**	*e*P		**Pn**	**14 45 14.5**	**+1.1**
	comp=N,31nm,0.4s							
KURBB	**Kurchatov Arra**	**13.70**	**16**	⇑Pn		P	14 45 24.0	+5.1
KURBB				⇑Lg		Lg	14 49 19.3	
	comp=N,1.5nm,1.4s							
KURBB	**Kurchatov Arra**	**13.70**	**16**	P		**P**	**14 45 17.6**	**-1.3**
	comp=N,0.0nm,0.3s,baz=208,slow=12,SNR=4.3							
KURK	**Kurchatov**	**13.80**	**16**	⇑Pn		P	14 45 25.4	+5.3
KURK				⇑Lg		Lg	14 49 22.2	
	comp=N,2.5nm,1.0s							
GKN	**Gorkha**	**13.90**	**130**	*e*P		**Pn**	**14 45 19.7**	**+0.8**
	comp=N,24nm,0.3s							
KKN	**Kakani**	**14.44**	**129**	*e*P		**Pn**	**14 45 26.3**	**+0.5**
DMN	**Daman**	**14.47**	**130**	*e*P		**Pn**	**14 45 26.8**	**+0.7**
PKI	**Pulchoki**	**14.68**	**129**	*e*P		**Pn**	**14 45 29.9**	**+1.1**
GUN	**Gumba**	**14.73**	**127**	*e*P		**Pn**	**14 45 30.0**	**+0.5**
	comp=N,16nm,0.4s							
AB31	**Akbulak array**	**14.84**	**326**	Pn		Pn	14 45 24.7	-5.5
	comp=N,1.6nm,0.5s,baz=138,slow=13,SNR=105							
AB31				Sn		Sn	14 47 56.3	-19
	comp=N,7.7nm,0.5s,baz=152,slow=21,SNR=19							
JIRN	**Jiri**	**15.11**	**127**	*e*P		**P**	**14 45 35.6**	**+0.4**
	comp=N,8.4nm,0.4s							
VOSK	**Vostochnaya**	**15.18**	**356**	⇓Pn		**P**	**14 45 36.8**	**+1.5**
	comp=N,4.6nm,1.1s							
VOSK				⇓Sn		**Sn**	**14 48 19.2**	**-4.4**
	comp=N,0.8nm,0.6s							
BVA0	**Borovoye Array**	**15.52**	**355**	Pn		**P**	**14 45 41.4**	**+2.3**
	comp=N,0.3nm,0.5s,baz=155,slow=10,SNR=34							
BVA0				⇑Sn		**Sn**	**14 48 26.5**	**-5.1**
	comp=N,0.6nm,1.4s							
BVAR	**Borovoye Array**	**15.52**	**355**	P		**Pn**	**14 45 37.4**	**-1.1**
	comp=N,1.2nm,0.3s,baz=155,slow=13,SNR=21							
BVAR				S		Sn	14 48 21.9	-10
	comp=N,0.3nm,0.3s,baz=168,slow=22,SNR=5.9							
BRVK	**Borovoye**	**15.55**	**355**	⇑Pn		**P**	**14 45 41.6**	**+2.1**
	comp=N,922nm,0.1s							
BRVK				⇑Sn		**Sn**	**14 48 26.8**	**-5.8**
	comp=N,1.8nm,0.7s							
ZRNK	**Zerenda**	**15.57**	**352**	⇑Pn		**P**	**14 45 41.0**	**+1.4**
	comp=N,3.8nm,0.7s							
ZRNK				⇓Sn		Sn	14 48 25.3	-7.6
	comp=N,2.1nm,0.5s							
RAMN	**Ramite**	**15.86**	**128**	*e*P		**P**	**14 45 44.8**	**+1.4**
	comp=N,19nm,0.4s							
TAPN	**Taplejung**	**16.30**	**124**	*e*P		**Pn**	**14 45 50.3**	**+1.8**
	comp=N,9.1nm,0.3s							
ODAN	**Odare**	**16.43**	**126**	*e*P		**Pn**	**14 45 52.0**	**+2.0**
	comp=N,23nm,0.6s							
AKTO	**Aktyubinsk**	**16.55**	**326**	⇑Pn		**P**	**14 45 48.9**	**-1.6**
	comp=N,1.2nm,0.5s							
AKTO				⇑Sn		S	14 48 38.3	-15
	comp=N,1.0nm,0.9s							
AKTO	**Aktyubinsk**	**16.55**	**326**	P		**P**	**14 45 49.2**	**-1.3**
	comp=N,3.3nm,0.3s,baz=128,slow=10,SNR=50							
AKTO				S		S	14 48 37.5	-16
	comp=N,0.4nm,0.3s,baz=336,slow=19,SNR=6.5							
ZALV	**Zalesovo Beam**	**18.39**	**23**	P		**Pn**	**14 46 15.8**	**+3.0**
	comp=N,0.4nm,0.3s,baz=216,slow=11,SNR=6.3							
GNI	**Garni**	**21.83**	**285**	P		**P**	**14 46 47.8**	**+0.2**
	comp=N,5.3nm,0.6s,baz=180,slow=20,SNR=4.0							
SONM	**Songino Array**	**26.65**	**57**	pP		pP	14 48 06.5	-1.1
	comp=N,0.1nm,0.4s,baz=312,slow=46,SNR=2.2							
BRTR	**Keskin Array B**	**30.36**	**286**	P		**P**	**14 48 04.8**	**+0.3**
	comp=N,1.0nm,0.6s,baz=100,slow=8.4,SNR=8.9							
AKASG	**Malin Array Be**	**33.30**	**307**	P		**P**	**14 48 30.3**	**+0.5**
	comp=N,0.5nm,0.3s,baz=120,slow=8.1,SNR=3.8							
JOF	**Joensuu**	**35.59**	**329**	*ep*		**P**	**14 48 51.5**	**+2.1**
FINES	**FINESS Array B**	**37.32**	**325**	P		**P**	**14 49 06.0**	**+2.0**
	comp=N,2.1nm,0.3s,baz=118,slow=9.4,SNR=22							
ARCES	**ARCESS Array B**	**40.65**	**337**	P		P	14 49 34.5	+3.0
	comp=N,3.9nm,0.9s,baz=110,slow=7.4,SNR=15							
NB2	**NORSAR Subarra**	**44.30**	**322**	P		**P**	**14 50 02.6**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=91,slow=7.9							
NOA	**NORSAR Array B**	**44.30**

JIO	**Ouri**	**1.41**	**330**	⇓P		**Pn**	**15 12 38.4**	**+0.2**
JIO				*e*S		**Sn**	**15 12 55.5**	**-0.9**
JFT	**Otama**	**1.55**	**281**	⇓P		**Pb**	**15 12 41.7**	**+0.1**
JFT				*e*S		**Sb**	**15 13 01.8**	**+0.8**
JOU	**Okura**	**1.69**	**312**	⇓P		**Pn**	**15 12 42.9**	**+0.8**
JOU				*e*S		**Sn**	**15 13 04.0**	**+0.6**
JMK	**Ichinoseki**	**1.90**	**335**	P		**Pn**	**15 12 45.2**	**+0.3**
JMK				*e*S		**Sn**	**15 13 08.7**	**+0.3**
JYS	**Shirataka**	**1.99**	**300**	P		**Pb**	**15 12 47.9**	**-1.2**
JYS				*e*S		**Sb**	**15 13 13.7**	**0.0**
JFY	**Yanaizu**	**2.04**	**276**	P		**Pn**	**15 12 48.5**	**+1.6**
JFY				*e*S		**Sb**	**15 13 14.6**	**-0.4**
JYK	**Kaneyama**	**2.25**	**319**	P		**Pn**	**15 12 51.0**	**+1.3**
JOM	**Ohasama**	**2.39**	**342**	P		**Pn**	**15 12 52.4**	**+1.2**
JAG	**Ashikaga**	**2.39**	**161**	P		**Pn**	**15 12 52.7**	**+1.0**
JNS	**Sasagawa**	**2.41**	**285**	P		**Pn**	**15 12 53.3**	**+1.4**
MJAR	**Matsushiro Arr**	**3.32**	**259**	Pn		Pn	15 13 06.8	+2.4
	3.9nm,0.3s,baz=89,slow=15,SNR=42							
MJAR				Sn		**Sb**	**15 13 48.7**	**-3.0**
	3.1nm,0.3s,baz=81,slow=15,SNR=7.6							
MAT	**Matsushiro**	**3.32**	**259**	P		Pn	15 13 07.0	+2.5
MAT				*e*S		**Sb**	**15 13 48.4**	**-3.4**
ASAJ	**Asahikawa**	**6.88**	**2**	Pn		**Pn**	**15 13 54.0**	**+0.7**
	1.1nm,0.3s,baz=149,slow=7.0,SNR=19							
ASAJ				Sn		**Sn**	**15 15 08.5**	**-2.7**
	0.4nm,0.3s,baz=192,slow=20,SNR=2.3							
ASAJ				LR		LR	15 17 08.8	
	comp=Z,495nm,19.8s,baz=62,slow=43							
USRK	**Ussuriysk Arra**	**10.43**	**315**	Pn		Pn	15 14 49.2	+7.2
	0.2nm,0.3s,baz=122,slow=13,SNR=4.5							
SONM	**Songino Array**	**28.23**	**303**	P		P	15 18 06.8	+1.4
	0.9nm,0.7s,baz=103,slow=8.9,SNR=7.9							
ZALV	**Zalesovo Beam**	**42.27**	**312**	P		P	15 20 07.1	+1.5
	0.3nm,0.2s,baz=94,slow=6.4,SNR=2.5							
MKAR	**Makanchi Array**	**44.56**	**302**	P		P	15 20 28.2	+3.8
	0.9nm,0.7s,baz=86,slow=9.3,SNR=11							
KURBB	**Kurchatov Arra**	**46.41**	**308**	P		**P**	**15 20 39.8**	**+1.1**
	0.9nm,0.5s,baz=81,slow=8.0,SNR=12							
ILAR	**Eielson Array**	**48.96**	**32**	P		P	15 21 00.1	+1.7
	0.4nm,0.8s,baz=269,slow=5.9,SNR=3.9							
WRA	**Warramunga Arr**	**57.36**	**189**	P		**P**	**15 22 00.4**	**-0.2**
	0.8nm,0.6s,baz=5.5,slow=7.3,SNR=10							
ASAR	**Alice Springs**	**61.09**	**189**	P		**P**	**15 22 26.8**	**+0.4**
	0.2nm,0.5s,baz=0.0,slow=9.3,SNR=3.2							
FINES	**FINESS Array B**	**68.95**	**332**	P		P	15 23 19.0	+1.9
	1.9nm,0.8s,baz=82,slow=10.0,SNR=2.9							

IDC 09 15:13:46.9±8.5, 8°48S×123°09E, h239km±75km, mb3.3/1, mb1 3.2/4, mb1mx2.9/17, mbtmp3.0/4, Error ellipse: s-maj=109.1km s-min=69.3km az=69.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.88**	**166**	P	Pn	15 16 04.0	-0.2
	0.1nm,0.3s,baz=354,slow=10,SNR=3.4						
FITZ				S	S	15 17 54.3	-1.0
	0.2nm,0.3s,baz=307,slow=20,SNR=3.9						
WRA	**Warramunga Arr**	**15.76**	**138**	P	P	15 17 15.4	-0.5
	0.1nm,0.3s,baz=316,slow=12,SNR=6.5						
WRA				S	S	15 20 11.4	+1.7
	0.1nm,0.3s,baz=317,slow=26,SNR=2.9						
ASAR	**Alice Springs**	**18.32**	**147**	P	P	15 17 44.5	+0.7
	0.3nm,0.3s,baz=322,slow=10,SNR=29						
STKA	**Stephens Creek**	**28.95**	**146**	P	P	15 19 24.0	-0.3
	1.0nm,0.8s,baz=310,slow=11,SNR=3.0						

*IDC **09** 15:25:20.4±0.6, 55°74S×26°76W, h0km, mb4.3/9, mb1 4.3/9, mb1mx4.2/16, mbtmp4.3/9, MS4.3/3, Ms1 4.2/3, ms1mx3.8/17, Error ellipse: s-maj=23.2km s-min=20.3km az=10.0*
*ISCJB **09** 15:25:23.0±0.5, 55°64S×0°08×26°7W±0°1, h25km, mb4.3/12, MS4.2/3, Error ellipse: s-maj=13.1km s-min=9.8km az=36.9*
*NEIC **09** 15:25:22.7±6.5, 55°80S×26°67W, h15km±39km, mb4.5/5, Error ellipse: s-maj=14.3km s-min=9.4km az=195.0*

ISC 09 15:25:24.4±0.5, 55°7S×26°7W±0°1, h25km, n51, σ0s77/55, mb4.4/11, MS4.2/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.03**	**159**	*e*	P	15 29 27.2	+5.1
VNA3	**Neumayer Olymp**	**17.25**	**161**	*e*	**Pn**	**15 29 23.1**	**0.0**
VNA2	**Neumayer--Watz**	**17.43**	**159**	*e*	**P**	**15 29 28.1**	**+1.6**
EFI	**East Falkland**	**18.89**	**269**	*e*P	**P**	**15 29 42.2**	**-0.5**
SNAA	**Sanae**	**18.97**	**157**	*e*	P	15 29 37.2	-6.3
SNAA	**Sanae**	**18.97**	**157**	*e*P	P	15 29 36.8	-6.7
	5.2nm,0.6s						
PMSA	**Palmer Station**	**20.33**	**228**	P	Pn	15 30 02.3	+2.0
PMSA	**Palmer Station**	**20.33**	**228**	P	Pn	15 30 02.3	+2.0
	17nm,0.6s,baz=53,slow=7.4,SNR=7.5						
PMSA				LR	LR	15 35 14.3	
	comp=Z,668nm,19.2s,baz=294,slow=29						
TRQA	**Tornquist**	**29.42**	**292**	*e*P	**P**	**15 31 25.7**	**0.0**
	5.7nm,1.0s						
QSPA	**South Pole Qui**	**34.56**	**180**	*e*P	**P**	**15 32 10.0**	**-0.7**
	6.5nm,0.7s						
QSPA	**South Pole Qui**	**34.56**	**180**	P	**P**	**15 32 10.1**	**-0.5**
	7.0nm,0.7s,baz=208,slow=4.1,SNR=38						
CFAA	**Coronel Fontan**	**37.66**	**292**	P	**P**	**15 32 36.5**	**-0.8**
CFAA	**Coronel Fontan**	**37.66**	**292**	P	**P**	**15 32 36.5**	**-0.8**
	0.3nm,0.5s,baz=150,slow=7.8,SNR=6.1						
SUR	**Sutherland**	**40.30**	**75**	P	**P**	**15 32 59.7**	**+0.1**
SUR	**Sutherland**	**40.30**	**75**	P	**P**	**15 32 59.7**	**+0.1**
	5.3nm,0.9s,baz=189,slow=1.9,SNR=3.7						
LVC	**Limon Verde**	**45.34**	**299**	*e*P	**P**	**15 33 42.5**	**+1.9**
BOSA	**Boshof**	**45.63**	**76**	*e*P	**P**	**15 33 42.1**	**-0.7**
BOSA	**Boshof**	**45.63**	**76**	P	**P**	**15 33 42.0**	**-0.7**
	4.9nm,1.0s,baz=222,slow=11,SNR=4.5						
BOSA				LR	LR	15 47 50.6	
	comp=Z,394nm,19.2s,baz=161,slow=30						
SIV	**San Ignacio**	**47.52**	**313**	P	**P**	**15 33 58.4**	**+1.0**
SIV	**San Ignacio**	**47.52**	**313**	P	**P**	**15 33 58.4**	**+1.0**
	1.0nm,0.7s,baz=163,slow=8.4,SNR=5.7						
LBTB	**Lobatse**	**48.66**	**73**	P	**P**	**15 34 06.0**	**-0.3**
LBTB	**Lobatse**	**48.66**	**73**	P	**P**	**15 34 06.0**	**-0.3**
	2.8nm,0.8s,baz=243,slow=8.8,SNR=7.9						
LPAZ	**La Paz**	**50.38**	**304**	*e*P	**P**	**15 34 21.1**	**+1.0**
	6.7nm,0.7s						
SAML	**Samuel**	**54.73**	**314**	*e*P	**P**	**15 34 52.3**	**+0.7**
	5.2nm,0.8s						
DBIC	**Dimbokro**	**64.73**	**24**	LR	LR	15 58 33.5	
	comp=Z,158nm,18.7s,baz=357,slow=31						
TORD	**Torodi Ar. Bea**	**72.62**	**29**	P	**P**	**15 36 50.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**72.62**	**29**	P	**P**	**15 36 50.1**	**+0.7**
	3.0nm,0.7s,baz=201,slow=6.9,SNR=16						
STKA	**Stephens Creek**	**92.21**	**170**	P	**P**	**15 38 32.5**	**+0.7**
STKA	**Stephens Creek**	**92.21**	**170**	P	**P**	**15 38 32.5**	**+0.7**
	2.4nm,0.9s,baz=194,slow=4.2,SNR=2.7						
ASAR	**Alice Springs**	**99.25**	**162**	P	**Pdif**	**15 39 02.5**	**-1.5**
ASAR				PKKPbc	**PKKPdf**	**15 55 27.9**	**0.0**
ASAR	**Alice Springs**	**99.25**	**162**	P	**Pdif**	**15 39 02.5**	**-1.5**
	0.7nm,0.7s,baz=180,slow=3.8,SNR=11						
ASAR				PKKPbc	**PKKPdf**	**15 55 27.9**	**0.0**
	0.4nm,1.0s,baz=24,slow=2.5,SNR=4.4						
WRA	**Warramunga Arr**	**102.97**	**162**	P	**Pdif**	**15 39 20.7**	**+0.2**
WRA	**Warramunga Arr**	**102.97**	**162**	P	**Pdif**	**15 39 20.7**	**+0.2**
	0.4nm,0.8s,baz=199,slow=4.3,SNR=2.9						
FINES	**FINESS Array B**	**123.95**	**27**	PKP	**PKPdf**	**15 44 18.6**	**-0.2**
FINES	**FINESS Array B**	**123.95**	**27**	PKP	**PKPdf**	**15 44 18.6**	**-0.2**
	2.7nm,0.9s,baz=297,slow=1.7,SNR=3.8						
CMAR	**Chiang Mai Arr**	**124.95**	**110**	PKP	**PKPdf**	**15 44 21.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**124.95**	**110**	PKP	**PKPdf**	**15 44 21.9**	**-0.1**
	1.0nm,0.7s,baz=232,slow=3.9,SNR=12						
ABKAR	**Akbulak array**	**126.96**	**55**	PKPdf	**PKPdf**	**15 44 24.9**	**0.0**
YKA	**Yellowknife Ar**	**136.08**	**318**	PKP	**PKPdf**	**15 44 42.4**	**+0.7**
YKA				PP	**PP**	**15 47 21.9**	**-0.7**
YKA				SKPbc	**SKPbc**	**15 48 12.1**	**+0.5**
YKA	**Yellowknife Ar**	**136.08**	**318**	PKP	**PKPdf**	**15 44 42.3**	**+0.7**
	1.0nm,0.6s,baz=131,slow=2.3,SNR=19						
YKA				PP	**PP**	**15 47 21.9**	**-0.7**
	0.1nm,0.4s,baz=130,slow=8.4,SNR=4.7						
YKA				SKPbc	**SKPbc**	**15 48 12.1**	**+0.5**
	0.6nm,0.8s,baz=132,slow=2.5,SNR=7.4						
MKAR	**Makanchi Array**	**136.53**	**71**	PKPpre	PKPpre	15 44 35.4	
MKAR	**Makanchi Array**	**136.53**	**71**	PKhKP	PKPpre	15 44 35.4	
	0.2nm,0.7s,baz=218,slow=1.0,SNR=2.6						
ZALV	**Zalesovo Beam**	**141.98**	**63**	PKPpre	PKPpre	15 44 46.5	
ZALV				PKP	**PKiKP**	**15 44 54.7**	**-1.0**
ZALV	**Zalesovo Beam**	**141.98**	**63**	PKhKP	PKPpre	15 44 46.5	
	0.4nm,0.6s,baz=216,slow=4.6,SNR=2.3						
ZALV				PKP	**PKiKP**	**15 44 54.7**	**-1.0**
	0.7nm,0.6s,baz=298,slow=3.1,SNR=3.1						
INK	**Inuvik**	**145.69**	**321**	*e*PKPbc	**PKPab**	**15 44 59.7**	**+0.1**
ILAR	**Eielson Array**	**150.07**	**312**	PKP	**PKPdf**	**15 45 04.5**	**-1.6**
ILAR				PKPbc	**PKPbc**	**15 45 11.2**	**0.0**
ILAR	**Eielson Array**	**150.07**	**312**	PKP	**PKPdf**	**15 45 04.5**	**-1.6**
	0.1nm,0.4s,baz=112,slow=1.0,SNR=4.4						
ILAR				PKPbc	**PKPbc**	**15 45 11.2**	**0.0**
	5.4nm,0.8s,baz=133,slow=1.9,SNR=58						
SONM	**Songino Array**	**150.45**	**85**	PKP	**PKPdf**	**15 45 07.2**	**-0.3**
SONM				PKPbc	**PKPbc**	**15 45 12.6**	**-0.2**
SONM				PKPab	**PKPab**	**15 45 19.8**	**+0.3**
SONM	**Songino Array**	**150.45**	**85**	PKP	**PKPdf**	**15 45 07.2**	**-0.3**
	3.0nm,0.7s,baz=240,slow=1.5,SNR=11						
SONM				PKPbc	**PKPbc**	**15 45 12.6**	**-0.2**
	3.2nm,0.7s,baz=224,slow=2.2,SNR=30						
SONM				PKPab	**PKPab**	**15 45 19.8**	**+0.3**
	1.6nm,0.7s,baz=227,slow=3.9,SNR=6.9						
MCK	**McKinley**	**150.74**	**310**	*e*PKPbc	**PKPbc**	**15 45 14.1**	**+1.2**
ULN	**Ulaanbaatar**	**150.84**	**86**	*e*PKPbc	**PKPbc**	**15 45 13.3**	**-0.5**

*ISCJB **09** 15:31:18.1±1.1, 37°67N±0°07×35°66E±0°05, h5km±7km, Error ellipse: s-maj=11.5km s-min=5.4km az=164.6*
*ISK **09** 15:31:18.0, 37°63N×35°67E, h13km, MD2.7*
*CSEM **09** 15:31:18.7±0.3, 37°64N×35°66E, h15km, MD2.7, Error ellipse: s-maj=8.4km s-min=5.5km az=168.0*
*DDA **09** 15:31:20.2, 37°51N×35°65E, h7km, MD2.7*

ISC 09 15:31:18.4±1.2, 37°63N±0°06×35°65E±0°03, h14km±7km, n17, σ0s57/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.20**	**137**	PG	**Pg**	**15 31 23.0**	**+0.1**
KOZT				SG	**Sg**	**15 31 25.9**	**-0.2**
KOZT	**Kozan**	**0.20**	**137**	*i* Pg	**Pg**	**15 31 23.0**	**+0.1**
KOZT				*i* Sg	**Sg**	**15 31 25.9**	**-0.2**
ANDN	**Andirin**	**0.55**	**95**	*i* P	**Pn**	**15 31 31.2**	**-0.8**
ANDN				*i* S	**Sb**	**15 31 39.3**	**+1.5**
ANDN	**Andirin**	**0.55**	**95**	*i* P	**Pn**	**15 31 31.2**	**-0.8**
ANDN				*i* S	**Sb**	**15 31 39.3**	**+1.5**
CEYT	**Ceyhan**	**0.62**	**173**	*e*PG	**Pg**	**15 31 30.5**	**0.0**
CEYT				*e*SG	**Sb**	**15 31 39.7**	**+0.1**
CEYT	**Ceyhan**	**0.62**	**173**	*e*Pg	**Pg**	**15 31 30.5**	**0.0**
CEYT				*e*Sg	**Sb**	**15 31 39.7**	**+0.1**
GULE	**Gulek**	**0.78**	**244**	*i* P	**Pb**	**15 31 34.3**	**+0.5**
GULE				*i* S	**Sn**	**15 31 46.3**	**-0.4**
GULE	**Gulek**	**0.78**	**244**	*i* P	**Pb**	**15 31 34.3**	**+0.5**
GULE				*i* S	**Sn**	**15 31 46.3**	**-0.4**
KMRS	**Kahramanmaras**	**1.00**	**97**	*e*PG	**Pb**	**15 31 37.3**	**-0.2**
KMRS				*e*SG	**Sn**	**15 31 51.7**	**-0.3**
KMRS	**Kahramanmaras**	**1.00**	**97**	*e*Pg	**Pb**	**15 31 37.3**	**-0.2**
KMRS				*e*Sg	**Sn**	**15 31 51.7**	**-0.3**
MERS	**Mersin**	**1.18**	**230**	*e*PN	**Pg**	**15 31 41.1**	**0.0**
MERS	**Mersin**	**1.18**	**230**	*e*Pn	**Pg**	**15 31 41.1**	**0.0**
BNN	**Bunyan**	**1.23**	**7**	*e*PN	**Pn**	**15 31 40.8**	**-0.6**
BNN	**Bunyan**	**1.23**	**7**	*e*Pn	**Pn**	**15 31 40.8**	**-0.6**
GAZ	**Gaziantep**	**1.32**	**110**	*e*PN	**Pn**	**15 31 42.3**	**-0.2**
GAZ	**Gaziantep**	**1.32**	**110**	*e*Pn	**Pn**	**15 31 42.3**	**-0.2**
GZT	**Gaziantep**	**1.55**	**100**	*i* P	**Pn**	**15 31 46.2**	**+0.5**
GZT				*i* S	**Sn**	**15 32 05.6**	**-0.1**

IDC 09 15:53:50.6±1.7, 17°44S×178°63W, h479km±22km, mb3.2/7, mb1 3.4/9, mb1mx3.1/21, mbtmp3.2/9, Error ellipse: s-maj=29.8km s-min=15.0km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.48**	**63**	P	P	15 55 42.2	+0.9
	1.7nm,0.3s,baz=189,slow=18,SNR=3.3						
AFI				S	S	15 57 11.5	-0.4
	1.6nm,0.3s,baz=80,slow=18,SNR=2.4						
DZM	**Mont Dzumac**	**14.78**	**249**	P	P	15 57 00.5	+1.4
	0.1nm,0.3s,baz=86,slow=15,SNR=3.6						
CTA	**Charters Tower**	**33.32**	**260**	P	P	15 59 47.3	-0.6
	3.9nm,0.8s						
STKA	**Stephens Creek**	**38.67**	**241**	P	P	16 00 33.0	+0.7
	2.3nm,0.6s,baz=90,slow=13,SNR=10						
WRA	**Warramunga Arr**	**44.51**	**259**	P	P	16 01 17.8	-1.1
	0.9nm,0.6s,baz=93,slow=8.3,SNR=4.8						
ASAR	**Alice Springs**	**44.71**	**254**	P	P	16 01 19.9	-0.5
	7.5nm,0.6s,baz=88,slow=8.2,SNR=80						
QSPA	**South Pole Qui**	**72.61**	**180**	P	P	16 04 28.2	-0.2
	0.7nm,0.8s,baz=358,slow=6.2,SNR=4.1						
ILAR	**Eielson Array**	**85.48**	**13**	P	P	16 05 35.5	-1.0
	0.5nm,0.9s,baz=228,slow=5.0,SNR=5.0						
CMAR	**Chiang Mai Arr**	**88.53**	**290**	P	P	16 05 52.8	+0.8
	0.9nm,0.9s,baz=120,slow=3.3,SNR=5.4						
BRTR	**Keskin Array B**	**144.31**	**315**	PKP	PKPbc	16 12 31.5	-0.1
	0.8nm,0.8s,baz=104,slow=5.2,SNR=4.9						
GERES	**GERESS Array B**	**147.11**	**345**	PKPbc	PKPbc	16 12 39.3	0.0
	0.3nm,0.4s,baz=350,slow=5.0,SNR=2.6						

*DJA **09** 15:55:04, 0°01N×123°43E, h147km, MLv4.2/14*
*ISCJB **09** 15:55:06.4±0.4, 0°05S±0°05×123°39E±0°07, h157km, mb3.8/10, Error ellipse: s-maj=10.0km s-min=6.4km az=13.7*
*IDC **09** 15:55:07.6±3.4, 0°00N×123°54E, h159km±35km, mb3.5/10, mb1 3.6/11, mb1mx3.5/20, mbtmp3.5/11, MS3.7/2, Ms1 3.7/2, ms1mx3.1/24, Error ellipse: s-maj=27.3km s-min=13.2km az=63.0*

ISC 09 15:55:07.4±0.6, 0°07S±0°06×123°34E±0°08, h157km, n32, σ1s24/33, mb3.8/10, 1C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.91**	**45**	P	**Pn**	**15 55 31.2**	**-0.9**
LUWI	**Luwuk**	**1.12**	**211**	P	**Pn**	**15 55 31.7**	**-2.2**
MRSI	**Marisa**	**1.50**	**291**	P	**Pn**	**15 55 35.5**	**-2.0**
MNI	**Manado**	**2.13**	**45**	P	**Pn**	**15 55 44.7**	**+0.2**
KDI	**Kendari**	**3.92**	**191**	P	**Pn**	**15 56 08.9**	**+2.0**
LBMI	**Labuha**	**4.20**	**98**	P	Pn	15 56 16.8	+6.3
TTSI	**Tana Toraja**	**4.59**	**230**	P	**Pn**	**15 56 18.2**	**+2.6**
AAI	**Ambon**	**6.04**	**127**	P	Pn	15 56 40.0	+5.3
KAPI	**Kappang**	**6.08**	**216**	P	**Pn**	**15 56 36.8**	**+1.5**
	2.4nm,0.3s,baz=15,slow=7.8,SNR=9.0						
KAPI				S	**Sn**	**15 57 44.3**	**+0.2**
	0.9nm,0.3s,baz=215,slow=19,SNR=4.7						
KAPI				LR	LR	15 59 40.6	
	comp=Z,553nm,20.4s,baz=338,slow=44						
CTBH	**Cotabato--PC H**	**7.30**	**7**	P	**Pn**	**15 56 53.0**	**+1.4**
DAV	**Davao City (W)**	**7.44**	**17**	LR	LR	15 59 48.0	
	comp=Z,601nm,19.8s,baz=46,slow=38						
WRA	**Warramunga Arr**	**22.50**	**152**	P	**P**	**15 59 53.6**	**-0.4**
	4.2nm,0.5s,baz=331,slow=10,SNR=95						
ASAR	**Alice Springs**	**25.60**	**157**	P	**P**	**16 00 22.8**	**+0.5**
	0.8nm,0.4s,baz=345,slow=12,SNR=13						
CMAR	**Chiang Mai Arr**	**30.23**	**309**	P	**P**	**16 01 05.8**	**+2.2**
	1.6nm,0.7s,baz=135,slow=6.9,SNR=21						
CMAR				PcP	**PcP**	**16 04 01.4**	**+0.7**
	0.4nm,0.5s,baz=160,slow=2.9,SNR=4.5						
STKA	**Stephens Creek**	**36.04**	**153**	P	**P**	**16 01 53.7**	**-0.1**
	1.9nm,0.6s,baz=333,slow=9.0,SNR=3.4						
MJAR	**Matsushiro Arr**	**38.96**	**19**	P	**P**	**16 02 16.3**	**-1.9**
	1.2nm,0.7s,baz=192,slow=8.8,SNR=6.7						
ODAN	**Odare**	**43.73**	**311**	*e*P	**P**	**16 02 58.2**	**+0.6**
	6.1nm,0.7s						
TAPN	**Taplejung**	**43.75**	**311**	*e*P	**P**	**16 02 58.6**	**+0.8**
RAMN	**Ramite**	**44.38**	**310**	*e*P	**P**	**16 03 03.9**	**+1.1**
	12nm,0.5s						
JIRN	**Jiri**	**45.06**	**311**	*e*P	**P**	**16 03 09.4**	**+1.1**
	2.3nm,0.4s						
GUN	**Gumba**	**45.42**	**311**	*e*P	**P**	**16 03 12.2**	**+1.0**
	14nm,0.5s						
PKI	**Pulchoki**	**45.60**	**310**	*e*P	**P**	**16 03 13.2**	**+0.6**
KKN	**Kakani**	**45.81**	**310**	*e*P	**P**	**16 03 14.8**	**+0.7**
DMN	**Daman**	**45.86**	**310**	*e*P	**P**	**16 03 15.2**	**+0.7**
GKN	**Gorkha**	**46.41**	**310**	*e*P	**P**	**16 03 19.4**	**+0.7**
	7.5nm,0.4s						
KOLN	**Koldanda**	**47.09**	**309**	*e*P	**P**	**16 03 24.9**	**+0.8**
	20nm,0.7s						
ASAJ	**Asahikawa**	**47.23**	**19**	P	**P**	**16 03 24.7**	**+0.2**
	4.2nm,0.8s,baz=252,slow=13,SNR=3.7						
DANN	**Dangsing**	**47.26**	**310**	*e*P	**P**	**16 03 26.0**	**+0.6**
	26nm,0.7s						
SONM	**Songino Array**	**49.94**	**345**	P	**P**	**16 03 45.5**	**+0.2**
	1.1nm,0.5s,baz=162,slow=8.7,SNR=13						
MKAR	**Makanchi Array**	**58.85**	**328**	P	**P**	**16 04 49.1**	**-0.5**
	0.6nm,0.5s,baz=123,slow=8.7,SNR=17						
MKAR				pP	**pP**	**16 05 26.3**	**0.0**
	0.2nm,0.6s,baz=117,slow=7.7,SNR=1.7						
MKAR				PcP	**PcP**	**16 05 36.2**	**-1.2**
	0.6nm,0.5s,baz=148,slow=2.9,SNR=8.9						
ZALV	**Zalesovo Beam**	**62.52**	**335**	P	**P**	**16 05 14.0**	**-0.2**
	0.6nm,0.4s,baz=129,slow=3.9,SNR=3.1						
ILAR	**Eielson Array**	**89.97**	**25**	P	**P**	**16 07 46.9**	**-1.8**
	0.2nm,0.8s,baz=268,slow=4.7,SNR=4.1						

*CSEM **09** 16:08:54.9±0.1, 33°84N×35°89E, h2km, ML3.2, Error ellipse: s-maj=4.1km s-min=2.6km az=116.0*
*GRAL **09** 16:08:55.4±0.3, 33°82N×35°91E, h0km, h19km, MD3.2*

ISC 09 16:08:54.6±1.2, 33°81N±0°02×35°92E±0°03, h1km±11km, n24, σ0s50/41, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.24**	**292**	*e*P	**Pg**	**16 08 59.5**	**+0.2**
BHL				*e*S	**Sg**	**16 09 02.5**	**+0.1**
BHL	**Bhannes**	**0.24**	**292**	*e*P	**Pg**	**16 08 59.5**	**+0.2**
BHL				*e*S	**Sg**	**16 09 02.5**	**+0.1**
RCY	**Rachaya**	**0.33**	**193**	*e*P	**Pg**	**16 09 01.2**	**+0.4**
RCY				*e*S	**Sg**	**16 09 05.6**	**+0.5**
BEYL	**Beirut**	**0.36**	**279**	*e*P	**Pg**	**16 09 01.7**	**+0.1**
BEYL	**Beirut**	**0.36**	**279**	*e*P	**Pg**	**16 09 01.7**	**+0.1**
HWQ	**Hawqa**	**0.46**	**2**	*e*P	**Pg**	**16 09 03.6**	**+0.1**
HWQ				*e*S	**Sg**	**16 09 09.7**	**+0.1**
HWQ	**Hawqa**	**0.46**	**2**	*e*P	**Pg**	**16 09 03.6**	**+0.1**
HWQ				*e*S	**Sg**	**16 09 09.7**	**+0.1**
FKH	**Fakeheh**	**0.59**	**43**	*e*P	**Pg**	**16 09 06.0**	**0.0**
FKH				*e*S	**Sg**	**16 09 13.8**	**+0.2**
FKH	**Fakeheh**	**0.59**	**43**	*e*P	**Pg**	**16 09 06.0**	**0.0**
FKH				*e*S	**Sg**	**16 09 13.8**	**+0.2**
MATL	**Matarih**	**0.59**	**237**	*e*P	**Pg**	**16 09 06.0**	**0.0**
MATL	**Matarih**	**0.59**	**237**	*e*P	**Pg**	**16 09 06.0**	**0.0**
KSDI	**Kefar Szold**	**0.66**	**200**	Pg	**Pg**	**16 09 07.4**	**+0.2**
KSDI				Sg	**Sb**	**16 09 17.5**	**-1.1**
KSHT	**Keshet**	**0.83**	**186**	Pg	**Pb**	**16 09 11.6**	**-0.4**
MMC7	**Mount Meron ar**	**0.91**	**209**	Pg	**Pg**	**16 09 12.2**	**+0.2**
MMA0	**Mount Meron ar**	**0.91**	**209**	Pg	**Pg**	**16 09 12.0**	**0.0**
MMA0				Sg	**Sb**	**16 09 25.8**	**-0.1**
NAQL	**Naqoura**	**0.95**	**223**	*e*P	**Pg**	**16 09 12.3**	**-0.6**
NAQL				*e*S	**Sg**	**16 09 25.0**	**-0.3**
HNTI	**Hanita**	**0.96**	**221**	Pg	**Pb**	**16 09 13.8**	**-0.3**
HNTI				Sg	**Sb**	**16 09 27.6**	**+0.3**
BLGI	**Bet Lehem HaGe**	**1.24**	**210**	Pg	**Pg**	**16 09 18.4**	**0.0**
BLGI				Sg	**Sn**	**16 09 36.8**	**+0.3**
OFRI	**'Ofer**	**1.43**	**214**	Pn	**Pn**	**16 09 21.1**	**-0.6**
OFRI				Sn	**Sn**	**16 09 42.2**	**+1.0**
MMLI	**Mount Malkishu**	**1.44**	**197**	Pn	**Pn**	**16 09 21.2**	**-0.7**
MMLI				Sn	**Sn**	**16 09 41.7**	**+0.3**
HMDT	**Nahal Hemdat**	**1.59**	**192**	Pn	**Pn**	**16 09 23.8**	**-0.2**
HMDT				Sn	**Sg**	**16 09 46.6**	**+0.8**
SLTI	**Sal'it**	**1.74**	**206**	Pn	**Pn**	**16 09 26.3**	**+0.3**
SLTI				Sn	**Sg**	**16 09 50.5**	**+0.1**
DSI	**Dead Sea**	**2.28**	**192**	Pn	**Pn**	**16 09 33.5**	**0.0**
DSI				Sn	**Sb**	**16 10

IR3	**Iran Long-Peri**	**4.85**	**359**	*e*Pn		**Pn**	**16 17 23.9**	**+0.7**
IR3	**Iran Long-Peri**	**4.85**	**359**	*e*Pn		**Pn**	**16 17 23.9**	**+0.7**
KRBR	**Kerman**	**4.88**	**96**	*e*Pn		**Pn**	**16 17 24.5**	**+0.7**
KRBR					AML	AML	16 18 31.1	
	comp=N,59nm,0.4s							
KRBR					AML	AML	16 18 35.8	
	comp=E,61nm,0.6s							
KRBR	**Kerman**	**4.88**	**96**	*e*Pn		**Pn**	**16 17 24.5**	**+0.7**
IRAZ	**Razeghan**	**4.89**	**348**	*e*Pn		**Pn**	**16 17 24.3**	**+0.4**
IRAZ				*e*			16 18 58.8	
	comp=Z,548nm,0.4s							
IRAZ	**Razeghan**	**4.89**	**348**	*e*Pn		**Pn**	**16 17 24.3**	**+0.4**
ILAS	**Lasjerd**	**4.99**	**17**	*e*Pn		**Pn**	**16 17 24.6**	**-0.7**
ILAS				*e*			16 19 02.3	
	comp=Z,340nm,0.2s							
ILAS	**Lasjerd**	**4.99**	**17**	*e*Pn		**Pn**	**16 17 24.6**	**-0.7**
IDMV	**Damavand**	**5.01**	**8**	*e*Pn		**Pn**	**16 17 25.8**	**+0.3**
IDMV				*e*			16 17 28.9	
	comp=Z,373nm,0.2s							
IDMV	**Damavand**	**5.01**	**8**	*e*Pn		**Pn**	**16 17 25.8**	**+0.3**
IMHD	**Mahdasht**	**5.08**	**355**	*e*Pn		**Pn**	**16 17 27.0**	**+0.7**
IMHD	**Mahdasht**	**5.08**	**355**	*e*Pn		**Pn**	**16 17 27.0**	**+0.7**
IFIR	**Firoozkooh**	**5.19**	**14**	*e*Pn		**Pn**	**16 17 28.9**	**+0.9**
IFIR				*e*			16 17 32.1	
	comp=Z,252nm,0.1s							
IFIR	**Firoozkooh**	**5.19**	**14**	*e*Pn		**Pn**	**16 17 28.9**	**+0.9**
IVIS	**Veis**	**5.34**	**318**	*e*Pn		**Pn**	**16 17 29.7**	**-0.3**
IVIS				*e*			16 18 36.9	
	comp=N,2µm,0.3s							
IVIS	**Veis**	**5.34**	**318**	*e*Pn		**Pn**	**16 17 29.7**	**-0.3**
IANJ	**Anjilo**	**5.37**	**25**	*e*Pn		**Pn**	**16 17 30.3**	**-0.1**
IANJ				*e*			16 19 17.9	
	comp=Z,284nm,0.4s							
IANJ	**Anjilo**	**5.37**	**25**	*e*Pn		**Pn**	**16 17 30.3**	**-0.1**
IGHG	**Ghaleghazi**	**5.37**	**315**	*e*Pn		**Pn**	**16 17 29.9**	**-0.6**
IGHG				*e*			16 18 39.4	
	comp=Z,868nm,0.2s							
IGHG	**Ghaleghazi**	**5.37**	**315**	*e*Pn		**Pn**	**16 17 29.9**	**-0.6**
ISHM	**Shahmirzad**	**5.48**	**18**	*e*Pn		**Pn**	**16 17 32.8**	**+0.8**
ISHM				*e*			16 17 33.9	
	comp=Z,507nm,0.2s							
ISHM	**Shahmirzad**	**5.48**	**18**	*e*Pn		**Pn**	**16 17 32.8**	**+0.8**
ILIN	**Lien**	**5.57**	**322**	*e*Pn		**Pn**	**16 17 32.6**	**-0.6**
ILIN				*e*			16 18 43.9	
	comp=Z,1µm,0.2s							
ILIN	**Lien**	**5.57**	**322**	*e*Pn		**Pn**	**16 17 32.6**	**-0.6**
IALA	**Alasht**	**5.63**	**14**	*e*Pn		**Pn**	**16 17 34.6**	**+0.5**
IALA	**Alasht**	**5.63**	**14**	*e*Pn		**Pn**	**16 17 34.6**	**+0.5**
IDHR	**Dehrash**	**5.73**	**317**	*e*Pn		**Pn**	**16 17 34.7**	**-0.7**
IDHR				*e*			16 18 45.5	
	comp=Z,2µm,0.2s							
IDHR	**Dehrash**	**5.73**	**317**	*e*Pn		**Pn**	**16 17 34.7**	**-0.7**
TABS	**Tabas**	**5.89**	**57**	*e*Pn		**Pn**	**16 17 38.4**	**+0.9**
TABS	**Tabas**	**5.89**	**57**	*e*Pn		**Pn**	**16 17 38.4**	**+0.9**
BHD	**Baghdad**	**6.35**	**296**	*ex*		**Pn**	**16 17 45.0**	**+1.3**
BHD				*ex*		**Sn**	**16 18 58.0**	**+2.4**
GNI	**Garni**	**10.86**	**333**	LR		LR	16 22 56.3	
	comp=Z,142nm,18.8s,baz=78,slow=37							
ASF	**Jabal al Asfar**	**12.29**	**281**	Pn		**Pn**	**16 19 04.3**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=146,slow=4.6,SNR=3.1							
ASF				Sn		Sn	16 21 11.5	-10
	comp=Z,0.4nm,0.3s,baz=266,slow=16,SNR=1.8							
ASF				Lg		Lg	16 22 54.8	
	comp=Z,0.4nm,0.3s,baz=217,slow=20,SNR=2.0							
BRTR	**Keskin Array B**	**16.95**	**307**	Pn		**Pn**	**16 20 06.5**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=138,slow=13,SNR=7.1							
AKTO	**Aktyubinsk**	**20.46**	**13**	P		Pn	16 20 48.8	-0.9
	comp=Z,0.6nm,0.4s,baz=188,slow=13,SNR=3.6							
AAK	**Ala-Archa**	**22.16**	**51**	P		**P**	**16 21 08.3**	**+2.3**
	comp=Z,0.9nm,0.5s,baz=282,slow=12,SNR=5.5							
MLR	**Muntele Rosu**	**24.67**	**314**	||*iP*		**P**	**16 21 34.1**	**+3.3**
MLR	**Muntele Rosu**	**24.67**	**314**	P		**P**	**16 21 31.9**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=45,slow=6.9,SNR=6.2							
VOIR		**25.20**	**313**	||*iP*		**P**	**16 21 35.8**	**+0.2**
AKASG	**Malin Array Be**	**25.90**	**327**	P		**P**	**16 21 41.5**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=134,slow=8.9,SNR=5.8							
BURAR	**Bucovina Array**	**26.16**	**318**	⇑*iP*		**P**	**16 21 45.4**	**+1.1**
BVAR	**Borovoye Array**	**26.42**	**27**	P		**P**	**16 21 46.7**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=228,slow=7.8,SNR=11							
KURBB	**Kurchatov Arra**	**28.56**	**38**	P		**P**	**16 22 06.2**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=237,slow=8.9,SNR=5.2							
MKAR	**Makanchi Array**	**28.93**	**47**	P		**P**	**16 22 09.7**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=240,slow=9.3,SNR=8.1							
ZALV	**Zalesovo Beam**	**33.60**	**36**	P		**P**	**16 22 50.5**	**+0.5**
	comp=Z,1.1nm,0.5s,baz=265,slow=9.7,SNR=4.4							
GERES	**GERESS Array B**	**33.65**	**314**	P		**P**	**16 22 49.5**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=110,slow=7.7,SNR=5.2							
FINES	**FINESS Array B**	**34.96**	**339**	P		**P**	**16 23 00.2**	**-1.5**
	comp=Z,0.9nm,0.4s,baz=159,slow=11,SNR=7.3							
CMAR	**Chiang Mai Arr**	**44.81**	**94**	P		**P**	**16 24 23.0**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=304,slow=6.4,SNR=2.8							
SONM	**Songino Array**	**45.12**	**51**	P		**P**	**16 24 26.4**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=260,slow=8.6,SNR=3.5							
TORD	**Torodi Ar. Bea**	**48.68**	**260**	P		**P**	**16 24 53.3**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=54,slow=9.0,SNR=15							
YKA	**Yellowknife Ar**	**86.52**	**353**	P		**P**	**16 28 53.3**	**+0.8**
	comp=Z,0.1nm,0.5s,baz=14,slow=5.6,SNR=2.9							
WRA	**Warramunga Arr**	**94.32**	**110**	P		**P**	**16 29 29.2**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=315,slow=4.0,SNR=2.8							

IDC 09 16:18:13.8±3.0, 0.33S×132.95E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=151.4km s-min=29.1km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.54**	**176**	P		P	16 22 43.3	+0.1
	0.2nm,0.3s,baz=355,slow=11,SNR=8.8							
WRA				S		Sn	16 26 11.3	-13
	0.1nm,0.3s,baz=1.1,slow=24,SNR=4.4							
ASAR	**Alice Springs**	**23.21**	**178**	P		P	16 23 22.6	0.0
	0.9nm,0.5s,baz=355,slow=10,SNR=15							
MKAR	**Makanchi Array**	**64.45**	**324**	P		P	16 28 52.1	-0.1
	0.1nm,0.5s,baz=130,slow=6.1,SNR=2.4							

IDC 09 16:20:04.1±1.8, 5.77N×126.84E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.3/21, mbtmp3.4/5, Error ellipse: s-maj=165.5km s-min=28.3km az=69.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.59**	**164**	P		P	16 25 44.4	+0.1
	0.7nm,1.1s,baz=346,slow=10,SNR=2.3							
SONM	**Songino Array**	**45.42**	**341**	P		P	16 28 25.4	+0.7
	0.1nm,0.4s,baz=152,slow=6.5,SNR=3.0							
MKAR	**Makanchi Array**	**55.97**	**324**	P		P	16 29 44.4	+0.1
	0.2nm,0.5s,baz=114,slow=7.0,SNR=3.6							
KURBB	**Kurchatov Arra**	**60.10**	**327**	P		P	16 30 12.3	-0.9
	0.2nm,0.7s,baz=122,slow=7.2,SNR=4.1							
BVAR	**Borovoye Array**	**65.69**	**326**	P		P	16 30 50.2	-0.2
	0.3nm,0.6s,baz=105,slow=4.9,SNR=4.4							

IDC 09 16:24:33.8±6.0, 26.44N×143.22E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/22, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=223.9km s-min=27.0km az=75.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.13**	**305**	Sn		Sn	16 25 23.7	+11
	24nm,0.3s,baz=312,slow=15,SNR=4.7							
MJAR	**Matsushiro Arr**	**10.94**	**338**	Pn		Pn	16 27 10.8	-0.8
	0.1nm,0.3s,baz=153,slow=11,SNR=4.2							
SONM	**Songino Array**	**35.82**	**316**	P		P	16 31 36.0	+0.8
	0.2nm,0.3s,baz=114,slow=7.0,SNR=3.3							
WRA	**Warramunga Arr**	**46.91**	**191**	P		P	16 33 06.1	-0.1
	0.5nm,0.8s,baz=11,slow=8.2,SNR=3.3							
MKAR	**Makanchi Array**	**51.60**	**310**	P		P	16 33 41.2	-0.9
	0.4nm,0.9s,baz=79,slow=7.5,SNR=3.2							

*DDA **09** 16:25:53.8, 38.60N×26.67E, h7km, MD2.9*
*ATH **09** 16:25:55.0, 38.57N×26.55E, h48km±24km, MD2.8/3*
*CSEM **09** 16:25:55.4±0.2, 38.59N×26.69E, h15km, MD2.8, Error ellipse: s-maj=4.1km s-min=3.4km az=122.0*
*ISCJB **09** 16:25:56.0±0.7, 38.58N±0.04×26.67E±0.06, h23km±13km, Error ellipse: s-maj=7.7km s-min=7.1km az=174.3*
ISC 09 16:25:55.6±1.1, 38.58N±0.04×26.67E±0.04, h25km±14km, n10, σ0s43/20, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHOS	**Chios island**	**0.52**	**248**	*e*P		**Pb**	**16 26 05.7**	**-0.5**
CHOS				*e*S		**Sb**	**16 26 13.8**	**+0.4**
CHOS	**Chios island**	**0.52**	**248**	*e*P		**Pb**	**16 26 05.7**	**-0.5**
CHOS				*e*S		**Sb**	**16 26 13.8**	**+0.4**
PRK	**Paraskevi**	**0.73**	**335**	*e*P		**Pb**	**16 26 09.6**	**-0.2**
PRK				*e*S		**Sn**	**16 26 20.3**	**-0.5**
PRK	**Paraskevi**	**0.73**	**335**	*e*P		**Pb**	**16 26 09.6**	**-0.2**
PRK				*e*S		**Sn**	**16 26 20.3**	**-0.5**
SMG	**Samos**	**0.88**	**171**	*e*P		**Pn**	**16 26 12.8**	**+0.4**
SMG				*e*S		**Sn**	**16 26 24.2**	**-0.2**
SMG	**Samos**	**0.88**	**171**	*e*P		**Pn**	**16 26 12.8**	**+0.4**
SMG				*e*S		**Sn**	**16 26 24.2**	**-0.2**
AKHS	**Akhisar**	**0.94**	**71**	*i*P		**Pb**	**16 26 12.8**	**-0.5**
AKHS				*i*S		**Sn**	**16 26 25.9**	**-0.1**
AKHS	**Akhisar**	**0.94**	**71**	*i*P		**Pb**	**16 26 12.8**	**-0.5**
AKHS				*i*S		**Sn**	**16 26 25.9**	**-0.1**
BALY	**Balya**	**1.38**	**32**	*i*P		**Pn**	**16 26 19.5**	**+0.2**
BALY				*i*S		**Sb**	**16 26 38.3**	**+0.5**
BALY	**Balya**	**1.38**	**32**	*i*P		**Pn**	**16 26 19.5**	**+0.2**
BALY				*i*S		**Sb**	**16 26 38.3**	**+0.5**

JMA 09 16:26:42.9±0.4, 26.62N×124.86E, h189km, M3.8, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JKE	**Kume jima 2**	**1.75**	**99**	P		Pn	16 27 18.7	+0.7
JKE				S		Sn	16 27 44.9	-0.3
JMJ	**Miyako jima 2**	**1.84**	**168**	P		Pn	16 27 19.7	+0.7
JMJ				S		Sn	16 27 46.2	-0.8
JOGS	**Gusukube**	**1.92**	**165**	P		Pn	16 27 20.5	+0.7
JOGS				S		Sn	16 27 47.7	-0.7
JTJ	**Tarama**	**1.98**	**184**	P		Pn	16 27 20.8	+0.4
JTJ				S		Sn	16 27 48.1	-1.4
JAGN	**Aguni-jima**	**2.13**	**90**	P		Pn	16 27 22.1	+0.1
JAGN				S		Sn	16 27 50.5	-1.9
JIJ	**Ishigaki jima**	**2.34**	**196**	P		Pn	16 27 23.9	-0.4
JIJ				S		Sn	16 27 53.9	-2.7
IRIF	**Iriomote-Funau**	**2.49**	**204**	P		Pn	16 27 25.8	-0.3
IRIF				S		Sn	16 27 58.0	-1.7
JKRS	**Kuro-shima**	**2.49**	**198**	P		Pn	16 27 25.8	-0.3
JKRS				S		Sn	16 27 57.4	-2.3
NAH1	**Naha**	**2.57**	**99**	P		Pn	16 27 27.0	+0.1
NAH1				S		Sn	16 27 58.3	-2.9
JJT2	**Tamagusuku 2**	**2.63**	**100**	P		Pn	16 27 27.9	+0.2
YOJ	**Yonaguni jima**	**2.72**	**218**	P		Pn	16 27 29.5	+0.8
YOJ				S		Sn	16 28 05.3	+0.9
HATJ	**Hateruma jima**	**2.73**	**201**	P		Pn	16 27 27.5	-1.3
HATJ				S		Sn	16 28 02.0	-2.5
JIH	**Iheya**	**2.81**	**81**	P		Pn	16 27 29.5	-0.1
JIH				*e*S		Sn	16 28 02.9	-3.2
JOW	**Kunigami**	**3.06**	**85**	P		Pn	16 27 32.2	-0.5
JOW				*e*S		Sn	16 28 07.0	-4.6
JTK	**Tokunoshima**	**3.82**	**71**	P		Pn	16 27 40.7	-1.4
JTK				*e*S		Sn	16 28 23.4	-5.0
JAM	**Amami Oshima**	**4.58**	**66**	*e*S		Sn	16 28 40.1	-5.4
JMZ	**Minamidaito 2**	**5.77**	**97**	P		Pn	16 28 05.1	-1.9
JMZ				*e*S		Sn	16 29 05.7	-7.6

*ISCJB **09** 17:02:27.2±0.7, 13.39N±0.06×90.88W±0.04, h57km±9km, mb3.7/5, MS3.7/1, Error ellipse: s-maj=11.1km s-min=3.8km az=24.4*
*IDC **09** 17:02:29.8±2.5, 13.47N×90.90W, h60km±19km, mb3.3/3, mb1 3.8/6, mb1mx3.5/19, mbtmp3.7/6, MS3.3/2, Ms1 3.3/2, ms1mx2.9/29, Error ellipse: s-maj=55.2km s-min=12.8km az=37.0*
*CASC **09** 17:02:30.8±2.0, 13.60N×90.67W, h34km±7km, MD4.0, ML4.2*
*MEX **09** 17:02:30.2±0.3, 13.24N×91.18W, h17km±8km, MD4.4*
ISC 09 17:02:27.6±1.3, 13.34N±0.07×90.90W±0.04, h41km±14km, n40, σ1s62/55, mb3.2/5, 1C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IXG	**Ixpaco**	**0.93**	**27**	*e*P		**Pn**	**17 02 43.8**	**-0.6**
PCG	**Pacaya**	**1.08**	**15**	*e*P		**Pn**	**17 02 46.3**	**-0.2**
FUG	**Fuego 3**	**1.10**	**3**	||*iP*		**Pn**	**17 02 46.4**	**-0.3**
FG6		**1.21**	**1**	||*eP*		**Pn**	**17 02 48.1**	**-0.3**
SBLS	**San Blas**	**1.33**	**68**	*e*P		**Pn**	**17 02 49.2**	**-0.8**
RTR	**El Retiro**	**1.34**	**65**	*e*P		**Pn**	**17 02 49.5**	**-0.5**
RTR				*e*S		**Sn**	**17 03 03.3**	**-3.3**
NBG	**Las Nubes**	**1.35**	**23**	*e*P		**Pn**	**17 02 50.9**	**+0.7**
NBG				*e*S		**Sn**	**17 03 06.7**	**-0.3**
SNJE	**San Jose**	**1.36**	**67**	*e*P		**Pn**	**17 02 49.6**	**-0.6**
SNJE				*e*S		**Sn**	**17 03 03.7**	**-3.5**
RBDL	**Robledal**	**1.40**	**57**	*e*P		**Pn**	**17 02 50.4**	**-0.5**
TP2	**Tecpan 2**	**1.44**	**355**	⇑*iP*		**Pn**	**17 02 52.1**	**+0.6**
BOQS	**Boqueron**	**1.62**	**76**	*e*P		**Pn**	**17 02 53.9**	**+0.1**
SNET	**Serv Nac Est T**	**1.66**	**78**	*e*P		**Pn**	**17 02 54.3**	**0.0**
SNET				*e*S		**Sn**	**17 03 12.6**	**-1.8**
SNET					AML	AML	17 03 16.4	
	comp=Z,5µm,0.3s							
LFRS	**El Faro**	**1.81**	**81**	*e*P		**Pn**	**17 02 56.5**	**+0.2**
LFRS				*e*S		**Sn**	**17 03 16.2**	**-1.9**
MTO2	**Montecristo 2**	**1.82**	**55**	*e*P		**Pn**	**17 02 56.3**	**-0.4**
MTO2				*e*S		**Sn**	**17 03 15.4**	**-3.3**
LBRS	**Las Brisas**	**1.84**	**77**	*e*P		**Pn**	**17 02 57.4**	**+0.6**
SNVI	**San Vicente**	**2.02**	**82**	*e*P		**Pn**	**17 03 00.1**	**+0.8**
SNVI				*e*S		**Sn**	**17 03 22.1**	**-1.4**
THIG		**2.05**	**320**	*i*P		**Pn**	**17 02 59.8**	**+0.2**
THIG				*i*S		**Sn**	**17 03 22.4**	**-1.5**
MRL	**Marmol**	**2.08**	**34**	*e*P		**Pn**	**17 03 01.1**	**+1.1**
VSM	**San Miguel**	**2.55**	**88**	*e*P		**Pn**	**17 03 08.0**	**+1.2**
VSM				*e*S		**Sn**	**17 03 35.8**	**-0.9**
BLLM	**Bellamira**	**2.59**	**87**	*e*P		**Pn**	**17 03 07.8**	**+0.8**
CNCH	**Conchagua**	**2.98**	**91**	*e*P		**Pn**	**17 03 13.1**	**+0.6**
CCIG	**Comitan**	**3.16**	**338**	*e*P		**Pn**	**17 03 16.8**	**+1.8**
CCIG				*i*S		**Sn**	**17 03 53.1**	**+1.5**
PCIG		**3.25**	**317**	*e*P		**Pn**	**17 03 16.3**	**+0.2**
PCIG				*i*S		**Sn**	**17 03 52.6**	**-1.0**
TGIG		**4.04**	**328**	*i*P		**Pn**	**17 03 28.7**	**+1.7**
TGIG				*i*S		**Sn**	**17 04 13.9**	**+0.9**
CMIG	**Matias Romero**	**5.36**	**315**	*e*P		**Pn**	**17 03 45.7**	**+0.7**
CMIG				*i*S		**Sn**	**17 04 43.9**	**-1.6**
CMIG	**Matias Romero**	**5.36**	**315**	P		**Pn**	**17 03 46.0**	**+0.9**
	comp=Z,4.3nm,0.3s,baz=128,slow=12,SNR=32							
CMIG				S		**Sn**	**17 04 45.3**	**-0.3**
	comp=Z,10nm,0.3s,baz=81,slow=18,SNR=6.2							
HUIG	**Huatulco**	**5.59**	**296**	*e*P		**Pn**	**17 03 48.2**	**-0.1**
HUIG				*i*S		**Sn**	**17 04 48.3**	**-3.1**
JTS	**JuntasAbangare**	**6.56**	**117**	P		**Pn**	**17 04 03.9**	**+2.3**
	comp=Z,4.1nm,0.3s,baz=305,slow=22,SNR=24							
JTS				S		**Sn**	**17 05 20.8**	**+5.5**
	comp=Z,1.5nm,0.3s,baz=300,slow=20,SNR=2.6							
VHO	**Vista Hermosa**	**6.75**	**304**	*i*P		**Pn**	**17 04 05.0**	**+0.7**
VHO				*i*S		**Sn**	**17 05 17.8**	**-2.2**
TEIG	**Tepich**	**7.29**	**20**	P		**Pn**	**17 04 12.5**	**+0.9**
	comp=Z,8.8nm,0.3s,baz=208,slow=2.1,SNR=27							
TEIG				S		Sn	17 05 42.2	+9.1
	baz=108,slow=20,SNR=2.6							
TEIG				LR		LR	17 07 20.0	
	comp=Z,120nm,21.8s,baz=239,slow=40							
PNIG	**Pinotepa**	**7.62**	**294**	*i*P		**Pn**	**17 04 17.2**	**+1.0**
UTMO	**Huajuapan**	**8.01**	**305**	*i*P		**Pn**	**17 04 22.2**	**+0.5**
TXAR	**Lajitas Array**	**19.84**	**325**	P		**Pn**	**17 06 57.8**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=151,slow=13,SNR=12							
PDAR	**Pinedale Array**	**33.47**	**335**	P		**P**	**17 09 06.0**	**+2.9**
	comp=Z,0.2nm,0.5s,baz=138,slow=9.5,SNR=2.9							
NVAR	**Mina Array Bea**	**34.86**	**321**	P		P	17 09 18.5	+3.3
	comp=Z,2.2nm,0.7s,baz=138,slow=8.4,SNR=10							
SCHQ	**Schefferville**	**45.48**	**19**	LR		LR	17 31 10.5	
	comp=Z,80nm,18.2s,baz=1.5,slow=38							
YKA	**Yellowknife Ar**	**51.91**	**346**	P		**P**	**17 11 31.4**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=149,slow=6.4,SNR=3.3							
ILAR	**Eielson Array**	**63.87**	**337**	P		**P**	**17 12 55.2**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=105,slow=4.7,SNR=6.7							
DBIC	**Dimbokro**	**84.65**	**84**	P		**P**	**17 14 55.9**	**-1.8**
	comp=Z,3.4nm,0.8s,baz=272,slow=8.4,SNR=4.2							
CMAR	**Chiang Mai Arr**	**146.95**	**343**	PKPbc		**PKPbc**	**17 22 06.1**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=341,slow=3.8,SNR=15							
CMAR				pPKPbc	pPKPbc		17 22 19.7	+0.2
	comp=Z,1.5nm,0.6s,baz=341,slow=3.2,SNR=8.8							

MEX 09 17:08:44.1±0.4, 15.86N×98.50W, h22km±17km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.64**	**34**	*e*P		Pb	17 08 54.6	-2.2
PNIG				*i*S		Sb	17 09 02.9	-2.4
ACX	**Acapulco**	**1.65**	**308**	*i*P		Pn	17 09 10.2	-1.6
ACX				*i*S		Sn	17 09 29.4	-2.9
CAIG	**El Cayaco**	**2.07**	**305**	*i*P		Pn	17 09 15.8	-1.7
CAIG				*i*S		Sn	17 09 39.6	-3.1
UTMO	**Huajuapan**	**2.07**	**19**	*i*P		Pn	17 09 15.0	-2.8
UTMO				*i*S		Sn	17 09 39.9	-3.4
VHO	**Vista Hermosa**	**2.08**	**54**	*i*P		Pn	17 09 16.0	-1.9
VHO				*i*S		Sn	17 09 39.7	-3.7
HUIG	**Huatulco**	**2.30**	**92**	*i*P		Pn	17 09 19.1	-1.6
HUIG				*i*S		Sn	17 09 45.4	-3.0
PLIG	**Platanillo**	**2.70**	**339**	*i*P		Pn	17 09 24.1	-2.2
PLIG				*i*S		Sn	17 09 54.7	-3.7
YAIG	**Yautepec**	**3.04**	**350**	*i*P		Pn	17 09 29.0	-2.0
YAIG				*i*S		Sn	17 10 03.9	-3.0
PPM	**Popocatepetl**	**3.19**	**358**	*i*P		Pn	17 09 34.5	+0.8
CMIG	**Matias Romero**	**3.68**	**70**	*i*P		Pn	17 09 41.7	+2.0

PRE 09 17:15:08.3±0.9, 26.38S×27.48E, h2km, ML2.3, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ERPM	**east rand prop**	**0.69**	**87**	*e*P		Pg	17 15 21.4	-0.4
ERPM				*e*S		Sg	17 15 31.7	+0.8
ERPM					AML	AML	17 15 33.8	
	comp=Z,42nm,0.2s							
BFSD	**Buffelsfontein**	**0.78**	**232**	*e*P		Pg	17 15 23.6	0.0
BFSD				*e*S		Sg	17 15 33.9	0.0
BFSD					AML	AML	17 15 43.2	
	comp=Z,106nm,0.1s							
SLR	**Silverton**	**0.97**	**49**	*e*P		Pg	17 15 26.6	-0.6
SLR				*e*S		Sg	17 15 40.8	-0.7
SLR					AML	AML	17 15 48.9	
	comp=Z,27nm,0.2s							
SEK	**Senekal**	**1.94**	**176**	*e*P		Pn	17 15 42.7	+0.2
SEK				*e*S		Sb	17 16 09.2	-0.3
SEK					AML	AML	17 16 12.6	
	comp=Z,34nm,0.5s							
LBTB	**Lobatse**	**2.17**	**308**	*e*P		Pn	17 15 46.1	+0.4
LBTB				*e*S		Sn	17 16 14.6	+1.3
LBTB					AML	AML	17 16 21.7	
	comp=Z,37nm,0.5s							
BOSA	**Boshof**	**2.97**	**221**	*e*P		Pn	17 15 58.0	+1.3
BOSA				*e*S		Sn	17 16 33.3	+0.2
BOSA					AML	AML	17 16 44.8	
	comp=Z,7.3nm,0.3s							

PRE 09 17:18:25.2±0.8, 26.37S×27.44E, h2km, ML2.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ERPM	**east rand prop**	**0.72**	**88**	*e*P		Pg	17 18 39.1	-0.2
ERPM				*e*S		Sg	17 18 49.9	+1.0
ERPM					AML	AML	17 18 59.2	
	comp=Z,16nm,0.2s							
BFSD	**Buffelsfontein**	**0.76**	**230**	*e*P		Pg	17 18 39.3	-0.8
BFSD				*e*S		Sg	17 18 50.8	+0.7
BFSD					AML	AML	17 18 57.9	
	comp=Z,39nm,0.1s							
SLR	**Silverton**	**0.99**	**50**	*e*P		Pg	17 18 44.4	0.0
SLR				*e*S		Sg	17 18 57.8	+0.4
SLR					AML	AML	17 19 13.8	
	comp=Z,21nm,0.3s							
SEK	**Senekal**	**1

	baz=310							
TTN	**Taitung**	**1.79**	**334**	*e*P	**Pn**	**17 42 30.4**	**-0.5**
	baz=331							
TTN				*e*S	**Sn**	**17 42 55.4**	**-2.6**
	baz=331							
TWG	**Pinlang**	**1.88**	**333**	⇑*i*P	**Pn**	**17 42 30.3**	**-1.6**
	baz=330							
TWG				*e*S	**Sn**	**17 42 55.7**	**-4.0**
	baz=330							
TWP	**Hsiaoliuchiu**	**1.93**	**309**	*e*P	**Pn**	**17 42 33.3**	**+0.9**
	baz=305							
CHKT	**Chengkung**	**2.04**	**344**	*i* P	**Pn**	**17 42 32.3**	**-1.2**
	baz=341							
CHKT				S	**Sn**	**17 42 59.7**	**-3.0**
	baz=341							
SSD	**Sandimen**	**2.04**	**322**	⇑*i*P	**Pn**	**17 42 32.8**	**-0.8**
	baz=319							
SSD				S	**Sn**	**17 42 59.7**	**-3.0**
	baz=319							
SGLT	**Jiouru**	**2.10**	**319**	*e*P	**Pn**	**17 42 34.7**	**+0.4**
	baz=316							
SGLT				*e*S	**Sn**	**17 43 02.4**	**-1.6**
	baz=316							
KAU	**Kaohsiung**	**2.11**	**313**	*e*P	**Pn**	**17 42 34.8**	**+0.5**
	baz=309							
TWM1	**Shoushan**	**2.22**	**319**	⇑*e*P	**Pn**	**17 42 36.0**	**+0.4**
	baz=316							
TWM1				*e*S	**Sn**	**17 43 04.5**	**-1.9**
	baz=316							
ELDTW	**Lidau**	**2.23**	**336**	⇑*i*P	**Pn**	**17 42 34.3**	**-1.5**
	baz=334							
ELDTW				*e*S	**Sn**	**17 43 03.7**	**-3.1**
	baz=334							
TWF1	**Yuli**	**2.30**	**344**	P	**Pn**	**17 42 35.1**	**-1.3**
	baz=341							
TWF1				S	**Sn**	**17 43 04.1**	**-3.8**
	baz=341							
STYT	**Tauyuan**	**2.32**	**331**	*i* P	**Pn**	**17 42 35.9**	**-0.9**
	baz=328							
STYT				S	**Sn**	**17 43 05.1**	**-3.3**
	baz=328							
SGST	**Jiashian**	**2.33**	**326**	⇑*i*P	**Pn**	**17 42 36.1**	**-0.8**
	baz=323							
SGST				S	**Sn**	**17 43 05.6**	**-3.0**
	baz=323							
EHY	**Hungye**	**2.44**	**345**	*e*P	**Pn**	**17 42 36.6**	**-1.4**
	baz=343							
EHY				S	**Sn**	**17 43 06.8**	**-4.0**
	baz=343							
CHN1	**Nanshi**	**2.45**	**327**	⇑*i*P	**Pn**	**17 42 37.4**	**-0.8**
	baz=324							
CHN1				S	**Sn**	**17 43 07.8**	**-3.2**
	baz=324							
CHN3	**Shinhua**	**2.45**	**322**	*e*P	**Pn**	**17 42 38.3**	**+0.2**
	baz=319							
CHN3				*e*S	**Sn**	**17 43 08.7**	**-2.2**
	baz=319							
WTP	**Ta-pu**	**2.46**	**329**	⇑*i*P	**Pn**	**17 42 37.4**	**-0.9**
	baz=326							
WTP				S	**Sn**	**17 43 08.4**	**-2.8**
	baz=326							
TAI1	**Yung-k'ang**	**2.50**	**320**	P	**Pn**	**17 42 38.5**	**-0.2**
	baz=317							
TAI1				*e*S	**Sn**	**17 43 09.5**	**-2.5**
	baz=317							
TWK	**Hsinying**	**2.54**	**327**	*i* P	**Pn**	**17 42 38.3**	**-1.0**
	baz=324							
TWK				*e*S	**Sn**	**17 43 08.8**	**-4.1**
	baz=324							
CHN4	**Tsaushan**	**2.56**	**330**	⇑*i*P	**Pn**	**17 42 38.5**	**-0.9**
	baz=327							
CHN4				S	**Sn**	**17 43 09.9**	**-3.3**
	baz=327							
ALS	**Alishan**	**2.60**	**335**	⇑*i*P	**Pn**	**17 42 39.5**	**-0.8**
	baz=333							
ALS				*e*S	**Sn**	**17 43 11.4**	**-3.3**
	baz=333							
SCLT	**Jiali**	**2.62**	**321**	P	**Pn**	**17 42 39.6**	**-0.6**
	baz=318							
SCLT				*e*S	**Sn**	**17 43 11.8**	**-2.8**
	baz=318							
ESL	**Shilin**	**2.71**	**349**	P	**Pn**	**17 42 39.9**	**-1.4**
	baz=347							
ESL				*e*S	**Sn**	**17 43 12.5**	**-4.1**
	baz=347							
CHN5	**Tsauling**	**2.73**	**334**	*e*P	**Pn**	**17 42 40.4**	**-1.2**
	baz=331							
CHN5				*e*S	**Sn**	**17 43 12.5**	**-4.6**
	baz=331							
CHN8	**Yiju**	**2.75**	**323**	P	**Pn**	**17 42 40.7**	**-0.9**
	baz=321							
CHN8				S	**Sn**	**17 43 14.3**	**-3.0**
	baz=321							
CHY	**Chiayi**	**2.76**	**329**	P	**Pn**	**17 42 40.8**	**-1.0**
	baz=326							
CHY				S	**Sn**	**17 43 14.1**	**-3.4**
	baz=326							
CHN2	**Minshiung**	**2.77**	**330**	P	**Pn**	**17 42 40.9**	**-1.0**
	baz=327							
CHN2				S	**Sn**	**17 43 14.6**	**-3.0**
	baz=327							
HWA	**Hwalien**	**2.85**	**353**	*e*P	**Pn**	**17 42 42.3**	**-0.6**
	baz=351							
HWA				*e*S	**Sn**	**17 43 16.1**	**-3.4**
	baz=351							
WGK	**Gukeng**	**2.86**	**333**	P	**Pn**	**17 42 42.0**	**-1.0**
	baz=330							
WGK				S	**Sn**	**17 43 16.7**	**-3.0**
	baz=330							
SGCP	**Mt. Cagua**	**2.88**	**179**	*e*P	**Pn**	**17 42 42.9**	**-0.5**
SMLT	**Sun Moon Lake**	**2.91**	**340**	P	**Pn**	**17 42 42.8**	**-1.0**
	baz=338							
SMLT				S	**Sn**	**17 43 17.5**	**-3.5**
	baz=338							
TYC	**Yuchr**	**2.95**	**339**	*e*P	**Pn**	**17 42 43.1**	**-1.0**
	baz=337							
TYC				S	**Sn**	**17 43 18.1**	**-3.4**
	baz=337							
TWD	**Chiawan**	**2.95**	**353**	P	**Pn**	**17 42 43.3**	**-0.9**
	baz=351							
TWD				*e*S	**Sn**	**17 43 17.7**	**-4.0**
	baz=351							
WSF	**Szhu**	**2.98**	**327**	*e*P	**Pn**	**17 42 43.1**	**-1.3**
	baz=324							
WSF				S	**Sn**	**17 43 18.8**	**-3.5**
	baz=324							
WNT	**Mingjian**	**2.98**	**336**	⇑*i*P	**Pn**	**17 42 43.7**	**-0.8**
	baz=334							
WNT				*e*S	**Sn**	**17 43 19.1**	**-3.3**
	baz=334							
WHF	**Hehuan Shan**	**3.07**	**348**	⇑*i*P	**Pn**	**17 42 45.2**	**-0.7**
	baz=346							
PIP	**Pasuquin**	**3.08**	**205**	⇑*i* P	**Pn**	**17 42 44.5**	**-1.3**
PIP				*i* S	Sn	17 42 56.9	-28
TWT	**Tachien**	**3.19**	**347**	*e*P	**Pn**	**17 42 46.5**	**-0.7**
	baz=344							
TWT				*e*S	**Sn**	**17 43 23.7**	**-3.5**
	baz=344							
TCU	**Taichung**	**3.23**	**338**	*e*P	**Pn**	**17 42 47.1**	**-0.5**
	baz=336							
TCU				S	**Sn**	**17 43 24.2**	**-3.6**
	baz=336							
ENA	**Nanau**	**3.28**	**356**	*e*P	**Pn**	**17 42 47.7**	**-0.5**
	baz=354							
ENA				*e*S	**Sn**	**17 43 24.8**	**-4.2**
	baz=354							
PNG	**Penghu**	**3.31**	**317**	*i* P	**Pn**	**17 42 47.3**	**-1.2**
	baz=315							
PNG				S	**Sn**	**17 43 25.4**	**-4.0**
	baz=315							
NNS	**Nan Shan**	**3.34**	**350**	⇑*i*P	**Pn**	**17 42 48.8**	**-0.2**
	baz=349							
NNS				*e*S	**Sn**	**17 43 27.6**	**-2.7**
	baz=349							
HATJ	**Hateruma jima**	**3.35**	**30**	P	**Pn**	**17 42 49.1**	**0.0**
TWQ1	**Liyutan**	**3.39**	**341**	*e*P	**Pn**	**17 42 48.4**	**-1.2**
	baz=339							
TWQ1				*e*S	**Sn**	**17 43 27.7**	**-3.6**
	baz=339							
CVP	**Callao Caves**	**3.42**	**183**	*e*P	**Pn**	**17 42 48.4**	**-1.6**
CVP				*e*S	Sn	17 43 49.2	+17
YOJ	**Yonaguni jima**	**3.44**	**16**	P	**Pn**	**17 42 50.7**	**+0.6**
YOJ				S	**Sn**	**17 43 30.4**	**-2.0**
NSY	**Sanyi**	**3.46**	**341**	*e*P	**Pn**	**17 42 49.5**	**-0.8**
	baz=339							
NSY				*e*S	**Sn**	**17 43 28.6**	**-4.2**
	baz=339							
TWC	**Suao**	**3.46**	**358**	*e*P	**Pn**	**17 42 50.2**	**-0.2**
	baz=356							
TWC				*e*S	**Sn**	**17 43 29.1**	**-3.7**
	baz=356							
ENTT	**Nioudou**	**3.51**	**354**	*e*P	**Pn**	**17 42 50.8**	**-0.2**
	baz=352							
ENTT				*e*S	**Sn**	**17 43 29.6**	**-4.4**
	baz=352							
IRIF	**Iriomote-Funau**	**3.56**	**26**	P	**Pn**	**17 42 51.6**	**-0.1**
IRIF				*e*S	**Sn**	**17 43 32.5**	**-2.7**
NSK	**Sanguang**	**3.57**	**351**	*e*P	**Pn**	**17 42 51.8**	**0.0**
	baz=349							
NSK				*e*S	**Sn**	**17 43 30.9**	**-4.6**
	baz=349							
TWE	**Neicheng**	**3.58**	**355**	*e*P	**Pn**	**17 42 51.6**	**-0.3**
	baz=354							
TWE				*e*S	**Sn**	**17 43 31.3**	**-4.3**
	baz=354							
NSTT	**Nanjuang**	**3.59**	**346**	*e*P	**Pn**	**17 42 51.3**	**-0.8**
	baz=344							
NSTT				*e*S	**Sn**	**17 43 31.3**	**-4.6**
	baz=344							
JKRS	**Kuro-shima**	**3.61**	**31**	P	**Pn**	**17 42 52.4**	**+0.2**
HSN	**Hsinchu**	**3.77**	**346**	*e*S	**Sn**	**17 43 36.1**	**-3.6**
	baz=345							
JIJ	**Ishigaki jima**	**3.78**	**31**	P	**Pn**	**17 42 54.0**	**-0.4**
JIJ				S	**Sn**	**17 43 38.4**	**-1.6**
TWA	**Mucha**	**3.84**	**354**	*e*P	**Pn**	**17 42 54.5**	**-0.8**
	baz=353							
TWA				*e*S	**Sn**	**17 43 36.8**	**-4.8**
	baz=353							
TWB1	**Santiao Chiao**	**3.85**	**360**	*e*P	**Pn**	**17 42 55.5**	**+0.2**
	baz=359							
TAP1	**Taipei**	**3.91**	**354**	*e*S	**Sn**	**17 43 39.6**	**-3.3**
	baz=352							
NWF	**Wu-fen Shan**	**3.92**	**357**	*e*P	**Pn**	**17 42 55.7**	**-0.6**
	baz=356							
NWF				*e*S	**Sn**	**17 43 39.1**	**-4.4**
	baz=356							
TWS1	**Kuangyinshan**	**3.98**	**353**	*e*P	**Pn**	**17 42 56.8**	**-0.2**
	baz=351							
TWS1				*e*S	**Sn**	**17 43 39.5**	**-5.2**
	baz=351							
KNM	**Kinmen**	**4.63**	**316**	*e*P	**Pn**	**17 43 05.6**	**+0.4**
	baz=312							
KNM				*e*S	**Sn**	**17 43 57.5**	**-2.0**
	baz=312							
QZH	**Quanzhou**	**4.91**	**321**	Pn	**Pn**	**17 43 07.0**	**-1.9**
QZH				Sn	**Sn**	**17 44 02.9**	**-3.2**
QZH				smax	smax			
	comp=N,740nm,0.9s							
QZH				smax	smax			
	comp=E,500nm,0.9s							
BALP	**Baler**	**5.38**	**184**	*e*P	**Pn**	**17 43 15.0**	**-0.2**
SCZP	**Santa Cruz**	**5.69**	**201**	*e*P	**Pn**	**17 43 17.8**	**-1.3**
TGY	**Tagaytay City**	**7.07**	**188**	P	**Pn**	**17 43 39.5**	**+2.2**
	comp=E,45nm,0.3s,baz=152,slow=13,SNR=3.5							
WHN	**Wuhan**	**11.62**	**325**	P	**Pn**	**17 44 38.6**	**+2.0**
WHN				S	**Sn**	**17 46 41.8**	**-3.9**
GYA	**Guiyang**	**14.99**	**294**	P	**P**	**17 45 20.9**	**+0.5**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KSRS	**Korea Array**	**17.06**	**16**	P	**Pn**	**17 45 43.8**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=197,slow=11,SNR=7.8							
KSRS				pP	**pP**	**17 46 16.1**	**+3.4**
	comp=Z,0.3nm,0.3s,baz=200,slow=12,SNR=10							
XAN	**Xi'an**	**17.28**	**321**	P	**Pn**	**17 45 47.3**	**+0.5**
XAN				pmax	pmax			
	comp=Z,4.0nm,0.9s							
LZH	**Lanzhou**	**21.75**	**317**	*e*P	**P**	**17 46 35.0**	**+1.3**
LZH				pP	pP	17 46 47.4	-17
LZH				sP	sP	17 46 51.9	-36
LZH				pmax	pmax			
	comp=Z,18nm,1.1s							
CMAR	**Chiang Mai Arr**	**21.84**	**267**	P	**P**	**17 46 36.5**	**+1.9**
	comp=Z,12nm,0.7s,baz=73,slow=8.2,SNR=106							
CMAR				PcP	**PcP**	**17 50 27.8**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=63,slow=0.8,SNR=9.7							
CMAR				ScP	**ScP**	**17 53 47.0**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=45,slow=1.4,SNR=7.1							
KAPI	**Kappang**	**26.08**	**185**	P	**P**	**17 47 12.1**	**-1.3**
	comp=Z,5.7nm,0.6s,baz=24,slow=10.0,SNR=4.7							
GTA	**Gaotai**	**26.31**	**319**	*e*P	**P**	**17 47 16.6**	**+1.2**
GTA				pP	pP	17 47 20.7	-31
GTA				sP	sP	17 47 23.8	-49
GTA				pmax	pmax			
	comp=Z,4.0nm,1.2s							
SONM	**Songino Array**	**29.46**	**338**	P	**P**	**17 47 44.3**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=156,slow=8.9,SNR=15							
SONM				pP	**pP**	**17 48 21.3**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=164,slow=9.8,SNR=2.5							
SONM				PcP	**PcP**	**17 50 44.0**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=162,slow=4.1,SNR=6.0							
FITZ	**Fitzroy Crossi**	**39.16**	**174**	P	**P**	**17 49 04.8**	**-1.8**
	comp=Z,3.8nm,0.4s,baz=12,slow=11,SNR=19							
MKAR	**Makanchi Array**	**41.06**	**318**	P	**P**	**17 49 23.7**	**+1.6**
	comp=Z,5.5nm,0.7s,baz=108,slow=8.9,SNR=53							
MKAR				pP	**pP**	**17 50 03.2**	**+2.4**
	comp=Z,1.2nm,0.7s,baz=109,slow=11,SNR=1.6							
MKAR				ScP	**ScP**	**17 54 50.5**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=108,slow=4.7,SNR=3.6							
WRA	**Warramunga Arr**	**42.58**	**163**	P	**P**	**17 49 33.0**	**-1.6**
	comp=Z,4.4nm,0.5s,baz=344,slow=9.0,SNR=77							
WRA				ScP	**ScP**	**17 54 55.6**	**-2.0**
	comp=Z,0.9nm,0.8s,baz=347,slow=4.2,SNR=4.6							
ZALV	**Zalesovo Beam**	**43.21**	**329**	P	**P**	**17 49 40.2**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=117,slow=9.3,SNR=4.1							
KURBB	**Kurchatov Arra**	**44.93**	**322**	P	**P**	**17 49 54.2**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=115,slow=7.5,SNR=4.2							
KURBB				pP	**pP**	**17 50 34.7**	**+2.4**
	comp=Z,0.6nm,0.6s,baz=277,slow=16,SNR=2.3							
AAK	**Ala-Archa**	**44.98**	**310**	P	**P**	**17 49 55.4**	**+1.6**
	comp=Z,1.3nm,0.7s,baz=148,slow=9.5,SNR=10							
ASAR	**Alice Springs**	**46.02**	**165**	P	**P**	**17 50 01.0**	**-0.9**
	comp=Z,1.7nm,0.3s,baz=340,slow=6.8,SNR=51							
BVAR	**Borovoye Array**	**50.51**	**322**	P	**P**	**17 50 37.6**	**+1.7**
	comp=Z,0.9nm,0.5s,baz=106,slow=8.3,SNR=9.2							
BVAR				ScP	**ScP**	**17 55 29.5**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=116,slow=6.6,SNR=4.6							
NWAO	**Narrogin (SRO)**	**53.95**	**185**	P	**P**	**17 51 00.3**	**-1.1**
	comp=Z,8.3nm,0.8s,baz=354,slow=6.0,SNR=6.7							
STKA	**Stephens Creek**	**55.96**	**160**	P	**P**	**17 51 14.9**	**-0.9**
	comp=Z,5.0nm,0.5s,baz=351,slow=7.2,SNR=16							
ILAR	**Eielson Array**	**71.58**	**27**	P	**P**	**17 52 56.6**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=262,slow=5.8,SNR=7.4							
FINES	**FINESS Array B**	**74.44**	**330**	P	**P**	**17 53 15.3**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=46,slow=4.6,SNR=5.7							
BRTR	**Keskin Array B**	**75.59**	**307**	P	**P**	**17 53 22.1**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=93,slow=8.7,SNR=3.0							
AKASG	**Malin Array Be**	**75.64**	**319**	P	**P**	**17 53 19.9**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=65,slow=4.9,SNR=4.0							
NOA	**NORSAR Array B**	**81.26**	**333**	P	**P**	**17 53 52.5**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=64,slow=5.3,SNR=2.8							
YKA	**Yellowknife Ar**	**85.48**	**23**	P	**P**	**17 54 13.8**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=310,slow=4.7,SNR=29							
TXAR	**Lajitas Array**	**113.27**	**43**	PKiKP	**PKiKP**	**18 00 13.0**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=349,slow=0.9,SNR=3.7							

WEL 09 17:47:15.1±0.5, 37.59S×179.57W, h33km, ML3.7/4, 1C-1D, Error ellipse: s-maj=5.0km s-min=4.0km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.69**	**270**	PN	Pn	17 47 41.0	-1.3
MXZ				SN	Sn	17 48 00.5	-2.2
PUZ	**Puketiti**	**1.79**	**254**	⇓PN	Pn	17 47 42.9	-0.7
PUZ				SN	Sn	17 48 04.4	-0.9
CNGZ	**Carnagh Statio**	**1.97**	**242**	PN	Pn	17 47 45.7	-0.4
PRGZ	**Paritu Road**	**2.41**	**236**	PN	Pn	17 47 51.5	-0.7
MWZ	**Matawai**	**2.41**	**251**	PN	Pn	17 47 51.0	-1.3
MWZ				SN	Sn	17 48 19.5	-1.3
MHGZ	**Mahia Peninsul**	**2.52**	**231**	PN	Pn	17 47 52.6	-1.2
KNZ	**Kokohu**	**2.60**	**236**	PN	Pn	17 47 53.6	-1.1
URZ	**Urewera**	**2.71**	**255**	⇑PN	Pn	17 47 56.0	-0.3
NMHZ	**Naumai**	**3.22**	**241**	PN	Pn	17 48 02.7	-0.8
CKHZ	**Cape Kidnapper**	**3.34**	**231**	PN	Pn	17 48 03.2	-1.8
MCHZ	**McNeill Hill**	**3.46**	**237**	PN	Pn	17 48 05.8	-1.0
BKZ	**Black Stump Fm**	**3.47**	**242**	PN	Pn	17 48 05.9	-1.0
KAHZ	**Kahuranaki**	**3.55**	**231**	PN	Pn	17 48 06.3	-1.6
KUZ	**Kuaotunu**	**3.85**	**281**	PN	Pn	17 48 10.6	-1.4
BHHZ	**Black Hill Sta**	**3.91**	**240**	PN	Pn	17 48 11.8	-1.2
PNHZ	**Pukenui**	**4.04**	**234**	PN	Pn	17 48 12.9	-1.7
TSZ	**Takapari Road**	**4.27**	**233**	PN	Pn	17 48 15.5	-2.3
DVHZ	**Dannevirke**	**4.29**	**230**	PN	Pn	17 48 15.9	-2.1
MRZ	**Mangatainoka R**	**4.86**	**229**	PN	Pn	17 48 23.0	-2.9
MRZ				SN	Sn	17 49 17.3	-3.8
HOWZ	**Holdsworth Sta**	**5.05**	**228**	PN	Pn	17 48 25.4	-3.1
CTZ	**Chatham Island**	**6.54**	**161**	*e*PN	Pn	17 48 49.1	+0.3
QRZ	**Quartz Range**	**6.93**	**240**	PN	Pn	17 48 50.8	-3.5

IDC 09 17:54:41.6±2.0, 6.16S×130.80E, h0km, mb3.5/2, mb1 3.9/5, mb1mx3.6/15, mbtmp3.7/5, ML3.8/3, Error ellipse: s-maj=103.7km s-min=24.8km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.90**	**203**	Pn	Pn	17 57 45.7	-0.7
	0.5nm,0.3s,baz=57,slow=9.2,SNR=9.8						
FITZ				Sn	Sn	18 00 05.7	-5.1
	0.3nm,0.3s,baz=288,slow=20,SNR=3.6						
WRA	**Warramunga Arr**	**14.13**	**166**	Pn	Pn	17 58 02.3	-0.9
	0.3nm,0.3s,baz=351,slow=13,SNR=18						
WRA				Sn	Sn	18 00 33.8	-7.1
	0.3nm,0.3s,baz=337,slow=24,SNR=7.0						
ASAR	**Alice Springs**	**17.66**	**171**	P	P	17 58 50.4	+0.1
	0.4nm,0.3s,baz=352,slow=9.9,SNR=42						
ASAR				S	Sn	18 01 56.8	-10
	0.1nm,0.3s,baz=359,slow=26,SNR=3.4						
SONM	**Songino Array**	**57.91**	**341**	P	P	18 04 35.9	+0.3
	0.3nm,0.6s,baz=153,slow=7.6,SNR=3.1						
MKAR	**Makanchi Array**	**67.97**	**326**	P	P	18 05 42.3	-0.3
	0.3nm,0.4s,baz=114,slow=8.6,SNR=13						

IDC 09 18:25:30.4±2.3, 19.20N×145.65E, h196km±23km, mb3.1/5, mb1 3.4/7, mb1mx3.1/24, mbtmp3.1/7, Error ellipse: s-maj=34.0km s-min=14.4km az=97.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.62**	**188**	P	Pn	18 26 51.9	-1.0
	3.9nm,0.3s,baz=338,slow=11,SNR=3.9						
GUMO				S	Sn	18 27 59.4	+1.5
	2.4nm,0.3s,baz=0.0,slow=20,SNR=2.2						
MJAR	**Matsushiro Arr**	**18.48**	**341**	P	P	18 29 31.4	-0.2
	0.2nm,0.3s,baz=170,slow=10,SNR=4.9						
WRA	**Warramunga Arr**	**40.45**	**197**	P	P	18 32 49.8	-0.1
	1.8nm,0.6s,baz=22,slow=8.8,SNR=28						
ASAR	**Alice Springs**	**44.12**	**196**	P	P	18 33 19.2	-0.3
	0.5nm,0.4s,baz=19,slow=6.8,SNR=15						
MKAR	**Makanchi Array**	**58.09**	**314**	P	P	18 35 03.3	0.0
	0.3nm,1.0s,baz=110,slow=6.6,SNR=3.3						
ILAR	**Eielson Array**	**63.22**	**26**	P	P	18 35 37.2	-0.3
	0.3nm,0.5s,baz=256,slow=6.0,SNR=9.6						
YKA	**Yellowknife Ar**	**77.57**	**28**	P	P	18 37 05.0	+0.6
	0.2nm,0.5s,baz=286,slow=5.8,SNR=5.8						

CASC 09 18:27:27.6±2.2, 11.86N×82.91W, h28km±72km, MD4.0, 2C-1D, North of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URSC	**Urasca**	**2.18**	**203**	⇑*e*P	Pn	18 28 02.5	+0.2
URSC				*e*S	Sn	18 28 28.7	0.0
SJS	**Escuela Geolog**	**2.21**	**211**	⇑*e*P	Pn	18 28 04.0	+1.3
SJS				*e*S	Sb	18 28 31.9	-2.4
LAJ	**Bijagual**	**2.31**	**211**	*e*P	Pb	18 28 09.6	+0.7
LAJ				*e*S	Sb	18 28 42.6	+5.3
PTEN	**Parque Tenorio**	**2.33**	**241**	*i* P	Pn	18 28 04.0	-0.3
PTEN				*i* S	Sn	18 28 32.5	+0.4
AMAS	**Alto Masis**	**2.39**	**239**	*i* P	Pn	18 28 05.0	-0.1
BUS	**Buena Vista**	**2.44**	**200**	*e*P	Pn	18 28 06.5	+0.4
BUS				*e*S	Sn	18 28 36.5	+1.0
CUI	**Cuipilapa**	**2.51**	**242**	*i* P	Pn	18 28 06.6	-0.1
COLC	**Colonia**	**2.54**	**242**	*i* P	Pn	18 28 07.5	+0.3
COLC				*i* S	Sn	18 28 38.0	+0.7
LIM1	**Limonal**	**2.57**	**244**	*i* P	Pn	18 28 07.2	-0.3
LIM1				*i* S	Sn	18 28 37.8	-0.2
GBS2	**Las Lilas**	**2.69**	**248**	*i* P	Pn	18 28 09.4	+0.2
LAPC	**Finca la Perla**	**2.70**	**247**	*i* P	Pn	18 28 09.5	+0.2
QCR	**Quepos**	**2.71**	**207**	*e*P	Pn	18 28 10.5	+1.1
QCR				*e*S	Sn	18 28 43.4	+2.0
ACR	**Cerro Adams**	**3.19**	**185**	⇓*e*P	Pn	18 28 17.8	+1.6
ACR				*e*S	Sn	18 28 53.1	-0.3

MOS ***09*** *18:28:59.7±1.3, 39.49N×144.72E, h21km, mb4.3/4, Error ellipse: s-maj=21.1km s-min=11.1km az=82.8*
IDC ***09*** *18:28:59.0±0.8, 39.39N×144.73E, h0km, mb3.6/10, mb1 3.8/13, mb1mx3.8/26, mbtmp3.6/13, ML3.6/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/42, Error ellipse: s-maj=22.4km s-min=17.0km az=116.0*
ISCJB ***09*** *18:29:00.9±0.5, 39.60N±0.03×144.54E±0.04, h23km, mb3.6/12, MS3.1/1, Error ellipse: s-maj=5.5km s-min=3.2km az=41.3*
NIED ***09*** *18:29:00, 39.60N×144.50E, h32km, Mw3.9 Best double couple: M0 6.84000×10^14 NP1:φ=35.00000°, δ71.00000°, λ151.00000°. NP2:φ=136.00000°, δ62.00000°, λ22.00000°.*
JMA ***09*** *18:29:03.7±0.2, 39.63N×144.45E, h46km, M4.0*

ISC 09 18:29:02.5±0.7, 39.54N±0.05×144.63E±0.06, h23km, n43, s28/17/62, mb3.5/12, 1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**2.17**	**281**	P	**Pn**	**18 29 36.4**	**-0.8**
JTH				S	**Sn**	**18 29 59.8**	**-3.6**
MIYJ	**Miyakonagasawa**	**2.17**	**272**	P	**Pn**	**18 29 36.7**	**-0.5**
MIYJ				S	**Sn**	**18 30 00.8**	**-2.6**
OFUJ	**Ofunato**	**2.34**	**260**

MAT	**Matsushiro**	**5.89**	**241**	P	**Pn**	**18 30 28.8**	**+0.5**
MAT				*e*S	**Sn**	**18 31 33.7**	**-1.4**
KUR	**Kuril'sk**	**6.17**	**22**	P	**Pn**	**18 30 31.0**	**-1.1**
KUR				*e*S	**Sn**	**18 31 37.0**	**-4.9**
USRK	**Ussuriysk Arra**	**10.50**	**300**	Pn	**Pn**	**18 31 32.8**	**+1.2**
	comp=N,0.3nm,0.3s,baz=96,slow=14,SNR=3.9						
YAK	**Yakutsk**	**24.30**	**343**	*e*P	**P**	**18 34 17.1**	**-0.8**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
GUMO	**Guam**	**25.85**	**179**	LR	LR	18 42 05.0	
	comp=E,66nm,21.5s,baz=131,slow=31						
SONM	**Songino Array**	**28.62**	**299**	P	**P**	**18 34 59.1**	**+1.9**
	comp=E,0.4nm,0.6s,baz=91,slow=7.8,SNR=3.5						
ZALV	**Zalesovo Beam**	**42.16**	**310**	P	P	18 36 57.8	+4.8
ZALV	**Zalesovo Beam**	**42.16**	**310**	P	P	18 36 57.8	+4.8
	comp=E,0.4nm,0.4s,baz=93,slow=7.2,SNR=2.2						
CMAR	**Chiang Mai Arr**	**44.58**	**255**	P	**P**	**18 37 11.3**	**-1.7**
	comp=E,0.2nm,0.6s,baz=86,slow=7.3,SNR=3.0						
MKAR	**Makanchi Array**	**44.98**	**301**	P	**P**	**18 37 17.1**	**+1.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MKAR	**Makanchi Array**	**44.98**	**301**	P	**P**	**18 37 17.1**	**+1.3**
	comp=Z,0.7nm,1.0s,baz=79,slow=7.8,SNR=4.4						
ILAR	**Eielson Array**	**46.02**	**34**	P	**P**	**18 37 24.3**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=268,slow=7.8,SNR=5.0						
BVAR	**Borovoye Array**	**50.79**	**311**	P	**P**	**18 38 03.1**	**+2.4**
BVAR	**Borovoye Array**	**50.79**	**311**	P	**P**	**18 38 03.1**	**+2.4**
	comp=Z,0.3nm,0.4s,baz=76,slow=6.1,SNR=3.5						
INK	**Inuvik**	**50.99**	**28**	P	**P**	**18 38 01.6**	**-0.3**
	comp=Z,1.0nm,0.3s,baz=180,slow=6.1,SNR=14						
WRA	**Warramunga Arr**	**59.95**	**191**	P	**P**	**18 39 05.8**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=8.5,slow=6.9,SNR=23						
YKA	**Yellowknife Ar**	**60.36**	**32**	P	**P**	**18 39 11.5**	**+2.2**
	comp=Z,0.1nm,0.4s,baz=304,slow=6.0,SNR=3.5						
ASAR	**Alice Springs**	**63.67**	**191**	P	**P**	**18 39 31.4**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=9.9,slow=6.5,SNR=11						
PDAR	**Pinedale Array**	**74.11**	**47**	P	**P**	**18 40 37.7**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=286,slow=3.4,SNR=2.8						

NIED ***09*** *18:33:00,22.˝40N×121.˝20E,h29km,Mw4.2 Best double couple: M₀2.09000×10¹⁵ NP1:φ=238.00000°,δ70.00000°, λ-98.00000°. NP2:φ=80.00000°,δ22.00000°,λ-69.00000°.*
IDC ***09*** *18:33:50.6±0.8,22.˝50N×121.˝26E,h0km,mb3.8/12, mb1 4.0/14,mb1mx3.9/26,mbtmp3.9/14,ML3.8/2,MS3.5/5, Ms1 3.6/5,ms1mx3.0/39,Error ellipse: s-maj=21.2km s-min=17.6km az=78.0*
ISCJB ***09*** *18:33:51.6±0.4,22.˝58N±0.˝02×121.˝23E±0.˝02,h7km±2km, mb4.1/23,MS3.8/4,Error ellipse: s-maj=2.8km s-min=2.5km az=146.6*
TAP ***09*** *18:33:52.9,22.˝67N×121.˝08E,h7km,ML4.5,B*
JMA ***09*** *18:33:52.8±0.3,22.˝44N×121.˝18E,h74km,M4.0*
NEIC ***09*** *18:33:52.7±0.6,22.˝67N×121.˝26E,h10km,mb4.5/6,Error ellipse: s-maj=9.8km s-min=9.3km az=99.0*
BJI ***09*** *18:33:53.1,22.˝70N×121.˝12E,h15km,mB4.4/4,mb4.1/12, ML4.0/5,Ms4.2/6,Ms7 4.0/4*
MOS ***09*** *18:33:53.6±0.8,22.˝46N×121.˝27E,h33km,mb4.5/14,Error ellipse: s-maj=14.4km s-min=9.6km az=109.2*

ISC 09 18:33:53.3±0.7,22.˝64N±0.˝02×121.˝18E±0.˝02,h12km±4km, n141,σ1°13/187,mb4.2/23,MS3.8/4,13C-22D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.11**	**347**	⇑	*i*P		**Pg**	**18 33 56.6**	**+0.3**
	baz=24								
TTN					*e*S		**Sg**	**18 33 59.0**	**+0.6**
	baz=24								
TWG	**Pinlang**	**0.20**	**332**	⇑	*i*P		**Pg**	**18 33 56.6**	**-1.0**
	baz=348								
TWG					*i*S		**Sg**	**18 33 59.7**	**-0.9**
	baz=348								
TWG	**Pinlang**	**0.20**	**332**		*e*P		**Pg**	**18 33 55.2**	**-2.4**
ECL	**Taimali**	**0.21**	**257**	⇓	*i*P		**Pg**	**18 33 56.2**	**-1.5**
	baz=249								
ECL					*e*S		**Sg**	**18 33 58.1**	**-2.8**
	baz=249								
TAW	**Tawu**	**0.39**	**222**	⇑	*i*P		**Pg**	**18 34 00.7**	**-0.3**
	baz=226								
TAW					*i*S		**Sg**	**18 34 06.0**	**-0.1**
	baz=226								
EAST	**Anshuo**	**0.40**	**229**	⇑	*i*P		**Pg**	**18 34 00.7**	**-0.6**
	baz=234								
EAST					S		**Sg**	**18 34 05.7**	**-0.9**
	baz=234								
CHKT	**Chengkung**	**0.49**	**21**	⇓	*i*P		**Pb**	**18 34 03.8**	**0.0**
	baz=22								
CHKT					*e*S		**Sb**	**18 34 11.7**	**+0.7**
	baz=22								
SSD	**Sandimen**	**0.51**	**281**	⇓	*i*P		**Pg**	**18 34 01.5**	**-1.8**
	baz=282								
SSD					*e*S		**Sg**	**18 34 06.8**	**-3.3**
	baz=282								
ELDTW	**Lidau**	**0.56**	**345**	⇑	*i*P		**Pg**	**18 34 03.5**	**-0.8**
	baz=348								
ELDTW					*e*S		**Sg**	**18 34 10.8**	**-0.9**
	baz=348								
SCZT	**Fangliau**	**0.58**	**242**	⇑	*i*P		**Pg**	**18 34 03.7**	**-0.9**
	baz=242								
SCZT					*e*S		**Sg**	**18 34 10.4**	**-1.9**
	baz=242								
SGLT	**Jiouru**	**0.64**	**277**	⇓	*i*P		**Pg**	**18 34 05.1**	**-0.6**
	baz=280								
SGLT					*e*S		**Sg**	**18 34 13.0**	**-1.1**
	baz=280								
STYT	**Tauyuan**	**0.64**	**323**	⇑	*i*P		**Pg**	**18 34 04.9**	**-0.9**
	baz=327								
STYT					S		**Sg**	**18 34 12.5**	**-1.9**
	baz=327								
LAY	**Lan-yu**	**0.70**	**150**	⇑	*e*P		**Pb**	**18 34 07.5**	**+0.1**
	baz=148								
LAY					*e*S		**Sn**	**18 34 20.2**	**+0.5**
	baz=148								
SGST	**Jiashian**	**0.70**	**309**	⇓	P		**Pg**	**18 34 05.9**	**-0.9**
	baz=311								
SGST					*e*S		**Sg**	**18 34 15.0**	**-1.1**
	baz=311								
TWF1	**Yuli**	**0.71**	**9**	⇓	*i*P		**Pg**	**18 34 05.9**	**-1.2**
	baz=10.0								
TWF1					*e*S		**Sb**	**18 34 17.7**	**+0.2**
	baz=10.0								
TWM1	**Shoushan**	**0.72**	**285**	⇓	*i*P		**Pg**	**18 34 07.0**	**-0.2**
	baz=285								
TWM1					*e*S		**Sg**	**18 34 16.9**	**+0.2**
	baz=285								
YULB	**Yu-li**	**0.75**	**9**	*e*P			**Pg**	**18 34 05.7**	**-2.2**
HEN	**Hengchun**	**0.75**	**213**	⇑	*i*P		**Pg**	**18 34 08.1**	**+0.2**
	baz=225								
HEN					*e*S		**Sb**	**18 34 19.5**	**+0.9**
	baz=225								
TWK1	**Hengchun**	**0.78**	**206**	⇑	*i*P		**Pg**	**18 34 08.2**	**-0.2**
	baz=193								
TWK1					*e*S		**Sn**	**18 34 20.8**	**-0.9**
	baz=193								
TSEB	**Hengchuen, Pin**	**0.78**	**199**	*e*P			**Pg**	**18 34 08.6**	**+0.1**
	baz=206								
TSEB					*e*S		**Sn**	**18 34 21.4**	**-0.4**
	baz=206								
WTP	**Ta-pu**	**0.79**	**319**	⇓	*i*P		**Pg**	**18 34 08.2**	**-0.4**
	baz=327								
WTP					S		**Sg**	**18 34 18.7**	**-0.3**
	baz=327								
CHN1	**Nanshi**	**0.80**	**312**	⇓	P		**Pg**	**18 34 08.4**	**-0.4**
	baz=319								
CHN1					*e*S		**Sg**	**18 34 19.7**	**+0.4**
	baz=319								
KAU	**Kaohsiung**	**0.81**	**265**	*e*P			**Pn**	**18 34 10.3**	**-0.2**
	baz=275								
TWP	**Hsiaoliuchiu**	**0.81**	**249**	*e*P			**Pn**	**18 34 10.3**	**-0.2**
	baz=239								
TPUB	**Ta-pu**	**0.82**	**323**	*e*P			**Pg**	**18 34 08.3**	**-0.9**
CHN3	**Shinhua**	**0.86**	**300**	*e*P			**Pb**	**18 34 10.7**	**+0.5**
	baz=304								
CHN3					*e*S		**Sn**	**18 34 24.0**	**+0.2**
	baz=304								
EHY	**Hungye**	**0.87**	**9**	⇓	*e*P		**Pg**	**18 34 08.0**	**-2.1**
	baz=8.0								
EHY					*e*S		**Sg**	**18 34 21.6**	**+0.1**
	baz=8.0								
CHN4	**Tsaushan**	**0.88**	**323**	⇓	*i*P		**Pg**	**18 34 10.2**	**-0.2**
	baz=323								
CHN4					S		**Sb**	**18 34 22.8**	**+0.3**
	baz=323								
TWK	**Hsinying**	**0.89**	**315**	⇓	*i*P		**Pg**	**18 34 10.2**	**-0.2**
	baz=329								
TWK					S		**Sb**	**18 34 22.7**	**+0.2**
	baz=329								
ALS	**Alishan**	**0.93**	**339**	⇓	*i*P		**Pg**	**18 34 10.6**	**-0.6**
	baz=340								
TAI1	**Yung-k'ang**	**0.96**	**294**	*e*P			**Pn**	**18 34 12.3**	**-0.3**
	baz=295								
TAI1					*e*S		**Sn**	**18 34 26.5**	**+0.4**
	baz=295								
SCLT	**Jiali**	**1.05**	**300**	P			**Pg**	**18 34 13.6**	**+0.1**
	baz=301								
SCLT					*i*S		**Sn**	**18 34 29.6**	**+1.2**
	baz=301								
CHN5	**Tsauling**	**1.05**	**334**	⇓	*i*P		**Pb**	**18 34 13.0**	**-0.5**
	baz=342								
CHN5					S		**Sg**	**18 34 27.8**	**+0.5**
	baz=342								
CHN2	**Minshiung**	**1.09**	**324**	P			**Pb**	**18 34 14.2**	**+0.1**
	baz=323								
CHN2					S		**Sn**	**18 34 29.8**	**+0.2**
	baz=323								
CHY	**Chiayi**	**1.09**	**321**	⇓	*i*P		**Pg**	**18 34 14.3**	**0.0**
	baz=331								
CHY					S		**Sn**	**18 34 29.5**	**-0.1**
	baz=331								
CHN8	**Yiju**	**1.13**	**308**	⇓	*i*P		**Pb**	**18 34 14.5**	**-0.3**
	baz=309								
CHN8					S		**Sn**	**18 34 31.2**	**+0.8**
	baz=309								
SSLB	**Suanglung**	**1.16**	**350**	*e*P			**Pb**	**18 34 13.7**	**-1.6**
WGK	**Gukeng**	**1.18**	**332**	⇓	*i*P		**Pg**	**18 34 16.0**	**0.0**
	baz=330								
WGK					*e*S		**Sn**	**18 34 32.5**	**+0.8**
	baz=330								
ESL	**Shilin**	**1.19**	**11**	*e*P			Pb	18 34 12.7	-3.1
	baz=7.0								
SMLT	**Sun Moon Lake**	**1.26**	**348**	⇓	*e*P		**Pn**	**18 34 16.4**	**-0.4**
	baz=353								
SMLT					*e*S		**Sg**	**18 34 34.8**	**+0.9**
	baz=353								
TYC	**Yuchr**	**1.29**	**347**	⇓	P		**Pb**	**18 34 17.4**	**-0.1**
	baz=351								
TYC					S		**Sg**	**18 34 36.1**	**+1.3**
	baz=351								
WNT	**Mingjian**	**1.31**	**340**	⇓	*i*P		**Pg**	**18 34 18.2**	**-0.3**
	baz=336								
WNT					S		**Sg**	**18 34 36.8**	**+1.3**
	baz=336								
WSF	**Szhu**	**1.32**	**319**	P			**Pn**	**18 34 17.4**	**-0.2**
	baz=317								
WSF					*e*S		**Sg**	**18 34 35.7**	**-0.2**
	baz=317								
HWA	**Hwalien**	**1.38**	**17**	*e*P			**Pn**	**18 34 18.7**	**+0.2**
	baz=9.0								
HWA					*e*S		**Sg**	**18 34 37.4**	**-0.5**
	baz=9.0								
TWD	**Chiawan**	**1.48**	**15**	*e*P			**Pn**	**18 34 18.0**	**-1.8**
	baz=8.0								
TWD					*e*S		**Sb**	**18 34 39.6**	**+0.1**
	baz=8.0								
WHF	**Hehuan Shan**	**1.50**	**3**	*e*P			**Pn**	**18 34 19.0**	**-1.4**
	baz=358								
TCU	**Taichung**	**1.56**	**343**	P			**Pb**	**18 34 22.2**	**0.0**
	baz=338								
TCU					S		**Sg**	**18 34 44.0**	**+0.4**
	baz=338								
NACB	**Ninganchiao**	**1.57**	**14**	*e*P			Pn	18 34 17.9	-3.2
TWT	**Tachien**	**1.60**	**0**	*e*P			**Pn**	**18 34 21.4**	**-0.3**
	baz=354								
TWQ1	**Liyutan**	**1.73**	**348**	⇓	P		**Pb**	**18 34 24.7**	**-0.4**
	baz=327								
TWQ1					*e*S		**Sg**	**18 34 49.4**	**+0.2**
	baz=327								
PNG	**Penghu**	**1.75**	**302**	⇓	P		**Pn**	**18 34 22.3**	**-1.2**
	baz=302								
PNG					S		**Sn**	**18 34 43.7**	**-2.1**
	baz=302								
NNS	**Nan Shan**	**1.80**	**6**	*e*P			**Pn**	**18 34 23.3**	**-1.0**
	baz=11								
NNS					*e*S		**Sb**	**18 34 50.1**	**+1.3**
	baz=11								
NSY	**Sanyi**	**1.80**	**348**	P			**Pb**	**18 34 25.9**	**-0.4**
	baz=328								
NSY					*e*S		**Sg**	**18 34 51.5**	**+0.2**
	baz=328								
ENA	**Nanau**	**1.85**	**16**	*e*P			**Pn**	**18 34 22.6**	**-2.3**
	baz=6.0								
NSTT	**Nanjuang**	**1.98**	**355**	*e*P			**Pb**	**18 34 28.5**	**-0.8**
	baz=346								
ENTT	**Nioudou**	**2.02**	**10**	*e*P			**Pn**	**18 34 26.2**	**-1.0**
	baz=13								
YHNB	**Yeheng**	**2.02**	**5**	*e*P			**Pn**	**18 34 26.2**	**-1.2**
NSK	**Sanguang**	**2.03**	**5**	*e*P			**Pn**	**18 34 27.0**	**-0.4**
	baz=9.0								
TWC	**Suao**	**2.05**	**17**	*e*P			**Pn**	**18 34 27.8**	**+0.2**
	baz=7.0								
TWC					*e*S		**Sb**	**18 34 55.2**	**-0.8**
	baz=7.0								
TWE	**Neicheng**	**2.12**	**12**	*e*P			**Pn**	**18 34 28.3**	**-0.2**
	baz=14								
HSN	**Hsinchu**	**2.16**	**355**	*e*P			**Pb**	**18 34 31.9**	**-0.4**
	baz=345								
ILA	**Ilan**	**2.18**	**14**	*e*P			**Pn**	**18 34 30.8**	**+1.5**
	baz=15								
NCU	**National Centr**	**2.31**	**0**	*e*P			**Pb**	**18 34 33.4**	**-1.6**
	baz=349								
TATO	**Taipei**	**2.34**	**7**	*e*P			**Pn**	**18 34 31.1**	**-0.5**
TWA	**Muha**	**2.35**	**9**	*e*P			**Pn**	**18 34 32.2**	**+0.4**
	baz=10.0								
TAP1	**Taipei**	**2.41**	**8**	*e*P			**Pb**	**18 34 34.8**	**-1.7**
	baz=9.0								
TWS1	**Kuangyinshan**	**2.46**	**5**	*e*P			**Pn**	**18 34 35.2**	**+2.1**
	baz=7.0								
TWB1	**Santiao Chiao**	**2.47**	**17**	*e*P			**Pn**	**18 34 33.5**	**+0.2**
	baz=5.0								
YOJ	**Yonaguni jima**	**2.47**	**43**	*e*P			**Pn**	**18 34 34.0**	**+0.6**
	baz=41								
YOJ					*e*S		**Sn**	**18 35 05.4**	**+1.8**
	baz=41								
YOJ	**Yonaguni jima**	**2.47**	**43**	P			**Pn**	**18 34 33.8**	**+0.4**
YOJ					*e*S		**Sn**	**18 35 04.9**	**+1.3**
NWF	**Wu-fen Shan**	**2.48**	**13**	*e*P			**Pn**	**18 34 34.4**	**+0.8**
	baz=12								
HATJ	**Hateruma jima**	**2.80**	**59**	P			**Pn**	**18 34 37.7**	**-0.2**
HATJ					*e*S		**Sn**	**18 35 11.1**	**-0.5**
IRIF	**Iriomote-Funau**	**2.89**	**54**	P			**Pn**	**18 34 39.1**	**0.0**
IRIF					*e*S		**Sn**	**18 35 15.2**	**+1.4**
JKRS	**Kuro-shima**	**3.05**	**58**	P			**Pn**	**18 34 41.5**	**+0.2**
KNM	**Kinmen**	**3.07**	**306**	*e*P			**Pn**	**18 34 42.1**	**+0.4**
	baz=304								
JIJ	**Ishigaki jima**	**3.22**	**57**	P			**Pn**	**18 34 43.2**	**-0.5**
JIJ					*e*S		**Sn**	**18 35 21.5**	**-0.5**
QZH	**Quanzhou**	**3.29**	**315**		Pn		**Pn**	**18 34 45.1**	**+0.4**
QZH					Sn		**Sn**	**18 35 25.9**	**+2.1**
QZH					smax	smax			
	comp=N,490nm,0.7s								
QZH					smax	smax			
	comp=E,530nm,0.8s								
JTJ	**Tarama**	**3.80**	**58**	P			**Pn**	**18 34 51.6**	**0.0**
JTJ					*e*S		**Sn**	**18 35 36.8**	**+0.6**
JMJ	**Miyako jima 2**	**4.35**	**59**	*e*P			**Pn**	**18 34 59.5**	**+0.2**
	baz=52								
JMJ	**Miyako jima 2**	**4.35**	**59**	P			**Pn**	**18 34 59.6**	**+0.4**
JOGS	**Gusukube**	**4.41**	**61**	P			**Pn**	**18 35 00.4**	**+0.3**
JKE	**Kume jima 2**	**6.29**	**53**	P			**Pn**	**18 35 25.1**	**-0.8**
JOW	**Kunigami**	**7.68**	**56**	Pn			**Pn**	**18 35 43.2**	**-1.8**
JOW				Sn			**Sn**	**18 37 12.2**	**+0.1**
JOW	**Kunigami**	**7.68**	**56**	Pn			**Pn**	**18 35 43.2**	**-1.8**
	comp=E,3.7nm,0.3s,baz=153,slow=13,SNR=8.3								
JOW				Sn			**Sn**	**18 37 12.2**	**+0.1**
	comp=E,3.2nm,0.3s,baz=144,slow=19,SNR=2.6								
JOW				LR			LR	18 38 54.5	
	comp=E,145nm,19.0s,baz=5.7,slow=39								
WHN	**Wuhan**	**9.96**	**324**	P			Pn	18 36 23.2	+7.0
WHN				S			**Sn**	**18 38 03.8**	**-4.1**
WHN				LR			LR		
	comp=N,1μm,6.2s								
WHN				LR			LR		
	comp=E,1μm,7.8s								
WHN				LR			LR		
	comp=Z,2μm,10.0s								
GYA	**Guiyang**	**13.74**	**289**	*e*P			Pn	18 37 04.7	-3.4
GYA				pmax	pmax				
	comp=Z,10.0nm,0.8s								
KSAR	**Wonju Array Be**	**15.84**	**20**	Pn			**P**	**18 37 38.5**	**-1.5**
KSRS	**Korea Array**	**15.87**	**20**	Pn			**P**	**18 37 38.5**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=199,slow=12,SNR=4.8								
KSRS				LR			LR	18 44 27.4	
	comp=Z,95nm,19.8s,baz=185,slow=40								
BJI	**Beijing**	**17.85**	**347**	P			**P**	**18 38 02.4**	**+0.2**
BJI				pmax	pmax				
	comp=Z,6.0nm,0.8s								
LZH	**Lanzhou**	**20.15**	**316**	*e*P			Pn	18 38 29.2	-0.3
LZH				pP			pP	18 38 32.9	+2.0
LZH				sP			sP	18 38 35.4	+2.9
LZH				PP			PP	18 38 48.6	
LZH				*e*S			**S**	**18 42 12.4**	**-1.4**
LZH				sS			sS	18 42 18.5	-0.6
LZH				pmax	pmax				
	comp=Z,12nm,1.0s								
LZH				LR			LR		
	comp=N,270nm,9.8s								
LZH				LR			LR		
	comp=E,260nm,11.0s								
LZH				LR			LR		
	comp=Z,550nm,14.7s								
MJAR	**Matsushiro Arr**	**20.23**	**43**	P			**P**	**18 38 29.4**	**+1.0**
MJAR	**Matsushiro Arr**	**20.23**	**43**	P			**P**	**18 38 29.4**	**+1.0**
	comp=Z,2.7nm,0.8s,baz=231,slow=9.0,SNR=7.4								
CHTO	**Chiang Mai**	**21.13**	**264**	*e*P			**P**	**18 38 38.7**	**+0.5**
CHTO				pmax	pmax				
	comp=Z,4.0nm,1.1s								
CHTO	**Chiang Mai**	**21.13**	**264**	*e*P			**P**	**18 38 38.7**	**+0.5**
	comp=Z,4.3nm,1.1s								
CMAR	**Chiang Mai Arr**	**21.22**	**263**	P			**P**	**18 38 38.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**21.22**	**263**	P			**P**	**18 38 38.9**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=41,slow=11,SNR=5.3								
GTA	**Gaotai**	**24.69**	**318**	*e*P			**P**	**18 39 17.0**	**+2.6**
GTA				pP			**pP**	**18 39 21.0**	**+3.0**
GTA				sP			sP	18 39 24.6	+5.1
GTA				pmax	pmax				
	comp=E,6.0nm,0.8s								
SONM	**Songino Array**	**27.78**	**338**	P			**P**	**18 39 43.1**	**+0.9**
SONM	**Songino Array**	**27.78**	**338**	P			**P**	**18 39 43.1**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=156,slow=8.6,SNR=13								
SONM				LR			LR	18 51 42.1	
	comp=Z,147nm,18.4s,baz=255,slow=38								
LSA	**Lhasa**	**27.79**	**291**	P			**P**	**18 39 45.1**	**+2.1**
LSA	**Lhasa**	**27.79**	**291**	*e*P			**P**	**18 39 45.0**	**+2.1**
LSA				pmax	pmax				
	comp=Z,4.0nm,0.6s								
LSA	**Lhasa**	**27.79**	**291**	*e*P			**P**	**18 39 45.0**	**+2.0**
	comp=Z,4.2nm,0.6s								
TLY	**Talaya**	**32.00**	**339**	*e*P			**P**	**18 40 19.5**	**+0.1**
TLY				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MK31	**Makanchi Array**	**39.45**	**317**	*e*P			**P**	**18 41 24.0**	**+0.6**
MK31	**Makanchi Array**	**39.45**	**317**	*e*P			**P**	**18 41 24.0**	**+0.6**
MKAR	**Makanchi Array**	**39.45**	**317**	P			**P**	**18 41 24.5**	**+1.1**
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
MKAR	**Makanchi Array**	**39.45**	**317**	P			**P**	**18 41 24.4**	**+1.1**
MKAR	**Makanchi Array**	**39.45**	**317**	P			**P**	**18 41 24.4**	**+1.1**
	comp=Z,2.7nm,0.8s,baz=113,slow=10,SNR=35								
ZAA0	**Zalesovo Array**	**41.53**	**328**	*e*P			**P**	**18 41 40.7**	**+0.2**
ZALV	**Zalesovo Beam**	**41.53**	**328**	P			**P**	**18 41 41.0**	**+0.5**
ZALV				pmax	pmax				
	comp=Z,4.0nm,0.6s								
ZALV	**Zalesovo Beam**	**41.53**	**328**	P			**P**	**18 41 41.0**	**+0.5**
ZALV	**Zalesovo Beam**	**41.53**	**328**	P			**P**	**18 41 41.0**	**+0.5**
	comp=Z,4.0nm,0.6s,baz=117,slow=8.3,SNR=21								
KURK	**Kurchatov**	**43.27**	**321**	*e*P			**P**	**18 41 55.4**	**+0.7**
KURK				pmax	pmax				
	comp=Z,9.0nm,1.3s								
KURK	**Kurchatov**	**43.27**	**321**	*e*P			**P**	**18 41 55.4**	**+0.7**
	comp=Z,9.1nm,1.3s								
AAK	**Ala-Archa**	**43.44**	**309**	⇑	*i*P		**P**	**18 41 58.3**	**+1.9**
AAK				pmax	pmax				
	comp=Z,12nm,2.5s								
WRA	**Warramunga Arr**	**44.24**	**162**	P			**P**	**18 42 00.1**	**-2.6**
WRA	**Warramunga Arr**	**44.24**	**162**	P			**P**	**18 42 00.1**	**-2.6**
	comp=Z,0.6nm,0.7s,baz=345,slow=8.9,SNR=7.1								
KKAR	**Karatay Array**	**46.41**	**309**	*e*P			**P**	**18 42 20.9**	**+1.1**
KKAR				pmax	pmax				
	comp=Z,5.0nm,1.1s								
KKAR	**Karatay Array**	**46.41**	**309**	*e*P			**P**	**18 42 20.9**	**+1.1**
	comp=Z,4.9nm,1.1s								
ASAR	**Alice Springs**	**47.67**	**164**	P			**P**	**18 42 28.1**	**-1.7**
ASAR	**Alice Springs**	**47.67**	**164**	P			**P**	**18 42 28.1**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=343,slow=7.6,SNR=14								
BRVK	**Borovoye**	**48.93**	**322**	*e*P			**P**	**18 42 40.0**	**+0.8**
BRVK				pmax	pmax				
	comp=Z,8.0nm,1.3s								
ABKAR	**Akbulak array**	**54.51**	**315**	*e*P			**P**	**18 43 21.9**	**+0.9**
	comp=Z,34nm,1.3s								
SVE	**Sverdlovsk**	**55.28**	**324**	*e*P			**P**	**18 43 27.6**	**+1.2**
SVE				pmax	pmax				
	comp=Z,8.0nm,1.0s								
AKTO	**Aktyubinsk**	**55.87**	**316**	LR			LR	19 11 31.8	
	comp=Z,59nm,18.3s,baz=266,slow=40								
ARU	**Arti**	**56.33**	**324**	*c*	*i*P		**P**	**18 43

DPC				Sg		Sn	18 35 33.7 -1.4
	19nm,0.2s						
VRAC	Vranov	1.66	238	ePn		Pn	18 35 15.5 0.0
VRAC				eSg		Sn	18 35 36.8 -0.7
KSP	Ksiaz	1.69	293	ePn		Pb	18 35 17.1 0.0
KSP				eSn		Sg	18 35 40.6 +1.3
KSP	Ksiaz	1.69	293	ePn		Pb	18 35 17.1 0.0
KSP				eSn		Sg	18 35 40.6 +1.3
KSP	Ksiaz	1.69	293	ePg		Pb	18 35 17.0 0.0
KSP				eSg		Sg	18 35 39.8 +0.5
VYHS	Vyhne	1.72	178	ePn		Pn	18 35 15.5 -0.8
VYHS				eSN		Sn	18 35 37.2 -1.7
VYHS	Vyhne	1.72	178	ePn		Pn	18 35 15.5 -0.8
VYHS				eSn		Sn	18 35 37.2 -1.7
UPC	Upice	1.78	281	eSG		Sb	18 35 41.3 0.0
UPC	Upice	1.78	281	Sg		Sb	18 35 41.3 0.0
CRVS	Cervenica-Dubn	2.20	125	ePN		Pb	18 35 25.8 0.0
CRVS				eSN		Sn	18 35 52.1 +1.3
CRVS	Cervenica-Dubn	2.20	125	ePn		Pb	18 35 25.8 0.0
CRVS				eSn		Sn	18 35 52.1 +1.3
KOLS	Kolonicke sedl	2.63	118	ePN		Pb	18 35 31.9 -1.1
KOLS	Kolonicke sedl	2.63	118	ePn		Pb	18 35 31.9 -1.1
PVCC	Panska Ves	2.69	278	eSG		Sg	18 36 10.8 -0.8
	comp=Z,14nm,0.5s						
PVCC	Panska Ves	2.69	278	Sg		Sg	18 36 10.8 -0.8
	14nm,0.5s						
PRU	Pruhonice	2.72	267	eSG		Sb	18 36 09.7 +1.3
	comp=Z,4.8nm,0.4s						
PRU	Pruhonice	2.72	267	Sg		Sb	18 36 09.7 +1.3
	4.8nm,0.4s						
BRG	Berggiesshubel	3.13	284	PG		Pg	18 35 45.6 +0.4
BRG				SG		Sg	18 36 25.0 -0.8
	2.9nm,0.5s						
KHC	Kasperske Hory	3.53	254	eSG		Sb	18 36 35.2 +3.5
	comp=Z,6.5nm,0.6s						
KHC	Kasperske Hory	3.53	254	Sg		Sb	18 36 35.2 +3.5
	6.5nm,0.6s						
MOA	Molln	3.78	233	⇓iSg		Sb	18 36 42.7 +3.8
	4.4nm,0.5s						
MOA	Molln	3.78	233	Sg		Sb	18 36 42.7 +3.8
	4.4nm,0.5s						
CLL	Collm	3.81	289	eSg		Sg	18 36 48.0 +0.6

CASC 09 18:36:01.3±2.4, 13°13N×89°59W, h17km±8km, MD3.7, ML3.5,1C-1D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNET	Serv Nac Est T	0.66	32	eP	Pb	18 36 14.6	+0.1
SNET				AML	AML	18 36 29.0	
	comp=Z,2µm,0.3s						
BOQS	Boqueron	0.68	26	⇑iP	Pb	18 36 15.2	+0.2
BOQS				eS	Sg	18 36 24.0	-0.2
SBLS	San Blas	0.71	357	eP	Pg	18 36 15.2	-0.4
SBLS				eS	Sg	18 36 24.9	-0.3
LFRS	El Faro	0.71	46	⇓eP	Pb	18 36 15.7	+0.2
LFRS				eS	Sb	18 36 25.7	+0.6
SNJE	San Jose	0.74	359	eP	Pb	18 36 15.3	-0.8
SNJE				eS	Sg	18 36 25.4	-0.7
RTR	El Retiro	0.77	356	eP	Pb	18 36 16.0	-0.5
LBRS	Las Brisas	0.81	41	eP	Pb	18 36 17.1	+0.1
LBRS				eS	Sb	18 36 27.8	-0.1
SNVI	San Vicente	0.88	56	eP	Pb	18 36 18.2	-0.1
SNVI				eS	Sb	18 36 29.6	-0.3
RBDL	Robledal	0.99	354	eP	Pb	18 36 18.9	-1.4
MTO2	Montecristo 2	1.29	10	eP	Pn	18 36 22.9	-2.0
MTO2				eS	Sb	18 36 38.5	-3.4
VSM	San Miguel	1.31	77	eP	Pn	18 36 25.0	-0.3
VSM				eS	Sn	18 36 42.2	-0.5
IXG	Ixpaco	1.34	321	eP	Pn	18 36 24.4	-1.2
IXG				eS	Sg	18 36 44.8	-0.3
BLLM	Bellamira	1.35	76	eP	Pn	18 36 25.6	0.0
CAHU	Cacacuatique	1.49	64	eP	Pn	18 36 26.7	-0.9
PCG	Pacaya	1.60	322	eP	Pn	18 36 27.5	-1.8
PCG				eS	Sb	18 36 51.1	0.0
NBG	Las Nubes	1.63	333	eP	Pn	18 36 28.8	-0.9
NBG				eS	Sg	18 36 54.3	-0.3
CNCH	Conchagua	1.72	85	eP	Pn	18 36 30.2	-0.4
CNCH				eS	Sn	18 36 52.8	+0.5
FUG	Fuego 3	1.79	317	eP	Pn	18 36 31.4	-0.3
FUG				eS	Sn	18 36 54.5	+0.2
FG6		1.90	319	eP	Pn	18 36 32.4	-1.1
FG6				eS	Sb	18 36 58.8	-1.0
MRL	Marmol	1.93	357	eP	Pn	18 36 32.8	-0.9
MRL				eS	Sg	18 37 04.2	+0.2
TP2	Tecpan 2	2.16	320	eP	Pn	18 36 36.0	-1.0
TP2				eS	Sn	18 37 04.5	+0.7

IDC 09 18:50:11.7±1.6, 6°35S×129°84E, h0km, mb3.6/3, mb1 3.9/6, mb1mx3.7/16, mbtmp3.7/6, ML3.9/3, Error ellipse: s-maj=61.4km s-min=24.2km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	12.38	199	Pn	Pn	18 53 08.2	-1.1
	0.5nm,0.3s,baz=4.8,slow=12,SNR=9.3						
FITZ				Sn	Sn	18 55 06.9	-21
	0.6nm,0.3s,baz=124,slow=18,SNR=6.0						
WRA	Warramunga Arr	14.20	162	Pn	Pn	18 53 34.8	+0.5
	0.3nm,0.3s,baz=343,slow=12,SNR=24						
WRA				Sn	Sn	18 56 01.7	-11
	1.0nm,0.3s,baz=336,slow=21,SNR=10						
ASAR	Alice Springs	17.66	168	P	P	18 54 19.9	-0.5
	1.7nm,0.3s,baz=339,slow=9.4,SNR=212						
ASAR				S	Sn	18 57 21.4	-15
	0.3nm,0.3s,baz=351,slow=26,SNR=5.4						
CMAR	Chiang Mai Arr	39.19	310	P	P	18 57 42.2	+0.4
	0.4nm,0.8s,baz=152,slow=6.8,SNR=4.3						
MKAR	Makanchi Array	67.59	327	P	P	19 01 10.3	+0.1
	0.2nm,0.3s,baz=113,slow=8.4,SNR=12						
ZALV	Zalesovo Beam	70.93	334	P	P	19 01 30.3	-0.4
	0.5nm,0.5s,baz=106,slow=4.7,SNR=2.6						

WEL 09 18:53:09.1±0.3, 37°73S×176°57E, h149km±2km, ML3.5/5, 1C-2D, Error ellipse: s-maj=3.0km s-min=2.2km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	0.68	141	PN	Pn	18 53 30.8	-0.6
URZ				SN	Sn	18 53 48.7	+0.3
MWZ	Matawai	0.97	129	⇓PN	Pn	18 53 33.6	0.0
MWZ				SN	Sn	18 53 52.4	+0.1
RAHZ	Arahi	1.25	161	⇓PN	Pn	18 53 36.5	+0.4
PUZ	Puketiti	1.38	105	PN	Pn	18 53 37.0	-0.4
PUZ				SN	Sn	18 53 58.4	-0.5
NMHZ	Naumai	1.38	172	PN	Pn	18 53 38.0	+0.6
MXZ	Matakaoa Point	1.39	84	PN	Pn	18 53 37.5	+0.1
MXZ				SN	Sn	18 53 58.9	-0.1
BKZ	Black Stump Fm	1.44	182	PN	Pn	18 53 37.6	-0.4
BKZ				SN	Sn	18 53 59.4	-0.8
CNGZ	Carnagh Statio	1.49	121	PN	Pn	18 53 38.9	+0.4
KNZ	Kokohu	1.55	146	PN	Pn	18 53 38.9	-0.3
HIZ	Hauiti	1.56	239	⇑PN	Pn	18 53 39.3	0.0
PRGZ	Paritu Road	1.58	139	PN	Pn	18 53 39.4	0.0
WTVZ	West Tongariro	1.58	209	PN	Pn	18 53 39.8	+0.1
OTVZ	Oturere	1.60	206	PN	Pn	18 53 40.2	+0.3
MCHZ	McNeill Hill	1.71	177	PN	Pn	18 53 41.2	+0.3
MHGZ	Mahia Peninsul	1.77	144	PN	Pn	18 53 41.5	0.0
WNVZ	Wahianoa	1.77	205	PN	Pn	18 53 40.7	-1.1
MOVZ	Moawhango	1.79	201	PN	Pn	18 53 41.2	-0.7
BHHZ	Black Hill Sta	1.80	193	PN	Pn	18 53 41.2	-0.8
CKHZ	Cape Kidnapper	1.97	169	PN	Pn	18 53 43.5	-0.3
KAHZ	Kahuranaki	2.08	173	PN	Pn	18 53 44.7	-0.5
PNHZ	Pukenui	2.20	187	PN	Pn	18 53 45.5	-1.1
TSZ	Takapari Road	2.37	191	PN	Pn	18 53 47.4	-1.2
TSZ				SN	Sn	18 54 17.1	-2.1
PRHZ	Porangahau	2.53	179	PN	Pn	18 53 49.1	-1.5
DVHZ	Dannevirke	2.58	187	PN	Pn	18 53 49.4	-1.9
POWZ	Post Office Ro	2.73	193	PN	Pn	18 53 51.4	-1.7
MRZ	Mangatainoka R	3.03	194	PN	Pn	18 53 54.3	-2.5
MRZ				SN	Sn	18 54 30.5	-3.2
TIWZ	Tintock	3.09	190	PN	Pn	18 53 55.3	-2.3
HOWZ	Holdsworth Sta	3.27	194	PN	Pn	18 53 56.9	-2.9
OGWZ	Otaki Gorge	3.27	199	PN	Pn	18 53 57.1	-2.7
KIW	Kapiti Island	3.38	202	PN	Pn	18 53 58.2	-3.1
MTW	Mount Morrison	3.52	193	PN	Pn	18 53 59.7	-3.4
TRWZ	Traveller	3.73	190	PN	Pn	18 54 02.4	-3.4
TRWZ				SN	Sn	18 54 44.3	-5.4
MSWZ	Moikau Station	3.82	195	PN	Pn	18 54 03.4	-3.6
BHW	Baring Head	3.90	199	PN	Pn	18 54 04.2	-3.8
TCW	Tory Channel	3.90	206	PN	Pn	18 54 04.8	-3.2
PLWZ	Palliser	3.97	194	PN	Pn	18 54 05.0	-3.9
TUWZ	Tuamarina	4.22	208	PN	Pn	18 54 08.4	-3.7
KHZ	Kahutara	5.23	205	PN	Pn	18 54 21.5	-4.0

PRE 09 19:06:37.7±2.5, 28°40S×28°83E, h5km, ML1.8, 2D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SEK	Senekal	1.06	274	⇓iP	Pg	19 06 56.9	-1.4
SEK				eS	Sb	19 07 13.4	+0.1
SEK				AML	AML	19 07 16.1	
	comp=Z,18nm,0.3s						
PRYS	Parys	1.96	318	⇓iP	Pn	19 07 12.5	+0.7
PRYS				eS	Sn	19 07 37.7	+0.7
PRYS				AML	AML	19 07 40.8	
	comp=Z,7.1nm,0.5s						
ERPM	east rand prop	2.11	346	eP	Pb	19 07 17.0	+0.2
ERPM				eS	Sn	19 07 41.9	+1.1
ERPM				AML	AML	19 07 56.9	
	comp=Z,3.7nm,0.8s						
BOSA	Boshof	3.15	265	eP	Pn	19 07 29.4	+1.3
BOSA				eS	Sn	19 08 04.4	-1.9
BOSA				AML	AML	19 08 18.0	
	comp=Z,5.5nm,0.4s						
SWZ	Schweizer	3.33	291	eP	Pn	19 07 33.0	+2.4
SWZ				eS	Sn	19 08 11.5	+0.8
SWZ				AML	AML	19 08 26.5	
	comp=Z,2.8nm,0.6s						
LBTB	Lobatse	4.44	319	eP	Pn	19 07 45.5	-0.4
LBTB				eS	Sn	19 08 38.3	+0.2
LBTB				AML	AML	19 08 59.5	
	comp=Z,1.8nm,0.4s						

ISCJB ***09*** *19:13:15.5±1.1, 31°.5N±0°.1×138°.5E±0°.1, h429km±8km, mb3.0/3, Error ellipse: s-maj=20.9km s-min=13.4km az=42.1*
IDC ***09*** *19:13:15.7±5.8, 31°.39N×138°.39E, h415km±26km, mb2.7/3, mb1 2.9/5, mb1mx2.7/24, mbtmp2.8/5, Error ellipse: s-maj=92.3km s-min=27.3km az=129.0*
JMA ***09*** *19:13:16.8±0.3, 31°.57N×138°.47E, h428km, M3.2*

ISC 09 19:13:16.9±1.5, 31°.6N±0°.1×138°.4E±0°.1, h426km±11km, n22, σ1°36/28, mb2.9/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	Mitsune	1.96	38	P	P	19 14 15.5	+0.6
JWZ	Kozaga	2.99	312	P	P	19 14 21.7	-0.2
JIE	Ise	3.15	334	P	P	19 14 24.1	+0.9
HMMJ	Hamamatsu 2	3.33	351	P	P	19 14 25.9	+1.3
BSO3	Boso 3	3.68	28	eS	S	19 15 24.7	0.0
JOD2	Odawara 2	3.73	9	eS	S	19 15 26.1	0.0
BSO1	Boso 1	3.77	35	P	P	19 14 28.3	+0.6
BSO1				eS	S	19 15 25.4	-0.1
JAO	Obara	3.81	346	P	P	19 14 30.1	+1.4
JHU	Hanno	4.34	10	P	P	19 14 34.1	+0.6
JHU				eS	S	19 15 33.7	-2.4
JRY	Ryogami san	4.46	5	P	P	19 14 36.2	+1.5
JRY				eS	S	19 15 38.1	-0.1
JYT	Yasato	4.88	17	P	P	19 14 38.4	-0.4
JYT				eS	S	19 15 41.0	-4.7
JAG	Ashikaga	4.92	10	P	P	19 14 39.1	-0.1
MJAR	Matsushiro Arr	4.96	358	P	P	19 14 39.8	+0.2
	1.0nm,0.3s,baz=175,slow=11,SNR=18						
MJAR				S	S	19 15 48.0	+0.8
	0.3nm,0.3s,baz=139,slow=19,SNR=4.2						
MAT	Matsushiro	4.96	358	P	P	19 14 39.8	+0.2
MAT				eS	S	19 15 47.4	+0.2
MAT	Matsushiro	4.96	358	P	P	19 14 40.5	+0.9
JHO	Hitachi	5.35	19	P	P	19 14 43.3	-0.1
JNU	Nakatsue	6.54	286	P	P	19 14 55.9	-0.4
	0.4nm,0.3s,baz=150,slow=19,SNR=5.2						
JMK	Ichinoseki	7.72	17	P	P	19 15 10.8	+1.8
JMK				eS	S	19 16 39.5	-1.2
USRK	Ussuriysk Arra	13.57	340	P	P	19 16 18.8	+5.8
	0.2nm,0.3s,baz=143,slow=10,SNR=3.9						
CMAR	Chiang Mai Arr	37.85	259	P	P	19 19 54.6	-1.0
	0.4nm,0.8s,baz=54,slow=7.6,SNR=4.6						
MKAR	Makanchi Array	45.12	306	P	P	19 20 53.5	+0.3
	0.2nm,0.6s,baz=88,slow=8.6,SNR=4.1						
FINES	FINESS Array B	72.47	332	P	P	19 23 59.4	+1.1
	1.2nm,0.6s,baz=72,slow=4.8,SNR=7.9						

MAN 09 19:32:55, 18°66N×120°00E, h33km, mb4.6, ML3.5, MS3.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIPP	Brgy, Tapao	0.85	149	⇑iP	Pn	19 33 09.5	-1.1
SIPP				iS	Sn	19 33 18.7	-3.2
ABRA	Dolores	1.21	146	eP	Pn	19 33 14.6	-1.0
ABRA				eS	Sn	19 33 31.4	+0.5
CVP	Callao Caves	1.97	118	eP	Pn	19 33 26.3	+0.2
CVP				eS	Sn	19 33 45.0	-4.8
SGCP	Mt. Cagua	1.98	102	eP	Pn	19 33 27.2	+0.9
CAUP	Cauayan	2.43	134	eP	Pn	19 33 35.0	+2.5
BALP	Baler	3.27	152	eP	Pn	19 33 44.7	+0.8

ISCJB ***09*** *19:33:32.2±1.9, 14°.22N±0°.05×93°.91W±0°.03, h15km±14km, mb4.2/12, MS3.4/5, Error ellipse: s-maj=8.1km s-min=5.5km az=5.2*
IDC ***09*** *19:33:34.8±1.3, 14°.40N×93°.42W, h0km, mb4.2/11, mb1 4.4/14, mb1mx4.2/23, mbtmp4.1/14, ML4.0/3, MS3.6/6, Ms1 3.6/6, ms1mx3.2/29, Error ellipse: s-maj=44.2km s-min=18.3km az=46.0*
MEX ***09*** *19:33:34.5±1.1, 14°.00N×93°.89W, h16km±18km, MD4.5*

ISC 09 19:33:33.6±3.9, 14°.18N±0°.08×93°.87W±0°.05, h4km±25km, n33, σ1°67/31, mb4.2/12, MS3.4/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		1.64	23	eP	Pn	19 34 00.7	-2.6
PCIG				iS	Sn	19 34 23.0	-1.8
THIG		1.72	65	iP	Pn	19 34 01.8	-2.5
THIG				iS	Sn	19 34 22.7	-3.9
HUIG	Huatulco	2.67	306	eP	Pn	19 34 14.9	-2.6
HUIG				iS	Sn	19 34 47.8	-2.6
CCIG	Comitan	2.68	39	eP	Pn	19 34 17.2	-0.5
CCIG				iS	Sn	19 34 49.3	-1.4
TGIG		2.68	16	eP	Pn	19 34 17.5	-0.1
TGIG				iS	Sn	19 34 49.2	-1.4
SCX	San Cristobal	2.81	25	iP	Pn	19 34 16.5	-2.8
CMIG	Matias Romero	3.05	342	iP	Pn	19 34 22.5	-0.2
CMIG				iS	Sn	19 34 58.7	-1.0
CMIG	Matias Romero	3.05	342	Pn	Pn	19 34 22.9	+0.2
	8.6nm,0.3s,baz=146,slow=10.0,SNR=92						
CMIG				Sn	Sn	19 34 56.2	-3.5
	9.5nm,0.3s,baz=126,slow=16,SNR=7.1						
VHO	Vista Hermosa	3.98	317	iP	Pn	19 34 35.2	-0.5
VHO				iS	Sn	19 35 20.9	-2.0
PNIG	Pinotepa	4.66	299	iP	Pn	19 34 43.6	-1.2
PNIG				iS	Sn	19 35 35.8	-3.5
UTMO	Huajuapan	5.24	314	iP	Pn	19 34 51.5	-1.4
UTMO				iS	Sn	19 35 52.4	-1.5
SCIG	Sabancuy	5.41	28	iP	Pn	19 34 56.2	+1.1
SCIG				iS	Sn	19 35 56.6	-1.2
TEIG	Tepich	8.04	41	Pn	Pn	19 35 28.2	-3.1
	4.0nm,0.3s,baz=238,slow=13,SNR=18						
TEIG				Sn	Sn	19 36 46.2	-17
	baz=360,slow=19,SNR=2.7						
TEIG				LR	LR	19 38 59.2	
	comp=Z,811nm,18.1s,baz=141,slow=43						
TXAR	Lajitas Array	17.59	331	Pn	P	19 37 44.0	+3.0
	0.1nm,0.3s,baz=153,slow=15,SNR=12						
TXAR				Sn	Sn	19 40 46.8	-10
	0.2nm,0.3s,baz=9.6,slow=27,SNR=3.8						
TXAR				LR	LR	19 45 15.2	
	comp=Z,80nm,21.4s,baz=270,slow=40						
TKL	Tuckaleechee C	23.23	21	LR	LR	19 49 28.9	
	comp=Z,109nm,18.2s,baz=101,slow=42						
ANMO	Albuquerque	23.59	333	P		19 38 51.5	+5.8
	3.4nm,0.9s,baz=139,slow=8.1,SNR=5.4						
ATAH	Atahualpa	26.16	143	LR	LR	19 46 23.2	
	comp=Z,8.3nm,21.6s,baz=265,slow=30						
PDAR	Pinedale Array	31.53	338	P	P	19 39 58.8	+1.6
	2.0nm,0.9s,baz=129,slow=12,SNR=5.0						
NVAR	Mina Array Bea	32.41	323	P	P	19 40 08.6	+3.7
	3.0nm,0.8s,baz=138,slow=8.2,SNR=7.4						
ULM	Lac du Bonnet	36.01	358	LR	LR	19 56 47.6	
	comp=Z,58nm,18.0s,baz=358,slow=39						
SIV	San Ignacio	44.16	132	P	P	19 41 44.5	+0.7
	0.8nm,0.7s,baz=311,slow=7.6,SNR=3.1						
SCHQ	Schefferville	45.70	22	LR	LR	20 01 39.0	
	comp=Z,152nm,18.0s,baz=134,slow=37						
YKA	Yellowknife Ar	50.45	348	P	P	19 42 32.8	+0.7
	5.1nm,0.7s,baz=154,slow=7.4,SNR=88						
BDFB	Brasilia	54.16	121	P	P	19 43 00.3	-0.3
	1.7nm,0.5s,baz=300,slow=14,SNR=3.7						
RCBR	Riachuelo	60.84	105	LR	LR	20 10 40.1	
	comp=Z,67nm,18.7s,baz=23,slow=37						
ILAR	Eielson Array	61.96	337	P	P	19 43 55.6	+1.2
	2.9nm,0.9s,baz=127,slow=5.9,SNR=26						
ESDC	Sonseca Array	81.03	51	P	P	19 45 48.5	-1.6
	0.2nm,0.3s,baz=274,slow=5.5,SNR=4.0						
NB2	NORSAR Subarra	84.85	28	P	P	19 46 10.2	+0.8
	comp=Z,6.3nm,0.8s,baz=290,slow=4.8						
NOA	NORSAR Array B	84.85	28	P	P	19 46 10.3	+0.8
	comp=Z,4.0nm,0.8s,baz=292,slow=4.9,SNR=8.8						
ARCES	ARCESS Array B	86.53	18	P	P	19 46 17.2	-0.4
	comp=Z,11nm,1.0s,baz=284,slow=3.6,SNR=4.5						
GERES	GERESS Array B	90.61	39	P	P	19 46 37.3	-0.3
	comp=Z,0.9nm,1.0s,baz=316,slow=3.7,SNR=3.7						
TORD	Torodi Ar. Bea	92.10	76	P	P	19 46 43.8	-1.1
	comp=Z,0.3nm,0.6s,baz=270,slow=4.3,SNR=2.6						
CMAR	Chiang Mai Arr	145.19	338	PKPbc	PKPdf	19 53 13.9	+0.3
	comp=Z,3.1nm,0.7s,baz=333,slow=3.5,SNR=21						

IDC 09 19:34:38.4±5.2, 17°.97S×178°.52W, h569km±59km, mb3.2/12, mb1 3.5/12, mb1mx3.4/18, mbtmp3.2/12, Error ellipse: s-maj=26.4km s-min=19.6km az=132.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	38.51	241	P	P	19 41 12.7	-0.1
	3.9nm,0.9s,baz=76,slow=7.4,SNR=4.6						
WRA	Warramunga Arr	44.52	260	P	P	19 41 60.0	-0.4
	0.3nm,0.3s,baz=92,slow=8.2,SNR=21						
WRA				PcP	PcP	19 43 30.4	-0.9
	0.2nm,0.3s,baz=90,slow=3.8,SNR=6.2						
ASAR	Alice Springs	44.67	254	P	P	19 42 01.8	+0.2
	4.3nm,0.7s,baz=86,slow=9.4,SNR=47						
ASAR				PcP	PcP	19 43 31.1	-0.7
	0.5nm,0.5s,baz=95,slow=4.1,SNR=5.4						
MJAR	Matsushiro Arr	67.89	323	P	P	19 44 40.4	-0.4
	1.0nm,0.6s,baz=160,slow=5.7,SNR=5.3						
QSPA	South Pole Qui	72.09	180	P	P	19 45 05.1	-0.4
	1.3nm,0.7s,baz=60,slow=8.1,SNR=5.5						
PETK	Petropavlovsk-	73.71	345	P	P	19 45 14.8	+0.2
	3.0nm,0.7s,baz=136,slow=8.3,SNR=4.2						
NVAR	Mina Array Bea	79.54	44	P	P	19 45 47.5	+0.3
	1.4nm,0.6s,baz=224,slow=7.6,SNR=5.1						
ILAR	Eielson Array	85.97	13	P	P	19 46 17.0	-1.4
	0.8nm,0.4s,baz=222,slow=5.3,SNR=25						
TXAR	Lajitas Array	86.12	58	P	P	19 46 21.2	+1.1
	1.4nm,0.7s,baz=225,slow=6.2,SNR=10.0						
PDAR	Pinedale Array	87.47	43	P	P	19 46 26.2	-0.1
	1.1nm,0.6s,baz=224,slow=2.5,SNR=9.3						
CMAR	Chiang Mai Arr	88.80	290	P	P	19 46 34.0	+1.2
	0.6nm,0.8s,baz=119,slow=2.8,SNR=5.8						
YKA	Yellowknife Ar	94.43	25	P	P	19 46 56.7	-0.9
	0.2nm,0.4s,baz=239,slow=4.6,SNR=4.9						
BRTR	Keskin Array B	144.75	315	PKP	PKPdf	19 53 11.2	-0.1
	0.8nm,0.5s,baz=99,slow=1.8,SNR=6.4						
KOLS	Kolonicke sedl	144.81	336	e	PKPbc	19 53 11.5	0.0
VYHS	Vyhne	146.43	339	e	PKPbc	19 53 16.1	-0.1
GERES	GERESS Array B	147.64	345	PKPbc	PKPbc	19 53 19.0	-0.4
	1.7nm,0.6s,baz=13,slow=2.1,SNR=15						

MOS ***09*** *19:41:03.3±0.9, 1°.81N×127°.11E, h48km, mb5.3/33, Error ellipse: s-maj=12.6km s-min=5.9km az=109.2*
BJI ***09*** *19:41:07.5, 1°.39N×127°.47E, h116km, mB5.1/31, mb5.1/56*
ISCJB ***09*** *19:41:11.7±0.4, 1°.78N±0°.02×127°.26E±0°.03, h127km±3km, mb5.0/109, Error ellipse: s-maj=5.3km s-min=3.3km az=166.4*
NEIC ***09*** *19:41:11.6±0.8, 1°.76N×127°.23E, h112km±8km, mb5.1/35, Error ellipse: s-maj=7.2km s-min=4.0km az=72.0*
NEIC Felt on Ternate.
IDC ***09*** *19:41:12.1±1.0, 1°.74N×127°.22E, h114km±8km, mb4.6/26, mb1 4.6/29, mb1mx4.6/30, mbtmp4.6/29, MS3.5/7, Ms1 3.5/7, ms1mx3.2/27, Error ellipse: s-maj=13.1km s-min=6.7km az=79.0*
DJA ***09*** *19:41:14.1, 1°.76N×127°.14E, h106km, mb5.3/39*

ISC 09 19:41:12.4±0.3, 1°.73N±0°.03×127°.18E±0°.04, h117km±2km, n328, σ1°40/435, mb5.0/109, 32C-26D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	0.97	169	P	Pn	19 41 34.5	+0.6
MNI	Manado	2.35	263	P	Pn	19 41 50.5	+0.3
LBMI	Labuha	2.37	172	P	Pn	19 41 52.1	+1.6
SGSI	Sangihe	2.55	320	P	Pn	19 41 51.7	-1.1
SWI	Sorong	4.83	122	P	Pn	19 42 24.1	+1.1
GSPH	General Santos	4.87	333	⇑eP	Pn	19 42 22.0	-1.7
GSPH				iS	Sn	19 43 15.4	-3.8
MATI	Mati	5.27	350	eP	Pn	19 42 29.1	+0.1
MSAI

SBUM Sibu 14.96 273 P **P** **19 44 39.4 -1.2**
SBUM Sibu 14.96 273 P **P** **19 44 40.3 -0.3**
92nm,1.2s,938nm
MTNI Mataram 15.04 227 P **Pn** **19 44 37.9 -1.1**
269nm,0.6s,4µm
KHKI Kahang-Kahang 15.28 229 P **P** **19 44 46.8 +2.7**
311nm,0.8s,2µm
STKI Sintang 15.78 264 P **P** **19 44 49.7 0.0**
50nm,0.8s,1µm
IGBI Denpasar 15.92 229 P **P** **19 44 55.0 +3.8**
102nm,0.7s,11µm
NBBI Negara 16.04 231 P P 19 45 00.4 +7.9
JAGI Jajag, Banyuwa 16.47 232 P **P** **19 44 59.5 +2.2**
141nm,1.0s,1µm
BLJI Banyuglugur 16.49 235 P **P** **19 45 01.5 +4.0**
201nm,0.5s,2µm
KSM Kuching 16.86 269 *e*P **P** **19 45 01.9 +0.3**
99nm,1.3s
KSM Kuching 16.86 269 P **P** **19 45 03.1 +1.4**
KSM Kuching 16.86 269 P **P** **19 45 03.7 +2.0**
42nm,1.0s
GMJI Gumukmas 16.91 234 P **P** **19 45 05.9 +3.7**
91nm,0.8s
KRKI Karangkates 17.66 236 P **Pn** **19 45 15.0 +3.8**
430nm,0.7s
SJI Sawahan 18.02 238 P **Pn** **19 45 17.0 +1.5**
190nm,0.7s,2µm
PWJI Pagerwojo 18.13 238 P **Pn** **19 45 18.1 +1.3**
121nm,0.7s
PCJI Pacitan 18.75 238 P **Pn** **19 45 26.3 +2.1**
196nm,1.1s
FITZ Fitzroy Crossi 19.76 184 P **P** **19 45 33.0 -0.3**
FITZ Fitzroy Crossi 19.76 184 *e*P **P** **19 45 32.6 -0.7**
70nm,0.6s
FITZ *e*S **S** **19 49 04.7 -5.0**
FITZ Fitzroy Crossi 19.76 184 P **P** **19 45 33.0 -0.3**
9.4nm,0.3s,baz=20,slow=9.6,SNR=119
GUMO Guam 21.10 55 P **P** **19 45 46.3 -1.5**
GUMO Guam 21.10 55 P **P** **19 45 46.3 -1.5**
51nm,0.5s,baz=359,slow=22,SNR=5.5
GUMO LR LR 19 52 33.2
comp=Z,128nm,19.7s,baz=222,slow=32
LEM Lembang 21.29 246 P P 19 45 56.9 +6.9
50nm,1.0s
TWG Pinlang 21.79 345 *e*P **P** **19 45 51.8 -3.3**
110nm,0.6s
COEN Coen 22.23 135 *e*P **P** **19 45 59.5 -0.2**
100nm,0.6s
YULB Yu-li 22.28 346 *e*P **P** **19 45 56.9 -3.3**
26nm,0.6s
TPUB Ta-pu 22.37 344 *e*P **P** **19 45 58.9 -2.2**
125nm,0.6s
WRAB Tennant Creek 22.65 162 *e*P **P** **19 46 03.2 -0.7**
WRAB pmax pmax
comp=Z,206nm,0.7s
WRAB Tennant Creek 22.65 162 *e*P **P** **19 46 03.1 -0.7**
comp=Z,206nm,0.7s
WRAB Tennant Creek 22.65 162 P **P** **19 46 03.7 -0.1**
comp=Z,2µm,0.6s
WRA Warramunga Arr 22.65 162 P **P** **19 46 03.2 -0.7**
WRA PcP **PcP** **19 49 52.8 +0.1**
WRA S **S** **19 50 03.8 +0.4**
WRA ScP **ScP** **19 53 18.4 -1.4**
WRA Warramunga Arr 22.65 162 P **P** **19 46 03.2 -0.7**
comp=Z,107nm,0.5s,baz=342,slow=11,SNR=1038
WRA PcP **PcP** **19 49 52.8 +0.1**
comp=Z,5.6nm,0.5s,baz=332,slow=2.3,SNR=4.5
WRA S **S** **19 50 03.8 +0.4**
comp=Z,5.1nm,0.9s,baz=326,slow=16,SNR=5.1
WRA ScP **ScP** **19 53 18.4 -1.4**
comp=Z,2.4nm,0.7s,baz=343,slow=3.0,SNR=5.6
SSLB Suanglung 22.75 345 *e*P **P** **19 46 03.1 -1.7**
comp=Z,77nm,0.6s
PMG Port Moresby 22.77 119 *e*P **P** **19 46 03.6 -1.5**
comp=Z,10nm,0.7s
PMG Port Moresby 22.77 119 P **P** **19 46 06.8 +1.7**
comp=Z,20nm,0.8s
PMG Port Moresby 22.77 119 P **P** **19 46 04.5 -0.6**
comp=Z,12nm,0.7s,baz=332,slow=9.6,SNR=9.2
MYKOM **Kota Tinggi 23.32 271** P **P** **19 46 11.4 +1.1**
YHNB Yeheng 23.49 347 *e*P **P** **19 46 10.6 -1.2**
comp=Z,50nm,0.6s
KASI Kota Agung 23.77 252 P **P** **19 46 19.1 +4.7**
comp=Z,82nm,1.0s
KGM Kluang 23.85 271 P **P** **19 46 16.2 +1.1**
MBWA Marble Bar 23.88 197 *e*P **P** **19 46 14.9 -0.4**
comp=Z,78nm,0.6s
MBWA Marble Bar 23.88 197 *e*P **P** **19 46 15.1 -0.2**
LWLI Liwa 24.05 254 P P 19 46 21.9 +4.9
comp=Z,74nm,1.2s
QIZ Qiongzhong 24.17 316 P **P** **19 46 18.0 +0.1**
QIZ pP **pP** **19 46 41.8 -0.8**
QIZ S **S** **19 50 29.3 +1.5**
QIZ sS **sS** **19 51 09.7 -2.3**
QIZ pmax pmax
comp=Z,54nm,0.8s
QIZ LR LR
comp=N,330nm,13.9s
KTGM Kuala Trenggan 24.26 279 P **P** **19 46 19.8 +1.0**
QZH Quanzhou 24.53 341⇑*i*P **P** **19 46 22.9 +1.8**
QZH S **S** **19 50 34.2 +0.9**
QZH pmax pmax
comp=Z,140nm,0.6s
JOW Kunigami 24.99 2 P **P** **19 46 25.7 +0.4**
JOW Kunigami 24.99 2 P **P** **19 46 25.7 +0.4**
comp=Z,39nm,0.8s,baz=214,slow=10,SNR=4.8
FRIM Kepong 25.57 274 P **P** **19 46 31.7 +1.0**
AS31 Alice Springs 26.07 166 *e*P **P** **19 46 34.5 -0.7**
ASAR Alice Springs 26.07 166 P **P** **19 46 34.6 -0.6**
ASAR PcP **PcP** **19 50 00.2 +0.1**
ASAR S S 19 51 07.0 +9.1
ASAR ScP **ScP** **19 53 28.5 -0.7**
ASAR Alice Springs 26.07 166 P **P** **19 46 34.6 -0.6**
comp=Z,22nm,0.5s,baz=351,slow=7.7,SNR=394
ASAR PcP **PcP** **19 50 00.2 +0.1**
comp=Z,7.3nm,0.6s,baz=348,slow=2.4,SNR=6.7
ASAR S S 19 51 07.0 +9.1
comp=Z,3.2nm,0.7s,baz=348,slow=18,SNR=4.7
ASAR ScP **ScP** **19 53 28.5 -0.7**
comp=Z,2.7nm,0.7s,baz=341,slow=2.8,SNR=7.3
IPM Ipoh 26.25 277 *e*P **P** **19 46 36.6 -0.3**
comp=Z,8.6nm,0.6s
IPM Ipoh 26.25 277 P **P** **19 46 37.8 +0.9**
MNSI Mandailing Nat 27.61 268 P **P** **19 46 53.5 +4.5**
comp=Z,11nm,0.5s
CTA Charters Tower 28.64 140 P **P** **19 46 58.6 +0.5**
CTA ScP **ScP** **19 53 37.2 +0.1**
CTA Charters Tower 28.64 140 *e*P **P** **19 46 59.2 +1.1**
comp=Z,8.3nm,0.6s
CTA Charters Tower 28.64 140 P **P** **19 46 58.6 +0.5**
comp=Z,13nm,0.6s,baz=325,slow=11,SNR=7.5
CTA ScP **ScP** **19 53 37.2 +0.1**
comp=Z,6.8nm,0.7s,baz=328,slow=4.9,SNR=6.3
CTAO Charters Tower 28.64 140 *e*P **P** **19 46 58.7 +0.5**
CTAO pmax pmax
comp=Z,21nm,0.9s
CTAO Charters Tower 28.64 140 *e*P **P** **19 46 58.7 +0.5**
comp=Z,21nm,0.9s
GSI Gunungsitoli 29.59 270 P **P** **19 47 06.8 +0.1**
comp=Z,23nm,0.9s
WHN Wuhan 31.14 338 P **P** **19 47 21.5 +1.5**
NJ2 Nanjing 31.17 346 *e*P **P** **19 47 21.6 +1.3**
NJ2 pmax pmax
comp=Z,20nm,0.7s
JNU Nakatsue 31.43 6 P **P** **19 47 21.6 -1.0**
JNU Nakatsue 31.43 6 P **P** **19 47 21.6 -1.0**
comp=Z,13nm,0.8s,baz=113,slow=5.6,SNR=11
JNU LR LR 20 00 31.3
comp=Z,58nm,19.4s,baz=60,slow=37
GYA Guiyang 31.52 323 P **P** **19 47 23.9 +0.3**
GYA pP **pP** **19 47 48.4 -1.0**
GYA sP **sP** **19 48 01.7 -1.3**
GYA PP **PnPn** **19 48 31.8 0.0**
GYA PcP **PcP** **19 50 14.7 +0.8**
GYA S **S** **19 52 21.5 -2.1**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.2s
CM31 Chiang Mai Arr 32.30 303 *e*P **P** **19 47 31.0 +0.6**
comp=Z,1.9nm,0.5s
CMAR Chiang Mai Arr 32.30 303 P **P** **19 47 30.7 +0.3**
CMAR PcP **PcP** **19 50 17.1 +1.1**
CMAR ScP **ScP** **19 53 50.2 +1.1**
CMAR Chiang Mai Arr 32.30 303 P **P** **19 47 30.7 +0.3**
comp=Z,2.3nm,0.9s,baz=124,slow=7.0,SNR=20
CMAR PcP **PcP** **19 50 17.1 +1.1**
comp=Z,2.2nm,0.9s,baz=108,slow=1.7,SNR=7.8
CMAR ScP **ScP** **19 53 50.2 +1.1**
comp=Z,1.0nm,0.9s,baz=110,slow=1.2,SNR=4.1
CMAR LR LR 20 01 16.4
comp=Z,44nm,19.0s,baz=293,slow=37
FORT Forrest 32.33 179 *e*P **P** **19 47 29.6 -0.9**
comp=Z,110nm,0.6s
FORT Forrest 32.33 179 *e*P **P** **19 47 30.0 -0.5**
comp=Z,112nm,0.6s
CHTO Chiang Mai 32.46 303 *e*P **P** **19 47 31.8 0.0**
CHTO pmax pmax
comp=Z,5.0nm,0.7s
CHTO Chiang Mai 32.46 303 *e*P **P** **19 47 31.8 0.0**
comp=Z,5.4nm,0.7s
CHTO Chiang Mai 32.46 303 P **P** **19 47 32.3 +0.4**
comp=Z,14nm,0.9s
ENH Enshi 32.98 331 *e*P **P** **19 47 36.5 +0.2**
comp=Z,28nm,0.7s
KMI Kunming 33.12 317 P **P** **19 47 38.9 +1.1**
KMI pP **pP** **19 48 07.7 +4.0**
KMI sP **sP** **19 48 20.7 +3.5**
KMI S **S** **19 52 50.0 +1.3**
KMI sS **sS** **19 53 37.1 +3.3**
KMI SS **SnSn** **19 54 58.4 -2.6**
KMI pmax pmax
comp=Z,15nm,0.9s
KMI pmax pmax
comp=Z,73nm,5.3s
KMI LR LR
comp=N,160nm,22.0s
KMI LR LR
comp=E,170nm,22.8s
KMI LR LR
comp=Z,150nm,17.7s
BLDU Ballidu 33.67 196 *e*P **P** **19 47 41.2 -1.0**
KLBR Kellerberrin 34.32 194⇑*i*P **P** **19 47 47.7 -0.1**
comp=Z,95nm,0.5s
BBOO Buckleboo 35.36 167 *e*P **P** **19 47 55.4 -1.4**
comp=Z,457nm,0.6s
EIDS Eidsvold 35.52 141 *e*P **P** **19 47 57.5 -0.6**
comp=Z,49nm,1.0s
KSAR Wonju Array Be 35.55 1 P **P** **19 47 58.7 +0.4**
KSRS Korea Array 35.56 1 P **P** **19 47 58.7 +0.4**
comp=Z,22nm,0.6s,baz=177,slow=9.8,SNR=112
KSRS LR LR 20 01 16.1
comp=Z,68nm,21.1s,baz=58,slow=34
NWAO Narrogin (SRO) 35.72 194 *e*P **P** **19 47 59.9 +0.1**
comp=Z,34nm,0.6s
NWAO Narrogin (SRO) 35.72 194 P **P** **19 47 59.9 +0.1**
comp=Z,43nm,0.5s,baz=14,slow=8.5,SNR=57
STKA Stephens Creek 36.11 159 P **P** **19 48 02.9 -0.2**
STKA ScP **ScP** **19 54 01.9 -0.5**
STKA Stephens Creek 36.11 159⇑*i*P **P** **19 48 02.9 -0.2**
comp=Z,65nm,0.8s
STKA Stephens Creek 36.11 159 P **P** **19 48 02.9 -0.2**
comp=Z,83nm,0.7s,baz=331,slow=8.6,SNR=173
STKA ScP **ScP** **19 54 01.9 -0.5**
comp=Z,3.5nm,0.7s,baz=328,slow=10,SNR=3.3
MAJO Matsushiro 36.12 15 *e*P **P** **19 48 01.3 -1.9**
MAJO pmax pmax
comp=Z,18nm,0.6s
MAJO Matsushiro 36.12 15 *e*P **P** **19 48 01.3 -1.9**
comp=Z,18nm,0.6s
MAT Matsushiro 36.12 15 P **P** **19 48 00.7 -2.5**
MJAR Matsushiro Arr 36.12 15 P **P** **19 48 01.4 -1.7**
MJAR ScP **ScP** **19 54 01.6 -0.8**
MJAR Matsushiro Arr 36.12 15 P **P** **19 48 01.4 -1.7**
comp=Z,13nm,0.6s,baz=192,slow=9.3,SNR=92
MJAR ScP **ScP** **19 54 01.6 -0.8**
comp=Z,0.9nm,0.7s,baz=183,slow=6.5,SNR=5.2
MJAR LR LR 20 00 12.5
comp=Z,76nm,19.6s,baz=160,slow=32
XAN Xi'an 36.40 334 P **P** **19 48 05.5 -0.1**
XAN pmax pmax
comp=Z,10.0nm,1.2s
CD2 Chengdu 36.52 325 P **P** **19 48 06.7 0.0**
CD2 pP **pP** **19 48 33.2 +0.2**
CD2 sP **sP** **19 48 47.1 +0.7**
CD2 PcP **PcP** **19 50 27.6 -0.4**
CD2 S **S** **19 53 40.4 -0.1**
CD2 PcS **PcS** **19 54 14.5 -1.7**
CD2 sS **sS** **19 54 26.5 +0.4**
CD2 SS **SnSn** **19 56 14.3 -8.4**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,130nm,6.8s
BJT Baijiatuan 39.41 347 *e*P **P** **19 48 30.8 0.0**
comp=Z,49nm,0.5s
BJI Beijing 39.43 347 P **P** **19 48 30.8 -0.1**
BJI pP **pP** **19 48 55.3 -2.1**
BJI sP **sP** **19 49 10.1 -0.7**
BJI S **S** **19 54 28.2 +4.2**
BJI pmax pmax
comp=Z,78nm,0.6s
ARMA Armidale 39.56 146 *e*P **P** **19 48 33.0 +0.6**
comp=Z,78nm,0.8s
ARMA Armidale 39.56 146 *e*P **P** **19 48 32.8 +0.5**
LZH Lanzhou 40.45 330 ⇓P **P** **19 48 41.2 +1.5**
LZH pP **pP** **19 49 06.3 0.0**
LZH sP **sP** **19 49 20.4 +0.8**
LZH PP **PnPn** **19 50 19.7 -0.4**
LZH PcP **PcP** **19 50 41.8 +1.4**
LZH pmax pmax
comp=Z,52nm,1.0s
LZH pmax pmax
comp=Z,140nm,4.0s
LZH LR LR
comp=N,140nm,13.1s
LZH LR LR
comp=E,210nm,10.2s
LZH LR LR
comp=Z,400nm,14.0s
YNG Young 41.01 153 *e*P **P** **19 48 44.8 +0.7**
comp=Z,24nm,0.8s
HHC Hu-ho-hao-te 41.43 342 *e*P **P** **19 48 48.2 +0.6**
HHC pP **pP** **19 49 13.4 -0.9**
HHC sP **sP** **19 49 26.7 -0.9**
HHC PP **PnPn** **19 50 29.2 -2.2**
HHC S **S** **19 54 55.4 +1.4**
HHC sS **sS** **19 55 41.1 +0.9**
HHC SS **SS** **19 57 59.9 -3.0**
HHC ScS **ScS** **19 58 37.4 -1.9**
HHC pmax pmax
comp=Z,18nm,0.8s
HHC pmax pmax
comp=Z,170nm,5.9s
VLA Vladivostok 41.43 5*d**e*P **P** **19 48 47.6 +0.3**
VLA pmax pmax
comp=Z,28nm,1.7s
CN2 Changchun 41.92 358 *e*P **P** **19 48 50.9 -0.5**
CN2 *ep*P **pP** **19 49 17.0 -1.1**
CN2 *e*S **S** **19 55 00.8 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CAN Canberra 42.13 153 *e*P **P** **19 48 53.9 +0.6**
CAN pmax pmax
comp=Z,42nm,0.8s
CAN Canberra 42.13 153 *e*P **P** **19 48 53.9 +0.6**
comp=Z,42nm,0.8s
CAN Canberra 42.13 153 *e*P **P** **19 48 54.1 +0.8**
comp=Z,32nm,0.8s
USRK Ussuriysk Arra 42.51 5 P **P** **19 48 56.2 +0.1**
comp=Z,9.1nm,0.6s,baz=177,slow=7.3,SNR=19
TOO Toolangi 42.62 158 *e*P **P** **19 48 58.4 +1.2**
comp=Z,60nm,0.9s
MDJ Mudanjiang 42.76 3 P **P** **19 48 58.4 +0.2**
MDJ pP **pP** **19 49 24.5 -0.5**
MDJ sP **sP** **19 49 35.8 -2.5**
MDJ PP **PP** **19 50 41.2 +1.4**
MDJ ScP **ScP** **19 54 28.2 +0.3**
MDJ PcS **PcS** **19 54 39.6 -0.2**
MDJ S **S** **19 55 16.6 +3.3**
MDJ sS **sS** **19 55 59.9 +0.2**
MDJ pmax pmax
comp=Z,13nm,1.1s
MDJ pmax pmax
comp=Z,74nm,5.0s
MDJ Mudanjiang 42.76 3 *e*P **P** **19 48 58.2 +0.1**
comp=Z,9.1nm,0.8s
LSA Lhasa 44.10 313 P **P** **19 49 11.0 +1.2**
LSA Lhasa 44.10 313 *e*P **P** **19 49 10.7 +0.9**
LSA pmax pmax
comp=Z,28nm,0.6s
LSA Lhasa 44.10 313 *e*P **P** **19 49 10.7 +0.9**
comp=Z,28nm,0.6s
ASAJ Asahikawa 44.38 16 P **P** **19 49 11.3 +0.2**
ASAJ Asahikawa 44.38 16 P **P** **19 49 11.3 +0.2**
comp=Z,5.3nm,0.4s,baz=226,slow=10,SNR=13
DZM Mont Dzumac 45.04 124 *e*P **P** **19 49 17.1 +0.3**
comp=Z,6.5nm,0.7s
DZM Mont Dzumac 45.04 124 P **P** **19 49 16.7 -0.1**
comp=Z,7.7nm,0.7s,baz=314,slow=21,SNR=16
GTA Gaotai 45.04 330 P **P** **19 49 17.5 +0.9**
GTA pP **pP** **19 49 43.0 -0.7**
GTA sP **sP** **19 49 56.3 -0.6**
GTA PcP **PcP** **19 50 56.8 +1.2**
GTA S **S** **19 55 46.4 -0.4**
GTA sS **sS** **19 56 32.2 -1.3**
GTA SS **ScS** **19 59 03.1 +1.1**
GTA pmax pmax
comp=Z,25nm,0.8s
GTA pmax pmax
comp=Z,160nm,5.7s
GTA LR LR
comp=N,82nm,6.9s
GTA LR LR
comp=E,98nm,7.4s
GTA LR LR
comp=Z,100nm,10.2s
TAPN Taplejung 45.57 308 *e*P **P** **19 49 21.6 +0.4**
comp=Z,27nm,0.7s
ODAN Odare 45.60 307 *e*P **P** **19 49 21.8 +0.4**
comp=Z,49nm,0.7s
RAMN Ramite 46.28 307 *e*P **P** **19 49 27.4 +0.7**
comp=Z,53nm,0.7s
JIRN Jiri 46.92 307 *e*P **P** **19 49 32.3 +0.4**
comp=Z,12nm,0.6s
YSS Yuzh-Sakhalins 47.05 15⇓*e*P **P** **19 49 32.5 +0.4**
YSS pmax pmax
comp=Z,20nm,0.5s
YSS Yuzh-Sakhalins 47.05 15 *e*P **P** **19 49 31.8 -0.2**
comp=Z,7.9nm,0.4s
HABR Khabarovsk 47.06 7 *e*P **P** **19 49 29.5 -2.6**
HABR *e**PP pP 19 49 51.2 -8.2
HABR *e* 19 51 00.5
HABR 19 51 21.0
HABR *e*S **S** **19 56 14.8 -0.3**
HABR *e* 19 59 14.8
HABR *e*SS **SS** **19 59 44.1 +0.3**
HABR *e*SSS SSS 20 00 51.3
HABR pmax pmax
comp=N,19nm,2.5s
HABR pmax pmax
comp=Z,37nm,1.5s
HABR pmax pmax
comp=E,26nm,1.9s
HABR MLR MLR
comp=Z,59nm,17.0s
GUN Gumba 47.27 307 *e*P **P** **19 49 34.9 +0.3**
comp=Z,70nm,0.6s
KLR Kul'dur 47.49 4 *e*P P 19 49 31.0 -4.5
KLR pmax pmax
comp=Z,28nm,1.4s
PKI Pulchoki 47.50 307 *e*P **P** **19 49 36.3 0.0**
comp=Z,12nm,0.5s
KKN Kakani 47.70 307 *e*P **P** **19 49 37.7 0.0**
comp=Z,31nm,0.9s
DMN Daman 47.76 307 *e*P **P** **19 49 38.5 +0.2**
comp=Z,38nm,0.9s
GKN Gorkha 48.30 307 *e*P **P** **19 49 42.3 0.0**
comp=Z,30nm,0.9s
KOLN Koldanda 49.04 306 *e*P **P** **19 49 48.6 +0.6**
comp=Z,78nm,0.6s
DANN Dangsing 49.15 307 *e*P **P** **19 49 49.1 +0.1**
comp=Z,69nm,0.6s
ULN Ulaanbaatar 49.15 342 *e*P **P** **19 49 48.6 +0.1**
comp=Z,21nm,0.6s
ULN Ulaanbaatar 49.15 342 P **P** **19 49 49.5 +1.0**
SNR=11
ULN Ulaanbaatar 49.15 342 P **P** **19 49 48.7 +0.3**
comp=Z,38nm,1.0s,comp=Z,426nm
SONM Songino Array 49.33 342 P **P** **19 49 50.0 +0.3**
SONM PcP **PcP** **19 51 11.0 +0.3**
SONM ScP **ScP** **19 54 54.8 -0.6**
SONM Songino Array 49.33 342 P **P** **19 49 50.0 +0.3**
comp=Z,11nm,0.6s,baz=156,slow=8.8,SNR=125
SONM PcP **PcP** **19 51 11.0 +0.3**
comp=Z,3.6nm,0.7s,baz=157,slow=4.5,SNR=4.9
SONM ScP **ScP** **19 54 54.8 -0.6**
comp=Z,0.4nm,0.6s,baz=147,slow=5.4,SNR=3.4
SONM LR LR 20 12 55.4
comp=Z,70nm,18.4s,baz=178,slow=39
HYB Hyderabad 50.23 291 *i*P **P** **19 49 55.5 -1.5**
HYB *e* 19 50 20.5
ZAK Zakamensk 52.55 341⇑*e*P **P** **19 50 12.7 -1.1**
ZAK *e* 19 51 22.2
ZAK pmax pmax
comp=Z,3.0nm,1.4s
TLY Talaya 53.56 342 *e*P **P** **19 50 20.6 -0.5**
TLY pmax pmax
comp=Z,3.0nm,0.6s
MOY Mondy 54.41 340 *e*P **P** **19 50 28.5 +1.1**
MOY pmax pmax
comp=Z,23nm,1.6s
WMQ Urumqi 54.62 326 P **P** **19 50 30.1 +1.1**
WMQ pP **pP** **19 50 56.7 -0.2**
WMQ sP **sP** **19 51 12.9 +3.0**
WMQ PcP **PcP** **19 51 31.3 +0.7**
WMQ ScP **ScP** **19 55 20.1 +1.8**
WMQ S **S** **19 57 59.1 -0.7**
WMQ pmax pmax
comp=Z,46nm,0.9s
WMQ pmax pmax
comp=Z,220nm,5.5s
WMQ LR LR
comp=N,220nm,24.5s
WMQ LR LR
comp=E,160nm,17.6s
WMQ LR LR
comp=Z,170nm,18.3s
CLNS Chul'man 54.98 358 *e*P **P** **19 50 31.0 -0.3**
CLNS pmax pmax
comp=Z,13nm,0.7s
CLNS pmax pmax
comp=N,5.0nm,0.5s
CLNS pmax pmax
comp=E,4.0nm,0.5s
BOD Bodaibo 56.90 352 *e*P **P** **19 50 44.9 0.0**
BOD pmax pmax
comp=Z,13nm,0.8s
PEA0B Petropavlovsk- 57.12 21 *e*P **P** **19 50 46.4 -0.1**
PETK Petropavlovsk- 57.12 21 P **P** **19 50 47.0 +0.4**
PETK Petropavlovsk- 57.12 21 P **P** **19 50 47.0 +0.4**
PETK Petropavlovsk- 57.12 21 P **P** **19 50 47.0 +0.4**
comp=Z,7.2nm,0.5s,baz=181,slow=5.8,SNR=25
THN Thein Dam 57.14 308 *e*PKP **P** **19 50 45.9 -1.2**
MK31 Makanchi Array 59.45 326*ce*P **P** **19 51 03.4 +0.5**
MK31 pmax pmax
comp=Z,18nm,0.4s
MK31 Makanchi Array 59.45 326 *e*P **P** **19 51 03.4 +0.5**
MKAR Makanchi Array 59.45 326*ce*P **P** **19 51 03.5 +0.6**
MKAR pmax pmax
comp=Z,34nm,0.5s
MKAR Makanchi Array 59.45 326 P **P** **19 51 03.6 +0.6**
MKAR ScP **ScP** **19 55 38.3 -1.2**
MKAR Makanchi Array 59.45 326 P **P** **19 51 03.6 +0.6**
comp=Z,34nm,0.5s,baz=120,slow=8.3,SNR=1071
MKAR ScP **ScP** **19 55 38.3 -1.2**
comp=Z,1.0nm,0.8s,baz=125,slow=4.6,SNR=5.4
KSH Kashi 59.77 316⇓*i*P **P** **19 51 07.9 +2.5**
KSH pP **pP** **19 51 34.7 +0.9**
KSH sP **sP** **19 51 47.5 +0.8**
KSH PcP **PcP** **19 51 52.9 +1.9**
KSH PP **PP** **19 53 23.6 +4.9**
KSH S **S** **19 59 09.5 +1.8**
KSH sS **sS** **19 59 56.1 -0.5**
KSH ScS **ScS** **20 00 43.3 -1.6**
KSH SS **SS** **20 03 09.5 +3.7**
KSH pmax pmax
comp=Z,8.0nm,0.7s
KSH pmax pmax
comp=Z,160nm,5.6s
KSH LR LR
comp=N,150nm,5.4s
KSH LR LR
comp=E,140nm,4.9s

KSH					LR		LR		
	comp=Z,260nm,5.6s								
RPZ	**Rata Peaks**	**59.88**	**144**	*eP*		**P**		**19 51 05.9**	**0.0**
	comp=Z,42nm,0.9s								
YAK	**Yakutsk**	**60.19**	**1**	*eP*		**P**		**19 51 06.5**	**-1.1**
YAK					pmax	pmax			
	comp=Z,37nm,1.0s								
YAK					pmax	pmax			
	comp=N,12nm,1.5s								
AAK	**Ala-Archa**	**62.14**	**318**	*d iP*		**P**		**19 51 22.2**	**+0.8**
AAK					pmax	pmax			
	comp=Z,12nm,0.6s								
AAK	**Ala-Archa**	**62.14**	**318**		P	**P**		**19 51 22.4**	**+1.0**
AAK	**Ala-Archa**	**62.14**	**318**		P	**P**		**19 51 22.0**	**+0.6**
	comp=Z,63nm,0.5s,SNR=8.6								
AAK	**Ala-Archa**	**62.14**	**318**		P	**P**		**19 51 22.4**	**+1.0**
	comp=Z,5.1nm,0.5s,baz=112,slow=5.8,SNR=38								
ZAA0	**Zalesovo Array**	**62.57**	**333**	*eP*		**P**		**19 51 22.6**	**-1.2**
ZALV	**Zalesovo Beam**	**62.57**	**333**		P	**P**		**19 51 22.9**	**-0.9**
ZALV	**Zalesovo Beam**	**62.57**	**333**		P	**P**		**19 51 22.9**	**-0.9**
ZALV	**Zalesovo Beam**	**62.57**	**333**		P	**P**		**19 51 22.9**	**-0.9**
	comp=Z,8.2nm,0.5s,baz=132,slow=7.4,SNR=24								
ZALV					LR	LR		20 19 18.9	
	comp=Z,33nm,19.9s,baz=72,slow=36								
KBL	**Kabul**	**63.10**	**308**	*eP*		**P**		**19 51 28.1**	**+0.1**
KBL					pmax	pmax			
	comp=Z,16nm,0.6s								
KBL	**Kabul**	**63.10**	**308**	*eP*		**P**		**19 51 28.1**	**+0.1**
	comp=Z,16nm,0.6s								
KURK	**Kurchatov**	**63.66**	**328**	*eP*		**P**		**19 51 31.2**	**+0.1**
KURK					pmax	pmax			
	comp=Z,84nm,0.6s								
KURK	**Kurchatov**	**63.66**	**328**	*eP*		**P**		**19 51 31.2**	**+0.1**
	comp=Z,84nm,0.6s								
KURK	**Kurchatov**	**63.66**	**328**	⇓P		**P**		**19 51 31.5**	**+0.4**
	SNR=16								
KURK	**Kurchatov**	**63.66**	**328**		P	**P**		**19 51 31.3**	**+0.1**
	comp=Z,1µm,0.5s,SNR=68								
NVS	**Novosibirsk**	**63.85**	**333**	⇓*iP*		**P**		**19 51 31.5**	**-0.7**
NVS				*e*				19 52 01.7	
NVS					pmax	pmax			
	comp=N,11nm,0.7s								
NVS					pmax	pmax			
	comp=Z,17nm,0.7s								
NVS					pmax	pmax			
	comp=E,8.0nm,0.8s								
SEY	**Seymchan**	**63.88**	**13**	⇓*iP*		**P**		**19 51 32.7**	**+0.4**
KK31	**Karatay Array**	**65.00**	**318**	*ceP*		**P**		**19 51 39.9**	**-0.1**
KK31					pmax	pmax			
	comp=Z,8.0nm,0.5s								
KKAR	**Karatay Array**	**65.00**	**318**	*eP*		**P**		**19 51 40.1**	**+0.1**
KKAR					pmax	pmax			
	comp=Z,10.0nm,0.7s								
KKAR	**Karatay Array**	**65.00**	**318**	*eP*		**P**		**19 51 40.1**	**+0.1**
	comp=Z,9.9nm,0.7s								
VOSK	**Vostochnaya**	**68.78**	**327**		P	**P**		**19 52 02.8**	**-1.0**
VOSK					pmax	pmax			
	comp=Z,16nm,1.2s								
DRV	**Dumont d'Urvil**	**68.85**	**175**		S	S		20 01 18.0	+20
BVA0	**Borovoye Array**	**69.23**	**327**	*iP*		**P**		**19 52 05.9**	**-0.7**
BVA0					pmax	pmax			
	comp=Z,3.0nm,0.9s								
BRVK	**Borovoye**	**69.31**	**327**	*d iP*		**P**		**19 52 06.9**	**-0.1**
BRVK					pmax	pmax			
	comp=Z,33nm,1.4s								
BRVK	**Borovoye**	**69.31**	**327**	*eP*		**P**		**19 52 06.8**	**-0.2**
	comp=Z,19nm,0.8s								
BRVK	**Borovoye**	**69.31**	**327**		P	**P**		**19 52 07.3**	**+0.3**
	comp=Z,146nm,0.7s,SNR=15								
BRVK	**Borovoye**	**69.31**	**327**		P	**P**		**19 52 07.3**	**+0.3**
	SNR=6.8								
ZRNK	**Zerenda**	**69.95**	**327**	*iP*		**P**		**19 52 10.0**	**-1.0**
ZRNK					pmax	pmax			
	comp=Z,24nm,0.7s								
ARQ	**Araqi**	**71.57**	**294**	⇑P		**P**		**19 52 22.0**	**+0.6**
	SNR=5.7								
ABKT	**Ailbek**	**72.49**	**309**		P	**P**		**19 52 27.3**	**+0.6**
	comp=Z,89nm,0.6s,SNR=5.8								
AB31	**Akbulak array**	**73.98**	**321**	*ceP*		**P**		**19 52 34.4**	**-0.7**
AB31					pmax	pmax			
	comp=Z,5.0nm,0.5s								
ABKAR	**Akbulak array**	**73.98**	**321**	*eP*		**P**		**19 52 34.4**	**-0.7**
	comp=Z,6.0nm,0.6s								
AKTO	**Aktyubinsk**	**75.50**	**322**	*iP*		**P**		**19 52 42.9**	**-0.9**
AKTO					pmax	pmax			
	comp=Z,3.0nm,0.8s								
SVE	**Sverdlovsk**	**75.89**	**329**	⇓*iP*		**P**		**19 52 45.9**	**0.0**
SVE					pmax	pmax			
	comp=Z,32nm,0.7s								
ARU	**Arti**	**76.86**	**328**	*d iP*		**P**		**19 52 50.1**	**-1.3**
ARU					S	S		**20 02 30.9**	**+1.5**
ARU					pmax	pmax			
	comp=Z,25nm,1.0s								
ARU	**Arti**	**76.86**	**328**	*eP*		**P**		**19 52 50.4**	**-1.0**
	comp=Z,15nm,0.7s								
ARU	**Arti**	**76.86**	**328**		P	**P**		**19 52 50.3**	**-1.1**
	comp=Z,150nm,0.7s,SNR=7.4								
QRN	**Al-Qurain**	**79.75**	**299**	*eP*		**P**		**19 53 07.5**	**-0.4**
QRN					AMb	AMB		19 53 08.4	
	comp=Z,39nm,0.7s								
MIB	**Mutribah**	**80.32**	**300**	*eP*		**P**		**19 53 10.5**	**-0.5**
MIB					AMb	AMB		19 53 11.4	
	comp=Z,31nm,0.9s								
NAY	**Al-Naaiem**	**80.37**	**299**	*eP*		**P**		**19 53 10.7**	**-0.6**
NAY					AMb	AMB		19 53 11.6	
	comp=Z,18nm,0.8s								
VNDA	**Vanda**	**81.39**	**173**	*eP*		**P**		**19 53 15.6**	**-0.1**
	comp=Z,11nm,0.8s								
MAW	**Mawson**	**82.04**	**200**		P	**P**		**19 53 20.2**	**+1.0**
MAW	**Mawson**	**82.04**	**200**		P	**P**		**19 53 20.2**	**+1.0**
	comp=Z,22nm,0.6s,baz=73,slow=3.6,SNR=9.8								
KDAK	**Kodiak Island**	**83.34**	**32**		P	**P**		**19 53 27.0**	**+0.9**
	comp=Z,118nm,0.6s,SNR=5.7								
ZEI	**Tsey**	**83.89**	**313**	*eP*		**P**		**19 53 29.1**	**-0.5**
ZEI					pmax	pmax			
	comp=Z,8.0nm,0.6s								
SLKM	**Skilak Lake**	**84.86**	**30**	*eP*		**P**		**19 53 33.6**	**-0.3**
SLKM	**Skilak Lake**	**84.86**	**30**	*eP*		**P**		**19 53 33.5**	**-0.3**
MCK	**McKinley**	**85.75**	**26**	*eP*		**P**		**19 53 37.3**	**-0.9**
MCK	**McKinley**	**85.75**	**26**	*eP*		**P**		**19 53 37.3**	**-0.9**
VRHR	**Novokhopersk**	**85.87**	**321**	*eP*		**P**		**19 53 37.6**	**-1.4**
VRHR					pmax	pmax			
	comp=Z,20nm,0.6s								
VRHR					pmax	pmax			
	comp=N,10.0nm,0.7s								
VRHR					pmax	pmax			
	comp=E,10.0nm,0.6s								
ILAR	**Eielson Array**	**86.71**	**25**		P	**P**		**19 53 40.9**	**-2.0**
ILAR	**Eielson Array**	**86.71**	**25**		P	**P**		**19 53 40.9**	**-2.0**
	comp=E,0.7nm,0.6s,baz=254,slow=4.8,SNR=12								
KLMR	**Klimovskoe**	**87.36**	**331**	*eP*		**P**		**19 53 43.0**	**-3.1**
KLMR					pmax	pmax			
	comp=Z,32nm,1.6s								
VSR	**Storozhevoye**	**87.42**	**321**	*eP*		**P**		**19 53 44.4**	**-2.1**
VSR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
VSR					pmax	pmax			
	comp=N,10.0nm,1.2s								
VSR					pmax	pmax			
	comp=E,8.0nm,1.3s								
OBN	**Obninsk**	**88.95**	**325**	*ceP*		**P**		**19 53 52.3**	**-1.4**
OBN				*i*				19 54 13.4	
OBN					pmax	pmax			
	comp=Z,11nm,0.8s								
SYO	**Syowa Base**	**90.73**	**201**	⇑*eP*		**P**		**19 54 01.0**	**-0.7**
JOF	**Joensuu**	**91.16**	**333**	*eP*		**P**		**19 54 01.8**	**-2.0**
JOF					pmax	pmax			
	comp=Z,2.0nm,0.4s								
JOF	**Joensuu**	**91.16**	**333**	*ep*		**P**		**19 54 01.8**	**-2.0**
	comp=Z,1.6nm,0.4s								
BRTR	**Keskin Array B**	**91.64**	**310**		P	**P**		**19 54 05.5**	**-1.3**
BRTR	**Keskin Array B**	**91.64**	**310**		P	**P**		**19 54 05.5**	**-1.3**
	comp=Z,1.9nm,0.8s,baz=122,slow=5.6,SNR=8.6								
QSPA	**South Pole Qui**	**91.64**	**180**		P	**P**		**19 54 06.5**	**+0.3**
QSPA	**South Pole Qui**	**91.64**	**180**		P	**P**		**19 54 06.5**	**+0.3**
	comp=Z,5.1nm,0.7s,baz=317,slow=2.2,SNR=15								
ARCES	**ARCESS Array B**	**92.47**	**340**		P	**P**		**19 54 08.5**	**-1.3**
ARCES	**ARCESS Array B**	**92.47**	**340**		P	**P**		**19 54 08.5**	**-1.3**
	comp=Z,6.3nm,0.6s,baz=80,slow=5.6,SNR=14								
KAF	**Kangasniemi**	**93.57**	**332**	*eP*		**P**		**19 54 13.6**	**-1.4**
KAF					pmax	pmax			
	comp=Z,1.0nm,0.4s								
KAF	**Kangasniemi**	**93.57**	**332**	*ep*		**P**		**19 54 13.6**	**-1.4**
	comp=Z,1.4nm,0.4s								
FINES	**FINESS Array B**	**93.80**	**332**		P	**P**		**19 54 14.4**	**-1.7**
FINES	**FINESS Array B**	**93.80**	**332**		P	**P**		**19 54 14.4**	**-1.7**
	comp=Z,1.9nm,0.5s,baz=57,slow=5.1,SNR=15								
VRI	**Vrincioaia**	**96.04**	**316**	⇑P		**P**		**19 54 27.0**	**+0.3**
VRI	**Vrincioaia**	**96.04**	**316**	⇑*iP*		**P**		**19 54 27.0**	**+0.3**
MLR	**Muntele Rosu**	**96.64**	**316**	⇓*iP*		**P**		**19 54 28.9**	**-0.7**
BURAR	**Bucovina Array**	**96.78**	**318**	⇑*iP*		**P**		**19 54 30.0**	**-0.1**
BUR08	**Bucovina Ar. S**	**96.79**	**318**	*eP*		**P**		**19 54 29.5**	**-0.7**
DRGR		**98.62**	**318**	⇑P		**P**		**19 54 37.3**	**-1.1**
DRGR		**98.62**	**318**	⇑*iP*		**P**		**19 54 37.3**	**-1.1**
NB2	**NORSAR Subarra**	**100.77**	**334**		P	**Pdif**		**19 54 45.4**	**-2.2**
	comp=Z,2.1nm,0.8s,baz=68,slow=4.8								
NOA	**NORSAR Array B**	**100.77**	**334**		P	**Pdif**		**19 54 45.6**	**-2.0**
NOA	**NORSAR Array B**	**100.77**	**334**		P	**Pdif**		**19 54 45.6**	**-2.0**
	comp=Z,1.4nm,0.7s,baz=69,slow=4.2,SNR=4.4								
YKA	**Yellowknife Ar**	**101.13**	**25**		P	**Pdif**		**19 54 48.9**	**-0.1**
YKA					PKiKP	**PKiKP**		**19 59 13.7**	**+0.3**
YKA				*e*				20 02 37.2	
YKA					PKKPbc	**PKKPbc**		**20 10 59.0**	**-3.1**
YKA	**Yellowknife Ar**	**101.13**	**25**		P	**Pdif**		**19 54 48.9**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=296,slow=4.3,SNR=8.7								
YKA					PKiKP	**PKiKP**		**19 59 13.6**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=283,slow=1.5,SNR=3.9								
YKA					SKiKP	**SKiKP**		**20 02 37.2**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=284,slow=1.7,SNR=3.7								
YKA					PKKPbc	**PKKPbc**		**20 10 58.9**	**-3.1**
	comp=Z,0.5nm,0.7s,baz=120,slow=3.1,SNR=9.3								
GERES	**GERESS Array B**	**103.92**	**321**		PKiKP	**PKiKP**		**19 59 19.9**	**+0.8**
GERES	**GERESS Array B**	**103.92**	**321**		PKiKP	**PKiKP**		**19 59 19.8**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=347,slow=4.0,SNR=3.2								
J13A	**Cove Ranch, Pi**	**109.20**	**43**	⇑P		**PKiKP**		**19 59 29.9**	**+0.8**
	baz=109								
F18A	**Big Timber**	**111.09**	**39**	⇓P		**PKiKP**		**19 59 33.0**	**+0.5**
	baz=111								
DVTC	**Desert V Tower**	**111.29**	**54**	⇓P		**PKiKP**		**19 59 33.3**	**+0.1**
	baz=111								
PDAR	**Pinedale Array**	**112.55**	**42**		PKiKP	**PKiKP**		**19 59 36.3**	**+0.8**
PDAR					PKKPbc	**PKKPbc**		**20 10 24.6**	**-1.7**
PDAR					PKKPab	**PKKPab**		**20 10 33.0**	**-1.1**
PDAR	**Pinedale Array**	**112.55**	**42**		PKiKP	**PKiKP**		**19 59 36.3**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=217,slow=2.3,SNR=2.7								
PDAR					PKKPbc	**PKKPbc**		**20 10 24.6**	**-1.7**
	comp=Z,0.5nm,0.6s,baz=101,slow=4.7,SNR=4.4								
PDAR					PKKPab	**PKKPab**		**20 10 33.0**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=115,slow=6.5,SNR=7.7								
D22A	**Cohagen**	**112.67**	**36**	⇑P		**PKiKP**		**19 59 35.6**	**+0.2**
	baz=112								
I20A	**Worland**	**112.97**	**40**	⇑P		**PKiKP**		**19 59 36.4**	**+0.3**
	baz=113								
M20A	**Sweetwater, Wa**	**114.02**	**43**	⇓P		**PKiKP**		**19 59 38.1**	**-0.3**
	baz=114								
K21A	**Alcova**	**114.14**	**41**	⇑P		PKPdf		19 59 38.6	0.0
	baz=114								
J22A	**Midwest**	**114.28**	**40**	⇑P		PKPdf		19 59 38.1	-0.6
	baz=114								
ANMO	**Albuquerque**	**118.02**	**49**		PKP	**PKPdf**		**19 59 46.5**	**+0.3**
ANMO	**Albuquerque**	**118.02**	**49**		PKP	**PKPdf**		**19 59 46.5**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=349,slow=2.0,SNR=5.2								
Z22A	**Elephant Butte**	**118.31**	**50**	⇑P		**PKPdf**		**19 59 46.8**	**0.0**
	baz=118								
Y25A	**Mesa, Roswell**	**119.78**	**49**	⇑P		**PKPdf**		**19 59 49.6**	**0.0**
	baz=120								
MNTX	**Cornudas Mount**	**120.16**	**52**	*e*	PKPdf	**PKPdf**		**19 59 50.8**	**+0.6**
MNTX	**Cornudas Mount**	**120.16**	**52**	⇑P		**PKPdf**		**19 59 50.8**	**+0.6**
	baz=120								
324A	**Moseley Ranch,**	**120.18**	**52**	⇓P		**PKPdf**		**19 59 50.8**	**+0.4**
	baz=120								
125A	**Gardner Draw,**	**120.33**	**50**	⇓P		**PKPdf**		**19 59 50.7**	**+0.1**
	baz=120								
425A	**Indio Mountain**	**120.83**	**52**	⇓P		**PKPdf**		**19 59 51.6**	**-0.1**
	baz=121								
Z27A	**Tatum**	**121.15**	**49**	⇑P		**PKPdf**		**19 59 51.8**	**-0.3**
	baz=121								
326A	**Caldwell Ranch**	**121.41**	**51**	⇑P		**PKPdf**		**19 59 52.5**	**-0.2**
	baz=121								
626A	**Big Bend Ranch**	**121.99**	**53**	⇑P		**PKPdf**		**19 59 53.7**	**-0.2**
	baz=122								
427A	**Hayter Ranch,**	**122.05**	**52**	⇓P		**PKPdf**		**19 59 54.5**	**+0.5**
	baz=122								
527A	**Woodward Ranch**	**122.17**	**52**	⇓P		**PKPdf**		**19 59 54.7**	**+0.4**
	baz=122								
328A	**Wristen Ranch,**	**122.29**	**51**	⇓P		**PKPdf**		**19 59 54.5**	**+0.1**
	baz=122								
TXAR	**Lajitas Array**	**122.45**	**53**		PKP	**PKPdf**		**19 59 55.4**	**+0.7**
TXAR	**Lajitas Array**	**122.45**	**53**		PKP	**PKPdf**		**19 59 55.4**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=242,slow=1.9,SNR=12								
SCHQ	**Schefferville**	**122.46**	**10**		PKP	**PKPdf**		**19 59 53.7**	**-0.2**
SCHQ	**Schefferville**	**122.46**	**10**		PKP	**PKPdf**		**19 59 53.7**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=20,slow=17,SNR=6.5								
627A	**Terlingua Ranc**	**122.62**	**53**	⇑P		**PKPdf**		**19 59 55.5**	**+0.4**
	baz=122								
628A	**Black Gap, Mar**	**123.01**	**53**	⇑P		**PKPdf**		**19 59 56.0**	**+0.2**
	baz=123								
TOA0	**Torodi Ar. Sit**	**123.95**	**287**	*e*	PKPdf	**PKPdf**		**19 59 57.3**	**-0.5**
TORD	**Torodi Ar. Bea**	**123.95**	**287**		PKP	**PKPdf**		**19 59 57.3**	**-0.6**
TORD					PP	**PP**		**20 01 45.5**	**+2.6**
TORD					PKKPbc	**PKKPab**		**20 09 44.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**123.95**	**287**		PKP	**PKPdf**		**19 59 57.3**	**-0.6**
	comp=Z,4.3nm,0.7s,baz=62,slow=1.8,SNR=25								
TORD					PP	**PP**		**20 01 45.5**	**+2.6**
	comp=Z,1.3nm,0.9s,baz=61,slow=4.3,SNR=4.7								
TORD					PKKPbc	**PKKPab**		**20 09 44.5**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=261,slow=3.7,SNR=14								
JCT	**Junction City**	**125.00**	**50**	⇓P		**PKPdf**		**19 59 59.6**	**0.0**
	baz=125								
DBIC	**Dimbokro**	**131.40**	**280**		PKP	**PKPdf**		**20 00 13.2**	**+1.1**
DBIC					SKPbc	**SKPbc**		**20 03 26.1**	**-0.6**
DBIC	**Dimbokro**	**131.40**	**280**		PKP	**PKPdf**		**20 00 13.2**	**+1.1**
	comp=Z,2.6nm,0.6s,baz=82,slow=3.3,SNR=7.3								
DBIC					SKPbc	**SKPbc**		**20 03 26.1**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=43,slow=4.1,SNR=6.3								
TKL	**Tuckaleechee C**	**132.90**	**35**		PKP	**PKPdf**		**20 00 15.2**	**+0.8**
TKL	**Tuckaleechee C**	**132.90**	**35**		PKP	**PKPdf**		**20 00 15.2**	**+0.8**
	comp=Z,3.1nm,0.5s,baz=162,slow=3.2,SNR=3.5								
PLCA	**Paso Flores**	**137.98**	**160**		PKP	**PKPdf**		**20 00 25.1**	**+1.3**
PLCA					SKPbc	**SKPbc**		**20 03 47.5**	**+0.3**
PLCA	**Paso Flores**	**137.98**	**160**		PKP	**PKPdf**		**20 00 25.1**	**+1.3**
	comp=Z,4.2nm,0.7s,baz=294,slow=1.1,SNR=11								
PLCA					SKPbc	**SKPbc**		**20 03 47.5**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=283,slow=3.5,SNR=9.0								
TRQA	**Tornquist**	**142.88**	**168**	*e*	PKPdf	**PKPdf**		**20 00 28.6**	**-4.0**
CFAA	**Coronel Fontan**	**146.91**	**155**		PKPbc	**PKPdf**		**20 00 40.8**	**+0.9**
CFAA	**Coronel Fontan**	**146.91**	**155**		PKPbc	**PKPdf**		**20 00 40.8**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=210,slow=4.4,SNR=32								
LPAZ	**La Paz**	**159.10**	**135**	*e*	PKPdf	**PKPdf**		**20 00 56.5**	**-2.0**
SIV	**San Ignacio**	**163.66**	**151**		PKP	**PKPdf**		**20 01 03.8**	**+1.2**
SIV					PKPab	**PKPab**		**20 01 55.5**	**+0.8**
SIV	**San Ignacio**	**163.66**	**151**		PKP	**PKPdf**		**20 01 03.8**	**+1.2**
	comp=Z,1.9nm,0.7s,baz=154,slow=1.2,SNR=9.3								
SIV					PKPab	**PKPab**		**20 01 55.5**	**+0.8**
	comp=Z,3.3nm,0.7s,baz=224,slow=4.9,SNR=11								
BDFB	**Brasilia**	**165.38**	**199**		PKPab	**PKPab**		**20 02 03.2**	**+0.9**
BDFB	**Brasilia**	**165.38**	**199**		PKPab	**PKPab**		**20 02 03.2**	**+0.9**
	comp=Z,3.5nm,0.6s,baz=124,slow=3.6,SNR=4.9								

IDC ***09*** *20:17:10.8±1.3, 0°08S×121°27E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/19, mbtmp3.3/4, Error ellipse: s-maj=143.2km s-min=21.0km az=64.0, Minahassa Peninsula, Sulawesi*

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.53**	**148**	P		P	20 22 22.7	-0.2
	0.6nm,0.5s,baz=325,slow=11,SNR=12							
ASAR	**Alice Springs**	**26.46**	**153**	P		P	20 22 50.0	+0.2
	0.3nm,0.7s,baz=342,slow=6.8,SNR=4.8							
SONM	**Songino Array**	**49.45**	**347**	P		P	20 26 03.2	+0.4
	0.2nm,0.7s,baz=178,slow=10,SNR=3.2							
MKAR	**Makanchi Array**	**57.78**	**329**	P		P	20 27 03.3	-0.6
	0.2nm,0.3s,baz=124,slow=8.5,SNR=8.6							

ISCJB ***09*** *20:38:20.3±0.5, 33°97N±0°07×137°31E±0°07, h349km±3km, mb3.1/9, Error ellipse: s-maj=11.7km s-min=8.6km az=159.9*
JMA ***09*** *20:38:20.3±0.4, 34°00N×137°25E, h353km±4km, M3.2*
IDC ***09*** *20:38:20.3±0.9, 33°92N×137°29E, h334km±9km, mb2.9/9, mb1 3.2/11, mb1mx3.0/25, mbtmp2.9/11, Error ellipse: s-maj=16.8km s-min=13.8km az=103.0*

ISC 09 20:38:21.2±0.8, 33°98N±0°08×137°28E±0°06, h343km±6km, n28, σ0°81/37, mb3.2/9, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TTO3	**TONANKAI O.B.S**	**0.15**	**139**	P		**Pn**	**20 39 05.1**	**+1.0**
TTO4	**TONANKAI O.B.S**	**0.22**	**82**	P		**Pn**	**20 39 04.9**	**+1.0**
TTO2	**TONANKAI O.B.S**	**0.32**	**221**	P		**Pn**	**20 39 05.0**	**+0.9**
TK02	**Tokai 2**	**0.40**	**94**	P		**Pn**	**20 39 05.2**	**+1.0**
TTO1	**TONANKAI O.B.S**	**0.54**	**229**	P		**Pn**	**20 39 05.2**	**+0.7**
JIE	**Ise**	**0.63**	**311**	P		**Pn**	**20 39 05.4**	**+0.5**
JIE						S	**20 39 39.8**	**-0.2**
JWZ	**Kozaga**	**1.38**	**252**	P		**Pn**	**20 39 07.7**	**-0.3**
JWY	**Kouya**	**1.42**	**280**	P		**Pn**	**20 39 08.4**	**+0.1**
JWY						S	**20 39 45.2**	**-0.8**
JGM	**Miyama**	**1.78**	**345**	P		**Pn**	**20 39 10.7**	**+0.4**
JGM				*eS*		S	**20 39 50.6**	**+0.8**
JYN	**Shimob**	**1.84**	**34**	P		**Pn**	**20 39 11.9**	**+1.1**
JOD2	**Odawara 2**	**1.97**	**49**	P		**Pn**	**20 39 11.9**	**+0.3**
JOD2				*eS*		S	**20 39 52.3**	**+0.2**
JWT	**Wachi**	**2.02**	**311**	P		**Pn**	**20 39 12.1**	**+0.1**
JWT						S	**20 39 51.6**	**-1.1**
JKG	**Kaga**	**2.42**	**342**	P		**Pn**	**20 39 15.0**	**+0.1**
JRY	**Ryogami san**	**2.43**	**33**	P		**Pn**	**20 39 15.8**	**+0.7**
JRY				*eS*		S	**20 39 58.7**	**+0.3**
MAT	**Matsushiro**	**2.67**	**16**	P		**Pn**	**20 39 17.1**	**0.0**
MAT						S	**20 40 00.5**	**-1.5**
MJAR	**Matsushiro Arr**	**2.67**	**16**	P		**Pn**	**20 39 17.1**	**0.0**
	2.2nm,0.3s,baz=189,slow=8.9,SNR=30							
MJAR						S	**20 40 00.2**	**-1.8**
	0.7nm,0.3s,baz=196,slow=17,SNR=6.0							
BSO1	**Boso 1**	**3.14**	**77**	P		**Pn**	**20 39 19.3**	**-1.3**
BSO1				*eS*		S	**20 40 07.0**	**-1.5**
JHS	**Saijyo**	**3.58**	**288**	P		**Pn**	**20 39 25.8**	**+0.2**
KSRS	**Korea Array**	**8.36**	**297**	P		**Pn**	**20 40 20.1**	**+0.7**
	0.6nm,0.3s,baz=112,slow=12,SNR=19							
SONM	**Songino Array**	**26.93**	**310**	P		**P**	**20 43 32.3**	**+0.1**
	0.5nm,0.6s,baz=120,slow=9.9,SNR=5.6							
CMAR	**Chiang Mai Arr**	**37.46**	**255**	P		**P**	**20 45 02.6**	**-0.5**
	0.6nm,0.4s,baz=53,slow=7.5,SNR=7.6							
MKAR	**Makanchi Array**	**42.96**	**304**	P		**P**	**20 45 47.5**	**0.0**
	0.6nm,0.4s,baz=86,slow=9.8,SNR=15							
WRA	**Warramunga Arr**	**53.69**	**183**	P		**P**	**20 47 08.2**	**-0.6**
	0.5nm,0.3s,baz=0.0,slow=7.6,SNR=15							
ILAR	**Eielson Array**	**53.86**	**31**	P		**P**	**20 47 09.3**	**-0.2**
	0.3nm,0.5s,baz=268,slow=4.5,SNR=6.4							
ASAR	**Alice Springs**	**57.41**	**184**	P		**P**	**20 47 34.5**	**-0.5**
	0.1nm,0.4s,baz=307,slow=37,SNR=4.4							
YKA	**Yellowknife Ar**	**68.12**	**28**	P		**P**	**20 48 45.1**	**+0.7**
	0.2nm,0.4s,baz=298,slow=5.5,SNR=6.3							
FINES	**FINESS Array B**	**69.91**	**332**	P		**P**	**20 48 55.5**	**+0.1**
	1.5nm,0.8s,baz=51,slow=6.6,SNR=3.8							
PDAR	**Pinedale Array**	**82.20**	**43**	P		**P**	**20 50 05.8**	**+0.9**
	0.4nm,0.7s,baz=274,slow=4.2,SNR=3.5							

ISCJB ***09*** *20:44:19

MJAR	**Matsushiro Arr**	**76.73**	**324**	P		**P**	**21 01 14.1**	**-0.2**
	7.1nm,1.0s,baz=165,slow=5.8,SNR=4.0							
MAT	**Matsushiro**	**76.73**	**324**	P		**P**	**21 01 13.8**	**-0.5**
SNAA	**Sanae**	**80.96**	**178**	*e*		P	21 01 32.5	-4.7
SNAA	**Sanae**	**80.96**	**178**	*eP*		P	21 01 32.0	-5.2
	7.6nm,1.1s							
VNA3	**Neumayer Olymp**	**81.05**	**176**	*e*		**P**	**21 01 38.7**	**+1.1**
VNA3				*e*			21 01 47.6	
VNA2	**Neumayer--Watz**	**81.50**	**176**	*e*		**P**	**21 01 41.4**	**+1.4**
	baz=161,slow=3.8							
VNA2				*e*			21 01 48.5	
KSRS	**Korea Array**	**83.11**	**319**	P		**P**	**21 01 49.7**	**+1.0**
	4.3nm,0.9s,baz=150,slow=6.7,SNR=10							
KSAR	**Wonju Array Be**	**83.12**	**319**	P		**P**	**21 01 49.7**	**+0.9**
PLCA	**Paso Flores**	**83.42**	**133**	LR		LR	21 30 21.5	
	comp=Z,162nm,20.4s,baz=246,slow=29							
PETK	**Petropavlovsk-**	**83.42**	**345**	P		**P**	**21 01 50.3**	**+0.4**
PETK	**Petropavlovsk-**	**83.42**	**345**	P		**P**	**21 01 50.3**	**+0.4**
	3.1nm,0.6s,baz=168,slow=7.6,SNR=5.6							
WDC	**Whiskeytown Da**	**84.22**	**38**	*eP*		**P**	**21 01 54.5**	**+0.2**
	13nm,0.9s							
NVAR	**Mina Array Bea**	**85.19**	**42**	P		**P**	**21 01 59.9**	**+0.2**
NVAR	**Mina Array Bea**	**85.19**	**42**	P		**P**	**21 01 59.9**	**+0.2**
	3.0nm,0.9s,baz=232,slow=7.3,SNR=5.3							
USRK	**Ussuriysk Arra**	**85.57**	**326**	P		**P**	**21 02 02.2**	**+1.2**
	1.6nm,0.6s,baz=183,slow=3.8,SNR=4.8							
TXAR	**Lajitas Array**	**89.66**	**56**	P		**P**	**21 02 21.6**	**+0.3**
TXAR	**Lajitas Array**	**89.66**	**56**	P		**P**	**21 02 21.5**	**+0.3**
	1.1nm,0.9s,baz=215,slow=7.6,SNR=3.8							
ENH	**Enshi**	**91.17**	**304**	*eP*		**P**	**21 02 29.4**	**+1.2**
	37nm,1.1s							
PDAR	**Pinedale Array**	**93.10**	**43**	P		**P**	**21 02 37.5**	**+0.4**
PDAR	**Pinedale Array**	**93.10**	**43**	P		**P**	**21 02 37.5**	**+0.4**
	0.8nm,0.8s,baz=198,slow=2.6,SNR=5.2							
PDAR				LR		LR	21 42 01.1	
	comp=Z,81nm,18.4s,baz=249,slow=34							
CMAR	**Chiang Mai Arr**	**93.80**	**289**	P		**P**	**21 02 40.5**	**0.0**
CMAR	**Chiang Mai Arr**	**93.80**	**289**	P		**P**	**21 02 40.5**	**0.0**
	0.8nm,0.8s,baz=144,slow=2.6,SNR=7.5							
CHTO	**Chiang Mai**	**93.96**	**289**	*eP*		**P**	**21 02 43.0**	**+1.7**
	2.0nm,0.8s							
ILAR	**Eielson Array**	**94.84**	**12**	P		**P**	**21 02 44.4**	**+0.1**
ILAR	**Eielson Array**	**94.84**	**12**	P		**P**	**21 02 44.4**	**+0.1**
	0.6nm,0.8s,baz=217,slow=5.2,SNR=6.1							
SONM	**Songino Array**	**101.97**	**318**	P		**Pdif**	**21 03 15.0**	**-1.8**
SONM	**Songino Array**	**101.97**	**318**	P		**Pdif**	**21 03 15.0**	**-1.8**
	0.1nm,0.4s,baz=114,slow=3.6,SNR=2.7							
YKA	**Yellowknife Ar**	**102.27**	**25**	P		**Pdif**	**21 03 20.2**	**+2.6**
YKA				PP		**PP**	**21 07 33.0**	**+2.5**
YKA	**Yellowknife Ar**	**102.27**	**25**	P		**Pdif**	**21 03 20.2**	**+2.6**
	0.1nm,0.4s,baz=238,slow=3.5,SNR=3.2							
YKA				PP		**PP**	**21 07 33.0**	**+2.5**
	0.2nm,0.7s,baz=241,slow=7.3,SNR=3.8							
ZALV	**Zalesovo Beam**	**116.81**	**319**	PKP		**PKPdf**	**21 08 05.4**	**-1.5**
ZALV	**Zalesovo Beam**	**116.81**	**319**	PKP		**PKPdf**	**21 08 05.4**	**-1.5**
	0.3nm,0.3s,baz=122,slow=1.9,SNR=2.5							
MKAR	**Makanchi Array**	**116.99**	**311**	PKP		**PKPdf**	**21 08 06.7**	**-0.9**
MKAR	**Makanchi Array**	**116.99**	**311**	PKP		**PKPdf**	**21 08 06.7**	**-0.9**
	1.0nm,0.9s,baz=75,slow=2.9,SNR=7.3							
KURK	**Kurchatov**	**120.06**	**315**	PKP		**PKPdf**	**21 08 12.6**	**-0.7**
KURBB	**Kurchatov Arra**	**120.10**	**315**	PKP		**PKPdf**	**21 08 12.6**	**-0.8**
	0.9nm,0.9s,baz=98,slow=2.1,SNR=8.8							
BVAR	**Borovoye Array**	**125.30**	**317**	PKP		**PKPdf**	**21 08 23.5**	**+0.2**
BVAR	**Borovoye Array**	**125.30**	**317**	PKP		**PKPdf**	**21 08 23.5**	**+0.2**
	1.4nm,0.9s,baz=69,slow=2.1,SNR=6.8							
AKTO	**Aktyubinsk**	**133.16**	**315**	PKP		**PKPdf**	**21 08 38.5**	**+0.1**
AKTO	**Aktyubinsk**	**133.16**	**315**	PKP		**PKPdf**	**21 08 38.5**	**+0.1**
	1.1nm,0.9s,baz=40,slow=6.3,SNR=4.3							
ARCES	**ARCESS Array B**	**136.08**	**349**	PKP		**PKPdf**	**21 08 42.0**	**-1.3**
ARCES	**ARCESS Array B**	**136.08**	**349**	PKP		**PKPdf**	**21 08 42.0**	**-1.3**
	7.0nm,1.0s,baz=21,slow=3.0,SNR=3.6							
FINES	**FINESS Array B**	**142.90**	**342**	PKPpre		PKPpre	21 08 50.5	
FINES	**FINESS Array B**	**142.90**	**342**	PKhKP		PKPpre	21 08 50.5	
	2.1nm,0.6s,baz=58,slow=4.7,SNR=8.8							
BHD	**Baghdad**	**144.53**	**289**	*ex*		**PKPab**	**21 08 56.4**	**-1.6**
BHD				*ex*		x	21 09 15.0	
NB2	**NORSAR Subarra**	**146.11**	**353**	PKP		**PKPdf**	**21 09 01.8**	**+0.3**
	comp=Z,7.5nm,1.0s,baz=10,slow=3.2							
NOA	**NORSAR Array B**	**146.11**	**353**	PKPbc		**PKPdf**	**21 09 01.8**	**+0.3**
NOA	**NORSAR Array B**	**146.11**	**353**	PKPbc		**PKPdf**	**21 09 01.8**	**+0.3**
	comp=Z,3.3nm,0.9s,baz=14,slow=4.5,SNR=9.2							
HFS	**Hagfors**	**146.69**	**351**	PKPbc		**PKPdf**	**21 09 01.9**	**-0.6**
HFS	**Hagfors**	**146.69**	**351**	PKPbc		**PKPdf**	**21 09 01.9**	**-0.6**
	comp=Z,4.3nm,0.5s,baz=64,slow=3.4,SNR=20							
NACGM	**Naroch**	**147.88**	**335**	*e*		**PKPbc**	**21 09 06.0**	**-1.6**
AKASG	**Malin Array Be**	**149.78**	**327**	PKPbc		**PKPbc**	**21 09 11.4**	**-1.1**
AKASG	**Malin Array Be**	**149.78**	**327**	PKPbc		**PKPbc**	**21 09 11.4**	**-1.1**
	comp=Z,3.3nm,0.7s,baz=41,slow=3.5,SNR=7.5							
AKBB	**Malin Array Si**	**149.78**	**327**	*e*PKPbc		**PKPbc**	**21 09 10.1**	**-2.4**
BR131	**Keskin Array S**	**152.32**	**304**	*e*PKPbc		**PKPbc**	**21 09 20.5**	**+1.4**
BRTR	**Keskin Array B**	**152.32**	**304**	PKPbc		**PKPbc**	**21 09 18.4**	**-0.7**
BRTR	**Keskin Array B**	**152.32**	**304**	PKPbc		**PKPbc**	**21 09 18.4**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=134,slow=3.9,SNR=7.3							
CRVS	**Cervenica-Dubn**	**154.59**	**332**	*e*PKP		**PKPab**	**21 09 38.1**	**-0.1**
CLL	**Collm**	**155.22**	**346**	*e*PKPab		**PKPab**	**21 09 41.0**	**+0.3**
CLL				*e*(pPKPab)			21 09 52.0	
BRG	**Berggiesshubel**	**155.41**	**344**	*eP*		**PKPab**	**21 09 41.0**	**-0.6**
	comp=Z,3.9nm,0.9s							
BRG				*e*			21 09 44.1	
	comp=Z,24nm,1.6s							
VYHS	**Vyhne**	**155.97**	**335**	*e*PKP		**PKPab**	**21 09 39.3**	**-4.8**
VYHS				*e*			21 09 52.9	
GERES	**GERESS Array B**	**157.34**	**342**	PKPab		**PKPab**	**21 09 46.9**	**-3.1**
GERES	**GERESS Array B**	**157.34**	**342**	PKPab		**PKPab**	**21 09 46.9**	**-3.1**
	comp=Z,0.9nm,1.0s,baz=29,slow=3.0,SNR=3.6							
TORD	**Torodi Ar. Bea**	**165.57**	**173**	PKP		**PKPdf**	**21 09 28.0**	**-0.3**
TORD				PKPab		**PKPab**	**21 10 27.7**	**+1.1**
TORD	**Torodi Ar. Bea**	**165.57**	**173**	PKP		**PKPdf**	**21 09 28.0**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=144,slow=1.7,SNR=4.4							
TORD				PKPab		**PKPab**	**21 10 27.7**	**+1.1**
	comp=Z,4.9nm,0.8s,baz=184,slow=4.0,SNR=19							

*ISCJB **09** 21:10:42.5±0.3,32.65N±0.02×115.55W±0.02,h25km±2km, Error ellipse: s-maj=3.7km s-min=2.6km az=2.9*
*ECX **09** 21:10:44.2±0.6,32.65N×115.61W,h8km,MD3.9,ML4.0*
*NEIC **09** 21:10:44.2,32.65N×115.61W,h8km,ML3.8(PAS), ML4.0(ECX),After ECX.*
NEIC Felt [III] at Mexicali. Also felt at Tijuana. Felt [III] at Calexico, El Centro, Heber, Holtville and Imperial, California. Also felt at Brawley and San Diego.

ISC 09 21:10:42.6±0.9,32.64N±0.02×115.59W±0.02,h16km±7km, n68,σ0995/98,25C-21D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.12**	**274**	*eP*		**Pg**	**21 10 45.9**	**-0.3**
SGL	**Mount Signal**	**0.12**	**274**	*eP*		**Pg**	**21 10 45.9**	**-0.3**
ERPC	**Ernies Place**	**0.12**	**328**	*eP*		**Pb**	**21 10 46.6**	**+0.1**
WESC	**Westside Schoo**	**0.17**	**314**	*eP*		**Pb**	**21 10 47.3**	**-0.1**
COK	**Cook Ranch**	**0.24**	**330**	*eP*		**Pb**	**21 10 48.6**	**+0.1**
COK	**Cook Ranch**	**0.24**	**330**	*eP*		**Pb**	**21 10 48.6**	**+0.1**
YUH	**Yuha Desert**	**0.28**	**271**	*eP*		**Pg**	**21 10 48.7**	**0.0**
YUH	**Yuha Desert**	**0.28**	**271**	*eP*		**Pg**	**21 10 48.7**	**0.0**
CPBX	**Cerro Prieto**	**0.33**	**133**	*eP*		**Pb**	**21 10 50.0**	**0.0**
CPBX				*eS*		**Sb**	**21 10 55.7**	**+0.7**
CPBX				*e*			21 11 06.1	
	comp=N,44μm,0.4s							
SWSC	**Sam W. Stewart**	**0.35**	**329**	*eP*		**Pg**	**21 10 50.1**	**+0.3**
SWSC	**Sam W. Stewart**	**0.35**	**329**	P		**Pg**	**21 10 50.0**	**+0.2**
	baz=0.4,SNR=151							
SWSC				S		**Sb**	**21 10 55.5**	**-0.2**
	baz=0.4							
CRR	**Carrizo Plain**	**0.41**	**307**	*eP*		**Pg**	**21 10 51.1**	**+0.3**
CRR	**Carrizo Plain**	**0.41**	**307**	*eP*		**Pg**	**21 10 51.1**	**+0.3**
RMX	**La Rumorosa**	**0.42**	**265**	*i P*		**Pg**	**21 10 51.1**	**0.0**
RMX	**La Rumorosa**	**0.42**	**265**	*iP*		**Pg**	**21 10 51.1**	**0.0**
DVTC	**Desert V Tower**	**0.43**	**273**	*eP*		**Pg**	**21 10 51.4**	**+0.1**
	baz=0.4,SNR=77							
DVTC				S		**Sg**	**21 10 57.5**	**+0.1**
	baz=0.4							
COA	**Coachella**	**0.45**	**60**	*eP*		**Pb**	**21 10 52.5**	**+0.4**
COA	**Coachella**	**0.45**	**60**	*eP*		**Pb**	**21 10 52.5**	**+0.4**
BTCC	**Brunts Corner**	**0.48**	**40**	*eP*		**Pb**	**21 10 52.9**	**+0.2**
CLIC	**Calipatria**	**0.50**	**6**	*eP*		**Pb**	**21 10 53.2**	**+0.2**
EMSC	**East Mesa**	**0.52**	**79**	*eP*		**Pb**	**21 10 53.7**	**+0.5**
MONP	**Monument Peak**	**0.74**	**290**	P		**Pb**	**21 10 57.2**	**-0.1**
	baz=0.8,SNR=271							
MONP				S		**Sb**	**21 11 06.9**	**-0.4**
	baz=0.8							
GLA	**Glamis**	**0.76**	**57**	*eP*		**Pb**	**21 10 57.1**	**-0.4**
GLA				*eS*		**Sb**	**21 11 07.5**	**-0.1**
GLA	**Glamis**	**0.76**	**57**	P		**Pb**	**21 10 57.0**	**-0.4**
	baz=0.8,SNR=206							
GLA				S		**Sb**	**21 11 07.2**	**-0.4**
	baz=0.8							
RDX	**Rancho Dawling**	**0.77**	**203**	*eP*		**Pb**	**21 10 57.2**	**-0.5**
RDX				*eS*		**Sb**	**21 11 07.6**	**-0.4**
RDX	**Rancho Dawling**	**0.77**	**203**	*eP*		**Pb**	**21 10 57.2**	**-0.5**
RDX				*eS*		**Sb**	**21 11 07.6**	**-0.4**
RDX				*e*			21 11 10.3	
	comp=E,6μm,0.6s							
BAR	**Barrett**	**0.92**	**273**	*eP*		**Pb**	**21 10 59.9**	**-0.2**
BAR				*eS*		**Sb**	**21 11 12.0**	**-0.1**
BC3	**Big Chuckawall**	**1.02**	**6**	P		**Pb**	**21 11 00.9**	**-1.0**
	baz=1.1,SNR=18							
BC3				S		**Sb**	**21 11 13.9**	**-1.2**
	baz=1.1							
CCX	**Cicese**	**1.19**	**230**	*eP*		**Pb**	**21 11 04.9**	**+0.1**
CCX				*eS*		**Sn**	**21 11 20.6**	**+0.1**
PFO	**Pinyon Flat Ob**	**1.21**	**323**	*ePn*		**Pn**	**21 11 03.7**	**-1.3**
PFO				*eS*		**Sb**	**21 11 19.0**	**-1.6**
PFO	**Pinyon Flat Ob**	**1.21**	**323**	P		**Pn**	**21 11 03.7**	**-1.3**
	baz=1.2,SNR=537							
PFO				S		**Sb**	**21 11 19.4**	**-1.3**
	baz=1.2							
ECNX	**Esteban Cantu**	**1.30**	**221**	*eP*		**Pb**	**21 11 06.6**	**-0.1**
ECNX				*eP*		**Pn**	**21 11 04.9**	**-1.3**
ECNX				*eS*		**Sn**	**21 11 20.6**	**-2.8**
ECNX				*eS*		**Sb**	**21 11 24.2**	**+1.0**
109C	**Camp Elliot, M**	**1.30**	**281**	P		**Pn**	**21 11 05.6**	**-0.5**
	baz=1.3,SNR=62							
109C				S		**Sn**	**21 11 22.7**	**-0.5**
	baz=1.3							
PBX	**Punta Banda**	**1.32**	**227**	*eP*		**Pb**	**21 11 06.9**	**-0.1**
PBX				*eS*		**Sb**	**21 11 24.5**	**+0.9**
PBX	**Punta Banda**	**1.32**	**227**	*eP*		**Pb**	**21 11 06.9**	**-0.1**
PBX				*eS*		**Sb**	**21 11 24.5**	**+0.9**
BELC	**Belle Mtn. Jos**	**1.40**	**346**	P		**Pn**	**21 11 06.4**	**-1.2**
	baz=1.4							
Y12C	**Blythe**	**1.42**	**39**	P		**Pn**	**21 11 06.7**	**-1.0**
	baz=1.5							
113A	**Mohawk Valley,**	**1.54**	**85**	P		**Pn**	**21 11 08.5**	**-0.8**
	baz=1.6,SNR=233							
113A				S		**Sn**	**21 11 27.7**	**-1.3**
	baz=1.6							
IRM	**Iron Mountain**	**1.56**	**13**	P		**Pn**	**21 11 08.8**	**-0.9**
	baz=1.6							
SPX	**San Pedro Mart**	**1.59**	**176**	*ePN*		**Pb**	**21 11 12.7**	**+0.8**
SPX				*eS*		**Sb**	**21 11 33.5**	**+1.6**
SPX				*e*			21 11 35.3	
	comp=E,942nm,0.3s							
SPX				*e*			21 11 41.5	
	comp=N,836nm,1.2s							
MURC	**Murrieta**	**1.66**	**306**	P		**Pn**	**21 11 10.3**	**-0.8**
	baz=1.7,SNR=39							
MURC				S		**Sn**	**21 11 31.4**	**-0.7**
	baz=1.7							
GMRC	**Granite Mounta**	**2.13**	**358**	P		**Pn**	**21 11 16.9**	**-0.8**
	baz=2.2							
114A	**Black Gap (USA**	**2.28**	**87**	P		**Pn**	**21 11 19.0**	**-0.6**
	baz=2.3,SNR=18							
Z14A	**Wintersburg**	**2.33**	**71**	P		**Pn**	**21 11 19.6**	**-0.7**
	baz=2.4,SNR=21							
BFSC	**Mount Baldy Ra**	**2.35**	**313**	P		**Pn**	**21 11 20.0**	**-0.7**
	baz=2.4,SNR=10							
BFSC				S		**Sb**	**21 11 54.9**	**+1.3**
	baz=2.4							
214A	**Organ Pipe Nat**	**2.45**	**105**	P		**Pn**	**21 11 20.6**	**-1.2**
	baz=2.4,SNR=16							
214A				S		**Sn**	**21 11 49.8**	**-1.6**
	baz=2.4							
LDFC	**Landfair**	**2.46**	**9**	*ePn*		**Pn**	**21 11 24.4**	**+2.2**
LDFC				*eSg*		Sg	21 12 08.2	+6.4
CIS	**Catalina Islan**	**2.49**	**289**	S		**Sb**	**21 11 58.8**	**+1.5**
	baz=2.5							
FMP	**Fort Macarthur**	**2.51**	**296**	S		**Sb**	**21 11 59.9**	**+2.0**
	baz=2.5							
MWC	**Mount Wilson**	**2.60**	**308**	*ePn*		**Pn**	**21 11 25.0**	**+0.8**
MWC				*eS*		**Sb**	**21 12 01.9**	**+1.1**
PASC	**Pasadena Art C**	**2.66**	**306**	*ePn*		**Pn**	**21 11 24.9**	**+0.2**
PASC				*eS*		**Sb**	**21 12 04.1**	**+1.9**
DECC	**Green Verdugo**	**2.80**	**306**	Sb		**Sb**	**21 12 08.6**	**+2.3**
	baz=2.8							
GSC	**Goldstone**	**2.84**	**339**	*ePn*		**Pb**	**21 11 31.6**	**-1.3**
EDW2	**Edwards Air Fo**	**3.00**	**319**	P		**Pn**	**21 11 29.2**	**-0.3**
	baz=3.0							
ISA	**Isabella**	**3.85**	**322**	*ePn*		**Pn**	**21 11 43.1**	**+1.9**
ISA				*eS*		**Sg**	**21 12 45.1**	**-1.2**
TUC	**Tucson**	**4.07**	**93**	*ePn*		**Pn**	**21 11 43.2**	**-1.1**
TUC				*eS*		**Sg**	**21 12 53.3**	**-0.1**
CWC	**Cottonwood Cre**	**4.31**	**332**	P		**Pn**	**21 11 47.2**	**-0.5**
	baz=4.4,SNR=22							
WUAZ	**Wupatki**	**4.52**	**49**	*ePn*		**Pn**	**21 11 51.7**	**+1.2**
WUAZ				*eS*		**Sg**	**21 13 08.0**	**+0.2**
120A	**U Bar Ranch, L**	**5.87**	**89**	P		**Pn**	**21 12 08.9**	**-0.1**
	baz=5.9,SNR=6.0							
Z20A	**Nine Sixteen R**	**5.90**	**84**	P		**Pn**	**21 12 09.9**	**+0.3**
	baz=5.9,SNR=21							
121A	**Cookes Peak, D**	**6.58**	**89**	P		**Pn**	**21 12 19.5**	**+0.6**
	baz=6.6,SNR=19							
Y21A	**Point of Rocks**	**6.76**	**76**	P		**Pn**	**21 12 23.0**	**+1.6**
	baz=6.8							
Z22A	**Elephant Butte**	**7.27**	**83**	P		**Pn**	**21 12 29.2**	**+0.8**
	baz=7.3							
Y22A	**Socorro**	**7.33**	**78**	P		**Pn**	**21 12 30.0**	**+0.9**
	baz=7.3,SNR=6.4							
MVCO	**Mesa Verde**	**7.39**	**50**	*ePn*		**Pn**	**21 12 30.9**	**+0.9**
	comp=N,8.3nm,0.6s							
MVCO				*eSg*		**Sg**	**21 14 41.1**	**+1.4**
BNM	**Barren Site**	**7.64**	**76**	*ePn*		**Pn**	**21 12 34.2**	**+0.7**
	comp=N,2.3nm,0.3s							
324A	**Moseley Ranch,**	**8.66**	**95**	P		**Pn**	**21 12 47.9**	**+0.5**
	baz=8.6,SNR=8.6							
MNTX	**Cornudas Mount**	**8.70**	**93**	P		**Pn**	**21 12 48.5**	**+0.7**
	baz=8.7							

*NIED **09** 21:24:00,22.50N×121.10E,h41km,Mw4.8 Best double couple: M01.67000×10^16 NP1:φ=252.00000°,δ74.00000°, λ48.00000°. NP2:φ=144.00000°,δ44.00000°,λ156.00000°.*
*BJI **09** 21:24:33.9,22.60N×121.17E,h11km,mB4.9/21,mb4.4/26, ML4.7/7,Ms4.8/31,Ms7 4.6/26*
*IDC **09** 21:24:33.9±0.7,22.54N×121.26E,h0km,mb4.1/18, mb1 4.2/20,mb1mx4.2/26,mbtmp4.1/20,ML3.7/1,MS4.0/18, Ms1 4.0/18,ms1mx3.8/31,Error ellipse: s-maj=19.3km s-min=15.0km az=76.0*
*JMA **09** 21:24:35.5±0.3,22.53N×121.10E,h77km,M4.5*
*TAP **09** 21:24:35.9,22.68N×121.08E,h6km,ML4.9,B*
*ISCJB **09** 21:24:35.9±0.3,22.60N±0.02×121.19E±0.02,h21km±2km, mb4.5/55,MS4.2/25,Error ellipse: s-maj=3.1km s-min=2.4km az=36.2*
*NEIC **09** 21:24:35.7,22.71N×121.01E,h6km,mb4.8/19, ML5.2(TAP),After TAP.*
NEIC Recorded [4 TAP] in T'ai-tung and 2 [TAP] in P'ing-tung.
*MOS **09** 21:24:36.1±1.1,22.56N×121.18E,h26km,mb4.9/29, MS4.2/15,Error ellipse: s-maj=11.0km s-min=6.5km az=110.6*
*DJA **09** 21:24:44,22.81N×121.10E,h46km,mb4.6/7*

ISC 09 21:24:37.0±0.5,22.67N±0.02×121.16E±0.02,h16km±3km, n226,σ1951/274,mb4.6/55,MS4.2/26,21C-23D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.08**	**350**	*i P*		**Pg**	**21 24 39.4**	**-0.9**
	baz=43							
TWG	**Pinlang**	**0.17**	**331**	*i P*		**Pg**	**21 24 39.4**	**-2.0**
	baz=349							
TWG				S		**Sg**	**21 24 42.1**	**-2.1**
	baz=349							
TWG	**Pinlang**	**0.17**	**331**	*eP*		Pg	21 24 38.3	-3.0
TWG				*eS*		**Sg**	**21 24 41.9**	**-2.3**
ECL	**Taimali**	**0.21**	**249**	*i P*		**Pg**	**21 24 39.4**	**-2.4**
	baz=243							
ECL				*eS*		**Sg**	**21 24 41.3**	**-3.8**
	baz=243							
TAW	**Tawu**	**0.40**	**218**	P		**Pg**	**21 24 43.8**	**-1.3**
	baz=224							
TAW				S		**Sg**	**21 24 49.3**	**-1.3**
	baz=224							
EAST	**Anshuo**	**0.41**	**225**	*i P*		**Pg**	**21 24 43.9**	**-1.5**
	baz=234							
CHKT	**Chengkung**	**0.47**	**24**	*i P*		**Pb**	**21 24 46.7**	**-0.1**
	baz=39							
CHKT				*eS*		**Sn**	**21 24 55.4**	**-1.5**
	baz=39							
SSD	**Sandimen**	**0.50**	**279**	*i P*		**Pg**	**21 24 44.5**	**-2.4**
	baz=279							
SSD				*eS*		**Sg**	**21 24 49.7**	**-3.9**
	baz=279							
ELDTW	**Lidau**	**0.53**	**345**	*i P*		**Pg**	**21 24 46.3**	**-1.4**
	baz=348							
ELDTW				*eS*		**Sg**	**21 24 53.2**	**-1.6**
	baz=348							
SCZT	**Fangliau**	**0.58**	**239**	*i P*		**Pg**	**21 24 46.8**	**-1.7**
	baz=240							
SCZT				S		**Sg**	**21 24 54.0**	**-2.4**
	baz=240							
STYT	**Tauyuan**	**0.62**	**323**	*i P*		**Pg**	**21 24 47.7**	**-1.5**
	baz=324							
STYT				*eS*		**Sg**	**21 24 55.1**	**-2.3**
	baz=324							
SGLT	**Jiouru**	**0.62**	**275**	*eP*		**Pg**	**21 24 48.1**	**-1.2**
	baz=277							
SGLT				*eS*		**Sg**	**21 24 56.6**	**-0.9**
	baz=277							
SGST	**Jiashian**	**0.67**	**307**	P		**Pg**	**21 24 48.8**	**-1.4**
	baz=310							
SGST				*eS*		**Sg**	**21 24 58.7**	**-0.5**
	baz=310							
TWF1	**Yuli**	**0.69**	**10**	*eP*		**Pg**	**21 24 48.6**	**-1.9**
	baz=357							
TWF1				*eS*		**Sb**	**21 24 59.9**	**0.0**
	baz=357							
TWM1	**Shoushan**	**0.70**	**283**	*eP*		**Pg**	**21 24 49.9**	**-0.9**
	baz=283							
LAY	**Lan-yu**	**0.72**	**150**	*i P*		**Pg**	**21 24 50.5**	**-0.7**
	baz=149							
LAY				*eS*		**Sn**	**21 25 03.9**	**+0.5**
	baz=149							
YULB	**Yu-li**	**0.73**	**10**	*eP*		**Pg**	**21 24 48.8**	**-2.5**
YULB				*eS*		**Sb**	**21 25 00.9**	**-0.1**
WTP	**Ta-pu**	**0.76**	**319**	*i P*		**Pg**	**21 24 51.1**	**-0.8**
	baz=321							
HEN	**Hengchun**	**0.77**	**211**	*i P*		**Pg**	**21 24 51.2**	**-0.8**
	baz=210							
CHN1	**Nanshi**	**0.78**	**311**	P		**Pg**	**21 24 51.4**	**-0.8**
	baz=319							
CHN1				*eS*		**Sg**	**21 25 02.4**	**-0.1**
	baz=319							
KAU	**Kaohsiung**	**0.80**	**263**	*eP*		**Pn**	**21 24 53.9**	**+0.3**
	baz=263							
TPUB	**Ta-pu**	**0.80**	**322**	*eP*		**Pb**	**21 24 51.5**	**-1.0**
TPUB				*eS*		**Sg**	**21 24 58.7**	**-4.4**
TWK1	**Hengchun**	**0.80**	**205**	P		**Pb**	**21 24 51.1**	**-1.3**
	baz=216							
TSEB	**Hengchuen, Pin**	**0.81**	**198**	P		**Pb**	**21 24 51.6**	**-1.0**
	baz=204							
TSEB				*eS*		**Sg**	**21 25 03.5**	**+0.2**
	baz=204							
TWP	**Hsiaoliuchiu**	**0.81**	**247**	*eP*		**Pn**	**21 24 53.5**	**-0.2**
	baz=236							
CHN3	**Shinhua**	**0.84**	**299**	P		**Pn**	**21 24 54.0**	**-0.2**
	baz=305							
CHN3				*eS*		**Sn**	**21 25 07.6**	**+1.5**
	baz=305							
EHY	**Hungye**	**0.84**	**10**	*eP*		**Pb**	**21 24 50.8**	**-2.5**
	baz=9.0							
EHY				*eS*		**Sg**	**21 25 04.7**	**+0.2**
	baz=9.0							
CHN4	**Tsaushan**	**0.86**	**322**	P		**Pb**	**21 24 53.0**	**-0.5**
	baz=330							
CHN4				S		**Sg**	**21 25 05.5**	**+0.5**
	baz=330							
TWK	**Hsinying**	**0.86**	**314**	*i P*		**Pb**	**21 24 53.1**	**-0.5**
	baz=329							
TWK				*eS*		**Sg**	**21 25 05.3**	**+0.3**
	baz=329							
ALS	**Alishan**	**0.90**	**339**	P		**Pb**	**21 24 53.2**	**-1.1**
	baz=339							
ALS				*eS*		**Sb**	**21 25 06.1**	**-0.1**
	baz=339							
TAI1	**Yung-k'ang**	**0.94**	**293**	*eP*		**Pn**	**21 24 55.4**	**0.0**
	baz=294							
TAI1				*eS*		**Sn**	**21 25 09.2**	**+0.6**
	baz=294							
CHN5	**Tsauling**	**1.02**	**334**	*i P*		**Pb**	**21 24 55.8**	**-0.6**
	baz=334							
SCLT	**Jiali**	**1.02**	**299**	P		**Pb**	**21 24 56.1**	**-0.2**
	baz=300					

YHNB eSn Sn 21 25 35.1 +0.2
NSK Sanguang 2.00 5 eP Pn 21 25 09.9 -0.3
baz=358
TWC Suao 2.03 18 eP Pn 21 25 09.7 -0.8
baz=9.0
TWC eS Sb 21 25 38.5 0.0
baz=9.0
TWE Neicheng 2.09 13 eP Pn 21 25 11.3 -0.1
baz=16
HSN Hsinchu 2.13 355 eP Pg 21 25 16.7 -1.2
baz=348
HSN eS Sg 21 25 43.4 -2.1
baz=348
NCU National Centr 2.29 1 eP Pb 21 25 16.6 -1.3
baz=350
TATO Taipei 2.31 7 ePn Pn 21 25 14.1 -0.3
TATO ePg Pg 21 25 21.1 -0.3
TATO eSn Sn 21 25 42.5 -0.1
TWA Mucha 2.33 9 eP Pn 21 25 15.6 +0.9
baz=11
TAP1 Taipei 2.38 8 eP Pb 21 25 18.0 -1.4
baz=12
TAP1 eS Sb 21 25 46.7 -1.9
baz=12
TWS1 Kuangyinshan 2.43 5 eP Pn 21 25 17.6 +1.6
baz=341
TWS1 eS Sb 21 25 52.4 +2.3
baz=341
TWB1 Santiao Chiao 2.45 18 eP Pn 21 25 15.6 -0.7
baz=7.0
TWB1 eS Sb 21 25 48.8 -1.7
baz=7.0
NWF Wu-fen Shan 2.46 13 eP Pn 21 25 17.5 +1.1
baz=14
YOJ Yonaguni jima 2.46 43 ⇓P Pn 21 25 17.0 +0.5
baz=30
YOJ Yonaguni jima 2.46 43 P Pn 21 25 16.2 -0.2
YOJ eS Sn 21 25 47.5 +1.3
TWY Chenhua 2.62 9 eP Pn 21 25 19.6 +0.9
baz=11
HATJ Hateruma jima 2.79 60 P Pn 21 25 20.6 -0.4
HATJ eS Sn 21 25 54.7 +0.3
IRIF Iriomote-Funau 2.88 54 P Pn 21 25 22.0 -0.2
IRIF eS Sn 21 25 56.5 0.0
JKRS Kuro-shima 3.04 59 P Pn 21 25 24.3 -0.2
JKRS eS Sn 21 26 00.6 0.0
KNM Kinmen 3.05 305 eP Pn 21 25 24.9 +0.4
baz=304
JIJ Ishigaki jima 3.21 58 P Pn 21 25 26.1 -0.7
JIJ eS Sn 21 26 04.1 -0.7
QZH Quanzhou 3.26 314 Pn Pn 21 25 27.4 -0.1
QZH Sn Sn 21 26 05.2 -0.8
QZH smax smax
comp=N,2μm,0.8s
QZH smax smax
comp=E,2μm,0.9s
JTJ Tarama 3.79 58 P Pn 21 25 34.1 -0.7
JTJ eS Sn 21 26 20.2 +1.2
JMJ Miyako jima 2 4.34 60 eP Pn 21 25 42.6 +0.2
baz=42
JMJ Miyako jima 2 4.34 60 P Pn 21 25 42.4 0.0
JOGS Gusukube 4.41 61 P Pn 21 25 43.3 0.0
JKE Kume jima 2 6.28 53 P Pn 21 26 07.3 -1.7
GZH Guangzhou 7.22 275 P Pn 21 26 19.6 -2.3
GZH smax smax
comp=N,540nm,1.4s
GZH smax smax
comp=E,300nm,1.2s
JOW Kunigami 7.68 56 eP Pn 21 26 27.4 -0.8
baz=38
JOW Kunigami 7.68 56 Pn Pn 21 26 25.6 -2.6
JOW Sn Sn 21 27 52.2 -2.7
JOW Kunigami 7.68 56 P Pn 21 26 26.2 -2.0
JOW Kunigami 7.68 56 Pn Pn 21 26 25.6 -2.6
comp=E,4.0nm,0.3s,baz=191,slow=10,SNR=6.9
JOW Sn Sn 21 27 52.2 -2.7
baz=284,slow=19,SNR=2.2
SSE Sheshan 8.39 0 P Pn 21 26 46.1 +8.2
SSE S Sn 21 28 22.7 +10
SSE pmax pmax
comp=Z,24nm,0.6s
SSE pmax pmax
comp=Z,170nm,4.1s
SSE LR LR
comp=N,2μm,10.5s
SSE LR LR
comp=E,1μm,10.6s
SSE LR LR
comp=Z,3μm,8.9s
WHN Wuhan 9.93 324 P Pn 21 26 58.3 -0.7
WHN S Sn 21 28 47.1 -3.0
WHN LR LR
comp=N,5μm,5.6s
WHN LR LR
comp=E,12μm,11.7s
WHN LR LR
comp=Z,12μm,9.5s
QIZ Qiongzhong 11.19 253 P Pn 21 27 18.6 +2.3
QIZ pmax pmax
comp=Z,21nm,1.8s
QIZ LR LR
comp=N,2μm,18.4s
QIZ LR LR
comp=Z,2μm,12.2s
QIZ Qiongzhong 11.19 253 ePn Pn 21 27 14.4 -1.9
comp=Z,57nm,1.3s
ENH Enshi 12.90 308 ePn Pn 21 27 38.8 -1.0
comp=Z,20nm,1.2s
ENH eSn Sn 21 29 57.7 -5.4
JNU Nakatsue 13.49 37 LR LR 21 33 40.9
comp=Z,498nm,19.8s,baz=44,slow=40
GYA Guiyang 13.72 289 P Pn 21 27 51.1 +0.1
GYA pmax pmax
comp=Z,10.0nm,1.1s
GYA pmax pmax
comp=Z,50nm,4.9s
GYA LR LR
comp=N,1μm,8.2s
GYA LR LR
comp=E,2μm,9.6s
GYA LR LR
comp=Z,2μm,10.6s
TIA Tai'an 13.94 346 eP P 21 27 58.0 -4.0
TIA LR LR
comp=N,6μm,10.8s
TIA LR LR
comp=E,2μm,9.8s
TIA LR LR
comp=Z,6μm,10.8s
XAN Xi'an 15.62 319 P Pn 21 28 16.6 +0.1
XAN LR LR
comp=N,2μm,9.9s
XAN LR LR
comp=E,600nm,12.7s
XAN LR LR
comp=Z,910nm,12.5s
KSAR Wonju Array Be 15.82 20 Pn Pn 21 28 20.2 +1.2
KSRS Korea Array 15.84 20 Pn Pn 21 28 20.2 +0.9
comp=Z,0.3nm,0.3s,baz=200,slow=14,SNR=9.8
KSRS LR LR 21 35 10.5
comp=Z,624nm,19.8s,baz=194,slow=40
DAV Davao City (W) 16.09 164 LR LR 21 34 34.5
comp=Z,715nm,18.9s,baz=356,slow=38
KMI Kunming 17.02 282 P P 21 28 36.2 -0.3
KMI pP pP 21 28 42.3 +1.3
KMI sP sP 21 28 45.7 +2.6
KMI PP PP 21 28 51.5
KMI pmax pmax
comp=Z,130nm,5.4s
KMI LR LR
comp=N,690nm,11.5s
KMI LR LR
comp=E,950nm,11.9s
KMI LR LR
comp=Z,1μm,12.7s
KKM Kota Kinabalu 17.21 197 ePn Pn 21 28 36.6 -0.3
comp=Z,39nm,1.1s
KKM Kota Kinabalu 17.21 197 P P 21 28 42.8 +4.4
comp=Z,38nm,1.3s,comp=Z,586nm
BJT Baijiatuan 17.81 347 ePn Pn 21 28 42.8 -1.3
comp=Z,23nm,0.8s
BJI Beijing 17.82 347 P P 21 28 45.9 +0.9
BJI pmax pmax
comp=Z,13nm,1.4s
BJI pmax pmax
comp=Z,600nm,6.4s
BJI LR LR
comp=E,210nm,11.8s
BJI LR LR
comp=Z,800nm,13.2s
CBIJ Chichi jima 19.57 73 LR LR 21 35 44.4
comp=Z,297nm,19.9s,baz=151,slow=34
JOD2 Odawara 2 20.04 47 P Pn 21 29 15.3 +4.1
LZH Lanzhou 20.12 315 ⇑P Pn 21 29 12.7 +0.4
LZH pP pP 21 29 19.0 +4.1
LZH sP sP 21 29 21.7 +4.7
LZH PP PP 21 29 32.6
LZH S S 21 32 54.3 -1.7
LZH sS sS 21 33 02.2 -1.0
LZH pmax pmax
comp=Z,32nm,1.0s
LZH pmax pmax
comp=Z,250nm,5.2s
LZH LR LR
comp=N,2μm,10.2s
LZH LR LR
comp=E,2μm,8.3s
LZH LR LR
comp=Z,2μm,12.5s
BTO Baotou 20.21 335 eP P 21 29 11.6 +0.3
MAJO Matsushiro 20.22 43 eP Pn 21 29 12.8 -0.5
MAJO pmax pmax
comp=Z,28nm,0.9s
MAJO Matsushiro 20.22 43 eP Pn 21 29 12.8 -0.6
comp=Z,28nm,0.9s
MAT Matsushiro 20.22 43 P P 21 29 12.1 +0.8
MAT S S 21 32 57.0 -0.8
MAT Matsushiro 20.22 43 P Pn 21 29 15.8 +2.5
MJAR Matsushiro Arr 20.22 43 P Pn 21 29 12.6 -0.8
MJAR Matsushiro Arr 20.22 43 P Pn 21 29 12.6 -0.8
comp=Z,8.7nm,0.9s,baz=234,slow=10.0,SNR=19
MJAR LR LR 21 37 39.2
comp=Z,264nm,19.9s,baz=220,slow=39
JRY Ryogami san 20.35 45 P Pn 21 29 15.2 +0.3
CHTO Chiang Mai 21.13 264 eP P 21 29 20.2 -1.1
CHTO pmax pmax
comp=Z,20nm,1.3s
CHTO Chiang Mai 21.13 264 eP P 21 29 20.2 -1.1
comp=Z,20nm,1.3s
CHTO Chiang Mai 21.13 264 P P 21 29 26.9 +5.6
comp=Z,18nm,1.2s
CM31 Chiang Mai Arr 21.22 263 eP P 21 29 23.7 +1.5
comp=Z,1.6nm,0.4s
CMAR Chiang Mai Arr 21.22 263 P P 21 29 23.8 +1.5
CMAR Chiang Mai Arr 21.22 263 P P 21 29 23.8 +1.5
comp=Z,1.7nm,0.6s,baz=67,slow=8.8,SNR=14
SBUM Sibu 21.89 205 P P 21 29 30.7 +1.2
comp=Z,21nm,1.6s
JYA Atsumi 22.44 41 P P 21 29 35.2 0.0
TNTI Ternate 22.59 164 P P 21 29 49.9 +13
MDJ Mudanjiang 22.96 16 P P 21 29 45.3 +4.7
MDJ S S 21 33 45.4 -4.8
MDJ pmax pmax
comp=Z,12nm,0.9s
MDJ pmax pmax
comp=Z,140nm,5.8s
MDJ LR LR
comp=N,1μm,13.3s
MDJ LR LR
comp=E,680nm,12.0s
MDJ LR LR
comp=Z,1μm,13.3s
USRK Ussuriysk Arra 23.26 20 P P 21 29 43.5 -0.1
comp=Z,5.8nm,1.1s,baz=195,slow=5.9,SNR=5.5
USRK LR LR 21 39 09.0
comp=Z,242nm,21.0s,baz=360,slow=38
JOM Ohasama 23.95 41 P P 21 29 47.6 -2.9
LBMI Labuha 23.98 164 P P 21 29 56.8 +5.9
comp=Z,72nm,1.1s,comp=Z,1μm
STKI Siang 24.37 204 P P 21 30 00.4 +5.9
comp=Z,27nm,1.4s
GTA Gaotai 24.66 317 eP P 21 29 58.3 +1.1
GTA pmax pmax
comp=Z,24nm,2.1s
GTA pmax pmax
comp=Z,280nm,5.9s
GTA LR LR
comp=N,880nm,11.9s
GTA LR LR
comp=E,750nm,12.8s
GTA LR LR
comp=Z,910nm,14.3s
SHL Shillong 26.85 282 ePKP P 21 30 20.0 +2.8
SHL ex x 21 32 22.0
KAPI Kappang 27.55 183 eP P 21 30 24.4 +1.2
comp=Z,28nm,1.4s
KAPI Kappang 27.55 183 LR LR 21 43 02.9
comp=Z,167nm,19.1s,baz=204,slow=40
ULN Ulaanbaatar 27.56 339 eP P 21 30 22.7 -0.6
comp=Z,22nm,1.4s
ULN Ulaanbaatar 27.56 339 P P 21 30 24.6 +1.3
ASAJ Asahikawa 27.73 34 P P 21 30 26.6 +1.9
ASAJ Asahikawa 27.73 34 P P 21 30 26.6 +1.9
comp=Z,7.5nm,0.9s,baz=251,slow=15,SNR=4.1
ASAJ LR LR 21 42 08.0
comp=Z,372nm,18.4s,baz=81,slow=38
SONM Songino Array 27.75 338 P P 21 30 25.4 +0.4
SONM Songino Array 27.75 338 P P 21 30 25.4 +0.4
comp=Z,4.0nm,0.8s,baz=154,slow=8.9,SNR=26
SONM LR LR 21 42 25.0
comp=Z,840nm,20.7s,baz=307,slow=38
LSA Lhasa 27.77 291 P P 21 30 27.9 +2.1
LSA Lhasa 27.77 291 eP P 21 30 25.0 -0.8
LSA pmax pmax
comp=Z,43nm,1.4s
LSA Lhasa 27.77 291 eP P 21 30 25.0 -0.8
comp=Z,43nm,1.4s
KLR Kul'dur 27.80 15 eP P 21 30 29.0 +3.8
KLR MLR MLR
comp=N,800nm,13.0s
KLR MLR MLR
comp=E,1μm,13.0s
KLR MLR MLR
comp=Z,5μm,13.0s
HABR Khabarovsk 28.02 20 eP P 21 30 28.3 +1.1
HABR ePPP PPP 21 31 23.6
HABR e 21 33 44.1
HABR eS S 21 35 09.4 -1.5
HABR e*SS sS 21 35 25.7 +6.7
HABR e 21 41 14.5
HABR pmax pmax
comp=E,37nm,1.9s
HABR pmax pmax
comp=Z,13nm,1.3s
HABR pmax pmax
comp=N,10.0nm,1.3s
HABR MLR MLR
comp=Z,360nm,17.0s
YSS Yuzh-Sakhalins 29.83 30 eP P 21 30 48.8 +5.5
YSS e 21 30 55.0
YSS MLR MLR
comp=Z,500nm,13.0s
YSS Yuzh-Sakhalins 29.83 30 eP P 21 30 42.6 -0.7
comp=Z,44nm,1.1s
ZAK Zakamensk 31.00 338 eP P 21 30 52.4 -1.3
ZAK pmax pmax
comp=Z,3.0nm,1.2s
TLY Talaya 31.97 339 eP P 21 31 02.4 +0.2
TLY eS S 21 36 08.9 -4.0
TLY pmax pmax
comp=Z,6.0nm,1.0s
TLY MLR MLR
comp=Z,799nm,14.0s
TLY Talaya 31.97 339 eP P 21 31 01.8 -0.4
comp=Z,8.4nm,1.1s
IRK Irkutsk 32.26 340 eP P 21 31 05.6 +0.9
IRK pmax pmax
comp=Z,21nm,1.6s
WMQ Urumqi 34.70 315 P P 21 31 26.4 +0.2
WMQ pP pP 21 31 36.0 +4.9
WMQ sP sP 21 31 41.0 +7.9
WMQ pmax pmax
comp=Z,8.0nm,1.2s
WMQ pmax pmax
comp=Z,150nm,5.3s
WMQ LR LR
comp=N,700nm,10.0s
WMQ LR LR
comp=E,680nm,9.0s
WMQ LR LR
comp=Z,770nm,15.7s
DDI Dehra Dun 39.14 291 ex P 21 32 05.0 +0.9
MK31 Makanchi Array 39.42 317 ceP P 21 32 06.6 +0.4
MK31 pmax pmax
comp=Z,17nm,0.9s
MK31 Makanchi Array 39.42 317 eP P 21 32 06.8 +0.6
MK31 ePcP PcP 21 34 14.8 +0.6
MKAR Makanchi Array 39.42 317 P P 21 32 07.4 +1.2
MKAR pmax pmax
comp=Z,7.0nm,0.9s
MKAR MLR MLR
comp=Z,270nm,18.5s
MKAR Makanchi Array 39.42 317 P P 21 32 07.3 +1.2
MKAR Makanchi Array 39.42 317 P P 21 32 07.3 +1.2
comp=Z,6.8nm,0.9s,baz=112,slow=10,SNR=46
MKAR LR LR 21 49 58.9
comp=Z,270nm,18.5s,baz=108,slow=38
PETK Petropavlovsk- 41.13 33 LR LR 21 50 34.5
comp=Z,226nm,18.0s,baz=222,slow=38
ZAA0 Zalesovo Array 41.51 328 eP P 21 32 22.6 -0.6
ZALV Zalesovo Beam 41.51 328 P P 21 32 23.5 +0.3
ZALV pmax pmax
comp=Z,11nm,0.8s
ZALV MLR MLR
comp=Z,142nm,19.0s
ZALV Zalesovo Beam 41.51 328 P P 21 32 23.5 +0.3
ZALV Zalesovo Beam 41.51 328 P P 21 32 23.5 +0.3
comp=Z,11nm,0.8s,baz=111,slow=8.1,SNR=50
ZALV LR LR 21 52 08.0
comp=Z,142nm,19.0s,baz=249,slow=40
NVS Novosibirsk 42.77 328 ⇑iP P 21 32 33.6 0.0
NVS pmax pmax
comp=N,24nm,1.8s
NVS pmax pmax
comp=E,26nm,1.8s
NVS pmax pmax
comp=Z,53nm,1.8s
KURK Kurchatov 43.24 321 eP P 21 32 37.9 +0.5
KURK e 21 34 21.3
KURK pmax pmax
comp=Z,40nm,1.4s
KURK Kurchatov 43.24 321 eP P 21 32 37.9 +0.5
comp=Z,40nm,1.4s
KURK ePP PP 21 34 21.3 +3.4
AAK Ala-Archa 43.42 309 ⇓eP P 21 32 41.0 +1.8
AAK pmax pmax
comp=Z,20nm,1.7s
WRA Warramunga Arr 44.27 162 P P 21 32 43.0 -3.0
WRA Warramunga Arr 44.27 162 P P 21 32 43.0 -3.0
comp=Z,1.7nm,0.6s,baz=345,slow=8.7,SNR=17
KKAR Karatay Array 46.38 309 eP P 21 33 02.7 0.0
KKAR e 21 34 39.0
KKAR pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 46.38 309 eP P 21 33 02.7 0.0
comp=Z,5.2nm,0.9s
KKAR ePcP PcP 21 34 39.0 +1.5
KBL Kabul 46.81 297 eP P 21 33 07.0 +0.6
KBL pmax pmax
comp=Z,16nm,1.2s
KBL Kabul 46.81 297 eP P 21 33 07.0 +0.6
comp=Z,16nm,1.2s
ASAR Alice Springs 47.70 164 P P 21 33 11.4 -1.6
ASAR Alice Springs 47.70 164 P P 21 33 11.4 -1.6
comp=Z,0.6nm,0.6s,baz=353,slow=15,SNR=11
BRVK Borovoye 48.91 322 eP P 21 33 21.7 -0.3
BRVK e 21 34 45.8
BRVK pmax pmax
comp=Z,18nm,1.1s
BRVK Borovoye 48.91 322 eP P 21 33 21.7 -0.3
comp=Z,18nm,1.1s
BRVK ePcP PcP 21 34 45.8 -0.4
BILL Bilibino 53.11 19 eP P 21 33 57.5 +4.1
BILL i 21 34 12.4
BILL e 21 35 05.7
BILL pmax pmax
comp=Z,14nm,2.5s
BILL MLR MLR
comp=Z,300nm,16.0s
BILL Bilibino 53.11 19 eP P 21 33 54.6 +1.2
comp=Z,6.5nm,1.0s
AB31 Akbulak array 54.49 315 ceP P 21 34 04.7 +0.9
AB31 pmax pmax
comp=Z,8.0nm,1.1s
ABKAR Akbulak array 54.49 315 eP P 21 34 04.1 +0.3
comp=Z,30nm,1.5s
SVE Sverdlovsk 55.25 324 ⇑iP P 21 34 10.7 +1.5
SVE e 21 36 12.5
SVE pmax pmax
comp=Z,28nm,1.1s
SVE MLR MLR
comp=Z,301nm,13.0s
ARU Arti 56.30 324 ciP P 21 34 17.3 +0.5
ARU 21 36 18.8
ARU S S 21 42 02.9 -3.2
ARU SS SS 21 45 51.7 -1.0
ARU pmax pmax
comp=Z,22nm,1.2s
ARU Arti 56.30 324 eP P 21 34 17.1 +0.4
comp=Z,20nm,1.0s
STKA Stephens Creek 57.66 159 P P 21 34 26.0 -0.6
STKA Stephens Creek 57.66 159 P P 21 34 26.0 -0.6
comp=Z,1.8nm,0.9s,baz=315,slow=11,SNR=2.9
MIB Mutribah 65.60 294 eP P 21 35 21.8 +1.4
MIB AMb AMB 21 35 25.7
comp=Z,13nm,0.9s
RDF Al-Radifah 65.62 293 eP P 21 35 21.9 +1.4
RDF AMb AMB 21 35 26.2
comp=Z,19nm,0.8s
NAY Al-Naaiem 65.80 293 eP P 21 35 22.0 +0.2
NAY AMb AMB 21 35 27.0
comp=Z,7.4nm,0.9s
ZEI Tsey 65.84 308 eP P 21 35 20.9 -1.2
ZEI pmax pmax
comp=Z,15nm,1.3s
VRHR Novokhopersk 66.22 317 eP P 21 35 23.8 -0.2
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,20nm,1.3s
KLMR Klimovskoe 66.43 328 eP P 21 35 24.0 -1.2
KLMR pmax pmax
comp=Z,46nm,1.6s
KIV Kislovodsk 66.53 310 eP P 21 35 27.6 +1.3
KIV eS S 21 44 14.3 -2.3
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,75nm,18.0s
KIV Kislovodsk 66.53 310 eP P 21 35 25.6 -0.6
comp=Z,24nm,1.3s
VSR Storozhevoye 67.74 318 eP P 21 35 33.8 +0.1
VSR pmax pmax
comp=Z,10.0nm,1.3s
VSR pmax pmax
comp=N,6.0nm,0.7s
VSR pmax pmax
comp=E,10.0nm,1.4s
OBN Obninsk 68.67 322 ⇓eP P 21 35 40.5 +1.0
OBN e 21 38 08.3
OBN eS S 21 44 45.7 +4.0
OBN pmax pmax
comp=Z,15nm,1.2s
OBN MLR MLR
comp=Z,200nm,18.0s
JOF Joensuu 70.01 331 eP P 21 35 41.2 -6.4
JOF Joensuu 70.01 331 ep P 21 35 41.2 -6.4
ILAR Eielson Array 70.56 27 P P 21 35 51.3 +0.3
ILAR Eielson Array 70.56 27 P P 21 35 51.3 +0.3
comp=Z,0.3nm,0.6s,baz=289,slow=6.6,SNR=4.1
ILAR LR LR 22 08 57.3
comp=Z,71nm,18.8s,baz=295,slow=38
ARCES ARCESS Array B 70.93 338 P P 21 35 55.0 +1.9
ARCES ARCESS Array B 70.93 338 P P 21 35 55.0 +1.9
comp=Z,6.7nm,1.0s,baz=78,slow=5.9,SNR=4.5
FINES FINESS Array B 72.74 330 P P 21 36 04.5 +0.4
FINES FINESS Array B 72.74 330 P P 21 36 04.5 +0.4
comp=Z,4.0nm,0.9s,baz=78,slow=6.4,SNR=8.2
FINES LR LR 22 10 05.1
comp=Z,198nm,18.1s,baz=318,slow=38
AKASG Malin Array Be 73.98 319 P P 21 36 11.2 -0.5
AKASG Malin Array Be 73.98 319 P P 21 36 11.2 -0.5
AKASG Malin Array Be 73.98 319 P P 21 36 11.2 -0.5
comp=Z,0.2nm,0.2s,baz=56,slow=6.0,SNR=4.6
BR131 Keskin Array S 74.05 307 eP P 21 36 12.8 +0.2

	comp=Z,3.6nm,1.0s								
BRTR	**Keskin Array B**	**74.05**	**307**	P		**P**		**21 36 13.2**	**+0.7**
BRTR	**Keskin Array B**	**74.05**	**307**	P		**P**		**21 36 13.2**	**+0.7**
	comp=Z,1.9nm,1.0s,baz=85,slow=7.6,SNR=9.1								
BRTR				LR		LR		22 11 11.7	
	comp=Z,34nm,18.4s,baz=295,slow=38								
KWP	**Kalwaria Pacla**	**78.30**	**319**	*e*P		**P**		**21 36 36.4**	**+0.1**
KWP	**Kalwaria Pacla**	**78.30**	**319**	*e*P		**P**		**21 36 36.4**	**+0.1**
NB2	**NORSAR Subarra**	**79.55**	**332**	P		**P**		**21 36 42.6**	**-0.4**
	comp=Z,2.9nm,0.8s,baz=61,slow=5.6								
NOA	**NORSAR Array B**	**79.55**	**332**	P		**P**		**21 36 41.6**	**-1.4**
NOA	**NORSAR Array B**	**79.55**	**332**	P		**P**		**21 36 41.6**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=58,slow=7.3,SNR=3.5								
NOA				LR		LR		22 15 10.7	
	comp=Z,268nm,20.7s,baz=70,slow=38								
RES	**Resolute Bay**	**80.15**	**9**	LR		LR		22 12 50.4	
	comp=Z,114nm,20.7s,baz=334,slow=36								
VYHS	**Vyhne**	**81.08**	**319**	*e*P		**P**		**21 36 52.8**	**+1.3**
VYHS				pmax		pmax			
	comp=Z,191nm,4.2s								
VYHS	**Vyhne**	**81.08**	**319**	*e*P		**P**		**21 36 52.8**	**+1.3**
GERES	**GERESS Array B**	**83.99**	**321**	P		**P**		**21 37 07.2**	**+0.5**
GERES	**GERESS Array B**	**83.99**	**321**	P		**P**		**21 37 07.2**	**+0.5**
	comp=Z,0.7nm,0.8s,baz=46,slow=5.8,SNR=5.5								
SUMG	**Summit**	**84.00**	**354**	*e*P		**P**		**21 37 06.7**	**+0.1**
SUMG				pmax		pmax			
	comp=Z,6.0nm,0.9s								
SUMG	**Summit**	**84.00**	**354**	*e*P		**P**		**21 37 06.7**	**+0.1**
	comp=Z,5.8nm,0.9s								
YKA	**Yellowknife Ar**	**84.36**	**23**	P		**P**		**21 37 06.7**	**-1.4**
YKA	**Yellowknife Ar**	**84.36**	**23**	P		**P**		**21 37 06.7**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=314,slow=4.7,SNR=8.7								
KEST	**Kesra**	**93.24**	**311**	LR		LR		22 27 25.7	
	comp=Z,41nm,19.4s,baz=254,slow=40								
SDV	**Santo Domingo**	**146.58**	**22**	*e*PKPdf		**PKPdf**		**21 44 17.3**	**-0.1**

*IDC **09** 21:49:13.5±3.0, 22.92S×68.13W, h76km±26km, mb3.8/5, mb1 3.9/6, mb1mx3.7/15, mbtmp3.7/6, Error ellipse: s-maj=31.5km s-min=17.5km az=114.0*
*GUC **09** 21:49:18.9±0.4, 22.73S×68.23W, h110km±2km, MD3.8, ML3.8*
*NEIC **09** 21:49:18.9, 22.73S×68.23W, h110km, mb4.5/2, MD3.8(GUC), After GUC.*

ISC 09 21:49:18.1±0.8, **22.74S**±0.0°08×**68.10W**±0.0°06, **h114**km±5km, **n37**, σ0**91**/43, **mb4.0**/4, **9C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SPCH	**San Pedro de A**	**0.19**	**210**	*i*P		**Pn**	**21 49 34.9**	**+0.5**
SPCH				*i* S		**Sn**	**21 49 47.4**	**+0.7**
SPCH	**San Pedro de A**	**0.19**	**210**	*i*P		**Pn**	**21 49 34.9**	**+0.5**
SPCH				*i* S		**Sn**	**21 49 47.4**	**+0.7**
SPCH				AML		AML	21 49 48.1	
	comp=E,7μm,0.3s							
LVC	**Limon Verde**	**0.76**	**280**	*i*P		**Pn**	**21 49 37.8**	**+0.1**
LVC				*i* S		**Sn**	**21 49 51.8**	**-0.6**
LVC	**Limon Verde**	**0.76**	**280**	*i*P		**Pn**	**21 49 37.8**	**+0.1**
LVC				*i* S		**Sn**	**21 49 51.8**	**-0.6**
LVC				AML		AML	21 49 53.1	
	comp=N,2μm,0.7s							
PB04	**Plate Boundary**	**1.37**	**290**	*i*P		Pn	21 49 49.7	+6.1
PB04				*i* S		Sn	21 50 13.7	+11
PB04				AML		AML	21 50 21.5	
	comp=E,1μm,0.5s							
PB09	**Plate Boundary**	**1.42**	**311**	*i*P		**Pn**	**21 49 46.0**	**+1.6**
PB09				*i* S		**Sn**	**21 50 05.5**	**+1.2**
PB09				AML		AML	21 50 08.9	
	comp=N,3μm,0.5s							
MACH	**Maria Elena**	**1.63**	**289**	*i*P		**Pn**	**21 49 46.8**	**-0.1**
MACH				*i* S		**Sn**	**21 50 08.0**	**-0.8**
MACH	**Maria Elena**	**1.63**	**289**	*i*P		**Pn**	**21 49 46.8**	**-0.1**
MACH				*i* S		**Sn**	**21 50 08.0**	**-0.8**
PB07	**Plate Boundary**	**1.94**	**301**	*i*P		**Pn**	**21 49 50.9**	**+0.1**
PB07				*i* S		**Sn**	**21 50 15.2**	**-0.4**
PB07				AML		AML	21 50 21.9	
	comp=E,892nm,0.6s							
MECH	**Mejillones**	**2.20**	**260**	*i*P		**Pn**	**21 49 53.8**	**+0.1**
MECH				*i* S		**Sn**	**21 50 20.0**	**-1.0**
MECH	**Mejillones**	**2.20**	**260**	*i*P		**Pn**	**21 49 53.8**	**+0.1**
MECH				*i* S		**Sn**	**21 50 20.0**	**-1.0**
LPAZ	**La Paz**	**6.42**	**360**	*e*Pn		**Pn**	**21 50 53.3**	**+2.5**
	comp=E,8.2nm,0.6s							
LCO	**Las Campanas**	**6.67**	**200**	*e*Pn		Pn	21 50 47.5	-6.2
	comp=E,27nm,0.6s							
LCO				*e*Sn		Sn	21 52 00.2	-8.2
CFAA	**Coronel Fontan**	**8.83**	**181**	P		Pn	21 51 17.4	-5.3
CFAA				S		Sn	21 51 50.4	-10
CFAA	**Coronel Fontan**	**8.83**	**181**	P		Pn	21 51 17.4	-5.3
	comp=E,0.2nm,0.3s,baz=2.6,slow=14,SNR=7.6							
CFAA				S		Sn	21 52 50.4	-10
	comp=E,0.1nm,0.3s,baz=300,slow=18,SNR=3.3							
SIV	**San Ignacio**	**9.44**	**46**	P		**Pn**	**21 51 30.0**	**-1.0**
SIV				S		**Sn**	**21 53 13.7**	**-1.7**
SIV	**San Ignacio**	**9.44**	**46**	P		**Pn**	**21 51 30.0**	**-1.0**
	comp=E,16nm,0.3s,baz=249,slow=11,SNR=213							
SIV				S		**Sn**	**21 53 13.7**	**-1.7**
	comp=E,0.4nm,0.3s,baz=188,slow=19,SNR=2.3							
BDFB	**Brasilia**	**20.23**	**73**	P		**P**	**21 53 43.1**	**-1.3**
BDFB	**Brasilia**	**20.23**	**73**	P		**P**	**21 53 43.1**	**-1.3**
	comp=E,3.4nm,0.8s,baz=246,slow=13,SNR=4.7							
PDAR	**Pinedale Array**	**75.56**	**330**	P		**P**	**22 00 50.4**	**+0.1**
PDAR	**Pinedale Array**	**75.56**	**330**	P		**P**	**22 00 50.4**	**+0.1**
	comp=E,0.6nm,0.6s,baz=122,slow=7.6,SNR=4.7							
ULM	**Lac du Bonnet**	**76.72**	**342**	P		**P**	**22 00 56.7**	**+0.3**
ULM	**Lac du Bonnet**	**76.72**	**342**	P		**P**	**22 00 56.7**	**+0.3**
	comp=E,2.5nm,0.5s,baz=132,slow=5.1,SNR=5.4							
TORD	**Torodi Ar. Bea**	**77.07**	**70**	P		**P**	**22 00 59.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**77.07**	**70**	P		**P**	**22 00 59.6**	**+0.4**
	comp=E,0.9nm,0.3s,baz=252,slow=5.2,SNR=23							
YKA	**Yellowknife Ar**	**92.61**	**340**	P		**P**	**22 02 16.9**	**+0.8**
YKA	**Yellowknife Ar**	**92.61**	**340**	P		**P**	**22 02 16.9**	**+0.8**
	comp=E,0.5nm,0.5s,baz=134,slow=4.8,SNR=19							
ASAR	**Alice Springs**	**129.15**	**206**	PKP		**PKPdf**	**22 08 13.1**	**-0.4**
ASAR	**Alice Springs**	**129.15**	**206**	PKP		**PKPdf**	**22 08 13.1**	**-0.4**
	comp=E,0.6nm,0.8s,baz=139,slow=1.7,SNR=5.8							
WRA	**Warramunga Arr**	**132.25**	**209**	PKP		**PKPdf**	**22 08 19.3**	**-0.1**
WRA	**Warramunga Arr**	**132.25**	**209**	PKP		**PKPdf**	**22 08 19.3**	**-0.1**
	comp=E,0.6nm,0.6s,baz=150,slow=1.6,SNR=13							
ZALV	**Zalesovo Beam**	**142.74**	**26**	PKPpre		PKPpre	22 08 34.3	
ZALV	**Zalesovo Beam**	**142.74**	**26**	PKhKP		PKPpre	22 08 34.3	
	comp=E,0.3nm,0.4s,baz=304,slow=2.6,SNR=1.9							
MKAR	**Makanchi Array**	**146.18**	**38**	PKPbc		**PKPbc**	**22 08 45.0**	**0.0**
MKAR	**Makanchi Array**	**146.18**	**38**	PKPbc		**PKPbc**	**22 08 45.0**	**0.0**
	comp=E,1.1nm,0.8s,baz=310,slow=2.8,SNR=12							
SONM	**Songino Array**	**154.58**	**9**	PKPbc		**PKPbc**	**22 09 06.6**	**+1.1**
SONM	**Songino Array**	**154.58**	**9**	PKPbc		**PKPbc**	**22 09 06.6**	**+1.1**
	comp=E,0.2nm,0.4s,baz=333,slow=0.5,SNR=2.8							

*ISCJB **09** 21:53:58.2±0.3, 32.63N±0.02×115.56W±0.02, h24km±3km, Error ellipse: s-maj=3.4km s-min=2.5km az=178.5*
*ECX **09** 21:53:59.8±0.6, 32.64N×115.62W, h7km, MD3.8, ML4.0*
*NEIC **09** 21:53:59.8, 32.64N×115.62W, h7km, ML4.0(ECX), ML3.8(PAS), After ECX.*
NEIC Felt at Mexicali. Also felt at Calexico and El Centro, California.

ISC 09 21:53:58.4±0.8, **32.63N**±0.02×**115.60W**±0.02, **h16**km±6km, **n76**, σ1**93**/110, **31C-25D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGL	**Mount Signal**	**0.11**	**282**	*e*P		**Pg**	**21 54 01.5**	**-0.3**
SGL	**Mount Signal**	**0.11**	**282**	*e*P		**Pg**	**21 54 01.5**	**-0.3**
ERPC	**Ernies Place**	**0.13**	**334**	*e*P		**Pg**	**21 54 02.3**	**+0.2**
COK	**Cook Ranch**	**0.25**	**333**	*e*P		**Pb**	**21 54 04.2**	**-0.3**
COK	**Cook Ranch**	**0.25**	**333**	*e*P		**Pb**	**21 54 04.2**	**-0.3**
SNR	**Schaffner Ranc**	**0.27**	**30**	*e*P		**Pb**	**21 54 05.0**	**+0.1**
SNR	**Schaffner Ranc**	**0.27**	**30**	*e*P		**Pb**	**21 54 05.0**	**+0.1**
YUH	**Yuha Desert**	**0.28**	**274**	*e*P		**Pg**	**21 54 04.4**	**+0.1**
YUH	**Yuha Desert**	**0.28**	**274**	*e*P		**Pg**	**21 54 04.4**	**+0.1**
CPBX	**Cerro Prieto**	**0.32**	**130**	*e*P		**Pg**	**21 54 05.7**	**+0.6**
CPBX				*e*S		**Sb**	**21 54 11.5**	**+0.8**
CPBX				*e*			21 54 18.8	
	comp=N,47μm,0.5s							
SWSC	**Sam W. Stewart**	**0.36**	**332**	*e*P		**Pg**	**21 54 05.7**	**0.0**
SWSC	**Sam W. Stewart**	**0.36**	**332**	*e*P		**Pg**	**21 54 05.7**	**0.0**
	baz=0.4,SNR=129							
SWSC				*e*S		**Sg**	**21 54 11.0**	**+0.3**
	baz=0.4							
CRR	**Carrizo Plain**	**0.41**	**310**	*e*P		**Pg**	**21 54 06.8**	**+0.1**
CRR	**Carrizo Plain**	**0.41**	**310**	*e*P		**Pg**	**21 54 06.8**	**+0.1**
RMX	**La Rumorosa**	**0.41**	**267**	*e*P		**Pg**	**21 54 06.7**	**0.0**
RMX				*e*S		**Sg**	**21 54 12.3**	**-0.1**
RMX	**La Rumorosa**	**0.41**	**267**	*e*P		**Pg**	**21 54 06.7**	**0.0**
RMX				*e*S		**Sg**	**21 54 12.3**	**-0.1**
DVTC	**Desert V Tower**	**0.43**	**274**	*e*P		**Pg**	**21 54 07.2**	**+0.2**
DVTC	**Desert V Tower**	**0.43**	**274**	*e*P		**Pg**	**21 54 07.2**	**+0.2**
	baz=0.4,SNR=276							
DVTC				*e*S		**Sg**	**21 54 13.0**	**+0.1**
	baz=0.4							
COA	**Coachella**	**0.46**	**59**	*e*P		**Pg**	**21 54 08.2**	**+0.5**
COA	**Coachella**	**0.46**	**59**	*e*P		**Pg**	**21 54 08.2**	**+0.5**
CLIC	**Calipatria**	**0.52**	**6**	*e*P		**Pg**	**21 54 08.9**	**+0.3**
EMSC	**East Mesa**	**0.53**	**78**	*e*P		**Pg**	**21 54 09.4**	**+0.6**
MONP	**Monument Peak**	**0.74**	**291**	P		**Pb**	**21 54 12.9**	**-0.2**
	baz=0.8,SNR=259							
MONP				*e*S		**Sg**	**21 54 22.5**	**-0.3**
	baz=0.8							
RDX	**Rancho Dawling**	**0.76**	**203**	*e*P		**Pg**	**21 54 12.9**	**-0.2**
RDX				*e*S		**Sg**	**21 54 22.9**	**-0.3**
RDX	**Rancho Dawling**	**0.76**	**203**	*e*P		**Pg**	**21 54 12.9**	**-0.2**
RDX				*e*S		**Sg**	**21 54 22.9**	**-0.3**
RDX				*e*			21 54 23.7	
	comp=E,5μm,0.3s							
GLA	**Glamis**	**0.77**	**57**	*e*P		**Pg**	**21 54 12.7**	**-0.8**
GLA				*e*S		**Sg**	**21 54 23.0**	**-0.7**
GLA	**Glamis**	**0.77**	**57**	P		**Pg**	**21 54 12.6**	**-0.9**
	baz=0.8,SNR=170							
GLA				*e*S		**Sg**	**21 54 22.8**	**-0.8**
	baz=0.8							
BAR	**Barrett**	**0.91**	**274**	*e*P		**Pb**	**21 54 15.6**	**-0.2**
BAR				*e*S		**Sb**	**21 54 27.2**	**-0.5**
BAR	**Barrett**	**0.91**	**274**	*e*P		**Pb**	**21 54 15.7**	**-0.1**
BC3	**Big Chuckawall**	**1.03**	**7**	*i*P		**Pb**	**21 54 16.5**	**-1.4**
	baz=1.1,SNR=48							
BC3				*i*S		**Sb**	**21 54 29.3**	**-2.0**
	baz=1.1							
CCX	**Cicese**	**1.18**	**230**	*e*P		**Pb**	**21 54 20.5**	**+0.1**
CCX				*e*S		**Sn**	**21 54 36.1**	**+0.1**
PFO	**Pinyon Flat Ob**	**1.22**	**324**	P		**Pn**	**21 54 19.4**	**-1.5**
	baz=1.2,SNR=108							
PFO				*e*S		**Sb**	**21 54 35.0**	**-1.7**
	baz=1.2							
ECNX	**Esteban Cantu**	**1.29**	**222**	*e*P		**Pb**	**21 54 22.2**	**-0.1**
ECNX				*e*P		**Pn**	**21 54 20.5**	**-1.3**
ECNX				*e*S		**Sb**	**21 54 36.1**	**-2.6**
ECNX				*e*S		**Sg**	**21 54 39.5**	**-0.5**
109C	**Camp Elliot, M**	**1.30**	**282**	*i*P		**Pn**	**21 54 21.2**	**-0.7**
	baz=1.3,SNR=52							
109C				*i*S		**Sb**	**21 54 38.7**	**-0.2**
	baz=1.3							
PBX	**Punta Banda**	**1.30**	**228**	*e*P		**Pb**	**21 54 22.6**	**+0.1**
PBX				*e*S		**Sn**	**21 54 39.7**	**+0.6**
PBX	**Punta Banda**	**1.30**	**228**	*e*P		**Pb**	**21 54 22.6**	**+0.1**
PBX				*e*S		**Sn**	**21 54 39.7**	**+0.6**
BELC	**Belle Mtn. Jos**	**1.41**	**346**	*i*P		**Pn**	**21 54 22.0**	**-1.6**
	baz=1.4							
Y12C	**Blythe**	**1.44**	**38**	*i*P		**Pn**	**21 54 22.6**	**-1.2**
	baz=1.5							
Y12C				*i*S		**Sn**	**21 54 41.1**	**-1.2**
	baz=1.5							
113A	**Mohawk Valley,**	**1.55**	**84**	P		**Pn**	**21 54 24.2**	**-1.1**
	baz=1.6,SNR=216							
113A				*i*S		**Sn**	**21 54 43.6**	**-1.5**
	baz=1.6							
IRM	**Iron Mountain**	**1.57**	**14**	*i*P		**Pn**	**21 54 24.5**	**-1.3**
	baz=1.6,SNR=55							
SPX	**San Pedro Mart**	**1.58**	**176**	*e*PN		**Pb**	**21 54 28.1**	**+0.7**
SPX				*e*S		**Sb**	**21 54 48.7**	**+1.4**
SPX				*e*			21 54 52.2	
	comp=N,721nm,0.2s							
MURC	**Murrieta**	**1.66**	**306**	*i*P		**Pn**	**21 54 26.0**	**-0.9**
	baz=1.7,SNR=58							
MURC				*i*S		**Sn**	**21 54 47.0**	**-0.9**
	baz=1.7							
PDMCI	**Parker Dam,Lak**	**2.06**	**36**	*i*Sb		**Sb**	**21 55 01.7**	**+0.7**
	baz=2.1							
114A	**Black Gap (USA**	**2.29**	**86**	*i*P		**Pn**	**21 54 34.8**	**-0.7**
	baz=2.3,SNR=30							
Z14A	**Wintersburg**	**2.34**	**71**	*i*P		**Pn**	**21 54 35.4**	**-0.8**
	baz=2.4,SNR=24							
BFSC	**Mount Baldy Ra**	**2.36**	**314**	*i*P		**Pn**	**21 54 35.5**	**-1.1**
	baz=2.4							
BFSC				*i*Sb		**Sb**	**21 55 10.7**	**+1.2**
	baz=2.4							
214A	**Organ Pipe Nat**	**2.45**	**105**	*i*P		**Pn**	**21 54 36.2**	**-1.5**
	baz=2.4,SNR=34							
214A				*i*S		**Sn**	**21 55 05.4**	**-2.0**
	baz=2.4							
LDFC	**Landfair**	**2.48**	**9**	*e*Pn		**Pb**	**21 54 41.5**	**-1.1**
LDFC				*e*S		**Sb**	**21 55 11.1**	**-1.9**
CIS	**Catalina Islan**	**2.48**	**289**	*i*Sb		**Sb**	**21 55 13.4**	**+0.3**
	baz=2.5							
FMP	**Fort Macarthur**	**2.51**	**296**	*i*Sb		**Sb**	**21 55 15.0**	**+1.3**
	baz=2.5							
MWC	**Mount Wilson**	**2.60**	**308**	*e*Pn		Pn	21 54 41.0	+1.0
MWC				*e*S		**Sb**	**21 55 18.7**	**+2.0**
PASC	**Pasadena Art C**	**2.66**	**306**	*e*Pn		Pn	21 54 42.8	+2.2
PASC				*e*S		**Sb**	**21 55 20.0**	**+1.9**
DECC	**Green Verdugo**	**2.80**	**306**	*i*Sb		**Sb**	**21 55 23.6**	**+1.4**
	baz=2.8							
GSC	**Goldstone**	**2.85**	**340**	*e*Pn		**Pn**	**21 54 45.7**	**+2.4**
GSC				*e*S		**Sg**	**21 55 31.7**	**+1.7**
EDW2	**Edwards Air Fo**	**3.00**	**319**	*i*Sb		**Sb**	**21 55 30.0**	**+1.9**
	baz=3.0							
ISA	**Isabella**	**3.86**	**323**	*e*Pn		**Pn**	**21 54 56.6**	**-0.5**
ISA				*e*S		**Sg**	**21 56 01.4**	**-0.8**
TUC	**Tucson**	**4.08**	**93**	*e*Pn		**Pn**	**21 54 58.3**	**-1.9**
TUC				*e*S		**Sg**	**21 56 11.6**	**+2.2**
WUAZ	**Wupatki**	**4.54**	**49**	*e*Pn		**Pn**	**21 55 07.9**	**+1.3**
WUAZ				*e*S		**Sg**	**21 56 23.7**	**-0.3**
U15A	**North Rim**	**4.67**	**35**	*i*P		**Pn**	**21 55 09.8**	**+1.3**
	baz=4.7							
X18A	**Snowflake**	**5.08**	**67**	*i*P		**Pn**	**21 55 15.0**	**+0.9**
	baz=5.1							
CCUT	**Cedar City**	**5.24**	**20**	*e*Pn		**Pn**	**21 55 17.2**	**+0.9**
	comp=N,4.0nm,0.7s							
CCUT				*e*S		**Sg**	**21 56 48.4**	**+1.7**
W18A	**Petrified Fore**	**5.47**	**61**	*i*P		**Pn**	**21 55 21.0**	**+1.6**
	baz=5.5							
Y19A	**Nutrioso**	**5.47**	**74**	*i*P		**Pn**	**21 55 20.6**	**+1.0**
	baz=5.5							
120A	**U Bar Ranch, L**	**5.88**	**89**	*i*P		**Pn**	**21 55 24.8**	**-0.2**
	baz=5.9,SNR=7.9							
Z20A	**Nine Sixteen R**	**5.91**	**83**	P		Pn	**21 55 25.9**	**+0.5**
	baz=5.9,SNR=23							
Y20A	**Horse Springs,**	**6.18**	**76**	*i*P		**Pn**	**21 55 30.3**	**+1.1**
	baz=6.2							
121A	**Cookes Peak, D**	**6.59**	**89**	*i*P		**Pn**	**21 55 35.0**	**+0.2**
	baz=6.6,SNR=13							
221A	**Mesquite Ranch**	**6.64**	**93**	*i*P		**Pn**	**21 55 35.8**	**+0.3**
	baz=6.6							
Y21A	**Point of Rocks**	**6.77**	**76**	*i*P		**Pn**	**21 55 38.6**	**+1.3**
	baz=6.8							
222A	**Williams Famil**	**7.21**	**92**	*i*P		**Pn**	**21 55 43.7**	**+0.5**
	baz=7.2,SNR=5.5							
Z22A	**Elephant Butte**	**7.28**	**83**	*i*P		**Pn**	**21 55 45.1**	**+0.8**
	baz=7.3							
Y22A	**Socorro**	**7.34**	**77**	*i*P		**Pn**	**21 55 46.4**	**+1.3**
	baz=7.3							
BNM	**Barren Site**	**7.65**	**76**	*e*Pn		**Pn**	**21 55 50.2**	**+0.8**
	comp=N,1.9nm,0.3s							
124A	**Stringfield Ra**	**8.55**	**87**	*i*P		**Pn**	**21 56 01.7**	**-0.1**
	baz=8.5,SNR=5.1							
324A	**Moseley Ranch,**	**8.67**	**95**	*i*P		**Pn**	**21 56 03.4**	**+0.1**
	baz=8.7,SNR=15							
MNTX	**Cornudas Mount**	**8.71**	**93**	*i*P		**Pn**	**21 56 03.5**	**-0.2**
	baz=8.7,SNR=10							

*ISCJB **09** 22:02:49.8±1.5, 32.14N±0.08×142.5E±0.1, h49km±13km, mb3.6/7, Error ellipse: s-maj=16.7km s-min=11.5km az=152.8*
*JMA **09** 22:02:50.7±0.4, 32.16N×142.44E, h86km, M3.5*
*IDC **09** 22:02:50.7±0.9, 32.05N×142.73E, h41km±8km, mb3.3/7, mb1 3.5/8, mb1mx3.4/24, mbtmp3.3/8, ML3.4/1, Error ellipse: s-maj=30.4km s-min=18.1km az=93.0*

ISC 09 22:02:50.6±0.9, **32.0N**±0.1×**142.6E**±0.2, **h35**km±4km, **n20, σ1**56/29, **mb3.6/7, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ2	**Mitsune**	**2.58**	**295**	P		**Pn**	**22 03 29.1**	**-0.7**
JHJ2				*e*S		**Sn**	**22 03 57.3**	**-2.7**
BSO1	**Boso 1**	**2.94**	**333**	P		**Pn**	**22 03 33.7**	**-0.6**
BSO1				*e*S		**Sn**	**22 04 07.4**	**-0.7**
BSO3	**Boso 3**	**3.26**	**328**	P		**Pn**	**22 03 38.3**	**-0.7**
BSO3				*e*S		**Sn**	**22 04 16.9**	**+0.4**
BSO4	**Boso 4**	**3.50**	**328**	P		**Pn**	**22 03 42.7**	**+0.3**
JOD2	**Odawara 2**	**4.35**	**319**	P		**Pn**	**22 03 52.8**	**-1.4**
JHU	**Hanno**	**4.70**	**325**	*e*S		**Sn**	**22 04 49.7**	**-2.5**
JHO	**Hitachi**	**4.86**	**340**	P		**Pn**	**22 03 59.4**	**-1.8**
JHO				*e*S		Sn	22 04 50.7	-5.6
JRY	**Ryogami san**	**5.02**	**323**	P		**Pn**	**22 04 02.8**	**-0.6**
JRY				*e*S		**Sn**	**22 04 58.8**	**-1.3**
JAG	**Ashikaga**	**5.09**	**330**	P		**Pn**	**22 04 03.8**	**-0.6**
JFK	**Kawauchi**	**5.50**	**346**	*e*S		Sn	22 05 06.0	-6.1
MJAR	**Matsushiro Arr**	**5.78**	**322**	P		**Pn**	**22 04 13.2**	**-0.6**
	1.1nm,0.3s,baz=154,slow=11,SNR=12							
MJAR				S		**Sn**	**22 05 15.8**	**-3.0**
	1.2nm,0.3s,baz=42,slow=22,SNR=6.4							
MAT	**Matsushiro**	**5.78**	**322**	P		**Pn**	**22 04 13.6**	**-0.2**
MAT				*e*S		**Sn**	**22 05 15.3**	**-3.6**
MAT	**Matsushiro**	**5.78**	**322**	P		**Pn**	**22 04 13.3**	**-0.5**
MAT				*e*S		**Sn**	**22 05 15.9**	**-3.0**
MKAR	**Makanchi Array**	**47.73**	**306**	P		**P**	**22 11 24.7**	**+0.8**
	0.3nm,0.6s,baz=85,slow=9.6,SNR=6.9							
KURBB	**Kurchatov Array**	**49.94**	**312**	P		**P**	**22 11 41.0**	**+0.2**
	0.6nm,0.3s,baz=83,slow=7.3,SNR=3.3							
WRA	**Warramunga Arr**	**52.28**	**190**	P		**P**	**22 11 57.9**	**-0.7**
	0.6nm,0.5s,baz=6.9,slow=7.7,SNR=8.9							
WRA				pP		**pP**	**22 12 09.8**	**+0.6**
	0.2nm,0.3s,baz=6.4,slow=7.7,SNR=1.3							
ILAR	**Eielson Array**	**53.25**	**30**	P		**P**	**22 12 04.1**	**-1.2**
	0.5nm,1.1s,baz=271,slow=7.2,SNR=4.2							
ILAR				pP		**pP**	**22 12 16.4**	**+0.5**
	0.3nm,0.7s,baz=266,slow=6.5,SNR=2.5							
ASAR	**Alice Springs**	**56.01**	**190**	P		**P**	**22 12 26.0**	**+0.2**
	0.4nm,0.6s,baz=16,slow=14,SNR=4.5							
YKA	**Yellowknife Ar**	**57.66**	**29**	P		**P**	**22 13 42.5**	**-1.1**
	0.2nm,0.7s,baz=299,slow=6.3,SNR=3.1							
YKA				pP		**pP**	**22 13 55.0**	**+0.6**
	0.3nm,0.6s,baz=292,slow=6.3,SNR=4.1							
BRTR	**Keskin Array B**	**82.92**	**313**	P		**P**	**22 15 11.2**	**-0.9**
	1.0nm,0.9s,baz=353,slow=4.5,SNR=4.0							

MEX 09 22:04:25.5±1.0, **17.16N**×**95.77W**, **h115**km±9km, **MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMIG	**Matias Romero**	**0.85**	**95**	*e*P		Pn	22 04 44.5	-1.1
CMIG				*i* S		Sn	22 04 58.1	-2.6
OXX	**Oaxaca**	**0.92**	**265**	*i* P		Pn	22 04 45.7	-0.8
OXX				*i* S		Sn	22 05 00.9	-1.5
VHO	**Vista Hermosa**	**0.93**	**265**	*i* P		Pn	22 04 45.7	-0.9
VHO				*i* S		Sn	22 05 00.5	-2.0
HUIG	**Huatulco**	**1.43**	**193**	*e*P		Pn	22 04 50.9	-0.8
HUIG				*i* S		Sn	22 05 15.1	-1.6
UTMO	**Huajuapan**	**2.05**	**289**	*e*P		Pn	22 04 58.8	-0.8
UTMO				*i* S		Sn	22 05 23.1	-2.6
PNIG	**Pinotepa**	**2.39**	**252**	*i* P		Pn	22 05 01.6	-2.1
PNIG				*i* S		Sn	22 05 30.6	-2.4
TGIG		**2.56**	**98**	*i* P		Pn	22 05 04.4	-1.6
TGIG				*i* S		Sn	22

comp=Z,1.5nm,0.6s,baz=28,slow=6.4,SNR=8.0
WRA Warramunga Arr 68.56 199 P **P** 22 17 11.4 +0.3
WRA pP **pP** 22 17 26.0 -0.4
comp=Z,0.4nm,0.8s,baz=19,slow=6.9,SNR=1.6
AKASG Malin Array Be 71.35 326 *eP* **P** 22 17 27.3 -0.6
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 71.35 326 P **P** 22 17 27.1 -0.9
comp=Z,2.4nm,0.4s,baz=32,slow=6.2,SNR=4.9
ASAR Alice Springs 72.26 198 P **P** 22 17 34.7 +1.0
comp=Z,0.1nm,0.4s,baz=13,slow=6.3,SNR=4.1
ASAR pP **pP** 22 17 49.8 +0.8
comp=Z,0.4nm,0.4s,baz=2.7,slow=5.7,SNR=3.1
TXAR Lajitas Array 77.60 60 P **P** 22 18 04.8 +0.1
comp=Z,0.5nm,0.5s,baz=302,slow=2.4,SNR=4.6
BRTR Keskin Array B 78.18 317 P **P** 22 18 08.3 +0.5
comp=Z,0.6nm,0.7s,baz=57,slow=4.5,SNR=4.5
GERES GERESS Array B 78.27 334 P **P** 22 18 07.6 -0.5
comp=Z,0.4nm,0.5s,baz=34,slow=5.2,SNR=4.3
MIB Mutribah 78.44 301 *eP* **P** 22 18 09.8 +0.5
MIB AMb AMB 22 18 10.7
comp=Z,13nm,0.7s
NAY Al-Naaiem 78.91 301 *eP* **P** 22 18 12.2 +0.4
NAY AMb AMB 22 18 15.0
comp=Z,4.6nm,2.1s
RDF Al-Radifah 78.97 301 *eP* **P** 22 18 13.3 +1.2
RDF AMb AMB 22 18 15.6
comp=Z,12nm,1.3s

CASC 09 22:16:14.5±3.4, 13°.76N×90°.32W, h158km±17km, MD3.7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.44**	**342**	*eP*	Pn	22 16 36.1	-0.6
IXG				*eS*	Sn	22 16 55.1	+1.2
RTR	**El Retiro**	**0.67**	**78**	*eP*	Pn	22 16 38.1	+0.1
SBLS	**San Blas**	**0.68**	**83**	*eP*	Pn	22 16 37.5	-0.6
SBLS				*eS*	Sn	22 16 56.2	+0.1
SNJE	**San Jose**	**0.70**	**81**	*eP*	Pn	22 16 37.4	-0.8
RBDL	**Robledal**	**0.71**	**60**	*eP*	Pn	22 16 39.8	+1.7
RBDL				*eS*	Sn	22 16 58.4	+2.2
FUG	**Fuego 3**	**0.86**	**323**	*eP*	Pn	22 16 39.4	+0.1
FUG				*eS*	Sn	22 17 01.0	+2.8
MTO2	**Montecristo 2**	**1.13**	**55**	*eP*	Pn	22 16 46.0	+4.6
LFRS	**El Faro**	**1.23**	**96**	*eP*	Pn	22 16 42.7	+0.5
LFRS				*eS*	Sn	22 17 05.2	+1.8
TP2	**Tecpan 2**	**1.23**	**326**	*eP*	Pn	22 16 44.8	+2.1
TP2				*eS*	Sn	22 17 10.1	+5.9
MRL	**Marmol**	**1.44**	**25**	*eP*	Pn	22 16 43.4	-0.9
MRL				*eS*	Sn	22 17 07.7	+0.4
SNVI	**San Vicente**	**1.44**	**95**	*eP*	Pn	22 16 46.5	+2.2
SNVI				*eS*	Sn	22 17 09.9	+2.8

*DJA **09** 22:16:58, 9°.29S×113°.09E, h25km, MLv3.7/10*
IDC 09 22:16:51.1±3.0, 9°.15S×113°.19E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/8, Error ellipse: s-maj=167.3km s-min=27.0km az=47.0, South of Java

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**18.52**	**309**	LR	LR	22 28 19.4	
	comp=Z,34nm,21.3s,baz=33,slow=37						
WRA	**Warramunga Arr**	**23.09**	**120**	P	P	22 21 58.4	-0.3
	0.6nm,0.9s,baz=296,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**24.51**	**129**	P	P	22 22 12.5	0.0
	0.3nm,0.6s,baz=299,slow=8.3,SNR=8.6						
MKAR	**Makanchi Array**	**62.13**	**336**	P	P	22 27 14.1	+0.1
	0.1nm,0.5s,baz=147,slow=7.0,SNR=5.0						

IDC 09 22:16:59.9±21.0, 12°.74S×167°.12E, h140km±185km, mb3.3/4, mb1 3.5/4, mb1mx3.3/17, mbtmp3.3/4, Error ellipse: s-maj=146.5km s-min=56.7km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.22**	**253**	P	P	22 23 14.6	-0.5
	0.4nm,0.8s,baz=83,slow=8.9,SNR=4.6						
ASAR	**Alice Springs**	**33.29**	**246**	P	P	22 23 24.6	+0.2
	1.1nm,1.1s,baz=75,slow=11,SNR=5.6						
ILAR	**Eielson Array**	**84.69**	**18**	P	P	22 29 17.6	0.0
	0.4nm,0.5s,baz=234,slow=5.2,SNR=12						
MKAR	**Makanchi Array**	**95.67**	**317**	P	P	22 30 10.1	+0.3
	0.3nm,0.7s,baz=90,slow=6.1,SNR=3.4						
ARCES	**ARCESS Array B**	**118.30**	**346**	PKP	PKPdf	22 35 29.5	-0.6
	6.0nm,0.9s,baz=57,slow=3.3,SNR=4.1						

IDC 09 22:25:38.8±12.0, 6°.44S×147°.03E, h79km±121km, mb3.3/2, mb1 3.4/4, mb1mx3.1/17, mbtmp3.2/4, ML2.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/7, Error ellipse: s-maj=161.9km s-min=56.1km az=144.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.95**	**177**	P	Pn	22 26 23.6	+0.1
	3.0nm,0.3s,baz=340,slow=7.0,SNR=6.6						
PMG				S	Sn	22 27 01.4	+3.5
	6.5nm,0.3s,baz=16,slow=14,SNR=7.7						
WRA	**Warramunga Arr**	**18.22**	**221**	P	P	22 29 45.0	-0.8
	0.1nm,0.3s,baz=47,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**21.27**	**215**	P	P	22 30 19.4	+0.4
	0.4nm,0.5s,baz=51,slow=9.2,SNR=7.6						
FITZ	**Fitzroy Crossi**	**23.86**	**239**	P	P	22 30 45.3	+0.2
	4.6nm,0.9s,baz=38,slow=13,SNR=2.9						
KSRS	**Korea Array**	**47.17**	**339**	LR	LR	22 52 44.1	
	comp=Z,17nm,18.8s,baz=40,slow=34						
TORD	**Torodi Ar. Bea**	**145.22**	**284**	PKPbc	PKPbc	22 45 07.2	-1.0
	1.3nm,0.5s,baz=84,slow=4.3,SNR=15						

IDC 09 22:50:54.5±1.5, 2°.66S×139°.21E, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.7/15, mbtmp3.7/5, ML4.3/1, Error ellipse: s-maj=68.1km s-min=24.8km az=103.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.82**	**195**	P	P	22 55 04.9	-0.1
	1.0nm,0.3s,baz=14,slow=12,SNR=16						
WRA				S	Sn	22 58 08.8	-15
	0.3nm,0.3s,baz=9.8,slow=21,SNR=6.0						
FITZ	**Fitzroy Crossi**	**20.31**	**220**	P	P	22 55 31.2	-1.0
	4.1nm,1.1s,baz=34,slow=11,SNR=2.5						
FITZ				S	S	22 59 06.0	-15
	4.6nm,1.0s,baz=56,slow=18,SNR=4.4						
ASAR	**Alice Springs**	**21.51**	**193**	P	P	22 55 45.4	+0.2
	1.9nm,0.6s,baz=23,slow=9.6,SNR=17						
ASAR				S	S	22 59 35.0	-10
	1.1nm,0.9s,baz=19,slow=24,SNR=4.6						
MKAR	**Makanchi Array**	**70.05**	**322**	P	P	23 02 08.8	+0.4
	0.1nm,0.3s,baz=118,slow=7.8,SNR=3.5						
ILAR	**Eielson Array**	**85.58**	**24**	P	P	23 03 34.3	-0.2
	0.3nm,0.7s,baz=248,slow=4.8,SNR=3.7						

IDC 09 23:16:59.4±1.8, 0°.06S×98°.64E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.6/24, mbtmp3.6/9, ML3.8/2, Error ellipse: s-maj=61.7km s-min=18.8km az=61.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.86**	**6**	Pn	Pn	23 17 45.4	-1.0
	8.4nm,0.3s,baz=237,slow=6.0,SNR=23						
CMAR	**Chiang Mai Arr**	**18.41**	**1**	P	Pn	23 21 16.1	-0.1
	0.2nm,0.3s,baz=193,slow=12,SNR=4.8						
WRA	**Warramunga Arr**	**40.15**	**122**	P	P	23 24 37.8	+0.2
	0.3nm,0.4s,baz=304,slow=8.9,SNR=2.9						
ASAR	**Alice Springs**	**41.49**	**127**	P	P	23 24 48.1	-0.5
	0.2nm,0.6s,baz=297,slow=7.5,SNR=2.9						
KSRS	**Korea Array**	**46.09**	**33**	P	P	23 25 24.3	-1.1
	1.2nm,0.5s,baz=218,slow=8.2,SNR=5.1						
SONM	**Songino Array**	**48.18**	**7**	P	P	23 25 42.3	+0.6
	1.1nm,0.6s,baz=189,slow=9.8,SNR=7.8						
SONM				PcP	PcP	23 27 09.7	+0.6
	0.4nm,0.6s,baz=200,slow=4.4,SNR=3.0						
MKAR	**Makanchi Array**	**48.81**	**345**	P	P	23 25 46.3	-0.2
	1.0nm,0.6s,baz=160,slow=8.9,SNR=23						
KURBB	**Kurchatov Arra**	**53.32**	**344**	P	P	23 26 19.9	-0.3
	0.5nm,0.7s,baz=167,slow=7.2,SNR=8.1						
ZALV	**Zalesovo Beam**	**55.03**	**350**	P	P	23 26 31.6	-1.1
	0.4nm,0.5s,baz=150,slow=6.1,SNR=3.6						

*IDC **09** 23:26:05.5±2.5, 47°.37N×150°.44E, h183km±22km, mb3.1/7, mb1 3.3/9, mb1mx3.1/25, mbtmp3.2/9, Error ellipse: s-maj=50.4km s-min=16.2km az=157.0*
*ISCJB **09** 23:26:00.7±1.2, 46°.7N±0°.2×150°.8E±0°.2, h167km, n20, σ1=32/20, mb3.4/7, Kuril Islands*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**4.92**	**229**	P	**Pn**	**23 27 14.5**	**+1.2**
NEM2				*eS*	**Sn**	**23 28 09.0**	**-1.1**
JTKR	**Abashiri--Toko**	**5.59**	**243**	P	Pn	23 27 26.1	+3.9
JAK	**Akkeshi**	**5.73**	**232**	P	**Pn**	**23 27 25.4**	**+1.5**
JAK				*eS*	**Sn**	**23 28 29.1**	**-0.1**
JAR	**Ashorobuto**	**6.06**	**238**	P	Pn	23 27 32.5	+4.2
JOB	**Onbets**	**6.26**	**235**	P	**Pn**	**23 27 33.3**	**+2.3**
JOB				*eS*	**Sn**	**23 28 42.6**	**+0.7**
ASAJ	**Asahikawa**	**6.35**	**249**	P	Pn	23 27 37.1	+5.0
ASAJ	**Asahikawa**	**6.35**	**249**	P	Pn	23 27 36.6	+4.5
	1.6nm,0.3s,baz=62,slow=9.5,SNR=9.5						
JKK2	**Kamakawa 2**	**6.37**	**246**	P	Pn	23 27 36.7	+4.3
JCH	**Churui**	**6.71**	**235**	P	**Pn**	**23 27 38.5**	**+1.5**
JCH				*eS*	**Sn**	**23 28 51.1**	**-1.6**
PETK	**Petropavlovsk-**	**7.78**	**32**	P	**Pn**	**23 27 51.3**	**+0.2**
	0.5nm,0.3s,baz=208,slow=15,SNR=3.2						
JNB	**Noboribetsu**	**8.17**	**242**	P	**Pn**	**23 27 58.6**	**+2.3**
JNB				*eS*	**Sn**	**23 29 27.6**	**+0.1**
JTM	**Tenmabayashi**	**9.21**	**233**	P	**Pn**	**23 28 08.9**	**-1.1**
JTM				*eS*	Sn	23 29 46.5	-6.0
JANG	**Nango**	**9.26**	**230**	P	**Pn**	**23 28 09.2**	**-1.5**
JANG				*eS*	Sn	23 29 46.9	-6.8
ILAR	**Eielson Array**	**37.56**	**38**	P	**P**	**23 32 58.5**	**+0.1**
	0.3nm,0.5s,baz=262,slow=7.0,SNR=7.0						
MKAR	**Makanchi Array**	**45.55**	**296**	P	**P**	**23 34 03.5**	**-0.1**
	0.2nm,0.4s,baz=72,slow=7.3,SNR=7.8						
MKAR				PcP	**PcP**	**23 35 40.2**	**+1.0**
	0.1nm,0.6s,baz=66,slow=4.9,SNR=2.8						
KURBB	**Kurchatov Arra**	**46.16**	**303**	P	**P**	**23 34 06.8**	**-1.4**
	0.2nm,0.4s,baz=69,slow=8.4,SNR=2.3						
YKA	**Yellowknife Ar**	**51.88**	**36**	P	**P**	**23 34 52.0**	**+0.5**
	0.6nm,0.7s,baz=299,slow=7.1,SNR=5.9						
FINES	**FINESS Array B**	**63.39**	**334**	P	**P**	**23 36 10.2**	**-1.5**
	0.8nm,0.7s,baz=27,slow=6.4,SNR=8.0						
NOA	**NORSAR Array B**	**67.74**	**340**	P	P	23 36 37.0	-2.7
	1.4nm,1.1s,baz=36,slow=6.8,SNR=3.0						
SCHQ	**Schefferville**	**73.94**	**22**	P	**P**	**23 37 17.3**	**+0.1**
	2.8nm,1.0s,baz=346,slow=8.3,SNR=3.4						

*KRSC **09** 23:30:09.8±3.6, 50°.21N×152°.53E, h568km±78km, ML4.5*
*ISCJB **09** 23:30:13.5±0.7, 51°.4N±0°.1×150°.9E±0°.1, h450km, mb3.1/8, Error ellipse: s-maj=19.6km s-min=8.2km az=169.5*
*MOS **09** 23:30:13.2±1.0, 51°.23N×151°.12E, h471km, mb4.4/2, Error ellipse: s-maj=30.7km s-min=17.1km az=55.3*
*IDC **09** 23:30:14.7±1.7, 51°.24N×151°.11E, h466km±26km, mb2.8/8, mb1 3.0/10, mb1mx2.8/26, mbtmp2.8/10, Error ellipse: s-maj=46.5km s-min=15.6km az=165.0*
ISC 09 23:30:14.0±0.9, 51°.4N±0°.2×151°.20E±0°.10, h450km, n29, σ1=99/28, mb3.2/8, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAK	**Asacha**	**4.28**	**73**	P	**P**	**23 31 34.5**	**+2.9**
PETK	**Petropavlovsk-**	**4.37**	**64**	PN	**P**	**23 31 34.7**	**+2.4**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**4.37**	**64**	P	**P**	**23 31 34.7**	**+2.4**
	comp=Z,1.4nm,0.3s,baz=235,slow=6.3,SNR=9.6						
RUS	**Russkaya**	**4.66**	**74**	PN	**P**	**23 31 36.9**	**+1.9**
RUS				S	**S**	**23 32 40.4**	**-0.7**
RUS	**Russkaya**	**4.66**	**74**	P	**P**	**23 31 36.9**	**+1.9**
RUS				*i* S	**S**	**23 32 40.4**	**-0.7**
PET	**Petropavlovsk**	**4.88**	**67**	PN	P	23 31 40.8	+3.7
PET	**Petropavlovsk**	**4.88**	**67**	P	P	23 31 40.8	+3.7
KOK	**Koryaka**	**4.96**	**64**	P	**P**	**23 31 40.9**	**+3.0**
AVH	**Avacha**	**5.01**	**65**	P	**P**	**23 31 41.3**	**+2.9**
UGLR	**Uglovaya**	**5.04**	**65**	P	P	23 31 41.9	+3.2
SMAR	**Somma**	**5.04**	**65**	P	**P**	**23 31 41.7**	**+2.8**
SDLR	**Sedlovina**	**5.09**	**65**	P	**P**	**23 31 42.2**	**+2.9**
SPN	**Mys Shipunski**	**5.70**	**69**	PN	**P**	**23 31 45.8**	**+0.7**
SPN				S	**S**	**23 32 55.9**	**-3.7**
SPN	**Mys Shipunski**	**5.70**	**69**	P	**P**	**23 31 45.8**	**+0.7**
SPN				*i* S	**S**	**23 32 55.9**	**-3.7**
KMNR	**Kamenistaya**	**6.96**	**47**	P	P	23 32 02.9	+4.7
SRDR	**Sredinnyy**	**7.08**	**42**	P	P	23 32 04.2	+4.8
KBTR	**Krutoberegovo**	**8.43**	**50**	PN	**P**	**23 32 15.3**	**+1.6**
KBTR	**Krutoberegovo**	**8.43**	**50**	P	**P**	**23 32 15.3**	**+1.6**
ASAJ	**Asahikawa**	**9.27**	**222**	P	**P**	**23 32 22.4**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=2.7,slow=6.5,SNR=5.1						
ILAR	**Eielson Array**	**33.87**	**43**	P	**P**	**23 36 17.8**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=284,slow=11,SNR=6.1						
MKAR	**Makanchi Array**	**43.86**	**292**	P	**P**	**23 37 38.4**	**-0.3**
MKAR	**Makanchi Array**	**43.86**	**292**	P	**P**	**23 37 38.4**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=34,slow=5.9,SNR=7.0						
KURK	**Kurchatov**	**43.89**	**299**	P	**P**	**23 37 39.0**	**+0.2**
KURBB	**Kurchatov Arra**	**43.99**	**299**	P	**P**	**23 37 39.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=64,slow=8.4,SNR=6.6						
YKA	**Yellowknife Ar**	**48.04**	**39**	P	**P**	**23 38 10.7**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=303,slow=7.3,SNR=12						
FINES	**FINESS Array B**	**59.35**	**333**	P	**P**	**23 39 30.4**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=23,slow=6.8,SNR=6.1						
PDAR	**Pinedale Array**	**63.08**	**55**	P	**P**	**23 39 56.5**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=65,slow=1.3,SNR=3.7						
NOA	**NORSAR Array B**	**63.47**	**340**	P	**P**	**23 39 57.9**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=18,slow=3.4,SNR=3.1						
SCHQ	**Schefferville**	**69.54**	**22**	P	**P**	**23 40 35.1**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=337,slow=7.7,SNR=5.0						

*IDC **09** 23:49:17.9±1.1, 39°.35N×73°.93E, h0km, mb3.5/6, mb1 3.5/11, mb1mx3.4/30, mbtmp3.4/11, ML3.1/5, Error ellipse: s-maj=19.7km s-min=16.2km az=90.0*
*ISCJB **09** 23:49:19.6±0.9, 39°.36N±0°.1×74°.12E±0°.08, h28km, mb3.4/6, Error ellipse: s-maj=14.9km s-min=7.4km az=21.2*
ISC 09 23:49:21.5±1.0, 39°.46N±0°.1×74°.22E±0°.07, h28km, n13, σ1=77/15, mb3.5/6, 1C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.35**	**87**	Pg	**Pn**	**23 49 43.4**	**-1.3**
KSH				Sg	**Sn**	**23 50 00.8**	**-1.0**
KSH				smax	smax		
	comp=N,160nm,0.5s						
KSH				smax	smax		
	comp=E,160nm,0.5s						
AAK	**Ala-Archa**	**3.18**	**4**	Pn	Pn	23 50 13.5	+3.6
	comp=E,6.6nm,0.3s,baz=166,slow=7.4,SNR=128						
AAK				Sn	**Sb**	**23 50 54.6**	**-1.1**
	comp=E,2.3nm,0.3s,baz=284,slow=9.3,SNR=5.0						
AAK				Lg	Lg	23 50 58.6	
	comp=E,9.8nm,0.3s,baz=32,slow=17,SNR=13						
KK31	**Karatay Array**	**4.59**	**324**	Pn	**Pn**	**23 50 29.5**	**+0.4**
	comp=E,1.3nm,0.3s,baz=132,slow=12,SNR=72						
KK31				⇓Pg	**Pb**	**23 50 38.9**	**-2.5**
	comp=E,2.9nm,0.3s,baz=145,slow=16,SNR=5.8						
KK31				⇓Sn	**Sn**	**23 51 23.2**	**+1.7**
	comp=E,12nm,0.5s,baz=142,slow=25,SNR=6.5						
KK31				⇑Lg	Lg	23 51 38.1	
	comp=E,7.0nm,0.4s						
MKAR	**Makanchi Array**	**9.40**	**36**	Pn	Pn	23 51 40.2	+5.1
	comp=E,0.0nm,0.3s,baz=223,slow=15,SNR=2.9						
MKAR				Lg	Lg	23 54 18.4	
	comp=E,0.1nm,0.3s,baz=228,slow=25,SNR=3.8						
KURBB	**Kurchatov Arra**	**11.57**	**14**	Pn	**Pn**	**23 52 06.8**	**+2.2**
	comp=E,0.0nm,0.3s,baz=209,slow=11,SNR=2.9						
BVAR	**Borovoye Array**	**13.82**	**350**	Pn	**Pn**	**23 52 34.2**	**-1.3**
	comp=E,0.1nm,0.3s,baz=165,slow=12,SNR=3.8						
BVAR				Lg	Lg	23 56 29.7	
	comp=E,0.2nm,0.3s,baz=161,slow=27,SNR=2.9						
AKTO	**Aktyubinsk**	**15.84**	**319**	Pn	**Pn**	**23 53 00.2**	**-2.2**
	comp=E,0.1nm,0.3s,baz=115,slow=14,SNR=2.4						
AKTO				Sn	Sn	23 55 48.1	-8.9
	comp=E,0.1nm,0.3s,baz=50,slow=20,SNR=3.0						
SONM	**Songino Array**	**24.60**	**60**	P	**P**	**23 54 42.5**	**+3.2**
	comp=E,0.2nm,0.6s,baz=256,slow=5.8,SNR=2.6						
FINES	**FINESS Array B**	**36.55**	**323**	P	**P**	**23 56 25.1**	**+0.6**
	comp=E,2.3nm,1.0s,baz=113,slow=9.0,SNR=13						
NOA	**NORSAR Array B**	**43.62**	**321**	P	**P**	**23 57 23.1**	**0.0**
	comp=E,0.6nm,0.8s,baz=108,slow=7.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**68.32**	**269**	P	**P**	**00 00 19.4**	**-1.1**
	comp=E,0.4nm,0.8s,baz=55,slow=5.2,SNR=2.6						
YKA	**Yellowknife Ar**	**78.15**	**4**	P	**P**	**00 01 18.3**	**+0.6**
	comp=E,0.1nm,0.5s,baz=349,slow=6.0,SNR=4.1						
WRA	**Warramunga Arr**	**81.47**	**124**	P	**P**	**00 01 37.4**	**+1.1**
	comp=E,0.9nm,0.9s,baz=327,slow=5.7,SNR=3.2						

*IDC **10** 00:23:16.6±1.0, 0°.78S×133°.67E, h0km, mb3.9/6, mb1 4.1/8, mb1mx4.0/18, mbtmp4.0/8, ML4.1/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/24, Error ellipse: s-maj=55.6km s-min=12.9km az=83.0*
*ISCJB **10** 00:23:20.5±0.6, 0°.81S±0°.06×133°.2E±0°.2, h33km, mb3.9/9, MS3.0/1, Error ellipse: s-maj=25.3km s-min=8.2km az=0.2*
*DJA **10** 00:23:22, 0°.77S×133°.55E, h10km, MLv4.5/4*
*NEIC **10** 00:23:22.3±0.5, 0°.72S×133°.54E, h35km, mb4.0/5, Error ellipse: s-maj=27.9km s-min=6.8km az=81.0*
ISC 10 00:23:22.6±0.8, 0°.86S±0°.07×133°.2E±0°.2, h35km, n23, σ1=68/26, mb4.0/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**18.46**	**39**	LR	LR	00 33 37.3	
	comp=Z,75nm,21.9s,baz=85,slow=34						
FITZ	**Fitzroy Crossi**	**18.66**	**203**	*eP*	**Pn**	**00 27 40.0**	**+1.8**
FITZ				S	**Sn**	**00 31 02.3**	**-3.8**
FITZ	**Fitzroy Crossi**	**18.66**	**203**	P	**Pn**	**00 27 40.5**	**+2.2**
	0.5nm,0.3s,baz=42,slow=13,SNR=7.6						
FITZ				S	**Sn**	**00 31 02.3**	**-3.8**
	0.4nm,0.3s,baz=190,slow=5.5,SNR=3.8						
WRAB	**Tennant Creek**	**19.00**	**177**	*eP*	**Pn**	**00 27 42.7**	**+0.4**
	33nm,1.5s						
WRAB				*eS*	**S**	**00 31 16.0**	**+0.7**
WRA	**Warramunga Arr**	**19.00**	**177**	P	**Pn**	**00 27 42.1**	**-0.3**
WRA				S	Sn	00 31 04.6	-10
WRA	**Warramunga Arr**	**19.00**	**177**	P	**Pn**	**00 27 42.1**	**-0.3**
	0.6nm,0.3s,baz=356,slow=11,SNR=16						
WRA				S	Sn	00 31 04.6	-10
	0.1nm,0.3s,baz=357,slow=23,SNR=3.2						
AS31	**Alice Springs**	**22.69**	**178**	*eP*	**P**	**00 28 21.9**	**+0.7**
ASAR	**Alice Springs**	**22.69**	**178**	P	**P**	**00 28 22.4**	**+1.1**
ASAR				S	**S**	**00 32 29.7**	**+2.2**
ASAR	**Alice Springs**	**22.69**	**178**	P	**P**	**00 28 22.4**	**+1.1**
	4.5nm,0.5s,baz=3.5,slow=12,SNR=35						
ASAR				S	**S**	**00 32 29.7**	**+2.2**
	0.7nm,0.8s,baz=0.0,slow=26,SNR=3.0						
STKA	**Stephens Creek**	**31.87**	**166**	*eP*	**P**	**00 29 45.2**	**+0.6**
	0.1nm,0.3s						
STKA	**Stephens Creek**	**31.87**	**166**	P	**P**	**00 29 44.3**	**-0.3**
	0.7nm,0.3s,baz=354,slow=10,SNR=3.6						
KSRS	**Korea Array**	**38.42**	**353**	LR	LR	00 45 09.7	
	comp=Z,21nm,18.7s,baz=180,slow=34						
ULN	**Ulaanbaatar**	**53.59**	**338**	*eP*	**P**	**00 32 40.4**	**0.0**
	1.9nm,0.8s						
SONM	**Songino Array**	**53.80**	**338**	P	**P**	**00 32 42.6**	**+0.7**
SONM	**Songino Array**	**53.80**	**338**	P	**P**	**00 32 42.6**	**+0.7**
	0.7nm,0.9s,baz=142,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**64.99**	**324**	P	**P**	**00 34 00.1**	**+1.0**
MKAR	**Makanchi Array**	**64.99**	**324**	P	**P**	**00 34 00.1**	**+1.0**
	1.3nm,0.6s,baz=115,slow=8.1,SNR=12						
ZALV	**Zalesovo Beam**	**67.61**	**331**	P	**P**	**00 34 15.3**	**-0.4**
ZALV	**Zalesovo Beam**	**67.61**	**331**	P	**P**	**00 34 15.3**	**-0.4**
	0.7nm,0.7s,baz=114,slow=7.0,SNR=2.1						
KURK	**Kurchatov**	**69.06**	**326**	*eP*	**P**	**00 34 25.0**	**+0.2**
	2.3nm,0.9s						
KKAR	**Karatay Array**	**70.95**	**317**	*eP*	**P**	**00 34 37.1**	**+0.4**
	0.4nm,0.5s						
ILAR	**Eielson Array**	**86.48**	**25**	P	**P**	**00 35 59.2**	**-2.3**
ILAR	**Eielson Array**	**86.48**	**25**	P	**P**	**00 35 59.2**	**-2.3**
	0.6nm,0.7s,baz=243,slow=5.1,SNR=9.6						

IDC 10 00:30:16.4±1.8, 12°.13S×165°.65E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.7/18, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=46.3km s-min=30.2km az=105.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.92**	**176**	Pn	Pn	00 32 40.9	+0.5
	0.4nm,0.3s,baz=318,slow=15,SNR=5.6						
DZM				S	Sn	00 34 34.7	+2.1
	0.2nm,0.3s,baz=170,slow=19,SNR=3.5						
WRA	**Warramunga Arr**	**31.03**	**251**	P	P	00 36 36.8	+0.6
	0.6nm,0.9s,baz=77,slow=7.1,SNR=2.9						
ASAR	**Alice Springs**	**32.23**	**245**	P	P	00 36 45.4	-1.3
	0.3nm,0.7s,baz=74,slow=9.4,SNR=6.5						
ILAR	**Eielson Array**	**84.56**	**18**	P	P	00 42 50.1	-1.0
	0.5nm,1.0s,baz=232,slow=4.4,SNR=2.6						
MKAR	**Makanchi Array**	**94.24**	**317**	P	P	00 43 39.2	+1.6
	0.1nm,0.4s,baz=91,slow=5.9,SNR=4.1						

**IDC 10 00:56:19

MFT	Murefte	1.17	67	*e*Pn	Pn	01 05 33.6	+0.1
GONE	Gonen-Balikesi	1.42	101	*e*PN	Pb	01 05 37.1	-0.4
GONE	Gonen-Balikesi	1.42	101	*e*Pn	Pb	01 05 37.1	-0.4
TKR	Tekirdag	1.43	62	*e*PN	Pg	01 05 38.7	+0.8
TKR	Tekirdag	1.43	62	*e*Pn	Pg	01 05 38.7	+0.8
BALY	Balya	1.47	113	*i* P	Pn	01 05 37.4	-0.2
BALY				*i* S	Sg	01 05 58.6	+0.7
BALY	Balya	1.47	113	*i* P	Pn	01 05 37.4	-0.2
BALY				*i* S	Sg	01 05 58.6	+0.7
EDC	Edincik	1.52	89	*e*PN	Pb	01 05 38.7	-0.5
EDC	Edincik	1.52	89	*e*Pn	Pb	01 05 38.7	-0.5
CRLT	Corlu	1.62	60	*e*PN	Pg	01 05 41.1	-0.6
CRLT	Corlu	1.62	60	*e*Pn	Pg	01 05 41.1	-0.6
EDRB	Edirne	1.65	23	*e*PN	Pg	01 05 42.7	+0.5
BALB	Balikesir	1.69	114	*e*PN	Pb	01 05 41.1	-1.0
BALB	Balikesir	1.69	114	*e*Pn	Pb	01 05 41.1	-1.0
NVR	Nevrokopi	1.83	304	*e*PB	Pn	01 05 41.0	-1.6
NVR				*e*SB	Sb	01 06 08.2	+0.6
NVR	Nevrokopi	1.83	304	*e*Pb	Pn	01 05 41.0	-1.6
NVR				*e*Sb	Sb	01 06 08.2	+0.6
PLG	Polygyros	1.85	272	*e*PG	Pb	01 05 45.2	+0.3
PLG				*e*SB	Sb	01 06 09.4	+1.1
PLG	Polygyros	1.85	272	*e*Pg	Pb	01 05 45.2	+0.3
PLG				*e*Sb	Sb	01 06 09.4	+1.1
KCTX	Karacabey (Bur	1.90	91	*e*PN	Pn	01 05 43.8	+0.2
KCTX	Karacabey (Bur	1.90	91	*e*Pn	Pn	01 05 43.8	+0.2
SLVT	Silivri	1.99	63	*e*PN	Pb	01 05 46.4	-0.7
SLVT	Silivri	1.99	63	*e*Pn	Pb	01 05 46.4	-0.7
BLCB	Balcova	2.15	155	*e*PN	Pn	01 05 47.2	+0.2
BLCB	Balcova	2.15	155	*e*Pn	Pn	01 05 47.2	+0.2
DST	Dursunbey	2.24	108	*e*PN	Pn	01 05 48.5	+0.3
DST	Dursunbey	2.24	108	*e*Pn	Pn	01 05 48.5	+0.3
BGKT	Bogazkoy	2.36	68	*e*PN	Pn	01 05 51.2	+1.4
BGKT	Bogazkoy	2.36	68	*e*Pn	Pn	01 05 51.2	+1.4
YLV	Yalova	2.68	84	*e*PN	Pn	01 05 56.3	+2.0
YLV	Yalova	2.68	84	*e*Pn	Pn	01 05 56.3	+2.0
ALT	Altintas	3.51	110	*e*PN	Pn	01 06 06.3	+0.5
ALT	Altintas	3.51	110	*e*Pn	Pn	01 06 06.3	+0.5

MEX 10 01:42:44.4±0.5, 15°63N×96°41W, h20km±8km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.32	65	*e*P	Pb	01 42 50.3	-1.1
HUIG				*i* S	Sb	01 42 54.9	-1.2
VHO	Vista Hermosa	1.46	348	*i* P	Pn	01 43 07.1	-2.9
VHO				*i* S	Sn	01 43 24.3	-4.5
OXX	Oaxaca	1.47	348	*i* P	Pn	01 43 06.8	-3.3
OXX				*i* S	Sn	01 43 23.3	-5.7
PNIG	Pinotepa	1.82	295	*i* P	Pn	01 43 11.0	-3.6
PNIG				*i* S	Sn	01 43 32.6	-4.6
CMIG	Matias Romero	2.06	45	*e*P	Pn	01 43 14.5	-3.4
CMIG				*i* S	Sn	01 43 39.3	-3.7
UTMO	Huajuapan	2.56	329	*i* P	Pn	01 43 23.1	-2.0
UTMO				*i* S	Sn	01 43 51.9	-4.0

WEL 10 01:46:34.7±0.6, 37°97S×179°20E, h33km, ML3.6/6, 1C-2D, Error ellipse: s-maj=4.9km s-min=2.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	Puketiti	0.75	261	PN	Pn	01 46 47.7	-1.3
PUZ				SN	Sn	01 46 58.3	-1.0
MXZ	Matakaoa Point	0.81	299	PN	Pn	01 46 49.2	-0.7
MXZ				SN	Sn	01 47 00.8	0.0
CNGZ	Carnagh Statio	0.94	236	⇓PN	Pn	01 46 51.5	-0.1
MWZ	Matawai	1.37	254	⇓PN	Pn	01 46 56.8	-0.8
MWZ				SN	Sn	01 47 14.0	-0.7
PRGZ	Paritu Road	1.41	227	PN	Pn	01 46 57.7	-0.4
MHGZ	Mahia Peninsul	1.56	220	PN	Pn	01 46 59.5	-0.6
KNZ	Kokohu	1.60	228	⇑PN	Pn	01 46 59.8	-0.7
URZ	Urewera	1.68	259	PN	Pn	01 47 01.5	-0.2
RAHZ	Arahi	1.91	240	PN	Pn	01 47 05.2	+0.2
CKHZ	Cape Kidnapper	2.37	224	PN	Pn	01 47 10.4	-0.9
BKZ	Black Stump Fm	2.44	240	PN	Pn	01 47 11.9	-0.4
MCHZ	McNeill Hill	2.45	232	PN	Pn	01 47 12.3	-0.2
KAHZ	Kahuranaki	2.58	224	PN	Pn	01 47 13.0	-1.1
PXZ	Pawanui	2.75	221	PN	Pn	01 47 14.7	-1.8
WPHZ	Waipukurau	3.00	225	PN	Pn	01 47 18.7	-1.3
KRVZ	Karewarewa	3.01	247	PN	Pn	01 47 19.8	-0.4
KUZ	Kuaotunu	3.03	293	*e*PN	Pn	01 47 19.8	-0.5
PNHZ	Pukenui	3.04	209	PN	Pn	01 47 19.0	-1.6
PRHZ	Porangahau	3.04	220	PN	Pn	01 47 18.4	-2.1
TSZ	Takapari Road	3.28	229	PN	Pn	01 47 21.6	-2.2
TSZ				SN	Sn	01 47 58.7	-3.0
DVHZ	Dannevirke	3.32	224	PN	Pn	01 47 22.2	-2.2
BFZ	Birch Farm	3.55	219	PN	Pn	01 47 24.6	-2.9
WAZ	Wanganui	3.75	240	PN	Pn	01 47 30.5	+0.4
TIWZ	Tintock	3.81	221	PN	Pn	01 47 28.6	-2.5
MRZ	Mangatainoka R	3.89	225	PN	Pn	01 47 29.7	-2.5
TMWZ	Te Maipa	4.05	218	PN	Pn	01 47 31.4	-3.0
HOWZ	Holdsworth Sta	4.09	223	PN	Pn	01 47 32.0	-3.0
OGWZ	Otaki Gorge	4.23	226	PN	Pn	01 47 33.9	-2.9
MTW	Mount Morrison	4.28	221	PN	Pn	01 47 34.1	-3.5
KIW	Kapiti Island	4.41	228	PN	Pn	01 47 36.7	-2.6
PLWZ	Palliser	4.71	219	PN	Pn	01 47 39.3	-4.2
CTZ	Chatham Island	6.58	153	*e*PN	Pn	01 48 10.8	+1.7

MOS ***10*** *02:11:17.7±1.0, 57°.54N×154°.91W, h40km, mb4.8/49, Error ellipse: s-maj=11.6km s-min=5.0km az=84.7*
BJI ***10*** *02:11:18.3, 57°.80N×154°.38W, h25km, mB4.9/7, mb4.8/11, Ms4.8/4, Ms7 4.5/4*
ISCJB ***10*** *02:11:19.6±0.3, 57°.53N±0°.02×154°.68W±0°.03, h53km±2km, mb4.6/104, MS3.5/6, Error ellipse: s-maj=3.3km s-min=2.6km az=11.9*
IDC ***10*** *02:11:21.1±0.7, 57°.61N×154°.77W, h51km±6km, mb4.1/21, mb1 4.3/25, mb1mx4.2/30, mbtmp4.1/25, MS3.3/9, Ms1 3.4/9, ms1mx3.1/34, Error ellipse: s-maj=14.1km s-min=7.5km az=179.0*
NEIC ***10*** *02:11:21.3, 57°.39N×154°.58W, h30km, mb4.5/32, ML4.4(AEIC), After AEIC.*
NEIC Felt at Larsen Bay and Old Harbor.
ISC 10 02:11:20.9±0.4, 57°.47N±0°.04×154°.62W±0°.03, h53km±3km, h52km; pP-P, n541, σ1s12/572, mb4.6/104, MS3.4/6, 125C-119D, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KABR	Katmai Barrier	0.69	344	P	Pn	02 11 34.7	0.0
KCE	Katmai Mt Cerb	0.83	339	P	Pn	02 11 37.1	+0.5
KAKN	Katmai Knife C	0.86	344	P	Pn	02 11 37.1	+0.1
KAKN				S	Sn	02 11 50.0	+1.2
KABU	Katmai Buttres	0.88	336	P	Pn	02 11 37.6	+0.4
KABU				S	Sn	02 11 50.7	+1.6
KARR	Katmai Rainbow	1.03	357	P	Pn	02 11 39.9	+0.7
KDAK	Kodiak Island	1.14	73	P	Pn	02 11 40.1	-0.4
KDAK				S	Sn	02 11 55.3	+0.2
KDAK				S	Sn	02 11 56.6	+1.5
KDAK	Kodiak Island	1.14	73	P	Pn	02 11 40.1	-0.4
	1μm,0.3s,baz=243,slow=7.4,SNR=4052						
KDAK				S	Sn	02 11 56.6	+1.5
	464nm,0.3s,baz=68,slow=19,SNR=15						
KAPH	Katmai Pasha	1.14	7	P	Pn	02 11 41.4	+0.7
KAPH				S	Sn	02 11 58.0	+2.7
FOSS	Fourpeaked Sta	1.42	20	P	Pn	02 11 45.0	+0.5
FOSS				S	Sn	02 12 04.8	+2.7
FOPK	Fourpeaked Vol	1.43	25	P	Pn	02 11 45.0	+0.5
AUW	Augustine West	2.00	17	P	Pn	02 11 53.6	+1.4
AUE	Augustine Isla	2.01	19	P	Pn	02 11 54.0	+1.7
AUNW	Augustine NWes	2.01	17	P	Pn	02 11 53.9	+1.6
ANPK	Aniakchak Peak	2.01	253	P	Pn	02 11 52.3	-0.2
ANNW	Aniakchak Nort	2.02	257	P	Pn	02 11 53.0	+0.4
AZAC	Aniakchak	2.05	255	P	Pn	02 11 53.0	0.0
OPT	Oil Point	2.31	18	P	Pn	02 11 58.0	+1.4
CHGN	Chignik	2.39	242	*e*Pn	Pn	02 11 56.5	-1.0
CHGN				*e*S	Sn	02 12 29.3	+3.8
HOM	Homer	2.69	34	P	Pn	02 12 02.3	+0.6
ILW	Iliamna West	2.71	16	P	Pn	02 12 03.3	+1.2
INE	Iliamna NE	2.73	17	P	Pn	02 12 03.7	+1.4
VNHG	Veniaminof 1	2.79	245	P	Pn	02 12 03.8	+0.6
VNSG	Veniaminof 6	2.80	243	P	Pn	02 12 03.9	+0.6
VNFG	Veniaminof 2	2.96	248	P	Pn	02 12 03.9	-1.5
BRLK	Bradley Lake	3.02	39	P	Pn	02 12 06.0	-0.2
BRLK				S	Sn	02 12 40.2	-0.9
RDN	Redoubt North	3.20	17	P	Pn	02 12 10.4	+1.6
NCT	North Crescent	3.22	15	P	Pn	02 12 10.5	+1.4
DFR	Drift River	3.29	17	P	Pn	02 12 11.3	+1.3
SVW2	Sparrevohn	3.67	353	*e*Pn	Pn	02 12 16.0	+0.8
SDPT	Sand Point	3.89	239	P	Pn	02 12 17.3	-0.8
CKL	Chakachamna La	3.92	16	P	Pn	02 12 19.7	+1.1
SPU	Mount Spurr	3.95	18	*e*Pn	Pn	02 12 19.9	+0.9
BGL	Barrier Glacie	3.98	16	P	Pn	02 12 20.8	+1.4
SPNW	Spurr Northwes	4.03	14	P	Pn	02 12 19.9	-0.1
SPCG	Spurr Capps Gl	4.06	18	P	Pn	02 12 21.4	+0.9
STLK	Strandline Lak	4.29	18	P	Pn	02 12 24.5	+0.9
FIB	Fire Island	4.35	30	P	Pn	02 12 25.1	+0.7
FIB	Fire Island	4.35	30	P	Pn	02 12 25.1	+0.7
RC01	Rabbit Creek A	4.41	33	P	Pn	02 12 25.3	+0.1
RC01				S	Sn	02 13 15.2	-0.1
RC01				*e*S	Sn	02 13 19.2	+3.9
SUA	Susitna One	4.47	25	P	Pn	02 12 26.6	+0.5
PVV	Pavlof Volcano	4.50	245	P	Pn	02 12 26.3	-0.1
PS4A	Pavlof South-4	4.55	245	P	Pn	02 12 26.7	-0.4
DOL	Dolgoi Island	4.66	243	P	Pn	02 12 28.4	-0.2
MID	Middleton Isla	4.77	62	P	Pn	02 12 28.9	-1.2
MID	Middleton Isla	4.77	62	P	Pn	02 12 28.9	-1.2
SKT	Skwentna	4.79	18	P	Pn	02 12 30.8	+0.4
DTNA	Dutton South F	4.84	245	P	Pn	02 12 30.4	-0.8
DT1	Dutton Round H	4.88	244	P	Pn	02 12 30.6	-1.0
DRIA	Deer Island	4.95	243	P	Pn	02 12 31.2	-1.4
PMR	Palmer	4.99	32	P	Pn	02 12 32.6	-0.5
PMR	Palmer	4.99	32	P	Pn	02 12 32.6	-0.5
KNK	Knik Glacier	5.05	36	P	Pn	02 12 33.3	-0.7
SML	Sawmill	5.39	34	P	Pn	02 12 38.1	-0.6
SML	Sawmill	5.39	34	P	Pn	02 12 38.1	-0.6
TTO1	Tatalina	5.50	353	P	Pn	02 12 41.1	+0.9
EYAK	Cove Ski Ar	5.53	52	P	Pn	02 12 39.3	-1.2
FALS	False Pass	5.57	246	P	Pn	02 12 40.2	-0.8
PPLA	Purkeypile	5.58	12	P	Pn	02 12 42.1	+0.7
VLZ	Valdez	5.61	46	P	Pn	02 12 40.8	-0.8
SCM	Sheep Creek Mo	5.73	37	P	Pn	02 12 43.0	-0.4
SCM	Sheep Creek Mo	5.73	37	P	Pn	02 12 43.0	-0.4
KLU	Klutina	5.99	44	P	Pn	02 12 46.4	-0.5
NICHA	Nichawak Mount	6.18	59	P	Pn	02 12 48.3	-1.2
BMRM	Bremner River	6.22	51	P	Pn	02 12 49.0	-1.1
BERG	Berg Lake	6.37	58	P	Pn	02 12 50.9	-1.1
GRIN	Grindle Hills	6.50	60	P	Pn	02 12 52.5	-1.4
KHIT	Khitrov Hills	6.59	58	P	Pn	02 12 54.1	-1.1
RND	Reindeer	6.60	23	P	Pn	02 12 54.6	-0.7
RND	Reindeer	6.60	23	P	Pn	02 12 54.6	-0.7
DHY	Denali Highway	6.68	30	P	Pn	02 12 55.9	-0.5
KULT	Kultieth River	6.77	61	P	Pn	02 12 56.1	-1.5
VRDI	Verde Repeater	6.84	52	P	Pn	02 12 57.5	-1.2
BARK	Barkley Ridge	6.93	60	P	Pn	02 12 58.9	-0.9
ISLE	Juniper Island	7.07	58	P	Pn	02 13 00.8	-1.0
BAGL	Bagley Icefiel	7.15	60	P	Pn	02 13 02.0	-0.7
KIAG	Kiagna River	7.18	56	P	Pn	02 13 02.3	-1.0
GCSA	Galena City Sc	7.39	352	P	Pn	02 13 06.7	+0.8
CHX	Chaix Hills	7.49	64	P	Pn	02 13 06.7	-0.7
BARN	Barnard Glacie	7.55	56	P	Pn	02 13 07.6	-0.8
TABL	Table Mountain	7.58	61	P	Pn	02 13 07.8	-0.9
NEA	Nenana	7.62	18	P	Pn	02 13 08.8	-0.4
WRH	Wood River Hil	7.71	22	P	Pn	02 13 09.4	-0.9
MENT	Mentasta	7.71	40	*e*Pn	Pn	02 13 10.7	+0.2
MENT				*e*S	Sn	02 14 54.9	+18
MSOM	Makushin Julie	7.88	248	P	Pn	02 13 10.9	-1.8
MSOM	Makushin Julie	7.88	248	P	Pn	02 13 10.9	-1.8
CCB	Clear Creek Bu	7.92	22	P	Pn	02 13 12.0	-1.3
COLA	College	8.11	21	P	Pn	02 13 14.6	-1.3
COLA	College	8.11	21	P	Pn	02 13 14.6	-1.3
MDM	Murphy Dome	8.12	20	P	Pn	02 13 14.9	-1.1
IL1	Eielson Array	8.22	24	P	Pn	02 13 16.4	-1.0
ILAR	Eielson Array	8.22	24	P	Pn	02 13 16.0	-1.4
ILAR				S	Sn	02 14 44.4	-4.3
ILAR	Eielson Array	8.22	24	P	Pn	02 13 16.0	-1.4
	2.5nm,0.3s,baz=218,slow=14,SNR=63						
ILAR				S	Sn	02 14 44.4	-4.3
	3.3nm,0.3s,baz=203,slow=16,SNR=4.2						
ILAR				LR	LR	02 16 59.2	
	comp=Z,124nm,19.4s,baz=118,slow=42						
BCA3	Beaver Creek A	8.49	43	P	Pn	02 13 20.8	-0.3
IM3	Indian Mountai	8.56	2	P	Pn	02 13 22.6	+0.7
HYT	Haines Junctio	9.41	62	P	Pn	02 13 32.2	-1.5
EGAK	Eagle	9.78	36	*e*Pn	Pn	02 13 38.8	0.0
TNA	Tin City	10.29	328	*e*Pn	Pn	02 13 48.2	+2.7
	72nm,0.9s						
SKAG	Skagway	10.29	71	*e*Pn	Pn	02 13 44.6	-1.1
	19nm,0.5s						
GAMB	Gambell	10.48	314	*e*Pn	Pn	02 13 49.0	+0.7
	18nm,0.6s						
DLBC	Dease Lake	13.07	75	*e*Pn	Pn	02 14 24.2	+0.5
DLBC	Dease Lake	13.07	75	P	Pn	02 14 23.5	-0.2
	1.0nm,0.3s,baz=230,slow=7.4,SNR=8.9						
DLBC				LR	LR	02 18 56.5	
	comp=Z,126nm,20.0s,baz=281,slow=35						
INK	Inuvik	14.41	33	*e*Pn	Pn	02 14 42.5	+1.0
INK				*e*S	S	02 17 36.0	-1.1
INK	Inuvik	14.41	33	P	Pn	02 14 40.0	-1.6
	0.6nm,0.3s,baz=239,slow=15,SNR=23						
INK				LR	LR	02 20 18.6	
	comp=Z,169nm,19.2s,baz=279,slow=38						
BBB	Bella Bella	16.10	98	LR	LR	02 20 01.2	
	comp=Z,203nm,19.0s,baz=155,slow=32						
FX1	Attu Island--F	18.85	270	P	P	02 15 35.5	-0.7
FX1	Attu Island--F	18.85	270	P	P	02 15 35.5	-0.7
	4.4nm,0.3s,baz=80,slow=2.1,SNR=11						
YKA	Yellowknife Ar	20.38	59	P	P	02 15 52.6	-0.2
YKA				PcP	PcP	02 20 02.6	-0.6
YKA				ScP	ScP	02 23 34.4	-0.6
YKA	Yellowknife Ar	20.38	59	P	P	02 15 52.6	-0.2
	3.7nm,0.7s,baz=271,slow=9.9,SNR=35						
YKA				PcP	PcP	02 20 02.6	-0.6
	0.2nm,0.4s,baz=275,slow=1.8,SNR=4.8						
YKA				ScP	ScP	02 23 34.3	-0.6
	0.1nm,0.4s,baz=270,slow=1.2,SNR=5.2						
BILL	Bilibino	20.39	317	*e*P	P	02 15 52.2	-0.7
BILL				*e*		02 16 07.9	
BILL				*e*		02 16 19.8	
BILL				pmax	pmax		
	comp=Z,14nm,0.9s						
NEW	Newport	24.15	96	*e*P	P	02 16 33.0	+1.2
	comp=Z,36nm,2.0s						
NEW				*e*pP	pP	02 16 52.6	+7.5
NEW	Newport	24.15	96	⇑P	P	02 16 32.9	+1.2
	baz=24						
A12A	Yaak River Ran	24.55	93	⇓P	P	02 16 36.3	+0.8
	baz=24						
B12A	Libby	24.85	94	⇓P	P	02 16 40.5	+2.4
	baz=25						
C11A	Tepee Creek (N	24.87	96	⇑P	P	02 16 39.2	+0.8
	baz=25						
A13A	Flathead Natio	25.22	92	⇑P	P	02 16 42.2	+0.7
	baz=25						
B13A	Whitefish	25.51	93	⇓P	P	02 16 45.2	+1.0
	baz=25						
BSMT	Bassoo Peak	25.65	95	*e*P	P	02 16 46.4	+0.8
	comp=Z,5.6nm,0.9s						
YBH	Yreka Blue Hor	25.66	114	P	P	02 16 47.6	+2.0
YBH	Yreka Blue Hor	25.66	114	P	P	02 16 47.6	+2.0
	comp=Z,4.1nm,0.8s,baz=349,slow=4.1,SNR=7.6						
YBH				LR	LR	02 25 18.1	
	comp=Z,42nm,21.2s,baz=92,slow=32						
A14A	Double T Ranch	25.73	91	⇓P	P	02 16 46.9	+0.6
	baz=26						
D12A	Red Ives Fores	25.84	97	⇑P	P	02 16 47.3	+0.2
	baz=26						
C13A	Hot Springs	25.87	95	⇑P	P	02 16 48.3	+0.8
	baz=26						
JTMT	Jette	25.99	94	*e*P	P	02 16 49.3	+0.7
	comp=Z,3.9nm,1.0s						
YBMT	Yellow Bay	26.06	94	*e*P	P	02 16 50.1	+0.9
	comp=Z,4.3nm,0.9s						
A15A	Johnson Ranch,	26.10	91	⇓P	P	02 16 50.0	+0.4
	baz=26						
E12A	Beaver Dam Sad	26.12	98	⇓P	P	02 16 50.9	+1.1
	baz=26						
C14A	Swan Lake	26.26	94	⇑P	P	02 16 51.1	0.0
	baz=26						
SWMT	Swartz Lake	26.28	95	*e*P	P	02 16 51.3	+0.1
	comp=Z,2.5nm,0.9s						
B15A	Bradely Ranch,	26.58	92	⇓P	P	02 16 54.1	+0.3
	baz=26						
A16A	West Butte Ran	26.73	90	⇑P	P	02 16 55.4	+0.1
	baz=27						
MSO	Missoula	26.73	96	⇓P	P	02 16 55.6	+0.3
	baz=27						
D14A	Greenough	26.81	95	⇓P	P	02 16 56.0	0.0
	baz=27						
E13A	Victor	26.84	97	⇑P	P	02 16 56.2	-0.1
	baz=27						
C15A	Salmond Ranch,	26.87	93	⇑P	P	02 16 56.8	+0.2
	baz=27						
B16A	M & M Farms, S	26.98	91	⇑P	P	02 16 57.5	+0.1
	baz=27						
PETK	Petropavlovsk-	27.05	281	P	P	02 16 56.5	-1.4
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	Petropavlovsk-	27.05	281	P	P	02 16 56.5	-1.4
PETK	Petropavlovsk-	27.05	281	P	P	02 16 56.5	-1.4
	comp=Z,2.0nm,0.3s,baz=69,slow=14,SNR=7.3						
G12A	Big Creek, Yel	27.08	100	⇑P	P	02 16 57.7	-0.8
	baz=27						
F13A	Darby	27.18	98	⇓P	P	02 16 59.3	0.0
	baz=27						
A17A	Triple J Farms	27.22	89	⇓P	P	02 17 00.0	+0.4
	baz=27						
E14A	Clinton	27.23	96	⇓P	P	02 17 00.3	+0.5
	baz=27						
D15A	Lincoln	27.36	94	⇑P	P	02 17 00.7	-0.3
	baz=27						
B17A	L&G Farms, Che	27.54	90	⇑P	P	02 17 02.8	+0.3
	baz=27						
F14A	Wisdom	27.68	97	⇑P	P	02 17 04.3	+0.4
	baz=28						
E15A	Deer Lodge	27.68	95	⇓P	P	02 17 04.0	+0.1
	baz=28						
G13A	Cobalt	27.69	99	⇑P	P	02 17 05.0	+1.1
	baz=28						
A18A	Metzger Ranch,	27.69	89	⇑P	P	02 17 04.5	+0.7
	baz=28						
H12A	Diamond D Ranc	27.72	100	⇓P	P	02 17 04.9	+0.7
	baz=28						
D16A	Dana Ranch, Ca	27.89	93	⇓P	P	02 17 06.1	+0.4
	baz=28						
RES	Resolute Bay	27.92	29	*e*P	P	02 17 05.9	+0.4
RES	Resolute Bay	27.92	29	P	P	02 17 05.5	+0.1
	comp=Z,2.5nm,0.6s,baz=271,slow=11,SNR=12						
C17A	Wharram Farm,	27.95	92	⇓P	P	02 17 06.8	+0.7
	baz=28						
MFID	Camas Ranch	27.97	103	⇑P	P	02 17 07.5	+1.0
	baz=28						
G14A	Jackson	28.00	98	⇑P	P	02 17 07.6	+0.8
	baz=28						
H13A	Challis	28.03	100	⇑P	P	02 17 07.5	+0.6
	baz=28						
B18A	Beardsley Farm	28.03	89	⇑P	P	02 17 07.2	+0.3
	baz=28						
I12A	Atlanta	28.08	102	⇑P	P	02 17 07.9	+0.4
	baz=28						
E16A	East Helena	28.14	94	⇑P	P	02 17 08.3	+0.5
	baz=28						
A19A	Klindworth Far	28.28	88	⇓P	P	02 17 09.1	+0.1
	baz=28						
B19A	Brinkman Farms	28.45	89	⇓P	P	02 17 11.1	+0.6
	baz=28						
H14A	Leadore	28.46	99	⇓P	P	02 17 11.4	+0.5
	baz=28						
I13A	Wildhorse Cree	28.54	101	⇑P	P	02 17 12.2	+0.7
	baz=28						
G15A	Dillon	28.57	97	⇓P	P	02 17 12.6	+0.8
	baz=28						
D18A	Linhart Farms,	28.74	91	⇓P	P	02 17 13.9	+0.8
	baz=29						
A20A	Cobblestone Ra	28.75	87	⇓P	P	02 17 13.9	+0.7
	baz=29						
C19A	Slack Wire Ran	28.82	90	⇓P	P	02 17 14.9	+1.1
	baz=29						
H15A	Lima	28.85	98	⇓P	P	02 17 15.2	+0.9
	baz=29						
J13A	Cove Ranch, Pi	28.86	102	⇑P	P	02 17 15.4	+1.1
	baz=29						
I14A	Mackay	28.88	100	⇑P	P	02 17 15.0	+0.4
	baz=29,SNR=5.1						
G16A	Moss Hill, Enn	28.90	96	⇓P	P	02 17 15.5	+0.8
	baz=29						
B20A	Solberg Farm,	28.96	88	⇑P	P	02 17 15.9	+0.8
	baz=29						
WCN	Washoe City	28.97	114	⇓P	P	02 17 16.6	+1.2
	baz=29						
E18A	Harlowton	29.07	93	⇑P	P	02 17 17.6	+1.5
	baz=29						
F17A	Fitzpatrick Pl	29.08	94	⇑P	P	02 17 17.1	+0.8
	baz=29						
A21A	Bergtoll Ranch	29.23	86	⇓P	P	02 17 18.4	+1.0
	baz=29						
D19A	Cripps Ranch,	29.25	91	⇓P	P	02 17 18.6	+0.9
	baz=29						
J14A	Carey	29.26	101	⇑P	P	02 17 18.9	+1.0
	baz=29						
C20A	Veseth Ranch,	29.40	89	⇑P	P	02 17 20.1	+1.2
	baz=29						
G17A

PD02 Pinedale Array 31.74 98 *e*P **P 02 17 40.0 +0.2**
D24A Glendive 31.74 87 ⇓P **P 02 17 40.7 +1.0**
baz=32,SNR=5.7
BW06 Boulder Array 31.75 98 *e*P **P 02 17 40.9 +0.9**
comp=Z,3.8nm,0.8s
BW06 Boulder Array 31.75 98 ⇑P **P 02 17 40.0 +0.1**
baz=32,SNR=6.6
PDAR Pinedale Array 31.75 98 P **P 02 17 40.6 +0.7**
PDAR pP **pP 02 17 55.5 +2.2**
PDAR sP **sP 02 18 00.8 +1.2**
PDAR Pinedale Array 31.75 98 P **P 02 17 40.6 +0.7**
comp=Z,3.3nm,0.6s,baz=318,slow=4.5,SNR=42
PDAR pP **pP 02 17 55.5 +2.2**
comp=Z,1.4nm,0.5s,baz=317,slow=4.3,SNR=6.4
PDAR sP **sP 02 18 00.8 +1.2**
comp=Z,3.8nm,0.7s,baz=310,slow=5.3,SNR=11
R11A Troy Canyon, C 31.79 110 ⇓P **P 02 17 41.6 +1.2**
baz=32
DUG Dugway 31.85 105 ⇓P **P 02 17 42.3 +1.6**
baz=32
G22A Birney 31.88 91 ⇓P **P 02 17 42.0 +1.1**
baz=32
F23A Volborg 32.03 90 ⇑P **P 02 17 43.1 +0.9**
baz=32
K19A Absolon Red Bu 32.09 97 ⇓P **P 02 17 44.0 +1.1**
baz=32
E24A Baker 32.10 88 ⇓P **P 02 17 43.6 +0.9**
baz=32
J20A Shoshoni 32.14 96 ⇑P **P 02 17 44.1 +0.8**
baz=32
I21A Big Trails, Te 32.26 94 ⇑P **P 02 17 45.2 +0.9**
baz=32
JLU Jordanelle 32.27 103 *e*P P 02 17 50.7 +6.2
comp=Z,6.3nm,1.1s
L19A Farson 32.32 99 ⇑P **P 02 17 45.8 +0.9**
baz=32
G23A Biddle 32.37 91 ⇓P **P 02 17 46.4 +1.2**
baz=32
PKM Peak Mountain 32.44 119 ⇓P **P 02 17 47.1 +1.0**
baz=32
ISA Isabella 32.46 117 ⇑P **P 02 17 47.3 +1.2**
baz=32
F24A Ekalaka 32.47 89 ⇑P **P 02 17 47.3 +1.2**
baz=32
J21A Lysite 32.49 95 ⇑P **P 02 17 47.2 +0.8**
baz=32
O16A Springville 32.53 103 ⇓P **P 02 17 47.1 +0.4**
baz=32
MPMC Manual Prospec 32.63 115 ⇑P **P 02 17 49.1 +1.4**
baz=32
M19A Rock Springs 32.84 99 ⇑P **P 02 17 50.6 +1.1**
baz=33
J22A Midwest 32.97 94 ⇑P **P 02 17 51.6 +1.1**
baz=33
K21A Alcova 33.08 96 ⇓P **P 02 17 52.1 +0.6**
baz=33
H24A Dirks Ranch, A 33.12 91 ⇑P **P 02 17 52.5 +0.7**
baz=33
SHOC Shoshone 33.35 114 ⇑P **P 02 17 55.5 +1.7**
baz=33
MVU Marysvale 33.41 106 *e*P **P 02 17 56.9 +2.3**
comp=Z,4.4nm,0.9s
K22A Casper 33.46 95 ⇓P **P 02 17 55.4 +0.6**
baz=33
L21A Rawlins 33.48 97 ⇑P **P 02 17 56.1 +1.1**
baz=33
M21A Separation Pea 33.73 97 ⇓P **P 02 17 57.4 +0.2**
baz=34
N20A Spence Gulch, 33.79 99 ⇑P **P 02 17 58.5 +0.7**
baz=34,SNR=6.2
RSSD Black Hills 33.81 91 *e*P **P 02 17 58.6 +0.7**
RSSD pmax pmax
comp=Z,4.0nm,0.6s
RSSD Black Hills 33.81 91 *e*P **P 02 17 58.6 +0.7**
comp=Z,3.6nm,0.6s
MDND Maddock 33.84 82 ⇓P **P 02 17 58.8 +0.9**
baz=34
SRU San Rafael 33.84 104 *e*P **P 02 17 59.9 +1.7**
SRU pmax pmax
comp=Z,22nm,1.0s
SRU San Rafael 33.84 104 *e*P **P 02 17 59.9 +1.7**
comp=Z,22nm,1.0s
SRU San Rafael 33.84 104 ⇓P **P 02 17 59.1 +0.9**
baz=34,SNR=7.5
K23A Bowen Ranch, D 33.87 94 ⇓P **P 02 17 59.3 +0.9**
baz=34
TUQ Turquoise Moun 33.89 114 ⇓P **P 02 18 00.1 +1.4**
baz=34
BFSC Mount Baldy Ra 34.01 117 ⇓P **P 02 18 01.0 +1.4**
baz=34
N21A Black Mountain 34.24 99 ⇓P **P 02 18 02.4 +0.7**
baz=34,SNR=7.9
R17A Hanksville Air 34.26 105 ⇑P **P 02 18 02.3 +0.6**
baz=34
L23A Garrett 34.27 95 ⇓P **P 02 18 02.5 +0.5**
baz=34,SNR=7.3
P19A Cripple Cowboy 34.27 101 ⇑P **P 02 18 02.6 +0.6**
baz=34
O20A White River Ci 34.30 100 ⇑P **P 02 18 03.3 +1.1**
baz=34
S16A Weppner Ranch, 34.32 106 ⇓P **P 02 18 03.3 +0.9**
baz=34
ULM Lac du Bonnet 34.40 76 P **P 02 18 02.5 -0.2**
ULM pP **pP 02 18 15.7 -0.4**
ULM Lac du Bonnet 34.40 76 P **P 02 18 02.5 -0.2**
comp=Z,3.3nm,0.8s,baz=314,slow=7.9,SNR=6.1
ULM pP **pP 02 18 15.7 -0.4**
comp=Z,1.8nm,0.5s,baz=304,slow=8.4,SNR=3.5
GMRC Granite Mounta 34.55 114 ⇑P **P 02 18 05.3 +1.1**
baz=34
Q19A Hogan Spring (34.62 102 ⇓P **P 02 18 05.1 +0.2**
baz=34,SNR=5.1
O21A Pagoda 34.66 99 ⇑P **P 02 18 05.6 +0.3**
baz=34
P20A De Beque 34.68 101 ⇑P **P 02 18 05.6 +0.1**
baz=34
N22A Wattenberg Ran 34.78 97 ⇑P **P 02 18 07.0 +0.6**
baz=35
U15A North Rim 34.95 109 ⇑P **P 02 18 08.9 +1.0**
baz=35
BELC Belle Mtn. Jos 35.01 115 ⇓P **P 02 18 09.1 +0.8**
baz=35
R19A Curley Farm, L 35.11 103 ⇑P **P 02 18 09.7 +0.5**
baz=35
Q20A Ridgley Place, 35.13 102 ⇑P **P 02 18 09.6 +0.3**
baz=35
W13A Hualapai Mount 35.17 112 ⇓P **P 02 18 10.9 +1.1**
baz=35
S18A Hurst Farm, Bl 35.18 105 ⇓P **P 02 18 10.5 +0.7**
baz=35
T17A Navajo Res., N 35.28 106 ⇓P **P 02 18 11.3 +0.7**
baz=35
IRM Iron Mountain 35.29 114 ⇑P **P 02 18 12.1 +1.5**
baz=35
P22A Eagle 35.48 99 ⇓P **P 02 18 13.2 +0.8**
baz=35
O23A Lake Granby, G 35.49 98 ⇓P **P 02 18 13.5 +1.0**
baz=35
AGMN Agassiz Nation 35.56 79 *e*P **P 02 18 13.1 +0.4**
comp=Z,4.5nm,0.6s
S19A Harvey Farm, M 35.58 104 ⇓P **P 02 18 14.3 +1.0**
baz=35
PV01 Paradox Valley 35.59 103 *e*P **P 02 18 14.8 +1.4**
comp=Z,756nm,1.1s
R20A Redvale 35.65 102 ⇑P **P 02 18 14.2 +0.4**
baz=36,SNR=5.1
T18A Mexican Hat 35.66 105 ⇓P **P 02 18 14.4 +0.6**
baz=36
S20A Disappointment 35.93 103 ⇓P **P 02 18 17.0 +0.7**
baz=36
Y12C Blythe 35.93 114 ⇓P **P 02 18 17.6 +1.6**
baz=36
WUAZ Wupatki 36.12 109 ⇓P **P 02 18 18.8 +1.0**
baz=36
T19A Beclabito 36.33 105 ⇑P **P 02 18 20.5 +0.9**
baz=36
P25A Willow Gulch B 36.93 97 ⇑P **P 02 18 25.6 +1.0**
baz=37
X16A Lo Mia Camp, P 36.95 110 ⇓P **P 02 18 25.9 +1.0**
baz=37
R23A Moffat 37.00 100 ⇓P **P 02 18 26.6 +1.1**
baz=37
T22A Edith 37.31 102 ⇑P **P 02 18 29.2 +1.2**
baz=37
Q25A Bedland, Calha 37.32 98 ⇑P **P 02 18 29.0 +0.9**
baz=37
P26A Davis Ranch, A 37.34 96 ⇑P **P 02 18 29.1 +1.0**
baz=37

U21A Nageezi 37.35 104 ⇓P **P 02 18 29.8 +1.5**
baz=37
R24A Sanders Place, 37.36 99 ⇓P **P 02 18 29.4 +1.1**
baz=37
X18A Snowflake 37.62 108 ⇓P **P 02 18 32.2 +1.6**
baz=38
Q26A Hugo 37.70 97 ⇑P **P 02 18 32.8 +1.6**
baz=38
R25A Fountain Ranch 37.86 99 ⇑P **P 02 18 33.9 +1.4**
baz=38
W20A Ramah 37.91 106 ⇑P **P 02 18 34.0 +0.9**
baz=38,SNR=7.5
KSCO Kaye Shedlock' 38.12 96 ⇑P **P 02 18 36.1 +1.4**
baz=38
R26A Arlington 38.19 98 ⇓P **P 02 18 36.6 +1.3**
baz=38
U23A El Rito 38.20 102 ⇑P **P 02 18 36.6 +1.1**
baz=38,SNR=6.0
214A Organ Pipe Nat 38.23 114 ⇑P **P 02 18 37.1 +1.6**
baz=38
Y19A Nutrioso 38.43 108 ⇑P **P 02 18 39.2 +1.7**
baz=38
S26A Kim 38.68 98 ⇑P **P 02 18 40.6 +1.2**
baz=38
U25A Circle Dot Ran 39.09 101 ⇓P **P 02 18 44.2 +1.2**
baz=39
W23A Werner Place, 39.11 104 ⇓P **P 02 18 44.4 +1.2**
baz=39
SPMN St. Paul 39.13 81 ⇓P **P 02 18 43.5 +0.6**
baz=39
V24A Rampart Ranch, 39.14 102 ⇑P **P 02 18 44.6 +1.2**
baz=39
V25A Rancho No Teng 39.40 101 ⇓P **P 02 18 46.7 +1.1**
baz=39
Z20A Nine Sixteen R 39.43 108 ⇑P **P 02 18 47.0 +1.3**
baz=39
U26A Atchley Ranch, 39.45 100 ⇑P **P 02 18 46.9 +1.0**
baz=39
W24A Lazy 6 Ranch, 39.46 103 ⇓P **P 02 18 47.1 +1.0**
baz=39
Y22A Socorro 39.63 106 ⇑P **P 02 18 48.6 +1.2**
baz=40
T28A Walsh 39.78 98 ⇓P **P 02 18 49.6 +1.1**
baz=40
120A U Bar Ranch, L 39.86 109 ⇑P **P 02 18 50.6 +1.3**
baz=40
Y23A Lovelace Mesa, 40.11 105 ⇓P **P 02 18 52.6 +1.2**
baz=40
W26A Owens Ranch, T 40.42 101 ⇑P **P 02 18 54.4 +0.5**
baz=40
220A Playas Peak, P 40.42 109 ⇓P **P 02 18 55.4 +1.4**
baz=40
Y24A Capitan 40.44 104 ⇓P **P 02 18 55.3 +1.2**
baz=40
X26A CR and CF Fran 40.81 102 ⇓P **P 02 18 58.6 +1.5**
baz=41
Y25A Mesa, Roswell 40.83 103 ⇓P **P 02 18 57.9 +0.6**
baz=41,SNR=5.6
320A Kipp Ranch, An 40.88 110 ⇑P **P 02 18 59.2 +1.5**
baz=41
Z24A Sheeppen Canyo 40.94 105 ⇓P **P 02 18 59.4 +1.2**
baz=41
222A Williams Famil 40.99 107 ⇓P **P 02 18 59.9 +1.2**
baz=41
CLNS Chul'man 41.23 305 *e*P P 02 18 56.3 -3.9
CLNS pmax pmax
comp=Z,9.0nm,0.3s
CLNS pmax pmax
comp=E,5.0nm,0.1s
CLNS pmax pmax
comp=N,6.0nm,0.3s
Z25A Roswell 41.31 104 ⇓P **P 02 19 02.2 +0.9**
baz=41
124A Stringfield Ra 41.38 105 ⇓P **P 02 19 02.5 +0.5**
baz=41
ERM Erimo 41.52 276 *e*P **P 02 19 02.9 +0.2**
ERM Erimo 41.52 276 *e*P **P 02 19 02.9 +0.2**
Y27A Causey 41.66 102 ⇑P **P 02 19 04.9 +0.8**
baz=42
MSTX Muleshoe 41.80 101 ⇑P **P 02 19 05.8 +0.5**
baz=42
125A Gardner Draw, 41.83 104 ⇓P **P 02 19 06.4 +0.9**
baz=42
224A Cornudas Mount 41.84 106 ⇓P **P 02 19 06.1 +0.5**
baz=42
Z27A Tatum 42.08 102 ⇓P **P 02 19 08.1 +0.7**
baz=42
MNTX Cornudas Mount 42.21 106 *e*P **P 02 19 09.3 +0.9**
comp=N,5.1nm,1.0s
MNTX Cornudas Mount 42.21 106 ⇑P **P 02 19 09.5 +1.1**
baz=42
324A Moseley Ranch, 42.36 106 ⇓P **P 02 19 10.5 +0.7**
baz=42
325A Bean Ranch, Si 42.68 106 ⇑P **P 02 19 13.2 +0.8**
baz=42
SUMG Summit 43.07 23 *e*P **P 02 19 15.3 -0.1**
SUMG pmax pmax
comp=Z,24nm,1.4s
SUMG Summit 43.07 23 *e*P **P 02 19 15.3 -0.1**
comp=Z,24nm,1.4s
SUMG Summit 43.07 23 *i*P **P 02 19 14.8 -0.6**
comp=Z,5.3nm,1.1s
425A Indio Mountain 43.13 106 ⇑P **P 02 19 17.0 +0.8**
baz=43
DAG Danmarks Havn 43.17 14 *i*P **P 02 19 14.6 -1.1**
DAG pmax pmax
comp=Z,3.0nm,0.8s
DAG Danmarks Havn 43.17 14 *i*P **P 02 19 14.6 -1.1**
comp=Z,34nm,0.8s
326A Caldwell Ranch 43.24 105 ⇑P **P 02 19 17.9 +1.0**
baz=43
426A McDonald Obser 43.73 106 ⇑P **P 02 19 20.4 -0.6**
baz=44
SFJD Kangerlussuaq 43.75 33 *i*P **P 02 19 22.4 +2.0**
comp=Z,8.5nm,0.8s
428A Kincaid Ranch, 44.38 104 ⇓P **P 02 19 26.2 +0.1**
baz=44,SNR=5.7
626A Big Bend Ranch 44.56 107 ⇓P **P 02 19 28.1 +0.6**
baz=44
528A Cox Ranch, San 44.78 105 ⇓P **P 02 19 30.3 +1.0**
baz=45
TXAR Lajitas Array 44.98 106 P **P 02 19 31.6 +0.8**
TXAR pP **pP 02 19 45.2 +0.4**
TXAR Lajitas Array 44.98 106 P **P 02 19 31.6 +0.8**
comp=Z,0.9nm,0.6s,baz=303,slow=6.8,SNR=27
TXAR pP **pP 02 19 45.2 +0.4**
comp=Z,0.8nm,0.5s,baz=300,slow=5.9,SNR=8.3
TXAR LR LR 02 36 23.3
comp=Z,33nm,21.0s,baz=180,slow=33
627A Terlingua Ranc 45.03 106 ⇑P **P 02 19 31.9 +0.7**
baz=45
628A Black Gap, Mar 45.26 105 ⇑P **P 02 19 33.6 +0.6**
baz=45
BOD Bodaibo 45.26 311 *e*P P 02 19 29.0 -3.6
BOD pmax pmax
comp=Z,3.0nm,1.6s
SFIN Scholer Farm 45.51 82 ⇑P **P 02 19 35.0 +0.3**
baz=45
SCHQ Schefferville 45.70 54 P **P 02 19 35.1 -1.1**
SCHQ Schefferville 45.70 54 P **P 02 19 35.1 -1.1**
comp=Z,3.2nm,0.9s,baz=295,slow=2.8,SNR=2.5
JCT Junction City 46.09 102 *e*P **P 02 19 40.0 +0.4**
JCT pmax pmax
comp=Z,6.0nm,0.6s
JCT Junction City 46.09 102 *e*P **P 02 19 40.0 +0.4**
comp=Z,6.2nm,0.6s
JCT Junction City 46.09 102 ⇓P **P 02 19 40.2 +0.6**
baz=46
MDJ Mudanjiang 46.87 288 P **P 02 19 47.1 +1.7**
MDJ pmax pmax
comp=Z,3.0nm,0.6s
MDJ pmax pmax
comp=Z,47nm,7.5s
SCO Scoresbysund 47.98 19 *i*P **P 02 19 53.4 -0.3**
SCO pmax pmax
comp=Z,3.0nm,0.8s
SCO Scoresbysund 47.98 19 *i*P **P 02 19 53.4 -0.3**
comp=Z,2.8nm,0.8s
PLAL Pickwick Lake 48.94 87 *e*P **P 02 20 01.1 -0.4**
comp=Z,14nm,0.9s
CN2 Changchun 49.55 290 *e*P **P 02 20 08.2 +2.1**
KMSC Kings Mountain 52.44 82 ⇓P **P 02 20 27.9 0.0**
baz=52
KSRS Korea Array 52.92 283 LR LR 02 43 16.5
comp=Z,18nm,18.7s,baz=350,slow=36
KEV Kevo 53.07 359 *e*P **P 02 20 30.4 -1.7**
KEV pmax pmax
comp=Z,1.0nm,0.3s

KEV Kevo 53.07 359 *e*p **P 02 20 30.4 -1.7**
comp=Z,0.9nm,0.3s
ARCES ARCESS Array B 53.30 360 P **P 02 20 32.7 -1.1**
ARCES PcP **PcP 02 21 42.6 +2.0**
ARCES ARCESS Array B 53.30 360 P **P 02 20 32.7 -1.1**
comp=Z,2.9nm,0.5s,baz=16,slow=7.1,SNR=16
ARCES PcP **PcP 02 21 42.6 +2.0**
comp=Z,5.6nm,1.0s,baz=15,slow=5.0,SNR=5.4
TLY Talaya 53.84 311 *e*P **P 02 20 35.8 -2.2**
TLY pmax pmax
comp=Z,4.0nm,1.3s
SONM Songino Array 55.60 306 P **P 02 20 50.3 -0.6**
SONM Songino Array 55.60 306 P **P 02 20 50.3 -0.6**
comp=Z,3.5nm,0.5s,baz=40,slow=5.6,SNR=42
BJI Beijing 56.98 294 P **P 02 21 01.2 +0.5**
BJI pmax pmax
comp=Z,7.0nm,0.6s
HHC Hu-ho-hao-te 58.60 298 *e*P P 02 21 15.6 +3.4
HHC PP PP 02 23 27.2 +5.3
HHC S **S 02 29 14.5 +2.2**
HHC ScS **ScS 02 30 59.2 +2.0**
HHC SS **SS 02 33 09.5 +4.6**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC LR LR
comp=N,130nm,11.9s
HHC LR LR
comp=E,140nm,13.1s
HHC LR LR
comp=Z,150nm,14.3s
ZAA0 Zalesovo Array 58.92 324 *e*P **P 02 21 13.3 -0.7**
ZALV Zalesovo Beam 58.92 324 P **P 02 21 13.2 -0.8**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV MLR MLR
comp=Z,56nm,18.4s
ZALV Zalesovo Beam 58.92 324 P **P 02 21 13.2 -0.8**
ZALV Zalesovo Beam 58.92 324 P **P 02 21 13.2 -0.8**
comp=Z,2.1nm,0.5s,baz=35,slow=6.7,SNR=9.0
ZALV LR LR 02 49 15.5
comp=Z,56nm,18.4s,baz=36,slow=39
JOF Joensuu 59.86 357 *e*P **P 02 21 19.7 -0.7**
JOF pmax pmax
comp=Z,2.0nm,0.4s
JOF Joensuu 59.86 357 *ep* **P 02 21 19.7 -0.7**
comp=Z,1.7nm,0.4s
SOKR Solikamsk 60.69 342⇑ *i*P **P 02 21 24.6 -1.5**
SOKR pmax pmax
comp=Z,20nm,1.1s
KAF Kangasniemi 60.75 360 *e*P **P 02 21 25.4 -1.1**
KAF pmax pmax
comp=Z,2.0nm,0.4s
KAF Kangasniemi 60.75 360 *ep* **P 02 21 25.4 -1.1**
comp=Z,2.3nm,0.4s
NB2 NORSAR Subarra 61.31 8 P **P 02 21 29.6 -0.8**
baz=352,slow=6.9
NB2 NORSAR Subarra 61.31 8 P **P 02 21 29.6 -0.8**
comp=Z,19nm,1.0s,baz=352,slow=6.9
NOA NORSAR Array B 61.31 8 P **P 02 21 30.2 -0.2**
NOA NORSAR Array B 61.31 8 P **P 02 21 30.2 -0.2**
comp=Z,8.4nm,0.8s,baz=352,slow=6.8,SNR=29
NOA LR LR 02 45 10.7
comp=Z,38nm,20.0s,baz=40,slow=33
FINES FINESS Array B 61.42 360 P **P 02 21 30.3 -0.8**
FINES FINESS Array B 61.42 360 P **P 02 21 30.3 -0.8**
comp=Z,5.9nm,0.8s,baz=5.8,slow=9.4,SNR=24
NAO01 NORSAR Array S 61.48 8 *e*P **P 02 21 31.3 -0.2**
KLMR Klimovskoe 61.50 352 *e*P P 02 21 25.5 -6.0
KLMR pmax pmax
comp=Z,21nm,1.2s
TARA Tarawa 61.60 218 *e*P **P 02 21 34.2 +1.3**
comp=Z,131nm,0.9s
NJ2 Nanjing 61.83 286 *e*P **P 02 21 33.3 -0.9**
NJ2 pmax pmax
comp=Z,20nm,0.6s
SVE Sverdlovsk 62.59 339 *e*P **P 02 21 38.0 -1.0**
SVE pmax pmax
comp=Z,12nm,1.1s
ARU Arti 63.36 340 *d i*P **P 02 21 42.8 -1.2**
ARU 02 23 58.7
ARU S **S 02 30 10.8 -1.3**
ARU SS **SS 02 34 16.4 -1.8**
ARU pmax pmax
comp=Z,18nm,1.7s
ARU Arti 63.36 340 *e*P **P 02 21 42.6 -1.5**
comp=Z,7.0nm,0.8s
KURK Kurchatov 63.65 325 *e*P **P 02 21 44.7 -1.3**
KURK pmax pmax
comp=Z,8.0nm,1.5s
KURK Kurchatov 63.65 325 *e*P **P 02 21 44.7 -1.3**
comp=Z,8.3nm,1.5s
BRVK Borovoye 63.91 332 *e*P **P 02 21 46.8 -0.9**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 63.91 332 *e*P **P 02 21 46.8 -0.9**
comp=Z,5.5nm,1.0s
BVA0 Borovoye Array 63.91 332 P **P 02 21 46.2 -1.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s
VOSK Vostochnaya 64.03 331 P **P 02 21 46.8 -1.7**
VOSK pmax pmax
comp=Z,3.0nm,0.7s
ZRNK Zerenda 64.33 332 P **P 02 21 49.2 -1.3**
ZRNK pmax pmax
comp=Z,1.0nm,0.4s
VSU Vasula 64.41 359⇓ *i*P **P 02 21 50.2 -0.7**
VSU pmax pmax
comp=Z,36nm,1.0s
GTA Gaotai 65.18 305 *e*P **P 02 21 55.4 -1.0**
GTA pP **pP 02 22 06.7 -4.3**
GTA sP sP 02 22 11.3 -5.7
GTA pmax pmax
comp=Z,5.0nm,0.5s
MUD Monsted U'grnd 65.68 10 *i*P **P 02 22 00.4 +1.2**
MUD pmax pmax
comp=Z,12nm,1.0s
MUD Monsted U'grnd 65.68 10 *i*P **P 02 22 00.4 +1.2**
comp=Z,12nm,1.0s
MK31 Makanchi Array 65.88 321 *ce*P **P 02 21 59.0 -1.7**
MK31 pmax pmax
comp=Z,2.0nm,0.4s
MK31 Makanchi Array 65.88 321 *e*P **P 02 21 59.3 -1.4**
MKAR Makanchi Array 65.88 321 P **P 02 21 59.3 -1.4**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 65.88 321 *e*P **P 02 21 59.3 -1.4**
MKAR Makanchi Array 65.88 321 P **P 02 21 59.3 -1.4**
comp=Z,2.4nm,0.4s,baz=33,slow=6.4,SNR=89
LZH Lanzhou 66.05 300 *e*P P 02 22 11.5 +9.4
LZH pP pP 02 22 21.0 +4.2
LZH sP sP 02 22 25.5 +2.8
LZH pmax pmax
comp=Z,13nm,1.0s
WMQ Urumqi 66.49 316 *e*P P 02 22 09.7 +5.0
WMQ pmax pmax
comp=Z,6.0nm,0.5s
IZAR Zarasai 67.14 359 *e*P **P 02 22 08.3 -0.1**
IZAR AMB AMB 02 22 09.7
comp=Z,7.0nm,1.1s
IZAR Zarasai 67.14 359 *e*P **P 02 22 08.3 -0.1**
IZAR AMB AMB 02 22 09.7
comp=Z,7.0nm,1.1s
ISAL Salakas 67.31 360 *e*P **P 02 22 09.4 -0.2**
ISAL AMB AMB 02 22 11.1
comp=Z,10.0nm,1.4s
ISAL Salakas 67.31 360 *e*P **P 02 22 09.2 -0.4**
ISAL AMB AMB 02 22 11.1
comp=Z,10.0nm,1.4s
OBN Obninsk 67.41 353⇓ *e*P **P 02 22 09.3 -0.9**
OBN *e* 02 22 22.9
OBN pmax pmax
comp=Z,52nm,2.5s
IIGN Ignalina 67.54 359 *e*P **P 02 22 10.8 -0.2**
IIGN AMB AMB 02 22 12.3
comp=Z,5.4nm,1.0s
IIGN Ignalina 67.54 359 *e*P **P 02 22 10.8 -0.2**
IIGN AMB AMB 02 22 12.3
comp=Z,5.4nm,1.0s
AKTO Aktyubinsk 69.15 338 P **P 02 22 19.4 -1.8**
AKTO pmax pmax
comp=Z,2.0nm,1.0s
AB31 Akbulak array 69.87 337 *ce*P **P 02 22 24.5 -1.2**
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR Akbulak array 69.87 337 *e*P **P 02 22 24.5 -1.1**

CD2	**Chengdu**	**70.33**	**297**	P	**P**	**02 22 31.5**	**+2.6**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.4s							
CD2				pmax	pmax			
	comp=Z,80nm,5.0s							
CLL	**Collm**	**71.11**	**8**	*e*P	**P**	**02 22 33.0**	**-0.2**
CLL				pmax	pmax			
	comp=Z,9.0nm,1.2s							
CLL	**Collm**	**71.11**	**8**	*e*P	**P**	**02 22 33.0**	**-0.2**
	comp=Z,9.0nm,1.2s							
BAIF	**Baives**	**71.42**	**14**	*e*P	**P**	**02 22 35.9**	**+0.8**
GIVF	**Givet**	**71.46**	**14**	*e*P	**P**	**02 22 36.0**	**+0.7**
BRG	**Berggiesshubel**	**71.61**	**8**	*e*P	**P**	**02 22 37.1**	**+0.9**
	comp=Z,17nm,1.4s							
BRG	**Berggiesshubel**	**71.61**	**8**	*e*P	**P**	**02 22 37.1**	**+0.9**
BRG				pmax	pmax			
	comp=Z,17nm,1.4s							
PVCC	**Panska Ves**	**72.00**	**7**	*e*P	**P**	**02 22 39.3**	**+0.8**
PVCC	**Panska Ves**	**72.00**	**7**	*e*P	**P**	**02 22 39.3**	**+0.8**
AAK	**Ala-Archa**	**72.13**	**324**	*e*P	**P**	**02 22 39.6**	**-0.1**
AAK				pmax	pmax			
	comp=Z,55nm,0.8s							
AAK	**Ala-Archa**	**72.13**	**324**	*e*P	**P**	**02 22 39.6**	**-0.1**
	comp=Z,55nm,0.8s							
NKC	**Novy Kostel**	**72.14**	**9**	*e*P	**P**	**02 22 39.3**	**-0.1**
NKC	**Novy Kostel**	**72.14**	**9**	*e*P	**P**	**02 22 39.3**	**-0.1**
AKASG	**Malin Array Be**	**72.15**	**357**	P	**P**	**02 22 38.3**	**-1.1**
AKASG				pmax	pmax			
	comp=Z,7.0nm,0.4s							
AKASG	**Malin Array Be**	**72.15**	**357**	P	**P**	**02 22 38.3**	**-1.1**
AKASG	**Malin Array Be**	**72.15**	**357**	P	**P**	**02 22 38.3**	**-1.1**
	comp=Z,7.4nm,0.3s,baz=4.9,slow=6.1,SNR=39							
AKBB	**Malin Array Si**	**72.15**	**357**	*e*P	**P**	**02 22 38.4**	**-1.0**
AKBB	**Malin Array Si**	**72.15**	**357**	*e*P	**P**	**02 22 38.4**	**-1.0**
KIEV	**Kiev**	**72.16**	**357**	*e*P	**P**	**02 22 38.3**	**-1.2**
KIEV				pmax	pmax			
	comp=Z,25nm,1.0s							
KIEV	**Kiev**	**72.16**	**357**	*e*P	**P**	**02 22 38.3**	**-1.2**
	comp=Z,25nm,1.0s							
DPC	**Dobruska-Polom**	**72.29**	**6**	*e*P	**P**	**02 22 40.5**	**+0.2**
DPC				pmax	pmax			
	comp=Z,16nm,1.1s							
DPC	**Dobruska-Polom**	**72.29**	**6**	*e*P	**P**	**02 22 40.5**	**+0.2**
	comp=Z,16nm,1.1s							
DPC	**Dobruska-Polom**	**72.29**	**6**	*e*P	**P**	**02 22 40.7**	**+0.4**
KK31	**Karatay Array**	**72.92**	**327**	*ce*P	**P**	**02 22 43.0**	**-1.2**
KK31				pmax	pmax			
	comp=Z,2.0nm,0.3s							
KKAR	**Karatay Array**	**72.92**	**327**	*e*P	**P**	**02 22 43.5**	**-0.7**
KKAR	**Karatay Array**	**72.92**	**327**	*e*P	**P**	**02 22 43.5**	**-0.7**
MORC	**Moravsky Berou**	**72.92**	**5**	⇑P	**P**	**02 22 44.3**	**+0.2**
MORC	**Moravsky Berou**	**72.92**	**5**	⇑*i*P	**P**	**02 22 44.3**	**+0.2**
KWP	**Kalwaria Pacla**	**73.24**	**2**	⇑P	**P**	**02 22 46.0**	**0.0**
KWP	**Kalwaria Pacla**	**73.24**	**2**	⇑*i*P	**P**	**02 22 46.0**	**0.0**
KHC	**Kasperske Hory**	**73.32**	**8**	*e*P	**P**	**02 22 47.1**	**+0.6**
KHC	**Kasperske Hory**	**73.32**	**8**	*e*P	**P**	**02 22 47.1**	**+0.6**
CDF	**Champ du Feu**	**73.42**	**12**	*e*P	**P**	**02 22 47.2**	**0.0**
	comp=Z,6.6nm,0.6s							
GERES	**GERESS Array B**	**73.61**	**8**	P	**P**	**02 22 48.8**	**+0.5**
GERES	**GERESS Array B**	**73.61**	**8**	P	**P**	**02 22 48.8**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=3.0,slow=5.5,SNR=18							
HAU	**Haudompre**	**73.71**	**13**	*e*P	**P**	**02 22 49.5**	**+0.7**
	comp=Z,17nm,0.6s							
KOLS	**Kolonicke sedl**	**73.93**	**2**	*e*P	**P**	**02 22 50.9**	**+0.9**
KOLS				pmax	pmax			
	comp=Z,6.0nm,1.1s							
KOLS	**Kolonicke sedl**	**73.93**	**2**	*e*P	**P**	**02 22 50.9**	**+0.9**
CRVS	**Cervenica-Dubn**	**73.95**	**3**	*e*P	**P**	**02 22 51.0**	**+0.8**
CRVS	**Cervenica-Dubn**	**73.95**	**3**	*e*P	**P**	**02 22 50.9**	**+0.8**
HINF	**Hinteralfeld**	**73.96**	**13**	*e*P	**P**	**02 22 50.8**	**+0.5**
	comp=Z,10.0nm,0.6s							
LOR	**Lormes**	**74.11**	**15**	*e*P	**P**	**02 22 51.9**	**+0.8**
SSF	**Saint Saulge**	**74.26**	**15**	*e*P	**P**	**02 22 52.9**	**+0.9**
	comp=Z,12nm,0.5s							
VYHS	**Vyhne**	**74.27**	**5**	*e*P	**P**	**02 22 52.1**	**+0.1**
VYHS				pmax	pmax			
	comp=Z,6.0nm,1.3s							
VYHS	**Vyhne**	**74.27**	**5**	*e*P	**P**	**02 22 52.1**	**+0.1**
KSH	**Kashi**	**74.46**	**322**	⇑P	P	02 22 57.4	+4.0
KSH				PcP	pP	02 23 11.1	+2.8
KSH				PP	PP	02 25 45.9	+6.3
KSH				S	**S**	**02 32 29.3**	**+5.2**
KSH				SKS	**SKKSac**	**02 32 57.4**	**+0.3**
KSH				ScS	**ScS**	**02 33 02.5**	**+2.5**
KSH				pmax	pmax			
	comp=Z,11nm,0.9s							
KSH				pmax	pmax			
	comp=Z,26nm,3.5s							
KSH				LR	LR			
	comp=N,74nm,6.2s							
KSH				LR	LR			
	comp=E,130nm,7.7s							
KSH				LR	LR			
	comp=Z,200nm,6.6s							
AVF	**Avril sur Loir**	**74.50**	**16**	*e*P	**P**	**02 22 54.1**	**+0.8**
	comp=Z,14nm,0.4s							
CONA	**Conrad Observa**	**74.67**	**7**	⇓*i*P	**P**	**02 22 54.5**	**0.0**
	comp=Z,4.4nm,1.1s							
CONA	**Conrad Observa**	**74.67**	**7**	⇓*i*P	**P**	**02 22 54.5**	**0.0**
	comp=Z,4.4nm,1.1s							
TRPA	**Tarpa**	**74.74**	**2**	⇑*i*P	**P**	**02 22 55.5**	**+0.8**
WTTA	**Wattenberg**	**75.01**	**10**	⇑*i*P	**P**	**02 22 56.8**	**+0.3**
WTTA				pmax	pmax			
	comp=Z,5.0nm,0.5s							
WTTA	**Wattenberg**	**75.01**	**10**	⇑*i*P	**P**	**02 22 56.8**	**+0.3**
	comp=Z,4.5nm,0.5s							
WTTA	**Wattenberg**	**75.01**	**10**	⇑*i*P	**P**	**02 22 56.8**	**+0.3**
	comp=Z,4.5nm,0.5s							
CABF	**La Chapelle**	**75.05**	**14**	*e*P	**P**	**02 22 57.7**	**+1.0**
	comp=Z,13nm,0.6s							
FETA	**Feichten**	**75.17**	**10**	⇑*i*P	**P**	**02 22 58.4**	**+1.0**
	comp=Z,3.6nm,0.8s							
FETA	**Feichten**	**75.17**	**10**	⇑*i*P	**P**	**02 22 58.4**	**+1.0**
	comp=Z,3.6nm,0.8s							
BUR08	**Bucovina Ar. S**	**75.25**	**0**	*e*P	**P**	**02 22 57.3**	**-0.5**
BURAR	**Bucovina Array**	**75.28**	**0**	⇑*i*P	**P**	**02 22 57.8**	**-0.2**
KBA	**Koelnbreinsper**	**75.34**	**8**	⇑*i*P	**P**	**02 22 59.0**	**+0.6**
KBA				pmax	pmax			
	comp=Z,5.0nm,0.4s							
KBA	**Koelnbreinsper**	**75.34**	**8**	⇑*i*P	**P**	**02 22 59.0**	**+0.6**
	comp=Z,5.4nm,0.4s							
KBA	**Koelnbreinsper**	**75.34**	**8**	⇑*i*P	**P**	**02 22 59.0**	**+0.6**
	comp=Z,5.4nm,0.5s							
KMI	**Kunming**	**75.64**	**294**	P	P	02 23 05.0	+4.5
SOKA	**Soboth**	**75.86**	**7**	⇓*i*P	**P**	**02 23 01.9**	**+0.5**
	comp=Z,4.7nm,1.1s							
SOKA	**Soboth**	**75.86**	**7**	⇓*i*P	**P**	**02 23 01.8**	**+0.5**
	comp=Z,4.7nm,1.1s							
LFF	**La Frestale**	**75.91**	**18**	*e*P	**P**	**02 23 02.7**	**+1.3**
	comp=Z,38nm,0.7s							
OBKA	**Obir**	**76.00**	**8**	⇓*i*P	**P**	**02 23 02.1**	**0.0**
	comp=Z,8.8nm,0.5s							
OBKA	**Obir**	**76.00**	**8**	⇓*i*P	**P**	**02 23 02.1**	**0.0**
	comp=Z,8.8nm,0.5s							
DRGR		**76.08**	**2**	⇓P	**P**	**02 23 02.4**	**-0.1**
DRGR		**76.08**	**2**	⇓*i*P	**P**	**02 23 02.4**	**-0.1**
GROS	**Grobnik**	**76.11**	**7**	*i* P	**P**	**02 23 03.3**	**+0.6**
CAF	**Calviac**	**76.13**	**17**	*e*P	**P**	**02 23 03.8**	**+1.0**
JAVS	**Javornik**	**76.58**	**8**	*i* P	**P**	**02 23 05.1**	**-0.2**
VIVF	**Saint-Julien-l**	**76.58**	**15**	*e*P	**P**	**02 23 06.4**	**+1.0**
	comp=Z,18nm,0.7s							
VISS	**Visnje**	**76.72**	**8**	*i* P	**P**	**02 23 05.2**	**-0.9**
MBDF	**Montbardon**	**76.99**	**14**	*e*P	**P**	**02 23 09.5**	**+1.7**
	comp=Z,12nm,0.7s							
BOJS	**Bojanci**	**77.05**	**7**	*i* P	**P**	**02 23 08.2**	**+0.3**
QIZ	**Qiongzhong**	**77.09**	**285**	P	P	02 23 04.7	-3.8
QIZ				S	**S**	**02 32 49.4**	**-4.0**
QIZ				pmax	pmax			
	comp=Z,97nm,4.2s							
BZS	**Buzias**	**77.23**	**3**	⇓P	**P**	**02 23 08.9**	**0.0**
BZS	**Buzias**	**77.23**	**3**	⇓*i*P	**P**	**02 23 08.9**	**0.0**
GZR	**Gura Zlata**	**77.48**	**2**	⇑P	**P**	**02 23 10.6**	**+0.2**
GZR	**Gura Zlata**	**77.48**	**2**	⇑*i*P	**P**	**02 23 10.6**	**+0.2**
ANN	**Anapa**	**77.60**	**351**	*e*P	**pP**	**02 23 25.5**	**-0.4**
ANN				*e**PP	Px	02 23 46.2	
ANN				*e*S	SKSac	02 33 27.6	+8.0
ANN				pmax	pmax			
	comp=Z,36nm,1.2s							
ETSF	**Etsaut**	**77.66**	**19**	*e*P	**P**	**02 23 13.4**	**+1.9**
	comp=Z,12nm,0.7s							
CFR	**Carcaliu**	**77.70**	**358**	⇑P	**P**	**02 23 11.4**	**-0.1**
CFR	**Carcaliu**	**77.70**	**358**	⇑*i*P	**P**	**02 23 11.4**	**-0.1**
KIV	**Kislovodsk**	**77.91**	**347**	*e*P	**P**	**02 23 12.4**	**-0.5**
KIV				*e*S	**S**	**02 32 59.9**	**-1.9**
KIV				pmax	pmax			
	comp=Z,20nm,1.0s							
KIV	**Kislovodsk**	**77.91**	**347**	*e*P	**P**	**02 23 13.0**	**+0.1**
	comp=Z,15nm,1.0s							
ZEI	**Tsey**	**78.93**	**346**	*e*P	**P**	**02 23 16.5**	**-2.2**
ZEI				pmax	pmax			
	comp=Z,6.0nm,1.0s							
ESDC	**Sonseca Array**	**80.12**	**23**	P	**P**	**02 23 25.5**	**+0.5**
ESDC	**Sonseca Array**	**80.12**	**23**	P	**P**	**02 23 25.5**	**+0.5**
	comp=Z,21nm,0.6s,baz=340,slow=5.5,SNR=8.4							
TAPN	**Taplejung**	**80.72**	**307**	*e*P	**P**	**02 23 28.0**	**-0.7**
	comp=Z,8.8nm,0.4s							
GUN	**Gumba**	**81.01**	**309**	*e*P	**P**	**02 23 29.6**	**-0.7**
	comp=Z,6.7nm,0.3s							
JIRN	**Jiri**	**81.10**	**308**	*e*P	**P**	**02 23 30.4**	**-0.4**
	comp=Z,5.0nm,0.4s							
KBL	**Kabul**	**81.25**	**325**	*e*P	**P**	**02 23 30.0**	**-1.3**
KBL				pmax	pmax			
	comp=Z,5.0nm,1.0s							
KBL	**Kabul**	**81.25**	**325**	*e*P	**P**	**02 23 30.0**	**-1.3**
	comp=Z,4.7nm,1.0s							
DANN	**Dangsing**	**81.50**	**311**	*e*P	**P**	**02 23 32.6**	**-0.2**
	comp=Z,16nm,0.4s							
PKI	**Pulchoki**	**81.50**	**309**	*e*P	**P**	**02 23 32.0**	**-0.9**
	comp=Z,6.3nm,0.4s							
RAMN	**Ramite**	**81.54**	**308**	*e*P	**P**	**02 23 32.1**	**-0.9**
	comp=Z,14nm,0.6s							
DMN	**Daman**	**81.60**	**309**	*e*P	**P**	**02 23 32.8**	**-0.5**
BR131	**Keskin Array S**	**82.92**	**354**	*e*P	**P**	**02 23 39.3**	**-0.6**
	comp=Z,1.4nm,0.5s							
BRTR	**Keskin Array B**	**82.92**	**354**	P	**P**	**02 23 39.7**	**-0.2**
BRTR	**Keskin Array B**	**82.92**	**354**	P	**P**	**02 23 39.7**	**-0.2**
	comp=Z,1.6nm,0.5s,baz=17,slow=1.6,SNR=27							
CMAR	**Chiang Mai Arr**	**83.13**	**294**	P	**P**	**02 23 40.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**83.13**	**294**	P	**P**	**02 23 40.5**	**-0.6**
	comp=Z,2.0nm,0.5s,baz=13,slow=5.3,SNR=6.7							
KEST	**Kesra**	**86.18**	**13**	P	**P**	**02 23 57.7**	**+1.4**
KEST	**Kesra**	**86.18**	**13**	P	**P**	**02 23 57.7**	**+1.4**
	comp=Z,1.7nm,0.9s,baz=248,slow=3.0,SNR=8.9							
QSPA	**South Pole Qui**	**147.26**	**180**	PKPbc	**PKPbc**	**02 30 55.9**	**-1.0**
QSPA	**South Pole Qui**	**147.26**	**180**	PKPbc	**PKPbc**	**02 30 55.9**	**-1.0**
	comp=Z,4.0nm,0.6s,baz=308,slow=0.9,SNR=18							
LBTB	**Lobatse**	**147.57**	**360**	*e*PKPdf	**PKPbc**	**02 30 58.7**	**-0.3**
LBTB				*e*PKPbc	**PKPab**	**02 31 01.6**	**+0.4**
LBTB				*e*PKPab	**PKiKP**	**02 31 03.5**	**+2.4**
BOSA	**Boshof**	**151.16**	**0**	PKPbc	**PKPbc**	**02 31 06.9**	**-1.0**
BOSA	**Boshof**	**151.16**	**0**	PKPbc	**PKPbc**	**02 31 06.9**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=341,slow=0.6,SNR=7.8							

CASC 10 02:26:12.6±1.4, 13°.34N×89°.88W, h39km±27km, MD3.5, ML3.2, 1C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**0.55**	**27**	⇓*i*P	Pn	02 26 24.1	-0.3
SBLS				*e*S	Sn	02 26 33.4	+0.7
SNJE	**San Jose**	**0.59**	**27**	*e*P	Pn	02 26 24.5	-0.3
SNJE				*e*S	Sn	02 26 34.2	+0.8
RTR	**El Retiro**	**0.60**	**22**	⇓*i*P	Pn	02 26 24.9	-0.1
RTR				*e*S	Sn	02 26 34.8	+1.1
BOQS	**Boqueron**	**0.70**	**56**	⇑*i*eP	Pn	02 26 26.2	-0.1
BOQS				*e*S	Sn	02 26 36.8	+0.5
SNET	**Serv Nac Est T**	**0.72**	**61**	*e*P	Pn	02 26 26.0	-0.4
SNET				*e*S	Sn	02 26 37.1	+0.8
SNET				AML	AML	02 26 39.2	
	comp=Z,677nm,0.2s						
RBDL	**Robledal**	**0.79**	**14**	⇓*i*P	Pn	02 26 27.5	0.0
RBDL				*e*S	Sn	02 26 39.7	+1.5
LFRS	**El Faro**	**0.84**	**71**	*e*P	Pn	02 26 27.6	-0.5
LFRS				*e*S	Sn	02 26 40.0	+0.5
LBRS	**Las Brisas**	**0.90**	**64**	*e*P	Pn	02 26 29.0	+0.1
LBRS				*e*S	Sn	02 26 42.1	+1.3
SNVI	**San Vicente**	**1.05**	**75**	*e*P	Pn	02 26 31.4	+0.3
SNVI				*e*S	Sn	02 26 45.2	+0.7
PCG	**Pacaya**	**1.26**	**326**	*e*P	Pn	02 26 35.1	+1.0
PCG				*e*S	Sn	02 26 51.4	+1.3
NBG	**Las Nubes**	**1.32**	**340**	*e*P	Pn	02 26 35.9	+1.0
NBG				*e*S	Sn	02 26 51.1	-0.4
FUG	**Fuego 3**	**1.44**	**320**	*e*P	Pn	02 26 36.0	-0.5
FUG				*e*S	Sn	02 26 54.8	+0.4
MRL	**Marmol**	**1.72**	**6**	*e*P	Pn	02 26 39.5	-0.8
MRL				*e*S	Sn	02 26 57.0	-4.2
TP2	**Tecpan 2**	**1.81**	**322**	*e*P	Pn	02 26 42.9	+1.0
TP2				*e*S	Sn	02 27 05.2	+1.3

IDC 10 02:26:12.9±2.1, 2°.83N×127°.54E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/20, mbtmp3.5/5, Error ellipse: s-maj=230.5km s-min=19.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.59**	**164**	P	P	02 31 25.8	+0.2
	1.4nm,0.5s,baz=342,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**27.06**	**167**	P	P	02 31 57.6	+0.3
	0.3nm,0.5s,baz=344,slow=8.1,SNR=3.7						
STKA	**Stephens Creek**	**37.01**	**160**	P	P	02 33 23.8	-0.6
	0.6nm,0.3s,baz=326,slow=7.3,SNR=2.7						
MKAR	**Makanchi Array**	**58.75**	**325**	P	P	02 36 12.7	-0.1
	0.1nm,0.4s,baz=112,slow=7.6,SNR=6.2						
KURBB	**Kurchatov Arra**	**62.93**	**327**	P	P	02 36 41.2	+0.1
	0.1nm,0.4s,baz=126,slow=6.4,SNR=3.4						

KRSC 10 02:41:07.6±0.9, 54°.01N×160°.78E, h20km±19km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.78**	**45**	*e*P	Pb	02 41 21.4	-1.1
MKZ				S	Sb	02 41 31.7	-0.9
SPN	**Mys Shipunski**	**1.02**	**207**	*e*P	Pb	02 41 26.0	-0.5
SPN				*e*S	Sn	02 41 40.0	-0.4
NLC	**Nalytchevo**	**1.20**	**226**	*e*P	Pn	02 41 28.9	-0.3
NLC				*e*S	Sb	02 41 44.7	+0.1
SDLR	**Sedlovina**	**1.35**	**238**	*e*P	Pn	02 41 31.7	+0.3
SDLR				*e*S	Sn	02 41 49.0	+0.2
SMAR	**Somma**	**1.40**	**238**	*e*P	Pn	02 41 32.6	+0.4
SMAR				S	Sb	02 41 50.7	-0.1
UGLR	**Uglovaya**	**1.42**	**236**	*e*P	Pb	02 41 33.0	-0.5
AVH	**Avacha**	**1.43**	**239**	*e*P	Pb	02 41 33.3	-0.3
AVH				*e*S	Sb	02 41 51.6	+0.2
KOK	**Koryaka**	**1.47**	**241**	*e*P	Pn	02 41 33.6	+0.6
KOK				S	Sb	02 41 52.3	-0.3
PET	**Petropavlovsk**	**1.61**	**233**	P	Pn	02 41 35.5	+0.7
PET				*e*S	Sb	02 41 55.9	-0.5
KMNR	**Kamenistaya**	**1.78**	**350**	*e*P	Pn	02 41 37.1	-0.2
KMNR				S	Sn	02 41 58.7	-0.7
RUS	**Russkaya**	**2.09**	**222**	P	Pn	02 41 41.4	0.0
MTVR	**Mutnovka**	**2.19**	**227**	P	Pn	02 41 43.5	+0.5
MTVR				S	Sn	02 42 10.1	+0.6
ASAK	**Asacha**	**2.38**	**228**	P	Pn	02 41 47.2	+1.7
KBTR	**Krutoberegovo**	**2.50**	**27**	P	Pn	02 41 47.6	+0.6

*NSSP **10** 03:10:47.2, 39°.63N×44°.47E, h26km, Ms3.0*
*TIF **10** 03:10:47.9, 39°.66N×44°.49E, h6km±2km*
*ISK **10** 03:10:48.0, 39°.64N×44°.52E, h5km, MD3.3*
*DDA **10** 03:10:49.0, 39°.62N×44°.48E, h2km, MD3.3*
*CSEM **10** 03:10:48.7±0.2, 39°.67N×44°.52E, h2km, ML3.0, Error ellipse: s-maj=3.6km s-min=2.9km az=101.0*

ISC 10 03:10:48.6±1.1, 39°.66N±0°.02×44°.49E±0°.02, h2km±11km, n64, σ1§13/104, 11C-15D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARRZ	**Ararat**	**0.26**	**39**	*e*P	**Pn**	**03 10 58.0**	**-1.5**
ARRZ				*e*S	**Sb**	**03 11 04.0**	**+3.1**
MAKU	**Maku**	**0.34**	**153**	*e*Pg	**Pg**	**03 10 54.5**	**-0.6**
VRNZ	**Vardanashen**	**0.45**	**330**	⇓*i*P	**Pg**	**03 10 57.4**	**+0.2**
VRNZ				⇓*i*S	**Sb**	**03 11 05.3**	**-1.3**
VRNZ	**Vardanashen**	**0.45**	**330**	⇓P	**Pg**	**03 10 57.4**	**+0.2**
VRNZ				S	**Sb**	**03 11 05.3**	**-1.3**
PAAR	**P'arak'ar**	**0.50**	**351**	⇓*i*P	**Pg**	**03 10 58.2**	**+0.1**
PAAR				⇑*i*S	**Sg**	**03 11 05.2**	**+0.6**
PAAR	**P'arak'ar**	**0.50**	**351**	⇓P	**Pg**	**03 10 58.2**	**+0.1**
PAAR				S	**Sg**	**03 11 05.2**	**+0.6**
GNI	**Garni**	**0.53**	**22**	PG	**Pg**	**03 10 59.4**	**+0.6**
GNI				SG	**Sb**	**03 11 08.3**	**-0.6**
GNI	**Garni**	**0.53**	**22**	⇓*i*P	**Pb**	**03 10 59.7**	**-1.0**
GNI				⇓*i*S	**Sb**	**03 11 08.7**	**-0.2**
GNI	**Garni**	**0.53**	**22**	*i* Pg	**Pg**	**03 10 59.4**	**+0.6**
GNI	**Garni**	**0.53**	**22**	⇓P	**Pb**	**03 10 59.7**	**-1.0**
GNI				*i* Sg	**Sb**	**03 11 08.3**	**-0.6**
DYDN	**Diyadin**	**0.63**	**260**	*i* P	**Pb**	**03 11 01.4**	**-1.0**
DYDN				*i* S	**Sb**	**03 11 11.6**	**-0.1**
DYDN	**Diyadin**	**0.63**	**260**	*i* P	**Pb**	**03 11 01.4**	**-1.0**
DYDN				*i* S	**Sb**	**03 11 11.6**	**-0.1**
CLDR	**Caldiran**	**0.68**	**221**	PG	**Pb**	**03 11 02.1**	**-1.1**
CLDR				SG	**Sb**	**03 11 12.3**	**-0.8**
CLDR	**Caldiran**	**0.68**	**221**	*i* Pg	**Pb**	**03 11 02.1**	**-1.1**
CLDR				*i* Sg	**Sb**	**03 11 12.3**	**-0.8**
VNNZ	**Vanand**	**0.68**	**311**	⇓*i*P	**Pg**	**03 11 01.2**	**-0.3**
VNNZ				⇓*i*S	**Sb**	**03 11 12.2**	**-0.9**
VNNZ	**Vanand**	**0.68**	**311**	⇓P	**Pg**	**03 11 01.2**	**-0.3**
VNNZ				S	**Sb**	**03 11 12.2**	**-0.9**
KAPZ	**Kaputan**	**0.68**	**14**	⇑*i*P	**Pg**	**03 11 01.6**	**-0.1**
KAPZ				⇑*i*S	**Sg**	**03 11 11.9**	**+1.3**
KAPZ	**Kaputan**	**0.68**	**14**	⇑P	**Pg**	**03 11 01.6**	**-0.1**
KAPZ				S	**Sg**	**03 11 11.9**	**+1.3**
ARUZ	**Aruch**	**0.69**	**334**	⇑*i*P	**Pg**	**03 10 59.2**	**-2.7**
ARUZ				⇑*i*S	**Sg**	**03 11 11.7**	**+0.8**
AKSZ	**Araks**	**0.71**	**319**	⇑*i*P	**Pg**	**03 11 01.8**	**-0.3**
AKSZ				⇑*i*S	**Sg**	**03 11 11.8**	**+0.6**
AKSZ	**Araks**	**0.71**	**319**	⇑P	**Pg**	**03 11 01.8**	**-0.3**
AKSZ				S	**Sg**	**03 11 11.8**	**+0.6**
AMBZ	**Amberd**	**0.75**	**347**	⇑*i*P	**Pg**	**03 11 02.8**	**-0.2**
AMBZ				⇓*i*S	**Sg**	**03 11 14.2**	**+1.5**
AMBZ	**Amberd**	**0.75**	**347**	⇑P	**Pg**	**03 11 02.8**	**-0.2**
AMBZ				S	**Sg**	**03 11 14.2**	**+1.5**
VADZ	**Vardenis**	**1.10**	**62**	*e*P	**Pg**	**03 11 09.0**	**-0.6**
VADZ				*e*S	**Sg**	**03 11 23.0**	**-0.8**
VADZ	**Vardenis**	**1.10**	**62**	P	**Pg**	**03 11 09.0**	**-0.6**
VADZ				S	**Sg**	**03 11 23.0**	**-0.8**
AGRB	**Hanur-Agry**	**1.16**	**266**	PN	**Pn**	**03 11 12.0**	**0.0**
AGRB	**Hanur-Agry**	**1.16**	**266**	*i* Pn	**Pn**	**03 11 12.0**	**0.0**
TUTA	**Tutak**	**1.32**	**259**	*i* P	**Pg**	**03 11 13.7**	**-0.1**
TUTA				*i* S	**Sb**	**03 11 31.9**	**+0.3**
TUTA	**Tutak**	**1.32**	**259**	*i* P	**Pg**	**03 11 13.7**	**-0.1**
TUTA				*i* S	**Sb**	**03 11 31.9**	**+0.3**
STEZ	**Stepenevan**	**1.34**	**357**	⇓*e*P	**Pn**	**03 11 13.0**	**-1.5**
STEZ				⇓*e*S	**Sg**	**03 11 32.0**	**+0.3**
STE	**Stepanavan**	**1.34**	**356**	⇓P	**Pn**	**03 11 13.0**	**-1.5**
STE				S	**Sg**	**03 11 32.0**	**+0.2**
VANB	**Van**	**1.36**	**219**	*e*PN	**Pb**	**03 11 15.3**	**+0.5**
VANB	**Van**	**1.36**	**219**	*e*Pn	**Pb**	**03 11 15.3**	**+0.5**
TVAN	**Van**	**1.41**	**217**	*i* P	**Pg**	**03 11 15.9**	**+0.4**
TVAN				*i* S	**Sn**	**03 11 35.1**	**+0.4**
TVAN	**Van**	**1.41**	**217**	*i* P	**Pg**	**03 11 15.9**	**+0.4**
TVAN				*i* S	**Sn**	**03 11 35.1**	**+0.4**
KARS	**Kars**	**1.45**	**312**	*e*PN	**Pg**	**03 11 16.4**	**0.0**
KARS	**Kars**	**1.45**	**312**	*e*Pn	**Pg**	**03 11 16.4**	**0.0**
VANT	**Van**	**1.56**	**218**	*e*PN	**Pb**	**03 11 17.7**	**-0.5**
VANT	**Van**	**1.56**	**218**	*e*Pn	**Pb**	**03 11 17.7**	**-0.5**
AKH	**Akhalkalaki**	**1.91**	**337**	P	**Pb**	**03 11 23.5**	**-0.8**
AKH				S	**Sb**	**03 11 49.3**	**+0.7**
DGRG	**David-gareji**	**1.92**	**20**	P	**Pb**	**03 11 24.2**	**-0.1**
DGRG				S	**Sg**	**03 11 51.9**	**+1.8**
HOMI	**Horasan**	**2.02**	**282**	*i* P	**Pg**	**03 11 27.0**	**-0.4**
HOMI				*i*

0.9nm,0.5s,baz=200,slow=6.9,SNR=33
ASAR Alice Springs 99.11 162 P **Pdif 03 39 15.6 +0.7**
ASAR Alice Springs 99.11 162 P **Pdif 03 39 15.6 +0.7**
0.5nm,0.7s,baz=183,slow=4.0,SNR=5.2
FINES FINESS Array B 124.04 27 PKP **PKPdf 03 44 30.0 -0.3**
FINES FINESS Array B 124.04 27 PKP **PKPdf 03 44 30.0 -0.3**
4.9nm,1.1s,baz=248,slow=5.1,SNR=4.8
YKA Yellowknife Ar 136.22 318 PKP **PKPdf 03 44 53.1 -0.3**
YKA Yellowknife Ar 136.22 318 PKP **PKPdf 03 44 53.1 -0.3**
0.7nm,0.5s,baz=132,slow=1.9,SNR=26
MKAR Makanchi Array 136.51 71 PKPpre PKPpre 03 44 51.4
MKAR Makanchi Array 136.51 71 PKhKP PKPpre 03 44 51.4
0.3nm,0.8s,baz=209,slow=0.6,SNR=3.0
KURBB Kurchatov Arra 136.92 64 PKP **PKPdf 03 44 55.6 +0.5**
0.3nm,0.6s,baz=236,slow=2.8,SNR=3.8
KURK Kurchatov 137.02 64 PKP **PKPdf 03 44 55.6 +0.3**
ZALV Zalesovo Beam 141.99 63 PKP **PKPdf 03 45 04.8 +0.6**
ZALV Zalesovo Beam 141.99 63 PKP **PKPdf 03 45 04.8 +0.6**
0.5nm,0.5s,baz=259,slow=1.5,SNR=2.7
ILAR Eielson Array 150.20 312 PKPbc **PKPbc 03 45 23.1 +0.1**
ILAR Eielson Array 150.20 312 PKPbc **PKPbc 03 45 23.1 +0.1**
2.1nm,0.6s,baz=127,slow=2.6,SNR=52
SONM Songino Array 150.40 86 PKPbc **PKPbc 03 45 23.7 -0.5**
SONM Songino Array 150.40 86 PKPbc **PKPbc 03 45 23.7 -0.5**
1.9nm,0.6s,baz=221,slow=3.3,SNR=17

*IDC **10** 03:40:28.8±1.3, 49.09N×158.36E, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.4/24, mbtmp3.3/5, ML3.2/1, Error ellipse: s-maj=37.5km s-min=31.1km az=131.0*
*MOS **10** 03:40:31.9±1.0, 49.14N×158.01E, h33km, mb4.1/1, Error ellipse: s-maj=49.8km s-min=17.7km az=94.0*
*ISCJB **10** 03:40:34.5±1.1, 49.47N±0.06×158.3E±0.1, h33km, mb3.3/4, Error ellipse: s-maj=11.2km s-min=9.1km az=8.9*
*KRSC **10** 03:40:34.4±1.7, 49.61N×158.53E, h10km±10km, ML3.9*
ISC 10 03:40:34.5±1.1, 49°36N±0.09×158°23E±0.1, h35km, n20, σ1§19/23, mb3.3/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.90**	**315**	*e*PN	**Pn**	**03 41 03.0**	**-1.4**
SKR				*e*S	**Sn**	**03 41 27.5**	**+0.4**
SKR	comp=Z,80nm,0.5s			pmax	pmax		
SKR	comp=N,790nm,0.5s			smax	smax		
SKR	comp=E,540nm,0.5s			smax	smax		
SKR	comp=Z,310nm,1.0s			smax	smax		
ASAK	**Asacha**	**3.04**	**356**	P	**Pn**	**03 41 20.8**	**+0.7**
ASAK				S	**Sn**	**03 41 54.7**	**-0.5**
MIPR	**Malaya Ipel'ka**	**3.07**	**343**	P	**Pn**	**03 41 22.0**	**+1.6**
RUS	**Russkaya**	**3.08**	**3**	P	**Pn**	**03 41 20.9**	**+0.3**
RUS				*e*S	**Sn**	**03 41 54.9**	**-1.3**
MTVR	**Mutnovka**	**3.13**	**359**	*e*P	**Pn**	**03 41 21.5**	**+0.1**
MTVR				*e*S	**Sn**	**03 41 55.7**	**-1.9**
PET	**Petropavlovsk**	**3.68**	**4**	*e*PN	Pn	03 41 32.9	+4.1
PET	**Petropavlovsk**	**3.68**	**4**	S	**Sn**	**03 42 09.4**	**-1.5**
PETK	**Petropavlovsk-**	**3.77**	**355**	PN	**Pn**	**03 41 31.1**	**+1.0**
PETK	comp=Z,1.0nm,0.3s			pmax	pmax		
PETK	**Petropavlovsk-**	**3.77**	**355**	Pn	**Pn**	**03 41 31.1**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=151,slow=16,SNR=26						
UGLR	**Uglovaya**	**3.88**	**5**	P	**Pn**	**03 41 32.3**	**+0.7**
SPN	**Mys Shipunski**	**3.91**	**16**	S	**Sn**	**03 42 14.4**	**-2.2**
AVH	**Avacha**	**3.93**	**4**	P	**Pn**	**03 41 33.3**	**+1.0**
SMAR	**Somma**	**3.93**	**5**	P	**Pn**	**03 41 32.9**	**+0.5**
SDLR	**Sedlovina**	**3.95**	**6**	P	**Pn**	**03 41 32.6**	**0.0**
KOK	**Koryaka**	**3.95**	**4**	P	**Pn**	**03 41 33.4**	**+0.8**
YKA	**Yellowknife Ar**	**46.75**	**40**	P	**P**	**03 49 01.0**	**+1.3**
	comp=Z,0.1nm,0.6s,baz=293,slow=7.5,SNR=3.3						
MKAR	**Makanchi Array**	**48.78**	**298**	P	**P**	**03 49 16.8**	**+1.0**
MKAR	**Makanchi Array**	**48.78**	**298**	P	**P**	**03 49 16.8**	**+1.0**
	comp=Z,0.1nm,0.4s,baz=46,slow=6.2,SNR=5.7						
WRA	**Warramunga Arr**	**72.19**	**204**	P	**P**	**03 51 54.1**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=25,slow=6.4,SNR=2.9						
TXAR	**Lajitas Array**	**73.24**	**65**	P	**P**	**03 52 02.0**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=298,slow=5.6,SNR=5.3						

WEL 10 03:45:02.5±0.2, 44°80S×167°37E, h5km, ML3.7/12, 1C-1D, Error ellipse: s-maj=1.8km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.42**	**73**	⇓PG	Pg	03 45 11.0	+0.4
MSZ				SG	Sg	03 45 15.8	-0.3
DCZ	**Deep Cove**	**0.70**	**192**	P*	Pg	03 45 15.9	+0.1
DCZ				SG	Sg	03 45 25.3	+0.3
MLZ	**Mavora Lakes**	**0.79**	**134**	P*	Pg	03 45 17.8	0.0
MLZ				S*	Sg	03 45 28.3	+0.2
WHZ	**Wether Hill Ro**	**1.17**	**160**	P*	Pg	03 45 24.4	-0.6
WHZ				S*	Sg	03 45 40.1	-0.1
WKZ	**Wanaka**	**1.18**	**92**	P*	Pg	03 45 24.5	-0.6
JCZ	**Jackson Bay**	**1.23**	**55**	P*	Pg	03 45 25.6	-0.7
EAZ	**Earnscleugh**	**1.44**	**108**	PN	Pn	03 45 29.0	-0.3
TUZ	**Tuapeka**	**1.97**	**127**	⇑PN	Pn	03 45 36.8	+0.3
LBZ	**Lake Benmore**	**2.05**	**79**	PN	Pn	03 45 37.9	+0.2
APZ	**The Paps**	**2.08**	**168**	PN	Pn	03 45 38.4	+0.3
SYZ	**Scrubby Hill**	**2.14**	**145**	PN	Pn	03 45 39.1	+0.3
ODZ	**Otahua Downs**	**2.34**	**97**	PN	Pn	03 45 41.8	+0.2
RPZ	**Rata Peaks**	**2.86**	**69**	PN	Pn	03 45 48.0	-0.8

*ISCJB **10** 03:45:41.6±1.8, 34.92N±0.05×25.51E±0.04, h11km±12km, mb3.5/4, Error ellipse: s-maj=9.2km s-min=5.8km az=175.5*
*ATH **10** 03:45:41.9, 34.90N×25.47E, h15km±1km, ML3.6*
*CSEM **10** 03:45:41.9, 34.90N×25.47E, h15km, ML3.6, After ATH*
*IDC **10** 03:45:41.3±1.6, 33.36N×26.86E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.6/4, Error ellipse: s-maj=363.1km s-min=24.8km az=143.0*
ISC 10 03:45:42.0±1.5, 34°90N±0.06×25°47E±0.03, h8km±9km, n38, σ1§04/45, mb3.6/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**0.26**	**2**	*e*PB	**Pg**	**03 45 47.1**	**-0.1**
LAST				*e*SB	**Sg**	**03 45 51.2**	**+0.5**
LAST	**Lasithi**	**0.26**	**2**	*e*Pb	**Pg**	**03 45 47.1**	**-0.1**
LAST				*e*Sb	**Sg**	**03 45 51.2**	**+0.5**
NPS	**Neapolis**	**0.38**	**18**	*e*PB	**Pg**	**03 45 49.0**	**-0.4**
NPS				*e*SB	**Sg**	**03 45 55.0**	**+0.6**
NPS	**Neapolis**	**0.38**	**18**	*e*Pb	**Pg**	**03 45 49.0**	**-0.4**
NPS				*e*Sb	**Sg**	**03 45 55.0**	**+0.6**
SIVA	**Sivas**	**0.55**	**282**	*e*PN	**Pg**	**03 45 52.8**	**+0.1**
SIVA	**Sivas**	**0.55**	**282**	*e*Pn	**Pg**	**03 45 52.8**	**+0.1**
IDI	**Anoyia**	**0.61**	**309**	*e*PB	**Pg**	**03 45 53.3**	**-0.5**
IDI				*e*SN	**Sb**	**03 46 02.7**	**-1.1**
IDI	**Anoyia**	**0.61**	**309**	*e*Pb	**Pg**	**03 45 53.3**	**-0.5**
IDI				*e*Sn	**Sb**	**03 46 02.7**	**-1.1**
ZKR	**Zakros**	**0.65**	**71**	*e*PB	**Pg**	**03 45 54.1**	**-0.4**
ZKR				*e*SN	**Sb**	**03 46 04.1**	**-0.7**
ZKR	**Zakros**	**0.65**	**71**	*e*Pb	**Pg**	**03 45 54.1**	**-0.4**
ZKR				*e*Sn	**Sb**	**03 46 04.1**	**-0.7**
VAM	**Vamos**	**1.16**	**296**	*e*PN	**Pb**	**03 46 03.4**	**-0.8**
VAM				*e*SN	**Sn**	**03 46 20.0**	**-0.5**
VAM	**Vamos**	**1.16**	**296**	*e*Pn	**Pb**	**03 46 03.4**	**-0.8**
VAM				*e*Sn	**Sn**	**03 46 20.0**	**-0.5**
KARN	**Karanos**	**1.37**	**292**	*e*PN	**Pg**	**03 46 07.1**	**-0.3**
KARN				*e*SN	**Sg**	**03 46 27.2**	**+1.3**
KARN	**Karanos**	**1.37**	**292**	*e*Pn	**Pg**	**03 46 07.1**	**-0.3**
KARN				*e*Sn	**Sg**	**03 46 27.2**	**+1.3**
KARP	**Karpathos**	**1.53**	**65**	*e*PN	**Pg**	**03 46 11.1**	**-0.2**
KARP	**Karpathos**	**1.53**	**65**	*e*Pn	**Pg**	**03 46 11.1**	**-0.2**
APE	**Apeiranthos**	**2.16**	**1**	*e*PB	**Pn**	**03 46 19.3**	**+0.9**
APE	**Apeiranthos**	**2.16**	**1**	*e*Pb	**Pn**	**03 46 19.3**	**+0.9**
KYTH	**Kithira**	**2.41**	**305**	*e*PN	**Pb**	**03 46 23.8**	**-1.9**
KYTH	**Kithira**	**2.41**	**305**	*e*Pn	**Pb**	**03 46 23.8**	**-1.9**
VLI	**Veliai**	**2.74**	**312**	*e*PN	**Pn**	**03 46 27.9**	**+1.6**
VLI	**Veliai**	**2.74**	**312**	*e*Pn	**Pn**	**03 46 27.9**	**+1.6**
SMG	**Samos**	**3.01**	**21**	*e*PN	**Pn**	**03 46 31.1**	**+1.1**
SMG	**Samos**	**3.01**	**21**	*e*Pn	**Pn**	**03 46 31.1**	**+1.1**
DID	**Didima**	**3.17**	**326**	*e*PN	**Pn**	**03 46 33.2**	**+1.1**
DID	**Didima**	**3.17**	**326**	*e*Pn	**Pn**	**03 46 33.2**	**+1.1**
ATH	**Athens Observa**	**3.38**	**336**	*e*PB	Pb	03 46 38.3	-3.7
ATH	**Athens Observa**	**3.38**	**336**	*e*Pb	Pb	03 46 38.3	-3.7
PTL	**Penteli**	**3.40**	**338**	*e*PB	Pn	03 46 38.2	+2.9
PTL	**Penteli**	**3.40**	**338**	*e*Pb	Pn	03 46 38.2	+2.9
LTK	**Loutraki**	**3.71**	**328**	*e*PN	**Pn**	**03 46 42.0**	**+2.4**
LTK	**Loutraki**	**3.71**	**328**	*e*Pn	**Pn**	**03 46 42.0**	**+2.4**
GUR	**Goura**	**3.94**	**321**	*e*PN	**Pn**	**03 46 44.2**	**+1.3**
GUR	**Goura**	**3.94**	**321**	*e*Pn	**Pn**	**03 46 44.2**	**+1.3**
TORD	**Torodi Ar. Bea**	**30.52**	**231**	P	**P**	**03 51 56.3**	**+0.4**
	0.3nm,0.4s,baz=34,slow=8.7,SNR=10.0						
MKAR	**Makanchi Array**	**43.71**	**56**	P	**P**	**03 53 47.5**	**0.0**
	0.4nm,0.7s,baz=288,slow=6.8,SNR=5.8						
ZALV	**Zalesovo Beam**	**45.00**	**46**	P		03 54 00.7	+3.0
	0.9nm,0.5s,baz=248,slow=7.5,SNR=3.5						
SONM	**Songino Array**	**59.45**	**51**	P	**P**	**03 55 45.9**	**+0.5**
	0.3nm,0.6s,baz=287,slow=6.7,SNR=4.2						

IDC 10 03:48:53.6±1.7, 59°42S×25°44W, h0km, mb4.1/2, mb1 4.2/2, mb1mx3.9/10, mbtmp4.1/2, MS3.8/1, Ms1 3.8/1, ms1mx3.2/9, Error ellipse: s-maj=80.3km s-min=36.0km az=170.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**33.61**	**283**	P	P	03 55 35.5	0.0
	2.1nm,1.0s,baz=121,slow=9.9,SNR=3.1						
PLCA				LR	LR	04 08 28.5	
	comp=Z,164nm,18.9s,baz=163,slow=35						
TORD	**Torodi Ar. Bea**	**75.58**	**27**	P	P	04 00 40.0	+0.1
	1.8nm,0.7s,baz=198,slow=6.5,SNR=22						
YKA	**Yellowknife Ar**	**139.26**	**315**	PKP	PKPdf	04 08 20.8	0.0
	0.9nm,0.7s,baz=128,slow=2.4,SNR=22						
INK	**Inuvik**	**148.96**	**317**	PKPbc	PKPbc	04 08 40.8	-0.8
	3.6nm,0.7s,baz=79,slow=3.0,SNR=22						
SONM	**Songino Array**	**149.86**	**91**	PKPbc	PKPbc	04 08 44.3	-0.4
	0.5nm,0.6s,baz=224,slow=2.9,SNR=6.2						
ILAR	**Eielson Array**	**152.97**	**306**	PKPbc	PKPbc	04 08 51.1	0.0
	1.9nm,0.9s,baz=153,slow=2.3,SNR=24						

MEX 10 04:00:02.9±0.7, 16°74N×94°10W, h140km±9km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.83**	**295**	*i* P	Pn	04 00 24.0	-1.3
CMIG				*i* S	Sn	04 00 40.1	-2.1
PCIG		**1.33**	**140**	*e*P	Pn	04 00 28.9	-0.9
PCIG				*e*S	Sn	04 00 48.7	-1.7
CCIG	**Comitan**	**1.94**	**103**	*e*P	Pn	04 00 35.5	-1.4
CCIG				*e*S	Sn	04 01 00.5	-2.4
HUIG	**Huatulco**	**2.16**	**244**	*e*P	Pn	04 00 37.0	-2.3
HUIG				*e*S	Sn	04 01 06.0	-1.3
VHO	**Vista Hermosa**	**2.54**	**278**	*e*P	Pn	04 00 43.6	-0.7
VHO				*e*S	Sn	04 01 14.7	-1.4
UTMO	**Huajuapan**	**3.70**	**288**	*i* P	Pn	04 00 58.6	-0.7
UTMO				*i* S	Sn	04 01 41.0	-1.9

WEL 10 04:06:01.9±0.2, 39°69S×174°29E, h250km±3km, ML3.5/9, 1C, Error ellipse: s-maj=4.8km s-min=2.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**1.15**	**194**	PN	Pn	04 06 37.7	0.0
DUWZ				SN	S	04 07 04.9	-1.1
KIW	**Kapiti Island**	**1.26**	**158**	PN	Pn	04 06 38.4	0.0
KIW				SN	S	04 07 06.0	-1.3
OGWZ	**Otaki Gorge**	**1.31**	**149**	PN	Pn	04 06 38.8	+0.1
MRZ	**Mangatainoka R**	**1.38**	**135**	PN	Pn	04 06 39.0	-0.3
MRZ				SN	S	04 07 07.6	-1.1
TCW	**Tory Channel**	**1.52**	**180**	PN	Pn	04 06 40.4	+0.2
TCW				SN	S	04 07 09.8	-0.7
HOWZ	**Holdsworth Sta**	**1.53**	**143**	PN	Pn	04 06 40.2	-0.2
CAW	**Cannon Point**	**1.53**	**157**	PN	Pn	04 06 40.4	0.0
NNZ	**Nelson**	**1.68**	**204**	⇑PN	Pn	04 06 41.4	0.0
NNZ				SN	S	04 07 11.4	-1.3
MTW	**Mount Morrison**	**1.73**	**148**	PN	Pn	04 06 41.9	-0.1
TUWZ	**Tuamarina**	**1.76**	**189**	PN	Pn	04 06 42.1	0.0
QRZ	**Quartz Range**	**1.76**	**229**	PN	Pn	04 06 41.3	-0.9
BFZ	**Birch Farm**	**1.79**	**124**	PN	Pn	04 06 42.3	-0.2
PRHZ	**Porangahau**	**1.89**	**108**	PN	Pn	04 06 43.2	-0.1
KAHZ	**Kahuranaki**	**2.00**	**94**	PN	Pn	04 06 44.4	+0.1
PXZ	**Pawanui**	**2.01**	**101**	PN	Pn	04 06 44.3	-0.1
PLWZ	**Palliser**	**2.01**	**159**	PN	Pn	04 06 44.5	+0.1
BSWZ	**Blackbirch Sta**	**2.04**	**189**	PN	Pn	04 06 44.7	+0.1
THZ	**Tophouse**	**2.32**	**207**	PN	Pn	04 06 47.2	-0.1
THZ				SN	S	04 07 21.8	-1.5
KHZ	**Kahutara**	**2.78**	**192**	PN	Pn	04 06 51.6	-0.3
DSZ	**Denniston Nort**	**2.79**	**222**	PN	Pn	04 06 51.4	-0.7
LTZ	**Lake Taylor**	**3.44**	**206**	PN	Pn	04 06 58.4	-0.8
MQZ	**McQueen's Vall**	**4.20**	**196**	SN	S	04 07 57.2	-3.1
WVZ	**Waitaha Valley**	**4.31**	**217**	PN	Pn	04 07 08.1	-1.1
LBZ	**Lake Benmore**	**5.60**	**212**	PN	Pn	04 07 23.6	-1.4
ODZ	**Otahua Downs**	**5.99**	**206**	PN	Pn	04 07 29.6	-0.2

*IDC **10** 04:10:07.5±0.8, 22.61S×175.37W, h0km, mb4.0/9, mb1 4.3/9, mb1mx4.1/17, mbtmp4.0/9, MS3.3/2, Ms1 3.3/2, ms1mx3.1/18, Error ellipse: s-maj=33.2km s-min=21.2km az=142.0*
*ISCJB **10** 04:10:11.0±0.7, 22.75S±0.1×175.4W±0.1, h33km, mb4.0/10, MS3.6/1, Error ellipse: s-maj=20.5km s-min=15.8km az=163.7*
*NEIC **10** 04:10:13.5±2.4, 22.65S×175.41W, h42km±19km, mb4.1/3, Error ellipse: s-maj=18.6km s-min=11.6km az=132.0*
ISC 10 04:10:12.5±0.7, 22°7S±0.1×175°4W±0.1, h33km, n27, σ0§42/24, mb4.0/9, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.88**	**307**	*e*Pn	**Pn**	**04 12 05.2**	**+0.2**
	49nm,1.1s						
DZM	**Mont Dzumac**	**16.83**	**269**	LR	LR	04 18 33.0	
	comp=Z,57nm,21.5s,baz=206,slow=30						
STKA	**Stephens Creek**	**39.13**	**247**	*e*P	**P**	**04 17 37.4**	**+0.3**
	0.2nm,0.5s						
STKA	**Stephens Creek**	**39.13**	**247**	P	**P**	**04 17 37.2**	**+0.1**
	1.7nm,0.7s,baz=80,slow=12,SNR=4.1						
STKA				LR	LR	04 32 27.8	
	comp=Z,88nm,18.1s,baz=23,slow=34						
ASAR	**Alice Springs**	**46.44**	**258**	P	**P**	**04 18 36.2**	**-0.4**
ASAR	**Alice Springs**	**46.44**	**258**	P	**P**	**04 18 36.2**	**-0.4**
	2.4nm,0.8s,baz=93,slow=7.9,SNR=16						
WRAB	**Tennant Creek**	**46.75**	**263**	*e*P	**P**	**04 18 38.5**	**-0.5**
	4.4nm,1.0s						
WRA	**Warramunga Arr**	**46.76**	**263**	P	**P**	**04 18 38.6**	**-0.4**
WRA	**Warramunga Arr**	**46.76**	**263**	P	**P**	**04 18 38.6**	**-0.4**
	0.6nm,0.3s,baz=101,slow=8.0,SNR=6.5						
QSPA	**South Pole Qui**	**67.42**	**180**	*e*P	**P**	**04 21 04.1**	**-0.6**
	2.2nm,0.8s						
QSPA	**South Pole Qui**	**67.42**	**180**	P	**P**	**04 21 04.6**	**-0.1**
	1.6nm,0.8s,baz=63,slow=1.8,SNR=4.3						
PETK	**Petropavlovsk-**	**78.99**	**344**	P	**P**	**04 22 13.1**	**+0.3**
PETK	**Petropavlovsk-**	**78.99**	**344**	P	**P**	**04 22 13.1**	**+0.3**
	6.0nm,0.9s,baz=130,slow=9.9,SNR=3.1						
NVAR	**Mina Array Bea**	**80.95**	**42**	P	**P**	**04 22 23.9**	**-0.1**
NVAR	**Mina Array Bea**	**80.95**	**42**	P	**P**	**04 22 23.9**	**-0.1**
	0.3nm,0.3s,baz=249,slow=7.6,SNR=2.5						
TXAR	**Lajitas Array**	**86.19**	**56**	P	**P**	**04 22 50.7**	**-0.2**
TXAR	**Lajitas Array**	**86.19**	**56**	P	**P**	**04 22 50.7**	**-0.2**
	0.7nm,0.9s,baz=224,slow=8.6,SNR=5.0						
ILAR	**Eielson Array**	**89.89**	**12**	P	**P**	**04 23 07.5**	**-0.2**
ILAR	**Eielson Array**	**89.89**	**12**	P	**P**	**04 23 07.5**	**-0.2**
	0.8nm,1.1s,baz=208,slow=5.1,SNR=3.9						
YKA	**Yellowknife Ar**	**97.46**	**24**	P	Pdif	04 23 42.4	-0.1
YKA	**Yellowknife Ar**	**97.46**	**24**	P	Pdif	04 23 42.4	-0.1
	0.3nm,0.9s,baz=246,slow=4.6,SNR=5.1						
AKASG	**Malin Array Be**	**146.07**	**332**	PKPbc	**PKPdf**	**04 29 48.0**	**0.0**
AKASG	**Malin Array Be**	**146.07**	**332**	PKPbc	**PKPdf**	**04 29 48.0**	**0.0**
	1.8nm,0.6s,baz=41,slow=3.8,SNR=5.5						
BRTR	**Keskin Array B**	**150.09**	**311**	PKPbc	**PKPbc**	**04 30 00.1**	**-0.2**
BRTR	**Keskin Array B**	**150.09**	**311**	PKPbc	**PKPbc**	**04 30 00.1**	**-0.2**
	0.5nm,0.7s,baz=132,slow=2.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**170.14**	**163**	PKPab	**PKPab**	**04 31 34.1**	**+1.0**
TORD	**Torodi Ar. Bea**	**170.14**	**163**	PKPab	**PKPab**	**04 31 34.1**	**+1.0**
	0.4nm,0.6s,baz=204,slow=4.7,SNR=4.3						

WEL 10 04:25:07.3±0.4, 35°07S×178°49E, h111km±23km, ML3.5/4, Error ellipse: s-maj=12.9km s-min=8.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.50**	**183**	PN	Pn	04 25 47.2	+0.5
MXZ				*e*SN	Sn	04 26 16.7	-0.3
MXZ				*e*SN		04 26 16.8	
PUZ	**Puketiti**	**3.01**	**183**	PN	Pn	04 25 53.0	-0.4
PUZ				SN	Sn	04 26 27.8	-1.2
PUZ				SN		04 26 28.1	
MWZ	**Matawai**	**3.35**	**193**	PN	Pn	04 25 58.3	+0.3
MWZ				*e*SN	Sn	04 26 36.9	-0.4
MWZ				*e*SN		04 26 37.1	
URZ	**Urewera**	**3.38**	**199**	*e*PN	Pn	04 25 58.6	+0.3
URZ				*e*SN	Sn	04 26 38.4	+0.7
URZ				*e*SN		04 26 38.5	
CNGZ	**Carnagh Statio**	**3.42**	**184**	PN	Pn	04 25 58.4	-0.5
KAHZ	**Kahuranaki**	**4.89**	**195**	PN	Pn	04 26 15.8	-2.9
PRHZ	**Porangahau**	**5.40**	**195**	*e*PN	Pn	04 26 21.6	-3.8
BFZ	**Birch Farm**	**5.88**	**197**	*e*PN	Pn	04 26 28.2	-3.7
BFZ				SN	Sn	04 27 31.8	-6.3
MRZ	**Mangatainoka R**	**6.04**	**201**	*e*PN	Pn	04 26 30.2	-4.0

*IDC **10** 04:54:48.2±1.8, 26.19N×97.84E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/26, mbtmp3.4/4, ML4.1/1, Error ellipse: s-maj=56.0km s-min=24.4km az=81.0*
*ISCJB **10** 04:54:50.8±0.9, 26.10N±0.07×97.75E±0.10, h33km, mb3.2/3, Error ellipse: s-maj=13.2km s-min=8.9km az=159.0*
ISC 10 04:54:53.1±1.2, 26°16N±0°09×97°7E±0°1, h35km, n5, σ0§55/6, mb3.2/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**4.63**	**102**	Pg	Pn	04 55 56.7	-4.1
KMI				Sg	**Sn**	**04 56 53.3**	**-0.2**
KMI	comp=N,31nm,1.0s			smax	smax		
KMI	comp=E,28nm,0.8s			smax	smax		
CMAR	**Chiang Mai Arr**	**7.75**	**172**	Pn	**Pn**	**04 56 43.4**	**-0.1**
	comp=E,0.7nm,0.3s,baz=350,slow=18,SNR=13						
CMAR				Sn	**Sn**	**04 58 10.2**	**+0.2**
	comp=E,0.9nm,0.3s,baz=351,slow=28,SNR=8.0						
SONM	**Songino Array**	**22.68**	**15**	P	**P**	**04 59 52.0**	**+0.4**
	comp=E,0.3nm,0.6s,baz=201,slow=7.7,SNR=3.6						
MKAR	**Makanchi Array**	**23.96**	**333**	P	**P**	**05 00 03.4**	**-0.8**
	comp=E,0.6nm,0.7s,baz=138,slow=9.5,SNR=9.3						
ZALV	**Zalesovo Beam**	**29.37**	**344**	P	**P**	**05 00 52.8**	**+0.1**
	comp=E,0.6nm,0.6s,baz=152,slow=6.5,SNR=3.4						

*ISCJB **10** 04:59:49.8±0.9, 6.25S±0.09×147.4E±0.2, h77km, mb3.6/7, Error ellipse: s-maj=25.2km s-min=12.3km az=7.4*
*NEIC **10** 04:59:50.8±1.9, 6.25S×147.48E, h75km±17km, mb3.9/4, Error ellipse: s-maj=20.5km s-min=13.6km az=115.0*
*IDC **10** 04:59:50.6±4.0, 6.27S×147.51E, h73km±36km, mb3.5/7, mb1 3.7/10, mb1mx3.6/19, mbtmp3.6/10, ML3.7/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/20, Error ellipse: s-maj=38.7km s-min=24.9km az=101.0*
ISC 10 04:59:50.9±1.0, 6°18S±0°07×147°5E±0°2, h77km, n24, σ1§17/26, mb3.7/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.23**	**186**	P	**Pn**	**05 00 37.9**	**-1.4**
PMG				S	**Sn**	**05 01 19.5**	**+2.9**
PMG	**Port Moresby**	**3.23**	**186**	P	**Pn**	**05 00 37.9**	**-1.4**
	16nm,0.3s,baz=1.6,slow=6.2,SNR=26						
PMG				S	**Sn**	**05 01 19.5**	**+2.9**
	26nm,0.3s,baz=24,slow=19,SNR=6.5						
CTA	**Charters Tower**	**13.88**	**185**	P	**Pn**	**05 03 04.0**	**-0.3**
CTA	**Charters Tower**	**13.88**	**185**	P	**Pn**	**05 03 04.0**	**-0.3**
	0.2nm,0.3s,baz=9.5,slow=18,SNR=2.3						
WRAB	**Tennant Creek**	**18.71**	**222**	*e*P	**P**	**05 04 02.9**	**-0.6**
	2.7nm,0.5s						
WRA	**Warramunga Arr**	**18.73**	**222**	P	**P**	**05 04 02.3**	**-1.3**
WRA	**Warramunga Arr**	**18.73**	**222**	P	**P**	**05 04 02.3**	**-1.3**
	0.8nm,0.3s,baz=45,slow=11,SNR=8.0						
AS31	**Alice Springs**	**21.75**	**216**	*e*P	**P**	**05 04 35.9**	**-0.5**
ASAR	**Alice Springs**	**21.76**	**216**	P	**P**	**05 04 35.6**	**-0.8**
ASAR	**Alice Springs**	**21.76**	**216**	P	**P**	**05 04 35.6**	**-0.8**
	2.3nm,0.3s,baz=57,slow=8.7,SNR=23						
FITZ	**Fitzroy

SIV	San Ignacio	9.86	34	P	Pn	05 17 33.1	-1.3	
	comp=N,3.1nm,0.3s,baz=226,slow=13,SNR=87							
SIV				S	Sn	05 19 12.3	-12	
	comp=N,0.1nm,0.3s,baz=244,slow=17,SNR=3.0							
TRQA	Tornquist	14.34	164	eP	Pn	05 18 31.8	+0.4	
NNA	Nana	15.49	320	P	Pn	05 18 46.1	+0.4	
NNA	Nana	15.49	320	P	Pn	05 18 46.1	+0.4	
	comp=N,0.3nm,0.3s,baz=172,slow=9.0,SNR=4.5							
SAML	Samuel	15.64	13	eP	Pn	05 18 45.7	-1.9	
	comp=N,18nm,1.5s							
SPB	Sao Paulo	17.74	92	eP	Pn	05 19 11.9	-0.7	
	comp=N,23nm,0.8s							
BDFB	Brasilia	19.64	68	P	Pn	05 19 32.0	-3.2	
BDFB	Brasilia	19.64	68	P	Pn	05 19 32.0	-3.2	
	comp=N,1.6nm,0.3s,baz=237,slow=10,SNR=51							
KMSC	Kings Mountain	60.68	346	⇑P	P	05 25 08.8	+0.4	
	baz=61							
SWET	Sewanee	61.88	342	eP	P	05 25 15.8	-0.7	
	comp=N,7.4nm,0.6s							
JCT	Junction City	62.97	328	eP	P	05 25 24.0	+0.2	
	comp=N,5.7nm,0.8s							
JCT	Junction City	62.97	328	⇑P	P	05 25 23.4	-0.5	
	baz=63							
628A	Black Gap, Mar	63.71	325	⇑P	P	05 25 29.5	+0.7	
	baz=64							
627A	Terlingua Ranc	63.95	325	⇓P	P	05 25 31.1	+0.7	
	baz=64							
TXAR	Lajitas Array	64.00	324	P	P	05 25 30.7	0.0	
TXAR	Lajitas Array	64.00	324	P	P	05 25 30.7	0.0	
	comp=N,1.2nm,0.8s,baz=155,slow=8.4,SNR=12							
528A	Cox Ranch, San	64.20	326	⇓P	P	05 25 32.0	0.0	
	baz=64							
626A	Big Bend Ranch	64.42	324	⇑P	P	05 25 34.6	+1.2	
	baz=65,SNR=13							
428A	Kincaid Ranch,	64.60	326	⇑P	P	05 25 34.9	+0.4	
	baz=65							
527A	Woodward Ranch	64.62	325	⇑P	P	05 25 34.3	-0.5	
	baz=65,SNR=5.2							
427A	Hayter Ranch,	65.07	326	⇓P	P	05 25 38.3	+0.8	
	baz=65							
328A	Wristen Ranch,	65.19	326	⇑P	P	05 25 38.4	0.0	
	baz=65							
426A	McDonald Obser	65.25	325	⇓P	P	05 25 39.5	+0.6	
	baz=66							
129A	Stewart Farms,	65.74	328	⇓P	P	05 25 41.6	-0.2	
	baz=66							
326A	Caldwell Ranch	65.74	325	⇑P	P	05 25 41.9	0.0	
	baz=66							
425A	Indio Mountain	65.85	324	⇓P	P	05 25 43.0	+0.3	
	baz=66,SNR=6.2							
QSPA	South Pole Qui	65.92	180	P	P	05 25 44.5	+1.9	
QSPA	South Pole Qui	65.92	180	P	P	05 25 44.5	+1.9	
	comp=N,5.1nm,0.5s,baz=169,slow=1.0,SNR=37							
227A	Bennet, Jal	65.94	326	⇑P	P	05 25 43.7	+0.6	
	baz=66							
128A	Castleberry Fa	66.03	327	⇑P	P	05 25 43.3	-0.4	
	baz=66							
Z29A	Hungry Hill Ra	66.17	328	⇑P	P	05 25 44.2	-0.4	
	baz=66							
325A	Bean Ranch, Si	66.30	325	⇓P	P	05 25 45.7	+0.1	
	baz=66							
226A	Malaga, Loving	66.39	326	⇓P	P	05 25 46.8	+0.8	
	baz=67							
127A	Arkansas Junct	66.51	327	⇑P	P	05 25 46.7	0.0	
	baz=67							
Z28A	Tucker Farm, M	66.52	328	⇑P	P	05 25 46.1	-0.8	
	baz=67							
324A	Moseley Ranch,	66.62	324	⇓P	P	05 25 47.3	-0.3	
	baz=67,SNR=5.7							
GDL2	Guadalupe Moun	66.64	326	eP	P	05 25 47.6	0.0	
	comp=N,4.2nm,0.7s							
Y29A	Porterfield Fa	66.65	329	⇑P	P	05 25 47.1	-0.5	
	baz=67							
MNTX	Cornudas Mount	66.77	325	⇑P	P	05 25 48.2	-0.1	
	baz=67							
225A	Deer Hill, Car	66.80	325	⇑P	P	05 25 49.3	+0.5	
	baz=67							
126A	Clayton Basin,	66.82	326	⇓P	P	05 25 49.2	+0.4	
	baz=67							
Z27A	Tatum	66.95	327	⇑P	P	05 25 49.1	-0.5	
	baz=67							
Y28A	McKinney Farm,	66.96	328	⇓P	P	05 25 49.3	-0.4	
	baz=67							
224A	Cornudas Mount	67.14	325	⇓P	P	05 25 51.0	+0.1	
	baz=67							
125A	Gardner Draw,	67.15	326	⇑P	P	05 25 50.5	-0.4	
	baz=67							
MSTX	Muleshoe	67.27	328	⇓P	P	05 25 51.4	-0.1	
	baz=68							
Z26A	Caprock	67.30	327	⇑P	P	05 25 51.7	-0.1	
	baz=68							
Y27A	Causey	67.39	328	⇓P	P	05 25 52.0	-0.3	
	baz=68							
124A	Stringfield Ra	67.59	325	⇓P	P	05 25 54.3	+0.5	
	baz=68,SNR=6.5							
Z25A	Roswell	67.67	326	⇑P	P	05 25 54.1	0.0	
	baz=68							
DBIC	Dimbokro	67.74	71	P	P	05 25 54.3	-0.5	
DBIC	Dimbokro	67.74	71	P	P	05 25 54.3	-0.5	
	comp=N,0.9nm,0.5s,baz=220,slow=8.1,SNR=3.0							
222A	Williams Famil	68.00	324	⇑P	P	05 25 57.6	+1.4	
	baz=68							
Z24A	Sheppen Canyo	68.04	326	⇑P	P	05 25 56.5	0.0	
	baz=68,SNR=6.4							
Y25A	Mesa, Roswell	68.17	327	⇓P	P	05 25 56.7	-0.5	
	baz=68							
320A	Kipp Ranch, An	68.20	322	⇑P	P	05 25 58.6	+1.1	
	baz=68							
X26A	CR and CF Fran	68.24	328	⇓P	P	05 25 57.9	+0.3	
	baz=68							
W27A	Bowe Ranch, En	68.29	329	⇑P	P	05 25 58.6	+0.6	
	baz=68							
Z23A	Rita Site, Whi	68.44	325	⇑P	P	05 25 59.9	+1.0	
	baz=69							
220A	Playas Peak, P	68.63	323	⇓P	P	05 26 01.2	+1.1	
	baz=69							
X25A	Clemmons Ranch	68.64	327	⇑P	P	05 26 00.4	+0.3	
	baz=69							
W26A	Owens Ranch, T	68.65	328	⇓P	P	05 26 00.8	+0.6	
	baz=69							
319A	Douglas	68.66	322	⇑P	P	05 26 01.8	+1.5	
	baz=69							
121A	Cookes Peak, D	68.70	324	⇓P	P	05 26 02.5	+1.9	
	baz=69							
Z22A	Elephant Butte	68.82	325	⇓P	P	05 26 03.3	+2.0	
	baz=69							
Y23A	Lovelace Mesa,	68.87	326	⇑P	P	05 26 02.8	+1.2	
	baz=69							
X24A	Lazy VL Ranch,	69.05	327	⇓P	P	05 26 03.5	+0.7	
	baz=69							
W25A	X Bar L Ranch,	69.09	328	⇓P	P	05 26 02.6	-0.3	
	baz=69							
120A	U Bar Ranch, L	69.18	323	⇑P	P	05 26 04.4	+0.9	
	baz=69							
Z21A	St. Cloud Mine	69.24	324	⇓P	P	05 26 05.4	+1.4	
	baz=70							
T28A	Walsh	69.54	330	⇑P	P	05 26 05.1	-0.5	
	baz=70							
W24A	Lazy 6 Ranch,	69.55	327	⇓P	P	05 26 06.4	+0.6	
	baz=70							
Z20A	Nine Sixteen R	69.58	323	⇓P	P	05 26 07.7	+1.7	
	baz=70							
V25A	Rancho No Teng	69.66	328	⇓P	P	05 26 07.4	+0.9	
	baz=70							
U26A	Atchley Ranch,	69.69	329	⇑P	P	05 26 07.3	+0.7	
	baz=70							
T27A	Campo	69.76	330	⇓P	P	05 26 07.4	+0.4	
	baz=70							
Y21A	Point of Rocks	69.78	325	⇓P	P	05 26 05.5	-1.8	
	baz=70							
ANMO	Albuquerque	69.88	326	eP	P	05 26 08.5	+0.7	
	comp=N,2.4nm,0.7s							
W23A	Werner Place,	69.89	326	⇓P	P	05 26 08.6	+0.7	
	baz=70							
V24A	Rampart Ranch,	69.89	327	⇑P	P	05 26 08.6	+0.7	
	baz=70							
U25A	Circle Dot Ran	70.01	328	⇓P	P	05 26 08.5	-0.1	
	baz=70							
Y20A	Horse Springs,	70.07	324	⇑P	P	05 26 10.5	+1.4	
	baz=70							
W22A	Albuquerque	70.18	326	⇓P	P	05 26 11.3	+1.7	
	baz=70							
T26A	Comanche Natio	70.26	329	⇑P	P	05 26 10.4	+0.3	
	baz=70							
V23A	Ortiz Mt. (NFS	70.36	327	⇑P	P	05 26 11.9	+1.2	
	baz=71							
S26A	Kim	70.56	330	⇓P	P	05 26 12.6	+0.7	
	baz=71							
Y19A	Nutrioso	70.58	324	⇑P	P	05 26 13.4	+1.2	
	baz=71							
T25A	Trinidad	70.61	329	⇓P	P	05 26 13.0	+0.7	
	baz=71							
U23A	El Rito	70.83	327	⇓P	P	05 26 14.8	+1.3	
	baz=71							
V22A	San Miguel Ran	70.86	326	⇓P	P	05 26 14.5	+0.7	
	baz=71							
S25A	Robets Cordova	71.04	329	⇑P	P	05 26 15.4	+0.6	
	baz=71							
W20A	Ramah	71.07	325	⇑P	P	05 26 16.4	+1.3	
	baz=71							
U22A	Llaves	71.19	327	⇓P	P	05 26 17.0	+1.2	
	baz=71							
S24A	Houchin Ranch,	71.39	329	⇓P	P	05 26 18.2	+1.1	
	baz=72							
BGNE	Belgrade	71.53	336	⇑P	P	05 26 16.9	-0.5	
	baz=72							
SDCO	Great Sand Dun	71.61	329	eP	P	05 26 19.1	+0.7	
	comp=N,5.7nm,1.2s							
SDCO	Great Sand Dun	71.61	329	⇑P	P	05 26 19.1	+0.7	
	baz=72							
U21A	Nageezi	71.64	326	⇑P	P	05 26 19.8	+1.4	
	baz=72							
Q26A	Hugo	71.65	331	⇑P	P	05 26 18.9	+0.5	
	baz=72							
T22A	Edith	71.72	327	⇓P	P	05 26 20.6	+1.7	
	baz=72							
W18A	Petrified Fore	71.72	324	⇓P	P	05 26 20.1	+1.2	
	baz=72							
V19A	Window Rock	71.81	325	⇑P	P	05 26 20.9	+1.5	
	baz=72							
T21A	Navajo Lake	72.01	327	⇓P	P	05 26 21.6	+1.0	
	baz=72							
U20A	Newcomb	72.04	326	⇑P	P	05 26 22.4	+1.6	
	baz=72							
X16A	Lo Mia Camp, P	72.13	322	⇑P	P	05 26 22.8	+1.5	
	baz=72							
Z14A	Wintersburg	72.21	321	⇑P	P	05 26 23.7	+2.0	
	baz=72							
O27A	Beecher Island	72.23	332	⇑P	P	05 26 22.3	+0.6	
	baz=72							
S22A	4UR Ranch, Cre	72.25	328	⇑P	P	05 26 23.2	+1.1	
	baz=72							
R22A	Saguache, Gunn	72.60	328	⇑P	P	05 26 25.6	+1.4	
	baz=73							
T19A	Beclabito	72.65	326	⇑P	P	05 26 25.4	+1.1	
	baz=73							
S21A	Coal Bank Pass	72.66	327	⇓P	P	05 26 25.7	+1.1	
	baz=73							
Y14A	Wickenburg	72.66	321	⇑P	P	05 26 26.2	+1.9	
	baz=73							
U18A	Rough Rock, Ch	72.77	325	⇓P	P	05 26 26.7	+1.6	
	baz=73							
O25A	Wiggins	72.89	331	⇓P	P	05 26 26.6	+1.0	
	baz=73							
WUAZ	Wupatki	72.91	323	⇑P	P	05 26 28.2	+2.3	
	baz=73							
ECSD	EROS Data Cent	73.00	338	eP	P	05 26 25.7	-0.4	
	comp=N,7.8nm,1.1s							
S20A	Disappointment	73.08	327	⇑P	P	05 26 28.2	+1.3	
	baz=73							
R21A	Cimarron	73.09	328	⇑P	P	05 26 27.4	+0.4	
	baz=73							
SPMN	St. Paul	73.12	341	⇑P	P	05 26 26.7	0.0	
	baz=73							
ISCO	Idaho Springs	73.31	330	⇑P	P	05 26 29.0	+0.7	
	baz=74							
T18A	Mexican Hat	73.32	325	⇓P	P	05 26 28.9	+0.7	
	baz=74							
R20A	Redvale	73.36	327	⇑P	P	05 26 29.9	+1.3	
	baz=74							
S19A	Harvey Farm, M	73.40	326	⇓P	P	05 26 30.2	+1.3	
	baz=74							
Y12C	Blythe	73.41	320	⇑P	P	05 26 30.7	+2.0	
	baz=74							
P22A	Eagle	73.68	329	⇓P	P	05 26 31.4	+1.0	
	baz=74							
T17A	Navajo Res., N	73.70	325	⇓P	P	05 26 32.5	+2.0	
	baz=74							
O23A	Lake Granby, G	73.78	330	⇓P	P	05 26 32.5	+1.5	
	baz=74							
S18A	Hurst Farm, Bl	73.80	326	⇓P	P	05 26 32.8	+1.6	
	baz=74,SNR=5.0							
R19A	Curley Farm, L	73.89	326	⇑P	P	05 26 32.7	+1.1	
	baz=74							
P21A	Newcastle	73.95	328	⇑P	P	05 26 33.1	+1.1	
	baz=74							
W13A	Hualapai Mount	74.00	321	⇑P	P	05 26 34.1	+1.7	
	baz=74							
O22A	Kremmling	74.03	329	⇓P	P	05 26 33.2	+0.7	
	baz=74							
IRM	Iron Mountain	74.07	320	⇑P	P	05 26 34.4	+1.9	
	baz=74							
U15A	North Rim	74.08	323	⇑P	P	05 26 34.9	+2.1	
	baz=74							
K27A	Flueckinger Fa	74.22	334	⇑P	P	05 26 34.9	+1.6	
	baz=74							
M24A	Cheyenne	74.30	331	⇑P	P	05 26 34.9	+1.0	
	baz=75							
N22A	Wattenberg Ran	74.50	330	⇑P	P	05 26 36.0	+0.8	
	baz=75							
S16A	Weppner Ranch,	74.66	325	⇓P	P	05 26 37.5	+1.5	
	baz=75							
R17A	Hanksville Air	74.72	326	⇑P	P	05 26 37.8	+1.4	
	baz=75,SNR=5.4							
P19A	Cripple Cowboy	74.78	328	⇓P	P	05 26 38.2	+1.4	
	baz=75							
GMRC	Granite Mounta	74.80	320	⇑P	P	05 26 38.9	+2.1	
	baz=75							
O20A	White River Ci	74.81	328	⇓P	P	05 26 38.3	+1.4	
	baz=75							
Q18A	Rafter H Ranch	74.94	326	⇓P	P	05 26 38.5	+0.9	
	baz=75							
SRU	San Rafael	75.15	326	⇓P	P	05 26 40.0	+1.1	
	baz=75							
P18A	Preston Nutter	75.40	327	⇓P	P	05 26 41.6	+1.2	
	baz=76							
CCUT	Cedar City	75.48	323	eP	P	05 26 41.8	+1.0	
	comp=N,5.5nm,0.9s							
P17A	Butcher Ranch,	75.53	326	⇑P	P	05 26 42.2	+1.2	
	baz=76							
M21A	Separation Pea	75.55	330	⇑P	P	05 26 41.7	+0.6	
	baz=76							
J24A	Dixon Ranch, L	75.75	332	⇓P	P	05 26 43.9	+1.9	
	baz=76							
L21A	Rawlins	75.84	330	⇓P	P	05 26 43.6	+0.9	
	baz=76							
M20A	Sweetwater, Wa	75.84	329	⇓P	P	05 26 43.2	+0.4	
	baz=76							
N19A	John Jarvie Ra	75.85	328	⇓P	P	05 26 43.9	+1.2	
	baz=76							
O17A	Robinson Place	76.08	327	⇑P	P	05 26 45.8	+1.7	
	baz=76							
R13A	O'Grain Ranch,	76.27	324	⇓P	P	05 26 47.0	+1.8	
	baz=76							
K21A	Alcova	76.31	330	⇑P	P	05 26 46.3	+1.0	
	baz=77							
L20A	Wamsutter	76.32	329	⇓P	P	05 26 46.5	+1.1	
	baz=77							
TOA0	Torodi Ar. Sit	76.52	69	eP	P	05 26 46.8	-0.1	
TORD	Torodi Ar. Bea	76.52	69	P	P	05 26 46.6	-0.2	
TORD	Torodi Ar. Bea	76.52	69	P	P	05 26 46.6	-0.2	
	comp=N,2.3nm,0.7s,baz=260,slow=5.8,SNR=44							
J22A	Midwest	76.59	331	⇓P	P	05 26 47.6	+0.7	
	baz=77							
M18A	Lyman	76.69	328	⇑P	P	05 26 47.7	+0.1	
	baz=77							
N17A	Moffit Pass	76.69	327	⇓P	P	05 26 48.7	+1.0	
	baz=77,SNR=5.7							
K20A	Yellowstone Ra	76.83	330	⇑P	P	05 26 49.0	+0.8	
	baz=77							
L19A	Farson	76.87	329	⇓P	P	05 26 49.4	+0.9	
	baz=77							
N16A	Rees Ranch, Co	76.95	327	⇓P	P	05 26 50.0	+1.0	
	baz=77							
I22A	9 Mile Ranch,	76.98	332	⇓P	P	05 26 49.7	+0.7	
	baz=77							
L18A	Fontenelle, Gr	77.05	328	⇓P	P	05 26 50.6	+1.1	
	baz=77							
ISA	Isabella	77.08	319	⇓P	P	05 26 50.8	+1.1	
	baz=77							
DUG	Dugway	77.13	326	⇑P	P	05 26 51.3	+1.4	
	baz=77							
K19A	Absolon Red Bu	77.19	330	⇑P	P	05 26 50.6	+0.3	
	baz=77							
J20A	Shoshoni	77.25	330	⇓P	P	05 26 51.6	+1.0	
	baz=78							
I21A	Big Trails, Te	77.27	331	⇓P	P	05 26 51.3	+0.7	
	baz=78							
R11A	Troy Canyon, C	77.28	323	⇑P	P	05 26 52.0	+1.1	
	baz=78							
TSUM	Tsumeb	77.42	105	P	P	05 26 52.4	+0.3	
TSUM	Tsumeb	77.42	105	P	P	05 26 52.4	+0.3	
	comp=N,2.0nm,0.7s,baz=250,slow=8.5,SNR=6.1							
BW06	Boulder Array	77.47	329	⇓P	P	05 26 53.6	+1.6	
	baz=78							
PDAR	Pinedale Array	77.47	329	P	P	05 26 51.8	-0.2	
PDAR	Pinedale Array	77.47	329	P	P	05 26 51.8	-0.2	
	comp=N,1.0nm,0.8s,baz=119,slow=9.4,SNR=5.7							
VES	Vestal, Richgr	77.56	319	⇓P	P	05 26 53.5	+1.2	
	baz=78							
G23A	Biddle	77.57	333	⇓P	P	05 26 52.9	+0.7	
	baz=78							
L17A	Cokeville	77.59	328	⇑P	P	05 26 53.5	+0.9	
	baz=78							
K18A	Toltan Ranch,	77.60	329	⇓P	P	05 26 54.0	+1.4	
	baz=78							
MDND	Maddock	77.61	338	⇓P	P	05 26 52.5	+0.2	
	baz=78							
J19A	Crowheart	77.63	330	⇑P	P	05 26 53.7	+1.0	
	baz=78							
F24A	Ekalaka	77.72	334	⇓P	P	05 26 53.9	+1.0	
	baz=78							
I20A	Worland	77.74	331	⇓P	P	05 26 54.2	+1.0	
	baz=78							
SMMC	Simmler	77.76	318	⇓P	P	05 26 55.1	+1.6	
	baz=78							
M15A	Larsen Ranch,	77.89	327	⇑P	P	05 26 54.9	+0.9	
	baz=78							
F23A	Volborg	78.00	333	⇑P	P	05 26 55.2	+0.7	
	baz=78							
J18A	Kendall Valley	78.03	329	⇓P	P	05 26 55.5	+0.5	
	baz=78,SNR=7.6							
K17A	Gardner Place,	78.11	328	⇑P	P	05 26 56.2	+0.9	
	baz=78,SNR=5.3							
H20A	Greybull	78.11	331	⇑P	P	05 26 55.9	+0.7	
	baz=78							
L15A	Malad City	78.26	327	⇓P	P	05 26 57.0	+0.8	
	baz=78							
I18A	Diamond G Ranc	78.32	330	⇑P	P	05 26 57.6	+1.0	
	baz=79							
F22A	Rosebud	78.40	333	⇓P	P	05 26 57.4	+0.7	
	baz=79							
J17A	Brown Place, J	78.47	329	⇓P	P	05 26 58.3	+1.0	
	baz=79							
K16A	Soda Springs	78.49	328	⇓P	P	05 26 58.9	+1.4	
	baz=79,SNR=6.1							
ULM	Lac du Bonnet	78.55	341	P	P	05 26 57.0	-0.3	
ULM	Lac du Bonnet	78.55	341	P	P	05 26 57.0	-0.3	
	comp=N,1.7nm,0.4s,baz=147,slow=8.8,SNR=4.7							
LOHW	Long Hollow	78.61	329	eP	P	05 26 58.9	+0.8	
	comp=N,3.9nm,0.9s							
TPAW	Teton Pass	78.68	329	eP	P	05 26 58.0	-0.6	
	comp=N,6.1nm,1.3s							
H19A	Powell	78.69	331	⇑P	P	05 26 58.9	+0.5	
	baz=79							
G20A	Bridger	78.78	332	⇓P	P	05 26 58.9	0.0	
	baz=79							
J16A	Bone	78.83	328	⇓P	P	05 27 00.7	+1.3	
	baz=79							
I17A	Pilgrim Ck.	78.83	329	⇓P	P	05 27 00.8	+1.5	
	baz=79							
K15A	Arbon	78.84	327	⇑P	P	05 27 00.5	+1.2	
	baz=79							
IMW	Indian Meadow	78.99	329	eP	P	05 27 01.4	+1.1	
	comp=N,8.5nm,1.3s							
H18A	Shoshone NF, C	79.00	330	⇑P	P	05 27 00.5	+0.3	
	baz=79							
C24A	Savage	79.09	335	⇑P	P	05 27 01.0	+0.5	
	baz=79							
D23A	Lindsay	79.11	334	⇑P	P	05 27 01.1	+0.6	
	baz=79							
I16A	Newdale	79.23	329	⇓P	P	05 27 02.7	+1.3	
	baz=80							
J15A	Blackfoot	79.32	328	⇑P	P	05 27 02.6	+0.7	
	baz=80							
G18A	Lazy EL Ranch,	79.45	331	⇓P	P	05 27 03.7	+1.1	
	baz=80							
D22A	Cohagen	79.47	334	⇓P	P	05 27 02.9	+0.4	
	baz=80							
F19A	Roth Farm, Mol	79.60	332	⇓P	P	05 27 04.0	+0.7	
	baz=80							
C23A	Lambert	79.61	335	⇑P	P	05 27 03.6	+0.4	
	baz=80							
D21A	La Casta Ranch	79.74	333	⇓P	P	05 27 04.5	+0.6	
	baz=80							
H16A	Russell Place,	79.75	330	⇓P	P	05 27 05.6	+1.3	
	baz=80							
E20A	Meyer Farm, Mu	79.76	332	⇑P	P	05 27 04.0	-0.1	
	baz=80							
DGMT	Dagmar	79.78	336	eP	P	05 27 04.4	+0.3	
	comp=N,3.8nm,0.6s							
DGMT	Dagmar	79.78	336	⇓P	P	05 27 04.7	+0.6	
	baz=80							
J14A	Carey	79.80	327	⇓P	P	05 27 06.0	+1.6	
	baz=80							
I15A	Monteview	79.80	328	⇑P	P	05 27 06.0	+1.5	
	baz=80							
C22A	Vida	79.84	334	⇓P	P	05 27 04.9	+0.5	
	baz=80							
F18A	Big Timber	79.98	331	⇑P	P	05 27 06.3	+1.0	
	baz=80							
E19A	Rath Farm, Rou	80.01	332	⇑P	P	05 27 06.1	+0.7	
	baz=80							
B23A	Brockton	80.08	335	⇑P	P	05 27 06.4	+0.7	
	baz=80							
A24A	Westby	80.09	336	⇑P	P	05 27 06.6	+0.8	
	baz=80							
J13A	Cove Ranch, Pi	80.17	327	⇓P	P	05 27 08.2	+1.7	
	baz=80							
I14A	Mackay	80.21	328	⇓P	P	05 27 08.6	+1.9	
	baz=80							
D20A	Manuel Ranch,	80.23	333	⇓P	P	05 27 07.0	+0.4	
	baz=80							
B22A	Reddig Ranch S	80.33	335	⇓P	P	05 27 08.2	+1.1	
	baz=81							
H15A	Lima	80.33	329	⇑P	P	05 27 09.4	+2.0	
	baz=81							
C21A	Desert Coulee	80.39	334	⇑P	P	05 27 07.7	+0.3	
	baz=81							
F17A	Fitzpatrick Pl	80.39	331	⇑P	P	05 27 08.9	+1.3	
	baz=81							
G16A	Moss Hill, Enn	80.40	330	⇓P	P	05 27 08.5	+0.8	
	baz=81							
HLID	Hailey	80.41	327	eP	P	05 27 09.2	+1.4	
	comp=N,6.6nm,0.9s							
HLID	Hailey	80.41	327	⇓P	P	05 27 09.5	+1.7	
	baz=81,SNR=9.6							
BOSA	Boshof	80.46	117	P	P	05 27 09.2	+0.7	
BOSA	Boshof	80.46	117	P	P	05 27 09.2	+0.7	

G13A	**Cobalt**	**81.45**	**328**	⇑P		**P**	**05 27 14.7**	**+1.6**
	baz=82,SNR=13							
A20A	**Cobblestone Ra**	**81.56**	**334**	⇑P		**P**	**05 27 14.3**	**+0.7**
	baz=82							
F14A	**Wisdom**	**81.57**	**329**	⇑P		**P**	**05 27 15.3**	**+1.4**
	baz=82,SNR=6.3							
B19A	**Brinkman Farms**	**81.64**	**333**	⇓P		**P**	**05 27 13.8**	**-0.2**
	baz=82							
D16A	**Dana Ranch, Ca**	**81.65**	**331**	⇑P		**P**	**05 27 15.7**	**+1.5**
	baz=82,SNR=6.0							
E15A	**Deer Lodge**	**81.69**	**330**	⇓P		**P**	**05 27 15.5**	**+1.1**
	baz=82							
C17A	**Wharram Farm,**	**81.77**	**332**	⇓P		**P**	**05 27 14.6**	**-0.1**
	baz=82							
A19A	**Klindworth Far**	**81.93**	**334**	⇓P		**P**	**05 27 15.5**	**-0.1**
	baz=82							
B18A	**Beardsley Farm**	**81.94**	**333**	⇑P		**P**	**05 27 15.8**	**+0.3**
	baz=82,SNR=6.5							
G12A	**Big Creek, Yel**	**82.00**	**328**	⇑P		**P**	**05 27 17.3**	**+1.2**
	baz=82							
F13A	**Darby**	**82.00**	**329**	⇓P		**P**	**05 27 17.2**	**+1.1**
	baz=82,SNR=9.4							
E14A	**Clinton**	**82.07**	**329**	⇓P		**P**	**05 27 17.4**	**+1.0**
	baz=82							
D15A	**Lincoln**	**82.09**	**330**	⇑P		**P**	**05 27 17.4**	**+0.9**
	baz=82							
B17A	**L&G Farms, Che**	**82.29**	**332**	⇑P		**P**	**05 27 17.5**	**+0.1**
	baz=82							
MOD	**Modoc**	**82.34**	**323**	*e*P		**P**	**05 27 18.5**	**+0.5**
	comp=N,8.1nm,1.3s							
E13A	**Victor**	**82.42**	**329**	⇓P		**P**	**05 27 19.4**	**+1.3**
	baz=83,SNR=7.4							
F12A	**Elk City**	**82.42**	**328**	⇓P		**P**	**05 27 19.4**	**+1.2**
	baz=83							
D14A	**Greenough**	**82.57**	**330**	⇓P		**P**	**05 27 20.2**	**+1.2**
	baz=83							
MSO	**Missoula**	**82.59**	**330**	⇓P		**P**	**05 27 20.2**	**+1.2**
	baz=83							
C15A	**Salmond Ranch,**	**82.69**	**331**	⇑P		**P**	**05 27 19.7**	**+0.1**
	baz=83							
A17A	**Triple J Farms**	**82.75**	**333**	⇓P		**P**	**05 27 20.5**	**+0.7**
	baz=83							
D13A	**Huson**	**83.02**	**329**	⇓P		**P**	**05 27 22.1**	**+0.9**
	baz=83							
E12A	**Beaver Dam Sad**	**83.05**	**328**	⇑P		**P**	**05 27 22.1**	**+0.6**
	baz=83							
B15A	**Bradely Ranch,**	**83.07**	**331**	⇓P		**P**	**05 27 20.8**	**-0.7**
	baz=83							
A16A	**West Butte Ran**	**83.13**	**332**	⇓P		**P**	**05 27 22.0**	**+0.2**
	baz=83,SNR=5.3							
C14A	**Swan Lake**	**83.19**	**330**	⇑P		**P**	**05 27 22.6**	**+0.5**
	baz=83							
D12A	**Red Ives Fores**	**83.41**	**329**	⇑P		**P**	**05 27 24.4**	**+1.1**
	baz=84							
C13A	**Hot Springs**	**83.50**	**330**	⇓P		**P**	**05 27 24.7**	**+1.0**
	baz=84							
A13A	**Flathead Natio**	**84.35**	**331**	⇑P		**P**	**05 27 28.7**	**+0.7**
	baz=85							
C11A	**Tepee Creek (N**	**84.40**	**329**	⇑P		**P**	**05 27 28.0**	**-0.2**
	baz=85							
B12A	**Libby**	**84.55**	**330**	⇑P		**P**	**05 27 30.1**	**+1.3**
	baz=85							
A12A	**Yaak River Ran**	**84.91**	**330**	⇑P		**P**	**05 27 31.8**	**+1.1**
	baz=85							
YKA	**Yellowknife Ar**	**94.45**	**340**	P		**P**	**05 28 14.8**	**-0.4**
YKA	**Yellowknife Ar**	**94.45**	**340**	P		**P**	**05 28 14.8**	**-0.4**
	comp=N,0.9nm,0.7s,baz=131,slow=4.5,SNR=34							
ASAR	**Alice Springs**	**128.27**	**204**	PKP		**PKPdf**	**05 34 01.9**	**+0.1**
ASAR	**Alice Springs**	**128.27**	**204**	PKP		**PKPdf**	**05 34 01.9**	**+0.1**
	comp=N,1.1nm,0.7s,baz=153,slow=2.1,SNR=8.4							
WRA	**Warramunga Arr**	**131.45**	**207**	PKP		**PKPdf**	**05 34 08.3**	**+0.3**
WRA				SKPbc		**SKPbc**	**05 37 15.6**	**-0.4**
WRA	**Warramunga Arr**	**131.45**	**207**	PKP		**PKPdf**	**05 34 08.3**	**+0.3**
	comp=N,0.5nm,0.5s,baz=153,slow=1.8,SNR=3.2							
WRA				SKPbc		**SKPbc**	**05 37 15.6**	**-0.4**
	comp=N,1.9nm,0.9s,baz=150,slow=3.2,SNR=7.2							
BVAR	**Borovoye Array**	**136.92**	**37**	PKP		**PKPdf**	**05 34 17.7**	**+0.6**
BVAR	**Borovoye Array**	**136.92**	**37**	PKP		**PKPdf**	**05 34 17.7**	**+0.6**
	comp=N,0.7nm,0.8s,baz=291,slow=4.5,SNR=3.3							
KURBB	**Kurchatov Arra**	**142.51**	**37**	PKP		**PKPdf**	**05 34 27.1**	**-0.2**
	comp=N,0.5nm,0.6s,baz=303,slow=2.6,SNR=5.3							
KURBB				SKPbc		**SKPbc**	**05 37 46.1**	**-1.7**
	comp=N,0.2nm,0.6s,baz=298,slow=2.9,SNR=4.0							
KURK	**Kurchatov**	**142.51**	**36**	PKP		**PKPdf**	**05 34 27.1**	**-0.2**
KURK				SKPbc		**SKPbc**	**05 37 46.1**	**-1.7**
ZAA0	**Zalesovo Array**	**143.56**	**28**	*e*PKPdf		PKPbc	05 34 27.3	+0.4
ZALV	**Zalesovo Beam**	**143.56**	**28**	PKP		PKPbc	05 34 27.1	+0.1
ZALV	**Zalesovo Beam**	**143.56**	**28**	PKP		PKPbc	05 34 27.1	+0.1
	comp=N,1.4nm,0.4s,baz=315,slow=3.3,SNR=12							
MK31	**Makanchi Array**	**146.64**	**40**	*e*PKPdf		**PKPdf**	**05 34 35.6**	**+0.9**
MK31				*e*PKPbc		**PKPbc**	**05 34 37.3**	**+0.8**
MKAR	**Makanchi Array**	**146.64**	**40**	PKPbc		**PKPdf**	**05 34 35.6**	**+1.0**
MKAR				SKPbc		**SKPbc**	**05 37 57.7**	**+0.1**
MKAR	**Makanchi Array**	**146.64**	**40**	PKPbc		**PKPdf**	**05 34 35.6**	**+1.0**
	comp=N,2.2nm,0.4s,baz=317,slow=2.7,SNR=45							
MKAR				SKPbc		**SKPbc**	**05 37 57.7**	**+0.1**
	comp=N,0.5nm,0.8s,baz=291,slow=2.3,SNR=3.8							
MJAR	**Matsushiro Arr**	**155.28**	**305**	PKPab		**PKPab**	**05 35 14.0**	**-0.2**
MJAR	**Matsushiro Arr**	**155.28**	**305**	PKPab		**PKPab**	**05 35 14.0**	**-0.2**
	comp=N,0.7nm,0.4s,baz=102,slow=2.4,SNR=4.5							
SONM	**Songino Array**	**155.88**	**11**	PKPab		**PKPab**	**05 35 16.5**	**0.0**
SONM	**Songino Array**	**155.88**	**11**	PKPab		**PKPab**	**05 35 16.5**	**0.0**
	comp=N,0.1nm,0.4s,baz=316,slow=4.0,SNR=3.9							

MEX 10 05:26:12.5±0.8, 17°.37N×101°.10W, h6km±17km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.43**	**304**	*e*P	Pg	05 26 20.0	-0.7
ZIIG				*i* S	Sg	05 26 27.0	+0.7
CAIG	**El Cayaco**	**0.85**	**112**	*i* P	Pg	05 26 27.6	-1.3
CAIG				*i* S	Sg	05 26 38.6	-1.4
ACX	**Acapulco**	**1.28**	**112**	*i* P	Pn	05 26 31.8	-5.2
ACX				*i* S	Sb	05 26 47.2	-6.7
PLIG	**Platanillo**	**1.83**	**56**	*i* P	Pn	05 26 40.7	-3.9
PLIG				*i* S	Sn	05 27 03.5	-4.7
YAIG	**Yautepec**	**2.44**	**52**	*i* P	Pn	05 26 49.9	-3.2
YAIG				*i* S	Sn	05 27 19.6	-3.7
PPM	**Popocatepetl**	**2.89**	**54**	*i* P	Pn	05 26 56.3	-3.5
PPM				*i* S	Sn	05 27 31.9	-3.5
PNIG	**Pinotepa**	**3.00**	**108**	*i* P	Pn	05 26 58.0	-2.7
PNIG				*i* S	Sn	05 27 34.0	-3.1
UTMO	**Huajuapan**	**3.17**	**81**	*i* P	Pn	05 27 01.2	-2.1
UTMO				*i* S	Sn	05 27 38.4	-3.3

*NSSP **10** 05:30:48.5, 39°.63N×44°.43E, h25km, Ms2.7*
*CSEM **10** 05:30:50.3±0.2, 39°.68N×44°.50E, h5km, ML2.7, Error ellipse: s-maj=5.0km s-min=3.0km az=111.0*
*ISK **10** 05:30:50.2, 39°.58N×44°.60E, h17km, MD2.8*
*DDA **10** 05:30:51.7, 39°.62N×44°.44E, h7km, MD3.0*

ISC 10 05:30:50.8±1.1, 39°.66N±0°.02×44°.44E±0°.02, h3km±11km, n48, σ1°.07/81, 7C-29D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARRZ	**Ararat**	**0.28**	**46**	*e*P	**Pn**	**05 31 04.0**	**+2.1**
ARRZ				*e*S	Sb	05 31 10.0	+6.3
VRNZ	**Vardanashen**	**0.43**	**334**	⇑*i*P	**Pg**	**05 30 58.6**	**-0.6**
VRNZ				⇓*i*S	**Sg**	**05 31 06.2**	**+1.4**
VRNZ	**Vardanashen**	**0.43**	**334**	⇑P	**Pg**	**05 30 58.6**	**-0.6**
VRNZ				S	**Sg**	**05 31 06.2**	**+1.4**
PAAR	**P'arak'ar**	**0.49**	**355**	⇓*i*P	**Pg**	**05 30 59.2**	**-1.1**
PAAR				⇓*i*S	**Sg**	**05 31 07.2**	**+0.5**
PAAR	**P'arak'ar**	**0.49**	**355**	⇓P	**Pg**	**05 30 59.2**	**-1.1**
PAAR				S	**Sg**	**05 31 07.2**	**+0.5**
ERE	**Yerevan**	**0.51**	**3**	⇓*i*P	Pg	05 30 58.2	-2.5
ERE				⇓*i*S	**Sg**	**05 31 05.2**	**-2.1**
ERE	**Yerevan**	**0.51**	**3**	⇓P	Pg	05 30 58.2	-2.5
ERE				S	**Sg**	**05 31 05.2**	**-2.1**
GNI	**Garni**	**0.55**	**25**	PG	**Pg**	**05 31 02.1**	**+0.7**
GNI				SG	**Sg**	**05 31 10.9**	**+2.5**
GNI	**Garni**	**0.55**	**25**	⇓*i*P	**Pg**	**05 31 02.0**	**+0.7**
GNI				⇓*i*S	**Sg**	**05 31 10.8**	**+2.5**
GNI	**Garni**	**0.55**	**25**	⇓P	**Pg**	**05 31 02.0**	**+0.7**
GNI				*i* Sg	**Sg**	**05 31 10.9**	**+2.5**
DYDN	**Diyadin**	**0.59**	**259**	*i* P	**Pb**	**05 31 03.5**	**-0.4**
DYDN	**Diyadin**	**0.59**	**259**	*i* P	**Pb**	**05 31 03.5**	**-0.4**
VNNZ	**Vanand**	**0.65**	**313**	⇓*i*P	**Pg**	**05 31 02.4**	**-0.9**
VNNZ				⇓*i*S	**Sg**	**05 31 12.8**	**+1.1**
VNNZ	**Vanand**	**0.65**	**313**	⇓P	**Pg**	**05 31 02.4**	**-0.9**
VNNZ				S	**Sg**	**05 31 12.8**	**+1.1**
CLDR	**Caldiran**	**0.65**	**218**	*e*PG	**Pb**	**05 31 04.0**	**-0.9**
CLDR				*e*SG	**Sb**	**05 31 14.1**	**-0.4**
CLDR	**Caldiran**	**0.65**	**218**	*e*Pg	**Pb**	**05 31 04.0**	**-0.9**
CLDR				*e*Sg	**Sb**	**05 31 14.1**	**-0.4**
ARUZ	**Aruch**	**0.68**	**337**	⇓*i*P	**Pg**	**05 31 02.6**	**-1.3**
ARUZ				⇓*i*S	**Sg**	**05 31 13.0**	**+0.3**
ARUZ	**Aruch**	**0.68**	**337**	⇓P	**Pg**	**05 31 02.6**	**-1.3**
ARUZ				S	**Sg**	**05 31 13.0**	**+0.3**
KAPZ	**Kaputan**	**0.69**	**17**	⇑*i*P	**Pg**	**05 31 02.6**	**-1.5**
KAPZ				⇓*i*S	**Sg**	**05 31 13.3**	**+0.1**
KAPZ	**Kaputan**	**0.69**	**17**	⇑P	**Pg**	**05 31 02.6**	**-1.5**
KAPZ				S	**Sg**	**05 31 13.3**	**+0.1**
AMBZ	**Amberd**	**0.74**	**349**	⇓*i*P	**Pg**	**05 31 03.9**	**-1.2**
AMBZ				⇑*i*S	**Sg**	**05 31 14.9**	**+0.2**
AMBZ	**Amberd**	**0.74**	**349**	⇓P	**Pg**	**05 31 03.8**	**-1.2**
AMBZ				S	**Sg**	**05 31 14.9**	**+0.2**
NARZ	**Nor Artik**	**0.98**	**326**	⇓*i*P	**Pg**	**05 31 09.2**	**-0.4**
NARZ				⇓*i*S	**Sg**	**05 31 23.2**	**+0.9**
NARZ	**Nor Artik**	**0.98**	**326**	⇓P	**Pg**	**05 31 09.2**	**-0.4**
NARZ				S	**Sg**	**05 31 23.2**	**+0.9**
HARI	**Harich**	**1.01**	**341**	⇓*i*P	**Pg**	**05 31 09.7**	**-0.4**
HARI				⇑*i*S	**Sg**	**05 31 24.3**	**+1.1**
HARI	**Harich**	**1.01**	**341**	⇓P	**Pg**	**05 31 09.7**	**-0.4**
HARI				S	**Sg**	**05 31 24.3**	**+1.1**
AGRB	**Hanur-Agry**	**1.12**	**266**	*e*PN	**Pn**	**05 31 13.3**	**-0.2**
AGRB	**Hanur-Agry**	**1.12**	**266**	*e*Pn	**Pn**	**05 31 13.3**	**-0.2**
VADZ	**Vardenis**	**1.13**	**63**	*e*P	**Pg**	**05 31 12.0**	**-0.5**
VADZ				*e*S	**Sg**	**05 31 26.0**	**-1.1**
VADZ	**Vardenis**	**1.13**	**63**	P	**Pg**	**05 31 12.0**	**-0.5**
VADZ				S	**Sg**	**05 31 26.0**	**-1.1**
KAMZ	**Kamo**	**1.22**	**342**	⇓*i*P	**Pn**	**05 31 12.4**	**-1.5**
KAMZ				⇑*i*S	**Sb**	**05 31 30.9**	**0.0**
KAMZ	**Kamo**	**1.22**	**342**	⇓P	**Pn**	**05 31 13.4**	**-1.5**
KAMZ				S	**Sb**	**05 31 30.9**	**0.0**
TUTA	**Tutak**	**1.28**	**259**	*i* P	**Pg**	**05 31 15.9**	**+0.6**
TUTA				*i* S	**Sn**	**05 31 34.1**	**+0.6**
TUTA	**Tutak**	**1.28**	**259**	*i* P	**Pg**	**05 31 15.9**	**+0.6**
TUTA				*i* S	**Sn**	**05 31 34.1**	**+0.6**
VANB	**Van**	**1.34**	**218**	*e*PN	**Pn**	**05 31 15.2**	**-1.3**
VANB	**Van**	**1.34**	**218**	*e*Pn	**Pn**	**05 31 15.2**	**-1.3**
TCHZ	**Tchakhmakh**	**1.36**	**336**	⇓*i*P	**Pn**	**05 31 16.3**	**-0.6**
TCHZ				⇓*i*S	**Sb**	**05 31 35.0**	**+0.1**
TCHZ	**Tchakhmakh**	**1.36**	**336**	⇓P	**Pn**	**05 31 16.3**	**-0.6**
TCHZ				S	**Sb**	**05 31 35.0**	**+0.1**
TVAN	**Van**	**1.38**	**216**	*i* P	**Pg**	**05 31 17.2**	**-0.1**
TVAN				*i* S	**Sg**	**05 31 36.6**	**+1.4**
TVAN	**Van**	**1.38**	**216**	*i* P	**Pg**	**05 31 17.2**	**-0.1**
TVAN				*i* S	**Sg**	**05 31 36.6**	**+1.4**
KARS	**Kars**	**1.42**	**313**	*e*PN	**Pn**	**05 31 17.3**	**-0.4**
KARS	**Kars**	**1.42**	**313**	*e*Pn	**Pn**	**05 31 17.3**	**-0.4**
AKH	**Akhalkalaki**	**1.89**	**338**	P	**Pn**	**05 31 25.6**	**+1.5**
AKH				S	**Sb**	**05 31 51.6**	**+1.4**
DGRG	**David-gareji**	**1.93**	**21**	P	**Pb**	**05 31 26.6**	**0.0**
DGRG				S	**Sg**	**05 31 53.6**	**+0.8**
TBLG	**Delisi**	**2.08**	**6**	P	**Sg**	**05 31 55.9**	**-1.8**
HAKT	**HAKKARI**	**2.17**	**195**	*i* P	**Pb**	**05 31 30.8**	**-0.1**
HAKT	**HAKKARI**	**2.17**	**195**	*i* P	**Pb**	**05 31 30.8**	**-0.1**
DAGI	**Agillar**	**2.39**	**307**	*e*P	**Pb**	**05 31 35.0**	**+0.4**

GUC 10 05:32:56.6±0.6, 31°.21S×69°.44W, h162km±14km, MD3.4, ML3.5, 4C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OVCH	**Ovalle**	**1.63**	**291**	*e*P	Pn	05 33 28.9	+0.5
OVCH				*i* S	Sn	05 33 53.2	+0.3
OVCH				AML	AML	05 33 55.1	
	comp=Z,223nm,0.7s						
OVCH				AML	AML	05 33 55.1	
	comp=N,360nm,0.9s						
JACH	**Jahuel**	**1.77**	**213**	⇑*i*P	Pn	05 33 30.8	+0.7
JACH				*i* S	Sn	05 33 56.4	+0.5
CHNG	**Los Chungos**	**1.89**	**248**	AML	AML	05 34 06.5	
	comp=E,150nm,0.6s						
PEL	**Peldehue**	**2.20**	**208**	⇓*i*P	Pn	05 33 35.2	+0.3
PEL				*i* S	Sn	05 34 04.5	0.0
PEL				AML	AML	05 34 07.4	
	comp=N,316nm,0.3s						
ROCH	**El Roble**	**2.21**	**217**	AML	AML	05 34 08.0	
	comp=E,152nm,0.3s						
FCH	**Farellones**	**2.24**	**199**	AML	AML	05 33 53.3	
	comp=E,188nm,0.7s						
CLCH	**Cerro Calan**	**2.38**	**203**	⇑*i*P	Pn	05 33 37.6	+0.6
CLCH				*i* S	Sn	05 34 08.5	+0.3
CLCH				AML	AML	05 34 15.8	
	comp=E,238nm,0.4s						
SAN	**Santiago**	**2.47**	**204**	AML	AML	05 34 18.5	
	comp=N,121nm,0.8s						
ANTU	**Antumapu**	**2.56**	**203**	AML	AML	05 34 13.5	
	comp=N,171nm,0.3s						
PCH	**Pirque**	**2.58**	**200**	*e*P	Pn	05 33 40.2	+0.9
PCH				*i* S	Sn	05 34 13.0	+0.4
LMEL	**Las Melosas**	**2.71**	**194**	*i* P	Pn	05 33 41.9	+0.7
LMEL				*i* S	Sn	05 34 16.2	+0.5
LMEL				AML	AML	05 34 27.2	
	comp=N,80nm,0.1s						
TACH	**Talagante**	**2.75**	**207**	⇑*i*P	Pn	05 33 41.8	+0.4
TACH				*i* S	Sn	05 34 16.2	+0.1
VACH	**Vallenar**	**2.86**	**336**	⇑*i*P	Pn	05 33 43.2	+0.4
VACH				*i* S	Sn	05 34 18.6	0.0
VACH				AML	AML	05 34 21.1	
	comp=N,259nm,0.0s						

*IDC **10** 05:38:09.1±0.8, 0°.70S×133°.97E, h0km, mb4.0/10, mb1 4.2/12, mb1mx4.1/21, mbtmp4.1/12, ML4.5/2, MS2.9/2, Ms1 2.9/2, ms1mx2.5/29, Error ellipse: s-maj=31.2km s-min=15.0km az=73.0*
*ISCJB **10** 05:38:11.4±0.6, 0°.79S±0°.06×133°.9E±0°.2, h27km, mb4.0/11, MS3.1/1, Error ellipse: s-maj=23.2km s-min=7.5km az=167.6*
*DJA **10** 05:38:14, 0°.75S×133°.91E, h20km, MLv4.4/3*
*NEIC **10** 05:38:14.3±0.5, 0°.73S×133°.95E, h35km, mb4.1/3, Error ellipse: s-maj=17.4km s-min=6.6km az=74.0*

ISC 10 05:38:13.2±0.8, 0°.86S±0°.07×133°.9E±0°.2, h27km, n31, σ1°.52/33, mb4.1/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**18.02**	**37**	LR	LR	05 47 58.9	
	comp=Z,27nm,21.3s,baz=235,slow=33						
FITZ	**Fitzroy Crossi**	**18.95**	**205**	*e*P	**Pn**	**05 42 35.3**	**+2.2**
	3.5nm,0.6s						
FITZ				S	Sn	05 45 55.0	-10
FITZ	**Fitzroy Crossi**	**18.95**	**205**	P	**Pn**	**05 42 34.6**	**+1.4**
	0.7nm,0.3s,baz=23,slow=13,SNR=8.9						
FITZ				S	Sn	05 45 55.0	-10
	0.2nm,0.3s,baz=9.5,slow=18,SNR=4.9						
WRAB	**Tennant Creek**	**18.96**	**179**	*e*P	**Pn**	**05 42 33.8**	**+0.5**
	6.1nm,0.4s						
WRA	**Warramunga Arr**	**18.97**	**179**	P	**P**	**05 42 33.6**	**+1.0**
WRA				S	**Sn**	**05 46 00.6**	**-4.6**
WRA	**Warramunga Arr**	**18.97**	**179**	P	**P**	**05 42 33.6**	**+1.0**
	2.4nm,0.3s,baz=359,slow=12,SNR=25						
WRA				S	**Sn**	**05 46 00.6**	**-4.6**
	0.1nm,0.3s,baz=355,slow=23,SNR=3.8						
CTA	**Charters Tower**	**22.62**	**148**	P	**P**	**05 43 13.0**	**+0.9**
CTA	**Charters Tower**	**22.62**	**148**	P	**P**	**05 43 13.0**	**+0.9**
	4.9nm,0.7s,baz=330,slow=10,SNR=4.7						
AS31	**Alice Springs**	**22.67**	**180**	*e*P	**P**	**05 43 14.5**	**+1.8**
ASAR	**Alice Springs**	**22.67**	**180**	P	**P**	**05 43 13.8**	**+1.2**
ASAR				S	**S**	**05 47 19.9**	**+0.6**
ASAR	**Alice Springs**	**22.67**	**180**	P	**P**	**05 43 13.8**	**+1.2**
	2.7nm,0.4s,baz=4.5,slow=11,SNR=30						
ASAR				S	**S**	**05 47 19.9**	**+0.6**
	0.9nm,0.9s,baz=4.6,slow=24,SNR=3.1						
STKA	**Stephens Creek**	**31.70**	**167**	P	**P**	**05 44 35.9**	**+1.2**
STKA	**Stephens Creek**	**31.70**	**167**	P	**P**	**05 44 35.9**	**+1.2**
	0.9nm,0.4s,baz=346,slow=4.2,SNR=2.9						
PSI	**Prapat**	**35.13**	**276**	P	**P**	**05 45 04.3**	**-0.7**
PSI	**Prapat**	**35.13**	**276**	P	**P**	**05 45 04.3**	**-0.7**
	3.1nm,0.5s,baz=112,slow=5.4,SNR=3.7						
MJAR	**Matsushiro Arr**	**37.43**	**6**	LR	LR	05 58 59.8	
	comp=Z,33nm,21.6s,baz=330,slow=34						
CMAR	**Chiang Mai Arr**	**39.34**	**301**	P	**P**	**05 45 41.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**39.34**	**301**	P	**P**	**05 45 41.0**	**+0.4**
	1.0nm,0.3s,baz=123,slow=6.7,SNR=10.0						
SONM	**Songino Array**	**54.08**	**337**	P	**P**	**05 47 35.5**	**-0.2**
SONM	**Songino Array**	**54.08**	**337**	P	**P**	**05 47 35.5**	**-0.2**
	0.3nm,0.6s,baz=144,slow=5.5,SNR=3.7						
MK31	**Makanchi Array**	**65.42**	**324**	*e*P	**P**	**05 48 53.7**	**0.0**
MKAR	**Makanchi Array**	**65.42**	**324**	P	**P**	**05 48 53.6**	**0.0**
MKAR	**Makanchi Array**	**65.42**	**324**	P	**P**	**05 48 53.6**	**0.0**
	1.4nm,0.5s,baz=117,slow=7.9,SNR=43						
ZALV	**Zalesovo Beam**	**67.96**	**331**	P	**P**	**05 49 08.7**	**-0.9**
ZALV	**Zalesovo Beam**	**67.96**	**331**	P	**P**	**05 49 08.7**	**-0.9**
	0.4nm,0.3s,baz=134,slow=6.2,SNR=3.2						
KURK	**Kurchatov**	**69.47**	**326**	*e*P	**P**	**05 49 18.4**	**-0.7**
	1.7nm,0.6s						
KURBB	**Kurchatov Arra**	**69.48**	**326**	P	**P**	**05 49 18.6**	**-0.6**
	1.4nm,0.7s,baz=119,slow=5.7,SNR=15						
ILAR	**Eielson Array**	**86.19**	**25**	P	**P**	**05 50 50.9**	**-0.9**
ILAR	**Eielson Array**	**86.19**	**25**	P	**P**	**05 50 50.9**	**-0.9**
	0.5nm,0.5s,baz=251,slow=5.3,SNR=20						
YKA	**Yellowknife Ar**	**100.57**	**26**	P	**Pdif**	**05 51 57.5**	**-0.8**
YKA	**Yellowknife Ar**	**100.57**	**26**	P	**Pdif**	**05 51 57.4**	**-0.8**
	0.2nm,0.7s,baz=294,slow=4.4,SNR=4.7						

IDC 10 05:39:52.5±0.9, 0°.67S×133°.96E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.8/20, mbtmp3.8/9, ML4.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/28, Error ellipse: s-maj=46.8km s-min=17.8km az=69.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.15**	**179**	P	P	05 44 17.3	-0.3
	0.6nm,0.3s,baz=359,slow=12,SNR=4.6						
CTA	**Charters Tower**	**22.74**	**149**	P	P	05 44 56.5	+0.1
	1.3nm,0.4s,baz=337,slow=7.7,SNR=2.4						
CTA				LR	LR	05 53 30.8	
	comp=Z,76nm,20.4s,baz=48,slow=36						
ASAR	**Alice Springs**	**22.86**	**180**	P	P	05 44 57.6	-0.1
	0.8nm,0.5s,baz=5.2,slow=11,SNR=3.6						
CMAR	**Chiang Mai Arr**	**39.32**	**301**	P	P	05 47 24.4	+0.7
	0.9nm,0.3s,baz=123,slow=7.3,SNR=4.9						
MKAR	**Makanchi Array**	**65.32**	**324**	P	P	05 50 35.6	-0.9
	0.9nm,0.7s,baz=118,slow=8.2,SNR=6.7						
ZALV	**Zalesovo Beam**	**67.84**	**331**	P	P	05 50 51.9	-0.6
	0.2nm,0.3s,baz=145,slow=5.3,SNR=2.3						
KURBB	**Kurchatov Arra**	**69.37**	**326**	P	P	05 51 02.3	+0.3
	0.8nm,0.7s,baz=120,slow=5.7,SNR=5.8						
BVAR	**Borovoye Array**	**74.96**	**326**	P	P	05 51 36.1	+0.5
	0.5nm,0.7s,baz=100,slow=7.5,SNR=2.3						
ILAR	**Eielson Array**	**85.98**	**25**	P	P	05 52 34.9	+0.4
	0.4nm,0.9s,baz=280,slow=5.4,SNR=3.4						

IDC 10 05:44:57.1±2.7, 0°.10S×133°.01E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.4/18, mbtmp3.3/4, ML3.7/1, Error ellipse: s-maj=156.2km s-min=23.1km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.77**	**176**	P	P	05 49 28.9	-0.1
	0.2nm,0.3s,baz=355,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**23.44**	**178**	P	P	05 50 08.5	+0.1
	1.4nm,0.8s,baz=358,slow=11,SNR=8.1						
MKAR	**Makanchi Array**	**64.29**	**324**	P	P	05 55 35.2	+0.7
	0.2nm,0.7s,baz=113,slow=6.6,SNR=2.7						
KURBB	**Kurchatov Arra**	**68.36**	**326**	P	P	05 55 59.7	-0.7
	0.1nm,0.3s,baz=127,slow=6.2,SNR=2.9						

**IDC 10 05:48:09.0±2.7, 17°.08S×175°.01W, h252km±24km, mb3.4/6, mb1 3.

FITZ	**Fitzroy Crossi**	**10.97**	**195**	*e*Pn		**Pn**	**07 19 03.1**	**-2.3**
	11nm,0.7s							
FITZ				*e*Sn		**Sn**	**07 21 01.7**	**-5.6**
FITZ	**Fitzroy Crossi**	**10.97**	**195**	*e*P		**Pn**	**07 19 04.0**	**-1.4**
	22nm,0.7s							
FITZ				*e*S		Sn	07 21 00.3	-7.0
FITZ	**Fitzroy Crossi**	**10.97**	**195**	P		**Pn**	**07 19 04.2**	**-1.1**
	1.5nm,0.3s,baz=27,slow=11,SNR=29							
FITZ				S		**Sn**	**07 21 02.5**	**-4.8**
	3.5nm,0.3s,baz=111,slow=16,SNR=16							
FITZ				LR		LR	07 24 08.2	
	comp=Z,57nm,19.2s,baz=18,slow=41							
WRAB	**Tennant Creek**	**13.63**	**156**	*e*P		**Pn**	**07 19 36.6**	**-2.7**
WRAB				*e*			07 22 02.7	
WRAB	**Tennant Creek**	**13.63**	**156**	*e*Pn		**Pn**	**07 19 36.5**	**-2.7**
WRAB				*e*Sn		Sn	07 22 02.7	-8.3
WRA	**Warramunga Arr**	**13.63**	**156**	P		**Pn**	**07 19 37.0**	**-2.3**
WRA				S		Sn	07 22 02.9	-8.2
WRA	**Warramunga Arr**	**13.63**	**156**	P		**Pn**	**07 19 37.0**	**-2.3**
	0.9nm,0.3s,baz=329,slow=13,SNR=27							
WRA				S		Sn	07 22 02.9	-8.2
	5.3nm,0.3s,baz=335,slow=21,SNR=10							
PLKI	**Palangkaraya**	**15.45**	**289**	P		**P**	**07 20 05.6**	**+3.1**
	477nm,1.0s							
COEN	**Coen**	**15.75**	**115**	*e*P		**Pn**	**07 20 05.7**	**+0.2**
	248nm,1.1s							
COEN				*e*S		S	07 22 50.9	-10
MBWA	**Marble Bar**	**16.08**	**211**	*e*P		**Pn**	**07 20 10.1**	**+0.6**
	199nm,2.0s							
MBWA				*e*S		S	07 22 59.0	-8.8
AS31	**Alice Springs**	**16.93**	**163**	*e*P		**Pn**	**07 20 20.8**	**+1.2**
AS31				*e*S		**S**	**07 23 21.9**	**-4.1**
ASAR	**Alice Springs**	**16.93**	**163**	P		**Pn**	**07 20 21.6**	**+1.9**
ASAR				S		**S**	**07 23 23.9**	**-2.1**
ASAR	**Alice Springs**	**16.93**	**163**	P		**Pn**	**07 20 21.5**	**+1.9**
	2.4nm,0.3s,baz=340,slow=10,SNR=165							
ASAR				S		**S**	**07 23 23.9**	**-2.1**
	1.0nm,0.3s,baz=324,slow=17,SNR=5.0							
SDKM	**Sandakan**	**17.25**	**319**	P		**Pn**	**07 20 24.4**	**+0.8**
KKM	**Kota Kinabalu**	**18.20**	**317**	*e*P		**P**	**07 20 32.1**	**-0.6**
	80nm,1.5s							
KKM	**Kota Kinabalu**	**18.20**	**317**	P		**Pn**	**07 20 33.8**	**-1.0**
KKM	**Kota Kinabalu**	**18.20**	**317**	P		Pn	07 20 47.7	+13
PMG	**Port Moresby**	**18.50**	**97**	*e*P		**Pn**	**07 20 40.1**	**+1.8**
	76nm,0.9s							
PMG	**Port Moresby**	**18.50**	**97**	P		**Pn**	**07 20 40.6**	**+2.3**
	87nm,1.2s,718nm							
PMG	**Port Moresby**	**18.50**	**97**	P		**P**	**07 20 36.2**	**+0.2**
	0.6nm,0.3s,baz=287,slow=11,SNR=2.2							
BTM	**Bintulu**	**18.72**	**304**	P		**Pn**	**07 20 40.1**	**-0.8**
SBUM	**Sibu**	**19.04**	**300**	P		**Pn**	**07 20 43.7**	**-0.9**
SBUM	**Sibu**	**19.04**	**300**	P		**Pn**	**07 20 43.5**	**-1.1**
	59nm,1.8s,785nm							
SBUM	**Sibu**	**19.04**	**300**	P		**Pn**	**07 20 43.5**	**-1.1**
	59nm,1.8s,785nm							
KSM	**Kuching**	**20.25**	**295**	*e*P		**P**	**07 20 54.5**	**-0.2**
	124nm,1.2s							
KSM	**Kuching**	**20.25**	**295**	P		**P**	**07 20 54.8**	**0.0**
KSM	**Kuching**	**20.25**	**295**	P		**P**	**07 20 55.2**	**+0.4**
	90nm,1.2s,868nm							
KSM	**Kuching**	**20.25**	**295**	P		**P**	**07 20 55.2**	**+0.4**
	90nm,1.2s,868nm							
CTA	**Charters Tower**	**21.26**	**128**	P		**P**	**07 21 06.6**	**+1.1**
CTA	**Charters Tower**	**21.26**	**128**	*e*P		**P**	**07 21 07.3**	**+1.7**
	9.6nm,0.9s							
CTA	**Charters Tower**	**21.26**	**128**	P		**P**	**07 21 06.6**	**+1.1**
	12nm,0.9s,baz=311,slow=13,SNR=7.7							
CTAO	**Charters Tower**	**21.26**	**128**	*e*P		**P**	**07 21 07.2**	**+1.7**
CTAO				pmax		pmax		
	comp=Z,12nm,0.8s							
CTAO	**Charters Tower**	**21.26**	**128**	*e*P		**P**	**07 21 07.2**	**+1.7**
	comp=Z,12nm,0.8s							
KLBR	**Kellerberrin**	**26.05**	**201**	*e*P		**P**	**07 21 51.9**	**+2.0**
MYKOM	**Kota Tinggi**	**26.30**	**289**	P		P	07 21 46.6	-5.7
MYKOM	**Kota Tinggi**	**26.30**	**289**	P		**P**	**07 21 54.0**	**+1.7**
	comp=Z,31nm,1.2s							
MYKOM	**Kota Tinggi**	**26.30**	**289**	P		**P**	**07 21 54.0**	**+1.7**
	comp=Z,31nm,1.2s							
GUMO	**Guam**	**26.44**	**38**	P		**P**	**07 21 54.2**	**+0.8**
GUMO	**Guam**	**26.44**	**38**	P		**P**	**07 21 54.2**	**+0.8**
	comp=Z,59nm,0.9s,baz=178,slow=23,SNR=2.5							
STKA	**Stephens Creek**	**27.18**	**155**	*e*P		**P**	**07 22 01.5**	**+1.6**
	comp=Z,3.7nm,1.3s							
STKA	**Stephens Creek**	**27.18**	**155**	*e*P		**P**	**07 22 01.7**	**+1.7**
	comp=Z,3.1nm,0.6s							
STKA	**Stephens Creek**	**27.18**	**155**	P		**P**	**07 22 01.8**	**+1.9**
	comp=Z,4.4nm,0.9s,baz=336,slow=9.1,SNR=4.1							
NWAO	**Narrogin (SRO)**	**27.45**	**201**	P		**P**	**07 22 04.9**	**+2.5**
NWAO	**Narrogin (SRO)**	**27.45**	**201**	P		**P**	**07 22 04.9**	**+2.5**
	comp=Z,7.4nm,0.8s,baz=70,slow=9.7,SNR=3.8							
NWAO				LR		LR	07 34 39.9	
	comp=Z,96nm,19.1s,baz=304,slow=40							
IPM	**Ipoh**	**29.92**	**292**	*e*P		**P**	**07 22 24.6**	**+0.1**
	comp=Z,13nm,0.8s							
IPM	**Ipoh**	**29.92**	**292**	P		**P**	**07 22 21.9**	**-2.6**
IPM	**Ipoh**	**29.92**	**292**	P		**P**	**07 22 25.2**	**+0.7**
	comp=Z,21nm,1.1s							
IPM	**Ipoh**	**29.92**	**292**	P		**P**	**07 22 25.2**	**+0.7**
	comp=Z,21nm,1.1s							
MNSI	**Mandailing Nat**	**30.04**	**285**	P		**P**	**07 22 26.8**	**+1.3**
	comp=Z,22nm,0.8s,comp=Z,4μm							
HNR	**Honiara**	**31.11**	**96**	LR		LR	07 34 38.1	
	comp=Z,79nm,18.3s,baz=239,slow=35							
PSI	**Prapat**	**31.27**	**288**	P		**P**	**07 22 35.4**	**-1.1**
	comp=Z,30nm,0.9s							
PSI	**Prapat**	**31.27**	**288**	P		**P**	**07 22 35.4**	**-1.1**
	comp=Z,30nm,0.9s							
QIZ	**Qiongzhong**	**32.13**	**325**	P		**P**	**07 22 44.7**	**+0.9**
QIZ				sP		**sP**	**07 23 43.1**	**+0.9**
QIZ				S		**S**	**07 27 44.8**	**+1.8**
QIZ				ScS		**ScS**	**07 32 55.6**	**+0.9**
QIZ				pmax		pmax		
	comp=Z,14nm,1.2s							
BSI	**Banda Aceh**	**35.59**	**290**	P		**P**	**07 23 12.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**38.94**	**312**	P		**P**	**07 23 42.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**38.94**	**312**	P		**P**	**07 23 42.0**	**+0.2**
	comp=Z,13nm,1.0s,baz=145,slow=7.3,SNR=63							
CHTO	**Chiang Mai**	**39.16**	**312**	*e*P		**P**	**07 23 43.5**	**-0.2**
CHTO				pmax		pmax		
	comp=Z,35nm,1.2s							
CHTO	**Chiang Mai**	**39.16**	**312**	*e*P		**P**	**07 23 43.5**	**-0.2**
	comp=Z,34nm,1.2s							
CHTO	**Chiang Mai**	**39.16**	**312**	P		**P**	**07 23 43.5**	**-0.2**
	comp=Z,34nm,1.0s							
DZM	**Mont Dzumac**	**39.28**	**116**	P		**P**	**07 23 46.9**	**+2.1**
DZM	**Mont Dzumac**	**39.28**	**116**	P		**P**	**07 23 46.9**	**+2.1**
	comp=Z,1.3nm,0.8s,baz=131,slow=21,SNR=2.6							
GYA	**Guiyang**	**39.84**	**329**	*e*P		**P**	**07 23 48.7**	**-0.6**
GYA				pP		**pP**	**07 24 26.6**	**-1.5**
GYA				PP		**PP**	**07 25 26.9**	**+2.0**
GYA				PcP		**PcP**	**07 25 52.8**	**+1.1**
GYA				S		**S**	**07 29 40.5**	**+0.1**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
GYA				pmax		pmax		
	comp=Z,90nm,5.7s							
WHN	**Wuhan**	**40.16**	**341**	P		**P**	**07 23 50.6**	**-1.1**
NJ2	**Nanjing**	**40.35**	**347**	*e*P		**P**	**07 23 53.0**	**-0.3**
NJ2				pmax		pmax		
	comp=Z,40nm,1.2s							
KMI	**Kunming**	**40.99**	**323**	P		**P**	**07 23 59.0**	**+0.1**
KMI				pP		**pP**	**07 24 39.2**	**+1.4**
KMI				pmax		pmax		
	comp=Z,23nm,1.3s							
KSAR	**Wonju Array Be**	**44.66**	**359**	P		**P**	**07 24 26.8**	**-1.1**
KSRS	**Korea Array**	**44.67**	**359**	P		**P**	**07 24 26.8**	**-1.2**
	comp=Z,1.8nm,0.8s,baz=176,slow=11,SNR=7.5							
KSRS				LR		LR	07 45 03.9	
	comp=Z,22nm,18.2s,baz=172,slow=38							
MJAR	**Matsushiro Arr**	**44.68**	**11**	P		**P**	**07 24 25.5**	**-2.7**
MJAR	**Matsushiro Arr**	**44.68**	**11**	P		**P**	**07 24 25.5**	**-2.7**
	comp=Z,0.7nm,0.3s,baz=206,slow=9.6,SNR=4.2							
CD2	**Chengdu**	**44.93**	**329**	P		**P**	**07 24 31.0**	**+0.7**
CD2				pP		**pP**	**07 25 11.0**	**+1.1**
CD2				sP		**sP**	**07 25 31.0**	**+0.8**
CD2				PcP		**PcP**	**07 26 08.5**	**0.0**
CD2				PcS		**PcS**	**07 30 01.2**	**-1.4**
CD2				S		**S**	**07 30 56.5**	**+1.8**
CD2				sS		**sS**	**07 32 06.0**	**+2.0**
CD2				SS		**SS**	**07 34 16.0**	**-4.3**
CD2				pmax		pmax		
	comp=Z,20nm,0.5s							
CD2				pmax		pmax		
	comp=Z,90nm,5.0s							
XAN	**Xi'an**	**45.26**	**337**	P		**P**	**07 24 31.2**	**-1.6**
XAN				pmax		pmax		
	comp=Z,7.0nm,1.2s							
SHL	**Shillong**	**48.46**	**314**	*e*PKP		**P**	**07 24 57.0**	**-0.9**
BJI	**Beijing**	**48.61**	**347**	P		**P**	**07 24 56.6**	**-2.0**
BJI				pmax		pmax		
	comp=Z,26nm,1.2s							
LZH	**Lanzhou**	**49.14**	**333**	⇑P		**P**	**07 25 02.7**	**-0.2**
LZH				pP		**pP**	**07 25 38.2**	**-5.0**
LZH				sP		**sP**	**07 26 01.2**	**-2.1**
LZH				PP		**PP**	**07 26 59.4**	**+0.9**
LZH				pmax		pmax		
	comp=Z,130nm,1.4s							
LZH				pmax		pmax		
	comp=Z,210nm,5.0s							
HHC	**Hu-ho-hao-te**	**50.54**	**343**	*e*P		**P**	**07 25 13.2**	**-0.1**
HHC				pP		**pP**	**07 25 52.8**	**-1.0**
HHC				sP		**sP**	**07 26 13.1**	**-0.7**
HHC				PP		**PP**	**07 27 13.7**	**+2.7**
HHC				S		**S**	**07 32 13.4**	**-0.1**
HHC				sS		**sS**	**07 33 23.6**	**-0.6**
HHC				ScS		**ScS**	**07 34 42.1**	**-3.5**
HHC				SS		**SS**	**07 35 49.9**	**-0.4**
HHC				pmax		pmax		
	comp=Z,17nm,0.9s							
HHC				pmax		pmax		
	comp=Z,110nm,5.0s							
CN2	**Changchun**	**51.08**	**357**	*e*P		P	07 25 22.0	+4.9
CN2				*e*pP		pP	07 26 02.0	+4.3
CN2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
USRK	**Ussuriysk Arra**	**51.50**	**3**	P		**P**	**07 25 19.0**	**-1.1**
	comp=Z,1.6nm,0.6s,baz=183,slow=7.6,SNR=4.7							
LSA	**Lhasa**	**51.55**	**318**	P		P	07 25 18.2	-3.2
MDJ	**Mudanjiang**	**51.83**	**1**	P		**P**	**07 25 24.8**	**+2.2**
MDJ				pmax		pmax		
	comp=Z,3.0nm,0.6s							
MDJ				pmax		pmax		
	comp=Z,51nm,5.2s							
ODAN	**Odare**	**52.48**	**312**	*e*P		**P**	**07 25 27.2**	**-0.9**
TAPN	**Taplejung**	**52.52**	**313**	*e*P		**P**	**07 25 27.7**	**-0.8**
RAMN	**Ramite**	**53.11**	**312**	*e*P		**P**	**07 25 32.3**	**-0.5**
GTA	**Gaotai**	**53.69**	**332**	*e*P		**P**	**07 25 36.3**	**-0.3**
GTA				pP		**pP**	**07 26 18.0**	**+0.5**
GTA				sP		**sP**	**07 26 36.7**	**-0.8**
GTA				pmax		pmax		
	comp=Z,32nm,1.1s							
JIRN	**Jiri**	**53.81**	**312**	*e*P		**P**	**07 25 37.3**	**-0.7**
GUN	**Gumba**	**54.18**	**312**	*e*P		**P**	**07 25 39.9**	**-0.7**
	comp=Z,32nm,0.9s							
PKI	**Pulchoki**	**54.34**	**312**	*e*P		**P**	**07 25 40.7**	**-1.0**
KKN	**Kakani**	**54.55**	**312**	*e*P		**P**	**07 25 42.2**	**-1.0**
DMN	**Daman**	**54.58**	**312**	*e*P		**P**	**07 25 42.7**	**-0.7**
GKN	**Gorkha**	**55.15**	**312**	*e*P		**P**	**07 25 46.4**	**-0.9**
HYB	**Hyderabad**	**55.23**	**297**	*i* P		**P**	**07 25 46.0**	**-2.0**
KOLN	**Koldanda**	**55.80**	**311**	*e*P		**P**	**07 25 51.4**	**-0.6**
	comp=Z,23nm,0.8s							
DANN	**Dangsing**	**55.98**	**311**	*e*P		**P**	**07 25 52.5**	**-1.0**
KLR	**Kul'dur**	**56.51**	**3**	*e*P		P	07 25 51.8	-4.6
ULN	**Ulaanbaatar**	**58.26**	**343**	*e*P		**P**	**07 26 08.8**	**-0.1**
	comp=Z,37nm,1.3s							
SONM	**Songino Array**	**58.42**	**343**	P		**P**	**07 26 10.4**	**+0.4**
SONM	**Songino Array**	**58.42**	**343**	P		**P**	**07 26 10.4**	**+0.4**
	comp=Z,18nm,1.1s,baz=164,slow=6.7,SNR=62							
ZAK	**Zakamensk**	**61.63**	**342**	*e*P		**P**	**07 26 29.2**	**-2.5**
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.7s							
TLY	**Talaya**	**62.66**	**343**	*e*P		**P**	**07 26 37.0**	**-1.4**
TLY				*e*			07 35 31.8	
TLY				pmax		pmax		
	comp=Z,7.0nm,0.9s							
TLY	**Talaya**	**62.66**	**343**	*e*P		**P**	**07 26 38.6**	**+0.1**
	comp=Z,6.8nm,0.8s							
WMQ	**Urumqi**	**63.00**	**328**	P		**P**	**07 26 41.4**	**+0.5**
WMQ				pP		**PcP**	**07 27 18.0**	**+0.8**
WMQ				pmax		pmax		
	comp=Z,30nm,1.0s							
WMQ				pmax		pmax		
	comp=Z,280nm,4.0s							
MOY	**Mondy**	**63.46**	**341**	*e*P		**P**	**07 26 44.3**	**+0.5**
MOY				pmax		pmax		
	comp=Z,49nm,1.6s							
PETK	**Petropavlovsk-**	**65.20**	**19**	P		**P**	**07 26 55.3**	**+0.4**
PETK				pmax		pmax		
	comp=Z,7.0nm,0.9s							
PETK	**Petropavlovsk-**	**65.20**	**19**	P		**P**	**07 26 55.3**	**+0.4**
PETK	**Petropavlovsk-**	**65.20**	**19**	P		**P**	**07 26 55.3**	**+0.4**
	comp=Z,6.6nm,0.9s,baz=178,slow=3.2,SNR=4.8							
KSH	**Kashi**	**67.39**	**318**	⇑P		**P**	**07 27 09.5**	**+0.2**
KSH				PcP		**PcP**	**07 27 35.0**	**-0.5**
KSH				pP		**pP**	**07 27 51.6**	**-0.5**
KSH				sP		**sP**	**07 28 10.8**	**-0.8**
KSH				PP		**PP**	**07 29 42.0**	**+1.6**
KSH				S		**S**	**07 35 50.3**	**-0.3**
KSH				ScS		**SKiKP**	**07 36 47.5**	**-2.0**
KSH				sS		**sS**	**07 37 03.8**	**-1.1**
KSH				SS		**SS**	**07 40 16.5**	**+2.0**
KSH				pmax		pmax		
	comp=Z,13nm,1.1s							
KSH				pmax		pmax		
	comp=Z,120nm,5.4s							
KSH				LR		LR		
	comp=N,200nm,7.4s							
KSH				LR		LR		
	comp=E,170nm,5.5s							
KSH				LR		LR		
	comp=Z,180nm,6.1s							
MK31	**Makanchi Array**	**67.82**	**328**	*i* P		**P**	**07 27 10.8**	**-1.0**
MK31				pmax		pmax		
	comp=Z,52nm,1.2s							
MK31	**Makanchi Array**	**67.82**	**328**	*e*P		**P**	**07 27 11.6**	**-0.2**
MKAR	**Makanchi Array**	**67.82**	**328**	P		**P**	**07 27 11.7**	**-0.1**
MKAR				pmax		pmax		
	comp=Z,17nm,1.0s							
MKAR	**Makanchi Array**	**67.82**	**328**	P		**P**	**07 27 11.7**	**-0.1**
MKAR	**Makanchi Array**	**67.82**	**328**	P		**P**	**07 27 11.7**	**-0.1**
	comp=Z,17nm,0.9s,baz=123,slow=7.8,SNR=99							
KZA	**Kyzart**	**69.20**	**320**	P		**P**	**07 27 21.6**	**+0.8**
	SNR=12							
TKM2	**Tokmak 2**	**69.42**	**321**	*i* P		**P**	**07 27 22.3**	**+0.3**
TKM2	**Tokmak 2**	**69.42**	**321**	P		**P**	**07 27 22.3**	**+0.3**
	SNR=12							
KBK	**Karagaybulak**	**69.69**	**321**	P		**P**	**07 27 24.6**	**+1.0**
	SNR=6.3							
AAK	**Ala-Archa**	**69.96**	**321**	*c i*P		**P**	**07 27 25.8**	**+0.6**
AAK				pmax		pmax		
	comp=Z,71nm,1.6s							
AAK	**Ala-Archa**	**69.96**	**321**	*e*P		**P**	**07 27 25.5**	**+0.2**
	comp=Z,112nm,1.3s							
AAK	**Ala-Archa**	**69.96**	**321**	P		**P**	**07 27 25.9**	**+0.6**
	SNR=15							
AAK	**Ala-Archa**	**69.96**	**321**	P		**P**	**07 27 26.0**	**+0.7**
	comp=Z,13nm,1.1s,baz=130,slow=4.0,SNR=23							
FRU	**Bishkek**	**69.99**	**321**	*e*P		**P**	**07 27 25.0**	**-0.2**
AML	**Almayashu**	**70.21**	**320**	P		**P**	**07 27 27.2**	**+0.1**
	SNR=12							
USP	**Ospenovka**	**70.29**	**321**	P		**P**	**07 27 27.5**	**+0.4**
	SNR=16							
EKS2	**Erkin-Say**	**70.43**	**320**	P		**P**	**07 27 28.7**	**+0.7**
	SNR=18							
ZAA0	**Zalesovo Array**	**71.36**	**334**	*e*P		**P**	**07 27 31.8**	**-1.4**
ZALV	**Zalesovo Beam**	**71.36**	**334**	P		**P**	**07 27 32.4**	**-0.7**
ZALV				pmax		pmax		
	comp=Z,4.0nm,0.6s							
ZALV	**Zalesovo Beam**	**71.36**	**334**	P		**P**	**07 27 32.5**	**-0.7**
ZALV	**Zalesovo Beam**	**71.36**	**334**	P		**P**	**07 27 32.4**	**-0.7**
	comp=Z,3.8nm,0.6s,baz=126,slow=5.5,SNR=25							
KURBB	**Kurchatov Arra**	**72.15**	**329**	P		**P**	**07 27 37.8**	**-0.2**
	comp=Z,12nm,0.7s,baz=132,slow=5.0,SNR=90							
KURK	**Kurchatov**	**72.16**	**329**	*e*P		**P**	**07 27 37.9**	**-0.1**
KURK				pmax		pmax		
	comp=Z,69nm,1.3s							
KURK	**Kurchatov**	**72.16**	**329**	*e*P		**P**	**07 27 37.9**	**-0.1**
	comp=Z,69nm,1.3s							
SEY	**Seymchan**	**72.51**	**11**	*c e*P		**P**	**07 27 39.7**	**-0.1**
NVS	**Novosibirsk**	**72.64**	**334**	⇑*i*P		**P**	**07 27 39.5**	**-1.3**
NVS				*e*			07 27 54.5	
NVS				pmax		pmax		
	comp=N,30nm,1.6s							
NVS				pmax		pmax		
	comp=E,16nm,1.6s							
NVS				pmax		pmax		
	comp=Z,35nm,1.6s							
KK31	**Karatay Array**	**72.74**	**319**	*i* P		**P**	**07 27 41.7**	**0.0**
KK31				pmax		pmax		
	comp=Z,13nm,1.0s							
MAW	**Mawson**	**74.02**	**201**	P		**P**	**07 27 50.1**	**+1.4**
MAW	**Mawson**	**74.02**	**201**	P		**P**	**07 27 50.1**	**+1.4**
	comp=Z,17nm,1.0s,baz=152,slow=10,SNR=3.3							
BVA0	**Borovoye Array**	**77.68**	**328**	P		**P**	**07 28 09.0**	**-0.7**
BVA0				pmax		pmax		
	comp=Z,3.0nm,1.4s							
BVAR	**Borovoye Array**	**77.68**	**328**	P		**P**	**07 28 09.4**	**-0.3**
BVAR				pmax		pmax		
	comp=Z,2.0nm,0.5s							
BVAR	**Borovoye Array**	**77.68**	**328**	P		**P**	**07 28 09.4**	**-0.3**
BVAR	**Borovoye Array**	**77.68**	**328**	P		**P**	**07 28 09.4**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=122,slow=5.4,SNR=17							
BRVK	**Borovoye**	**77.75**	**328**	*e*P		**P**	**07 28 09.7**	**-0.3**
BRVK				pmax		pmax		
	comp=Z,11nm,1.3s							
BRVK	**Borovoye**	**77.75**	**328**	*e*P		**P**	**07 28 09.7**	**-0.3**
	comp=Z,11nm,1.3s							
OPO	**Ambohidratompo**	**79.52**	**253**	P		**P**	**07 28 21.6**	**+0.9**
OPO	**Ambohidratompo**	**79.52**	**253**	P		**P**	**07 28 21.6**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=114,slow=10.0,SNR=2.4							
AB31	**Akbulak array**	**81.97**	**322**	*i* P		**P**	**07 28 32.2**	**-0.6**
AB31				pmax		pmax		
	comp=Z,4.0nm,0.6s							
ABKAR	**Akbulak array**	**81.97**	**322**	*e*P		**P**	**07 28 31.8**	**-1.0**
	comp=Z,1.8nm,0.5s							
AKTO	**Aktyubinsk**	**83.55**	**323**	P		**P**	**07 28 40.8**	**-0.1**
AKTO				pmax		pmax		
	comp=Z,7.0nm,1.0s							
AKTO	**Aktyubinsk**	**83.55**	**323**	P		**P**	**07 28 40.8**	**-0.1**
AKTO	**Aktyubinsk**	**83.55**	**323**	P		**P**	**07 28 40.8**	**-0.1**
	comp=Z,6.5nm,1.0s,baz=114,slow=4.2,SNR=12							
ARU	**Arti**	**85.33**	**328**	*d i*P		**P**	**07 28 49.3**	**-0.4**
ARU							07 32 10.2	
ARU				S		S	07 38 56.3	-8.6
ARU				SS		**SS**	**07 44 40.2**	**-3.8**
ARU				pmax		pmax		
	comp=Z,19nm,1.7s							
ARU	**Arti**	**85.33**	**328**	*e*P		**P**	**07 28 49.0**	**-0.7**
	comp=Z,8.4nm,1.3s							
ILAR	**Eielson Array**	**94.36**	**25**	P		**P**	**07 29 29.3**	**-2.7**
ILAR	**Eielson Array**	**94.36**	**25**	P		**P**	**07 29 29.3**	**-2.7**
	comp=Z,1.7nm,1.2s,baz=250,slow=5.8,SNR=4.6							
YKA	**Yellowknife Ar**	**108.78**	**26**	PKiKP		**PKiKP**	**07 34 40.5**	**0.0**
YKA	**Yellowknife Ar**	**108.78**	**26**	PKiKP		**PKiKP**	**07 34 40.4**	**0.0**
	comp=Z,0.2nm,0.7s,baz=298,slow=1.7,SNR=4.4							
TXAR	**Lajitas Array**	**126.38**	**59**	PKP		**PKPdf**	**07 35 16.8**	**+1.5**
TXAR	**Lajitas Array**	**126.38**	**59**	PKP		**PKPdf**	**07 35 16.8**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=357,slow=5.0,SNR=3.9							
ESDC	**Sonseca Array**	**126.81**	**315**	PKP		**PKPdf**	**07 35 16.8**	**+1.1**
ESDC	**Sonseca Array**	**126.81**	**315**	PKP		**PKPdf**	**07 35 16.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=346,slow=21,SNR=4.1							
TORD	**Torodi Ar. Bea**	**127.49**	**281**	PKP		**PKPdf**	**07 35 18.1**	**+0.5**
TORD	**Torodi Ar. Bea**	**127.49**	**281**	PKP		**PKPdf**	**07 35 18.1**	**+0.5**
	comp=Z,1.9nm,1.0s,baz=102,slow=2.0,SNR=8.0							
LPAZ	**La Paz**	**151.21**	**145**	*e*PKPbc		**PKPbc**	**07 36 07.8**	**+0.9**

PRE 10 07:20:55.4±0.1, 26°47S×27°44E, h2km, ML2.4, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ERPM	**east rand prop**	**0.73**	**80**	*e*P		Pb	07 21 10.7	-0.5
ERPM				*e*S		Sg	07 21 20.1	+0.6
ERPM				AML		AML	07 21 20.8	
	comp=Z,54nm,0.4s							
SLR	**Silverton**	**1.06**	**46**	*e*P		Pg	07 21 16.2	+0.3
SLR				*e*S		Sg	07 21 30.1	+0.3
SLR				AML		AML	07 21 35.4	
	comp=Z,58nm,0.2s							
SEK	**Senekal**	**1.85**	**175**	*e*P		Pn	07 21 28.8	+0.3
SEK				*e*S		Sb	07 21 54.0	-0.1
SEK				AML		AML	07 22 00.5	
	comp=Z,38nm,0.6s							
LBTB	**Lobatse**	**2.20**	**311**	*e*P		Pn	07 21 32.9	-0.3
LBTB				*e*S		Sb	07 22 02.6	-1.4
LBTB				AML		AML	07 22 09.1	
	comp=Z,32nm,0.6s							
BOSA	**Boshof**	**2.88**	**222**	*e*P		Pn	07 21 42.9	+0.4
BOSA				*e*S		Sn	07 22 17.7	-0.2
BOSA				AML		AML	07 22 32.3	
	comp=Z,6.2nm,0.2

WAZ	Wanganui	1.25	278	Pn	Pn	07 21 19.7	+1.5		
HOWZ	Holdsworth Sta	1.27	220	PN	Pn	07 21 17.8	-0.6		
HOWZ	Holdsworth Sta	1.27	220	Pn	Pn	07 21 17.8	-0.6		
MHGZ	Mahia Peninsul	1.28	53	PN	Pn	07 21 17.6	-0.9		
MHGZ	Mahia Peninsul	1.28	53	Pn	Pn	07 21 17.6	-0.9		
TMWZ	Te Maipa	1.29	204	PN	Pn	07 21 18.0	-0.8		
TMWZ	Te Maipa	1.29	204	Pn	Pn	07 21 18.0	-0.8		
ALRZ	Allen Road	1.38	352	PN	Pn	07 21 19.8	-0.3		
ALRZ	Allen Road	1.38	352	Pn	Pn	07 21 19.8	-0.3		
OGWZ	Otaki Gorge	1.40	231	PN	Pn	07 21 19.6	-0.7		
OGWZ	Otaki Gorge	1.40	231	Pn	Pn	07 21 19.6	-0.7		
PRGZ	Paritu Road	1.42	45	PN	Pn	07 21 19.6	-0.9		
PRGZ	Paritu Road	1.42	45	Pn	Pn	07 21 19.6	-0.9		
PRRZ	Plateau Road	1.44	354	PN	Pn	07 21 20.4	-0.4		
PRRZ	Plateau Road	1.44	354	Pn	Pn	07 21 20.4	-0.4		
MTW	Mount Morrison	1.48	214	PN	Pn	07 21 20.2	-1.1		
MTW	Mount Morrison	1.48	214	Pn	Pn	07 21 20.2	-1.1		
HRRZ	Handcock Road	1.56	351	PN	Pn	07 21 22.5	+0.1		
HRRZ	Handcock Road	1.56	351	Pn	Pn	07 21 22.6	+0.1		
KIW	Kapiti Island	1.59	234	PN	Pn	07 21 22.3	-0.5		
KIW	Kapiti Island	1.59	234	Pn	Pn	07 21 22.3	-0.5		
RRRZ	Republican Roa	1.59	358	PN	Pn	07 21 22.1	-0.9		
RRRZ	Republican Roa	1.59	358	Pn	Pn	07 21 22.1	-0.9		
TRWZ	Traveller	1.62	205	PN	Pn	07 21 22.1	-1.2		
TRWZ	Traveller	1.62	205	Pn	Pn	07 21 22.1	-1.2		
VRZ	Vera Road	1.64	299	PN	Pn	07 21 24.2	+0.8		
VRZ	Vera Road	1.64	299	Pn	Pn	07 21 24.2	+0.8		
CAW	Cannon Point	1.65	224	PN	Pn	07 21 22.6	-1.1		
CAW	Cannon Point	1.65	224	Pn	Pn	07 21 22.6	-1.1		
PAWZ	Paruwai Farm	1.70	211	PN	Pn	07 21 22.9	-1.4		
PAWZ	Paruwai Farm	1.70	211	Pn	Pn	07 21 22.9	-1.4		
TARZ	Mount Tarawera	1.70	358	PN	Pn	07 21 24.2	-0.2		
TARZ	Mount Tarawera	1.70	358	Pn	Pn	07 21 24.2	-0.2		
URZ	Urewera	1.72	14	⇓PN	Pn	07 21 23.7	-0.9		
URZ	Urewera	1.72	14	Pn	Pn	07 21 23.7	-0.9		
MWZ	Matawai	1.75	25	PN	Pn	07 21 23.9	-1.3		
MWZ	Matawai	1.75	25	Pn	Pn	07 21 23.9	-1.3		
MSWZ	Moikau Station	1.80	214	PN	Pn	07 21 24.1	-1.6		
MSWZ	Moikau Station	1.80	214	Pn	Pn	07 21 24.1	-1.6		
CNGZ	Carnagh Statio	1.91	41	PN	Pn	07 21 26.2	-1.0		
CNGZ	Carnagh Statio	1.91	41	Pn	Pn	07 21 26.2	-1.0		
PLWZ	Palliser	1.93	212	PN	Pn	07 21 25.6	-1.9		
PLWZ	Palliser	1.93	212	Pn	Pn	07 21 25.6	-1.9		
HIZ	Hauiti	1.96	316	*e*PN	Pn	07 21 27.9	0.0		
HIZ	Hauiti	1.96	316	*e*Pn	Pn	07 21 27.9	0.0		
BHW	Baring Head	1.97	221	*e*PN	Pn	07 21 26.3	-1.7		
BHW	Baring Head	1.97	221	*e*Pn	Pn	07 21 26.3	-1.7		
SNZO	South Karori	1.99	226	PN	Pn	07 21 26.7	-1.6		
SNZO	South Karori	1.99	226	Pn	Pn	07 21 26.7	-1.6		
TCW	Tory Channel	2.18	233	PN	Pn	07 21 29.6	-1.3		
TCW	Tory Channel	2.18	233	Pn	Pn	07 21 29.6	-1.3		
DUWZ	D'Urville Isla	2.22	246	*e*PN	Pn	07 21 30.4	-1.1		
DUWZ	D'Urville Isla	2.22	246	*e*Pn	Pn	07 21 30.4	-1.1		
PUZ	Puketiti	2.27	35	PN	Pn	07 21 30.4	-1.8		
PUZ	Puketiti	2.27	35	Pn	Pn	07 21 30.4	-1.8		
TOZ	Tahuroa Road	2.36	338	PN	Pn	07 21 32.9	-0.5		
TOZ	Tahuroa Road	2.36	338	Pn	Pn	07 21 32.9	-0.5		
BSWZ	Blackbirch Sta	2.73	228	PN	Pn	07 21 36.5	-1.9		
BSWZ	Blackbirch Sta	2.73	228	Pn	Pn	07 21 36.5	-1.9		
NNZ	Nelson	2.77	241	PN	Pn	07 21 37.9	-1.1		
NNZ	Nelson	2.77	241	Pn	Pn	07 21 37.9	-1.1		
QRZ	Quartz Range	3.23	253	PN	Pn	07 21 44.3	-1.1		
QRZ	Quartz Range	3.23	253	Pn	Pn	07 21 44.3	-1.1		
THZ	Tophouse	3.34	236	PN	Pn	07 21 45.0	-2.0		
THZ	Tophouse	3.34	236	Pn	Pn	07 21 45.0	-2.0		
KHZ	Kahutara	3.39	222	PN	Pn	07 21 44.7	-2.9		
KHZ	Kahutara	3.39	222	Pn	Pn	07 21 44.7	-2.8		
LTZ	Lake Taylor	4.33	227	*e*PN	Pn	07 21 57.3	-3.1		
LTZ	Lake Taylor	4.33	227	*e*Pn	Pn	07 21 57.3	-3.1		
MQZ	McQueen's Vall	4.79	217	SN	Sn	07 22 53.8	-7.0		
MQZ	McQueen's Vall	4.79	217	Sn	Sn	07 22 53.8	-7.0		
CTZ	Chatham Island	6.33	129	PN	Pn	07 22 27.2	-0.7		
CTZ	Chatham Island	6.33	129	Pn	Pn	07 22 27.2	-0.7		
LBZ	Lake Benmore	6.52	225	*e*PN	Pn	07 22 27.6	-3.0		
LBZ	Lake Benmore	6.52	225	*e*Pn	Pn	07 22 27.6	-3.0		

MEX 10 07:27:28.3±1.2, 15°90N×96°31W, h20km±13km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.24	124	*e*P		Pb	07 27 32.5	-1.6
HUIG				*i* S		Sb	07 27 37.4	-0.6
VHO	Vista Hermosa	1.23	341	*e*P		Pn	07 27 46.5	-4.2
VHO				*i* S		Sb	07 28 01.7	-5.1
OXX	Oaxaca	1.24	341	*i* P		Pn	07 27 47.3	-3.4
OXX				*i* S		Sb	07 28 02.6	-4.4
CMIG	Matias Romero	1.81	49	*i* P		Pn	07 27 55.4	-3.0
CMIG				*i* S		Sn	07 28 17.1	-3.6
PNIG	Pinotepa	1.81	286	*i* P		Pn	07 27 55.9	-2.5
PNIG				*i* S		Sn	07 28 15.9	-4.9
UTMO	Huajuapan	2.39	324	*e*P		Pn	07 28 05.3	-1.3
UTMO				*i* S		Sn	07 28 33.5	-2.0
TPIG	Tehuac#an	2.69	338	*e*P		Pn	07 28 06.7	-4.1
TPIG				*i* S		Sn	07 28 39.0	-4.1
PCIG		2.98	93	*i* P		Pn	07 28 11.4	-3.1
PCIG				*i* S		Sn	07 28 46.0	-3.7
CCIG	Comitan	4.03	84	*i* P		Pn	07 28 28.7	-0.4
CCIG				*i* S		Sn	07 29 12.7	-3.3

IDC 10 07:38:22.5±1.7, 2°89N×127°43E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.7/20, mbtmp3.9/5, Error ellipse: s-maj=94.6km s-min=23.9km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.93	185	P		P	07 43 07.1	+0.1
	3.5nm,0.7s,baz=5.9,slow=8.8,SNR=7.3							
WRA	Warramunga Arr	23.68	164	P		P	07 43 36.4	+0.3
	3.5nm,0.6s,baz=343,slow=10,SNR=18							
ASAR	Alice Springs	27.14	167	P		P	07 44 07.8	+0.1
	0.6nm,0.5s,baz=345,slow=7.0,SNR=12							
STKA	Stephens Creek	37.10	160	P		P	07 45 33.9	-0.9
	2.9nm,0.6s,baz=6.3,slow=7.1,SNR=7.3							
MKAR	Makanchi Array	58.64	325	P		P	07 48 22.0	+0.3
	0.2nm,0.5s,baz=118,slow=8.1,SNR=4.8							

*ISCJB **10** 07:42:52.7±0.2, 61°80N±0°02×151°16W±0°05, h78km±3km, mb3.5/6, Error ellipse: s-maj=4.0km s-min=3.1km az=29.7*
*IDC **10** 07:42:52.5±1.5, 61°78N×151°34W, h55km±14km, mb3.4/6, mb1 3.6/10, mb1mx3.5/26, mbtmp3.4/10, Error ellipse: s-maj=19.7km s-min=9.3km az=109.0*
*NEIC **10** 07:42:54.6, 61°79N×151°18W, h68km, ML3.5(AEIC), After AEIC.*
NEIC Felt at Anchorage.

ISC 10 07:42:54.4±0.7, 61°79N±0°03×151°21W±0°03, h72km±6km, n92, σ1s05/110, mb3.5/6, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKT	Skwentna	0.25	322	P		Pn	07 43 04.4	-1.1
SUA	Susitna One	0.39	145	P		Pn	07 43 06.0	-0.6
SUA				S		Sn	07 43 14.2	-1.4
STLK	Strandline Lak	0.41	226	P		Pn	07 43 06.0	-0.7
CGLM	Capps Glacier	0.61	219	P		Pn	07 43 07.9	-0.7
SPCG	Spurr Capps Gl	0.63	219	P		Pn	07 43 08.1	-0.7
SPCG				S		Sn	07 43 18.9	-0.5
CRP	Crater Peak	0.69	222	P		Pn	07 43 08.8	-0.7
BGL	Barrier Glacie	0.77	228	P		Pn	07 43 09.7	-0.6
FIB	Fire Island	0.80	141	P		Pn	07 43 10.8	+0.3
SPNW	Spurr Northwes	0.80	237	P		Pn	07 43 08.9	-1.7
CKL	Chakachamna La	0.80	223	P		Pn	07 43 09.9	-0.8
RC01	Rabbit Creek A	0.99	134	P		Pn	07 43 11.9	-1.0
RC01				S		Sn	07 43 26.7	+0.1
PMR	Palmer	1.01	100	P		Pn	07 43 12.1	-1.0
PMR				S		Sn	07 43 26.5	-0.4
GHO	Glory Hole Cre	1.08	90	P		Pn	07 43 13.6	-0.6
PPLA	Purkeypile	1.21	338	P		Pn	07 43 15.1	-0.6
PPLA				S		Sn	07 43 30.9	-0.8
SML	Sawmill	1.37	88	P		Pn	07 43 16.8	-0.9
SML				S		Sn	07 43 35.1	-0.1
SLKM	Skilak Lake	1.37	159	P		Pn	07 43 16.9	-0.8
DFR	Drift River	1.40	212	P		Pn	07 43 17.4	-0.7
RDN	Redoubt North	1.48	211	P		Pn	07 43 18.7	-0.6
NCT	North Crescent	1.48	215	P		Pn	07 43 18.9	-0.4
RSO	Redoubt South	1.53	210	P		Pn	07 43 19.6	-0.3
TRF	Thorofare Moun	1.73	14	P		Pn	07 43 21.8	-0.8
SCM	Sheep Creek Mo	1.84	87	P		Pn	07 43 23.0	-1.0
SEW	Seward	1.89	152	P		Pn	07 43 24.0	-0.6
INE	Iliamna NE	1.95	208	P		Pn	07 43 25.1	-0.4
RND	Reindeer	1.96	33	P		Pn	07 43 24.8	-0.7
RND				S		Sn	07 43 48.7	-0.5
ILW	Iliamna West	1.97	209	P		Pn	07 43 25.6	-0.2
BRLK	Bradley Lake	2.04	175	P		Pn	07 43 25.7	-0.8
CHUM	Lake Minchumin	2.17	347	P		Pn	07 43 27.9	-0.3
CHUM				S		Sn	07 43 53.2	-0.9
DHY	Denali Highway	2.20	52	P		Pn	07 43 28.2	-0.7
DHY				S		Sn	07 43 56.1	+0.8
MCK	McKinley	2.22	27	P		Pn	07 43 28.7	-0.2
OPT	Oil Point	2.36	206	P		Pn	07 43 31.1	+0.2
VLZ	Valdez	2.43	104	P		Pn	07 43 30.1	-1.7
TT01	Tatalina	2.51	299	P		Pn	07 43 31.8	-1.2
KLU	Klutina	2.54	94	P		Pn	07 43 31.8	-1.6
AUE	Augustine Isla	2.66	205	P		Pn	07 43 35.0	+0.1
AUW	Augustine West	2.67	206	P		Pn	07 43 35.4	+0.3
DIV	Divide	2.69	102	P		Pn	07 43 33.5	-1.9
EYAK	Cordova Ski Ar	2.92	113	P		Pn	07 43 36.2	-2.3
NEA	Nenana	2.96	18	P		Pn	07 43 38.3	-0.8
WRH	Wood River Hil	3.04	26	P		Pn	07 43 39.3	-0.8
FOPK	Fourpeaked Vol	3.24	201	P		Pn	07 43 42.9	+0.1
CCB	Clear Creek Bu	3.26	27	P		Pn	07 43 42.0	-1.0
MLY	Manley	3.27	3	P		Pn	07 43 42.8	-0.4
BMRM	Bremner River	3.28	102	P		Pn	07 43 43.5	0.0
GOAT	Goat Mountain	3.36	108	P		Pn	07 43 42.4	-2.2
COLA	College	3.45	25	P		Pn	07 43 44.7	-0.9
MDM	Murphy Dome	3.46	22	P		Pn	07 43 45.0	-0.8
KAPH	Katmai Pasha	3.56	207	P		Pn	07 43 46.4	-0.9
IL1	Eielson Array	3.58	31	P		Pn	07 43 46.5	-0.8
ILAR	Eielson Array	3.58	31	P		Pn	07 43 46.4	-1.0
ILAR				S		Sn	07 44 27.2	-1.1
ILAR	Eielson Array	3.58	31	P		Pn	07 43 46.4	-1.0
	5.5nm,0.3s,baz=220,slow=14,SNR=240							
ILAR				S		Sn	07 44 27.2	-1.1
	9.9nm,0.3s,baz=220,slow=24,SNR=10							
MENT	Mentasta	3.68	68	*e*Pn		Pn	07 43 47.5	-1.2
MENT				*e*Sn		Sn	07 44 40.6	+10
KARR	Katmai Rainbow	3.73	209	P		Pn	07 43 49.8	+0.2
DOT	Dot Lake	3.78	57	P		Pn	07 43 49.7	-0.5
GCSA	Galena City Sc	3.92	322	P		Pn	07 43 52.1	0.0
KAKN	Katmai Knife C	4.00	211	P		Pn	07 43 53.6	+0.4
KCE	Katmai Mt Cerb	4.08	211	P		Pn	07 43 53.9	-0.4
KABU	Katmai Buttres	4.08	212	P		Pn	07 43 54.8	+0.5
KDAK	Kodiak Island	4.08	190	P		Pn	07 43 52.8	-1.4
KDAK				S		Sn	07 44 37.6	-3.0
KDAK	Kodiak Island	4.08	190	P		Pn	07 43 52.8	-1.4
	3.7nm,0.3s,baz=47,slow=6.2,SNR=17							
KDAK				S		Sn	07 44 37.6	-3.0
	8.5nm,0.3s,baz=213,slow=24,SNR=4.9							
KHIT	Khitrov Hills	4.09	106	P		Pn	07 43 54.3	-0.1
GRIN	Grindle Hills	4.12	108	P		Pn	07 43 52.6	-2.3
KABR	Katmai Barrier	4.12	209	P		Pn	07 43 54.5	-0.5
IM3	Indian Mountai	4.36	346	P		Pn	07 43 57.5	-0.5
BARK	Barkley Ridge	4.45	104	P		Pn	07 43 58.4	-1.0
ISLE	Juniper Island	4.45	102	P		Pn	07 43 58.5	-0.9
PRP	Porcupine Dome	4.52	32	P		Pn	07 43 59.8	-0.6
BAGL	Bagley Icefiel	4.61	102	P		Pn	07 44 00.2	-1.2
MESA	MESA	4.79	106	P		Pn	07 44 03.6	-0.5
EGAK	Eagle	5.44	52	*e*Pn		Pn	07 44 11.4	-1.4
	32nm,0.6s							
COLD	Coldfoot	5.48	4	P		Pn	07 44 12.5	-0.9
BM3	Burnt Mountain	6.33	24	P		Pn	07 44 24.4	-0.5
HYT	Haines Junctio	6.67	92	P		Pn	07 44 28.1	-1.6
TNA	Tin City	8.33	304	*e*Pn		Pn	07 44 53.9	+1.8
	5.0nm,0.7s							
TNA				*e*Sn		Sn	07 46 22.2	-2.2
INK	Inuvik	9.90	41	P		Pn	07 45 12.5	-1.0
INK				S		Sn	07 47 03.0	+0.3
INK	Inuvik	9.90	41	P		Pn	07 45 12.5	-1.0
	0.2nm,0.3s,baz=240,slow=17,SNR=15							
INK				S		Sn	07 47 03.0	+0.3
	0.2nm,0.3s,baz=19,slow=4.3,SNR=2.4							
DLBC	Dease Lake	11.07	98	P		Pn	07 45 31.6	+2.0
DLBC	Dease Lake	11.07	98	P		Pn	07 45 31.6	+2.0
	0.1nm,0.3s,baz=279,slow=3.8,SNR=1.5							
YKA	Yellowknife Ar	16.98	71	P		Pn	07 46 46.0	-0.8
YKA				ScP		ScP	07 54 55.6	-0.8
YKA	Yellowknife Ar	16.98	71	P		Pn	07 46 46.0	-0.8
	0.1nm,0.3s,baz=282,slow=10,SNR=8.8							
YKA				ScP		ScP	07 54 55.6	-0.8
	0.0nm,0.3s,baz=285,slow=2.5,SNR=5.5							
NVAR	Mina Array Bea	30.91	124	P		P	07 49 05.5	+1.3
NVAR	Mina Array Bea	30.91	124	P		P	07 49 05.5	+1.3
	0.5nm,0.5s,baz=322,slow=9.5,SNR=4.6							
PDAR	Pinedale Array	31.04	108	P		P	07 49 06.0	+0.6
PDAR	Pinedale Array	31.04	108	P		P	07 49 06.0	+0.6
	0.5nm,0.6s,baz=323,slow=3.6,SNR=4.9							
ULM	Lac du Bonnet	31.99	85	P		P	07 49 13.1	-0.2
ULM	Lac du Bonnet	31.99	85	P		P	07 49 13.1	-0.2
	1.0nm,0.5s,baz=217,slow=7.1,SNR=2.1							
TXAR	Lajitas Array	44.85	114	P		P	07 51 01.7	+0.5
TXAR	Lajitas Array	44.85	114	P		P	07 51 01.7	+0.5
	0.6nm,0.7s,baz=325,slow=7.1,SNR=9.4							
SONM	Songino Array	54.45	306	P		P	07 52 14.4	+0.4
SONM	Songino Array	54.45	306	P		P	07 52 14.4	+0.4
	0.5nm,0.7s,baz=36,slow=7.2,SNR=4.1							
MKAR	Makanchi Array	63.57	322	P		P	07 53 16.3	-0.6
MKAR	Makanchi Array	63.57	322	P		P	07 53 16.3	-0.6
	0.2nm,0.5s,baz=42,slow=7.8,SNR=4.2							

IDC 10 07:53:05.4±5.0, 25°09S×67°59W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/14, mbtmp3.8/2, Error ellipse: s-maj=204.7km s-min=50.9km az=179.0, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BDFB	Brasilia	20.60	67	P		P	07 57 46.3	0.0
	1.5nm,0.4s,baz=225,slow=11,SNR=2.9							
YKA	Yellowknife Ar	94.96	340	P		P	08 06 29.0	-0.1
	0.2nm,0.5s,baz=134,slow=4.6,SNR=11							
MKAR	Makanchi Array	147.70	40	PKPbc	PKPbc	PKPbc	08 12 51.2	-0.7
	0.6nm,0.5s,baz=314,slow=3.0,SNR=9.2							

*ISCJB **10** 07:57:24.4±0.4, 45°85N±0°03×10°00E±0°03, h15km±4km, Error ellipse: s-maj=4.8km s-min=3.1km az=177.0*
*CSEM **10** 07:57:24.9±0.2, 45°83N×9°99E, h12km, ML2.8/7, Error ellipse: s-maj=3.9km s-min=2.5km az=170.0*
*GEN **10** 07:57:24.2, 45°73N×10°07E, h10km, ML2.3*
*ROM **10** 07:57:25.0±0.2, 45°83N×9°97E, h12km±6km, Md2.4/7, Ml2.2/5, Error ellipse: s-maj=2.2km s-min=2.1km az=125.0*
*VIE **10** 07:57:29.6±0.3, 45°98N×10°35E, h12km±1km, mb1.9/7, ML2.4/12, Error ellipse: s-maj=2.0km s-min=1.1km az=31.0 38 km WSW of Pinzolo*

ISC 10 07:57:24.7±0.9, 45°80N±0°03×9°97E±0°02, h16km±7km, n49, σ0s81/84, 16C-14D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MDI	Monti di Nese	0.18	263	Pg		Pg	07 57 29.2	-0.1
MDI				Sg		Sb	07 57 33.5	+0.3
MDI	Monti di Nese	0.18	263	Pg		Pg	07 57 29.2	-0.1
MDI				Sg		Sb	07 57 33.5	+0.3
SALO	Salr	0.43	115	Pg		Pb	07 57 33.8	-0.1
SALO				Sg		Sb	07 57 40.9	+0.7
	207nm,0.5s							
SALO	Salr	0.43	115	Pg		Pb	07 57 33.8	-0.1
SALO				Sg		Sb	07 57 40.9	+0.7
	207nm,0.5s							
MABI	Malga Bissina	0.46	56	Pg		Pg	07 57 33.6	-0.3
MABI				Sg		Sg	07 57 39.5	-0.7
	190nm,0.3s							
MABI	Malga Bissina	0.46	56	Pg		Pg	07 57 33.6	-0.3
MABI				Sg		Sg	07 57 39.5	-0.7
	190nm,0.3s							
RNI	Roncone	0.50	69	⇑*e*Pg		Pg	07 57 34.3	-0.5
RNI				*e*Sg		Sg	07 57 40.7	-0.9
RNI	Roncone	0.50	69	⇑*e*Pg		Pg	07 57 34.3	-0.5
RNI				*e*Sg		Sg	07 57 40.7	-0.9
BERNI	Berninapass	0.61	3	Pg		Pg	07 57 37.0	+0.1
BERNI	Berninapass	0.61	3	Pg		Pg	07 57 37.0	+0.1
MUGIO	Muggio	0.66	281	Pg		Pg	07 57 37.9	+0.2
MUGIO				Sg		Sg	07 57 46.7	+0.2
MUGIO	Muggio	0.66	281	Pg		Pg	07 57 37.9	+0.2
MUGIO				Sg		Sg	07 57 46.7	+0.2
BRMO	Bormio	0.73	22	Pg		Pg	07 57 38.9	-0.1
BRMO	Bormio	0.73	22	Pg		Pg	07 57 38.9	-0.1
TUE	Stuetta	0.80	327	Pg		Pb	07 57 40.5	+0.1
TUE				Sg		Sb	07 57 50.2	-0.9
	41nm,0.3s							
TUE	Stuetta	0.80	327	Pg		Pb	07 57 40.5	+0.1
TUE				Sg		Sb	07 57 50.2	-0.9
	41nm,0.3s							
DDS	Dosso del Somm	0.85	84	*e*Pg		Pb	07 57 41.3	0.0
DDS	Dosso del Somm	0.85	84	*e*Pg		Pb	07 57 41.3	0.0
MOSI	Grossmontoni	0.91	26	⇑*e*Pg		Pb	07 57 42.3	0.0
MOSI				*e*Sg		Sb	07 57 53.6	-0.6
PANI	Panarotta	0.96	75	*e*Pg		Pg	07 57 43.6	+0.2
PANI	Panarotta	0.96	75	*e*Pg		Pg	07 57 43.6	+0.2
APPI	Appiano	1.10	52	Pg		Pb	07 57 45.5	0.0
APPI				Sg		Sb	07 57 59.7	-0.1
	114nm,0.3s							
APPI	Appiano	1.10	52	Pg		Pb	07 57 45.5	0.0
APPI				Sg		Sb	07 57 59.7	-0.1
	114nm,0.3s							
KOSI	Kohlern	1.18	55	⇓*e*Pg		Pg	07 57 47.4	-0.1
CGRP	Cima Grappa	1.28	86	⇑*e*Pg		Pg	07 57 49.6	+0.2
CGRP				*e*Sg		Sg	07 58 07.6	+1.5
CGRP	Cima Grappa	1.28	86	⇑*e*Pg		Pg	07 57 49.6	+0.2
CGRP				*e*Sg		Sg	07 58 07.6	+1.5
ABSI	Aberstueckl	1.32	45	⇓*e*Pg		Pb	07 57 49.3	+0.1
FETA	Feichten	1.33	23	⇑*i*Pg		Pg	07 57 50.6	+0.3
FETA				⇑*i*Sg		Sn	07 58 05.4	-0.9
	2.2nm,0.1s							
FETA	Feichten	1.33	23	Pg		Pg	07 57 50.6	+0.3
FETA				Sg		Sn	07 58 05.4	-0.9
	2.2nm,0.1s							
DAVA	Damuels	1.49	358	⇑*i*Pn		Pg	07 57 54.4	+1.0
DAVA				⇑*i*Pg		Pb	07 57 55.6	+3.5
DAVA				⇓*i*Sn		Sg	07 58 13.0	+0.3
DAVA				⇓*i*Sg		Sb	07 58 14.5	+3.7
	17nm,0.3s							
DAVA	Damuels	1.49	358	⇑*i*Pg		Pg	07 57 54.4	+1.0
DAVA				*i* Sg		Sg	07 58 13.0	+0.3
VARN	Col Varnada, M	1.50	82	⇓*e*Pg		Pg	07 57 53.5	-0.1
VARN				*e*Sg		Sg	07 58 14.8	+1.7
VARN	Col Varnada, M	1.50	82	⇓*e*Pg		Pg	07 57 53.5	-0.1
VARN				*e*Sg		Sg	07 58 14.8	+1.7
AGOR	Agordo	1.52	71	⇑*e*Pg		Pg	07 57 54.0	0.0
TRAV	Traversella	1.59	260	P		Pn	07 57 51.8	-0.5
MOTA	Moosalm	1.73	26	⇓*i*Pn		Pb	07 57 56.3	+0.1
MOTA	Moosalm	1.73	26	Pn		Pb	07 57 56.3	+0.1
CIMO	Cimolais	1.79	73	⇓*e*Pg		Pg	07 57 58.5	-0.6
CIMO				*e*Sg		Sg	07 58 22.5	+0.1
CIMO	Cimolais	1.79	73	⇓*e*Pg		Pg	07 57 58.5	-0.6
CIMO				*e*Sg		Sg	07 58 22.5	+0.1
RISI	Rein	1.85	51	⇓*e*Pg		Pb	07 57 59.1	+0.7
WTTA	Wattenberg	1.86	38	⇑*i*Pg		Pg	07 57 59.9	-0.6
WTTA				⇓*i*Sg		Sb	07 58 21.6	0.0
	11nm,0.4s							
WTTA	Wattenberg	1.86	38	Pg		Pg	07 57 59.9	-0.6
WTTA				Sg		Sb	07 58 21.6	0.0
	11nm,0.4s							
WATA	Walderalm	1.89	35	⇓*i*Pg		Pg	07 58 00.4	-0.7
WATA	Walderalm	1.89	35	Pg		Pg	07 58 00.4	-0.7
ABTA	Abfaltersbach	2.00	61	⇓*i*Pg		Pb	07 58 02.0	+1.2
ABTA				⇑*i*Sn		Sn

PBDV	**Barranco-do-Ve**	**1.64**	**58**	*i* Pn	**Pb**	**08 01 09.7 +0.7**
PBDV				*e*Sn	**Sn**	**08 01 28.9 +0.2**
PBDV				A	A	08 01 45.1
	59nm,0.2s					
PBDV	**Barranco-do-Ve**	**1.64**	**58**	⇑P	**Pb**	**08 01 09.7 +0.7**
PBDV				S	**Sn**	**08 01 28.9 +0.2**
	59nm,0.2s					
PBDV	**Barranco-do-Ve**	**1.64**	**58**	P	**Pb**	**08 01 09.7 +0.7**
PBDV				S	**Sn**	**08 01 28.9 +0.2**
	59nm,0.2s					
PCVE	**Castro Verde**	**1.80**	**46**	*i* Pn	**Pb**	**08 01 12.0 +0.2**
PCVE				*e*Sn	**Sn**	**08 01 33.2 +0.5**
PCVE				A	A	08 01 35.6
	90nm,0.3s					
PCVE	**Castro Verde**	**1.80**	**46**	⇑P	**Pb**	**08 01 12.0 +0.2**
PCVE				S	**Sn**	**08 01 33.2 +0.5**
	90nm,0.3s					
PVAQ	**Vaqueiros**	**1.86**	**57**	*i* Pn	**Pb**	**08 01 12.7 -0.2**
PVAQ				*e*Sn	**Sn**	**08 01 33.9 -0.4**
PVAQ				A	A	08 01 35.7
	80nm,0.1s					
PVAQ	**Vaqueiros**	**1.86**	**57**	⇑P	**Pb**	**08 01 12.7 -0.2**
PVAQ				S	**Sn**	**08 01 33.9 -0.4**
	80nm,0.1s					
PVAQ	**Vaqueiros**	**1.86**	**57**	P	**Pb**	**08 01 12.7 -0.2**
PVAQ				S	**Sn**	**08 01 33.9 -0.4**
	80nm,0.1s					
PNCL	**Nicolau / Gran**	**1.94**	**28**	*e*Pn	**Pb**	**08 01 13.6 -0.6**
PNCL				*e*Sn	**Sn**	**08 01 36.3 +0.1**
PNCL				A	A	08 01 37.6
	98nm,0.4s					
PBEJ	**Beja**	**2.18**	**41**	*i* Pn	**Pb**	**08 01 16.8 -1.4**
PBEJ				*e*Sn	**Sn**	**08 01 42.1 +0.1**
PBEJ				A	A	08 01 45.0
	59nm,0.3s					
PBEJ	**Beja**	**2.18**	**41**	⇑P	**Pb**	**08 01 16.8 -1.4**
PBEJ				S	**Sn**	**08 01 42.1 +0.1**
	30nm,0.3s					
PBEJ	**Beja**	**2.18**	**41**	P	**Pb**	**08 01 16.8 -1.4**
PBEJ				S	**Sn**	**08 01 42.1 +0.1**
	30nm,0.3s					
LIS	**Lisbon**	**2.35**	**10**	*e*P	**Pb**	**08 01 19.6 -1.6**
LIS				*e*S	**Sn**	**08 01 45.9 -0.5**
LIS				AML	AML	08 01 47.6
	comp=N,334nm,0.1s					
LIS	**Lisbon**	**2.35**	**10**	*e*P	**Pb**	**08 01 19.6 -1.6**
LIS				*e*S	**Sn**	**08 01 45.9 -0.5**
LIS	**Lisbon**	**2.35**	**10**	P	**Pb**	**08 01 19.6 -1.6**
LIS				S	**Sn**	**08 01 45.9 -0.5**
LIS	**Lisbon**	**2.35**	**10**	*e*P	**Pb**	**08 01 19.6 -1.6**
LIS				*e*S	**Sn**	**08 01 45.9 -0.5**
EVOP	**Sao Brissos**	**2.46**	**30**	*e*Pn	**Pn**	**08 01 20.3 +1.4**
EVOP				*e*Sn	**Sn**	**08 01 48.2 -0.8**
	comp=N,225nm,0.4s					
EVO	**Evora**	**2.51**	**31**	*e*Pn	**Pn**	**08 01 20.3 +0.7**
EVO				*e*Sn	**Sn**	**08 01 48.2 -2.0**
	comp=N,451nm,0.4s					
EVO	**Evora**	**2.51**	**31**	*e*Pn	**Pn**	**08 01 21.3 +1.7**
EVO				*e*Sn	**Sn**	**08 01 49.7 -0.5**
EVO				A	A	08 01 50.9
	comp=N,133nm,0.2s					
EVO	**Evora**	**2.51**	**31**	⇓P	**Pn**	**08 01 21.3 +1.7**
EVO				S	**Sn**	**08 01 49.7 -0.5**
	comp=N,133nm,0.2s					
EVO	**Evora**	**2.51**	**31**	P	**Pn**	**08 01 21.3 +1.7**
EVO				S	**Sn**	**08 01 49.7 -0.5**
	comp=N,133nm,0.2s					
PMAFR	**Mafra**	**2.57**	**7**	*e*Pn	**Pn**	**08 01 22.1 +1.6**
PMAFR				*e*Sn	**Sn**	**08 01 51.6 -0.2**
PMAFR				A	A	08 01 53.3
	comp=N,347nm,0.2s					
PMAFR	**Mafra**	**2.57**	**7**	⇑P	**Pn**	**08 01 22.1 +1.6**
	comp=N,44nm,0.1s,SNR=18					
PMAFR				S	**Sn**	**08 01 51.4 -0.5**
	comp=N,567nm,0.3s,SNR=11					
PMAFR	**Mafra**	**2.57**	**7**	P	**Pn**	**08 01 22.1 +1.6**
	comp=N,44nm,0.1s,SNR=18					
PMAFR				*e*Sn	**Sn**	**08 01 51.6 -0.2**
	comp=N,347nm,0.2s					
PBAR	**Barrancos**	**2.75**	**49**	*e*Pn	**Pn**	**08 01 24.6 +1.7**
PBAR				*e*Sn	**Sn**	**08 01 56.2 0.0**
PBAR				A	A	08 02 21.8
	comp=N,29nm,0.3s					
PBAR	**Barrancos**	**2.75**	**49**	⇑P	**Pn**	**08 01 24.6 +1.7**
PBAR				S	**Sn**	**08 01 56.2 0.0**
	comp=N,29nm,0.3s					
PBAR	**Barrancos**	**2.75**	**49**	P	**Pn**	**08 01 24.6 +1.7**
PBAR				S	**Sn**	**08 01 56.2 0.0**
	comp=N,29nm,0.3s					
EMIN	**Mina Concepcio**	**2.76**	**59**	⇑P	**Pn**	**08 01 24.6 +1.5**
	comp=N,9.1nm,0.1s,SNR=18					
EMIN				S	**Sn**	**08 01 55.2 -1.3**
	comp=N,14nm,0.1s,SNR=7.9					
EMIN	**Mina Concepcio**	**2.76**	**59**	P	**Pn**	**08 01 24.6 +1.5**
	comp=N,9.1nm,0.1s,SNR=18					
EMIN				S	**Sn**	**08 01 55.2 -1.3**
	comp=N,14nm,0.1s,SNR=7.9					
ALMR	**Almeirim**	**2.89**	**17**	*e*P	**Pn**	**08 01 27.1 +2.3**
ALMR				*e*S	**Sn**	**08 01 58.2 -1.4**
ALMR				AML	AML	08 02 00.2
	comp=N,102nm,0.3s					
ALMR	**Almeirim**	**2.89**	**17**	*e*P	**Pn**	**08 01 27.1 +2.3**
ALMR				*e*S	**Sn**	**08 01 58.2 -1.4**
ALMR	**Almeirim**	**2.89**	**17**	P	**Pn**	**08 01 27.1 +2.3**
ALMR				S	**Sn**	**08 01 58.2 -1.4**
ALMR	**Almeirim**	**2.89**	**17**	P	**Pn**	**08 01 27.0 +2.3**
ALMR				*e*S	**Sn**	**08 01 58.2 -1.4**
PMTG	**Montargil**	**2.91**	**23**	*e*Pn	**Pn**	**08 01 27.1 +2.1**
PMTG				*e*Sn	**Sn**	**08 01 59.4 -0.6**
PMTG				A	A	08 02 01.4
	comp=N,65nm,0.1s					
PESTR	**Estremoz**	**2.97**	**33**	*e*Pn	**Pn**	**08 01 27.4 +1.5**
PESTR				*e*Sn	**Sn**	**08 02 01.0 -0.7**
PESTR				A	A	08 02 03.2
	comp=N,32nm,0.2s					
PESTR	**Estremoz**	**2.97**	**33**	P	**Pn**	**08 01 27.4 +1.5**
PESTR				S	**Sn**	**08 02 01.0 -0.7**
	comp=N,16nm,0.2s					
PESTR	**Estremoz**	**2.97**	**33**	P	**Pn**	**08 01 27.4 +1.5**
PESTR				S	**Sn**	**08 02 01.0 -0.7**
	comp=N,16nm,0.2s					
ESPR	**Espera**	**3.11**	**80**	⇑P	**Pn**	**08 01 29.3 +1.5**
	comp=N,11nm,0.1s,SNR=18					
ESPR				S	**Sn**	**08 02 03.5 -1.5**
	comp=N,523nm,0.4s,SNR=9.9					
ESPR	**Espera**	**3.11**	**80**	P	**Pn**	**08 01 29.3 +1.5**
	comp=N,11nm,0.1s,SNR=18					
ESPR				S	**Sn**	**08 02 03.5 -1.5**
	comp=N,523nm,0.4s,SNR=9.9					
RTC	**Rabat Centre**	**3.33**	**135**	P	**Pn**	**08 01 30.0 -0.9**
RTC				S	Sn	08 02 03.0 -7.5
RTC	**Rabat Centre**	**3.33**	**135**	P	**Pn**	**08 01 30.0 -0.9**
PTOM	**Tomar**	**3.37**	**17**	*e*Pn	**Pn**	**08 01 33.3 +1.9**
PTOM				*e*Sn	**Sn**	**08 02 10.3 -1.1**
PTOM				A	A	08 02 12.1
	comp=N,90nm,0.2s					
PTOM	**Tomar**	**3.37**	**17**	P	**Pn**	**08 01 33.3 +1.9**
PTOM				S	**Sn**	**08 02 10.3 -1.1**
	comp=N,45nm,0.2s					
PTOM	**Tomar**	**3.37**	**17**	P	**Pn**	**08 01 33.3 +1.9**
PTOM				S	**Sn**	**08 02 10.3 -1.1**
	comp=N,45nm,0.2s					
EJIF	**Jimena Fronter**	**3.39**	**88**	P	**Pn**	**08 01 33.7 +2.0**
	comp=N,3.0nm,0.2s,SNR=7.9					
EJIF				S	**Sn**	**08 02 11.1 -0.9**
	comp=N,16nm,0.2s,SNR=7.9					
EJIF	**Jimena Fronter**	**3.39**	**88**	P	**Pn**	**08 01 33.7 +2.0**
	comp=N,3.0nm,0.2s,SNR=7.9					
EJIF				S	**Sn**	**08 02 11.1 -0.9**
	comp=N,16nm,0.2s,SNR=7.9					
PMRV	**Marv??o**	**3.52**	**30**	*i* Pn	**Pn**	**08 01 35.2 +1.6**
PMRV				*e*Sn	**Sn**	**08 02 13.7 -1.6**
PMRV				A	A	08 02 15.3
	comp=N,74nm,0.4s					
PMRV	**Marv??o**	**3.52**	**30**	⇑P	**Pn**	**08 01 35.2 +1.6**
PMRV				S	**Sn**	**08 02 13.7 -1.6**
	comp=N,74nm,0.4s					
PMRV	**Marv??o**	**3.52**	**30**	P	**Pn**	**08 01 35.2 +1.6**
PMRV				S	**Sn**	**08 02 13.7 -1.6**
	comp=N,74nm,0.4s					
PCBR	**Castelo Branco**	**3.85**	**26**	*e*Pn	**Pn**	**08 01 39.8 +1.8**
PCBR				*e*Sn	**Sn**	**08 02 21.5 -1.8**
PCBR				A	A	08 02 24.7
	comp=N,39nm,0.4s					
PCBR	**Castelo Branco**	**3.85**	**26**	P	**Pn**	**08 01 39.8 +1.8**
PCBR				S	**Sn**	**08 02 21.5 -1.8**
	comp=N,20nm,0.4s					
PCBR	**Castelo Branco**	**3.85**	**26**	P	**Pn**	**08 01 39.8 +1.8**
PCBR				S	**Sn**	**08 02 21.5 -1.8**
	comp=N,20nm,0.4s					
EADA	**Adamuz**	**4.43**	**65**	P	**Pn**	**08 01 47.4 +1.3**
	comp=N,58nm,0.2s,SNR=245					
EADA				S	**Sn**	**08 02 36.1 -1.7**
	comp=N,11nm,0.1s					
EADA	**Adamuz**	**4.43**	**65**	P	**Pn**	**08 01 47.4 +1.3**
	comp=N,58nm,0.2s,SNR=245					
EADA				S	**Sn**	**08 02 36.1 -1.7**
	comp=N,11nm,0.1s					
ELUQ	**Luque**	**4.48**	**73**	P	**Pn**	**08 01 48.2 +1.4**
	comp=N,11nm,0.2s,SNR=7.9					
ELUQ				S	**Sn**	**08 02 36.6 -2.4**
	comp=N,25nm,0.2s,SNR=7.9					
ELUQ	**Luque**	**4.48**	**73**	P	**Pn**	**08 01 48.2 +1.4**
	comp=N,11nm,0.2s,SNR=7.9					
ELUQ				S	**Sn**	**08 02 36.6 -2.4**
	comp=N,25nm,0.2s,SNR=7.9					
ELOJ	**Sierra Loja**	**4.50**	**79**	S	**Sn**	**08 02 37.2 -2.2**
	comp=N,6.4nm,0.1s,SNR=7.9					
ELOJ	**Sierra Loja**	**4.50**	**79**	S	**Sn**	**08 02 37.2 -2.2**
	comp=N,6.4nm,0.1s,SNR=7.9					
PVIS	**Viseu**	**4.53**	**17**	*e*Pn	**Pn**	**08 01 48.8 +1.3**
PVIS				*e*Sn	**Sn**	**08 02 38.1 -2.1**
PVIS				A	A	08 02 43.3
	comp=N,19nm,0.1s					
PVIS	**Viseu**	**4.53**	**17**	P	**Pn**	**08 01 48.8 +1.3**
PVIS				S	**Sn**	**08 02 38.1 -2.1**
	comp=N,9.6nm,0.1s					
PVIS	**Viseu**	**4.53**	**17**	P	**Pn**	**08 01 48.8 +1.3**
PVIS				S	**Sn**	**08 02 38.1 -2.1**
	comp=N,9.6nm,0.1s					
EPLA	**Plasencia**	**4.63**	**37**	P	**Pn**	**08 01 50.3 +1.6**
	comp=N,9.5nm,0.1s,SNR=36					
EPLA				S	**Sn**	**08 02 41.7 -0.9**
	comp=N,20nm,0.1s,SNR=17					
EPLA	**Plasencia**	**4.63**	**37**	P	**Pn**	**08 01 50.3 +1.6**
	comp=N,9.5nm,0.1s,SNR=36					
JHA	**Jbel Lahdid**	**4.65**	**178**	P	**Pn**	**08 01 50.0 +0.9**
JHA				S	Sn	08 02 37.0 -6.2
JHA	**Jbel Lahdid**	**4.65**	**178**	P	**Pn**	**08 01 50.0 +0.9**
ERON	**Agron**	**4.76**	**81**	P	**Pn**	**08 01 52.0 +1.4**
	comp=N,2.0nm,0.1s,SNR=7.9					
ERON				S	**Sn**	**08 02 45.9 0.0**
	comp=N,7.3nm,0.2s,SNR=7.9					
ERON	**Agron**	**4.76**	**81**	P	**Pn**	**08 01 52.0 +1.4**
	comp=N,2.0nm,0.1s,SNR=7.9					
CIA	**Chichaoua**	**4.88**	**171**	P	**Pn**	**08 01 54.0 +1.8**
CIA				S	**Sn**	**08 02 44.0 -4.8**
CIA	**Chichaoua**	**4.88**	**171**	*i* P	**Pn**	**08 01 54.0 +1.8**
EGUA	**Guajares**	**4.94**	**83**	P	**Pn**	**08 01 54.8 +1.9**
	comp=N,12nm,0.2s,SNR=7.9					
EGUA				S	**Sn**	**08 02 47.2 -2.9**
	comp=N,14nm,0.2s,SNR=7.9					
EGUA	**Guajares**	**4.94**	**83**	P	**Pn**	**08 01 54.8 +1.9**
	comp=N,12nm,0.2s,SNR=7.9					
ECOG	**Cogollos-Vega**	**4.98**	**78**	P	**Pn**	**08 01 55.2 +1.6**
	comp=N,30nm,0.3s,SNR=7.9					
ECOG				S	**Sn**	**08 02 51.1 -0.2**
	comp=N,22nm,0.2s,SNR=7.9					
ECOG	**Cogollos-Vega**	**4.98**	**78**	P	**Pn**	**08 01 55.2 +1.6**
	comp=N,30nm,0.3s,SNR=7.9					
ECOG				S	**Sn**	**08 02 51.1 -0.2**
	comp=N,22nm,0.2s,SNR=7.9					
TZC	**Tazercounte**	**4.99**	**147**	P	**Pn**	**08 01 53.0 -0.9**
TZC				S	Sn	08 02 42.0 -10
TZC	**Tazercounte**	**4.99**	**147**	*i* P	**Pn**	**08 01 53.0 -0.9**
CZD	**Col de Zad**	**5.08**	**130**	P	**Pn**	**08 01 54.0 -1.2**
CZD				S	Sn	08 02 44.0 -10
CZD	**Col de Zad**	**5.08**	**130**	*i* P	**Pn**	**08 01 54.0 -1.2**
POLO	**Lamas de Olo**	**5.18**	**16**	*e*Pn	**Pn**	**08 01 57.6 +1.2**
POLO				*e*Sn	**Sn**	**08 02 53.2 -3.1**
POLO				A	A	08 02 56.9
	comp=N,19nm,0.4s					
POLO	**Lamas de Olo**	**5.18**	**16**	*e*Pn	**Pn**	**08 01 57.6 +1.2**
POLO				*e*Sn	**Sn**	**08 02 53.2 -3.1**
	comp=N,19nm,0.4s					
MVO	**Moncorvo**	**5.19**	**23**	*e*Pn	**Pn**	**08 01 58.0 +1.5**
MVO				*e*Sn	**Sn**	**08 02 54.1 -2.4**
MVO				A	A	08 02 56.4
	comp=N,34nm,0.2s					
MVO	**Moncorvo**	**5.19**	**23**	P	**Pn**	**08 01 57.8 +1.3**
	comp=N,18nm,0.1s,SNR=22					
MVO				S	**Sn**	**08 02 54.4 -2.1**
	comp=N,17nm,0.2s,SNR=8.9					
MVO	**Moncorvo**	**5.19**	**23**	*e*Pn	**Pn**	**08 01 58.0 +1.5**
MVO				*e*Sn	**Sn**	**08 02 54.1 -2.4**
	comp=N,34nm,0.2s					
MVO				S	Sb	08 02 54.4 -18
	comp=N,17nm,0.2s,SNR=8.9					
PCAB	**Cabril**	**5.46**	**13**	*e*Pn	**Pn**	**08 02 01.5 +1.3**
PCAB				*e*Sn	**Sn**	**08 03 00.5 -2.5**
PCAB				A	A	08 03 03.5
	comp=N,25nm,0.4s					
PCAB	**Cabril**	**5.46**	**13**	P	**Pn**	**08 02 01.5 +1.3**
PCAB				S	**Sn**	**08 03 00.5 -2.5**
	comp=N,13nm,0.4s					
PCAB	**Cabril**	**5.46**	**13**	P	**Pn**	**08 02 01.5 +1.3**
PCAB				S	**Sn**	**08 03 00.5 -2.5**
	comp=N,13nm,0.4s					
EQES	**Quesada**	**5.46**	**73**	⇓P	**Pn**	**08 02 01.2 +0.9**
	comp=N,5.7nm,0.2s,SNR=18					
EQES				S	**Sn**	**08 03 01.1 -2.2**
	comp=N,19nm,0.2s					
EQES	**Quesada**	**5.46**	**73**	P	**Pn**	**08 02 01.2 +0.9**
	comp=N,5.7nm,0.2s,SNR=18					
EQES				S	**Sn**	**08 03 01.1 -2.2**
	comp=N,19nm,0.2s					
ESDC	**Sonseca Array**	**5.57**	**52**	P	**Pn**	**08 02 02.4 +0.7**
	comp=N,1.3nm,0.1s,baz=238,slow=13,SNR=148					
ESDC				S	**Sn**	**08 03 03.6 -2.2**
	comp=N,5.8nm,0.1s,baz=240,slow=24,SNR=19					
ESDC	**Sonseca Array**	**5.57**	**52**	P	**Pn**	**08 02 02.4 +0.7**
	comp=N,1.3nm,0.1s,slow=13,SNR=148					
ESDC				S	**Sn**	**08 03 03.6 -2.2**
	comp=N,5.8nm,0.1s,slow=24,SNR=19					
ELOB	**Lobios**	**5.61**	**12**	S	**Sn**	**08 03 03.1 -3.6**
	comp=N,34nm,0.3s,SNR=7.9					
ELOB	**Lobios**	**5.61**	**12**	S	**Sn**	**08 03 03.1 -3.6**
	comp=N,34nm,0.3s,SNR=7.9					
PGAV	**Gavieira, Arco**	**5.67**	**11**	*e*Pn	**Pn**	**08 02 04.5 +1.4**
PGAV				*e*Sn	**Sn**	**08 03 05.1 -3.1**
PGAV				A	A	08 03 08.6
	comp=N,24nm,0.4s					
PGAV	**Gavieira, Arco**	**5.67**	**11**	*e*Pn	**Pn**	**08 02 04.5 +1.4**
PGAV				*e*Sn	**Sn**	**08 03 05.1 -3.1**
	comp=N,24nm,0.4s					
EZAM	**Zamans**	**5.79**	**7**	P	**Pn**	**08 02 06.4 +1.6**
	comp=N,6.2nm,0.2s,SNR=7.9					
EZAM				S	**Sn**	**08 03 08.0 -3.3**
	comp=N,12nm,0.2s,SNR=7.9					
EZAM	**Zamans**	**5.79**	**7**	P	**Pn**	**08 02 06.4 +1.6**
	comp=N,6.2nm,0.2s,SNR=7.9					
EHUE	**Huescar**	**5.83**	**74**	⇓P	**Pn**	**08 02 06.3 +0.9**
	comp=N,3.7nm,0.2s,SNR=18					
EHUE				S	**Sn**	**08 03 09.4 -3.0**
	comp=N,7.5nm,0.2s,SNR=7.9					
EHUE	**Huescar**	**5.83**	**74**	P	**Pn**	**08 02 06.3 +0.9**
	comp=N,3.7nm,0.2s,SNR=18					
EHUE				S	**Sn**	**08 03 09.4 -3.0**
	comp=N,7.5nm,0.2s,SNR=7.9					
PBRG	**Braganca**	**5.86**	**22**	*e*Pn	**Pn**	**08 02 07.0 +1.3**
PBRG				*e*Sn	**Sn**	**08 03 10.1 -2.9**
PBRG				A	A	08 03 12.1
	comp=N,23nm,0.5s					
PBRG	**Braganca**	**5.86**	**22**	P	**Pn**	**08 02 07.0 +1.3**
PBRG				S	**Sn**	**08 03 10.1 -2.9**
	comp=N,11nm,0.5s					
PBRG	**Braganca**	**5.86**	**22**	P	**Pn**	**08 02 07.0 +1.3**
PBRG				S	**Sn**	**08 03 10.1 -2.9**
	comp=N,11nm,0.5s					
ECAL	**Calabor**	**5.99**	**22**	P	**Pn**	**08 02 08.6 +1.1**
	comp=N,10nm,0.2s,SNR=11					
ECAL				S	**Sn**	**08 03 13.9 -2.3**
	comp=N,27nm,0.3s,SNR=6.0					
ECAL	**Calabor**	**5.99**	**22**	P	**Pn**	**08 02 08.6 +1.1**
	comp=N,10nm,0.2s,SNR=11					
ECAL				S	**Sn**	**08 03 13.9 -2.3**
	comp=N,27nm,0.3s,SNR=6.0					
GUD	**Guadarrama**	**6.06**	**44**	P	**Pn**	**08 02 09.4 +0.9**
	comp=N,22nm,0.2s,SNR=55					
GUD				S	**Sn**	**08 03 16.1 -1.9**
	comp=N,4.6nm,0.3s					
GUD	**Guadarrama**	**6.06**	**44**	P	**Pn**	**08 02 09.4 +0.9**
	comp=N,22nm,0.2s,SNR=55					
GUD				S	**Sn**	**08 03 16.1 -1.9**
	comp=N,4.6nm,0.3s					
EVIA	**Vianos**	**6.12**	**66**	P	**Pn**	**08 02 09.8 +0.4**
	comp=N,4.6nm,0.1s,SNR=24					
EVIA				S	**Sn**	**08 03 16.5 -3.1**
	comp=N,15nm,0.2s,SNR=7.9					
EVIA	**Vianos**	**6.12**	**66**	P	**Pn**	**08 02 09.8 +0.4**
	comp=N,4.6nm,0.1s,SNR=24					
EVIA				S	**Sn**	**08 03 16.5 -3.1**
	comp=N,15nm,0.2s,SNR=7.9					
ZFT	**Errachidia**	**6.19**	**133**	P	**Pn**	**08 02 11.0 +0.6**
ZFT				S	Sn	08 03 13.0 -8.4
ERUA	**La Rua**	**6.30**	**17**	P	**Pn**	**08 02 12.9 +1.2**
	comp=N,6.7nm,0.1s,SNR=7.9					
ERUA				S	**Sn**	**08 03 21.6 -2.1**
	comp=N,6.9nm,0.1s,SNR=7.9					
ERUA	**La Rua**	**6.30**	**17**	P	**Pn**	**08 02 12.9 +1.2**
	comp=N,6.7nm,0.1s,SNR=7.9					
ERUA				S	**Sn**	**08 03 21.6 -2.1**
	comp=N,6.9nm,0.1s,SNR=7.9					
EMAZ	**Mazaricos**	**6.57**	**4**	P	**Pn**	**08 02 15.9 +0.6**
	comp=N,3.4nm,0.1s,SNR=5.7					
EMAZ				S	Sn	08 03 24.2 -6.1
	comp=N,15nm,0.3s,SNR=5.9					
EMAZ	**Mazaricos**	**6.57**	**4**	P	**Pn**	**08 02 15.9 +0.6**
	comp=N,3.4nm,0.1s,SNR=5.7					
ETOB	**Tobarra**	**6.84**	**68**	P	**Pn**	**08 02 19.8 +0.6**
	comp=N,8.5nm,0.2s,SNR=7.9					
ETOB				S	**Sn**	**08 03 33.3 -3.8**
	comp=N,6.4nm,0.2s,SNR=7.9					
ETOB	**Tobarra**	**6.84**	**68**	P	**Pn**	**08 02 19.8 +0.6**
	comp=N,8.5nm,0.2s,SNR=7.9					
ETOB				S	**Sn**	**08 03 33.3 -3.8**
	comp=N,6.4nm,0.2s,SNR=7.9					
EMUR	**La Murta**	**6.89**	**75**	P	**Pn**	**08 02 20.5 +0.6**
	comp=N,6.4nm,0.4s,SNR=7.9					
EMUR				S	**Sn**	**08 03 35.0 -3.4**
	comp=N,26nm,0.5s,SNR=7.9					
EMUR	**La Murta**	**6.89**	**75**	P	**Pn**	**08 02 20.5 +0.6**
	comp=N,6.4nm,0.4s,SNR=7.9					
EMUR				S	**Sn**	**08 03 35.0 -3.4**
	comp=N,26nm,0.5s,SNR=7.9					
PMOZ	**Porto Moniz, M**	**7.15**	**242**	*e*Pn	**Pn**	**08 02 24.5 +1.0**
EPON	**Pontenova**	**7.19**	**15**	P	**Pn**	**08 02 25.6 +1.7**
	comp=N,2.7nm,0.3s,SNR=7.9					
EPON				S	**Sn**	**08 03 41.6 -4.0**
	comp=N,4.5nm,0.2s,SNR=4.6					
EPON	**Pontenova**	**7.19**	**15**	P	**Pn**	**08 02 25.6 +1.7**
	comp=N,2.7nm,0.3s,SNR=7.9					
EPON				S	**Sn**	**08 03 41.6 -4.0**
	comp=N,4.5nm,0.2s,SNR=4.6					
ETOR	**Torete**	**7.42**	**51**	P	**Pn**	**08 02 28.6 +1.5**
	comp=N,7.8nm,0.5s,SNR=48					
ETOR				S	**Sn**	**08 03 48.4 -3.1**
	comp=N,6.8nm,0.2s					
ETOR	**Torete**	**7.42**	**51**	P	**Pn**	**08 02 28.6 +1.5**
	comp=N,7.8nm,0.5s,SNR=48					
ETOR				S	**Sn**	**08 03 48.4 -3.1**
	comp=N,6.8nm,0.2s					
ECHE	**Chera**	**7.58**	**63**	P	**Pn**	**08 02 31.2 +1.9**
	comp=N,6.2nm,0.3s,SNR=8.6					
ECHE	**Chera**	**7.58**	**63**	P	**Pn**	**08 02 31.2 +1.9**
	comp=N,6.2nm,0.3s,SNR=8.6					
EARI	**Arriondas**	**7.70**	**25**	P	**Pn**	**08 02 33.8 +2.8**
	comp=N,1.3nm,0.2s,SNR=9.9					
EARI				S	**Sn**	**08 03 55.7 -2.6**
	comp=N,1.3nm,0.2s					
EARI	**Arriondas**	**7.70**	**25**	P	**Pn**	**08 02 33.8 +2.8**
	comp=N,1.3nm,0.2s,SNR=9.9					
EARI				S	**Sn**	**08 03 55.7 -2.6**
	comp=N,1.3nm,0.2s					
EFAM	**Famara**	**7.94**	**205**	P	Pn	08 02 27.6 -6.6
	comp=N,2.1nm,0.1s,SNR=4.0					
EFAM				S	Sn	08 03 53.4 -11
	comp=N,5.1nm,0.2s,SNR=7.9					
EMOS	**Mosqueruela**	**8.24**	**58**	P	**Pn**	**08 02 41.3 +2.8**
	comp=N,8.5nm,0.4s,SNR=16					
EMOS				S	**Sn**	**08 04 08.2 -3.5**
	comp=N,2.8nm,0.2s					
EMOS	**Mosqueruela**	**8.24**	**58**	P	**Pn**	**08 02 41.3 +2.8**
	comp=N,8.5nm,0.4s,SNR=16					
EMOS				S	**Sn**	**08 04 08.2 -3.5**
	comp=N,2.8nm,0.2s					
IUNC	**Unciti**	**8.95**	**42**	P	**Pn**	**08 02 50.7 +2.6**
	comp=N,2.8nm,0.1s,SNR=7.9					
IUNC	**Unciti**	**8.95**	**42**	P	**Pn**	**08 02 50.7 +2.6**
	comp=N,2.8nm,0.1s,SNR=7.9					
IZUN	**Zunzarren**	**9.04**	**42**	P	**Pn**	**08 02 51.7 +2.3**
	comp=N,4.0nm,0.2s,SNR=7.9					
IZUN	**Zunzarren**	**9.04**	**42**	P	**Pn**	**08 02 51.7 +2.3**
	comp=N,4.0nm,0.2s,SNR=7.9					
IEPA	**Eparoz**	**9.09**	**43**	P	Pn	08 02 53.4 +3.3
	comp=N,2.5nm,0.2s,SNR=7.9					
EORO	**Oroz-Betelu**	**9.15**	**42**	P	**Pn**	**08 02 53.0 +2.2**
	comp=N,2.8nm,0.1s,SNR=8.0					
EORO	**Oroz-Betelu**	**9.15**	**42**	P	**Pn**	**08 02 53.0 +2.2**
	comp=N,2.8nm,0.1s,SNR=8.0					
IELO	**Elcoad**	**9.15**	**43**	P	**Pn**	**08 02 53.3 +2.4**
	comp=N,6.0nm,0.2s,SNR=7.9					
IELO				S	**Sn**	**08 04 30.7 -3.2**
	comp=N,1.7nm,0.2s,SNR=7.9					
IELO	**Elcoad**	**9.15**	**43**

CAIG	**El Cayaco**	**1.84**	**304**	*i* P	Pn	08 38 00.7	-2.8
CAIG				*i* S	Sn	08 38 22.1	-4.7
UTMO	**Huajuapan**	**1.98**	**25**	*i* P	Pn	08 38 01.6	-4.1
UTMO				*i* S	Sn	08 38 26.7	-3.9
MEIG	**Mezcala**	**2.10**	**334**	*i* P	Pn	08 38 03.5	-3.7
MEIG				*i* S	Sn	08 38 28.4	-5.0
VHO	**Vista Hermosa**	**2.13**	**60**	*i* P	Pn	08 38 05.2	-2.6
VHO				*i* S	Sn	08 38 29.9	-4.4
HUIG	**Huatulco**	**2.48**	**96**	*i* P	Pn	08 38 08.1	-4.2
HUIG				*i* S	Sn	08 38 38.7	-3.8
PLIG	**Platanillo**	**2.49**	**341**	*e*P	Pn	08 38 09.9	-2.7
PLIG				*i* S	Sn	08 38 38.0	-4.9
YAIG	**Yautepec**	**2.85**	**352**	*i* P	Pn	08 38 14.6	-3.1
YAIG				*i* S	Sn	08 38 48.6	-3.4

IDC 10 08:40:31.5±51.0, 16°72'S×177°20'W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.8/3, Error ellipse: s-maj=952.2km s-min=174.5km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.22**	**240**	P	P	08 48 10.4	+0.4
	2.9nm,1.0s,baz=124,slow=7.3,SNR=3.0						
WRA	**Warramunga Arr**	**46.00**	**258**	P	P	08 48 56.8	-0.2
	0.1nm,0.4s,baz=94,slow=7.7,SNR=2.4						
ASAR	**Alice Springs**	**46.23**	**253**	P	P	08 48 58.4	-0.5
	1.5nm,0.6s,baz=88,slow=8.2,SNR=26						

IDC 10 09:10:17.9±23.0, 21°27'N×145°96'E, h177km±223km, mb3.1/6, mb1 3.3/6, mb1mx3.1/23, mbtmp3.1/6, Error ellipse: s-maj=41.7km s-min=29.5km az=114.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.51**	**196**	P	P	09 17 55.8	-0.2
	0.7nm,0.7s,baz=17,slow=8.8,SNR=4.3						
ASAR	**Alice Springs**	**46.19**	**195**	P	P	09 18 25.1	-0.1
	0.5nm,0.7s,baz=11,slow=8.2,SNR=5.2						
MKAR	**Makanchi Array**	**56.89**	**313**	P	P	09 19 44.2	-0.1
	0.3nm,0.6s,baz=91,slow=8.1,SNR=3.6						
ILAR	**Eielson Array**	**61.24**	**27**	P	P	09 20 13.9	0.0
	0.3nm,0.8s,baz=248,slow=4.8,SNR=3.4						
YKA	**Yellowknife Ar**	**75.61**	**28**	P	P	09 21 42.9	0.0
	0.2nm,0.8s,baz=290,slow=5.3,SNR=3.9						
FINES	**FINESS Array B**	**84.66**	**335**	P	P	09 22 31.4	0.0
	2.2nm,1.0s,baz=76,slow=5.9,SNR=7.2						

IDC 10 09:15:49.7±1.7, 23°59S×179°86W, h554km±15km, mb3.3/16, mb1 3.5/17, mb1mx3.5/19, mbtmp3.3/17, Error ellipse: s-maj=31.6km s-min=11.3km az=156.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.72**	**274**	P	P	09 18 35.9	+0.1
	0.5nm,0.3s,baz=69,slow=18,SNR=14						
CTA	**Charters Tower**	**31.60**	**270**	P	P	09 21 28.7	+0.9
	3.3nm,0.3s,baz=101,slow=11,SNR=12						
PMG	**Port Moresby**	**34.52**	**289**	P	P	09 21 52.7	+0.3
	3.3nm,0.3s,baz=60,slow=2.3,SNR=2.6						
STKA	**Stephens Creek**	**34.96**	**248**	P	P	09 21 56.2	+0.3
	2.1nm,0.6s,baz=80,slow=10,SNR=5.9						
ASAR	**Alice Springs**	**42.21**	**260**	P	P	09 22 54.9	+0.1
	0.7nm,0.7s,baz=88,slow=5.5,SNR=9.5						
ASAR				PcP	pP	09 24 33.1	+0.1
	0.4nm,0.5s,baz=98,slow=5.5,SNR=4.8						
ASAR				S	S	09 28 35.1	-0.4
	0.8nm,0.7s,baz=96,slow=14,SNR=9.8						
WRA	**Warramunga Arr**	**42.56**	**266**	P	P	09 22 57.0	-0.4
	1.3nm,0.5s,baz=97,slow=8.5,SNR=27						
WRA				S	S	09 28 38.6	-1.9
	0.7nm,0.8s,baz=93,slow=13,SNR=4.9						
FITZ	**Fitzroy Crossi**	**50.98**	**265**	P	P	09 24 02.0	+1.0
	2.0nm,0.7s,baz=26,slow=22,SNR=3.1						
MJAR	**Matsushiro Arr**	**71.72**	**325**	P	P	09 26 15.6	-0.5
	2.1nm,0.8s,baz=166,slow=6.2,SNR=6.4						
KSRS	**Korea Array**	**78.09**	**320**	P	P	09 26 52.5	+0.9
	1.4nm,0.7s,baz=136,slow=5.0,SNR=5.8						
PETK	**Petropavlovsk-**	**78.83**	**346**	P	P	09 26 54.7	-0.5
	3.8nm,0.6s,baz=133,slow=6.7,SNR=7.7						
USRK	**Ussuriysk Arra**	**80.57**	**327**	P	P	09 27 05.0	+0.4
	2.3nm,0.7s,baz=123,slow=3.3,SNR=5.5						
NVAR	**Mina Array Bea**	**84.44**	**44**	P	P	09 27 24.3	-0.3
	0.6nm,0.8s,baz=224,slow=11,SNR=2.7						
CMAR	**Chiang Mai Arr**	**89.54**	**290**	P	P	09 27 48.5	-0.3
	1.9nm,0.3s,baz=126,slow=3.7,SNR=7.3						
TXAR	**Lajitas Array**	**90.16**	**58**	P	P	09 27 52.0	+0.5
	0.5nm,0.7s,baz=212,slow=6.4,SNR=5.7						
ILAR	**Eielson Array**	**91.70**	**13**	P	P	09 27 55.8	-1.9
	0.4nm,0.7s,baz=226,slow=6.1,SNR=7.7						
PDAR	**Pinedale Array**	**92.38**	**44**	P	P	09 28 01.5	-0.1
	0.4nm,0.7s,baz=202,slow=4.5,SNR=2.9						
SONM	**Songino Array**	**96.95**	**319**	P	P	09 28 21.9	-0.3
	0.1nm,0.4s,baz=90,slow=4.3,SNR=3.0						
MKAR	**Makanchi Array**	**112.04**	**313**	PKiKP	PKiKP	09 33 21.1	-1.1
	0.4nm,0.6s,baz=220,slow=1.1,SNR=7.0						
ARCES	**ARCESS Array B**	**131.61**	**348**	PKP	PKPdf	09 33 58.8	-0.2
	12nm,1.1s,baz=64,slow=2.8,SNR=6.5						
FINES	**FINESS Array B**	**138.19**	**342**	PKhKP	PKPpre	09 34 03.6	
	0.8nm,0.5s,baz=24,slow=3.8,SNR=3.6						
FINES				PKP	PKPdf	09 34 12.0	+0.6
	0.8nm,0.4s,baz=318,slow=39,SNR=5.4						
FINES				SKPbc	SKPbc	09 36 54.8	+0.9
	1.1nm,0.7s,baz=183,slow=7.6,SNR=3.4						
NOA	**NORSAR Array B**	**141.80**	**351**	PKhKP	PKPpre	09 34 13.2	
	1.3nm,0.7s,baz=16,slow=4.7,SNR=5.0						
AKASG	**Malin Array Be**	**144.78**	**328**	PKP	PKPdf	09 34 22.9	-0.5
	3.1nm,0.5s,baz=42,slow=4.2,SNR=16						
AKASG				SKPbc	SKiKP	09 37 11.9	+0.6
	1.2nm,0.6s,baz=44,slow=1.5,SNR=4.1						
BRTR	**Keskin Array B**	**147.49**	**308**	PKPbc	PKPbc	09 34 31.6	-0.5
	1.2nm,0.7s,baz=152,slow=5.4,SNR=6.4						
BRTR				PKPab	PKPab	09 34 36.0	-0.2
	2.6nm,0.7s,baz=88,slow=4.1,SNR=11						
GERES	**GERESS Array B**	**152.61**	**340**	PKPbc	PKPbc	09 34 43.0	-0.8
	0.4nm,0.6s,baz=2.9,slow=5.3,SNR=4.3						
GERES				PKPab	PKPab	09 34 56.8	-0.3
	0.5nm,0.6s,baz=169,slow=38,SNR=2.5						

NNC 10 09:34:21.0±3.6, 54°15N×86°83E, h25km±25km, mb3.5, mpv3.2, 3C-5D, Error ellipse: s-maj=26.5km s-min=17.2km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**6.09**	**239**	↑Pn	Pn	09 35 49.1	-0.2
	2.7nm,0.8s						
KURK				↓Sn	Sn	09 36 59.7	+1.6
	1.3nm,0.8s						
KURK				↓Lg	Lg	09 37 33.8	
	7.3nm,1.2s						
MK31	**Makanchi Array**	**7.91**	**203**	↑Pn	Pn	09 36 14.0	-0.4
	0.5nm,0.5s,baz=29,slow=12,SNR=20						
MK31				↓Sn	Sn	09 37 43.6	+0.4
	0.7nm,0.6s,baz=28,slow=27,SNR=4.7						
MK31				↑Lg	Lg	09 38 31.3	
	3.0nm,0.8s,baz=29,slow=31,SNR=4.2						
VOSK	**Vostochnaya**	**9.57**	**268**	↓Pn	Pn	09 36 37.2	+0.2
	1.5nm,0.4s						
BVA0	**Borovoye Array**	**9.84**	**270**	Pn	Pn	09 36 41.5	+0.7
	0.2nm,0.7s,baz=72,slow=13,SNR=3.6						
BVA0				↓Sn	Sn	09 38 28.9	-1.5
	1.1nm,1.4s,baz=75,slow=25,SNR=4.9						

PRE 10 10:05:41.7±0.7, 26°20S×28°49E, h2km, ML1.8, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**1.24**	**234**	*e*P	Pg	10 06 05.6	-0.2
PRYS				*e*S	Sb	10 06 22.9	+0.1
PRYS				AML	AML	10 06 34.1	
	comp=Z,9.2nm,0.7s						
LBTB	**Lobatse**	**2.86**	**294**	*e*P	Pn	10 06 28.8	+0.2
LBTB				*e*S	Sn	10 07 04.2	+0.5
LBTB				AML	AML	10 07 16.2	
	comp=Z,4.2nm,0.3s						
BOSA	**Boshof**	**3.75**	**229**	*e*P	Pn	10 06 41.9	+1.2
BOSA				*e*S	Sn	10 07 24.8	-0.8
BOSA				AML	AML	10 07 48.4	
	comp=Z,2.0nm,0.3s						

*ISCJB **10** 10:17:34.6±0.5, 39°.93N±0°.02×39°.26E±0°.03, h3km±5km, Error ellipse: s-maj=4.2km s-min=3.9km az=24.9*
*ISK **10** 10:17:34.3, 39°.95N×39°.28E, h6km, ML3.2*
*DDA **10** 10:17:34.8, 39°.96N×39°.22E, h18km, MD3.4*
*CSEM **10** 10:17:34.8±0.1, 39°.95N×39°.26E, h2km, MD3.4, Error ellipse: s-maj=3.8km s-min=3.2km az=129.0*

ISC 10 10:17:35.3±0.9, 39°94N±0°.02×39°26E±0°.02, h11km±8km, n60, σ0°86/69, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZC	**Erzincan**	**0.20**	**160**	PG	Pg	10 17 39.2	-0.5
EZC	**Erzincan**	**0.20**	**160**	*i* Pg	Pg	10 17 39.2	-0.5
KELT	**Kelkit**	**0.21**	**359**	*i* P	Pg	10 17 40.0	+0.1
KELT				*i* S	Sg	10 17 43.1	+0.1
KELT	**Kelkit**	**0.21**	**359**	*i* P	Pg	10 17 40.0	+0.1
KELT				*i* S	Sg	10 17 43.1	+0.1
ERZN	**Erzincan**	**0.50**	**135**	PG	Pg	10 17 44.1	-1.0
ERZN				*e*SG	Sg	10 17 51.8	0.0
GUMT	**Gumushane**	**0.54**	**18**	*e*PG	Pg	10 17 45.7	-0.3
GUMT	**Gumushane**	**0.54**	**18**	*e*Pg	Pg	10 17 45.7	-0.3
BAYT	**Ayd¨–ntepe-Bay**	**0.81**	**56**	*e*PG	Pg	10 17 50.3	-0.7
BAYT				*e*SG	Sg	10 18 01.2	-0.5
BAYT	**Ayd¨–ntepe-Bay**	**0.81**	**56**	*e*Pg	Pg	10 17 50.3	-0.7
BAYT				*e*Sg	Sg	10 18 01.2	-0.5
SUSE	**Susehri**	**0.85**	**289**	*i* P	Pg	10 17 51.5	-0.3
SUSE				*i* S	Sb	10 18 04.5	+0.7
SUSE	**Susehri**	**0.85**	**289**	*i* P	Pg	10 17 51.5	-0.3
SUSE				*i* S	Sb	10 18 04.5	+0.7
KEMA	**Kemaliye**	**0.90**	**222**	*i* P	Pg	10 17 51.5	-1.1
KEMA	**Kemaliye**	**0.90**	**222**	*i* P	Pg	10 17 51.5	-1.1
KOPT	**Kop Dagi**	**0.95**	**85**	*i* P	Pg	10 17 53.4	-0.3
KOPT	**Kop Dagi**	**0.95**	**85**	*i* P	Pg	10 17 53.4	-0.3
PTK	**Pertek**	**1.05**	**174**	*e*PG	Pg	10 17 54.8	-0.8
PTK	**Pertek**	**1.05**	**174**	*e*Pg	Pg	10 17 54.8	-0.8
ESPY	**Espiye-Giresun**	**1.06**	**337**	*e*PG	Pg	10 17 54.6	-1.1
ESPY	**Espiye-Giresun**	**1.06**	**337**	*e*Pg	Pg	10 17 54.6	-1.1
MACK	**Trabzon**	**1.07**	**21**	*i* P	Pg	10 17 55.3	-0.7
MACK				*i* S	Sb	10 18 11.0	+1.1
MACK	**Trabzon**	**1.07**	**21**	*i* P	Pg	10 17 55.3	-0.7
MACK				*i* S	Sb	10 18 11.0	+1.1
KTUT	**Trabzon**	**1.11**	**20**	*e*PN	Pg	10 17 55.6	-1.1
KTUT	**Trabzon**	**1.11**	**20**	*e*Pn	Pg	10 17 55.6	-1.1
GRSN	**GIRESUNGRSN**	**1.24**	**323**	*i* P	Pg	10 17 56.8	-2.3
GRSN	**GIRESUNGRSN**	**1.24**	**323**	*i* P	Pg	10 17 56.8	-2.3
BINT	**Bingol**	**1.43**	**138**	*e*Pn	Pn	10 18 01.7	+0.5
BNGB	**Bing¨ll**	**1.45**	**130**	*e*PN	Pn	10 18 01.7	+0.1
DARE	**Darende-Malaty**	**1.50**	**229**	*e*PN	Pg	10 18 08.9	+4.8
RSDY	**Resadiye-TOKAT**	**1.55**	**288**	*e*PN	Pn	10 18 03.3	+0.4
RSDY	**Resadiye-TOKAT**	**1.55**	**288**	*e*Pn	Pn	10 18 03.3	+0.4
SVRC	**Sivrice-ELAZID**	**1.56**	**179**	*e*PN	Pn	10 18 03.3	+0.2
SVRC	**Sivrice-ELAZID**	**1.56**	**179**	*e*Pn	Pn	10 18 03.3	+0.2
EZM	**Erzurum**	**1.62**	**91**	*e*PN	Pn	10 18 04.3	+0.3
MYA	**Malataya**	**1.74**	**202**	*e*PN	Pn	10 18 06.2	+0.7
MYA	**Malataya**	**1.74**	**202**	*e*Pn	Pn	10 18 06.2	+0.7
MALT	**Malatya**	**1.75**	**202**	*e*PN	Pn	10 18 06.9	+1.2
MALT	**Malatya**	**1.75**	**202**	*e*Pn	Pn	10 18 06.9	+1.2
PZAR	**Pazar-Rize**	**1.75**	**45**	*e*PN	Pn	10 18 05.7	+0.1
PZAR	**Pazar-Rize**	**1.75**	**45**	*e*Pn	Pn	10 18 05.7	+0.1
VRTB	**Varto-Mus**	**1.87**	**114**	*e*PN	Pn	10 18 07.5	+0.2
VRTB	**Varto-Mus**	**1.87**	**114**	*e*Pn	Pn	10 18 07.5	+0.2
AKCD	**Akcadag**	**1.95**	**213**	*e*P	Pn	10 18 09.1	+0.7
AKCD				*i* S	Sg	10 18 37.7	-0.1
AKCD	**Akcadag**	**1.95**	**213**	*e*Pn	Pn	10 18 09.1	+0.7
TOKT	**Tokat**	**2.12**	**281**	*e*PN	Pn	10 18 11.1	+0.4
TOKT	**Tokat**	**2.12**	**281**	*e*Pn	Pn	10 18 11.1	+0.4
DDEM	**Demirkent**	**2.12**	**63**	*e*P	Pb	10 18 13.4	-0.5
DDEM	**Demirkent**	**2.12**	**63**	*e*P	Pb	10 18 13.4	-0.5
DAGI	**Agillar**	**2.32**	**60**	*e*P	Pn	10 18 15.2	+1.7
BCA	**Borcka**	**2.34**	**49**	*e*PN	Pn	10 18 14.0	+0.3
BCA	**Borcka**	**2.34**	**49**	*e*Pn	Pn	10 18 14.0	+0.3
BNN	**Bunyan**	**2.86**	**249**	*e*PN	Pn	10 18 21.7	+0.7
BNN	**Bunyan**	**2.86**	**249**	*e*Pn	Pn	10 18 21.7	+0.7
AGRB	**Hanur-Agry**	**2.90**	**96**	*e*PN	Pn	10 18 22.2	+0.7
AGRB	**Hanur-Agry**	**2.90**	**96**	*e*Pn	Pn	10 18 22.2	+0.7
YOZ	**Yozgat**	**3.05**	**266**	*e*PN	Pn	10 18 24.6	+1.0
YOZ	**Yozgat**	**3.05**	**266**	*e*Pn	Pn	10 18 24.6	+1.0
KMRS	**Kahramanmaras**	**3.05**	**218**	*e*PN	Pn	10 18 24.5	+1.0
KMRS	**Kahramanmaras**	**3.05**	**218**	*e*Pn	Pn	10 18 24.5	+1.0
KOZT	**Kozan**	**3.64**	**229**	*e*PN	Pn	10 18 33.1	+1.5
KOZT	**Kozan**	**3.64**	**229**	*e*Pn	Pn	10 18 33.1	+1.5

*ISCJB **10** 10:23:06.9±1.6, 15°.04S±0°.07×167°.6E±0°.2, h129km, mb3.8/5, Error ellipse: s-maj=25.7km s-min=7.1km az=163.4*
*IDC **10** 10:23:10.1±3.2, 15°.11S×167°.46E, h148km±24km, mb3.5/6, mb1 3.8/8, mb1mx3.6/20, mbtmp3.7/8, Error ellipse: s-maj=32.9km s-min=17.5km az=74.0*

ISC 10 10:23:07.6±1.4, 15°02S±0°.08×167°7E±0°.2, h129km, n12, σ1°21/15, mb3.6/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.11**	**189**	*e*P	Pn	10 24 49.7	+0.6
DZM				*e*S	Sn	10 26 08.3	-0.2
DZM	**Mont Dzumac**	**7.11**	**189**	P	Pn	10 24 50.1	+1.0
	7.7nm,0.3s,baz=45,slow=21,SNR=71						
DZM				S	Sn	10 26 08.8	+0.3
	8.3nm,0.3s,baz=319,slow=23,SNR=10.0						
NOUC	**Port Laguerre**	**7.16**	**190**	*e*S	Sn	10 26 10.2	+0.5
HNR	**Honiara**	**9.36**	**306**	P	Pn	10 25 20.5	+1.2
	6.7nm,0.3s,baz=195,slow=12,SNR=2.7						
HNR				S	Sn	10 27 02.9	0.0
	6.2nm,0.3s,baz=3.6,slow=21,SNR=2.4						
CTA	**Charters Tower**	**21.01**	**253**	P	P	10 27 42.1	+1.0
	1.5nm,0.5s,baz=63,slow=11,SNR=2.5						
STKA	**Stephens Creek**	**29.09**	**230**	P	P	10 28 55.9	-0.2
	8.2nm,0.7s,baz=23,slow=6.5,SNR=13						
WRA	**Warramunga Arr**	**32.11**	**256**	P	P	10 29 20.4	-2.5
	0.6nm,0.6s,baz=84,slow=8.6,SNR=6.9						
ASAR	**Alice Springs**	**32.92**	**250**	P	P	10 29 27.7	-2.2
	2.2nm,0.6s,baz=78,slow=9.0,SNR=32						
CMAR	**Chiang Mai Arr**	**75.40**	**294**	P	P	10 34 38.4	+0.7
	0.7nm,0.5s,baz=116,slow=3.6,SNR=4.3						
SONM	**Songino Array**	**82.95**	**323**	P	P	10 35 18.8	+0.5
	0.3nm,0.7s,baz=140,slow=6.8,SNR=2.7						
ARCES	**ARCESS Array B**	**120.62**	**345**	PKP	PKPdf	10 41 42.9	-0.6
	4.7nm,1.1s,baz=70,slow=2.4,SNR=7.6						
NOA	**NORSAR Array B**	**131.00**	**345**	SKPbc	SKPbc	10 45 15.2	-1.2
	1.6nm,0.9s,baz=275,slow=5.4,SNR=4.2						

PRE 10 10:34:57.6±0.3, 26°28S×28°45E, h2km, ML1.5, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**1.17**	**236**	*e*P	Pg	10 35 20.2	-0.1
PRYS				*e*S	Sb	10 35 36.5	-0.2
PRYS				AML	AML	10 35 45.4	
	comp=Z,8.2nm,0.3s						
LBTB	**Lobatse**	**2.87**	**295**	*e*P	Pn	10 35 45.2	+0.7
LBTB				*e*S	Sn	10 36 20.0	+0.2
LBTB				AML	AML	10 36 34.9	
	comp=Z,1.7nm,0.3s						
BOSA	**Boshof**	**3.67**	**230**	*e*P	Pn	10 35 56.4	+0.7
BOSA				*e*S	Sn	10 36 39.2	-0.5
BOSA				AML	AML	10 37 04.3	
	comp=Z,1.1nm,0.6s						

*MOS **10** 10:37:00.6±2.1, 49°.92N×157°.55E, h10km, mb4.2/1, Error ellipse: s-maj=59.8km s-min=20.3km az=84.3*
*KRSC **10** 10:37:00.6±1.5, 49°.92N×157°.55E, h10km±10km, ML4.0*

ISC 10 10:37:01.9±3.1, 50°1N±0°.2×157°2E±0°.1, h10km, n14, σ1°77/23, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.89**	**311**	*e*PN	**Pg**	**10 37 18.9**	**-0.1**
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
ASAK	**Asacha**	**2.33**	**11**	*e*P	**Pb**	**10 37 41.7**	**-2.3**
ASAK				*i* S	**Sb**	**10 38 11.7**	**-1.1**
MTVR	**Mutnovka**	**2.46**	**15**	*e*P	**Pb**	**10 37 43.8**	**-2.6**
MTVR				*i* S	**Sb**	**10 38 15.0**	**-1.8**
RUS	**Russkaya**	**2.48**	**19**	PN	**Pn**	**10 37 43.3**	**+1.0**
RUS				S	**Sn**	**10 38 14.3**	**+1.7**
RUS	**Russkaya**	**2.48**	**19**	*i* P	**Pn**	**10 37 43.3**	**+1.0**
RUS				*i* S	**Sn**	**10 38 14.3**	**+1.7**
PET	**Petropavlovsk**	**3.07**	**17**	PN	**Pn**	**10 37 52.0**	**+1.6**
PET				S	**Sn**	**10 38 29.9**	**+2.8**
PET	**Petropavlovsk**	**3.07**	**17**	P	**Pn**	**10 37 52.0**	**+1.6**
PET				*i* S	**Sn**	**10 38 29.9**	**+2.8**
UGLR	**Uglovaya**	**3.27**	**18**	*i* P	**Pn**	**10 37 55.3**	**+1.9**
SMAR	**Somma**	**3.32**	**17**	P	**Pn**	**10 37 56.1**	**+2.0**
SDLR	**Sedlovina**	**3.35**	**18**	*i* P	**Pn**	**10 37 55.9**	**+1.5**
SDLR				*e*S	**Sn**	**10 38 36.0**	**+1.7**
SPN	**Mys Shipunski**	**3.49**	**30**	PN	**Pn**	**10 37 57.1**	**+1.0**
SPN				S	**Sn**	**10 38 38.5**	**+1.1**
SPN	**Mys Shipunski**	**3.49**	**30**	P	**Pn**	**10 37 57.1**	**+1.0**
SPN				*i* S	**Sn**	**10 38 38.5**	**+1.1**
KBTR	**Krutoberegovo**	**6.99**	**27**	PN	**Pn**	**10 38 44.7**	**+0.4**
KBTR	**Krutoberegovo**	**6.99**	**27**	P	**Pn**	**10 38 44.7**	**+0.4**

*IDC **10** 10:41:30.2±1.0, 25°.83N×140°.80E, h184km±8km, mb3.7/18, mb1 3.9/20, mb1mx3.8/27, mbtmp3.7/20, Error ellipse: s-maj=14.2km s-min=12.4km az=61.0*
*ISCJB **10** 10:41:31.1±0.4, 26°.01N±0°.04×140°.83E±0°.08, h200km, mb4.0/26, Error ellipse: s-maj=9.6km s-min=5.3km az=174.3*
*MOS **10** 10:41:31.7±0.8, 25°.87N×140°.63E, h213km, mb4.2/17, Error ellipse: s-maj=20.4km s-min=8.6km az=100.4*
*BJI **10** 10:41:31.2, 25°.80N×140°.70E, h190km, mB4.7/3, mb4.5/5*
*JMA **10** 10:41:32.6±0.2, 25°.94N×140°.20E, h57km, M4.9*

ISC 10 10:41:30.8±0.6, 25°88N±0°.05×140°74E±0°.06, h200km, n56, σ2°11/71, mb4.1/25, 5C, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**1.49**	**60**	P	Pn	10 42 03.2	-1.2
JHHJ				*e*S	Sn	10 42 26.3	-4.2
CBIJ	**Chichi jima**	**1.77**	**46**	P	Pn	10 42 06.4	-0.6
CBIJ				*e*S	Sn	10 42 31.2	-4.1
CBIJ	**Chichi jima**	**1.77**	**46**	P	Pn	10 42 06.7	-0.4
	457nm,0.3s,baz=183,slow=1.5,SNR=69						
CBIJ				S	Sn	10 42 32.1	-3.2
	356nm,0.3s,baz=332,slow=23,SNR=31						
JHJ2	**Mitsune**	**7.25**	**354**	P	Pn	10 43 16.0	+1.7
JHJ2				*e*S	Sn	10 44 33.1	-3.4
BSO1	**Boso 1**	**8.75**	**1**	P	Pn	10 43 33.2	0.0
BSO1				*e*S	Sn	10 45 05.5	-5.6
BSO3	**Boso 3**	**8.90**	**359**	P	Pn	10 43 35.0	-0.4
BSO3				*e*S	Sn	10 45 11.1	-4.0
BSO4	**Boso 4**	**9.09**	**358**	P	Pn	10 43 39.3	+1.2
BSO4				*e*S	Sn	10 45 14.7	-5.2
HMMJ	**Hamamatsu 2**	**9.32**	**344**	P	Pn	10 43 43.9	+2.7
JOD2	**Odawara 2**	**9.46**	**352**	P	Pn	10 43 44.0	+1.0
JOD2				*e*S	Sn	10 45 25.5	-3.4
JNY	**Yasuok**	**9.77**	**346**	P	Pn	10 43 49.2	+2.1
JHU	**Hanno**	**10.02**	**353**	P	Pn	10 43 49.3	-0.9
JHU				*e*S	Sn	10 45 37.4	-4.8
JYT	**Yasato**	**10.33**	**358**	P	Pn	10 43 55.0	+0.8
JYT				*e*S	Sn	10 45 41.2	-8.3
JAG	**Ashikaga**	**10.57**	**354**	P	Pn	10 43 56.2	-1.2
JHO	**Hitachi**	**10.70**	**359**	P	Pn	10 43 58.0	-1.0
JHO				*e*S	Sn	10 45 48.0	-10
MJAR	**Matsushiro Arr**	**10.85**	**349**	P	Pn	10 44 01.6	+0.6
	0.6nm,0.3s,baz=164,slow=12,SNR=5.9						
MJAR				S	S	10 46 02.5	+0.2
	0.5nm,0.3s,baz=305,slow=48,SNR=3.9						
JNU	**Nakatsue**	**11.22**	**312**	P	P	10 44 13.1	+1.4
	0.1nm,0.3s,baz=167,slow=6.2,SNR=3.1						
GUMO	**Guam**	**12.82**	**162**	P	P	10 44 28.8	-0.8
	5.7nm,0.3s,baz=51,slow=12,SNR=2.8						
KSRS	**Korea Array**	**15.87**	**320**	P	Pn	10 45 08.1	+4.7
	1.5nm,0.3s,baz=138,slow=12,SNR=65						
ERM	**Erimo**	**16.22**	**6**	*e*P	Pn	10 45 09.2	+1.6
ASAJ	**Asahikawa**	**18.26**	**4**	P	Pn	10 45 32.5	+0.8
	1.0nm,0.3s,baz=191,slow=14,SNR=15						
USRK	**Ussuriysk Arra**	**19.61**	**341**	P	Pn	10 45 46.0	-1.7
	0.2nm,0.3s,baz=177,sl

FFC	**Flin Flon**	**83.45**	**31**	*i* P		**P**		**10 53 37.3**	**+1.5**
NB2	**NORSAR Subarra**	**84.25**	**338**	P		**P**		**10 53 39.9**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=46,slow=4.8								
NOA	**NORSAR Array B**	**84.25**	**338**	P		**P**		**10 53 40.0**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=48,slow=4.8,SNR=4.2								
PDAR	**Pinedale Array**	**85.98**	**44**	P		**P**		**10 53 50.5**	**+1.5**
	comp=Z,2.7nm,0.8s,baz=271,slow=2.5,SNR=19								
ULM	**Lac du Bonnet**	**89.16**	**32**	P		**P**		**10 54 04.7**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=240,slow=2.2,SNR=2.5								
TXAR	**Lajitas Array**	**97.37**	**53**	P		Pdif		10 54 44.2	+2.3
	comp=Z,1.1nm,0.8s,baz=330,slow=2.8,SNR=10								

*ISCJB **10** 10:45:33.6±0.6,2°.87S±0°.04×79°.74W±0°.06, h37km, mb3.7/7, MS3.5/1, Error ellipse: s-maj=9.2km s-min=4.5km az=16.0*
*IGQ **10** 10:45:34.3,2°.93S×79°.43W, h85km±24km, Mb4.4, Ms4.2, Error ellipse: s-maj=4.3km s-min=1.7km az=8.0*
*IDC **10** 10:45:36.4±3.0,2°.88S×79°.16W, h92km±31km, mb3.4/7, mb1 3.7/9, mb1mx3.6/21, mbtmp3.5/9, MS3.6/1, Ms1 3.5/1, ms1mx2.6/16, Error ellipse: s-maj=52.5km s-min=19.7km az=65.0*

ISC 10 10:45:32.7±0.7,2°.87S±0°.05×79°.73W±0°.09, h37km, n54, σ1♀93/52, mb3.7/7, 10C-13D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CATE	**Catamayo**	**1.14**	**162**	⇓S	**Sn**	**10 46 08.9**	**+2.2**
CATE	**Catamayo**	**1.14**	**162**	⇓P	**Pn**	**10 45 54.5**	**+2.3**
IGUA	**Igualata**	**1.75**	**39**	S	**Sn**	**10 46 22.2**	**-0.2**
IGUA	**Igualata**	**1.75**	**39**	P	**Pn**	**10 46 02.4**	**+1.4**
BMAS	**Trigal station**	**1.85**	**43**	⇑S	**Sn**	**10 46 24.7**	**+0.2**
BMAS	**Trigal station**	**1.85**	**43**	⇑P	**Pn**	**10 46 03.2**	**+1.0**
BIL2	**Estacion Bilba**	**1.87**	**41**	⇓P	**Pn**	**10 46 04.0**	**+1.6**
RETU	**Refugio**	**1.91**	**42**	⇓S	**Sn**	**10 46 27.1**	**+1.0**
RETU	**Refugio**	**1.91**	**42**	⇓P	**Pn**	**10 46 04.6**	**+1.4**
JUI6	**Juive**	**1.91**	**41**	⇓S	**Sn**	**10 46 26.4**	**+0.4**
JUI6	**Juive**	**1.91**	**41**	⇓P	**Pn**	**10 46 04.2**	**+1.2**
ULBA	**Ulba**	**1.94**	**43**	⇓P	**Pn**	**10 46 04.9**	**+1.5**
BULB	**Ulba Tungurahu**	**1.94**	**43**	⇑P	**Pn**	**10 46 06.4**	**+2.9**
RUN5	**Runtun**	**1.95**	**42**	S	**Sn**	**10 46 28.3**	**+1.3**
RUN5	**Runtun**	**1.95**	**42**	P	**Pn**	**10 46 04.7**	**+1.2**
BRUN	**Tungurahua Vol**	**1.95**	**43**	⇑P	**Pn**	**10 46 04.6**	**+1.0**
BRUN	**Tungurahua Vol**	**1.95**	**43**	⇑S	**Sn**	**10 46 28.1**	**+1.1**
CHIS	**Cerro-Chispas-**	**2.06**	**331**	P	Pn	10 46 10.0	+5.2
PISA	**Pisayambo**	**2.25**	**37**	⇑P	**Pn**	**10 46 09.5**	**+1.7**
BMOR	**Cotopaxi Volca**	**2.48**	**31**	⇑P	**Pn**	**10 46 12.8**	**+1.8**
MOV1	**Cotopaxi Vol s**	**2.50**	**31**	P	**Pn**	**10 46 12.8**	**+1.4**
BREF	**Cotopaxi Volca**	**2.54**	**31**	⇓P	**Pn**	**10 46 14.5**	**+2.6**
NAS2	**Nasa**	**2.55**	**30**	P	**Pn**	**10 46 14.5**	**+2.5**
TAMB	**Tambo**	**2.56**	**32**	P	**Pn**	**10 46 13.9**	**+1.8**
BTAM	**Cotopaxi Volca**	**2.56**	**31**	P	**Pn**	**10 46 14.3**	**+2.2**
BVC2	**Cotopaxi Volca**	**2.56**	**31**	P	**Pn**	**10 46 14.1**	**+1.8**
VC1	**Cotopaxi 1**	**2.58**	**31**	⇓P	**Pn**	**10 46 15.1**	**+2.7**
COV1	**Cotopaxi Volc**	**2.60**	**32**	P	**Pn**	**10 46 14.2**	**+1.5**
PITA	**Cotopaxi Volc**	**2.64**	**29**	⇓P	**Pn**	**10 46 15.6**	**+2.4**
JUA2	**San Juan 2**	**2.87**	**23**	P	Pn	10 46 20.4	+4.0
ANTI	**Antisana**	**2.87**	**33**	⇑P	**Pn**	**10 46 17.9**	**+1.4**
TERV	**Terraza Guagua**	**2.91**	**23**	P	**Pn**	**10 46 20.0**	**+3.1**
GGP	**Refugio Guagua**	**2.91**	**23**	⇑P	**Pn**	**10 46 20.0**	**+3.0**
PINO	**Pino**	**2.92**	**23**	P	**Pn**	**10 46 20.0**	**+2.9**
YANA	**Yana**	**2.97**	**23**	P	**Pn**	**10 46 20.4**	**+2.6**
GOLV	**Golondrinas**	**3.12**	**11**	P	**Pn**	**10 46 20.5**	**+1.1**
OTAV	**Otavalo**	**3.34**	**23**	⇓P	**Pn**	**10 46 25.4**	**+2.5**
CAYA	**Cayambe**	**3.40**	**31**	P	**Pn**	**10 46 25.8**	**+2.1**
CHAR	**Charly**	**3.45**	**37**	P	**Pn**	**10 46 25.4**	**+1.1**
LAV4	**Lava4-Reventad**	**3.47**	**37**	⇓P	**Pn**	**10 46 25.0**	**+0.6**
COTA	**Cotacachi**	**3.48**	**24**	P	**Pn**	**10 46 27.7**	**+3.0**
CONE	**Cono NE Rev Vo**	**3.48**	**37**	⇑P	**Pn**	**10 46 25.7**	**+1.1**
ATAH	**Atahualpa**	**4.44**	**163**	P	**Pn**	**10 46 39.6**	**+1.7**
	2.3nm,0.3s,baz=8.3,slow=6.7,SNR=17						
NNA	**Nana**	**9.50**	**163**	P	**Pn**	**10 47 49.3**	**+2.2**
	2.1nm,0.3s,baz=277,slow=14,SNR=3.6						
NNA				S	**Sn**	**10 49 29.5**	**-3.2**
	3.5nm,0.3s,baz=222,slow=18,SNR=6.2						
SIV	**San Ignacio**	**22.52**	**127**	P	P	10 50 24.7	-4.8
	1.1nm,0.7s,baz=317,slow=7.8,SNR=5.0						
TEIG	**Tepich**	**24.44**	**340**	P	**P**	**10 50 48.7**	**+0.6**
	7.1nm,0.6s,baz=54,slow=19,SNR=4.2						
BDFB	**Brasilia**	**33.71**	**114**	LR	LR	11 06 36.9	
	comp=Z,93nm,18.4s,baz=310,slow=38						
TXAR	**Lajitas Array**	**39.39**	**326**	P	**P**	**10 53 00.4**	**+1.3**
	0.3nm,0.7s,baz=134,slow=11,SNR=4.0						
TXAR				PcP	**PcP**	**10 55 05.8**	**-1.2**
	0.6nm,0.7s,baz=152,slow=5.5,SNR=5.0						
PDAR	**Pinedale Array**	**52.81**	**333**	P	**P**	**10 54 44.4**	**-0.4**
	0.8nm,0.6s,baz=130,slow=8.2,SNR=6.3						
NVAR	**Mina Array Bea**	**54.37**	**323**	P	**P**	**10 54 57.6**	**+1.3**
	0.5nm,0.5s,baz=120,slow=6.3,SNR=4.2						
YKA	**Yellowknife Ar**	**70.34**	**344**	P	**P**	**10 56 40.1**	**-2.2**
	0.4nm,0.5s,baz=143,slow=6.2,SNR=14						
ILAR	**Eielson Array**	**83.04**	**337**	P	**P**	**10 57 51.9**	**-2.1**
	0.6nm,0.8s,baz=123,slow=4.3,SNR=6.0						
WRA	**Warramunga Arr**	**139.59**	**234**	PKP	**PKPdf**	**11 04 54.7**	**-2.7**
	0.3nm,0.7s,baz=118,slow=2.2,SNR=4.8						
FITZ	**Fitzroy Crossi**	**147.45**	**229**	PKPbc	**PKPdf**	**11 05 11.4**	**+0.2**
	2.5nm,0.8s,baz=149,slow=5.9,SNR=3.1						

KRSC 10 10:59:56.0±1.9,52°.51N×159°.15E, h43km±43km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.40**	**259**	*i* P	Pn	11 00 06.2	+0.6
RUS				*i* S	Sn	11 00 14.0	+1.7
MTVR	**Mutnovka**	**0.59**	**268**	*i* P	Pn	11 00 08.7	+0.4
MTVR				*i* S	Sn	11 00 18.4	+1.4
PET	**Petropavlovsk**	**0.60**	**330**	*i* P	Pn	11 00 08.5	+0.4
PET				*i* S	Sn	11 00 17.8	+1.0
NLC	**Nalytchevo**	**0.67**	**10**	*e*P	Pn	11 00 09.1	0.0
NLC				*i* S	Sn	11 00 18.8	+0.3
UGLR	**Uglovaya**	**0.73**	**344**	*i* P	Pn	11 00 10.5	+0.5
UGLR				*i* S	Sn	11 00 21.2	+1.0
ASAK	**Asacha**	**0.78**	**261**	*i* P	Pn	11 00 11.1	+0.5
ASAK				*i* S	Sn	11 00 22.5	+1.3
SMAR	**Somma**	**0.78**	**344**	*e*P	Pn	11 00 11.2	+0.3
SMAR				*i* S	Sn	11 00 22.5	+0.8
SDLR	**Sedlovina**	**0.79**	**348**	*i* P	Pn	11 00 10.9	+0.1
SDLR				*i* S	Sn	11 00 22.0	+0.4
SPN	**Mys Shipunski**	**0.79**	**42**	*e*P	Pn	11 00 12.0	+1.3
SPN				*i* S	Sn	11 00 23.8	+2.4
AVH	**Avacha**	**0.80**	**342**	*i* P	Pn	11 00 11.5	+0.6
AVH				*i* S	Sn	11 00 23.0	+1.2
KOK	**Koryaka**	**0.84**	**339**	*i* P	Pn	11 00 12.1	+0.5
KOK				*i* S	Sn	11 00 24.2	+1.3
KMNR	**Kamenistaya**	**3.31**	**11**	P	Pn	11 00 47.6	+2.1
KBTR	**Krutoberegovo**	**4.28**	**29**	P	Pn	11 01 02.1	+3.5

IDC 10 11:04:53.1±1.6,6°.04S×148°.05E, h99km±18km, mb3.6/8, mb1 3.8/10, mb1mx3.6/17, mbtmp3.6/10, Error ellipse: s-maj=39.1km s-min=9.4km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.46**	**195**	P	Pn	11 05 43.1	-1.9
	27nm,0.3s,baz=353,slow=3.1,SNR=47						
PMG				S	Sn	11 06 26.0	+0.9
	63nm,0.3s,baz=18,slow=19,SNR=18						
WRA	**Warramunga Arr**	**19.20**	**223**	P	P	11 09 08.7	-0.6
	0.7nm,0.3s,baz=50,slow=10,SNR=44						
WRA				S	S	11 12 41.0	-0.8
	0.1nm,0.3s,baz=45,slow=21,SNR=3.8						
ASAR	**Alice Springs**	**22.19**	**216**	P	P	11 09 41.5	+0.1
	2.9nm,0.4s,baz=54,slow=8.6,SNR=84						
ASAR				S	S	11 13 40.8	+1.2
	2.6nm,0.9s,baz=30,slow=22,SNR=9.5						
FITZ	**Fitzroy Crossi**	**24.94**	**239**	P	P	11 10 08.1	+0.7
	12nm,0.7s,baz=67,slow=7.8,SNR=23						
STKA	**Stephens Creek**	**26.41**	**192**	P	P	11 10 22.0	+1.6
	1.4nm,0.5s,baz=16,slow=11,SNR=4.2						
MJAR	**Matsushiro Arr**	**43.35**	**348**	P	P	11 12 46.2	+0.7
	2.0nm,0.8s,baz=171,slow=7.9,SNR=6.4						
PETK	**Petropavlovsk-**	**59.49**	**7**	P	P	11 14 46.0	+0.4
	4.2nm,1.0s,baz=172,slow=7.2,SNR=6.0						
SONM	**Songino Array**	**64.95**	**330**	P	P	11 15 21.7	-0.7
	0.1nm,0.5s,baz=198,slow=0.5,SNR=3.5						
MKAR	**Makanchi Array**	**78.19**	**320**	P	P	11 16 42.0	+0.2
	0.1nm,0.4s,baz=98,slow=7.1,SNR=4.4						
ILAR	**Eielson Array**	**85.11**	**23**	P	P	11 17 15.9	-1.8
	0.6nm,0.7s,baz=252,slow=4.7,SNR=13						

TORD	**Torodi Ar. Bea**	**146.11**	**285**	PKPbc		PKPbc		11 24 23.1	+0.2
	0.5nm,0.8s,baz=38,slow=1.0,SNR=2.8								

*IDC **10** 11:21:35.6±2.6,6°.47N×72°.06W, h134km±23km, mb3.4/3, mb1 3.6/4, mb1mx3.2/21, mbtmp3.5/4, Error ellipse: s-maj=33.7km s-min=24.2km az=117.0*
*ISCJB **10** 11:21:40.8±0.6,6°.90N±0°.06×73°.05W±0°.08, h166km, mb3.6/3, Error ellipse: s-maj=12.3km s-min=6.4km az=36.4*
*FUNV **10** 11:21:42.1,6°.82N×73°.09W, h173km, MW3.7*

ISC 10 11:21:41.8±0.9,6°.88N±0°.07×73°.03W±0°.09, h166km, n18, σ0♀96/22, mb3.5/3, 2C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.21**	**36**	⇑*i*P	**Pn**	**11 22 10.9**	**+0.8**
CAPV				*e*S	**Sn**	**11 22 32.0**	**+0.2**
ROSC	**El Rosal**	**2.40**	**213**	P	**Pn**	**11 22 21.5**	**-1.4**
	61nm,0.3s,baz=59,slow=3.5,SNR=72						
ROSC				S	**Sn**	**11 22 53.8**	**-0.8**
	86nm,0.3s,baz=109,slow=16,SNR=8.4						
SOCV	**Socops**	**2.56**	**57**	⇓*i*P	**Pn**	**11 22 25.4**	**+1.0**
SOCV				*e*S	**Sn**	**11 22 57.3**	**-0.3**
ELOV	**Elorza**	**3.52**	**88**	*e*P	**Pn**	**11 22 36.7**	**+0.4**
VIRV	**Villa del Rosa**	**3.65**	**10**	⇑*i*P	**Pn**	**11 22 37.6**	**-0.4**
VIRV				*e*S	**Sn**	**11 23 19.7**	**-2.2**
QARV	**Quebrada Arrib**	**4.13**	**37**	*e*P	**Pn**	**11 22 44.0**	**-0.2**
DABV	**Dabajuro**	**4.66**	**30**	*e*P	**Pn**	**11 22 51.9**	**+0.9**
TEPV	**Terepaima**	**4.88**	**51**	⇓*e*P	**Pn**	**11 22 54.2**	**+0.3**
BAUV	**El Baul**	**5.35**	**67**	*e*P	**Pn**	**11 22 58.9**	**-1.1**
MONV	**Montecano**	**5.87**	**31**	*e*P	**Pn**	**11 23 06.8**	**-0.2**
MONV				*e*S	Sn	11 24 08.8	-5.1
TURV	**Turiamo**	**6.23**	**55**	*e*P	**Pn**	**11 23 11.2**	**-0.5**
MERV	**Las Mercedes**	**7.07**	**70**	*e*P	**Pn**	**11 23 22.1**	**-0.7**
BIRV	**Birongo**	**7.57**	**61**	*e*P	**Pn**	**11 23 28.1**	**-1.4**
SCHQ	**Schefferville**	**48.07**	**5**	P	**P**	**11 30 05.6**	**+1.3**
	2.2nm,0.5s,baz=200,slow=10,SNR=7.1						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**11 31 52.9**	**+0.7**
	0.4nm,0.6s,baz=133,slow=6.8,SNR=14						
YKA				pP	**pP**	**11 32 31.3**	**0.0**
	0.1nm,0.4s,baz=129,slow=7.1,SNR=3.2						
TORD	**Torodi Ar. Bea**	**73.63**	**78**	P	P	11 32 49.3	-8.4
	0.5nm,1.1s,baz=295,slow=7.8,SNR=2.1						
ASAR	**Alice Springs**	**149.22**	**234**	PKPbc	**PKPbc**	**11 41 10.8**	**-0.8**
	0.8nm,0.5s,baz=117,slow=3.6,SNR=12						
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc	**PKPbc**	**11 41 14.0**	**-0.7**
	0.6nm,0.4s,baz=109,slow=2.6,SNR=34						

KRSC 10 11:37:44.7±1.2,53°.30N×160°.40E, h42km±42km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.30**	**228**	*i* P	Pn	11 37 53.2	0.0
SPN				*i* S	Sn	11 37 59.6	+0.5
NLC	**Nalytchevo**	**0.65**	**259**	*i* P	Pn	11 37 58.0	+0.6
NLC				*i* S	Sn	11 38 08.2	+1.7
SDLR	**Sedlovina**	**0.91**	**269**	*i* P	Pn	11 38 02.0	+0.8
SDLR				*i* S	Sn	11 38 14.2	+0.9
UGLR	**Uglovaya**	**0.95**	**265**	*i* P	Pn	11 38 02.9	+1.2
UGLR				*i* S	Sn	11 38 16.0	+1.8
SMAR	**Somma**	**0.96**	**268**	*i* P	Pn	11 38 02.7	+0.7
SMAR				*i* S	Sn	11 38 15.8	+1.1
AVH	**Avacha**	**1.00**	**269**	*i* P	Pn	11 38 03.4	+1.1
AVH				*i* S	Sn	11 38 17.0	+1.7
KOK	**Koryaka**	**1.06**	**270**	*i* P	Pn	11 38 04.1	+0.9
KOK				*i* S	Sn	11 38 18.0	+1.2
PET	**Petropavlovsk**	**1.09**	**256**	*e*P	Pn	11 38 04.1	+0.7
PET				*i* S	Sn	11 38 18.3	+1.0
RUS	**Russkaya**	**1.44**	**234**	*e*P	Pn	11 38 08.7	+0.5
RUS				*i* S	Sn	11 38 26.1	+0.3
MTVR	**Mutnovka**	**1.57**	**240**	*i* P	Pn	11 38 11.4	+1.1
MTVR				*i* S	Sn	11 38 30.9	+1.3
ASAK	**Asacha**	**1.77**	**240**	*i* P	Pn	11 38 14.7	+1.7
ASAK				*i* S	Sn	11 38 36.6	+2.2
KMNR	**Kamenistaya**	**2.46**	**358**	*e*P	Pn	11 38 23.4	+0.9
SRDR	**Sredinnyy**	**3.05**	**353**	P	Pn	11 38 31.2	+0.7
KBTR	**Krutoberegovo**	**3.23**	**25**	P	Pn	11 38 35.2	+2.3

IDC 10 12:00:12.8±26.0,19°.20S×173°.72W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.8/18, mbtmp4.2/4, Error ellipse: s-maj=488.8km s-min=149.5km az=74.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.65**	**262**	P	P	12 07 30.6	+0.6
	2.4nm,0.4s,baz=90,slow=14,SNR=4.5						
STKA	**Stephens Creek**	**41.98**	**243**	P	P	12 08 06.1	+0.2
	1.7nm,0.5s,baz=99,slow=12,SNR=3.2						
ASAR	**Alice Springs**	**48.74**	**255**	P	P	12 08 59.3	-0.5
	3.0nm,0.7s,baz=97,slow=7.6,SNR=54						
WRA	**Warramunga Arr**	**48.78**	**260**	P	P	12 08 59.3	-0.7
	0.9nm,0.3s,baz=98,slow=7.7,SNR=66						

IDC 10 12:05:55.0±1.9,0°.74S×133°.14E, h0km, mb4.1/3, mb1 4.2/5, mb1mx3.7/18, mbtmp4.0/5, ML4.0/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/27, Error ellipse: s-maj=80.6km s-min=23.3km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.77**	**203**	P	P	12 10 15.8	0.0
	0.4nm,0.3s,baz=34,slow=11,SNR=7.6						
FITZ				S	Sn	12 13 32.6	-14
	0.5nm,0.3s,baz=223,slow=5.9,SNR=6.7						
FITZ				LR	LR	12 17 18.7	
	comp=Z,44nm,19.9s,baz=14,slow=36						
WRA	**Warramunga Arr**	**19.12**	**177**	P	P	12 10 20.1	+0.3
	0.4nm,0.3s,baz=355,slow=11,SNR=19						
WRA				S	Sn	12 13 44.4	-11
	0.2nm,0.3s,baz=357,slow=23,SNR=4.9						
ASAR	**Alice Springs**	**22.80**	**178**	P	P	12 11 00.1	+0.6
	3.5nm,0.3s,baz=357,slow=12,SNR=74						
ASAR				S	S	12 15 03.3	-6.7
	0.2nm,0.4s,baz=338,slow=22,SNR=4.5						
STKA	**Stephens Creek**	**31.98**	**166**	P	P	12 12 22.3	-0.7
	2.3nm,0.4s,baz=345,slow=7.9,SNR=9.9						
MKAR	**Makanchi Array**	**64.89**	**324**	P	P	12 16 36.2	0.0
	0.3nm,0.5s,baz=108,slow=8.2,SNR=6.9						

*NDI **10** 12:14:26.3±3.2,34°.45N×74°.26E, h33km, ML3.7*
*IDC **10** 12:14:26.6±1.0,33°.43N×74°.39E, h0km, mb3.4/5, mb1 3.6/8, mb1mx3.4/29, mbtmp3.5/8, ML3.4/3, Error ellipse: s-maj=32.7km s-min=20.6km az=69.0*
*ISCJB **10** 12:14:34.3±0.8,33°.86N±0°.05×74°.74E±0°.10, h78km±11km, mb3.3/4, Error ellipse: s-maj=14.7km s-min=6.2km az=156.4*
*NNC **10** 12:14:34.6±5.5,33°.53N×73°.14E, h22km±68km, mb3.5, Error ellipse: s-maj=66.0km s-min=27.1km az=140.0*

ISC 10 12:14:35.8±1.1,33°.79N±0°.08×74°.5E±0°.1, h70km±16km, n31, σ1♀50/26, mb3.5/4, 5C-2D, Southwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**1.68**	**143**	*e*PKP	**Pn**	**12 15 02.0**	**-1.1**
THN				*ex*	**Sn**	**12 15 26.1**	**+2.3**
DLH	**Dalhousie**	**1.73**	**136**	*e*PKP	**Pn**	**12 15 04.0**	**0.0**
DLH				*e*S	Sn	12 15 30.0	+4.6
PONG	**Pong**	**2.19**	**147**	*ex*	Pn	12 15 05.0	-4.9
BHK	**Bhakra**	**2.85**	**146**	*ex*	Pn	12 15 21.4	+2.4
BHK				*e*S	Sn	12 15 57.8	+5.6
SDNR	**Sundarnagar**	**3.07**	**137**	*e*PKP	**Pn**	**12 15 20.6**	**-1.4**
SDNR				*ex*	Sn	12 16 08.0	+10
SMLA	**Simla**	**3.46**	**139**	*i* P	**Pn**	**12 15 26.4**	**-0.9**
SMLA				*i* x	**Sn**	**12 16 08.3**	**+1.2**
SMLA				AML	AML	12 16 22.5	
	comp=N,3μm,0.2s						
SMLA				⇓AML	AML	12 16 23.8	
	comp=E,3μm,0.2s						
NDI	**New Delhi**	**5.58**	**155**	*ex*	x	12 17 11.0	
KHET	**Khetri**	**5.80**	**169**	*e*PKP	Pn	12 15 59.8	+0.5
KHET				*e*S	**Sn**	**12 17 05.3**	**+0.9**
KHET				AML	AML	12 17 28.5	
	comp=E,27nm,0.4s						
KHET				AML	AML	12 17 29.5	
	comp=N,23nm,0.4s						
KUDL	**Kundal**	**5.87**	**163**	*ex*	Pn	12 15 52.8	-7.4
KUDL				*e*S	Sn	12 17 09.8	+3.7
KUDL				AML	AML	12 17 36.1	
	comp=N,21nm,0.3s						
KUDL				AML	AML	12 17 36.4	
	comp=E,37nm,0.3s						
AGRA	**Agra**	**7.17**	**155**	*e*PKP	Pn	12 16 19.0	+1.1
AGRA				*e*S	**Sn**	**12 17 39.2**	**+1.3**
AGRA				AML	AML	12 18 21.2	
	comp=N,57nm,0.3s						
AGRA				AML	AML	12 18 23.0	
	comp=E,66nm,0.4s						
AAK	**Ala-Archa**	**8.83**	**360**	Pn	Pn	12 16 44.4	+3.7
	0.2nm,0.3s,baz=167,slow=11,SNR=6.0						
TKM2	**Tokmak 2**	**9.15**	**5**	⇑P	Pn	12 16 50.5	+5.3
	comp=E,1.4nm,0.6s						
TKM2				⇑S	Sn	12 18 39.4	+12
	comp=E,3.4nm,0.7s						
DANN	**Dangsing**	**9.59**	**122**	*e*P	**Pn**	**12 16 50.0**	**-1.3**
KK31	**Karatay Array**	**9.82**	**342**	⇑P	**Pn**	**12 16 54.1**	**0.0**
	comp=E,4.7nm,0.6s,baz=152,slow=11,SNR=55						
KK31				⇑S	**Sn**	**12 18 43.3**	**+0.7**
	comp=E,0.7nm,0.3s,baz=176,slow=24,SNR=5.7						
KOLN	**Koldanda**	**9.84**	**125**	*e*P	**Pn**	**12 16 52.5**	**-2.1**
	comp=E,5.9nm,0.2s						
GKN	**Gorkha**	**10.42**	**121**	*e*P	**Pn**	**12 17 01.1**	**-1.4**
	comp=E,11nm,0.2s						
DMN	**Daman**	**10.98**	**121**	*e*P	**Pn**	**12 17 08.7**	**-1.6**
	comp=E,10nm,0.3s						
KKN	**Kakani**	**11.00**	**120**	*e*P	**Pn**	**12 17 08.5**	**-2.0**
	comp=E,27nm,0.5s						
PKI	**Pulchoki**	**11.22**	**121**	*e*P	**Pn**	**12 17 11.5**	**-2.1**
GUN	**Gumba**	**11.37**	**118**	*e*P	**Pn**	**12 17 13.3**	**-2.4**
	comp=E,10nm,0.3s						
JIRN	**Jiri**	**11.74**	**118**	*e*P	**Pn**	**12 17 18.8**	**-1.9**
	comp=E,8.2nm,0.5s						
RAMN	**Ramite**	**12.44**	**120**	*e*P	Pn	12 17 26.8	-3.4
KURBB	**Kurchatov Arra**	**17.07**	**9**	P	**P**	**12 18 31.4**	**+1.0**
	comp=E,0.0nm,0.3s,baz=196,slow=12,SNR=4.4						
AB31	**Akbulak array**	**18.87**	**329**	⇑P	**P**	**12 18 49.8**	**-0.4**
	comp=E,4nm,0.6s,baz=139,slow=11,SNR=8.2						
BVAR	**Borovoye Array**	**19.45**	**352**	P	**Pn**	**12 18 58.0**	**-0.4**
	comp=E,0.2nm,0.3s,baz=157,slow=7.8,SNR=3.4						
AKTO	**Aktyubinsk**	**20.58**	**329**	⇓P	**P**	**12 19 07.6**	**-1.1**
	comp=E,0.8nm,1.1s						
AKTO	**Aktyubinsk**	**20.58**	**329**	P	**P**	**12 19 08.2**	**-0.6**
	comp=E,1.1nm,0.5s,baz=138,slow=9.9,SNR=4.3						
ZALV	**Zalesovo Beam**	**21.43**	**17**	P	**P**	**12 19 19.9**	**+2.1**
	comp=E,0.4nm,0.5s,baz=211,slow=8.2,SNR=2.0						
TORD	**Torodi Ar. Bea**	**68.62**	**272**	P	**P**	**12 25 31.6**	**-0.1**
	comp=E,0.4nm,0.6s,baz=60,slow=6.5,SNR=3.1						
WRA	**Warramunga Arr**	**78.09**	**124**	P	P	12 26 26.3	-0.9
	comp=E,0.3nm,0.4s,baz=321,slow=5.0,SNR=11						
ASAR	**Alice Springs**	**80.32**	**127**	P	**P**	**12 26 39.8**	**+0.4**
	comp=E,0.4nm,0.7s,baz=309,slow=4.7,SNR=3.8						

*MOS **10** 12:36:48.9±0.7,4°.08N×128°.05E, h35km, mb4.5/22, Error ellipse: s-maj=19.9km s-min=8.2km az=108.5*
*BJI **10** 12:36:54.2,3°.35N×127°.92E, h115km, mB4.9/16, mb4.5/28*
*DJA **10** 12:36:54,3°.98N×127°.77E, h20km, MLv4.8/3*
*ISCJB **10** 12:36:54.5±0.8,3°.99N±0°.04×128°.08E±0°.07, h87km±7km, mb4.3/43, Error ellipse: s-maj=11.8km s-min=6.8km az=170.2*
*NEIC **10** 12:36:57.3±1.0,3°.95N×128°.03E, h99km±9km, mb4.4/12, Error ellipse: s-maj=9.9km s-min=5.3km az=78.0*
*IDC **10** 12:36:57.2±3.0,3°.99N×128°.08E, h98km±29km, mb3.9/16, mb1 4.0/17, mb1mx3.9/23, mbtmp3.9/17, MS3.2/10, Ms1 3.2/10, ms1mx3.1/29, Error ellipse: s-maj=25.6km s-min=11.0km az=78.0*

**ISC 10 12:36:58.9±0.5,3°.92N±0°.05×128°.06E±0°.08, h114km±3km, n100

comp=Z,29nm,18.4s,baz=153,slow=37
MJAR Matsushiro Arr 33.78 15 P **P** 12 43 28.3 -1.6
MJAR Matsushiro Arr 33.78 15 P **P** 12 43 28.3 -1.6
comp=Z,0.9nm,0.6s,baz=182,slow=11,SNR=4.7
MJAR LR LR 12 55 55.0
comp=Z,31nm,18.6s,baz=65,slow=34
HNR Honiara 34.44 113 LR LR 12 56 45.4
comp=Z,70nm,21.0s,baz=235,slow=34
XAN Xi'an 34.86 332 P **P** 12 43 38.6 -0.7
XAN pmax pmax
comp=Z,5.0nm,1.0s
CD2 Chengdu 35.29 322 P **P** 12 43 44.7 +1.6
CD2 pP **pP** 12 44 10.8 +2.4
CD2 sP sP 12 44 24.5 +3.0
CD2 S **S** 12 49 09.4 +0.6
CD2 sS ScP 12 49 54.6 +7.8
CD2 PcS **PcS** 12 49 58.9 +0.4
CD2 SS **SnSn** 12 51 34.0 -5.5
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 pmax pmax
comp=Z,80nm,5.2s
BJI Beijing 37.53 345 P **P** 12 44 00.5 -1.4
BJI pmax pmax
comp=Z,14nm,0.8s
BJI pmax pmax
comp=Z,140nm,4.8s
STKA Stephens Creek 37.86 161 *e*P **P** 12 44 06.0 +1.3
comp=Z,1.2nm,0.7s
STKA Stephens Creek 37.86 161 P **P** 12 44 05.8 +1.0
comp=Z,6.8nm,0.8s,baz=327,slow=5.5,SNR=9.5
STKA LR LR 12 59 55.6
comp=Z,44nm,21.5s,baz=205,slow=36
LZH Lanzhou 39.03 328 *e*P **P** 12 44 15.6 +0.9
LZH pP **pP** 12 44 37.0 -3.4
LZH sP **sP** 12 44 54.2 +0.8
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,95nm,4.8s
HHC Hu-ho-hao-te 39.65 340 *e*P **P** 12 44 22.7 +2.9
HHC pP **pP** 12 44 47.2 +1.7
HHC sP **sP** 12 45 00.3 +1.8
HHC PP **PnPn** 12 45 59.8 +2.5
HHC S **S** 12 50 19.1 +4.4
HHC sS **sS** 12 51 01.9 +2.5
HHC SS **SS** 12 53 12.7 -1.9
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,68nm,3.8s
HHC LR LR
comp=N,150nm,11.9s
HHC LR LR
comp=E,120nm,13.1s
HHC LR LR
comp=Z,130nm,16.6s
CN2 Changchun 39.78 357 *e*P P 12 44 24.4 +3.7
MDJ Mudanjiang 40.55 2 P **P** 12 44 29.1 +2.1
MDJ pmax pmax
comp=Z,6.0nm,0.9s
MDJ pmax pmax
comp=Z,65nm,4.8s
ASAJ Asahikawa 42.04 16 P **P** 12 44 38.5 -0.7
ASAJ Asahikawa 42.04 16 P **P** 12 44 38.5 -0.7
comp=Z,2.6nm,0.6s,baz=191,slow=13,SNR=7.2
GTA Gaotai 43.63 328 *e*P **P** 12 44 52.4 +0.1
GTA pP **pP** 12 45 18.5 +0.1
GTA sP **sP** 12 45 31.4 +0.1
GTA pmax pmax
comp=Z,9.0nm,0.9s
ULN Ulaanbaatar 47.36 341 *e*P **P** 12 45 21.3 -0.3
comp=Z,9.4nm,0.9s
SONM Songino Array 47.55 340 P **P** 12 45 22.5 -0.5
SONM Songino Array 47.55 340 P **P** 12 45 22.5 -0.5
comp=Z,2.5nm,0.9s,baz=147,slow=9.5,SNR=21
ZAK Zakamensk 50.80 340 *e*P **P** 12 45 46.6 -1.0
ZAK pmax pmax
comp=Z,1.0nm,1.0s
TLY Talaya 51.77 341 *e*P P 12 46 08.3 +13
TLY pmax pmax
comp=Z,3.0nm,0.8s
WMQ Urumqi 53.34 324 *e*P **P** 12 46 08.1 +1.6
WMQ pP **pP** 12 46 31.9 -1.7
WMQ sP **sP** 12 46 42.9 -3.3
WMQ pmax pmax
comp=Z,9.0nm,1.2s
WMQ pmax pmax
comp=Z,140nm,4.5s
PETK Petropavlovsk- 54.76 21 P **P** 12 46 16.3 -0.3
PETK pmax pmax
comp=Z,4.0nm,0.7s
PETK Petropavlovsk- 54.76 21 P **P** 12 46 16.3 -0.3
PETK Petropavlovsk- 54.76 21 P **P** 12 46 16.3 -0.3
comp=Z,4.4nm,0.7s,baz=175,slow=6.6,SNR=10
BOD Bodaibo 54.88 351 *e*P **P** 12 46 16.0 -1.4
BOD pmax pmax
comp=Z,7.0nm,1.1s
YAK Yakutsk 57.99 1 *e*P **P** 12 46 37.0 -2.3
YAK pmax pmax
comp=Z,20nm,1.0s
YAK pmax pmax
comp=N,8.0nm,1.2s
MK31 Makanchi Array 58.16 325 *i* P **P** 12 46 40.6 -0.3
MK31 pmax pmax
comp=Z,3.0nm,0.5s
MK31 Makanchi Array 58.16 325 *e*P **P** 12 46 40.7 -0.2
MKAR Makanchi Array 58.16 325 P **P** 12 46 41.2 +0.3
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MKAR Makanchi Array 58.16 325 *e*P **P** 12 46 41.2 +0.3
MKAR Makanchi Array 58.16 325 P **P** 12 46 41.1 +0.3
comp=Z,4.7nm,0.5s,baz=114,slow=8.0,SNR=35
KSH Kashi 58.85 315 *e*P **P** 12 46 47.5 +1.6
KSH pP **pP** 12 47 14.0 +0.5
KSH sP **sP** 12 47 27.7 +1.7
KSH PcP **PcP** 12 47 35.0 +0.7
KSH PP **PP** 12 49 01.2 +3.9
KSH S **S** 12 54 43.3 +0.3
KSH sS **sS** 12 55 30.6 +0.3
KSH ScS **ScS** 12 56 23.6 -1.7
KSH SS **SS** 12 58 41.7 +3.4
TKM2 Tokmak 2 60.49 318 *e*P **P** 12 46 57.6 +0.4
TKM2 pmax pmax
comp=Z,4.0nm,0.6s
TKM2 Tokmak 2 60.49 318 *e*P **P** 12 46 57.6 +0.4
comp=Z,3.5nm,0.6s
ZAA0 Zalesovo Array 61.03 332 *e*P **P** 12 46 59.2 -1.1
ZALV Zalesovo Beam 61.03 332 P **P** 12 46 59.2 -1.2
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 61.03 332 P **P** 12 46 59.1 -1.2
ZALV Zalesovo Beam 61.03 332 P **P** 12 46 59.1 -1.2
comp=Z,1.8nm,0.6s,baz=111,slow=6.8,SNR=8.9
AAK Ala-Archa 61.11 317 *e*P **P** 12 47 01.6 +0.2
AAK pmax pmax
comp=Z,33nm,1.5s
AAK Ala-Archa 61.11 317 *e*P **P** 12 47 01.6 +0.2
comp=Z,33nm,1.5s
KURK Kurchatov 62.30 327 *e*P **P** 12 47 08.9 0.0
KURK pmax pmax
comp=Z,11nm,0.7s
KURK Kurchatov 62.30 327 *e*P **P** 12 47 08.9 0.0
comp=Z,11nm,0.7s
KK31 Karatay Array 64.00 317 *i* P **P** 12 47 20.5 +0.1
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 64.00 317 *e*P **P** 12 47 20.6 +0.2
KKAR Karatay Array 64.00 317 *e*P **P** 12 47 20.6 +0.2
BRVK Borovoye 67.96 327 *e*P **P** 12 47 45.1 -0.4
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 67.96 327 *e*P **P** 12 47 45.1 -0.4
comp=Z,5.7nm,0.8s
AB31 Akbulak array 72.84 320 *i* P **P** 12 48 14.9 -0.4
AB31 pmax pmax
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 72.84 320 *e*P **P** 12 48 15.2 -0.1
comp=Z,0.9nm,0.6s
ILAR Eielson Array 84.36 25 P **P** 12 49 18.2 +0.1
ILAR Eielson Array 84.36 25 P **P** 12 49 18.2 +0.1
comp=Z,0.7nm,0.6s,baz=242,slow=5.4,SNR=13
INK Inuvik 89.50 22 P **P** 12 49 42.6 -0.3
INK Inuvik 89.50 22 P **P** 12 49 42.6 -0.3
comp=Z,1.0nm,1.0s,baz=264,slow=1.8,SNR=3.2

ARCES ARCESS Array B 90.73 340 P **P** 12 49 48.3 -0.3
ARCES ARCESS Array B 90.73 340 P **P** 12 49 48.3 -0.3
comp=Z,7.9nm,1.0s,baz=71,slow=5.2,SNR=7.2
AKASG Malin Array Be 92.58 321 *i* P P 12 49 54.2 -3.4
YKA Yellowknife Ar 98.78 25 P Pdif 12 50 25.7 +0.2
YKA Yellowknife Ar 98.78 25 P Pdif 12 50 25.7 +0.2
comp=Z,0.2nm,0.6s,baz=294,slow=4.4,SNR=5.1
TXAR Lajitas Array 120.44 53 PKP **PKPdf** 12 55 37.6 -0.2
TXAR Lajitas Array 120.44 53 PKP **PKPdf** 12 55 37.6 -0.2
comp=Z,0.2nm,0.7s,baz=203,slow=6.7,SNR=2.7

*NOU **10** 12:48:33.5±0.7, 16°.73S×168°.90E, h30km±999km, MD3.5, ML3.9*
*IDC **10** 12:48:41.5±4.7, 17°.04S×168°.32E, h213km±52km, mb3.4/10, mb1 3.7/11, mb1mx3.5/20, mbtmp3.4/11, Error ellipse: s-maj=57.5km s-min=20.5km az=163.0*
ISC 10 12:48:39.1±5.0, 17°.5S±1°×168°.9E±°, h200km, n15, σ0s38/8, mb3.5/9, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.48**	**205**	*e*P		**P**	**Pn**	**12 49 59.5**	**-0.1**
DZM				*e*S		**Sn**	**Sn**	**12 51 02.7**	**-0.7**
DZM				AMP				12 51 11.0	
	comp=Z,259nm,1.8s								
DZM	**Mont Dzumac**	**5.48**	**205**	P		**P**	**Pn**	**12 49 59.9**	**+0.2**
	comp=Z,5.6nm,0.3s,baz=57,slow=11,SNR=79								
DZM				S			**Sn**	**12 51 03.8**	**+0.4**
	comp=Z,3.3nm,0.3s,baz=141,slow=23,SNR=8.0								
NOUC	**Port Laguerre**	**5.56**	**206**	*e*P		**P**	**Pn**	**12 50 00.6**	**0.0**
NOUC				*e*S		**Sn**	**Sn**	**12 51 05.4**	**+0.2**
NOUC				AMP				12 51 26.1	
	comp=Z,10nm,6.8s								
LASL	**Noumea**	**5.58**	**203**	*e*S		**Sn**	**Sn**	**12 51 05.8**	**+0.1**
NORM	**Noumea**	**5.60**	**204**	*e*P		**Pn**	**Pn**	**12 50 01.2**	**0.0**
CTA	**Charters Tower**	**21.67**	**259**	P		P	P	12 53 10.2	-4.0
	comp=Z,18nm,0.5s,baz=123,slow=8.6,SNR=5.5								
STKA	**Stephens Creek**	**28.78**	**234**	P		P	P	12 54 15.8	-2.5
	comp=Z,2.0nm,0.9s,baz=100,slow=14,SNR=2.9								
WRA	**Warramunga Arr**	**32.86**	**260**	P		P	P	12 54 50.0	-4.3
	comp=Z,0.3nm,0.3s,baz=80,slow=6.7,SNR=23								
ASAR	**Alice Springs**	**33.39**	**253**	P		P	P	12 54 55.4	-3.5
	comp=Z,12nm,0.6s,baz=79,slow=9.1,SNR=210								
FITZ	**Fitzroy Crossi**	**41.18**	**262**	P		P	P	12 56 01.0	-3.4
	comp=Z,4.9nm,0.7s,baz=87,slow=7.3,SNR=10								
CMAR	**Chiang Mai Arr**	**77.33**	**294**	P		P	P	13 00 11.8	-0.4
	comp=Z,0.1nm,0.3s,baz=116,slow=3.5,SNR=6.2								
SONM	**Songino Array**	**85.31**	**323**	P		P	P	13 00 53.3	-0.3
	comp=Z,0.2nm,0.3s,baz=145,slow=5.3,SNR=2.5								
NVAR	**Mina Array Bea**	**87.62**	**49**	P		P	P	13 01 08.4	+3.2
	comp=Z,0.4nm,0.6s,baz=226,slow=8.1,SNR=3.5								
ILAR	**Eielson Array**	**88.28**	**17**	P		P	P	13 01 07.7	+0.3
	comp=Z,0.3nm,0.7s,baz=243,slow=5.0,SNR=10								
YKA	**Yellowknife Ar**	**98.91**	**27**	P		P	Pdif	13 01 57.7	+1.6
	comp=Z,0.1nm,0.5s,baz=256,slow=4.7,SNR=3.8								

GUC 10 13:17:38.4±0.9, 22°.62S×70°.50W, h32km±2km, MD4.1, ML4.0, 1C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MECH	**Mejillones**	**0.48**	**175**	⇓*i*P		P	Pb	13 17 47.7	-1.0
MECH				*i* S		Sb	Sb	13 17 55.4	-0.3
MECH				AML		AML	AML	13 17 58.3	
	comp=N,5μm,0.3s								
MACH	**Maria Elena**	**0.81**	**58**	⇓*i*P		P	Pn	13 17 53.3	-0.6
MACH				*e*S			Sn	13 18 04.8	-0.2
PB04	**Plate Boundary**	**1.00**	**69**	⇓*i*P		P	Pn	13 17 47.5	-8.8
PB04				*i* S			Sn	13 17 54.6	-15
PB04				AML		AML	AML	13 17 55.3	
	comp=N,5μm,0.5s								
PB09	**Plate Boundary**	**1.42**	**55**	⇑*i*P		P	Pb	13 18 03.8	-0.8
PB09				*i* S		Sb	Sb	13 18 22.3	-0.2
PB09				AML		AML	AML	13 18 29.1	
	comp=E,13μm,0.5s								
LVC	**Limon Verde**	**1.47**	**90**	*e*P		P	Pn	13 18 03.9	+0.9
LVC				*i* S			Sb	13 18 23.1	-0.8
PB01	**Plate Boundary**	**1.83**	**31**	*e*P		P	Pn	13 18 09.4	+1.5
PB01				*i* S			Sb	13 18 33.7	-0.3
PB01				AML		AML	AML	13 18 38.3	
	comp=E,2μm,0.3s								
SPCH	**San Pedro de A**	**2.14**	**98**	*e*P		P	Pn	13 18 14.6	+2.2
SPCH				*i* S			Sb	13 18 42.2	-1.1
SPCH				AML		AML	AML	13 18 52.2	
	comp=N,4μm,0.6s								
HMBC	**Humberstone**	**2.40**	**14**	*e*P		P	Pn	13 18 17.7	+2.0
HMBC				*e*S			Sb	13 18 47.5	-2.9
HMBC				AML		AML	AML	13 19 01.0	
	comp=E,997nm,0.6s								
PSGC	**Pisagua**	**3.03**	**7**	AML		AML	AML	13 19 17.6	
	comp=E,334nm,0.3s								
MNMC	**Minimini**	**3.57**	**14**	AML		AML	AML	13 19 40.7	
	comp=N,588nm,0.7s								

*DJA **10** 13:19:18, 0°.52S×132°.22E, h106km, MLv4.5/8*
IDC 10 13:19:17.1±3.3, 0°.36S×132°.18E, h66km±30km, mb3.8/7, mb1 3.9/9, mb1mx3.7/19, mbtmp3.8/9, ML3.9/2, MS3.4/8, Ms1 3.4/8, ms1mx3.1/25, Error ellipse: s-maj=44.3km s-min=12.0km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**18.71**	**42**	LR		LR	LR	13 30 07.5	
	comp=Z,95nm,18.9s,baz=269,slow=35								
FITZ	**Fitzroy Crossi**	**18.77**	**200**	P		P	P	13 23 29.0	-2.0
	0.1nm,0.3s,baz=24,slow=12,SNR=2.4								
FITZ				S		S	S	13 26 49.6	-12
	0.2nm,0.3s,baz=208,slow=18,SNR=3.2								
FITZ				LR		LR	LR	13 32 17.4	
	comp=Z,42nm,18.1s,baz=15,slow=42								
WRA	**Warramunga Arr**	**19.58**	**174**	P		P	P	13 23 39.8	-0.2
	0.6nm,0.3s,baz=357,slow=11,SNR=27								
WRA				S		S	S	13 27 09.6	-8.0
	0.2nm,0.3s,baz=360,slow=23,SNR=8.6								
ASAR	**Alice Springs**	**23.23**	**176**	P		P	P	13 24 18.9	0.0
	23nm,0.8s,baz=355,slow=8.5,SNR=81								
ASAR				S		S	S	13 28 26.8	+0.9
	0.8nm,1.0s,baz=358,slow=20,SNR=3.1								
CTA	**Charters Tower**	**23.97**	**146**	P		P	P	13 24 27.2	+1.7
	8.6nm,1.0s,baz=345,slow=8.6,SNR=5.6								
CTA				LR		LR	LR	13 34 51.3	
	comp=Z,117nm,19.8s,baz=291,slow=39								
JOW	**Kunigami**	**27.29**	**352**	LR		LR	LR	13 33 06.1	
	comp=Z,103nm,20.0s,baz=187,slow=30								
STKA	**Stephens Creek**	**32.59**	**165**	P		P	P	13 25 42.4	0.0
	4.2nm,1.0s,baz=329,slow=7.1,SNR=4.8								
STKA				LR		LR	LR	13 40 04.1	
	comp=Z,80nm,18.5s,baz=204,slow=38								
MJAR	**Matsushiro Arr**	**37.14**	**8**	LR		LR	LR	13 38 34.3	
	comp=Z,101nm,20.4s,baz=195,slow=31								
KSRS	**Korea Array**	**37.83**	**354**	LR		LR	LR	13 40 12.2	
	comp=Z,55nm,18.5s,baz=342,slow=33								
SONM	**Songino Array**	**52.98**	**338**	P		P	P	13 28 27.8	+0.6
	0.8nm,1.0s,baz=134,slow=8.3,SNR=4.3								
SONM				LR		LR	LR	13 53 25.5	
	comp=Z,40nm,18.8s,baz=322,slow=39								
MKAR	**Makanchi Array**	**64.01**	**324**	P		P	P	13 29 44.9	+1.1
	1.0nm,0.6s,baz=116,slow=8.1,SNR=15								
ZALV	**Zalesovo Beam**	**66.71**	**332**	P		P	P	13 30 00.1	-0.9
	0.8nm,0.7s,baz=116,slow=6.7,SNR=2.6								
ILAR	**Eielson Array**	**86.45**	**25**	P		P	P	13 31 50.7	-1.6
	0.6nm,0.9s,baz=264,slow=4.8,SNR=12								

IDC 10 13:40:02.3±1.8, 18°.13S×178°.03W, h632km±23km, mb3.1/7, mb1 3.3/8, mb1mx3.1/19, mbtmp3.1/8, Error ellipse: s-maj=23.1km s-min=14.4km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.33**	**56**	P		P	P	13 41 56.3	-0.5
	1.4nm,0.3s,baz=245,slow=19,SNR=2.8								
WRA	**Warramunga Arr**	**44.95**	**260**	P		P	P	13 47 23.6	0.0
	1.2nm,0.4s,baz=96,slow=7.0,SNR=19								
ASAR	**Alice Springs**	**45.08**	**254**	P		P	P	13 47 24.8	+0.3
	1.3nm,0.5s,baz=92,slow=7.8,SNR=20								
ASAR				S		S	S	13 53 19.4	-0.1
	0.8nm,0.7s,baz=90,slow=16,SNR=6.9								
MJAR	**Matsushiro Arr**	**68.30**	**323**	P		P	P	13 50 02.2	0.0
	1.1nm,0.5s,baz=157,slow=6.3,SNR=8.6								
QSPA	**South Pole Qui**	**71.93**	**180**	P		P	P	13 50 23.4	+0.1
	1.1nm,0.8s,baz=86,slow=3.8,SNR=9.6								

PETK Petropavlovsk- 73.98 345 P P 13 50 35.1 +0.3
7.3nm,1.1s,baz=124,slow=8.4,SNR=4.7
ILAR Eielson Array 86.02 13 P P 13 51 36.3 -0.7
0.3nm,0.4s,baz=221,slow=4.8,SNR=14
PDAR Pinedale Array 87.26 43 P P 13 51 43.9 +0.1
0.1nm,0.4s,baz=232,slow=6.8,SNR=2.3
BRTR Keskin Array B 145.19 315 PKPbc PKPbc 13 58 30.7 -0.4
0.6nm,0.6s,baz=76,slow=6.1,SNR=2.9
GERES GERESS Array B 147.91 345 PKPbc PKPbc 13 58 38.1 +0.1
0.5nm,0.5s,baz=90,slow=2.9,SNR=1.5

IDC 10 13:40:59.6±23.0, 18°.25S×178°.31W, h665km±198km, mb3.2/5, mb1 3.4/6, mb1mx3.0/19, mbtmp3.2/6, Error ellipse: s-maj=210.5km s-min=93.5km az=75.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**14.81**	**253**	P		P	P	13 44 04.9	+0.9
	0.1nm,0.3s,baz=81,slow=17,SNR=3.5								
STKA	**Stephens Creek**	**38.55**	**242**	P		P	P	13 47 28.7	-0.1
	1.9nm,0.5s,baz=89,slow=12,SNR=2.7								
WRA	**Warramunga Arr**	**44.66**	**260**	P		P	P	13 48 16.5	-0.2
	2.1nm,0.3s,baz=96,slow=7.0,SNR=18								
WRA				PcP		PcP	PcP	13 49 43.8	-0.3
	0.2nm,0.3s,baz=92,slow=3.3,SNR=4.2								
ASAR	**Alice Springs**	**44.79**	**255**	P		P	P	13 48 17.9	+0.2
	4.1nm,0.4s,baz=92,slow=7.7,SNR=30								
ASAR				PcP		PcP	PcP	13 49 44.5	0.0
	0.5nm,0.4s,baz=106,slow=3.8,SNR=5.6								
FITZ	**Fitzroy Crossi**	**53.06**	**261**	P		P	P	13 49 18.2	+0.1
	2.7nm,0.9s,baz=129,slow=6.5,SNR=3.7								
CMAR	**Chiang Mai Arr**	**89.08**	**290**	P		P	P	13 52 46.8	-0.1
	0.3nm,0.4s,baz=134,slow=2.6,SNR=5.3								

*DJA **10** 13:50:01, 2°.26S×138°.97E, h23km, mb4.4/5*
IDC 10 13:49:56.3±1.2, 2°.43S×139°.04E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/16, mbtmp3.8/7, ML3.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/23, Error ellipse: s-maj=51.9km s-min=20.3km az=94.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.64**	**131**	Pn		Pn	Pn	13 52 35.6	+5.5
	0.3nm,0.3s,baz=304,slow=18,SNR=2.5								
WRA	**Warramunga Arr**	**18.00**	**194**	P		Pn	Pn	13 54 06.9	-1.2
	0.4nm,0.3s,baz=16,slow=13,SNR=26								
WRA				S		Sn	Sn	13 57 18.1	-12
	0.3nm,0.3s,baz=10,slow=24,SNR=5.6								
FITZ	**Fitzroy Crossi**	**20.38**	**219**	P		P	P	13 54 35.1	+0.3
	3.1nm,0.9s,baz=45,slow=14,SNR=2.9								
FITZ				S		S	S	13 58 14.9	-9.2
	1.8nm,0.6s,baz=205,slow=19,SNR=4.5								
FITZ				LR		LR	LR	14 02 52.7	
	comp=Z,37nm,20.2s,baz=222,slow=38								
ASAR	**Alice Springs**	**21.69**	**193**	P		P	P	13 54 49.0	+0.1
	0.6nm,0.5s,baz=18,slow=11,SNR=9.8								
ASAR				S		S	S	13 58 44.2	-5.8
	0.5nm,0.7s,baz=10,slow=27,SNR=4.0								
MKAR	**Makanchi Array**	**69.77**	**322**	P		P	P	14 01 09.0	+0.5
	0.9nm,0.6s,baz=105,slow=7.9,SNR=18								
ZALV	**Zalesovo Beam**	**71.86**	**330**	P		P	P	14 01 20.2	-0.8
	0.5nm,0.3s,baz=104,slow=6.1,SNR=2.5								
ILAR	**Eielson Array**	**85.44**	**24**	P		P	P	14 02 35.6	0.0
	0.5nm,0.8s,baz=252,slow=4.2,SNR=7.4								
QSPA	**South Pole Qui**	**87.51**	**180**	P		P	P	14 02 46.1	+0.1
	0.7nm,0.5s,baz=330,slow=1.9,SNR=3.9								

*MOS **10** 13:50:33.7±1.7, 56°.72N×118°.78E, h5km, mb4.4/1, Error ellipse: s-maj=19.8km s-min=17.0km az=2.8*
*BYKL **10** 13:50:35.1±0.3, 56°.70N×118°.70E, h7km±6km*
ISC 10 13:50:31.7±1.1, 56°.61N±0°.03×118°.82E±0°.02, h4km±10km, n36, σ2s51/47, 6C-1D, East of Lake Baikal

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**0.42**	**314**	*e*PG		**Pg**	**Pg**	**13 50 40.5**	**+0.7**
CRS				*e*				13 50 44.7	
CRS				pmax		pmax			
	comp=Z,3μm,0.8s								
CRS				smax		smax			
	comp=N,3μm,1.3s								
CRS	**Chara**	**0.42**	**314**	⇑*i*Pg		**Pg**	**Pg**	**13 50 40.6**	**+0.7**
CRS				*i* Sg			**Sg**	**13 50 45.2**	**-0.1**
CRS				Pmax					
	comp=N,3μm,0.8s								
CRS				Smax					
	comp=N,3μm,2.1s								
KHNR	**Khani**	**0.71**	**63**	⇑*i*Pg		**Pn**	**Pn**	**13 50 49.3**	**+0.8**
KHNR				*i* Sg			**Sn**	**13 51 00.0**	**+0.1**
KHNR				*e*				13 51 07.5	
NLYR	**Nelyaty**	**1.73**	**267**	⇑*i*PN		**Pb**	**Pb**	**13 51 03.8**	**-0.2**
NLYR				*e*				13 51 25.8	
NLYR				pmax		pmax			
	comp=Z,81nm,0.5s								
NLYR				smax		smax			
	comp=N,991nm,1.1s								
NLYR	**Nelyaty**	**1.73**	**267**	⇑*i*Pg		**Pb**	**Pb**	**13 51 03.9**	**-0.1**
NLYR				*e*				13 51 05.8	
NLYR				*e*Sg		**Sb**	**Sb**	**13 51 26.1**	**+0.1**
NLYR				*e*				13 51 28.2	
NLYR				max					
	comp=N,182nm,0.5s								
NLYR				max					
	comp=N,989nm,0.8s								
TUP	**Tupik**	**2.28**	**163**	*e*PN		**Pb**	**Pb**	**13 51 13.9**	**+0.6**
TUP				*e*				13 51 17.0	
TUP				*e*S		**Sb**	**Sb**	**13 51 43.0**	**+1.1**
TUP				*e*				13 51 47.5	
TUP				pmax		pmax			
	comp=Z,55nm,0.4s								
TUP				smax		smax			
	comp=N,229nm,0.8s								
TUP	**Tupik**	**2.28**	**163**	*e*Pn		**Pb**	**Pb**	**13 51 14.4**	**+1.1**
TUP				⇓*i*Pg		**Pg**	**Pg**	**13 51 17.0**	**+1.7**
TUP				*i* Sg		**Sg**	**Sg**	**13 51 48.2**	**+3.3**
TUP				Pmax					
	comp=N,73nm,0.7s								
TUP				Smax					
	comp=N,303nm,1.5s								
BOD	**Bodaibo**	**2.89**	**297**	*e*PN		**Pn**	**Pn**	**13 51 19.9**	**+1.6**
BOD				*e*				13 51 24.5	
BOD				*e*				13 51 59.4	
BOD				pmax		pmax			
	comp=Z,53nm,0.4s								
BOD				smax		smax			
	comp=N,353nm,0.6s								
BOD	**Bodaibo**	**2.89**	**297**	*e*Pn		**Pn**	**Pn**	**13 51 20.0**	**+1.6**
BOD				*e*Pg		**Pb**	**Pb**	**13 51 23.9**	**+0.2**
BOD				*e*Sn		**Sn**	**Sn**	**13 51 53.5**	**0.0**
BOD				*i* Sg		**Sb**	**Sb**	**13 51 59.8**	**+0.5**
BOD				Pmax					
	comp=N,43nm,1.0s								
BOD				Smax					
	comp=N,354nm,0.9s								
CLNS	**Chul'man**	**3.35**	**84**	*e*PN		**Pb**	**Pb**	**13 51 31.6**	**-0.1**
CLNS				*e*				13 52 14.4	
CLNS				pmax		pmax			
	comp=Z,69nm,0.9s								
CLNS				pmax		pmax			
	comp=E,33nm,0.5s								
CLNS				pmax		pmax			
	comp=N,47nm,0.7s								
CLNS				smax		smax			
	comp=E,507nm,1.1s								
CLNS				smax		smax			
	comp=Z,109nm,0.9s								
CLNS				smax		smax			
	comp=N,505nm,1.0s								
CLNS	**Chul'man**	**3.35**	**84**	*e*		**Pb**	**Pb**	**13 51 30.6**	**-1.1**
CLNS				*e*Pg		**Pg**	**Pg**	**13 51 36.1**	**+0.2**
CLNS				*e*				13 52 13.1	
CLNS				*e*Sg		**Sg**	**Sg**	**13 52 21.4**	**+2.1**
IENR	**Iengra**	**3.38**	**94**	⇑*i*Pn		**Pb**	**Pb**	**13 51 30.1**	**-1.9**
IENR				*e*Pg		**Pg**	**Pg**	**13 51 35.7**	**-0.6**
IENR				*e*				13 51 57.5	
IENR				*e*				13 52 11.4	
IENR				*e*Sg		**Sg**	**Sg**	**13 52 20.5**	**+0.5**
YOA	**

YOA				smax	smax		
	comp=E,780nm,1.8s						
YOA	**Uoyan**	**3.98**	**266**	*e*Pg	**Pb**	**13 51 45.1**	**+2.9**
YOA				*e*Sg	**Sg**	**13 52 35.7**	**-3.5**
YOA				Pmax			
	comp=E,70nm,0.9s						
YOA				Smax			
	comp=E,684nm,1.8s						
KMO	**Kumora**	**4.31**	**264**	*e*PN	**Pn**	**13 51 39.4**	**+1.5**
KMO				*e*		13 51 49.9	
KMO				*e*S	**Sn**	**13 52 27.1**	**-1.5**
KMO	**Kumora**	**4.31**	**264**	*e*Pn	**Pn**	**13 51 40.8**	**+2.9**
KMO				*i* Pg	**Pb**	**13 51 50.2**	**+2.3**
KMO				*i* Sg	**Sg**	**13 52 46.2**	**-3.8**
KMO				*e*		13 52 59.0	
KMO				Pmax			
	comp=E,48nm,1.2s						
KMO				Smax			
	comp=E,308nm,1.0s						
YLYR	**Ulyunkhan**	**4.66**	**251**	*e*Pn	**Pn**	**13 51 45.2**	**+2.4**
YLYR				*e*Pg	**Pb**	**13 51 56.7**	**+2.8**
YLYR				*e*		13 52 38.6	
YLYR				*e*Sg	**Sg**	**13 52 57.6**	**-3.7**
YLYR				Pmax			
	comp=E,15nm,1.2s						
YLYR				Smax			
	comp=E,134nm,1.9s						
NIZ	**Nizh Angarsk**	**5.25**	**265**	*e*PN	Pn	13 51 54.6	+3.8
NIZ				*e*		13 52 09.7	
NIZ				*e*S	**Sn**	**13 52 53.1**	**+1.4**
NIZ				*e*		13 53 16.0	
NIZ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
NIZ				smax	smax		
	comp=N,74nm,1.0s						
NIZ	**Nizh Angarsk**	**5.25**	**265**⇑	*i* Pn	Pn	13 51 54.6	+3.8
NIZ				*e*Pg	Pb	13 52 07.5	+3.6
NIZ				*e*		13 52 09.9	
NIZ				*i* Sg	**Sg**	**13 53 16.0**	**-4.1**
NIZ				max			
	comp=N,10.0nm,1.4s						
NIZ				Smax			
	comp=N,74nm,0.9s						
CIT	**Chita**	**5.53**	**216**	*e*Sg	**Sg**	**13 53 26.7**	**-2.5**
CIT				Smax			
	comp=N,297nm,1.9s						
SYVR	**Suvo**	**5.86**	**243**	*e*PN	**Pn**	**13 52 02.0**	**+2.8**
SYVR				*e*		13 52 19.3	
SYVR				*e*		13 53 35.4	
SYVR				pmax	pmax		
	comp=Z,15nm,1.6s						
SYVR				smax	smax		
	comp=N,100nm,1.3s						
SYVR	**Suvo**	**5.86**	**243**	*e*Pn	Pn	13 52 02.3	+3.1
SYVR				*e*		13 52 11.0	
SYVR				*e*Pg	Pb	13 52 19.0	+4.7
SYVR				*i* Sg	**Sg**	**13 53 35.6**	**-4.0**
SYVR				Pmax			
	comp=N,6.0nm,0.6s						
SYVR				Smax			
	comp=N,98nm,1.2s						
OGRR	**Ongureny**	**7.09**	**250**	*e*PN	**Pn**	**13 52 18.5**	**+2.5**
OGRR				*e*		13 52 41.5	
OGRR				*e*		13 54 13.6	
OGRR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
OGRR				smax	smax		
	comp=N,47nm,1.8s						
OGRR	**Ongureny**	**7.09**	**250**	*e*Pn	Pn	13 52 19.6	+3.6
OGRR				*e*Pg	Pb	13 52 41.7	+6.5
OGRR				*e*Sg	Sg	13 54 13.5	-5.5
OGRR				*e*		13 54 21.5	
OGRR				Pmax			
	comp=N,3.0nm,0.7s						
OGRR				max			
	comp=N,47nm,1.1s						
HIA	**Hailar**	**7.38**	**175**	*e*	**Sn**	**13 53 38.5**	**-5.6**
HIA				*e*Sg	**Sg**	**13 54 25.4**	**-2.9**
ZRHB	**Zarechye**	**7.90**	**244**	*e*Pg	Pg	13 52 57.7	-5.1
ZRHB				*i* Sg	**Sg**	**13 54 40.7**	**-4.3**
ZRHB				Smax			
	comp=N,218nm,1.4s						
KPC	**Khapcheranga**	**7.92**	**212**	*e*Pn	Pn	13 52 32.1	+4.6
KPC				*e*Pg	Pg	13 52 58.3	-5.0
KPC				*e*		13 53 07.8	
KPC				*e*Sg	**Sg**	**13 54 42.6**	**-3.2**
KPC				*e*		13 54 46.9	
KPC				max			
	comp=N,65nm,1.7s						
UUDB	**Ulan-Yde**	**8.07**	**239**	*e*Sg	**Sg**	**13 54 45.6**	**-5.1**
UUDB				Smax			
	comp=N,312nm,0.8s						
TRG	**Tyrgan**	**8.19**	**247**	*e*	Pn	13 52 23.2	-8.0
TRG				*e*Pg	Pg	13 53 02.5	-5.8
TRG				*e*		13 54 30.7	
TRG				*e*Sg	Sg	13 54 48.6	-5.7
TRG				*e*		13 54 51.8	
TRG				Pmax			
	comp=N,1.0nm,0.1s						
TRG				max			
	comp=N,29nm,1.8s						
KAB	**Kabansk**	**8.45**	**242**	*e*	Pg	13 53 34.7	+21
KAB				*e*Sg	Sg	13 54 57.0	-5.5
KAB				Smax			
	comp=N,271nm,1.9s						
LSTR	**Listvyanka**	**9.46**	**246**	*e*Sg	Sn	13 55 27.2	+52
LSTR				Smax			
	comp=N,74nm,1.8s						
TLY	**Talaya**	**10.17**	**247**	*e*Sg	Sn	13 55 48.7	+56
TLY				*e*		13 55 53.7	
TLY				max			
	comp=N,42nm,1.6s						
ARS	**Arshan**	**10.67**	**251**	*e*Sg		13 56 05.7	
ARS				Smax			
	comp=N,57nm,1.1s						
ZAK	**Zakamensk**	**11.14**	**243**	*e*Sg		13 56 20.6	
ZAK				Smax			
	comp=N,19nm,3.1s						
MOY	**Mondy**	**11.55**	**252**	*e*	Pn	13 54 02.5	+45
MOY				*e*		13 56 15.6	
MOY				*e*Sg		13 56 30.4	
MOY				Smax			
	comp=N,46nm,1.8s						
ORL	**Orlik**	**11.75**	**258**	*e*Sg		13 56 38.0	
ORL				Smax			
	comp=N,38nm,2.2s						

PRE 10 14:04:47.6±1.1, 28°16'S×26°72'E, h2km, ML1.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEK	**Senekal**	**0.81**	**102**	*e*P	Pg	14 05 02.2	-1.2
SEK				*e*S	Sb	14 05 15.4	-0.9
SEK				AML	AML	14 05 19.2	
	comp=Z,10nm,0.2s						
PRYS	**Parys**	**1.35**	**25**	*e*P	Pn	14 05 13.3	-0.4
PRYS				*e*S	Sn	14 05 32.3	-0.1
PRYS				AML	AML	14 05 37.3	
	comp=Z,8.2nm,0.1s						
BOSA	**Boshof**	**1.37**	**250**	*e*P	Pn	14 05 13.6	-0.4
BOSA				*e*S	Sn	14 05 33.2	+0.4
BOSA				AML	AML	14 05 38.6	
	comp=Z,4.1nm,0.4s						
SWZ	**Schweizer**	**1.57**	**308**	*e*P	Pn	14 05 17.1	+0.4
SWZ				*e*S	Sg	14 05 39.4	+0.9
SWZ				AML	AML	14 05 44.6	
	comp=Z,6.2nm,0.7s						

*CSEM **10** 15:13:11.9±0.2, 41°.63N×2°.88E, h17km±2km, ML2.7/9, Error ellipse: s-maj=4.3km s-min=3.6km az=117.0*
*MDD **10** 15:13:13.4±0.5, 41°.65N×2°.92E, h11km, mbLg2.3/19, Error ellipse: s-maj=4.6km s-min=3.1km az=122.0, PRXIMO*
*LDG **10** 15:13:13.2±0.1, 41°.66N×2°.91E, h10km, Md2.8/1, Ml2.5/7, Error ellipse: s-maj=1.4km s-min=1.2km az=115.0*

ISC 10 15:13:11.2±1.4, 41°63N±0°.03×2°92E±0°.03, h12km±13km, n57, σ1§05/58, 1C, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCAS	**Cassa de la Se**	**0.25**	**358**	Pg	**Pb**	**15 13 17.8**	**+0.1**
CCAS				Lg	Lg	15 13 20.6	
	428nm,0.2s						
CCAS	**Cassa de la Se**	**0.25**	**358**	Pg	**Pb**	**15 13 17.8**	**+0.1**
CCAS				Lg	Lg	15 13 20.6	
	428nm,0.2s						
CFON	**Fontmartina**	**0.38**	**290**	⇑Pg	**Pb**	**15 13 20.6**	**+0.6**
	40nm,0.2s,SNR=18						
CFON				Lg	Lg	15 13 25.3	
	276nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**0.38**	**290**	Pg	**Pb**	**15 13 20.6**	**+0.6**
	40nm,0.2s,SNR=18						
CFON				Lg	Lg	15 13 25.3	
	276nm,0.2s,SNR=7.9						
CBEU	**Beuda**	**0.65**	**344**	Pg	**Pb**	**15 13 25.2**	**+0.7**
CBEU				Lg	Lg	15 13 33.4	
	47nm,0.2s						
CBEU	**Beuda**	**0.65**	**344**	Pg	**Pb**	**15 13 25.2**	**+0.7**
CBEU				Lg	Lg	15 13 33.4	
	47nm,0.2s						
CPAL	**Palau Saverder**	**0.70**	**15**	Pg	**Pb**	**15 13 26.5**	**+1.1**
CPAL				Lg	Lg	15 13 35.8	
	61nm,0.1s						
CPAL	**Palau Saverder**	**0.70**	**15**	Pg	**Pb**	**15 13 26.5**	**+1.1**
CPAL				Lg	Lg	15 13 35.8	
	61nm,0.1s						
CORI	**Orista**	**0.73**	**298**	Pg	**Pb**	**15 13 26.7**	**+0.8**
CORI				Lg	Lg	15 13 36.0	
	38nm,0.2s						
CORI	**Orista**	**0.73**	**298**	Pg	**Pb**	**15 13 26.7**	**+0.8**
CORI				Lg	Lg	15 13 36.0	
	38nm,0.2s						
EJON	**La Jonquera**	**0.81**	**359**	Pg	**Pb**	**15 13 28.6**	**+1.3**
	1.9nm,0.1s,SNR=22						
EJON				Lg	Lg	15 13 39.4	
	63nm,0.1s,SNR=25						
EJON	**La Jonquera**	**0.81**	**359**	Pg	**Pb**	**15 13 28.6**	**+1.3**
	1.9nm,0.1s,SNR=22						
EJON				Lg	Lg	15 13 39.4	
	63nm,0.1s,SNR=25						
CBRU	**Bruguera**	**0.85**	**320**	Pg	**Pb**	**15 13 29.0**	**+1.0**
CBRU				Lg	Lg	15 13 39.7	
	6.2nm,0.1s						
CBRU	**Bruguera**	**0.85**	**320**	Pg	**Pb**	**15 13 29.0**	**+1.0**
CBRU				Lg	Lg	15 13 39.7	
	6.2nm,0.1s						
EMIR	**Miracle**	**1.08**	**286**	Pg	**Pn**	**15 13 33.5**	**+1.3**
	3.3nm,0.1s,SNR=29						
EMIR				Lg	Lg	15 13 47.7	
	24nm,0.1s,SNR=13						
EMIR	**Miracle**	**1.08**	**286**	Pg	**Pn**	**15 13 33.5**	**+1.3**
	3.3nm,0.1s,SNR=29						
EMIR				Lg	Lg	15 13 47.7	
	24nm,0.1s,SNR=13						
CLLI	**Llivia**	**1.10**	**321**	Pg	**Pn**	**15 13 33.8**	**+1.2**
	5.5nm,0.2s,SNR=7.9						
CLLI				Lg	Lg	15 13 47.4	
	11nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**1.10**	**321**	Pg	**Pn**	**15 13 33.8**	**+1.2**
	5.5nm,0.2s,SNR=7.9						
CLLI				Lg	Lg	15 13 47.4	
	11nm,0.2s,SNR=7.9						
CORG	**Organya**	**1.33**	**297**	Pg	**Pb**	**15 13 38.1**	**+1.9**
CORG				Lg	Lg	15 13 55.0	
	5.9nm,0.1s						
CORG	**Organya**	**1.33**	**297**	Pg	**Pb**	**15 13 38.1**	**+1.9**
CORG				Lg	Lg	15 13 55.0	
	5.9nm,0.1s						
CGAR	**Garraf**	**1.38**	**256**	Pg	Pn	15 13 29.5	-6.8
CGAR				Lg	Lg	15 13 40.8	
	24nm,0.2s						
COBS	**Casablanca**	**1.49**	**232**	Lg	Lg	15 14 02.8	
COBS	**Casablanca**	**1.49**	**232**	Lg	Lg	15 14 02.8	
CSOR	**Sort**	**1.52**	**300**	Pg	**Pg**	**15 13 41.5**	**+1.1**
	2.0nm,0.1s,SNR=14						
CSOR				Lg	Lg	15 14 01.6	
	18nm,0.2s,SNR=9.6						
CSOR	**Sort**	**1.52**	**300**	Pg	**Pg**	**15 13 41.5**	**+1.1**
	2.0nm,0.1s,SNR=14						
CSOR				Lg	Lg	15 14 01.6	
	18nm,0.2s,SNR=9.6						
ETOS	**Mallorca**	**1.87**	**182**	Pn	**Pn**	**15 13 43.6**	**+0.6**
	0.9nm,0.1s,SNR=7.9						
ETOS				Pg	**Pb**	**15 13 45.9**	**+0.6**
	1.2nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**15 14 06.9**	**+0.4**
	2.0nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**1.87**	**182**	Pn	**Pn**	**15 13 43.6**	**+0.6**
	0.9nm,0.1s,SNR=7.9						
EPF	**Esparros**	**2.37**	**307**	*e*Pn	**Pn**	**15 13 50.1**	**+0.2**
EPF	**Esparros**	**2.37**	**307**	*e*Pg	**Pg**	**15 13 56.9**	**+0.4**
EPF				*e*Sg	**Sg**	**15 14 26.0**	**-1.2**
	8.2nm,0.2s						
EPF	**Esparros**	**2.37**	**307**	Pn	**Pn**	**15 13 50.1**	**+0.2**
EPF	**Esparros**	**2.37**	**307**	Pg	**Pg**	**15 13 56.9**	**+0.4**
EPF				*e*Sg	**Sg**	**15 14 26.0**	**-1.2**
	4.1nm,0.2s						
ESAC	**San Caprasio**	**2.54**	**273**	Pg	**Pg**	**15 13 59.2**	**-0.6**
	2.8nm,0.1s,SNR=4.0						
ESAC				Lg	Lg	15 14 33.1	
	40nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**2.54**	**273**	Pg	**Pg**	**15 13 59.2**	**-0.6**
	2.8nm,0.1s,SNR=4.0						
ESAC				Lg	Lg	15 14 33.1	
	40nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**2.54**	**16**	*e*Pn	**Pn**	**15 13 52.3**	**+0.1**
LASF	**Ste Croix**	**2.54**	**16**	*e*Pg	**Pg**	**15 13 59.9**	**+0.1**
LASF				*e*Sg	**Sg**	**15 14 32.3**	**-0.4**
	1.8nm,0.2s						
LASF	**Ste Croix**	**2.54**	**16**	Pn	**Pn**	**15 13 52.3**	**+0.1**
LASF	**Ste Croix**	**2.54**	**16**	Pg	**Pg**	**15 13 59.9**	**+0.1**
LASF				*e*Sg	**Sg**	**15 14 32.3**	**-0.4**
	0.9nm,0.2s						
LASF				Lg	Lg	15 14 32.3	
	0.4nm,0.2s						
EIBI	**Ibiza**	**2.87**	**205**	Sn	**Sn**	**15 14 29.8**	**-1.4**
	3.7nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.87**	**205**	Sn	**Sn**	**15 14 29.8**	**-1.4**
	3.7nm,0.2s,SNR=7.9						
ETSF	**Etsaut**	**2.87**	**297**	*e*Pg	**Pg**	**15 14 06.2**	**0.0**
ETSF				*e*Sg	**Sg**	**15 14 42.8**	**-0.6**
	6.5nm,0.3s						
ETSF	**Etsaut**	**2.87**	**297**	Pg	**Pg**	**15 14 06.2**	**0.0**
ETSF				*e*Sg	**Sg**	**15 14 42.8**	**-0.6**
	3.2nm,0.3s						
IEPA	**Eparoz**	**3.31**	**292**	Lg	Lg	15 14 57.0	
	3.1nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**3.31**	**292**	Lg	Lg	15 14 57.0	
	3.1nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**3.31**	**293**	Lg	Lg	15 14 56.9	
	7.4nm,0.4s,SNR=7.9						
IELO	**Elcoad**	**3.31**	**293**	Lg	Lg	15 14 56.9	
	7.4nm,0.4s,SNR=7.9						
CAF	**Calviac**	**3.35**	**350**	*e*Sg	**Sg**	**15 14 56.8**	**-1.9**
	2.3nm,0.3s						
CAF	**Calviac**	**3.35**	**350**	*e*Sg	**Sg**	**15 14 56.8**	**-1.9**
	1.1nm,0.3s						
CAF				Lg	Lg	15 14 56.8	
	0.6nm,0.3s						
EORO	**Oroz-Betelu**	**3.38**	**293**	Lg	Lg	15 14 58.5	
	5.5nm,0.2s,SNR=7.9						
EORO	**Oroz-Betelu**	**3.38**	**293**	Lg	Lg	15 14 58.5	
	5.5nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**3.41**	**297**	*e*Pn	**Pn**	**15 14 04.0**	**-0.1**
SJPF	**Ste Jean**	**3.41**	**297**	*e*Pg	**Pg**	**15 14 15.7**	**-0.7**
SJPF				*e*Sg	**Sg**	**15 14 59.6**	**-0.9**
	1.7nm,0.2s						
SJPF	**Ste Jean**	**3.41**	**297**	Pn	**Pn**	**15 14 04.0**	**-0.1**
SJPF	**Ste Jean**	**3.41**	**297**	Pg	**Pg**	**15 14 15.7**	**-0.7**
SJPF				*e*Sg	**Sg**	**15 14 59.6**	**-0.9**
	0.9nm,0.2s						
SJPF				Lg	Lg	15 14 59.6	
	0.4nm,0.2s						
LFF	**La Frestale**	**3.67**	**335**	*e*Sg	**Sg**	**15 15 07.4**	**-1.5**
	8.0nm,0.4s						
LFF	**La Frestale**	**3.67**	**335**	*e*Sg	**Sg**	**15 15 07.4**	**-1.5**
	4.0nm,0.4s						
RJF	**Les Rejaudoux**	**3.81**	**345**	*e*Sg	**Sg**	**15 15 11.6**	**-1.8**
	2.1nm,0.2s						
RJF	**Les Rejaudoux**	**3.81**	**345**	*e*Sg	**Sg**	**15 15 11.6**	**-1.8**
	1.0nm,0.2s						

*NIED **10** 15:13:00, 28°.60N×142°.30E, h5km, Mw4.0 Best double couple: M0 1.29000×10^15 NP1:φs 179.00000°, δ88.00000°, λ-57.00000°. NP2:φs 273.00000°, δ33.00000°, λ-176.00000°.*
*IDC **10** 15:13:38.4±0.7, 28°.44N×142°.57E, h0km, mb3.8/12, mb1 4.0/14, mb1mx3.9/23, mbtmp3.8/14, ML3.2/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/28, Error ellipse: s-maj=24.0km s-min=13.9km az=93.0*
*JMA **10** 15:13:39.8±0.1, 28°.56N×142°.13E, h8km, M4.3*
*ISCJB **10** 15:13:40.7±0.5, 28°61N±0°.03×142°.5E±0°.1, h25km, mb3.8/12, Error ellipse: s-maj=16.2km s-min=3.7km az=174.2*

ISC 10 15:13:42.1±0.7, 28°50N±0°.04×142°5E±0°.1, h25km, n33, σ1§50/38, mb3.8/12, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.43**	**192**	P	**Pn**	**15 14 06.4**	**-0.1**
CBIJ				*e*S	**Sb**	**15 14 25.6**	**-0.3**
CBIJ	**Chichi jima**	**1.43**	**192**	Pn	**Pn**	**15 14 05.9**	**-0.6**
	22nm,0.3s,baz=294,slow=23,SNR=4.4						
CBIJ				Sn	**Sn**	**15 14 23.9**	**-0.6**
	25nm,0.3s,baz=281,slow=23,SNR=3.8						
JHHJ	**Haha-jima-NKT**	**1.89**	**189**	P	**Pn**	**15 14 13.6**	**+0.8**
JHHJ				*e*S	**Sb**	**15 14 37.8**	**-1.3**
BSO1	**Boso 1**	**6.27**	**348**	P	**Pn**	**15 15 12.4**	**-0.1**
BSO1				*e*S	**Sn**	**15 16 21.2**	**-1.9**
BSO2	**Boso 2**	**6.41**	**347**	*e*S	**Sn**	**15 16 26.0**	**-0.8**
BSO3	**Boso 3**	**6.51**	**345**	P	**Pn**	**15 15 16.2**	**+0.2**
BSO3				*e*S	**Sn**	**15 16 29.7**	**+0.4**
BSO4	**Boso 4**	**6.73**	**345**	*e*S	**Sn**	**15 16 34.3**	**-0.6**
JOD2	**Odawara 2**	**7.34**	**338**	P	**Pn**	**15 15 28.5**	**+0.8**
JHU	**Hanno**	**7.82**	**340**	P	**Pn**	**15 15 34.4**	**+0.1**
JHU				*e*S	**Sn**	**15 16 58.7**	**-3.3**
JYT	**Yasato**	**7.95**	**346**	*e*S	**Sn**	**15 17 00.6**	**-4.5**
JAO	**Obara**	**8.08**	**328**	P	Pn	15 15 40.3	+2.3
JRY	**Ryogami san**	**8.09**	**339**	P	**Pn**	**15 15 39.2**	**+1.2**
JRY				*e*S	**Sn**	**15 17 06.8**	**-1.9**
JHO	**Hitachi**	**8.25**	**349**	P	**Pn**	**15 15 38.2**	**-2.0**
JHO				*e*S	Sn	15 17 05.0	-7.6
JAG	**Ashikaga**	**8.31**	**343**	P	**Pn**	**15 15 41.1**	**+0.1**
JAG				*e*S	**Sn**	**15 17 09.9**	**-4.2**
MJAR	**Matsushiro Arr**	**8.80**	**337**	Pn	**Pn**	**15 15 48.2**	**+0.5**
	1.3nm,0.3s,baz=160,slow=11,SNR=17						
MAT	**Matsushiro**	**8.80**	**337**	P	**Pn**	**15 15 48.7**	**+0.9**
MAT				*e*S	**Sn**	**15 17 26.1**	**0.0**
JFK	**Kawauchi**	**8.95**	**352**	*e*S	Sn	15 17 19.5	-10
JMK	**Ichinoseki**	**10.48**	**354**	P	**Pn**	**15 16 09.6**	**-1.1**
JMK				*e*S	Sn	15 17 58.4	-8.9
JNU	**Nakatsue**	**11.00**	**298**	LR	LR	15 20 30.5	
	comp=Z,92nm,18.5s,baz=70,slow=37						
JOW	**Kunigami**	**12.72**	**266**	LR	LR	15 21 06.2	
	comp=Z,52nm,19.5s,baz=96,slow=35						
USRK	**Ussuriysk Arra**	**17.78**	**335**	P	**P**	**15 17 47.6**	**-0.8**
	0.2nm,0.3s,baz=148,slow=11,SNR=3.8						
SONM	**Songino Array**	**33.91**	**315**	P	**P**	**15 20 24.4**	**+1.2**
	0.9nm,0.6s,baz=108,slow=6.3,SNR=9.0						
CMAR	**Chiang Mai Arr**	**41.00**	**266**	P	**P**	**15 21 22.6**	**-0.7**
	0.5nm,0.7s,baz=64,slow=7.0,SNR=6.3						
ZALV	**Zalesovo Beam**	**48.62**	**318**	P	**P**	**15 22 25.1**	**+1.5**
	1.0nm,0.4s,baz=98,slow=6.6,SNR=6.1						
WRA	**Warramunga Arr**	**48.80**	**190**	P	**P**	**15 22 25.3**	**-0.1**
	3.9nm,0.6s,baz=12,slow=8.5,SNR=35						
MKAR	**Makanchi Array**	**49.81**	**309**	P	**P**	**15 22 34.3**	**+1.4**
	0.9nm,0.7s,baz=94,slow=9.1,SNR=9.9						
ASAR	**Alice Springs**	**52.52**	**190**	P	**P**	**15 22 53.0**	**-0.5**
	0.4nm,0.6s,baz=8.7,slow=5.9,SNR=11						
ILAR	**Eielson Array**	**56.35**	**29**	P	**P**	**15 23 22.3**	**+1.6**
	0.4nm,0.8s,baz=250,slow=5.8,SNR=5.3						
YKA	**Yellowknife Ar**	**70.77**	**29**	P	**P**	**15 24 56.1**	**+0.1**
	0.2nm,0.7s,baz=299,slow=5.5,SNR=4.8						
FINES	**FINESS Array B**	**76.81**	**334**	P	**P**	**15 25 31.5**	**0.0**
	3.0nm,0.9s,baz=62,slow=3.3,SNR=5.7						
NVAR	**Mina Array Bea**	**79.43**	**52**	P	**P**	**15 25 46.6**	**-0.2**
	0.3nm,0.5s,baz=309,slow=5.7,SNR=2.9						
NOA	**NORSAR Array B**	**82.41**	**338**	P	**P**	**15 26 01.6**	**-0.4**
	0.6nm,0.9s,baz=5.8,slow=4.4,SNR=2.8						
BRTR	**Keskin Array B**	**85.26**	**313**	P	**P**	**15 26 18.1**	**+1.1**
	0.7nm,0.7s,baz=49,slow=4.1,SNR=3.6						

MEX 10 15:17:48.3±0.9, 17°96N×97°43W, h60km±8km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UTMO	**Huajuapan**	**0.38**	**250**	*e*P	Pn	15 17 58.1	-1.2
UTMO				*i* S	Sn	15 18 06.0	-1.2
TPIG	**Tehuac#an**	**0.47**	**8**	*i* P	Pn	15 17 58.8	-1.4
TPIG				*i* S	Sn	15 18 06.0	-2.7
OXX	**Oaxaca**	**1.10**	**142**	*i* P	Pn	15 18 05.7	-2.3
OXX				*i* S	Sn	15 18 20.3	-2.2
VHO	**Vista Hermosa**	**1.10**	**143**	*i* P	Pn	15 18 07.2	-0.8
VHO				*i* S	Sn	15 18 20.4	-2.2
PPM	**Popocatepetl**	**1.58**	**314**	*i* P	Pn	15 18 12.4	-2.4
PPM				*i* S	Sn	15 18 33.0	-1.7
PNIG	**Pinotepa**	**1.69**	**203**	*i* P	Pn	15 18 13.4	-2.3
PNIG				*i* S	Sn	15 18 34.6	-1.7
YAIG	**Yautepec**	**1.79**	**300**	*i* P	Pn	15 18 16.6	-0.6
YAIG				*i* S	Sn	15 18 37.5	-1.5
PLIG	**Platanillo**	**2.01**	**283**	*i* P	Pn	15 18 19.5	-0.6
PLIG				*i* S	Sn	15 18 42.3	-2.0
HUIG	**Huatulco**	**2.52**	**150**	*i* P	Pn	15 18 25.8	-1.1
HUIG				*i* S	Sn	15 18 54.0	-2.4
CMIG	**Matias Romero**	**2.58**	**109**	*i* P	Pn	15 18 27.3	-0.4
CMIG				*i* S	Sn	15 18 55.7	-2.3
CAIG	**El Cayaco**	**2.85**	**252**	*i* P	Pn	15 18 30.2	-1.2
CAIG				*i* S	Sn	15 19 02.0	-2.6

*IDC **10** 15:34:27.3±0.9, 26°.96N×143°.03E, h0km, mb3.6/9, mb1 3.9/11, mb1mx3.8/23, mbtmp3.7/11, ML3.5/2, MS3.1/2, Ms1 3.1/2, ms1mx2.6/29, Error ellipse: s-maj=20.4km s-min=18.5km az=97.0*
*ISCJB **10** 15:34:30.1±0.7, 27°.13N±0°.04×143°.02E±0°.06, h32km, mb3.7/9, Error ellipse: s-maj=8.3km s-min=5.5km az=25.3*
*JMA **10** 15:34:33.0±0.1, 26°.93N×142°.49E, h82km, M4.2*

ISC 10 15:34:32.2±0.9, 27°01N±0°.07×142°92E±0°.08, h32km, n24, σ0§91/29, mb3.6/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.67**	**278**	P	**Pb**	**15 34 45.6**	**+0.2**
CBIJ				S	**Sn**	**15 34 55.2**	**+0.5**
CBIJ	**Chichi jima**	**0.67**	**278**	Pn	**Pb**	**15 34 45.9**	**+0.5**
	350nm,0.3s,baz=113,slow=23,SNR=57						
CBIJ				Sn	**Sn**	**15 34 55.5**	**+0.8**
	1μm,0.3s,baz=287,slow=20,SNR=42						
JHHJ	**Haha-jima-NKT**	**0.76**	**241**	P	**Pn**	**15 34 46.3**	**-0.5**
JHHJ				*e*S	**Sn**	**15 34 55.7**	**-1.5**
BSO1	**Boso 1**	**7.80**	**

0.3nm,0.6s,baz=297,slow=6.1,SNR=7.1
FINES FINESS Array B 78.32 334 P **P** **15 46 29.6 +0.7**
1.2nm,0.5s,baz=73,slow=4.7,SNR=12

*THR **10** 16:21:16.8±1.1, 31°.53N×51°.15E, h14km±8km, ML3.5*
*TEH **10** 16:21:17.7, 31°.60N×51°.09E, h5km, ML3.6*
*IDC **10** 16:21:17.7±2.3, 31°.83N×50°.85E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.4/26, mbtmp3.5/6, ML2.9/1, Error ellipse: s-maj=48.6km s-min=30.0km az=161.0*
*CSEM **10** 16:21:18.4±0.2, 31°.68N×51°.16E, h2km, ML3.6, Error ellipse: s-maj=6.8km s-min=4.4km az=126.0*

ISC 10 16:21:18.1±1.7, 31°.66N±0°.04×51°.14E±0°.03, h11km±12km, n47, σ1§42/57, mb3.6/5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPIR	**Pirpir**	**1.04**	**348**	*e*Pg	**Pb**	**16 21 36.4**	**-2.0**
IPIR				*e*Sg	**Sb**	**16 21 52.3**	**+0.2**
IPIR				*e*		16 21 53.7	
	comp=Z,15μm,0.3s						
IPIR	**Pirpir**	**1.04**	**348**	*e*Pg	**Pb**	**16 21 36.4**	**-2.0**
IPIR				*e*Sg	**Sb**	**16 21 52.3**	**+0.2**
IGAR	**Gharneh**	**1.06**	**46**	*e*Sg	**Sg**	**16 21 53.4**	**+0.8**
IGAR				*e*		16 21 57.2	
	comp=Z,12μm,0.1s						
IGAR	**Gharneh**	**1.06**	**46**	*e*Sg	**Sg**	**16 21 53.4**	**+0.8**
IZEF	**Zefreh**	**1.59**	**39**	*e*Pn	**Pb**	**16 21 47.6**	**-0.1**
IZEF				*e*		16 21 50.7	
	comp=Z,3μm,0.2s						
IZEF				*e*Sg	**Sg**	**16 22 09.3**	**-0.1**
IZEF	**Zefreh**	**1.59**	**39**	*e*Pn	**Pb**	**16 21 47.6**	**-0.1**
IZEF				*e*Sg	**Sg**	**16 22 09.3**	**-0.1**
IKLH	**Kolahrood**	**1.69**	**13**	*e*Pn	**Pn**	**16 21 48.1**	**+0.2**
IKLH				*e*Sg	**Sg**	**16 22 12.7**	**0.0**
IKLH				*e*		16 22 19.3	
	comp=Z,7μm,0.2s						
IKLH	**Kolahrood**	**1.69**	**13**	*e*Pn	**Pn**	**16 21 48.1**	**+0.2**
IKLH				*e*Sg	**Sg**	**16 22 12.7**	**0.0**
NASN	**Na'in**	**1.81**	**51**	*e*P	**Pb**	**16 21 51.5**	**0.0**
NASN				*e*Sg	**Sg**	**16 22 16.9**	**+0.4**
NASN	**Na'in**	**1.81**	**51**	*e*P	**Pb**	**16 21 51.5**	**0.0**
NASN				*e*Sg	**Sg**	**16 22 16.9**	**+0.4**
SHGR	**Shooshtar-Gavs**	**2.04**	**283**	*e*Pg	**Pn**	**16 21 54.1**	**+1.7**
SHGR				*e*Sg	**Sg**	**16 22 22.9**	**-0.8**
SHGR				AML	AML	16 22 36.8	
	comp=N,332nm,0.6s						
SHGR				AML	AML	16 22 40.4	
	comp=E,280nm,0.6s						
SHGR	**Shooshtar-Gavs**	**2.04**	**283**	*e*Pg	**Pn**	**16 21 54.1**	**+1.7**
SHGR				*e*Sg	**Sg**	**16 22 22.9**	**-0.8**
ISAD	**Sadrabad**	**2.18**	**83**	*e*Pn	**Pn**	**16 21 55.4**	**+0.8**
ISAD				*e*		16 22 40.5	
	comp=Z,5μm,0.2s						
ISAD	**Sadrabad**	**2.18**	**83**	*e*Pn	**Pn**	**16 21 55.4**	**+0.8**
KHMZ	**Khomeyn**	**2.30**	**335**	*e*Pn	**Pn**	**16 21 58.0**	**+1.8**
KHMZ	**Khomeyn**	**2.30**	**335**	*e*Pn	**Pn**	**16 21 58.0**	**+1.8**
ICHK	**Chekchek**	**2.84**	**77**	*e*		16 22 59.8	
	comp=Z,2μm,0.3s						
ICHK				*e*Pn	**Pb**	**16 22 07.5**	**-1.4**
ISFB	**Sefidab**	**2.84**	**19**	*e*Pn	**Pn**	**16 22 04.5**	**+1.0**
ISFB				*e*		16 22 52.1	
	comp=Z,2μm,0.3s						
ISFB	**Sefidab**	**2.84**	**19**	*e*Pn	**Pn**	**16 22 04.5**	**+1.0**
ISRV	**Sarvestan**	**2.84**	**143**	*e*Pn	**Pn**	**16 22 03.4**	**-0.3**
ISRV				*e*		16 23 16.4	
	comp=Z,2μm,0.4s						
ISRV	**Sarvestan**	**2.84**	**143**	*e*Pn	**Pn**	**16 22 03.4**	**-0.3**
IMEH	**Mehriz**	**2.98**	**94**	*e*	Sg	16 23 13.3	+20
	comp=Z,1μm,0.4s						
ASAO	**Ashtian**	**3.03**	**342**	*e*Pn	**Pn**	**16 22 08.1**	**+1.9**
ASAO				AML	AML	16 23 05.9	
	comp=N,131nm,0.6s						
ASAO	**Ashtian**	**3.03**	**342**	*e*Pn	**Pn**	**16 22 08.1**	**+1.9**
IVRN	**Varamin**	**3.36**	**8**	*e*Pn	**Pn**	**16 22 11.5**	**+0.8**
IVRN				*e*Pn	**Pn**	**16 22 11.5**	**+0.8**
IVRN	**Varamin**	**3.36**	**8**	*e*Pn	**Pn**	**16 22 11.5**	**+0.8**
UMR	**Umm Al-Rimmam**	**3.62**	**235**	*e*P	**Pn**	**16 22 16.1**	**+1.8**
UMR	**Umm Al-Rimmam**	**3.62**	**235**	*e*P	**Pn**	**16 22 16.0**	**+1.8**
MIB	**Mutribah**	**3.76**	**241**	*e*P	**Pn**	**16 22 18.2**	**+2.1**
MIB				AML	AML	16 23 05.8	
	comp=Z,55nm,0.6s						
MIB	**Mutribah**	**3.76**	**241**	*e*P	**Pn**	**16 22 18.2**	**+2.1**
IRAZ	**Razeghan**	**3.87**	**345**	*e*Pn	**Pn**	**16 22 18.3**	**+0.6**
IRAZ				*e*		16 23 36.1	
	comp=Z,1μm,0.4s						
IRAZ	**Razeghan**	**3.87**	**345**	*e*Pn	**Pn**	**16 22 18.3**	**+0.6**
KBD	**Kabd**	**3.87**	**231**	*e*P	**Pn**	**16 22 19.9**	**+2.3**
KBD	**Kabd**	**3.87**	**231**	*e*P	**Pn**	**16 22 19.9**	**+2.3**
DAMV	**Damavand**	**4.02**	**10**	*e*Pn	**Pn**	**16 22 22.0**	**+2.2**
DAMV	**Damavand**	**4.02**	**10**	*e*Pn	**Pn**	**16 22 22.0**	**+2.2**
QRN	**Al-Qurain**	**4.03**	**225**	*e*P	**Pn**	**16 22 21.7**	**+2.0**
NAY	**Al-Naaiem**	**4.14**	**235**	*e*P	**Pn**	**16 22 23.3**	**+2.1**
NAY				AML	AML	16 23 11.8	
	comp=Z,18nm,0.5s						
NAY	**Al-Naaiem**	**4.14**	**235**	*e*P	**Pn**	**16 22 23.3**	**+2.1**
CHTH	**Charan**	**4.24**	**360**	*e*Pn	**Pn**	**16 22 25.1**	**+2.3**
CHTH	**Charan**	**4.24**	**360**	*e*Pn	**Pn**	**16 22 25.1**	**+2.3**
BRTR	**Keskin Array B**	**16.32**	**304**	Pn	**Pn**	**16 25 06.4**	**-1.0**
	comp=Z,0.0nm,0.3s,baz=123,slow=13,SNR=2.7						
AKASG	**Malin Array Be**	**25.01**	**326**	P	**P**	**16 26 40.5**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=115,slow=7.6,SNR=3.7						
MKAR	**Makanchi Array**	**28.24**	**49**	P	**P**	**16 27 13.3**	**+2.2**
	comp=Z,0.3nm,0.8s,baz=251,slow=9.0,SNR=3.6						
FINES	**FINESS Array B**	**33.98**	**339**	P	**P**	**16 28 00.5**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=131,slow=9.5,SNR=4.1						
NOA	**NORSAR Array B**	**39.23**	**330**	P	**P**	**16 28 45.0**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=122,slow=8.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**48.84**	**259**	P	**P**	**16 30 03.5**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=56,slow=8.1,SNR=6.0						

*IDC **10** 16:25:48.8±1.9, 22°.85S×170°.87E, h0km, mb4.0/6, mb1 4.3/7, mb1mx4.0/16, mbtmp4.1/7, ML4.1/1, MS3.8/3, Ms1 3.8/3, ms1mx3.2/26, Error ellipse: s-maj=72.7km s-min=24.6km az=164.0*
*NEIC **10** 16:25:54.2±1.5, 22°.76S×170°.83E, h35km, mb4.7/1, Error ellipse: s-maj=54.9km s-min=12.4km az=162.0*

ISC 10 16:25:55.8±1.4, 22°.6S±0°.3×170°.8E±0°.9, h42km, n28, σ1§51/27, mb4.4/8, MS4.1/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.06**	**276**	*e*P	Pn	16 26 52.2	-3.3
DZM	**Mont Dzumac**	**4.06**	**276**	*e*P	**Pn**	**16 26 53.8**	**-1.8**
DZM				Sn	**Sn**	**16 27 43.1**	**+1.1**
DZM	**Mont Dzumac**	**4.06**	**276**	Pn	**Pn**	**16 26 53.8**	**-1.8**
	11nm,0.3s,baz=130,slow=8.5,SNR=138						
DZM				Sn	**Sn**	**16 27 43.1**	**+1.1**
	14nm,0.3s,baz=101,slow=19,SNR=7.6						
NOUC	**Port Laguerre**	**4.19**	**276**	*e*P	**Pn**	**16 26 55.3**	**-1.9**
NOUC				*e*S	**Sn**	**16 27 45.3**	**+0.4**
MSVF	**Nonsavu**	**8.34**	**56**	*e*P	**Pn**	**16 27 52.9**	**-1.4**
	178nm,1.6s						
STKA	**Stephens Creek**	**27.50**	**244**	LR	LR	16 40 41.9	
	comp=Z,67nm,19.8s,baz=208,slow=32						
ASAR	**Alice Springs**	**33.89**	**261**	P	**P**	**16 32 33.8**	**-1.2**
ASAR	**Alice Springs**	**33.89**	**261**	P	**P**	**16 32 33.8**	**-1.2**
	1.8nm,0.9s,baz=86,slow=8.8,SNR=12						
WRA	**Warramunga Arr**	**34.03**	**267**	P	**P**	**16 32 34.1**	**-2.0**
WRA	**Warramunga Arr**	**34.03**	**267**	P	**P**	**16 32 34.1**	**-2.0**
	0.4nm,0.5s,baz=99,slow=8.3,SNR=7.6						
PETK	**Petropavlovsk-**	**76.21**	**352**	P	**P**	**16 37 39.8**	**+0.3**
PETK	**Petropavlovsk-**	**76.21**	**352**	P	**P**	**16 37 39.8**	**+0.3**
	4.7nm,1.0s,baz=134,slow=8.3,SNR=5.4						
CMAR	**Chiang Mai Arr**	**81.19**	**294**	P	**P**	**16 38 09.6**	**+2.0**
CMAR	**Chiang Mai Arr**	**81.19**	**294**	P	**P**	**16 38 09.6**	**+2.0**
	0.9nm,0.8s,baz=142,slow=3.9,SNR=7.2						
HIA	**Hailar**	**84.71**	**329**	*e*P	**P**	**16 38 25.0**	**-0.2**
	24nm,0.9s						
NVAR	**Mina Array Bea**	**89.92**	**48**	P	**P**	**16 38 50.5**	**-0.4**
NVAR	**Mina Array Bea**	**89.92**	**48**	P	**P**	**16 38 50.5**	**-0.4**
	1.4nm,0.8s,baz=234,slow=7.7,SNR=8.5						
ULN	**Ulaanbaatar**	**90.39**	**323**	*e*P	**P**	**16 38 53.4**	**+0.6**
	5.4nm,1.3s						
SONM	**Songino Array**	**90.74**	**323**	P	**P**	**16 38 55.1**	**+0.7**
SONM	**Songino Array**	**90.74**	**323**	P	**P**	**16 38 55.1**	**+0.7**
	1.9nm,1.0s,baz=131,slow=6.0,SNR=10						
TXAR	**Lajitas Array**	**97.07**	**61**	LR	LR	17 15 10.2	
	comp=Z,56nm,18.5s,baz=80,slow=30						
PDAR	**Pinedale Array**	**97.81**	**47**	LR	LR	17 20 00.0	
	comp=Z,78nm,18.4s,baz=259,slow=33						
CRVS	**Cervenica-Dubn**	**144.23**	**325**	*e*PKP	**PKPdf**	**16 45 31.4**	**+4.3**
VYHS	**Vyhne**	**145.85**	**326**	*e*PKP	**PKPab**	**16 45 31.3**	**+0.3**
BRG	**Berggiesshubel**	**146.48**	**333**	*e*P	**PKPab**	**16 45 33.4**	**+0.1**
	5.1nm,0.8s						
BRG				*e*		16 45 42.3	
	5.0nm,0.9s						
CLL	**Collm**	**146.53**	**335**	*i* PKPbc	**PKPab**	**16 45 33.2**	**-0.2**
	comp=Z,11nm,1.0s						
CLL				*e*pPKPbc	pPKPbc	16 45 41.0	-4.5
GERES	**GERESS Array B**	**148.10**	**331**	PKPbc	**PKPbc**	**16 45 36.6**	**-0.3**
GERES	**GERESS Array B**	**148.10**	**331**	PKPbc	**PKPbc**	**16 45 36.6**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=339,slow=2.5,SNR=4.6						

PRE 10 16:32:03.3±0.7, 26°.39S×27°.38E, h2km, ML1.9, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.53**	**182**	*e*P	Pg	16 32 13.7	0.0
PRYS				*e*S	Sg	16 32 21.2	+0.4
PRYS				AML	AML	16 32 23.9	
	comp=Z,37nm,0.5s						
BFSD	**Buffelsfontein**	**0.71**	**228**	*e*P	Pg	16 32 16.1	-1.0
BFSD				*e*S	Sg	16 32 27.1	+0.6
BFSD				AML	AML	16 32 30.1	
	comp=Z,33nm,0.4s						
ERPM	**east rand prop**	**0.78**	**86**	*e*P	Pg	16 32 18.6	+0.2
ERPM				*e*S	Sg	16 32 29.6	+0.9
ERPM				AML	AML	16 32 31.6	
	comp=Z,11nm,0.5s						
SLR	**Silverton**	**1.04**	**51**	*e*P	Pg	16 32 23.3	-0.3
SLR				*e*S	Sb	16 32 38.1	-0.6
SLR				AML	AML	16 32 46.2	
	comp=Z,22nm,0.2s						
SEK	**Senekal**	**1.93**	**174**	*e*P	Pn	16 32 38.0	+0.5
SEK				*e*S	Sn	16 33 03.1	+0.6
SEK				AML	AML	16 33 06.2	
	comp=Z,14nm,0.3s						
SWZ	**Schweizer**	**1.99**	**246**	*e*P	Pn	16 32 38.6	+0.4
SWZ				*e*S	Sb	16 33 05.0	-0.9
SWZ				AML	AML	16 33 11.5	
	comp=Z,11nm,0.2s						
BOSA	**Boshof**	**2.91**	**220**	*e*P	Pn	16 32 51.2	+0.5
BOSA				*e*S	Sn	16 33 27.0	+0.6
BOSA				AML	AML	16 33 35.1	
	comp=Z,2.9nm,0.3s						

*MOS **10** 16:34:29.9±1.6, 56°.72N×118°.77E, h10km, mb4.4/1, Error ellipse: s-maj=20.0km s-min=17.1km az=0.2*
*BYKL **10** 16:34:31.3±0.3, 56°.70N×118°.68E, h11km±6km*

ISC 10 16:34:30.5±0.7, 56°.53N±0°.03×118°.51E±0°.02, h10km, n36, σ2§11/48, 5C-2D, East of Lake Baikal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRS	**Chara**	**0.39**	**340**	*e*PG	**Pg**	**16 34 36.8**	**-1.5**
CRS				*e*		16 34 41.3	
CRS				pmax	pmax		
	comp=Z,3μm,1.8s						
CRS				smax	smax		
	comp=N,3μm,0.8s						
CRS	**Chara**	**0.39**	**340**	⇑*i*Pg	**Pg**	**16 34 36.8**	**-1.5**
CRS				*i* Sg	**Sg**	**16 34 41.3**	**-2.2**
CRS				Pmax			
	comp=N,3μm,0.8s						
CRS				Smax			
	comp=N,3μm,1.9s						
KHNR	**Khani**	**0.90**	**64**	*e*Pg	**Pg**	**16 34 45.5**	**-2.3**
KHNR				*i* Sg	**Sg**	**16 34 56.2**	**-3.3**
NLYR	**Nelyaty**	**1.56**	**270**	⇑*i*PN	**Pg**	**16 35 00.1**	**-0.3**
NLYR				*e*		16 35 21.5	
NLYR				pmax	pmax		
	comp=Z,206nm,0.5s						
NLYR				smax	smax		
	comp=N,901nm,0.9s						
NLYR	**Nelyaty**	**1.56**	**270**	⇑*i*Pg	**Pg**	**16 35 00.2**	**-0.2**
NLYR				*e*		16 35 02.0	
NLYR				*e*Sg	**Sg**	**16 35 22.2**	**+1.6**
NLYR				*e*		16 35 25.8	
NLYR				max			
	comp=N,206nm,0.5s						
NLYR				max			
	comp=N,909nm,1.2s						
TUP	**Tupik**	**2.26**	**158**	*e*PN	**Pb**	**16 35 09.9**	**-1.5**
TUP				*e*		16 35 13.2	
TUP				*e*S	**Sb**	**16 35 39.5**	**0.0**
TUP				*e*		16 35 44.1	
TUP				pmax	pmax		
	comp=Z,50nm,0.6s						
TUP				smax	smax		
	comp=E,291nm,0.9s						
TUP	**Tupik**	**2.26**	**158**	*e*Pn	**Pb**	**16 35 10.4**	**-1.0**
TUP				⇑*i*Pg	**Pg**	**16 35 13.3**	**-0.6**
TUP				*i* Sg	**Sg**	**16 35 44.5**	**+1.3**
TUP				*e*SgSg	**SnSn**	**16 35 54.1**	**+7.5**
TUP				Pmax			
	comp=E,63nm,0.8s						
TUP				Smax			
	comp=E,297nm,1.0s						
BOD	**Bodaibo**	**2.77**	**300**	*e*PN	**Pn**	**16 35 15.8**	**+0.9**
BOD				*e*		16 35 19.6	
BOD				*e*		16 35 55.3	
BOD				pmax	pmax		
	comp=Z,55nm,1.0s						
BOD				smax	smax		
	comp=N,453nm,0.6s						
BOD	**Bodaibo**	**2.77**	**300**	*e*Pg	**Pb**	**16 35 20.2**	**+0.1**
BOD				*e*PgPg	**Pg**	**16 35 24.3**	**+0.7**
BOD				*e*Sn	**Sn**	**16 35 49.6**	**+1.1**
BOD				*i* Sg	**Sb**	**16 35 55.9**	**+1.8**
BOD				Pmax			
	comp=N,55nm,1.0s						
BOD				Smax			
	comp=N,454nm,0.6s						
CLNS	**Chul'man**	**3.53**	**82**	*e*PN	**Pn**	**16 35 27.0**	**+1.6**
CLNS				*e*		16 35 33.9	
CLNS				*e*		16 36 16.4	
CLNS				pmax	pmax		
	comp=Z,3.0nm,0.2s						
CLNS				pmax	pmax		
	comp=N,3.0nm,0.2s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.4s						
CLNS				pmax	pmax		
	comp=Z,76nm,0.9s						
CLNS				pmax	pmax		
	comp=E,61nm,1.2s						
CLNS				pmax	pmax		
	comp=N,63nm,0.8s						
CLNS				smax	smax		
	comp=E,320nm,0.6s						
CLNS				smax	smax		
	comp=Z,148nm,1.1s						
CLNS				smax	smax		
	comp=N,476nm,1.0s						
CLNS	**Chul'man**	**3.53**	**82**	*e*Pn	**Pn**	**16 35 27.6**	**+2.2**
CLNS				*e*Pg	**Pb**	**16 35 32.4**	**-0.7**
CLNS				*e*		16 35 41.7	
CLNS				*e*		16 36 10.2	
CLNS				*e*Sg	**Sb**	**16 36 18.2**	**+2.2**
IENR	**Iengra**	**3.54**	**92**	⇓*i*Pn	**Pn**	**16 35 26.0**	**+0.5**
IENR				*e*Pg	**Pb**	**16 35 32.0**	**-1.2**
IENR				*e*		16 35 36.5	
IENR				*e*		16 35 54.0	
IENR				*e*		16 36 07.3	
IENR				*e*Sg	**Sb**	**16 36 16.7**	**+0.5**
TNDR	**Tynda**	**3.76**	**109**	*e*Sn	**Sn**	**16 36 14.2**	**+1.3**
TNDR				*e*Sg	**Sb**	**16 36 26.3**	**+3.7**
YOA	**Uoyan**	**3.80**	**267**	*e*PN	**Pg**	**16 35 42.5**	**-0.8**
YOA				*e*		16 36 32.6	
YOA				pmax	pmax		
	comp=Z,63nm,0.5s						
YOA				smax	smax		
	comp=E,693nm,1.7s						
YOA	**Uoyan**	**3.80**	**267**	*e*Pg	**Pb**	**16 35 39.8**	**+2.2**
YOA				*e*		16 36 08.7	
YOA				*e*Sg	**Sg**	**16 36 30.7**	**-1.8**
YOA				Pmax			
	comp=E,102nm,1.0s						
YOA				Smax			
	comp=E,811nm,2.0s						
KMO	**Kumora**	**4.13**	**264**	*e*PN	**Pn**	**16 35 34.6**	**+0.9**
KMO				*e*		16 35 45.3	
KMO				*e*S	**Sn**	**16 36 22.8**	**+0.8**
KMO	**Kumora**	**4.13**	**264**	⇑*i*Pn	Pn	16 35 37.2	+3.5
KMO				⇓*i*Pg	**Pg**	**16 35 46.7**	**-2.9**
KMO				*i* Sg	**Sg**	**16 36 42.4**	**-0.8**
KMO				Pmax			
	comp=E,36nm,0.7s						
KMO				Smax			
	comp=E,322nm,0.9s						
YLYR	**Ulyunkhan**	**4.48**	**251**	*e*Pg	Pg	16 35 53.1	-3.1
YLYR				*e*		16 36 34.5	
YLYR				*e*Sg	**Sg**	**16 36 54.1**	**0.0**
YLYR				Pmax			
	comp=E,1.0nm,0.1s						
YLYR				Smax			
	comp=E,136nm,1.7s						
NIZ	**Nizh Angarsk**	**5.07**	**265**	*e*PN	Pn	16 35 49.8	+3.2
NIZ				*e*		16 36 04.7	
NIZ				*e*		16 37 12.6	
NIZ				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NIZ				smax	smax		
	comp=N,86nm,1.0s						
NIZ	**Nizh Angarsk**	**5.07**	**265**	*e*	Pb	16 35 53.8	-5.5
NIZ				*e*Pg	Pg	16 36 04.6	-3.0
NIZ				*i* Sg	**Sg**	**16 37 12.7**	**-0.6**
NIZ				*e*		16 37 22.5	
NIZ				Pmax			
	comp=N,10.0nm,1.1s						
NIZ				Smax			
	comp=N,86nm,0.9s						
CIT	**Chita**	**5.37**	**215**	*e*	**Sb**	**16 37 03.9**	**-5.0**
CIT				*e*Sg	**Sg**	**16 37 23.1**	**+0.3**
CIT				Smax			
	comp=N,250nm,1.7s						
SYVR	**Suvo**	**5.67**	**243**	*e*PN	Pn	16 35 58.0	+3.2
SYVR				*e*		16 36 15.8	
SYVR				*e*		16 37 31.7	
SYVR				pmax	pmax		
	comp=Z,50nm,1.2s						
SYVR				smax	smax		
	comp=N,93nm,1.7s						
SYVR	**Suvo**	**5.67**	**243**	*e*Pg	Pg	16 36 15.5	-3.5
SYVR				*e*		16 36 18.3	
SYVR				*e*Sg	**Sg**	**16 37 31.8**	**-0.7**
SYVR				Smax			
	comp=N,93nm,1.7s						
OGRR	**Ongureny**	**6.90**	**250**	*e*PN	Pn	16 36 14.7	+3.1
OGRR				*e*		16 36 37.4	
OGRR				*e*		16 38 08.1	
OGRR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
OGRR				smax	smax		
	comp=N,38nm,1.4s						
OGRR	**Ongureny**	**6.90**	**250**	*e*Pn	Pn	16 36 15.2	+3.6
OGRR				*e*		16 36 24.0	
OGRR				*e*Pg	Pg	16 36 38.3	-4.2
OGRR				*e*Sg	**Sg**	**16 38 09.4**	**-2.4**
OGRR				Pmax			
	comp=N,1.0nm,0.6s						
OGRR				Smax			
	comp=N,27nm,1.0s						
HIA	**Hailar**	**7.31**	**174**	*e*	Pg	16 37 13.6	+23
HIA				*e*Sg	**Sg**	**16 38 23.3**	**-1.8**
ZRHB	**Zarechye**	**7.71**	**244**	*e*		16 38 23.5	
ZRHB				*e*Sg	**Sg**	**16 38 37.2**	**-0.6**
ZRHB				Smax			
	comp=N,228nm,1.6s						
KPC	**Khapcheranga**	**7.77**	**211**	*e*Pn	**Pn**	**16 36 26.0**	**+2.4**
KPC				*e*		16 36 28.2	
KPC				*e*Pg	Pg	16 36 55.3	-3.8
KPC				*e*Sg	**Sg**	**16 38 39.1**	**-0.5**
KPC				Pmax			
	comp=N,1.0nm,0.6s						
KPC				Smax			
	comp=N,70nm,1.6s						
UUDB	**Ulan-Yde**	**7.89**	**238**	*e*	Pg	16 37 20.3	+19
UUDB				*e*Sg	**Sg**	**16 38 41.5**	**-2.0**
UUDB				Smax			
	comp=N,90nm,2.0s						
TRG	**Tyrgan**	**8.00**	**247**	*e*Pn	**Pn**	**16 36 29.1**	**+2.3**
TRG				*e*Sg	**Sg**	**16 38 44.5**	**-2.6**
TRG				*e*		16 38 47.7	
TRG				Smax			
	comp=N,31nm,1.4s						
LSTR	**Listvyanka**	**9.27**	**246**	*e*Sg	Sn	16 39 21.7	+53
LSTR				Smax			
	comp=N,64nm,1.8s						
TLY	**Talaya**	**9.98**	**247**	*e*Sg	Sn	16 39 44.0	+58
TLY				Smax			
	comp=N,41nm,1.6s						
ARS	**Arshan**	**10.48**	**251**	*e*Sg		16 39 59.5	
ARS				Smax			
	comp=N,53nm,2.3s						
ZAK	**Zakamensk**	**10.96**	**242**	*e*Sg		16 40 15.9	
ZAK				Smax			
	comp=N,14nm,2.4s						
MOY	**Mondy**	**11.37**	**252**	*e*Pg	Pn	16 37 58.9	+46
MOY				*e*		16 38 05.9	
MOY				*e*Sg		16 40 29.0	
MOY				*e*		16 40 32.3	
MOY				max			
	comp=N,46nm,2.1s						
ORL	**Orlik**	**11.57**	**258**	*e*	Pn	16 37 36.6	+21
ORL				*e*		16 38 13.5	
ORL				*e*		16 40 03.1	
ORL				*e*Sg		16 40 30.8	
ORL				Smax			
	comp=N,42nm,2.2s						

IDC 10 17:06:31.3±2.5, 0°.28S×132°.61E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.4/17, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=133.7km s-min=25.0km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.62**	**175**	P	P	17 11 01.5	0.0
	0.1nm,0.3s,baz=356,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**23.28**	**177**	P	P	17 11 41.0	+0.1
	0.9nm,0.6s,baz=356,slow=9.9,SNR=15						
MKAR	**Makanchi Array**	**64.20**	**324**	P	P	17 17 08.0	-0.1
	0.5nm,0.6s,baz=115,slow=7.8,SNR=11						

*ISCJB **10** 17:20:22.7±0.8, 24°.28N±0°.08×103°.90E±0°.10, h10km, mb3.5/5, Error ellipse: s-maj=15.8km s-min=7.8km az=138.9*
*IDC **10** 17:20:22.9±1.1, 24°.40N×103°.90E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/24, mbtmp3.5/6, ML4.5/1, Error ellipse: s-maj=31.3km s-min=18.1km az=83.0*
*BJI **10** 17:20:23.5, 24°.33N×103°.94E, h18km, mb3.9/4, ML3.8/10, Ms3.8/2, Ms7 3.3/2*

ISC 10 17:20:25.1±1.1, 24°.31N±0°.09×103°.9E±0°.1, h10km, n9, σ1§39/9, mb3.5/5, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**1.34**	**308**	Pg

ZALV	**Zalesovo Beam**	**32.88 339**	P	P	17 26 57.1	-2.0
	comp=Z,2.1nm,0.6s,baz=146,slow=8.7,SNR=11					
WRA	**Warramunga Arr**	**53.04 143**	P	**P**	**17 29 42.1**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=331,slow=8.3,SNR=5.0					
ASAR	**Alice Springs**	**55.87 146**	P	**P**	**17 30 03.2**	**0.0**
	comp=Z,0.2nm,0.9s,baz=328,slow=7.8,SNR=3.0					

*ISCJB **10** 17:35:29.1±1.1,25°.8S±0°.1×179°.6E±0°.1,h507km,mb3.6/7, Error ellipse: s-maj=18.8km s-min=10.0km az=146.5*
*IDC **10** 17:35:30.8±2.2,25°.51S×179°.58E,h521km±24km,mb3.2/7, mb1 3.3/8,mb1mx3.2/19,mbtmp3.2/8, Error ellipse: s-maj=28.0km s-min=15.5km az=2.0*

ISC 10 17:35:29.6±1.1,25°.8S±0°.1×179°.6E±0°.1,h507km,n25, σ1°08/24,mb3.7/7,South of Fiji Islands

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.60 284**	P	**P**	**17 38 15.5**	**+0.8**
	0.3nm,0.3s,baz=156,slow=20,SNR=7.0					
URZ	**Urewera**	**12.62 189**	PN	**P**	**17 38 12.9**	**-1.6**
MWZ	**Matawai**	**12.64 188**	*e*PN	**P**	**17 38 14.1**	**-0.7**
OGWZ	**Otaki Gorge**	**15.45 193**	PN	**P**	**17 38 41.8**	**-2.3**
KIW	**Kapiti Island**	**15.54 193**	*e*PN	**P**	**17 38 44.3**	**-0.8**
CAW	**Cannon Point**	**15.71 193**	PN	**P**	**17 38 46.9**	**-0.3**
TCW	**Tory Channel**	**16.02 195**	PN	**P**	**17 38 50.0**	**-0.1**
QRZ	**Quartz Range**	**16.12 200**	PN	**P**	**17 38 51.5**	**+0.4**
NNZ	**Nelson**	**16.24 197**	*e*PN	**P**	**17 38 50.3**	**-2.1**
TUWZ	**Tuamarina**	**16.30 195**	*e*PN	**P**	**17 38 53.1**	**+0.1**
THZ	**Tophouse**	**16.88 198**	PN	**P**	**17 38 57.8**	**-1.2**
DSZ	**Denniston Nort**	**17.18 200**	PN	**P**	**17 39 02.0**	**+0.1**
KHZ	**Kahutara**	**17.33 195**	PN	**P**	**17 39 02.7**	**-0.6**
CTA	**Charters Tower**	**31.19 274**	P	**P**	**17 41 07.3**	**+0.4**
	3.8nm,0.6s,baz=89,slow=13,SNR=5.5					
STKA	**Stephens Creek**	**33.74 251**	P	**P**	**17 41 29.2**	**+0.8**
	1.0nm,0.6s,baz=96,slow=9.2,SNR=2.6					
PMG	**Port Moresby**	**34.83 292**	P	**P**	**17 41 37.0**	**-0.8**
	6.2nm,0.9s,baz=129,slow=14,SNR=4.0					
ASAR	**Alice Springs**	**41.42 263**	P	**P**	**17 42 31.3**	**-0.3**
	1.0nm,0.8s,baz=94,slow=6.8,SNR=13					
ASAR			S	**S**	**17 48 10.3**	**+0.5**
	0.5nm,0.7s,baz=97,slow=17,SNR=3.8					
WRA	**Warramunga Arr**	**41.97 268**	P	**P**	**17 42 35.3**	**-0.7**
	1.6nm,0.6s,baz=106,slow=7.9,SNR=5.6					
WRA			S	**S**	**17 48 17.0**	**-0.8**
	0.9nm,0.8s,baz=100,slow=14,SNR=5.5					
QSPA	**South Pole Qui**	**44.31 180**	P	**P**	**17 45 16.4**	**+1.9**
	1.0nm,0.8s,baz=318,slow=0.9,SNR=7.6					
TXAR	**Lajitas Array**	**91.71 58**	P	**P**	**17 47 43.2**	**+0.3**
	1.1nm,0.9s,baz=5.7,slow=0.9,SNR=4.7					
ARCES	**ARCESS Array B**	**133.65 348**	PKP	**PKPdf**	**17 53 47.1**	**-0.3**
	3.1nm,0.9s,baz=29,slow=2.1,SNR=5.3					
FINES	**FINESS Array B**	**140.10 341**	PKhKP	PKPpre	17 53 52.2	
	0.5nm,0.6s,baz=333,slow=2.5,SNR=3.4					
NB2	**NORSAR Subarra**	**143.88 350**	PKP	PKPbc	17 54 03.5	-1.9
	comp=Z,1.2nm,0.6s,baz=15,slow=3.2					
NOA	**NORSAR Array B**	**143.88 350**	PKP	PKPbc	17 54 03.9	-1.5
	comp=Z,1.8nm,0.7s,baz=22,slow=3.8,SNR=8.6					
BRTR	**Keskin Array B**	**148.40 305**	PKPbc	**PKPbc**	**17 54 17.5**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=144,slow=3.4,SNR=3.5					

IDC 10 17:36:05.2±2.0,6°.10S×129°.05E,h0km,mb3.3/1, mb1 3.8/4,mb1mx3.4/16,mbtmp3.6/4,ML3.5/3,Error ellipse: s-maj=80.6km s-min=27.4km az=75.0,Banda Sea

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.39 195**	Pn	Pn	17 39 04.4	+1.5
	0.3nm,0.3s,baz=16,slow=13,SNR=4.9					
FITZ			Sn	Sn	17 41 08.0	-14
	0.4nm,0.3s,baz=93,slow=18,SNR=3.9					
WRA	**Warramunga Arr**	**14.69 160**	Pn	Pn	17 39 34.3	-0.2
	0.2nm,0.3s,baz=338,slow=14,SNR=26					
WRA			Sn	Sn	17 42 05.8	-12
	0.4nm,0.3s,baz=332,slow=21,SNR=6.1					
ASAR	**Alice Springs**	**18.08 166**	P	Pn	17 40 17.0	-1.1
	0.2nm,0.3s,baz=340,slow=10,SNR=21					
ASAR			S	Sn	17 43 26.2	-14
	0.1nm,0.3s,baz=327,slow=19,SNR=3.3					
MKAR	**Makanchi Array**	**66.96 327**	P	P	17 46 59.8	0.0
	0.2nm,0.5s,baz=121,slow=7.7,SNR=7.1					

*ROM **10** 17:56:27.3±1.4,45°.41N×15°.65E,h10km,Md2.6/2,Ml2.4/1, Error ellipse: s-maj=32.2km s-min=12.9km az=12.0*
*ISCJB **10** 17:56:27.9±0.4,45°.68N±0°.02×15°.59E±0°.02,h9km±2km, Error ellipse: s-maj=3.3km s-min=2.7km az=163.1*
*VIE **10** 17:56:28.0±0.6,45°.69N×15°.58E,h12km±2km,mb2.3/6, ML2.4/8,Error ellipse: s-maj=3.9km s-min=2.0km az=140.0 22 km N of Karlovac*
*CSEM **10** 17:56:28.2±0.2,45°.68N×15°.60E,h10km,ML3.3/21,Error ellipse: s-maj=3.4km s-min=2.4km az=158.0*
*LJU **10** 17:56:28.2,45°.67N×15°.57E,h12km, ML2.4*
*PRU **10** 17:56:30.5,45°.82N×15°.62E,h13km*

ISC 10 17:56:28.6±0.8,45°.70N±0°.02×15°.58E±0°.02,h12km±5km, n82,σ1°00/151,12C-16D,Northwestern Balkan Peninsula

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
CRES	**Cresnjev**	**0.15 324**	⇓*i*Pg	**Pg**	**17 56 31.9**	**-0.2**
CRES			*i* Sg	**Sg**	**17 56 34.6**	**-0.1**
CRES						
	comp=Z,1μm,0.2s					
CRES	**Cresnjev**	**0.15 324**	⇓*i*Pg	**Pg**	**17 56 31.9**	**-0.2**
CRES			*i* Sg	**Sg**	**17 56 34.6**	**-0.1**
	comp=Z,1μm,0.2s					
GCIS	**Gornji Cirnik**	**0.17 11**	⇓*i*Pg	**Pg**	**17 56 32.4**	**0.0**
GCIS			*i* Sg	**Sg**	**17 56 35.5**	**+0.5**
GCIS						
	comp=Z,1μm,0.1s					
GCIS	**Gornji Cirnik**	**0.17 11**	⇓*i*Pg	**Pg**	**17 56 32.4**	**0.0**
GCIS			*i* Sg	**Sg**	**17 56 35.5**	**+0.5**
	comp=Z,1μm,0.1s					
CESS	**Cesta pri Krsk**	**0.28 343**	*i* Pg	**Pg**	**17 56 34.4**	**0.0**
CESS			*i* Sg	**Sg**	**17 56 39.6**	**+1.3**
CESS						
	comp=Z,349nm,0.1s					
CESS	**Cesta pri Krsk**	**0.28 343**	*i* Pg	**Pg**	**17 56 34.4**	**0.0**
CESS			*i* Sg	**Sg**	**17 56 39.6**	**+1.3**
	comp=Z,349nm,0.1s					
BOJS	**Bojanci**	**0.31 229**	⇓*i*Pg	**Pg**	**17 56 33.8**	**-1.0**
BOJS			*i* Sg	**Sg**	**17 56 38.0**	**-0.9**
BOJS						
	comp=Z,184nm,0.1s					
BOJS	**Bojanci**	**0.31 229**	⇓*i*Pg	**Pg**	**17 56 33.8**	**-1.0**
BOJS			*i* Sg	**Sg**	**17 56 38.0**	**-0.9**
	comp=Z,184nm,0.1s					
LEGS	**Legarje**	**0.31 323**	*i* Pg	**Pg**	**17 56 34.8**	**-0.1**
LEGS			*i* Sg	**Sg**	**17 56 40.1**	**+1.1**
LEGS	**Legarje**	**0.31 323**	*i* Pg	**Pg**	**17 56 34.8**	**-0.1**
LEGS			*i* Sg	**Sg**	**17 56 40.1**	**+1.1**
GOLS	**Golise**	**0.31 5**	*i* Pg	**Pg**	**17 56 34.9**	**0.0**
GOLS			*i* Sg	**Sb**	**17 56 40.5**	**-0.7**
GOLS						
	comp=Z,169nm,0.1s					
GOLS	**Golise**	**0.31 5**	*i* Pg	**Pg**	**17 56 34.9**	**0.0**
GOLS			*i* Sg	**Sb**	**17 56 40.5**	**-0.7**
	comp=Z,169nm,0.1s					
DOBS	**Dobrina**	**0.45 350**	⇓*i*Pg	**Pg**	**17 56 38.0**	**+0.5**
DOBS						
	comp=Z,81nm,0.1s					
DOBS	**Dobrina**	**0.45 350**	⇓*i*Pg	**Pg**	**17 56 38.0**	**+0.5**
	comp=Z,81nm,0.1s					
VISS	**Visnje**	**0.53 281**	⇑*i*Pg	**Pg**	**17 56 39.1**	**+0.1**
VISS			*i* Sg	**Sg**	**17 56 45.7**	**-0.3**
VISS						
	comp=Z,105nm,0.2s					
VISS	**Visnje**	**0.53 281**	⇑*i*Pg	**Pg**	**17 56 39.1**	**+0.1**
VISS			*i* Sg	**Sg**	**17 56 45.7**	**-0.3**
	comp=Z,105nm,0.2s					
PDKS	**Podkum**	**0.54 311**	*i* Pg	**Pg**	**17 56 39.7**	**+0.5**
PDKS			*i* Sg	**Sg**	**17 56 46.9**	**+0.5**
PDKS						
	comp=Z,100nm,0.1s					
PDKS	**Podkum**	**0.54 311**	*i* Pg	**Pg**	**17 56 39.7**	**+0.5**
PDKS			*i* Sg	**Sg**	**17 56 46.9**	**+0.5**
	comp=Z,100nm,0.1s					
GBRS	**Gornja Briga**	**0.57 253**	⇓*i*Pg	**Pg**	**17 56 39.6**	**-0.1**
	comp=Z,51nm,0.1s					
SISC	**Sisak**	**0.60 112**	*e*Pg	**Pg**	**17 56 40.0**	**-0.3**
SISC			Sg	**Sg**	**17 56 48.4**	**+0.2**
SISC	**Sisak**	**0.60 112**	*e*Pg	**Pg**	**17 56 39.9**	**-0.3**
VNDS	**Vrh nad Dolski**	**0.73 303**	⇑*i*Pg	**Pg**	**17 56 43.0**	**+0.2**
VNDS			*i* Sg	**Sb**	**17 56 54.3**	**+0.9**
VNDS						
	comp=Z,147nm,0.4s					
GROS	**Grobnik**	**0.76 356**	*i* Pg	**Pg**	**17 56 43.6**	**+0.3**
GROS						
	comp=Z,46nm,0.1s					
GROS	**Grobnik**	**0.76 356**	*i* Pg	**Pg**	**17 56 43.6**	**+0.3**
	comp=Z,46nm,0.1s					
CEY	**Cerknica**	**0.81 273**	*i* Pg	**Pb**	**17 56 44.9**	**+0.2**
CEY			*i* Sg	**Sb**	**17 56 56.8**	**+1.2**
CEY						
	comp=Z,50nm,0.1s					
CEY	**Cerknica**	**0.81 273**	*i* Pg	**Pb**	**17 56 44.9**	**+0.2**
CEY			*i* Sg	**Sb**	**17 56 56.8**	**+1.2**
	comp=Z,50nm,0.1s					
LJU	**Ljubljana**	**0.81 295**	*i* Pg	**Pg**	**17 56 44.3**	**0.0**
LJU			*e*Sg	**Sb**	**17 56 56.4**	**+0.8**
LJU						
	comp=Z,73nm,0.2s					
LJU	**Ljubljana**	**0.81 295**	*i* Pg	**Pg**	**17 56 44.3**	**0.0**
LJU			*e*Sg	**Sb**	**17 56 56.4**	**+0.8**
	comp=Z,73nm,0.2s					
KNDS	**Knezji Dol**	**0.86 259**	*i* Pg	**Pg**	**17 56 44.8**	**-0.4**
KNDS			*i* Sg	**Sg**	**17 56 56.3**	**-0.2**
KNDS						
	comp=Z,39nm,0.2s					
KNDS	**Knezji Dol**	**0.86 259**	*i* Pg	**Pg**	**17 56 44.8**	**-0.4**
KNDS			*i* Sg	**Sg**	**17 56 56.3**	**-0.2**
	comp=Z,39nm,0.2s					
KOGS	**Kog**	**0.88 32**	*i* Pg	**Pb**	**17 56 45.7**	**-0.1**
KOGS			*i* Sg	**Sb**	**17 56 57.5**	**-0.1**
KOGS						
	comp=Z,131nm,0.3s					
KOGS	**Kog**	**0.88 32**	*i* Pg	**Pb**	**17 56 45.7**	**-0.1**
KOGS			*i* Sg	**Sb**	**17 56 57.5**	**-0.1**
	comp=Z,131nm,0.3s					
MOZS	**Mozjanca**	**0.99 307**	*i* Pg	**Pb**	**17 56 47.8**	**+0.1**
MOZS			*i* Sg	**Sn**	**17 57 03.0**	**+0.6**
MOZS						
	comp=Z,50nm,0.2s					
MOZS	**Mozjanca**	**0.99 307**	*i* Pg	**Pb**	**17 56 47.8**	**+0.1**
MOZS			*i* Sg	**Sn**	**17 57 03.0**	**+0.6**
	comp=Z,50nm,0.2s					
BISS	**Bistriski jare**	**1.00 342**	*i* Pg	**Pb**	**17 56 48.1**	**+0.2**
BISS	**Bistriski jare**	**1.00 342**	*i* Pg	**Pb**	**17 56 48.1**	**+0.2**
CRNS	**Crni Vrh**	**1.00 293**	*i* Pg	**Pg**	**17 56 47.6**	**-0.2**
CRNS			*i* Sg	**Sn**	**17 57 02.3**	**-0.3**
CRNS						
	comp=Z,56nm,0.2s					
SOKA	**Soboth**	**1.05 339**	⇓⇓*i*Pg	**Pb**	**17 56 48.5**	**-0.3**
SOKA			⇑⇑*i*Sg	**Sn**	**17 57 03.6**	**-0.3**
	comp=Z,35nm,0.3s					
SOKA	**Soboth**	**1.05 339**	Pg	**Pb**	**17 56 48.5**	**-0.3**
SOKA			Sg	**Sn**	**17 57 03.6**	**-0.3**
	comp=Z,35nm,0.3s					
JAVS	**Javornik**	**1.08 281**	*i* Pg	**Pb**	**17 56 49.0**	**-0.3**
JAVS			*i* Sg	**Sn**	**17 57 05.0**	**+0.3**
JAVS						
	comp=Z,37nm,0.2s					
JAVS	**Javornik**	**1.08 281**	*i* Pg	**Pb**	**17 56 49.0**	**-0.3**
JAVS			*i* Sg	**Sn**	**17 57 05.0**	**+0.3**
	comp=Z,37nm,0.2s					
OBKA	**Obir**	**1.08 319**	⇑*i*Pg	**Pg**	**17 56 49.6**	**+0.2**
OBKA			⇓⇓*i*Sg	**Sn**	**17 57 04.5**	**-0.2**
	comp=Z,70nm,0.3s					
OBKA	**Obir**	**1.08 319**	Pg	**Pg**	**17 56 49.6**	**+0.2**
OBKA			Sg	**Sn**	**17 57 04.5**	**-0.2**
	comp=Z,70nm,0.3s					
SKDS	**Skadanscina**	**1.11 262**	*i* Pg	**Pb**	**17 56 49.0**	**-0.8**
SKDS			*i* Sg	**Sb**	**17 57 03.8**	**-0.4**
SKDS						
	comp=Z,55nm,0.2s					
SKDS	**Skadanscina**	**1.11 262**	*i* Pg	**Pb**	**17 56 49.0**	**-0.8**
SKDS			*i* Sg	**Sb**	**17 57 03.8**	**-0.4**
	comp=Z,55nm,0.2s					
BEHE	**Becsehely**	**1.13 47**	⇓⇓ePn	**Pg**	**17 56 50.9**	**+0.6**
BEHE			*e*Sn	**Sn**	**17 57 07.9**	**+2.1**
BEHE	**Becsehely**	**1.13 47**	⇓⇓ePn	**Pg**	**17 56 50.9**	**+0.6**
BEHE			*e*Sn	**Sn**	**17 57 07.9**	**+2.1**
VOJS	**Vojsko**	**1.23 286**	*i* Pg	**Pn**	**17 56 51.5**	**-0.2**
VOJS			*i* Sg	**Sg**	**17 57 09.1**	**+0.8**
VOJS						
	comp=Z,24nm,0.1s					
VOJS	**Vojsko**	**1.23 286**	*i* Pg	**Pn**	**17 56 51.5**	**-0.2**
VOJS			*i* Sg	**Sg**	**17 57 09.1**	**+0.8**
	comp=Z,24nm,0.1s					
GORS	**Gorjuse**	**1.27 300**	*i* Pg	**Pb**	**17 56 52.6**	**+0.1**
GORS			*i* Sg	**Sg**	**17 57 10.0**	**+0.6**
GORS						
	comp=Z,56nm,0.2s					
GORS	**Gorjuse**	**1.27 300**	*i* Pg	**Pb**	**17 56 52.6**	**+0.1**
GORS			*i* Sg	**Sg**	**17 57 10.0**	**+0.6**
	comp=Z,56nm,0.2s					
TRI	**Trieste**	**1.27 271**	Pn	**Pg**	**17 56 53.0**	**-0.1**
TRI			Sn	**Sg**	**17 57 09.8**	**+0.2**
	comp=Z,58nm,0.6s					
TRI	**Trieste**	**1.27 271**	Pn	**Pg**	**17 56 53.0**	**-0.1**
TRI			Sn	**Sg**	**17 57 09.8**	**+0.2**
	comp=Z,58nm,0.6s					
CADS	**Cadrg**	**1.39 293**	*i* Pg	**Pn**	**17 56 53.7**	**-0.2**
CADS			*i* Sg	**Sg**	**17 57 14.6**	**+1.2**
CADS						
	comp=Z,38nm,0.2s					
CADS	**Cadrg**	**1.39 293**	*i* Pg	**Pn**	**17 56 53.7**	**-0.2**
CADS			*i* Sg	**Sg**	**17 57 14.6**	**+1.2**
	comp=Z,38nm,0.2s					
SABO	**M.te Sabotino**	**1.41 282**	Pn	**Pn**	**17 56 54.5**	**+0.3**
SABO			Sn	**Sg**	**17 57 15.0**	**+0.9**
SABO	**M.te Sabotino**	**1.41 282**	Pn	**Pn**	**17 56 54.5**	**+0.3**
SABO			Sn	**Sg**	**17 57 15.0**	**+0.9**
ARSA	**Arzberg**	**1.55 359**	⇓*i*Pn	**Pn**	**17 56 54.2**	**-1.9**
ARSA			⇑*i*Sn	**Sn**	**17 57 16.2**	**+0.1**
ARSA	**Arzberg**	**1.55 359**	Pn	**Pn**	**17 56 54.2**	**-1.9**
ARSA			Sn	**Sn**	**17 57 16.2**	**+0.1**
MYKA	**Terra Mystica**	**1.64 305**	⇑*i*Pg	**Pb**	**17 56 59.1**	**+0.3**
MYKA			⇑⇑*i*Sg	**Sg**	**17 57 22.6**	**+1.4**
	comp=Z,14nm,0.2s					
MYKA	**Terra Mystica**	**1.64 305**	Pg	**Pb**	**17 56 59.1**	**+0.3**
MYKA			Sg	**Sg**	**17 57 22.6**	**+1.4**
	comp=Z,14nm,0.2s					
PTCC	**Patocco-Chiusa**	**1.70 295**	Pn	**Pb**	**17 56 59.5**	**-0.4**
PTCC			Sn	**Sg**	**17 57 25.3**	**+1.9**
	comp=Z,17nm,0.3s					
PTCC	**Patocco-Chiusa**	**1.70 295**	Pn	**Pb**	**17 56 59.5**	**-0.4**
PTCC			Sn	**Sg**	**17 57 25.3**	**+1.9**
	comp=Z,17nm,0.3s					
KBA	**Koelnbreinsper**	**2.07 312**	⇑*i*Pg	**Pg**	**17 57 07.9**	**-0.4**
KBA	**Koelnbreinsper**	**2.07 312**	Pg	**Pg**	**17 57 07.9**	**-0.4**
SOP	**Sopron**	**2.09 18**	*e*Pn	**Pg**	**17 57 08.9**	**+0.2**
SOP			*e*Sn	**Sg**	**17 57 37.1**	**+1.3**
PKSM	**Moragy**	**2.19 75**	*e*Pn	**Pn**	**17 57 03.3**	**-1.6**
PKSM			*e*Sn	**Sg**	**17 57 39.3**	**+0.2**
PKSM	**Moragy**	**2.19 75**	*e*Pn	**Pn**	**17 57 03.3**	**-1.6**
CONA	**Conrad Observa**	**2.23 5**	⇑*i*Pn	**Pn**	**17 57 06.2**	**+0.7**
CONA			⇓⇓*i*Sg	**Sg**	**17 57 42.3**	**+1.9**
	comp=Z,6.0nm,0.6s					
CONA	**Conrad Observa**	**2.23 5**	Pn	**Pn**	**17 57 06.2**	**+0.7**
MOA	**Molln**	**2.33 338**	⇓⇓*i*Pn	**Pn**	**17 57 07.1**	**+0.3**
MOA			⇑⇑*i*Sn	**Sn**	**17 57 36.2**	**+0.8**
MOA	**Molln**	**2.33 338**	Pn	**Pn**	**17 57 07.1**	**+0.3**
MOA			Sn	**Sn**	**17 57 36.2**	**+0.8**
STON	**Ston**	**3.21 151**	⇑*i*Pn	**Pn**	**17 57 20.9**	**+2.0**
STON			Sn	**Sn**	**17 57 58.9**	**+1.8**
VYHS	**Vyhne**	**3.57 37**	*e*PN	**Pn**	**17 57 25.1**	**+1.3**
VYHS			*e*SN	**Sn**	**17 58 04.3**	**-1.6**
VYHS	**Vyhne**	**3.57 37**	*e*Pn	**Pn**	**17 57 25.1**	**+1.3**
VYHS			*e*Sn	**Sn**	**17 58 04.3**	**-1.6**
VRAC	**Vranov**	**3.67 10**	*e*Pn	**Pn**	**17 57 25.6**	**+0.4**
KHC	**Kasperske Hory**	**3.69 339**	*e*PN	**Pn**	**17 57 26.5**	**+1.0**
KHC			*e*SN	**Sn**	**17 58 07.3**	**-1.7**
KHC			*e*SG	**Sg**	**17 58 25.0**	**-2.0**
KHC	**Kasperske Hory**	**3.69 339**	Pn	**Pn**	**17 57 26.5**	**+1.0**
KHC			Sn	**Sn**	**17 58 07.3**	**-1.7**
KHC			Sg	**Sg**	**17 58 25.0**	**-2.0**
PRU	**Pruhonice**	**4.34 351**	*e*PN	**Pn**	**17 57 33.7**	**-0.8**
PRU			*e*SG	**Sg**	**17 58 45.1**	**-2.9**
PRU	**Pruhonice**	**4.34 351**	Pn	**Pn**	**17 57 33.7**	**-0.8**
PRU			Sg	**Sg**	**17 58 45.1**	**-2.9**
NKC	**Novy Kostel**	**5.00 336**	*e*SG	**Sg**	**17 59 05.2**	**-3.7**
NKC	**Novy Kostel**	**5.00 336**	Sg	**Sg**	**17 59 05.2**	**-3.7**

*DJA **10** 18:04:15.1°.52S×138°.94E,h46km,MLv3.8/4*

IDC 10 18:04:15.2±3.8,2°.02S×139°.01E,h0km,mb3.3/3, mb1 3.7/4,mb1mx3.4/15,mbtmp3.4/4,ML3.7/1,MS3.1/1, Ms1 3.1/1,ms1mx2.8/8,Error ellipse: s-maj=114.7km s-min=26.4km az=80.0,Near north coast of Irian Jaya

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.39 194**	P	P	18 08 32.2	+0.3
	0.3nm,0.3s,baz=18,slow=13,SNR=17					
ASAR	**Alice Springs**	**22.08 193**	P	P	18 09 12.3	+0.2
	0.9nm,0.6s,baz=9.3,slow=11,SNR=14					
KSRS	**Korea Array**	**40.60 346**	LR	LR	18 26 58.3	
	comp=Z,22nm,18.1s,baz=45,slow=34					
CMAR	**Chiang Mai Arr**	**44.36 299**	P	P	18 12 27.8	+0.1
	0.5nm,0.7s,baz=116,slow=6.2,SNR=6.6					
MKAR	**Makanchi Array**	**69.43 322**	P	P	18 15 24.8	-0.5
	0.1nm,0.6s,baz=101,slow=7.7,SNR=3.5					

PRE 10 18:34:12.1±0.8,26°.43S×27°.37E,h2km,ML1.5,South Africa

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
PRYS	**Parys**	**0.49 181**	*e*P	Pg	18 34 22.0	+0.2
PRYS			*e*S	Sg	18 34 28.1	-0.3
PRYS			AML	AML	18 34 31.5	
	comp=Z,10nm,0.4s					
SWZ	**Schweizer**	**1.97 247**	*e*P	Pn	18 34 47.4	+0.7
SWZ			*e*S	Sb	18 35 13.2	-0.9
SWZ			AML	AML	18 35 16.9	
	comp=Z,5.1nm,0.5s					
LBTB	**Lobatse**	**2.13 311**	*e*P	Pn	18 34 49.7	+0.8
LBTB			*e*S	Sn	18 35 16.3	+0.2
LBTB			AML	AML	18 35 22.4	
	comp=Z,4.2nm,0.7s					
BOSA	**Boshof**	**2.87 220**	*e*P	Pn	18 35 00.4	+1.2
BOSA			*e*S	Sn	18 35 34.7	+0.2
BOSA			AML	AML	18 35 41.9	
	comp=Z,1.2nm,0.3s					

*ISCJB **10** 18:41:19.8±0.6,24°.71N±0°.03×122°.29E±0°.02,h93km±5km, Error ellipse: s-maj=5.3km s-min=3.2km az=164.0*
*TAP **10** 18:41:19.2,24°.76N×122°.23E,h101km,ML3.5,C*
*JMA **10** 18:41:19.6±0.2,24°.79N×122°.30E,h97km±2km,MJ2.7*

ISC 10 18:41:20.1±1.5,24°.70N±0°.05×122°.28E±0°.03,h92km±9km, n50,σ0°81/93,5D,Taiwan region

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.41 319**	⇓*i*P	**Pn**	**18 41 34.4**	**0.0**
	baz=316					
TWC	**Suao**	**0.41 257**	P	**Pn**	**18 41 34.3**	**-0.2**
	baz=248					
TWC			S	**Sn**	**18 41 45.4**	**+0.3**
	baz=248					
ILA	**Ilan**	**0.49 277**	P	**Pn**	**18 41 35.2**	**+0.2**
	baz=272					
ILA			S	**Sn**	**18 41 46.6**	**+0.4**
	baz=272					
TWE	**Neicheng**	**0.56 272**	⇓*i*P	**Pn**	**18 41 35.6**	**+0.1**
	baz=271					
ENA	**Nanau**	**0.56 241**	*i* P	**Pn**	**18 41 36.0**	**+0.4**
	baz=230					
ENA			S	**Sn**	**18 41 47.6**	**+0.4**
	baz=230					
NWF	**Wu-fen Shan**	**0.58 309**	⇓*i*P	**Pn**	**18 41 35.7**	**-0.2**
	baz=301					
NWF			*i* S	**Sn**	**18 41 47.5**	**-0.2**
	baz=301					
ENTT	**Nioudou**	**0.66 265**	*i* P	**Pn**	**18 41 36.7**	**+0.3**
	baz=262					
ENTT			*e*S	**Sn**	**18 41 50.3**	**+1.7**
	baz=262					
TWA	**Mucha**	**0.69 294**	P	**Pn**	**18 41 36.3**	**-0.5**
	baz=286					
TWA			S	**Sn**	**18 41 48.5**	**-0.7**
	baz=286					
YOJ	**Yonaguni jima**	**0.70 110**	P	**Pn**	**18 41 37.0**	**+0.1**
YOJ			*e*S	**Sn**	**18 41 50.0**	**+0.6**
TAP1	**Taipei**	**0.77 296**	P	**Pn**	**18 41 36.8**	**-0.6**
	baz=294					
TAP1			*e*S	**Sn**	**18 41 49.3**	**-1.1**
	baz=294					
NSK	**Sanguang**	**0.84 268**	P	**Pn**	**18 41 38.4**	**0.0**
	baz=273					
NSK			S	**Sn**	**18 41 51.8**	**-0.2**
	baz=273					
TWY	**Chenhua**	**0.84 313**	P	**Pn**	**18 41 37.8**	**-0.5**
	baz=307					
TWY			*e*S	**Sn**	**18 41 51.3**	**-0.5**
	baz=307					
NNS	**Nan Shan**	**0.87 253**	⇓*i*P	**Pn**	**18 41 39.0**	**+0.3**
	baz=242					
NNS			*e*S	**Sn**	**18 41 52.9**	**+0.3**
	baz=242					
TWS1	**Kuangyinshan**	**0.88 297**	P	**Pn**	**18 41 38.2**	**-0.5**
	baz=295					
TWS1			S	**Sn**	**18 41 51.9**	**-0.6**
	baz=295					
TWD	**Chiawan**	**0.88 225**	P	**Pn**	**18 41 38.6**	**-0.1**
	baz=218					
TWD			*e*S	**Sn**	**18 41 53.2**	**+0.6**
	baz=218					
HWA	**Hwalien**	**0.95 221**	*e*P	**Pn**	**18 41 39.4**	**0.0**
	baz=210					
HWA			*e*S	**Sn**	**18 41 53.9**	**-0.1**
	baz=210					
NCU	**National Centr**

	baz=239								
WNT				*e*S		**Sn**	18 42 09.8	+0.3	
	baz=239								
JIJ	**Ishigaki jima**	**1.73**	**101**	P		**Pn**	18 41 48.6	-0.3	
JIJ				*e*S		**Sn**	18 42 10.7	0.0	
ALS	**Alishan**	**1.80**	**229**	P		**Pn**	18 41 51.1	+1.0	
	baz=219								
ALS				*e*S		**Sn**	18 42 14.4	+1.5	
	baz=219								
CHKT	**Chengkung**	**1.81**	**208**	*e*P		**Pn**	18 41 49.1	-0.8	
	baz=198								
CHKT				*e*S		**Sn**	18 42 10.6	-1.9	
	baz=198								
CHN5	**Tsauling**	**1.83**	**233**	*e*P		**Pn**	18 41 51.2	+0.8	
	baz=240								
CHN5				*e*S		**Sn**	18 42 14.3	+0.9	
	baz=240								
WGK	**Gukeng**	**1.87**	**238**	*e*P		**Pn**	18 41 51.4	+0.7	
	baz=235								
WGK				*e*S		**Sn**	18 42 14.1	+0.1	
	baz=235								
ELDTW	**Lidau**	**1.90**	**218**	*e*P		**Pn**	18 41 50.7	-0.6	
	baz=216								
ELDTW				*e*S		**Sn**	18 42 14.7	-0.3	
	baz=216								
STYT	**Tauyuan**	**2.08**	**223**	*e*P		**Pn**	18 41 54.3	+0.8	
	baz=221								
STYT				*e*S		**Sn**	18 42 18.5	-0.4	
	baz=221								
WTP	**Ta-pu**	**2.11**	**227**	P		**Pn**	18 41 54.4	+0.5	
	baz=225								
WTP				*e*S		**Sn**	18 42 19.9	+0.3	
	baz=225								
WSF	**Szhu**	**2.16**	**241**	*e*P		**Pn**	18 41 55.0	+0.4	
	baz=239								
WSF				*e*S		**Sn**	18 42 20.9	0.0	
	baz=239								
TWK	**Hsinying**	**2.18**	**229**	*e*P		**Pn**	18 41 56.2	+1.4	
	baz=236								
TWG	**Pinlang**	**2.18**	**211**	*e*S		**Sn**	18 42 19.3	-2.0	
	baz=204								
JTJ	**Tarama**	**2.20**	**91**	P		**Pn**	18 41 55.1	+0.1	
JTJ				*e*S		**Sn**	18 42 21.7	0.0	
CHN1	**Nanshi**	**2.21**	**227**	*e*P		**Pn**	18 41 55.7	+0.5	
	baz=225								
CHN1				*e*S		**Sn**	18 42 22.6	+0.6	
	baz=225								
SGST	**Jiashian**	**2.24**	**224**	*e*P		**Pn**	18 41 56.8	+1.2	
	baz=223								
SGST				*e*S		**Sn**	18 42 24.8	+2.0	
	baz=223								
ECL	**Taimali**	**2.43**	**210**	*e*P		**Pn**	18 41 57.8	-0.2	
	baz=208								
SSD	**Sandimen**	**2.47**	**218**	*e*P		**Pn**	18 42 00.1	+1.5	
	baz=217								
SSD				*e*S		**Sn**	18 42 28.2	+0.1	
	baz=217								
LAY	**Lan-yu**	**2.74**	**194**	*e*P		**Pn**	18 42 01.6	-0.6	
	baz=193								
LAY				*e*S		**Sn**	18 42 32.4	-2.2	
	baz=193								

BJI ***10*** *18:50:05.1,5.˝31N×94.˝93E,h87km,mB5.0/24,mb4.7/38, Ms4.6/12,Ms7 4.2/12*
MOS ***10*** *18:50:05.0±0.9,5.˝60N×94.˝81E,h67km,mb4.8/29,Error ellipse: s-maj=13.3km s-min=6.9km az=104.7*
IDC ***10*** *18:50:06.8±3.3,5.˝57N×94.˝76E,h68km±29km,mb4.1/16, mb1 4.2/17,mb1mx4.0/26,mbtmp4.1/17,ML4.7/1,MS3.1/1, Ms1 3.1/1,ms1mx2.3/50,Error ellipse: s-maj=27.7km s-min=13.2km az=56.0*
ISCJB ***10*** *18:50:06.8±0.6,5.˝53N±0.˝05×94.˝80E±0.˝05,h85km±6km, mb4.6/51,Error ellipse: s-maj=10.5km s-min=5.6km az=138.6*
NEIC ***10*** *18:50:08.8±1.1,5.˝59N×94.˝86E,h86km±9km,mb4.7/18, Error ellipse: s-maj=12.1km s-min=5.3km az=59.0*
NEIC Felt at Banda Aceh and Sabang.
DJA ***10*** *18:50:10,5.˝33N×94.˝83E,h43km,mb4.9/19*
ISC 10 18:50:09.0±0.5,5˚59N±0˚05×94˚81E±0˚06,h90km±3km, h90km:pP-P,n146,σ1§51/188,mb4.6/50,5C-3D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BSI	**Banda Aceh**	**0.49**	**101**	P		**Pn**	**18 50 20.9**	**-2.9**
LHMI	**Lhok Sumawe**	**2.16**	**100**	P		**Pn**	**18 50 42.6**	**-0.7**
TPTI		**3.31**	**134**	P		**Pn**	**18 50 57.0**	**-1.8**
PSI	**Prapat**	**4.95**	**124**	P		**Pn**	**18 51 21.3**	**+0.1**
PSI				S		**Sn**	**18 52 17.0**	**-0.3**
PSI	**Prapat**	**4.95**	**124**	P		**Pn**	**18 51 21.3**	**+0.1**
PSI	**Prapat**	**4.95**	**124**	P		**Pn**	**18 51 21.3**	**+0.1**
	27nm,0.3s,baz=320,slow=14,SNR=92							
PSI				S		**Sn**	**18 52 17.0**	**-0.3**
	7.2nm,0.3s,baz=286,slow=19,SNR=2.3							
GSI	**Gunungsitoli**	**5.08**	**147**	P		**Pn**	**18 51 20.1**	**-2.7**
IPM	**Ipoh**	**6.29**	**100**	*e*Pn		**Pn**	**18 51 37.9**	**-1.4**
	80nm,0.3s							
IPM				*e*Sn		**Sn**	**18 52 45.0**	**-4.8**
IPM	**Ipoh**	**6.29**	**100**	P		**Pn**	**18 51 38.6**	**-0.7**
IPM	**Ipoh**	**6.29**	**100**	P		**Pn**	**18 51 38.1**	**-1.2**
	87nm,0.5s,2µm0.4nm							
MNSI	**Mandailing Nat**	**6.74**	**135**	P		**Pn**	**18 51 43.5**	**-1.9**
	120nm,0.3s,6µm1.2nm							
BKNI	**Bangkinang**	**8.13**	**130**	P		**Pn**	**18 52 03.2**	**-1.1**
	112nm,0.6s,2µm0.5nm							
PPI	**Padang Panjang**	**8.20**	**137**	P		**Pn**	**18 52 04.0**	**-1.3**
	58nm,0.8s,738nm0.2nm							
KGM	**Kluang**	**9.20**	**112**	P		**Pn**	**18 52 17.8**	**-1.2**
MYKGM	**Kota Tinggi**	**9.78**	**112**	P		**Pn**	**18 52 25.8**	**-1.1**
CM31	**Chiang Mai Arr**	**13.41**	**17**	*e*Pn		**Pn**	**18 53 17.4**	**+1.6**
CMAR	**Chiang Mai Arr**	**13.41**	**17**	P		**P**	**18 53 20.6**	**-1.3**
CMAR						**ScP**	**19 02 04.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**13.41**	**17**	P		**P**	**18 53 20.6**	**-1.3**
	2.3nm,0.3s,baz=211,slow=12,SNR=44							
CMAR				ScP		**ScP**	**19 02 04.2**	**+1.3**
	0.1nm,0.3s,baz=233,slow=3.0,SNR=8.2							
CHTO	**Chiang Mai**	**13.75**	**17**	P		**Pn**	**18 53 17.9**	**-2.3**
CHTO	**Chiang Mai**	**13.75**	**17**	Pn		**Pn**	**18 53 17.9**	**-2.3**
CHTO	**Chiang Mai**	**13.75**	**17**	P		**P**	**18 53 25.9**	**+0.2**
	53nm,0.7s,567nm							
KSM	**Kuching**	**16.00**	**104**	*e*Pn		**Pn**	**18 53 48.3**	**-0.6**
	15nm,0.9s							
KSM	**Kuching**	**16.00**	**104**	P		**P**	**18 53 50.7**	**0.0**
KSM	**Kuching**	**16.00**	**104**	P		**P**	**18 53 53.7**	**+3.0**
	16nm,0.9s							
MDRS	**Chennai**	**16.17**	**298**	*ex*		x	18 54 18.2	
MDRS				*ex*		x	19 00 42.2	
MDRS				*ex*		x	19 25 03.2	
STKI	**Sintang**	**17.52**	**108**	P		**Pn**	**18 54 09.8**	**+2.1**
	15nm,1.3s							
SBUM	**Sibu**	**17.64**	**99**	P		**Pn**	**18 54 12.1**	**+2.9**
SBUM	**Sibu**	**17.64**	**99**	P		Pn	18 54 14.1	+4.9
BTM	**Bintulu**	**18.37**	**97**	P		**Pn**	**18 54 20.8**	**+2.8**
HYB	**Hyderabad**	**19.77**	**308**	*i* P		**Pn**	**18 54 35.0**	**+0.5**
HYB				*e*S		**Sn**	**18 58 16.0**	**-0.9**
QIZ	**Qiongzhong**	**19.83**	**46**	P		**P**	**18 54 32.2**	**-0.5**
QIZ				S		**S**	**18 58 12.1**	**+0.8**
QIZ				pmax		pmax		
	comp=Z,7.0nm,1.2s							
QIZ	**Qiongzhong**	**19.83**	**46**	P		**P**	**18 54 31.9**	**-0.8**
SHL	**Shillong**	**20.06**	**352**	*ex*		**P**	**18 54 35.0**	**-0.4**
KMI	**Kunming**	**20.86**	**21**	P		Pn	18 54 46.0	-1.4
KMI				pP		pP	18 55 02.1	+0.4
KMI				sP		sP	18 55 10.8	-2.2
KMI				pmax		pmax		
	comp=Z,6.0nm,1.0s							
KMI				pmax		pmax		
	comp=Z,98nm,4.4s							
GRJI	**Gresik**	**21.57**	**125**	P		**P**	**18 54 50.2**	**-1.3**
ODAN	**Odare**	**22.30**	**342**	*e*P		**P**	**18 54 57.1**	**-2.4**
RAMN	**Ramite**	**22.64**	**341**	*e*P		**P**	**18 55 01.3**	**-1.7**
TAPN	**Taplejung**	**22.67**	**343**	*e*P		**P**	**18 55 01.3**	**-2.1**
JIRN	**Jiri**	**23.43**	**340**	*e*P		**P**	**18 55 09.2**	**-1.6**
PKI	**Pulchoki**	**23.62**	**339**	*e*P		**P**	**18 55 11.0**	**-1.5**
	comp=Z,20nm,0.6s							
GYA	**Guiyang**	**23.64**	**27**	P		**P**	**18 55 13.0**	**+0.6**
GYA				pP		**pP**	**18 55 32.2**	**+0.6**
GYA				sP		**sP**	**18 55 43.0**	**+0.2**
GYA				PP		PP	18 55 48.9	
GYA				PcP		**PcP**	**18 58 56.5**	**+1.7**
GYA				S		**S**	**18 59 18.2**	**-2.3**
GYA				sS		Sn	18 59 51.4	+1.9
GYA				ScP		**ScP**	**19 02 25.1**	**0.0**
GYA				PcS		**PcS**	**19 02 34.5**	**-0.1**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
GYA				pmax		pmax		
	comp=Z,90nm,4.7s							
DMN	**Daman**	**23.76**	**338**	*e*P		**P**	**18 55 12.9**	**-0.8**
GUN	**Gumba**	**23.76**	**340**	*e*P		**P**	**18 55 12.3**	**-1.5**
	comp=Z,22nm,0.5s							
KKN	**Kakani**	**23.86**	**339**	*e*P		**P**	**18 55 13.2**	**-1.3**
	comp=Z,20nm,0.6s							
LSA	**Lhasa**	**24.23**	**352**	P		**P**	**18 55 17.8**	**-0.3**
LSA				pmax		pmax		
	comp=Z,13nm,0.6s							
LSA	**Lhasa**	**24.23**	**352**	Pn		**P**	**18 55 17.8**	**-0.3**
	comp=Z,13nm,0.6s							
GKN	**Gorkha**	**24.29**	**338**	*e*P		**P**	**18 55 17.9**	**-0.4**
KOLN	**Koldanda**	**24.50**	**335**	*e*P		**P**	**18 55 20.2**	**0.0**
DANN	**Dangsing**	**24.95**	**336**	*e*P		**P**	**18 55 24.7**	**+0.3**
	comp=Z,37nm,0.5s							
CD2	**Chengdu**	**26.55**	**17**	P		**P**	**18 55 38.2**	**-0.5**
CD2				PcP		**PcP**	**18 59 03.0**	**+1.8**
CD2				S		**S**	**19 00 08.0**	**+1.3**
CD2				pmax		pmax		
	comp=Z,20nm,0.4s							
CD2				pmax		pmax		
	comp=Z,100nm,5.9s							
CD2				LR		LR		
	comp=N,240nm,8.3s							
CD2				LR		LR		
	comp=E,240nm,12.3s							
CD2				LR		LR		
	comp=Z,260nm,10.4s							
ENH	**Enshi**	**28.18**	**28**	*e*Pn		**P**	**18 55 52.3**	**-0.9**
	comp=Z,9.1nm,0.5s							
XAN	**Xi'an**	**31.19**	**23**	P		**P**	**18 56 19.2**	**-0.6**
XAN				pmax		pmax		
	comp=Z,11nm,0.6s							
LZH	**Lanzhou**	**31.46**	**14**	*e*P		**P**	**18 56 21.0**	**-1.3**
LZH				pP		**pP**	**18 56 40.5**	**-2.4**
LZH				sP		**sP**	**18 56 53.0**	**-0.4**
LZH				pmax		pmax		
	comp=Z,15nm,1.0s							
GTA	**Gaotai**	**33.97**	**7**	⇑P		**P**	**18 56 44.2**	**+0.1**
GTA				pP		**pP**	**18 57 04.6**	**-0.3**
GTA				sP		**sP**	**18 57 12.8**	**-2.5**
GTA				pmax		pmax		
	comp=Z,20nm,0.7s							
NJ2	**Nanjing**	**34.62**	**38**	*e*P		**P**	**18 56 50.7**	**+1.1**
NJ2				pmax		pmax		
	comp=Z,10.0nm,1.0s							
KSH	**Kashi**	**37.81**	**336**	P		**P**	**18 57 17.8**	**+0.8**
KSH				pP		**pP**	**18 57 40.5**	**+2.5**
KSH				sP		**sP**	**18 57 51.6**	**+3.3**
KSH				PP		**PnPn**	**18 58 49.0**	**+1.8**
KSH				PcP		**PcP**	**18 59 32.1**	**+0.2**
KSH				S		**S**	**19 03 00.1**	**-1.4**
KSH				sS		**sS**	**19 03 39.2**	**+1.5**
KSH				SS		**SS**	**19 05 41.7**	**-9.1**
KSH				ScS		**ScS**	**19 07 17.8**	**-2.8**
KSH				pmax		pmax		
	comp=Z,22nm,0.6s							
KSH				pmax		pmax		
	comp=Z,200nm,5.6s							
KSH				LR		LR		
	comp=N,160nm,8.6s							
KSH				LR		LR		
	comp=E,210nm,5.3s							
KSH				LR		LR		
	comp=Z,180nm,7.4s							
HHC	**Hu-ho-hao-te**	**38.18**	**21**	*e*P		**P**	**18 57 23.0**	**+3.0**
HHC				pP		**pP**	**18 57 43.5**	**+2.5**
HHC				sP		**sP**	**18 57 51.8**	**+0.4**
HHC				PP		**PnPn**	**18 58 56.0**	**+4.4**
HHC				S		**ScP**	**19 03 11.7**	**-1.1**
HHC				sS		**sS**	**19 03 45.0**	**+1.8**
HHC				SS		**SS**	**19 05 55.9**	**-2.7**
HHC				ScS		**ScS**	**19 07 23.9**	**+1.3**
HHC				pmax		pmax		
	comp=Z,15nm,0.6s							
HHC				pmax		pmax		
	comp=Z,100nm,4.4s							
HHC				LR		LR		
	comp=N,99nm,11.9s							
HHC				LR		LR		
	comp=E,110nm,10.7s							
HHC				LR		LR		
	comp=Z,130nm,13.1s							
FITZ	**Fitzroy Crossi**	**38.46**	**128**	*e*P		**P**	**18 57 21.6**	**-0.9**
	comp=Z,3.2nm,0.8s							
FITZ	**Fitzroy Crossi**	**38.46**	**128**	P		**P**	**18 57 22.0**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=302,slow=5.8,SNR=7.7							
FITZ				LR		LR	19 13 32.8	
	comp=Z,24nm,18.5s,baz=86,slow=36							
WMQ	**Urumqi**	**38.59**	**352**	P		**P**	**18 57 24.4**	**+1.1**
WMQ				pP		**pP**	**18 57 41.8**	**-2.6**
WMQ				pmax		pmax		
	comp=Z,8.0nm,0.8s							
WMQ				pmax		pmax		
	comp=Z,220nm,4.2s							
BJT	**Baijiatuau**	**39.30**	**26**	*e*P		**P**	**18 57 30.5**	**+1.3**
	comp=Z,18nm,0.6s							
BJI	**Beijing**	**39.32**	**26**	P		**P**	**18 57 30.6**	**+1.2**
BJI				pmax		pmax		
	comp=Z,31nm,0.7s							
BJI				pmax		pmax		
	comp=Z,100nm,3.1s							
ULHL	**Ulahol**	**40.06**	**338**	P		**P**	**18 57 36.9**	**+1.1**
	SNR=8.6							
KZA	**Kyzart**	**40.28**	**337**	P		**P**	**18 57 39.4**	**+1.5**
	SNR=14							
UCH	**Uchtor**	**40.70**	**337**	P		**P**	**18 57 42.9**	**+1.6**
	SNR=6.0							
TKM2	**Tokmak 2**	**40.88**	**338**	*e*P		**P**	**18 57 43.4**	**+0.9**
TKM2				pmax		pmax		
	comp=Z,11nm,0.6s							
TKM2	**Tokmak 2**	**40.88**	**338**	*e*P		**P**	**18 57 43.4**	**+0.9**
	comp=Z,11nm,0.6s							
TKM2	**Tokmak 2**	**40.88**	**338**	P		**P**	**18 57 43.7**	**+1.2**
	SNR=23							
KBK	**Karagaybulak**	**40.90**	**337**	P		**P**	**18 57 44.7**	**+2.1**
	SNR=85							
AML	**Almayashu**	**40.95**	**336**	P		**P**	**18 57 45.0**	**+1.7**
	SNR=19							
AAK	**Ala-Archa**	**41.05**	**337**	*d* iP		**P**	**18 57 45.4**	**+1.6**
AAK				pmax		pmax		
	comp=Z,59nm,0.9s							
AAK	**Ala-Archa**	**41.05**	**337**	*e*P		**P**	**18 57 45.0**	**+1.2**
	comp=Z,92nm,0.8s							
AAK	**Ala-Archa**	**41.05**	**337**	P		**P**	**18 57 45.5**	**+1.6**
	SNR=28							
CHMS	**Chumysh**	**41.26**	**338**	P		**P**	**18 57 46.9**	**+1.4**
	SNR=9.5							
EKS2	**Erkin-Say**	**41.36**	**336**	*e*P		**P**	**18 57 47.8**	**+1.4**
EKS2				pmax		pmax		
	comp=Z,22nm,0.6s							
EKS2	**Erkin-Say**	**41.36**	**336**	*e*P		**P**	**18 57 47.8**	**+1.4**
	comp=Z,22nm,0.6s							
EKS2	**Erkin-Say**	**41.36**	**336**	P		**P**	**18 57 48.3**	**+1.9**
	SNR=37							
USP	**Ospenovka**	**41.59**	**338**	P		**P**	**18 57 49.5**	**+1.4**
	SNR=52							
MK31	**Makanchi Array**	**42.45**	**347**	*c*e P		**P**	**18 57 54.9**	**-0.1**
MK31				pmax		pmax		
	comp=Z,2.0nm,0.3s							
MK31	**Makanchi Array**	**42.45**	**347**	*e*P		**P**	**18 57 55.0**	**-0.1**
MKAR	**Makanchi Array**	**42.45**	**347**	P		**P**	**18 57 55.0**	**0.0**
MKAR							18 59 47.3	
MKAR				pmax		pmax		
	comp=Z,5.0nm,0.5s							
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**42.45**	**347**	P		**P**	**18 57 55.0**	**0.0**
MKAR				PcP		**PcP**	**18 59 47.3**	**+0.8**
MKAR	**Makanchi Array**	**42.45**	**347**	P		**P**	**18 57 55.0**	**0.0**
	comp=Z,4.7nm,0.5s,baz=168,slow=7.9,SNR=97							
MKAR				PcP		**PcP**	**18 59 47.3**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=151,slow=3.3,SNR=3.8							
KK31	**Karatay Array**	**43.09**	**334**	*c*e P		**P**	**18 58 01.2**	**+0.9**
KK31				pmax		pmax		
	comp=Z,6.0nm,0.3s							
KKAR	**Karatay Array**	**43.09**	**334**	*e*P		**P**	**18 58 01.2**	**+0.9**
KKAR				pmax		pmax		
	comp=Z,8.0nm,0.4s							
KKAR	**Karatay Array**	**43.09**	**334**	*e*P		**P**	**18 58 01.2**	**+0.9**
	comp=Z,8.4nm,0.4s							
SONM	**Songino Array**	**43.24**	**11**	P		**P**	**18 58 01.1**	**-0.5**
SONM				PcP		**PcP**	**18 59 50.0**	**+0.8**
SONM	**Songino Array**	**43.24**	**11**	P		**P**	**18 58 01.1**	**-0.5**
	comp=Z,3.8nm,0.5s,baz=189,slow=8.6,SNR=65							
SONM				PcP		**PcP**	**18 59 50.0**	**+0.8**
	comp=Z,3.1nm,0.7s,baz=196,slow=3.8,SNR=15							
ULN	**Ulaanbaatar**	**43.41**	**12**	*e*P		**P**	**18 58 02.3**	**-0.6**
	comp=Z,4.0nm,0.8s							
ULN				*e*PcP		**PcP**	**18 59 50.1**	**+0.3**
KSAR	**Wonju Array Be**	**43.74**	**39**	P		**P**	**18 58 05.6**	**0.0**
KSRS	**Korea Array**	**43.78**	**39**	P		**P**	**18 58 05.6**	**-0.2**
	comp=Z,3.6nm,0.7s,baz=224,slow=8.7,SNR=11							
ZAK	**Zakamensk**	**45.20**	**8**	*e*P		P	18 58 13.6	-3.5
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.1s							
WRA	**Warramunga Arr**	**46.42**	**124**	P		**P**	**18 58 27.1**	**+0.1**
WRA	**Warramunga Arr**	**46.42**	**124**	P		**P**	**18 58 27.1**	**+0.1**
	comp=Z,2.1nm,0.4s,baz=305,slow=8.9,SNR=48							
WRAB	**Tennant Creek**	**46.42**	**124**	*e*P		**P**	**18 58 27.0**	**-0.1**
WRAB				pmax		pmax		
	comp=Z,4.0nm,0.6s							
WRAB	**Tennant Creek**	**46.42**	**124**	*e*P		**P**	**18 58 27.0**	**-0.1**
	comp=Z,3.8nm,0.6s							
KURK	**Kurchatov**	**46.97**	**346**	*e*P		**P**	**18 58 31.1**	**+0.3**
KURK				*e*			19 00 02.0	
KURK				pmax		pmax		
	comp=Z,6.0nm,0.7s							
KURK	**Kurchatov**	**46.97**	**346**	*e*P		**P**	**18 58 31.1**	**+0.3**
	comp=Z,5.6nm,0.7s							
KURK				*e*PcP		**PcP**	**19 00 02.0**	**+0.1**
AS31	**Alice Springs**	**47.96**	**129**	*e*P		**P**	**18 58 39.1**	**+0.1**
ASAR	**Alice Springs**	**47.96**	**129**	P		**P**	**18 58 39.1**	**+0.1**
ASAR	**Alice Springs**	**47.96**	**129**	P		**P**	**18 58 39.1**	**+0.1**
	comp=Z,3.1nm,0.4s,baz=299,slow=7.8,SNR=99							
HIA	**Hailar**	**48.37**	**22**	*e*P		**P**	**18 58 41.8**	**0.0**
	comp=Z,7.3nm,0.5s							
ZAA0	**Zalesovo Array**	**48.89**	**352**	*e*P		**P**	**18 58 45.6**	**0.0**
ZALV	**Zalesovo Beam**	**48.89**	**352**	P		**P**	**18 58 45.5**	**-0.1**
ZALV							19 00 08.2	
ZALV				pmax		pmax		
	comp=Z,7.0nm,0.5s							
ZALV				pmax		pmax		
	comp=Z,2.0nm,0.5s							
ZALV	**Zalesovo Beam**	**48.89**	**352**	P		**P**	**18 58 45.5**	**-0.1**
ZALV				PcP		**PcP**	**19 00 08.2**	**-0.5**
ZALV	**Zalesovo Beam**	**48.89**	**352**	P		**P**	**18 58 45.5**	**-0.1**
	comp=Z,6.6nm,0.5s,baz=176,slow=6.9,SNR=56							
ZALV				PcP		**PcP**	**19 00 08.2**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=164,slow=5.7,SNR=3.3							
MDJ	**Mudanjiang**	**49.34**	**32**	P		**P**	**18 58 50.2**	**+1.0**
MDJ				pmax		pmax		
	comp=Z,8.0nm,1.0s							
MDJ				pmax		pmax		
	comp=Z,33nm,3.1s							
MDJ	**Mudanjiang**	**49.34**	**32**	*e*P		**P**	**18 58 49.7**	**+0.5**
	comp=Z,8.0nm,0.9s							
NVS	**Novosibirsk**	**49.99**	**351**	*e*P		**P**	**18 58 52.7**	**-1.2**
MJAR	**Matsushiro Arr**	**50.23**	**46**	P		**P**	**18 58 56.6**	**+0.5**
MJAR				PcP		**PcP**	**19 00 14.4**	**+0.4**
MJAR	**Matsushiro Arr**	**50.23**	**46**	P		**P**	**18 58 56.6**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=235,slow=6.5,SNR=8.5							
MJAR				PcP		**PcP**	**19 00 14.4**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=231,slow=3.1,SNR=3.4							
USRK	**Ussuriysk Arra**	**50.39**	**34**	P		**P**	**18 58 57.6**	**+0.4**
	comp=Z,2.2nm,0.5s,baz=237,slow=7.5,SNR=6.4							
BRVK	**Borovoye**	**51.41**	**341**	⇓*i* P		**P**	**18 59 05.3**	**+0.6**
BRVK				pmax		pmax		
	comp=Z,16nm,1.1s							
BRVK	**Borovoye**	**51.41**	**341**	*e*P		**P**	**18 59 04.8**	**+0.1**
	comp=Z,15nm,0.9s							
AB31	**Akbulak array**	**52.54**	**332**	*c*e P		**P**	**18 59 14.2**	**+1.1**
AB31				pmax		pmax		
	comp=Z,5.0nm,0.3s							
ABKAR	**Akbulak array**	**52.54**	**332**	*e*P		**P**	**18 59 14.1**	**+0.9**
	comp=Z,5.9nm,0.4s							
BOD	**Bodaibo**	**54.21**	**13**	*e*P		**P**	**18 59 24.3**	**-0.9**
BOD				pmax		pmax		
	comp=Z,6.0nm,1.1s							
HABR	**Khabarovsk**	**54.70**	**32**	P		**P**	**18 59 26.5**	**-2.4**
HABR				*e**SP		sP	18 59 40.0	-21
HABR				*e*			19 00 29.2	
HABR				S		**S**	**19 07 03.3**	**+1.0**
HABR				*e**SS		sS	19 07 19.8	-21
HABR				*e*			19 09 12.2	
HABR				*e*SS		**SS**	**19 10 46.9**	**+0.4**
HABR				*e*SSS		SSS	19 12 49.7	
HABR				pmax		pmax		
	comp=Z,31nm,2.1s							
HABR				pmax		pmax		
	comp=N,32nm,2.8s							
HABR				pmax		pmax		
	comp=E,59nm,2.8s							
HABR				MLR		MLR		
	comp=Z,75nm,21.0s							
SVE	**Sverdlovsk**	**57.75**	**339**	⇓*e*P		**P**	**18 59 51.3**	**+0.8**
SVE				pmax		pmax		
	comp=Z,18nm,0.7s							
STKA	**Stephens Creek**	**58.07**	**133**	P		**P**	**18 59 53.1**	**0.0**
	comp=Z,0.6nm,0.8s							
STKA	**Stephens Creek**	**58.07**	**133**	P		**P**	**18 59 53.1**	**0.0**
	comp=Z,1.9nm,0.7s,baz=309,slow=9.7,SNR=5.3							
YSS	**Yuzh-Sakhalins**	**58.18**	**37**	P		**P**	**18 59 53.9**	**+0.2**
YSS	**Yuzh-Sakhalins**	**58.18**	**37**	P		**P**	**18 59 53.9**	**+0.2**
ARU	**Arti**	**58.24**	**337**	*c* iP		**P**	**18 59 54.1**	**+0.2**
ARU				*e*			19 02 02.2	
ARU				S		S	19 07 55.3	+6.5
ARU				pmax		pmax		
	comp=Z,12nm,1.0s							
ARU	**Arti**	**58.24**	**337**	*e*P		**P**	**18 59 54.0**	**+0.1**
	comp=Z,5.4nm,0.7s							
ARU				*e*pP		**pP**	**19 00 12.4**	**-4.0**
BRTR	**Keskin Array B**	**64.42**	**311**	P		**P**	**19 00 35.5**	**-0.7**
BRTR	**Keskin Array B**	**64.

*IDC **10** 19:03:05.3±1.1, 11°.57N×95°.29E, h0km, mb3.7/10, mb1 3.7/11, mb1mx3.6/28, mbtmp3.6/11, ML3.7/1, MS3.4/8, Ms1 3.4/8, ms1mx3.0/49, Error ellipse: s-maj=41.2km s-min=17.7km az=57.0*

*ISCJB **10** 19:03:07.5±0.8, 11°.50N±0°.08×95°.09E±0°.09, h33km, mb3.7/10, MS3.4/7, Error ellipse: s-maj=12.3km s-min=10.7km az=154.4*

ISC 10 19:03:09.6±1.1, 11°.5N±0°.1×95°.1E±0°.1, h35km, n25, σ1§07/22, mb3.7/10, MS3.4/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.88**	**28**	Pn	**Pn**	**19 05 00.5**	**-1.3**
	0.3nm,0.3s,baz=217,slow=15,SNR=10.0						
CMAR				Sn	**Sn**	**19 06 32.0**	**+2.3**
	baz=216,slow=17,SNR=3.2						
PSI	**Prapat**	**9.43**	**156**	LR	LR	19 09 31.0	
	comp=Z,44nm,18.5s,baz=280,slow=40						
ODAN	**Odare**	**16.92**	**336**	*eP*	**P**	**19 07 04.7**	**-1.0**
	13nm,0.5s						
TAPN	**Taplejung**	**17.23**	**337**	*eP*	**Pn**	**19 07 07.0**	**-0.9**
RAMN	**Ramite**	**17.33**	**334**	*eP*	**P**	**19 07 10.3**	**+0.1**
JIRN	**Jiri**	**18.12**	**334**	*eP*	**P**	**19 07 19.3**	**+0.2**
PKI	**Pulchoki**	**18.48**	**332**	*eP*	**P**	**19 07 21.2**	**-0.9**
GUN	**Gumba**	**18.48**	**334**	*eP*	**P**	**19 07 20.8**	**-2.2**
DMN	**Daman**	**18.57**	**331**	*eP*	**P**	**19 07 23.2**	**-0.7**
KKN	**Kakani**	**18.64**	**332**	*eP*	**P**	**19 07 23.7**	**-1.0**
	20nm,1.0s						
GKN	**Gorkha**	**19.12**	**331**	*eP*	**P**	**19 07 29.4**	**-0.5**
	19nm,0.8s						
KOLN	**Koldanda**	**19.45**	**328**	*eP*	**P**	**19 07 33.3**	**-0.2**
	32nm,0.7s						
DANN	**Dangsing**	**19.84**	**329**	*eP*	**P**	**19 07 37.4**	**-0.5**
	41nm,0.9s						
AAK	**Ala-Archa**	**35.83**	**334**	P	**P**	**19 10 07.1**	**+1.0**
	0.9nm,0.9s,baz=134,slow=11,SNR=3.8						
AAK				LR	LR	19 26 32.2	
	comp=Z,63nm,18.9s,baz=138,slow=39						
MKAR	**Makanchi Array**	**36.82**	**345**	P	**P**	**19 10 14.0**	**-0.2**
	0.9nm,0.8s,baz=163,slow=8.9,SNR=11						
MKAR				LR	LR	19 27 38.0	
	comp=Z,40nm,21.5s,baz=269,slow=40						
SONM	**Songino Array**	**37.46**	**13**	P	**P**	**19 10 19.2**	**-0.6**
	1.0nm,1.1s,baz=195,slow=9.2,SNR=5.7						
SONM				LR	LR	19 27 13.4	
	comp=Z,69nm,21.5s,baz=181,slow=39						
KSRS	**Korea Array**	**39.19**	**43**	LR	LR	19 28 10.1	
	comp=Z,34nm,18.0s,baz=282,slow=39						
KURBB	**Kurchatov Arra**	**41.32**	**344**	P	**P**	**19 10 51.6**	**-0.1**
	1.3nm,0.8s,baz=164,slow=7.5,SNR=14						
KURBB				LR	LR	19 29 59.1	
	comp=Z,39nm,21.4s,baz=200,slow=39						
ZALV	**Zalesovo Beam**	**43.14**	**351**	P	**P**	**19 11 07.2**	**+0.7**
	0.4nm,0.5s,baz=161,slow=9.2,SNR=3.0						
BVAR	**Borovoye Array**	**45.92**	**339**	P	**P**	**19 11 28.9**	**0.0**
	0.4nm,0.5s,baz=159,slow=8.6,SNR=3.4						
AKTO	**Aktyubinsk**	**49.28**	**329**	P	P	19 11 58.0	+3.0
	0.8nm,0.6s,baz=148,slow=3.5,SNR=3.7						
AKTO				LR	LR	19 36 02.5	
	comp=Z,41nm,19.6s,baz=7.9,slow=40						
WRA	**Warramunga Arr**	**49.70**	**129**	P	**P**	**19 11 58.4**	**-0.1**
	1.0nm,0.8s,baz=307,slow=8.3,SNR=8.0						
ASAR	**Alice Springs**	**51.60**	**133**	P	**P**	**19 12 12.9**	**+0.1**
	0.5nm,0.6s,baz=309,slow=6.4,SNR=9.0						
BRTR	**Keskin Array B**	**60.83**	**309**	P	**P**	**19 13 20.7**	**+2.0**
	0.5nm,0.5s,baz=126,slow=6.1,SNR=2.6						
ARCES	**ARCESS Array B**	**72.21**	**340**	LR	LR	19 50 13.7	
	comp=Z,121nm,19.3s,baz=0.0,slow=39						

IDC 10 19:16:12.9±3.3, 10°.03S×66°.42E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/25, mbtmp3.6/7, MS3.6/2, Ms1 3.5/2, ms1mx2.8/39, Error ellipse: s-maj=95.7km s-min=27.0km az=62.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**34.79**	**70**	LR	LR	19 34 36.8	
	comp=Z,63nm,19.4s,baz=177,slow=32						
BOSA	**Boshof**	**42.75**	**238**	LR	LR	19 38 52.2	
	comp=Z,96nm,21.2s,baz=163,slow=32						
CMAR	**Chiang Mai Arr**	**42.79**	**49**	P	P	19 24 12.4	-0.3
	0.4nm,0.5s,baz=242,slow=8.8,SNR=6.6						
MKAR	**Makanchi Array**	**58.32**	**13**	P	P	19 26 09.1	-0.5
	0.1nm,0.6s,baz=216,slow=7.1,SNR=2.9						
KURBB	**Kurchatov Arra**	**61.31**	**9**	P	P	19 26 30.2	+0.1
	0.3nm,0.7s,baz=207,slow=7.0,SNR=4.5						
BVAR	**Borovoye Array**	**62.90**	**3**	P	P	19 26 40.9	+0.1
	0.7nm,0.8s,baz=133,slow=8.3,SNR=4.1						
ASAR	**Alice Springs**	**65.49**	**111**	P	P	19 26 58.6	+0.1
	0.8nm,1.0s,baz=270,slow=5.4,SNR=5.5						
WRA	**Warramunga Arr**	**65.98**	**107**	P	P	19 27 01.6	-0.2
	1.1nm,0.8s,baz=276,slow=5.3,SNR=7.9						
SONM	**Songino Array**	**67.62**	**28**	P	P	19 27 12.4	+0.6
	0.3nm,0.5s,baz=211,slow=6.7,SNR=3.6						

IDC 10 19:23:35.0±5.9, 0°.76S×132°.04E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=413.3km s-min=23.5km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.20**	**173**	P	P	19 28 00.5	-0.2
	0.1nm,0.3s,baz=352,slow=13,SNR=7.3						
ASAR	**Alice Springs**	**22.84**	**176**	P	P	19 28 40.3	+0.2
	0.7nm,0.3s,baz=357,slow=12,SNR=28						
MKAR	**Makanchi Array**	**64.25**	**324**	P	P	19 34 12.3	+0.2
	0.2nm,0.6s,baz=105,slow=7.5,SNR=4.1						
KURBB	**Kurchatov Arra**	**68.37**	**327**	P	P	19 34 38.1	-0.3
	0.1nm,0.4s,baz=119,slow=4.9,SNR=5.6						

IDC 10 19:26:17.5±1.8, 48°.88S×30°.37E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/17, mbtmp4.0/3, Error ellipse: s-maj=93.6km s-min=32.7km az=55.0, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**24.11**	**349**	P	P	19 31 34.9	0.0
	0.9nm,0.6s,baz=196,slow=18,SNR=8.0						
ASAR	**Alice Springs**	**80.90**	**115**	P	P	19 38 33.9	+0.2
	0.8nm,0.7s,baz=211,slow=4.7,SNR=7.5						
WRA	**Warramunga Arr**	**83.99**	**113**	P	P	19 38 49.5	-0.2
	1.8nm,1.0s,baz=214,slow=4.5,SNR=6.0						
ULM	**Lac du Bonnet**	**145.74**	**293**	PKPbc	PKPdf	19 45 56.6	-0.3
	9.9nm,1.4s,baz=124,slow=3.6,SNR=3.5						

*IDC **10** 19:27:24.7±8.3, 37°.03N×71°.43E, h221km±52km, mb3.2/3, mb1 3.1/8, mb1mx2.8/29, mbtmp3.0/8, MS2.9/1, Ms1 2.9/1, ms1mx2.2/26, Error ellipse: s-maj=78.4km s-min=43.0km az=178.0*

ISC 10 19:27:11.4±2.7, 36°.4N±0°.2×70°.3E±0°.2, h88km, n18, σ1§42/14, mb3.8/3, 1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.29**	**24**	P	**Pn**	**19 28 44.1**	**+2.1**
	SNR=60						
KK31	**Karatay Array**	**6.68**	**1**	||P	Pn	19 28 52.3	+5.4
	3.4nm,0.3s,baz=175,slow=13,SNR=194						
KK31				S	**Sn**	**19 30 00.3**	**-1.2**
	6.7nm,0.5s,baz=177,slow=25,SNR=23						
EKS2	**Erkin-Say**	**6.80**	**22**	P	**Pn**	**19 28 50.9**	**+2.2**
	SNR=12						
KZA	**Kyzart**	**6.85**	**33**	P	**Pn**	**19 28 49.8**	**+0.3**
	SNR=6.2						
AAK	**Ala-Archa**	**7.01**	**26**	P	**Pn**	**19 28 53.3**	**+1.7**
	SNR=23						
AAK	**Ala-Archa**	**7.01**	**26**	P	**Pn**	**19 28 53.1**	**+1.5**
	4.2nm,0.3s,baz=180,slow=6.3,SNR=98						
AAK				S	Sn	19 30 04.0	-5.9
	0.4nm,0.3s,baz=320,slow=21,SNR=13						
KBK	**Karagaybulak**	**7.20**	**29**	P	**Pn**	**19 28 55.5**	**+1.4**
	SNR=5.7						
CHMS	**Chumysh**	**7.42**	**26**	P	**Pn**	**19 28 57.9**	**+0.8**
	SNR=6.4						
ULHL	**Ulahol**	**7.43**	**37**	P	**Pn**	**19 28 57.2**	**-0.1**
	SNR=7.5						
USP	**Ospenovka**	**7.58**	**24**	P	**Pn**	**19 29 00.4**	**+1.3**
	SNR=7.5						
TKM2	**Tokmak 2**	**7.68**	**31**	P	**Pn**	**19 29 01.0**	**+0.2**
	SNR=16						
MKAR	**Makanchi Array**	**13.71**	**37**	P	Pn	19 30 18.1	-3.8
	0.1nm,0.3s,baz=225,slow=16,SNR=7.5						
KURBB	**Kurchatov Arra**	**15.40**	**20**	P	Pn	19 30 39.0	-4.6
	0.0nm,0.3s,baz=202,slow=11,SNR=6.6						
BVAR	**Borovoye Array**	**16.61**	**0**	P	**Pn**	**19 30 57.9**	**-0.8**
	0.3nm,0.3s,baz=160,slow=9.6,SNR=9.4						
BVAR				LR	LR	19 38 03.2	
	comp=Z,40nm,18.1s,baz=40,slow=40						
ZALV	**Zalesovo Beam**	**20.24**	**25**	P	P	19 31 33.1	-6.2
	0.2nm,0.3s,baz=255,slow=11,SNR=4.2						
FINES	**FINESS Array B**	**37.23**	**326**	P	**P**	**19 34 14.3**	**+0.3**
	0.8nm,0.6s,baz=134,slow=6.0,SNR=4.3						
ARCES	**ARCESS Array B**	**41.00**	**338**	P	**P**	**19 34 44.3**	**-1.1**
	3.1nm,0.9s,baz=113,slow=9.3,SNR=3.8						
YKA	**Yellowknife Ar**	**81.36**	**2**	P	P	19 39 12.4	-5.5
	0.2nm,0.5s,baz=347,slow=5.7,SNR=6.9						

*BJI **10** 19:27:19.6, 25°.10S×179°.90E, h498km, mB4.8/9, mb4.5/16*

*ISCJB **10** 19:27:20.6±0.7, 25°.29S±0°.06×179°.69E±0°.07, h505km±7km, mb4.3/34, Error ellipse: s-maj=9.9km s-min=8.9km az=169.0*

*NEIC **10** 19:27:20.0±0.3, 25°.20S×179°.83E, mb4.5/16, Error ellipse: s-maj=10.6km s-min=9.7km az=68.0*

*IDC **10** 19:27:22.0±1.4, 25°.24S×179°.70E, h508km±13km, mb3.8/19, mb1 3.9/21, mb1mx3.8/25, mbtmp3.8/21, Error ellipse: s-maj=14.9km s-min=10.7km az=165.0*

ISC 10 19:27:21.1±0.5, 25°.25S±0°.07×179°.72E±0°.06, h501km±3km, h501km:pP-P, n96, σ1§31/123, mb4.3/34, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.51**	**153**	*eP*	**P**	**19 28 43.4**	**-0.2**
MSVF	**Nonsavu**	**7.64**	**348**	*eP*	**P**	**19 29 12.8**	**-1.2**
	40nm,0.6s						
MSVF				*eS*	**S**	**19 30 46.8**	**+0.4**
DZM	**Mont Dzumac**	**12.57**	**282**	*eP*	**P**	**19 30 07.7**	**+1.8**
	16nm,0.9s						
DZM				*eS*	**S**	**19 32 17.9**	**-3.7**
DZM	**Mont Dzumac**	**12.57**	**282**	P	**P**	**19 30 07.9**	**+2.0**
	0.8nm,0.3s,baz=86,slow=16,SNR=14						
URZ	**Urewera**	**13.16**	**189**	*eP*	**P**	**19 30 10.5**	**-1.2**
	10nm,0.4s						
URZ				*eS*	S	19 32 25.4	-7.0
AFI	**Afiamalu**	**13.83**	**37**	P	P	19 30 13.1	-6.1
	46nm,0.8s						
AFI	**Afiamalu**	**13.83**	**37**	P	**P**	**19 30 19.8**	**+0.6**
	3.8nm,0.3s,baz=219,slow=19,SNR=3.9						
SNZO	**South Karori**	**16.55**	**193**	P	**P**	**19 30 47.4**	**+0.2**
	48nm,1.0s						
HNR	**Honiara**	**24.51**	**306**	*eP*	**P**	**19 31 58.6**	**-1.8**
	46nm,0.8s						
HNR	**Honiara**	**24.51**	**306**	P	**P**	**19 31 59.6**	**-0.7**
	46nm,0.7s,baz=180,slow=2.8,SNR=5.7						
ARMA	**Armidale**	**25.33**	**252**	*eP*	**P**	**19 32 10.1**	**+2.5**
CTA	**Charters Tower**	**31.25**	**273**	P	**P**	**19 33 00.6**	**+1.2**
CTA	**Charters Tower**	**31.25**	**273**	P	**P**	**19 33 00.6**	**+1.2**
	15nm,0.6s,baz=97,slow=11,SNR=29						
CTAO	**Charters Tower**	**31.25**	**273**	*eP*	**P**	**19 33 00.2**	**+0.8**
	39nm,1.1s						
STKA	**Stephens Creek**	**34.00**	**250**	*eP*	**P**	**19 33 23.4**	**+0.8**
	0.6nm,0.5s						
STKA	**Stephens Creek**	**34.00**	**250**	*eP*	**P**	**19 33 23.5**	**+0.9**
	2.0nm,0.5s						
STKA	**Stephens Creek**	**34.00**	**250**	P	**P**	**19 33 23.7**	**+1.1**
	2.2nm,0.5s,baz=96,slow=11,SNR=9.5						
PMG	**Port Moresby**	**34.72**	**291**	*eP*	**P**	**19 33 28.3**	**-0.5**
	14nm,0.8s						
PMG	**Port Moresby**	**34.72**	**291**	P	**P**	**19 33 29.1**	**+0.3**
	10nm,0.7s,baz=87,slow=6.5,SNR=7.5						
AS31	**Alice Springs**	**41.58**	**262**	*eP*	**P**	**19 34 24.5**	**-0.2**
ASAR	**Alice Springs**	**41.58**	**262**	P	**P**	**19 34 25.1**	**+0.3**
ASAR				pP	**pP**	**19 35 56.9**	**+1.0**
ASAR				ScP	**ScP**	**19 39 13.9**	**+1.2**
ASAR				S	**S**	**19 40 04.1**	**-0.3**
ASAR	**Alice Springs**	**41.58**	**262**	P	**P**	**19 34 25.1**	**+0.3**
	7.1nm,0.8s,baz=93,slow=7.4,SNR=60						
ASAR				pP	**pP**	**19 35 56.9**	**+1.0**
	3.1nm,1.0s,baz=103,slow=8.3,SNR=7.2						
ASAR				ScP	**ScP**	**19 39 13.9**	**+1.2**
	0.7nm,0.9s,baz=133,slow=3.9,SNR=3.2						
ASAR				S	**S**	**19 40 04.1**	**-0.3**
	1.1nm,0.7s,baz=98,slow=13,SNR=7.7						
WRAB	**Tennant Creek**	**42.07**	**268**	*eP*	**P**	**19 34 28.1**	**-0.5**
	6.4nm,0.8s						
WRA	**Warramunga Arr**	**42.08**	**268**	P	**P**	**19 34 28.5**	**-0.2**
WRA				ScP	**ScP**	**19 39 15.1**	**+0.4**
WRA				S	**S**	**19 40 09.2**	**-2.4**
WRA	**Warramunga Arr**	**42.08**	**268**	P	**P**	**19 34 28.5**	**-0.2**
	12nm,0.7s,baz=103,slow=8.1,SNR=85						
WRA				ScP	**ScP**	**19 39 15.1**	**+0.4**
	2.1nm,1.0s,baz=107,slow=4.2,SNR=5.1						
WRA				S	**S**	**19 40 09.2**	**-2.4**
	4.2nm,0.9s,baz=97,slow=14,SNR=13						
FITZ	**Fitzroy Crossi**	**50.48**	**267**	P	**P**	**19 35 33.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**50.48**	**267**	*eP*	**P**	**19 35 33.2**	**+0.6**
	18nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.48**	**267**	P	**P**	**19 35 33.1**	**+0.4**
	13nm,0.8s,baz=138,slow=7.6,SNR=19						
VNDA	**Vanda**	**53.02**	**185**	P	**P**	**19 35 50.7**	**+0.7**
MBWA	**Marble Bar**	**54.90**	**261**	*eP*	**P**	**19 36 03.5**	**-0.8**
	19nm,1.2s						
QSPA	**South Pole Qui**	**64.84**	**180**	P	**P**	**19 37 10.7**	**+0.7**
QSPA	**South Pole Qui**	**64.84**	**180**	P	**P**	**19 37 10.7**	**+0.7**
	4.6nm,0.8s,baz=25,slow=2.3,SNR=11						
KSM	**Kuching**	**72.09**	**280**	*eP*	**P**	**19 37 53.9**	**-0.8**
	8.0nm,0.7s						
MJAR	**Matsushiro Arr**	**72.86**	**326**	P	**P**	**19 37 58.2**	**-0.4**
MJAR	**Matsushiro Arr**	**72.86**	**326**	P	**P**	**19 37 58.2**	**-0.4**
	5.1nm,0.8s,baz=166,slow=5.9,SNR=18						
MAJO	**Matsushiro**	**72.87**	**326**	*eP*	**P**	**19 37 57.6**	**-1.0**
	8.8nm,0.9s						
JNU	**Nakatsue**	**74.37**	**319**	P	**P**	**19 38 07.0**	**-0.4**
JNU	**Nakatsue**	**74.37**	**319**	P	**P**	**19 38 07.0**	**-0.4**
	6.8nm,1.0s,baz=243,slow=2.3,SNR=4.4						
ASAJ	**Asahikawa**	**76.95**	**333**	P	**P**	**19 38 22.8**	**+1.5**
ASAJ	**Asahikawa**	**76.95**	**333**	P	**P**	**19 38 22.8**	**+1.5**
	4.7nm,1.0s,baz=260,slow=7.2,SNR=4.3						
KSRS	**Korea Array**	**79.12**	**320**	P	**P**	**19 38 34.0**	**+0.8**
	2.1nm,0.7s,baz=133,slow=5.8,SNR=8.1						
KSAR	**Wonju Array Be**	**79.13**	**320**	P	**P**	**19 38 34.0**	**+0.7**
PETK	**Petropavlovsk-**	**80.35**	**347**	P	**P**	**19 38 39.5**	**+0.1**
PETK	**Petropavlovsk-**	**80.35**	**347**	P	**P**	**19 38 39.5**	**+0.1**
	6.2nm,1.0s,baz=115,slow=6.4,SNR=5.7						
QIZ	**Qiongzhong**	**80.95**	**296**	P	**P**	**19 38 44.1**	**+0.8**
QIZ				sP	**sP**	**19 41 21.7**	**-1.9**
QIZ				S	**SKSac**	**19 48 13.3**	**-1.0**
QIZ				SS	**SS**	**19 53 43.9**	**+4.2**
QIZ				pmax	pmax		
	comp=Z,99nm,4.7s						
USRK	**Ussuriysk Arra**	**81.75**	**327**	P	**P**	**19 38 47.2**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=131,slow=5.3,SNR=5.4						
PSI	**Prapat**	**82.87**	**276**	P	**P**	**19 38 52.9**	**-0.5**
PSI	**Prapat**	**82.87**	**276**	P	**P**	**19 38 52.9**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=316,slow=13,SNR=3.8						
MDJ	**Mudanjiang**	**83.24**	**326**	P	**P**	**19 38 55.3**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,56nm,2.9s						
ISA	**Isabella**	**84.14**	**46**	*eP*	**P**	**19 38 59.1**	**0.0**
	comp=Z,6.1nm,0.8s						
CMB	**Columbia Colle**	**84.35**	**43**	P	P	19 38 56.7	-3.4
	comp=Z,5.9nm,1.0s						
NVAR	**Mina Array Bea**	**85.90**	**44**	P	**P**	**19 39 08.0**	**+0.2**
NVAR	**Mina Array Bea**	**85.90**	**44**	P	**P**	**19 39 08.0**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=222,slow=7.9,SNR=13						
ENH	**Enshi**	**87.01**	**305**	*eP*	**P**	**19 39 12.7**	**-0.4**
	comp=Z,8.5nm,1.1s						
GYA	**Guiyang**	**87.21**	**301**	*eP*	**P**	**19 39 14.0**	**-0.2**
GYA				pP	**pP**	**19 41 06.2**	**+1.1**
GYA				sP	**sP**	**19 41 56.6**	**+0.5**
GYA				PP	**PP**	**19 42 50.5**	**+3.0**
GYA				SKS	**SKSac**	**19 48 53.0**	**-0.9**
GYA				S	**S**	**19 49 12.3**	**+0.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PLCA	**Paso Flores**	**87.51**	**134**	P	**P**	**19 39 14.0**	**-1.4**
PLCA	**Paso Flores**	**87.51**	**134**	P	**P**	**19 39 14.0**	**-1.4**
	comp=Z,3.2nm,1.0s,baz=255,slow=8.0,SNR=3.0						
BJI	**Beijing**	**87.83**	**317**	P	**P**	**19 39 17.1**	**+0.6**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KMI	**Kunming**	**89.67**	**298**	P	**P**	**19 39 26.1**	**+0.3**
KMI				pP	**pP**	**19 41 18.3**	**+1.0**
KMI				sP	**sP**	**19 42 07.9**	**-0.2**
KMI				PP	**PP**	**19 43 09.8**	**+2.9**
KMI				S	**S**	**19 49 34.5**	**-0.3**
KMI				sS	**sS**	**19 52 52.6**	**-1.3**
KMI				SS	**SS**	**19 55 50.5**	**+3.8**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.75**	**290**	P	**P**	**19 39 27.9**	**+1.9**
CMAR				pP	**pP**	**19 41 19.4**	**+1.8**
CMAR	**Chiang Mai Arr**	**89.75**	**290**	P	**P**	**19 39 27.9**	**+1.9**
	comp=Z,2.6nm,0.9s,baz=138,slow=3.2,SNR=22						
CMAR				pP	**pP**	**19 41 19.4**	**+1.8**
	comp=Z,0.4nm,0.8s,baz=138,slow=3.0,SNR=3.0						
CHTO	**Chiang Mai**	**89.91**	**291**	*eP*	**P**	**19 39 27.6**	**+0.8**
	comp=Z,5.4nm,0.9s						
CHTO				pP	**pP**	**19 41 17.8**	**-0.6**
HHC	**Hu-ho-hao-te**	**91.19**	**315**	*eP*	**P**	**19 39 31.1**	**-1.2**
HHC				pP	**pP**	**19 41 25.0**	**+1.0**
HHC				sP	**sP**	**19 42 15.0**	**+0.3**
HHC				PP	**PP**	**19 43 21.6**	**+3.2**
HHC				SKS	**SKSac**	**19 49 14.1**	**-2.2**
HHC				S	**S**	**19 49 44.5**	**-3.1**
HHC				sS	**sS**	**19 53 06.6**	**-0.9**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,80nm,6.2s						
TXAR	**Lajitas Array**	**91.36**	**58**	P	**P**	**19 39 34.0**	**+0.7**
TXAR	**Lajitas Array**	**91.36**	**58**	P	**P**	**19 39 34.0**	**+0.7**
	comp=Z,2.2nm,0.8s,baz=225,slow=5.0,SNR=7.6						
CD2	**Chengdu**	**91.61**	**303**	P	**P**	**19 39 34.1**	**-0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,90nm,5.2s						
LZH	**Lanzhou**	**94.00**	**308**	*eP*	**P**	**19 39 43.0**	**-2.4**
LZH				pP	**pP**	**19 41 37.0**	**-0.3**
LZH				sP	**sP**	**19 42 26.5**	**-1.4**
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
KSH	**Kashi**	**115.80**	**303**	*ePKP*	PKPdf	19 45 01.2	-5.4
KSH				PP	**PP**	**19 46 21.0**	**+1.6**
KSH				PKS	PKSdf	19 48 36.3	-7.0
KSH				SS	SS	20 01 40.5	-1.8
BVAR	**Borovoye Array**	**121.28**	**318**	PKP	**PKPdf**	**19 45 15.8**	**-0.7**
BVAR	**Borovoye Array**	**121.28**	**318**	PKP	**PKPdf**	**19 45 15.8**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=144,slow=1.9,SNR=5.1						
FRB	**Frobisher Bay**	**121.94**	**29**	PKP	**PKPdf**	**19 45 16.5**	**-0.9**
FRB	**Frobisher Bay**	**121.94**	**29**	PKP	**PKPdf**	**19 45 16.5**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=341,slow=2.6,SNR=4.4						
ARCES	**ARCESS Array B**	**133.15**	**348**	PKP	**PKPdf**	**19 45 38.6**	**0.0**
ARCES				SKPbc	**SKPbc**	**19 48 19.8**	**+0.2**
ARCES	**ARCESS Array B**	**133.15**	**348**	PKP	**PKPdf**	**19 45 38.6**	**0.0**
	comp=Z,6.4nm,1.0s,baz=17,slow=3.3,SNR=2.9						
ARCES				SKPbc	**SKPbc**	**19 48 19.8**	**+0.2**
	comp=Z,5.2nm,0.8s,baz=20,slow=3.9,SNR=5.1						
FINES	**FINESS Array B**	**139.63**	**341**	SKPbc	**SKPbc**	**19 48 39.5**	**+0.5**
FINES	**FINESS Array B**	**139.63**	**341**	SKPbc	**SKPbc**	**19 48 39.5**	**+0.5**
	comp=Z,6.0nm,0.8s,baz=46,slow=5.5,SNR=13						
NB2	**NORSAR Subarra**	**143.37**	**351**	PKP	PKPab	19 45 54.5	-1.1
	comp=Z,0.3nm,0.8s,baz=26,slow=3.6						
NOA	**NORSAR Array B**	**143.37**	**351**	PKP	PKPab	19 45 55.2	-0.4
NOA	**NORSAR Array B**	**143.37**	**351**	PKP	PKPab	19 45 55.2	-0.4
	comp=Z,3.6nm,0.9s,baz=16,slow=4.9,SNR=9.7						
IDID	**Didziasalis**	**144.02**	**334**	*eP*	PKPbc	19 45 56.8	-1.3
IDID				AMB	AMB	19 45 58.6	
	comp=Z,6.7nm,1.2s						
IDID	**Didziasalis**	**144.02**	**334**	*eP*	PKPbc	19 45 56.8	-1.3
IDID				AMB	AMB	19 45 58.6	
	comp=Z,6.7nm,1.2s						
ISAL	**Salakas**	**144.08**	**334**	*eP*	PKPbc	19 45 56.8	-1.4
ISAL				AMB	AMB	19 45 59.1	
	comp=Z,9.0nm,1.2s						
ISAL	**Salakas**	**144.08**	**334**	*eP*	PKPbc	19 45 56.8	-1.4
ISAL				AMB	AMB	19 45 59.1	
	comp=Z,9.0nm,1.2s						
IIGN	**Ignalina**	**144.20**	**334**	*eP*	PKPbc	19 45 57.2	-1.4
IIGN				AMB	AMB	19 45 59.3	
	comp=Z,8.5nm,1.1s						
IIGN	**Ignalina**	**144.20**	**334**	*eP*	PKPbc	19 45 57.2	-1.4
IIGN				AMB	AMB	19 45 59.3	
	comp=Z,8.5nm,1.1s						
NACGM	**Naroch**	**144.30**	**333**	*e*	PKPbc	19 45 56.0	-2

CTA	**Charters Tower**	**17.00 223**	P	**P**	**19 44 42.9**	**+1.3**
CTA	**Charters Tower**	**17.00 223**	*e*P	P	19 44 48.4	+6.8
	4.7nm,0.7s					
CTA	**Charters Tower**	**17.00 223**	P	**P**	**19 44 42.9**	**+1.3**
	0.2nm,0.3s,baz=14,slow=8.3,SNR=2.2					
CTA			LR	LR	19 50 25.6	
	comp=Z,122nm,19.7s,baz=41,slow=34					
CTAO	**Charters Tower**	**17.00 223**	*e*P	**P**	**19 44 42.7**	**+1.1**
CTAO			pmax	pmax		
	comp=Z,79nm,2.1s					
CTAO	**Charters Tower**	**17.00 223**	*e*Pn	**P**	**19 44 42.7**	**+1.1**
	comp=Z,79nm,2.1s					
EIDS	**Eidsvold**	**18.76 202**	*e*Pn	**P**	**19 45 00.5**	**-0.4**
	comp=Z,84nm,2.0s					
MSVF	**Nonsavu**	**21.28 119**	*e*P	**P**	**19 45 29.7**	**+1.2**
MSVF			pmax	pmax		
	comp=Z,78nm,2.3s					
MSVF	**Nonsavu**	**21.28 119**	*e*P	**P**	**19 45 29.7**	**+1.2**
	comp=Z,78nm,2.3s					
ARMA	**Armidale**	**23.30 195**	*e*P	**P**	**19 45 52.0**	**+2.2**
	comp=Z,238nm,2.3s					
GUMO	**Guam**	**25.37 327**	LR	LR	19 54 39.6	
	comp=Z,156nm,19.0s,baz=126,slow=32					
WRAB	**Tennant Creek**	**26.34 241**	*e*P	**P**	**19 46 17.4**	**-0.3**
WRAB			pmax	pmax		
	comp=Z,12nm,0.9s					
WRAB	**Tennant Creek**	**26.34 241**	*e*P	**P**	**19 46 17.4**	**-0.3**
	comp=Z,12nm,0.9s					
WRA	**Warramunga Arr**	**26.36 241**	P	**P**	**19 46 17.6**	**-0.2**
WRA	**Warramunga Arr**	**26.36 241**	P	**P**	**19 46 17.6**	**-0.2**
	comp=Z,3.8nm,0.5s,baz=66,slow=9.2,SNR=42					
WRA			LR	LR	19 56 09.7	
	comp=Z,42nm,19.2s,baz=70,slow=35					
AS31	**Alice Springs**	**28.37 234**	*e*P	**P**	**19 46 34.2**	**-1.7**
ASAR	**Alice Springs**	**28.37 234**	P	**P**	**19 46 34.9**	**-1.1**
ASAR	**Alice Springs**	**28.37 234**	P	**P**	**19 46 34.9**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=62,slow=9.6,SNR=31					
STKA	**Stephens Creek**	**28.60 211**	*e*P	**P**	**19 46 36.7**	**-1.1**
	comp=Z,12nm,2.2s					
STKA	**Stephens Creek**	**28.60 211**	*e*P	**P**	**19 46 37.7**	**-0.1**
	comp=Z,2.3nm,0.4s					
STKA	**Stephens Creek**	**28.60 211**	P	**P**	**19 46 37.1**	**-0.7**
	comp=Z,2.0nm,0.4s,baz=56,slow=11,SNR=8.4					
STKA			LR	LR	19 57 17.3	
	comp=Z,72nm,18.5s,baz=26,slow=35					
AFI	**Afiamalu**	**29.65 104**	LR	LR	19 57 24.1	
	comp=Z,52nm,19.6s,baz=249,slow=34					
BBOO	**Buckleboo**	**32.39 217**	*e*P	**P**	**19 47 10.3**	**-0.9**
	comp=Z,jum,1.8s					
FITZ	**Fitzroy Crossi**	**33.62 249**	*e*P	**P**	**19 47 21.0**	**-1.1**
	comp=Z,36nm,1.8s					
FITZ			*e*		19 47 39.1	
FITZ	**Fitzroy Crossi**	**33.62 249**	*e*P	**P**	**19 47 21.2**	**-0.9**
	comp=Z,9.9nm,0.6s					
FITZ	**Fitzroy Crossi**	**33.62 249**	P	**P**	**19 47 21.3**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=101,slow=13,SNR=6.6					
FITZ			LR	LR	20 00 14.3	
	comp=Z,65nm,20.4s,baz=76,slow=35					
TAU	**Tasmania Unive**	**36.22 194**	*e*P	**P**	**19 47 45.6**	**+1.4**
TAU			pmax	pmax		
	comp=Z,311nm,2.5s					
TAU	**Tasmania Unive**	**36.22 194**	*e*P	**P**	**19 47 45.6**	**+1.4**
	comp=Z,311nm,2.5s					
FORT	**Forrest**	**36.48 227**	*e*P	**P**	**19 47 45.9**	**-0.8**
	comp=Z,23nm,0.8s					
KAPI	**Kappang**	**38.71 272**	P	**P**	**19 48 04.1**	**-1.6**
KAPI	**Kappang**	**38.71 272**	P	**P**	**19 48 04.1**	**-1.6**
	comp=Z,16nm,0.7s,baz=90,slow=3.6,SNR=4.7					
YULB	**Yu-li**	**47.96 311**	*e*P	**P**	**19 49 21.4**	**+1.1**
	comp=Z,102nm,2.0s					
NACB	**Ninganchiao**	**48.21 312**	P	**P**	**19 49 22.9**	**+0.8**
MJAR	**Matsushiro Arr**	**48.22 338**	P	**P**	**19 49 21.9**	**-0.2**
MJAR	**Matsushiro Arr**	**48.22 338**	P	**P**	**19 49 21.9**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=141,slow=1.7,SNR=15					
MAJO	**Matsushiro**	**48.22 338**	*e*P	**P**	**19 49 21.9**	**-0.1**
MAJO			pmax	pmax		
	comp=Z,65nm,2.1s					
MAJO	**Matsushiro**	**48.22 338**	*e*P	**P**	**19 49 21.9**	**-0.1**
	comp=Z,65nm,2.1s					
MAT	**Matsushiro**	**48.22 338**	P	**P**	**19 49 21.8**	**-0.2**
TPUB	**Ta-pu**	**48.41 311**	*e*P	**P**	**19 49 24.0**	**+0.3**
	comp=Z,122nm,1.8s					
SSLB	**Suanglung**	**48.45 312**	*e*P	**P**	**19 49 24.6**	**+0.6**
	comp=Z,16nm,0.7s					
YHNB	**Yeheng**	**48.66 313**	*e*P	**P**	**19 49 25.6**	**-0.1**
	comp=Z,33nm,1.2s					
KSM	**Kuching**	**49.07 279**	*e*P	**P**	**19 49 27.6**	**-1.4**
	comp=Z,16nm,1.4s					
KSRS	**Korea Array**	**53.51 330**	P	**P**	**19 50 02.6**	**+0.9**
	comp=Z,2.2nm,1.0s,baz=133,slow=12,SNR=5.1					
KSRS			LR	LR	20 09 31.4	
	comp=Z,36nm,21.6s,baz=130,slow=32					
KSAR	**Wonju Array Be**	**53.52 330**	P	**P**	**19 50 02.6**	**+0.8**
ASAJ	**Asahikawa**	**53.81 346**	P	**P**	**19 50 05.4**	**+1.5**
ASAJ	**Asahikawa**	**53.81 346**	P	**P**	**19 50 05.4**	**+1.5**
	comp=Z,3.3nm,0.6s,baz=166,slow=4.2,SNR=10					
NJ2	**Nanjing**	**54.96 318**	*e*P	**P**	**19 50 12.8**	**+0.3**
NJ2			pmax	pmax		
	comp=Z,10.0nm,0.6s					
USRK	**Ussuriysk Arra**	**57.21 337**	P	**P**	**19 50 29.6**	**+1.3**
	comp=Z,5.5nm,0.8s,baz=132,slow=7.0,SNR=10.0					
MDJ	**Mudanjiang**	**58.50 336**	P	**P**	**19 50 39.2**	**+1.8**
MDJ			pP	**pP**	**19 50 48.3**	**-0.9**
MDJ			sP	**sP**	**19 50 51.7**	**-2.2**
MDJ			PP	**PP**	**19 52 51.3**	**+4.0**
MDJ			pmax	pmax		
	comp=Z,3.0nm,0.7s					
MDJ			pmax	pmax		
	comp=Z,83nm,5.2s					
MDJ			LR	LR		
	comp=Z,63nm,20.6s					
HABR	**Khabarovsk**	**59.88 342**	P	**P**	**19 50 45.5**	**-1.3**
HABR			*e*		19 50 59.0	
HABR			*e*		19 51 30.9	
HABR			pmax	pmax		
	comp=Z,10.0nm,1.1s					
HABR			pmax	pmax		
	comp=N,5.0nm,0.9s					
HABR			pmax	pmax		
	comp=E,7.0nm,0.9s					
ENH	**Enshi**	**60.53 311**	*e*P	**P**	**19 50 52.3**	**+0.6**
	comp=E,9.4nm,0.9s					
PETK	**Petropavlovsk-**	**60.82 359**	P	**P**	**19 50 53.7**	**+0.5**
PETK			pmax	pmax		
	comp=Z,7.0nm,0.9s					
PETK	**Petropavlovsk-**	**60.82 359**	P	**P**	**19 50 53.7**	**+0.5**
PETK	**Petropavlovsk-**	**60.82 359**	P	**P**	**19 50 53.7**	**+0.5**
	comp=Z,7.4nm,0.9s,baz=126,slow=7.5,SNR=4.1					
GYA	**Guiyang**	**60.89 306**	P	**P**	**19 50 56.0**	**+1.6**
GYA			pP	**pP**	**19 51 06.8**	**+0.6**
GYA			sP	**sP**	**19 51 12.4**	**+1.5**
GYA			PP	**PP**	**19 53 13.0**	**+4.0**
GYA			ScP	**ScP**	**19 55 36.7**	**+0.6**
GYA			S	**S**	**19 59 10.2**	**+0.4**
GYA			sS	**sS**	**19 59 27.8**	**-1.7**
GYA			pmax	pmax		
	comp=Z,20nm,1.0s					
GYA			pmax	pmax		
	comp=Z,130nm,4.9s					
GYA			LR	LR		
	comp=N,540nm,18.9s					
GYA			LR	LR		
	comp=E,530nm,19.7s					
GYA			LR	LR		
	comp=Z,560nm,18.6s					
KLR	**Kul'dur**	**61.60 340**	*e*P	**P**	**19 50 56.0**	**-2.5**
BJI	**Beijing**	**61.76 324**	P	**P**	**19 50 57.5**	**-2.2**
BJI			S	**S**	**19 59 18.5**	**-1.5**
BJI			pmax	pmax		
	comp=Z,9.0nm,1.1s					
ADK	**Adak**	**63.26 17**	*e*P	**P**	**19 51 10.8**	**+1.3**
ADK			pmax	pmax		
	comp=Z,524nm,2.2s					
ADK	**Adak**	**63.26 17**	*e*P	**P**	**19 51 10.8**	**+1.3**
	comp=Z,524nm,2.2s					
KMI	**Kunming**	**63.53 303**	P	**P**	**19 51 13.9**	**+1.7**
KMI			pP	**pP**	**19 51 24.6**	**+0.5**
KMI			sP	**sP**	**19 51 28.7**	**-0.1**
KMI			pmax	pmax		
	comp=Z,6.0nm,1.0s					
CM31	**Chiang Mai Arr**	**64.43 295**	P	**P**	**19 51 18.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**64.43 295**	P	**P**	**19 51 18.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**64.43 295**	P	**P**	**19 51 18.9**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=125,slow=5.2,SNR=18					
CMAR			LR	LR	20 21 11.6	
	comp=Z,18nm,19.3s,baz=160,slow=38					
CHTO	**Chiang Mai**	**64.54 295**	*e*P	**P**	**19 51 18.6**	**-0.1**
CHTO			*e*		19 51 37.6	
CHTO			pmax	pmax		
	comp=Z,9.0nm,1.6s					
CHTO	**Chiang Mai**	**64.54 295**	*e*P	**P**	**19 51 18.6**	**-0.1**
	comp=Z,8.5nm,1.6s					
CHTO			*e*		19 51 37.6	
HHC	**Hu-ho-hao-te**	**65.00 322**	*e*P	P	19 51 24.6	+3.2
HHC			pP	pP	19 51 36.0	+2.6
HHC			sP	sP	19 51 39.5	+1.5
HHC			PcP	**PcP**	**19 51 57.4**	**+3.3**
HHC			PP	**PP**	**19 53 49.2**	**+4.3**
HHC			S	**S**	**20 00 02.6**	**+1.8**
HHC			sS	sS	20 00 20.4	-0.3
HHC			ScS	**SKSac**	**20 01 09.2**	**-4.1**
HHC			pmax	pmax		
	comp=Z,14nm,0.7s					
HHC			pmax	pmax		
	comp=Z,110nm,5.2s					
HHC			LR	LR		
	comp=N,100nm,11.9s					
HHC			LR	LR		
	comp=E,170nm,11.9s					
HHC			LR	LR		
	comp=Z,180nm,15.5s					
CD2	**Chengdu**	**65.17 309**	P	**P**	**19 51 23.5**	**+0.9**
CD2			pP	**pP**	**19 51 35.4**	**+0.8**
CD2			sP	**sP**	**19 51 40.0**	**+0.7**
CD2			PcP	**PcP**	**19 51 55.5**	**+0.5**
CD2			S	**S**	**20 00 02.4**	**-0.7**
CD2			sS	**sS**	**20 00 22.2**	**-0.7**
CD2			pmax	pmax		
	comp=Z,20nm,0.6s					
CD2			pmax	pmax		
	comp=Z,90nm,5.5s					
CD2			LR	LR		
	comp=N,210nm,6.1s					
CD2			LR	LR		
	comp=E,200nm,5.6s					
CD2			LR	LR		
	comp=Z,150nm,7.5s					
HIA	**Hailar**	**66.33 333**	*e*P	**P**	**19 51 31.0**	**+1.3**
	comp=Z,9.8nm,0.8s					
LZH	**Lanzhou**	**67.52 314**	*e*P	**P**	**19 51 39.5**	**+1.8**
LZH			pP	**pP**	**19 51 49.8**	**+0.1**
LZH			sP	**sP**	**19 51 55.3**	**+0.9**
LZH			pmax	pmax		
	comp=Z,13nm,1.0s					
VNDA	**Vanda**	**69.56 179**	P	**P**	**19 51 49.2**	**-0.3**
	comp=Z,3.7nm,0.8s					
ULN	**Ulaanbaatar**	**71.75 326**	*e*P	**P**	**19 52 04.8**	**+1.2**
	comp=Z,8.4nm,1.1s					
GTA	**Gaotai**	**71.90 316**	*e*P	**P**	**19 52 06.1**	**+1.5**
GTA			pP	**pP**	**19 52 17.9**	**+1.2**
GTA			sP	**sP**	**19 52 22.5**	**+1.2**
GTA			PP	**PP**	**19 54 48.1**	**+3.4**
GTA			S	**S**	**20 01 22.4**	**-0.5**
GTA			sS	**SKiKP**	**20 01 40.9**	**+1.6**
GTA			pmax	pmax		
	comp=Z,4.0nm,0.6s					
GTA			pmax	pmax		
	comp=Z,91nm,4.8s					
SONM	**Songino Array**	**72.10 326**	P	**P**	**19 52 06.6**	**+1.1**
SONM	**Songino Array**	**72.10 326**	P	**P**	**19 52 06.6**	**+1.1**
	comp=Z,3.0nm,0.6s,baz=136,slow=5.1,SNR=35					
SONM			LR	LR	20 21 37.6	
	comp=Z,40nm,20.3s,baz=217,slow=34					
LSA	**Lhasa**	**74.77 304**	*e*P	**P**	**19 52 23.3**	**+1.2**
LSA			pmax	pmax		
	comp=Z,5.0nm,0.9s					
LSA	**Lhasa**	**74.77 304**	*e*P	**P**	**19 52 23.3**	**+1.2**
	comp=Z,4.5nm,0.9s					
BOD	**Bodaibo**	**74.85 337**	*e*P	P	19 52 17.6	-3.7
BOD			pmax	pmax		
	comp=Z,4.0nm,1.2s					
ZAK	**Zakamensk**	**75.21 327**	*i*P	**P**	**19 52 24.1**	**+0.3**
ZAK			pmax	pmax		
	comp=Z,3.0nm,1.1s					
TLY	**Talaya**	**75.72 328**	*e*P	**P**	**19 52 26.7**	**+0.1**
TLY			pmax	pmax		
	comp=Z,4.0nm,0.7s					
BILL	**Bilibino**	**75.99 3**	*e*P	**P**	**19 52 28.2**	**+0.5**
BILL			*e*		19 52 48.3	
BILL			pmax	pmax		
	comp=Z,11nm,1.0s					
BILL	**Bilibino**	**75.99 3**	*e*P	**P**	**19 52 26.7**	**-1.0**
	comp=Z,4.4nm,0.9s					
BILL			*e*		19 52 47.4	
KDAK	**Kodiak Island**	**76.49 24**	*e*P	**P**	**19 52 30.8**	**+0.1**
	comp=Z,182nm,2.0s					
TAPN	**Taplejung**	**76.97 300**	*e*P	**P**	**19 52 34.6**	**+0.1**
	comp=Z,12nm,0.8s					
ODAN	**Odare**	**77.11 300**	*e*P	**P**	**19 52 35.4**	**+0.2**
	comp=Z,20nm,0.7s					
RAMN	**Ramite**	**77.81 300**	*e*P	**P**	**19 52 39.3**	**+0.1**
JIRN	**Jiri**	**78.35 300**	*e*P	**P**	**19 52 42.7**	**+0.4**
	comp=Z,4.1nm,0.6s					
GUN	**Gumba**	**78.68 300**	*e*P	**P**	**19 52 43.7**	**-0.4**
	comp=Z,18nm,0.6s					
PKI	**Pulchoki**	**79.00 300**	*e*P	**P**	**19 52 45.7**	**-0.1**
	comp=Z,18nm,0.7s					
KKN	**Kakani**	**79.16 300**	*e*P	**P**	**19 52 46.6**	**0.0**
	comp=Z,14nm,0.5s					
DMN	**Daman**	**79.26 300**	*e*P	**P**	**19 52 47.5**	**+0.3**
GKN	**Gorkha**	**79.77 300**	*e*P	**P**	**19 52 49.8**	**0.0**
	comp=Z,29nm,0.6s					
PMR	**Palmer**	**80.25 23**	*e*P	**P**	**19 52 50.9**	**-0.5**
PMR			pmax	pmax		
	comp=Z,8.0nm,0.8s					
PMR	**Palmer**	**80.25 23**	*e*P	**P**	**19 52 50.9**	**-0.5**
	comp=Z,7.6nm,0.8s					
KOLN	**Koldanda**	**80.60 300**	*e*P	**P**	**19 52 54.0**	**-0.3**
	comp=Z,17nm,0.7s					
DANN	**Dangsing**	**80.60 300**	*e*P	**P**	**19 52 54.0**	**-0.5**
SML	**Sawmill**	**80.68 23**	*e*P	**P**	**19 52 53.6**	**-0.2**
SML			pmax	pmax		
	comp=Z,25nm,2.2s					
SML	**Sawmill**	**80.68 23**	*e*P	**P**	**19 52 53.6**	**-0.2**
	comp=Z,25nm,2.2s					
TRF	**Thorofare Moun**	**80.98 21**	*e*P	**P**	**19 52 52.7**	**-2.8**
	comp=Z,17nm,1.3s					
MCK	**McKinley**	**81.63 21**	*e*P	**P**	**19 52 58.4**	**-0.4**
MCK			*e*		19 53 11.1	
MCK			pmax	pmax		
	comp=Z,9.0nm,0.8s					
MCK	**McKinley**	**81.63 21**	*e*P	**P**	**19 52 58.4**	**-0.4**
	comp=Z,9.4nm,0.8s					
MCK			*e*		19 53 11.1	
WMQ	**Urumqi**	**81.97 316**	*e*P	**P**	**19 53 02.7**	**+1.6**
WMQ			pP	**pP**	**19 53 15.8**	**+2.4**
WMQ			pmax	pmax		
	comp=Z,8.0nm,1.4s					
WMQ			pmax	pmax		
	comp=Z,220nm,4.5s					
QSPA	**South Pole Qui**	**82.04 180**	*e*P	**P**	**19 52 59.6**	**-1.5**
	comp=Z,3.2nm,0.6s					
COLA	**College**	**82.69 20**	*e*P	**P**	**19 53 03.2**	**-1.1**
COLA			pmax	pmax		
	comp=Z,8.0nm,0.9s					
COLA	**College**	**82.69 20**	*e*P	**P**	**19 53 03.2**	**-1.1**
	comp=Z,8.3nm,0.9s					
ILAR	**Eielson Array**	**82.97 21**	P	**P**	**19 53 04.5**	**-1.2**
ILAR	**Eielson Array**	**82.97 21**	P	**P**	**19 53 04.5**	**-1.2**
	comp=Z,2.5nm,0.9s,baz=249,slow=4.5,SNR=22					
DOT	**Dot Lake**	**83.35 22**	*e*P	**P**	**19 53 08.2**	**+0.4**
	comp=Z,7.2nm,0.9s					
MK31	**Makanchi Array**	**86.49 318**	*e*P	**P**	**19 53 23.5**	**-0.5**
MK31	**Makanchi Array**	**86.49 318**	*e*P	**P**	**19 53 23.5**	**-0.5**
MKAR	**Makanchi Array**	**86.49 318**	P	**P**	**19 53 23.9**	**0.0**
MKAR			pmax	pmax		
	comp=Z,3.0nm,0.5s					
MKAR	**Makanchi Array**	**86.49 318**	P	**P**	**19 53 23.9**	**0.0**
MKAR	**Makanchi Array**	**86.49 318**	P	**P**	**19 53 23.9**	**0.0**
	comp=Z,2.8nm,0.5s,baz=94,slow=6.9,SNR=68					
YBH	**Yreka Blue Hor**	**86.88 47**	LR	LR	20 28 08.1	
	comp=Z,63nm,19.4s,baz=351,slow=33					
ZAA0	**Zalesovo Array**	**86.98 325**	*e*P	**P**	**19 53 26.3**	**+0.2**
ZALV	**Zalesovo Beam**	**86.98 325**	P	**P**	**19 53 25.0**	**-1.1**
ZALV			pmax	pmax		
	comp=Z,1.0nm,0.4s					
ZALV	**Zalesovo Beam**	**86.98 325**	P	**P**	**19 53 24.9**	**-1.1**
ZALV	**Zalesovo Beam**	**86.98 325**	P	**P**	**19 53 24.9**	**-1.1**
	comp=Z,1.4nm,0.4s,baz=114,slow=5.2,SNR=8.3					
DLBC	**Dease Lake**	**87.15 30**	LR	LR	20 32 50.4	
	comp=Z,86nm,18.3s,baz=161,slow=36					
INK	**Inuvik**	**89.35 20**	P	**P**	**19 53 36.1**	**-0.9**
INK	**Inuvik**	**89.35 20**	P	**P**	**19 53 36.1**	**-0.9**
	comp=Z,1.6nm,0.9s,baz=62,slow=7.5,SNR=3.3					
KSH	**Kashi**	**89.36 310**	*i*P	**P**	**19 53 39.2**	**+1.2**
KSH			pP	**pP**	**19 53 50.3**	**-0.1**
KSH			sP	**sP**	**19 53 54.5**	**-0.4**
KSH			PP	**PP**	**19 57 14.0**	**+4.6**
KSH			SKS	**SKSac**	**20 04 05.4**	**+0.2**
KSH			S	**S**	**20 04 26.4**	**+1.1**
KSH			sS	**sS**	**20 04 43.3**	**-2.7**
NVAR	**Mina Array Bea**	**89.50 51**	P	**P**	**19 53 37.6**	**-1.2**
NVAR	**Mina Array Bea**	**89.50 51**	P	**P**	**19 53 37.6**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=246,slow=6.3,SNR=5.9					
KURK	**Kurchatov**	**89.80 321**	P	**P**	**19 53 38.7**	**-0.8**
KURK			pmax	pmax		
	comp=Z,1.0nm,0.7s					
KURK	**Kurchatov**	**89.80 321**	*e*P	**P**	**19 53 38.2**	**-1.4**
KURK			*e*		19 53 50.7	
KURBB	**Kurchatov Arra**	**89.84 321**	P	**P**	**19 53 38.6**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=101,slow=3.7,SNR=8.2					
TKM2	**Tokmak 2**	**90.27 313**	*e*P	**P**	**19 53 42.3**	**+0.1**
TKM2			pmax	pmax		
	comp=Z,3.0nm,0.8s					
TKM2	**Tokmak 2**	**90.27 313**	*e*P	**P**	**19 53 42.3**	**+0.1**
	comp=Z,3.2nm,0.8s					
AAK	**Ala-Archa**	**91.02 313**	P	**P**	**19 53 45.3**	**-0.4**
AAK			pmax	pmax		
	comp=Z,1.0nm,0.7s					
AAK	**Ala-Archa**	**91.02 313**	P	**P**	**19 53 45.3**	**-0.4**
AAK	**Ala-Archa**	**91.02 313**	P	**P**	**19 53 45.3**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=144,slow=6.8,SNR=8.3					
EKS2	**Erkin-Say**	**91.54 313**	*e*P	**P**	**19 53 47.6**	**-0.4**
EKS2	**Erkin-Say**	**91.54 313**	*e*P	**P**	**19 53 47.6**	**-0.4**
KKAR	**Karatay Array**	**93.98 313**	*e*P	**P**	**19 53 58.3**	**-0.9**
KKAR	**Karatay Array**	**93.98 313**	*e*P	**P**	**19 53 58.3**	**-0.9**
BVAR	**Borovoye Array**	**95.21 323**	P	**P**	**19 54 03.4**	**-1.2**
BVAR			pmax	pmax		
	comp=Z,2.0nm,0.7s					
BVAR	**Borovoye Array**	**95.21 323**	P	**P**	**19 54 03.4**	**-1.2**
BVAR	**Borovoye Array**	**95.21 323**	P	**P**	**19 54 03.4**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=102,slow=5.4,SNR=18					
BRVK	**Borovoye**	**95.28 323**	*i*P	**P**	**19 54 03.4**	**-1.4**
BRVK			pmax	pmax		
	comp=Z,6.0nm,2.0s					
BRVK	**Borovoye**	**95.28 323**	*e*P	**P**	**19 54 02.6**	**-2.2**
	comp=Z,1.9nm,0.8s					
HRY	**Holter Researc**	**95.42 44**	P	**P**	**19 54 05.9**	**+0.1**
	comp=Z,5.8nm,0.6s					
YKA	**Yellowknife Ar**	**95.50 28**	P	**P**	**19 54 04.5**	**-1.1**
YKA	**Yellowknife Ar**	**95.50 28**	P	**P**	**19 54 04.5**	**-1.1**
	comp=Z,1.6nm,0.8s,baz=260,slow=4.7,SNR=28					
ABKAR	**Akbulak array**	**101.63 319**	P	**Pdif**	**19 54 31.6**	**-1.8**
FRB	**Frobisher Bay**	**114.99 21**	PKP	PKPdf	19 59 20.0	-1.5
FRB	**Frobisher Bay**	**114.99 21**	PKP	PKPdf	19 59 20.0	-1.5
	comp=Z,1.1nm,0.5s,baz=326,slow=7.3,SNR=3.7					
FINES	**FINESS Array B**	**116.24 337**	PKP	**PKPdf**	**19 59 22.6**	**-1.3**
FINES	**FINESS Array B**	**116.24 337**	PKP	**PKPdf**	**19 59 22.6**	**-1.3**
	comp=Z,2.2nm,0.9s,baz=108,slow=6.2,SNR=4.9					
AKASG	**Malin Array Be**	**120.38 325**	PKIKP	**PKPdf**	**19 59 29.7**	**-2.6**
AKASG	**Malin Array Be**	**120.38 325**	PKP	**PKPdf**	**19 59 29.6**	**-2.6**
AKASG	**Malin Array Be**	**120.38 325**	PKP	**PKPdf**	**19 59 29.6**	**-2.6**
	comp=Z,0.4nm,0.4s,baz=131,slow=10,SNR=4.6					
NB2	**NORSAR Subarra**	**121.74 342**	PKPdf	**PKPdf**	**19 59 33.5**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=39,slow=1.9					
NOA	**NORSAR Array B**	**121.74 342**	PKP	**PKPdf**	**19 59 33.4**	**-1.2**
NOA	**NORSAR Array B**	**121.74 342**	PKP	**PKPdf**	**19 59 33.4**	**-1.2**
	comp=Z,1.0nm,0.7s,baz=47,slow=2.0,SNR=4.6					
GERES	**GERESS Array B**	**129.68 330**	PKP	**PKPdf**	**19 59 50.9**	**+0.7**
GERES	**GERESS Array B**	**129.68 330**	PKP	**PKPdf**	**19 59 50.9**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=298,slow=2.1,SNR=4.4					
BDFB	**Brasilia**	**144.72 132**	PKP	**PKPab**	**20 00 16.0**	**-1.6**
BDFB	**Brasilia**	**144.72 132**	PKP	**PKPab**	**20 00 16.0**	**-1.6**
	comp=Z,5.8nm,0.6s,baz=232,slow=4.0,SNR=9.4					
ESDC	**Sonseca Array**	**144.76 336**	PKP	PKPbc	20 00 16.8	-0.4
ESDC	**Sonseca Array**	**144.76 336**	PKP	PKPbc	20 00 16.8	-0.4
	comp=Z,2.5nm,1.0s,baz=27,slow=3.3,SNR=6.4					
TORD	**Torodi Ar. Bea**	**156.73 285**	PKP	**PKPdf**	**20 00 36.0**	**-1.2**
TORD			PKPab	**PKPab**	**20 01 06.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**156.73 285**	PKP	**PKPdf**	**20 00 36.0**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=341,slow=1.6,SNR=5.4					
TORD			PKPab	**PKPab**	**20 01 06.0**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=83,slow=5.4,SNR=6.3					

FUNV 10 19:52:13.9, 9.28N ±6 69.74W, h1 km, MW3.8, 2C, Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TEPV	**Terepaima**	**0.87**	**38**	*e*P			Pg	19 52 29.6	-1.1
TEPV				*e*S			Sg	19 52 42.2	+0.2
QARV	**Quebrada Arrib**	**1.21**	**320**	*e*P			Pg	19 52 36.9	-0.3
QARV				*e*S			Sg	19 52 53.0	+0.1
SIQV	**Siquisique**	**1.36**	**357**	*i*P			Pg	19 52 39.0	-1.2
SIQV				*e*S			Sb	19 52 58.4	0.0
SOCV	**Socops**	**1.48**	**228**	*e*P			Pn	19 52 41.1	-0.6
SOCV				*e*S			Sg	19 53 01.6	0.0
VIGV	**El Vigia**	**1.66**	**255**	*e*S			Sn	19 53 06.1	-0.2
BAUV	**El Baul**	**1.71**	**101**	*e*P			Pn	19 52 44.1	-0.7
BAUV				*e*S			Sn	19 53 07.0	-0.3
DABV	**Dabajuro**	**1.86**	**332**	*e*P			Pn	19 52 46.8	-0.1
DABV				*e*S			Sn	19 53 10.3	-0.8
JACV	**Jacura**	**2.01**	**26**	*e*P			Pn	19 52 48.3	-0.8
JACV				*e*S			Sn	19 53 14.1	-0.8
TURV	**Turiamo**	**2.21**	**58**	*e*P			Pn	19 52 51.2	-0.4
TURV				*e*S			Sn	19 53 18.6

LPG	La Plagne	56.80	306	*e*P	P	20 02 55.4	-0.6
	18nm,1.0s						
LPL	La Plagne	56.81	306	*e*P	P	20 02 55.4	-0.6
	11nm,0.7s						
WRA	Warramunga Arr	73.44	129	P	P	20 04 43.3	-0.7
	0.5nm,0.6s,baz=327,slow=5.6,SNR=5.6						
ILAR	Eielson Array	74.04	20	P	P	20 04 46.8	-0.1
	1.4nm,1.0s,baz=312,slow=5.0,SNR=11						
TORD	Torodi Ar. Bea	74.79	276	P	P	20 04 50.6	-1.5
	0.8nm,0.7s,baz=46,slow=4.2,SNR=5.8						
ASAR	Alice Springs	75.90	132	P	P	20 04 57.5	-0.7
	0.3nm,0.5s,baz=320,slow=5.8,SNR=5.7						
YKA	Yellowknife Ar	82.53	8	P	P	20 05 33.0	-0.9
	1.6nm,0.7s,baz=340,slow=5.2,SNR=28						
DBIC	Dimbokro	83.71	274	P	P	20 05 38.9	-1.9
	2.3nm,0.9s,baz=50,slow=8.1,SNR=3.2						

DJA ***10*** *20:10:24,0.94N×97.45E,h10km,MLv3.4/5*

IDC 10 20:10:21.5±2.5,0.88N×97.31E,h0km,mb3.5/5,mb1 3.6/6, mb1mx3.4/24,mbtmp3.5/6,Error ellipse: s-maj=95.3km s-min=25.7km az=56.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	17.54	5	P	Pn	20 14 27.8	0.0
	baz=190,slow=12,SNR=4.2						
WRA	Warramunga Arr	41.78	122	P	P	20 18 12.9	-0.3
	0.7nm,1.0s,baz=306,slow=8.7,SNR=3.7						
SONM	Songino Array	47.43	8	P	P	20 18 58.7	+0.7
	0.1nm,0.3s,baz=192,slow=9.6,SNR=3.3						
MKAR	Makanchi Array	47.58	346	P	P	20 18 59.1	+0.1
	0.4nm,0.5s,baz=168,slow=9.1,SNR=14						
ZALV	Zalesovo Beam	53.89	351	P	P	20 19 46.2	-0.3
	1.2nm,0.3s,baz=162,slow=6.1,SNR=9.6						
BVAR	Borovoye Array	56.59	341	P	P	20 20 05.3	-0.7
	0.4nm,0.8s,baz=154,slow=8.0,SNR=3.3						

IDC ***10*** *20:19:07.1±2.4,43.00N×105.11W,h0km,mb3.1/2, mb1 3.5/4,mb1mx3.3/26,mbtmp3.4/4,ML3.2/2,Error ellipse: s-maj=55.4km s-min=9.1km az=160.0*

NEIC ***10*** *20:19:10.4±0.5,43.45N×105.07W,h0km,ML3.1,Error ellipse: s-maj=7.7km s-min=5.9km az=159.0,Suspected Mining explosion.*

NEIC 80 km [50 miles] NNE of Douglas.

ISCJB ***10*** *20:19:11.2±0.2,43.57N±0.01×105.30W±0.02,h0km, mb3.9/1,Error ellipse: s-maj=2.2km s-min=1.8km az=155.0*

ISC 10 20:19:09.9±0.6,43.45N±0.02×105.15W±0.02,h0km,n113, σ1ŝ20/115,40C-45D,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J23A	Dilts Ranch, B	0.30	261	P	Pg	20 19 16.2	+0.6
	baz=0.4,SNR=1000						
J24A	Dixon Ranch, L	0.38	108	P	Pn	20 19 21.4	-1.4
	baz=0.3,SNR=68						
J24A				⇑S	Sb	20 19 28.8	+2.7
	baz=0.3						
I23A	Meade Ranch, G	0.56	336	⇓P	Pg	20 19 20.3	-0.3
	baz=0.6,SNR=32						
I24A	Kuemmerle Ranc	0.56	43	P	Pb	20 19 22.6	-0.1
	baz=0.5,SNR=117						
I24A				⇑S	Sb	20 19 31.5	+0.2
	baz=0.5						
K24A	Anderson Ranch	0.77	161	⇑P	Pn	20 19 27.9	-0.3
	baz=0.8,SNR=47						
K24A				⇑S	Sn	20 19 41.4	+0.8
	baz=0.8						
K23A	Bowen Ranch, D	0.78	207	⇓P	Pn	20 19 27.3	-1.0
	baz=0.8						
K23A				⇑S	Sn	20 19 38.6	-2.1
	baz=0.8						
J22A	Midwest	0.97	268	P	Pg	20 19 27.5	-1.0
	baz=1.0,SNR=384						
RSSD	Black Hills	1.05	50	*e*Pn	Pn	20 19 31.1	-1.0
H23A	Clabaugh Cattl	1.12	351	⇓P	Pg	20 19 30.3	-1.2
	baz=1.1,SNR=27						
K25A	Mack Ranch, Ha	1.26	131	⇓P	Pn	20 19 38.2	+3.2
	baz=1.2,SNR=173						
K25A				⇓S	Sn	20 19 58.3	+5.6
	baz=1.2						
K22A	Casper	1.28	232	⇑P	Pg	20 19 33.2	-1.3
	baz=1.3						
K22A				⇓S	Sn	20 19 53.3	0.0
	baz=1.3						
H24A	Dirks Ranch, A	1.37	18	⇓P	Pn	20 19 35.3	-1.1
	baz=1.3,SNR=178						
L23A	Garrett	1.40	197	⇓P	Pb	20 19 37.7	+0.7
	baz=1.4						
L23A				⇓S	Sn	20 19 59.3	+3.2
	baz=1.4						
L24A	Wheatland	1.42	173	⇑P	Pb	20 19 39.0	+1.7
	baz=1.4						
L24A				⇑S	Sn	20 20 01.2	+4.7
	baz=1.4						
H22A	Clearmont	1.43	323	⇓P	Pn	20 19 35.8	-1.6
	baz=1.5,SNR=86						
L25A	Engebretsen Ra	1.56	146	⇓P	Pg	20 19 42.6	+2.7
	baz=1.5,SNR=15						
I21A	Big Trails, Te	1.60	284	P	Pn	20 19 37.9	-1.7
	baz=1.6,SNR=496						
K26A	Motz Farm, Whi	1.63	117	P	Pg	20 19 43.8	+2.7
	baz=1.6,SNR=63						
J21A	Lysite	1.68	267	P	Pn	20 19 39.7	-1.0
	baz=1.7,SNR=87						
J21A				⇓S	Sn	20 20 01.4	-1.6
	baz=1.7						
L22A	Ellis Ranch, M	1.71	214	P	Pg	20 19 42.5	-0.1
	baz=1.7,SNR=142						
K21A	Alcova	1.74	243	P	Pb	20 19 42.1	-0.8
	baz=1.8,SNR=195						
K21A				⇓S	Sb	20 20 04.8	-0.6
	baz=1.8						
G23A	Biddle	1.76	354	⇓P	Pn	20 19 41.9	+0.1
	baz=1.8,SNR=53						
G23A				⇑Sg	Sn	20 20 06.3	+1.4
	baz=1.8						
H21A	Big Horn, Sher	1.80	311	⇓P	Pn	20 19 41.6	-0.7
	baz=1.8,SNR=50						
H21A				⇓Sg	Sn	20 20 05.6	-0.4
	baz=1.8						
G22A	Birney	1.95	336	⇓P	Pn	20 19 44.3	0.0
	baz=2.0,SNR=32						
G24A	Alzada	1.95	15	⇓P	Pn	20 19 45.3	+0.9
	baz=1.9						
G24A				⇓Sb	Sb	20 20 12.8	+1.5
	baz=1.9						
M24A	Cheyenne	2.00	173	⇓P	Pg	20 19 49.1	+1.0
	baz=2.0,SNR=100						
M24A				⇑Sb	Sg	20 20 19.2	+5.1
	baz=2.0						
M23A	Laramie	2.03	192	⇓P	Pg	20 19 48.7	0.0
	baz=2.0,SNR=36						
L26A	Underwood Farm	2.08	132	⇓P	Pg	20 19 51.3	+1.5
	baz=2.0						
J20A	Shoshoni	2.14	268	⇓P	Pb	20 19 48.5	-1.1
	baz=2.2						
PHWY	Pilot Hill	2.16	186	*e*Pn	Pb	20 19 48.9	-1.1
M25A	Palm-Egli Farm	2.17	158	⇑P	Pg	20 19 51.6	+0.1
	baz=2.1,SNR=39						
M25A				⇓S	Sg	20 20 21.1	+1.4
	baz=2.1						
L21A	Rawlins	2.21	228	⇓P	Pb	20 19 49.6	-1.2
	baz=2.3,SNR=122						
I20A	Worland	2.22	284	⇑P	Pn	20 19 48.2	+0.1
	baz=2.3,SNR=200						
I20A				⇑Sb	Sn	20 20 17.2	+0.9
	baz=2.3						
K27A	Flueckinger Fa	2.26	108	⇓P	Pg	20 19 52.7	-0.6
	baz=2.2,SNR=65						
F23A	Volborg	2.28	356	⇓P	Pn	20 19 48.8	0.0
	baz=2.3,SNR=40						
H20A	Greybull	2.30	298	⇑P	Pn	20 19 48.8	-0.4
	baz=2.4,SNR=37						
G21A	Lodge Grass	2.31	321	⇓P	Pn	20 19 49.1	-0.2
	baz=2.3,SNR=45						
M22A	Cedar Creek Ra	2.31	208	⇑P	Pg	20 19 52.8	-1.3
	baz=2.3,SNR=216						
M22A				⇑Sb	Sg	20 20 25.2	+1.1
	baz=2.3						
RWWY	Rawlins	2.33	222	*e*Pn	Pb	20 19 52.4	-0.5
F24A	Ekalaka	2.45	12	⇓P	Pn	20 19 53.2	+2.0
	baz=2.4						
F22A	Rosebud	2.46	342	⇑P	Pn	20 19 51.1	-0.3
	baz=2.5,SNR=48						
F22A				⇓Sb	Sn	20 20 24.6	+2.4
	baz=2.5						
M21A	Separation Pea	2.46	222	⇑P	Pb	20 19 54.4	-0.9
	baz=2.5,SNR=137						
M21A				⇑Sb	Sg	20 20 28.4	-0.7
	baz=2.5						
K20A	Yellowstone Ra	2.47	252	P	Pn	20 19 52.8	+1.2
	baz=2.5,SNR=127						
K20A				⇓Sb	Sb	20 20 25.7	-0.6
	baz=2.5						
M26A	McRoberts Ranc	2.48	142	⇑Pb	Pg	20 19 58.9	+1.5
	baz=2.4						
M26A				⇓Sb	Sg	20 20 34.3	+4.8
	baz=2.4						
L27A	T5 Ranch, Ells	2.50	122	⇑Pb	Pg	20 19 59.6	+1.8
	baz=2.4						
N23A	Red Feather La	2.62	193	⇓P	Pb	20 19 57.1	-0.8
	baz=2.6,SNR=56						
N24A	Carr	2.63	176	⇑P	Pg	20 19 58.0	-2.4
	baz=2.6,SNR=7.8						
L20A	Wamsutter	2.76	240	⇑Pb	Pb	20 20 00.5	+0.3
	baz=2.8						
L20A				⇑Sb	Sb	20 20 36.3	+1.6
	baz=2.8						
F21A	Absaloka Mine,	2.76	330	⇓P	Pn	20 19 55.0	-0.5
	baz=2.8						
K19A	Absolon Red Bu	2.78	258	⇑P	Pn	20 19 56.1	+0.3
	baz=2.8						
M27A	Reverse DX Ran	2.81	132	⇑Sb	Sg	20 20 43.6	+3.6
	baz=2.8						
N22A	Wattenberg Ran	2.82	201	⇓P	Pb	20 19 59.8	-1.5
	baz=2.8						
G20A	Bridger	2.82	310	⇑P	Pn	20 19 55.4	-1.0
	baz=2.9,SNR=63						
J19A	Crowheart	2.85	268	⇑P	Pn	20 19 57.7	+0.8
	baz=2.9,SNR=62						
J19A				⇓Sb	Sb	20 20 36.8	-0.6
	baz=2.9						
M20A	Sweetwater, Wa	2.98	230	⇓Pb	Pb	20 20 04.4	+0.4
	baz=3.0						
M20A				⇓Sb	Sg	20 20 44.9	-0.8
	baz=3.0						
H19A	Powell	3.02	295	⇓P	Pn	20 19 59.2	+0.1
	baz=3.1,SNR=13						
E22A	Miles City	3.04	350	⇓P	Pn	20 19 59.3	-0.1
	baz=3.1						
F20A	Billings	3.18	319	P	Pn	20 20 00.4	-0.9
	baz=3.2,SNR=14						
N21A	Black Mountain	3.21	214	⇑P	Pb	20 20 04.2	-3.8
	baz=3.2						
N27A	Anderson Farm,	3.28	143	⇑P	Pb	20 20 06.5	-2.5
	baz=3.2						
O23A	Lake Granby, G	3.29	190	⇑P	Pb	20 20 05.8	-3.6
	baz=3.3						
PDAR	Pinedale Array	3.30	260	Pn	Pn	20 20 03.4	+0.3
PDAR				Pg	Pb	20 20 08.6	-0.9
PDAR				Lg	Lg	20 20 50.9	
PDAR	Pinedale Array	3.30	260	Pn	Pn	20 20 03.4	+0.3
	1.4nm,0.3s,baz=78,slow=16,SNR=42						
PDAR				Pg	Pb	20 20 08.6	-0.9
	4.0nm,0.3s,baz=75,slow=18,SNR=47						
PDAR				Lg	Lg	20 20 50.9	
	9.9nm,0.3s,baz=74,slow=33,SNR=16						
BW06	Boulder Array	3.30	260	P	Pn	20 20 03.1	+0.1
	baz=3.3,SNR=137						
PD02	Pinedale Array	3.30	260	*e*Pn	Pn	20 20 03.7	+0.6
PD01	Pinedale Array	3.31	260	*e*Pn	Pn	20 20 03.7	+0.4
L19A	Farson	3.38	248	⇑P	Pn	20 20 05.6	+1.5
	baz=3.4,SNR=5.7						
E21A	Keefer Ranch,	3.38	337	⇑P	Pn	20 20 03.7	-0.2
	baz=3.4						
OGNE	Ogallala	3.41	136	*e*Pn	Pb	20 20 08.4	-2.8
OGNE	Ogallala	3.41	136	P	Pb	20 20 08.9	-2.3
	baz=3.4,SNR=7.8						
H18A	Shoshone NF, C	3.48	292	⇓P	Pn	20 20 05.3	-0.2
	baz=3.5,SNR=23						
N20A	Spence Gulch,	3.49	223	⇑P	Pn	20 20 08.1	+2.4
	baz=3.5,SNR=10.0						
J18A	Kendall Valley	3.56	268	⇑P	Pn	20 20 07.2	+0.5
	baz=3.6						
F19A	Roth Farm, Mol	3.62	313	⇓P	Pn	20 20 07.1	-0.2
	baz=3.7,SNR=10						
ISCO	Idaho Springs	3.66	186	*e*Pn	Pb	20 20 10.7	-5.1
G18A	Lazy EL Ranch,	3.67	302	⇓P	Pn	20 20 07.8	-0.3
	baz=3.7,SNR=25						
LOHW	Long Hollow	3.97	274	*e*Pn	Pn	20 20 13.8	+1.6
GCMT	Greycliff	3.98	308	*e*Pn	Pn	20 20 12.8	+0.4
FLWY	Flagg Ranch	4.07	281	*e*Pn	Pn	20 20 13.8	+0.2
MOOW	Moose Ponds	4.07	276	*e*Pn	Pn	20 20 15.1	+1.4
SNOW	Snow King Moun	4.08	272	Pn	Pb	20 20 19.5	-3.3
P23A	Jefferson	4.11	187	⇓P	Pb	20 20 17.8	-5.4
	baz=4.1,SNR=7.7						
P26A	Davis Ranch, A	4.12	160	⇑P	Pb	20 20 17.9	-5.4
	baz=4.1,SNR=15						
REDW	Red Top Meadow	4.16	271	*e*Pn	Pb	20 20 20.4	-3.6
IMW	Indian Meadow	4.22	278	*e*Pn	Pn	20 20 17.4	+1.6
TPAW	Teton Pass	4.22	273	Pn	Pn	20 20 17.9	+2.1
YFT	Old Faithful	4.22	286	Pn	Pn	20 20 25.6	+0.4
C23A	Lambert	4.35	360	⇑P	Pn	20 20 17.5	+0.1
	baz=4.4						
DCID1	Drake Creek	4.39	274	Pn	Pb	20 20 27.7	-0.3
RRI2	Red Ridge	4.50	271	*e*Pn	Pn	20 20 21.7	+2.1
L16A	Fish Haven	4.84	255	⇑P	Pn	20 20 25.2	+0.9
	baz=4.9,SNR=5.9						
DGMT	Dagmar	5.06	7	Pn	Pn	20 20 29.1	+2.0
	28nm,0.4s						
HWUT	Hardware Ranch	5.08	251	*e*Pn	Pn	20 20 28.2	+0.7
	5.8nm,0.6s						
R26A	Arlington	5.30	165	⇑P	Pn	20 20 33.5	+3.0
	baz=5.3,SNR=26						
D17A	Six Diamond Ra	5.38	315	⇓P	Pn	20 20 31.1	-0.5
	baz=5.4,SNR=16						
R27A	Eads	5.46	160	⇑P	Pn	20 20 36.1	+3.5
	baz=5.4,SNR=8.4						
DAU	Daniels Canyon	5.47	238	Pn	Pn	20 20 36.6	+3.6
DAU				*e*Pg	Pg	20 20 54.9	+0.1
JLU	Jordanelle	5.49	241	Pn	Pn	20 20 35.5	+2.4
	5.6nm,0.5s						
DLMT	Dillon	5.67	292	Pn	Pn	20 20 37.3	+1.8
	4.3nm,0.6s						
PV04	Paradox Valley	5.80	211	*e*Pn	Pn	20 20 39.7	+2.4
HVU	Hansel Valley	5.87	256	*e*Pn	Pn	20 20 39.9	+1.6
SRU	San Rafael	5.93	225	*e*Pn	Pn	20 20 37.4	-1.8
	8.7nm,0.5s						
S26A	Kim	5.96	167	P	Pn	20 20 42.5	+2.9
	baz=6.0,SNR=16						
TMUT	Trail Mountain	6.16	230	*e*Pg	Pg	20 21 04.3	-3.7
	5.3nm,0.6s						
CBKS	Cedar Bluff	6.18	137	*e*Pg	Pg	20 21 07.7	-0.6
ECSD	EROS Data Cent	6.21	84	*e*Pn	Pn	20 20 42.3	-0.5
	3.6nm,0.3s						
DUG	Dugway	6.58	243	*e*Pn	Pn	20 20 46.7	-1.4
ULM	Lac du Bonnet	9.30	40	Pn	Pn	20 21 24.2	-1.0
ULM	Lac du Bonnet	9.30	40	Pn	Pn	20 21 24.2	-1.0
	1.0nm,0.3s,baz=230,slow=12,SNR=7.9						
YKA	Yellowknife Ar	19.87	347	P	P	20 23 43.0	+0.6
YKA	Yellowknife Ar	19.87	347	P	P	20 23 43.0	+0.6
	0.2nm,0.6s,baz=154,slow=12,SNR=3.8						
AKASG	Malin Array Be	78.17	28	P	P	20 31 10.8	0.0
AKASG	Malin Array Be	78.17	28	P	P	20 31 10.8	0.0
	0.4nm,0.4s,baz=328,slow=5.6,SNR=4.1						

PRE 10 20:21:50.5±1.0,26.42S×27.60E,h2km,ML1.6,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	Parys	0.55	203	*e*P	Pg	20 22 01.4	+0.2
PRYS				*e*S	Sg	20 22 08.9	+0.3
PRYS				AML	AML	20 22 11.6	
	comp=Z,6.9nm,0.2s						
ERPM	east rand prop	0.58	83	*e*P	Pg	20 22 02.1	+0.1
ERPM				*e*S	Sg	20 22 10.3	+0.6
ERPM				AML	AML	20 22 13.5	
	comp=Z,11nm,0.5s						
SLR	Silverton	0.92	42	*e*P	Pg	20 22 07.9	-0.4
SLR				*e*S	Sb	20 22 21.6	-0.6
SLR				AML	AML	20 22 29.0	
	comp=Z,9.4nm,0.2s						
SEK	Senekal	1.90	179	*e*P	Pn	20 22 24.6	+0.4
SEK				*e*S	Sn	20 22 49.7	+0.8
SEK				AML	AML	20 22 53.3	
	comp=Z,4.1nm,0.2s						
SWZ	Schweizer	2.16	249	*e*P	Pn	20 22 28.4	+0.7
SWZ				*e*S	Sb	20 22 56.7	-1.3
SWZ				AML	AML	20 23 00.4	
	comp=Z,7.8nm,0.6s						
LBTB	Lobatse	2.28	307	*e*P	Pn	20 22 30.6	+1.3
LBTB				*e*S	Sn	20 22 57.9	-0.2
LBTB				AML	AML	20 23 04.1	
	comp=Z,7.4nm,0.5s						
BOSA	Boshof	3.02	223	*e*P	Pn	20 22 39.9	+0.4
BOSA				*e*S	Sn	20 23 16.5	+0.1
BOSA				AML	AML	20 23 27.0	
	comp=Z,1.8nm,0.3s						

IDC 10 20:23:22.8±2.3,6.18S×130.12E,h0km,mb3.6/1, mb1 3.9/4,mb1mx3.5/16,mbtmp3.7/4,ML3.9/3,Error ellipse: s-maj=109.9km s-min=27.0km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.63	200	Pn	Pn	20 26 24.7	+0.8
	1.5nm,0.3s,baz=21,slow=18,SNR=24						
FITZ				Sn	Sn	20 28 32.1	-13
	0.8nm,0.3s,baz=235,slow=22,SNR=5.9						
WRA	Warramunga Arr	14.28	164	Pn	Pn	20 26 45.7	-0.9
	0.5nm,0.3s,baz=339,slow=13,SNR=9.7						
WRA				Sn	Sn	20 29 12.8	-13
	0.8nm,0.3s,baz=338,slow=22,SNR=10						
ASAR	Alice Springs	17.77	169	P	Pn	20 27 31.6	-0.2
	0.2nm,0.3s,baz=337,slow=10,SNR=9.3						
ASAR				S	Sn	20 30 37.9	-13
	0.2nm,0.3s,baz=354,slow=28,SNR=5.3						
MKAR	Makanchi Array	67.61	327	P	P	20 34 21.6	0.0
	0.3nm,0.5s,baz=116,slow=7.9,SNR=14						

ISCJB ***10*** *20:23:44.3±0.3,43.25N±0.02×20.83E±0.03,h11km±3km, Error ellipse: s-maj=3.7km s-min=2.7km az=139.6*

BEO ***10*** *20:23:45.8±0.2,43.23N×20.83E,h3km±2km,ML2.5/1*

CSEM ***10*** *20:23:45.2±0.1,43.25N×20.83E,h10km,ML2.5,Error ellipse: s-maj=3.0km s-min=2.3km az=43.0*

SKO ***10*** *20:23:47.5,43.21N×20.80E,h11km,M1.7,ML2.1*

ISC 10 20:23:45.2±0.9,43.25N±0.02×20.84E±0.02,h10km±7km, n46,σ0ŝ67/83,12C-12D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	Selova	0.20	98	⇓*i*Pg	Pg	20 23 49.2	-0.3
SELS				*e*Sg	Sg	20 23 52.4	0.0
SELS	Selova	0.20	98	⇓*i*Pg	Pg	20 23 49.2	-0.3
SELS				*e*Sg	Sg	20 23 52.4	0.0
IVAS	Ivanjica	0.60	303	⇓*i*Pg	Pg	20 23 57.0	+0.2
IVAS				*e*Sg	Sg	20 24 04.6	-0.1
IVAS	Ivanjica	0.60	303	⇓*i*Pg	Pg	20 23 57.0	+0.2
IVAS				*e*Sg	Sg	20 24 04.6	-0.1
SJES	Sjenica	0.63	271	*e*Pg	Pg	20 23 56.8	-0.7
SJES				*e*Sg	Sg	20 24 05.5	-0.3
GRUS	Gruza	0.65	352	⇑*i*Pg	Pg	20 23 58.0	+0.3
GRUS				*e*Sg	Sb	20 24 08.2	+0.5
GRUS	Gruza	0.65	352	⇑*i*Pg	Pg	20 23 58.0	+0.3
GRUS				*e*Sg	Sb	20 24 08.2	+0.5
BARS	Barje	0.83	121	*e*Pg	Pg	20 24 01.1	-0.2
BARS				*e*Sg	Sb	20 24 12.7	-0.4
BARS	Barje	0.83	121	*e*Pg	Pg	20 24 01.1	-0.2
BARS				*e*Sg	Sb	20 24 12.7	-0.4
BOLS	Boljevac	1.00	54	*e*Pg	Pg	20 24 03.0	-1.3
BOLS				*e*Sg	Sg	20 24 18.0	+0.7
BOLS	Boljevac	1.00	54	*e*Pg	Pg	20 24 03.0	-1.3
BOLS				*e*Sg	Sg	20 24 18.0	+0.7
TRUS	Trudelj	1.02	342	*e*Pg	Pb	20 24 04.1	-0.9
TRUS				*e*Sg	Sb	20 24 19.5	+0.9
TRUS	Trudelj	1.02	342	*e*Pg	Pb	20 24 04.1	-0.9
TRUS				*e*Sg	Sb	20 24 19.5	+0.9
DIVS	Divibare	1.05	324	⇑*i*Pg	Pb	20 24 05.1	-0.4
DIVS				*e*Sg	Sb	20 24 19.8	+0.4
DIVS	Divibare	1.05	324	⇑*i*Pg	Pb	20 24 05.1	-0.4
DIVS				*e*Sg	Sb	20 24 19.8	+0.4
SVIS	Svilajnac	1.05	15	*e*Pg	Pg	20 24 06.0	+0.6
SVIS				*e*Sg	Sb	20 24 19.8	+0.4
ZAPS	Zavoj	1.31	88	*e*Pg	Pb	20 24 10.4	+0.5
ZAPS				*e*Sg	Sg	20 24 28.3	+1.0
ZAPS	Zavoj	1.31	88	*e*Pg	Pb	20 24 10.4	+0.5
ZAPS				*e*Sg	Sg	20 24 28.3	+1.0
SKO	Skopje	1.35	161	*e*Pg	Pg	20 24 11.5	+0.4
SKO				*e*Sg	Sg	20 24 29.5	+0.9
SKO				*e*Lg	Lg	20 24 31.6	
	comp=E,22nm,0.4s						
SKO				*e*Lg	Lg	20 24 32.5	
	comp=N,21nm,0.5s						
SKO	Skopje	1.35	161	*e*Pg	Pg	20 24 11.9	+0.8
SKO				*e*Sg	Sg	20 24 30.0	+1.4
SKO				*e*Lg	Lg	20 24 33.0	
	comp=N,21nm,0.5s						
PDG	Podgorica	1.42	235	*e*Pg	Pg	20 24 12.3	-0.2
PDG				*e*Sg	Sb	20 24 30.0	0.0
PDG	Podgorica	1.42	235	*e*Pg	Pg	20 24 12.3	-0.2
PDG				*e*Sg	Sb	20 24 30.0	0.0
BEO	Beograd	1.58	350	*e*Pg	Pb	20 24 14.7	+0.1
BEO				*e*Sg	Sg	20 24 36.4	+0.3
VTS	Vitosha	1.86	110	⇓*i*P	Pn	20 24 18.0	+0.7
VTS	Vitosha	1.86	110	*e*Pn	Pn	20 24 18.0	+0.7
VTS				*e*Sn	Sb	20 24 42.7	0.0
VTS	Vitosha	1.86	110	⇓*i*P	Pn	20 24 18.0	+0.7
VTS				S	Sn	20 24 40.0	-0.9
VTS				*e*Sn	Sb	20 24 42.7	0.0
FGSL	Fruska Gora	2.05	339	*e*Pn	Pn	20 24 20.1	+0.4
FGSL				*e*Sg	Sg	20 24 51.8	+0.8
FRGS	Fruska Gora	2.05	339	*e*Pn	Pn	20 24 20.1	+0.4
FRGS				*e*Sg	Sg	20 24 51.8	+0.8
VAY	Valandovo	2.31	146	*e*Pn	Pb	20 24 26.1	-1.0
VAY				*e*Sg	Sg	20 24 59.7	+0.2
VAY	Valandovo	2.31	146	*e*Pn	Pb	20 24 26.5	-0.5
VAY				*e*Sg	Sg	20 25 00.1	+0.6
BZS	Buzias	2.43	13	⇓*i*P	Pn	20 24 28.4	-0.2
BZS	Buzias	2.43	13	*e*Pn	Pn	20 24 26.1	+1.1
BZS				*e*Sg	Sg	20 25 03.2	-0.1
BZS	Buzias	2.43	13

68nm,0.5s
BMKR Bomnak 2.38 119 *e*Pn Pb 20 32 13.1 -1.9
BMKR *e*Pg Pg 20 32 14.5 -3.1
BMKR AMB AMB 20 32 16.0
11nm,0.5s
BMKR pPg Pn 20 32 18.1 +6.9
BMKR *e*Sg Sb 20 32 45.5 +1.1
BMKR A A 20 32 47.9
75nm,0.5s
ZEA Zeya 2.47 151 *e*Sg Sg 20 32 49.5 -1.9
ZEA A A 20 32 56.5
39nm,0.5s
TUP Tupik 3.39 246 *e*rx rx 20 32 29.2
TUP *e*rx rx 20 32 36.1
TUP *e*Sg Sg 20 33 18.1 -2.9
EKMR Ekimchan 5.31 119 *e*Pg Pb 20 33 08.5 +3.5
EKMR *e*Sg Sg 20 34 17.5 -5.1
EKMR A A 20 34 27.3
4.0nm,0.5s

GUC 10 20:33:07.5±0.5, 32°47S×71°79W, h27km±5km, MD3.5, ML2.3, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.64**	**23⇑**	*i*P	Pb	20 33 19.6	-0.5
CHNG				*i*S	Sb	20 33 28.5	-0.1
CHNG				AML	AML	20 33 30.5	
	comp=N,103nm,0.4s						
ROCH	**El Roble**	**0.83**	**127⇓**	*i*P	Pb	20 33 22.2	-1.4
ROCH				*i*S	Sb	20 33 33.7	-0.9
ROCH				AML	AML	20 33 38.1	
	comp=E,148nm,0.4s						
PEL	**Peldehue**	**1.15**	**126**	*i*P	Pn	20 33 27.5	-0.4
PEL				*i*S	Sb	20 33 43.2	-0.2
PEL				AML	AML	20 33 45.2	
	comp=E,395nm,0.4s						
RCDM	**Rinconada Maip**	**1.31**	**141**	*e*P	Pn	20 33 30.1	-0.1
RCDM				*i*S	Sb	20 33 47.5	-0.5
RCDM				AML	AML	20 33 52.9	
	comp=E,172nm,0.4s						
FCH	**Farellones**	**1.53**	**124⇑**	*i*P	Pn	20 33 31.5	-1.9
FCH				*i*S	Sn	20 33 52.0	-0.8
FCH				AML	AML	20 33 55.8	
	comp=E,60nm,0.2s						
LMEL	**Las Melosas**	**1.91**	**136**	*i*S	Sb	20 34 04.7	-1.0
LMEL				AML	AML	20 34 11.1	
	comp=N,54nm,0.2s						

BJI ***10*** *20:38:34.6, 1.°16S×133.°50E, h10km, mB5.0/19, mb4.5/32, Ms4.7/12, Ms7 4.4/12*
IDC ***10*** *20:38:38.8±0.5, 0.°71S×133.°23E, h0km, mb4.4/14, mb1 4.6/18, mb1mx4.5/23, mbtmp4.5/18, ML4.4/4, MS3.6/12, Ms1 3.6/12, ms1mx3.5/26, Error ellipse: s-maj=21.8km s-min=10.0km az=82.0*
ISCJB ***10*** *20:38:39.7±0.3, 0.°60S±0.°03×133.°35E±0.°05, h17km, mb4.5/51, MS3.7/12, Error ellipse: s-maj=7.4km s-min=4.7km az=172.2*
MOS ***10*** *20:38:42.4±0.9, 0.°64S×133.°29E, h38km, mb4.8/29, Error ellipse: s-maj=14.2km s-min=6.6km az=112.6*
NEIC ***10*** *20:38:42.8±3.3, 0.°66S×133.°29E, h28km±24km, mb4.6/22, Error ellipse: s-maj=9.4km s-min=6.1km az=57.0*
DJA ***10*** *20:38:44, 0.°77S×133.°18E, h10km, mb4.8/12*
ISC 10 20:38:42.0±0.4, 0.°69S±0.°04×133.°28E±0.°05, h20km±2km, h20km:pP-P, n148, σ1$46/180, mb4.6/51, MS3.7/12, 3C, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**2.02**	**265**	P	**Pn**	**20 39 16.3**	**+1.3**
FAKI	**Fak Fak**	**2.45**	**205**	P	**Pn**	**20 39 22.1**	**+1.2**
BAKI	**Biak**	**2.87**	**100**	P	**Pn**	**20 39 29.0**	**+2.3**
TLE	**Tual**	**4.95**	**186**	P	**Pn**	**20 39 58.3**	**+3.0**
MSAI	**Masohi**	**5.09**	**239**	P	Pn	20 40 01.5	+4.3
	110nm,0.6s,2μm0.4nm						
BNDI	**Bandanaira**	**5.09**	**221**	P	Pb	20 40 04.6	-5.8
LBMI	**Labuha**	**5.78**	**270**	P	**Pn**	**20 40 08.8**	**+2.1**
	126nm,0.9s,1μm0.5nm						
AAI	**Ambon**	**5.89**	**240**	P	**Pn**	**20 40 10.5**	**+2.3**
	314nm,1.1s,4μm1.1nm						
MNI	**Manado**	**8.70**	**284**	P	Pn	20 40 53.9	+7.1
MTN	**Manton Dam**	**12.27**	**190**	*e*P	**Pn**	**20 41 34.1**	**-1.6**
KAPI	**Kappang**	**14.17**	**252**	Pn	**Pn**	**20 42 02.3**	**+0.5**
KAPI	**Kappang**	**14.17**	**252**	Pn	**Pn**	**20 42 02.3**	**+0.5**
	1.2nm,0.3s,baz=91,slow=7.2,SNR=4.4						
KAPI				LR	LR	20 47 53.3	
	comp=Z,85nm,18.9s,baz=260,slow=39						
PMG	**Port Moresby**	**16.31**	**123**	*e*P	**Pn**	**20 42 28.6**	**-1.4**
	18nm,1.1s						
PMG				Pn	**Pn**	**20 42 30.8**	**+0.8**
PMG	**Port Moresby**	**16.31**	**123**	Pn	**Pn**	**20 42 30.8**	**+0.8**
	0.5nm,0.3s,baz=282,slow=9.3,SNR=3.1						
GUMO	**Guam**	**18.25**	**39**	LR	LR	20 49 27.7	
	comp=Z,116nm,18.1s,baz=100,slow=36						
FITZ	**Fitzroy Crossi**	**18.87**	**203**	*e*P	**P**	**20 42 58.9**	**-2.2**
	15nm,0.5s						
FITZ				*e*Sn	Sn	20 46 09.4	-23
FITZ				S	S	20 46 18.2	-17
FITZ	**Fitzroy Crossi**	**18.87**	**203**	*e*P	**P**	**20 42 59.3**	**-1.8**
	34nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.87**	**203**	P	**P**	**20 42 59.5**	**-1.6**
	2.0nm,0.3s,baz=44,slow=11,SNR=35						
FITZ				S	Sn	20 46 18.2	-14
	0.4nm,0.3s,baz=132,slow=18,SNR=3.2						
FITZ				LR	LR	20 50 39.2	
	comp=Z,107nm,19.4s,baz=26,slow=38						
WRAB	**Tennant Creek**	**19.16**	**177**	*e*P	**Pn**	**20 43 04.9**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,23nm,0.9s						
WRAB	**Tennant Creek**	**19.16**	**177**	*e*P	**Pn**	**20 43 04.9**	**-0.4**
	comp=Z,23nm,0.9s						
WRAB				*e*Sn	Sn	20 46 21.2	-18
WRA	**Warramunga Arr**	**19.17**	**177**	P	**Pn**	**20 43 05.6**	**+0.2**
WRA				S	Sn	20 46 23.5	-16
WRA	**Warramunga Arr**	**19.17**	**177**	P	**Pn**	**20 43 05.6**	**+0.2**
	comp=Z,2.9nm,0.3s,baz=356,slow=11,SNR=53						
WRA				S	Sn	20 46 23.5	-16
	comp=Z,0.3nm,0.3s,baz=358,slow=23,SNR=2.5						
SBUM	**Sibu**	**21.28**	**278**	P	**P**	**20 43 32.0**	**+4.5**
	comp=Z,13nm,1.2s						
AS31	**Alice Springs**	**22.85**	**179**	*e*P	**P**	**20 43 44.5**	**+0.2**
ASAR	**Alice Springs**	**22.85**	**179**	P	**P**	**20 43 45.5**	**+1.2**
ASAR				S	**S**	**20 47 53.0**	**+0.1**
ASAR	**Alice Springs**	**22.85**	**179**	P	**P**	**20 43 45.4**	**+1.2**
	comp=Z,22nm,0.5s,baz=3.0,slow=9.9,SNR=145						
ASAR				S	**S**	**20 47 53.0**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=2.0,slow=20,SNR=8.0						
KSM	**Kuching**	**23.07**	**275**	*e*P	**P**	**20 43 46.4**	**-0.1**
	comp=Z,6.4nm,0.7s						
CTA	**Charters Tower**	**23.09**	**147**	P	**P**	**20 43 47.6**	**+0.9**
CTA	**Charters Tower**	**23.09**	**147**	*e*P	**P**	**20 43 48.3**	**+1.6**
	comp=Z,14nm,0.9s						
CTA	**Charters Tower**	**23.09**	**147**	P	**P**	**20 43 47.6**	**+0.9**
	comp=Z,20nm,0.9s,baz=330,slow=11,SNR=12						
CTA				LR	LR	20 52 41.2	
	comp=Z,124nm,21.4s,baz=327,slow=36						
CTAO	**Charters Tower**	**23.09**	**147**	*e*P	**P**	**20 43 47.8**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,21nm,0.9s						
CTAO	**Charters Tower**	**23.09**	**147**	*e*P	**P**	**20 43 47.8**	**+1.1**
	comp=Z,21nm,0.9s						
MBWA	**Marble Bar**	**24.27**	**212**	*e*P	**P**	**20 43 58.8**	**+0.7**
	comp=Z,16nm,0.8s						
JOW	**Kunigami**	**27.78**	**350**	LR	LR	20 53 50.6	
	comp=Z,269nm,20.4s,baz=136,slow=33						
CBIJ	**Chichi jima**	**28.92**	**17**	LR	LR	20 54 11.0	
	comp=Z,75nm,21.5s,baz=173,slow=32						
QIZ	**Qiongzhong**	**30.22**	**312**	P	**P**	**20 44 50.6**	**-1.0**
QIZ				S	**S**	**20 49 52.2**	**+1.9**
QIZ				pmax	pmax		
	comp=Z,13nm,1.4s						
QIZ	**Qiongzhong**	**30.22**	**312**	P	**P**	**20 44 51.5**	**-0.1**
	comp=Z,9.5nm,0.8s						
FORT	**Forrest**	**30.34**	**189**	*e*P	**P**	**20 44 53.4**	**+1.0**
	comp=Z,21nm,0.7s						
STKA	**Stephens Creek**	**32.01**	**167**	*e*P	**P**	**20 45 05.8**	**-1.3**
	comp=Z,2.3nm,0.8s						
STKA	**Stephens Creek**	**32.01**	**167**	*e*P	**P**	**20 45 06.5**	**-0.6**
	comp=Z,8.3nm,0.6s						
STKA	**Stephens Creek**	**32.01**	**167**	P	**P**	**20 45 06.6**	**-0.6**
	comp=Z,8.7nm,0.5s,baz=340,slow=8.8,SNR=30						
STKA				LR	LR	20 59 36.8	
	comp=Z,368nm,18.5s,baz=17,slow=39						
JNU	**Nakatsue**	**33.70**	**356**	LR	LR	20 55 42.5	
	comp=Z,84nm,21.9s,baz=245,slow=30						
KLBR	**Kellerberrin**	**34.07**	**204**	*e*P	**P**	**20 45 25.3**	**+0.1**
	comp=Z,64nm,1.7s						
ARMA	**Armidale**	**34.33**	**151**	*e*P	**P**	**20 45 28.4**	**+0.8**
PSI	**Prapat**	**34.52**	**276**	P	**P**	**20 45 28.4**	**-1.0**
PSI	**Prapat**	**34.52**	**276**	P	**P**	**20 45 28.4**	**-1.0**
	comp=Z,5.4nm,0.7s,baz=129,slow=5.3,SNR=5.5						
NJ2	**Nanjing**	**35.31**	**339**	*e*P	**P**	**20 45 35.7**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NWAO	**Narrogin (SRO)**	**35.45**	**204**	*e*P	**P**	**20 45 36.7**	**-0.4**
NWAO	**Narrogin (SRO)**	**35.45**	**204**	P	**P**	**20 45 37.1**	**0.0**
	comp=Z,7.3nm,1.0s,baz=12,slow=9.3,SNR=3.8						
GYA	**Guiyang**	**37.24**	**318**	*e*P	**P**	**20 45 54.0**	**+1.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MJAR	**Matsushiro Arr**	**37.32**	**7**	P	**P**	**20 45 52.0**	**-1.1**
MJAR	**Matsushiro Arr**	**37.32**	**7**	P	**P**	**20 45 52.0**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=196,slow=6.4,SNR=4.6						
MJAR				LR	LR	20 58 15.8	
	comp=Z,116nm,19.8s,baz=205,slow=32						
ENH	**Enshi**	**38.22**	**326**	P	**P**	**20 45 59.1**	**-1.7**
KSRS	**Korea Array**	**38.27**	**353**	LR	LR	21 00 58.6	
	comp=Z,88nm,18.9s,baz=307,slow=35						
CMAR	**Chiang Mai Arr**	**38.74**	**301**	P	**P**	**20 46 04.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**38.74**	**301**	P	**P**	**20 46 04.8**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=115,slow=6.5,SNR=9.7						
CHTO	**Chiang Mai**	**38.89**	**302**	*e*P	**P**	**20 46 06.2**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CHTO	**Chiang Mai**	**38.89**	**302**	*e*P	**P**	**20 46 06.2**	**-0.4**
	comp=Z,2.3nm,0.7s						
KMI	**Kunming**	**39.13**	**313**	P	**P**	**20 46 09.9**	**+1.2**
KMI				pP	**pP**	**20 46 14.1**	**-0.9**
KMI				sP	**sP**	**20 46 16.1**	**-1.3**
KMI				S	**S**	**20 52 11.1**	**+3.2**
KMI				sS	**sS**	**20 52 17.2**	**-1.0**
KMI				SS	**SS**	**20 54 54.2**	**-6.8**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KMI				LR	LR		
	comp=N,66nm,14.5s						
KMI				LR	LR		
	comp=E,64nm,18.6s						
KMI				LR	LR		
	comp=Z,120nm,20.0s						
CD2	**Chengdu**	**42.12**	**321**	P	**P**	**20 46 33.3**	**+0.2**
CD2				pP	**pP**	**20 46 43.1**	**+3.7**
CD2				sP	sP	20 46 47.1	+5.3
CD2				PcP	**PcP**	**20 48 28.0**	**+0.4**
CD2				PcS	**PcS**	**20 52 18.6**	**-0.9**
CD2				S	**S**	**20 52 50.6**	**-1.3**
CD2				sS	**sS**	**20 53 06.9**	**+4.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,70nm,6.0s						
BJT	**Baijiatuan**	**43.42**	**341**	*e*P	**P**	**20 46 42.7**	**-0.8**
	comp=Z,18nm,0.8s						
USRK	**Ussuriysk Arra**	**44.70**	**359**	P	**P**	**20 46 53.9**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=192,slow=6.4,SNR=3.5						
USRK				LR	LR	21 02 43.7	
	comp=Z,93nm,19.5s,baz=10,slow=32						
CN2	**Changchun**	**44.84**	**352**	*e*P	**P**	**20 46 56.7**	**+1.9**
LZH	**Lanzhou**	**45.70**	**326**	*e*P	**P**	**20 47 02.6**	**+0.6**
LZH				pP	**pP**	**20 47 07.0**	**-1.3**
LZH				sP	**sP**	**20 47 09.3**	**-1.4**
LZH				pmax	pmax		
	comp=Z,14nm,1.3s						
HHC	**Hu-ho-hao-te**	**45.81**	**337**	*e*P	**P**	**20 47 03.6**	**+0.9**
HHC				sP	**sP**	**20 47 09.4**	**-2.1**
HHC				PcP	**PcP**	**20 48 41.0**	**+0.9**
HHC				PP	**PP**	**20 48 51.7**	**+1.4**
HHC				S	**S**	**20 53 47.8**	**+2.1**
HHC				sS	**sS**	**20 53 55.0**	**-1.1**
HHC				ScS	**ScS**	**20 56 56.9**	**-1.1**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,5.5s						
HHC				LR	LR		
	comp=N,160nm,11.9s						
HHC				LR	LR		
	comp=E,180nm,13.1s						
HHC				LR	LR		
	comp=Z,100nm,13.1s						
YSS	**Yuzh-Sakhalins**	**48.16**	**9**	P	**P**	**20 47 20.6**	**-0.2**
YSS	**Yuzh-Sakhalins**	**48.16**	**9**	P	**P**	**20 47 20.6**	**-0.2**
HABR	**Khabarovsk**	**48.99**	**2**	*e*P	**P**	**20 47 25.3**	**-1.8**
HABR				*e**PP	**pP**	**20 47 35.1**	**+1.6**
HABR				*e*		20 47 39.4	
HABR						20 48 48.3	
HABR				*e*		20 49 19.3	
HABR				PPP	PPP	20 50 11.2	
HABR				*e*S	**S**	**20 54 28.4**	**-2.0**
HABR				*e**SS	**sS**	**20 54 45.4**	**+4.6**
HABR				*e*		20 57 14.7	
HABR				*e*SSS	SSS	20 59 18.6	
HABR				pmax	pmax		
	comp=E,41nm,2.4s						
HABR				pmax	pmax		
	comp=Z,19nm,1.6s						
HABR				pmax	pmax		
	comp=N,18nm,2.4s						
HABR				MLR	MLR		
	comp=Z,101nm,16.0s						
LSA	**Lhasa**	**50.25**	**311**	P	**P**	**20 47 35.4**	**-2.3**
LSA	**Lhasa**	**50.25**	**311**	*e*P	**P**	**20 47 38.1**	**+0.4**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LSA	**Lhasa**	**50.25**	**311**	*e*P	**P**	**20 47 38.1**	**+0.4**
	comp=Z,3.9nm,0.7s						
GTA	**Gaotai**	**50.30**	**326**	*e*P	**P**	**20 47 38.5**	**+1.0**
GTA				pP	**pP**	**20 47 42.5**	**-1.4**
GTA				sP	**sP**	**20 47 45.8**	**-0.5**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
TAPN	**Taplejung**	**51.89**	**306**	*e*P	**P**	**20 47 49.2**	**-0.7**
ODAN	**Odare**	**51.94**	**305**	*e*P	**P**	**20 47 49.7**	**-0.5**
	comp=Z,15nm,0.7s						
RAMN	**Ramite**	**52.62**	**305**	*e*P	**P**	**20 47 54.9**	**-0.4**
JIRN	**Jiri**	**53.24**	**306**	*e*P	**P**	**20 47 59.5**	**-0.5**
	comp=Z,2.0nm,0.5s						
ULN	**Ulaanbaatar**	**53.47**	**338**	*e*P	**P**	**20 48 01.5**	**+0.5**
	comp=Z,7.6nm,1.3s						
ULN				*e*PcP	**PcP**	**20 49 07.5**	**-0.4**
ULN	**Ulaanbaatar**	**53.47**	**338**	P	**P**	**20 48 02.5**	**+1.5**
	comp=Z,4.6nm,1.5s						
GUN	**Gumba**	**53.60**	**306**	*e*P	**P**	**20 48 02.0**	**-0.6**
	comp=Z,17nm,0.7s						
SONM	**Songino Array**	**53.69**	**338**	P	**P**	**20 48 03.3**	**+0.7**
SONM				PcP	**PcP**	**20 49 08.8**	**+0.1**
SONM	**Songino Array**	**53.69**	**338**	P	**P**	**20 48 03.3**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=150,slow=7.3,SNR=9.7						
SONM				PcP	**PcP**	**20 49 08.8**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=154,slow=4.0,SNR=7.7						
PKI	**Pulchoki**	**53.84**	**305**	*e*P	**P**	**20 48 03.2**	**-1.2**
KKN	**Kakani**	**54.03**	**306**	*e*P	**P**	**20 48 04.9**	**-0.7**
	comp=Z,8.1nm,0.7s						
DMN	**Daman**	**54.10**	**305**	*e*P	**P**	**20 48 05.6**	**-0.6**
	comp=Z,9.7nm,0.7s						
GKN	**Gorkha**	**54.64**	**306**	*e*P	**P**	**20 48 07.8**	**-1.3**
KOLN	**Koldanda**	**55.40**	**305**	*e*P	**P**	**20 48 15.1**	**-0.4**
	comp=Z,20nm,0.7s						
DANN	**Dangsing**	**55.49**	**306**	*e*P	**P**	**20 48 15.8**	**-0.5**
	comp=Z,17nm,0.7s						
ZAK	**Zakamensk**	**56.95**	**338**	*e*P	**P**	**20 48 26.8**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s						
PETK	**Petropavlovsk-**	**57.35**	**17**	P	**P**	**20 48 29.6**	**+0.9**
PETK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
PETK				MLR	MLR		
	comp=Z,90nm,19.2s						
PETK	**Petropavlovsk-**	**57.35**	**17**	P	**P**	**20 48 29.6**	**+0.9**
PETK	**Petropavlovsk-**	**57.35**	**17**	P	**P**	**20 48 29.6**	**+0.9**
	comp=Z,4.1nm,0.8s,baz=186,slow=2.8,SNR=3.6						
PETK				LR	LR	21 10 29.1	
	comp=Z,90nm,19.2s,baz=248,slow=33						
TLY	**Talaya**	**57.87**	**339**	*e*P	**P**	**20 48 32.1**	**-0.3**
TLY				*e*		20 48 44.0	
TLY				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MOY	**Mondy**	**58.86**	**337**	*e*P	**P**	**20 48 40.8**	**+1.4**
WMQ	**Urumqi**	**60.11**	**323**	P	**P**	**20 48 48.6**	**+0.4**
WMQ				pP	**pP**	**20 48 53.6**	**-1.0**
WMQ				sP	**sP**	**20 48 55.8**	**-1.2**
WMQ				pmax	pmax		
	comp=Z,14nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,220nm,6.8s						
BOD	**Bodaibo**	**60.32**	**348**	*e*P	**P**	**20 48 48.0**	**-1.2**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.4s						
MK31	**Makanchi Array**	**64.92**	**324**	*e*P	**P**	**20 49 20.4**	**+0.1**
MK31	**Makanchi Array**	**64.92**	**324**	*e*P	**P**	**20 49 20.4**	**+0.1**
MKAR	**Makanchi Array**	**64.92**	**324**	P	**P**	**20 49 20.7**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MKAR	**Makanchi Array**	**64.92**	**324**	P	**P**	**20 49 20.7**	**+0.5**
MKAR	**Makanchi Array**	**64.92**	**324**	P	**P**	**20 49 20.7**	**+0.5**
	comp=Z,9.6nm,0.6s,baz=114,slow=7.9,SNR=175						
SEY	**Seymchan**	**65.06**	**10**	*e*P	**P**	**20 49 20.7**	**0.0**
KSH	**Kashi**	**65.78**	**314**	P	**P**	**20 49 27.7**	**+1.6**
KSH				pP	**pP**	**20 49 32.1**	**-0.5**
KSH				sP	**sP**	**20 49 34.7**	**-0.3**
KSH				PcP	**PcP**	**20 49 58.6**	**+1.4**
KSH				PP	**PP**	**20 51 55.8**	**+4.8**
KSH				S	**S**	**20 58 13.7**	**+1.9**
KSH				ScS	**SKSac**	**20 59 19.4**	**-1.7**
KSH				SS	**SS**	**21 02 30.6**	**+4.0**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
KSH				pmax	pmax		
	comp=Z,270nm,5.3s						
KSH				LR	LR		
	comp=N,100nm,5.0s						
KSH				LR	LR		
	comp=E,110nm,5.3s						
KSH				LR	LR		
	comp=Z,300nm,5.6s						
KZA	**Kyzart**	**67.28**	**317**	P	**P**	**20 49 37.3**	**+1.3**
	SNR=8.9						
TKM2	**Tokmak 2**	**67.38**	**318**	*i*P	**P**	**20 49 36.8**	**+0.5**
TKM2	**Tokmak 2**	**67.38**	**318**	P	**P**	**20 49 36.9**	**+0.5**
	SNR=12						
ZAA0	**Zalesovo Array**	**67.52**	**331**	*e*P	**P**	**20 49 34.9**	**-1.7**
ZALV	**Zalesovo Beam**	**67.52**	**331**	P	**P**	**20 49 36.4**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ZALV	**Zalesovo Beam**	**67.52**	**331**	P	**P**	**20 49 36.4**	**-0.3**
ZALV	**Zalesovo Beam**	**67.52**	**331**	P	**P**	**20 49 36.4**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=121,slow=5.7,SNR=14						
AAK	**Ala-Archa**	**68.01**	**317**	*e*P	**P**	**20 49 40.5**	**+0.2**
AAK				pmax	pmax		
	comp=Z,16nm,1.0s						
AAK	**Ala-Archa**	**68.01**	**317**	*e*P	**P**	**20 49 40.5**	**+0.2**
	comp=Z,16nm,1.0s						
USP	**Ospennovka**	**68.25**	**318**	P	**P**	**20 49 42.2**	**+0.5**
	SNR=10						
AML	**Almayashu**	**68.37**	**316**	P	**P**	**20 49 43.6**	**+0.8**
	SNR=9.8						
EKS2	**Erkin-Say**	**68.51**	**317**	*e*P	**P**	**20 49 43.7**	**+0.3**
EKS2				pmax	pmax		
	comp=Z,5.0nm,0.7s						
EKS2	**Erkin-Say**	**68.51**	**317**	*e*P	**P**	**20 49 43.7**	**+0.3**
	comp=Z,5.3nm,0.7s						
EKS2	**Erkin-Say**	**68.51**	**317**	P	**P**	**20 49 44.3**	**+0.9**
	SNR=8.0						
NVS	**Novosibirsk**	**68.79**	**332**	*e*P	**P**	**20 49 43.6**	**-1.0**
KURK	**Kurchatov**	**68.99**	**326**	*e*P	**P**	**20 49 46.1**	**+0.1**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KURK	**Kurchatov**	**68.99**	**326**	*e*P	**P**	**20 49 46.1**	**+0.1**
	comp=Z,9.8nm,0.8s						
KBL	**Kabul**	**69.38**	**307**	P	**P**	**20 49 48.2**	**-0.9**
KBL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KBL	**Kabul**	**69.38**	**307**	P	**P**	**20 49 48.2**	**-0.9**
	comp=Z,3.8nm,0.9s						
KK31	**Karatay Array**	**70.91**	**316**	*ce*P	**P**	**20 49 57.7**	**-0.3**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KKAR	**Karatay Array**	**70.91**	**316**	*e*P	**P**	**20 49 57.8**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KKAR	**Karatay Array**	**70.91**	**316**	*e*P	**P**	**20 49 57.8**	**-0.2**
	comp=Z,6.8nm,0.6s						
BILL	**Bilibino**	**72.28**	**12**	P	**P**	**20 50 04.7**	**-1.0**
BILL	**Bilibino**	**72.28**	**12**	P	**P**	**20 50 04.7**	**-1.0**
BVA0	**Borovoye Array**	**74.58**	**326**	*i*P	**P**	**20 50 19.4**	**-0.2**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRVK	**Borovoye**	**74.66**	**326⇑**	*i*P	**P**	**20 50 20.1**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,18nm,2.5s						
BRVK	**Borovoye**	**74.66**	**326**	*e*P	**P**	**20 50 19.7**	**-0.3**
	comp=Z,4.9nm,0.8s						
VNDA	**Vanda**	**78.31**	**174**	*e*P	**P**	**20 50 40.5**	**+0.3**
	comp=Z,5.3nm,1.0s						
AB31	**Akbulak array**	**79.69**	**320**	*ce*P	**P**	**20 50 47.8**	**-0.6**
AB31				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ABKAR	**Akbulak array**	**79.69**	**320**	*e*P	**P**	**20 50 47.6**	**-0.8**
	comp=Z,2.3nm,0.7s						
AKTO	**Aktyubinsk**	**81.17**	**321**	P	P	20 50 50.6	-5.7
ARU	**Arti**	**82.15**	**327**	*e*P	**P**	**20 50 59.0**	**-2.3**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARU	**Arti**	**82.15**	**327**	*e*P	**P**	**20 50 59.0**	**-2.3**
	comp=Z,3.7nm,0.8s						
MCK	**McKinley**	**85.21**	**26**	P	**P**	**20 51 16.0**	**-0.9**
MCK				pmax	pmax		
	comp=Z,9.0nm,1.2s						
MCK	**McKinley**	**85.21**	**26**	P	**P**	**20 51 16.0**	**-0.9**
	comp=Z,8.5nm,1.2s						
ILAR	**Eielson Array**	**86.28**	**25**	P	**P**	**20 51 21.1**	**-1.1**
ILAR	**Eielson Array**	**86.28**	**25**	P	**P**	**20 51 21.1**	**-1.1**
	comp=Z,2.2nm,0.6s,baz=246,slow=5.3,SNR=36						
OBN	**Obninsk**	**94.41**	**325**	P	**P**	**20 51 58.0**	**-2.4**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARCES	**ARCESS Array B**	**96.80**	**340**	P	**P**	**20 52 09.7**	**-1.4**
ARCES	**ARCESS Array B**	**96.80**	**340**	P	**P**	**20 52

URLA	**Izmir**	**0.92**	**115**	*i* P	**Pb**	**20 48 45.2**	**+0.4**
URLA				*i* S	**Sb**	**20 48 57.4**	**+0.1**
AYVA	**Ayvalik**	**1.06**	**58**	*i* P	**Pg**	**20 48 46.7**	**-0.1**
AYVA				*i* S	**Sg**	**20 49 00.9**	**+0.3**
AYVA	**Ayvalik**	**1.06**	**58**	*i* P	**Pg**	**20 48 46.7**	**-0.1**
AYVA				*i* S	**Sg**	**20 49 00.9**	**+0.3**
MRMA	**Marmari**	**1.14**	**233**	P	**Pn**	**20 48 49.2**	**+0.4**
MRMA	**Marmari**	**1.14**	**233**	P	**Pn**	**20 48 49.2**	**+0.4**
BOZC	**Bozcaada**	**1.16**	**20**	*i* P	**Pg**	**20 48 47.8**	**-1.0**
BOZC				*i* S	**Sg**	**20 49 03.1**	**-0.7**
LIA	**Limnos Island**	**1.18**	**347**	P	**Pg**	**20 48 49.0**	**0.0**
LIA				S	**Sg**	**20 49 04.1**	**-0.2**
LIA	**Limnos Island**	**1.18**	**347**	*e*PN	**Pg**	**20 48 48.8**	**-0.2**
LIA				*e*SN	**Sg**	**20 49 03.9**	**-0.4**
LIA	**Limnos Island**	**1.18**	**347**	P	**Pg**	**20 48 49.0**	**0.0**
LIA				S	**Sg**	**20 49 04.1**	**-0.2**
BLCB	**Balcova**	**1.24**	**107**	*e*PN	**Pg**	**20 48 50.3**	**0.0**
BLCB				*e*SN	**Sn**	**20 49 07.4**	**+0.2**
BLCB	**Balcova**	**1.24**	**107**	*e*Pn	**Pg**	**20 48 50.3**	**0.0**
BLCB				*e*Sn	**Sn**	**20 49 07.4**	**+0.2**
ERET	**Eretria**	**1.38**	**258**	P	**Pb**	**20 48 52.8**	**+0.1**
ERET	**Eretria**	**1.38**	**258**	P	**Pb**	**20 48 52.8**	**+0.1**
IZM	**Izmir**	**1.41**	**104**	*e*PN	**Pn**	**20 48 52.0**	**-0.4**
IZM				*e*SN	**Sg**	**20 49 11.7**	**+0.1**
IZM	**Izmir**	**1.41**	**104**	*e*Pn	**Pn**	**20 48 52.1**	**-0.4**
IZM				*e*Sn	**Sg**	**20 49 11.7**	**+0.1**
SMG	**Samos**	**1.47**	**135**	*e*PN	**Pn**	**20 48 53.2**	**-0.1**
SMG				*e*SN	**Sn**	**20 49 12.0**	**-0.7**
SMG	**Samos**	**1.47**	**135**	*e*Pn	**Pn**	**20 48 53.2**	**-0.1**
SMG				*e*Sn	**Sn**	**20 49 12.0**	**-0.7**
PTL	**Penteli**	**1.48**	**242**	P	**Pn**	**20 48 54.0**	**+0.4**
PTL				S	**Sn**	**20 49 12.0**	**-1.2**
PTL	**Penteli**	**1.48**	**242**	P	**Pn**	**20 48 54.0**	**+0.4**
PTL				S	**Sn**	**20 49 12.0**	**-1.2**
APE	**Apeiranthos**	**1.68**	**180**	*e*PN	**Pn**	**20 48 56.0**	**-0.3**
APE				*e*SN	**Sn**	**20 49 18.1**	**0.0**
APE	**Apeiranthos**	**1.68**	**180**	*e*PB	**Pn**	**20 48 56.5**	**+0.2**
APE				*e*SN	**Sn**	**20 49 18.2**	**+0.1**
APE	**Apeiranthos**	**1.68**	**180**	*e*Pn	**Pn**	**20 48 56.0**	**-0.3**
APE	**Apeiranthos**	**1.68**	**180**	*e*Pb	**Pn**	**20 48 56.5**	**+0.2**
APE				*e*Sn	**Sn**	**20 49 18.1**	**0.0**
AKS	**Akhisar**	**1.79**	**85**	*e*PN	**Pn**	**20 48 57.3**	**-0.5**
AKS	**Akhisar**	**1.79**	**85**	*e*Pn	**Pn**	**20 48 57.3**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.80**	**24**	*e*PN	**Pn**	**20 48 57.9**	**0.0**
GELI	**Tayfur-Gelibol**	**1.80**	**24**	*e*Pn	**Pn**	**20 48 57.9**	**0.0**
LPK	**Lapseki**	**1.88**	**30**	*e*PN	**Pn**	**20 48 58.6**	**-0.3**
LPK	**Lapseki**	**1.88**	**30**	*e*Pn	**Pn**	**20 48 58.6**	**-0.3**
BALY	**Balya**	**1.90**	**58**	*i* P	**Pb**	**20 49 01.8**	**+0.3**
BALY				*i* S	**Sb**	**20 49 26.2**	**+0.8**
BALY	**Balya**	**1.90**	**58**	*i* P	**Pb**	**20 49 01.8**	**+0.3**
BALY				*i* S	**Sb**	**20 49 26.3**	**+0.8**
XOR	**Xorichti**	**1.92**	**289**	P	**Pn**	**20 48 59.2**	**-0.4**
XOR	**Xorichti**	**1.92**	**289**	P	**Pn**	**20 48 59.2**	**-0.4**
BALB	**Balikesir**	**2.03**	**63**	*e*PN	**Pn**	**20 49 01.1**	**0.0**
BALB	**Balikesir**	**2.03**	**63**	*e*Pn	**Pn**	**20 49 01.1**	**0.0**
ENEZ	**Enez**	**2.04**	**13**	*e*PN	**Pn**	**20 49 01.3**	**+0.1**
ENEZ	**Enez**	**2.04**	**13**	*e*Pn	**Pn**	**20 49 01.3**	**+0.1**
ERIK	**Erikli-Kesan**	**2.06**	**21**	*e*PN	**Pn**	**20 49 01.4**	**-0.1**
ERIK	**Erikli-Kesan**	**2.06**	**21**	*e*Pn	**Pn**	**20 49 01.4**	**-0.1**
GONE	**Gonen-Balikesi**	**2.11**	**52**	*e*PN	**Pn**	**20 49 02.2**	**0.0**
GONE	**Gonen-Balikesi**	**2.11**	**52**	*e*Pn	**Pn**	**20 49 02.2**	**0.0**
KRBG	**Karabiga-Canak**	**2.13**	**39**	*e*PN	**Pn**	**20 49 02.3**	**-0.2**
KRBG	**Karabiga-Canak**	**2.13**	**39**	*e*Pn	**Pn**	**20 49 02.3**	**-0.2**
DID	**Didima**	**2.19**	**236**	*e*PN	**Pn**	**20 49 04.2**	**+0.9**
DID	**Didima**	**2.19**	**236**	*e*Pn	**Pn**	**20 49 04.2**	**+0.9**
RKY	**Sarkoy-Tekirda**	**2.31**	**33**	*e*PN	**Pn**	**20 49 05.9**	**+0.9**
RKY	**Sarkoy-Tekirda**	**2.31**	**33**	*e*Pn	**Pn**	**20 49 05.9**	**+0.9**
EDC	**Edincik**	**2.41**	**48**	*e*PN	**Pn**	**20 49 07.3**	**+1.0**
EDC	**Edincik**	**2.41**	**48**	*e*Pn	**Pn**	**20 49 07.3**	**+1.0**
MFT	**Murefte**	**2.44**	**33**	*e*PN	**Pn**	**20 49 07.7**	**+0.9**
MFT	**Murefte**	**2.44**	**33**	*e*Pn	**Pn**	**20 49 07.7**	**+0.9**
BNT	**Bandirma**	**2.45**	**48**	*e*PN	**Pn**	**20 49 06.7**	**-0.1**
BNT	**Bandirma**	**2.45**	**48**	*e*Pn	**Pn**	**20 49 06.7**	**-0.1**
KULA	**Kula-Manisa**	**2.46**	**95**	*e*PN	**Pn**	**20 49 07.3**	**+0.2**
KULA	**Kula-Manisa**	**2.46**	**95**	*e*Pn	**Pn**	**20 49 07.3**	**+0.2**
GUR	**Goura**	**2.63**	**253**	*e*PN	**Pn**	**20 49 10.7**	**+1.2**
GUR	**Goura**	**2.63**	**253**	*e*Pn	**Pn**	**20 49 10.7**	**+1.2**
KCTX	**Karacabey (Bur**	**2.66**	**54**	*e*PN	**Pn**	**20 49 10.5**	**+0.8**
KCTX	**Karacabey (Bur**	**2.66**	**54**	*e*Pn	**Pn**	**20 49 10.5**	**+0.8**
EDRB	**Edirne**	**3.23**	**16**	*e*PN	**Pn**	**20 49 18.8**	**+1.3**
EDRB	**Edirne**	**3.23**	**16**	*e*Pn	**Pn**	**20 49 18.8**	**+1.3**

IDC 10 21:04:05.4±2.0, 0°32N×124°64E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=138.7km s-min=21.9km az=58.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.27**	**155**	P	P	21 09 05.4	+1.1
	1.1nm,0.6s,baz=333,slow=9.9,SNR=6.2						
ASAR	**Alice Springs**	**25.49**	**160**	P	P	21 09 34.6	-1.0
	0.6nm,0.5s,baz=352,slow=16,SNR=10						
CMAR	**Chiang Mai Arr**	**31.01**	**307**	P	P	21 10 24.8	-0.2
	0.5nm,0.5s,baz=133,slow=7.1,SNR=5.4						
MKAR	**Makanchi Array**	**59.21**	**327**	P	P	21 14 08.9	+0.4
	0.3nm,0.8s,baz=120,slow=8.4,SNR=4.1						

MEX 10 21:33:11.8±0.9, 17°27N×93°67W, h61km±19km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGIG		**0.72**	**133**	*e*P	Pn	21 33 24.3	-2.1
TGIG				*i* S	Sn	21 33 35.8	-1.3
CMIG	**Matias Romero**	**1.17**	**261**	*e*P	Pn	21 33 30.6	-1.6
CMIG				*i* S	Sn	21 33 46.2	-1.2
PCIG		**1.62**	**164**	*i* P	Pn	21 33 37.2	-0.9
PCIG				*i* S	Sn	21 33 55.4	-2.5
CCIG	**Comitan**	**1.77**	**124**	*i* P	Pn	21 33 39.5	-0.9
CCIG				*i* S	Sn	21 34 00.4	-1.6
HUIG	**Huatulco**	**2.77**	**238**	*e*P	Pn	21 33 53.2	-0.7
HUIG				*i* S	Sn	21 34 23.6	-2.7
VHO	**Vista Hermosa**	**2.94**	**267**	*i* P	Pn	21 33 55.8	-0.5
VHO				*i* S	Sn	21 34 28.0	-2.6
UTMO	**Huajuapan**	**3.98**	**279**	*i* P	Pn	21 34 09.7	-1.0
UTMO				*i* S	Sn	21 34 54.6	-1.8
PNIG	**Pinotepa**	**4.36**	**259**	*e*P	Pn	21 34 13.8	-1.8
PNIG				*i* S	Sn	21 35 03.7	-1.4

*ISCJB **10** 21:39:10.1±0.8, 45°.28N±0°.04×15°.16E±0°.04, h5km±7km, Error ellipse: s-maj=6.9km s-min=4.3km az=178.0*
*VIE **10** 21:39:10.9±0.5, 45°.31N×15°.17E, h7km±2km, mb1.9/2, ML2.1/4, Error ellipse: s-maj=3.0km s-min=1.5km az=160.0 36 km WSW of Karlovac*
*CSEM **10** 21:39:10.3±0.2, 45°.26N×15°.17E, h5km, ML2.7/11, Error ellipse: s-maj=3.6km s-min=1.9km az=173.0*
*LJU **10** 21:39:11.0, 45°.32N×15°.15E, h14km, ML1.9*

ISC 10 21:39:10.9±1.4, 45°.29N±0°.05×15°.16E±0°.02, h9km±8km, n44, σ0°.943/73, 9C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOJS	**Bojanci**	**0.23**	**16**	⇓*i* Pg	**Pg**	**21 39 15.4**	**-0.2**
BOJS				*i* Sg	**Sg**	**21 39 18.7**	**0.0**
BOJS							
	comp=Z,121nm,0.1s						
BOJS	**Bojanci**	**0.23**	**16**	⇓*i* Pg	**Pg**	**21 39 15.4**	**-0.2**
BOJS				*i* Sg	**Sg**	**21 39 18.7**	**0.0**
	comp=Z,121nm,0.1s						
GBRS	**Gornja Briga**	**0.35**	**315**	*i* Pg	**Pg**	**21 39 18.0**	**+0.2**
GBRS				*i* Sg	**Sg**	**21 39 22.7**	**+0.2**
	comp=Z,57nm,0.1s						
VISS	**Visnje**	**0.56**	**337**	⇓*i* Pg	**Pg**	**21 39 21.5**	**-0.4**
VISS				*e*Sg	**Sg**	**21 39 29.4**	**+0.1**
VISS							
	comp=Z,20nm,0.1s						
VISS	**Visnje**	**0.56**	**337**	⇓*i* Pg	**Pg**	**21 39 21.5**	**-0.4**
VISS				*e*Sg	**Sg**	**21 39 29.4**	**+0.1**
	comp=Z,20nm,0.1s						
CRES	**Cresnjev**	**0.58**	**21**	*e*Pg	**Pg**	**21 39 21.7**	**-0.5**
CRES				*i* Sg	**Sg**	**21 39 29.7**	**-0.1**
CRES							
	comp=Z,28nm,0.1s						
CRES	**Cresnjev**	**0.58**	**21**	*e*Pg	**Pg**	**21 39 21.7**	**-0.5**
CRES				*i* Sg	**Sg**	**21 39 29.7**	**-0.1**
	comp=Z,28nm,0.1s						
KNDS	**Knezji Dol**	**0.60**	**294**	*i* Pg	**Pg**	**21 39 22.3**	**-0.3**
KNDS				*i* Sg	**Sg**	**21 39 31.0**	**+0.5**
KNDS							
	comp=Z,24nm,0.1s						
KNDS	**Knezji Dol**	**0.60**	**294**	*i* Pg	**Pg**	**21 39 22.3**	**-0.3**
KNDS				*i* Sg	**Sg**	**21 39 31.0**	**+0.5**
KNDS							
	comp=Z,24nm,0.1s						
GCIS	**Gornji Cirnik**	**0.67**	**29**	*i* Pg	**Pg**	**21 39 23.8**	**0.0**
GCIS	**Gornji Cirnik**	**0.67**	**29**	*i* Pg	**Pg**	**21 39 23.8**	**0.0**
LEGS	**Legarje**	**0.67**	**9**	*i* Pg	**Pg**	**21 39 23.8**	**-0.1**
LEGS				*i* Sg	**Sg**	**21 39 33.2**	**+0.5**
LEGS	**Legarje**	**0.67**	**9**	*i* Pg	**Pg**	**21 39 23.8**	**-0.1**
LEGS				*i* Sg	**Sg**	**21 39 33.2**	**+0.5**
CEY	**Cerknica**	**0.69**	**312**	*e*Pg	**Pg**	**21 39 24.5**	**+0.3**
CEY				*e*Sg	**Sb**	**21 39 34.0**	**-0.7**
CEY							
	comp=Z,22nm,0.1s						
CEY	**Cerknica**	**0.69**	**312**	*e*Pg	**Pg**	**21 39 24.5**	**+0.3**
CEY				*e*Sg	**Sb**	**21 39 34.0**	**-0.7**
	comp=Z,22nm,0.1s						
CESS	**Cesta pri Krsk**	**0.72**	**17**	*i* Pg	**Pg**	**21 39 24.7**	**-0.1**
CESS	**Cesta pri Krsk**	**0.72**	**17**	*i* Pg	**Pg**	**21 39 24.7**	**-0.1**
PDKS	**Podkum**	**0.79**	**352**	*i* Pg	**Pg**	**21 39 25.8**	**-0.2**
PDKS							
	comp=Z,9.0nm,0.1s						
PDKS	**Podkum**	**0.79**	**352**	*i* Pg	**Pg**	**21 39 25.8**	**-0.2**
	comp=Z,9.0nm,0.1s						
GOLS	**Golise**	**0.80**	**24**	*i* Pg	**Pg**	**21 39 26.3**	**0.0**
GOLS	**Golise**	**0.80**	**24**	*i* Pg	**Pg**	**21 39 26.3**	**0.0**
SKDS	**Skadanscina**	**0.85**	**288**	*e*Pg	**Pg**	**21 39 26.5**	**-0.8**
SKDS	**Skadanscina**	**0.85**	**288**	*e*Pg	**Pg**	**21 39 26.5**	**-0.8**
SISC	**Sisak**	**0.87**	**77**	*e*Pg	**Pg**	**21 39 27.6**	**-0.1**
SISC				Sg	**Sn**	**21 39 42.5**	**+0.2**
SISC	**Sisak**	**0.87**	**77**	*e*Pg	**Pg**	**21 39 27.6**	**-0.1**
SISC				Sg	**Sn**	**21 39 42.4**	**+0.2**
VNDS	**Vrh nad Dolski**	**0.88**	**339**	*i* Pg	**Pg**	**21 39 27.4**	**-0.4**
JAVS	**Javornik**	**0.98**	**309**	*i* Pg	**Pg**	**21 39 29.8**	**0.0**
JAVS	**Javornik**	**0.98**	**309**	*i* Pg	**Pg**	**21 39 29.8**	**0.0**
VOY	**Vojsko**	**1.16**	**310**	*e*Pg	**Pb**	**21 39 33.2**	**0.0**
VOY				*e*Sg	**Sn**	**21 39 48.9**	**-0.6**
VOY	**Vojsko**	**1.16**	**310**	*e*Pg	**Pb**	**21 39 33.2**	**0.0**
VOY				*e*Sg	**Sn**	**21 39 48.9**	**-0.6**
GROS	**Grobnik**	**1.20**	**11**	*i* Pg	**Pb**	**21 39 33.8**	**-0.1**
GROS	**Grobnik**	**1.20**	**11**	*i* Pg	**Pb**	**21 39 33.8**	**-0.1**
OBKA	**Obir**	**1.30**	**341**	⇑*i* Pg	**Pb**	**21 39 35.4**	**-0.1**
OBKA				⇑*i* Sg	**Sn**	**21 39 52.9**	**+0.1**
	comp=Z,21nm,0.3s						
OBKA	**Obir**	**1.30**	**341**	Pg	**Pb**	**21 39 35.4**	**-0.1**
OBKA				Sg	**Sn**	**21 39 52.9**	**+0.1**
	comp=Z,21nm,0.3s						
GORS	**Gorjuse**	**1.31**	**322**	*i* Pg	**Pn**	**21 39 35.6**	**+0.1**
GORS				*i* Sg	**Sg**	**21 39 53.8**	**+0.5**
GORS	**Gorjuse**	**1.31**	**322**	*i* Pg	**Pn**	**21 39 35.7**	**+0.1**
GORS				*i* Sg	**Sg**	**21 39 53.8**	**+0.5**
BISS	**Bistriski jare**	**1.36**	**359**	*i* Pg	**Pg**	**21 39 36.9**	**-0.2**
BISS	**Bistriski jare**	**1.36**	**359**	*i* Pg	**Pg**	**21 39 36.9**	**-0.2**
SOKA	**Soboth**	**1.40**	**356**	⇑*i* Pg	**Pn**	**21 39 36.9**	**+0.2**
SOKA				⇓*i* Sg	**Sg**	**21 39 55.9**	**+0.1**
	comp=Z,4.1nm,0.5s						
SOKA	**Soboth**	**1.40**	**356**	Pg	**Pn**	**21 39 36.9**	**+0.2**
SOKA				Sg	**Sg**	**21 39 55.9**	**+0.1**
	comp=Z,4.1nm,0.5s						
MYKA	**Terra Mystica**	**1.71**	**322**	⇑*i* Pg	**Pb**	**21 39 42.7**	**+0.1**
MYKA				⇑*i* Sn	**Sb**	**21 40 04.2**	**-0.1**
	comp=Z,6.6nm,0.2s						
MYKA				⇑*i* Sg	**Sg**	**21 40 07.6**	**+1.6**
	comp=Z,6.6nm,0.2s						
MYKA	**Terra Mystica**	**1.71**	**322**	Pg	**Pb**	**21 39 42.7**	**+0.1**
MYKA				Sn	**Sb**	**21 40 04.2**	**-0.1**
	comp=Z,6.6nm,0.2s						
MYKA				Sg	**Sg**	**21 40 07.6**	**+1.6**
	comp=Z,6.6nm,0.2s						
ARSA	**Arzberg**	**1.98**	**7**	⇑*i* Pn	**Pn**	**21 39 44.9**	**+0.2**
ARSA				⇑*i* Pg	**Pg**	**21 39 48.4**	**-0.5**
ARSA				⇑*i* Sg	**Sg**	**21 40 15.4**	**+0.8**
	comp=Z,1.0nm,0.3s						
ARSA	**Arzberg**	**1.98**	**7**	Pn	**Pn**	**21 39 44.9**	**+0.2**

IDC 10 21:42:19.9±10.0, 22°.40S×177°.99E, h676km±82km, mb2.8/2, mb1 3.1/3, mb1mx2.7/17, mbtmp2.9/3, Error ellipse: s-maj=213.2km s-min=77.3km az=148.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.70**	**270**	P	P	21 44 46.5	-0.1
	0.3nm,0.3s,baz=90,slow=19,SNR=6.1						
ASAR	**Alice Springs**	**40.48**	**259**	P	P	21 49 03.0	-1.0
	0.4nm,0.3s,baz=96,slow=8.6,SNR=7.9						
WRA	**Warramunga Arr**	**40.68**	**265**	P	P	21 49 06.4	+0.7
	1.0nm,0.3s,baz=100,slow=8.0,SNR=14						
ARCES	**ARCESS Array B**	**130.04**	**348**	PKP	PKPdf	22 00 14.7	+0.2
	6.8nm,1.1s,baz=28,slow=2.1,SNR=3.5						
HFS	**Hagfors**	**140.70**	**348**	PKP	PKPdf	22 00 32.8	-1.7
	2.9nm,1.0s,baz=66,slow=2.4,SNR=8.6						

*IDC **10** 21:56:15.9±0.8, 15°.55N×96°.08E, h0km, mb4.0/14, mb1 4.1/15, mb1mx3.9/29, mbtmp4.0/15, ML4.5/1, MS3.6/12, Ms1 3.6/12, ms1mx3.4/35, Error ellipse: s-maj=34.6km s-min=15.6km az=53.0*
*ISCJB **10** 21:56:18.0±0.5, 15°.65N±0°.06×95°.97E±0°.05, h28km, mb4.0/18, MS3.7/10, Error ellipse: s-maj=8.6km s-min=6.4km az=33.1*
*NEIC **10** 21:56:21.1±3.8, 15°.60N×96°.17E, h34km±26km, mb4.3/6, Error ellipse: s-maj=16.3km s-min=6.1km az=46.0*

ISC 10 21:56:20.3±0.7, 15°.66N±0°.08×95°.98E±0°.08, h28km, n57, σ1°.46/57, mb4.1/18, MS3.7/10, Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**3.97**	**45**	*e*Pn	**Pn**	**21 57 18.8**	**-0.7**
CM31				*e*Sn	**Sn**	**21 58 05.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**3.97**	**45**	Pn	**Pn**	**21 57 18.9**	**-0.5**
CMAR				Lg	Lg	21 58 29.1	
CMAR	**Chiang Mai Arr**	**3.97**	**45**	Pn	**Pn**	**21 57 18.9**	**-0.5**
	7.4nm,0.3s,baz=234,slow=15,SNR=262						
CMAR				Lg	Lg	21 58 29.1	
	3.2nm,0.3s,baz=228,slow=30,SNR=6.1						
CMAR				LR	LR	21 59 16.5	
	comp=Z,409nm,18.3s,baz=181,slow=45						
CHTO	**Chiang Mai**	**4.23**	**42**	*e*Pn	**Pn**	**21 57 21.8**	**-1.2**
CHTO				*e*Sg	Sb	21 58 32.0	+7.4
SHL	**Shillong**	**10.57**	**339**	*e*PKP	**Pn**	**21 58 49.0**	**-1.2**
SHL				*e*S	**Sn**	**22 00 46.0**	**-1.8**
PSI	**Prapat**	**13.11**	**167**	LR	LR	22 05 00.6	
	comp=Z,169nm,20.8s,baz=322,slow=40						
ODAN	**Odare**	**13.71**	**326**	*e*P	**Pn**	**21 59 30.6**	**-2.6**
ODAN				*e*S	**Sn**	**22 02 01.0**	**-3.7**
TAPN	**Taplejung**	**13.94**	**328**	*e*P	Pn	21 59 32.2	-4.1
RAMN	**Ramite**	**14.22**	**324**	*e*P	**Pn**	**21 59 37.4**	**-2.8**
	20nm,0.5s						
RAMN				*e*S	**Sn**	**22 02 15.2**	**-2.0**
LSA	**Lhasa**	**14.66**	**343**	*e*P	**Pn**	**21 59 47.7**	**+1.4**
	3.4nm,0.6s						
LSA				*e*Sn	**Sn**	**22 02 30.3**	**+2.1**
JIRN	**Jiri**	**15.00**	**324**	*e*P	**Pn**	**21 59 48.4**	**-2.4**
	14nm,0.9s						
GUN	**Gumba**	**15.37**	**324**	*e*P	**Pn**	**21 59 53.3**	**-2.3**
PKI	**Pulchoki**	**15.38**	**322**	*e*P	**Pn**	**21 59 54.4**	**-1.4**
	29nm,0.7s						
DMN	**Daman**	**15.59**	**321**	*e*P	**Pn**	**21 59 57.6**	**-0.9**
	44nm,0.8s						
KKN	**Kakani**	**15.62**	**322**	*e*P	**Pn**	**21 59 57.2**	**-1.6**
GKN	**Gorkha**	**16.16**	**321**	*e*P	**Pn**	**22 00 04.8**	**-0.9**
KOLN	**Koldanda**	**16.64**	**318**	*e*P	**Pn**	**22 00 12.9**	**+1.1**
MK31	**Makanchi Array**	**33.07**	**343**	*e*P	**P**	**22 02 54.4**	**+0.9**
MK31				*e*PcP	**PcP**	**22 05 37.2**	**+0.6**
MKAR	**Makanchi Array**	**33.07**	**343**	P	**P**	**22 02 54.8**	**+1.2**
MKAR				PcP	**PcP**	**22 05 37.3**	**+0.7**
MKAR	**Makanchi Array**	**33.07**	**343**	P	**P**	**22 02 54.8**	**+1.2**
	1.0nm,0.8s,baz=150,slow=9.6,SNR=13						
MKAR				PcP	**PcP**	**22 05 37.3**	**+0.7**
	0.4nm,0.8s,baz=157,slow=4.1,SNR=3.6						
MKAR				LR	LR	22 17 40.4	
	comp=Z,52nm,18.0s,baz=160,slow=39						
KSRS	**Korea Array**	**35.61**	**46**	LR	LR	22 17 32.5	
	comp=Z,51nm,20.0s,baz=38,slow=36						
KURK	**Kurchatov**	**37.66**	**342**	*e*P	**P**	**22 03 33.2**	**+0.3**
	3.4nm,0.8s						
ZAA0	**Zalesovo Array**	**39.19**	**350**	*e*P	**P**	**22 03 46.6**	**+0.8**
ZALV	**Zalesovo Beam**	**39.19**	**350**	P	**P**	**22 03 47.2**	**+1.5**
	4.1nm,0.6s,baz=175,slow=8.6,SNR=24						
ZALV				LR	LR	22 21 25.0	
	comp=Z,48nm,19.0s,baz=263,slow=38						
USRK	**Ussuriysk Arra**	**41.69**	**39**	LR	LR	22 23 28.8	
	comp=Z,94nm,21.4s,baz=350,slow=39						
BVAR	**Borovoye Array**	**42.38**	**337**	P	**P**	**22 04 12.9**	**+0.8**
BVAR	**Borovoye Array**	**42.38**	**337**	P	**P**	**22 04 12.9**	**+0.8**
	0.4nm,0.6s,baz=136,slow=13,SNR=3.6						
MJAR	**Matsushiro Arr**	**42.82**	**53**	LR	LR	22 23 00.8	
	comp=Z,58nm,19.2s,baz=260,slow=38						
ABKAR	**Akbulak array**	**44.51**	**327**	*e*P	**P**	**22 04 30.4**	**+1.1**
	2.2nm,0.8s						
AKTO	**Aktyubinsk**	**46.21**	**327**	P	**P**	**22 04 43.9**	**+1.1**
AKTO	**Aktyubinsk**	**46.21**	**327**	P	**P**	**22 04 43.9**	**+1.1**
	1.6nm,0.7s,baz=116,slow=8.2,SNR=6.5						
GNI	**Garni**	**50.60**	**309**	*e*P	**P**	**22 05 18.6**	**+1.5**
	7.4nm,0.7s						
GNI	**Garni**	**50.60**	**309**	P	**P**	**22 05 18.9**	**+1.9**
	5.9nm,0.8s,baz=144,slow=23,SNR=4.6						
WRA	**Warramunga Arr**	**51.71**	**132**	P	**P**	**22 05 23.9**	**-1.5**
WRA	**Warramunga Arr**	**51.71**	**132**	P	**P**	**22 05 23.9**	**-1.5**
	2.0nm,1.0s,baz=315,slow=7.5,SNR=8.2						
WRAB	**Tennant Creek**	**51.71**	**132**	*e*P	**P**	**22 05 23.9**	**-1.5**
	2.4nm,0.7s						
NWAO	**Narrogin (SRO)**	**52.42**	**157**	LR	LR	22 28 50.1	
	comp=Z,82nm,18.1s,baz=185,slow=37						
KIV	**Kislovodsk**	**53.02**	**314**	*e*P	**P**	**22 05 35.8**	**+0.8**
	18nm,1.0s						
ASAR	**Alice Springs**	**53.87**	**136**	P	**P**	**22 05 39.8**	**-1.5**
ASAR	**Alice Springs**	**53.87**	**136**	P	**P**	**22 05 39.8**	**-1.5**
	0.8nm,0.8s,baz=323,slow=7.9,SNR=7.1						
BRTR	**Keskin Array B**	**58.95**	**307**	P	**P**	**22 06 16.6**	**-1.0**
BRTR	**Keskin Array B**	**58.95**	**307**	P	**P**	**22 06 16.6**	**-1.0**
	1.6nm,0.9s,baz=78,slow=7.9,SNR=4.8						
STKA	**Stephens Creek**	**64.39**	**138**	*e*P	**P**	**22 06 52.6**	**-1.4**
	0.8nm,0.7s						
STKA	**Stephens Creek**	**64.39**	**138**	P	**P**	**22 06 53.5**	**-0.6**
	4.5nm,0.9s,baz=335,slow=2.0,SNR=4.8						
STKA				LR	LR	22 38 20.5	
	comp=Z,58nm,20.3s,baz=206,slow=39						
FINES	**FINESS Array B**	**66.77**	**331**	P	**P**	**22 07 09.4**	**+0.4**
FINES	**FINESS Array B**	**66.77**	**331**	P	**P**	**22 07 09.4**	**+0.4**
	1.3nm,0.6s,baz=97,slow=7.7,SNR=5.9						
SPITS	**Spitsbergen Ar**	**72.64**	**348**	P	**P**	**22 07 45.2**	**+0.3**
SPITS	**Spitsbergen Ar**	**72.64**	**348**	P	**P**	**22 07 45.2**	**+0.3**
	5.9nm,0.9s,baz=134,slow=11,SNR=5.1						
HFS	**Hagfors**	**72.72**	**329**	LR	LR	22 40 12.7	
	comp=Z,101nm,21.9s,baz=249,slow=36						
NOA	**NORSAR Array B**	**73.91**	**330**	P	**P**	**22 07 53.5**	**+0.8**
NOA	**NORSAR Array B**	**73.91**	**330**	P	**P**	**22 07 53.5**	**+0.8**
	0.5nm,0.8s,baz=82,slow=5.7,SNR=3.1						
NOA				LR	LR	22 41 60.0	
	comp=Z,55nm,18.7s,baz=310,slow=37						
ILAR	**Eielson Array**	**86.90**	**22**	P	**P**	**22 09 01.9**	**-0.5**
ILAR	**Eielson Array**	**86.90**	**22**	P	**P**	**22 09

SIV	San Ignacio	22.55	25	P		P	22 36 56.3	-0.3
SIV	San Ignacio	22.55	25	P		P	22 36 56.3	-0.3
	comp=N,4.9nm,0.8s,baz=225,slow=9.3,SNR=19							
NNA	Nana	25.49	346	*eP*		P	22 37 23.4	-0.1
	comp=N,5.3nm,0.5s							
PMSA	Palmer Station	28.12	174	*eP*		P	22 37 46.8	+0.4
	comp=N,76nm,1.3s							
PMSA	Palmer Station	28.12	174	P		P	22 37 47.8	+1.4
	comp=N,16nm,0.8s,baz=320,slow=13,SNR=6.2							
BDFB	Brasilia	29.23	49	P		P	22 37 55.7	-1.2
	comp=N,3.2nm,0.5s,baz=223,slow=9.5,SNR=7.8							
OTAV	Otavalo	37.72	347	*eP*		P	22 39 10.7	0.0
DBIC	Dimbokro	75.09	70	*eP*		P	22 43 34.5	-0.3
	comp=N,3.1nm,0.5s							
DBIC	Dimbokro	75.09	70	P		P	22 43 34.8	0.0
	comp=N,3.8nm,0.6s,baz=201,slow=5.9,SNR=12							
BOSA	Boshof	77.70	116	*eP*		P	22 43 49.3	-0.2
	comp=N,2.5nm,0.7s							
BOSA	Boshof	77.70	116	P		P	22 43 49.4	-0.2
	comp=N,5.4nm,1.1s,baz=253,slow=4.2,SNR=11							
TORD	Torodi Ar. Bea	84.18	69	P		P	22 44 23.7	0.0
TORD	Torodi Ar. Bea	84.18	69	P		P	22 44 23.7	0.0
	comp=N,1.2nm,0.6s,baz=245,slow=5.4,SNR=37							
NVAR	Mina Array Bea	86.96	324	P		P	22 44 38.2	+1.0
NVAR	Mina Array Bea	86.96	324	P		P	22 44 38.2	+1.0
	comp=N,0.5nm,0.7s,baz=141,slow=4.8,SNR=4.3							
AAK	Ala-Archa	152.75	67	PKPbc		PKPbc	22 51 48.5	+0.5
AAK				PKPab		PKPab	22 51 60.0	+0.4
AAK	Ala-Archa	152.75	67	PKPbc		PKPbc	22 51 48.5	+0.5
	comp=N,1.0nm,0.5s,baz=191,slow=6.3,SNR=6.9							
AAK				PKPab		PKPab	22 51 60.0	+0.4
	comp=N,2.0nm,0.6s,baz=258,slow=2.3,SNR=8.3							
MKAR	Makanchi Array	157.68	55	PKPab		PKPab	22 52 20.0	-0.4
MKAR	Makanchi Array	157.68	55	PKPab		PKPab	22 52 20.0	-0.4
	comp=N,0.7nm,0.4s,baz=282,slow=2.9,SNR=20							

IDC ***10*** *22:33:31.9±0.8, 0.36N×121.87E, h141km±7km, mb3.8/12, mb1 4.0/14, mb1mx3.9/23, mbtmp3.8/14, MS2.9/1, Ms1 2.9/1, ms1mx2.4/36, Error ellipse: s-maj=27.1km s-min=10.0km az=72.0*

ISCJB ***10*** *22:33:32.4±1.3, 0.31N±0.05×121.72E±0.10, h165km±13km, mb4.2/19, Error ellipse: s-maj=16.1km s-min=7.4km az=174.9*

NEIC ***10*** *22:33:32.8±0.9, 0.33N×121.84E, h152km±9km, mb4.5/7, Error ellipse: s-maj=15.2km s-min=6.2km az=69.0*

DJA ***10*** *22:33:33, 0.34N×122.06E, h116km, mb4.8/7*

ISC 10 22:33:32.1±0.7, 0.35N±0.06×121.7E±0.1, h146km±6km, h145km:pP-P,n44,σ0.96/54, mb4.4/19, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KAPI	Kappang	5.67	200	P		Pn	22 34 55.3	+0.9
KAPI	Kappang	5.67	200	P		Pn	22 34 55.3	+0.9
	9.8nm,0.3s,baz=27,slow=6.6,SNR=29							
KAPI				LR		LR	22 37 15.9	
	comp=Z,114nm,18.5s,baz=326,slow=39							
DAV	Davao City (W)	7.71	30	S		Sn	22 36 50.6	+2.8
	45nm,0.3s,baz=153,slow=16,SNR=2.8							
KNRA	Kununurra	17.38	157	*eP*		Pn	22 37 25.5	-0.3
	158nm,0.4s							
FITZ	Fitzroy Crossi	18.73	168	*eP*		P	22 37 40.1	+0.4
	5.1nm,0.4s							
FITZ	Fitzroy Crossi	18.73	168	*eP*		P	22 37 40.0	+0.4
	10nm,0.4s							
FITZ	Fitzroy Crossi	18.73	168	P		P	22 37 40.2	+0.4
	2.0nm,0.3s,baz=356,slow=8.1,SNR=33							
WRAB	Tennant Creek	23.65	149	*eP*		P	22 38 29.3	-1.0
	26nm,0.6s							
WRA	Warramunga Arr	23.66	149	P		P	22 38 29.4	-0.9
WRA	Warramunga Arr	23.66	149	P		P	22 38 29.4	-0.9
	37nm,0.5s,baz=326,slow=11,SNR=132							
AS31	Alice Springs	26.64	154	*eP*		P	22 38 56.7	-0.7
ASAR	Alice Springs	26.64	154	P		P	22 38 57.1	-0.2
ASAR				PcP		PcP	22 42 17.1	-0.6
ASAR	Alice Springs	26.64	154	P		P	22 38 57.1	-0.2
	5.3nm,0.5s,baz=343,slow=14,SNR=79							
ASAR				PcP		PcP	22 42 17.1	-0.6
	0.5nm,0.4s,baz=346,slow=2.0,SNR=4.0							
CMAR	Chiang Mai Arr	28.71	310	ScP		ScP	22 45 50.2	-0.5
CMAR	Chiang Mai Arr	28.71	310	ScP		ScP	22 45 50.2	-0.5
	0.5nm,0.4s,baz=180,slow=3.3,SNR=5.7							
ENH	Enshi	31.95	340	*eP*		P	22 39 43.9	-0.4
	3.7nm,0.8s							
STKA	Stephens Creek	37.16	151	P		P	22 40 29.1	+0.1
STKA	Stephens Creek	37.16	151	*eP*		P	22 40 28.8	-0.2
	9.0nm,0.8s							
STKA	Stephens Creek	37.16	151	P		P	22 40 29.1	+0.1
	10nm,0.8s,baz=322,slow=7.7,SNR=13							
KSAR	Wonju Array Be	37.35	8	P		P	22 40 31.0	+0.5
KSRS	Korea Array	37.37	8	P		P	22 40 31.0	+0.4
	0.8nm,0.5s,baz=187,slow=9.9,SNR=3.4							
CMSA	Cobar Meteorol	39.01	147	*eP*		P	22 40 45.0	+0.5
	53nm,0.6s							
MJAR	Matsushiro Arr	39.13	21	P		P	22 40 44.1	-1.4
MJAR	Matsushiro Arr	39.13	21	P		P	22 40 44.1	-1.4
	1.3nm,0.6s,baz=194,slow=11,SNR=4.7							
CAN	Canberra	43.67	147	*eP*		P	22 41 23.7	+1.2
	8.3nm,0.4s							
USRK	Ussuriysk Arra	44.62	11	P		P	22 41 29.6	-0.2
	1.3nm,0.7s,baz=197,slow=5.9,SNR=3.3							
DZM	Mont Dzumac	48.95	120	P		P	22 42 04.3	+0.3
DZM	Mont Dzumac	48.95	120	P		P	22 42 04.3	+0.3
	1.2nm,0.4s,baz=280,slow=11,SNR=3.7							
ULN	Ulaanbaatar	49.02	347	*eP*		P	22 42 04.5	+0.4
	1.2nm,0.4s							
SONM	Songino Array	49.14	346	P		P	22 42 05.8	+0.7
SONM				pP		pP	22 42 38.4	0.0
SONM				ScP		ScP	22 47 06.6	-1.3
SONM	Songino Array	49.14	346	P		P	22 42 05.8	+0.7
	1.0nm,0.7s,baz=168,slow=9.4,SNR=8.6							
SONM				pP		pP	22 42 38.4	0.0
	1.1nm,0.7s,baz=168,slow=9.1,SNR=5.2							
SONM				ScP		ScP	22 47 06.6	-1.3
	0.2nm,0.4s,baz=161,slow=4.2,SNR=3.1							
MK31	Makanchi Array	57.65	329	*eP*		P	22 43 08.3	+1.2
MKAR	Makanchi Array	57.65	329	P		P	22 43 08.5	+1.4
MKAR	Makanchi Array	57.65	329	P		P	22 43 08.5	+1.4
	2.0nm,0.4s,baz=124,slow=8.7,SNR=33							
AAK	Ala-Archa	59.65	321	*eP*		P	22 43 22.2	+1.0
	5.6nm,0.6s							
AAK	Ala-Archa	59.65	321	P		P	22 43 22.5	+1.3
	1.4nm,0.6s,baz=99,slow=7.4,SNR=8.9							
KBL	Kabul	59.74	311	*eP*		P	22 43 23.0	+1.0
	6.1nm,0.6s							
ZALV	Zalesovo Beam	61.48	336	P		P	22 43 33.7	+0.6
ZALV				pP		pP	22 44 05.9	-1.9
ZALV	Zalesovo Beam	61.48	336	P		P	22 43 33.7	+0.6
	0.9nm,0.6s,baz=115,slow=6.7,SNR=5.3							
ZALV				pP		pP	22 44 05.9	-1.9
	1.0nm,0.7s,baz=116,slow=6.8,SNR=3.4							
KURK	Kurchatov	62.04	331	*eP*		P	22 43 37.6	+0.6
	5.3nm,0.8s							
QSPA	South Pole Qui	90.28	180	P		P	22 46 16.1	-0.1
QSPA	South Pole Qui	90.28	180	P		P	22 46 16.1	-0.1
	0.8nm,0.5s,baz=307,slow=2.0,SNR=4.2							
TORD	Torodi Ar. Bea	119.08	285	PKP		PKPdf	22 52 03.6	-1.0
TORD				pPKP		pPKPdf	22 52 42.7	-0.8
TORD	Torodi Ar. Bea	119.08	285	PKP		PKPdf	22 52 03.6	-1.0
	0.3nm,0.4s,baz=76,slow=1.6,SNR=8.2							
TORD				pPKP		pPKPdf	22 52 42.7	-0.8
	0.3nm,0.8s,baz=76,slow=2.1,SNR=1.7							

ISCJB ***10*** *22:40:34.0±1.2, 18.6S±0.2×177.8W±0.2, h557km, mb4.4/12, Error ellipse: s-maj=29.1km s-min=23.5km az=154.5*

IDC ***10*** *22:40:41.4±1.7, 18.68S×178.05W, h630km±21km, mb3.5/8, mb1 3.6/10, mb1mx3.3/22, mbtmp3.5/10, Error ellipse: s-maj=27.1km s-min=15.4km az=157.0*

ISC 10 22:40:35.3±1.1, 18.6S±0.2×178.0W±0.2, h557km, n18, σ1.9/75/17, mb4.5/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	Afiamalu	7.55	53	P		P	22 42 36.9	+7.8
	5.0nm,0.3s,baz=45,slow=17,SNR=4.1							
DZM	Mont Dzumac	15.03	254	P		P	22 43 49.2	+4.1
	0.6nm,0.3s,baz=80,slow=17,SNR=10							
CTA	Charters Tower	33.76	262	*eP*		P	22 46 32.8	+1.3
	11nm,0.6s							
PMG	Port Moresby	35.00	280	P		P	22 46 43.8	+1.9
	22nm,0.7s,baz=88,slow=6.6,SNR=16							
CMSA	Cobar Meteorol	35.18	241	*eP*		P	22 46 44.3	+1.0
	75nm,0.7s							
COEN	Coen	37.54	271	*eP*		P	22 47 04.6	+1.7
	106nm,0.6s							
STKA	Stephens Creek	38.67	242	*eP*		P	22 47 12.9	+1.1
	5.6nm,0.9s							
STKA	Stephens Creek	38.67	242	P		P	22 47 12.9	+1.1
	6.5nm,0.7s,baz=101,slow=8.8,SNR=12							
WRA	Warramunga Arr	44.93	260	P		P	22 48 01.5	+0.2
	7.9nm,0.6s,baz=94,slow=7.7,SNR=38							
ASAR	Alice Springs	45.02	255	P		P	22 48 02.3	+0.3
	14nm,0.8s,baz=90,slow=7.6,SNR=106							
ASAR				S		S	22 53 55.5	-5.1
	2.2nm,0.8s,baz=91,slow=15,SNR=14							
KNRA	Kununurra	50.85	265	*eP*		P	22 48 45.3	-0.2
	52nm,0.6s							
FITZ	Fitzroy Crossi	53.34	261	P		P	22 49 03.6	+0.2
	3.1nm,0.9s,baz=125,slow=6.0,SNR=6.3							
QSPA	South Pole Qui	71.45	180	P		P	22 50 59.6	0.0
	2.9nm,0.8s,baz=86,slow=3.4,SNR=5.8							
ILAR	Eielson Array	86.47	13	P		P	22 52 18.5	-0.3
	0.3nm,0.6s,baz=217,slow=5.3,SNR=7.2							
CMAR	Chiang Mai Arr	89.52	290	P		P	22 52 33.9	-0.3
	0.5nm,0.3s,baz=117,slow=2.8,SNR=6.7							
MKAR	Makanchi Array	109.93	314	PKiKP		PKiKP	22 58 01.5	-2.2
	0.1nm,0.5s,baz=230,slow=1.2,SNR=5.5							
ARCES	ARCESS Array B	127.08	350	PKP		PKPdf	22 58 35.0	-0.8
	2.9nm,1.0s,baz=22,slow=2.9,SNR=3.6							
BRTR	Keskin Array B	145.58	314	PKPbc		PKPdf	22 59 11.2	+0.4
	0.7nm,0.6s,baz=114,slow=3.6,SNR=3.5							

TAP ***10*** *22:55:21.8, 24.64N×122.75E, h110km, ML3.6, C*

ISCJB ***10*** *22:55:22.5±0.6, 24.58N±0.03×122.78E±0.02, h98km±5km, Error ellipse: s-maj=5.7km s-min=3.1km az=175.9*

JMA ***10*** *22:55:22.1±0.2, 24.74N×122.78E, h101km±2km, M2.3*

ISC 10 22:55:23.5±1.6, 24.55N±0.05×122.77E±0.03, h92km±11km, n43, σ0.91/83, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YOJ	Yonaguni jima	0.24	112	P		Pn	22 55 37.1	+0.2
YOJ				S		Sn	22 55 48.7	+1.8
TWC	Suao	0.84	274	*i* P		Pn	22 55 41.1	-0.5
	baz=264							
TWC				S		Sn	22 55 54.5	-0.8
	baz=264							
TWB1	Santiao Chiao	0.84	303	P		Pn	22 55 41.2	-0.5
	baz=298							
TWB1				*e*S		Sn	22 55 54.7	-0.6
	baz=298							
IRIF	Iriomote-Funau	0.90	104	P		Pn	22 55 42.1	-0.2
IRIF				S		Sn	22 55 57.0	+0.6
ENA	Nanau	0.94	263	P		Pn	22 55 42.6	-0.1
	baz=252							
ENA				*i* S		Sn	22 55 57.7	+0.5
	baz=252							
ILA	Ilan	0.95	283	P		Pn	22 55 42.4	-0.5
	baz=278							
ILA				S		Sn	22 55 58.0	+0.6
	baz=278							
TWE	Neicheng	1.02	280	P		Pn	22 55 43.3	-0.3
	baz=272							
TWE				S		Sn	22 55 58.2	-0.4
	baz=272							
NWF	Wu-fen Shan	1.04	300	*i* P		Pn	22 55 43.5	-0.4
	baz=291							
NWF				*e*S		Sn	22 55 59.5	+0.2
	baz=291							
HATJ	Hateruma jima	1.06	117	P		Pn	22 55 44.6	+0.5
HATJ				*e*S		Sn	22 56 00.8	+1.2
ENTT	Nioudou	1.10	275	P		Pn	22 55 44.5	0.0
	baz=267							
ENTT				S		Sn	22 56 00.9	+0.5
	baz=267							
TWA	Mucha	1.16	292	P		Pn	22 55 44.7	-0.5
	baz=281							
TWA				*e*S		Sn	22 56 00.6	-1.0
	baz=281							
TWD	Chiawan	1.17	247	P		Pn	22 55 44.7	-0.7
	baz=236							
TWD				S		Sn	22 56 01.6	-0.1
	baz=236							
JKRS	Kuro-shima	1.17	105	P		Pn	22 55 45.6	+0.2
JKRS				*e*S		Sn	22 56 02.9	+1.1
HWA	Hwalien	1.21	242	*e*P		Pn	22 55 45.0	-0.8
	baz=237							
HWA				*e*S		Sn	22 56 02.5	-0.1
	baz=237							
JIJ	Ishigaki jima	1.27	98	P		Pn	22 55 45.9	-0.6
JIJ				*e*S		Sn	22 56 03.4	-0.4
NNS	Nan Shan	1.28	265	P		Pn	22 55 46.3	-0.5
	baz=255							
NNS				*e*S		Sn	22 56 03.5	-0.8
	baz=255							
TWY	Chenhua	1.28	304	*e*P		Pn	22 55 46.2	-0.5
	baz=306							
NSK	Sanguang	1.29	276	P		Pn	22 55 46.6	-0.3
	baz=265							
NSK				*e*S		Sn	22 56 03.8	-0.7
	baz=265							
ESL	Shilin	1.42	239	P		Pn	22 55 47.8	-0.7
	baz=234							
ESL				*e*S		Sn	22 56 06.7	-0.6
	baz=234							
WHF	Hehuan Shan	1.43	254	⇓*i* P		Pn	22 55 48.6	-0.4
	baz=249							
WHF				*e*S		Sn	22 56 08.0	-0.2
	baz=249							
TWT	Tachien	1.48	259	P		Pn	22 55 49.7	+0.3
	baz=252							
TWT				*e*S		Sn	22 56 09.2	+0.3
	baz=252							
NSTT	Nanjuang	1.61	273	*e*P		Pn	22 55 51.4	+0.5
	baz=270							
NSTT				*e*S		Sn	22 56 10.9	-0.6
	baz=270							
EHY	Hongye	1.68	232	P		Pn	22 55 50.9	-0.9
	baz=234							
EHY				*e*S		Sn	22 56 11.9	-1.3
	baz=234							
JTJ	Tarama	1.76	87	P		Pn	22 55 52.1	-0.6
JTJ				*e*S		Sn	22 56 14.2	-0.7
TWF1	Yuli	1.80	229	P		Pn	22 55 52.6	-0.7
	baz=233							
TWF1				*e*S		Sn	22 56 15.4	-0.5
	baz=233							
TWQ1	Liyutan	1.83	264	*e*P		Pn	22 55 53.6	0.0
	baz=268							
TWQ1				*e*S		Sn	22 56 16.5	0.0
	baz=268							
SMLT	Sun Moon Lake	1.83	249	P		Pn	22 55 54.6	+0.8
	baz=241							
SMLT				*e*S		Sn	22 56 18.6	+1.9
	baz=241							
NSY	Sanyi	1.83	266	*e*P		Pn	22 55 54.0	+0.3
	baz=263							
NSY				*e*S		Sn	22 56 16.9	+0.2
	baz=263							
TYC	Yuchr	1.86	250	P		Pn	22 55 54.3	+0.3
	baz=243							
TYC				*e*S		Sn	22 56 18.6	+1.4
	baz=243							
CHKT	Chengkung	1.93	222	P		Pn	22 55 53.9	-1.1
	baz=213							
CHKT				*e*S		Sn	22 56 17.9	-1.0
	baz=213							
ALS	Alishan	2.07	240	P		Pn	22 55 57.7	+0.6
	baz=236							
ALS				*e*S		Sn	22 56 24.0	+1.3
	baz=236							
ELDTW	Lidau	2.10	230	*e*P		Pn	22 55 57.2	-0.1
	baz=227							
ELDTW				*e*S		Sn	22 56 22.2	-0.8
	baz=227							
CHN5	Tsauling	2.13	244	P		Pn	22 55 58.2	+0.5
	baz=240							
CHN5				*e*S		Sn	22 56 25.8	+2.0
	baz=240							
STYT	Tauyuan	2.30	234	*e*P		Pn	22 56 00.3	+0.4
	baz=228							
STYT				*e*S		Sn	22 56 28.8	+1.1
	baz=228							
TWG	Pinlang	2.32	222	P		Pn	22 55 59.1	-1.0
	baz=218							
TWG				*e*S		Sn	22 56 27.3	-0.7
	baz=218							
WTP	Ta-pu	2.36	237	*e*P		Pn	22 56 01.5	+0.9
	baz=233							
WTP				*e*S		Sn	22 56 30.9	+1.8
	baz=233							
TWK	Hsinying	2.45	239	*e*P		Pn	22 56 02.8	+1.0
	baz=235							
TWK				*e*S		Sn	22 56 33.0	+1.8
	baz=235							
CHN1	Nanshi	2.46	237	*e*P		Pn	22 56 03.2	+1.2
	baz=233							
CHN1				*e*S		Sn	22 56 33.2	+1.8
	baz=233							
SGST	Jiashian	2.48	234	*e*P		Pn	22 56 03.2	+1.0
	baz=239							
SGST				*e*S		Sn	22 56 33.2	+1.4
	baz=239							
ECL	Taimali	2.56	221	*e*P		Pn	22 56 01.7	-1.5
	baz=218							
SSD	Sandimen	2.66	228	*e*P		Pn	22 56 05.3	+0.7
	baz=223							
SSD				*e*S		Sn	22 56 37.0	+0.9
	baz=223							
LAY	Lan-yu	2.74	204	P		Pn	22 56 04.6	-1.1
	baz=195							
LAY				*e*S		Sn	22 56 35.7	-2.3
	baz=195							
EAST	Anshuo	2.79	220	*e*P		Pn	22 56 05.7	-0.6
	baz=217							

PRE 10 22:55:27.8±1.1, 26.36S×27.37E, h2km, ML1.6, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PRYS	Parys	0.57	181	*e*P		Pg	22 55 39.3	+0.3
PRYS				*e*S		Sg	22 55 46.8	+0.3
PRYS				AML		AML	22 55 53.0	
	comp=Z,14nm,0.6s							
ERPM	east rand prop	0.78	89	*e*P		Pg	22 55 43.1	0.0
ERPM				*e*S		Sg	22 55 53.4	0.0
ERPM				AML		AML	22 55 54.5	
	comp=Z,5.8nm,0.2s							
SLR	Silverton	1.03	53	*e*P		Pg	22 55 47.8	+0.1
SLR				*e*S		Sb	22 56 02.0	-0.6
SLR				AML		AML	22 56 08.7	
	comp=Z,15nm,0.2s							
SEK	Senekal	1.97	173	*e*P		Pn	22 56 02.9	+0.4
SEK				*e*S		Sb	22 56 29.3	-0.6
SEK				AML		AML	22 56 32.8	
	comp=Z,5.5nm,0.3s							
SWZ	Schweizer	2.00	245	*e*P		Pn	22 56 03.4	+0.5
SWZ				*e*S		Sn	22 56 29.6	+1.0
SWZ				AML		AML	22 56 36.9	
	comp=Z,6.9nm,0.3s							
LBTB	Lobatse	2.08	309	*e*P		Pb	22 56 05.5	-1.0
LBTB				*e*S		Sn	22 56 30.9	+0.3
LBTB				AML		AML	22 56 39.8	
	comp=Z,6.9nm,0.3s							
BOSA	Boshof	2.93	219	*e*P		Pn	22 56 16.2	+0.6
BOSA				*e*S		Sn	22 56 50.8	-0.7
BOSA				AML		AML	22 57 06.3	
	comp=Z,1.1nm,0.7s							

KRSC 10 22:55:47.1±0.7, 55.64N×164.04E, h12km±11km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KBTR	Krutoberegovo	0.89	310	*i* P		Pg	22 56 03.1	-1.2
KBTR				*e*S		Sg	22 56 14.9	-1.1
BKI	Bering	1.19	111	*e*P		Pn	22 56 07.1	-2.3
BKI				*e*S		Sb	22 56 21.6	-3.1
MKZ	Mys Kozlova	1.71	232	*e*P		Pn	22 56 16.5	-0.2
MKZ				S		Sn	22 56 37.6	-0.9
SMKR	Semkarok	1.72	304	P		Pn	22 56 15.9	-1.1
SMKR				S		Sn	22 56 37.3	-1.7
BDR	Baidarnaya	1.84	302	P		Pb	22 56 19.9	-0.9
BDR				S		Sb	22 56 43.8	0.0
ZLN	Zelenaya	1.86	283	P		Pn	22 56 19.2	+0.2
ZLN				S		Sn	22 56 42.7	+0.2
SRKR	Sorokina	1.90	303	P		Pn	22 56 20.0	+0.6
SRKR				S		Sn	22 56 43.6	+0.2
KLY	Klyuchi	2.02	291	P		Pn	22 56 20.2	-0.7
KLY				S		Sn	22 56 44.9	-1.2
BZMR	Bezymyannaya	2.03	280	S		Sb	22 56 48.1	-1.3
KRSR	Krestovskiy	2.04	288	P		Pn	22 56 21.5	+0.1
KRSR				S		Sn	22 56 46.9	+0.1
KMNR	Kamenistaya	2.16	275	*e*P		Pn	22 56 24.4	+1.4
KPT	Kopyto	2.18	280	P		Pn	22 56 24.1	+0.8
SRDR	Sredinnyy	2.52	287	P		Pn	22 56 29.4	+1.4
SRDR				S		Sn	22 57 00.4	+1.7
SPN	Mys Shipunski	3.46	224	S		Sn	22 57 19.2	-2.5
NLC	Nalytchevo	3.69	230	S		Sn	22 57 25.4	-1.9
SDLR	Sedlovina	3.83	234	*e*P		Pn	22 56 47.5	+1.5
UGLR	Uglovaya	3.90	234	*e*P		Pn	22 56 48.6	+1.7
AVH	Avacha	3.90	235	*e*P		Pn	22 56 48.8	+1.9
KYK	Koryaka	3.93	235	*e*P		Pn	22 56 49.0	+1.6
RUS	Russkaya	4.58	228	P		Pn	22 56 57.7	+1.7
MTVR	Mutnovka	4.68	230	P		Pn	22 56 59.0	+1.3
ASAK	Asacha	4.87	231	*e*P		Pn	22 57 02.7	+2.4

ISCJB ***10*** *23:30:31.6±0.5, 24.62N±0.03×121.98E±0.02, h59km±5km, Error ellipse: s-maj=4.7km s-min=3.1km az=155.3*

TAP ***10*** *23:30:31.6, 24.62N×121.94E, h60km, ML3.4, D*

JMA ***10*** *23:30:31.8±0.2, 24.51N×122.02E, h68km, M2.2*

ISC 10 23:30:32.0±1.3, 24.62N±0.03×121.98E±0.03, h58km±7km, n37, σ0.49/74, 1C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWC	Suao	0.12	264	⇓*i* P		Pn	23 30 40.7	-0.1
	baz=263							
TWC				*i* S		Sn	23 30 47.4	+0.3
	baz=263							
ILA	Ilan	0.25	305	*e*P		Pn	23 30 41.8	+0.3
	baz=311							
ILA				*e*S		Sn	23 30 48.7	+0.4
	baz=311							
ENA	Nanau	0.29	228	⇓*i* P		Pn	23 30 41.5	-0.2
	baz=222							
ENA				S		Sn	23 30 48.9	+0.1
	baz=222							
TWE	Neicheng	0.30	289	⇓*i* P		Pn	23 30 41.9	0.0
	baz=293							
TWE				*i* S		Sn	23 30 49.3	+0.3
	baz=293							
ENTT

	baz=335							
TWY				*e*S		**Sn**	**23 30 57.6**	**+0.4**
	baz=335							
NCU	**National Centr**	**0.80**	**296**	*e*P		**Pn**	**23 30 47.0**	**-0.3**
	baz=297							
NCU				*e*S		**Sn**	**23 30 58.9**	**+0.3**
	baz=297							
WHF	**Hehuan Shan**	**0.80**	**234**	P		**Pn**	**23 30 47.4**	**-0.5**
	baz=232							
WHF				*e*S		**Sn**	**23 30 58.8**	**-0.6**
	baz=232							
TWT	**Tachien**	**0.82**	**244**	*e*P		**Pn**	**23 30 48.0**	**+0.2**
	baz=242							
TWT				S		**Sn**	**23 30 59.5**	**+0.2**
	baz=242							
NSTT	**Nanjuang**	**0.89**	**271**	*e*P		**Pn**	**23 30 48.5**	**0.0**
	baz=270							
NSTT				*e*S		**Sn**	**23 31 00.2**	**-0.5**
	baz=270							
HSN	**Hsinchu**	**0.93**	**281**	*e*P		**Pn**	**23 30 48.5**	**-0.5**
	baz=284							
HSN				*e*S		**Sn**	**23 31 00.5**	**-1.2**
	baz=284							
ESL	**Shilin**	**0.94**	**212**	*e*P		**Pn**	**23 30 49.1**	**-0.1**
	baz=209							
ESL				*e*S		**Sn**	**23 31 02.1**	**+0.1**
	baz=209							
YOJ	**Yonaguni jima**	**0.95**	**99**	P		**Pn**	**23 30 49.2**	**-0.1**
YOJ				*e*S		**Sn**	**23 31 01.9**	**-0.3**
NSY	**Sanyi**	**1.13**	**260**	*e*P		**Pn**	**23 30 52.9**	**+1.3**
	baz=259							
NSY				*e*S		**Sn**	**23 31 07.2**	**+0.9**
	baz=259							
TWQ1	**Liyutan**	**1.13**	**256**	*e*P		**Pn**	**23 30 51.4**	**-0.3**
	baz=255							
TWQ1				*e*S		**Sn**	**23 31 06.2**	**-0.2**
	baz=255							
SMLT	**Sun Moon Lake**	**1.23**	**233**	*e*P		**Pn**	**23 30 53.2**	**+0.1**
	baz=232							
SMLT				*e*S		**Sn**	**23 31 08.2**	**-0.6**
	baz=232							
TYC	**Yuchr**	**1.25**	**235**	*e*P		**Pn**	**23 30 53.7**	**+0.5**
	baz=234							
TYC				*e*S		**Sn**	**23 31 09.3**	**+0.3**
	baz=234							
EHY	**Hungye**	**1.26**	**208**	*e*P		**Pn**	**23 30 53.7**	**+0.3**
	baz=206							
EHY				*e*S		**Sn**	**23 31 09.7**	**+0.2**
	baz=206							
TWF1	**Yuli**	**1.41**	**206**	*e*P		**Pn**	**23 30 54.9**	**-0.6**
	baz=204							
TWF1				*e*S		**Sn**	**23 31 13.4**	**+0.4**
	baz=204							
ALS	**Alishan**	**1.54**	**224**	*e*P		**Pn**	**23 30 58.4**	**+0.9**
	baz=223							
ALS				*e*S		**Sn**	**23 31 15.9**	**-0.6**
	baz=223							
CHN5	**Tsauling**	**1.56**	**230**	*e*P		**Pn**	**23 30 58.0**	**+0.4**
	baz=228							
CHN5				*e*S		**Sn**	**23 31 16.8**	**-0.1**
	baz=228							
IRIF	**Iriomote-Funau**	**1.62**	**100**	P		**Pn**	**23 30 57.9**	**-0.4**
IRIF				*e*S		**Sn**	**23 31 17.4**	**-0.7**
STYT	**Tauyuan**	**1.83**	**218**	*e*P		**Pn**	**23 31 01.6**	**+0.3**
	baz=216							
STYT				*e*S		**Sn**	**23 31 22.3**	**-1.1**
	baz=216							
JKRS	**Kuro-shima**	**1.89**	**101**	P		**Pn**	**23 31 01.9**	**0.0**
JKRS				*e*S		**Sn**	**23 31 24.7**	**0.0**
TWK	**Hsinying**	**1.92**	**226**	*e*P		**Pn**	**23 31 03.0**	**+0.6**
	baz=224							
TWK				*e*S		**Sn**	**23 31 25.5**	**0.0**
	baz=224							
CHN1	**Nanshi**	**1.95**	**223**	*e*P		**Pn**	**23 31 03.5**	**+0.7**
	baz=222							
CHN1				*e*S		**Sn**	**23 31 25.6**	**-0.6**
	baz=222							
JIJ	**Ishigaki jima**	**1.99**	**97**	P		**Pn**	**23 31 02.9**	**-0.4**
JIJ				*e*S		**Sn**	**23 31 26.4**	**-0.7**
SGST	**Jiashian**	**1.99**	**220**	*e*P		**Pn**	**23 31 03.9**	**+0.5**
	baz=218							
SGST				*e*S		**Sn**	**23 31 26.8**	**-0.5**
	baz=218							
JTJ	**Tarama**	**2.48**	**89**	P		**Pn**	**23 31 10.7**	**+0.7**
JTJ				*e*S		**Sn**	**23 31 40.0**	**+0.9**

WEL 10 23:35:13.4±0.2, 37°11S×177°33E, h141km±2km, ML3.8/10, 5C-2D, Error ellipse: s-maj=2.4km s-min=2.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.90**	**121**	⇓PN	Pn	23 35 36.4	0.0
MXZ				SN	Sn	23 35 54.5	+0.4
MARZ	**Manawahe**	**1.02**	**210**	PN	Pn	23 35 37.8	+0.3
URZ	**Urewera**	**1.17**	**189**	⇑PN	Pn	23 35 38.9	0.0
URZ				SN	Sn	23 35 58.4	+0.2
PUZ	**Puketiti**	**1.21**	**143**	⇑PN	Pn	23 35 39.2	-0.2
PUZ				*e*SN	Sn	23 35 58.1	-1.0
MWZ	**Matawai**	**1.24**	**173**	⇑PN	Pn	23 35 39.4	-0.2
MWZ				SN	Sn	23 35 59.7	0.0
CNGZ	**Carnagh Statio**	**1.54**	**154**	PN	Pn	23 35 43.0	+0.3
RAHZ	**Arahi**	**1.82**	**186**	PN	Pn	23 35 45.9	0.0
PRGZ	**Paritu Road**	**1.87**	**167**	PN	Pn	23 35 46.3	-0.2
KNZ	**Kokohu**	**1.93**	**172**	PN	Pn	23 35 46.8	-0.3
NMHZ	**Naumai**	**2.03**	**192**	PN	Pn	23 35 48.7	+0.3
MHGZ	**Mahia Peninsul**	**2.10**	**168**	PN	Pn	23 35 49.1	-0.1
BKZ	**Black Stump Fm**	**2.16**	**198**	PN	Pn	23 35 50.0	-0.1
BKZ				SN	Sn	23 36 17.7	-0.5
MCHZ	**McNeill Hill**	**2.39**	**192**	PN	Pn	23 35 52.9	+0.2
TUVZ	**Tukino**	**2.53**	**211**	*e*PN	Pn	23 35 55.4	+0.8
CKHZ	**Cape Kidnapper**	**2.56**	**184**	PN	Pn	23 35 54.0	-0.8
BHHZ	**Black Hill Sta**	**2.58**	**202**	PN	Pn	23 35 54.9	-0.3
MOVZ	**Moawhango**	**2.61**	**208**	⇑PN	Pn	23 35 55.2	-0.4
MTVZ	**Mangateitei**	**2.71**	**212**	PN	Pn	23 35 57.2	+0.5
KAHZ	**Kahuranaki**	**2.71**	**187**	PN	Pn	23 35 55.8	-1.0
PNHZ	**Pukenui**	**2.94**	**197**	PN	Pn	23 35 58.0	-1.7
PXZ	**Pawanui**	**2.95**	**187**	⇓PN	Pn	23 35 58.2	-1.4
WPHZ	**Waipukurau**	**3.04**	**193**	PN	Pn	23 35 59.5	-1.4
TSZ	**Takapari Road**	**3.14**	**200**	PN	Pn	23 36 00.8	-1.5
PRHZ	**Porangahau**	**3.20**	**190**	PN	Pn	23 36 01.3	-1.7
WAZ	**Wanganui**	**3.22**	**214**	PN	Pn	23 36 03.5	+0.2
DVHZ	**Dannevirke**	**3.32**	**196**	PN	Pn	23 36 02.9	-1.7
BFZ	**Birch Farm**	**3.67**	**193**	PN	Pn	23 36 06.9	-2.2
MRZ	**Mangatainoka R**	**3.81**	**201**	⇑PN	Pn	23 36 08.4	-2.5
TIWZ	**Tintock**	**3.84**	**197**	PN	Pn	23 36 09.0	-2.3
HOWZ	**Holdsworth Sta**	**4.04**	**200**	PN	Pn	23 36 11.1	-2.9
OGWZ	**Otaki Gorge**	**4.07**	**204**	PN	Pn	23 36 11.9	-2.5
TMWZ	**Te Maipa**	**4.15**	**195**	PN	Pn	23 36 12.6	-2.8
KIW	**Kapiti Island**	**4.20**	**206**	PN	Pn	23 36 13.3	-2.7
MTW	**Mount Morrison**	**4.29**	**199**	PN	Pn	23 36 14.1	-3.1
CAW	**Cannon Point**	**4.37**	**203**	PN	Pn	23 36 15.1	-3.1
TRWZ	**Traveller**	**4.47**	**196**	PN	Pn	23 36 16.5	-3.2
PAWZ	**Paruwai Farm**	**4.52**	**199**	PN	Pn	23 36 16.8	-3.4
TCW	**Tory Channel**	**4.74**	**209**	PN	Pn	23 36 20.0	-3.1
PLWZ	**Palliser**	**4.74**	**199**	PN	Pn	23 36 19.4	-3.8
KHZ	**Kahutara**	**6.06**	**208**	PN	Pn	23 36 36.9	-3.8

*ISCJB **10** 23:42:43.6±0.5, 22°.77S±0°.07×68°.00W±0°.07, h124km±5km, mb3.8/7, Error ellipse: s-maj=13.3km s-min=8.0km az=43.9*
*IDC **10** 23:42:43.5±2.8, 22°.78S×67°.91W, h103km±25km, mb3.7/8, mb1 3.8/10, mb1mx3.7/17, mbtmp3.7/10, MS3.1/1, Ms1 3.1/1, ms1mx2.4/23, Error ellipse: s-maj=22.4km s-min=19.4km az=103.0*
*GUC **10** 23:42:45.3±0.8, 22°.83S×68°.23W, h119km±5km, ML3.8*
ISC 10 23:42:44.4±0.7, 22.79S±0°.08×68.02W±0°.07, h118km±6km, n22, σ1§07/26, mb3.9/7, 4C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**0.20**	**234**	⇓*i*P	**Pn**	**23 43 02.4**	**+1.2**
SPCH				*i* S	**Sn**	**23 43 15.2**	**+1.4**
SPCH				AML	AML	23 43 15.8	
	comp=E,7μm,0.5s						
LVC	**Limon Verde**	**0.84**	**282**	⇑*i*P	**Pn**	**23 43 05.4**	**+0.4**
LVC				*i* S	**Sn**	**23 43 20.4**	**-0.1**
LVC				AML	AML	23 43 23.0	
	comp=N,905nm,0.5s						
PB04	**Plate Boundary**	**1.45**	**291**	⇑*i*P	Pn	23 43 17.4	+6.3
PB04				*i* S	Sn	23 43 42.6	+11
PB04				AML	AML	23 43 48.8	
	comp=N,1μm,0.2s						
PB09	**Plate Boundary**	**1.50**	**311**	⇑*i*P	**Pn**	**23 43 12.8**	**+0.9**
PB09				AML	AML	23 43 40.2	
	comp=N,3μm,0.5s						
MACH	**Maria Elena**	**1.71**	**290**	⇓*i*P	**Pn**	**23 43 14.4**	**-0.1**
MACH				*i* S	**Sn**	**23 43 36.3**	**-1.0**
PB07	**Plate Boundary**	**2.02**	**301**	⇑*i*P	**Pn**	**23 43 18.3**	**0.0**
PB07				*i* S	**Sn**	**23 43 42.9**	**-1.2**
PB07				AML	AML	23 43 45.0	
	comp=E,1μm,0.3s						
PB01	**Plate Boundary**	**2.21**	**322**	⇓*i*P	**Pn**	**23 43 21.1**	**+0.6**
PB01				*i* S	**Sn**	**23 43 48.5**	**+0.5**
PB01				AML	AML	23 43 50.7	
	comp=E,532nm,0.3s						
MECH	**Mejillones**	**2.26**	**261**	⇓*i*P	**Pn**	**23 43 20.3**	**-0.7**
MECH				AML	AML	23 43 57.7	
	comp=N,1μm,0.4s						
HMBC	**Humberstone**	**3.04**	**325**	⇓*i*P	**Pn**	**23 43 30.7**	**-0.6**
HMBC				*i* S	**Sn**	**23 44 07.2**	**-0.3**
CFAA	**Coronel Fontan**	**8.79**	**181**	P	**Pn**	**23 44 46.3**	**-2.2**
	comp=N,0.2nm,0.3s,baz=353,slow=12,SNR=6.1						
CFAA				S	Sn	23 46 13.8	-12
	comp=N,0.1nm,0.3s,baz=0.0,slow=20,SNR=2.4						
SIV	**San Ignacio**	**9.41**	**45**	P	**Pn**	**23 44 55.4**	**-1.7**
	comp=N,7.0nm,0.3s,baz=240,slow=12,SNR=101						
CPUP	**Villa Florida**	**10.35**	**112**	P	**Pn**	**23 45 09.3**	**-0.3**
	comp=N,0.2nm,0.3s,baz=269,slow=16,SNR=2.8						
BDFB	**Brasilia**	**20.17**	**73**	P	**P**	**23 47 08.6**	**-1.2**
	comp=N,2.1nm,0.4s,baz=233,slow=9.4,SNR=6.4						
ROSC	**El Rosal**	**28.16**	**347**	LR	LR	23 59 57.0	
	comp=N,34nm,18.5s,baz=185,slow=37						
QSPA	**South Pole Qui**	**67.41**	**180**	P	**P**	**23 53 28.0**	**+1.0**
	comp=N,1.7nm,0.5s,baz=148,slow=0.9,SNR=16						
DBIC	**Dimbokro**	**68.32**	**73**	P	**P**	**23 53 33.6**	**+0.2**
	comp=N,2.7nm,0.6s,baz=238,slow=9.4,SNR=10						
PDAR	**Pinedale Array**	**75.63**	**330**	P	**P**	**23 54 17.9**	**+1.2**
	comp=N,0.3nm,0.6s,baz=141,slow=5.8,SNR=2.9						
ULM	**Lac du Bonnet**	**76.79**	**342**	P	**P**	**23 54 22.7**	**0.0**
	comp=N,1.3nm,0.6s,baz=178,slow=8.7,SNR=3.4						
NVAR	**Mina Array Bea**	**77.01**	**322**	P	**P**	**23 54 26.6**	**+2.0**
	comp=N,0.3nm,0.6s,baz=173,slow=8.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**77.02**	**70**	P	**P**	**23 54 24.9**	**0.0**
	comp=N,2.3nm,0.5s,baz=254,slow=6.1,SNR=71						
YKA	**Yellowknife Ar**	**92.67**	**340**	P	**P**	**23 55 42.9**	**+0.5**
	comp=N,0.3nm,0.5s,baz=140,slow=4.6,SNR=11						
MKAR	**Makanchi Array**	**146.17**	**38**	PKPbc	**PKPbc**	**00 02 10.5**	**-0.4**
	comp=N,0.4nm,0.9s,baz=333,slow=1.6,SNR=2.8						

*ISCJB **10** 23:46:08.2±0.5, 39°.94N±0°.07×112°.96E±0°.06, h10km, mb3.6/9, Error ellipse: s-maj=10.0km s-min=6.4km az=1.5*
*IDC **10** 23:46:08.1±0.9, 40°.02N×113°.17E, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.8/25, mbtmp3.7/9, ML3.6/2, Error ellipse: s-maj=23.5km s-min=18.5km az=53.0*
*NEIC **10** 23:46:09.8±0.4, 40°.03N×113°.08E, h10km, mb3.9/3, Error ellipse: s-maj=10.8km s-min=7.4km az=194.0*
*MOS **10** 23:46:10.4±1.4, 40°.07N×113°.09E, h28km, mb4.1/4, Error ellipse: s-maj=18.4km s-min=12.4km az=126.2*
ISC 10 23:46:10.6±0.8, 40°.0N±0°.1×113°.01E±0°.05, h10km, n33, σ0§92/24, mb3.8/9, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	**Baotou**	**2.38**	**287**	*e*Pg	**Pn**	**23 46 50.0**	**+0.3**
BTO				Sg	**Sn**	**23 47 20.8**	**+1.8**
BTO				LR	LR		
	comp=N,89nm,0.7s						
BTO				smax	smax		
	comp=E,31nm,0.7s						
BJT	**Baijiatuau**	**2.43**	**87**	*e*Pn	Pn	23 46 49.2	-1.1
BJT				*e*S	**Sn**	**23 47 21.5**	**+1.4**
BJI	**Beijing**	**2.43**	**87**	Pn	Pn	23 46 49.4	-1.0
BJI				Pg	Pb	23 46 52.2	-2.2
BJI				Sg	**Sb**	**23 47 25.7**	**+1.2**
BJI				smax	smax		
	comp=N,360nm,0.8s						
BJI				smax	smax		
	comp=E,120nm,0.6s						
XAN	**Xi'an**	**6.75**	**210**	Pg	**Pg**	**23 48 20.4**	**+0.7**
XAN				Sg	Sb	23 49 39.2	+11
XAN				smax	smax		
	comp=N,37nm,0.9s						
XAN				smax	smax		
	comp=E,12nm,1.0s						
LZH	**Lanzhou**	**8.20**	**245**	Pg	Pb	23 48 38.9	+6.2
LZH				Sn	Sb	23 50 07.9	-2.8
LZH				Sg	Sg	23 50 18.0	-16
LZH				smax	smax		
	comp=N,84nm,1.0s						
LZH				smax	smax		
	comp=E,72nm,1.1s						
LZH				LR	LR		
	comp=N,160nm,7.2s						
LZH				LR	LR		
	comp=E,170nm,4.4s						
LZH				LR	LR		
	comp=Z,850nm,7.4s						
SONM	**Songino Array**	**9.21**	**331**	Pn	Pn	23 48 21.4	-2.2
SONM				Lg	Lg	23 51 01.8	
SONM	**Songino Array**	**9.21**	**331**	Pn	Pn	23 48 21.4	-2.2
	comp=Z,0.5nm,0.3s,baz=151,slow=13,SNR=16						
SONM				Lg	Lg	23 51 01.8	
	comp=Z,0.4nm,0.3s,baz=141,slow=28,SNR=7.4						
GTA	**Gaotai**	**10.19**	**271**	*e*P	**Pn**	**23 48 36.6**	**-0.4**
GTA				pP		23 48 40.8	
GTA				S	Sn	23 50 26.5	-4.8
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ZAK	**Zakamensk**	**12.47**	**330**	*e*P	Pn	23 49 06.4	-1.8
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
MJAR	**Matsushiro Arr**	**20.06**	**92**	P	**P**	**23 50 42.2**	**-1.8**
MJAR	**Matsushiro Arr**	**20.06**	**92**	P	**P**	**23 50 42.2**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=293,slow=11,SNR=3.1						
LSA	**Lhasa**	**20.61**	**247**	*e*P	**P**	**23 50 49.8**	**-0.6**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
LSA	**Lhasa**	**20.61**	**247**	*e*P	**P**	**23 50 49.8**	**-0.6**
	comp=Z,5.0nm,0.8s						
MKAR	**Makanchi Array**	**23.25**	**297**	P	**P**	**23 51 17.4**	**-0.6**
MKAR	**Makanchi Array**	**23.25**	**297**	P	**P**	**23 51 17.4**	**-0.6**
MKAR	**Makanchi Array**	**23.25**	**297**	P	**P**	**23 51 17.4**	**-0.6**
	comp=Z,0.9nm,0.9s,baz=94,slow=9.0,SNR=6.9						
ZALV	**Zalesovo Beam**	**23.60**	**316**	P	**P**	**23 51 20.9**	**-0.5**
ZALV	**Zalesovo Beam**	**23.60**	**316**	P	**P**	**23 51 20.9**	**-0.5**
ZALV	**Zalesovo Beam**	**23.60**	**316**	P	**P**	**23 51 20.9**	**-0.5**
	comp=Z,1.8nm,1.0s,baz=120,slow=8.8,SNR=7.1						
CMAR	**Chiang Mai Arr**	**24.62**	**214**	P	**P**	**23 51 31.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**24.62**	**214**	P	**P**	**23 51 31.3**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=16,slow=9.0,SNR=7.4						
NVS	**Novosibirsk**	**24.81**	**317**	*e*P	**P**	**23 51 33.3**	**+0.7**
KURK	**Kurchatov**	**26.23**	**306**	*e*P	**P**	**23 51 45.2**	**-0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**26.23**	**306**	*e*P	**P**	**23 51 45.2**	**-0.3**
	comp=Z,1.7nm,0.8s						
KURBB	**Kurchatov Arra**	**26.27**	**305**	P	**P**	**23 51 46.0**	**+0.1**
	comp=Z,1.3nm,0.9s,baz=99,slow=11,SNR=10						
KKAR	**Karatay Array**	**31.72**	**290**	*e*P	**P**	**23 52 34.7**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KKAR	**Karatay Array**	**31.72**	**290**	*e*P	**P**	**23 52 34.7**	**+0.2**
	comp=Z,1.4nm,0.9s						
ILAR	**Eielson Array**	**58.66**	**30**	P	P	23 56 06.2	-1.5
ILAR	**Eielson Array**	**58.66**	**30**	P	P	23 56 06.2	-1.5
	comp=Z,0.9nm,0.9s,baz=272,slow=6.8,SNR=8.9						
ASAR	**Alice Springs**	**66.22**	**159**	P	P	23 56 58.1	-0.5
ASAR	**Alice Springs**	**66.22**	**159**	P	P	23 56 58.1	-0.5
	comp=Z,0.9nm,0.9s,baz=347,slow=5.3,SNR=4.8						
YKA	**Yellowknife Ar**	**70.98**	**21**	P	P	23 57 26.1	-1.8
YKA	**Yellowknife Ar**	**70.98**	**21**	P	P	23 57 26.1	-1.8
	comp=Z,1.8nm,0.8s,baz=323,slow=5.8,SNR=40						

MAN 11 00:10:46, 14°.05N×121°.05E, h29km, mb4.0, ML2.8, MS2.4, 3C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.12**	**297**	⇑*i*P	Pn	00 10 53.7	+1.6
LQP	**Lukban**	**0.48**	**82**	⇑*e*P	Pn	00 10 58.5	+1.3
GQP	**Guinayangan**	**1.36**	**96**	⇑*i*P	Pb	00 11 16.1	+5.2
GQP				*i* S	Sb	00 11 35.3	+7.4

PRU 11 01:02:25.8, 50°.28N×18°.97E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.54**	**96**	*e*Pg	Pg	01 02 36.0	-0.1
OJC				*e*Sg	Sg	01 02 44.0	+0.9
OKC	**Ostrava-Krasne**	**0.69**	**230**	*e*PG	Pg	01 02 39.4	+0.3
OKC				*e*SG	Sg	01 02 47.9	-0.1
DPC	**Dobruska-Polom**	**1.70**	**273**	*e*PG	Pn	01 02 57.0	+0.2
DPC				*e*SG	Sg	01 03 20.6	0.0

NNC 11 01:02:34.5±5.1, 41°.64N×82°.67E, h0km, mb3.5, mpv3.0, 3C-3D, Error ellipse: s-maj=43.0km s-min=19.9km az=154.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.17**	**357**	⇓Pn	Pn	01 03 53.4	+0.3
	1.4nm,0.6s,baz=173,slow=15,SNR=4.2						
MK31				⇑Lg	Lg	01 05 19.7	
	16nm,0.7s,baz=167,slow=28,SNR=6.8						
TKM2	**Tokmak 2**	**5.41**	**286**	⇓Sn	Sn	01 05 00.5	+0.9
TKM2	2.6nm,0.6s						
	9.2nm,0.8s			⇓Lg	Lg	01 05 26.9	
KSH	**Kashi**	**5.52**	**250**	Pn	Pn	01 03 51.4	-6.7
KSH				Sn	Sn	01 04 59.8	-2.6
KSH				smax	smax		
	comp=N,18nm,1.1s						
KSH				smax	smax		
	comp=E,13nm,0.7s						
KURK	**Kurchatov**	**9.51**	**344**	⇑Sn	Sn	01 06 39.7	-0.4
	comp=E,4.0nm,1.3s						
KURK				⇑Lg	Lg	01 07 37.0	
	comp=E,6.6nm,1.1s						

*BEO **11** 01:02:51.8±0.8, 43°.31N×16°.83E, h0km, ML2.6/1*
*VIE **11** 01:02:54.4±0.9, 43°.42N×17°.61E, h10km, mb2.7/2, ML2.2/3, Error ellipse: s-maj=12.2km s-min=6.5km az=60.0 80 km SW of Sarajevo*
*PDG **11** 01:02:55.6±0.2, 43°.46N×17°.22E, h8km, ML2.5/9, Error ellipse: s-maj=0.4km s-min=0.7km az=0.0*
*CSEM **11** 01:02:55.3±0.2, 43°.36N×17°.07E, h2km, ML2.5/9, Error ellipse: s-maj=7.7km s-min=2.8km az=43.0*
ISC 11 01:02:55.0±1.2, 43°.46N±0°.03×17°.24E±0°.03, h2km±10km, n54, σ1§70/93, 16C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.68**	**150**	*e*Pg	**Pg**	**01 03 07.0**	**-1.0**
STON				Sg	**Sb**	**01 03 18.1**	**-1.3**
STON	**Ston**	**0.68**	**150**	*e*Pg	**Pg**	**01 03 06.9**	**-1.0**
STON				Sg	**Sb**	**01 03 18.0**	**-1.3**
BRY	**Bratogost**	**1.10**	**120**	⇑*i*Pg	**Pb**	**01 03 15.2**	**-1.7**
BRY				*e*Sg	**Sn**	**01 03 33.2**	**-0.3**
UPM	**Unac-Piva**	**1.24**	**101**	⇑*i*Pg	**Pb**	**01 03 18.7**	**-0.6**
UPM				*e*Sg	**Sn**	**01 03 39.2**	**+2.2**
BLY	**Banja Luka**	**1.29**	**358**	*e*Pg	**Pn**	**01 03 19.3**	**-0.8**
BLY				*e*Sg	**Sg**	**01 03 39.3**	**+2.9**
BLY	**Banja Luka**	**1.29**	**358**	*e*Pg	**Pn**	**01 03 19.3**	**-0.8**
BLY				*e*Sg	**Sg**	**01 03 39.3**	**+2.9**
HCY	**Herceg Novi**	**1.37**	**137**	⇑*i*Pg	**Pg**	**01 03 21.0**	**-0.2**
HCY				*e*Sg	**Sg**	**01 03 42.7**	**+3.8**
HCY	**Herceg Novi**	**1.37**	**137**	⇑*i*Pg	**Pg**	**01 03 21.0**	**-0.2**
HCY				*e*Sg	**Sg**	**01 03 42.7**	**+3.8**
NKY	**Niksic**	**1.44**	**116**	⇑*i*Pg	**Pg**	**01 03 22.3**	**-0.2**
NKY				*e*Sg	**Sg**	**01 03 45.4**	**+4.2**
PLE	**Pljevlja**	**1.57**	**94**	*e*Pn	**Pg**	**01 03 25.0**	**-0.1**
PLE				*e*Sn	**Sg**	**01 03 48.8**	**+3.3**
PLE	**Pljevlja**	**1.57**	**94**	*e*Pn	**Pg**	**01 03 25.0**	**-0.1**
PLE				*e*Sn	**Sg**	**01 03 48.8**	**+3.3**
BUM	**Brajici-Budva**	**1.68**	**133**	⇑*i*Pn	**Pg**	**01 03 26.6**	**-0.6**
BUM				*e*Sn	**Sg**	**01 03 50.7**	**+1.8**
BUM	**Brajici-Budva**	**1.68**	**133**	⇑*i*Pn	**Pg**	**01 03 26.6**	**-0.6**
BUM				*e*Sn	**Sg**	**01 03 50.7**	**+1.8**
PDG	**Podgorica**	**1.80**	**124**	*e*Pn	**Pb**	**01 03 28.2**	**-0.5**
PDG				*e*Sg	**Sg**	**01 03 53.9**	**+1.0**
TTG	**Podgorica**	**1.81**	**124**	*e*Pn	**Pb**	**01 03 28.2**	**-0.6**
TTG				*e*Sn	**Sg**	**01 03 53.9**	**+0.9**
BEY	**Berane**	**2.03**	**106**	⇑*i*Pn	**Pb**	**01 03 31.9**	**-0.7**
BEY				*e*Sn	**Sg**	**01 04 00.1**	**0.0**
IVA	**Berane**	**2.03**	**106**	⇑*i*Pn	**Pb**	**01 03 31.9**	**-0.8**
IVA				*e*Sn	**Sg**	**01 04 00.1**	**-0.1**
DIVS	**Divibare**	**2.09**	**71**	*e*Pn	**Pn**	**01 03 31.3**	**+0.1**
DIVS				*e*Sn	**Sg**	**01 04 03.3**	**+1.1**
ULC	**Ulcinj**	**2.10**	**135**	⇓*i*Pn	**Pb**	**01 03 32.6**	**-1.3**
ULC				*e*Sn	**Sg**	**01 04 02.1**	**-0.4**
ULC	**Ulcinj**	**2.10**	**135**	⇓*i*Pn	**Pb**	**01 03 32.6**	**-1.3**
ULC				*e*Sn	**Sg**	**01 04 02.1**	**-0.4**
SISC	**Sisak**	**2.10**	**343**	*e*Pn	**Pn**	**01 03 31.2**	**0.0**
SISC	**Sisak**	**2.10**	**343**	*e*Pn	**Pn**	**01 03 31.2**	**0.0**
IVAS	**Ivanjica**	**2.12**	**86**	*e*Pn	**Pb**	**01 03 33.9**	**-0.3**
IVAS				*e*Sn	**Sg**	**01 04 04.0**	**+0.9**
IVAS	**Ivanjica**	**2

SWZ				AML	AML	01 05 02.3	
	comp=Z,6.9nm,0.8s						
SEK	**Senekal**	**1.67**	**148**	*eP*	Pn	01 04 48.0	+0.5
SEK				*eS*	Sn	01 05 10.0	+0.2
SEK				AML	AML	01 05 13.4	
	comp=Z,2.9nm,0.2s						
BOSA	**Boshof**	**2.08**	**215**	*eP*	Pn	01 04 54.0	+0.8
BOSA				*eS*	Sn	01 05 19.7	-0.1
BOSA				AML	AML	01 05 21.4	
	comp=Z,1.0nm,0.5s						
LBTB	**Lobatse**	**2.09**	**334**	*eP*	Pn	01 04 54.1	+0.8
LBTB				*eS*	Sn	01 05 19.6	-0.5
LBTB				AML	AML	01 05 26.6	
	comp=Z,1.5nm,0.8s						

*DJA **11** 01:04:35,0˚.32N×133˚.71E,h63km,mb4.9/6*
*IDC **11** 01:04:39.3±0.9,0˚.19S×133˚.21E,h0km,mb4.0/8,*
mb1 4.2/10,mb1mx4.0/19,mbtmp4.0/10,ML4.2/2,MS3.2/5,
Ms1 3.2/5,ms1mx2.9/25,Error ellipse: s-maj=39.2km
s-min=12.7km az=76.0
*ISCJB **11** 01:04:42.9±0.5,0˚.43S±0˚.05×132˚.8E±0˚.1,h33km,*
mb4.1/14,MS3.2/4,Error ellipse: s-maj=15.3km
s-min=6.6km az=169.4
*NEIC **11** 01:04:44.9±0.5,0˚.28S×133˚.03E,h35km,mb4.2/7,Error*
ellipse: s-maj=17.9km s-min=7.7km az=70.0

ISC 11 01:04:44.5±0.7,0˚.55S±0˚.07×132˚.8E±0˚.1,h35km,n34,
σ1s93/34,mb4.1/14,MS3.3/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**13.77**	**251**	LR	LR		01 13 44.8	
	comp=Z,32nm,18.2s,baz=69,slow=38							
PMG	**Port Moresby**	**16.78**	**122**	Pn		**P**	**01 08 38.7**	**-0.1**
PMG	**Port Moresby**	**16.78**	**122**	Pn		**P**	**01 08 38.7**	**-0.1**
	0.5nm,0.3s,baz=311,slow=9.3,SNR=4.2							
FITZ	**Fitzroy Crossi**	**18.81**	**202**	P		**Pn**	**01 09 04.9**	**+2.9**
FITZ				S		**Sn**	**01 12 28.6**	**-3.0**
FITZ	**Fitzroy Crossi**	**18.81**	**202**	P		**Pn**	**01 09 04.9**	**+2.9**
	0.4nm,0.3s,baz=32,slow=12,SNR=9.7							
FITZ				S		**Sn**	**01 12 28.6**	**-3.0**
	0.4nm,0.3s,baz=203,slow=11,SNR=6.9							
WRAB	**Tennant Creek**	**19.32**	**176**	*eP*		**Pn**	**01 09 10.0**	**+1.8**
	7.5nm,0.8s							
WRA	**Warramunga Arr**	**19.33**	**176**	P		**Pn**	**01 09 10.8**	**+2.5**
WRA				S		**S**	**01 12 40.5**	**-3.5**
WRA	**Warramunga Arr**	**19.33**	**176**	P		**Pn**	**01 09 10.8**	**+2.5**
	1.0nm,0.3s,baz=355,slow=12,SNR=10							
WRA				S		**S**	**01 12 40.5**	**-3.5**
	0.7nm,0.3s,baz=357,slow=22,SNR=5.5							
AS31	**Alice Springs**	**23.00**	**177**	*eP*		**P**	**01 09 49.0**	**+2.5**
ASAR	**Alice Springs**	**23.00**	**177**	P		**P**	**01 09 49.9**	**+3.4**
ASAR				S		Sn	01 14 06.2	-6.2
ASAR	**Alice Springs**	**23.00**	**177**	P		**P**	**01 09 49.9**	**+3.4**
	9.8nm,0.7s,baz=0.0,slow=12,SNR=73							
ASAR				S		Sn	01 14 06.2	-6.2
	2.0nm,0.9s,baz=358,slow=22,SNR=6.0							
CTA	**Charters Tower**	**23.46**	**147**	P		**P**	**01 09 50.1**	**-1.0**
CTA	**Charters Tower**	**23.46**	**147**	P		**P**	**01 09 50.1**	**-1.0**
	2.7nm,0.7s,baz=326,slow=7.3,SNR=1.9							
CTA				LR		LR	01 20 24.7	
	comp=Z,102nm,18.0s,baz=37,slow=40							
MBWA	**Marble Bar**	**24.14**	**211**	*eP*		P	01 10 03.2	+5.8
	22nm,1.1s							
STKA	**Stephens Creek**	**32.25**	**166**	P		**P**	**01 11 10.8**	**+1.0**
STKA	**Stephens Creek**	**32.25**	**166**	P		**P**	**01 11 10.8**	**+1.0**
	4.0nm,0.7s,baz=348,slow=9.8,SNR=6.3							
STKA				LR		LR	01 26 03.7	
	comp=Z,27nm,21.8s,baz=288,slow=40							
MJAR	**Matsushiro Arr**	**37.24**	**7**	LR		LR	01 24 19.2	
	comp=Z,68nm,20.3s,baz=190,slow=32							
KSRS	**Korea Array**	**38.08**	**354**	LR		LR	01 25 31.0	
	comp=Z,42nm,18.6s,baz=201,slow=33							
CMAR	**Chiang Mai Arr**	**38.27**	**301**	P		**P**	**01 12 02.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**38.27**	**301**	P		**P**	**01 12 02.0**	**+0.2**
	1.5nm,0.3s,baz=118,slow=7.3,SNR=6.4							
ULN	**Ulaanbaatar**	**53.17**	**339**	*eP*		**P**	**01 13 59.2**	**-0.1**
	0.6nm,0.6s							
SONM	**Songino Array**	**53.39**	**338**	P		**P**	**01 14 00.4**	**-0.5**
SONM	**Songino Array**	**53.39**	**338**	P		**P**	**01 14 00.4**	**-0.5**
	0.8nm,0.9s,baz=140,slow=7.0,SNR=5.2							
MK31	**Makanchi Array**	**64.54**	**324**	*eP*		**P**	**01 15 17.9**	**-0.2**
MKAR	**Makanchi Array**	**64.54**	**324**	P		**P**	**01 15 18.4**	**+0.3**
MKAR	**Makanchi Array**	**64.54**	**324**	P		**P**	**01 15 18.4**	**+0.3**
	0.8nm,0.6s,baz=120,slow=7.6,SNR=26							
ZALV	**Zalesovo Beam**	**67.18**	**332**	P		**P**	**01 15 33.8**	**-1.1**
ZALV	**Zalesovo Beam**	**67.18**	**332**	P		**P**	**01 15 33.7**	**-1.1**
	0.6nm,0.5s,baz=120,slow=5.8,SNR=5.2							
AAK	**Ala-Archa**	**67.59**	**317**	*eP*		**P**	**01 15 38.4**	**+0.4**
	14nm,1.3s							
KURK	**Kurchatov**	**68.62**	**326**	*eP*		**P**	**01 15 43.9**	**-0.2**
	1.7nm,0.8s							
KBL	**Kabul**	**68.93**	**307**	*eP*		**P**	**01 15 46.6**	**0.0**
	2.0nm,0.6s							
KKAR	**Karatay Array**	**70.49**	**317**	*eP*		**P**	**01 15 55.7**	**-0.1**
	0.3nm,0.4s							
ILAR	**Eielson Array**	**86.36**	**25**	P		**P**	**01 17 21.3**	**-1.6**
ILAR	**Eielson Array**	**86.36**	**25**	P		**P**	**01 17 21.3**	**-1.6**
	0.6nm,0.8s,baz=253,slow=4.9,SNR=6.1							

*DDA **11** 01:08:31.9,39˚.82N×41˚.07E,h10km,MD3.6*
*ISCJB **11** 01:08:32.3±0.5,39˚.79N±0˚.02×41˚.12E±0˚.03,h6km±5km,*
Error ellipse: s-maj=4.1km s-min=3.7km az=177.8
*ISK **11** 01:08:32.0,39˚.76N×41˚.15E,h10km,MD3.3*
*CSEM **11** 01:08:32.6±0.1,39˚.79N×41˚.15E,h8km,MD3.3,Error*
ellipse: s-maj=4.7km s-min=3.7km az=15.0

ISC 11 01:08:32.9±1.0,39˚.80N±0˚.02×41˚.10E±0˚.02,h14km±8km,
n63,σ0s91/78,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.23**	**62**	PG		**Pg**	**01 08 37.4**	**-0.7**
ERZM	**Erzurum**	**0.23**	**62**	*i* P		**Pg**	**01 08 37.6**	**-0.5**
ERZM				*i* S		Sg	01 08 51.6	+10
ERZM	**Erzurum**	**0.23**	**62**	*i* P		**Pg**	**01 08 37.6**	**-0.5**
KOPT	**Kop Dagi**	**0.52**	**296**	*i* P		**Pg**	**01 08 41.8**	**-1.3**
KOPT				*i* S		**Sb**	**01 08 51.0**	**-0.3**
KOPT	**Kop Dagi**	**0.52**	**296**	*i* P		**Pg**	**01 08 41.8**	**-1.3**
KOPT				*i* S		**Sb**	**01 08 51.0**	**-0.3**
HOMI	**Horasan**	**0.67**	**68**	*i* P		**Pg**	**01 08 45.0**	**-0.9**
HOMI				*i* S		**Sb**	**01 08 56.0**	**+0.4**
VRTB	**Varto-Mus**	**0.69**	**157**	*e*PG		**Pg**	**01 08 44.8**	**-1.6**
VRTB	**Varto-Mus**	**0.69**	**157**	*e*Pg		**Pg**	**01 08 44.8**	**-1.6**
BNGL	**BINGOL**	**0.84**	**177**	*i* P		**Pg**	**01 08 48.4**	**-0.9**
BNGL				*i* S		**Sn**	**01 09 02.7**	**-0.2**
BNGB	**Bing¯¶‖**	**0.87**	**202**	*e*PG		**Pg**	**01 08 48.4**	**-1.3**
BNGB				*e*SG		**Sb**	**01 09 01.3**	**0.0**
BAYT	**Ayd¯-ntepe-Bay**	**0.95**	**309**	*e*PG		**Pn**	**01 08 52.1**	**+0.1**
BAYT	**Ayd¯-ntepe-Bay**	**0.95**	**309**	*e*Pg		**Pn**	**01 08 52.1**	**+0.1**
ERZN	**Erzincan**	**1.08**	**259**	*e*PN		**Pg**	**01 08 53.0**	**-0.8**
TUTA	**Tutak**	**1.38**	**106**	*i* P		**Pg**	**01 08 58.8**	**-0.7**
TUTA				*i* S		**Sg**	**01 09 18.8**	**+1.4**
TUTA	**Tutak**	**1.38**	**106**	*i* P		**Pg**	**01 08 58.8**	**-0.7**
TUTA				*i* S		**Sg**	**01 09 18.8**	**+1.4**
PZAR	**Pazar-Rize**	**1.39**	**354**	*e*PN		**Pb**	**01 08 58.6**	**0.0**
PZAR	**Pazar-Rize**	**1.39**	**354**	*e*Pn		**Pb**	**01 08 58.6**	**0.0**
GUMT	**Gumushane**	**1.41**	**299**	*e*PN		**Pn**	**01 08 58.5**	**+0.2**
GUMT	**Gumushane**	**1.41**	**299**	*e*Pn		**Pn**	**01 08 58.5**	**+0.2**
KELT	**Kelkit**	**1.46**	**284**	*i* P		**Pn**	**01 08 58.6**	**-0.4**
KELT				*i* S		**Sn**	**01 09 17.9**	**-0.2**
KELT	**Kelkit**	**1.46**	**284**	*i* P		**Pn**	**01 08 58.6**	**-0.4**
KELT				*i* S		**Sn**	**01 09 17.9**	**-0.2**
AGRB	**Hanur-Agry**	**1.48**	**98**	*e*PN		**Pn**	**01 08 58.3**	**-0.9**
AGRB	**Hanur-Agry**	**1.48**	**98**	*e*Pn		**Pn**	**01 08 58.3**	**-0.9**
MACK	**Trabzon**	**1.53**	**319**	*i* P		**Pb**	**01 09 00.8**	**-0.3**
MACK				*i* S		**Sg**	**01 09 22.2**	**0.0**
MACK	**Trabzon**	**1.53**	**319**	*i* P		**Pb**	**01 09 00.8**	**-0.3**
MACK				*i* S		**Sg**	**01 09 22.2**	**0.0**
DBOC	**Borcka**	**1.60**	**15**	*i* P		**Pn**	**01 09 01.1**	**+0.3**
DBOC				*i* S		**Sb**	**01 09 22.8**	**+0.3**
DBOC	**Borcka**	**1.60**	**15**	*i* P		**Pn**	**01 09 01.1**	**+0.3**
DBOC				*i* S		**Sb**	**01 09 22.8**	**+0.3**
PTK	**Pertek**	**1.60**	**236**	*e*PN		**Pn**	**01 09 01.6**	**+0.6**
PTK	**Pertek**	**1.60**	**236**	*e*Pn		**Pn**	**01 09 01.6**	**+0.6**
BTMT	**Batman**	**1.63**	**169**	*e*PN		**Pb**	**01 09 02.6**	**-0.2**
BTMT	**Batman**	**1.63**	**169**	*e*Pn		**Pb**	**01 09 02.6**	**-0.2**
BCA	**Borcka**	**1.69**	**13**	*e*PN		**Pn**	**01 09 02.4**	**+0.3**
BCA	**Borcka**	**1.69**	**13**	*e*Pn		**Pn**	**01 09 02.4**	**+0.3**
KARS	**Kars**	**1.73**	**61**	*e*PN		**Pn**	**01 09 02.1**	**-0.5**
KARS	**Kars**	**1.73**	**61**	*e*Pn		**Pn**	**01 09 02.1**	**-0.5**
BEST	**Besiri**	**1.91**	**176**	*i* P		**Pb**	**01 09 07.5**	**0.0**
BEST				*i* S		**Sg**	**01 09 35.3**	**+1.1**
SVRC	**Sivrice-ELAZID**	**1.99**	**225**	*e*PN		**Pn**	**01 09 07.3**	**+1.0**
SVRC	**Sivrice-ELAZID**	**1.99**	**225**	*e*Pn		**Pn**	**01 09 07.3**	**+1.0**
KEMA	**Kemaliye**	**2.08**	**256**	*i* P		**Pb**	**01 09 09.7**	**-0.9**
KEMA				*i* S		**Sg**	**01 09 40.7**	**+0.7**
KEMA	**Kemaliye**	**2.08**	**256**	*i* P		**Pb**	**01 09 09.7**	**-0.9**
ESPY	**Espiye-Giresun**	**2.13**	**302**	*e*PN		**Pn**	**01 09 09.7**	**+1.6**
ESPY	**Espiye-Giresun**	**2.13**	**302**	*e*Pn		**Pn**	**01 09 09.7**	**+1.6**
VANB	**Van**	**2.15**	**123**	*e*PN		**Pn**	**01 09 08.4**	**0.0**
VANB	**Van**	**2.15**	**123**	*e*Pn		**Pn**	**01 09 08.4**	**0.0**
VANT	**Van**	**2.17**	**129**	*e*PN		**Pn**	**01 09 08.6**	**-0.2**
VANT	**Van**	**2.17**	**129**	*e*Pn		**Pn**	**01 09 08.6**	**-0.2**
CLDR	**Caldiran**	**2.27**	**106**	*e*PN		**Pn**	**01 09 09.7**	**-0.5**
CLDR	**Caldiran**	**2.27**	**106**	*e*Pn		**Pn**	**01 09 09.7**	**-0.5**
AKH	**Akhalkalaki**	**2.43**	**48**	P		**Pg**	**01 09 18.7**	**-0.8**
MALT	**Malatya**	**2.56**	**235**	*e*PN		**Pn**	**01 09 15.3**	**+1.3**
MALT	**Malatya**	**2.56**	**235**	*e*Pn		**Pn**	**01 09 15.3**	**+1.3**
GNI	**Garni**	**2.82**	**82**	*e*PN		**Pn**	**01 09 17.4**	**-0.3**
GNI	**Garni**	**2.82**	**82**	*e*Pn		**Pn**	**01 09 17.4**	**-0.3**
URFA	**Urfa**	**2.95**	**218**	*e*PN		**Pn**	**01 09 20.3**	**+0.8**
URFA	**Urfa**	**2.95**	**218**	*e*Pn		**Pn**	**01 09 20.3**	**+0.8**
RSDY	**Resadiye-TOKAT**	**2.96**	**283**	*e*PN		**Pn**	**01 09 20.8**	**+1.4**
RSDY	**Resadiye-TOKAT**	**2.96**	**283**	*e*Pn		**Pn**	**01 09 20.8**	**+1.4**
GOR	**Gori**	**3.16**	**45**	P		**Pg**	**01 09 31.3**	**-2.1**
TBLG	**Delisi**	**3.37**	**54**	P		**Pn**	**01 09 25.1**	**0.0**
TBLG	**Delisi**	**3.37**	**54**	P		**Pn**	**01 09 25.1**	**0.0**
DGRG	**David-gareji**	**3.65**	**62**	P		**Pb**	**01 09 38.8**	**+1.7**
BNN	**Bunyan**	**4.18**	**259**	*e*PN		**Pn**	**01 09 38.7**	**+2.3**
BNN	**Bunyan**	**4.18**	**259**	*e*Pn		**Pn**	**01 09 38.7**	**+2.3**

TAP 11 01:30:52.6,21˚.39N×120˚.93E,h53km,ML3.6,1D,D,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.51**	**357**	*i* P		Pn	01 31 04.8	+0.7
	baz=352							
TSEB				*i* S		Sn	01 31 13.7	+1.3
	baz=352							
TWK1	**Hengchun**	**0.56**	**348**	⇓*i* P		Pn	01 31 05.2	+0.4
	baz=348							
TWK1				*i* S		Sn	01 31 14.2	+0.6
	baz=348							
HEN	**Hengchun**	**0.64**	**344**	P		Pn	01 31 06.3	+0.6
	baz=344							
HEN				*i* S		Sn	01 31 16.3	+1.2
	baz=344							
LAY	**Lan-yu**	**0.87**	**42**	*i* P		Pn	01 31 09.4	+0.8
	baz=42							
LAY				*i* S		Sn	01 31 21.8	+1.3
	baz=42							
TAW	**Tawu**	**0.96**	**358**	*e*P		Pn	01 31 10.4	+0.5
	baz=358							
TAW				*e*S		Sn	01 31 23.8	+1.2
	baz=358							
EAST	**Anshuo**	**0.99**	**356**	P		Pn	01 31 11.1	+0.7
	baz=356							
EAST				S		Sn	01 31 24.0	+0.6
	baz=356							
SCZT	**Fangliau**	**1.02**	**344**	*e*P		Pn	01 31 11.4	+0.7
	baz=344							
SCZT				*e*S		Sn	01 31 25.1	+1.1
	baz=344							
TWP	**Hsiaoliuchiu**	**1.08**	**331**	P		Pn	01 31 12.3	+0.8
	baz=331							
TWP				S		Sn	01 31 27.6	+2.0
	baz=331							
ECL	**Taimali**	**1.20**	**1**	*e*P		Pn	01 31 13.9	+0.8
	baz=1.0							
ECL				*e*S		Sn	01 31 29.6	+1.2
	baz=1.0							
SSD	**Sandimen**	**1.38**	**349**	*e*P		Pn	01 31 16.4	+0.9
	baz=348							
SSD				*e*S		Sn	01 31 33.6	+1.0
	baz=348							
TWG	**Pinlang**	**1.43**	**5**	*e*P		Pn	01 31 17.1	+0.9
	baz=5.0							
TWG				*e*S		Sn	01 31 35.1	+1.2
	baz=5.0							
TWM1	**Shoushan**	**1.50**	**342**	*e*P		Pn	01 31 18.0	+0.8
	baz=342							
TWM1				*e*S		Sn	01 31 36.9	+1.1
	baz=342							
SGST	**Jiashian**	**1.71**	**349**	*e*P		Pn	01 31 20.4	+0.3
	baz=349							
SGST				*e*S		Sn	01 31 42.1	+1.2
	baz=349							
CHKT	**Chengkung**	**1.75**	**13**	*e*P		Pn	01 31 21.5	+1.0
	baz=13							
CHKT				S		Sn	01 31 43.0	+1.4
	baz=13							
CHN3	**Shinhua**	**1.75**	**343**	*e*P		Pn	01 31 21.6	+1.0
	baz=342							
CHN3				S		Sn	01 31 43.1	+1.3
	baz=342							
STYT	**Tauyuan**	**1.77**	**355**	*e*P		Pn	01 31 21.8	+0.8
	baz=355							
STYT				*e*S		Sn	01 31 43.2	+0.8
	baz=355							
CHN1	**Nanshi**	**1.82**	**348**	*e*P		Pn	01 31 22.5	+0.9
	baz=348							
CHN1				*e*S		Sn	01 31 44.5	+0.9
	baz=348							
WTP	**Ta-pu**	**1.87**	**351**	*e*P		Pn	01 31 23.2	+0.9
	baz=351							
WTP				*e*S		Sn	01 31 45.5	+0.7
	baz=351							
TWK	**Hsinying**	**1.91**	**348**	*e*P		Pn	01 31 23.7	+0.9
	baz=348							
TWK				S		Sn	01 31 46.3	+0.5
	baz=348							
TWF1	**Yuli**	**1.98**	**10**	*e*P		Pn	01 31 24.8	+1.0
	baz=10.0							
TWF1				*e*S		Sn	01 31 48.3	+0.9
	baz=10.0							
ALS	**Alishan**	**2.11**	**357**	*e*P		Pn	01 31 26.5	+0.6
	baz=357							
ALS				*e*S		Sn	01 31 51.4	+0.1
	baz=357							
CHN5	**Tsauling**	**2.21**	**354**	*e*P		Pn	01 31 28.1	+1.1
	baz=353							
CHN5				S		Sn	01 31 54.0	+0.8
	baz=353							
SMLT	**Sun Moon Lake**	**2.48**	**359**	*e*P		Pn	01 31 31.6	+0.8
	baz=359							
SMLT				*e*S		Sn	01 32 00.3	+0.4
	baz=359							
TYC	**Yuchr**	**2.50**	**359**	*e*P		Pn	01 31 31.9	+1.1
	baz=358							
TYC				*e*S		Sn	01 32 00.8	+0.7
	baz=358							
WTCT	**Ta-ch'eng**	**2.53**	**346**	*e*P		Pn	01 31 32.3	+1.0
	baz=346							
WHF	**Hehuan Shan**	**2.76**	**6**	*e*P		Pn	01 31 35.5	+0.6
	baz=6.0							
WHF				*e*S		Sn	01 32 06.9	-0.5
	baz=6.0							
TWT	**Tachien**	**2.86**	**5**	*e*P		Pn	01 31 36.8	+0.8
	baz=4.0							
TWT				*e*S		Sn	01 32 09.2	-0.1
	baz=4.0							
TWQ1	**Liyutan**	**2.95**	**357**	*e*P		Pn	01 31 37.9	+0.9
	baz=357							
TWQ1				*e*S		Sn	01 32 11.5	+0.3
	baz=357							
NNS	**Nan Shan**	**3.06**	**8**	*e*S		Sn	01 32 14.1	-0.1
	baz=7.0							
ENA	**Nanau**	**3.11**	**14**	*e*P		Pn	01 31 40.4	+1.1
	baz=14							
ENTT	**Nioudou**	**3.29**	**10**	*e*P		Pn	01 31 42.8	+1.2
	baz=10.0							
ENTT				*e*S		Sn	01 32 19.4	-0.1
	baz=10.0							
TWC	**Suao**	**3.31**	**15**	*e*P		Pn	01 31 43.2	+1.2
	baz=15							
TWE	**Neicheng**	**3.38**	**11**	*e*P		Pn	01 31 44.2	+1.3
	baz=11							
ILA	**Ilan**	**3.44**	**13**	*e*P		Pn	01 31 44.9	+1.1
	baz=12							
ILA				*e*S		Sn	01 32 22.9	-0.3
	baz=12							
NCU	**National Centr**	**3.57**	**4**	*e*P		Pn	01 31 46.8	+1.3
	baz=3.0							
NCU				*e*S		Sn	01 32 25.6	-0.8
	baz=3.0							
TWA	**Mucha**	**3.62**	**9**	*e*S		Sn	01 32 27.6	-0.2
	baz=9.0							
TWS1	**Kuangyinshan**	**3.72**	**7**	*e*S		Sn	01 32 30.0	-0.1
	baz=7.0							
TWB1	**Santiao Chiao**	**3.73**	**15**	*e*P		Pn	01 31 49.3	+1.6
	baz=15							
NWF	**Wu-fen Shan**	**3.75**	**12**	*e*P		Pn	01 31 49.2	+1.1
	baz=12							
KNM	**Kinmen**	**3.79**	**323**	*e*P		Pn	01 31 50.7	+2.2
	baz=320							
KNM				*e*S		Sn	01 32 33.2	+1.4
	baz=320							

*GEN **11** 01:34:07.4,45˚.85N×7˚.35E,h6km,ML1.1*
*CSEM **11** 01:34:07.5±0.1,45˚.84N×7˚.37E,h2km,ML1.5/6,Error*
ellipse: s-maj=2.5km s-min=1.6km az=92.0
*LDG **11** 01:34:09.4±0.7,45˚.83N×7˚.25E,h2km,Md1.9/2,Ml1.8/3,*
Error ellipse: s-maj=12.6km s-min=5.7km az=85.0

ZUR 11 01:34:07.8,45˚.85N×7˚.37E,h2km±3km,ML1.0/4,6C,
Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DIX	**Grande Dixence**	**0.24**	**7**	⇑*i* Pg		Pg	01 34 12.5	-0.3
	263nm,0.1s							
DIX				*e*Sg		Sg	01 34 15.6	-0.5
	263nm,0.1s							
DIX	**Grande Dixence**	**0.24**	**7**	⇑*i* Pg		Pg	01 34 12.5	-0.3
	263nm,0.1s							
DIX				*e*Sg		Sg	01 34 15.6	-0.5
	263nm,0.1s							
SALAN	**Lac Salanfe**	**0.41**	**317**	⇑*i* Pg		Pg	01 34 15.6	-0.3
	8.9nm,0.2s							
SALAN				*e*Sg		Sg	01 34 20.8	-0.6
	8.9nm,0.2s							
SALAN	**Lac Salanfe**	**0.41**	**317**	⇑*i* Pg		Pg	01 34 15.6	-0.3
	8.9nm,0.2s							
SALAN				*e*Sg		Sg	01 34 20.8	-0.6
	8.9nm,0.2s							
LSD	**Lago del Serru**	**0.42**	**203**	P		Pg	01 34 15.8	-0.4
LSD				S		Sg	01 34 21.3	-0.6
TRAV	**Traversella**	**0.43**	**141**	P		Pg	01 34 16.0	-0.1
TRAV				S		Sg	01 34 21.5	-0.3
GRYON	**Gryon**	**0.44**	**336**	⇑*i* Pg		Pg	01 34 16.2	-0.3
	13nm,0.2s							
GRYON	**Gryon**	**0.44**	**336**	⇑*i* Pg		Pg	01 34 16.2	-0.3
	13nm,0.2s							
MMK	**Mattmark**	**0.46**	**64**	*e*Pg		Pg	01 34 16.7	-0.4
	27nm,0.2s							
MMK	**Mattmark**	**0.46**	**64**	*e*Pg		Pg	01 34 16.7	-0.4
	27nm,0.2s							
SENIN	**Lac Senin/Sane**	**0.52**	**355**	*e*Pg		Pg	01 34 17.6	-0.5
	13nm,0.2s							
SENIN	**Lac Senin/Sane**	**0.52**	**355**	*e*Pg		Pg	01 34 17.6	-0.5
	13nm,0.2s							
RSL	**Roselend**	**0.54**	**253**	Pg		Pg	01 34 19.0	+0.5
RSL				Sg		Sg	01 34 25.9	+0.2
RSL	**Roselend**	**0.54**	**253**	Pg		Pg	01 34 19.0	+0.5
RSL				Sg		Sg	01 34 25.9	+0.2
LPL	**La Plagne**	**0.55**	**234**	*e*Pg		Pg	01 34 18.2	-0.6
LPL				*e*Sg		Sg	01 34 24.6	-1.6
	4.9nm,0.4s							
LPL	**La Plagne**	**0.55**	**234**	*e*Pg		Pg	01 34 18.2	-0.6
LPL				*e*Sg		Sg	01 34 24.6	-1.6
	2.5nm,0.4s							
LPG	**La Plagne**	**0.56**	**231**	*e*Pg		Pg	01 34 18.2	-0.7
LPG				*e*Sg		Sg	01 34 24.7	-1.6
	2.3nm,0.2s							
LPG	**La Plagne**	**0.56**	**231**	*e*Pg		Pg	01 34 18.2	-0.7
LPG				*e*Sg		Sg	01 34 24.7	-1.6
	1.1nm,0.2s							
RSP	**Reno Superiore**	**0.70**	**186**	P		Pg	01 34 21.0	-0.4
RSP				S		Sg	01 34 29.9	-0.8
CABF	**La Chapelle**	**1.17**	**311**	*e*Pg		Pg	01 34 30.5	+0.1
CABF				*e*Sg		Sg	01 34 45.7	-0.1
	3.5nm,0.3s							
CABF	**La Chapelle**	**1.17**	**311**	*e*Pg		Pg	01 34 30.5	+0.1
CABF				*e*Sg		Sg	01 34 45.7	-0.1
	1.8nm,0.3s							
MBDF	**Montbardon**	**1.20**	**201**	*e*Pg		Pn	01 34 31.9	+0.2
MBDF				*e*Sg		Sg	01 34 46.1	-0.5
	2.2nm,0.3s							
MBDF	**Montbardon**	**1.20**	**201**	*e*Pg		Pn	01 34 31.9	+0.2
MBDF				*e*Sg		Sg	01 34 46.1	-0.5
	1.1nm,0.3s							
ORIF	**Oris-en-Rattie**	**1.40**	**229**	*e*Sg		Sg	01 34 51.9	-1.1
	0.9nm,0.2s							
ORIF	**Oris-en-Rattie**	**1.40**	**229**	*e*Sg		Sg	01 34 51.9	-1.1
	0.4nm,0.2s							

**IDC 11 01:47:13.8±10.0,

3.6nm,0.3s,baz=86,slow=10,SNR=16
PMG Port Moresby 16.40 123 *e*Pn **P 01 54 01.8 0.0**
21nm,1.0s
PMG Port Moresby 16.40 123 P **P 01 54 05.3 +3.5**
PMG Port Moresby 16.40 123 Pn **P 01 54 01.9 0.0**
0.4nm,0.3s,baz=320,slow=14,SNR=5.3
COEN Coen 16.54 144 *e*Pn **P 01 54 01.3 -2.0**
141nm,1.2s
SDKM Sandakan 17.17 291 P **P 01 54 13.3 +3.0**
GUMO Guam 18.18 39 LR LR 02 00 37.1
comp=Z,506nm,18.2s,baz=188,slow=35
KKM Kota Kinabalu 18.22 291 *e*P **P 01 54 21.9 -0.1**
43nm,1.2s
KKM Kota Kinabalu 18.22 291 P P 01 54 33.0 +11
BBKI Banjar Baru 18.61 261 P Pn 01 54 37.1 +10
FITZ Fitzroy Crossi 18.96 203 *e*P **P 01 54 26.6 -3.4**
53nm,0.9s
FITZ P **P 01 54 27.6 -2.4**
FITZ S Sn 01 57 48.6 -14
FITZ *e*S S 01 57 50.2 -13
FITZ Fitzroy Crossi 18.96 203 *e*P **P 01 54 25.9 -4.1**
76nm,0.9s
FITZ *e*S Sn 01 57 42.2 -20
FITZ Fitzroy Crossi 18.96 203 P **P 01 54 27.6 -2.4**
2.4nm,0.3s,baz=33,slow=10,SNR=18
FITZ S Sn 01 57 48.6 -14
1.2nm,0.3s,baz=135,slow=19,SNR=3.6
FITZ LR LR 02 02 23.8
comp=Z,194nm,20.5s,baz=26,slow=39
KHKI Kahang-Kahang 19.20 246 P Pn 01 54 39.8 +6.0
WRAB Tennant Creek 19.28 177 *e*P **P 01 54 32.7 -0.8**
63nm,1.1s
WRAB *e*S Sn 01 58 01.9 -8.1
WRA Warramunga Arr 19.29 177 P **P 01 54 32.0 -1.6**
WRA S Sn 01 57 57.3 -13
WRA Warramunga Arr 19.29 177 P **P 01 54 32.0 -1.6**
3.0nm,0.3s,baz=354,slow=11,SNR=27
WRA S Sn 01 57 57.3 -13
1.0nm,0.3s,baz=356,slow=24,SNR=4.4
BTM Bintulu 20.49 281 P Pn 01 54 50.1 +0.9
SBUM Sibu 21.23 278 P **P 01 54 57.0 +2.2**
SBUM Sibu 21.23 278 P **P 01 54 58.3 +3.5**
26nm,1.7s,2µm
SJI Sawahan 22.56 251 P P 01 55 17.1 +8.0
AS31 Alice Springs 22.97 178 *e*P **P 01 55 12.6 -0.7**
AS31 *e*S **S 01 59 22.1 +0.7**
ASAR Alice Springs 22.97 178 P **P 01 55 12.2 -1.0**
ASAR S **S 01 59 22.9 +1.4**
ASAR Alice Springs 22.97 178 P **P 01 55 12.2 -1.0**
38nm,0.8s,baz=357,slow=12,SNR=120
ASAR S **S 01 59 22.9 +1.4**
7.9nm,1.0s,baz=357,slow=19,SNR=5.0
KSM Kuching 23.02 275 *e*P **P 01 55 14.0 +0.1**
30nm,1.2s
KSM Kuching 23.02 275 P **P 01 55 15.0 +1.1**
KSM Kuching 23.02 275 P **P 01 55 15.1 +1.2**
26nm,1.3s
CTA Charters Tower 23.21 148 *e*P **P 01 55 16.9 +1.2**
15nm,0.9s
CTA Charters Tower 23.21 148 LR LR 02 05 40.6
comp=Z,1µm,19.2s,baz=317,slow=40
CTAO Charters Tower 23.21 148 *e*P **P 01 55 16.9 +1.2**
38nm,1.1s
MBWA Marble Bar 24.35 212 *e*P **P 01 55 26.6 +0.1**
56nm,1.0s
MBWA Marble Bar 24.35 212 *e*P **P 01 55 26.5 +0.1**
TGJI Tegal 24.86 255 P **P 01 55 32.8 +1.6**
46nm,1.1s
SSLB Suanglung 26.99 335 *e*P **P 01 55 48.3 -2.1**
27nm,0.9s
YHNB Yeheng 27.60 336 *e*P **P 01 55 54.8 -1.1**
12nm,0.6s
CBIJ Chichi jima 28.82 17 LR LR 02 07 19.5
comp=Z,190nm,18.2s,baz=297,slow=36
MYKOM Kota Tinggi 29.48 275 P P 01 56 25.3 +13
QIZ Qiongzhong 30.12 312 P **P 01 56 18.1 -0.2**
QIZ S **S 02 01 16.6 +1.6**
QIZ pmax pmax
comp=Z,17nm,1.4s
QIZ pmax pmax
comp=Z,51nm,6.3s
QIZ LR LR
comp=N,190nm,18.5s
QIZ LR LR
comp=Z,240nm,28.1s
FORT Forrest 30.45 189 *e*P **P 01 56 21.8 +0.8**
comp=Z,18nm,0.7s
STKA Stephens Creek 32.13 167 *e*P **P 01 56 35.1 -0.8**
comp=Z,31nm,2.3s
STKA P **P 01 56 35.2 -0.7**
STKA Stephens Creek 32.13 167 *e*P **P 01 56 34.9 -1.0**
comp=Z,11nm,0.9s
STKA Stephens Creek 32.13 167 P **P 01 56 35.2 -0.7**
comp=Z,5.0nm,0.3s,baz=347,slow=8.1,SNR=20
STKA LR LR 02 11 04.4
comp=Z,806nm,18.9s,baz=252,slow=39
KMBL Kambalda 32.47 198 *e*P **P 01 56 38.0 -0.9**
comp=Z,123nm,1.2s
IPM Ipoh 32.58 279 *e*P **P 01 56 39.3 -0.8**
IPM Ipoh 32.58 279 P **P 01 56 38.1 -1.9**
IPM Ipoh 32.58 279 P **P 01 56 40.0 -0.1**
comp=Z,14nm,1.0s
JNU Nakatsue 33.58 356 LR LR 02 08 58.6
comp=Z,306nm,19.6s,baz=343,slow=34
PSI Prapat 34.47 276 P P 01 56 53.0 -3.7
PSI Prapat 34.47 276 P **P 01 56 55.7 -1.0**
comp=Z,12nm,1.0s
PSI Prapat 34.47 276 P P 01 56 53.0 -3.7
comp=Z,4.5nm,0.6s,baz=153,slow=5.4,SNR=6.0
NJ2 Nanjing 35.18 339 *e*P **P 01 57 03.0 +0.6**
NJ2 pP **pP 01 57 12.9 +0.5**
NJ2 sP **sP 01 57 16.5 -0.1**
NJ2 S **S 02 02 36.0 +2.5**
NJ2 sS **sS 02 02 52.0 +2.0**
NJ2 SS **SnSn 02 04 54.5 +2.0**
NJ2 pmax pmax
comp=Z,30nm,1.0s
NJ2 pmax pmax
comp=Z,110nm,3.8s
NJ2 LR LR
comp=N,230nm,29.8s
NJ2 LR LR
comp=E,120nm,28.1s
NJ2 LR LR
comp=Z,270nm,26.8s
WHN Wuhan 35.78 331 P **P 01 57 08.5 +0.9**
WHN *e*S **S 02 02 46.1 +3.4**
WHN LR LR
comp=Z,300nm,25.4s
GYA Guiyang 37.12 318 P **P 01 57 20.8 +1.5**
GYA pP **pP 01 57 30.2 +0.8**
GYA sP sP 01 57 36.5 +3.0
GYA PP **PnPn 01 58 48.8 +3.9**
GYA PcP **PcP 01 59 40.0 +0.7**
GYA S **S 02 03 04.3 +0.7**
GYA sS **ScP 02 03 22.2 -1.7**
GYA SS **SnSn 02 05 36.0 -3.8**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,590nm,17.9s
GYA LR LR
comp=E,550nm,18.7s
GYA LR LR
comp=Z,580nm,17.6s
MJAR Matsushiro Arr 37.21 7 P **P 01 57 17.5 -2.2**
MJAR PcP **PcP 01 59 39.1 -0.1**
MJAR Matsushiro Arr 37.21 7 P **P 01 57 17.5 -2.2**
comp=Z,2.4nm,0.5s,baz=192,slow=8.8,SNR=7.0
MJAR PcP **PcP 01 59 39.1 -0.1**
comp=Z,0.8nm,0.3s,baz=170,slow=3.7,SNR=4.2
MJAR LR LR 02 09 31.8
comp=Z,447nm,21.1s,baz=180,slow=31
MAT Matsushiro 37.21 7 P **P 01 57 17.6 -2.1**
KSAR Wonju Array Be 38.14 353 P **P 01 57 27.7 +0.1**
KSRS Korea Array 38.15 353 P **P 01 57 27.7 +0.1**
comp=Z,1.9nm,0.8s,baz=171,slow=8.6,SNR=5.8
KSRS LR LR 02 12 53.3
comp=Z,301nm,18.5s,baz=171,slow=36
CMAR Chiang Mai Arr 38.65 301 P **P 01 57 32.0 -0.1**
CMAR Chiang Mai Arr 38.65 301 P **P 01 57 32.0 -0.1**
comp=Z,1.3nm,0.2s,baz=119,slow=6.4,SNR=13
CHTO Chiang Mai 38.80 302 *e*P **P 01 57 33.0 -0.4**
comp=Z,4.9nm,0.8s
CHTO Chiang Mai 38.80 302 P P 01 57 45.6 +12
KMI Kunming 39.03 313 P **P 01 57 35.3 -0.2**
KMI pP **pP 01 57 45.3 -0.3**
KMI S **S 02 03 33.7 +1.0**
KMI pmax pmax
comp=Z,13nm,1.4s
KMI LR LR
comp=N,110nm,11.8s
KMI LR LR
comp=E,130nm,17.8s
KMI LR LR
comp=Z,180nm,21.4s
XAN Xi'an 41.31 329 P **P 01 57 53.2 -0.8**
XAN pP **pP 01 58 03.0 -1.2**
XAN sP **sP 01 58 07.0 -1.3**
XAN PP **PnPn 01 59 32.0 -2.6**
XAN S **S 02 04 03.6 -2.6**
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN pmax pmax
comp=Z,19nm,5.5s
CD2 Chengdu 42.00 321 P **P 01 57 59.6 -0.2**
CD2 pP **pP 01 58 10.0 0.0**
CD2 sP **sP 01 58 14.0 -0.1**
CD2 PcP **PcP 01 59 54.4 -0.2**
CD2 PcS **PcS 02 03 45.0 -1.4**
CD2 S **S 02 04 18.2 +1.6**
CD2 sS **sS 02 04 34.5 +1.2**
CD2 SS **SS 02 07 21.3 -3.3**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,130nm,6.3s
CD2 LR LR
comp=N,310nm,5.8s
CD2 LR LR
comp=Z,250nm,6.6s
BJT Baijiatuan 43.30 341 *e*P **P 01 58 09.9 -0.2**
comp=Z,25nm,0.6s
BJI Beijing 43.32 341 P **P 01 58 10.0 -0.2**
BJI S **S 02 04 34.8 -0.7**
BJI pmax pmax
comp=Z,71nm,0.7s
BJI pmax pmax
comp=Z,130nm,3.5s
BJI LR LR
comp=N,180nm,22.0s
BJI LR LR
comp=E,230nm,21.5s
BJI LR LR
comp=Z,140nm,25.9s
USRK Ussuriysk Arra 44.58 359 P **P 01 58 20.6 +0.3**
comp=Z,5.2nm,0.9s,baz=175,slow=9.0,SNR=6.5
USRK LR 02 15 23.4
comp=Z,158nm,19.0s,baz=266,slow=34
CN2 Changchun 44.72 352 *e*P **P 01 58 21.1 -0.3**
CN2 *e*pP **pP 01 58 30.9 -0.7**
CN2 *e*S **S 02 04 56.2 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,14.0s
CN2 LR LR
comp=E,400nm,14.0s
CN2 LR LR
comp=Z,300nm,23.0s
MDJ Mudanjiang 45.10 356 P **P 01 58 24.3 -0.2**
MDJ sP **sP 01 58 36.7 -2.1**
MDJ PcP **PcP 02 00 05.1 +0.4**
MDJ ScP **ScP 02 03 53.8 -1.0**
MDJ PcS **PcS 02 03 57.1 -1.3**
MDJ S **S 02 05 01.9 +0.5**
MDJ pmax pmax
comp=Z,12nm,1.5s
MDJ pmax pmax
comp=Z,71nm,7.8s
MDJ LR LR
comp=N,120nm,33.5s
MDJ LR LR
comp=Z,110nm,33.5s
ASAJ Asahikawa 45.27 9 P **P 01 58 25.8 0.0**
ASAJ Asahikawa 45.27 9 P **P 01 58 25.8 0.0**
comp=Z,5.0nm,0.7s,baz=181,slow=9.4,SNR=4.4
LZH Lanzhou 45.58 326 *e*P **P 01 58 29.1 +0.5**
LZH pP **pP 01 58 39.1 +0.2**
LZH sP sP 01 58 45.3 +2.3
LZH pmax pmax
comp=Z,31nm,1.0s
LZH pmax pmax
comp=Z,120nm,6.0s
LZH LR LR
comp=N,200nm,5.0s
LZH LR LR
comp=E,220nm,6.7s
LZH LR LR
comp=Z,140nm,4.5s
HHC Hu-ho-hao-te 45.69 337 *e*P **P 01 58 30.2 +0.9**
HHC pP **pP 01 58 40.7 +1.1**
HHC sP **sP 01 58 44.3 +0.6**
HHC PcP **PcP 02 00 07.5 +0.5**
HHC PP **PP 02 00 17.1 +0.3**
HHC S **S 02 05 10.8 +0.5**
HHC sS **sS 02 05 27.5 +0.4**
HHC SS **ScS 02 08 28.2 +5.1**
HHC pmax pmax
comp=Z,32nm,1.2s
HHC pmax pmax
comp=Z,280nm,5.2s
HHC LR LR
comp=N,140nm,13.1s
HHC LR LR
comp=E,180nm,11.9s
HHC LR LR
comp=Z,180nm,13.1s
YSS Yuzh-Sakhalins 48.05 9 *e*P **P 01 58 47.0 -0.5**
comp=Z,41nm,0.6s
LSA Lhasa 50.15 311 P **P 01 59 02.1 -2.4**
LSA pmax pmax
comp=Z,20nm,1.0s
LSA Lhasa 50.15 311 *e*P **P 01 59 04.4 -0.1**
comp=Z,12nm,0.9s
GTA Gaotai 50.19 326 *e*P **P 01 59 04.3 +0.1**
GTA pP **pP 01 59 14.3 -0.2**
GTA sP **sP 01 59 18.4 -0.2**
GTA PcP **PcP 02 00 23.8 +0.6**
GTA S **S 02 06 13.6 -0.4**
GTA pmax pmax
comp=Z,12nm,1.1s
GTA pmax pmax
comp=Z,120nm,5.2s
GTA LR LR
comp=N,84nm,18.0s
GTA LR LR
comp=E,170nm,15.2s
GTA LR LR
comp=Z,150nm,17.6s
TAPN Taplejung 51.79 306 *e*P **P 01 59 15.8 -0.9**
comp=Z,20nm,0.9s
ODAN Odare 51.85 305 *e*P **P 01 59 16.0 -1.0**
comp=Z,42nm,0.9s
RAMN Ramite 52.53 305 *e*P **P 01 59 21.2 -0.9**
comp=Z,32nm,0.8s
JIRN Jiri 53.15 306 *e*P **P 01 59 25.1 -1.7**
comp=Z,5.2nm,0.7s
ULN Ulaanbaatar 53.35 338 *e*P **P 01 59 26.0 -1.6**
comp=Z,35nm,1.4s
ULN *e*PcP **PcP 02 00 35.2 +0.4**
ULN Ulaanbaatar 53.35 338 P **P 01 59 28.3 +0.6**
comp=Z,20nm,1.3s
GUN Gumba 53.50 306 *e*P **P 01 59 28.3 -1.1**
comp=Z,30nm,0.7s
SONM Songino Array 53.57 338 P **P 01 59 29.7 +0.5**
SONM PcP **PcP 02 00 35.6 -0.1**
SONM Songino Array 53.57 338 P **P 01 59 29.7 +0.5**
comp=Z,6.5nm,1.0s,baz=149,slow=7.7,SNR=39
SONM PcP **PcP 02 00 35.6 -0.1**
comp=Z,2.6nm,0.7s,baz=149,slow=4.2,SNR=5.7
SONM LR LR 02 22 46.8
comp=Z,158nm,18.1s,baz=175,slow=37
PKI Pulchoki 53.75 305 *e*P **P 01 59 29.9 -1.3**
comp=Z,13nm,0.8s
KKN Kakani 53.94 306 *e*P **P 01 59 31.3 -1.1**
comp=Z,70nm,1.3s
DMN Daman 54.01 305 *e*P **P 01 59 32.3 -0.7**
comp=Z,16nm,0.4s
GKN Gorkha 54.54 305 *e*P **P 01 59 36.1 -0.7**
RPZ Rata Peaks 54.58 147 *e*P **P 01 59 36.8 +0.3**
comp=Z,18nm,1.2s
KOLN Koldanda 55.30 305 *e*P **P 01 59 41.7 -0.7**
comp=Z,27nm,0.5s
DANN Dangsing 55.39 306 *e*P **P 01 59 42.6 -0.5**
comp=Z,29nm,0.7s
PETK Petropavlovsk- 57.25 17 P **P 01 59 56.2 +0.7**
PETK Petropavlovsk- 57.25 17 P **P 01 59 56.2 +0.7**
comp=Z,17nm,0.9s,baz=204,slow=6.3,SNR=11
PETK LR LR 02 24 01.0
comp=Z,104nm,18.6s,baz=237,slow=36
WMQ Urumqi 59.99 323 P **P 02 00 15.2 +0.3**
WMQ sP **sP 02 00 29.2 -0.3**
WMQ PcP **PcP 02 01 00.0 -0.8**
WMQ *e*S **S 02 08 23.6 -1.6**
WMQ pmax pmax
comp=Z,32nm,0.8s
WMQ pmax pmax
comp=Z,120nm,3.6s
WMQ LR LR
comp=N,160nm,20.0s
WMQ LR LR
comp=E,110nm,21.0s
WMQ LR LR
comp=Z,110nm,20.2s
YAK Yakutsk 62.49 358 *e*P **P 02 00 31.0 -0.3**
comp=Z,26nm,0.6s
MK31 Makanchi Array 64.81 324 *e*P **P 02 00 47.2 +0.2**
MKAR Makanchi Array 64.81 324 P **P 02 00 47.1 +0.1**
MKAR Makanchi Array 64.81 324 P **P 02 00 47.1 +0.1**
comp=Z,20nm,0.6s,baz=117,slow=8.0,SNR=293
MKAR LR LR 02 30 23.0
comp=Z,52nm,18.9s,baz=253,slow=37
KSH Kashi 65.67 314 P **P 02 00 54.4 +1.6**
KSH pP **pP 02 01 04.0 +0.5**
KSH sP **sP 02 01 08.1 +0.6**
KSH PcP **PcP 02 01 25.0 +0.9**
KSH PP **PP 02 03 20.9 +3.2**
KSH ScP 02 05 23.7
KSH PcS 02 05 27.9
KSH S **S 02 09 37.5 +0.9**
KSH sS **sS 02 09 54.4 +0.2**
KSH ScS **SKSac 02 10 43.2 -3.0**
KSH SS **SS 02 13 53.1 +1.7**
KSH pmax pmax
comp=Z,18nm,1.1s
KSH pmax pmax
comp=Z,280nm,5.5s
KSH LR LR
comp=N,130nm,6.2s
KSH LR LR
comp=E,180nm,5.0s
KSH LR LR
comp=Z,250nm,5.3s
KZA Kyzart 67.17 317 P **P 02 01 03.8 +1.0**
SNR=9.9
TKM2 Tokmak 2 67.27 318 *e*P **P 02 01 03.2 +0.1**
TKM2 Tokmak 2 67.27 318 P **P 02 01 03.3 +0.2**
SNR=11
ZAA0 Zalesovo Array 67.40 331 *e*P **P 02 01 02.7 -0.7**
ZALV Zalesovo Beam 67.40 331 P **P 02 01 02.6 -0.7**
ZALV Zalesovo Beam 67.40 331 P **P 02 01 02.6 -0.7**
comp=Z,11nm,1.0s,baz=133,slow=7.4,SNR=39
ZALV LR LR 02 32 22.0
comp=Z,84nm,20.4s,baz=66,slow=38
KBK Karagaybulak 67.60 317 P **P 02 01 06.0 +0.8**
SNR=6.1
AAK Ala-Archa 67.90 317 *e*P **P 02 01 07.1 0.0**
USP Ospenovka 68.14 318 P **P 02 01 08.6 +0.2**
SNR=19
AML Almayashu 68.26 316 P **P 02 01 10.1 +0.5**
SNR=14
EKS2 Erkin-Say 68.40 317 *e*P **P 02 01 10.6 +0.4**
EKS2 Erkin-Say 68.40 317 P **P 02 01 10.8 +0.7**
SNR=11
KURK Kurchatov 68.87 326 *e*P **P 02 01 12.6 -0.1**
KURK Kurchatov 68.87 326 P **P 02 01 12.1 -0.6**
comp=Z,278nm,0.8s,SNR=33
KBL Kabul 69.28 307 *e*P **P 02 01 15.6 -0.3**
comp=Z,5.8nm,0.9s
KKAR Karatay Array 70.80 316 *e*P **P 02 01 24.6 -0.2**
comp=Z,23nm,0.9s
BRVK Borovoye 74.54 326 *e*P **P 02 01 46.3 -0.5**
comp=Z,45nm,1.0s
BRVK *e*pP **pP 02 01 56.8 -0.7**
BRVK Borovoye 74.54 326 P **P 02 01 46.9 +0.1**
comp=Z,238nm,0.7s,SNR=16
VNDA Vanda 78.43 174 *e*P **P 02 02 08.7 +0.3**
comp=Z,8.2nm,1.0s
ABKAR Akbulak array 79.58 320 *e*P **P 02 02 14.8 -0.4**
comp=Z,5.7nm,0.7s
ARU Arti 82.03 327 *e*P **P 02 02 27.0 -1.1**
comp=Z,5.4nm,0.9s
MAW Mawson 82.08 201 LR LR 02 36 42.3
comp=Z,91nm,19.8s,baz=275,slow=34
SEW Seward 84.17 29 *e*P **P 02 02 38.3 -0.8**
comp=Z,9.4nm,0.8s
PMR Palmer 84.61 28 *e*P **P 02 02 40.7 -0.6**
comp=Z,3.8nm,0.6s
MCK McKinley 85.12 26 *e*P **P 02 02 42.9 -1.0**
comp=Z,10nm,0.9s
COLA College 85.80 25 *e*P **P 02 02 46.7 -0.5**
comp=Z,4.7nm,0.7s
ILAR Eielson Array 86.19 25 P **P 02 02 48.2 -0.9**
ILAR Eielson Array 86.19 25 P **P 02 02 48.2 -0.9**
comp=Z,5.4nm,0.7s,baz=258,slow=4.5,SNR=76
ILAR LR LR 02 35 12.5
comp=Z,101nm,21.9s,baz=256,slow=31
QSPA South Pole Qui 89.37 180 *e*P **P 02 03 04.5 0.0**
comp=Z,7.9nm,0.9s
QSPA South Pole Qui 89.37 180 LR LR 02 42 54.3
comp=Z,270nm,18.1s,baz=171,slow=36
SYO Syowa Base 90.79 201⇑ *e*P **P 02 03 11.4 +0.5**
INK Inuvik 91.73 22 *e*P **P 02 03 13.8 -1.4**
comp=Z,5.0nm,1.2s
ARCES ARCESS Array B 96.68 340 P **P 02 03 37.6 -0.4**
ARCES ARCESS Array B 96.68 340 P **P 02 03 37.6 -0.4**
comp=Z,5.7nm,1.0s,baz=70,slow=5.9,SNR=6.9
ARCES LR LR 02 49 42.7
comp=Z,216nm,18.4s,baz=48,slow=37
FINES FINESS Array B 98.65 332 LR LR 02 50 54.0
comp=Z,171nm,19.9s,baz=134,slow=37
AKASG Malin Array Be 99.30 321 LR LR 02 57 06.6
comp=Z,77nm,19.8s,baz=330,slow=40
YKA Yellowknife Ar 100.59 26 P **Pdif 02 03 55.1 -0.5**
YKA Yellowknife Ar 100.59 26 P **Pdif 02 03 55.1 -0.5**
comp=Z,0.5nm,0.7s,baz=292,slow=4.6,SNR=12
RES Resolute Bay 100.77 12 *e*P **Pdif 02 03 55.0 -1.1**
comp=Z,2.0nm,0.7s
TORD Torodi Ar. Bea 130.41 287 PKP **PKPdf 02 09 19.0 -0.6**
TORD Torodi Ar. Bea 130.41 287 PKP **PKPdf 02 09 19.0 -0.6**
comp=Z,0.9nm,0.8s,baz=59,slow=1.9,SNR=6.0
CPUP Villa Florida 151.38 160 *e*PKPbc **PKPbc 02 10 02.6 0.0**
CPUP PKPbc **PKPbc 02 10 03.3 +0.7**
CPUP *e*PKPab **PKPab 02 10 10.2 -0.3**
CPUP Villa Florida 151.38 160 PKPbc **PKPbc 02 10 03.3 +0.7**
comp=Z,8.7nm,0.8s,baz=198,slow=2.7,SNR=21
CPUP PKPab **PKPab 02 10 10.2 -0.3**
comp=Z,9.8nm,1.0s,baz=156,slow=3.9,SNR=6.7
LPAZ La Paz 153.07 129 *e*PKPbc **PKPbc 02 10 08.0 +0.6**
SAML Samuel 161.10 120 *e*PKPab **PKPab 02 10 51.5 -1.2**

NNC ***11*** *02:09:18.8±6.1,36.˚71N×70.˚95E,h92km±109km,mb3.4, mpv4.0,Error ellipse: s-maj=48.2km s-min=40.2km az=0.0*

ISC 11 02:09:13.1±1.1,36.˚30N±0.˚06×71.˚3E±0.˚2,h188km,n15,
σ2°29/17,2C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.52**	**168**	⇓P		**Pn**	**02 09 56.6**	**-0.1**
CEP				S		**Sn**	**02 10 27.0**	**-3.6**
CHCP	**Chirah Chowk**	**3.10**	**148**	P		**Pn**	**02 10 04.2**	**+0.8**
THW	**Thamme Wali**	**3.52**	**173**	P		**Pn**	**02 10 09.2**	**+0.7**
SARP	**Sargodha**	**4.52**	**165**	P		**Pn**	**02 10 21.8**	**+0.7**
AML	**Almayashu**	**6.12**	**17**	P		**Pn**	**02 10 42.8**	**+0.8**
	SNR=38							
KZA	**Kyzart**	**6.55**	**27**	P		**Pn**	**02 10 49.0**	**+1.4**
	SNR=6.0							
EKS2	**Erkin-Say**	**6.64**	**16**	P		**Pn**	**02 10 50.0**	**+1.4**
	SNR=6.0							
AAK	**Ala-Archa**	**6.80**	**21**	P		**Pn**	**02 10 52.5**	**+1.8**
	SNR=15							
KK31	**Karatay Array**	**6.82**	**355**	⇑P		**Pn**	**02 10 51.3**	**+0.5**

8.4nm,0.3s,baz=181,slow=13,SNR=530
KK31 ⇓S **Sn** **02 12 03.0 -5.3**
3.7nm,0.3s,baz=180,slow=22,SNR=11
CHMS Chumysh 7.21 21 P **Pn** **02 10 57.4 +1.4**
SNR=7.2
USP Ospenovka 7.39 19 P **Pn** **02 10 59.6 +1.3**
SNR=20
TKM2 Tokmak 2 7.41 25 ⇓P **P** **02 11 00.2 +1.4**
2.2nm,0.5s
TKM2 ⇑S **Sn** **02 12 20.2 -2.2**
1.6nm,0.5s
TKM2 Tokmak 2 7.41 25 P **Pn** **02 11 00.2 +1.4**
SNR=5.1
AB31 Akbulak array 15.37 331 ⇓P **P** **02 12 43.7 +3.2**
1.1nm,0.4s,baz=143,slow=12,SNR=74
AKTO Aktyubinsk 17.06 330 ⇓P Pn 02 13 06.1 +5.6
0.3nm,0.6s

IDC 11 02:36:47.8±1.4, 30.60S×179.05W, h0km, mb3.8/4, mb1 4.1/4, mb1mx4.0/12, mbtmp3.8/4, MS3.8/9, Ms1 3.8/9, ms1mx3.5/24, Error ellipse: s-maj=65.1km s-min=33.2km az=164.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**15.52**	**300**	*e*LR	LR	02 42 57.3	
	1μm,25.3s						
DZM	**Mont Dzumac**	**15.52**	**300**	Pn	P	02 40 32.0	-0.7
	0.1nm,0.3s,baz=154,slow=13,SNR=3.7						
DZM				LR	LR	02 45 14.5	
	comp=Z,786nm,18.4s,baz=203,slow=33						
AFI	**Afiamalu**	**17.91**	**24**	LR	LR	02 45 37.1	
	comp=Z,61nm,19.5s,baz=156,slow=30						
TBI	**Tubuai**	**27.28**	**82**	*e*LQ	LQ	02 47 59.7	
	677nm,28.5s						
TBI				*e*LR	LR	02 49 28.0	
	109nm,28.2s						
HNR	**Honiara**	**28.76**	**313**	LR	LR	02 52 08.4	
	comp=Z,170nm,18.6s,baz=148,slow=32						
PPT2	**Papeete2**	**29.75**	**71**	*e*LR	LR	02 50 47.5	
	93nm,23.2s						
STKA	**Stephens Creek**	**33.55**	**257**	P	P	02 43 30.1	+0.6
	2.3nm,0.7s,baz=102,slow=11,SNR=2.8						
STKA				LR	LR	02 54 19.2	
	comp=Z,132nm,18.6s,baz=37,slow=31						
ASAR	**Alice Springs**	**42.20**	**268**	P	P	02 44 41.7	-0.9
	1.0nm,0.7s,baz=102,slow=7.5,SNR=6.2						
WRA	**Warramunga Arr**	**43.20**	**273**	P	P	02 44 49.2	-1.6
	0.7nm,0.4s,baz=112,slow=8.1,SNR=2.6						
KAPI	**Kappang**	**62.76**	**281**	LR	LR	03 14 20.5	
	comp=Z,38nm,18.8s,baz=107,slow=36						
PLCA	**Paso Flores**	**83.03**	**133**	LR	LR	03 16 24.8	
	comp=Z,151nm,20.5s,baz=242,slow=29						
KSRS	**Korea Array**	**83.92**	**320**	LR	LR	03 21 22.4	
	comp=Z,47nm,20.3s,baz=131,slow=32						
PETK	**Petropavlovsk-**	**85.78**	**346**	LR	LR	03 22 18.4	
	comp=Z,88nm,21.6s,baz=62,slow=32						
NVAR	**Mina Array Bea**	**89.00**	**43**	P	P	02 49 44.8	0.0
	0.4nm,0.9s,baz=223,slow=7.4,SNR=2.9						
PDAR	**Pinedale Array**	**96.90**	**44**	LR	LR	03 27 49.4	
	comp=Z,60nm,19.2s,baz=14,slow=32						
FINES	**FINESS Array B**	**145.01**	**339**	PKPbc	PKPbc	02 56 23.6	-2.0
	1.1nm,0.5s,baz=42,slow=3.1,SNR=5.0						
BRTR	**Keskin Array B**	**151.90**	**298**	PKPbc	PKPbc	02 56 46.6	+1.7
	1.0nm,1.1s,baz=347,slow=5.9,SNR=3.0						
BRTR				PKPab	PKPab	02 56 53.6	-0.5
	1.3nm,1.0s,baz=67,slow=3.7,SNR=3.4						
TORD	**Torodi Ar. Bea**	**162.62**	**182**	PKPab	PKPab	02 57 40.0	-0.4
	0.4nm,0.8s,baz=178,slow=3.8,SNR=3.2						

*ISCJB **11** 03:02:55.0±0.5, 45.79N±0.03×26.88E±0.04, h102km±4km, Error ellipse: s-maj=4.9km s-min=4.1km az=41.1*
*BUC **11** 03:02:55.2±1.1, 45.79N×26.87E, h100km±9km, MD3.9/2, Error ellipse: s-maj=8.4km s-min=7.4km az=102.0*
*CSEM **11** 03:02:55.7±0.2, 45.79N×26.88E, h98km±2km, MD3.9/2, Error ellipse: s-maj=3.2km s-min=2.9km az=138.0*
ISC 11 03:02:55.4±1.3, 45.79N±0.03×26.88E±0.03, h101km±6km, n98, σ0.957/119, 60C-27D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.13**	**306**	⇑*i*P	**Pn**	**03 03 09.6**	**+0.1**
VRI	**Vrincioaia**	**0.13**	**306**	⇑*i*P	**Pn**	**03 03 09.6**	**+0.1**
VRI				*i* S	**Sn**	**03 03 19.2**	**-0.8**
VRI	**Vrincioaia**	**0.13**	**306**	⇑*i*P	**Pn**	**03 03 09.6**	**+0.1**
VRI				*i* S	**Sn**	**03 03 19.2**	**-0.8**
ODBI	**Odobesti**	**0.13**	**103**	⇓*i*P	Pn	03 03 10.3	+0.9
ODBI	**Odobesti**	**0.13**	**103**	⇓*i*P	Pn	03 03 10.3	+0.9
ODBI	**Odobesti**	**0.13**	**103**	⇓*i*P	Pn	03 03 10.3	+0.9
PLOR	**Plostina**	**0.17**	**291**	⇑*i*P	**Pn**	**03 03 09.5**	**-0.1**
PLOR	**Plostina**	**0.17**	**291**	⇑*i*P	**Pn**	**03 03 09.5**	**-0.1**
PLOR				*i* S	**Sn**	**03 03 19.8**	**-0.4**
PLOR	**Plostina**	**0.17**	**291**	⇑*i*P	**Pn**	**03 03 09.5**	**-0.1**
PLOR				*i* S	**Sn**	**03 03 19.8**	**-0.4**
PETR		**0.26**	**105**	⇑*i*P	**Pn**	**03 03 10.1**	**+0.3**
PETR		**0.26**	**105**	⇑*i*P	**Pn**	**03 03 10.1**	**+0.3**
PETR				*i* S	**Sn**	**03 03 20.7**	**+0.1**
PETR		**0.26**	**105**	⇑*i*P	**Pn**	**03 03 10.1**	**+0.3**
PETR				*i* S	**Sn**	**03 03 20.7**	**+0.1**
GRER		**0.42**	**170**	⇑*i*P	Pn	03 03 11.9	+1.2
GRER		**0.42**	**170**	⇑*i*P	Pn	03 03 11.9	+1.2
GRER				*i* S	**Sn**	**03 03 22.6**	**+0.5**
GRER		**0.42**	**170**	⇑*i*P	Pn	03 03 11.9	+1.2
GRER				*i* S	**Sn**	**03 03 22.6**	**+0.5**
GHRR		**0.46**	**54**	⇑*i*P	**Pn**	**03 03 11.4**	**+0.5**
GHRR		**0.46**	**54**	⇑*i*P	**Pn**	**03 03 11.4**	**+0.5**
GHRR				*i* S	**Sn**	**03 03 23.1**	**+0.6**
GHRR		**0.46**	**54**	⇑*i*P	**Pn**	**03 03 11.4**	**+0.5**
GHRR				*i* S	**Sn**	**03 03 23.1**	**+0.6**
ISR	**Istrita**	**0.71**	**199**	⇑*i*P	Pn	03 03 13.9	+0.9
ISR	**Istrita**	**0.71**	**199**	⇑*i*P	Pn	03 03 13.9	+0.9
ISR	**Istrita**	**0.71**	**199**	⇑*i*P	Pn	03 03 13.9	+0.9
MLR	**Muntele Rosu**	**0.72**	**246**	⇑*i*P	**Pn**	**03 03 13.6**	**+0.4**
MLR	**Muntele Rosu**	**0.72**	**246**	⇑*i*P	**Pn**	**03 03 13.6**	**+0.4**
MLR				*i* S	**Sn**	**03 03 26.2**	**-0.3**
MLR	**Muntele Rosu**	**0.72**	**246**	⇑*i*P	**Pn**	**03 03 13.6**	**+0.4**
MLR				*i* S	**Sn**	**03 03 26.2**	**-0.3**
TESR		**0.74**	**348**	⇑*i*P	**Pn**	**03 03 13.0**	**-0.2**
TESR		**0.74**	**348**	⇑*i*P	**Pn**	**03 03 13.0**	**-0.2**
TESR				*i* S	**Sn**	**03 03 25.6**	**-1.0**
TESR		**0.74**	**348**	⇑*i*P	**Pn**	**03 03 13.0**	**-0.2**
TESR				*i* S	**Sn**	**03 03 25.6**	**-1.0**
PGOR	**Pogoanele**	**0.89**	**175**	⇑*i*P	**Pn**	**03 03 15.3**	**+0.7**
PGOR	**Pogoanele**	**0.89**	**175**	⇑*i*P	**Pn**	**03 03 15.3**	**+0.7**
PGOR				*i* S	**Sn**	**03 03 30.0**	**+0.9**
PGOR	**Pogoanele**	**0.89**	**175**	⇑*i*P	**Pn**	**03 03 15.3**	**+0.7**
PGOR				*i* S	**Sn**	**03 03 30.0**	**+0.9**
SECR		**0.95**	**217**	⇓*i*P	Pn	03 03 16.7	+1.4
SECR		**0.95**	**217**	⇓*i*P	Pn	03 03 16.7	+1.4
SECR		**0.95**	**217**	⇓*i*P	Pn	03 03 16.7	+1.4
PLAR	**PLOIESTI**	**1.06**	**215**	S	**Sn**	**03 03 31.8**	**-0.6**
PLAR	**PLOIESTI**	**1.06**	**215**	*i* S	**Sn**	**03 03 31.8**	**-0.6**
PLAR	**PLOIESTI**	**1.06**	**215**	*i* S	**Sn**	**03 03 31.8**	**-0.6**
CFR	**Carcaliu**	**1.08**	**124**	⇓*i*P	**Pn**	**03 03 17.0**	**+0.4**
CFR	**Carcaliu**	**1.08**	**124**	⇓*i*P	**Pn**	**03 03 17.0**	**+0.4**
CFR				*i* S	**Sn**	**03 03 32.0**	**-0.7**
CFR	**Carcaliu**	**1.08**	**124**	⇓*i*P	**Pn**	**03 03 17.0**	**+0.4**
CFR				*i* S	**Sn**	**03 03 32.0**	**-0.7**
LEOM	**Leova**	**1.17**	**54**	⇓*i*P	**Pn**	**03 03 18.2**	**+0.5**
LEOM	**Leova**	**1.17**	**54**	⇓*i*P	**Pn**	**03 03 18.2**	**+0.5**
LEOM				*i* S	**Sn**	**03 03 34.4**	**-0.2**
LEOM	**Leova**	**1.17**	**54**	⇓*i*P	**Pn**	**03 03 18.2**	**+0.5**
LEOM				*i* S	**Sn**	**03 03 34.4**	**-0.2**
SULR		**1.20**	**202**	⇑*i*P	**Pn**	**03 03 17.4**	**-0.6**
SULR		**1.20**	**202**	⇑*i*P	**Pn**	**03 03 17.4**	**-0.6**
SULR				*i* S	**Sn**	**03 03 34.5**	**-0.6**
SULR		**1.20**	**202**	⇑*i*P	**Pn**	**03 03 17.4**	**-0.6**
SULR				*i* S	**Sn**	**03 03 34.5**	**-0.6**
VOIR		**1.33**	**255**	⇓*i*P	**Pn**	**03 03 20.0**	**+0.3**
VOIR		**1.33**	**255**	⇓*i*P	**Pn**	**03 03 20.0**	**+0.3**
VOIR				*i* S	**Sn**	**03 03 38.0**	**-0.1**
VOIR		**1.33**	**255**	⇓*i*P	**Pn**	**03 03 20.0**	**+0.3**
VOIR				*i* S	**Sn**	**03 03 38.0**	**-0.1**
IAS	**Iasi**	**1.48**	**18**	⇓*i*P	**Pn**	**03 03 21.7**	**+0.3**
IAS	**Iasi**	**1.48**	**18**	⇓*i*P	**Pn**	**03 03 21.7**	**+0.3**
IAS				*i* S	**Sn**	**03 03 40.6**	**-0.5**
IAS	**Iasi**	**1.48**	**18**	⇓*i*P	**Pn**	**03 03 21.7**	**+0.3**
IAS				*i* S	**Sn**	**03 03 40.6**	**-0.5**
TLCR		**1.49**	**113**	⇑*i*P	**Pn**	**03 03 21.9**	**+0.4**
TLCR		**1.49**	**113**	⇑*i*P	**Pn**	**03 03 21.9**	**+0.4**
TLCR				*i* S	**Sn**	**03 03 41.0**	**-0.3**
CIOR	**Ciorogarla**	**1.52**	**208**	S	**Sn**	**03 03 42.1**	**+0.2**
CIOR	**Ciorogarla**	**1.52**	**208**	*i* S	**Sn**	**03 03 42.1**	**+0.2**
CIOR	**Ciorogarla**	**1.52**	**208**	*i* S	**Sn**	**03 03 42.1**	**+0.2**
BUC1	**Bucharest**	**1.56**	**203**	⇓*i*P	**Pn**	**03 03 23.1**	**+0.7**
BUC1	**Bucharest**	**1.56**	**203**	⇓*i*P	**Pn**	**03 03 23.1**	**+0.7**
BUC1				*i* S	**Sn**	**03 03 42.9**	**0.0**
BUC1	**Bucharest**	**1.56**	**203**	⇓*i*P	**Pn**	**03 03 23.1**	**+0.7**
BUC1				*i* S	**Sn**	**03 03 42.9**	**0.0**
CVD	**Cernavoda**	**1.69**	**151**	⇑*i*P	**Pn**	**03 03 24.2**	**+0.2**
CVD	**Cernavoda**	**1.69**	**151**	⇑*i*P	**Pn**	**03 03 24.2**	**+0.2**
CVD	**Cernavoda**	**1.69**	**151**	⇑*i*P	**Pn**	**03 03 24.2**	**+0.2**
TIRR	**Tirgusor**	**1.72**	**140**	⇑*i*P	**Pn**	**03 03 24.6**	**+0.2**
TIRR	**Tirgusor**	**1.72**	**140**	⇑*i*P	**Pn**	**03 03 24.6**	**+0.2**
TIRR				*i* S	**Sn**	**03 03 44.9**	**-1.5**
TIRR	**Tirgusor**	**1.72**	**140**	⇑*i*P	**Pn**	**03 03 24.6**	**+0.2**
TIRR				*i* S	**Sn**	**03 03 44.9**	**-1.5**
KIS	**Kishinev**	**1.81**	**47**	⇓*i*P	**Pn**	**03 03 26.0**	**+0.6**
KIS	**Kishinev**	**1.81**	**47**	⇓*i*P	**Pn**	**03 03 26.0**	**+0.6**
KIS				*i* S	**Sn**	**03 03 47.7**	**-0.6**
KIS	**Kishinev**	**1.81**	**47**	⇓*i*P	**Pn**	**03 03 26.0**	**+0.6**
KIS				*i* S	**Sn**	**03 03 47.7**	**-0.6**
HUMR	**Humele**	**1.84**	**227**	⇓*i*P	**Pn**	**03 03 26.3**	**+0.4**
HUMR	**Humele**	**1.84**	**227**	⇓*i*P	**Pn**	**03 03 26.3**	**+0.4**
HUMR				*i* S	**Sn**	**03 03 48.8**	**-0.4**
HUMR	**Humele**	**1.84**	**227**	⇓*i*P	**Pn**	**03 03 26.3**	**+0.4**
HUMR				*i* S	**Sn**	**03 03 48.8**	**-0.4**
EFOR	**EFORIE**	**2.12**	**143**	S	**Sn**	**03 03 54.8**	**-0.7**
EFOR	**EFORIE**	**2.12**	**143**	*i* S	**Sn**	**03 03 54.8**	**-0.7**
EFOR	**EFORIE**	**2.12**	**143**	*i* S	**Sn**	**03 03 54.8**	**-0.7**
BURAR	**Bucovina Array**	**2.15**	**329**	⇑*i*P	**Pn**	**03 03 30.5**	**+0.5**
BURAR	**Bucovina Array**	**2.15**	**329**	⇑*i*P	**Pn**	**03 03 30.5**	**+0.5**
BURAR	**Bucovina Array**	**2.15**	**329**	⇑*i*P	**Pn**	**03 03 30.5**	**+0.5**
MANR	**Mangalia**	**2.32**	**148**	⇑*i*P	**Pn**	**03 03 32.8**	**+0.7**
MANR	**Mangalia**	**2.32**	**148**	⇑*i*P	**Pn**	**03 03 32.8**	**+0.7**
MANR	**Mangalia**	**2.32**	**148**	⇑*i*P	**Pn**	**03 03 32.8**	**+0.7**
ZIMR		**2.39**	**207**	⇑*i*P	**Pn**	**03 03 33.1**	**+0.1**
ZIMR		**2.39**	**207**	⇑*i*P	**Pn**	**03 03 33.1**	**+0.1**
DEV	**Deva**	**2.78**	**273**	⇑*i*P	Pn	03 03 39.6	+1.5
DEV	**Deva**	**2.78**	**273**	⇑*i*P	Pn	03 03 39.6	+1.5
DEV	**Deva**	**2.78**	**273**	⇑*i*P	Pn	03 03 39.6	+1.5
GZR	**Gura Zlata**	**2.91**	**264**	⇑*i*P	**Pn**	**03 03 41.0**	**+1.1**
GZR	**Gura Zlata**	**2.91**	**264**	⇑*i*P	**Pn**	**03 03 41.0**	**+1.1**
GZR	**Gura Zlata**	**2.91**	**264**	⇑*i*P	**Pn**	**03 03 41.0**	**+1.1**
DRGR		**3.06**	**291**	⇑*i*P	**Pn**	**03 03 42.8**	**+0.9**
DRGR		**3.06**	**291**	⇑*i*P	**Pn**	**03 03 42.8**	**+0.9**
DRGR		**3.06**	**291**	⇑*i*P	**Pn**	**03 03 42.8**	**+0.9**
ZAPS	**Zavoj**	**3.94**	**232**	⇑*i*Pn	**Pn**	**03 03 53.6**	**-0.2**
VTS	**Vitosha**	**4.15**	**221**	⇑*i*P	**Pn**	**03 03 57.1**	**+0.4**
VTS	**Vitosha**	**4.15**	**221**	⇑*i*P	**Pn**	**03 03 57.1**	**+0.4**
VTS	**Vitosha**	**4.15**	**221**	⇑*i*P	**Pn**	**03 03 57.1**	**+0.4**
GRUS	**Gruza**	**4.78**	**249**	*e*Pn	**Pn**	**03 04 04.0**	**-1.0**
DIVS	**Divibare**	**5.17**	**253**	*e*Pn	**Pn**	**03 04 09.9**	**-0.6**

*IDC **11** 03:15:41.4±1.5, 6.70S×81.47W, h0km, mb3.9/4, mb1 4.1/7, mb1mx3.9/19, mbtmp4.0/7, ML3.7/1, Error ellipse: s-maj=53.7km s-min=22.0km az=38.0*
*NEIC **11** 03:15:49.0±2.6, 6.55S×81.13W, h46km±21km, mb4.0/5, Error ellipse: s-maj=30.4km s-min=12.6km az=58.0*
ISC 11 03:15:46.4±0.8, 7.0S±0.1×81.49W±0.09, h35km, n24, σ1.933/25, mb4.0/7, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.08**	**94**	Pn	**Pn**	**03 16 31.9**	**-1.1**
ATAH				Sn	**Sn**	**03 17 11.3**	**+2.5**
ATAH	**Atahualpa**	**3.08**	**94**	Pn	**Pn**	**03 16 31.9**	**-1.1**
	2.0nm,0.3s,baz=312,slow=14,SNR=13						
ATAH				Sn	**Sn**	**03 17 11.3**	**+2.5**
	21nm,0.3s,baz=338,slow=23,SNR=6.0						
NNA	**Nana**	**6.79**	**138**	*e*Pn	Pn	03 17 40.8	+17
NNA				Sn	**Sn**	**03 18 38.6**	**-1.2**
NNA	**Nana**	**6.79**	**138**	Pn	**Pn**	**03 17 25.4**	**+1.7**
	1.5nm,0.3s,baz=309,slow=14,SNR=2.8						
NNA				Sn	**Sn**	**03 18 38.6**	**-1.2**
	1.1nm,0.3s,baz=353,slow=16,SNR=2.7						
OTAV	**Otavalo**	**7.76**	**23**	*e*Pn	Pn	03 17 32.4	-4.9
	9.2nm,0.9s						
LPAZ	**La Paz**	**16.03**	**127**	*e*P	**P**	**03 19 35.3**	**+2.2**
	23nm,1.1s						
LPAZ	**La Paz**	**16.03**	**127**	Pn	**P**	**03 19 32.9**	**-0.2**
	baz=309,slow=10						
SAML	**Samuel**	**18.24**	**97**	*e*P	**Pn**	**03 19 54.3**	**-2.7**
	16nm,1.4s						
SIV	**San Ignacio**	**21.92**	**116**	P	**P**	**03 20 36.6**	**-0.3**
SIV	**San Ignacio**	**21.92**	**116**	P	**P**	**03 20 36.6**	**-0.3**
	9.2nm,1.0s,baz=303,slow=13,SNR=19						
PLCA	**Paso Flores**	**35.03**	**165**	*e*P	P	03 22 41.0	+5.1
	2.1nm,0.8s						
SDCO	**Great Sand Dun**	**49.79**	**335**	*e*P	**P**	**03 24 37.5**	**+1.4**
	0.8nm,0.8s						
DUG	**Dugway**	**55.09**	**331**	*e*P	**P**	**03 25 14.8**	**-0.4**
	0.8nm,0.7s						
YKA	**Yellowknife Ar**	**73.76**	**345**	P	**P**	**03 27 15.9**	**-0.8**
YKA	**Yellowknife Ar**	**73.76**	**345**	P	**P**	**03 27 16.0**	**-0.8**
	0.1nm,0.4s,baz=148,slow=7.2,SNR=3.0						
ESDC	**Sonseca Array**	**84.89**	**49**	P	**P**	**03 28 18.4**	**+0.3**
ESDC	**Sonseca Array**	**84.89**	**49**	P	**P**	**03 28 18.4**	**+0.3**
	2.6nm,0.9s,baz=262,slow=6.0,SNR=8.1						
TORD	**Torodi Ar. Bea**	**84.98**	**76**	P	**P**	**03 28 18.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**84.98**	**76**	P	**P**	**03 28 18.5**	**-0.3**
	1.1nm,1.0s,baz=281,slow=4.8,SNR=5.2						
ABKAR	**Akbulak array**	**126.83**	**31**	*e*PKPdf	**PKPdf**	**03 34 47.2**	**+0.7**
KURK	**Kurchatov**	**133.34**	**17**	PKP	**PKPdf**	**03 34 58.5**	**-0.3**
KURBB	**Kurchatov Arra**	**133.39**	**17**	PKP	**PKPdf**	**03 34 58.5**	**-0.4**
	0.6nm,0.8s,baz=333,slow=1.7,SNR=3.4						
ASAR	**Alice Springs**	**133.95**	**228**	PKP	**PKPdf**	**03 35 01.7**	**+0.8**
ASAR	**Alice Springs**	**133.95**	**228**	PKP	**PKPdf**	**03 35 01.7**	**+0.8**
	0.7nm,0.9s,baz=110,slow=2.2,SNR=4.1						

*IDC **11** 03:22:59.8±3.7, 39.85N×54.57E, h43km±31km, mb3.3/11, mb1 3.5/15, mb1mx3.4/30, mbtmp3.4/15, ML3.6/1, Error ellipse: s-maj=41.0km s-min=17.1km az=165.0*
*CSEM **11** 03:23:08.1±2.8, 40.52N×55.82E, h0km, mb3.5, After NNC NNC **11** 03:23:08.1±2.8, 40.52N×55.82E, h0km, mb3.5, Error ellipse: s-maj=27.8km s-min=15.9km az=59.0*
ISC 11 03:22:58.5±0.9, 39.9N±0.1×54.93E±0.06, h35km, n36, σ2.952/44, mb3.5/9, 7C-8D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**7.42**	**285**	P	**Pn**	**03 24 43.6**	**-0.6**
DGRG				S	**Sn**	**03 26 01.6**	**-5.6**
GNI	**Garni**	**7.82**	**275**	P	**Pn**	**03 24 48.2**	**-1.7**
	0.6nm,0.3s,baz=336,slow=12,SNR=2.9						
GNI				S	**Sn**	**03 26 21.9**	**+4.6**
	0.9nm,0.3s,baz=19,slow=18,SNR=2.3						
TBLG	**Delisi**	**7.93**	**286**	P	Pn	03 24 48.3	-3.0
TBLG				S	Sn	03 26 10.5	-9.3
AB31	**Akbulak array**	**9.98**	**19**	⇓Pn	**Pn**	**03 25 22.1**	**+2.9**
	0.9nm,0.2s,baz=202,slow=13,SNR=138						
AB31				⇓Sn	**Sn**	**03 27 09.9**	**0.0**
	7.4nm,0.6s,baz=189,slow=24,SNR=6.5						
AB31	**Akbulak array**	**9.98**	**19**	Pn	**Pn**	**03 25 22.1**	**+2.9**
	0.9nm,0.2s,SNR=138						
AB31				Sn	**Sn**	**03 27 09.9**	**0.0**
	7.4nm,0.6s,SNR=6.5						
AKTO	**Aktyubinsk**	**10.72**	**11**	⇓Pn	**Pn**	**03 25 32.4**	**+3.0**
	0.3nm,0.6s						
AKTO				⇓Sn	**Sn**	**03 27 25.7**	**-2.4**
	0.9nm,0.5s						
AKTO	**Aktyubinsk**	**10.72**	**11**	P	**Pn**	**03 25 31.8**	**+2.4**
	0.4nm,0.3s,baz=196,slow=11,SNR=14						
AKTO				S	**Sn**	**03 27 28.2**	**+0.1**
	1.5nm,0.3s,baz=180,slow=20,SNR=7.6						
AKTO	**Aktyubinsk**	**10.72**	**11**	Pn	**Pn**	**03 25 32.4**	**+3.0**
	0.3nm,0.6s						
AKTO				Sn	**Sn**	**03 27 25.7**	**-2.4**
	0.9nm,0.5s						
KK31	**Karatay Array**	**12.10**	**70**	⇑Pn	**Pn**	**03 25 49.3**	**+1.0**
	1.1nm,0.5s,baz=254,slow=17,SNR=7.5						
KK31				⇓Sn	**Sn**	**03 27 57.0**	**-5.0**
	0.5nm,0.3s						
KK31	**Karatay Array**	**12.10**	**70**	Pn	**Pn**	**03 25 49.3**	**+1.0**
	1.1nm,0.5s,SNR=7.5						
KK31				Sn	**Sn**	**03 27 57.0**	**-5.0**
	0.5nm,0.3s						
AAK	**Ala-Archa**	**14.95**	**73**	P	**Pn**	**03 26 29.3**	**+2.0**
	0.1nm,0.3s,baz=206,slow=12,SNR=3.2						
BRTR	**Keskin Array B**	**16.36**	**276**	P	**P**	**03 26 49.4**	**+1.3**
	0.1nm,0.3s,baz=84,slow=10,SNR=3.3						
BVA0	**Borovoye Array**	**16.82**	**34**	⇓P	**P**	**03 26 54.7**	**+1.7**
	0.3nm,0.7s,baz=220,slow=13,SNR=12						
BVA0				⇑S	**Sn**	**03 29 52.8**	**-4.0**
	0.3nm,0.5s,baz=227,slow=26,SNR=6.9						
BVA0	**Borovoye Array**	**16.82**	**34**	P	**P**	**03 26 54.7**	**+1.7**
	0.3nm,0.7s,SNR=12						
BVA0				S	**Sn**	**03 29 52.8**	**-4.0**
	0.3nm,0.5s,SNR=6.9						
BVAR	**Borovoye Array**	**16.82**	**34**	P	**P**	**03 26 53.5**	**+0.6**
	0.4nm,0.3s,baz=219,slow=12,SNR=13						
BVAR				S	**Sn**	**03 29 53.2**	**-3.6**
	0.8nm,0.3s,baz=227,slow=23,SNR=6.6						
VOSK	**Vostochnaya**	**16.87**	**35**	⇑P	**P**	**03 26 55.8**	**+2.3**
	2.1nm,0.6s						
KURBB	**Kurchatov Arra**	**19.66**	**49**	P	**Pn**	**03 27 28.9**	**+3.2**
	0.0nm,0.3s,baz=239,slow=9.5,SNR=2.9						
AKASG	**Malin Array Be**	**20.93**	**309**	P	**P**	**03 27 36.5**	**-1.4**
	3.7nm,0.5s,baz=104,slow=9.2,SNR=12						
MK31	**Makanchi Array**	**20.97**	**62**	⇑P	Pn	03 27 43.9	+2.7
	0.3nm,0.5s,baz=252,slow=13,SNR=4.5						
MK31	**Makanchi Array**	**20.97**	**62**	P	Pn	03 27 43.9	+2.7
	0.3nm,0.5s,SNR=4.5						
MKAR	**Makanchi Array**	**20.97**	**62**	P	Pn	03 27 42.5	+1.3
	0.3nm,0.5s,baz=253,slow=10,SNR=4.4						
VRI	**Vrincioaia**	**21.43**	**295**	⇑*i*P	**P**	**03 27 42.4**	**-0.9**
PLOR	**Plostina**	**21.48**	**295**	⇑*i*P	**P**	**03 27 42.6**	**-1.3**
MLR	**Muntele Rosu**	**21.94**	**294**	⇑*i*P	**P**	**03 27 47.8**	**-1.2**
MLR	**Muntele Rosu**	**21.94**	**294**	P	**P**	**03 27 47.4**	**-1.6**
	0.3nm,0.5s,baz=8.7,slow=13,SNR=4.1						
VOIR		**22.57**	**294**	⇑*i*P	**P**	**03 27 56.4**	**+0.8**
BURAR	**Bucovina Array**	**22.68**	**300**	⇑*i*P	**P**	**03 27 56.1**	**-0.8**
ZALV	**Zalesovo Beam**	**24.53**	**45**	P	**P**	**03 28 16.9**	**+2.4**
	0.7nm,0.4s,baz=254,slow=9.2,SNR=3.3						
FINES	**FINESS Array B**	**27.83**	**330**	P	**P**	**03 28 44.7**	**+0.5**
	0.7nm,0.4s,baz=136,slow=9.7,SNR=4.8						
ARCES	**ARCESS Array B**	**33.48**	**342**	P	**P**	**03 29 35.4**	**+1.5**
	8.7nm,1.0s,baz=133,slow=8.7,SNR=4.6						
NB2	**NORSAR Subarra**	**34.00**	**323**	P	**P**	**03 29 37.9**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=109,slow=9.3						
NOA	**NORSAR Array B**	**34.00**	**323**	P	**P**	**03 29 38.0**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=112,slow=8.4,SNR=4.4						
ESDC	**Sonseca Array**	**44.51**	**289**	P	**P**	**03 31 04.6**	**-2.0**
	comp=Z,0.4nm,0.5s,baz=59,slow=7.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**53.64**	**256**	P	**P**	**03 32 15.0**	**-1.7**
	comp=Z,0.1nm,0.4s,baz=62,slow=7.6,SNR=3.3						
ILAR	**Eielson Array**	**74.23**	**10**	P	**P**	**03 34 32.8**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=339,slow=4.8,SNR=3.5						
YKA	**Yellowknife Ar**	**77.57

ZALV	Zalesovo Beam	25.29	21	P		P	03 33 38.7	-0.3
	comp=N,0.8nm,0.6s,baz=202,slow=11,SNR=3.5							
CMAR	Chiang Mai Arr	28.87	109	P		P	03 34 16.5	+4.9
CMAR	Chiang Mai Arr	28.87	109	P		P	03 34 16.5	+4.9
	comp=N,0.9nm,0.3s,baz=302,slow=9.7,SNR=3.5							
BR131	Keskin Array S	30.87	297	*eP*		P	03 34 29.8	+0.5
	comp=N,1.1nm,0.6s							
BRTR	Keskin Array B	30.87	297	P		P	03 34 29.9	+0.7
BRTR	Keskin Array B	30.87	297	P		P	03 34 29.9	+0.7
	comp=N,1.1nm,0.6s,baz=113,slow=9.7,SNR=7.7							
SONM	Songino Array	32.31	48	P		P	03 34 44.1	+2.2
SONM	Songino Array	32.31	48	P		P	03 34 44.1	+2.2
	comp=N,0.7nm,0.9s,baz=249,slow=7.6,SNR=5.5							
AKASG	Malin Array Be	36.12	315	P		P	03 35 14.4	-0.2
AKASG	Malin Array Be	36.12	315	P		P	03 35 14.4	-0.2
	comp=N,2.5nm,0.7s,baz=104,slow=7.1,SNR=8.1							
MLR	Muntele Rosu	37.16	306	P		P	03 35 24.5	+0.8
MLR	Muntele Rosu	37.16	306	P		P	03 35 24.5	+0.8
	comp=N,0.5nm,0.7s,baz=143,slow=6.5,SNR=4.8							
ARCES	ARCESS Array B	46.04	340	P		P	03 36 36.4	+0.5
ARCES	ARCESS Array B	46.04	340	P		P	03 36 36.4	+0.5
	comp=N,2.7nm,1.0s,baz=105,slow=6.7,SNR=4.8							
KSAR	Wonju Array Be	47.55	66	P		P	03 36 49.6	+1.4
KSRS	Korea Array	47.57	66	P		P	03 36 49.6	+1.2
	comp=N,0.8nm,0.7s,baz=271,slow=7.7,SNR=4.5							
NOA	NORSAR Array B	48.48	326	P		P	03 36 54.5	-0.6
NOA	NORSAR Array B	48.48	326	P		P	03 36 54.5	-0.6
	comp=N,0.4nm,0.5s,baz=104,slow=7.8,SNR=2.9							
LPG	La Plagne	50.62	306	*eP*		P	03 37 10.8	-1.2
	comp=N,24nm,1.1s							
LPL	La Plagne	50.63	306	*eP*		P	03 37 10.0	-2.0
	comp=N,9.4nm,0.7s							
ASAJ	Asahikawa	57.19	55	LR		LR	04 02 19.9	
	comp=N,59nm,21.5s,baz=340,slow=36							
ESDC	Sonseca Array	59.54	301	P		P	03 38 15.8	-0.4
ESDC	Sonseca Array	59.54	301	P		P	03 38 15.8	-0.4
	comp=N,0.5nm,0.7s,baz=73,slow=6.6,SNR=4.1							
TOA0	Torodi Ar. Sit	64.98	271	*eP*		P	03 38 52.9	0.0
TORD	Torodi Ar. Bea	64.98	271	P		P	03 38 52.8	-0.1
TORD	Torodi Ar. Bea	64.98	271	P		P	03 38 52.8	-0.1
	comp=N,1.0nm,0.6s,baz=64,slow=5.4,SNR=11							
WRA	Warramunga Arr	79.73	121	P		P	03 40 25.4	+4.6
WRA	Warramunga Arr	79.73	121	P		P	03 40 25.4	+4.6
	comp=N,2.0nm,1.0s,baz=315,slow=5.3,SNR=7.6							
WRAB	Tennant Creek	79.73	121	P		P	03 40 24.9	+4.1
	comp=N,2.5nm,0.9s							
ASAR	Alice Springs	81.72	124	P		P	03 40 32.9	+1.4
ASAR	Alice Springs	81.72	124	P		P	03 40 32.9	+1.4
	comp=N,0.8nm,0.7s,baz=309,slow=5.3,SNR=7.7							
YKA	Yellowknife Ar	86.79	2	P		P	03 40 57.3	+0.7
YKA	Yellowknife Ar	86.79	2	P		P	03 40 57.3	+0.7
	comp=N,0.5nm,0.7s,baz=348,slow=4.8,SNR=12							

*SKO **11** 03:53:18.8, 40.20N×25.82E, h1km*
*SOF **11** 03:53:18.5, 40.33N×25.80E, h10km, MD2.9*
*CSEM **11** 03:53:19.5±0.1, 40.32N×25.80E, h5km, MD3.2, Error ellipse: s-maj=2.1km s-min=1.4km az=35.0*
*ATH **11** 03:53:19.4, 40.34N×25.83E, h28km, MD3.2/7*
*ISCJB **11** 03:53:19.2±0.4, 40.34N±0.02×25.80E±0.02, h8km±3km, Error ellipse: s-maj=3.0km s-min=2.3km az=137.5*
*DDA **11** 03:53:20, 40.31N×25.90E, h7km, MD3.3*
*THE **11** 03:53:20.3, 40.34N×25.82E, h8km, ML2.8/8, Error ellipse: s-maj=1.0km s-min=0.4km az=77.0*
*ISK **11** 03:53:20.0, 40.32N×25.90E, h9km, MD3.2*

ISC 11 03:53:19.9±1.0, 40.32N±0.02×25.82E±0.02, h10km±8km, n157,σ0°62/200, 5C-11D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENEZ	Enez	0.49	32	PG	Pg	03 53 29.4	0.0
ENEZ				SG	Sg	03 53 35.9	+0.1
ENEZ	Enez	0.49	32	*i* Pg	Pg	03 53 29.4	0.0
ENEZ				*i* Sg	Sg	03 53 35.9	+0.1
GELI	Tayfur-Gelibol	0.51	81	*e*PG	Pg	03 53 29.6	-0.1
GELI	Tayfur-Gelibol	0.51	81	*e*Pg	Pg	03 53 29.6	-0.1
BOZC	Bozcaada	0.51	159	*i* Pg	Pg	03 53 30.1	+0.3
BOZC				*i* Sg	Sg	03 53 37.0	+0.4
ALN	Alexandroupoli	0.60	17	P	Pg	03 53 31.4	-0.1
ALN				S	Sg	03 53 39.7	+0.3
ALN	Alexandroupoli	0.60	17	*e*PN	Sg	03 53 31.4	-0.1
ALN				*e*SN	Sg	03 53 39.5	+0.1
ALN	Alexandroupoli	0.60	17	P	Pg	03 53 31.4	-0.1
ALN				*e*Sn	Sg	03 53 39.5	+0.1
EZN	Ezine	0.63	142	*e*PG	Pg	03 53 31.8	-0.3
EZN				*e*SG	Sg	03 53 40.4	+0.1
EZN	Ezine	0.63	142	*e*Pg	Pg	03 53 31.8	-0.3
EZN				*e*Sg	Sg	03 53 40.4	+0.1
ERIK	Erikli-Kesan	0.63	56	*e*PG	Pg	03 53 31.9	-0.2
ERIK	Erikli-Kesan	0.63	56	*e*Pg	Pg	03 53 31.9	-0.2
LIA	Limnos Island	0.65	229	P	Pg	03 53 32.8	+0.4
LIA				S	Sb	03 53 42.6	+0.3
LIA	Limnos Island	0.65	229	*e*PN	Pg	03 53 32.8	+0.4
LIA				*e*SN	Sb	03 53 42.7	+0.4
LIA	Limnos Island	0.65	229	P	Pg	03 53 32.8	+0.4
LIA				S	Sb	03 53 42.6	+0.3
LPK	Lapseki	0.72	86	*e*PG	Pg	03 53 33.6	-0.2
LPK	Lapseki	0.72	86	*e*Pg	Pg	03 53 33.6	-0.2
RDO	Rodhopi	0.85	346	P	Pg	03 53 36.0	-0.3
RDO				S	Sg	03 53 48.1	+0.7
RDO	Rodhopi	0.85	346	*e*PN	Pg	03 53 36.0	-0.3
RDO				*e*SN	Sg	03 53 47.7	+0.3
RDO	Rodhopi	0.85	346	P	Pg	03 53 36.0	-0.3
RDO				*e*Sn	Sg	03 53 47.7	+0.3
RDO				S	Sg	03 53 48.1	+0.7
RKY	Sarkoy-Tekirda	1.10	70	*e*PG	Pg	03 53 40.1	-0.9
RKY	Sarkoy-Tekirda	1.10	70	*e*Pg	Pg	03 53 40.1	-0.9
PRK	Paraskevi	1.13	162	P	Pg	03 53 41.3	-0.3
PRK				S	Sn	03 53 57.8	+0.4
PRK	Paraskevi	1.13	162	*e*PN	Pg	03 53 41.3	-0.3
PRK				*e*SN	Sg	03 53 56.1	-0.2
PRK	Paraskevi	1.13	162	P	Pg	03 53 41.3	-0.3
PRK				*e*Sn	Sg	03 53 56.1	-0.2
PRK				S	Sn	03 53 57.8	+0.4
KRBG	Karabiga-Canak	1.13	86	*e*PG	Pb	03 53 40.3	-1.3
KRBG	Karabiga-Canak	1.13	86	*e*Pg	Pb	03 53 40.3	-1.3
KAVA	Kavala	1.20	305	P	Pb	03 53 42.2	-0.5
KAVA				S	Sb	03 53 58.8	+0.5
KAVA	Kavala	1.20	305	P	Pb	03 53 42.2	-0.5
KAVA				S	Sb	03 53 58.8	+0.5
MFT	Murefte	1.21	67	*e*PN	Pb	03 53 42.5	-0.4
MFT	Murefte	1.21	67	*e*Pn	Pb	03 53 42.5	-0.4
AYVA	Ayvalik	1.22	146	*i* P	Pb	03 53 42.4	-0.6
AYVA				*i* S	Sb	03 53 58.2	-0.5
AYVA	Ayvalik	1.22	146	*i* P	Pb	03 53 42.4	-0.6
AYVA				*i* S	Sb	03 53 58.2	-0.5
KDZ	Kurdzhali	1.36	347	*i* P	Pn	03 53 45.0	0.0
KDZ	Kurdzhali	1.36	347	*i* P	Pn	03 53 45.0	0.0
OUR	Ouranopolis	1.40	271	P	Pn	03 53 44.6	-1.0
OUR				S	Sn	03 54 04.7	+0.5
OUR	Ouranopolis	1.40	271	P	Pn	03 53 44.6	-1.0
OUR				S	Sn	03 54 04.7	+0.5
GONE	Gonen-Balikesi	1.46	100	*e*PN	Pn	03 53 46.5	+0.3
GONE	Gonen-Balikesi	1.46	100	*e*Pn	Pn	03 53 46.6	+0.3
TKR	Tekirdag	1.47	62	*e*PN	Pn	03 53 46.3	-0.1
TKR	Tekirdag	1.47	62	*e*Pn	Pn	03 53 46.3	-0.1
BALY	Balya	1.50	112	*e*P	Pn	03 53 47.4	+0.5
BALY				*e*S	Sn	03 54 06.7	+0.1
BALY	Balya	1.50	112	*e*P	Pn	03 53 47.4	+0.5
BALY				*e*S	Sn	03 54 06.7	+0.1
EDC	Edincik	1.56	88	*e*PN	Pn	03 53 47.9	+0.1
EDC	Edincik	1.56	88	*e*Pn	Pn	03 53 47.9	+0.1
RZN	Rozhen	1.60	329	*i* P	Pn	03 53 48.1	-0.4
RZN	Rozhen	1.60	329	*i* P	Pn	03 53 48.1	-0.4
BNT	Bandirma	1.61	88	*e*PN	Pn	03 53 48.1	-0.3
BNT	Bandirma	1.61	88	*e*Pn	Pn	03 53 48.1	-0.3
CRLT	Corlu	1.67	60	*e*PN	Pn	03 53 49.2	0.0
CRLT	Corlu	1.67	60	*e*Pn	Pn	03 53 49.2	0.0
EDRB	Edirne	1.68	24	*e*PN	Pn	03 53 50.2	+0.9
EDRB	Edirne	1.68	24	*e*Pn	Pn	03 53 50.2	+0.9
BALB	Balikesir	1.72	113	*e*PN	Pn	03 53 49.7	-0.3
BALB	Balikesir	1.72	113	*e*Pn	Pn	03 53 49.7	-0.3
DIM	Dimitrovgrad	1.74	353	*i* P	Pn	03 53 49.9	-0.3
DIM	Dimitrovgrad	1.74	353	*i* P	Pn	03 53 49.9	-0.3
NVR	Nevrokopi	1.81	305	P	Pn	03 53 50.9	-0.2
NVR				S	Sn	03 54 14.3	+0.1
NVR	Nevrokopi	1.81	305	*e*PN	Pn	03 53 50.9	-0.2
NVR				*e*SN	Sn	03 54 13.2	-0.9
NVR	Nevrokopi	1.81	305	P	Pn	03 53 50.9	-0.2
NVR				*e*Sn	Sn	03 54 13.3	-0.9
NVR				S	Sn	03 54 14.3	+0.1
PLG	Polygyros	1.81	272	P	Pn	03 53 50.7	-0.6
PLG				S	Sn	03 54 14.4	0.0
PLG	Polygyros	1.81	272	*e*PN	Pn	03 53 50.6	-0.7
PLG				*e*SN	Sn	03 54 13.2	-1.2
PLG	Polygyros	1.81	272	P	Pn	03 53 50.7	-0.6
PLG				*e*Sn	Sn	03 54 13.2	-1.2
PLG				S	Sn	03 54 14.4	0.0
SRS	Serrai	1.87	296	P	Pn	03 53 51.4	-0.6
SRS	Serrai	1.87	296	P	Pn	03 53 51.4	-0.6
CHOS	Chios island	1.94	175	P	Pn	03 53 53.0	-0.1
CHOS				S	Sn	03 54 18.3	+0.7
CHOS	Chios island	1.94	175	*e*PN	Pn	03 53 52.9	-0.1
CHOS	Chios island	1.94	175	P	Pn	03 53 53.0	-0.1
CHOS				S	Sn	03 54 18.3	+0.7
KCTX	Karacabey (Bur	1.94	91	*e*PN	Pn	03 53 53.2	+0.2
KCTX	Karacabey (Bur	1.94	91	*e*Pn	Pn	03 53 53.2	+0.2
SOH	Sokhos	1.94	286	P	Pn	03 53 53.0	0.0
SOH	Sokhos	1.94	286	P	Pn	03 53 53.0	0.0
PLD	Plovdiv	1.97	335	P	Pn	03 53 53.6	+0.2
PLD				S	Sn	03 54 18.6	+0.5
PLD	Plovdiv	1.97	335	P	Pn	03 53 53.6	+0.2
PLD				S	Sn	03 54 18.6	+0.5
MMB	Musomiste	2.03	309	P	Pn	03 53 53.2	-1.0
MMB	Musomiste	2.03	309	P	Pn	03 53 53.2	-1.0
SLVT	Silivri	2.03	63	*e*PN	Pn	03 53 54.8	+0.6
SLVT	Silivri	2.03	63	*e*Pn	Pn	03 53 54.8	+0.6
AKHS	Akhisar	2.11	132	*e*P	Pn	03 53 55.4	+0.1
AKHS				*e*S	Sb	03 54 23.8	-0.7
AKHS	Akhisar	2.11	132	*e*P	Pn	03 53 55.4	+0.1
AKHS				*e*S	Sb	03 54 23.8	-0.7
AKS	Akhisar	2.11	132	*e*PN	Pn	03 53 55.7	+0.4
AKS	Akhisar	2.11	132	*e*Pn	Pn	03 53 55.7	+0.4
BLCB	Balcova	2.15	153	*e*PN	Pn	03 53 56.6	+0.7
BLCB	Balcova	2.15	153	*e*Pn	Pn	03 53 56.6	+0.7
CTYL	Yal??k??y-??at	2.20	58	*e*PN	Pn	03 53 56.6	+0.1
CTYL	Yal??k??y-??at	2.20	58	*e*Pn	Pn	03 53 56.6	+0.1
IZM	Izmir	2.22	149	*e*PN	Pn	03 53 57.7	+0.8
IZM	Izmir	2.22	149	*e*Pn	Pn	03 53 57.7	+0.8
CTKS	Kestanelik-??a	2.24	65	*e*PN	Pn	03 53 57.1	+0.2
CTKS	Kestanelik-??a	2.24	65	*e*Pn	Pn	03 53 57.2	+0.2
DST	Dursunbey	2.27	108	*e*PN	Pn	03 53 57.7	+0.2
DST	Dursunbey	2.27	108	*e*Pn	Pn	03 53 57.7	+0.2
MDNY	Mudanya-Bursa	2.34	88	*e*PN	Pn	03 53 58.7	+0.2
MDNY	Mudanya-Bursa	2.34	88	*e*Pn	Pn	03 53 58.7	+0.2
ORLT	Orhaneli	2.37	96	*e*PN	Pn	03 53 59.5	+0.6
ORLT	Orhaneli	2.37	96	*e*Pn	Pn	03 53 59.5	+0.6
BGKT	Bogazkoy	2.40	68	*e*PN	Pn	03 54 00.1	+0.8
BGKT	Bogazkoy	2.40	68	*e*Pn	Pn	03 54 00.1	+0.8
PGB	Panagyurishte	2.55	331	P	Pn	03 54 01.2	-0.2
PGB	Panagyurishte	2.55	331	P	Pn	03 54 01.2	-0.2
ISK	Istanbul-Kandi	2.57	72	*e*PN	Pn	03 54 01.9	+0.3
ISK	Istanbul-Kandi	2.57	72	*e*Pn	Pn	03 54 01.9	+0.3
GEMT	Gemlik	2.58	86	*e*PN	Pn	03 54 02.2	+0.5
GEMT	Gemlik	2.58	86	*e*Pn	Pn	03 54 02.2	+0.5
KKB	Krupnik	2.58	308	P	Pn	03 54 02.8	+1.0
KKB	Krupnik	2.58	308	P	Pn	03 54 02.8	+1.0
KLYT	Kilyos	2.62	68	*e*PN	Pn	03 54 02.7	+0.5
KLYT	Kilyos	2.62	68	*e*Pn	Pn	03 54 02.7	+0.5
VAY	Valandovo	2.66	293	*e*Pn	Pn	03 54 04.1	+1.2
VAY				*e*Sg	Sg	03 54 45.2	-0.1
VAY	Valandovo	2.66	293	*e*Pn	Pn	03 54 01.5	-1.3
VAY				*e*Sg	Sg	03 54 45.6	+0.3
YLV	Yalova	2.72	84	*e*PN	Pn	03 54 05.0	+1.2
YLV	Yalova	2.72	84	*e*Pn	Pn	03 54 05.0	+1.2
SMG	Samos	2.73	163	*e*PN	Pn	03 54 03.8	0.0
SMG	Samos	2.73	163	*e*Pn	Pn	03 54 03.8	0.0
KULA	Kula-Manisa	2.85	128	*e*PN	Pn	03 54 06.4	+0.9
KULA	Kula-Manisa	2.85	128	*e*Pn	Pn	03 54 06.4	+0.9
SZH	Strazhica	2.94	2	P	Pn	03 54 06.8	0.0
SZH	Strazhica	2.94	2	P	Pn	03 54 06.8	0.0
ADVT	Abdulvahap	3.00	87	*e*PN	Pn	03 54 08.3	+0.8
ADVT	Abdulvahap	3.00	87	*e*Pn	Pn	03 54 08.3	+0.8
VTS	Vitosha	3.00	320	‖ *i*P	Pn	03 54 08.3	+0.6
VTS	Vitosha	3.00	320	*i* P	Pn	03 54 08.0	+0.3
VTS	Vitosha	3.00	320	*i* P	Pn	03 54 08.0	+0.3
SILT	Sile	3.02	73	*e*PN	Pn	03 54 08.3	+0.5
SILT	Sile	3.02	73	*e*Pn	Pn	03 54 08.3	+0.5
EYL	Eskiyayla	3.29	84	*e*PN	Pn	03 54 12.3	+0.6
EYL	Eskiyayla	3.29	84	*e*Pn	Pn	03 54 12.3	+0.6
GPA	Golpazari	3.43	89	*e*PN	Pn	03 54 14.7	+1.2
GPA	Golpazari	3.43	89	*e*Pn	Pn	03 54 14.7	+1.2
ALT	Altintas	3.54	110	*e*PN	Pn	03 54 16.0	+0.9
ALT	Altintas	3.54	110	*e*Pn	Pn	03 54 16.0	+0.9
GULT	Gulveren	3.59	87	*e*PN	Pn	03 54 16.3	+0.6
GULT	Gulveren	3.59	87	*e*Pn	Pn	03 54 16.3	+0.6
BARS	Barje	3.90	311	‖ *i*Pn	Pn	03 54 20.4	+0.5
ESKT	Eskisehir	3.95	100	*e*PN	Pn	03 54 21.7	+1.0
ESKT	Eskisehir	3.95	100	*e*Pn	Pn	03 54 21.7	+1.0
SHUT	Suhut-Afyon	4.07	114	*e*PN	Pn	03 54 23.2	+0.9
SHUT	Suhut-Afyon	4.07	114	*e*Pn	Pn	03 54 23.2	+0.9
SVRH	Sivrihisar-ESK	4.47	99	*e*PN	Pn	03 54 29.6	+1.7
SVRH	Sivrihisar-ESK	4.47	99	*e*Pn	Pn	03 54 29.6	+1.7
BOLS	Boljevac	4.53	322	*e*Pn	Pn	03 54 28.8	+0.2
VOIR		5.14	354	‖ *i*P	Pn	03 54 36.9	-0.2
VOIR		5.14	354	‖ *i*P	Pn	03 54 36.9	-0.2
CFR	Carcaliu	5.14	19	‖ *i*P	Pn	03 54 37.1	+0.1
CFR	Carcaliu	5.14	19	‖ *i*P	Pn	03 54 37.1	+0.1
MLR	Muntele Rosu	5.17	1	‖ *i*P	Pn	03 54 38.9	+1.5
MLR	Muntele Rosu	5.17	1	‖ *i*P	Pn	03 54 38.9	+1.5
GRUS	Gruza	5.21	315	*e*Pn	Pn	03 54 37.8	0.0
GZR	Gura Zlata	5.54	337	‖ *i*P	Pn	03 54 42.2	-0.3
GZR	Gura Zlata	5.54	337	‖ *i*P	Pn	03 54 42.2	-0.3
PLOR	Plostina	5.56	6	‖ *i*P	Pn	03 54 44.5	+1.8
PLOR	Plostina	5.56	6	‖ *i*P	Pn	03 54 44.5	+1.8
DIVS	Divibare	5.74	313	*e*Pn	Pn	03 54 45.2	-0.1
BZS	Buzias	6.12	331	‖ *i*P	Pn	03 54 50.5	+0.1
BZS	Buzias	6.12	331	‖ *i*P	Pn	03 54 50.5	+0.1
DRGR		6.85	342	‖ *i*P	Pn	03 55 01.3	+0.8
DRGR		6.85	342	‖ *i*P	Pn	03 55 01.3	+0.8

*IDC **11** 03:56:25.8±1.8, 19.03N×39.18E, h0km, mb3.9/10, mb1 3.9/11,mb1mx3.8/27, mbtmp3.9/11, ML3.3/1, MS3.4/6, Ms1 3.4/6, ms1mx3.0/41, Error ellipse: s-maj=40.2km s-min=20.8km az=165.0*
*ISCJB **11** 03:56:26.3±1.1, 19.1N±0.2×39.2E±0.1, h13km, mb4.0/14, MS3.6/4, Error ellipse: s-maj=22.7km s-min=12.9km az=165.8*
*NEIC **11** 03:56:26.9±0.9, 18.95N×39.23E, h10km, mb4.2/5, Error ellipse: s-maj=18.6km s-min=11.6km az=167.0*

ISC 11 03:56:27.4±1.5, 19.0N±0.2×39.2E±0.1, h13km, n33, σ1°02/29, mb4.1/14, MS3.5/4, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	Arta Tunnel	8.18	154	LR	LR	04 01 12.0	
	comp=Z,101nm,20.3s,baz=2,slow=35						
EIL	Elat	11.34	341	Pn	Pn	03 59 09.8	+0.6
EIL	Elat	11.34	341	Pn	Pn	03 59 09.8	+0.6
	0.2nm,0.3s,baz=142,slow=15,SNR=2.6						
EIL				LR	LR	04 02 33.7	
	comp=Z,119nm,19.9s,baz=261,slow=33						
BRTR	Keskin Array B	21.24	348	P	P	04 01 14.7	+1.3
BRTR	Keskin Array B	21.24	348	P	P	04 01 14.7	+1.3
	5.6nm,0.9s,baz=164,slow=13,SNR=14						
BR131	Keskin Array S	21.24	348	*e*P	P	04 01 14.4	+1.1
	13nm,1.2s						
GNI	Garni	21.64	12	LR	LR	04 10 17.2	
	comp=Z,89nm,19.7s,baz=79,slow=38						
AKASG	Malin Array Be	32.65	348	P	P	04 02 57.2	-1.7
AKASG	Malin Array Be	32.65	348	P	P	04 02 57.2	-1.7
	0.2nm,0.3s,baz=170,slow=7.2,SNR=5.3						
ABKAR	Akbulak array	34.50	24	*e*P	P	04 03 14.8	-0.4
	4.0nm,1.1s						
MORC	Moravsky Berou	35.30	336	*e*P	P	04 03 22.0	-0.1
	2.2nm,0.7s						
TOA0	Torodi Ar. Sit	36.49	267	*e*P	P	04 03 33.4	+0.8
TORD	Torodi Ar. Bea	36.49	267	P	P	04 03 33.2	+0.6
TORD	Torodi Ar. Bea	36.49	267	P	P	04 03 33.2	+0.6
	3.2nm,0.9s,baz=77,slow=8.3,SNR=13						
TORD				LR	LR	04 19 20.2	
	comp=Z,71nm,21.4s,baz=340,slow=38						
TKM2	Tokmak 2	38.83	44	*e*P	P	04 03 52.5	+0.1
	2.3nm,0.9s						
BVAR	Borovoye Array	41.69	28	P	P	04 04 17.7	+2.0
BVAR	Borovoye Array	41.69	28	P	P	04 04 17.7	+2.0
	0.6nm,0.7s,baz=211,slow=8.1,SNR=3.8						
ESDC	Sonseca Array	42.45	308	P	P	04 04 21.4	-0.8
ESDC	Sonseca Array	42.45	308	P	P	04 04 21.4	-0.8
	0.9nm,0.8s,baz=107,slow=8.2,SNR=2.8						
FINES	FINESS Array B	43.43	351	P	P	04 04 28.4	-1.3
FINES	FINESS Array B	43.43	351	P	P	04 04 28.4	-1.3
	1.1nm,0.7s,baz=157,slow=7.5,SNR=3.2						
KURBB	Kurchatov Arra	44.31	35	P	P	04 04 37.3	+0.4
	2.5nm,0.8s,baz=241,slow=8.1,SNR=11						
KURK	Kurchatov	44.41	35	*e*P	P	04 04 38.4	+0.7
	8.3nm,1.4s						
DBIC	Dimbokro	44.56	260	LR	LR	04 22 03.5	
	comp=Z,52nm,18.1s,baz=51,slow=34						
MK31	Makanchi Array	44.77	42	*e*P	P	04 04 41.0	+0.2
MKAR	Makanchi Array	44.77	42	P	P	04 04 41.1	+0.4
MKAR	Makanchi Array	44.77	42	P	P	04 04 41.1	+0.4
	2.8nm,0.8s,baz=242,slow=6.2,SNR=26						
ZAA0	Zalesovo Array	49.30	34	*e*P	P	04 05 15.6	-0.3
ZALV	Zalesovo Beam	49.30	34	P	P	04 05 15.7	-0.3
ZALV	Zalesovo Beam	49.30	34	P	P	04 05 15.7	-0.3
	1.8nm,0.7s,baz=250,slow=7.5,SNR=14						
SONM	Songino Array	60.91	45	P	P	04 06 40.2	+0.1
SONM	Songino Array	60.91	45	P	P	04 06 40.2	+0.1
	1.4nm,1.0s,baz=265,slow=7.4,SNR=8.1						
PETK	Petropavlovsk-	90.81	32	LR	LR	04 53 14.2	
	comp=Z,93nm,21.1s,baz=16,slow=38						

*SKO **11** 04:16:25.2, 40.18N×25.76E, h0km*
*ISCJB **11** 04:16:25.7±0.4, 40.34N±0.02×25.82E±0.02, h7km±3km, Error ellipse: s-maj=3.0km s-min=2.4km az=136.0*
*DDA **11** 04:16:25.6, 40.33N×25.85E, h8km, MD3.2*
*ATH **11** 04:16:26.1, 40.34N×25.83E, h29km, MD3.0/6*
*SOF **11** 04:16:26.2, 40.45N×25.82E, h6km, MD2.8*
*CSEM **11** 04:16:26.4±0.1, 40.33N×25.84E, h8km, MD3.3, Error ellipse: s-maj=2.0km s-min=1.5km az=27.0*
*ISK **11** 04:16:26.8, 40.34N×25.92E, h12km, MD3.3*
*THE **11** 04:16:26.6, 40.33N×25.82E, h4km±1km, ML2.6/7, Error ellipse: s-maj=1.2km s-min=0.5km az=107.0*

ISC 11 04:16:26.2±1.1, 40.34N±0.02×25.83E±0.02, h8km±9km, n157,σ0°61/196, 3C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENEZ	Enez	0.47	32	*e*PG	Pb	04 16 36.0	-0.7
ENEZ				*e*SG	Sb	04 16 42.8	-1.1
ENEZ	Enez	0.47	32	*e*Pg	Pb	04 16 36.0	-0.7
ENEZ				*e*Sg	Sb	04 16 42.8	-1.1
GELI	Tayfur-Gelibol	0.50	83	*e*PG	Pg	04 16 35.8	-0.1
GELI	Tayfur-Gelibol	0.50	83	*e*Pg	Pg	04 16 35.8	-0.1
BOZC	Bozcaada	0.52	161	*i* P	Pg	04 16 36.7	+0.3
BOZC				*i* S	Sg	04 16 43.8	+0.6
ALN	Alexandroupoli	0.58	16	P	Pg	04 16 37.9	+0.5
ALN				S	Sb	04 16 46.3	-0.9
ALN	Alexandroupoli	0.58	16	*e*PN	Pg	04 16 38.0	+0.5
ALN				*e*SN	Sb	04 16 46.3	-0.9
ALN	Alexandroupoli	0.58	16	*e*Pn	Pg	04 16 38.0	+0.5
ALN				*e*S

DURS				*i* S	**Sn**	**04 17 29.6**	**-0.1**				
BLCB	**Balcova**	**2.17**	**154**	*e*PN	**Pn**	**04 17 03.5**	**+0.9**				
BLCB	**Balcova**	**2.17**	**154**	*e*Pn	**Pn**	**04 17 03.5**	**+0.9**				
CTYL	**Yal??k??y-??at**	**2.18**	**58**	*e*PN	**Pn**	**04 17 02.9**	**+0.1**				
CTYL	**Yal??k??y-??at**	**2.18**	**58**	*e*Pn	**Pn**	**04 17 02.9**	**+0.1**				
JMB	**Yambol**	**2.20**	**15**	P	**Pn**	**04 17 03.8**	**+0.7**				
JMB				S	**Sn**	**04 17 31.8**	**+1.3**				
JMB	**Yambol**	**2.20**	**15**	*e*Pg	**Pg**	**04 17 07.8**	**-0.6**				
JMB	**Yambol**	**2.20**	**15**	P	**Pn**	**04 17 03.8**	**+0.7**				
JMB	**Yambol**	**2.20**	**15**	*e*Pg	**Pg**	**04 17 07.8**	**-0.6**				
JMB				S	**Sn**	**04 17 31.8**	**+1.3**				
CTKS	**Kestanelik-??a**	**2.22**	**65**	*e*PN	**Pn**	**04 17 02.8**	**-0.6**				
CTKS	**Kestanelik-??a**	**2.22**	**65**	*e*Pn	**Pn**	**04 17 02.8**	**-0.6**				
IZM	**Izmir**	**2.23**	**150**	*e*PN	**Pn**	**04 17 04.2**	**+0.6**				
IZM	**Izmir**	**2.23**	**150**	*e*Pn	**Pn**	**04 17 04.2**	**+0.6**				
DST	**Dursunbey**	**2.27**	**108**	PN	**Pn**	**04 17 04.5**	**+0.5**				
DST	**Dursunbey**	**2.27**	**108**	*i* Pn	**Pn**	**04 17 04.5**	**+0.5**				
MDNY	**Mudanya-Bursa**	**2.33**	**88**	*e*PN	**Pn**	**04 17 04.5**	**-0.4**				
MDNY	**Mudanya-Bursa**	**2.33**	**88**	*e*Pn	**Pn**	**04 17 04.5**	**-0.4**				
ORLT	**Orhaneli**	**2.37**	**96**	*e*PN	**Pn**	**04 17 05.1**	**-0.4**				
ORLT	**Orhaneli**	**2.37**	**96**	*e*Pn	**Pn**	**04 17 05.1**	**-0.4**				
BGKT	**Bogazkoy**	**2.39**	**68**	*e*PN	**Pn**	**04 17 05.9**	**+0.2**				
BGKT	**Bogazkoy**	**2.39**	**68**	*e*Pn	**Pn**	**04 17 05.9**	**+0.2**				
ISK	**Istanbul-Kandi**	**2.56**	**72**	*e*PN	**Pn**	**04 17 08.0**	**-0.1**				
ISK	**Istanbul-Kandi**	**2.56**	**72**	*e*Pn	**Pn**	**04 17 08.0**	**-0.1**				
GEMT	**Gemlik**	**2.57**	**87**	*e*PN	**Pn**	**04 17 08.5**	**+0.4**				
GEMT	**Gemlik**	**2.57**	**87**	*e*Pn	**Pn**	**04 17 08.5**	**+0.4**				
DEMI	**Demirci**	**2.58**	**119**	*i* P	**Pn**	**04 17 08.9**	**+0.6**				
DEMI				*i* S	**Sn**	**04 17 39.6**	**-0.3**				
DEMI	**Demirci**	**2.58**	**119**	*i* P	**Pn**	**04 17 08.9**	**+0.6**				
DEMI				*i* S	**Sn**	**04 17 39.6**	**-0.3**				
KKB	**Krupnik**	**2.58**	**307**	*i* Pg	**Pb**	**04 17 12.8**	**+0.1**				
KKB	**Krupnik**	**2.58**	**307**	*i* Pb	**Pb**	**04 17 12.8**	**+0.1**				
KLYT	**Kilyos**	**2.61**	**68**	*e*PN	**Pn**	**04 17 08.8**	**+0.2**				
KLYT	**Kilyos**	**2.61**	**68**	*e*Pn	**Pn**	**04 17 08.8**	**+0.2**				
VAY	**Valandovo**	**2.66**	**293**	*e*Pn	**Pn**	**04 17 10.3**	**+0.9**				
VAY	**Valandovo**	**2.66**	**293**	*e*Pn	**Pn**	**04 17 10.7**	**+1.3**				
YLV	**Yalova**	**2.71**	**84**	*e*PN	**Pn**	**04 17 10.7**	**+0.5**				
YLV	**Yalova**	**2.71**	**84**	*e*Pn	**Pn**	**04 17 10.7**	**+0.5**				
KULA	**Kula-Manisa**	**2.85**	**129**	*e*PN	**Pn**	**04 17 13.0**	**+0.9**				
KULA	**Kula-Manisa**	**2.85**	**129**	*e*Pn	**Pn**	**04 17 13.0**	**+0.9**				
SZH	**Strazhica**	**2.93**	**2**	*i* P	**Pn**	**04 17 13.0**	**-0.1**				
SZH	**Strazhica**	**2.93**	**2**	*i* P	**Pn**	**04 17 13.0**	**-0.1**				
HRT	**Hereke**	**2.96**	**79**	*e*PN	**Pn**	**04 17 14.1**	**+0.5**				
HRT	**Hereke**	**2.96**	**79**	*e*Pn	**Pn**	**04 17 14.1**	**+0.5**				
ADVT	**Abdulvahap**	**2.99**	**87**	*e*PN	**Pn**	**04 17 14.3**	**+0.4**				
ADVT	**Abdulvahap**	**2.99**	**87**	*e*Pn	**Pn**	**04 17 14.3**	**+0.4**				
VTS	**Vitosha**	**2.99**	**320**	‖ *i*P	**Pg**	**04 17 22.9**	**-0.6**				
VTS	**Vitosha**	**2.99**	**320**	S	**Sg**	**04 17 03.2**	**+0.9**				
VTS	**Vitosha**	**2.99**	**320**	*i* P	**Pn**	**04 17 15.4**	**+1.3**				
VTS	**Vitosha**	**2.99**	**320**	*i* P	**Pn**	**04 17 15.4**	**+1.3**				
SILT	**Sile**	**3.01**	**73**	*e*PN	**Pn**	**04 17 14.6**	**+0.4**				
SILT	**Sile**	**3.01**	**73**	*e*Pn	**Pn**	**04 17 14.6**	**+0.4**				
GDZ	**Gediz**	**3.08**	**113**	*i* P	**Pn**	**04 17 15.3**	**0.0**				
GDZ				*i* S	**Sn**	**04 17 55.3**	**+2.9**				
GDZ	**Gediz**	**3.08**	**113**	*i* P	**Pn**	**04 17 15.3**	**0.0**				
GDZ				*i* S	**Sn**	**04 17 55.3**	**+2.9**				
MPEP	**Malo Peshtene**	**3.40**	**333**	*i* P	**Pn**	**04 17 20.5**	**+1.0**				
KHAL	**Karahalli**	**3.45**	**123**	*i* P	**Pn**	**04 17 21.2**	**+0.8**				
KHAL	**Karahalli**	**3.45**	**123**	*i* P	**Pn**	**04 17 21.2**	**+0.8**				
KHL	**Karahalli**	**3.50**	**124**	*e*PN	**Pn**	**04 17 21.8**	**+0.7**				
KHL	**Karahalli**	**3.50**	**124**	*e*Pn	**Pn**	**04 17 21.8**	**+0.7**				
ALT	**Altintas**	**3.54**	**110**	*e*PN	**Pn**	**04 17 22.0**	**+0.4**				
ALT	**Altintas**	**3.54**	**110**	*e*Pn	**Pn**	**04 17 22.0**	**+0.4**				
GULT	**Gulveren**	**3.58**	**87**	*e*PN	**Pn**	**04 17 22.8**	**+0.7**				
GULT	**Gulveren**	**3.58**	**87**	*e*Pn	**Pn**	**04 17 22.8**	**+0.7**				
BARS	**Barje**	**3.90**	**311**	*e*Pn	**Pn**	**04 17 27.4**	**+1.0**				
ESKT	**Eskisehir**	**3.95**	**100**	*e*PN	**Pn**	**04 17 28.1**	**+0.9**				
ESKT	**Eskisehir**	**3.95**	**100**	*e*Pn	**Pn**	**04 17 28.1**	**+0.9**				
SHUT	**Suhut-Afyon**	**4.07**	**114**	*e*PN	**Pn**	**04 17 29.4**	**+0.5**				
SHUT	**Suhut-Afyon**	**4.07**	**114**	*e*Pn	**Pn**	**04 17 29.4**	**+0.5**				
MLR	**Muntele Rosu**	**5.15**	**1**	‖ *i*P	Pb	04 17 53.0	-3.6				
GRUS	**Gruza**	**5.20**	**315**	*e*Pn	**Pn**	**04 17 44.7**	**+0.4**				
GZR	**Gura Zlata**	**5.53**	**337**	‖ *i*P	**Pn**	**04 17 48.8**	**-0.1**				
GZR	**Gura Zlata**	**5.53**	**337**	‖ *i*P	**Pn**	**04 17 48.8**	**-0.1**				
DIVS	**Divibare**	**5.74**	**313**	*e*Pn	**Pn**	**04 17 52.6**	**+0.9**				
BZS	**Buzias**	**6.11**	**331**	‖ *i*P	**Pn**	**04 17 57.4**	**+0.6**				
BZS	**Buzias**	**6.11**	**331**	‖ *i*P	**Pn**	**04 17 57.4**	**+0.6**				

MOS **11** *04:17:26.4±1.3, 0.°01S×124.°15E, h33km, mb5.2/27, Error ellipse: s-maj=11.2km s-min=6.1km az=115.1*
ISCJB **11** *04:17:31.0±0.5, 0.°07S±0.°03×124.°47E±0.°03, h77km±4km, mb4.9/97, Error ellipse: s-maj=5.1km s-min=4.3km az=35.6*
BJI **11** *04:17:30.1, 0.°10S×124.°30E, h60km, mB5.1/36, mb4.8/46, Ms4.7/34, Ms7 4.3/37*
IDC **11** *04:17:30.4±1.4, 0.°05S×124.°27E, h56km±12km, mb4.6/32, mb1 4.6/33, mb1mx4.6/34, mbtmp4.6/33, MS3.8/18, Ms1 3.8/18, ms1mx3.6/31, Error ellipse: s-maj=14.3km s-min=8.9km az=76.0*
NEIC **11** *04:17:31.3±0.7, 0.°08S×124.°29E, h63km±6km, mb5.0/45, Error ellipse: s-maj=7.0km s-min=4.4km az=73.0*
DJA **11** *04:17:33, 0.°09S×124.°55E, h69km, mb5.4/26*
ISC 11 04:17:31.4±0.3, 0.°12S±0.°03×124.°36E±0.°04, h64km±2km, h64km:pP-P, n419, σ1°33/513, mb5.0/97, 49C-50D, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
LUWI	**Luwuk**	**1.83**	**240**	P	**Pn**	**04 18 02.7**			**+2.0**
TNTI	**Ternate**	**3.13**	**74**	P	**Pn**	**04 18 18.1**			**-0.3**
LBMI	**Labuha**	**3.18**	**99**	P	**Pn**	**04 18 19.7**			**-1.4**
NLAI	**Namlea**	**4.14**	**139**	P	**Pn**	**04 18 31.0**			**-1.1**
AAI	**Ambon** 2µm,0.9s,34µm7.2nm	**5.22**	**133**	P	**Pn**	**04 18 47.0**			**0.0**
MSAI	**Masohi** 1µm,0.8s,13µm4.4nm	**5.58**	**125**	P	**Pn**	**04 18 52.4**			**+0.5**
BBSI	**Bau Bau**	**5.62**	**198**	P	Pn	04 19 00.9			+8.3
BKSI	**Bulukumba** 335nm,0.8s,4µm1.3nm	**6.68**	**219**	P	**Pn**	**04 19 09.9**			**+2.9**
KAPI	**Kappang**	**6.70**	**223**	*e*Pn	**Pn**	**04 19 08.4**			**+1.2**
KAPI				*e*S	**Sn**	**04 20 22.0**			**-0.1**
KAPI	**Kappang** 548nm,1.0s,6µm1.8nm	**6.70**	**223**	P	**Pn**	**04 19 09.2**			**+2.0**
KAPI	**Kappang** 99nm,0.3s,baz=46,slow=5.0,SNR=106	**6.70**	**223**	P	**Pn**	**04 19 08.8**			**+1.6**
KAPI	19nm,0.3s,baz=72,slow=20,SNR=3.3			S	**Sn**	**04 20 23.2**			**+1.0**
KAPI	comp=Z,773nm,18.4s,baz=65,slow=46			LR	LR	04 22 36.8			
SWI	**Sorong** 272nm,0.8s,3µm1.0nm	**6.94**	**96**	P	**Pn**	**04 19 10.6**			**+0.1**
BNDI	**Bandanaira** 2µm,0.9s,5.0nm	**7.06**	**128**	P	**Pn**	**04 19 13.0**			**+0.8**
DAV	**Davao City (W)**	**7.24**	**10**	P	Pn	04 19 19.0			+4.2
DAV	**Davao City (W)** 13nm,0.3s,baz=172,slow=4.7,SNR=13	**7.24**	**10**	P	Pn	04 19 19.0			+4.2
CTBH	**Cotabato--PC H**	**7.29**	**359**	‖ *i*P	**Pn**	**04 19 16.8**			**+1.5**
TSM	**Tawau**	**7.82**	**304**	P	**Pn**	**04 19 23.7**			**+1.0**
FAKI	**Fak Fak** 240nm,0.7s,3µm1.9nm	**8.36**	**110**	P	**Pn**	**04 19 28.3**			**-1.7**
SDKM	**Sandakan**	**9.16**	**309**	P	**Pn**	**04 19 43.1**			**+2.1**
BBKI	**Banjar Baru** 304nm,0.6s,4µm	**10.08**	**251**	P	Pn	04 19 58.1			+4.6
KDM	**Kudat**	**10.26**	**313**	P	**Pn**	**04 19 58.2**			**+2.3**
PLKI	**Palangkaraya** 1µm,0.7s	**10.62**	**259**	P	Pn	04 20 08.7			+7.8
BTM	**Bintulu**	**11.74**	**286**	P	**Pn**	**04 20 18.9**			**+2.7**
SBUM	**Sibu**	**12.40**	**282**	P	**Pn**	**04 20 27.9**			**+2.7**
SBUM	**Sibu** 58nm,1.0s,772nm	**12.40**	**282**	P	**Pn**	**04 20 27.7**			**+2.4**
KMMI	**Kalianget** 294nm,1.2s,4µm	**12.45**	**236**	P	P	04 20 31.1			-4.4
STKI	**Sintang** 158nm,0.7s,26µm	**12.88**	**271**	P	P	04 20 36.2			-4.2
JAGI	**Jajag, Banyuwa**	**13.12**	**231**	P	P	04 20 50.9			+7.9
GMJI	**Gumukmas**	**13.56**	**233**	P	P	04 20 52.2			+4.3
KSM	**Kuching**	**14.14**	**276**	*e*Pn	**P**	**04 20 52.8**			**-1.5**
KSM	**Kuching**	**14.14**	**276**	P	**P**	**04 20 52.3**			**-2.0**
KSM	**Kuching** 165nm,0.8s,1µm	**14.14**	**276**	P	**P**	**04 20 53.8**			**-0.5**
KRKI	**Karangkates**	**14.30**	**236**	P	P	04 21 00.1			+4.0
TGY	**Tagaytay City**	**14.53**	**347**	P	**P**	**04 20 58.9**			**+0.2**
TGY	**Tagaytay City** 94nm,0.3s,baz=170,slow=8.1,SNR=4.4	**14.53**	**347**	P	**P**	**04 20 58.9**			**+0.2**
SJI	**Sawahan** 298nm,1.0s,5µm	**14.66**	**239**	P	**P**	**04 21 00.8**			**+0.6**
PWJI	**Pageruojo** 180nm,1.3s	**14.77**	**238**	P	**P**	**04 21 00.9**			**-0.5**

SMRI	**Semarang**	**15.50**	**243**	P	P	04 21 20.3	+11				
TGJI	**Tegal**	**16.61**	**246**	P	P	04 21 27.5	+5.7				
FITZ	**Fitzroy Crossi** 29nm,0.8s	**17.91**	**176**	*e*Pn	**P**	**04 21 35.4**	**-0.7**				
FITZ	**Fitzroy Crossi** 48nm,0.8s	**17.91**	**176**	*e*P	**P**	**04 21 35.5**	**-0.6**				
FITZ	**Fitzroy Crossi** 2.1nm,0.3s,baz=12,slow=9.8,SNR=31	**17.91**	**176**	P	**P**	**04 21 35.9**	**-0.2**				
FITZ	comp=Z,190nm,18.4s,baz=354,slow=39			LR	LR	04 29 09.7					
CISI	**Cisompet, Garu** 185nm,1.0s,2µm	**18.07**	**245**	P	**Pn**	**04 21 41.2**	**+2.8**				
PPBI	**Pangkal Pinang** 59nm,0.6s,13µm	**18.33**	**264**	P	**Pn**	**04 21 42.4**	**+1.0**				
CBJI	**Citeko** 693nm,0.9s	**18.56**	**250**	P	**Pn**	**04 21 45.5**	**+1.3**				
KASI	**Kota Agung** 129nm,0.6s,2µm	**20.55**	**255**	P	Pn	04 22 08.2	+0.5				
MYKOM	**Kota Tinggi**	**20.59**	**275**	P	Pn	04 22 07.7	-0.6				
MYKOM	**Kota Tinggi** 88nm,0.7s,849nm	**20.59**	**275**	P	Pn	04 22 07.8	-0.5				
LWLI	**Liwa** 174nm,0.8s,9µm	**20.85**	**256**	P	Pn	04 22 16.3	+4.8				
KGM	**Kluang**	**21.14**	**276**	P	**P**	**04 22 13.6**	**+2.2**				
MBWA	**Marble Bar** 81nm,0.9s	**21.40**	**192**	*e*P	**P**	**04 22 14.3**	**+0.4**				
MBWA	**Marble Bar**	**21.40**	**192**	*e*P	**P**	**04 22 14.2**	**+0.2**				
KTGM	**Kuala Trenggan**	**21.88**	**285**	P	**P**	**04 22 21.1**	**+1.9**				
WRAB	**Tennant Creek**	**21.99**	**154**	*e*P	**P**	**04 22 19.3**	**-1.1**				
WRAB				*e*		04 26 17.4					
WRAB	comp=Z,92nm,0.7s			pmax	pmax						
WRAB	**Tennant Creek** comp=Z,92nm,0.7s	**21.99**	**154**	*e*P	**P**	**04 22 19.2**	**-1.1**				
WRAB				*e*		04 26 17.4					
WRAB	**Tennant Creek** comp=Z,795nm,0.7s,SNR=34	**21.99**	**154**	P	**P**	**04 22 19.0**	**-1.4**				
WRA	**Warramunga Arr**	**21.99**	**154**	P	**P**	**04 22 19.6**	**-0.9**				
WRA				S	**S**	**04 26 16.1**	**-3.6**				
WRA				ScP	**ScP**	**04 29 48.5**	**-0.4**				
WRA	**Warramunga Arr** comp=Z,41nm,0.5s,baz=336,slow=11,SNR=139	**21.99**	**154**	P	**P**	**04 22 19.6**	**-0.9**				
WRA	comp=Z,18nm,1.1s,baz=338,slow=17,SNR=7.8			S	**S**	**04 26 16.1**	**-3.6**				
WRA	comp=Z,1.7nm,0.8s,baz=338,slow=2.9,SNR=5.3			ScP	**ScP**	**04 29 48.5**	**-0.4**				
FRIM	**Kepong**	**22.97**	**279**	P	**P**	**04 22 32.3**	**+1.5**				
KRJI	**Kerinci** comp=Z,599nm,0.9s,comp=Z,45µm	**22.98**	**265**	P	**P**	**04 22 32.4**	**+1.4**				
COEN	**Coen** comp=Z,398nm,0.9s	**23.15**	**127**	*e*P	**P**	**04 22 31.2**	**-1.4**				
COEN				*e*S	**S**	**04 26 42.9**	**+3.6**				
COEN	**Coen** comp=Z,278nm,0.6s	**23.15**	**127**	*e*P	**P**	**04 22 31.1**	**-1.5**				
TPUB	**Ta-pu** comp=Z,59nm,0.9s	**23.56**	**351**	*e*P	**P**	**04 22 35.5**	**-0.8**				
YULB	**Yu-li** comp=Z,13nm,0.8s	**23.56**	**353**	*e*P	**P**	**04 22 35.7**	**-0.6**				
IPM	**Ipoh** comp=Z,56nm,0.8s	**23.75**	**281**	*e*P	**P**	**04 22 38.5**	**+0.3**				
IPM	**Ipoh**	**23.75**	**281**	P	**P**	**04 22 39.4**	**+1.1**				
IPM	**Ipoh** comp=Z,79nm,0.8s,comp=Z,656nm	**23.75**	**281**	P	**P**	**04 22 38.8**	**+0.6**				
QIZ	**Qiongzhong**	**23.77**	**324**	P	**P**	**04 22 40.2**	**+1.9**				
QIZ				pP	**pP**	**04 22 54.2**	**+0.8**				
QIZ				sP	**sP**	**04 23 01.4**	**+0.3**				
QIZ				S	**S**	**04 26 52.4**	**+3.1**				
QIZ	comp=Z,24nm,1.8s			pmax	pmax						
QIZ	comp=Z,54nm,3.5s			pmax	pmax						
QIZ	comp=N,320nm,14.3s			LR	LR						
QIZ	comp=Z,360nm,25.1s			LR	LR						
QIZ	**Qiongzhong** comp=Z,16nm,0.7s	**23.77**	**324**	*e*P	**P**	**04 22 40.1**	**+1.8**				
SSLB	**Suanglung** comp=Z,18nm,0.7s	**23.99**	**352**	*e*P	**P**	**04 22 39.0**	**-1.3**				
GUMO	**Guam**	**24.46**	**55**	P	**P**	**04 22 47.0**	**+2.4**				
GUMO	**Guam** comp=Z,16nm,0.3s,baz=119,slow=19,SNR=2.3	**24.46**	**55**	P	**P**	**04 22 47.0**	**+2.4**				
PMG	**Port Moresby** comp=Z,50nm,1.0s	**24.50**	**113**	*e*P	**P**	**04 22 45.2**	**+0.2**				
PMG	**Port Moresby** comp=Z,35nm,0.7s	**24.50**	**113**	P	**P**	**04 22 45.8**	**+0.9**				
PMG	**Port Moresby** comp=Z,18nm,0.5s,baz=341,slow=4.6,SNR=12	**24.50**	**113**	P	**P**	**04 22 45.0**	**0.0**				
YHNB	**Yeheng**	**24.81**	**354**	*e*P	**P**	**04 22 48.6**	**+0.9**				
AS31	**Alice Springs**	**25.18**	**159**	*e*P	**P**	**04 22 51.3**	**+0.2**				
AS31				*e*		04 23 05.3					
AS31				*e*PcP	**PcP**	**04 26 24.5**	**+0.8**				
ASAR	**Alice Springs**	**25.18**	**159**	P	**P**	**04 22 51.3**	**+0.2**				
ASAR				PcP	**PcP**	**04 26 24.1**	**+0.4**				
ASAR				S	**S**	**04 27 11.8**	**0.0**				
ASAR				ScP	**ScP**	**04 29 57.6**	**+0.2**				
ASAR	**Alice Springs** comp=Z,24nm,0.8s,baz=338,slow=8.1,SNR=98	**25.18**	**159**	P	**P**	**04 22 51.3**	**+0.2**				
ASAR	comp=Z,13nm,0.5s,baz=350,slow=2.2,SNR=20			PcP	**PcP**	**04 26 24.1**	**+0.4**				
ASAR	comp=Z,3.7nm,0.9s,baz=353,slow=22,SNR=4.0			S	**S**	**04 27 11.9**	**0.0**				
ASAR	comp=Z,1.4nm,1.0s,baz=357,slow=2.5,SNR=4.5			ScP	**ScP**	**04 29 57.6**	**+0.2**				
QZH	**Quanzhou** comp=Z,700nm,16.4s	**25.53**	**348**	P	**P**	**04 22 56.9**	**+2.7**				
QZH				LR	LR						
PSI	**Prapat**	**25.59**	**277**	P	**P**	**04 22 53.9**	**-1.2**				
PSI	**Prapat** comp=Z,50nm,0.9s	**25.59**	**277**	P	**P**	**04 22 54.4**	**-0.7**				
PSI	**Prapat** comp=Z,30nm,0.8s,baz=102,slow=5.4,SNR=31	**25.59**	**277**	P	**P**	**04 22 53.9**	**-1.2**				
PSI	comp=Z,166nm,20.3s,baz=101,slow=38			LR	LR	04 33 40.9					
GSI	**Gunungsitoli** comp=Z,37nm,0.7s	**26.82**	**273**	P	**P**	**04 23 05.3**	**-0.7**				
MEEK	**Meekatharra** comp=Z,96nm,0.6s	**26.94**	**191**	*e*P	**P**	**04 23 06.6**	**-0.4**				
JOW	**Kunigami** comp=Z,52nm,1.6s	**27.06**	**8**	P	**P**	**04 23 08.2**	**+0.2**				
JOW	**Kunigami** comp=Z,17nm,0.7s,baz=195,slow=8.4,SNR=4.4	**27.06**	**8**	P	**P**	**04 23 08.2**	**+0.2**				
JOW	comp=Z,146nm,19.4s,baz=161,slow=36			LR	LR	04 33 54.3					
CTA	**Charters Tower**	**29.21**	**134**	P	**P**	**04 23 28.6**	**+1.3**				
CTA	**Charters Tower** comp=Z,13nm,1.3s	**29.21**	**134**	*e*P	**P**	**04 23 28.4**	**+1.1**				
CTA	**Charters Tower** comp=Z,3.3nm,0.7s,baz=287,slow=14,SNR=3.9	**29.21**	**134**	P	**P**	**04 23 28.6**	**+1.3**				
CTA	comp=Z,152nm,20.9s,baz=234,slow=37			LR	LR	04 35 34.3					
CTAO	**Charters Tower** comp=Z,52nm,1.6s	**29.21**	**134**	*e*P	**P**	**04 23 28.7**	**+1.4**				
CTAO				pmax	pmax						
CTAO	**Charters Tower** comp=Z,52nm,1.6s	**29.21**	**134**	*e*P	**P**	**04 23 28.7**	**+1.4**				
FORT	**Forrest** comp=Z,82nm,0.7s	**30.69**	**174**	*e*P	**P**	**04 23 40.4**	**+0.1**				
FORT	**Forrest** comp=Z,70nm,0.6s	**30.69**	**174**	*e*P	**P**	**04 23 40.0**	**-0.2**				
CMAR	**Chiang Mai Arr**	**31.05**	**308**	P	**P**	**04 23 44.3**	**+0.7**				
CMAR				PcP	**PcP**	**04 26 39.5**	**+1.4**				
CMAR				ScP	**ScP**	**04 30 16.2**	**+0.5**				
CMAR	**Chiang Mai Arr** comp=Z,8.2nm,0.7s,baz=134,slow=7.0,SNR=41	**31.05**	**308**	P	**P**	**04 23 44.3**	**+0.7**				
CMAR	comp=Z,9.1nm,0.7s,baz=165,slow=1.9,SNR=21			PcP	**PcP**	**04 26 39.5**	**+1.4**				
CMAR	comp=Z,0.8nm,0.3s,baz=156,slow=2.5,SNR=8.6			ScP	**ScP**	**04 30 16.2**	**+0.5**				
CMAR	comp=Z,188nm,21.6s,baz=119,slow=36			LR	LR	04 35 55.6					
CHTO	**Chiang Mai** comp=Z,32nm,0.9s	**31.25**	**308**	*e*P	**P**	**04 23 46.2**	**+0.9**				
CHTO				*e*		04 26 39.7					
CHTO				pmax	pmax						
CHTO	**Chiang Mai** comp=Z,32nm,0.9s	**31.25**	**308**	*e*P	**P**	**04 23 46.2**	**+0.9**				
CHTO				*e*PcP	**PcP**	**04 26 39.7**	**+1.0**				
CHTO	**Chiang Mai** comp=Z,48nm,0.8s,comp=Z,352nm	**31.25**	**308**	P	**P**	**04 23 46.1**	**+0.8**				
GYA	**Guiyang**	**31.45**	**329**	P	**P**	**04 23 50.0**	**+2.9**				
GYA				pP	**pP**	**04 24 06.3**	**+3.5**				
GYA				sP	**sP**	**04 24 13.8**	**+3.5**				
GYA				PP	**PP**	**04 24 55.9**	**-3.3**				
GYA				PcP	**PcP**	**04 26 41.5**	**+2.3**				
GYA				S	**S**	**04 28 53.0**	**+2.4**				
GYA	comp=Z,20nm,1.0s			pmax	pmax						
GYA	comp=Z,120nm,4.8s			LR	LR						
GYA	comp=N,560nm,17.5s			LR	LR						
GYA	comp=E,540nm,18.0s			LR	LR						
GYA	comp=Z,530nm,17.8s			LR	LR						
WHN	**Wuhan**	**31.95**	**344**	*e*P	P	04 23 55.8	+4.6				
WHN	comp=Z,780nm,20.7s			LR	LR						
NJ2	**Nanjing**	**32.42**	**351**	*e*P	**P**	**04 23 58.3**	**+3.0**				
NJ2				pP	**pP**	**04 24 13.1**	**+2.0**				
NJ2				sP	**sP**	**04 24 20.0**	**+1.4**				
NJ2				S	**S**	**04 29 11.0**	**+5.7**				
NJ2				sS	**sS**	**04 29 35.5**	**+3.4**				
NJ2				SS	**SnSn**	**04 31 06.5**	**+2.4**				
NJ2	comp=Z,10.0nm,0.8s			pmax	pmax						
NJ2	comp=Z,140nm,4.7s			pmax	pmax						
NJ2	comp=N,230nm,19.4s			LR	LR						
NJ2	comp=E,310nm,26.0s			LR	LR						
NJ2	comp=Z,270nm,21.2s			LR	LR						
KMI	**Kunming**	**32.66**	**322**	P	**P**	**04 24 00.7**	**+2.8**				
KMI	comp=Z,250nm,32.4s			LR	LR						
NWAO	**Narrogin (SRO)** comp=Z,6.6nm,0.8s	**33.32**	**191**	*e*P	**P**	**04 24 03.4**	**+0.2**				
NWAO	**Narrogin (SRO)** comp=Z,9.5nm,0.7s,baz=11,slow=8.9,SNR=7.3	**33.32**	**191**	P	**P**	**04 24 02.5**	**-0.8**				
NWAO	comp=Z,115nm,20.2s,baz=3.8,slow=38			LR	LR	04 38 50.5					
ENH	**Enshi** comp=Z,29nm,1.0s	**33.37**	**336**	*e*P	**P**	**04 24 05.1**	**+1.3**				
JNU	**Nakatsue** comp=Z,12nm,0.8s	**33.63**	**10**	*e*P	**P**	**04 24 05.4**	**-0.6**				
JNU	**Nakatsue** comp=Z,29nm,0.8s,baz=191,slow=1.3,SNR=12	**33.63**	**10**	P	**P**	**04 24 04.9**	**-1.1**				
JNU	comp=Z,70nm,20.0s,baz=185,slow=37			LR	LR	04 38 11.6					
STKA	**Stephens Creek** comp=Z,7.5nm,0.6s	**35.55**	**154**	*e*P	**P**	**04 24 22.8**	**+0.3**				
STKA				*e*		04 24 43.3					
STKA				*e*PcP	**PcP**	**04 26 50.6**	**+0.1**				
STKA				PcP	PcP	04 26 50.8	+0.3				
STKA				ScP	**ScP**	**04 30 32.0**	**+0.9**				
STKA	**Stephens Creek** comp=Z,14nm,0.4s	**35.55**	**154**	*e*P	**P**	**04 24 22.7**	**+0.2**				
STKA	**Stephens Creek** comp=Z,16nm,0.4s,baz=332,slow=7.9,SNR=68	**35.55**	**154**	P	**P**	**04 24 22.6**	**+0.1**				
STKA	comp=Z,13nm,0.8s,baz=351,slow=5.3,SNR=3.3			PcP	**PcP**	**04 26 50.8**	**+0.3**				
STKA	comp=Z,3.3nm,0.8s,baz=23,slow=10,SNR=3.0			ScP	**ScP**	**04 30 32.0**	**+0.9**				
STKA	comp=Z,106nm,21.7s,baz=118,slow=39			LR	LR	04 40 35.4					
CD2	**Chengdu**	**36.54**	**329**	P	**P**	**04 24 32.0**	**+0.9**				
CD2				pP	**pP**	**04 24 48.5**	**+1.5**				
CD2				sP	**sP**	**04 24 56.5**	**+2.0

LSA pmax pmax
comp=Z,10.0nm,0.8s
LSA Lhasa 43.37 316 *e*P **P 04 25 29.4 +1.2**
LSA pmax pmax
comp=Z,19nm,0.6s
LSA Lhasa 43.37 316 *e*P **P 04 25 29.4 +1.2**
comp=Z,19nm,0.6s
CN2 Changchun 43.74 1 *e*P **P 04 25 32.2 +1.8**
CN2 *e*S **S 04 31 57.9 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,14.0s
CN2 LR LR
comp=E,200nm,14.0s
CN2 LR LR
comp=Z,200nm,15.0s
ODAN Odare 44.54 310 *e*P **P 04 25 37.5 +0.1**
comp=Z,37nm,0.7s
TAPN Taplejung 44.55 311 *e*P **P 04 25 37.5 0.0**
comp=Z,21nm,0.5s
USRK Ussuriysk Arra 44.65 8 P **P 04 25 37.3 -0.3**
comp=Z,30nm,0.8s,baz=194,slow=6.9,SNR=36
USRK LR LR 04 42 08.5
comp=Z,114nm,21.3s,baz=2.2,slow=33
MDJ Mudanjiang 44.78 5 P **P 04 25 38.8 +0.1**
MDJ sP **sP 04 26 00.5 -2.0**
MDJ PcP **PcP 04 27 20.1 +0.2**
MDJ pmax pmax
comp=Z,21nm,0.9s
MDJ pmax pmax
comp=Z,64nm,3.7s
MDJ LR LR
comp=N,100nm,31.1s
MDJ LR LR
comp=E,87nm,32.0s
MDJ LR LR
comp=Z,150nm,28.6s
MDJ Mudanjiang 44.78 5 *e*P **P 04 25 37.6 -1.1**
comp=Z,16nm,0.7s
RAMN Ramite 45.19 310 *e*P **P 04 25 43.0 +0.4**
comp=Z,89nm,0.7s
GTA Gaotai 45.30 333 *e*P **P 04 25 43.3 +0.2**
GTA pP **pP 04 25 59.5 +0.1**
GTA sP **sP 04 26 06.5 -0.3**
GTA PcP **PcP 04 27 22.6 +0.6**
GTA ScP **ScP 04 31 08.8 -0.5**
GTA S **S 04 32 19.4 +0.2**
GTA sS **sS 04 32 44.6 -2.2**
GTA ScS **ScS 04 35 32.2 -1.9**
GTA SS SS 04 35 36.0 -7.8
GTA pmax pmax
comp=Z,16nm,0.7s
GTA pmax pmax
comp=Z,110nm,4.3s
GTA LR LR
comp=N,270nm,18.5s
GTA LR LR
comp=E,330nm,20.4s
GTA LR LR
comp=Z,170nm,14.7s
MDRS Chennai 45.64 288 *ex* P 04 25 39.2 -6.8
MDRS *ex* x 04 32 59.2
MDRS *ex* x 04 40 11.2
MDRS *ex* x 04 46 35.2
JIRN Jiri 45.86 310 *e*P **P 04 25 47.9 -0.1**
comp=Z,10nm,0.5s
GUN Gumba 46.23 310 *e*P **P 04 25 50.7 -0.2**
comp=Z,55nm,0.5s
PKI Pulchoki 46.42 310 *e*P **P 04 25 51.7 -0.7**
comp=Z,29nm,0.9s
KKN Kakani 46.62 310 *e*P **P 04 25 53.4 -0.4**
comp=Z,15nm,0.4s
DMN Daman 46.67 309 *e*P **P 04 25 53.8 -0.4**
comp=Z,53nm,0.9s
ASAJ Asahikawa 46.95 18 *e*P **P 04 25 55.8 0.0**
comp=Z,29nm,1.7s
ASAJ Asahikawa 46.95 18 P **P 04 25 56.1 +0.3**
comp=Z,6.0nm,0.3s,baz=222,slow=12,SNR=11
ASAJ LR LR 04 44 31.1
comp=Z,91nm,19.7s,baz=314,slow=34
GKN Gorkha 47.22 310 *e*P **P 04 25 57.8 -0.7**
comp=Z,36nm,0.7s
KOLN Koldanda 47.91 309 *e*P **P 04 26 03.3 -0.6**
comp=Z,86nm,0.7s
DANN Dangsing 48.07 310 *e*P **P 04 26 04.7 -0.5**
comp=Z,82nm,0.6s
HYB Hyderabad 48.33 294 *i*P **P 04 26 08.0 +1.0**
HYB epP **pP 04 26 23.0 -0.5**
HABR Khabarovsk 49.28 9 *e*P P 04 26 10.3 -3.4
HABR *e**PP pP 04 26 26.2 -4.0
HABR *e* 04 27 32.6
HABR *e* 04 28 05.1
HABR *e*S **S 04 33 12.8 -2.3**
HABR *e*SS **SS 04 36 47.0 -0.5**
HABR *e*SSS SSS 04 38 08.8
HABR pmax pmax
comp=E,59nm,2.3s
HABR pmax pmax
comp=Z,35nm,1.1s
HABR pmax pmax
comp=N,19nm,1.5s
HABR MLR MLR
comp=Z,77nm,17.0s
HIA Hailar 49.35 356 *e*P **P 04 26 13.6 -0.7**
comp=Z,5.7nm,0.6s
KLR Kul'dur 49.57 6 *e*P P 04 26 12.0 -3.9
YSS Yuzh-Sakhalins 49.57 16 *e*P P 04 26 22.3 +6.4
ULN Ulaanbaatar 50.11 345 *e*P **P 04 26 19.5 -0.7**
comp=Z,9.3nm,0.9s
ULN Ulaanbaatar 50.11 345 P **P 04 26 20.9 +0.7**
comp=Z,12nm,0.9s
SONM Songino Array 50.25 344 P **P 04 26 20.5 -0.8**
SONM ScP **ScP 04 31 28.4 -1.6**
SONM Songino Array 50.25 344 P **P 04 26 20.5 -0.8**
comp=Z,7.8nm,0.7s,baz=157,slow=7.5,SNR=39
SONM ScP **ScP 04 31 28.4 -1.6**
comp=Z,2.4nm,0.9s,baz=173,slow=5.6,SNR=8.9
SONM LR LR 04 48 36.5
comp=Z,148nm,19.8s,baz=4.5,slow=37
ZAK Zakamensk 53.43 343 *e*P **P 04 26 43.6 -1.3**
ZAK *e* 04 27 44.4
ZAK pmax pmax
comp=Z,2.0nm,0.8s
TLY Talaya 54.50 344 *e*P **P 04 26 51.8 -0.7**
TLY pmax pmax
comp=Z,5.0nm,0.8s
TLY MLR MLR
comp=Z,111nm,21.0s
WMQ Urumqi 54.61 328 P **P 04 26 53.5 0.0**
WMQ pP **pP 04 27 07.5 -2.8**
WMQ sP **sP 04 27 14.6 -3.0**
WMQ PP **PP 04 28 57.0 +0.4**
WMQ *e*S S 04 34 21.0 -7.6
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ pmax pmax
comp=Z,160nm,5.7s
WMQ LR LR
comp=N,400nm,24.5s
WMQ LR LR
comp=E,370nm,22.4s
WMQ LR LR
comp=Z,380nm,23.4s
MOY Mondy 55.24 343 *e*P **P 04 26 57.8 -0.2**
BOD Bodaibo 58.35 354 *e*P **P 04 27 18.7 -1.1**
BOD pmax pmax
comp=Z,10.0nm,0.8s
KSH Kashi 59.18 318 P **P 04 27 26.3 +0.2**
KSH pP **pP 04 27 41.9 -1.1**
KSH sP **sP 04 27 48.9 -1.4**
KSH PcP **PcP 04 28 13.5 -0.5**
KSH PP **PP 04 29 39.0 +1.5**
KSH ScP **ScP 04 32 06.8 -2.5**
KSH PcS **PcS 04 32 13.5 -2.5**
KSH S **S 04 35 27.8 -1.3**
KSH sS **sS 04 35 56.1 -1.7**
KSH ScS **ScS 04 37 06.5 -4.2**
KSH SS **SS 04 39 25.0 +0.5**
KSH pmax pmax
comp=Z,10.0nm,0.8s
KSH pmax pmax
comp=Z,130nm,6.7s
KSH LR LR
comp=N,160nm,4.8s
KSH LR LR
comp=E,110nm,6.0s
KSH LR LR
comp=Z,260nm,7.0s
MK31 Makanchi Array 59.43 328 *e*P **P 04 27 26.4 -1.1**
MK31 Makanchi Array 59.43 328 *e*P **P 04 27 26.4 -1.1**
MK31 *e*ScP **ScP 04 32 10.2 +0.1**
MKAR Makanchi Array 59.43 328 *e*P **P 04 27 26.4 -1.2**
MKAR 04 28 13.5
MKAR Makanchi Array 59.43 328 *e*P **P 04 27 26.4 -1.2**
MKAR PcP **PcP 04 28 13.5 -1.2**
MKAR ScP **ScP 04 32 09.8 -0.3**
MKAR ⇑*e* 04 57 03.2
MKAR Makanchi Array 59.43 328 P **P 04 27 26.1 -1.5**
comp=Z,8.8nm,0.4s,baz=122,slow=8.3,SNR=276
MKAR PcP **PcP 04 28 13.5 -1.2**
comp=Z,4.3nm,0.5s,baz=120,slow=5.4,SNR=4.9
MKAR ScP **ScP 04 32 09.8 -0.3**
comp=Z,1.4nm,0.8s,baz=114,slow=5.4,SNR=4.8
MKAR LR LR 04 53 48.3
comp=Z,176nm,19.2s,baz=129,slow=37
MKAR PKP2bc 04 57 03.2
comp=Z,0.4nm,0.8s,baz=305,slow=4.3,SNR=4.0
PEA0B Petropavlovsk- 59.87 23 *e*P **P 04 27 31.4 +1.1**
PEA0B *e*PcP **PcP 04 28 17.3 +1.0**
PETK Petropavlovsk- 59.87 23 P **P 04 27 31.2 +0.8**
PETK Petropavlovsk- 59.87 23 P **P 04 27 31.1 +0.8**
PETK Petropavlovsk- 59.87 23 P **P 04 27 31.1 +0.8**
comp=Z,13nm,0.6s,baz=191,slow=5.5,SNR=19
KZA Kyzart 60.92 320 P **P 04 27 38.3 0.0**
SNR=7.3
TKM2 Tokmak 2 61.13 321 *i*P **P 04 27 38.9 -0.5**
TKM2 Tokmak 2 61.13 321 *e*P **P 04 27 38.4 -1.0**
comp=Z,7.4nm,0.6s
TKM2 Tokmak 2 61.13 321 P **P 04 27 39.0 -0.5**
SNR=9.9
AAK Ala-Archa 61.69 320 *e*P **P 04 27 42.5 -0.7**
AAK pmax pmax
comp=Z,26nm,0.8s
AAK Ala-Archa 61.69 320 *e*P **P 04 27 42.5 -0.7**
comp=Z,26nm,0.8s
AAK Ala-Archa 61.69 320 P **P 04 27 42.0 -1.2**
comp=Z,46nm,1.2s,SNR=5.4
AML Almayashu 61.96 319 P **P 04 27 44.5 -0.8**
SNR=9.3
USP Ospenovka 62.00 321 P **P 04 27 44.2 -0.9**
SNR=7.1
KBL Kabul 62.06 310 *e*P **P 04 27 44.6 -1.3**
KBL pmax pmax
comp=Z,36nm,0.6s
KBL Kabul 62.06 310 *e*P **P 04 27 44.6 -1.3**
comp=Z,36nm,0.6s
YAK Yakutsk 62.12 3 *e*P **P 04 27 44.4 -1.0**
YAK *e* 04 29 59.5
YAK *e*S **S 04 36 04.2 -1.3**
YAK *e**SS sS 04 36 43.3 +8.9
YAK *e* 04 37 29.5
YAK pmax pmax
comp=Z,66nm,1.0s
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,6.0nm,0.6s
YAK pmax pmax
comp=N,5.0nm,0.6s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK smax smax
comp=N,112nm,3.8s
YAK smax smax
comp=E,76nm,3.2s
YAK Yakutsk 62.12 3 *e*P **P 04 27 45.1 -0.3**
comp=E,76nm,0.8s
EKS2 Erkin-Say 62.16 320 *e*P **P 04 27 45.6 -0.7**
EKS2 pmax pmax
comp=Z,4.0nm,0.7s
EKS2 Erkin-Say 62.16 320 *e*P **P 04 27 45.6 -0.7**
comp=Z,4.4nm,0.7s
EKS2 Erkin-Say 62.16 320 P **P 04 27 44.8 -1.5**
SNR=6.3
ZAA0 Zalesovo Array 62.99 335 *e*P **P 04 27 49.2 -2.2**
ZALV Zalesovo Beam 62.99 335 P **P 04 27 49.2 -2.2**
ZALV Zalesovo Beam 62.99 335 P **P 04 27 49.2 -2.2**
ZALV Zalesovo Beam 62.99 335 P **P 04 27 49.2 -2.2**
comp=Z,4.1nm,0.3s,baz=125,slow=5.5,SNR=24
ZALV LR LR 04 54 22.2
comp=Z,106nm,18.1s,baz=247,slow=35
KURBB Kurchatov Arra 63.75 329 P **P 04 27 55.0 -1.5**
comp=Z,12nm,0.6s,baz=132,slow=5.9,SNR=72
KURK Kurchatov 63.76 329*c i*P **P 04 27 54.9 -1.7**
KURK pmax pmax
comp=Z,14nm,0.7s
KURK Kurchatov 63.76 329 *e*P **P 04 27 55.1 -1.4**
comp=Z,26nm,0.6s
NVS Novosibirsk 64.28 335⇑ *i*P **P 04 27 57.0 -2.8**
NVS *e*S **S 04 36 29.6 -3.1**
NVS pmax pmax
comp=Z,7.0nm,0.7s
NVS pmax pmax
comp=N,3.0nm,0.5s
NVS pmax pmax
comp=E,3.0nm,0.5s
NVS smax smax
comp=N,10.0nm,1.6s
NVS smax smax
comp=E,20nm,1.6s
KKAR Karatay Array 64.49 319 *e*P **P 04 28 00.3 -1.3**
KKAR Karatay Array 64.49 319 *e*P **P 04 28 00.3 -1.3**
BVA0 Borovoye Array 69.29 329 *i*P **P 04 28 30.0 -1.8**
BVA0 pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 69.29 329 P **P 04 28 30.2 -1.6**
BVAR Borovoye Array 69.29 329 P **P 04 28 30.2 -1.6**
BVAR Borovoye Array 69.29 329 P **P 04 28 30.2 -1.6**
comp=Z,4.2nm,0.7s,baz=140,slow=9.0,SNR=18
BRVK Borovoye 69.36 329*c i*P **P 04 28 30.6 -1.6**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 69.36 329 *e*P **P 04 28 30.7 -1.5**
comp=Z,34nm,1.8s
AB31 Akbulak array 73.66 322 *i*P **P 04 28 56.5 -1.7**
AB31 pmax pmax
comp=Z,2.0nm,0.5s
ABKAR Akbulak array 73.66 322 *e*P **P 04 28 56.8 -1.4**
BILL Bilibino 73.86 15 *e*P **P 04 28 59.1 +0.1**
BILL *e* 04 29 14.1
BILL pmax pmax
comp=Z,3.0nm,1.0s
AKTO Aktyubinsk 75.22 323 P **P 04 29 06.1 -1.2**
AKTO Aktyubinsk 75.22 323 P **P 04 29 06.0 -1.2**
AKTO Aktyubinsk 75.22 323 P **P 04 29 06.0 -1.2**
comp=Z,10nm,0.7s,baz=108,slow=6.8,SNR=48
SVE Sverdlovsk 76.02 329⇓ *i*P **P 04 29 10.7 -0.9**
SVE pmax pmax
comp=Z,23nm,0.9s
ARU Arti 76.94 329 P **P 04 29 14.2 -2.7**
ARU Arti 76.94 329 *e*P **P 04 29 15.1 -1.7**
comp=Z,12nm,0.8s
ABPO Ambohimpanom 77.80 251 *e*P **P 04 29 23.1 +0.4**
ABPO pmax pmax
comp=Z,18nm,0.6s
ABPO Ambohimpanom 77.80 251 *e*P **P 04 29 23.1 +0.4**
comp=Z,18nm,0.6s
OPO Ambohidratompo 77.80 251 P **P 04 29 23.6 +0.8**
OPO Ambohidratompo 77.80 251 P **P 04 29 23.6 +0.8**
comp=Z,24nm,0.6s,baz=80,slow=4.3,SNR=39
OPO LR LR 05 00 00.1
comp=Z,131nm,21.8s,baz=172,slow=33
GAMB Gambell 78.85 24 *e*P **P 04 29 28.3 +1.0**
comp=Z,5.0nm,0.8s
GAMB *e*pP **pP 04 29 46.2 +1.2**
MAW Mawson 79.35 200 LR LR 04 58 01.6
comp=Z,87nm,20.8s,baz=280,slow=31
VNDA Vanda 79.94 172 *e*P **P 04 29 33.6 +0.5**
comp=Z,159nm,2.3s
GNI Garni 82.14 310 *e*P **P 04 29 45.0 -0.7**
comp=Z,5.9nm,1.0s
GNI Garni 82.14 310 P **P 04 29 46.2 +0.5**
comp=Z,10nm,0.8s,baz=124,slow=21,SNR=4.1
ZEI Tsey 83.07 313 *e*P **P 04 29 49.6 -1.0**
ZEI pmax pmax
comp=Z,26nm,1.4s
VRHR Novokhopersk 85.52 321 *e*P **P 04 30 00.5 -2.0**
VRHR pmax pmax
comp=N,6.0nm,0.4s
VRHR pmax pmax
comp=Z,6.0nm,0.4s
VRHR pmax pmax
comp=E,3.0nm,0.3s
KDAK Kodiak Island 86.39 32 P **P 04 30 07.0 +0.4**
KDAK Kodiak Island 86.39 32 P **P 04 30 07.0 +0.4**
comp=Z,5.0nm,0.6s,baz=19,slow=5.9,SNR=6.5
VORD Divnogorie 86.97 321 *e*P **P 04 30 07.7 -1.9**
VSR Storozhevoye 87.07 321 *e*P **P 04 30 07.9 -2.2**
KMBO Kilima Mbogo 87.11 269 *e*P **P 04 30 12.0 +0.6**
comp=E,8.0nm,0.8s
KLMR Klimovskoe 87.58 331 *e*P P 04 30 09.1 -3.2
KLMR pmax pmax
comp=Z,17nm,0.9s
SLKM Skilak Lake 87.84 30 *e*P **P 04 30 13.7 +0.1**
SLKM Skilak Lake 87.84 30 *e*P **P 04 30 13.7 +0.1**
SYO Syowa Base 88.01 201⇑ *e*P **P 04 30 14.4 +0.2**
SEW Seward 88.19 30 *e*P **P 04 30 15.3 0.0**
comp=Z,12nm,0.8s
COLD Coldfoot 88.33 23 *e*P **P 04 30 16.7 +0.9**
comp=Z,7.5nm,0.9s
MCK McKinley 88.64 26 *e*P **P 04 30 16.7 -0.7**
MCK pmax pmax
comp=Z,23nm,1.6s
MCK McKinley 88.64 26 *e*P **P 04 30 16.7 -0.7**
comp=Z,23nm,1.6s
OBN Obninsk 88.83 325 *e*P **P 04 30 16.9 -1.4**
OBN *e*S **SKSac 04 40 40.9 -1.3**
OBN *e*PS **PS 04 42 12.7 -0.2**
OBN pmax pmax
comp=Z,11nm,0.8s
ILAR Eielson Array 89.57 25 P **P 04 30 19.9 -1.8**
ILAR PKKPbc **PKKPdf 04 47 55.0 +1.4**
ILAR Eielson Array 89.57 25 P **P 04 30 19.9 -1.8**
comp=Z,0.9nm,0.6s,baz=244,slow=4.8,SNR=20
ILAR PKKPbc **PKKPdf 04 47 55.0 +1.4**
comp=Z,0.9nm,0.9s,baz=102,slow=2.1,SNR=8.9
QSPA South Pole Qui 89.81 180 *e*P **P 04 30 23.9 +1.0**
comp=Z,20nm,1.1s
PAX Paxson 90.18 27 *e*P **P 04 30 25.3 +0.6**
PAX pmax pmax
comp=Z,12nm,1.4s
PAX Paxson 90.18 27 *e*P **P 04 30 25.3 +0.6**
comp=Z,12nm,1.4s
BR131 Keskin Array S 90.63 310 *e*P **P 04 30 25.8 -1.6**
comp=Z,2.3nm,0.7s
BRTR Keskin Array B 90.63 310 P **P 04 30 25.4 -2.0**
BRTR Keskin Array B 90.63 310 P **P 04 30 25.4 -2.0**
comp=Z,2.6nm,0.8s,baz=100,slow=6.4,SNR=12
MENT Mentasta 90.98 27 *e*P **P 04 30 28.6 +0.2**
ARCES ARCESS Array B 93.21 340 P **P 04 30 36.5 -2.0**
ARCES ARCESS Array B 93.21 340 P **P 04 30 36.5 -2.0**
comp=Z,4.1nm,0.8s,baz=94,slow=7.3,SNR=19
AKASG Malin Array Be 93.35 321 P **P 04 30 37.3 -2.2**
AKASG Malin Array Be 93.35 321 P **P 04 30 37.2 -2.2**
AKASG Malin Array Be 93.35 321 P **P 04 30 37.2 -2.2**
comp=Z,1.1nm,0.5s,baz=72,slow=4.8,SNR=5.5
SPB4 Spitsbergen Ar 93.77 349 *e*P **P 04 30 40.2 -0.7**
FINES FINESS Array B 94.07 332 P **P 04 30 40.3 -2.2**
FINES FINESS Array B 94.07 332 P **P 04 30 40.3 -2.2**
comp=Z,2.1nm,0.8s,baz=100,slow=5.8,SNR=7.6
INK Inuvik 94.59 21 *e*P **P 04 30 44.0 -0.7**
comp=Z,54nm,2.3s
INK Inuvik 94.59 21 P **P 04 30 43.6 -1.2**
comp=Z,2.2nm,0.7s,baz=280,slow=4.1,SNR=7.2
SKAG Skagway 95.35 30 *e*P **P 04 30 49.5 +1.1**
comp=Z,9.5nm,0.7s
LSZ Lusaka 95.92 255 *e*P **P 04 30 51.4 -0.8**
comp=Z,19nm,0.8s
BUR08 Bucovina Ar. S 96.27 318 *e*P **P 04 30 52.5 -0.6**
BOSA Boshof 97.94 241 P **P 04 30 59.9 -1.2**
BOSA Boshof 97.94 241 P **P 04 30 59.9 -1.2**
comp=Z,2.8nm,0.9s,baz=30,slow=9.1,SNR=4.6
KOLS Kolonicke sedl 98.03 319 *e*P Pdif 04 31 01.3 +0.4
KOLS Kolonicke sedl 98.03 319 *e*P Pdif 04 31 01.3 +0.4
DLBC Dease Lake 98.24 31 P **P 04 31 01.4 -0.3**
DLBC Dease Lake 98.24 31 P **P 04 31 01.4 -0.3**
comp=Z,1.6nm,0.8s,baz=15,slow=2.6,SNR=4.0
CRVS Cervenica-Dubn 98.56 319 *e*P **P 04 31 03.0 -0.3**
CRVS Cervenica-Dubn 98.56 319 PDIF **P 04 31 03.0 -0.3**
YKA Yellowknife Ar 103.96 24 Pdif **Pdif 04 31 25.9 -1.0**
YKA PKIKP **PKiKP 04 35 44.0 -0.2**
YKA PKKPbc **PKKPbc 04 47 15.8 -3.3**
YKA Yellowknife Ar 103.96 24 Pdiff **Pdif 04 31 25.9 -1.0**
comp=Z,0.3nm,0.7s,baz=298,slow=4.8,SNR=6.3
YKA PKiKP **PKiKP 04 35 43.9 -0.2**
comp=Z,0.4nm,0.5s,baz=301,slow=1.7,SNR=16
YKA PKKPbc **PKKPbc 04 47 15.8 -3.3**
comp=Z,1.0nm,0.7s,baz=112,slow=2.6,SNR=19
D13A Huson 110.81 39⇑P **PKiKP 04 35 57.3 -0.2**
baz=111
G12A Big Creek, Yel 111.02 41⇑P **PKiKP 04 35 57.6 -0.5**
baz=111
NVAR Mina Array Bea 111.22 48 PKiKP **PKiKP 04 36 00.2 +1.6**
NVAR PKKPab **PKKPab 04 47 05.1 -0.1**
NVAR Mina Array Bea 111.22 48 PKiKP **PKiKP 04 36 00.2 +1.6**
comp=Z,0.5nm,0.6s,baz=237,slow=2.9,SNR=6.0
NVAR PKKPab **PKKPab 04 47 05.1 -0.1**
comp=Z,0.8nm,0.7s,baz=121,slow=4.8,SNR=6.0
I12A Atlanta 111.66 42⇑P **PKiKP 04 35 59.8 +0.5**
baz=112
C15A Salmond Ranch, 111.67 37⇓P **PKiKP 04 35 59.1 -0.1**
baz=112
H13A Challis 111.94 41⇑P **PKiKP 04 35 59.7 -0.1**
baz=112
HLID Hailey 112.23 42 *e*PKP **PKiKP 04 36 01.1 +0.7**
HLID Hailey 112.23 42⇓P **PKiKP 04 36 01.4 +1.0**
baz=112
I13A Wildhorse Cree 112.29 42⇓P **PKiKP 04 36 01.4 +0.8**
baz=112
J13A Cove Ranch, Pi 112.45 42⇑P **PKiKP 04 36 00.6 -0.2**
baz=112
D16A Dana Ranch, Ca 112.64 38⇑P **PKiKP 04 36 01.1 +0.1**
baz=113
ELK Elko 112.69 45 *e*PKP **PKiKP 04 36 02.3 +0.8**
C17A Wharram Farm, 112.85 37⇓P **PKiKP 04 36 01.2 -0.1**
baz=113
BOZ Bozeman (W) 113.19 39 *e*PKIKP **PKiKP 04 36 02.7 +0.6**
BOZ Bozeman (W) 113.19 39 *e*PKP **PKiKP 04 36 02.7 +0.6**
EGMT Eagleton 113.27 36⇓P **PKiKP 04 36 02.3 +0.2**
baz=113
FFC Flin Flon 113.71 27 *e*PKIKP **PKiKP 04 36 02.8 +0.1**
FFC Flin Flon 113.71 27 *e*PKP **PKiKP 04 36 02.8 +0.1**
F18A Big Timber 114.28 38⇓P PKPdf 04 36 05.3 +1.1
baz=114
C20A Veseth Ranch, 114.45 36⇑P PKPdf 04 36 04.8 +0.4
baz=114
DUG Dugway 114.62 45 *e*PKIKP PKPdf 04 36 05.9 +0.9
DUG Dugway 114.62 45 *e*PKP PKPdf 04 36 05.9 +0.9
DUG Dugway 114.62 45⇑P PKPdf 04 36 05.9 +0.8
baz=115
SNOW Snow King Moun 114.70 41 *e*PKP PKPdf 04 36 06.1 +0.9
LOHW Long Hollow 114.73 41 *e*PKP PKPdf 04 36 05.8 +0.5
LOHW *e*PKKPab **PKKPab 04 46 48.8 -0.8**
H18A Shoshone NF, C 114.87 40⇓P PKPdf 04 36 06.0 +0.5
baz=115
HWUT Hardware Ranch 114.93 43 *e*PKP PKPdf 04 36 06.0 +0.4
HWUT *e*PKKPab **PKKPab 04 46 48.6 0.0**
K18A Toltan Ranch, 115.53 42⇓P **PKPdf 04 36 07.4 +0.6**
baz=116
N17A Moffit Pass 115.71 44⇓P **PKPdf 04 36 07.8 +0.5**
baz=116
BW06 Boulder Array 115.79 41⇑P **PKPdf 04 36 07.0 -0.4**
baz=116
PDAR Pinedale Array 115.79 41 PKP **PKPdf 04 36 06.9 -0.4**
PDAR PKKPbc **PKKPbc 04 46 38.0 -2.6**
PDAR PKKPab **PKKPab 04 46 44.5 -0.5**
PDAR PKKP **PKKPdf 04 47 02.4 -3.0**
PDAR Pinedale Array 115.79 41 PKP **PKPdf 04 36 06.9 -0.4**
comp=Z,0.6nm,0.6s,baz=191,slow=1.5,SNR=6.7
PDAR PKKPbc **PKKPbc 04 46 38.0 -2.6**
comp=Z,3.9nm,0.8s,baz=110,slow=6.3,SNR=3.6
PDAR PKKPab **PKKPab 04 46 44.5 -0.5**
comp=Z,3.5nm,0.7s,baz=120,slow=6.5,SNR=26
PDAR PKKP **PKKPdf 04 47 02.4 -3.0**
comp=Z,1.0nm,0.9s,baz=98,slow=5.6,SNR=3.5
B23A Brockton 115.79 34⇑P **PKPdf 04 36 07.3 +0.4**
baz=116
D22A Cohagen 115.80 36⇓P **PKPdf 04 36 07.4 +0.4**
baz=116
L18A Fontenelle, Gr 115.84 42⇑P **PKPdf 04 36 07.5 0.0**
baz=116

J19A	**Crowheart** baz=116	**115.90**	**41**	⇑P		**PKPdf**	**04 36 07.5**	**0.0**
C23A	**Lambert** baz=116	**116.04**	**35**	⇓P		**PKPdf**	**04 36 08.3**	**+0.9**
O17A	**Robinson Place** baz=116	**116.08**	**44**	⇓P		**PKPdf**	**04 36 08.5**	**+0.6**
I20A	**Worland** baz=116	**116.18**	**40**	⇓P		**PKPdf**	**04 36 07.7**	**-0.2**
E22A	**Miles City** baz=116	**116.31**	**36**	⇓P		**PKPdf**	**04 36 08.4**	**+0.5**
D23A	**Lindsay** baz=116	**116.36**	**35**	⇓P		**PKPdf**	**04 36 08.5**	**+0.4**
J20A	**Shoshoni** baz=116	**116.49**	**40**	⇑P		**PKPdf**	**04 36 09.1**	**+0.6**
O18A	**Roosevelt** baz=116	**116.56**	**44**	⇑P		**PKPdf**	**04 36 09.5**	**+0.7**
K20A	**Yellowstone Ra** baz=117	**116.64**	**41**	⇑P		**PKPdf**	**04 36 08.4**	**-0.5**
SRU	**San Rafael** baz=117	**116.67**	**45**	⇓P		**PKPdf**	**04 36 08.9**	**-0.2**
R17A	**Hanksville Air** baz=117	**116.81**	**46**	⇓P		**PKPdf**	**04 36 09.3**	**0.0**
Q18A	**Rafter H Ranch** baz=117	**116.95**	**45**	⇓P		**PKPdf**	**04 36 09.7**	**+0.2**
F23A	**Volborg** baz=117	**117.00**	**37**	⇓P		**PKPdf**	**04 36 09.7**	**+0.4**
K21A	**Alcova** baz=117	**117.36**	**41**	⇑P		**PKPdf**	**04 36 10.4**	**0.0**
R18A	**Canyonlands Na** baz=117	**117.41**	**46**	⇓P		**PKPdf**	**04 36 10.6**	**+0.1**
J22A	**Midwest** baz=117	**117.49**	**40**	⇓P		**PKPdf**	**04 36 10.2**	**-0.3**
N20A	**Spence Gulch,** baz=118	**117.51**	**43**	⇑P		**PKPdf**	**04 36 10.9**	**+0.2**
M21A	**Separation Pea** baz=118	**117.77**	**42**	⇑P		**PKPdf**	**04 36 11.1**	**-0.1**
O20A	**White River Ci** baz=118	**117.84**	**44**	⇑P		**PKPdf**	**04 36 11.8**	**+0.5**
T18A	**Mexican Hat** baz=118	**117.92**	**47**	⇓P		**PKPdf**	**04 36 12.1**	**+0.6**
H24A	**Dirks Ranch, A** baz=118	**118.02**	**37**	⇑P		**PKPdf**	**04 36 11.0**	**-0.4**
N21A	**Black Mountain** baz=118	**118.05**	**43**	⇓P		**PKPdf**	**04 36 11.8**	**0.0**
Q20A	**Ridgley Place,** baz=118	**118.31**	**45**	⇓P		**PKPdf**	**04 36 12.2**	**0.0**
RSSD	**Black Hills**	**118.66**	**38**	*e*PKIKP		**PKPdf**	**04 36 12.7**	**-0.1**
RSSD	**Black Hills**	**118.66**	**38**	*e*PKPdf		**PKPdf**	**04 36 12.7**	**-0.1**
ESDC	**Sonseca Array**	**118.68**	**316**	PKP		**PKPdf**	**04 36 13.1**	**+0.3**
ESDC	**Sonseca Array** comp=Z,0.1nm,0.3s,baz=228,slow=27,SNR=4.4	**118.68**	**316**	PKP		**PKPdf**	**04 36 13.1**	**+0.3**
N22A	**Wattenberg Ran** baz=119	**118.75**	**42**	⇑P		**PKPdf**	**04 36 13.0**	**-0.1**
N23A	**Red Feather La** baz=119	**119.05**	**42**	⇑P		**PKPdf**	**04 36 14.5**	**+0.8**
R21A	**Cimarron** baz=119	**119.09**	**45**	⇑P		**PKPdf**	**04 36 14.9**	**+1.1**
S21A	**Coal Bank Pass** baz=119	**119.22**	**46**	⇑P		**PKPdf**	**04 36 15.1**	**+0.9**
Q22A	**Crested Butte,** baz=119	**119.32**	**44**	⇓P		**PKPdf**	**04 36 15.5**	**+1.2**
O23A	**Lake Granby, G** baz=119	**119.39**	**43**	⇑P		**PKPdf**	**04 36 15.3**	**+0.9**
ULM	**Lac du Bonnet**	**119.45**	**28**	PKP		**PKPdf**	**04 36 13.1**	**-0.8**
ULM				PKKPbc		**PKKPbc**	**04 46 25.8**	**-1.7**
ULM	**Lac du Bonnet** comp=Z,3.3nm,0.7s,baz=339,slow=2.8,SNR=8.3	**119.45**	**28**	PKP		**PKPdf**	**04 36 13.1**	**-0.8**
ULM	comp=Z,1.8nm,0.5s,baz=102,slow=4.2,SNR=6.2			PKKPbc		**PKKPbc**	**04 46 25.8**	**-1.7**
T21A	**Navajo Lake** baz=120	**119.69**	**46**	⇑P		**PKPdf**	**04 36 16.2**	**+1.2**
W20A	**Ramah** baz=120	**119.74**	**49**	⇓P		**PKPdf**	**04 36 16.1**	**+0.9**
ISCO	**Idaho Springs**	**119.79**	**43**	*e*PKIKP		**PKPdf**	**04 36 16.3**	**+1.1**
ISCO	**Idaho Springs**	**119.79**	**43**	*e*PKPdf		**PKPdf**	**04 36 16.3**	**+1.1**
ISCO	**Idaho Springs** baz=120	**119.79**	**43**	⇓P		**PKPdf**	**04 36 15.2**	**0.0**
U21A	**Nageezi** baz=120	**119.84**	**47**	⇓P		**PKPdf**	**04 36 16.1**	**+0.8**
S22A	**4UR Ranch, Cre** baz=120	**119.87**	**45**	⇑P		**PKPdf**	**04 36 15.7**	**+0.3**
K26A	**Motz Farm, Whi** baz=120	**119.94**	**39**	⇓P		**PKPdf**	**04 36 15.0**	**-0.2**
R23A	**Moffat** baz=120	**120.38**	**45**	⇓P		**PKPdf**	**04 36 17.9**	**+1.5**
U22A	**Llaves** baz=120	**120.45**	**47**	⇑P		**PKPdf**	**04 36 17.9**	**+1.4**
X21A	**Alamocita Cree** baz=120	**120.55**	**49**	⇓P		**PKPdf**	**04 36 17.4**	**+0.7**
SDCO	**Great Sand Dun**	**120.81**	**45**	*e*PKPdf		**PKPdf**	**04 36 18.4**	**+1.1**
SDCO	**Great Sand Dun** baz=121	**120.81**	**45**	⇓P		**PKPdf**	**04 36 18.5**	**+1.3**
P25A	**Willow Gulch B** baz=121	**120.90**	**42**	⇓P		**PKPdf**	**04 36 17.9**	**+0.7**
220A	**Playas Peak, P** baz=121	**120.95**	**52**	⇓P		**PKPdf**	**04 36 18.3**	**+0.9**
Q25A	**Bedland, Calha** baz=121	**121.14**	**43**	⇑P		**PKPdf**	**04 36 18.0**	**+0.3**
320A	**Kipp Ranch, An** baz=121	**121.15**	**53**	⇑P		**PKPdf**	**04 36 19.1**	**+1.2**
V23A	**Ortiz Mt. (NFS** baz=121	**121.21**	**47**	⇓P		**PKPdf**	**04 36 20.2**	**+2.2**
121A	**Cookes Peak, D** baz=121	**121.30**	**51**	⇑P		**PKPdf**	**04 36 19.4**	**+1.2**
N27A	**Anderson Farm,** baz=121	**121.33**	**40**	⇑P		**PKPdf**	**04 36 19.1**	**+1.2**
ANMO	**Albuquerque**	**121.34**	**48**	*e*PKPdf		**PKPdf**	**04 36 19.2**	**+1.0**
ANMO				*e*PKPdf		**PKiKP**	**04 36 19.4**	**+1.1**
Y22A	**Socorro** baz=121	**121.38**	**49**	⇑P		**PKPdf**	**04 36 19.3**	**+1.0**
P26A	**Davis Ranch, A** baz=121	**121.43**	**42**	⇓P		**PKPdf**	**04 36 18.9**	**+0.7**
T24A	**Torres, Weston** baz=121	**121.44**	**45**	⇓P		**PKPdf**	**04 36 19.1**	**+0.7**
R25A	**Fountain Ranch** baz=121	**121.48**	**44**	⇑P		**PKPdf**	**04 36 18.6**	**+0.3**
S25A	**Robets Cordova** baz=122	**121.60**	**45**	⇓P		**PKPdf**	**04 36 19.4**	**+0.8**
TOA0	**Torodi Ar. Sit**	**121.75**	**285**	*e*PKPdf		**PKPdf**	**04 36 18.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**121.75**	**285**	PKP		**PKPdf**	**04 36 18.9**	**-0.3**
TORD				PKKPbc		**PKKPab**	**04 46 19.7**	**+0.9**
TORD	**Torodi Ar. Bea** comp=Z,3.9nm,0.7s,baz=66,slow=1.7,SNR=26	**121.75**	**285**	PKP		**PKPdf**	**04 36 18.9**	**-0.3**
TORD	comp=Z,2.1nm,1.0s,baz=279,slow=4.4,SNR=9.1			PKKPbc		**PKKPab**	**04 46 19.7**	**+0.9**
P27A	**Ficken Ranch,** baz=122	**121.95**	**42**	⇓P		**PKPdf**	**04 36 19.4**	**+0.3**
R26A	**Arlington** baz=122	**121.98**	**43**	⇓P		**PKPdf**	**04 36 19.8**	**+0.6**
W24A	**Lazy 6 Ranch,** baz=122	**122.01**	**47**	⇓P		**PKPdf**	**04 36 20.4**	**+0.9**
T26A	**Comanche Natio** baz=122	**122.42**	**45**	⇓P		**PKPdf**	**04 36 20.9**	**+0.6**
Y24A	**Capitan** baz=122	**122.54**	**49**	⇓P		**PKPdf**	**04 36 21.3**	**+0.8**
124A	**Stringfield Ra** baz=123	**123.04**	**50**	⇓P		**PKPdf**	**04 36 22.7**	**+1.1**
ECSD	**EROS Data Cent**	**123.28**	**35**	*e*PKPdf		**PKPdf**	**04 36 21.5**	**+0.1**
BGNE	**Belgrade** baz=124	**123.77**	**38**	⇓P		**PKPdf**	**04 36 22.5**	**0.0**
425A	**Indio Mountain** baz=124	**124.17**	**52**	⇑P		**PKPdf**	**04 36 24.5**	**+0.8**
SPMN	**St. Paul** baz=124	**124.38**	**31**	⇑P		**PKPdf**	**04 36 23.6**	**+0.1**
Z27A	**Tatum** baz=124	**124.47**	**49**	⇑P		**PKPdf**	**04 36 24.6**	**+0.4**
SCHQ	**Schefferville**	**124.70**	**8**	PKP		**PKPdf**	**04 36 23.9**	**+0.1**
SCHQ	**Schefferville** comp=Z,6.9nm,0.7s,baz=7.3,slow=2.6,SNR=13	**124.70**	**8**	PKP		**PKPdf**	**04 36 23.9**	**+0.1**
326A	**Caldwell Ranch** baz=125	**124.75**	**51**	⇑P		**PKPdf**	**04 36 24.9**	**+0.2**
626A	**Big Bend Ranch** baz=125	**125.34**	**53**	⇓P		**PKPdf**	**04 36 26.4**	**+0.5**
427A	**Hayter Ranch,** baz=125	**125.39**	**51**	⇑P		**PKPdf**	**04 36 26.9**	**+0.9**
Z29A	**Hungry Hill Ra** baz=126	**125.62**	**48**	⇓P		**PKPdf**	**04 36 27.0**	**+0.7**
129A	**Stewart Farms,** baz=126	**125.79**	**49**	⇑P		**PKPdf**	**04 36 26.5**	**-0.1**
627A	**Terlingua Ranc** baz=126	**125.97**	**53**	⇑P		**PKPdf**	**04 36 27.9**	**+0.7**
428A	**Kincaid Ranch,** baz=126	**126.00**	**51**	⇓P		**PKPdf**	**04 36 28.0**	**+0.9**
628A	**Black Gap, Mar** baz=126	**126.36**	**53**	⇓P		**PKPdf**	**04 36 28.3**	**+0.5**
WMOK	**Wichita Mounta**	**127.02**	**45**	*e*PKIKP		**PKPdf**	**04 36 29.8**	**+1.0**
WMOK	**Wichita Mounta**	**127.02**	**45**	*e*PKPdf		**PKPdf**	**04 36 29.8**	**+1.0**
JCT	**Junction City**	**128.34**	**50**	*e*PKIKP		**PKPdf**	**04 36 32.9**	**+1.4**
JCT	**Junction City**	**128.34**	**50**	*e*PKPdf		**PKPdf**	**04 36 32.9**	**+1.4**
JCT	**Junction City** baz=128	**128.34**	**50**	⇑P		**PKPdf**	**04 36 32.8**	**+1.4**
DBIC	**Dimbokro**	**128.92**	**278**	PKP		**PKPdf**	**04 36 32.5**	**-0.5**
DBIC				*e*PKPdf		**PKiKP**	**04 36 33.0**	**-0.7**
DBIC	**Dimbokro** comp=Z,1.2nm,0.4s,baz=76,slow=0.5,SNR=5.0	**128.92**	**278**	PKP		**PKPdf**	**04 36 32.5**	**-0.5**
FVM	**French Village**	**130.56**	**36**	*e*SKPbc		**SKPab**	**04 39 53.1**	**-0.7**
MIAR	**Mount Ida**	**130.71**	**42**	*e*PKIKP		**PKPdf**	**04 36 37.2**	**+1.3**
MIAR	**Mount Ida**	**130.71**	**42**	*e*PKPdf		**PKPdf**	**04 36 37.2**	**+1.3**
OLIL	**Olney**	**131.39**	**34**	*e*SKPbc		**SKPab**	**04 39 57.6**	**+0.4**
WCI	**Wyandotte Cave**	**132.75**	**33**	*e*PKIKP		**PKPdf**	**04 36 40.6**	**+1.0**
WCI	**Wyandotte Cave**	**132.75**	**33**	*e*PKPdf		**PKPdf**	**04 36 40.6**	**+1.0**
ACSO	**Alum Creek Sta**	**132.95**	**29**	*e*SKPbc		**SKPbc**	**04 40 02.6**	**+0.4**
WVT	**Waverly**	**133.34**	**36**	*e*PKIKP		**PKPdf**	**04 36 41.5**	**+0.7**
WVT	**Waverly**	**133.34**	**36**	*e*PKPdf		**PKPdf**	**04 36 41.5**	**+0.7**
LRAL	**Lakeview Retre**	**135.92**	**39**	*e*SKPbc		**SKPbc**	**04 40 12.4**	**+0.3**
PLCA	**Paso Flores**	**137.14**	**163**	PKP		**PKPdf**	**04 36 47.1**	**-0.7**
PLCA				*e*PKPdf		**PKiKP**	**04 36 49.0**	**-0.7**
PLCA	**Paso Flores** comp=Z,2.6nm,0.7s,baz=244,slow=3.7,SNR=5.7	**137.14**	**163**	PKP		**PKPdf**	**04 36 47.1**	**-0.7**
TRQA	**Tornquist**	**141.56**	**172**	*e*PKPdf		**PKPdf**	**04 36 56.5**	**+0.6**
LCO	**Las Campanas**	**147.65**	**155**	*e*PKPdf		**PKPdf**	**04 37 08.0**	**+1.0**
LCO				*e*PKPbc		**PKPbc**	**04 37 10.7**	**+0.9**
LCO				*e*PKPab		**PKPab**	**04 37 12.6**	**+0.5**
CPUP	**Villa Florida**	**153.65**	**177**	*e*PKPdf		**PKPdf**	**04 37 16.6**	**+0.6**
CPUP				PKP		**PKPdf**	**04 37 17.1**	**+1.1**
CPUP				*e*PKPbc		**PKiKP**	**04 37 24.5**	**+0.6**
CPUP				PKPbc		PKPab	04 37 24.8	-12
CPUP				PKPab		PKPab	04 37 37.4	+1.0
CPUP	**Villa Florida** comp=Z,1.8nm,0.8s,baz=198,slow=6.4,SNR=3.7	**153.65**	**177**	PKP		**PKPdf**	**04 37 17.1**	**+1.1**
CPUP	comp=Z,6.3nm,0.7s,baz=111,slow=2.9,SNR=12			PKPbc		**PKiKP**	**04 37 24.8**	**+0.9**
CPUP	comp=Z,4.9nm,0.6s,baz=156,slow=4.4,SNR=7.7			PKPab		**PKPab**	**04 37 37.4**	**+1.0**
LVC	**Limon Verde**	**153.97**	**151**	*e*PKPbc		**PKPbc**	**04 37 25.5**	**+0.5**
CAM4	**Nova Friburgo**	**154.28**	**209**	⇑P		**PKPab**	**04 37 38.9**	**-0.7**
CAM4				*i*			04 37 40.1	
CAM4				*i*			04 37 47.2	
CAM4				*i*			04 37 59.6	
CAM4				*i*			04 38 09.3	
LPAZ	**La Paz**	**159.56**	**143**	*e*PKPdf		**PKPdf**	**04 37 25.7**	**+1.0**
LPAZ				*e*PKPab		**PKPab**	**04 38 05.2**	**+2.4**
BDFB	**Brasilia**	**162.62**	**205**	PKPab		**PKPab**	**04 38 16.4**	**+0.8**
BDFB	**Brasilia** comp=Z,5.6nm,0.8s,baz=91,slow=3.9,SNR=7.5	**162.62**	**205**	PKPab		**PKPab**	**04 38 16.4**	**+0.8**
SAML	**Samuel**	**168.27**	**140**	*e*PKPdf		**PKPdf**	**04 37 31.9**	**0.0**
SAML				*e*PKPab		**PKPab**	**04 38 41.2**	**+0.7**

*ISCJB **11** 04:36:25.0±1.1,5.°24S±0.°09×146.°9E±0.°1,h195km, mb4.2/5, Error ellipse: s-maj=18.8km s-min=12.6km az=4.9*
*NEIC **11** 04:36:27.4±1.8,5.°27S×146.°98E,h210km±15km,mb4.4/3, Error ellipse: s-maj=23.8km s-min=14.0km az=138.0*
*IDC **11** 04:36:29.5±1.9,5.°56S×147.°05E,h224km±18km,mb3.8/4, mb1 4.0/6,mb1mx3.5/17,mbtmp3.8/6, Error ellipse: s-maj=36.0km s-min=13.3km az=120.0*
ISC 11 04:36:26.3±1.0,5.°30S±0.°09×146.°9E±0.°2,h195km,n21, σ1s50/27,mb4.5/5,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.09**	**176**	P		**Pn**	**04 37 30.5**	**+1.5**
PMG				S		**Sn**	**04 38 17.4**	**-1.0**
PMG	**Port Moresby** 23nm,0.3s,baz=343,slow=12,SNR=48	**4.09**	**176**	P		**Pn**	**04 37 30.5**	**+1.5**
PMG	20nm,0.3s,baz=200,slow=22,SNR=7.6			S		**Sn**	**04 38 17.4**	**-1.0**
COEN	**Coen** 47nm,0.8s	**9.34**	**203**	*e*Pn		**Pn**	**04 38 39.6**	**+2.6**
CTAO	**Chrters Tower** 5.6nm,0.8s	**14.71**	**182**	*e*P		**P**	**04 39 46.9**	**+0.5**
WRAB	**Tennant Creek** 7.5nm,0.4s	**18.96**	**219**	*e*P		**P**	**04 40 33.7**	**+0.7**
WRA	**Warramunga Arr**	**18.98**	**219**	P		**P**	**04 40 34.0**	**+0.9**
WRA				S		**S**	**04 43 55.3**	**-3.0**
WRA	**Warramunga Arr** 3.8nm,0.3s,baz=44,slow=9.7,SNR=46	**18.98**	**219**	P		**P**	**04 40 34.0**	**+0.9**
WRA	0.2nm,0.3s,baz=39,slow=20,SNR=5.5			S		**S**	**04 43 55.3**	**-3.0**
AS31	**Alice Springs**	**22.11**	**213**	*e*P		**P**	**04 41 06.8**	**+0.7**
ASAR	**Alice Springs**	**22.12**	**213**	P		**P**	**04 41 07.0**	**+0.9**
ASAR				S		**S**	**04 44 53.3**	**-2.3**
ASAR	**Alice Springs** 12nm,0.7s,baz=44,slow=8.2,SNR=102	**22.12**	**213**	P		**P**	**04 41 07.0**	**+0.9**
ASAR	2.4nm,0.9s,baz=29,slow=20,SNR=6.6			S		**S**	**04 44 53.3**	**-2.3**
FITZ	**Fitzroy Crossi**	**24.32**	**237**	P		**P**	**04 41 27.3**	**+1.1**
FITZ	**Fitzroy Crossi** 14nm,0.4s,baz=56,slow=6.9,SNR=68	**24.32**	**237**	P		**P**	**04 41 27.3**	**+1.1**
STKA	**Stephens Creek**	**26.89**	**190**	P		**P**	**04 41 49.4**	**+0.2**
STKA	**Stephens Creek** 0.8nm,0.4s,baz=41,slow=10,SNR=3.2	**26.89**	**190**	P		**P**	**04 41 49.4**	**+0.2**
FORT	**Forrest** 3.6nm,0.4s	**30.90**	**213**	*e*P		**P**	**04 42 24.8**	**+0.1**
ILAR	**Eielson Array**	**84.90**	**23**	P		**P**	**04 48 38.1**	**-0.8**
ILAR	**Eielson Array** 0.6nm,0.7s,baz=258,slow=4.1,SNR=12	**84.90**	**23**	P		**P**	**04 48 38.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**144.78**	**285**	PKPbc		**PKPab**	**04 55 40.6**	**+0.2**
TORD	**Torodi Ar. Bea** 0.4nm,0.9s,baz=73,slow=3.9,SNR=3.1	**144.78**	**285**	PKPbc		**PKPab**	**04 55 40.6**	**+0.2**
SIV	**San Ignacio**	**145.19**	**128**	PKP		**PKPdf**	**04 55 40.4**	**-1.3**
SIV	**San Ignacio** 1.2nm,0.6s,baz=228,slow=9.5,SNR=6.3	**145.19**	**128**	PKP		**PKPdf**	**04 55 40.4**	**-1.3**

*ISCJB **11** 04:40:18.6±1.0,5.°9S±0.°2×151.°4E±0.°2,h41km,mb3.8/8, Error ellipse: s-maj=33.5km s-min=10.8km az=37.5*
*IDC **11** 04:40:20.0±5.8,5.°97S×151.°52E,h42km±48km,mb3.7/6, mb1 4.1/7,mb1mx3.8/16,mbtmp3.9/7,ML3.7/1,MS3.0/1, Ms1 3.0/1,ms1mx2.6/19,Error ellipse: s-maj=49.0km s-min=26.5km az=108.0*
*NEIC **11** 04:40:20.6±3.5,5.°94S×151.°54E,h50km±26km,mb4.1/1, Error ellipse: s-maj=40.9km s-min=17.9km az=107.0*
ISC 11 04:40:19.7±1.2,5.°9S±0.°2×151.°5E±0.°2,h41km,n22, σ0s73/23,mb3.9/8,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.54**	**231**	P		**Pn**	**04 41 40.2**	**+0.4**
PMG				S		**Sn**	**04 42 42.0**	**-0.3**
PMG	**Port Moresby** 14nm,0.3s,baz=47,slow=9.4,SNR=22	**5.54**	**231**	P		**Pn**	**04 41 40.2**	**+0.4**
PMG	17nm,0.3s,baz=21,slow=11,SNR=11			S		**Sn**	**04 42 42.0**	**-0.3**
HNR	**Honiara** comp=Z,90nm,18.9s,baz=344,slow=36	**9.02**	**113**	LR	LR		04 45 42.7	
WRAB	**Tennant Creek** 5.2nm,0.6s	**21.74**	**229**	*e*P		**P**	**04 45 09.6**	**+1.8**
WRA	**Warramunga Arr**	**21.76**	**229**	P		**P**	**04 45 07.2**	**-0.8**
WRA	**Warramunga Arr** 3.4nm,0.9s,baz=52,slow=11,SNR=9.2	**21.76**	**229**	P		**P**	**04 45 07.2**	**-0.8**
AS31	**Alice Springs**	**24.47**	**222**	*e*P		**P**	**04 45 35.0**	**-0.1**
ASAR	**Alice Springs**	**24.47**	**222**	P		**P**	**04 45 34.8**	**-0.4**
ASAR	**Alice Springs** 5.4nm,0.8s,baz=53,slow=9.1,SNR=23	**24.47**	**222**	P		**P**	**04 45 34.8**	**-0.4**
STKA	**Stephens Creek**	**27.43**	**199**	P		**P**	**04 46 02.5**	**+0.7**
STKA	**Stephens Creek** 2.5nm,0.6s,baz=350,slow=12,SNR=3.4	**27.43**	**199**	P		**P**	**04 46 02.5**	**+0.7**
FITZ	**Fitzroy Crossi**	**28.02**	**242**	P		**P**	**04 46 06.5**	**-0.7**
FITZ	**Fitzroy Crossi** 2.1nm,0.6s,baz=54,slow=9.7,SNR=4.9	**28.02**	**242**	P		**P**	**04 46 06.5**	**-0.7**
SONM	**Songino Array**	**66.63**	**329**	P		**P**	**04 51 06.4**	**+0.2**
SONM	**Songino Array** 0.3nm,0.5s,baz=145,slow=4.4,SNR=3.2	**66.63**	**329**	P		**P**	**04 51 06.4**	**+0.2**
MKAR	**Makanchi Array**	**80.36**	**319**	P		**P**	**04 52 27.8**	**+0.9**
MKAR	**Makanchi Array** 0.1nm,0.7s,baz=122,slow=6.5,SNR=2.9	**80.36**	**319**	P		**P**	**04 52 27.8**	**+0.9**
ILAR	**Eielson Array**	**83.68**	**22**	P		**P**	**04 52 43.4**	**-0.4**
ILAR	**Eielson Array** 0.7nm,0.8s,baz=251,slow=5.1,SNR=9.8	**83.68**	**22**	P		**P**	**04 52 43.4**	**-0.4**
TOA0	**Torodi Ar. Sit**	**149.44**	**286**	*e*PKPbc		**PKPbc**	**05 00 04.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**149.44**	**286**	PKPbc		**PKPbc**	**05 00 05.0**	**-0.5**
TORD	**Torodi Ar. Bea** 1.4nm,0.6s,baz=92,slow=2.6,SNR=21	**149.44**	**286**	PKPbc		**PKPbc**	**05 00 05.0**	**-0.5**

*IDC **11** 04:44:50.1±0.7,2.°36N×84.°28W,h0km,mb4.2/12, mb1 4.4/14,mb1mx4.3/22,mbtmp4.2/14,ML3.6/2,MS4.3/24, Ms1 4.3/24,ms1mx4.2/30,Error ellipse: s-maj=33.6km s-min=13.7km az=67.0*
*ISCJB **11** 04:44:52.4±0.3,2.°35N±0.°04×84.°31W±0.°05,h26km, mb4.5/52,MS4.3/18,Error ellipse: s-maj=8.8km s-min=4.6km az=147.1*
*NEIC **11** 04:44:56.2±0.7,2.°27N×84.°46W,h42km±6km,mb4.7/41, Error ellipse: s-maj=7.9km s-min=4.5km az=62.0*
ISC 11 04:44:54.2±0.4,2.°30N±0.°06×84.°31W±0.°07,h26km,n382, σ0s86/375,mb4.6/52,MS4.3/18,135C-129D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo** 126nm,0.9s	**6.21**	**109**	*e*Pn		**Pn**	**04 46 24.4**	**-0.3**
OTAV				*e*Sn		**Sn**	**04 47 31.4**	**-3.7**
PAYG	**Puerto Ayora** 321nm,1.3s	**6.66**	**244**	*e*Pn		**Pn**	**04 46 29.5**	**-1.1**
JTS	**JuntasAbangare**	**7.96**	**355**	Pn		**Pn**	**04 46 48.0**	**-0.4**
JTS				Sn		**Sn**	**04 48 16.5**	**-1.3**
JTS	**JuntasAbangare** 2.7nm,0.3s,baz=93,slow=21,SNR=26	**7.96**	**355**	Pn		**Pn**	**04 46 48.0**	**-0.4**
JTS	baz=107,slow=19,SNR=1.8			Sn		**Sn**	**04 48 16.5**	**-1.3**
JTS	comp=Z,2μm,21.7s,baz=179,slow=34			LR		LR	04 49 18.8	
BCIP	**Isla Barro Col**	**8.14**	**33**	*e*Pn		**Pn**	**04 46 52.9**	**+2.1**
ROSC	**El Rosal**	**10.28**	**75**	*e*Pn		Pn	04 47 27.0	+6.4
ROSC	**El Rosal** 1.0nm,0.3s,baz=179,slow=3.5,SNR=8.5	**10.28**	**75**	Pn		Pn	04 47 25.5	+4.9
ROSC	comp=Z,420nm,19.8s,baz=220,slow=34			LR		LR	04 50 37.9	
ATAH	**Atahualpa**	**11.08**	**148**	Pn		**Pn**	**04 47 33.7**	**+2.2**
ATAH	**Atahualpa** 2.2nm,0.3s,baz=340,slow=6.7,SNR=21	**11.08**	**148**	Pn		**Pn**	**04 47 33.7**	**+2.2**
ATAH	comp=Z,3μm,18.5s,baz=319,slow=36			LR		LR	04 51 24.8	
TGUH	**Tegucigalpa,Un** 76nm,0.9s	**12.04**	**346**	*e*Pn		**Pn**	**04 47 46.2**	**+1.9**
SDV	**Santo Domingo** 26nm,0.9s	**15.10**	**64**	*e*Pn		**P**	**04 48 30.6**	**-0.6**
NNA	**Nana** 289nm,2.0s	**16.02**	**153**	*e*Pn		**Pn**	**04 48 37.7**	**-0.2**
NNA	**Nana** 1.1nm,0.3s,baz=326,slow=15,SNR=12	**16.02**	**153**	Pn		**P**	**04 48 40.3**	**-1.0**
NNA	comp=Z,504nm,19.4s,baz=316,slow=36			LR		LR	04 54 25.2	
CMIG	**Matias Romero**	**18.00**	**325**	P		**P**	**04 49 03.1**	**0.0**
CMIG	**Matias Romero** 0.1nm,0.3s,baz=126,slow=9.7,SNR=11	**18.00**	**325**	P		**P**	**04 49 03.1**	**0.0**
CMIG	comp=Z,1μm,21.4s,baz=138,slow=32			LR		LR	04 54 34.9	
TEIG	**Tepich** comp=Z,1μm,18.8s,baz=153,slow=35	**18.23**	**348**	LR		LR	04 55 28.2	
SJG	**San Juan**	**23.75**	**47**	P		**P**	**04 50 08.6**	**+3.9**
SJG	**San Juan** 14nm,0.7s,baz=270,slow=9.3,SNR=3.6	**23.75**	**47**	P		**P**	**04 50 08.6**	**+3.9**
SJG	comp=Z,291nm,20.3s,baz=90,slow=37			LR		LR	04 59 18.6	
SAML	**Samuel** 48nm,1.2s	**23.84**	**118**	*e*P		**P**	**04 50 05.7**	**+0.1**
LPAZ	**La Paz** 44nm,1.2s	**24.43**	**140**	*e*P		**P**	**04 50 12.9**	**+1.2**
LVC	**Limon Verde** 6.5nm,1.0s	**28.96**	**150**	*e*P		**P**	**04 50 52.1**	**+0.1**
SIV	**San Ignacio**	**29.29**	**129**	P		**P**	**04 50 54.8**	**-0.1**
SIV	**San Ignacio** 3.3nm,0.9s,baz=312,slow=12,SNR=9.0	**29.29**	**129**	P		**P**	**04 50 54.8**	**-0.1**
SIV	comp=Z,3μm,18.5s,slow=38			LR		LR	05 03 13.9	
LRAL	**Lakeview Retre** 12nm,1.1s	**30.68**	**356**	*e*P		**P**	**04 51 07.3**	**+0.5**
628A	**Black Gap, Mar** baz=32	**32.29**	**329**	⇑P		**P**	**04 51 20.5**	**-0.7**
KMSC	**Kings Mountain** baz=33	**32.79**	**5**	⇓P		**P**	**04 51 25.3**	**-0.1**
626A	**Big Bend Ranch** baz=33	**33.01**	**327**	⇑P		**P**	**04 51 27.3**	**-0.2**
428A	**Kincaid Ranch,** baz=33	**33.19**	**330**	⇓P		**P**	**04 51 28.8**	**-0.4**
TKL	**Tuckaleechee C**	**33.20**	**1**	P		**P**	**04 51 29.4**	**+0.5**
TKL	**Tuckaleechee C** 3.8nm,0.9s,baz=200,slow=8.1,SNR=4.3	**33.20**	**1**	P		**P**	**04 51 29.4**	**+0.5**
328A	**Wristen Ranch,** baz=34	**33.79**	**331**	⇑P		**P**	**04 51 33.9**	**-0.4**
WVT	**Waverly** 7.3nm,1.1s	**33.82**	**355**	*e*P		**P**	**04 51 35.3**	**+1.0**
426A	**McDonald Obser** baz=34	**33.83**	**329**	⇑P		**P**	**04 51 34.7**	**-0.1**
326A	**Caldwell Ranch** baz=34	**34.32**	**329**	⇑P		**P**	**04 51 38.7**	**-0.3**
**

8.2nm,1.3s
W24A **Lazy 6 Ranch,** 38.16 332 ⇓P P 04 52 11.2 -0.7
baz=38
Z20A **Nine Sixteen R** 38.18 326 ⇑P P 04 52 12.5 +0.5
baz=38,SNR=9.4
V25A **Rancho No Teng** 38.31 333 ⇓P P 04 52 12.6 -0.5
baz=38,SNR=8.5
ANMO **Albuquerque** 38.47 330 eP P 04 52 13.8 -0.6
15nm,1.4s
V24A **Rampart Ranch,** 38.52 332 ⇓P P 04 52 14.3 -0.5
baz=39
CPUP **Villa Florida** 38.60 139 LR LR 05 10 19.6
comp=Z,567nm,18.9s,baz=305,slow=40
Y20A **Horse Springs,** 38.66 327 ⇑P P 04 52 15.4 -0.7
baz=39
TUC **Tucson** 38.87 323 eP P 04 52 17.7 0.0
10nm,1.5s
V23A **Ortiz Mt. (NFS** 38.97 331 ⇓P P 04 52 18.8 +0.2
baz=39
CBKS **Cedar Bluff** 38.98 341 eP P 04 52 19.3 +0.9
24nm,0.9s
T26A **Comanche Natio** 38.98 335 ⇑P P 04 52 18.8 +0.1
baz=39
U24A **Moreno Valley** 39.08 333 ⇑P P 04 52 19.8 +0.2
baz=39
Y19A **Nutrioso** 39.17 326 ⇓P P 04 52 20.6 +0.1
baz=39,SNR=6.8
X20A **Quemado** 39.20 328 ⇑P P 04 52 20.8 +0.2
baz=39,SNR=5.1
T25A **Trinidad** 39.30 334 ⇑P P 04 52 21.2 -0.2
baz=39
S26A **Kim** 39.31 336 ⇑P P 04 52 21.6 +0.2
baz=39,SNR=6.9
U23A **El Rito** 39.44 332 ⇑P P 04 52 22.5 -0.1
baz=40
V22A **San Miguel Ran** 39.45 331 ⇑P P 04 52 22.7 0.0
baz=40
T24A **Torres, Weston** 39.53 334 ⇓P P 04 52 23.4 +0.1
baz=40,SNR=6.2
R27A **Eads** 39.62 337 ⇓P P 04 52 23.4 -0.5
baz=40
W20A **Ramah** 39.65 328 ⇑P P 04 52 24.7 +0.4
baz=40,SNR=13
V21A **Milan** 39.73 330 ⇓P P 04 52 24.7 -0.3
baz=40
S25A **Robets Cordova** 39.75 335 ⇓P P 04 52 25.1 0.0
baz=40,SNR=7.8
U22A **Llaves** 39.80 331 ⇓P P 04 52 26.0 +0.5
baz=40,SNR=8.8
214A **Organ Pipe Nat** 39.88 321 ⇓P P 04 52 26.7 +0.6
baz=40,SNR=6.1
R26A **Arlington** 39.89 336 ⇑P P 04 52 26.0 -0.1
baz=40
T23A **Casias Ranch,** 39.95 333 ⇑P P 04 52 26.4 -0.4
baz=40,SNR=5.4
X18A **Snowflake** 39.98 326 ⇓P P 04 52 27.0 -0.1
baz=40,SNR=5.6
S24A **Houchin Ranch,** 40.07 334 ⇑P P 04 52 27.1 -0.8
baz=40
BDFB **Brasilia** 40.08 118 LR LR 05 09 19.3
comp=Z,806nm,19.6s,baz=106,slow=37
R25A **Fountain Ranch** 40.10 335 ⇑P P 04 52 27.6 -0.3
baz=40
V20A **Brimhall** 40.15 329 ⇑P P 04 52 28.3 -0.2
baz=40
KSCO **Kaye Shedlock'** 40.18 338 ⇑P P 04 52 27.9 -0.7
baz=40
U21A **Nageezi** 40.23 330 ⇓P P 04 52 28.8 -0.4
baz=40
SDCO **Great Sand Dun** 40.29 334 eP P 04 52 29.2 -0.5
15nm,1.3s
SDCO **Great Sand Dun** 40.29 334 ⇓P P 04 52 29.5 -0.1
baz=40,SNR=11
W18A **Petrified Fore** 40.30 327 ⇓P P 04 52 29.4 -0.4
baz=40
X17A **Forest Lakes** 40.33 325 ⇑P P 04 52 29.7 -0.3
baz=40,SNR=7.5
T22A **Edith** 40.33 332 ⇑P P 04 52 29.7 -0.3
baz=40
Q26A **Hugo** 40.45 337 ⇓P P 04 52 30.4 -0.5
baz=41
114A **Black Gap (USA** 40.45 322 ⇓P P 04 52 30.6 -0.1
baz=40,SNR=6.0
R24A **Sanders Place,** 40.52 335 ⇓P P 04 52 30.9 -0.6
baz=41
T21A **Navajo Lake** 40.62 331 ⇑P P 04 52 32.3 0.0
baz=41
U20A **Newcomb** 40.62 329 ⇑P P 04 52 32.3 -0.1
baz=41
Q25A **Bedland, Calha** 40.73 336 ⇓P P 04 52 32.8 -0.4
baz=41,SNR=5.9
X16A **Lo Mia Camp, P** 40.75 325 ⇓P P 04 52 33.2 -0.2
baz=41,SNR=7.0
S22A **4UR Ranch, Cre** 40.89 332 ⇑P P 04 52 34.2 -0.4
baz=41
U19A **Dine' College,** 40.91 329 ⇑P P 04 52 34.2 -0.6
baz=41
P26A **Davis Ranch, A** 40.93 337 ⇑P P 04 52 34.1 -0.7
baz=41
113A **Mohawk Valley,** 41.02 321 ⇑P P 04 52 35.1 -0.3
baz=41
T19A **Beclabito** 41.23 329 ⇓P P 04 52 36.6 -0.7
baz=41
R22A **Saguache, Gunn** 41.25 333 ⇑P P 04 52 36.9 -0.7
baz=41
S21A **Coal Bank Pass** 41.27 331 ⇑P P 04 52 37.3 -0.6
baz=41
Y14A **Wickenburg** 41.34 323 ⇓P P 04 52 38.0 -0.1
baz=41
TRY **Troy** 41.37 12 eP P 04 52 38.6 +0.5
26nm,1.1s
WUAZ **Wupatki** 41.50 326 eP P 04 52 39.4 -0.2
18nm,1.3s
WUAZ **Wupatki** 41.50 326 ⇑P P 04 52 39.7 +0.2
baz=42,SNR=7.8
OGNE **Ogallala** 41.67 340 ⇓P P 04 52 41.1 +0.4
baz=42
S20A **Disappointment** 41.68 331 ⇓P P 04 52 41.4 +0.2
baz=42
N27A **Anderson Farm,** 41.72 339 ⇓P P 04 52 41.1 -0.1
baz=42
R21A **Cimarron** 41.73 332 ⇑P P 04 52 41.6 +0.1
baz=42
P23A **Jefferson** 41.79 335 ⇑P P 04 52 41.9 -0.2
baz=42,SNR=8.4
Q22A **Crested Butte,** 41.83 333 ⇑P P 04 52 41.7 -0.7
baz=42,SNR=9.0
T18A **Mexican Hat** 41.90 329 ⇑P P 04 52 42.4 -0.3
baz=42,SNR=7.0
S19A **Harvey Farm, M** 42.00 330 ⇓P P 04 52 43.3 -0.3
baz=42
ISCO **Idaho Springs** 42.05 335 ⇓P P 04 52 43.7 -0.4
baz=42
Q21A **Lamborn Mesa,** 42.11 333 ⇑P P 04 52 44.7 +0.1
baz=42
SMCO **Snowmass** 42.12 333 eP P 04 52 44.3 -0.5
26nm,1.4s
Y12C **Blythe** 42.14 321 ⇓P P 04 52 44.6 0.0
baz=42
PDMCI **Parker Dam,Lak** 42.27 322 ⇓P P 04 52 45.3 -0.4
baz=42
P22A **Eagle** 42.37 334 ⇑P P 04 52 46.3 -0.3
baz=42,SNR=5.9
S18A **Hurst Farm, Bl** 42.38 329 ⇑P P 04 52 46.5 -0.4
baz=42
R19A **Curley Farm, L** 42.48 331 ⇑P P 04 52 46.3 -1.4
baz=43
O23A **Lake Granby, G** 42.52 335 ⇓P P 04 52 47.5 -0.4
baz=43
Q20A **Ridgley Place,** 42.54 332 ⇓P P 04 52 48.2 +0.1
baz=43
P21A **Newcastle** 42.61 333 ⇑P P 04 52 48.4 -0.3
baz=43,SNR=6.9
W13A **Hualapai Mount** 42.66 323 ⇑P P 04 52 48.8 -0.3
baz=43,SNR=7.4
BC3 **Big Chuckawall** 42.67 320 ⇑P P 04 52 48.7 -0.4
baz=43
ECSD **EROS Data Cent** 42.68 347 eP P 04 52 48.0 -0.9
16nm,1.2s
O22A **Kremmling** 42.74 335 ⇓P P 04 52 48.5 -1.3
baz=43
IRM **Iron Mountain** 42.80 321 ⇓P P 04 52 49.0 -1.1
baz=43,SNR=8.0
R18A **Canyonlands Na** 42.87 330 ⇑P P 04 52 50.1 -0.6
baz=43
N23A **Red Feather La** 43.10 336 ⇑P P 04 52 52.1 -0.6
baz=43
M24A **Cheyenne** 43.15 337 ⇑P P 04 52 53.6 +0.7
baz=43

BELC **Belle Mtn. Jos** 43.23 320 ⇑P P 04 52 53.4 -0.3
baz=43
N22A **Wattenberg Ran** 43.24 335 ⇓P P 04 52 52.9 -0.8
baz=43
S16A **Weppner Ranch,** 43.24 328 ⇑P P 04 52 53.3 -0.5
baz=43,SNR=8.0
PHWY **Pilot Hill** 43.25 337 eP P 04 52 54.0 +0.1
12nm,1.3s
PFO **Pinyon Flat Ob** 43.28 320 ⇑P P 04 52 53.5 -0.5
baz=43
K27A **Flueckinger Fa** 43.30 341 ⇑P P 04 52 53.6 -0.5
baz=43
R17A **Hanksville Air** 43.31 329 ⇓P P 04 52 53.3 -0.9
baz=43
SPMN **St. Paul** 43.40 351 ⇑P P 04 52 53.8 -0.8
baz=44
O20A **White River Ci** 43.47 333 ⇓P P 04 52 55.1 -0.5
baz=44
M23A **Laramie** 43.50 337 ⇑P P 04 52 55.2 -0.6
baz=44
GMRC **Granite Mounta** 43.53 322 ⇑P P 04 52 55.8 -0.2
baz=44
Q18A **Rafter H Ranch** 43.54 331 ⇓P P 04 52 55.6 -0.5
baz=44,SNR=6.9
R16A **Teasdale** 43.60 329 ⇑P P 04 52 55.7 -1.0
baz=44
N21A **Black Mountain** 43.66 334 ⇓P P 04 52 56.3 -0.8
baz=44
SRU **San Rafael** 43.74 330 ⇓P P 04 52 57.1 -0.7
baz=44,SNR=5.9
Q16A **Castle Valley** 43.92 329 ⇑P P 04 52 58.8 -0.4
baz=44
HEC **Hector,Ludlow** 43.98 321 ⇓P P 04 52 59.7 +0.1
baz=44
L23A **Garrett** 44.04 337 ⇓P P 04 52 59.4 -0.8
baz=44,SNR=5.7
N20A **Spence Gulch,** 44.04 334 ⇓P P 04 52 59.1 -1.0
baz=44
TUQ **Turquoise Moun** 44.12 322 ⇓P P 04 53 00.2 -0.6
baz=44
MSU **Marysvale** 44.13 328 eP P 04 53 01.5 +0.6
36nm,2.1s
L22A **Ellis Ranch, M** 44.26 336 ⇑P P 04 53 01.4 -0.4
baz=44
ARUT **Antelope Range** 44.29 326 eP P 04 53 02.2 +0.1
22nm,1.5s
O18A **Roosevelt** 44.39 332 ⇓P P 04 53 02.3 -0.5
baz=44
N19A **John Jarvie Ra** 44.50 333 ⇑P P 04 53 02.7 -1.1
baz=45
M20A **Sweetwater, Wa** 44.54 334 ⇑P P 04 53 03.6 -0.6
baz=45
K23A **Bowen Ranch, D** 44.55 338 ⇓P P 04 53 03.3 -0.9
baz=45
GSC **Goldstone** 44.58 321 ⇓P P 04 53 04.3 -0.1
baz=45
L21A **Rawlins** 44.59 335 ⇑P P 04 53 03.8 -0.7
baz=45
PLCA **Paso Flores** 44.63 165 eP P 04 53 04.1 -0.6
PLCA **Paso Flores** 44.63 165 P P 04 53 03.7 -1.0
3.5nm,0.8s,baz=334,slow=10,SNR=7.6
PLCA LR LR 05 07 36.9
comp=Z,338nm,20.8s,baz=180,slow=31
O17A **Robinson Place** 44.68 331 ⇓P P 04 53 05.1 -0.2
baz=45
P16A **Fountain Green** 44.69 330 ⇓P P 04 53 05.2 -0.2
baz=45
K22A **Casper** 44.82 337 ⇑P P 04 53 06.1 -0.2
baz=45
R13A **O'Grain Ranch,** 44.86 326 ⇓P P 04 53 07.1 +0.4
baz=45,SNR=6.1
EDW2 **Edwards Air Fo** 45.06 320 ⇓P P 04 53 08.5 +0.2
baz=45
K21A **Alcova** 45.09 336 ⇓P P 04 53 08.2 -0.3
baz=45
RSSD **Black Hills** 45.17 340 eP P 04 53 08.5 -0.6
4.2nm,0.9s
LRMC **Laurel Mountai** 45.25 321 ⇓P P 04 53 09.7 -0.1
baz=45
N17A **Moffit Pass** 45.31 332 ⇑P P 04 53 09.4 -1.0
baz=45
M18A **Lyman** 45.33 333 ⇑P P 04 53 09.4 -1.1
baz=45
FURC **Furnace Creek,** 45.37 322 ⇓P P 04 53 10.2 -0.3
baz=45
J22A **Midwest** 45.44 337 ⇓P P 04 53 10.8 -0.4
baz=46
L19A **Farson** 45.55 334 ⇑P P 04 53 11.2 -1.0
baz=46
K20A **Yellowstone Ra** 45.56 335 ⇑P P 04 53 11.2 -1.1
baz=46
L18A **Fontenelle, Gr** 45.71 333 ⇓P P 04 53 12.5 -0.9
baz=46
J21A **Lysite** 45.77 336 ⇓P P 04 53 13.5 -0.3
baz=46,SNR=8.7
I22A **9 Mile Ranch,** 45.85 338 ⇓P P 04 53 13.9 -0.6
baz=46
R11A **Troy Canyon, C** 45.88 325 ⇓P P 04 53 14.5 -0.3
baz=46
H24A **Dirks Ranch, A** 45.89 340 ⇓P P 04 53 14.0 -0.7
baz=46
K19A **Absolon Red Bu** 45.91 335 ⇓P P 04 53 14.5 -0.5
baz=46,SNR=7.3
J20A **Shoshoni** 46.03 336 ⇑P P 04 53 15.3 -0.6
baz=46
I21A **Big Trails, Te** 46.10 337 ⇓P P 04 53 15.9 -0.5
baz=46
HWUT **Hardware Ranch** 46.17 332 eP P 04 53 16.0 -1.0
8.1nm,0.8s
BW06 **Boulder Array** 46.17 334 eP P 04 53 16.4 -0.7
6.7nm,1.3s
BW06 **Boulder Array** 46.17 334 ⇓P P 04 53 16.2 -0.9
baz=46
PDAR **Pinedale Array** 46.17 334 P P 04 53 15.7 -1.4
PDAR PcP PcP 04 54 54.1 +1.3
PDAR **Pinedale Array** 46.17 334 P P 04 53 15.7 -1.4
1.7nm,0.9s,baz=132,slow=8.2,SNR=10
PDAR PcP PcP 04 54 54.1 +1.3
0.7nm,0.8s,baz=139,slow=7.3,SNR=3.7
PDAR LR LR 05 13 12.7
comp=Z,712nm,19.0s,baz=154,slow=37
PD02 **Pinedale Array** 46.19 334 eP P 04 53 16.4 -0.9
K18A **Toltan Ranch,** 46.28 334 ⇓P P 04 53 17.4 -0.5
baz=46,SNR=6.3
J19A **Crowheart** 46.36 335 ⇓P P 04 53 17.5 -1.0
baz=46
VES **Vestal, Richgr** 46.36 320 ⇑P P 04 53 17.9 -0.5
baz=46,SNR=7.0
L16A **Fish Haven** 46.42 332 ⇑P P 04 53 18.1 -1.0
baz=46
M15A **Larsen Ranch,** 46.49 331 ⇓P P 04 53 18.5 -0.9
baz=47
I20A **Worland** 46.54 336 ⇑P P 04 53 19.0 -0.9
baz=47,SNR=5.7
H21A **Big Horn, Sher** 46.69 338 ⇓P P 04 53 19.8 -1.2
baz=47
J18A **Kendall Valley** 46.73 334 ⇑P P 04 53 19.8 -1.7
baz=47,SNR=6.5
K17A **Gardner Place,** 46.76 333 ⇑P P 04 53 20.4 -1.3
baz=47
F24A **Ekalaka** 46.82 341 ⇑P P 04 53 20.6 -1.3
baz=47
L15A **Malad City** 46.87 331 ⇑P P 04 53 20.9 -1.6
baz=47,SNR=5.6
AGMN **Agassiz Nation** 46.89 349 eP P 04 53 21.1 -1.3
16nm,1.0s
G22A **Birney** 46.92 339 ⇓P P 04 53 21.4 -1.3
baz=47
H20A **Greybull** 46.94 337 ⇑P P 04 53 21.9 -1.1
baz=47
I19A **Meeteetse** 46.97 336 ⇓P P 04 53 22.4 -0.8
baz=47
F23A **Volborg** 47.04 340 ⇑P P 04 53 22.7 -0.9
baz=47,SNR=7.3
I18A **Diamond G Ranc** 47.04 335 ⇓P P 04 53 23.7 -0.2
baz=47
K16A **Soda Springs** 47.13 333 ⇓P P 04 53 24.3 -0.2
baz=47
SNOW **Snow King Moun** 47.25 334 eP P 04 53 25.1 -0.4
17nm,1.4s
G21A **Lodge Grass** 47.26 338 ⇓P P 04 53 24.9 -0.5
baz=47
MDND **Maddock** 47.26 346 ⇑P P 04 53 25.6 +0.3
baz=47
LOHW **Long Hollow** 47.31 334 eP P 04 53 25.0 -0.9
1.8nm,1.0s
TPAW **Teton Pass** 47.36 334 eP P 04 53 26.2 -0.2
10.0nm,1.2s

ELK **Elko** 47.38 328 eP P 04 53 26.5 -0.1
F22A **Rosebud** 47.38 339 ⇓P P 04 53 25.5 -0.8
baz=48
E24A **Baker** 47.41 341 ⇑P P 04 53 25.9 -0.6
baz=48
RRI2 **Red Ridge** 47.41 333 eP P 04 53 26.2 -0.6
8.4nm,1.0s
K15A **Arbon** 47.46 332 ⇓P P 04 53 26.5 -0.5
baz=48
MOOW **Moose Ponds** 47.48 334 eP P 04 53 26.8 -0.5
H19A **Powell** 47.48 336 ⇑P P 04 53 26.5 -0.7
baz=48
J16A **Bone** 47.49 333 ⇑P P 04 53 26.4 -1.0
baz=48,SNR=6.7
NVAR **Mina Array Bea** 47.52 323 P P 04 53 26.6 -1.0
NVAR PcP PcP 04 55 00.1 +2.5
NVAR **Mina Array Bea** 47.52 323 P P 04 53 26.6 -1.0
2.2nm,0.8s,baz=129,slow=7.2,SNR=15
NVAR PcP PcP 04 55 00.1 +2.5
0.7nm,0.7s,baz=126,slow=4.7,SNR=3.8
NVAR LR LR 05 13 21.7
comp=Z,316nm,18.9s,baz=197,slow=36
I17A **Pilgrim Ck.** 47.54 334 ⇓P P 04 53 27.2 -0.6
baz=48
G20A **Bridger** 47.64 337 ⇓P P 04 53 28.1 -0.3
baz=48
K14A **Jones Ranch, D** 47.66 331 ⇓P P 04 53 28.2 -0.4
baz=48
H18A **Shoshone NF, C** 47.77 336 ⇑P P 04 53 28.8 -0.7
baz=48
I16A **Newdale** 47.91 334 ⇑P P 04 53 30.0 -0.5
baz=48
J15A **Blackfoot** 47.96 332 ⇑P P 04 53 30.3 -0.7
baz=48
F20A **Billings** 48.10 338 ⇑P P 04 53 31.5 -0.4
baz=48
D23A **Lindsay** 48.24 341 ⇓P P 04 53 32.7 -0.3
baz=48
G18A **Lazy EL Ranch,** 48.25 336 ⇑P P 04 53 32.5 -0.7
baz=48
C24A **Savage** 48.31 342 ⇓P P 04 53 32.8 -0.6
baz=48
J14A **Carey** 48.41 332 ⇓P P 04 53 34.0 -0.5
baz=48
F19A **Roth Farm, Mol** 48.45 337 ⇑P P 04 53 33.7 -0.9
baz=49
H16A **Russell Place,** 48.46 334 ⇑P P 04 53 34.0 -0.8
baz=49
D22A **Cohagen** 48.54 340 ⇑P P 04 53 34.6 -0.6
baz=49
E20A **Meyer Farm, Mu** 48.68 338 ⇓P P 04 53 36.0 -0.4
baz=49
G17A **Pierce Place,** 48.74 335 ⇓P P 04 53 36.8 0.0
baz=49
D21A **La Casta Ranch** 48.75 339 ⇑P P 04 53 36.5 -0.4
baz=49
ULM **Lac du Bonnet** 48.78 350 eP P 04 53 35.7 -1.2
40nm,1.5s
ULM **Lac du Bonnet** 48.78 350 P P 04 53 35.0 -1.9
12nm,1.0s,baz=172,slow=7.7,SNR=12
ULM LR LR 05 13 13.7
comp=Z,166nm,19.7s,baz=147,slow=35
J13A **Cove Ranch, Pi** 48.78 331 ⇓P P 04 53 36.7 -0.6
baz=49
C23A **Lambert** 48.79 341 ⇑P P 04 53 36.5 -0.6
baz=49
F18A **Big Timber** 48.79 337 ⇑P P 04 53 36.5 -0.8
baz=49,SNR=7.4
I14A **Mackay** 48.84 332 ⇑P P 04 53 37.3 -0.5
baz=49
E19A **Rath Farm, Rou** 48.89 338 ⇑P P 04 53 37.4 -0.6
baz=49
C22A **Vida** 48.96 341 ⇑P P 04 53 38.0 -0.5
baz=49,SNR=7.9
H15A **Lima** 49.00 333 ⇑P P 04 53 39.0 0.0
baz=49,SNR=8.7
HLID **Hailey** 49.02 331 eP P 04 53 38.5 -0.7
6.6nm,1.4s
HLID **Hailey** 49.02 331 ⇑P P 04 53 38.4 -0.7
baz=49
G16A **Moss Hill, Enn** 49.11 334 ⇓P P 04 53 38.9 -1.0
baz=49
I13A **Wildhorse Cree** 49.15 332 ⇓P P 04 53 39.1 -1.1
baz=49
F17A **Fitzpatrick Pl** 49.17 336 ⇑P P 04 53 39.7 -0.6
baz=49
D20A **Manuel Ranch,** 49.18 339 ⇓P P 04 53 39.5 -0.6
baz=49
B23A **Brockton** 49.31 342 ⇓P P 04 53 40.6 -0.5
baz=50
H14A **Leadore** 49.33 333 ⇑P P 04 53 40.7 -0.8
baz=49
G15A **Dillon** 49.36 334 ⇓P P 04 53 41.3 -0.4
baz=50
BOZ **Bozeman (W)** 49.37 335 eP P 04 53 41.1 -0.7
5.1nm,0.9s
BOZ **Bozeman (W)** 49.37 335 ⇑P P 04 53 41.1 -0.7
baz=50
C21A **Desert Coulee** 49.44 340 ⇓P P 04 53 41.3 -0.8
baz=50,SNR=9.1
F16A **Kennard Place,** 49.48 335 ⇑P P 04 53 41.8 -0.8
baz=50
D19A **Cripps Ranch,** 49.52 338 ⇓P P 04 53 42.4 -0.4
baz=50
I12A **Atlanta** 49.54 331 ⇓P P 04 53 42.2 -0.9
baz=50
MFID **Camas Ranch** 49.61 330 ⇓P P 04 53 42.8 -0.8
baz=50
C20A **Veseth Ranch,** 49.66 339 ⇓P P 04 53 42.8 -1.0
baz=50
H13A **Challis** 49.70 332 ⇑P P 04 53 42.4 -1.8
baz=50,SNR=6.3
G14A **Jackson** 49.85 333 ⇑P P 04 53 44.5 -1.1
baz=50
H12A **Diamond D Ranc** 49.97 332 ⇓P P 04 53 45.6 -0.8
baz=50
C19A **Slack Wire Ran** 50.06 338 ⇑P P 04 53 46.1 -0.8
baz=50
A22A **Carney Farms,** 50.07 342 ⇓P P 04 53 46.3 -0.6
baz=50
G13A **Cobalt** 50.09 333 ⇓P P 04 53 46.7 -0.5
baz=50
E16A **East Helena** 50.10 336 ⇑P P 04 53 46.7 -0.6
baz=50
D17A **Six Diamond Ra** 50.20 337 ⇓P P 04 53 47.8 -0.2
baz=50
F14A **Wisdom** 50.26 334 ⇑P P 04 53 47.6 -0.9
baz=50
B20A **Solberg Farm,** 50.29 340 ⇑P P 04 53 48.0 -0.6
baz=50
WVOR **Wild Horse Val** 50.38 327 eP P 04 53 49.2 -0.2
24nm,1.4s
A21A **Bergtoll Ranch** 50.39 341 ⇓P P 04 53 49.0 -0.3
baz=50
D16A **Dana Ranch, Ca** 50.45 336 ⇑P P 04 53 49.4 -0.5
baz=51
EGMT **Eagleton** 50.56 338 ⇓P P 04 53 49.7 -1.0
baz=51
C17A **Wharram Farm,** 50.62 337 ⇑P P 04 53 50.6 -0.6
baz=51
B19A **Brinkman Farms** 50.63 339 ⇑P P 04 53 50.7 -0.4
baz=51
G12A **Big Creek, Yel** 50.63 332 ⇑P P 04 53 50.8 -0.6
baz=51
F13A **Darby** 50.67 333 ⇓P P 04 53 51.5 -0.1
baz=51
E14A **Clinton** 50.78 334 ⇓P P 04 53 51.8 -0.6
baz=51
D15A **Lincoln** 50.85 335 ⇓P P 04 53 52.4 -0.6
baz=51
B18A **Beardsley Farm** 50.88 338 ⇓P P 04 53 52.6 -0.5
baz=51
F12A **Elk City** 51.06 332 ⇓P P 04 53 53.9 -0.7
baz=51,SNR=6.2
E13A **Victor** 51.10 334 ⇑P P 04 53 54.1 -0.7
baz=51
C16A **Fuhringer Ranc** 51.15 336 ⇓P P 04 53 54.4 -0.7
baz=51
MSO **Missoula** 51.29 334 eP P 04 53 55.6 -0.6
5.0nm,1.0s
MSO **Missoula** 51.29 334 ⇓P P 04 53 55.2 -1.1
baz=51
D14A **Greenough** 51.30 335 ⇑P P 04 53 55.2 -1.1
baz=51
A18A **Metzger Ranch,** 51.34 339 ⇑P P 04 53 55.4 -1.1
baz=52
C15A **Salmond Ranch,** 51.47 336 ⇑P P 04 53 56.5 -1.2
baz=52

B16A	**M & M Farms, S**	**51.63**	**337**	⇓P		**P**	**04 53 57.6**	**-1.1**
	baz=52							
E12A	**Beaver Dam Sad**	**51.70**	**333**	⇓P		**P**	**04 53 58.3**	**-1.1**
	baz=52							
D13A	**Huson**	**51.72**	**334**	⇓P		**P**	**04 53 58.5**	**-0.9**
	baz=52							
B15A	**Bradely Ranch,**	**51.88**	**336**	⇑P		**P**	**04 53 59.5**	**-1.1**
	baz=52							
C14A	**Swan Lake**	**51.94**	**335**	⇑P		**P**	**04 53 59.7**	**-1.4**
	baz=52							
D12A	**Red Ives Fores**	**52.09**	**333**	⇓P		**P**	**04 54 00.5**	**-1.6**
	baz=52							
JTMT	**Jette**	**52.15**	**335**	*e*P		**P**	**04 54 02.7**	**0.0**
	6.1nm,1.4s							
B14A	**Marquette Ranc**	**52.21**	**336**	⇑P		**P**	**04 54 02.2**	**-0.9**
	baz=52							
C13A	**Hot Springs**	**52.22**	**334**	⇑P		**P**	**04 54 02.7**	**-0.5**
	baz=52							
BSMT	**Bassoo Peak**	**52.45**	**334**	*e*P		**P**	**04 54 05.0**	**0.0**
	13nm,1.5s							
A15A	**Johnson Ranch,**	**52.48**	**337**	⇑P		**P**	**04 54 04.0**	**-1.1**
	baz=53,SNR=6.2							
C12B	**Naegeli Ranch,**	**52.64**	**334**	⇑P		**P**	**04 54 05.1**	**-1.1**
	baz=53							
B13A	**Whitefish**	**52.72**	**335**	⇓P		**P**	**04 54 05.7**	**-1.0**
	baz=53,SNR=5.6							
A14A	**Double T Ranch**	**52.76**	**336**	⇓P		**P**	**04 54 05.9**	**-1.2**
	baz=53							
C11A	**Tepee Creek (N**	**53.08**	**334**	⇑P		**P**	**04 54 08.4**	**-1.1**
	baz=53							
A13A	**Flathead Natio**	**53.13**	**336**	⇑P		**P**	**04 54 09.2**	**-0.7**
	baz=53							
B12A	**Libby**	**53.27**	**334**	⇓P		**P**	**04 54 10.5**	**-0.3**
	baz=53							
FFC	**Flin Flon**	**54.22**	**347**	*e*P		**P**	**04 54 17.6**	**+0.1**
	8.6nm,1.3s							
SCHQ	**Schefferville**	**54.27**	**12**	P		**P**	**04 54 17.2**	**-0.8**
SCHQ	**Schefferville**	**54.27**	**12**	P		**P**	**04 54 17.2**	**-0.8**
	2.0nm,0.6s,baz=200,slow=9.2,SNR=5.6							
SCHQ				LR		LR	05 17 19.3	
	comp=Z,194nm,18.6s,baz=191,slow=36							
RKT	**Rikitea**	**55.42**	**240**	*e*LR		LR	05 10 26.7	
	331nm,28.0s							
YKA	**Yellowknife Ar**	**64.16**	**345**	P		**P**	**04 55 24.6**	**-1.7**
YKA	**Yellowknife Ar**	**64.16**	**345**	P		**P**	**04 55 24.6**	**-1.7**
	5.1nm,1.0s,baz=139,slow=6.6,SNR=24							
PPT2	**Papeete2**	**67.24**	**250**	*e*LR		LR	05 16 02.3	
	745nm,26.0s,baz=79							
TBI	**Tubuai**	**68.27**	**244**	*e*LR		LR	05 16 24.1	
	385nm,27.8s							
BMRM	**Bremner River**	**73.96**	**334**	*e*P		**P**	**04 56 27.9**	**+0.7**
	13nm,1.1s							
ILAR	**Eielson Array**	**76.51**	**337**	P		**P**	**04 56 40.6**	**-1.1**
ILAR	**Eielson Array**	**76.51**	**337**	P		**P**	**04 56 40.6**	**-1.1**
	3.9nm,1.0s,baz=104,slow=4.3,SNR=21							
ILAR				LR		LR	05 31 17.2	
	comp=Z,341nm,19.6s,baz=339,slow=36							
DBIC	**Dimbokro**	**79.27**	**84**	LR		LR	05 27 43.2	
	comp=Z,88nm,20.7s,baz=83,slow=32							
ESDC	**Sonseca Array**	**81.11**	**50**	P		**P**	**04 57 07.9**	**+0.3**
ESDC	**Sonseca Array**	**81.11**	**50**	P		**P**	**04 57 07.9**	**+0.3**
	1.5nm,0.9s,baz=274,slow=6.0,SNR=3.8							
ESDC				LR		LR	05 30 32.5	
	comp=Z,91nm,18.5s,baz=165,slow=34							
TOA0	**Torodi Ar. Sit**	**85.60**	**77**	*e*P		**P**	**04 57 33.0**	**+1.9**
TORD	**Torodi Ar. Bea**	**85.60**	**77**	P		**P**	**04 57 30.4**	**-0.7**
TORD	**Torodi Ar. Bea**	**85.60**	**77**	P		**P**	**04 57 30.4**	**-0.7**
	0.8nm,0.6s,baz=288,slow=5.8,SNR=6.4							
TORD				LR		LR	05 35 02.7	
	comp=Z,107nm,18.1s,baz=320,slow=35							
HFS	**Hagfors**	**92.02**	**30**	LR		LR	05 32 54.7	
	comp=Z,120nm,20.1s,baz=249,slow=31							
GERES	**GERESS Array B**	**93.56**	**41**	LR		LR	05 33 13.3	
	comp=Z,98nm,19.7s,baz=323,slow=31							
ARCES	**ARCESS Array B**	**94.69**	**19**	LR		LR	05 37 43.1	
	comp=Z,151nm,18.7s,baz=199,slow=34							
VRAC	**Vranov**	**95.37**	**40**	LR		LR	05 36 30.0	
	comp=Z,125nm,18.5s,baz=319,slow=32							
FINES	**FINESS Array B**	**97.60**	**27**	LR		LR	05 35 39.0	
	comp=Z,167nm,19.6s,baz=312,slow=31							
SONM	**Songino Array**	**129.20**	**351**	PKP		**PKPdf**	**05 04 01.6**	**+1.0**
SONM	**Songino Array**	**129.20**	**351**	PKP		**PKPdf**	**05 04 01.6**	**+1.0**
	0.4nm,0.8s,baz=116,slow=3.4,SNR=4.0							
MKAR	**Makanchi Array**	**129.71**	**12**	PKP		**PKPdf**	**05 04 00.8**	**-0.6**
MKAR	**Makanchi Array**	**129.71**	**12**	PKP		**PKPdf**	**05 04 00.8**	**-0.6**
	0.9nm,1.0s,baz=29,slow=2.8,SNR=5.1							
ASAR	**Alice Springs**	**137.37**	**237**	PKP		**PKPdf**	**05 04 17.5**	**+1.0**
ASAR	**Alice Springs**	**137.37**	**237**	PKP		**PKPdf**	**05 04 17.5**	**+1.0**
	1.5nm,1.1s,baz=107,slow=1.7,SNR=6.4							
WRA	**Warramunga Arr**	**138.39**	**242**	PKP		**PKPdf**	**05 04 18.5**	**+0.1**
WRA	**Warramunga Arr**	**138.39**	**242**	PKP		**PKPdf**	**05 04 18.5**	**+0.1**
	1.0nm,0.8s,baz=106,slow=1.2,SNR=6.8							
FITZ	**Fitzroy Crossi**	**146.69**	**240**	PKPbc		**PKPbc**	**05 04 34.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**146.69**	**240**	PKPbc		**PKPbc**	**05 04 34.6**	**-0.2**
	3.8nm,0.9s,baz=146,slow=3.6,SNR=3.1							
DANN	**Dangsing**	**147.44**	**20**	*e*P		**PKPab**	**05 04 38.7**	**-0.2**
	52nm,0.8s							
GKN	**Gorkha**	**148.05**	**19**	*e*P		**PKPbc**	**05 04 39.8**	**+1.3**
	50nm,1.2s							
KKN	**Kakani**	**148.45**	**18**	*e*P		**PKPbc**	**05 04 40.7**	**+1.1**
GUN	**Gumba**	**148.52**	**17**	*e*P		**PKPab**	**05 04 41.6**	**-1.6**
	61nm,1.1s							
DMN	**Daman**	**148.57**	**18**	*e*P		**PKPbc**	**05 04 40.4**	**+0.4**
	16nm,0.8s							
PKI	**Pulchoki**	**148.69**	**18**	*e*P		**PKPbc**	**05 04 41.5**	**+1.1**
	22nm,1.1s							
JIRN	**Jiri**	**148.84**	**16**	*e*P		**PKPbc**	**05 04 42.2**	**+1.4**
TAPN	**Taplejung**	**149.54**	**14**	*e*P		**PKPbc**	**05 04 44.4**	**+1.9**
	36nm,1.2s							
RAMN	**Ramite**	**149.63**	**16**	*e*P		**PKPbc**	**05 04 41.7**	**-1.0**
	38nm,1.1s							
ODAN	**Odare**	**149.93**	**15**	*e*P		**PKPbc**	**05 04 43.2**	**-0.2**
	18nm,1.0s							
CMAR	**Chiang Mai Arr**	**159.13**	**351**	PKPab		**PKPab**	**05 05 28.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**159.13**	**351**	PKPab		**PKPab**	**05 05 28.8**	**+1.1**
	0.9nm,0.3s,baz=1.1,slow=4.6,SNR=5.1							

ISCJB ***11*** *05:29:09.1±0.4,39°.63N±0°.02×0°.47W×0°.03,h4km±2km, Error ellipse: s-maj=4.3km s-min=2.4km az=28.9*
CSEM ***11*** *05:29:10.2±0.2,39°.55N×0°.32W,h10km,ML3.2/21, Error ellipse: s-maj=3.8km s-min=2.3km az=121.0*
LDG ***11*** *05:29:11.2±0.1,39°.52N×0°.25W,h2km,Ml3.3/6, Error ellipse: s-maj=2.3km s-min=1.2km az=121.0*
INMG ***11*** *05:29:11.6±2.6,39°.53N×0°.21W,h17km±6km,ML2.7, Error ellipse: s-maj=5.3km s-min=3.0km az=117.0*
MDD ***11*** *05:29:12.2±0.3,39°.50N×0°.22W,h19km±3km,mbLg2.7/47, Error ellipse: s-maj=3.7km s-min=2.3km az=113.0, PRXIMO*
MDD EMS: III ALBORAYA , VALENCIA.
ISC 11 05:29:08.4±1.1**,39°.51N**±0°.02×**0°.25W**±0°.02**, h8**km±10km**,**
n148,σ1§**89**/181**,3C-2D,Spain**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ECHE	**Chera**	**0.56**	**279**	⇓Pg			**Pn**	**05 29 22.0**	**-0.7**
	16nm,0.3s,SNR=18								
ECHE				Lg			Lg	05 29 31.3	
	417nm,0.5s,SNR=14								
ECHE	**Chera**	**0.56**	**279**	Pg			**Pn**	**05 29 22.0**	**-0.7**
	16nm,0.3s,SNR=18								
ECHE				Lg			Lg	05 29 31.3	
	417nm,0.5s,SNR=14								
EBEN	**Beniarda**	**0.81**	**179**	Pg			**Pn**	**05 29 26.5**	**+0.4**
	3.1nm,0.2s,SNR=59								
EBEN				Lg			Lg	05 29 37.2	
	117nm,0.2s,SNR=26								
EBEN	**Beniarda**	**0.81**	**179**	Pg			**Pn**	**05 29 26.5**	**+0.4**
	3.1nm,0.2s,SNR=59								
EBEN				Lg			Lg	05 29 37.2	
	117nm,0.2s,SNR=26								
EMOS	**Mosqueruela**	**0.87**	**349**	⇓Pg			**Pn**	**05 29 28.3**	**+1.1**
	40nm,0.2s,SNR=18								
EMOS				Lg			Lg	05 29 39.6	
	266nm,0.2s,SNR=5.0								
EMOS	**Mosqueruela**	**0.87**	**349**	Pg			**Pn**	**05 29 28.3**	**+1.1**
	40nm,0.2s,SNR=18								
EMOS				Lg			Lg	05 29 39.6	
	266nm,0.2s,SNR=5.0								
AFON	**Font Roja**	**0.87**	**195**	Pg			**Pn**	**05 29 28.6**	**+1.5**
	4.6nm,0.2s,SNR=7.9								
AFON				Lg			Lg	05 29 39.6	
	167nm,0.4s,SNR=7.9								
AFON	**Font Roja**	**0.87**	**195**	Pg			**Pn**	**05 29 28.6**	**+1.5**
	4.6nm,0.2s,SNR=7.9								
AFON				Lg			Lg	05 29 39.6	

EIBI	**Ibiza**	**1.33**	**111**	Pn			**Pn**	**05 29 33.5**	**+0.2**
	2.5nm,0.2s,SNR=10								
EIBI				Sn			**Sb**	**05 29 49.0**	**-1.7**
	54nm,0.2s,SNR=6.1								
EIBI	**Ibiza**	**1.33**	**111**	Pn			**Pn**	**05 29 33.5**	**+0.2**
	2.5nm,0.2s,SNR=10								
EIBI				Sn			**Sb**	**05 29 49.0**	**-1.7**
	54nm,0.2s,SNR=6.1								
ETOB	**Tobarra**	**1.33**	**230**	⇑Pn			**Pg**	**05 29 34.5**	**+0.6**
	3.8nm,0.1s,SNR=18								
ETOB				Pg			**Pb**	**05 29 36.3**	**+2.6**
	31nm,0.3s,SNR=12								
ETOB				Sn			**Sb**	**05 29 51.3**	**+0.5**
	24nm,0.3s,SNR=4.6								
ETOB				Lg			Lg	05 29 53.7	
	90nm,0.3s,SNR=4.6								
ETOB	**Tobarra**	**1.33**	**230**	Pn			**Pg**	**05 29 34.5**	**+0.6**
	3.8nm,0.1s,SNR=18								
ERTA	**Horta de San J**	**1.51**	**17**	Pn			**Pg**	**05 29 37.4**	**0.0**
	2.0nm,0.2s,SNR=7.9								
ERTA				Pg			**Pb**	**05 29 39.4**	**+2.6**
	4.5nm,0.1s,SNR=21								
ERTA				Sn			**Sn**	**05 29 54.7**	**-1.0**
	33nm,0.2s,SNR=11								
ERTA				Lg			Lg	05 29 58.2	
	162nm,0.3s,SNR=134								
ERTA	**Horta de San J**	**1.51**	**17**	Pn			**Pg**	**05 29 37.4**	**0.0**
	2.0nm,0.2s,SNR=7.9								
EMUR	**La Murta**	**1.84**	**205**	Pg			**Pg**	**05 29 45.4**	**+1.8**
	8.7nm,0.2s,SNR=34								
EMUR				Lg			Lg	05 30 07.9	
	32nm,0.4s,SNR=6.3								
EMUR	**La Murta**	**1.84**	**205**	Pg			**Pg**	**05 29 45.4**	**+1.8**
	8.7nm,0.2s,SNR=34								
EMUR				Lg			Lg	05 30 07.9	
	32nm,0.4s,SNR=6.3								
ETOR	**Torete**	**1.90**	**314**	Pg			**Pg**	**05 29 46.3**	**+1.4**
	205nm,0.3s,SNR=176								
ETOR				Lg			Lg	05 30 11.0	
	94nm,0.3s,SNR=6.0								
ETOR	**Torete**	**1.90**	**314**	Pg			**Pg**	**05 29 46.3**	**+1.4**
	205nm,0.3s,SNR=176								
ETOR				Lg			Lg	05 30 11.0	
	94nm,0.3s,SNR=6.0								
EVIA	**Vianos**	**1.96**	**244**	Pn			**Pn**	**05 29 43.1**	**+1.1**
	1.4nm,0.2s,SNR=9.2								
EVIA				Pg			**Pg**	**05 29 47.7**	**+1.8**
	20nm,0.3s,SNR=23								
EVIA				Lg			Lg	05 30 13.0	
	32nm,0.2s,SNR=10								
EVIA	**Vianos**	**1.96**	**244**	Pn			**Pn**	**05 29 43.1**	**+1.1**
	1.4nm,0.2s,SNR=9.2								
EVIA	**Vianos**	**1.96**	**244**	Pg			**Pg**	**05 29 47.7**	**+1.8**
	20nm,0.3s,SNR=23								
EVIA				Lg			Lg	05 30 13.0	
	32nm,0.2s,SNR=10								
EPOB	**Poblet**	**2.10**	**28**	Pn			**Pn**	**05 29 45.3**	**+1.3**
	2.6nm,0.2s,SNR=5.9								
EPOB				Pg			**Pg**	**05 29 50.4**	**+1.7**
	16nm,0.2s,SNR=31								
EPOB				Sn			**Sn**	**05 30 09.1**	**-1.2**
	5.6nm,0.2s,SNR=14								
EPOB				Lg			Lg	05 30 16.1	
	25nm,0.3s,SNR=5.0								
EPOB	**Poblet**	**2.10**	**28**	Pn			**Pn**	**05 29 45.3**	**+1.3**
	2.6nm,0.2s,SNR=5.9								
ESAC	**San Caprasio**	**2.22**	**356**	Pg			**Pg**	**05 29 52.8**	**+2.0**
	30nm,0.3s,SNR=14								
ESAC				Lg			Lg	05 30 20.9	
	228nm,0.3s,SNR=6.5								
ESAC	**San Caprasio**	**2.22**	**356**	Pg			**Pg**	**05 29 52.8**	**+2.0**
	30nm,0.3s,SNR=14								
ESAC				Lg			Lg	05 30 20.9	
	228nm,0.3s,SNR=6.5								
ETOS	**Mallorca**	**2.38**	**83**	Pn			**Pn**	**05 29 48.8**	**+1.1**
	1.5nm,0.1s,SNR=7.9								
ETOS				Sn			**Sn**	**05 30 15.3**	**-1.9**
	5.2nm,0.2s,SNR=7.9								
ETOS	**Mallorca**	**2.38**	**83**	Pn			**Pn**	**05 29 48.8**	**+1.1**
	1.5nm,0.1s,SNR=7.9								
ETOS				Sn			**Sn**	**05 30 15.3**	**-1.9**
	5.2nm,0.2s,SNR=7.9								
EHUE	**Huescar**	**2.50**	**228**	⇑Pn			**Pn**	**05 29 51.1**	**+1.7**
	3.9nm,0.2s,SNR=18								
EHUE				Pg			**Pg**	**05 29 57.3**	**+1.1**
	5.9nm,0.3s,SNR=7.9								
EHUE				Sn			**Sn**	**05 30 21.1**	**+1.1**
	4.7nm,0.2s,SNR=7.9								
EHUE				Lg			Lg	05 30 30.5	
	8.2nm,0.2s,SNR=7.9								
EHUE	**Huescar**	**2.50**	**228**	Pn			**Pn**	**05 29 51.1**	**+1.7**
	3.9nm,0.2s,SNR=18								
EMIR	**Miracle**	**2.76**	**29**	Pn			**Pn**	**05 29 55.3**	**+2.3**
	1.6nm,0.2s,SNR=6.2								
EMIR				Pg			**Pg**	**05 30 01.0**	**-0.2**
	4.6nm,0.1s,SNR=7.9								
EMIR				Lg			Lg	05 30 36.2	
	39nm,0.3s,SNR=7.9								
EMIR	**Miracle**	**2.76**	**29**	Pn			**Pn**	**05 29 55.3**	**+2.3**
	1.6nm,0.2s,SNR=6.2								
EQES	**Quesada**	**2.79**	**233**	Pn			**Pn**	**05 29 54.9**	**+1.5**
	0.6nm,0.1s,SNR=12								
EQES				Pg			**Pg**	**05 30 03.3**	**+1.4**
	22nm,0.3s,SNR=48								
EQES				Sn			**Sn**	**05 30 27.9**	**+0.5**
	7.7nm,0.3s,SNR=5.0								
EQES				Lg			Lg	05 30 39.4	
	36nm,0.4s,SNR=5.0								
EQES	**Quesada**	**2.79**	**233**	Pn			**Pn**	**05 29 54.9**	**+1.5**
	0.6nm,0.1s,SNR=12								
ESDC	**Sonseca Array**	**2.87**	**274**	⇑Pn			**Pn**	**05 29 56.1**	**+1.5**
	1.9nm,0.1s,baz=91,slow=14,SNR=18								
ESDC				Pg			**Pg**	**05 30 03.5**	**0.0**
	2.1nm,0.2s,baz=91,slow=14,SNR=7.7								
ESDC				Lg			Lg	05 30 39.5	
	19nm,0.4s,baz=93,slow=30,SNR=10.0								
ESDC	**Sonseca Array**	**2.87**	**274**	Pn			**Pn**	**05 29 56.1**	**+1.5**
	1.9nm,0.1s,baz=91,slow=14,SNR=18								
ESDC	**Sonseca Array**	**2.87**	**274**	Pg			**Pg**	**05 30 03.5**	**0.0**
	2.1nm,0.2s,baz=91,SNR=7.7								
ESDC				Lg			Lg	05 30 39.5	
	19nm,0.4s,baz=93,slow=30,SNR=10.0								
CFON	**Fontmartina**	**3.04**	**41**	Pn			**Pn**	**05 29 57.6**	**+0.7**
	1.3nm,0.2s,SNR=5.7								
CFON				Pg			**Pg**	**05 30 06.3**	**-0.3**
	2.5nm,0.2s,SNR=7.5								
CFON	**Fontmartina**	**3.04**	**41**	Pn			**Pn**	**05 29 57.6**	**+0.7**
	1.3nm,0.2s,SNR=5.7								
CSOR	**Sort**	**3.05**	**20**	Pn			**Pn**	**05 29 58.8**	**+1.8**
	0.3nm,0.2s,SNR=10.0								
CSOR				Sn			**Sn**	**05 30 33.3**	**-0.5**
	5.8nm,0.2s,SNR=5.0								
CSOR				Lg			Lg	05 30 46.0	
	33nm,0.3s,SNR=10								
CSOR	**Sort**	**3.05**	**20**	Pn			**Pn**	**05 29 58.8**	**+1.8**
	0.3nm,0.2s,SNR=10.0								
CSOR				Sn			**Sn**	**05 30 33.3**	**-0.5**
	5.8nm,0.2s,SNR=5.0								
CSOR				Lg			Lg	05 30 46.0	
	33nm,0.3s,SNR=10								
GUD	**Guadarrama**	**3.20**	**292**	Pn			**Pn**	**05 30 01.5**	**+2.4**
	2.1nm,0.2s,SNR=8.7								
GUD				Pg			**Pg**	**05 30 10.2**	**+0.5**
	2.9nm,0.2s,SNR=8.8								
GUD				Sn			**Sn**	**05 30 35.9**	**-1.6**
	4.1nm,0.4s,SNR=8.6								
GUD				Lg			Lg	05 30 51.3	
	9.0nm,0.4s,SNR=5.6								
GUD	**Guadarrama**	**3.20**	**292**	Pn			**Pn**	**05 30 01.5**	**+2.4**
	2.1nm,0.2s,SNR=8.7								
EBER	**Berja**	**3.33**	**219**	Pn			**Pn**	**05 30 03.7**	**+2.7**
	1.5nm,0.4s,SNR=6.1								
EBER				Pg			**Pg**	**05 30 10.9**	**-1.4**
	1.6nm,0.3s,SNR=7.9								
EBER	**Berja**	**3.33**	**219**	Pn			**Pn**	**05 30 03.7**	**+2.7**
	1.5nm,0.4s,SNR=6.1								
IEPA	**Eparoz**	**3.35**	**347**	Pn			Pb	05 30 04.5	-3.7
	1.8nm,0.3s,SNR=7.9								
IEPA				Pg			**Pg**	**05 30 15.0**	**+2.3**
	7.8nm,0.3s,SNR=7.9								
IEPA				Lg			Lg	05 30 55.6	
	19nm,0.3s,SNR=7.9								
IEPA	**Eparoz**	**3.35**	**347**	Pn			Pb	05 30 04.5	-3.7
	1.8nm,0.3s,SNR=7.9								
IUNC	**Unciti**	**3.38**	**344**	Pg			**Pg**	**05 30 14.4**	**+1.3**
	1.6nm,0.1s,SNR=5.7								
IUNC				Lg			Lg	05 30 57.3	
	11nm,0.2s,SNR=5.0								

IUNC	**Unciti**	**3.38**	**344**	Pg			**Pg**	**05 30 14.4**	**+1.3**
	1.6nm,0.1s,SNR=5.7								
IUNC				Lg			Lg	05 30 57.3	
	11nm,0.2s,SNR=5.0								
ETSF	**Etsaut**	**3.39**	**356**	*e*Pn			**Pn**	**05 30 04.2**	**+2.5**
ETSF	**Etsaut**	**3.39**	**356**	*e*Pg			**Pg**	**05 30 14.2**	**+0.8**
ETSF					*e*Sn		**Sn**	**05 30 42.0**	**-0.2**
ETSF					*e*Sg		**Sg**	**05 30 57.0**	**-0.4**
	29nm,0.4s								
ETSF	**Etsaut**	**3.39**	**356**	*e*Pn			**Pn**	**05 30 04.2**	**+2.5**
ETSF	**Etsaut**	**3.39**	**356**	*e*Pg			**Pg**	**05 30 14.2**	**+0.8**
ETSF					*e*Sn		**Sn**	**05 30 42.0**	**-0.2**
ETSF					*e*Sg		**Sg**	**05 30 57.0**	**-0.4**
	14nm,0.4s								
IPRE	**Itoiz**	**3.40**	**346**	Pg			**Pg**	**05 30 15.0**	**+1.5**
	3.5nm,0.3s,SNR=4.9								
IPRE				Lg			Lg	05 30 56.5	
	2.7nm,0.2s,SNR=5.0								
IPRE	**Itoiz**	**3.40**	**346**	Pg			**Pg**	**05 30 15.0**	**+1.5**
	3.5nm,0.3s,SNR=4.9								
IPRE				Lg			Lg	05 30 56.5	
	2.7nm,0.2s,SNR=5.0								
CLLI	**Llivia**	**3.41**	**29**	Lg			Lg	05 30 57.4	
	6.8nm,0.4s,SNR=7.9								
CLLI	**Llivia**	**3.41**	**29**	Lg			Lg	05 30 57.4	
	6.8nm,0.4s,SNR=7.9								
IELO	**Elcoad**	**3.41**	**348**	Pn			**Pn**	**05 30 04.0**	**+2.0**
	0.6nm,0.2s,SNR=7.9								
IELO				Pg			**Pg**	**05 30 14.7**	**+0.9**
	8.8nm,0.3s,SNR=7.9								
IELO				Lg			Lg	05 30 56.8	
	9.7nm,0.3s,SNR=7.9								
IELO	**Elcoad**	**3.41**	**348**	Pn			**Pn**	**05 30 04.0**	**+2.0**
	0.6nm,0.2s,SNR=7.9								
ECOG	**Cogollos-Vega**	**3.43**	**230**	Pn			**Pn**	**05 30 04.4**	**+2.2**
	1.4nm,0.1s,SNR=7.9								
ECOG				Pg			**Pg**	**05 30 16.3**	**+2.2**
	SNR=7.9								
ECOG				Lg			Lg	05 30 57.6	
	10nm,0.4s,SNR=7.9								
ECOG	**Cogollos-Vega**	**3.43**	**230**	Pn			**Pn**	**05 30 04.4**	**+2.2**
	1.4nm,0.1s,SNR=7.9								
IZUN	**Zunzarren**	**3.47**	**345**	Pg			**Pg**	**05 30 16.4**	**+1.6**
	4.1nm,0.3s,SNR=7.9								
IZUN				Lg			Lg	05 31 00.1	
	4.7nm,0.2s,SNR=7.9								
IZUN	**Zunzarren**	**3.47**	**345**	Pg			**Pg**	**05 30 16.4**	**+1.6**
	4.1nm,0.3s,SNR=7.9								
IZUN				Lg			Lg	05 31 00.2	
	4.7nm,0.2s,SNR=7.9								
EORO	**Oroz-Betelu**	**3.47**	**347**	Pg			**Pg**	**05 30 15.5**	**+0.6**
	4.6nm,0.2s,SNR=14								
EORO				Lg			Lg	05 31 00.1	
	30nm,0.3s,SNR=5.9								
EORO	**Oroz-Betelu**	**3.47**	**347**	Pg			**Pg**	**05 30 15.5**	**+0.6**
	4.6nm,0.2s,SNR=14								
EORO				Lg			Lg	05 31 00.1	
	30nm,0.3s,SNR=5.9								
EPF	**Esparros**	**3.55**	**7**	*e*Pn			**Pn**	**05 30 06.3**	**+2.5**
EPF	**Esparros**	**3.55**	**7**	*e*Pg			**Pg**	**05 30 16.8**	**+0.5**
EPF					*e*Sn		**Sn**	**05 30 44.9**	**-1.0**
EPF					*e*Sg		**Sg**	**05 31 00.9**	**-1.4**
	48nm,0.4s								
EPF	**Esparros**	**3.55**	**7**	*e*Pn			**Pn**	**05 30 06.3**	**+2.5**
EPF	**Esparros**	**3.55**	**7**	*e*Pg			**Pg**	**05 30 16.8**	**+0.5**
EPF					*e*Sn		**Sn**	**05 30 44.9**	**-1.0**
EPF					*e*Sg		**Sg**	**05 31 00.9**	**-1.4**
	24nm,0.4s								
EADA	**Adamuz**	**3.63**	**250**	Pn			**Pn**	**05 30 05.6**	**+0.6**
	0.2nm,0.1s,SNR=7.9								
EADA				Pg			**Pg**	**05 30 17.2**	**-0.9**
	3.2nm,0.2s,SNR=7.9								
EADA				Sn			**Sn**	**05 30 46.6**	**-1.5**
	1.4nm,

PBAR					Lg	Lg	05 32 00.2		
	10nm,0.6s								
LFF	**La Frestale**	**5.48**	**7**	*e*Sn	**Sn**	**05 31 30.9**	**-2.5**		
LFF	**La Frestale**	**5.48**	**7**	Sn	**Sn**	**05 31 30.9**	**-2.5**		
ECAL	**Calabor**	**5.49**	**298**	Pn	**Pn**	**05 30 32.0**	**+1.4**		
	1.2nm,0.2s,SNR=5.4								
ECAL				Sn	**Sn**	**05 31 32.5**	**-1.5**		
	13nm,0.4s,SNR=5.0								
ECAL				Lg	Lg	05 32 07.4			
	3.9nm,0.3s,SNR=7.9								
ECAL	**Calabor**	**5.49**	**298**	Pn	**Pn**	**05 30 32.0**	**+1.4**		
	1.2nm,0.2s,SNR=5.4								
ECAL				Sn	**Sn**	**05 31 32.5**	**-1.5**		
	13nm,0.4s,SNR=5.0								
ECAL				Lg	Lg	05 32 07.4			
	3.9nm,0.3s,SNR=7.9								
LASF	**Ste Croix**	**5.50**	**33**	*e*Sg	**Sg**	**05 32 03.1**	**-1.8**		
	1.9nm,0.3s								
LASF	**Ste Croix**	**5.50**	**33**	Lg	Lg	05 32 03.1			
	0.4nm,0.3s								
PMRV	**Marv??o**	**5.53**	**271**	*e*Sn	**Sn**	**05 31 33.6**	**-1.1**		
PMRV				*e*Sg	**Sg**	**05 32 02.7**	**-3.1**		
PMRV				A	A	05 32 14.2			
	11nm,0.7s								
PMRV	**Marv??o**	**5.53**	**271**	Sn	**Sn**	**05 31 33.6**	**-1.1**		
PMRV				Lg	Lg	05 32 02.7			
	11nm,0.7s								
PMRV	**Marv??o**	**5.53**	**271**	Sn	**Sn**	**05 31 33.6**	**-1.1**		
PMRV				*e*Sg	**Sg**	**05 32 02.7**	**-3.1**		
	11nm,0.7s								
PCBR	**Castelo Branco**	**5.58**	**276**	*e*Sg	**Sg**	**05 32 05.6**	**-2.1**		
PCBR				A	A	05 32 12.1			
	6.9nm,0.5s								
PCBR	**Castelo Branco**	**5.58**	**276**	Lg	Lg	05 32 05.6			
	3.5nm,0.5s								
PCBR	**Castelo Branco**	**5.58**	**276**	*e*Sg	**Sg**	**05 32 05.6**	**-2.1**		
	6.9nm,0.5s								
CAF	**Calviac**	**5.68**	**17**	*e*Sn	**Sn**	**05 31 35.5**	**-3.0**		
CAF				*e*Sg	**Sg**	**05 32 08.2**	**-2.5**		
	6.4nm,0.5s								
CAF	**Calviac**	**5.68**	**17**	Sn	**Sn**	**05 31 35.5**	**-3.0**		
CAF				Lg	Lg	05 32 08.2			
	1.6nm,0.5s								
PESTR	**Estremoz**	**5.74**	**266**	*e*Sg	**Sg**	**05 32 07.5**	**-5.1**		
PESTR				A	A	05 32 16.3			
	12nm,0.6s								
PESTR	**Estremoz**	**5.74**	**266**	Lg	Lg	05 32 07.5			
	5.8nm,0.6s								
PESTR	**Estremoz**	**5.74**	**266**	*e*Sg	**Sg**	**05 32 07.5**	**-5.1**		
	12nm,0.6s								
PVIS	**Viseu**	**5.98**	**284**	*e*Sg	**Sg**	**05 32 17.9**	**-2.5**		
PVIS				A	A	05 32 32.4			
	6.2nm,0.7s								
PVIS	**Viseu**	**5.98**	**284**	Lg	Lg	05 32 17.9			
	3.1nm,0.7s								
PVIS	**Viseu**	**5.98**	**284**	*e*Sg	**Sg**	**05 32 17.9**	**-2.5**		
	6.2nm,0.7s								
POLO	**Lamas de Olo**	**6.05**	**290**	*e*Pn	**Pn**	**05 30 39.4**	**+1.2**		
POLO				*e*Sg	**Sg**	**05 32 19.5**	**-3.0**		
POLO				A	A	05 32 30.5			
	2.4nm,0.7s								
POLO	**Lamas de Olo**	**6.05**	**290**	*e*Pn	**Pn**	**05 30 39.4**	**+1.2**		
POLO				*e*Sg	**Sg**	**05 32 19.5**	**-3.0**		
	2.4nm,0.7s								
EVO	**Evora**	**6.12**	**263**	*e*Sg	**Sg**	**05 32 23.9**	**-1.0**		
	26nm,0.7s								
EVO	**Evora**	**6.12**	**263**	*e*Pg	**Pb**	**05 30 56.1**	**+0.8**		
EVO				*e*Sg	**Sg**	**05 32 21.9**	**-3.0**		
EVO				A	A	05 32 39.9			
	6.2nm,0.5s								
EVO	**Evora**	**6.12**	**263**	Pg	**Pb**	**05 30 56.1**	**+0.8**		
EVO				Lg	Lg	05 32 21.9			
	6.2nm,0.5s								
EVO	**Evora**	**6.12**	**263**	Pg	**Pb**	**05 30 56.1**	**+0.8**		
EVO				Lg	Lg	05 32 21.9			
	6.2nm,0.5s								
PBEJ	**Beja**	**6.13**	**258**	*e*Pg	Pb	05 31 00.5	+5.0		
PBEJ				*e*Sg	**Sg**	**05 32 23.2**	**-2.0**		
PBEJ				A	A	05 32 41.0			
	5.2nm,0.9s								
PBEJ	**Beja**	**6.13**	**258**	Pg	Pb	05 31 00.5	+5.0		
PBEJ				Lg	Lg	05 32 23.2			
	2.6nm,0.9s								
PBEJ	**Beja**	**6.13**	**258**	Pg	Pb	05 31 00.5	+5.0		
PBEJ				*e*Sg	**Sg**	**05 32 23.2**	**-2.0**		
	5.2nm,0.9s								
PMTG	**Montargil**	**6.20**	**268**	*e*Sg	**Sg**	**05 32 23.8**	**-3.7**		
PMTG				A	A	05 32 29.9			
	8.8nm,0.5s								
PMTG	**Montargil**	**6.20**	**268**	*e*Sg	**Sg**	**05 32 23.8**	**-3.7**		
	8.8nm,0.5s								
PVAQ	**Vaqueiros**	**6.22**	**253**	*e*Sg	Sg	05 32 21.9	-6.3		
PVAQ				A	A	05 32 44.5			
	5.1nm,0.7s								
PVAQ	**Vaqueiros**	**6.22**	**253**	Lg	Lg	05 32 21.9			
	5.1nm,0.7s								
PVAQ	**Vaqueiros**	**6.22**	**253**	Lg	Lg	05 32 21.9			
	5.1nm,0.7s								
PTOM	**Tomar**	**6.31**	**274**	*e*Sg	**Sg**	**05 32 28.6**	**-2.2**		
PTOM				A	A	05 32 41.8			
	10nm,0.5s								
PTOM	**Tomar**	**6.31**	**274**	Lg	Lg	05 32 28.6			
	5.2nm,0.5s								
PTOM	**Tomar**	**6.31**	**274**	*e*Sg	**Sg**	**05 32 28.6**	**-2.2**		
	10nm,0.5s								
PCAB	**Cabril**	**6.31**	**293**	*e*Sg	**Sg**	**05 32 27.5**	**-3.5**		
PCAB	**Cabril**	**6.31**	**293**	Lg	Lg	05 32 27.5			
PCAB	**Cabril**	**6.31**	**293**	Lg	Lg	05 32 27.5			
PCAB				*e*Sg	**Sg**	**05 32 27.5**	**-3.5**		
PCVE	**Castro Verde**	**6.38**	**255**	*e*Sg	**Sg**	**05 32 28.3**	**-5.0**		
PCVE				A	A	05 32 50.1			
	5.4nm,0.7s								
PCVE	**Castro Verde**	**6.38**	**255**	Lg	Lg	05 32 28.3			
	5.4nm,0.7s								
PCVE	**Castro Verde**	**6.38**	**255**	Lg	Lg	05 32 28.3			
	5.4nm,0.7s								
ELOB	**Lobios**	**6.39**	**294**	Lg	Lg	05 32 30.3			
	10nm,0.8s,SNR=7.9								
ELOB	**Lobios**	**6.39**	**294**	Lg	Lg	05 32 30.3			
	10nm,0.8s,SNR=7.9								
PNCL	**Nicolau / Gran**	**6.61**	**260**	*e*Sg	**Sg**	**05 32 36.6**	**-4.1**		
PNCL				A	A	05 32 45.6			
	4.3nm,0.7s								
PNCL	**Nicolau / Gran**	**6.61**	**260**	*e*Sg	**Sg**	**05 32 36.6**	**-4.1**		
	4.3nm,0.7s								
SGMF	**Saint Gilles**	**8.90**	**350**	*e*Pn	**Pn**	**05 31 18.2**	**+1.0**		
SGMF	**Saint Gilles**	**8.90**	**350**	Pn	**Pn**	**05 31 18.2**	**+1.0**		

GUC 11 05:30:01.8±0.6, 30°.19S×71°.54W, h18km±5km, MD3.8, ML3.4, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.51**	**145**	⇑*i*P	Pn	05 30 14.2	0.0
OVCH				*i* S	Sn	05 30 21.9	-0.6
OVCH				AML	AML	05 30 22.7	
	comp=N,8μm,0.5s						
CHNG	**Los Chungos**	**1.69**	**179**	*e*P	Pn	05 30 30.8	+0.4
CHNG				*i* S	Sn	05 30 52.0	+0.4
CHNG				AML	AML	05 31 03.6	
	comp=E,143nm,0.3s						
VACH	**Vallenar**	**1.75**	**23**	⇓*i*P	Pn	05 30 31.1	-0.1
VACH				*i* S	Sn	05 30 53.9	+0.9
VACH				AML	AML	05 31 03.3	
	comp=E,1μm,0.2s						
PTCH	**Petorca**	**2.14**	**166**	⇓*i*P	Pb	05 30 38.8	-1.2
PTCH				*i* S	Sn	05 31 04.3	+1.6
PTCH				AML	AML	05 31 13.1	
	comp=N,409nm,0.4s						
ROCH	**El Roble**	**2.81**	**171**	*e*P	Pn	05 30 47.3	+1.2
ROCH				AML	AML	05 31 38.6	
	comp=N,131nm,0.4s						
PEL	**Peldehue**	**3.04**	**166**	*e*P	Pn	05 30 50.3	+1.3
PEL				*e*S	Sn	05 31 26.7	+1.7
PEL				AML	AML	05 31 46.2	
	comp=N,184nm,0.3s						
CLCH	**Cerro Calan**	**3.31**	**165**	*i* S	Sn	05 31 33.5	+1.6
CLCH				AML	AML	05 31 50.5	
	comp=E,124nm,0.6s						

IDC 11 05:40:35.1±2.3, 8°.02S×119°.04E, h197km±20km, mb2.9/3, mb1 3.1/6, mb1mx3.0/20, mbtmp3.0/6, Error ellipse: s-maj=47.7km s-min=11.4km az=54.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.07**	**13**	P	Pn	05 41 24.9	-0.5
	1.1nm,0.3s,baz=221,slow=16,SNR=3.9						
FITZ	**Fitzroy Crossi**	**11.91**	**148**	P	Pn	05 43 17.2	-1.7
	0.6nm,0.3s,baz=335,slow=12,SNR=15						
FITZ				S	Sn	05 45 23.4	-8.3
	0.8nm,0.3s,baz=189,slow=19,SNR=8.1						
WRA	**Warramunga Arr**	**18.98**	**130**	P	P	05 44 42.4	+0.5
	0.3nm,0.3s,baz=302,slow=12,SNR=6.4						
WRA				S	S	05 48 06.6	-0.4
	0.1nm,0.3s,baz=303,slow=20,SNR=3.8						
ASAR	**Alice Springs**	**21.10**	**139**	P	P	05 45 06.3	+1.8
	0.7nm,0.3s,baz=315,slow=9.1,SNR=16						
SONM	**Songino Array**	**56.72**	**350**	P	P	05 49 58.8	+0.5
	0.3nm,0.7s,baz=167,slow=6.7,SNR=3.1						
MKAR	**Makanchi Array**	**63.60**	**333**	P	P	05 50 44.0	-1.0
	0.2nm,0.5s,baz=147,slow=7.6,SNR=4.9						
TORD	**Torodi Ar. Bea**	**118.32**	**281**	PKP	PKPdf	05 58 59.9	-0.1
	0.3nm,0.7s,baz=103,slow=1.7,SNR=3.4						

NIED ***11*** *05:52:00.44°.90N×150°.00E, h89km, Mw4.5 Best double couple: M₀5.72000×10¹⁵ NP1:φ₀62.00000°, δ80.00000°, λ95.00000°. NP2:φ₀215.00000°, δ11.00000°, λ64.00000°.*

ISCJB ***11*** *05:52:27.9±0.4, 45°.43N±0°.04×150°.15E±0°.03, h104km±4km, mb4.6/141, Error ellipse: s-maj=6.2km s-min=3.0km az=171.0*

BJI ***11*** *05:52:28.4, 45°.56N×150°.28E, h115km, mB4.8/22, mb4.8/43*

MOS ***11*** *05:52:28.4±1.1, 45°.46N×150°.19E, h113km, mb4.7/51, Error ellipse: s-maj=7.3km s-min=5.0km az=107.1*

MOS Felt (II-III) at Kuril'sk, Reidovo, Goryachiye Klyuchi.

SZGRF ***11*** *05:52:28.4, 46°.50N×150°.16E, h33km, mb5.1, Kuril Islands, Russia*

SKHL ***11*** *05:52:28.7±0.6, 45°.36N×150°.29E, h108km±17km, mb5.9/1, msh6.3/1*

SKHL Felt (II-III) at Kurilsk, Reydovo, Goryachie Kluchi.

NEIC ***11*** *05:52:29.9±0.7, 45°.46N×150°.12E, h110km±6km, mb4.8/51, Error ellipse: s-maj=7.9km s-min=4.3km az=162.0*

NEIC Recorded [1 JMA] in eastern Hokkaido.

IDC ***11*** *05:52:29.1±0.6, 45°.51N×150°.10E, h102km±5km, mb4.1/28, mb1 4.2/33, mb1mx4.2/35, mbtmp4.0/33, MS3.6/3, Ms1 3.7/3, ms1mx2.9/35, Error ellipse: s-maj=13.6km s-min=9.2km az=158.0*

JMA ***11*** *05:52:32.5±0.6, 44°.85N×150°.02E, h118km, M4.9*

JMA Felt I J1.

ISC 11 05:52:29.5±0.4, 45°.33N±0°.05×150°.21E±0°.04, h111km±2km, h110km:pP-P, n558, σ1°27/633, mb4.7/141, 121C-119D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.66**	**267**	*i* PN	**Pn**	**05 52 57.5**	**-0.7**
KUR				*i* S	**Sn**	**05 53 19.0**	**-1.0**
KUR	**Kuril'sk**	**1.66**	**267**	⇑*i*P	**Pn**	**05 52 57.5**	**-0.7**
KUR				⇓*i*P	**Pn**	**05 52 57.5**	**-0.7**
KUR				⇓*i*P	**Pn**	**05 52 57.5**	**-0.7**
KUR				⇓*i*P	**Pn**	**05 52 57.5**	**-0.7**
KUR				AMB	AMB	05 52 58.0	
	6μm,1.4s						
KUR				*e*S	**Sn**	**05 53 19.0**	**-1.0**
KUR				A	A	05 53 22.0	
	58μm,1.2s						
KUR				A	A	05 53 22.0	
	23μm,1.5s						
YUK	**Yuzh-Kuril'sk**	**3.36**	**249**	*i* PN	**Pn**	**05 53 21.0**	**+0.8**
YUK				*i* S	**Sn**	**05 53 59.9**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**3.36**	**249**	⇑*i*P	**Pn**	**05 53 21.1**	**+0.8**
YUK				AMB	AMB	05 53 21.3	
	200nm,0.5s						
YUK				AMB	AMB	05 53 21.3	
	110nm,0.5s						
YUK				AMB	AMB	05 53 21.3	
	807nm,0.5s						
YUK				*i* S	**Sn**	**05 54 00.0**	**+0.5**
YUK				A	A	05 54 01.2	
	4μm,0.4s						
YUK				A	A	05 54 01.2	
	5μm,0.4s						
NEM2	**Nemuro 2**	**3.76**	**240**	P	**Pn**	**05 53 24.5**	**-1.1**
NEM2				*e*S	**Sn**	**05 54 04.5**	**-4.5**
JRA	**Rausu**	**3.89**	**251**	P	**Pn**	**05 53 28.4**	**+1.1**
JRA				*e*S	**Sn**	**05 54 11.8**	**-0.3**
JNK	**Nakash**	**4.30**	**248**	P	**Pn**	**05 53 33.2**	**+0.4**
JAK	**Akkeshi**	**4.60**	**241**	P	**Pn**	**05 53 36.0**	**-0.9**
JAK				*e*S	**Sn**	**05 54 25.3**	**-4.0**
JTKR	**Abashiri--Toko**	**4.70**	**255**	P	**Pn**	**05 53 38.9**	**+0.7**
JAR	**Ashorobuto**	**5.05**	**248**	P	**Pn**	**05 53 44.5**	**+1.6**
JMP	**Maruseppu**	**5.06**	**257**	P	**Pn**	**05 53 44.0**	**+0.9**
JOB	**Onbets**	**5.19**	**244**	P	**Pn**	**05 53 44.6**	**-0.2**
JOB				*e*S	**Sn**	**05 54 40.9**	**-2.6**
JSE	**Soyaes**	**5.41**	**269**	P	**Pn**	**05 53 49.2**	**+1.5**
YSS	**Yuzh-Sakhalins**	**5.43**	**290**	*i* PN	**Pn**	**05 53 50.3**	**+2.3**
YSS				*e*S	**Sn**	**05 54 52.0**	**+2.8**
YSS	**Yuzh-Sakhalins**	**5.43**	**290**	*e*Pn	**Pn**	**05 53 48.9**	**+1.0**
	239nm,0.8s						
YSS				*e*Sn	**Sn**	**05 54 46.1**	**-3.1**
YSS	**Yuzh-Sakhalins**	**5.43**	**290**	⇓*i*P	**Pn**	**05 53 50.3**	**+2.3**
YSS				AMB	AMB	05 53 51.2	
	190nm,0.9s						
YSS				AMB	AMB	05 53 51.2	
	250nm,1.0s						
YSS				AMB	AMB	05 53 51.2	
	70nm,0.8s						
YSS				*e*S	**Sn**	**05 54 52.0**	**+2.8**
YSS				A	A	05 54 55.0	
	60nm,0.9s						
YSS				A	A	05 54 55.0	
	180nm,0.9s						
JKK2	**Kamakawa 2**	**5.52**	**257**	P	**Pn**	**05 53 50.7**	**+1.4**
ASAJ	**Asahikawa**	**5.56**	**260**	*e*Pn	**Pn**	**05 53 50.3**	**+0.5**
ASAJ	**Asahikawa**	**5.56**	**260**	P	**Pn**	**05 53 51.3**	**+1.5**
ASAJ	**Asahikawa**	**5.56**	**260**	P	**Pn**	**05 53 50.8**	**+0.9**
	4.3nm,0.3s,baz=91,slow=18,SNR=19						
ASAJ				S	Sn	05 55 07.8	+15
	5.2nm,0.3s,baz=162,slow=20,SNR=2.5						
JCH	**Churui**	**5.64**	**244**	P	**Pn**	**05 53 50.4**	**-0.5**
JCH				*e*S	**Sn**	**05 54 50.7**	**-3.6**
JWK2	**Keihoku**	**5.86**	**273**	P	**Pn**	**05 53 56.7**	**+2.8**
ERM	**Erimo**	**6.09**	**240**	*c i*PN	**Pn**	**05 53 57.8**	**+0.8**
ERM	**Erimo**	**6.09**	**240**	*e*Pn	**Pn**	**05 53 57.7**	**+0.6**
ERM				*e*Sn	**Sn**	**05 55 03.5**	**-1.9**
JNBK	**Urakawa-nobuka**	**6.20**	**243**	P	**Pn**	**05 53 57.7**	**-0.8**
JNBK				*e*S	**Sn**	**05 55 02.7**	**-5.2**
JBT2	**Biratori 2**	**6.20**	**248**	P	**Pn**	**05 53 59.2**	**+0.7**
SKR	**Severo-Kuril's**	**6.66**	**34**	*e*PN	Pn	05 54 01.2	-3.4
SKR				*e*		05 55 12.0	
SKR	**Severo-Kuril's**	**6.66**	**34**	*e*P	Pn	05 54 01.2	-3.4
SKR				*e*x		05 55 12.0	
UGL	**Uglegorsk**	**6.69**	**307**	*e*PN	**Pn**	**05 54 06.5**	**+1.4**
UGL				pmax	pmax		
	comp=Z,180nm,0.8s						
UGL	**Uglegorsk**	**6.69**	**307**	*e*P	**Pn**	**05 54 06.5**	**+1.4**
UGL				AMB	AMB	05 54 08.0	
	comp=Z,180nm,0.8s						
UGL				A	A	05 55 43.0	
	comp=Z,130nm,1.0s						
UGL				A	A	05 55 43.0	
	comp=Z,68nm,0.6s						
JNB	**Noboribetsu**	**7.22**	**250**	P	**Pn**	**05 54 12.3**	**+0.1**
JNB				*e*S	**Sn**	**05 55 30.1**	**-2.5**
TYV	**Tymovskoe**	**7.49**	**320**	*e*P	**Pn**	**05 54 16.0**	**+0.1**
TYV				AMB	AMB	05 54 17.0	
	comp=Z,64nm,1.2s						
TYV				AMB	AMB	05 54 17.0	
	comp=Z,80nm,1.2s						
JKB	**Kayabe**	**7.50**	**246**	P	**Pn**	**05 54 15.0**	**-1.0**
JKB				*e*S	**Sn**	**05 55 33.6**	**-5.8**
JYM2	**Yakumo 2**	**7.82**	**249**	P	**Pn**	**05 54 20.2**	**-0.2**
JANG	**Nango**	**8.08**	**235**	P	**Pn**	**05 54 21.5**	**-2.5**
JANG				*e*S	Sn	05 55 45.1	-8.6
JTM	**Tenmabayashi**	**8.09**	**239**	P	**Pn**	**05 54 22.4**	**-1.7**
JTM				*e*S	Sn	05 55 45.9	-7.9
JTH	**Tanohata**	**8.18**	**232**	*e*S	Sn	05 55 46.8	-9.2
OFUJ	**Ofunato**	**8.90**	**228**	P	**Pn**	**05 54 32.3**	**-2.7**
OFUJ				*e*S	Sn	05 56 05.9	-7.6
PETK	**Petropavlovsk-**	**9.19**	**29**	PN	**Pn**	**05 54 36.5**	**-2.4**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**9.19**	**29**	P	**Pn**	**05 54 36.5**	**-2.4**
	comp=Z,1.4nm,0.3s,baz=204,slow=12,SNR=16						
JRG	**Rokugo**	**9.24**	**233**	*e*S	Sn	05 56 14.5	-7.3
JIO	**Ouri**	**9.53**	**227**	P	**Pn**	**05 54 41.3**	**-2.3**
JIO				*e*S	Sn	05 56 20.3	-8.5
NKL	**Nikolayevsk**	**9.99**	**325**	*i* P	**Pn**	**05 54 46.8**	**-3.0**
JYA	**Atsumi**	**10.31**	**233**	P	**Pn**	**05 54 52.8**	**-1.4**
JFK	**Kawauchi**	**10.60**	**225**	*e*S	Sn	05 56 47.1	-7.9
HABR	**Khabarovsk**	**10.84**	**292**	*e*PN	**Pn**	**05 55 01.4**	**+0.2**
HABR				*e*S	**Sn**	**05 56 59.0**	**-1.4**
HABR				pmax	pmax		
	comp=N,47nm,2.5s						
HABR				pmax	pmax		
	comp=E,45nm,1.7s						
HABR				pmax	pmax		
	comp=Z,101nm,2.5s						
HABR				MLR	MLR		
	comp=Z,128nm,17.0s						
MJAR	**Matsushiro Arr**	**12.62**	**230**	P	**Pn**	**05 55 23.7**	**-1.2**
MJAR	**Matsushiro Arr**	**12.62**	**230**	P	**Pn**	**05 55 23.7**	**-1.2**
	comp=Z,3nm,0.3s,baz=30,slow=14,SNR=4.2						
USRK	**Usuriysk Arra**	**12.99**	**271**	P	**Pn**	**05 55 29.2**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=65,slow=14,SNR=5.8						
KLR	**Kul'dur**	**13.12**	**294**	*e*PN	**Pn**	**05 55 29.3**	**-2.1**
MDJ	**Mudanjiang**	**14.61**	**275**	P	**Pn**	**05 55 50.3**	**-0.3**
MDJ				pmax	pmax		
	comp=Z,21nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,100nm,5.1s						
ZEA	**Zeya**	**17.05**	**308**	*e*P	**Pn**	**05 56 16.8**	**-4.0**
ZEA				AMB	AMB	05 56 17.9	
	comp=Z,17nm,1.0s						
SEY	**Seymchan**	**17.68**	**3**	*e*P	**P**	**05 56 25.0**	**-2.7**
CN2	**Changchun**	**17.70**	**274**	*e*P	**P**	**05 56 27.1**	**-0.9**
CN2				*e*S	S	05 59 36.7	-9.3
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
KSRS	**Korea Array**	**18.44**	**253**	P	**P**	**05 56 36.8**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=48,slow=16,SNR=3.3						
KSAR	**Wonju Array Be**	**18.47**	**253**	P	**P**	**05 56 36.8**	**+0.2**
YAK	**Yakutsk**	**20.52**	**332**	*e*P	**P**	**05 56 56.6**	**-1.9**
YAK				*e*		05 57 21.9	
YAK				*e*S	**S**	**06 00 36.4**	**-5.3**
YAK				pmax	pmax		
	comp=E,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,43nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,53nm,1.2s						
YAK				pmax	pmax		
	comp=N,39nm,1.5s						
YAK				pmax	pmax		
	comp=E,31nm,1.4s						
YAK				smax	smax		
	comp=N,85nm,1.8s						
YAK				smax	smax		
	comp=E,142nm,2.5s						
YAK	**Yakutsk**	**20.52**	**332**	*e*P	**P**	**05 56 57.7**	**-0.8**
	comp=E,36nm,0.6s						
BILL	**Bilibino**	**24.25**	**15**	*e*P	**P**	**05 57 34.7**	**-1.0**
BILL				*e*		05 57 55.6	
BILL				*e*S	**S**	**06 01 44.2**	**-1.8**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BOD	**Bodaibo**	**25.39**	**313**	*e*P	**P**	**05 57 42.5**	**-3.6**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BJI	**Beijing**	**25.45**	**270**	P	**P**	**05 57 48.7**	**+1.9**
BJI				pmax	pmax		
	comp=Z,11nm,1.0s						
BJI				pmax	pmax		
	comp=Z,120nm,3.8s						
NJ2	**Nanjing**	**27.64**	**252**	*e*P	**P**	**05 58 07.6**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**28.39**	**275**	*e*P	**P**	**05 58 14.8**	**+1.5**
HHC				pP	**pP**	**05 58 38.6**	**+1.0**
HHC				sP	**sP**	**05 58 51.7**	**+1.2**
HHC				PP	**PnPn**	**05 59 09.5**	**+1.3**
HHC				PcP	**PcP**	**06 01 26.3**	**+3.4**
HHC				S	**S**	**06 02 50.8**	**-1.2**
HHC				sS	**sS**	**06 03 33.6**	**-1.0**
HHC				SS	SS	06 04 23.5	-33
HHC				pmax	pmax		
	comp=Z,20nm,0.8s						
HHC				pmax	pmax		
	comp=Z,86nm,5.2s						
HHC				LR	LR		
	comp=N,99nm,8.3s						
HHC				LR	LR		
	comp=E,180nm,9.5s						
HHC				LR	LR		
	comp=Z,140nm,13.1s						
ULN	**Ulaanbaatar**	**29.48**	**291**	*e*P	**P**	**05 58 22.9**	**0.0**
	comp=Z,5.8nm,1.0s						
SONM	**Songino Array**	**29.92**	**291**	P	**P**	**05 58 25.8**	**-1.0**
SONM	**Songino Array**	**29.92**	**291**	P	**P**	**05 58 25.8**	**-1.0**
	comp=Z,2.7nm,0.8s,baz=83,slow=7.7,SNR=21						
TNA	**Tin City**	**30.33**	**33**	*e*P	**P**	**05 58 31.3**	**+1.3**
	comp=Z,4.2nm,0.9s						
TLY	**Talaya**	**31.06**	**299**	*e*P	**P**	**05 58 33.8**	**-2.9**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZAK	**Zakamensk**	**31.47**	**296**	*e*P	**P**	**05 58 40.5**	**+0.1**
ZAK				*e*		05 59 18.3	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
XAN	**Xi'an**	**33.38**	**265**	P	**P**	**05 58 57.3**	**+0.1**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,22nm,4.6s						
LZH	**Lanzhou**	**35.91**	**272**	*e*P	**P**	**05 59 20.9**	**+1.8**
LZH				pP	**pP**	**05 59 43.1**	**-0.8**
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
LZH				pmax	pmax		
	comp=Z,100nm,4.0s						
SPU	**Mount Spurr**	**36.63**	**43**	*e*P	**P**	**05 59 24.6**

ILAR	**Eielson Array**	**38.91**	**37**	P		**P**		**05 59 43.5**	**-0.4**
ILAR	**Eielson Array**	**38.91**	**37**	P		**P**		**05 59 43.5**	**-0.4**
	comp=Z,3.7nm,0.9s,baz=262,slow=5.8,SNR=27								
GYA	**Guiyang**	**39.42**	**257**	P		**P**		**05 59 50.0**	**+1.3**
GYA				pP		**pP**		**06 00 17.2**	**+3.3**
GYA				sP		**sP**		**06 00 30.5**	**+4.0**
GYA				PP		**PnPn**		**06 01 26.3**	**+1.1**
GYA				PcP		**PcP**		**06 01 56.8**	**+2.2**
GYA				ScP		**ScP**		**06 05 33.0**	**+0.2**
GYA				S		**S**		**06 05 42.1**	**-0.2**
GYA				sS		**sS**		**06 06 28.9**	**+3.0**
GYA				ScS		**ScS**		**06 09 44.4**	**-1.1**
GYA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
GYA				pmax	pmax				
	comp=Z,90nm,4.8s								
EGAK	**Eagle**	**41.36**	**37**	*e*P		**P**		**06 00 04.2**	**+0.2**
	comp=Z,20nm,1.2s								
ZALV	**Zalesovo Beam**	**41.81**	**306**	P		**P**		**06 00 06.5**	**-1.3**
ZALV								06 02 01.7	
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.3s								
ZALV				pmax	pmax				
	comp=Z,3.0nm,0.7s								
ZALV				MLR	MLR				
	comp=Z,35nm,18.3s								
ZALV	**Zalesovo Beam**	**41.81**	**306**	P		**P**		**06 00 06.5**	**-1.3**
ZALV				PcP		**PcP**		**06 02 01.7**	**0.0**
ZALV	**Zalesovo Beam**	**41.81**	**306**	P		**P**		**06 00 06.5**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=81,slow=6.0,SNR=5.3								
ZALV				PcP		**PcP**		**06 02 01.7**	**0.0**
	comp=Z,2.5nm,0.7s,baz=88,slow=3.0,SNR=8.4								
ZALV				LR		LR		06 20 45.3	
	comp=Z,35nm,18.3s,baz=68,slow=41								
NVS	**Novosibirsk**	**42.45**	**308**	*e*P		**P**		**06 00 10.6**	**-2.4**
KMI	**Kunming**	**42.98**	**258**	P		**P**		**06 00 19.1**	**+1.1**
KMI				pmax	pmax				
	comp=Z,9.0nm,0.7s								
WMQ	**Urumqi**	**43.55**	**291**	P		**P**		**06 00 23.5**	**+1.4**
WMQ				pP		**pP**		**06 00 46.3**	**-1.4**
WMQ				sP		**sP**		**06 00 58.5**	**-1.8**
WMQ				pmax	pmax				
	comp=Z,17nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,380nm,5.4s								
INK	**Inuvik**	**43.92**	**31**	*e*P		**P**		**06 00 24.8**	**+0.1**
	comp=Z,15nm,1.3s								
MK31	**Makanchi Array**	**45.80**	**297**	*e*P		**P**		**06 00 39.4**	**-0.5**
MK31	**Makanchi Array**	**45.80**	**297**	*e*P		**P**		**06 00 39.4**	**-0.5**
MKAR	**Makanchi Array**	**45.80**	**297**	P		**P**		**06 00 39.5**	**-0.4**
MKAR								06 02 15.9	
MKAR				pmax	pmax				
	comp=Z,12nm,0.8s								
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MKAR	**Makanchi Array**	**45.80**	**297**	*e*P		**P**		**06 00 39.5**	**-0.4**
MKAR				PcP		**PcP**		**06 02 15.9**	**+0.4**
MKAR	**Makanchi Array**	**45.80**	**297**	P		**P**		**06 00 39.5**	**-0.4**
	comp=Z,12nm,0.8s,baz=70,slow=7.6,SNR=98								
MKAR				PcP		**PcP**		**06 02 15.9**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=59,slow=4.8,SNR=5.1								
KURK	**Kurchatov**	**46.47**	**304**	*c i*P		**P**		**06 00 43.5**	**-1.5**
KURK				pmax	pmax				
	comp=Z,15nm,1.2s								
KURK	**Kurchatov**	**46.47**	**304**	*e*P		**P**		**06 00 43.6**	**-1.4**
	comp=Z,30nm,1.6s								
KURK				PcP		**PcP**		**06 02 18.5**	**+0.8**
KURBB	**Kurchatov Arra**	**46.55**	**304**	P		**P**		**06 00 44.3**	**-1.4**
	comp=Z,5.6nm,0.4s,baz=74,slow=8.4,SNR=57								
KURBB				PcP		**PcP**		**06 02 18.5**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=71,slow=3.3,SNR=6.8								
CMAR	**Chiang Mai Arr**	**50.06**	**255**	P		**P**		**06 01 13.6**	**+0.6**
CMAR				pP		**pP**		**06 01 38.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**50.06**	**255**	P		**P**		**06 01 13.6**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=36,slow=7.7,SNR=4.9								
CMAR				pP		**pP**		**06 01 38.0**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=44,slow=6.9,SNR=1.5								
BVAR	**Borovoye Array**	**50.19**	**309**	P		**P**		**06 01 12.0**	**-1.6**
BVAR								06 02 31.6	
BVAR				pmax	pmax				
	comp=Z,2.0nm,0.5s								
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
BVAR	**Borovoye Array**	**50.19**	**309**	P		**P**		**06 01 12.0**	**-1.6**
BVAR				PcP		**PcP**		**06 02 31.6**	**+0.4**
BVAR	**Borovoye Array**	**50.19**	**309**	P		**P**		**06 01 12.0**	**-1.6**
	comp=Z,1.6nm,0.5s,baz=79,slow=9.1,SNR=12								
BVAR				PcP		**PcP**		**06 02 31.6**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=72,slow=4.8,SNR=5.1								
BRVK	**Borovoye**	**50.23**	**309**	*d i*P		**P**		**06 01 12.8**	**-1.1**
BRVK				pmax	pmax				
	comp=Z,7.0nm,1.2s								
BRVK	**Borovoye**	**50.23**	**309**	*e*P		**P**		**06 01 12.9**	**-0.9**
	comp=Z,5.3nm,1.0s								
TKM2	**Tokmak 2**	**51.80**	**296**	*e*P		**P**		**06 01 27.1**	**+1.1**
TKM2				pmax	pmax				
	comp=Z,6.0nm,0.7s								
TKM2	**Tokmak 2**	**51.80**	**296**	*e*P		**P**		**06 01 27.1**	**+1.1**
	comp=Z,5.9nm,0.7s								
TKM2	**Tokmak 2**	**51.80**	**296**	P		**P**		**06 01 27.4**	**+1.4**
	SNR=11								
TAPN	**Taplejung**	**52.15**	**272**	*e*P		**P**		**06 01 30.1**	**+1.2**
	comp=Z,27nm,0.9s								
USP	**Ospenovka**	**52.32**	**297**	P		**P**		**06 01 30.6**	**+0.9**
	SNR=17								
KBK	**Karagaybulak**	**52.34**	**296**	P		**P**		**06 01 31.1**	**+1.1**
	SNR=10								
KZA	**Kyzart**	**52.44**	**295**	P		**P**		**06 01 32.9**	**+1.8**
	SNR=14								
AAK	**Ala-Archa**	**52.64**	**296**	*i* P		**P**		**06 01 32.4**	**+0.3**
AAK				pmax	pmax				
	comp=Z,39nm,1.2s								
AAK	**Ala-Archa**	**52.64**	**296**	*e*P		**P**		**06 01 32.8**	**+0.6**
	comp=Z,60nm,0.8s								
AAK	**Ala-Archa**	**52.64**	**296**	P		**P**		**06 01 32.5**	**+0.3**
	SNR=11								
AAK	**Ala-Archa**	**52.64**	**296**	P		**P**		**06 01 32.8**	**+0.6**
	comp=Z,11nm,0.8s,baz=102,slow=4.7,SNR=42								
ODAN	**Odare**	**52.67**	**272**	*e*P		**P**		**06 01 34.1**	**+1.4**
	comp=Z,19nm,0.9s								
RES	**Resolute Bay**	**52.81**	**18**	*e*P		**P**		**06 01 32.3**	**-0.4**
	comp=Z,21nm,0.8s								
RES				PcP		**PcP**		**06 02 41.1**	**+0.6**
RES	**Resolute Bay**	**52.81**	**18**	P		**P**		**06 01 32.9**	**+0.2**
	comp=Z,18nm,0.8s,baz=329,slow=8.3,SNR=70								
RES				PcP		**PcP**		**06 02 41.1**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=284,slow=4.2,SNR=2.4								
JIRN	**Jiri**	**53.03**	**274**	*e*P		**P**		**06 01 36.5**	**+1.1**
	comp=Z,4.8nm,0.4s								
EKS2	**Erkin-Say**	**53.08**	**296**	*e*P		**P**		**06 01 36.0**	**+0.7**
EKS2				pmax	pmax				
	comp=Z,15nm,0.8s								
EKS2	**Erkin-Say**	**53.08**	**296**	*e*P		**P**		**06 01 36.0**	**+0.7**
	comp=Z,15nm,0.8s								
EKS2	**Erkin-Say**	**53.08**	**296**	P		**P**		**06 01 36.4**	**+1.0**
	SNR=13								
GUN	**Gumba**	**53.10**	**274**	*e*P		**P**		**06 01 37.0**	**+1.1**
	comp=Z,27nm,0.7s								
RAMN	**Ramite**	**53.17**	**273**	*e*P		**P**		**06 01 37.2**	**+0.8**
	comp=Z,45nm,0.6s								
YKA	**Yellowknife Ar**	**53.26**	**35**	P		**P**		**06 01 36.4**	**+0.2**
YKA				pP		**pP**		**06 02 01.9**	**-0.6**
YKA	**Yellowknife Ar**	**53.26**	**35**	P		**P**		**06 01 36.3**	**+0.2**
	comp=Z,5.3nm,0.9s,baz=298,slow=7.0,SNR=48								
YKA				pP		**pP**		**06 02 01.9**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=298,slow=7.1,SNR=3.0								
KSH	**Kashi**	**53.31**	**292**	P		P		06 01 42.1	+5.0
KSH				pP		pP		06 02 09.5	+6.0
KSH				sP		sP		06 02 22.3	+6.4
KSH				PcP		**PcP**		**06 02 47.8**	**+4.6**
KSH				PP		PP		06 03 46.2	+8.1
KSH				ScP		**ScP**		**06 06 33.7**	**+3.3**
KSH				PcS		**PcS**		**06 06 46.2**	**+3.8**
KSH				S		**S**		**06 09 04.1**	**+4.0**
KSH				sS		sS		06 09 50.4	+4.8
KSH				ScS		**ScS**		**06 11 16.8**	**+1.2**
KSH				SS		**SKiKP**		**06 12 44.9**	**+3.0**
KSH				pmax	pmax				
	comp=Z,70nm,2.5s								
KSH				LR		LR			
	comp=N,110nm,10.6s								
KSH				LR		LR			
	comp=E,180nm,5.9s								
KSH				LR		LR			
	comp=Z,280nm,5.9s								
AML	**Almayashu**	**53.41**	**296**	P		**P**		**06 01 39.4**	**+1.3**
	SNR=11								
SVE	**Sverdlovsk**	**53.49**	**317**	⇑*e*P		**P**		**06 01 36.8**	**-1.1**
SVE				pmax	pmax				
	comp=Z,19nm,0.9s								
KKN	**Kakani**	**53.59**	**274**	*e*P		**P**		**06 01 40.8**	**+1.4**
	comp=Z,35nm,0.8s								
PKI	**Pulchoki**	**53.63**	**274**	*e*P		**P**		**06 01 40.7**	**+0.9**
	comp=Z,19nm,0.8s								
SPITS	**Spitsbergen Ar**	**53.64**	**349**	P		**P**		**06 01 36.7**	**-2.1**
SPITS	**Spitsbergen Ar**	**53.64**	**349**	P		**P**		**06 01 36.7**	**-2.1**
	comp=Z,9.8nm,0.9s,baz=104,slow=8.2,SNR=6.4								
DMN	**Daman**	**53.82**	**274**	*e*P		**P**		**06 01 42.3**	**+1.2**
	comp=Z,45nm,0.9s								
GKN	**Gorkha**	**53.91**	**275**	*e*P		**P**		**06 01 42.6**	**+0.9**
	comp=Z,27nm,0.7s								
DANN	**Dangsing**	**54.32**	**276**	*e*P		**P**		**06 01 46.0**	**+1.2**
	comp=Z,42nm,0.7s								
ARU	**Arti**	**54.68**	**317**	*d i*P		**P**		**06 01 45.2**	**-1.4**
ARU								06 02 45.9	
ARU								06 03 45.2	
ARU				S		**S**		**06 09 17.3**	**-0.5**
ARU				SS		**SS**		**06 13 03.9**	**+2.4**
ARU				pmax	pmax				
	comp=Z,23nm,0.8s								
ARU	**Arti**	**54.68**	**317**	*e*P		**P**		**06 01 45.1**	**-1.5**
	comp=Z,19nm,0.7s								
KOLN	**Koldanda**	**54.78**	**275**	*e*P		**P**		**06 01 49.2**	**+1.2**
KK31	**Karatay Array**	**54.90**	**298**	*i* P		**P**		**06 01 48.4**	**0.0**
KK31				pmax	pmax				
	comp=Z,9.0nm,0.8s								
KKAR	**Karatay Array**	**54.90**	**298**	*e*P		**P**		**06 01 48.9**	**+0.5**
KKAR				pmax	pmax				
	comp=Z,4.0nm,0.5s								
KKAR	**Karatay Array**	**54.90**	**298**	*e*P		**P**		**06 01 48.9**	**+0.5**
	comp=Z,4.5nm,0.5s								
AB31	**Akbulak array**	**57.77**	**309**	*i* P		**P**		**06 02 07.9**	**-0.7**
AB31				pmax	pmax				
	comp=Z,4.0nm,0.3s								
DAG	**Danmarks Havn**	**57.97**	**357**	*e*P		**P**		**06 02 08.6**	**-1.0**
DAG				pmax	pmax				
	comp=Z,4.0nm,0.9s								
DAG	**Danmarks Havn**	**57.97**	**357**	*i* P		**P**		**06 02 08.6**	**-1.0**
	comp=Z,39nm,0.9s								
KEV	**Kevo**	**57.99**	**340**	*e*P		**P**		**06 02 08.1**	**-1.7**
KEV				pmax	pmax				
	comp=Z,1.0nm,0.3s								
KEV	**Kevo**	**57.99**	**340**	*e*p		**P**		**06 02 08.1**	**-1.7**
	comp=Z,0.8nm,0.3s								
AKTO	**Aktyubinsk**	**58.15**	**311**	P		**P**		**06 02 10.5**	**-0.8**
AKTO				pmax	pmax				
	comp=Z,4.0nm,0.6s								
AKTO	**Aktyubinsk**	**58.15**	**311**	P		**P**		**06 02 10.4**	**-0.8**
AKTO	**Aktyubinsk**	**58.15**	**311**	P		**P**		**06 02 10.4**	**-0.8**
	comp=Z,3.6nm,0.6s,baz=69,slow=6.9,SNR=14								
ARCES	**ARCESS Array B**	**58.51**	**340**	P		**P**		**06 02 11.5**	**-2.0**
ARCES				PcP		**PcP**		**06 03 02.9**	**+0.2**
ARCES	**ARCESS Array B**	**58.51**	**340**	P		**P**		**06 02 11.5**	**-2.0**
	comp=Z,4.4nm,0.9s,baz=38,slow=7.9,SNR=9.5								
ARCES				PcP		**PcP**		**06 03 02.9**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=57,slow=4.4,SNR=10								
ARE0	**ARCESS Array S**	**58.51**	**340**	P		**P**		**06 02 14.0**	**+0.5**
NEW	**Newport**	**59.64**	**51**	⇑P		**P**		**06 02 21.5**	**-0.1**
	baz=59								
KLMR	**Klimovskoe**	**60.26**	**328**	*e*P		P		06 02 22.2	-3.4
KLMR				pmax	pmax				
	comp=Z,30nm,1.7s								
C11A	**Tepee Creek (N**	**60.36**	**51**	⇓P		**P**		**06 02 27.1**	**+0.4**
	baz=60								
KBL	**Kabul**	**60.69**	**291**	*e*P		**P**		**06 02 28.7**	**-0.6**
KBL				pmax	pmax				
	comp=Z,21nm,1.1s								
KBL	**Kabul**	**60.69**	**291**	*e*P		**P**		**06 02 28.7**	**-0.6**
	comp=Z,21nm,1.1s								
A13A	**Flathead Natio**	**60.71**	**49**	⇑P		**P**		**06 02 29.2**	**+0.2**
	baz=60								
B13A	**Whitefish**	**61.01**	**49**	⇓P		**P**		**06 02 31.8**	**+0.8**
	baz=61,SNR=6.3								
A14A	**Double T Ranch**	**61.21**	**48**	⇓P		**P**		**06 02 33.0**	**+0.6**
	baz=61								
C13A	**Hot Springs**	**61.37**	**50**	⇑P		**P**		**06 02 33.9**	**+0.4**
	baz=61								
MOD	**Modoc**	**61.55**	**58**	*e*P		P		06 02 27.4	-7.5
	comp=Z,83nm,2.7s								
A15A	**Johnson Ranch,**	**61.57**	**48**	⇓P		**P**		**06 02 34.9**	**+0.1**
	baz=61								
E12A	**Beaver Dam Sad**	**61.58**	**52**	⇑P		**P**		**06 02 35.2**	**+0.2**
	baz=61								
B14A	**Marquette Ranc**	**61.66**	**49**	⇑P		**P**		**06 02 35.9**	**+0.4**
	baz=61								
JOF	**Joensuu**	**61.69**	**333**	*e*P		**P**		**06 02 32.4**	**-2.8**
JOF				pmax	pmax				
	comp=Z,3.0nm,0.6s								
JOF	**Joensuu**	**61.69**	**333**	*e*p		**P**		**06 02 32.4**	**-2.8**
	comp=Z,3.3nm,0.6s								
C14A	**Swan Lake**	**61.76**	**50**	⇑P		**P**		**06 02 36.5**	**+0.4**
	baz=62								
SWMT	**Swartz Lake**	**61.78**	**50**	*e*P		**P**		**06 02 36.8**	**+0.5**
SWMT				*e*pP		**pP**		**06 03 02.4**	**-1.1**
D13A	**Huson**	**61.78**	**51**	⇓P		**P**		**06 02 36.3**	**0.0**
	baz=62								
B15A	**Bradely Ranch,**	**62.06**	**49**	⇓P		**P**		**06 02 38.4**	**+0.2**
	baz=62,SNR=6.0								
F12A	**Elk City**	**62.16**	**52**	⇑P		**P**		**06 02 39.2**	**+0.4**
	baz=62								
A16A	**West Butte Ran**	**62.18**	**48**	⇑P		**P**		**06 02 39.0**	**0.0**
	baz=62								
SLMT	**Seeley Lake**	**62.22**	**50**	*e*P		**P**		**06 02 40.2**	**+0.9**
MSO	**Missoula**	**62.23**	**51**	*e*P		**P**		**06 02 39.9**	**+0.7**
	comp=Z,5.6nm,1.3s								
MSO	**Missoula**	**62.23**	**51**	⇓P		**P**		**06 02 39.7**	**+0.4**
	baz=62								
SUMG	**Summit**	**62.24**	**3**	*e*P		**P**		**06 02 39.1**	**-0.2**
SUMG				pmax	pmax				
	comp=Z,38nm,1.0s								
SUMG	**Summit**	**62.24**	**3**	*e*P		**P**		**06 02 39.1**	**-0.2**
	comp=Z,38nm,1.0s								
SUMG	**Summit**	**62.24**	**3**	*i* P		**P**		**06 02 39.3**	**0.0**
	comp=Z,28nm,1.0s								
D14A	**Greenough**	**62.31**	**50**	⇓P		**P**		**06 02 40.2**	**+0.3**
	baz=62,SNR=6.4								
C15A	**Salmond Ranch,**	**62.37**	**49**	⇑P		**P**		**06 02 41.2**	**+0.9**
	baz=62,SNR=6.2								
A17A	**Triple J Farms**	**62.65**	**47**	⇑P		**P**		**06 02 42.1**	**+0.1**
	baz=62								
F13A	**Darby**	**62.65**	**52**	⇑P		**P**		**06 02 42.4**	**+0.2**
	baz=62								
C16A	**Fuhringer Ranc**	**62.81**	**49**	⇓P		**P**		**06 02 43.6**	**+0.5**
	baz=62,SNR=8.4								
A18A	**Metzger Ranch,**	**63.10**	**47**	⇑P		**P**		**06 02 45.1**	**+0.1**
	baz=63								
FFC	**Flin Flon**	**63.11**	**38**	*i* P		**P**		**06 02 45.5**	**+0.6**
FFC	**Flin Flon**	**63.11**	**38**	*e*P		**P**		**06 02 45.1**	**+0.2**
	comp=Z,8.7nm,0.9s								
H12A	**Diamond D Ranc**	**63.12**	**53**	⇓P		**P**		**06 02 45.7**	**+0.3**
	baz=63								
G13A	**Cobalt**	**63.13**	**52**	⇑P		**P**		**06 02 45.7**	**+0.4**
	baz=63								
E15A	**Deer Lodge**	**63.18**	**50**	⇑P		**P**		**06 02 46.0**	**+0.3**
	baz=63								
MFID	**Camas Ranch**	**63.26**	**54**	⇓P		**P**		**06 02 46.8**	**+0.6**
	baz=63								
D16A	**Dana Ranch, Ca**	**63.39**	**49**	⇑P		**P**		**06 02 47.6**	**+0.6**
	baz=63								
I12A	**Atlanta**	**63.42**	**54**	⇑P		**P**		**06 02 48.1**	**+0.7**
	baz=63								
C17A	**Wharram Farm,**	**63.43**	**48**	⇑P		**P**		**06 02 47.5**	**+0.2**
	baz=63,SNR=8.2								
H13A	**Challis**	**63.45**	**53**	⇑P		**P**		**06 02 47.9**	**+0.5**
	baz=63,SNR=6.0								
B18A	**Beardsley Farm**	**63.47**	**47**	⇓P		**P**		**06 02 48.2**	**+0.7**
	baz=63								
F15A	**Butte**	**63.63**	**51**	⇓P		**P**		**06 02 49.3**	**+0.6**
	baz=63,SNR=5.4								
A19A	**Klindworth Far**	**63.66**	**46**	⇓P		**P**		**06 02 49.1**	**+0.5**
	baz=63,SNR=5.4								
LRM	**Limekiln Ridge**	**63.66**	**51**	*e*P		**P**		**06 02 49.2**	**+0.3**
EGMT	**Eagleton**	**63.71**	**47**	*e*P		**P**		**06 02 49.3**	**+0.3**
	comp=Z,52nm,2.1s								
EGMT	**Eagleton**	**63.71**	**47**	⇓P		**P**		**06 02 49.5**	**+0.5**
	baz=63								
D17A	**Six Diamond Ra**	**63.77**	**49**	⇓P		**P**		**06 02 50.2**	**+0.7**
	baz=64								
KAF	**Kangasniemi**	**63.86**	**334**	*e*P		**P**		**06 02 47.0**	**-2.6**
KAF				pmax	pmax				
	comp=Z,5.0nm,0.7s								
KAF	**Kangasniemi**	**63.86**	**334**	*e*p		**P**		**06 02 47.0**	**-2.6**
	comp=Z,5.2nm,0.7s								
B19A	**Brinkman Farms**	**63.86**	**47**	⇑P		**P**		**06 02 50.7**	**+0.7**
	baz=64,SNR=6.6								
H14A	**Leadore**	**63.91**	**52**	⇓P		**P**		**06 02 51.1**	**+0.6**
	baz=64								
I13A	**Wildhorse Cree**	**63.93**	**53**	⇑P		**P**		**06 02 51.6**	**+0.9**
	baz=64								
HLID	**Hailey**	**63.98**	**54**	⇑P		**P**		**06 02 51.6**	**+0.6**
	baz=64								
G15A	**Dillon**	**64.05**	**51**	⇓P		**P**		**06 02 52.0**	**+0.5**
	baz=64,SNR=5.8								
A20A	**Cobblestone Ra**	**64.11**	**46**	⇑P		**P**		**06 02 52.2**	**+0.6**
	baz=64								
E17A	**Martinsdale**	**64.12**	**49**	⇑P		**P**		**06 02 52.3**	**+0.4**
	baz=64								
F16A	**Kennard Place,**	**64.13**	**50**	⇑P		**P**		**06 02 52.6**	**+0.7**
	baz=64								
D18A	**Linhart Farms,**	**64.21**	**48**	⇑P		**P**		**06 02 53.1**	**+0.7**
	baz=64								
J13A	**Cove Ranch, Pi**	**64.22**	**54**	⇑P		**P**		**06 02 53.3**	**+0.8**
	baz=64								
BOZ	**Bozeman (W)**	**64.22**	**50**	*e*P		**P**		**06 02 52.6**	**+0.1**
BOZ				pmax	pmax				
	comp=Z,24nm,2.0s								
BOZ	**Bozeman (W)**	**64.22**	**50**	*e*P		**P**		**06 02 52.6**	**+0.1**
	comp=Z,24nm,2.0s								
BOZ	**Bozeman (W)**	**64.22**	**50**	⇓P		**P**		**06 02 53.3**	**+0.8**
	baz=64								
C19A	**Slack Wire Ran**	**64.26**	**47**	⇓P		**P**		**06 02 53.1**	**+0.5**
	baz=64,SNR=6.0								
I14A	**Mackay**	**64.29**	**53**	⇑P		**P**		**06 02 54.0**	**+1.0**
	baz=64								
SCO	**Scoresbysund**	**64.36**	**357**	*i* P		**P**		**06 02 52.6**	**-0.1**
SCO				pmax	pmax				
	comp=Z,9.0nm,1.0s								
SCO	**Scoresbysund**	**64.36**	**357**	*i* P		**P**		**06 02 52.6**	**-0.1**
	comp=Z,8.7nm,1.0s								
G16A	**Moss Hill, Enn**	**64.39**	**51**	⇓P		**P**		**06 02 53.9**	**+0.3**
	baz=64								
FINES	**FINESS Array B**	**64.44**	**334**	P		**P**		**06 02 51.8**	**-1.7**
FINES	**FINESS Array B**	**64.44**	**334**	P		**P**		**06 02 51.8**	**-1.7**
	comp=Z,8.5nm,0.7s,baz=45,slow=8.4,SNR=23								
A21A	**Bergtoll Ranch**	**64.54**	**45**	⇓P		**P**		**06 02 55.0**	**+0.6**
	baz=64,SNR=6.1								
E18A	**Harlowton**	**64.56**	**49**	⇓P		**P**		**06 02 55.7**	**+1.1**
	baz=64								
F17A	**Fitzpatrick Pl**	**64.58**	**50**	⇓P		**P**		**06 02 55.8**	**+0.9**
	baz=64								
J14A	**Carey**	**64.64**	**53**	⇓P		**P**		**06 02 56.5**	**+1.3**
	baz=64								
D19A	**Cripps Ranch,**	**64.72**	**48**	⇑P		**P**		**06 02 56.5**	**+0.9**
	baz=64								
C20A	**Veseth Ranch,**	**64.82**	**47**	⇑P		**P**		**06 02 56.7**	**+0.5**
	baz=64,SNR=6.1								
B21A	**Ellsworth Farm**	**64.86**	**46**	⇓P		**P**		**06 02 57.6**	**+1.1**
	baz=65								
NVAR	**Mina Array Bea**	**64.89**	**60**	P		P		**06 02 58.0**	**+1.0**
NVAR				pP		**pP**		**06 03 24.1**	**-0.3**
NVAR	**Mina Array Bea**	**64.89**	**60**	P		P		**06 02 58.0**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=293,slow=7.0,SNR=16								
NVAR				pP		**pP**		**06 03 24.1**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=298,slow=7.5,SNR=2.9								
G17A	**Pierce Place,**	**64.91**	**50**	⇓P		**P**		**06 02 58.2**	**+1.2**
	baz=65								
H16A	**Russell Place,**	**65.03**	**51**	⇑P		**P**		**06 02 58.7**	**+0.9**
	baz=65								
A22A	**Carney Farms,**	**65.04**	**45**	⇑P		**P**		**06 02 58.4**	**+0.7**
	baz=65								
F18A	**Big Timber**	**65.09**	**49**	⇓P		**P**		**06 02 58.9**	**+0.8**
	baz=65								
D20A	**Manuel Ranch,**	**65.15**	**48**	⇑P		**P**		**06 02 59.3**	**+0.9**
	baz=65								
J15A	**Blackfoot**	**65.20**	**53**	⇓P		**P**		**06 03 00.0**	**+1.1**
	baz=65								
E19A	**Rath Farm, Rou**	**65.22**	**48**	⇓P		**P**		**06 03 00.0**	**+1.1**
	baz=65								
OBN	**Obninsk**	**65.31**	**325**	*e*P		**P**		**06 02 58.2**	**-1.0**
OBN				*e**PP		**pP**		**06 03 25.3**	**-1.2**
OBN				*e*				06 03 31.8	
OBN				*e*				06 05 20.3	
OBN				*e*SS

VORD Divnogorie 67.05 320 eP P 06 03 09.3 -1.1
D24A Glendive 67.09 46 ⇑P P 06 03 11.5 +0.7
baz=67
PD02 Pinedale Array 67.20 52 eP P 06 03 11.9 +0.1
BW06 Boulder Array 67.21 52 eP P 06 03 12.5 +0.7
comp=Z,5.4nm,1.1s
BW06 Boulder Array 67.21 52 ⇓P P 06 03 12.4 +0.5
baz=67
PDAR Pinedale Array 67.21 52 P P 06 03 12.3 +0.4
PDAR pP PcP 06 03 36.9 -2.2
PDAR Pinedale Array 67.21 52 P P 06 03 12.3 +0.4
comp=Z,2.5nm,0.9s,baz=286,slow=2.4,SNR=14
PDAR pP PcP 06 03 36.9 -2.2
comp=Z,0.5nm,0.7s,baz=289,slow=2.8,SNR=2.0
I20A Worland 67.22 50 ⇓P P 06 03 12.5 +0.7
baz=67
EDW2 Edwards Air Fo 67.34 63 ⇑P P 06 03 13.9 +1.4
baz=67
H21A Big Horn, Sher 67.35 49 ⇓P P 06 03 13.1 +0.6
baz=67
G22A Birney 67.35 48 ⇓P P 06 03 13.1 +0.6
baz=67
F23A Volborg 67.48 47 ⇓P P 06 03 13.8 +0.5
baz=67
K19A Absolon Red Bu 67.57 51 ⇑P P 06 03 14.5 +0.4
baz=67
J20A Shoshoni 67.64 51 ⇑P P 06 03 15.4 +1.0
baz=67
N17A Moffit Pass 67.70 54 ⇓P P 06 03 15.4 +0.4
baz=67
I21A Big Trails, Te 67.76 50 ⇑P P 06 03 15.8 +0.6
baz=68
P15A Leamington 67.76 56 ⇓P P 06 03 16.0 +0.7
baz=68
G23A Biddle 67.83 48 ⇓P P 06 03 16.0 +0.5
baz=68
F24A Ekalaka 67.89 47 ⇑P P 06 03 16.3 +0.5
baz=68
I22A 9 Mile Ranch, 68.14 49 ⇑P P 06 03 18.4 +0.8
baz=68
O17A Robinson Place 68.24 55 ⇑P P 06 03 19.8 +1.5
baz=68
TUQ Turquoise Moun 68.27 61 ⇓P P 06 03 19.5 +1.0
baz=68
J22A Midwest 68.47 50 ⇑P P 06 03 20.7 +1.1
baz=68
K21A Alcova 68.57 51 ⇑P P 06 03 20.7 +0.4
baz=68
H24A Dirks Ranch, A 68.58 48 ⇓P P 06 03 20.4 +0.2
baz=68
O18A Roosevelt 68.61 54 ⇑P P 06 03 21.5 +0.9
baz=68
MURC Murrieta 68.67 64 ⇓P P 06 03 21.3 +0.5
baz=68
NB2 NORSAR Subarra 68.89 340 P P 06 03 20.5 -1.3
comp=Z,2.0nm,0.4s,baz=28,slow=6.9
NOA NORSAR Array B 68.89 340 P P 06 03 20.7 -1.1
NOA NORSAR Array B 68.89 340 P P 06 03 20.7 -1.1
comp=Z,2.4nm,0.4s,baz=30,slow=6.4,SNR=36
NOA LR LR 06 43 00.0
comp=Z,41nm,18.1s,baz=325,slow=44
MDND Maddock 68.90 43 ⇓P P 06 03 22.8 +0.7
baz=69
ULM Lac du Bonnet 68.91 39 P P 06 03 21.8 -0.2
ULM Lac du Bonnet 68.91 39 P P 06 03 21.8 -0.2
comp=Z,2.2nm,0.4s,baz=305,slow=6.3,SNR=7.2
K22A Casper 68.96 50 ⇓P P 06 03 23.1 +0.4
baz=69
HFS Hagfors 69.05 338 P P 06 03 21.5 -1.3
HFS Hagfors 69.05 338 P P 06 03 21.5 -1.3
comp=Z,3.3nm,0.5s,baz=35,slow=3.6,SNR=21
HFS LR LR 06 40 06.3
comp=Z,82nm,18.8s,baz=78,slow=42
R16A Teasdale 69.08 56 ⇑P P 06 03 24.6 +1.0
baz=69
SRU San Rafael 69.08 55 eP P 06 03 23.0 -0.6
SRU pmax pmax
comp=Z,4.0nm,0.9s
SRU San Rafael 69.08 55 eP P 06 03 23.0 -0.6
comp=Z,3.9nm,0.9s
SRU San Rafael 69.08 55 ⇓P P 06 03 24.4 +0.8
baz=69
O19A Miners Draw (B 69.10 54 ⇓P P 06 03 24.4 +0.8
baz=69
BELC Belle Mtn. Jos 69.16 62 ⇑P P 06 03 24.8 +0.8
baz=69
S16A Weppner Ranch, 69.38 57 ⇑P P 06 03 26.5 +1.1
baz=69
R17A Hanksville Air 69.44 56 ⇑P P 06 03 26.3 +0.6
baz=69
IRM Iron Mountain 69.58 62 ⇓P P 06 03 27.6 +1.1
baz=69
P19A Cripple Cowboy 69.62 54 ⇑P P 06 03 27.3 +0.3
baz=69
O20A White River Ci 69.70 53 ⇓P P 06 03 27.9 +0.5
baz=69
W13A Hualapai Mount 69.74 60 ⇑P P 06 03 28.5 +0.8
baz=70
M22A Cedar Creek Ra 69.76 51 ⇓P P 06 03 28.4 +0.6
baz=70
S17A Black Ridge (B 69.91 57 ⇓P P 06 03 29.5 +0.9
baz=70
Q19A Hogan Spring (69.92 55 ⇓P P 06 03 29.2 +0.6
baz=70
R18A Canyonlands Na 69.94 56 ⇓P P 06 03 28.7 -0.1
baz=70
P20A De Beque 70.05 54 ⇑P P 06 03 30.1 +0.6
baz=70
PDMCI Parker Dam,Lak 70.12 61 ⇓P P 06 03 30.7 +1.0
baz=70
Y12C Blythe 70.24 62 ⇑P P 06 03 31.6 +1.1
baz=70
ASAR Alice Springs 70.26 196 P P 06 03 32.6 +2.1
ASAR pP pP 06 03 57.5 -0.7
ASAR Alice Springs 70.26 196 P P 06 03 32.6 +2.1
comp=Z,0.6nm,0.6s,baz=16,slow=4.9,SNR=5.1
ASAR pP pP 06 03 57.5 -0.7
comp=Z,1.9nm,0.9s,baz=7.8,slow=6.0,SNR=6.1
KIV Kislovodsk 70.31 313 eP P 06 03 30.3 -0.6
KIV pmax pmax
comp=Z,64nm,1.1s
KIV Kislovodsk 70.31 313 eP P 06 03 31.3 +0.5
comp=Z,45nm,0.8s
T17A Navajo Res., N 70.33 57 ⇓P P 06 03 32.5 +1.2
baz=70
S18A Hurst Farm, Bl 70.34 56 ⇓P P 06 03 32.0 +0.6
baz=70
R19A Curley Farm, L 70.37 55 ⇓P P 06 03 32.0 +0.5
baz=70
N23A Red Feather La 70.47 51 ⇓P P 06 03 32.6 +0.5
baz=70
Q20A Ridgley Place, 70.47 54 ⇑P P 06 03 32.7 +0.7
baz=70
ZEI Tsey 70.50 311 eP P 06 03 31.6 -0.6
ZEI pmax pmax
comp=Z,26nm,1.0s
M24A Cheyenne 70.69 50 ⇓P P 06 03 34.4 +1.0
baz=70
T18A Mexican Hat 70.79 56 ⇑P P 06 03 34.0 0.0
baz=70
S19A Harvey Farm, M 70.81 56 ⇑P P 06 03 34.4 +0.3
baz=71
R20A Redvale 70.95 55 ⇓P P 06 03 35.7 +0.8
baz=71
O23A Lake Granby, G 70.95 52 ⇓P P 06 03 36.1 +1.0
baz=71
Q21A Lamborn Mesa, 70.97 54 ⇓P P 06 03 35.8 +0.8
baz=71
WUAZ Wupatki 70.99 59 ⇑P P 06 03 36.5 +1.3
baz=71
Y14A Wickenburg 71.06 61 ⇑P P 06 03 36.0 +0.5
baz=71
S20A Disappointment 71.20 55 ⇓P P 06 03 37.2 +0.6
baz=71
R21A Cimarron 71.30 54 ⇓P P 06 03 38.0 +0.8
baz=71
Q22A Crested Butte, 71.33 53 ⇑P P 06 03 38.1 +0.7
baz=71
ISCO Idaho Springs 71.41 52 ⇑P P 06 03 38.7 +0.8
baz=71
T19A Beclabito 71.50 56 ⇓P P 06 03 38.5 +0.2
baz=71
AKASG Malin Array Be 71.57 325 *i* P P 06 03 37.2 -1.0
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKASG Malin Array Be 71.57 325 P P 06 03 37.3 -1.0
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 71.57 325 P P 06 03 37.2 -1.0
AKASG Malin Array Be 71.57 325 P P 06 03 37.2 -1.0
comp=Z,3.4nm,0.3s,baz=35,slow=5.9,SNR=18
AKBB Malin Array Si 71.57 325 eP P 06 03 37.2 -1.0
AKBB Malin Array Si 71.57 325 eP P 06 03 37.2 -1.0
P23A Jefferson 71.58 52 ⇑P P 06 03 39.8 +0.9
baz=71
KIEV Kiev 71.58 325 eP P 06 03 37.5 -0.8
KIEV pmax pmax
comp=Z,21nm,1.3s
KIEV Kiev 71.58 325 eP P 06 03 37.5 -0.8
comp=Z,21nm,1.3s
S21A Coal Bank Pass 71.64 55 ⇓P P 06 03 40.1 +0.8
baz=71
X16A Lo Mia Camp, P 71.69 59 ⇓P P 06 03 40.5 +1.1
baz=72
U19A Dine' College, 71.75 57 ⇓P P 06 03 40.7 +0.8
baz=72
R22A Saguache, Gunn 71.85 54 ⇑P P 06 03 41.9 +1.4
baz=72
GNI Garni 71.88 309 eP P 06 03 41.6 +1.1
GNI Garni 71.88 309 P P 06 03 41.3 +0.8
comp=Z,3.3nm,0.4s,baz=92,slow=5.3,SNR=6.0
S22A 4UR Ranch, Cre 72.14 54 ⇑P P 06 03 43.2 +0.9
baz=72
R23A Moffat 72.40 53 ⇑P P 06 03 44.1 +0.3
baz=72
V20A Brimhall 72.53 57 ⇓P P 06 03 45.4 +1.0
baz=72
EYMN Ely 72.55 38 eP P 06 03 44.0 -0.2
comp=Z,6.5nm,0.9s
R24A Sanders Place, 72.78 53 ⇑P P 06 03 46.7 +0.7
baz=72
Q25A Bedland, Calha 72.78 52 ⇓P P 06 03 46.4 +0.4
baz=72
SDCO Great Sand Dun 72.90 53 ⇓P P 06 03 47.3 +0.5
baz=73
ECSD EROS Data Cent 73.32 44 eP P 06 03 48.4 -0.4
comp=Z,12nm,1.2s
V22A San Miguel Ran 73.36 56 ⇑P P 06 03 50.2 +0.8
baz=73
X20A Quemado 73.38 58 ⇓P P 06 03 50.7 +1.2
baz=73
T24A Torres, Weston 73.62 54 ⇑P P 06 03 51.5 +0.5
baz=73
R26A Arlington 73.66 52 ⇑P P 06 03 51.2 +0.2
baz=73
Y20A Horse Springs, 73.89 58 ⇓P P 06 03 53.6 +1.1
baz=74
V23A Ortiz Mt. (NFS 73.90 55 ⇓P P 06 03 53.4 +0.8
baz=74
T25A Trinidad 73.94 53 ⇑P P 06 03 53.4 +0.6
baz=74
SPMN St. Paul 74.02 41 ⇑P P 06 03 53.3 +0.5
baz=74
LVV L'vov 74.31 327 eP P 06 03 55.2 +0.8
T26A Comanche Natio 74.38 53 ⇑P P 06 03 55.2 -0.1
baz=74
120A U Bar Ranch, L 74.68 59 ⇓P P 06 03 57.8 +0.7
baz=74
Z21A St. Cloud Mine 74.73 58 ⇑P P 06 03 58.3 +0.9
baz=74
KWP Kalwaria Pacla 74.97 328 eP P 06 03 58.6 +0.3
KWP Kalwaria Pacla 74.97 328 eP P 06 03 58.6 +0.3
KWP Kalwaria Pacla 74.97 328 ⇓P P 06 03 58.9 +0.7
KWP Kalwaria Pacla 74.97 328 eP P 06 03 57.9 -0.3
comp=Z,49nm,1.0s
KWP Kalwaria Pacla 74.97 328 ⇓*i*P P 06 03 58.9 +0.7
220A Playas Peak, P 75.19 60 ⇓P P 06 04 00.9 +0.9
baz=75
121A Cookes Peak, D 75.20 59 ⇓P P 06 04 01.1 +1.1
baz=75
T28A Walsh 75.24 52 ⇑P P 06 04 00.0 -0.1
baz=75
Y23A Lovelace Mesa, 75.25 57 ⇑P P 06 04 01.4 +1.0
baz=75
W25A X Bar L Ranch, 75.27 55 ⇓P P 06 04 01.5 +1.1
baz=75
BSEG Bad Segeberg 75.36 337 eP P 06 04 00.7 +0.4
comp=Z,40nm,1.2s
SCHQ Schefferville 75.38 21 P P 06 03 59.8 -0.7
SCHQ Schefferville 75.38 21 P P 06 03 59.8 -0.7
comp=Z,3.3nm,0.7s,baz=327,slow=6.0,SNR=8.1
OJC Ojcow 75.55 330 eP P 06 04 01.1 -0.5
OJC Ojcow 75.55 330 eP P 06 04 01.7 +0.2
OJC pmax pmax
comp=Z,22nm,0.9s
OJC Ojcow 75.55 330 eP P 06 04 01.7 +0.2
comp=Z,22nm,0.9s
BUR08 Bucovina Ar. S 75.61 325 eP P 06 04 01.9 -0.2
BURAR Bucovina Array 75.62 325 ⇓*i*P P 06 04 02.5 +0.4
KOLS Kolonicke sedl 75.70 328 eP P 06 04 02.5 +0.1
KOLS pmax pmax
comp=Z,9.0nm,1.0s
KOLS Kolonicke sedl 75.70 328 eP P 06 04 02.5 +0.1
TESR 75.92 324 ⇓*i*P P 06 04 03.8 +0.1
NIE Niedzica 76.03 329 eP P 06 04 05.0 +0.7
NIE Niedzica 76.03 329 eP P 06 04 05.0 +0.7
CRVS Cervenica-Dubn 76.04 328 eP P 06 04 04.5 +0.2
CRVS pmax pmax
comp=Z,7.0nm,0.9s
CRVS Cervenica-Dubn 76.04 328 eP P 06 04 04.5 +0.2
KSP Ksiaz 76.23 332 eP P 06 04 05.5 +0.1
TRPA Tarpa 76.26 327 ⇑*i*P P 06 04 06.0 +0.4
VRI Vrincioaia 76.40 323 ⇑P P 06 04 07.1 +0.7
VRI Vrincioaia 76.40 323 ⇑*i*P P 06 04 07.1 +0.7
OKC Ostrava-Krasne 76.45 330 *i* P P 06 04 06.9 +0.3
OKC Ostrava-Krasne 76.45 330 ⇑*i*P P 06 04 06.9 +0.3
UPC Upice 76.61 332 *i* P P 06 04 08.0 +0.5
UPC Upice 76.61 332 ⇑*i*P P 06 04 08.0 +0.5
DPC Dobruska-Polom 76.64 332 eP P 06 04 07.9 +0.1
DPC pmax pmax
comp=Z,16nm,0.9s
DPC Dobruska-Polom 76.64 332 ⇑*i*P P 06 04 08.2 +0.4
DPC Dobruska-Polom 76.64 332 eP P 06 04 07.9 +0.1
comp=Z,16nm,0.9s
DPC Dobruska-Polom 76.64 332 ⇑*i*P P 06 04 08.2 +0.4
NRDL Niedersach Rie 76.70 336 eP P 06 04 08.1 +0.2
comp=Z,19nm,1.4s
MORC Moravsky Berou 76.72 331 eP P 06 04 08.4 +0.2
MORC pmax pmax
comp=Z,22nm,0.9s
MORC Moravsky Berou 76.72 331 eP P 06 04 08.4 +0.2
comp=Z,22nm,0.9s
MORC Moravsky Berou 76.72 331 ⇓*i*P P 06 04 08.8 +0.6
CLL Collm 76.88 334 eP P 06 04 09.0 0.0
comp=Z,30nm,0.9s
CLL Collm 76.88 334 ⇑*i*P P 06 04 08.6 -0.4
CLL pmax pmax
comp=Z,30nm,0.9s
BRG Berggiesshubel 76.97 333 eP P 06 04 09.2 -0.3
comp=Z,6.7nm,0.9s
BRG Berggiesshubel 76.97 333 eP P 06 04 09.5 0.0
comp=Z,10.0nm,1.2s
BRG Berggiesshubel 76.97 333 eP P 06 04 09.2 -0.3
BRG pmax pmax
comp=Z,7.0nm,0.9s
MLR Muntele Rosu 77.03 323 ⇑*i*P P 06 04 10.7 +0.6
PVCC Panska Ves 77.07 333 ⇑*i*P P 06 04 10.1 0.0
PVCC Panska Ves 77.07 333 ⇑*i*P P 06 04 10.1 0.0
FBE Freiberg 77.11 334 eP P 06 04 10.7 +0.4
comp=Z,18nm,0.9s
CLZ Clausthal 77.20 336 eP P 06 04 11.5 +0.6
comp=Z,32nm,1.1s
DRGR 77.29 326 ⇓P P 06 04 11.8 +0.3
DRGR 77.29 326 ⇓*i*P P 06 04 11.8 +0.3
NEUB Neuenburg 77.35 335 eP P 06 04 11.7 +0.1
comp=Z,37nm,1.2s
Z27A Tatum 77.35 55 ⇑P P 06 04 13.0 +0.8
baz=77
PSZ Piszkesteto 77.44 328 ⇓P P 06 04 12.9 +0.6
PSZ Piszkesteto 77.44 328 eP P 06 04 13.0 +0.7
comp=Z,15nm,0.9s
PSZ Piszkesteto 77.44 328 ⇓*i*P P 06 04 12.9 +0.6
VRAC Vranov 77.44 331 ⇑*i*P P 06 04 12.7 +0.5
VOIR 77.44 324 ⇓P P 06 04 13.2 +0.8
VOIR 77.44 324 ⇓*i*P P 06 04 13.2 +0.8
PRU Pruhonice 77.54 332 ⇑*i*P P 06 04 13.0 +0.3
PRU Pruhonice 77.54 332 ⇑*i*P P 06 04 13.0 +0.3
MOX Moxa 77.89 334 eP P 06 04 14.9 +0.2
comp=Z,20nm,1.2s
GUNZ Gunzen 77.92 334 eP P 06 04 15.2 +0.3
comp=Z,11nm,0.8s
WERN Wernitzgruen 77.97 334 eP P 06 04 15.6 +0.4
comp=Z,14nm,0.8s
NKC Novy Kostel 78.00 334 *i* P P 06 04 15.2 -0.1
NKC Novy Kostel 78.00 334 ⇑*i*P P 06 04 15.2 -0.1
BRTR Keskin Array B 78.00 315 P P 06 04 16.3 +0.6
BRTR Keskin Array B 78.00 315 P P 06 04 16.3 +0.6
comp=Z,3.2nm,0.8s,baz=74,slow=4.4,SNR=12
425A Indio Mountain 78.12 58 ⇓P P 06 04 17.0 +0.5
baz=78
BUG Bochum--Univer 78.43 337 eP P 06 04 17.8 +0.2
comp=Z,21nm,1.0s
ROTZ Rotzenmuhle 78.48 334 eP P 06 04 18.6 +0.7
comp=Z,14nm,1.0s
KHC Kasperske Hory 78.60 333 *i* P P 06 04 18.9 +0.2
KHC Kasperske Hory 78.60 333 eP P 06 04 17.7 -1.0
comp=Z,19nm,0.9s
KHC Kasperske Hory 78.60 333 ⇑*i*P P 06 04 18.9 +0.2
BZS Buzias 78.69 326 ⇓P P 06 04 19.3 +0.1
BZS Buzias 78.69 326 ⇓*i*P P 06 04 19.3 +0.1
GEC2 GERESS Array S 78.81 332 eP P 06 04 20.2 +0.3
comp=Z,9.0nm,0.9s
GERES GERESS Array B 78.81 332 P P 06 04 20.1 +0.2
GERES GERESS Array B 78.81 332 P P 06 04 20.1 +0.2
comp=Z,5.9nm,0.8s,baz=19,slow=5.7,SNR=20
WET Wettzell 78.81 333 eP P 06 04 20.6 +0.8
comp=Z,20nm,1.0s
GRF Grafenberg Arr 78.85 334 eP P 06 04 20.9 +0.9
comp=Z,29nm,0.9s
GRFO Grafenberg 78.85 334 eP P 06 04 20.4 +0.4
GRFO pmax pmax
comp=Z,20nm,0.8s
GRFO Grafenberg 78.85 334 eP P 06 04 20.4 +0.4
comp=Z,20nm,0.8s
CONA Conrad Observa 78.87 331 ⇓*i*P P 06 04 20.9 +0.7
comp=Z,13nm,0.9s
CONA Conrad Observa 78.87 331 ⇓*i*P P 06 04 20.9 +0.7
comp=Z,13nm,0.9s
328A Wristen Ranch, 78.98 56 ⇑P P 06 04 21.4 +0.3
baz=79
TNS Taunus Mts 79.20 336 eP P 06 04 22.4 +0.5
comp=Z,14nm,1.0s
HDIL Hopedale 79.26 42 eP P 06 04 22.1 -0.3
comp=Z,22nm,1.0s
626A Big Bend Ranch 79.51 59 ⇑P P 06 04 24.9 +0.8
baz=79
MEM Membach 79.52 338 P P 06 04 23.9 +0.3
comp=Z,16nm,1.3s
428A Kincaid Ranch, 79.53 57 ⇑P P 06 04 25.4 +1.3
baz=79
528A Cox Ranch, San 79.88 57 ⇑P P 06 04 26.7 +0.6
baz=80
BCLA Clavier 79.88 338 P P 06 04 26.1 +0.6
TXAR Lajitas Array 79.95 58 P P 06 04 27.0 +0.5
TXAR Lajitas Array 79.95 58 P P 06 04 27.0 +0.5
comp=Z,4.2nm,0.8s,baz=294,slow=4.4,SNR=42
SNF Seneffe 80.07 339 P P 06 04 26.8 +0.3
comp=Z,10nm,1.4s
SOKA Soboth 80.24 330 ⇓*i*P P 06 04 27.8 +0.1
comp=Z,11nm,0.9s
SOKA Soboth 80.24 330 ⇓*i*P P 06 04 27.8 +0.1
comp=Z,11nm,0.9s
GIVF Givet 80.30 338 eP P 06 04 27.3 -0.5
628A Black Gap, Mar 80.31 58 ⇑P P 06 04 28.9 +0.6
baz=80
SFIN Scholer Farm 80.42 41 ⇑P P 06 04 28.8 +0.2
baz=80
KBA Koelnbreinsper 80.46 332 ⇓*i*P P 06 04 29.0 +0.1
KBA pmax pmax
comp=Z,12nm,0.9s
KBA Koelnbreinsper 80.46 332 ⇓*i*P P 06 04 29.0 +0.1
comp=Z,12nm,0.9s
KBA Koelnbreinsper 80.46 332 ⇓*i*P P 06 04 29.0 +0.1
comp=Z,12nm,0.9s
BAIF Baives 80.50 339 eP P 06 04 28.6 -0.2
VTS Vitosha 80.53 323 ⇓P P 06 04 30.0 +0.6
VTS Vitosha 80.53 323 ⇓*i*P P 06 04 30.0 +0.6
WTTA Wattenberg 80.86 333 ⇑*i*P P 06 04 31.0 -0.1
WTTA pmax pmax
comp=Z,14nm,0.9s
WTTA Wattenberg 80.86 333 ⇑*i*P P 06 04 31.0 -0.1
comp=Z,14nm,0.9s
WTTA Wattenberg 80.86 333 ⇑*i*P P 06 04 31.0 -0.1
comp=Z,14nm,0.9s
BFO Black Forest 80.93 335 eP P 06 04 31.3 +0.1
comp=Z,21nm,1.4s
CDF Champ du Feu 81.16 336 eP P 06 04 32.3 -0.3
comp=Z,22nm,1.0s
PAGF Fort de Pagny 81.47 337 eP P 06 04 34.0 -0.1
comp=Z,10nm,0.9s
MEZF Maizieres J'vi 81.70 337 eP P 06 04 35.4 +0.1
HAU Haudompre 81.80 336 eP P 06 04 35.5 -0.3
comp=Z,9.6nm,0.7s
HAU eR
comp=Z,96nm,17.0s
HINF Hinteralfeld 81.82 336 eP P 06 04 35.5 -0.5
SFTF Sexfontaines 81.98 337 eP P 06 04 36.6 -0.1
FLN La Foliniere 82.85 341 eP P 06 04 41.3 +0.1
comp=Z,13nm,0.8s
FLN eR
comp=Z,91nm,18.2s
LDF La Druitiere 82.92 341 eP P 06 04 41.0 -0.6
CABF La Chapelle 83.14 336 eP P 06 04 42.9 0.0
LOR Lormes 83.16 338 eP P 06 04 42.4 -0.5
comp=Z,8.3nm,0.6s
LOR eR
comp=Z,52nm,20.6s
GRR Gorron 83.29 341 eP P 06 04 43.3 -0.2
comp=Z,22nm,0.7s
SSF Saint Saulge 83.44 338 eP P 06 04 43.8 -0.5
comp=Z,7.0nm,0.7s
AVF Avril sur Loir 83.73 338 eP P 06 04 45.8 0.0
comp=Z,46nm,1.1s
SGMF Saint Gilles 83.79 342 eP P 06 04 46.6 +0.5
ROSF Rostrenen 83.87 343 eP P 06 04 47.1 +0.6
comp=Z,68nm,1.0s
LPL La Plagne 83.94 335 eP P 06 04 47.2 0.0
comp=Z,7.8nm,0.8s
LPG La Plagne 83.95 335 eP P 06 04 46.6 -0.7
comp=Z,15nm,0.9s
BGF Bois d'Agland 84.08 338 eP P 06 04 47.9 +0.3
comp=Z,39nm,1.1s
QUIF Quistinic 84.24 342 eP P 06 04 48.7 +0.4
TCF Toulx Ste Croi 84.50 338 eP P 06 04 50.2 +0.5
comp=Z,17nm,0.9s
MBDF Montbardon 84.65 335 eP P 06 04 50.7 0.0
comp=Z,7.7nm,0.7s
ORIF Oris-en-Rattie 84.74 335 eP P 06 04 51.4 +0.3
comp=Z,20nm,0.9s
ORIF eR
comp=Z,64nm,22.8s
MFF Saint Martin d 84.79 340 eP P 06 04 50.6 -0.6
comp=Z,18nm,0.8s
VIVF Saint-Julien-l 85.14 336 eP P 06 04 52.4 -0.6
SBF Sospel 85.23 334 eP P 06 04 53.1 -0.4
RJF Les Rejaudoux 85.59 338 eP P 06 04 54.7 -0.5
comp=Z,21nm,1.1s
RJF eR
comp=Z,72nm,19.0s
CAF Calviac 85.80 338 eP P 06 04 56.8 +0.5
comp=Z,44nm,1.1s
PGF Pioggiola 85.91 332 eP P 06 04 56.2 -0.7
LMR La Mourre 85.99 334 eP P 06 04 56.9 -0.3
LFF La Frestale 86.13 339 eP P 06 04 57.6 -0.2
comp=Z,33nm,0.8s
KMSC Kings Mountain 87.33 40 ⇓P P 06 05 04.0 +0.1
baz=87
EPF Esparros 88.02 338 eP P 06 05 06.8 -0.2
ETSF Etsaut 88.37 339 eP P 06 05 08.9 +0.2
comp=Z,14nm,0.7s
ESDC Sonseca Array 92.25 340 P P 06 05 26.9 +0.1
ESDC Sonseca Array 92.25 340 P P 06 05 26.9 +0.1
comp=Z,0.4nm,0.6s,baz=12,slow=6.6,SNR=3.5
TORD Torodi Ar. Bea 115.20 326 PKP PKPdf 06 10 57.1 -0.9
TORD Torodi Ar. Bea 115.20 326 PKP PKPdf 06 10 57.1 -0.9
comp=Z,0.2nm,0.3s,baz=11,slow=2.2,SNR=5.1
BDFB Brasilia 146.66 33 PKPbc PKPbc 06 11 57.9 -0.7
BDFB Brasilia 146.66 33 PKPbc PKPbc 06 11 57.9 -0.7
comp=Z,3.4nm,0.5s,baz=239,slow=3.5,SNR=9.8
PLCA Paso Flores 150.09 96 PKPbc PKPbc 06 12 06.8 +0.1
PLCA Paso Flores 150.09 96 PKPbc PKPbc 06 12 06.8 +0.1
comp=Z,3.3nm,0.8s,baz=272,slow=4.4,SNR=6.0
CPUP Villa Florida 150.93 59 PKPbc PKPbc 06 12 08.8 -0.3
CPUP Villa Florida 150.93 59 PKPbc PKPbc 06 12 08.8 -0.3
comp=Z,1.3nm,0.6s,baz=329,slow=2.7,SNR=4.2

IDC 11 06:12:36.9±4.2, 22°51S×179°12E, h615$^{km}_{\pm 46}$, mb2.9/6, mb1 3.2/7, mb1mx3.1/17, mbtmp2.9/7, Error ellipse: s-maj=53.1km s-min=28.2km az=149.0, South of Fiji

Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.74**	**270**	P	P	06 15 13.6	+0.3
	0.2nm,0.3s,baz=107,slow=19,SNR=4.2						
STKA	**Stephens Creek**	**34.51**	**246**	P	P	06 18 36.1	+0.2
	3.0nm,0.4s,baz=74,slow=15,SNR=10						
ASAR	**Alice Springs**	**41.48**	**259**	P	P	06 19 32.0	-0.2
	0.4nm,0.4s,baz=99,slow=6.8,SNR=6.7						
WRA	**Warramunga Arr**	**41.71**	**265**	P	P	06 19 33.5	-0.6
	0.5nm,0.2s,baz=96,slow=8.4,SNR=16						
WRA				PcP	PcP	06 21 16.5	+0.8
	0.5nm,0.5s,baz=99,slow=3.1,SNR=2.9						
MJAR	**Matsushiro Arr**	**70.29**	**326**	P	P	06 22 50.4	+0.5
	0.3nm,0.3s,baz=166,slow=6.7,SNR=4.3						
NVAR	**Mina Array Bea**	**84.32**	**44**	P	P	06 24 04.6	-1.2
	0.5nm,0.7s,baz=228,slow=5.8,SNR=4.0						
TXAR	**Lajitas Array**	**90.39**	**58**	P	P	06 24 35.4	+1.0
	0.4nm,0.8s,baz=216,slow=6.2,SNR=4.5						
ARCES	**ARCESS Array B**	**130.36**	**348**	PKP	PKPdf	06 30 36.8	-1.1
	2.0nm,0.7s,baz=72,slow=4.0,SNR=6.8						
FINES	**FINESS Array B**	**136.87**	**341**	PKP	PKPdf	06 30 49.6	-0.6
	1.4nm,0.8s,baz=133,slow=2.4,SNR=4.8						
HFS	**Hagfors**	**141.02**	**348**	PKhKP	PKPpre	06 30 52.7	
	1.1nm,0.4s,baz=55,slow=3.3,SNR=10						
AKASG	**Malin Array Be**	**143.36**	**328**	PKP	PKPab	06 31 00.8	0.0
	3.0nm,0.4s,baz=44,slow=3.9,SNR=18						
BRTR	**Keskin Array B**	**146.09**	**308**	PKPbc	PKPbc	06 31 09.6	-0.1
	0.9nm,0.8s,baz=134,slow=4.9,SNR=4.1						
GERES	**GERESS Array B**	**151.27**	**340**	PKPbc	PKPbc	06 31 21.7	-0.4
	0.6nm,0.5s,baz=240,slow=1.9,SNR=3.7						

IDC 11 06:13:21.4±1.0, 46°86N×155°20E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/24, mbtmp3.6/7, ML3.3/1, Error ellipse: s-maj=32.8km s-min=25.2km az=96.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.46**	**14**	Pn	Pn	06 14 56.4	-1.4
	0.6nm,0.3s,baz=180,slow=16,SNR=6.5						
ZALV	**Zalesovo Beam**	**43.71**	**306**	P	P	06 21 26.5	-1.4
	0.5nm,0.4s,baz=51,slow=7.0,SNR=2.5						
MKAR	**Makanchi Array**	**48.16**	**298**	P	P	06 22 03.3	+0.2
	0.2nm,0.5s,baz=69,slow=7.1,SNR=5.3						
FINES	**FINESS Array B**	**64.55**	**336**	P	P	06 24 00.9	+1.2
	1.3nm,0.8s,baz=31,slow=7.8,SNR=4.0						
WRA	**Warramunga Arr**	**69.10**	**201**	P	P	06 24 28.5	-0.7
	0.7nm,0.8s,baz=27,slow=7.6,SNR=3.7						
ASAR	**Alice Springs**	**72.78**	**200**	P	P	06 24 52.0	+0.4
	0.7nm,0.6s,baz=16,slow=4.9,SNR=5.9						
TXAR	**Lajitas Array**	**76.19**	**62**	P	P	06 25 11.6	0.0
	0.2nm,0.7s,baz=319,slow=5.0,SNR=2.9						

NNC 11 06:33:18.8±3.6, 39°.38N×74°.49E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=29.5km s-min=17.5km az=169.0
ISC 11 06:33:16.6±1.4, 39°.70N±0°.09×75°.33E±0°.08, h19km, n11, σ1§82/13, 2C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.53**	**109**	Pg	**Pn**	**06 33 29.1**	**-0.2**
KSH				Sg	**Sn**	**06 33 39.3**	**+1.5**
KSH				smax	smax		
	comp=N,500nm,0.8s						
KSH				smax	smax		
	comp=E,560nm,1.1s						
KZA	**Kyzart**	**2.38**	**359**	P	Pg	06 34 03.8	+1.4
	SNR=7.4						
UCH	**Uchtor**	**2.60**	**347**	P	**Pg**	**06 34 07.0**	**+0.4**
	SNR=8.8						
AML	**Almayashu**	**2.73**	**334**	P	**Pg**	**06 34 06.4**	**-2.6**
	SNR=21						
KBK	**Karagaybulak**	**2.97**	**355**	P	**Pg**	**06 34 13.3**	**-0.3**
	SNR=16						
AAK	**Ala-Archa**	**3.00**	**348**	P	**Pg**	**06 34 12.8**	**-1.3**
	SNR=9.6						
TKM2	**Tokmak 2**	**3.23**	**4**	⇓Pn	**Pg**	**06 34 17.2**	**-1.3**
	comp=E,8.9nm,0.5s						
TKM2				⇓Sn	**Sg**	**06 35 01.0**	**+0.7**
	comp=E,31nm,0.8s						
TKM2	**Tokmak 2**	**3.23**	**4**	P	**Pg**	**06 34 17.3**	**-1.2**
	SNR=28						
CHMS	**Chumysh**	**3.33**	**353**	P	**Pg**	**06 34 17.5**	**-2.9**
	SNR=10						
KK31	**Karatay Array**	**4.97**	**315**	⇑Pn	Pn	06 34 32.7	+2.5
	comp=E,0.6nm,0.3s,baz=125,slow=12,SNR=45						
KK31				⇑Pg	**Pb**	**06 34 44.3**	**+1.3**
	comp=E,1.4nm,0.5s,baz=133,slow=15,SNR=6.3						
KK31				⇓Sn	**Sn**	**06 35 29.9**	**+2.7**
	comp=E,1.3nm,0.3s						
KK31				⇓Lg	Lg	06 35 52.6	
	comp=E,5.7nm,0.7s						
AB31	**Akbulak array**	**14.53**	**316**	P	**Pn**	**06 36 40.0**	**-1.1**
	comp=E,0.4nm,0.5s,baz=125,slow=13,SNR=13						

IDC 11 06:40:14.1±0.8, 3°.27S×128°.06E, h0km, mb4.2/7, mb1 4.2/10, mb1mx4.1/22, mbtmp4.2/10, ML3.7/3, MS3.3/5, Ms1 3.2/5, ms1mx2.9/32, Error ellipse: s-maj=33.9km s-min=12.2km az=65.0
DJA 11 06:40:15, 3°.22S×128°.28E, h3km, MLv4.3/7
ISCJB 11 06:40:17.5±0.4, 3°.25S±0°.05×128°.19E±0°.04, h51km, mb4.1/7, MS3.3/3, Error ellipse: s-maj=7.7km s-min=4.7km az=23.5
NEIC 11 06:40:22.4±2.1, 3°.36S×128°.20E, h68km±21km, mb4.2/3, Error ellipse: s-maj=21.7km s-min=8.5km az=46.0
ISC 11 06:40:20.0±0.6, 3°.21S±0°.07×128°.22E±0°.05, h51km, n48, σ1§81/46, mb4.0/7, MS3.2/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.47**	**183**	P	Pn	06 40 23.1	-8.0
MSAI	**Masohi**	**0.72**	**101**	P	Pn	06 40 28.3	-5.7
MSAI				S	**Sn**	**06 40 39.8**	**-4.4**
NLAI	**Namlea**	**1.12**	**268**	P	Pn	06 40 34.2	-5.2
NLAI				S	**Sn**	**06 40 51.3**	**-2.5**
BNDI	**Bandanaira**	**2.13**	**128**	P	**Pn**	**06 40 50.0**	**-3.1**
LBMI	**Labuha**	**2.66**	**344**	P	**Pn**	**06 40 59.4**	**-1.0**
FAKI	**Fak Fak**	**4.03**	**86**	P	**Pn**	**06 41 18.4**	**-0.9**
TNTI	**Ternate**	**4.05**	**348**	P	**Pn**	**06 41 19.4**	**-0.1**
KDI	**Kendari**	**5.64**	**262**	P	**Pn**	**06 41 39.1**	**-2.2**
	63nm,0.9s,718nm0.2nm						
KMSI	**Cibinong**	**5.67**	**311**	P	**Pn**	**06 41 41.2**	**-0.5**
	202nm,0.7s,1.7nm						
LUWI	**Luwuk**	**5.86**	**291**	P	**Pn**	**06 41 42.9**	**-1.4**
BAKI	**Biak**	**8.13**	**76**	P	**Pn**	**06 42 14.8**	**-0.7**
	187nm,0.8s,3µm0.8nm						
TTSI	**Tana Toraja**	**8.39**	**271**	P	**Pn**	**06 42 17.4**	**-1.7**
	34nm,1.3s,1µm						
SPSI	**Sidrap Palu**	**8.47**	**265**	P	**Pn**	**06 42 17.8**	**-2.3**
	67nm,1.9s,1µm						
KAPI	**Kappang**	**8.64**	**258**	Pn	Pn	06 42 25.9	+3.5
KAPI	**Kappang**	**8.64**	**258**	P	**Pn**	**06 42 20.4**	**-2.0**
KAPI	**Kappang**	**8.64**	**258**	Pn	Pn	06 42 25.9	+3.5
	2.3nm,0.3s,baz=108,slow=8.0,SNR=7.1						
KAPI				LR	LR	06 46 01.5	
	comp=Z,154nm,20.6s,baz=86,slow=41						
FITZ	**Fitzroy Crossi**	**15.02**	**190**	Pn	**Pn**	**06 43 48.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**15.02**	**190**	Pn	**Pn**	**06 43 48.5**	**-0.6**
	0.1nm,0.3s,baz=8.7,slow=13,SNR=2.2						
FITZ				LR	LR	06 49 35.5	
	comp=Z,90nm,18.2s,baz=194,slow=38						
KKM	**Kota Kinabalu**	**15.11**	**307**	*e*Pn	**P**	**06 43 53.2**	**-1.5**
WRAB	**Tennant Creek**	**17.66**	**161**	*e*Pn	**Pn**	**06 44 20.7**	**-1.9**
	17nm,1.2s						
WRA	**Warramunga Arr**	**17.67**	**161**	P	**Pn**	**06 44 20.4**	**-2.2**
WRA	**Warramunga Arr**	**17.67**	**161**	P	**Pn**	**06 44 20.4**	**-2.2**
	0.5nm,0.3s,baz=347,slow=12,SNR=14						
COEN	**Coen**	**18.22**	**127**	*e*P	**P**	**06 44 28.9**	**-0.2**
	41nm,0.7s						
KSM	**Kuching**	**18.50**	**284**	*e*P	**Pn**	**06 44 33.8**	**+1.0**
	8.9nm,0.9s						
PMG	**Port Moresby**	**19.80**	**109**	P	**Pn**	**06 44 48.3**	**+0.1**
PMG	**Port Moresby**	**19.80**	**109**	P	**Pn**	**06 44 48.3**	**+0.1**
	0.7nm,0.3s,baz=320,slow=8.9,SNR=4.9						
AS31	**Alice Springs**	**21.07**	**165**	*e*P	**P**	**06 45 00.3**	**+0.2**
ASAR	**Alice Springs**	**21.07**	**165**	P	**P**	**06 45 00.8**	**+0.7**
ASAR				S	**S**	**06 48 55.9**	**+3.9**
ASAR	**Alice Springs**	**21.07**	**165**	P	**P**	**06 45 00.8**	**+0.7**
	32nm,0.8s,baz=340,slow=9.7,SNR=57						
ASAR				S	**S**	**06 48 55.9**	**+3.9**
	1.4nm,0.9s,baz=350,slow=24,SNR=3.5						
GUMO	**Guam**	**23.48**	**44**	LR	LR	06 53 00.1	
	comp=Z,83nm,18.0s,baz=232,slow=32						
CTA	**Charters Tower**	**24.31**	**135**	P	**P**	**06 45 33.8**	**+0.8**
CTA	**Charters Tower**	**24.31**	**135**	P	**P**	**06 45 33.8**	**+0.8**
	1.2nm,0.3s,baz=340,slow=7.9,SNR=4.6						
PSI	**Prapat**	**29.89**	**281**	P	**P**	**06 46 22.7**	**-0.6**
PSI	**Prapat**	**29.89**	**281**	P	**P**	**06 46 22.7**	**-0.6**
	2.2nm,0.4s,baz=108,slow=6.7,SNR=4.5						
STKA	**Stephens Creek**	**31.17**	**158**	P	**P**	**06 46 34.8**	**+0.5**
STKA	**Stephens Creek**	**31.17**	**158**	P	**P**	**06 46 34.8**	**+0.5**
	3.4nm,1.0s,baz=310,slow=7.2,SNR=3.0						
STKA				LR	LR	07 00 06.2	
	comp=Z,38nm,20.6s,baz=24,slow=38						
SONM	**Songino Array**	**54.31**	**342**	P	**P**	**06 49 41.5**	**+0.2**
SONM	**Songino Array**	**54.31**	**342**	P	**P**	**06 49 41.5**	**+0.2**
	0.9nm,0.8s,baz=149,slow=6.8,SNR=6.6						
MK31	**Makanchi Array**	**64.11**	**327**	*e*P	**P**	**06 50 49.2**	**+0.3**
MKAR	**Makanchi Array**	**64.11**	**327**	P	**P**	**06 50 49.2**	**+0.3**
MKAR	**Makanchi Array**	**64.11**	**327**	P	**P**	**06 50 49.2**	**+0.3**
	1.1nm,0.7s,baz=126,slow=7.1,SNR=8.5						
MKAR				LR	LR	07 22 18.5	
	comp=Z,30nm,19.4s,baz=168,slow=39						
ZALV	**Zalesovo Beam**	**67.42**	**334**	P	**P**	**06 51 11.9**	**+1.8**
ZALV	**Zalesovo Beam**	**67.42**	**334**	P	**P**	**06 51 11.9**	**+1.8**
	2.4nm,1.0s,baz=132,slow=6.2,SNR=4.2						
VNDA	**Vanda**	**76.40**	**173**	P	**P**	**06 52 02.8**	**-0.7**
TXAR	**Lajitas Array**	**124.42**	**56**	PKP	**PKPdf**	**06 59 17.5**	**+3.2**
TXAR	**Lajitas Array**	**124.42**	**56**	PKP	**PKPdf**	**06 59 17.5**	**+3.2**
	0.3nm,0.8s,baz=193,slow=3.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**126.26**	**284**	PKP	**PKPdf**	**06 59 19.4**	**+1.3**
TORD	**Torodi Ar. Bea**	**126.26**	**284**	PKP	**PKPdf**	**06 59 19.4**	**+1.3**
	0.5nm,0.8s,baz=84,slow=3.0,SNR=2.9						

PRE 11 06:58:57.8±1.2, 26°48S×27°28E, h2km, ML2.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**1.17**	**51**	*e*P	Pg	06 59 19.8	-0.7
SLR				*e*S	Sb	06 59 37.2	+0.5
SLR				AML	AML	06 59 40.4	
	comp=Z,21nm,0.2s						
SWZ	**Schweizer**	**1.87**	**248**	*e*P	Pn	06 59 31.7	+0.6
SWZ				*e*S	Sb	06 59 56.8	-0.2
SWZ				AML	AML	07 00 03.5	
	comp=Z,14nm,0.4s						
LBTB	**Lobatse**	**2.10**	**314**	*e*P	Pn	06 59 33.9	-0.3
LBTB				*e*S	Sn	07 00 02.2	+1.2
LBTB				AML	AML	07 00 08.8	
	comp=Z,14nm,0.7s						
BOSA	**Boshof**	**2.78**	**220**	*e*P	Pn	06 59 43.5	0.0
BOSA				*e*S	Sn	07 00 18.6	+0.7
BOSA				AML	AML	07 00 28.2	
	comp=Z,4.3nm,0.3s						

IDC 11 07:10:47.1±1.7, 8°.70S×124°.18E, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=117.5km s-min=26.3km az=64.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.46**	**172**	Pn	Pn	07 13 02.7	-2.0
	0.5nm,0.3s,baz=355,slow=11,SNR=20						
FITZ				Sn	Sn	07 14 37.1	-15
	3.1nm,0.3s,baz=286,slow=19,SNR=14						
WRA	**Warramunga Arr**	**14.89**	**140**	Pn	Pn	07 14 19.6	+0.6
	0.4nm,0.3s,baz=321,slow=13,SNR=12						
WRA				Sn	Sn	07 16 51.9	-13
	0.6nm,0.3s,baz=301,slow=22,SNR=6.7						
ASAR	**Alice Springs**	**17.56**	**149**	P	P	07 14 55.0	+0.4
	0.1nm,0.3s,baz=324,slow=11,SNR=7.6						
ASAR				S	Sn	07 17 55.3	-15
	0.2nm,0.3s,baz=327,slow=23,SNR=6.4						
MKAR	**Makanchi Array**	**66.64**	**330**	P	P	07 21 39.5	0.0
	0.1nm,0.5s,baz=140,slow=5.1,SNR=3.3						

IDC 11 07:17:53.7±1.0, 18°.20S×172°.67W, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.9/20, mbtmp3.8/7, ML2.0/1, Error ellipse: s-maj=43.7km s-min=21.5km az=142.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.35**	**12**	Pn	Pn	07 19 00.2	-1.0
	4.9nm,0.3s,baz=254,slow=20,SNR=7.5						
AFI				Sn	Sn	07 19 47.0	-5.7
	9.9nm,0.3s,baz=6.3,slow=18,SNR=6.5						
AFI				T		07 23 45.3	
	16nm,0.3s,baz=13,slow=22,SNR=10.0						
WRA	**Warramunga Arr**	**49.94**	**259**	P	P	07 26 49.8	-0.1
	1.3nm,0.6s,baz=96,slow=8.6,SNR=15						
ASAR	**Alice Springs**	**49.97**	**254**	P	P	07 26 50.1	+0.2
	2.1nm,0.7s,baz=87,slow=8.4,SNR=19						
QSPA	**South Pole Qui**	**71.86**	**180**	P	P	07 29 17.8	-0.6
	0.6nm,0.9s,baz=306,slow=1.9,SNR=3.1						
NVAR	**Mina Array Bea**	**75.94**	**41**	P	P	07 29 43.2	+0.3
	0.6nm,0.8s,baz=236,slow=6.4,SNR=3.4						
TXAR	**Lajitas Array**	**81.60**	**55**	P	P	07 30 14.9	+1.0
	0.6nm,1.1s,baz=224,slow=7.0,SNR=4.3						
PDAR	**Pinedale Array**	**83.88**	**41**	P	P	07 30 24.9	-0.9
	0.5nm,0.8s,baz=222,slow=2.0,SNR=3.9						

ISK 11 07:19:49.6, 37°.40N×35°.93E, h28km, MD2.8
DDA 11 07:19:49.8, 37°.42N×35°.92E, h7km, MD2.9
ISCJB 11 07:19:50.5±0.5, 37°.46N±0°.04×35°.91E±0°.04, h26km±5km, Error ellipse: s-maj=6.2km s-min=5.0km az=21.2
CSEM 11 07:19:50.5±0.2, 37°.45N×35°.92E, h26km±2km, MD2.8, Error ellipse: s-maj=5.1km s-min=4.6km az=27.0
ISC 11 07:19:50.3±1.0, 37°.46N±0°.03×35°.90E±0°.03, h31km±6km, n33, σ0§67/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.06**	**292**	*e*PG	**Pb**	**07 19 55.9**	**+0.3**
KOZT				*e*SG	**Sb**	**07 19 59.1**	**-0.2**
KOZT	**Kozan**	**0.06**	**292**	*e*Pg	**Pb**	**07 19 55.9**	**+0.3**
KOZT				*e*Sg	**Sb**	**07 19 59.1**	**-0.2**
CEYT	**Ceyhan**	**0.46**	**195**	*e*PG	**Pb**	**07 19 59.0**	**-1.1**
CEYT				*e*SG	**Sb**	**07 20 06.0**	**-0.9**
CEYT	**Ceyhan**	**0.46**	**195**	*e*Pg	**Pb**	**07 19 59.1**	**-1.1**
CEYT				*e*Sg	**Sb**	**07 20 06.0**	**-0.9**
KMRS	**Kahramanmaras**	**0.80**	**86**	*e*PG	**Pn**	**07 20 05.1**	**-0.3**
KMRS	**Kahramanmaras**	**0.80**	**86**	*e*Pg	**Pn**	**07 20 05.1**	**-0.3**
GULE	**Gulek**	**0.91**	**259**	*i* P	**Pn**	**07 20 07.2**	**+0.1**
GULE				*i* S	**Sb**	**07 20 20.0**	**+0.5**
GULE	**Gulek**	**0.91**	**259**	*i* P	**Pn**	**07 20 07.2**	**+0.1**
GULE				*i* S	**Sb**	**07 20 20.0**	**+0.5**
COBT	**Iskenderun**	**0.98**	**163**	*i* P	**Pb**	**07 20 08.8**	**0.0**
COBT				*i* S	**Sb**	**07 20 22.6**	**+1.1**
COBT	**Iskenderun**	**0.98**	**163**	*i* P	**Pb**	**07 20 08.8**	**0.0**
COBT				*i* S	**Sb**	**07 20 22.6**	**+1.1**
GAZ	**Gaziantep**	**1.08**	**105**	*e*PG	**Pn**	**07 20 08.9**	**-0.4**
GAZ	**Gaziantep**	**1.08**	**105**	*e*Pg	**Pn**	**07 20 09.0**	**-0.4**
KUZU	**Kuzuini**	**1.16**	**126**	*i* P	**Pb**	**07 20 11.4**	**-0.4**
KUZU				*i* S	**Sb**	**07 20 26.4**	**-0.2**
KUZU	**Kuzuini**	**1.16**	**126**	*i* P	**Pb**	**07 20 11.4**	**-0.4**
KUZU				*i* S	**Sb**	**07 20 26.4**	**-0.2**
NIG	**Nigde**	**1.21**	**303**	*e*PN	**Pn**	**07 20 11.9**	**+0.6**
NIG	**Nigde**	**1.21**	**303**	*e*Pn	**Pn**	**07 20 11.9**	**+0.6**
MERS	**Mersin**	**1.25**	**242**	*e*PN	**Pn**	**07 20 11.7**	**+0.1**
MERS	**Mersin**	**1.25**	**242**	*e*Pn	**Pn**	**07 20 11.7**	**+0.1**
GZT	**Gaziantep**	**1.33**	**94**	*i* P	**Pb**	**07 20 15.0**	**+0.3**
GZT				*i* S	**Sb**	**07 20 32.5**	**+1.1**
BNN	**Bunyan**	**1.39**	**358**	*e*PN	**Pb**	**07 20 14.4**	**-1.4**
BNN	**Bunyan**	**1.39**	**358**	*e*Pn	**Pb**	**07 20 14.4**	**-1.4**
YAYL	**Yayladag**	**1.43**	**173**	*i* P	**Pn**	**07 20 15.2**	**+1.0**
YAYL				*i* S	**Sb**	**07 20 33.7**	**-0.6**
YAYL	**Yayladag**	**1.43**	**173**	*i* P	**Pn**	**07 20 15.2**	**+1.0**
YAYL				*i* S	**Sb**	**07 20 33.7**	**-0.6**
AVNT	**Avonos**	**1.56**	**328**	*e*P	**Pb**	**07 20 18.5**	**0.0**
AVNT	**Avonos**	**1.56**	**328**	*e*P	**Pb**	**07 20 18.5**	**0.0**
DARE	**Darende-Malaty**	**2.12**	**45**	*e*PN	Pn	07 20 17.9	-5.7
DARE	**Darende-Malaty**	**2.12**	**45**	*e*Pn	Pn	07 20 17.9	-5.7
MALT	**Malatya**	**2.17**	**66**	*e*PN	**Pn**	**07 20 24.8**	**+0.4**
MALT	**Malatya**	**2.17**	**66**	*e*Pn	**Pn**	**07 20 24.8**	**+0.4**
MYA	**Malataya**	**2.18**	**66**	*e*PN	**Pn**	**07 20 24.9**	**+0.5**
MYA	**Malataya**	**2.18**	**66**	*e*Pn	**Pn**	**07 20 24.9**	**+0.5**
URFA	**Urfa**	**2.33**	**90**	*e*PN	**Pn**	**07 20 26.8**	**+0.3**
URFA	**Urfa**	**2.33**	**90**	*e*Pn	**Pn**	**07 20 26.8**	**+0.3**

ISCJB 11 07:23:31.7±0.4, 40°.34N±0°.01×25°.78E±0°.02, h7km±2km, Error ellipse: s-maj=2.4km s-min=1.9km az=28.5
ISK 11 07:23:31.7, 40°.33N×25°.81E, h5km, ML3.5
SKO 11 07:23:31.7, 40°.24N×25°.82E, h6km
SOF 11 07:23:31.6, 40°.40N×25°.81E, h8km, MD2.8
DDA 11 07:23:32.5, 40°.28N×25°.90E, h26km, MD3.1
ATH 11 07:23:32.0, 40°.34N×25°.84E, h27km, MD3.2/6
CSEM 11 07:23:32.2±0.1, 40°.32N×25°.78E, h5km, ML3.5, Error ellipse: s-maj=2.4km s-min=1.8km az=35.0
THE 11 07:23:33.0, 40°.35N×25°.80E, h12km, ML3.3/14, Error ellipse: s-maj=1.1km s-min=0.5km az=80.0
ISC 11 07:23:32.4±1.0, 40°.33N±0°.02×25°.80E±0°.01, h9km±8km, n178, σ0§80/243, 14C-7D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.49**	**34**	*e*PG	**Pg**	**07 23 41.6**	**-0.3**
ENEZ	**Enez**	**0.49**	**34**	*e*Pg	**Pg**	**07 23 41.6**	**-0.3**
GELI	**Tayfur-Gelibol**	**0.52**	**82**	*e*PG	**Pg**	**07 23 42.2**	**-0.3**
GELI				*e*SG	**Sg**	**07 23 49.8**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.52**	**82**	*e*Pg	**Pg**	**07 23 42.2**	**-0.3**
GELI				*e*Sg	**Sg**	**07 23 49.8**	**+0.4**
BOZC	**Bozcaada**	**0.53**	**158**	*i* P	**Pg**	**07 23 42.5**	**-0.1**
BOZC				*i* S	**Sg**	**07 23 49.4**	**+0.1**
ALN	**Alexandroupoli**	**0.60**	**18**	P	**Pg**	**07 23 43.9**	**-0.1**
ALN				S	**Sg**	**07 23 52.2**	**+0.4**
ALN	**Alexandroupoli**	**0.60**	**18**	*e*PN	**Pg**	**07 23 43.9**	**-0.1**
ALN				*e*SN	**Sg**	**07 23 52.1**	**+0.3**
ALN	**Alexandroupoli**	**0.60**	**18**	P	**Pg**	**07 23 43.9**	**-0.1**
ALN				*e*Sn	**Sg**	**07 23 52.1**	**+0.3**
LIA	**Limnos Island**	**0.64**	**228**	P	**Pb**	**07 23 45.5**	**-0.2**
LIA				S	**Sb**	**07 23 55.1**	**+0.3**
LIA	**Limnos Island**	**0.64**	**228**	*e*PN	**Pb**	**07 23 45.6**	**-0.2**
LIA				*e*SN	**Sb**	**07 23 55.2**	**+0.4**
LIA	**Limnos Island**	**0.64**	**228**	*e*Pn	**Pb**	**07 23 45.6**	**-0.2**
LIA				S	**Sb**	**07 23 55.1**	**+0.3**
ERIK	**Erikli-Kesan**	**0.64**	**58**	*e*PG	**Pg**	**07 23 44.4**	**-0.4**
ERIK				*e*SG	**Sg**	**07 23 53.5**	**+0.2**
ERIK	**Erikli-Kesan**	**0.64**	**58**	*e*Pg	**Pg**	**07 23 44.4**	**-0.4**
ERIK				*e*Sg	**Sg**	**07 23 53.5**	**+0.2**
EZN	**Ezine**	**0.65**	**141**	*e*PG	**Pg**	**07 23 44.3**	**-0.6**
EZN	**Ezine**	**0.65**	**141**	*e*Pg	**Pg**	**07 23 44.3**	**-0.6**
LPK	**Lapseki**	**0.74**	**86**	*e*PG	**Pg**	**07 23 46.2**	**-0.3**
LPK				*e*SG	**Sg**	**07 23 56.6**	**+0.4**
LPK	**Lapseki**	**0.74**	**86**	*e*Pg	**Pg**	**07 23 46.3**	**-0.3**
LPK				*e*Sg	**Sg**	**07 23 56.6**	**+0.4**
RDO	**Rodhopi**	**0.84**	**346**	P	**Pg**	**07 23 48.3**	**-0.2**
RDO				S	**Sb**	**07 24 00.1**	**-0.5**
RDO	**Rodhopi**	**0.84**	**346**	*e*PN	**Pg**	**07 23 48.5**	**0.0**
RDO				*e*SN	**Sb**	**07 24 00.2**	**-0.4**
RDO	**Rodhopi**	**0.84**	**346**	P	**Pg**	**07 23 48.3**	**-0.2**
RDO				*e*Sn	**Sb**	**07 24 00.2**	**-0.4**
RKY	**Sarkoy-Tekirda**	**1.11**	**71**	*e*PN	**Pb**	**07 23 53.6**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.11**	**71**	*e*Pn	**Pb**	**07 23 53.6**	**-0.2**
SART	**Tekirdag**	**1.11**	**71**	*e*P	**Pb**	**07 23 52.8**	**-1.1**
SART				*i* S	**Sg**	**07 24 07.1**	**-1.2**
SART	**Tekirdag**	**1.11**	**71**	*e*P	**Pb**	**07 23 52.8**	**-1.1**
SART				*i* S	**Sg**	**07 24 07.1**	**-1.2**
PRK	**Paraskevi**	**1.14**	**161**	P	**Pb**	**07 23 54.0**	**-0.4**
PRK				S	**Sn**	**07 24 10.3**	**-0.1**
PRK	**Paraskevi**	**1.14**	**161**	*e*PN	**Pb**	**07 23 53.7**	**-0.7**
PRK				*e*SN	**Sb**	**07 24 09.3**	**0.0**
PRK	**Paraskevi**	**1.14**	**161**	*e*Pn	**Pb**	**07 23 53.7**	**-0.7**
PRK	**Paraskevi**	**1.14**	**161**	P	**Pb**	**07 23 54.0**	**-0.4**
PRK				*e*Sn	**Sb**	**07 24 09.3**	**0.0**
PRK				S	**Sn**	**07 24 10.3**	**-0.1**
KRBG	**Karabiga-Canak**	**1.15**	**86**	*e*PN	**Pb**	**07 23 53.6**	**-0.8**
KRBG	**Karabiga-Canak**	**1.15**	**86**	*e*Pn	**Pb**	**07 23 53.6**	**-0.8**
KAVA	**Kavala**	**1.18**	**305**	P	**Pb**	**07 23 54.5**	**-0.5**
KAVA

AKHS	**Akhisar**	**2.13**	**132**	*i* P		**Pn**	**07 24 07.7**	**-0.5**
AKHS				*i* S		**Sn**	**07 24 35.1**	**+0.3**
BLCB	**Balcova**	**2.17**	**153**	*e*PN		**Pn**	**07 24 10.3**	**+1.5**
BLCB	**Balcova**	**2.17**	**153**	*e*Pn		**Pn**	**07 24 10.3**	**+1.5**
DURS	**Dursunbey**	**2.18**	**109**	*i* P		**Pn**	**07 24 08.4**	**-0.6**
DURS				*i* S		**Sn**	**07 24 35.1**	**-1.1**
DURS	**Dursunbey**	**2.18**	**109**	*i* P		**Pn**	**07 24 08.4**	**-0.6**
DURS				*i* S		**Sn**	**07 24 35.1**	**-1.1**
CTYL	**Yal??k??y-??at**	**2.21**	**58**	*e*PN		**Pn**	**07 24 09.9**	**+0.6**
CTYL	**Yal??k??y-??at**	**2.21**	**58**	*e*Pn		**Pn**	**07 24 09.9**	**+0.6**
JMB	**Yambol**	**2.21**	**15**	P		**Pn**	**07 24 08.8**	**-0.6**
JMB				S		**Sn**	**07 24 36.6**	**-0.3**
JMB	**Yambol**	**2.21**	**15**	*i* P		**Pn**	**07 24 09.0**	**-0.4**
JMB	**Yambol**	**2.21**	**15**	*i* P		**Pn**	**07 24 09.0**	**-0.4**
JMB				*i* S		**Sn**	**07 24 36.6**	**-0.3**
IZM	**Izmir**	**2.24**	**149**	*e*PN		**Pn**	**07 24 10.5**	**+0.7**
IZM	**Izmir**	**2.24**	**149**	*e*Pn		**Pn**	**07 24 10.5**	**+0.7**
CTKS	**Kestenelik-??a**	**2.25**	**65**	*e*PN		**Pn**	**07 24 10.1**	**+0.3**
CTKS	**Kestenelik-??a**	**2.25**	**65**	*e*Pn		**Pn**	**07 24 10.1**	**+0.3**
DST	**Dursunbey**	**2.29**	**108**	*e*PN		**Pn**	**07 24 11.1**	**+0.7**
DST	**Dursunbey**	**2.29**	**108**	*e*Pn		**Pn**	**07 24 11.1**	**+0.7**
KNT	**Kendrikon**	**2.35**	**292**	P		**Pn**	**07 24 11.2**	**-0.1**
KNT				S		**Sn**	**07 24 40.0**	**-0.3**
KNT	**Kendrikon**	**2.35**	**292**	P		**Pn**	**07 24 11.2**	**-0.1**
MDNY	**Mudanya-Bursa**	**2.36**	**88**	*e*PN		**Pn**	**07 24 12.5**	**+1.1**
MDNY	**Mudanya-Bursa**	**2.36**	**88**	*e*Pn		**Pn**	**07 24 12.5**	**+1.1**
ORLT	**Orhaneli**	**2.39**	**96**	*e*PN		**Pn**	**07 24 12.5**	**+0.6**
ORLT	**Orhaneli**	**2.39**	**96**	*e*Pn		**Pn**	**07 24 12.5**	**+0.6**
BGKT	**Bogazkoy**	**2.42**	**68**	*e*PN		**Pn**	**07 24 13.3**	**+1.2**
BGKT	**Bogazkoy**	**2.42**	**68**	*e*Pn		**Pn**	**07 24 13.3**	**+1.2**
ISK	**Istanbul-Kandi**	**2.59**	**72**	*e*PN		**Pn**	**07 24 15.3**	**+0.8**
ISK	**Istanbul-Kandi**	**2.59**	**72**	*e*Pn		**Pn**	**07 24 15.3**	**+0.8**
DEMI	**Demirci**	**2.59**	**119**	*e*PN		**Pn**	**07 24 15.0**	**+0.3**
DEMI	**Demirci**	**2.59**	**119**	*e*P		**Pn**	**07 24 15.0**	**+0.3**
KLYT	**Kilyos**	**2.63**	**68**	*e*PN		**Pn**	**07 24 15.9**	**+0.8**
KLYT	**Kilyos**	**2.63**	**68**	*e*Pn		**Pn**	**07 24 15.9**	**+0.8**
VAY	**Valandovo**	**2.64**	**293**	*e*Pn		**Pn**	**07 24 16.6**	**+1.4**
VAY				*e*Sg		**Sg**	**07 24 57.8**	**+0.6**
VAY	**Valandovo**	**2.64**	**293**	*e*Pn		**Pn**	**07 24 17.1**	**+1.9**
VAY				*e*Sg		**Sg**	**07 24 58.3**	**+1.1**
YLV	**Yalova**	**2.74**	**84**	*e*PN		**Pn**	**07 24 17.1**	**+0.5**
YLV	**Yalova**	**2.74**	**84**	*e*Pn		**Pn**	**07 24 17.1**	**+0.5**
KULA	**Kula-Manisa**	**2.87**	**128**	*e*PN		**Pn**	**07 24 19.5**	**+1.1**
KULA	**Kula-Manisa**	**2.87**	**128**	*e*Pn		**Pn**	**07 24 19.5**	**+1.1**
SZH	**Strazhica**	**2.94**	**2**	*i* P		**Pn**	**07 24 19.4**	**+0.1**
SZH	**Strazhica**	**2.94**	**2**	*i* P		**Pn**	**07 24 19.4**	**+0.1**
VTS	**Vitosha**	**2.98**	**320**	P		**Pn**	**07 24 20.9**	**+0.9**
VTS				S		**Sn**	**07 24 55.2**	**-0.8**
VTS	**Vitosha**	**2.98**	**320**	*i* P		**Pn**	**07 24 21.1**	**+1.1**
VTS	**Vitosha**	**2.98**	**320**	S		**Sg**	**07 25 09.1**	**+1.0**
VTS	**Vitosha**	**2.98**	**320**	*i* P		**Pn**	**07 24 20.8**	**+0.8**
VTS	**Vitosha**	**2.98**	**320**	*i* P		**Pn**	**07 24 20.8**	**+0.8**
VTS				S		**Sn**	**07 24 55.2**	**-0.8**
HRT	**Hereke**	**2.99**	**79**	*e*PN		**Pn**	**07 24 20.9**	**+0.8**
HRT	**Hereke**	**2.99**	**79**	*e*Pn		**Pn**	**07 24 20.9**	**+0.8**
ADVT	**Abdulvahap**	**3.01**	**87**	*e*PN		**Pn**	**07 24 21.1**	**+0.8**
ADVT	**Abdulvahap**	**3.01**	**87**	*e*Pn		**Pn**	**07 24 21.1**	**+0.8**
SILT	**Sile**	**3.04**	**73**	*e*PN		**Pn**	**07 24 21.7**	**+1.1**
SILT	**Sile**	**3.04**	**73**	*e*Pn		**Pn**	**07 24 21.7**	**+1.1**
CAVI	**Cavuskoy**	**3.10**	**91**	*e*PN		**Pn**	**07 24 22.5**	**+1.0**
CAVI	**Cavuskoy**	**3.10**	**91**	*e*Pn		**Pn**	**07 24 22.5**	**+1.0**
GDZ	**Gediz**	**3.10**	**112**	*i* P		**Pn**	**07 24 21.9**	**+0.2**
GDZ				*i* S		**Sb**	**07 25 07.8**	**+2.0**
GDZ	**Gediz**	**3.10**	**112**	*i* P		**Pn**	**07 24 21.9**	**+0.2**
APE	**Apeiranthos**	**3.26**	**184**	*e*PN		**Pn**	**07 24 25.6**	**+1.8**
APE	**Apeiranthos**	**3.26**	**184**	*e*Pn		**Pn**	**07 24 25.6**	**+1.8**
MPIP	**Malo Peshtene**	**3.39**	**334**	*i* P		**Pn**	**07 24 26.5**	**+1.0**
BODT	**Bodrum**	**3.47**	**160**	*e*PN		**Pn**	**07 24 27.7**	**+1.0**
BODT	**Bodrum**	**3.47**	**160**	*e*Pn		**Pn**	**07 24 27.7**	**+1.0**
KHL	**Karahalli**	**3.52**	**124**	*e*PN		**Pn**	**07 24 28.7**	**+1.3**
KHL	**Karahalli**	**3.52**	**124**	*e*Pn		**Pn**	**07 24 28.7**	**+1.3**
ALT	**Altintas**	**3.56**	**110**	*e*PN		**Pn**	**07 24 29.1**	**+1.1**
ALT	**Altintas**	**3.56**	**110**	*e*Pn		**Pn**	**07 24 29.1**	**+1.1**
GULT	**Gulveren**	**3.60**	**87**	*e*PN		**Pn**	**07 24 29.9**	**+1.3**
GULT	**Gulveren**	**3.60**	**87**	*e*Pn		**Pn**	**07 24 29.9**	**+1.3**
BARS	**Barje**	**3.88**	**311**	⇓*i*Pn		**Pn**	**07 24 33.1**	**+0.8**
ESKT	**Eskisehir**	**3.97**	**100**	*e*PN		**Pn**	**07 24 35.0**	**+1.5**
ESKT	**Eskisehir**	**3.97**	**100**	*e*Pn		**Pn**	**07 24 35.1**	**+1.5**
SHUT	**Suhut-Afyon**	**4.09**	**114**	*e*PN		**Pn**	**07 24 36.7**	**+1.5**
SHUT	**Suhut-Afyon**	**4.09**	**114**	*e*Pn		**Pn**	**07 24 36.7**	**+1.5**
VOIR		**5.13**	**354**	⇑*i*P		**Pn**	**07 24 50.3**	**+0.8**
VOIR		**5.13**	**354**	⇑*i*P		**Pn**	**07 24 50.3**	**+0.8**
MLR	**Muntele Rosu**	**5.16**	**1**	⇑*i*P		**Pn**	**07 24 51.8**	**+1.9**
MLR	**Muntele Rosu**	**5.16**	**1**	⇑*i*P		**Pn**	**07 24 51.8**	**+1.9**
GRUS	**Gruza**	**5.19**	**315**	⇑*i*Pn		**Pn**	**07 24 52.6**	**+0.4**
IVAS	**Ivanjica**	**5.31**	**309**	⇑*i*Pn		**Pn**	**07 24 51.5**	**-0.5**
LOT	**Lotru**	**5.33**	**344**	⇑*i*P		**Pn**	**07 24 51.9**	**-0.3**
LOT	**Lotru**	**5.33**	**344**	⇑*i*P		**Pn**	**07 24 51.9**	**-0.3**
LOT				S		**Sn**	**07 25 52.1**	**-1.7**
GZR	**Gura Zlata**	**5.52**	**337**	⇑*i*P		**Pn**	**07 24 54.8**	**-0.1**
GZR	**Gura Zlata**	**5.52**	**337**	⇑*i*P		**Pn**	**07 24 54.8**	**-0.1**
PLOR	**Plostina**	**5.55**	**6**	⇑*i*P		**Pn**	**07 24 57.6**	**+2.3**
PLOR	**Plostina**	**5.55**	**6**	⇑*i*P		**Pn**	**07 24 57.6**	**+2.3**
VRI	**Vrincioaia**	**5.58**	**7**	⇓*i*P		**Pn**	**07 24 56.8**	**+1.2**
VRI	**Vrincioaia**	**5.58**	**7**	⇓*i*P		**Pn**	**07 24 56.8**	**+1.2**
DOPR	**Dopca**	**5.64**	**357**	⇓*i*P		**Pn**	**07 24 58.7**	**+2.2**
DOPR	**Dopca**	**5.64**	**357**	⇓*i*P		**Pn**	**07 24 58.7**	**+2.2**
DIVS	**Divibare**	**5.72**	**313**	⇑*i*Pn		**Pn**	**07 24 57.9**	**+0.3**
BZS	**Buzias**	**6.11**	**331**	⇓*i*P		**Pn**	**07 25 02.8**	**0.0**
BZS	**Buzias**	**6.11**	**331**	S		**Sg**	**07 26 46.8**	**-1.6**
BZS	**Buzias**	**6.11**	**331**	⇓*i*P		**Pn**	**07 25 02.8**	**0.0**

*ISCJB **11** 07:29:54.9±0.6, 36.°94N×0.°04×28.°26E±0.°04, h3km±10km, Error ellipse: s-maj=7.5km s-min=4.2km az=20.7*
*ISK **11** 07:29:55.0, 36.°95N×28.°25E, h5km, MD2.6*
*DDA **11** 07:29:55.6, 36.°98N×28.°23E, h7km, MD2.8*
*CSEM **11** 07:29:55.1±0.2, 36.°93N×28.°25E, h2km, MD2.6, Error ellipse: s-maj=4.6km s-min=3.0km az=15.0*

ISC 11 07:29:54.5±1.2, 36.°91N±0.°04×28.°25E±0.°03, h6km±13km, n16, σ0.°37/30, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.23**	**7**	*e*PG	**Pg**	**07 29 59.5**	**+0.4**
YER				*e*SG	**Sg**	**07 30 02.3**	**+0.1**
YER	**Yerkesik**	**0.23**	**7**	*e*Pg	**Pg**	**07 29 59.5**	**+0.4**
YER				*e*Sg	**Sg**	**07 30 02.3**	**+0.1**
TURN	**Turunc**	**0.29**	**97**	*i* P	**Pg**	**07 29 59.9**	**-0.2**
TURN				*i* S	**Sg**	**07 30 03.4**	**-0.5**
TURN	**Turunc**	**0.29**	**97**	*i* P	**Pg**	**07 29 59.9**	**-0.2**
TURN				*i* S	**Sg**	**07 30 03.4**	**-0.5**
BDRM	**Kayabasi**	**0.66**	**284**	*i* P	**Pg**	**07 30 07.4**	**+0.2**
BDRM				*i* S	**Sb**	**07 30 17.5**	**-0.5**
BDRM	**Kayabasi**	**0.66**	**284**	*i* P	**Pg**	**07 30 07.4**	**+0.2**
BDRM				*i* S	**Sb**	**07 30 17.5**	**-0.5**
FETY	**Fethiye**	**0.72**	**112**	*e*PG	**Pb**	**07 30 09.6**	**+0.1**
FETY				*e*SG	**Sb**	**07 30 20.4**	**+0.7**
FETY	**Fethiye**	**0.72**	**112**	*e*Pg	**Pb**	**07 30 09.6**	**+0.1**
FETY				*e*Sg	**Sb**	**07 30 20.4**	**+0.7**
BODT	**Bodrum**	**0.77**	**282**	*e*PG	**Pg**	**07 30 09.7**	**+0.5**
BODT				*e*SG	**Sb**	**07 30 21.0**	**+0.1**
BODT	**Bodrum**	**0.77**	**282**	*e*Pg	**Pg**	**07 30 09.7**	**+0.5**
BODT				*e*Sg	**Sb**	**07 30 21.0**	**+0.1**
AYDN	**Tasoluk**	**0.81**	**339**	*i* P	**Pg**	**07 30 10.1**	**0.0**
AYDN				*i* S	**Sg**	**07 30 20.4**	**-0.1**
AYDN	**Tasoluk**	**0.81**	**339**	*i* P	**Pg**	**07 30 10.1**	**0.0**
AYDN				*i* S	**Sg**	**07 30 20.4**	**-0.1**
DNZL	**Cakiroluk**	**1.01**	**39**	*i* P	**Pb**	**07 30 14.4**	**-0.1**
DNZL				*i* S	**Sg**	**07 30 27.0**	**0.0**
DNZL	**Cakiroluk**	**1.01**	**39**	*i* P	**Pb**	**07 30 14.4**	**-0.1**
DNZL				*i* S	**Sg**	**07 30 27.0**	**0.0**
KULA	**Kula-Manisa**	**1.64**	**11**	*e*PN	**Pb**	**07 30 24.7**	**-0.5**
KULA	**Kula-Manisa**	**1.64**	**11**	*e*Pn	**Pb**	**07 30 24.7**	**-0.5**

IDC 11 08:05:35.7±2.1, 2.°53N×127.°51E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=113.2km s-min=22.2km az=62.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.32**	**164**	P	P	08 10 45.4	-0.3
	0.8nm,0.5s,baz=343,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**26.77**	**167**	P	P	08 11 17.8	+0.2
	0.2nm,0.4s,baz=343,slow=11,SNR=5.4						
CMAR	**Chiang Mai Arr**	**32.15**	**301**	P	P	08 12 05.6	+0.2
	0.6nm,0.3s,baz=118,slow=5.2,SNR=4.3						
MKAR	**Makanchi Array**	**58.98**	**325**	P	P	08 15 37.0	-0.2
	0.2nm,0.4s,baz=122,slow=7.9,SNR=6.6						

IDC 11 08:10:19.4±2.9, 27.°54N×57.°47E, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.3/27, mbtmp3.5/3, Error ellipse: s-maj=78.1km s-min=30.6km az=157.0, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**23.19**	**308**	P	P	08 15 27.9	0.0
	1.3nm,0.7s,baz=118,slow=12,SNR=7.2						
MKAR	**Makanchi Array**	**27.39**	**39**	P	P	08 16 06.5	0.0
	0.2nm,0.8s,baz=220,slow=8.8,SNR=2.6						
TORD	**Torodi Ar. Bea**	**53.81**	**266**	P	P	08 19 44.2	-0.1
	0.5nm,0.4s,baz=66,slow=6.9,SNR=11						

*IDC **11** 08:13:18.0±0.5, 54.°82N×161.°47E, h0km, mb4.1/22, mb1 4.3/23, mb1mx4.2/29, mbtmp4.1/23, MS3.3/1, Ms1 3.3/1, ms1mx2.4/39, Error ellipse: s-maj=17.1km s-min=10.5km az=179.0*
*MOS **11** 08:13:19.7±1.8, 54.°81N×161.°79E, h21km, mb4.3/22, Error ellipse: s-maj=12.1km s-min=6.1km az=77.5*
*KRSC **11** 08:13:21.4±0.3, 54.°72N×161.°79E, h22km±21km, ML4.7*
*ISCJB **11** 08:13:22.4±0.4, 54.°70N±0.°02×161.°89E±0.°05, h41km±4km, mb4.1/29, Error ellipse: s-maj=4.7km s-min=2.5km az=21.9*
*NEIC **11** 08:13:23.7±1.2, 54.°88N×161.°54E, h38km±13km, mb4.4/3, Error ellipse: s-maj=15.3km s-min=7.3km az=160.0*

ISC 11 08:13:21.7±0.9, 54.°76N±0.°02×161.°82E±0.°03, h25km±6km, n118, σ1.°30/164, mb4.2/29, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.21**	**194**	PN	**Pb**	**08 13 26.9**	**-0.5**
MKZ	**Mys Kozlova**	**0.21**	**194**	*i* P	**Pb**	**08 13 26.9**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**1.35**	**332**	*i* P	**Pb**	**08 13 45.9**	**-0.4**
BZGR				*i* S	**Sb**	**08 14 03.8**	**+0.7**
KMNR	**Kamenistaya**	**1.35**	**319**	*i* P	**Pb**	**08 13 45.7**	**-0.6**
KMNR				*i* S	**Sb**	**08 14 03.8**	**+0.6**
ZLN	**Zelenaya**	**1.39**	**336**	*i* P	**Pb**	**08 13 46.9**	**-0.1**
ZLN				*i* S	**Sb**	**08 14 04.9**	**+0.6**
BZMR	**Bezymyannaya**	**1.40**	**328**	*e*P	**Pb**	**08 13 46.7**	**-0.6**
BZMR				*i* S	**Sb**	**08 14 05.1**	**+0.3**
BZWR	**Bezymyannyi-We**	**1.42**	**329**	*e*P	**Pb**	**08 13 47.1**	**-0.6**
BZWR				*i* S	**Sb**	**08 14 05.6**	**+0.2**
CIRR	**Tsirk**	**1.49**	**336**	*i* P	**Pb**	**08 13 48.2**	**-0.6**
CIRR				*i* S	**Sb**	**08 14 07.6**	**+0.3**
KPT	**Kopyto**	**1.51**	**324**	*i* P	**Pb**	**08 13 48.6**	**-0.5**
KPT				*i* S	**Sb**	**08 14 08.1**	**+0.2**
KBTR	**Krutoberegovo**	**1.56**	**21**	PN	**Pn**	**08 13 47.5**	**-0.4**
KBTR				S	**Sn**	**08 14 06.9**	**-0.4**
KBTR	**Krutoberegovo**	**1.56**	**21**	*i* P	**Pn**	**08 13 47.5**	**-0.4**
KBTR				*i* S	**Sn**	**08 14 06.9**	**-0.4**
KRSR	**Krestovskiy**	**1.63**	**335**	*e*P	**Pn**	**08 13 49.4**	**+0.6**
KRSR				*i* S	**Sb**	**08 14 10.3**	**-0.9**
KLY	**Klyuchi**	**1.69**	**338**	PN	**Pn**	**08 13 50.1**	**+0.5**
KLY				S	**Sn**	**08 14 10.8**	**+0.3**
KLY	**Klyuchi**	**1.69**	**338**	*i* P	**Pn**	**08 13 50.1**	**+0.5**
KLY				*i* S	**Sn**	**08 14 10.8**	**+0.3**
KOZR	**Kozyr**	**1.71**	**321**	PN	**Pb**	**08 13 51.7**	**-0.7**
KOZR				S	**Sb**	**08 14 14.2**	**+0.8**
KOZ	**Kozyrevsk**	**1.71**	**320**	*i* P	**Pb**	**08 13 51.7**	**-0.7**
KOZ				*i* S	**Sb**	**08 14 14.2**	**+0.7**
SMKR	**Semkarok**	**1.84**	**354**	*e*P	**Pb**	**08 13 53.6**	**-1.1**
SMKR				*i* S	**Sb**	**08 14 17.2**	**-0.1**
BDR	**Baidarnaya**	**1.85**	**350**	*e*P	**Pb**	**08 13 53.9**	**-0.9**
BDR				*i* S	**Sb**	**08 14 18.0**	**+0.5**
SRKR	**Sorokina**	**1.94**	**349**	*e*P	**Pb**	**08 13 54.7**	**-1.6**
SRKR				*i* S	**Sb**	**08 14 18.9**	**-1.1**
SRDR	**Sredinnyy**	**1.96**	**324**	*i* P	**Pn**	**08 13 54.5**	**+1.0**
SRDR				*i* S	**Sb**	**08 14 19.4**	**-1.5**
SPN	**Mys Shipunski**	**1.97**	**213**	PN	**Pn**	**08 13 52.7**	**-0.8**
SPN				S	**Sn**	**08 14 14.7**	**-2.7**
SPN	**Mys Shipunski**	**1.97**	**213**	*e*P	**Pn**	**08 13 52.7**	**-0.8**
SPN				*i* S	**Sn**	**08 14 14.7**	**-2.7**
ESO	**Esso**	**2.13**	**305**	PN	**Pn**	**08 13 56.7**	**+1.0**
ESO	**Esso**	**2.13**	**305**	P	**Pn**	**08 13 56.7**	**+1.0**
NLC	**Nalytchevo**	**2.16**	**224**	PN	**Pn**	**08 13 56.2**	**+0.2**
NLC				S	**Sn**	**08 14 21.7**	**-0.2**
NLC	**Nalytchevo**	**2.16**	**224**	*e*P	**Pn**	**08 13 56.2**	**+0.2**
NLC				*i* S	**Sn**	**08 14 21.7**	**-0.2**
SDLR	**Sedlovina**	**2.28**	**231**	*i* P	**Pn**	**08 13 58.6**	**+0.8**
SDLR				*i* S	**Sn**	**08 14 25.0**	**-0.1**
SMAR	**Somma**	**2.33**	**231**	*i* P	**Pn**	**08 13 59.6**	**+1.1**
SMAR				*i* S	**Sn**	**08 14 27.1**	**+0.7**
UGLR	**Uglovaya**	**2.35**	**230**	*i* P	**Pn**	**08 13 59.9**	**+1.1**
UGLR				*i* S	**Sn**	**08 14 27.7**	**+0.8**
AVH	**Avacha**	**2.35**	**232**	*i* P	**Pn**	**08 14 00.2**	**+1.4**
AVH				*i* S	**Sn**	**08 14 28.4**	**+1.5**
KOK	**Koryaka**	**2.38**	**233**	*i* P	**Pn**	**08 14 00.3**	**+1.1**
KOK				*i* S	**Sn**	**08 14 28.5**	**+0.9**
BKI	**Bering**	**2.44**	**78**	PN	**Pn**	**08 14 00.0**	**+0.1**
BKI				S	**Sn**	**08 14 28.7**	**-0.1**
BKI	**Bering**	**2.44**	**78**	*e*P	**Pn**	**08 14 00.0**	**+0.1**
BKI				*i* S	**Sn**	**08 14 28.7**	**-0.1**
PET	**Petropavlovsk**	**2.55**	**228**	⇓*i*PN	**Pn**	**08 14 02.7**	**+1.2**
PET				*e*S	**Sn**	**08 14 32.1**	**+0.4**
PET				smax	smax		
	comp=N,3μm,0.7s						
PET				smax	smax		
	comp=E,2μm,0.7s						
PET				MLR	MLR		
	comp=Z,300nm,13.0s						
PET	**Petropavlovsk**	**2.55**	**228**	*e*Pn	**Pn**	**08 14 02.2**	**+0.8**
PET				*e*Sn	**Sn**	**08 14 32.9**	**+1.2**
PET	**Petropavlovsk**	**2.55**	**228**	*i* P	**Pn**	**08 14 02.3**	**+0.8**
PET				*i* S	**Sn**	**08 14 32.3**	**+0.6**
PEA0B	**Petropavlovsk-**	**2.94**	**237**	*e*Pn	**Pn**	**08 14 08.0**	**+1.1**
PEA0B				*e*Sn	**Sn**	**08 14 41.4**	**+0.1**
PETK	**Petropavlovsk-**	**2.94**	**237**	PN	**Pn**	**08 14 08.0**	**+1.1**
PETK						08 14 43.7	
PETK				pmax	pmax		
	comp=Z,37nm,0.3s						
PETK				smax	smax		
	comp=N,66nm,0.3s						
PETK	**Petropavlovsk-**	**2.94**	**237**	Pn	**Pn**	**08 14 08.0**	**+1.1**
PETK				Sn	**Sn**	**08 14 43.7**	**+2.4**
PETK	**Petropavlovsk-**	**2.94**	**237**	Pn	**Pn**	**08 14 08.0**	**+1.1**
	comp=N,37nm,0.3s,baz=74,slow=19,SNR=135						
PETK				Sn	**Sn**	**08 14 43.7**	**+2.4**
	comp=N,66nm,0.3s,baz=76,slow=12,SNR=7.8						
RUS	**Russkaya**	**3.05**	**222**	PN	**Pn**	**08 14 08.7**	**+0.4**
RUS	**Russkaya**	**3.05**	**222**	P	**Pn**	**08 14 08.7**	**+0.4**
RUS				*i* S	**Sn**	**08 14 42.6**	**-1.3**
MTVR	**Mutnovka**	**3.14**	**225**	*e*P	**Pn**	**08 14 10.9**	**+1.2**
MTVR				*i* S	**Sn**	**08 14 47.1**	**+0.7**
ASAK	**Asacha**	**3.33**	**226**	*i* P	**Pn**	**08 14 14.2**	**+1.9**
ASAK				*i* S	**Sn**	**08 14 52.4**	**+1.3**
SKR	**Severo-Kuril's**	**5.35**	**223**	*e*PN	Pn	08 14 44.5	+4.6
SKR				pmax	pmax		
	comp=Z,50nm,0.4s						
TILK	**Tilichiki**	**6.16**	**20**	P	**Pn**	**08 14 53.5**	**+2.6**
FX1	**Attu Island--F**	**6.98**	**101**	Pn	**Pn**	**08 15 02.1**	**-0.1**
FX1				Sn	**Sn**	**08 16 17.6**	**-3.1**
FX1	**Attu Island--F**	**6.98**	**101**	Pn	**Pn**	**08 15 02.1**	**-0.1**
	comp=Z,12nm,0.3s,baz=81,slow=19,SNR=13						
FX1				Sn	**Sn**	**08 16 17.6**	**-3.1**
	comp=Z,17nm,0.3s,baz=358,slow=12,SNR=8.8						
BILL	**Bilibino**	**13.49**	**7**	*e*PN	**Pn**	**08 16 31.5**	**+0.3**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s						
BILL				MLR	MLR		
	comp=Z,100nm,14.0s						
ASAJ	**Asahikawa**	**16.36**	**237**	Pn	**P**	**08 17 11.3**	**-0.9**
ASAJ	**Asahikawa**	**16.36**	**237**	Pn	**P**	**08 17 11.3**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=72,slow=13,SNR=3.1						
ASAJ				LR	LR	08 23 49.2	
	comp=Z,92nm,18.1s,baz=98,slow=39						
MJA0	**Matsu Arr-Jizo**	**24.36**	**231**	*e*P	**P**	**08 18 38.2**	**+0.6**
MJA0				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAJO	**Matsushiro**	**24.38**	**231**	*e*P	**P**	**08 18 37.7**	**-0.1**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.5s						
MAJO	**Matsushiro**	**24.38**	**231**	*e*P	**P**	**08 18 37.7**	**-0.1**
	comp=Z,6.3nm,0.5s						
MAT	**Matsushiro**	**24.38**	**231**	P	**P**	**08 18 38.0**	**+0.2**
MJAR	**Matsushiro Arr**	**24.38**	**231**	P	**P**	**08 18 38.2**	**+0.5**
MJAR	**Matsushiro Arr**	**24.38**	**231**	P	**P**	**08 18 38.2**	**+0.5**
	comp=Z,3.0nm,0.6s,baz=26,slow=7.4,SNR=14						
RSO	**Redoubt South**	**24.58**	**58**	P	**P**	**08 18 41.1**	**+1.5**
KDAK	**Kodiak Island**	**25.13**	**64**	P	**P**	**08 18 45.8**	**+1.5**
KDAK	**Kodiak Island**	**25.13**	**64**	P	**P**	**08 18 45.8**	**+1.5**
	comp=Z,1.1nm,1.1s,baz=276,slow=2.4,SNR=4.1						
ILAR	**Eielson Array**	**26.93**	**48**	P	**P**	**08 19 01.7**	**+1.2**
ILAR				PcP	**PcP**	**08 22 21.4**	**-0.3**
ILAR	**Eielson Array**	**26.93**	**48**	P	**P**	**08 19 01.7**	**+1.2**
	comp=Z,1.4nm,0.7s,baz=255,slow=7.0,SNR=22						
ILAR				PcP	**PcP**	**08 22 21.4**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=289,slow=3.6,SNR=4.4						
INK	**Inuvik**	**31.93**	**39**	P	**P**	**08 19 46.4**	**+1.6**
INK	**Inuvik**	**31.93**	**39**	P	**P**	**08 19 46.4**	**+1.6**
	comp=Z,2.1nm,0.7s,baz=289,slow=7.8,SNR=8.7						
SONM	**Songino Array**	**34.53**	**282**	P	**P**	**08 20 05.7**	**-2.2**
SONM				PcP	**PcP**	**08 22 42.3**	**0.0**
SONM	**Songino Array**	**34.53**	**282**	P	**P**	**08 20 05.7**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=57,slow=6.7,SNR=3.5						
SONM				PcP	**PcP**	**08 22 42.3**	**0.0**
	comp=Z,0.4nm,0.7s,baz=63,slow=1.3,SNR=3.6						
YKA	**Yellowknife Ar**	**41.25**	**44**	P	**P**	**08 21 05.9**	**+1.7**
YKA				PcP	**PcP**	**08 23 03.1**	**+0.7**
YKA	**Yellowknife Ar**	**41.25**	**44**	P	**P**	**08 21 05.9**	**+1.7**
	comp=Z,1.4nm,0.6s,baz=300,slow=7.9,SNR=31						
YKA				PcP	**PcP**	**08 23 03.1**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=307,slow=3.7,SNR=9.2						
KURK	**Kurchatov**	**47.73**	**301**	P	**P**	**08 21 53.9**	**-2.1**
KURK						08 23 24.8	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**47.73**	**301**	P	**P**	**08 21 53.9**	**-2.1**
KURK				PcP	**PcP**	**08 23 24.8**	**-0.1**
KURBB	**Kurchatov Arra**	**47.83**	**301**	P	**P**	**08 21 53.9**	**-3.0**
	comp=Z,1.3nm,0.3s,baz=57,slow=8.0,SNR=11						
KURBB				PcP	**PcP**	**08 23 24.8**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=46

1.8nm,0.9s,baz=346,slow=12,SNR=2.3
KSRS Korea Array 40.21 7 LR LR 08 48 49.7
comp=Z,34nm,18.2s,baz=347,slow=41
MJAR Matsushiro Arr 41.77 20 P P 08 29 16.1 -0.8
1.2nm,0.8s,baz=196,slow=9.6,SNR=5.0
SONM Songino Array 52.01 347 P P 08 30 37.9 +0.8
0.2nm,0.5s,baz=166,slow=7.5,SNR=2.4
MKAR Makanchi Array 60.26 330 P P 08 31 36.8 +0.8
0.6nm,0.6s,baz=126,slow=7.7,SNR=12
ZALV Zalesovo Beam 64.22 337 P P 08 32 01.9 -0.5
0.3nm,0.5s,baz=139,slow=7.7,SNR=2.2
KURBB Kurchatov Arra 64.66 331 P P 08 32 05.2 -0.2
0.4nm,0.3s,baz=136,slow=6.8,SNR=4.0

CASC 11 08:33:38.9±1.5, 13°81N×91°11W, h31km±7km, MD3.7, 3C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.69**	**22**	*e*P	Pb	08 33 52.5	-0.2
JAT	**Jato**	**0.72**	**315**	*e*P	Pb	08 33 53.1	0.0
PCG	**Pacaya**	**0.76**	**40**	*e*P	Pb	08 33 54.1	+0.1
PCG				*e*S	Sn	08 34 05.1	+0.6
FG6		**0.78**	**16**	*e*P	Pn	08 33 53.7	-0.5
TP2	**Tecpan 2**	**0.97**	**5**	*e*P	Pn	08 33 56.5	-0.5
NBG	**Las Nubes**	**1.07**	**43**	*e*P	Pn	08 33 58.7	+0.5
NBG				*e*S	Sb	08 34 14.4	+1.3
RBDL	**Robledal**	**1.41**	**77**	*e*P	Pn	08 34 02.3	-0.4
RBDL				*e*S	Sn	08 34 19.8	-0.6
RTR	**El Retiro**	**1.42**	**86**	*e*P	Pn	08 34 03.0	+0.1
RTR				*e*S	Sn	08 34 21.4	+0.7
SBLS	**San Blas**	**1.44**	**89**	*e*P	Pn	08 34 03.3	+0.1
SBLS				*e*S	Sn	08 34 22.1	+0.8
SNJE	**San Jose**	**1.46**	**88**	*e*P	Pn	08 34 03.3	-0.1
SNJE				*e*S	Sn	08 34 22.8	+1.2
BOQS	**Boqueron**	**1.78**	**92**	*e*P	Pn	08 34 08.3	+0.5
MTO2	**Montecristo 2**	**1.79**	**71**	*e*P	Pn	08 34 07.0	-1.0
MRL	**Marmol**	**1.85**	**47**	*e*P	Pn	08 34 08.8	-0.1
LFRS	**El Faro**	**2.00**	**95**	*e*P	Pn	08 34 11.1	+0.4
LFRS				*e*S	Sn	08 34 36.3	+1.6
SNVI	**San Vicente**	**2.21**	**95**	*e*P	Pn	08 34 13.7	-0.1
SNVI				*e*S	Sn	08 34 42.0	+1.8

IDC **11** *09:27:26.8±1.0, 34°.97N×24°.78E, h0km, mb3.9/12, mb1 3.9/14, mb1mx3.8/30, mbtmp3.9/14, ML4.0/2, MS3.5/1, Ms1 3.5/1, ms1mx2.3/58, Error ellipse: s-maj=23.0km s-min=18.9km az=177.0*
ISK **11** *09:27:29.7, 34°.87N×25°.27E, h3km, ML3.5*
ISCJB **11** *09:27:30.4±0.3, 34°.73N±0°.02×24°.93E±0°.03, h54km±4km, mb3.8/12, MS3.4/1, Error ellipse: s-maj=5.2km s-min=3.3km az=149.7*
CSEM **11** *09:27:31.9±0.2, 34°.73N×24°.89E, h51km±6km, MD3.1, Error ellipse: s-maj=5.1km s-min=4.0km az=63.0*
HLW **11** *09:27:31.8, 34°.82N×25°.04E, h33km±17km, Md3.5, Ml3.7*
ATH **11** *09:27:33.3, 34°.86N×24°.77E, h42km, MD3.1/10*
THE **11** *09:27:34.9, 34°.90N×24°.79E, h28km±1km, ML3.5/6, Error ellipse: s-maj=1.9km s-min=0.7km az=47.0*

ISC 11 09:27:31.7±0.7, 34°71N±0°03×24°83E±0°03, h47km±7km, n113, σ1$40/151, mb3.8/12, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.31**	**357**	*e*P	**Pn**	**09 27 40.4**	**-0.3**
SIVA				*e*S	**Sn**	**09 27 46.4**	**-0.7**
SIVA	**Sivas**	**0.31**	**357**	*e*P	**Pn**	**09 27 40.4**	**-0.3**
SIVA				*e*S	**Sn**	**09 27 46.4**	**-0.7**
IDI	**Anoyia**	**0.58**	**5**	P	**Pn**	**09 27 43.3**	**-0.6**
IDI				S	**Sn**	**09 27 50.1**	**-2.6**
IDI	**Anoyia**	**0.58**	**5**	*e*P	**Pn**	**09 27 43.8**	**-0.1**
IDI	**Anoyia**	**0.58**	**5**	P	**Pn**	**09 27 43.3**	**-0.6**
IDI				S	**Sn**	**09 27 50.1**	**-2.6**
GVD	**Gavdhos**	**0.62**	**282**	*e*P	**Pn**	**09 27 45.8**	**+1.5**
GVD				*e*S	**Sn**	**09 27 54.8**	**+1.4**
GVD	**Gavdhos**	**0.62**	**282**	*e*P	**Pn**	**09 27 45.8**	**+1.5**
GVD				*e*S	**Sn**	**09 27 54.8**	**+1.4**
LAST	**Lasithi**	**0.70**	**50**	*e*P	**Pn**	**09 27 46.6**	**+1.1**
LAST				*e*S	**Sn**	**09 27 57.2**	**+1.8**
LAST	**Lasithi**	**0.70**	**50**	*e*P	**Pn**	**09 27 46.6**	**+1.1**
LAST				*e*S	**Sn**	**09 27 57.2**	**+1.8**
NPS	**Neapolis**	**0.85**	**49**	P	**Pn**	**09 27 49.0**	**+1.6**
NPS				S	**Sn**	**09 27 59.2**	**+0.4**
NPS	**Neapolis**	**0.85**	**49**	*e*P	**Pn**	**09 27 49.2**	**+1.8**
NPS				*e*S	**Sn**	**09 28 00.4**	**+1.6**
NPS	**Neapolis**	**0.85**	**49**	P	**Pn**	**09 27 49.0**	**+1.6**
NPS				*e*S	**Sn**	**09 28 00.4**	**+1.6**
VAM	**Vamos**	**0.87**	**324**	P	**Pn**	**09 27 48.2**	**+0.7**
VAM				S	**Sn**	**09 27 57.5**	**-1.7**
VAM	**Vamos**	**0.87**	**324**	*e*P	**Pn**	**09 27 48.3**	**+0.7**
VAM				*e*S	**Sn**	**09 27 59.2**	**0.0**
VAM	**Vamos**	**0.87**	**324**	*e*P	**Pn**	**09 27 48.3**	**+0.7**
VAM				*e*S	**Sn**	**09 27 59.2**	**0.0**
KARN	**Karanos**	**1.02**	**313**	P	**Pn**	**09 27 50.3**	**+0.7**
KARN				S	**Sn**	**09 28 02.4**	**-0.5**
KARN	**Karanos**	**1.02**	**313**	*e*P	**Pn**	**09 27 50.6**	**+1.0**
KARN				*e*S	**Sn**	**09 28 02.3**	**+0.4**
KARN	**Karanos**	**1.02**	**313**	P	**Pn**	**09 27 50.3**	**+0.7**
KARN				*e*S	**Sn**	**09 28 03.3**	**+0.4**
ZKR	**Zakros**	**1.21**	**70**	*e*P	**Pn**	**09 27 55.3**	**+3.0**
ZKR				*e*S	**Sn**	**09 28 10.9**	**+3.3**
ZKR	**Zakros**	**1.21**	**70**	*e*P	**Pn**	**09 27 55.3**	**+3.0**
ZKR				*e*S	**Sn**	**09 28 10.9**	**+3.3**
THR6	**Thira Island,**	**1.71**	**16**	P	**Pn**	**09 28 00.1**	**+1.0**
THR6	**Thira Island,**	**1.71**	**16**	P	**Pn**	**09 28 00.1**	**+1.0**
KARP	**Karpathos**	**2.09**	**66**	P	**Pn**	**09 28 07.0**	**+2.7**
KARP				S	**Sn**	**09 28 31.4**	**+2.3**
KARP	**Karpathos**	**2.09**	**66**	*e*P	**Pn**	**09 28 07.3**	**+3.0**
KARP	**Karpathos**	**2.09**	**66**	*e*P	**Pn**	**09 28 07.3**	**+3.0**
KARP				S	**Sn**	**09 28 31.4**	**+2.3**
KYTH	**Kithira**	**2.15**	**318**	P	**Pn**	**09 28 06.3**	**+1.3**
KYTH	**Kithira**	**2.15**	**318**	P	**Pn**	**09 28 06.3**	**+1.3**
APE	**Apeiranthos**	**2.43**	**13**	*e*PN	**Pn**	**09 28 08.4**	**-0.5**
APE				*e*SN	**Sn**	**09 28 36.4**	**-1.0**
APE	**Apeiranthos**	**2.43**	**13**	P	**Pn**	**09 28 09.1**	**+0.2**
APE				S	**Sn**	**09 28 37.0**	**-0.4**
APE	**Apeiranthos**	**2.43**	**13**	*e*P	**Pn**	**09 28 10.2**	**+1.3**
APE	**Apeiranthos**	**2.43**	**13**	*e*Pn	**Pn**	**09 28 08.4**	**-0.5**
APE	**Apeiranthos**	**2.43**	**13**	*e*P	**Pn**	**09 28 10.2**	**+1.3**
APE				*e*Sn	**Sn**	**09 28 36.4**	**-1.0**
APE				S		09 28 37.0	
VLI	**Veliai**	**2.53**	**323**	P	**Pn**	**09 28 11.0**	**+0.7**
VLI				S	**Sn**	**09 28 38.9**	**-1.0**
VLI	**Veliai**	**2.53**	**323**	*e*P	**Pn**	**09 28 11.0**	**+0.7**
VLI	**Veliai**	**2.53**	**323**	*e*P	**Pn**	**09 28 11.0**	**+0.7**
VLI				S	**Sn**	**09 28 38.9**	**-1.0**
LTBQ	**Tobruq**	**2.75**	**196**	*i* P	**Pn**	**09 28 16.2**	**+2.9**
	SNR=76						
DIDY	**Didyma**	**3.06**	**335**	P	**Pn**	**09 28 17.9**	**+0.3**
DIDY				S	**Sn**	**09 28 51.9**	**-1.1**
DIDY	**Didyma**	**3.06**	**335**	P	**Pn**	**09 28 17.9**	**+0.3**
DIDY				S	**Sn**	**09 28 51.9**	**-1.1**
DID	**Didima**	**3.08**	**336**	P	**Pn**	**09 28 18.0**	**+0.2**
DID				S	**Sn**	**09 28 52.8**	**-0.6**
DID	**Didima**	**3.08**	**336**	*e*P	**Pn**	**09 28 19.0**	**+1.2**
DID	**Didima**	**3.08**	**336**	*e*P	**Pn**	**09 28 19.0**	**+1.2**
DID				S	**Sn**	**09 28 52.8**	**-0.6**
ARG	**Arkhangelos**	**3.09**	**60**	*e*P	**Pn**	**09 28 20.7**	**+2.8**
ARG	**Arkhangelos**	**3.09**	**60**	*e*P	**Pn**	**09 28 20.7**	**+2.8**
BODT	**Bodrum**	**3.10**	**40**	*e*PN	**Pn**	**09 28 15.9**	**-2.2**
BODT	**Bodrum**	**3.10**	**40**	*e*Pn	**Pn**	**09 28 15.9**	**-2.2**
SLUM		**3.22**	**174**	P	**Pn**	**09 28 20.6**	**+0.8**
SLUM				S	**Sn**	**09 28 57.6**	**+0.7**
PYL	**PYLOS**	**3.33**	**312**	*e*P	**Pn**	**09 28 22.6**	**+1.4**
PYL	**PYLOS**	**3.33**	**312**	*e*P	**Pn**	**09 28 22.6**	**+1.4**
SMG	**Samos**	**3.41**	**28**	*e*P	**Pn**	**09 28 24.9**	**+2.5**
SMG	**Samos**	**3.41**	**28**	*e*P	**Pn**	**09 28 24.9**	**+2.5**
ITM	**Ithomi**	**3.41**	**317**	*e*P	**Pn**	**09 28 23.6**	**+1.2**
ITM	**Ithomi**	**3.41**	**317**	*e*P	**Pn**	**09 28 23.6**	**+1.2**
LTK	**Loutraki**	**3.63**	**336**	P	**Pn**	**09 28 25.8**	**+0.3**
LTK				S	**Sn**	**09 29 06.2**	**-0.9**
LTK	**Loutraki**	**3.63**	**336**	*e*P	**Pn**	**09 28 26.8**	**+1.3**
LTK	**Loutraki**	**3.63**	**336**	*e*P	**Pn**	**09 28 26.8**	**+1.3**
LTK				S	**Sn**	**09 29 06.2**	**-0.9**
YER	**Yerkesik**	**3.71**	**48**	*e*PN	**Pn**	**09 28 25.0**	**-1.5**
YER	**Yerkesik**	**3.71**	**48**	*e*Pn	**Pn**	**09 28 25.0**	**-1.5**
GUR	**Goura**	**3.80**	**329**	P	**Pn**	**09 28 28.2**	**+0.4**
GUR				S	**Sn**	**09 29 10.3**	**-0.9**
GUR	**Goura**	**3.80**	**329**	P	**Pn**	**09 28 28.2**	**+0.4**
GUR				S	**Sn**	**09 29 10.3**	**-0.9**
FETY	**Fethiye**	**3.96**	**60**	*e*PN	**Pn**	**09 28 27.6**	**-2.4**
FETY	**Fethiye**	**3.96**	**60**	*e*Pn	**Pn**	**09 28 27.6**	**-2.4**
HMAT	**Matruh**	**4.08**	**151**	P	**Pn**	**09 28 31.4**	**-0.2**
HMAT				S	**Sn**	**09 29 16.6**	**-1.4**
HMAT	**Matruh**	**4.08**	**151**	P	**Pn**	**09 28 31.4**	**-0.2**
	baz=154						
HMAT				S	**Sn**	**09 29 16.6**	**-1.4**
	baz=154						
IZM	**Izmir**	**4.17**	**27**	*e*PN	**Pn**	**09 28 31.3**	**-1.6**
IZM	**Izmir**	**4.17**	**27**	*e*Pn	**Pn**	**09 28 31.3**	**-1.6**
AKS	**Akhisar**	**4.80**	**29**	*e*PN	**Pn**	**09 28 41.1**	**-0.4**
AKS	**Akhisar**	**4.80**	**29**	*e*Pn	**Pn**	**09 28 41.1**	**-0.4**
KULA	**Kula-Manisa**	**4.89**	**38**	*e*PN	**Pn**	**09 28 41.6**	**-1.2**
KULA	**Kula-Manisa**	**4.89**	**38**	*e*Pn	**Pn**	**09 28 41.6**	**-1.2**
KHL	**Karahalli**	**5.23**	**45**	*e*PN	**Pn**	**09 28 46.1**	**-1.3**
KHL	**Karahalli**	**5.23**	**45**	*e*Pn	**Pn**	**09 28 46.1**	**-1.3**
LJBD	**Adjabya**	**5.43**	**227**	*i* P	**Pn**	**09 28 51.2**	**+1.1**
	SNR=76						
SWA2		**5.47**	**174**	P	**Pn**	**09 28 51.8**	**+1.1**
SWA2		**5.47**	**174**	P	**Pn**	**09 28 51.8**	**+1.1**
	baz=176						
SWA2				AMP		09 30 00.0	
	comp=E,70μm,0.4s,logA/T=5.2,baz=176						
SUTC	**Sutluce-Ispart**	**5.71**	**59**	*e*PN	**Pn**	**09 28 52.5**	**-1.6**
SUTC	**Sutluce-Ispart**	**5.71**	**59**	*e*Pn	**Pn**	**09 28 52.5**	**-1.6**
HNAT	**Natroun**	**7.05**	**134**	P	**Pn**	**09 29 12.2**	**-0.1**
HNAT	**Natroun**	**7.05**	**134**	P	**Pn**	**09 29 12.2**	**-0.1**
	baz=136						
AWBH		**7.25**	**150**	P	**Pn**	**09 29 15.3**	**+0.2**
AWBH		**7.25**	**150**	P	**Pn**	**09 29 15.3**	**+0.2**
	baz=152						
HSAF	**As Saff**	**7.63**	**130**	P	**Pn**	**09 29 19.9**	**-0.4**
HSAF	**As Saff**	**7.63**	**130**	P	**Pn**	**09 29 19.9**	**-0.4**
	baz=131						
GLL	**Jalalah**	**7.76**	**129**	P	**Pn**	**09 29 21.5**	**-0.6**
GLL	**Jalalah**	**7.76**	**129**	P	**Pn**	**09 29 21.5**	**-0.6**
	baz=131						
AMAG	**Maghara**	**8.14**	**118**	P	**Pn**	**09 29 26.7**	**-0.7**
AMAG	**Maghara**	**8.14**	**118**	P	**Pn**	**09 29 26.7**	**-0.7**
	baz=119						
SUZ		**8.33**	**123**	P	**Pn**	**09 29 29.8**	**-0.1**
SUZ		**8.33**	**123**	P	**Pn**	**09 29 29.8**	**-0.1**
	baz=124						
RSH		**8.36**	**114**	P	**Pn**	**09 29 29.6**	**-0.8**
RSH		**8.36**	**114**	P	**Pn**	**09 29 29.6**	**-0.8**
	baz=115						
ZAF		**8.50**	**127**	P	**Pn**	**09 29 31.9**	**-0.3**
ZAF		**8.50**	**127**	P	**Pn**	**09 29 31.9**	**-0.3**
	baz=128						
BRTR	**Keskin Array B**	**8.63**	**52**	Pn	**Pn**	**09 29 35.3**	**+1.3**
	comp=E,0.1nm,0.3s,baz=223,slow=13,SNR=4.3						
MMAI	**Mount Meron Ar**	**8.96**	**98**	Pn	**Pn**	**09 29 39.0**	**+0.5**
	comp=E,1.7nm,0.3s,baz=262,slow=12,SNR=5.3						
MMAI				Sn	**Sn**	**09 31 14.4**	**-3.7**
	comp=E,3.5nm,0.3s,baz=274,slow=27,SNR=2.0						
HNKL	**Nakhl**	**9.09**	**119**	P	**Pn**	**09 29 39.5**	**-0.8**
HNKL	**Nakhl**	**9.09**	**119**	P	**Pn**	**09 29 39.5**	**-0.8**
	baz=120						
ASUT		**9.30**	**140**	P	**Pn**	**09 29 43.7**	**+0.6**
ASUT		**9.30**	**140**	P	**Pn**	**09 29 43.7**	**+0.6**
	baz=141						
EIL	**Elat**	**9.94**	**118**	Pn	**Pn**	**09 29 52.2**	**+0.3**
	comp=E,1.4nm,0.3s,baz=259,slow=8.4,SNR=18						
EIL				Sn	Sn	09 31 35.2	-6.8
	comp=E,1.1nm,0.3s,baz=156,slow=22,SNR=2.3						
AKASG	**Malin Array Be**	**16.30**	**10**	Pn	**Pn**	**09 31 18.2**	**+1.0**
	comp=E,3.2nm,0.3s,baz=198,slow=10,SNR=10						
GERES	**GERESS Array B**	**16.36**	**333**	Pn	**P**	**09 31 20.8**	**+0.6**
	comp=E,0.2nm,0.3s,baz=151,slow=14,SNR=9.0						
HFS	**Hagfors**	**26.46**	**347**	P	**P**	**09 33 03.0**	**-1.0**
	comp=E,1.6nm,0.7s,baz=146,slow=11,SNR=5.8						
FINES	**FINESS Array B**	**26.77**	**1**	P	**P**	**09 33 05.1**	**-1.7**
	comp=E,0.9nm,0.4s,baz=168,slow=11,SNR=6.8						
NOA	**NORSAR Array B**	**27.77**	**346**	P	**P**	**09 33 14.7**	**-1.1**
	comp=E,0.7nm,0.9s,baz=147,slow=8.0,SNR=3.5						
AKTO	**Aktyubinsk**	**28.76**	**47**	P	**P**	**09 33 24.8**	**+0.1**
	comp=E,0.5nm,0.4s,baz=270,slow=8.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**29.99**	**230**	P	**P**	**09 33 38.2**	**+2.3**
	comp=E,1.5nm,0.4s,baz=32,slow=8.8,SNR=19						
ARCES	**ARCESS Array B**	**34.88**	**0**	P	**P**	**09 34 16.5**	**-1.7**
	comp=E,1.4nm,0.8s,baz=178,slow=9.5,SNR=9.1						
ARCES				LR	LR	09 49 50.2	
	comp=E,68nm,19.4s,baz=203,slow=39						
KURBB	**Kurchatov Arra**	**41.62**	**51**	P	**P**	**09 35 15.6**	**+0.6**
	comp=E,0.6nm,0.5s,baz=277,slow=8.8,SNR=4.9						
MKAR	**Makanchi Array**	**44.25**	**56**	P	**P**	**09 35 37.4**	**+1.0**
	comp=E,2.0nm,0.7s,baz=271,slow=8.5,SNR=19						
ZALV	**Zalesovo Beam**	**45.52**	**46**	P	**P**	**09 35 46.0**	**-0.3**
	comp=E,0.9nm,0.5s,baz=273,slow=9.1,SNR=3.2						
SONM	**Songino Array**	**59.98**	**50**	P	**P**	**09 37 33.9**	**+0.5**
	comp=E,0.5nm,0.7s,baz=289,slow=7.3,SNR=6.2						
SCHQ	**Schefferville**	**63.35**	**320**	P	**P**	**09 37 56.9**	**+1.0**
	comp=E,5.8nm,1.1s,baz=97,slow=3.8,SNR=6.7						
YKA	**Yellowknife Ar**	**77.80**	**342**	P	**P**	**09 39 24.1**	**+0.5**
	comp=E,0.2nm,0.4s,baz=32,slow=5.2,SNR=8.0						

IDC **11** *09:31:02.6±0.6, 20°.71S×177°.16W, h0km, mb4.8/24, mb1 4.8/26, mb1mx4.8/28, mbtmp4.7/26, ML3.0/2, MS4.9/33, Ms1 4.9/33, ms1mx4.9/38, Error ellipse: s-maj=20.7km s-min=14.5km az=149.0*
ISCJB **11** *09:31:04.5±1.6, 20°.77S±0°.04×177°.35W±0°.03, h15km±10km, mb5.4/156, MS5.1/197, Error ellipse: s-maj=7.7km s-min=4.0km az=160.0*
NEIC **11** *09:31:04.5±0.2, 20°.78S×177°.30W, h10km, mb5.5/110, MS5.2/141, MW5.5, Error ellipse: s-maj=9.2km s-min=4.7km az=149.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^17 Nm; Mrr=0.76; Mθθ2.42; Mφφ-1.67; Mrθ0.21; Mrφ0.66; Mθφ0.02; Best double couple: M☐2.30000×10^17 NP1:☐s36.00000°, δ87.00000°, λ178.00000°. NP2:☐s126.00000°, δ88.00000°, λ3.00000°. Principal axes: T 2.5400, Plg3.0000°, Azm351.0000°; N -0.7700, Plg86.0000°, Azm162.0000°; P -1.7700, Plg0.0000°, Azm261.0000°;*
BJI **11** *09:31:04.1, 20°.27S×176°.92W, h13km, mB5.7/29, mb5.1/39, Ms5.3/41, Ms7 5.1/41*
DJA **11** *09:31:05.9±0.3, 21°S±9°×17°7W±°, h10km, M5.8/16, mB6.0/10, mb5.6/16, MLv6.1/1, Mw(mB)5.7/10*
MOS **11** *09:31:07.7±1.2, 20°.44S×177°.44W, h33km, mb5.7/35, MS5.1/30, Error ellipse: s-maj=10.3km s-min=8.7km az=45.9*

ISC 11 09:31:05.7±0.4, 20°80S±0°05×177°21W±0°05, h18km±1km, h18km:pP-P, n803, σ1$36/710, mb5.5/155, MS5.1/198, 158C-182D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.42**	**303**	*e*P	**Pn**	**09 32 25.1**	**-0.7**
MSVF				*e*		09 33 25.0	
MSVF	**Nonsavu**	**5.42**	**303**	*e*Pn	**Pn**	**09 32 25.1**	**-0.7**
MSVF				*e*Sn	**Sn**	**09 33 25.0**	**-2.9**
MSVF	**Nonsavu**	**5.42**	**303**	Pn	**Pn**	**09 32 25.3**	**-0.5**
	887nm,0.7s,SNR=19						
AFI	**Afiamalu**	**8.59**	**38**	Pn	**Pn**	**09 33 10.2**	**+0.8**
AFI	**Afiamalu**	**8.59**	**38**	Pn	Pn	09 33 05.7	-3.7
	1.0nm,0.3s,baz=223,slow=19,SNR=3.6						
AFI				LR	LR	09 35 45.9	
	comp=Z,3μm,18.7s,baz=42,slow=33						
DZM	**Mont Dzumac**	**15.28**	**262**	*e*P	**Pn**	**09 34 42.2**	**+1.4**
	673nm,1.4s						
DZM				*e*LR	LR	09 38 08.6	
	21μm,24.6s						
DZM	**Mont Dzumac**	**15.28**	**262**	*e*Pn	**Pn**	**09 34 41.1**	**+0.3**
	489nm,1.4s						
DZM	**Mont Dzumac**	**15.28**	**262**	Pn	**Pn**	**09 34 41.7**	**+0.9**
	0.5nm,0.3s,baz=99,slow=14,SNR=35						
NOUC	**Port Laguerre**	**15.41**	**262**	*e*P	**Pn**	**09 34 43.2**	**+0.8**
RAR	**Rarotonga**	**16.29**	**95**	Pn	Pn	09 34 47.2	-6.5
	22nm,2.0s						
RAR	**Rarotonga**	**16.29**	**95**	Pn	Pn	09 34 47.2	-6.5
	1.1nm,0.3s,baz=221,slow=6.3,SNR=4.8						
RAR				LR	LR	09 39 46.7	
	comp=Z,3μm,18.1s,baz=221,slow=32						
OUZ	**Omahuta**	**16.49**	**207**	*e*Pn	**Pn**	**09 34 56.5**	**+0.3**
	3μm,3.0s						
OUZ	**Omahuta**	**16.49**	**207**	*e*PN	**P**	**09 34 57.9**	**-0.9**
WCZ	**Waipu Caves**	**16.81**	**204**	PN	**P**	**09 35 03.5**	**+1.3**
URZ	**Urewera**	**18.08**	**195**	*e*P	**Pn**	**09 35 14.9**	**-1.1**
	241nm,1.7s						
HIZ	**Hauiti**	**18.94**	**200**	*e*P*	**Pn**	**09 35 27.0**	**+0.5**
SNZO	**South Karori**	**21.57**	**197**	PFAKE		09 36 10.0	+16
SNZO				LR	LR		
	comp=Z,13μm,22.0s						
THZ	**Tophouse**	**22.51**	**200**	*e*P*	**P**	**09 36 03.9**	**-0.6**
KHZ	**Kahutara**	**22.92**	**198**	*e*P	**P**	**09 36 07.8**	**-0.9**
	comp=Z,77nm,1.2s						
TARA	**Tarawa**	**24.05**	**335**	PFAKE		09 36 30.0	+10
TARA				LR	LR		
	comp=Z,490nm,20.0s						
HNR	**Honiara**	**24.75**	**294**	LR	LR	09 44 34.8	
	comp=Z,2μm,18.9s,baz=133,slow=33						
RPZ	**Rata Peaks**	**24.86**	**201**	*e*P	**P**	**09 36 25.2**	**-2.1**
	comp=Z,264nm,1.8s						
TBI	**Tubuai**	**25.82**	**101**	*e*LQ	LQ	09 41 44.6	
	comp=Z,10μm,28.2s						
TBI				*e*LR	LR	09 42 50.7	
	comp=Z,9μm,27.8s,baz=274						
PAE	**Paea**	**26.26**	**88**	*e*P	**P**	**09 36 39.1**	**-1.1**
	comp=Z,30nm,1.2s						
PPT2	**Papeete2**	**26.27**	**88**	*e*P	**P**	**09 36 39.6**	**-0.8**
	comp=Z,235nm,1.3s						
PPT2				*e*LQ	LQ	09 41 52.4	
	comp=Z,4μm,29.0s						
PPT2				*e*LR	LR	09 43 05.7	
	comp=Z,12μm,27.5s,baz=257						
TIAR	**Tiarei**	**26.50**	**88**	*e*P	**P**	**09 36 41.5**	**-0.9**
	comp=Z,381nm,1.3s						
TVO	**Taravao**	**26.54**	**88**	*e*P	**P**	**09 36 41.9**	**-0.9**
	comp=Z,265nm,1.4s						
EIDS	**Eidsvold**	**29.49**	**255**	*e*P	**P**	**09 37 07.4**	**-1.7**
	comp=Z,114nm,1.4s						
EIDS				*e*pP	**pP**	**09 37 15.3**	**+0.8**
ARMA	**Armidale**	**29.61**	**245**	*e*P	**P**	**09 37 08.7**	**-1.6**
	comp=Z,72nm,1.1s						
ARMA				*e*pP	**pP**	**09 37 17.3**	**+1.7**
ARMA	**Armidale**	**29.61**	**245**	*e*P	P	09 37 15.6	+5.4
ARMA				*e*S	S	09 42 12.1	+7.2
XMAS	**Kiritimati**	**29.84**	**43**	PFAKE		09 37 20.0	+7.9
XMAS				LR	LR		
	comp=Z,3μm,20.0s						
CNB	**Canberra Magne**	**32.68**	**237**	*e*P	**P**	**09 37 39.8**	**+2.6**
	comp=Z,929nm,1.0s						
CNB				*e*S	**S**	**09 42 50.1**	**-2.7**
CAN	**Canberra**	**32.97**	**237**	*e*P	**P**	**09 37 39.3**	**-0.4**
CAN				pmax	pmax		
	comp=Z,220nm,1.1s						
CAN				MLR	MLR		
	comp=Z,2μm,19.0s						
CAN	**Canberra**	**32.97**	**237**	*e*P	**P**	**09 37 39.3**	**-0.4**
	comp=Z,220nm,1.1s						
CAN				LR	LR		
	comp=Z,2μm,19.0s						
CTA	**Charters Tower**	**34.20**	**265**	*e*P	**P**	**09 37 50.2**	**-0.3**
	comp=Z,117nm,1.1s						
CTA				*e*S	**S**	**09 43 15.3**	**-1.3**
CTA	**Charters Tower**	**34.20**	**265**	LR	LR	09 50 00.9	
	comp=Z,4μm,20.9s,baz=91,slow=33						
CTAO	**Charters Tower**	**34.20**	**265**	*e*P	**P**	**09 37 49.4**	**-1.2**
CTAO				pmax	pmax		
	comp=Z,299nm,1.2s						
CTAO				MLR	MLR		
	comp=Z,5μm,19.0s						
CTAO	**Charters Tower**	**34.20**	**265**	*e*P	**P**	**09 37 49.4**	**-1.2**
	comp=Z,299nm,1.2s						
CTAO				LR	LR		
	comp=Z,5μm,19.0s						
PMG	**Port Moresby**	**36.13**	**283**	*e*P	**P**	**09 38 06.2**	**-1.0**
PMG				LR	LR		
	comp=Z,2μm,19.0s						
PMG	**Port Moresby**	**36.13**	**283**	P	**P**	**09 38 06.5**	**-0.7**
	comp=Z,90nm,1.4s,comp=Z,1μm						
PMG	**Port Moresby**	**36.13**	**283**	P	**P**	**09 38 06.1**	**-1.1**
	comp=Z,54nm,1.1s,baz=179,slow=2.9,SNR=10						
TOO	**Toolangi**	**36.32**	**234**	*e*P	**P**	**09 38 08.4**	**-0.3**
	comp=Z,408nm,1.1s						
TOO				*e*S	**S**	**09 43 51.1**	**+2.2**
TAU	**Tasmania Unive**	**36.94**	**225**	PFAKE		09 38 30.0	+16
TAU				LR	LR		
	comp=Z,3μm,19.0s						
STKA	**Stephens Creek**	**38.33**	**245**	*e*P	**P**	**09 38 24.9**	**-0.8**
	comp=Z,51nm,1.4s						
STKA	**Stephens Creek**	**38.33**	**245**	*e*P	**P

comp=Z,942nm,21.2s,baz=36,slow=33
SDKM Sandakan 69.50 285 P **P** **09 42 16.6 +2.8**
TGY Tagaytay City 69.96 294 LR LR 10 08 15.8
comp=Z,2.7nm,18.1s,baz=270,slow=32
KDM Kudat 70.36 286 P P 09 42 13.8 -5.3
KKM Kota Kinabalu 70.55 285 *e*P **P** **09 42 22.1 +1.7**
comp=Z,19nm,0.8s
KKM Kota Kinabalu 70.55 285 P **P** **09 42 22.7 +2.3**
MJAR Matsushiro Arr 70.89 323 P **P** **09 42 20.8 -1.1**
MJAR Matsushiro Arr 70.89 323 P **P** **09 42 20.8 -1.1**
comp=Z,5.7nm,1.1s,baz=156,slow=5.0,SNR=6.6
MJAR LR LR 10 07 50.6
comp=Z,1µm,21.9s,baz=100,slow=31
MAJO Matsushiro 70.89 323 *e*P **P** **09 42 21.1 -0.8**
MAJO pmax pmax
comp=Z,80nm,1.7s
MAJO MLR MLR
comp=Z,1µm,21.0s
MAJO Matsushiro 70.89 323 *e*P **P** **09 42 21.1 -0.8**
comp=Z,80nm,1.7s
MAJO LR LR
comp=Z,1µm,21.0s
MAT Matsushiro 70.89 323 P P 09 42 26.0 +4.1
MAT S **S** **09 51 38.0 +1.4**
BTM Bintulu 72.28 281 P P 09 42 37.5 +6.8
ERM Erimo 72.45 330 *i*P **P** **09 42 30.6 -0.4**
ERM Erimo 72.45 330 PFAKE 09 42 40.0 +9.0
ERM LR LR
comp=Z,1µm,20.0s
SBUM Sibu 72.79 279 P **P** **09 42 35.9 +2.2**
SBUM Sibu 72.79 279 P P 09 42 37.2 +3.5
comp=Z,38nm,1.4s,comp=Z,648nm
YUK Yuzh-Kuril'sk 72.85 333 P P 09 42 27.4 -6.0
YUK S **SKiKP** **09 52 02.7 -3.6**
JNU Nakatsue 73.00 316 LR LR 10 09 34.0
comp=Z,793nm,21.1s,baz=117,slow=32
FX1 Attu Island--F 73.85 354 LR LR 10 07 29.7
comp=Z,1µm,20.0s,baz=223,slow=30
KSM Kuching 74.19 278 *e*P **P** **09 42 42.1 +0.1**
comp=Z,134nm,1.0s
KSM LR LR
comp=Z,457nm,22.0s
KSM Kuching 74.19 278 P P 09 42 46.1 +4.1
KSM Kuching 74.19 278 P P 09 42 45.3 +3.3
comp=Z,124nm,1.3s,comp=Z,1µm
ASAJ Asahikawa 74.34 331 P **P** **09 42 42.4 +0.2**
ASAJ Asahikawa 74.34 331 P **P** **09 42 42.4 +0.2**
comp=Z,5.3nm,0.8s,baz=238,slow=12,SNR=5.1
ASAJ LR LR 10 12 51.8
comp=Z,642nm,21.0s,baz=160,slow=34
TPUB Ta-pu 74.76 303 *e*P **P** **09 42 45.9 +0.8**
comp=Z,32nm,0.9s
YHNB Yeheng 74.89 304 PFAKE 09 43 00.0 +14
YHNB LR LR
comp=Z,734nm,22.0s
TATO Taipei 74.96 304 PFAKE 09 43 00.0 +14
TATO LR LR
comp=Z,824nm,21.0s
PET Petropavlovsk 76.44 345 PFAKE 09 43 10.0 +16
PET LR LR
comp=Z,1µm,20.0s
YSS Yuzh-Sakhalins 76.50 333 *e*P **P** **09 42 52.0 -2.5**
YSS *e* 09 43 01.0
YSS *e*S **S** **09 52 40.0 +0.7**
YSS Yuzh-Sakhalins 76.50 333 *e*P **P** **09 42 54.1 -0.4**
comp=Z,18nm,0.8s
YSS LR LR
comp=Z,545nm,21.0s
PETK Petropavlovsk- 76.75 345 P **P** **09 42 55.6 -0.2**
PETK Petropavlovsk- 76.75 345 P **P** **09 42 55.6 -0.2**
PETK Petropavlovsk- 76.75 345 P **P** **09 42 55.6 -0.2**
comp=Z,20nm,1.1s,baz=142,slow=5.5,SNR=8.9
PETK LR LR 10 11 31.4
comp=Z,997nm,20.9s,baz=164,slow=32
QZH Quanzhou 77.20 303 ⇑*i*P **P** **09 43 01.2 +2.3**
QZH S **S** **09 52 49.0 +1.1**
QZH pmax pmax
comp=Z,530nm,5.7s
QZH LR LR
comp=Z,860nm,23.0s
KSRS Korea Array 77.60 318 P **P** **09 43 01.5 +0.6**
comp=Z,11nm,1.2s,baz=135,slow=5.0,SNR=8.3
KSRS LR LR 10 11 25.4
comp=Z,827nm,20.9s,baz=127,slow=31
KSAR Wonju Array Be 77.62 318 P **P** **09 43 01.5 +0.5**
INCN Inchon 78.43 318 PFAKE 09 43 20.0 +14
INCN LR LR
comp=Z,877nm,21.0s
SSE Sheshan 78.45 310 *e*P **P** **09 43 06.5 +0.7**
SSE pP **pP** **09 43 09.7 -1.9**
SSE PcP **PcP** **09 43 16.2 +1.3**
SSE S **S** **09 53 02.3 +1.1**
SSE sS **sS** **09 53 09.2 -1.7**
SSE ScS **ScS** **09 53 26.2 +0.3**
SSE pmax pmax
comp=Z,16nm,0.6s
SSE LR LR
comp=N,380nm,23.1s
SSE LR LR
comp=E,140nm,23.0s
SSE LR LR
comp=Z,280nm,23.0s
MWC Mount Wilson 78.47 47 *e*P P 09 43 11.8 +5.7
MWC Mount Wilson 78.47 47 *e*P P 09 43 11.8 +5.7
ARVC Arvin 78.47 45 ⇑P **P** **09 43 07.5 +1.7**
baz=79
MURC Murrieta 78.70 47 ⇑P **P** **09 43 08.4 +1.2**
baz=79
VES Vestal, Richgr 78.72 45 ⇑P **P** **09 43 08.6 +1.4**
baz=79
BFSC Mount Baldy Ra 78.75 47 ⇑P **P** **09 43 09.4 +1.8**
baz=79
MONP Monument Peak 78.85 48 ⇑P **P** **09 43 09.8 +1.5**
baz=79
EDW2 Edwards Air Fo 78.89 46 ⇓P **P** **09 43 09.8 +1.5**
baz=79
DVTC Desert V Tower 78.94 49 ⇑P **P** **09 43 09.9 +1.3**
baz=79
ISA Isabella 79.02 45 *e*P **P** **09 43 09.1 +0.2**
ISA pmax pmax
comp=Z,146nm,1.8s
ISA Isabella 79.02 45 *e*P **P** **09 43 09.1 +0.2**
comp=Z,146nm,1.8s
ISA Isabella 79.02 45 ⇓P **P** **09 43 10.6 +1.7**
baz=79
CMB Columbia Colle 79.18 42 *e*P **P** **09 43 10.7 +1.0**
CMB pmax pmax
comp=Z,55nm,1.6s
CMB Columbia Colle 79.18 42 *e*P **P** **09 43 10.7 +1.0**
comp=Z,55nm,1.6s
PFO Pinyon Flat Ob 79.22 48 *e*P **P** **09 43 11.9 +1.7**
comp=Z,50nm,1.7s
PFO LR LR
comp=Z,874nm,20.0s
PFO Pinyon Flat Ob 79.22 48 ⇑P **P** **09 43 11.9 +1.7**
baz=80
LRMC Laurel Mountai 79.43 46 ⇓P **P** **09 43 13.0 +1.7**
baz=80
WDC Whiskeytown Da 79.43 39 *e*P **P** **09 43 12.4 +1.4**
WDC pmax pmax
comp=Z,89nm,1.8s
WDC Whiskeytown Da 79.43 39 *e*P **P** **09 43 12.4 +1.4**
comp=Z,89nm,1.8s
USRK Ussuriysk Arra 79.62 325 P **P** **09 43 12.3 +0.4**
comp=Z,14nm,1.1s,baz=126,slow=4.9,SNR=8.3
USRK LR LR 10 19 40.5
comp=Z,489nm,18.1s,baz=304,slow=37
CWC Cottonwood Cre 79.72 45 ⇓P **P** **09 43 14.6 +1.7**
baz=80
BELC Belle Mtn. Jos 79.75 48 ⇓P **P** **09 43 14.6 +1.5**
baz=80
MPMC Manual Prospec 79.90 45 ⇑P **P** **09 43 15.2 +1.4**
baz=80
GSC Goldstone 79.93 46 *e*P **P** **09 43 15.9 +2.0**
GSC pmax pmax
comp=Z,32nm,1.3s
GSC Goldstone 79.93 46 *e*P **P** **09 43 15.9 +2.0**
comp=Z,32nm,1.3s
GSC Goldstone 79.93 46 ⇑P **P** **09 43 15.3 +1.4**
baz=80
BC3 Big Chuckawall 79.94 48 ⇑P **P** **09 43 15.5 +1.4**
baz=80
DAC Darwin (Calif) 79.95 45 PFAKE 09 43 30.0 +16
DAC LR LR
comp=Z,3µm,22.0s
HEC Hector,Ludlow 79.98 47 ⇑P **P** **09 43 15.8 +1.6**
baz=80
GLA Glamis 80.06 49 *e*P **P** **09 43 15.5 +0.9**
GLA pmax pmax
comp=Z,55nm,1.5s
GLA Glamis 80.06 49 *e*P **P** **09 43 15.5 +0.9**
comp=Z,55nm,1.5s
GLA Glamis 80.06 49 ⇓P **P** **09 43 16.2 +1.6**
baz=80
YBH Yreka Blue Hor 80.06 38 P **P** **09 43 15.4 +0.9**
YBH Yreka Blue Hor 80.06 38 P **P** **09 43 15.4 +0.9**
comp=Z,12nm,1.2s,baz=233,slow=5.1,SNR=2.0
MYKOM Kota Tinggi 80.31 276 P **P** **09 43 18.5 +2.2**
MYKOM Kota Tinggi 80.31 276 P P 09 43 22.0 +5.7
comp=Z,52nm,1.6s,comp=Z,795nm
WCN Washoe City 80.33 42 *e*P **P** **09 43 18.2 +2.1**
WCN pmax pmax
comp=Z,31nm,1.3s
WCN Washoe City 80.33 42 *e*P **P** **09 43 18.2 +2.1**
comp=Z,31nm,1.3s
WCN Washoe City 80.33 42 ⇑P **P** **09 43 17.9 +1.7**
baz=81
GMRC Granite Mounta 80.42 47 ⇓P **P** **09 43 18.3 +1.6**
baz=81
IRM Iron Mountain 80.43 48 ⇓P **P** **09 43 17.8 +1.2**
baz=81
GRAC Grapevine Rang 80.51 45 ⇓P **P** **09 43 18.8 +1.8**
baz=81
FURC Furnace Creek, 80.55 45 ⇑P **P** **09 43 18.6 +1.5**
baz=81
SHOC Shoshone 80.61 46 ⇓P **P** **09 43 18.8 +1.3**
baz=81
NJ2 Nanjing 80.64 309 *e*P **P** **09 43 17.8 +0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
Y12C Blythe 80.64 49 ⇓P **P** **09 43 19.3 +1.6**
baz=81
113A Mohawk Valley, 80.66 50 ⇓P **P** **09 43 19.4 +1.6**
baz=81
NVAR Mina Array Bea 80.73 43 P **P** **09 43 17.4 -0.9**
NVAR Mina Array Bea 80.73 43 P **P** **09 43 17.4 -0.9**
comp=Z,17nm,1.0s,baz=221,slow=8.1,SNR=13
NVAR LR LR 10 14 54.7
comp=Z,783nm,18.0s,baz=120,slow=33
KGM Kluang 80.88 276 P P 09 43 22.7 +3.2
214A Organ Pipe Nat 80.92 51 ⇑P **P** **09 43 20.8 +1.5**
baz=81,SNR=5.9
KDAK Kodiak Island 80.94 13 P **P** **09 43 18.8 +0.2**
KDAK Kodiak Island 80.94 13 P **P** **09 43 17.2 -1.4**
comp=Z,16nm,1.0s,baz=146,slow=7.3,SNR=2.8
KDAK LR LR 10 11 30.3
comp=Z,1µm,21.6s,baz=218,slow=30
LDFC Landfair 80.96 47 *e*P **P** **09 43 21.6 +2.1**
comp=Z,148nm,1.5s
HABR Khabarovsk 81.07 330 ⇓P **P** **09 43 22.3 +2.7**
HABR 09 46 21.5
HABR *e*PPP PPP 09 48 11.2
HABR S **S** **09 53 25.9 -2.3**
HABR *e* 09 53 32.2
HABR *e*SS **SS** **09 58 40.6 -3.0**
HABR pmax pmax
comp=Z,220nm,1.8s
HABR pmax pmax
comp=E,104nm,1.8s
HABR pmax pmax
comp=N,61nm,1.8s
HABR MLR MLR
comp=Z,184nm,17.0s
MDJ Mudanjiang 81.19 325 P **P** **09 43 22.0 +1.7**
MDJ sP **sP** **09 43 26.5 -1.8**
MDJ S **SKSac** **09 53 35.9 -2.7**
MDJ pmax pmax
comp=Z,23nm,2.3s
MDJ pmax pmax
comp=Z,180nm,7.2s
MDJ LR LR
comp=N,410nm,35.4s
MDJ LR LR
comp=E,270nm,39.8s
MDJ LR LR
comp=Z,660nm,28.7s
MDJ Mudanjiang 81.19 325 *e*P **P** **09 43 20.0 -0.3**
comp=Z,45nm,1.4s
MDJ LR LR
comp=Z,504nm,20.0s
PDMCI Parker Dam,Lak 81.21 48 ⇑P **P** **09 43 22.1 +1.4**
baz=81
TPH Tonopah 81.22 44 PFAKE 09 43 30.0 +9.0
TPH LR LR
comp=Z,858nm,20.0s
114A Black Gap (USA 81.28 50 ⇑P **P** **09 43 22.4 +1.3**
baz=82
MAW Mawson 81.53 200 LR LR 10 16 15.4
comp=Z,2µm,21.6s,baz=110,slow=33
Z14A Wintersburg 81.56 50 ⇑P **P** **09 43 23.8 +1.2**
baz=82
MOD Modoc 81.58 39 *e*P **P** **09 43 23.5 +0.8**
comp=Z,46nm,1.4s
QIZ Qiongzhong 81.66 294 P **P** **09 43 23.3 -0.1**
QIZ S **S** **09 53 38.2 +2.7**
QIZ sS **sS** **09 53 44.3 -0.9**
QIZ pmax pmax
comp=Z,87nm,6.7s
QIZ LR LR
comp=N,420nm,21.9s
QIZ LR LR
comp=Z,500nm,25.2s
QIZ Qiongzhong 81.66 294 PFAKE 09 43 30.0 +6.6
QIZ LR LR
comp=Z,364nm,21.0s
W13A Hualapai Mount 81.81 48 ⇑P **P** **09 43 26.1 +2.0**
baz=82
Y14A Wickenburg 81.82 49 ⇑P **P** **09 43 25.5 +1.5**
baz=82
COCO West Island 82.04 260 PFAKE 09 43 40.0 +14
COCO LR LR
comp=Z,1µm,19.0s
R11A Troy Canyon, C 82.44 44 ⇑P **P** **09 43 28.9 +1.6**
baz=83
DL2 Dalian 82.46 316 P **P** **09 43 28.1 +1.0**
DL2 S **S** **09 53 47.2 +4.3**
DL2 pmax pmax
comp=Z,10.0nm,1.2s
DL2 LR LR
comp=N,240nm,16.0s
DL2 LR LR
comp=E,160nm,16.8s
DL2 LR LR
comp=Z,370nm,28.3s
BMN Battle Mountai 82.58 42 *e*P **P** **09 43 28.4 +0.4**
BMN pmax pmax
comp=Z,68nm,1.4s
BMN MLR MLR
comp=Z,941nm,19.0s
BMN Battle Mountai 82.58 42 *e*P **P** **09 43 28.4 +0.4**
comp=Z,68nm,1.4s
BMN LR LR
comp=Z,941nm,19.0s
TUC Tucson 82.58 52 *e*P **P** **09 43 28.7 +0.6**
TUC pmax pmax
comp=Z,86nm,1.6s
TUC MLR MLR
comp=Z,508nm,20.0s
TUC Tucson 82.58 52 *e*P **P** **09 43 28.6 +0.6**
comp=Z,86nm,1.6s
TUC LR LR
comp=Z,508nm,20.0s
WVOR Wild Horse Val 82.88 40 *e*P **P** **09 43 29.5 0.0**
WVOR pmax pmax
comp=Z,94nm,1.6s
WVOR Wild Horse Val 82.88 40 *e*P **P** **09 43 29.4 0.0**
comp=Z,94nm,1.6s
FRIM Kepong 82.90 276 P P 09 43 33.4 +3.4
CN2 Changchun 82.99 322 *e*P **P** **09 43 29.7 -0.1**
CN2 *es*P **sP** **09 43 36.7 -1.1**
CN2 *e*S **S** **09 53 48.4 +0.2**
CN2 SS **SS** **09 59 14.8 +2.4**
CN2 pmax pmax
comp=Z,30nm,1.5s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,800nm,15.0s
CN2 LR LR
comp=E,400nm,15.0s
CN2 LR LR
comp=Z,700nm,16.0s
NLWA Neilton Lookou 83.08 33 PFAKE 09 43 40.0 +10
NLWA LR LR
comp=Z,1µm,19.0s
FL2 Flat Top 2 83.10 35 P **P** **09 43 31.7 +1.2**
KLR Kul'dur 83.16 329 *e*P P 09 43 26.4 -4.2
KLR *e*S **S** **09 53 53.5 +3.8**
KLR pmax pmax
comp=E,60nm,2.2s
KLR pmax pmax
comp=Z,130nm,2.2s
X16A Lo Mia Camp, P 83.17 49 ⇓P **P** **09 43 33.5 +2.3**
baz=83,SNR=30
WHN Wuhan 83.22 306 *e*P **P** **09 43 31.7 +0.4**
WHN S **S** **09 53 51.4 +0.4**
WHN pmax pmax
comp=Z,680nm,5.5s
WHN LR LR
comp=N,790nm,16.5s
WHN LR LR
comp=E,740nm,17.4s
WHN LR LR
comp=Z,920nm,17.2s
319A Douglas 83.23 53 ⇓P **P** **09 43 33.1 +1.5**
baz=83,SNR=7.0
R13A O'Grain Ranch, 83.41 45 ⇓P **P** **09 43 34.2 +1.8**
baz=84
USHA Ushuaia 83.47 147 LR LR 10 14 04.0
comp=Z,450nm,18.5s,baz=219,slow=31
CCUT Cedar City 83.48 46 *e*P **P** **09 43 33.4 +0.6**
comp=Z,58nm,1.7s
ARUT Antelope Range 83.55 46 *e*P **P** **09 43 33.7 +0.6**
ARUT pmax pmax
comp=Z,53nm,1.5s
ARUT Antelope Range 83.55 46 *e*P **P** **09 43 33.6 +0.6**
comp=Z,53nm,1.5s
X17A Forest Lakes 83.58 50 ⇑P **P** **09 43 35.1 +1.7**
baz=84,SNR=24
320A Kipp Ranch, An 83.78 53 ⇓P **P** **09 43 36.3 +2.0**
baz=84,SNR=15
WUAZ Wupatki 83.78 48 *e*P **P** **09 43 35.2 +0.8**
comp=Z,92nm,1.5s
WUAZ LR LR
comp=Z,673nm,20.0s
WUAZ Wupatki 83.78 48 ⇓P **P** **09 43 36.4 +2.1**
baz=84,SNR=21
IPM Ipoh 83.91 277 *e*P **P** **09 43 35.1 -0.2**
comp=Z,82nm,1.0s
IPM Ipoh 83.91 277 P P 09 43 41.6 +6.3
IPM Ipoh 83.91 277 P **P** **09 43 37.6 +2.3**
comp=Z,103nm,1.1s,comp=Z,1µm
SLKM Skilak Lake 83.93 13 *e*P **P** **09 43 32.7 -1.6**
SLKM Skilak Lake 83.93 13 *e*P **P** **09 43 32.7 -1.6**
ELK Elko 84.00 42 *e*P **P** **09 43 34.5 -0.9**
220A Playas Peak, P 84.05 53 ⇑P **P** **09 43 37.7 +2.0**
baz=84,SNR=16
120A U Bar Ranch, L 84.28 52 ⇑P **P** **09 43 39.0 +2.1**
baz=84,SNR=5.0
X18A Snowflake 84.29 50 ⇓P **P** **09 43 38.3 +1.4**
baz=84
BBB Bella Bella 84.32 28 LR LR 10 12 13.0
comp=Z,905nm,20.9s,baz=229,slow=29
GAMB Gambell 84.41 2 *e*P **P** **09 43 35.2 -1.3**
comp=Z,76nm,1.6s
Y19A Nutrioso 84.51 51 ⇓P **P** **09 43 40.2 +2.0**
baz=85,SNR=24
R15A Junction 84.56 46 ⇑P **P** **09 43 40.2 +2.0**
baz=85,SNR=6.7
RC01 Rabbit Creek A 84.56 13 *e*P **P** **09 43 35.8 -1.6**
comp=Z,55nm,1.2s
Z20A Nine Sixteen R 84.58 52 ⇑P **P** **09 43 40.7 +2.2**
baz=85,SNR=21
221A Mesquite Ranch 84.66 53 ⇑P **P** **09 43 40.2 +1.3**
baz=85
W18A Petrified Fore 84.74 50 ⇓P **P** **09 43 40.7 +1.5**
baz=85
HAWA Hanford 84.75 36 *e*P **P** **09 43 38.8 +0.1**
comp=Z,58nm,1.2s
HAWA LR LR
comp=Z,1µm,20.0s
MVU Marysvale 84.75 46 *e*P **P** **09 43 40.1 +0.9**
comp=Z,90nm,1.8s
MVU LR LR
comp=Z,818nm,21.0s
S16A Weppner Ranch, 84.76 46 ⇑P **P** **09 43 40.7 +1.5**
baz=85,SNR=12
MSU Marysvale 84.78 46 *e*P **P** **09 43 40.6 +1.2**
MSU pmax pmax
comp=Z,117nm,1.9s
MSU Marysvale 84.78 46 *e*P **P** **09 43 40.6 +1.2**
comp=Z,117nm,1.9s
121A Cookes Peak, D 84.90 53 ⇓P **P** **09 43 41.5 +1.4**
baz=85
T17A Navajo Res., N 84.93 47 ⇑P **P** **09 43 42.1 +1.9**
baz=85,SNR=5.8
ETW Entiat 85.06 35 P **P** **09 43 40.4 -0.1**
BMO Blue Mountains 85.09 38 *e*P **P** **09 43 39.9 -0.7**
BMO pmax pmax
comp=Z,71nm,1.8s
BMO MLR MLR
comp=Z,685nm,20.0s
BMO Blue Mountains 85.09 38 *e*P **P** **09 43 39.9 -0.7**
comp=Z,71nm,1.8s
BMO LR LR
comp=Z,685nm,20.0s
Y20A Horse Springs, 85.12 51 ⇑P **P** **09 43 43.1 +1.9**
baz=85,SNR=32
R16A Teasdale 85.13 46 ⇓P **P** **09 43 42.6 +1.4**
baz=85,SNR=6.9
MFID Camas Ranch 85.13 40 *e*P **P** **09 43 40.7 -0.2**
comp=Z,28nm,1.2s
MFID Camas Ranch 85.13 40 ⇑P **P** **09 43 42.4 +1.5**
baz=85,SNR=19
PMR Palmer 85.14 13 *e*P **P** **09 43 37.9 -2.4**
PMR pmax pmax
comp=Z,138nm,1.7s
PMR Palmer 85.14 13 *e*P **P** **09 43 37.9 -2.4**
comp=Z,138nm,1.7s
222A Williams Famil 85.21 53 ⇓P **P** **09 43 42.5 +0.9**
baz=85
DUG Dugway 85.25 44 *e*P **P** **09 43 43.0 +1.4**
DUG pmax pmax
comp=Z,40nm,1.7s
DUG MLR MLR
comp=Z,786nm,21.0s
DUG Dugway 85.25 44 *e*P **P** **09 43 43.0 +1.4**
comp=Z,40nm,1.7s
DUG LR LR
comp=Z,786nm,21.0s
DUG Dugway 85.25 44 ⇓P **P** **09 43 42.9 +1.4**
baz=86
S17A Black Ridge (B 85.26 47 ⇓P **P** **09 43 42.7 +1.0**
baz=86
PSI Prapat 85.26 275 P **P** **09 43 43.8 +1.6**
PSI Prapat 85.26 275 P P 09 43 46.7 +4.4
comp=Z,79nm,1.1s,comp=Z,747nm
PSI Prapat 85.26 275 P **P** **09 43 43.8 +1.6**
comp=Z,49nm,1.0s,baz=183,slow=5.0,SNR=19
PSI LR LR 10 22 12.9
comp=Z,515nm,21.3s,baz=134,slow=36
P15A Leamington 85.27 45 ⇑P **P** **09 43 42.9 +1.2**
baz=86
U18A Rough Rock, Ch 85.29 48 ⇓P **P** **09 43 43.8 +1.9**
baz=86,SNR=11
X20A Quemado 85.34 51 ⇑P **P** **09 43 44.3 +2.0**
baz=86,SNR=12
Z21A St. Cloud Mine 85.35 52 ⇑P **P** **09 43 44.3 +1.9**
baz=86,SNR=21
DIV Divide 85.48 15 *e*P **P** **09 43 40.4 -1.7**
comp=Z,70nm,1.2s
SML Sawmill 85.50 13 *e*P **P** **09 43 40.2 -2.0**
SML pmax pmax
comp=Z,13nm,1.4s
SML Sawmill 85.50 13 *e*P **P** **09 43 40.2 -2.0**
comp=Z,13nm,1.4s
O15A The Old Anders 85.52 44 ⇓P **P** **09 43 43.9 +0.9**
baz=86,SNR=6.1
122A Conniff Cattle 85.56 53 ⇓P **P** **09 43 45.5 +2.2**
baz=86
W20A Ramah 85.62 50 ⇓P **P** **09 43 45.2 +1.5**
baz=86,SNR=23
BMRM Bremner River 85.62 15 *e*P **P** **09 43 41.5 -1.4**
comp=Z,172nm,1.6s
T18A Mexican Hat 85.64 48 ⇓P **P** **09 43 45.5 +1.8**
baz=86,SNR=43
Q16A Castle Valley 85.66 46 ⇑P **P** **09 43 44.6 +0.8**
baz=86,SNR=10
223A Chaparral, Ant 85.67 54 ⇑P **P** **09 43 45.2 +1.3**
baz=86

Y21A Point of Rocks 85.68 51 ⇑P P 09 43 45.0 +1.0
baz=86,SNR=9.2
U19A Dine' College, 85.69 49 ⇓P P 09 43 45.0 +0.9
baz=86,SNR=19
WRAK Wrangell Islan 85.70 23 PFAKE 09 43 50.0 +6.8
WRAK LR LR
comp=Z,2µm,22.0s
P16A Fountain Green 85.70 45 ⇓P P 09 43 44.6 +0.7
baz=86
R17A Hanksville Air 85.72 46 ⇓P P 09 43 45.0 +1.0
baz=86,SNR=22
I12A Atlanta 85.76 40 ⇓P P 09 43 45.5 +1.3
baz=86,SNR=24
OD2 Odessa Site #2 85.80 36 P P 09 43 44.2 +0.1
TMUT Trail Mountain 85.83 45 *eP* P 09 43 45.8 +1.1
comp=Z,24nm,0.7s
S18A Hurst Farm, Bl 85.84 47 ⇑P P 09 43 45.6 +0.8
baz=86
Z22A Elephant Butte 85.85 52 ⇓P P 09 43 46.3 +1.5
baz=86,SNR=12
MPU Maple Canyon 85.92 45 *eP* P 09 43 46.9 +1.8
comp=Z,53nm,1.6s
HLID Hailey 86.07 40 *eP* P 09 43 46.0 +0.3
comp=Z,20nm,1.3s
HLID LR LR
comp=Z,471nm,19.0s
HLID Hailey 86.07 40 ⇓P P 09 43 47.2 +1.6
baz=86,SNR=6.4
T19A Beclabito 86.08 48 ⇓P P 09 43 47.4 +1.5
baz=86,SNR=11
O16A Springville 86.11 44 ⇓P P 09 43 46.9 +1.0
baz=86
HVU Hansel Valley 86.12 43 *eP* P 09 43 46.5 +0.6
HVU *e* 09 47 07.8
HVU pmax pmax
comp=Z,58nm,1.6s
HVU Hansel Valley 86.12 43 *eP* P 09 43 46.5 +0.6
comp=Z,58nm,1.6s
HVU *ePP* PP 09 47 07.8 +1.1
J13A Cove Ranch, Pi 86.12 41 ⇓P P 09 43 47.4 +1.5
baz=86,SNR=18
324A Moseley Ranch, 86.13 54 ⇓P P 09 43 47.4 +1.2
baz=86,SNR=8.1
M15A Larsen Ranch, 86.16 43 ⇑P P 09 43 47.2 +1.1
baz=86
Y22A Socorro 86.17 52 ⇓P P 09 43 47.7 +1.3
baz=86,SNR=16
SRU San Rafael 86.20 46 *eP* P 09 43 46.8 +0.4
SRU pmax pmax
comp=Z,72nm,1.4s
SRU San Rafael 86.20 46 *eP* P 09 43 46.8 +0.4
comp=Z,72nm,1.4s
SRU San Rafael 86.20 46 ⇑P P 09 43 47.6 +1.2
baz=86,SNR=19
425A Indio Mountain 86.21 55 ⇑P P 09 43 47.7 +1.1
baz=86,SNR=11
U20A Newcomb 86.22 49 ⇑P P 09 43 47.9 +1.4
baz=86
R18A Canyonlands Na 86.25 47 ⇑P P 09 43 48.0 +1.3
baz=86,SNR=20
LAZ Ladron 86.26 51 *eP* P 09 43 46.0 -0.9
comp=Z,34nm,1.4s
Y22D IRIS PASSCAL I 86.27 52 ⇑P P 09 43 48.1 +1.3
baz=86
LENM Lemitar 86.27 51 *eP* P 09 43 47.6 +0.7
comp=Z,21nm,1.3s
K14A Jones Ranch, D 86.28 42 ⇓P P 09 43 48.4 +1.7
baz=86,SNR=9.9
MNTX Cornudas Mount 86.32 54 *eP* P 09 43 47.2 +0.2
comp=Z,59nm,1.5s
MNTX LR LR
comp=Z,451nm,19.0s
MNTX Cornudas Mount 86.32 54 ⇑P P 09 43 48.5 +1.5
baz=86,SNR=22
626A Big Bend Ranch 86.32 57 ⇓P P 09 43 48.1 +1.0
baz=86
JLU Jordanelle 86.35 44 *eP* P 09 43 48.3 +1.1
comp=Z,71nm,1.8s
H12A Diamond D Ranc 86.35 39 ⇓P P 09 43 48.1 +1.1
baz=87,SNR=6.3
DAU Daniels Canyon 86.38 44 *eP* P 09 43 50.3 +2.9
DAU pmax pmax
comp=Z,77nm,1.8s
DAU Daniels Canyon 86.38 44 *eP* P 09 43 50.3 +2.9
comp=Z,77nm,1.8s
TNA Tin City 86.38 4 *eP* P 09 43 46.2 -0.2
comp=Z,94nm,1.9s
224A Cornudas Mount 86.38 54 ⇑P P 09 43 49.1 +1.6
baz=87,SNR=20
Z23A Rita Site, Whi 86.40 53 ⇓P P 09 43 48.5 +1.1
baz=87
G12A Big Creek, Yel 86.40 39 ⇓P P 09 43 48.4 +1.1
baz=87,SNR=20
I13A Wildhorse Cree 86.44 40 ⇓P P 09 43 48.7 +1.1
baz=87
Q18A Rafter H Ranch 86.45 46 ⇑P P 09 43 48.7 +1.1
baz=87,SNR=25
S19A Harvey Farm, M 86.46 47 ⇑P P 09 43 48.6 +0.8
baz=87
L15A Malad City 86.48 43 ⇓P P 09 43 48.8 +1.0
baz=87
325A Bean Ranch, Si 86.48 55 ⇑P P 09 43 48.4 +0.4
baz=87
J14A Carey 86.48 41 ⇑P P 09 43 48.6 +1.0
baz=87
N16A Rees Ranch, Co 86.50 44 ⇑P P 09 43 49.1 +1.2
baz=87
BNM Barren Site 86.52 52 *eP* P 09 43 48.8 +0.6
comp=Z,58nm,1.7s
TRF Thorofare Moun 86.59 12 *eP* P 09 43 44.7 -3.0
comp=Z,114nm,1.4s
LPM Los Pinos Moun 86.59 51 *eP* P 09 43 49.2 +0.8
comp=Z,39nm,1.5s
TXAR Lajitas Array 86.59 57 P P 09 43 48.6 +0.1
TXAR Lajitas Array 86.59 57 P P 09 43 48.6 +0.1
comp=Z,3.4nm,1.0s,baz=205,slow=5.5,SNR=12
TXAR LR LR 10 14 13.3
comp=Z,473nm,20.4s,baz=280,slow=30
SYO Syowa Base 86.60 192 ⇓*ep*P P 09 43 50.2 +2.5
O17A Robinson Place 86.61 45 ⇑P P 09 43 49.1 +0.7
baz=87,SNR=15
BJT Baijiatuau 86.62 315 PFAKE 09 44 00.0 +12
BJT LR LR
comp=Z,672nm,20.0s
BJI Beijing 86.63 315 P P 09 43 48.4 +0.2
BJI SKS **SKSac** 09 54 11.3 -2.8
BJI S **S** 09 54 27.0 +2.6
BJI pmax pmax
comp=Z,14nm,1.7s
BJI pmax pmax
comp=Z,350nm,3.9s
BJI LR LR
comp=N,440nm,19.0s
BJI LR LR
comp=E,410nm,37.1s
BJI LR LR
comp=Z,560nm,32.2s
MVCO Mesa Verde 86.64 48 *eP* P 09 43 49.3 +0.6
comp=Z,25nm,1.5s
R19A Curley Farm, L 86.64 47 ⇑P P 09 43 48.9 +0.2
baz=87,SNR=8.1
H13A Challis 86.72 40 ⇓P P 09 43 49.3 +0.5
baz=87,SNR=10
124A Stringfield Ra 86.72 53 ⇓P P 09 43 49.2 0.0
baz=87,SNR=7.9
K15A Arbon 86.75 42 ⇑P P 09 43 49.4 +0.4
baz=87
F12A Elk City 86.79 38 ⇓P P 09 43 49.2 +0.1
baz=87,SNR=54
HWUT Hardware Ranch 86.80 43 *eP* P 09 43 49.5 +0.2
comp=Z,15nm,1.4s
HWUT LR LR
comp=Z,804nm,19.0s
ENH Enshi 86.82 304 *eP* P 09 43 49.3 -0.2
comp=Z,116nm,1.4s
ENH LR LR
comp=Z,511nm,21.0s
SEY Seymchan 86.83 347 ⇑*eP* P 09 43 47.5 -1.2
Y23A Lovelace Mesa, 86.84 52 ⇓P P 09 43 49.9 +0.2
baz=87,SNR=8.4
U21A Nageezi 86.85 49 ⇓P P 09 43 50.0 +0.3
baz=87,SNR=27
I14A Mackay 86.85 40 ⇓P P 09 43 50.2 +0.7
baz=87,SNR=10.0
PAYG Puerto Ayora 86.88 90 PFAKE 09 44 00.0 +10
PAYG LR LR
comp=Z,1µm,19.0s
N17A Moffit Pass 86.93 44 ⇑P P 09 43 50.5 +0.5
baz=87
225A Deer Hill, Car 86.93 54 ⇓P P 09 43 50.3 +0.2
baz=87,SNR=6.7
Q19A Hogan Spring (86.97 46 ⇓P P 09 43 51.2 +1.1
baz=87
E12A Beaver Dam Sad 86.98 38 ⇓P P 09 43 51.2 +1.2
baz=87
SKAG Skagway 87.00 20 *eP* P 09 43 47.6 -2.0
comp=Z,174nm,1.9s
ANMO Albuquerque 87.01 51 *eP* P 09 43 50.7 +0.2
ANMO LR LR
comp=Z,609nm,20.0s
ANMO Albuquerque 87.01 51 P P 09 43 50.5 0.0
comp=Z,14nm,1.1s,baz=237,slow=5.2,SNR=7.8
G13A Cobalt 87.02 39 ⇑P P 09 43 50.4 +0.1
baz=87,SNR=14
S20A Disappointment 87.03 48 ⇓P P 09 43 51.4 +0.8
baz=87
PV01 Paradox Valley 87.04 47 *eP* P 09 43 50.6 0.0
comp=Z,1µm,1.1s
Z24A Sheeppen Canyo 87.07 53 ⇓P P 09 43 51.7 +0.8
baz=87
L16A Fish Haven 87.09 43 ⇓P P 09 43 51.7 +0.9
baz=87
MCK McKinley 87.11 12 *eP* P 09 43 47.5 -2.5
MCK pmax pmax
comp=Z,177nm,1.6s
MCK McKinley 87.11 12 *eP* P 09 43 47.5 -2.5
comp=Z,177nm,1.6s
PAX Paxson 87.16 14 P P 09 43 50.4 0.0
PAX pmax pmax
comp=Z,72nm,1.8s
PAX Paxson 87.16 14 P P 09 43 50.4 0.0
comp=Z,72nm,1.8s
NEW Newport 87.18 35 PFAKE 09 44 00.0 +9.2
NEW LR LR
comp=Z,789nm,20.0s
NEW Newport 87.18 35 ⇑P P 09 43 52.0 +1.2
baz=87
J15A Blackfoot 87.19 41 ⇓P P 09 43 52.7 +1.6
baz=87
R20A Redvale 87.19 47 ⇓P P 09 43 52.4 +1.1
baz=87
T21A Navajo Lake 87.21 49 ⇓P P 09 43 52.5 +1.0
baz=87
326A Caldwell Ranch 87.22 55 ⇓P P 09 43 52.6 +1.1
baz=87
628A Black Gap, Mar 87.27 57 ⇑P P 09 43 51.7 0.0
baz=88
H14A Leadore 87.28 40 ⇑P P 09 43 52.2 +0.7
baz=88,SNR=12
Y24A Capitan 87.29 52 ⇑P P 09 43 52.2 +0.3
baz=88,SNR=13
125A Gardner Draw, 87.30 54 ⇓P P 09 43 52.4 +0.5
baz=88,SNR=11
W23A Werner Place, 87.33 51 ⇑P P 09 43 52.2 +0.1
baz=88,SNR=6.5
S21A Coal Bank Pass 87.35 48 ⇑P P 09 43 52.3 0.0
baz=88,SNR=6.8
F13A Darby 87.35 39 ⇓P P 09 43 51.6 -0.2
baz=88,SNR=19
U22A Llaves 87.40 50 ⇑P P 09 43 52.2 -0.1
baz=88
C11A Tepee Creek (N 87.41 36 ⇓P P 09 43 51.9 -0.1
baz=88
K16A Soda Springs 87.42 42 ⇑P P 09 43 52.6 +0.3
baz=88
GYA Guiyang 87.44 299 ⇑*iP* P 09 43 53.2 +0.5
GYA PP **PP** 09 47 20.3 +2.6
GYA SKS **SKSac** 09 54 18.6 -1.5
GYA S **S** 09 54 32.0 -1.2
GYA SS **SS** 10 00 20.7 +1.8
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,150nm,5.0s
GYA LR LR
comp=N,710nm,20.5s
GYA LR LR
comp=E,690nm,21.0s
GYA LR LR
comp=Z,640nm,20.8s
226A Malaga, Loving 87.45 54 ⇑P P 09 43 52.7 +0.1
baz=88
427A Hayter Ranch, 87.46 56 ⇓P P 09 43 53.0 +0.3
baz=88
D12A Red Ives Fores 87.47 37 ⇓P P 09 43 52.9 +0.6
baz=88
I15A Monteview 87.48 41 ⇑P P 09 43 53.3 +0.8
baz=88
P19A Cripple Cowboy 87.49 46 ⇑P P 09 43 53.2 +0.5
baz=88
Z25A Roswell 87.53 53 ⇑P P 09 43 52.9 -0.1
baz=88
MENT Menasta 87.54 15 *eP* P 09 43 50.8 -1.4
G14A Jackson 87.56 39 ⇓P P 09 43 52.7 -0.3
baz=88,SNR=6.4
V23A Ortiz Mt. (NFS 87.58 50 ⇑P P 09 43 53.7 +0.5
baz=88
Q20A Ridgley Place, 87.62 47 ⇑P P 09 43 53.2 -0.1
baz=88,SNR=6.4
J16A Bone 87.64 42 ⇑P P 09 43 54.0 +0.7
baz=88
528A Cox Ranch, San 87.64 57 ⇑P P 09 43 53.8 +0.3
baz=88
T22A Edith 87.66 49 ⇓P P 09 43 53.9 +0.2
baz=88,SNR=5.7
M18A Lyman 87.67 44 ⇓P P 09 43 54.2 +0.6
baz=88
AHID Auburn Hatcher 87.69 42 *eP* P 09 43 53.9 +0.2
comp=Z,72nm,2.1s
AHID LR LR
comp=Z,724nm,20.0s
MCMT McKenzie Canyo 87.70 40 *eP* P 09 43 54.2 +0.5
H15A Lima 87.71 40 ⇑P P 09 43 54.0 +0.4
baz=88,SNR=6.3
O19A Miners Draw (B 87.72 45 ⇓P P 09 43 54.6 +0.8
baz=88
C12B Naegeli Ranch, 87.77 37 ⇑P P 09 43 53.9 +0.3
baz=88,SNR=22
126A Clayton Basin, 87.78 54 ⇓P P 09 43 54.5 +0.4
baz=88
E13A Victor 87.79 38 ⇑P P 09 43 54.0 +0.2
baz=88
K17A Gardner Place, 87.80 42 ⇑P P 09 43 54.7 +0.6
baz=88
Y25A Mesa, Roswell 87.84 53 ⇓P P 09 43 54.8 +0.4
baz=88,SNR=10.0
U23A El Rito 87.85 50 ⇑P P 09 43 55.0 +0.4
baz=88,SNR=6.6
R21A Cimarron 87.85 48 ⇓P P 09 43 54.3 -0.3
baz=88,SNR=7.9
RRI2 Red Ridge 87.86 42 *eP* P 09 43 56.3 +1.8
comp=Z,62nm,1.8s
W24A Lazy 6 Ranch, 87.90 51 ⇓P P 09 43 54.7 -0.1
baz=88
F14A Wisdom 87.92 39 ⇑P P 09 43 54.4 -0.2
baz=88,SNR=8.1
428A Kincaid Ranch, 87.96 56 ⇓P P 09 43 55.5 +0.4
baz=88
N19A John Jarvie Ra 87.98 45 ⇑P P 09 43 55.8 +0.8
baz=88
D13A Huson 88.00 37 ⇑P P 09 43 55.0 +0.2
baz=88,SNR=9.7
I16A Newdale 88.03 41 ⇓P P 09 43 55.5 +0.4
baz=88
DLBC Dease Lake 88.04 23 *eP* P 09 43 53.8 -0.8
DLBC Dease Lake 88.04 23 P P 09 43 53.9 -0.8
comp=Z,5.4nm,1.1s,baz=193,slow=7.1,SNR=5.0
DLBC LR LR 10 17 28.0
comp=Z,1µm,18.4s,baz=162,slow=32
S22A 4UR Ranch, Cre 88.06 48 ⇓P P 09 43 55.9 +0.3
baz=88,SNR=24
Q21A Lamborn Mesa, 88.06 47 ⇓P P 09 43 55.9 +0.4
baz=88,SNR=5.4
CPRX Cap Rock 88.06 54 *eP* P 09 43 55.1 -0.5
comp=Z,24nm,0.7s
DOT Dot Lake 88.07 14 *eP* P 09 43 52.9 -1.8
comp=Z,22nm,1.4s
Z26A Caprock 88.08 53 ⇑P P 09 43 55.7 +0.1
baz=88
G15A Dillon 88.10 40 ⇑P P 09 43 55.7 +0.3
baz=88,SNR=22
X25A Clemmons Ranch 88.13 52 ⇓P P 09 43 56.0 +0.1
baz=88
B12A Libby 88.14 36 ⇓P P 09 43 56.2 +0.8
baz=88
DLMT Dillon 88.14 40 *eP* P 09 43 55.2 -0.4
comp=Z,33nm,1.3s
MSO Missoula 88.15 38 *eP* P 09 43 56.4 +0.8
comp=Z,24nm,1.6s
MSO LR LR
comp=Z,212nm,19.0s
MSO Missoula 88.15 38 ⇓P P 09 43 56.3 +0.8
baz=88
328A Wristen Ranch, 88.15 56 ⇓P P 09 43 56.2 +0.4
baz=88
REDW Red Top Meadow 88.16 42 *eP* P 09 43 56.8 +1.0
comp=Z,47nm,1.7s
TPAW Teton Pass 88.16 42 *eP* P 09 43 56.6 +0.7
comp=Z,60nm,1.9s
E14A Clinton 88.18 38 ⇓P P 09 43 56.1 +0.3
baz=88,SNR=21
V24A Rampart Ranch, 88.23 51 ⇓P P 09 43 56.5 +0.1
baz=88
BSMT Bassoo Peak 88.23 37 *eP* P 09 43 55.1 -0.9
comp=Z,14nm,1.1s
O20A White River Ci 88.23 46 ⇓P P 09 43 56.6 +0.3
baz=88
J17A Brown Place, J 88.24 42 ⇓P P 09 43 56.8 +0.5
baz=88
C13A Hot Springs 88.26 37 ⇑P P 09 43 56.7 +0.7
baz=88
SNOW Snow King Moun 88.27 42 *eP* P 09 43 56.7 +0.3
comp=Z,85nm,1.9s
T23A Casias Ranch, 88.28 49 ⇓P P 09 43 57.1 +0.4
baz=88
K18A Toltan Ranch, 88.30 43 ⇓P P 09 43 57.3 +0.7
baz=88
M19A Rock Springs 88.30 44 ⇑P P 09 43 56.9 +0.3
baz=88
R22A Saguache, Gunn 88.34 48 ⇑P P 09 43 57.1 +0.1
baz=89,SNR=8.6
COLA College 88.34 12 *eP* P 09 43 53.2 -2.6
COLA pmax pmax
comp=Z,45nm,1.3s
COLA MLR MLR
comp=Z,2µm,21.0s
COLA College 88.34 12 *eP* P 09 43 53.2 -2.6
comp=Z,45nm,1.3s
COLA LR LR
comp=Z,2µm,21.0s
A12A Yaak River Ran 88.37 35 ⇑P P 09 43 56.7 +0.3
baz=89,SNR=6.2
IMW Indian Meadow 88.38 41 *eP* P 09 43 56.9 -0.1
comp=Z,32nm,1.6s
LOHW Long Hollow 88.44 42 *eP* P 09 43 58.1 +0.9
comp=Z,58nm,2.0s
ILAR Eielson Array 88.44 12 P P 09 43 54.1 -2.3
ILAR Eielson Array 88.44 12 P P 09 43 54.1 -2.3
comp=Z,7.2nm,1.2s,baz=231,slow=5.7,SNR=19
ILAR LR LR 10 16 11.9
comp=Z,873nm,21.0s,baz=216,slow=31
F15A Butte 88.45 39 ⇓P P 09 43 57.8 +0.6
baz=89
JTMT Jette 88.46 37 *eP* P 09 43 57.3 +0.3
comp=Z,4.4nm,1.0s
NVL N'lazarevskaya 88.46 183 *eP* P 09 44 05.7 +9.1
NVL pmax pmax
comp=Z,7.0nm,0.9s
L19A Farson 88.47 44 ⇓P P 09 43 58.0 +0.6
baz=89
LRM Limekiln Ridge 88.47 39 *eP* P 09 43 56.9 -0.4
comp=Z,130nm,1.2s
P21A Newcastle 88.47 47 ⇓P P 09 43 58.1 +0.6
baz=89
SWMT Swartz Lake 88.49 37 *eP* P 09 43 58.0 +0.9
comp=Z,42nm,2.0s
PLCA Paso Flores 88.53 133 LR LR 10 13 18.7
comp=Z,362nm,21.1s,baz=12,slow=29
Q22A Crested Butte, 88.53 47 ⇓P P 09 43 57.8 0.0
baz=89,SNR=7.7
D14A Greenough 88.53 38 ⇓P P 09 43 57.3 -0.1
baz=89,SNR=5.8
G16A Moss Hill, Enn 88.54 40 ⇓P P 09 43 57.6 0.0
baz=89
N20A Spence Gulch, 88.56 45 ⇑P P 09 43 57.8 -0.1
baz=89,SNR=5.8
QLMT Earthquake Lak 88.56 40 *eP* P 09 43 58.1 +0.4
comp=Z,5.9nm,1.4s
CHMT Chamberlain Mo 88.59 38 *eP* P 09 43 57.5 -0.3
comp=Z,30nm,1.5s
W25A X Bar L Ranch, 88.59 51 ⇓P P 09 43 58.0 0.0
baz=89
J18A Kendall Valley 88.60 42 ⇓P P 09 43 58.2 +0.2
baz=89,SNR=11
H16A Russell Place, 88.61 41 ⇓P P 09 43 58.6 +0.7
baz=89,SNR=21
I17A Pilgrim Ck. 88.61 42 ⇑P P 09 43 58.8 +0.8
baz=89
FLWY Flagg Ranch 88.62 41 *eP* P 09 43 59.1 +1.1
comp=Z,82nm,1.7s
SLMT Seeley Lake 88.63 38 *eP* P 09 43 57.4 -0.5
comp=Z,21nm,1.5s
SMCO Snowmass 88.63 47 *eP* P 09 43 59.4 +1.0
comp=Z,23nm,1.3s
PD01 Pinedale Array 88.66 43 *eP* P 09 43 58.0 -0.2
BW06 Boulder Array 88.67 43 PFAKE 09 44 10.0 +12
BW06 LR LR
comp=Z,821nm,20.0s
BW06 Boulder Array 88.67 43 ⇓P P 09 43 58.4 +0.1
baz=89
PD02 Pinedale Array 88.67 43 *eP* P 09 43 58.3 0.0
PDAR Pinedale Array 88.67 43 P P 09 43 57.8 -0.6
PDAR Pinedale Array 88.67 43 P P 09 43 57.7 -0.6
comp=Z,1.6nm,1.1s,baz=173,slow=1.5,SNR=4.2
PDAR LR LR 10 19 30.1
comp=Z,576nm,18.1s,baz=246,slow=33
Z27A Tatum 88.68 54 ⇓P P 09 43 58.4 0.0
baz=89
E15A Deer Lodge 88.68 39 ⇑P P 09 43 58.5 +0.3
baz=89
B13A Whitefish 88.70 36 ⇓P P 09 43 58.4 +0.4
baz=89
YFT Old Faithful 88.73 41 *eP* P 09 44 01.7 +3.2
comp=Z,100nm,1.9s
V25A Rancho No Teng 88.76 51 ⇓P P 09 43 59.0 +0.2
baz=89
YMR Madison River 88.76 41 *eP* P 09 43 59.1 +0.4
comp=Z,121nm,1.8s
C14A Swan Lake 88.77 37 ⇑P P 09 43 58.6 +0.2
baz=89
X26A CR and CF Fran 88.77 52 ⇓P P 09 43 59.1 +0.2
baz=89
H17A Grant Village 88.86 41 ⇓P P 09 43 59.9 +0.7
baz=89
BOZ Bozeman (W) 88.87 40 *eP* P 09 43 58.5 -0.6
BOZ pmax pmax
comp=Z,27nm,1.3s
BOZ MLR MLR
comp=Z,663nm,20.0s
BOZ Bozeman (W) 88.87 40 *eP* P 09 43 58.5 -0.6
comp=Z,26nm,1.3s
BOZ LR LR
comp=Z,663nm,20.0s
BOZ Bozeman (W) 88.87 40 ⇓P P 09 43 59.1 0.0
baz=89,SNR=12
XAN Xi'an 88.91 307 P P 09 43 59.9 +0.5
XAN pP **pP** 09 44 03.9 -1.4
XAN SKS **SKSac** 09 54 29.3 +0.9
XAN S **S** 09 54 51.6 +4.9
XAN sS **sS** 09 54 59.6 +3.1
XAN pmax pmax
comp=Z,5.0nm,1.4s
XAN LR LR
comp=N,240nm,21.7s
XAN LR LR
comp=E,110nm,20.4s
XAN LR LR
comp=Z,130nm,19.7s
F16A Kennard Place, 88.94 40 ⇓P P 09 43 59.6 +0.2
baz=89,SNR=7.5
YNR Norris Junctio 88.96 41 *eP* P 09 44 00.9 +1.3
comp=Z,108nm,1.9s
Y27A Causey 88.96 53 ⇑P P 09 43 59.6 -0.2
baz=89,SNR=6.8
R23A Moffat 88.97 48 ⇓P P 09 44 00.1 +0.3
baz=89,SNR=8.2
I18A Diamond G Ranc 88.98 42 ⇑P P 09 44 00.1 +0.4
baz=89
P22A Eagle 88.98 47 ⇓P P 09 44 00.2 +0.4
baz=89,SNR=6.1
SDCO Great Sand Dun 88.99 49 *eP* P 09 44 01.1 +1.1
comp=Z,14nm,1.4s
SDCO LR LR
comp=Z,541nm,21.0s

SDCO **Great Sand Dun** 88.99 49 ⇓P P 09 43 60.0 0.0
baz=89,SNR=9.7
T24A **Torres, Weston** 89.00 50 ⇑P P 09 43 59.7 -0.4
baz=89
N21A **Black Mountain** 89.02 45 ⇓P P 09 44 00.3 +0.3
baz=89
A13A **Flathead Natio** 89.04 36 ⇓P P 09 44 00.5 +0.8
baz=89
W26A **Owens Ranch, T** 89.05 52 ⇑P P 09 44 00.7 +0.6
baz=89
LKWY **Lake** 89.05 41 *e*P P 09 44 01.4 +1.3
LKWY pmax pmax
comp=Z,23nm,1.3s
LKWY MLR MLR
comp=Z,874nm,19.0s
LKWY **Lake** 89.05 41 *e*P P 09 44 01.4 +1.3
LKWY LR LR
comp=Z,874nm,19.0s
D15A **Lincoln** 89.08 38 ⇓P P 09 44 00.5 +0.4
baz=89,SNR=5.7
L20A **Wamsutter** 89.08 44 ⇑P P 09 44 00.6 +0.3
baz=89
S24A **Houchin Ranch,** 89.14 49 ⇓P P 09 44 00.8 +0.1
baz=89,SNR=7.0
K19A **Absolon Red Bu** 89.15 43 ⇑P P 09 44 00.9 +0.4
baz=89
U25A **Circle Dot Ran** 89.16 50 ⇓P P 09 44 00.8 +0.1
baz=89
G17A **Pierce Place,** 89.23 40 ⇓P P 09 44 01.3 +0.5
baz=90
Z28A **Tucker Farm, M** 89.29 54 ⇓P P 09 44 01.4 +0.1
baz=90
MSTX **Muleshoe** 89.29 53 ⇑P P 09 44 01.5 +0.2
baz=90
E16A **East Helena** 89.30 39 ⇑P P 09 44 01.4 +0.3
baz=90,SNR=8.2
HRY **Holter Researc** 89.31 39 *e*P P 09 44 00.8 -0.2
comp=Z,23nm,1.1s
X27A **F and S Farms,** 89.34 52 ⇑P P 09 44 01.3 -0.3
baz=90
B14A **Marquette Ranc** 89.36 37 ⇓P P 09 44 00.7 -0.6
baz=90,SNR=30
HIA **Hailar** 89.37 324 *e*P P 09 44 00.8 -0.3
comp=Z,4.8nm,0.3s
HIA LR LR
comp=Z,673nm,22.0s
O22A **Kremmling** 89.39 46 ⇓P P 09 44 01.7 -0.1
baz=90
K20A **Yellowstone Ra** 89.40 43 ⇓P P 09 44 01.7 0.0
baz=90
129A **Stewart Farms,** 89.41 55 ⇓P P 09 44 01.8 0.0
baz=90
BILL **Bilibino** 89.41 354 *i* P P 09 44 01.0 +0.1
BILL *e*PS PnS 09 55 50.4 -6.4
BILL pmax pmax
comp=Z,4.0nm,1.7s
BILL MLR MLR
comp=Z,400nm,17.0s
BILL **Bilibino** 89.41 354 PFAKE 09 44 10.0 +9.1
BILL LR LR
comp=Z,835nm,21.0s
C15A **Salmond Ranch,** 89.42 38 ⇑P P 09 44 01.2 -0.4
baz=90,SNR=13
R24A **Sanders Place,** 89.49 49 ⇑P P 09 44 02.6 +0.3
baz=90
T25A **Trinidad** 89.49 50 ⇑P P 09 44 02.1 -0.2
baz=90
P23A **Jefferson** 89.50 47 ⇑P P 09 44 02.5 +0.1
baz=90
M21A **Separation Pea** 89.53 45 ⇓P P 09 44 02.9 +0.5
baz=90
H18A **Shoshone NF, C** 89.56 41 ⇓P P 09 44 03.1 +0.6
baz=90
F17A **Fitzpatrick Pl** 89.58 40 ⇑P P 09 44 02.3 -0.1
baz=90,SNR=6.6
A14A **Double T Ranch** 89.61 36 ⇓P P 09 44 02.3 -0.1
baz=90,SNR=7.6
U26A **Atchley Ranch,** 89.64 51 ⇓P P 09 44 02.9 -0.1
baz=90
D16A **Dana Ranch, Ca** 89.64 39 ⇑P P 09 44 02.6 0.0
baz=90,SNR=19
I19A **Meeteetse** 89.66 42 ⇑P P 09 44 02.8 -0.1
baz=90,SNR=5.8
L21A **Rawlins** 89.69 44 ⇑P P 09 44 03.3 +0.2
baz=90
EGAK **Eagle** 89.70 15 PFAKE 09 44 10.0 +7.7
EGAK LR LR
comp=Z,1μm,21.0s
S25A **Robets Cordova** 89.70 49 ⇑P P 09 44 03.2 0.0
baz=90,SNR=5.1
B15A **Bradely Ranch,** 89.73 37 ⇑P P 09 44 02.9 -0.1
baz=90
E17A **Martinsdale** 89.75 39 ⇑P P 09 44 04.2 +1.0
baz=90
N22A **Wattenberg Ran** 89.75 46 ⇓P P 09 44 03.6 +0.1
baz=90
Q24A **Divide** 89.79 48 ⇑P P 09 44 04.2 +0.5
baz=90
Z29A **Hungry Hill Ra** 89.79 54 ⇑P P 09 44 04.3 +0.7
baz=90
O23A **Lake Granby, G** 89.84 46 ⇓P P 09 44 04.3 +0.4
baz=90
ISCO **Idaho Springs** 89.85 47 PFAKE 09 44 20.0 +16
ISCO LR LR
comp=Z,687nm,19.0s
J20A **Shoshoni** 89.90 43 ⇑P P 09 44 04.0 +0.1
baz=90
C16A **Fuhringer Ranc** 89.93 38 ⇓P P 09 44 03.5 -0.4
baz=90,SNR=8.1
G18A **Lazy EL Ranch,** 89.95 41 ⇑P P 09 44 04.6 +0.5
baz=90
H19A **Powell** 89.98 41 ⇓P P 09 44 04.6 +0.4
baz=90
A15A **Johnson Ranch,** 90.00 36 ⇓P P 09 44 04.0 -0.2
baz=90,SNR=17
COLD **Coldfoot** 90.04 10 *e*P P 09 44 02.4 -1.4
comp=Z,27nm,1.3s
Y29A **Porterfield Fa** 90.07 54 ⇑P P 09 44 05.1 +0.2
baz=90
K21A **Alcova** 90.09 44 ⇑P P 09 44 05.3 +0.3
baz=90
T26A **Comanche Natio** 90.09 50 ⇓P P 09 44 05.2 +0.2
baz=90
HHC **Hu-ho-hao-te** 90.09 314 *e*P P 09 44 05.2 +0.3
HHC sP **sP** 09 44 11.6 -1.3
HHC PP **PP** 09 47 40.9 +2.3
HHC SKS **SKSac** 09 54 33.4 -1.8
HHC S **S** 09 54 56.2 -1.4
HHC sS **sS** 09 55 05.5 -1.9
HHC SS **SS** 10 00 59.8 +2.8
HHC pmax pmax
comp=Z,16nm,1.2s
HHC pmax pmax
comp=Z,180nm,3.7s
HHC LR LR
comp=N,340nm,17.8s
HHC LR LR
comp=E,550nm,21.4s
HHC LR LR
comp=Z,940nm,25.0s
JCT **Junction City** 90.11 57 PFAKE 09 44 20.0 +15
JCT LR LR
comp=Z,602nm,20.0s
GCMT **Greycliff** 90.12 40 *e*P P 09 44 05.9 +1.0
comp=Z,49nm,1.7s
N23A **Red Feather La** 90.14 46 ⇓P P 09 44 05.7 +0.5
baz=90
F18A **Big Timber** 90.15 40 ⇓P P 09 44 05.4 +0.4
baz=90
KMI **Kunming** 90.15 297 P P 09 44 06.5 +0.9
KMI S S 09 54 58.1 -0.9
KMI pmax pmax
comp=Z,19nm,1.0s
KMI LR LR
comp=N,270nm,19.5s
KMI LR LR
comp=E,300nm,22.3s
KMI LR LR
comp=Z,580nm,22.3s
I20A **Worland** 90.16 42 ⇓P P 09 44 05.2 +0.1
baz=90,SNR=6.3
D17A **Six Diamond Ra** 90.20 39 ⇑P P 09 44 05.7 +0.4
baz=90,SNR=27
X29A **Tulia** 90.30 53 ⇓P P 09 44 06.3 +0.4
baz=90
J21A **Lysite** 90.30 43 ⇓P P 09 44 06.0 +0.1
baz=90,SNR=18
L22A **Ellis Ranch, M** 90.34 45 ⇓P P 09 44 06.4 +0.3
baz=91
E18A **Harlowton** 90.36 40 ⇑P P 09 44 06.0 0.0
baz=91,SNR=17
S26A **Kim** 90.37 50 ⇑P P 09 44 06.2 -0.1
baz=91
C17A **Wharram Farm,** 90.41 38 ⇓P P 09 44 06.3 +0.1
baz=91,SNR=33
KVTX **Kingsville** 90.48 61 PFAKE 09 44 20.0 +13
KVTX LR LR
comp=Z,706nm,19.0s
AMTX **Amarillo** 90.50 53 PFAKE 09 44 20.0 +13
AMTX LR LR
comp=Z,805nm,19.0s
H20A **Greybull** 90.50 42 ⇑P P 09 44 06.9 +0.3
baz=91
M23A **Laramie** 90.55 45 ⇑P P 09 44 06.5 -0.6
baz=91
K22A **Casper** 90.57 44 ⇑P P 09 44 07.6 +0.5
baz=91
F19A **Roth Farm, Mol** 90.59 40 ⇑P P 09 44 07.1 0.0
baz=91
A16A **West Butte Ran** 90.61 37 ⇓P P 09 44 06.8 -0.3
baz=91
W29A **Amarillo** 90.62 53 ⇑P P 09 44 08.0 +0.5
baz=91
I21A **Big Trails, Te** 90.62 43 ⇓P P 09 44 07.4 0.0
baz=91,SNR=13
PHWY **Pilot Hill** 90.65 46 *e*P P 09 44 08.4 +0.7
comp=Z,20nm,1.5s
T27A **Campo** 90.67 50 ⇑P P 09 44 07.8 +0.1
baz=91
R26A **Arlington** 90.69 49 ⇑P P 09 44 08.3 +0.5
baz=91
P25A **Willow Gulch B** 90.72 48 ⇓P P 09 44 07.5 -0.4
baz=91,SNR=5.8
B17A **L&G Farms, Che** 90.73 38 ⇑P P 09 44 07.4 -0.2
baz=91,SNR=13
G20A **Bridger** 90.73 41 ⇑P P 09 44 08.2 +0.5
baz=91
D18A **Linhart Farms,** 90.75 39 ⇓P P 09 44 08.6 +0.8
baz=91
N24A **Carr** 90.82 46 ⇓P P 09 44 08.8 +0.4
baz=91
L23A **Garrett** 90.86 45 ⇑P P 09 44 09.0 +0.4
baz=91
Q26A **Hugo** 90.91 48 ⇑P P 09 44 09.3 +0.5
baz=91
CM31 **Chiang Mai Arr** 90.92 289 *e*P P 09 44 10.7 +1.6
comp=Z,5.3nm,0.3s
CMAR **Chiang Mai Arr** 90.92 289 P P 09 44 08.5 -0.6
CMAR **Chiang Mai Arr** 90.92 289 P P 09 44 08.5 -0.6
comp=Z,4.4nm,0.8s,baz=120,slow=2.9,SNR=15
CMAR LR LR 10 22 48.6
comp=Z,298nm,21.4s,baz=287,slow=34
J22A **Midwest** 90.96 43 ⇑P P 09 44 08.9 0.0
baz=91,SNR=13
E19A **Rath Farm, Rou** 90.98 40 ⇓P P 09 44 09.4 +0.6
baz=91
CHTO **Chiang Mai** 91.05 290 *e*P P 09 44 11.2 +1.5
CHTO pmax pmax
comp=Z,35nm,1.3s
CHTO MLR MLR
comp=Z,435nm,22.0s
CHTO **Chiang Mai** 91.05 290 *e*P P 09 44 11.2 +1.5
comp=Z,35nm,1.3s
CHTO LR LR
comp=Z,435nm,22.0s
CHTO **Chiang Mai** 91.05 290 P P 09 44 11.6 +1.9
comp=Z,27nm,1.2s
F20A **Billings** 91.05 41 ⇓P P 09 44 09.8 +0.7
baz=91
A17A **Triple J Farms** 91.12 37 ⇓P P 09 44 09.3 -0.1
baz=91
T28A **Walsh** 91.13 51 ⇓P P 09 44 10.8 +1.0
baz=91
R27A **Eads** 91.14 49 ⇓P P 09 44 10.6 +0.8
baz=91
H21A **Big Horn, Sher** 91.17 42 ⇑P P 09 44 10.3 +0.5
baz=91
I22A **9 Mile Ranch,** 91.18 43 ⇓P P 09 44 10.1 +0.2
baz=91,SNR=7.1
EGMT **Eagleton** 91.19 38 *e*P P 09 44 10.2 +0.4
comp=Z,19nm,0.2s
EGMT LR LR
comp=Z,455nm,20.0s
EGMT **Eagleton** 91.19 38 ⇓P P 09 44 09.4 -0.4
baz=91
K23A **Bowen Ranch, D** 91.20 44 ⇑P P 09 44 10.4 +0.4
baz=91,SNR=5.1
D19A **Cripps Ranch,** 91.28 39 ⇑P P 09 44 11.0 +0.8
baz=92,SNR=7.6
L24A **Wheatland** 91.34 45 ⇓P P 09 44 11.7 +1.0
baz=92
B18A **Beardsley Farm** 91.36 38 ⇓P P 09 44 11.4 +0.9
baz=92
E20A **Meyer Farm, Mu** 91.40 40 ⇑P P 09 44 11.6 +0.8
baz=92
C19A **Slack Wire Ran** 91.46 39 ⇓P P 09 44 11.5 +0.5
baz=92,SNR=23
KSCO **Kaye Shedlock'** 91.57 49 ⇓P P 09 44 12.5 +0.7
baz=92
CD2 **Chengdu** 91.58 302 P P 09 44 12.5 +0.6
CD2 pP pP 09 44 23.8 +5.9
CD2 sP sP 09 44 27.9 +7.9
CD2 SKS **SKSac** 09 54 40.7 -3.3
CD2 S **S** 09 55 07.5 -4.0
CD2 sS **sS** 09 55 26.1 +4.8
CD2 SS **SS** 10 01 18.1 -0.6
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,150nm,5.2s
CD2 LR LR
comp=N,360nm,17.6s
CD2 LR LR
comp=E,390nm,21.0s
CD2 LR LR
comp=Z,400nm,22.5s
A18A **Metzger Ranch,** 91.59 38 ⇓P P 09 44 11.7 +0.2
baz=92,SNR=17
H22A **Clearmont** 91.59 42 ⇓P P 09 44 12.3 +0.6
baz=92
D20A **Manuel Ranch,** 91.68 40 ⇑P P 09 44 12.6 +0.6
baz=92,SNR=8.3
B19A **Brinkman Farms** 91.88 38 ⇓P P 09 44 13.4 +0.5
baz=92,SNR=22
G22A **Birney** 91.92 42 ⇓P P 09 44 13.6 +0.4
baz=92
E21A **Keefer Ranch,** 92.06 41 ⇓P P 09 44 14.5 +0.7
baz=92,SNR=6.7
C20A **Veseth Ranch,** 92.06 39 ⇑P P 09 44 14.3 +0.5
baz=92,SNR=23
J24A **Dixon Ranch, L** 92.10 44 ⇑P P 09 44 14.8 +0.7
baz=92
O27A **Beecher Island** 92.18 48 ⇓P P 09 44 15.3 +0.7
baz=92
F22A **Rosebud** 92.20 41 ⇑P P 09 44 14.5 0.0
baz=92
A19A **Klindworth Far** 92.23 38 ⇑P P 09 44 15.0 +0.5
baz=92,SNR=8.7
K25A **Mack Ranch, Ha** 92.30 45 ⇓P P 09 44 15.6 +0.5
baz=92
D21A **La Casta Ranch** 92.36 40 ⇑P P 09 44 15.6 +0.4
baz=93,SNR=6.5
B20A **Solberg Farm,** 92.41 39 ⇓P P 09 44 15.8 +0.5
baz=93,SNR=5.2
G23A **Biddle** 92.48 42 ⇓P P 09 44 15.9 +0.1
baz=93,SNR=6.0
WMOK **Wichita Mounta** 92.61 54 PFAKE 09 44 30.0 +13
WMOK LR LR
comp=Z,610nm,19.0s
C21A **Desert Coulee** 92.66 39 ⇓P P 09 44 17.0 +0.5
baz=93
YAK **Yakutsk** 92.67 338 PFAKE 09 44 30.0 +14
YAK LR LR
comp=Z,362nm,19.0s
A20A **Cobblestone Ra** 92.67 38 ⇑P P 09 44 16.8 +0.2
baz=93,SNR=18
F23A **Volborg** 92.70 42 ⇓P P 09 44 17.0 +0.1
baz=93,SNR=7.6
H24A **Dirks Ranch, A** 92.80 43 ⇑P P 09 44 17.5 +0.2
baz=93,SNR=8.8
OGNE **Ogallala** 92.81 47 PFAKE 09 44 30.0 +13
OGNE LR LR
comp=Z,601nm,19.0s
RSSD **Black Hills** 92.86 44 *e*P P 09 44 17.4 -0.3
RSSD pmax pmax
comp=Z,35nm,1.1s
RSSD **Black Hills** 92.86 44 *e*P P 09 44 17.4 -0.3
comp=Z,35nm,1.1s
D22A **Cohagen** 92.89 40 ⇑P P 09 44 17.9 +0.3
baz=93,SNR=6.4
B21A **Ellsworth Farm** 92.99 39 ⇑P P 09 44 18.4 +0.4
baz=93,SNR=6.1
G24A **Alzada** 93.15 42 ⇓P P 09 44 19.0 +0.1
baz=93
A21A **Bergtoll Ranch** 93.31 38 ⇑P P 09 44 19.6 +0.1
baz=94,SNR=6.5
C22A **Vida** 93.34 40 ⇑P P 09 44 20.1 +0.5
baz=94
F24A **Ekalaka** 93.36 42 ⇑P P 09 44 20.0 +0.1
baz=94,SNR=9.2
K27A **Flueckinger Fa** 93.42 45 ⇑P P 09 44 20.9 +0.6
baz=94
D23A **Lindsay** 93.49 41 ⇓P P 09 44 20.8 +0.4
baz=94,SNR=5.5
B22A **Reddig Ranch S** 93.53 39 ⇓P P 09 44 21.2 +0.7
baz=94,SNR=6.2
CBKS **Cedar Bluff** 93.54 50 PFAKE 09 44 30.0 +9.2
CBKS LR LR
comp=Z,505nm,22.0s
LZH **Lanzhou** 93.54 307 *e*P P 09 44 26.7 +5.7
LZH pP pP 09 44 32.6 +5.6
LZH sP sP 09 44 35.2 +6.1
LZH S **ScS** 09 55 31.1 +0.5
LZH sS sS 09 55 39.2 +0.3
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,110nm,4.8s
LZH LR LR
comp=N,290nm,16.6s
LZH LR LR
comp=E,250nm,13.5s
LZH LR LR
comp=Z,530nm,19.9s
C23A **Lambert** 93.79 40 ⇓P P 09 44 22.3 +0.6
baz=94
A22A **Carney Farms,** 93.90 39 ⇓P P 09 44 23.0 +0.8
baz=94
D24A **Glendive** 94.00 41 ⇑P P 09 44 23.2 +0.5
baz=94,SNR=6.9
C24A **Savage** 94.12 40 ⇓P P 09 44 24.2 +0.9
baz=94
B23A **Brockton** 94.20 39 ⇓P P 09 44 23.9 +0.3
baz=94,SNR=5.7
CFAA **Coronel Fontan** 94.32 126 LR LR 10 16 59.3
comp=Z,28nm,21.5s,baz=248,slow=29
INK **Inuvik** 94.37 15 *e*P P 09 44 21.5 -2.3
comp=Z,41nm,1.3s
INK **Inuvik** 94.37 15 P P 09 44 21.6 -2.2
comp=Z,5.7nm,1.0s,baz=208,slow=5.2,SNR=6.6
NATX **Nacogdoches** 94.67 58 PFAKE 09 44 40.0 +14
NATX LR LR
comp=Z,851nm,21.0s
DGMT **Dagmar** 94.68 40 *e*P P 09 44 25.7 -0.1
comp=Z,36nm,1.0s
DGMT LR LR
comp=Z,904nm,19.0s
DGMT **Dagmar** 94.68 40 ⇓P P 09 44 26.1 +0.3
baz=95,SNR=6.8
TGUH **Tegucigalpa,Un** 94.83 77 PFAKE 09 44 40.0 +13
TGUH LR LR
comp=Z,562nm,21.0s
A24A **Westby** 94.99 39 ⇑P P 09 44 27.8 +0.5
baz=95,SNR=6.0
NNA **Nana** 95.27 105 PFAKE 09 44 40.0 +11
NNA LR LR
comp=Z,772nm,21.0s
TUL1 **Tulsa** 95.32 54 ⇓P P 09 44 29.5 +0.5
baz=96
TRQA **Tornquist** 95.63 134 PFAKE 09 44 40.0 +9.5
TRQA LR LR
comp=Z,786nm,21.0s
JTS **JuntasAbangare** 95.67 81 LR LR 10 16 54.8
comp=Z,629nm,21.8s,baz=165,slow=29
BGNE **Belgrade** 95.68 48 ⇓P P 09 44 31.2 +0.7
baz=96
KSU1 **Kansas State U** 95.90 51 PFAKE 09 44 40.0 +8.4
KSU1 LR LR
comp=Z,545nm,20.0s
ULN **Ulaanbaatar** 96.08 319 *e*P P 09 44 31.0 -1.4
comp=Z,18nm,1.6s
ULN LR LR
comp=Z,404nm,22.0s
SONM **Songino Array** 96.47 319 P P 09 44 32.8 -1.3
SONM PP PP 09 48 27.2 -1.2
SONM **Songino Array** 96.47 319 P P 09 44 32.8 -1.3
comp=Z,0.8nm,1.1s,baz=111,slow=3.3,SNR=5.0
SONM PP PP 09 48 27.2 -1.2
comp=Z,0.6nm,1.0s,baz=122,slow=5.2,SNR=2.6
SONM LR LR 10 25 31.9
comp=Z,466nm,20.4s,baz=233,slow=34
YKA **Yellowknife Ar** 96.47 25 P P 09 44 32.0 -1.6
YKA **Yellowknife Ar** 96.47 25 P P 09 44 32.0 -1.6
comp=Z,1.3nm,1.0s,baz=238,slow=4.3,SNR=8.8
MIAR **Mount Ida** 96.52 56 PFAKE 09 44 50.0 +16
MIAR LR LR
comp=Z,423nm,19.0s
BOD **Bodaibo** 96.72 330 *e*P P 09 44 33.9 -0.9
ECSD **EROS Data Cent** 97.60 46 *e*P Pdif 09 44 39.7 +0.4
comp=Z,28nm,1.4s
ECSD LR LR
comp=Z,711nm,19.0s
GTA **Gaotai** 97.74 309 *e*P Pdif 09 44 45.0 +4.9
GTA pP pP 09 44 49.3 +3.3
GTA sP sP 09 44 51.7 +3.6
GTA SKS **SKSac** 09 55 20.3 +3.3
GTA S **ScS** 09 56 09.7 +4.3
GTA sS sS 09 56 17.3 +2.2
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,130nm,5.2s
GTA LR LR
comp=N,350nm,23.7s
GTA LR LR
comp=E,300nm,21.9s
GTA LR LR
comp=Z,580nm,29.5s
VBMS **Vicksburg** 98.13 59 PFAKE 09 44 50.0 +8.2
VBMS LR LR
comp=Z,756nm,20.0s
OTAV **Otavalo** 98.27 93 PFAKE 09 45 00.0 +16
OTAV LR LR
comp=Z,747nm,22.0s
FFC **Flin Flon** 98.58 35 PFAKE 09 44 50.0 +6.7
FFC LR LR
comp=Z,856nm,21.0s
SCIA **State Center** 99.31 49 PFAKE 09 45 00.0 +13
SCIA LR LR
comp=Z,702nm,19.0s
ZAK **Zakamensk** 99.33 320 *e*P Pdif 09 44 48.3 +1.4
ZAK pmax pmax
comp=Z,2.0nm,1.3s
TLY **Talaya** 99.59 322 PFAKE 09 45 00.0 +12
TLY LR LR
comp=Z,517nm,21.0s
AGMN **Agassiz Nation** 99.72 42 PFAKE 09 45 00.0 +12
AGMN LR LR
comp=Z,1μm,20.0s
OXF **Oxford** 99.75 57 PFAKE 09 45 00.0 +11
OXF LR LR
comp=Z,1μm,20.0s
BCIP **Isla Barro Col** 100.04 84 PFAKE 09 45 00.0 +9.3
BCIP LR LR
comp=Z,478nm,19.0s
BRAL **Brewton** 100.55 61 PFAKE 09 45 00.0 +7.4
BRAL LR LR
comp=Z,731nm,19.0s
PLAL **Pickwick Lake** 100.94 57 PFAKE 09 45 10.0 +16
PLAL LR LR
comp=Z,769nm,20.0s
LRAL **Lakeview Retre** 101.21 59 PFAKE 09 45 10.0 +14
LRAL LR LR
comp=Z,507nm,22.0s
LPAZ **La Paz** 101.26 112 PFAKE 09 45 10.0 +13
LPAZ LR LR
comp=Z,441nm,21.0s
LSA **Lhasa** 101.38 297 PFAKE 09 45 10.0 +13
LSA LR LR
comp=Z,326nm,22.0s
HDIL **Hopedale** 101.69 51 PFAKE 09 45 10.0 +13

HDIL LR LR
comp=Z,566nm,20.0s
EYMN Ely 102.37 43 PFAKE 09 45 10.0 +10
EYMN LR LR
comp=Z,774nm,20.0s
GOGA Godfrey 104.15 59 PFAKE 09 45 20.0 +11
GOGA LR LR
comp=Z,575nm,20.0s
DGAR Diego Garcia 106.10 255 PFAKE 09 49 40.0
DGAR LR LR
comp=Z,955nm,20.0s
GLMI Grayling 106.14 48 PFAKE 09 49 40.0
GLMI LR LR
comp=Z,398nm,19.0s
AAM Ann Arbor 106.24 50 PFAKE 09 49 40.0
AAM LR LR
comp=Z,524nm,19.0s
ACSO Alum Creek Sta 106.25 53 PFAKE 09 49 40.0
ACSO LR LR
comp=Z,668nm,20.0s
NHSC New Hope 106.74 60 PFAKE 09 49 40.0
NHSC LR LR
comp=Z,509nm,20.0s
BLA Blacksburg 107.51 56 PFAKE 09 49 40.0
BLA LR LR
comp=Z,845nm,21.0s
WMQ Urumqi 107.68 311 *e*Pdif **Pdif 09 45 25.0 +0.9**
WMQ *e*PP **PP 09 49 57.0 +4.1**
WMQ AMB AMB
comp=Z,230nm,4.6s
WMQ LR LR
comp=N,600nm,21.0s
WMQ LR LR
comp=E,420nm,19.6s
WMQ LR LR
comp=Z,930nm,26.5s
SDV Santo Domingo 108.53 87 PFAKE 09 49 50.0
SDV LR LR
comp=Z,177nm,19.0s
SAML Samuel 108.77 108 PFAKE 09 49 50.0
SAML LR LR
comp=Z,563nm,21.0s
CNNC Cliffs of the 109.07 59 PFAKE 09 49 50.0
CNNC LR LR
comp=Z,612nm,20.0s
CBN Corbin 110.08 56 PFAKE 09 49 50.0
CBN LR LR
comp=Z,723nm,21.0s
SDDR Presa de Saban 110.91 77 PFAKE 09 49 50.0
SDDR LR LR
comp=Z,987nm,22.0s
BINY Binghamton 111.81 52 PFAKE 09 49 50.0
BINY LR LR
comp=Z,750nm,20.0s
MKAR Makanchi Array 111.94 313 P **Pdif 09 45 45.5 +2.5**
MKAR 09 50 30.0
MKAR Makanchi Array 111.94 313 Pdif **Pdif 09 45 45.5 +2.5**
MKAR PKiKP PKiKP 09 49 46.5 +6.7
MKAR PP PP 09 50 30.0 +6.5
MKAR Makanchi Array 111.94 313 Pdiff **Pdif 09 45 45.5 +2.5**
comp=Z,0.4nm,0.8s,baz=151,slow=3.3,SNR=2.8
MKAR PKiKP PKiKP 09 49 46.5 +6.7
comp=Z,0.2nm,0.5s,baz=358,slow=1.0,SNR=3.2
MKAR PP PP 09 50 30.0 +6.5
comp=Z,1.5nm,1.1s,baz=83,slow=12,SNR=4.6
NVS Novosibirsk 112.20 322 *e*PKIKP PKiKP 09 49 47.7 +7.7
LONY Lake Ozonia 113.15 49 PFAKE 09 49 50.0
LONY LR LR
comp=Z,649nm,19.0s
NCB Newcomb 113.33 50 PFAKE 09 49 50.0
NCB LR LR
comp=Z,669nm,22.0s
SPB Sao Paulo 114.12 129 PFAKE 09 50 00.0 +15
SPB LR LR
comp=Z,583nm,20.0s
KURK Kurchatov 114.72 317 PKIKP PKPdf 09 49 43.3 -1.6
KURK 09 50 40.9
KURK MLR MLR
comp=Z,624nm,19.0s
KURK Kurchatov 114.72 317 PKP PKPdf 09 49 43.3 -1.7
KURK PP **PP 09 50 40.9 -2.2**
KURK LR LR
comp=Z,624nm,19.0s
KURBB Kurchatov Arra 114.77 317 PKP PKPdf 09 49 43.3 -1.8
comp=Z,0.1nm,0.3s,baz=96,slow=1.7,SNR=3.5
KURBB PP **PP 09 50 40.9 -2.6**
comp=Z,0.7nm,0.8s,baz=93,slow=6.3,SNR=4.5
KSH Kashi 115.67 305 *e*PKP **PKPdf 09 49 48.9 +1.6**
KSH PP PP 09 50 57.5 +7.2
KSH PKS **PKSdf 09 53 23.7 -0.4**
KSH SKS **SKSdf 09 56 55.9 -3.0**
KSH SKKS **SKKSac 09 57 46.3 -4.5**
KSH SS **SS 10 06 53.3 +3.2**
KSH AMB AMB
comp=Z,140nm,5.3s
KSH LR LR
comp=N,190nm,9.7s
KSH LR LR
comp=E,140nm,5.3s
KSH LR LR
comp=Z,290nm,12.5s
AAK Ala-Archa 117.07 308 PFAKE 09 50 00.0 +10
AAK LR LR
comp=Z,523nm,20.0s
NIL Nilore 117.11 298 PFAKE 09 50 00.0 +10
NIL LR LR
comp=Z,139nm,21.0s
BDFB Brasilia 118.36 122 PFAKE 09 50 00.0 +6.8
BDFB LR LR
comp=Z,629nm,19.0s
FDF Fort de France 119.13 84 PFAKE 09 50 10.0 +15
FDF LR LR
comp=Z,828nm,22.0s
BVAR Borovoye Array 119.79 320 PKIKP **PKPdf 09 49 55.8 +1.2**
BVAR Borovoye Array 119.79 320 PKP **PKPdf 09 49 55.8 +1.2**
BVAR Borovoye Array 119.79 320 PKP **PKPdf 09 49 55.8 +1.2**
comp=Z,0.4nm,0.5s,baz=52,slow=2.4,SNR=3.6
BRVK Borovoye 119.85 320 *i* PKIKP **PKPdf 09 49 57.7 +2.9**
BRVK MLR MLR
comp=Z,561nm,26.0s
BRVK Borovoye 119.85 320 PFAKE 09 50 10.0 +15
BRVK LR LR
comp=Z,546nm,22.0s
KBS Kingsbay 121.66 358 PFAKE 09 50 10.0 +12
KBS LR LR
comp=Z,1μm,19.0s
MSEY Mahe Island 122.46 250 PFAKE 09 50 10.0 +8.9
MSEY LR LR
comp=Z,674nm,19.0s
ARU Arti 125.87 325 *i* PKIKP **PKPdf 09 50 09.1 +2.9**
ARU 09 52 06.9
ARU SS SS 10 09 14.5 +15
ARU Arti 125.87 325 PFAKE 09 50 20.0 +14
ARU LR LR
comp=Z,865nm,21.0s
BOSA Boshof 126.30 205 PFAKE 09 50 20.0 +12
BOSA LR LR
comp=Z,648nm,19.0s
LVZ Lovozero 128.87 345 PFAKE 09 50 20.0 +8.3
LVZ LR LR
comp=Z,904nm,20.0s
LBTB Lobatse 129.35 207 PFAKE 09 50 30.0 +16
LBTB LR LR
comp=Z,1μm,19.0s
APA Apatity 129.42 345 ǁ *i* PKIKP **PKPdf 09 50 11.0 -1.7**
APA 09 57 18.0
RCBR Riachuelo 133.70 121 PFAKE 09 50 30.0 +7.5
RCBR LR LR
comp=Z,575nm,21.0s
MOS Moscow 136.51 332 *e*PKHKP PKPpre 09 50 14.4
MOS MLR MLR
comp=Z,1μm,20.0s
MAK Makhachkala 136.71 311 PKIKP **PKPdf 09 50 25.0 -2.1**
MAK *e* 09 53 06.0
MAK *e*PPP PPP 09 56 05.9
MAK pmax pmax
comp=Z,906nm,1.6s
OBN Obninsk 137.37 332 *e*PKIKP **PKPdf 09 50 29.3 +1.4**
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN Obninsk 137.37 332 PFAKE 09 50 40.0 +12
OBN LR LR
comp=Z,878nm,19.0s
TSUM Tsumeb 137.69 201 PFAKE 09 50 40.0 +10
TSUM LR LR
comp=Z,847nm,21.0s
GNI Garni 139.47 308 PFAKE 09 50 40.0 +7.4
GNI LR LR
comp=Z,430nm,19.0s
KIV Kislovodsk 139.69 314 *i* PKIKP **PKPdf 09 50 31.7 -1.0**
KIV *e* 09 53 25.2
KIV *e*SS SS 10 11 43.4 -4.6
KIV *e*SSS SSS 10 17 00.7
KIV pmax pmax
comp=Z,10.0nm,0.9s
KIV MLR MLR
comp=Z,723nm,21.0s
KIV Kislovodsk 139.69 314 PFAKE 09 50 40.0 +7.3
KIV LR LR
comp=Z,676nm,22.0s
KMBO Kilima Mbogo 139.85 241 PFAKE 09 50 50.0 +16
KMBO LR LR
comp=Z,427nm,19.0s
KONO Kongsberg 140.89 355 PFAKE 09 50 50.0 +16
KONO LR LR
comp=Z,501nm,19.0s
AKASG Malin Array Be 143.63 331 PKIKP **PKPdf 09 50 39.0 -0.4**
AKASG Malin Array Be 143.63 331 PKP **PKPdf 09 50 39.0 -0.4**
AKASG Malin Array Be 143.63 331 PKP **PKPdf 09 50 39.0 -0.4**
comp=Z,2.5nm,0.8s,baz=45,slow=4.8,SNR=5.8
KIEV Kiev 143.64 331 PFAKE 09 50 50.0 +11
KIEV LR LR
comp=Z,690nm,19.0s
ESK Eskdalemuir 145.24 6 PFAKE 09 50 50.0 +7.9
ESK LR LR
comp=Z,906nm,21.0s
MBAR Mbarara 145.37 236 PFAKE 09 51 00.0 +16
MBAR LR LR
comp=Z,649nm,19.0s
LVV L'vov 146.49 335 *e*PKP2 **PKPab 09 50 51.4 +4.6**
KWP Kalwaria Pacla 147.16 336 PFAKE 09 51 00.0 +11
KWP LR LR
comp=Z,939nm,20.0s
ASF Jabal al Asfar 147.57 298 PKPbc **PKPbc 09 50 49.4 -0.2**
ASF Jabal al Asfar 147.57 298 PKPbc **PKPbc 09 50 49.4 -0.2**
comp=Z,4.6nm,0.9s,baz=162,slow=3.2,SNR=2.2
BR131 Keskin Array S 147.59 312 PFAKE 09 51 00.0 +8.4
BR131 LR LR
comp=Z,323nm,20.0s
BRTR Keskin Array B 147.59 312 PKPbc **PKPab 09 50 51.9 +0.2**
BRTR Keskin Array B 147.59 312 PKPbc **PKPab 09 50 51.9 +0.2**
comp=Z,2.8nm,0.9s,baz=96,slow=2.5,SNR=11
BURAR Bucovina Array 147.68 331 ǁ *i* P **PKPab 09 50 55.5 +3.9**
KOLS Kolonicke sedl 147.89 336 *e*PKP2 **PKPab 09 50 52.1 -0.2**
KOLS Kolonicke sedl 147.89 336 *e*PKP **PKPab 09 50 52.1 -0.2**
UZH Uzhgorod 148.13 335 *e*PKP2 **PKPab 09 50 52.1 -1.1**
KSP Ksiaz 148.19 344 *e*PKP2 **PKPab 09 50 53.3 -0.1**
NIE Niedzica 148.21 338 *e*PKP PKPab 09 51 00.1 +6.5
NIE Niedzica 148.21 338 *e*PKP2 PKPab 09 51 00.5 +6.9
CRVS Cervenica-Dubn 148.23 336 *e*PKP2 **PKPab 09 50 55.4 +1.8**
CRVS Cervenica-Dubn 148.23 336 *e*PKP **PKPab 09 50 55.4 +1.8**
CLL Collm 148.52 348 *e*PKP2 **PKPab 09 50 55.0 +0.3**
CLL pmax pmax
comp=Z,25nm,1.2s
CLL MLR MLR
comp=Z,300nm,19.7s
CLL Collm 148.52 348 *e*PKPbc **PKPbc 09 50 52.0 +0.7**
CLL *e*PKPab **PKPab 09 50 55.0 +0.3**
comp=Z,25nm,1.2s
CLL LV 11 10 00.0
comp=Z,300nm,19.7s
UPC Upice 148.57 344 *e*PKP2 **PKPab 09 50 57.3 +2.4**
UPC Upice 148.57 344 *e*PKPAB **PKPab 09 50 57.3 +2.4**
DPC Dobruska-Polom 148.63 343 *e*PKP2 **PKPab 09 50 53.9 -1.3**
DPC MLR MLR
comp=Z,600nm,21.6s
DPC Dobruska-Polom 148.63 343 *e*PKPAB **PKPab 09 50 53.9 -1.3**
DPC *ep*PKP **pPKPdf 09 50 58.9 +4.8**
DPC AMS AMS 10 49 10.0
comp=Z,600nm,21.6s
BRG Berggiesshubel 148.73 346 *e*PKP **PKPbc 09 50 51.8 -0.1**
comp=Z,3.0nm,0.9s
BRG *e* 09 51 00.2
comp=Z,12nm,1.0s
BRG *e* 09 51 12.2
comp=Z,14nm,1.1s
BRG Berggiesshubel 148.73 346 *e*PKP2 **PKPbc 09 50 51.8 -0.1**
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG pmax pmax
comp=Z,12nm,1.0s
BRG pmax pmax
comp=Z,14nm,1.1s
MLR Muntele Rosu 148.88 328 ǁ *i* P PKPab 09 51 02.8 +6.3
PVCC Panska Ves 148.91 345 AMS AMS 10 48 10.0
comp=Z,1μm,29.0s
VOIR 149.36 328 ǁ *i* P **PKPbc 09 50 51.9 -1.9**
PRU Pruhonice 149.42 345 *e*PKP2 **PKPab 09 50 57.0 -1.4**
PRU MLR MLR
comp=Z,1μm,33.3s
PRU Pruhonice 149.42 345 *e*PKPAB **PKPab 09 50 57.0 -1.4**
PRU *ex* x 09 51 20.6
PRU AMS AMS 10 48 10.0
comp=Z,1μm,33.3s
DRGR 149.42 333 ǁ *i* P **PKPab 09 50 56.7 -1.9**
VYHS Vyhne 149.51 339 *e*PKP2 **PKPbc 09 50 55.5 +1.6**
VYHS Vyhne 149.51 339 *e*PKP **PKPbc 09 50 55.5 +1.6**
PSZ Piszkesteto 149.63 337 *e*PKHKP **PKPdf 09 50 50.4 +0.7**
PSZ MLR MLR
comp=Z,801nm,21.0s
PSZ Piszkesteto 149.63 337 *e*PKPdf **PKPdf 09 50 50.4 +0.7**
PSZ LR LR
comp=Z,801nm,21.0s
NKC Novy Kostel 149.65 348 *e*PKHKP **PKPbc 09 50 52.5 -1.7**
NKC MLR MLR
comp=Z,800nm,22.8s
NKC Novy Kostel 149.65 348 *e*PKP **PKPbc 09 50 52.5 -1.7**
NKC AMS AMS 10 46 40.0
comp=Z,800nm,22.8s
EIL Elat 149.68 293 PKPbc **PKPbc 09 50 57.0 +2.1**
EIL Elat 149.68 293 PKPbc **PKPbc 09 50 57.0 +2.1**
comp=Z,2.2nm,0.4s,baz=63,slow=16,SNR=2.3
CSS Prodhromos 149.68 304 PFAKE 09 51 00.0 0.0
CSS LR LR
comp=Z,867nm,22.0s
TREC Trest 149.81 343 AMS AMS 10 49 50.0
comp=Z,800nm,23.0s
GRF Grafenberg Arr 150.40 349 *e*PKPab **PKPab 09 51 05.7 +3.3**
KHC Kasperske Hory 150.44 346 *e*PKIKP **PKPdf 09 50 51.4 +0.5**
KHC Kasperske Hory 150.44 346 *e*PKPdf **PKPdf 09 50 51.4 +0.5**
KHC Kasperske Hory 150.44 346 ǁ *e*PKP **PKPbc 09 50 54.2 -2.0**
KHC *e*PKPAB **PKiKP 09 50 59.7 +2.7**
KHC *ex* x 09 51 24.0
KHC AMS AMS 10 48 20.0
comp=Z,800nm,28.1s
ISP Isparta 150.62 311 PFAKE 09 51 00.0 +2.9
ISP LR LR
comp=Z,439nm,20.0s
GERES GERESS Array B 150.68 345 PKPbc **PKPbc 09 50 55.4 -1.5**
GERES GERESS Array B 150.68 345 PKPbc **PKPbc 09 50 55.4 -1.5**
comp=Z,3.8nm,1.0s,baz=266,slow=3.7,SNR=5.1
CONA Conrad Observa 150.95 342 ǁ *i* P **PKPbc 09 50 59.5 +2.0**
CONA Conrad Observa 150.95 342 ǁ *i* PKPbc **PKPbc 09 50 59.5 +2.0**
comp=Z,20nm,1.2s
WLF Walferdange 151.07 355 PKPbc **PKPbc 09 50 59.3 +1.7**
WLF Walferdange 151.07 355 PFAKE 09 51 00.0 +2.4
WLF LR LR
comp=Z,1μm,20.0s
BFO Black Forest 152.17 352 PFAKE 09 51 00.0 -0.2
BFO LR LR
comp=Z,601nm,19.0s
ECH Echery 152.42 354 PFAKE 09 51 10.0 -0.9
ECH LR LR
comp=Z,817nm,19.0s
FETA Feichten 153.06 348 ǁ *i* PKiKP **PKPbc 09 51 05.6 +3.2**
comp=Z,10nm,1.0s
TUE Stuetta 153.84 350 PFAKE 09 51 10.0 +5.8
TUE LR LR
comp=Z,888nm,22.0s
TIR Tirane 154.92 329 PFAKE 09 51 10.0 +3.6
TIR LR LR
comp=Z,1μm,20.0s
BNI Bardonecchia 155.60 353 PFAKE 09 51 10.0 +11
BNI LR LR
comp=Z,1μm,20.0s
VLC Villacollemand 155.86 347 PFAKE 09 51 10.0 +11
VLC LR LR
comp=Z,713nm,20.0s
AQU L'Aquila 156.73 340 PFAKE 09 51 10.0 +10
AQU LR LR
comp=Z,685nm,20.0s
CUC Castrocucco 157.86 333 PFAKE 09 51 10.0 +8.3
CUC LR LR
comp=Z,654nm,21.0s
TIP Timpagrande 158.10 330 PFAKE 09 51 10.0 +8.0
TIP LR LR
comp=Z,707nm,20.0s
ESDC Sonseca Array 160.31 16 PKPab **PKPab 09 51 45.0 0.0**
ESDC Sonseca Array 160.31 16 PKPab **PKPab 09 51 45.0 0.0**
comp=Z,0.4nm,0.4s,baz=64,slow=5.9,SNR=3.0
ESLA Sonseca Array 160.31 16 PFAKE 09 51 20.0 +15
ESLA LR LR
comp=Z,5μm,21.0s
PAB San Pablo 160.34 17 PFAKE 09 51 20.0 +15
PAB LR LR
comp=Z,809nm,20.0s
WDD Wield Dalam 161.81 328 PFAKE 09 51 20.0 +14
WDD LR LR
comp=Z,758nm,19.0s
DBIC Dimbokro 164.12 151 PKP **PKPdf 09 51 09.4 +0.4**
DBIC LR LR
comp=Z,498nm,20.0s
DBIC Dimbokro 164.12 151 PKP **PKPdf 09 51 09.4 +0.4**
comp=Z,3.2nm,0.9s,baz=137,slow=3.5,SNR=3.3
RTC Rabat Centre 164.33 31 PFAKE 09 51 20.0 +11
RTC LR LR
comp=Z,493nm,20.0s
TOA0 Torodi Ar. Sit 172.32 172 *e*PKPdf **PKPdf 09 51 12.8 -1.8**
TORD Torodi Ar. Bea 172.32 172 PKP **PKPdf 09 51 12.2 -2.3**
TORD PKPab **PKPab 09 52 38.0 -0.3**
TORD PP **PP 09 56 28.2 +0.2**
TORD Torodi Ar. Bea 172.32 172 PKP **PKPdf 09 51 12.2 -2.3**
comp=Z,1.4nm,1.0s,baz=315,slow=1.6,SNR=16
TORD PKPab **PKPab 09 52 38.0 -0.3**
comp=Z,3.0nm,1.1s,baz=212,slow=4.1,SNR=6.3
TORD PP **PP 09 56 28.2 +0.2**
comp=Z,1.7nm,1.2s,baz=191,slow=5.9,SNR=4.0
TAM Tamanrasset 176.78 309 PFAKE 09 51 30.0 +14
TAM LR LR
comp=Z,563nm,21.0s

*IDC **11** 09:31:08.0±1.0, 51°.57N×174°.45W, h0km, mb3.8/18, mb1 4.0/21, mb1mx3.9/33, mbtmp3.9/21, ML3.9/3, MS3.5/1, Ms1 3.6/1, ms1mx2.8/54, Error ellipse: s-maj=29.6km s-min=14.2km az=176.0*
*ISCJB **11** 09:31:11.8±0.5, 51°.42N±0°.05×174°.43W±0°.07, h38km, mb3.9/19, Error ellipse: s-maj=8.2km s-min=5.4km az=157.7*
*NEIC **11** 09:31:13.6, 51°.55N×174°.42W, h10km, ML3.8(AEIC), After AEIC.*

ISC 11 09:31:13.5±0.7, 51°.48N±0°.10×174°.44W±0°.06, h38km, n47, σ1s07/47, mb4.1/24, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.74**	**12**	P	**Pn**	**09 31 26.3**	**-1.1**
ATKA				S	**Sn**	**09 31 36.6**	**-0.8**
KOFP	**Korovin Flat P**	**0.82**	**15**	P	**Pn**	**09 31 28.6**	**0.0**
KOKL	**Mount Kliuchef**	**0.85**	**10**	P	**Pn**	**09 31 29.1**	**0.0**
KOKV	**Korovin Volcan**	**0.90**	**11**	P	**Pn**	**09 31 29.9**	**+0.3**
KOKV				S	**Sn**	**09 31 43.2**	**+1.7**
ADK	**Adak**	**1.45**	**287**	*e*Pn	**Pn**	**09 31 36.1**	**-1.1**
ADK				*e*Sn	**Sn**	**09 31 54.1**	**-0.9**
OKFG	**Magazine Ridge**	**4.44**	**62**	P	Pn	09 32 21.6	+3.4
MSW	**Makushin Switc**	**5.26**	**59**	P	**Pn**	**09 32 32.4**	**+2.9**
UNV	**Unalaska Valle**	**5.38**	**61**	P	**Pn**	**09 32 34.0**	**+2.9**
FX1	**Attu Island--F**	**7.75**	**285**	Pn	Pn	09 33 07.8	+4.2
FX1				Sn	Sn	09 34 43.7	+14
FX1	**Attu Island--F**	**7.75**	**285**	Pn	Pn	09 33 07.8	+4.2
	1.9nm,0.3s,baz=74,slow=7.4,SNR=3.9						
FX1				Sn	Sn	09 34 43.7	+14
	1.6nm,0.3s,baz=41,slow=22,SNR=2.2						
KDAK	**Kodiak Island**	**14.11**	**55**	Pn	**Pn**	**09 34 28.9**	**-1.6**
KDAK	**Kodiak Island**	**14.11**	**55**	Pn	**Pn**	**09 34 28.9**	**-1.6**
	0.5nm,0.3s,baz=230,slow=7.9,SNR=2.5						
PETK	**Petropavlovsk-**	**17.08**	**286**	Pn	**Pn**	**09 35 09.2**	**+0.1**
PETK	**Petropavlovsk-**	**17.08**	**286**	Pn	Pn	**09 35 09.2**	**+0.1**
	0.2nm,0.3s,baz=93,slow=14,SNR=4.0						
ILAR	**Eielson Array**	**19.50**	**36**	P	**P**	**09 35 36.2**	**-0.8**
ILAR	**Eielson Array**	**19.50**	**36**	P	**P**	**09 35 36.2**	**-0.8**
	0.4nm,0.3s,baz=232,slow=8.7,SNR=24						
ILAR				LR	LR	09 44 22.2	
	comp=Z,141nm,19.5s,baz=291,slow=41						
INK	**Inuvik**	**25.83**	**34**	P	**P**	**09 36 40.3**	**-0.5**
INK	**Inuvik**	**25.83**	**34**	P	**P**	**09 36 40.3**	**-0.5**
	1.4nm,0.8s,baz=245,slow=15,SNR=5.7						
DLBC	**Dease Lake**	**26.02**	**57**	P	**P**	**09 36 40.6**	**-2.1**
	1.3nm,0.6s,baz=252,slow=9.6,SNR=2.3						
YKA	**Yellowknife Ar**	**33.17**	**47**	P	**P**	**09 37 45.9**	**-0.1**
YKA	**Yellowknife Ar**	**33.17**	**47**	P	**P**	**09 37 45.9**	**-0.1**
	0.1nm,0.5s,baz=272,slow=8.8,SNR=3.5						
USRK	**Ussuriysk Arra**	**35.97**	**280**	P	**P**	**09 38 09.9**	**-0.4**
	2.8nm,0.6s,baz=60,slow=9.2,SNR=8.7						
NVAR	**Mina Array Bea**	**40.83**	**86**	P	**P**	**09 38 52.4**	**+0.9**
	0.3nm,0.7s,baz=277,slow=7.1,SNR=2.5						
PDAR	**Pinedale Array**	**43.66**	**75**	P	**P**	**09 39 15.0**	**+0.4**
	0.9nm,0.6s,baz=299,slow=3.9,SNR=5.5						
ULM	**Lac du Bonnet**	**47.32**	**59**	P	**P**	**09 39 43.3**	**+0.2**
	0.9nm,0.4s,baz=216,slow=6.7,SNR=3.4						
SONM	**Songino Array**	**49.01**	**299**	P	**P**	**09 39 57.2**	**+0.9**
	0.2nm,0.5s,baz=56,slow=11,SNR=2.1						
SFJD	**Kangerlussuaq**	**54.49**	**24**	P	**P**	**09 40 35.9**	**-0.8**
	4.6nm,0.8s,baz=160,slow=9.2,SNR=3.9						
TXAR	**Lajitas Array**	**55.94**	**84**	P	**P**	**09 40 47.2**	**-0.6**
	0.3nm,0.7s,baz=284,slow=5.0,SNR=4.0						
ARCES	**ARCESS Array B**	**58.41**	**352**	P	**P**	**09 41 04.3**	**-0.3**
	3.4nm,0.8s,baz=24,slow=12,SNR=2.4						
KURBB	**Kurchatov Arra**	**60.99**	**316**	P	**P**	**09 41 22.2**	**-0.4**
	1.4nm,0.7s,baz=42,slow=6.8,SNR=6.1						
MKAR	**Makanchi Array**	**62.07**	**311**	P	**P**	**09 41 29.0**	**-0.9**
	0.3nm,0.3s,baz=46,slow=6.8,SNR=7.6						
BVAR	**Borovoye Array**	**62.53**	**322**	P	**P**	**09 41 32.5**	**-0.4**
	0.7nm,0.5s,baz=63,slow=7.3,SNR=4.5						
FINES	**FINESS Array B**	**66.24**	**349**	P	**P**	**09 41 56.4**	**-0.6**
	1.1nm,0.7s,baz=302,slow=13,SNR=2.6						
HFS	**Hagfors**	**68.55**	**356**	P	**P**	**09 42 10.5**	**-1.1**
	1.2nm,0.4s,baz=20,slow=4.7,SNR=7.3						
AKTO	**Aktyubinsk**	**69.13**	**327**	P	**P**	**09 42 15.2**	**-0.2**
	1.3nm,0.6s,baz=46,slow=10,SNR=5.0						
TAPN	**Taplejung**	**73.70**	**293**	*e*P	**P**	**09 42 44.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**73.70**	**279**	P	**P**	**09 42 46.1**	**+2.6**
	0.9nm,0.5s,baz=25,slow=7.3,SNR=3.0						
GUN	**Gumba**	**74.32**	**295**	*e*P	**P**	**09 42 48.0**	**+0.6**
	12nm,0.6s						
JIRN	**Jiri**	**74.33**	**295**	*e*P	**P**	**09 42 48.3**	**+0.8**
	3.2nm,0.6s						
RAMN	**Ramite**	**74.64**	**294**	*e*P	**P**	**09 42 48.9**	**-0.2**
	17nm,0.8s						
PKI	**Pulchoki**	**74.84**	**295**	*e*P	**P**	**09 42 51.0**	**+0.6**
GKN	**Gorkha**	**74.95**	**296**	*e*P	**P**	**09 42 51.2**	**+0.4**
DMN	**Daman**	**74.98**	**295**	*e*P	**P**	**09 42 50.9**	**-0.2**
DANN	**Dangsing**	**75.17**	**297**	*e*P	**P**	**09 42 52.6**	**+0.3**
	13nm,0.7s						
KOLN	**Koldanda**	**75.71**	**297**	*e*P	**P**	**09 42 55.2**	**0.0**
	6.2nm,0.8s						
ASAR	**Alice Springs**	**87.47**	**226**	P	**P**	**09 43 56.6**	**-0.3**
	1.4nm,0.8s,baz=28,slow=4.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**115.56**	**4**	PKP	**PKPdf**	**09 49 51.8**	**+0.2**
	0.5nm,0.8s,baz=327,slow=2.6,SNR=3.0						

*IDC **11** 09:33:08.3±0.8, 51°.53N×174°.44W, h0km, mb3.8/14, mb1 3.9/18, mb1mx3.9/31, mbtmp3.8/18, ML3.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.7/55, Error ellipse: s-maj=29.8km s-min=11.6km az=178.0*
*NEIC **11** 09:33:13.2, 51°.53N×174°.54W, h6km, mb4.1/2, ML3.9(AEIC), After AEIC.*

ISC 11 09:33:11.7±3.2, 51°.4N±0°.1×174°.56W±0°.07, h24km±20km, n51, σ0s96/57, mb4.0/15, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOFP	**Korovin Flat P**	**0.94**	**17**	P	**Pn**	**09 33 28.9**	**-0.6**
KOWE	**Korovin West**	**1.00**	**11**	P	**Pn**	**09 33 30.1**	**-0.2**
KOKV	**Korovin Volcan**	**1.01**	**14**	P	**Pn**	**09 33 30.5**	**0.0**
KOKV				S	**Sb**	**09 33 44.1**	**+0.6**
KOSE	**Korovin Southe**	**1.02**	**18**	P	**Pn**	**09 33 30.4**	**-0.2**
KOSE				S	**Sb**	**09 33 44.4**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**4.47**	**61**	P	Pn	09 34 21.4	+3.4
MREP	**Makushin Rep't**	**5.35**	**60**	P	**Pn**	**09 34 32.9**	**+2.9**
UNV	**Unalaska Valle**	**5.49**	**60**	P	**Pn**	**09 34 34.7**	**+2.8**
FX1	**Attu Island--F**	**7.71**	**286**	Pn	**Pn**	**09 35 02.6**	**+0.3**
FX1	**Attu Island--F**	**7.71**	**286**	Pn	**Pn**	**09 35 02.6**	**+0.3**

2.6nm,0.3s,baz=111,slow=17,SNR=3.1
KDAK Kodiak Island 14.22 55 Pn **Pn 09 36 32.1 +0.7**
KDAK Kodiak Island 14.22 55 Pn **Pn 09 36 32.1 +0.7**
0.6nm,0.3s,baz=262,slow=7.1,SNR=3.6
PETK Petropavlovsk- 17.04 287 Pn **P 09 37 10.2 +0.3**
PETK Petropavlovsk- 17.04 287 Pn **P 09 37 10.1 +0.3**
0.3nm,0.3s,baz=108,slow=14,SNR=4.4
PETK LR LR 09 43 04.7
comp=Z,96nm,22.0s,baz=285,slow=35
BILL Bilibino 19.15 338 *eP* **Pn 09 37 34.4 +0.5**
7.0nm,0.8s
ILAR Eielson Array 19.62 36 P **P 09 37 37.0 -1.1**
ILAR Eielson Array 19.62 36 P **P 09 37 37.0 -1.1**
0.6nm,0.3s,baz=227,slow=8.3,SNR=13
EGAK Eagle 21.83 39 *eP* **P 09 38 00.4 -1.6**
7.7nm,0.6s
YKA Yellowknife Ar 33.29 47 P **P 09 39 46.4 -0.6**
YKA Yellowknife Ar 33.29 47 P **P 09 39 46.4 -0.6**
0.1nm,0.5s,baz=274,slow=8.5,SNR=3.2
YKA PcP **PcP 09 42 28.3 -0.1**
0.1nm,0.6s,baz=288,slow=3.0,SNR=4.1
USRK Ussuriysk Arra 35.92 280 P **P 09 40 09.9 +0.1**
5.3nm,0.8s,baz=58,slow=7.7,SNR=8.5
NVAR Mina Array Bea 40.91 86 P **P 09 40 52.8 +0.6**
NVAR Mina Array Bea 40.91 86 P **P 09 40 52.8 +0.6**
0.3nm,0.7s,baz=286,slow=3.3,SNR=2.5
KSRS Korea Array 42.30 274 P **P 09 41 04.1 +0.9**
1.3nm,0.7s,baz=56,slow=6.7,SNR=4.1
KSAR Wonju Array Be 42.33 274 P **P 09 41 04.1 +0.6**
PDAR Pinedale Array 43.76 75 P **P 09 41 14.9 -0.4**
PDAR Pinedale Array 43.76 75 P **P 09 41 14.9 -0.4**
1.0nm,0.8s,baz=310,slow=1.3,SNR=4.4
ULM Lac du Bonnet 47.43 59 P **P 09 41 43.0 -1.0**
ULM Lac du Bonnet 47.43 59 P **P 09 41 43.0 -1.0**
1.4nm,0.7s,baz=231,slow=2.0,SNR=3.0
SONM Songino Array 49.00 299 P **P 09 41 56.8 +0.5**
SONM Songino Array 49.00 299 P **P 09 41 56.8 +0.5**
0.3nm,0.6s,baz=64,slow=6.6,SNR=2.4
SONM PcP **PcP 09 43 20.3 +0.4**
0.8nm,0.9s,baz=102,slow=1.2,SNR=3.7
SONM ScP **ScP 09 47 16.3 +3.0**
0.5nm,0.9s,baz=33,slow=5.5,SNR=2.5
ZALV Zalesovo Beam 55.93 315 PcP **PcP 09 43 46.1 +0.5**
0.4nm,0.3s,baz=29,slow=3.4,SNR=4.1
TXAR Lajitas Array 56.02 84 P **P 09 42 48.0 -0.4**
TXAR Lajitas Array 56.02 84 P **P 09 42 48.0 -0.4**
0.3nm,0.7s,baz=316,slow=3.8,SNR=2.2
KURBB Kurchatov Arra 61.02 316 P **P 09 43 21.9 -0.9**
1.3nm,0.6s,baz=44,slow=6.5,SNR=8.1
KURBB PcP **PcP 09 44 05.4 -0.4**
0.4nm,0.5s,baz=39,slow=3.7,SNR=4.7
MKAR Makanchi Array 62.08 311 P **P 09 43 29.2 -0.9**
0.6nm,0.5s,baz=46,slow=6.1,SNR=8.2
BVAR Borovoye Array 62.57 322 P **P 09 43 32.7 -0.5**
0.8nm,0.5s,baz=63,slow=5.6,SNR=4.5
BVAR PcP **PcP 09 44 12.2 0.0**
2.6nm,0.8s,baz=55,slow=3.8,SNR=6.6
HFS Hagfors 68.64 356 P **P 09 44 10.8 -1.5**
0.9nm,0.5s,baz=77,slow=6.4,SNR=4.5
AKTO Aktyubinsk 69.18 327 P **P 09 44 15.2 -0.7**
1.4nm,0.6s,baz=11,slow=5.2,SNR=4.6
TAPN Taplejung 73.67 293 *eP* **P 09 44 44.6 +0.9**
21nm,0.9s
ODAN Odare 74.23 293 *eP* **P 09 44 47.6 +0.7**
GUN Gumba 74.30 295 *eP* **P 09 44 47.9 +0.5**
27nm,0.7s
JIRN Jiri 74.31 295 *eP* **P 09 44 48.3 +0.8**
7.7nm,0.7s
RAMN Ramite 74.62 294 *eP* **P 09 44 49.5 +0.3**
36nm,0.8s
KKN Kakani 74.73 295 *eP* **P 09 44 49.5 -0.3**
6.5nm,0.4s
PKI Pulchoki 74.82 295 *eP* **P 09 44 50.4 0.0**
GKN Gorkha 74.93 296 *eP* **P 09 44 51.4 -0.5**
DMN Daman 74.97 295 *eP* **P 09 44 51.5 +0.3**
10.0nm,0.7s
DANN Dangsing 75.15 297 *eP* **P 09 44 52.9 +0.6**
38nm,0.9s
KOLN Koldanda 75.69 296 *eP* **P 09 44 54.6 -0.7**
9.8nm,0.7s
ASAR Alice Springs 87.34 226 P **P 09 45 56.9 +0.4**
0.5nm,0.8s,baz=22,slow=5.1,SNR=3.2
BOSA Boshof 152.83 319 PKPbc **PKPbc 09 53 07.3 +0.8**
1.3nm,0.5s,baz=297,slow=2.3,SNR=3.0

IDC 11 09:41:25.6±2.0,**12°.17N**×**143°.88E,h0**km**,mb4.1/9, mb1 4.3/9,mb1mx4.0/24,mbtmp4.1/9,Error ellipse: s-maj=54.9km s-min=25.1km az=157.0,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.71**	**34**	Pn		Pb		09 41 57.8	-0.1
	67nm,0.3s,baz=186,slow=9.4,SNR=29								
GUMO				Sn		Sb		09 42 20.0	0.0
	95nm,0.3s,baz=3.2,slow=23,SNR=12								
MKAR	**Makanchi Array**	**61.85**	**317**	P		P		09 51 47.8	+1.1
	0.7nm,0.9s,baz=90,slow=8.2,SNR=3.8								
KURBB	**Kurchatov Arra**	**65.09**	**320**	P		P		09 52 08.3	+0.3
	1.1nm,0.6s,baz=104,slow=6.6,SNR=7.3								
ILAR	**Eielson Array**	**70.26**	**25**	P		P		09 52 38.8	-1.6
	0.7nm,0.6s,baz=251,slow=5.7,SNR=14								
BVAR	**Borovoye Array**	**70.45**	**322**	P		P		09 52 41.7	-0.1
	1.4nm,0.5s,baz=102,slow=7.8,SNR=8.9								
INK	**Inuvik**	**76.04**	**22**	P		P		09 53 14.8	+0.3
	1.8nm,0.9s,baz=256,slow=6.5,SNR=2.7								
YKA	**Yellowknife Ar**	**84.56**	**27**	P		P		09 54 00.5	0.0
	0.5nm,0.5s,baz=286,slow=5.1,SNR=23								
ARCES	**ARCESS Array B**	**88.13**	**342**	P		P		09 54 18.0	0.0
	2.9nm,0.9s,baz=72,slow=5.2,SNR=3.5								
NVAR	**Mina Array Bea**	**88.56**	**51**	P		P		09 54 22.3	+1.4
	0.9nm,0.7s,baz=268,slow=5.9,SNR=7.9								
FINES	**FINESS Array B**	**92.04**	**335**	P		P		09 54 35.0	-1.3
	1.4nm,0.6s,baz=95,slow=2.1,SNR=4.6								

NIED ***11*** *09:44:00,32°.80N×138°.40E,h320km,Mw4.2 Best double couple: M0 1.93000×10^15 NP1:φs47.00000°, δ86.00000°,λ-79.00000°. NP2:φs157.00000°,δ12.00000°, λ-159.00000°.*

JMA ***11*** *09:44:24.8±0.3,32°.78N×138°.40E,h331km±3km,M4.2*

NEIC ***11*** *09:44:26.6±0.5,32°.71N×138°.19E,h306km±4km,mb4.3/7, Error ellipse: s-maj=7.0km s-min=6.3km az=69.0*

ISCJB ***11*** *09:44:26.1±0.3,32°.76N±0°.04×138°.27E±0°.04, h317km±2km,mb4.0/34,Error ellipse: s-maj=6.5km s-min=5.5km az=150.7*

IDC ***11*** *09:44:26.3±0.6,32°.71N×138°.17E,h303km±5km,mb3.7/27, mb1 3.7/33,mb1mx3.7/39,mbtmp3.7/33,Error ellipse: s-maj=10.8km s-min=8.5km az=69.0*

BJI ***11*** *09:44:26.6,32°.82N×138°.02E,h315km,mB4.6/8,mb4.4/14*

ISC 11 09:44:27.3±0.6,**32°.77N**±0°.05×**138°.27E**±0°.05,**h313**km±5km, **n115**,σ1s**18**/149,**mb4.1**/34,**11C-1D**,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**1.15**	**330**	P		**Pn**		**09 45 09.6**	**+0.2**
TK01				*eS*		**S**		**09 45 43.4**	**+0.5**
TK02	**Tokai 2**	**1.25**	**340**	P		**Pn**		**09 45 10.0**	**0.0**
TK02				*eS*		**S**		**09 45 45.4**	**+1.3**
TTO3	**TONANKAI O.B.S**	**1.31**	**326**	⇑P		**Pn**		**09 45 10.7**	**+0.3**
TTO3				*eS*		**S**		**09 45 45.8**	**+0.9**
JHJ	**Hachijo jima 2**	**1.31**	**74**	P		**Pn**		**09 45 09.8**	**-0.9**
	47nm,0.3s,baz=278,slow=23,SNR=78								
JHJ				S		**S**		**09 45 43.3**	**-1.9**
	75nm,0.3s,baz=91,slow=18,SNR=5.6								
JHJ2	**Mitsune**	**1.34**	**75**	P		**Pn**		**09 45 09.7**	**-1.1**
JHJ2				*eS*		**S**		**09 45 46.4**	**+0.9**
TTO4	**TONANKAI O.B.S**	**1.38**	**334**	⇑P		**Pn**		**09 45 10.7**	**0.0**
TTO4				*eS*		**S**		**09 45 45.8**	**+0.5**
TK03	**Tokai 3**	**1.41**	**350**	P		**Pn**		**09 45 11.3**	**+0.3**
TK03				*eS*		**S**		**09 45 46.7**	**+0.7**
TTO2	**TONANKAI O.B.S**	**1.42**	**313**	⇑P		**Pn**		**09 45 11.3**	**+0.4**
TTO2				*eS*		**S**		**09 45 47.3**	**+1.6**
TTO1	**TONANKAI O.B.S**	**1.51**	**305**	⇑P		**Pn**		**09 45 11.6**	**+0.2**
JIE	**Ise**	**2.08**	**321**	⇑P		**Pn**		**09 45 15.6**	**-0.2**
JIE				S		**S**		**09 45 53.8**	**-0.8**
JWZ	**Kozaga**	**2.28**	**290**	⇑P		**Pn**		**09 45 16.5**	**-0.9**
JOD2	**Odawara 2**	**2.58**	**15**	⇑P		**Pn**		**09 45 19.5**	**-0.5**
JOD2				*eS*		**S**		**09 46 00.6**	**-1.5**
JWY	**Kouya**	**2.67**	**304**	⇑P		**Pn**		**09 45 20.8**	**-0.1**
JYN	**Shimob**	**2.73**	**5**	P		**Pn**		**09 45 21.8**	**+0.4**
BSO1	**Boso 1**	**2.93**	**49**	P		**Pn**		**09 45 20.7**	**-2.0**
BSO1				*eS*		**S**		**09 46 03.1**	**-4.0**
JGM	**Miyama**	**3.19**	**337**	⇑P		**Pn**		**09 45 25.8**	**0.0**
JGM				*eS*		**S**		**09 46 11.6**	**-1.1**
JRY	**Ryogami san**	**3.28**	**9**	P		**Pn**		**09 45 26.6**	**-0.1**
JRY				*eS*		**S**		**09 46 12.0**	**-2.2**
JAI	**Aioi**	**3.36**	**289**	⇑P		**Pn**		**09 45 27.0**	**-0.5**
JAI				*eS*		**S**		**09 46 13.9**	**-1.8**
JWT	**Wachi**	**3.46**	**317**	⇑P		**Pn**		**09 45 28.4**	**-0.1**
JWT				*eS*		**S**		**09 46 16.7**	**-0.8**
MJAR	**Matsushiro Arr**	**3.76**	**359**	P		**Pn**		**09 45 31.0**	**-0.6**
MJAR				S		**S**		**09 46 21.8**	**-1.4**
MJAR	**Matsushiro Arr**	**3.76**	**359**	P		**Pn**		**09 45 31.0**	**-0.6**
	15nm,0.3s,baz=180,slow=8.2,SNR=137								
MJAR				S		**S**		**09 46 21.8**	**-1.4**
	3.9nm,0.3s,baz=54,slow=13,SNR=11								
MAJO	**Matsushiro**	**3.76**	**359**	*e*Pn		**Pn**		**09 45 30.4**	**-1.3**
MAJO				*eS*		**S**		**09 46 22.5**	**-0.7**
MAT	**Matsushiro**	**3.76**	**359**	P		**Pn**		**09 45 30.5**	**-1.1**
MAT				S		**S**		**09 46 22.6**	**-0.6**
MAT	**Matsushiro**	**3.76**	**359**	P		**Pn**		**09 45 31.6**	**0.0**
MAT				*eS*		**S**		**09 46 22.6**	**-0.6**
JAG	**Ashikaga**	**3.77**	**15**	P		**Pn**		**09 45 29.8**	**-1.9**
JAG				*eS*		**S**		**09 46 20.3**	**-3.1**
JTO	**Tosashimizu**	**4.61**	**273**	P		**Pn**		**09 45 40.3**	**-0.6**
JTO				*eS*		**S**		**09 46 36.6**	**-3.5**
JHS	**Saijyo**	**4.83**	**299**	P		**Pn**		**09 45 43.3**	**-0.1**
JNU	**Nakatsue**	**6.23**	**275**	P		**Pn**		**09 45 59.4**	**-0.3**
JNU	**Nakatsue**	**6.23**	**275**	P		**Pn**		**09 45 59.4**	**-0.3**
	10.0nm,0.5s,baz=73,slow=7.7,SNR=19								
CBIJ	**Chichi jima**	**6.59**	**148**	P		**Pn**		**09 46 02.4**	**-1.7**
CBIJ				S		S		09 47 12.4	-10
CBIJ	**Chichi jima**	**6.59**	**148**	P		**Pn**		**09 46 02.4**	**-1.7**
	28nm,0.3s,baz=282,slow=21,SNR=6.3								
CBIJ				S		S		09 47 12.4	-10
	76nm,0.3s,baz=291,slow=22,SNR=16								
KSRS	**Korea Array**	**9.68**	**302**	P		**Pn**		**09 46 42.0**	**+0.7**
	1.0nm,0.3s,baz=114,slow=13,SNR=37								
KSAR	**Wonju Array Be**	**9.70**	**302**	P		**Pn**		**09 46 42.0**	**+0.4**
JOW	**Kunigami**	**10.51**	**238**	P		**P**		**09 46 55.1**	**+1.1**
JOW	**Kunigami**	**10.51**	**238**	P		**P**		**09 46 55.1**	**+1.1**
	3.2nm,0.3s,baz=49,slow=7.9,SNR=12								
ASAJ	**Asahikawa**	**11.82**	**15**	P		**Pn**		**09 47 05.8**	**-1.5**
ASAJ				S		**S**		**09 49 13.6**	**-5.3**
ASAJ	**Asahikawa**	**11.82**	**15**	P		**Pn**		**09 47 05.8**	**-1.5**
	1.8nm,0.3s,baz=260,slow=12,SNR=14								
ASAJ				S		**S**		**09 49 13.6**	**-5.3**
	0.8nm,0.3s,baz=36,slow=26,SNR=2.9								
USRK	**Ussuriysk Arra**	**12.42**	**339**	P		**Pn**		**09 47 14.1**	**-0.3**
	1.1nm,0.3s,baz=161,slow=11,SNR=29								
YSS	**Yuzh-Sakhalins**	**14.57**	**12**	*eP*		**Pn**		**09 47 40.4**	**+0.3**
	48nm,0.5s								
BJT	**Baijiatuan**	**19.18**	**298**	*eP*		**P**		**09 48 27.8**	**-0.9**
	33nm,0.4s								
HIA	**Hailar**	**21.52**	**325**	*eP*		**P**		**09 48 50.7**	**-1.0**
	8.8nm,0.6s								
PETK	**Petropavlovsk-**	**24.66**	**29**	P		**P**		**09 49 21.8**	**+1.8**
PETK	**Petropavlovsk-**	**24.66**	**29**	P		**P**		**09 49 21.8**	**+1.8**
	2.1nm,0.8s,baz=243,slow=9.1,SNR=4.4								
ULN	**Ulaanbaatar**	**27.94**	**312**	*eP*		**P**		**09 49 49.7**	**+0.1**
	4.7nm,0.6s								
SONM	**Songino Array**	**28.35**	**311**	P		**P**		**09 49 53.5**	**+0.4**
SONM				PcP		**PcP**		**09 52 57.4**	**+0.5**
SONM	**Songino Array**	**28.35**	**311**	P		**P**		**09 49 53.5**	**+0.4**
	5.0nm,0.7s,baz=121,slow=8.8,SNR=30								
SONM				PcP		**PcP**		**09 52 57.4**	**+0.5**
	0.2nm,0.4s,baz=123,slow=0.9,SNR=3.1								
GTA	**Gaotai**	**31.60**	**293**	*eP*		**P**		**09 50 21.1**	**-0.6**
GTA				pmax		pmax			
	comp=Z,3.0nm,0.5s								
BILL	**Bilibino**	**38.83**	**16**	*eP*		**P**		**09 51 23.8**	**+1.4**
	comp=Z,18nm,1.1s								
ZALV	**Zalesovo Beam**	**43.02**	**316**	P		**P**		**09 51 56.0**	**-0.5**
ZALV				PcP		**PcP**		**09 53 39.7**	**-0.6**
ZALV	**Zalesovo Beam**	**43.02**	**316**	P		**P**		**09 51 56.0**	**-0.5**
	comp=Z,2.5nm,0.3s,baz=91,slow=7.7,SNR=9.7								
ZALV				PcP		**PcP**		**09 53 39.7**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=120,slow=3.6,SNR=6.4								
TAPN	**Taplejung**	**43.76**	**277**	*eP*		**P**		**09 52 02.6**	**-0.5**
	comp=Z,4.5nm,0.3s								
MK31	**Makanchi Array**	**44.34**	**305**	*eP*		**P**		**09 52 06.7**	**-0.3**
MKAR	**Makanchi Array**	**44.34**	**305**	P		**P**		**09 52 06.7**	**-0.4**
MKAR				PcP		**PcP**		**09 53 44.6**	**-0.4**
MKAR				ScP		**ScP**		**09 57 06.5**	**0.0**
MKAR	**Makanchi Array**	**44.34**	**305**	P		**P**		**09 52 06.7**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=87,slow=9.5,SNR=83								
MKAR				PcP		**PcP**		**09 53 44.6**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=80,slow=7.5,SNR=3.9								
MKAR				ScP		**ScP**		**09 57 06.5**	**0.0**
	comp=Z,0.3nm,0.7s,baz=76,slow=6.8,SNR=3.0								
RAMN	**Ramite**	**44.83**	**277**	*eP*		**P**		**09 52 10.9**	**-0.6**
	comp=Z,27nm,0.8s								
JIRN	**Jiri**	**44.93**	**278**	*eP*		**P**		**09 52 12.4**	**0.0**
	comp=Z,5.6nm,0.5s								
GUN	**Gumba**	**45.10**	**278**	*eP*		**P**		**09 52 13.0**	**-0.7**
	comp=Z,18nm,0.7s								
PKI	**Pulchoki**	**45.61**	**278**	*eP*		**P**		**09 52 16.8**	**-0.9**
	comp=Z,16nm,0.7s								
KKN	**Kakani**	**45.65**	**278**	*eP*		**P**		**09 52 16.9**	**-0.9**
	comp=Z,13nm,0.7s								
DMN	**Daman**	**45.85**	**278**	*eP*		**P**		**09 52 18.3**	**-1.1**
GKN	**Gorkha**	**46.11**	**279**	*eP*		**P**		**09 52 20.4**	**-0.9**
	comp=Z,23nm,0.7s								
KURK	**Kurchatov**	**46.65**	**311**	P		**P**		**09 52 24.7**	**-0.2**
KURBB	**Kurchatov Arra**	**46.71**	**311**	P		**P**		**09 52 24.7**	**-0.7**
	comp=Z,12nm,0.7s,baz=89,slow=6.6,SNR=60								
DANN	**Dangsing**	**46.72**	**280**	*eP*		**P**		**09 52 25.8**	**-0.4**
	comp=Z,13nm,0.3s								
KOLN	**Koldanda**	**47.05**	**279**	*eP*		**P**		**09 52 28.1**	**-0.5**
	comp=Z,12nm,0.6s								
AAK	**Ala-Archa**	**50.34**	**301**	P		**P**		**09 52 53.0**	**-0.2**
AAK	**Ala-Archa**	**50.34**	**301**	P		**P**		**09 52 53.0**	**-0.2**
	comp=Z,10nm,0.6s,baz=109,slow=7.3,SNR=6.7								
BVAR	**Borovoye Array**	**51.62**	**314**	P		**P**		**09 53 01.8**	**-0.5**
BVAR				PcP		**PcP**		**09 54 11.1**	**0.0**
BVAR	**Borovoye Array**	**51.62**	**314**	P		**P**		**09 53 01.8**	**-0.5**
	comp=Z,3.2nm,0.4s,baz=102,slow=8.8,SNR=24								
BVAR				PcP		**PcP**		**09 54 11.1**	**0.0**
	comp=Z,1.3nm,0.5s,baz=103,slow=4.2,SNR=4.6								
KDAK	**Kodiak Island**	**52.01**	**39**	P		**P**		**09 53 06.2**	**+1.3**
KDAK	**Kodiak Island**	**52.01**	**39**	P		**P**		**09 53 06.2**	**+1.3**
	comp=Z,7.1nm,0.9s,baz=162,slow=6.4,SNR=3.3								
FITZ	**Fitzroy Crossi**	**52.01**	**195**	P		**P**		**09 53 05.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**52.01**	**195**	P		**P**		**09 53 05.2**	**-0.3**
	comp=Z,6.3nm,1.3s,baz=18,slow=9.6,SNR=2.7								
KKAR	**Karatay Array**	**53.11**	**302**	*eP*		**P**		**09 53 13.0**	**-0.3**
	comp=Z,3.3nm,0.3s								
CTA	**Charters Tower**	**53.11**	**171**	P		**P**		**09 53 13.3**	**-0.2**
CTA	**Charters Tower**	**53.11**	**171**	P		**P**		**09 53 13.3**	**-0.2**
	comp=Z,4.3nm,0.9s,baz=349,slow=5.2,SNR=3.7								
ILAR	**Eielson Array**	**54.47**	**31**	P		**P**		**09 53 23.4**	**+0.7**
ILAR	**Eielson Array**	**54.47**	**31**	P		**P**		**09 53 23.4**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=269,slow=5.7,SNR=10								
ASAR	**Alice Springs**	**56.28**	**185**	P		**P**		**09 53 35.2**	**-0.8**
ASAR	**Alice Springs**	**56.28**	**185**	P		**P**		**09 53 35.2**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=15,slow=13,SNR=20								
ABKAR	**Akbulak array**	**58.76**	**311**	*eP*		**P**		**09 53 52.5**	**-0.5**
	comp=Z,2.9nm,0.3s								
INK	**Inuvik**	**59.34**	**26**	P		**P**		**09 53 57.8**	**+1.2**
INK	**Inuvik**	**59.34**	**26**	P		**P**		**09 53 57.8**	**+1.2**
	comp=Z,1.2nm,0.6s,baz=285,slow=5.9,SNR=5.6								
AKTO	**Aktyubinsk**	**59.65**	**313**	P		**P**		**09 53 59.1**	**+0.2**
AKTO	**Aktyubinsk**	**59.65**	**313**	P		**P**		**09 53 59.1**	**+0.2**
	comp=Z,3.2nm,0.8s,baz=72,slow=12,SNR=9.4								
SPITS	**Spitsbergen Ar**	**64.19**	**349**	P		**P**		**09 54 29.6**	**+1.0**
SPITS	**Spitsbergen Ar**	**64.19**	**349**	P		**P**		**09 54 29.6**	**+1.0**
	comp=Z,1.8nm,0.4s,baz=150,slow=9.0,SNR=7.0								
STKA	**Stephens Creek**	**64.38**	**177**	P		**P**		**09 54 30.0**	**-0.3**
STKA	**Stephens Creek**	**64.38**	**177**	P		**P**		**09 54 30.0**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=340,slow=15,SNR=5.4								
ARCES	**ARCESS Array B**	**67.07**	**339**	P		**P**		**09 54 47.3**	**+0.3**
ARCES	**ARCESS Array B**	**67.07**	**339**	P		**P**		**09 54 47.3**	**+0.3**
	comp=Z,3.0nm,0.5s,baz=67,slow=7.4,SNR=18								
RES	**Resolute Bay**	**67.35**	**13**	P		**P**		**09 54 49.8**	**+1.2**
RES	**Resolute Bay**	**67.35**	**13**	P		**P**		**09 54 49.8**	**+1.2**
	comp=Z,5.8nm,0.7s,baz=308,slow=6.6,SNR=15								
YKA	**Yellowknife Ar**	**68.78**	**28**	P		**P**		**09 54 58.3**	**+0.7**
YKA	**Yellowknife Ar**	**68.78**	**28**	P		**P**		**09 54 58.3**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=298,slow=6.4,SNR=12								
FINES	**FINESS Array B**	**71.37**	**332**	P		**P**		**09 55 13.0**	**-0.3**
FINES	**FINESS Array B**	**71.37**	**332**	P		**P**		**09 55 13.0**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=60,slow=5.7,SNR=14								
AKASG	**Malin Array Be**	**76.06**	**322**	P		**P**		**09 55 39.9**	**-0.7**
AKASG	**Malin Array Be**	**76.06**	**322**	P		**P**		**09 55 39.9**	**-0.7**
	comp=Z,3.0nm,0.4s,baz=52,slow=5.3,SNR=13								
HFS	**Hagfors**	**76.88**	**335**	P		**P**		**09 55 44.4**	**-0.6**
HFS	**Hagfors**	**76.88**	**335**	P		**P**		**09 55 44.4**	**-0.6**
	comp=Z,3.2nm,0.4s,baz=90,slow=4.4,SNR=18								
NB2	**NORSAR Subarra**	**77.08**	**337**	P		**P**		**09 55 45.5**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=43,slow=5.6								
NOA	**NORSAR Array B**	**77.08**	**337**	P		**P**		**09 55 45.7**	**-0.5**
NOA	**NORSAR Array B**	**77.08**	**337**	P		**P**		**09 55 45.7**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=45,slow=5.6,SNR=11								
BRTR	**Keskin Array B**	**79.70**	**311**	P		**P**		**09 56 00.9**	**0.0**
BRTR	**Keskin Array B**	**79.70**	**311**	P		**P**		**09 56 00.9**	**0.0**
	comp=Z,2.7nm,0.6s,baz=112,slow=4.2,SNR=12								
PDAR	**Pinedale Array**	**82.51**	**43**	P		**P**		**09 56 16.8**	**+1.2**
PDAR	**Pinedale Array**	**82.51**	**43**	P		**P**		**09 56 16.8**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=260,slow=4.3,SNR=2.6								
CLL	**Collm**	**83.45**	**329**	⇓*iP*		**P**		**09 56 19.6**	**-0.4**
	comp=Z,11nm,1.1s								
GERES	**GERESS Array B**	**84.92**	**327**	P		**P**		**09 56 27.1**	**-0.4**
GERES	**GERESS Array B**	**84.92**	**327**	P		**P**		**09 56 27.1**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=27,slow=6.6,SNR=3.2								
TXAR	**Lajitas Array**	**94.79**	**51**	P		**P**		**09 57 15.7**	**+1.6**
TXAR	**Lajitas Array**	**94.79**	**51**	P		**P**		**09 57 15.7**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=242,slow=2.6,SNR=4.3								
TORD	**Torodi Ar. Bea**	**118.31**	**310**	PKP		**PKPdf**		**10 02 37.0**	**-1.2**
TORD	**Torodi Ar. Bea**	**118.31**	**310**	PKP		**PKPdf**		**10 02 37.0**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=38,slow=1.6,SNR=3.9								

MEX 11 09:47:19.9±0.7,**16°.56N**×**99°.04W,h8**km±6km**,MD3.8,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.84**	**292**	*eP*		Pg		09 47 34.3	-1.8
ACX				*eS*		Sg		09 47 46.6	-0.6
PNIG	**Pinotepa**	**0.89**	**100**	*eP*		Pg		09 47 35.1	-2.0
PNIG				*i S*		Sg		09 47 46.3	-2.6
CAIG	**El Cayaco**	**1.27**	**293**	*eP*		Pn		09 47 40.2	-3.7
CAIG				*i S*		Sb		09 47 55.8	-4.8
MEIG	**Mezcala**	**1.47**	**338**	*eP*		Pn		09 47 43.5	-3.3
MEIG				*eS*		Sn		09 48 01.9	-4.4
UTMO	**Huajuapan**	**1.73**	**43**	*eP*		Pn		09 47 46.8	-3.8
UTMO				*i S*		Sn		09 48 07.6	-5.6
VHO	**Vista Hermosa**	**2.27**	**77**	*eP*		Pn		09 47 55.5	-2.5
VHO				*eS*		Sn		09 48 22.7	-3.7
YAIG	**Yautepec**	**2.29**	**359**	*eP*		Pn		09 47 55.4	-2.8
YAIG				*i S*		Sn		09 48 22.4	-4.5
TPIG	**Tehuac#an**	**2.45**	**41**	*eP*		Pn		09 47 57.9	-2.6
TPIG				*i S*		Sn		09 48 27.2	-3.6
ZIIG	**Zihuatanejo**	**2.54**	**295**	*eP*		Pn		09 47 58.8	-2.6
ZIIG				*i S*		Sn		09 48 28.7	-3.9

IDC 11 09:58:37.7±1.3,**49°.14S**×**106°.30E,h0**km**,mb4.0/3, mb1 4.1/3,mb1mx3.8/12,mbtmp4.0/3,MS3.8/1,Ms1 3.7/1, ms1mx3.0/20,Error ellipse: s-maj=59.0km s-min=26.6km az=98.0,Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**31.53**	**70**	LR		LR		10 14 12.9	
	comp=Z,193

JHJ	**Hachijo jima 2**	**4.13**	**197**	P		**Pn**	**10 08 18.8**	**+0.4**	
	23nm,0.3s,baz=70,slow=10,SNR=18								
JHJ				S		**Sn**	**10 09 04.7**	**-0.8**	
	54nm,0.3s,baz=238,slow=23,SNR=9.6								
ASAJ	**Asahikawa**	**7.10**	**8**	P		**Pn**	**10 08 58.7**	**-0.3**	
ASAJ				S		**Sn**	**10 10 16.8**	**-1.5**	
ASAJ	**Asahikawa**	**7.10**	**8**	P		**Pn**	**10 08 58.7**	**-0.3**	
	1.6nm,0.3s,baz=208,slow=14,SNR=17								
ASAJ				S		**Sn**	**10 10 16.8**	**-1.5**	
	0.7nm,0.3s,baz=224,slow=33,SNR=1.8								
YUK	**Yuzh-Kuril'sk**	**7.79**	**26**	*i* P		**Pn**	**10 09 07.8**	**-0.6**	
YUK				*i* S		**Sn**	**10 10 29.5**	**-5.6**	
YUK				pmax	pmax				
	comp=N,40nm,0.8s								
YUK				pmax	pmax				
	comp=E,78nm,0.8s								
YUK				pmax	pmax				
	comp=Z,82nm,0.8s								
JNU	**Nakatsue**	**9.35**	**248**	P		**Pn**	**10 09 30.3**	**+0.4**	
JNU				S		**Sn**	**10 11 09.9**	**-3.7**	
JNU	**Nakatsue**	**9.35**	**248**	P		**Pn**	**10 09 30.3**	**+0.4**	
	comp=Z,0.2nm,0.3s,baz=97,slow=8.1,SNR=2.8								
JNU				S		**Sn**	**10 11 09.9**	**-3.7**	
	comp=Z,0.2nm,0.3s,baz=97,slow=10.0,SNR=2.3								
USRK	**Ussuriysk Arra**	**9.97**	**318**	P		Pn	10 09 42.3	+4.0	
	comp=Z,0.7nm,0.3s,baz=134,slow=12,SNR=27								
CBIJ	**Chichi jima**	**10.00**	**175**	S		Sn	10 11 19.9	-10	
	comp=Z,8.1nm,0.3s,baz=273,slow=20,SNR=1.4								
KSRS	**Korea Array**	**10.60**	**276**	P		**Pn**	**10 09 49.7**	**+2.7**	
	comp=Z,0.2nm,0.3s,baz=87,slow=14,SNR=2.8								
KSAR	**Wonju Array Be**	**10.63**	**276**	P		**Pn**	**10 09 49.7**	**+2.3**	
ULN	**Ulaanbaatar**	**27.19**	**304**	*eP*		**P**	**10 12 55.8**	**-1.0**	
	comp=Z,3.7nm,0.7s								
SONM	**Songino Array**	**27.62**	**304**	P		**P**	**10 12 59.5**	**-1.1**	
SONM	**Songino Array**	**27.62**	**304**	P		**P**	**10 12 59.5**	**-1.1**	
	comp=Z,1.4nm,0.5s,baz=101,slow=8.6,SNR=9.1								
ZAA0	**Zalesovo Array**	**41.76**	**312**	*eP*		**P**	**10 15 01.3**	**-0.6**	
ZALV	**Zalesovo Beam**	**41.76**	**312**	P		**P**	**10 15 01.4**	**-0.6**	
ZALV							10 16 57.2		
ZALV	**Zalesovo Beam**	**41.76**	**312**	P		**P**	**10 15 01.4**	**-0.6**	
ZALV				PcP		**PcP**	**10 16 57.2**	**-0.2**	
ZALV	**Zalesovo Beam**	**41.76**	**312**	P		**P**	**10 15 01.3**	**-0.6**	
	comp=Z,4.6nm,0.6s,baz=91,slow=6.6,SNR=22								
ZALV				PcP		**PcP**	**10 16 57.2**	**-0.2**	
	comp=Z,0.7nm,0.4s,baz=77,slow=3.1,SNR=3.4								
MK31	**Makanchi Array**	**43.95**	**302**	*eP*		**P**	**10 15 19.4**	**-0.5**	
MK31	**Makanchi Array**	**43.95**	**302**	*eP*		**P**	**10 15 19.4**	**-0.5**	
MKAR	**Makanchi Array**	**43.95**	**302**	P		**P**	**10 15 19.4**	**-0.4**	
MKAR							10 17 02.9		
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.8s								
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.9s								
MKAR	**Makanchi Array**	**43.95**	**302**	P		**P**	**10 15 19.4**	**-0.4**	
MKAR				PcP		**PP**	**10 17 02.9**	**+0.1**	
MKAR	**Makanchi Array**	**43.95**	**302**	P		**P**	**10 15 19.4**	**-0.4**	
	comp=Z,2.2nm,0.8s,baz=89,slow=9.7,SNR=28								
MKAR				PcP		**PP**	**10 17 02.9**	**+0.1**	
	comp=Z,0.6nm,0.9s,baz=103,slow=9.3,SNR=3.1								
KURK	**Kurchatov**	**45.77**	**308**	P		**P**	**10 15 34.0**	**-0.2**	
KURK				pmax	pmax				
	comp=Z,4.0nm,0.7s								
KURK	**Kurchatov**	**45.77**	**308**	P		**P**	**10 15 34.0**	**-0.2**	
	comp=Z,1.0nm,0.6s								
KURK				*ep*P		**pP**	**10 15 45.9**	**-1.7**	
KURK				*es*P		**sP**	**10 15 51.8**	**-1.6**	
KURBB	**Kurchatov Arra**	**45.84**	**308**	P		**P**	**10 15 34.0**	**-0.7**	
	comp=Z,3.9nm,0.7s,baz=86,slow=8.2,SNR=39								
ILAR	**Eielson Array**	**49.53**	**32**	P		**P**	**10 16 03.9**	**+0.7**	
ILAR				pP		**pP**	**10 16 18.9**	**+2.3**	
ILAR	**Eielson Array**	**49.53**	**32**	P		**P**	**10 16 03.9**	**+0.7**	
	comp=Z,0.8nm,0.9s,baz=262,slow=6.7,SNR=6.9								
ILAR				pP		**pP**	**10 16 18.9**	**+2.3**	
	comp=Z,0.7nm,0.6s,baz=257,slow=5.3,SNR=5.0								
AAK	**Ala-Archa**	**50.32**	**298**	P		**P**	**10 16 10.4**	**+0.7**	
AAK				pmax	pmax				
	comp=Z,1.0nm,0.6s								
AAK	**Ala-Archa**	**50.32**	**298**	P		**P**	**10 16 10.4**	**+0.7**	
AAK	**Ala-Archa**	**50.32**	**298**	P		**P**	**10 16 10.4**	**+0.7**	
	comp=Z,1.0nm,0.6s,baz=142,slow=7.1,SNR=3.7								
BVAR	**Borovoye Array**	**50.42**	**312**	P		**P**	**10 16 09.3**	**-0.7**	
BVAR				*PP		**pP**	**10 16 25.4**	**+1.8**	
BVAR							10 17 27.6		
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
BVAR	**Borovoye Array**	**50.42**	**312**	P		**P**	**10 16 09.3**	**-0.7**	
BVAR				pP		**pP**	**10 16 25.4**	**+1.8**	
BVAR				PcP		**PcP**	**10 17 27.6**	**-0.1**	
BVAR	**Borovoye Array**	**50.42**	**312**	P		**P**	**10 16 09.3**	**-0.7**	
	comp=Z,1.1nm,0.5s,baz=67,slow=7.3,SNR=9.7								
BVAR				pP		**pP**	**10 16 25.4**	**+1.8**	
	comp=Z,1.0nm,0.6s,baz=62,slow=8.3,SNR=3.6								
BVAR				PcP		**PcP**	**10 17 27.6**	**-0.1**	
	comp=Z,1.3nm,0.6s,baz=91,slow=3.5,SNR=6.4								
BRVK	**Borovoye**	**50.47**	**312**	*eP*		**P**	**10 16 09.8**	**-0.6**	
BRVK				pmax	pmax				
	comp=Z,1.0nm,0.6s								
BRVK	**Borovoye**	**50.47**	**312**	*eP*		**P**	**10 16 09.8**	**-0.6**	
	comp=Z,1.3nm,0.6s								
KKAR	**Karatay Array**	**52.96**	**300**	*eP*		**P**	**10 16 28.4**	**-0.8**	
KKAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
KKAR	**Karatay Array**	**52.96**	**300**	*eP*		**P**	**10 16 28.4**	**-0.8**	
	comp=Z,0.7nm,0.4s								
ABKAR	**Akbulak array**	**57.78**	**310**	*eP*		**P**	**10 17 02.7**	**-1.0**	
	comp=Z,1.9nm,0.6s								
AKTO	**Aktyubinsk**	**58.52**	**312**	P		**P**	**10 17 08.4**	**-0.5**	
AKTO				pmax	pmax				
	comp=Z,2.0nm,0.7s								
AKTO	**Aktyubinsk**	**58.52**	**312**	P		**P**	**10 17 08.4**	**-0.5**	
AKTO	**Aktyubinsk**	**58.52**	**312**	P		**P**	**10 17 08.4**	**-0.5**	
	comp=Z,2.4nm,0.7s,baz=70,slow=11,SNR=8.6								
ASAR	**Alice Springs**	**60.82**	**188**	P		**P**	**10 17 25.3**	**+0.4**	
ASAR	**Alice Springs**	**60.82**	**188**	P		**P**	**10 17 25.3**	**+0.4**	
	comp=Z,0.3nm,0.7s,baz=21,slow=6.0,SNR=3.3								
YKA	**Yellowknife Ar**	**63.84**	**30**	P		**P**	**10 17 45.4**	**+0.8**	
YKA				pP		**pP**	**10 17 59.3**	**+0.7**	
YKA	**Yellowknife Ar**	**63.84**	**30**	P		**P**	**10 17 45.4**	**+0.8**	
	comp=Z,0.3nm,0.7s,baz=304,slow=7.1,SNR=7.1								
YKA				pP		**pP**	**10 17 59.3**	**+0.7**	
	comp=Z,0.2nm,0.7s,baz=305,slow=6.6,SNR=4.3								
ARCES	**ARCESS Array B**	**63.89**	**339**	P		**P**	**10 17 44.2**	**-0.7**	
ARCES				pP		**pP**	**10 17 58.7**	**-0.1**	
ARCES	**ARCESS Array B**	**63.89**	**339**	P		**P**	**10 17 44.2**	**-0.7**	
	comp=Z,3.4nm,0.9s,baz=42,slow=11,SNR=4.4								
ARCES				pP		**pP**	**10 17 58.7**	**-0.1**	
	comp=Z,2.9nm,0.9s,baz=72,slow=6.8,SNR=1.7								
FINES	**FINESS Array B**	**68.69**	**332**	P		**P**	**10 18 15.3**	**-0.3**	
FINES				pP		**pP**	**10 18 30.8**	**+1.0**	
FINES				sP		**sP**	**10 18 34.5**	**-0.9**	
FINES	**FINESS Array B**	**68.69**	**332**	P		**P**	**10 18 15.3**	**-0.3**	
	comp=Z,2.6nm,0.7s,baz=38,slow=7.2,SNR=6.7								
FINES				pP		**pP**	**10 18 30.8**	**+1.0**	
	comp=Z,3.0nm,0.7s,baz=107,slow=4.7,SNR=2.8								
FINES				sP		**sP**	**10 18 34.5**	**-0.9**	
	comp=Z,3.0nm,0.7s,baz=46,slow=8.2,SNR=3.8								
NB2	**NORSAR Subarra**	**74.07**	**337**	P		**P**	**10 18 47.9**	**-0.4**	
	comp=Z,2.1nm,0.8s,baz=30,slow=6.5								
NOA	**NORSAR Array B**	**74.07**	**337**	P		**P**	**10 18 47.8**	**-0.4**	
NOA	**NORSAR Array B**	**74.07**	**337**	P		**P**	**10 18 47.8**	**-0.4**	
	comp=Z,0.9nm,0.7s,baz=38,slow=5.8,SNR=4.4								
AKASG	**Malin Array Be**	**74.16**	**322**	P		**P**	**10 18 48.0**	**-0.8**	
AKASG				*SP		**sP**	**10 19 07.0**	**-1.7**	
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.4s								
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**74.16**	**322**	P		**P**	**10 18 48.0**	**-0.8**	
AKASG				sP		**sP**	**10 19 07.0**	**-1.7**	
AKASG	**Malin Array Be**	**74.16**	**322**	P		**P**	**10 18 48.0**	**-0.8**	
	comp=Z,1.1nm,0.4s,baz=46,slow=6.1,SNR=5.5								
AKASG				sP		**sP**	**10 19 07.0**	**-1.7**	
	comp=Z,0.9nm,0.4s,baz=45,slow=5.8,SNR=3.8								
PDAR	**Pinedale Array**	**77.74**	**45**	P		**P**	**10 19 11.9**	**+2.2**	
PDAR				pP		**pP**	**10 19 25.6**	**+1.5**	
PDAR	**Pinedale Array**	**77.74**	**45**	P		**P**	**10 19 11.9**	**+2.2**	
	comp=Z,0.2nm,0.6s,baz=328,slow=3.2,SNR=2.9								
PDAR				pP		**pP**	**10 19 25.6**	**+1.5**	
	comp=Z,0.3nm,0.6s,baz=329,slow=3.4,SNR=2.2								
BRTR	**Keskin Array B**	**78.69**	**311**	P		**P**	**10 19 14.6**	**-0.3**	
BRTR	**Keskin Array B**	**78.69**	**311**	P		**P**	**10 19 14.6**	**-0.3**	
	comp=Z,0.8nm,0.9s,baz=46,slow=4.2,SNR=3.6								
TXAR	**Lajitas Array**	**90.21**	**52**	P		**P**	**10 20 14.6**	**+1.3**	
TXAR				pP		**pP**	**10 20 28.4**	**+0.5**	
TXAR	**Lajitas Array**	**90.21**	**52**	P		**P**	**10 20 14.6**	**+1.3**	
	comp=Z,0.4nm,0.9s,baz=270,slow=2.7,SNR=3.1								
TXAR				pP		**pP**	**10 20 28.4**	**+0.5**	
	comp=Z,0.3nm,0.5s,baz=296,slow=3.0,SNR=3.4								

IDC 11 10:49:58.6±5.6, 17°.59S×178°.80W, h615km±75km, mb3.1/9, mb1 3.3/10, mb1mx3.2/19, mbtmp3.1/10, Error ellipse: s-maj=78.2km s-min=27.8km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.58**	**250**	P		P	10 53 02.4	-0.1
	0.3nm,0.3s,baz=86,slow=22,SNR=9.3							
CTA	**Charters Tower**	**33.13**	**260**	P		P	10 55 46.5	+0.2
	2.4nm,0.6s,baz=86,slow=14,SNR=4.7							
STKA	**Stephens Creek**	**38.45**	**241**	P		P	10 56 29.6	-0.2
	1.5nm,0.4s,baz=84,slow=13,SNR=6.4							
ASAR	**Alice Springs**	**44.52**	**254**	P		P	10 57 17.5	-0.1
	7.5nm,0.5s,baz=88,slow=8.6,SNR=300							
YBH	**Yreka Blue Hor**	**78.52**	**39**	P		P	11 00 58.1	+0.3
	2.9nm,1.1s,baz=180,slow=3.0,SNR=4.5							
NVAR	**Mina Array Bea**	**79.46**	**44**	P		P	11 01 03.3	+0.3
	0.4nm,0.6s,baz=230,slow=5.8,SNR=3.6							
ILAR	**Eielson Array**	**85.67**	**13**	P		P	11 01 32.6	-0.6
	0.2nm,0.5s,baz=226,slow=5.3,SNR=8.9							
TXAR	**Lajitas Array**	**86.14**	**58**	P		P	11 01 36.4	0.0
	0.6nm,0.7s,baz=217,slow=8.0,SNR=7.1							
PDAR	**Pinedale Array**	**87.38**	**44**	P		P	11 01 41.7	-0.4
	0.5nm,0.6s,baz=211,slow=3.2,SNR=5.4							
YKA	**Yellowknife Ar**	**94.20**	**25**	P		P	11 02 12.8	+0.1
	0.1nm,0.4s,baz=242,slow=5.0,SNR=3.5							
GERES	**GERESS Array B**	**147.21**	**345**	PKPbc		PKPbc	11 08 33.7	-0.4
	0.4nm,0.5s,baz=72,slow=3.2,SNR=2.8							

*ISCJB **11** 10:53:23.9±0.4, 43°.28N±0°.02×20°.85E±0°.03, h7km±3km, Error ellipse: s-maj=4.5km s-min=2.9km az=37.4*
*BEO **11** 10:53:24.6±0.3, 43°.23N×20°.83E, h6km±2km, ML2.8/1*
*CSEM **11** 10:53:24.1±0.2, 43°.25N×20°.84E, h2km, ML2.8, Error ellipse: s-maj=4.1km s-min=2.5km az=40.0*
*SKO **11** 10:53:25.2, 43°.25N×20°.84E, h3km, M2.1, ML2.4*
*SOF **11** 10:53:28.2, 43°.29N×21°.29E, h17km, MD2.5*

ISC 11 10:53:24.0±0.9, 43°.24N±0°.02×20°.84E±0°.02, h10km±7km, n58, σ0°.93/88, 14C-15D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SELS	**Selova**	**0.21**	**95**	*e*Pg		**Pg**	**10 53 28.1**	**-0.2**
SELS				*e*Sg		**Sg**	**10 53 31.3**	**0.0**
SELS	**Selova**	**0.21**	**95**	*e*Pg		**Pg**	**10 53 28.1**	**-0.2**
SELS				*e*Sg		**Sg**	**10 53 31.3**	**0.0**
IVAS	**Ivanjica**	**0.60**	**304**	⇓*i*Pg		**Pg**	**10 53 36.0**	**+0.3**
IVAS				*e*Sg		**Sg**	**10 53 43.5**	**-0.2**
IVAS	**Ivanjica**	**0.60**	**304**	⇓*i*Pg		**Pg**	**10 53 36.0**	**+0.3**
IVAS				*e*Sg		**Sg**	**10 53 43.5**	**-0.2**
SJES	**Sjenica**	**0.63**	**272**	*e*Pg		**Pg**	**10 53 36.2**	**-0.1**
SJES				*e*Sg		**Sg**	**10 53 44.1**	**-0.5**
GRUS	**Gruza**	**0.66**	**352**	⇑*i*Pg		**Pg**	**10 53 36.9**	**+0.2**
GRUS				*e*Sg		**Sb**	**10 53 46.7**	**-0.1**
GRUS	**Gruza**	**0.66**	**352**	⇑*i*Pg		**Pg**	**10 53 36.9**	**+0.2**
GRUS				*e*Sg		**Sb**	**10 53 46.7**	**-0.1**
BARS	**Barje**	**0.83**	**120**	⇓*i*Pg		**Pg**	**10 53 39.9**	**-0.1**
BARS				*e*Sg		**Sg**	**10 53 51.4**	**+0.5**
BARS	**Barje**	**0.83**	**120**	⇓*i*Pg		**Pg**	**10 53 39.9**	**-0.1**
BARS				*e*Sg		**Sg**	**10 53 51.4**	**+0.5**
BOLS	**Boljevac**	**1.00**	**54**	*e*Pg		**Pg**	**10 53 43.0**	**-0.3**
BOLS				*e*Sg		**Sb**	**10 53 56.9**	**+0.1**
BOLS	**Boljevac**	**1.00**	**54**	*e*Pg		**Pg**	**10 53 43.0**	**-0.3**
BOLS				*e*Sg		**Sb**	**10 53 56.9**	**+0.1**
TRUS	**Trudelj**	**1.03**	**343**	⇓*i*Pg		**Pg**	**10 53 43.0**	**-0.9**
TRUS				*e*Sg		**Sg**	**10 53 57.1**	**-0.2**
TRUS	**Trudelj**	**1.03**	**343**	⇓*i*Pg		**Pg**	**10 53 43.0**	**-0.9**
TRUS				*e*Sg		**Sg**	**10 53 57.1**	**-0.2**
DIVS	**Divibare**	**1.06**	**325**	⇑*i*Pg		**Pg**	**10 53 43.9**	**-0.4**
DIVS				*e*Sg		**Sb**	**10 53 58.8**	**+0.4**
DIVS	**Divibare**	**1.06**	**325**	⇑*i*Pg		**Pg**	**10 53 43.9**	**-0.4**
DIVS				*e*Sg		**Sb**	**10 53 58.8**	**+0.4**
SVIS	**Svilajnac**	**1.06**	**15**	⇑*i*Pg		**Pn**	**10 53 44.9**	**-0.1**
SVIS				*e*Sg		**Sb**	**10 53 58.5**	**0.0**
ZAPS	**Zavoj**	**1.31**	**88**	*e*Pg		**Pg**	**10 53 49.3**	**+0.1**
ZAPS				*e*Sg		**Sg**	**10 54 07.1**	**+0.9**
SKO	**Skopje**	**1.34**	**160**	*e*Pn		**Pg**	**10 53 51.0**	**+1.2**
SKO				*e*Sg		**Sg**	**10 54 09.5**	**+2.3**
SKO				*e*Lg		Lg	10 54 09.9	
	comp=N,43nm,0.3s							
SKO				*e*Lg		Lg	10 54 10.7	
	comp=E,38nm,0.4s							
SKO	**Skopje**	**1.34**	**160**	*e*Pn		**Pg**	**10 53 51.5**	**+1.7**
SKO				*e*Sg		**Sb**	**10 54 01.9**	**-4.6**
SKO				*e*Lg		Lg	10 54 11.2	
	comp=E,38nm,0.4s							
TEKS	**Tekeris**	**1.62**	**325**	*e*Pn		**Pb**	**10 53 54.5**	**+0.5**
TEKS	**Tekeris**	**1.62**	**325**	*e*Pn		**Pb**	**10 53 54.5**	**+0.5**
VTS	**Vitosha**	**1.86**	**110**	⇓*i*P		**Pn**	**10 53 56.6**	**+0.5**
VTS	**Vitosha**	**1.86**	**110**	*i* P		**Pn**	**10 53 56.8**	**+0.7**
VTS	**Vitosha**	**1.86**	**110**	⇓*i*Pn		**Pn**	**10 53 56.8**	**+0.7**
VTS				*e*Sn		**Sn**	**10 54 20.3**	**+0.6**
VTS	**Vitosha**	**1.86**	**110**	*i* P		**Pn**	**10 53 56.8**	**+0.7**
VTS	**Vitosha**	**1.86**	**110**	*i* Pg		Pg	10 54 03.9	+4.3
VTS				*e*Sn		**Sn**	**10 54 20.3**	**+0.6**
VTS				S		**Sb**	**10 54 21.7**	**+0.2**
FGSL	**Fruska Gora**	**2.06**	**339**	*e*Pn		**Pn**	**10 53 59.3**	**+0.6**
FRGS	**Fruska Gora**	**2.06**	**339**	*e*Pn		**Pn**	**10 53 59.3**	**+0.6**
MPEP	**Malo Peshtene**	**2.12**	**86**	*i* P		**Pn**	**10 54 00.0**	**+0.4**
MPEP				*i* Pg		**Pg**	**10 54 03.9**	**-0.8**
KKB	**Krupnik**	**2.15**	**129**	*i* P		**Pb**	**10 54 02.8**	**-0.3**
KKB	**Krupnik**	**2.15**	**129**	*i* P		**Pb**	**10 54 02.8**	**-0.3**
VAY	**Valandovo**	**2.31**	**146**	*e*Pn		**Pb**	**10 54 04.8**	**-0.9**
VAY				*e*Sg		**Sg**	**10 54 37.0**	**-1.1**
VAY	**Valandovo**	**2.31**	**146**	*e*Pn		**Pn**	**10 54 01.2**	**-0.9**
VAY				*e*Sg		**Sg**	**10 54 37.5**	**-0.6**
BZS	**Buzias**	**2.44**	**13**	⇑*i*P		**Pn**	**10 54 05.0**	**+1.0**
BZS	**Buzias**	**2.44**	**13**	*e*Pn		**Pn**	**10 54 05.4**	**+1.4**
BZS				*e*Sn		**Sn**	**10 54 33.2**	**-0.7**
BZS	**Buzias**	**2.44**	**13**	⇑*i*P		**Pn**	**10 54 05.0**	**+1.0**
BZS	**Buzias**	**2.44**	**13**	*e*Pn		**Pn**	**10 54 05.4**	**+1.4**
BZS				S		**Sn**	**10 54 32.7**	**-1.2**
BZS				*e*Sn		**Sn**	**10 54 33.2**	**-0.7**
GZR	**Gura Zlata**	**2.56**	**32**	⇑*i*P		**Pn**	**10 54 06.7**	**+1.0**
GZR	**Gura Zlata**	**2.56**	**32**	⇑*i*P		**Pn**	**10 54 06.7**	**+1.0**
GZR				S		**Sn**	**10 54 37.4**	**+0.4**
LOT	**Lotru**	**3.05**	**43**	⇓*i*P		**Pn**	**10 54 13.5**	**+1.1**
LOT	**Lotru**	**3.05**	**43**	⇓*i*P		**Pn**	**10 54 13.5**	**+1.1**
LOT				S		**Sn**	**10 54 48.9**	**-0.2**
RHK3	**Tenkes**	**3.23**	**326**	⇓*e*SKSac		**Pn**	**10 54 15.5**	**+0.7**
RZN	**Rozhen**	**3.26**	**117**	*i* P		**Pn**	**10 54 17.0**	**+1.6**
RZN	**Rozhen**	**3.26**	**117**	*i* P		**Pn**	**10 54 17.0**	**+1.6**
PKSM	**Moragy**	**3.36**	**333**	⇑*i*P		**Pn**	**10 54 16.9**	**+0.3**
PKSM	**Moragy**	**3.36**	**333**	*e*Pn		**Pn**	**10 54 16.7**	**+0.1**
PKSM	**Moragy**	**3.36**	**333**	⇑*e*		**Pn**	**10 54 16.9**	**+0.3**
PKSM	**Moragy**	**3.36**	**333**	⇑*e*P		**Pn**	**10 54 16.9**	**+0.3**
PKS6	**Bocsa**	**3.48**	**345**	⇓*e*		**Pn**	**10 54 19.0**	**+0.8**
PKS6	**Bocsa**	**3.48**	**345**	⇓*e*P		**Pn**	**10 54 19.0**	**+0.8**
VOIR		**3.74**	**53**	⇑*i*P		**Pn**	**10 54 22.5**	**+0.7**
VOIR		**3.74**	**53**	⇑*i*P		**Pn**	**10 54 22.5**	**+0.7**
DRGR		**3.79**	**20**	⇓*i*P		**Pn**	**10 54 22.4**	**-0.2**
DRGR		**3.79**	**20**	⇓*i*P		**Pn**	**10 54 22.4**	**-0.2**
DRGR				S		**Sn**	**10 55 05.5**	**-1.8**
PKS9	**Tamasi**	**3.81**	**332**	*e*		**Pn**	**10 54 23.3**	**+0.5**
PKS9	**Tamasi**	**3.81**	**332**	*e*P		**Pn**	**10 54 23.3**	**+0.5**
PKST	**T'''s**	**4.48**	**335**	*e*		**Pn**	**10 54 33.5**	**+1.5**
PKST	**T'''s**	**4.48**	**335**	*e*P		**Pn**	**10 54 33.5**	**+1.5**

*DJA **11** 11:26:27, 9°.39S×120°.70E, h116km, MLv3.8/3*

IDC 11 11:26:29.5±3.7, 9°.28S×120°.67E, h114km±32km, mb4.1/3, mb1 3.8/6, mb1mx3.5/17, mbtmp3.7/6, Error ellipse: s-maj=119.9km s-min=12.5km az=64.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAPI	**Kappang**	**4.33**	**348**	P		Pn	11 27 34.6	+1.2
	1.9nm,0.3s,baz=190,slow=7.9,SNR=13							
KAPI				S		Sn	11 28 23.4	+0.3
	baz=72,slow=19							
FITZ	**Fitzroy Crossi**	**10.01**	**152**	P		Pn	11 28 48.3	-2.0
	0.3nm,0.3s,baz=311,slow=9.3,SNR=5.4							
FITZ				S		Sn	11 30 28.6	-12
WRA	**Warramunga Arr**	**16.93**	**130**	P		Pn	11 30 16.4	-3.3
WRA				S		Sn	11 33 10.2	-18
ASAR	**Alice Springs**	**19.10**	**140**	P		P	11 30 43.9	+0.3
	0.5nm,0.3s,baz=332,slow=14,SNR=30							
ASAR				S		S	11 34 06.8	-7.5
	0.1nm,0.3s,baz=315,slow=24,SNR=5.1							
NWAO	**Narrogin (SRO)**	**23.75**	**187**	pP		pP	11 31 50.8	-4.1
	6.6nm,0.9s,baz=16,slow=7.4							
STKA	**Stephens Creek**	**29.70**	**142**	P		P	11 32 25.4	+0.5
	3.2nm,0.4s,baz=319,slow=10,SNR=19							
MKAR	**Makanchi Array**	**65.46**	**332**	P		P	11 37 00.8	+0.4
	1.8nm,0.5s,baz=142,slow=7.5,SNR=40							
ZALV	**Zalesovo Beam**	**69.90**	**338**	P		P	11 37 27.1	-0.9
	1.1nm,0.3s,baz=148,slow=6.2,SNR=7.5							

*CSEM **11** 11:41:52.0, 64°.15N×28°.01E, h0km, ML1.0, Mining explosion. After HEL*

HEL 11 11:41:52.0±0.1, 64°.15N×28°.01E, h0km, ML1.0, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KJN	**Kajaani**	**0.15**	**245**	*e*P		Pg	11 41 54.6	-0.2
KJN				*e*S		Sg	11 41 56.6	-0.1
KJN	**Kajaani**	**0.15**	**245**	P		Pg	11 41 54.6	-0.2
KJN				S		Sg	11 41 56.6	-0.1
SUF	**Sumiainen**	**1.66**	**211**	*e*P		Pn	11 42 21.5	-0.8
SUF				MSG		Sg	11 42 43.4	-1.9
	comp=Z,0.7nm,0.1s							
SUF				*e*SG		Sg	11 42 43.4	-1.9
SUF	**Sumiainen**	**1.66**	**211**	P		Pn	11 42 21.4	-0.9
SUF				Sg		Sn	11 42 43.4	-0.9
MSF	**Maaselka**	**1.82**	**13**	MSG		S	11 42 47.8	-0.8
	comp=Z,0.4nm,0.4s							
MSF				*e*S		S	11 42 47.8	-0.8
MSF	**Maaselka**	**1.82**	**13**	S		Sn	11 42 47.8	-0.6
JOF	**Joensuu**	**1.93**	**128**	*e*PN		Pn	11 42 25.9	-0.1
JOF				MSG		S	11 42 50.4	-0.5
	comp=Z,1.4nm,0.1s							
JOF				*e*S		S	11 42 50.4	-0.5
JOF	**Joensuu**	**1.93**	**128**	Pn		Pn	11 42 25.9	-0.1
JOF				S		Sn	11 42 50.4	-0.4
KU6	**Riekki**	**2.

DIYA				*i* S		**Sn**	**11 49 05.6 +0.1**
BTMT	**Batman**	**1.83**	**12**	*e*PN		**Pn**	**11 48 46.1 +0.5**
BTMT				*e*SN		**Sn**	**11 49 09.3 -0.1**
BTMT	**Batman**	**1.83**	**12**	*e*Pn		**Pn**	**11 48 46.1 +0.5**
BTMT				*e*Sn		**Sn**	**11 49 09.3 -0.1**
URFA	**Urfa**	**2.03**	**302**	*e*PN		**Pn**	**11 48 48.7 +0.4**
URFA				*e*SN		**Sn**	**11 49 12.7 -1.6**
URFA	**Urfa**	**2.03**	**302**	*e*Pn		**Pn**	**11 48 48.7 +0.4**
URFA				*e*Sn		**Sn**	**11 49 12.7 -1.6**
SVRC	**Sivrice-ELAZID**	**2.39**	**326**	*e*PN		**Pn**	**11 48 53.5 +0.2**
SVRC	**Sivrice-ELAZID**	**2.39**	**326**	*e*Pn		**Pn**	**11 48 53.6 +0.2**
ATAB	**Bozova**	**2.42**	**297**	*e*P		**Pb**	**11 48 56.1 -1.1**
ATAB				*i* S		**Sb**	**11 49 27.4 0.0**
ATAB	**Bozova**	**2.42**	**297**	*e*P		**Pb**	**11 48 56.1 -1.1**
HAKT	**HAKKARI**	**2.46**	**61**	*e*P		**Pn**	**11 48 55.0 +0.6**
HAKT				*i* S		**Sb**	**11 49 28.6 -0.4**
HAKT	**HAKKARI**	**2.46**	**61**	*e*P		**Pn**	**11 48 55.0 +0.6**
BINT	**Bingol**	**2.51**	**351**	*e*Pn		**Pb**	**11 48 57.2 -1.6**
BNGL	**BINGOL**	**2.55**	**3**	*i* P		**Pb**	**11 49 00.1 +0.5**
BNGL				*i* S		**Sg**	**11 49 35.7 +0.6**
BNGB	**Bing˜¶l**	**2.60**	**355**	*e*PN		**Pn**	**11 48 57.2 +1.0**
PTK	**Pertek**	**2.80**	**333**	*e*PN		**Pn**	**11 48 59.8 +0.8**
PTK	**Pertek**	**2.80**	**333**	*e*Pn		**Pn**	**11 48 59.8 +0.8**
MYA	**Malataya**	**2.81**	**314**	*e*PN		**Pn**	**11 48 59.2 +0.2**
MYA	**Malataya**	**2.81**	**314**	*e*Pn		**Pn**	**11 48 59.2 +0.2**
GAZ	**Gaziantep**	**3.13**	**285**	*e*PN		**Pn**	**11 49 04.7 +1.2**
GAZ	**Gaziantep**	**3.13**	**285**	*e*Pn		**Pn**	**11 49 04.7 +1.2**
KUZU	**Kuzuini**	**3.18**	**278**	*i* P		**Pb**	**11 49 10.5 +0.3**
KUZU				*i* S		**Sb**	**11 49 52.4 +3.0**
ERZN	**Erzincan**	**3.34**	**343**	*e*PN		**Pn**	**11 49 07.5 +1.2**
KMRS	**Kahramanmaras**	**3.46**	**290**	*e*PN		**Pn**	**11 49 09.4 +1.5**
KMRS	**Kahramanmaras**	**3.46**	**290**	*e*Pn		**Pn**	**11 49 09.4 +1.5**
AGRB	**Hanur-Agry**	**3.54**	**26**	*e*PN		Pn	11 49 12.7 +3.5
AGRB	**Hanur-Agry**	**3.54**	**26**	*e*Pn		Pn	11 49 12.7 +3.5
EZC	**Erzincan**	**3.59**	**339**	*e*Pn		**Pn**	**11 49 07.5 -2.3**
HTY	**Hatay**	**3.94**	**267**	*e*PN		**Pn**	**11 49 17.5 +3.1**
HTY	**Hatay**	**3.94**	**267**	*e*Pn		**Pn**	**11 49 17.5 +3.1**
BHD	**Baghdad**	**4.18**	**137**	*ex*		**Pn**	**11 49 18.8 +1.1**
BHD				*ex*		**Sn**	**11 50 07.2 +0.1**
BHD	**Baghdad**	**4.18**	**137**	*e*Pn		**Pn**	**11 49 18.8 +1.1**
BHD				*e*Sn		**Sn**	**11 50 07.2 +0.1**

*CSEM **11** 11:57:05.2±0.1,34.1°14N×14.1°81W,h10km,mb4.6/6, Error ellipse: s-maj=11.1km s-min=2.6km az=140.0*
*MDD **11** 11:57:05.4±0.7,34.0°01N×14.6°68W,h0km,mb4.6/6, Error ellipse: s-maj=19.8km s-min=7.1km az=140.0,PRXIMO*
*IGIL **11** 11:57:09.3,33.9°89N×14.2°27W,h2km,ML2.6*
*INMG **11** 11:57:10.3±2.6,33.9°94N×14.5°8W,h10km,ML2.9, Error ellipse: s-maj=58.7km s-min=3.7km az=141.0*

ISC 11 11:57:03.7±1.0,**34.03N**±0.08×**14.73W**±0.05,**h10km,n57,** σ1§**98**/64**, Mediana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**1.66**	**235**	*e*P	**Pn**	**11 57 34.5**	**+1.7**
PMPS				*e*S	**Sn**	**11 57 52.3**	**-1.8**
PMPS				A	A	11 57 53.2	
	192nm,0.1s						
PMPS	**Porto Santo**	**1.66**	**235**	P	**Pn**	**11 57 34.5**	**+1.7**
PMPS				S	**Sn**	**11 57 52.3**	**-1.8**
	96nm,0.1s						
PMPS	**Porto Santo**	**1.66**	**235**	P	**Pn**	**11 57 34.5**	**+1.7**
PMPS				*e*S	**Sn**	**11 57 52.3**	**-1.8**
	192nm,0.1s						
PMAR	**Madeira**	**2.25**	**235**	*e*Pn	**Pn**	**11 57 42.9**	**+1.8**
PMAR				*e*Sn	**Sn**	**11 58 06.8**	**-2.2**
PMAR				A	A	11 58 08.5	
	96nm,0.2s						
PMAR	**Madeira**	**2.25**	**235**	P	**Pn**	**11 57 42.9**	**+1.8**
PMAR				S	**Sn**	**11 58 06.8**	**-2.2**
	48nm,0.2s						
PMAR	**Madeira**	**2.25**	**235**	P	**Pn**	**11 57 42.9**	**+1.8**
PMAR				S	**Sn**	**11 58 06.8**	**-2.2**
	48nm,0.2s						
FUL	**Funchal**	**2.28**	**233**	*e*Pn	**Pn**	**11 57 43.0**	**+1.7**
FUL				*e*Sn	**Sn**	**11 58 07.2**	**-2.3**
FUL				A	A	11 58 08.8	
	155nm,0.2s						
FUL	**Funchal**	**2.28**	**233**	P	**Pn**	**11 57 43.0**	**+1.7**
FUL				S	**Sn**	**11 58 07.2**	**-2.3**
	78nm,0.2s						
PMOZ	**Porto Moniz, M**	**2.39**	**240**	*e*Pn	**Pn**	**11 57 44.8**	**+1.8**
PMOZ				*e*Sn	**Sn**	**11 58 09.7**	**-2.7**
PMOZ				A	A	11 58 14.7	
	92nm,0.2s						
PMOZ	**Porto Moniz, M**	**2.39**	**240**	*e*Pn	**Pn**	**11 57 44.8**	**+1.8**
PMOZ				*e*Sn	**Sn**	**11 58 09.7**	**-2.7**
	92nm,0.2s						
EFAM	**Famara**	**4.99**	**168**	S	**Sn**	**11 59 13.7**	**-2.8**
	5.2nm,0.2s,SNR=7.9						
CFUE	**Fuerteventura**	**5.41**	**173**	P	**Pn**	**11 58 27.5**	**+3.1**
	11nm,0.2s,SNR=7.9						
CFUE				S	**Sn**	**11 59 23.3**	**-3.4**
	26nm,0.1s,SNR=7.9						
CFUE	**Fuerteventura**	**5.41**	**173**	P	**Pn**	**11 58 27.5**	**+3.1**
	11nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.72**	**56**	*e*Pn	**Pn**	**11 58 29.4**	**+0.8**
PFVI				*e*Sn	Sn	11 59 26.4	-7.9
PFVI				A	A	11 59 31.9	
	9.9nm,0.6s						
PFVI	**Vila Bisbo**	**5.72**	**56**	P	**Pn**	**11 58 29.4**	**+0.8**
	6.1nm,0.1s,SNR=26						
PFVI				S	Sn	11 59 27.1	-7.2
	14nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.72**	**56**	P	**Pn**	**11 58 29.4**	**+0.8**
	6.1nm,0.1s,SNR=26						
MORF	**Marmelete**	**5.93**	**55**	*e*Pn	**Pn**	**11 58 33.3**	**+1.7**
MORF				*e*Sn	Sn	11 59 32.1	-7.5
MORF				A	A	11 59 38.2	
	9.7nm,0.2s						
MORF	**Marmelete**	**5.93**	**55**	P	**Pn**	**11 58 33.3**	**+1.7**
MORF				S	Sn	11 59 32.1	-7.5
	9.7nm,0.2s						
MORF	**Marmelete**	**5.93**	**55**	P	**Pn**	**11 58 33.3**	**+1.7**
PTEO	**Sao Teotonio**	**6.01**	**53**	*e*Pn	**Pn**	**11 58 34.3**	**+1.7**
PTEO				*e*Sn	Sn	11 59 34.3	-7.1
PTEO				A	A	11 59 36.6	
	12nm,0.4s						
PTEO	**Sao Teotonio**	**6.01**	**53**	P	**Pn**	**11 58 34.3**	**+1.7**
PTEO				S	Sn	11 59 34.3	-7.1
	5.9nm,0.4s						
PTEO	**Sao Teotonio**	**6.01**	**53**	P	**Pn**	**11 58 34.3**	**+1.7**
PBDV	**Barranco-do-Ve**	**6.39**	**58**	*e*Pn	**Pn**	**11 58 40.3**	**+2.3**
PBDV				*e*Sn	Sn	11 59 42.5	-8.5
PBDV				A	A	11 59 47.3	
	3.6nm,0.2s						
PBDV	**Barranco-do-Ve**	**6.39**	**58**	P	**Pn**	**11 58 40.3**	**+2.3**
PBDV				S	Sn	11 59 42.5	-8.5
	3.6nm,0.2s						
PBDV	**Barranco-do-Ve**	**6.39**	**58**	P	**Pn**	**11 58 40.3**	**+2.3**
PNCL	**Nicolau / Gran**	**6.46**	**49**	*e*Pn	**Pn**	**11 58 40.4**	**+1.5**
PNCL				*e*Sn	Sn	11 59 45.2	-7.4
PNCL				A	A	11 59 50.9	
	5.0nm,0.4s						
PNCL	**Nicolau / Gran**	**6.46**	**49**	*e*Pn	**Pn**	**11 58 40.4**	**+1.5**
MESJ	**Messejana**	**6.50**	**52**	*e*P	**Pn**	**11 58 40.8**	**+1.4**
MESJ				*e*S	Sn	11 59 47.4	-6.3
MESJ			AML		AML	11 59 48.6	
	comp=N,3.8nm,0.1s						
MESJ	**Messejana**	**6.50**	**52**	*e*P	**Pn**	**11 58 40.8**	**+1.4**
MESJ				*e*S	Sn	11 59 47.4	-6.3
MESJ	**Messejana**	**6.50**	**52**	P	**Pn**	**11 58 40.8**	**+1.4**
MESJ				S	Sn	11 59 47.4	-6.3
MESJ	**Messejana**	**6.50**	**52**	P	**Pn**	**11 58 40.8**	**+1.4**
PCVE	**Castro Verde**	**6.51**	**55**	*e*Pn	**Pn**	**11 58 41.1**	**+1.5**
PCVE				*e*Sn	Sn	11 59 45.3	-8.6
PCVE				A	A	12 00 06.8	
	comp=N,3.3nm,0.4s						
PCVE	**Castro Verde**	**6.51**	**55**	S	Sn	11 59 45.3	-8.6
	comp=N,3.3nm,0.4s						
PCVE	**Castro Verde**	**6.51**	**55**	*e*Pn	**Pn**	**11 58 41.1**	**+1.5**
PVAQ	**Vaqueiros**	**6.62**	**57**	*e*Pn	**Pn**	**11 58 42.9**	**+1.9**
PVAQ				*e*Sn	Sn	11 59 48.3	-8.2
PVAQ				A	A	11 59 56.4	
	comp=N,5.3nm,0.5s						
PVAQ	**Vaqueiros**	**6.62**	**57**	P	**Pn**	**11 58 42.9**	**+1.9**
PVAQ				S	Sn	11 59 48.3	-8.2
	comp=N,5.3nm,0.5s						
PVAQ	**Vaqueiros**	**6.62**	**57**	P	**Pn**	**11 58 42.9**	**+1.9**
PBEJ	**Beja**	**6.84**	**52**	*e*Sn	Sn	11 59 54.0	-8.0
PBEJ				A	A	12 00 00.0	
	comp=N,2.9nm,0.1s						
PBEJ	**Beja**	**6.84**	**52**	S	Sn	11 59 54.0	-8.0
	comp=N,1.4nm,0.1s						
EGRO	**El Granado**	**6.85**	**57**	P	**Pn**	**11 58 46.1**	**+2.0**
	comp=N,3.2nm,0.3s,SNR=7.9						
EGRO				S	Sn	11 59 54.3	-7.8
	comp=N,3.1nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**6.85**	**57**	P	**Pn**	**11 58 46.1**	**+2.0**
	comp=N,3.2nm,0.3s,SNR=7.9						
PBAR	**Barrancos**	**7.47**	**54**	*e*Pn	**Pn**	**11 58 54.3**	**+1.6**
PBAR				*e*Sn	Sn	12 00 08.4	-9.1
PBAR				A	A	12 00 15.6	
	comp=N,2.6nm,0.6s						
PBAR	**Barrancos**	**7.47**	**54**	P	**Pn**	**11 58 54.3**	**+1.6**
PBAR				S	Sn	12 00 08.4	-9.1
	comp=N,2.6nm,0.6s						
PBAR	**Barrancos**	**7.47**	**54**	P	**Pn**	**11 58 54.3**	**+1.6**
PESTR	**Estremoz**	**7.51**	**48**	*e*Sn	Sn	12 00 10.8	-7.6
PESTR	**Estremoz**	**7.51**	**48**	S	Sn	12 00 10.8	-7.6
EMIN	**Mina Concepcio**	**7.52**	**58**	P	**Pn**	**11 58 55.0**	**+1.6**
	comp=N,2.2nm,0.2s,SNR=7.9						
EMIN				S	Sn	12 00 11.9	-6.9
	comp=N,1.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.52**	**58**	P	**Pn**	**11 58 55.0**	**+1.6**
	comp=N,2.2nm,0.2s,SNR=7.9						
ESPR	**Espera**	**7.77**	**66**	P	**Pn**	**11 58 58.7**	**+1.9**
	comp=N,2.9nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**12 00 20.0**	**-4.9**
	comp=N,12nm,0.2s,SNR=7.9						
ESPR	**Espera**	**7.77**	**66**	P	**Pn**	**11 58 58.7**	**+1.9**
	comp=N,2.9nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**7.98**	**45**	*e*Pn	**Pn**	**11 58 59.9**	**+0.2**
PMRV				*e*Sn	Sn	12 00 17.3	-13
PMRV				A	A	12 00 31.7	
	comp=N,2.1nm,0.5s						
PMRV	**Marv??o**	**7.98**	**45**	P	**Pn**	**11 58 59.9**	**+0.2**
PMRV				S	Sn	12 00 17.3	-13
	comp=N,2.1nm,0.5s						
PMRV	**Marv??o**	**7.98**	**45**	P	**Pn**	**11 58 59.9**	**+0.2**
EADA	**Adamuz**	**9.19**	**60**	P	**Pn**	**11 59 17.1**	**+0.8**
	comp=N,1.4nm,0.2s,SNR=7.9						
EADA				S	Sn	12 00 50.6	-9.3
	comp=N,2.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**9.19**	**60**	P	**Pn**	**11 59 17.1**	**+0.8**
	comp=N,1.4nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**10.30**	**54**	P	**Pn**	**11 59 33.0**	**+1.5**
	comp=N,4.5nm,0.2s,baz=242,slow=13,SNR=7.9						
ESDC	**Sonseca Array**	**10.30**	**54**	P	**Pn**	**11 59 33.0**	**+1.5**
	comp=N,4.5nm,0.2s,slow=13,SNR=7.9						

*IDC **11** 12:03:17.4±6.1,36.1°11N×71.5°3E,h86km±46km,mb3.4/6, mb1 3.5/10,mb1mx3.3/29,mbtmp3.4/10, Error ellipse: s-maj=55.1km s-min=33.7km az=147.0*
*ISCJB **11** 12:03:19.6±0.5,36.3°0N±0.0°3×71.5°5E±0.0°7,h114km, mb3.5/5, Error ellipse: s-maj=8.8km s-min=3.5km az=160.6*
*NNC **11** 12:03:23.3±5.3,36.1°61N×70.8°7E,h82km±72km,mb3.3, mpv4.2, Error ellipse: s-maj=42.6km s-min=36.9km az=151.0*

ISC 11 12:03:20.5±0.7,**36.28N**±0.05×**71.50E**±0.08,**h114km,n44,** σ1§**80**/49**, mb3.8/5,5C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.47**	**172**	⇓P	**Pn**	**12 04 02.4**	**+2.6**
CEP				S	**Sn**	**12 04 34.0**	**+4.0**
THW	**Thamme Wali**	**3.48**	**177**	P	**Pn**	**12 04 15.1**	**+2.1**
SARP	**Sargodha**	**4.45**	**167**	P	**Pn**	**12 04 27.6**	**+1.6**
THN	**Thein Dam**	**5.18**	**137**	*e*PKP	**Pn**	**12 04 37.2**	**+1.4**
THN				*e*S	**Sn**	**12 05 35.6**	**+1.2**
DLH	**Dalhousie**	**5.24**	**134**	*e*PKP	**Pn**	**12 04 39.0**	**+2.2**
DLH				*e*S	**Sn**	**12 05 37.0**	**+0.8**
AML	**Almayashu**	**6.09**	**16**	P	**Pn**	**12 04 48.3**	**0.0**
	SNR=17						
SDNR	**Sundarnagar**	**6.58**	**135**	*e*PKP	**Pn**	**12 04 57.0**	**+2.2**
SDNR				*e*S	**Sn**	**12 06 06.0**	**-2.5**
EKS2	**Erkin-Say**	**6.61**	**15**	P	**Pn**	**12 04 55.8**	**+0.6**
	SNR=7.9						
AAK	**Ala-Archa**	**6.75**	**19**	P	**Pn**	**12 04 58.2**	**+1.1**
	SNR=9.6						
AAK	**Ala-Archa**	**6.75**	**19**	P	**Pn**	**12 04 57.8**	**+0.7**
	1.4nm,0.3s,baz=177,slow=5.9,SNR=21						
AAK				S	**Sn**	**12 06 11.4**	**-1.2**
	0.7nm,0.3s,baz=336,slow=22,SNR=6.8						
KK31	**Karatay Array**	**6.86**	**354**	⇑P	**Pn**	**12 04 57.3**	**-1.1**
	12nm,0.3s,baz=178,slow=13,SNR=471						
KK31				⇑S	Sn	12 06 08.8	-6.2
	2.9nm,0.3s,baz=190,slow=24,SNR=6.8						
CHMS	**Chumysh**	**7.16**	**19**	P	**Pn**	**12 05 03.0**	**+0.4**
	SNR=5.5						
TKM2	**Tokmak 2**	**7.35**	**24**	⇓P	**Pn**	**12 05 05.7**	**+0.5**
	6.5nm,0.9s						
TKM2				⇑S	**Sn**	**12 06 29.3**	**+2.2**
	4.4nm,0.9s						
TKM2	**Tokmak 2**	**7.35**	**24**	P	**Pn**	**12 05 06.1**	**+0.9**
	SNR=6.1						
USP	**Ospenovka**	**7.35**	**17**	P	**Pn**	**12 05 04.7**	**-0.3**
	SNR=5.7						
KHET	**Khetri**	**8.96**	**155**	*e*PKP	Pn	12 05 39.0	+12
KHET				*e*S	**Sn**	**12 07 00.6**	**-5.4**
KHET				AML	AML	12 07 05.1	
	comp=N,12nm,0.1s						
KHET				AML	AML	12 07 06.7	
	comp=E,12nm,0.2s						
KUDL	**Kundal**	**9.14**	**151**	*e*PKP	**Pn**	**12 05 27.3**	**-2.0**
KUDL				*e*S	Sn	12 07 02.8	-7.7
KUDL				AML	AML	12 07 10.9	
	comp=N,6.3nm,0.3s						
KUDL				AML	AML	12 07 12.1	
	comp=E,7.9nm,0.2s						
SONA	**Sohna**	**9.29**	**148**	*e*PKP	**Pn**	**12 05 29.0**	**-2.4**
SONA				*e*S	Sn	12 07 05.0	-9.2
SONA				AML	AML	12 07 15.7	
	comp=N,15nm,0.2s						
SONA				AML	AML	12 07 15.9	
	comp=E,16nm,0.2s						
AGRA	**Agra**	**10.55**	**147**	*e*S	Sn	12 07 35.5	-9.2
AGRA				AML	AML	12 08 37.5	
	comp=N,78nm,0.3s						
AGRA				AML	AML	12 08 39.7	
	comp=E,69nm,0.2s						
DANN	**Dangsing**	**13.03**	**124**	*e*P	**Pn**	**12 06 20.2**	**-1.3**
	comp=E,10nm,0.3s						
MKAR	**Makanchi Array**	**13.24**	**34**	P	**Pn**	**12 06 23.3**	**-0.6**
	comp=E,0.0nm,0.3s,baz=220,slow=10,SNR=4.0						
KOLN	**Koldanda**	**13.30**	**126**	*e*P	**Pn**	**12 06 24.5**	**-0.6**
	comp=E,7.3nm,0.3s						
GKN	**Gorkha**	**13.84**	**123**	*e*P	**Pn**	**12 06 31.4**	**-0.6**
	comp=E,14nm,0.4s						
DMN	**Daman**	**14.41**	**123**	*e*P	**Pn**	**12 06 38.4**	**-1.0**
	comp=E,12nm,0.5s						
KKN	**Kakani**	**14.42**	**122**	*e*P	**Pn**	**12 06 38.6**	**-0.8**
	comp=E,8.9nm,0.4s						
PKI	**Pulchoki**	**14.64**	**122**	*e*P	**Pn**	**12 06 41.3**	**-1.1**
	comp=E,9.4nm,0.4s						
GUN	**Gumba**	**14.76**	**120**	*e*P	**Pn**	**12 06 41.8**	**-2.0**
	comp=E,6.0nm,0.3s						
JIRN	**Jiri**	**15.12**	**120**	*e*P	**Pn**	**12 06 47.2**	**-1.3**
	comp=E,5.5nm,0.4s						
KURBB	**Kurchatov Arra**	**15.21**	**17**	P	**P**	**12 06 50.5**	**-0.7**
	comp=E,0.1nm,0.3s,baz=206,slow=10,SNR=6.5						
AB31	**Aktulak array**	**15.47**	**331**	P	**Pn**	**12 06 49.4**	**-2.9**
	comp=E,1.6nm,0.4s,baz=139,slow=13,SNR=131						
RAMN	**Ramite**	**15.85**	**122**	*e*P	**Pn**	**12 06 56.2**	**-1.3**
	comp=E,8.5nm,0.4s						
VOSK	**Vostochnaya**	**16.45**	**359**	⇓P	**Pn**	**12 07 01.2**	**-3.1**
	comp=E,0.9nm,0.7s						
BVA0	**Borovoye Array**	**16.76**	**358**	P	**P**	**12 07 09.7**	**+1.2**
	comp=E,0.1nm,0.6s,baz=172,slow=12,SNR=6.3						
BVAR	**Borovoye Array**	**16.76**	**358**	P	**Pn**	**12 07 06.2**	**-1.9**
	comp=E,0.2nm,0.3s,baz=169,slow=11,SNR=7.0						
ZRNK	**Zerenda**	**16.76**	**355**	⇑P	**P**	**12 07 09.4**	**+0.9**
	comp=E,1.3nm,0.7s						
AKTO	**Aktyubinsk**	**17.18**	**330**	⇑P	**P**	**12 07 11.8**	**-1.2**
	comp=E,0.4nm,0.6s						
AKTO	**Aktyubinsk**	**17.18**	**330**	P	**P**	**12 07 12.6**	**-0.4**
	comp=E,0.6nm,0.3s,baz=140,slow=13,SNR=11						
ZALV	**Zalesovo Beam**	**19.95**	**24**	P	**P**	**12 07 44.0**	**+0.7**
	comp=E,2.6nm,0.4s,baz=208,slow=10,SNR=19						
FINES	**FINESS Array B**	**37.89**	**326**	P	**P**	**12 10 27.8**	**+1.7**
	comp=E,0.9nm,0.7s,baz=113,slow=5.0,SNR=3.6						
ARCES	**ARCESS Array B**	**41.50**	**338**	P	**P**	**12 10 56.9**	**+1.0**
	comp=E,2.2nm,0.9s,baz=113,slow=9.3,SNR=5.9						

NB2	**NORSAR Subarra**	**44.80**	**323**	P	**P**	**12 11 24.0**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.80**	**323**	P	**P**	**12 11 24.1**	**+1.5**
	comp=Z,0.9nm,0.5s,baz=95,slow=7.6,SNR=4.2						
TORD	**Torodi Ar. Bea**	**66.12**	**269**	P	**P**	**12 13 54.8**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=48,slow=5.2,SNR=4.1						
YKA	**Yellowknife Ar**	**81.45**	**3**	P	**P**	**12 15 25.4**	**+1.0**
	comp=Z,0.1nm,0.5s,baz=350,slow=5.0,SNR=6.4						

IDC 11 12:18:27.7±5.8,**24.22S**×**179.83E,h521km**±59km,**mb3.4/7, mb1 3.5/8,mb1mx3.2/18,mbtmp3.4/8, Error ellipse: s-maj=42.1km s-min=21.1km az=66.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.50**	**277**	P	P	12 21 13.3	+1.7
	0.2nm,0.3s,baz=122,slow=9.5,SNR=5.6						
PMG	**Port Moresby**	**34.45**	**290**	P	P	12 24 31.2	-0.6
	5.0nm,0.6s,baz=74,slow=8.2,SNR=5.8						
STKA	**Stephens Creek**	**34.46**	**249**	P	P	12 24 31.7	0.0
	1.2nm,0.4s,baz=52,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**41.83**	**261**	P	P	12 25 31.7	-0.2
	1.3nm,0.4s,baz=95,slow=7.5,SNR=21						
WRA	**Warramunga Arr**	**42.23**	**267**	P	P	12 25 34.4	-0.7
	6.5nm,0.3s,baz=104,slow=9.8,SNR=139						
QSPA	**South Pole Qui**	**65.87**	**180**	P	P	12 28 21.2	-0.1
	1.3nm,0.6s,baz=348,slow=1.8,SNR=18						
PETK	**Petropavlovsk-**	**79.37**	**347**	P	P	12 29 38.4	-0.6
	4.2nm,0.9s,baz=137,slow=4.3,SNR=4.6						
CMAR	**Chiang Mai Arr**	**89.49**	**290**	P	P	12 30 30.8	+1.3
	0.2nm,0.3s,baz=148,slow=4.1,SNR=4.2						
ARCES	**ARCESS Array B**	**132.16**	**348**	PKP	PKPdf	12 36 41.1	-0.2
	5.1nm,1.0s,baz=91,slow=3.6,SNR=4.7						
BRTR	**Keskin Array B**	**147.64**	**307**	PKPbc	PKPbc	12 37 12.8	-0.8
	0.5nm,0.6s,baz=19,slow=4.9,SNR=2.8						
BRTR				PKPab	PKPab	12 37 18.0	+0.2
	0.9nm,0.5s,baz=73,slow=1.8,SNR=4.8						

IDC 11 12:41:09.8±10.0,**14.36S**×**166.52E,h282km**±70km, **mb3.7/4,mb1 3.7/5,mb1mx3.4/18,mbtmp3.7/5, Error ellipse: s-maj=124.0km s-min=36.6km az=105.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.08**	**307**	P	Pn	12 43 04.4	0.0
	4.9nm,0.3s,baz=162,slow=20,SNR=3.2						
STKA	**Stephens Creek**	**28.69**	**228**	P	P	12 46 41.2	-0.1
	1.4nm,0.4s,baz=51,slow=10,SNR=7.5						
WRA	**Warramunga Arr**	**31.22**	**255**	P	P	12 47 03.7	0.0
	80nm,1.3s,baz=82,slow=8.6,SNR=2.9						
ASAR	**Alice Springs**	**32.13**	**248**	P	P	12 47 11.6	-0.1
	0.5nm,0.5s,baz=80,slow=8.9,SNR=25						
MKAR	**Makanchi Array**	**96.44**	**317**	P	P	12 54 07.0	-0.1
	0.1nm,0.5s,baz=96,slow=5.8,SNR=3.9						

MEX 11 12:43:08.3±0.8,**17.63N**×**95.28W,h120km**±8km,**MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.65**	**144**	*i* P	Pn	12 43 26.2	-1.1
CMIG				*i* S	Sn	12 43 39.7	-1.9
VHO	**Vista Hermosa**	**1.49**	**249**	*i* P	Pn	12 43 35.0	-0.9
VHO				*i* S	Sn	12 43 55.6	-1.3
HUIG	**Huatulco**	**2.01**	**203**	*i* P	Pn	12 43 39.9	-2.0
HUIG				*i* S	Sn	12 44 05.7	-1.9
TPIG	**Tehuac#an**	**2.13**	**292**	*i* P	Pn	12 43 42.5	-1.1
TPIG				*i* S	Sn	12 44 09.0	-1.6
TGIG		**2.23**	**112**	*i* P	Pn	12 43 43.9	-0.8
TGIG				*i* S	Sn	12 44 10.0	-2.6
UTMO	**Huajuapan**	**2.41**	**275**	*i* P	Pn	12 43 45.9	-1.4
UTMO				*i* S	Sn	12 44 14.4	-2.7
PCIG		**2.75**	**134**	*e*P	Pn	12 43 50.1	-1.2
PCIG				*i* S	Sn	12 44 22.6	-1.8
PNIG	**Pinotepa**	**2.99**	**246**	*e*P	Pn	12 43 51.0	-3.4
PNIG				*i* S	Sn	12 44 28.3	-1.7
CCIG	**Comitan**	**3.29**	**113**	*i* P	Pn	12 43 57.1	-1.6
CCIG				*i* S	Sn	12

AKS	**Akhisar**	**1.11**	**316**	*e*PN	**Pb**	**13 18 49.9**	**-0.3**
AKS	**Akhisar**	**1.11**	**316**	*e*Pn	**Pb**	**13 18 49.9**	**-0.3**
GDZ	**Gediz**	**1.13**	**28**	*i* P	**Pb**	**13 18 47.7**	**-2.9**
GDZ				*i* S	**Sb**	**13 19 05.2**	**+0.1**
GDZ	**Gediz**	**1.13**	**28**	*i* P	**Pb**	**13 18 47.7**	**-2.9**
GDZ				*i* S	**Sb**	**13 19 05.2**	**+0.1**
ALT	**Altintas**	**1.40**	**46**	*e*PN	**Pb**	**13 18 55.9**	**+0.6**
ALT	**Altintas**	**1.40**	**46**	*e*Pn	**Pb**	**13 18 55.9**	**+0.6**

WEL 11 13:18:46.8±0.4, 37°59S×175°66E, h232km±6km, ML3.7/16, 1C-1D, Error ellipse: s-maj=9.4km s-min=6.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.33**	**121**		PN		Pn	13 19 22.0	0.0
URZ					SN		S	13 19 49.5	0.0
MWZ	**Matawai**	**1.66**	**117**	*e*P	N		Pn	13 19 24.3	-0.3
MWZ					SN		S	13 19 53.2	-1.0
BKZ	**Black Stump Fm**	**1.71**	**158**		PN		Pn	13 19 24.9	-0.1
BKZ					SN		S	13 19 54.2	-1.0
WNVZ	**Wahianoa**	**1.73**	**181**		PN		Pn	13 19 25.9	+0.5
RAHZ	**Arahi**	**1.74**	**140**		PN		Pn	13 19 25.5	+0.2
RAHZ					SN		S	13 19 55.5	-0.1
NMHZ	**Naumai**	**1.76**	**149**		PN		Pn	13 19 26.1	+0.6
MTVZ	**Mangateitei**	**1.80**	**185**		PN		Pn	13 19 26.3	+0.4
MOVZ	**Moawhango**	**1.82**	**178**		PN		Pn	13 19 26.0	-0.1
BHHZ	**Black Hill Sta**	**1.92**	**171**		PN		Pn	13 19 26.6	-0.4
MCHZ	**McNeill Hill**	**2.02**	**157**		PN		Pn	13 19 27.6	-0.2
MXZ	**Matakaoa Point**	**2.11**	**90**		PN		Pn	13 19 28.1	-0.6
PUZ	**Puketiti**	**2.12**	**104**		PN		Pn	13 19 28.0	-0.8
KNZ	**Kokohu**	**2.13**	**133**		PN		Pn	13 19 27.8	-1.2
CNGZ	**Carnagh Statio**	**2.20**	**115**		PN		Pn	13 19 29.1	-0.5
WAZ	**Wanganui**	**2.23**	**193**	⇓	PN		Pn	13 19 30.5	+0.7
CKHZ	**Cape Kidnapper**	**2.35**	**152**		PN		Pn	13 19 29.8	-1.2
CKHZ					SN		S	13 20 03.5	-2.4
MHGZ	**Mahia Peninsul**	**2.36**	**132**		PN		Pn	13 19 29.9	-1.3
PNHZ	**Pukenui**	**2.36**	**170**		PN		Pn	13 19 30.0	-1.3
PNHZ					SN		S	13 20 03.6	-2.6
KAHZ	**Kahuranaki**	**2.40**	**157**		PN		Pn	13 19 30.5	-1.2
TSZ	**Takapari Road**	**2.48**	**175**		PN		Pn	13 19 30.9	-1.6
WPHZ	**Waipukurau**	**2.55**	**166**		PN		Pn	13 19 31.8	-1.3
PXZ	**Pawanui**	**2.61**	**159**		PN		Pn	13 19 32.0	-1.8
PXZ					SN		S	13 20 07.8	-3.0
DVHZ	**Dannevirke**	**2.73**	**172**		PN		Pn	13 19 33.0	-2.2
DVHZ					SN		S	13 20 09.6	-3.7
PRHZ	**Porangahau**	**2.78**	**164**		PN		Pn	13 19 33.7	-1.9
MRZ	**Mangatainoka R**	**3.07**	**181**		PN		Pn	13 19 36.4	-2.4
TIWZ	**Tintock**	**3.19**	**177**	*e*P	N		Pn	13 19 37.7	-2.5
OGWZ	**Otaki Gorge**	**3.25**	**187**		PN		Pn	13 19 38.5	-2.3
HOWZ	**Holdsworth Sta**	**3.31**	**182**		PN		Pn	13 19 38.9	-2.7
KIW	**Kapiti Island**	**3.32**	**190**		PN		Pn	13 19 39.3	-2.4
DUWZ	**D'Urville Isla**	**3.48**	**202**		PN		Pn	13 19 41.9	-1.6
TMWZ	**Te Maipa**	**3.52**	**177**	*e*P	N		Pn	13 19 41.0	-2.9
CAW	**Cannon Point**	**3.54**	**187**		PN		Pn	13 19 41.3	-3.0
MTW	**Mount Morrison**	**3.56**	**182**		PN		Pn	13 19 41.3	-3.2
WEL	**Wellington**	**3.75**	**190**		PN		Pn	13 19 43.7	-3.0
TCW	**Tory Channel**	**3.77**	**196**		PN		Pn	13 19 44.4	-2.5
SNZO	**South Karori**	**3.79**	**191**		PN		Pn	13 19 44.0	-3.1
PAWZ	**Paruwai Farm**	**3.79**	**183**		SN		S	13 20 28.8	-6.1
TRWZ	**Traveller**	**3.80**	**180**	*e*P	N		Pn	13 19 43.8	-3.5
MSWZ	**Moikau Station**	**3.83**	**185**		PN		Pn	13 19 43.9	-3.8
PLWZ	**Palliser**	**3.99**	**184**		PN		Pn	13 19 45.5	-4.0
NNZ	**Nelson**	**4.03**	**205**		PN		Pn	13 19 46.8	-3.2
NNZ					SN		S	13 20 35.3	-4.7
QRZ	**Quartz Range**	**4.04**	**216**		PN		Pn	13 19 47.4	-2.8
TUWZ	**Tuamarina**	**4.06**	**199**		PN		Pn	13 19 47.6	-2.7
BSWZ	**Blackbirch Sta**	**4.34**	**198**		PN		Pn	13 19 51.0	-2.8
THZ	**Tophouse**	**4.68**	**206**		PN		Pn	13 19 54.1	-3.9
DSZ	**Denniston Nort**	**5.11**	**214**	⇑	PN		Pn	13 19 59.2	-4.1
LTZ	**Lake Taylor**	**5.80**	**206**		PN		Pn	13 20 07.3	-4.7
LTZ					SN		S	13 21 11.3	-8.4
CRLZ	**Canterbury Las**	**6.41**	**200**		SN		S	13 21 23.4	-10
MQZ	**McQueen's Vall**	**6.52**	**200**		PN		Pn	13 20 15.0	-6.0
MQZ					SN		S	13 21 26.1	-10

KRSC 11 13:32:07.4±0.7, 52°43N×160°63E, h11±11km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.76**	**331**	*e*P			Pn	13 32 23.9	-0.2
SPN				*i* S			Sn	13 32 35.5	-0.1
NLC	**Nalytchevo**	**1.08**	**314**	*e*P			Pn	13 32 29.1	+0.7
NLC					S		Sn	13 32 44.5	+1.2
RUS	**Russkaya**	**1.30**	**271**	*i* P			Pn	13 32 31.4	0.0
RUS				*i* S			Sn	13 32 48.6	-0.1
PET	**Petropavlovsk**	**1.34**	**297**	*i* P			Pb	13 32 32.7	+0.2
PET				*i* S			Sg	13 32 51.2	+0.6
UGLR	**Uglovaya**	**1.34**	**306**	P			Pg	13 32 33.6	+0.2
UGLR				*i* S			Sg	13 32 52.5	+1.5
SDLR	**Sedlovina**	**1.36**	**309**	*i* P			Pg	13 32 33.5	-0.2
SDLR				*e*S			Sg	13 32 52.5	+1.1
SMAR	**Somma**	**1.39**	**308**	P			Pg	13 32 34.6	+0.2
SMAR				*i* S			Sg	13 32 54.0	+1.4
AVH	**Avacha**	**1.42**	**307**	*i* P			Pg	13 32 34.7	-0.1
KOK	**Koryaka**	**1.49**	**306**	*i* P			Pb	13 32 35.6	+0.4
MTVR	**Mutnovka**	**1.50**	**273**	*e*P			Pn	13 32 34.8	+0.4
MTVR				*i* S			Sb	13 32 55.1	+0.5
ASAK	**Asacha**	**1.67**	**269**	*i* P			Pn	13 32 37.3	+0.6
ASAK				*i* S			Sb	13 32 59.3	-0.2
MKZ	**Mys Kozlova**	**2.23**	**17**	P			Pn	13 32 44.2	0.0
KBTR	**Krutoberegovo**	**4.00**	**18**	P			Pn	13 33 09.4	+0.9

*IDC **11** 13:51:23.9±0.5, 21°29N×146°22E, h0km, mb4.3/22, mb1 4.5/25, mb1mx4.4/30, mbtmp4.4/25, ML4.1/3, MS3.9/5, Ms1 3.9/5, ms1mx3.4/39, Error ellipse: s-maj=17.6km s-min=12.1km az=86.0*

*BJI **11** 13:51:25.1, 21°07N×146°32E, h30km, mB5.0/29, mb4.7/41, Ms4.7/27, Ms7 4.4/26*

*MOS **11** 13:51:27.4±1.2, 21°34N×146°11E, h33km, mb4.9/17, Error ellipse: s-maj=13.6km s-min=6.8km az=107.8*

*ISCJB **11** 13:51:29.2±1.1, 21°23N±0°04×146°13E±0°05, h48km±9km, mb4.5/61, MS4.0/9, Error ellipse: s-maj=8.3km s-min=6.9km az=160.6*

*NEIC **11** 13:51:30.9±1.2, 21°32N×146°12E, h50km±11km, mb4.6/21, Error ellipse: s-maj=9.8km s-min=6.6km az=84.0*

ISC 11 13:51:30.3±0.4, 21°34N±0°04×146°11E±0°06, h39km±3km, h39km:pP-P,n137,σ1s71/188, mb4.6/61, MS4.2/10, 7C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**6.76**	**329**		Pn		**Pn**	**13 53 05.8**	**-1.2**
CBIJ					Sn		**Sn**	**13 54 19.1**	**-3.6**
CBIJ	**Chichi jima**	**6.76**	**329**		Pn		**Pn**	**13 53 05.8**	**-1.2**
	12nm,0.3s,baz=240,slow=20,SNR=2.9								
CBIJ					Sn		**Sn**	**13 54 19.1**	**-3.6**
	1.9nm,0.3s,baz=208,slow=15,SNR=4.5								
GUMO	**Guam**	**7.80**	**189**		Pn		**Pn**	**13 53 23.2**	**+1.9**
GUMO					S		**Sn**	**13 54 46.8**	**-1.6**
GUMO					Sn		**Sn**	**13 54 51.9**	**+3.5**
GUMO	**Guam**	**7.80**	**189**		Pn		**Pn**	**13 53 23.2**	**+1.9**
	4.5nm,0.3s,baz=28,slow=18,SNR=5.0								
GUMO					Sn		**Sn**	**13 54 51.9**	**+3.5**
	4.6nm,0.3s,baz=272,slow=18,SNR=3.5								
GUMO					LR		LR	13 56 06.4	
	comp=Z,790nm,18.9s,baz=16,slow=36								
MJAR	**Matsushiro Arr**	**16.64**	**337**		Pn		**Pn**	**13 55 19.9**	**-0.6**
MJAR	**Matsushiro Arr**	**16.64**	**337**		Pn		**Pn**	**13 55 19.9**	**-0.6**
	0.4nm,0.3s,baz=165,slow=11,SNR=11								
MAJO	**Matsushiro**	**16.64**	**337**		P		**Pn**	**13 55 18.0**	**-2.6**
MAJO					pmax		pmax		
	comp=Z,8.0nm,0.7s								
MAJO	**Matsushiro**	**16.64**	**337**		P		**Pn**	**13 55 18.0**	**-2.6**
	comp=Z,8.1nm,0.7s								
MAT	**Matsushiro**	**16.64**	**337**		P		**P**	**13 55 22.5**	**-0.1**
MAT					S		**Sn**	**13 58 29.0**	**+4.7**
JOW	**Kunigami**	**17.17**	**292**	*e*P			**P**	**13 55 29.0**	**+0.4**
	comp=Z,14nm,1.0s								
JOW	**Kunigami**	**17.17**	**292**	LR			LR	14 01 52.5	
	comp=Z,539nm,19.0s,baz=107,slow=36								
JNU	**Nakatsue**	**17.89**	**314**	*e*P			**P**	**13 55 38.0**	**+1.4**
JNU	**Nakatsue**	**17.89**	**314**	P			**Pn**	**13 55 35.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=91,slow=6.2,SNR=6.2								
JNU				LR			LR	14 00 41.0	
	comp=Z,113nm,20.0s,baz=311,slow=31								
KSRS	**Korea Array**	**22.49**	**320**	P			**P**	**13 56 28.0**	**+1.6**
	comp=Z,6.6nm,0.7s,baz=146,slow=9.1,SNR=24								
KSRS				LR			LR	14 04 59.5	
	comp=Z,335nm,20.0s,baz=133,slow=36								
KSAR	**Wonju Array Be**	**22.51**	**319**	P			**P**	**13 56 28.0**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**22.63**	**360**	*e*P			**P**	**13 56 30.0**	**+2.2**
YUK				*i*				13 56 59.9	
YUK				*e*S			**S**	**14 00 36.3**	**+3.3**
YUK				*e*SS			SS	14 01 27.0	
YUK				MLR			MLR		
	comp=Z,225nm,23.0s								
ASAJ	**Asahikawa**	**22.90**	**353**	P			**P**	**13 56 31.4**	**+0.8**
ASAJ	**Asahikawa**	**22.90**	**353**	P			**P**	**13 56 31.4**	**+0.8**
	comp=Z,8.5nm,1.0s,baz=278,slow=24,SNR=7.9								
USRK	**Ussuriysk Arra**	**25.62**	**336**	P			**P**	**13 56 57.9**	**+1.9**
	comp=Z,5.8nm,0.8s,baz=152,slow=10,SNR=11								
NJ2	**Nanjing**	**26.51**	**299**	*e*P			**P**	**13 57 04.8**	**+0.6**
NJ2				pmax			pmax		
	comp=Z,30nm,1.1s								
MDJ	**Mudanjiang**	**26.93**	**333**	P			**P**	**13 57 11.3**	**+3.5**
MDJ				sP			**sP**	**13 57 23.9**	**+0.5**
MDJ				S			S	14 01 50.4	+8.3
MDJ				pmax			pmax		
	comp=Z,10.0nm,1.6s								
MDJ				pmax			pmax		
	comp=Z,98nm,6.3s								
MDJ				LR			LR		
	comp=N,120nm,19.5s								
MDJ				LR			LR		
	comp=E,150nm,21.3s								
MDJ				LR			LR		
	comp=Z,160nm,21.3s								
CN2	**Changchun**	**28.22**	**327**	*e*P			**P**	**13 57 21.7**	**+2.3**
CN2				pmax			pmax		
	comp=Z,10.0nm,0.6s								
CN2				pmax			pmax		
	comp=Z,200nm,3.0s								
CN2				LR			LR		
	comp=N,500nm,16.0s								
CN2				LR			LR		
	comp=E,500nm,16.0s								
CN2				LR			LR		
	comp=Z,200nm,12.0s								
HABR	**Khabarovsk**	**28.49**	**344**	*e*P			**P**	**13 57 20.6**	**-1.1**
HABR				*e**PP			**pP**	**13 57 29.9**	**-2.6**
HABR				*e**SP			**sP**	**13 57 34.6**	**-2.6**
HABR				*e*PPP			PPP	13 58 20.3	
HABR				*e*				14 00 30.6	
HABR				S			**S**	**14 02 08.3**	**+1.7**
HABR				*e**SS			**sS**	**14 02 24.3**	**-0.3**
HABR				*e*SS			**SnSn**	**14 03 31.2**	**+3.6**
HABR				*e*SSS			SSS	14 03 46.4	
HABR				*e*				14 08 02.5	
HABR				pmax			pmax		
	comp=Z,71nm,2.6s								
HABR				pmax			pmax		
	comp=E,68nm,2.8s								
HABR				pmax			pmax		
	comp=N,58nm,2.6s								
HABR				MLR			MLR		
	comp=Z,131nm,15.0s								
WHN	**Wuhan**	**29.91**	**294**	P			P	13 57 42.4	+7.9
KLR	**Kul'dur**	**30.09**	**341**	*e*P			**P**	**13 57 33.6**	**-2.3**
PMG	**Port Moresby**	**30.57**	**178**	P			**P**	**13 57 40.3**	**-0.1**
PMG	**Port Moresby**	**30.57**	**178**	P			**P**	**13 57 40.3**	**-0.1**
	comp=Z,11nm,0.8s,baz=13,slow=9.4,SNR=7.8								
BJI	**Beijing**	**31.56**	**313**	P			**P**	**13 57 50.5**	**+1.5**
BJI				pmax			pmax		
	comp=Z,5.0nm,0.8s								
PETK	**Petropavlovsk-**	**32.94**	**13**	P			**P**	**13 58 03.0**	**+2.0**
PETK	**Petropavlovsk-**	**32.94**	**13**	P			**P**	**13 58 03.0**	**+2.0**
PETK	**Petropavlovsk-**	**32.94**	**13**	P			**P**	**13 58 03.0**	**+2.0**
	comp=Z,4.8nm,0.8s,baz=187,slow=11,SNR=3.7								
HHC	**Hu-ho-hao-te**	**35.09**	**312**	*e*P			**P**	**13 58 22.1**	**+2.2**
HHC				pP			**pP**	**13 58 32.5**	**+1.6**
HHC				sP			**sP**	**13 58 36.1**	**+0.5**
HHC				PP			**PP**	**13 59 41.5**	**+1.6**
HHC				PcP			**PcP**	**14 00 52.9**	**+1.9**
HHC				S			**S**	**14 03 52.5**	**+2.5**
HHC				sS			**sS**	**14 04 07.9**	**-0.3**
HHC				SS			**SnSn**	**14 06 09.2**	**+0.8**
HHC				pmax			pmax		
	comp=Z,10.0nm,0.6s								
HHC				pmax			pmax		
	comp=Z,110nm,5.7s								
HHC				LR			LR		
	comp=N,550nm,15.5s								
HHC				LR			LR		
	comp=E,500nm,16.6s								
HHC				LR			LR		
	comp=Z,240nm,16.6s								
GYA	**Guiyang**	**36.32**	**286**	P			**P**	**13 58 31.0**	**+0.3**
GYA				pP			**pP**	**13 58 41.2**	**-0.5**
GYA				PP			**PP**	**13 59 55.4**	**+1.7**
GYA				PcP			**PcP**	**14 00 55.6**	**+0.6**
GYA				S			**S**	**14 04 08.8**	**-0.4**
GYA				sS			**sS**	**14 04 26.0**	**-1.5**
GYA				ScP			**ScP**	**14 04 38.4**	**-0.1**
GYA				ScS			**ScS**	**14 08 43.1**	**-1.8**
GYA				pmax			pmax		
	comp=Z,10.0nm,0.8s								
GYA				pmax			pmax		
	comp=Z,90nm,4.8s								
CD2	**Chengdu**	**39.00**	**293**	P			**P**	**13 58 52.3**	**-0.9**
CD2				pP			**pP**	**13 59 03.4**	**-0.9**
CD2				sP			**sP**	**13 59 07.6**	**-1.3**
CD2				PcP			**PcP**	**14 01 03.2**	**+0.2**
CD2				S			**S**	**14 04 50.0**	**+0.3**
CD2				sS			**sS**	**14 05 07.0**	**-1.0**
CD2				SS			**SS**	**14 07 35.0**	**-7.6**
CD2				ScS			**ScS**	**14 08 57.8**	**-2.0**
CD2				pmax			pmax		
	comp=Z,20nm,0.8s								
CD2				pmax			pmax		
	comp=Z,160nm,5.0s								
CD2				LR			LR		
	comp=N,540nm,16.6s								
CD2				LR			LR		
	comp=E,680nm,10.0s								
CD2				LR			LR		
	comp=Z,550nm,15.5s								
LZH	**Lanzhou**	**39.56**	**301**	*e*P			**P**	**13 58 58.3**	**+0.4**
LZH				pP			**pP**	**13 59 09.2**	**+0.2**
LZH				sP			**sP**	**13 59 13.2**	**-0.4**
LZH				S			**S**	**14 04 57.0**	**-1.1**
LZH				sS			**sS**	**14 05 15.0**	**-1.5**
LZH				SS			**SS**	**14 07 48.2**	**-5.7**
LZH				pmax			pmax		
	comp=Z,27nm,1.0s								
LZH				pmax			pmax		
	comp=Z,140nm,7.0s								
LZH				LR			LR		
	comp=N,510nm,7.8s								
LZH				LR			LR		
	comp=E,330nm,6.8s								
LZH				LR			LR		
	comp=Z,300nm,9.1s								
KMI	**Kunming**	**39.91**	**284**	P			**P**	**13 59 00.1**	**-0.9**
KMI				pmax			pmax		
	comp=Z,7.0nm,1.0s								
ULN	**Ulaanbaatar**	**40.98**	**320**	*e*P			**P**	**13 59 09.5**	**0.0**
	comp=Z,3.2nm,0.8s								
SONM	**Songino Array**	**41.36**	**319**	P			**P**	**13 59 12.8**	**+0.2**
SONM	**Songino Array**	**41.36**	**319**	P			**P**	**13 59 12.8**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=129,slow=6.1,SNR=16								
YAK	**Yakutsk**	**42.21**	**349**	*e*P			**P**	**13 59 21.3**	**+2.1**
YAK				pmax			pmax		
	comp=Z,12nm,0.9s								
YAK				pmax			pmax		
	comp=N,2.0nm,1.1s								
WRAB	**Tennant Creek**	**42.60**	**196**	*e*P			**P**	**13 59 21.1**	**-1.7**
WRAB				pmax			pmax		
	comp=Z,7.0nm,0.9s								
WRAB	**Tennant Creek**	**42.60**	**196**	*e*P			**P**	**13 59 21.1**	**-1.7**
	comp=Z,7.3nm,0.9s								
WRA	**Warramunga Arr**	**42.62**	**196**	P			**P**	**13 59 21.2**	**-1.7**
WRA	**Warramunga Arr**	**42.62**	**196**	P			**P**	**13 59 21.3**	**-1.7**
	comp=Z,6.3nm,0.7s,baz=12,slow=8.6,SNR=33								
BOD	**Bodaibo**	**43.26**	**335**	*e*P			**P**	**13 59 26.4**	**-1.3**
GTA	**Gaotai**	**43.30**	**305**	*e*P			**P**	**13 59 28.8**	**+0.3**
GTA				pP			**pP**	**13 59 39.1**	**-0.6**
GTA				sP			**sP**	**13 59 44.0**	**-0.3**
GTA				PP			**PP**	**14 01 12.4**	**+2.9**
GTA				S			**S**	**14 05 50.8**	**-2.6**
GTA				sS			**sS**	**14 06 09.3**	**-2.6**
GTA				pmax			pmax		
	comp=Z,9.0nm,0.9s								
GTA				pmax			pmax		
	comp=Z,110nm,5.2s								
GTA				LR			LR		
	comp=N,360nm,15.7s								
GTA				LR			LR		
	comp=E,520nm,16.2s								
GTA				LR			LR		
	comp=Z,370nm,15.7s								
FITZ	**Fitzroy Crossi**	**44.03**	**209**	*e*P			**P**	**13 59 33.3**	**-1.1**
	comp=Z,6.1nm,0.6s								
FITZ	**Fitzroy Crossi**	**44.03**	**209**	*e*P			**P**	**13 59 33.3**	**-1.1**
	comp=Z,14nm,0.6s								
FITZ	**Fitzroy Crossi**	**44.03**	**209**	P			**P**	**13 59 33.3**	**-1.1**
	comp=Z,7.1nm,0.7s,baz=33,slow=9.1,SNR=21								
ZAK	**Zakamensk**	**44.30**	**321**	*e*P			**P**	**13 59 36.7**	**+0.3**
ZAK				pmax			pmax		
	comp=Z,3.0nm,1.3s								
CMAR	**Chiang Mai Arr**	**44.32**	**275**	P			**P**	**13 59 36.9**	**0.0**
CMAR	**Chiang Mai Arr**	**44.32**	**275**	P			**P**	**13 59 36.9**	**0.0**
	comp=Z,0.9nm,0.8s,baz=56,slow=9.7,SNR=8.4								
AS31	**Alice Springs**	**46.29**	**196**	*e*P			**P**	**13 59 50.4**	**-1.8**
ASAR	**Alice Springs**	**46.29**	**196**	P			**P**	**13 59 51.1**	**-1.2**
ASAR	**Alice Springs**	**46.29**	**196**	P			**P**	**13 59 51.1**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=16,slow=7.6,SNR=22								
DZM	**Mont Dzumac**	**47.49**	**154**	P			**P**	**14 00 01.0**	**-0.7**
DZM	**Mont Dzumac**	**47.49**	**154**	P			**P**	**14 00 01.0**	**-0.7**
	comp=Z,4.1nm,0.8s,baz=339,slow=8.6,SNR=5.7								
BILL	**Bilibino**	**48.36**	**10**	⇑	*e*P		**P**	**14 00 08.4**	**+0.5**
BILL					*e**PP		**pP**	**14 00 18.3**	**-0.8**
BILL					pmax		pmax		
	comp=Z,2.0nm,0.8s								
BILL	**Bilibino**	**48.36**	**10**		*e*P		**P**	**14 00 08.3**	**+0.5**
	comp=Z,10nm,1.0s								
PSI	**Prapat**	**49.43**	**255**	P			**P**	**14 00 17.1**	**+0.2**
PSI	**Prapat**	**49.43**	**255**	P			**P**	**14 00 17.1**	**+0.2**
	comp=Z,2.6nm,0.4s,baz=36,slow=2.6,SNR=6.1								
LSA	**Lhasa**	**49.90**	**291**	*e*P			**P**	**14 00 22.3**	**+1.5**
LSA				pmax			pmax		
	comp=Z,6.0nm,0.7s								
LSA	**Lhasa**	**49.90**	**291**	*e*P			**P**	**14 00 22.3**	**+1.5**
	comp=Z,5.7nm,0.7s								
WMQ	**Urumqi**	**52.91**	**309**	P			**P**	**14 00 43.9**	**+1.3**
WMQ				pP			**pP**	**14 00 54.0**	**0.0**
WMQ				sP			**sP**	**14 00 58.0**	**-0.6**
WMQ				PcP			**PcP**	**14 01 53.0**	**+1.7**
WMQ				*e*S			**S**	**14 08 07.7**	**-1.4**
WMQ				SS			**SS**	**14 11 50.0**	**+1.7**
WMQ				pmax			pmax		
	comp=Z,11nm,1.3s								
WMQ				pmax			pmax		
	comp=Z,200nm,5.2s								
WMQ				LR			LR		
	comp=N,590nm,14.0s								
WMQ				LR			LR		
	comp=E,480nm,20.0s								
WMQ				LR			LR		
	comp=Z,460nm,25.5s								
TAPN	**Taplejung**	**53.14**	**289**	*e*P			**P**	**14 00 45.3**	**+0.4**
	comp=Z,16nm,0.8s								
ODAN	**Odare**	**53.49**	**288**	*e*P			**P**	**14 00 47.7**	**+0.4**
	comp=Z,19nm,0.9s								
RAMN	**Ramite**	**54.17**	**288**	*e*P			**P**	**14 00 51.9**	**-0.5**
	comp=Z,8.3nm,0.6s								
JIRN	**Jiri**	**54.44**	**289**	*e*P			**P**	**14 00 55.1**	**+0.6**
	comp=Z,7.1nm,0.8s								
GUN	**Gumba**	**54.68**	**290**	*e*P			**P**	**14 00 56.5**	**+0.3**
	comp=Z,14nm,0.6s								
PKI	**Pulchoki**	**55.14**	**289**	*e*P			**P**	**14 00 59.4**	**-0.1**
	comp=Z,9.6nm,0.6s								
KKN	**Kakani**	**55.22**	**290**	*e*P			**P**	**14 01 00.4**	**+0.5**
DMN	**Daman**	**55.40**	**289**	*e*P			**P**	**14 01 01.8**	**+0.5**
GKN	**Gorkha**	**55.76**	**290**	*e*P			**P**	**14 01 03.9**	**+0.2**
	comp=Z,70nm,1.3s								
ZAA0	**Zalesovo Array**	**56.18**	**321**	*e*P			**P**	**14 01 05.7**	**-0.4**
ZALV	**Zalesovo Beam**	**56.18**	**321**	P			**P**	**14 01 05.8**	**-0.3**
ZALV	**Zalesovo Beam**	**56.18**	**321**	P			**P**	**14 01 05.8**	**-0.3**
ZALV	**Zalesovo Beam**	**56.18**	**321**	P			**P**	**14 01 05.8**	**-0.3**
	comp=Z,5.9nm,0.7s,baz=102,slow=7.3,SNR=31								
DANN	**Dangsing**	**56.48**	**291**	*e*P			**P**	**14 01 09.7**	**+0.7**
	comp=Z,9.6nm,0.6s								
KOLN	**Koldanda**	**56.70**	**290**	*e*P			**P**	**14 01 10.7**	**+0.2**
	comp=Z,21nm,0.8s								
MK31	**Makanchi Array**	**56.94**	**313**	*e*P			**P**	**14 01 11.8**	**+0.1**
MK31	**Makanchi Array**	**56.94**	**313**	*e*P			**P**	**14 01 11.8**	**+0.1**
MKAR	**Makanchi Array**	**56.94**	**313**	*ce*P			**P**	**14 01 12.1**	**+0.4**
MKAR				pmax			pmax		
	comp=Z,2.0nm,0.

NVAR	**Mina Array Bea**	**81.22**	**52**	P		**P**		**14 03 42.6**	**-0.1**
	comp=Z,3.5nm,0.8s,baz=260,slow=5.8,SNR=23								
VRHR	**Novokhopersk**	**82.31**	**322**	*e*P		**P**		**14 03 46.2**	**-1.6**
VRHR				pmax	pmax				
	comp=Z,9.0nm,0.9s								
VRHR				pmax	pmax				
	comp=N,5.0nm,0.5s								
VRHR				pmax	pmax				
	comp=E,10.0nm,1.0s								
LRM	**Limekiln Ridge**	**82.57**	**44**	P		**P**		**14 03 49.2**	**-0.4**
	comp=E,134nm,1.7s								
ELK	**Elko**	**82.61**	**49**	*e*P		**P**		**14 03 49.9**	**-0.1**
HRY	**Holter Researc**	**82.62**	**43**	*e*P		**P**		**14 03 49.5**	**-0.2**
	comp=E,2.9nm,0.6s								
OBN	**Obninsk**	**83.28**	**327**	*e*P		**P**		**14 03 52.8**	**+0.1**
OBN				*e*				14 07 04.5	
OBN				pmax	pmax				
	comp=E,8.0nm,1.0s								
VSR	**Storozhevoye**	**83.66**	**323**	*e*P		**P**		**14 03 54.7**	**-0.1**
VORD	**Divnogorie**	**83.70**	**322**	*e*P		**P**		**14 03 53.4**	**-1.6**
FINES	**FINESS Array B**	**84.66**	**335**	P		**P**		**14 03 58.6**	**-1.0**
FINES	**FINESS Array B**	**84.66**	**335**	P		**P**		**14 03 58.6**	**-1.0**
	comp=Z,3.4nm,0.8s,baz=74,slow=5.3,SNR=7.2								
FFC	**Flin Flon**	**84.67**	**33**	*i* P		P		14 04 03.8	+3.9
ARUT	**Antelope Range**	**85.02**	**51**	*e*P		**P**		**14 04 01.4**	**-0.9**
ARUT				pmax	pmax				
	comp=Z,13nm,1.4s								
ARUT	**Antelope Range**	**85.02**	**51**	*e*P		**P**		**14 04 01.4**	**-0.9**
	comp=Z,13nm,1.4s								
JLU	**Jordanelle**	**85.32**	**48**	*e*P		**P**		**14 04 03.6**	**-0.2**
	comp=Z,15nm,1.4s								
PDAR	**Pinedale Array**	**85.71**	**46**	P		**P**		**14 04 05.2**	**-0.4**
PDAR	**Pinedale Array**	**85.71**	**46**	P		**P**		**14 04 05.2**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=209,slow=1.5,SNR=4.8								
WUAZ	**Wupatki**	**87.45**	**53**	P		**P**		**14 04 13.6**	**-0.6**
	comp=Z,13nm,1.4s								
SMCO	**Snowmass**	**89.04**	**48**	*e*P		**P**		**14 04 21.9**	**-0.2**
	comp=Z,9.5nm,1.3s								
AKASG	**Malin Array Be**	**89.36**	**325**	*ce*P		**P**		**14 04 22.5**	**-0.2**
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.7s								
AKASG	**Malin Array Be**	**89.36**	**325**	P		**P**		**14 04 21.3**	**-1.4**
AKASG	**Malin Array Be**	**89.36**	**325**	P		**P**		**14 04 21.3**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=46,slow=4.1,SNR=4.0								
NOA	**NORSAR Array B**	**90.24**	**340**	P		**P**		**14 04 25.1**	**-1.6**
NOA	**NORSAR Array B**	**90.24**	**340**	P		**P**		**14 04 25.1**	**-1.6**
	comp=Z,1.1nm,0.8s,baz=34,slow=8.1,SNR=3.3								
BRTR	**Keskin Array B**	**92.55**	**314**	P		P		14 04 35.0	-3.0
BRTR	**Keskin Array B**	**92.55**	**314**	P		P		14 04 35.0	-3.0
	comp=Z,0.5nm,0.7s,baz=72,slow=2.8,SNR=2.3								
GERES	**GERESS Array B**	**98.26**	**330**	LR		LR		14 52 04.9	
	comp=Z,130nm,20.1s,baz=198,slow=37								
TORD	**Torodi Ar. Bea**	**131.05**	**311**	PKP		**PKPdf**		**14 10 38.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**131.05**	**311**	PKP		**PKPdf**		**14 10 38.5**	**-0.2**
	comp=Z,1.2nm,1.1s,baz=31,slow=1.7,SNR=3.3								

IDC ***11*** *13:52:40.1±0.5, 16.37S×178.39E, h0km, mb4.8/25, mb1 4.8/27, mb1mx4.8/29, mbtmp4.8/27, ML4.8/1, MS5.0/20, Ms1 5.0/20, ms1mx4.9/24, Error ellipse: s-maj=18.5km s-min=12.6km az=160.0*

NEIC ***11*** *13:52:42.0±0.2, 16.22S×178.33E, h10km, mb5.6/119, MS5.3/150, MW5.7, MW5.6, Error ellipse: s-maj=8.3km s-min=5.0km az=147.0, Moment Tensor Solution. s19 Moment tensor: Scale 10¹⁷Nm; Mrr0.09; Mθθ-1.59; Mφφ1.50; Mrθ1.18; Mφφ2.06; Mrφ0.84; Best double couple: Mo3.00000×10¹⁷ NP1:φs340.00000°, δ62.00000°, λ173.00000°. NP2:φs73.00000°, δ84.00000°, λ28.00000°. Principal axes: T 3.0900, Plg23.0000°, Azm299.0000°; N -0.2900, Plg61.0000°, Azm83.0000°; P -2.8000, Plg14.0000°, Azm202.0000°;*

ISCJB ***11*** *13:52:42.7±0.1, 16.28S±0.04×178.22E±0.03, h22km, mb5.3/166, MS5.2/190 Error ellipse: s-maj=6.6km s-min=3.7km az=158.8*

MOS ***11*** *13:52:44.2±1.3, 16.24S×178.26E, h33km, mb5.7/41, MS5.2/36, Error ellipse: s-maj=10.4km s-min=7.7km az=138.3*

BJI ***11*** *13:52:45.5, 15.74S×177.89E, h16km, mB5.6/39, mb5.0/33, Ms5.5/48, Ms7 5.1/46*

NEIC ***11*** *13:53:04.8±0.0, 15.61S×178.41E, h10km, Moment Tensor Solution. s164 Moment tensor: Scale 10¹⁷Nm; Mrr-0.92; Mθθ1.20; Mφφ2.12; Mrθ1.06; Mθφ3.05; Mrf1.69; Best double couple: Mo3.80000×10¹⁷ NP1:φs77.00000°, δ78.00000°, λ16.00000°. NP2:φs344.00000°, δ75.00000°, λ167.00000°. Principal axes: T 4.6500, Plg19.0000°, Azm300.0000°; N -1.6300, Plg70.0000°, Azm115.0000°; P -3.0100, Plg1.0000°, Azm210.0000°;*

DJA ***11*** *13:53:05, 16.89S×178.34E, h210km, mb5.0/12*

ISC 11 13:52:44.6±0.3, 16.32S±0.05×178.21E±0.04, h22km±2km, h21km:pP-P, n820, σ1§45/732, mb5.5/165, MS5.2/192, 167C-163D, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.41**	**186**	*e*P			**Pn**	**13 53 09.3**	**+0.2**
MSVF	**Nonsavu**	**1.41**	**186**	*e*Pn			**Pn**	**13 53 09.3**	**+0.2**
MSVF	**Nonsavu**	**1.41**	**186**	Pn			Pn	**13 53 08.3**	**-0.8**
	31µm,0.5s								
FUNA	**Funafuti**	**7.81**	**7**	Pn			Pn	13 54 30.2	-6.8
	567nm,2.0s								
AFI	**Afiamalu**	**9.96**	**77**	*e*Pn			**Pn**	**13 55 05.0**	**-1.7**
AFI				Sn			**Sn**	**13 57 00.3**	**+2.4**
AFI	**Afiamalu**	**9.96**	**77**	Pn			Pn	13 55 02.8	-3.9
	0.6nm,0.3s,baz=287,slow=19,SNR=5.0								
AFI				Sn			**Sn**	**13 57 00.3**	**+2.4**
	0.4nm,0.3s,baz=234,slow=19,SNR=3.8								
AFI				LR			LR	13 58 05.2	
	comp=Z,8µm,19.8s,baz=255,slow=33								
DZM	**Mont Dzumac**	**12.50**	**241**	*e*P			P	13 55 47.7	-5.2
	329nm,1.9s								
DZM				*e*LQ			LQ	13 58 21.9	
	44µm,26.1s								
DZM				*e*LR			LR	13 58 36.2	
	17µm,26.2s								
DZM	**Mont Dzumac**	**12.50**	**241**	*e*P			**P**	**13 55 50.0**	**-2.9**
DZM	**Mont Dzumac**	**12.50**	**241**	*e*Pn			Pn	13 55 46.0	+4.7
DZM				Sn			Sn	13 58 12.1	+12
DZM	**Mont Dzumac**	**12.50**	**241**	Pn			Pn	13 55 45.4	+4.0
	0.1nm,0.3s,baz=83,slow=16,SNR=7.8								
DZM				Sn			Sn	13 58 12.1	+12
	baz=211,slow=19,SNR=1.4								
DZM				LR			LR	13 58 43.3	
	comp=Z,1µm,18.9s,baz=65,slow=29								
NOUC	**Port Laguerre**	**12.63**	**241**	*e*P			**P**	**13 55 54.3**	**+0.1**
HNR	**Honiara**	**19.07**	**289**	*e*P			**P**	**13 57 05.2**	**-0.5**
	878nm,1.7s								
HNR	**Honiara**	**19.07**	**289**	P			**Pn**	**13 57 07.6**	**+1.0**
	2.7nm,0.3s,baz=140,slow=8.8,SNR=11								
HNR				LR			LR	14 03 24.8	
	comp=Z,8µm,19.4s,baz=240,slow=34								
OUZ	**Omahuta**	**19.27**	**192**	*e*P			**P**	**13 57 07.8**	**+0.1**
	76nm,1.1s								
RAR	**Rarotonga**	**21.40**	**107**	*e*P			P	13 57 24.7	-6.3
	1µm,2.0s								
RAR				S			Sn	14 01 32.5	-3.3
RAR	**Rarotonga**	**21.40**	**107**	P			P	13 57 26.0	-5.0
	13nm,0.6s,baz=301,slow=19,SNR=1.8								
RAR				S			Sn	14 01 32.5	-3.3
	13nm,0.8s,baz=39,slow=12,SNR=3.0								
RAR				LR			LR	14 04 05.5	
	comp=Z,4µm,20.6s,baz=278,slow=32								
URZ	**Urewera**	**21.88**	**182**	*e*P			**P**	**13 57 35.1**	**-0.8**
	78nm,1.1s								
SNZO	**South Karori**	**25.08**	**186**	*e*P			**P**	**13 58 10.3**	**+2.8**
	107nm,1.1s								
SNZO				LR			LR		
	comp=Z,6µm,21.0s								
KHZ	**Kahutara**	**26.31**	**188**	*e*P			**P**	**13 58 18.6**	**-0.2**
	comp=Z,120nm,1.4s								
EIDS	**Eidsvold**	**26.86**	**246**	*e*P			**P**	**13 58 25.3**	**+1.4**
	comp=Z,133nm,2.0s								
CTA	**Charters Tower**	**30.56**	**258**	P			**P**	**13 58 56.2**	**-0.7**
CTA	**Charters Tower**	**30.56**	**258**	*e*P			P	13 59 01.7	+4.8
	comp=Z,9.8nm,1.0s								
CTA	**Charters Tower**	**30.56**	**258**	P			**P**	**13 58 56.2**	**-0.7**
	comp=Z,9.2nm,1.1s,baz=62,slow=15,SNR=2.6								
CTA				LR			LR	14 08 04.3	
	comp=Z,2µm,21.8s,baz=79,slow=30								
CTAO	**Charters Tower**	**30.56**	**258**	PFAKE				13 59 10.0	+13
CTAO				LR			LR		
	comp=Z,1µm,20.0s								
WHZ	**Wether Hill Ro**	**30.71**	**194**	*e*P			**P**	**13 58 59.1**	**+1.2**
PPT2	**Papeete2**	**30.82**	**97**	*e*S			**S**	**14 04 06.1**	**+4.1**
	comp=Z,1µm,24.5s								
PPT2				*e*LQ			LQ	14 05 43.2	
	comp=Z,14µm,25.8s								
PPT2				*e*LR			LR	14 07 04.7	
	comp=Z,15µm,30.0s,baz=265								
PMG	**Port Moresby**	**31.01**	**279**	*e*P			**P**	**13 59 01.9**	**+1.0**
	comp=Z,98nm,1.6s								
PMG	**Port Moresby**	**31.01**	**279**	P			P	13 59 07.6	+6.7
	comp=Z,40nm,1.8s,comp=Z,1µm								
PMG	**Port Moresby**	**31.01**	**279**	P			**P**	**13 59 02.5**	**+1.6**
	comp=Z,17nm,1.1s,baz=124,slow=10,SNR=8.2								
PMG				LR			LR	14 10 02.9	
	comp=Z,4µm,19.7s,baz=122,slow=33								
TVO	**Taravao**	**31.12**	**97**	*e*P			P	13 59 06.8	+4.8
	comp=Z,32nm,0.8s								
TBI	**Tubuai**	**31.16**	**108**	*e*P			P	13 59 06.8	+4.7
	comp=Z,160nm,1.0s								
TBI				*e*S			**S**	**14 04 12.2**	**+5.2**
	comp=Z,2µm,23.5s								
TBI				*e*LQ			LQ	14 05 54.7	
	comp=Z,11µm,24.5s								
TBI				*e*LR			LR	14 07 21.0	
	comp=Z,18µm,30.2s,baz=274								
CAN	**Canberra**	**32.21**	**228**	PFAKE				13 59 20.0	+8.7
CAN				LR			LR		
	comp=Z,4µm,22.0s								
PMOR	**Pomariorio Ree**	**32.64**	**92**	*e*P			**P**	**13 59 14.9**	**-0.4**
	comp=Z,132nm,1.2s								
COEN	**Coen**	**33.88**	**269**	*e*P			**P**	**13 59 27.4**	**+1.3**
	comp=Z,386nm,1.4s								
STKA	**Stephens Creek**	**36.63**	**238**	*e*P			**P**	**13 59 50.3**	**+0.7**
	comp=Z,8.0nm,1.0s								
STKA	**Stephens Creek**	**36.63**	**238**	*e*P			**P**	**13 59 50.7**	**+1.0**
	comp=Z,21nm,0.9s								
STKA	**Stephens Creek**	**36.63**	**238**	P			**P**	**13 59 50.6**	**+1.0**
	comp=Z,27nm,0.8s,baz=63,slow=8.0,SNR=21								
STKA				LR			LR	14 13 04.4	
	comp=Z,3µm,21.8s,baz=68,slow=33								
WAKE	**Wake Island**	**37.16**	**342**	PFAKE				14 00 00.0	+5.9
WAKE				LR			LR		
	comp=Z,4µm,20.0s								
TAU	**Tasmania Unive**	**37.35**	**218**	PFAKE				14 00 10.0	+14
TAU				LR			LR		
	comp=Z,4µm,20.0s								
BBOO	**Buckleboo**	**41.40**	**239**	*e*P			**P**	**14 00 29.6**	**+0.1**
	comp=Z,2µm,1.6s								
WRAB	**Tennant Creek**	**41.75**	**258**	*e*P			**P**	**14 00 30.9**	**-1.7**
WRAB				pmax	pmax				
	comp=Z,113nm,1.7s								
WRAB				MLR	MLR				
	comp=Z,3µm,22.0s								
WRAB	**Tennant Creek**	**41.75**	**258**	*e*P			**P**	**14 00 30.9**	**-1.7**
	comp=Z,113nm,1.7s								
WRAB				LR			LR		
	comp=Z,3µm,22.0s								
WRA	**Warramunga Arr**	**41.76**	**258**	P			**P**	**14 00 32.1**	**-0.5**
WRA	**Warramunga Arr**	**41.76**	**258**	P			**P**	**14 00 32.2**	**-0.5**
	comp=Z,20nm,1.0s,baz=95,slow=9.4,SNR=6.6								
AS31	**Alice Springs**	**42.14**	**253**	*e*P			**P**	**14 00 33.5**	**-2.3**
ASAR	**Alice Springs**	**42.14**	**253**	P			**P**	**14 00 34.5**	**-1.2**
ASAR	**Alice Springs**	**42.14**	**253**	P			**P**	**14 00 34.5**	**-1.2**
	comp=Z,20nm,0.8s,baz=82,slow=8.1,SNR=37								
GUMO	**Guam**	**44.38**	**310**	P			**P**	**14 00 55.7**	**+1.9**
GUMO				LR			LR		
	comp=Z,2µm,19.0s								
GUMO	**Guam**	**44.38**	**310**	P			**P**	**14 00 55.7**	**+1.9**
	comp=Z,50nm,1.0s,baz=194,slow=19,SNR=4.2								
RKT	**Rikitea**	**44.44**	**107**	*e*P			P	14 00 58.3	+4.0
	comp=Z,180nm,1.3s								
RKT				*e*S			**S**	**14 07 32.1**	**+3.8**
	comp=Z,1µm,27.0s								
RKT				*e*LQ			LQ	14 11 10.0	
	comp=Z,8µm,29.5s								
RKT				*e*LR			LR	14 13 26.8	
	comp=Z,12µm,29.0s,baz=277								
FORT	**Forrest**	**47.80**	**243**	*e*P			**P**	**14 01 21.6**	**+0.9**
	comp=Z,83nm,0.8s								
FORT	**Forrest**	**47.80**	**243**	*e*P			**P**	**14 01 18.3**	**-2.4**
	comp=Z,61nm,0.8s								
FITZ	**Fitzroy Crossi**	**50.11**	**260**	*e*P			**P**	**14 01 37.8**	**-0.7**
	comp=Z,110nm,1.6s								
FITZ	**Fitzroy Crossi**	**50.11**	**260**	P			**P**	**14 01 38.0**	**-0.6**
	comp=Z,16nm,1.1s,baz=113,slow=6.8,SNR=3.6								
FITZ	**Fitzroy Crossi**	**50.11**	**260**	*e*			**P**	**14 01 38.6**	**+0.1**
FITZ				*e*S			**S**	**14 08 52.9**	**+3.7**
KMBL	**Kambalda**	**53.12**	**243**	*e*P			**P**	**14 01 59.2**	**-1.8**
	comp=Z,128nm,1.6s								
MBWA	**Marble Bar**	**55.33**	**255**	*e*P			**P**	**14 02 17.1**	**-0.1**
	comp=Z,61nm,1.3s								
MBWA				*e*				14 02 29.1	
MBWA				LR			LR		
	comp=Z,2µm,19.0s								
MBWA	**Marble Bar**	**55.33**	**255**	*e*P			**P**	**14 02 16.7**	**-0.5**
DRV	**Dumont d'Urvil**	**56.17**	**197**	S			**S**	**14 10 09.0**	**-1.2**
DRV				SS			**SS**	**14 13 58.0**	**+1.4**
DRV				L			L	14 16 00.0	
DRV				R				14 19 00.0	
KLBR	**Kellerberrin**	**56.66**	**243**	*e*P			**P**	**14 02 24.6**	**-1.9**
	comp=Z,95nm,1.5s								
DAV	**Davao City (W)**	**57.02**	**290**	LR			LR	14 26 34.7	
	comp=Z,1µm,18.9s,baz=277,slow=36								
NWAO	**Narrogin (SRO)**	**57.12**	**241**	P			**P**	**14 02 28.5**	**-1.3**
NWAO				LR			LR		
	comp=Z,4µm,22.0s								
NWAO	**Narrogin (SRO)**	**57.12**	**241**	P			**P**	**14 02 28.5**	**-1.3**
	comp=Z,21nm,1.1s,baz=53,slow=9.6,SNR=3.7								
KAPI	**Kappang**	**58.35**	**274**	P			**P**	**14 02 39.5**	**+0.8**
KAPI				LR			LR		
	comp=Z,887nm,19.0s								
KAPI	**Kappang**	**58.35**	**274**	P			**P**	**14 02 39.5**	**+0.8**
	comp=Z,11nm,1.0s,baz=96,slow=9.1,SNR=2.5								
VNDA	**Vanda**	**61.77**	**184**	PFAKE				14 03 10.0	+8.9
VNDA				LR			LR		
	comp=Z,2µm,20.0s								
SBA	**Scott Base**	**61.81**	**183**	PFAKE				14 03 10.0	+8.6
SBA				LR			LR		
	comp=Z,1µm,19.0s								
JOW	**Kunigami**	**64.73**	**311**	P			**P**	**14 03 23.3**	**+1.7**
JOW	**Kunigami**	**64.73**	**311**	P			**P**	**14 03 23.3**	**+1.7**
	comp=Z,15nm,1.0s,baz=158,slow=5.4,SNR=4.0								
JOW				LR			LR	14 27 44.0	
	comp=Z,1µm,20.4s,baz=225,slow=32								
MJAR	**Matsushiro Arr**	**64.74**	**325**	P			**P**	**14 03 20.3**	**-1.1**
MJAR	**Matsushiro Arr**	**64.74**	**325**	P			**P**	**14 03 20.3**	**-1.1**
	comp=Z,7.1nm,1.1s,baz=127,slow=5.9,SNR=8.8								
MJAR				LR			LR	14 26 07.3	
	comp=Z,1µm,20.6s,baz=155,slow=31								
MAJO	**Matsushiro**	**64.74**	**325**	*e*P			**P**	**14 03 22.5**	**+1.1**
MAJO				pmax	pmax				
	comp=Z,57nm,1.4s								
MAJO				MLR	MLR				
	comp=Z,2µm,22.0s								
MAJO	**Matsushiro**	**64.74**	**325**	*e*P			**P**	**14 03 22.5**	**+1.1**
	comp=Z,56nm,1.4s								
MAJO				LR			LR		
	comp=Z,2µm,22.0s								
MAT	**Matsushiro**	**64.74**	**325**	P			**P**	**14 03 19.5**	**-1.9**
MAT				S			**S**	**14 12 03.0**	**+2.2**
KKM	**Kota Kinabalu**	**65.22**	**285**	*e*P			**P**	**14 03 26.9**	**+1.9**
	comp=Z,80nm,1.4s								
KKM				LR			LR		
	comp=Z,663nm,20.0s								
KKM	**Kota Kinabalu**	**65.22**	**285**	P			P	14 03 30.4	+5.3
	comp=Z,54nm,1.4s,comp=Z,745nm								
ERM	**Erimo**	**66.45**	**332**	PFAKE				14 03 40.0	+7.7
ERM				LR			LR		
	comp=Z,2µm,20.0s								
SBUM	**Sibu**	**67.76**	**280**	P			P	14 03 45.9	+4.6
	comp=Z,16nm,1.6s								
NACB	**Ninganchiao**	**68.36**	**305**	P			**P**	**14 03 46.6**	**+1.8**
	comp=Z,87nm,1.4s								
ASAJ	**Asahikawa**	**68.38**	**333**	P			**P**	**14 03 42.9**	**-1.6**
ASAJ	**Asahikawa**	**68.38**	**333**	P			**P**	**14 03 42.9**	**-1.6**
	comp=Z,5.4nm,1.0s,baz=183,slow=7.6,SNR=1.9								
TPUB	**Ta-pu**	**68.69**	**304**	P			**P**	**14 03 46.6**	**-0.3**
	comp=Z,44nm,1.0s								
YHNB	**Yeheng**	**68.78**	**305**	PFAKE				14 04 00.0	+12
YHNB				LR			LR		
	comp=Z,2µm,20.0s								
TATO	**Taipei**	**68.85**	**306**	PFAKE				14 04 00.0	+12
TATO				LR			LR		
	comp=Z,2µm,20.0s								
KSM	**Kuching**	**69.27**	**278**	*e*P			**P**	**14 03 50.7**	**0.0**
	comp=Z,54nm,1.4s								
KSM				LR			LR		
	comp=Z,380nm,19.0s								
KSM	**Kuching**	**69.27**	**278**	P			P	14 03 56.8	+6.1
	comp=Z,28nm,1.4s								
YSS	**Yuzh-Sakhalins**	**70.59**	**335**	*e*P			**P**	**14 03 58.0**	**-0.1**
YSS				*e*				14 04 20.0	
YSS				*e*				14 06 30.0	
YSS				*e*S			**S**	**14 13 14.0**	**+3.5**
YSS				*e*PS			**PnS**	**14 13 43.0**	**+3.4**
YSS	**Yuzh-Sakhalins**	**70.59**	**335**	PFAKE				14 04 10.0	+12
YSS				LR			LR		
	comp=Z,444nm,19.0s								
PET	**Petropavlovsk**	**71.10**	**348**	*e*P			P	14 04 09.1	+8.1
PET				*e*				14 06 45.1	
PET				*e*PPS			PPS	14 14 04.2	
PET				MLR			MLR		
	comp=Z,700nm,18.0s								
QZH	**Quanzhou**	**71.11**	**304**	⇑*i*P			**P**	**14 04 03.4**	**+1.7**
QZH				S			**S**	**14 13 19.0**	**+1.5**
QZH				sS			**sS**	**14 13 31.1**	**+2.1**
QZH				pmax	pmax				
	comp=Z,710nm,3.7s								
QZH				LR	LR				
	comp=N,3µm,23.3s								
QZH				LR	LR				
	comp=E,2µm,18.4s								
QZH				LR	LR				
	comp=Z,2µm,17.8s								
PETK	**Petropavlovsk-**	**71.38**	**347**	P			**P**	**14 04 01.8**	**-1.0**
PETK	**Petropavlovsk-**	**71.38**	**347**	P			**P**	**14 04 01.8**	**-1.0**
PETK	**Petropavlovsk-**	**71.38**	**347**	P			**P**	**14 04 01.8**	**-1.0**
	comp=Z,9.8nm,1.1s,baz=144,slow=15,SNR=4.3								
KSRS	**Korea Array**	**71.39**	**320**	P			**P**	**14 04 03.0**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=145,slow=7.0,SNR=6.3								
KSRS				LR			LR	14 29 37.1	
	comp=Z,2µm,21.4s,baz=123,slow=31								
KSAR	**Wonju Array Be**	**71.41**	**320**	P			**P**	**14 04 03.0**	**-0.2**
INCN	**Inchon**	**72.22**	**319**	PFAKE				14 04 20.0	+12
INCN				LR			LR		
	comp=Z,2µm,22.0s								
SSE	**Sheshan**	**72.25**	**311**	*e*P			**P**	**14 04 07.4**	**-1.1**
SSE				pP			**pP**	**14 04 13.8**	**-1.7**
SSE				sP			**sP**	**14 04 16.8**	**-1.3**
SSE				PcP			**PcP**	**14 04 25.7**	**-0.8**
SSE				S			**S**	**14 13 29.0**	**-1.4**
SSE				sS			**sS**	**14 13 42.0**	**0.0**
SSE				ScS			**ScS**	**14 14 13.2**	**-0.8**
SSE				pmax	pmax				
	comp=Z,11nm,0.7s								
SSE				pmax	pmax				
	comp=Z,230nm,8.7s								
SSE				LR	LR				
	comp=N,590nm,22.8s								
SSE				LR	LR				
	comp=E,340nm,22.7s								
SSE				LR	LR				
	comp=Z,660nm,20.5s								
USRK	**Ussuriysk Arra**	**73.51**	**327**	P			**P**	**14 04 15.5**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=120,slow=11,SNR=4.8								
USRK				LR			LR	14 31 05.8	
	comp=Z,1µm,20.9s,baz=305,slow=31								
QSPA	**South Pole Qui**	**73.72**	**180**	*e*P			**P**	**14 04 17.0**	**+0.2**
QSPA				LR			LR		
	comp=Z,1µm,19.0s								
QSPA	**South Pole Qui**	**73.72**	**180**	P			**P**	**14 04 16.9**	**+0.1**
	comp=Z,36nm,1.0s,baz=24,slow=2.4,SNR=44								
NJ2	**Nanjing**	**74.45**	**311**	*e*P			**P**	**14 04 21.2**	**-0.2**
NJ2				pP			**pP**	**14 04 27.2**	**-1.2**
NJ2				sP			**sP**	**14 04 30.4**	**-0.6**
NJ2				PP			**PP**	**14 07 09.9**	**+1.8**
NJ2				S			**S**	**14 13 56.0**	**+0.7**
NJ2				pmax	pmax				
	comp=Z,20nm,1.0s								
NJ2				pmax	pmax				
	comp=Z,430nm,8.7s								
NJ2				LR	LR				
	comp=N,810nm,27.6s								
NJ2				LR	LR				
	comp=E,3µm,26.4s								
NJ2				LR	LR				
	comp=Z,2µm,26.4s								
MDJ	**Mudanjiang**	**75.06**	**326**	P			**P**	**14 04 25.5**	**+0.8**
MDJ				sP			**sP**	**14 04 34.1**	**-0.2**
MDJ				PP			**PP**	**14 07 13.7**	**+0.6**
MDJ				pmax	pmax				
	comp=Z,290nm,7.6s								
MDJ				LR	LR				
	comp=N,1µm,30.2s								
MDJ				LR	LR				
	comp=E,950nm,33.7s								
MDJ	**Mudanjiang**	**75.06**	**326**	PFAKE				14 04 40.0	+15
MDJ				LR	LR				
	comp=Z,1µm,20.0s								
HABR	**Khabarovsk**	**75.07**	**332**	*e*P			**P**	**14 04 25.1**	**+0.5**
HABR				*e**SP			**sP**	**14 04 31.9**	**-2.3**
HABR				*e*				14 04 38.6	
HABR				*e*				14 07 12.7	
HABR				*e*S			**S**	**14 14 03.3**	**+1.8**
HABR				*e*				14 14 36.6	
HABR				pmax	pmax				
	comp=N,65nm,2.3s								
HABR				pmax	pmax				
	comp=E,67nm,2.3

HOPS Hopland 77.67 43 *e*P P **14 04 42.1 +2.4**
comp=Z,190nm,1.4s
KDAK Kodiak Island 77.69 16 P P **14 04 39.4 +0.1**
KDAK LR LR
comp=Z,2µm,19.0s
KDAK Kodiak Island 77.69 16 P P **14 04 39.4 +0.1**
comp=Z,31nm,1.2s,baz=233,slow=8.0,SNR=2.9
PKM Peak Mountain 77.77 48 ⇓P P **14 04 40.0 -0.6**
baz=78
SMMC Simmler 77.85 47 ⇓P P **14 04 40.3 -0.5**
baz=78
KIPM Iron Peak 77.85 42 *e*P P 14 04 44.7 +3.9
comp=Z,144nm,1.3s
OSI Osito Adit 78.42 49 P P **14 04 45.0 +1.0**
comp=Z,29nm,1.1s
COCO West Island 78.50 261 PFAKE 14 05 00.0 +15
COCO LR LR
comp=Z,995nm,21.0s
ARVC Arvin 78.59 48 ⇑P P **14 04 44.5 -0.3**
baz=79
PASC Pasadena Art C 78.59 49 *e*P P **14 04 43.8 -1.1**
comp=Z,82nm,1.5s
MWC Mount Wilson 78.71 49 *e*P P **14 04 43.4 -2.3**
MWC pmax pmax
comp=Z,77nm,1.4s
MWC Mount Wilson 78.71 49 *e*P P **14 04 43.4 -2.3**
comp=Z,77nm,1.4s
VES Vestal, Richgr 78.76 47 ⇑P P **14 04 45.3 -0.4**
baz=79
WDC Whiskeytown Da 78.88 42 *e*P P **14 04 46.1 -0.2**
WDC pmax pmax
comp=Z,87nm,1.4s
WDC Whiskeytown Da 78.88 42 *e*P P **14 04 46.1 -0.2**
comp=Z,87nm,1.4s
CMB Columbia Colle 78.96 45 *e*P P **14 04 44.9 -2.0**
CMB pmax pmax
comp=Z,71nm,1.3s
CMB Columbia Colle 78.96 45 *e*P P **14 04 44.9 -2.0**
comp=Z,71nm,1.3s
IPM Ipoh 79.01 278 *e*P P **14 04 46.0 -1.6**
comp=Z,64nm,1.4s
IPM Ipoh 79.01 278 P P **14 04 47.7 +0.1**
comp=Z,28nm,1.4s,comp=Z,501nm
BFSC Mount Baldy Ra 79.01 49 ⇑P P **14 04 45.9 -1.4**
baz=79
BAR Barrett 79.01 51 *e*P P **14 04 45.3 -2.0**
comp=Z,65nm,1.9s
MURC Murrieta 79.05 50 ⇑P P **14 04 46.4 -1.0**
baz=79
EDW2 Edwards Air Fo 79.08 49 ⇑P P **14 04 46.4 -1.2**
baz=79,SNR=22
ISA Isabella 79.11 48 *e*P P **14 04 46.4 -1.3**
ISA pmax pmax
comp=Z,171nm,1.8s
ISA Isabella 79.11 48 *e*P P **14 04 46.4 -1.3**
comp=Z,171nm,1.8s
ISA Isabella 79.11 48 ⇓P P **14 04 46.8 -0.9**
baz=79,SNR=22
MONP Monument Peak 79.30 51 ⇑P P **14 04 47.7 -1.3**
baz=79,SNR=16
YBH Yreka Blue Hor 79.39 41 *e*P P **14 04 48.4 -0.9**
comp=Z,72nm,1.3s
YBH Yreka Blue Hor 79.39 41 P P **14 04 48.4 -0.9**
comp=Z,23nm,0.9s,baz=209,slow=2.8,SNR=17
LRMC Laurel Mountai 79.58 48 ⇓P P **14 04 50.3 -0.1**
baz=80,SNR=7.0
PFO Pinyon Flat Ob 79.60 50 P P **14 04 48.8 -1.8**
PFO LR LR
comp=Z,1µm,20.0s
PFO Pinyon Flat Ob 79.60 50 ⇑P P **14 04 49.6 -0.9**
baz=80
HUMO Hull Mountain 79.72 40 *e*P P 14 04 54.1 +3.3
comp=Z,57nm,1.2s
CWC Cottonwood Cre 79.76 47 ⇑P P **14 04 50.4 -1.0**
baz=80
SWSC Sam W. Stewart 79.79 51 ⇑P P **14 04 50.4 -1.0**
baz=80
TIN Tinemaha 79.96 47 ⇑P P **14 04 51.3 -1.1**
baz=80
MPMC Manual Prospec 80.00 48 ⇓P P **14 04 51.9 -0.8**
baz=80,SNR=20
RSO Redoubt South 80.02 14 *e*P P **14 04 50.8 -1.5**
DAC Darwin (Calif) 80.03 48 PFAKE 14 05 00.0 +7.1
DAC LR LR
comp=Z,3µm,20.0s
WCN Washoe City 80.03 44 *e*P P **14 04 49.8 -3.0**
WCN pmax pmax
comp=Z,99nm,1.5s
WCN Washoe City 80.03 44 *e*P P **14 04 49.8 -3.0**
comp=Z,99nm,1.5s
WCN Washoe City 80.03 44 ⇓P P **14 04 51.9 -1.0**
baz=80
BELC Belle Mtn. Jos 80.12 50 ⇓P P **14 04 52.2 -1.2**
baz=80,SNR=17
GSC Goldstone 80.13 49 *e*P P **14 04 52.0 -1.4**
GSC pmax pmax
comp=Z,64nm,1.4s
GSC Goldstone 80.13 49 *e*P P **14 04 52.0 -1.4**
comp=Z,64nm,1.4s
GSC Goldstone 80.13 49 ⇓P P **14 04 52.1 -1.2**
baz=80,SNR=16
GAMB Gambell 80.23 5 P P **14 04 52.3 -0.7**
comp=Z,61nm,1.3s
HEC Hector,Ludlow 80.26 49 ⇑P P **14 04 52.7 -1.4**
baz=80,SNR=28
BC3 Big Chuckawall 80.36 51 ⇑P P **14 04 53.9 -0.8**
baz=80,SNR=5.7
BJT Baijiatuau 80.40 317 PFAKE 14 05 10.0 +15
BJT LR LR
comp=Z,1µm,22.0s
BJI Beijing 80.40 317 P P **14 04 57.3 +2.7**
BJI S S **14 14 59.8 +0.3**
BJI SS SS 14 20 01.7 -10
BJI pmax pmax
comp=Z,15nm,1.4s
BJI pmax pmax
comp=Z,110nm,3.2s
BJI LR LR
comp=N,720nm,18.6s
BJI LR LR
comp=E,570nm,26.6s
BJI LR LR
comp=Z,1µm,38.7s
PSI Prapat 80.52 276 P P 14 04 59.5 +3.5
comp=Z,33nm,1.4s,comp=Z,505nm
PSI Prapat 80.52 276 LR LR 14 41 01.8
comp=Z,391nm,21.4s,baz=116,slow=36
GRAC Grapevine Rang 80.53 47 ⇓P P **14 04 54.7 -0.7**
baz=80,SNR=18
GLA Glamis 80.56 52 *e*P P **14 04 54.5 -1.2**
GLA pmax pmax
comp=Z,57nm,1.3s
GLA Glamis 80.56 52 *e*P P **14 04 54.5 -1.2**
comp=Z,57nm,1.3s
GLA Glamis 80.56 52 ⇓P P **14 04 55.1 -0.6**
baz=81,SNR=15
NVAR Mina Array Bea 80.58 45 P P **14 04 54.4 -1.5**
NVAR Mina Array Bea 80.58 45 P P **14 04 54.4 -1.5**
comp=Z,22nm,0.9s,baz=229,slow=6.2,SNR=23
FURC Furnace Creek, 80.64 48 ⇓P P **14 04 55.4 -0.5**
baz=81,SNR=20
SLKM Skilak Lake 80.67 15 *e*P P **14 04 55.0 -0.6**
SLKM Skilak Lake 80.67 15 *e*P P **14 04 55.0 -0.6**
ENH Enshi 80.72 305 *e*P P **14 04 55.8 -0.8**
comp=Z,64nm,1.4s
ENH LR LR
comp=Z,925nm,21.0s
GMRC Granite Mounta 80.72 50 ⇓P P **14 04 55.7 -0.9**
baz=81,SNR=15
SHOC Shoshone 80.79 48 ⇑P P **14 04 56.4 -0.3**
baz=81
IRM Iron Mountain 80.82 50 ⇓P P **14 04 56.6 -0.4**
baz=81,SNR=27
TUQ Turquoise Moun 80.83 49 ⇓P P **14 04 56.1 -1.0**
baz=81
MOD Modoc 81.01 42 *e*P P 14 04 53.3 -4.7
comp=Z,73nm,1.4s
Y12C Blythe 81.10 51 ⇑P P **14 04 57.5 -1.0**
baz=81
TPH Tonopah 81.15 46 PFAKE 14 05 10.0 +11
TPH LR LR
comp=Z,1µm,20.0s
LDFC Landfair 81.26 50 *e*P P **14 04 57.8 -1.7**
comp=Z,136nm,1.1s
RC01 Rabbit Creek A 81.30 15 *e*P P 14 04 55.3 -3.6
comp=Z,176nm,1.8s
GYA Guiyang 81.45 301 ⇑*i*P P **14 04 59.5 -1.1**
GYA pP pP **14 05 08.0 +0.3**
GYA PP PP **14 08 11.8 +4.7**
GYA S S **14 15 11.5 +0.2**
GYA SKS SKSac **14 15 17.4 -2.0**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,160nm,5.7s
GYA LR LR
comp=N,910nm,19.5s
GYA LR LR
comp=E,890nm,20.0s
GYA LR LR
comp=Z,940nm,19.8s
SEY Seymchan 81.55 348 *i*P P 14 05 04.6 +4.5
214A Organ Pipe Nat 81.62 53 ⇑P P **14 05 00.7 -0.6**
baz=82,SNR=5.2
PDMCI Parker Dam,Lak 81.63 51 ⇓P P **14 05 01.3 0.0**
baz=82,SNR=5.6
NLWA Neilton Lookou 81.86 36 PFAKE 14 05 10.0 +7.8
NLWA LR LR
comp=Z,2µm,21.0s
PMR Palmer 81.88 15 *e*P P 14 04 56.5 -5.4
PMR pmax pmax
comp=Z,194nm,1.8s
PMR Palmer 81.88 15 *e*P P 14 04 56.5 -5.4
comp=Z,194nm,1.8s
114A Black Gap (USA 81.91 53 ⇓P P **14 05 02.2 -0.5**
baz=82
VFP Flag Point 82.10 38 P P **14 05 05.9 +2.2**
Z14A Wintersburg 82.12 52 ⇑P P **14 05 03.5 -0.4**
baz=82
W13A Hualapai Mount 82.17 50 ⇑P P **14 05 03.3 -1.0**
baz=82,SNR=6.1
VIPM Ingram Point 82.18 39 P P **14 05 04.1 0.0**
VIPM Ingram Point 82.18 39 P P **14 05 04.1 0.0**
BMN Battle Mountai 82.28 44 *e*P P **14 05 02.9 -1.9**
BMN pmax pmax
comp=Z,80nm,1.3s
BMN MLR MLR
comp=Z,2µm,21.0s
BMN Battle Mountai 82.28 44 *e*P P **14 05 02.9 -1.9**
comp=Z,80nm,1.3s
BMN LR LR
comp=Z,2µm,21.0s
TNA Tin City 82.31 6 *e*P P **14 05 02.1 -2.0**
comp=Z,37nm,1.2s
Y14A Wickenburg 82.32 51 ⇓P P **14 05 03.9 -1.1**
baz=82
WVOR Wild Horse Val 82.34 42 *e*P P **14 05 03.3 -1.7**
WVOR pmax pmax
comp=Z,64nm,1.1s
WVOR MLR MLR
comp=Z,2µm,20.0s
WVOR Wild Horse Val 82.34 42 *e*P P **14 05 03.3 -1.7**
comp=Z,64nm,1.1s
WVOR LR LR
comp=Z,2µm,20.0s
DIV Divide 82.38 17 *e*P P **14 05 01.9 -2.7**
R11A Troy Canyon, C 82.41 47 ⇓P P **14 05 04.6 -0.9**
baz=82,SNR=6.2
ASR Mount Adams--S 82.47 37 P P **14 05 08.6 +3.0**
LON Longmire 82.67 37 *e*P P **14 05 08.4 +1.9**
LON pmax pmax
comp=Z,90nm,1.8s
LON Longmire 82.67 37 *e*P P **14 05 08.4 +1.9**
comp=Z,90nm,1.8s
XAN Xi'an 82.74 308 P P **14 05 06.4 -0.8**
XAN pP PcP **14 05 13.1 +1.1**
XAN sP sP **14 05 15.7 -1.1**
XAN SKS S **14 15 25.5 +1.3**
XAN SS SS **14 20 47.9 +0.7**
XAN pmax pmax
comp=Z,76nm,8.5s
XAN LR LR
comp=N,300nm,19.1s
XAN LR LR
comp=E,240nm,19.9s
XAN LR LR
comp=Z,190nm,19.1s
HIA Hailar 83.23 326 PFAKE 14 05 20.0 +11
HIA LR LR
comp=Z,1µm,20.0s
TUC Tucson 83.34 54 *e*P P **14 05 09.7 -0.6**
TUC pmax pmax
comp=Z,56nm,1.4s
TUC MLR MLR
comp=Z,733nm,21.0s
TUC Tucson 83.34 54 *e*P P **14 05 09.7 -0.6**
comp=Z,56nm,1.4s
TUC LR LR
comp=Z,733nm,21.0s
WRAK Wrangell Islan 83.41 25 PFAKE 14 05 20.0 +10
WRAK LR LR
comp=Z,2µm,19.0s
R13A O'Grain Ranch, 83.47 47 ⇓P P **14 05 10.1 -1.0**
baz=84
CCUT Cedar City 83.62 48 *e*P P **14 05 10.8 -1.1**
comp=Z,71nm,1.4s
ARUT Antelope Range 83.67 48 *e*P P **14 05 10.7 -1.4**
ARUT pmax pmax
comp=Z,97nm,1.5s
ARUT Antelope Range 83.67 48 *e*P P **14 05 10.7 -1.4**
comp=Z,97nm,1.5s
X16A Lo Mia Camp, P 83.70 52 ⇑P P **14 05 11.5 -0.8**
baz=84
MCK McKinley 83.76 14 *e*P P 14 05 08.1 -3.6
MCK pmax pmax
comp=Z,90nm,1.3s
MCK McKinley 83.76 14 *e*P P 14 05 08.1 -3.6
comp=Z,90nm,1.3s
ELK Elko 83.76 45 *e*P P **14 05 10.9 -1.6**
HAWA Hanford 83.81 38 *e*P P **14 05 10.4 -2.0**
comp=Z,119nm,1.4s
HAWA LR LR
comp=Z,2µm,21.0s
HHC Hu-ho-hao-te 83.87 316 *e*P P **14 05 12.8 -0.1**
HHC pP pP **14 05 19.7 -0.3**
HHC sP sP **14 05 22.8 +0.2**
HHC PP PP **14 08 29.5 +2.8**
HHC S SKSac **14 15 34.1 -0.8**
HHC sS sS **14 15 47.2 0.0**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,300nm,8.0s
HHC LR LR
comp=N,570nm,20.2s
HHC LR LR
comp=E,780nm,17.8s
HHC LR LR
comp=Z,1µm,21.4s
PAX Paxson 83.97 16 *e*P P **14 05 09.9 -3.0**
PAX pmax pmax
comp=Z,118nm,2.0s
PAX Paxson 83.97 16 *e*P P **14 05 09.9 -3.0**
comp=Z,118nm,2.0s
ETW Entiat 83.98 37 P P **14 05 15.4 +2.1**
319A Douglas 84.14 55 ⇓P P **14 05 14.3 -0.2**
baz=84,SNR=18
X17A Forest Lakes 84.14 52 ⇑P P **14 05 13.9 -0.7**
baz=84
WUAZ Wupatki 84.20 51 *e*P P **14 05 13.2 -1.6**
comp=Z,58nm,1.2s
WUAZ LR LR
comp=Z,1µm,21.0s
WUAZ Wupatki 84.20 51 ⇓P P **14 05 14.0 -0.8**
baz=84
MAW Mawson 84.23 200 LR LR 14 38 41.3
comp=Z,1µm,18.9s,baz=108,slow=33
KMI Kunming 84.23 298 P P 14 05 19.6 +4.3
KMI pP pP 14 05 26.4 +4.0
KMI pmax pmax
comp=Z,20nm,1.3s
KMI pmax pmax
comp=Z,320nm,7.4s
KMI LR LR
comp=N,580nm,18.9s
KMI LR LR
comp=E,1µm,21.3s
KMI LR LR
comp=Z,2µm,20.8s
BMO Blue Mountains 84.38 40 *e*P P 14 05 12.2 -3.2
BMO pmax pmax
comp=Z,135nm,2.0s
BMO MLR MLR
comp=Z,1µm,20.0s
BMO Blue Mountains 84.38 40 *e*P P 14 05 12.2 -3.2
comp=Z,135nm,2.0s
BMO LR LR
comp=Z,1µm,20.0s
SKAG Skagway 84.40 22 *e*P P **14 05 14.4 -0.6**
comp=Z,229nm,2.0s
MENT Mentasta 84.41 16 P P **14 05 16.8 +1.7**
BILL Bilibino 84.58 356 *i*P P 14 05 18.9 +3.2
BILL *i* 14 05 24.5
BILL pmax pmax
comp=Z,18nm,1.7s
BILL MLR MLR
comp=Z,600nm,18.0s
BILL Bilibino 84.58 356 P P **14 05 12.9 -2.8**
comp=Z,86nm,1.8s
BILL LR LR
comp=Z,756nm,20.0s
MFID Camas Ranch 84.62 42 *e*P P **14 05 13.8 -2.9**
comp=Z,72nm,1.2s
MFID Camas Ranch 84.62 42 ⇓P P **14 05 16.6 -0.1**
baz=85,SNR=19
R15A Junction 84.68 48 ⇓P P **14 05 16.6 -0.6**
baz=85,SNR=17
320A Kipp Ranch, An 84.72 55 ⇓P P **14 05 16.8 -0.7**
baz=85
OD2 Odessa Site #2 84.81 37 P P **14 05 16.4 -1.0**
MVU Marysvale 84.85 48 *e*P P **14 05 16.6 -1.5**
comp=Z,50nm,1.1s
MVU LR LR
comp=Z,1µm,20.0s
X18A Snowflake 84.87 52 ⇓P P **14 05 17.3 -0.9**
baz=85,SNR=6.9
MSU Marysvale 84.88 48 *e*P P **14 05 17.6 -0.7**
MSU pmax pmax
comp=Z,69nm,1.2s
MSU Marysvale 84.88 48 *e*P P **14 05 17.6 -0.7**
comp=Z,69nm,1.2s
DOT Dot Lake 84.90 16 *e*P P 14 05 13.8 -3.7
comp=Z,50nm,1.6s
220A Playas Peak, P 84.94 55 ⇑P P **14 05 18.0 -0.5**
baz=85
S16A Weppner Ranch, 84.96 48 ⇑P P **14 05 17.5 -1.1**
baz=85,SNR=6.0
COLA College 84.98 14 *e*P P 14 05 14.2 -3.6
COLA pmax pmax
comp=Z,77nm,1.1s
COLA MLR MLR
comp=Z,1µm,19.0s
COLA College 84.98 14 *e*P P 14 05 14.2 -3.6
comp=Z,77nm,1.1s
COLA LR LR
comp=Z,1µm,19.0s
120A U Bar Ranch, L 85.10 54 ⇓P P **14 05 18.6 -0.8**
baz=85,SNR=7.5
ILAR Eielson Array 85.12 14 P P 14 05 15.2 -3.3
ILAR Eielson Array 85.12 14 P P 14 05 15.2 -3.3
comp=Z,6.2nm,1.0s,baz=235,slow=4.6,SNR=22
ILAR LR LR 14 35 25.4
comp=Z,936nm,21.1s,baz=220,slow=30
DUG Dugway 85.17 46 *e*P P **14 05 17.7 -1.8**
DUG pmax pmax
comp=Z,40nm,1.2s
DUG MLR MLR
comp=Z,1µm,20.0s
DUG Dugway 85.17 46 *e*P P **14 05 17.7 -1.8**
comp=Z,40nm,1.2s
DUG LR LR
comp=Z,1µm,20.0s
DUG Dugway 85.17 46 ⇑P P **14 05 18.7 -0.9**
baz=85,SNR=8.6
Y19A Nutrioso 85.17 53 ⇑P P **14 05 19.0 -0.9**
baz=85,SNR=25
T17A Navajo Res., N 85.23 49 ⇑P P **14 05 19.4 -0.6**
baz=85,SNR=23
I12A Atlanta 85.25 42 ⇓P P **14 05 19.3 -0.6**
baz=85
W18A Petrified Fore 85.26 51 ⇑P P **14 05 19.4 -0.8**
baz=85
P15A Leamington 85.27 47 ⇓P P **14 05 19.4 -0.6**
baz=85,SNR=6.8
R16A Teasdale 85.28 48 ⇓P P **14 05 19.8 -0.5**
baz=85,SNR=24
CLNS Chul'man 85.30 334 *e*P P 14 05 27.5 +7.8
CLNS pmax pmax
comp=Z,15nm,1.0s
CLNS pmax pmax
comp=N,9.0nm,1.1s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CM31 Chiang Mai Arr 85.31 291 *e*P P **14 05 20.7 +0.2**
comp=E,32nm,1.2s
CM31 LR LR
comp=Z,588nm,20.0s
CMAR Chiang Mai Arr 85.31 291 P P **14 05 20.3 -0.2**
CMAR PKKPbc **PKKPbc** **14 23 26.3 +0.6**
CMAR Chiang Mai Arr 85.31 291 P P **14 05 20.3 -0.2**
comp=Z,2.4nm,0.9s,baz=113,slow=3.3,SNR=20
CMAR PKKPbc **PKKPbc** **14 23 26.3 +0.6**
comp=Z,0.9nm,1.0s,baz=270,slow=3.4,SNR=5.3
CMAR LR LR 14 41 04.8
comp=Z,666nm,21.1s,baz=119,slow=34
Z20A Nine Sixteen R 85.35 54 ⇑P P **14 05 20.2 -0.4**
baz=85,SNR=21
CHTO Chiang Mai 85.42 291 *e*P P **14 05 19.6 -1.5**
CHTO pmax pmax
comp=Z,44nm,1.5s
CHTO MLR MLR
comp=Z,685nm,21.0s
CHTO Chiang Mai 85.42 291 *e*P P **14 05 19.6 -1.5**
comp=Z,44nm,1.5s
CHTO LR LR
comp=Z,685nm,21.0s
CHTO Chiang Mai 85.42 291 P P **14 05 21.0 -0.1**
comp=Z,26nm,1.5s
O15A The Old Anders 85.44 46 ⇑P P **14 05 20.2 -0.7**
baz=85,SNR=6.2
S17A Black Ridge (B 85.50 49 ⇓P P **14 05 20.5 -0.8**
baz=86,SNR=5.8
CD2 Chengdu 85.50 304 P P **14 05 22.7 +1.4**
CD2 pP pP 14 05 34.0 +5.6
CD2 PP PP **14 08 43.0 +2.9**
CD2 SKS **SKSac** **14 15 42.0 -3.7**
CD2 S S **14 15 50.1 -1.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,400nm,5.5s
CD2 LR LR
comp=N,1µm,18.8s
CD2 LR LR
comp=E,840nm,19.8s
CD2 LR LR
comp=Z,1µm,26.0s
HLID Hailey 85.60 42 *e*P P **14 05 19.4 -2.3**
comp=Z,127nm,1.7s
HLID LR LR
comp=Z,1µm,21.0s
HLID Hailey 85.60 42 ⇑P P **14 05 21.1 -0.6**
baz=86,SNR=16
N15A Stansbury Isla 85.67 45 ⇑P P **14 05 21.4 -0.6**
baz=86,SNR=9.0
J13A Cove Ranch, Pi 85.68 43 ⇓P P **14 05 21.3 -0.8**
baz=86,SNR=29
L14A Malta 85.69 44 ⇓P P **14 05 21.6 -0.4**
baz=86,SNR=9.4
U18A Rough Rock, Ch 85.69 50 ⇑P P **14 05 21.6 -0.6**
baz=86
DLBC Dease Lake 85.70 24 *e*P P **14 05 19.0 -2.6**
121A Cookes Peak, D 85.76 55 ⇓P P **14 05 22.0 -0.7**
baz=86,SNR=6.4
Q16A Castle Valley 85.77 48 ⇑P P **14 05 22.2 -0.5**
baz=86,SNR=12
H12A Diamond D Ranc 85.77 41 ⇑P P **14 05 22.0 -0.5**
baz=86,SNR=23
Y20A Horse Springs, 85.82 53 ⇓P P **14 05 22.5 -0.6**
baz=86,SNR=23
HVU Hansel Valley 85.88 44 *e*P P **14 05 21.5 -1.6**
HVU pmax pmax
comp=Z,100nm,1.3s
HVU Hansel Valley 85.88 44 *e*P P **14 05 21.5 -1.6**
comp=Z,100nm,1.3s
R17A Hanksville Air 85.89 48 ⇑P P **14 05 22.4 -0.8**
baz=86,SNR=7.5
TMUT Trail Mountain 85.90 47 *e*P P **14 05 20.5 -2.9**
comp=Z,76nm,1.3s

MPU **Maple Canyon** 85.91 46 *eP* P 14 05 22.4 -0.9
comp=Z,49nm,1.3s
I13A **Wildhorse Cree** 85.95 42 ⇑P P 14 05 22.8 -0.6
baz=86,SNR=12
K14A **Jones Ranch, D** 85.95 44 ⇓P P 14 05 22.8 -0.5
baz=86,SNR=27
M15A **Larsen Ranch,** 85.97 45 ⇓P P 14 05 22.9 -0.6
baz=86,SNR=13
T18A **Mexican Hat** 85.97 50 ⇓P P 14 05 22.9 -0.7
baz=86,SNR=55
X20A **Quemado** 85.97 52 ⇓P P 14 05 23.2 -0.6
baz=86,SNR=6.8
V19A **Window Rock** 86.02 51 ⇑P P 14 05 23.2 -0.8
baz=86
O16A **Springville** 86.08 46 ⇓P P 14 05 23.3 -0.8
baz=86
F12A **Elk City** 86.09 40 ⇑P P 14 05 23.5 -0.5
baz=86,SNR=37
S18A **Hurst Farm, Bl** 86.11 49 ⇑P P 14 05 23.2 -1.2
baz=86
CTU **Camp Tracy** 86.11 46 *eP* P 14 05 26.3 +2.0
comp=Z,109nm,1.4s
U19A **Dine' College,** 86.12 51 ⇓P P 14 05 23.7 -0.8
baz=86
222A **Williams Famil** 86.13 55 ⇓P P 14 05 24.1 -0.4
baz=86
Z21A **St. Cloud Mine** 86.14 54 ⇓P P 14 05 24.3 -0.4
baz=86,SNR=10
H13A **Challis** 86.16 41 ⇑P P 14 05 23.9 -0.5
baz=86,SNR=9.5
NEW **Newport** 86.18 37 *eP* P 14 05 24.1 -0.1
comp=Z,19nm,1.1s
NEW LR LR
comp=Z,1μm,20.0s
NEW **Newport** 86.18 37 ⇓P P 14 05 24.2 -0.1
baz=86
W20A **Ramah** 86.20 52 ⇑P P 14 05 24.2 -0.7
baz=86,SNR=6.9
L15A **Malad City** 86.24 44 ⇓P P 14 05 24.1 -0.7
baz=86,SNR=26
JLU **Jordanelle** 86.28 46 *eP* P 14 05 23.0 -2.2
comp=Z,58nm,1.3s
P17A **Butcher Ranch,** 86.30 47 ⇑P P 14 05 24.8 -0.4
baz=86
SRU **San Rafael** 86.31 48 *eP* P 14 05 20.4 -4.9
SRU pmax pmax
comp=Z,79nm,1.5s
SRU **San Rafael** 86.31 48 *eP* P 14 05 20.4 -4.9
comp=Z,79nm,1.5s
SRU **San Rafael** 86.31 48 ⇑P P 14 05 24.1 -1.2
baz=86,SNR=11
DAU **Daniels Canyon** 86.33 46 *eP* P 14 05 24.2 -1.4
DAU pmax pmax
comp=Z,47nm,1.4s
DAU **Daniels Canyon** 86.33 46 *eP* P 14 05 24.2 -1.4
comp=Z,47nm,1.4s
I14A **Mackay** 86.39 42 ⇓P P 14 05 25.2 -0.3
baz=86,SNR=22
Y21A **Point of Rocks** 86.40 53 ⇓P P 14 05 25.4 -0.5
baz=86,SNR=5.9
N16A **Rees Ranch, Co** 86.41 46 ⇓P P 14 05 25.5 -0.3
baz=86,SNR=7.2
G13A **Cobalt** 86.42 41 ⇓P P 14 05 24.5 -1.1
baz=86,SNR=11
K15A **Arbon** 86.44 44 ⇑P P 14 05 24.8 -1.1
baz=86,SNR=9.4
R18A **Canyonlands Na** 86.46 48 ⇑P P 14 05 25.1 -1.0
baz=86
T19A **Beclabito** 86.47 50 ⇑P P 14 05 25.2 -1.0
baz=86
C11A **Tepee Creek (N** 86.48 38 ⇓P P 14 05 24.8 -0.9
baz=86,SNR=21
V20A **Brimhall** 86.48 51 ⇑P P 14 05 25.1 -1.2
baz=86
COLD **Coldfoot** 86.50 12 *eP* P 14 05 24.1 -1.2
comp=Z,15nm,1.0s
EGAK **Eagle** 86.57 16 *eP* P 14 05 23.9 -1.8
comp=Z,35nm,1.2s
EGAK LR LR
comp=Z,744nm,21.0s
Q18A **Rafter H Ranch** 86.58 48 ⇑P P 14 05 25.6 -1.0
baz=87
O17A **Robinson Place** 86.60 47 ⇓P P 14 05 26.2 -0.6
baz=87,SNR=29
HWUT **Hardware Ranch** 86.63 45 *eP* P 14 05 24.7 -2.1
comp=Z,115nm,1.8s
HWUT LR LR
comp=Z,2μm,20.0s
Z22A **Elephant Butte** 86.67 54 ⇓P P 14 05 25.5 -1.6
baz=87,SNR=6.5
U20A **Newcomb** 86.67 51 ⇓P P 14 05 26.5 -0.6
baz=87
F13A **Darby** 86.67 40 ⇓P P 14 05 25.8 -1.1
baz=87,SNR=21
P18A **Preston Nutter** 86.72 47 ⇓P P 14 05 26.0 -1.5
baz=87
H14A **Leadore** 86.75 42 ⇓P P 14 05 26.5 -0.8
baz=87,SNR=25
S19A **Harvey Farm, M** 86.75 49 ⇑P P 14 05 26.5 -1.0
baz=87,SNR=9.4
J15A **Blackfoot** 86.82 43 ⇓P P 14 05 27.2 -0.4
baz=87,SNR=31
N17A **Moffit Pass** 86.85 46 ⇑P P 14 05 27.4 -0.7
baz=87,SNR=6.7
C12B **Naegeli Ranch,** 86.88 38 ⇑P P 14 05 27.2 -0.4
baz=87
R19A **Curley Farm, L** 86.88 49 ⇑P P 14 05 27.1 -1.0
baz=87
L16A **Fish Haven** 86.89 45 ⇓P P 14 05 27.2 -0.9
baz=87
Y22A **Socorro** 86.92 53 ⇓P P 14 05 27.8 -0.5
baz=87,SNR=6.9
YAK **Yakutsk** 86.94 339 PFAKE 14 05 40.0 +12
YAK LR LR
comp=Z,614nm,21.0s
G14A **Jackson** 86.97 41 ⇑P P 14 05 27.8 -0.6
baz=87,SNR=30
LENM **Lemitar** 87.00 53 P P 14 05 27.5 -1.3
comp=Z,12nm,1.1s
I15A **Monteview** 87.05 43 ⇓P P 14 05 28.1 -0.7
baz=87,SNR=22
E13A **Victor** 87.06 40 ⇑P P 14 05 27.8 -0.9
baz=87,SNR=11
K16A **Soda Springs** 87.13 44 ⇑P P 14 05 28.2 -1.0
baz=87,SNR=23
Q19A **Hogan Spring (** 87.14 48 ⇑P P 14 05 28.4 -0.9
baz=87,SNR=6.8
O18A **Roosevelt** 87.14 47 ⇑P P 14 05 28.4 -0.9
baz=87
B12A **Libby** 87.17 38 ⇓P P 14 05 28.3 -0.8
baz=87,SNR=6.2
PV04 **Paradox Valley** 87.17 49 *eP* P 14 05 26.6 -2.9
324A **Moseley Ranch,** 87.18 56 ⇓P P 14 05 28.2 -1.4
baz=87
MCMT **McKenzie Canyo** 87.18 42 *eP* P 14 05 28.1 -1.3
comp=Z,25nm,1.2s
M17A **Scullys Gap (B** 87.18 45 ⇑P P 14 05 28.5 -1.1
baz=87
D13A **Huson** 87.20 39 ⇑P P 14 05 27.9 -1.4
baz=87,SNR=9.9
H15A **Lima** 87.22 42 ⇑P P 14 05 28.8 -0.8
baz=87,SNR=25
BNM **Barren Site** 87.26 53 *eP* P 14 05 28.5 -1.6
comp=Z,20nm,1.3s
F14A **Wisdom** 87.28 41 ⇑P P 14 05 29.1 -0.8
baz=87,SNR=15
J16A **Bone** 87.31 43 ⇑P P 14 05 29.2 -0.9
baz=87,SNR=51
LPM **Los Pinos Moun** 87.31 53 P P 14 05 26.3 -4.1
comp=Z,16nm,1.2s
PV01 **Paradox Valley** 87.32 49 *eP* P 14 05 30.6 +0.3
comp=Z,6μm,1.9s
U21A **Nageezi** 87.33 51 ⇑P P 14 05 29.8 -0.6
baz=87
425A **Indio Mountain** 87.34 57 ⇓P P 14 05 29.8 -0.7
baz=87
MNTX **Cornudas Mount** 87.35 56 *eP* P 14 05 28.3 -2.0
comp=Z,6.1nm,1.0s
MNTX LR LR
comp=Z,524nm,21.0s
MNTX **Cornudas Mount** 87.35 56 ⇑P P 14 05 29.6 -0.8
baz=87
S20A **Disappointment** 87.35 49 ⇓P P 14 05 29.8 -0.7
baz=87
BSMT **Bassoo Peak** 87.35 38 *eP* P 14 05 28.1 -2.1
comp=Z,110nm,1.8s
A12A **Yaak River Ran** 87.35 37 ⇑P P 14 05 29.4 -0.6
baz=87,SNR=8.2

224A **Cornudas Mount** 87.37 56 ⇓P P 14 05 29.7 -0.9
baz=87
LZH **Lanzhou** 87.38 309 *eP* P 14 05 31.4 +0.9
LZH pP pP 14 05 37.6 -0.1
LZH sP sP 14 05 41.1 +0.9
LZH SKS SKSac 14 15 56.2 -1.1
LZH S S 14 16 09.1 -1.2
LZH sS ScS 14 16 19.3 +1.9
LZH pmax pmax
comp=Z,17nm,1.0s
LZH pmax pmax
comp=Z,390nm,5.4s
LZH LR LR
comp=N,500nm,16.0s
LZH LR LR
comp=E,760nm,16.4s
LZH LR LR
comp=Z,880nm,20.2s
MSO **Missoula** 87.39 40 *eP* P 14 05 31.0 +0.7
comp=Z,32nm,1.5s
MSO LR LR
comp=Z,848nm,21.0s
MSO **Missoula** 87.39 40 ⇓P P 14 05 29.7 -0.5
baz=87,SNR=9.3
C13A **Hot Springs** 87.40 39 ⇑P P 14 05 29.7 -0.6
baz=87,SNR=6.6
AHID **Auburn Hatcher** 87.43 44 P P 14 05 28.9 -1.8
comp=Z,78nm,1.4s
AHID LR LR
comp=Z,963nm,20.0s
E14A **Clinton** 87.48 40 ⇓P P 14 05 30.0 -0.8
baz=88,SNR=16
RRI2 **Red Ridge** 87.53 43 *eP* P 14 05 29.9 -1.3
comp=Z,74nm,1.1s
K17A **Gardner Place,** 87.54 44 ⇑P P 14 05 30.8 -0.4
baz=88,SNR=7.8
G15A **Dillon** 87.56 41 ⇑P P 14 05 30.4 -0.8
baz=88,SNR=23
325A **Bean Ranch, Si** 87.56 56 ⇓P P 14 05 30.6 -1.0
baz=88
DLMT **Dillon** 87.57 41 *eP* P 14 05 29.6 -1.7
comp=Z,70nm,1.1s
M18A **Lyman** 87.57 46 ⇑P P 14 05 30.5 -1.0
baz=88,SNR=7.5
626A **Big Bend Ranch** 87.61 58 ⇓P P 14 05 30.8 -0.9
baz=88
P19A **Cripple Cowboy** 87.61 48 ⇓P P 14 05 31.3 -0.4
baz=88
Y23A **Lovelace Mesa,** 87.62 54 ⇓P P 14 05 30.7 -1.1
baz=88
T21A **Navajo Lake** 87.64 50 ⇑P P 14 05 30.8 -1.0
baz=88
I16A **Newdale** 87.64 43 ⇑P P 14 05 31.1 -0.6
baz=88,SNR=23
124A **Stringfield Ra** 87.65 55 ⇓P P 14 05 31.0 -1.0
baz=88
SWMT **Swartz Lake** 87.67 39 *eP* P 14 05 29.5 -2.1
comp=Z,21nm,1.4s
BLMT **Blacktail Moun** 87.68 38 *eP* P 14 05 31.5 -0.2
comp=Z,23nm,1.4s
ANMO **Albuquerque** 87.68 53 *eP* P 14 05 29.8 -2.2
comp=Z,22nm,1.1s
ANMO LR LR
comp=Z,745nm,20.0s
S21A **Coal Bank Pass** 87.70 50 ⇑P P 14 05 31.0 -1.3
baz=88,SNR=8.5
D14A **Greenough** 87.77 39 ⇓P P 14 05 31.2 -1.0
baz=88,SNR=11
O19A **Miners Draw (B** 87.77 47 ⇓P P 14 05 31.2 -1.2
baz=88
B13A **Whitefish** 87.78 38 ⇑P P 14 05 31.1 -1.0
baz=88,SNR=8.0
L18A **Fontenelle, Gr** 87.80 45 ⇑P P 14 05 31.9 -0.6
baz=88
YBMT **Yellow Bay** 87.82 39 *eP* P 14 05 32.1 -0.3
comp=Z,14nm,1.1s
TPAW **Teton Pass** 87.83 43 *eP* P 14 05 31.3 -1.4
comp=Z,82nm,1.5s
Q20A **Ridgley Place,** 87.83 48 ⇑P P 14 05 32.1 -0.6
baz=88,SNR=5.2
REDW **Red Top Meadow** 87.84 44 *eP* P 14 05 30.5 -2.2
comp=Z,77nm,1.2s
F15A **Butte** 87.85 41 ⇓P P 14 05 31.7 -1.0
baz=88,SNR=13
CHMT **Chamberlain Mo** 87.85 40 *eP* P 14 05 30.2 -2.4
comp=Z,30nm,1.2s
SLMT **Seeley Lake** 87.85 39 *eP* P 14 05 33.9 +1.3
comp=Z,18nm,1.3s
LRM **Limekiln Ridge** 87.87 41 *eP* P 14 05 31.0 -1.8
comp=Z,378nm,1.2s
TXAR **Lajitas Array** 87.91 59 P P 14 05 32.6 -0.6
TXAR **Lajitas Array** 87.91 59 P P 14 05 32.6 -0.6
comp=Z,7.5nm,1.0s,baz=227,slow=5.0,SNR=20
TXAR LR LR 14 39 52.4
comp=Z,444nm,18.2s,baz=335,slow=32
225A **Deer Hill, Car** 87.94 56 ⇓P P 14 05 32.5 -0.9
baz=88
J17A **Brown Place, J** 87.94 44 ⇓P P 14 05 32.5 -0.6
baz=88,SNR=25
Z24A **Sheeppen Canyo** 87.94 55 ⇓P P 14 05 32.6 -0.7
baz=88
SNOW **Snow King Moun** 87.95 44 *eP* P 14 05 32.7 -0.5
comp=Z,74nm,1.3s
N19A **Jon Jarvie Ra** 87.97 46 ⇑P P 14 05 32.3 -1.0
baz=88
P20A **De Beque** 87.98 48 ⇑P P 14 05 32.4 -0.9
baz=88,SNR=6.1
W23A **Werner Place,** 88.00 53 ⇑P P 14 05 32.4 -1.2
baz=88
E15A **Deer Lodge** 88.01 40 ⇑P P 14 05 32.1 -1.2
baz=88,SNR=11
IMW **Indian Meadow** 88.01 43 *eP* P 14 05 31.4 -2.2
comp=Z,62nm,1.2s
G16A **Moss Hill, Enn** 88.02 42 ⇓P P 14 05 32.3 -1.1
baz=88,SNR=7.8
426A **McDonald Obser** 88.07 57 ⇓P P 14 05 32.9 -1.2
baz=88
MOOW **Moose Ponds** 88.08 43 *eP* P 14 05 32.5 -1.3
comp=Z,32nm,1.2s
K18A **Toltan Ranch,** 88.09 45 ⇓P P 14 05 32.9 -0.9
baz=88,SNR=9.1
QLMT **Earthquake Lak** 88.09 42 *eP* P 14 05 33.4 -0.4
comp=Z,8.2nm,1.3s
Y24A **Capitan** 88.10 54 ⇓P P 14 05 33.0 -1.1
baz=88
LOHW **Long Hollow** 88.11 43 *eP* P 14 05 32.5 -1.5
comp=Z,97nm,1.8s
R21A **Cimarron** 88.15 49 ⇓P P 14 05 33.2 -1.1
baz=88,SNR=6.3
H16A **Russell Place,** 88.15 42 ⇑P P 14 05 34.2 +0.1
baz=88,SNR=39
V23A **Ortiz Mt. (NFS** 88.18 52 ⇓P P 14 05 33.9 -0.6
baz=88
M19A **Rock Springs** 88.23 46 ⇑P P 14 05 33.9 -0.7
baz=88
FLWY **Flagg Ranch** 88.25 43 *eP* P 14 05 33.6 -1.0
comp=Z,114nm,1.6s
I17A **Pilgrim Ck.** 88.26 43 ⇓P P 14 05 34.0 -0.7
baz=88,SNR=7.4
125A **Gardner Draw,** 88.26 55 ⇑P P 14 05 34.0 -0.8
baz=88
Q21A **Lamborn Mesa,** 88.31 49 ⇓P P 14 05 34.0 -1.0
baz=88,SNR=6.2
BOZ **Bozeman (W)** 88.31 41 *eP* P 14 05 33.1 -1.6
BOZ pmax pmax
comp=Z,46nm,1.3s
BOZ MLR MLR
comp=Z,1μm,21.0s
BOZ **Bozeman (W)** 88.31 41 *eP* P 14 05 33.1 -1.6
comp=Z,46nm,1.3s
BOZ LR LR
comp=Z,1μm,21.0s
BOZ **Bozeman (W)** 88.31 41 ⇓P P 14 05 34.0 -0.8
baz=88,SNR=8.6
YFT **Old Faithful** 88.31 43 *eP* P 14 05 35.5 +0.6
comp=Z,48nm,1.3s
YMR **Madison River** 88.32 42 *eP* P 14 05 34.2 -0.7
comp=Z,261nm,1.9s
O20A **White River Ci** 88.33 47 ⇓P P 14 05 34.0 -1.1
baz=88,SNR=6.2
L19A **Farson** 88.33 45 ⇓P P 14 05 34.6 -0.4
baz=88,SNR=7.6
GDL2 **Guadalupe Moun** 88.33 56 *eP* P 14 05 32.5 -2.6
comp=Z,38nm,1.4s
J18A **Kendall Valley** 88.34 44 ⇑P P 14 05 34.4 -0.7
baz=88,SNR=44
326A **Caldwell Ranch** 88.34 57 ⇓P P 14 05 33.5 -1.6
baz=88

D15A **Lincoln** 88.36 40 ⇑P P 14 05 34.6 -0.4
baz=88,SNR=22
F16A **Kennard Place,** 88.37 41 ⇓P P 14 05 34.5 -0.5
baz=88,SNR=15
WALA **Waterton Lakes** 88.43 38 *eP* P 14 05 36.0 +0.8
comp=Z,1.1nm,1.1s
S22A **4UR Ranch, Cre** 88.44 50 ⇓P P 14 05 35.2 -0.5
baz=88,SNR=6.5
H17A **Grant Village** 88.46 43 ⇓P P 14 05 35.8 +0.2
baz=88,SNR=12
BW06 **Boulder Array** 88.47 45 PFAKE 14 05 50.0 +14
BW06 LR LR
comp=Z,1μm,21.0s
BW06 **Boulder Array** 88.47 45 ⇓P P 14 05 34.6 -1.1
baz=88,SNR=22
PDAR **Pinedale Array** 88.47 45 P P 14 05 33.9 -1.8
PDAR **Pinedale Array** 88.47 45 P P 14 05 33.9 -1.8
comp=Z,8.8nm,1.0s,baz=218,slow=3.6,SNR=23
B14A **Marquette Ranc** 88.49 38 ⇓P P 14 05 34.4 -1.1
baz=88,SNR=20
226A **Malaga, Loving** 88.50 56 ⇑P P 14 05 34.8 -1.1
baz=88
YNR **Norris Junctio** 88.52 42 P P 14 05 36.5 +0.6
comp=Z,159nm,1.9s
W24A **Lazy 6 Ranch,** 88.58 53 ⇓P P 14 05 35.0 -1.3
baz=89
N20A **Spence Gulch,** 88.59 47 ⇓P P 14 05 35.2 -1.1
baz=89,SNR=9.3
628A **Black Gap, Mar** 88.60 59 ⇑P P 14 05 35.3 -1.1
baz=89
C15A **Salmond Ranch,** 88.63 39 ⇓P P 14 05 35.0 -1.2
baz=89
HRY **Holter Researc** 88.64 40 *eP* P 14 05 35.0 -1.2
comp=Z,47nm,1.1s
427A **Hayter Ranch,** 88.64 57 ⇑P P 14 05 35.5 -1.1
baz=89
LKWY **Lake** 88.64 43 *eP* P 14 05 36.2 -0.3
LKWY pmax pmax
comp=Z,141nm,1.8s
LKWY MLR MLR
comp=Z,2μm,20.0s
LKWY **Lake** 88.64 43 *eP* P 14 05 36.1 -0.3
comp=Z,141nm,1.8s
LKWY LR LR
comp=Z,2μm,20.0s
E16A **East Helena** 88.66 40 ⇑P P 14 05 35.7 -0.6
baz=89,SNR=18
P21A **Newcastle** 88.66 48 ⇑P P 14 05 35.3 -1.4
baz=89,SNR=5.1
I18A **Diamond G Ranc** 88.67 44 ⇓P P 14 05 35.4 -1.2
baz=89,SNR=9.9
R22A **Saguache, Gunn** 88.67 50 ⇑P P 14 05 35.8 -1.0
baz=89,SNR=5.9
A14A **Double T Ranch** 88.67 38 ⇓P P 14 05 35.6 -0.8
baz=89,SNR=14
Y25A **Mesa, Roswell** 88.68 54 ⇑P P 14 05 36.0 -0.8
baz=89
G17A **Pierce Place,** 88.74 42 ⇓P P 14 05 36.6 -0.2
baz=89,SNR=12
126A **Clayton Basin,** 88.76 56 ⇑P P 14 05 36.5 -0.6
baz=89
Q22A **Crested Butte,** 88.80 49 ⇓P P 14 05 36.4 -1.0
baz=89,SNR=6.6
V24A **Rampart Ranch,** 88.87 52 ⇑P P 14 05 36.9 -0.9
baz=89,SNR=6.0
SMCO **Snowmass** 88.87 49 *eP* P 14 05 34.8 -3.1
comp=Z,24nm,1.1s
B15A **Bradely Ranch,** 88.89 39 ⇑P P 14 05 36.5 -0.9
baz=89,SNR=14
M20A **Sweetwater, Wa** 88.90 46 ⇑P P 14 05 36.7 -1.0
baz=89,SNR=8.4
528A **Cox Ranch, San** 88.91 58 ⇑P P 14 05 37.0 -0.9
baz=89
D16A **Dana Ranch, Ca** 88.95 40 ⇑P P 14 05 37.1 -0.6
baz=89,SNR=14
K19A **Absolon Red Bu** 88.97 45 ⇑P P 14 05 36.7 -1.3
baz=89,SNR=8.7
L20A **Wamsutter** 88.99 46 ⇑P P 14 05 37.3 -0.8
baz=89,SNR=22
J19A **Crowheart** 89.00 44 ⇓P P 14 05 37.1 -1.0
baz=89,SNR=9.1
Z26A **Caprock** 89.01 55 ⇓P P 14 05 36.9 -1.4
baz=89
CPRX **Cap Rock** 89.01 55 *eP* P 14 05 36.0 -2.4
comp=Z,18nm,1.1s
F17A **Fitzpatrick Pl** 89.03 41 ⇑P P 14 05 37.4 -0.8
baz=89,SNR=11
A15A **Johnson Ranch,** 89.08 38 ⇑P P 14 05 37.4 -0.9
baz=89,SNR=14
E17A **Martinsdale** 89.14 41 ⇓P P 14 05 37.6 -1.1
baz=89,SNR=7.2
C16A **Fuhringer Ranc** 89.16 39 ⇑P P 14 05 38.0 -0.7
baz=89,SNR=13
H18A **Shoshone NF, C** 89.17 43 ⇑P P 14 05 38.5 -0.4
baz=89
P22A **Eagle** 89.18 48 ⇑P P 14 05 38.2 -0.9
baz=89,SNR=5.4
428A **Kincaid Ranch,** 89.18 58 ⇑P P 14 05 38.3 -0.9
baz=89
K20A **Yellowstone Ra** 89.24 45 ⇓P P 14 05 38.0 -1.3
baz=89,SNR=6.8
127A **Arkansas Junct** 89.30 56 ⇓P P 14 05 38.6 -1.0
baz=89
328A **Wristen Ranch,** 89.30 57 ⇑P P 14 05 38.9 -0.7
baz=89
W25A **X Bar L Ranch,** 89.31 53 ⇑P P 14 05 38.4 -1.3
baz=89
R23A **Moffat** 89.34 50 ⇓P P 14 05 38.7 -1.3
baz=89
I19A **Meeteetse** 89.35 44 ⇑P P 14 05 39.0 -0.8
baz=89,SNR=9.7
V25A **Rancho No Teng** 89.41 52 ⇓P P 14 05 39.0 -1.2
baz=89
SDCO **Great Sand Dun** 89.42 50 *eP* P 14 05 38.0 -2.3
comp=Z,31nm,1.7s
SDCO LR LR
comp=Z,802nm,22.0s
SDCO **Great Sand Dun** 89.42 50 ⇑P P 14 05 39.0 -1.4
baz=89,SNR=7.0
B16A **M & M Farms, S** 89.45 39 ⇓P P 14 05 38.6 -1.4
baz=90,SNR=7.8
G18A **Lazy EL Ranch,** 89.49 42 ⇓P P 14 05 39.4 -1.0
baz=90
M21A **Separation Pea** 89.51 46 ⇑P P 14 05 39.5 -1.1
baz=90,SNR=8.8
D17A **Six Diamond Ra** 89.54 40 ⇑P P 14 05 40.0 -0.5
baz=90,SNR=35
O22A **Kremmling** 89.54 48 ⇓P P 14 05 39.9 -1.0
baz=90,SNR=22
S24A **Houchin Ranch,** 89.59 51 ⇑P P 14 05 39.9 -1.3
baz=90,SNR=6.8
H19A **Powell** 89.61 43 ⇑P P 14 05 40.2 -0.7
baz=90,SNR=8.2
GCMT **Greycliff** 89.62 42 *eP* P 14 05 40.0 -0.9
comp=Z,70nm,1.9s
Z27A **Tatum** 89.62 55 ⇑P P 14 05 40.2 -1.0
baz=90
L21A **Rawlins** 89.64 46 ⇑P P 14 05 40.1 -1.1
baz=90,SNR=9.9
RWWY **Rawlins** 89.65 46 P P 14 05 39.0 -2.3
comp=Z,61nm,1.3s
J20A **Shoshoni** 89.69 44 ⇓P P 14 05 40.7 -0.6
baz=90,SNR=21
C17A **Wharram Farm,** 89.69 40 ⇑P P 14 05 40.7 -0.4
baz=90,SNR=30
A16A **West Butte Ran** 89.75 38 ⇑P P 14 05 40.4 -0.9
baz=90
U25A **Circle Dot Ran** 89.76 52 ⇑P P 14 05 40.9 -0.9
baz=90
P23A **Jefferson** 89.76 49 ⇓P P 14 05 41.2 -0.8
baz=90
E18A **Harlowton** 89.78 41 ⇑P P 14 05 41.5 -0.1
baz=90,SNR=9.5
N22A **Wattenberg Ran** 89.84 47 ⇓P P 14 05 41.6 -0.7
baz=90,SNR=11
Y27A **Causey** 89.86 55 ⇓P P 14 05 41.4 -0.9
baz=90
ULN **Ulaanbaatar** 89.87 320 P P 14 05 39.9 -2.1
comp=Z,9.0nm,1.1s
ULN LR LR
comp=Z,534nm,20.0s
ULN **Ulaanbaatar** 89.87 320 P P 14 05 45.8 +3.8
comp=Z,8.4nm,1.1s
R24A **Sanders Place,** 89.88 50 ⇑P P 14 05 41.9 -0.5
baz=90
I20A **Worland** 89.89 44 ⇓P P 14 05 41.5 -0.7
baz=90,SNR=6.2
SYO **Syowa Base** 89.94 194 ⇑/P P 14 05 43.2 +1.3

SYO	Syowa Base	89.94	194	⇑	*ep*	P	pP	14 05 47.9	-1.1
SYO	Syowa Base	89.94	194	⇑	*ep*	P	pP	14 05 47.9	-1.1
B17A	L&G Farms, Che	89.95	39	⇓	P	P		**14 05 41.5**	**-0.8**
	baz=90,SNR=7.1								
M22A	Cedar Creek Ra	89.97	47	⇓	P	P		**14 05 42.1**	**-0.7**
	baz=90								
K21A	Alcova	89.98	45	⇑	P	P		**14 05 41.9**	**-0.8**
	baz=90,SNR=17								
O23A	Lake Granby, G	90.01	48	⇑	P	P		**14 05 41.9**	**-1.1**
	baz=90,SNR=5.1								
T25A	Trinidad	90.02	51	⇓	P	P		**14 05 42.5**	**-0.6**
	baz=90								
ISCO	Idaho Springs	90.08	48		*eP*	P		**14 05 42.2**	**-1.2**
ISCO					pmax	pmax			
	comp=Z,39nm,1.7s								
ISCO					MLR	MLR			
	comp=Z,740nm,22.0s								
ISCO	Idaho Springs	90.08	48		*eP*	P		**14 05 42.2**	**-1.2**
	comp=Z,39nm,1.7s								
ISCO					LR	LR			
	comp=Z,740nm,22.0s								
ISCO	Idaho Springs	90.08	48	⇓	P	P		**14 05 42.5**	**-0.9**
	baz=90,SNR=5.3								
D18A	Linhart Farms,	90.11	40	⇓	P	P		**14 05 42.4**	**-0.7**
	baz=90,SNR=8.6								
F19A	Roth Farm, Mol	90.11	42	⇑	P	P		**14 05 42.4**	**-0.8**
	baz=90,SNR=7.5								
Q24A	Divide	90.11	49	⇓	P	P		**14 05 42.6**	**-1.0**
	baz=90								
J21A	Lysite	90.12	45	⇑	P	P		**14 05 42.4**	**-0.9**
	baz=90								
S25A	Robets Cordova	90.18	51	⇓	P	P		**14 05 42.7**	**-1.0**
	baz=90,SNR=7.5								
N23A	Red Feather La	90.24	47	⇑	P	P		**14 05 43.3**	**-0.8**
	baz=90,SNR=6.3								
SONM	Songino Array	90.26	320		P	P		**14 05 41.6**	**-2.2**
SONM	Songino Array	90.26	320		P	P		**14 05 41.6**	**-2.2**
	comp=Z,1.3nm,1.0s,baz=120,slow=6.2,SNR=7.9								
SONM					LR	LR		14 42 15.6	
	comp=Z,615nm,20.5s,baz=116,slow=33								
U26A	Atchley Ranch,	90.26	52	⇑	P	P		**14 05 43.3**	**-0.9**
	baz=90								
Z28A	Tucker Farm, M	90.27	55	⇓	P	P		**14 05 42.8**	**-1.4**
	baz=90								
A17A	Triple J Farms	90.28	39	⇑	P	P		**14 05 43.2**	**-0.6**
	baz=90,SNR=25								
L22A	Ellis Ranch, M	90.31	46	⇑	P	P		**14 05 43.2**	**-1.1**
	baz=90,SNR=8.0								
I21A	Big Trails, Te	90.40	44	⇑	P	P		**14 05 43.2**	**-1.4**
	baz=90,SNR=9.8								
E19A	Rath Farm, Rou	90.45	41	⇑	P	P		**14 05 43.8**	**-0.8**
	baz=90,SNR=6.0								
R25A	Fountain Ranch	90.46	50	⇓	P	P		**14 05 43.7**	**-1.3**
	baz=90								
EGMT	Eagleton	90.47	40		*eP*	P		**14 05 46.9**	**+2.1**
EGMT					LR	LR			
	comp=Z,49nm,1.5s								
EGMT					LR	LR			
	comp=Z,1μm,19.0s								
EGMT	Eagleton	90.47	40	⇓	P	P		**14 05 44.2**	**-0.5**
	baz=90,SNR=6.6								
K22A	Casper	90.48	46	⇑	P	P		**14 05 44.0**	**-1.0**
	baz=90,SNR=7.3								
B18A	Beardsley Farm	90.61	39	⇓	P	P		**14 05 44.8**	**-0.5**
	baz=91,SNR=9.4								
D19A	Cripps Ranch,	90.67	41	⇓	P	P		**14 05 44.6**	**-1.1**
	baz=91,SNR=9.6								
BOD	Bodaibo	90.71	331		*eP*	P		**14 05 46.2**	**+0.7**
A18A	Metzger Ranch,	90.78	39	⇓	P	P		**14 05 45.3**	**-0.9**
	baz=91,SNR=7.8								
C19A	Slack Wire Ran	90.79	40	⇓	P	P		**14 05 45.8**	**-0.4**
	baz=91,SNR=7.4								
J22A	Midwest	90.80	45	⇓	P	P		**14 05 45.2**	**-1.3**
	baz=91								
L23A	Garrett	90.85	46	⇑	P	P		**14 05 45.9**	**-1.0**
	baz=91,SNR=5.7								
E20A	Meyer Farm, Mu	90.88	42	⇓	P	P		**14 05 46.0**	**-0.7**
	baz=91								
S26A	Kim	90.88	51	⇑	P	P		**14 05 45.6**	**-1.3**
	baz=91								
I22A	9 Mile Ranch,	90.97	44	⇓	P	P		**14 05 46.5**	**-0.7**
	baz=91,SNR=7.3								
P25A	Willow Gulch B	91.02	49	⇓	P	P		**14 05 46.5**	**-1.1**
	baz=91								
Y29A	Porterfield Fa	91.02	55	⇑	P	P		**14 05 46.5**	**-1.1**
	baz=91								
D20A	Manuel Ranch,	91.11	41	⇓	P	P		**14 05 47.0**	**-0.7**
	baz=91,SNR=8.7								
R26A	Arlington	91.13	50	⇑	P	P		**14 05 47.0**	**-1.1**
	baz=91								
K23A	Bowen Ranch, D	91.14	46	⇓	P	P		**14 05 47.3**	**-0.8**
	baz=91								
B19A	Brinkman Farms	91.14	40	⇑	P	P		**14 05 47.3**	**-0.5**
	baz=91,SNR=8.2								
M24A	Cheyenne	91.23	47	⇓	P	P		**14 05 47.7**	**-0.8**
	baz=91,SNR=6.7								
INK	Inuvik	91.24	16		P	P		**14 05 46.4**	**-1.3**
	comp=Z,6.0nm,1.1s								
PAYG	Puerto Ayora	91.26	91		PFAKE			14 06 00.0	+11
PAYG					LR	LR			
	comp=Z,1μm,19.0s								
T27A	Campo	91.26	52	⇓	P	P		**14 05 47.6**	**-1.1**
	baz=91								
H22A	Clearmont	91.32	44	⇓	P	P		**14 05 48.2**	**-0.6**
	baz=91								
S27A	Las Animas	91.33	51	⇑	P	P		**14 05 48.3**	**-0.7**
	baz=91								
AMTX	Amarillo	91.34	54		*eP*	P		**14 05 48.8**	**-0.4**
AMTX					LR	LR			
	comp=Z,641nm,19.0s								
AMTX	Amarillo	91.34	54	⇓	P	P		**14 05 48.9**	**-0.2**
	baz=91								
C20A	Veseth Ranch,	91.43	40	⇑	P	P		**14 05 48.8**	**-0.4**
	baz=91,SNR=9.9								
A19A	Klindworth Far	91.45	39	⇓	P	P		**14 05 48.7**	**-0.5**
	baz=92,SNR=8.8								
JCT	Junction City	91.46	59		PFAKE			14 06 00.0	+10
JCT					LR	LR			
	comp=Z,779nm,20.0s								
GTA	Gaotai	91.55	311		*eP*	P		**14 05 50.1**	**+0.1**
GTA					pP	pP		**14 05 58.0**	**+0.8**
GTA					sP	sP		**14 06 00.6**	**+0.9**
GTA					SKS	SKSac		**14 16 19.6**	**-2.0**
GTA					S	S		**14 16 45.2**	**-3.8**
GTA					sS	sS		**14 16 59.5**	**-1.4**
GTA					pmax	pmax			
	comp=Z,220nm,4.7s								
GTA					LR	LR			
	comp=N,540nm,17.6s								
GTA					LR	LR			
	comp=E,740nm,20.4s								
GTA					LR	LR			
	comp=Z,750nm,17.6s								
E21A	Keefer Ranch,	91.57	42	⇑	P	P		**14 05 49.3**	**-0.6**
	baz=92,SNR=7.7								
G22A	Birney	91.58	43	⇓	P	P		**14 05 49.2**	**-0.8**
	baz=92								
R27A	Eads	91.61	51	⇑	P	P		**14 05 49.4**	**-0.9**
	baz=92								
P26A	Davis Ranch, A	91.63	49	⇑	P	P		**14 05 50.0**	**-0.5**
	baz=92								
D21A	La Casta Ranch	91.82	41	⇓	P	P		**14 05 50.7**	**-0.3**
	baz=92,SNR=9.6								
A20A	Cobblestone Ra	91.93	39	⇓	P	P		**14 05 50.7**	**-0.8**
	baz=92,SNR=10								
KSCO	Kaye Shedlock'	91.97	50	⇑	P	P		**14 05 51.2**	**-0.8**
	baz=92								
C21A	Desert Coulee	92.04	41	⇑	P	P		**14 05 50.9**	**-1.0**
	baz=92,SNR=8.3								
G23A	Biddle	92.17	43	⇑	P	P		**14 05 51.6**	**-1.2**
	baz=92,SNR=8.0								
SNAA	Sanae	92.22	180		*eP*	P		14 05 44.4	-8.1
	comp=Z,27nm,1.1s								
B21A	Ellsworth Farm	92.31	40	⇑	P	P		**14 05 52.6**	**-0.6**
	baz=92								
F23A	Volborg	92.35	43	⇑	P	P		**14 05 52.9**	**-0.6**
	baz=92,SNR=8.6								
D22A	Cohagen	92.37	41	⇓	P	P		**14 05 53.1**	**-0.4**
	baz=92,SNR=8.3								
H24A	Dirks Ranch, A	92.57	44	⇑	P	P		**14 05 53.5**	**-1.1**
	baz=93								
A21A	Bergtoll Ranch	92.58	40	⇑	P	P		**14 05 53.2**	**-1.3**
	baz=93,SNR=6.9								
NVL	N'lazarevskaya	92.62	184	⇓	*iP*	P		14 06 02.1	+7.8
NVL					pmax	pmax			
	comp=Z,14nm,1.0s								
NVL					MLR	MLR			
	comp=Z,966nm,17.0s								

RSSD	Black Hills	92.70	45		*eP*	P		**14 05 52.5**	**-2.9**
RSSD					pmax	pmax			
	comp=Z,34nm,1.2s								
RSSD	Black Hills	92.70	45		*eP*	P		**14 05 52.5**	**-2.9**
	comp=Z,34nm,1.2s								
G24A	Alzada	92.86	44	⇓	P	P		**14 05 55.6**	**-0.3**
	baz=93								
B22A	Reddig Ranch S	92.90	40	⇑	P	P		**14 05 55.3**	**-0.7**
	baz=93								
D23A	Lindsay	92.99	42	⇑	P	P		**14 05 55.7**	**-0.7**
	baz=93,SNR=9.1								
OGNE	Ogallala	93.04	48		PFAKE			14 06 10.0	+13
OGNE					LR	LR			
	comp=Z,607nm,20.0s								
ZAK	Zakamensk	93.14	322		*eP*	P		14 06 01.2	+4.1
ZAK					pmax	pmax			
	comp=Z,2.0nm,1.6s								
A22A	Carney Farms,	93.20	40	⇓	P	P		**14 05 57.0**	**-0.3**
	baz=93								
C23A	Lambert	93.23	41	⇓	P	P		**14 05 57.0**	**-0.4**
	baz=93,SNR=9.7								
TLY	Talaya	93.41	323		*eP*	P		14 06 02.2	+4.0
TLY					*eS*	S		14 16 57.8	-7.0
TLY					*e*			14 18 13.1	
TLY					*e*SSS	SSS		14 26 56.8	
TLY					pmax	pmax			
	comp=Z,3.0nm,0.8s								
TLY	Talaya	93.41	323		PFAKE			14 06 10.0	+12
TLY					LR	LR			
	comp=Z,858nm,20.0s								
D24A	Glendive	93.54	42	⇓	P	P		**14 05 58.6**	**-0.4**
	baz=94								
WMOK	Wichita Mounta	93.57	55		PFAKE			14 06 10.0	+11
WMOK					LR	LR			
	comp=Z,637nm,20.0s								
B23A	Brockton	93.58	40	⇓	P	P		**14 05 58.4**	**-0.7**
	baz=94,SNR=9.9								
SHL	Shillong	93.69	295		*e*PKP	P		**14 06 00.0**	**-0.3**
CBKS	Cedar Bluff	94.05	51		*eP*	P		**14 06 01.9**	**+0.4**
CBKS					MLR	MLR			
	comp=Z,785nm,19.0s								
CBKS	Cedar Bluff	94.05	51		*eP*	P		**14 06 01.9**	**+0.4**
CBKS					LR	LR			
	comp=Z,785nm,19.0s								
DGMT	Dagmar	94.08	41		PFAKE			14 06 10.0	+8.6
DGMT					LR	LR			
	comp=Z,885nm,20.0s								
DGMT	Dagmar	94.08	41	⇓	P	P		**14 06 00.6**	**-0.8**
	baz=94,SNR=10.0								
YKA	Yellowknife Ar	94.27	25		P	P		**14 06 00.4**	**-1.4**
YKA					PP	PP		**14 09 45.0**	**-4.1**
YKA	Yellowknife Ar	94.27	25		P	P		**14 06 00.4**	**-1.4**
	comp=Z,2.2nm,0.9s,baz=250,slow=4.4,SNR=7.2								
YKA					PP	PP		**14 09 45.0**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=251,slow=7.1,SNR=3.9								
PLCA	Paso Flores	94.75	135		LR	LR		14 39 14.6	
	comp=Z,971nm,20.7s,baz=235,slow=30								
LSA	Lhasa	95.44	299		PFAKE			14 06 20.0	+11
LSA					LR	LR			
	comp=Z,797nm,22.0s								
NATX	Nacogdoches	96.05	59		PFAKE			14 06 20.0	+9.3
NATX					LR	LR			
	comp=Z,887nm,22.0s								
TUL1	Tulsa	96.24	55	⇓	P	P		**14 06 11.0**	**-0.5**
	baz=96								
KSU1	Kansas State U	96.47	51		PFAKE			14 06 20.0	+7.5
KSU1					LR	LR			
	comp=Z,820nm,21.0s								
FFC	Flin Flon	97.41	35		PFAKE			14 06 30.0	+14
FFC					LR	LR			
	comp=Z,1μm,20.0s								
MIAR	Mount Ida	97.64	56		PFAKE			14 06 30.0	+12
MIAR					LR	LR			
	comp=Z,649nm,19.0s								
ECSD	EROS Data Cent	97.69	47		PFAKE			14 06 30.0	+12
ECSD					LR	LR			
	comp=Z,1μm,19.0s								
TGUH	Tegucigalpa,Un	98.09	78		PFAKE			14 06 30.0	+10
TGUH					LR	LR			
	comp=Z,317nm,20.0s								
AGMN	Agassiz Nation	99.35	42		PFAKE			14 06 30.0	+4.8
AGMN					LR	LR			
	comp=Z,2μm,20.0s								
VBMS	Vicksburg	99.57	59		PFAKE			14 06 40.0	+13
VBMS					LR	LR			
	comp=Z,895nm,21.0s								
LCO	Las Campanas	99.66	124		PFAKE			14 06 40.0	+12
LCO					LR	LR			
	comp=Z,2μm,22.0s								
SCIA	State Center	99.67	49		PFAKE			14 06 40.0	+13
SCIA					LR	LR			
	comp=Z,1μm,21.0s								
ULM	Lac du Bonnet	99.80	41		P	Pdif		**14 06 29.5**	**+2.3**
ULM	Lac du Bonnet	99.80	41		P	Pdif		**14 06 29.5**	**+2.3**
	comp=Z,0.9nm,0.3s,baz=286,slow=7.8,SNR=2.6								
ULM					LR	LR		14 47 01.9	
	comp=Z,703nm,18.7s,baz=103,slow=33								
NNA	Nana	100.64	106		PFAKE			14 06 40.0	+8.2
NNA					LR	LR			
	comp=Z,559nm,20.0s								
OXF	Oxford	100.98	57		PFAKE			14 06 40.0	+7.2
OXF					LR	LR			
	comp=Z,732nm,20.0s								
WMQ	Urumqi	101.48	312		*eP*	Pdif		**14 06 37.1**	**+2.2**
WMQ					pP	pP		14 06 47.5	+5.3
WMQ					sP			14 06 51.5	
WMQ					PP	PP		**14 10 50.0**	**+5.0**
WMQ					SKS	SKSac		**14 17 13.0**	**-0.1**
WMQ					*e*S	Sdif		**14 18 10.0**	**-4.2**
WMQ					SS	SS		14 25 08.2	-8.0
WMQ					pmax	pmax			
	comp=Z,7.0nm,0.9s								
WMQ					pmax	pmax			
	comp=Z,220nm,5.3s								
WMQ					LR	LR			
	comp=N,2μm,21.2s								
WMQ					LR	LR			
	comp=E,980nm,26.8s								
WMQ					LR	LR			
	comp=Z,1μm,34.0s								
TRQA	Tornquist	101.85	136		PFAKE			14 06 50.0	+13
TRQA					LR	LR			
	comp=Z,1μm,21.0s								
EYMN	Ely	102.13	43		PFAKE			14 06 50.0	+12
EYMN					LR	LR			
	comp=Z,1μm,21.0s								
PLAL	Pickwick Lake	102.15	57		PFAKE			14 06 50.0	+12
PLAL					LR	LR			
	comp=Z,747nm,19.0s								
BRAL	Brewton	102.19	61		PFAKE			14 06 50.0	+12
BRAL					LR	LR			
	comp=Z,611nm,21.0s								
HDIL	Hopedale	102.28	51		PFAKE			14 06 50.0	+12
HDIL					LR	LR			
	comp=Z,828nm,20.0s								
LRAL	Lakeview Retre	102.65	59		PFAKE			14 06 50.0	+10
LRAL					LR	LR			
	comp=Z,504nm,21.0s								
OTAV	Otavalo	102.87	94		PFAKE			14 06 50.0	+7.7
OTAV					LR	LR			
	comp=Z,440nm,21.0s								
DGAR	Diego Garcia	102.87	258		PFAKE			14 06 50.0	+8.3
DGAR					LR	LR			
	comp=Z,1μm,19.0s								
ZALV	Zalesovo Beam	105.00	322		PP	PP		14 11 17.2	+6.3
ZALV	Zalesovo Beam	105.00	322		PP	PP		14 11 17.2	+6.3
	comp=Z,0.5nm,0.5s,baz=117,slow=5.2,SNR=4.1								
GOGA	Godfrey	105.63	59		PFAKE			14 11 20.0	
GOGA					LR	LR			
	comp=Z,702nm,19.0s								
MKAR	Makanchi Array	105.72	315		P	Pdif		**14 06 58.0**	**+4.3**
MKAR								14 11 14.9	
MKAR	Makanchi Array	105.72	315		Pdif	Pdif		**14 06 58.0**	**+4.3**
MKAR					PP	PP		**14 11 14.9**	**-1.7**
MKAR	Makanchi Array	105.72	315		Pdiff	Pdif		**14 06 58.0**	**+4.3**
	comp=Z,0.3nm,0.9s,baz=86,slow=4.5,SNR=2.6								
MKAR					PP	PP		**14 11 14.9**	**-1.7**
	comp=Z,0.7nm,0.9s,baz=72,slow=5.2,SNR=4.8								
GLMI	Grayling	106.35	47		PFAKE			14 11 20.0	
GLMI					LR	LR			
	comp=Z,1μm,21.0s								
AAM	Ann Arbor	106.74	50		PFAKE			14 11 20.0	
AAM					LR	LR			
	comp=Z,850nm,21.0s								
LPAZ	La Paz	106.99	113		PKiKP	PKiKP		**14 11 09.4**	**-1.1**

LPAZ					LR	LR				
	comp=Z,2μm,21.0s									
ACSO	Alum Creek Sta	106.99	52		PFAKE			14 11 20.0		
ACSO					LR	LR				
	comp=Z,1μm,20.0s									
NHSC	New Hope	108.31	60		PFAKE			14 11 20.0		
NHSC					LR	LR				
	comp=Z,583nm,20.0s									
KURK	Kurchatov	108.50	319		PFAKE			14 11 20.0		
KURK					LR	LR				
	comp=Z,742nm,20.0s									
BLA	Blacksburg	108.62	56		PFAKE			14 11 20.0		
BLA					LR	LR				
	comp=Z,691nm,21.0s									
ERPA	Erie	109.44	51		PFAKE			14 11 20.0		
ERPA					LR	LR				
	comp=Z,643nm,21.0s									
KSH	Kashi	109.54	307		*e*Pdif	Pdif		**14 07 14.0**	**+3.1**	
KSH					PP	PP		14 11 53.2	+8.3	
KSH					S	Sdif		**14 19 21.0**	**-0.8**	
KSH					LR	LR				
	comp=N,130nm,5.9s									
KSH					LR	LR				
	comp=E,170nm,6.4s									
KSH					LR	LR				
	comp=Z,590nm,18.0s									
TKM2	Tokmak 2	110.09	310		PFAKE			14 11 30.0		
TKM2					LR	LR				
	comp=Z,710nm,20.0s									
CNNC	Cliffs of the	110.44	58		PFAKE			14 11 30.0		
CNNC					LR	LR				
	comp=Z,1μm,19.0s									
AAK	Ala-Archa	110.89	310		PFAKE			14 11 30.0		
AAK					LR	LR				
	comp=Z,743nm,20.0s									
CBN	Corbin	111.12	55		PFAKE			14 11 30.0		
CBN					LR	LR				
	comp=Z,968nm,19.0s									
NIL	Nilore	111.15	300		PFAKE			14 11 30.0		
NIL					LR	LR				
	comp=Z,120nm,20.0s									
EKS2	Erkin-Say	111.42	310		PFAKE			14 11 30.0		
EKS2					LR	LR				
	comp=Z,665nm,20.0s									
BINY	Binghamton	112.41	51		PFAKE			14 11 30.0		
BINY					LR	LR				
	comp=Z,1μm,21.0s									
SDV	Santo Domingo	112.66	87		PFAKE			14 11 30.0		
SDV					LR	LR				
	comp=Z,110nm,21.0s									
BRVK	Borovoye	113.65	321		PFAKE			14 11 30.0		
BRVK					LR	LR				
	comp=Z,547nm,20.0s									
NCB	Newcomb	113.73	49		PFAKE			14 11 30.0		
NCB					LR	LR				
	comp=Z,818nm,19.0s									
SDDR	Presa de Saban	114.11	76		PFAKE			14 11 30.0	+6.9	
SDDR					LR	LR				
	comp=Z,626nm,20.0s									
SAML	Samuel	114.27	108		PFAKE			14 11 30.0	+6.5	
SAML					LR	LR				
	comp=Z,628nm,20.0s									
LBNH	Lisbon	115.39	48		PFAKE			14 11 40.0	+15	
LBNH					LR	LR				
	comp=Z,837nm,20.0s									
SCHQ	Schefferville	117.53	36		PFAKE			14 11 40.0	+11	
SCHQ					LR	LR				
	comp=Z,2μm,21.0s									
MSEY	Mahe Island	119.66	255		PFAKE			14 11 50.0	+16	
MSEY					LR	LR				
	comp=Z,744nm,20.0s									
ARU	Arti	119.74	326		PKIKP	PKPdf		14 11 41.4	+8.6	
ARU	Arti	119.74	326		PFAKE			14 11 40.0	+7.2	
ARU					LR	LR				
	comp=Z,874nm,20.0s									
SPB	Sao Paulo	120.31	131		PFAKE			14 11 50.0	+15	
SPB					LR	LR				
	comp=Z,1μm,20.0s									
ABPO	Ambohimpanom	120.35	236		PFAKE			14 11 50.0	+15	
ABPO					LR	LR				
	comp=Z,1μm,20.0s									
FDF	Fort de France	122.96	83		PFAKE			14 11 50.0	+10	
FDF					LR	LR				
	comp=Z,1μm,20.0s									
LVZ	Lovozero	123.43	344		PFAKE			14 11 50.0	+10	
LVZ					LR	LR				
	comp=Z,546nm,20.0s									
APA	Apatity	123.99	345	⇓	*i* PKIKP	PKPdf		14 11 35.0	-5.6	
APA					*i*			14 23 12.0		
ARCES	ARCESS Array B	124.17	349		PKP	PKPdf		**14 11 39.1**	**-1.8**	
ARCES	ARCESS Array B	124.17	349		PKP	PKPdf		**14 11 39.1**	**-1.8**	
	comp=Z,3.6nm,0.8s,baz=316,slow=3.8,SNR=3.4									
BDFB	Brasilia	124.42	123		PKP	PKPdf		**14 11 42.1**	**-1.1**	
BDFB					LR	LR				
	comp=Z,2μm,21.0s									
BDFB	Brasilia	124.42	123		PKP	PKPdf		**14 11 42.1**	**-1.1**	
	comp=Z,1.4nm,0.4s,baz=59,slow=5.9,SNR=2.4									
KLMR	Klimovskoe	126.63	336		*e*PKIKP	PKPdf		**14 11 49.2**	**+3.3**	
KLMR					pmax	pmax				
	comp=Z,1μm,24.4s									
BOSA	Boshof	128.23	211		PFAKE			14 12 00.0	+10	
BOSA					LR	LR				
	comp=Z,481nm,19.0s									
FINES	FINESS Array B	130.76	343		PKP	PKPdf		**14 11 51.5**	**-2.2**	
FINES	FINESS Array B	130.76	343		PKP	PKPdf		**14 11 51.4**	**-2.2**	
	comp=Z,1.4nm,0.9s,baz=90,slow=6.9,SNR=2.3									
LBTB	Lobatse	131.00	214		PFAKE			14 12 10.0	+14	
LBTB					LR	LR				
	comp=Z,1μm,21.0s									
OBN	Obninsk	131.39	332		*e*PKIKP	PKPdf		**14 11 57.1**	**+2.0**	
OBN					*e*PS	PS		**14 24 27.7**	**-0.2**	
OBN					pmax	pmax				
	comp=Z,2.0nm,0.6s									
OBN					MLR	MLR				
	comp=Z,600nm,21.0s									
OBN	Obninsk	131.39	332		PFAKE			14 12 10.0	+15	
OBN					LR	LR				
	comp=Z,708nm,20.0s									
GNI	Garni	133.29	310		PFAKE			14 12 10.0	+11	
GNI					LR	LR				
	comp=Z,392nm,21.0s									
KIV	Kislovodsk	133.47	316	*i*	PKIKP	PKPdf		**14 11 56.8**	**-2.7**	
KIV					*e*			14 14 23.5		
KIV					*e*PS	PS		14 24 31.7	-15	
KIV					*e*SS	SS		14 32 06.2	-5.4	
KIV					*e*SSS	SSS		14 37 05.0		
KIV					pmax	pmax				
	comp=Z,6.0nm,0.9s									
KIV	Kislovodsk	133.47	316		PFAKE			14 12 10.0	+10	
KIV					LR	LR				
	comp=Z,623nm,19.0s									
NOA	NORSAR Array

comp=Z,0.6nm,0.8s,baz=20,slow=4.6,SNR=2.6
KOLS Kolonicke sedl 142.01 334 *e*PKIKP **PKPdf** 14 12 17.7 **+2.7**
KOLS Kolonicke sedl 142.01 334 *e*PKP **PKPdf** 14 12 17.7 **+2.7**
UZH Uzhgorod 142.24 334 *e*PKIKP **PKPdf** 14 12 12.7 **-2.6**
UZH *i* 14 12 24.9
CRVS Cervenica-Dubn 142.37 335 *e*PKIKP **PKPdf** 14 12 18.3 **+2.7**
CRVS Cervenica-Dubn 142.37 335 *e*PKP **PKPdf** 14 12 18.3 **+2.7**
UPC Upice 143.01 341 *e*PKIKP pPKPdf 14 12 25.8 +1.7
UPC Upice 143.01 341 *ep*PKP pPKPdf 14 12 25.8 +1.7
DPC Dobruska-Polom 143.05 341 *e*PKIKP **pPKPdf** 14 12 24.5 **+0.3**
DPC *e* 14 12 32.7
DPC MLR MLR
comp=Z,600nm,19.5s
DPC Dobruska-Polom 143.05 341 *ep*PKP **pPKPdf** 14 12 24.5 **+0.3**
DPC *ex* x 14 12 32.7
DPC AMS AMS 15 18 30.0
comp=Z,600nm,19.5s
CLL Collm 143.15 345 *e*PKIKP **PKPdf** 14 12 20.0 **+3.1**
CLL pmax pmax
comp=Z,17nm,1.5s
CLL MLR MLR
comp=Z,400nm,19.3s
CLL Collm 143.15 345 *e*PKPdf **PKPdf** 14 12 20.0 **+3.1**
comp=Z,17nm,1.5s
CLL *e*PKSdf **PKSdf** 14 15 57.0 **+4.6**
CLL *e*SS SS 14 34 12.0 +8.0
CLL LmV 15 25 00.0
comp=Z,400nm,19.3s
PVCC Panska Ves 143.42 342 *e*PKIKP **PKPdf** 14 12 22.5 **+5.1**
PVCC MLR MLR
comp=Z,600nm,19.5s
PVCC Panska Ves 143.42 342 *e*PKP **PKPdf** 14 12 22.5 **+5.1**
PVCC AMS AMS 15 15 50.0
comp=Z,600nm,19.5s
CSS Prodhromos 143.55 307 PFAKE 14 12 30.0 +12
CSS LR LR
comp=Z,579nm,20.0s
VYHS Vyhne 143.74 337 *e*PKIKP **PKPdf** 14 12 20.7 **+2.6**
VYHS Vyhne 143.74 337 *e*PKP **PKPdf** 14 12 20.7 **+2.6**
MBAR Mbarara 143.76 245 PFAKE 14 12 30.0 +11
MBAR LR LR
comp=Z,802nm,19.0s
PSZ Piszkesteto 143.79 335 PFAKE 14 12 30.0 +12
PSZ LR LR
comp=Z,816nm,22.0s
PRU Pruhonice 143.91 342 *e*PKIKP **PKPdf** 14 12 20.2 **+1.9**
PRU *e* 14 12 25.7
PRU MLR MLR
comp=Z,600nm,19.0s
PRU Pruhonice 143.91 342 *e*PKP **PKPdf** 14 12 20.2 **+1.9**
PRU *ep*PKP **pPKPdf** 14 12 25.7 **+0.1**
PRU AMS AMS 15 15 00.0
comp=Z,600nm,19.0s
TREC Trest 144.23 341 AMS AMS 15 16 50.0
comp=Z,500nm,14.8s
NKC Novy Kostel 144.27 344 *e*PKIKP pPKPdf 14 12 27.0 +0.7
NKC Novy Kostel 144.27 344 *ep*PKP pPKPdf 14 12 27.0 +0.7
ISP Isparta 144.41 313 PFAKE 14 12 30.0 +10
ISP LR LR
comp=Z,375nm,20.0s
KHC Kasperske Hory 144.96 342 *e*PKIKP **PKPab** 14 12 18.6 **-0.8**
KHC *e* 14 12 28.5
KHC MLR MLR
comp=Z,800nm,27.2s
KHC Kasperske Hory 144.96 342 *e*PKP **PKPab** 14 12 18.3 **-1.1**
KHC Kasperske Hory 144.96 342 *e*PKP **PKPab** 14 12 18.6 **-0.8**
KHC *ep*PKP **PKiKP** 14 12 24.5 **+0.5**
KHC *es*PKP 14 12 28.5
KHC AMS AMS 15 10 40.0
comp=Z,800nm,27.2s
GRF Grafenberg Arr 145.08 345 *e*PKPab **PKPbc** 14 12 19.4 **-0.4**
GRFO Grafenberg 145.08 345 *e*PKIKP **PKPbc** 14 12 18.0 **-1.8**
GRFO Grafenberg 145.08 345 *e*PKP **PKPbc** 14 12 18.0 **-1.8**
GERES GERESS Array B 145.18 342 PKPbc **PKPbc** 14 12 18.7 **-1.5**
GERES GERESS Array B 145.18 342 PKPbc **PKPbc** 14 12 18.7 **-1.5**
comp=Z,3.2nm,0.9s,baz=48,slow=2.0,SNR=13
MEM Membach 145.23 351 PKP **PKPdf** 14 12 21.1 **+0.6**
MEM APKP **pPKPdf** 14 12 27.6 **-0.3**
SOP Sopron 145.26 338 *e*PKPbc **PKPbc** 14 12 19.6 **-0.8**
CONA Conrad Observa 145.29 339⇓*i*P **PKPbc** 14 12 20.3 **-0.3**
CONA Conrad Observa 145.29 339⇓*i*PKPdf **PKPbc** 14 12 20.3 **-0.3**
comp=Z,53nm,1.1s
BCLA Clavier 145.51 352 APKP pPKPdf 14 12 26.1 -2.3
SNF Seneffe 145.55 353 APKP pPKPdf 14 12 25.8 -2.6
PKSM Moragy 145.67 335 *e*PKPdf **PKPdf** 14 12 20.2 **-1.2**
ABH Alteburg 145.68 349 PKP **PKPab** 14 12 25.9 **+3.9**
PGB Panagyurishte 145.71 325 *e*P **PKPab** 14 12 25.9 **+3.5**
TOD Tromm 145.71 348 PKP2 **PKPdf** 14 12 20.9 **-0.5**
TOD Tromm 145.71 348 PKP **PKPdf** 14 12 20.9 **-0.5**
MOA Molln 145.89 341⇑*i*P **PKPdf** 14 12 21.9 **+0.1**
MOA Molln 145.89 341⇑*i*PKPab **PKPdf** 14 12 21.9 **+0.1**
comp=Z,18nm,1.3s
DOU Dourbes 145.92 353 PKP **PKPdf** 14 12 20.6 **-1.1**
DOU APKP **PKiKP** 14 12 25.2 **-0.7**
RUP Ruppelstein 145.94 350 PKP2 **PKPdf** 14 12 21.9 **0.0**
RUP Ruppelstein 145.94 350 PKP **PKPdf** 14 12 21.9 **0.0**
ARSA Arzberg 145.99 339⇑*i*P **PKPbc** 14 12 22.7 **-0.1**
ARSA Arzberg 145.99 339⇑*i*PKPdf **PKPbc** 14 12 22.7 **-0.1**
comp=Z,30nm,1.6s
WLF Walferdange 146.12 351 PKP **PKPbc** 14 12 22.9 **-0.1**
WLF APKP **pPKPdf** 14 12 31.7 **+2.3**
WLF Walferdange 146.12 351 *e*PKP2 **PKPdf** 14 12 21.9 **-0.2**
WLF MLR MLR
comp=Z,721nm,21.0s
WLF Walferdange 146.12 351 *e*PKPdf **PKPdf** 14 12 21.9 **-0.2**
WLF LR LR
comp=Z,721nm,21.0s
BEHE Becsehely 146.20 337 *e*PKPdf **PKPab** 14 12 28.2 **+4.2**
LANF Langenberg 146.50 349 PKP2 **PKPbc** 14 12 23.6 **-0.6**
LANF Langenberg 146.50 349 PKP **PKPbc** 14 12 23.6 **-0.6**
LANF Langenberg 146.50 349 PKP **PKPbc** 14 12 23.6 **-0.6**
MMB Musomiste 146.59 324 *e*P **PKPab** 14 12 26.7 **+0.9**
OBKA Obir 146.97 339⇓*i*P **PKPab** 14 12 30.1 **+2.9**
OBKA Obir 146.97 339⇓*i*SPKPab **PKPab** 14 12 30.1 **+2.9**
comp=Z,14nm,1.4s
BFO Black Forest 147.02 348 *e*PKP2 **PKPdf** 14 12 23.7 **0.0**
BFO MLR MLR
comp=Z,399nm,20.0s
BFO Black Forest 147.02 348 *e*PKPdf **PKPdf** 14 12 23.7 **0.0**
BFO LR LR
comp=Z,399nm,20.0s
SPAK Spaichingen-Ko 147.14 347 PKP **PKPbc** 14 12 26.6 **+0.5**
MYKA Terra Mystica 147.17 340⇑*i*P **PKPbc** 14 12 26.6 **+0.3**
MYKA Terra Mystica 147.17 340⇑*i*SPKPdf **PKPbc** 14 12 26.6 **+0.3**
comp=Z,10nm,1.1s
MOTA Moosalm 147.28 344⇓*i*PKP2 **PKPbc** 14 12 26.5 **-0.1**
MOTA Moosalm 147.28 344⇓*i*P **PKPbc** 14 12 26.5 **-0.1**
MOTA ⇓*i*P PKiKP 14 12 36.2 +7.2
MOTA Moosalm 147.28 344⇓*i*PKPab **PKPbc** 14 12 26.5 **-0.1**
comp=Z,6.3nm,0.8s
MOTA ⇓*i*SPKiKP sPKiKP 14 12 36.2 -2.7
comp=Z,58nm,1.0s
ECH Echery 147.35 349 *e*PKIKP **PKPdf** 14 12 23.7 **-0.6**
ECH 14 12 28.3
ECH MLR MLR
comp=Z,847nm,22.0s
ECH Echery 147.35 349 *e*PKPdf **PKPdf** 14 12 23.6 **-0.6**
ECH PKP **PKPab** 14 12 28.3 **-0.2**
ECH LR LR
comp=Z,847nm,22.0s
ABTA Abfaltersbach 147.42 342⇑*i*P **PKPbc** 14 12 25.9 **-1.1**
ABTA ⇑*i*P PKiKP 14 12 35.8 +6.6
ABTA Abfaltersbach 147.42 342⇑*i*PKPdf **PKPbc** 14 12 25.9 **-1.1**
comp=Z,16nm,1.1s
ABTA ⇑*i*SPKiKP sPKiKP 14 12 35.8 -3.3
comp=Z,56nm,1.2s
FELD Feldberg im Sc 147.52 348 PKP **PKPbc** 14 12 26.5 **-0.8**
THEF They Montfort 147.55 350 PKP2 **PKPab** 14 12 29.1 **-0.2**
THEF They Montfort 147.55 350 PKP **PKPab** 14 12 29.1 **-0.2**
THEF They Montfort 147.55 350 PKP **PKPab** 14 12 29.1 **-0.2**
DAVA Damuels 147.65 345⇑*i*P **PKPbc** 14 12 27.4 **-0.3**
DAVA ⇑*i*P PKPab 14 12 38.3 +8.4
DAVA Damuels 147.65 345⇑*i*SPKPdf **PKPbc** 14 12 27.4 **-0.3**
comp=Z,22nm,1.5s
DAVA Damuels 147.65 345 P PKPab 14 12 38.3 +8.4
comp=Z,85nm,1.2s
MOF Molkenrain 147.71 349 PKP2 **PKPbc** 14 12 27.9 **+0.2**
MOF Molkenrain 147.71 349 PKP **PKPbc** 14 12 27.9 **+0.2**
MOF Molkenrain 147.71 349 PKP **PKPbc** 14 12 27.9 **+0.2**
BBS Basel-Blauen 148.01 348 PKP2 **PKPbc** 14 12 27.8 **-0.7**
BBS Basel-Blauen 148.01 348 PKP **PKPbc** 14 12 27.8 **-0.7**
LOMF Lomont 148.25 349 PKP2 **PKPbc** 14 12 28.8 **-0.4**
LOMF Lomont 148.25 349 PKP **PKPbc** 14 12 28.8 **-0.4**
LOMF Lomont 148.25 349 PKP **PKPbc** 14 12 28.8 **-0.4**
TUE Stuetta 148.54 345 *e*PKPbc **PKPbc** 14 12 29.6 **-0.5**
TUE LR LR
comp=Z,900nm,19.0s
TIR Tirane 148.84 328 PFAKE 14 12 40.0 +5.3
TIR LR LR
comp=Z,657nm,21.0s
PLDF La Plantade 150.10 352 PKIKP **PKPbc** 14 12 35.7 **+1.8**
PLDF La Plantade 150.10 352 PKP **PKPbc** 14 12 35.7 **+1.8**
PLDF La Plantade 150.10 352 PKP **PKPbc** 14 12 35.7 **+1.8**
PYM Petit Puy Mans 150.39 353 PKIKP **PKPbc** 14 12 34.0 **-0.6**
PYM Petit Puy Mans 150.39 353 PKP **PKPbc** 14 12 34.0 **-0.6**
PYM Petit Puy Mans 150.39 353 PKP **PKPbc** 14 12 34.0 **-0.6**
VLC Villacollemand 150.40 342 PFAKE 14 12 40.0 -0.9
VLC LR LR
comp=Z,677nm,19.0s
BNI Bardonecchia 150.49 348 *e*PKIKP **PKPbc** 14 12 34.8 **-0.1**
BNI MLR MLR
comp=Z,1μm,21.0s
BNI Bardonecchia 150.49 348 *e*PKPbc **PKPbc** 14 12 34.8 **-0.1**
BNI LR LR
comp=Z,1μm,21.0s
LBL Lubilhac 150.87 353 PKIKP **PKPbc** 14 12 36.3 **+0.6**
LBL Lubilhac 150.87 353 PKP **PKPbc** 14 12 36.3 **+0.6**
LBL Lubilhac 150.87 353 PKP **PKPbc** 14 12 36.3 **+0.6**
AQU L'Aquila 150.97 336 PFAKE 14 12 40.0 -3.4
AQU LR LR
comp=Z,1μm,21.0s
CUC Castrocucco 151.88 330 PFAKE 14 12 40.0 +1.8
CUC LR LR
comp=Z,663nm,22.0s
TIP Timpagrande 152.04 328 PFAKE 14 12 40.0 +1.4
TIP LR LR
comp=Z,853nm,21.0s
WDD Wield Dalam 155.71 326 PFAKE 14 12 50.0 +13
WDD LR LR
comp=Z,541nm,19.0s
ESDC Sonseca Array 156.66 4 PKPbc PKPdf 14 12 47.3 +8.8
ESDC PKPab **PKPab** **14 13 06.7 -0.8**
ESDC Sonseca Array 156.66 4 PKPbc PKPdf 14 12 47.3 +8.8
comp=Z,0.3nm,0.3s,baz=41,slow=4.1,SNR=3.7
ESDC PKPab **PKPab** **14 13 06.7 -0.8**
comp=Z,0.2nm,0.3s,baz=36,slow=6.7,SNR=3.1
ESLA Sonseca Array 156.66 4 PFAKE 14 12 50.0 +12
ESLA LR LR
comp=Z,4μm,20.0s
PAB San Pablo 156.75 5 PFAKE 14 12 50.0 +11
PAB LR LR
comp=Z,820nm,20.0s
SACV Santiago Islan 158.95 91 PFAKE 14 12 50.0 +8.1
SACV LR LR
comp=Z,613nm,20.0s
RTC Rabat Centre 161.83 14 PFAKE 14 12 50.0 +5.4
RTC LR LR
comp=Z,693nm,20.0s
DBIC Dimbokro 169.95 162 PFAKE 14 13 00.0 +8.3
DBIC LR LR
comp=Z,745nm,21.0s
TAM Tamanrasset 170.57 314 PFAKE 14 13 00.0 +8.0
TAM LR LR
comp=Z,527nm,21.0s
TORD Torodi Ar. Bea 175.38 227 PKP **PKPdf** **14 12 51.8 -2.2**
TORD PKPab **PKPab** **14 14 28.4 -2.1**
TORD PP PP 14 18 32.7 +10
TORD Torodi Ar. Bea 175.38 227 PKP **PKPdf** **14 12 51.8 -2.2**
comp=Z,2.5nm,1.1s,baz=66,slow=1.8,SNR=7.5
TORD PKPab **PKPab** **14 14 28.4 -2.1**
comp=Z,2.9nm,1.1s,baz=136,slow=2.4,SNR=5.7
TORD PP PP 14 18 32.7 +10
comp=Z,3.0nm,1.1s,baz=158,slow=6.2,SNR=6.8

*IDC **11** 14:22:46.2±1.0,2°.73S×121°.89E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.7/19, mbtmp3.7/7, ML4.2/1, Error ellipse: s-maj=33.1km s-min=18.3km az=65.0*
*ISCJB **11** 14:22:49.5±0.6,2°.69S±0°.05×121°.90E±0°.07, h33km, mb3.6/6, Error ellipse: s-maj=10.4km s-min=7.0km az=27.3*
*DJA **11** 14:22:50,2°.65S×121°.84E, h59km, MLv4.5/14*

ISC 11 14:22:51.2±0.8, 2°.69S±0°.05×121°.92E±0°.07, h35km, n17, σ0.92/17, mb3.6/6, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDI	**Kendari**	**1.44**	**151**	P	**Pn**	**14 23 14.3**	**-0.6**
LUWI	**Luwuk**	**1.85**	**28**	P	**Pn**	**14 23 19.3**	**-1.1**
TTSI	**Tana Toraja**	**2.13**	**260**	P	**Pn**	**14 23 23.4**	**-0.9**
SPSI	**Sinap Palu**	**2.49**	**239**	P	**Pn**	**14 23 28.8**	**-0.5**
MRSI	**Marisa**	**3.15**	**0**	P	**Pn**	**14 23 37.9**	**-0.4**
KAPI	**Kappang**	**3.16**	**223**	P	**Pn**	**14 23 37.3**	**-1.3**
KAPI	**Kappang**	**3.16**	**223**	Pn	**Pn**	**14 23 36.9**	**-1.6**
	28nm,0.3s,baz=66,slow=5.2,SNR=50						
KAPI				Sn	**Sn**	**14 24 14.5**	**-0.6**
	25nm,0.3s,baz=114,slow=19,SNR=6.4						
BKSI	**Bulukumba**	**3.17**	**214**	P	**Pn**	**14 23 39.6**	**+0.9**
KMSI	**Cibinong**	**3.84**	**32**	P	Pn	14 23 56.5	+8.6
FITZ	**Fitzroy Crossi**	**15.75**	**167**	Pn	**P**	**14 26 34.2**	**+0.1**
	0.7nm,0.3s,baz=20,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**21.00**	**146**	P	**P**	**14 27 30.9**	**-1.0**
	1.8nm,0.6s,baz=324,slow=11,SNR=8.9						
ASAR	**Alice Springs**	**23.86**	**152**	P	**P**	**14 28 01.7**	**+0.1**
	1.2nm,0.7s,baz=321,slow=8.6,SNR=22						
CMAR	**Chiang Mai Arr**	**30.88**	**314**	P	**P**	**14 29 05.9**	**+1.3**
	0.6nm,0.8s,baz=139,slow=7.5,SNR=4.9						
STKA	**Stephens Creek**	**34.44**	**150**	P	**P**	**14 29 36.0**	**+0.3**
	1.5nm,0.7s,baz=324,slow=8.7,SNR=2.6						
SONM	**Songino Array**	**52.12**	**347**	P	**P**	**14 31 58.8**	**+0.6**
	0.4nm,0.7s,baz=157,slow=7.8,SNR=2.8						
MKAR	**Makanchi Array**	**60.35**	**330**	P	**P**	**14 32 56.4**	**-0.4**
	0.3nm,0.6s,baz=108,slow=7.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**120.02**	**284**	PKP	**PKPdf**	**14 41 39.0**	**-0.3**
	0.3nm,0.7s,baz=66,slow=3.5,SNR=2.1						

IDC 11 14:27:37.5±2.6, 6°.65S×149°.22E, h77km±18km, mb3.3/4, mb1 3.7/6, mb1mx3.4/17, mbtmp3.5/6, MS3.3/1, Ms1 3.3/1, ms1mx3.2/10, Error ellipse: s-maj=67.4km s-min=14.9km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.42**	**217**	P	Pn	14 28 27.7	-0.7
	8.7nm,0.3s,baz=16,slow=6.4,SNR=32						
PMG				S	Sn	14 29 08.8	+1.0
	48nm,0.3s,baz=29,slow=10.0,SNR=16						
PMG				LR	LR	14 29 23.0	
	comp=Z,461nm,18.8s,baz=64,slow=31						
WRA	**Warramunga Arr**	**19.58**	**226**	P	P	14 31 59.0	-0.5
	117nm,0.3s,baz=54,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**22.43**	**219**	P	P	14 32 30.4	+0.2
	1.5nm,0.6s,baz=51,slow=9.2,SNR=16						
ASAR				S	S	14 36 32.2	+0.8
	0.9nm,0.9s,baz=33,slow=22,SNR=4.9						
FITZ	**Fitzroy Crossi**	**25.65**	**242**	P	P	14 32 59.8	-0.4
	6.7nm,1.0s,baz=59,slow=9.4,SNR=5.4						
MKAR	**Makanchi Array**	**79.41**	**320**	P	P	14 39 35.4	0.0
	0.1nm,0.5s,baz=96,slow=5.9,SNR=2.5						
ILAR	**Eielson Array**	**85.22**	**23**	P	P	14 40 05.2	0.0
	0.3nm,0.7s,baz=236,slow=5.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**147.39**	**284**	PKPbc	PKPbc	14 47 13.3	-0.3
	0.7nm,0.5s,baz=56,slow=3.3,SNR=7.0						

IDC 11 14:35:36.8±0.9, 16°.14S×173°.20W, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/18, mbtmp4.0/8, Error ellipse: s-maj=41.9km s-min=20.9km az=138.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.61**	**32**	Pn	Pn	14 36 15.2	-5.2
	28nm,0.3s,baz=189,slow=3.6,SNR=75						
AFI				Sn	Sn	14 36 41.4	-11
	71nm,0.3s,baz=96,slow=22,SNR=8.2						
RAR	**Rarotonga**	**13.69**	**114**	Pn	Pn	14 38 44.1	-8.2
	1.5nm,0.3s,baz=310,slow=7.9,SNR=2.5						
DZM	**Mont Dzumac**	**20.11**	**250**	P	Pn	14 40 17.2	+2.9
	3.9nm,0.7s,baz=81,slow=18,SNR=4.5						
STKA	**Stephens Creek**	**43.84**	**241**	P	P	14 43 43.0	-1.9
	0.7nm,0.3s,baz=98,slow=17,SNR=4.8						
WRA	**Warramunga Arr**	**49.86**	**257**	P	P	14 44 32.1	-0.3
	0.4nm,0.3s,baz=93,slow=6.8,SNR=4.0						
ASAR	**Alice Springs**	**50.07**	**252**	P	P	14 44 33.3	-0.6
	2.3nm,0.6s,baz=89,slow=8.0,SNR=44						
QSPA	**South Pole Qui**	**73.91**	**180**	P	P	14 47 14.3	+0.6
	2.2nm,1.1s,baz=56,slow=2.1,SNR=7.8						
NVAR	**Mina Array Bea**	**74.75**	**42**	P	P	14 47 19.1	+0.1
	0.5nm,0.6s,baz=225,slow=8.1,SNR=4.0						
PDAR	**Pinedale Array**	**82.69**	**42**	P	P	14 48 01.6	-1.1
	0.5nm,0.7s,baz=208,slow=2.9,SNR=4.4						
ILAR	**Eielson Array**	**83.13**	**11**	P	P	14 48 03.5	-0.6
	1.5nm,0.6s,baz=230,slow=6.4,SNR=44						
YKA	**Yellowknife Ar**	**90.69**	**23**	P	P	14 48 40.8	-0.3
	0.2nm,0.7s,baz=233,slow=4.6,SNR=5.4						
CMAR	**Chiang Mai Arr**	**93.02**	**288**	P	P	14 48 54.8	+1.8
	0.8nm,0.7s,baz=88,slow=2.6,SNR=7.3						
BRTR	**Keskin Array B**	**146.84**	**320**	PKPbc	PKPab	14 55 22.3	-0.5
	2.5nm,0.8s,baz=83,slow=2.1,SNR=15						

IDC 11 14:36:56.9±1.9, 5°.69N×126°.04E, h0km, mb3.9/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.9/5, Error ellipse: s-maj=173.2km s-min=25.3km az=69.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**30.17**	**166**	P	P	14 43 09.1	+0.1
	0.3nm,0.8s,baz=346,slow=7.6,SNR=7.1						
SONM	**Songino Array**	**45.23**	**341**	P	P	14 45 16.1	0.0
	0.1nm,0.3s,baz=134,slow=8.2,SNR=2.5						
MKAR	**Makanchi Array**	**55.56**	**325**	P	P	14 46 34.5	+0.3
	1.6nm,0.4s,baz=117,slow=7.8,SNR=66						
BVAR	**Borovoye Array**	**65.31**	**327**	P	P	14 47 40.4	-0.3
	1.0nm,0.3s,baz=123,slow=5.3,SNR=14						
AKTO	**Aktyubinsk**	**71.71**	**321**	P	P	14 48 20.5	-0.3
	1.2nm,0.6s,baz=84,slow=10,SNR=4.7						

*ISCJB **11** 14:40:32.0±0.5, 59°.35N±0°.02×26°.97E±0°.07, h0km, mb3.1/1, Error ellipse: s-maj=5.2km s-min=3.5km az=9.1*
*NAO **11** 14:40:33.7±1.1, 59°.30N×27°.13E, ML2.5*
*HEL **11** 14:40:33.3±0.5, 59°.28N×27°.28E, h0km, ML2.1, ML2.5(NAO), Explosion*
*CSEM **11** 14:40:33.8±0.3, 59°.34N×27°.03E, h2km, ML2.5, Error ellipse: s-maj=7.8km s-min=4.6km az=102.0, Mining explosion.*
*IDC **11** 14:40:35.7±0.9, 59°.43N×27°.19E, h0km, mb3.1/1, mb1 3.2/6, mb1mx3.1/29, mbtmp3.2/6, ML2.9/5, Error ellipse: s-maj=11.2km s-min=7.5km az=82.0*
*BER **11** 14:40:35.5±3.5, 59°.29N×26°.96E, h0km, ML2.5(NAO), Suspected explosion*
*UPP **11** 14:41:04.0, 61°.19N×24°.91E, h0km, ML2.1, Suspected Mining explosion.*

ISC 11 14:40:33.3±0.7, 59°.32N±0°.02×26°.95E±0°.03, h0km, n62, σ1.73/90, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.87**	**187**	Pg	**Pg**	**14 40 50.3**	**+0.4**
VSU				Lg	Lg	14 41 01.3	
VSU	**Vasula**	**0.87**	**187**	Pg	**Pg**	**14 40 50.3**	**+0.4**
VSU				Lg	Lg	14 41 01.3	
VSU	**Vasula**	**0.87**	**187**	*i* Pg	**Pg**	**14 40 50.3**	**+0.4**
VSU				*i* Sg	**Sg**	**14 41 01.3**	**+0.1**
VSU	**Vasula**	**0.87**	**187**	*eP*	**Pg**	**14 40 50.1**	**+0.2**
	SNR=90						
VSU				Sg	**Sg**	**14 41 01.3**	**+0.1**
VSU				Lg	Lg	14 41 01.3	
	SNR=129						
VJF	**Virojoki**	**1.26**	**14**	PG	**Pg**	**14 40 56.5**	**-0.9**
VJF				SG	**Sg**	**14 41 13.1**	**-0.6**
VJF				MSG		14 41 13.1	
	comp=Z,15nm,0.4s						
VJF				RG	Rg	14 41 18.2	
VJF	**Virojoki**	**1.26**	**14**	Pg	**Pg**	**14 40 56.5**	**-0.9**
VJF				Sg	**Sg**	**14 41 13.1**	**-0.6**
PVF	**Pernaja**	**1.34**	**336**	PG	**Pg**	**14 40 59.3**	**+0.2**
PVF				SG	**Sb**	**14 41 17.5**	**+0.5**
PVF				MSG		14 41 17.5	
	comp=Z,6.8nm,0.4s						
PVF	**Pernaja**	**1.34**	**336**	Pg	**Pg**	**14 40 59.2**	**+0.2**
PVF				Sg	**Sb**	**14 41 17.5**	**+0.5**
MEF	**Metsahovi**	**1.57**	**306**	PG	**Pg**	**14 41 03.9**	**+0.4**
MEF				SG	**Sg**	**14 41 25.9**	**+2.1**
MEF				MSG		14 41 25.9	
	comp=Z,9.6nm,0.2s						
MEF	**Metsahovi**	**1.57**	**306**	Pg	**Pg**	**14 41 03.8**	**+0.4**
MEF				*eS*	**Sg**	**14 41 25.3**	**+1.5**
	SNR=50						
MEF				Sg	**Sg**	**14 41 25.9**	**+2.1**
MTSE	**Matsula**	**1.73**	**251**	PN	**Pb**	**14 41 05.6**	**-0.3**
MTSE				SG	**Sg**	**14 41 30.4**	**+1.5**
MTSE	**Matsula**	**1.73**	**251**	Pn	**Pb**	**14 41 05.6**	**-0.3**
MTSE				Sg	**Sg**	**14 41 30.4**	**+1.5**
FIA0	**FINESS Array S**	**2.17**	**349**	Pn	**Pn**	**14 41 11.8**	**+1.1**
	baz=164,slow=18						
FIA0				Pg	**Pb**	**14 41 13.2**	**-0.2**
	baz=165,slow=16						
FIA0				Lg	Lg	14 41 43.0	
	baz=161,slow=37						
FIA0	**FINESS Array S**	**2.17**	**349**	Pn	**Pn**	**14 41 11.8**	**+1.1**
	baz=164,slow=18						
FIA0				Pg	**Pb**	**14 41 13.2**	**-0.2**
	baz=165,slow=16						
FIA0				Lg	Lg	14 41 43.0	
	baz=161,slow=37						
FIA0	**FINESS Array S**	**2.17**	**349**	PN	**Pn**	**14 41 11.8**	**+1.1**
	baz=164						
FIA0				SG	**Sb**	**14 41 41.8**	**+0.9**
FIA0				MSG		14 41 41.8	
	comp=Z,12nm,0.4s						
FIA0				RG	Rg	14 41 55.0	
FIA0	**FINESS Array S**	**2.17**	**349**	Pn	**Pn**	**14 41 11.8**	**+1.1**
FIA0	**FINESS Array S**	**2.17**	**349**	Pg	**Pb**	**14 41 13.2**	**-0.2**
	baz=165,slow=16,SNR=90						
FIA0				Sg	**Sb**	**14 41 41.8**	**+0.9**
FIA0				Lg	Lg	14 41 43.0	
	baz=161,slow=28,SNR=2.4						
FINES	**FINESS Array B**	**2.17**	**349**	Pn	**Pn**	**14 41 11.8**	**+1.2**
	comp=Z,2.8nm,0.3s,baz=164,slow=15,SNR=57						
FINES				Pg	**Pb**	**14 41 13.3**	**-0.1**
	comp=Z,2.8nm,0.3s,baz=164,slow=16,SNR=58						
FINES				Lg	Lg	14 41 42.2	
	comp=Z,7.6nm,0.3s,baz=162,slow=26,SNR=34						
FINES				Rg	Rg	14 41 53.5	
	comp=Z,46nm,0.9s,baz=160,slow=28,SNR=11						
KAF	**Kangasniemi**	**2.82**	**354**	PN	**Pn**	**14 41 21.3**	**+1.7**
KAF				SG	**Sb**	**14 42 01.5**	**+2.1**
KAF				MSG		14 42 01.5	
	comp=Z,9.7nm,0.4s						
KAF	**Kangasniemi**	**2.82**	**354**	Pn	**Pn**	**14 41 21.2**	**+1.7**
KAF				Sg	**Sb**	**14 42 01.5**	**+2.1**
SLIT	**Slitere, Latvi**	**2.98**	**237**	*eP*	**Pb**	**14 41 25.3**	**-1.9**
	SNR=50						
KEF	**Keuruu**	**3.03**	**341**	PN	**Pn**	**14 41 25.1**	**+2.6**
KEF				SG	**Sb**	**14 42 08.4**	**+2.8**
KEF				MSG		14 42 08.4	
	comp=Z,6.4nm,0.4s						
KEF	**Keuruu**	**3.03**	**341**	Pn	**Pn**	**14 41 25.1**	**+2.6**
KEF				Sg	**Sb**	**14 42 08.4**	**+2.8**
RAF	**Rauma**	**3.10**	**306**	PN	**Pn**	**14 41 26.6**	**+3.1**
	baz=121						
RAF	**Rauma**	**3.10**	**306**	Pn	**Pn**	**14 41 26.5**	**+3.1**
RAF	**Rauma**	**3.10**	**306**	*eP*	**Pb**	**14 41 27.0**	**-2.3**
	SNR=50						
RAF				*eS*	**Sn**	**14 42 03.5**	**+2.4**
	comp=Z,8.7nm,0.3s,SNR=50						
SUF	**Sumiainen**	**3.43**	**354**	PN	**Pn**	**14 41 29.8**	**+1.9**
SUF				SG	**Sb**	**14 42 19.5**	**+2.4**
SUF				MSG

HFS				Sn	Sn	14 43 28.5	-2.6
	baz=98,slow=28						
HFS				Lg	Lg	14 44 03.5	
	baz=90,slow=28						
HFS	**Hagfors**	**6.75**	**283**	Pn	**Pn**	**14 42 14.1**	**+0.5**
	baz=116,slow=10						
HFS				Sn	**Sn**	**14 43 28.5**	**-2.6**
	baz=98,slow=28						
HFS				Lg	Lg	14 44 03.5	
	baz=90,slow=28						
HFS	**Hagfors**	**6.75**	**283**	PN	**Pn**	**14 42 14.1**	**+0.5**
HFS				SN	**Sn**	**14 43 28.5**	**-2.6**
HFS				SG	Sg	14 44 03.5	-6.5
HFS	**Hagfors**	**6.75**	**283**	Pn	**Pn**	**14 42 14.4**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=70,slow=12,SNR=3.4						
HFS				Sn	**Sn**	**14 43 31.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=104,slow=24,SNR=5.6						
HFS				Lg	Lg	14 44 04.7	
	comp=Z,1.1nm,0.3s,baz=96,slow=29,SNR=7.3						
HFS	**Hagfors**	**6.75**	**283**	Pn	**Pn**	**14 42 14.1**	**+0.5**
	baz=116,slow=9.5,SNR=50						
HFS				Lg	Lg	14 44 03.5	
	baz=90,slow=27,SNR=70						
KALU	**Kalix**	**6.77**	**347**	P	**Pn**	**14 42 15.3**	**+1.6**
ERTU	**Ertsjaerv**	**7.57**	**345**	P	**Pn**	**14 42 25.4**	**+0.6**
NB2	**NORSAR Subarra**	**8.03**	**289**	Pn	**Pn**	**14 42 31.6**	**+0.5**
NB2	**NORSAR Subarra**	**8.03**	**289**	Pn	**Pn**	**14 42 31.6**	**+0.5**
NB2	**NORSAR Subarra**	**8.03**	**289**	PN	**Pn**	**14 42 31.6**	**+0.5**
NB2	**NORSAR Subarra**	**8.03**	**289**	Pn	**Pn**	**14 42 31.6**	**+0.5**
	SNR=50						
NOA	**NORSAR Array B**	**8.03**	**289**	Pn	**Pn**	**14 42 30.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=94,slow=13,SNR=5.8						
NOA				Sn	**Sn**	**14 43 58.6**	**-3.9**
	comp=Z,0.2nm,0.3s,baz=28,slow=3.6,SNR=2.9						
NOA				Lg	Lg	14 44 42.8	
	comp=Z,0.4nm,0.3s,baz=122,slow=18,SNR=2.9						
AKASG	**Malin Array Be**	**8.74**	**170**	Pn	**Pn**	**14 42 40.5**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=357,slow=13,SNR=2.8						
AKASG				Lg	Lg	14 45 09.2	
	comp=Z,0.8nm,0.3s,baz=350,slow=30,SNR=3.9						
NIKU	**Nikkaluokta**	**9.26**	**341**	P	**Pn**	**14 42 48.8**	**+0.9**
ARA0	**ARCESS Array S**	**10.27**	**357**	Pn	**Pn**	**14 43 00.3**	**-1.5**
	baz=172,slow=16						
ARA0				Sn	Sn	14 44 48.0	-10
	baz=167,slow=16						
ARA0	**ARCESS Array S**	**10.27**	**357**	P	**Pn**	**14 43 00.3**	**-1.5**
	baz=172,slow=16						
ARA0				S	Sn	14 44 48.0	-10
	baz=167,slow=16						
ARA0	**ARCESS Array S**	**10.27**	**357**	P	**Pn**	**14 43 00.3**	**-1.5**
ARA0				S	Sn	14 44 48.0	-10
ARA0	**ARCESS Array S**	**10.27**	**357**	P	**Pn**	**14 43 00.3**	**-1.5**
	baz=172,slow=14,SNR=47						
ARCES	**ARCESS Array B**	**10.27**	**357**	Pn	**Pn**	**14 43 00.5**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=174,slow=14,SNR=11						
ARCES				Sn	Sn	14 44 50.1	-7.4
	comp=Z,0.2nm,0.3s,baz=174,slow=23,SNR=4.1						
ARCES				Lg	Lg	14 45 49.3	
	comp=Z,0.3nm,0.3s,baz=175,slow=23,SNR=4.5						
BVAR	**Borovoye Array**	**24.62**	**86**	P	**P**	**14 45 54.4**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=301,slow=12,SNR=3.1						

IDC 11 14:59:44.5±2.1, 13°30N×125°24E, h0km, mb3.2/3, mb1 3.3/3, mb1mx3.2/19, mbtmp3.2/3, 1D, Error ellipse: s-maj=213.4km s-min=25.9km az=70.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**2.13**	**187**	↓*e*P	Pn	15 00 20.1	-1.4
PLP				*e*S	Sn	15 00 44.4	-4.2
ASAR	**Alice Springs**	**37.70**	**167**	P	P	15 07 01.8	-0.2
	0.3nm,0.6s,baz=341,slow=6.9,SNR=7.8						
SONM	**Songino Array**	**37.85**	**339**	P	P	15 07 02.5	-0.6
	0.1nm,0.4s,baz=140,slow=9.1,SNR=2.4						
MKAR	**Makanchi Array**	**49.03**	**322**	P	P	15 08 33.9	+0.6
	0.3nm,0.6s,baz=122,slow=7.0,SNR=3.0						

GUC 11 15:00:22.1±0.8, 30°11S×71°65W, h20km±9km, MD3.7, ML3.5, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OVCH	**Ovalle**	**0.63**	**142**	*i*P	Pb	15 00 34.2	-0.3
OVCH				*i*S	Sb	15 00 42.7	-0.3
OVCH				AML	AML	15 00 43.7	
	comp=N,4μm,0.3s						
VACH	**Vallenar**	**1.71**	**27**	↑*i*P	Pn	15 00 51.0	+0.1
VACH				*i*S	Sb	15 01 13.3	-0.8
VACH				AML	AML	15 01 16.9	
	comp=E,1μm,0.1s						
CHNG	**Los Chungos**	**1.77**	**176**	*e*P	Pn	15 00 52.0	+0.4
CHNG				*i*S	Sn	15 01 13.4	-0.3
CHNG				AML	AML	15 01 20.5	
	comp=E,221nm,0.5s						
ROCH	**El Roble**	**2.91**	**169**	*e*P	Pn	15 01 08.5	+0.9
ROCH				AML	AML	15 02 00.4	
	comp=N,203nm,0.4s						
PEL	**Peldehue**	**3.14**	**165**	*e*P	Pn	15 01 12.2	+1.7
PEL				*i*S	Sn	15 01 49.4	+1.9
PEL				AML	AML	15 02 00.2	
	comp=E,218nm,0.3s						

MEX 11 15:09:35.8±1.2, 18°61N×107°44W, h20km, MD3.9, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CJM	**Chamela**	**2.43**	**68**	*e*P	Pn	15 10 13.0	-1.4
CJM				*i*S	Sn	15 10 40.6	-3.0
R15V		**3.32**	**80**	*e*P	Pn	15 10 23.3	-3.4
R15V				*i*S	Sn	15 11 02.2	-3.4
ANIG	**Ahuacatlan**	**3.67**	**48**	*i*P	Pn	15 10 29.1	-2.5
ANIG				*i*S	Sn	15 11 11.5	-2.9
EZ5V		**3.73**	**76**	*i*P	Pn	15 10 31.8	-0.8
EZ5V				*i*S	Sn	15 11 11.5	-4.8
SFJM	**Santa Fe**	**4.55**	**65**	*i*P	Pn	15 10 44.2	+0.4

NIED ***11*** *15:19:00, 43°40N×147°00E, h47km, Mw3.8 Best double couple: M₀5.88000×10¹⁴ NP1:φ₀=287.00000°, δ87.00000°, λ=-166.00000°. NP2:φ₀=196.00000°, δ76.00000°, λ=-3.00000°.*

MOS ***11*** *15:19:18.6±1.2, 43°28N×147°12E, h51km, mb4.5/2, Error ellipse: s-maj=19.8km s-min=14.2km az=84.2*

ISCJB ***11*** *15:19:20.0±1.1, 43°39N±0°08×147°03E±0°08, h55km±9km, mb3.6/6, Error ellipse: s-maj=14.9km s-min=6.6km az=143.9*

JMA ***11*** *15:19:20.8±0.2, 43°37N×146°96E, h39km±3km, M3.8*

IDC ***11*** *15:19:21.7±3.1, 43°31N×147°03E, h57km±26km, mb3.4/6, mb1 3.5/9, mb1mx3.3/24, mbtmp3.4/9, ML3.2/3, Error ellipse: s-maj=53.7km s-min=21.4km az=158.0*

ISC 11 15:19:20.4±1.6, 43°34N±0°10×147°08E±0°08, h42km±14km, n23, σ1°36/31, mb3.4/6, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.98**	**272**	P	**Pn**	**15 19 37.1**	**-0.5**
NEM2				*e*S	**Sn**	**15 19 49.2**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**1.12**	**308**	*i*PN	**Pn**	**15 19 38.9**	**-0.7**
YUK				*i*S	**Sn**	**15 19 52.0**	**-1.9**
YUK				pmax	pmax		
	comp=N,54nm,0.1s						
YUK				pmax	pmax		
	comp=E,116nm,0.3s						
YUK				pmax	pmax		
	comp=Z,480nm,0.3s						
YUK				smax	smax		
	comp=N,1μm,0.2s						
YUK				smax	smax		
	comp=E,2μm,0.5s						
JRA	**Rausu**	**1.54**	**293**	P	**Pn**	**15 19 45.3**	**-0.1**
JRA				*e*S	**Sn**	**15 20 03.0**	**-1.1**
JNK	**Nakash**	**1.74**	**279**	P	**Pn**	**15 19 47.8**	**-0.3**
JNK				*e*S	**Sn**	**15 20 07.7**	**-1.3**
JAK	**Akkeshi**	**1.78**	**260**	P	**Pn**	**15 19 48.7**	**+0.1**
KUR	**Kuril'sk**	**1.97**	**16**	↓*i*PN	**Pn**	**15 19 51.0**	**-0.2**
KUR				*e*S	**Sn**	**15 20 14.8**	**+0.1**
KUR				pmax	pmax		
	comp=Z,190nm,0.3s						
KUR				pmax	pmax		
	comp=N,110nm,0.2s						
KUR				smax	smax		
	comp=N,530nm,0.3s						
KUR				smax	smax		
	comp=E,290nm,0.3s						
JTKR	**Abashiri--Toko**	**2.39**	**286**	P	**Pn**	**15 19 58.0**	**+1.0**
JAR	**Ashorobuto**	**2.42**	**270**	P	**Pn**	**15 19 58.2**	**+0.8**
JAR				*e*S	**Sn**	**15 20 25.7**	**-0.1**
JOB	**Onbets**	**2.42**	**261**	P	**Pn**	**15 19 58.2**	**+0.8**
JOB				*e*S	**Sn**	**15 20 25.9**	**+0.2**
JCH	**Churui**	**2.83**	**256**	P	**Pn**	**15 20 03.5**	**+0.5**
JFR	**Furan**	**3.28**	**268**	*e*S	**Sn**	**15 20 47.0**	**-0.1**
ASAJ	**Asahikawa**	**3.34**	**285**	P	**Pn**	**15 20 12.2**	**+2.2**
	comp=E,1.3nm,0.3s,baz=114,slow=10.0,SNR=31						
ASAJ				S	**Sn**	**15 20 54.1**	**+5.6**
	comp=E,3.3nm,0.3s,baz=156,slow=8.0,SNR=3.8						
MJAR	**Matsushiro Arr**	**9.62**	**228**	P	**Pn**	**15 21 36.2**	**0.0**
	comp=E,0.3nm,0.3s,baz=27,slow=14,SNR=4.4						
PETK	**Petropavlovsk-**	**12.05**	**32**	PN	**Pn**	**15 22 09.6**	**+0.2**
PETK	**Petropavlovsk-**	**12.05**	**32**	P	**Pn**	**15 22 09.6**	**+0.2**
	comp=E,0.3nm,0.3s,baz=210,slow=14,SNR=8.2						
SONM	**Songino Array**	**28.58**	**293**	P	**P**	**15 25 12.0**	**-0.4**
	comp=E,0.3nm,0.4s,baz=100,slow=7.5,SNR=3.0						
ILAR	**Eielson Array**	**41.84**	**36**	P	**P**	**15 27 06.9**	**+1.1**
	comp=E,0.3nm,0.5s,baz=279,slow=10.0,SNR=6.7						
MKAR	**Makanchi Array**	**44.73**	**298**	P	**P**	**15 27 28.9**	**-0.4**
MKAR	**Makanchi Array**	**44.73**	**298**	P	**P**	**15 27 28.9**	**-0.4**
	comp=E,0.3nm,0.5s,baz=80,slow=9.0,SNR=9.1						
YKA	**Yellowknife Ar**	**56.17**	**34**	P	**P**	**15 28 55.3**	**-0.1**
	comp=E,0.1nm,0.5s,baz=303,slow=7.2,SNR=4.1						
FINES	**FINESS Array B**	**65.21**	**333**	P	**P**	**15 29 56.6**	**-0.3**
	comp=E,2.7nm,0.6s,baz=46,slow=8.0,SNR=4.0						
AKASG	**Malin Array Be**	**71.88**	**324**	P	**P**	**15 30 38.0**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.88**	**324**	P	**P**	**15 30 38.0**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=42,slow=6.7,SNR=4.1						

GUC 11 15:23:57.2±0.8, 32°60S×71°84W, h15km±5km, MD3.7, ML3.3, 3C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.77**	**22**	↓*i*P	Pg	15 24 10.9	-1.2
CHNG				*i*S	Sg	15 24 21.6	-0.7
CHNG				AML	AML	15 24 23.6	
	comp=E,1μm,0.5s						
ROCH	**El Roble**	**0.79**	**119**	↓*i*P	Pg	15 24 11.7	-1.2
ROCH				*i*S	Sg	15 24 22.5	-1.1
ROCH				AML	AML	15 24 23.8	
	comp=N,3μm,0.2s						
PTCH	**Petorca**	**0.83**	**67**	↑*i*P	Pb	15 24 12.5	-1.0
PTCH				*i*S	Sg	15 24 24.1	-0.4
PTCH				AML	AML	15 24 25.8	
	comp=N,2μm,0.2s						
LCCH	**Las Cruces**	**0.90**	**166**	*e*P	Pb	15 24 13.3	-1.3
LCCH				*e*S	Sb	15 24 25.2	-1.2
JACH	**Jahuel**	**1.05**	**95**	↑*i*P	Pb	15 24 15.6	-1.7
JACH				*e*S	Sb	15 24 29.5	-1.4
PEL	**Peldehue**	**1.11**	**120**	↑*i*P	Pb	15 24 16.9	-1.3
PEL				*i*S	Sb	15 24 31.9	-0.7
PEL				AML	AML	15 24 32.3	
	comp=E,6μm,0.3s						
RCDM	**Rinconada Maip**	**1.24**	**136**	↓*i*P	Pn	15 24 18.7	-1.4
RCDM				*i*S	Sb	15 24 34.5	-1.8
RCDM				AML	AML	15 24 37.9	
	comp=E,1μm,0.2s						
TACH	**Talagante**	**1.29**	**145**	*e*P	Pn	15 24 19.6	-1.3
TACH				*i*S	Sb	15 24 36.0	-1.8
SAN	**Santiago**	**1.30**	**131**	*i*P	Pn	15 24 19.8	-1.1
SAN				*i*S	Sb	15 24 37.1	-1.0
ANTU	**Antumapu**	**1.40**	**134**	↓*i*P	Pn	15 24 21.7	-0.6
ANTU				*e*S	Sn	15 24 39.8	-0.8
ANTU				AML	AML	15 24 43.8	
	comp=E,1μm,0.7s						
LNV	**Longovilo**	**1.40**	**165**	↓*i*P	Pn	15 24 20.3	-2.0
FSR	**Penalolen**	**1.41**	**129**	*e*P	Pn	15 24 21.9	-0.6
FSR				*i*S	Sn	15 24 40.1	-0.6
FSR				AML	AML	15 24 44.7	
	comp=E,277nm,0.5s						
PCH	**Pirque**	**1.51**	**133**	↓*i*P	Pn	15 24 23.1	-0.7
PCH				*e*S	Sn	15 24 43.1	-0.2
SJCH	**San Jose de Ma**	**1.62**	**130**	*e*P	Pn	15 24 23.7	-1.7
SJCH				*i*S	Sn	15 24 44.8	-1.4
SJCH				AML	AML	15 24 48.9	
	comp=N,393nm,0.5s						
CHCH	**Chadas Angostu**	**1.66**	**144**	↓*i*P	Pn	15 24 25.5	-0.3
LMEL	**Las Melosas**	**1.85**	**133**	*e*P	Pn	15 24 28.7	+0.1
LMEL				*i*S	Sn	15 24 52.6	+0.6
LMEL				AML	AML	15 24 56.4	
	comp=N,697nm,0.2s						

IDC 11 15:35:03.4±13.0, 17°71S×178°46W, h500km±136km, mb3.3/5, mb1 3.5/5, mb1mx3.1/18, mbtmp3.3/5, Error ellipse: s-maj=81.3km s-min=36.3km az=55.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.68**	**241**	P	P	15 41 44.0	+0.2
	2.8nm,0.6s,baz=73,slow=7.1,SNR=10						
WRA	**Warramunga Arr**	**44.62**	**259**	P	P	15 42 30.1	-0.9
	1.0nm,0.5s,baz=99,slow=8.5,SNR=8.9						
WRA				PcP	PcP	15 44 02.6	-0.7
	1.0nm,0.9s,baz=231,slow=2.7,SNR=3.2						
ASAR	**Alice Springs**	**44.80**	**254**	P	P	15 42 32.4	0.0
	7.7nm,0.6s,baz=89,slow=8.1,SNR=11.1						
ASAR				PcP	PcP	15 44 03.5	-0.5
	0.4nm,0.9s,baz=93,slow=3.4,SNR=4.9						
QSPA	**South Pole Qui**	**72.35**	**180**	P	P	15 45 38.0	+0.1
	1.3nm,0.9s,baz=73,slow=4.6,SNR=4.5						
CMAR	**Chiang Mai Arr**	**88.77**	**290**	P	P	15 47 05.2	+1.2
	0.6nm,0.8s,baz=127,slow=2.7,SNR=5.8						
BRTR	**Keskin Array B**	**144.61**	**315**	PKP	PKPdf	15 53 42.7	-0.4
	0.5nm,0.7s,baz=137,slow=5.1,SNR=3.1						
GERES	**GERESS Array B**	**147.41**	**345**	PKPbc	PKPbc	15 53 49.9	-0.9
	0.5nm,0.6s,baz=352,slow=1.4,SNR=2.9						

IDC ***11*** *16:01:59.2±0.5, 5°49S×151°86E, h0km, mb4.6/19, mb1 4.8/19, mb1mx4.8/20, mbtmp4.6/19, MS4.2/19, Ms1 4.2/19, ms1mx4.1/24, Error ellipse: s-maj=17.9km s-min=11.5km az=107.0*

ISCJB ***11*** *16:02:03.8±1.1, 5°53S±0°05×151°76E±0°05, h44km±10km, mb4.8/61, MS4.3/34, Error ellipse: s-maj=9.6km s-min=7.7km az=42.9*

MOS ***11*** *16:02:03.4±1.1, 5°40S×151°71E, h34km, mb5.2/17, MS4.4/4, Error ellipse: s-maj=10.7km s-min=8.2km az=97.4*

BJI ***11*** *16:02:03.7, 5°61S×152°14E, h64km, mB5.2/25, mb4.7/37, Ms4.8/30, Ms7 4.5/30*

NEIC ***11*** *16:02:07.0±1.0, 5°53S×151°76E, h57km±9km, mb4.9/26, Error ellipse: s-maj=7.1km s-min=6.6km az=94.0*

DJA ***11*** *16:02:10, 5°78S×151°84E, h85km, mb5.0/9*

ISC 11 16:02:07.5±0.4, 5°60S±0°05×151°80E±0°06, h63km±2km, n204, σ1°25/252, mb4.8/60, 7C-4D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.96**	**230**	*e*Pn	**Pn**	**16 03 31.9**	**-1.3**
	222nm,0.9s						
PMG				Sn	**Sn**	**16 04 38.3**	**-1.8**
PMG				*e*S		16 04 40.3	
PMG	**Port Moresby**	**5.96**	**230**	Pn	**Pn**	**16 03 33.9**	**+0.8**
	20nm,0.3s,baz=43,slow=8.9,SNR=75						
PMG				Sn	**Sn**	**16 04 38.3**	**-1.8**
	24nm,0.3s,baz=327,slow=23,SNR=13						
HNR	**Honiara**	**8.93**	**116**	*e*P	**Pn**	**16 04 14.2**	**+0.3**
HNR	**Honiara**	**8.93**	**116**	Pn	**Pn**	**16 04 12.8**	**-1.0**
	2.9nm,0.3s,baz=294,slow=20,SNR=4.9						
HNR				LR	LR	16 07 11.4	
	comp=Z,1μm,20.2s,baz=284,slow=35						
COEN	**Coen**	**11.88**	**225**	*e*P	**Pn**	**16 04 53.1**	**-1.1**
	29nm,0.8s						
CTA	**Charters Tower**	**15.38**	**200**	Pn	**P**	**16 05 43.9**	**-0.4**
CTA	**Charters Tower**	**15.38**	**200**	*e*P	**P**	**16 05 45.3**	**+1.0**
	5.3nm,0.7s						
CTA	**Charters Tower**	**15.38**	**200**	Pn	**P**	**16 05 43.9**	**-0.4**
	0.3nm,0.3s,baz=15,slow=12,SNR=9.3						
CTA				LR	LR	16 10 57.7	
	comp=Z,934nm,20.9s,baz=255,slow=35						

EIDS	**Eidsvold**	**19.67**	**182**	*e*P	**P**	**16 06 31.8**	**+0.3**
	49nm,1.3s						
EIDS	**Eidsvold**	**19.67**	**182**	*e*P	**P**	**16 06 32.1**	**+0.6**
	84nm,0.8s						
GUMO	**Guam**	**20.27**	**340**	*e*P	**P**	**16 06 38.9**	**+0.9**
GUMO				*e*		16 06 47.5	
GUMO	**Guam**	**20.27**	**340**	P	**P**	**16 06 37.3**	**-0.7**
	130nm,0.9s,baz=170,slow=7.8,SNR=8.7						
DZM	**Mont Dzumac**	**21.65**	**141**	*e*P	**P**	**16 06 57.4**	**+4.4**
	36nm,1.1s						
DZM				eLR	LR	16 12 13.0	
	2μm,22.4s						
DZM	**Mont Dzumac**	**21.65**	**141**	*e*P	**P**	**16 06 52.9**	**-0.1**
DZM	**Mont Dzumac**	**21.65**	**141**	P	**P**	**16 06 52.2**	**-0.7**
	4.9nm,0.8s,baz=352,slow=17,SNR=5.5						
DZM				LR	LR	16 12 45.1	
	comp=Z,225nm,18.7s,baz=310,slow=30						
WRAB	**Tennant Creek**	**22.16**	**228**	*e*P	**P**	**16 06 58.1**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,30nm,0.8s						
WRAB	**Tennant Creek**	**22.16**	**228**	*e*P	**P**	**16 06 58.1**	**-0.3**
	comp=Z,30nm,0.8s						
WRA	**Warramunga Arr**	**22.17**	**228**	P	**P**	**16 06 58.3**	**-0.2**
WRA	**Warramunga Arr**	**22.17**	**228**	P	**P**	**16 06 58.3**	**-0.2**
	comp=Z,351nm,0.3s,baz=53,slow=10.0,SNR=9.8						
AS31	**Alice Springs**	**24.89**	**222**	*e*P	**P**	**16 07 25.9**	**+1.2**
ASAR	**Alice Springs**	**24.89**	**222**	P	**P**	**16 07 24.9**	**+0.1**
ASAR				S	S	16 11 52.7	+9.1
ASAR	**Alice Springs**	**24.89**	**222**	P	**P**	**16 07 24.9**	**+0.1**
	comp=Z,19nm,0.8s,baz=55,slow=8.9,SNR=161						
ASAR				S	S	16 11 52.7	+9.1
	comp=Z,6.0nm,1.2s,baz=41,slow=20,SNR=8.6						
STKA	**Stephens Creek**	**27.84**	**199**	P	**P**	**16 07 51.3**	**+0.2**
STKA	**Stephens Creek**	**27.84**	**199**	*e*P	**P**	**16 07 50.8**	**-0.3**
	comp=Z,6.0nm,0.8s						
STKA	**Stephens Creek**	**27.84**	**199**	P	**P**	**16 07 51.3**	**+0.2**
	comp=Z,4.7nm,0.8s,baz=10,slow=11,SNR=7.8						
STKA				LR	LR	16 19 28.2	
	comp=Z,492nm,18.1s,baz=22,slow=38						
FITZ	**Fitzroy Crossi**	**28.41**	**242**	*e*P	**P**	**16 07 55.9**	**-0.4**
	comp=Z,686nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.41**	**242**	*e*P	**P**	**16 07 56.0**	**-0.3**
	comp=Z,95nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.41**	**242**	P	**P**	**16 07 55.9**	**-0.4**
	comp=Z,42nm,0.6s,baz=87,slow=6.2,SNR=47						
FITZ				LR	LR	16 20 27.5	
	comp=Z,188nm,20.6s,baz=65,slow=39						
DAV	**Davao City (W)**	**29.04**	**295**	LR	LR	16 19 19.2	
	comp=Z,574nm,18.8s,baz=134,slow=36						
CBIJ	**Chichi jima**	**33.81**	**344**	LR	LR	16 22 05.2	
	comp=Z,453nm,18.5s,baz=139,slow=36						
MBWA	**Marble Bar**	**34.71**	**240**	*e*P	**P**	**16 08 51.0**	**-0.7**
	comp=Z,25nm,0.9s						
MBWA	**Marble Bar**	**34.71**	**240**	*e*P	**P**	**16 08 51.2**	**-0.5**
MEEK	**Meekatharra**	**37.93**	**233**	*e*P	**P**	**16 09 18.7**	**-0.5**
	comp=Z,92nm,0.4s						
JOW	**Kunigami**	**39.48**	**326**	*e*P	**P**	**16 09 32.9**	**+0.9**
JOW	**Kunigami**	**39.48**	**326**	P	**P**	**16 09 32.6**	**+0.7**
	comp=Z,31nm,0.8s,baz=168,slow=14,SNR=11						
JOW				LR	LR	16 22 08.9	
	comp=Z,2μm,21.6s,baz=330,slow=31						
KLBR	**Kellerberrin**	**41.04**	**227**	*e*P	**P**	**16 09 44.6**	**-0.3**
	comp=Z,20nm,0.8s						
MORW	**Morawa**	**41.07**	**231**	*e*P	**P**	**16 09 43.9**	**-1.3**
	comp=Z,31nm,0.4s						
YULB	**Yu-li**	**41.44**	**315**	*e*P	**P**	**16 09 47.6**	**-0.7**
	comp=Z,16nm,0.8s						
SSLB	**Suanglung**	**41.94**	**315**	*e*P	**P**	**16 09 51.9**	**-0.5**
	comp=Z,15nm,0.8s						
YHNB	**Yeheng**	**42.22**	**317**	*e*P	**P**	**16 09 55.5**	**+0.8**
	comp=Z,22nm,0.6s						
JNU	**Nakatsue**	**43.33**	**334**	P	**P**	**16 10 02.2**	**-1.3**
JNU	**Nakatsue**	**43.33**	**334**	P	**P**	**16 10 02.2**	**-1.3**
	comp=Z,7.2nm,0.8s,baz=162,slow=6.5,SNR=4.6						
JNU				LR	LR	16 26 44.4	
	comp=Z,225nm,18.7s,baz=330,slow=34						
MJAR	**Matsushiro Arr**	**43.81**	**344**	P	**P**	**16 10 04.4**	**-2.9**
MJAR	**Matsushiro Arr**	**43.81**	**344**	P	**P**	**16 10 04.4**	**-2.9**
	comp=Z,2.3nm,0.8s,baz=167,slow=8.9,SNR=4.4						
MJAR				LR	LR	16 24 59.4	
	comp=Z,397nm,21.0s,baz=195,slow=32						
QZH	**Quanzhou**	**44.33**	**315**	↓*i*P	**P**	**16 10 13.5**	**+1.9**
QZH				S	**S**	**16 16 46.0**	**+4.5**
QZH				LR	LR		
	comp=Z,660nm,22.3s						
KSRS	**Korea Array**	**48.27**	**334**	P	**P**	**16 10 41.7**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=144,slow=7.5,SNR=8.8						
KSRS				PcP	**PcP**	**16 12 08.5**	**0.0**
	comp=Z,1.5nm,0.8s,baz=154,slow=3.8,SNR=4.5						
KSRS				LR	LR	16 29 28.7	
	comp=Z,152nm,20.0s,baz=155,slow=34						
KSAR	**Wonju Array Be**	**48.28**	**334**	P	**P**	**16 10 41.7**	**-0.6**
KSAR				PcP	**PcP**	**16 12 08.5**	**0.0**
NJ2	**Nanjing**	**48.85**	**322**	*e*P	**P**	**16 10 46.8**	**-0.1**
NJ2				pP	**pP**	**16 11 03.1**	**0.0**
NJ2				sP	**sP**	**16 11 10.2**	**-0.1**
NJ2				PP	**PP**	**16 12 40.9**	**+0.2**
NJ2				S	S	16 17 51.5	+5.7
NJ2				sS	**sS**	**16 18 14.0**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,110nm,5.2s						
NJ2				LR	LR		
	comp=N,320nm,17.3s						
NJ2				LR	LR		
	comp=E,380nm,24.7s						
NJ2				LR	LR		
	comp=Z,480nm,19.7s						
RAR	**Rarotonga**	**49.37**	**113**	LR	LR	16 26 38.3	

CN2 LR LR
comp=Z,300nm,16.0s
BJI Beijing 56.01 327 P **P** **16 11 40.2 +0.4**
BJI pmax pmax
comp=Z,8.0nm,1.0s
BJI LR LR
comp=N,360nm,21.3s
BJI LR LR
comp=E,200nm,21.0s
BJI LR LR
comp=Z,240nm,21.3s
XAN Xi'an 56.52 317 P **P** **16 11 42.8 -0.8**
XAN pP **pP** **16 11 58.8 -1.4**
XAN S **S** **16 19 25.6 -5.0**
XAN sS sS 16 19 53.2 -5.5
XAN pmax pmax
comp=Z,3.0nm,1.3s
XAN pmax pmax
comp=Z,39nm,7.7s
XAN LR LR
comp=N,130nm,14.7s
XAN LR LR
comp=E,52nm,14.7s
XAN LR LR
comp=Z,130nm,17.9s
KMI Kunming 56.62 305 P **P** **16 11 45.6 +1.0**
KMI pP **pP** **16 11 59.8 -1.4**
KMI S **S** **16 19 34.1 +1.6**
KMI LR LR
comp=N,110nm,21.2s
KMI LR LR
comp=E,170nm,22.0s
KMI LR LR
comp=Z,200nm,20.1s
CMAR Chiang Mai Arr 57.32 296 P **P** **16 11 50.2 +0.7**
CMAR ⇑*e* 16 41 50.5
CMAR Chiang Mai Arr 57.32 296 P **P** **16 11 50.2 +0.7**
comp=Z,2.7nm,0.7s,baz=122,slow=5.7,SNR=33
CMAR PKP2bc 16 41 50.5
comp=Z,1.3nm,0.9s,baz=289,slow=3.6,SNR=7.0
KLR Kul'dur 57.34 345 *e*P P 16 11 44.1 -4.9
CHTO Chiang Mai 57.44 296 *e*P **P** **16 11 50.5 +0.2**
CHTO pmax pmax
comp=Z,14nm,1.4s
CHTO Chiang Mai 57.44 296 *e*P **P** **16 11 50.5 +0.2**
comp=Z,14nm,1.4s
PPT2 Papeete2 58.44 107 *e*LR LR 16 29 09.1
comp=Z,110nm,22.5s
CD2 Chengdu 58.51 311 P **P** **16 11 58.6 +1.0**
CD2 pP **pP** **16 12 15.0 +0.7**
CD2 sP **sP** **16 12 22.1 +0.7**
CD2 PcP **PcP** **16 12 48.1 +0.5**
CD2 S **S** **16 19 56.3 -0.5**
CD2 sS **sS** **16 20 24.1 -0.9**
CD2 ScS **ScS** **16 21 40.1 -2.1**
CD2 SS **SS** **16 23 52.3 +1.9**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.1s
CD2 LR LR
comp=N,420nm,17.2s
CD2 LR LR
comp=E,410nm,21.5s
CD2 LR LR
comp=Z,430nm,20.0s
PETK Petropavlovsk- 58.70 4 P **P** **16 11 58.6 +0.2**
PETK Petropavlovsk- 58.70 4 P **P** **16 11 58.6 +0.2**
PETK Petropavlovsk- 58.70 4 P **P** **16 11 58.6 +0.2**
comp=Z,3.1nm,0.8s,baz=172,slow=8.2,SNR=7.0
PETK LR LR 16 33 34.5
comp=Z,190nm,19.0s,baz=182,slow=32
HHC Hu-ho-hao-te 59.12 325 *e*P **P** **16 12 02.5 +0.7**
HHC pP **pP** **16 12 18.7 +0.2**
HHC sP **sP** **16 12 25.9 +0.3**
HHC PP **PP** **16 14 15.3 +2.2**
HHC S **S** **16 20 03.7 -0.8**
HHC sS **sS** **16 20 31.1 -1.7**
HHC ScS **ScS** **16 21 43.3 -3.1**
HHC SS **SS** **16 24 02.4 +2.6**
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.0s
HHC LR LR
comp=N,270nm,15.5s
HHC LR LR
comp=E,280nm,17.8s
HHC LR LR
comp=Z,380nm,17.8s
LZH Lanzhou 61.11 317 *e*P **P** **16 12 16.2 +0.6**
LZH pP **pP** **16 12 31.0 -1.4**
LZH sP **sP** **16 12 41.1 +1.6**
LZH pmax pmax
comp=Z,26nm,1.2s
LZH pmax pmax
comp=Z,100nm,4.6s
LZH LR LR
comp=N,170nm,12.3s
LZH LR LR
comp=E,200nm,14.1s
LZH LR LR
comp=Z,210nm,15.0s
HIA Hailar 61.36 337 *e*P **P** **16 12 16.0 -0.8**
comp=Z,5.8nm,0.8s
GTA Gaotai 65.57 318 *e*P **P** **16 12 45.4 +0.5**
GTA pP **pP** **16 13 01.8 -0.1**
GTA sP **sP** **16 13 09.0 0.0**
GTA S **S** **16 21 26.7 +0.9**
GTA sS **sS** **16 21 55.2 +0.8**
GTA SS **SS** **16 25 45.1 +4.3**
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA LR LR
comp=N,130nm,16.6s
GTA LR LR
comp=E,240nm,20.4s
GTA LR LR
comp=Z,250nm,18.0s
ULN Ulaanbaatar 66.15 329 *e*P **P** **16 12 47.1 -1.4**
comp=Z,10nm,0.9s
SONM Songino Array 66.47 328 P **P** **16 12 50.8 +0.2**
SONM ⇑*e* 16 41 24.1
SONM P'P'ab P'P'ab 16 41 33.3 +5.5
SONM Songino Array 66.47 328 P **P** **16 12 50.8 +0.2**
comp=Z,6.7nm,0.7s,baz=140,slow=4.3,SNR=30
SONM LR LR 16 40 19.8
comp=Z,222nm,19.4s,baz=24,slow=35
SONM PKP2bc 16 41 24.1
comp=Z,0.4nm,0.7s,baz=264,slow=4.3,SNR=2.7
SONM PKP2ab 16 41 33.3
comp=Z,0.5nm,0.7s,baz=338,slow=3.2,SNR=3.8
LSA Lhasa 67.87 305 *e*P **P** **16 12 59.7 -0.5**
LSA pmax pmax
comp=Z,11nm,1.2s
LSA Lhasa 67.87 305 *e*P **P** **16 12 59.7 -0.5**
comp=Z,11nm,1.2s
ZAK Zakamensk 69.66 329 *e*P **P** **16 13 09.7 -0.8**
ZAK pmax pmax
comp=Z,15nm,0.9s
TAPN Taplejung 69.97 302 *e*P **P** **16 13 12.8 -0.3**
comp=Z,43nm,1.5s
ODAN Odare 70.09 301 *e*P **P** **16 13 13.6 -0.2**
comp=Z,20nm,0.8s
BOD Bodaibo 70.18 340 *e*P **P** **16 13 10.3 -3.0**
TLY Talaya 70.27 330 *e*P **P** **16 13 12.7 -1.4**
TLY pmax pmax
comp=Z,7.0nm,1.0s
RAMN Ramite 70.80 301 *e*P **P** **16 13 17.7 -0.4**
comp=Z,8.5nm,0.8s
JIRN Jiri 71.35 302 *e*P **P** **16 13 21.0 -0.6**
comp=Z,5.7nm,1.1s
MOY Mondy 71.59 329 *e*P **P** **16 13 22.4 +0.2**
MOY pmax pmax
comp=Z,15nm,1.5s
GUN Gumba 71.69 302 *e*P **P** **16 13 23.1 -0.5**
comp=Z,13nm,0.6s
PKI Pulchoki 71.99 301 *e*P **P** **16 13 24.7 -0.7**
comp=Z,29nm,1.3s
KKN Kakani 72.16 301 *e*P **P** **16 13 25.8 -0.4**
GKN Gorkha 72.77 301 *e*P **P** **16 13 29.2 -0.6**
comp=Z,35nm,1.2s
KOLN Koldanda 73.58 301 *e*P **P** **16 13 34.0 -0.7**
comp=Z,10nm,0.7s
DANN Dangsing 73.61 302 *e*P **P** **16 13 33.9 -1.0**
comp=Z,22nm,0.9s

BILL Bilibino 74.17 6 *i*P **P** **16 13 38.3 +1.3**
BILL *e**PP PcP 16 13 46.3 -5.4
BILL *e**SP sP 16 13 51.4 -10
BILL pmax pmax
comp=Z,8.0nm,0.9s
BILL MLR MLR
comp=Z,100nm,17.0s
BILL Bilibino 74.17 6 *e*P **P** **16 13 36.0 -1.0**
comp=Z,7.8nm,0.9s
WMQ Urumqi 75.66 318 P **P** **16 13 46.3 +0.1**
WMQ pP **PcP** **16 14 00.0 +1.3**
WMQ sP **sP** **16 14 09.5 -0.9**
WMQ PP **PP** **16 16 37.5 +0.9**
WMQ *e*S **S** **16 23 21.0 -1.8**
WMQ SS **SS** **16 28 15.0 -0.5**
WMQ pmax pmax
comp=Z,10.0nm,1.1s
WMQ pmax pmax
comp=Z,250nm,5.2s
WMQ LR LR
comp=N,230nm,22.6s
WMQ LR LR
comp=E,180nm,24.2s
WMQ LR LR
comp=Z,230nm,27.6s
HYB Hyderabad 75.82 289 *i*P **P** **16 13 46.0 -1.5**
SLKM Skilak Lake 79.81 25 *e*P **P** **16 14 09.0 +0.2**
SLKM Skilak Lake 79.81 25 *e*P **P** **16 14 09.0 +0.2**
MK31 Makanchi Array 80.27 319 *e*P **P** **16 14 11.5 -0.1**
MK31 Makanchi Array 80.27 319 *e*P **P** **16 14 11.5 -0.1**
MKAR Makanchi Array 80.27 319 P **P** **16 14 11.3 -0.4**
MKAR Makanchi Array 80.27 319 P **P** **16 14 11.3 -0.4**
MKAR Makanchi Array 80.27 319 P **P** **16 14 11.3 -0.4**
comp=Z,6.6nm,0.9s,baz=102,slow=6.0,SNR=44
MKAR LR LR 16 48 28.8
comp=Z,158nm,18.4s,baz=89,slow=35
ZAA0 Zalesovo Array 81.26 327 *e*P **P** **16 14 15.0 -1.7**
ZALV Zalesovo Beam 81.26 327 P **P** **16 14 15.5 -1.2**
ZALV Zalesovo Beam 81.26 327 P **P** **16 14 15.5 -1.2**
ZALV Zalesovo Beam 81.26 327 P **P** **16 14 15.5 -1.2**
comp=Z,5.4nm,0.6s,baz=111,slow=5.7,SNR=29
ZALV LR LR 16 50 22.6
comp=Z,160nm,18.7s,baz=245,slow=36
MCK McKinley 81.98 23 *e*P **P** **16 14 18.3 -2.0**
MCK pmax pmax
comp=Z,13nm,0.9s
MCK McKinley 81.98 23 *e*P **P** **16 14 18.3 -2.0**
comp=Z,13nm,0.9s
NVS Novosibirsk 82.45 327 *i*P **P** **16 14 22.3 -0.6**
KSH Kashi 82.70 311 *e*P **P** **16 14 26.4 +1.6**
KSH pP **pP** **16 14 43.3 +1.0**
KSH sP **sP** **16 14 50.3 +1.1**
KSH PP **PP** **16 17 39.2 +3.8**
KSH SKS **S** **16 24 37.9 0.0**
KSH S **SKSac** **16 24 39.2 -1.9**
KSH sS **sS** **16 25 08.2 +0.6**
KSH SS **SS** **16 30 06.9 +5.5**
KSH LR LR
comp=N,90nm,3.5s
KSH LR LR
comp=E,110nm,5.0s
KSH LR LR
comp=Z,220nm,6.3s
COLA College 82.96 22 *e*P **P** **16 14 24.6 -0.7**
COLA pmax pmax
comp=Z,6.0nm,0.6s
COLA College 82.96 22 *e*P **P** **16 14 24.6 -0.7**
comp=Z,5.7nm,0.6s
ILAR Eielson Array 83.27 22 P **P** **16 14 25.7 -1.3**
ILAR Eielson Array 83.27 22 P **P** **16 14 25.7 -1.3**
comp=Z,4.2nm,0.6s,baz=244,slow=4.7,SNR=56
ILAR LR LR 16 49 26.0
comp=Z,241nm,19.7s,baz=118,slow=34
TKM2 Tokmak 2 83.77 314 *e*P **P** **16 14 30.2 -0.1**
TKM2 pmax pmax
comp=Z,50nm,1.6s
TKM2 Tokmak 2 83.77 314 *e*P **P** **16 14 30.2 -0.1**
comp=Z,50nm,1.6s
KURK Kurchatov 83.78 322*c i*P **P** **16 14 29.3 -0.6**
KURK pmax pmax
comp=Z,23nm,1.3s
KURK MLR MLR
comp=Z,149nm,17.0s
KURK Kurchatov 83.78 322 *e*P **P** **16 14 28.8 -1.1**
comp=Z,20nm,1.1s
QSPA South Pole Qui 84.37 180 *e*P **P** **16 14 33.4 +0.6**
comp=Z,8.6nm,0.9s
MAW Mawson 84.46 203 LR LR 16 50 36.1
comp=Z,314nm,18.0s,baz=317,slow=34
AAK Ala-Archa 84.49 314*c i*P **P** **16 14 34.1 +0.2**
AAK pmax pmax
comp=Z,21nm,1.0s
AAK Ala-Archa 84.49 314 *e*P **P** **16 14 33.7 -0.2**
comp=Z,31nm,0.9s
EKS2 Erkin-Say 85.02 314 *e*P **P** **16 14 37.5 +1.0**
EKS2 Erkin-Say 85.02 314 *e*P **P** **16 14 37.5 +1.0**
EGAK Eagle 85.48 23 *e*P **P** **16 14 39.2 +1.1**
comp=Z,5.3nm,0.8s
KKAR Karatay Array 87.45 314 *e*P **P** **16 14 47.7 -0.7**
KKAR pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 87.45 314 *e*P **P** **16 14 47.7 -0.7**
comp=Z,4.3nm,0.8s
BRVK Borovoye 89.35 323*d i*P **P** **16 14 55.8 -1.2**
BRVK pmax pmax
comp=Z,14nm,1.0s
BRVK Borovoye 89.35 323 *e*P **P** **16 14 55.9 -1.1**
comp=Z,12nm,1.0s
INK Inuvik 89.55 21 P **P** **16 14 58.0 +0.4**
INK Inuvik 89.55 21 P **P** **16 14 58.0 +0.4**
comp=Z,4.1nm,1.0s,baz=234,slow=5.0,SNR=6.8
NVAR Mina Array Bea 93.36 52 P **P** **16 15 17.8 +1.5**
NVAR Mina Array Bea 93.36 52 P **P** **16 15 17.8 +1.5**
comp=Z,6.5nm,0.9s,baz=255,slow=6.7,SNR=31
ABKAR Akbulak array 95.41 319 *e*P **P** **16 15 23.7 -1.5**
comp=Z,1.8nm,0.8s
BSMT Bassoo Peak 96.40 43 *e*P **P** **16 15 29.8 -0.2**
comp=Z,2.6nm,0.8s
ARU Arti 96.42 326*c i*P **P** **16 15 28.3 -1.3**
ARU 16 19 21.8
ARU S **SKSac** **16 26 02.0 +1.3**
ARU SS **SS** **16 33 16.0 -3.0**
ARU pmax pmax
comp=Z,14nm,2.5s
ARU MLR MLR
comp=Z,302nm,21.0s
YKA Yellowknife Ar 96.59 28 P **P** **16 15 30.7 +0.5**
YKA Yellowknife Ar 96.59 28 P **P** **16 15 30.7 +0.5**
comp=Z,1.1nm,0.7s,baz=271,slow=4.6,SNR=27
MCMT McKenzie Canyo 97.71 46 *e*P Pdif 16 15 36.6 +0.5
comp=Z,1.9nm,1.0s
HVU Hansel Valley 97.74 49 *e*P Pdif 16 15 36.8 +0.6
HVU pmax pmax
comp=Z,10.0nm,1.1s
HVU Hansel Valley 97.74 49 *e*P Pdif 16 15 36.8 +0.6
comp=Z,9.7nm,1.1s
PD01 Pinedale Array 100.10 48 *e*P **Pdif** **16 15 46.8 0.0**
PDAR Pinedale Array 100.12 48 P **Pdif** **16 15 46.9 +0.1**
PDAR Pinedale Array 100.12 48 P **Pdif** **16 15 46.9 +0.1**
comp=Z,3.6nm,0.9s,baz=251,slow=2.5,SNR=21
OBN Obninsk 108.85 327*de*P **Pdif** **16 16 23.9 -1.1**
OBN e 16 20 55.4
OBN *e*SS SS 16 36 04.1 -6.1
OBN pmax pmax
comp=Z,4.0nm,1.2s
OBN pmax pmax
comp=Z,4μm,3.1s
OBN pmax pmax
comp=Z,772nm,1.1s
FINES FINESS Array B 111.36 335 PKiKP **PKiKP** **16 20 34.0 -0.1**
FINES FINESS Array B 111.36 335 PKiKP **PKiKP** **16 20 34.0 -0.1**
comp=Z,1.8nm,0.7s,baz=86,slow=2.9,SNR=4.3
AKASG Malin Array Be 114.56 324 PKIKP PKPdf 16 20 40.2 -0.3
AKASG Malin Array Be 114.56 324 PKP PKPdf 16 20 40.2 -0.3
AKASG Malin Array Be 114.56 324 PKP PKPdf 16 20 40.2 -0.3
comp=Z,2.3nm,0.7s,baz=55,slow=4.0,SNR=6.4
BRTR Keskin Array B 115.09 311 PKP **PKPdf** **16 20 41.9 -0.2**
BRTR Keskin Array B 115.09 311 PKP **PKPdf** **16 20 41.9 -0.2**
comp=Z,1.0nm,0.8s,baz=100,slow=3.8,SNR=6.0
NOA NORSAR Array B 117.32 340 PKP **PKPdf** **16 20 45.4 -0.2**
NOA NORSAR Array B 117.32 340 PKP **PKPdf** **16 20 45.4 -0.2**
comp=Z,1.1nm,0.8s,baz=49,slow=1.7,SNR=3.5
MLR Muntele Rosu 118.62 320 PKP **PKPdf** **16 20 48.8 +0.1**
MLR Muntele Rosu 118.62 320 PKP **PKPdf** **16 20 48.8 +0.1**
comp=Z,0.6nm,0.7s,baz=137,slow=7.9,SNR=4.2

CRVS Cervenica-Dubn 119.86 325 *e*PKIKP **PKPdf** **16 20 52.1 +1.2**
CRVS Cervenica-Dubn 119.86 325 *e*PKP **PKPdf** **16 20 52.1 +1.2**
VYHS Vyhne 121.57 325 *e*PKIKP **PKPdf** **16 20 54.3 +0.1**
VYHS Vyhne 121.57 325 *e*PKP **PKPdf** **16 20 54.3 +0.1**
CLL Collm 123.06 330 ⇓*i*PKIKP **PKPdf** **16 20 57.3 +0.4**
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL MLR MLR
comp=Z,100nm,17.0s
CLL Collm 123.06 330 ⇓*i*PKPdf **PKPdf** **16 20 57.3 +0.4**
comp=Z,7.0nm,0.8s
KHC Kasperske Hory 124.10 328 *e*PKIKP **PKPdf** **16 21 00.0 +1.0**
KHC Kasperske Hory 124.10 328 *e*PKPdf **PKPdf** **16 21 00.0 +1.0**
GERES GERESS Array B 124.20 328 PKP **PKPdf** **16 20 59.5 +0.2**
GERES GERESS Array B 124.20 328 PKP **PKPdf** **16 20 59.5 +0.2**
comp=Z,4.7nm,0.7s,baz=75,slow=1.5,SNR=23
GRF Grafenberg Arr 124.96 330 *e*PKPdf **PKPdf** **16 21 01.2 +0.6**
DAVOX Davos/Dischmat 127.50 328 PKP **PKPdf** **16 21 06.1 +0.3**
DAVOX Davos/Dischmat 127.50 328 PKP **PKPdf** **16 21 06.1 +0.3**
comp=Z,6.1nm,0.7s,baz=82,slow=7.1,SNR=7.3
GIVF Givet 127.70 334 *e*PKIKP **PKPdf** **16 21 05.7 -0.1**
BAIF Baives 128.00 334 *e*PKIKP **PKPdf** **16 21 05.8 -0.6**
HINF Hinteralfeld 128.37 330 *e*PKIKP **PKPdf** **16 21 06.7 -0.5**
comp=Z,19nm,1.0s
HAU Haudompre 128.49 331 *e*PKIKP **PKPdf** **16 21 07.8 +0.4**
comp=Z,13nm,0.7s
MEZF Maizieres J'vi 128.75 332 *e*PKIKP **PKPdf** **16 21 08.2 +0.3**
comp=Z,14nm,0.7s
CABF La Chapelle 129.58 330 *e*PKIKP **PKPdf** **16 21 09.8 +0.2**
LPL La Plagne 129.99 328 *e*PKIKP **PKPdf** **16 21 11.4 +0.8**
comp=Z,22nm,1.0s
LPG La Plagne 129.99 328 *e*PKIKP **PKPdf** **16 21 10.6 -0.1**
comp=Z,17nm,0.9s
LOR Lormes 130.20 332 *e*PKIKP **PKPdf** **16 21 11.6 +0.9**
comp=Z,8.2nm,0.7s
SSF Saint Saulge 130.51 332 *e*PKIKP **PKPdf** **16 21 12.4 +1.1**
comp=Z,19nm,1.1s
SBF Sospel 130.69 326 *e*PKIKP **PKPdf** **16 21 12.0 +0.2**
AVF Avril sur Loir 130.78 332 *e*PKIKP **PKPdf** **16 21 11.4 -0.4**
comp=Z,6.2nm,0.8s
ORIF Oris-en-Rattie 130.84 328 *e*PKIKP **PKPdf** **16 21 12.8 +0.7**
comp=Z,18nm,0.8s
LDF La Druitiere 130.96 336 *e*PKIKP **PKPdf** **16 21 11.8 -0.3**
FLN La Foliniere 130.97 336 *e*PKIKP **PKPdf** **16 21 12.0 -0.1**
BGF Bois d'Agland 131.19 332 *e*PKIKP **PKPdf** **16 21 12.9 +0.3**
GRR Gorron 131.42 336 *e*PKIKP **PKPdf** **16 21 12.4 -0.5**
VIVF Saint-Julien-l 131.50 329 *e*PKIKP **PKPdf** **16 21 13.3 0.0**
LMR La Mourre 131.55 326 *e*PKIKP **PKPdf** **16 21 13.3 0.0**
TCF Toulx Ste Croi 131.69 332 *e*PKIKP **PKPdf** **16 21 14.6 +1.0**
comp=Z,12nm,0.8s
SGMF Saint Gilles 132.20 337 *e*PKIKP **PKPdf** **16 21 14.4 0.0**
MFF Saint Martin d 132.52 334 *e*PKIKP **PKPdf** **16 21 15.2 +0.1**
RJF Les Rejaudoux 132.74 332 *e*PKIKP **PKPdf** **16 21 15.2 -0.4**
LFF La Frestale 133.38 332 *e*PKIKP **PKPdf** **16 21 16.4 -0.3**
CPUP Villa Florida 137.52 140 PKP **PKPdf** **16 21 25.9 +0.9**
CPUP Villa Florida 137.52 140 PKP **PKPdf** **16 21 25.9 +0.9**
comp=Z,1.0nm,0.5s,baz=246,slow=20
MDT Midelt 145.12 324 PKPbc **PKPdf** **16 21 38.7 +0.1**
MDT Midelt 145.12 324 PKPbc **PKPdf** **16 21 38.7 +0.1**
comp=Z,4.2nm,0.7s,baz=54,slow=5.5,SNR=6.8
TORD Torodi Ar. Bea 149.59 286 PKPbc **PKPbc** **16 21 50.9 -0.1**
TORD Torodi Ar. Bea 149.59 286 PKPbc **PKPbc** **16 21 50.9 -0.1**
comp=Z,40nm,0.7s,baz=41,slow=1.4,SNR=76
BDFB Brasilia 151.18 137 PKPbc **PKPbc** **16 21 55.8 +0.9**
BDFB PKPab **PKPab** **16 22 03.7 +1.0**
BDFB Brasilia 151.18 137 PKPbc **PKPbc** **16 21 55.8 +0.9**
comp=Z,10nm,0.7s,baz=174,slow=1.9,SNR=14
BDFB PKPab **PKPab** **16 22 03.7 +1.0**
comp=Z,9.6nm,0.9s,baz=159,slow=4.2,SNR=7.7
DBIC Dimbokro 156.77 274 PKPbc PKPdf 16 22 07.1 +10
DBIC PKPab **PKPab** **16 22 26.6 +0.1**
DBIC Dimbokro 156.77 274 PKPbc PKPdf 16 22 07.1 +10
comp=Z,2.2nm,0.8s,baz=228,slow=6.5,SNR=3.3
DBIC PKPab **PKPab** **16 22 26.6 +0.1**
comp=Z,6.5nm,0.7s,baz=80,slow=4.9,SNR=8.7

*IDC **11** 16:08:25.5±0.6,21˚.19N×146˚.37E,h0km,mb4.1/18, mb1 4.3/20,mb1mx4.2/28,mbtmp4.2/20,ML4.1/2,MS4.3/3, Ms1 4.2/3,ms1mx3.2/36,Error ellipse: s-maj=20.0km s-min=13.3km az=85.0*
*ISCJB **11** 16:08:28.9±0.4,21˚.21N±0˚.04×146˚.34E±0˚.09,h33km, mb4.2/27,MS4.3/3,Error ellipse: s-maj=11.6km s-min=6.3km az=176.6*
*NEIC **11** 16:08:31.5±1.3,21˚.21N×146˚.36E,h41km±12km,mb4.5/8, Error ellipse: s-maj=10.3km s-min=6.3km az=77.0*
ISC 11 16:08:31.0±0.5,21˚.26N±0˚.06×146˚.4E±0˚.1,h35km,n67, σ0s77/73,mb4.3/27,MS4.4/3,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**7.77**	**191**	Pn	**Pn**	**16 10 21.6**	**0.0**
GUMO				Sn	**Sn**	**16 11 50.1**	**+1.7**
GUMO	**Guam**	**7.77**	**191**	Pn	**Pn**	**16 10 21.6**	**0.0**
	2.1nm,0.3s,baz=12,slow=20,SNR=2.1						
GUMO				Sn	**Sn**	**16 11 50.1**	**+1.7**
	2.0nm,0.3s,baz=17,slow=19,SNR=2.0						
MJAR	**Matsushiro Arr**	**16.81**	**337**	Pn	**Pn**	**16 12 23.0**	**-0.7**
MJAR	**Matsushiro Arr**	**16.81**	**337**	Pn	**Pn**	**16 12 23.0**	**-0.7**
	0.3nm,0.3s,baz=160,slow=9.6,SNR=5.3						
JOW	**Kunigami**	**17.44**	**292**	P	**Pn**	**16 12 31.5**	**-0.2**
JOW	**Kunigami**	**17.44**	**292**	P	**Pn**	**16 12 31.5**	**-0.2**
	1.6nm,0.3s,baz=125,slow=12,SNR=8.3						
KSRS	**Korea Array**	**22.72**	**319**	P	**P**	**16 13 29.9**	**+0.1**
	4.4nm,0.7s,baz=148,slow=8.7,SNR=16						
KSAR	**Wonju Array Be**	**22.74**	**319**	P	**P**	**16 13 29.9**	**-0.1**
ASAJ	**Asahikawa**	**23.01**	**353**	P	**P**	**16 13 33.9**	**+1.1**
ASAJ	**Asahikawa**	**23.01**	**353**	P	**P**	**16 13 33.9**	**+1.1**
	6.2nm,0.9s,baz=190,slow=11,SNR=8.6						
YULB	**Yu-li**	**23.30**	**280**	P	**P**	**16 13 38.0**	**+2.0**
USRK	**Usuriysk Arra**	**25.80**	**336**	P	**P**	**16 13 59.6**	**+0.9**
	7.7nm,0.9s,baz=149,slow=9.0,SNR=7.6						
HIA	**Hailar**	**35.06**	**329**	*e*P	**P**	**16 15 21.4**	**+0.8**
	3.9nm,0.8s						
SONM	**Songino Array**	**41.59**	**319**	P	**P**	**16 16 15.5**	**-0.2**
SONM				PcP	**PcP**	**16 18 13.0**	**+0.6**
SONM	**Songino Array**	**41.59**	**319**	P	**P**	**16 16 15.5**	**-0.2**
	1.2nm,0.5s,baz=129,slow=8.5,SNR=5.6						
SONM				PcP	**PcP**	**16 18 13.0**	**+0.6**
	0.5nm,0.6s,baz=124,slow=4.6,SNR=2.6						
WRAB	**Tennant Creek**	**42.60**	**197**	*e*P	**P**	**16 16 24.1**	**+0.1**
	6.2nm,0.8s						
WRA	**Warramunga Arr**	**42.61**	**197**	P	**P**	**16 16 23.2**	**-0.9**
WRA	**Warramunga Arr**	**42.61**	**197**	P	**P**	**16 16 23.2**	**-0.9**
	4.0nm,0.6s,baz=1.1,slow=9.0,SNR=23						
FITZ	**Fitzroy Crossi**	**44.09**	**209**	P	**P**	**16 16 35.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**44.09**	**209**	P	**P**	**16 16 35.7**	**-0.2**
	5.8nm,0.7s,baz=31,slow=8.6,SNR=16						
CMAR	**Chiang Mai Arr**	**44.58**	**275**	P	**P**	**16 16 39.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**44.58**	**275**	P	**P**	**16 16 39.6**	**-0.5**
	0.6nm,0.6s,baz=88,slow=5.5,SNR=9.4						
ASAR	**Alice Springs**	**46.28**	**196**	P	**P**	**16 16 51.5**	**-1.9**
ASAR				PcP	**PcP**	**16 18 28.9**	**+0.4**
ASAR	**Alice Springs**	**46.28**	**196**	P	**P**	**16 16 51.5**	**-1.9**
	1.0nm,0.6s,baz=17,slow=7.9,SNR=19						
ASAR				PcP	**PcP**	**16 18 28.9**	**+0.4**
	1.1nm,0.6s,baz=27,slow=3.0,SNR=13						
DZM	**Mont Dzumac**	**47.31**	**154**	P	**P**	**16 16 60.0**	**-1.5**
DZM	**Mont Dzumac**	**47.31**	**154**	P	**P**	**16 16 60.0**	**-1.5**
	3.6nm,0.8s,baz=0.0,slow=9.1,SNR=7.0						
LSA	**Lhasa**	**50.17**	**291**	*e*P	**P**	**16 17 24.6**	**+0.6**
	2.6nm,0.6s						
TAPN	**Taplejung**	**53.41**	**289**	*e*P	**P**	**16 17 47.4**	**-0.6**
	22nm,1.1s						
ODAN	**Odare**	**53.76**	**288**	*e*P	**P**	**16 17 50.2**	**-0.3**
	8.1nm,0.5s						
AFI	**Afiamalu**	**53.94**	**127**	LR	LR	16 34 59.9	
	comp=Z,137nm,21.8s,baz=337,slow=30						
RAMN	**Ramite**	**54.44**	**289**	*e*P	**P**	**16 17 55.4**	**-0.1**
	13nm,0.9s						
JIRN	**Jiri**	**54.71**	**289**	*e*P	**P**	**16 17 57.6**	**0.0**
	4.7nm,0.8s						
GUN	**Gumba**	**54.95**	**290**	*e*P	**P**	**16 17 59.4**	**+0.1**
	25nm,1.1s						
PKI	**Pulchoki**	**55.41**	**289**	*e*P	**P**	**16 18 02.2**	**-0.4**
	8.7nm,0.7s						
KKN	**Kakani**	**55.49**	**290**	*e*P	**P**	**16 18 02.9**	**-0.2**
	16nm,0.9s						
DMN	**Daman**	**55.67**	**290**	*e*P	**P**	**16 18 04.2**	**-0.2**
	16nm,1.0s						
GKN	**Gorkha**	**56.03**	**290**	*e*P	**P**	**16 18 06.3**	**-0.5**
	26nm,1.0s						
ZAA0	**Zalesovo Array**	**56.41**	**321**	*e*P	**P**	**16 18 08.3**	**-0.5**
ZALV	**Zalesovo Beam**	**56.41**	**321**	P	**P**	**16 18 08.2**	**-0.7**

ZALV	**Zalesovo Beam**	**56.41**	**321**	P		**P**	**16 18 08.2**	**-0.7**
	5.1nm,0.6s,baz=102,slow=7.6,SNR=19							
DANN	**Dangsing**	**56.75**	**291**	*e*P		**P**	**16 18 12.1**	**0.0**
	68nm,0.6s							
KOLN	**Koldanda**	**56.97**	**290**	*e*P		**P**	**16 18 13.4**	**-0.2**
	9.4nm,0.7s							
MK31	**Makanchi Array**	**57.19**	**313**	*e*P		**P**	**16 18 14.5**	**-0.1**
MKAR	**Makanchi Array**	**57.19**	**313**	P		**P**	**16 18 14.3**	**-0.3**
MKAR				PcP		**PcP**	**16 19 09.1**	**+0.2**
MKAR	**Makanchi Array**	**57.19**	**313**	P		**P**	**16 18 14.3**	**-0.3**
	1.3nm,0.6s,baz=87,slow=7.8,SNR=16							
MKAR				PcP		**PcP**	**16 19 09.1**	**+0.2**
	1.3nm,0.6s,baz=79,slow=4.8,SNR=5.8							
KURK	**Kurchatov**	**59.82**	**317**	*e*P		**P**	**16 18 32.3**	**-0.5**
	2.9nm,0.6s							
ILAR	**Eielson Array**	**61.07**	**27**	P		**P**	**16 18 40.9**	**-0.3**
ILAR	**Eielson Array**	**61.07**	**27**	P		**P**	**16 18 40.9**	**-0.3**
	1.8nm,1.0s,baz=258,slow=5.3,SNR=8.4							
PAX	**Paxson**	**61.36**	**29**	*e*P		**P**	**16 18 44.4**	**+1.1**
BRVK	**Borovoye**	**65.00**	**320**	*e*P		**P**	**16 19 07.6**	**+0.2**
	9.2nm,1.0s							
KKAR	**Karatay Array**	**65.66**	**309**	*e*P		**P**	**16 19 12.1**	**+0.1**
	5.8nm,0.9s							
KBL	**Kabul**	**68.15**	**300**	*e*P		**P**	**16 19 28.1**	**0.0**
	7.0nm,0.8s							
ABKAR	**Akbulak array**	**71.92**	**317**	*e*P		**P**	**16 19 50.4**	**-0.3**
	1.9nm,0.6s							
YKA	**Yellowknife Ar**	**75.43**	**28**	P		**P**	**16 20 11.5**	**+0.4**
YKA	**Yellowknife Ar**	**75.43**	**28**	P		**P**	**16 20 11.5**	**+0.4**
	1.1nm,0.6s,baz=288,slow=5.6,SNR=18							
ARCES	**ARCESS Array B**	**80.26**	**342**	P		**P**	**16 20 37.9**	**0.0**
ARCES	**ARCESS Array B**	**80.26**	**342**	P		**P**	**16 20 37.9**	**0.0**
	3.4nm,0.9s,baz=54,slow=6.4,SNR=6.0							
NVAR	**Mina Array Bea**	**81.06**	**52**	P		**P**	**16 20 44.4**	**+1.4**
NVAR	**Mina Array Bea**	**81.06**	**52**	P		**P**	**16 20 44.4**	**+1.4**
	0.9nm,0.7s,baz=272,slow=5.1,SNR=5.8							
JOF	**Joensuu**	**81.97**	**335**	*e*p		**P**	**16 20 47.1**	**+0.1**
	3.4nm,0.6s							
FINES	**FINESS Array B**	**84.84**	**335**	P		**P**	**16 21 01.1**	**-0.7**
FINES	**FINESS Array B**	**84.84**	**335**	P		**P**	**16 21 01.1**	**-0.7**
	2.2nm,0.5s,baz=55,slow=5.0,SNR=18							
PDAR	**Pinedale Array**	**85.58**	**46**	P		**P**	**16 21 06.3**	**+0.1**
PDAR	**Pinedale Array**	**85.58**	**46**	P		**P**	**16 21 06.3**	**+0.1**
	0.5nm,0.6s,baz=118,slow=0.8,SNR=5.2							
PDAR				LR		LR	16 55 47.5	
	comp=Z,214nm,18.2s,baz=271,slow=33							
ULM	**Lac du Bonnet**	**90.13**	**35**	LR		LR	17 05 54.9	
	comp=Z,147nm,18.5s,baz=311,slow=38							
BRTR	**Keskin Array B**	**92.79**	**315**	P		**P**	**16 21 39.3**	**-1.0**
BRTR	**Keskin Array B**	**92.79**	**315**	P		**P**	**16 21 39.3**	**-1.0**
	0.5nm,0.6s,baz=86,slow=6.8,SNR=3.1							

*ISK **11** 16:14:30.8, 38.74N×41.57E, h9km, MD3.2*
*CSEM **11** 16:14:31.4±0.2, 38.82N×41.51E, h2km, MD3.2, Error ellipse: s-maj=5.1km s-min=4.7km az=50.0*
*ISCJB **11** 16:14:32.2±0.5, 38.80N±0.02×41.55E±0.03, h9km±4km, Error ellipse: s-maj=4.5km s-min=3.4km az=160.3*
*DDA **11** 16:14:32, 38.76N×41.55E, h10km, MD2.9*
ISC 11 16:14:31.5±1.1, 38.80N±0.02×41.53E±0.02, h5km±10km, n39,σ0968/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNGL	**BINGOL**	**0.34**	**297**	*i* P	**Pg**	**16 14 39.3**	**+1.2**
BNGL				*i* S	**Sb**	**16 14 45.9**	**+0.1**
VRTB	**Varto-Mus**	**0.37**	**351**	*e*PG	**Pb**	**16 14 40.0**	**-0.6**
VRTB				*e*SG	**Sb**	**16 14 46.2**	**-0.5**
VRTB	**Varto-Mus**	**0.37**	**351**	*e*Pg	**Pb**	**16 14 40.0**	**-0.6**
BTMT	**Batman**	**0.61**	**183**	*e*PG	**Pb**	**16 14 44.0**	**-0.6**
BTMT				*e*SG	**Sb**	**16 14 53.9**	**+0.5**
BTMT	**Batman**	**0.61**	**183**	*e*Pg	**Pb**	**16 14 44.0**	**-0.6**
BTMT				*e*Sg	**Sb**	**16 14 53.9**	**+0.5**
TATV	**Tatvan**	**0.64**	**116**	*i* P	**Pg**	**16 14 43.6**	**-0.3**
TATV				*i* S	**Sg**	**16 14 52.9**	**+0.6**
TATV	**Tatvan**	**0.64**	**116**	*i* P	**Pg**	**16 14 43.6**	**-0.3**
TATV				*i* S	**Sg**	**16 14 52.9**	**+0.6**
BNGB	**Bing¨¶l**	**0.69**	**286**	*e*PG	**Pg**	**16 14 45.4**	**+0.6**
BNGB				*e*SG	**Sb**	**16 14 56.0**	**0.0**
BINT	**Bingol**	**0.82**	**276**	*e*Pg	**Pg**	**16 14 45.4**	**-1.8**
BINT				*e*Sg	**Sg**	**16 14 56.0**	**-1.8**
BEST	**Besiri**	**0.93**	**193**	*i* P	**Pb**	**16 14 50.2**	**+0.1**
BEST				*i* S	**Sn**	**16 15 04.7**	**-0.2**
ERZM	**Erzurum**	**1.11**	**353**	*i* P	**Pg**	**16 14 53.1**	**+0.3**
ERZM				*i* S	**Sg**	**16 15 06.4**	**-0.9**
ERZM	**Erzurum**	**1.11**	**353**	*i* P	**Pg**	**16 14 53.1**	**+0.3**
ERZM				*i* S	**Sg**	**16 15 06.4**	**-0.9**
EZM	**Erzurum**	**1.11**	**353**	*e*PN	**Pg**	**16 14 53.5**	**+0.6**
EZM				*e*SN	**Sn**	**16 15 10.4**	**+0.6**
TUTA	**Tutak**	**1.17**	**58**	*i* P	**Pg**	**16 14 54.3**	**+0.4**
TUTA				*i* S	**Sn**	**16 15 12.4**	**+1.4**
TUTA	**Tutak**	**1.17**	**58**	*i* P	**Pg**	**16 14 54.3**	**+0.4**
TUTA				*i* S	**Sn**	**16 15 12.4**	**+1.4**
AGRB	**Hanur-Agry**	**1.38**	**55**	*e*PN	**Pn**	**16 14 56.8**	**-0.7**
AGRB	**Hanur-Agry**	**1.38**	**55**	*e*Pn	**Pn**	**16 14 56.8**	**-0.7**
DIYA	**Diyarbakir**	**1.41**	**232**	*i* P	**Pg**	**16 14 58.5**	**0.0**
DIYA				*i* S	**Sg**	**16 15 17.9**	**+1.1**
DIYA	**Diyarbakir**	**1.41**	**232**	*i* P	**Pg**	**16 14 58.5**	**0.0**
DIYA				*i* S	**Sg**	**16 15 17.9**	**+1.1**
SIRN	**S¨¬rnak**	**1.47**	**152**	*i* P	**Pg**	**16 15 00.1**	**+0.4**
SIRN				*i* S	**Sn**	**16 15 18.1**	**-0.3**
SIRN	**S¨¬rnak**	**1.47**	**152**	*i* P	**Pg**	**16 15 00.1**	**+0.4**
SIRN				*i* S	**Sn**	**16 15 18.1**	**-0.3**
MARD	**Mardin**	**1.60**	**202**	*i* P	**Pb**	**16 15 00.2**	**-0.3**
MARD				*i* S	**Sb**	**16 15 21.8**	**-0.2**
ERZN	**Erzincan**	**1.61**	**300**	*e*PN	**Pn**	**16 15 00.9**	**+0.2**
PTK	**Pertek**	**1.67**	**274**	*e*PN	**Pn**	**16 15 01.9**	**+0.3**
PTK	**Pertek**	**1.67**	**274**	*e*Pn	**Pn**	**16 15 01.9**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.79**	**257**	*e*PN	**Pn**	**16 15 03.2**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.79**	**257**	*e*Pn	**Pn**	**16 15 03.2**	**0.0**
BAYT	**Ayd¨¬ntepe-Bay**	**1.92**	**326**	*e*PN	**Pn**	**16 15 05.4**	**+0.4**
BAYT	**Ayd¨¬ntepe-Bay**	**1.92**	**326**	*e*Pn	**Pn**	**16 15 05.4**	**+0.4**
HAKT	**HAKKARI**	**2.11**	**125**	*i* P	**Pb**	**16 15 10.3**	**-0.1**
HAKT				*i* S	**Sg**	**16 15 39.7**	**+0.2**
HAKT	**HAKKARI**	**2.11**	**125**	*i* P	**Pb**	**16 15 10.3**	**-0.1**
CUKT	**Cukurca**	**2.25**	**133**	*e*PN	**Pn**	**16 15 08.5**	**-1.0**
CUKT	**Cukurca**	**2.25**	**133**	*e*Pn	**Pn**	**16 15 08.5**	**-1.0**
MYA	**Malataya**	**2.48**	**260**	*e*PN	**Pn**	**16 15 12.8**	**+0.2**
MYA	**Malataya**	**2.48**	**260**	*e*Pn	**Pn**	**16 15 12.8**	**+0.2**
MALT	**Malatya**	**2.48**	**260**	*e*PN	**Pn**	**16 15 13.2**	**+0.6**
MALT	**Malatya**	**2.48**	**260**	*e*Pn	**Pn**	**16 15 13.3**	**+0.6**
URFA	**Urfa**	**2.53**	**238**	*e*PN	**Pn**	**16 15 13.3**	**0.0**
URFA	**Urfa**	**2.53**	**238**	*e*Pn	**Pn**	**16 15 13.3**	**0.0**

*IDC **11** 16:21:00.1±1.1, 34.75N×25.22E, h0km, mb3.8/8, mb1 3.8/12, mb1mx3.7/28, mbtmp3.7/12, ML3.5/4, Error ellipse: s-maj=23.8km s-min=20.9km az=5.0*
*CSEM **11** 16:21:03.9±0.2, 34.56N×25.20E, h2km, ML3.4/1, Error ellipse: s-maj=5.7km s-min=3.5km az=61.0*
*ATH **11** 16:21:05.3, 34.63N×25.20E, h26km±1km, MD3.2/6*
*HLW **11** 16:21:06.7, 34.57N×25.09E, h33km±21km, Md3.3, MI3.4*
*THE **11** 16:21:07.6, 34.79N×25.22E, h4km±1km, ML3.4/1, Error ellipse: s-maj=1.9km s-min=0.7km az=359.0*
ISC 11 16:21:03.8±0.5, 34.56N±0.03×25.29E±0.03, h21km±2km, n80,σ1950/93, mb4.1/12, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.60**	**319**	P	**Pb**	**16 21 15.5**	**-0.2**
SIVA				S	**Sb**	**16 21 21.9**	**-1.9**
SIVA	**Sivas**	**0.60**	**319**	*e*PN	**Pb**	**16 21 15.5**	**-0.2**
SIVA				*e*SN	**Sb**	**16 21 23.5**	**-0.3**
SIVA	**Sivas**	**0.60**	**319**	P	**Pb**	**16 21 15.5**	**-0.2**
SIVA				S	**Sb**	**16 21 21.9**	**-1.9**
SIVA				*e*Sn	**Sb**	**16 21 23.5**	**-0.3**
LAST	**Lasithi**	**0.62**	**15**	P	**Pb**	**16 21 16.0**	**-0.1**
LAST	**Lasithi**	**0.62**	**15**	P	**Pb**	**16 21 16.0**	**-0.1**
NPS	**Neapolis**	**0.75**	**21**	P	**Pb**	**16 21 18.7**	**+0.5**
NPS				S	**Sb**	**16 21 27.4**	**-0.5**
NPS	**Neapolis**	**0.75**	**21**	*e*PN	**Pb**	**16 21 19.0**	**+0.8**
NPS				*e*SN	**Sb**	**16 21 29.1**	**+1.2**
NPS	**Neapolis**	**0.75**	**21**	P	**Pb**	**16 21 18.7**	**+0.5**
NPS	**Neapolis**	**0.75**	**21**	*e*Pn	**Pb**	**16 21 19.0**	**+0.8**
NPS				S	**Sb**	**16 21 27.4**	**-0.5**
NPS				*e*Sn	**Sb**	**16 21 29.1**	**+1.2**
IDI	**Anoyia**	**0.80**	**336**	P	**Pb**	**16 21 18.8**	**-0.2**
IDI				S	**Sb**	**16 21 27.5**	**-1.8**
IDI	**Anoyia**	**0.80**	**336**	*e*PN	**Pb**	**16 21 18.9**	**-0.1**
IDI				*e*SN	**Sb**	**16 21 29.5**	**+0.2**
IDI	**Anoyia**	**0.80**	**336**	P	**Pb**	**16 21 18.8**	**-0.2**
IDI				S	**Sb**	**16 21 27.5**	**-1.8**
IDI				*e*Sn	**Sb**	**16 21 29.5**	**+0.2**
VAM	**Vamos**	**1.23**	**314**	P	**Pn**	**16 21 26.9**	**+1.1**
VAM				S	**Sn**	**16 21 41.7**	**-0.1**
VAM	**Vamos**	**1.23**	**314**	*e*PN	**Pn**	**16 21 27.1**	**+1.3**
VAM	**Vamos**	**1.23**	**314**	P	**Pn**	**16 21 26.9**	**+1.1**
VAM				S	**Sn**	**16 21 41.7**	**-0.1**
KARN	**Karanos**	**1.40**	**307**	P	**Pb**	**16 21 30.3**	**+1.0**
KARN				S	**Sb**	**16 21 47.9**	**+1.1**
KARN	**Karanos**	**1.40**	**307**	*e*PN	**Pn**	**16 21 30.0**	**+1.8**
KARN				*e*SN	**Sn**	**16 21 47.3**	**+1.1**
KARN	**Karanos**	**1.40**	**307**	*e*Pn	**Pn**	**16 21 30.0**	**+1.8**
KARN	**Karanos**	**1.40**	**307**	P	**Pb**	**16 21 30.3**	**+1.0**
KARN				*e*Sn	**Sn**	**16 21 47.3**	**+1.1**
KARN				S	**Sb**	**16 21 47.9**	**+1.1**
KARP	**Karpathos**	**1.82**	**57**	P	**Pb**	**16 21 37.7**	**+1.2**
KARP	**Karpathos**	**1.82**	**57**	*e*PN	**Pb**	**16 21 37.8**	**+1.2**
KARP	**Karpathos**	**1.82**	**57**	P	**Pb**	**16 21 37.7**	**+1.2**
THR2	**Thira island,**	**1.88**	**4**	P	**Pn**	**16 21 37.0**	**+2.2**
THR2	**Thira island,**	**1.88**	**4**	P	**Pn**	**16 21 37.0**	**+2.2**
APE	**Apeiranthos**	**2.51**	**4**	P	**Pn**	**16 21 44.5**	**+1.0**
APE	**Apeiranthos**	**2.51**	**4**	*e*PN	**Pn**	**16 21 46.2**	**+2.7**
APE	**Apeiranthos**	**2.51**	**4**	P	**Pn**	**16 21 44.5**	**+1.0**
APE	**Apeiranthos**	**2.51**	**4**	*e*Pn	**Pn**	**16 21 46.2**	**+2.7**
KYTH	**Kithira**	**2.52**	**314**	P	**Pn**	**16 21 45.6**	**+2.1**
KYTH	**Kithira**	**2.52**	**314**	P	**Pn**	**16 21 45.6**	**+2.1**
NIS1	**Nisyros Isl.**	**2.55**	**37**	P	**Pb**	**16 21 49.6**	**+0.7**
NIS1	**Nisyros Isl.**	**2.55**	**37**	P	**Pb**	**16 21 49.6**	**+0.7**
ARG	**Arkhangelos**	**2.85**	**54**	P	**Pn**	**16 21 50.7**	**+2.7**
ARG				S	**Sb**	**16 22 26.0**	**-2.3**
ARG	**Arkhangelos**	**2.85**	**54**	*e*PN	Pn	16 21 51.6	+3.6
ARG	**Arkhangelos**	**2.85**	**54**	P	**Pn**	**16 21 50.7**	**+2.7**
ARG	**Arkhangelos**	**2.85**	**54**	*e*Pn	Pn	16 21 51.6	+3.6
ARG				S	**Sb**	**16 22 26.0**	**-2.3**
VLI	**Veliai**	**2.88**	**319**	P	**Pn**	**16 21 50.0**	**+1.5**
VLI	**Veliai**	**2.88**	**319**	*e*PN	**Pn**	**16 21 50.1**	**+1.5**
VLI	**Veliai**	**2.88**	**319**	*e*Pn	**Pn**	**16 21 50.1**	**+1.5**
SLUM		**3.06**	**181**	P	**Pn**	**16 21 52.1**	**+1.1**
SLUM		**3.06**	**181**	AMP		16 22 00.0	
	comp=N,100μm,0.5s,logA/T=5.3,baz=177						
DID	**Didima**	**3.38**	**331**	P	**Pn**	**16 21 56.2**	**+0.8**
DID				S	**Sn**	**16 22 34.6**	**-0.2**
DID	**Didima**	**3.38**	**331**	P	**Pn**	**16 21 56.2**	**+0.8**
HMAT	**Matruh**	**3.78**	**156**	P	**Pn**	**16 22 02.7**	**+1.8**
HMAT				S	**Sn**	**16 22 45.5**	**+0.8**
HMAT	**Matruh**	**3.78**	**156**	P	**Pn**	**16 22 02.7**	**+1.8**
	baz=153						
HMAT				S	**Sn**	**16 22 45.5**	**+0.8**
	baz=153						
SWA2		**5.30**	**178**	P	**Pn**	**16 22 23.1**	**+1.3**
SWA2				S	**Sn**	**16 23 21.4**	**-1.0**
SWA2		**5.30**	**178**	P	**Pn**	**16 22 23.1**	**+1.3**
	baz=176						
SWA2				AMP		16 23 00.0	
	comp=E,50μm,0.3s,logA/T=5.2,baz=176						
SWA2				S	**Sn**	**16 23 21.4**	**-1.0**
	baz=176						
HMYD	**Mayadein**	**6.66**	**134**	P	Pn	16 22 43.8	+3.3
HMYD	**Mayadein**	**6.66**	**134**	P	Pn	16 22 43.9	+3.3
	baz=132						
HNAT	**Natroun**	**6.68**	**136**	P	Pn	16 22 44.2	+3.5
HNAT	**Natroun**	**6.68**	**136**	P	Pn	16 22 44.2	+3.5
	baz=134						
HFRF	**Wahat Farafira**	**7.83**	**160**	P	**Pn**	**16 22 59.2**	**+2.6**
HFRF	**Wahat Farafira**	**7.83**	**160**	P	**Pn**	**16 22 59.2**	**+2.6**
	baz=158						
BRTR	**Keskin Array B**	**8.42**	**50**	Pn	**Pn**	**16 23 04.3**	**-0.5**
	comp=E,0.1nm,0.3s,baz=231,slow=7.8,SNR=6.3						
MMAI	**Mount Meron Ar**	**8.56**	**98**	Pn	**Pn**	**16 23 05.8**	**-0.9**
	comp=E,1.7nm,0.3s,baz=295,slow=12,SNR=6.7						
MMAI				Sn	**Sn**	**16 24 38.3**	**-4.3**
	comp=E,2.2nm,0.3s,baz=298,slow=26,SNR=4.5						
EIL	**Elat**	**9.53**	**118**	Pn	**Pn**	**16 23 20.1**	**+0.2**
	comp=E,0.6nm,0.3s,baz=284,slow=22,SNR=7.3						
EIL				Sn	Sn	16 25 01.7	-4.8
	comp=E,0.8nm,0.3s,baz=38,slow=21,SNR=6.2						
HDK1	**Dakhla**	**9.67**	**157**	P	**Pn**	**16 23 24.6**	**+2.8**
HDK1	**Dakhla**	**9.67**	**157**	P	**Pn**	**16 23 24.6**	**+2.8**
	baz=156						
HDHB	**Dhahab**	**9.85**	**124**	P	Pn	16 23 28.9	+4.7
HDHB	**Dhahab**	**9.85**	**124**	P	Pn	16 23 28.9	+4.7
	baz=123						
ASF	**Jabal al Asfar**	**10.00**	**101**	Sn	**Sn**	**16 25 14.5**	**-3.4**
	comp=E,0.3nm,0.3s,baz=284,slow=4.2,SNR=2.2						
HHRG	**Al Ghardaqah**	**10.20**	**134**	P	Pn	16 23 32.6	+3.5
HHRG	**Al Ghardaqah**	**10.20**	**134**	P	Pn	16 23 32.6	+3.5
	baz=133						
AKASG	**Malin Array Be**	**16.38**	**9**	Pn	**Pn**	**16 24 52.9**	**+0.5**
	comp=E,1.1nm,0.3s,baz=202,slow=11,SNR=6.5						
GERES	**GERESS Array B**	**16.66**	**332**	Pn	**Pn**	**16 24 54.9**	**-1.1**
	comp=E,0.1nm,0.3s,baz=153,slow=8.8,SNR=2.7						
FINES	**FINESS Array B**	**26.90**	**1**	P	**P**	**16 26 40.1**	**-3.0**
	comp=E,2.3nm,0.9s,baz=176,slow=9.2,SNR=5.3						
TORD	**Torodi Ar. Bea**	**30.19**	**231**	P	**P**	**16 27 13.5**	**+0.7**
	comp=E,1.2nm,0.5s,baz=38,slow=8.4,SNR=8.8						
ARCES	**ARCESS Array B**	**35.03**	**0**	P	P	16 27 51.6	-3.1
	comp=E,0.2nm,0.9s,baz=161,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	**44.02**	**56**	P	**P**	**16 29 09.8**	**-0.1**
	comp=E,0.6nm,0.5s,baz=270,slow=7.3,SNR=14						
ZALV	**Zalesovo Beam**	**45.34**	**46**	P	**P**	**16 29 19.4**	**-0.8**
	comp=E,1.0nm,0.4s,baz=262,slow=8.2,SNR=5.3						
DANN	**Dangsing**	**49.67**	**80**	*e*P	**P**	**16 29 55.1**	**+0.4**
	comp=E,15nm,0.7s						
GKN	**Gorkha**	**50.52**	**80**	*e*P	**P**	**16 30 00.7**	**-0.2**
	comp=E,7.5nm,0.7s						
DMN	**Daman**	**51.06**	**80**	*e*P	**P**	**16 30 05.0**	**-0.1**
	comp=E,13nm,1.0s						
KKN	**Kakani**	**51.13**	**80**	*e*P	**P**	**16 30 05.0**	**-0.6**
	comp=E,4.6nm,0.7s						
PKI	**Pulchoki**	**51.32**	**80**	*e*P	**P**	**16 30 06.6**	**-0.6**
GUN	**Gumba**	**51.57**	**80**	*e*P	**P**	**16 30 08.3**	**-0.7**
JIRN	**Jiri**	**51.92**	**80**	*e*P	**P**	**16 30 10.3**	**-1.4**
SONM	**Songino Array**	**59.78**	**50**	P	**P**	**16 31 07.0**	**-0.5**
	comp=E,0.9nm,0.6s,baz=296,slow=8.1,SNR=6.5						
CMAR	**Chiang Mai Arr**	**66.54**	**83**	P	**P**	**16 31 51.6**	**-1.0**
	comp=E,0.2nm,0.3s,baz=302,slow=8.4,SNR=6.1						
YKA	**Yellowknife Ar**	**78.05**	**342**	P	P	16 32 58.6	-1.9
	comp=E,0.1nm,0.6s,baz=32,slow=5.3,SNR=2.7						

WEL 11 16:45:51.8±0.6, 37.98S×176.19E, h180km±4km, ML3.5/7, 3C-7D, Error ellipse: s-maj=4.5km s-min=3.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPRZ	**Ohinepanea**	**0.32**	**65**	⇓P	Pn	16 46 16.2	+0.3
URZ	**Urewera**	**0.78**	**111**	⇓P	Pn	16 46 17.7	-0.2
URZ				S	Sn	16 46 37.8	-0.3
MWZ	**Matawai**	**1.11**	**109**	⇓P	Pn	16 46 20.2	-0.2
MWZ				S	Sn	16 46 42.2	-0.3
RAHZ	**Arahi**	**1.17**	**143**	P	Pn	16 46 21.2	+0.4
BKZ	**Black Stump Fm**	**1.21**	**169**	⇓P	Pn	16 46 21.0	-0.2
BKZ				S	Sn	16 46 42.8	-1.2
NMHZ	**Naumai**	**1.21**	**157**	P	Pn	16 46 22.1	+0.9
MOVZ	**Moawhango**	**1.46**	**193**	P	Pn	16 46 23.0	-0.5
BHHZ	**Black Hill Sta**	**1.51**	**184**	P	Pn	16 46 23.4	-0.4
MCHZ	**McNeill Hill**	**1.51**	**165**	P	Pn	16 46 24.3	+0.5
KNZ	**Kokohu**	**1.56**	**132**	⇓P	Pn	16 46 24.2	0.0
PRGZ	**Paritu Road**	**1.63**	**126**	P	Pn	16 46 24.9	0.0
PUZ	**Puketiti**	**1.63**	**94**	P	Pn	16 46 24.5	-0.6
CNGZ	**Carnagh Statio**	**1.67**	**108**	⇑P	Pn	16 46 25.0	+0.6
MXZ	**Matakaoa Point**	**1.73**	**77**	P	Pn	16 46 25.7	-0.3
MHGZ	**Mahia Peninsul**	**1.78**	**131**	P	Pn	16 46 26.8	+0.3
CKHZ	**Cape Kidnapper**	**1.81**	**158**	P	Pn	16 46 26.8	0.0
KAHZ	**Kahuranaki**	**1.89**	**164**	P	Pn	16 46 27.5	-0.1
PNHZ	**Pukenui**	**1.93**	**180**	P	Pn	16 46 27.2	-0.8
WAZ	**Wanganui**	**2.00**	**208**	P	Pn	16 46 27.9	-0.9
TSZ	**Takapari Road**	**2.08**	**185**	P	Pn	16 46 28.7	-1.1
WPHZ	**Waipukurau**	**2.09**	**175**	P	Pn	16 46 29.0	-0.8
PXZ	**Pawanui**	**2.11**	**166**	⇑P	Pn	16 46 29.2	-0.8
PRHZ	**Porangahau**	**2.31**	**172**	P	Pn	16 46 31.1	-1.1
DVHZ	**Dannevirke**	**2.31**	**180**	P	Pn	16 46 30.8	-1.5
POWZ	**Post Office Ro**	**2.43**	**188**	P	Pn	16 46 31.9	-1.7
BFZ	**Birch Farm**	**2.69**	**179**	P	Pn	16 46 34.7	-2.0
MRZ	**Mangatainoka R**	**2.72**	**190**	⇑P	Pn	16 46 34.8	-2.2
TIWZ	**Tintock**	**2.80**	**185**	P	Pn	16 46 36.0	-2.0
OGWZ	**Otaki Gorge**	**2.94**	**195**	P	Pn	16 46 37.4	-2.2
HOWZ	**Holdsworth Sta**	**2.96**	**190**	⇓P	Pn	16 46 37.3	-2.6
KIW	**Kapiti Island**	**3.04**	**199**	P	Pn	16 46 38.1	-2.8
MTW	**Mount Morrison**	**3.21**	**189**	P	Pn	16 46 39.9	-3.1
CAW	**Cannon Point**	**3.24**	**195**	⇓P	Pn	16 46 40.5	-2.8
DUWZ	**D'Urville Isla**	**3.32**	**211**	P	Pn	16 46 41.4	-2.9
TRWZ	**Traveller**	**3.43**	**186**	PN	Pn	16 46 42.9	-2.8
PAWZ	**Paruwai Farm**	**3.44**	**190**	PN	Pn	16 46 42.5	-3.4
WEL	**Wellington**	**3.48**	**198**	PN	Pn	16 46 43.1	-3.1
MSWZ	**Moikau Station**	**3.50**	**192**	PN	Pn	16 46 43.3	-3.3
SNZO	**South Karori**	**3.51**	**199**	PN	Pn	16 46 43.3	-3.4
TCW	**Tory Channel**	**3.55**	**204**	PN	Pn	16 46 44.0	-3.1
BHW	**Baring Head**	**3.57**	**196**	PN	Pn	16 46 43.8	-3.5
PLWZ	**Palliser**	**3.65**	**191**	PN	Pn	16 46 45.0	-3.5
TUWZ	**Tuamarina**	**3.85**	**206**	PN	Pn	16 46 47.6	-3.3
NNZ	**Nelson**	**3.89**	**213**	PN	Pn	16 46 47.6	-3.8
QRZ	**Quartz Range**	**4.01**	**224**	PN	Pn	16 46 48.9	-4.1
BSWZ	**Blackbirch Sta**	**4.13**	**205**	PN	Pn	16 46 51.2	-3.3
THZ	**Tophouse**	**4.54**	**213**	PN	Pn	16 46 56.1	-3.7
KHZ	**Kahutara**	**4.87**	**204**	PN	Pn	16 47 00.1	-3.9
MQZ	**McQueen's Vall**	**6.32**	**204**	PN	Pn	16 47 16.8	-6.0
MQZ				SN	Sn	16 48 24.3	-10

*BJI **11** 17:17:01.5, 6.80N×72.90W, h152km, mB5.0/7*
*ISCJB **11** 17:17:02.3±0.3, 6.75N±0.03×72.89W±0.02, h170km±2km, mb4.9/136, Error ellipse: s-maj=4.7km s-min=3.6km az=149.4*
*FUNV **11** 17:17:02.2, 6.76N×73.17W, h176km, MW4.9*
*IDC **11** 17:17:03.0±0.5, 6.80N×72.95W, h158km±4km, mb4.4/23, mb1 4.5/29, mb1mx4.3/34, mbtmp4.4/29, Error ellipse: s-maj=9.3km s-min=8.2km az=102.0*
*NEIC **11** 17:17:03.2±0.2, 6.75N×72.91W, mb5.0/121, Error ellipse: s-maj=3.9km s-min=3.2km az=90.0*
NEIC Felt [II] at Medellin. Also felt at Bogota, Bucaramanga, Cucuta, Envigado, Gonzalez, Manizales, Ocana, San Cristobal, San Gil and Tunja.
ISC 11 17:17:02.9±0.4, 6.77N±0.03×73.00W±0.04, h161km±3km, h161km:pP-P,n687,σ1907/745, mb4.9/136, 210C-200D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.22**	**235**	⇑*i*P	**Pn**	**17 17 24.0**	**-0.9**
BARC				*e*S	**Sn**	**17 17 37.7**	**-3.9**
CAPV	**Capacho**	**1.28**	**32**	⇓*i*P	**Pn**	**17 17 32.1**	**+0.6**
CAPV				*e*S	**Sn**	**17 17 53.7**	**+0.3**
OCAC	**Ocana**	**1.49**	**348**	*i* P	**Pn**	**17 17 32.1**	**-1.4**
OCAC				*e*S	**S

BLA Blacksburg 31.05 348 eP P 17 23 07.2 +1.5
10nm,0.7s
PLAL Pickwick Lake 31.32 336 eP P 17 23 08.9 +0.8
60nm,0.8s
NATX Nacogdoches 32.05 324 eP P 17 23 15.2 +0.7
135nm,1.2s
WVT Waverly 32.23 337 eP P 17 23 16.7 +0.8
66nm,0.6s
HBAR Harrisburg 32.92 333 eP P 17 23 23.2 +1.2
BDFB Brasilia 33.29 132 P P 17 23 26.9 +1.3
BDFB Brasilia 33.29 132 P P 17 23 26.9 +1.3
3.9nm,0.5s,baz=282,slow=9.7,SNR=7.5
MIAR Mount Ida 33.53 328 eP P 17 23 26.9 -0.4
18nm,0.7s
WCI Wyandotte Cave 33.56 341 eP P 17 23 28.6 +1.1
59nm,0.6s
USIN University of 33.79 339 eP P 17 23 30.5 +1.0
196nm,0.9s
SSPA Standing Stone 34.00 353 eP P 17 23 32.9 +1.6
36nm,1.4s
SIUC Southern Illin 34.15 337 eP P 17 23 33.1 +0.5
129nm,0.6s
JCT Junction City 34.48 317 ⇑P P 17 23 35.3 -0.4
baz=35,SNR=5.3
BLO Bloomington 34.49 341 eP P 17 23 36.9 +1.4
113nm,0.6s
ACSO Alum Creek Sta 34.50 346 eP P 17 23 37.3 +1.7
43nm,0.8s
OLIL Olney 34.63 339 eP P 17 23 37.4 +0.7
107nm,0.5s
FVM French Village 34.87 336 eP P 17 23 39.5 +0.7
91nm,0.6s
ALLY Alegheny Colle 35.31 351 eP P 17 23 44.3 +1.8
16nm,0.7s
BINY Binghamton 35.38 356 eP P 17 23 45.0 +1.9
16nm,0.6s
HRV Adam Dziewonsk 35.61 2 eP P 17 23 46.7 +1.7
ERPA Erie 35.74 351 eP P 17 23 47.4 +1.2
30nm,0.7s
TUL1 Tulsa 35.74 327 ⇓P P 17 23 46.1 -0.2
baz=36,SNR=8.1
SFIN Scholer Farm 35.77 341 ⇑P P 17 23 47.4 +1.0
baz=36
628A Black Gap, Mar 36.09 312 ⇑P P 17 23 49.7 +0.2
baz=36,SNR=16
CPUP Villa Florida 36.25 156 pP pP 17 24 22.5 -2.6
1.4nm,0.5s,baz=326,slow=12,SNR=6.4
528A Cox Ranch, San 36.39 314 ⇑P P 17 23 52.1 0.0
baz=36,SNR=12
ACCN Adirondack Com 36.47 359 eP P 17 23 53.8 +1.4
8.4nm,0.6s
TXAR Lajitas Array 36.59 312 P P 17 23 54.2 +0.5
TXAR PcP PcP 17 26 15.1 +1.5
TXAR Lajitas Array 36.59 312 P P 17 23 54.2 +0.5
12nm,0.5s,baz=127,slow=9.3,SNR=119
TXAR PcP PcP 17 26 15.1 +1.5
6.5nm,0.7s,baz=148,slow=5.1,SNR=12
WMOK Wichita Mounta 36.59 323 eP P 17 23 52.9 -0.7
26nm,0.7s
AAM Ann Arbor 36.62 347 eP P 17 23 55.2 +1.5
63nm,0.5s
428A Kincaid Ranch, 36.63 314 ⇑P P 17 23 54.6 +0.5
baz=37,SNR=29
HDIL Hopedale 36.67 339 eP P 17 23 53.8 -0.3
93nm,0.5s
626A Big Bend Ranch 37.05 312 ⇓P P 17 23 57.9 +0.3
baz=37,SNR=20
NCB Newcomb 37.07 359 eP P 17 23 58.6 +1.2
11nm,0.6s
328A Wristen Ranch, 37.09 315 ⇑P P 17 23 57.9 0.0
baz=37,SNR=22
129A Stewart Farms, 37.19 318 ⇑P P 17 23 58.8 +0.1
baz=37,SNR=10,
427A Hayter Ranch, 37.21 314 ⇑P P 17 23 59.1 +0.2
baz=37,SNR=56
Z29A Hungry Hill Ra 37.46 319 ⇓P P 17 24 01.2 +0.1
baz=38,SNR=28
426A McDonald Obser 37.57 313 ⇓P P 17 24 02.5 +0.4
baz=38,SNR=74
327A Balmorhea Ranc 37.57 315 ⇑P P 17 24 02.3 +0.4
baz=38
227A Bennet, Jal 37.79 316 ⇑P P 17 24 04.2 +0.4
baz=38
Y29A Porterfield Fa 37.81 319 ⇑P P 17 24 04.5 +0.5
baz=38,SNR=36
326A Caldwell Ranch 37.88 314 ⇑P P 17 24 04.7 +0.1
baz=38,SNR=12
FRNY Flat Rock 37.92 359 eP P 17 24 05.8 +1.2
15nm,0.9s
Z28A Tucker Farm, M 37.93 318 ⇑P P 17 24 04.7 -0.3
baz=38,SNR=12
X29A Tulia 38.20 320 ⇑P P 17 24 07.5 +0.3
baz=38,SNR=18
Y28A McKinney Farm, 38.22 319 ⇑P P 17 24 07.6 +0.2
baz=38,SNR=25
127A Arkansas Junct 38.22 316 ⇑P P 17 24 07.0 -0.4
baz=38
425A Indio Mountain 38.32 313 ⇑P P 17 24 08.6 +0.3
baz=38,SNR=36
CLNB Carlsbad 38.34 315 eP P 17 24 08.5 +0.1
1.4nm,0.4s
226A Malaga, Loving 38.38 315 ⇓P P 17 24 09.3 +0.5
baz=38,SNR=11
AMTX Amarillo 38.47 321 eP P 17 24 09.5 +0.1
80nm,0.8s
AMTX Amarillo 38.47 321 ⇓P P 17 24 09.8 +0.3
baz=39,SNR=25
Z27A Tatum 38.50 317 ⇓P P 17 24 09.7 0.0
baz=39,SNR=130
X28A Dimmitt 38.57 320 ⇑P P 17 24 10.4 +0.1
baz=39,SNR=18
KSU1 Kansas State U 38.59 330 eP P 17 24 09.3 -0.9
88nm,0.7s
MSTX Muleshoe 38.60 319 ⇓P P 17 24 10.5 -0.1
baz=39,SNR=18
W29A Amraillo 38.60 321 ⇑P P 17 24 10.7 +0.2
baz=39,SNR=6.9
325A Bean Ranch, Si 38.62 313 ⇓P P 17 24 11.1 +0.2
baz=39,SNR=26
GDL2 Guadalupe Moun 38.65 315 eP P 17 24 11.6 +0.6
20nm,0.6s
126A Clayton Basin, 38.66 316 ⇑P P 17 24 11.1 0.0
baz=39
CPRX Cap Rock 38.78 317 eP P 17 24 13.5 +1.5
25nm,0.3s
Y27A Causey 38.81 318 ⇓P P 17 24 12.2 -0.1
baz=39
225A Deer Hill, Car 38.92 315 ⇑P P 17 24 14.1 +0.8
baz=39,SNR=35
Z26A Caprock 38.99 317 ⇓P P 17 24 14.2 +0.3
baz=39,SNR=81
V29A Stinnett 39.01 322 ⇑P P 17 24 15.1 +1.1
baz=39,SNR=6.0
324A Moseley Ranch, 39.03 313 ⇑P P 17 24 14.5 +0.3
baz=39,SNR=53
W28A Vega 39.04 321 ⇑P P 17 24 14.4 +0.2
baz=39
MNTX Cornudas Mount 39.10 314 eP P 17 24 14.8 +0.2
36nm,0.7s
MNTX Cornudas Mount 39.10 314 ⇑P P 17 24 15.2 +0.6
baz=39,SNR=85
125A Gardner Draw, 39.11 315 ⇓P P 17 24 15.4 +0.6
baz=39,SNR=37
X27A F and S Farms, 39.23 319 ⇑P P 17 24 16.1 +0.3
baz=39,SNR=9.0
Y26A Elida 39.27 318 ⇓P P 17 24 16.3 +0.2
baz=39,SNR=19
SCIA State Center 39.33 336 eP P 17 24 16.5 +0.2
89nm,0.6s
V28A Channing 39.37 321 ⇑P P 17 24 17.2 +0.2
baz=40
224A Cornudas Mount 39.40 314 ⇑P P 17 24 18.0 +0.8
baz=40,SNR=137
Z25A Roswell 39.50 316 ⇓P P 17 24 18.9 +0.8
baz=40,SNR=28
X26A CR and CF Fran 39.64 318 ⇑P P 17 24 19.5 +0.3
baz=40,SNR=24
124A Stringfield Ra 39.69 315 ⇑P P 17 24 20.8 +1.0
baz=40,SNR=28
Y25A Mesa, Roswell 39.85 317 ⇑P P 17 24 21.8 +0.8
baz=40,SNR=19
W26A Owens Ranch, T 39.93 319 ⇑P P 17 24 22.1 +0.5
baz=40,SNR=13
Z24A Sheeppen Canyo 39.98 316 ⇑P P 17 24 23.0 +0.9
baz=40,SNR=26
CBKS Cedar Bluff 40.01 327 eP P 17 24 21.7 -0.4
22nm,0.6s
CBKS Cedar Bluff 40.01 327 ⇑P P 17 24 22.1 0.0
baz=40
X25A Clemmons Ranch 40.19 318 ⇑P P 17 24 24.5 +0.8
baz=40,SNR=12
T28A Walsh 40.19 323 ⇓P P 17 24 23.9 +0.2
baz=40,SNR=10
123A Bell Site, Whi 40.23 314 ⇓P P 17 24 25.2 +1.1
baz=40
Y24A Capitan 40.36 316 ⇑P P 17 24 26.2 +0.9
baz=40,SNR=78
W25A X Bar L Ranch, 40.46 319 ⇓P P 17 24 26.8 +0.7
baz=41,SNR=48
T27A Campo 40.52 322 ⇑P P 17 24 26.7 +0.3
baz=41,SNR=22
Z23A Rita Site, Whi 40.54 315 ⇓P P 17 24 27.8 +1.1
baz=41,SNR=30
222A Williams Famil 40.55 313 ⇓P P 17 24 27.7 +1.0
baz=41,SNR=6.7
U26A Atchley Ranch, 40.73 321 ⇑P P 17 24 28.9 +0.7
baz=41,SNR=16
X24A Lazy VL Ranch, 40.73 317 ⇑P P 17 24 29.1 +0.9
baz=41,SNR=12
122A Conniff Cattle 40.79 314 ⇓P P 17 24 30.3 +1.6
baz=41
Y23A Lovelace Mesa, 40.79 316 ⇓P P 17 24 29.6 +0.8
baz=41,SNR=28
V25A Rancho No Teng 40.94 319 ⇓P P 17 24 30.9 +0.9
baz=41,SNR=28
221A Mesquite Ranch 41.00 312 ⇑P P 17 24 32.3 +1.9
baz=41,SNR=14
S27A Las Animas 41.03 323 ⇑P P 17 24 31.0 +0.4
baz=41,SNR=16
Z22A Elephant Butte 41.06 315 ⇓P P 17 24 32.3 +1.4
baz=41,SNR=28
W24A Lazy 6 Ranch, 41.08 318 ⇑P P 17 24 32.2 +1.0
baz=41,SNR=8.1
BGNE Belgrade 41.12 331 ⇑P P 17 24 31.5 +0.4
baz=41
T26A Comanche Natio 41.13 322 ⇑P P 17 24 32.2 +0.7
baz=41,SNR=25
U25A Circle Dot Ran 41.15 320 ⇑P P 17 24 32.7 +1.1
baz=41,SNR=20
320A Kipp Ranch, An 41.22 311 ⇓P P 17 24 33.8 +1.5
baz=41
X23A Hourglass Bar 41.25 317 ⇓P P 17 24 33.5 +1.0
baz=41
121A Cookes Peak, D 41.27 313 ⇓P P 17 24 34.2 +1.5
baz=41,SNR=21
V24A Rampart Ranch, 41.30 319 ⇓P P 17 24 34.4 +1.4
baz=41,SNR=32
BNM Barren Site 41.31 316 eP P 17 24 33.5 +0.4
6.2nm,0.7s
S26A Kim 41.34 322 ⇑P P 17 24 34.3 +1.2
baz=42
R27A Eads 41.37 324 ⇓P P 17 24 34.0 +0.6
baz=42,SNR=50
LPM Los Pinos Moun 41.40 316 eP P 17 24 34.2 +0.4
3.7nm,0.6s
Y22A Socorro 41.42 315 ⇑P P 17 24 34.9 +0.9
baz=42
Y22D IRIS PASSCAL I 41.47 316 ⇓P P 17 24 35.5 +1.3
baz=42
220A Playas Peak, P 41.50 312 ⇑P P 17 24 35.9 +1.4
baz=42,SNR=44
W23A Werner Place, 41.55 317 ⇑P P 17 24 36.0 +1.0
baz=42,SNR=11
LENM Lemitar 41.55 316 eP P 17 24 35.2 +0.2
8.9nm,0.7s
Z21A St. Cloud Mine 41.59 314 ⇓P P 17 24 36.8 +1.4
baz=42,SNR=16
T25A Trinidad 41.61 321 ⇑P P 17 24 36.9 +1.4
baz=42,SNR=18
ANMO Albuquerque 41.64 317 P P 17 24 36.5 +0.9
ANMO PcP PcP 17 26 30.1 +0.5
ANMO Albuquerque 41.64 317 P P 17 24 36.5 +0.9
5.8nm,0.5s,baz=121,slow=7.5,SNR=13
ANMO PcP PcP 17 26 30.1 +0.5
2.7nm,0.7s,baz=79,slow=5.2,SNR=3.2
U24A Moreno Valley 41.71 320 ⇑P P 17 24 38.4 +2.0
baz=42
KSCO Kaye Shedlock' 41.76 325 ⇑P P 17 24 37.0 +0.5
baz=42,SNR=12
R26A Arlington 41.77 323 ⇓P P 17 24 37.1 +0.6
baz=42,SNR=27
LAZ Ladron 41.80 316 eP P 17 24 38.1 +1.1
18nm,0.8s
319A Douglas 41.81 311 ⇓P P 17 24 38.4 +1.3
baz=42,SNR=19
120A U Bar Ranch, L 41.89 313 ⇑P P 17 24 39.3 +1.6
baz=42,SNR=39
V23A Ortiz Mt. (NFS 41.91 318 ⇓P P 17 24 39.3 +1.4
baz=42,SNR=12
S25A Robets Cordova 41.95 322 ⇑P P 17 24 39.4 +1.2
baz=42,SNR=44
Y21A Point of Rocks 41.96 315 ⇓P P 17 24 39.8 +1.5
baz=42,SNR=12
T24A Torres, Weston 41.97 321 ⇓P P 17 24 40.1 +1.6
baz=42,SNR=14
W22A Albuquerque 41.98 317 ⇓P P 17 24 39.8 +1.3
baz=42
SPMN St. Paul 42.00 339 ⇓P P 17 24 38.1 0.0
baz=42
Z20A Nine Sixteen R 42.15 313 ⇓P P 17 24 41.3 +1.4
baz=42,SNR=16
R25A Fountain Ranch 42.17 322 ⇓P P 17 24 41.0 +1.1
baz=42,SNR=37
Q26A Hugo 42.22 324 ⇓P P 17 24 41.4 +1.1
baz=42,SNR=14
ECSD EROS Data Cent 42.25 334 eP P 17 24 39.5 -0.8
29nm,0.4s
U23A El Rito 42.26 319 ⇑P P 17 24 42.4 +1.7
baz=42,SNR=7.6
Y20A Horse Springs, 42.40 314 ⇓P P 17 24 43.6 +1.6
baz=42,SNR=38
S24A Houchin Ranch, 42.42 321 ⇓P P 17 24 43.8 +1.7
baz=43,SNR=19
O27A Beecher Island 42.48 326 ⇓P P 17 24 42.9 +0.6
baz=43
P26A Davis Ranch, A 42.54 325 ⇓P P 17 24 43.4 +0.6
baz=43,SNR=14
W21A San Fidel 42.54 316 ⇑P P 17 24 44.2 +1.2
baz=43,SNR=9.8
T23A Casias Ranch, 42.57 320 ⇑P P 17 24 45.0 +1.7
baz=43,SNR=14
Q25A Bedland, Calha 42.64 323 ⇓P P 17 24 44.4 +0.7
baz=43,SNR=18
SDCO Great Sand Dun 42.67 321 eP P 17 24 45.3 +1.2
24nm,0.7s
SDCO Great Sand Dun 42.67 321 ⇓P P 17 24 45.2 +1.2
baz=43,SNR=61
U22A Llaves 42.72 318 ⇑P P 17 24 45.9 +1.5
baz=43,SNR=12
R24A Sanders Place, 42.72 322 ⇓P P 17 24 45.9 +1.4
baz=43,SNR=44
OGNE Ogallala 42.76 327 ⇑P P 17 24 44.6 +0.1
baz=43
X20A Quemado 42.82 315 ⇓P P 17 24 47.1 +1.8
baz=43,SNR=20
V21A Milan 42.91 317 ⇓P P 17 24 47.5 +1.5
baz=43,SNR=9.4
N27A Anderson Farm, 42.94 327 ⇓P P 17 24 46.1 +0.1
baz=43,SNR=9.4
S23A Nye Farm, Mont 42.95 321 ⇓P P 17 24 48.0 +1.7
baz=43,SNR=5.0
O26A Horse Wrangler 42.98 325 ⇑P P 17 24 47.0 +0.6
baz=43,SNR=10
P25A Willow Gulch B 42.98 324 ⇑P P 17 24 47.3 +0.8
baz=43,SNR=15
Y19A Nutrioso 43.05 314 ⇑P P 17 24 48.9 +1.7
baz=43,SNR=35
T22A Edith 43.12 319 ⇓P P 17 24 49.0 +1.3
baz=43,SNR=11
W20A Ramah 43.13 316 ⇑P P 17 24 48.9 +1.1
baz=43,SNR=8.8
R23A Moffat 43.14 321 ⇓P P 17 24 49.3 +1.4
baz=43,SNR=21
Q24A Divide 43.21 323 ⇑P P 17 24 49.0 +0.6
baz=43
U21A Nageezi 43.28 318 ⇑P P 17 24 49.9 +1.0
baz=43,SNR=13
N26A Koester Ranch, 43.33 326 ⇓P P 17 24 49.5 +0.4
baz=44
O25A Wiggins 43.35 325 ⇓P P 17 24 50.7 +1.3
baz=44
M27A Reverse DX Ran 43.36 328 ⇑P P 17 24 49.6 +0.3
baz=44
TUC Tucson 43.37 311 eP P 17 24 50.4 +0.8
17nm,0.8s
V20A Brimhall 43.47 317 ⇓P P 17 24 51.5 +1.1
baz=44,SNR=12
S22A 4UR Ranch, Cre 43.50 320 ⇓P P 17 24 52.1 +1.3
baz=44,SNR=32
T21A Navajo Lake 43.52 319 ⇑P P 17 24 52.3 +1.5
baz=44
M26A McRoberts Ranc 43.72 327 ⇑P P 17 24 52.6 +0.3
baz=44,SNR=6.0
R22A Saguache, Gunn 43.75 321 ⇑P P 17 24 53.9 +1.2
baz=44,SNR=13
N25A Grover 43.80 326 ⇑P P 17 24 53.3 +0.3
baz=44
U20A Newcomb 43.83 317 ⇓P P 17 24 53.9 +0.6
baz=44
BRSD Miller 43.84 333 ⇓P P 17 24 52.7 -0.4
baz=44,SNR=22
X18A Snowflake 43.84 314 ⇑P P 17 24 54.7 +1.3
baz=44,SNR=11
P23A Jefferson 43.89 323 ⇓P P 17 24 55.1 +1.2
baz=44,SNR=14
O24A Longmont 43.91 324 ⇑P P 17 24 55.1 +1.2
baz=44
EYMN Ely 43.96 342 eP P 17 24 53.8 -0.1
W18A Petrified Fore 43.99 315 ⇑P P 17 24 56.0 +1.4
baz=44,SNR=5.6
ISCO Idaho Springs 44.02 323 eP P 17 24 55.6 +0.7
35nm,0.9s
ISCO Idaho Springs 44.02 323 ⇓P P 17 24 56.2 +1.3
baz=44,SNR=36
S21A Coal Bank Pass 44.07 319 ⇑P P 17 24 56.3 +0.9
baz=44,SNR=32
L26A Underwood Farm 44.09 328 ⇓P P 17 24 55.3 +0.1
baz=44
K27A Flueckinger Fa 44.12 329 ⇑P P 17 24 55.1 -0.3
baz=44,SNR=6.7
M25A Palm-Egli Farm 44.20 326 ⇑P P 17 24 56.7 +0.5
baz=44
Q22A Crested Butte, 44.22 321 ⇑P P 17 24 57.7 +1.1
baz=44,SNR=27
U19A Dine' College, 44.24 317 ⇑P P 17 24 57.0 +0.3
baz=44,SNR=7.1
N24A Carr 44.26 325 ⇑P P 17 24 58.0 +1.4
baz=44
MVCO Mesa Verde 44.28 318 eP P 17 24 57.6 +0.7
12nm,0.6s
R21A Cimarron 44.33 320 ⇑P P 17 24 58.3 +1.0
baz=44,SNR=20
X17A Forest Lakes 44.36 313 ⇓P P 17 24 59.0 +1.4
baz=44,SNR=14
T19A Beclabito 44.41 318 ⇑P P 17 24 58.6 +0.7
baz=45,SNR=11
SMCO Snowmass 44.45 322 eP P 17 24 59.6 +1.1
7.2nm,0.5s
O23A Lake Granby, G 44.46 324 ⇑P P 17 24 59.4 +0.9
baz=45,SNR=6.7
S20A Disappointment 44.54 319 ⇓P P 17 25 00.5 +1.5
baz=45,SNR=50
P22A Eagle 44.58 322 ⇓P P 17 25 00.3 +1.0
baz=45,SNR=22
K26A Motz Farm, Whi 44.60 328 ⇑P P 17 24 59.5 +0.3
baz=45
Q21A Lamborn Mesa, 44.62 321 ⇓P P 17 25 01.0 +1.4
baz=45
L25A Engebretsen Ra 44.64 327 ⇓P P 17 25 00.4 +0.7
baz=45
M24A Cheyenne 44.65 326 ⇑P P 17 25 00.7 +0.9
baz=45
R20A Redvale 44.76 320 ⇓P P 17 25 02.1 +1.5
baz=45,SNR=27
214A Organ Pipe Nat 44.76 309 ⇓P P 17 25 01.5 +1.0
baz=45,SNR=16
U18A Rough Rock, Ch 44.76 317 ⇑P P 17 25 01.5 +0.7
baz=45,SNR=18
O22A Kremmling 44.80 323 ⇓P P 17 25 01.8 +0.7
baz=45,SNR=54
X16A Lo Mia Camp, P 44.85 313 ⇓P P 17 25 02.6 +1.1
baz=45,SNR=19
K25A Mack Ranch, Ha 44.91 328 ⇓P P 17 25 02.4 +0.7
baz=45,SNR=6.9
N23A Red Feather La 44.91 324 ⇓P P 17 25 03.1 +1.1
baz=45,SNR=24
P21A Newcastle 44.96 322 ⇓P P 17 25 03.7 +1.5
baz=45,SNR=30
S19A Harvey Farm, M 45.00 319 ⇓P P 17 25 03.2 +0.6
baz=45,SNR=11
L24A Wheatland 45.10 326 ⇑P P 17 25 03.8 +0.6
baz=45
Q20A Ridgley Place, 45.15 321 ⇑P P 17 25 04.8 +1.1
baz=45,SNR=31
T18A Mexican Hat 45.15 317 ⇓P P 17 25 04.3 +0.6
baz=45,SNR=24
N22A Wattenberg Ran 45.15 324 ⇑P P 17 25 05.4 +1.6
baz=45
114A Black Gap (USA 45.16 310 ⇑P P 17 25 05.0 +1.4
baz=45,SNR=34
M23A Laramie 45.16 325 ⇓P P 17 25 05.0 +1.2
baz=45
PV04 Paradox Valley 45.21 320 eP P 17 25 05.3 +1.1
WUAZ Wupatki 45.34 315 eP P 17 25 06.3 +1.0
74nm,0.9s
WUAZ Wupatki 45.34 315 ⇓P P 17 25 06.6 +1.3
baz=46,SNR=52
R19A Curley Farm, L 45.38 319 ⇓P P 17 25 06.1 +0.5
baz=46,SNR=5.4
O21A Pagoda 45.39 322 ⇑P P 17 25 07.1 +1.4
baz=46,SNR=7.4
Z14A Wintersburg 45.47 311 ⇑P P 17 25 07.3 +1.1
baz=46,SNR=15
K24A Anderson Ranch 45.49 327 ⇑P P 17 25 07.1 +0.8
baz=46
P20A De Beque 45.53 321 ⇑P P 17 25 07.8 +1.1
baz=46,SNR=9.1
S18A Hurst Farm, Bl 45.53 318 ⇑P P 17 25 07.6 +0.8
baz=46,SNR=20
L23A Garrett 45.57 326 ⇓P P 17 25 07.8 +0.7
baz=46,SNR=11
M22A Cedar Creek Ra 45.62 324 ⇑P P 17 25 08.6 +1.1
baz=46,SNR=6.2
T17A Navajo Res., N 45.70 317 ⇑P P 17 25 09.1 +0.9
baz=46,SNR=8.9
AGMN Agassiz Nation 45.72 339 eP P 17 25 07.8 0.0
48nm,0.6s
N21A Black Mountain 45.76 323 ⇓P P 17 25 09.9 +1.4
baz=46,SNR=16
Q19A Hogan Spring (45.76 320 ⇓P P 17 25 09.4 +0.9
baz=46,SNR=37
Y14A Wickenburg 45.77 312 ⇑P P 17 25 09.5 +1.0
baz=46,SNR=25
O20A White River Ci 45.81 322 ⇓P P 17 25 10.0 +1.1
baz=46,SNR=6.4
J24A Dixon Ranch, L 45.82 328 ⇑P P 17 25 09.7 +0.9
baz=46
R18A Canyonlands Na 45.85 319 ⇓P P 17 25 09.5 +0.3
baz=46,SNR=16
L22A Ellis Ranch, M 45.93 325 ⇓P P 17 25 11.1 +1.2
baz=46
K23A Bowen Ranch, D 45.95 326 ⇑P P 17 25 10.5 +0.5
baz=46,SNR=11
P19A Cripple Cowboy 45.98 321 ⇑P P 17 25 10.8 +0.6
baz=46,SNR=9.7
S17A Black Ridge (B 46.04 317 ⇓P P 17 25 11.7 +1.0
baz=46,SNR=17
RSSD Black Hills 46.05 329 eP P 17 25 10.8 +0.1
14nm,0.6s
RWWY Rawlins 46.16 324 eP P 17 25 12.5 +0.8
40nm,1.0s
I24A Kuemmerle Ranc 46.17 328 ⇑P P 17 25 12.2 +0.6
baz=46,SNR=6.9
M21A Separation Pea 46.19 324 ⇓P P 17 25 13.0 +1.0
baz=46,SNR=11
N20A Spence Gulch, 46.25 323 ⇑P P 17 25 13.0 +0.6
baz=46,SNR=21
J23A Dilts Ranch, B 46.35 327 ⇓P P 17 25 13.9 +0.9
baz=46
K22A Casper 46.38 326 ⇑P P 17 25 13.9 +0.6
baz=46,SNR=7.4
R17A Hanksville Air 46.40 318 ⇓P P 17 25 14.1 +0.6
baz=46,SNR=8.7
Q18A Rafter H Ranch 46.40 320 ⇑P P 17 25 14.4 +1.0
baz=46,SNR=13
L21A Rawlins 46.42 324 ⇑P P 17 25 14.1 +0.4
baz=47,SNR=6.9
O19A Miners Draw (B 46.45 322 ⇓P P 17 25 14.5 +0.6
baz=47,SNR=20
M20A Sweetwater, Wa 46.60 323 ⇓P P 17 25 16.0 +0.9
baz=47,SNR=22
S16A Weppner Ranch, 46.62 317 ⇓P P 17 25 16.0 +0.7
baz=47,SNR=7.9

SRU **San Rafael** 46.66 319 eP P 17 25 16.1 +0.5
41nm,0.9s
SRU **San Rafael** 46.66 319 ⇑P P 17 25 16.4 +0.8
baz=47,SNR=31
H24A **Dirks Ranch, A** 46.75 329 ⇓P P 17 25 15.6 -0.4
baz=47,SNR=5.9
GLA **Glamis** 46.76 310 eP P 17 25 17.3 +1.0
31nm,0.8s
GLA **Glamis** 46.76 310 ⇑P P 17 25 17.3 +1.0
baz=47,SNR=9.9
P18A **Preston Nutter** 46.77 320 ⇑P P 17 25 17.6 +1.0
baz=47,SNR=17
PDMCI **Parker Dam,Lak** 46.78 312 ⇑P P 17 25 16.9 +0.6
baz=47
K21A **Alcova** 46.78 325 ⇓P P 17 25 17.3 +0.9
baz=47,SNR=50
MDND **Maddock** 46.79 336 ⇓P P 17 25 16.5 +0.3
baz=47,SNR=20
Y12C **Blythe** 46.83 311 ⇑P P 17 25 17.5 +0.8
baz=47
N19A **John Jarvie Ra** 46.84 322 ⇑P P 17 25 17.3 +0.4
baz=47,SNR=34
R16A **Teasdale** 46.84 318 ⇓P P 17 25 18.2 +1.1
baz=47,SNR=34
J22A **Midwest** 46.86 327 ⇑P P 17 25 17.5 +0.5
baz=47,SNR=46
W13A **Hualapai Mount** 46.95 313 ⇑P P 17 25 18.9 +1.0
baz=47,SNR=9.1
Q16A **Castle Valley** 46.98 319 ⇓P P 17 25 18.7 +0.7
baz=47,SNR=8.6
O18A **Roosevelt** 46.98 321 ⇓P P 17 25 19.0 +0.9
baz=47,SNR=7.3
P17A **Butcher Ranch,** 47.00 320 ⇑P P 17 25 19.0 +0.8
baz=47,SNR=7.9
L20A **Wamsutter** 47.01 324 ⇓P P 17 25 18.9 +0.6
baz=47,SNR=10
H23A **Clabaugh Cattl** 47.06 328 ⇓P P 17 25 19.2 +0.8
baz=47
I22A **9 Mile Ranch,** 47.18 327 ⇓P P 17 25 19.8 +0.4
baz=47,SNR=22
M19A **Rock Springs** 47.19 323 ⇓P P 17 25 20.1 +0.4
baz=47
TMUT **Trail Mountain** 47.21 319 eP P 17 25 20.4 +0.5
14nm,0.6s
PLCA **Paso Flores** 47.32 177 P P 17 25 19.9 -0.5
PLCA pP pP 17 25 55.9 -0.6
PLCA ScP ScP 17 30 27.1 -0.6
PLCA **Paso Flores** 47.32 177 P P 17 25 19.9 -0.5
1.5nm,0.8s,baz=326,slow=6.7,SNR=3.7
PLCA pP pP 17 25 55.9 -0.6
6.6nm,0.9s,baz=356,slow=9.5,SNR=6.4
PLCA ScP ScP 17 30 27.1 -0.6
2.3nm,0.9s,baz=342,slow=6.4,SNR=3.0
R15A **Junction** 47.34 317 ⇑P P 17 25 22.0 +1.1
baz=48,SNR=7.8
J21A **Lysite** 47.35 326 ⇑P P 17 25 21.6 +0.8
baz=48,SNR=20
ULM **Lac du Bonnet** 47.38 340 P P 17 25 20.2 -0.4
ULM **Lac du Bonnet** 47.38 340 P P 17 25 20.2 -0.4
83nm,0.5s,baz=144,slow=7.1,SNR=142
O17A **Robinson Place** 47.40 320 ⇓P P 17 25 22.6 +1.2
baz=48,SNR=28
K20A **Yellowstone Ra** 47.42 325 ⇑P P 17 25 21.7 +0.4
baz=48,SNR=48
MSU **Marysvale** 47.43 318 eP P 17 25 22.7 +1.1
37nm,0.7s
MVU **Marysvale** 47.45 318 eP P 17 25 23.0 +1.2
55nm,0.9s
SWSC **Sam W. Stewart** 47.46 309 ⇑P P 17 25 22.6 +1.0
baz=48
F24A **Ekalaka** 47.47 330 ⇓P P 17 25 21.9 +0.3
baz=48,SNR=6.6
IRM **Iron Mountain** 47.47 311 ⇓P P 17 25 22.6 +0.8
baz=48,SNR=13
BC3 **Big Chuckawall** 47.49 310 ⇓P P 17 25 22.6 +0.6
baz=48,SNR=7.9
G23A **Biddle** 47.49 329 ⇑P P 17 25 22.0 +0.2
baz=48,SNR=6.0
I21A **Big Trails, Te** 47.57 326 ⇓P P 17 25 22.6 +0.1
baz=48,SNR=42
H22A **Clearmont** 47.58 328 ⇓P P 17 25 22.8 +0.3
baz=48,SNR=11
DVTC **Desert V Tower** 47.58 309 ⇑P P 17 25 23.6 +0.9
baz=48
P16A **Fountain Green** 47.67 319 ⇑P P 17 25 24.5 +1.1
baz=48,SNR=10.0
L19A **Farson** 47.67 323 ⇑P P 17 25 23.9 +0.6
baz=48,SNR=20
M18A **Lyman** 47.70 322 ⇑P P 17 25 24.0 +0.4
baz=48,SNR=10.0
J20A **Shoshoni** 47.71 325 ⇑P P 17 25 24.4 +0.8
baz=48,SNR=41
CCUT **Cedar City** 47.74 316 eP P 17 25 25.0 +1.0
11nm,1.0s
K19A **Absolon Red Bu** 47.81 324 ⇓P P 17 25 24.3 -0.1
baz=48,SNR=27
DAU **Daniels Canyon** 47.85 320 eP P 17 25 25.8 +0.9
42nm,0.8s
F23A **Volborg** 47.86 330 ⇓P P 17 25 24.6 0.0
baz=48,SNR=21
MPU **Maple Canyon** 47.87 320 eP P 17 25 25.6 +0.7
48nm,1.0s
N17A **Moffit Pass** 47.89 321 ⇑P P 17 25 26.1 +1.0
baz=48,SNR=16
O16A **Springville** 47.90 320 ⇑P P 17 25 26.0 +0.9
baz=48,SNR=32
ARUT **Antelope Range** 47.91 316 eP P 17 25 26.1 +0.9
9.3nm,0.4s
E24A **Baker** 47.91 331 ⇓P P 17 25 25.0 0.0
baz=48,SNR=6.1
MONP **Monument Peak** 47.92 309 ⇓P P 17 25 26.2 +0.8
baz=48
H21A **Big Horn, Sher** 47.97 327 ⇑P P 17 25 25.4 -0.1
baz=48,SNR=14
G22A **Birney** 47.97 329 ⇓P P 17 25 25.9 +0.4
baz=48,SNR=28
L18A **Fontenelle, Gr** 47.97 323 ⇑P P 17 25 26.3 +0.7
baz=48,SNR=11
BELC **Belle Mtn. Jos** 48.04 310 ⇑P P 17 25 27.0 +0.7
baz=48,SNR=9.1
P15A **Leamington** 48.05 319 ⇑P P 17 25 26.9 +0.6
baz=48,SNR=6.5
JLU **Jordanelle** 48.08 320 eP P 17 25 27.3 +0.7
17nm,0.9s
M17A **Scullys Gap (B** 48.09 322 ⇑P P 17 25 26.8 +0.2
baz=48,SNR=17
GMRC **Granite Mounta** 48.12 311 ⇑P P 17 25 27.4 +0.6
baz=48,SNR=7.7
I20A **Worland** 48.12 326 ⇓P P 17 25 27.3 +0.7
baz=48,SNR=40
SCHQ **Schefferville** 48.18 5 P P 17 25 27.2 +0.5
SCHQ ScP ScP 17 30 31.5 +0.4
SCHQ **Schefferville** 48.18 5 P P 17 25 27.2 +0.5
26nm,0.7s,baz=186,slow=6.6,SNR=62
SCHQ ScP ScP 17 30 31.5 +0.4
4.2nm,0.8s,baz=206,slow=5.1,SNR=5.3
BW06 **Boulder Array** 48.19 324 ⇓P P 17 25 27.6 +0.2
baz=48,SNR=31
PDAR **Pinedale Array** 48.19 324 P P 17 25 27.8 +0.4
PDAR PcP PcP 17 26 51.9 -0.2
PDAR **Pinedale Array** 48.19 324 P P 17 25 27.8 +0.4
17nm,0.6s,baz=125,slow=9.0,SNR=139
PDAR PcP PcP 17 26 51.9 -0.2
2.5nm,0.6s,baz=120,slow=5.3,SNR=3.2
PD02 **Pinedale Array** 48.20 324 eP P 17 25 27.4 0.0
J19A **Crowheart** 48.21 325 ⇓P P 17 25 27.7 +0.3
baz=48,SNR=25
PD01 **Pinedale Array** 48.21 324 eP P 17 25 27.7 +0.1
N16A **Rees Ranch, Co** 48.23 321 ⇑P P 17 25 28.6 +0.9
baz=48,SNR=23
PFO **Pinyon Flat Ob** 48.23 310 ⇑P P 17 25 28.7 +0.9
baz=48
D24A **Glendive** 48.32 332 ⇑P P 17 25 29.0 +0.9
baz=48,SNR=26
F22A **Rosebud** 48.33 329 ⇓P P 17 25 28.2 0.0
baz=48,SNR=12
H20A **Greybull** 48.39 327 ⇓P P 17 25 28.9 +0.2
baz=48,SNR=23
K18A **Toltan Ranch,** 48.40 324 ⇑P P 17 25 29.8 +0.8
baz=48,SNR=5.6
G21A **Lodge Grass** 48.45 328 ⇓P P 17 25 29.4 +0.2
baz=49,SNR=21
R13A **O'Grain Ranch,** 48.47 316 ⇓P P 17 25 30.9 +1.3
baz=49,SNR=25
O15A **The Old Anders** 48.56 320 ⇑P P 17 25 31.3 +1.2
baz=49,SNR=13
L17A **Cokeville** 48.58 322 ⇓P P 17 25 30.6 +0.3
baz=49,SNR=34

TUQ **Turquoise Moun** 48.59 312 ⇑P P 17 25 31.2 +0.7
baz=49,SNR=7.3
E22A **Miles City** 48.63 330 ⇓P P 17 25 30.5 0.0
baz=49,SNR=21
HEC **Hector,Ludlow** 48.64 311 ⇓P P 17 25 31.8 +1.1
baz=49,SNR=5.5
I19A **Meeteetse** 48.65 326 ⇑P P 17 25 31.5 +0.6
baz=49,SNR=26
C24A **Savage** 48.67 332 ⇑P P 17 25 31.5 +0.8
baz=49
HWUT **Hardware Ranch** 48.72 322 eP P 17 25 31.2 -0.2
25nm,0.7s
J18A **Kendall Valley** 48.73 324 ⇑P P 17 25 31.9 +0.4
baz=49,SNR=85
DUG **Dugway** 48.73 319 eP P 17 25 32.2 +0.7
12nm,0.6s
DUG **Dugway** 48.73 319 ⇓P P 17 25 32.4 +0.9
baz=49,SNR=5.2
D23A **Lindsay** 48.78 331 ⇑P P 17 25 32.4 +0.7
baz=49,SNR=15
MURC **Murrieta** 48.80 309 ⇓P P 17 25 32.8 +0.9
baz=49
F21A **Absaloka Mine,** 48.81 329 ⇓P P 17 25 32.0 +0.1
baz=49,SNR=9.7
BBRC **Big Bear Solar** 48.85 310 ⇓P P 17 25 33.5 +1.0
baz=49
L16A **Fish Haven** 48.87 322 ⇓P P 17 25 32.8 +0.2
baz=49,SNR=26
I18A **Diamond G Ranc** 48.91 325 ⇑P P 17 25 33.4 +0.5
baz=49,SNR=30
N15A **Stansbury Isla** 48.92 320 ⇑P P 17 25 33.4 +0.6
baz=49,SNR=8.5
G20A **Bridger** 48.98 327 ⇑P P 17 25 33.2 -0.1
baz=49,SNR=73
K17A **Gardner Place,** 48.99 323 ⇑P P 17 25 33.7 +0.3
baz=49,SNR=5.6
H19A **Powell** 49.05 326 ⇑P P 17 25 34.0 +0.2
baz=49,SNR=13
SHOC **Shoshone** 49.05 313 ⇓P P 17 25 35.1 +1.3
baz=49
AHID **Auburn Hatcher** 49.10 323 eP P 17 25 34.5 +0.2
17nm,0.6s
M15A **Larsen Ranch,** 49.19 321 ⇓P P 17 25 34.9 +0.1
baz=49,SNR=19
GSC **Goldstone** 49.19 312 eP P 17 25 36.0 +1.0
21nm,0.7s
GSC **Goldstone** 49.19 312 ⇑P P 17 25 35.8 +0.9
baz=49,SNR=9.8
C23A **Lambert** 49.22 332 ⇑P P 17 25 35.7 +0.8
baz=49,SNR=26
J17A **Brown Place, J** 49.23 324 ⇑P P 17 25 36.0 +0.7
baz=49,SNR=26
D22A **Cohagen** 49.24 330 ⇑P P 17 25 36.2 +1.1
baz=49,SNR=92
DGMT **Dagmar** 49.25 333 eP P 17 25 36.0 +0.9
205nm,0.6s
DGMT **Dagmar** 49.25 333 ⇓P P 17 25 36.1 +1.0
baz=49,SNR=61
E21A **Keefer Ranch,** 49.27 329 ⇓P P 17 25 35.8 +0.5
baz=49,SNR=37
REDW **Red Top Meadow** 49.31 324 eP P 17 25 36.3 +0.4
51nm,0.8s
SNOW **Snow King Moun** 49.31 324 eP P 17 25 36.5 +0.6
22nm,0.6s
LOHW **Long Hollow** 49.31 324 eP P 17 25 36.2 +0.3
27nm,0.6s
F20A **Billings** 49.33 328 ⇑P P 17 25 36.3 +0.4
baz=50,SNR=30
BFSC **Mount Baldy Ra** 49.40 310 ⇑P P 17 25 37.1 +0.5
baz=50
H18A **Shoshone NF, C** 49.43 326 ⇑P P 17 25 36.4 -0.4
baz=50,SNR=12
K16A **Soda Springs** 49.43 323 ⇓P P 17 25 37.4 +0.6
baz=50,SNR=18
TPAW **Teton Pass** 49.44 324 eP P 17 25 38.3 +1.4
41nm,0.8s
L15A **Malad City** 49.45 322 ⇑P P 17 25 37.0 +0.1
baz=50,SNR=42
MOOW **Moose Ponds** 49.48 324 eP P 17 25 37.4 +0.3
18nm,0.7s
I17A **Pilgrim Ck.** 49.48 325 ⇑P P 17 25 38.0 +0.8
baz=50,SNR=14
RLMT **Red Lodge** 49.49 327 eP P 17 25 37.5 +0.3
12nm,0.5s
RLMT **Red Lodge** 49.49 327 ⇓P P 17 25 37.7 +0.5
baz=50,SNR=21
A24A **Westby** 49.50 333 ⇑P P 17 25 38.4 +1.4
baz=50,SNR=45
C22A **Vida** 49.52 331 ⇓P P 17 25 38.1 +1.0
baz=50,SNR=16
HVU **Hansel Valley** 49.57 321 eP P 17 25 37.8 0.0
16nm,0.6s
RRI2 **Red Ridge** 49.57 324 eP P 17 25 38.3 +0.4
55nm,0.6s
D21A **La Casta Ranch** 49.59 330 ⇑P P 17 25 38.6 +0.9
baz=50,SNR=29
B23A **Brockton** 49.61 332 ⇓P P 17 25 39.1 +1.2
baz=50,SNR=18
FLWY **Flagg Ranch** 49.65 325 eP P 17 25 39.0 +0.5
6.9nm,0.5s
R11A **Troy Canyon, C** 49.67 316 ⇑P P 17 25 39.7 +1.0
baz=50,SNR=31
IMW **Indian Meadow** 49.68 324 eP P 17 25 39.2 +0.4
26nm,0.6s
J16A **Bone** 49.70 323 ⇑P P 17 25 39.5 +0.7
baz=50,SNR=89
FURC **Furnace Creek,** 49.72 313 ⇓P P 17 25 40.0 +1.2
baz=50,SNR=7.4
H17A **Grant Village** 49.77 325 ⇑P P 17 25 40.6 +1.2
baz=50
G18A **Lazy EL Ranch,** 49.78 327 ⇓P P 17 25 39.5 +0.2
baz=50,SNR=19
E20A **Meyer Farm, Mu** 49.78 329 ⇑P P 17 25 40.2 +0.9
baz=50,SNR=64
F19A **Roth Farm, Mol** 49.78 328 ⇓P P 17 25 39.6 +0.4
baz=50,SNR=15
EDW2 **Edwards Air Fo** 49.90 311 ⇓P P 17 25 40.9 +0.6
baz=50,SNR=11
A23A **Redstone** 49.92 333 ⇑P P 17 25 41.7 +1.6
baz=50,SNR=22
LRMC **Laurel Mountai** 49.92 311 ⇓P P 17 25 41.1 +0.6
baz=50,SNR=6.6
K15A **Arbon** 49.92 322 ⇓P P 17 25 40.8 +0.4
baz=50,SNR=17
YFT **Old Faithful** 49.95 325 eP P 17 25 42.5 +1.8
10.0nm,0.6s
B22A **Reddig Ranch S** 49.96 332 ⇓P P 17 25 41.7 +1.2
baz=50,SNR=29
I16A **Newdale** 49.98 324 ⇓P P 17 25 41.7 +0.8
baz=50,SNR=17
L14A **Malta** 49.99 321 ⇑P P 17 25 41.2 +0.2
baz=50,SNR=20
MPMC **Manual Prospec** 50.01 312 ⇓P P 17 25 41.7 +0.4
baz=50,SNR=7.5
E19A **Rath Farm, Rou** 50.10 328 ⇑P P 17 25 42.4 +0.8
baz=50,SNR=19
GCMT **Cliff** 50.13 327 eP P 17 25 42.8 +0.8
34nm,0.9s
C21A **Desert Coulee** 50.16 331 ⇓P P 17 25 42.7 +0.7
baz=50,SNR=5.9
D20A **Manuel Ranch,** 50.18 329 ⇑P P 17 25 43.1 +0.9
baz=50,SNR=46
K14A **Jones Ranch, D** 50.24 322 ⇑P P 17 25 42.9 +0.1
baz=50,SNR=14
J15A **Blackfoot** 50.27 323 ⇓P P 17 25 43.8 +0.8
baz=50,SNR=11
GRAC **Grapevine Rang** 50.32 313 ⇓P P 17 25 44.8 +1.4
baz=50
H16A **Russell Place,** 50.34 325 ⇓P P 17 25 44.7 +1.1
baz=50,SNR=22
A22A **Carney Farms,** 50.41 332 ⇑P P 17 25 45.4 +1.5
baz=51,SNR=73
G17A **Pierce Place,** 50.43 326 ⇓P P 17 25 45.6 +1.4
baz=51
QLMT **Earthquake Lak** 50.52 325 eP P 17 25 46.5 +1.5
2.8nm,0.7s
C20A **Veseth Ranch,** 50.53 330 ⇓P P 17 25 45.6 +0.8
baz=51,SNR=16
B21A **Ellsworth Farm** 50.53 331 ⇑P P 17 25 45.9 +1.1
baz=51,SNR=15
ISA **Isabella** 50.58 311 ⇑P P 17 25 46.3 +0.9
baz=51
ELK **Elko** 50.60 319 eP P 17 25 45.8 +0.1
ELK **Elko** 50.60 319 P P 17 25 45.9 +0.2
7.3nm,0.6s,baz=111,slow=5.7,SNR=34
CWC **Cottonwood Cre** 50.60 312 ⇓P P 17 25 46.5 +0.8
baz=51,SNR=6.1
ARVC **Arvin** 50.63 310 ⇓P P 17 25 47.1 +1.3
baz=51

I15A **Monteview** 50.64 324 ⇓P P 17 25 47.1 +1.3
baz=51
F17A **Fitzpatrick Pl** 50.74 327 ⇓P P 17 25 47.6 +1.0
baz=51,SNR=21
E18A **Harlowton** 50.76 328 ⇓P P 17 25 47.4 +0.7
baz=51,SNR=35
BSC **Santa Cruz Isl** 50.82 309 ⇑P P 17 25 48.4 +1.2
baz=51
A21A **Bergtoll Ranch** 50.88 332 ⇓P P 17 25 48.8 +1.3
baz=51,SNR=78
TIN **Tinemaha** 50.97 313 ⇑P P 17 25 49.7 +1.4
baz=51
G16A **Moss Hill, Enn** 50.97 325 ⇑P P 17 25 49.2 +0.9
baz=51,SNR=49
B20A **Solberg Farm,** 51.03 331 ⇑P P 17 25 49.9 +1.3
baz=51,SNR=9.7
C19A **Slack Wire Ran** 51.07 329 ⇓P P 17 25 49.6 +0.8
baz=51,SNR=34
H15A **Lima** 51.09 324 ⇓P P 17 25 50.8 +1.6
baz=51,SNR=60
D18A **Linhart Farms,** 51.10 328 ⇓P P 17 25 49.9 +0.8
baz=51,SNR=6.0
VES **Vestal, Richgr** 51.10 311 ⇓P P 17 25 50.5 +1.3
baz=51
BOZ **Bozeman (W)** 51.12 326 eP P 17 25 49.8 +0.4
37nm,1.2s
BOZ **Bozeman (W)** 51.12 326 ⇑P P 17 25 49.9 +0.4
baz=51,SNR=11
I14A **Mackay** 51.17 323 ⇑P P 17 25 50.8 +0.9
baz=51,SNR=24
E17A **Martinsdale** 51.20 327 ⇑P P 17 25 50.7 +0.7
baz=51,SNR=42
F16A **Kennard Place,** 51.20 326 ⇑P P 17 25 50.7 +0.7
baz=51,SNR=12
A20A **Cobblestone Ra** 51.28 331 ⇓P P 17 25 51.6 +1.1
baz=51,SNR=49
PKM **Peak Mountain** 51.30 310 ⇑P P 17 25 51.8 +0.9
baz=51
J13A **Cove Ranch, Pi** 51.32 322 ⇑P P 17 25 51.5 +0.6
baz=52,SNR=9.3
G15A **Dillon** 51.32 325 ⇑P P 17 25 51.8 +0.9
baz=52,SNR=15
MCMT **McKenzie Canyo** 51.33 324 eP P 17 25 52.3 +1.2
12nm,0.6s
B19A **Brinkman Farms** 51.49 330 ⇓P P 17 25 52.7 +0.7
baz=52,SNR=17
DLMT **Dillon** 51.50 325 eP P 17 25 52.7 +0.5
30nm,1.2s
H14A **Leadore** 51.51 324 ⇑P P 17 25 53.1 +0.7
baz=52,SNR=15
D17A **Six Diamond Ra** 51.54 328 ⇑P P 17 25 53.1 +0.6
baz=52,SNR=29
HLID **Hailey** 51.55 322 eP P 17 25 53.2 +0.5
20nm,0.7s
HLID **Hailey** 51.55 322 ⇑P P 17 25 53.3 +0.7
baz=52,SNR=39
I13A **Wildhorse Cree** 51.56 323 ⇑P P 17 25 53.7 +0.9
baz=52,SNR=22
NVAR **Mina Array Bea** 51.61 315 P P 17 25 54.0 +0.8
NVAR PcP PcP 17 27 05.0 +0.2
NVAR **Mina Array Bea** 51.61 315 P P 17 25 54.0 +0.8
11nm,0.7s,baz=122,slow=6.9,SNR=70
NVAR PcP PcP 17 27 05.0 +0.2
3.1nm,0.5s,baz=136,slow=4.7,SNR=11
EGMT **Eagleton** 51.62 329 eP P 17 25 53.4 +0.5
18nm,0.6s
EGMT **Eagleton** 51.62 329 ⇓P P 17 25 53.5 +0.5
baz=52,SNR=21
E16A **East Helena** 51.69 327 ⇓P P 17 25 54.2 +0.6
baz=52,SNR=20
LRM **Limekiln Ridge** 51.69 326 eP P 17 25 54.3 +0.6
12nm,0.6s
A19A **Klindworth Far** 51.71 331 ⇓P P 17 25 54.6 +0.9
baz=52,SNR=27
F15A **Butte** 51.72 326 ⇓P P 17 25 54.5 +0.6
baz=52,SNR=30
BMN **Battle Mountai** 51.77 317 eP P 17 25 54.7 +0.4
28nm,1.0s
B18A **Beardsley Farm** 51.87 330 ⇑P P 17 25 55.8 +1.0
baz=52,SNR=49
C17A **Wharram Farm,** 51.88 328 ⇓P P 17 25 55.4 +0.4
baz=52,SNR=16
D16A **Dana Ranch, Ca** 51.92 327 ⇑P P 17 25 55.9 +0.6
baz=52,SNR=15
G14A **Jackson** 51.93 324 ⇑P P 17 25 55.9 +0.4
baz=52,SNR=17
H13A **Challis** 52.01 323 ⇓P P 17 25 56.4 +0.5
baz=52,SNR=22
I12A **Atlanta** 52.12 322 ⇓P P 17 25 57.8 +0.9
baz=52
E15A **Deer Lodge** 52.15 326 ⇑P P 17 25 57.7 +0.7
baz=52,SNR=15
F14A **Wisdom** 52.20 325 ⇑P P 17 25 58.0 +0.5
baz=52,SNR=24
A18A **Metzger Ranch,** 52.25 330 ⇓P P 17 25 58.1 +0.5
baz=52,SNR=18
G13A **Cobalt** 52.29 324 ⇓P P 17 25 58.5 +0.4
baz=52,SNR=40
B17A **L&G Farms, Che** 52.32 329 ⇓P P 17 25 58.3 +0.2
baz=52,SNR=12
MFID **Camas Ranch** 52.34 321 eP P 17 25 58.9 +0.4
37nm,0.7s
MFID **Camas Ranch** 52.34 321 ⇓P P 17 25 59.0 +0.6
baz=52,SNR=43
H12A **Diamond D Ranc** 52.36 323 ⇓P P 17 25 59.2 +0.6
baz=52,SNR=59
D15A **Lincoln** 52.46 327 ⇑P P 17 26 00.1 +0.8
baz=53,SNR=24
C16A **Fuhringer Ranc** 52.51 328 ⇑P P 17 25 60.0 +0.4
baz=53,SNR=15
E14A **Clinton** 52.62 326 ⇑P P 17 26 01.1 +0.6
baz=53,SNR=21
A17A **Triple J Farms** 52.69 330 ⇑P P 17 26 01.4 +0.5
baz=53,SNR=22
F13A **Darby** 52.74 325 ⇑P P 17 26 01.7 +0.3
baz=53,SNR=35
CHMT **Chamberlain Mo** 52.78 326 eP P 17 26 02.0 +0.2
3.0nm,0.6s
B16A **M & M Farms, S** 52.87 328 ⇑P P 17 26 02.3 +0.2
baz=53,SNR=5.3
C15A **Salmond Ranch,** 52.95 327 ⇓P P 17 26 03.3 +0.5
baz=53,SNR=12
WCN **Washoe City** 53.01 315 eP P 17 26 04.7 +1.2
9.2nm,0.6s
WCN **Washoe City** 53.01 315 ⇓P P 17 26 04.2 +0.7
baz=53
D14A **Greenough** 53.02 326 ⇑P P 17 26 03.6 +0.3
baz=53,SNR=12
E13A **Victor** 53.03 325 ⇑P P 17 26 03.8 +0.3
baz=53,SNR=7.2
SLMT **Seeley Lake** 53.11 326 eP P 17 26 04.3 +0.2
14nm,0.6s
MSO **Missoula** 53.12 326 eP P 17 26 04.4 +0.4
12nm,1.0s
MSO **Missoula** 53.12 326 ⇑P P 17 26 04.5 +0.4
baz=53,SNR=8.4
A16A **West Butte Ran** 53.15 329 ⇑P P 17 26 04.7 +0.5
baz=53,SNR=34
FFC **Flin Flon** 53.18 339 eP P 17 26 04.1 -0.1
23nm,0.4s
FFC **Flin Flon** 53.18 339 P P 17 26 04.7 +0.5
294nm,0.4s,SNR=30
B15A **Bradely Ranch,** 53.25 328 ⇑P P 17 26 05.0 -0.1
baz=53,SNR=10
F12A **Elk City** 53.26 324 ⇓P P 17 26 05.4 +0.3
baz=53,SNR=25
SWMT **Swartz Lake** 53.55 326 eP P 17 26 07.4 +0.2
5.0nm,0.6s
D13A **Huson** 53.56 326 ⇓P P 17 26 07.7 +0.5
baz=54,SNR=22
WVOR **Wild Horse Val** 53.65 319 eP P 17 26 08.4 +0.4
24nm,0.6s
B14A **Marquette Ranc** 53.66 328 ⇑P P 17 26 08.2 +0.2
baz=54,SNR=16
A15A **Johnson Ranch,** 53.75 329 ⇑P P 17 26 08.8 +0.2
baz=54,SNR=36
YBMT **Yellow Bay** 53.76 327 eP P 17 26 09.6 +0.8
29nm,0.9s
JTMT **Jette** 53.84 327 eP P 17 26 10.0 +0.7
20nm,0.8s
C13A **Hot Springs** 53.96 326 ⇓P P 17 26 11.0 +0.9
baz=54,SNR=21
BMO **Blue Mountains** 54.00 322 eP P 17 26 09.7 -0.8
4.9nm,0.6s
BLMT **Blacktail Moun** 54.04 327 eP P 17 26 11.7 +0.9
44nm,1.0s
A14A **Double T Ranch** 54.11 328 ⇓P P 17 26 11.4 +0.2

	baz=54								
BSMT	**Bassoo Peak**	**54.18**	**326**	P		**P**	**17 26 12.8**	**+0.9**
B13A	**Whitefish**	**54.31**	**327**	⇓P		**P**	**17 26 13.1**	**+0.5**
	baz=54,SNR=9.6								
WALA	**Waterton Lakes**	**54.42**	**328**	*e*P		**P**	**17 26 13.3**	**-0.2**
	0.3nm,1.0s								
C12B	**Naegeli Ranch,**	**54.48**	**326**	⇑P		**P**	**17 26 14.8**	**+0.9**
	baz=55,SNR=32								
MOD	**Modoc**	**54.51**	**318**	*e*P		**P**	**17 26 13.7**	**-0.6**
	12nm,0.6s								
B12A	**Libby**	**54.97**	**327**	⇑P		**P**	**17 26 18.2**	**+0.8**
	baz=55,SNR=6.4								
A12A	**Yaak River Ran**	**55.27**	**327**	⇓P		**P**	**17 26 20.7**	**+1.1**
	baz=55,SNR=60								
NEW	**Newport**	**55.70**	**326**	⇑P		**P**	**17 26 22.5**	**-0.2**
	baz=56,SNR=11								
VIPM	**Ingram Point**	**55.89**	**320**	P		**P**	**17 26 25.1**	**+0.9**
YBH	**Yreka Blue Hor**	**56.06**	**317**	*e*P		**P**	**17 26 23.7**	**-1.6**
	11nm,0.5s								
YBH	**Yreka Blue Hor**	**56.06**	**317**	P		**P**	**17 26 24.3**	**-1.0**
	13nm,0.5s,baz=102,slow=3.3,SNR=31								
KRMB	**Red Mountain**	**56.80**	**316**	*e*P		**P**	**17 26 30.6**	**-0.1**
FRB	**Frobisher Bay**	**56.96**	**2**	P		**P**	**17 26 30.8**	**-0.3**
FRB	**Frobisher Bay**	**56.96**	**2**	P		**P**	**17 26 30.8**	**-0.3**
	12nm,0.5s,baz=190,slow=7.1,SNR=37								
EBG	**Ellensburg**	**57.00**	**323**	P		**P**	**17 26 33.0**	**+1.2**
WPW	**White Pass**	**57.49**	**322**	P		**P**	**17 26 36.3**	**+0.9**
LON	**Longmire**	**57.67**	**322**	*e*P		**P**	**17 26 36.9**	**+0.3**
	8.6nm,0.7s								
SFJD	**Kangerlussuaq**	**62.05**	**10**	P		**P**	**17 27 05.7**	**-0.2**
SFJD	**Kangerlussuaq**	**62.05**	**10**	P		**P**	**17 27 05.7**	**-0.2**
	8.5nm,0.7s,baz=181,slow=7.5,SNR=4.5								
YKA	**Yellowknife Ar**	**63.35**	**340**	P		**P**	**17 27 14.9**	**+0.3**
YKA	**Yellowknife Ar**	**63.35**	**340**	P		**P**	**17 27 14.9**	**+0.3**
	45nm,0.6s,baz=132,slow=6.7,SNR=1155								
BBB	**Bella Bella**	**63.77**	**326**	P		**P**	**17 27 18.6**	**+1.0**
BBB	**Bella Bella**	**63.77**	**326**	P		**P**	**17 27 18.6**	**+1.0**
	33nm,1.0s,baz=88,slow=9.9,SNR=7.9								
DLBC	**Dease Lake**	**67.43**	**331**	*e*P		**P**	**17 27 42.1**	**+1.2**
DLBC	**Dease Lake**	**67.43**	**331**	P		**P**	**17 27 42.2**	**+1.2**
	11nm,0.4s,baz=107,slow=3.7,SNR=28								
DBIC	**Dimbokro**	**67.61**	**86**	P		**P**	**17 27 42.7**	**-0.2**
DBIC				pP		**pP**	**17 28 20.8**	**-0.7**
DBIC	**Dimbokro**	**67.61**	**86**	P		**P**	**17 27 42.7**	**-0.2**
	10nm,0.7s,baz=269,slow=7.1,SNR=17								
DBIC				pP		**pP**	**17 28 20.8**	**-0.7**
	3.8nm,0.6s,baz=268,slow=3.7,SNR=2.5								
SUMG	**Summit**	**69.02**	**11**	*e*P		**P**	**17 27 51.7**	**+0.7**
	57nm,0.6s								
SUMG	**Summit**	**69.02**	**11**	*i* P		**P**	**17 27 51.7**	**+0.7**
	54nm,0.7s								
RES	**Resolute Bay**	**69.04**	**354**	*e*P		**P**	**17 27 50.6**	**0.0**
	4.0nm,0.8s								
RES	**Resolute Bay**	**69.04**	**354**	P		**P**	**17 27 50.7**	**0.0**
	4.0nm,0.8s,baz=171,slow=10,SNR=18								
INK	**Inuvik**	**73.12**	**340**	*e*P		**P**	**17 28 15.7**	**+0.5**
	20nm,0.6s								
INK	**Inuvik**	**73.12**	**340**	P		**P**	**17 28 15.8**	**+0.5**
	17nm,0.6s,baz=104,slow=6.1,SNR=83								
TORD	**Torodi Ar. Bea**	**73.63**	**78**	P		**P**	**17 28 18.6**	**-0.7**
TORD				pP		**pP**	**17 28 59.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**73.63**	**78**	P		**P**	**17 28 18.6**	**-0.7**
	1.1nm,0.4s,baz=284,slow=6.2,SNR=22								
TORD				pP		**pP**	**17 28 59.0**	**+0.5**
	1.1nm,0.7s,baz=290,slow=5.4,SNR=3.8								
EGAK	**Eagle**	**74.69**	**336**	*e*P		**P**	**17 28 25.1**	**+0.6**
	7.9nm,0.3s								
BMRM	**Bremner River**	**75.22**	**331**	*e*P		**P**	**17 28 29.0**	**+1.3**
	52nm,1.1s								
DOT	**Dot Lake**	**75.61**	**334**	*e*P		**P**	**17 28 30.7**	**+0.9**
	11nm,0.6s								
DAG	**Danmarks Havn**	**75.68**	**11**	*i* P		**P**	**17 28 30.3**	**+0.3**
	83nm,0.7s								
ALE	**Alert**	**75.86**	**1**	P		**P**	**17 28 31.0**	**+0.1**
	104nm,0.7s,SNR=9.8								
PAX	**Paxson**	**76.06**	**333**	*e*P		**P**	**17 28 33.0**	**+0.5**
	15nm,0.9s								
ILAR	**Eielson Array**	**77.06**	**335**	P		**P**	**17 28 38.2**	**+0.3**
ILAR				PP		**PP**	**17 31 33.9**	**+0.4**
ILAR	**Eielson Array**	**77.06**	**335**	P		**P**	**17 28 38.2**	**+0.3**
	6.9nm,0.7s,baz=110,slow=4.5,SNR=69								
ILAR				PP		**PP**	**17 31 33.9**	**+0.4**
	1.8nm,1.0s,baz=125,slow=4.9,SNR=6.6								
COLA	**College**	**77.49**	**335**	*e*P		**P**	**17 28 40.7**	**+0.4**
	7.0nm,0.8s								
MCK	**McKinley**	**77.75**	**334**	*e*P		**P**	**17 28 42.5**	**+0.7**
	41nm,1.4s								
SLKM	**Skilak Lake**	**77.85**	**330**	*e*P		**P**	**17 28 43.0**	**+0.5**
TRF	**Thorofare Moun**	**78.30**	**333**	*e*P		**P**	**17 28 45.2**	**+0.2**
	18nm,0.7s								
KDAK	**Kodiak Island**	**78.75**	**328**	P		**P**	**17 28 47.5**	**+0.1**
KDAK	**Kodiak Island**	**78.75**	**328**	P		**P**	**17 28 47.5**	**+0.1**
	26nm,1.1s,baz=109,slow=2.9,SNR=7.1								
COLD	**Coldfoot**	**78.84**	**337**	*e*P		**P**	**17 28 49.1**	**+1.4**
	15nm,1.0s								
NB2	**NORSAR Subarra**	**81.31**	**29**	P		**P**	**17 29 01.9**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=267,slow=5.6								
NOA	**NORSAR Array B**	**81.31**	**29**	P		**P**	**17 29 02.0**	**+0.8**
NOA	**NORSAR Array B**	**81.31**	**29**	P		**P**	**17 29 02.0**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=268,slow=5.3,SNR=7.0								
GERES	**GERESS Array B**	**82.78**	**42**	P		**P**	**17 29 08.8**	**-0.3**
GERES				pP		**pP**	**17 29 50.5**	**+1.4**
GERES	**GERESS Array B**	**82.78**	**42**	P		**P**	**17 29 08.8**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=268,slow=3.3,SNR=15								
GERES				pP		**pP**	**17 29 50.5**	**+1.4**
	comp=Z,1.2nm,0.8s,baz=215,slow=6.6,SNR=3.0								
UNV	**Unalaska Valle**	**86.66**	**324**	*e*P		**P**	**17 29 28.7**	**+0.4**
ARCES	**ARCESS Array B**	**86.67**	**20**	P		**P**	**17 29 28.4**	**+0.3**
ARCES	**ARCESS Array B**	**86.67**	**20**	P		**P**	**17 29 28.4**	**+0.3**
	comp=Z,3.9nm,0.7s,baz=266,slow=3.8,SNR=19								
FINES	**FINESS Array B**	**88.43**	**28**	P		**P**	**17 29 37.0**	**+0.4**
FINES	**FINESS Array B**	**88.43**	**28**	P		**P**	**17 29 37.0**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=276,slow=3.6,SNR=6.3								
BILL	**Bilibino**	**94.73**	**341**	*e*P		**P**	**17 30 06.1**	**+0.5**
	comp=Z,6.6nm,0.8s								
GOR	**Gori**	**105.03**	**43**	P		**PKKPab**	**17 46 55.8**	**+2.5**
ZAA0	**Zalesovo Array**	**116.69**	**14**	*e*PKPdf		**PKPdf**	**17 35 27.6**	**-0.3**
ZALV	**Zalesovo Beam**	**116.69**	**14**	PKP		**PKPdf**	**17 35 28.2**	**+0.3**
ZALV				SKP		**SKiKP**	**17 38 49.9**	**+1.2**
ZALV	**Zalesovo Beam**	**116.69**	**14**	PKP		**PKPdf**	**17 35 28.2**	**+0.3**
	comp=Z,4.0nm,0.5s,baz=245,slow=1.7,SNR=22								
ZALV				SKP		**SKiKP**	**17 38 49.9**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=336,slow=3.3,SNR=4.6								
MK31	**Makanchi Array**	**122.33**	**20**	*e*PKPdf		**PKPdf**	**17 35 38.7**	**-0.4**
MKAR	**Makanchi Array**	**122.33**	**20**	PKP		**PKPdf**	**17 35 39.0**	**-0.1**
MKAR				SKP		**SKiKP**	**17 39 00.4**	**+0.3**
MKAR	**Makanchi Array**	**122.33**	**20**	PKP		**PKPdf**	**17 35 39.0**	**-0.1**
	comp=Z,2.8nm,0.4s,baz=328,slow=2.8,SNR=86								
MKAR				SKP		**SKiKP**	**17 39 00.4**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=318,slow=3.3,SNR=3.6								
SONM	**Songino Array**	**125.63**	**1**	PKP		**PKPdf**	**17 35 46.1**	**+0.5**
SONM				SKP		**SKiKP**	**17 39 08.0**	**+1.1**
SONM	**Songino Array**	**125.63**	**1**	PKP		**PKPdf**	**17 35 46.1**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=17,slow=1.5,SNR=12								
SONM				SKP		**SKiKP**	**17 39 08.0**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=308,slow=3.4,SNR=4.4								
KSH	**Kashi**	**125.73**	**29**	*e*PKP		**PKPdf**	**17 35 45.0**	**-1.0**
KSH				sPKP		**sPKPdf**	**17 36 45.0**	**+0.1**
KSH				PP		**PP**	**17 37 42.4**	**+3.2**
KSH				PKS		**PKSdf**	**17 39 20.1**	**-2.6**
KSH				SKS		**SKSdf**	**17 42 39.6**	**-3.4**
KSH				SKKS		**SKKSac**	**17 44 17.2**	**-5.2**
WMQ	**Urumqi**	**126.70**	**17**	*e*PKP		**PKPdf**	**17 35 47.5**	**-0.1**
CN2	**Changchun**	**126.97**	**343**	*e*PKP		**PKPdf**	**17 35 45.6**	**-2.4**
MJAR	**Matsushiro Arr**	**127.93**	**328**	PKP		**PKPdf**	**17 35 49.6**	**-0.5**
MJAR	**Matsushiro Arr**	**127.93**	**328**	PKP		**PKPdf**	**17 35 49.6**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=164,slow=0.9,SNR=4.0								
MAT	**Matsushiro**	**127.93**	**328**	*e*PKP		**PKPdf**	**17 35 49.6**	**-0.5**
KSRS	**Korea Array**	**131.86**	**338**	PKP		**PKPdf**	**17 35 57.8**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=29,slow=1.4,SNR=6.1								
KSAR	**Wonju Array Be**	**131.89**	**338**	PKP		**PKPdf**	**17 35 57.8**	**+0.2**
HHC	**Hu-ho-hao-te**	**132.43**	**355**	*e*PKP		**PKPdf**	**17 35 57.9**	**-0.7**
HHC				sPKP		**sPKPdf**	**17 36 57.5**	**-0.1**
HHC				PP		PP	17 38 27.9	+5.7
HHC				SKS		**SKSac**	**17 42 50.7**	**-4.4**
HHC				SKKS		**SKKSac**	**17 45 00.3**	**-3.5**
HHC				SS		SS	17 55 55.7	+8.2
HHC				AMB		AMB		
	comp=Z,110nm,9.5s								
HHC				LR		LR		
	comp=N,23μm,20.2s								
HHC				LR		LR		
	comp=E,27μm,19.0s								
HHC				LR		LR		
	comp=Z,23μm,19.0s								
GTA	**Gaotai**	**133.57**	**8**	*e*PKP		**PKPdf**	**17 35 58.9**	**-2.0**
LZH	**Lanzhou**	**137.27**	**4**	*e*PKP		**PKPdf**	**17 36 08.4**	**+0.5**
LZH				sPKP			17 37 07.0	
DANN	**Dangsing**	**138.50**	**32**	*e*P		**PKPdf**	**17 36 08.7**	**-1.8**
	comp=Z,18nm,0.7s								
KOLN	**Koldanda**	**138.88**	**32**	*e*P		**PKPdf**	**17 36 11.6**	**+0.5**
	comp=Z,7.0nm,0.7s								
STKA	**Stephens Creek**	**139.21**	**228**	*e*PKPdf		**PKPdf**	**17 36 11.4**	**+0.1**
STKA				PKP		**PKPdf**	**17 36 11.8**	**+0.5**
STKA	**Stephens Creek**	**139.21**	**228**	PKP		**PKPdf**	**17 36 11.8**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=121,slow=4.7,SNR=6.6								
GKN	**Gorkha**	**139.23**	**31**	*e*P		**PKPdf**	**17 36 09.9**	**-1.8**
	comp=Z,11nm,0.7s								
CTA	**Charters Tower**	**139.72**	**247**	PKP		**PKPdf**	**17 36 12.9**	**+0.3**
CTA	**Charters Tower**	**139.72**	**247**	PKP		**PKPdf**	**17 36 12.9**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=111,slow=3.4,SNR=4.6								
DMN	**Daman**	**139.79**	**31**	*e*P		**PKPdf**	**17 36 11.3**	**-1.6**
	comp=Z,7.3nm,0.7s								
GUN	**Gumba**	**139.93**	**30**	*e*P		**PKPdf**	**17 36 08.9**	**-4.3**
	comp=Z,15nm,0.9s								
PKI	**Pulchoki**	**139.98**	**31**	*e*P		**PKPdf**	**17 36 11.1**	**-2.2**
LSA	**Lhasa**	**140.67**	**22**	*e*PKPdf		**PKPdf**	**17 36 15.8**	**+1.1**
RAMN	**Ramite**	**141.08**	**30**	*e*P		**PKPdf**	**17 36 13.2**	**-2.0**
	comp=Z,13nm,0.5s								
TAPN	**Taplejung**	**141.28**	**28**	*e*P		PKPdf	17 36 09.6	-6.0
	comp=Z,8.1nm,0.5s								
ODAN	**Odare**	**141.54**	**29**	*e*P		**PKPdf**	**17 36 12.4**	**-3.6**
CD2	**Chengdu**	**142.41**	**5**	PKP		**PKPdf**	**17 36 16.0**	**-1.2**
ENH	**Enshi**	**143.09**	**356**	*e*PKPpre		PKPpre	17 36 15.4	
COEN	**Coen**	**143.75**	**256**	*e*PKPpre		PKPpre	17 36 17.8	
SSLB	**Suanglung**	**146.71**	**336**	*e*PKPdf		**PKPdf**	**17 36 25.7**	**+0.8**
GYA	**Guiyang**	**146.97**	**1**	PKPbc		**PKPdf**	**17 36 23.0**	**-2.3**
GYA				PKPab		**PKPab**	**17 36 29.0**	**-0.1**
GYA				pPKP		**pPKPdf**	**17 37 06.4**	**-1.5**
GYA				sPKP			17 37 23.4	
GYA				PP		**PP**	**17 39 54.3**	**+3.0**
GYA				AMB		AMB		
	comp=Z,120nm,8.2s								
TPUB	**Ta-pu**	**147.28**	**336**	*e*PKPbc		**PKPbc**	**17 36 27.9**	**-0.4**
KMI	**Kunming**	**148.03**	**7**	PKPbc		**PKPbc**	**17 36 30.4**	**-0.1**
AS31	**Alice Springs**	**149.18**	**234**	*e*PKPdf		**PKPdf**	**17 36 28.7**	**-0.2**
ASAR	**Alice Springs**	**149.18**	**234**	PKP		**PKPdf**	**17 36 29.3**	**+0.4**
ASAR				PKPbc		**PKPbc**	**17 36 32.7**	**-0.6**
ASAR				pPKPbc		**pPKPbc**	**17 37 14.2**	**-1.3**
ASAR	**Alice Springs**	**149.18**	**234**	PKP		**PKPdf**	**17 36 29.3**	**+0.4**
	comp=Z,12nm,0.6s,baz=119,slow=3.4,SNR=94								
ASAR				PKPbc		**PKPbc**	**17 36 32.7**	**-0.6**
	comp=Z,14nm,0.5s,baz=116,slow=3.9,SNR=202								
ASAR				pPKPbc		**pPKPbc**	**17 37 14.2**	**-1.3**
	comp=Z,2.7nm,0.4s,baz=117,slow=3.5,SNR=2.8								
WRAB	**Tennant Creek**	**150.41**	**241**	*e*PKPbc		**PKPbc**	**17 36 36.0**	**-0.3**
CHTO	**Chiang Mai**	**153.36**	**17**	*e*PKPdf		**PKPdf**	**17 36 34.7**	**-0.7**
CHTO				*e*PKPbc		**PKPbc**	**17 36 42.9**	**-0.1**
CM31	**Chiang Mai Arr**	**153.70**	**17**	*e*PKPdf		**PKPdf**	**17 36 36.7**	**+0.9**
CM31				*e*PKPbc		**PKiKP**	**17 36 44.1**	**+0.3**
CMAR	**Chiang Mai Arr**	**153.70**	**17**	PKP		**PKPdf**	**17 36 37.0**	**+1.3**
CMAR				PKPbc		**PKiKP**	**17 36 44.1**	**+0.4**
CMAR				PKPab		**PKPab**	**17 36 56.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**153.70**	**17**	PKP		**PKPdf**	**17 36 37.0**	**+1.3**
	comp=Z,2.0nm,0.6s,baz=302,slow=2.1,SNR=23								
CMAR				PKPbc		**PKiKP**	**17 36 44.1**	**+0.4**
	comp=Z,8.0nm,0.6s,baz=325,slow=3.4,SNR=29								
CMAR				PKPab		**PKPab**	**17 36 56.6**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=339,slow=4.5,SNR=4.8								

PRE 11 17:21:08.4±1.0, 26.41S×27.40E, h2km, ML1.3, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.51**	**184**	*e*P	Pg	17 21 18.1	-0.3
PRYS				*e*S	Sg	17 21 25.7	+0.4
PRYS				AML	AML	17 21 28.4	
	comp=Z,7.4nm,0.2s						
ERPM	**east rand prop**	**0.76**	**85**	*e*P	Pg	17 21 23.1	0.0
ERPM				*e*S	Sb	17 21 34.3	-1.1
ERPM				AML	AML	17 21 35.0	
	comp=Z,6.0nm,0.4s						
LBTB	**Lobatse**	**2.14**	**310**	*e*P	Pn	17 21 45.2	-0.2
LBTB				*e*S	Sb	17 22 14.1	-1.2
LBTB				AML	AML	17 22 18.9	
	comp=Z,3.8nm,0.3s						
BOSA	**Boshof**	**2.91**	**221**	*e*P	Pn	17 21 56.3	+0.4
BOSA				*e*S	Sn	17 22 32.2	+0.7
BOSA				AML	AML	17 22 38.5	
	comp=Z,1.2nm,0.3s						

JMA 11 17:26:14.8±0.2, 43.79N×147.36E, h17km, M4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.25**	**251**	P	Pn	17 26 37.5	+0.1
NEM2				*e*S	Sb	17 26 53.7	0.0
JRA	**Rausu**	**1.62**	**276**	P	Pn	17 26 43.1	+0.5
JRA				*e*S	Sb	17 27 04.4	-0.1
JNK	**Nakash**	**1.93**	**265**	P	Pn	17 26 47.5	+0.7
JNK				*e*S	Sn	17 27 11.4	+0.8
JAK	**Akkeshi**	**2.10**	**249**	P	Pn	17 26 49.7	+0.6
JAK				*e*S	Sn	17 27 15.3	+0.5
JTKR	**Abashiri--Toko**	**2.50**	**275**	P	Pn	17 26 55.6	+0.9
JAR	**Ashorobuto**	**2.66**	**261**	P	Pn	17 26 58.2	+1.4
JAR				*e*S	Sn	17 27 29.8	+1.2
JOB	**Onbets**	**2.72**	**252**	P	Pn	17 26 58.9	+1.2
JOB				*e*S	Sn	17 27 32.1	+1.9
JMP	**Maruseppu**	**2.90**	**276**	P	Pn	17 27 01.4	+1.2
JCH	**Churui**	**3.15**	**249**	P	Pn	17 27 04.3	+0.7
JCH				*e*S	Sn	17 27 41.5	+0.7
JKK2	**Kamakawa 2**	**3.34**	**273**	P	Pn	17 27 08.4	+2.2
ASAJ	**Asahikawa**	**3.46**	**277**	P	Pn	17 27 10.6	+2.8
JFR	**Furan**	**3.52**	**261**	P	Pn	17 27 11.2	+2.4
JFR				*e*S	Sn	17 27 52.9	+2.8
JSE	**Soyaes**	**3.62**	**290**	P	Pn	17 27 10.3	+0.3

BJI ***11*** *17:34:45.7,3.40N×126.68E,h30km,mB7.0/32,mb6.2/69, Ms7.4/84,Ms7 7.3/76*

IDC ***11*** *17:34:46.7±0.3,3.83N×126.51E,h0km,mb6.1/43, mb1 6.0/43,mb1mx6.0/44,mbtmp6.1/43,MS7.2/23, Ms1 7.2/23,ms1mx6.9/44,Error ellipse: s-maj=7.4km s-min=5.2km az=78.0*

SZGRF ***11*** *17:34:49.5,3.19N×127.07E,h33km,mb7.5, Talaud Islands, Indonesia*

ISCJB ***11*** *17:34:50.0±0.1,3.88N±0.02×126.59E±0.02,h28km, mb6.5/265,MS7.3/190, Error ellipse: s-maj=2.7km s-min=2.1km az=155.2*

NEIC ***11*** *17:34:50.5±0.1,3.89N×126.39E,h20km,mb6.6/154, ME7.2,MS7.3/69,MW7.2,MW7.1,MW7.1(USGS), Error ellipse: s-maj=4.4km s-min=3.6km az=52.0 Broadband fault plane solution: P waves. NP1:φ10.00000°, δ60.00000°, λ120.00000°. NP2:φ141.00000°, δ41.00000°, λ49.00000°. Principal axes: T Plg62.0000°, Azm329.0000°; N Plg0.0000°, Azm0.0000°; P Plg10.0000°, Azm279.0000°; Moment Tensor Solution. s59 Moment tensor: Scale 10¹⁹ Nm; Mrr4.09; Mθθ0.82; Mφφ-4.91; Mrθ0.56; Mθφ2.03; Mφr2.09; Best double couple: Ms5.40000×10¹⁹ NP1:φ359.00000°, δ58.00000°, λ112.00000°. NP2:φ143.00000°, δ38.00000°, λ59.00000°. Principal axes: T 4.8200, Plg68.0000°, Azm315.0000°; N 1.0800, Plg18.0000°, Azm167.0000°; P -5.9000, Plg10.0000°, Azm74.0000°; Complex earthquake observed on broadband displacement seismograms. A small event is followed by a large event about 4 seconds later. Depth and focal mechanism from synthetics of broadband displacement seismograms based on large event. Energy computed from BB mechanism.*

NEIC At least 64 people injured and 597 buildings damaged or destroyed in the Kepulauan Talaud. Felt [VI] at Lirung. Felt [V] on Pulau Sangihe and [IV] at Manado, Sulawesi. Felt [III PIVS] at Davao and [II PIVS] at General Santos, Philippines. Also felt at Mati.

MOS ***11*** *17:34:50.6±1.1,3.87N×126.47E,h33km,mb6.8/82, MS7.2/76 Error ellipse: s-maj=7.0km s-min=4.2km az=116.7*

TEH ***11*** *17:34:53.0,3.69N×126.79E,h33km,ML7.5*

DJA ***11*** *17:34:57,3.84N×126.68E,h74km,Mw7.2/84*

NEIC ***11*** *17:35:08.8±0.0,3.68N×127.22E,h27km,Moment Tensor Solution. s204 Moment tensor: Scale 10¹⁹Nm; Mrr5.82; Mθθ-0.16; Mφφ-5.66; Mrθ0.60; Mθφ-0.18; Mφr3.45; Best double couple: Mw6.70000×10¹⁹ NP1:φ6.00000°, δ61.00000°, λ94.00000°. NP2:φ178.00000°, δ30.00000°, λ83.00000°. Principal axes: T 6.8200, Plg74.0000°, Azm285.0000°; N -0.1900, Plg3.0000°, Azm184.0000°; P -6.6300, Plg15.0000°, Azm93.0000°;*

ISC 11 17:34:51.4±0.2, 3.78N±0.02×126.50E±0.03, h24km±1km, h24km:pP-P,n2257,σ1ᵍ91/3053, mb6.6/262, MS7.3/194, 660C-587D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**2.85**	**216**	P	**Pb**	**17 35 39.8**	**-1.8**
TNTI	**Ternate**	**3.11**	**164**	*e*Pn	**Pn**	**17 35 39.5**	**+0.6**
TNTI	**Ternate**	**3.11**	**164**	P	**Pn**	**17 35 39.8**	**+0.9**
DAV	**Davao City (W)**	**3.40**	**344**	Pn	**Pn**	**17 35 45.4**	**+2.4**
DAV				Sn	**Sn**	**17 36 21.2**	**-1.3**
DAV	**Davao City (W)**	**3.40**	**344**	⇑*e*P	Pn	17 35 46.9	+3.9
DAV	**Davao City (W)**	**3.40**	**344**	P	Pn	17 35 46.2	+3.3
	SNR=782						
DAV	**Davao City (W)**	**3.40**	**344**	P	**Pn**	**17 35 46.0**	**+3.0**
DAV	**Davao City (W)**	**3.40**	**344**	Pn	**Pn**	**17 35 45.4**	**+2.4**
	179nm,0.3s,baz=155,slow=1.5,SNR=86						
DAV				Sn	**Sn**	**17 36 21.2**	**-1.3**
	3μm,0.3s,baz=205,slow=19,SNR=9.7						
DMPH	**Davao City--Mi**	**3.43**	**343**	⇓*e*P	**Pn**	**17 35 46.2**	**+2.8**
KMSI	**Cibinong**	**4.05**	**218**	P	Pb	17 35 57.8	-4.3
CTBH	**Cotabato--PC H**	**4.09**	**327**	⇑*e*P	Pn	17 35 56.7	+4.2
BUKP	**Musuan**	**4.32**	**341**	*e*P	Pn	17 35 59.5	+3.9
LBMI	**Labuha**	**4.50**	**167**	P	**Pn**	**17 35 59.7**	**+1.6**
CGP	**Cagayan de Oro**	**4.98**	**339**	⇑*i*P	Pb	17 36 12.3	-5.7
CGP				*i* S	Sb	17 37 24.9	+7.4
PAGZ	**Pagadian**	**5.10**	**323**	*e*P	Pn	17 36 10.8	+4.5
ZMPH	**Zamboanga City**	**5.43**	**306**	⇑*i*P	**Pn**	**17 36 12.9**	**+2.0**
ZMPH				*i* S	**Sn**	**17 37 12.5**	**-0.1**
IPIL	**Ipil**	**5.58**	**316**	*e*P	Pn	17 36 17.3	+4.3
MRSI	**Marisa**	**5.61**	**234**	P	Pn	17 36 18.0	+4.6
	21μm,0.8s,307μm70nm						
SCPH	**Surigao**	**6.05**	**351**	*i* S	**Sn**	**17 37 26.8**	**-1.1**
LUWI	**Luwuk**	**6.06**	**218**	P	Pn	17 36 27.7	+8.1
	27μm,1.2s,544μm208nm						
MSLP	**Maasin**	**6.52**	**346**	*e*P	Pn	17 36 29.6	+3.7
LLP	**Lapu-Lapu**	**6.97**	**339**	*e*P	**Pn**	**17 36 34.9**	**+2.8**
LLP				*e*S	**Sb**	**17 38 15.2**	**+0.6**
OCLP	**Ormoc**	**7.47**	**346**	*e*P	Pn	17 36 43.1	+4.2
MSAI	**Masohi**	**7.48**	**161**	P	Pn	17 36 45.2	+6.1
	2μm,1.4s,34μm937μm6.6nm						
PLP	**Palo**	**7.50**	**348**	*e*P	**Pn**	**17 36 41.1**	**+1.8**
AAI	**Ambon**	**7.60**	**167**	P	Pn	17 36 45.7	+4.9
	4μm,1.4s,115μm20nm						
GUIM	**Jordan**	**7.83**	**331**	*e*P	Pn	17 36 49.4	+5.5
RCP	**Roxas**	**8.58**	**335**	⇑*e*P	Pn	17 36 58.5	+4.3
KDI	**Kendari**	**8.60**	**207**	P	Pn	17 36 57.9	+3.4
	3μm,1.7s,137μm22nm						
TSM	**Tawau**	**8.62**	**274**	P	Pn	17 36 59.3	+4.6
FAKI	**Fak Fak**	**8.79**	**139**	P	**Pn**	**17 36 57.6**	**+0.6**
	4μm,1.1s,190μm13nm						
CNP	**Catarman**	**8.87**	**348**	*e*P	Pn	17 37 03.5	+5.4
KALP	**Kalibo**	**8.87**	**333**	*e*P	Pn	17 37 06.7	+8.6
CUYO	**Cuyo Island**	**8.88**	**323**	*e*P

862nm,0.7s
TPUB Ta-pu 20.22 344 *e*P P **17 39 21.3 -3.5**
5µm,1.2s
GUMO Guam 20.59 61 *e*P P **17 39 26.6 -2.3**
4µm,1.4s
GUMO S **S** **17 43 16.5 -1.7**
GUMO Guam 20.59 61 P **P** **17 39 27.5 -1.4**
155nm,0.4s,baz=206,slow=9.2,SNR=16
GUMO S **S** **17 43 16.5 -1.7**
75nm,0.9s,baz=273,slow=19,SNR=1.3
GUMO LR LR 17 45 32.5
comp=Z,520µm,22.0s,baz=229,slow=31
SSLB Suanglung 20.60 345 *e*P P **17 39 25.8 -3.2**
2µm,0.8s
NACB Ninganchiao 20.82 347 *e*P P **17 39 29.5 -1.8**
808nm,0.9s
CLJI Cilicap 20.85 237 P P **17 39 32.7 +1.0**
2µm,1.5s,62µm
PPBI Pangkal Pinang 21.19 254 P P **17 39 38.9 +3.5**
1µm,1.5s,64µm
YHNB Yeheng 21.35 347 *e*P P **17 39 35.1 -2.0**
18nm,1.5s
LEM Lembang 21.59 241 P P **17 39 42.0 +2.2**
2µm,1.4s,93µm
TATO Taipei 21.62 348 *e*P P **17 39 37.9 -2.0**
840nm,0.8s
FITZ Fitzroy Crossi 21.75 182 *e*P P **17 39 40.4 -1.0**
29nm,0.4s
FITZ S **S** **17 43 41.9 +0.8**
FITZ Fitzroy Crossi 21.75 182 *e*P P **17 39 39.9 -1.4**
4µm,1.9s
FITZ *e*S **S** **17 43 38.1 -2.9**
FITZ Fitzroy Crossi 21.75 182 P P **17 39 40.4 -1.0**
163nm,0.8s,baz=16,slow=9.9,SNR=103
FITZ S **S** **17 43 41.9 +0.8**
516nm,1.1s,baz=342,slow=20,SNR=6.2
CISI Cisompet, Garu 21.78 239 P P **17 39 43.4 +1.7**
2µm,1.1s,69µm
HKC Hong Kong Obse 21.95 328⇑ *i*P P **17 39 43.0 -0.5**
TNG Tangerang 22.15 244 P P **17 39 49.1 +3.4**
6µm,1.6s,166µm
DBJI Dramaga 22.23 243 P P **17 39 48.7 +2.2**
3µm,1.6s
QIZ Qiongzhong 22.24 314 P P **17 39 45.6 -1.0**
QIZ S **S** **17 43 49.1 -1.3**
QIZ LR LR
comp=N,371µm,22.8s
QIZ LR LR
comp=E,118µm,22.8s
QIZ LR LR
comp=Z,737µm,26.8s
QIZ Qiongzhong 22.24 314 *e*P P **17 39 46.1 -0.5**
comp=Z,783nm,0.9s
QZH Quanzhou 22.38 341⇑ *i*P P **17 39 46.7 -1.3**
QZH S S 17 43 43.5 -9.3
QZH pmax pmax
comp=Z,4µm,1.1s
QZH LR LR
comp=N,2106µm,20.6s
QZH LR LR
comp=E,603µm,18.1s
QZH LR LR
comp=Z,2298µm,20.1s
SKJI Sukabumi 22.60 242 P P **17 39 52.1 +1.6**
comp=Z,3µm,1.4s,comp=Z,90µm
MYKOM Kota Tinggi 22.71 266 P P **17 39 54.1 +2.4**
MYKOM Kota Tinggi 22.71 266 P P **17 39 53.7 +2.0**
comp=Z,2µm,1.4s,comp=Z,75µm
PMBI Palembang 22.71 253 P P **17 39 55.6 +3.9**
comp=Z,6µm,1.2s,comp=Z,82µm
JOW Kunigami 22.99 4 *e*P P **17 39 53.4 -1.1**
comp=Z,841nm,1.1s
JOW S **S** **17 44 04.6 +1.0**
JOW Kunigami 22.99 4 P **P** **17 39 53.3 -1.1**
comp=Z,901nm,0.9s,baz=188,slow=8.7,SNR=121
JOW S **S** **17 44 04.6 +1.0**
comp=Z,100nm,0.9s,baz=120,slow=18,SNR=3.1
GZH Guangzhou 23.03 328 P P **17 39 56.6 +1.7**
GZH S **S** **17 44 08.2 +3.8**
GZH LR LR
comp=N,1090µm,19.0s
GZH LR LR
comp=E,950µm,19.6s
GZH LR LR
comp=Z,1142µm,21.5s
CGJI Cibinong 23.19 244 P P **17 39 56.0 -0.7**
comp=Z,4µm,1.0s,comp=Z,72µm
KGM Kluang 23.21 266 P P **17 39 59.3 +2.4**
KASI Kota Agung 23.84 247 P P **17 40 03.9 +0.9**
comp=Z,3µm,0.9s,comp=Z,62µm
LWLI Liwa 24.06 249 P P **17 40 05.9 +0.7**
comp=Z,4µm,0.8s,comp=Z,59µmcomp=Z,979µm
COEN Coen 24.17 137 *e*P P **17 40 03.3 -2.7**
comp=Z,6µm,1.2s
PMG Port Moresby 24.40 123 *e*P P **17 40 03.4 -4.8**
comp=Z,10µm,2.8s
PMG S **S** **17 44 28.2 +1.4**
PMG *e* 18 13 23.6
PMG Port Moresby 24.40 123 P P **17 40 05.0 -3.2**
comp=Z,1µm,0.8s,comp=Z,61µmcomp=Z,513µm
PMG Port Moresby 24.40 123 P P **17 40 06.1 -2.1**
comp=Z,64nm,0.8s,baz=311,slow=8.7,SNR=21
PMG S **S** **17 44 28.2 +1.4**
comp=Z,83nm,1.1s,baz=270,slow=16,SNR=1.8
PMG P3KPbc 18 13 23.6
comp=Z,23nm,0.8s,baz=83,slow=2.5,SNR=9.7
RGRI Rengat 24.49 261 P P **17 40 13.4 +4.3**
comp=Z,1µm,0.9s,comp=Z,109µm
WRAB Tennant Creek 24.79 162 *e*P P **17 40 08.7 -3.0**
WRAB pmax pmax
comp=Z,3µm,0.8s
WRAB Tennant Creek 24.79 162 *e*P P **17 40 08.7 -3.0**
comp=Z,3µm,0.8s
FRIM Kepong 24.83 270 P P **17 40 14.3 +2.1**
MNAI Manna 24.87 251 P P **17 40 15.3 +2.8**
comp=Z,2µm,1.4s,comp=Z,93µm
KSI Kapahiang 25.00 253 P P **17 40 15.7 +2.0**
comp=Z,4µm,1.0s,comp=Z,77µm
IPM Ipoh 25.42 272 *e*P P **17 40 18.2 +0.8**
comp=Z,2µm,1.2s
IPM Ipoh 25.42 272 P P **17 40 18.7 +1.3**
IPM Ipoh 25.42 272 P P **17 40 18.4 +1.0**
comp=Z,2µm,0.9s,comp=Z,49µm
MBWA Marble Bar 25.65 195 *e*P P **17 40 19.1 -0.3**
comp=Z,2µm,1.1s
MBWA Marble Bar 25.65 195 P P **17 40 19.6 +0.2**
SNR=280
BKNI Bangkinang 25.67 263 P P **17 40 21.7 +2.0**
comp=Z,2µm,0.9s,comp=Z,67µm
PPI Padang Panjang 26.42 261 P P **17 40 27.4 +0.9**
comp=Z,261nm,1.1s,comp=Z,49µm
PDSI Padang 26.43 260 P P 17 40 40.9 +14
MNSI Mandailing Nat 27.06 264 P P **17 40 33.2 +0.9**
comp=Z,2µm,1.4s,comp=Z,38µm
PSI Prapat 27.55 269 P P **17 40 37.4 +0.6**
PSI S **S** **17 45 18.3 +1.3**
PSI Prapat 27.55 269 P P **17 40 37.6 +0.8**
comp=Z,491nm,0.9s,comp=Z,47µmcomp=Z,797µm
PSI Prapat 27.55 269 P P **17 40 37.4 +0.6**
comp=Z,252nm,0.9s,baz=89,slow=3.5,SNR=78
PSI S **S** **17 45 18.3 +1.3**
comp=Z,11nm,0.5s,baz=169,slow=18,SNR=1.8
CBIJ Chichi jima 27.62 31 P P **17 40 34.6 -2.5**
CBIJ S **S** **17 45 17.9 +0.3**
CBIJ Chichi jima 27.62 31 P P **17 40 34.6 -2.5**
comp=Z,278nm,0.4s,baz=196,slow=9.7,SNR=16
CBIJ S **S** **17 45 17.9 +0.3**
comp=Z,92nm,0.6s,baz=176,slow=19,SNR=2.0
CBIJ LR LR 17 50 28.8
comp=Z,598µm,19.6s,baz=209,slow=34
SSE Sheshan 27.63 350⇑ P P **17 40 37.1 -0.1**
SSE pP **pP** **17 40 43.3 -1.1**
SSE sP **sP** **17 40 46.0 -1.4**
SSE S **S** **17 45 14.8 -2.9**
SSE pmax pmax
comp=Z,170nm,1.0s
SSE pmax pmax
comp=Z,4µm,6.2s
SSE LR LR
comp=N,359µm,22.2s
SSE LR LR
comp=E,163µm,22.2s
SSE LR LR
comp=Z,475µm,21.1s
AS31 Alice Springs 28.21 166 *e*P P **17 40 41.8 -0.7**
ASAR Alice Springs 28.21 166 P P **17 40 42.1 -0.4**
ASAR PcP **PcP** **17 43 54.5 -1.5**
ASAR S **S** **17 45 31.9 +4.8**
ASAR *e* 18 12 57.2
ASAR Alice Springs 28.21 166 P P **17 40 42.1 -0.4**
comp=Z,22nm,0.8s,baz=346,slow=7.5,SNR=69
ASAR PcP **PcP** **17 43 54.5 -1.5**
comp=Z,60nm,0.6s,baz=354,slow=1.9,SNR=2.8
ASAR S **S** **17 45 31.9 +4.8**
comp=Z,100nm,1.1s,baz=342,slow=18,SNR=5.0
ASAR P3KPbc 18 12 57.2
comp=Z,1.2nm,0.8s,baz=141,slow=3.6,SNR=2.5
WHN Wuhan 28.99 338⇑ P P **17 40 48.9 -0.4**
WHN S **S** **17 45 42.0 +2.9**
WHN LR LR
comp=N,1789µm,22.4s
WHN LR LR
comp=E,1639µm,19.8s
WHN LR LR
comp=Z,2829µm,20.5s
GSI Gunungsitoli 29.00 266 P P **17 40 49.2 -0.4**
comp=Z,558nm,0.8s,comp=Z,36µmcomp=Z,851µm
NJ2 Nanjing 29.03 347 *e*P P **17 40 49.7 +0.1**
NJ2 pP **pP** **17 40 59.4 +2.5**
NJ2 sP **sP** **17 41 03.1 +3.2**
NJ2 PP **PnPn** **17 41 48.7 +6.5**
NJ2 S S 17 45 47.0 +7.3
NJ2 pmax pmax
comp=Z,430nm,1.0s
NJ2 pmax pmax
comp=Z,66µm,10.5s
NJ2 LR LR
comp=N,368µm,20.4s
NJ2 LR LR
comp=E,455µm,23.2s
NJ2 LR LR
comp=Z,417µm,21.5s
TPTI 29.27 270 P P **17 40 53.4 +1.4**
comp=Z,183nm,0.8s,comp=Z,39µm
JNU Nakatsue 29.48 7 *e*P P **17 40 51.9 -1.8**
comp=Z,557nm,1.1s
JNU S **S** **17 45 52.6 +5.7**
JNU Nakatsue 29.48 7 P P **17 40 51.8 -1.9**
comp=Z,538nm,1.0s,baz=174,slow=5.4,SNR=89
JNU S **S** **17 45 52.6 +5.7**
comp=Z,23nm,1.0s,baz=308,slow=12,SNR=2.4
GYA Guiyang 29.49 322⇑ *i*P P **17 40 53.3 -0.7**
GYA pP **pP** **17 41 02.5 +1.3**
GYA PP **PnPn** **17 41 51.0 +2.4**
GYA S **S** **17 45 49.8 +2.5**
GYA SS SS 17 47 19.0 -34
GYA pmax pmax
comp=Z,130nm,0.8s
GYA LR LR
comp=N,508µm,21.0s
GYA LR LR
comp=E,446µm,20.3s
GYA LR LR
comp=Z,642µm,21.0s
LHMI Lhok Sumawe 29.49 274 P P **17 40 56.9 +2.9**
comp=Z,1µm,0.8s,comp=Z,42µmcomp=Z,984µm
CTA Charters Tower 30.64 141 P P **17 41 03.0 -1.0**
CTA S **S** **17 46 08.9 +3.6**
CTA *e* 18 12 54.2
CTA Charters Tower 30.64 141 *e*P P **17 41 03.1 -1.0**
comp=Z,222nm,0.9s
CTA *e*S **S** **17 46 03.0 -2.3**
CTA Charters Tower 30.64 141 P P **17 41 03.0 -1.0**
comp=Z,80nm,0.8s,baz=322,slow=10,SNR=44
CTA S **S** **17 46 08.9 +3.6**
comp=Z,33nm,0.8s,baz=0.0,slow=20,SNR=1.7
CTA P3KPbc 18 12 54.2
comp=Z,11nm,0.9s,baz=212,slow=1.7,SNR=5.6
CTAO Charters Tower 30.64 141 *e*P P **17 41 03.3 -0.8**
CTAO pmax pmax
comp=Z,636nm,1.2s
CTAO MLR MLR
comp=Z,265µm,21.0s
CTAO Charters Tower 30.64 141 *e*P P **17 41 03.3 -0.8**
comp=Z,636nm,1.2s
CTAO LR LR
comp=Z,265µm,21.0s
CM31 Chiang Mai Arr 30.65 301 *e*P P **17 41 03.5 -0.7**
comp=Z,1.1nm,1.1s
CM31 LR LR
comp=Z,268µm,19.0s
CMAR Chiang Mai Arr 30.65 301 P P **17 41 03.5 -0.7**
CMAR S **S** **17 46 09.2 +3.7**
CMAR ScP **ScP** **17 47 44.2 +0.6**
CMAR PKiKP **PKiKP** **17 51 33.4 -0.2**
CMAR *e* 18 12 57.4
CMAR P'P' 18 14 57.3
CMAR Chiang Mai Arr 30.65 301 P P **17 41 03.5 -0.7**
comp=Z,209nm,1.1s,baz=120,slow=7.0,SNR=410
CMAR S **S** **17 46 09.2 +3.7**
comp=Z,11nm,1.0s,baz=97,slow=7.4,SNR=2.4
CMAR ScP **ScP** **17 47 44.2 +0.6**
comp=Z,10.0nm,0.9s,baz=156,slow=2.4,SNR=3.2
CMAR PKiKP **PKiKP** **17 51 33.4 -0.2**
comp=Z,3.4nm,0.6s,baz=243,slow=0.6,SNR=5.6
CMAR P3KPbc 18 12 57.4
comp=Z,0.8nm,0.3s,baz=293,slow=6.4,SNR=7.6
CMAR PKPPKP **P'P'df** **18 14 57.3 -3.3**
comp=Z,5.4nm,1.1s,baz=280,slow=2.7,SNR=4.6
CHTO Chiang Mai 30.80 301 *e*P P **17 41 04.0 -1.5**
CHTO pmax pmax
comp=Z,803nm,0.8s
CHTO MLR MLR
comp=Z,314µm,22.0s
CHTO Chiang Mai 30.80 301 *e*P P **17 41 04.0 -1.5**
comp=Z,803nm,0.8s
CHTO LR LR
comp=Z,314µm,22.0s
CHTO Chiang Mai 30.80 301 P P **17 41 05.1 -0.4**
SNR=523
CHTO Chiang Mai 30.80 301 P P **17 41 05.1 -0.4**
comp=Z,1µm,1.1s,comp=Z,37µmcomp=Z,455µm
ENH Enshi 30.88 330 *e*P P **17 41 03.7 -2.4**
comp=Z,16nm,1.4s
ENH LR LR
comp=Z,1064µm,22.0s
BSI Banda Aceh 31.14 274 P P **17 41 09.1 +0.5**
comp=Z,1µm,1.6s,comp=Z,24µmcomp=Z,988µm
KMI Kunming 31.18 315⇑ P P **17 41 09.6 +0.5**
KMI sP **sP** **17 41 16.7 -2.6**
KMI S **S** **17 46 10.0 -4.2**
KMI pmax pmax
comp=Z,500nm,1.3s
KMI LR LR
comp=N,86µm,22.4s
KMI LR LR
comp=E,416µm,23.9s
KMI LR LR
comp=Z,651µm,23.9s
JHJ Hachijo jima 2 31.73 22 P P **17 41 11.1 -2.4**
comp=Z,169nm,0.7s,baz=221,slow=19,SNR=2.8
JHJ S **S** **17 46 26.9 +4.9**
comp=Z,73nm,0.6s,baz=75,slow=20,SNR=1.9
JHJ LR LR 17 53 09.8
comp=Z,596µm,19.9s,baz=197,slow=35
TIA Tai'an 33.42 346⇑ P P **17 41 27.2 -1.1**
TIA sP **sP** **17 41 41.5 +3.0**
TIA PP **PnPn** **17 42 38.0 -1.6**
TIA S S 17 46 41.4 -6.8
TIA pmax pmax
comp=Z,830nm,1.0s
TIA pmax pmax
comp=Z,72µm,13.0s
TIA LR LR
comp=N,135µm,33.9s
TIA LR LR
comp=E,318µm,29.1s
TIA LR LR
comp=Z,204µm,23.1s
COCO West Island 33.48 241 *i*P P **17 41 28.1 -1.0**
COCO West Island 33.48 241 *e*P P **17 41 29.8 +0.7**
comp=Z,377nm,1.0s
COCO LR LR
comp=Z,140µm,20.0s
COCO West Island 33.48 241 P P **17 41 32.0 +2.9**
SNR=5.7
COCO West Island 33.48 241 P P 17 41 34.4 +5.3
comp=Z,249nm,1.1s,comp=Z,13µmcomp=Z,385µm
KSAR Wonju Array Be 33.53 2 P P **17 41 27.6 -1.6**
KSAR PcP **PcP** **17 44 10.6 +0.8**
KSAR S **S** **17 46 52.5 +2.6**
KSAR *e* 18 12 41.9
KSRS Korea Array 33.54 2 P P **17 41 27.6 -1.7**
comp=Z,263nm,1.0s,baz=178,slow=9.8,SNR=282
KSRS PcP **PcP** **17 44 10.6 +0.8**
comp=Z,64nm,0.9s,baz=200,slow=2.5,SNR=4.8
KSRS S **S** **17 46 52.5 +2.5**
comp=Z,7.4nm,1.0s,baz=174,slow=13,SNR=2.0
KSRS P3KPbc 18 12 41.9
comp=Z,2.2nm,1.0s,baz=358,slow=6.6,SNR=4.2
INCN Inchon 33.55 0 *e*P P **17 41 27.8 -1.6**
comp=Z,461nm,0.8s
INCN Inchon 33.55 0 P P **17 41 30.3 +0.9**
SNR=40
XAN Xi'an 34.27 334 P P **17 41 34.3 -1.5**
XAN pP **pP** **17 41 40.2 -2.9**
XAN sP **sP** **17 41 43.1 -3.0**
XAN S **S** **17 47 04.5 +2.9**
XAN sS **sS** **17 47 14.2 +0.6**
XAN SS **SnSn** **17 49 19.5 +7.8**
XAN pmax pmax
comp=Z,230nm,1.0s
XAN pmax pmax
comp=Z,9µm,15.0s
XAN LR LR
comp=N,430µm,18.0s
XAN LR LR
comp=E,92µm,19.5s
XAN LR LR
comp=Z,245µm,19.2s
MJAR Matsushiro Arr 34.34 17 P P **17 41 33.5 -2.8**
MJAR PcP **PcP** **17 44 12.7 +0.6**
MJAR S **S** **17 47 07.4 +4.8**
MJAR Matsushiro Arr 34.34 17 P P **17 41 33.5 -2.8**
comp=Z,63nm,0.8s,baz=201,slow=9.4,SNR=83
MJAR PcP **PcP** **17 44 12.7 +0.6**
comp=Z,51nm,0.7s,baz=191,slow=4.0,SNR=4.9
MJAR S **S** **17 47 07.4 +4.8**
comp=Z,2.8nm,0.8s,baz=176,slow=18,SNR=3.5
MJAR LR LR 17 54 04.2
comp=Z,295µm,20.7s,baz=200,slow=34
MAJO Matsushiro 34.35 17 *e*P P 17 41 32.6 -3.7
MAJO pmax pmax
comp=Z,1µm,1.4s
MAJO Matsushiro 34.35 17 *e*P P 17 41 32.6 -3.7
comp=Z,1µm,1.4s
MAT Matsushiro 34.35 17 P P 17 41 32.4 -4.0
MAT S **S** **17 47 01.7 -0.9**
FORT Forrest 34.39 178 *e*P P **17 41 33.8 -2.9**
comp=Z,3µm,0.9s
FORT Forrest 34.39 178 *e*P P **17 41 33.7 -3.1**
comp=Z,2µm,0.8s
FORT *e*S **S** **17 47 04.0 +0.6**
CD2 Chengdu 34.47 324⇑ *i*P P **17 41 36.3 -1.3**
CD2 pP **pP** **17 41 46.4 +1.5**
CD2 sP **sP** **17 41 50.6 +2.8**
CD2 PP **PnPn** **17 42 52.7 -0.2**
CD2 PcP **PcP** **17 44 11.4 -1.3**
CD2 S **S** **17 47 01.2 -3.6**
CD2 sS **sS** **17 47 18.0 +1.2**
CD2 PcS **PcS** **17 47 56.7 -2.5**
CD2 pmax pmax
comp=Z,380nm,1.0s
CD2 pmax pmax
comp=Z,52µm,12.7s
CD2 LR LR
comp=N,282µm,17.6s
CD2 LR LR
comp=E,734µm,21.1s
CD2 LR LR
comp=Z,635µm,19.6s
DL2 Dalian 35.25 353⇑ *i*P P **17 41 44.4 +0.3**
DL2 S **S** **17 47 18.6 +2.2**
DL2 pmax pmax
comp=Z,1µm,1.1s
DL2 pmax pmax
comp=Z,35µm,13.7s
DL2 LR LR
comp=N,154µm,19.8s
DL2 LR LR
comp=E,161µm,18.6s
DL2 LR LR
comp=Z,205µm,20.0s
HNR Honiara 35.82 112 *e*P P **17 41 50.7 +1.3**
comp=Z,1µm,1.2s
HNR S **S** **17 47 29.8 +3.9**
HNR Honiara 35.82 112 P P **17 41 48.4 -1.0**
comp=Z,302nm,0.8s,baz=309,slow=6.5,SNR=17
HNR S **S** **17 47 29.8 +3.9**
comp=Z,40nm,0.8s,baz=319,slow=20,SNR=1.9
HNR LR LR 17 55 16.9
comp=Z,261µm,21.4s,baz=284,slow=34
KLBR Kellerberrin 36.14 193 *e*P P **17 41 50.5 -1.4**
comp=Z,4µm,1.8s
KLBR *e*S **S** **17 47 29.2 -1.1**
TIY Taiyuan 36.15 341 *e*P P **17 41 51.4 -0.5**
TIY S **S** **17 47 31.1 +0.6**
TIY pmax pmax
comp=Z,370nm,0.9s
TIY pmax pmax
comp=Z,46µm,13.8s
TIY LR LR
comp=N,404µm,18.6s
TIY LR LR
comp=E,140µm,18.4s
TIY LR LR
comp=Z,446µm,21.2s
BJT Baijiatuau 37.27 347 *e*P P **17 42 00.3 -1.1**
comp=Z,2µm,0.6s
BJT LR LR
comp=Z,251µm,19.0s
BJI Beijing 37.29 347 P P **17 42 00.9 -0.6**
BJI S **S** **17 47 48.6 +1.0**
BJI pmax pmax
comp=Z,2µm,0.8s
BJI pmax pmax
comp=Z,7µm,4.5s
BJI LR LR
comp=N,133µm,15.2s
BJI LR LR
comp=E,293µm,24.9s
BJI LR LR
comp=Z,175µm,23.5s
BBOO Buckleboo 37.50 167 *e*P P **17 42 01.5 -1.9**
comp=Z,60µm,1.8s
EIDS Eidsvold 37.53 142 *e*P P **17 42 02.4 -1.3**
comp=Z,685nm,0.9s
NWAO Narrogin (SRO) 37.54 193 *e*P P **17 42 04.2 +0.5**
comp=Z,1µm,1.1s
NWAO S **S** **17 47 54.6 +3.0**
NWAO Narrogin (SRO) 37.54 193 P P **17 42 04.4 +0.6**
SNR=140
NWAO Narrogin (SRO) 37.54 193 P P **17 42 04.3 +0.5**
comp=Z,320nm,0.9s,baz=20,slow=9.5,SNR=86
NWAO S **S** **17 47 54.6 +3.0**
comp=Z,31nm,0.7s,baz=165,slow=20,SNR=2.4
IMP Imphal 37.66 307 *e*PKP P **17 42 04.0 -1.0**
IMP *ex* x 17 48 14.0
SNY Shenyang 37.98 356⇑ P P **17 42 07.4 +0.1**
SNY S **S** **17 48 00.3 +2.3**
SNY pmax pmax
comp=Z,140nm,0.8s
SNY pmax pmax
comp=Z,59µm,7.4s
SNY LR LR
comp=N,146µm,21.7s
SNY LR LR
comp=E,340µm,18.3s
SNY LR LR
comp=Z,239µm,24.1s
STKA Stephens Creek 38.25 159 *e*P P **17 42 07.8 -2.0**
comp=Z,235nm,0.8s
STKA S **S** **17 47 59.5 -3.0**
STKA Stephens Creek 38.25 159 *e*P P **17 42 07.6 -2.2**
comp=Z,1µm,0.9s
STKA *e*S **S** **17 48 00.2 -2.2**
STKA Stephens Creek 38.25 159 P P **17 42 08.0 -1.8**
comp=Z,517nm,0.9s,baz=330,slow=8.3,SNR=66
STKA S **S** **17 47 59.5 -3.0**
comp=Z,59nm,1.1s,baz=315,slow=19,SNR=2.0
STKA LR LR 17 59 09.3
comp=Z,130µm,19.4s,baz=334,slow=38
LZH Lanzhou 38.35 330 *e*P P **17 42 09.8 -0.9**
LZH pP **pP** **17 42 17.4 -0.7**
LZH sP **sP** **17 42 20.7 -0.3**
LZH S **S** **17 48 02.0 -2.1**
LZH pmax pmax
comp=Z,590nm,1.0s
LZH pmax pmax

LZH LR LR
comp=N,868µm,20.4s
LZH LR LR
comp=E,578µm,19.1s
LZH LR LR
comp=Z,1036µm,20.1s
HHC Hu-ho-hao-te 39.28 342⇑ *i*P **P** **17 42 18.9 +0.4**
HHC pP **pP** **17 42 24.8 -1.0**
HHC sP **sP** **17 42 28.1 -0.7**
HHC PP **PnPn** **17 43 53.7 +2.1**
HHC PcP **PcP** **17 44 27.0 -0.1**
HHC S **S** **17 48 20.1 +2.1**
HHC sS **sS** **17 48 29.7 -0.4**
HHC SS **SS** **17 51 05.4 -6.6**
HHC pmax pmax
comp=Z,400nm,1.0s
HHC pmax pmax
comp=Z,58µm,8.1s
HHC LR LR
comp=N,387µm,19.0s
HHC LR LR
comp=E,243µm,19.0s
HHC LR LR
comp=Z,431µm,22.6s
AGT Agartala 39.44 304 *ex* **P** **17 42 22.0 +2.1**
AGT *ex* x 17 44 27.0
VLA Vladivostok 39.47 6*c i*P **P** **17 42 19.8 0.0**
VLA *e* 17 43 49.3
VLA 17 44 26.3
VLA *i* S **S** **17 48 19.5 -1.0**
VLA pmax pmax
comp=Z,2µm,1.6s
VLA MLR MLR
comp=E,4667µm,24.0s
BTO Baotou 39.56 340 *e*P **P** **17 42 19.8 -1.0**
SHL Shillong 39.66 307 *i* P **P** **17 42 21.0 -0.9**
SHL *ex* x 17 48 23.0
CN2 Changchun 39.87 359⇑P **P** **17 42 22.0 -1.1**
CN2 *e*pP **pP** **17 42 29.3 -1.2**
CN2 *e*sP **sP** **17 42 32.7 -0.8**
CN2 PP **PnPn** **17 43 58.6 +0.2**
CN2 PcP **PcP** **17 44 27.9 -0.8**
CN2 *e*S **S** **17 48 25.2 -1.3**
CN2 pmax pmax
comp=Z,65µm,10.0s
USRK Ussuriysk Arra 40.55 6 P **P** **17 42 26.6 -2.1**
comp=Z,196nm,0.9s,baz=184,slow=6.8,SNR=144
USRK S **S** **17 48 37.6 +1.1**
comp=Z,14nm,1.0s,baz=208,slow=7.9,SNR=4.7
USRK PKPPKP **P'P'df** **18 14 45.8 -2.2**
comp=Z,2.1nm,0.8s,baz=354,slow=3.8,SNR=5.1
MDJ Mudanjiang 40.77 3 P **P** **17 42 30.5 0.0**
MDJ sP **sP** **17 42 39.0 -1.9**
MDJ PP **PP** **17 44 04.5 -0.3**
MDJ S **S** **17 48 45.0 +5.2**
MDJ sS **sS** **17 48 53.0 +1.0**
MDJ pmax pmax
comp=Z,850nm,1.1s
MDJ LR LR
comp=N,200µm,29.3s
MDJ LR LR
comp=Z,232µm,29.3s
MDJ Mudanjiang 40.77 3 *e*P **P** **17 42 29.0 -1.5**
comp=Z,970nm,0.8s
ERM Erimo 40.89 19*d i*P **P** **17 42 31.0 -0.6**
ERM Erimo 40.89 19 *e*P **P** **17 42 30.8 -0.8**
comp=Z,514nm,1.0s
ERM LR LR
comp=Z,361µm,20.0s
KWAJ Kwajalein Atol 41.15 81 *e*P **P** **17 42 34.0 -0.2**
KWAJ pmax pmax
comp=Z,164nm,1.0s
KWAJ Kwajalein Atol 41.15 81 *e*P **P** **17 42 34.0 -0.2**
comp=Z,164nm,1.0s
CAL Calcutta 41.39 300 *i* P **P** **17 42 35.3 -0.7**
CAL *ex* x 17 48 20.5
ARMA Armidale 41.63 146 *e*P **P** **17 42 37.5 -0.5**
comp=Z,7µm,2.0s
ARMA Armidale 41.63 146 *e*P **P** **17 42 37.0 -1.0**
ARMA *e*S **S** **17 48 52.1 -1.2**
WAKE Wake Island 42.11 65 *e*P **P** **17 42 42.1 +0.2**
comp=Z,889nm,1.3s
LSA Lhasa 42.24 312 P **P** **17 42 44.5 +1.1**
LSA S **S** **17 49 04.7 +1.7**
LSA pmax pmax
comp=Z,280nm,0.8s
LSA pmax pmax
comp=Z,5µm,5.0s
LSA LR LR
comp=N,68µm,28.0s
LSA LR LR
comp=E,200µm,30.0s
LSA LR LR
comp=Z,200µm,30.0s
LSA Lhasa 42.24 312 *e*P **P** **17 42 42.5 -0.9**
LSA pmax pmax
comp=Z,967nm,0.8s
LSA Lhasa 42.24 312 *e*P **P** **17 42 42.5 -0.9**
comp=Z,967nm,0.8s
ASAJ Asahikawa 42.62 17 *e*P **P** **17 42 45.7 0.0**
comp=Z,2µm,1.9s
ASAJ S **S** **17 49 10.6 +3.3**
ASAJ Asahikawa 42.62 17 P **P** **17 42 43.9 -1.8**
comp=Z,439nm,1.2s,baz=208,slow=9.1,SNR=46
ASAJ S **S** **17 49 10.6 +3.3**
comp=Z,21nm,0.9s,baz=252,slow=20,SNR=3.2
ASAJ LR LR 18 02 02.5
comp=Z,433µm,18.6s,baz=329,slow=38
BWNR Bhubaneshwar 42.88 296 *e*PKP **P** **17 42 46.0 -2.2**
BWNR *ex* x 17 44 36.0
GTA Gaotai 42.94 329⇑P **P** **17 42 47.6 -1.0**
GTA pP **pP** **17 42 53.6 -2.4**
GTA sP **sP** **17 42 56.6 -2.4**
GTA PP **PP** **17 44 32.6 +4.1**
GTA S **S** **17 49 10.2 -2.3**
GTA sS **sS** **17 49 26.5 +1.8**
GTA SS SS 17 52 15.3 -9.4
GTA pmax pmax
comp=Z,120nm,0.8s
GTA pmax pmax
comp=Z,31µm,10.4s
GTA LR LR
comp=N,260µm,19.0s
GTA LR LR
comp=E,182µm,18.5s
GTA LR LR
comp=Z,336µm,29.4s
GTK Gangtok 43.07 307 *e*PKP **P** **17 42 48.5 -1.4**
YUK Yuzh-Kuril'sk 43.59 20 *i* P **P** **17 42 53.2 -0.4**
YUK *i* 17 44 35.1
YUK *i* PPP PPP 17 45 09.6
YUK *i* S **S** **17 49 20.9 -0.6**
YUK *i* SS **ScS** **17 52 48.9 -2.8**
YUK *i* SSS SSS 17 53 11.4
YUK pmax pmax
comp=Z,3µm,0.9s
YUK pmax pmax
comp=N,2µm,0.9s
YUK pmax pmax
comp=Z,115µm,17.2s
YUK MLR MLR
comp=N,55µm,21.0s
YUK MLR MLR
comp=E,30µm,21.0s
YUK MLR MLR
comp=Z,252µm,21.0s
TAPN Taplejung 43.80 306 *e*P **P** **17 42 54.2 -1.8**
comp=Z,1µm,0.7s
TAPN Taplejung 43.80 306 *e*P **P** **17 42 54.2 -1.8**
comp=Z,1µm,0.7s
ODAN Odare 43.86 306 *e*P **P** **17 42 54.4 -1.9**
comp=Z,2µm,0.6s
ODAN Odare 43.86 306 *e*P **P** **17 42 54.6 -1.7**
ODAN Odare 43.86 306 *e*P **P** **17 42 54.6 -1.7**
RIV Riverview 44.06 150 *e*P **P** **17 42 59.3 +1.8**
CAN Canberra 44.26 153 *e*P **P** **17 43 00.1 +0.9**
CAN pmax pmax
comp=Z,2µm,1.4s
CAN MLR MLR
comp=Z,338µm,19.0s
CAN Canberra 44.26 153 *e*P **P** **17 43 00.1 +0.9**
comp=Z,2µm,1.4s
CAN LR LR
comp=Z,338µm,19.0s
CNB Canberra Magne 44.41 153 *e*P **P** **17 42 59.8 -0.6**
comp=Z,2µm,0.9s
VIS Vishakhapatnam 44.48 291 *ex* x 17 42 47.1
VIS AMb AMB 17 43 08.5
comp=Z,456nm,1.4s
RAMN Ramite 44.53 305 *e*P **P** **17 42 59.8 -2.0**
comp=Z,1µm,0.8s
RAMN Ramite 44.53 305 *e*P **P** **17 42 59.8 -2.0**
comp=Z,1µm,0.8s
TOO Toolangi 44.77 158 *e*P **P** **17 43 02.6 -0.6**
comp=Z,2µm,0.9s
HABR Khabarovsk 45.13 8 *i* P **P** **17 43 05.5 -0.3**
HABR *e**SP **sP** **17 43 16.8 +0.6**
HABR 17 44 42.5
HABR *e* 17 44 48.4
HABR *e*PPP PPP 17 45 27.0
HABR *e*S **S** **17 49 43.7 -0.1**
HABR *e**SS **sS** **17 49 56.7 +0.7**
HABR *e* 17 52 57.4
HABR *e*SSS SSS 17 53 49.2
HABR pmax pmax
comp=N,222nm,1.1s
HABR pmax pmax
comp=E,105nm,1.0s
HABR pmax pmax
comp=Z,704nm,1.1s
HABR pmax pmax
comp=Z,7µm,4.4s
HABR MLR MLR
comp=Z,259µm,18.0s
HABR MLR MLR
comp=N,156µm,18.0s
HABR MLR MLR
comp=E,183µm,18.0s
JIRN Jiri 45.16 306 *e*P **P** **17 43 05.2 -1.7**
JIRN Jiri 45.16 306 *e*P **P** **17 43 05.2 -1.7**
YSS Yuzh-Sakhalins 45.26 16α *i*P **P** **17 43 06.0 -0.9**
YSS *e**SP **sP** **17 43 20.0 +2.7**
YSS *e* 17 44 48.9
YSS *e* 17 44 55.0
YSS *e*PPP PPP 17 45 30.0
YSS *e*S **S** **17 49 44.0 -1.7**
YSS pmax pmax
comp=N,470nm,1.0s
YSS pmax pmax
comp=Z,870nm,1.0s
YSS pmax pmax
comp=N,10µm,8.0s
YSS pmax pmax
comp=E,5µm,8.0s
YSS pmax pmax
comp=Z,18µm,8.0s
YSS pmax pmax
comp=Z,22µm,20.0s
YSS pmax pmax
comp=N,18µm,18.0s
YSS smax smax
comp=N,52µm,14.0s
YSS smax smax
comp=E,17µm,14.0s
YSS MLR MLR
comp=N,201µm,18.0s
YSS MLR MLR
comp=E,228µm,18.0s
YSS MLR MLR
comp=Z,251µm,18.0s
YSS Yuzh-Sakhalins 45.26 16 *e*P **P** **17 43 04.5 -2.3**
comp=Z,1µm,1.1s
KLR Kul'dur 45.51 5 *e*P P 17 43 03.2 -5.7
GUN Gumba 45.51 306 *e*P **P** **17 43 07.7 -1.9**
comp=Z,3µm,0.8s
GUN Gumba 45.51 306 *e*P **P** **17 43 07.8 -1.9**
GUN Gumba 45.51 306 *e*P **P** **17 43 07.8 -1.9**
HIA Hailar 45.69 354 *e*P **P** **17 43 09.8 -0.6**
comp=Z,1µm,1.0s
PKI Pulchoki 45.76 305 *e*P **P** **17 43 09.2 -2.4**
PKI Pulchoki 45.76 305 *e*P **P** **17 43 09.2 -2.4**
MILA Mila 45.78 155 *e*P **P** **17 43 12.8 +1.6**
KKN Kakani 45.95 306 *e*P **P** **17 43 10.4 -2.6**
KKN Kakani 45.95 306 *e*P **P** **17 43 10.4 -2.6**
DMN Daman 46.02 305 *e*P **P** **17 43 10.8 -2.8**
comp=Z,2µm,0.9s
DMN Daman 46.02 305 *e*P **P** **17 43 10.9 -2.7**
DMN Daman 46.02 305 *e*P **P** **17 43 10.9 -2.7**
GKN Gorkha 46.55 306 *e*P **P** **17 43 15.0 -2.7**
GKN Gorkha 46.55 306 *e*P **P** **17 43 15.0 -2.7**
NOUC Port Laguerre 46.65 125 *e*P **P** **17 43 17.5 -0.8**
DZM Mont Dzumac 46.75 125 *e*P **P** **17 43 19.9 +0.7**
comp=Z,2µm,1.1s
DZM *e*S **S** **17 50 13.0 +4.9**
comp=Z,487µm,29.2s
DZM Mont Dzumac 46.75 125 *e*P **P** **17 43 18.8 -0.4**
DZM Mont Dzumac 46.75 125 *e*P **P** **17 43 17.5 -1.7**
comp=Z,898nm,1.1s
DZM S **S** **17 50 09.4 +1.3**
DZM Mont Dzumac 46.75 125 P **P** **17 43 17.9 -1.3**
comp=Z,317nm,0.8s,baz=316,slow=7.6,SNR=119
DZM S **S** **17 50 09.4 +1.3**
comp=Z,8.2nm,1.0s,baz=307,slow=20,SNR=3.5
LASL Noumea 46.90 125 *e*P **P** **17 43 20.7 +0.5**
ULN Ulaanbaatar 47.01 342 *e*P **P** **17 43 18.9 -1.9**
comp=Z,1µm,1.2s
ULN Ulaanbaatar 47.01 342 P **P** **17 43 20.4 -0.5**
SNR=536
ULN Ulaanbaatar 47.01 342 P **P** **17 43 19.6 -1.2**
comp=Z,452nm,1.0s,comp=Z,37µmcomp=Z,299µm
SONM Songino Array 47.18 342 P **P** **17 43 19.7 -2.5**
SONM PcP **PcP** **17 44 52.4 -1.1**
SONM S **S** **17 50 16.5 +2.9**
SONM P'P' 18 14 43.4
SONM *e* 18 21 06.6
SONM Songino Array 47.18 342 P **P** **17 43 19.7 -2.5**
comp=Z,131nm,0.8s,baz=158,slow=6.9,SNR=220
SONM PcP **PcP** **17 44 52.4 -1.1**
comp=Z,166nm,1.1s,baz=134,slow=2.5,SNR=3.0
SONM S **S** **17 50 16.5 +2.9**
comp=Z,14nm,1.1s,baz=157,slow=7.8,SNR=2.1
SONM LR LR 18 04 57.4
comp=Z,295µm,21.0s,baz=155,slow=38
SONM PKPPKP **P'P'df** **18 14 43.4 +2.9**
comp=Z,5.2nm,1.0s,baz=211,slow=1.2,SNR=5.4
SONM P4KPbc 18 21 06.6
comp=Z,1.5nm,0.8s,baz=126,slow=2.0,SNR=2.4
KOLN Koldanda 47.31 305 *e*P **P** **17 43 21.4 -2.2**
KOLN Koldanda 47.31 305 *e*P **P** **17 43 21.9 -1.7**
comp=Z,2µm,0.6s
KOLN Koldanda 47.31 305 *e*P **P** **17 43 21.9 -1.7**
comp=Z,2µm,0.6s
DANN Dangsing 47.40 306 *e*P **P** **17 43 22.1 -2.3**
DANN Dangsing 47.40 306 *e*P **P** **17 43 22.1 -2.3**
comp=Z,3µm,0.6s
DANN Dangsing 47.40 306 *e*P **P** **17 43 22.1 -2.3**
comp=Z,3µm,0.6s
ALBI Allahabad 47.94 301 *e*PKP **P** **17 43 26.0 -2.3**
HYB Hyderabad 48.88 290 *i* P **P** **17 43 33.0 -2.7**
comp=Z,470nm,1.0s
HYB *e*pP **pP** **17 43 41.0 -2.2**
HYB *e*sP **sP** **17 43 44.0 -2.2**
HYB *e*PP PP 17 45 40.0 +11
HYB *e*S **S** **17 50 37.5 -0.9**
HYB *e*ScS **ScS** **17 53 25.0 -2.3**
HYB *e*SS **SS** **17 54 04.0 -5.4**
HYB LR LR 18 04 40.0
comp=Z,149nm,20.0s
NGP Nagpur 49.20 295 *e*PKP **P** **17 43 35.2 -2.9**
NGP *e*S **S** **17 50 41.5 -1.3**
CIT Chita 49.28 349 *e*P **P** **17 43 38.7 +0.5**
CIT *e*S **S** **17 50 44.4 +1.4**
CIT pmax pmax
comp=Z,5µm,1.8s
MOO Moorlands 49.68 160 *e*P **P** **17 43 41.8 +0.4**
comp=Z,3µm,1.0s
TAU Tasmania Unive 50.14 160 *e*P **P** **17 43 45.9 +1.1**
TAU pmax pmax
comp=Z,539nm,0.9s
TAU Tasmania Unive 50.14 160 *e*P **P** **17 43 45.9 +1.1**
comp=Z,539nm,0.9s
ZAK Zakamensk 50.41 341 *e*P **P** **17 43 45.6 -1.3**
ZAK pmax pmax
comp=Z,185nm,1.4s
LGTI Lohaghat 50.67 305 *ex* **P** **17 43 50.2 +1.1**
LGTI *ex* x 17 46 29.1
PTH Pithoragarh 50.73 306 *e*PKP **P** **17 43 49.0 -0.8**
LATR Latur 50.93 291 *ex* **P** **17 43 54.4 +3.2**
AKL Akola 50.96 294⇓ *i*P **P** **17 43 50.3 -1.1**
AKL AMb AMB 17 44 02.6
comp=Z,1µm,1.5s
AKL *i* S **S** **17 51 08.0 +0.7**
TLY Talaya 51.41 342*c i*P **P** **17 43 53.9 -0.5**
TLY *e* 17 45 46.9
TLY *e*S **S** **17 51 09.6 -3.1**
TLY pmax pmax
comp=Z,549nm,1.1s
TLY MLR MLR
comp=Z,229µm,21.0s
TLY Talaya 51.41 342 *e*P **P** **17 43 54.4 0.0**
comp=Z,757nm,1.2s
TLY Talaya 51.41 342 P **P** **17 43 54.5 +0.2**
SNR=327
TLY Talaya 51.41 342 P **P** **17 43 54.4 0.0**
comp=Z,3µm,0.8s,SNR=61
IRK Irkutsk 51.72 343⇓ *i*P **P** **17 43 57.2 +0.6**
IRK *e* 17 45 57.6
IRK *e*S S 17 51 25.3 +8.5
IRK *e* 17 53 47.1
IRK pmax pmax
comp=Z,2µm,1.8s
MNGI Mangalore 51.84 283 *ex* **ScP** **17 49 04.2 -2.3**
MNGI *ex* x 17 56 13.8
MOY Mondy 52.26 340 *e*P **P** **17 44 01.4 +0.6**
MOY pmax pmax
comp=Z,2µm,3.6s
WMQ Urumqi 52.56 325 P **P** **17 44 02.7 -0.4**
WMQ pP **pP** **17 44 13.0 +2.4**
WMQ sP **sP** **17 44 16.7 +3.2**
WMQ PcP **PcP** **17 45 11.4 -1.8**
WMQ PP **PP** **17 46 06.8 +4.6**
WMQ PcS **PcS** **17 49 10.0 -1.7**
WMQ S **S** **17 51 27.5 -1.2**
WMQ sS sS 17 51 48.0 +6.9
WMQ pmax pmax
comp=Z,660nm,1.6s
WMQ LR LR
comp=N,605µm,18.3s
WMQ LR LR
comp=E,396µm,21.6s
WMQ LR LR
comp=Z,517µm,21.6s
DDI Dehra Dun 52.76 306 *e*PKP **P** **17 44 02.5 -2.3**
DDI *ex* x 17 51 42.5
SKR Severo-Kuril's 52.96 23 *e*P **P** **17 44 06.0 +0.2**
SKR *e* 17 45 16.0
SKR *e* 17 46 05.0
SKR *e*S **S** **17 51 30.0 -3.8**
SKR pmax pmax
comp=N,800nm,1.5s
SKR pmax pmax
comp=E,80nm,1.5s
SKR pmax pmax
comp=Z,1µm,1.5s
SKR pmax pmax
comp=N,34µm,16.0s
SKR pmax pmax
comp=E,28µm,16.0s
SKR pmax pmax
comp=Z,65µm,16.0s
SKR pmax pmax
comp=Z,28µm,16.0s
SKR pmax pmax
comp=N,11µm,14.0s
SKR pmax pmax
comp=E,11µm,14.0s
SKR smax smax
comp=N,121µm,22.0s
SKR smax smax
comp=E,110µm,22.0s
SKR MLR MLR
comp=N,44µm,18.0s
SKR MLR MLR
comp=E,77µm,18.0s
KAD Karad 52.98 289 *e*PKP **P** **17 44 05.8 -0.8**
GOA Goa 53.08 286⇑ *e*PKP **P** **17 44 06.9 -0.4**
GOA *ex* x 17 51 33.1
HMDM Hanimaadhoo 53.15 276 P **P** **17 44 08.1 +0.2**
comp=E,928nm,0.8s,comp=E,23µmcomp=E,329µm
POO Poona 53.48 290 *e*PKP **P** **17 44 08.5 -1.8**
POO AMb AMB 17 44 20.2
comp=Z,1µm,0.8s
KAAM Kaadhehdhoo 53.56 268 P **P** **17 44 10.8 0.0**
comp=Z,1µm,0.9s,comp=Z,19µmcomp=Z,311µm
SMLA Simla 53.75 306 *i* P **P** **17 44 10.6 -1.4**
SMLA AMb AMB 17 44 15.7
comp=Z,4µm,0.4s
SMLA *i* x x 17 51 41.0
AJM Ajmer 54.45 300 *e*PKP **P** **17 44 16.0 -1.3**
BHK Bhakra 54.45 306 *e*PKP **P** **17 44 16.2 -1.0**
BHK *ex* x 17 45 37.2
BOD Bodaibo 54.79 352⇓ *i*P **P** **17 44 18.3 -0.7**
BOD pmax pmax
comp=Z,4µm,2.8s
DGAR Diego Garcia 55.06 258*d i*P **P** **17 44 20.9 -0.9**
DGAR Diego Garcia 55.06 258 *e*P **P** **17 44 20.8 -1.1**
comp=Z,694nm,1.1s
DGAR LR LR
comp=Z,125µm,21.0s
DGAR Diego Garcia 55.06 258 P **P** **17 44 21.2 -0.6**
SNR=16
MSVF Nonsavu 55.14 115 *e*P **P** **17 44 21.9 -0.5**
MSVF pmax pmax
comp=Z,1µm,1.1s
MSVF Nonsavu 55.14 115 *e*P **P** **17 44 21.9 -0.5**
comp=Z,1µm,1.1s
DLH Dalhousie 55.20 307 *e*PKP P 17 44 19.0 -3.8
DLH *ex* x 17 48 25.0
THN Thein Dam 55.36 307 *e*PKP P 17 44 20.0 -3.6
THN *ex* x 17 51 47.4
PEA0B Petropavlovsk- 55.48 22 *e*P **P** **17 44 22.9 -1.2**
PETK Petropavlovsk- 55.48 22 P **P** **17 44 22.2 -1.9**
PETK S **S** **17 52 08.3 +0.6**
PETK pmax pmax
comp=Z,228nm,0.9s
PETK smax smax
comp=N,10.0nm,0.7s
PETK MLR MLR
comp=Z,139µm,18.2s
PETK Petropavlovsk- 55.48 22 P **P** **17 44 22.2 -1.9**
PETK S **S** **17 52 08.3 +0.6**
PETK P'P' 18 14 25.7
PETK Petropavlovsk- 55.48 22 P **P** **17 44 22.2 -1.9**
comp=Z,228nm,0.9s,baz=195,slow=4.8,SNR=91
PETK S **S** **17 52 08.3 +0.6**
comp=Z,10nm,0.7s,baz=212,slow=7.6,SNR=4.6
PETK LR LR 18 10 53.0
comp=Z,139µm,18.2s,baz=217,slow=39
PETK PKPPKP **P'P'df** **18 14 25.7 -3.3**
comp=Z,5.2nm,0.8s,baz=90,slow=3.6,SNR=5.2
PET Petropavlovsk 55.78 23*c i*P **P** **17 44 25.6 -0.6**
PET *i* S **S** **17 52 14.9 +3.3**
PET pmax pmax
comp=Z,953nm,1.2s
PET pmax pmax
comp=Z,50µm,14.4s
PET pmax pmax
comp=Z,47µm,12.4s
PET MLR MLR
comp=Z,239µm,19.0s
PET MLR MLR
comp=Z,201µm,18.0s
PET Petropavlovsk 55.78 23 *e*P **P** **17 44 25.4 -0.9**
comp=Z,1µm,1.2s
MK31 Makanchi Array 57.39 325 *e*P **P** **17 44 35.1 -2.8**
MK31 Makanchi Array 57.39 325 *e*P **P** **17 44 35.1 -2.8**
MKAR Makanchi Array 57.39 325 *e*P **P** **17 44 35.5 -2.5**
MKAR S **S** **17 52 34.0 +0.7**
MKAR Makanchi Array 57.39 325 *e*P **P** **17 44 35.5 -2.5**
MKAR ScP **ScP** **17 49 32.1 +1.8**
MKAR S **S** **17 52 34.0 +0.7**
MKAR P'P' 18 14 23.9
MKAR *e* 18 21 46.6
MKAR Makanchi Array 57.39 325 P **P** **17 44 35.4 -2.5**
comp=Z,76nm,0.6s,baz=119,slow=8.5,SNR=160
MKAR ScP **ScP** **17 49 32.1 +1.8**
comp=Z,24nm,0.8s,baz=103,slow=5.2,SNR=2.5
MKAR S **S** **17 52 34.0 +0.7**
comp=Z,7.9nm,0.5s,baz=123,slow=10,SNR=2.4
MKAR LR LR 18 11 34.2
comp=Z,492µm,19.1s,baz=244,slow=38
MKAR PKPPKP **P'P'df** **18 14 23.9 -2.8**
comp=Z,13nm,1.0s,baz=338,slow=3.1,SNR=12
MKAR P4KPbc 18 21 46.6

comp=Z,1.5nm,0.5s,baz=120,slow=5.5,SNR=4.7
KSH Kashi 57.85 315 ⇑*i* P **P** **17 44 42.0 +0.6**
KSH pP **pP** **17 44 51.9 +2.9**
KSH sP **sP** **17 44 56.0 +4.1**
KSH PcP **PcP** **17 45 32.4 -1.4**
KSH PP **PP** **17 46 51.9 +2.1**
KSH ScP **ScP** **17 49 29.5 -3.1**
KSH PcS **PcS** **17 49 32.4 -2.8**
KSH S **S** **17 52 37.9 -2.0**
KSH sS **sS** **17 52 54.8 +2.4**
KSH ScS **ScS** **17 54 25.1 -4.8**
KSH SS **SS** **17 56 30.8 -0.1**
KSH pmax pmax
comp=Z,200nm,0.9s
KSH pmax pmax
comp=Z,4μm,5.0s
KSH LR LR
comp=N,128μm,19.0s
KSH LR LR
comp=E,167μm,23.0s
KSH LR LR
comp=Z,156μm,20.5s
BHJ Bhuj 58.16 295 *ex* x 17 45 42.9
BHJ AMb AMB 17 45 54.5
comp=Z,1μm,1.0s
YAK Yakutsk 58.17 2 *e*P **P** **17 44 42.3 -0.7**
YAK *e**PP **pP** **17 44 51.0 +0.3**
YAK *e* 17 46 56.2
YAK *e*S **S** **17 52 44.5 +1.6**
YAK *e* 17 54 30.6
YAK pmax pmax
comp=Z,1μm,1.1s
YAK pmax pmax
comp=N,801nm,1.4s
YAK pmax pmax
comp=E,124nm,1.5s
YAK pmax pmax
comp=Z,5μm,4.7s
YAK smax smax
comp=N,69μm,14.8s
YAK smax smax
comp=E,41μm,10.4s
YAK MLR MLR
comp=Z,144μm,22.0s
YAK MLR MLR
comp=N,174μm,25.0s
YAK MLR MLR
comp=E,127μm,22.0s
YAK Yakutsk 58.17 2 *e*P **P** **17 44 41.2 -1.8**
comp=E,2μm,0.8s
MIDW Midway 58.57 59 *e*P **P** **17 44 46.3 -0.2**
comp=E,432nm,1.2s
OUZ Omahuta 58.76 135 *e*P **P** **17 44 49.1 +1.4**
comp=E,2μm,1.7s
ULHL Ulahol 58.83 318 P **P** **17 44 49.6 +1.2**
SNR=10
AAA Alma-Ata 58.84 319 *e*P **P** **17 44 46.0 -2.2**
AAA pmax pmax
comp=Z,48μm,14.2s
AAA MLR MLR
comp=Z,285μm,21.0s
KZA Kyzart 59.43 318 P **P** **17 44 54.3 +1.6**
SNR=114
TKM2 Tokmak 2 59.56 319 *i* P **P** **17 44 53.6 +0.2**
TKM2 Tokmak 2 59.56 319 P **P** **17 44 53.6 +0.2**
SNR=104
WCZ Waipu Caves 59.65 136 *e*PN **P** **17 44 55.2 +1.4**
KBK Karagaybulak 59.88 318 P **P** **17 44 56.9 +1.4**
SNR=126
UCH Uchtor 59.98 317 P **P** **17 44 58.2 +1.6**
SNR=77
CHMS Chumysh 60.15 318 P **P** **17 44 56.9 -0.4**
SNR=122
AAK Ala-Archa 60.17 318*c i*P **P** **17 44 57.0 -0.5**
AAK pmax pmax
comp=Z,907nm,2.5s
AAK Ala-Archa 60.17 318 P **P** **17 44 55.7 -1.9**
AAK Ala-Archa 60.17 318 P **P** **17 44 57.3 -0.2**
SNR=220
AAK Ala-Archa 60.17 318 P **P** **17 44 56.5 -1.0**
SNR=119
AAK Ala-Archa 60.17 318 P **P** **17 44 55.7 -1.9**
comp=Z,108nm,0.8s,baz=92,slow=5.7,SNR=75
AAK LR LR 18 15 11.6
comp=Z,269μm,19.8s,baz=89,slow=40
FRU Bishkek 60.17 318 *i* P **P** **17 44 56.0 -1.4**
FRU *i* 17 45 06.0
FRU *i* 17 53 12.0
FRU MLR MLR
comp=E,476μm,20.0s
USP Ospenovka 60.43 319 P **P** **17 44 59.2 +0.1**
SNR=317
ZAA0 Zalesovo Array 60.44 333 *e*P **P** **17 44 55.8 -3.1**
ZALV Zalesovo Beam 60.44 333 P **P** **17 44 57.1 -1.9**
ZALV S **S** **17 53 08.8 -3.9**
ZALV pmax pmax
comp=Z,90nm,0.7s
ZALV smax smax
comp=N,6.0nm,0.7s
ZALV MLR MLR
comp=Z,213μm,18.6s
ZALV Zalesovo Beam 60.44 333 P **P** **17 44 57.1 -1.9**
ZALV S **S** **17 53 08.8 -3.9**
ZALV P'P' 18 14 17.4
ZALV *e* 18 22 08.6
ZALV Zalesovo Beam 60.44 333 P **P** **17 44 57.1 -1.9**
comp=Z,90nm,0.7s,baz=129,slow=6.4,SNR=113
ZALV S **S** **17 53 08.8 -3.9**
comp=Z,5.8nm,0.7s,baz=126,slow=9.1,SNR=1.9
ZALV LR LR 18 13 05.8
comp=Z,213μm,18.6s,baz=131,slow=38
ZALV PKPPKP **P'P'df** **18 14 17.4 -4.2**
comp=Z,4.6nm,0.9s,baz=314,slow=2.8,SNR=3.7
ZALV P4KPbc 18 22 08.6
comp=Z,2.6nm,0.8s,baz=116,slow=3.4,SNR=4.0
AML Almayashu 60.50 317 P **P** **17 45 01.8 +1.7**
SNR=18
EKS2 Erkin-Say 60.66 318 *e*P **P** **17 44 59.8 -1.0**
EKS2 pmax pmax
comp=Z,767nm,0.8s
EKS2 MLR MLR
comp=Z,613μm,22.0s
EKS2 Erkin-Say 60.66 318 *e*P **P** **17 44 59.8 -1.0**
comp=Z,767nm,0.8s
EKS2 LR LR
comp=Z,613μm,22.0s
EKS2 Erkin-Say 60.66 318 P **P** **17 45 02.6 +1.8**
SNR=13
MKAZ Moumakai 60.82 137 *e*PN **P** **17 45 02.5 +0.7**
KUZ Kuaotunu 61.02 136 PN **P** **17 45 04.2 +1.0**
FOZ Fox Glacier 61.06 145 PN **P** **17 45 04.2 +1.0**
QRZ Quartz Range 61.11 141 PN **P** **17 45 04.3 +0.6**
KBL Kabul 61.31 308 *e*P **P** **17 45 03.0 -2.5**
KBL pmax pmax
comp=Z,894nm,0.9s
KBL Kabul 61.31 308 *e*P **P** **17 45 03.0 -2.5**
comp=Z,894nm,0.9s
HIZ Hauiti 61.34 138 *e*PN **P** **17 45 06.5 +1.2**
TOZ Tahuroa Road 61.37 137 PN **P** **17 45 06.4 +0.9**
WKZ Wanaka 61.48 147 PN **P** **17 45 05.1 -1.1**
KURBB Kurchatov Arra 61.58 327 P **P** **17 45 05.2 -1.5**
comp=Z,453nm,0.8s,baz=124,slow=6.7,SNR=159
KURBB S **S** **17 53 28.1 +0.8**
comp=Z,4.0nm,0.3s,baz=114,slow=9.2,SNR=2.2
KURBB PKPPKP P'P'df 18 14 13.9 -6.1
comp=Z,10nm,0.8s,baz=278,slow=3.3,SNR=11
KURBB LR LR 18 16 03.6
comp=Z,95μm,19.1s,baz=115,slow=40
KURK Kurchatov 61.58 328 *e*P **P** **17 45 04.2 -2.5**
KURK S **S** **17 53 28.1 +0.8**
KURK pmax pmax
comp=Z,1μm,0.7s
KURK Kurchatov 61.58 328 *e*P **P** **17 45 04.2 -2.5**
comp=Z,1μm,0.7s
KURK S **S** **17 53 28.1 +0.8**
KURK P'P' 18 14 13.9
KURK Kurchatov 61.58 328 P **P** **17 45 05.7 -1.0**
SNR=400
WHZ Wether Hill Ro 61.60 148 *e*P **P** **17 45 07.1 +0.1**
WHZ Wether Hill Ro 61.60 148 PN **P** **17 45 05.7 -1.2**
NVS Novosibirsk 61.73 333 ⇑*i*P **P** **17 45 06.5 -1.1**
NVS *i* S **S** **17 53 23.6 -5.4**
NVS *i* 17 54 56.2
NVS pmax pmax
comp=N,267nm,1.0s
NVS pmax pmax
comp=E,426nm,1.0s
NVS pmax pmax
comp=Z,727nm,1.0s
NVS smax smax
comp=N,433nm,1.8s
NVS smax smax
comp=E,507nm,1.8s
LBZ Lake Benmore 61.85 146 PN **P** **17 45 06.9 -1.8**
NNZ Nelson 61.86 141 PN **P** **17 45 07.3 -1.5**
THZ Tophouse 61.88 142 PN **P** **17 45 07.5 -1.4**
RPZ Rata Peaks 61.93 145 *e*P **P** **17 45 09.2 0.0**
comp=E,1μm,1.0s
SEY Seymchan 62.04 13⇑*e*P **P** **17 45 09.7 +0.1**
LTZ Lake Taylor 62.09 143 PN **P** **17 45 10.6 +0.3**
RATZ Rangitukua 62.14 138 *e*PN **P** **17 45 12.3 +1.6**
FX1 Attu Island--F 62.16 30 *e*P **P** **17 45 09.8 -0.8**
FX1 S **S** **17 53 38.7 +4.2**
FX1 Attu Island--F 62.16 30 P **P** **17 45 09.7 -0.9**
comp=E,748nm,0.9s,baz=278,slow=3.3,SNR=42
FX1 S **S** **17 53 38.7 +4.2**
comp=E,10nm,0.7s,baz=252,slow=20,SNR=1.3
APZ The Paps 62.25 149 PN **P** **17 45 10.6 -0.7**
TUWZ Tuamarina 62.33 141 *e*PN **P** **17 45 10.6 -1.3**
TCW Tory Channel 62.42 141 *e*PN **P** **17 45 14.1 +1.6**
ODZ Otahua Downs 62.52 146 *e*P **P** **17 45 13.8 +0.7**
comp=E,1μm,1.8s
SMY Shemya 62.54 30 *e*P **P** **17 45 13.8 +0.7**
SMY pmax pmax
comp=Z,2μm,1.1s
SMY Shemya 62.54 30 *e*P **P** **17 45 13.8 +0.7**
comp=Z,2μm,1.1s
RAO Raoul Island 62.54 126 P P 17 45 08.0 -5.6
KHZ Kahutara 62.64 142 *e*P **P** **17 45 13.7 -0.3**
comp=Z,3μm,2.0s
KHZ Kahutara 62.64 142 PN **P** **17 45 13.7 -0.3**
URZ Urewera 62.73 137 *e*P **P** **17 45 12.7 -1.9**
comp=Z,3μm,2.0s
URZ Urewera 62.73 137 PN **P** **17 45 14.5 -0.1**
SNZO South Karori 62.74 141 *e*P **P** **17 45 12.7 -2.0**
comp=Z,471nm,0.9s
BKZ Black Stump Fm 62.77 138 PN **P** **17 45 15.3 +0.3**
MQZ McQueen's Vall 62.85 144 PN **P** **17 45 15.5 +0.2**
KK31 Karatay Array 63.04 317 P **P** **17 45 16.0 -0.7**
KK31 pmax pmax
comp=Z,662nm,0.7s
KKAR Karatay Array 63.04 317 *e*P **P** **17 45 14.3 -2.4**
KKAR Karatay Array 63.04 317 *e*P **P** **17 45 14.2 -2.4**
MCHZ McNeill Hill 63.05 138 PN **P** **17 45 17.4 +0.6**
MWZ Matawai 63.05 137 PN **P** **17 45 16.8 -0.1**
PAWZ Paruwai Farm 63.24 141 PN **P** **17 45 17.2 -0.8**
KAHZ Kahuranaki 63.35 138 *e*PN **P** **17 45 19.1 +0.3**
BFZ Birch Farm 63.39 140 PN **P** **17 45 18.0 -1.0**
CKHZ Cape Kidnapper 63.41 138 *e*PN **P** **17 45 19.1 0.0**
PXZ Pawanui 63.46 139 PN **P** **17 45 19.6 +0.1**
CNGZ Carnagh Statio 63.59 137 PN **P** **17 45 20.6 +0.2**
AFI Afiamalu 63.68 107 *e*P **P** **17 45 21.6 +0.1**
comp=Z,994nm,1.1s
AFI S **S** **17 53 58.2 +3.2**
AFI Afiamalu 63.68 107 P **P** **17 45 21.1 -0.3**
comp=Z,221nm,0.9s,baz=174,slow=2.8,SNR=30
AFI S **S** **17 53 58.2 +3.2**
comp=Z,8.5nm,0.5s,baz=108,slow=19,SNR=2.0
AFI LR LR 18 08 27.7
comp=Z,98μm,21.2s,baz=126,slow=32
MHGZ Mahia Peninsul 63.72 137 PN **P** **17 45 21.8 +0.6**
MCQ Macquarie Isla 64.02 160 *e*P **P** **17 45 24.3 +1.5**
MCQ Macquarie Isla 64.02 160 *e*P **P** **17 45 24.3 +1.5**
MCQ Macquarie Isla 64.02 160 *e*P **P** **17 45 21.4 -1.4**
comp=Z,62μm,1.2s
BVA0 Borovoye Array 67.16 327 *i* P **P** **17 45 41.8 -1.4**
BVA0 pmax pmax
comp=Z,354nm,1.6s
BVAR Borovoye Array 67.16 327 P **P** **17 45 41.7 -1.5**
BVAR S **S** **17 54 34.8 -1.4**
BVAR pmax pmax
comp=Z,515nm,0.9s
BVAR smax smax
comp=N,12nm,1.0s
BVAR Borovoye Array 67.16 327 P **P** **17 45 41.7 -1.5**
BVAR S **S** **17 54 34.8 -1.4**
BVAR P'P' 18 14 08.6
BVAR *e* 18 22 27.0
BVAR Borovoye Array 67.16 327 P **P** **17 45 41.7 -1.5**
comp=N,515nm,0.9s,baz=126,slow=7.5,SNR=252
BVAR S **S** **17 54 34.8 -1.4**
comp=N,12nm,1.0s,baz=154,slow=12,SNR=1.8
BVAR PKPPKP **P'P'df** **18 14 08.5 -2.4**
comp=N,12nm,1.1s,baz=268,slow=4.2,SNR=8.8
BVAR LR LR 18 17 12.0
comp=N,200μm,20.3s,baz=120,slow=38
BVAR P4KPbc 18 22 27.0
comp=N,0.7nm,0.7s,baz=132,slow=2.1,SNR=1.8
BRVK Borovoye 67.23 327 *e*P P 17 45 39.9 -3.8
BRVK pmax pmax
comp=Z,1μm,0.9s
BRVK MLR MLR
comp=Z,229μm,20.0s
BRVK Borovoye 67.23 327 *e*P P 17 45 39.9 -3.8
comp=Z,1μm,0.9s
BRVK LR LR
comp=Z,229μm,20.0s
BRVK Borovoye 67.23 327 P **P** **17 45 42.4 -1.2**
SNR=575
WBK Wadi Bani Khal 67.83 293 ⇑P **P** **17 45 47.1 -1.0**
SNR=66
IDAH Dahanechah 68.36 304 *e*P **P** **17 45 50.7 -0.9**
JMDO Jabal Madar 68.60 292 ⇓P **P** **17 45 51.7 -1.2**
SNR=89
IMON Monand 68.60 304 *e*P **P** **17 45 53.7 +0.7**
SMDO Samad 68.71 293 P **P** **17 45 52.6 -1.1**
SNR=28
IKOO Kooshah 69.03 303 *e*P **P** **17 45 55.4 -0.3**
HOQ Hoqain 69.43 294 ⇓P **P** **17 45 57.0 -1.1**
SNR=52
BSY Bisya 69.47 293 ⇑P **P** **17 45 57.3 -1.0**
SNR=46
BILL Bilibino 69.57 15α *i*P **P** **17 45 56.7 -1.3**
BILL *e* 17 46 21.3
BILL *e* 17 48 31.1
BILL *e*S **S** **17 55 06.2 +1.8**
BILL *e*PS **PnS** **17 55 25.0 -7.0**
BILL pmax pmax
comp=Z,300nm,1.7s
BILL pmax pmax
comp=Z,9μm,5.9s
BILL MLR MLR
comp=Z,134μm,21.0s
BILL Bilibino 69.57 15 *e*P P 17 45 53.5 -4.5
comp=Z,1μm,1.7s
BILL LR LR
comp=Z,143μm,21.0s
ARQ Araqi 70.14 293 ⇑P **P** **17 46 01.4 -1.0**
SNR=37
IEMG Emamgholi 70.17 308 *e*P **P** **17 46 03.2 +0.5**
BANOM Banah 70.56 296 ⇓P **P** **17 46 04.9 0.0**
SNR=7.8
HATD Hatta, Dubai 70.61 295 ⇑P **P** **17 46 04.6 -0.7**
SNR=20
ISFR Sfrayin 70.62 308 *e*P **P** **17 46 05.3 -0.2**
ASHO Ashiyiah 70.67 295 ⇓P **P** **17 46 04.3 -1.4**
SNR=23
ABKT Aibek 70.69 309 P **P** **17 46 05.5 -0.1**
comp=Z,2μm,0.8s,SNR=40
CASY Casey 70.83 187 *e*P **P** **17 46 07.4 +1.7**
comp=Z,331nm,0.8s
CASY LR LR
comp=Z,67μm,20.0s
CASY Casey 70.83 187 *e*P **P** **17 46 06.6 +0.9**
NAZ Nazwa, Dubai 71.05 295 ⇓P **P** **17 46 06.1 -1.8**
SNR=27
ASUD Al Ashush, Dub 71.32 295 ⇑P **P** **17 46 09.7 +0.1**
SNR=24
MSEY Mahe Island 71.45 264 *e*P **P** **17 46 09.1 -1.5**
comp=Z,470nm,1.5s
MSEY Mahe Island 71.45 264 P **P** **17 46 10.5 -0.1**
SNR=18
MRIV Mauritius Mete 71.75 247 *e*P **P** **17 46 12.6 +0.3**
PAF Port-aux-Franc 71.78 215 *e*P **P** **17 46 13.9 +2.1**
PAF pmax pmax
comp=Z,2μm,1.6s
PAF Port-aux-Franc 71.78 215 *e*P **P** **17 46 13.9 +2.1**
comp=Z,2μm,1.6s
IBAF Bafgh 71.80 302 *e*P **P** **17 46 11.0 -1.6**
NIKO Nikolski 71.91 35 *e*P **P** **17 46 10.3 -2.2**
comp=Z,952nm,0.9s
AB31 Akbulak array 71.97 321 *i* P **P** **17 46 10.8 -2.2**
AB31 pmax pmax
comp=Z,528nm,0.8s
ABKAR Akbulak array 71.97 321 *e*P **P** **17 46 09.9 -3.1**
RBK Rabkut 71.99 287 P **P** **17 46 12.9 -0.9**
SNR=38
IMEH Mehriz 72.59 302 *e*P **P** **17 46 15.4 -2.0**
ABTO Aybut 72.85 287 P **P** **17 46 17.6 -1.4**
SNR=132
ICHK Chekchek 72.86 302 *e*P **P** **17 46 17.9 -1.1**
ISAD Sadrabad 73.43 302 *e*P **P** **17 46 20.0 -2.4**
AKTO Aktyubinsk 73.48 322 P **P** **17 46 20.8 -1.2**
AKTO pmax pmax
comp=Z,180nm,1.0s
AKTO Aktyubinsk 73.48 322 LR LR 18 21 29.8
comp=Z,420μm,21.1s,baz=106,slow=38
UNV Unalaska Valle 73.52 35 *e*P **P** **17 46 21.3 -0.8**
comp=Z,2μm,1.0s
RER Riviere de l'E 73.53 247 *e*P **P** **17 46 24.0 +1.1**
comp=Z,653nm,1.1s
IANJ Anjilo 73.65 306 *e*P **P** **17 46 22.6 -1.0**
IPAR Pars 73.78 300 *e*P **P** **17 46 23.4 -1.1**
SVE Sverdlovsk 73.80 329 *d i*P **P** **17 46 23.3 -0.4**
SVE *e*S **SKiKP** **17 55 52.0 +0.3**
SVE *e*SS **SS** **18 00 34.8 -2.8**
SVE pmax pmax
comp=Z,1μm,0.9s
SVE pmax pmax
comp=Z,36μm,15.6s
SVE smax smax
comp=N,28μm,14.9s
SVE smax smax
comp=E,56μm,18.4s
SVE smax smax
comp=Z,39μm,18.4s
SVE MLR MLR
comp=Z,165μm,19.0s
SVE MLR MLR
comp=E,105μm,19.0s
AKUT Akutan 74.01 35 *e*P **P** **17 46 24.3 -0.7**
comp=E,3μm,1.0s
MIR Mirnyy 74.15 193 ⇑*i*P **P** **17 46 25.0 -0.5**
MIR *e* 17 49 20.0
MIR *e*PPP PPP 17 50 56.0
MIR *e*S **S** **17 55 56.0 -1.0**
MIR pmax pmax
comp=Z,5μm,2.6s
MIR pmax pmax
comp=Z,48μm,12.0s
MIR pmax pmax
comp=N,20μm,14.0s
MIR pmax pmax
comp=E,13μm,14.0s
MIR smax smax
comp=E,29μm,20.0s
MIR smax smax
comp=N,22μm,18.0s
MIR MLR MLR
comp=N,39μm,20.0s
MIR MLR MLR
comp=E,34μm,20.0s
MIR MLR MLR
comp=Z,74μm,20.0s
ISHM Shahmirzad 74.19 306 *e*P **P** **17 46 26.1 -0.7**
SHI Shiraz 74.23 300 *e*P **P** **17 46 26.4 -0.6**
ILAS Lasjerd 74.41 306 *e*P **P** **17 46 27.3 -0.8**
GAMB Gambell 74.45 24 *e*P **P** **17 46 26.4 -0.9**
comp=Z,940nm,1.1s
IZEF Zefreh 74.67 303 *e*P **P** **17 46 27.7 -1.9**
ARU Arti 74.78 328*c i*P **P** **17 46 26.9 -2.5**
ARU *e* 17 49 20.6
ARU PPP PPP 17 50 55.6
ARU S **S** **17 56 02.0 -2.5**
ARU SSS SSS 18 04 00.6
ARU pmax pmax
comp=Z,250nm,0.8s
ARU pmax pmax
comp=Z,44μm,18.1s
ARU MLR MLR
comp=Z,163μm,23.0s
ARU Arti 74.78 328 *e*P **P** **17 46 26.4 -3.0**
comp=Z,1μm,1.2s
ARU LR LR
comp=Z,127μm,22.0s
ARU Arti 74.78 328 P **P** **17 46 28.1 -1.3**
comp=Z,5μm,0.6s,SNR=51
IGAR Gharneh 74.87 302 *e*P **P** **17 46 29.5 -1.2**
KIP Kipapa 75.12 69*c i*P **P** **17 46 33.5 +1.4**
KIP Kipapa 75.12 69 *e*P **P** **17 46 32.1 0.0**
comp=Z,514nm,0.9s
HON Honolulu 75.13 69 *e*P **P** **17 46 32.9 +0.7**
HON Honolulu 75.13 69 *e*P **P** **17 46 32.9 +0.7**
OPA Opana 75.14 69 *e*P **P** **17 46 34.1 +1.9**
OPA Opana 75.14 69 *e*P **P** **17 46 34.1 +1.9**
IKLH Kolahrood 75.34 303 *e*P **P** **17 46 32.6 -0.9**
IPIR Pirpir 75.86 303 *e*P **P** **17 46 35.0 -1.5**
XMAS Kiritimati 75.96 89 *e*P **P** **17 46 38.2 +1.2**
comp=Z,1μm,1.3s
RAR Rarotonga 76.27 113 *e*P **P** **17 46 40.5 +1.9**
comp=Z,920nm,1.6s
SOKR Solikamsk 76.56 331*c i*P **P** **17 46 38.0 -1.5**
SOKR *e* 17 49 39.2
SOKR S **S** **17 56 22.8 -1.2**
SOKR pmax pmax
comp=Z,340nm,1.3s
SOKR MLR MLR
comp=Z,247μm,25.0s
TNA Tin City 76.64 23 *e*P **P** **17 46 40.1 +0.3**
comp=Z,78nm,0.5s
HKL Haleakala 76.75 70 *e*P **P** **17 46 43.3 +1.4**
HKL Haleakala 76.75 70 *e*P **P** **17 46 43.3 +1.4**
MUKL Al Mukalla 76.93 284⇑*e*P **P** **17 46 42.3 -0.2**
MUKL *i* S **S** **17 56 32.3 +2.6**
KKH Kailua Kona 76.96 71 *e*P **P** **17 46 44.6 +2.1**
KKH Kailua Kona 76.96 71 *e*P **P** **17 46 44.6 +2.1**
SDPT Sand Point 77.29 34 *e*P **P** **17 46 40.9 -2.8**
comp=Z,8μm,1.7s
POHA Pohakuloa 77.42 71 *e*P **P** **17 46 46.6 +1.2**
comp=Z,985nm,1.0s
PUH Pauahi 77.71 71 *e*P **P** **17 46 47.9 +1.0**
STCH Steam Cracks 77.79 71 *e*P **P** **17 46 48.6 +1.2**
KBD Kabd 78.40 299 *e*P **P** **17 46 48.1 -2.4**
KBD AMb AMB 17 46 59.9
comp=Z,637nm,1.1s
CHGN Chignik 78.61 33 *e*P **P** **17 46 50.1 -0.9**
MIB Mutribah 78.73 299 *e*P **P** **17 46 49.2 -3.1**
MIB AMb AMB 17 47 02.1
comp=Z,2μm,0.9s
IKOM Komasi 78.78 304 *e*P **P** **17 46 50.6 -2.1**
NAY Al-Naaiem 78.79 299 *e*P **P** **17 46 50.1 -2.6**
NAY AMb AMB 17 47 01.9
comp=Z,760nm,0.9s
MAK Makhachkala 79.38 313 *e*P **P** **17 46 54.6 -1.0**
MAK *i* 17 49 59.7
MAK *i* S **S** **17 56 56.2 +1.1**
MAK pmax pmax
comp=Z,7μm,3.3s
MAK pmax pmax
comp=Z,766nm,1.4s
MAK pmax pmax
comp=N,656nm,0.9s
MAK pmax pmax
comp=E,913nm,1.1s
MAK smax smax
comp=N,22μm,9.5s
MAK smax smax
comp=E,27μm,10.6s
MAK MLR MLR
comp=N,169μm,17.0s
IDHR Dehrash 79.73 304 *e*P **P** **17 46 55.9 -2.1**
IFTB Fath-abad 79.89 308 *e*P **P** **17 46 58.9 +0.1**
ITBZ Tabriz 80.09 308 *e*P **P** **17 46 58.4 -1.4**
IAZR Azarshahr 80.20 307 *e*P **P** **17 46 59.8 -0.7**
BDHA Al Bayda' 80.31 283⇑*e*P **P** **17 47 01.8 +0.3**
BDHA *i* S **S** **17 57 08.6 +2.2**
IMRD Marand 80.47 308 *e*P **P** **17 47 01.9 +0.1**
LBOS 80.62 283⇑*e*P **P** **17 47 03.4 +0.2**
LBOS AMb AMB 17 47 05.9
comp=Z,2μm,1.5s
LBOS *i* S **S** **17 57 11.9 +2.1**
DGRG David-gareji 80.86 311 P **P** **17 47 04.2 +0.5**
DGRG S S 17 57 17.3 +6.4
SVW2 Sparrevohn 80.87 29 *e*P **P** **17 47 03.6 +0.3**
comp=Z,463nm,1.1s
ADEN Aden 80.91 282 *e*P **P** **17 47 04.7 +0.3**

ABPO Ambohimpanom 81.11 250 *e*P **P 17 47 05.7 +0.1**
ABPO pmax pmax
comp=Z,306nm,1.0s
ABPO MLR MLR
comp=Z,49µm,22.0s
ABPO Ambohimpanom 81.11 250 *e*P **P 17 47 05.7 +0.1**
comp=Z,306nm,1.0s
ABPO LR LR
comp=Z,49µm,22.0s
GNI Garni 81.28 310 *e*P **P 17 47 06.2 +0.1**
GNI Garni 81.28 310 *e*P **P 17 47 06.2 +0.1**
comp=Z,947nm,1.4s
GNI Garni 81.28 310 LR LR 18 30 35.4
comp=Z,93µm,21.9s,baz=79,slow=41
TBLG Delisi 81.35 311 P **P 17 47 06.1 -0.2**
TBLG S **S 17 57 13.1 -2.9**
TBLG Delisi 81.35 311 P **P 17 47 06.1 -0.2**
TBLG S **S 17 57 13.1 -2.9**
BHD Baghdad 81.35 303 *i* x **P 17 47 04.5 -1.9**
BHD *i* x x 17 57 15.5
BHD Baghdad 81.35 303 *i* x **SS 18 02 37.0 +4.5**
BHD *i* x x 18 12 54.0
DHBB Dhamar BB 81.43 284⇑ *e*P **P 17 47 08.1 +0.5**
DHBB AMb AMB 17 47 11.1
comp=Z,2µm,2.0s
DHBB *i* S **S 17 57 20.6 +2.4**
SANA San'a 81.59 285⇑ *e*P **P 17 47 08.5 +0.2**
TRBA At Turbah 81.74 283⇑ *e*P **P 17 47 09.4 +0.4**
UDYN Al 'Udayn 81.86 283⇑ *e*P **P 17 47 09.8 +0.2**
UDYN *i* S **S 17 57 24.5 +2.1**
CLDR Caldiran 81.88 309 *e*P **P 17 47 08.8 -0.6**
KDAK Kodiak Island 81.97 32 *e*P **P 17 47 09.0 -0.1**
comp=Z,1µm,1.0s
KDAK S **S 17 57 22.4 +0.7**
KDAK Kodiak Island 81.97 32 P **P 17 47 07.7 -1.4**
comp=Z,209nm,0.7s,baz=10,slow=1.0,SNR=44
KDAK S **S 17 57 22.4 +0.7**
comp=Z,11nm,1.0s,baz=236,slow=7.3,SNR=1.9
KDAK LR LR 18 18 40.7
comp=Z,102µm,21.5s,baz=254,slow=32
HAKT HAKKARI 82.00 307 *i* P **P 17 47 09.2 -0.9**
ZEI Tsey 82.02 312 *e*P **P 17 47 08.2 -1.8**
ZEI pmax pmax
comp=Z,484nm,0.9s
DYDN Diyadin 82.06 309 *i* P **P 17 47 12.1 +1.7**
CUKT Cukurca 82.07 307 *e*P **P 17 47 10.2 -0.1**
HAJJ Hajjah 82.16 285⇑ *e*P **P 17 47 11.4 +0.2**
RSO Redoubt South 82.17 30 *e*P **P 17 47 10.2 -0.2**
AKH Akhalkalaki 82.27 311 P **P 17 47 11.4 +0.1**
AKH S S 17 57 13.2 -13
VANB Van 82.27 308 *e*P **P 17 47 11.6 +0.3**
VANT Van 82.37 308 *e*P **P 17 47 14.9 +3.0**
KARS Kars 82.56 310 *e*P **P 17 47 12.6 -0.3**
SPU Mount Spurr 82.58 29 *e*P **P 17 47 11.2 -1.1**
TUTA Tutak 82.74 309 *i* P **P 17 47 15.3 +1.4**
KIV Kislovodsk 82.94 314*c i*P **P 17 47 13.9 -0.7**
KIV *e* 17 50 27.0
KIV *e*PPP PPP 17 52 14.6
KIV *e*S **S 17 57 30.5 -1.9**
KIV *e*SS **SS 18 03 00.3 +4.5**
KIV pmax pmax
comp=Z,6µm,4.6s
KIV pmax pmax
comp=Z,251nm,0.9s
KIV MLR MLR
comp=Z,119µm,20.0s
KIV Kislovodsk 82.94 314 *e*P **P 17 47 14.8 +0.1**
comp=Z,291nm,0.8s
KIV LR LR
comp=Z,127µm,21.0s
KIV Kislovodsk 82.94 314 P **P 17 47 15.2 +0.6**
comp=Z,2µm,0.8s,SNR=19
SIRN S¨¨rnak 83.03 307 *i* P **P 17 47 15.5 +0.2**
ATD Arta Tunnel 83.04 281 P **P 17 47 16.4 +0.7**
ATD Arta Tunnel 83.04 281 P **P 17 47 16.4 +0.7**
comp=Z,106nm,0.9s,baz=87,slow=5.4
TATV Tatvan 83.15 308 *i* P **P 17 47 18.2 +2.2**
SLKM Skilak Lake 83.42 30 *e*P **P 17 47 14.4 -2.3**
SLKM Skilak Lake 83.42 30 *e*P **P 17 47 14.4 -2.3**
ARTV Artvin 83.44 311 *i* P **P 17 47 18.3 +0.9**
HOMI Horasan 83.45 310 *i* P **P 17 47 18.2 +0.7**
DAGI Agillar 83.45 311 *i* P **P 17 47 18.1 +0.7**
VNDA Vanda 83.50 173 *e*P **P 17 47 15.6 -1.1**
comp=Z,402nm,0.9s
DDEM Demirkent 83.58 311 *i* P **P 17 47 19.2 +1.2**
TRF Thorofare Moun 83.60 27 *e*P **P 17 47 16.1 -1.7**
comp=Z,3µm,1.2s
DBAD Bademkaya 83.62 311 *i* P **P 17 47 19.7 +1.5**
DBOC Borcka 83.64 311 *i* P **P 17 47 18.6 +0.4**
BCA Borcka 83.68 311 *e*P **P 17 47 18.2 -0.2**
RC01 Rabbit Creek A 83.69 29 *e*P **P 17 47 16.4 -1.6**
comp=Z,4µm,2.0s
MAW Mawson 83.72 200 *e*P **P 17 47 19.7 +1.8**
comp=Z,335nm,1.7s
MAW Mawson 83.72 200 *e*P **P 17 47 20.1 +2.2**
comp=Z,182nm,0.9s
MAW Mawson 83.72 200 P **P 17 47 20.0 +2.2**
comp=Z,395nm,1.2s,baz=58,slow=8.3,SNR=6.9
BTMT Batman 83.76 308 *e*P **P 17 47 21.0 +2.0**
SEW Seward 83.78 30 *e*P **P 17 47 18.1 -0.3**
comp=Z,2µm,1.4s
VRTB Varto-Mus 83.79 309 *e*P **P 17 47 18.7 -0.5**
VRHR Novokhopersk 83.86 321 *e*P **P 17 47 17.8 -1.2**
VRHR *e* 17 50 36.4
VRHR *e*S S 17 57 33.4 -7.7
VRHR pmax pmax
comp=Z,140nm,0.9s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,150nm,1.1s
VRHR pmax pmax
comp=Z,1µm,3.0s
VRHR pmax pmax
comp=N,100nm,1.0s
VRHR pmax pmax
comp=E,630nm,1.5s
VRHR pmax pmax
comp=Z,420nm,2.1s
VRHR pmax pmax
comp=N,630nm,2.3s
VRHR pmax pmax
comp=E,2µm,4.7s
VRHR smax smax
comp=E,9µm,9.4s
VRHR smax smax
comp=Z,7µm,8.7s
VRHR smax smax
comp=N,5µm,4.2s
VRHR MLR MLR
comp=Z,85µm,24.0s
VRHR MLR MLR
comp=N,51µm,21.0s
VRHR MLR MLR
comp=E,81µm,23.0s
ERZM Erzurum 83.86 310 *i* P **P 17 47 20.5 +0.8**
EZM Erzurum 83.86 310 *e*P **P 17 47 19.1 -0.6**
COLD Coldfoot 83.94 23 *e*P **P 17 47 18.8 -0.4**
comp=E,2µm,1.3s
PMR Palmer 84.02 29 *e*P **P 17 47 17.9 -1.7**
PMR pmax pmax
comp=Z,6µm,2.0s
PMR Palmer 84.02 29 *e*P **P 17 47 17.9 -1.7**
comp=Z,6µm,2.0s
BNGL BINGOL 84.03 309 *i* P **P 17 47 21.9 +1.4**
PZAR Pazar-Rize 84.22 311 *e*P **P 17 47 22.0 +0.8**
MCK McKinley 84.23 26 *e*P **P 17 47 19.6 -1.1**
MCK pmax pmax
comp=Z,7µm,1.8s
MCK McKinley 84.23 26 *e*P **P 17 47 19.6 -1.1**
comp=Z,6µm,1.8s
MARD Mardin 84.33 307 *i* P **P 17 47 22.2 +0.2**
BNGB Bing¨ll 84.39 309 *e*P **P 17 47 23.1 +0.9**
SML Sawmill 84.41 28 *e*P **P 17 47 19.8 -1.9**
SML pmax pmax
comp=Z,3µm,2.0s
SML Sawmill 84.41 28 *e*P **P 17 47 19.8 -1.9**
comp=Z,3µm,2.0s
SBA Scott Base 84.41 172 *e*P **P 17 47 23.1 +1.8**
SBA pmax pmax
comp=Z,466nm,1.1s
SBA Scott Base 84.41 172 *e*P **P 17 47 23.1 +1.8**
comp=Z,466nm,1.1s
KOPT Kop Dagi 84.53 310 *i* P **P 17 47 24.2 +1.1**
COLA College 84.75 25 *e*P **P 17 47 21.8 -1.5**
COLA pmax pmax
comp=Z,366nm,1.2s
COLA MLR MLR
comp=Z,60µm,21.0s
COLA College 84.75 25 *e*P **P 17 47 21.8 -1.5**
comp=Z,366nm,1.2s
COLA LR LR
comp=Z,60µm,21.0s
BAYT Ayd¨¨ntepe-Bay 84.80 310 *e*P **P 17 47 25.4 +1.0**
DIYA Diyarbakir 84.84 308 *i* P **P 17 47 25.4 +0.9**
MACK Trabzon 85.08 311 *i* P **P 17 47 25.6 0.0**
KTUT Trabzon 85.08 311 *e*P **P 17 47 25.2 -0.2**
SOC Sochi 85.09 313*c i*P **P 17 47 23.8 -1.7**
SOC *e*SP **sP 17 47 37.1 +0.9**
SOC *e* 17 50 38.3
SOC *e*PPP PPP 17 52 33.8
SOC *e*S **SKSac 17 57 45.2 -3.7**
SOC pmax pmax
comp=Z,80nm,0.9s
SOC pmax pmax
comp=Z,15µm,6.2s
ERZN Erzincan 85.13 309 *e*P **P 17 47 26.2 +0.2**
ILAR Eielson Array 85.16 25 P **P 17 47 23.5 -1.9**
ILAR S **S 17 57 48.6 -5.0**
ILAR PKKP **PKKPdf 18 05 25.8 -0.4**
ILAR P'P' 18 13 33.5
ILAR Eielson Array 85.16 25 P **P 17 47 23.5 -1.9**
comp=Z,29nm,1.0s,baz=279,slow=4.2,SNR=94
ILAR S **S 17 57 48.6 -5.0**
comp=Z,1.8nm,0.9s,baz=262,slow=5.4,SNR=2.9
ILAR PKKPPKKP **P'P'df 18 13 33.5 -5.1**
comp=Z,1.6nm,0.8s,baz=98,slow=2.6,SNR=4.4
ILAR PKKPPKKP **P'P'df 18 13 33.5 -5.1**
comp=Z,3.5nm,1.0s,baz=90,slow=1.7,SNR=4.7
ILAR LR LR 18 23 05.9
comp=Z,53µm,20.9s,baz=127,slow=34
KLMR Klimovskoe 85.25 331*c i*P **P 17 47 24.8 -1.1**
KLMR *e*PP **pP 17 47 34.3 +0.5**
KLMR 17 50 43.4
KLMR *e*S **S 17 57 50.2 -4.4**
KLMR pmax pmax
comp=Z,4µm,1.3s
KLMR pmax pmax
comp=Z,23µm,10.7s
KLMR MLR MLR
comp=Z,198µm,23.0s
GUMT Gumushane 85.30 310 *e*P **P 17 47 28.5 +1.7**
MID Middleton Isla 85.33 31 *e*P P 17 47 32.3 +6.1
MID pmax pmax
comp=Z,7µm,1.8s
MID Middleton Isla 85.33 31 *e*P P 17 47 32.3 +6.1
comp=Z,7µm,1.8s
VORD Divnogorie 85.33 321 *e*P **P 17 47 25.7 -0.8**
VORD *e*PP **pP 17 47 35.1 +0.7**
VORD *e*S S 17 57 46.8 -9.0
PPT2 Papeete2 85.35 108 *e*P **P 17 47 29.4 +2.0**
PPT2 *e*S **S 17 57 58.3 +0.9**
comp=Z,408nm,1.2s
PPT2 *e*SS **SS 18 03 35.4 +2.8**
comp=Z,157µm,28.2s
PPT2 *e*LQ LQ 18 10 56.7
comp=Z,141µm,30.2s
PPT2 *e*LR LR 18 14 34.5
comp=Z,341µm,45.8s
PAE Paea 85.35 108 *e*P **P 17 47 29.3 +2.0**
comp=Z,125µm,26.5s,baz=285
VOR Voronezh 85.39 321⇑ *i*P **P 17 47 25.0 -1.7**
VOR *e*S **S 17 57 52.0 -4.3**
VOR pmax pmax
comp=Z,104nm,1.3s
PTK Pertek 85.40 309 *e*P **P 17 47 28.5 +1.1**
VSR Storozhevoye 85.41 321 *e*P **P 17 47 25.9 -1.0**
VSR *e*PP **pP 17 47 35.3 +0.5**
VSR *e*S S 17 57 49.6 -7.0
comp=Z,1µm,1.0s
EZC Erzincan 85.41 309 *e*P **P 17 47 28.5 +1.1**
SVRC Sivrice-ELAZID 85.48 308 *e*P **P 17 47 28.4 +0.6**
KELT Kelkit 85.48 310 *i* P **P 17 47 28.4 +0.6**
TIAR Tiarei 85.56 108 *e*P **P 17 47 30.3 +1.9**
comp=Z,432nm,0.9s
DIV Divide 85.62 29 *e*P **P 17 47 27.7 -0.1**
comp=Z,3µm,1.1s
TVO Taravao 85.67 108 *e*P **P 17 47 31.0 +2.0**
comp=Z,619nm,1.1s
ELZG Elazig 85.73 308 *i* P **P 17 47 30.7 +1.7**
PAX Paxson 85.77 27 *e*P **P 17 47 27.5 -1.1**
PAX pmax pmax
comp=Z,3µm,1.8s
PAX Paxson 85.77 27 *e*P **P 17 47 27.5 -1.1**
comp=Z,3µm,1.8s
ESPY Espiye-Giresun 85.87 311 *e*P **P 17 47 29.0 -0.4**
URFA Urfa 85.88 307 *e*P **P 17 47 29.5 -0.2**
TBI Tubuai 86.02 114 *e*P **P 17 47 32.5 +2.0**
comp=Z,734nm,1.0s
TBI Tubuai 86.02 114 *e*PP PP 17 50 45.6 -5.2
comp=Z,11µm,26.2s
TBI *e*S S 17 57 57.3 -6.3
comp=Z,147µm,28.8s
TBI *e*SS **SS 18 03 45.8 +3.7**
comp=Z,74µm,33.8s
TBI *e*LQ LQ 18 11 14.2
comp=Z,110µm,37.0s
TBI *e*LR LR 18 14 53.7
comp=Z,168µm,27.2s,baz=294
ILIC ilic-Erzincan 86.03 309 *e*P **P 17 47 29.9 -0.5**
KEMA Kemaliye 86.09 309 *i* P **P 17 47 31.6 +1.0**
MALT Malatya 86.17 308 *e*P **P 17 47 30.5 -0.6**
MALT Malatya 86.17 308 PFAKE 17 47 40.0 +8.9
MALT LR LR
comp=Z,855nm,19.0s
MYA Malataya 86.17 308 *e*P **P 17 47 31.4 +0.2**
BMRM Bremner River 86.19 29 *e*P **P 17 47 30.5 -0.1**
comp=Z,8µm,2.2s
GRSN GIRESUNGRSN 86.21 311 *i* P **P 17 47 29.7 -1.5**
MOS Moscow 86.27 325α *i*P **P 17 47 29.7 -1.3**
MOS *e* 17 50 54.0
MOS *e*S **SKSac 17 57 53.7 -2.0**
MOS *e* 17 59 17.7
MOS pmax pmax
comp=Z,3µm,1.4s
MOS pmax pmax
comp=Z,23µm,4.6s
MOS MLR MLR
comp=E,169µm,19.0s
MOS MLR MLR
comp=Z,216µm,19.0s
SUSE Susehri 86.29 310 *i* P **P 17 47 33.0 +1.3**
ATAB Bozova 86.30 307 *i* P **P 17 47 32.2 +0.5**
DOT Dot Lake 86.39 27 *e*P **P 17 47 30.9 -0.6**
comp=Z,6µm,2.2s
MENT Mentasta 86.57 27 *e*P **P 17 47 32.0 -0.5**
AKCD Akcadag 86.57 308 *i* P **P 17 47 32.8 -0.3**
DARE Darende-Malaty 86.64 309 *i* P **P 17 47 36.1 +2.7**
ANN Anapa 86.70 315*c i*P **P 17 47 31.7 -1.7**
ANN *e*PP **pP 17 47 42.2 +0.9**
ANN *i* 17 50 56.4
ANN *i* PPP PPP 17 52 52.2
ANN *i* S **SKSac 17 57 55.1 -3.8**
ANN *e*SS **SS 18 03 55.4 +4.5**
ANN pmax pmax
comp=N,155nm,1.0s
ANN pmax pmax
comp=E,93nm,1.0s
ANN pmax pmax
comp=Z,642nm,1.0s
ANN pmax pmax
comp=N,2µm,7.6s
ANN pmax pmax
comp=E,2µm,7.6s
ANN pmax pmax
comp=Z,9µm,7.6s
ANN smax smax
comp=N,32µm,17.4s
ANN smax smax
comp=E,37µm,17.4s
PMOR Pomariorio Ree 86.73 105 *e*P **P 17 47 36.2 +2.1**
comp=E,1µm,1.3s
MEH Mehetia 86.81 108 *e*P **P 17 47 36.2 +1.7**
comp=E,849nm,1.4s
GZT Gaziantep 86.89 307 *i* P **P 17 47 35.1 +0.4**
OBN Obninsk 86.89 325 *e*P **P 17 47 32.9 -1.2**
comp=E,6µm,1.7s
OBN Obninsk 86.89 325 P **P 17 47 32.9 -1.2**
comp=E,8µm,1.3s,SNR=43
RSDY Resadiye-TOKAT 86.95 310 *e*P **P 17 47 35.5 +0.7**
SCER sogukcermik 87.12 310 *i* P **P 17 47 36.5 +0.7**
GAZ Gaziantep 87.18 307 *e*P **P 17 47 36.7 +0.7**
LVZ Lovozero 87.23 338 *e*P **P 17 47 32.5 -3.1**
LVZ pmax pmax
comp=Z,256nm,0.8s
LVZ MLR MLR
comp=Z,408µm,20.0s
LVZ Lovozero 87.23 338 *e*P **P 17 47 32.5 -3.1**
comp=Z,256nm,0.8s
LVZ LR LR
comp=Z,408µm,20.0s
LVZ Lovozero 87.23 338 P **P 17 47 35.0 -0.6**
comp=Z,1µm,0.9s,SNR=15
FURI Furi 87.28 279 *e*P **P 17 47 38.8 +1.6**
comp=Z,513nm,0.9s
KUZU Kuzuini 87.30 307 *i* P **P 17 47 36.5 -0.2**
ERBA Erbaa 87.37 310 *i* P **P 17 47 37.5 +0.6**
KMRS Kahramanmaras 87.41 307 *e*P **P 17 47 37.7 +0.6**
TOKT Tokat 87.55 310 *e*P **P 17 47 38.7 +1.0**
TOKA Tokat 87.60 310 *i* P **P 17 47 38.8 +0.8**
EGAK Eagle 87.61 25 *e*P **P 17 47 36.3 -1.1**
comp=Z,103nm,0.9s
EGAK LR LR
comp=Z,69µm,21.0s
APA Apatity 87.72 337⇑ *i*P **P 17 47 37.8 -0.1**
APA *i* 17 51 12.0
APA *i* 17 58 11.0
APA *i* PS PnS 17 59 46.0 +24
APA *i* SS SS 18 04 10.0 +5.3
APA pmax pmax
comp=Z,221nm,1.0s
ANDN Andirin 87.85 307 *i* P **P 17 47 41.0 +1.7**
KVT Kavak 87.89 311 *e*P **P 17 47 40.2 +0.9**
HTY Hatay 88.09 306 *e*P **P 17 47 41.2 +0.9**
YAYL Yayladag 88.12 306 *i* P **P 17 47 40.7 0.0**
HAVZ Havza 88.14 311 *i* P **P 17 47 41.8 +1.3**
BNN Bunyan 88.17 309 *e*P **P 17 47 41.1 +0.3**
KOZT Kozan 88.26 307 *e*P **P 17 47 42.5 +1.3**
CEYT Ceyhan 88.35 307 *e*P **P 17 47 42.3 +0.8**
HWQ Hawqa 88.36 304 *e*P **P 17 47 41.9 +0.1**
DIKM Dikmen 88.45 311 *e*P **P 17 47 41.8 -0.1**
RCY Rachaya 88.49 303 *e*P **P 17 47 42.4 -0.1**
YOZ Yozgat 88.53 309 *e*P **P 17 47 41.2 -1.3**
BHL Bhannes 88.62 304 *e*P **P 17 47 42.0 -1.0**
PNL Peninsula 88.85 30 *e*P **P 17 47 43.5 +0.1**
comp=Z,182nm,0.9s
CTKT Corum 88.87 310 *i* P **P 17 47 43.0 -1.1**
MMAI Mount Meron Ar 88.89 303 P **P 17 47 44.1 -0.1**
MMAI Mount Meron Ar 88.89 303 P **P 17 47 44.1 -0.1**
comp=Z,113nm,0.8s,baz=76,slow=6.1,SNR=46
CORM Corum 89.02 310 *e*P **P 17 47 45.2 +0.4**
HOPEN Hopen 89.03 347 *e*P **P 17 47 45.0 +1.1**
HOPEN AMS AMS 18 34 29.4
comp=Z,221µm,21.2s
JOF Joensuu 89.03 333 *e*P **P 17 47 43.3 -0.9**
JOF pmax pmax
comp=Z,557nm,0.6s
JOF Joensuu 89.03 333 *e*p **P 17 47 43.3 -0.9**
comp=Z,557nm,0.6s
GULE Gulek 89.11 307 *i* P **P 17 47 45.8 +0.4**
NIG Nigde 89.18 308 *e*P **P 17 47 46.6 +0.8**
CDAG Cicekdag 89.26 309 *i* P **P 17 47 45.3 -0.6**
KMBO Kilima Mbogo 89.32 269 *e*P **P 17 47 45.9 -1.0**
comp=Z,347nm,1.1s
KMBO Kilima Mbogo 89.32 269⇑ *i*P **P 17 47 46.7 -0.2**
KMBO Kilima Mbogo 89.32 269⇑ *e*P P 17 47 50.8 +3.9
MERS Mersin 89.34 307 *e*P **P 17 47 46.2 -0.1**
BZK Bozkurt 89.36 312 *e*P **P 17 47 46.3 +0.1**
TOS Tosya 89.42 311 *e*P **P 17 47 47.1 +0.5**
KAST KASTAMONU 89.45 311 *i* P **P 17 47 46.6 -0.1**
EREN Erenkoy 89.73 305 *e*P **P 17 47 45.9 -2.1**
CANT Cankiri 89.76 310 *e*P **P 17 47 48.1 -0.1**
KEV Kevo 89.77 340 *e*P **P 17 47 45.2 -2.3**
KEV pmax pmax
comp=Z,62nm,0.6s
KEV Kevo 89.77 340 *e*P **P 17 47 45.8 -1.7**
comp=Z,187nm,0.9s
KEV Kevo 89.77 340 *e*p **P 17 47 45.2 -2.3**
comp=Z,62nm,0.6s
BR131 Keskin Array S 89.81 310 *e*P **P 17 47 45.7 -2.8**
comp=Z,20nm,1.0s
BR131 LR LR
comp=Z,46µm,20.0s
BRTR Keskin Array B 89.81 310 P **P 17 47 46.8 -1.8**
BRTR PKKPbc **PKKPbc 18 05 21.1 -1.1**
BRTR P'P' 18 13 28.4
BRTR Keskin Array B 89.81 310 P **P 17 47 46.8 -1.8**
comp=Z,130nm,0.9s,baz=121,slow=4.0,SNR=240
BRTR PKKPbc **PKKPbc 18 05 21.1 -1.1**
comp=Z,2.5nm,1.0s,baz=244,slow=4.5,SNR=2.9
BRTR PKPPKP **P'P'df 18 13 28.4 -3.0**
comp=Z,0.8nm,0.9s,baz=294,slow=1.4,SNR=3.1
BALT Daday 89.86 311 *i* P **P 17 47 47.7 -1.1**
PHNC Paralimni 89.88 305 P **P 17 47 48.8 0.0**
comp=Z,4.8nm,1.0s
PUL Pulkovo 89.88 330 *i* P **P 17 47 47.8 -0.4**
PUL pmax pmax
comp=Z,1µm,1.3s
PUL MLR MLR
comp=Z,150µm,22.0s
ELDT Eldivan 89.91 310 *i* P **P 17 47 49.3 +0.3**
SULT Sultanhani-AKS 90.04 308 *e*P **P 17 47 49.1 -0.5**
INK Inuvik 90.21 21 *e*P **P 17 47 48.2 -1.4**
comp=Z,820nm,1.4s
INK PKKPbc **PKKPdf 18 05 19.6 +2.1**
INK Inuvik 90.21 21 P **P 17 47 47.9 -1.7**
comp=Z,227nm,1.1s,baz=278,slow=5.6,SNR=122
INK PKKPbc **PKKPdf 18 05 19.6 +2.1**
comp=Z,10nm,0.7s,baz=102,slow=3.5,SNR=11
BBAL Bala 90.23 309 *i* P **P 17 47 50.0 -0.4**
LFK Lefkose 90.27 305 *e*P **P 17 47 49.2 -1.4**
AFSR Af¨ar-Bala (A 90.28 309 *e*P **P 17 47 50.4 -0.3**
ARCES ARCESS Array B 90.33 340 P **P 17 47 48.3 -1.8**
ARCES PKKPbc **PKKPdf 18 05 19.1 +1.8**
ARCES ARCESS Array B 90.33 340 P **P 17 47 48.3 -1.8**
comp=Z,171nm,0.8s,baz=69,slow=4.9,SNR=108
ARCES PKKPbc **PKKPdf 18 05 19.1 +1.8**
comp=Z,2.9nm,0.6s,baz=252,slow=1.8,SNR=4.0
ARCES LR LR 18 35 23.5
comp=Z,126µm,20.8s,baz=79,slow=40
ARE0 ARCESS Array S 90.33 340 *e*P **P 17 47 48.8 -1.3**
ARE0 *e*SKS **SKSac 17 58 23.8 +4.2**
ARE0 *e*SS **SS 18 04 47.7 +5.2**
ARE0 ARCESS Array S 90.33 340 *e*P **P 17 47 48.2 -1.9**
SPA0 Spitsbergen Ar 90.39 349 *e*P **P 17 47 49.5 -0.8**
SPITS Spitsbergen Ar 90.39 349 P **P 17 47 49.0 -1.3**
SPITS Spitsbergen Ar 90.39 349 P **P 17 47 48.9 -1.3**
comp=Z,25nm,0.5s,baz=108,slow=6.3,SNR=43
SPB4 Spitsbergen Ar 90.39 349 *e*P **P 17 47 49.4 -0.9**
SAFT Safranbolu 90.41 311 *e*P **P 17 47 51.1 0.0**
CSS Prodhromos 90.46 305 P **P 17 47 51.4 -0.1**
comp=Z,3.4nm,0.8s
CSS Prodhromos 90.46 305 *e*P **P 17 47 50.5 -1.0**
CSS Prodhromos 90.46 305 *e*P **P 17 47 50.4 -1.1**
comp=Z,376nm,0.8s
CSS LR LR
comp=Z,51µm,20.0s
CSS Prodhromos 90.46 305 P **P 17 47 50.9 -0.6**
LOD Lodumlu 90.47 310 *e*P **P 17 47 51.2 -0.3**
MAMC Mammari 90.53 305 P **P 17 47 51.7 -0.1**
LEF Lefka 90.80 305 *e*P **P 17 47 52.9 -0.1**
SZAC Souni-Zanaja 90.84 305 P **P 17 47 52.7 -0.6**
KBS Kingsbay 90.92 350 *e*P P 17 47 55.9 +3.2
KBS AMB AMB 17 48 06.7
comp=Z,227nm,1.4s
KBS *e*SKS SKSac 17 58 30.3 +7.6
KBS AMS AMS 18 32 05.3
comp=Z,159µm,22.3s
KBS Kingsbay 90.92 350 *e*P **P 17 47 52.9 +0.2**
KBS pmax pmax
comp=Z,147nm,0.9s
KBS Kingsbay 90.92 350 *e*P **P 17 47 52.9 +0.2**
comp=Z,147nm,0.9s
SKAG Skagway 90.93 30 *e*P **P 17 47 53.2 +0.2**
comp=Z,149nm,0.9s
LADK Ladik-KONYA 90.94 308 *e*P **P 17 47 52.7 -1.1**
BJO Bjornoya 90.96 345 *e*P P 17 47 56.6 +3.7
KONT Konya--Tatoy 90.97 308 *e*P P 17 47 47.8 -6.0
HSP Hornsund 90.97 348 *e*P **P 17 47 55.6 +2.6**
ALFC Alevga 91.04 305 P **P 17 47 53.5 -0.7**
comp=Z,4.8nm,0.7s
KTK1 Kautokeino 91.23 339 *e*P **P 17 47 53.5 -0.8**
KTK1 AMB AMB 17 48 12.1
comp=Z,1µm,1.8s

KTK1 AMS AMS 18 31 53.2
comp=Z,275µm,24.3s
PPCY Paphos 91.27 305 P **P** **17 47 54.4 -0.8**
SIT Sitka 91.30 33 *e*P **P** **17 47 55.1 +0.2**
SIT pmax pmax
comp=Z,848nm,1.6s
SIT Sitka 91.30 33 *e*P **P** **17 47 55.1 +0.2**
comp=Z,848nm,1.6s
KDZE Karadeniz Ereo 91.33 311 *e*P P 17 47 51.6 -3.8
KAF Kangasniemi 91.45 332 *e*P **P** **17 47 52.9 -2.5**
KAF pmax pmax
comp=Z,239nm,0.6s
KAF Kangasniemi 91.45 332 *e*p **P** **17 47 52.9 -2.5**
comp=Z,239nm,0.6s
SVRH Sivrihisar-ESK 91.47 309 *e*P **P** **17 47 55.7 -0.5**
MDUB Mudurnu 91.61 311 *e*P **P** **17 47 56.1 -0.8**
FINES FINESS Array B 91.68 332 P **P** **17 47 54.5 -2.0**
FINES FINESS Array B 91.68 332 P **P** **17 47 54.6 -2.0**
comp=Z,108nm,0.8s,baz=72,slow=4.5,SNR=109
FINES LR LR 18 33 20.3
comp=Z,174µm,20.9s,baz=81,slow=38
AKASG Malin Array Be 91.71 321 P **P** **17 47 55.0 -1.9**
AKASG pmax pmax
comp=Z,140nm,0.8s
AKASG MLR MLR
comp=Z,136µm,21.4s
AKASG Malin Array Be 91.71 321 P **P** **17 47 55.0 -1.9**
AKASG Malin Array Be 91.71 321 P **P** **17 47 55.0 -1.9**
comp=Z,140nm,0.8s,baz=72,slow=4.1,SNR=201
AKASG LR LR 18 34 55.1
comp=Z,136µm,21.4s,baz=55,slow=39
AKBB Malin Array Si 91.71 321 *e*P **P** **17 47 55.1 -1.8**
AKBB Malin Array Si 91.71 321 *e*P **P** **17 47 55.1 -1.8**
KIEV Kiev 91.72 321 *e*P **P** **17 47 53.8 -3.2**
KIEV pmax pmax
comp=Z,271nm,1.0s
KIEV Kiev 91.72 321 *e*P **P** **17 47 53.8 -3.2**
comp=Z,271nm,1.0s
HENT Hendek 91.79 311 *i* P **P** **17 47 56.4 -1.2**
VSU Vasula 91.91 329*c i*P **P** **17 47 56.7 -0.9**
VSU pmax pmax
comp=Z,411nm,1.2s
VSU MLR MLR
comp=Z,237µm,26.0s
MICGM Minsk 91.95 325⇓ *e*P **P** **17 47 56.0 -2.0**
ESKT Eskisehir 91.98 310 *e*P **P** **17 47 55.8 -2.8**
SEYT Eskypehyr 91.98 310 *i* P **P** **17 47 56.8 -1.8**
MNK Minsk 91.98 325⇓ *e*P **P** **17 47 56.0 -2.1**
MNK *e* 17 51 44.0
MNK *e*PPP PPP 17 53 36.0
MNK *e* 17 58 29.0
MNK *e*S **S** **17 58 58.0 -0.4**
MNK *e*PS **PS** **18 00 05.0 -6.3**
MNK pmax pmax
comp=Z,1µm,1.0s
MNK pmax pmax
comp=Z,34µm,6.0s
MNK pmax pmax
comp=Z,38µm,10.0s
MNK smax smax
comp=N,47µm,14.0s
MNK smax smax
comp=E,71µm,10.0s
MNK MLR MLR
comp=E,205µm,18.0s
MNK MLR MLR
comp=Z,237µm,18.0s
BOLV Bolvadin 91.99 309 *i* P **P** **17 47 58.4 -0.3**
GULT Gulveren 92.13 311 *e*P **P** **17 47 58.5 -0.7**
BORA Eskisehir 92.24 310 *i* P **P** **17 47 57.6 -2.1**
SHUT Suhut-Afyon 92.32 309 *e*P **P** **17 47 59.8 -0.4**
SYO Syowa Base 92.38 201⇓ *i*P **P** **17 48 00.0 +0.4**
BCK Bucak 92.42 308 *e*P P 17 47 55.8 -4.8
ISP Isparta 92.43 308 *e*P **P** **17 47 58.6 -2.0**
ISP Isparta 92.43 308⇑ P **P** **17 47 57.9 -2.8**
ISP Isparta 92.43 308 *e*P **P** **17 47 58.9 -1.7**
comp=Z,144nm,0.9s
ISP LR LR
comp=Z,62µm,21.0s
ISP Isparta 92.43 308 P **P** **17 47 59.4 -1.3**
ISP Isparta 92.43 308⇑ *i*P **P** **17 47 57.9 -2.8**
IDID Didziasalis 92.47 326 *e*P **P** **17 47 59.9 -0.4**
IDID AMB AMB 17 48 10.0
comp=Z,163nm,1.1s
IDID Didziasalis 92.47 326 *e*P **P** **17 47 59.9 -0.4**
IDID AMB AMB 17 48 10.0
comp=Z,163nm,1.1s
KIS Kishinev 92.50 317α *i*P **P** **17 47 58.0 -2.6**
KIS *i* 17 58 28.0
KIS *i* S **S** **17 59 07.0 +3.6**
KIS pmax pmax
comp=Z,500nm,2.0s
KIS pmax pmax
comp=Z,19µm,12.0s
KIS pmax pmax
comp=N,3µm,16.0s
KIS pmax pmax
comp=E,7µm,15.0s
KIS pmax pmax
comp=Z,25µm,16.0s
KIS Kishinev 92.50 317⇓ *i*P P 17 47 52.8 -7.8
KIS Kishinev 92.50 317⇑ *i*P **P** **17 47 58.0 -2.6**
comp=Z,500nm,2.0s
KIS Kishinev 92.50 317 *i* PP PP 17 51 56.0 +14
comp=Z,16µm,20.0s
KIS Kishinev 92.50 317 *i* PS PS 18 00 30.0 +13
KIS Kishinev 92.50 317 *i* PPS PPS 18 02 00.0
KIS *i* SS SS 18 06 00.0 +45
KIS *i* SSS SSS 18 09 25.0
NACGM Naroch 92.52 325 *e*P P 17 47 56.0 -4.5
TRO Tromso 92.53 340 *e*P **P** **17 47 59.5 -0.8**
TRO AMB AMB 17 48 27.4
comp=Z,482nm,1.8s
TRO *e*SKS SKSac 17 58 39.5 +7.4
TRO AMS AMS 18 32 33.5
comp=Z,184µm,23.8s
ALT Altintas 92.60 309 *e*P **P** **17 48 00.9 -0.6**
ALT Altintas 92.60 309 *i* P **P** **17 48 03.8 +2.4**
KORT Korkueli 92.66 307 *i* P **P** **17 48 01.2 -0.6**
IZAR Zarasai 92.66 326 *e*P **P** **17 48 00.7 -0.5**
IZAR AMB AMB 17 48 10.8
comp=Z,167nm,1.0s
IZAR Zarasai 92.66 326 *e*P **P** **17 48 00.7 -0.5**
IZAR AMB AMB 17 48 10.8
comp=Z,167nm,1.0s
CAVI Cavuskoy 92.67 310 *e*P **P** **17 48 00.3 -1.3**
SILT Sile 92.70 311 *e*P **P** **17 48 01.0 -0.7**
ADVT Abdulvahap 92.72 311 *e*P **P** **17 48 01.2 -0.6**
HRT Hereke 92.72 311 *e*P **P** **17 48 01.1 -0.8**
IIGN Ignalina 92.75 326 *e*P **P** **17 48 01.2 -0.4**
IIGN AMB AMB 17 48 11.3
comp=Z,178nm,1.0s
IIGN Ignalina 92.75 326 *e*P **P** **17 48 01.2 -0.4**
IIGN AMB AMB 17 48 11.3
comp=Z,178nm,1.0s
TLCR 92.76 315⇑ P **P** **17 48 01.9 0.0**
TLCR 92.76 315⇑ *i*P **P** **17 48 01.9 0.0**
ISAL Salakas 92.76 326 *e*P **P** **17 48 01.2 -0.5**
ISAL AMB AMB 17 48 11.2
comp=Z,108nm,1.1s
ISAL Salakas 92.76 326 *e*P **P** **17 48 01.2 -0.5**
ISAL AMB AMB 17 48 11.2
comp=Z,108nm,1.1s
CRAG Craig 92.79 34 *e*P **P** **17 48 00.9 -0.9**
comp=Z,358nm,1.2s
LEOM Leova 92.96 317⇓ P **P** **17 48 03.0 +0.2**
LEOM Leova 92.96 317⇓ *i*P **P** **17 48 03.0 +0.2**
YLV Yalova 92.98 311 *e*P **P** **17 48 00.4 -2.7**
WRAK Wrangell Islan 93.03 33 *e*P **P** **17 48 02.6 -0.3**
comp=Z,371nm,0.9s
ELL Elmali 93.04 307 *e*P **P** **17 48 02.8 -0.8**
GDZ Gediz 93.08 309 *i* P **P** **17 48 03.5 -0.2**
MANR Mangalia 93.11 314⇓ *i*P **P** **17 48 03.7 +0.2**
BUY Buyukada 93.13 311 *i* P **P** **17 48 02.8 -0.9**
GEMT Gemlik 93.13 311 *e*P **P** **17 48 03.0 -0.8**
KLYT Kilyos 93.14 312 *e*P **P** **17 48 03.0 -0.7**
TIRR Tirgusor 93.14 315⇑ P **P** **17 48 02.9 -0.8**
TIRR Tirgusor 93.14 315 *e*P **P** **17 48 02.2 -1.5**
comp=Z,273nm,1.2s
TIRR Tirgusor 93.14 315⇑ *i*P **P** **17 48 02.8 -0.9**
ISK Istanbul-Kandi 93.15 311 *e*P **P** **17 48 03.1 -0.7**
KHL Karahalli 93.15 309 *e*P P 17 47 58.2 -5.8
KHAL Karahalli 93.17 309 *i* P **P** **17 48 02.9 -1.2**
ULDT Uludag 93.21 310 *i* P **P** **17 48 03.3 -1.1**

CFR Carcaliu 93.23 316⇑ P **P** **17 48 03.4 -0.7**
CFR Carcaliu 93.23 316⇑ *i*P **P** **17 48 03.3 -0.8**
IAS Iasi 93.32 318⇑ *i*P **P** **17 48 04.5 +0.1**
IAS Iasi 93.32 318⇑ *i*P **P** **17 48 04.5 +0.1**
AKAS Kas 93.34 306 *i* P P 17 47 58.7 -6.3
BGKT Bogazkoy 93.34 311 *e*P **P** **17 48 03.8 -0.9**
ARMT Armutlu 93.36 311 *e*P **P** **17 48 03.9 -0.9**
MDNY Mudanya-Bursa 93.37 311 *e*P **P** **17 48 02.9 -2.0**
PSN Preselentsi 93.42 314 *i* P **P** **17 48 04.1 -0.9**
CTKS Kestanelik-??a 93.54 312 *e*P **P** **17 48 04.5 -1.0**
DNZL Cakiroluk 93.60 308 *i* P **P** **17 48 05.6 -0.6**
ELBA Catalca 93.61 311 *i* P **P** **17 48 06.1 +0.2**
DEMI Demirci 93.68 309 *i* P **P** **17 48 05.7 -0.7**
QSPA South Pole Qui 93.68 180 *e*P **P** **17 48 05.0 -0.8**
comp=Z,695nm,1.5s
QSPA PKKPbc **PKKPdf** **18 05 10.1 -2.4**
QSPA South Pole Qui 93.68 180 PKKPbc PKKPbc 18 05 10.1 -3.9
comp=Z,11nm,0.8s,baz=189,slow=1.2,SNR=5.3
ALE Alert 93.71 1 P **P** **17 48 05.2 -0.4**
comp=Z,283nm,2.5s,SNR=7.9
FETY Fethiye 93.71 307 *e*P **P** **17 48 03.8 -2.7**
SLVT Silivri 93.76 312 *e*P **P** **17 48 04.7 -1.9**
PETR 93.78 316⇑ *i*P **P** **17 48 07.7 +1.1**
KCTX Karacabey (Bur 93.79 311 *e*P **P** **17 48 04.3 -2.5**
DURS Dursunbey 93.79 310 *i* P **P** **17 48 06.0 -0.9**
KULA Kula-Manisa 93.80 309 *e*P **P** **17 48 06.5 -0.5**
DLBC Dease Lake 93.82 31 *e*P **P** **17 48 05.8 -0.8**
DLBC PKKPbc **PKKPbc** **18 05 12.0 -0.6**
DLBC Dease Lake 93.82 31 P **P** **17 48 05.3 -1.3**
comp=Z,76nm,1.0s,baz=271,slow=5.0,SNR=51
DLBC PKKPbc **PKKPbc** **18 05 12.0 -0.6**
comp=Z,6.5nm,1.0s,baz=143,slow=5.1,SNR=3.4
GRER 94.01 316⇑ *i*P **P** **17 48 08.9 +1.2**
TESR 94.05 317⇑ *i*P **P** **17 48 06.7 -1.1**
PRD Provadia 94.06 314 *i* P **P** **17 48 07.7 -0.2**
TURN Turunc 94.06 307 *i* P **P** **17 48 09.5 +1.4**
PGOR Pogoanele 94.08 315⇑ *i*P **P** **17 48 07.3 -0.7**
VRI Vrincioaia 94.10 316⇑ P **P** **17 48 07.9 -0.2**
VRI Vrincioaia 94.10 316⇑ *i*P **P** **17 48 07.9 -0.2**
BNT Bandirma 94.10 311 *e*P **P** **17 48 08.0 -0.2**
CRLT Corlu 94.13 312 *e*P P 17 48 04.3 -4.0
EDC Edincik 94.15 311 *e*P **P** **17 48 06.6 -1.8**
PLOR Plostina 94.16 316⇑ P **P** **17 48 08.4 0.0**
PLOR Plostina 94.16 316⇑ *i*P **P** **17 48 08.4 0.0**
PRAR RASCA 94.19 318⇓ *i*P **P** **17 48 08.4 -0.1**
BALB Balikesir 94.24 310 *e*P **P** **17 48 08.2 -0.6**
YER Yerkesik 94.28 308 *e*P **P** **17 48 08.5 -0.7**
TKR Tekirdag 94.30 311 *e*P **P** **17 48 06.6 -2.5**
GONE Gonen-Balikesi 94.33 310 *e*P **P** **17 48 08.4 -0.9**
ISR Istrita 94.36 316⇓ P **P** **17 48 09.5 +0.2**
ISR Istrita 94.36 316⇓ *i*P **P** **17 48 09.5 +0.2**
STEI Steigen 94.37 339 *e*P **P** **17 48 07.4 -1.4**
AKHS Akhisar 94.40 309 *i* P **P** **17 48 09.6 0.0**
BALY Balya 94.42 310 *i* P **P** **17 48 08.5 -1.3**
MFT Murefte 94.52 311 *e*P **P** **17 48 07.4 -2.9**
AYDN Tasoluk 94.53 308 *i* P **P** **17 48 10.6 +0.3**
KRBG Karabiga-Canak 94.57 311 *e*P **P** **17 48 09.4 -0.9**
SART Tekirdag 94.61 311 *i* P **P** **17 48 09.5 -1.2**
RKY Sarkoy-Tekirda 94.61 311 *e*P **P** **17 48 10.0 -0.6**
SULR 94.63 315⇑ *i*P **P** **17 48 09.0 -1.5**
SECR 94.70 316⇑ *i*P **P** **17 48 11.0 +0.1**
MLR Muntele Rosu 94.71 316⇓ *i*P **P** **17 48 10.4 -0.6**
EDRB Edirne 94.75 312 *e*P **P** **17 48 10.6 -0.6**
SUW Suwalki 94.75 325 *e*P **P** **17 48 09.7 -1.1**
comp=Z,1µm,1.5s
SUW *e*PP PP 17 52 06.5 +7.3
SUW *e*SKSac **SKSac** **17 58 50.0 +5.2**
SUW *e*S **ScS** **17 59 26.6 +2.6**
SUW LMZ LR 18 33 28.5
comp=Z,229µm,20.4s
SUW Suwalki 94.75 325 *e*P **P** **17 48 09.7 -1.1**
comp=Z,1µm,1.5s
SUW *e*PP PP 17 52 06.5 +7.3
SUW *e*SKSac **SKSac** **17 58 50.0 +5.2**
SUW *e*S **ScS** **17 59 26.6 +2.6**
SUW LMZ LR 18 33 28.5
comp=Z,229µm,20.4s
SUW Suwalki 94.75 325 *e*P **P** **17 48 09.7 -1.1**
SUW *e* 17 52 06.5
SUW *e*S **ScS** **17 59 26.6 +2.6**
SUW pmax pmax
comp=Z,1µm,1.5s
SUW MLR MLR
comp=Z,229µm,20.4s
SUW Suwalki 94.75 325 *e*P **P** **17 48 09.8 -1.1**
comp=Z,1µm,0.9s
JMB Yambol 94.77 313 P P **17 48 10.9 -0.3**
JMB Yambol 94.77 313 P P **17 48 10.9 -0.3**
JMB Yambol 94.77 313 P P **17 48 10.9 -0.3**
JMB Yambol 94.77 313 *i* P P **17 48 10.3 -0.9**
BURAR Bucovina Array 94.81 318 P P **17 48 10.7 -0.7**
BURAR Bucovina Array 94.81 318⇑ *i*P **P** **17 48 11.6 +0.2**
BUR08 Bucovina Ar. S 94.82 318 *e*P **P** **17 48 09.4 -2.1**
DAT Datca 94.90 307 *e*P P 17 48 07.6 -4.5
IZM Izmir 94.90 309 *e*P **P** **17 48 11.9 0.0**
BDRM Kayabasi 94.95 308 *i* P **P** **17 48 09.5 -2.7**
DOPR Dopca 95.00 317⇓ *i*P **P** **17 48 13.6 +1.3**
GCAM G?zelcaml? 95.03 308 *i* P **P** **17 48 11.1 -1.3**
BLCB Balcova 95.07 309 *e*P **P** **17 48 12.3 -0.4**
SZH Strazhica 95.11 314 *i* P **P** **17 48 11.3 -1.4**
ERIK Erikli-Kesan 95.11 311 *e*P **P** **17 48 12.3 -0.5**
LVV L'vov 95.15 321*d i*P **P** **17 48 11.6 -1.2**
LVV *i* PPP PPP 17 54 11.2
LVV *i* 17 58 38.2
LVV *i* S **S** **17 59 22.8 -3.8**
LVV *e*SS **SS** **18 05 46.0 -6.5**
LVV *e*SSS SSS 18 09 31.6
LVV pmax pmax
comp=Z,900nm,2.0s
GELI Tayfur-Gelibol 95.19 311 *e*P P 17 48 09.9 -3.3
AYVA Ayvalik 95.20 310 *i* P P **17 48 11.0 -2.2**
MOR8 Moi Rana 95.31 338 *e*P **P** **17 48 11.2 -2.0**
MOR8 *e*pP **pP** **17 48 17.4 -3.7**
MOR8 AMB AMB 17 48 27.9
comp=Z,201nm,1.9s
SMG Samos 95.34 308 *e*P **P** **17 48 13.6 -0.3**
VOIR 95.34 316⇓ P **P** **17 48 12.6 -1.3**
VOIR 95.34 316⇓ *i*P **P** **17 48 12.6 -1.3**
ENEZ Enez 95.37 311 *e*P **P** **17 48 12.3 -1.7**
KARP Karpathos 95.40 306 P P **17 48 13.2 -1.1**
KARP Karpathos 95.40 306 P P **17 48 13.2 -1.1**
KARP Karpathos 95.40 306 *e*P **P** **17 48 14.3 0.0**
URLA Izmir 95.42 309 *i* P P **17 48 13.4 -1.0**
ALN Alexandroupoli 95.43 312 P P **17 48 11.1 -3.1**
ALN Alexandroupoli 95.43 312 P P **17 48 11.1 -3.1**
ALN Alexandroupoli 95.43 312 P P **17 48 11.1 -3.1**
ALN Alexandroupoli 95.43 312 *e*P **P** **17 48 13.1 -1.2**
PRK Paraskevi 95.53 310 P P **17 48 12.9 -1.8**
PRK Paraskevi 95.53 310 P P **17 48 12.9 -1.8**
PRK Paraskevi 95.53 310 P P **17 48 12.9 -1.8**
PRK Paraskevi 95.53 310 *e*P **P** **17 48 13.3 -1.4**
HUMR Humele 95.56 315⇓ *i*P **P** **17 48 13.4 -1.4**
BOZC Bozcaada 95.60 310 *i* P **P** **17 48 13.5 -1.6**
DIM Dimitrovgrad 95.61 313 *i* P **P** **17 48 14.1 -0.9**
FLOS Flostrand 95.65 338 *e*P **P** **17 48 12.7 -1.9**
MDB Medias 95.66 317 P **P** **17 48 15.7 +0.5**
KDZ Kurdzhali 95.77 312 *i* P **P** **17 48 15.0 -0.8**
STOK Stokkvaagen 95.78 338 *e*P **P** **17 48 15.4 +0.2**
STOK AMS AMS 18 35 54.2
comp=Z,422µm,20.4s
MBAR Mbarara 95.79 270 *e*P **P** **17 48 16.1 -0.6**
MBAR Mbarara 95.79 270⇑ P P 17 48 22.5 +5.8
CHOS Chios island 95.84 309 *e*P **P** **17 48 15.6 -0.7**
BMR Baia Mare 95.94 319⇑ P **P** **17 48 16.6 +0.1**
BMR Baia Mare 95.94 319⇑ *i*P **P** **17 48 16.6 +0.1**
KWP Kalwaria Pacla 96.03 321 *e*P **P** **17 48 16.8 0.0**
comp=Z,2µm,5.3s
KWP *e*SKSac **SKSac** **17 58 57.6 +5.7**
KWP LMZ LR 18 36 58.0
comp=Z,140µm,23.2s
KWP Kalwaria Pacla 96.03 321 *e*P **P** **17 48 16.8 0.0**
comp=Z,2µm,5.3s
KWP *e*SKSac **SKSac** **17 58 57.6 +5.7**
KWP LMZ LR 18 36 58.0
comp=Z,140µm,23.2s
KWP Kalwaria Pacla 96.03 321 *e*P **P** **17 48 16.8 0.0**
KWP pmax pmax
comp=Z,2µm,5.3s
KWP MLR MLR
comp=Z,140µm,23.2s
KWP Kalwaria Pacla 96.03 321 *e*P **P** **17 48 15.8 -1.0**
comp=Z,365nm,0.8s

KWP LR LR
comp=Z,122µm,20.0s
KWP Kalwaria Pacla 96.03 321⇓ *i*P **P** **17 48 16.3 -0.5**
PLD Plovdiv 96.21 313 P P **17 48 16.7 -1.1**
PLD Plovdiv 96.21 313 P P **17 48 16.7 -1.1**
PLD Plovdiv 96.21 313 P P **17 48 16.7 -1.1**
PLD Plovdiv 96.21 313 *i* P P **17 48 16.9 -0.9**
LOT Lotru 96.22 316⇑ *i*P **P** **17 48 18.5 +0.6**
ZKR Zakros 96.23 306 *e*P P **17 48 17.8 -0.3**
RZN Rozhen 96.27 312 *i* P P **17 48 16.9 -1.5**
BBB Bella Bella 96.40 37 P P **17 48 17.9 -0.5**
BBB Bella Bella 96.40 37 P P **17 48 17.9 -0.5**
comp=Z,43nm,1.0s,baz=278,slow=7.1,SNR=7.4
KOLS Kolonicke sedl 96.46 320 *e*P **P** **17 48 18.0 -0.8**
KOLS *e* 17 52 11.4
KOLS *e*S **SKSac** **17 58 53.0 -1.2**
KOLS Kolonicke sedl 96.46 320 *e*P **P** **17 48 18.0 -0.8**
KOLS *e*PP **PP** **17 52 11.4 -1.3**
APE Apeiranthos 96.47 308⇓ P **P** **17 48 16.5 -2.6**
APE Apeiranthos 96.47 308⇓ *i*P **P** **17 48 16.5 -2.6**
TRPA Tarpa 96.47 319⇑ *i*P **P** **17 48 18.6 -0.2**
TRPA Tarpa 96.47 319⇑ P **P** **17 48 18.6 -0.2**
UZH Uzhgorod 96.52 320⇓ *i*P **P** **17 48 19.1 +0.1**
UZH *i* 17 48 28.3
UZH *e* 17 52 19.5
UZH *e* 17 54 24.5
UZH *e* 17 58 49.7
UZH *e*S **S** **17 59 35.9 -2.5**
UZH *e* 18 01 03.7
UZH *e* 18 06 10.9
UZH *e* 18 09 59.3
KAVA Kavala 96.55 312 P **P** **17 48 17.6 -1.8**
KAVA Kavala 96.55 312 P **P** **17 48 17.6 -1.8**
DRGR 96.65 318⇓ P **P** **17 48 18.8 -1.0**
DRGR 96.65 318⇓ *i*P **P** **17 48 18.8 -1.0**
MPEP Malo Peshtene 96.66 314 *i* P **P** **17 48 19.3 -0.5**
BEL Belsk 96.68 323 *e*P **P** **17 48 19.2 -0.4**
comp=Z,3µm,6.1s
BEL *e*PP PP 17 52 21.9 +7.7
BEL *e*SKSac **SKSac** **17 59 01.9 +6.8**
BEL LMZ LR 18 35 58.8
comp=Z,154µm,20.8s
BEL Belsk 96.68 323 *e*P **P** **17 48 19.2 -0.4**
comp=Z,3µm,6.1s
BEL *e*PP PP 17 52 21.9 +7.7
BEL *e*SKSac **SKSac** **17 59 01.9 +6.8**
BEL LMZ LR 18 35 58.8
comp=Z,154µm,20.8s
BEL Belsk 96.68 323 *e*P **P** **17 48 19.2 -0.4**
BEL *e* 17 52 21.9
BEL pmax pmax
comp=Z,3µm,6.1s
BEL MLR MLR
comp=Z,154µm,20.8s
NPS Neapolis 96.70 306 *e*P **P** **17 48 20.1 -0.1**
DEV Deva 96.72 317⇑ P **P** **17 48 20.0 0.0**
DEV Deva 96.72 317⇑ *i*P **P** **17 48 20.0 0.0**
LAST Lasithi 96.82 306 *e*P **P** **17 48 20.5 -0.4**
NSS Namsos 96.90 337 *e*P **P** **17 48 22.8 +2.4**
NSS *e*PP **PP** **17 52 13.4 -2.1**
GZR Gura Zlata 96.91 316⇑ P **P** **17 48 21.0 0.0**
GZR Gura Zlata 96.91 316⇑ *i*P **P** **17 48 21.0 0.0**
NVR Nevrokopi 96.97 312 P P **17 48 19.1 -2.2**
NVR Nevrokopi 96.97 312 P P **17 48 19.1 -2.2**
NVR Nevrokopi 96.97 312 *e*P **P** **17 48 20.0 -1.3**
CRVS Cervenica-Dubn 96.99 320 *e*P **P** **17 48 20.6 -0.6**
CRVS Cervenica-Dubn 96.99 320 *e*P **P** **17 48 20.6 -0.6**
MMB Musomiste 97.02 313 *i* P **P** **17 48 19.5 -2.0**
OUR Ouranopolis 97.07 311 P P **17 48 20.3 -1.4**
OUR Ouranopolis 97.07 311 P P **17 48 20.3 -1.4**
OUR Ouranopolis 97.07 311 P P **17 48 20.3 -1.4**
RMGR Halanga-Turnu 97.13 316⇑ *i*P Pdif 17 48 22.8 +0.8
DAG Danmarks Havn 97.18 352⇑ *i*P **P** **17 48 20.5 -0.9**
DAG *i* 17 52 17.7
DAG *i* S **SKSac** **17 58 58.1 +1.3**
DAG pmax pmax
comp=Z,220nm,1.0s
DAG MLR MLR
comp=Z,110µm,21.0s
DAG Danmarks Havn 97.18 352⇑ *i*P **P** **17 48 20.5 -0.9**
comp=Z,2µm,1.0s
DAG *i* 17 52 17.7
DAG *i* S **SKSac** **17 58 58.1 +1.3**
DAG
comp=Z,150µm,21.0s
VTS Vitosha 97.20 314⇓ P **P** **17 48 21.6 -0.9**
VTS Vitosha 97.20 314 P P **17 48 21.1 -1.4**
VTS Vitosha 97.20 314 P P **17 48 21.1 -1.4**
VTS Vitosha 97.20 314⇓ *i*P **P** **17 48 21.6 -0.9**
VTS Vitosha 97.20 314 *i* P **P** **17 48 21.0 -1.4**
SRS Serrai 97.21 312 P P **17 48 20.4 -2.0**
SRS Serrai 97.21 312 P P **17 48 20.4 -2.0**
SRS Serrai 97.21 312 P P **17 48 20.4 -2.0**
IDI Anoyia 97.28 306 *e*P **P** **17 48 22.4 -0.5**
comp=Z,222nm,0.9s
IDI Anoyia 97.28 306 P P **17 48 22.3 -0.5**
IDI Anoyia 97.28 306 *e*P P **17 48 22.1 -0.8**
PAIG Paliouri 97.38 311 P P **17 48 21.4 -1.7**
PAIG Paliouri 97.38 311 P P **17 48 21.4 -1.7**
PAIG Paliouri 97.38 311 P P **17 48 21.4 -1.7**
SIVA Sivas 97.39 306 *e*P P **17 48 20.6 -2.7**
KKB Krupnik 97.44 313 *i* P P **17 48 21.3 -2.1**
SOH Sokhos 97.45 312 P P **17 48 21.9 -1.6**
SOH Sokhos 97.45 312 P P **17 48 21.9 -1.6**
SOH Sokhos 97.45 312 P P **17 48 21.9 -1.6**
PLG Polygyros 97.47 311 P P **17 48 21.9 -1.7**
PLG Polygyros 97.47 311 P P **17 48 21.9 -1.7**
PLG Polygyros 97.47 311 P P **17 48 21.9 -1.7**
NIE Niedzica 97.59 321 *e*P **P** **17 48 23.1 -0.9**
NIE *e*pP **pP** **17 48 33.0 +1.1**
NIE Niedzica 97.59 321 *e*P **P** **17 48 23.9 0.0**
NIE *e**PP **pP** **17 48 33.3 +1.4**
BZS Buzias 97.66 317⇑ P **P** **17 48 23.4 -0.9**
BZS Buzias 97.66 317⇑ *i*P **P** **17 48 23.4 -0.9**
OJC Ojcow 97.71 322 *e*P **P** **17 48 23.0 -1.4**
OJC *e*pP **pP** **17 48 32.1 -0.3**
OJC *e*SKSac **SKSac** **17 58 55.1 -5.5**
OJC *e*S **S** **17 59 45.1 -3.5**
OJC L L 18 36 31.0
comp=Z,124µm,21.5s
OJC Ojcow 97.71 322 *e*P **P** **17 48 23.4 -1.0**
OJC *e**PP **pP** **17 48 32.8 +0.4**
OJC *e* 17 58 55.6
OJC *e*S **S** **17 59 45.8 -2.8**
OJC MLR MLR
comp=Z,124µm,21.5s
KNT Kendrikon 97.72 312 P P **17 48 22.2 -2.5**
KNT Kendrikon 97.72 312 P P **17 48 22.2 -2.5**
KNT Kendrikon 97.72 312 P P **17 48 22.2 -2.5**
RES Resolute Bay 97.81 10 *e*P P **17 48 23.8 -0.5**
RES Resolute Bay 97.81 10 P P **17 48 23.4 -0.9**
comp=Z,116nm,1.1s,baz=309,slow=6.7,SNR=63
VAM Vamos 97.81 306 P Pdif 17 48 25.5 +0.2
VAM Vamos 97.81 306 P Pdif 17 48 25.5 +0.2
VAM Vamos 97.81 306 P Pdif 17 48 25.5 +0.2
VAM Vamos 97.81 306 *e*P **P** **17 48 25.2 0.0**
HFS Hagfors 97.87 332 PKKPbc PKKPbc 18 04 59.9 -1.7
HFS Hagfors 97.87 332 PKKPbc PKKPbc 18 04 59.9 -1.7
comp=Z,4.8nm,0.6s,baz=156,slow=3.9,SNR=4.0
VAY Valandovo 97.93 312 *e*P **P** **17 48 23.6 -2.0**
comp=Z,135nm,0.9s
GVD Gavdhos 98.00 306 *e*P **P** **17 48 24.6 -1.4**
comp=Z,459nm,0.9s
KARN Karanos 98.04 306 *e*P Pdif 17 48 27.2 +0.9
FYTO Fytoko, Volos 98.04 310 P Pdif 17 48 35.1 +8.9
FYTO Fytoko, Volos 98.04 310 P Pdif 17 48 35.1 +8.9
ATAL Atalanti 98.12 310 P **P** **17 48 23.7 -2.8**
ATAL Atalanti 98.12 310 P **P** **17 48 23.7 -2.8**
GRG Griva 98.13 312 P **P** **17 48 24.0 -2.5**
GRG Griva 98.13 312 P **P** **17 48 24.0 -2.5**
GRG Griva 98.13 312 P **P** **17 48 24.0 -2.5**
DID Didima 98.19 309 *e*P P 17 48 23.3 -3.6
LIT Litokhoron 98.24 311 P **P** **17 48 25.0 -2.1**
LIT Litokhoron 98.24 311 P **P** **17 48 25.0 -2.1**
LIT Litokhoron 98.24 311 P **P** **17 48 25.0 -2.1**
LIT Litokhoron 98.24 311 *e*P **P** **17 48 25.5 -1.6**
PSZ Piszkesteto 98.25 319⇑ P **P** **17 48 26.6 -0.4**
PSZ Piszkesteto 98.25 319 *e*P **P** **17 48 25.7 -1.3**
comp=Z,281nm,1.2s
PSZ Piszkesteto 98.25 319⇑ *i*P **P** **17 48 26.6 -0.4**
PSZ Piszkesteto 98.25 319⇑ P **P** **17 48 26.6 -0.4**

LTK Loutraki 98.30 309 *e*P P 17 48 23.7 -3.7
GKP Gorka Klasztor 98.36 325 *e*P **P** **17 48 26.9 -0.4**
comp=Z,1µm,6.0s
GKP *e*SKSac **SKSac** **17 59 10.2 +6.6**
GKP LMZ LR 18 35 43.9
comp=Z,226µm,20.0s
GKP Gorka Klasztor 98.36 325 *e*P **P** **17 48 26.9 -0.4**
comp=Z,1µm,6.0s
GKP *e*SKSac **SKSac** **17 59 10.2 +6.6**
GKP LMZ LR 18 35 43.9
comp=Z,226µm,20.0s
GKP Gorka Klasztor 98.36 325 *e*P **P** **17 48 26.8 -0.4**
GKP pmax pmax
comp=Z,1µm,6.0s
GKP MLR MLR
comp=Z,226µm,20.0s
LIKS Likavka 98.45 321 *e*P Pdif 17 48 28.3 +0.5
LIKS Likavka 98.45 321 *e*P Pdif 17 48 28.3 +0.5
PKSN Nyarlorinc 98.53 318 ⇑ePdiff Pdif 17 48 28.2 +0.1
VLI Veliai 98.57 308 *e*P **P** **17 48 26.4 -2.2**
VLI Veliai 98.57 308 *e*P **P** **17 48 26.4 -2.2**
SKO Skopje 98.61 313 *e*P **P** **17 48 25.6 -3.0**
comp=Z,35nm,0.6s
NC602 NORSAR Array S 98.62 333 *e*P Pdif 17 48 29.8 +1.5
NB2 NORSAR Subarra 98.64 334 P **P** **17 48 26.6 -1.8**
baz=67,slow=4.6
NB2 NORSAR Subarra 98.64 334 P **P** **17 48 26.6 -1.8**
comp=Z,135nm,0.8s,baz=67,slow=4.6
NOA NORSAR Array B 98.64 334 P **P** **17 48 26.1 -2.3**
NOA PKKPbc **PKKPbc** **18 04 58.0 -1.6**
NOA NORSAR Array B 98.64 334 P **P** **17 48 26.1 -2.3**
comp=Z,53nm,0.8s,baz=66,slow=4.6,SNR=137
NOA PKKPbc **PKKPbc** **18 04 58.0 -1.6**
comp=Z,3.2nm,0.9s,baz=249,slow=2.3,SNR=6.5
NOA LR LR 18 38 13.3
comp=Z,203µm,20.1s,baz=60,slow=39
THL Klokotos Trika 98.71 311 P **P** **17 48 26.2 -2.9**
THL Klokotos Trika 98.71 311 *e*P **P** **17 48 26.4 -2.8**
KZN Kozani 98.73 312 P P 17 48 25.5 -3.8
KZN Kozani 98.73 312 P P 17 48 25.5 -3.8
KZN Kozani 98.73 312 P P 17 48 25.5 -3.8
RAC Raciborz 98.73 322 *e*P Pdif 17 48 29.6 +0.6
RAC *e* 17 52 31.1
RAC *e*S **S** **17 59 55.8 -1.5**
RAC MLR MLR
comp=N,128µm,21.0s
RAC MLR MLR
comp=E,95µm,20.0s
RAC MLR MLR
comp=Z,83µm,19.0s
VYHS Vyhne 98.78 320 *e*P **P** **17 48 28.1 -1.1**
VYHS *e*S **SKSac** **17 59 08.2 +2.1**
VYHS *e*SS SS 18 06 54.8 +11
VYHS Vyhne 98.78 320 PDIF **P** **17 48 28.1 -1.1**
GUR Goura 98.80 309 P **P** **17 48 27.6 -2.1**
GUR Goura 98.80 309 *e*P **P** **17 48 28.0 -1.7**
PKS6 Bocsa 98.80 318 ⇑ePdiff Pdif 17 48 29.6 +0.2
OKC Ostrava-Krasne 98.83 322 *e*P **P** **17 48 28.3 -1.1**
OKC *e* 17 52 36.6
OKC *e*SS SS 18 06 53.7 +9.3
OKC MLR MLR
comp=Z,73µm,20.8s
OKC Ostrava-Krasne 98.83 322 *e*PDIFF **P** **17 48 28.3 -1.1**
OKC *e*PP PP 17 52 36.6 +5.8
OKC *e*XSKS 17 59 14.5
OKC *e*SS SS 18 06 53.7 +9.3
OKC AMS AMS 18 36 50.0
comp=Z,73µm,20.8s
KALE Kalithea 98.86 310 P **P** **17 48 27.7 -2.2**
KALE Kalithea 98.86 310 P **P** **17 48 27.7 -2.2**
NAO01 NORSAR Array S 98.87 333 *e*P **P** **17 48 27.7 -1.7**
comp=Z,94nm,0.7s
BIA Bitola 98.91 312 *e*P **P** **17 48 27.6 -2.5**
FNA Florina 98.92 312 P P 17 48 26.9 -3.2
FNA Florina 98.92 312 P P 17 48 26.9 -3.2
FNA Florina 98.92 312 P P 17 48 26.9 -3.2
BUD Budapest 98.93 319 ⇑ePdiff **P** **17 48 29.8 -0.1**
LSZ Lusaka 98.99 255 *e*P **P** **17 48 29.6 -1.4**
comp=Z,98nm,0.8s
LAKA Lakka 99.02 309 P **Pdif** **17 48 28.1 -2.5**
LAKA Lakka 99.02 309 P **Pdif** **17 48 28.1 -2.5**
SLR Silverton 99.03 245 *e*P **Pdif** **17 48 31.9 +0.8**
SLR AMS AMS 18 31 09.8
comp=Z,40µm,19.8s
SLR Silverton 99.03 245 ⇑*i*P **Pdif** **17 48 37.5 +6.5**
SLR AMS AMS 18 31 02.5
comp=Z,40µm,19.8s
EFP Efpalio 99.03 310 *e*P **Pdif** **17 48 27.3 -3.3**
BSD Bornholm Skovb 99.05 327 ⇑*i*P **Pdif** **17 48 29.2 -1.1**
BSD *i* S **SKSac** **17 59 09.7 +2.6**
BSD pmax pmax
comp=Z,160nm,0.9s
BSD MLR MLR
comp=Z,120µm,18.0s
BSD Bornholm Skovb 99.05 327 ⇑*i*P **Pdif** **17 48 29.2 -1.1**
comp=Z,161nm,0.9s
BSD Bornholm Skovb 99.05 327 *i* S **SKSac** **17 59 09.7 +2.6**
BSD
comp=Z,119µm,18.0s
ERPM east rand prop 99.06 244 *e*P **Pdif** **17 48 30.7 -0.6**
ERPM AMS AMS 18 31 54.1
comp=Z,38µm,21.5s
ERPM east rand prop 99.06 244 *e*P **Pdif** **17 48 31.2 0.0**
ERPM AMS AMS 18 31 52.4
comp=Z,49µm,25.0s
PKS2 Kecel 99.07 318 ⇑ePdiff **Pdif** **17 48 30.8 +0.3**
DIVS Divibare 99.14 316 P **Pdif** **17 48 29.9 -1.2**
MORC Moravsky Berou 99.23 322 ⇑P **Pdif** **17 48 31.2 -0.1**
MORC Moravsky Berou 99.23 322 *e*P **Pdif** **17 48 30.8 -0.5**
MORC Moravsky Berou 99.23 322 ⇑*i*P **Pdif** **17 48 31.2 -0.1**
ITM Ithomi 99.27 308 *e*P **Pdif** **17 48 29.8 -2.0**
RKT Rikitea 99.31 113 *e*PP PP 17 52 32.5 -2.9
RKT comp=Z,11µm,26.2s *e*SKSac **SKSac** **17 59 08.2 -1.4**
comp=Z,53µm,28.0s
RKT *e*SP **SP** **18 01 28.6 -1.0**
comp=Z,62µm,30.8s
RKT *e*SS **SS** **18 06 54.2 +1.3**
comp=Z,36µm,31.8s
RKT *e*LQ LQ 18 16 47.1
comp=Z,63µm,34.2s
RKT *e*LR LR 18 21 02.8
comp=Z,104µm,27.5s,baz=280
PKSG 99.37 319 ⇑ePdiff **Pdif** **17 48 31.7 -0.2**
PHP Peshkopia 99.41 313 P **Pdif** **17 48 30.0 -2.3**
PHP Peshkopia 99.41 313 P **Pdif** **17 48 30.0 -2.3**
PHP Peshkopia 99.41 313 P **Pdif** **17 48 30.0 -2.3**
PYL PYLOS 99.48 308 *e*P **Pdif** **17 48 30.2 -2.5**
IVA Berane 99.51 314 ⇑*i*P **Pdif** **17 48 31.8 -1.0**
PKSM Moragy 99.52 318 ⇑P **Pdif** **17 48 32.0 -0.6**
PKSM Moragy 99.52 318 ⇑*i*P **Pdif** **17 48 32.0 -0.6**
PKSM Moragy 99.52 318 ⇑ePdiff **Pdif** **17 48 32.3 -0.3**
PVY Plav 99.54 314 ⇑*i*P **Pdif** **17 48 33.0 +0.1**
MOL Molde 99.54 336 *e* **Pdif** **17 48 39.5 +7.3**
MOL *e*PP **PP** **17 52 36.4 +0.7**
MOL AMS AMS 18 37 51.8
comp=Z,266µm,20.7s
YKA Yellowknife Ar 99.55 24 P **Pdif** **17 48 30.4 -2.0**
YKA PP PP 17 52 24.8 -11
YKA PKiKP **PKiKP** **17 53 02.1 +0.7**
YKA PKKPbc **PKKPbc** **18 04 54.6 -2.3**
YKA P'P' 18 13 10.8
YKA Yellowknife Ar 99.55 24 P **Pdif** **17 48 30.4 -2.0**
comp=Z,34nm,1.1s,baz=297,slow=4.6,SNR=132
YKA PP PP 17 52 24.8 -11
comp=Z,4.9nm,0.8s,baz=315,slow=4.8,SNR=3.6
YKA PKiKP **PKiKP** **17 53 02.1 +0.7**
comp=Z,4.9nm,0.8s,baz=299,slow=2.2,SNR=9.3
YKA PKKPbc **PKKPbc** **18 04 54.6 -2.3**
comp=Z,1.7nm,0.6s,baz=122,slow=3.1,SNR=8.9
YKA PKPPKP **P'P'df** **18 13 10.8 -0.8**
comp=Z,0.7nm,0.9s,baz=113,slow=5.3,SNR=3.9
SEK Senekal 99.59 242 *e*P **Pdif** **17 48 34.7 +1.2**
SEK AMS AMS 18 31 00.1
comp=Z,57µm,19.9s
SEK Senekal 99.59 242 *e*P **Pdif** **17 48 41.9 +8.4**
SEK AMS AMS 18 31 00.7
comp=Z,57µm,19.9s
KRLC Kraliky 99.61 322 *e*PDIFF **Pdif** **17 48 33.4 +0.4**
PKST T''s 99.64 319 ⇑ePdiff **Pdif** **17 48 32.7 -0.4**
PKS9 Tamasi 99.66 318 ⇑ePdiff **Pdif** **17 48 32.9 -0.3**
KSP Ksiaz 99.67 323 *e*P **Pdif** **17 48 33.3 +0.2**
comp=Z,1µm,4.7s
KSP LMZ LR 18 37 12.2
comp=Z,151µm,19.3s
KSP Ksiaz 99.67 323 ⇑*e*P **Pdif** **17 48 33.3 +0.2**
comp=Z,1µm,4.7s
KSP LMZ LR 18 37 12.2
comp=Z,151µm,19.3s
KSP Ksiaz 99.67 323 ⇑*e*P **Pdif** **17 48 32.7 -0.5**
KSP *e* 17 52 39.5
KSP *e*SP SP 18 01 28.0 -3.9
KSP *e*SS SS 18 06 48.5 -7.5
KSP MLR MLR
comp=Z,304µm,19.3s
SMOL Smolenice 99.67 320 *e*P **Pdif** **17 48 33.8 +0.6**
SMOL Smolenice 99.67 320 PDIF **Pdif** **17 48 33.8 +0.6**
JMIC Jan Mayen 99.76 346 *e*P **Pdif** **17 48 40.0 +6.9**
JMIC *e*PP **PP** **17 52 39.9 +2.7**
JMIC AMS AMS 18 36 02.5
comp=Z,75µm,21.6s
JMIC Jan Mayen 99.76 346 P **Pdif** **17 48 34.1 +1.0**
JMIC Jan Mayen 99.76 346 P **Pdif** **17 48 34.1 +1.0**
comp=Z,84nm,0.7s,baz=160,slow=3.1,SNR=2.2
DPC Dobruska-Polom 99.80 322 *e*P **Pdif** **17 48 33.1 -0.7**
DPC *e* 17 48 43.1
DPC *e* 17 52 44.6
DPC *e*SS SS 18 06 54.2 -3.9
DPC MLR MLR
comp=Z,138µm,19.8s
DPC Dobruska-Polom 99.80 322 *e*Pdif **Pdif** **17 48 33.4 -0.5**
comp=Z,110nm,0.8s
DPC Dobruska-Polom 99.80 322 *e*PDIFF **Pdif** **17 48 33.1 -0.7**
DPC *e*pP **pP** **17 48 43.1 +1.3**
DPC *e*PP PP 17 52 44.6 +6.4
DPC *e*SKS **SKSac** **17 59 17.2 +6.0**
DPC *e*SS **SS** **18 06 54.2 -3.8**
DPC AMS AMS 18 37 00.0
comp=Z,138µm,19.8s
PRYS Parys 99.84 243 *e*P **Pdif** **17 48 36.8 +2.1**
PRYS AMS AMS 18 31 46.8
comp=Z,38µm,23.8s
PRYS Parys 99.84 243 ⇑*i*P **Pdif** **17 48 42.0 +7.4**
PRYS AMS AMS 18 31 46.7
comp=Z,41µm,23.6s
TIR Tirane 99.91 313 *e*P **Pdif** **17 48 37.7 +3.3**
TIR pmax pmax
comp=Z,241nm,1.1s
TIR Tirane 99.91 313 *e*Pdif **Pdif** **17 48 37.7 +3.3**
comp=Z,241nm,1.1s
LKD2 Lefkada island 99.91 310 *e*P **Pdif** **17 48 33.6 -1.0**
UPC Upice 99.94 323 *e*P **Pdif** **17 48 34.2 -0.2**
UPC Upice 99.94 323 *e*PDIFF **Pdif** **17 48 34.2 -0.2**
UPC *e*pP **pP** **17 48 40.0 -2.4**
UPC *ex* x 17 52 51.0
VRAC Vranov 99.96 321 ⇑*i*P **Pdif** **17 48 34.9 +0.4**
KONO Kongsberg 99.96 333 *e*P **Pdif** **17 48 33.8 -0.4**
KONO AMB AMB 17 48 54.3
comp=Z,176nm,1.4s
KONO *e*PP **PP** **17 52 38.0 -0.9**
KONO *e*SKS **SKSac** **17 59 08.9 -2.4**
KONO AMS AMS 18 38 07.2
comp=Z,135µm,19.0s
KONO Kongsberg 99.96 333 *e*P **Pdif** **17 48 32.9 -1.3**
KONO pmax pmax
comp=Z,70nm,0.9s
KONO Kongsberg 99.96 333 *e*P **Pdif** **17 48 32.9 -1.3**
comp=Z,70nm,0.9s
TTG Podgorica 100.08 314 ⇑*i*P **Pdif** **17 48 33.9 -1.2**
RGN Rugen 100.12 327 *e*PP PP 17 52 44.2 +3.9
RGN *e*SKSac **SKSac** **17 59 16.9 +4.6**
UPM Unac-Piva 100.13 315 ⇑*i*P **Pdif** **17 48 35.2 -0.5**
COP Copenhagen 100.17 328 ⇑*i*P **Pdif** **17 48 39.2 +4.0**
COP *i* S **SKSac** **17 59 16.3 +3.8**
COP MLR MLR
comp=Z,64µm,22.0s
COP Copenhagen 100.17 328 ⇑*i*P **Pdif** **17 48 39.2 +4.0**
NKY Niksic 100.17 315 ⇑*i*P **Pdif** **17 48 34.9 -0.8**
ULC Ulcinj 100.20 314 ⇑*i*P **Pdif** **17 48 37.1 +1.3**
PGC Sidney 100.25 39 *e*Pdif **Pdif** **17 48 36.7 +1.0**
OSR Olympics--Salm 100.27 40 P **Pdif** **17 48 37.5 +1.5**
NLWA Neilton Lookou 100.36 41 *e*Pdif **Pdif** **17 48 37.8 +1.4**
BUM Brajici-Budva 100.37 314 ⇑*i*P **Pdif** **17 48 35.4 -1.2**
GRM Grahamstown 100.41 237 *e*P **Pdif** **17 48 39.0 +2.1**
GRM AMS AMS 18 24 53.5
comp=Z,87µm,24.9s
GRM Grahamstown 100.41 237 ⇑*i*P **Pdif** **17 48 44.6 +7.7**
GRM AMS AMS 18 24 54.3
comp=Z,87µm,24.9s
LLD Lille Linde 100.42 328 *e*P **Pdif** **17 48 33.7 -2.6**
LLD Lille Linde 100.42 328 *i* P **Pdif** **17 48 33.7 -2.6**
BRY Bratogost 100.47 315 ⇑*i*P **Pdif** **17 48 35.8 -1.3**
SOP Sopron 100.47 320 ⇑ePdiff **Pdif** **17 48 36.4 -0.4**
RUE Ruedersdorf 100.60 325 *e*Pdiff **Pdif** **17 48 37.8 +0.6**
RUE *e*PP **PP** **17 52 48.0 +4.0**
RUE *e*SKSac **SKSac** **17 59 17.5 +2.7**
RUE Ruedersdorf 100.60 325 *e*P **Pdif** **17 48 37.4 +0.2**
comp=Z,510nm,1.0s
HCY Herceg Novi 100.62 314 ⇑*i*P **Pdif** **17 48 36.2 -1.4**
TREC Trest 100.65 322 *e*P **Pdif** **17 48 37.3 -0.3**
TREC *e*SS SS 18 07 17.3 +7.4
TREC MLR MLR
comp=Z,150µm,19.7s
TREC Trest 100.65 322 *e*PDIFF **Pdif** **17 48 37.3 -0.3**
TREC *e*pP pP 17 48 46.9 +1.3
TREC *e*XSKS 17 59 24.5
TREC *e*SS SS 18 07 17.3 +7.4
TREC AMS AMS 18 40 10.0
comp=Z,150µm,19.7s
BEHE Becsehely 100.69 319 ⇑ePdiff **Pdif** **17 48 37.9 +0.1**
HYA Hoyanger 100.77 335 *e*P **Pdif** **17 48 37.7 -0.1**
HYA AMB AMB 17 48 56.0
comp=Z,195nm,1.9s
PVCC Panska Ves 100.81 323 *e*P **Pdif** **17 48 38.3 +0.1**
PVCC *e* 17 52 46.9
PVCC *e*SS SS 18 07 16.1 +4.2
PVCC MLR MLR
comp=Z,143µm,18.6s
PVCC Panska Ves 100.81 323 *e*PDIFF **Pdif** **17 48 38.3 +0.1**
PVCC *e*pP pP 17 48 45.1 -1.2
PVCC *e*PP **PP** **17 52 46.9 +1.2**
PVCC *e*SS SS 18 07 16.1 +4.2
PVCC AMS AMS 18 37 30.0
comp=Z,143µm,18.6s
HDW Hoodsport 100.81 40 P **Pdif** **17 48 39.3 +0.9**
CONA Conrad Observa 100.84 320 ⇑*i*P **Pdif** **17 48 38.4 -0.1**
comp=Z,24nm,1.0s
CONA Conrad Observa 100.84 320 ⇑*i*Pdiff **Pdif** **17 48 38.4 -0.1**
comp=Z,24nm,1.0s,SNR=8.8
CONA ⇑*i*sPdiff 17 48 47.7
comp=Z,83nm,1.1s
PRU Pruhonice 101.00 322 *e*P **Pdif** **17 48 38.3 -0.8**
PRU *e* 17 52 52.5
PRU *e*SS SS 18 07 18.0 +3.3
PRU MLR MLR
comp=Z,128µm,19.9s
PRU Pruhonice 101.00 322 *e*PDIFF **Pdif** **17 48 38.3 -0.8**
PRU *e*pP pP 17 48 48.3 +1.1
PRU *e*PP PP 17 52 52.5 +5.3
PRU *e*XSKS 17 59 25.4
PRU *e*SS SS 18 07 18.0 +3.3
PRU AMS AMS 18 37 50.0
comp=Z,128µm,19.9s
FOO Floro 101.04 335 *e*P **Pdif** **17 48 42.4 +3.4**
FOO *e*PP **PP** **17 52 45.7 -1.3**
FOO AMS AMS 18 38 37.2
comp=Z,373µm,18.6s
KOGS Kog 101.04 319 *e*Pdiff **Pdif** **17 48 38.8 -0.6**
KOGS *e*SKSac **SKSac** **17 59 20.2 +3.0**
KOGS *e* 18 00 17.5
KOGS *e* 18 02 07.7
PRA Prague 101.04 323 ⇑PDIFF **Pdif** **17 48 39.0 -0.3**
PRA PP PP 17 52 53.0 +5.5
PRA *ex* x 17 59 34.0
PRA SS SS 18 07 18.0 +2.8
PRA AMS AMS 18 38 00.0
BRG Berggiesshubel 101.06 323 *i* PDIF **Pdif** **17 48 39.7 +0.4**
comp=Z,123nm,1.0s
BRG *i* 17 48 48.8
comp=Z,219nm,1.0s
BRG PP PP 17 52 41.0 -6.7
BRG SKS 17 59 22.0
BRG SDIF **Sdif** **18 00 10.0 -6.8**
BRG SS **SS** **18 07 19.0 +3.6**
comp=N,109µm,19.8s
BRG
comp=E,157µm,20.5s
BRG
comp=Z,191µm,19.9s
BRG Berggiesshubel 101.06 323 *e*Pdiff **Pdif** **17 48 39.8 +0.4**
BRG *e*PP **PP** **17 52 51.9 +4.2**
BRG *e*SKSac **SKSac** **17 59 18.7 +1.5**
BRG Berggiesshubel 101.06 323 *i* P **Pdif** **17 48 39.7 +0.4**
BRG S **Sdif** **18 00 10.0 -6.8**
BRG SS **SS** **18 07 19.0 +3.6**
BRG pmax pmax
comp=Z,123nm,1.0s
BRG MLR MLR
comp=N,109µm,19.8s
BRG MLR MLR
comp=E,157µm,20.5s
BRG MLR MLR
comp=Z,191µm,19.9s
HOMB Homborsund 101.07 332 *e*P **Pdif** **17 48 39.2 +0.1**
HOMB *e*PP **PP** **17 52 50.0 +2.7**
ODD1 Odda 101.18 334 *e*P **Pdif** **17 48 39.4 -0.4**
SOE Somerset East 101.23 238 *e*P **Pdif** **17 48 43.6 +3.0**
SOE AMS AMS 18 25 19.9
comp=Z,64µm,27.3s
SOE Somerset East 101.23 238 ⇑*i*P Pdif 17 48 50.8 +10
SOE AMS AMS 18 25 20.9
comp=Z,64µm,27.3s
ARSA Arzberg 101.27 320 ⇓*i*P **Pdif** **17 48 39.8 -0.6**
comp=Z,27nm,0.9s
ARSA Arzberg 101.27 320 ⇓*i*Pdiff **Pdif** **17 48 39.8 -0.6**
comp=Z,27nm,0.9s,SNR=22
ARSA ⇑*i*sPdiff 17 48 49.3
comp=Z,100nm,1.0s
HVD Gariep Dam 101.38 240 *e*P **Pdif** **17 48 42.4 +0.9**
HVD AMS AMS 18 32 15.3
comp=Z,44µm,20.6s
HVD Gariep Dam 101.38 240 ⇑*i*P **Pdif** **17 48 50.4 +8.9**
HVD AMS AMS 18 32 15.9
comp=Z,44µm,20.6s
FBE Freiberg 101.40 324 *e*Pdiff **Pdif** **17 48 41.5 +0.7**
LBTB Lobatse 101.46 245 *e*Pdif **Pdif** **17 48 42.0 +0.2**
LBTB Lobatse 101.46 245 ⇑*i*P **Pdif** **17 48 41.6 -0.2**
LBTB AMS AMS 18 26 14.8
comp=Z,35µm,21.6s
LBTB Lobatse 101.46 245 ⇑*i*P **Pdif** **17 48 47.3 +5.5**
LBTB AMS AMS 18 26 10.1
comp=Z,35µm,21.6s
CLL Collm 101.47 324 *e*Pdiff **Pdif** **17 48 41.2 +0.1**
CLL *e*PP **PP** **17 52 54.5 +3.8**
CLL *e*SKSac **SKSac** **17 59 20.7 +1.6**
CLL Collm 101.47 324 ⇓*i*P **Pdif** **17 48 40.6 -0.5**
CLL pmax pmax
comp=Z,74nm,1.1s
CLL MLR MLR
comp=Z,132µm,18.9s
CLL Collm 101.47 324 *i* Pdif **Pdif** **17 48 40.6 -0.5**
comp=Z,74nm,1.1s
CLL *i* pPdif **pPdif** **17 48 46.2 -2.9**
CLL ⇓*i*sPdif sPdif 17 48 49.9 -2.0
comp=Z,189nm,1.1s
CLL *i* 17 48 53.6
CLL *i* 17 48 59.6
CLL *e* 17 52 30.0
CLL *e*PP **PKiKP** **17 53 04.0 -1.1**
comp=Z,16µm,20.8s
CLL *e* 17 53 35.0
CLL *e*PPP PPP 17 55 14.0
CLL *e*SKSac SKSac 17 59 29.0 +10
CLL *e*Sdif **Sdif** **18 00 18.0 -2.1**
CLL *e* 18 01 02.0
CLL *e*PS **PS** **18 01 55.0 +0.3**
CLL *e*PPS PPS 18 02 53.0
CLL *e* 18 03 37.0
CLL *e*PKKPdf **PKKPdf** **18 04 56.0 -1.0**
CLL *e*SS SS 18 07 30.0 +9.0
CLL *e* 18 08 16.0
CLL *e* 18 12 24.0
CLL *e*PKPPKPdf **P'P'df** **18 13 07.0 -1.5**
CLL LmH 18 38 00.0
comp=N,88µm,21.1s
CLL LmH 18 38 00.0
comp=E,117µm,20.7s
CLL LmV 18 47 00.0
comp=N,99µm,20.8s
CLL LmV 18 47 00.0
comp=E,54µm,19.4s
CLL LmV 18 47 00.0
comp=Z,132µm,18.9s
RUND Rundenannen 101.49 334 *e*P **Pdif** **17 48 39.1 -2.0**
RUND AMB AMB 17 48 45.3
comp=Z,137nm,1.1s
NVL N'lazarevskaya 101.52 198 *i* P **Pdif** **17 48 47.8 +6.9**
NVL *e* 17 52 58.0
NVL *e* 18 02 44.0
BER Bergen 101.52 334 *e*P **Pdif** **17 48 38.6 -2.5**
BER AMB AMB 17 48 58.8
comp=Z,145nm,2.3s
BER AMS AMS 18 39 33.8
comp=Z,274µm,21.9s
MUD Monsted U'grnd 101.53 330 *e*P **Pdif** **17 48 42.3 +1.0**
MUD MLR MLR
comp=Z,120µm,19.0s
MUD Monsted U'grnd 101.53 330 *i* P **Pdif** **17 48 42.3 +1.0**
MUD
comp=Z,116µm,19.0s
ASK Askoy 101.53 334 *e*P **Pdif** **17 48 40.6 -0.6**
ASK AMB AMB 17 48 46.8
comp=Z,172nm,1.9s
GROS Grobnik 101.53 319 *e*Pdiff **Pdif** **17 48 39.7 -1.9**
GROS *e* 17 50 37.4
GROS *e*PP PKiKP 17 52 58.6 -6.9
GROS *e* 17 54 40.8
GROS *e* 17 55 15.8
COR Corvallis 101.56 43 *e*P **Pdif** **17 48 43.6 +1.9**
COR Corvallis 101.56 43 *e*P **Pdif** **17 48 43.6 +1.9**
EGD Espegrend 101.62 334 *e*P **Pdif** **17 48 40.1 -1.5**
EGD AMB AMB 17 48 50.8
comp=Z,144nm,1.8s
SWZ Schweizer 101.65 243 *e*P **Pdif** **17 48 45.3 +2.6**
SWZ *i* P **Pdif** **17 48 45.3 +2.6**
SWZ AMS AMS 18 31 18.6
comp=Z,42µm,22.9s
SWZ Schweizer 101.65 243 ⇑*i*P **Pdif** **17 48 51.8 +9.1**
SWZ AMS AMS 18 31 19.2
comp=Z,42µm,19.5s
SNART Snartemo 101.65 332 *e*P **Pdif** **17 48 40.5 -1.2**
BOSA Boshof 101.67 242 P **Pdif** **17 48 42.8 +0.1**
BOSA PKKPbc **PKKPbc** **18 04 48.1 -1.9**
BOSA LR LR
comp=Z,91µm,20.0s
BOSA Boshof 101.67 242 P **Pdif** **17 48 42.8 +0.1**
comp=Z,5.3nm,0.6s,baz=104,slow=5.2,SNR=9.2
BOSA PKKPbc **PKKPbc** **18 04 48.1 -1.9**
comp=Z,4.4nm,0.7s,baz=265,slow=3.6,SNR=5.7
BOSA Boshof 101.67 242 *e*P **Pdif** **17 48 42.6 -0.1**
BOSA AMS AMS 18 30 11.7
comp=Z,68µm,20.5s
BOSA Boshof 101.67 242 ⇑*i*P **Pdif** **17 48 46.8 +4.1**
BOSA AMS AMS 18 30 09.7
comp=Z,68µm,20.5s
FL2 Flat Top 2 101.72 41 P **Pdif** **17 48 43.4 +0.8**
SOKA Soboth 101.77 319 ⇑*i*P **Pdif** **17 48 42.5 -0.3**
comp=Z,37nm,0.9s
SOKA Soboth 101.77 319 ⇑*i*Pdiff **Pdif** **17 48 42.5 -0.3**
comp=Z,37nm,0.9s
BUFB Buffelsbos 101.84 236 *e*P **PS** **18 01 57.0 -2.6**
BUFB AMS AMS 18 26 02.2
comp=Z,35µm,29.0s
KHC Kasperske Hory 101.89 322 *e*P **Pdif** **17 48 42.3 -0.8**
KHC *e* 17 53 00.2
KHC *e*SS SS 18 07 35.7 +8.7
KHC MLR MLR
comp=Z,110µm,18.4s
KHC Kasperske Hory 101.89 322 *e*Pdif **Pdif** **17 48 42.7 -0.4**
KHC Kasperske Hory 101.89 322 *e*PDIFF **Pdif** **17 48 42.3 -0.8**
KHC *e*pP pP 17 48 52.1 +0.8
KHC *ex* x 17 52 22.5
KHC *e*PP PKiKP 17 53 00.2 -5.8
KHC *e*SKS 17 59 26.3
KHC *e*SS SS 18 07 35.7 +8.7
KHC AMS AMS 18 44 10.0
comp=Z,110µm,18.4s
MOA Molln 101.89 320 ⇑*i*P **Pdif** **17 48 42.6 -0.6**
comp=Z,79nm,0.9s
MOA Molln 101.89 320 ⇑*i*Pdiff **Pdif** **17 48 42.6 -0.6**

comp=Z,79nm,0.9s,SNR=56
LON Longmire 101.89 41 *e*P **Pdif 17 48 44.0 +0.7**
LON Longmire 101.89 41 *e*Pdif **Pdif 17 48 44.0 +0.7**
GEC2 GERESS Array S 101.91 322 *e*Pdiff **Pdif 17 48 43.5 +0.2**
GEC2 *e*PP **PP 17 52 56.9 +2.7**
GEC2 *e*SKSac **SKSac 17 59 23.9 +2.3**
GERES GERESS Array B 101.91 322 P **Pdif 17 48 42.5 -0.8**
GERES PP **PP 17 52 51.9 -2.3**
GERES PKKPbc **PKKPbc 18 04 49.0 -1.0**
GERES GERESS Array B 101.91 322 P **Pdif 17 48 42.5 -0.8**
comp=Z,45nm,1.0s,baz=72,slow=4.3,SNR=124
GERES PP **PP 17 52 51.9 -2.3**
comp=Z,7.4nm,0.8s,baz=57,slow=7.2,SNR=2.5
GERES PKKPbc **PKKPbc 18 04 49.0 -1.0**
comp=Z,3.2nm,0.9s,baz=239,slow=3.2,SNR=4.2
BSEG Bad Segeberg 101.98 327 *e*Pdiff **Pdif 17 48 43.7 +0.4**
BSEG *e*PP **PP 17 52 57.6 +3.2**
BSEG *e*SKSac **SKSac 17 59 25.0 +3.6**
BOJS Bojanci 101.99 318 *e*Pdiff **Pdif 17 48 40.9 -2.7**
BOJS *e*PP **PKiKP 17 53 01.7 -4.6**
TANN Tannenbergstha 102.11 323 *e*Pdiff **Pdif 17 48 44.4 +0.3**
TANN *e*PP **PP 17 52 59.4 +3.8**
TANN *e*SKSac **SKSac 17 59 25.2 +2.8**
OBKA Obir 102.14 319 ⇑*i*P **Pdif 17 48 44.2 -0.2**
comp=Z,37nm,0.9s
OBKA Obir 102.14 319 ⇑*i*Pdiff **Pdif 17 48 44.2 -0.2**
comp=Z,37nm,0.9s,SNR=8.8
NKC Novy Kostel 102.18 323 *e*P **Pdif 17 48 43.4 -1.0**
NKC *e*SS SS 18 07 27.5 -3.5
NKC MLR MLR
comp=Z,179μm,19.5s
NKC Novy Kostel 102.18 323 *e*PDIFF **Pdif 17 48 43.4 -1.0**
NKC *e*pP 17 48 53.3
NKC *e*SKS 17 59 27.2
NKC *e*SS **SS 18 07 27.5 -3.5**
NKC AMS AMS 18 38 00.0
comp=Z,179μm,19.5s
WERD Werda 102.19 323 *e*Pdiff **Pdif 17 48 44.8 +0.4**
GUNZ Gunzen 102.20 323 *e*Pdiff **Pdif 17 48 45.0 +0.5**
WERN Wernitzgruen 102.21 323 *e*Pdiff **Pdif 17 48 45.1 +0.6**
NEUB Neuenburg 102.22 324 *e*Pdiff **Pdif 17 48 44.9 +0.4**
NEUB *e*PP **PP 17 52 59.9 +3.6**
NEUB *e*SKSac **SKSac 17 59 25.4 +2.7**
PLN Plauen 102.26 323 *e*Pdiff **Pdif 17 48 45.2 +0.5**
MOZS Mozjanca 102.28 319 *i* Pdiff **Pdif 17 48 44.5 -0.4**
LJU Ljubljana 102.31 319 *e*Pdiff **Pdif 17 48 44.0 -1.0**
LJU *e*PP **PKiKP 17 53 04.0 -2.8**
LJU *e*SKSac **SKSac 17 59 26.7 +3.3**
LJU *e* 18 08 24.9
LJU *e* 18 12 57.7
LJU *e* 18 17 18.2
WET Wettzell 102.31 322 *e*Pdiff **Pdif 17 48 45.6 +0.6**
WET *e*PP **PP 17 53 00.6 +3.5**
WET *e*SKSac **SKSac 17 59 26.2 +2.9**
HUMO Hull Mountain 102.38 45 *e*Pdif **Pdif 17 48 46.5 +1.1**
VLL Laurance Lake 102.39 42 P **Pdif 17 48 46.5 +1.0**
ROTZ Rotzenmuhle 102.50 323 *e*Pdiff **Pdif 17 48 46.8 +1.0**
ROTZ *e*PP **PP 17 53 02.4 +3.9**
ROTZ *e*SKSac **SKSac 17 59 28.5 +4.4**
MOX Moxa 102.53 324 *e*Pdiff **Pdif 17 48 46.3 +0.4**
MOX *e*PP **PP 17 53 02.1 +3.4**
MOX *e*SKSac **SKSac 17 59 27.8 +3.6**
MOX *e*L L 18 41 31.7
comp=Z,112μm,20.5s
NRDL Niedersach Rie 102.68 326 *e*Pdiff **Pdif 17 48 47.3 +0.9**
NRDL *e*PP **PP 17 53 03.1 +3.5**
NRDL *e*SKSac **SKSac 17 59 28.5 +3.9**
MYKA Terra Mystica 102.69 319 ⇑*i*P **Pdif 17 48 46.1 -0.7**
comp=Z,9.1nm,0.7s
MYKA Terra Mystica 102.69 319 ⇑*i*Pdiff **Pdif 17 48 46.1 -0.7**
comp=Z,9.1nm,0.7s
VOY Vojsko 102.73 319 *e*Pdiff **Pdif 17 48 46.0 -1.0**
VOY *e* 17 48 52.1
VOY *e* 17 48 59.7
VOY *e* 17 49 16.5
VOY *e* 17 53 11.6
KBA Koelnbreinsper 102.73 320 ⇑*i*P **Pdif 17 48 46.5 -0.6**
KBA pmax pmax
comp=Z,42nm,0.9s
KBA Koelnbreinsper 102.73 320 ⇑*i*P **Pdif 17 48 46.5 -0.6**
comp=Z,42nm,0.9s
KBA Koelnbreinsper 102.73 320 ⇑*i*Pdiff **Pdif 17 48 46.5 -0.6**
comp=Z,42nm,0.9s,SNR=18
TIP Timpagrande 102.76 311 *e*Pdif **Pdif 17 48 46.9 -0.4**
comp=Z,152nm,1.4s
CLZ Clausthal 102.79 325 *e*Pdiff **Pdif 17 48 47.9 +0.8**
CLZ *e*PP **PKiKP 17 53 04.3 -3.3**
CLZ *e*SKSac **SKSac 17 59 29.8 +4.3**
YBH Yreka Blue Hor 102.81 46 *e*P **Pdif 17 48 48.1 +0.6**
comp=Z,845nm,2.6s
YBH Yreka Blue Hor 102.81 46 P **Pdif 17 48 46.6 -0.9**
comp=Z,11nm,1.0s,baz=288,slow=2.9,SNR=5.8
RJOB Jochberg 102.86 321 *e*Pdiff **Pdif 17 48 47.4 -0.1**
RJOB *e*PP **PP 17 53 03.9 +2.6**
RJOB *e*SKSac **SKSac 17 59 26.4 +0.4**
TRI Trieste 102.92 318 *e*P **Pdif 17 48 47.0 -0.7**
TRI Trieste 102.92 318 *e*Pdif **Pdif 17 48 47.0 -0.7**
SCO Scoresbysund 102.95 350 *e*P **Pdif 17 48 52.2 +4.9**
SCO *i* 17 52 58.9
SCO pmax pmax
comp=Z,35nm,1.2s
SCO MLR MLR
comp=Z,63μm,21.0s
SCO Scoresbysund 102.95 350 *i* P **Pdif 17 48 52.2 +4.9**
comp=Z,35nm,1.2s
SCO *i* 17 52 58.9
SCO
comp=Z,63μm,21.0s
GRF Grafenberg Arr 103.12 323 *e*Pdiff **Pdif 17 48 49.3 +0.7**
GRF *e*PP **PKiKP 17 53 06.5 -1.7**
GRF *e*SKSac **SKSac 17 59 30.8 +3.7**
GRF *e*L L 18 39 27.8
comp=Z,168μm,21.0s
GRFO Grafenberg 103.12 323 *e*P **Pdif 17 48 48.4 -0.1**
GRFO Grafenberg 103.12 323 *e*Pdif **Pdif 17 48 48.4 -0.1**
SUMG Summit 103.18 355 *e*P **Pdif 17 48 49.9 +1.1**
SUMG *i* 17 53 03.8
SUMG pmax pmax
comp=Z,35nm,0.9s
SUMG MLR MLR
comp=Z,86μm,20.0s
SUMG Summit 103.18 355 *e*Pdif **Pdif 17 48 48.8 0.0**
SUMG Summit 103.18 355 *i* P **Pdif 17 48 49.9 +1.1**
comp=Z,35nm,0.9s
SUMG *i* 17 53 03.8
SUMG
comp=Z,86μm,20.0s
HLG Helgoland 103.18 328 *e*PP PP 17 53 05.6 +2.3
HLG *e*SKSac **SKSac 17 59 30.5 +3.5**
CUC Castrocucco 103.23 312 PFAKE 17 49 00.0 +11
CUC LR LR
comp=Z,66μm,20.0s
WDC Whiskeytown Da 103.27 47 *e*P **Pdif 17 48 54.5 +5.1**
WDC Whiskeytown Da 103.27 47 *e*Pdif **Pdif 17 48 54.5 +5.1**
ABTA Abfaltersbach 103.38 320 ⇑*i*P **Pdif 17 48 48.8 -1.1**
comp=Z,46nm,1.0s
ABTA Abfaltersbach 103.38 320 ⇑*i*Pdiff **Pdif 17 48 48.8 -1.1**
comp=Z,46nm,1.0s,SNR=18
ABTA ⇓*i*SPdiff 17 48 58.5
comp=Z,81nm,1.1s
UBBA Unterbreizbach 103.41 324 *e*Pdiff **Pdif 17 48 50.8 +1.2**
UBBA *e*PP **PKiKP 17 53 09.0 +0.5**
HAWA Hanford 103.50 41 *e*Pdif **Pdif 17 48 51.6 +1.3**
FUR Furstenfeldbru 103.66 321 *e*Pdiff **Pdif 17 48 51.4 +0.4**
FUR *e*PP **PKiKP 17 53 09.8 +0.5**
FUR *e*SKSac **SKSac 17 59 30.6 +1.0**
WTTA Wattenberg 103.76 320 *i* P **Pdif 17 48 51.3 -0.4**
WTTA pmax pmax
comp=Z,71nm,1.0s
WTTA Wattenberg 103.76 320 *i* P **Pdif 17 48 51.3 -0.4**
comp=Z,71nm,1.0s
WTTA Wattenberg 103.76 320 *i* Pdiff **Pdif 17 48 51.3 -0.4**
comp=Z,71nm,1.0s,SNR=14
WTTA ⇑*i*SPdiff 17 49 00.4
comp=Z,168nm,1.0s
WATA Walderalm 103.77 321 ⇑*i*P **Pdif 17 48 50.9 -0.8**
WATA pmax pmax
comp=Z,22nm,0.8s
WATA Walderalm 103.77 321 ⇑*i*P **Pdif 17 48 50.9 -0.8**
comp=Z,22nm,0.8s
WATA Walderalm 103.77 321 ⇑*i*Pdiff **Pdif 17 48 50.9 -0.8**
comp=Z,22nm,0.8s,SNR=10.0
SQTA Sankt Quirin 104.05 321 ⇑*i*P **Pdif 17 48 52.4 -0.5**
SQTA pmax pmax
comp=Z,39nm,0.9s
SQTA Sankt Quirin 104.05 321 ⇑*i*P **Pdif 17 48 52.4 -0.5**
comp=Z,39nm,0.9s
SQTA Sankt Quirin 104.05 321 ⇑*i*Pdiff **Pdif 17 48 52.4 -0.5**
comp=Z,39nm,0.9s
IBBN Ibbenburen 104.06 326 *e*Pdiff **Pdif 17 48 53.2 +0.6**
IBBN *e*PP **PP 17 53 13.4 +3.4**
IBBN *e*SKSac **SKSac 17 59 34.2 +3.0**
MOTA Moosalm 104.07 321 ⇑*i*P **Pdif 17 48 51.9 -1.1**
MOTA pmax pmax
comp=Z,52nm,1.0s
MOTA Moosalm 104.07 321 ⇑*i*P **Pdif 17 48 51.9 -1.1**
comp=Z,52nm,1.0s
MOTA Moosalm 104.07 321 ⇑*i*Pdiff **Pdif 17 48 51.9 -1.1**
comp=Z,52nm,1.0s,SNR=16
RETA Reutte 104.23 321 ⇑*i*P **Pdif 17 48 53.5 -0.2**
comp=Z,16nm,1.1s
RETA Reutte 104.23 321 ⇑*i*Pdiff **Pdif 17 48 53.5 -0.2**
comp=Z,16nm,1.1s
AQU L'Aquila 104.26 315 *e*Pdif **Pdif 17 48 54.5 +0.7**
AQU LR LR
comp=Z,162μm,19.0s
AQU L'Aquila 104.26 315 ⇑*i*P **Pdif 17 48 54.9 +1.1**
NEW Newport 104.33 38 *e*Pdif **Pdif 17 48 54.4 +0.3**
NEW Newport 104.33 38 ⇓Pdiff **Pdif 17 48 53.9 -0.1**
baz=104
LRW Lerwick 104.39 336 *e*P **Pdif 17 48 59.0 +5.1**
LRW *e* 17 53 19.0
LRW AMS AMS 18 41 13.8
comp=Z,200μm,18.7s
LRW Lerwick 104.39 336 P **Pdif 17 48 59.0 +5.1**
LRW 17 53 19.0
LRW AMS AMS 18 41 13.8
FETA Feichten 104.42 320 *i* P **Pdif 17 48 54.0 -0.6**
comp=Z,44nm,1.0s
FETA Feichten 104.42 320 *i* Pdiff **Pdif 17 48 54.0 -0.6**
comp=Z,44nm,1.0s,SNR=14
MOD Modoc 104.47 45 *e*Pdif **Pdif 17 48 55.5 +0.5**
TNS Taunus Mts 104.55 324 *e*Pdiff **Pdif 17 48 55.7 +0.7**
TNS *e*PP **PP 17 53 17.6 +3.8**
TNS *e*SKSac **SKSac 17 59 37.5 +3.8**
TOD Tromm 104.60 323 *e*P **Pdif 17 48 55.4 +0.2**
TOD Tromm 104.60 323 *e*P **Pdif 17 48 55.4 +0.2**
STU Stuttgart 104.70 323 *e*Pdiff **Pdif 17 48 56.1 +0.5**
STU *e*PP **PP 17 53 18.1 +3.2**
STU *e*SKSac **SKSac 17 59 36.1 +1.8**
STU Stuttgart 104.70 323 *e*P **Pdif 17 48 54.1 -1.5**
STU pmax pmax
comp=Z,71nm,1.0s
STU Stuttgart 104.70 323 *e*Pdif **Pdif 17 48 54.1 -1.5**
comp=Z,71nm,1.0s
BUG Bochum--Univer 104.71 326 *e*Pdiff **Pdif 17 48 56.1 +0.6**
BUG *e*PP **PP 17 53 18.5 +3.6**
BUG *e*SKSac **SKSac 17 59 37.8 +3.6**
WTSB Winterswijk 104.74 326 *e*P **Pdif 17 48 56.1 +0.5**
comp=Z,51nm,1.1s
WTSB *e*X 17 49 03.9
comp=Z,427nm,2.1s
DAVA Damuels 104.86 321 ⇑*i*P **Pdif 17 48 56.5 -0.1**
comp=Z,23nm,1.3s
DAVA Damuels 104.86 321 ⇑*i*Pdiff **Pdif 17 48 56.5 -0.1**
comp=Z,23nm,1.3s
DAVA ⇑*i*SPdiff 17 49 05.4
comp=Z,86nm,1.4s
FUORN Ofenpass-Fuorn 104.87 320 *e*Pdif **Pdif 17 48 56.5 -0.3**
A12A Yaak River Ran 104.97 37 ⇑Pdiff **Pdif 17 48 58.8 +1.9**
baz=105
A12A ⇓SKSac **SKSac 17 59 38.9 +3.2**
baz=105
A12A ⇓SKSac **SKSac 17 59 38.9 +3.2**
baz=105
A12A ⇓SKSac **SKSac 17 59 38.9 +3.2**
baz=105
DAVOX Davos/Dischmat 105.06 320 PKKPbc PKKPbc 18 04 38.9 -1.7
DAVOX Davos/Dischmat 105.06 320 PKKPbc PKKPbc 18 04 38.9 -1.7
comp=Z,5.4nm,0.9s,baz=188,slow=7.1,SNR=3.0
BEKR Beckworth 105.08 47 ⇓Pdiff **Pdif 17 48 55.5 -2.2**
baz=105
B12A Libby 105.19 38 ⇓Pdiff **Pdif 17 48 57.2 -0.7**
baz=105
SNAA Sanae 105.20 195 *e*Pdif **Pdif 17 48 53.3 -4.1**
SNAA *e*Pdif **PP 17 53 15.9 -2.3**
SNAA Sanae 105.20 195 ⇑*i*P **Pdif 17 48 57.6 +0.2**
SPAK Spaichingen-Ko 105.22 322 *e*P **Pdif 17 48 58.2 +0.2**
ABH Alteburg 105.22 324 *e*P **Pdif 17 48 58.6 +0.7**
SUR Sutherland 105.26 238 PKKPbc PKKPbc 18 04 36.7 -2.8
SUR Sutherland 105.26 238 PKKPbc PKKPbc 18 04 36.7 -2.8
comp=Z,29nm,1.1s,baz=288,slow=6.4,SNR=1.9
SUR Sutherland 105.26 238 *e*P **Pdif 17 49 01.8 +3.1**
SUR AMS AMS 18 27 46.4
comp=Z,44μm,26.8s
SUR Sutherland 105.26 238 ⇑*i*P Pdif 17 49 09.2 +11
SUR AMS AMS 18 27 47.2
comp=Z,44μm,26.8s
BFO Black Forest 105.41 322 *e*Pdiff **Pdif 17 48 58.6 -0.2**
BFO *e*PP **PP 17 53 23.1 +2.9**
BFO *e*SKSac **SKSac 17 59 39.8 +2.2**
BFO Black Forest 105.41 322 *e*P **Pdif 17 48 57.7 -1.1**
BFO pmax pmax
comp=Z,70nm,1.4s
BFO MLR MLR
comp=Z,113μm,21.0s
BFO Black Forest 105.41 322 *e*Pdif **Pdif 17 48 57.7 -1.1**
comp=Z,70nm,1.4s
BFO LR LR
comp=Z,113μm,21.0s
LANF Langenberg 105.45 323 *e*P **Pdif 17 48 59.3 +0.3**
LANF Langenberg 105.45 323 *e*P **Pdif 17 48 59.3 +0.3**
LANF Langenberg 105.45 323 *e*P **Pdif 17 48 59.3 +0.3**
WVOR Wild Horse Val 105.47 44 *e*P **Pdif 17 48 59.6 +0.3**
WVOR pmax pmax
comp=Z,33nm,1.0s
WVOR Wild Horse Val 105.47 44 *e*Pdif **Pdif 17 48 59.6 +0.3**
comp=Z,33nm,1.0s
BMO Blue Mountains 105.51 41 *e*P **Pdif 17 49 00.0 +0.6**
BMO MLR MLR
comp=Z,55μm,21.0s
BMO Blue Mountains 105.51 41 *e*Pdif **Pdif 17 49 00.0 +0.6**
BMO LR LR
comp=Z,68μm,21.0s
TUE Stuetta 105.51 320 *e*Pdif **Pdif 17 48 59.9 +0.4**
C12B Naegeli Ranch, 105.57 38 ⇑Pdiff **Pdif 17 49 00.5 +0.9**
baz=106
RUP Ruppelstein 105.59 324 *e*P **Pdif 17 49 00.3 +0.7**
RUP Ruppelstein 105.59 324 *e*P **Pdif 17 49 00.3 +0.7**
CMB Columbia Colle 105.62 49 *e*P **Pdif 17 49 01.0 +1.0**
CMB Columbia Colle 105.62 49 *e*Pdif **Pdif 17 49 01.0 +1.0**
WCN Washoe City 105.69 48 ⇑Pdiff **Pdif 17 49 01.6 +1.2**
baz=106
HGN Heimansgroeve 105.77 325 *e*P **Pdif 17 48 59.4 -0.9**
comp=Z,1μm,4.4s
HGN *e*PP PP 17 53 29.7 +7.0
HGN *e*S **Sdif 18 01 00.8 +4.7**
FELD Feldberg im Sc 105.79 322 *e*P **Pdif 17 49 00.5 -0.2**
MEM Membach 105.80 325 P **Pdif 17 49 00.7 +0.3**
comp=Z,70nm,1.5s
BEBN Eben Emael 105.90 325 P **Pdif 17 49 01.3 +0.5**
comp=Z,33nm,1.8s
B13A Whitefish 105.91 37 ⇓Pdiff **Pdif 17 49 01.7 +0.7**
baz=106
ELIM Elim 105.92 235 *e*P **Pdif 17 49 01.0 -0.4**
ELIM Elim 105.92 235 *e*P **Pdif 17 49 07.0 +5.7**
BSMT Bassoo Peak 105.94 38 *e*Pdif **Pdif 17 49 02.0 +0.6**
WALA Waterton Lakes 105.95 37 *e*Pdif **Pdif 17 49 01.6 +0.2**
comp=Z,4.8nm,1.5s
CDF Champ du Feu 106.01 323 *e*P **Pdif 17 49 01.5 0.0**
comp=Z,242nm,1.4s
BLMT Blacktail Moun 106.13 38 *e*Pdif **Pdif 17 49 03.4 +1.1**
WLF Walferdange 106.13 324 P **Pdif 17 49 03.2 +1.2**
comp=Z,72nm,2.0s
WLF Walferdange 106.13 324 *e*PP PP 17 53 29.2 +3.8
WLF Walferdange 106.13 324 *e*P **Pdif 17 49 05.6 +3.7**
WLF Walferdange 106.13 324 *e*Pdif **Pdif 17 49 05.6 +3.7**
C13A Hot Springs 106.14 38 ⇓Pdiff **Pdif 17 49 02.5 +0.4**
baz=106
ECH Echery 106.16 323 *e*P **Pdif 17 49 01.7 -0.5**
ECH pmax pmax
comp=Z,35nm,1.2s
ECH MLR MLR
comp=Z,99μm,19.0s
ECH Echery 106.16 323 *e*Pdif **Pdif 17 49 01.7 -0.5**
comp=Z,36nm,1.2s
ECH LR LR
comp=Z,99μm,19.0s
ECH Echery 106.16 323 *e*P **Pdif 17 49 01.7 -0.5**
CVNA Calvinia 106.23 238 *e*P **Pdif 17 49 05.5 +2.6**
CVNA AMS AMS 18 28 18.3
comp=Z,73μm,27.2s
CVNA Calvinia 106.23 238 ⇑*i*P **Pdif 17 49 11.1 +8.2**
CVNA AMS AMS 18 28 19.1
comp=Z,73μm,27.2s
BBS Basel-Blauen 106.27 322 *e*P **Pdif 17 49 02.2 -0.4**
BBS Basel-Blauen 106.27 322 *e*P **Pdif 17 49 02.2 -0.4**
A14A Double T Ranch 106.28 36 ⇓Pdiff **Pdif 17 49 04.4 +1.6**
baz=106
BCLA Clavier 106.28 325 P **Pdif 17 49 00.3 -2.2**
comp=Z,90nm,1.8s
JTMT Jette 106.29 38 *e*Pdif **Pdif 17 49 03.8 +0.9**
MOF Molkenrain 106.33 322 *e*P **Pdif 17 49 02.9 -0.1**
MOF Molkenrain 106.33 322 *e*P **Pdif 17 49 02.9 -0.1**
MOF Molkenrain 106.33 322 *e*P **Pdif 17 49 02.9 -0.1**
YBMT Yellow Bay 106.41 38 *e*Pdif **Pdif 17 49 03.8 +0.5**
comp=Z,44nm,1.4s
D13A Huson 106.45 39 ⇑Pdiff **Pdif 17 49 05.0 +1.5**
baz=106
F12A Elk City 106.50 40 ⇓Pdiff **Pdif 17 49 05.4 +1.6**
baz=106
HINF Hinteralfeld 106.52 322 *e*P **Pdif 17 49 03.3 -0.5**
comp=Z,108nm,1.3s
SWMT Swartz Lake 106.56 38 *e*Pdif **Pdif 17 49 04.8 +0.7**
B14A Marquette Ranc 106.64 37 ⇑Pdiff **Pdif 17 49 05.4 +1.0**
baz=106
UCC Uccle 106.64 326 P **Pdif 17 49 03.9 -0.3**
A15A Johnson Ranch, 106.69 36 ⇓Pdiff **Pdif 17 49 05.5 +0.9**
baz=107
GIVF Givet 106.70 325 *e*P **Pdif 17 49 05.0 +0.5**
comp=Z,424nm,1.7s
SMMC Simmler 106.73 52 ⇓Pdiff **Pdif 17 49 06.8 +1.8**
baz=107
LOMF Lomont 106.73 322 *e*P **Pdif 17 49 04.8 0.0**
LOMF Lomont 106.73 322 *e*P **Pdif 17 49 04.8 0.0**
LOMF Lomont 106.73 322 *e*P **Pdif 17 49 04.8 0.0**
HAU Haudompre 106.75 323 *e*P **Pdif 17 49 04.5 -0.2**
comp=Z,130nm,1.4s
HAU *e*R
comp=Z,182μm,21.2s
SNF Seneffe 106.82 326 P **Pdif 17 49 05.8 +0.9**
comp=Z,55nm,1.7s
DOU Dourbes 106.83 325 P **Pdif 17 49 05.3 +0.2**
comp=Z,60nm,1.9s
SENIN Lac Senin/Sane 106.85 321 *e*Pdif **Pdif 17 49 05.9 +0.4**
PAGF Fort de Pagny 106.88 323 *e*P **Pdif 17 49 05.5 +0.2**
comp=Z,23nm,1.1s
MSO Missoula 106.89 39 *e*Pdif **Pdif 17 49 04.4 -1.1**
comp=Z,66nm,1.9s
MSO Missoula 106.89 39 ⇓Pdiff **Pdif 17 49 06.8 +1.3**
baz=107
E13A Victor 106.89 39 ⇓Pdiff **Pdif 17 49 06.8 +1.3**
baz=107
MLAC Mammoth Lakes 106.91 49 ⇓Pdiff **Pdif 17 49 06.8 +0.8**
baz=107
SLMT Seeley Lake 106.99 38 *e*Pdif **Pdif 17 49 06.1 0.0**
PKM Peak Mountain 106.99 52 ⇑Pdiff **Pdif 17 49 07.0 +0.6**
baz=107
RCTC Rector, Farmer 107.02 50 ⇓Pdiff **Pdif 17 49 07.7 +1.5**
baz=107
MFID Camas Ranch 107.03 42 *e*Pdif **Pdif 17 49 06.9 +0.6**
MFID Camas Ranch 107.03 42 ⇑Pdiff **Pdif 17 49 07.7 +1.5**
baz=107
D14A Greenough 107.05 38 ⇑Pdiff **Pdif 17 49 06.9 +0.7**
baz=107
NVAR Mina Array Bea 107.05 48 Pdif **Pdif 17 49 04.7 -1.9**
NVAR PKiKP **PKiKP 17 53 17.6 +1.5**
NVAR PKKPbc **PKKPbc 18 04 34.7 +0.4**
NVAR Mina Array Bea 107.05 48 Pdiff **Pdif 17 49 04.7 -1.9**
comp=Z,6.9nm,0.9s,baz=271,slow=5.3,SNR=28
NVAR PKiKP **PKiKP 17 53 17.6 +1.5**
comp=Z,3.1nm,0.7s,baz=268,slow=2.6,SNR=9.1
NVAR PKKPbc **PKKPbc 18 04 34.7 +0.4**
comp=Z,5.3nm,0.8s,baz=138,slow=4.6,SNR=7.2
BAIF Baives 107.07 325 *e*P **Pdif 17 49 06.7 +0.6**
comp=Z,276nm,1.7s
F13A Darby 107.07 40 ⇑Pdiff **Pdif 17 49 06.5 +0.1**
baz=107
B15A Bradely Ranch, 107.08 37 ⇓Pdiff **Pdif 17 49 06.5 +0.2**
baz=107
BMN Battle Mountai 107.16 46 *e*P **Pdif 17 49 07.9 +1.0**
BMN pmax pmax
comp=Z,18nm,0.9s
BMN Battle Mountai 107.16 46 *e*Pdif **Pdif 17 49 07.9 +1.0**
comp=Z,18nm,0.9s
MTUM Tungsten Hills 107.20 49 *e*Pdif **Pdif 17 49 13.4 +6.2**
SBC Santa Barbara 107.21 52 ⇑Pdiff **Pdif 17 49 06.7 -0.3**
baz=107
H12A Diamond D Ranc 107.24 41 ⇑Pdiff **Pdif 17 49 08.4 +1.2**
baz=107
PGF Pioggiola 107.24 317 *e*P **Pdif 17 49 07.0 -0.2**
comp=Z,293nm,1.2s
CHMT Chamberlain Mo 107.28 38 *e*Pdif **Pdif 17 49 07.8 +0.4**
comp=Z,70nm,1.9s
VES Vestal, Richgr 107.28 51 ⇑Pdiff **Pdif 17 49 08.1 +0.8**
baz=107
C15A Salmond Ranch, 107.30 37 ⇑Pdiff **Pdif 17 49 07.3 -0.1**
baz=107
MEZF Maizieres J'vi 107.30 324 *e*P **Pdif 17 49 07.5 +0.3**
comp=Z,238nm,1.5s
E14A Clinton 107.34 39 ⇑Pdiff **Pdif 17 49 08.6 +1.0**
baz=107
I12A Atlanta 107.35 42 ⇑Pdiff **Pdif 17 49 08.6 +0.9**
baz=107
BSC Santa Cruz Isl 107.40 53 ⇑Pdiff **Pdif 17 49 09.0 +1.0**
baz=107
G13A Cobalt 107.42 40 ⇓Pdiff **Pdif 17 49 08.8 +0.8**
baz=107
SFTF Sexfontaines 107.44 323 *e*P **Pdif 17 49 07.8 0.0**
comp=Z,156nm,1.4s
CABF La Chapelle 107.51 321 *e*P **Pdif 17 49 08.2 -0.1**
comp=Z,93nm,1.2s
B16A M & M Farms, S 107.55 36 ⇓Pdiff **Pdif 17 49 09.2 +0.9**
baz=107
TIN Tinemaha 107.55 49 ⇑Pdiff **Pdif 17 49 09.6 +0.9**
baz=108
LPG La Plagne 107.56 320 *e*P **Pdif 17 49 09.0 +0.2**
comp=Z,80nm,0.9s
RSL Roselend 107.56 320 *e*P **Pdif 17 49 09.7 +1.1**
RSL Roselend 107.56 320 *e*P **Pdif 17 49 09.7 +1.1**
RSL Roselend 107.56 320 *e*P **Pdif 17 49 09.7 +1.1**
LPL La Plagne 107.57 320 *e*P **Pdif 17 49 08.8 +0.1**
comp=Z,179nm,1.2s
H13A Challis 107.62 41 ⇓Pdiff **Pdif 17 49 09.7 +0.8**
baz=108
BORG Borgarnes 107.65 346 PFAKE 17 53 30.0
BORG LR LR
comp=Z,106μm,22.0s
D15A Lincoln 107.67 38 ⇑Pdiff **Pdif 17 49 09.7 +0.6**
baz=108
F14A Wisdom 107.67 39 ⇓Pdiff **Pdif 17 49 09.9 +0.8**
baz=108
ARVC Arvin 107.69 51 ⇓Pdiff **Pdif 17 49 10.2 +1.0**
baz=108
EDI Edinburgh 107.73 333 *e*P **Pdif 17 49 09.7 +0.8**
EDI *e* 17 53 42.4
EDI AMS AMS 18 44 33.8
comp=Z,190μm,19.0s
EDI Edinburgh 107.73 333 P **Pdif 17 49 09.7 +0.8**
EDI 17 53 42.4
EDI AMS AMS 18 44 33.8
SBF Sospel 107.79 318 *e*P **Pdif 17 49 08.8 -0.7**
comp=Z,118nm,1.1s
BNI Bardonecchia 107.79 320 *e*P **Pdif 17 49 15.6 +6.0**
BNI MLR MLR
comp=Z,143μm,22.0s
BNI Bardonecchia 107.79 320 *e*Pdif **Pdif 17 49 15.6 +6.0**
BNI LR LR
comp=Z,143μm,22.0s
C16A Fuhringer Ranc 107.80 37 ⇓Pdiff **Pdif 17 49 10.8 +1.2**
baz=108
ISA Isabella 107.81 51 *e*P **Pdif 17 49 13.9 +4.1**
ISA Isabella 107.81 51 *e*Pdif **Pdif 17 49 13.9 +4.1**
ISA Isabella 107.81 51 ⇓Pdiff **Pdif 17 49 10.4 +0.6**
baz=108
BLG Laguna Peak 107.82 53 ⇓Pdiff **Pdif 17 49 10.8 +1.0**
baz=108
G14A Jackson 107.86 40 ⇓Pdiff **Pdif 17 49 11.6 +1.5**
baz=108
CWC Cottonwood Cre 107.86 50 ⇑Pdiff **Pdif 17 49 10.9 +0.7**
baz=108
E15A Deer Lodge 107.87 39 ⇓Pdiff **Pdif 17 49 10.9 +1.0**
baz=108
MBDF Montbardon 107.87 319 *e*P **Pdif 17 49 09.3 -0.7**

comp=Z,74nm,1.2s
A17A Triple J Farms 107.89 36 ⇑Pdiff **Pdif 17 49 10.0 +0.1**
baz=108
HLID Hailey 107.92 42 *e*Pdif **Pdif 17 49 11.1 +0.8**
HLID Hailey 107.92 42 ⇑Pdiff **Pdif 17 49 10.4 +0.1**
baz=108
OSI Osito Adit 107.94 52 ⇑Pdiff **Pdif 17 49 12.0 +1.6**
baz=108
KPL Plockton 107.95 335 *e*P **Pdif 17 49 17.2 +7.4**
KPL *e* 17 53 44.6
KPL AMS AMS 18 43 01.3
comp=Z,187µm,19.5s
KPL Plockton 107.95 335 P **Pdif 17 49 17.2 +7.4**
KPL 17 53 44.6
KPL AMS AMS 18 43 01.3
I13A Wildhorse Cree 107.98 41 ⇑Pdiff **Pdif 17 49 11.4 +0.9**
baz=108
ESK Eskdalemuir 108.10 332 *e*P **Pdif 17 49 17.4 +6.8**
ESK *e* 17 53 21.4
ESK AMS AMS 18 44 59.3
comp=Z,141µm,18.8s
ESK Eskdalemuir 108.10 332 P **Pdif 17 49 17.4 +6.8**
ESK 17 53 21.4
ESK AMS AMS 18 44 59.3
ESK Eskdalemuir 108.10 332 *e*P **Pdif 17 49 10.1 -0.5**
ESK MLR MLR
comp=Z,171µm,20.0s
ESK Eskdalemuir 108.10 332 *e*Pdif **Pdif 17 49 10.1 -0.5**
ESK LR LR
comp=Z,171µm,20.0s
B17A L&G Farms, Che 108.14 36 ⇑Pdiff **Pdif 17 49 11.1 +0.1**
baz=108
J13A Cove Ranch, Pi 108.15 42 ⇓Pdiff **Pdif 17 49 11.4 +0.2**
baz=108
H14A Leadore 108.18 41 ⇑Pdiff **Pdif 17 49 13.1 +1.7**
baz=108
F15A Butte 108.22 39 ⇓Pdiff **Pdif 17 49 13.5 +2.0**
baz=108
GRAC Grapevine Rang 108.22 49 ⇓Pdiff **Pdif 17 49 12.9 +1.3**
baz=108
ELSH Elham, Standar 108.24 327 *e*P **Pdif 17 49 11.9 +0.7**
ELSH *e* 17 53 10.9
ELSH AMS AMS 18 42 54.1
comp=Z,165µm,20.8s
ELSH Elham, Standar 108.24 327 P **Pdif 17 49 11.9 +0.7**
ELSH 17 53 10.9
ELSH AMS AMS 18 42 54.1
LRM Limekiln Ridge 108.25 39 *e*Pdif **Pdif 17 49 12.8 +1.0**
D16A Dana Ranch, Ca 108.27 38 ⇑Pdiff **Pdif 17 49 13.7 +1.9**
baz=108
DECC Green Verdugo 108.36 52 ⇓Pdiff **Pdif 17 49 13.7 +1.5**
baz=108
DLMT Dillon 108.36 40 *e*Pdif **Pdif 17 49 12.8 +0.7**
ORIF Oris-en-Rattie 108.36 320 *e*P **Pdif 17 49 12.0 -0.1**
comp=Z,135nm,1.3s
ORIF *e*R
comp=Z,167µm,21.8s
PGBU Glenifferbraes 108.39 333 *e*P **Pdif 17 49 13.0 +1.2**
PGBU *e* 17 53 42.2
PGBU AMS AMS 18 42 41.5
comp=Z,212µm,21.2s
PGBU Glenifferbraes 108.39 333 P **Pdif 17 49 13.0 +1.2**
PGBU 17 53 42.2
PGBU AMS AMS 18 42 41.5
A18A Metzger Ranch, 108.40 35 ⇑Pdiff **Pdif 17 49 13.9 +1.8**
baz=108
I14A Mackay 108.41 41 ⇑Pdiff **Pdif 17 49 12.9 +0.4**
baz=108
E16A East Helena 108.42 38 ⇓Pdiff **Pdif 17 49 12.6 +0.3**
baz=108
MCMT McKenzie Canyo 108.42 40 P **Pdif 17 49 14.8 +2.2**
comp=Z,3.8nm,0.8s
MCMT *e*PKiKP **PKiKP 17 53 14.6 -3.9**
EDW2 Edwards Air Fo 108.43 51 ⇑Pdiff **Pdif 17 49 14.5 +2.0**
baz=108
MPMC Manual Prospec 108.44 50 ⇓Pdiff **Pdif 17 49 14.2 +1.5**
baz=108
ELK Elko 108.45 45 Pdif **Pdif 17 49 11.3 -1.4**
ELK *e*Pdif Pdif 17 49 13.9 +1.1
ELK Elko 108.45 45 PKiKP **Pdif 17 49 11.3 -1.4**
comp=Z,6.6nm,0.9s,baz=292,slow=3.5,SNR=20
C17A Wharram Farm, 108.47 37 ⇑Pdiff **Pdif 17 49 14.0 +1.5**
baz=108
LRMC Laurel Mountai 108.47 51 ⇓Pdiff **Pdif 17 49 14.6 +1.8**
baz=108
KESW Keswick, Cumbr 108.48 332 *e*P **Pdif 17 49 18.1 +5.9**
KESW *e* 17 53 38.4
KESW AMS AMS 18 43 41.7
comp=Z,108µm,21.8s
KESW Keswick, Cumbr 108.48 332 P **Pdif 17 49 18.1 +5.9**
KESW 17 53 38.4
KESW AMS AMS 18 43 41.7
PASC Pasadena Art C 108.49 52 *e*PKiKP **PKiKP 17 53 19.2 +0.6**
G15A Dillon 108.51 40 ⇓Pdiff **Pdif 17 49 14.4 +1.5**
baz=108
FMP Fort Macarthur 108.55 53 ⇑Pdiff **Pdif 17 49 13.5 +0.4**
baz=108
CIS Catalina Islan 108.56 53 ⇓Pdiff **Pdif 17 49 15.1 +2.0**
baz=108
SCI San Clemente I 108.57 54 ⇓Pdiff **Pdif 17 49 15.1 +2.0**
baz=108
LOR Lormes 108.58 323 *e*P **Pdif 17 49 12.8 -0.1**
comp=Z,80nm,1.3s
LOR *e*R
comp=Z,116µm,20.8s
LMR La Mourre 108.61 318 *e*P **Pdif 17 49 12.9 -0.2**
comp=Z,161nm,1.4s
H15A Lima 108.65 40 ⇓Pdiff **Pdif 17 49 13.7 +0.2**
baz=108
B18A Beardsley Farm 108.69 36 ⇑Pdiff **Pdif 17 49 13.8 +0.3**
baz=108
D17A Six Diamond Ra 108.74 37 ⇓Pdiff **Pdif 17 49 14.5 +0.7**
baz=109
FURC Furnace Creek, 108.78 50 ⇑Pdiff **Pdif 17 49 14.6 +0.6**
baz=109
F16A Kennard Place, 108.78 39 ⇓Pdiff **Pdif 17 49 14.6 +0.6**
baz=109
BOZ Bozeman (W) 108.84 39 PFAKE 17 53 30.0
BOZ LR LR
comp=Z,47µm,21.0s
BOZ Bozeman (W) 108.84 39 ⇑Pdiff **Pdif 17 49 15.0 +0.7**
baz=109
EGMT Eagleton 108.88 36 *e*Pdif **Pdif 17 49 15.0 +0.7**
EGMT LR LR
comp=Z,47µm,20.0s
EGMT Eagleton 108.88 36 ⇑Pdiff **Pdif 17 49 14.8 +0.5**
baz=109
BFSC Mount Baldy Ra 108.89 52 ⇑Pdiff **Pdif 17 49 14.7 0.0**
baz=109
SSF Saint Saulge 108.89 323 *e*P **Pdif 17 49 14.3 0.0**
comp=Z,51nm,1.1s
STNC Stoke 108.92 330 *e*P **Pdif 17 49 21.1 +6.9**
STNC *e* 17 53 48.7
STNC AMS AMS 18 45 09.6
comp=Z,118µm,21.9s
STNC Stoke 108.92 330 P **Pdif 17 49 21.1 +6.9**
STNC 17 53 48.7
STNC AMS AMS 18 45 09.6
G16A Moss Hill, Enn 108.92 39 ⇑Pdiff **Pdif 17 49 14.9 +0.2**
baz=109
E17A Martinsdale 108.95 38 ⇓Pdiff **Pdif 17 49 15.3 +0.4**
baz=109
I15A Monteview 109.01 41 ⇓Pdiff **Pdif 17 49 16.0 +0.9**
baz=109
A19A Klindworth Far 109.03 35 ⇓Pdiff **Pdif 17 49 15.1 +0.1**
baz=109
R11A Troy Canyon, C 109.08 47 ⇑Pdiff **Pdif 17 49 14.1 -1.4**
baz=109
TSUM Tsumeb 109.09 251 Pdif **Pdif 17 49 13.4 -2.5**
TSUM PKKPab **PKKPab 18 04 39.4 0.0**
TSUM Tsumeb 109.09 251 PKKPab PKKPab 18 04 39.4 0.0
comp=Z,7.4nm,1.0s,baz=270,slow=11,SNR=3.1
TSUM Tsumeb 109.09 251 *e*P **Pdif 17 49 18.5 +2.7**
TSUM Tsumeb 109.09 251 ⇑*i*P **Pdif 17 49 24.5 +8.7**
AVF Avril sur Loir 109.11 322 *e*P **Pdif 17 49 15.0 -0.2**
comp=Z,56nm,1.0s
B19A Brinkman Farms 109.15 35 ⇓Pdiff **Pdif 17 49 15.3 -0.2**
baz=109
B19A ⇑P **PKiKP 17 53 19.4 -0.1**
baz=109
B19A ⇑P **PKiKP 17 53 19.4 -0.1**
baz=109
B19A ⇑P **PKiKP 17 53 19.4 -0.1**
baz=109
K14A Jones Ranch, D 109.16 42 ⇑Pdiff **Pdif 17 49 16.0 +0.2**
baz=109
VIVF Saint-Julien-l 109.17 320 *e*P **Pdif 17 49 15.4 -0.2**
comp=Z,83nm,1.1s
RRX Edison Barstow 109.20 51 ⇑Pdiff **Pdif 17 49 15.7 -0.3**
baz=109
GSC Goldstone 109.21 51 *e*P **Pdif 17 49 17.7 +1.6**
GSC Goldstone 109.21 51 *e*Pdif **Pdif 17 49 17.7 +1.6**
GSC *e*PKiKP **PKiKP 17 53 21.1 +1.0**
GSC Goldstone 109.21 51 ⇓Pdiff **Pdif 17 49 16.0 -0.1**
baz=109
D18A Linhart Farms, 109.25 37 ⇓Pdiff **Pdif 17 49 17.5 +1.4**
baz=109
FFC Flin Flon 109.30 27 *e*P **Pdif 17 49 15.9 0.0**
FFC MLR MLR
comp=Z,116µm,22.0s
FFC Flin Flon 109.30 27 *e*Pdif **Pdif 17 49 15.9 0.0**
FFC LR LR
comp=Z,116µm,22.0s
J15A Blackfoot 109.30 41 ⇓Pdiff **Pdif 17 49 16.2 -0.2**
baz=109
HYF Humbligny 109.31 323 *e*P **Pdif 17 49 16.8 +0.6**
PLDF La Plantade 109.33 322 *e*P **Pdif 17 49 16.5 +0.2**
PLDF La Plantade 109.33 322 *e*P **Pdif 17 49 16.5 +0.2**
PLDF La Plantade 109.33 322 *e*P **Pdif 17 49 16.5 +0.2**
L14A Malta 109.33 43 ⇑Pdiff **Pdif 17 49 15.9 -0.6**
baz=109
F17A Fitzpatrick Pl 109.33 38 ⇓Pdiff **Pdif 17 49 16.6 +0.1**
baz=109
QLMT Earthquake Lak 109.33 40 *e*Pdif **Pdif 17 49 23.8 +7.2**
SFJD Kangerlussuaq 109.36 359 Pdif **Pdif 17 49 17.8 +1.9**
SFJD Kangerlussuaq 109.36 359 *i*P **Pdif 17 49 22.6 +6.7**
comp=Z,12nm,0.8s
SFJD
comp=Z,62µm,20.0s
SFJD Kangerlussuaq 109.36 359 Pdiff **Pdif 17 49 17.8 +1.9**
comp=Z,7.6nm,0.7s,baz=353,slow=8.9,SNR=1.7
WOL Wolverton 109.41 328 *e*P **Pdif 17 49 18.5 +2.0**
WOL *e* 17 53 50.5
WOL AMS AMS 18 45 45.7
comp=Z,98µm,19.2s
WOL Wolverton 109.41 328 P **Pdif 17 49 18.5 +2.0**
WOL 17 53 50.5
WOL AMS AMS 18 45 45.7
comp=Z,98µm,19.2s
SHOC Shoshone 109.42 50 ⇑Pdiff **Pdif 17 49 15.1 -1.8**
baz=109
KEST Kesra 109.42 310 PKiKP **PKiKP 17 53 20.8 +0.4**
KEST PP **PP 17 53 49.4 -0.8**
KEST Kesra 109.42 310 PKiKP **PKiKP 17 53 20.8 +0.4**
comp=Z,6.1nm,1.0s,baz=27,slow=2.3,SNR=2.8
KEST PP **PP 17 53 49.4 -0.8**
comp=Z,32nm,0.9s,baz=48,slow=8.4,SNR=12
C19A Slack Wire Ran 109.44 36 ⇑Pdiff **Pdif 17 49 17.2 +0.3**
baz=109
MURC Murrieta 109.45 53 ⇑Pdiff **Pdif 17 49 16.5 -0.7**
baz=109
BBRC Big Bear Solar 109.46 52 ⇑Pdiff **Pdif 17 49 18.1 +0.7**
baz=109
E18A Harlowton 109.48 38 ⇑Pdiff **Pdif 17 49 16.9 -0.2**
baz=109
H16A Russell Place, 109.51 40 ⇑Pdiff **Pdif 17 49 16.6 -0.8**
baz=109
A20A Cobblestone Ra 109.52 35 ⇓Pdiff **Pdif 17 49 16.3 -0.8**
baz=109
FOEL Foel Wylfa 109.52 330 *e*P **Pdif 17 49 22.9 +5.9**
FOEL AMS AMS 18 44 47.2
comp=Z,84µm,21.3s
FOEL Foel Wylfa 109.52 330 P **Pdif 17 49 22.9 +5.9**
FOEL AMS AMS 18 44 47.2
comp=Z,84µm,21.3s
BGF Bois d'Agland 109.53 322 *e*P **Pdif 17 49 17.9 +0.8**
comp=Z,81nm,1.4s
K15A Arbon 109.54 42 ⇑Pdiff **Pdif 17 49 16.3 -1.1**
baz=109
G17A Pierce Place, 109.55 39 ⇓Pdiff **Pdif 17 49 17.7 +0.2**
baz=109
HLM1 Long Mynd 109.58 330 *e*P **Pdif 17 49 23.3 +6.1**
HLM1 Long Mynd 109.58 330 P **Pdif 17 49 23.3 +6.1**
SWN1 Swindon 109.60 329 *e*P **Pdif 17 49 23.6 +6.3**
SWN1 AMS AMS 18 45 53.6
comp=Z,87µm,20.3s
SWN1 Swindon 109.60 329 P **Pdif 17 49 23.6 +6.3**
SWN1 AMS AMS 18 45 53.6
comp=Z,87µm,20.3s
B20A Solberg Farm, 109.69 35 ⇓Pdiff **Pdif 17 49 17.6 -0.2**
baz=110
B20A ⇓P **PKiKP 17 53 20.6 +0.1**
baz=110
B20A ⇓P **PKiKP 17 53 20.6 +0.1**
baz=110
B20A ⇓P **PKiKP 17 53 20.6 +0.1**
baz=110
YMR Madison River 109.70 40 *e*Pdif **Pdif 17 49 17.9 -0.3**
I16A Newdale 109.72 41 ⇑Pdiff **Pdif 17 49 19.3 +1.0**
baz=110
HEC Hector,Ludlow 109.73 51 ⇑Pdiff **Pdif 17 49 18.3 -0.1**
baz=110
109C Camp Elliot, M 109.75 53 ⇑Pdiff **Pdif 17 49 18.0 -0.4**
baz=110
HVU Hansel Valley 109.75 43 *e*P **Pdif 17 49 25.1 +6.6**
HVU Hansel Valley 109.75 43 *e*Pdif **Pdif 17 49 25.1 +6.6**
HVU *e*PKiKP **PKiKP 17 53 21.6 +0.7**
TUQ Turquoise Moun 109.84 50 ⇑Pdiff **Pdif 17 49 18.8 -0.1**
baz=110
YNR Norris Junctio 109.86 40 *e*Pdif **Pdif 17 49 19.6 +0.6**
WLF1 Llynfaes 109.87 331 *e*P **Pdif 17 49 19.4 +1.0**
WLF1 AMS AMS 18 44 36.9
comp=Z,128µm,19.9s
WLF1 Llynfaes 109.87 331 P **Pdif 17 49 19.4 +1.0**
WLF1 AMS AMS 18 44 36.9
J16A Bone 109.90 41 ⇑Pdiff **Pdif 17 49 20.0 +0.8**
baz=110
F18A Big Timber 109.92 38 ⇓P **PKiKP 17 53 21.1 0.0**
baz=110
L15A Malad City 109.92 43 ⇑Pdiff **Pdif 17 49 20.0 +0.8**
baz=110
MCH1 Michaelchurch 109.94 330 *e*P **Pdif 17 49 24.5 +5.7**
MCH1 *e* 17 53 47.7
MCH1 AMS AMS 18 44 45.7
comp=Z,114µm,21.2s
MCH1 Michaelchurch 109.94 330 P **Pdif 17 49 24.5 +5.7**
MCH1 17 53 47.7
MCH1 AMS AMS 18 44 45.7
A21A Bergtoll Ranch 110.03 34 ⇓Pdiff **Pdif 17 49 19.9 +0.6**
baz=110
LASF Ste Croix 110.03 320 *e*P **Pdif 17 49 19.8 +0.3**
comp=Z,172nm,1.7s
PFO Pinyon Flat Ob 110.04 52 *e*Pdif **Pdif 17 49 20.2 +0.4**
PFO Pinyon Flat Ob 110.04 52 ⇑Pdiff **Pdif 17 49 19.8 0.0**
baz=110
PFO ⇑P **PKiKP 17 53 21.5 -0.2**
baz=110
PFO ⇑P **PKiKP 17 53 21.5 -0.2**
baz=110
PFO ⇑P **PKiKP 17 53 21.5 -0.2**
baz=110
DCID1 Drake Creek 110.04 41 *e*Pdif **Pdif 17 49 24.9 +5.1**
TCF Toulx Ste Croi 110.04 322 *e*P **Pdif 17 49 19.7 +0.2**
comp=Z,82nm,1.2s
RRI2 Red Ridge 110.06 41 *e*Pdif **Pdif 17 49 22.0 +2.1**
C20A Veseth Ranch, 110.06 36 ⇓Pdiff **Pdif 17 49 20.3 +0.7**
baz=110
IMW Indian Meadow 110.06 40 *e*Pdif **Pdif 17 49 20.3 +0.4**
H17A Grant Village 110.07 40 ⇑Pdiff **Pdif 17 49 20.9 +1.0**
baz=110
M15A Larsen Ranch, 110.10 43 ⇑Pdiff **Pdif 17 49 20.7 +0.7**
baz=110
K16A Soda Springs 110.11 42 ⇑Pdiff **Pdif 17 49 21.0 +1.0**
baz=110
LKWY Lake 110.11 40 P **Pdif 17 49 18.0 -2.1**
LKWY MLR MLR
comp=Z,97µm,21.0s
LKWY Lake 110.11 40 P **Pdif 17 49 18.0 -2.1**
LKWY LR LR
comp=Z,97µm,21.0s
FLWY Flagg Ranch 110.14 40 *e*Pdif **Pdif 17 49 22.2 +2.0**
BAR Barrett 110.16 53 *e*Pdif **Pdif 17 49 27.4 +7.1**
E19A Rath Farm, Rou 110.22 37 ⇑Pdiff **Pdif 17 49 21.2 +0.9**
baz=110
E19A ⇑P **PKiKP 17 53 22.1 +0.5**
baz=110
E19A ⇑P **PKiKP 17 53 22.1 +0.5**
baz=110
E19A ⇑P **PKiKP 17 53 22.1 +0.5**
baz=110
TPAW Teton Pass 110.24 41 *e*Pdif **Pdif 17 49 24.5 +3.8**
MOOW Moose Ponds 110.25 41 *e*Pdif **Pdif 17 49 22.0 +1.3**
LDF La Druitiere 110.26 325 *e*P **Pdif 17 49 20.8 +0.5**
comp=Z,324nm,1.8s
B21A Ellsworth Farm 110.27 35 ⇓Pdiff **Pdif 17 49 22.6 +2.2**
baz=110
BELC Belle Mtn. Jos 110.27 52 ⇑Pdiff **Pdif 17 49 21.9 +1.0**
baz=110
BELC ⇓P **PKiKP 17 53 21.9 -0.2**
baz=110
BELC ⇓P **PKiKP 17 53 21.9 -0.2**
baz=110
BELC ⇓P **PKiKP 17 53 21.9 -0.2**
baz=110
GMRC Granite Mounta 110.27 51 ⇑Pdiff **Pdif 17 49 22.3 +1.4**
baz=110
G18A Lazy EL Ranch, 110.29 39 ⇑Pdiff **Pdif 17 49 20.7 -0.1**
baz=110
I17A Pilgrim Ck. 110.29 40 ⇑Pdiff **Pdif 17 49 20.7 -0.2**
baz=110
N15A Stansbury Isla 110.29 44 ⇓Pdiff **Pdif 17 49 22.3 +1.5**
baz=110
N15A ⇑P **PKiKP 17 53 22.4 +0.4**
baz=110
N15A ⇑P **PKiKP 17 53 22.4 +0.4**
baz=110
N15A ⇑P **PKiKP 17 53 22.4 +0.4**
baz=110
D20A Manuel Ranch, 110.30 36 ⇑Pdiff **Pdif 17 49 19.1 -1.5**
baz=110
MONP Monument Peak 110.30 53 ⇓Pdiff **Pdif 17 49 23.0 +1.8**
baz=110
R13A O'Grain Ranch, 110.33 47 ⇓Pdiff **Pdif 17 49 21.4 +0.3**
baz=110
DUG Dugway 110.37 45 *e*P **Pdif 17 49 22.4 +1.2**
DUG MLR MLR
comp=Z,57µm,19.0s
DUG Dugway 110.37 45 *e*Pdif **Pdif 17 49 22.4 +1.2**
DUG LR LR
comp=Z,57µm,19.0s
DUG Dugway 110.37 45 ⇑Pdiff **Pdif 17 49 21.5 +0.3**
baz=110
FLN La Foliniere 110.37 326 *e*P **Pdif 17 49 20.9 +0.1**
comp=Z,174nm,1.6s
FLN *e*R
comp=Z,225µm,21.8s
SNOW Snow King Moun 110.38 41 *e*PKiKP **PKiKP 17 53 23.2 +1.0**
LOHW Long Hollow 110.41 41 *e*Pdif **Pdif 17 49 20.8 -0.6**
F19A Roth Farm, Mol 110.42 38 ⇓Pdiff **Pdif 17 49 21.9 +0.7**
baz=110
J17A Brown Place, J 110.45 41 ⇑Pdiff **Pdif 17 49 20.3 -1.2**
baz=110
AHID Auburn Hatcher 110.46 42 PFAKE 17 53 30.0
AHID LR LR
comp=Z,49µm,20.0s
H18A Shoshone NF, C 110.52 39 ⇑Pdiff **Pdif 17 49 22.8 +0.9**
baz=110
C21A Desert Coulee 110.53 35 ⇑Pdiff **Pdif 17 49 21.5 -0.1**
baz=110
L16A Fish Haven 110.56 42 ⇑Pdiff **Pdif 17 49 22.2 +0.1**
baz=110
RLMT Red Lodge 110.56 39 *e*Pdif **Pdif 17 49 23.1 +1.1**
RLMT Red Lodge 110.56 39 ⇑Pdiff **Pdif 17 49 22.2 +0.1**
baz=110
CMAH Djebel Manchou 110.57 311 P **PKiKP 17 53 24.7 +2.2**
O15A The Old Anders 110.57 44 ⇓Pdiff **Pdif 17 49 22.2 +0.1**
baz=110
K17A Gardner Place, 110.58 42 ⇓Pdiff **Pdif 17 49 21.6 -0.6**
baz=110
A22A Carney Farms, 110.59 34 ⇓Pdiff **Pdif 17 49 22.3 +0.4**
baz=110
E20A Meyer Farm, Mu 110.59 37 ⇑Pdiff **Pdif 17 49 22.3 +0.3**
baz=110
LDFC Landfair 110.59 50 *e*Pdif **Pdif 17 49 21.3 -1.0**
DVTC Desert V Tower 110.62 53 ⇓Pdiff **Pdif 17 49 23.6 +1.2**
baz=111
DVTC ⇑P **PKiKP 17 53 23.3 +0.5**
baz=111
DVTC ⇑P **PKiKP 17 53 23.3 +0.5**
baz=111
DVTC ⇑P **PKiKP 17 53 23.3 +0.5**
baz=111
HWUT Hardware Ranch 110.64 43 P **Pdif 17 49 23.0 +0.6**
HWUT *e*PKiKP **PKiKP 17 53 21.1 -1.6**
HWUT LR LR
comp=Z,63µm,21.0s
SWSC Sam W. Stewart 110.78 53 ⇑Pdiff **Pdif 17 49 23.9 +0.9**
baz=111
CAF Calviac 110.78 321 *e*P **Pdif 17 49 23.4 +0.6**
comp=Z,64nm,1.3s
GRR Gorron 110.78 325 *e*P **Pdif 17 49 23.1 +0.5**
comp=Z,277nm,1.7s
BC3 Big Chuckawall 110.81 52 ⇓Pdiff **Pdif 17 49 21.6 -1.6**
baz=111
ARUT Antelope Range 110.86 47 *e*P **Pdif 17 49 25.3 +1.8**
ARUT Antelope Range 110.86 47 *e*Pdif **Pdif 17 49 25.3 +1.8**
I18A Diamond G Ranc 110.88 40 ⇓Pdiff **Pdif 17 49 22.8 -0.7**
baz=111
IRM Iron Mountain 110.88 51 ⇑Pdiff **Pdif 17 49 23.1 -0.4**
baz=111
L17A Cokeville 110.90 42 ⇓Pdiff **Pdif 17 49 23.8 +0.2**
baz=111
B22A Reddig Ranch S 110.91 35 ⇑Pdiff **Pdif 17 49 22.9 -0.4**
baz=111
F20A Billings 110.93 38 ⇑Pdiff **Pdif 17 49 23.9 +0.4**
baz=111
CAEH `Ain El Ouahch 110.94 312 P PKiKP 17 53 30.3 +7.2
RJF Les Rejaudoux 110.94 322 *e*P **Pdif 17 49 24.2 +0.8**
comp=Z,128nm,1.2s
RJF *e*R
comp=Z,131µm,21.8s
H19A Powell 110.95 39 ⇑Pdiff **Pdif 17 49 23.3 -0.4**
baz=111
J18A Kendall Valley 110.97 41 ⇓Pdiff **Pdif 17 49 23.9 0.0**
baz=111
D21A La Casta Ranch 110.98 36 ⇓Pdiff **Pdif 17 49 24.3 +0.6**
baz=111
P15A Leamington 111.00 45 ⇑Pdiff **Pdif 17 49 24.3 +0.3**
baz=111
CCUT Cedar City 111.01 47 *e*Pdif **Pdif 17 49 29.2 +5.0**
N16A Rees Ranch, Co 111.04 44 ⇑Pdiff **Pdif 17 49 24.4 +0.1**
baz=111
JSA Saint Aubin 111.08 327 AMS AMS 18 44 32.1
comp=Z,179µm,19.8s
JLU Jordanelle 111.15 44 *e*Pdif **Pdif 17 49 28.6 +3.8**
G20A Bridger 111.17 38 ⇑Pdiff **Pdif 17 49 23.7 -1.0**
baz=111
G20A ⇓P **PKiKP 17 53 23.8 +0.3**
baz=111
G20A ⇓P **PKiKP 17 53 23.8 +0.3**
baz=111
G20A ⇓P **PKiKP 17 53 23.8 +0.3**
baz=111
A23A Redstone 111.18 34 ⇓Pdiff **Pdif 17 49 24.7 +0.2**
baz=111
E21A Keefer Ranch, 111.20 37 ⇑Pdiff **Pdif 17 49 23.7 -0.9**
baz=111
E21A ⇑P **PKiKP 17 53 24.0 +0.6**
baz=111
E21A ⇑P **PKiKP 17 53 24.0 +0.6**
baz=111
E21A ⇑P **PKiKP 17 53 24.0 +0.6**
baz=111
K18A Toltan Ranch, 111.21 41 ⇑Pdiff **Pdif 17 49 24.1 -0.9**
baz=111
I19A Meeteetse 111.25 40 ⇑Pdiff **Pdif 17 49 22.8 -2.3**
baz=111
I19A ⇓P **PKiKP 17 53 23.3 -0.5**
baz=111
I19A ⇓P **PKiKP 17 53 23.3 -0.5**
baz=111
I19A ⇓P **PKiKP 17 53 23.3 -0.5**
baz=111
MPU Maple Canyon 111.27 44 *e*Pdif **Pdif 17 49 32.5 +7.2**
MPU *e*PKiKP **PKiKP 17 53 24.5 +0.5**
C22A Vida 111.27 35 ⇑Pdiff **Pdif 17 49 23.9 -1.0**
baz=111
C22A ⇓P **PKiKP 17 53 23.9 +0.4**
baz=111
C22A ⇓P **PKiKP 17 53 23.9 +0.4**
baz=111
C22A ⇓P **PKiKP 17 53 23.9 +0.4**
baz=111
HTL Hartland 111.28 329 AMS AMS 18 45 46.8
comp=Z,165µm,20.0s
O16A Springville 111.28 44 ⇓Pdiff **Pdif 17 49 23.5 -1.8**
baz=111
MFF Saint Martin d 111.30 324 *e*P **Pdif 17 49 25.1 +0.1**
comp=Z,214nm,1.8s

M17A	**Scullys Gap (B**	**111.31**	**43**	⇑Pdiff	**Pdiff**	**17 49 23.3**	**-2.2**
	baz=111								
M17A				⇑P	**PKiKP**	**17 53 24.1**	**+0.1**
	baz=111								
M17A				⇑P	**PKiKP**	**17 53 24.1**	**+0.1**
	baz=111								
M17A				⇑P	**PKiKP**	**17 53 24.1**	**+0.1**
	baz=111								
DYA	**Yadsworthy**	**111.32**	**328**	AMS	AMS	18 44 32.5	
	comp=Z,102µm,20.5s								
DAU	**Daniels Canyon**	**111.36**	**44**	*e*P	**Pdif**	**17 49 29.6**	**+3.8**
DAU	**Daniels Canyon**	**111.36**	**44**	*e*Pdif	**Pdif**	**17 49 29.6**	**+3.8**
B23A	**Brockton**	**111.39**	**34**	⇑Pdiff	**Pdif**	**17 49 24.4**	**-1.0**
	baz=111								
B23A				⇓P	**PKiKP**	**17 53 24.4**	**+0.6**
	baz=111								
B23A				⇓P	**PKiKP**	**17 53 24.4**	**+0.6**
	baz=111								
B23A				⇓P	**PKiKP**	**17 53 24.4**	**+0.6**
	baz=111								
CASM	**Ain Smara**	**111.40**	**311**	P	**PKiKP**	**17 53 26.8**	**+2.7**
D22A	**Cohagen**	**111.42**	**36**	⇓Pdiff	**Pdif**	**17 49 25.5**	**-0.1**
	baz=111								
D22A				⇑P	**PKiKP**	**17 53 23.9**	**+0.1**
	baz=111								
D22A				⇑P	**PKiKP**	**17 53 23.9**	**+0.1**
	baz=111								
D22A				⇑P	**PKiKP**	**17 53 23.9**	**+0.1**
	baz=111								
P16A	**Fountain Green**	**111.42**	**45**	⇑Pdiff	**Pdif**	**17 49 24.1**	**-1.8**
	baz=111								
N17A	**Moffit Pass**	**111.43**	**43**	⇑Pdiff	**Pdif**	**17 49 24.8**	**-1.3**
	baz=111								
PD01	**Pinedale Array**	**111.45**	**41**	P	**Pdif**	**17 49 25.6**	**-0.5**
PD02	**Pinedale Array**	**111.46**	**41**	P	**Pdif**	**17 49 24.6**	**-1.5**
BW06	**Boulder Array**	**111.47**	**41**	*e*PKiKP	**PKiKP**	**17 53 24.6**	**+0.3**
BW06				LR	LR		
	comp=Z,116µm,22.0s								
BW06	**Boulder Array**	**111.47**	**41**	⇓Pdiff	**Pdif**	**17 49 23.6**	**-2.6**
	baz=111								
BW06				⇑P	**PKiKP**	**17 53 24.6**	**+0.3**
	baz=111								
BW06				⇑P	**PKiKP**	**17 53 24.6**	**+0.3**
	baz=111								
BW06				⇑P	**PKiKP**	**17 53 24.6**	**+0.3**
	baz=111								
BW06				⇑P	**PKiKP**	**17 53 24.6**	**+0.3**
	baz=111								
BW06				⇑P	**PKiKP**	**17 53 24.6**	**+0.3**
	baz=111								
PDAR	**Pinedale Array**	**111.47**	**41**	Pdif	**Pdif**	**17 49 26.2**	**0.0**
PDAR				PKiKP	**PKiKP**	**17 53 24.9**	**+0.6**
PDAR				PKKPbc	**PKKPbc**	**18 04 19.4**	**-0.8**
PDAR	**Pinedale Array**	**111.47**	**41**	Pdiff	**Pdif**	**17 49 26.2**	**0.0**
	comp=Z,2.2nm,0.8s,baz=297,slow=2.8,SNR=11								
PDAR				PKiKP	**PKiKP**	**17 53 24.9**	**+0.6**
	comp=Z,5.7nm,0.8s,baz=126,slow=1.6,SNR=6.9								
PDAR				PKKPbc	**PKKPbc**	**18 04 19.4**	**-0.8**
	comp=Z,3.2nm,0.6s,baz=120,slow=5.3,SNR=11								
MSU	**Marysvale**	**111.50**	**46**	*e*P	**Pdif**	**17 49 33.0**	**+6.6**
MSU				*i*		17 53 24.8			
MSU	**Marysvale**	**111.50**	**46**	*e*Pdif	**Pdif**	**17 49 33.0**	**+6.6**
MSU				*e*PKiKP	**PKiKP**	**17 53 24.8**	**+0.4**
GLA	**Glamis**	**111.51**	**52**	*e*P	**Pdif**	**17 49 33.9**	**+7.6**
GLA	**Glamis**	**111.51**	**52**	*e*Pdif	**Pdif**	**17 49 33.9**	**+7.6**
GLA	**Glamis**	**111.51**	**52**	⇑Pdiff	**Pdif**	**17 49 25.2**	**-1.0**
	baz=111								
Y12C	**Blythe**	**111.51**	**52**	⇓Pdiff	**Pdif**	**17 49 25.9**	**-0.3**
	baz=111								
W13A	**Hualapai Mount**	**111.53**	**50**	⇑Pdiff	**Pdif**	**17 49 26.6**	**0.0**
	baz=112								
L18A	**Fontenelle, Gr**	**111.54**	**42**	⇑Pdiff	**Pdif**	**17 49 25.0**	**-1.4**
	baz=111								
L18A				⇓P	**PKiKP**	**17 53 24.9**	**+0.5**
	baz=111								
L18A				⇓P	**PKiKP**	**17 53 24.9**	**+0.5**
	baz=111								
L18A				⇓P	**PKiKP**	**17 53 24.9**	**+0.5**
	baz=111								
F21A	**Absaloka Mine,**	**111.54**	**37**	⇑Pdiff	**Pdif**	**17 49 25.4**	**-0.8**
	baz=111								
R15A	**Junction**	**111.54**	**46**	⇑Pdiff	**Pdif**	**17 49 26.0**	**-0.5**
	baz=111								
J19A	**Crowheart**	**111.57**	**40**	⇑Pdiff	**Pdif**	**17 49 25.7**	**-0.8**
	baz=111								
LFF	**La Frestale**	**111.60**	**322**	*e*P	**Pdif**	**17 49 27.1**	**+0.8**
	comp=Z,297nm,1.8s								
PDMCI	**Parker Dam,Lak**	**111.61**	**51**	⇓Pdiff	**Pdif**	**17 49 26.1**	**-0.5**
	baz=112								
C23A	**Lambert**	**111.64**	**35**	⇑Pdiff	**Pdif**	**17 49 25.9**	**-0.7**
	baz=112								
C23A				⇓P	**PKiKP**	**17 53 25.2**	**+1.0**
	baz=112								
C23A				⇓P	**PKiKP**	**17 53 25.2**	**+1.0**
	baz=112								
C23A				⇓P	**PKiKP**	**17 53 25.2**	**+1.0**
	baz=112								
H20A	**Greybull**	**111.66**	**39**	⇑Pdiff	**Pdif**	**17 49 25.6**	**-1.2**
	baz=112								
H20A				⇓P	**PKiKP**	**17 53 24.9**	**+0.5**
	baz=112								
H20A				⇓P	**PKiKP**	**17 53 24.9**	**+0.5**
	baz=112								
H20A				⇓P	**PKiKP**	**17 53 24.9**	**+0.5**
	baz=112								
A24A	**Westby**	**111.68**	**33**	⇑Pdiff	**Pdif**	**17 49 26.0**	**-0.7**
	baz=112								
A24A				⇑P	**PKiKP**	**17 53 24.8**	**+0.6**
	baz=112								
A24A				⇑P	**PKiKP**	**17 53 24.8**	**+0.6**
	baz=112								
A24A				⇑P	**PKiKP**	**17 53 24.8**	**+0.6**
	baz=112								
FRB	**Frobisher Bay**	**111.72**	**7**	Pdif	**Pdif**	**17 49 25.9**	**-0.6**
FRB				PKiKP	**PKiKP**	**17 53 23.1**	**-0.7**
FRB	**Frobisher Bay**	**111.72**	**7**	Pdiff	**Pdif**	**17 49 25.9**	**-0.6**
	comp=Z,5.1nm,0.8s,baz=326,slow=4.2,SNR=4.8								
FRB				PKiKP	**PKiKP**	**17 53 23.1**	**-0.7**
	comp=Z,21nm,1.0s,baz=17,slow=4.5,SNR=3.2								
M18A	**Lyman**	**111.74**	**42**	⇓Pdiff	**Pdif**	**17 49 27.0**	**-0.3**
	baz=112								
G21A	**Lodge Grass**	**111.79**	**38**	⇓Pdiff	**Pdif**	**17 49 27.4**	**0.0**
	baz=112								
G21A				⇑P	**PKiKP**	**17 53 25.6**	**+0.9**
	baz=112								
G21A				⇑P	**PKiKP**	**17 53 25.6**	**+0.9**
	baz=112								
G21A				⇑P	**PKiKP**	**17 53 25.6**	**+0.9**
	baz=112								
SGMF	**Saint Gilles**	**111.81**	**326**	*e*P	**Pdif**	**17 49 27.6**	**+0.4**
	comp=Z,116nm,1.3s								
O17A	**Robinson Place**	**111.81**	**44**	⇓Pdiff	**Pdif**	**17 49 26.5**	**-1.2**
	baz=112								
O17A				⇓P	**PKiKP**	**17 53 25.9**	**+0.9**
	baz=112								
O17A				⇓P	**PKiKP**	**17 53 25.9**	**+0.9**
	baz=112								
O17A				⇓P	**PKiKP**	**17 53 25.9**	**+0.9**
	baz=112								
DGMT	**Dagmar**	**111.83**	**34**	*e*PKiKP	**PKiKP**	**17 53 24.2**	**-0.4**
DGMT				LR	LR		
	comp=Z,46µm,22.0s								
DGMT	**Dagmar**	**111.83**	**34**	⇑Pdiff	**Pdif**	**17 49 27.6**	**+0.2**
	baz=112								
I20A	**Worland**	**111.84**	**39**	⇓Pdiff	**Pdif**	**17 49 31.2**	**+3.5**
	baz=112								
I20A				⇑P	**PKiKP**	**17 53 25.0**	**+0.2**
	baz=112								
I20A				⇑P	**PKiKP**	**17 53 25.0**	**+0.2**
	baz=112								
I20A				⇑P	**PKiKP**	**17 53 25.0**	**+0.2**
	baz=112								
L19A	**Farson**	**111.91**	**42**	⇑Pdiff	**Pdif**	**17 49 27.7**	**-0.4**
	baz=112								
K19A	**Absolon Red Bu**	**111.91**	**41**	⇑Pdiff	**Pdif**	**17 49 29.0**	**+0.9**
	baz=112								
K19A				⇓P	**PKiKP**	**17 53 25.7**	**+0.7**
	baz=112								
K19A				⇓P	**PKiKP**	**17 53 25.7**	**+0.7**
	baz=112								
K19A				⇓P	**PKiKP**	**17 53 25.7**	**+0.7**
	baz=112								
E22A	**Miles City**	**111.92**	**36**	⇑Pdiff	**Pdif**	**17 49 29.7**	**+1.8**
	baz=112								
E22A				⇑P	**PKiKP**	**17 53 25.7**	**+0.9**
	baz=112								
E22A				⇑P	**PKiKP**	**17 53 25.7**	**+0.9**
	baz=112								
D23A	**Lindsay**	**111.97**	**35**	⇑Pdiff	**Pdif**	**17 49 28.5**	**+0.4**
	baz=112								
Q16A	**Castle Valley**	**112.05**	**45**	⇓Pdiff	**Pdif**	**17 49 29.2**	**+0.5**
	baz=112								
F22A	**Rosebud**	**112.08**	**37**	⇑Pdiff	**Pdif**	**17 49 28.7**	**+0.1**
	baz=112								
F22A				⇓P	**PKiKP**	**17 53 25.5**	**+0.4**
	baz=112								
F22A				⇓P	**PKiKP**	**17 53 25.5**	**+0.4**
	baz=112								
F22A				⇓P	**PKiKP**	**17 53 25.5**	**+0.4**
	baz=112								
R16A	**Teasdale**	**112.09**	**46**	⇓Pdiff	**Pdif**	**17 49 28.7**	**-0.3**
	baz=112								
R16A				⇑P	**PKiKP**	**17 53 26.7**	**+1.1**
	baz=112								
R16A				⇑P	**PKiKP**	**17 53 26.7**	**+1.1**
	baz=112								
R16A				⇑P	**PKiKP**	**17 53 26.7**	**+1.1**
	baz=112								
P17A	**Butcher Ranch,**	**112.12**	**45**	⇓Pdiff	**Pdif**	**17 49 28.7**	**-0.3**
	baz=112								
J20A	**Shoshoni**	**112.15**	**40**	⇑Pdiff	**Pdif**	**17 49 32.1**	**+3.0**
	baz=112								
J20A				⇓P	**PKiKP**	**17 53 25.3**	**-0.2**
	baz=112								
J20A				⇓P	**PKiKP**	**17 53 25.3**	**-0.2**
	baz=112								
J20A				⇓P	**PKiKP**	**17 53 25.3**	**-0.2**
	baz=112								
ROSF	**Rostrenen**	**112.16**	**326**	*e*P	**Pdif**	**17 49 29.5**	**+0.7**
	comp=Z,321nm,1.8s								
H21A	**Big Horn, Sher**	**112.19**	**38**	⇓Pdiff	**Pdif**	**17 49 29.5**	**+0.4**
	baz=112								
C24A	**Savage**	**112.22**	**35**	⇑Pdiff	**Pdif**	**17 49 30.3**	**+1.1**
	baz=112								
S16A	**Weppner Ranch,**	**112.23**	**47**	⇑Pdiff	**Pdif**	**17 49 29.6**	**0.0**
	baz=112								
S16A				⇑P	**PKiKP**	**17 53 26.3**	**+0.5**
	baz=112								
S16A				⇑P	**PKiKP**	**17 53 26.3**	**+0.5**
	baz=112								
S16A				⇑P	**PKiKP**	**17 53 26.3**	**+0.5**
	baz=112								
SET	**Setif**	**112.24**	**312**	P	**PKiKP**	**17 53 30.0**	**+4.3**
O18A	**Roosevelt**	**112.29**	**44**	⇑Pdiff	**Pdif**	**17 49 30.7**	**+0.9**
	baz=112								
O18A				⇑P	**PKiKP**	**17 53 26.0**	**+0.2**
	baz=112								
O18A				⇑P	**PKiKP**	**17 53 26.0**	**+0.2**
	baz=112								
O18A				⇑P	**PKiKP**	**17 53 26.0**	**+0.2**
	baz=112								
M19A	**Rock Springs**	**112.31**	**42**	⇑Pdiff	**Pdif**	**17 49 29.4**	**-0.5**
	baz=112								
K20A	**Yellowstone Ra**	**112.32**	**41**	⇑Pdiff	**Pdif**	**17 49 30.1**	**+0.2**
	baz=112								
K20A				⇓P	**PKiKP**	**17 53 26.4**	**+0.6**
	baz=112								
K20A				⇓P	**PKiKP**	**17 53 26.4**	**+0.6**
	baz=112								
K20A				⇓P	**PKiKP**	**17 53 26.4**	**+0.6**
	baz=112								
G22A	**Birney**	**112.35**	**37**	⇓Pdiff	**Pdif**	**17 49 31.8**	**+2.0**
	baz=112								
G22A				⇑P	**PKiKP**	**17 53 26.1**	**+0.4**
	baz=112								
G22A				⇑P	**PKiKP**	**17 53 26.1**	**+0.4**
	baz=112								
G22A				⇑P	**PKiKP**	**17 53 26.1**	**+0.4**
	baz=112								
P18A	**Preston Nutter**	**112.40**	**44**	⇑Pdiff	**Pdif**	**17 49 29.9**	**-0.5**
	baz=112								
SRU	**San Rafael**	**112.42**	**45**	⇓Pdiff	**Pdif**	**17 49 29.6**	**-0.8**
	baz=112								
SRU				⇓P	**PKiKP**	**17 53 26.4**	**+0.3**
	baz=112								
SRU				⇓P	**PKiKP**	**17 53 26.4**	**+0.3**
	baz=112								
SRU				⇓P	**PKiKP**	**17 53 26.4**	**+0.3**
	baz=112								
I21A	**Big Trails, Te**	**112.43**	**39**	⇓Pdiff	**Pdif**	**17 49 29.3**	**-1.0**
	baz=112								
I21A				⇓P	**PKiKP**	**17 53 26.2**	**+0.2**
	baz=112								
I21A				⇓P	**PKiKP**	**17 53 26.2**	**+0.2**
	baz=112								
I21A				⇓P	**PKiKP**	**17 53 26.2**	**+0.2**
	baz=112								
D24A	**Glendive**	**112.50**	**35**	⇓Pdiff	**Pdif**	**17 49 29.2**	**-1.2**
	baz=112								
J21A	**Lysite**	**112.56**	**40**	⇓Pdiff	**Pdif**	**17 49 28.9**	**-2.0**
	baz=112								
J21A				⇑P	**PKiKP**	**17 53 26.7**	**+0.4**
	baz=112								
J21A				⇑P	**PKiKP**	**17 53 26.7**	**+0.4**
	baz=112								
J21A				⇑P	**PKiKP**	**17 53 26.7**	**+0.4**
	baz=112								
N19A	**John Jarvie Ra**	**112.58**	**43**	⇓Pdiff	**Pdif**	**17 49 28.9**	**-2.1**
	baz=112								
R17A	**Hanksville Air**	**112.58**	**46**	⇑Pdiff	**Pdif**	**17 49 29.3**	**-1.8**
	baz=112								
R17A				⇑P	**PKiKP**	**17 53 26.8**	**+0.4**
	baz=112								
R17A				⇑P	**PKiKP**	**17 53 26.8**	**+0.4**
	baz=112								
R17A				⇑P	**PKiKP**	**17 53 26.8**	**+0.4**
	baz=112								
F23A	**Volborg**	**112.62**	**37**	⇑Pdiff	**Pdif**	**17 49 32.7**	**+1.7**
	baz=112								
F23A				⇓P	**PKiKP**	**17 53 26.7**	**+0.5**
	baz=112								
F23A				⇓P	**PKiKP**	**17 53 26.7**	**+0.5**
	baz=112								
F23A				⇓P	**PKiKP**	**17 53 26.7**	**+0.5**
	baz=112								
Y14A	**Wickenburg**	**112.62**	**51**	⇓Pdiff	**Pdif**	**17 49 29.3**	**-1.9**
	baz=113								
Y14A				⇓P	**PKiKP**	**17 53 27.4**	**+0.9**
	baz=113								
Y14A				⇓P	**PKiKP**	**17 53 27.4**	**+0.9**
	baz=113								
Y14A				⇓P	**PKiKP**	**17 53 27.4**	**+0.9**
	baz=113								
L20A	**Wamsutter**	**112.62**	**41**	⇑Pdiff	**Pdif**	**17 49 31.0**	**-0.3**
	baz=112								
L20A				⇓P	**PKiKP**	**17 53 26.8**	**+0.4**
	baz=112								
L20A				⇓P	**PKiKP**	**17 53 26.8**	**+0.4**
	baz=112								
L20A				⇓P	**PKiKP**	**17 53 26.8**	**+0.4**
	baz=112								
H22A	**Clearmont**	**112.63**	**38**	⇓Pdiff	**Pdif**	**17 49 33.0**	**+1.9**
	baz=112								
H22A				⇓P	**PKiKP**	**17 53 26.3**	**0.0**
	baz=112								
H22A				⇓P	**PKiKP**	**17 53 26.3**	**0.0**
	baz=112								
H22A				⇓P	**PKiKP**	**17 53 26.3**	**0.0**
	baz=112								
Q18A	**Rafter H Ranch**	**112.70**	**45**	⇓Pdiff	**Pdif**	**17 49 31.5**	**-0.1**
	baz=113								
Q18A				⇑P	**PKiKP**	**17 53 26.9**	**+0.4**
	baz=113								
Q18A				⇑P	**PKiKP**	**17 53 26.9**	**+0.4**
	baz=113								
Q18A				⇑P	**PKiKP**	**17 53 26.9**	**+0.4**
	baz=113								
EPF	**Esparros**	**112.78**	**320**	*e*P	**Pdif**	**17 49 31.8**	**0.0**
E24A	**Baker**	**112.82**	**35**	⇓Pdiff	**Pdif**	**17 49 31.4**	**-0.4**
	baz=113								
E24A				⇓P	**PKiKP**	**17 53 26.9**	**+0.4**
	baz=113								
E24A				⇓P	**PKiKP**	**17 53 26.9**	**+0.4**
	baz=113								
E24A				⇓P	**PKiKP**	**17 53 26.9**	**+0.4**
	baz=113								
S17A	**Black Ridge (B**	**112.84**	**46**	⇑Pdiff	**Pdif**	**17 49 31.7**	**-0.5**
	baz=113								
S17A				⇓P	**PKiKP**	**17 53 27.2**	**+0.2**
	baz=113								
S17A				⇓P	**PKiKP**	**17 53 27.2**	**+0.2**
	baz=113								
S17A				⇓P	**PKiKP**	**17 53 27.2**	**+0.2**
	baz=113								
Z14A	**Wintersburg**	**112.88**	**51**	⇓Pdiff	**Pdif**	**17 49 32.1**	**-0.2**
	baz=113								
O19A	**Miners Draw (B**	**112.88**	**43**	⇓Pdiff	**Pdif**	**17 49 32.1**	**-0.3**
	baz=113								
G23A	**Biddle**	**112.90**	**37**	⇓Pdiff	**Pdif**	**17 49 34.5**	**+2.2**
	baz=113								
G23A				⇓P	**PKiKP**	**17 53 26.8**	**+0.1**
	baz=113								
G23A				⇓P	**PKiKP**	**17 53 26.8**	**+0.1**
	baz=113								
G23A				⇓P	**PKiKP**	**17 53 26.8**	**+0.1**
	baz=113								
I22A	**9 Mile Ranch,**	**112.90**	**39**	⇓Pdiff	**Pdif**	**17 49 32.9**	**+0.5**
	baz=113								
I22A				⇓P	**PKiKP**	**17 53 26.4**	**-0.5**
	baz=113								
I22A				⇓P	**PKiKP**	**17 53 26.4**	**-0.5**
	baz=113								
I22A				⇓P	**PKiKP**	**17 53 26.4**	**-0.5**
	baz=113								
M20A	**Sweetwater, Wa**	**112.97**	**42**	⇓Pdiff	**Pdif**	**17 49 33.6**	**+0.8**
	baz=113								
K21A	**Alcova**	**113.03**	**40**	⇑Pdiff	**Pdif**	**17 49 33.1**	**0.0**
	baz=113								
K21A				⇑P	**PKiKP**	**17 53 27.8**	**+0.6**
	baz=113								
K21A				⇑P	**PKiKP**	**17 53 27.8**	**+0.6**
	baz=113								
K21A				⇑P	**PKiKP**	**17 53 27.8**	**+0.6**
	baz=113								
T17A	**Navajo Res., N**	**113.10**	**47**	⇑Pdiff	**Pdif**	**17 49 33.5**	**0.0**
	baz=113								
T17A				⇑P	**PKiKP**	**17 53 28.9**	**+1.4**
	baz=113								
T17A				⇑P	**PKiKP**	**17 53 28.9**	**+1.4**
	baz=113								
T17A				⇑P	**PKiKP**	**17 53 28.9**	**+1.4**
	baz=113								
F24A	**Ekalaka**	**113.12**	**36**	⇓Pdiff	**Pdif**	**17 49 33.3**	**0.0**
	baz=113								
114A	**Black Gap (USA**	**113.14**	**52**	⇑Pdiff	**Pdif**	**17 49 33.6**	**+0.1**
	baz=113								
J22A	**Midwest**	**113.14**	**39**	⇓Pdiff	**Pdif**	**17 49 35.3**	**+1.8**
	baz=113								
J22A				⇑P	**PKiKP**	**17 53 27.0**	**-0.3**
	baz=113								
J22A				⇑P	**PKiKP**	**17 53 27.0**	**-0.3**
	baz=113								
J22A				⇑P	**PKiKP**	**17 53 27.0**	**-0.3**
	baz=113								
R18A	**Canyonlands Na**	**113.18**	**45**	⇓Pdiff	**Pdif**	**17 49 32.4**	**-1.4**
	baz=113								
N20A	**Spence Gulch,**	**113.22**	**42**	⇓Pdiff	**Pdif**	**17 49 33.4**	**-0.5**
	baz=113								
H23A	**Clabaugh Cattl**	**113.23**	**38**	⇓Pdiff	**Pdif**	**17 49 32.8**	**-1.0**
	baz=113								
H23A				⇑P	**PKiKP**	**17 53 27.5**	**0.0**
	baz=113								
H23A				⇑P	**PKiKP**	**17 53 27.5**	**0.0**
	baz=113								
H23A				⇑P	**PKiKP**	**17 53 27.5**	**0.0**
	baz=113								
WUAZ	**Wupatki**	**113.27**	**49**	Pdif	**Pdif**	**17 49 34.1**	**-0.1**
WUAZ				*e*PKiKP	**PKiKP**	**17 53 28.9**	**+1.1**
WUAZ	**Wupatki**	**113.27**	**49**	⇑Pdiff	**Pdif**	**17 49 32.5**	**-1.7**
	baz=113								
WUAZ				⇓P	**PKiKP**	**17 53 29.2**	**+1.3**
	baz=113								
WUAZ				⇓P	**PKiKP**	**17 53 29.2**	**+1.3**
	baz=113								
WUAZ				⇓P	**PKiKP**	**17 53 29.2**	**+1.3**
	baz=113								
P19A	**Cripple Cowboy**	**113.28**	**44**	⇓Pdiff	**Pdif**	**17 49 33.5**	**-0.7**
	baz=113								
L21A	**Rawlins**	**113.28**	**41**	⇑Pdiff	**Pdif**	**17 49 34.9**	**+0.7**
	baz=113								
L21A				⇓P	**PKiKP**	**17 53 28.1**	**+0.4**
	baz=113								
L21A				⇓P	**PKiKP**	**17 53 28.1**	**+0.4**
	baz=113								
L21A				⇓P	**PKiKP**	**17 53 28.1**	**+0.4**
	baz=113								
Q19A	**Hogan Spring (**	**113.38**	**45**	⇓Pdiff	**Pdif**	**17 49 33.1**	**-1.5**
	baz=113								
Q19A				⇓P	**PKiKP**	**17 53 28.6**	**+0.8**
	baz=113								
Q19A				⇓P	**PKiKP**	**17 53 28.6**	**+0.8**
	baz=113								
Q19A				⇓P	**PKiKP**	**17 53 28.6**	**+0.8**
	baz=113								
S18A	**Hurst Farm, Bl**	**113.40**	**46**	⇑Pdiff	**Pdif**	**17 49 33.1**	**-1.8**
	baz=113								
S18A				⇓P	**PKiKP**	**17 53 29.1**	**+0.9**
	baz=113								
S18A				⇓P	**PKiKP**	**17 53 29.1**	**+0.9**
	baz=113								
S18A				⇓P	**PKiKP**	**17 53 29.1**	**+0.9**
	baz=113								
G24A	**Alzada**	**113.42**	**37**	⇑Pdiff	**Pdif**	**17 49 32.9**	**-1.7**
	baz=113								
M21A	**Separation Pea**	**113.46**	**41**	⇓Pdiff	**Pdif**	**17 49 33.2**	**-1.8**
	baz=113								
M21A				⇑P	**PKiKP**	**17 53 27.9**	**-0.2**
	baz=113								
M21A				⇑P	**PKiKP**	**17 53 27.9**	**-0.2**
	baz=113								
M21A				⇑P	**PKiKP**	**17 53 27.9**	**-0.2**
	baz=113								
214A	**Organ Pipe Nat**	**113.48**	**53**	⇑Pdiff	**Pdif**	**17 49 34.2**	**-0.8**
	baz=113								
K22A	**Casper**	**113.50**	**40**	⇓Pdiff	**Pdif**	**17 49 32.7**	**-2.4**
	baz=113								
K22A				⇑P	**PKiKP**	**17 53 28.3**	**+0.3**
	baz=113								
K22A				⇑P	**PKiKP**	**17 53 28.3**	**+0.3**
	baz=113								
K22A				⇑P	**PKiKP**	**17 53 28.3**	**+0.3**
	baz=113								
I23A	**Meade Ranch, G**	**113.50**	**38**	⇓Pdiff	**Pdif**	**17 49 33.7**	**-1.4**
	baz=113								
O20A	**White River Ci**	**113.56**	**43**	⇑Pdiff	**Pdif**	**17 49 35.4**	**0.0**
	baz=113								
O20A				⇓P	**PKiKP**	**17 53 28.3**	**+0.1**
	baz=113								
O20A				⇓P	**PKiKP**	**17 53 28.3**	**+0.1**
	baz=113								
O20A				⇓P	**PKiKP**	**17 53 28.3**	**+0.1**
	baz=113								
X16A	**Lo Mia Camp, P**	**113.65**	**50**	⇓Pdiff	**Pdif**	**17 49 34.9**	**-1.1**
	baz=114								
H24A	**Dirks Ranch, A**	**113.65**	**37**	⇑Pdiff	**Pdif**	**17 49 36.7**	**+1.1**
	baz=114								
H24A				⇓P	**PKiKP**	**17 53 28.3**	**+0.1**
	baz=114								
H24A				⇓P	**PKiKP**	**17 53 28.3**	**+0.1**
	baz=114								
H24A				⇓P	**PKiKP**	**17 53 28.3**	**+0.1**
	baz=114								
**R

N21A	**Black Mountain**	**113.75**	**42**	⇓Pdiff	**Pdif**	**17 49 38.1**	**+1.7**
	baz=114								
N21A				⇓P	**PKiKP**	**17 53 29.3**	**+0.6**
	baz=114								
N21A				⇓P	**PKiKP**	**17 53 29.3**	**+0.6**
	baz=114								
N21A				⇓P	**PKiKP**	**17 53 29.3**	**+0.6**
	baz=114								
L22A	**Ellis Ranch, M**	**113.86**	**41**	⇓Pdiff	**Pdif**	**17 49 35.7**	**-1.1**
	baz=114								
PV04	**Paradox Valley**	**113.88**	**45**	Pdif	**Pdif**	**17 49 37.6**	**+0.8**
S19A	**Harvey Farm, M**	**113.99**	**46**	⇑Pdiff	**Pdif**	**17 49 34.9**	**-2.6**
	baz=114								
S19A				⇑P	**PKiKP**	**17 53 30.3**	**+1.0**
	baz=114								
S19A				⇑P	**PKiKP**	**17 53 30.3**	**+1.0**
	baz=114								
S19A				⇑P	**PKiKP**	**17 53 30.3**	**+1.0**
	baz=114								
K23A	**Bowen Ranch, D**	**114.02**	**40**	⇑Pdiff	**Pdif**	**17 49 35.3**	**-2.1**
	baz=114								
U18A	**Rough Rock, Ch**	**114.02**	**47**	⇓Pdiff	**Pdif**	**17 49 35.6**	**-2.0**
	baz=114								
U18A				⇓P	PKPdf	17 53 29.0	-0.3		
	baz=114								
U18A				⇓P	PKPdf	17 53 29.0	-0.3		
	baz=114								
U18A				⇓P	PKPdf	17 53 29.0	-0.3		
	baz=114								
O21A	**Pagoda**	**114.04**	**43**	⇑Pdiff	**Pdif**	**17 49 36.0**	**-1.7**
	baz=114								
Q20A	**Ridgley Place,**	**114.05**	**44**	⇓Pdiff	**Pdif**	**17 49 36.3**	**-1.3**
	baz=114								
Q20A				⇑P	PKPdf	17 53 29.1	-0.1		
	baz=114								
Q20A				⇑P	PKPdf	17 53 29.1	-0.1		
	baz=114								
Q20A				⇑P	PKPdf	17 53 29.1	-0.1		
	baz=114								
M22A	**Cedar Creek Ra**	**114.06**	**41**	⇓Pdiff	**Pdif**	**17 49 37.3**	**-0.4**
	baz=114								
I24A	**Kuemmerle Ranc**	**114.07**	**38**	⇑Pdiff	**Pdif**	**17 49 38.0**	**+0.5**
	baz=114								
I24A				⇓P	PKPdf	17 53 28.4	-0.7		
	baz=114								
I24A				⇓P	PKPdf	17 53 28.4	-0.7		
	baz=114								
I24A				⇓P	PKPdf	17 53 28.4	-0.7		
	baz=114								
X17A	**Forest Lakes**	**114.16**	**50**	⇑Pdiff	**Pdif**	**17 49 36.9**	**-1.5**
	baz=114								
PV01	**Paradox Valley**	**114.23**	**45**	*e*PKiKP	**PKiKP**	**17 53 30.2**	**+0.5**
L23A	**Garrett**	**114.29**	**40**	⇑Pdiff	**Pdif**	**17 49 39.4**	**+0.7**
	baz=114								
L23A				⇓P	PKPdf	17 53 29.4	-0.2		
	baz=114								
L23A				⇓P	PKPdf	17 53 29.4	-0.2		
	baz=114								
L23A				⇓P	PKPdf	17 53 29.4	-0.2		
	baz=114								
RSSD	**Black Hills**	**114.29**	**38**	P	**Pdif**	**17 49 38.4**	**-0.3**
RSSD				*i*		17 53 29.1			
RSSD	**Black Hills**	**114.29**	**38**	Pdif	**Pdif**	**17 49 38.4**	**-0.3**
RSSD				*e*PKiKP	**PKiKP**	**17 53 29.1**	**-0.6**
J24A	**Dixon Ranch, L**	**114.33**	**39**	⇓Pdiff	**Pdif**	**17 49 39.5**	**+0.8**
	baz=114								
J24A				⇓P	**PKiKP**	**17 53 29.1**	**-0.5**
	baz=114								
J24A				⇓P	**PKiKP**	**17 53 29.1**	**-0.5**
	baz=114								
J24A				⇓P	**PKiKP**	**17 53 29.1**	**-0.5**
	baz=114								
R20A	**Redvale**	**114.34**	**45**	⇓Pdiff	**Pdif**	**17 49 37.9**	**-1.1**
	baz=114								
P21A	**Newcastle**	**114.38**	**43**	⇑Pdiff	**Pdif**	**17 49 37.9**	**-1.2**
	baz=114								
N22A	**Wattenberg Ran**	**114.44**	**42**	⇑Pdiff	**Pdif**	**17 49 38.1**	**-1.4**
	baz=114								
N22A				⇓P	PKPdf	17 53 30.4	+0.3		
	baz=114								
N22A				⇓P	PKPdf	17 53 30.4	+0.3		
	baz=114								
N22A				⇓P	PKPdf	17 53 30.4	+0.3		
	baz=114								
T19A	**Beclabito**	**114.47**	**47**	⇑Pdiff	**Pdif**	**17 49 38.1**	**-1.4**
	baz=114								
S20A	**Disappointment**	**114.51**	**45**	⇑Pdiff	**Pdif**	**17 49 38.8**	**-1.0**
	baz=114								
K24A	**Anderson Ranch**	**114.55**	**39**	⇓Pdiff	**Pdif**	**17 49 40.2**	**+0.5**
	baz=114								
K24A				⇓P	PKPdf	17 53 30.1	0.0		
	baz=114								
K24A				⇓P	PKPdf	17 53 30.1	0.0		
	baz=114								
K24A				⇓P	PKPdf	17 53 30.1	0.0		
	baz=114								
U19A	**Dine' College,**	**114.56**	**47**	⇑Pdiff	**Pdif**	**17 49 38.3**	**-1.8**
	baz=114								
M23A	**Laramie**	**114.60**	**41**	⇓Pdiff	**Pdif**	**17 49 39.4**	**-0.7**
	baz=114								
M23A				⇑P	PKPdf	17 53 30.8	+0.5		
	baz=114								
M23A				⇑P	PKPdf	17 53 30.8	+0.5		
	baz=114								
M23A				⇑P	PKPdf	17 53 30.8	+0.5		
	baz=114								
Q21A	**Lamborn Mesa,**	**114.61**	**44**	⇑Pdiff	**Pdif**	**17 49 39.7**	**-0.5**
	baz=114								
W18A	**Petrified Fore**	**114.66**	**49**	⇑Pdiff	**Pdif**	**17 49 40.1**	**-0.3**
	baz=115								
MDND	**Maddock**	**114.69**	**32**	⇓Pdiff	**Pdif**	**17 49 39.6**	**-0.5**
	baz=114								
MDND				⇑P	PKPdf	17 53 30.1	+0.1		
	baz=114								
MDND				⇑P	PKPdf	17 53 30.1	+0.1		
	baz=114								
MDND				⇑P	PKPdf	17 53 30.1	+0.1		
	baz=114								
O22A	**Kremmling**	**114.69**	**42**	⇓Pdiff	**Pdif**	**17 49 39.2**	**-1.4**
	baz=115								
X18A	**Snowflake**	**114.73**	**49**	⇑Pdiff	**Pdif**	**17 49 39.9**	**-0.9**
	baz=115								
N23A	**Red Feather La**	**114.74**	**41**	⇓Pdiff	**Pdif**	**17 49 40.0**	**-0.8**
	baz=115								
P22A	**Eagle**	**114.82**	**43**	⇓Pdiff	**Pdif**	**17 49 40.1**	**-1.0**
	baz=115								
L24A	**Wheatland**	**114.82**	**40**	⇓Pdiff	**Pdif**	**17 49 39.1**	**-1.8**
	baz=115								
R21A	**Cimarron**	**114.84**	**45**	⇑Pdiff	**Pdif**	**17 49 39.5**	**-1.8**
	baz=115								
R21A				⇓P	PKPdf	17 53 31.4	+0.6		
	baz=115								
R21A				⇓P	PKPdf	17 53 31.4	+0.6		
	baz=115								
R21A				⇓P	PKPdf	17 53 31.4	+0.6		
	baz=115								
SMCO	**Snowmass**	**114.87**	**44**	*e*PKPdf	PKPdf	17 53 32.6	+1.5		
TUC	**Tucson**	**114.95**	**52**	P	**Pdif**	**17 49 42.2**	**+0.5**
TUC				*i*		17 53 29.5			
TUC	**Tucson**	**114.95**	**52**	Pdif	**Pdif**	**17 49 42.2**	**+0.5**
TUC				*e*PKiKP	**PKiKP**	**17 53 29.5**	**-1.5**
S21A	**Coal Bank Pass**	**114.99**	**45**	⇓Pdiff	**Pdif**	**17 49 43.4**	**+1.4**
	baz=115								
S21A				⇓P	PKPdf	17 53 31.9	+0.7		
	baz=115								
S21A				⇓P	PKPdf	17 53 31.9	+0.7		
	baz=115								
S21A				⇓P	PKPdf	17 53 31.9	+0.7		
	baz=115								
U20A	**Newcomb**	**115.03**	**47**	⇓Pdiff	**Pdif**	**17 49 40.5**	**-1.6**
	baz=115								
ULM	**Lac du Bonnet**	**115.03**	**29**	Pdif	**Pdif**	**17 49 43.0**	**+1.5**
ULM				PKP	**PKiKP**	**17 53 29.6**	**-0.9**
ULM				PKKPab	**PKKPab**	**18 04 11.1**	**-2.2**
ULM	**Lac du Bonnet**	**115.03**	**29**	Pdiff	**Pdif**	**17 49 43.0**	**+1.5**
	comp=Z,0.9nm,0.4s,baz=323,slow=5.1,SNR=2.4								
ULM				PKP	**PKiKP**	**17 53 29.6**	**-0.9**
	comp=Z,8.7nm,0.6s,baz=318,slow=1.0,SNR=12								
ULM				PKKPab	**PKKPab**	**18 04 11.1**	**-2.2**
	comp=Z,14nm,0.9s,baz=131,slow=3.0,SNR=6.3								
EBNR	**Beni Rached**	**115.06**	**313**	P	PKPdf	17 53 45.0	+14		
Q22A	**Crested Butte,**	**115.06**	**44**	⇓Pdiff	**Pdif**	**17 49 42.8**	**+0.6**
	baz=115								
Q22A				⇓P	**PKPdf**	**17 53 32.8**	**+1.5**
	baz=115								
Q22A				⇓P	**PKPdf**	**17 53 32.8**	**+1.5**
	baz=115								
Q22A				⇓P	**PKPdf**	**17 53 32.8**	**+1.5**
	baz=115								
O23A	**Lake Granby, G**	**115.09**	**42**	⇓Pdiff	**Pdif**	**17 49 41.9**	**-0.5**
	baz=115								
O23A				⇓P	**PKPdf**	**17 53 32.4**	**+1.1**
	baz=115								
O23A				⇓P	**PKPdf**	**17 53 32.4**	**+1.1**
	baz=115								
O23A				⇓P	**PKPdf**	**17 53 32.4**	**+1.1**
	baz=115								
M24A	**Cheyenne**	**115.18**	**40**	⇓Pdiff	**Pdif**	**17 49 41.1**	**-1.5**
	baz=115								
K25A	**Mack Ranch, Ha**	**115.20**	**39**	⇓Pdiff	**Pdif**	**17 49 43.5**	**+0.8**
	baz=115								
K25A				⇓P	**PKPdf**	**17 53 31.5**	**+0.2**
	baz=115								
K25A				⇓P	**PKPdf**	**17 53 31.5**	**+0.2**
	baz=115								
K25A				⇓P	**PKPdf**	**17 53 31.5**	**+0.2**
	baz=115								
ECHA	**Ech Chlef**	**115.24**	**313**	P	PKPdf	17 53 39.8	+8.5		
V20A	**Brimhall**	**115.31**	**47**	⇑Pdiff	**Pdif**	**17 49 42.0**	**-1.4**
	baz=115								
V20A				⇓P	**PKPdf**	**17 53 33.0**	**+1.2**
	baz=115								
V20A				⇓P	**PKPdf**	**17 53 33.0**	**+1.2**
	baz=115								
V20A				⇓P	**PKPdf**	**17 53 33.0**	**+1.2**
	baz=115								
L25A	**Engebretsen Ra**	**115.38**	**39**	⇓Pdiff	**Pdif**	**17 49 42.5**	**-0.9**
	baz=115								
L25A				⇓P	**PKPdf**	**17 53 32.3**	**+0.7**
	baz=115								
L25A				⇓P	**PKPdf**	**17 53 32.3**	**+0.7**
	baz=115								
L25A				⇓P	**PKPdf**	**17 53 32.3**	**+0.7**
	baz=115								
R22A	**Saguache, Gunn**	**115.46**	**44**	⇓Pdiff	**Pdif**	**17 49 42.6**	**-1.5**
	baz=115								
R22A				⇓P	**PKPdf**	**17 53 34.0**	**+1.9**
	baz=115								
R22A				⇓P	**PKPdf**	**17 53 34.0**	**+1.9**
	baz=115								
R22A				⇓P	**PKPdf**	**17 53 34.0**	**+1.9**
	baz=115								
N24A	**Carr**	**115.47**	**41**	⇑Pdiff	**Pdif**	**17 49 41.4**	**-2.6**
	baz=115								
N24A				⇑P	**PKPdf**	**17 53 32.7**	**+0.8**
	baz=115								
N24A				⇑P	**PKPdf**	**17 53 32.7**	**+0.8**
	baz=115								
N24A				⇑P	**PKPdf**	**17 53 32.7**	**+0.8**
	baz=115								
T21A	**Navajo Lake**	**115.47**	**46**	⇓Pdiff	**Pdif**	**17 49 44.3**	**+0.2**
	baz=115								
T21A				⇑P	**PKPdf**	**17 53 33.1**	**+1.0**
	baz=115								
T21A				⇑P	**PKPdf**	**17 53 33.1**	**+1.0**
	baz=115								
T21A				⇑P	**PKPdf**	**17 53 33.1**	**+1.0**
	baz=115								
ISCO	**Idaho Springs**	**115.49**	**42**	P	**Pdif**	**17 49 35.8**	**-8.4**
ISCO				*e*		17 53 32.9			
ISCO	**Idaho Springs**	**115.49**	**42**	Pdif	**Pdif**	**17 49 35.8**	**-8.4**
ISCO				*e*PKPdf	**PKPdf**	**17 53 32.9**	**+0.7**
ISCO	**Idaho Springs**	**115.49**	**42**	⇑Pdiff	**Pdif**	**17 49 45.3**	**+1.1**
	baz=115								
ISCO				⇓P	**PKPdf**	**17 53 33.0**	**+0.8**
	baz=115								
ISCO				⇓P	**PKPdf**	**17 53 33.0**	**+0.8**
	baz=115								
ISCO				⇓P	**PKPdf**	**17 53 33.0**	**+0.8**
	baz=115								
Y19A	**Nutrioso**	**115.49**	**50**	⇑Pdiff	**Pdif**	**17 49 42.4**	**-1.9**
	baz=115								
Y19A				⇑P	**PKPdf**	**17 53 33.9**	**+1.6**
	baz=115								
Y19A				⇑P	**PKPdf**	**17 53 33.9**	**+1.6**
	baz=115								
Y19A				⇑P	**PKPdf**	**17 53 33.9**	**+1.6**
	baz=115								
EANR	**'Ain N'Sour**	**115.52**	**313**	P	**PKPdf**	**17 53 32.5**	**+0.5**
SRIG	**Santa Rosalia**	**115.52**	**57**	P	**PKPdf**	**17 53 36.7**	**+4.6**
P23A	**Jefferson**	**115.55**	**43**	⇑Pdiff	**Pdif**	**17 49 45.1**	**+0.6**
	baz=115								
W20A	**Ramah**	**115.58**	**48**	⇑Pdiff	**Pdif**	**17 49 46.1**	**+1.5**
	baz=116								
W20A				⇑P	**PKPdf**	**17 53 33.9**	**+1.5**
	baz=116								
W20A				⇑P	**PKPdf**	**17 53 33.9**	**+1.5**
	baz=116								
W20A				⇑P	**PKPdf**	**17 53 33.9**	**+1.5**
	baz=116								
K26A	**Motz Farm, Whi**	**115.58**	**39**	⇑Pdiff	**Pdif**	**17 49 46.5**	**+2.2**
	baz=115								
K26A				⇓P	**PKiKP**	**17 53 32.0**	**0.0**
	baz=115								
K26A				⇓P	**PKiKP**	**17 53 32.0**	**0.0**
	baz=115								
K26A				⇓P	**PKiKP**	**17 53 32.0**	**0.0**
	baz=115								
ETRT	**Tiaret**	**115.61**	**312**	P	**PKPdf**	**17 53 34.0**	**+1.7**
S22A	**4UR Ranch, Cre**	**115.63**	**45**	⇓Pdiff	**Pdif**	**17 49 47.2**	**+2.4**
	baz=116								
S22A				⇓P	**PKPdf**	**17 53 33.7**	**+1.2**
	baz=116								
S22A				⇓P	**PKPdf**	**17 53 33.7**	**+1.2**
	baz=116								
S22A				⇓P	**PKPdf**	**17 53 33.7**	**+1.2**
	baz=116								
U21A	**Nageezi**	**115.63**	**46**	⇑Pdiff	**Pdif**	**17 49 46.2**	**+1.4**
	baz=116								
U21A				⇑P	**PKPdf**	**17 53 33.8**	**+1.4**
	baz=116								
U21A				⇑P	**PKPdf**	**17 53 33.8**	**+1.4**
	baz=116								
U21A				⇑P	**PKPdf**	**17 53 33.8**	**+1.4**
	baz=116								
M25A	**Palm-Egli Farm**	**115.70**	**40**	⇓Pdiff	**Pdif**	**17 49 43.4**	**-1.5**
	baz=116								
O24A	**Longmont**	**115.70**	**42**	⇑Pdiff	**Pdif**	**17 49 44.7**	**-0.2**
	baz=116								
Q23A	**Hartsel**	**115.78**	**43**	⇓Pdiff	**Pdif**	**17 49 43.6**	**-1.9**
	baz=116								
Q23A				⇓P	**PKPdf**	**17 53 33.4**	**+0.7**
	baz=116								
Q23A				⇓P	**PKPdf**	**17 53 33.4**	**+0.7**
	baz=116								
Q23A				⇓P	**PKPdf**	**17 53 33.4**	**+0.7**
	baz=116								
X20A	**Quemado**	**115.82**	**49**	⇓Pdiff	**Pdif**	**17 49 44.3**	**-1.4**
	baz=116								
X20A				⇓P	**PKPdf**	**17 53 34.1**	**+1.3**
	baz=116								
X20A				⇓P	**PKPdf**	**17 53 34.1**	**+1.3**
	baz=116								
X20A				⇓P	**PKPdf**	**17 53 34.1**	**+1.3**
	baz=116								
T22A	**Edith**	**115.91**	**46**	⇑Pdiff	**Pdif**	**17 49 46.8**	**+0.7**
	baz=116								
T22A				⇓P	**PKPdf**	**17 53 34.7**	**+1.7**
	baz=116								
T22A				⇓P	**PKPdf**	**17 53 34.7**	**+1.7**
	baz=116								
T22A				⇓P	**PKPdf**	**17 53 34.7**	**+1.7**
	baz=116								
V21A	**Milan**	**115.92**	**47**	⇓Pdiff	**Pdif**	**17 49 45.1**	**-0.9**
	baz=116								
V21A				⇓P	**PKPdf**	**17 53 34.3**	**+1.3**
	baz=116								
V21A				⇓P	**PKPdf**	**17 53 34.3**	**+1.3**
	baz=116								
V21A				⇓P	**PKPdf**	**17 53 34.3**	**+1.3**
	baz=116								
N25A	**Grover**	**116.00**	**41**	⇑Pdiff	**Pdif**	**17 49 46.0**	**-0.3**
	baz=116								
N25A				⇓P	**PKPdf**	**17 53 33.3**	**+0.4**
	baz=116								
N25A				⇓P	**PKPdf**	**17 53 33.3**	**+0.4**
	baz=116								
N25A				⇓P	**PKPdf**	**17 53 33.3**	**+0.4**
	baz=116								
L26A	**Underwood Farm**	**116.00**	**39**	⇑Pdiff	**Pdif**	**17 49 46.6**	**+0.5**
	baz=116								
L26A				⇓P	**PKPdf**	**17 53 33.3**	**+0.4**
	baz=116								
L26A				⇓P	**PKPdf**	**17 53 33.3**	**+0.4**
	baz=116								
L26A				⇓P	**PKPdf**	**17 53 33.3**	**+0.4**
	baz=116								
HSIG		**116.02**	**55**	P	**PKPdf**	**17 53 36.6**	**+3.5**
P24A	**Kohler Place,**	**116.11**	**42**	⇓Pdiff	**Pdif**	**17 49 45.5**	**-1.3**
	baz=116								
R23A	**Moffat**	**116.12**	**44**	⇓Pdiff	**Pdif**	**17 49 45.5**	**-1.5**
	baz=116								
K27A	**Flueckinger Fa**	**116.16**	**38**	⇑Pdiff	**Pdif**	**17 49 46.6**	**-0.2**
	baz=116								
K27A				⇓P	**PKiKP**	**17 53 33.1**	**0.0**
	baz=116								
K27A				⇓P	**PKiKP**	**17 53 33.1**	**0.0**
	baz=116								
K27A				⇓P	**PKiKP**	**17 53 33.1**	**0.0**
	baz=116								
Y20A	**Horse Springs,**	**116.18**	**49**	⇑Pdiff	**Pdif**	**17 49 46.6**	**-0.7**
	baz=116								
W21A	**San Fidel**	**116.21**	**48**	⇓Pdiff	**Pdif**	**17 49 48.0**	**+0.6**
	baz=116								
W21A				⇑P	**PKiKP**	**17 53 34.1**	**+0.5**
	baz=116								
W21A				⇑P	**PKiKP**	**17 53 34.1**	**+0.5**
	baz=116								
W21A				⇑P	**PKiKP**	**17 53 34.1**	**+0.5**
	baz=116								
Q24A	**Divide**	**116.22**	**43**	⇓Pdiff	**Pdif**	**17 49 45.4**	**-2.1**
	baz=116								
S23A	**Nye Farm, Mont**	**116.23**	**45**	⇑Pdiff	**Pdif**	**17 49 45.7**	**-1.7**
	baz=116								
U22A	**Llaves**	**116.23**	**46**	⇑Pdiff	**Pdif**	**17 49 47.4**	**-0.1**
	baz=116								
U22A				⇑P	**PKiKP**	**17 53 34.1**	**+0.5**
	baz=116								
U22A				⇑P	**PKiKP**	**17 53 34.1**	**+0.5**
	baz=116								
U22A				⇑P	**PKiKP**	**17 53 34.1**	**+0.5**
	baz=116								
M26A	**McRoberts Ranc**	**116.26**	**40**	⇑Pdiff	**Pdif**	**17 49 46.5**	**-0.9**
	baz=116								
O25A	**Wiggins**	**116.33**	**41**	⇓Pdiff	**Pdif**	**17 49 46.3**	**-1.4**
	baz=116								
O25A				⇓P	**PKiKP**	**17 53 33.8**	**+0.3**
	baz=116								
O25A				⇓P	**PKiKP**	**17 53 33.8**	**+0.3**
	baz=116								
O25A				⇓P	**PKiKP**	**17 53 33.8**	**+0.3**
	baz=116								
AGMN	**Agassiz Nation**	**116.34**	**30**	*e*PKPdf	**PKPdf**	**17 53 32.8**	**-0.3**
AGMN				LR	LR				
	comp=Z,79µm,22.0s								
Z20A	**Nine Sixteen R**	**116.34**	**50**	⇑Pdiff	**Pdif**	**17 49 47.9**	**0.0**
	baz=116								
Z20A				⇓P	**PKiKP**	**17 53 34.9**	**+1.1**
	baz=116								
Z20A				⇓P	**PKiKP**	**17 53 34.9**	**+1.1**
	baz=116								
Z20A				⇓P	**PKiKP**	**17 53 34.9**	**+1.1**
	baz=116								
X21A	**Alamocita Cree**	**116.40**	**49**	⇓P	**PKPdf**	**17 53 35.4**	**+1.4**
	baz=116								
V22A	**San Miguel Ran**	**116.40**	**47**	⇓P	**PKPdf**	**17 53 35.3**	**+1.3**
	baz=116								
L27A	**T5 Ranch, Ells**	**116.45**	**39**	⇓Pdiff	**Pdif**	**17 49 45.5**	**-2.6**
	baz=116								
319A	**Douglas**	**116.49**	**52**	⇓Pdiff	**Pdif**	**17 49 46.6**	**-2.0**
	baz=116								
T23A	**Casias Ranch,**	**116.52**	**45**	⇑Pdiff	**Pdif**	**17 49 48.3**	**-0.5**
	baz=116								
120A	**U Bar Ranch, L**	**116.54**	**51**	⇑Pdiff	**Pdif**	**17 49 47.0**	**-1.8**
	baz=116								
N26A	**Koester Ranch,**	**116.55**	**40**	⇓Pdiff	**Pdif**	**17 49 47.3**	**-1.3**
	baz=116								
N26A				⇑P	**PKiKP**	**17 53 34.0**	**0.0**
	baz=116								
N26A				⇑P	**PKiKP**	**17 53 34.0**	**0.0**
	baz=116								
N26A				⇑P	**PKiKP**	**17 53 34.0**	**0.0**
	baz=116								
SDCO	**Great Sand Dun**	**116.56**	**44**	⇓Pdiff	**Pdif**	**17 49 46.0**	**-2.9**
	baz=116								
R24A	**Sanders Place,**	**116.60**	**44**	⇑Pdiff	**Pdif**	**17 49 46.8**	**-2.3**
	baz=116								
R24A				⇑P	**PKPdf**	**17 53 34.0**	**-0.2**
	baz=116								
R24A				⇑P	**PKPdf**	**17 53 34.0**	**-0.2**
	baz=116								
R24A				⇑P	**PKPdf**	**17 53 34.0**	**-0.2**
	baz=116								
P25A	**Willow Gulch B**	**116.60**	**42**	⇑Pdiff	**Pdif**	**17 49 50.7**	**+1.7**
	baz=116								
P25A				⇓P	**PKPdf**	**17 53 33.8**	**-0.3**
	baz=116								
P25A				⇓P	**PKPdf**	**17 53 33.8**	**-0.3**
	baz=116								
P25A				⇓P	**PKPdf**	**17 53 33.8**	**-0.3**
	baz=116								
TAM	**Tamanrasset**	**116.66**	**298**	*e*PKIKP	**PKPdf**	**17 53 35.5**	**+0.8**
TAM	**Tamanrasset**	**116.66**	**298**	*e*PKPdf	**PKPdf**	**17 53 35.5**	**+0.8**
Y21A	**Point of Rocks**	**116.67**	**49**	⇓Pdiff	**Pdif**	**17 49 51.5**	**+2.0**
	baz=117								
Y21A				⇑P	**PKiKP**	**17 53 35.3**	**+0.7**
	baz=117								
Y21A				⇑P	**PKiKP**	**17 53 35.3**	**+0.7**
	baz=117								
Y21A				⇑P	**PKiKP**	**17 53 35.3**	**+0.7**
	baz=117								
M27A	**Reverse DX Ran**	**116.71**	**39**	⇓Pdiff	**Pdif**	**17 49 47.7**	**-1.7**
	baz=117								
U23A	**El Rito**	**116.73**	**46**	⇓Pdiff	**Pdif**	**17 49 47.4**	**-2.3**
	baz=117								
U23A				⇑P	**PKiKP**	**17 53 36.2**	**+1.6**
	baz=117								
U23A				⇑P	**PKiKP**	**17 53 36.2**	**+1.6**
	baz=117								
U23A				⇑P	**PKiKP**	**17 53 36.2**	**+1.6**
	baz=117								
O26A	**Horse Wrangler**	**116.80**	**41**	⇑Pdiff	**Pdif**	**17 49 47.8**	**-2.0**
	baz=117								
W22A	**Albuquerque**	**116.81**	**48**	⇓Pdiff	**Pdif**	**17 49 49.1**	**-0.9**
	baz=117								
S24A	**Houchin Ranch,**	**116.81**	**44**	⇑Pdiff	**Pdif**	**17 49 48.8**	**-1.3**
	baz=117								
Q25A	**Bedland, Calha**	**116.85**	**43**	⇑Pdiff	**Pdif**	**17 49 51.2**	**+1.0**
	baz=117								
Q25A				⇓P	**PKiKP**	**17 53 35.2**	**+0.5**
	baz=117								
Q25A				⇓P	**PKiKP**	**17 53 35.2**	**+0.5**
	baz=117								
Q25A				⇓P	**PKiKP**	**17 53 35.2**	**+0.5**
	baz=117								
220A	**Playas Peak, P**	**116.88**	**51**	⇓Pdiff	**Pdif**	**17 49 51.9**	**+1.6**
	baz=117								
220A				⇑P	**PKiKP**	**17 53 36.2**	**+1.4**
	baz=117								
220A				⇑P	**PKiKP**	**17 53 36.2**

320A ⇑P **PKiKP** **17 53 37.0 +1.7**
baz=117
320A ⇑P **PKiKP** **17 53 37.0 +1.7**
baz=117
BRSD Miller 117.11 35 ⇑Pdiff **Pdif** **17 49 50.7 -0.2**
baz=117
BRSD ⇓P **PKiKP** **17 53 35.4 +0.6**
baz=117
BRSD ⇓P **PKiKP** **17 53 35.4 +0.6**
baz=117
BRSD ⇓P **PKiKP** **17 53 35.4 +0.6**
baz=117
LENM Lemitar 117.12 48 *e*PKPdf **PKPdf** **17 53 36.3 +1.0**
P26A Davis Ranch, A 117.13 42 ⇑Pdiff **Pdif** **17 49 51.2 -0.1**
baz=117
P26A ⇑P **PKiKP** **17 53 35.9 +0.8**
baz=117
P26A ⇑P **PKiKP** **17 53 35.9 +0.8**
baz=117
P26A ⇑P **PKiKP** **17 53 35.9 +0.8**
baz=117
ANMO Albuquerque 117.16 47 Pdif **Pdif** **17 49 45.7 -5.9**
ANMO *e*PKPdf **PKPdf** **17 53 35.0 -0.4**
ANMO LR LR
comp=Z,67μm,21.0s
T24A Torres, Weston 117.19 45 ⇑Pdiff **Pdif** **17 49 50.8 -1.0**
baz=117
T24A ⇓P **PKiKP** **17 53 37.0 +1.5**
baz=117
T24A ⇓P **PKiKP** **17 53 37.0 +1.5**
baz=117
T24A ⇓P **PKiKP** **17 53 37.0 +1.5**
baz=117
121A Cookes Peak, D 117.20 50 ⇓Pdiff **Pdif** **17 49 52.4 +0.6**
baz=117
121A ⇓P **PKiKP** **17 53 37.0 +1.5**
baz=117
121A ⇓P **PKiKP** **17 53 37.0 +1.5**
baz=117
121A ⇓P **PKiKP** **17 53 37.0 +1.5**
baz=117
Y22D IRIS PASSCAL I 117.20 49 ⇓Pdiff **Pdif** **17 49 51.9 +0.1**
baz=117
R25A Fountain Ranch 117.21 43 ⇑Pdiff **Pdif** **17 49 51.9 +0.2**
baz=117
R25A ⇓P **PKiKP** **17 53 35.7 +0.4**
baz=117
R25A ⇓P **PKiKP** **17 53 35.7 +0.4**
baz=117
R25A ⇓P **PKiKP** **17 53 35.7 +0.4**
baz=117
Y22A Socorro 117.23 49 ⇓Pdiff **Pdif** **17 49 54.8 +3.0**
baz=117
Y22A ⇓P **PKiKP** **17 53 37.0 +1.5**
baz=117
Y22A ⇓P **PKiKP** **17 53 37.0 +1.5**
baz=117
Y22A ⇓P **PKiKP** **17 53 37.0 +1.5**
baz=117
OGNE Ogallala 117.25 40 *e*PKPdf **PKPdf** **17 53 35.4 +0.1**
OGNE Ogallala 117.25 40 ⇑Pdiff **Pdif** **17 49 51.3 -0.4**
baz=117
OGNE ⇓P **PKPdf** **17 53 35.2 -0.1**
baz=117
OGNE ⇓P **PKPdf** **17 53 35.2 -0.1**
baz=117
OGNE ⇓P **PKPdf** **17 53 35.2 -0.1**
baz=117
ESDC Sonseca Array 117.27 319 Pdif **Pdif** **17 49 52.1 +0.3**
ESDC PKP **PKiKP** **17 53 35.8 +0.5**
ESDC PKKPab **PKKPbc** **18 04 00.9 +0.8**
ESDC Sonseca Array 117.27 319 Pdif **Pdif** **17 49 52.1 +0.3**
comp=Z,0.2nm,0.3s,baz=52,slow=6.7,SNR=3.0
ESDC PKP **PKiKP** **17 53 35.8 +0.5**
comp=Z,6.9nm,0.9s,baz=15,slow=2.4,SNR=9.2
ESDC PKKPab **PKKPbc** **18 04 00.9 +0.8**
comp=Z,7.3nm,0.9s,baz=252,slow=3.4,SNR=8.3
ESLA Sonseca Array 117.27 319 PFAKE 17 53 40.0 +4.7
ESLA LR LR
comp=Z,414μm,21.0s
W23A Werner Place, 117.29 47 ⇓Pdiff **Pdif** **17 49 50.5 -1.7**
baz=117
W23A ⇑P **PKiKP** **17 53 36.7 +1.0**
baz=117
W23A ⇑P **PKiKP** **17 53 36.7 +1.0**
baz=117
W23A ⇑P **PKiKP** **17 53 36.7 +1.0**
baz=117
LPM Los Pinos Moun 117.31 48 *e*PKPdf **PKPdf** **17 53 35.9 +0.3**
Q26A Hugo 117.34 42 ⇑Pdiff **Pdif** **17 49 54.4 +2.2**
baz=117
Q26A ⇑P **PKiKP** **17 53 36.5 +0.9**
baz=117
Q26A ⇑P **PKiKP** **17 53 36.5 +0.9**
baz=117
Q26A ⇑P **PKiKP** **17 53 36.5 +0.9**
baz=117
S25A Robets Cordova 117.34 44 ⇑Pdiff **Pdif** **17 49 54.4 +2.1**
baz=117
S25A ⇓P **PKiKP** **17 53 36.4 +0.8**
baz=117
S25A ⇓P **PKiKP** **17 53 36.4 +0.8**
baz=117
S25A ⇓P **PKiKP** **17 53 36.4 +0.8**
baz=117
U24A Moreno Valley 117.35 46 ⇑Pdiff **Pdif** **17 49 52.5 -0.1**
baz=117
O27A Beecher Island 117.37 41 ⇓Pdiff **Pdif** **17 49 52.2 -0.1**
baz=117
O27A ⇑P **PKPdf** **17 53 35.3 -0.2**
baz=117
O27A ⇑P **PKPdf** **17 53 35.3 -0.2**
baz=117
O27A ⇑P **PKPdf** **17 53 35.3 -0.2**
baz=117
BNM Barren Site 117.39 48 *e*PKPdf **PKPdf** **17 53 37.1 +1.2**
221A Mesquite Ranch 117.42 51 ⇓Pdiff **Pdif** **17 49 51.6 -1.1**
baz=117
221A ⇓P **PKiKP** **17 53 37.2 +1.3**
baz=117
221A ⇓P **PKiKP** **17 53 37.2 +1.3**
baz=117
221A ⇓P **PKiKP** **17 53 37.2 +1.3**
baz=117
Z22A Elephant Butte 117.52 49 ⇓Pdiff **Pdif** **17 49 55.4 +2.2**
baz=117
Z22A ⇓P **PKiKP** **17 53 37.5 +1.4**
baz=117
Z22A ⇓P **PKiKP** **17 53 37.5 +1.4**
baz=117
Z22A ⇓P **PKiKP** **17 53 37.5 +1.4**
baz=117
X23A Hourglass Bar 117.53 48 ⇑Pdiff **Pdif** **17 49 55.4 +2.2**
baz=117
X23A ⇓P **PKiKP** **17 53 37.1 +1.0**
baz=117
X23A ⇓P **PKiKP** **17 53 37.1 +1.0**
baz=117
X23A ⇓P **PKiKP** **17 53 37.1 +1.0**
baz=117
PAB San Pablo 117.59 319 *e*PKIKP **PKPdf** **17 53 35.4 -0.5**
PAB San Pablo 117.59 319 *e*PKPdf **PKPdf** **17 53 35.4 -0.5**
T25A Trinidad 117.61 44 ⇓Pdiff **Pdif** **17 49 55.3 +1.7**
baz=118
T25A ⇓P **PKiKP** **17 53 36.4 +0.2**
baz=118
T25A ⇓P **PKiKP** **17 53 36.4 +0.2**
baz=118
T25A ⇓P **PKiKP** **17 53 36.4 +0.2**
baz=118
P27A Ficken Ranch, 117.64 41 ⇓P **PKPdf** **17 53 36.5 +0.4**
baz=118
V24A Rampart Ranch, 117.67 46 ⇓Pdiff **Pdif** **17 49 56.0 +2.1**
baz=118
V24A ⇑P **PKiKP** **17 53 37.5 +1.1**
baz=118
V24A ⇑P **PKiKP** **17 53 37.5 +1.1**
baz=118
V24A ⇑P **PKiKP** **17 53 37.5 +1.1**
baz=118
R26A Arlington 117.70 43 ⇓Pdiff **Pdif** **17 49 55.4 +1.6**
baz=118
R26A ⇑P **PKiKP** **17 53 36.6 +0.4**
baz=118
R26A ⇑P **PKiKP** **17 53 36.6 +0.4**
baz=118
R26A ⇑P **PKiKP** **17 53 36.6 +0.4**
baz=118

122A Conniff Cattle 117.73 50 ⇑Pdiff **Pdif** **17 49 56.8 +2.7**
baz=118
122A ⇓P **PKiKP** **17 53 37.4 +1.0**
baz=118
122A ⇓P **PKiKP** **17 53 37.4 +1.0**
baz=118
122A ⇓P **PKiKP** **17 53 37.4 +1.0**
baz=118
W24A Lazy 6 Ranch, 117.81 47 ⇓Pdiff **Pdif** **17 49 56.6 +2.1**
baz=118
W24A ⇑P **PKiKP** **17 53 37.8 +1.1**
baz=118
W24A ⇑P **PKiKP** **17 53 37.8 +1.1**
baz=118
W24A ⇑P **PKiKP** **17 53 37.8 +1.1**
baz=118
PBRG Braganca 117.88 322 *e*PKPdf **PKPdf** **17 53 36.3 -0.1**
PBRG Braganca 117.88 322 *e*PP PP 17 54 49.8 +0.1
PBRG *i* P **PKKPdf** **18 04 30.2 +4.0**
PBRG *e*SS SS 18 11 32.7 +31
PBRG *e*LQ LQ 18 29 10.0
PBRG *e*LR LR 18 36 49.9
comp=Z,77μm,20.0s
KSCO Kaye Shedlock' 117.89 42 ⇑Pdiff **Pdif** **17 49 56.5 +1.8**
baz=118
KSCO ⇑P **PKiKP** **17 53 37.0 +0.4**
baz=118
KSCO ⇑P **PKiKP** **17 53 37.0 +0.4**
baz=118
KSCO ⇑P **PKiKP** **17 53 37.0 +0.4**
baz=118
222A Williams Famil 117.90 51 ⇓Pdiff **Pdif** **17 49 56.8 +1.9**
baz=118
222A ⇓P **PKiKP** **17 53 37.9 +1.1**
baz=118
222A ⇓P **PKiKP** **17 53 37.9 +1.1**
baz=118
222A ⇓P **PKiKP** **17 53 37.9 +1.1**
baz=118
Y23A Lovelace Mesa, 117.91 48 ⇑Pdiff **Pdif** **17 49 56.5 +1.5**
baz=118
Y23A ⇑P **PKiKP** **17 53 37.8 +0.9**
baz=118
Y23A ⇑P **PKiKP** **17 53 37.8 +0.9**
baz=118
Y23A ⇑P **PKiKP** **17 53 37.8 +0.9**
baz=118
CGIG 117.92 53 P **PKPdf** **17 53 37.0 +0.1**
U25A Circle Dot Ran 117.97 45 ⇑Pdiff **Pdif** **17 49 56.9 +1.8**
baz=118
U25A ⇓P **PKiKP** **17 53 37.8 +0.9**
baz=118
U25A ⇓P **PKiKP** **17 53 37.8 +0.9**
baz=118
U25A ⇓P **PKiKP** **17 53 37.8 +0.9**
baz=118
S26A Kim 118.03 44 ⇑Pdiff **Pdif** **17 49 57.7 +2.4**
baz=118
S26A ⇑P **PKiKP** **17 53 37.7 +0.8**
baz=118
S26A ⇑P **PKiKP** **17 53 37.7 +0.8**
baz=118
S26A ⇑P **PKiKP** **17 53 37.7 +0.8**
baz=118
Z23A Rita Site, Whi 118.07 49 ⇓Pdiff **Pdif** **17 49 57.8 +2.2**
baz=118
Z23A ⇑P **PKiKP** **17 53 38.4 +1.3**
baz=118
Z23A ⇑P **PKiKP** **17 53 38.4 +1.3**
baz=118
Z23A ⇑P **PKiKP** **17 53 38.4 +1.3**
baz=118
X24A Lazy VL Ranch, 118.09 47 ⇑Pdiff **Pdif** **17 49 56.5 +0.8**
baz=118
X24A ⇓P **PKiKP** **17 53 37.7 +0.5**
baz=118
X24A ⇓P **PKiKP** **17 53 37.7 +0.5**
baz=118
X24A ⇓P **PKiKP** **17 53 37.7 +0.5**
baz=118
V25A Rancho No Teng 118.09 46 ⇓Pdiff **Pdif** **17 49 57.5 +1.8**
baz=118
V25A ⇑P **PKiKP** **17 53 38.0 +0.8**
baz=118
V25A ⇑P **PKiKP** **17 53 38.0 +0.8**
baz=118
V25A ⇑P **PKiKP** **17 53 38.0 +0.8**
baz=118
R27A Eads 118.15 43 ⇑Pdiff **Pdif** **17 49 57.3 +1.5**
baz=118
R27A ⇓P **PKiKP** **17 53 37.7 +0.6**
baz=118
R27A ⇓P **PKiKP** **17 53 37.7 +0.6**
baz=118
R27A ⇓P **PKiKP** **17 53 37.7 +0.6**
baz=118
T26A Comanche Natio 118.16 44 ⇑Pdiff **Pdif** **17 49 57.0 +1.0**
baz=118
T26A ⇓P **PKiKP** **17 53 38.1 +0.9**
baz=118
T26A ⇓P **PKiKP** **17 53 38.1 +0.9**
baz=118
T26A ⇓P **PKiKP** **17 53 38.1 +0.9**
baz=118
123A Bell Site, Whi 118.32 50 ⇓Pdiff **Pdif** **17 49 56.3 -0.4**
baz=118
123A ⇑P **PKiKP** **17 53 39.2 +1.6**
baz=118
123A ⇑P **PKiKP** **17 53 39.2 +1.6**
baz=118
123A ⇑P **PKiKP** **17 53 39.2 +1.6**
baz=118
Y24A Capitan 118.38 48 ⇑Pdiff **Pdif** **17 49 57.4 +0.4**
baz=118
Y24A ⇑P **PKiKP** **17 53 38.9 +1.2**
baz=118
Y24A ⇑P **PKiKP** **17 53 38.9 +1.2**
baz=118
Y24A ⇑P **PKiKP** **17 53 38.9 +1.2**
baz=118
S27A Las Animas 118.39 43 ⇓Pdiff **Pdif** **17 49 57.4 +0.5**
baz=118
S27A ⇓P **PKiKP** **17 53 38.3 +0.7**
baz=118
S27A ⇓P **PKiKP** **17 53 38.3 +0.7**
baz=118
S27A ⇓P **PKiKP** **17 53 38.3 +0.7**
baz=118
MVO Moncorvo 118.42 322 *e*Pdif **Pdif** **17 49 57.5 +0.6**
MVO Moncorvo 118.42 322 *e*PKPdf **PKPdf** **17 53 38.4 +1.0**
MVO Moncorvo 118.42 322 *e*PP PP 17 55 00.1 +6.6
MVO *i* P PKKPdf 18 04 37.3 +12
MVO *e*SS SS 18 11 09.4 +0.7
MVO *e*LQ LQ 18 30 14.7
MVO *e*LR LR 18 36 36.3
comp=Z,124μm,20.0s
MVO Moncorvo 118.42 322 *e*PKPdf **PKKPab** **18 03 58.9 +0.4**
U26A Atchley Ranch, 118.44 45 ⇓Pdiff **Pdif** **17 49 58.2 +0.9**
baz=118
U26A ⇑P **PKiKP** **17 53 38.6 +0.8**
baz=118
U26A ⇑P **PKiKP** **17 53 38.6 +0.8**
baz=118
U26A ⇑P **PKiKP** **17 53 38.6 +0.8**
baz=118
223A Chaparral, Ant 118.46 50 ⇑Pdiff **Pdif** **17 49 56.9 -0.5**
baz=118
W25A X Bar L Ranch, 118.50 46 ⇓Pdiff **Pdif** **17 49 59.6 +2.1**
baz=118
W25A ⇑P **PKiKP** **17 53 38.8 +0.9**
baz=118
W25A ⇑P **PKiKP** **17 53 38.8 +0.9**
baz=118
W25A ⇑P **PKiKP** **17 53 38.8 +0.9**
baz=118
PMSA Palmer Station 118.65 175 PKKPab PKKPab 18 03 52.8 -3.4
PMSA Palmer Station 118.65 175 PKKPab PKKPab 18 03 52.8 -3.4
comp=Z,24nm,1.1s,baz=338,slow=4.2,SNR=1.8
X25A Clemmons Ranch 118.67 47 ⇑Pdiff **Pdif** **17 49 57.6 -0.6**
baz=119
X25A ⇑P **PKiKP** **17 53 38.9 +0.7**
baz=119
X25A ⇑P **PKiKP** **17 53 38.9 +0.7**
baz=119
X25A ⇑P **PKiKP** **17 53 38.9 +0.7**
baz=119
Z24A Sheeppen Canyo 118.69 49 ⇑Pdiff **Pdif** **17 49 59.3 +0.8**
baz=119

Z24A ⇑P **PKiKP** **17 53 39.6 +1.2**
baz=119
Z24A ⇑P **PKiKP** **17 53 39.6 +1.2**
baz=119
Z24A ⇑P **PKiKP** **17 53 39.6 +1.2**
baz=119
EYMN Ely 118.70 28 *e*PKPdf **PKPdf** **17 53 36.2 -1.5**
EYMN LR LR
comp=Z,65μm,22.0s
PGAV Gavieira, Arco 118.72 323 *e*Pdif Pdif 17 50 08.3 +10
PGAV Gavieira, Arco 118.72 323 *e*PKPdf **PKPdf** **17 53 37.5 -0.5**
PGAV Gavieira, Arco 118.72 323 *e*PP PP 17 54 55.8 +0.3
PGAV *i* P **SP** **18 04 37.2 -2.4**
PGAV *e*SS **SKKSdf** **18 11 40.7 +5.0**
PGAV *e*LQ LQ 18 27 31.6
PGAV *e*LR LR 18 37 05.8
comp=Z,102μm,18.0s
PCAB Cabril 118.72 323 *e*PKPdf **PKPdf** **17 53 39.3 +1.3**
PCAB Cabril 118.72 323 *e*PP PP 17 55 04.4 +8.9
POLO Lamas de Olo 118.78 322 *e*Pdif **Pdif** **17 50 08.4 +10**
POLO Lamas de Olo 118.78 322 *e*PKPdf **PKPdf** **17 53 39.3 +1.1**
POLO Lamas de Olo 118.78 322 *e*PP PP 17 54 59.0 +3.0
POLO *i* P **SP** **18 04 34.0 -6.1**
POLO *e*SS **SKKSdf** **18 11 42.4 +6.8**
POLO *e*LQ LQ 18 29 37.1
POLO *e*LR LR 18 35 46.3
comp=Z,43μm,20.0s
PVRL Vila Real 118.78 322 *e*PKPdf **PKPdf** **17 53 39.3 +1.2**
PVRL Vila Real 118.78 322 *e*PP PP 17 54 56.9 +1.0
T27A Campo 118.82 44 ⇓Pdiff **Pdif** **17 49 59.2 +0.4**
baz=119
T27A ⇓P **PKiKP** **17 53 39.4 +0.9**
baz=119
T27A ⇓P **PKiKP** **17 53 39.4 +0.9**
baz=119
T27A ⇓P **PKiKP** **17 53 39.4 +0.9**
baz=119
ECSD EROS Data Cent 118.88 34 *e*PKPdf **PKPdf** **17 53 37.2 -0.9**
ECSD LR LR
comp=Z,54μm,21.0s
124A Stringfield Ra 118.91 49 ⇑Pdiff **Pdif** **17 50 00.3 +0.9**
baz=119
124A ⇑P **PKiKP** **17 53 40.2 +1.4**
baz=119
124A ⇑P **PKiKP** **17 53 40.2 +1.4**
baz=119
124A ⇑P **PKiKP** **17 53 40.2 +1.4**
baz=119
Y25A Mesa, Roswell 118.93 48 ⇑Pdiff **Pdif** **17 50 00.7 +1.3**
baz=119
Y25A ⇑P **PKiKP** **17 53 39.6 +0.9**
baz=119
Y25A ⇑P **PKiKP** **17 53 39.6 +0.9**
baz=119
Y25A ⇑P **PKiKP** **17 53 39.6 +0.9**
baz=119
W26A Owens Ranch, T 119.06 46 ⇓Pdiff **Pdif** **17 50 01.3 +1.4**
baz=119
W26A ⇑P **PKiKP** **17 53 39.7 +0.7**
baz=119
W26A ⇑P **PKiKP** **17 53 39.7 +0.7**
baz=119
W26A ⇑P **PKiKP** **17 53 39.7 +0.7**
baz=119
224A Cornudas Mount 119.13 50 ⇓Pdiff **Pdif** **17 50 01.4 +1.1**
baz=119
224A ⇓P **PKiKP** **17 53 40.2 +0.9**
baz=119
224A ⇓P **PKiKP** **17 53 40.2 +0.9**
baz=119
224A ⇓P **PKiKP** **17 53 40.2 +0.9**
baz=119
Z25A Roswell 119.20 48 ⇓Pdiff **Pdif** **17 50 01.9 +1.3**
baz=119
Z25A ⇑P **PKiKP** **17 53 40.4 +1.1**
baz=119
Z25A ⇑P **PKiKP** **17 53 40.4 +1.1**
baz=119
Z25A ⇑P **PKiKP** **17 53 40.4 +1.1**
baz=119
T28A Walsh 119.21 43 ⇑Pdiff **Pdif** **17 49 58.7 -1.9**
baz=119
T28A ⇑P **PKiKP** **17 53 39.7 +0.5**
baz=119
T28A ⇑P **PKiKP** **17 53 39.7 +0.5**
baz=119
T28A ⇑P **PKiKP** **17 53 39.7 +0.5**
baz=119
PVIS Viseu 119.22 322 *e*PKPdf **PKPdf** **17 53 39.6 +0.6**
PVIS Viseu 119.22 322 *e*PP PP 17 55 05.8 +6.8
X26A CR and CF Fran 119.28 47 ⇑Pdiff **Pdif** **17 50 02.1 +1.1**
baz=119
X26A ⇓P **PKiKP** **17 53 40.2 +0.7**
baz=119
X26A ⇓P **PKiKP** **17 53 40.2 +0.7**
baz=119
X26A ⇓P **PKiKP** **17 53 40.2 +0.7**
baz=119
MNTX Cornudas Mount 119.40 50 Pdif **Pdif** **17 49 58.8 -2.6**
MNTX LR LR
comp=Z,67μm,22.0s
MNTX Cornudas Mount 119.40 50 ⇓Pdiff **Pdif** **17 50 02.9 +1.6**
baz=119
MNTX ⇑P **PKiKP** **17 53 40.9 +1.3**
baz=119
MNTX ⇑P **PKiKP** **17 53 40.9 +1.3**
baz=119
MNTX ⇑P **PKiKP** **17 53 40.9 +1.3**
baz=119
MNTX ⇑P **PKiKP** **17 53 40.9 +1.3**
baz=119
MNTX ⇑P **PKiKP** **17 53 40.9 +1.3**
baz=119
MNTX ⇑P **PKiKP** **17 53 40.9 +1.3**
baz=119
BGNE Belgrade 119.40 37 ⇓Pdiff **Pdif** **17 50 00.0 -1.2**
baz=119
BGNE ⇑P **PKPdf** **17 53 39.1 -0.2**
baz=119
BGNE ⇑P **PKPdf** **17 53 39.1 -0.2**
baz=119
BGNE ⇑P **PKPdf** **17 53 39.1 -0.2**
baz=119
PTO Porto 119.41 322 *e*PKPdf **PKPdf** **17 53 40.5 +1.3**
324A Moseley Ranch, 119.43 51 ⇑Pdiff **Pdif** **17 50 03.3 +1.6**
baz=119
324A ⇑P **PKiKP** **17 53 40.7 +0.9**
baz=119
324A ⇑P **PKiKP** **17 53 40.7 +0.9**
baz=119
324A ⇑P **PKiKP** **17 53 40.7 +0.9**
baz=119
PCBR Castelo Branco 119.45 320 *e*PKPdf **PKPdf** **17 53 40.4 +1.0**
PCBR Castelo Branco 119.45 320 *e*PP PP 17 55 04.0 +3.4
125A Gardner Draw, 119.53 49 ⇓Pdiff **Pdif** **17 50 05.1 +3.1**
baz=119
125A ⇓P **PKiKP** **17 53 40.9 +0.9**
baz=119
125A ⇓P **PKiKP** **17 53 40.9 +0.9**
baz=119
125A ⇓P **PKiKP** **17 53 40.9 +0.9**
baz=119
Y26A Elida 119.57 47 ⇓Pdiff **Pdif** **17 50 04.6 +2.3**
baz=120
Y26A ⇓P **PKiKP** **17 53 40.1 +0.1**
baz=120
Y26A ⇓P **PKiKP** **17 53 40.1 +0.1**
baz=120
Y26A ⇓P **PKiKP** **17 53 40.1 +0.1**
baz=120
PMRV Marv??o 119.63 320 *e*Pdif **Pdif** **17 50 04.8 +2.6**
PMRV Marv??o 119.63 320 *e*PKPdf **PKPdf** **17 53 40.7 +0.9**
PMRV Marv??o 119.63 320 *e*PP PP 17 55 06.4 +4.6
PMRV *i* P **SP** **18 04 44.1 -3.8**
PMRV *e*SS SKKSdf 18 11 46.6 +13
PMRV *e*LQ LQ 18 28 53.5
PMRV *e*LR LR 18 32 54.6
comp=Z,92μm,22.0s
225A Deer Hill, Car 119.64 50 ⇓Pdiff **Pdif** **17 50 03.7 +1.0**
baz=120
225A ⇓P **PKiKP** **17 53 41.2 +0.9**
baz=120
225A ⇓P **PKiKP** **17 53 41.2 +0.9**
baz=120
225A ⇓P **PKiKP** **17 53 41.2 +0.9**
baz=120
X27A F and S Farms, 119.75 46 ⇓Pdiff **Pdif** **17 50 04.9 +1.9**

baz=120
X27A ⇑P **PKiKP 17 53 40.8 +0.4**
baz=120
X27A ⇑P **PKiKP 17 53 40.8 +0.4**
baz=120
X27A ⇑P **PKiKP 17 53 40.8 +0.4**
baz=120
Z26A Caprock 119.75 48 ⇑Pdiff **Pdif 17 50 05.6 +2.5**
baz=120
Z26A ⇓P **PKiKP 17 53 40.4 0.0**
baz=120
Z26A ⇓P **PKiKP 17 53 40.4 0.0**
baz=120
Z26A ⇓P **PKiKP 17 53 40.4 0.0**
baz=120
V28A Channing 119.83 45 ⇑Pdiff **Pdif 17 50 05.7 +2.4**
baz=120
V28A ⇑P **PKiKP 17 53 41.2 +0.7**
baz=120
V28A ⇑P **PKiKP 17 53 41.2 +0.7**
baz=120
V28A ⇑P **PKiKP 17 53 41.2 +0.7**
baz=120
325A Bean Ranch, Si 119.86 50 ⇓Pdiff **Pdif 17 50 05.8 +2.1**
baz=120
325A ⇓P **PKiKP 17 53 41.4 +0.7**
baz=120
325A ⇓P **PKiKP 17 53 41.4 +0.7**
baz=120
325A ⇓P **PKiKP 17 53 41.4 +0.7**
baz=120
CBKS Cedar Bluff 119.89 41 *e*PKIKP **PKPdf 17 53 40.5 +0.2**
CBKS MLR MLR
comp=Z,89μm,21.0s
CBKS Cedar Bluff 119.89 41 *e*PKPdf **PKPdf 17 53 40.5 +0.2**
CBKS LR LR
comp=Z,89μm,21.0s
CBKS Cedar Bluff 119.89 41 ⇓Pdiff **Pdif 17 50 03.2 -0.2**
baz=120
CBKS ⇓P **PKPdf 17 53 40.5 +0.2**
baz=120
CBKS ⇓P **PKPdf 17 53 40.5 +0.2**
baz=120
CBKS ⇓P **PKPdf 17 53 40.5 +0.2**
baz=120
CBKS ⇓P **PKPdf 17 53 40.5 +0.2**
baz=120
CBKS ⇓P **PKPdf 17 53 40.5 +0.2**
baz=120
CPRX Cap Rock 119.95 48 *e*PKPdf **PKPdf 17 53 41.1 +0.4**
GDL2 Guadalupe Moun 119.95 49 *e*PKPdf **PKPdf 17 53 40.7 -0.1**
SPMN St. Paul 119.96 31 ⇑Pdiff **Pdif 17 50 02.4 -1.1**
baz=120
SPMN ⇓P **PKiKP 17 53 40.2 0.0**
baz=120
SPMN ⇓P **PKiKP 17 53 40.2 0.0**
baz=120
SPMN ⇓P **PKiKP 17 53 40.2 0.0**
baz=120
126A Clayton Basin, 120.01 49 ⇑Pdiff **Pdif 17 50 05.7 +1.6**
baz=120
126A ⇓P **PKiKP 17 53 41.1 +0.2**
baz=120
126A ⇓P **PKiKP 17 53 41.1 +0.2**
baz=120
126A ⇓P **PKiKP 17 53 41.1 +0.2**
baz=120
Y27A Causey 120.07 47 ⇓Pdiff **Pdif 17 50 06.5 +2.1**
baz=120
Y27A ⇑P **PKiKP 17 53 41.6 +0.6**
baz=120
Y27A ⇑P **PKiKP 17 53 41.6 +0.6**
baz=120
Y27A ⇑P **PKiKP 17 53 41.6 +0.6**
baz=120
PESTR Estremoz 120.07 320 *e*Pdif **Pdif 17 50 13.2 +9.0**
PESTR Estremoz 120.07 320 *e*PKPdf **PKPdf 17 53 41.3 +0.7**
PESTR Estremoz 120.07 320 *e*PP PP 17 55 09.3 +4.4
PESTR *i* P **PS 18 04 59.5 +4.0**
PESTR *e*SS SS 18 11 34.5 +4.5
PESTR *e*LQ LQ 18 30 46.9
PESTR *e*LR LR 18 43 20.8
comp=Z,86μm,20.0s
PESTR Estremoz 120.07 320 *e*PKPdf PKKPab 18 03 56.9 +5.7
W28A Vega 120.09 45 ⇑Pdiff **Pdif 17 50 05.9 +1.4**
baz=120
W28A ⇓P **PKiKP 17 53 41.8 +0.9**
baz=120
W28A ⇓P **PKiKP 17 53 41.8 +0.9**
baz=120
W28A ⇓P **PKiKP 17 53 41.8 +0.9**
baz=120
425A Indio Mountain 120.10 51 ⇓Pdiff **Pdif 17 50 05.9 +1.2**
baz=120
425A ⇑P **PKiKP 17 53 41.8 +0.7**
baz=120
425A ⇑P **PKiKP 17 53 41.8 +0.7**
baz=120
425A ⇑P **PKiKP 17 53 41.8 +0.7**
baz=120
PBAR Barrancos 120.10 319 *e*Pdif **Pdif 17 50 14.1 +10**
PBAR Barrancos 120.10 319 *e*PKPdf **PKPdf 17 53 41.4 +0.8**
PBAR Barrancos 120.10 319 *e*PP PP 17 55 13.9 +8.8
PBAR *i* P **PS 18 04 49.6 -6.1**
PBAR *e*SS SS 18 11 52.0 +22
PBAR *e*LQ LQ 18 30 49.0
PBAR *e*LR LR 18 37 43.4
comp=Z,72μm,22.0s
PBAR Barrancos 120.10 319 *e*PKPdf **PKKPab 18 03 54.3 +3.2**
PTOM Tomar 120.17 321 *e*PKPdf **PKPdf 17 53 42.2 +1.4**
226A Malaga, Loving 120.21 49 ⇓Pdiff **Pdif 17 50 06.8 +1.7**
baz=120
226A ⇑P **PKiKP 17 53 41.9 +0.6**
baz=120
226A ⇑P **PKiKP 17 53 41.9 +0.6**
baz=120
226A ⇑P **PKiKP 17 53 41.9 +0.6**
baz=120
V29A Stinnett 120.26 44 ⇓Pdiff **Pdif 17 50 04.6 -0.6**
baz=120
V29A ⇓P **PKiKP 17 53 41.9 +0.7**
baz=120
V29A ⇓P **PKiKP 17 53 41.9 +0.7**
baz=120
V29A ⇓P **PKiKP 17 53 41.9 +0.7**
baz=120
CLNB Carlsbad 120.29 49 *e*PKPdf **PKPdf 17 53 42.0 +0.7**
Z27A Tatum 120.30 48 ⇓Pdiff **Pdif 17 50 07.3 +1.8**
baz=120
Z27A ⇑P **PKPdf 17 53 41.1 -0.3**
baz=120
Z27A ⇑P **PKPdf 17 53 41.1 -0.3**
baz=120
Z27A ⇑P **PKPdf 17 53 41.1 -0.3**
baz=120
MSTX Muleshoe 120.31 47 ⇑Pdiff **Pdif 17 50 06.0 +0.5**
baz=120
MSTX ⇑P **PKiKP 17 53 41.7 +0.3**
baz=120
MSTX ⇑P **PKiKP 17 53 41.7 +0.3**
baz=120
MSTX ⇑P **PKiKP 17 53 41.7 +0.3**
baz=120
PMTG Montargil 120.37 320 *e*Pdif **Pdif 17 50 08.0 +2.5**
PMTG Montargil 120.37 320 *e*PKPdf **PKPdf 17 53 41.6 +0.5**
PMTG Montargil 120.37 320 *e*PP PP 17 55 11.0 +4.2
PMTG *e*SKS **SP 18 04 50.8 -3.6**
PMTG *e*SS **SS 18 11 38.0 +4.3**
PMTG *e*LQ LQ 18 30 46.0
PMTG *e*LR LR 18 40 52.0
comp=Z,90μm,22.0s
PMTG Montargil 120.37 320 *e*PKPdf **PKKPab 18 03 49.2 -0.7**
X28A Dimmitt 120.46 46 ⇑Pdiff **Pdif 17 50 04.0 -2.2**
baz=120
X28A ⇓P **PKiKP 17 53 41.7 0.0**
baz=120
X28A ⇓P **PKiKP 17 53 41.7 0.0**
baz=120
X28A ⇓P **PKiKP 17 53 41.7 0.0**
baz=120
127A Arkansas Junct 120.49 48 ⇓Pdiff **Pdif 17 50 07.0 +0.6**
baz=120
127A ⇓P **PKiKP 17 53 42.3 +0.5**
baz=120
127A ⇓P **PKiKP 17 53 42.3 +0.5**
baz=120
EVO Evora 120.54 320 *e*Pdif **Pdif 17 50 14.6 +8.3**
EVO Evora 120.54 320 *e*PKPdf **PKPdf 17 53 42.6 +1.1**
EVO Evora 120.54 320 *e*PP PP 17 55 13.9 +5.9
EVO Evora 120.54 320 *e*PKIKP **PKPdf 17 53 41.3 -0.2**
comp=Z,242nm,1.2s
EVO *e*R
comp=Z,147μm,21.2s
W29A Amraillo 120.55 45 ⇑Pdiff **Pdif 17 50 04.5 -2.1**
baz=120
W29A ⇑P **PKiKP 17 53 42.4 +0.6**
baz=120
W29A ⇑P **PKiKP 17 53 42.4 +0.6**
baz=120
W29A ⇑P **PKiKP 17 53 42.4 +0.6**
baz=120
SCHQ Schefferville 120.56 9 PKP **PKPdf 17 53 39.8 -1.3**
SCHQ *e*PKPdf **PKiKP 17 53 40.9 -0.3**
SCHQ PKKPab **PKKPbc 18 03 46.6 -2.0**
SCHQ SKKPbc SKKPbc 18 07 36.9 +1.4
SCHQ Schefferville 120.56 9 PKP **PKPdf 17 53 39.8 -1.3**
comp=Z,36nm,1.0s,baz=353,slow=3.4,SNR=21
SCHQ PKKPab **PKKPbc 18 03 46.6 -2.0**
comp=Z,4.9nm,0.6s,baz=165,slow=4.8,SNR=5.0
SCHQ SKKPbc SKKPbc 18 07 36.9 +1.4
comp=Z,24nm,1.2s,baz=152,slow=4.5,SNR=3.8
326A Caldwell Ranch 120.64 50 ⇓Pdiff **Pdif 17 50 07.6 +0.6**
baz=121
326A ⇓P **PKiKP 17 53 42.3 +0.2**
baz=121
326A ⇓P **PKiKP 17 53 42.3 +0.2**
baz=121
326A ⇓P **PKiKP 17 53 42.3 +0.2**
baz=121
AMTX Amarillo 120.65 45 *e*PKPdf **PKPdf 17 53 41.9 -0.1**
AMTX LR LR
comp=Z,120μm,21.0s
AMTX Amarillo 120.65 45 ⇓Pdiff **Pdif 17 50 05.3 -1.6**
baz=120
AMTX ⇓P **PKiKP 17 53 42.7 +0.6**
baz=120
AMTX ⇓P **PKiKP 17 53 42.7 +0.6**
baz=120
AMTX ⇓P **PKiKP 17 53 42.7 +0.6**
baz=120
AMTX ⇓P **PKiKP 17 53 42.7 +0.6**
baz=120
AMTX ⇓P **PKiKP 17 53 42.7 +0.6**
baz=120
AMTX ⇓P **PKiKP 17 53 42.7 +0.6**
baz=120
PBEJ Beja 120.72 319 *e*PKPdf **PKPdf 17 53 43.2 +1.3**
Y28A McKinney Farm, 120.72 47 ⇓Pdiff **Pdif 17 50 05.8 -1.5**
baz=121
Y28A ⇓P **PKiKP 17 53 43.0 +0.8**
baz=121
Y28A ⇓P **PKiKP 17 53 43.0 +0.8**
baz=121
Y28A ⇓P **PKiKP 17 53 43.0 +0.8**
baz=121
227A Bennet, Jal 120.85 49 ⇑Pdiff **Pdif 17 50 05.4 -2.5**
baz=121
X29A Tulia 120.85 46 ⇑Pdiff **Pdif 17 50 06.0 -1.9**
baz=121
X29A ⇓P **PKiKP 17 53 43.2 +0.8**
baz=121
X29A ⇓P **PKiKP 17 53 43.2 +0.8**
baz=121
X29A ⇓P **PKiKP 17 53 43.2 +0.8**
baz=121
426A McDonald Obser 120.89 51 ⇑Pdiff **Pdif 17 50 07.4 -0.9**
baz=121
426A ⇓P **PKiKP 17 53 43.3 +0.5**
baz=121
426A ⇓P **PKiKP 17 53 43.3 +0.5**
baz=121
426A ⇓P **PKiKP 17 53 43.3 +0.5**
baz=121
Z28A Tucker Farm, M 120.92 47 ⇓Pdiff **Pdif 17 50 04.9 -3.4**
baz=121
Z28A ⇓P **PKiKP 17 53 42.6 0.0**
baz=121
Z28A ⇓P **PKiKP 17 53 42.6 0.0**
baz=121
Z28A ⇓P **PKiKP 17 53 42.6 0.0**
baz=121
PVAQ Vaqueiros 120.97 318 *e*Pdif **Pdif 17 50 16.6 +8.4**
PVAQ Vaqueiros 120.97 318 *e*PKPdf **PKPdf 17 53 43.6 +1.2**
PVAQ Vaqueiros 120.97 318 *e*PP PP 17 55 15.6 +4.6
PVAQ *i* P **SP 18 05 08.7 +8.8**
PVAQ *e*SS SS 18 11 55.3 +14
PVAQ *e*LQ LQ 18 30 17.3
PVAQ *e*LR LR 18 38 59.3
comp=Z,74μm,18.0s
PVAQ Vaqueiros 120.97 318 *e*PKPdf **PKKPab 18 03 48.1 +0.8**
327A Balmorhea Ranc 120.99 50 ⇑Pdiff **Pdif 17 50 05.6 -2.9**
baz=121
327A ⇑P **PKiKP 17 53 43.5 +0.8**
baz=121
327A ⇑P **PKiKP 17 53 43.5 +0.8**
baz=121
327A ⇑P **PKiKP 17 53 43.5 +0.8**
baz=121
PCVE Castro Verde 121.06 319 *e*Pdif **Pdif 17 50 18.5 +10**
PCVE Castro Verde 121.06 319 *e*PKPdf **PKPdf 17 53 43.6 +1.1**
PCVE Castro Verde 121.06 319 *e*PP PP 17 55 16.8 +5.2
PCVE *i* P **SP 18 05 06.3 +5.6**
PCVE *e*SS **SS 18 11 41.0 -1.7**
PCVE *e*LQ LQ 18 31 13.6
PCVE *e*LR LR 18 38 14.2
comp=Z,106μm,22.0s
PCVE Castro Verde 121.06 319 *e*PKPdf **PKKPab 18 03 51.7 +4.8**
MESJ Messejana 121.06 319 *e*P **PKPdf 17 53 41.9 -0.6**
MESJ *e*PP **PP 17 55 10.7 -0.9**
MESJ *e*S **SKSac 18 00 37.9 -1.8**
MESJ *e*SS **SS 18 11 41.9 -0.8**
MESJ AMS AMS 18 53 33.7
comp=Z,105μm,20.0s
MESJ Messejana 121.06 319 *e*PP PP 17 55 10.7 -0.9
MESJ *e*S **SKSac 18 00 37.9 -1.8**
MESJ *e*SS **SS 18 11 41.9 -0.8**
MESJ A A 18 53 33.7
comp=Z,105μm,20.0s
MESJ Messejana 121.06 319 *e*PKIKP **PKPdf 17 53 41.9 -0.6**
MESJ *e* 17 55 10.6
MESJ *e*S **SKSac 18 00 37.9 -1.8**
MESJ *e*SS **SS 18 11 41.9 -0.8**
PMAFR Mafra 121.11 321 *e*Pdif Pdif 17 50 21.0 +12
PMAFR Mafra 121.11 321 *e*PKPdf **PKPdf 17 53 40.2 -2.4**
PMAFR Mafra 121.11 321 *e*PP PP 17 55 17.3 +5.4
PMAFR *i* P **PS 18 05 08.1 +3.4**
PMAFR *e*SS SS 18 12 14.7 +31
PMAFR *e*LQ LQ 18 28 55.9
PMAFR *e*LR LR 18 37 46.1
comp=Z,99μm,20.0s
PNCL Nicolau / Gran 121.11 319 *e*Pdif **Pdif 17 50 18.6 +10**
PNCL Nicolau / Gran 121.11 319 *e*PKPdf **PKPdf 17 53 43.7 +1.1**
PNCL Nicolau / Gran 121.11 319 *e*PP PP 17 55 19.0 +7.1
PNCL *i* P **PS 18 05 03.2 -1.5**
PNCL *e*SS SS 18 11 36.9 -6.3
PNCL *e*LQ LQ 18 31 16.0
PNCL *e*LR LR 18 38 28.5
comp=Z,83μm,22.0s
PNCL Nicolau / Gran 121.11 319 *e*PKPdf PKKPab 18 03 52.5 +5.8
HPIG 121.13 55 P **PKPdf 17 53 42.4 -0.8**
MDT Midelt 121.15 312 PKKPbc PKKPbc 18 03 46.0 +0.1
MDT Midelt 121.15 312 PKKPbc PKKPbc 18 03 46.0 +0.1
comp=Z,6.6nm,1.0s,baz=193,slow=5.3,SNR=4.0
COWI Conover 121.15 28 *e*PKPdf **PKPdf 17 53 41.9 -0.6**
COWI LR LR
comp=Z,64μm,21.0s
LIS Lisbon 121.16 320 *e*P **PKPdf 17 53 41.7 -1.0**
LIS *e*PP **PP 17 55 11.2 -1.0**
LIS *e*S **SKSac 18 00 39.1 -0.9**
LIS *e*SS **SS 18 11 42.5 -1.4**
LIS AMS AMS 18 54 49.6
comp=E,92μm,21.8s
LIS Lisbon 121.16 320 *e*PKIKP **PKPdf 17 53 41.6 -1.0**
LIS *e* 17 55 11.2
LIS *e*S **SKSac 18 00 39.0 -0.9**
LIS *e*SS **SS 18 11 42.4 -1.4**
Y29A Porterfield Fa 121.17 46 ⇑Pdiff **Pdif 17 50 06.3 -3.0**
baz=121
Y29A ⇓P **PKiKP 17 53 43.9 +0.8**
baz=121
Y29A ⇓P **PKiKP 17 53 43.9 +0.8**
baz=121
Y29A ⇓P **PKiKP 17 53 43.9 +0.8**
baz=121
128A Castleberry Fa 121.17 48 ⇑P **PKPdf 17 53 43.6 +0.6**
baz=121
PBDV Barranco-do-Ve 121.20 318 *e*Pdif Pdif 17 50 19.3 +10
PBDV Barranco-do-Ve 121.20 318 *e*PKPdf **PKPdf 17 53 44.4 +1.6**
PBDV Barranco-do-Ve 121.20 318 *e*PP PP 17 55 15.6 +2.9
PBDV *i* P **PS 18 05 09.3 +3.6**
PBDV *e*SS SS 18 12 35.7 +51
PBDV *e*LQ LQ 18 31 21.6
PBDV *e*LR LR 18 38 59.9
comp=E,73μm,20.0s
626A Big Bend Ranch 121.29 52 ⇑Pdiff **Pdif 17 50 07.2 -2.7**
baz=121
626A ⇓P **PKiKP 17 53 43.9 +0.4**
baz=121
626A ⇓P **PKiKP 17 53 43.9 +0.4**
baz=121
626A ⇓P **PKiKP 17 53 43.9 +0.4**
baz=121
427A Hayter Ranch, 121.29 50 ⇓Pdiff **Pdif 17 50 07.2 -2.7**
baz=121
427A ⇓P **PKiKP 17 53 44.5 +1.0**
baz=121
427A ⇓P **PKiKP 17 53 44.5 +1.0**
baz=121
427A ⇓P **PKiKP 17 53 44.5 +1.0**
baz=121
228A UT Block 9, Go 121.33 49 ⇑P **PKPdf 17 53 43.9 +0.6**
baz=121
Z29A Hungry Hill Ra 121.44 47 ⇑Pdiff **Pdif 17 50 08.8 -1.7**
baz=121
Z29A ⇑P **PKiKP 17 53 44.1 +0.4**
baz=121
Z29A ⇑P **PKiKP 17 53 44.1 +0.4**
baz=121
Z29A ⇑P **PKiKP 17 53 44.1 +0.4**
baz=121
527A Woodward Ranch 121.44 51 ⇓P **PKPdf 17 53 44.7 +1.0**
baz=121
328A Wristen Ranch, 121.50 50 ⇑Pdiff **Pdif 17 50 09.6 -1.2**
baz=121
328A ⇓P **PKiKP 17 53 44.0 +0.2**
baz=121
328A ⇓P **PKiKP 17 53 44.0 +0.2**
baz=121
328A ⇓P **PKiKP 17 53 44.0 +0.2**
baz=121
PTEO Sao Teotonio 121.56 319 *e*PKPdf **PKPdf 17 53 45.2 +1.7**
PTEO Sao Teotonio 121.56 319 *e*PP PP 17 55 13.5 -1.5
PTEO Sao Teotonio 121.56 319 *e*PKPdf PKKPab 18 03 56.2 +11
129A Stewart Farms, 121.62 48 ⇑Pdiff **Pdif 17 50 10.8 -0.5**
baz=122
129A ⇓P **PKiKP 17 53 44.3 +0.3**
baz=122
129A ⇓P **PKiKP 17 53 44.3 +0.3**
baz=122
129A ⇓P **PKiKP 17 53 44.3 +0.3**
baz=122
MORF Marmelete 121.64 319 *e*Pdif **Pdif 17 50 21.1 +10**
MORF Marmelete 121.64 319 *e*PKPdf **PKPdf 17 53 45.4 +1.7**
MORF Marmelete 121.64 319 *e*PP PP 17 55 20.2 +4.5
MORF *i* P **PS 18 05 11.7 +2.1**
MORF *e*SS SS 18 12 00.7 +10
MORF *e*LQ LQ 18 33 40.7
MORF *e*LR LR 18 38 20.4
comp=E,108μm,20.0s
MORF Marmelete 121.64 319 *e*PKIKP **PKPdf 17 53 43.4 -0.3**
MORF *e* 17 55 14.6
MORF *e*S **SKSac 18 00 40.3 -1.5**
KSU1 Kansas State U 121.72 39 *e*PKPdf **PKPdf 17 53 43.7 -0.1**
TXAR Lajitas Array 121.75 52 Pdif **Pdif 17 50 13.5 +1.5**
TXAR PKP **PKPdf 17 53 43.7 -0.5**
TXAR PKKPab **PKKPab 18 03 44.5 +0.4**
TXAR SKKPbc SKKPbc 18 07 32.0 +1.3
TXAR Lajitas Array 121.75 52 Pdiff **Pdif 17 50 13.5 +1.5**
comp=E,0.1nm,0.5s,baz=320,slow=2.7,SNR=2.8
TXAR PKP **PKPdf 17 53 43.7 -0.5**
comp=E,15nm,0.7s,baz=249,slow=0.5,SNR=35
TXAR PKKPab **PKKPab 18 03 44.5 +0.4**
comp=E,2.6nm,0.6s,baz=121,slow=5.0,SNR=13
TXAR SKKPbc SKKPbc 18 07 32.0 +1.3
comp=E,5.6nm,1.1s,baz=142,slow=3.1,SNR=2.7
PFVI Vila Bisbo 121.86 319 *e*Pdif Pdif 17 50 22.8 +11
PFVI Vila Bisbo 121.86 319 *e*PKPdf **PKPdf 17 53 45.7 +1.6**
PFVI Vila Bisbo 121.86 319 *e*PP PP 17 55 22.5 +5.4
PFVI *i* P **PS 18 05 10.8 -0.6**
PFVI *e*SS SS 18 12 15.8 +23
PFVI *e*LQ LQ 18 31 54.0
PFVI *e*LR LR 18 45 13.3
comp=E,108μm,22.0s
MAIG Mazatlaan 121.87 60 P **PKPdf 17 53 44.3 -0.2**
428A Kincaid Ranch, 121.90 50 ⇑Pdiff **Pdif 17 50 11.3 -1.3**
baz=122
428A ⇓P **PKiKP 17 53 45.6 +1.0**
baz=122
428A ⇓P **PKiKP 17 53 45.6 +1.0**
baz=122
428A ⇓P **PKiKP 17 53 45.6 +1.0**
baz=122
627A Terlingua Ranc 121.92 52 ⇓P **PKPdf 17 53 45.5 +1.0**
baz=122
SCIA State Center 121.97 34 *e*PKPdf **PKPdf 17 53 42.2 -2.0**
229A Bryant Ranch, 121.98 48 ⇓P **PKPdf 17 53 45.1 +0.5**
baz=122
528A Cox Ranch, San 122.07 51 ⇓Pdiff **Pdif 17 50 11.3 -2.1**
baz=122
528A ⇓P **PKiKP 17 53 45.8 +0.8**
baz=122
528A ⇓P **PKiKP 17 53 45.8 +0.8**
baz=122
528A ⇓P **PKiKP 17 53 45.8 +0.8**
baz=122
329A Wagon Wheel Ra 122.08 49 ⇑P **PKPdf 17 53 45.2 +0.4**
baz=122
628A Black Gap, Mar 122.30 52 ⇑Pdiff **Pdif 17 50 12.7 -1.6**
baz=122
628A ⇓P **PKiKP 17 53 46.0 +0.7**
baz=122
628A ⇓P **PKiKP 17 53 46.0 +0.7**
baz=122
628A ⇓P **PKiKP 17 53 46.0 +0.7**
baz=122
TOA0 Torodi Ar. Sit 122.69 288 *e*PKPdf **PKPdf 17 53 45.1 -1.1**
TORD Torodi Ar. Bea 122.69 288 Pdif **Pdif 17 50 21.1 +4.9**
TORD PKP **PKPdf 17 53 45.1 -1.1**
TORD PKKPab **PKKPbc 18 03 38.1 -1.3**
TORD Torodi Ar. Bea 122.69 288 Pdiff **Pdif 17 50 21.1 +4.9**
comp=E,0.8nm,1.0s,baz=83,slow=5.3,SNR=2.8
TORD PKP **PKPdf 17 53 45.1 -1.1**
comp=E,49nm,0.7s,baz=90,slow=1.7,SNR=90
TORD PKPab **PKKPbc 18 03 38.1 -1.3**
comp=E,7.1nm,0.8s,baz=264,slow=3.0,SNR=15
WMOK Wichita Mounta 122.76 44 *e*PKIKP **PKPdf 17 53 45.0 -0.9**
WMOK Wichita Mounta 122.76 44 *e*PKPdf **PKPdf 17 53 45.0 -0.9**
TUL1 Tulsa 124.13 41 ⇓Pdiff **Pdif 17 50 20.2 -2.1**
baz=124
TUL1 ⇑P **PKiKP 17 53 49.1 +0.4**
baz=124
TUL1 ⇑P **PKiKP 17 53 49.1 +0.4**
baz=124
TUL1 ⇑P **PKiKP 17 53 49.1 +0.4**
baz=124
GLMI Grayling 124.19 26 *e*PKPdf **PKPdf 17 53 49.1 +0.8**
GLMI LR LR
comp=E,57μm,19.0s
JCT Junction City 124.20 49 *e*PKIKP **PKPdf 17 53 48.1 -0.7**
JCT Junction City 124.20 49 *e*PKPdf **PKPdf 17 53 48.1 -0.7**
JCT Junction City 124.20 49 ⇑Pdiff **Pdif 17 50 21.6 -1.2**
baz=124
JCT ⇑P **PKiKP 17 53 49.2 +0.1**
baz=124
JCT ⇑P **PKiKP 17 53 49.2 +0.1**
baz=124
JCT ⇑P **PKiKP 17 53 49.2 +0.1**
baz=124
ANIG Ahuacatlan 124.26 61 P **PKPdf 17 53 50.7 +1.5**
CJM Chamela 124.32 63 P **PKPdf 17 53 50.7 +1.4**
HDIL Hopedale 125.05 33 *e*PKPdf **PKPdf 17 53 49.8 -0.3**
RFTA Plano 125.16 45 *e*PKPdf **PKPdf 17 53 51.7 +1.2**
SFJM Santa Fe 125.76 62 P **PKPdf 17 53 54.1 +1.9**
SLM Saint Louis 125.85 35 *e*PKIKP **PKPdf 17 53 51.5 -0.2**

SLM	Saint Louis	125.85	35	ePKPdf	PKPdf	17 53 51.5	-0.2	
FVM	French Village	126.17	36	ePKIKP	PKPdf	17 53 52.0	-0.4	
FVM	French Village	126.17	36	ePKPdf	PKPdf	17 53 52.0	-0.4	
MMIG	Aquila	126.23	64	P	PKPdf	17 53 47.0	-5.9	
SFIN	Scholer Farm	126.35	32	⇓Pdiff	Pdif	17 50 29.3	-2.7	
	baz=126							
SFIN				⇑P	PKiKP	17 53 52.9	-0.1	
	baz=126							
SFIN				⇑P	PKiKP	17 53 52.9	-0.1	
	baz=126							
SFIN				⇑P	PKiKP	17 53 52.9	-0.1	
	baz=126							
MIAR	Mount Ida	126.40	41	ePKIKP	PKPdf	17 53 53.4	+0.6	
MIAR	Mount Ida	126.40	41	ePKPdf	PKPdf	17 53 53.4	+0.6	
AAM	Ann Arbor	126.60	28	ePKIKP	PKPdf	17 53 53.2	+0.2	
AAM				MLR	MLR			
	comp=Z,72μm,21.0s							
AAM	Ann Arbor	126.60	28	ePKPdf	PKPdf	17 53 53.2	+0.2	
AAM				LR	LR			
	comp=Z,72μm,21.0s							
OLIL	Olney	126.99	34	ePKPdf	PKPdf	17 53 54.0	+0.2	
LNIG	Linares	127.05	55	P	PKPdf	17 53 53.1	-1.3	
SIUC	Southern Illin	127.06	35	ePKPdf	PKPdf	17 53 53.8	-0.2	
KVTX	Kingsville	127.09	51	ePKPdf	PKPdf	17 53 56.5	+2.1	
NATX	Nacogdoches	127.28	45	ePKPdf	PKPdf	17 53 56.0	+1.4	
HKT	Hockley	127.43	47	ePKIKP	PKPdf	17 53 55.6	+0.8	
HKT	Hockley	127.43	47	ePKPdf	PKPdf	17 53 55.6	+0.8	
PARMO	Parma	127.46	37	ePKPdf	PKPdf	17 53 52.9	-1.9	
BLO	Bloomington	127.53	32	ePKIKP	PKPdf	17 53 55.6	+0.7	
BLO	Bloomington	127.53	32	ePKPdf	PKPdf	17 53 55.6	+0.7	
HBAR	Harrisburg	127.63	38	ePKPdf	PKPdf	17 53 54.8	-0.3	
MOIG	Morelia	127.67	62	P	PKPdf	17 53 56.5	+0.5	
USIN	University of	127.77	34	ePKPdf	PKPdf	17 53 55.6	+0.3	
ZIIG	Zihuatanejo	128.14	64	P	PKPdf	17 53 57.8	+1.2	
HALT	Halls	128.21	37	ePKPdf	PKPdf	17 53 56.0	-0.3	
LONY	Lake Ozonia	128.25	19	ePKPdf	PKPdf	17 53 55.8	-0.3	
ERPA	Erie	128.37	25	ePKPdf	PKPdf	17 53 49.8	-6.6	
ERPA				LR	LR			
	comp=Z,66μm,19.0s							
FRNY	Flat Rock	128.38	18	ePKPdf	PKPdf	17 53 53.1	-3.2	
ACSO	Alum Creek Sta	128.53	29	ePKPdf	PKPdf	17 53 56.5	-0.3	
ACSO				LR	LR			
	comp=Z,75μm,21.0s							
NCB	Newcomb	128.95	19	ePKPpre	PKPpre	17 53 44.9		
WVT	Waverly	128.96	36	ePKIKP	PKPdf	17 53 56.4	-1.3	
WVT	Waverly	128.96	36	ePKPdf	PKPdf	17 53 56.4	-1.3	
OXF	Oxford	129.09	39	ePKIKP	PKPdf	17 53 54.2	-3.8	
OXF	Oxford	129.09	39	ePKPdf	PKPdf	17 53 54.2	-3.8	
PMPS	Porto Santo	129.22	319	ePKPdf	PKPdf	17 54 00.0	+1.8	
MDV	Middlebury	129.26	18	ePKPdf	PKPdf	17 53 58.0	0.0	
DEIG	Demacu	129.31	60	P	PKPdf	17 53 58.6	-0.5	
SZVM	Salazar	129.38	61	P	PKPdf	17 53 59.5	0.0	
CAIG	El Cayaco	129.41	64	P	PKPpre	17 53 46.8		
LBNH	Lisbon	129.42	17	ePKIKP	PKPdf	17 53 55.5	-2.8	
LBNH				MLR	MLR			
	comp=Z,75μm,21.0s							
LBNH	Lisbon	129.42	17	ePKPdf	PKPdf	17 53 55.5	-2.8	
LBNH				LR	LR			
	comp=Z,75μm,21.0s							
PLAL	Pickwick Lake	129.59	37	ePKPdf	PKPdf	17 53 56.8	-2.1	
PLIG	Platanillo	129.62	62	P	PKPpre	17 53 46.5		
ACCN	Adirondack Com	129.65	19	ePKPdf	PKPdf	17 53 57.0	-1.8	
MEIG	Mezcala	129.68	63	P	PKPdf	17 54 00.1	+0.5	
WVL	Waterville	129.75	15	ePKPdf	PKPdf	17 53 58.1	-0.8	
HNH	Hanover	129.80	18	ePKPdf	PKPdf	17 53 59.8	+0.7	
PMAR	Madeira	129.81	319	ePKPdf	PKPdf	17 54 02.7	+3.1	
YAIG	Yautepec	129.83	62	P	PKPdf	17 53 58.6	-1.4	
VBMS	Vicksburg	129.84	42	ePKPdf	PKPdf	17 54 00.2	+0.7	
IIO	Organos	129.86	61	P	PKPdf	17 54 01.1	+0.8	
BINY	Binghamton	129.89	22	ePKPpre	PKPpre	17 53 52.0		
BINY				LR	LR			
	comp=Z,86μm,19.0s							
PMOZ	Porto Moniz, M	129.93	319	ePdif	Pdif	17 50 50.6	+2.3	
PMOZ	Porto Moniz, M	129.93	319	ePKPdf	PKPdf	17 54 00.8	+1.0	
PMOZ	Porto Moniz, M	129.93	319	ePP	PP	17 56 16.0	+5.1	
PMOZ				A	A	18 54 07.1		
	comp=Z,38μm,24.0s							
EMMW	East Machias	130.14	13	ePKPdf	PKPdf	17 53 59.1	-0.5	
PPM	Popocatepetl	130.14	61	PKIKP	PKPdf	17 53 55.3	-5.7	
PPM	Popocatepetl	130.14	61	P	PKPdf	17 53 55.3	-5.7	
FFD	Franklin Falls	130.20	17	ePKPdf	PKPdf	17 54 06.0	+6.2	
TRY	Troy	130.24	19	ePKPpre	PKPpre	17 53 50.1		
DBIC	Dimbokro	130.34	282	PKPpre	PKPpre	17 53 49.4		
DBIC				PKP	PKPdf	17 53 59.7	-1.2	
DBIC				ePKPdf	PKiKP	17 54 00.1	-1.6	
DBIC				SKPbc	SKPbc	17 57 24.4	+1.5	
DBIC				LR	LR			
	comp=Z,34μm,20.0s							
DBIC	Dimbokro	130.34	282	PKhKP	PKPpre	17 53 49.4		
	comp=Z,3.0nm,0.6s,baz=19,slow=0.8,SNR=3.7							
DBIC				PKP	PKPdf	17 53 59.7	-1.2	
	comp=Z,39nm,0.7s,baz=70,slow=2.2,SNR=8.2							
DBIC				SKPbc	SKPbc	17 57 24.4	+1.5	
	comp=Z,86nm,1.0s,baz=82,slow=4.2,SNR=4.5							
DBIC	Dimbokro	130.34	282	eP	PKPdf	17 53 58.6	-2.3	
DBIC	Dimbokro	130.34	282	⇑iP	PKPdf	17 54 00.5	-0.4	
SSPA	Standing Stone	130.48	24	ePKPpre	PKPpre	17 53 45.4		
LIC	Lamto	130.59	281	ePKIKP	PKPdf	17 54 01.1	-0.3	
	comp=Z,294nm,1.0s							
LIC				eR				
	comp=Z,58μm,22.8s							
SWET	Sewanee	130.70	35	ePKPdf	PKPdf	17 54 02.0	+0.9	
TZTN	Tazewell	131.06	32	ePKPdf	PKPdf	17 53 57.5	-4.3	
QUA2	Belchertown	131.07	19	ePKPdf	PKPdf	17 53 58.3	-3.2	
HRV	Adam Dziewonsk	131.11	18	ePKIKP	PKPdf	17 54 00.5	-1.1	
HRV	Adam Dziewonsk	131.11	18	ePKPdf	PKPdf	17 54 00.5	-1.1	
CMLA	Cha da Macela	131.19	330	ePKP	PKPdf	17 54 09.5	+7.6	
CMLA	Cha da Macela	131.19	330	PFAKE		17 54 10.0	+8.1	
CMLA				LR	LR			
	comp=Z,67μm,21.0s							
PSET	Sete Cidades	131.24	331	ePKP	PKPdf	17 54 09.5	+7.5	
WES	Weston	131.29	18	ePKIKP	PKPdf	17 54 01.0	-0.9	
WES	Weston	131.29	18	ePKPdf	PKPdf	17 54 01.0	-0.9	
UTMO	Huajuapan	131.33	62	P	PKPdf	17 54 05.5	+2.6	
TPIG	Tehuac#an	131.49	61	P	PKPdf	17 54 05.4	+2.2	
PSMN	Pico do Norte,	131.55	329	ePKP	PKPdf	17 54 06.4	+3.8	
PNIG	Pinotepa	131.56	64	P	PKPdf	17 54 03.7	+0.6	
LRAL	Lakeview Retre	131.57	38	ePKPpre	PKPpre	17 53 49.2		
LRAL				LR	LR			
	comp=Z,64μm,19.0s							
PSMA	Santa Maria	131.59	329	ePKP	PKPdf	17 54 05.6	+3.0	
TKL	Tuckaleechee C	131.59	33	ePKPdf	PKPdf	17 54 02.8	+0.1	
BRYW	Bryant College	131.65	18	ePKPdf	PKPdf	17 54 02.1	-0.6	
PAL	Palisades	131.69	21	ePKIKP	PKPpre	17 53 54.7		
PAL	Palisades	131.69	21	ePKPpre	PKPpre	17 53 54.6		
BRNJ	Basking Ridge	131.74	21	ePKPdf	PKPdf	17 54 00.6	-2.2	
YLE	Yale	131.75	20	ePKPdf	PKPdf	17 54 03.4	+0.6	
CPNY	Central Park	131.86	21	ePKPdf	PKPdf	17 53 59.4	-3.6	
SDMD	Soldier's Deli	131.95	24	ePKPdf	PKPdf	17 54 02.6	-0.7	
PCED	Cedros	131.98	334	ePKP	PKPdf	17 54 10.5	+7.2	
EFI	East Falkland	132.11	176	ePKIKP	PKPdf	17 54 04.2	+1.1	
EFI				MLR	MLR			
	comp=Z,33μm,20.0s							
EFI	East Falkland	132.11	176	ePKPdf	PKPdf	17 54 04.2	+1.1	
EFI				LR	LR			
	comp=Z,33μm,20.0s							
BLA	Blacksburg	132.14	29	ePKHKP	PKPpre	17 53 49.5		
BLA				MLR	MLR			
	comp=Z,61μm,21.0s							
BLA	Blacksburg	132.14	29	ePKPpre	PKPpre	17 53 49.5		
BLA				LR	LR			
	comp=Z,61μm,21.0s							
VHO	Vista Hermosa	132.56	63	P	PKPdf	17 54 05.6	+0.4	
CBN	Corbin	132.73	26	PFAKE		17 54 10.0	+5.2	
CBN				LR	LR			
	comp=Z,83μm,20.0s							
BRAL	Brewton	132.88	40	ePKPdf	PKPdf	17 54 05.8	+0.6	
BRAL				LR	LR			
	comp=Z,58μm,22.0s							
JSRW	J. Sargeant Re	132.94	27	ePKPpre	PKPpre	17 53 53.6		
KMSC	Kings Mountain	133.29	32	⇑Pdiff	Pdif	17 51 02.1	-1.0	
	baz=133							
GOGA	Godfrey	133.41	35	ePKHKP	PKPpre	17 53 55.6		
GOGA				MLR	MLR			
	comp=Z,67μm,20.0s							
GOGA	Godfrey	133.41	35	ePKPpre	PKPpre	17 53 55.6		
GOGA				LR	LR			
	comp=Z,67μm,20.0s							
HUIG	Huatulco	133.59	64	P	PKPdf	17 53 59.1	-7.9	
HUIG				P	PKiKP	17 54 06.8	-1.4	
CMIG	Matias Romero	134.18	62	PKPpre	PKPpre	17 53 56.7		
CMIG				PKP	PKPdf	17 54 07.5	-0.5	
	comp=Z,4.0nm,0.7s,baz=288,slow=2.9,SNR=5.3							
CMIG				PKP	PKPdf	17 54 07.5	-0.5	
	comp=Z,20nm,0.6s,baz=335,slow=2.5,SNR=34							
CNNC	Cliffs of the	134.94	29	PFAKE		17 54 20.0	+11	
CNNC				LR	LR			
	comp=Z,87μm,20.0s							
COYC	Coyhaique	135.31	161	*i* P	PKPdf	17 54 12.0	+2.7	
NHSC	New Hope	135.47	32	ePKPdf	PKPdf	17 54 03.1	-6.9	
TGIG		135.85	61	P	PKPdf	17 53 57.6	-14	
TGIG				P	PKiKP	17 54 09.1	-3.7	
CCIG	Comitan	136.92	61	P	PKPdf	17 54 02.7	-11	
THIG		137.35	63	P	PKPdf	17 54 04.5	-9.4	
TEIG	Tepich	138.35	54	PKP	PKPdf	17 54 14.8	-0.9	
TEIG	Tepich	138.35	54	PKP	PKPdf	17 54 14.8	-0.9	
	comp=Z,13nm,0.3s,baz=58,slow=3.1,SNR=5.5							
DWPF	Disney	138.43	39	ePKPdf	PKPdf	17 54 15.8	+0.2	
BBTS	Babate	139.04	297	PKPpre	PKPpre	17 54 08.2		
BBTS	Babate	139.04	297	PKhKP	PKPpre	17 54 08.2		
	comp=Z,12nm,0.4s,baz=9.2,slow=1.9,SNR=3.8							
PLCA	Paso Flores	140.13	160	PKPpre	PKPpre	17 54 10.5		
PLCA				ePKPpre	PKPpre	17 54 11.1		
PLCA	Paso Flores	140.13	160	PKhKP	PKPpre	17 54 10.5		
	comp=Z,15nm,0.8s,baz=215,slow=3.9,SNR=26							
SOR	Soroa	140.92	46	eP	PKPdf	17 54 13.2	-7.2	
TGUH	Tegucigalpa,Un	142.11	61	ePKPdf	PKPdf	17 54 19.6	-3.0	
BBSR	BB Station	142.51	16	ePKPpre	PKPpre	17 54 19.4		
BBSR				LR	LR			
	comp=Z,48μm,21.0s							
PAYG	Puerto Ayora	143.12	86	ePKPdf	PKPdf	17 54 23.6	-0.9	
CCHI	Chillan	143.13	155	eP	PKPbc	17 54 20.1	-0.6	
MGV	Manicaragua	143.50	44	eP	PKPab	17 54 21.4	+0.2	
TRQA	Tornquist	145.01	168	ePKPdf	PKPab	17 54 26.0	-0.5	
SACV	Santiago Islan	145.02	303	ePKPdf	PKPbc	17 54 26.7	-0.4	
LMEL	Las Melosas	146.27	154	⇑iP	PKPbc	17 54 30.7	0.0	
IHA	Instituto Hidr	146.32	152	*i* P	PKPbc	17 54 31.0	+0.3	
LAJ	Bijagual	146.62	66	eP	PKPbc	17 54 32.2	-0.2	
PEL	Peldehue	146.66	153	*i* P	PKPbc	17 54 32.9	0.0	
FCH	Farellones	146.68	154	⇑iP	PKPab	17 54 39.4	+6.2	
QCR	Quepos	146.75	67	eP	PKPab	17 54 33.5	-0.2	
LMGC	Las Mercedes	146.92	43	eP	PKPab	17 54 34.5	+0.4	
URSC	Urasca	146.95	66	eP	PKPab	17 54 34.3	-0.4	
BUS	Buena Vista	147.07	66	eP	PKPbc	17 54 33.0	-1.0	
NEJ	Negril	147.17	47	*i* P	PKPab	17 54 34.7	-0.4	
MBJ	Montego Bay	147.41	47	*i* P	PKPab	17 54 35.3	-0.9	
CVJ	Coleyville	147.76	47	*i* P	PKPbc	17 54 36.0	+0.7	
MTDJ	Mount Denham	147.76	47	ePKPbc	PKPbc	17 54 35.3	0.0	
MCJ	Malvern	147.85	47	*i* P	PKPbc	17 54 36.0	+0.5	
RCC	Rio Carpintero	147.85	42	eP	PKPdf	17 54 32.7	+0.3	
BBJ	Bamboo Saint A	147.86	46	*i* P	PKPab	17 54 37.2	-0.8	
ACR	Cerro Adams	147.95	67	eP	PKPbc	17 54 34.8	-1.0	
BNJ	Bonny Gate	148.12	46	*i* P	PKPab	17 54 37.6	-1.3	
GTBY	Guantanamo Bay	148.29	41	ePKPbc	PKPbc	17 54 37.2	+0.7	
STH	Stony Hill	148.38	46	*i* P	PKPbc	17 54 37.8	+0.9	
GWJ	Greenwich	148.44	46	*i* P	PKPbc	17 54 38.2	+1.1	
HOJ	Hope	148.47	46	*i* P	PKPbc	17 54 38.0	+0.9	
CMJ	Castle Mountai	148.66	45	*i* P	PKPbc	17 54 38.8	+1.2	
MASC	Masc	148.68	40	eP	PKPab	17 54 40.1	-1.0	
YHJ	Yallahs	148.73	46	*i* P	PKPbc	17 54 38.8	+1.0	
LPA	La Plata	148.75	173	*ce*PKP	PKPdf	17 54 35.0	+1.5	
LPA	La Plata	148.75	173	PKP	PKPab	17 54 40.0	-0.9	
LPA								
	comp=Z,24μm,21.0s							
GRTK	Grand Turk	149.51	34	ePKPbc	PKPbc	17 54 40.6	+1.1	
LCO	Las Campanas	150.05	149	ePKPbc	PKPbc	17 54 40.9	-0.2	
BCIP	Isla Barro Col	150.77	64	PFAKE		17 54 50.0	+0.1	
BCIP				LR	LR			
	comp=Z,49μm,20.0s							
SDDR	Presa de Saban	151.40	37	ePKPdf	PKPdf	17 54 38.8	+0.6	
SDDR				ePKPbc	PKiKP	17 54 44.8	+0.1	
LSP	Las Mesas	154.41	31	ePKPdf	PKPdf	17 54 41.8	-0.8	
LRS	Lares	154.43	31	ePKPdf	PKPdf	17 54 42.5	-0.1	
CRPR	Cabo Rojo, PR	154.53	31	ePKPdf	PKPdf	17 54 43.1	+0.5	
CELP	Cerrillos	154.75	30	ePKPdf	PKPdf	17 54 43.1	+0.1	
OTAV	Otavalo	154.75	81	ePKPdf	PKPdf	17 54 44.4	+0.6	
OBIP	Obispado Ponce	154.76	30	ePKPdf	PKPdf	17 54 43.1	+0.1	
SJG	San Juan	154.93	29	ePKPdf	PKPdf	17 54 43.2	0.0	
CBYP	Canovanas	154.94	29	ePKPdf	PKPdf	17 54 43.6	+0.3	
MTP	Monte Pirata	155.23	28	ePKPdf	PKPdf	17 54 44.6	+1.0	
NNA	Nana	155.50	111	ePKPdf	PKPdf	17 54 44.8	+0.6	
CDVI	St. Croix	155.90	27	ePKPdf	PKPdf	17 54 44.4	-0.1	
SKI	Saint Kitts	157.13	23	eP	PKPdf	17 54 46.1	-0.1	
ANWB	Willy Bob	157.18	21	PFAKE		17 55 00.0	+14	
ANWB				LR	LR			
	comp=Z,61μm,22.0s							
CPUP	Villa Florida	157.27	171	PKP	PKPdf	17 54 46.8	+0.7	
CPUP				PKPab	PKPab	17 55 16.3	-0.6	
CPUP				LR	LR			
	comp=Z,10μm,21.0s							
CPUP	Villa Florida	157.27	171	PKP	PKPdf	17 54 46.8	+0.7	
	comp=Z,7.5nm,0.7s,baz=173,slow=0.8,SNR=14							
CPUP				PKPab	PKPab	17 55 16.3	-0.6	
	comp=Z,71nm,0.7s,baz=179,slow=4.0,SNR=9.0							
ROSC	El Rosal	157.49	68	PKP	PKPdf	17 54 47.7	+0.4	
ROSC				ePKPdf	PKPab	17 54 48.2	-31	
ROSC	El Rosal	157.49	68	PKP	PKPdf	17 54 47.7	+0.4	
	comp=Z,25nm,0.8s,baz=273,slow=5.2,SNR=12							
BPA	Boggy Peak	157.73	22	eP	PKPdf	17 54 49.2	+2.2	
LZG	Guadaloupe-1	158.59	22	eP	PKPdf	17 54 48.3	+0.3	
CAM4	Nova Friburgo	158.70	209	⇑iP	PKPdf	17 54 47.4	-0.9	
CAM4				*i*		17 54 56.9		
CAM4				*i*		17 55 15.0		
CAM4				*i*		17 55 20.7		
CAM4				*i*		17 55 29.4		
CAM4				*i*		17 55 41.2		
CAM4				*i*		17 55 49.5		
CAM4				*i*		17 55 57.3		
CAM4				*i*		17 56 12.6		
CAM4				*i*		17 56 26.6		
DOG	Dongo Capester	158.75	22	eP	PKPdf	17 54 52.0	+3.7	
SDV	Santo Domingo	158.79	54	ePKPdf	PKPdf	17 54 47.6	-0.9	
TBG	Guadaloupe-3	158.90	22	eP	PKPdf	17 54 48.7	+0.4	
SPB	Sao Paulo	159.44	196	ePKPdf	PKPdf	17 54 49.2	+0.4	
DLPL	La Plaine	159.53	22	eP	PKPdf	17 54 48.1	-1.0	
FDF	Fort de France	160.11	22	ePKIKP	PKPdf	17 54 48.9	-0.9	
FDF				MLR	MLR			
	comp=Z,43μm,21.0s							
FDF	Fort de France	160.11	22	ePKPdf	PKPdf	17 54 48.9	-0.9	
FDF				LR	LR			
	comp=Z,43μm,21.0s							
FDF	Fort de France	160.11	22	eP	PKPdf	17 54 50.7	+0.9	
LPAZ	La Paz	160.99	132	ePKPdf	PKPdf	17 54 51.4	-0.1	
MCLT	Moule a Chique	161.12	23	*e*	PKPdf	17 55 02.0	+11	
SVB	Belmont	161.40	24	eP	PKPdf	17 54 50.2	-1.0	
BBGH	Gun Hill	162.15	20	PFAKE		17 55 00.0	+8.0	
BBGH				LR	LR			
	comp=Z,73μm,22.0s							
GRGR	Grenville	162.24	27	PFAKE		17 55 00.0	+7.9	
GRGR				LR	LR			
	comp=Z,37μm,21.0s							
RCBR	Riachuelo	162.34	263	ePKPdf	PKPdf	17 54 52.7	+0.4	
TOSP	Speyside	163.47	25	eP	PKPdf	17 54 54.6	+1.4	
BDFB	Brasilia	167.03	204	PKP	PKPdf	17 54 56.4	+0.1	
BDFB				PKPab	PKPab	17 56 00.7	+0.7	
BDFB				LR	LR			
	comp=Z,131μm,21.0s							
BDFB	Brasilia	167.03	204	PKP	PKPdf	17 54 56.4	+0.1	
	comp=Z,15nm,0.9s,baz=142,slow=1.5,SNR=13							
BDFB				PKPab	PKPab	17 56 00.7	+0.7	
	comp=Z,27nm,0.9s,baz=125,slow=4.2,SNR=3.1							
SAML	Samuel	169.09	119	ePKPdf	PKPdf	17 54 57.0	-0.7	

*CSEM **11** 17:38:25.6±0.3,32.°42N×6.°39W, h2km, MD3.3, Error ellipse: s-maj=9.0km s-min=6.5km az=139.0*
*MDD **11** 17:38:26.4±0.5,32.°36N×6.°38W, h0km, mb3.7/5, Error ellipse: s-maj=7.8km s-min=4.1km az=122.0, PRXIMO*
*CNRM **11** 17:38:27.1,32.°31N×6.°35W, h0km, MD3.3*

ISC 11 17:38:25.1±0.9, 32.°40N±0.°05×6.°39W±0.°04, h12km±9km, n20, σ1§46/34, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TZC	Tazercounte	0.26	199	P	Pg	17 38 30.0	-0.6
TZC				S	Sg	17 38 34.0	-0.3
TZC	Tazercounte	0.26	199	*i* P	Pg	17 38 30.0	-0.6
TZC				*i* S	Sg	17 38 34.0	-0.3
CZD	Col de Zad	1.30	60	P	Pg	17 38 51.0	+0.9
CZD				S	Sg	17 39 09.0	+1.9
CZD	Col de Zad	1.30	60	eP	Pg	17 38 51.0	+0.9
CZD				*i* S	Sg	17 39 09.0	+1.9

ZFT	Errachidia	1.77	101	P	Pg	17 38 58.0	-1.0	
ZFT				S	Sb	17 39 19.0	-0.7	
ZFT	Errachidia	1.77	101	*i* P	Pg	17 38 58.0	-1.0	
ZFT				*i* S	Sb	17 39 19.0	-0.7	
CIA	Chichaoua	2.18	248	P	Pb	17 39 04.0	-0.5	
CIA				S	Sn	17 39 29.0	+0.9	
CIA	Chichaoua	2.18	248	eP	Pb	17 39 04.0	-0.5	
CIA				*i* S	Sn	17 39 29.0	+0.9	
JHA	Jbel Lahdid	2.68	257	P	Pb	17 39 11.0	-2.1	
JHA				S	Sn	17 39 43.0	+2.3	
JHA	Jbel Lahdid	2.68	257	*i* P	Pb	17 39 11.0	-2.1	
JHA				*i* S	Sn	17 39 43.0	+2.3	
PFVI	Vila Bisbo	5.13	338	P	Pn	17 39 43.3	+1.5	
	1.6nm,0.2s,SNR=7.9							
PFVI				S	Sn	17 40 39.6	-1.4	
	2.7nm,0.1s,SNR=7.9							
PFVI	Vila Bisbo	5.13	338	P	Pn	17 39 43.3	+1.5	
	1.6nm,0.2s,SNR=7.9							
PFVI				S	Sn	17 40 39.6	-1.4	
	2.7nm,0.1s,SNR=7.9							
EGRO	El Granado	5.20	350	P	Pn	17 39 44.3	+1.5	
	0.8nm,0.2s,SNR=7.9							
EGRO				S	Sn	17 40 42.1	-0.6	
	2.1nm,0.2s,SNR=7.9							
EGRO	El Granado	5.20	350	P	Pn	17 39 44.3	+1.5	
	0.8nm,0.2s,SNR=7.9							
EGRO				S	Sn	17 40 42.1	-0.6	
	2.1nm,0.2s,SNR=7.9							
EMIN	Mina Concepcio	5.36	358	P	Pn	17 39 46.0	+1.0	
	0.6nm,0.2s,SNR=7.9							
EMIN				S	Sn	17 40 44.9	-1.8	
	0.9nm,0.2s,SNR=7.9							
EMIN	Mina Concepcio	5.36	358	P	Pn	17 39 46.0	+1.0	
	0.6nm,0.2s,SNR=7.9							
EMIN				S	Sn	17 40 44.9	-1.8	
	0.9nm,0.2s,SNR=7.9							
EADA	Adamuz	5.95	14	P	Pn	17 39 54.3	+1.3	
	0.2nm,0.1s,SNR=7.9							
EADA				S	Sn	17 40 58.9	-2.2	
	0.5nm,0.1s,SNR=7.9							
EADA	Adamuz	5.95	14	P	Pn	17 39 54.3	+1.3	
	0.2nm,0.1s,SNR=7.9							
EADA				S	Sn	17 40 58.9	-2.2	
	0.5nm,0.1s,SNR=7.9							
EBAD	Badajoz	6.37	356	P	Pn	17 40 00.1	+1.3	
	1.2nm,0.3s,SNR=7.9							
EBAD				S	Sn	17 41 04.5	-6.8	
	1.3nm,0.2s,SNR=7.9							
EBAD	Badajoz	6.37	356	P	Pn	17 40 00.1	+1.3	
	1.2nm,0.3s,SNR=7.9							
EBAD				S	Sn	17 41 04.6	-6.8	
	1.3nm,0.2s,SNR=7.9							

*IDC **11** 17:41:52.4±0.6,3.°67N×126.°61E, h0km, mb5.0/22, mb1 5.0/22, mb1mx5.0/28, mbtmp5.0/22, Error ellipse: s-maj=25.3km s-min=14.9km az=67.0*
*NEIC **11** 17:41:55.7±5.7,3.°62N×126.°61E, h22km±40km, mb5.5/5, Error ellipse: s-maj=14.0km s-min=9.7km az=70.0*
*ISCJB **11** 17:41:57.9±0.5,3.°65N±0.°08×126.°6E±0.°1, h53km, mb5.0/28, MS6.5/1, Error ellipse: s-maj=15.7km s-min=11.0km az=160.0*

ISC 11 17:41:59.5±0.6,3.°65N±0.°09×126.°7E±0.°1, h53km, n56, σ1§02/55, mb5.0/28, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	Kunigami	23.11	4	P	P	17 46 58.9	-2.1
JOW	Kunigami

Error ellipse: s-maj=10.8km s-min=6.6km az=67.0
ISC 11 17:44:06.5±0.5,3˚**88N**×0˚**08**×**126˚7E**±0˚1,**h45**km,**n71**, σ**0?70**/**71**,**mb4.9**/**34**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**20.41**	**61**	P	**P**	**17 48 39.1**	**-0.9**
GUMO	**Guam**	**20.41**	**61**	P	**P**	**17 48 39.1**	**-0.9**
	22nm,0.6s,baz=281,slow=10,SNR=1.8						
JOW	**Kunigami**	**22.88**	**4**	P	**P**	**17 49 05.8**	**-0.5**
JOW	**Kunigami**	**22.88**	**4**	P	**P**	**17 49 05.8**	**-0.5**
	27nm,0.7s,baz=175,slow=12,SNR=2.3						
WRAB	**Tennant Creek**	**24.85**	**163**	*eP*	**P**	**17 49 24.1**	**-0.9**
	122nm,0.8s						
ASAR	**Alice Springs**	**28.28**	**166**	P	**P**	**17 49 55.9**	**0.0**
ASAR	**Alice Springs**	**28.28**	**166**	P	**P**	**17 49 55.9**	**0.0**
	7.9nm,0.6s,baz=339,slow=9.7,SNR=2.3						
JNU	**Nakatsue**	**29.36**	**7**	P	**P**	**17 50 05.0**	**-0.4**
JNU	**Nakatsue**	**29.36**	**7**	P	**P**	**17 50 05.0**	**-0.4**
	12nm,0.8s,baz=166,slow=4.2,SNR=3.4						
CMAR	**Chiang Mai Arr**	**30.72**	**300**	P	**P**	**17 50 17.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**30.72**	**300**	P	**P**	**17 50 17.4**	**-0.3**
	8.9nm,1.0s,baz=119,slow=7.4,SNR=3.3						
ENH	**Enshi**	**30.86**	**330**	*eP*	**P**	**17 50 18.2**	**-0.5**
	76nm,0.8s						
KSAR	**Wonju Array Be**	**33.42**	**2**	P	**P**	**17 50 40.8**	**-0.2**
KSRS	**Korea Array**	**33.43**	**2**	P	**P**	**17 50 40.8**	**-0.3**
	4.9nm,0.7s,baz=179,slow=9.9,SNR=3.9						
MJAR	**Matsushiro Arr**	**34.20**	**17**	P	**P**	**17 50 45.8**	**-2.1**
MJAR	**Matsushiro Arr**	**34.20**	**17**	P	**P**	**17 50 45.8**	**-2.1**
	2.1nm,0.6s,baz=187,slow=9.3,SNR=3.5						
BJT	**Baijiatuau**	**37.20**	**347**	*eP*	**P**	**17 51 14.5**	**+1.0**
	46nm,0.7s						
STKA	**Stephens Creek**	**38.30**	**159**	P	**P**	**17 51 22.8**	**-0.1**
STKA	**Stephens Creek**	**38.30**	**159**	P	**P**	**17 51 22.8**	**-0.1**
	75nm,0.9s,baz=15,slow=10,SNR=3.4						
USRK	**Ussuriysk Arra**	**40.43**	**6**	P	**P**	**17 51 40.0**	**-0.4**
	7.6nm,0.7s,baz=184,slow=7.0,SNR=4.5						
MDJ	**Mudanjiang**	**40.65**	**3**	*eP*	**P**	**17 51 43.0**	**+0.7**
	26nm,0.9s						
LSA	**Lhasa**	**42.28**	**311**	*eP*	**P**	**17 51 57.0**	**+0.5**
	34nm,0.8s						
ASAJ	**Asahikawa**	**42.47**	**17**	P	**P**	**17 51 57.5**	**+0.3**
ASAJ	**Asahikawa**	**42.47**	**17**	P	**P**	**17 51 57.5**	**+0.3**
	9.2nm,0.7s,baz=228,slow=8.7,SNR=3.9						
HIA	**Hailar**	**45.60**	**354**	*eP*	**P**	**17 52 23.8**	**+1.5**
	71nm,1.1s						
DZM	**Mont Dzumac**	**46.69**	**125**	P	**P**	**17 52 31.9**	**+0.6**
DZM	**Mont Dzumac**	**46.69**	**125**	P	**P**	**17 52 31.9**	**+0.6**
	11nm,0.8s,baz=320,slow=11,SNR=3.8						
SONM	**Songino Array**	**47.13**	**341**	P	**P**	**17 52 34.0**	**-0.5**
SONM	**Songino Array**	**47.13**	**341**	P	**P**	**17 52 34.0**	**-0.5**
	9.6nm,0.8s,baz=157,slow=7.3,SNR=2.8						
PETK	**Petropavlovsk-**	**55.32**	**22**	P	**P**	**17 53 36.2**	**+0.6**
PETK	**Petropavlovsk-**	**55.32**	**22**	P	**P**	**17 53 36.2**	**+0.6**
	8.5nm,0.7s,baz=188,slow=5.1,SNR=4.5						
MKAR	**Makanchi Array**	**57.38**	**325**	P	**P**	**17 53 50.9**	**+0.4**
MKAR	**Makanchi Array**	**57.38**	**325**	P	**P**	**17 53 50.9**	**+0.4**
	16nm,0.7s,baz=127,slow=7.7,SNR=3.5						
AAK	**Ala-Archa**	**60.19**	**318**	P	**P**	**17 54 11.0**	**+0.8**
AAK	**Ala-Archa**	**60.19**	**318**	P	**P**	**17 54 11.0**	**+0.8**
	7.3nm,0.7s,baz=131,slow=11,SNR=1.8						
ZALV	**Zalesovo Beam**	**60.42**	**333**	P	**P**	**17 54 10.9**	**-0.4**
ZALV	**Zalesovo Beam**	**60.42**	**333**	P	**P**	**17 54 10.9**	**-0.4**
	6.9nm,0.7s,baz=131,slow=6.7,SNR=3.5						
KURBB	**Kurchatov Arra**	**61.57**	**327**	P	**P**	**17 54 19.2**	**0.0**
	18nm,0.8s,baz=127,slow=6.4,SNR=3.3						
KURK	**Kurchatov**	**61.57**	**327**	*eP*	**P**	**17 54 17.6**	**-1.6**
	33nm,0.8s						
BVAR	**Borovoye Array**	**67.15**	**327**	P	**P**	**17 54 56.0**	**+0.3**
BVAR	**Borovoye Array**	**67.15**	**327**	P	**P**	**17 54 56.0**	**+0.3**
	10nm,0.9s,baz=124,slow=7.2,SNR=3.0						
BRVK	**Borovoye**	**67.22**	**327**	*eP*	**P**	**17 54 56.6**	**+0.5**
	120nm,1.4s						
DRV	**Dumont d'Urvil**	**71.03**	**174**	P	**P**	**17 55 19.0**	**-0.4**
UNV	**Unalaska Valle**	**73.35**	**35**	*eP*	**P**	**17 55 33.7**	**+0.1**
KDAK	**Kodiak Island**	**81.81**	**32**	P	**P**	**17 56 21.6**	**+0.9**
KDAK	**Kodiak Island**	**81.81**	**32**	P	**P**	**17 56 21.6**	**+0.9**
	21nm,0.8s,baz=256,slow=4.2,SNR=3.8						
ILAR	**Eielson Array**	**85.00**	**25**	P	**P**	**17 56 37.8**	**+0.8**
ILAR	**Eielson Array**	**85.00**	**25**	P	**P**	**17 56 37.8**	**+0.8**
	7.3nm,1.0s,baz=256,slow=4.4,SNR=4.6						
MMAI	**Mount Meron Ar**	**88.95**	**303**	P	**P**	**17 56 57.0**	**+0.1**
MMAI	**Mount Meron Ar**	**88.95**	**303**	P	**P**	**17 56 57.0**	**+0.1**
	4.6nm,0.8s,baz=84,slow=7.4,SNR=3.3						
BRTR	**Keskin Array B**	**89.86**	**310**	P	**P**	**17 57 01.0**	**-0.2**
BRTR	**Keskin Array B**	**89.86**	**310**	P	**P**	**17 57 01.0**	**-0.2**
	5.9nm,0.8s,baz=123,slow=5.2,SNR=4.4						
ARCES	**ARCESS Array B**	**90.28**	**340**	P	**P**	**17 57 01.6**	**-0.7**
ARCES	**ARCESS Array B**	**90.28**	**340**	P	**P**	**17 57 01.6**	**-0.7**
	8.6nm,0.9s,baz=76,slow=3.8,SNR=2.7						
SPITS	**Spitsbergen Ar**	**90.31**	**349**	P	**P**	**17 57 03.4**	**+1.1**
SPITS	**Spitsbergen Ar**	**90.31**	**349**	P	**P**	**17 57 03.4**	**+1.1**
	13nm,0.9s,baz=76,slow=16,SNR=2.7						
FINES	**FINESS Array B**	**91.66**	**332**	P	**P**	**17 57 08.7**	**-0.1**
FINES	**FINESS Array B**	**91.66**	**332**	P	**P**	**17 57 08.7**	**-0.1**
	7.5nm,0.9s,baz=72,slow=4.5,SNR=2.6						
AKASG	**Malin Array Be**	**91.72**	**321**	P	**P**	**17 57 08.8**	**-0.6**
AKASG	**Malin Array Be**	**91.72**	**321**	P	**P**	**17 57 08.8**	**-0.6**
	7.2nm,0.7s,baz=69,slow=4.8,SNR=4.1						
NOA	**NORSAR Array B**	**98.61**	**334**	P	**P**	**17 57 39.8**	**-0.8**
NOA	**NORSAR Array B**	**98.61**	**334**	P	**P**	**17 57 39.8**	**-0.8**
	1.8nm,0.8s,baz=63,slow=2.5,SNR=2.8						
YKA	**Yellowknife Ar**	**99.39**	**24**	P	**Pdif**	**17 57 43.2**	**-0.8**
YKA	**Yellowknife Ar**	**99.39**	**24**	P	**Pdif**	**17 57 43.2**	**-0.8**
	3.1nm,0.9s,baz=344,slow=6.4,SNR=3.5						
GERES	**GERESS Array B**	**101.92**	**322**	P	**Pdif**	**17 57 55.5**	**-0.2**
GERES	**GERESS Array B**	**101.92**	**322**	P	**Pdif**	**17 57 55.5**	**-0.2**
	2.1nm,0.8s,baz=60,slow=5.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**122.79**	**288**	PKP	**PKPdf**	**18 02 59.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**122.79**	**288**	PKP	**PKPdf**	**18 02 59.0**	**+0.3**
	5.1nm,0.8s,baz=85,slow=1.8,SNR=9.9						
CFAA	**Coronel Fontan**	**149.07**	**155**	PKPbc	**PKPbc**	**18 03 51.0**	**+0.4**
CFAA	**Coronel Fontan**	**149.07**	**155**	PKPbc	**PKPbc**	**18 03 51.0**	**+0.4**
	1.1nm,0.7s,baz=227,slow=5.0,SNR=2.5						
SAML	**Samuel**	**169.01**	**118**	*e*PKPdf	**PKPdf**	**18 04 10.3**	**+0.4**

*IDC **11** 17:47:14.1*±*0.5,3˚82N×126˚68E,h0km,mb4.9/29, mb1 4.9/31,mb1mx4.9/33,mbtmp4.9/31,ML4.4/2, Error ellipse: s-maj=20.2km s-min=11.8km az=82.0*
*ISCJB **11** 17:47:18.5*±*0.3,3˚79N*±*0˚05×126˚67E*±*0˚07,h45km, mb5.0/44,Error ellipse: s-maj=10.2km s-min=7.0km az=172.2*
*NEIC **11** 17:47:18.5*±*1.9,3˚82N×126˚73E,h30km*±*13km,mb5.3/10, Error ellipse: s-maj=8.0km s-min=4.2km az=83.0*
ISC 11 17:47:20.3±0.4,3˚**81N**±0˚06×**126˚7E**±0˚1,**h45**km,**n107**, σ**0?63**/109,**mb5.0**/43,**5C-3D**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.42**	**342**	Pn	**Pn**	**17 48 10.4**	**-0.7**
DAV				Sn	Sn	17 49 03.2	+13
DAV	**Davao City (W)**	**3.42**	**342**	Pn	**Pn**	**17 48 10.4**	**-0.7**
	82nm,0.3s,baz=181,slow=5.2,SNR=2.7						
DAV				Sn	Sn	17 49 03.3	+13
	88nm,0.3s,baz=74,slow=20,SNR=2.7						
KAPI	**Kappang**	**11.16**	**218**	Pn	**Pn**	**17 49 57.1**	**-0.3**
KAPI	**Kappang**	**11.16**	**218**	Pn	**Pn**	**17 49 57.1**	**-0.3**
	1.0nm,0.3s,baz=41,slow=9.3,SNR=1.9						
TWG	**Pinlang**	**19.66**	**344**	*eP*	**P**	**17 51 43.5**	**-2.1**
	6µm,3.0s						
FITZ	**Fitzroy Crossi**	**21.79**	**183**	P	**P**	**17 52 07.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**21.79**	**183**	P	**P**	**17 52 07.9**	**-0.7**
	26nm,0.9s,baz=19,slow=13,SNR=2.7						
JOW	**Kunigami**	**22.95**	**4**	P	**P**	**17 52 20.1**	**-0.7**
JOW	**Kunigami**	**22.95**	**4**	P	**P**	**17 52 20.1**	**-0.7**
	18nm,0.6s,baz=183,slow=9.2,SNR=3.7						
WRAB	**Tennant Creek**	**24.77**	**163**	*eP*	**P**	**17 52 37.2**	**-0.8**
	116nm,0.9s						
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**	**17 53 08.7**	**-0.3**
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**	**17 53 08.7**	**-0.3**
	4.8nm,0.7s,baz=343,slow=9.2,SNR=3.5						
JNU	**Nakatsue**	**29.43**	**7**	P	**P**	**17 53 18.9**	**-0.8**
JNU	**Nakatsue**	**29.43**	**7**	P	**P**	**17 53 18.9**	**-0.8**
	19nm,0.8s,baz=191,slow=5.2,SNR=6.2						
CM31	**Chiang Mai Arr**	**30.78**	**300**	*eP*	**P**	**17 53 33.5**	**+1.6**
	8.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.78**	**300**	P	**P**	**17 53 32.6**	**+0.7**
CMAR	**Chiang Mai Arr**	**30.78**	**300**	P	**P**	**17 53 32.6**	**+0.7**
	11nm,0.7s,baz=122,slow=7.8,SNR=16						
KSAR	**Wonju Array Be**	**33.49**	**2**	P	**P**	**17 53 55.8**	**+0.3**
KSRS	**Korea Array**	**33.51**	**2**	P	**P**	**17 53 55.8**	**+0.2**
	10nm,0.8s,baz=181,slow=11,SNR=7.8						
MJAR	**Matsushiro Arr**	**34.27**	**17**	P	**P**	**17 54 00.4**	**-1.7**
	3.9nm,0.9s,baz=200,slow=10.0,SNR=4.6						
BJT	**Baijiatuau**	**37.28**	**347**	*eP*	**P**	**17 54 28.2**	**+0.2**
	77nm,0.6s						
NWAO	**Narrogin (SRO)**	**37.61**	**193**	P	**P**	**17 54 30.5**	**-0.3**
NWAO	**Narrogin (SRO)**	**37.61**	**193**	P	**P**	**17 54 30.5**	**-0.3**
	52nm,1.2s,baz=32,slow=7.9,SNR=3.2						
STKA	**Stephens Creek**	**38.22**	**159**	P	**P**	**17 54 35.2**	**-0.7**
STKA	**Stephens Creek**	**38.22**	**159**	P	**P**	**17 54 35.2**	**-0.7**
	26nm,0.7s,baz=332,slow=8.3,SNR=4.8						
USRK	**Ussuriysk Arra**	**40.50**	**6**	P	**P**	**17 54 56.0**	**+1.2**
	7.8nm,0.6s,baz=181,slow=7.8,SNR=6.0						
MDJ	**Mudanjiang**	**40.72**	**3**	*eP*	**P**	**17 54 56.3**	**-0.3**
	39nm,1.1s						
ASAJ	**Asahikawa**	**42.54**	**17**	P	**P**	**17 55 11.8**	**+0.3**
ASAJ	**Asahikawa**	**42.54**	**17**	P	**P**	**17 55 11.8**	**+0.3**
	7.1nm,0.7s,baz=211,slow=7.6,SNR=3.5						
TAPN	**Taplejung**	**43.92**	**306**	*eP*	**P**	**17 55 23.8**	**+0.4**
	62nm,0.9s						
ODAN	**Odare**	**43.98**	**305**	*eP*	**P**	**17 55 22.7**	**-1.0**
	90nm,0.7s						
RAMN	**Ramite**	**44.66**	**305**	*eP*	**P**	**17 55 28.5**	**-0.7**
	87nm,0.7s						
JIRN	**Jiri**	**45.28**	**306**	*eP*	**P**	**17 55 34.1**	**-0.2**
	17nm,0.7s						
GUN	**Gumba**	**45.63**	**306**	*eP*	**P**	**17 55 36.9**	**-0.1**
	127nm,0.7s						
HIA	**Hailar**	**45.68**	**354**	*eP*	**P**	**17 55 37.7**	**+1.1**
	52nm,1.0s						
PKI	**Pulchoki**	**45.88**	**305**	*eP*	**P**	**17 55 38.6**	**-0.4**
	134nm,1.3s						
KKN	**Kakani**	**46.07**	**306**	*eP*	**P**	**17 55 39.9**	**-0.4**
	76nm,1.0s						
DZM	**Mont Dzumac**	**46.63**	**125**	P	**P**	**17 55 44.9**	**+0.3**
DZM	**Mont Dzumac**	**46.63**	**125**	P	**P**	**17 55 44.9**	**+0.3**
	10nm,0.9s,baz=320,slow=7.9,SNR=3.7						
GKN	**Gorkha**	**46.68**	**306**	*eP*	**P**	**17 55 44.7**	**-0.3**
	59nm,0.8s						
SONM	**Songino Array**	**47.21**	**341**	P	**P**	**17 55 49.3**	**+0.5**
SONM				PcP	**PcP**	**17 57 21.1**	**+1.4**
SONM	**Songino Array**	**47.21**	**341**	P	**P**	**17 55 49.3**	**+0.5**
	5.9nm,0.6s,baz=153,slow=7.6,SNR=8.2						
SONM				PcP	**PcP**	**17 57 21.1**	**+1.4**
	5.8nm,0.7s,baz=165,slow=4.0,SNR=4.2						
KOLN	**Koldanda**	**47.43**	**305**	*eP*	**P**	**17 55 51.2**	**+0.2**
	130nm,0.6s						
DANN	**Dangsing**	**47.52**	**306**	*eP*	**P**	**17 55 51.6**	**-0.2**
	174nm,0.6s						
HYB	**Hyderabad**	**49.03**	**290**	*i* P	**P**	**17 56 03.5**	**+0.2**
PETK	**Petropavlovsk-**	**55.38**	**22**	P	**P**	**17 56 49.8**	**0.0**
PETK	**Petropavlovsk-**	**55.38**	**22**	P	**P**	**17 56 49.8**	**0.0**
	10nm,0.6s,baz=188,slow=4.4,SNR=10						
MK31	**Makanchi Array**	**57.46**	**325**	*eP*	**P**	**17 57 05.0**	**+0.3**
MKAR	**Makanchi Array**	**57.46**	**325**	P	**P**	**17 57 04.6**	**-0.1**
MKAR	**Makanchi Array**	**57.46**	**325**	P	**P**	**17 57 04.6**	**-0.1**
	7.1nm,0.5s,baz=116,slow=7.8,SNR=9.5						
YAK	**Yakutsk**	**58.13**	**2**	*eP*	**P**	**17 57 08.8**	**-0.3**
	106nm,0.9s						
AAK	**Ala-Archa**	**60.26**	**318**	P	**P**	**17 57 24.2**	**-0.3**
AAK	**Ala-Archa**	**60.26**	**318**	P	**P**	**17 57 24.2**	**-0.3**
	11nm,0.8s,baz=121,slow=5.9,SNR=6.1						
ZALV	**Zalesovo Beam**	**60.49**	**333**	P	**P**	**17 57 25.2**	**-0.3**
ZALV	**Zalesovo Beam**	**60.49**	**333**	P	**P**	**17 57 25.3**	**-0.3**
	5.7nm,0.4s,baz=123,slow=6.4,SNR=11						
KBL	**Kabul**	**61.43**	**307**	*eP*	**P**	**17 57 32.5**	**-0.1**
	28nm,0.7s						
KURBB	**Kurchatov Arra**	**61.64**	**327**	P	**P**	**17 57 33.4**	**0.0**
	19nm,0.7s,baz=131,slow=6.4,SNR=9.0						
KURK	**Kurchatov**	**61.65**	**328**	P	**P**	**17 57 33.4**	**0.0**
KKAR	**Karatay Array**	**63.14**	**317**	*eP*	**P**	**17 57 43.8**	**+0.1**
	13nm,0.7s						
BVAR	**Borovoye Array**	**67.22**	**327**	P	**P**	**17 58 10.2**	**+0.3**
BVAR	**Borovoye Array**	**67.22**	**327**	P	**P**	**17 58 10.2**	**+0.3**
	6.3nm,0.5s,baz=115,slow=6.5,SNR=8.4						
BRVK	**Borovoye**	**67.30**	**327**	*eP*	**P**	**17 58 10.9**	**+0.5**
	19nm,0.8s						
ABKAR	**Akbulak array**	**72.05**	**321**	*eP*	**P**	**17 58 39.8**	**0.0**
	14nm,0.6s						
AKTO	**Aktyubinsk**	**73.56**	**322**	P	**P**	**17 58 48.9**	**+0.2**
AKTO	**Aktyubinsk**	**73.56**	**322**	P	**P**	**17 58 48.9**	**+0.2**
	19nm,0.9s,baz=100,slow=6.9,SNR=9.6						
QRN	**Al-Qurain**	**78.32**	**298**	*eP*	**P**	**17 59 15.6**	**-0.6**
QRN				AMb	AMB	17 59 17.3	
	comp=Z,136nm,0.9s						
UMR	**Umm Al-Rimmam**	**78.53**	**299**	*eP*	**P**	**17 59 17.2**	**-0.1**
UMR				AMb	AMB	17 59 22.9	
	comp=Z,81nm,1.9s						
KBD	**Kabd**	**78.53**	**299**	*eP*	**P**	**17 59 17.0**	**-0.4**
KBD				AMb	AMB	17 59 18.6	
	comp=Z,34nm,0.9s						
MIB	**Mutribah**	**78.86**	**299**	*eP*	**P**	**17 59 18.9**	**-0.3**
MIB				AMb	AMB	17 59 20.7	
	comp=Z,80nm,0.8s						
NAY	**Al-Naaiem**	**78.93**	**299**	*eP*	**P**	**17 59 18.8**	**-0.9**
NAY				AMb	AMB	17 59 20.6	
	comp=Z,44nm,0.9s						
KDAK	**Kodiak Island**	**81.86**	**32**	P	**P**	**17 59 35.4**	**+0.8**
KDAK	**Kodiak Island**	**81.86**	**32**	P	**P**	**17 59 35.4**	**+0.8**
	comp=Z,11nm,0.7s,baz=280,slow=6.1,SNR=4.7						
ILAR	**Eielson Array**	**85.06**	**25**	P	**P**	**17 59 51.5**	**+0.5**
ILAR	**Eielson Array**	**85.06**	**25**	P	**P**	**17 59 51.5**	**+0.5**
	comp=Z,3.4nm,0.9s,baz=250,slow=4.9,SNR=6.2						
MMAI	**Mount Meron Ar**	**89.01**	**303**	P	**P**	**18 00 11.3**	**+0.3**
MMAI	**Mount Meron Ar**	**89.01**	**303**	P	**P**	**18 00 11.3**	**+0.3**
	comp=Z,13nm,1.0s,baz=91,slow=7.2,SNR=7.3						
BRTR	**Keskin Array B**	**89.93**	**310**	P	**P**	**18 00 14.8**	**-0.4**
BRTR	**Keskin Array B**	**89.93**	**310**	P	**P**	**18 00 14.8**	**-0.4**
	comp=Z,5.7nm,0.8s,baz=117,slow=5.0,SNR=6.1						
ARCES	**ARCESS Array B**	**90.36**	**340**	P	**P**	**18 00 16.4**	**0.0**
ARCES	**ARCESS Array B**	**90.36**	**340**	P	**P**	**18 00 16.4**	**0.0**
	comp=Z,7.0nm,0.6s,baz=84,slow=6.7,SNR=7.1						
FINES	**FINESS Array B**	**91.74**	**332**	P	**P**	**18 00 23.0**	**+0.1**
FINES	**FINESS Array B**	**91.74**	**332**	P	**P**	**18 00 23.0**	**+0.1**
	comp=Z,4.9nm,0.7s,baz=73,slow=4.8,SNR=5.7						
AKASG	**Malin Array Be**	**91.80**	**321**	P	**P**	**18 00 23.2**	**-0.2**
AKASG	**Malin Array Be**	**91.80**	**321**	P	**P**	**18 00 23.2**	**-0.2**
	comp=Z,9.4nm,0.6s,baz=71,slow=4.7,SNR=12						
TESR		**94.14**	**317**	*i*P	**P**	**18 00 33.8**	**-0.6**
VRI	**Vrincioaia**	**94.20**	**316**	*i*P	**P**	**18 00 35.3**	**+0.6**
PLOR	**Plostina**	**94.25**	**316**	*i*P	**P**	**18 00 35.4**	**+0.4**
MLR	**Muntele Rosu**	**94.81**	**316**	*i*P	**P**	**18 00 38.1**	**+0.5**
BURAR	**Bucovina Array**	**94.91**	**318**	*i*P	**P**	**18 00 38.6**	**+0.6**
BUR08	**Bucovina Ar. S**	**94.91**	**318**	*eP*	**P**	**18 00 38.5**	**+0.5**
TRPA	**Tarpa**	**96.56**	**319**	*i*P	**P**	**18 00 45.0**	**-0.4**
DRGR		**96.75**	**318**	*i*P	**P**	**18 00 46.0**	**+0.2**
VTS	**Vitosha**	**97.30**	**314**	*i*P	**P**	**18 00 49.0**	**-0.1**
NB2	**NORSAR Subarra**	**98.69**	**334**	P	**P**	**18 00 54.0**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=66,slow=4.6						
NOA	**NORSAR Array B**	**98.69**	**334**	P	**P**	**18 00 54.0**	**-0.7**
NOA	**NORSAR Array B**	**98.69**	**334**	P	**P**	**18 00 54.0**	**-0.7**
	comp=Z,4.1nm,0.8s,baz=68,slow=4.5,SNR=5.4						
YKA	**Yellowknife Ar**	**99.45**	**24**	P	**Pdif**	**18 00 57.8**	**-0.3**
YKA	**Yellowknife Ar**	**99.45**	**24**	P	**Pdif**	**18 00 57.8**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=303,slow=4.2,SNR=2.6						
TORD	**Torodi Ar. Bea**	**122.84**	**288**	PKP	**PKPdf**	**18 06 12.9**	**+0.4**
TORD	**Torodi Ar. Bea**	**122.84**	**288**	PKP	**PKPdf**	**18 06 13.0**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=74,slow=1.4,SNR=4.5						
CFAA	**Coronel Fontan**	**149.00**	**155**	PKPbc	**PKPbc**	**18 07 05.0**	**+0.8**
CFAA	**Coronel Fontan**	**149.00**	**155**	PKPbc	**PKPbc**	**18 07 05.0**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=238,slow=3.7,SNR=5.9						
CPUP	**Villa Florida**	**157.28**	**171**	PKPab	**PKPab**	**18 07 43.7**	**+0.7**
CPUP	**Villa Florida**	**157.28**	**171**	PKPab	**PKPab**	**18 07 43.7**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=123,slow=4.0,SNR=4.2						
RCBR	**Riachuelo**	**162.52**	**263**	PKPab	**PKPab**	**18 08 07.1**	**+0.5**
RCBR	**Riachuelo**	**162.52**	**263**	PKPab	**PKPab**	**18 08 07.1**	**+0.5**
	comp=Z,13nm,0.9s,baz=48,slow=1.8,SNR=4.8						

*IDC **11** 17:49:11.9*±*0.4,3˚91N×126˚48E,h0km,mb5.2/40, mb1 5.2/40,mb1mx5.2/42,mbtmp5.2/40, Error ellipse: s-maj=14.1km s-min=9.8km az=70.0*
*BJI **11** 17:49:11.5,3˚47N×126˚79E,h35km, mB5.7/4, mb5.5/43, Ms5.7/5,Ms7 5.6/6*
*MOS **11** 17:49:14.9*±*1.1,3˚91N×126˚54E,h31km,mb5.6/53,Error ellipse: s-maj=10.0km s-min=5.2km az=114.8*
*ISCJB **11** 17:49:16.5*±*0.2,3˚86N*±*0˚03×126˚51E*±*0˚04,h45km, mb5.5/137,MS6.1/4, Error ellipse: s-maj=5.6km s-min=3.7km az=147.7*
*NEIC **11** 17:49:17.2*±*0.2,3˚89N×126˚53E,h35km,mb5.6/48,Error ellipse: s-maj=6.6km s-min=4.4km az=68.0*
*DJA **11** 17:49:21,3˚89N×126˚56E,h68km,mb5.4/7*
ISC 11 17:49:18.4±0.3,3˚**90N**±0˚04×**126˚51E**±0˚05,**h45**km, **h45**km:**pP-P**,**n378**,σ1?**39**/391,**mb5.5**/136,**MS5.8**/4,

30C-22D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.22**	**165**	P	Pn	17 50 11.5	+5.0
DAV	**Davao City (W)**	**3.28**	**344**	Pn	**Pn**	**17 50 10.0**	**+2.6**
DAV				Sn	Sn	17 51 00.1	+15
DAV	**Davao City (W)**	**3.28**	**344**	Pn	**Pn**	**17 50 10.0**	**+2.6**
	27nm,0.3s,baz=204,slow=18,SNR=1.8						
DAV				Sn	Sn	17 51 00.1	+15
	332nm,0.3s,baz=97,slow=10,SNR=6.0						
DMPH	**Davao City--Mi**	**3.32**	**343**	*eP*	Pn	17 50 13.3	+5.4
DMPH				*i* S	Sn	17 51 16.2	+30
KCP	**Kidapawan**	**3.40**	**336**	⇓*eP*	Pn	17 50 16.4	+7.4
KCP				*i* S	Sn	17 51 06.4	+18
CTBH	**Cotabato--PC H**	**4.00**	**326**	⇑*iP*	**Pn**	**17 50 19.8**	**+2.7**
CGP	**Cagayan de Oro**	**4.87**	**338**	⇓*eP*	Pn	17 50 35.4	+6.2
CGP				*i* S	Sn	17 51 43.7	+19
ZMPH	**Zamboanga City**	**5.37**	**305**	⇓*iP*	**Pn**	**17 50 38.2**	**+2.2**
ZMPH				*i* S	**Sn**	**17 51 35.7**	**-0.8**
MRSI	**Marisa**	**5.69**	**233**	P	Pn	17 50 49.8	+9.4
	11µm,0.9s,45nm						
LUWI	**Luwuk**	**6.17**	**217**	P	Pn	17 51 04.5	+18
	2µm,1.0s,9.8nm						
LLP	**Lapu-Lapu**	**6.86**	**339**	*eP*	**Pn**	**17 50 59.0**	**+2.6**
LLP				*e*S	Sn	17 52 27.5	+14
TSM	**Tawau**	**8.62**	**273**	P	Pn	17 51 27.5	+6.8
KDI	**Kendari**	**8.72**	**207**	P	Pn	17 51 30.9	+8.9
SDKM	**Sandakan**	**9.44**	**281**	P	Pn	17 51 39.8	+7.9
TTSI	**Tana Toraja**	**9.61**	**224**	P	Pn	17 51 50.2	+16
	669nm,0.8s						
KDM	**Kudat**	**10.09**	**288**	P	Pn	17 51 51.7	+11
SPSI	**Sidrap Palu**	**10.31**	**221**	P	Pn	17 52 01.5	+18
	2µm,0.8s						
KKM	**Kota Kinabalu**	**10.47**	**282**	*e*Pn	Pn	17 51 50.7	+4.6
KKM	**Kota Kinabalu**	**10.47**	**282**	P	Pn	17 51 56.7	+11
BAKI	**Biak**	**10.84**	**118**	P	**Pn**	**17 51 53.2**	**+2.1**
	2µm,1.2s						

ENH Enshi 30.77 330 *e*P P 17 55 29.6 -0.2
comp=Z,130nm,0.8s
KMI Kunming 31.11 315 P P 17 55 35.1 +2.1
KMI pmax pmax
comp=Z,25nm,1.1s
MEEK Meekatharra 31.30 194 *e*P P 17 55 34.0 -0.5
comp=Z,243nm,0.6s
KSAR Wonju Array Be 33.41 2 P P 17 55 52.7 0.0
KSRS Korea Array 33.42 2 P P 17 55 52.7 -0.1
comp=Z,11nm,0.5s,baz=182,slow=10.0,SNR=12
INCN Inchon 33.42 0 *e*P P 17 55 54.4 +1.4
comp=Z,61nm,1.2s
XAN Xi'an 34.17 333 P P 17 55 59.1 -0.4
XAN pP **pP** 17 56 09.1 -2.5
XAN S **S** 18 01 24.6 +1.7
XAN sS **sS** 18 01 40.6 -2.5
XAN pmax pmax
comp=Z,76nm,0.8s
MAJO Matsushiro 34.23 17 *e*P P 17 55 57.3 -2.6
MAJO Matsushiro 34.23 17 *e*P P 17 55 57.3 -2.6
MJAR Matsushiro Arr 34.23 17 P P 17 55 57.9 -2.0
MJAR PcP **PcP** 17 58 36.6 +0.7
MJAR Matsushiro Arr 34.23 17 P P 17 55 57.9 -2.0
comp=Z,9.4nm,0.7s,baz=183,slow=10,SNR=12
MJAR PcP **PcP** 17 58 36.6 +0.7
comp=Z,4.5nm,0.7s,baz=203,slow=3.6,SNR=4.6
CD2 Chengdu 34.38 324 P P 17 56 03.0 +1.6
CD2 pP **pP** 17 56 13.1 -0.3
CD2 sP **sP** 17 56 17.3 -1.5
CD2 PcP **PcP** 17 58 38.3 +1.8
CD2 S **S** 18 01 27.7 +1.5
CD2 sS **sS** 18 01 44.4 -2.1
CD2 pmax pmax
comp=Z,90nm,0.8s
CD2 pmax pmax
comp=Z,660nm,5.8s
FORT Forrest 34.51 178 *e*P P 17 56 01.5 -0.9
comp=Z,50nm,0.6s
DL2 Dalian 35.13 353 ⇑P P 17 56 08.8 +1.2
DL2 S **S** 18 01 40.9 +3.5
DL2 pmax pmax
comp=Z,190nm,1.0s
HNR Honiara 35.86 112 P P 17 56 13.5 -0.8
HNR Honiara 35.86 112 P P 17 56 13.5 -0.8
comp=Z,21nm,0.5s,baz=310,slow=17,SNR=3.9
KLBR Kellerberrin 36.26 193 *e*P P 17 56 15.9 -1.6
comp=Z,52nm,1.0s
BJT Baijiatuan 37.15 347 *e*P P 17 56 25.0 +0.1
comp=Z,258nm,0.7s
BJI Beijing 37.17 347 P P 17 56 25.3 +0.2
BJI pmax pmax
comp=Z,390nm,0.7s
EIDS Eidsvold 37.62 142 *e*P P 17 56 28.9 -0.2
comp=Z,92nm,1.3s
NWAO Narrogin (SRO) 37.66 193 P P 17 56 29.4 0.0
NWAO Narrogin (SRO) 37.66 193 P P 17 56 29.4 0.0
comp=Z,15nm,0.6s,baz=17,slow=11,SNR=5.8
LZH Lanzhou 38.25 330 *e*P P 17 56 34.9 +0.4
LZH pP **pP** 17 56 43.0 -3.7
LZH sP **sP** 17 56 48.0 -4.0
LZH S **S** 18 02 27.0 +1.5
LZH sS **sS** 18 02 42.5 -3.3
LZH pmax pmax
comp=Z,110nm,1.0s
LZH pmax pmax
comp=Z,580nm,4.8s
LZH LR LR
comp=Z,21μm,18.2s
STKA Stephens Creek 38.37 159 *e*P P 17 56 35.8 +0.6
comp=Z,17nm,0.9s
STKA Stephens Creek 38.37 159 *e*P P 17 56 35.3 0.0
comp=Z,44nm,0.6s
STKA Stephens Creek 38.37 159 P P 17 56 34.8 -0.5
comp=Z,48nm,0.7s,baz=333,slow=8.6,SNR=13
HHC Hu-ho-hao-te 39.17 342 *e*P P 17 56 42.3 +0.2
HHC pP **pP** 17 56 52.7 -1.6
HHC sP **sP** 17 56 56.2 -3.4
HHC PP **PnPn** 17 58 18.3 +2.8
HHC S **S** 18 02 41.1 +2.0
HHC sS **sS** 18 02 57.8 -1.8
HHC SS **SS** 18 05 28.8 -4.7
HHC pmax pmax
comp=Z,67nm,1.0s
VLA Vladivostok 39.35 6⇑ *i*P P 17 56 43.8 +0.5
VLA *e* 17 58 14.3
VLA *e* 17 58 50.2
VLA *e*S **S** 18 02 42.8 +1.3
VLA pmax pmax
comp=Z,85nm,1.6s
SHL Shillong 39.60 306 *i*P P 17 56 56.5 +11
SHL *e*S **S** 18 02 48.0 +1.9
CN2 Changchun 39.75 359 *e*P P 17 56 46.5 -0.2
CN2 *e*pP **pP** 17 56 56.2 -2.7
CN2 PcP **PcP** 17 58 52.4 -0.1
CN2 *e*S **S** 18 02 49.1 +1.6
CN2 pmax pmax
comp=Z,20nm,0.8s
USRK Ussuriysk Arra 40.43 6 P P 17 56 52.7 +0.4
comp=Z,23nm,0.7s,baz=194,slow=7.6,SNR=14
MDJ Mudanjiang 40.64 3 P P 17 56 54.7 +0.6
MDJ pmax pmax
comp=Z,80nm,1.0s
MDJ Mudanjiang 40.64 3 *e*P P 17 56 54.9 +0.9
comp=Z,88nm,0.8s
ARMA Armidale 41.73 147 *e*P P 17 57 03.2 -0.1
comp=Z,108nm,1.2s
ARMA Armidale 41.73 147 *e*P P 17 57 04.3 +0.9
ASAJ Asahikawa 42.50 17 P P 17 57 10.2 +0.9
ASAJ Asahikawa 42.50 17 P P 17 57 10.2 +0.9
comp=Z,23nm,0.8s,baz=216,slow=8.2,SNR=7.6
GTA Gaotai 42.84 329 *e*P P 17 57 12.3 0.0
GTA pP **pP** 17 57 22.7 -2.0
GTA pmax pmax
comp=Z,27nm,0.6s
TAPN Taplejung 43.74 306 *e*P P 17 57 19.0 -1.0
comp=Z,165nm,1.0s
ODAN Odare 43.79 305 *e*P P 17 57 19.4 -0.9
comp=Z,181nm,0.8s
CAN Canberra 44.36 153 *e*P P 17 57 25.1 +0.6
comp=Z,21nm,0.8s
RAMN Ramite 44.47 305 *e*P P 17 57 25.2 -0.6
comp=Z,124nm,0.9s
JIRN Jiri 45.09 306 *e*P P 17 57 30.5 -0.4
comp=Z,47nm,0.9s
YSS Yuzh-Sakhalins 45.14 16⇑ *e*P P 17 57 32.5 +2.0
YSS Yuzh-Sakhalins 45.14 16 *e*P P 17 57 30.8 +0.3
KLR Kul'dur 45.39 5 *e*P P 17 57 28.7 -3.7
GUN Gumba 45.45 306 *e*P P 17 57 33.4 -0.3
comp=Z,210nm,0.7s
HIA Hailar 45.57 354 *e*P P 17 57 34.2 +0.3
comp=Z,207nm,1.0s
PKI Pulchoki 45.69 305 *e*P P 17 57 34.3 -1.3
KKN Kakani 45.88 306 *e*P P 17 57 36.3 -0.7
DMN Daman 45.95 305 *e*P P 17 57 36.3 -1.3
comp=Z,73nm,0.8s
GKN Gorkha 46.49 306 *e*P P 17 57 40.9 -0.8
DZM Mont Dzumac 46.81 125 P P 17 57 43.9 -0.3
DZM Mont Dzumac 46.81 125 P P 17 57 43.9 -0.3
comp=Z,20nm,0.7s,baz=270,slow=10,SNR=17
ULN Ulaanbaatar 46.89 342 *e*P P 17 57 45.2 +0.7
comp=Z,57nm,0.8s
SONM Songino Array 47.07 342 P P 17 57 45.7 -0.2
SONM Songino Array 47.07 342 P P 17 57 45.7 -0.2
comp=Z,29nm,0.6s,baz=159,slow=6.2,SNR=18
KOLN Koldanda 47.25 305 *e*P P 17 57 48.0 +0.4
comp=Z,161nm,0.6s
DANN Dangsing 47.34 306 *e*P P 17 57 48.1 -0.3
comp=Z,220nm,0.6s
HYB Hyderabad 48.85 290 *i*P P 17 57 59.5 -0.5
CIT Chita 49.16 349 *e*P P 17 58 00.6 -1.2
CIT pmax pmax
comp=Z,462nm,3.6s
ZAK Zakamensk 50.29 341 *e*P P 17 58 07.7 -2.8
ZAK *e* 17 59 27.3
ZAK pmax pmax
comp=Z,11nm,1.1s
TLY Talaya 51.30 342 *e*P P 17 58 17.2 -0.8
TLY *e* 17 58 27.8
TLY pmax pmax
comp=Z,30nm,0.7s
TLY Talaya 51.30 342 *e*P P 17 58 18.9 +0.9
comp=Z,47nm,0.9s
TLY Talaya 51.30 342 P P 17 58 18.7 +0.7
comp=Z,321nm,0.6s,SNR=11

IRK Irkutsk 51.60 343 *e*P P 17 58 21.6 +1.4
IRK pmax pmax
comp=Z,203nm,2.3s
AGRA Agra 51.78 302 *e*PKP P 17 58 21.5 -0.5
AGRA AMb AMB 17 58 25.1
comp=Z,85nm,0.7s
MOY Mondy 52.15 340 *e*P P 17 58 26.1 +1.7
ASOR Ausora 52.40 304 *e*PKP P 17 58 25.5 -1.1
ASOR AMb AMB 17 58 29.8
comp=Z,333nm,0.5s
WMQ Urumqi 52.46 325 *e*P P 17 58 27.4 +0.6
WMQ pP **pP** 17 58 37.0 -2.4
WMQ sP **sP** 17 58 41.0 -3.7
WMQ pmax pmax
comp=Z,36nm,1.5s
WMQ LR LR
comp=N,5μm,14.6s
WMQ LR LR
comp=E,5μm,18.0s
WMQ LR LR
comp=Z,5μm,17.5s
SONA Sohna 52.82 303 *e*PKP P 17 58 29.0 -0.6
SONA AMb AMB 17 58 31.2
comp=Z,104nm,1.6s
AYAN Aya Nagar 52.85 303 *e*PKP P 17 58 28.1 -1.8
AYAN AMb AMB 17 58 30.6
comp=Z,86nm,1.1s
BHGR Bahadurgarh 53.08 303 *e*PKP P 17 58 30.4 -1.1
KUDL Kundal 53.29 302 *e*PKP P 17 58 32.2 -0.8
KUDL AMb AMB 17 58 34.5
comp=Z,113nm,2.0s
POO Poona 53.45 290⇓ *i*P P 17 58 33.0 -1.5
comp=Z,140nm,1.0s
KHET Khetri 53.84 302 *e*PKP P 17 58 36.8 -0.4
KHET AMb AMB 17 58 38.3
comp=Z,97nm,1.4s
BOD Bodaibo 54.67 352 *e*P P 17 58 43.0 +0.4
BOD pmax pmax
comp=Z,84nm,0.9s
MSVF Nonsavu 55.18 115 *e*P P 17 58 47.8 +0.7
MSVF pmax pmax
comp=Z,105nm,1.2s
MSVF Nonsavu 55.18 115 *e*P P 17 58 47.8 +0.7
comp=Z,105nm,1.2s
MSVF Nonsavu 55.18 115 P P 17 58 47.0 -0.1
comp=Z,425nm,1.3s,SNR=10.0
THN Thein Dam 55.29 307 *e*PKP P 17 58 48.9 +1.3
PETK Petropavlovsk- 55.36 22 P P 17 58 48.0 +0.2
PETK pmax pmax
comp=Z,17nm,0.6s
PETK Petropavlovsk- 55.36 22 P P 17 58 48.0 +0.2
PETK Petropavlovsk- 55.36 22 P P 17 58 48.0 +0.2
comp=Z,17nm,0.6s,baz=189,slow=4.6,SNR=11
MK31 Makanchi Array 57.29 325 *e*P P 17 59 01.5 -0.2
MK31 pmax pmax
comp=Z,69nm,1.0s
MK31 Makanchi Array 57.29 325 *e*P P 17 59 01.1 -0.5
MKAR Makanchi Array 57.29 325 *ce*P P 17 59 02.2 +0.5
MKAR pmax pmax
comp=Z,27nm,0.7s
MKAR Makanchi Array 57.29 325 *e*P P 17 59 01.8 +0.1
MKAR Makanchi Array 57.29 325 P P 17 59 01.7 0.0
comp=Z,27nm,0.7s,baz=117,slow=6.5,SNR=12
KSH Kashi 57.77 315 P P 17 59 06.6 +1.3
KSH pP **pP** 17 59 16.5 -1.6
KSH sP **sP** 17 59 20.7 -2.5
KSH PcP **PcP** 17 59 59.6 +1.9
KSH PP **PP** 18 01 16.5 +2.8
KSH ScP **ScP** 18 03 55.8 +1.5
KSH PcS **PcS** 18 03 58.4 -0.7
KSH S **S** 18 07 02.5 +1.1
KSH sS **sS** 18 07 19.1 -3.6
KSH ScS **ScS** 18 08 51.3 -0.1
KSH SS **SS** 18 10 54.5 +1.9
YAK Yakutsk 58.05 2 *e*P P 17 59 06.6 0.0
YAK *e**PP **pP** 17 59 22.3 +2.9
YAK *e*S **S** 18 07 08.1 +4.1
YAK pmax pmax
comp=Z,203nm,0.9s
YAK pmax pmax
comp=E,13nm,0.9s
YAK pmax pmax
comp=N,85nm,1.1s
YAK pmax pmax
comp=Z,34μm,17.8s
YAK pmax pmax
comp=N,11μm,18.8s
YAK pmax pmax
comp=E,46μm,22.5s
YAK smax smax
comp=N,58μm,18.8s
YAK smax smax
comp=E,70μm,24.4s
YAK Yakutsk 58.05 2 *e*P P 17 59 06.8 +0.2
KZA Kyzart 59.34 318 P P 17 59 17.1 +0.5
SNR=6.2
TKM2 Tokmak 2 59.47 319 *i*P P 17 59 16.6 -0.6
TKM2 Tokmak 2 59.47 319 P P 17 59 16.6 -0.6
SNR=5.1
UCH Uchtor 59.90 317 P P 17 59 22.3 +1.8
SNR=5.7
CHMS Chumysh 60.07 318 P P 17 59 22.1 +1.0
SNR=6.1
AAK Ala-Archa 60.08 318⇓ *e*P P 17 59 21.9 +0.6
AAK pmax pmax
comp=Z,124nm,1.7s
AAK Ala-Archa 60.08 318 P P 17 59 21.6 +0.2
AAK Ala-Archa 60.08 318 P P 17 59 21.6 +0.2
comp=Z,18nm,1.0s,baz=136,slow=7.2,SNR=4.9
ZAA0 Zalesovo Array 60.34 333 *e*P P 17 59 21.5 -1.1
ZALV Zalesovo Beam 60.34 333 P P 17 59 21.8 -0.8
ZALV pmax pmax
comp=Z,18nm,0.5s
ZALV Zalesovo Beam 60.34 333 P P 17 59 21.8 -0.8
ZALV Zalesovo Beam 60.34 333 P P 17 59 21.8 -0.8
comp=Z,18nm,0.5s,baz=120,slow=6.4,SNR=17
USP Ospenovka 60.35 319 P P 17 59 23.1 +0.1
SNR=9.4
AML Almayashu 60.42 317 P P 17 59 25.2 +1.3
SNR=13
EKS2 Erkin-Say 60.58 318 *e*P P 17 59 24.7 0.0
EKS2 pmax pmax
comp=Z,28nm,0.8s
EKS2 Erkin-Say 60.58 318 *e*P P 17 59 24.7 0.0
comp=Z,26nm,0.8s
EKS2 Erkin-Say 60.58 318 P P 17 59 26.2 +1.6
SNR=7.5
KBL Kabul 61.24 307 *e*P P 17 59 29.3 -0.2
KBL pmax pmax
comp=Z,50nm,0.9s
KBL Kabul 61.24 307 *e*P P 17 59 29.3 -0.2
comp=Z,50nm,0.9s
KURBB Kurchatov Arra 61.48 327 P P 17 59 29.9 -0.5
comp=Z,44nm,0.5s,baz=132,slow=6.5,SNR=16
KURK Kurchatov 61.48 328⇑ *e*P P 17 59 30.5 +0.1
KURK pmax pmax
comp=Z,97nm,0.8s
KURK Kurchatov 61.48 328 *e*P P 17 59 30.2 -0.2
comp=Z,144nm,1.0s
KURK Kurchatov 61.48 328 P P 17 59 30.2 -0.2
comp=Z,851nm,0.6s,SNR=12
NVS Novosibirsk 61.62 333 *e*P P 17 59 30.4 -0.9
NVS *e*S **S** 18 07 47.8 -2.4
NVS pmax pmax
comp=Z,92nm,1.5s
NVS pmax pmax
comp=N,34nm,1.0s
NVS pmax pmax
comp=E,38nm,1.1s
NVS smax smax
comp=N,42nm,1.6s
NVS smax smax
comp=E,58nm,1.7s
SEY Seymchan 61.92 13⇑ *e*P P 17 59 34.1 +0.9
RPZ Rata Peaks 62.03 145 *e*P P 17 59 34.2 -0.1
comp=E,58nm,1.1s
KK31 Karatay Array 62.96 317 P P 17 59 40.3 -0.2
KK31 pmax pmax
comp=Z,55nm,1.0s
KKAR Karatay Array 62.96 317 *e*P P 17 59 40.6 0.0
KKAR Karatay Array 62.96 317 *e*P P 17 59 40.6 0.0
AFI Afiamalu 63.71 107 *e*P P 17 59 46.6 +0.5
comp=Z,170nm,1.3s
AFI Afiamalu 63.71 107 P P 17 59 46.5 +0.5
comp=Z,26nm,0.6s,baz=280,slow=6.5,SNR=8.8

BVA0 Borovoye Array 67.06 327 *i*P P 18 00 06.7 -0.3
BVA0 pmax pmax
comp=Z,15nm,1.0s
BVAR Borovoye Array 67.06 327 P P 18 00 06.7 -0.3
BVAR pmax pmax
comp=Z,40nm,1.0s
BVAR Borovoye Array 67.06 327 P P 18 00 06.7 -0.3
BVAR Borovoye Array 67.06 327 P P 18 00 06.7 -0.3
comp=Z,40nm,1.0s,baz=132,slow=6.6,SNR=10
BRVK Borovoye 67.13 327⇑ *e*P P 18 00 08.5 +1.1
BRVK pmax pmax
comp=Z,79nm,1.0s
BRVK Borovoye 67.13 327 *e*P P 18 00 07.4 0.0
comp=Z,82nm,0.9s
BRVK Borovoye 67.13 327 P P 18 00 08.7 +1.3
comp=Z,393nm,1.1s,SNR=6.3
BILL Bilibino 69.45 15 *i*P P 18 00 23.2 +1.6
BILL *e**PP **pP** 18 00 34.1 -0.6
BILL *e* 18 00 42.2
BILL *e* 18 02 58.0
BILL *e*S **S** 18 09 27.5 +2.0
BILL *e*SS **SS** 18 13 57.8 +4.4
BILL pmax pmax
comp=Z,7.0nm,0.9s
BILL Bilibino 69.45 15 *e*P P 18 00 20.8 -0.9
ABKT Ailbek 70.61 309 P P 18 00 30.8 +1.3
comp=Z,198nm,0.9s,SNR=6.6
AB31 Akbulak array 71.88 321 P P 18 00 35.6 -1.2
AB31 pmax pmax
comp=Z,30nm,0.7s
ABKAR Akbulak array 71.88 321 *e*P P 18 00 36.4 -0.4
AKTO Aktyubinsk 73.39 322 P P 18 00 45.6 -0.1
AKTO pmax pmax
comp=Z,48nm,0.7s
AKTO Aktyubinsk 73.39 322 P P 18 00 45.6 -0.1
AKTO Aktyubinsk 73.39 322 P P 18 00 45.6 -0.1
comp=Z,48nm,0.7s,baz=102,slow=7.7,SNR=19
UNV Unalaska Valle 73.41 35 *e*P P 18 00 46.0 +0.2
comp=Z,372nm,1.8s
SVE Sverdlovsk 73.70 328⇑ *e*P P 18 00 47.0 -0.4
SVE pmax pmax
comp=Z,115nm,1.1s
ARU Arti 74.68 328 *d i*P P 18 00 52.9 -0.2
ARU 18 03 36.2
ARU S **S** 18 10 27.4 +1.6
ARU pmax pmax
comp=Z,45nm,1.0s
ARU Arti 74.68 328 *e*P P 18 00 52.5 -0.6
comp=Z,50nm,0.8s
ARU Arti 74.68 328 P P 18 00 52.8 -0.3
comp=Z,404nm,0.8s,SNR=8.6
SOKR Solikamsk 76.46 331 *e*P P 18 01 02.0 -1.2
SOKR pmax pmax
comp=Z,30nm,0.8s
QRN Al-Qurain 78.13 298 *e*P P 18 01 13.0 -0.3
QRN AMb AMB 18 01 13.7
comp=Z,145nm,0.7s
UMR Umm Al-Rimmam 78.34 299 *e*P P 18 01 14.3 -0.1
UMR AMb AMB 18 01 16.1
comp=Z,78nm,1.8s
MIB Mutribah 78.68 299 *e*P P 18 01 16.0 -0.2
MIB AMb AMB 18 01 17.0
comp=Z,153nm,0.7s
NAY Al-Naaiem 78.74 299 *e*P P 18 01 16.3 -0.4
NAY AMb AMB 18 01 16.9
comp=Z,63nm,0.8s
ABPO Ambohimpanom 81.16 250 *e*P P 18 01 32.3 +2.2
ABPO pmax pmax
comp=Z,17nm,0.9s
ABPO Ambohimpanom 81.16 250 *e*P P 18 01 32.3 +2.2
comp=Z,17nm,0.9s
KDAK Kodiak Island 81.87 32 P P 18 01 33.7 +0.9
KDAK Kodiak Island 81.87 32 P P 18 01 33.7 +0.9
comp=Z,28nm,0.7s,baz=290,slow=3.8,SNR=10
ZEI Tsey 81.94 312 *e*P P 18 01 33.3 -0.6
ZEI pmax pmax
comp=Z,14nm,0.7s
KIV Kislovodsk 82.86 314 *e*P P 18 01 39.1 +0.6
KIV pmax pmax
comp=Z,14nm,0.9s
SLKM Skilak Lake 83.31 30 *e*P P 18 01 40.2 -0.1
SLKM Skilak Lake 83.31 30 *e*P P 18 01 40.2 -0.1
TRF Thorofare Moun 83.49 27 *e*P P 18 01 41.8 +0.4
comp=Z,156nm,1.6s
RC01 Rabbit Creek A 83.58 29 *e*P P 18 01 42.6 +0.9
comp=Z,44nm,0.9s
SEW Seward 83.67 30 *e*P P 18 01 40.2 -1.9
comp=Z,82nm,1.1s
VRHR Novokhopersk 83.77 321 *e*P P 18 01 43.3 +0.4
VRHR pmax pmax
comp=Z,30nm,0.6s
VRHR pmax pmax
comp=N,60nm,1.1s
VRHR pmax pmax
comp=E,70nm,1.0s
COLD Coldfoot 83.82 23 *e*P P 18 01 44.7 +1.9
comp=E,57nm,1.0s
PMR Palmer 83.90 29 *e*P P 18 01 43.5 +0.2
PMR pmax pmax
comp=Z,70nm,1.1s
PMR Palmer 83.90 29 *e*P P 18 01 43.5 +0.2
comp=Z,70nm,1.1s
MCK McKinley 84.11 26 *e*P P 18 01 45.0 +0.6
MCK pmax pmax
comp=Z,194nm,1.5s
MCK McKinley 84.11 26 *e*P P 18 01 45.0 +0.6
comp=Z,194nm,1.5s
SML Sawmill 84.30 28 *e*P P 18 01 46.1 +0.7
SML pmax pmax
comp=Z,18nm,0.9s
SML Sawmill 84.30 28 *e*P P 18 01 46.1 +0.7
comp=Z,18nm,0.9s
COLA College 84.64 25 *e*P P 18 01 48.2 +1.3
COLA College 84.64 25 *e*P P 18 01 48.2 +1.3
ILAR Eielson Array 85.05 25 P P 18 01 49.2 +0.1
ILAR Eielson Array 85.05 25 P P 18 01 49.2 +0.1
comp=Z,5.5nm,0.7s,baz=243,slow=6.8,SNR=12
KLMR Klimovskoe 85.15 331 *e*P P 18 01 47.2 -2.4
KLMR pmax pmax
comp=Z,369nm,1.5s
VORD Divnogorie 85.24 321 *e*P P 18 01 48.1 -2.2
VSR Storozhevoye 85.32 321 *e*P P 18 01 49.5 -1.2
DIV Divide 85.51 29 *e*P P 18 01 53.4 +1.9
comp=Z,116nm,1.2s
BMRM Bremner River 86.08 29 *e*P P 18 01 56.1 +1.8
comp=Z,99nm,1.1s
MOS Moscow 86.18 325 *e*P P 18 01 53.6 -1.2
MOS pmax pmax
comp=Z,157nm,1.3s
OBN Obninsk 86.80 325⇑ *e*P P 18 01 57.1 -0.8
OBN *e* 18 02 06.3
OBN *e* 18 05 22.5
OBN *e*S **SKSac** 18 12 20.4 -0.7
OBN *e*SS **SS** 18 18 14.3 -0.2
OBN pmax pmax
comp=Z,255nm,1.7s
OBN Obninsk 86.80 325 *e*P P 18 01 57.4 -0.5
comp=Z,449nm,1.7s
OBN Obninsk 86.80 325 P P 18 01 57.7 -0.2
comp=Z,760nm,1.7s,SNR=6.5
APA Apatity 87.61 337⇓ *i*P P 18 02 03.0 +1.4
APA pmax pmax
comp=Z,26nm,1.0s
APA MLR MLR
comp=Z,86μm,20.0s
ASF Jabal al Asfar 87.62 302 P P 18 02 03.6 +1.0
ASF Jabal al Asfar 87.62 302 P P 18 02 03.6 +1.0
comp=Z,11nm,0.8s,baz=117,slow=4.5,SNR=12
MMAI Mount Meron Ar 88.83 303 P P 18 02 08.7 +0.4
MMAI Mount Meron Ar 88.83 303 P P 18 02 08.7 +0.4
comp=Z,4.4nm,0.5s,baz=76,slow=7.6,SNR=9.6
JOF Joensuu 88.93 333 *e*P P 18 02 07.5 -0.4
JOF pmax pmax
comp=Z,38nm,0.6s
JOF Joensuu 88.93 333 *ep* P 18 02 07.5 -0.4
comp=Z,38nm,0.6s
KMBO Kilima Mbogo 89.33 269 *e*P P 18 02 11.2 +0.1
comp=Z,61nm,1.6s
EIL Elat 89.45 300 P P 18 02 11.7 +0.6
EIL Elat 89.45 300 P P 18 02 11.7 +0.6
comp=Z,9.5nm,0.7s,baz=101,slow=5.2,SNR=7.0
KEV Kevo 89.66 340 *e*P P 18 02 10.5 -0.7
KEV pmax pmax
comp=Z,7.0nm,0.7s
KEV Kevo 89.66 340 *ep* P 18 02 10.5 -0.7

comp=Z,6.5nm,0.7s
BR131 Keskin Array S 89.74 310 *e*P **P 18 02 11.2 -1.2**
comp=Z,6.4nm,0.7s
BRTR Keskin Array B 89.74 310 P **P 18 02 11.8 -0.7**
BRTR Keskin Array B 89.74 310 P **P 18 02 11.8 -0.7**
comp=Z,6.8nm,0.7s,baz=131,slow=4.6,SNR=16
INK Inuvik 90.09 21 P **P 18 02 12.5 -0.7**
INK Inuvik 90.09 21 P **P 18 02 12.5 -0.7**
comp=Z,4.2nm,0.8s,baz=263,slow=4.9,SNR=3.6
ARCES ARCESS Array B 90.22 340 P **P 18 02 13.2 -0.6**
ARCES ARCESS Array B 90.22 340 P **P 18 02 13.2 -0.6**
comp=Z,12nm,0.8s,baz=76,slow=6.3,SNR=13
KAF Kangasniemi 91.35 332 *e*P **P 18 02 18.1 -1.1**
KAF pmax pmax
comp=Z,14nm,0.6s
KAF Kangasniemi 91.35 332 *e*p **P 18 02 18.1 -1.1**
comp=Z,14nm,0.6s
FINES FINESS Array B 91.58 332 P **P 18 02 19.8 -0.5**
FINES FINESS Array B 91.58 332 P **P 18 02 19.8 -0.5**
comp=Z,14nm,0.7s,baz=61,slow=5.8,SNR=11
AKASG Malin Array Be 91.62 321 *e*P **P 18 02 20.0 -0.8**
AKASG pmax pmax
comp=Z,12nm,0.6s
AKASG Malin Array Be 91.62 321 P **P 18 02 19.9 -0.8**
AKASG Malin Array Be 91.62 321 P **P 18 02 19.9 -0.8**
comp=Z,12nm,0.6s,baz=70,slow=4.6,SNR=17
KIEV Kiev 91.63 321 *e*P **P 18 02 20.1 -0.7**
KIEV pmax pmax
comp=Z,23nm,0.9s
KIEV Kiev 91.63 321 *e*P **P 18 02 20.1 -0.7**
comp=Z,23nm,0.9s
VSU Vasula 91.81 329⇓*e*P **P 18 02 21.0 -0.4**
VSU pmax pmax
comp=Z,42nm,0.7s
NACGM Naroch 92.42 325 *e* P 18 02 21.0 -3.3
SYO Syowa Base 92.50 201⇑*e*X P 18 02 19.8 -4.5
SYO Syowa Base 92.50 201 *e*SH **S 18 13 28.8 +4.1**
TIRR Tirgusor 93.06 315 ⇓*i*P P 18 02 23.4 -4.1
TIRR Tirgusor 93.06 315 ⇓*i*P P 18 02 23.4 -4.1
CFR Carcaliu 93.15 316 ⇓P **P 18 02 26.7 -1.2**
CFR Carcaliu 93.15 316 ⇓*i*P **P 18 02 26.7 -1.2**
QSPA South Pole Qui 93.80 180 P **P 18 02 29.2 -1.4**
QSPA South Pole Qui 93.80 180 P **P 18 02 29.2 -1.4**
comp=Z,6.7nm,0.9s,baz=45,slow=2.9,SNR=1.7
GRER 93.93 316 ⇓*i*P P 18 02 39.5 +8.0
TESR 93.97 317⇑*i*P **P 18 02 31.5 -0.2**
VRI Vrincioaia 94.02 316 ⇓P **P 18 02 31.1 -0.9**
VRI Vrincioaia 94.02 316 ⇓*i*P **P 18 02 31.1 -0.9**
PLOR Plostina 94.08 316⇑P **P 18 02 32.0 -0.3**
PLOR Plostina 94.08 316⇑*i*P **P 18 02 32.0 -0.3**
ISR Istrita 94.28 316⇑P **P 18 02 34.9 +1.7**
ISR Istrita 94.28 316⇑*i*P **P 18 02 34.9 +1.7**
MLR Muntele Rosu 94.63 316 P **P 18 02 34.2 -0.7**
MLR Muntele Rosu 94.63 316⇑*i*P **P 18 02 33.8 -1.1**
MLR Muntele Rosu 94.63 316 P **P 18 02 34.2 -0.7**
comp=Z,3.8nm,0.8s,baz=39,slow=5.9
SUW Suwalki 94.66 325 *e*P **P 18 02 34.3 -0.3**
SUW pmax pmax
comp=Z,117nm,1.0s
SUW Suwalki 94.66 325 *e*P **P 18 02 34.3 -0.3**
comp=Z,117nm,1.0s
BURAR Bucovina Array 94.73 318 ⇓*i*P **P 18 02 34.9 -0.4**
BUR08 Bucovina Ar. S 94.73 318 *e*P **P 18 02 35.4 +0.1**
VOIR 95.25 316 ⇓P P 18 02 34.1 -3.6
VOIR 95.25 316 ⇓*i*P P 18 02 34.1 -3.6
HUMR Humele 95.47 315⇑*i*P **P 18 02 37.3 -1.3**
KOLS Kolonicke sedl 96.37 320 *e*P **P 18 02 42.2 -0.4**
KOLS pmax pmax
comp=Z,19nm,1.2s
KOLS Kolonicke sedl 96.37 320 *e*P **P 18 02 42.2 -0.4**
UZH Uzhgorod 96.43 320⇓*e*P **P 18 02 42.5 -0.4**
DRGR 96.57 318⇑P **P 18 02 43.0 -0.7**
DRGR 96.57 318⇑*i*P **P 18 02 43.0 -0.7**
CRVS Cervenica-Dubn 96.90 320 *e*P **P 18 02 45.3 +0.3**
CRVS pmax pmax
comp=Z,57nm,1.4s
CRVS Cervenica-Dubn 96.90 320 *e*P **P 18 02 45.3 +0.3**
DAG Danmarks Havn 97.06 352 *i*P **P 18 02 44.5 -0.6**
DAG pmax pmax
comp=Z,12nm,1.0s
DAG Danmarks Havn 97.06 352 *i*P **P 18 02 44.5 -0.6**
comp=Z,117nm,1.0s
VTS Vitosha 97.12 314⇑P **P 18 02 43.8 -2.5**
VTS Vitosha 97.12 314⇑*i*P **P 18 02 43.8 -2.5**
BZS Buzias 97.58 317⇑P **P 18 02 46.1 -2.0**
BZS Buzias 97.58 317⇑*i*P **P 18 02 46.1 -2.0**
OJC Ojcow 97.61 322 *e*P **P 18 02 46.1 -2.1**
OJC Ojcow 97.61 322 *e*P **P 18 02 46.7 -1.5**
PSZ Piszkesteto 98.16 319⇑P Pdif 18 02 50.7 -0.1
PSZ Piszkesteto 98.16 319⇑*i*P Pdif 18 02 50.7 -0.1
NB2 NORSAR Subarra 98.54 334 P **P 18 02 51.2 -0.9**
baz=66,slow=4.8
NB2 NORSAR Subarra 98.54 334 P **P 18 02 51.2 -0.9**
comp=Z,5.8nm,0.6s,baz=66,slow=4.8
NOA NORSAR Array B 98.54 334 P **P 18 02 51.2 -0.9**
NOA NORSAR Array B 98.54 334 P **P 18 02 51.2 -0.9**
comp=Z,5.8nm,0.6s,baz=67,slow=4.6,SNR=15
VYHS Vyhne 98.69 320 *e*P Pdif 18 02 53.0 -0.1
VYHS pmax pmax
comp=Z,39nm,2.2s
VYHS Vyhne 98.69 320 PDIF Pdif 18 02 53.0 -0.1
MORC Moravsky Berou 99.14 322⇑P **Pdif 18 02 55.5 +0.4**
MORC Moravsky Berou 99.14 322⇑*i*P **Pdif 18 02 55.5 +0.4**
PKSM Moragy 99.44 318 ⇓P **Pdif 18 02 55.3 -1.1**
PKSM Moragy 99.44 318 ⇓*i*P **Pdif 18 02 55.3 -1.1**
YKA Yellowknife Ar 99.44 24 P **Pdif 18 02 56.5 +0.4**
YKA Yellowknife Ar 99.44 24 P **Pdif 18 02 56.5 +0.4**
comp=Z,0.8nm,0.8s,baz=302,slow=4.5,SNR=3.1
BRG Berggiesshubel 100.97 323 *i*P **Pdif 18 03 03.3 +0.1**
comp=Z,21nm,1.0s
BRG PP PP 18 07 03.0 -8.4
BRG Berggiesshubel 100.97 323 *i*P **Pdif 18 03 03.3 +0.1**
BRG pmax pmax
comp=Z,21nm,1.0s
GERES GERESS Array B 101.82 322 P **Pdif 18 03 07.2 0.0**
GERES GERESS Array B 101.82 322 P **Pdif 18 03 07.2 0.0**
comp=Z,2.8nm,0.9s,baz=72,slow=5.7,SNR=4.5
NVAR Mina Array Bea 106.96 48 PKKPbc PKKPbc 18 18 59.1 +0.4
NVAR Mina Array Bea 106.96 48 PKKPbc PKKPbc 18 18 59.1 +0.4
comp=Z,0.2nm,0.5s,baz=140,slow=4.5,SNR=2.4
PDAR Pinedale Array 111.37 41 PKKPbc PKKPbc 18 18 44.2 -0.6
PDAR Pinedale Array 111.37 41 PKKPbc PKKPbc 18 18 44.2 -0.6
comp=Z,0.6nm,0.8s,baz=115,slow=4.3,SNR=3.3
ISCO Idaho Springs 115.40 42 *e*P **Pdif 18 04 06.6 -1.4**
ISCO Idaho Springs 115.40 42 *e*Pdif **Pdif 18 04 06.6 -1.4**
SCHQ Schefferville 120.44 9 PKP **PKPdf 18 08 05.3 +0.3**
SCHQ Schefferville 120.44 9 PKP **PKPdf 18 08 05.3 +0.3**
comp=Z,7.3nm,0.9s,baz=72,slow=3.2,SNR=3.4
TORD Torodi Ar. Bea 122.66 288 PKP **PKPdf 18 08 10.1 -0.2**
TORD Torodi Ar. Bea 122.66 288 PKP **PKPdf 18 08 10.1 -0.2**
comp=Z,6.4nm,0.8s,baz=76,slow=1.4,SNR=8.6
DBIC Dimbokro 130.33 282 PKP **PKPdf 18 08 25.2 +0.2**
DBIC SKPbc **SKPbc 18 11 47.5 +2.7**
DBIC Dimbokro 130.33 282 PKP **PKPdf 18 08 25.2 +0.2**
comp=Z,4.1nm,0.8s,baz=78,slow=3.7,SNR=4.1
DBIC SKPbc **SKPbc 18 11 47.5 +2.7**
comp=Z,6.3nm,0.8s,baz=46,slow=4.0,SNR=5.7
TZTN Tazewell 130.95 32 *e*PP PP 18 10 41.9 +0.4
PLCA Paso Flores 140.24 160 PKP **PKPdf 18 08 43.9 +1.0**
PLCA Paso Flores 140.24 160 PKP **PKPdf 18 08 43.9 +1.0**
comp=Z,3.3nm,0.8s,baz=280,slow=2.0,SNR=4.6
TRQA Tornquist 145.13 168 *e*PKPdf **PKPbc 18 08 49.8 -1.2**
CFAA Coronel Fontan 149.15 155 PKPbc **PKPbc 18 09 02.6 0.0**
CFAA Coronel Fontan 149.15 155 PKPbc **PKPbc 18 09 02.6 0.0**
comp=Z,1.5nm,0.6s,baz=228,slow=2.6,SNR=5.7
LCO Las Campanas 150.15 149 *e*PKPbc **PKPbc 18 09 05.0 -0.5**
CPUP Villa Florida 157.39 171 PKPab **PKPab 18 09 41.7 +0.1**
CPUP Villa Florida 157.39 171 PKPab **PKPab 18 09 41.7 +0.1**
comp=Z,2.2nm,0.5s,baz=180,slow=5.5,SNR=3.7
RCBR Riachuelo 162.37 263 PKPab **PKPab 18 10 03.8 -0.2**
RCBR Riachuelo 162.37 263 PKPab **PKPab 18 10 03.8 -0.2**
comp=Z,14nm,1.1s,baz=56,slow=9.9,SNR=4.2

*IDC **11** 17:52:53.2±0.5, 3.°66N×126.°66E, h0km, mb4.8/28, mb1 4.8/28, mb1mx4.8/31, mbtmp4.8/28, MS5.9/1, Ms1 5.9/1, ms1mx4.8/43, Error ellipse: s-maj=22.2km s-min=11.2km az=78.0*
*ISCJB **11** 17:52:58.3±0.4, 3.°68N±0.°05×126.°76E±0.°07, h53km, mb4.8/32, MS5.8/1, Error ellipse: s-maj=9.6km s-min=6.9km az=170.9*
*NEIC **11** 17:52:58.1±3.4, 3.°75N×126.°79E, h34km±24km, mb5.2/6,*

Error ellipse: s-maj=12.6km s-min=7.0km az=85.0
ISC 11 17:53:00.2±0.4, **3.°70N**±0.°06×**126.°74E**±0.°09, **h53**km, **n91, s1811/91, mb4.9/41, 2C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.29**	**325**	⇑*i*P			**Pn**	**17 54 05.0**	**+2.0**
ZMPH	**Zamboanga City**	**5.67**	**305**	⇑*i*P			**Pn**	**17 54 21.2**	**-0.8**
ZMPH				*i*S			Sn	17 55 11.5	-14
KAPI	**Kappang**	**11.12**	**219**	Pn			**Pn**	**17 55 37.9**	**+1.3**
KAPI	**Kappang**	**11.12**	**219**	Pn			**Pn**	**17 55 37.9**	**+1.3**
	1.4nm,0.3s,baz=41,slow=12,SNR=2.6								
KSM	**Kuching**	**16.56**	**263**	*e*P			**Pn**	**17 56 49.8**	**+0.7**
TWG	**Pinlang**	**19.79**	**344**	*e*P			**P**	**17 57 22.8**	**-3.5**
YULB	**Yu-li**	**20.27**	**345**	*e*P			**P**	**17 57 28.0**	**-3.6**
YULB				*e*P			Pn	17 57 28.1	-5.8
TPUB	**Ta-pu**	**20.36**	**344**	*e*P			**P**	**17 57 28.1**	**-4.4**
SSLB	**Suanglung**	**20.74**	**345**	*e*P			**P**	**17 57 34.6**	**-2.0**
	52nm,0.7s								
FITZ	**Fitzroy Crossi**	**21.69**	**183**	P			**P**	**17 57 46.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**21.69**	**183**	P			**P**	**17 57 46.2**	**-0.6**
	24nm,0.7s,baz=1.9,slow=10,SNR=4.1								
JOW	**Kunigami**	**23.05**	**4**	*e*P			**P**	**17 57 59.1**	**-2.1**
JOW	**Kunigami**	**23.05**	**4**	P			**P**	**17 58 01.4**	**+0.2**
	21nm,0.8s,baz=185,slow=11,SNR=4.4								
WRA	**Warramunga Arr**	**24.65**	**163**	P			**P**	**17 58 15.2**	**-1.0**
WRA	**Warramunga Arr**	**24.65**	**163**	P			**P**	**17 58 15.2**	**-1.0**
	86nm,0.8s,baz=337,slow=11,SNR=15								
WRA							LR	LR	18 07 35.0
	comp=Z,27µm,18.0s,baz=230,slow=36								
ASAR	**Alice Springs**	**28.08**	**166**	P			**P**	**17 58 47.1**	**0.0**
ASAR	**Alice Springs**	**28.08**	**166**	P			**P**	**17 58 47.1**	**0.0**
	8.0nm,0.7s,baz=342,slow=6.5,SNR=5.7								
JNU	**Nakatsue**	**29.53**	**7**	P			**P**	**17 58 58.2**	**-1.6**
JNU	**Nakatsue**	**29.53**	**7**	P			**P**	**17 58 58.2**	**-1.6**
	10nm,0.7s,baz=178,slow=9.7,SNR=4.2								
CMAR	**Chiang Mai Arr**	**30.90**	**300**	P			**P**	**17 59 13.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**30.90**	**300**	P			**P**	**17 59 13.1**	**+1.0**
	5.2nm,0.8s,baz=129,slow=6.7,SNR=4.1								
KSAR	**Wonju Array Be**	**33.60**	**2**	P			**P**	**17 59 36.2**	**+0.7**
KSRS	**Korea Array**	**33.61**	**2**	P			**P**	**17 59 36.2**	**+0.6**
	9.3nm,0.7s,baz=177,slow=8.9,SNR=8.8								
MJAR	**Matsushiro Arr**	**34.35**	**16**	P			**P**	**17 59 41.3**	**-0.8**
MJAR	**Matsushiro Arr**	**34.35**	**16**	P			**P**	**17 59 41.3**	**-0.8**
	2.7nm,1.1s,baz=185,slow=8.7,SNR=3.1								
BJT	**Baijiatuau**	**37.40**	**347**	*e*P			**P**	**18 00 08.5**	**+0.4**
	64nm,0.6s								
NWAO	**Narrogin (SRO)**	**37.52**	**193**	P			**P**	**18 00 06.9**	**-2.3**
NWAO	**Narrogin (SRO)**	**37.52**	**193**	P			**P**	**18 00 06.9**	**-2.3**
	9.3nm,0.7s,baz=16,slow=7.4,SNR=2.2								
STKA	**Stephens Creek**	**38.10**	**159**	*e*P			**P**	**18 00 13.4**	**-0.7**
	5.0nm,0.6s								
STKA	**Stephens Creek**	**38.10**	**159**	P			**P**	**18 00 14.3**	**+0.2**
	24nm,0.6s,baz=353,slow=9.5,SNR=6.5								
USRK	**Ussuriysk Arra**	**40.60**	**6**	P			**P**	**18 00 35.6**	**+0.9**
	12nm,0.8s,baz=184,slow=8.5,SNR=4.9								
MDJ	**Mudanjiang**	**40.83**	**3**	*e*P			**P**	**18 00 37.6**	**+1.0**
ASAJ	**Asahikawa**	**42.62**	**17**	P			**P**	**18 00 52.3**	**+0.9**
ASAJ	**Asahikawa**	**42.62**	**17**	P			**P**	**18 00 52.3**	**+0.9**
	8.5nm,0.6s,baz=187,slow=6.8,SNR=6.8								
TAPN	**Taplejung**	**44.04**	**306**	*e*P			**P**	**18 01 03.6**	**+0.1**
	23nm,0.6s								
ODAN	**Odare**	**44.10**	**306**	*e*P			**P**	**18 01 03.9**	**+0.1**
	43nm,0.7s								
RAMN	**Ramite**	**44.77**	**305**	*e*P			**P**	**18 01 09.4**	**+0.1**
	38nm,0.8s								
JIRN	**Jiri**	**45.40**	**306**	*e*P			**P**	**18 01 14.5**	**+0.2**
	8.3nm,0.7s								
GUN	**Gumba**	**45.75**	**306**	*e*P			**P**	**18 01 17.1**	**0.0**
	70nm,0.9s								
HIA	**Hailar**	**45.79**	**354**	*e*P			**P**	**18 01 17.4**	**+0.7**
	26nm,0.9s								
PKI	**Pulchoki**	**45.99**	**305**	*e*P			**P**	**18 01 19.0**	**0.0**
	42nm,1.0s								
KKN	**Kakani**	**46.19**	**306**	*e*P			**P**	**18 01 20.3**	**-0.1**
DZM	**Mont Dzumac**	**46.51**	**125**	P			**P**	**18 01 23.2**	**+0.3**
DZM	**Mont Dzumac**	**46.51**	**125**	P			**P**	**18 01 23.2**	**+0.3**
	12nm,0.9s,baz=302,slow=13,SNR=5.6								
GKN	**Gorkha**	**46.79**	**306**	*e*P			**P**	**18 01 24.7**	**-0.4**
	20nm,0.8s								
SONM	**Songino Array**	**47.33**	**341**	P			**P**	**18 01 29.3**	**+0.4**
SONM	**Songino Array**	**47.33**	**341**	P			**P**	**18 01 29.3**	**+0.4**
	5.4nm,0.6s,baz=158,slow=7.7,SNR=5.9								
KOLN	**Koldanda**	**47.55**	**305**	*e*P			**P**	**18 01 31.1**	**+0.1**
	51nm,0.5s								
DANN	**Dangsing**	**47.64**	**306**	*e*P			**P**	**18 01 31.7**	**-0.1**
	58nm,0.5s								
PETK	**Petropavlovsk-**	**55.46**	**22**	P			**P**	**18 02 30.2**	**+0.8**
PETK	**Petropavlovsk-**	**55.46**	**22**	P			**P**	**18 02 30.2**	**+0.8**
	7.8nm,0.6s,baz=188,slow=4.3,SNR=9.2								
MK31	**Makanchi Array**	**57.59**	**325**	*e*P			**P**	**18 02 42.6**	**-2.1**
MKAR	**Makanchi Array**	**57.59**	**325**	P			**P**	**18 02 44.6**	**-0.1**
MKAR	**Makanchi Array**	**57.59**	**325**	P			**P**	**18 02 44.6**	**-0.1**
	4.9nm,0.5s,baz=117,slow=7.0,SNR=8.4								
YAK	**Yakutsk**	**58.24**	**2**	*e*P			**P**	**18 02 48.7**	**-0.2**
	100nm,1.0s								
AAK	**Ala-Archa**	**60.39**	**318**	P			**P**	**18 03 04.9**	**+0.5**
AAK	**Ala-Archa**	**60.39**	**318**	P			**P**	**18 03 04.9**	**+0.5**
	5.3nm,0.8s,baz=124,slow=7.3,SNR=4.6								
ZALV	**Zalesovo Beam**	**60.62**	**333**	P			**P**	**18 03 05.4**	**-0.2**
ZALV	**Zalesovo Beam**	**60.62**	**333**	P			**P**	**18 03 05.4**	**-0.2**
	5.0nm,0.7s,baz=136,slow=7.3,SNR=5.2								
EKS2	**Erkin-Say**	**60.88**	**318**	*e*P			**P**	**18 03 08.0**	**+0.3**
KBL	**Kabul**	**61.55**	**307**	*e*P			**P**	**18 03 12.2**	**-0.3**
	10.0nm,0.7s								
KURBB	**Kurchatov Arra**	**61.77**	**327**	P			**P**	**18 03 13.5**	**+0.1**
	19nm,0.8s,baz=122,slow=6.2,SNR=7.7								
KURK	**Kurchatov**	**61.77**	**328**	P			**P**	**18 03 13.5**	**+0.1**
KKAR	**Karatay Array**	**63.26**	**317**	*e*P			**P**	**18 03 23.4**	**-0.2**
BVAR	**Borovoye Array**	**67.35**	**327**	P			**P**	**18 03 49.9**	**+0.1**
BVAR	**Borovoye Array**	**67.35**	**327**	P			**P**	**18 03 49.9**	**+0.1**
	11nm,0.7s,baz=102,slow=5.5,SNR=7.4								
ABKAR	**Akbulak array**	**72.18**	**321**	*e*P			**P**	**18 04 17.9**	**-1.6**
AKTO	**Aktyubinsk**	**73.69**	**322**	P			**P**	**18 04 28.8**	**+0.3**
AKTO	**Aktyubinsk**	**73.69**	**322**	P			**P**	**18 04 28.8**	**+0.3**
	12nm,0.8s,baz=97,slow=9.6,SNR=6.8								
OPO	**Ambohidratompo**	**81.29**	**251**	P			**P**	**18 05 12.0**	**+0.2**
OPO	**Ambohidratompo**	**81.29**	**251**	P			**P**	**18 05 12.0**	**+0.2**
	4.1nm,0.9s,baz=78,slow=14,SNR=2.8								
KDAK	**Kodiak Island**	**81.91**	**32**	P			**P**	**18 05 15.3**	**+1.4**
KDAK	**Kodiak Island**	**81.91**	**32**	P			**P**	**18 05 15.3**	**+1.4**
	10nm,0.7s,baz=292,slow=5.4,SNR=4.6								
COLD	**Coldfoot**	**83.92**	**23**	*e*P			**P**	**18 05 23.0**	**-1.2**
BRTR	**Keskin Array B**	**90.05**	**310**	P			**P**	**18 05 54.9**	**0.0**
BRTR	**Keskin Array B**	**90.05**	**310**	P			**P**	**18 05 54.9**	**0.0**
	6.3nm,0.9s,baz=122,slow=3.8,SNR=4.8								
ARCES	**ARCESS Array B**	**90.48**	**340**	P			**P**	**18 05 56.0**	**0.0**
ARCES	**ARCESS Array B**	**90.48**	**340**	P			**P**	**18 05 56.0**	**0.0**
	4.1nm,0.6s,baz=72,slow=5.8,SNR=5.1								
FINES	**FINESS Array B**	**91.86**	**332**	P			**P**	**18 06 02.5**	**-0.1**
FINES	**FINESS Array B**	**91.86**	**332**	P			**P**	**18 06 02.5**	**-0.1**
	2.6nm,0.6s,baz=71,slow=6.3,SNR=3.3								
AKASG	**Malin Array Be**	**91.92**	**321**	P			**P**	**18 06 03.3**	**+0.3**
AKASG	**Malin Array Be**	**91.92**	**321**	P			**P**	**18 06 03.3**	**+0.3**
	5.0nm,0.7s,baz=70,slow=4.6,SNR=5.1								
NB2	**NORSAR Subarra**	**98.82**	**334**	P			**P**	**18 06 33.7**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=64,slow=4.8								
NOA	**NORSAR Array B**	**98.82**	**334**	P			**P**	**18 06 33.5**	**-0.8**
NOA	**NORSAR Array B**	**98.82**	**334**	P			**P**	**18 06 33.5**	**-0.8**
	comp=Z,2.8nm,0.7s,baz=68,slow=4.7,SNR=5.8								
TORD	**Torodi Ar. Bea**	**122.94**	**288**	PKP			**PKPdf**	**18 11 52.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**122.94**	**288**	PKP			**PKPdf**	**18 11 52.0**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=44,slow=1.2,SNR=3.1								
CFAA	**Coronel Fontan**	**148.87**	**155**	PKPbc			**PKPbc**	**18 12 43.5**	**+0.7**
CFAA	**Coronel Fontan**	**148.87**	**155**	PKPbc			**PKPbc**	**18 12 43.5**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=221,slow=2.8,SNR=5.9								
CPUP	**Villa Florida**	**157.16**	**171**	PKPab			**PKPab**	**18 13 22.4**	**+0.9**
CPUP	**Villa Florida**	**157.16**	**171**	PKPab			**PKPab**	**18 13 22.4**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=90,slow=7.1,SNR=2.9								

*IDC **11** 17:53:45.2±0.4, 3.°87N×126.°41E, h0km, mb5.0/40, mb1 5.0/42, mb1mx5.0/43, mbtmp5.0/42, ML4.2/1, Error ellipse: s-maj=16.4km s-min=10.4km az=76.0*
*ISCJB **11** 17:53:48.4±0.3, 3.°88N±0.°05×126.°48E±0.°06, h53km, mb5.1/58, Error ellipse: s-maj=8.5km s-min=6.5km az=164.9*
*NEIC **11** 17:53:49.0±1.9, 3.°85N×126.°40E, h26km±13km, mb5.2/12, Error ellipse: s-maj=6.6km s-min=4.1km az=82.0*
ISC 11 17:53:49.0±0.3, **3.°86N**±0.°06×**126.°43E**±0.°08, **h25**km±23km, **n162, s0995/163, mb5.1/56, 7C-6D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.30**	**345**	Pn			**Pn**	**17 54 38.1**	**-1.0**
	baz=179,slow=17,SNR=1.9								
TSM	**Tawau**	**8.55**	**273**	P			Pn	17 55 58.8	+7.6
SDKM	**Sandakan**	**9.37**	**281**	P			Pn	17 56 12.7	+10
KDM	**Kudat**	**10.03**	**288**	P			Pn	17 56 21.8	+10
KKM	**Kota Kinabalu**	**10.41**	**282**	P			Pn	17 56 24.7	+7.8
KAPI	**Kappang**	**11.05**	**217**	Pn			**Pn**	**17 56 24.4**	**-1.3**
KAPI	**Kappang**	**11.05**	**217**	Pn			**Pn**	**17 56 24.4**	**-1.3**
	1.6nm,0.3s,baz=59,slow=12,SNR=1.9								
BTM	**Bintulu**	**13.34**	**268**	P			**P**	**17 57 04.9**	**-1.4**
SBUM	**Sibu**	**14.26**	**265**	P			**P**	**17 57 17.8**	**+1.2**
KSM	**Kuching**	**16.28**	**262**	*e*P			**P**	**17 57 43.0**	**+4.1**
KSM	**Kuching**	**16.28**	**262**	P			P	17 57 43.9	+4.9
FITZ	**Fitzroy Crossi**	**21.84**	**182**	P			**P**	**17 58 40.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**21.84**	**182**	P			**P**	**17 58 40.3**	**+0.5**
	29nm,0.9s,baz=14,slow=6.2,SNR=3.1								
MYKOM	**Kota Tinggi**	**22.65**	**265**	P			**P**	**17 58 51.1**	**+2.6**
JOW	**Kunigami**	**22.91**	**4**	*e*P			**P**	**17 58 52.2**	**+1.0**
JOW	**Kunigami**	**22.91**	**4**	P			**P**	**17 58 51.8**	**+0.6**
	16nm,0.6s,baz=194,slow=12,SNR=3.5								
KGM	**Kluang**	**23.15**	**266**	P			**P**	**17 58 56.9**	**+3.1**
FRIM	**Kepong**	**24.77**	**269**	P			**P**	**17 59 11.8**	**+2.8**
WRA	**Warramunga Arr**	**24.90**	**162**	P			**P**	**17 59 09.4**	**-0.8**
WRA	**Warramunga Arr**	**24.90**	**162**	P			**P**	**17 59 09.4**	**-0.8**
	23nm,0.4s,baz=341,slow=9.7,SNR=4.3								
IPM	**Ipoh**	**25.35**	**272**	*e*P			**P**	**17 59 14.0**	**-0.3**
	68nm,0.9s								
IPM	**Ipoh**	**25.35**	**272**	P			**P**	**17 59 17.8**	**+3.5**
MBWA	**Marble Bar**	**25.72**	**195**	*e*P			**P**	**17 59 17.1**	**-0.4**
	48nm,0.8s								
PSI	**Prapat**	**27.48**	**269**	P			**P**	**17 59 34.8**	**+1.0**
PSI	**Prapat**	**27.48**	**269**	P			**P**	**17 59 34.8**	**+1.0**
	21nm,0.8s,baz=106,slow=3.8,SNR=6.6								
ASAR	**Alice Springs**	**28.31**	**165**	P			**P**	**17 59 42.3**	**+1.3**
ASAR				S			S	18 04 41.0	+15
ASAR	**Alice Springs**	**28.31**	**165**	P			**P**	**17 59 42.3**	**+1.3**
	6.6nm,0.6s,baz=350,slow=8.6,SNR=2.6								
ASAR				S			S	18 04 41.0	+15
	5.2nm,0.9s,baz=346,slow=18,SNR=4.2								
JNU	**Nakatsue**	**29.41**	**8**	P			**P**	**17 59 50.4**	**-0.1**
JNU	**Nakatsue**	**29.41**	**8**	P			**P**	**17 59 50.4**	**-0.1**
	16nm,0.8s,baz=180,slow=3.9,SNR=2.7								
CM31	**Chiang Mai Arr**	**30.55**	**300**	*e*P			**P**	**17 59 59.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**30.55**	**300**	P			**P**	**18 00 01.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**30.55**	**300**	P			**P**	**18 00 01.9**	**+1.1**
	11nm,0.8s,baz=114,slow=7.1,SNR=6.9								
KSAR	**Wonju Array Be**	**33.45**	**2**	P			**P**	**18 00 27.1**	**+1.0**
KSAR							PcP	**PcP**	**18 03 08.2**	**+1.1**
KSRS	**Korea Array**	**33.46**	**2**	P			**P**	**18 00 27.1**	**+0.9**
	9.6nm,0.7s,baz=178,slow=9.8,SNR=5.1								
KSRS							PcP	**PcP**	**18 03 08.2**	**+1.1**
	3.2nm,0.7s,baz=181,slow=2.8,SNR=6.0								
MJAR	**Matsushiro Arr**	**34.28**	**17**	P			**P**	**18 00 32.2**	**-1.1**
MJAR							PcP	**PcP**	**18 03 10.4**	**+0.9**
MJAR	**Matsushiro Arr**	**34.28**	**17**	P			**P**	**18 00 32.2**	**-1.1**
	2.0nm,0.7s,baz=187,slow=9.1,SNR=4.1								
MJAR							PcP	**PcP**	**18 03 10.4**	**+0.9**
	1.9nm,0.6s,baz=195,slow=4.2,SNR=4.9								
BJT	**Baijiatuau**	**37.17**	**347**	*e*P			**P**	**18 00 58.5**	**+0.4**
	122nm,0.8s								
NWAO	**Narrogin (SRO)**	**37.61**	**193**	P			**P**	**18 01 01.7**	**-0.1**
NWAO	**Narrogin (SRO)**	**37.61**	**193**	P			**P**	**18 01 01.7**

ASF	Jabal al Asfar	87.58 302	P		P	18 06 36.0	+0.4
ASF	Jabal al Asfar	87.58 302	P		P	18 06 36.0	+0.4
	comp=Z,14nm,0.7s,baz=117,slow=2.3,SNR=9.0						
MMAI	Mount Meron Ar	88.78 303	P		P	18 06 41.6	+0.3
MMAI	Mount Meron Ar	88.78 303	P		P	18 06 41.6	+0.3
	comp=Z,7.0nm,0.9s,baz=98,slow=6.0,SNR=3.7						
JOF	Joensuu	88.93 333	*ep*		P	18 06 40.2	-1.0
	comp=Z,22nm,0.6s						
KMBO	Kilima Mbogo	89.26 269	*eP*		P	18 06 44.4	+0.3
	comp=Z,10nm,0.9s						
EIL	Elat	89.40 300	P		P	18 06 44.0	-0.1
EIL	Elat	89.40 300	P		P	18 06 44.0	-0.1
	comp=Z,11nm,0.7s,baz=3.5,slow=3.7,SNR=8.2						
KEV	Kevo	89.67 340	*ep*		P	18 06 43.3	-1.2
	comp=Z,5.8nm,0.7s						
BRTR	Keskin Array B	89.71 310	P		P	18 06 44.7	-0.9
BRTR	Keskin Array B	89.71 310	P		P	18 06 44.7	-0.9
	comp=Z,9.5nm,0.8s,baz=112,slow=4.8,SNR=8.5						
ARCES	ARCESS Array B	90.22 340	P		P	18 06 46.6	-0.6
ARCES	ARCESS Array B	90.22 340	P		P	18 06 46.6	-0.6
	comp=Z,16nm,0.8s,baz=76,slow=5.4,SNR=8.5						
SPITS	Spitsbergen Ar	90.30 349	P		P	18 06 47.6	+0.2
SPITS	Spitsbergen Ar	90.30 349	P		P	18 06 47.6	+0.2
	comp=Z,17nm,0.8s,baz=108,slow=6.3,SNR=3.6						
KAF	Kangasniemi	91.34 332	*ep*		P	18 06 50.4	-2.1
	comp=Z,12nm,0.8s						
FINES	FINESS Array B	91.58 332	P		P	18 06 53.0	-0.5
FINES	FINESS Array B	91.58 332	P		P	18 06 53.0	-0.5
	comp=Z,6.1nm,0.6s,baz=67,slow=4.7,SNR=6.8						
AKASG	Malin Array Be	91.61 321	P		P	18 06 52.9	-1.1
AKASG	Malin Array Be	91.61 321	P		P	18 06 52.9	-1.1
	comp=Z,13nm,0.7s,baz=69,slow=4.7,SNR=17						
TIRR	Tirgusor	93.04 315	*i*P		P	18 06 57.6	-3.1
CFR	Carcaliu	93.13 315	*i*P		P	18 07 00.6	-0.5
TESR		93.94 317	*i*P		P	18 07 03.9	-1.0
VRI	Vrincioaia	94.00 316	*i*P		P	18 07 05.3	+0.2
PLOR	Plostina	94.05 316	*i*P		P	18 07 04.9	-0.5
MLR	Muntele Rosu	94.60 316	P		P	18 07 07.8	-0.3
MLR	Muntele Rosu	94.60 316	*i*P		P	18 07 07.7	-0.4
MLR	Muntele Rosu	94.60 316	P		P	18 07 07.8	-0.3
	comp=Z,4.2nm,0.8s,baz=76,slow=12,SNR=6.9						
SUW	Suwalki	94.65 325	*eP*		P	18 07 07.4	-0.4
	comp=Z,76nm,0.9s						
BURAR	Bucovina Array	94.71 318	*i*P		P	18 07 07.9	-0.6
BUR08	Bucovina Ar. S	94.71 318	*eP*		P	18 07 08.0	-0.5
LOT	Lotru	96.11 316	*i*P		P	18 07 14.9	-0.1
TRPA	Tarpa	96.36 319	*i*P		P	18 07 14.8	-1.1
DRGR		96.55 318	*i*P		P	18 07 16.4	-0.5
VTS	Vitosha	97.09 314	*i*P		P	18 07 18.3	-1.2
BZS	Buzias	97.55 317	*i*P		P	18 07 20.3	-1.0
HFS	Hagfors	97.77 332	P		P	18 07 20.9	-1.0
HFS	Hagfors	97.77 332	P		P	18 07 20.9	-1.0
	comp=Z,2.7nm,0.6s,baz=98,slow=4.4,SNR=5.1						
NB2	NORSAR Subarra	98.54 334	P		P	18 07 24.0	-1.5
	baz=66,slow=4.6						
NB2	NORSAR Subarra	98.54 334	P		P	18 07 24.0	-1.5
	comp=Z,4.6nm,0.7s,baz=66,slow=4.6						
NOA	NORSAR Array B	98.54 334	P		P	18 07 24.5	-0.9
NOA	NORSAR Array B	98.54 334	P		P	18 07 24.5	-0.9
	comp=Z,4.7nm,0.7s,baz=66,slow=4.6,SNR=8.0						
YKA	Yellowknife Ar	99.50 24	P		Pdif	18 07 29.4	-0.2
YKA	Yellowknife Ar	99.50 24	P		Pdif	18 07 29.4	-0.2
	comp=Z,0.4nm,0.6s,baz=300,slow=5.2,SNR=3.2						
VRAC	Vranov	99.85 321	P		Pdif	18 07 31.6	0.0
VRAC	Vranov	99.85 321	*i*P		Pdif	18 07 31.8	+0.3
VRAC	Vranov	99.85 321	P		Pdif	18 07 31.6	0.0
	comp=Z,3.8nm,0.7s,baz=120,slow=3.8,SNR=3.9						
LBTB	Lobatse	101.44 245	P		Pdif	18 07 39.0	-0.2
LBTB	Lobatse	101.44 245	P		Pdif	18 07 39.0	-0.2
	comp=Z,2.5nm,0.7s,baz=140,slow=7.9,SNR=1.9						
GERES	GERESS Array B	101.80 322	P		Pdif	18 07 39.6	-0.8
GERES	GERESS Array B	101.80 322	P		Pdif	18 07 39.6	-0.8
	comp=Z,3.2nm,1.0s,baz=46,slow=4.2,SNR=3.3						
NVAR	Mina Array Bea	107.04 48	PKKPbc	PKKPbc		18 23 46.6	+15
	comp=Z,1.1nm,0.7s,baz=128,slow=5.4,SNR=6.9						
IMW	Indian Meadow	110.04 40	*e*PKIKP		PKiKP	18 12 18.5	-0.6
PDAR	Pinedale Array	111.45 41	PKKPbc	PKKPbc		18 23 25.8	+7.9
	comp=Z,1.7nm,0.7s,baz=126,slow=6.2,SNR=9.7						
TORD	Torodi Ar. Bea	122.60 288	PKP		PKPdf	18 12 43.1	-0.5
TORD	Torodi Ar. Bea	122.60 288	PKP		PKPdf	18 12 43.1	-0.5
	comp=Z,4.7nm,0.7s,baz=58,slow=1.9,SNR=8.2						
DBIC	Dimbokro	130.26 282	PKP		PKPdf	18 12 58.2	-0.1
DBIC	Dimbokro	130.26 282	PKP		PKPdf	18 12 58.2	-0.1
	comp=Z,4.1nm,0.7s,baz=84,slow=1.5,SNR=3.2						
CFAA	Coronel Fontan	149.14 155	PKPbc		PKPbc	18 13 36.1	+0.1
CFAA	Coronel Fontan	149.14 155	PKPbc		PKPbc	18 13 36.1	+0.1
	comp=Z,1.4nm,0.7s,baz=236,slow=2.7,SNR=6.1						
CPUP	Villa Florida	157.37 171	PKPab		PKPab	18 14 14.8	0.0
CPUP	Villa Florida	157.37 171	PKPab		PKPab	18 14 14.8	0.0
	comp=Z,2.8nm,0.7s,baz=161,slow=3.4,SNR=6.1						
RCBR	Riachuelo	162.29 263	PKPab		PKPab	18 14 36.8	-0.2
RCBR	Riachuelo	162.29 263	PKPab		PKPab	18 14 36.8	-0.2
	comp=Z,13nm,0.7s,baz=91,slow=5.2,SNR=8.0						

IDC ***11*** *17:57:21.6±0.7,3.46N×126.24E,h0km,mb4.4/20, mb1 4.5/20,mb1mx4.5/26,mbtmp4.4/20,Error ellipse: s-maj=26.3km s-min=17.2km az=69.0*
NEIC ***11*** *17:57:26.8±0.4,3.38N×126.10E,h35km,mb5.0/4,Error ellipse: s-maj=16.8km s-min=8.6km az=67.0*
ISCJB ***11*** *17:57:33.3±0.4,3.33N±0.08×126.1E±0.1,h116km, mb4.4/25,Error ellipse: s-maj=17.2km s-min=9.3km az=154.8*

ISC 11 17:57:34.5±0.5,3.33N±0.09×126.1E±0.1,h116km,n55, σ0.9s39/41,mb4.3/24,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	21.30 181		P	P	18 02 10.1	-1.9
FITZ	Fitzroy Crossi	21.30 181		P	P	18 02 10.1	-1.9
	8.4nm,0.8s,baz=359,slow=14,SNR=2.0						
WRAB	Tennant Creek	24.48 161		*eP*	P	18 02 43.6	+0.5
	41nm,1.0s						
PSI	Prapat	27.18 270		P	P	18 03 08.3	+0.7
PSI	Prapat	27.18 270		P	P	18 03 08.3	+0.7
	8.9nm,0.9s,baz=102,slow=16,SNR=3.6						
ASAR	Alice Springs	27.88 165		P	P	18 03 13.2	-0.4
ASAR	Alice Springs	27.88 165		P	P	18 03 13.2	-0.4
	1.3nm,0.4s,baz=341,slow=11,SNR=2.9						
CTA	Charters Tower	30.52 140		P	P	18 03 38.7	+1.7
CTA	Charters Tower	30.52 140		P	P	18 03 38.7	+1.7
	2.3nm,0.6s,baz=332,slow=15,SNR=2.5						
CMAR	Chiang Mai Arr	30.57 301		P	P	18 03 36.1	-1.4
CMAR	Chiang Mai Arr	30.57 301		P	P	18 03 36.1	-1.4
	1.5nm,0.9s,baz=116,slow=8.3,SNR=2.8						
NWAO	Narrogin (SRO)	37.03 192		P	P	18 04 32.6	-0.6
	38nm,1.4s						
NWAO	Narrogin (SRO)	37.03 192		P	P	18 04 38.1	+4.9
	11nm,0.9s,baz=27,slow=9.0,SNR=2.2						
USRK	Ussuriysk Arra	41.03 6		P	P	18 05 04.4	-2.0
	4.0nm,0.7s,baz=172,slow=8.6,SNR=4.8						
DZM	Mont Dzumac	46.79 125		P	P	18 05 55.4	+2.6
DZM	Mont Dzumac	46.79 125		P	P	18 05 55.4	+2.6
	3.0nm,0.9s,baz=283,slow=18,SNR=3.2						
SONM	Songino Array	47.49 342		P	P	18 05 57.5	-0.5
SONM				PcP	PcP	18 07 28.2	+1.8
SONM	Songino Array	47.49 342		P	P	18 05 57.5	-0.5
	2.1nm,0.7s,baz=159,slow=7.7,SNR=3.0						
SONM				PcP	PcP	18 07 28.2	+1.8
	1.7nm,0.7s,baz=160,slow=2.6,SNR=2.6						
HYB	Hyderabad	48.70 290		*i* P	P	18 06 09.0	+1.4
PETK	Petropavlovsk-	56.02 22		P	P	18 07 00.5	-0.6
PETK	Petropavlovsk-	56.02 22		P	P	18 07 00.5	-0.6
	7.8nm,0.7s,baz=192,slow=4.1,SNR=6.3						
MKAR	Makanchi Array	57.55 326		P	P	18 07 12.6	+0.5
MKAR	Makanchi Array	57.55 326		P	P	18 07 12.6	+0.5
	1.3nm,0.4s,baz=115,slow=7.4,SNR=3.4						
ZALV	Zalesovo Beam	60.68 333		P	P	18 07 34.2	+0.8
ZALV	Zalesovo Beam	60.68 333		P	P	18 07 34.2	+0.8
	2.4nm,0.7s,baz=120,slow=7.0,SNR=3.9						
KURBB	Kurchatov Arra	61.76 328		P	P	18 07 41.2	+0.5
	7.0nm,0.8s,baz=123,slow=6.7,SNR=4.2						
KURK	Kurchatov	61.76 328		*eP*	P	18 07 41.1	+0.4
	9.1nm,0.8s						
BVAR	Borovoye Array	67.34 327		P	P	18 08 19.4	+2.3
BVAR	Borovoye Array	67.34 327		P	P	18 08 19.4	+2.3
	6.9nm,0.9s,baz=120,slow=5.3,SNR=4.1						
BRVK	Borovoye	67.41 327		*eP*	P	18 08 17.4	0.0
	13nm,1.1s						
AKTO	Aktyubinsk	73.61 322		P	P	18 08 57.8	+2.6
AKTO	Aktyubinsk	73.61 322		P	P	18 08 57.8	+2.6
	5.7nm,0.8s,baz=98,slow=12,SNR=4.5						
KDAK	Kodiak Island	82.54 32		P	P	18 09 44.7	+0.4
KDAK	Kodiak Island	82.54 32		P	P	18 09 44.7	+0.4
	11nm,0.9s,baz=236,slow=3.6,SNR=4.1						
ILAR	Eielson Array	85.72 25		P	P	18 10 02.0	+1.7
ILAR	Eielson Array	85.72 25		P	P	18 10 02.0	+1.7
	0.8nm,0.8s,baz=237,slow=5.4,SNR=4.3						
ARCES	ARCESS Array B	90.62 340		P	P	18 10 21.8	-1.8
ARCES	ARCESS Array B	90.62 340		P	P	18 10 21.8	-1.8
	6.9nm,1.0s,baz=81,slow=5.7,SNR=3.5						
AKASG	Malin Array Be	91.83 321		P	P	18 10 29.8	+0.3
AKASG	Malin Array Be	91.83 321		P	P	18 10 29.8	+0.3
	0.5nm,0.4s,baz=70,slow=5.3,SNR=4.2						
FINES	FINESS Array B	91.91 332		P	P	18 10 31.9	+2.2
FINES	FINESS Array B	91.91 332		P	P	18 10 31.9	+2.2
	1.9nm,0.7s,baz=84,slow=7.1,SNR=2.9						
MLR	Muntele Rosu	94.78 316		P	P	18 10 46.5	+3.1
MLR	Muntele Rosu	94.78 316		P	P	18 10 46.5	+3.1
	1.1nm,0.9s,baz=50,slow=4.5,SNR=3.4						
NB2	NORSAR Subarra	98.88 333		P	Pdif	18 11 01.0	-0.5
	comp=Z,1.8nm,0.8s,baz=68,slow=4.6						
NOA	NORSAR Array B	98.88 333		P	Pdif	18 11 02.6	+1.1
NOA	NORSAR Array B	98.88 333		P	Pdif	18 11 02.6	+1.1
	comp=Z,0.8nm,0.7s,baz=68,slow=4.5,SNR=3.9						
YKA	Yellowknife Ar	100.11 24		P	Pdif	18 11 07.4	+0.6
YKA	Yellowknife Ar	100.11 24		P	Pdif	18 11 07.4	+0.6
	comp=Z,0.5nm,0.7s,baz=300,slow=3.9,SNR=4.2						
GERES	GERESS Array B	102.03 321		P	Pdif	18 11 18.3	+2.5
GERES	GERESS Array B	102.03 321		P	Pdif	18 11 18.3	+2.5
	comp=Z,1.0nm,0.8s,baz=54,slow=5.0,SNR=3.4						
TORD	Torodi Ar. Bea	122.48 288		PKP	PKPdf	18 16 20.1	+2.7
TORD	Torodi Ar. Bea	122.48 288		PKP	PKPdf	18 16 20.1	+2.7
	comp=Z,1.2nm,0.8s,baz=53,slow=1.4,SNR=3.5						
CFAA	Coronel Fontan	148.78 156		PKPbc	PKPab	18 17 11.7	-1.4
CFAA	Coronel Fontan	148.78 156		PKPbc	PKPab	18 17 11.7	-1.4
	comp=Z,0.6nm,0.7s,baz=245,slow=4.4,SNR=4.6						

IDC 11 18:00:18.8±0.9,3.65N×126.53E,h0km,mb4.1/7, mb1 4.1/7,mb1mx3.9/20,mbtmp4.1/7,Error ellipse: s-maj=53.4km s-min=17.0km az=74.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	21.63 182		P	P	18 05 14.1	+3.3
	3.8nm,0.5s,baz=315,slow=4.3,SNR=4.0						
WRA	Warramunga Arr	24.67 162		P	P	18 05 41.1	-0.5
	151nm,0.3s,baz=337,slow=12,SNR=6.9						
ASAR	Alice Springs	28.09 166		P	P	18 06 12.6	+0.2
	1.0nm,0.7s,baz=346,slow=12,SNR=2.7						
KSRS	Korea Array	33.67 2		P	P	18 07 01.0	-0.4
	0.8nm,0.6s,baz=180,slow=10,SNR=4.4						
STKA	Stephens Creek	38.13 159		P	P	18 07 40.0	+0.2
	4.6nm,0.6s,baz=324,slow=8.5,SNR=3.2						
PETK	Petropavlovsk-	55.58 22		P	P	18 09 56.2	+0.1
	3.8nm,0.9s,baz=195,slow=3.9,SNR=6.3						
MKAR	Makanchi Array	57.51 325		P	P	18 10 10.8	+0.8
	1.0nm,0.5s,baz=118,slow=7.1,SNR=4.5						
KURBB	Kurchatov Arra	61.70 327		P	P	18 10 39.1	+0.3
	1.9nm,0.6s,baz=126,slow=6.5,SNR=4.1						
BVAR	Borovoye Array	67.28 327		P	P	18 11 14.4	-0.9
	0.7nm,0.6s,baz=149,slow=4.2,SNR=3.3						

IDC ***11*** *18:01:10.7±0.8,3.82N×126.74E,h0km,mb4.1/10, mb1 4.2/10,mb1mx4.1/21,mbtmp4.1/10,Error ellipse: s-maj=50.3km s-min=14.2km az=71.0*
ISCJB ***11*** *18:01:14.1±0.5,3.83N±0.07×126.7E±0.1,h36km, mb4.3/16,Error ellipse: s-maj=19.4km s-min=9.0km az=163.4*
NEIC ***11*** *18:01:15.6±0.5,3.89N×126.93E,h35km,mb4.7/6,Error ellipse: s-maj=16.6km s-min=7.5km az=71.0*

ISC 11 18:01:15.6±0.9,3.9N±0.1×126.7E±0.2,h36km,n28, σ0.8s58/22,mb4.4/16,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSM	Kuching	16.58 262		P	Pn	18 05 04.2	-1.3
KSM				*eP*	P	18 05 08.8	+1.1
FITZ	Fitzroy Crossi	21.86 183		P	P	18 06 05.6	+0.3
FITZ	Fitzroy Crossi	21.86 183		P	P	18 06 05.6	+0.3
	2.3nm,0.4s,baz=20,slow=13,SNR=2.8						
WRAB	Tennant Creek	24.81 163		*eP*	P	18 06 34.5	0.0
	19nm,0.8s						
WRA	Warramunga Arr	24.81 163		P	P	18 06 34.0	-0.6
WRA	Warramunga Arr	24.81 163		P	P	18 06 34.0	-0.6
	166nm,1.2s,baz=335,slow=11,SNR=1.8						
MBWA	Marble Bar	25.80 195		*eP*	P	18 06 44.6	+1.1
	10nm,0.8s						
ASAR	Alice Springs	28.25 166		P	P	18 07 05.3	-0.3
ASAR	Alice Springs	28.25 166		P	P	18 07 05.3	-0.3
	1.1nm,0.5s,baz=346,slow=7.6,SNR=3.4						
CMAR	Chiang Mai Arr	30.81 300		P	P	18 07 29.9	+1.5
CMAR	Chiang Mai Arr	30.81 300		P	P	18 07 29.9	+1.5
	0.7nm,0.7s,baz=120,slow=6.4,SNR=2.7						
KSAR	Wonju Array Be	33.43 2		P	P	18 07 52.9	+1.9
KSRS	Korea Array	33.44 2		P	P	18 07 52.9	+1.8
	1.2nm,0.7s,baz=180,slow=9.7,SNR=3.8						
STKA	Stephens Creek	38.26 159		P	P	18 08 32.2	-0.3
STKA	Stephens Creek	38.26 159		P	P	18 08 32.2	-0.3
	4.6nm,0.5s,baz=344,slow=10,SNR=6.8						
SONM	Songino Array	47.17 341		P	P	18 09 45.1	+0.3
SONM	Songino Array	47.17 341		P	P	18 09 45.1	+0.3
	0.5nm,0.5s,baz=97,slow=4.6,SNR=2.3						
MKAR	Makanchi Array	57.45 325		P	P	18 11 00.7	-0.2
MKAR	Makanchi Array	57.45 325		P	P	18 11 00.7	-0.2
	1.0nm,0.3s,baz=120,slow=7.2,SNR=5.8						
ZALV	Zalesovo Beam	60.47 333		P	P	18 11 22.8	+1.1
ZALV	Zalesovo Beam	60.47 333		P	P	18 11 22.8	+1.1
	1.5nm,0.6s,baz=115,slow=5.4,SNR=3.6						
KURK	Kurchatov	61.63 327		P	P	18 11 29.4	-0.2
	2.9nm,0.5s						
BVAR	Borovoye Array	67.21 327		P	P	18 12 06.5	+0.4
BVAR	Borovoye Array	67.21 327		P	P	18 12 06.5	+0.4
	4.7nm,0.9s,baz=134,slow=8.5,SNR=5.8						
AKTO	Aktyubinsk	73.56 322		P	P	18 12 44.6	-0.3
AKTO	Aktyubinsk	73.56 322		P	P	18 12 44.6	-0.3
	1.7nm,0.5s,baz=78,slow=7.8,SNR=4.1						
VNDA	Vanda	83.56 173		*eP*	P	18 13 39.8	+0.2
	12nm,1.2s						
QSPA	South Pole Qui	93.77 180		*eP*	P	18 14 23.4	-5.3
	8.2nm,1.3s						

IDC ***11*** *18:01:52.2±1.2,4.13N×126.76E,h0km,mb4.2/7, mb1 4.3/7,mb1mx4.0/21,mbtmp4.2/7,Error ellipse: s-maj=81.8km s-min=23.5km az=69.0*
ISCJB ***11*** *18:01:55.4±0.9,4.2N±0.2×127.0E±0.3,h36km,mb4.4/12, Error ellipse: s-maj=38.7km s-min=18.5km az=160.6*
NEIC ***11*** *18:01:57.2±0.9,4.20N×126.94E,h35km,mb4.6/5,Error ellipse: s-maj=41.6km s-min=17.0km az=68.0*

ISC 11 18:01:57.1±1.1,4.2N±0.2×126.8E±0.4,h36km,n19, σ0.9s57/12,mb4.4/12,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENH	Enshi	30.68 330		*eP*	P	18 08 08.9	+0.4
	14nm,0.8s						
KSAR	Wonju Array Be	33.13 2		P	P	18 08 30.3	+0.4
KSRS	Korea Array	33.14 2		P	P	18 08 30.3	+0.3
	0.9nm,0.6s,baz=180,slow=9.4,SNR=3.7						
STKA	Stephens Creek	38.51 160		P	P	18 09 16.1	0.0
STKA	Stephens Creek	38.51 160		P	P	18 09 16.1	0.0
	4.9nm,0.8s,baz=328,slow=13,SNR=1.6						
LSA	Lhasa	42.20 311		*eP*	P	18 09 49.0	+1.7
	4.4nm,0.7s						
HIA	Hailar	45.34 354		*eP*	P	18 10 11.2	-0.5
	1.8nm,0.4s						
SONM	Songino Array	46.91 341		P	P	18 10 25.8	+1.6
SONM	Songino Array	46.91 341		P	P	18 10 25.8	+1.6
	1.5nm,0.6s,baz=165,slow=7.4,SNR=3.7						
MK31	Makanchi Array	57.24 325		*eP*	P	18 11 40.4	-0.5
MKAR	Makanchi Array	57.24 325		P	P	18 11 40.5	-0.4
MKAR	Makanchi Array	57.24 325		P	P	18 11 40.5	-0.4
	2.9nm,0.6s,baz=120,slow=7.5,SNR=4.1						
ZALV	Zalesovo Beam	60.23 333		P	P	18 12 00.9	-0.6
ZALV	Zalesovo Beam	60.23 333		P	P	18 12 00.9	-0.6
	2.0nm,0.6s,baz=119,slow=4.6,SNR=4.6						
KURBB	Kurchatov Arra	61.41 327		P	P	18 12 10.7	+1.1
	4.3nm,0.8s,baz=132,slow=6.7,SNR=3.8						
KURK	Kurchatov	61.41 327		*eP*	P	18 12 10.6	+0.9
	7.1nm,0.7s						
BVAR	Borovoye Array	66.99 327		P	P	18 12 47.7	+1.5
BVAR	Borovoye Array	66.99 327		P	P	18 12 47.7	+1.5
	1.8nm,0.6s,baz=134,slow=8.2,SNR=2.8						
BRVK	Borovoye	67.06 327		*eP*	P	18 12 48.5	+1.9
	6.8nm,1.0s						

IDC ***11*** *18:03:24.8±0.6,3.74N×126.77E,h0km,mb4.4/21, mb1 4.5/21,mb1mx4.4/27,mbtmp4.4/21,Error ellipse: s-maj=29.2km s-min=12.3km az=70.0*
ISCJB ***11*** *18:03:29.5±0.4,3.69N±0.06×126.7E±0.1,h48km, mb4.4/25,Error ellipse: s-maj=17.7km s-min=6.9km az=164.7*
NEIC ***11*** *18:03:30.0±0.3,3.70N×126.74E,h35km,mb4.6/6,Error ellipse: s-maj=17.4km s-min=6.7km az=74.0*

ISC 11 18:03:31.3±0.5,3.72N±0.08×126.8E±0.1,h48km,n53, σ0.9s99/52,mb4.4/25,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPUB	Ta-pu	20.36 344		*eP*	P	18 08 02.4	-1.5
	35nm,0.8s						
SSLB	Suanglung	20.73 345		*eP*	P	18 08 06.6	-1.3
	10nm,0.6s						
FITZ	Fitzroy Crossi	21.71 183		P	P	18 08 17.7	-0.8
FITZ	Fitzroy Crossi	21.71 183		P	P	18 08 17.7	-0.8
	4.8nm,0.6s,baz=11,slow=9.1,SNR=3.2						
JOW	Kunigami	23.03 3		P	P	18 08 32.5	0.0
JOW	Kunigami	23.03 3		P	P	18 08 32.5	0.0
	18nm,0.4s,baz=218,slow=12,SNR=2.0						
WRAB	Tennant Creek	24.65 163		*eP*	P	18 08 46.7	-0.9
	24nm,0.8s						
WRA	Warramunga Arr	24.66 163		P	P	18 08 47.3	-0.4
WRA	Warramunga Arr	24.66 163		P	P	18 08 47.3	-0.4
	27nm,0.7s,baz=339,slow=11,SNR=12						
MBWA	Marble Bar	25.66 195		*eP*	P	18 08 57.2	+0.4
ASAR	Alice Springs	28.09 166		P	P	18 09 19.2	+0.5
ASAR	Alice Springs	28.09 166		P	P	18 09 19.2	+0.5
	0.6nm,0.3s,baz=342,slow=8.8,SNR=3.2						
CTA	Charters Tower	30.43 142		P	P	18 09 40.8	+1.4
CTA	Charters Tower	30.43 142		*eP*	Px	18 10 34.8	
CTA	Charters Tower	30.43 142		P	P	18 09 40.8	+1.4
	3.7nm,0.8s,baz=0.0,slow=5.1,SNR=3.6						
CMAR	Chiang Mai Arr	30.91 300		P	P	18 09 44.7	+1.0
CMAR	Chiang Mai Arr	30.91 300		P	P	18 09 44.7	+1.0
	1.5nm,0.8s,baz=117,slow=6.6,SNR=5.0						
ENH	Enshi	31.06 330		*eP*	P	18 09 44.8	-0.2
	4.7nm,0.7s						
KSAR	Wonju Array Be	33.58 2		P	P	18 10 08.2	+1.3
KSRS	Korea Array	33.59 2		P	P	18 10 08.2	+1.2
	2.6nm,0.8s,baz=180,slow=9.7,SNR=6.7						
BJT	Baijiatuan	37.39 347		*eP*	P	18 10 40.8	+1.2
	26nm,0.5s						
STKA	Stephens Creek	38.10 159		*eP*	P	18 10 45.6	-0.1
STKA	Stephens Creek	38.10 159		P	P	18 10 45.4	-0.3
	6.4nm,0.6s,baz=342,slow=9.1,SNR=6.0						
USRK	Ussuriysk Arra	40.58 6		P	P	18 11 06.1	-0.1
	1.4nm,0.5s,baz=175,slow=6.6,SNR=3.9						
MDJ	Mudanjiang	40.81 3		*eP*	P	18 11 10.0	+1.9
LSA	Lhasa	42.48 311		*eP*	P	18 11 23.3	+0.8
ASAJ	Asahikawa	42.60 17		P	P	18 11 20.4	-2.3
ASAJ	Asahikawa	42.60 17		P	P	18 11 20.4	-2.3
	9.0nm,0.6s,baz=93,slow=18,SNR=17						
HIA	Hailar	45.78 354		*eP*	P	18 11 48.1	-0.1
DZM	Mont Dzumac	46.50 125		P	P	18 11 54.5	+0.2
DZM	Mont Dzumac	46.50 125		P	P	18 11 54.5	+0.2
	4.6nm,0.8s,baz=277,slow=8.1,SNR=3.9						
SONM	Songino Array	47.32 341		P	P	18 12 01.5	+1.1
SONM	Songino Array	47.32 341		P	P	18 12 01.5	+1.1
	1.6nm,0.6s,baz=153,slow=8.8,SNR=4.3						
MKAR	Makanchi Array	57.59 325		P	P	18 13 16.4	0.0
MKAR	Makanchi Array	57.59 325		P	P	18 13 16.4	0.0
	2.9nm,0.5s,baz=119,slow=7.1,SNR=9.8						
ZALV	Zalesovo Beam	60.62 333		P	P	18 13 36.1	-1.0
ZALV	Zalesovo Beam	60.62 333		P	P	18 13 36.1	-1.0
	1.4nm,0.8s,baz=122,slow=6.7,

1.6nm,0.7s,baz=46,slow=8.2,SNR=4.2
NOA NORSAR Array B 98.43 333 P Pdif 18 18 17.3 +1.8
0.6nm,0.6s,baz=66,slow=4.5,SNR=3.5
TORD Torodi Ar. Bea 122.31 288 PKP **PKPdf 18 23 35.6 +2.6**
0.3nm,0.5s,baz=62,slow=1.3,SNR=3.3

*IDC **11** 18:09:41.3±0.6,3˚.61N×126˚.61E,h0km,mb4.7/27, mb1 4.8/27,mb1mx4.8/28,mbtmp4.7/27, Error ellipse: s-maj=22.3km s-min=12.6km az=72.0*
*ISCJB **11** 18:09:44.9±0.3,3˚.70N±0˚.05×126˚.69E±0˚.07,h33km, mb4.8/52, Error ellipse: s-maj=9.9km s-min=6.1km az=161.8*
*MOS **11** 18:09:44.6±0.8,3˚.66N×126˚.68E,h33km,mb5.2/13, Error ellipse: s-maj=17.6km s-min=7.2km az=109.2*
*NEIC **11** 18:09:46.9±0.3,3˚.70N×126˚.69E,h35km,mb4.7/12, Error ellipse: s-maj=12.3km s-min=5.8km az=76.0*
*BJI **11** 18:09:47.1,3˚.60N×126˚.80E,h44km,mb5.3/19*
ISC 11 18:09:46.5±0.7,3.72N±0˚.06×126˚.70E±0˚.09,h32km±4km,
n134,σ1§00/138**,mb4.8**/52**,6C-4D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.93**	**324**	*e*P	**Pb**	**18 10 36.7**	**-1.5**
KCP	**Kidapawan**	**3.64**	**334**	‖*e*P	**Pb**	**18 10 50.4**	**+0.1**
CTBH	**Cotabato--PC H**	**4.25**	**325**	⇑*i*P	Pn	18 10 53.7	+4.6
KSM	**Kuching**	**16.53**	**263**	*e*P	**P**	**18 13 41.1**	**+2.7**
	18nm,0.8s						
TPUB	**Ta-pu**	**20.33**	**344**	*e*P	**P**	**18 14 19.5**	**-0.7**
	65nm,0.8s						
SSLB	**Suanglung**	**20.71**	**345**	*e*P	**P**	**18 14 23.9**	**-0.4**
YHNB	**Yeheng**	**21.45**	**347**	*e*P	**P**	**18 14 33.4**	**+1.0**
	34nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.71**	**183**	P	**P**	**18 14 36.3**	**+1.2**
FITZ	**Fitzroy Crossi**	**21.71**	**183**	*e*P	**P**	**18 14 37.0**	**+2.0**
	22nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.71**	**183**	P	**P**	**18 14 36.3**	**+1.2**
	5.9nm,0.6s,baz=14,slow=10,SNR=3.4						
JOW	**Kunigami**	**23.03**	**4**	*e*P	**P**	**18 14 48.8**	**-0.4**
	21nm,0.6s						
JOW	**Kunigami**	**23.03**	**4**	P	**P**	**18 14 50.0**	**+0.8**
	62nm,0.7s,baz=196,slow=8.5,SNR=16						
WRA	**Warramunga Arr**	**24.68**	**163**	P	**P**	**18 15 03.9**	**-0.9**
WRA	**Warramunga Arr**	**24.68**	**163**	P	**P**	**18 15 03.9**	**-0.9**
	52nm,0.8s,baz=343,slow=10,SNR=20						
MBWA	**Marble Bar**	**25.65**	**195**	P	**P**	**18 15 15.5**	**+2.0**
	9.9nm,1.0s						
ASAR	**Alice Springs**	**28.11**	**166**	P	**P**	**18 15 35.2**	**-0.5**
ASAR	**Alice Springs**	**28.11**	**166**	P	**P**	**18 15 35.2**	**-0.5**
	2.9nm,0.8s,baz=338,slow=7.5,SNR=4.3						
JNU	**Nakatsue**	**29.51**	**7**	P	**P**	**18 15 47.8**	**-0.3**
JNU	**Nakatsue**	**29.51**	**7**	P	**P**	**18 15 47.8**	**-0.3**
	27nm,1.0s,baz=194,slow=6.6,SNR=6.6						
CTAO	**Charters Tower**	**30.47**	**142**	*e*P	**P**	**18 15 56.3**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,12nm,1.1s						
CTAO	**Charters Tower**	**30.47**	**142**	*e*P	**P**	**18 15 56.3**	**-0.4**
	comp=Z,12nm,1.1s						
CMAR	**Chiang Mai Arr**	**30.85**	**300**	P	**P**	**18 16 00.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**30.85**	**300**	P	**P**	**18 16 00.8**	**+0.7**
	comp=Z,3.4nm,0.8s,baz=107,slow=6.8,SNR=11						
ENH	**Enshi**	**31.02**	**330**	*e*P	**P**	**18 16 01.0**	**-0.5**
	comp=Z,23nm,0.9s						
KSAR	**Wonju Array Be**	**33.58**	**2**	P	**P**	**18 16 24.7**	**+0.9**
KSRS	**Korea Array**	**33.59**	**2**	P	**P**	**18 16 24.7**	**+0.8**
	comp=Z,18nm,0.8s,baz=184,slow=10.0,SNR=52						
MJAR	**Matsushiro Arr**	**34.34**	**17**	P	**P**	**18 16 30.0**	**-0.4**
MJAR	**Matsushiro Arr**	**34.34**	**17**	P	**P**	**18 16 30.0**	**-0.4**
	comp=Z,3.8nm,0.6s,baz=190,slow=11,SNR=6.6						
XAN	**Xi'an**	**34.41**	**333**	P	**P**	**18 16 30.1**	**-1.0**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
DL2	**Dalian**	**35.33**	**353**	⇓P	**P**	**18 16 40.5**	**+1.6**
DL2				pmax	pmax		
	comp=Z,60nm,1.0s						
EIDS	**Eidsvold**	**37.36**	**142**	*e*P	**P**	**18 16 55.2**	**-1.2**
	comp=Z,37nm,0.7s						
BJT	**Baijiatuan**	**37.37**	**347**	*e*P	**P**	**18 16 57.4**	**+1.1**
	comp=Z,69nm,0.6s						
BJI	**Beijing**	**37.39**	**347**	P	**P**	**18 16 57.1**	**+0.6**
BJI				pmax	pmax		
	comp=Z,94nm,0.7s						
STKA	**Stephens Creek**	**38.13**	**159**	*e*P	**P**	**18 17 01.7**	**-1.1**
	comp=Z,4.7nm,0.7s						
STKA	**Stephens Creek**	**38.13**	**159**	*e*P	**P**	**18 17 01.7**	**-1.1**
	comp=Z,20nm,0.7s						
STKA	**Stephens Creek**	**38.13**	**159**	P	**P**	**18 17 01.9**	**-1.0**
	comp=Z,22nm,0.7s,baz=337,slow=9.7,SNR=14						
VLA	**Vladivostok**	**39.51**	**6**	*e*P	**P**	**18 17 13.6**	**-0.6**
VLA				pmax	pmax		
	comp=Z,26nm,1.3s						
CN2	**Changchun**	**39.93**	**359**	*e*P	**P**	**18 17 18.0**	**+0.2**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
USRK	**Ussuriysk Arra**	**40.59**	**6**	P	**P**	**18 17 23.9**	**+0.8**
	comp=Z,6.7nm,0.7s,baz=190,slow=6.4,SNR=10						
MDJ	**Mudanjiang**	**40.81**	**3**	P	**P**	**18 17 25.8**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,51nm,1.0s						
MDJ	**Mudanjiang**	**40.81**	**3**	*e*P	**P**	**18 17 25.9**	**+0.9**
	comp=Z,16nm,0.8s						
ARMA	**Armidale**	**41.47**	**147**	*e*P	**P**	**18 17 30.8**	**0.0**
LSA	**Lhasa**	**42.42**	**311**	*e*P	**P**	**18 17 40.1**	**+1.0**
LSA				pmax	pmax		
	comp=Z,32nm,1.3s						
LSA	**Lhasa**	**42.42**	**311**	*e*P	**P**	**18 17 40.1**	**+1.0**
	comp=Z,32nm,1.3s						
ASAJ	**Asahikawa**	**42.61**	**17**	P	**P**	**18 17 41.0**	**+1.3**
ASAJ	**Asahikawa**	**42.61**	**17**	P	**P**	**18 17 41.0**	**+1.3**
	comp=Z,25nm,0.7s,baz=211,slow=11,SNR=26						
GTA	**Gaotai**	**43.09**	**329**	*e*P	P	18 17 51.4	+7.5
GTA				pP	pP	18 18 02.2	+8.9
GTA				sP	sP	18 18 05.5	+8.4
GTA				pmax	pmax		
	comp=Z,11nm,0.7s						
TAPN	**Taplejung**	**44.00**	**306**	*e*P	**P**	**18 17 51.2**	**-0.4**
	comp=Z,29nm,1.1s						
ODAN	**Odare**	**44.05**	**306**	*e*P	**P**	**18 17 52.0**	**0.0**
RAMN	**Ramite**	**44.73**	**305**	*e*P	**P**	**18 17 57.6**	**+0.2**
	comp=Z,29nm,1.0s						
HABR	**Khabarovsk**	**45.16**	**8**	*e*P	**P**	**18 17 59.1**	**-1.0**
HABR				*e**SP	**sP**	**18 18 13.2**	**-0.2**
HABR				*e*		18 19 38.4	
HABR				*e*		18 19 45.5	
HABR				*e*S	**S**	**18 24 37.9**	**+0.3**
HABR				*e**SS	**sS**	**18 24 54.7**	**+1.5**
HABR				*e*SSS	SSS	18 28 50.3	
HABR				pmax	pmax		
	comp=N,43nm,2.0s						
HABR				pmax	pmax		
	comp=E,68nm,3.0s						
HABR				pmax	pmax		
	comp=Z,126nm,3.0s						
YSS	**Yuzh-Sakhalins**	**45.26**	**15**	*e*P	**P**	**18 18 02.7**	**+1.7**
JIRN	**Jiri**	**45.35**	**306**	*e*P	**P**	**18 18 02.4**	**-0.1**
	comp=Z,6.1nm,0.7s						
KLR	**Kul'dur**	**45.55**	**5**	*e*P	P	18 18 00.0	-3.3
GUN	**Gumba**	**45.71**	**306**	*e*P	**P**	**18 18 05.1**	**-0.2**
	comp=Z,44nm,0.9s						
HIA	**Hailar**	**45.77**	**354**	*e*P	**P**	**18 18 06.2**	**+1.2**
PKI	**Pulchoki**	**45.95**	**305**	*e*P	**P**	**18 18 06.9**	**-0.3**
KKN	**Kakani**	**46.15**	**306**	*e*P	**P**	**18 18 08.0**	**-0.6**
DMN	**Daman**	**46.21**	**305**	*e*P	**P**	**18 18 08.8**	**-0.4**
DZM	**Mont Dzumac**	**46.55**	**125**	P	**P**	**18 18 11.1**	**-0.6**
DZM	**Mont Dzumac**	**46.55**	**125**	P	**P**	**18 18 11.1**	**-0.6**
	comp=Z,4.9nm,0.5s,baz=88,slow=19,SNR=18						
GKN	**Gorkha**	**46.75**	**306**	*e*P	**P**	**18 18 12.7**	**-0.6**
SONM	**Songino Array**	**47.30**	**341**	P	**P**	**18 18 17.6**	**+0.4**
SONM				PcP	**PcP**	**18 19 48.3**	**+0.4**
SONM	**Songino Array**	**47.30**	**341**	P	**P**	**18 18 17.6**	**+0.4**
	comp=Z,4.0nm,0.9s,baz=166,slow=7.1,SNR=5.5						
SONM				PcP	**PcP**	**18 19 48.3**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=173,slow=3.2,SNR=4.4						
KOLN	**Koldanda**	**47.51**	**305**	*e*P	**P**	**18 18 18.8**	**-0.4**
	comp=Z,19nm,0.6s						
DANN	**Dangsing**	**47.60**	**306**	*e*P	**P**	**18 18 19.1**	**-1.0**
	comp=Z,31nm,0.7s						
BOD	**Bodaibo**	**54.87**	**352**	*e*P	**P**	**18 19 14.0**	**+0.3**
BOD				pmax	pmax		
	comp=Z,15nm,1.5s						
PETK	**Petropavlovsk-**	**55.45**	**22**	P	**P**	**18 19 19.0**	**+1.0**
PETK	**Petropavlovsk-**	**55.45**	**22**	P	**P**	**18 19 19.0**	**+1.0**
PETK	**Petropavlovsk-**	**55.45**	**22**	P	**P**	**18 19 19.0**	**+1.0**
	comp=Z,12nm,0.6s,baz=199,slow=5.4,SNR=40						

MK31	**Makanchi Array**	**57.55**	**325**	*e*P	**P**	**18 19 33.1**	**0.0**
MK31	**Makanchi Array**	**57.55**	**325**	*e*P	**P**	**18 19 33.1**	**0.0**
MKAR	**Makanchi Array**	**57.55**	**325**	P	**P**	**18 19 33.3**	**+0.2**
MKAR	**Makanchi Array**	**57.55**	**325**	P	**P**	**18 19 33.3**	**+0.2**
MKAR	**Makanchi Array**	**57.55**	**325**	P	**P**	**18 19 33.3**	**+0.2**
	comp=Z,5.4nm,0.6s,baz=123,slow=7.7,SNR=14						
YAK	**Yakutsk**	**58.22**	**2**	*e*P	**P**	**18 19 37.2**	**-0.2**
YAK				*e**PP	**pP**	**18 19 44.0**	**-3.1**
YAK				*e*		18 20 28.4	
YAK				*e*S	**S**	**18 27 32.8**	**-4.2**
YAK				pmax	pmax		
	comp=Z,56nm,1.0s						
YAK				pmax	pmax		
	comp=N,26nm,1.5s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.4s						
YAK				pmax	pmax		
	comp=Z,38μm,18.5s						
YAK				pmax	pmax		
	comp=N,37μm,19.5s						
YAK				pmax	pmax		
	comp=E,19μm,16.4s						
YAK				smax	smax		
	comp=E,13μm,15.4s						
YAK				smax	smax		
	comp=N,13μm,19.5s						
YAK				MLR	MLR		
	comp=N,6μm,23.0s						
YAK				MLR	MLR		
	comp=Z,14μm,17.0s						
YAK				MLR	MLR		
	comp=E,7μm,17.0s						
YAK	**Yakutsk**	**58.22**	**2**	*e*P	**P**	**18 19 37.9**	**+0.5**
ZALV	**Zalesovo Beam**	**60.59**	**333**	P	**P**	**18 19 54.0**	**0.0**
ZALV	**Zalesovo Beam**	**60.59**	**333**	P	**P**	**18 19 54.0**	**0.0**
ZALV	**Zalesovo Beam**	**60.59**	**333**	P	**P**	**18 19 54.0**	**0.0**
	comp=E,2.5nm,0.6s,baz=130,slow=7.1,SNR=6.5						
KBL	**Kabul**	**61.51**	**307**	*e*P	**P**	**18 20 00.6**	**-0.3**
KBL	**Kabul**	**61.51**	**307**	*e*P	**P**	**18 20 00.6**	**-0.3**
KURBB	**Kurchatov Arra**	**61.73**	**327**	P	**P**	**18 20 01.8**	**0.0**
	comp=E,16nm,0.8s,baz=128,slow=6.2,SNR=23						
KURK	**Kurchatov**	**61.73**	**328**	*i*P	**P**	**18 20 02.4**	**+0.6**
KURK				pmax	pmax		
	comp=Z,34nm,1.1s						
KURK	**Kurchatov**	**61.73**	**328**	*e*P	**P**	**18 20 01.5**	**-0.3**
SEY	**Seymchan**	**62.05**	**13**	*i*P	**P**	**18 20 05.6**	**+1.9**
BVAR	**Borovoye Array**	**67.31**	**327**	P	**P**	**18 20 37.9**	**-0.3**
BVAR	**Borovoye Array**	**67.31**	**327**	P	**P**	**18 20 37.9**	**-0.3**
BVAR	**Borovoye Array**	**67.31**	**327**	P	**P**	**18 20 37.9**	**-0.3**
	comp=Z,11nm,1.1s,baz=120,slow=5.7,SNR=12						
BRVK	**Borovoye**	**67.39**	**327**	‖*e*P	**P**	**18 20 38.9**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,16nm,0.9s						
BILL	**Bilibino**	**69.57**	**15**	*e*P	**P**	**18 20 53.0**	**+0.9**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ABKAR	**Akbulak array**	**72.14**	**321**	*e*P	**P**	**18 21 07.4**	**-0.6**
	comp=Z,2.5nm,0.6s						
SVE	**Sverdlovsk**	**73.96**	**328**	*e*P	**P**	**18 21 18.6**	**0.0**
ARU	**Arti**	**74.93**	**328**	*d*‖*i*P	**P**	**18 21 24.1**	**-0.2**
ARU				S	**S**	**18 30 58.1**	**-1.4**
ARU				pmax	pmax		
	comp=Z,16nm,1.0s						
BHD	**Baghdad**	**81.55**	**303**	*i* x	P	18 22 05.0	+3.5
BHD				*i* x	x	18 32 17.0	
VRHR	**Novokhopersk**	**84.03**	**321**	*e*P	**P**	**18 22 13.3**	**-0.6**
VRHR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
VRHR				pmax	pmax		
	comp=N,10.0nm,1.0s						
VRHR				pmax	pmax		
	comp=E,5.0nm,0.6s						
ILAR	**Eielson Array**	**85.13**	**25**	P	**P**	**18 22 19.4**	**+0.2**
ILAR	**Eielson Array**	**85.13**	**25**	P	**P**	**18 22 19.4**	**+0.2**
	comp=E,0.6nm,0.6s,baz=241,slow=4.9,SNR=9.4						
KLMR	**Klimovskoe**	**85.40**	**331**	*e*P	**P**	**18 22 19.2**	**-1.4**
KLMR				pmax	pmax		
	comp=Z,32nm,0.9s						
VORD	**Divnogorie**	**85.50**	**321**	*e*P	**P**	**18 22 20.8**	**-0.5**
VSR	**Storozhevoye**	**85.58**	**321**	*e*P	**P**	**18 22 21.1**	**-0.6**
MOS	**Moscow**	**86.43**	**325**	*e*P	**P**	**18 22 23.7**	**-2.1**
OBN	**Obninsk**	**87.05**	**325**	*e*P	**P**	**18 22 29.1**	**+0.2**
OBN				*e*		18 25 51.3	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ASF	**Jabal al Asfar**	**87.88**	**302**	P	**P**	**18 22 33.7**	**+0.2**
ASF	**Jabal al Asfar**	**87.88**	**302**	P	**P**	**18 22 33.7**	**+0.2**
	comp=Z,2.5nm,0.4s,baz=287,slow=6.3,SNR=4.4						
BRTR	**Keskin Array B**	**90.01**	**310**	P	**P**	**18 22 42.1**	**-1.3**
BRTR	**Keskin Array B**	**90.01**	**310**	P	**P**	**18 22 42.1**	**-1.3**
	comp=Z,2.4nm,0.9s,baz=115,slow=3.9,SNR=9.1						
ARCES	**ARCESS Array B**	**90.45**	**340**	P	**P**	**18 22 44.0**	**-0.7**
ARCES	**ARCESS Array B**	**90.45**	**340**	P	**P**	**18 22 44.0**	**-0.7**
	comp=Z,4.1nm,0.7s,baz=81,slow=5.8,SNR=7.1						
FINES	**FINESS Array B**	**91.83**	**332**	P	**P**	**18 22 51.5**	**+0.3**
FINES	**FINESS Array B**	**91.83**	**332**	P	**P**	**18 22 51.5**	**+0.3**
	comp=Z,3.5nm,1.0s,baz=64,slow=6.6,SNR=4.6						
AKASG	**Malin Array Be**	**91.88**	**321**	*i*P	**P**	**18 22 50.7**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**91.88**	**321**	P	**P**	**18 22 50.8**	**-0.9**
AKASG	**Malin Array Be**	**91.88**	**321**	P	**P**	**18 22 50.8**	**-0.9**
AKASG	**Malin Array Be**	**91.88**	**321**	P	**P**	**18 22 50.8**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=76,slow=4.8,SNR=8.2						
TESR		**94.23**	**317**	⇑*i*P	**P**	**18 23 02.1**	**-0.5**
MLR	**Muntele Rosu**	**94.89**	**316**	P	**P**	**18 23 05.8**	**-0.1**
MLR	**Muntele Rosu**	**94.89**	**316**	‖*i*P	**P**	**18 23 05.9**	**0.0**
MLR	**Muntele Rosu**	**94.89**	**316**	P	**P**	**18 23 05.8**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=90,slow=5.1,SNR=4.7						
BURAR	**Bucovina Array**	**94.99**	**318**	‖*i*P	**P**	**18 23 06.5**	**+0.2**
DRGR		**96.83**	**318**	⇑P	**P**	**18 23 14.5**	**-0.1**
DRGR		**96.83**	**318**	‖P	**P**	**18 23 14.5**	**-0.1**
HFS	**Hagfors**	**98.02**	**332**	P	**P**	**18 23 18.0**	**-1.5**
HFS	**Hagfors**	**98.02**	**332**	P	**P**	**18 23 18.0**	**-1.5**
	comp=Z,1.6nm,0.7s,baz=100,slow=7.9,SNR=2.9						
NB2	**NORSAR Subarra**	**98.78**	**334**	P	**P**	**18 23 21.3**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=65,slow=4.6						
NOA	**NORSAR Array B**	**98.78**	**334**	P	**P**	**18 23 21.6**	**-1.4**
NOA	**NORSAR Array B**	**98.78**	**334**	P	**P**	**18 23 21.6**	**-1.4**
	comp=Z,2.3nm,0.9s,baz=64,slow=4.5,SNR=3.8						
YKA	**Yellowknife Ar**	**99.52**	**24**	P	**Pdif**	**18 23 26.4**	**+0.1**
YKA	**Yellowknife Ar**	**99.52**	**24**	P	**Pdif**	**18 23 26.3**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=297,slow=4.1,SNR=6.1						
TORD	**Torodi Ar. Bea**	**122.89**	**288**	PKP	**PKPdf**	**18 28 38.8**	**-1.8**
TORD	**Torodi Ar. Bea**	**122.89**	**288**	PKP	**PKPdf**	**18 28 38.8**	**-1.8**
	comp=Z,1.2nm,0.7s,baz=34,slow=1.8,SNR=5.8						
JCT	**Junction City**	**124.09**	**49**	*e*PKIKP	**PKPdf**	**18 28 43.7**	**+1.1**
JCT	**Junction City**	**124.09**	**49**	*e*PKPdf	**PKPdf**	**18 28 43.7**	**+1.1**
ACSO	**Alum Creek Sta**	**128.48**	**29**	*e*PKPdf	**PKPdf**	**18 28 51.3**	**+0.6**

*IDC **11** 18:11:37.5±0.9,4˚.42N×126˚.59E,h0km,mb4.1/8, mb1 4.3/8,mb1mx4.0/24,mbtmp4.2/8, Error ellipse: s-maj=48.9km s-min=14.7km az=62.0*
*NEIC **11** 18:11:43.1±0.7,4˚.30N×126˚.55E,h35km,mb4.6/4, Error ellipse: s-maj=32.6km s-min=10.3km az=64.0*
*ISCJB **11** 18:11:45.9±0.7,4˚.3N±0˚.1×126˚.5E±0˚.2,h85km,mb4.2/13, Error ellipse: s-maj=32.0km s-min=10.1km az=153.9*
ISC 11 18:11:48.0±0.9,4˚.3N±0˚.2×126˚.5E±0˚.2,h85km**,n23,**
σ0§66/22,mb4.3/13**,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.29**	**182**	P	**P**	**18 16 38.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**22.29**	**182**	P	**P**	**18 16 38.1**	**-0.4**
	5.7nm,0.8s,baz=24,slow=8.6,SNR=3.6						
WRAB	**Tennant Creek**	**25.29**	**163**	*e*P	**P**	**18 17 05.0**	**-1.8**
	30nm,0.7s						
WRA	**Warramunga Arr**	**25.30**	**163**	P	**P**	**18 17 06.0**	**-0.8**
WRA	**Warramunga Arr**	**25.30**	**163**	P	**P**	**18 17 06.0**	**-0.8**
	26nm,0.6s,baz=342,slow=10,SNR=12						
MBWA	**Marble Bar**	**26.17**	**194**	*e*P	**P**	**18 17 14.0**	**-0.7**
	14nm,1.1s						
ASAR	**Alice Springs**	**28.72**	**166**	P	**P**	**18 17 37.4**	**-0.1**
ASAR	**Alice Springs**	**28.72**	**166**	P	**P**	**18 17 37.4**	**-0.1**
	1.5nm,0.6s,baz=345,slow=6.9,SNR=4.0						
CMAR	**Chiang Mai Arr**	**30.40**	**300**	P	**P**	**18 17 52.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**30.40**	**300**	P	**P**	**18 17 52.2**	**-0.3**
	0.5nm,0.6s,baz=114,slow=7.6,SNR=2.8						
STKA	**Stephens Creek**	**38.74**	**159**	P	**P**	**18 19 04.7**	**+0.6**
STKA	**Stephens Creek**	**38.74**	**159**	*e*P	**P**	**18 19 04.8**	**+0.6**
	6.5nm,0.4s						
STKA	**Stephens Creek**	**38.74**	**159**	P	**P**	**18 19 04.7**	**+0.6**
	14nm,0.8s,baz=336,slow=8.9,SNR=8.4						

LSA	**Lhasa**	**41.90**	**311**	P	**P**	**18 19 31.8**	**+0.9**
	4.3nm,0.7s						
DZM	**Mont Dzumac**	**47.04**	**126**	P	**P**	**18 20 11.5**	**+0.1**
DZM	**Mont Dzumac**	**47.04**	**126**	P	**P**	**18 20 11.5**	**+0.1**
	2.7nm,0.7s,baz=284,slow=17,SNR=2.6						
MKAR	**Makanchi Array**	**56.96**	**325**	P	**P**	**18 21 24.4**	**-0.3**
MKAR	**Makanchi Array**	**56.96**	**325**	P	**P**	**18 21 24.4**	**-0.3**
	0.9nm,0.4s,baz=120,slow=7.7,SNR=4.1						
ZALV	**Zalesovo Beam**	**59.98**	**333**	P	**P**	**18 21 45.4**	**0.0**
ZALV	**Zalesovo Beam**	**59.98**	**333**	P	**P**	**18 21 45.4**	**0.0**
	0.8nm,0.4s,baz=125,slow=6.2,SNR=4.4						
KURBB	**Kurchatov Arra**	**61.14**	**327**	P	**P**	**18 21 52.8**	**-0.6**
	2.2nm,0.8s,baz=134,slow=6.1,SNR=3.7						
KURK	**Kurchatov**	**61.14**	**327**	P	**P**	**18 21 52.9**	**-0.6**
BRVK	**Borovoye**	**66.80**	**327**	*e*P	P	18 22 34.0	+3.6
	7.8nm,1.0s						

*IDC **11** 18:13:05.8±0.8,3˚.96N×126˚.39E,h0km,mb4.4/16, mb1 4.5/16,mb1mx4.3/23,mbtmp4.4/16, Error ellipse: s-maj=51.0km s-min=16.3km az=72.0*
*ISCJB **11** 18:13:10.5±0.5,3˚.93N±0˚.08×126˚.3E±0˚.2,h45km, mb4.4/19, Error ellipse: s-maj=28.0km s-min=9.6km az=165.8*
*NEIC **11** 18:13:11.2±0.4,3˚.94N×126˚.34E,h35km,mb4.6/5, Error ellipse: s-maj=24.8km s-min=7.8km az=73.0*
ISC 11 18:13:12.1±0.7,3.9N±0˚.1×126˚.4E±0˚.2,h45km**,n39,**
σ0§75/39,mb4.5/19**,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.98**	**162**	*e*P	**P**	**18 18 32.4**	**+0.7**
	29nm,0.9s						
MBWA	**Marble Bar**	**25.78**	**194**	*e*P	**P**	**18 18 38.8**	**-0.2**
ASAR	**Alice Springs**	**28.40**	**165**	P	**P**	**18 19 04.3**	**+1.8**
ASAR	**Alice Springs**	**28.40**	**165**	P	**P**	**18 19 04.3**	**+1.8**
	1.6nm,0.6s,baz=344,slow=7.0,SNR=4.1						
CMAR	**Chiang Mai Arr**	**30.47**	**300**	P	**P**	**18 19 22.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**30.47**	**300**	P	**P**	**18 19 22.1**	**+1.1**
	1.9nm,0.8s,baz=114,slow=7.7,SNR=5.2						
KSAR	**Wonju Array Be**	**33.38**	**2**	P	**P**	**18 19 46.9**	**+0.7**
KSRS	**Korea Array**	**33.39**	**2**	P	**P**	**18 19 46.9**	**+0.6**
	0.8nm,0.5s,baz=179,slow=8.8,SNR=3.1						
NWAO	**Narrogin (SRO)**	**37.67**	**193**	P	**P**	**18 20 22.4**	**-0.7**
	5.3nm,0.7s						
NWAO	**Narrogin (SRO)**	**37.67**	**193**	P	**P**	**18 20 22.5**	**-0.7**
	5.2nm,0.6s,baz=35,slow=7.5,SNR=4.0						
STKA	**Stephens Creek**	**38.44**	**159**	*e*P	**P**	**18 20 28.9**	**-0.8**
	1.4nm,0.6s						
STKA	**Stephens Creek**	**38.44**	**159**	P	**P**	**18 20 28.8**	**-0.9**
	6.1nm,0.7s,baz=339,slow=8.9,SNR=3.7						
SONM	**Songino Array**	**47.00**	**342**	P	**P**	**18 21 39.2**	**+0.2**
SONM	**Songino Array**	**47.00**	**342**	P	**P**	**18 21 39.2**	**+0.2**
	1.9nm,0.7s,baz=158,slow=9.7,SNR=3.7						
MKAR	**Makanchi Array**	**57.19**	**325**	P	**P**	**18 22 54.9**	**+0.1**
MKAR	**Makanchi Array**	**57.19**	**325**	P	**P**	**18 22 54.9**	**+0.1**
	3.9nm,0.8s,baz=124,slow=7.5,SNR=3.5						
ZALV	**Zalesovo Beam**	**60.25**	**333**	P	**P**	**18 23 14.9**	**-0.8**
ZALV	**Zalesovo Beam**	**60.25**	**333**	P	**P**	**18 23 14.9**	**-0.8**
	3.1nm,0.6s,baz=128,slow=5.7,SNR=5.7						
KBL	**Kabul**	**61.13**	**307**	*e*P	**P**	**18 23 22.1**	**-0.3**
	3.3nm,0.7s						
KURBB	**Kurchatov Arra**	**61.38**	**327**	P	**P**	**18 23 23.8**	**+0.3**
	9.8nm,0.8s,baz=124,slow=6.4,SNR=8.5						
KURK	**Kurchatov**	**61.38**	**328**	*e*P	**P**	**18 23 23.5**	**-0.1**
	15nm,0.8s						
BVAR	**Borovoye Array**	**66.96**	**327**	P	**P**	**18 24 00.8**	**+0.7**
BVAR	**Borovoye Array**	**66.96**	**327**	P	**P**	**18 24 00.8**	**+0.7**
	4.8nm,1.0s,baz=134,slow=8.3,SNR=3.4						
BRTR

1.1nm,0.6s,baz=187,slow=9.8,SNR=4.6
KSRS PcP **PcP** **18 26 16.2 +3.1**
1.5nm,0.8s,baz=181,slow=2.5,SNR=4.5
KLBR Kellerberrin 36.32 193 *eP* **P** **18 23 57.6 -0.1**
9.1nm,0.4s
NWAO Narrogin (SRO) 37.72 193 P **P** **18 24 09.7 +0.1**
NWAO Narrogin (SRO) 37.72 193 P **P** **18 24 09.7 +0.1**
5.0nm,0.4s,baz=20,slow=7.5,SNR=13
STKA Stephens Creek 38.42 159 *eP* **P** **18 24 14.0 -1.5**
1.9nm,0.8s
STKA Stephens Creek 38.42 159 P **P** **18 24 14.4 -1.1**
8.5nm,0.6s,baz=330,slow=8.7,SNR=6.5
DZM Mont Dzumac 46.85 125 P **P** **18 25 24.0 -0.2**
DZM Mont Dzumac 46.85 125 P **P** **18 25 24.0 -0.2**
5.3nm,1.1s,baz=305,slow=16,SNR=3.5
SONM Songino Array 47.02 342 P **P** **18 25 23.8 -1.4**
SONM PcP **PcP** **18 26 56.6 -0.3**
SONM Songino Array 47.02 342 P **P** **18 25 23.7 -1.4**
0.9nm,0.6s,baz=154,slow=8.5,SNR=2.9
SONM PcP **PcP** **18 26 56.6 -0.3**
2.0nm,0.8s,baz=156,slow=3.4,SNR=5.0
MK31 Makanchi Array 57.24 325 *eP* **P** **18 26 39.6 -1.5**
MKAR Makanchi Array 57.24 325 P **P** **18 26 40.2 -0.9**
MKAR Makanchi Array 57.24 325 P **P** **18 26 40.2 -0.9**
3.0nm,0.6s,baz=124,slow=8.4,SNR=7.7
YAK Yakutsk 57.99 2 P **P** **18 26 47.5 +1.5**
12nm,0.7s
ZALV Zalesovo Beam 60.29 333 P **P** **18 26 59.8 -2.2**
ZALV Zalesovo Beam 60.29 333 P **P** **18 26 59.8 -2.2**
0.9nm,0.5s,baz=112,slow=6.1,SNR=3.7
KBL Kabul 61.21 307 P **P** **18 27 09.0 0.0**
3.5nm,0.7s
KURBB Kurchatov Arra 61.43 327 P **P** **18 27 09.2 -0.7**
2.2nm,0.7s,baz=124,slow=6.3,SNR=4.7
KURK Kurchatov 61.43 328 *eP* **P** **18 27 09.0 -0.9**
6.0nm,0.7s
KKAR Karatay Array 62.92 317 *eP* **P** **18 27 22.3 +2.3**
1.4nm,0.7s
BVAR Borovoye Array 67.01 327 P **P** **18 27 44.5 -2.0**
BVAR Borovoye Array 67.01 327 P **P** **18 27 44.5 -2.0**
0.3nm,0.4s,baz=108,slow=7.7,SNR=2.7
AKTO Aktyubinsk 73.34 322 P **P** **18 28 24.2 -1.1**
AKTO Aktyubinsk 73.34 322 P **P** **18 28 24.2 -1.1**
2.1nm,0.7s,baz=80,slow=6.2,SNR=3.5
ILAR Eielson Array 85.00 25 P **P** **18 29 29.8 +1.2**
ILAR Eielson Array 85.00 25 P **P** **18 29 29.8 +1.2**
0.5nm,0.9s,baz=258,slow=4.5,SNR=3.0
BRTR Keskin Array B 89.71 310 P **P** **18 29 50.8 -1.3**
BRTR Keskin Array B 89.71 310 P **P** **18 29 50.8 -1.3**
2.1nm,0.9s,baz=119,slow=6.1,SNR=8.0
ARCES ARCESS Array B 90.16 340 P **P** **18 29 51.6 -1.8**
ARCES ARCESS Array B 90.16 340 P **P** **18 29 51.6 -1.8**
1.5nm,0.7s,baz=67,slow=6.9,SNR=6.0
FINES FINESS Array B 91.53 332 P **P** **18 29 58.8 -1.0**
FINES FINESS Array B 91.53 332 P **P** **18 29 58.8 -1.0**
0.5nm,0.4s,baz=155,slow=7.6,SNR=2.8
AKASG Malin Array Be 91.58 321 P **P** **18 30 00.2 -0.1**
AKASG Malin Array Be 91.58 321 P **P** **18 30 00.2 -0.1**
1.6nm,0.6s,baz=69,slow=4.6,SNR=6.3
MLR Muntele Rosu 94.58 316 P **P** **18 30 16.1 +1.6**
MLR Muntele Rosu 94.58 316 P **P** **18 30 16.1 +1.6**
0.9nm,0.8s,baz=146,slow=3.6,SNR=6.6
NOA NORSAR Array B 98.49 334 P Pdif 18 30 32.2 +0.5
NOA NORSAR Array B 98.49 334 P Pdif 18 30 32.2 +0.5
1.2nm,0.8s,baz=66,slow=4.7,SNR=3.5
TORD Torodi Ar. Bea 122.64 288 PKP **PKPdf** **18 35 51.7 +1.7**
TORD Torodi Ar. Bea 122.64 288 PKP **PKPdf** **18 35 51.7 +1.7**
1.0nm,0.8s,baz=41,slow=1.9,SNR=5.5

*IDC **11** 18:18:48.9±0.6,3.°98N×126.°68E,h0km,mb4.2/17,*
mb1 4.3/17,mb1mx4.2/25,mbtmp4.2/17,Error ellipse:
s-maj=36.0km s-min=12.6km az=76.0
*ISCJB **11** 18:18:52.2±0.5,3.°97N±0.°07×126.°7E±0.°2,h36km,*
mb4.3/20,Error ellipse: s-maj=23.0km s-min=9.0km
az=168.3
*NEIC **11** 18:18:54.0±0.3,3.°98N×126.°74E,h35km,mb5.0/3,Error*
ellipse: s-maj=18.7km s-min=6.7km az=75.0
ISC 11 18:18:54.2±0.6,4.°00N±0.°08×126.°8E±0.°2,h36km,n43,
σ0s73/42,mb4.3/20,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.99**	**183**	P		**P**	**P**	**18 23 45.3**	**0.0**
FITZ	**Fitzroy Crossi**	**21.99**	**183**	P		**P**	**P**	**18 23 45.3**	**0.0**
	2.5nm,0.5s,baz=22,slow=8.8,SNR=5.7								
WRA	**Warramunga Arr**	**24.92**	**163**	P		**P**		**18 24 13.0**	**-1.1**
WRA	**Warramunga Arr**	**24.92**	**163**	P		**P**		**18 24 13.0**	**-1.1**
	5.0nm,0.4s,baz=342,slow=10,SNR=5.9								
ASAR	**Alice Springs**	**28.36**	**166**	P		**P**		**18 24 46.2**	**+1.1**
ASAR	**Alice Springs**	**28.36**	**166**	P		**P**		**18 24 46.2**	**+1.1**
	1.2nm,0.5s,baz=339,slow=9.0,SNR=2.9								
CMAR	**Chiang Mai Arr**	**30.80**	**300**	P		**P**		**18 25 06.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**30.80**	**300**	P		**P**		**18 25 06.9**	**+0.1**
	0.7nm,0.7s,baz=117,slow=7.0,SNR=4.9								
KSAR	**Wonju Array Be**	**33.30**	**2**	P		**P**		**18 25 29.8**	**+1.3**
KSRS	**Korea Array**	**33.31**	**2**	P		**P**		**18 25 29.8**	**+1.2**
	0.9nm,0.5s,baz=183,slow=9.5,SNR=3.6								
NWAO	**Narrogin (SRO)**	**37.82**	**193**	P		**P**		**18 26 06.5**	**-1.0**
NWAO	**Narrogin (SRO)**	**37.82**	**193**	P		**P**		**18 26 06.5**	**-1.0**
	7.2nm,0.8s,baz=350,slow=6.1,SNR=4.7								
STKA	**Stephens Creek**	**38.35**	**160**	P		**P**		**18 26 11.2**	**-0.7**
STKA	**Stephens Creek**	**38.35**	**160**	P		**P**		**18 26 11.2**	**-0.7**
	3.9nm,0.6s,baz=351,slow=8.4,SNR=5.4								
USRK	**Ussuriysk Arra**	**40.30**	**6**	P		**P**		**18 26 29.1**	**+1.1**
	1.1nm,0.8s,baz=106,slow=6.0,SNR=3.2								
LSA	**Lhasa**	**42.31**	**311**	*eP*		**P**		**18 26 46.0**	**+0.7**
	5.1nm,0.7s								
ASAJ	**Asahikawa**	**42.32**	**17**	P		**P**		**18 26 44.3**	**-0.3**
ASAJ	**Asahikawa**	**42.32**	**17**	P		**P**		**18 26 44.3**	**-0.3**
	10nm,1.0s,baz=241,slow=13,SNR=3.7								
SONM	**Songino Array**	**47.07**	**341**	P		**P**		**18 27 22.3**	**-0.3**
SONM	**Songino Array**	**47.07**	**341**	P		**P**		**18 27 22.3**	**-0.3**
	1.0nm,0.7s,baz=162,slow=10,SNR=2.6								
MSVF	**Nonsavu**	**54.96**	**115**	*eP*		P		18 28 28.7	+6.4
	32nm,0.5s								
MK31	**Makanchi Array**	**57.38**	**325**	*eP*		**P**		**18 28 38.2**	**-0.8**
MKAR	**Makanchi Array**	**57.38**	**325**	P		**P**		**18 28 38.5**	**-0.5**
MKAR	**Makanchi Array**	**57.38**	**325**	P		**P**		**18 28 38.5**	**-0.5**
	1.7nm,0.5s,baz=120,slow=6.9,SNR=12								
YAK	**Yakutsk**	**57.94**	**2**	*eP*		**P**		**18 28 43.2**	**+0.5**
	13nm,0.6s								
ZALV	**Zalesovo Beam**	**60.38**	**333**	P		**P**		**18 28 58.8**	**-0.9**
ZALV	**Zalesovo Beam**	**60.38**	**333**	P		**P**		**18 28 58.8**	**-0.9**
	1.5nm,0.4s,baz=130,slow=7.4,SNR=7.0								
KURBB	**Kurchatov Arra**	**61.55**	**327**	P		**P**		**18 29 07.2**	**-0.6**
	1.6nm,0.6s,baz=127,slow=6.0,SNR=5.4								
KURK	**Kurchatov**	**61.55**	**327**	P		**P**		**18 29 07.2**	**-0.6**
BVAR	**Borovoye Array**	**67.13**	**327**	P		**P**		**18 29 44.4**	**+0.2**
BVAR	**Borovoye Array**	**67.13**	**327**	P		**P**		**18 29 44.4**	**+0.2**
	0.9nm,0.4s,baz=133,slow=10,SNR=8.1								
AKTO	**Aktyubinsk**	**73.49**	**322**	P		**P**		**18 30 22.5**	**-0.7**
AKTO	**Aktyubinsk**	**73.49**	**322**	P		**P**		**18 30 22.5**	**-0.7**
	1.1nm,0.5s,baz=97,slow=9.2,SNR=3.8								
ARCES	**ARCESS Array B**	**90.22**	**340**	P		**P**		**18 31 50.0**	**-0.7**
ARCES	**ARCESS Array B**	**90.22**	**340**	P		**P**		**18 31 50.0**	**-0.7**
	4.5nm,1.0s,baz=69,slow=5.0,SNR=4.1								
FINES	**FINESS Array B**	**91.63**	**332**	P		**P**		**18 31 57.4**	**0.0**
FINES	**FINESS Array B**	**91.63**	**332**	P		**P**		**18 31 57.4**	**0.0**
	0.6nm,0.5s,baz=95,slow=7.0,SNR=3.2								
TORD	**Torodi Ar. Bea**	**122.90**	**288**	PKP		**PKPdf**		**18 37 47.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**122.90**	**288**	PKP		**PKPdf**		**18 37 47.3**	**-0.4**
	0.7nm,0.8s,baz=57,slow=2.8,SNR=3.1								
CFAA	**Coronel Fontan**	**149.11**	**154**	PKPbc		**PKPbc**		**18 38 39.8**	**+0.3**
CFAA	**Coronel Fontan**	**149.11**	**154**	PKPbc		**PKPbc**		**18 38 39.8**	**+0.3**
	0.4nm,0.5s,baz=234,slow=2.2,SNR=4.1								
CPUP	**Villa Florida**	**157.44**	**170**	PKPab		**PKPab**		**18 39 19.7**	**+1.0**
CPUP	**Villa Florida**	**157.44**	**170**	PKPab		**PKPab**		**18 39 19.7**	**+1.0**
	0.7nm,0.4s,baz=145,slow=3.1,SNR=4.8								

IDC 11 18:20:52.4±1.7,3.°17N×125.°65E,h0km,mb4.0/5,
mb1 4.2/5,mb1mx3.7/20,mbtmp4.0/5,Error ellipse:
s-maj=238.7km s-min=21.2km az=64.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.50**	**160**	P		P		18 26 13.5	-0.1
	3.2nm,0.5s,baz=339,slow=12,SNR=4.0								
STKA	**Stephens Creek**	**38.01**	**158**	P		P		18 28 12.4	+0.1
	3.0nm,0.8s,baz=321,slow=9.0,SNR=3.0								
MKAR	**Makanchi Array**	**57.40**	**326**	P		P		18 30 43.0	+0.2
	0.6nm,0.4s,baz=116,slow=7.4,SNR=6.4								
KURBB	**Kurchatov Arra**	**61.63**	**328**	P		P		18 31 12.0	+0.1
	1.2nm,0.5s,baz=130,slow=6.1,SNR=5.7								
BVAR	**Borovoye Array**	**67.20**	**327**	P		P		18 31 48.0	-0.4
	0.3nm,0.4s,baz=149,slow=6.1,SNR=3.9								

*IDC **11** 18:21:59.0±0.4,3.°93N×126.°53E,h0km,mb4.7/29,*
mb1 4.7/29,mb1mx4.7/30,mbtmp4.7/29,Error ellipse:
s-maj=18.1km s-min=9.4km az=70.0
*BJI **11** 18:22:00.8,3.°72N×126.°41E,h32km,mB5.3/3,mb4.8/27*
*ISCJB **11** 18:22:02.5±0.2,4.°16N±0.°03×126.°80E±0.°04,h33km,*
mb5.0/91,MS5.8/1,Error ellipse: s-maj=5.3km
s-min=3.7km az=163.2
*MOS **11** 18:22:02.0±0.9,3.°93N×126.°60E,h33km,mb5.4/27,Error*
ellipse: s-maj=13.4km s-min=5.6km az=117.7
*NEIC **11** 18:22:04.9±1.3,3.°96N×126.°65E,h44km±12km,mb5.1/27,*
Error ellipse: s-maj=8.5km s-min=4.6km az=67.0
NEIC Felt [III] in the Kepulauan Talaud.
*DJA **11** 18:22:07,3.°65N×126.°81E,h10km,mb5.2/19*
ISC 11 18:22:04.6±0.4,4.°03N±0.°05×126.°68E±0.°06,h36km±2km,
n274,σ1s21/257,mb5.1/91,17C-10D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.67**	**320**	*eP*		Pn		18 22 49.9	+4.6
MNI	**Manado**	**3.16**	**216**	P		Pn		18 22 55.9	+4.1
TNTI	**Ternate**	**3.31**	**168**	P		**Pn**		**18 22 54.6**	**+0.8**
CTBH	**Cotabato--PC H**	**3.99**	**323**	*i*	*P*	Pn		18 22 54.0	-9.2
KMSI	**Cibinong**	**4.36**	**218**	P		Pn		18 23 19.6	+11
LBMI	**Labuha**	**4.71**	**170**	P		Pn		18 23 17.8	+4.7
ZMPH	**Zamboanga City**	**5.44**	**303**	*i*	*P*	Pn		18 23 26.7	+3.6
ZMPH				*i*	S	**Sn**		**18 24 24.3**	**-0.2**
MRSI	**Marisa**	**5.90**	**233**	P		Pn		18 23 34.2	+4.7
	528nm,1.0s,2.2nm								
LUWI	**Luwuk**	**6.37**	**218**	P		Pn		18 23 43.6	+7.6
	844nm,1.0s,3.2nm								
SWI	**Sorong**	**6.67**	**137**	P		**Pn**		**18 23 39.1**	**-1.0**
	385nm,1.1s,3.7nm								
MSAI	**Masohi**	**7.66**	**163**	P		Pn		18 23 57.3	+3.6
	86nm,0.8s,0.3nm								
AAI	**Ambon**	**7.81**	**169**	P		Pn		18 24 06.0	+10
FAKI	**Fak Fak**	**8.87**	**141**	P		**Pn**		**18 24 10.5**	**+0.3**
	1µm,0.8s,5.1nm								
KDI	**Kendari**	**8.91**	**207**	P		**Pn**		**18 24 13.8**	**+3.0**
	103nm,0.7s,0.7nm								
SDKM	**Sandakan**	**9.59**	**280**	P		Pn		18 24 24.8	+4.6
TTSI	**Tana Toraja**	**9.82**	**224**	P		Pn		18 24 27.8	+4.5
	159nm,0.8s								
SPSI	**Sidrap Palu**	**10.52**	**221**	P		Pn		18 24 39.9	+7.0
	590nm,1.2s								
KKM	**Kota Kinabalu**	**10.62**	**281**	P		Pn		18 24 39.4	+5.1
	102nm,1.4s								
KKM	**Kota Kinabalu**	**10.62**	**281**	P		Pn		18 24 41.8	+7.5
	176nm,1.2s								
BAKI	**Biak**	**10.75**	**119**	P		**Pn**		**18 24 38.5**	**+2.4**
	1µm,1.6s								
KAPI	**Kappang**	**11.34**	**218**	Pn		**Pn**		**18 24 46.2**	**+2.1**
KAPI	**Kappang**	**11.34**	**218**	P		Pn		18 24 51.2	+7.1
	472nm,1.9s								
KAPI	**Kappang**	**11.34**	**218**	Pn		**Pn**		**18 24 46.2**	**+2.1**
	4.4nm,0.3s,baz=284,slow=5.4,SNR=6.5								
TLE	**Tual**	**11.35**	**148**	P		Pn		18 24 49.9	+5.6
	3µm,0.8s								
KBKI	**Kotabaru**	**12.78**	**235**	P		Pn		18 25 09.2	+5.3
	79nm,1.4s								
MMRI	**Maumere**	**13.34**	**199**	P		P		18 25 28.1	+7.6
SMPI	**Sarmi**	**13.43**	**116**	P		Pn		18 25 16.1	+3.4
	523nm,0.7s								
BBKI	**Banjar Baru**	**13.98**	**238**	P		**P**		**18 25 28.0**	**+0.3**
	705nm,1.6s								
SBUM	**Sibu**	**14.52**	**264**	P		**P**		**18 25 32.8**	**-0.9**
SBUM	**Sibu**	**14.52**	**264**	P		**P**		**18 25 32.4**	**-1.3**
SBUM	**Sibu**	**14.52**	**264**	P		**P**		**18 25 32.5**	**-1.3**
	228nm,1.2s								
WSI	**Waingapu**	**15.02**	**205**	P		**P**		**18 25 38.6**	**-0.7**
	461nm,1.2s								
JAY	**Jayapura**	**15.45**	**115**	P		**P**		**18 25 43.6**	**-0.5**
	106nm,1.1s								
STKI	**Sintang**	**15.69**	**256**	P		P		18 25 53.1	+6.3
	219nm,1.5s								
KHKI	**Kahang-Kahang**	**16.54**	**222**	P		**P**		**18 25 57.1**	**+1.0**
	286nm,1.9s								
KSM	**Kuching**	**16.55**	**262**	P		**Pn**		**18 25 52.4**	**-1.6**
	46nm,0.9s								
KSM	**Kuching**	**16.55**	**262**	P		**P**		**18 25 58.7**	**+2.5**
KSM	**Kuching**	**16.55**	**262**	P		**P**		**18 25 58.7**	**+2.5**
	245nm,1.3s								
BLJI	**Banyuglugur**	**17.53**	**228**	P		P		18 26 13.8	+6.7
	158nm,0.8s								
GMJI	**Gumas**	**17.99**	**227**	P		**P**		**18 26 16.8**	**+4.6**
	356nm,0.7s								
SJI	**Sawahan**	**18.92**	**232**	P		**Pn**		**18 26 25.1**	**+1.8**
	364nm,1.5s								
PWJI	**Pagerwojo**	**19.07**	**231**	P		Pn		18 26 31.8	+6.8
	421nm,0.8s								
YHNB	**Yeheng**	**21.15**	**347**	*eP*		**P**		**18 26 46.3**	**-0.3**
	102nm,1.3s								
PPBI	**Pangkal Pinang**	**21.43**	**254**	P		P		18 27 02.5	+13
LEM	**Lembang**	**21.87**	**241**	P		**P**		**18 26 57.3**	**+2.7**
	392nm,1.4s								
FITZ	**Fitzroy Crossi**	**22.01**	**183**	P		**P**		**18 26 54.1**	**-1.8**
FITZ	**Fitzroy Crossi**	**22.01**	**183**	*eP*		**P**		**18 26 55.6**	**-0.3**
	62nm,0.6s								
FITZ	**Fitzroy Crossi**	**22.01**	**183**	P		**P**		**18 26 54.1**	**-1.8**
	26nm,1.0s,baz=9.0,slow=8.3,SNR=16								
QIZ	**Qiongzhong**	**22.20**	**314**	*eP*		**P**		**18 26 57.4**	**-0.5**
	34nm,1.2s								
JOW	**Kunigami**	**22.73**	**4**	P		**P**		**18 27 03.6**	**+0.1**
JOW	**Kunigami**	**22.73**	**4**	P		**P**		**18 27 03.6**	**+0.1**
	8.4nm,0.6s,baz=165,slow=12,SNR=4.0								
MYKOM	**Kota Tinggi**	**22.91**	**265**	P		P		18 27 22.0	+16
CGJI	**Cibinong**	**23.47**	**243**	P		**P**		**18 27 11.3**	**+0.2**
	255nm,0.8s								
KASI	**Kota Agung**	**24.10**	**247**	P		**P**		**18 27 21.7**	**+4.6**
	432nm,0.8s								
COEN	**Coen**	**24.23**	**138**	*eP*		**P**		**18 27 15.1**	**-3.2**
	77nm,0.8s								
LWLI	**Liwa**	**24.32**	**249**	P		P		18 27 26.0	+6.8
	440nm,0.7s								
PMG	**Port Moresby**	**24.39**	**123**	*eP*		**P**		**18 27 17.3**	**-2.3**
	10nm,1.0s								
PMG	**Port Moresby**	**24.39**	**123**	P		P		18 27 36.5	+17
PMG	**Port Moresby**	**24.39**	**123**	P		**P**		**18 27 18.8**	**-0.9**
	4.3nm,0.8s,baz=350,slow=15,SNR=4.4								
WRAB	**Tennant Creek**	**24.98**	**163**	*eP*		**P**		**18 27 22.3**	**-2.7**
WRAB						pmax	pmax		
	comp=Z,130nm,0.8s								
WRAB	**Tennant Creek**	**24.98**	**163**	*eP*		**P**		**18 27 22.3**	**-2.7**
	comp=Z,130nm,0.8s								
WRA	**Warramunga Arr**	**24.98**	**163**	P		**P**		**18 27 23.2**	**-1.8**
WRA	**Warramunga Arr**	**24.98**	**163**	P		**P**		**18 27 23.2**	**-1.8**
	comp=Z,127nm,0.8s								
IPM	**Ipoh**	**25.59**	**272**	*eP*		**P**		**18 27 31.6**	**+1.0**
	comp=Z,48nm,1.1s								
IPM	**Ipoh**	**25.59**	**272**	P		**P**		**18 27 33.1**	**+2.5**
	comp=Z,101nm,1.5s								
BKNI	**Bangkinang**	**25.88**	**262**	P		P		18 27 41.5	+8.2
	comp=Z,195nm,0.9s								
MBWA	**Mole Bar**	**25.94**	**195**	*eP*		**P**		**18 27 32.4**	**-1.3**
	comp=Z,81nm,1.1s								
PPI	**Padang Panjang**	**26.64**	**261**	P		P		18 27 47.4	+7.3
	comp=Z,230nm,1.6s								
MNSI	**Mandailing Nat**	**27.26**	**264**	P		P		18 27 51.6	+5.8
	comp=Z,123nm,1.1s								
PSI	**Prapat**	**27.73**	**268**	P		**P**		**18 27 48.1**	**-2.0**
PSI	**Prapat**	**27.73**	**268**	P		**P**		**18 27 54.0**	**+3.9**
	comp=Z,330nm,1.0s								
PSI	**Prapat**	**27.73**	**268**	P		**P**		**18 27 48.1**	**-2.0**
	comp=Z,3.4nm,0.4s,baz=155,slow=0.7,SNR=4.6								
AS31	**Alice Springs**	**28.41**	**166**	*eP*		**P**		**18 27 54.1**	**-1.9**
ASAR	**Alice Springs**	**28.41**	**166**	P		**P**		**18 27 54.2**	**-1.7**
ASAR	**Alice Springs**	**28.41**	**166**	P		**P**		**18 27 54.2**	**-1.7**
	comp=Z,3.2nm,0.5s,baz=348,slow=6.9,SNR=18								
GSI	**Gunungsitoli**	**29.20**	**265**	P		**P**		**18 28 03.7**	**+0.7**
	comp=Z,82nm,2.0s,comp=Z,15µm								
CM31	**Chiang Mai Arr**	**30.68**	**300**	*eP*		**P**		**18 28 16.1**	**0.0**
	comp=Z,11nm,0.8s								
CMAR	**Chiang Mai Arr**	**30.68**	**300**	P		**P**		**18 28 16.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**30.68**	**300**	P		**P**		**18 28 16.7**	**+0.6**
	comp=Z,12nm,0.8s,baz=113,slow=6.6,SNR=38								
CTA	**Charters Tower**	**30.73**	**142**	P		**P**		**18 28 17.3**	**+0.8**
CTA	**Charters Tower**	**30.73**	**142**	*eP*		**P**		**18 28 16.8**	**+0.3**
	comp=Z,3.4nm,1.1s								
CTA	**Charters Tower**	**30.73**	**142**	P		**P**		**18 28 17.3**	**+0.8**
	comp=Z,3.5nm,0.7s,baz=321,slow=12,SNR=6.0								
ENH	**Enshi**	**30.75**	**330**	*eP*		**P**		**18 28 15.5**	**-1.1**
	comp=Z,42nm,1.0s								
CHTO	**Chiang Mai**	**30.83**	**301**	*eP*		**P**		**18 28 17.3**	**-0.1**
CHTO						pmax	pmax		
	comp=Z,25nm,0.8s								
CHTO	**Chiang Mai**	**30.83**	**301**	*eP*		**P**		**18 28 17.3**	**-0.1**
	comp=Z,25nm,0.8s								
CHTO	**Chiang Mai**	**30.83**	**301**	P		**P**		**18 28 17.8**	**+0.4**
	comp=Z,323nm,1.5s								
KSAR	**Wonju Array Be**	**33.27**	**2**	P		**P**		**18 28 39.1**	**+0.5**
KSAR				P		PcP	**PcP**	**18 31 21.9**	**+1.5**
KSRS	**Korea Array**	**33.29**	**2**	P		**P**		**18 28 39.1**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=181,slow=9.9,SNR=5.6								
KSRS						PcP	**PcP**	**18 31 21.9**	**+1.5**
	comp=Z,4.1nm,0.8s,baz=190,slow=3.1,SNR=12								
MJAR	**Matsushiro Arr**	**34.05**	**17**	P		**P**		**18 28 45.5**	**0.0**
MJAR				P		PcP	**PcP**	**18 31 23.9**	**+1.3**
MJAR	**Matsushiro Arr**	**34.05**	**17**	P		**P**		**18 28 45.5**	**0.0**
	comp=Z,1.5nm,0.8s,baz=183,slow=10,SNR=4.8								
MJAR						PcP	**PcP**	**18 31 23.9**	**+1.3**
	comp=Z,2.8nm,0.8s,baz=194,slow=3.3,SNR=4.6								
XAN	**Xi'an**	**34.13**	**333**	P		**P**		**18 28 45.6**	**-0.6**
XAN						pmax	pmax		
	comp=Z,13nm,1.0s								
FORT	**Forrest**	**34.64**	**178**	*eP*		**P**		**18 28 49.0**	**-1.5**
	comp=Z,35nm,0.8s								
FORT	**Forrest**	**34.64**	**178**	*eP*		**P**		**18 28 49.2**	**-1.3**
	comp=Z,36nm,0.8s								
KLBR	**Kellerberrin**	**36.43**	**193**	*eP*		**P**		**18 29 04.8**	**-1.1**
	comp=Z,34nm,0.7s								
BJT	**Baijiatuan**	**37.07**	**347**	*eP*		**P**		**18 29 11.6**	**+0.3**
	comp=Z,42nm,0.6s								
BJI	**Beijing**	**37.09**	**347**	P		**P**		**18 29 11.6**	**+0.2**
BJI						pmax	pmax		
	comp=Z,34nm,1.9s								
NWAO	**Narrogin (SRO)**	**37.83**	**193**	P		**P**		**18 29 16.8**	**-1.0**
NWAO	**Narrogin (SRO)**	**37.83**	**193**	P		**P**		**18 29 16.8**	**-1.0**
	comp=Z,50nm,0.9s,baz=24,slow=9.1,SNR=12								
LZH	**Lanzhou**	**38.22**	**329**	*eP*		**P**		**18 29 21.7**	**+0.4**
LZH						pmax	pmax		
	comp=Z,70nm,1.0s								
LZH						pmax	pmax		
	comp=Z,33nm,6.8s								
STKA	**Stephens Creek**	**38.42**	**159**	P		**P**		**18 29 21.2**	**-1.6**
STKA	**Stephens Creek**	**38.42**	**159**	*eP*		**P**		**18 29 21.4**	**-1.4**
	comp=Z,30nm,0.8s								
STKA	**Stephens Creek**	**38.42**	**159**	P		**P**		**18 29 21.2**	**-1.6**
	comp=Z,41nm,0.7s,baz=341,slow=10,SNR=40								
CN2	**Changchun**	**39.62**	**359**	*eP*		**P**		**18 29 33.9**	**+1.2**
CN2						pmax	pmax		
	comp=Z,10.0nm,0.7s								
USRK	**Ussuriysk Arra**	**40.28**	**6**	P		**P**		**18 29 40.6**	**+2.5**
	comp=Z,3.4nm,0.8s,baz=191,slow=7.5,SNR=5.8								
ARMA	**Armidale**	**41.74**	**147**	*eP*		**P**		**18 29 50.6**	**+0.1**
LSA	**Lhasa**	**42.21**	**311**	*eP*		**P**		**18 29 55.2**	**+0.4**
LSA						pmax	pmax		
	comp=Z,30nm,0.7s								
LSA	**Lhasa**	**42.21**	**311**	*eP*		**P**		**18 29 55.2**	**+0.4**
	comp=Z,30nm,0.7s								
ASAJ	**Asahikawa**	**42.32**	**17**	P		**P**		**18 29 56.8**	**+1.9**
ASAJ	**Asahikawa**	**42.32**	**17**	P		**P**		**18 29 56.8**	**+1.9**
	comp=Z,6.2nm,0.8s,baz=180,slow=3.0,SNR=7.3								
GTA	**Gaotai**	**42.82**	**329**	*eP*		**P**		**18 29 59.1**	**-0.1**
GTA						pP	**pP**	**18 30 09.6**	**-0.2**
GTA						sP	**sP**	**18 30 13.4**	**-0.7**
GTA						PcP	**PcP**	**18 31 51.3**	**+1.3**
GTA						pmax	pmax		
	comp

EKS2	Erkin-Say	60.60	318	eP		P		18 32 11.6	-0.3
EKS2				pmax		pmax			
	comp=Z,11nm,0.8s								
EKS2	Erkin-Say	60.60	318	eP		P		18 32 11.6	-0.3
	comp=Z,12nm,0.8s								
KBL	Kabul	61.30	307	eP		P		18 32 15.9	-1.1
KBL				pmax		pmax			
	comp=Z,24nm,0.8s								
KBL	Kabul	61.30	307	eP		P		18 32 15.9	-1.1
	comp=Z,24nm,0.8s								
KURBB	Kurchatov Arra	61.46	327	P		P		18 32 16.9	-0.6
	comp=Z,10nm,0.8s,baz=126,slow=6.6,SNR=23								
KURK	Kurchatov	61.46	327⇑	eP		P		18 32 17.1	-0.3
KURK				pmax		pmax			
	comp=Z,24nm,1.1s								
KURK	Kurchatov	61.46	327	P		P		18 32 16.9	-0.6
NVS	Novosibirsk	61.59	333	eP		P		18 32 16.3	-1.9
NVS				pmax		pmax			
	comp=Z,16nm,1.2s								
NVS				pmax		pmax			
	comp=N,4.0nm,0.8s								
NVS				pmax		pmax			
	comp=E,11nm,1.1s								
SEY	Seymchan	61.76	13	i P		P		18 32 21.2	+2.0
KK31	Karatay Array	62.98	317	i P		P		18 32 26.8	-1.0
KK31				pmax		pmax			
	comp=Z,24nm,1.0s								
KKAR	Karatay Array	62.98	317	eP		P		18 32 26.6	-1.2
KKAR				pmax		pmax			
	comp=Z,15nm,0.8s								
KKAR	Karatay Array	62.98	317	eP		P		18 32 26.6	-1.2
	comp=Z,15nm,0.8s								
BVAR	Borovoye Array	67.04	327	P		P		18 32 53.8	-0.2
BVAR	Borovoye Array	67.04	327	P		P		18 32 53.8	-0.2
BVAR	Borovoye Array	67.04	327	P		P		18 32 53.8	-0.2
	comp=Z,8.0nm,0.8s,baz=128,slow=9.3,SNR=23								
BRVK	Borovoye	67.12	327⇓	eP		P		18 32 54.3	-0.2
BRVK				pmax		pmax			
	comp=Z,17nm,1.1s								
BRVK	Borovoye	67.12	327	eP		P		18 32 53.7	-0.8
	comp=Z,26nm,1.1s								
BILL	Bilibino	69.28	15	i P		P		18 33 10.5	+2.8
BILL				e				18 33 30.6	
BILL				pmax		pmax			
	comp=Z,2.0nm,0.9s								
AB31	Akbulak array	71.89	321	i P		P		18 33 23.1	-0.9
AB31				pmax		pmax			
	comp=Z,8.0nm,0.7s								
ABKAR	Akbulak array	71.89	321	eP		P		18 33 22.9	-1.1
	comp=Z,5.1nm,0.6s								
AKTO	Aktyubinsk	73.40	322	P		P		18 33 32.9	0.0
AKTO	Aktyubinsk	73.40	322	P		P		18 33 32.9	0.0
AKTO	Aktyubinsk	73.40	322	P		P		18 33 32.9	0.0
	comp=Z,15nm,0.9s,baz=89,slow=8.9,SNR=35								
SVE	Sverdlovsk	73.68	328⇑	eP		P		18 33 34.3	-0.2
SVE				pmax		pmax			
	comp=Z,17nm,0.9s								
ARU	Arti	74.66	328	c iP		P		18 33 40.9	+0.7
ARU								18 36 26.1	
ARU				S		S		18 43 15.8	+2.3
ARU				pmax		pmax			
	comp=Z,18nm,1.0s								
ARU	Arti	74.66	328	eP		P		18 33 38.4	-1.8
	comp=Z,18nm,0.8s								
UMR	Umm Al-Rimmam	78.43	299	eP		P		18 34 02.0	-0.1
UMR				AMb		AMB		18 34 02.4	
	comp=Z,49nm,1.1s								
RDF	Al-Radifah	78.55	299	eP		P		18 34 02.9	+0.1
RDF				AMb		AMB		18 34 08.0	
	comp=Z,69nm,1.6s								
MIB	Mutribah	78.76	299	eP		P		18 34 03.4	-0.5
MIB				AMb		AMB		18 34 05.6	
	comp=Z,49nm,1.1s								
NAY	Al-Naaiem	78.83	299	eP		P		18 34 03.5	-0.8
NAY				AMb		AMB		18 34 04.5	
	comp=Z,21nm,1.0s								
BHD	Baghdad	81.37	303	i x		P		18 34 21.0	+3.1
BHD				i x		x		18 44 33.0	
ZEI	Tsey	81.98	312	eP		P		18 34 20.7	-0.6
ZEI				pmax		pmax			
	comp=Z,15nm,0.9s								
VRHR	Novokhopersk	83.78	321	eP		P		18 34 28.9	-1.2
VRHR				pmax		pmax			
	comp=Z,10.0nm,1.0s								
VRHR				pmax		pmax			
	comp=N,10.0nm,1.2s								
VRHR				pmax		pmax			
	comp=E,10.0nm,0.7s								
ILAR	Eielson Array	84.86	25	P		P		18 34 36.1	+0.8
ILAR	Eielson Array	84.86	25	P		P		18 34 36.1	+0.8
	comp=E,3.6nm,0.9s,baz=251,slow=4.9,SNR=8.2								
KLMR	Klimovskoe	85.12	331	eP		P		18 34 34.1	-2.6
KLMR				pmax		pmax			
	comp=Z,144nm,1.2s								
VORD	Divnogorie	85.25	321	eP		P		18 34 37.4	-0.1
VSR	Storozhevoye	85.33	321	eP		P		18 34 37.3	-0.6
MOS	Moscow	86.17	325	eP		P		18 34 40.5	-1.5
MOS				pmax		pmax			
	comp=Z,72nm,0.8s								
OBN	Obninsk	86.79	325	d iP		P		18 34 44.9	-0.1
OBN				e*PP		pP		18 35 03.6	+7.2
OBN				e				18 38 04.2	
OBN				eS		SKSac		18 45 03.9	-5.2
OBN				pmax		pmax			
	comp=Z,69nm,1.3s								
JOF	Joensuu	88.89	333	eP		P		18 34 55.3	+0.4
JOF				pmax		pmax			
	comp=Z,17nm,0.8s								
JOF	Joensuu	88.89	333	ep		P		18 34 55.3	+0.4
	comp=Z,17nm,0.8s								
KMBO	Kilima Mbogo	89.51	269	eP		P		18 34 59.2	0.0
	comp=Z,536nm,3.4s								
BR131	Keskin Array S	89.79	310	eP		P		18 34 59.0	-0.9
	comp=Z,6.3nm,0.9s								
BRTR	Keskin Array B	89.79	310	P		P		18 34 59.0	-0.9
BRTR	Keskin Array B	89.79	310	P		P		18 34 59.0	-0.9
	comp=Z,7.5nm,0.9s,baz=118,slow=5.0,SNR=29								
ARCES	ARCESS Array B	90.15	340	P		P		18 35 00.8	+0.1
ARCES	ARCESS Array B	90.15	340	P		P		18 35 00.8	+0.1
	comp=Z,6.1nm,0.7s,baz=78,slow=6.2,SNR=13								
KAF	Kangasniemi	91.31	332	eP		P		18 35 05.3	-0.9
KAF				pmax		pmax			
	comp=Z,9.0nm,0.8s								
KAF	Kangasniemi	91.31	332	ep		P		18 35 05.3	-0.9
	comp=Z,8.9nm,0.8s								
FINES	FINESS Array B	91.55	332	P		P		18 35 07.2	-0.1
FINES	FINESS Array B	91.55	332	P		P		18 35 07.2	-0.1
	comp=Z,9.2nm,0.8s,baz=98,slow=5.8,SNR=17								
AKASG	Malin Array Be	91.63	321	i P		P		18 35 07.0	-1.0
AKASG				pmax		pmax			
	comp=Z,10.0nm,0.8s								
AKASG	Malin Array Be	91.63	321	P		P		18 35 06.8	-1.2
AKASG	Malin Array Be	91.63	321	P		P		18 35 06.8	-1.2
	comp=Z,10nm,0.8s,baz=69,slow=4.8,SNR=30								
KIEV	Kiev	91.64	321	eP		P		18 35 06.5	-1.5
KIEV				pmax		pmax			
	comp=Z,9.0nm,1.0s								
KIEV	Kiev	91.64	321	eP		P		18 35 06.5	-1.5
	comp=Z,8.6nm,1.0s								
VSU	Vasula	91.79	329	i P		P		18 35 08.4	-0.1
VSU				pmax		pmax			
	comp=Z,19nm,0.9s								
NACGM	Naroch	92.41	325	e		P		18 35 09.0	-2.5
SYO	Syowa Base	92.68	201⇑	eP		P		18 35 11.6	-0.8
QSPA	South Pole Qui	93.93	180	eP		P		18 35 17.8	-0.6
	comp=Z,17nm,0.9s								
TESR		93.99	317⇑	i P		P		18 35 18.6	-0.4
VRI	Vrincioaia	94.05	316	⇓P		P		18 35 19.3	0.0
VRI	Vrincioaia	94.05	316	⇓iP		P		18 35 19.3	0.0
PLOR	Plostina	94.10	316	⇓P		P		18 35 19.5	-0.1
PLOR	Plostina	94.10	316	⇓iP		P		18 35 19.5	-0.1
MLR	Muntele Rosu	94.65	316	⇓iP		P		18 35 22.1	-0.1
SUW	Suwalki	94.65	325	eP		P		18 35 21.8	0.0
SUW	Suwalki	94.65	325	eP		P		18 35 21.8	0.0
SUW	Suwalki	94.65	325	eP		P		18 35 21.8	0.0
SUW	Suwalki	94.65	325	eP		P		18 35 21.6	-0.2
	comp=Z,98nm,1.0s								
BURAR	Bucovina Array	94.75	318	⇓iP		P		18 35 22.5	-0.1
LVV	L'vov	95.07	321	eP		P		18 35 22.2	-1.6
KWP	Kalwaria Pacla	95.95	321	⇓P		P		18 35 27.8	-0.1
KWP	Kalwaria Pacla	95.95	321	⇓iP		P		18 35 27.8	-0.1
KOLS	Kolonicke sedl	96.39	320	eP		P		18 35 29.9	0.0
KOLS	Kolonicke sedl	96.39	320	eP		P		18 35 29.9	0.0
UZH	Uzhgorod	96.44	320	⇑iP		P		18 35 30.3	+0.2
UZH				e				18 35 39.3	
DRGR		96.59	318	⇑P		P		18 35 30.6	-0.4
DRGR		96.59	318	⇑iP		P		18 35 30.6	-0.4
GZR	Gura Zlata	96.86	316	⇑P		P		18 35 32.2	0.0
GZR	Gura Zlata	96.86	316	⇑iP		P		18 35 32.2	0.0
CRVS	Cervenica-Dubn	96.91	320	eP		P		18 35 32.6	+0.3
CRVS	Cervenica-Dubn	96.91	320	eP		P		18 35 32.6	+0.3
BZS	Buzias	97.60	317	⇑P		P		18 35 34.5	-0.9
BZS	Buzias	97.60	317	⇑iP		P		18 35 34.5	-0.9
PSZ	Piszkesteto	98.17	319	⇑P		P		18 35 37.6	-0.5
PSZ	Piszkesteto	98.17	319	⇑iP		P		18 35 37.6	-0.5
NB2	NORSAR Subarra	98.50	334	P		P		18 35 38.6	-0.6
	comp=Z,3.0nm,0.8s,baz=68,slow=4.6								
NOA	NORSAR Array B	98.50	334	P		P		18 35 38.5	-0.7
NOA	NORSAR Array B	98.50	334	P		P		18 35 38.5	-0.7
	comp=Z,2.4nm,0.7s,baz=67,slow=4.7,SNR=9.1								
VYHS	Vyhne	98.70	320	eP		P		18 35 40.1	-0.2
VYHS	Vyhne	98.70	320	PDIF		P		18 35 40.1	-0.2
YKA	Yellowknife Ar	99.25	24	P		Pdif		18 35 42.7	+0.3
YKA	Yellowknife Ar	99.25	24	P		Pdif		18 35 42.7	+0.3
	comp=Z,0.2nm,0.7s,baz=298,slow=4.5,SNR=4.3								
CLL	Collm	101.37	324	eP		Pdif		18 35 53.0	+0.9
CLL	Collm	101.37	324	ePdif		Pdif		18 35 53.0	+0.9
CLL				esPdif		sPdif		18 36 08.0	+0.3
GERES	GERESS Array B	101.82	322	P		Pdif		18 35 54.5	+0.1
GERES	GERESS Array B	101.82	322	P		Pdif		18 35 54.5	+0.1
	comp=Z,3.0nm,0.8s,baz=71,slow=4.3,SNR=14								
NVAR	Mina Array Bea	106.75	48	PKKPbc		PKKPbc		18 52 00.3	+14
	comp=Z,0.2nm,0.4s,baz=124,slow=5.1,SNR=4.4								
PDAR	Pinedale Array	111.16	41	PKKPbc		PKKPbc		18 51 40.6	+7.9
	comp=Z,1.6nm,0.8s,baz=124,slow=5.8,SNR=9.4								
SCHQ	Schefferville	120.28	9	PKP		PKPdf		18 40 51.2	-0.7
SCHQ	Schefferville	120.28	9	PKP		PKPdf		18 40 51.2	-0.7
	comp=Z,4.6nm,1.1s,baz=27,slow=6.8,SNR=3.1								
TXAR	Lajitas Array	121.46	52	PKP		PKPdf		18 40 55.1	+0.1
TXAR	Lajitas Array	121.46	52	PKP		PKPdf		18 40 55.1	+0.1
	comp=Z,0.5nm,0.6s,baz=129,slow=3.6,SNR=3.9								
TORD	Torodi Ar. Bea	122.78	288	PKP		PKPdf		18 40 57.5	-0.2
TORD	Torodi Ar. Bea	122.78	288	PKP		PKPdf		18 40 57.5	-0.2
	comp=Z,1.4nm,0.8s,baz=42,slow=2.1,SNR=7.8								
TRQA	Tornquist	145.22	168	ePKPdf		PKPbc		18 41 38.3	-0.2
CFAA	Coronel Fontan	149.19	155	PKPbc		PKPbc		18 41 49.9	-0.1
CFAA	Coronel Fontan	149.19	155	PKPbc		PKPbc		18 41 49.9	-0.1
	comp=Z,1.2nm,0.9s,baz=185,slow=2.7,SNR=12								
LCO	Las Campanas	150.17	148	ePKPbc		PKPbc		18 41 52.9	+0.1
CPUP	Villa Florida	157.49	171	PKPab		PKPab		18 42 30.1	+0.9
CPUP	Villa Florida	157.49	171	PKPab		PKPab		18 42 30.1	+0.9
	comp=Z,13nm,0.8s,baz=152,slow=4.8,SNR=22								
SIV	San Ignacio	165.88	148	PKPab		PKPab		18 43 06.7	+0.5
SIV	San Ignacio	165.88	148	PKPab		PKPab		18 43 06.7	+0.5
	comp=Z,3.5nm,1.1s,baz=257,slow=4.1,SNR=4.6								
BDFB	Brasilia	167.33	204	PKPab		PKPab		18 43 13.2	+0.4
BDFB	Brasilia	167.33	204	PKPab		PKPab		18 43 13.2	+0.4
	comp=Z,6.3nm,1.0s,baz=119,slow=1.2,SNR=4.6								

*BJI **11** 18:25:05.3,3.57N×126.87E,h33km,mB6.5/18,mb5.6/52, Ms6.0/36,Ms7 5.9/32*
*IDC **11** 18:25:06.0±0.3,3.96N×126.73E,h0km,mb5.5/35, mb1 5.4/35,mb1mx5.4/36,mbtmp5.5/35,MS5.9/4, Ms1 5.9/4,ms1mx5.2/46,Error ellipse: s-maj=13.5km s-min=7.8km az=73.0*
*MOS **11** 18:25:09.0±1.0,3.98N×126.78E,h33km,mb5.9/64, MS6.0/7,Error ellipse: s-maj=9.2km s-min=4.5km az=117.3*
*ISCJB **11** 18:25:09.5±0.1,4.04N±0.02×126.85E±0.02,h35km, mb5.8/173,MS5.9/23,Error ellipse: s-maj=3.5km s-min=2.7km az=158.7*
*NEIC **11** 18:25:11.2±0.1,4.03N×126.78E,h35km,mb5.8/72,Error ellipse: s-maj=6.2km s-min=4.1km az=69.0*
NEIC Felt [III] in the Kepulauan Talaud.
*DJA **11** 18:25:16,3.91N×126.89E,h96km,mb5.6/62*

ISC 11 18:25:11.2±0.3,4.01N±0.03×126.76E±0.04,h34km, h34km:pP-P,n885,σ1§32/962,mb5.8/171,MS6.0/24, 131C-164D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GSPH	General Santos	2.75	319	eP		Pb	18 25 57.2	-2.5
GSPH				eS		Sn	18 26 25.8	+0.6
MATI	Mati	2.96	350	eP		Pb	18 26 02.4	-1.0
MNI	Manado	3.19	217	P		Pb	18 26 07.3	+0.1
DAV	Davao City (W)	3.26	339	Pn		Pb	18 26 06.2	-2.4
DAV				Sn		Sb	18 26 57.2	+9.3
DAV	Davao City (W)	3.26	339⇑	eP		Pb	18 26 09.6	+1.0
DAV	Davao City (W)	3.26	339	P		Pb	18 26 10.3	+1.8
DAV	Davao City (W)	3.26	339	Pn		Pb	18 26 06.2	-2.4
	178nm,0.3s,baz=95,slow=5.5,SNR=9.7							
DAV				Sn		Sb	18 26 57.2	+9.3
	322nm,0.3s,baz=90,slow=20,SNR=4.4							
TNTI	Ternate	3.27	169	P		Pn	18 26 02.3	+2.2
DMPH	Davao City--Mi	3.30	338	eP		Pb	18 26 07.7	-1.5
DMPH				i S		Sb	18 27 10.9	+22
KCP	Kidapawan	3.42	331⇓	eP		Pb	18 26 08.8	-2.4
KCP				i S		Sb	18 27 08.0	+16
CTBH	Cotabato--PC H	4.06	322⇑	eP		Pn	18 26 15.1	+4.1
BUKP	Musuan	4.20	336	eP		Pn	18 26 17.0	+4.0
LBMI	Labuha	4.67	171	P		Pb	18 26 28.8	-3.7
CGP	Cagayan de Oro	4.88	335⇑	eP		Pb	18 26 30.1	-5.8
CGP				eS		Sb	18 27 36.4	+2.2
BUTP	Butuan	5.06	347	eP		Pn	18 26 30.8	+6.0
PAGZ	Pagadian	5.09	319	eP		Pn	18 26 28.8	+3.6
ZMPH	Zamboanga City	5.52	302⇑	iP		Pn	18 26 33.5	+2.4
ZMPH				i S		Sn	18 27 30.9	-2.5
IPIL	Ipil	5.61	312	eP		Pn	18 26 35.5	+3.2
MRSI	Marisa	5.96	234	P		Pn	18 26 41.9	+4.8
	2μm,0.8s,33μm9.2nm							
MSLP	Maasin	6.37	343	eP		Pn	18 26 45.4	+2.5
LUWI	Luwuk	6.41	219	P		Pb	18 26 55.1	-6.9
SWI	Sorong	6.60	137	P		Pn	18 26 46.0	0.0
	1μm,0.7s,5.9nm							
LLP	Lapu-Lapu	6.86	336	eP		Pn	18 26 53.8	+4.3
LLP				eS		Sb	18 28 23.3	-7.8
OCLP	Ormoc	7.32	343	eP		Pn	18 27 02.1	+6.2
MSAI	Masohi	7.62	163	P		Pn	18 27 05.4	+5.5
	108nm,1.1s,0.6nm							
GUIM	Jordan	7.77	328	eP		Pn	18 27 06.9	+4.9
AAI	Ambon	7.77	169	P		Pn	18 27 08.0	+5.9
	659nm,1.3s,13μm3.6nm							
PCI	Palu	8.47	235	P		Pn	18 27 21.0	+9.4
	255nm,1.1s,7μm1.1nm							
CNP	Catarman	8.70	346	eP		Pn	18 27 25.8	+11
FAKI	Fak Fak	8.80	141	P		Pn	18 27 16.8	+0.7
	351nm,1.0s,1.6nm							
CUYO	Cuyo Island	8.87	320	eP		Pn	18 27 21.2	+4.0
TSM	Tawau	8.87	272	P		Pn	18 27 19.6	+2.4
KDI	Kendari	8.93	208	P		Pn	18 27 21.7	+3.8
	587nm,1.5s,2.4nm							
BNDI	Bandanaira	9.03	160	P		Pn	18 27 26.4	+7.0
	1μm,1.6s,5.9nm							
OTRP	Odiongan	9.54	331	eP		Pn	18 27 38.1	+12
SDKM	Sandakan	9.67	280	P		Pn	18 27 31.2	+3.0
TTSI	Tana Toraja	9.86	225	P		Pn	18 27 36.8	+6.1
	715nm,1.4s							
BATP	Batanta	10.10	299	eP		Pn	18 27 36.9	+2.9
AUQP	San Andres	10.10	337	eP		Pn	18 27 45.0	+11
ENPP	El Nido	10.20	315	eP		Pn	18 27 37.7	+2.3
KDM	Kudat	10.30	287	P		Pn	18 27 40.8	+4.1
SPSI	Sidrap Palu	10.56	222	P		Pn	18 27 47.5	+7.2
	287nm,1.5s							
BOAC	Boac	10.57	333	eP		Pn	18 27 48.8	+8.3
BAKI	Biak	10.67	119	P		Pn	18 27 44.8	+3.0
	703nm,1.6s							
KKM	Kota Kinabalu	10.70	281	eP		Pn	18 27 47.7	+5.3
KKM	Kota Kinabalu	10.70	281	P		Pn	18 27 47.4	+5.1
KKM	Kota Kinabalu	10.70	281	P		Pn	18 27 49.3	+7.0
	821nm,1.1s							
GQP	Guinayangan	10.72	337⇓	eP		Pn	18 27 51.7	+9.2
TLE	Tual	11.29	148	P		Pn	18 27 52.9	+2.6
	647nm,1.3s							
KAPI	Kappang	11.37	218	eP		Pn	18 27 54.7	+3.3
	453nm,1.3s							
KAPI	Kappang	11.37	218	P		Pn	18 28 02.0	+11
KAPI	Kappang	11.37	218	Pn		Pn	18 27 54.4	+3.0
	1.8nm,0.3s,baz=51,slow=13,SNR=5.1							
BKSI	Bulukumba	11.39	216	P		Pn	18 28 00.4	+8.7
	479nm,1.3s							
LUBP	Lubang	11.61	327	eP		Pn	18 28 02.3	+7.6
BALP	Baler	12.73	337	eP		Pn	18 28 14.4	+4.5
KBKI	Kotabaru	12.84	236	P		Pn	18 28 16.4	+4.9
	948nm,1.6s,13μm							
SMPI	Sarmi	13.34	116	P		Pn	18 28 20.2	+1.8
	720nm,1.1s							
MMRI	Maumere	13.34	200	P		P	18 28 33.2	+5.7
SCZP	Santa Cruz	13.50	331	eP		Pn	18 28 24.1	+3.6
BTM	Bintulu	13.68	267	P		Pn	18 28 26.9	+4.0
CAUP	Cauayan	13.74	340	eP		P	18 28 28.6	-3.4
BOLP	Bolinao	14.02	332	eP		P	18 28 34.8	-0.2
BBKI	Banjar Baru	14.03	238	P		P	18 28 32.2	-3.0
	984nm,2.1s							
CVP	Callao Caves	14.45	341	eP		P	18 28 38.7	-1.1
SBUM	Sibu	14.60	264	P		P	18 28 40.2	-1.4
SBUM	Sibu	14.60	264	P		P	18 28 39.7	-1.8
	887nm,1.3s							
ABRA	Dolores	14.80	337	eP		P	18 28 41.5	-2.2
WSI	Waingapu	15.04	205	P		P	18 28 48.3	+2.0
	1μm,1.3s,35μm							
JAY	Jayapura	15.37	115	P		P	18 28 48.9	-1.2
	596nm,0.9s							
PIP	Pasuquin	15.45	338⇓	eP		Pn	18 28 43.4	-3.4
STKI	Sintang	15.77	256	P		P	18 28 56.3	+1.8
	408nm,2.6s,17μm							
KHKI	Kahang-Kahang	16.58	222	P		P	18 29 04.1	+0.6
	867nm,1.0s							
KSM	Kuching	16.63	262	eP		P	18 29 04.6	+0.6
KSM	Kuching	16.63	262	P		P	18 29 05.1	+1.1
KSM	Kuching	16.63	262	P		P	18 29 06.3	+2.2
	453nm,1.6s							
IGBI	Denpasar	17.22	222	P		P	18 29 12.2	+1.6
	411nm,1.0s							
NBBI	Negara	17.26	225	P		P	18 29 13.0	+2.0
	1μm,1.4s,14μm							
BLJI	Banyuglugur	17.57	228	P		P	18 29 15.2	+0.7
	472nm,1.0s							
GMJI	Gumukmas	18.04	227	P		P	18 29 21.3	+1.7
	478nm,0.8s							
SJI	Sawahan	18.97	232	P		P	18 29 28.8	-1.2
	443nm,1.0s							
PWJI	Pagerwojo	19.12	231	P		P	18 29 30.5	-1.0
	316nm,1.1s							
TWG	Pinlang	19.50	344	eP		P	18 29 33.2	-2.5
	122nm,0.5s							
SMRI	Semarang	19.65	236	P		Pn	18 29 43.0	+4.1
	463nm,1.4s,19μm							
YULB	Yu-li	19.98	345	eP		P	18 29 38.6	-2.3
TPUB	Ta-pu	20.08	343	eP		P	18 29 40.5	-1.4
YOGI	Yogyakarta	20.20	234	P		P	18 29 44.3	+1.0
	2μm,1.0s							
GUMO	Guam	20.25	61	eP		P	18 29 42.4	-1.5
	205nm,0.9s							
GUMO	Guam	20.25	61	P		P	18 29 44.7	+0.8
	144nm,1.1s,baz=192,slow=6.2,SNR=5.8							
SSLB	Suanglung	20.45	345	eP		P	18 29 44.5	-1.6
NACB	Ningan Chiao	20.66	347	eP		P	18 29 47.0	-1.3
	63nm,0.8s							
YHNB	Yeheng	21.19	346	eP		P	18 29 51.3	-2.7
	126nm,0.8s							
TATO	Taipei	21.46	347	eP		P	18 29 54.4	-2.4
	126nm,0.9s							
PPBI	Pangkal Pinang	21.50	254	P		P	18 29 59.5	+2.0
	426nm,1.7s							
LEM	Lembang	21.93	241	P		P	18 30 02.8	+0.6
	488nm,1.0s							
FITZ	Fitzroy Crossi	22.00	183	eP		P	18 30 00.8	-1.9
	172nm,0.9s							
FITZ				S		S	18 33 58.0	-5.7
FITZ	Fitzroy Crossi	22.00	183	eP		P	18 29 59.7	-2.9
	286nm,0.9s							
FITZ	Fitzroy Crossi	22.00	183	P		P	18 30 00.7	-1.9
	59nm,0.5s,baz=7.7,slow=11,SNR=31							
FITZ				S		S	18 33 58.0	-5.7
	35nm,1.0s,baz=180,slow=19,SNR=6.1							
CISI	Cisompet, Garu	22.12	239	P		P	18 30 04.4	+0.2
	222nm,0.7s							
QZH	Quanzhou	22.25	340	P		P	18 30 04.9	-0.5
QZH				S		S	18 34 10.2	+1.8
QZH				pmax		pmax		
	comp=Z,200nm,0.8s							
QZH				LR		LR		
	comp=N,22μm,22.1s							
QZH				LR		LR		
	comp=E,37μm,15.8s							
QZH				LR		LR		
	comp=Z,55μm,16.9s							
QIZ	Qiongzhong	22.27	313	eP		P	18 30 04.0	-1.7
	comp=Z,298nm,1.2s							
TNG	Tangerang	22.49	243	P		P	18 30 09.1	+1.1
	comp=Z,1μm,1.5s,comp=Z,25μm							
JOW	Kunigami	22.74	3	P		P	18 30 10.8	+0.2
JOW	Kunigami	22.74	3	P		P	18 30 10.8	+0.2
	comp=Z,94nm,0.8s,baz=188,slow=9.5,SNR=22							
SKJI	Sukabumi	22.94	242	P		P	18 30 14.0	+1.2

comp=Z,9.4nm,1.0s,baz=350,slow=3.3,SNR=4.9
NJ2 Nanjing 28.87 346 *e*P **P** **18 31 07.9 +1.1**
NJ2 pP **pP** **18 31 17.4 +0.9**
NJ2 sP **sP** **18 31 21.4 +0.8**
NJ2 PP **PP** **18 32 07.0 -5.4**
NJ2 S **S** **18 35 58.0 +3.1**
NJ2 sS **sS** **18 36 14.0 +3.0**
NJ2 pmax pmax
comp=Z,80nm,1.0s
NJ2 pmax pmax
comp=Z,5µm,9.4s
NJ2 LR LR
comp=N,15µm,27.1s
NJ2 LR LR
comp=E,16µm,24.4s
NJ2 LR LR
comp=Z,13µm,25.2s
WHN Wuhan 28.88 337 P **P** **18 31 07.4 +0.5**
WHN S S 18 36 04.1 +9.0
WHN LR LR
comp=N,24µm,11.3s
WHN LR LR
comp=E,28µm,11.1s
WHN LR LR
comp=Z,77µm,16.2s
JNU Nakatsue 29.22 7 *e*P **P** **18 31 08.7 -1.3**
comp=Z,33nm,1.0s
JNU PcP **PcP** **18 34 18.1 +1.4**
JNU Nakatsue 29.22 7 P **P** **18 31 09.4 -0.6**
comp=Z,58nm,1.0s,baz=178,slow=4.1,SNR=14
JNU PcP **PcP** **18 34 18.1 +1.4**
comp=Z,31nm,0.8s,baz=146,slow=3.6,SNR=4.1
GSI Gunungsitoli 29.28 266 P **P** **18 31 09.6 -1.1**
comp=Z,285nm,1.0s
GYA Guiyang 29.47 321⇑ *i*P **P** **18 31 14.7 +2.3**
GYA pP **pP** **18 31 25.3 +3.1**
GYA PP **PnPn** **18 32 12.0 +4.6**
GYA S **S** **18 36 05.9 +1.0**
GYA sS **sS** **18 36 23.0 +2.1**
GYA SS SS 18 37 41.4 -29
GYA ScP **ScP** **18 37 57.7 +0.5**
GYA pmax pmax
comp=Z,50nm,0.8s
GYA pmax pmax
comp=Z,5µm,6.0s
GYA LR LR
comp=N,7µm,17.5s
GYA LR LR
comp=E,6µm,18.0s
GYA LR LR
comp=Z,8µm,17.6s
TPTI 29.53 270 P P 18 31 21.1 +8.2
comp=Z,175nm,0.9s,comp=Z,18µm
LHMI Lhok Sumawe 29.74 274 P **P** **18 31 16.8 +2.0**
comp=Z,378nm,0.8s
CTA Charters Tower 30.66 142 P **P** **18 31 23.0 +0.1**
CTA Charters Tower 30.66 142 *e*P **P** **18 31 22.4 -0.4**
comp=Z,39nm,0.9s
CTA Charters Tower 30.66 142 P **P** **18 31 23.0 +0.1**
comp=Z,51nm,1.0s,baz=326,slow=12,SNR=14
CTAO Charters Tower 30.66 142 *e*P **P** **18 31 21.8 -1.0**
CTAO pmax pmax
comp=Z,65nm,1.0s
CTAO Charters Tower 30.66 142 *e*P **P** **18 31 21.8 -1.0**
comp=Z,65nm,1.0s
CM31 Chiang Mai Arr 30.76 300 *e*P **P** **18 31 23.7 -0.1**
CMAR Chiang Mai Arr 30.76 300 P **P** **18 31 24.3 +0.5**
CMAR PcP **PcP** **18 34 22.5 +1.5**
CMAR ScP **ScP** **18 38 04.7 +3.3**
CMAR Chiang Mai Arr 30.76 300 P **P** **18 31 24.3 +0.5**
comp=Z,32nm,0.9s,baz=120,slow=7.2,SNR=4.1
CMAR PcP **PcP** **18 34 22.5 +1.5**
comp=Z,8.4nm,0.9s,baz=107,slow=1.4,SNR=5.0
CMAR ScP **ScP** **18 38 04.7 +3.3**
comp=Z,4.1nm,1.0s,baz=145,slow=2.7,SNR=3.5
ENH Enshi 30.81 330 *e*P **P** **18 31 22.9 -1.2**
comp=Z,214nm,0.9s
CHTO Chiang Mai 30.91 301 *e*P **P** **18 31 24.4 -0.7**
CHTO pmax pmax
comp=Z,128nm,0.8s
CHTO Chiang Mai 30.91 301 *e*P **P** **18 31 24.4 -0.7**
comp=Z,128nm,0.8s
CHTO Chiang Mai 30.91 301 P **P** **18 31 25.1 0.0**
SNR=38
CHTO Chiang Mai 30.91 301 P **P** **18 31 24.9 -0.2**
comp=Z,358nm,1.6s
KMI Kunming 31.21 315 P **P** **18 31 28.2 +0.3**
KMI pP **pP** **18 31 37.0 -0.7**
KMI sP **sP** **18 31 42.5 +0.8**
KMI PcP **PcP** **18 34 24.0 +1.7**
KMI pmax pmax
comp=Z,89nm,1.0s
BSI Banda Aceh 31.39 274 P **P** **18 31 31.3 +1.9**
comp=Z,437nm,1.1s
JHJ Hachijo jima 2 31.42 21 LR LR 18 43 33.3
comp=Z,20µm,18.2s,baz=115,slow=35
KSAR Wonju Array Be 33.29 2 P **P** **18 31 46.0 +0.3**
KSAR PcP **PcP** **18 34 28.9 +1.4**
KSAR ScP **ScP** **18 38 12.8 +3.3**
KSRS Korea Array 33.31 2 P **P** **18 31 46.0 +0.2**
comp=Z,24nm,0.9s,baz=180,slow=10,SNR=36
KSRS PcP **PcP** **18 34 28.9 +1.4**
comp=Z,28nm,0.8s,baz=185,slow=2.8,SNR=25
KSRS ScP **ScP** **18 38 12.8 +3.2**
comp=Z,3.3nm,0.9s,baz=190,slow=4.3,SNR=4.1
INCN Inchon 33.32 360 *e*P **P** **18 31 46.8 +0.8**
comp=Z,34nm,0.8s
MAJO Matsushiro 34.05 17 *e*P **P** **18 31 49.7 -2.7**
MAJO pmax pmax
comp=Z,56nm,1.0s
MAJO Matsushiro 34.05 17 *e*P **P** **18 31 49.6 -2.7**
comp=Z,56nm,1.0s
MAT Matsushiro 34.05 17 P **P** **18 31 49.7 -2.7**
MJAR Matsushiro Arr 34.05 17 P **P** **18 31 50.4 -2.0**
MJAR PcP **PcP** **18 34 30.4 +0.7**
MJAR Matsushiro Arr 34.05 17 P **P** **18 31 50.4 -2.0**
comp=Z,22nm,1.0s,baz=190,slow=8.2,SNR=24
MJAR PcP **PcP** **18 34 30.4 +0.7**
comp=Z,11nm,0.8s,baz=191,slow=3.8,SNR=5.4
MJAR LR LR 18 42 51.3
comp=Z,14µm,20.1s,baz=315,slow=31
XAN Xi'an 34.19 333 P **P** **18 31 52.6 -1.0**
XAN pP **pP** **18 32 02.6 -0.8**
XAN sP **sP** **18 32 06.5 -1.0**
XAN S **S** **18 37 13.1 -5.0**
XAN SS **SnSn** **18 39 30.5 +2.4**
XAN pmax pmax
comp=Z,97nm,0.9s
XAN LR LR
comp=N,12µm,17.2s
XAN LR LR
comp=E,5µm,18.6s
XAN LR LR
comp=Z,6µm,15.8s
CD2 Chengdu 34.44 324⇓ P **P** **18 31 55.7 -0.2**
CD2 pP **pP** **18 32 06.2 +0.5**
CD2 sP **sP** **18 32 10.4 +0.6**
CD2 PcP **PcP** **18 34 30.7 -0.3**
CD2 S **S** **18 37 21.6 -0.5**
CD2 sS **sS** **18 37 38.3 0.0**
CD2 PcS **PcS** **18 38 16.0 -1.5**
CD2 SS **SnSn** **18 39 34.1 -0.3**
CD2 pmax pmax
comp=Z,180nm,0.9s
CD2 pmax pmax
comp=Z,21µm,12.2s
CD2 LR LR
comp=N,17µm,13.7s
CD2 LR LR
comp=E,25µm,18.6s
CD2 LR LR
comp=Z,22µm,16.6s
FORT Forrest 34.61 178 *e*P **P** **18 31 55.0 -2.2**
comp=Z,220nm,0.7s
FORT Forrest 34.61 178 *e*P **P** **18 31 55.8 -1.5**
comp=Z,191nm,0.6s
DL2 Dalian 35.05 353⇑ P **P** **18 32 02.0 +1.0**
DL2 PcP **PcP** **18 34 34.0 +1.5**
DL2 S **S** **18 37 32.6 +1.5**
DL2 pmax pmax
comp=Z,150nm,1.2s
DL2 LR LR
comp=N,8µm,14.1s
DL2 LR LR
comp=E,5µm,14.8s
DL2 LR LR
comp=Z,9µm,14.5s
HNR Honiara 35.66 112 P **P** **18 32 06.3 -0.2**
HNR Honiara 35.66 112 P **P** **18 32 06.3 -0.2**
comp=Z,10nm,0.3s,baz=300,slow=8.1,SNR=2.2
KLBR Kellerberrin 36.42 193 *e*P **P** **18 32 11.7 -1.2**
comp=Z,64nm,0.4s
BJT Baijiatuan 37.11 346 *e*P **P** **18 32 19.3 +0.8**
comp=Z,426nm,0.8s
BJI Beijing 37.13 346 P **P** **18 32 19.5 +0.8**
BJI pmax pmax
comp=Z,560nm,0.7s
EIDS Eidsvold 37.55 142 *e*P **P** **18 32 21.0 -1.5**
comp=Z,81nm,0.8s
EIDS *e*PcP **PcP** **18 34 41.0 +0.8**
BBOO Buckleboo 37.66 167 *e*P **P** **18 32 21.9 -1.5**
comp=Z,2µm,0.6s
IMP Imphal 37.73 306 *ex* x 18 32 12.0
IMP *ex* x 18 38 32.0
SNY Shenyang 37.77 356⇑ P **P** **18 32 24.7 +0.6**
NWAO Narrogin (SRO) 37.83 193 P **P** **18 32 24.2 -0.6**
NWAO Narrogin (SRO) 37.83 193 P **P** **18 32 25.1 +0.4**
SNR=5.5
NWAO Narrogin (SRO) 37.83 193 P **P** **18 32 24.2 -0.6**
comp=Z,31nm,0.3s,baz=18,slow=9.2,SNR=30
LZH Lanzhou 38.28 329⇑ P **P** **18 32 29.0 +0.2**
LZH pP **pP** **18 32 39.5 +0.8**
LZH sP **sP** **18 32 44.0 +1.3**
LZH S **S** **18 38 21.0 +0.1**
LZH sS **sS** **18 38 37.5 +0.3**
LZH SS **SnSn** **18 41 00.2 -7.2**
LZH pmax pmax
comp=Z,380nm,1.0s
LZH pmax pmax
comp=Z,3µm,5.3s
LZH LR LR
comp=N,9µm,12.0s
LZH LR LR
comp=E,10µm,12.2s
LZH LR LR
comp=Z,12µm,16.4s
STKA Stephens Creek 38.38 159 *e*P **P** **18 32 27.9 -1.5**
STKA Stephens Creek 38.38 159 *e*P **P** **18 32 28.1 -1.3**
comp=Z,226nm,0.6s
STKA Stephens Creek 38.38 159 P **P** **18 32 28.5 -0.8**
comp=Z,262nm,0.7s,baz=333,slow=9.2,SNR=85
HHC Hu-ho-hao-te 39.15 342 *e*P **P** **18 32 36.4 +0.5**
HHC pP **pP** **18 32 46.4 +0.6**
HHC sP **sP** **18 32 50.5 +0.7**
HHC PP **PnPn** **18 34 11.4 +2.6**
HHC S **S** **18 38 35.4 +1.7**
HHC sS **sS** **18 38 52.1 +2.1**
HHC SS **SS** **18 41 23.1 -4.2**
HHC pmax pmax
comp=Z,92nm,1.2s
HHC pmax pmax
comp=Z,23µm,5.6s
HHC LR LR
comp=N,9µm,16.6s
HHC LR LR
comp=E,8µm,16.7s
HHC LR LR
comp=Z,15µm,15.5s
VLA Vladivostok 39.22 6⇑ *i*P **P** **18 32 35.8 -0.4**
VLA *e* 18 34 43.3
VLA *e*S **S** **18 38 35.3 +0.9**
VLA pmax pmax
comp=Z,75nm,1.3s
BTO Baotou 39.44 340 *e*P **P** **18 32 37.2 -1.1**
AGT Agartala 39.53 303 *e*PKP **P** **18 32 40.0 +0.8**
AGT *ex* x 18 33 18.0
CN2 Changchun 39.65 359⇑ P **P** **18 32 39.3 -0.6**
CN2 *e*pP **pP** **18 32 49.1 -0.7**
CN2 *e*sP **sP** **18 32 53.1 -0.7**
CN2 PP **PnPn** **18 34 15.7 +1.1**
CN2 PcP **PcP** **18 34 46.7 +0.3**
CN2 *e*S **S** **18 38 41.2 +0.3**
CN2 pmax pmax
comp=Z,30nm,1.5s
CN2 pmax pmax
comp=Z,24µm,10.0s
CN2 LR LR
comp=N,13µm,15.0s
CN2 LR LR
comp=E,10µm,15.0s
CN2 LR LR
comp=Z,16µm,16.0s
SHL Shillong 39.74 306 *e*PKP **P** **18 32 40.5 -0.7**
SHL *ex* x 18 38 38.0
USRK Ussuriysk Arra 40.30 6 P **P** **18 32 45.4 +0.2**
comp=Z,19nm,0.8s,baz=191,slow=8.1,SNR=16
MDJ Mudanjiang 40.52 3 P **P** **18 32 47.3 +0.2**
MDJ sP **sP** **18 32 59.6 -1.5**
MDJ PcP **PcP** **18 34 49.9 +0.8**
MDJ S **S** **18 38 52.4 -1.5**
MDJ sS **sS** **18 39 09.1 -1.2**
MDJ pmax pmax
comp=Z,98nm,1.2s
MDJ LR LR
comp=N,11µm,23.9s
MDJ LR LR
comp=E,5µm,25.6s
MDJ LR LR
comp=Z,13µm,23.9s
MDJ Mudanjiang 40.52 3 *e*P **P** **18 32 47.0 -0.1**
comp=Z,144nm,1.0s
MDJ *e*PcP **PcP** **18 34 50.0 +0.8**
ARMA Armidale 41.68 147 *e*P **P** **18 32 56.5 -0.5**
LSA Lhasa 42.28 311 *e*P **P** **18 33 03.1 +0.7**
LSA Lhasa 42.28 311 *e*P **P** **18 33 03.0 +0.7**
ASAJ Asahikawa 42.32 17 *e*P **P** **18 33 02.1 +0.3**
comp=Z,29nm,0.9s
ASAJ Asahikawa 42.32 17 P **P** **18 33 02.3 +0.5**
comp=Z,49nm,1.0s,baz=247,slow=14,SNR=18
GTA Gaotai 42.88 329⇑ P **P** **18 33 06.4 -0.3**
GTA pP **pP** **18 33 17.8 +1.2**
GTA sP **sP** **18 33 21.7 +1.0**
GTA S **S** **18 39 27.2 -2.1**
GTA pmax pmax
comp=Z,87nm,0.9s
GTA LR LR
comp=N,10µm,22.3s
GTA LR LR
comp=E,17µm,18.5s
GTA LR LR
comp=Z,28µm,16.6s
TAPN Taplejung 43.88 306 *e*P **P** **18 33 14.4 -0.8**
comp=Z,414nm,0.8s
ODAN Odare 43.94 305 *e*P **P** **18 33 14.6 -0.9**
comp=Z,524nm,0.7s
RIV Riverview 44.12 150 *e*P **P** **18 33 18.0 +1.4**
CAN Canberra 44.34 154 *e*P **P** **18 33 17.8 -0.6**
CAN pmax pmax
comp=Z,150nm,1.0s
CAN Canberra 44.34 154 *e*P **P** **18 33 17.8 -0.6**
comp=Z,150nm,1.0s
CNB Canberra Magne 44.50 153 *e*P **P** **18 33 19.2 -0.5**
comp=Z,411nm,1.0s
RAMN Ramite 44.62 305 *e*P **P** **18 33 20.5 -0.5**
comp=Z,330nm,0.7s
HABR Khabarovsk 44.87 8 *ce*P **P** **18 33 20.0 -2.3**
HABR *e**SP **sP** **18 33 34.9 -1.4**
HABR *e* 18 35 01.7
HABR *e* 18 35 05.8
HABR *e*S **S** **18 39 56.4 -1.3**
HABR *e**SS **sS** **18 40 13.8 -0.4**
HABR *e* 18 43 14.9
HABR *e*SSS SSS 18 44 06.3
HABR pmax pmax
comp=Z,215nm,1.8s
HABR pmax pmax
comp=N,127nm,2.2s
HABR pmax pmax
comp=E,177nm,2.7s
HABR MLR MLR
comp=Z,13µm,16.0s
TOO Toolangi 44.88 159 *e*P **P** **18 33 23.5 +0.9**
comp=Z,587nm,1.5s
YSS Yuzh-Sakhalins 44.97 15⇑ *e*P **P** **18 33 23.0 -0.1**
YSS *e* 18 33 35.1
YSS *e* 18 35 06.0
YSS pmax pmax
comp=E,60nm,1.3s
YSS pmax pmax
comp=Z,130nm,1.3s
YSS pmax pmax
comp=N,70nm,1.2s
YSS Yuzh-Sakhalins 44.97 15 *e*P **P** **18 33 22.9 -0.2**
comp=N,115nm,1.1s
JIRN Jiri 45.24 306 *e*P **P** **18 33 25.4 -0.7**
comp=N,99nm,0.7s
KLR Kul'dur 45.26 5 *e*P P 18 33 22.0 -3.4
KLR pmax pmax
comp=Z,230nm,2.2s
HIA Hailar 45.49 354 *e*P **P** **18 33 27.9 +0.6**
comp=Z,273nm,1.3s
HIA *e*PcP **PcP** **18 35 07.1 +1.3**
GUN Gumba 45.59 306 *e*P **P** **18 33 27.8 -1.0**
comp=Z,504nm,0.7s
PKI Pulchoki 45.84 305 *e*P **P** **18 33 29.3 -1.5**
comp=Z,154nm,0.8s
KKN Kakani 46.03 305 *e*P **P** **18 33 30.6 -1.6**
comp=Z,222nm,0.8s
DMN Daman 46.10 305 *e*P **P** **18 33 31.5 -1.3**
comp=Z,296nm,0.8s
NOUC Port Laguerre 46.57 126 *e*P **P** **18 33 35.9 -0.2**
GKN Gorkha 46.63 305 *e*P **P** **18 33 35.4 -1.5**
comp=Z,161nm,0.7s
DZM Mont Dzumac 46.67 125 *e*P **P** **18 33 37.3 +0.2**
comp=Z,324nm,1.4s
DZM Mont Dzumac 46.67 125 *e*P **P** **18 33 36.4 -0.6**
DZM Mont Dzumac 46.67 125 P **P** **18 33 37.0 -0.1**
DZM Mont Dzumac 46.67 125 P **P** **18 33 37.0 -0.1**
comp=Z,13nm,0.5s,baz=299,slow=13,SNR=22
ULN Ulaanbaatar 46.87 342 *e*P **P** **18 33 38.5 +0.2**
comp=Z,116nm,1.0s
ULN Ulaanbaatar 46.87 342 P **P** **18 33 38.8 +0.5**
SNR=28
ULN Ulaanbaatar 46.87 342 P **P** **18 33 38.8 +0.5**
comp=Z,213nm,1.6s
SONM Songino Array 47.05 341 P **P** **18 33 40.3 +0.6**
SONM PcP **PcP** **18 35 12.2 +0.8**
SONM Songino Array 47.05 341 P **P** **18 33 40.3 +0.6**
comp=Z,34nm,0.8s,baz=157,slow=8.5,SNR=42
SONM PcP **PcP** **18 35 12.2 +0.8**
comp=Z,52nm,0.8s,baz=158,slow=3.7,SNR=12
KOLN Koldanda 47.40 305 *e*P **P** **18 33 42.2 -0.6**
comp=Z,772nm,0.7s
DANN Dangsing 47.48 305 *e*P **P** **18 33 42.6 -1.0**
comp=Z,839nm,0.7s
ALBI Allahabad 48.05 301 *ex* P 18 33 44.0 -3.7
HYB Hyderabad 49.05 290 *i* P **P** **18 33 54.0 -1.6**
HYB *e*S **S** **18 40 56.0 -2.5**
CIT Chita 49.10 349 *e*P **P** **18 33 57.0 +1.6**
CIT *e* 18 35 19.8
CIT *e* 18 41 02.5
CIT pmax pmax
comp=Z,760nm,2.3s
NGP Nagpur 49.35 294 *e*PKP **P** **18 33 55.1 -2.7**
NGP AMb AMB 18 33 56.0
comp=Z,88nm,0.6s
TRD Trivandrum 49.68 278 *ex* **PP** **18 35 55.9 +0.7**
TRD AMb AMB 18 36 07.2
comp=Z,169nm,0.9s
MOO Moorlands 49.81 160 *e*P **P** **18 34 00.2 -0.7**
comp=Z,506nm,1.0s
TAU Tasmania Unive 50.27 160 *e*P **P** **18 34 04.5 +0.2**
TAU pmax pmax
comp=Z,88nm,0.9s
TAU Tasmania Unive 50.27 160 *e*P **P** **18 34 04.5 +0.2**
comp=Z,88nm,0.9s
ZAK Zakamensk 50.28 341 *e*P **P** **18 34 03.6 -0.8**
ZAK *e* 18 35 24.0
ZAK pmax pmax
comp=Z,24nm,1.3s
LGTI Lohaghat 50.75 305 *ex* **pP** **18 34 18.9 +0.5**
LGTI *ex* x 18 35 28.7
PTH Pithoragarh 50.81 305 *e*PKP **P** **18 34 07.2 -1.8**
LATR Latur 51.10 290 *e*PKP **P** **18 34 10.1 -0.9**
AKL Akola 51.11 293 *e*PKP **P** **18 34 10.7 -0.4**
AKL AMb AMB 18 34 11.4
comp=Z,268nm,1.4s
TLY Talaya 51.28 342 *e*P **P** **18 34 11.4 -0.5**
TLY pmax pmax
comp=Z,84nm,0.9s
TLY Talaya 51.28 342 *e*P **P** **18 34 12.7 +0.8**
comp=Z,94nm,0.9s
TLY Talaya 51.28 342 P **P** **18 34 13.0 +1.1**
SNR=38
IRK Irkutsk 51.58 343⇑ *i*P **P** **18 34 14.4 +0.3**
IRK *e*S S 18 41 40.7 +8.2
IRK pmax pmax
comp=Z,307nm,2.2s
MOY Mondy 52.13 340 *e*P **P** **18 34 19.1 +0.7**
MOY pmax pmax
comp=Z,312nm,2.3s
WMQ Urumqi 52.52 325 P **P** **18 34 20.8 -0.5**
WMQ pP **pP** **18 34 32.5 +1.0**
WMQ sP **sP** **18 34 35.5 0.0**
WMQ PcP **PcP** **18 35 33.9 +2.4**
WMQ PP **PP** **18 36 21.0 +0.5**
WMQ *e*S **S** **18 41 44.0 -1.9**
WMQ ScS **ScS** **18 44 07.8 -1.0**
WMQ pmax pmax
comp=Z,130nm,1.0s
WMQ LR LR
comp=N,29µm,16.5s
WMQ LR LR
comp=E,16µm,17.3s
WMQ LR LR
comp=Z,17µm,20.2s
DDI Dehra Dun 52.84 305 *e*PKP **P** **18 34 21.5 -2.4**
HMDM Hanimaadhoo 53.39 275 P **P** **18 34 28.2 0.0**
comp=Z,97nm,1.1s
POO Poona 53.65 290 *e*PKP **P** **18 34 29.2 -0.9**
POO AMb AMB 18 34 29.7
comp=Z,174nm,0.7s
SMLA Simla 53.83 306 *i* P **P** **18 34 30.5 -0.6**
SDNR Sundarnagar 54.11 306 *e*PKP **P** **18 34 34.0 +0.8**
BHK Bhakra 54.53 306 *e*PKP **P** **18 34 35.0 -1.3**
AJM Ajmer 54.56 300 *e*PKP **P** **18 34 34.0 -2.6**
BOD Bodaibo 54.60 352 *e*P **P** **18 34 36.1 -0.1**
BOD *e* 18 44 24.8
BOD pmax pmax
comp=Z,110nm,1.0s
MSVF Nonsavu 55.00 115 *e*P **P** **18 34 40.9 +1.0**
MSVF pmax pmax
comp=Z,77nm,1.0s
MSVF Nonsavu 55.00 115 *e*P **P** **18 34 40.9 +1.0**
comp=Z,77nm,1.0s
PETK Petropavlovsk- 55.16 22 P **P** **18 34 40.8 +0.4**
PETK pmax pmax
comp=Z,24nm,0.6s
PETK Petropavlovsk- 55.16 22 P **P** **18 34 40.8 +0.4**
PETK Petropavlovsk- 55.16 22 P **P** **18 34 40.8 +0.4**
comp=Z,24nm,0.6s,baz=186,slow=3.9,SNR=36
DLH Dalhousie 55.27 307 *e*PKP **P** **18 34 40.0 -1.8**
DLH *ex* x 18 35 44.0
DGAR Diego Garcia 55.37 258 *i* P **P** **18 34 40.8 -1.7**
THN Thein Dam 55.43 307 *e*PKP **P** **18 34 40.6 -2.1**
PET Petropavlovsk 55.46 23 *e*P **P** **18 34 44.1 +1.6**
PET pmax pmax
comp=Z,83nm,1.3s
PET Petropavlovsk 55.46 23 *e*P **P** **18 34 39.9 -2.6**
comp=Z,87nm,1.1s
MK31 Makanchi Array 57.35 325 *i* P **P** **18 34 55.7 -0.5**
MK31 pmax pmax
comp=Z,108nm,0.8s
MK31 Makanchi Array 57.35 325 *e*P **P** **18 34 55.6 -0.5**
MKAR Makanchi Array 57.35 325 P **P** **18 34 56.2 0.0**
MKAR 18 35 51.2
MKAR pmax pmax
comp=Z,105nm,0.9s
MKAR pmax pmax
comp=Z,52nm,0.9s
MKAR pmax pmax
comp=N,8.0nm,0.8s
MKAR Makanchi Array 57.35 325 P **P** **18 34 56.2 0.0**
MKAR PcP **PcP** **18 35 51.1 +1.2**
MKAR ScP **ScP** **18 39 52.1 +4.6**
MKAR Makanchi Array 57.35 325 P **P** **18 34 56.2 0.0**
comp=N,105nm,0.9s,baz=125,slow=8.4,SNR=67
MKAR PcP **PcP** **18 35 51.1 +1.2**
comp=N,52nm,0.8s,baz=115,slow=4.3,SNR=5.5
MKAR ScP **ScP** **18 39 52.1 +4.6**
comp=N,8.0nm,0.8s,baz=115,slow=3.9,SNR=3.6
KSH Kashi 57.87 315 P **P** **18 35 01.2 +1.1**
KSH pP **pP** **18 35 11.1 +0.7**
KSH sP **sP** **18 35 15.2 +0.8**
KSH PcP **PcP** **18 35 51.9 -0.4**
KSH PP **PP** **18 37 11.1 +2.5**

KSH ScP **ScP** 18 39 49.0 -1.1
KSH PcS **PcS** 18 39 51.9 -1.8
KSH S **S** 18 42 57.3 -0.5
KSH sS **sS** 18 43 13.9 -0.8
KSH ScS **ScS** 18 44 43.6 -3.9
KSH SS **SS** 18 46 50.3 +1.2
KSH LR LR
comp=N,3µm,12.9s
KSH LR LR
comp=E,3µm,13.3s
KSH LR LR
comp=Z,12µm,18.1s
YAK Yakutsk 57.93 2 *e*P **P** 18 34 59.9 0.0
YAK pmax pmax
comp=Z,442nm,0.9s
YAK Yakutsk 57.93 2 *e*P **P** 18 34 59.9 0.0
comp=Z,442nm,0.9s
BHJ Bhuj 58.30 295 *ex* PcP 18 35 60.0 +5.8
BHJ AMb AMB 18 36 03.7
comp=Z,226nm,1.0s
KZA Kyzart 59.43 317 P **P** 18 35 11.7 +0.4
SNR=33
TKM2 Tokmak 2 59.56 318 *i* P **P** 18 35 11.4 -0.5
TKM2 Tokmak 2 59.56 318 P **P** 18 35 11.4 -0.5
SNR=28
KBK Karagaybulak 59.88 318 P **P** 18 35 13.8 -0.2
SNR=24
UCH Uchtor 59.99 317 P **P** 18 35 15.9 +0.7
SNR=19
CHMS Chumysh 60.16 318 P **P** 18 35 15.0 -0.7
SNR=19
AAK Ala-Archa 60.17 318⇑ *e*P **P** 18 35 15.8 -0.3
AAK pmax pmax
comp=Z,144nm,1.1s
AAK Ala-Archa 60.17 318 *e*P **P** 18 35 15.4 -0.7
AAK Ala-Archa 60.17 318 P **P** 18 35 16.3 +0.2
SNR=28
AAK Ala-Archa 60.17 318 P **P** 18 35 15.8 -0.3
SNR=17
AAK Ala-Archa 60.17 318 P **P** 18 35 16.0 0.0
comp=Z,21nm,0.8s,baz=114,slow=5.9,SNR=20
AAK LR LR 19 03 31.4
comp=Z,19µm,21.0s,baz=262,slow=38
ZAA0 Zalesovo Array 60.36 333 *e*P **P** 18 35 15.4 -1.4
ZALV Zalesovo Beam 60.36 333 P **P** 18 35 15.8 -1.0
ZALV pmax pmax
comp=Z,38nm,0.8s
ZALV Zalesovo Beam 60.36 333 P **P** 18 35 15.8 -1.0
ZALV Zalesovo Beam 60.36 333 P **P** 18 35 15.8 -1.0
comp=Z,38nm,0.8s,baz=126,slow=5.9,SNR=37
USP Ospenovka 60.44 318 P **P** 18 35 17.2 -0.5
SNR=57
AML Almayashu 60.51 317 P **P** 18 35 18.6 -0.1
SNR=53
EKS2 Erkin-Say 60.67 318 *e*P **P** 18 35 18.9 -0.5
EKS2 pmax pmax
comp=Z,144nm,1.3s
EKS2 Erkin-Say 60.67 318 *e*P **P** 18 35 18.9 -0.5
comp=Z,144nm,1.3s
EKS2 Erkin-Say 60.67 318 P **P** 18 35 19.2 -0.2
SNR=31
KBL Kabul 61.38 307 *e*P **P** 18 35 23.1 -1.4
KBL pmax pmax
comp=Z,119nm,0.8s
KBL Kabul 61.38 307 *e*P **P** 18 35 23.1 -1.4
comp=Z,119nm,0.8s
KURBB Kurchatov Arra 61.53 327 P **P** 18 35 24.3 -0.6
comp=Z,94nm,0.7s,baz=125,slow=6.2,SNR=59
KURK Kurchatov 61.53 327⇑ *e*P **P** 18 35 24.4 -0.5
KURK pmax pmax
comp=Z,259nm,1.2s
KURK Kurchatov 61.53 327 *e*P **P** 18 35 23.9 -0.9
KURK Kurchatov 61.53 327 P **P** 18 35 24.7 -0.2
SNR=48
NVS Novosibirsk 61.64 333⇑ *i*P **P** 18 35 24.2 -1.3
NVS *i* S **S** 18 43 42.3 -3.2
NVS *i* 18 45 14.0
NVS pmax pmax
comp=N,55nm,1.2s
NVS pmax pmax
comp=Z,141nm,1.2s
NVS pmax pmax
comp=E,62nm,1.0s
NVS smax smax
comp=N,57nm,1.8s
NVS smax smax
comp=E,81nm,1.8s
SEY Seymchan 61.76 13 *ce*P **P** 18 35 26.2 0.0
RPZ Rata Peaks 61.97 145 *e*P **P** 18 35 27.4 -0.6
comp=E,89nm,0.9s
SNZO South Karori 62.76 141 *e*P **P** 18 35 32.8 -0.4
comp=E,126nm,1.1s
KK31 Karatay Array 63.05 317 *i* P **P** 18 35 34.0 -1.3
KK31 pmax pmax
comp=Z,138nm,1.2s
KKAR Karatay Array 63.05 317 *e*P **P** 18 35 34.1 -1.2
KKAR pmax pmax
comp=Z,89nm,1.0s
KKAR Karatay Array 63.05 317 *e*P **P** 18 35 34.1 -1.2
comp=Z,89nm,1.0s
AFI Afiamalu 63.50 108 P **P** 18 35 38.8 0.0
AFI Afiamalu 63.50 108 P **P** 18 35 38.8 0.0
comp=Z,13nm,0.4s,baz=236,slow=17,SNR=3.1
AFI LR LR 18 58 34.6
comp=Z,8µm,18.8s,baz=2.3,slow=32
BVA0 Borovoye Array 67.11 327 P **P** 18 36 00.4 -1.0
BVA0 pmax pmax
comp=Z,17nm,0.9s
BVAR Borovoye Array 67.11 327 P **P** 18 36 01.1 -0.3
BVAR pmax pmax
comp=Z,100nm,0.9s
BVAR Borovoye Array 67.11 327 P **P** 18 36 01.1 -0.3
BVAR Borovoye Array 67.11 327 P **P** 18 36 01.1 -0.3
comp=Z,100nm,0.9s,baz=131,slow=8.3,SNR=84
BRVK Borovoye 67.18 327⇑ *e*P **P** 18 36 01.4 -0.5
BRVK pmax pmax
comp=Z,140nm,0.9s
BRVK Borovoye 67.18 327 *e*P **P** 18 36 01.2 -0.7
BRVK Borovoye 67.18 327 P **P** 18 36 01.6 -0.2
SNR=38
WBK Wadi Bani Khal 67.98 293 ⇓P **P** 18 36 06.5 -1.0
SNR=6.9
JMDO Jabal Madar 68.76 292 ⇑P **P** 18 36 11.3 -1.1
SNR=11
BILL Bilibino 69.28 15⇑ *e*P **P** 18 36 14.3 -0.4
BILL *e* 18 38 47.3
BILL *e*S **S** 18 45 24.3 +5.7
BILL *e*PS **PnS** 18 45 44.4 -2.6
BILL pmax pmax
comp=Z,13nm,1.0s
BILL MLR MLR
comp=Z,8µm,16.0s
BILL Bilibino 69.28 15 *e*P **P** 18 36 14.1 -0.6
comp=Z,26nm,1.0s
HOQ Hoqain 69.58 294 ⇓P **P** 18 36 16.5 -1.0
SNR=5.8
BSY Bisya 69.62 293 ⇓P **P** 18 36 16.8 -1.0
SNR=7.4
ABKT Ailbek 70.75 309 P **P** 18 36 24.5 +0.1
comp=Z,522nm,0.9s,SNR=29
CASY Casey 71.09 187 *e*P **P** 18 36 26.7 +0.9
AB31 Akbulak array 71.96 321 *i* P **P** 18 36 30.6 -0.8
AB31 pmax pmax
comp=Z,77nm,0.8s
ABKAR Akbulak array 71.96 321 *e*P **P** 18 36 30.4 -1.0
ABTO Aybut 73.04 287 ⇑P **P** 18 36 37.1 -1.5
SNR=18
UNV Unalaska Valle 73.18 35 *e*P **P** 18 36 37.9 -0.7
comp=Z,75nm,0.8s
AKTO Aktyubinsk 73.47 322 P **P** 18 36 39.8 -0.6
AKTO pmax pmax
comp=Z,47nm,0.6s
AKTO Aktyubinsk 73.47 322 P **P** 18 36 39.8 -0.6
AKTO Aktyubinsk 73.47 322 P **P** 18 36 39.8 -0.6
comp=Z,47nm,0.6s,baz=100,slow=7.9,SNR=66
AKUT Akutan 73.67 34 *e*P **P** 18 36 41.0 -0.4
comp=Z,96nm,0.7s
SVE Sverdlovsk 73.74 328 ⇓*i*P **P** 18 36 41.3 -0.5
SVE pmax pmax
comp=Z,159nm,0.9s
ARU Arti 74.72 328 *d i*P **P** 18 36 46.1 -1.4
ARU S **S** 18 46 21.0 -0.5
ARU pmax pmax
comp=Z,177nm,1.2s
ARU Arti 74.72 328 *e*P **P** 18 36 46.9 -0.7
comp=Z,109nm,0.8s

ARU Arti 74.72 328 P **P** 18 36 47.1 -0.5
comp=Z,909nm,0.8s,SNR=42
SOKR Solikamsk 76.49 331 ⇓*i*P **P** 18 36 57.7 +0.2
SOKR pmax pmax
comp=Z,140nm,1.5s
SDPT Sand Point 76.95 34 *e*P **P** 18 36 59.6 -0.7
comp=Z,176nm,0.8s
QRN Al-Qurain 78.31 298 *e*P **P** 18 37 07.0 -1.4
QRN AMb AMB 18 37 09.3
comp=Z,282nm,0.8s
UMR Umm Al-Rimmam 78.51 299 *e*P **P** 18 37 08.1 -1.5
RDF Al-Radifah 78.64 299 *e*P **P** 18 37 09.3 -0.9
RDF AMb AMB 18 37 18.6
comp=Z,147nm,0.9s
MIB Mutribah 78.84 299 *e*P **P** 18 37 10.1 -1.3
MIB AMb AMB 18 37 12.7
comp=Z,309nm,0.8s
NAY Al-Naaiem 78.91 299 *e*P **P** 18 37 10.1 -1.7
NAY AMb AMB 18 37 13.0
comp=Z,118nm,0.9s
GNI Garni 81.33 310 *e*P **P** 18 37 25.7 +0.8
comp=Z,54nm,0.8s
OPO Ambohidratompo 81.42 251 P **P** 18 37 25.2 -0.4
OPO Ambohidratompo 81.42 251 P **P** 18 37 25.2 -0.4
comp=Z,32nm,0.9s,baz=75,slow=6.7,SNR=15
BHD Baghdad 81.45 303 *i* x P 18 37 21.9 -3.5
BHD *i* x x 18 47 26.0
KDAK Kodiak Island 81.64 32 *e*P **P** 18 37 26.2 +0.4
comp=Z,172nm,1.3s
RSO Redoubt South 81.84 30 *e*P **P** 18 37 27.4 +0.3
comp=Z,143nm,0.8s
ZEI Tsey 82.06 312 *e*P **P** 18 37 27.9 -0.8
ZEI pmax pmax
comp=Z,80nm,1.0s
HAKT HAKKARI 82.07 307 *i* P **P** 18 37 28.8 -0.1
TUTA Tutak 82.80 309 *i* P **P** 18 37 33.4 +0.7
KIV Kislovodsk 82.97 314 *e*P **P** 18 37 33.1 -0.2
KIV pmax pmax
comp=Z,29nm,0.9s
KIV Kislovodsk 82.97 314 *e*P **P** 18 37 33.5 +0.3
comp=Z,28nm,0.8s
SLKM Skilak Lake 83.09 30 *e*P **P** 18 37 32.9 -0.5
SLKM Skilak Lake 83.09 30 *e*P **P** 18 37 32.9 -0.5
ARTV Artvin 83.49 311 *i* P **P** 18 37 36.8 +0.7
DAGI Agillar 83.50 311 *i* P **P** 18 37 36.5 +0.4
DDEM Demirkent 83.63 311 *i* P **P** 18 37 36.8 0.0
PMR Palmer 83.69 29 *e*P **P** 18 37 36.2 -0.2
PMR pmax pmax
comp=Z,184nm,1.1s
PMR Palmer 83.69 29 *e*P **P** 18 37 36.2 -0.2
comp=Z,184nm,1.1s
VRHR Novokhopersk 83.85 321 *e*P **P** 18 37 35.7 -1.7
VRHR pmax pmax
comp=Z,80nm,0.8s
VRHR pmax pmax
comp=N,6.0nm,0.9s
VRHR pmax pmax
comp=E,30nm,0.9s
BNGL BINGOL 84.09 309 *i* P **P** 18 37 42.4 +3.1
COLA College 84.43 25 *e*P **P** 18 37 39.6 -0.5
COLA pmax pmax
comp=Z,23nm,0.9s
COLA College 84.43 25 *e*P **P** 18 37 39.6 -0.5
comp=Z,23nm,0.9s
KOPT Kop Dagi 84.59 310 *i* P **P** 18 37 43.6 +1.8
ILAR Eielson Array 84.84 25 P **P** 18 37 41.4 -0.8
ILAR PKKPbc **PKKPbc** 18 55 50.3 -3.2
ILAR Eielson Array 84.84 25 P **P** 18 37 41.4 -0.8
comp=Z,28nm,1.0s,baz=254,slow=5.4,SNR=67
ILAR PKKPbc **PKKPbc** 18 55 50.3 -3.2
comp=Z,1.6nm,1.0s,baz=79,slow=0.9,SNR=8.0
PAE Paea 85.17 108 *e*P **P** 18 37 45.4 +0.6
comp=Z,14nm,1.3s
KLMR Klimovskoe 85.18 331 *e*P **P** 18 37 41.6 -2.4
KLMR *e*S **S** 18 48 05.6 -5.9
KLMR pmax pmax
comp=Z,668nm,1.0s
KLMR pmax pmax
comp=Z,48µm,10.8s
DIV Divide 85.29 29 *e*P **P** 18 37 45.5 +0.8
comp=Z,330nm,1.1s
VORD Divnogorie 85.32 321 *e*P **P** 18 37 43.9 -1.0
VOR Voronezh 85.37 321 *e*P **P** 18 37 44.0 -1.1
VOR pmax pmax
comp=Z,500nm,1.2s
TIAR Tiarei 85.39 108 *e*P **P** 18 37 46.5 +0.6
comp=Z,36nm,0.9s
VSR Storozhevoye 85.40 321 *e*P **P** 18 37 44.2 -1.1
PAX Paxson 85.44 27 *e*P **P** 18 37 45.6 +0.2
PAX pmax pmax
comp=Z,79nm,1.1s
PAX Paxson 85.44 27 *e*P **P** 18 37 45.6 +0.2
comp=Z,79nm,1.1s
KELT Kelkit 85.54 310 *i* P **P** 18 37 47.1 +0.6
ELZG Elazig 85.79 308 *i* P **P** 18 37 48.6 +0.8
BMRM Bremner River 85.86 29 *e*P **P** 18 37 48.4 +1.0
comp=Z,166nm,1.1s
KEMA Kemaliye 86.15 309 *i* P **P** 18 37 49.8 +0.4
MOS Moscow 86.23 325 *e*P **P** 18 37 47.4 -1.9
MOS *e* 18 41 15.7
MOS *e*S S 18 48 13.8 -8.2
MOS pmax pmax
comp=Z,487nm,1.1s
MENT Mentasta 86.24 27 *e*P **P** 18 37 49.2 -0.1
SUSE Susehri 86.34 310 *i* P **P** 18 37 51.0 +0.6
PMOR Pomariorio Ree 86.54 105 *e*P **P** 18 37 52.5 +0.9
comp=Z,136nm,1.3s
ANN Anapa 86.73 315 *e*P **P** 18 37 50.5 -1.5
ANN *e*S S 18 48 13.9 -13
ANN pmax pmax
comp=N,30nm,1.0s
ANN pmax pmax
comp=E,50nm,1.0s
ANN pmax pmax
comp=Z,218nm,1.0s
ANN pmax pmax
comp=N,29µm,15.1s
ANN pmax pmax
comp=E,10µm,15.1s
ANN pmax pmax
comp=Z,22µm,15.1s
ANN smax smax
comp=E,26µm,19.2s
OBN Obninsk 86.86 325⇑ *e*P **P** 18 37 52.1 -0.3
OBN *e* 18 37 58.8
OBN *e* 18 41 17.2
OBN *e* 18 48 16.5
OBN *e*SS SS 18 54 14.6 +4.3
OBN pmax pmax
comp=Z,499nm,1.7s
OBN MLR MLR
comp=Z,7µm,22.0s
OBN Obninsk 86.86 325 *e*P **P** 18 37 51.4 -1.0
comp=Z,716nm,1.5s
GZT Gaziantep 86.96 307 *i* P **P** 18 37 54.2 +0.7
LVZ Lovozero 87.11 338 *i* P **P** 18 37 54.8 +1.3
LVZ pmax pmax
comp=Z,75nm,1.1s
EGAK Eagle 87.30 25 *e*P **P** 18 37 54.5 +0.1
comp=Z,15nm,1.0s
APA Apatity 87.61 337 ⇓*i*P **P** 18 37 54.6 -1.2
APA pmax pmax
comp=Z,52nm,1.0s
APA MLR MLR
comp=Z,11µm,19.0s
JOF Joensuu 88.95 333 *e*P **P** 18 38 01.3 -0.9
JOF pmax pmax
comp=Z,43nm,0.6s
JOF Joensuu 88.95 333 *ep* **P** 18 38 01.3 -0.9
comp=Z,43nm,0.6s
AVNT Avonos 89.01 309 *i* P **P** 18 38 03.2 0.0
GULE Gulek 89.18 307 *i* P **P** 18 38 04.1 0.0
CDAG Cicekdag 89.32 309 *i* P **P** 18 38 04.1 -0.6
KMBO Kilima Mbogo 89.59 269 *e*P **P** 18 38 06.6 0.0
comp=Z,74nm,1.3s
KMBO Kilima Mbogo 89.59 269 P **P** 18 38 06.8 +0.2
SNR=26
KEV Kevo 89.64 340 *e*P **P** 18 38 03.6 -1.7
KEV pmax pmax
comp=Z,9.0nm,0.6s
KEV Kevo 89.64 340 *ep* **P** 18 38 03.6 -1.7
comp=Z,8.9nm,0.6s
PUL Pulkovo 89.82 330⇓ *e*P **P** 18 38 06.3 0.0
PUL pmax pmax
comp=Z,152nm,1.1s

BR131 Keskin Array S 89.87 310 *e*P **P** 18 38 05.9 -1.3
comp=Z,35nm,0.8s
BRTR Keskin Array B 89.87 310 P **P** 18 38 06.2 -1.0
BRTR PKKPbc **PKKPbc** 18 55 41.4 +0.9
BRTR Keskin Array B 89.87 310 P **P** 18 38 06.2 -1.0
comp=Z,36nm,0.9s,baz=119,slow=4.9,SNR=71
BRTR PKKPbc **PKKPbc** 18 55 41.4 +0.9
comp=Z,1.4nm,0.9s,baz=204,slow=2.7,SNR=3.9
ARCES ARCESS Array B 90.20 340 P **P** 18 38 07.5 -0.5
ARCES ARCESS Array B 90.20 340 P **P** 18 38 07.5 -0.5
comp=Z,40nm,0.7s,baz=90,slow=6.4,SNR=5.6
ARE0 ARCESS Array S 90.20 340 *e*P P 18 38 04.6 -3.4
SPA0 Spitsbergen Ar 90.22 349 *e*P **P** 18 38 08.2 +0.3
SPB4 Spitsbergen Ar 90.22 349 *e*P **P** 18 38 07.3 -0.7
KTK1 Kautokeino 91.11 339 *e*P **P** 18 38 11.1 -1.1
KAF Kangasniemi 91.37 332 *e*P **P** 18 38 12.2 -1.3
KAF pmax pmax
comp=Z,38nm,0.7s
KAF Kangasniemi 91.37 332 *ep* **P** 18 38 12.2 -1.3
comp=Z,38nm,0.7s
FINES FINESS Array B 91.61 332 P **P** 18 38 14.6 -0.1
FINES FINESS Array B 91.61 332 P **P** 18 38 14.6 -0.1
comp=Z,41nm,0.9s,baz=76,slow=5.9,SNR=33
AKASG Malin Array Be 91.70 321 P **P** 18 38 14.6 -0.7
AKASG pmax pmax
comp=Z,49nm,0.7s
AKASG Malin Array Be 91.70 321 P **P** 18 38 14.6 -0.7
AKASG Malin Array Be 91.70 321 P **P** 18 38 14.6 -0.7
comp=Z,49nm,0.7s,baz=70,slow=4.8,SNR=137
KIEV Kiev 91.71 321 *e*P **P** 18 38 13.8 -1.5
KIEV pmax pmax
comp=Z,38nm,0.8s
KIEV Kiev 91.71 321 *e*P **P** 18 38 13.8 -1.5
comp=Z,38nm,0.8s
VSU Vasula 91.85 329 *i* P **P** 18 38 14.8 -1.0
VSU pmax pmax
comp=Z,127nm,1.2s
MICGM Minsk 91.92 325 ⇓*i*P **P** 18 38 15.0 -1.2
MNK Minsk 91.95 325 ⇓*i*P **P** 18 38 15.0 -1.4
MNK *e* 18 48 48.0
MNK *e*S **S** 18 49 19.0 +3.4
MNK pmax pmax
comp=Z,450nm,1.0s
MNK MLR MLR
comp=Z,18µm,18.0s
BORA Eskisehir 92.30 310 *i* P **P** 18 38 17.2 -1.2
TRO Tromso 92.41 341 *e*P **P** 18 38 17.2 -1.0
NACGM Naroch 92.48 325 *e*P **P** 18 38 16.0 -2.8
ISP Isparta 92.49 308 ⇓P **P** 18 38 19.3 -0.1
ISP Isparta 92.49 308 ⇓*i*P **P** 18 38 19.3 -0.1
KIS Kishinev 92.51 317 *e*P **P** 18 38 17.0 -2.1
KIS Kishinev 92.51 317 *e*P **P** 18 38 17.0 -2.1
IZAR Zarasai 92.62 326 *e*P **P** 18 38 19.3 -0.2
IZAR AMb AMB 18 38 21.7
comp=Z,38nm,1.0s
IZAR Zarasai 92.62 326 *e*P **P** 18 38 19.3 -0.2
IZAR AMb AMB 18 38 21.7
comp=Z,38nm,1.0s
SYO Syowa Base 92.69 201 ⇓*i*P **P** 18 38 18.2 -1.2
IIGN Ignalina 92.71 326 *e*P **P** 18 38 19.7 -0.2
IIGN AMb AMB 18 38 21.3
comp=Z,37nm,0.9s
IIGN Ignalina 92.71 326 *e*P **P** 18 38 19.7 -0.2
IIGN AMb AMB 18 38 21.3
comp=Z,37nm,0.9s
ISAL Salakas 92.72 326 *e*P **P** 18 38 19.7 -0.2
ISAL AMb AMB 18 38 22.2
comp=Z,32nm,1.1s
ISAL Salakas 92.72 326 *e*P **P** 18 38 19.7 -0.2
ISAL AMb AMB 18 38 22.2
comp=Z,32nm,1.1s
TLCR 92.78 315 ⇓P **P** 18 38 19.8 -0.6
TLCR 92.78 315 ⇓*i*P **P** 18 38 19.8 -0.6
LEOM Leova 92.98 317 ⇑P **P** 18 38 20.7 -0.6
LEOM Leova 92.98 317 ⇑*i*P **P** 18 38 20.7 -0.6
TIRR Tirgusor 93.17 315 ⇑P **P** 18 38 21.1 -1.1
TIRR Tirgusor 93.17 315 ⇑*i*P **P** 18 38 21.1 -1.1
CFR Carcaliu 93.25 316 ⇓P **P** 18 38 22.0 -0.6
CFR Carcaliu 93.25 316 ⇓*i*P **P** 18 38 22.0 -0.6
IAS Iasi 93.33 318 P **P** 18 38 22.3 -0.6
GHRR 93.62 316 ⇑*i*P **P** 18 38 24.2 -0.1
QSPA South Pole Qui 93.91 180 *e*P **P** 18 38 25.2 -0.1
comp=Z,68nm,1.0s
GRER 94.03 316 ⇑*i*P **P** 18 38 27.5 +1.3
TESR 94.06 317 ⇑*i*P **P** 18 38 26.0 -0.3
VRI Vrincioaia 94.12 316 P **P** 18 38 26.9 +0.3
VRI Vrincioaia 94.12 316 ⇑*i*P **P** 18 38 26.8 +0.2
PLOR Plostina 94.17 316 P **P** 18 38 26.9 0.0
PRAR RASCA 94.19 318 ⇑*i*P **P** 18 38 26.2 -0.7
STEI Steigen 94.25 339 *e*P **P** 18 38 23.9 -2.8
ISR Istrita 94.38 316 ⇑P **P** 18 38 28.1 +0.2
ISR Istrita 94.38 316 ⇑*i*P **P** 18 38 28.1 +0.2
SULR 94.66 315 ⇓*i*P **P** 18 38 27.6 -1.5
SUW Suwalki 94.72 325 *e*P **P** 18 38 28.5 -0.6
SUW pmax pmax
comp=Z,391nm,0.9s
SUW Suwalki 94.72 325 *e*P **P** 18 38 28.5 -0.6
comp=Z,391nm,0.9s
MLR Muntele Rosu 94.72 316 ⇓*i*P **P** 18 38 29.3 -0.3
JMB Yambol 94.81 313 *e*P **P** 18 38 29.3 -0.5
BURAR Bucovina Array 94.82 318 ⇑*i*P **P** 18 38 30.2 +0.3
BUR08 Bucovina Ar. S 94.82 318 *e*P **P** 18 38 29.6 -0.3
DOPR Dopca 95.02 317 ⇑*i*P **P** 18 38 31.7 +0.9
SZH Strazhica 95.14 314 *e*P **P** 18 38 30.6 -0.7
LVV L'vov 95.14 321 *e*P **P** 18 38 29.3 -1.9
VOIR 95.35 316 ⇑P **P** 18 38 31.6 -0.8
VOIR 95.35 316 ⇑*i*P **P** 18 38 31.6 -0.8
HUMR Humele 95.58 315 ⇑*i*P **P** 18 38 31.8 -1.5
KDZ Kurdzhali 95.81 312 *e*P P 18 38 23.4 -11
BMR Baia Mare 95.94 319 ⇑P **P** 18 38 35.6 +0.7
BMR Baia Mare 95.94 319 ⇑*i*P **P** 18 38 35.6 +0.7
KWP Kalwaria Pacla 96.02 321 ⇓P **P** 18 38 35.7 +0.5
KWP Kalwaria Pacla 96.02 321 ⇓*i*P **P** 18 38 35.7 +0.5
KOLS Kolonicke sedl 96.45 320 *e*P **P** 18 38 36.9 -0.3
TRPA Tarpa 96.47 319 ⇓*i*P **P** 18 38 37.3 0.0
TRPA Tarpa 96.47 319 ⇓P **P** 18 38 37.5 +0.2
UZH Uzhgorod 96.51 320 ⇑*i*P **P** 18 38 37.7 +0.3
UZH *i* 18 38 48.9
DRGR 96.66 318 ⇓P **P** 18 38 38.4 +0.1
DRGR 96.66 318 ⇓*i*P **P** 18 38 38.4 +0.1
MPEP Malo Peshtene 96.69 314 *e*P **P** 18 38 37.9 -0.5
DEV Deva 96.73 317 ⇑P **P** 18 38 38.6 +0.1
DEV Deva 96.73 317 ⇑*i*P **P** 18 38 38.6 +0.1
NSS Namsos 96.80 337 *e*P P 18 38 34.9 -3.5
GZR Gura Zlata 96.93 316 P **P** 18 38 39.5 0.0
GZR Gura Zlata 96.93 316 ⇑*i*P **P** 18 38 39.2 -0.3
CRVS Cervenica-Dubn 96.98 320 *e*P **P** 18 38 39.8 +0.2
DAG Danmarks Havn 96.99 352 *i* P **P** 18 38 38.4 -0.6
DAG pmax pmax
comp=Z,40nm,0.8s
DAG Danmarks Havn 96.99 352 *i* P **P** 18 38 38.4 -0.6
comp=Z,399nm,0.8s
VTS Vitosha 97.23 314 ⇓P **P** 18 38 40.2 -0.9
VTS Vitosha 97.23 314 ⇓*i*P **P** 18 38 40.2 -0.9
VTS Vitosha 97.23 314 *e*P **P** 18 38 39.4 -1.7
NIE Niedzica 97.58 321 *e*P Pdif 18 38 43.0 +0.6
NIE Niedzica 97.58 321 *e*P Pdif 18 38 43.2 +0.8
BZS Buzias 97.67 317 ⇓P **P** 18 38 42.3 -0.5
BZS Buzias 97.67 317 ⇓*i*P **P** 18 38 42.3 -0.5
OJC Ojcow 97.69 322 *e*P **P** 18 38 42.1 -0.7
OJC Ojcow 97.69 322 *e*P **P** 18 38 42.7 -0.1
VAY Valandovo 97.97 312 *i* P **P** 18 38 42.2 -2.0
comp=Z,45nm,0.9s
PSZ Piszkesteto 98.24 319 P Pdif 18 38 45.7 +0.3
PSZ Piszkesteto 98.24 319 ⇓*i*P **P** 18 38 45.2 -0.2
PSZ Piszkesteto 98.24 319 ⇓P Pdif 18 38 45.6 +0.2
PKSN Nyarlorinc 98.53 318 ⇓*e*Pdiff Pdif 18 38 47.2 +0.6
NC602 NORSAR Array S 98.54 333 *e*P P 18 38 41.8 -4.5
NB2 NORSAR Subarra 98.56 334 P **P** 18 38 45.2 -1.2
baz=67,slow=4.6
NB2 NORSAR Subarra 98.56 334 P **P** 18 38 45.2 -1.2
comp=Z,28nm,1.0s,baz=67,slow=4.6
NOA NORSAR Array B 98.56 334 P **P** 18 38 45.5 -1.0
NOA NORSAR Array B 98.56 334 P **P** 18 38 45.5 -1.0
comp=Z,15nm,0.8s,baz=68,slow=4.6,SNR=30
SKO Skopje 98.65 313 *e*P **P** 18 38 45.1 -2.2
VYHS Vyhne 98.77 320 PDIF **P** 18 38 47.1 -0.6
PKS6 Bocsa 98.81 318 ⇓*e*Pdiff **P** 18 38 48.2 +0.4
OKC Ostrava-Krasne 98.82 322 *e*P Pdif 18 38 48.3 +0.5
OKC *e* 18 38 54.9
OKC Ostrava-Krasne 98.82 322 *e*PDIFF Pdif 18 38 48.3 +0.5
OKC *ep*P pP 18 38 54.9 -3.7

BUD **Budapest** 98.93 319 ⇓ePdiff **P** 18 38 48.6 +0.3
BIA **Bitola** 98.95 312 *e*P **P** 18 38 47.3 -1.4
BSD **Bornholm Skovb** 99.00 327 *e*P **Pdif** 18 38 47.6 -0.9
BSD pmax pmax
comp=Z,72nm,0.9s
BSD Bornholm Skovb 99.00 327 *i* P **Pdif** 18 38 47.6 -0.9
comp=Z,72nm,0.9s
PKS2 Kecel 99.07 318 ⇓ePdiff **Pdif** 18 38 49.7 +0.7
MORC Moravsky Berou 99.21 322 ⇑P **Pdif** 18 38 49.7 0.0
MORC Moravsky Berou 99.21 322 ⇑*i*P **Pdif** 18 38 49.7 0.0
YKA Yellowknife Ar 99.23 24 P **Pdif** 18 38 49.5 +0.2
YKA PKiKP **PKiKP** 18 43 20.0 +0.8
YKA PKKPbc PKKPbc 18 55 06.6 -10
YKA Yellowknife Ar 99.23 24 P **Pdif** 18 38 49.5 +0.2
comp=Z,3.1nm,0.8s,baz=298,slow=4.6,SNR=33
YKA PKiKP **PKiKP** 18 43 20.0 +0.8
comp=Z,0.8nm,0.7s,baz=294,slow=1.7,SNR=8.3
YKA PKKPbc PKKPbc 18 55 06.6 -10
comp=Z,0.2nm,0.6s,baz=120,slow=3.3,SNR=3.9
LSZ Lusaka 99.31 255 *e*P **Pdif** 18 38 49.7 -1.2
comp=Z,17nm,0.9s
PKSG 99.36 319 ⇓ePdiff **Pdif** 18 38 50.6 +0.3
PKSM Moragy 99.53 318 ⇓P **Pdif** 18 38 50.4 -0.7
PKSM Moragy 99.53 318 ⇓*i*P **Pdif** 18 38 50.4 -0.7
PKSM Moragy 99.53 318 ⇓ePdiff **Pdif** 18 38 51.0 -0.1
PKST T"s 99.64 319 ⇓ePdiff **Pdif** 18 38 51.6 0.0
KSP Ksiaz 99.64 323 *e*P **Pdif** 18 38 51.6 +0.1
KSP *e**PP **pP** 18 38 57.6 -4.7
PKS9 Tamasi 99.66 318 ⇓ePdiff **Pdif** 18 38 51.8 +0.1
DPC Dobruska-Polom 99.78 322 *e*P **Pdif** 18 38 53.0 +0.8
DPC *e* 18 38 59.6
DPC Dobruska-Polom 99.78 322 *e*PDIFF **Pdif** 18 38 53.0 +0.8
DPC *e*pP **pP** 18 38 59.6 -3.4
RHK3 Tenkes 99.88 318 ⇓ePdiff **Pdif** 18 38 52.7 0.0
UPC Upice 99.92 323 *e*P **Pdif** 18 38 53.4 +0.7
UPC *e* 18 39 00.3
UPC Upice 99.92 323 *e*PDIFF **Pdif** 18 38 53.4 +0.7
UPC *e*pP **pP** 18 39 00.3 -3.3
VRAC Vranov 99.94 321 ⇑*i*P **Pdif** 18 38 53.7 +0.8
SOP Sopron 100.47 320 ⇓*e* **Pdif** 18 38 55.0 -0.2
RUE Ruedersdorf 100.56 325 *e*Pdiff **Pdif** 18 38 56.6 +1.1
RUE Ruedersdorf 100.56 325 *e*P **Pdif** 18 38 56.2 +0.7
comp=Z,124nm,1.0s
TREC Trest 100.63 322 *e*P **Pdif** 18 38 56.5 +0.5
TREC Trest 100.63 322 *e*PDIFF **Pdif** 18 38 56.5 +0.5
BEHE Becsehely 100.69 319 ⇓*e* **Pdif** 18 38 56.9 +0.7
PVCC Panska Ves 100.78 323 *e*P **Pdif** 18 38 57.0 +0.4
PVCC Panska Ves 100.78 323 *e*PDIFF **Pdif** 18 38 57.0 +0.4
PVCC *e*pP pP 18 39 03.5 -3.9
CONA Conrad Observa 100.84 320 ⇓*i*P **Pdif** 18 38 57.3 +0.3
comp=Z,24nm,2.0s
CONA Conrad Observa 100.84 320 ⇓*i*Pdiff **Pdif** 18 38 57.3 +0.3
comp=Z,24nm,2.0s
PRU Pruhonice 100.98 323 *e*pP pP 18 39 04.7 -3.7
PRA Prague 101.02 323 PDIFF **Pdif** 18 38 58.0 +0.4
BRG Berggiesshubel 101.04 323 *i* P **Pdif** 18 38 58.0 +0.3
comp=Z,62nm,1.2s
BRG *e* 18 42 20.6
comp=Z,8.9nm,1.2s
BRG Berggiesshubel 101.04 323 *e*Pdiff **Pdif** 18 38 58.6 +0.9
BRG Berggiesshubel 101.04 323 *i* P **Pdif** 18 38 58.0 +0.3
BRG pmax pmax
comp=Z,62nm,1.2s
BRG pmax pmax
comp=Z,9.0nm,1.3s
ARSA Arzberg 101.27 320 ⇓*i*P **Pdif** 18 38 58.9 +0.1
comp=Z,17nm,0.9s
ARSA Arzberg 101.27 320 ⇓*i*Pdiff **Pdif** 18 38 58.9 +0.1
comp=Z,17nm,0.9s,SNR=11
FBE Freiberg 101.37 324 *e*Pdiff **Pdif** 18 39 00.3 +1.2
CLL Collm 101.44 324 *e*Pdiff **Pdif** 18 39 00.0 +0.6
CLL Collm 101.44 324 ⇑*i*P **Pdif** 18 38 59.3 -0.1
CLL pmax pmax
comp=Z,28nm,1.1s
CLL Collm 101.44 324 ⇑*i*Pdif **Pdif** 18 38 59.3 -0.1
comp=Z,28nm,1.1s
CLL *i* pPdif **pPdif** 18 39 06.1 -4.1
CLL *es*Pdif sPdif 18 39 10.0 -4.1
MUD Monsted U'grnd 101.47 330 *i* P **Pdif** 18 38 59.6 +0.2
MUD pmax pmax
comp=Z,15nm,1.1s
MUD Monsted U'grnd 101.47 330 *i* P **Pdif** 18 38 59.6 +0.2
comp=Z,15nm,1.1s
SOKA Soboth 101.77 319 ⇓*i*P **Pdif** 18 39 01.1 -0.1
comp=Z,15nm,0.9s
SOKA Soboth 101.77 319 ⇓*i*Pdiff **Pdif** 18 39 01.1 -0.1
comp=Z,15nm,0.9s
KHC Kasperske Hory 101.87 322 *e*P **Pdif** 18 39 01.2 -0.3
KHC Kasperske Hory 101.87 322 *e*Pdif **Pdif** 18 39 01.4 -0.1
comp=Z,22nm,1.4s
KHC Kasperske Hory 101.87 322 *e*PDIFF **Pdif** 18 39 01.2 -0.3
KHC *e*pP pP 18 39 11.5 -1.0
KHC *ex* x 18 42 35.5
MOA Molln 101.88 321 ⇓*i*P **Pdif** 18 39 02.1 +0.5
comp=Z,32nm,0.8s
MOA Molln 101.88 321 ⇓*i*Pdiff **Pdif** 18 39 02.1 +0.5
comp=Z,32nm,0.8s,SNR=25
GEC2 GERESS Array S 101.89 322 *e*Pdiff **Pdif** 18 39 02.3 +0.6
GERES GERESS Array B 101.89 322 P **Pdif** 18 39 02.0 +0.4
GERES PP **PP** 18 43 15.3 +2.7
GERES GERESS Array B 101.89 322 P **Pdif** 18 39 02.0 +0.4
comp=Z,14nm,0.9s,baz=74,slow=5.2,SNR=58
GERES PP **PP** 18 43 15.3 +2.7
comp=Z,2.2nm,0.8s,baz=73,slow=5.9,SNR=5.0
BSEG Bad Segeberg 101.93 327 *e*Pdiff **Pdif** 18 39 02.4 +0.9
TANN Tannenbergstha 102.08 323 *e*Pdiff **Pdif** 18 39 03.1 +0.7
OBKA Obir 102.14 319 ⇓*i*P **Pdif** 18 39 03.9 +1.0
comp=Z,21nm,1.0s
OBKA Obir 102.14 319 ⇓*i*Pdiff **Pdif** 18 39 03.9 +1.0
comp=Z,21nm,1.0s
NKC Novy Kostel 102.16 323 *e*P **Pdif** 18 39 03.2 +0.5
NKC Novy Kostel 102.16 323 *e*PDIFF **Pdif** 18 39 03.2 +0.5
NKC *e*pP 18 39 09.0
WERD Werda 102.16 323 *e*Pdiff **Pdif** 18 39 03.5 +0.8
GUNZ Gunzen 102.18 323 *e*Pdiff **Pdif** 18 39 03.7 +0.9
WERN Wernitzgruen 102.18 323 *e*Pdiff **Pdif** 18 39 03.8 +1.0
NEUB Neuenburg 102.19 324 *e*Pdiff **Pdif** 18 39 03.6 +0.8
WET Wettzell 102.29 322 *e*Pdiff **Pdif** 18 39 04.2 +0.8
ROTZ Rotzenmuhle 102.47 323 *e*Pdiff **Pdif** 18 39 05.5 +1.4
MOX Moxa 102.50 324 *e*Pdiff **Pdif** 18 39 05.1 +0.9
NRDL Niedersach Rie 102.63 326 *e*Pdiff **Pdif** 18 39 05.8 +1.2
MYKA Terra Mystica 102.69 319 ⇓*i*P **Pdif** 18 39 04.8 -0.4
comp=Z,9.1nm,1.0s
MYKA Terra Mystica 102.69 319 ⇓*i*Pdiff **Pdif** 18 39 04.8 -0.4
comp=Z,9.1nm,1.0s
KBA Koelnbreinsper 102.73 320 ⇓*i*P **Pdif** 18 39 05.1 -0.4
KBA pmax pmax
comp=Z,16nm,0.8s
KBA Koelnbreinsper 102.73 320 ⇓*i*P **Pdif** 18 39 05.1 -0.4
comp=Z,16nm,0.8s
KBA Koelnbreinsper 102.73 320 ⇓*i*Pdiff **Pdif** 18 39 05.1 -0.4
comp=Z,16nm,0.8s
VOY Vojsko 102.73 319 *e*Pdiff **Pdif** 18 39 04.1 -1.3
VOY *e* 18 39 13.8
CLZ Clausthal 102.75 325 *e*Pdiff **Pdif** 18 39 06.5 +1.2
SCO Scoresbysund 102.78 350 *i* P **Pdif** 18 39 05.6 +0.6
SCO pmax pmax
comp=Z,7.0nm,1.0s
SCO Scoresbysund 102.78 350 *i* P **Pdif** 18 39 05.6 +0.6
comp=Z,6.8nm,1.0s
SCO Scoresbysund 102.78 350 *i* P PKKPdf 18 55 25.1 +12
comp=Z,4.1nm,1.0s
RJOB Jochberg 102.85 321 *e*Pdiff **Pdif** 18 39 06.0 +0.1
SUMG Summit 102.97 355 *i* P **Pdif** 18 39 05.7 -0.6
SUMG Summit 102.97 355 *i* P **Pdif** 18 39 05.7 -0.6
SUMG Summit 102.97 355 *i* P PKKPdf 18 55 23.1 +10
comp=Z,8.6nm,1.0s
GRF Grafenberg Arr 103.09 323 *e*Pdiff **Pdif** 18 39 08.0 +1.1
ABTA Abfaltersbach 103.38 320 ⇓*i*P **Pdif** 18 39 07.4 -0.9
comp=Z,18nm,0.9s
ABTA Abfaltersbach 103.38 320 ⇓*i*Pdiff **Pdif** 18 39 07.4 -0.9
comp=Z,18nm,0.9s
WTTA Wattenberg 103.75 321 ⇓*i*P **Pdif** 18 39 10.1 0.0
WTTA pmax pmax
comp=Z,27nm,0.9s
WTTA Wattenberg 103.75 321 ⇓*i*P **Pdif** 18 39 10.1 0.0
comp=Z,27nm,0.9s
WTTA Wattenberg 103.75 321 ⇓*i*Pdiff **Pdif** 18 39 10.1 0.0
comp=Z,27nm,0.9s
WATA Walderalm 103.76 321 ⇓*i*P **Pdif** 18 39 09.7 -0.4
WATA pmax pmax
comp=Z,11nm,0.7s
WATA Walderalm 103.76 321 ⇓*i*P **Pdif** 18 39 09.7 -0.4
comp=Z,11nm,0.7s
WATA Walderalm 103.76 321 ⇓*i*Pdiff **Pdif** 18 39 09.7 -0.4
comp=Z,11nm,0.7s
SQTA Sankt Quirin 104.04 321 ⇑*e*P **Pdif** 18 39 11.2 -0.1
SQTA pmax pmax
comp=Z,13nm,0.8s
SQTA Sankt Quirin 104.04 321 ⇑*e*P **Pdif** 18 39 11.2 -0.1
comp=Z,13nm,0.8s
SQTA Sankt Quirin 104.04 321 ⇑*e*Pdiff **Pdif** 18 39 11.2 -0.1
MOTA Moosalm 104.06 321 ⇑*i*P **Pdif** 18 39 11.4 0.0
MOTA pmax pmax
comp=Z,21nm,0.9s
MOTA Moosalm 104.06 321 ⇑*i*P **Pdif** 18 39 11.4 0.0
comp=Z,21nm,0.9s
MOTA Moosalm 104.06 321 ⇑*i*Pdiff **Pdif** 18 39 11.4 0.0
comp=Z,21nm,0.9s,SNR=8.7
FETA Feichten 104.42 321 ⇑*i*P **Pdif** 18 39 12.8 -0.2
comp=Z,14nm,0.9s
FETA Feichten 104.42 321 ⇑*i*Pdiff **Pdif** 18 39 12.8 -0.2
comp=Z,14nm,0.9s,SNR=10
C13A Hot Springs 105.80 38 ⇑PKiKP **PKiKP** 18 43 32.6 +0.9
baz=106
CDF Champ du Feu 105.99 323 *e*P **Pdif** 18 39 19.9 0.0
comp=Z,23nm,0.9s
D13A Huson 106.11 39 ⇑PKiKP **PKiKP** 18 43 33.4 +1.1
baz=106
HINF Hinteralfeld 106.50 322 *e*P **Pdif** 18 39 21.8 -0.3
MSO Missoula 106.54 39 ⇓PKiKP **PKiKP** 18 43 34.2 +1.0
baz=106
GIVF Givet 106.66 325 *e*P **Pdif** 18 39 23.4 +0.7
NVAR Mina Array Bea 106.70 48 Pdif **Pdif** 18 39 25.3 +1.8
NVAR PKiKP **PKiKP** 18 43 33.3 -0.6
NVAR PKKPbc **PKKPbc** 18 54 54.2 +0.4
NVAR Mina Array Bea 106.70 48 Pdiff **Pdif** 18 39 25.3 +1.8
comp=Z,1.1nm,0.7s,baz=269,slow=4.5,SNR=6.6
NVAR PKiKP **PKiKP** 18 43 33.3 -0.6
comp=Z,0.6nm,0.7s,baz=251,slow=2.8,SNR=2.4
NVAR PKKPbc **PKKPbc** 18 54 54.2 +0.4
comp=Z,1.3nm,0.9s,baz=139,slow=5.6,SNR=5.5
D14A Greenough 106.70 38 ⇓PKiKP **PKiKP** 18 43 34.2 +0.8
baz=107
B15A Bradely Ranch, 106.74 37 ⇓PKiKP **PKiKP** 18 43 33.6 +0.1
baz=107
C15A Salmond Ranch, 106.95 37 ⇓PKiKP **PKiKP** 18 43 34.7 +0.8
baz=107
E14A Clinton 107.00 39 ⇓PKiKP **PKiKP** 18 43 34.8 +0.7
baz=107
I12A Atlanta 107.00 42 ⇑PKiKP **PKiKP** 18 43 35.3 +1.1
baz=107
BAIF Baives 107.03 325 *e*P **Pdif** 18 39 25.1 +0.7
comp=Z,13nm,0.9s
B16A M & M Farms, S 107.21 36 ⇓PKiKP **PKiKP** 18 43 34.7 +0.4
baz=107
D15A Lincoln 107.33 38 ⇑PKiKP **PKiKP** 18 43 35.2 +0.5
baz=107
ISA Isabella 107.46 51 ⇓PKiKP **PKiKP** 18 43 35.2 +0.1
baz=107
A17A Triple J Farms 107.55 36 ⇑PKiKP **PKiKP** 18 43 36.5 +1.6
baz=107
LPG La Plagne 107.55 320 *e*P **Pdif** 18 39 27.3 +0.1
LPL La Plagne 107.56 320 *e*P **Pdif** 18 39 27.2 +0.1
HLID Hailey 107.58 42 *e*P **PKiKP** 18 43 36.8 +1.6
HLID Hailey 107.58 42 ⇓PKiKP **PKiKP** 18 43 36.8 +1.6
baz=108
I13A Wildhorse Cree 107.63 41 ⇑PKiKP **PKiKP** 18 43 36.2 +0.8
baz=108
J13A Cove Ranch, Pi 107.80 42 ⇑PKiKP **PKiKP** 18 43 37.2 +1.6
baz=108
MBDF Montbardon 107.87 320 *e*P **Pdif** 18 39 28.4 0.0
D16A Dana Ranch, Ca 107.93 38 ⇓PKiKP **PKiKP** 18 43 35.1 -0.6
baz=108
EDW2 Edwards Air Fo 108.08 51 ⇑PKiKP **PKiKP** 18 43 37.3 +1.0
baz=108
MCMT McKenzie Canyo 108.08 40 *e*P **PKiKP** 18 43 37.9 +1.6
MPMC Manual Prospec 108.09 50 ⇑PKiKP **PKiKP** 18 43 36.9 +0.4
baz=108
C17A Wharram Farm, 108.13 37 ⇑PKiKP **PKiKP** 18 43 36.6 +0.6
baz=108
ORIF Oris-en-Rattie 108.36 320 *e*P **Pdif** 18 39 30.3 -0.2
BFSC Mount Baldy Ra 108.54 52 ⇑PKiKP **PKiKP** 18 43 38.0 +0.7
baz=108
EGMT Eagleton 108.54 36 *e*P **PKiKP** 18 43 37.5 +0.7
EGMT Eagleton 108.54 36 ⇑PKiKP **PKiKP** 18 43 37.9 +1.1
baz=108
G16A Moss Hill, Enn 108.57 40 ⇑PKiKP **PKiKP** 18 43 38.4 +1.4
baz=108
E17A Martinsdale 108.61 38 ⇑PKiKP **PKiKP** 18 43 37.6 +0.4
baz=108
A19A Klindworth Far 108.69 35 ⇑PKiKP **PKiKP** 18 43 37.7 +0.7
baz=108
R11A Troy Canyon, C 108.73 47 ⇓PKiKP **PKiKP** 18 43 37.6 0.0
baz=109
SSF Saint Saulge 108.87 323 *e*P **Pdif** 18 39 32.6 0.0
F17A Fitzpatrick Pl 108.99 38 ⇓PKiKP **PKiKP** 18 43 38.7 +0.9
baz=109
AVF Avril sur Loir 109.09 323 *e*P **Pdif** 18 39 33.6 0.0
comp=Z,50nm,1.5s
C19A Slack Wire Ran 109.10 36 ⇓PKiKP **PKiKP** 18 43 39.2 +1.3
baz=109
E18A Harlowton 109.14 38 ⇑PKiKP **PKiKP** 18 43 39.2 +1.2
baz=109
K15A Arbon 109.19 42 ⇑PKiKP **PKiKP** 18 43 38.7 +0.4
baz=109
B20A Solberg Farm, 109.35 35 ⇓PKiKP **PKiKP** 18 43 39.2 +0.9
baz=109
KEST Kesra 109.47 310 PP PP 18 44 12.7 +3.6
comp=Z,4.3nm,1.0s,baz=39,slow=3.9,SNR=4.5
L15A Malad City 109.57 43 ⇑PKiKP **PKiKP** 18 43 39.8 +0.8
baz=109
C20A Veseth Ranch, 109.72 36 ⇓PKiKP **PKiKP** 18 43 39.6 +0.6
baz=110
H17A Grant Village 109.73 40 ⇑PKiKP **PKiKP** 18 43 40.1 +0.7
baz=110
BELC Belle Mtn. Jos 109.92 52 ⇓PKiKP **PKiKP** 18 43 40.3 +0.4
baz=110
GMRC Granite Mounta 109.92 51 ⇑PKiKP **PKiKP** 18 43 40.5 +0.7
baz=110
N15A Stansbury Isla 109.94 44 ⇑PKiKP **PKiKP** 18 43 40.3 +0.6
baz=110
DUG Dugway 110.02 45 *e*PKiKP **PKiKP** 18 43 40.6 +0.7
DUG Dugway 110.02 45 *e*PKiKP **PKiKP** 18 43 40.6 +0.7
DUG Dugway 110.02 45 ⇓PKiKP **PKiKP** 18 43 40.5 +0.6
baz=110
TCF Toulx Ste Croi 110.02 323 *e*P **Pdif** 18 39 38.1 +0.3
C21A Desert Coulee 110.19 35 ⇓PKiKP **PKiKP** 18 43 40.7 +0.9
baz=110
J18A Lonehill Valley 110.62 41 ⇓PKiKP **PKiKP** 18 43 41.8 +0.7
baz=110
P15A Leamington 110.65 45 ⇑PKiKP **PKiKP** 18 43 42.1 +1.0
baz=110
G20A Bridger 110.83 38 ⇓PKiKP **PKiKP** 18 43 41.9 +0.7
baz=111
E21A Keefer Ranch, 110.86 37 ⇓PKiKP **PKiKP** 18 43 42.2 +1.1
baz=111
M17A Scullys Gap (B 110.97 43 ⇓PKiKP **PKiKP** 18 43 42.2 +0.5
baz=111
D22A Cohagen 111.08 36 ⇑PKiKP **PKiKP** 18 43 42.9 +1.3
baz=111
N17A Moffit Pass 111.08 43 ⇓PKiKP **PKiKP** 18 43 42.9 +0.9
baz=111
BW06 Boulder Array 111.13 41 ⇓PKiKP **PKiKP** 18 43 42.3 +0.3
baz=111
PDAR Pinedale Array 111.13 41 PKiKP **PKiKP** 18 43 42.5 +0.4
PDAR PKKPbc **PKKPbc** 18 54 37.5 -2.3
PDAR Pinedale Array 111.13 41 PKiKP **PKiKP** 18 43 42.5 +0.4
comp=Z,0.8nm,0.8s,baz=122,slow=2.2,SNR=7.5
PDAR PKKPbc **PKKPbc** 18 54 37.5 -2.3
comp=Z,1.6nm,0.9s,baz=104,slow=3.8,SNR=6.2
W13A Hualapai Mount 111.18 50 ⇓PKiKP **PKiKP** 18 43 42.4 +0.1
baz=111
C23A Lambert 111.30 35 ⇑PKiKP **PKiKP** 18 43 43.1 +1.1
baz=111
H20A Greybull 111.32 39 ⇓PKiKP **PKiKP** 18 43 43.1 +0.9
baz=111
DGMT Dagmar 111.49 34 ⇑PKiKP **PKiKP** 18 43 42.9 +0.7
baz=111
I20A Worland 111.49 39 ⇑PKiKP **PKiKP** 18 43 43.2 +0.7
baz=111
L19A Farson 111.56 42 ⇓PKiKP **PKiKP** 18 43 43.4 +0.5
baz=111
K19A Absolon Red Bu 111.56 41 ⇓PKiKP **PKiKP** 18 43 43.1 +0.3
baz=111
J20A Shoshoni 111.81 40 ⇓PKiKP **PKiKP** 18 43 44.0 +0.9
baz=112
SRU San Rafael 112.08 45 ⇑PKiKP **PKiKP** 18 43 43.9 0.0
baz=112
I21A Big Trails, Te 112.09 39 ⇓PKiKP **PKiKP** 18 43 43.9 +0.1
baz=112
R17A Hanksville Air 112.23 46 ⇓PKiKP **PKiKP** 18 43 44.2 +0.1
baz=112
L20A Wamsutter 112.28 41 ⇓PKiKP **PKiKP** 18 43 44.9 +0.7
baz=112
F23A Volborg 112.28 37 ⇓PKiKP **PKiKP** 18 43 44.5 +0.5
baz=112
M20A Sweetwater, Wa 112.62 42 ⇑PKiKP **PKiKP** 18 43 44.7 -0.2
baz=112
K21A Alcova 112.69 40 ⇑PKiKP **PKiKP** 18 43 45.3 +0.3
baz=112
T17A Navajo Res., N 112.75 47 ⇓PKiKP **PKiKP** 18 43 45.2 -0.1
baz=113
J22A Midwest 112.80 39 ⇓PKiKP **PKiKP** 18 43 45.7 +0.6
baz=113
R18A Canyonlands Na 112.83 45 ⇑PKiKP **PKiKP** 18 43 45.5 +0.2
baz=113
N20A Spence Gulch, 112.87 42 ⇓PKiKP **PKiKP** 18 43 45.4 0.0
baz=113
WUAZ Wupatki 112.92 49 ⇓PKiKP **PKiKP** 18 43 46.0 +0.4
baz=113
P19A Cripple Cowboy 112.93 44 ⇑PKiKP **PKiKP** 18 43 45.7 +0.2
baz=113
L21A Rawlins 112.94 41 ⇑PKiKP **PKiKP** 18 43 46.2 +0.7
baz=113
S18A Hurst Farm, Bl 113.05 46 ⇑PKiKP **PKiKP** 18 43 46.4 +0.6
baz=113
M21A Separation Pea 113.11 41 ⇑PKiKP **PKiKP** 18 43 46.5 +0.7
baz=113
214A Organ Pipe Nat 113.14 53 ⇑PKiKP **PKiKP** 18 43 46.2 +0.3
baz=113
K22A Casper 113.15 40 ⇑PKiKP **PKiKP** 18 43 45.7 -0.1
baz=113
X16A Lo Mia Camp, P 113.30 50 ⇑PKiKP **PKiKP** 18 43 47.2 +0.8
baz=113
H24A Dirks Ranch, A 113.31 37 ⇑PKiKP **PKiKP** 18 43 46.4 +0.5
baz=113
T18A Mexican Hat 113.37 47 ⇑PKiKP **PKiKP** 18 43 47.5 +1.2
baz=113
N21A Black Mountain 113.41 42 ⇓PKiKP **PKiKP** 18 43 47.1 +0.7
baz=113
RSSD Black Hills 113.95 38 *e*PKiKP **PKiKP** 18 43 47.2 -0.2
RSSD Black Hills 113.95 38 *e*PKiKP **PKiKP** 18 43 47.2 -0.2
N22A Wattenberg Ran 114.10 42 ⇑PKiKP **PKiKP** 18 43 47.9 +0.1
baz=114
S20A Disappointment 114.16 45 ⇓PKiKP PKPdf 18 43 47.9 -0.1
baz=114
MVCO Mesa Verde 114.33 46 *e*P PKPdf 18 43 49.8 +1.5
MDND Maddock 114.36 32 ⇓PKiKP PKPdf 18 43 48.2 +0.4
baz=114
P22A Eagle 114.47 43 ⇓PKiKP PKPdf 18 43 48.9 +0.4
baz=114
S21A Coal Bank Pass 114.64 45 ⇓PKiKP PKPdf 18 43 49.7 +0.7
baz=114
U20A Newcomb 114.68 47 ⇓PKiKP PKPdf 18 43 49.8 +0.9
baz=115
ULM Lac du Bonnet 114.70 29 PKP PKPdf 18 43 48.2 -0.1
ULM PKKPbc **PKKPbc** 18 54 30.1 +2.3
ULM Lac du Bonnet 114.70 29 PKP PKPdf 18 43 48.2 -0.1
comp=Z,4.2nm,0.7s,baz=296,slow=3.0,SNR=9.7
ULM PKKPbc **PKKPbc** 18 54 30.1 +2.3
comp=Z,5.9nm,0.9s,baz=126,slow=4.1,SNR=7.3
Q22A Crested Butte, 114.71 44 ⇑PKiKP PKPdf 18 43 49.6 +0.5
baz=115
O23A Lake Granby, G 114.74 42 ⇓PKiKP PKPdf 18 43 49.2 +0.1
baz=115
Y19A Nutrioso 115.14 50 ⇑PKiKP **PKPdf** 18 43 50.2 +0.2
baz=115
ISCO Idaho Springs 115.15 42 *e*PKiKP **PKPdf** 18 43 50.1 +0.2
ISCO Idaho Springs 115.15 42 *e*PKPdf **PKPdf** 18 43 50.1 +0.2
ISCO Idaho Springs 115.15 42 ⇓PKiKP **PKPdf** 18 43 50.2 +0.2
baz=115
P23A Jefferson 115.20 43 ⇓PKiKP **PKiKP** 18 43 50.1 0.0
baz=115
K26A Motz Farm, Whi 115.24 39 ⇑PKiKP **PKPdf** 18 43 50.3 +0.6
baz=115
S22A 4UR Ranch, Cre 115.28 45 ⇑PKiKP **PKPdf** 18 43 50.5 +0.3
baz=115
U21A Nageezi 115.28 47 ⇓PKiKP **PKPdf** 18 43 50.9 +0.8
baz=115
X20A Quemado 115.47 49 ⇓PKiKP **PKPdf** 18 43 50.9 +0.3
baz=115
T22A Edith 115.56 46 ⇓PKiKP **PKPdf** 18 43 51.0 +0.3
baz=115
U22A Llaves 115.89 46 ⇓PKiKP **PKPdf** 18 43 52.3 +1.0
baz=116
Z20A Nine Sixteen R 115.99 50 ⇓PKiKP **PKiKP** 18 43 51.9 +0.3
baz=116
319A Douglas 116.14 52 ⇓PKiKP **PKiKP** 18 43 52.4 +0.6
baz=116
120A U Bar Ranch, L 116.19 51 ⇓PKiKP **PKiKP** 18 43 52.5 +0.6
baz=116
R24A Sanders Place, 116.25 44 ⇑PKiKP **PKiKP** 18 43 52.1 +0.1
baz=116
P25A Willow Gulch B 116.26 42 ⇑PKiKP **PKiKP** 18 43 52.5 +0.7
baz=116
O26A Horse Wrangler 116.45 41 ⇓PKiKP **PKiKP** 18 43 52.4 +0.3
baz=116
Q25A Bedland, Calha 116.50 43 ⇓PKiKP **PKiKP** 18 43 53.0 +0.6
baz=116
220A Playas Peak, P 116.53 51 ⇓PKiKP **PKiKP** 18 43 53.4 +0.8
baz=116
320A Kipp Ranch, An 116.75 52 ⇓PKiKP **PKiKP** 18 43 53.8 +0.8
baz=117
P26A Davis Ranch, A 116.78 42 ⇓PKiKP **PKiKP** 18 43 53.5 +0.7
baz=117
ANMO Albuquerque 116.81 47 *e*PKPdf **PKPdf** 18 43 52.8 -0.3
121A Cookes Peak, D 116.85 50 ⇑PKiKP **PKiKP** 18 43 53.3 0.0
baz=117
Q26A Hugo 116.99 42 ⇑PKiKP **PKPdf** 18 43 52.8 -0.5
baz=117
S25A Robets Cordova 116.99 44 ⇓PKiKP **PKPdf** 18 43 53.3 -0.1
baz=117
Z22A Elephant Butte 117.17 49 ⇑PKiKP **PKiKP** 18 43 54.8 +1.0
baz=117
T25A Trinidad 117.26 44 ⇑PKiKP **PKiKP** 18 43 54.5 +0.5
baz=117
ESDC Sonseca Array 117.27 319 PKP **PKPdf** 18 43 55.0 +1.3
ESDC PP **PP** 18 45 08.9 +4.9
ESDC Sonseca Array 117.27 319 PKP **PKPdf** 18 43 55.0 +1.3
comp=Z,0.4nm,0.4s,baz=147,slow=3.1,SNR=5.0
ESDC PP **PP** 18 45 08.9 +4.9
comp=Z,7.8nm,1.1s,baz=53,slow=6.3,SNR=6.4
V24A Rampart Ranch, 117.32 46 ⇓PKiKP **PKiKP** 18 43 54.8 +0.7
baz=117
R26A Arlington 117.35 43 ⇓PKiKP **PKiKP** 18 43 54.9 +0.9
baz=117
122A Conniff Cattle 117.38 50 ⇑PKiKP **PKiKP** 18 43 55.2 +1.0
baz=117
W24A Lazy 6 Ranch, 117.46 47 ⇓PKiKP **PKiKP** 18 43 55.3 +1.0
baz=117
222A Williams Famil 117.55 51 ⇓PKiKP **PKiKP** 18 43 55.3 +0.8
baz=117
Y23A Lovelace Mesa, 117.56 48 ⇓PKiKP **PKiKP** 18 43 55.1 +0.5
baz=117
U25A Circle Dot Ran 117.62 45 ⇓PKiKP **PKiKP** 18 43 55.2 +0.5
baz=118
S26A Kim 117.68 44 ⇑PKiKP **PKiKP** 18 43 55.3 +0.6
baz=118
Z23A Rita Site, Whi 117.72 49 ⇑PKiKP **PKiKP** 18 43 55.2 +0.3
baz=118
V25A Rancho No Teng 117.74 46 ⇑PKiKP **PKiKP** 18 43 56.1 +1.2
baz=118
R27A Eads 117.80 43 ⇓PKiKP **PKPdf** 18 43 54.8 0.0
baz=118
T26A Comanche Natio 117.82 44 ⇓PKiKP **PKiKP** 18 43 56.0 +1.0
baz=118
Y24A Capitan 118.03 48 ⇓PKiKP **PKiKP** 18 43 56.2 +0.7
baz=118
S27A Las Animas 118.04 43 ⇑PKiKP **PKiKP** 18 43 56.0 +0.6
baz=118
U26A Atchley Ranch, 118.09 45 ⇑PKiKP **PKiKP** 18 43 55.8 +0.3
baz=118
W25A X Bar L Ranch, 118.15 46 ⇓PKiKP **PKiKP** 18 43 56.6 +1.0
baz=118
Z24A Sheeppen Canyo 118.34 49 ⇑PKiKP **PKiKP** 18 43 57.0 +0.9
baz=118
MVO Moncorvo 118.41 322 *e*PKPdf **PKPdf** 18 43 56.1 +0.3
T27A Campo 118.48 44 ⇓PKiKP **PKiKP** 18 43 56.8 +0.6
baz=118
124A Stringfield Ra 118.56 49 ⇓PKiKP **PKiKP** 18 43 57.2 +0.6
baz=118
Y25A Mesa, Roswell 118.58 48 ⇓PKiKP **PKiKP** 18 43 57.2 +0.8
baz=118
W26A Owens Ranch, T 118.71 46 ⇓PKiKP **PKiKP** 18 43 57.3 +0.6
baz=119
POLO Lamas de Olo 118.76 322 *e*PKPdf **PKPdf** 18 43 57.5 +1.0
PVRL Vila Real 118.77 322 *e*PKPdf **PKPdf** 18 43 57.9 +1.4

Z25A	**Roswell**	**118.85**	**48**	⇓PKiKP	**PKiKP**	**18 43 57.8**	**+0.8**
	baz=119						
T28A	**Walsh**	**118.86**	**43**	⇓PKiKP	**PKPdf**	**18 43 56.8**	**0.0**
	baz=119						
X26A	**CR and CF Fran**	**118.93**	**47**	⇑PKiKP	**PKiKP**	**18 43 57.9**	**+0.8**
	baz=119						
MNTX	**Cornudas Mount**	**119.05**	**50**	⇓PKiKP	**PKiKP**	**18 43 58.4**	**+1.1**
	baz=119						
BGNE	**Belgrade**	**119.06**	**37**	⇑PKiKP	**PKiKP**	**18 43 57.4**	**+0.3**
	baz=119						
324A	**Moseley Ranch,**	**119.08**	**51**	⇓PKiKP	**PKiKP**	**18 43 58.7**	**+1.1**
	baz=119						
125A	**Gardner Draw,**	**119.18**	**49**	⇓PKiKP	**PKiKP**	**18 43 58.4**	**+0.7**
	baz=119						
Y26A	**Elida**	**119.22**	**47**	⇓PKiKP	**PKiKP**	**18 43 58.5**	**+0.7**
	baz=119						
225A	**Deer Hill, Car**	**119.30**	**50**	⇑PKiKP	**PKiKP**	**18 43 59.1**	**+1.1**
	baz=119						
PCBR	**Castelo Branco**	**119.44**	**321**	*e*PKPdf	**PKPdf**	**18 43 59.1**	**+1.4**
V28A	**Channing**	**119.48**	**45**	⇓PKiKP	**PKiKP**	**18 43 58.7**	**+0.6**
	baz=119						
325A	**Bean Ranch, Si**	**119.51**	**51**	⇓PKiKP	**PKiKP**	**18 43 59.3**	**+0.9**
	baz=119						
PMRV	**Marv??o**	**119.62**	**320**	*e*PKPdf	**PKPdf**	**18 43 58.5**	**+0.4**
SPMN	**St. Paul**	**119.63**	**31**	⇑PKiKP	**PKiKP**	**18 43 58.9**	**+0.9**
	baz=119						
126A	**Clayton Basin,**	**119.66**	**49**	⇑PKiKP	**PKiKP**	**18 43 58.9**	**+0.3**
	baz=120						
Y27A	**Causey**	**119.72**	**47**	⇑PKiKP	**PKiKP**	**18 43 59.0**	**+0.3**
	baz=120						
425A	**Indio Mountain**	**119.75**	**51**	⇓PKiKP	**PKiKP**	**18 43 59.3**	**+0.4**
	baz=120						
Z27A	**Tatum**	**119.95**	**48**	⇓PKiKP	**PKiKP**	**18 43 59.4**	**+0.2**
	baz=120						
MSTX	**Muleshoe**	**119.96**	**47**	⇓PKiKP	**PKiKP**	**18 43 59.4**	**+0.3**
	baz=120						
PBAR	**Barrancos**	**120.10**	**319**	*e*PKPdf	**PKPdf**	**18 43 59.9**	**+0.9**
SCHQ	**Schefferville**	**120.29**	**9**	PKP	**PKPdf**	**18 43 59.5**	**+0.6**
SCHQ				PKKPbc	**PKKPbc**	**18 54 05.4**	**-2.6**
SCHQ	**Schefferville**	**120.29**	**9**	PKP	**PKPdf**	**18 43 59.5**	**+0.6**
	comp=Z,14nm,0.8s,baz=344,slow=3.0,SNR=17						
SCHQ				PKKPbc	**PKKPbc**	**18 54 05.4**	**-2.6**
	comp=Z,7.3nm,1.0s,baz=164,slow=5.2,SNR=5.2						
326A	**Caldwell Ranch**	**120.29**	**50**	⇓PKiKP	**PKiKP**	**18 44 00.3**	**+0.5**
	baz=120						
Y28A	**McKinney Farm,**	**120.38**	**47**	⇓PKiKP	**PKiKP**	**18 44 01.1**	**+1.2**
	baz=120						
X29A	**Tulia**	**120.50**	**46**	⇓PKiKP	**PKiKP**	**18 44 00.7**	**+0.5**
	baz=120						
EVO	**Evora**	**120.53**	**320**	*e*PKPdf	**PKPdf**	**18 44 01.2**	**+1.3**
EVO	**Evora**	**120.53**	**320**	⇑*i*PKiKP	**PKPdf**	**18 44 00.4**	**+0.5**
	comp=Z,40nm,1.2s						
426A	**McDonald Obser**	**120.54**	**51**	⇓PKiKP	**PKiKP**	**18 44 00.6**	**0.0**
	baz=120						
PBEJ	**Beja**	**120.72**	**319**	*e*PKPdf	**PKPdf**	**18 44 02.0**	**+1.7**
Y29A	**Porterfield Fa**	**120.82**	**46**	⇓PKiKP	**PKiKP**	**18 44 02.2**	**+1.4**
	baz=121						
COWI	**Conover**	**120.83**	**28**	*e*PKPdf	**PKPdf**	**18 44 00.4**	**+0.2**
626A	**Big Bend Ranch**	**120.94**	**52**	⇑PKiKP	**PKiKP**	**18 44 01.6**	**+0.4**
	baz=121						
427A	**Hayter Ranch,**	**120.94**	**50**	⇑PKiKP	**PKiKP**	**18 44 01.8**	**+0.6**
	baz=121						
PCVE	**Castro Verde**	**121.06**	**319**	*e*PKPdf	**PKPdf**	**18 44 02.5**	**+1.6**
Z29A	**Hungry Hill Ra**	**121.09**	**47**	⇓PKiKP	**PKiKP**	**18 44 01.6**	**+0.2**
	baz=121						
328A	**Wristen Ranch,**	**121.15**	**50**	⇓PKiKP	**PKiKP**	**18 44 01.9**	**+0.5**
	baz=121						
129A	**Stewart Farms,**	**121.27**	**48**	⇑PKiKP	**PKPdf**	**18 44 01.5**	**-0.1**
	baz=121						
KSU1	**Kansas State U**	**121.38**	**39**	*e*PKPdf	**PKPdf**	**18 44 02.1**	**+0.6**
TXAR	**Lajitas Array**	**121.40**	**52**	PKP	**PKPdf**	**18 44 03.0**	**+1.0**
TXAR				PKKPbc	**PKKPbc**	**18 54 02.5**	**-0.7**
TXAR	**Lajitas Array**	**121.40**	**52**	PKP	**PKPdf**	**18 44 03.0**	**+1.0**
	comp=Z,1.5nm,0.5s,baz=354,slow=1.8,SNR=11						
TXAR				PKKPbc	**PKKPbc**	**18 54 02.5**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=90,slow=4.5,SNR=4.8						
428A	**Kincaid Ranch,**	**121.55**	**50**	⇓PKiKP	**PKiKP**	**18 44 03.2**	**+0.8**
	baz=121						
MORF	**Marmelete**	**121.64**	**319**	*e*PKPdf	**PKPdf**	**18 44 04.2**	**+2.1**
528A	**Cox Ranch, San**	**121.72**	**51**	⇑PKiKP	**PKiKP**	**18 44 03.0**	**+0.3**
	baz=122						
628A	**Black Gap, Mar**	**121.95**	**52**	⇓PKiKP	**PKPdf**	**18 44 03.0**	**+0.1**
	baz=122						
WMOK	**Wichita Mounta**	**122.41**	**44**	*e*PKiKP	**PKPdf**	**18 44 04.0**	**+0.3**
WMOK	**Wichita Mounta**	**122.41**	**44**	*e*PKPdf	**PKPdf**	**18 44 04.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**122.86**	**288**	PKP	**PKPdf**	**18 44 04.8**	**-0.2**
TORD				PP	**PP**	**18 45 45.1**	**+1.6**
TORD				PKKPab	PKKPab	18 54 05.3	+7.6
TORD	**Torodi Ar. Bea**	**122.86**	**288**	PKP	**PKPdf**	**18 44 04.8**	**-0.2**
	comp=Z,11nm,0.7s,baz=51,slow=1.6,SNR=32						
TORD				PP	**PP**	**18 45 45.1**	**+1.6**
	comp=Z,9.4nm,1.0s,baz=62,slow=3.9,SNR=6.1						
TORD				PKKPab	PKKPab	18 54 05.3	+7.6
	comp=Z,1.1nm,0.8s,baz=279,slow=3.5,SNR=4.3						
TUL1	**Tulsa**	**123.78**	**41**	⇓PKiKP	**PKiKP**	**18 44 07.6**	**+1.1**
	baz=124						
JCT	**Junction City**	**123.86**	**49**	*e*PKiKP	**PKPdf**	**18 44 07.0**	**+0.4**
JCT	**Junction City**	**123.86**	**49**	*e*PKPdf	**PKPdf**	**18 44 07.0**	**+0.4**
JCT	**Junction City**	**123.86**	**49**	⇑PKiKP	**PKiKP**	**18 44 07.3**	**+0.5**
	baz=124						
HDIL	**Hopedale**	**124.72**	**33**	*e*PKPdf	**PKPdf**	**18 44 08.1**	**+0.2**
SFIN	**Scholer Farm**	**126.02**	**32**	⇑PKiKP	**PKiKP**	**18 44 11.1**	**+0.3**
	baz=126						
MIAR	**Mount Ida**	**126.05**	**41**	*e*PKiKP	**PKPdf**	**18 44 10.9**	**+0.3**
MIAR	**Mount Ida**	**126.05**	**41**	*e*PKPdf	**PKPdf**	**18 44 10.9**	**+0.3**
HKT	**Hockley**	**127.08**	**47**	*e*PKiKP	**PKPdf**	**18 44 14.5**	**+1.9**
HKT	**Hockley**	**127.08**	**47**	*e*PKPdf	**PKPdf**	**18 44 14.5**	**+1.9**
MSNY	**Massena**	**127.52**	**19**	*e*PKPdf	**PKPdf**	**18 44 13.9**	**+0.8**
LONY	**Lake Ozonia**	**127.95**	**19**	*e*PKPdf	**PKPdf**	**18 44 14.3**	**+0.3**
ACSO	**Alum Creek Sta**	**128.20**	**29**	*e*PKPdf	**PKPdf**	**18 44 14.1**	**-0.4**
WVL	**Waterville**	**129.46**	**15**	*e*PKPdf	**PKPdf**	**18 44 18.0**	**+1.3**
HNH	**Hanover**	**129.50**	**18**	*e*PKPdf	**PKPdf**	**18 44 19.1**	**+2.3**
DBIC	**Dimbokro**	**130.55**	**282**	PKP	**PKPdf**	**18 44 20.3**	**+0.6**
DBIC				SKPbc	**SKPbc**	**18 47 41.3**	**+0.3**
DBIC	**Dimbokro**	**130.55**	**282**	PKP	**PKPdf**	**18 44 20.3**	**+0.6**
	comp=Z,6.7nm,0.6s,baz=69,slow=3.4,SNR=14						
DBIC				SKPbc	**SKPbc**	**18 47 41.3**	**+0.3**
	comp=Z,9.4nm,0.9s,baz=157,slow=2.8,SNR=4.7						
LIC	**Lamto**	**130.80**	**282**	*e*PKiKP	**PKPdf**	**18 44 19.9**	**-0.3**
	comp=Z,27nm,0.8s						
HRV	**Adam Dziewonsk**	**130.81**	**18**	*e*PKiKP	**PKPdf**	**18 44 19.9**	**+0.5**
HRV	**Adam Dziewonsk**	**130.81**	**18**	*e*PKPdf	**PKPdf**	**18 44 19.9**	**+0.5**
PAL	**Palisades**	**131.38**	**21**	*e*PKiKP	**PKPdf**	**18 44 21.4**	**+0.9**
PAL	**Palisades**	**131.38**	**21**	*e*PKPdf	**PKPdf**	**18 44 21.4**	**+0.9**
KMSC	**Kings Mountain**	**132.96**	**32**	⇑PKiKP	**PKPdf**	**18 44 24.2**	**+0.5**
	baz=133						
PLCA	**Paso Flores**	**140.25**	**159**	PKP	**PKPdf**	**18 44 38.2**	**+1.1**
PLCA	**Paso Flores**	**140.25**	**159**	PKhKP	PKPpre	18 44 28.9	
	comp=Z,5.1nm,0.9s,baz=182,slow=6.1,SNR=4.7						
PLCA				PKP	**PKPdf**	**18 44 38.2**	**+1.1**
	comp=Z,11nm,0.8s,baz=197,slow=2.2,SNR=6.5						
SACV	**Santiago Islan**	**145.11**	**303**	PKPdf	**PKPbc**	**18 44 43.9**	**-1.9**
TRQA	**Tornquist**	**145.18**	**168**	*e*PKPdf	**PKPbc**	**18 44 45.2**	**-0.3**
GTBY	**Guantanamo Bay**	**147.94**	**41**	*e*PKPbc	**PKPbc**	**18 44 54.8**	**+0.8**
CFAA	**Coronel Fontan**	**149.13**	**155**	PKP	**PKPdf**	**18 44 53.2**	**+0.5**
CFAA				PKPbc	**PKPbc**	**18 44 57.0**	**+0.1**
CFAA	**Coronel Fontan**	**149.13**	**155**	PKP	**PKPdf**	**18 44 53.2**	**+0.5**
	comp=Z,7.5nm,0.9s,baz=223,slow=2.8,SNR=18						
CFAA				PKPbc	**PKPbc**	**18 44 57.0**	**+0.1**
	comp=Z,7.5nm,0.9s,baz=229,slow=3.4,SNR=18						
LCO	**Las Campanas**	**150.11**	**148**	*e*PKPbc	**PKPdf**	**18 44 55.4**	**+0.7**
LCO				*e*PKPbc	**PKPbc**	**18 44 59.7**	**+0.1**
BCIP	**Isla Barro Col**	**150.43**	**64**	*e*PKPbc	**PKPbc**	**18 45 00.2**	**-0.2**
SDDR	**Presa de Saban**	**151.06**	**37**	*e*PKPdf	**PKPdf**	**18 44 56.8**	**+0.8**
OTAV	**Otavalo**	**154.46**	**81**	*e*PKPdf	**PKPdf**	**18 45 02.4**	**+0.7**
ATAH	**Atahualpa**	**154.77**	**98**	PKP	**PKPdf**	**18 45 03.4**	**+1.4**
ATAH	**Atahualpa**	**154.77**	**98**	PKP	**PKPdf**	**18 45 03.4**	**+1.4**
	comp=Z,32nm,1.1s,baz=346,slow=4.2,SNR=14						
NNA	**Nana**	**155.34**	**110**	PKP	**PKPdf**	**18 45 03.5**	**+1.2**
NNA				*e*PKPdf	PKPab	18 45 03.6	-24
NNA	**Nana**	**155.34**	**110**	PKP	**PKPdf**	**18 45 03.5**	**+1.2**
	comp=Z,12nm,0.6s,baz=37,slow=0.8,SNR=8.0						
ROSC	**El Rosal**	**157.16**	**68**	PKP	**PKPdf**	**18 45 06.2**	**+0.9**
ROSC	**El Rosal**	**157.16**	**68**	PKP	**PKPdf**	**18 45 06.2**	**+0.9**
	comp=Z,4.7nm,0.4s,baz=93,slow=23,SNR=5.5						
CPUP	**Villa Florida**	**157.46**	**170**	PKP	**PKPdf**	**18 45 04.6**	**-0.1**
CPUP				PKPab	**PKPab**	**18 45 36.8**	**+0.7**
CPUP	**Villa Florida**	**157.46**	**170**	PKP	**PKPdf**	**18 45 04.6**	**-0.1**
	comp=Z,7.3nm,0.9s,baz=176,slow=2.9,SNR=6.1						
CPUP				PKPab	**PKPab**	**18 45 36.8**	**+0.7**
	comp=Z,28nm,0.7s,baz=136,slow=2.2,SNR=26						
SDV	**Santo Domingo**	**158.44**	**54**	*e*PKPdf	**PKPdf**	**18 45 06.8**	**+0.2**
CAM4	**Nova Friburgo**	**159.03**	**209**	⇑*i*P	PKPab	18 45 36.1	-7.3
CAM4				*i*		18 45 43.2	
CAM4				*i*		18 45 49.1	
CAM4				*i*		18 45 57.6	
CAM4				*i*		18 46 00.6	
CAM4				*i*		18 46 11.1	
CAM4				*i*		18 48 05.8	
RCBR	**Riachuelo**	**162.63**	**263**	PKPdf	**PKPdf**	**18 45 11.3**	**+0.4**
SIV	**San Ignacio**	**165.82**	**148**	PKP	**PKPdf**	**18 45 14.2**	**+0.5**
SIV				PKPab	**PKPab**	**18 46 12.6**	**-0.4**
SIV				PP	PP	18 50 11.5	+12
SIV	**San Ignacio**	**165.82**	**148**	PKP	**PKPdf**	**18 45 14.2**	**+0.5**
	comp=Z,12nm,1.1s,baz=299,slow=1.8,SNR=15						
SIV				PKPab	**PKPab**	**18 46 12.6**	**-0.4**
	comp=Z,7.8nm,1.0s,baz=276,slow=4.3,SNR=4.1						
SIV				PP	PP	18 50 11.5	+12
	comp=Z,4.7nm,1.1s,baz=222,slow=6.7,SNR=4.2						
BDFB	**Brasilia**	**167.35**	**204**	PKP	**PKPdf**	**18 45 15.2**	**+0.3**
BDFB				PKPab	**PKPab**	**18 46 20.6**	**+0.8**
BDFB	**Brasilia**	**167.35**	**204**	PKP	**PKPdf**	**18 45 15.2**	**+0.3**
	comp=Z,6.2nm,0.9s,baz=60,slow=5.6,SNR=5.0						
BDFB				PKPab	**PKPab**	**18 46 20.6**	**+0.8**
	comp=Z,19nm,1.0s,baz=112,slow=3.4,SNR=9.1						
SAML	**Samuel**	**168.97**	**117**	*e*PKPdf	**PKPdf**	**18 45 16.1**	**+0.1**

*IDC **11** 18:27:24.0±0.6,3˚.98N×126˚.47E, h0km, mb4.8/20, mb1 4.9/20, mb1mx4.9/23, mbtmp4.8/20, Error ellipse: s-maj=27.4km s-min=13.5km az=82.0*
*ISCJB **11** 18:27:28.7±0.3,3˚.99N±0˚.05×126˚.6E±0˚.1, h45km, mb5.0/29, Error ellipse: s-maj=16.3km s-min=7.1km az=170.0*
*NEIC **11** 18:27:29.4±3.5, 4˚.00N×126˚.54E, h37km±33km, mb5.4/6, Error ellipse: s-maj=15.9km s-min=8.2km az=82.0*

ISC 11 18:27:30.4±0.4, 4˚.00N±0˚.08×126˚.6E±0˚.1, h45km, n70, σ0s88/68, mb4.9/27, 7C-4D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.98**	**182**	P	**P**	**18 32 20.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**21.98**	**182**	P	**P**	**18 32 20.9**	**+0.2**
	23nm,0.4s,baz=7.1,slow=8.1,SNR=4.3						
WRAB	**Tennant Creek**	**24.98**	**162**	*e*P	**P**	**18 32 49.3**	**-0.7**
	66nm,0.7s						
WRA	**Warramunga Arr**	**24.98**	**162**	P	**P**	**18 32 49.9**	**-0.2**
WRA	**Warramunga Arr**	**24.98**	**162**	P	**P**	**18 32 49.9**	**-0.2**
	3µm,0.3s,baz=337,slow=11,SNR=11						
MBWA	**Marble Bar**	**25.89**	**195**	*e*P	**P**	**18 32 58.3**	**+0.1**
	66nm,0.8s						
ASAR	**Alice Springs**	**28.41**	**166**	P	**P**	**18 33 20.4**	**-0.5**
ASAR	**Alice Springs**	**28.41**	**166**	P	**P**	**18 33 20.4**	**-0.5**
	5.6nm,0.5s,baz=349,slow=8.3,SNR=2.5						
CMAR	**Chiang Mai Arr**	**30.61**	**300**	P	**P**	**18 33 42.1**	**+1.7**
CMAR	**Chiang Mai Arr**	**30.61**	**300**	P	**P**	**18 33 42.1**	**+1.7**
	8.7nm,0.8s,baz=105,slow=6.9,SNR=2.1						
KSAR	**Wonju Array Be**	**33.31**	**2**	P	**P**	**18 34 04.2**	**+0.3**
KSRS	**Korea Array**	**33.32**	**2**	P	**P**	**18 34 04.2**	**+0.2**
	5.4nm,0.8s,baz=179,slow=9.9,SNR=2.6						
MJAR	**Matsushiro Arr**	**34.11**	**17**	P	**P**	**18 34 11.1**	**+0.2**
MJAR	**Matsushiro Arr**	**34.11**	**17**	P	**P**	**18 34 11.1**	**+0.2**
	6.3nm,1.0s,baz=197,slow=9.7,SNR=3.1						
FORT	**Forrest**	**34.61**	**178**	*e*P	**P**	**18 34 15.5**	**+0.2**
	52nm,0.6s						
KLBR	**Kellerberrin**	**36.38**	**193**	*e*P	**P**	**18 34 30.7**	**+0.3**
	42nm,0.6s						
BJT	**Baijiatuao**	**37.07**	**347**	*e*P	**P**	**18 34 33.2**	**-3.1**
	62nm,0.8s						
NWAO	**Narrogin (SRO)**	**37.78**	**193**	*e*P	**P**	**18 34 41.1**	**-1.2**
	51nm,0.8s						
NWAO	**Narrogin (SRO)**	**37.78**	**193**	P	**P**	**18 34 40.9**	**-1.4**
	46nm,0.7s,baz=26,slow=7.4,SNR=5.4						
STKA	**Stephens Creek**	**38.43**	**159**	P	**P**	**18 34 48.1**	**+0.3**
STKA	**Stephens Creek**	**38.43**	**159**	P	**P**	**18 34 48.1**	**+0.3**
	34nm,0.7s,baz=348,slow=8.3,SNR=3.7						
ARMA	**Armidale**	**41.77**	**147**	*e*P	**P**	**18 35 16.2**	**+0.5**
ASAJ	**Asahikawa**	**42.38**	**17**	P	**P**	**18 35 21.4**	**+1.1**
ASAJ	**Asahikawa**	**42.38**	**17**	P	**P**	**18 35 21.4**	**+1.1**
	18nm,0.9s,baz=219,slow=6.5,SNR=2.2						
CAN	**Canberra**	**44.42**	**154**	*e*P	**P**	**18 35 37.8**	**+0.8**
	63nm,0.9s						
CAN	**Canberra**	**44.42**	**154**	*e*P	**P**	**18 35 38.5**	**+1.5**
	32nm,0.8s						
DZM	**Mont Dzumac**	**46.81**	**125**	P	**P**	**18 35 55.5**	**-0.6**
DZM	**Mont Dzumac**	**46.81**	**125**	P	**P**	**18 35 55.5**	**-0.6**
	10nm,0.8s,baz=27,slow=4.5,SNR=4.5						
PETK	**Petropavlovsk-**	**55.24**	**22**	P	**P**	**18 36 58.9**	**0.0**
PETK	**Petropavlovsk-**	**55.24**	**22**	P	**P**	**18 36 58.9**	**0.0**
	7.7nm,0.7s,baz=189,slow=6.4,SNR=4.3						
MKAR	**Makanchi Array**	**57.25**	**325**	P	**P**	**18 37 13.2**	**-0.2**
MKAR	**Makanchi Array**	**57.25**	**325**	P	**P**	**18 37 13.2**	**-0.2**
	3.4nm,0.5s,baz=116,slow=8.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**60.28**	**333**	P	**P**	**18 37 33.1**	**-1.1**
ZALV	**Zalesovo Beam**	**60.28**	**333**	P	**P**	**18 37 33.1**	**-1.1**
	11nm,0.8s,baz=125,slow=7.0,SNR=3.2						
BRVK	**Borovoye**	**67.09**	**327**	*e*P	**P**	**18 38 16.6**	**-2.5**
	11nm,0.6s						
AKTO	**Aktyubinsk**	**73.36**	**322**	P	**P**	**18 38 57.7**	**+0.1**
AKTO	**Aktyubinsk**	**73.36**	**322**	P	**P**	**18 38 57.7**	**+0.1**
	5.9nm,0.5s,baz=105,slow=8.3,SNR=3.2						
OPO	**Ambohidratompo**	**81.24**	**251**	P	**P**	**18 39 42.4**	**-0.1**
OPO	**Ambohidratompo**	**81.24**	**251**	P	**P**	**18 39 42.4**	**-0.1**
	6.4nm,0.5s,baz=77,slow=4.6,SNR=5.9						
ILAR	**Eielson Array**	**84.93**	**25**	P	**P**	**18 40 01.0**	**+0.5**
ILAR	**Eielson Array**	**84.93**	**25**	P	**P**	**18 40 01.0**	**+0.5**
	3.4nm,1.1s,baz=245,slow=5.5,SNR=4.2						
BRTR	**Keskin Array B**	**89.73**	**310**	P	**P**	**18 40 24.1**	**-0.3**
BRTR	**Keskin Array B**	**89.73**	**310**	P	**P**	**18 40 24.1**	**-0.3**
	3.4nm,0.8s,baz=140,slow=4.9,SNR=4.5						
ARCES	**ARCESS Array B**	**90.15**	**340**	P	**P**	**18 40 24.6**	**-0.9**
ARCES	**ARCESS Array B**	**90.15**	**340**	P	**P**	**18 40 24.6**	**-0.9**
	3.6nm,0.8s,baz=74,slow=6.7,SNR=3.1						
FINES	**FINESS Array B**	**91.53**	**332**	P	**P**	**18 40 32.8**	**+0.7**
FINES	**FINESS Array B**	**91.53**	**332**	P	**P**	**18 40 32.8**	**+0.7**
	3.7nm,0.7s,baz=97,slow=5.7,SNR=3.4						
AKASG	**Malin Array Be**	**91.59**	**321**	P	**P**	**18 40 31.9**	**-0.7**
AKASG	**Malin Array Be**	**91.59**	**321**	P	**P**	**18 40 31.9**	**-0.7**
	3.7nm,0.6s,baz=68,slow=5.2,SNR=4.1						
BUR08	**Bucovina Ar. S**	**94.71**	**318**	*e*P	**P**	**18 40 47.4**	**+0.2**
NOA	**NORSAR Array B**	**98.48**	**334**	P	Pdif	**18 41 04.2**	**+0.3**
NOA	**NORSAR Array B**	**98.48**	**334**	P	Pdif	**18 41 04.2**	**+0.3**
	1.8nm,0.7s,baz=68,slow=4.7,SNR=3.5						
YKA	**Yellowknife Ar**	**99.32**	**24**	P	**Pdif**	**18 41 08.6**	**+1.0**
YKA	**Yellowknife Ar**	**99.32**	**24**	P	**Pdif**	**18 41 08.6**	**+1.0**
	1.2nm,0.9s,baz=292,slow=4.3,SNR=3.0						
CLL	**Collm**	**101.33**	**324**	*e*Pdif	**Pdif**	**18 41 18.0**	**+1.2**
J22A	**Midwest**	**112.92**	**39**	⇑P	**PKiKP**	**18 46 02.9**	**-0.1**
	baz=113						
V22A	**San Miguel Ran**	**116.19**	**47**	⇑P	**PKPdf**	**18 46 10.0**	**+0.4**
	baz=116						
P25A	**Willow Gulch B**	**116.39**	**42**	⇑P	**PKPdf**	**18 46 10.3**	**+0.4**
	baz=116						
P26A	**Davis Ranch, A**	**116.91**	**42**	⇑P	**PKPdf**	**18 46 11.7**	**+0.9**
	baz=117						
T26A	**Comanche Natio**	**117.95**	**44**	⇓P	**PKPdf**	**18 46 13.1**	**+0.2**
	baz=118						
425A	**Indio Mountain**	**119.89**	**51**	⇑P	**PKPdf**	**18 46 17.4**	**+0.6**
	baz=120						
427A	**Hayter Ranch,**	**121.09**	**50**	⇑P	**PKPdf**	**18 46 19.9**	**+0.8**
	baz=121						
527A	**Woodward Ranch**	**121.24**	**51**	⇓P	**PKPdf**	**18 46 20.1**	**+0.7**
	baz=121						
328A	**Wristen Ranch,**	**121.30**	**49**	⇑P	**PKPdf**	**18 46 20.3**	**+0.9**
	baz=121						
627A	**Terlingua Ranc**	**121.72**	**52**	⇓P	**PKPdf**	**18 46 21.5**	**+1.2**
	baz=122						
TORD	**Torodi Ar. Bea**	**122.69**	**288**	PKP	**PKPdf**	**18 46 23.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**122.69**	**288**	PKP	**PKPdf**	**18 46 23.1**	**+0.7**
	3.3nm,0.7s,baz=77,slow=1.4,SNR=5.4						
JCT	**Junction City**	**124.00**	**49**	⇓P	**PKPdf**	**18 46 25.6**	**+1.0**
	baz=124						
DBIC	**Dimbokro**	**130.38**	**282**	PKP	**PKPdf**	**18 46 36.9**	**-0.2**
DBIC	**Dimbokro**	**130.38**	**282**	PKP	**PKPdf**	**18 46 36.9**	**-0.2**
	3.9nm,0.8s,baz=101,slow=2.8,SNR=3.6						

*IDC **11** 18:34:25.6±0.8,3˚.76N×126˚.94E, h0km, mb4.2/12, mb1 4.3/12, mb1mx4.2/19, mbtmp4.2/12, Error ellipse: s-maj=44.3km s-min=16.7km az=70.0*
*ISCJB **11** 18:34:28.8±0.6,3˚.82N±0˚.09×127˚.0E±0˚.2, h36km, mb4.3/18, Error ellipse: s-maj=26.4km s-min=10.9km az=160.9*
*NEIC **11** 18:34:30.6±0.5,3˚.81N×126˚.98E, h35km, mb4.5/7, Error ellipse: s-maj=23.6km s-min=9.0km az=70.0*

ISC 11 18:34:30.9±0.7, 3˚.8N±0˚.1×127˚.0E±0˚.2, h36km, n36, σ0s83/35, mb4.4/18, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**3.53**	**337**	Pn		Pn	18 35 28.0	+4.8
DAV	**Davao City (W)**	**3.53**	**337**	Pn		Pn	18 35 28.0	+4.8
	144nm,0.3s,baz=307,slow=2.0,SNR=4.5							
TPUB	**Ta-pu**	**20.33**	**343**	*e*P		**P**	**18 39 01.6**	**-2.6**
	18nm,0.8s							
WRA	**Warramunga Arr**	**24.68**	**163**	P		**P**	**18 39 47.2**	**-1.5**
WRA	**Warramunga Arr**	**24.68**	**163**	P		**P**	**18 39 47.2**	**-1.5**
	8.5nm,0.8s,baz=354,slow=7.7,SNR=2.6							
ASAR	**Alice Springs**	**28.13**	**166**	P		**P**	**18 40 20.1**	**+0.3**
ASAR	**Alice Springs**	**28.13**	**166**	P		**P**	**18 40 20.1**	**+0.3**
	0.8nm,0.5s,baz=345,slow=10,SNR=2.7							
CMAR	**Chiang Mai Arr**	**31.05**	**300**	P		**P**	**18 40 46.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**31.05**	**300**	P		**P**	**18 40 46.0**	**+0.3**
	1.2nm,0.8s,baz=128,slow=7.3,SNR=4.8							
KSAR	**Wonju Array Be**	**33.48**	**1**	P		**P**	**18 41 06.7**	**-0.1**
KSRS	**Korea Array**	**33.50**	**1**	P		**P**	**18 41 06.7**	**-0.2**
	1.1nm,0.8s,baz=186,slow=10,SNR=3.7							
BJT	**Baijiatuao**	**37.35**	**346**	*e*P		**P**	**18 41 40.2**	**+0.2**
	17nm,0.6s							
STKA	**Stephens Creek**	**38.11**	**160**	P		**P**	**18 41 46.2**	**-0.4**
STKA	**Stephens Creek**	**38.11**	**160**	P		**P**	**18 41 46.2**	**-0.4**
	4.2nm,0.8s,baz=348,slow=7.5,SNR=3.9							
LSA	**Lhasa**	**42.58**	**311**	*e*P		**P**	**18 42 24.2**	**+0.1**
	7.5nm,0.6s							
SONM	**Songino Array**	**47.30**	**341**	P		**P**	**18 43 00.9**	**-0.1**
SONM				PcP		**PcP**	**18 44 33.0**	**+1.3**
SONM	**Songino Array**	**47.30**	**341**	P		**P**	**18 43 00.9**	**-0.1**
	2.1nm,0.6s,baz=166,slow=8.3,SNR=5.9							
SONM				PcP		**PcP**	**18 44 33.0**	**+1.3**

0.8nm,0.7s,baz=122,slow=7.3,SNR=6.4
CHTO Chiang Mai 30.82 301 *e*P **P 18 46 11.2 -0.1**
14nm,1.5s
KSAR Wonju Array Be 33.43 2 P **P 18 46 35.9 +1.9**
KSRS Korea Array 33.44 2 P **P 18 46 35.8 +1.8**
0.6nm,0.6s,baz=189,slow=9.4,SNR=3.3
KLBR Kellerberrin 36.26 193 *e*P P 18 47 03.1 +4.7
7.8nm,0.5s
BJT Baijiatuau 37.19 347 *e*P **P 18 47 06.3 0.0**
19nm,0.6s
STKA Stephens Creek 38.32 159 *e*P **P 18 47 16.3 +0.4**
2.2nm,0.7s
STKA Stephens Creek 38.32 159 P **P 18 47 14.6 -1.3**
1.2nm,0.4s,baz=334,slow=10,SNR=4.2
USRK Ussuriysk Arra 40.44 6 P **P 18 47 34.4 +0.9**
1.2nm,0.6s,baz=133,slow=45,SNR=3.4
LSA Lhasa 42.23 311 *e*P **P 18 47 49.4 +0.4**
6.1nm,0.6s
DZM Mont Dzumac 46.74 125 P **P 18 48 23.3 -1.3**
DZM Mont Dzumac 46.74 125 P **P 18 48 23.3 -1.3**
3.4nm,0.9s,baz=285,slow=20,SNR=2.4
ULN Ulaanbaatar 46.94 342 *e*P **P 18 48 25.8 0.0**
3.8nm,0.9s
SONM Songino Array 47.12 342 P **P 18 48 27.0 -0.1**
SONM Songino Array 47.12 342 P **P 18 48 27.0 -0.1**
1.6nm,0.7s,baz=156,slow=9.1,SNR=5.8
PETK Petropavlovsk- 55.35 22 P **P 18 49 29.1 +0.3**
PETK Petropavlovsk- 55.35 22 P **P 18 49 29.1 +0.3**
1.4nm,0.7s,baz=218,slow=4.0,SNR=4.6
MK31 Makanchi Array 57.35 325 *e*P **P 18 49 42.4 -0.7**
MKAR Makanchi Array 57.35 325 P **P 18 49 42.5 -0.6**
MKAR Makanchi Array 57.35 325 P **P 18 49 42.5 -0.6**
2.4nm,0.4s,baz=119,slow=7.9,SNR=13
YAK Yakutsk 58.07 2 *e*P **P 18 49 47.2 -0.6**
10nm,0.8s
ZALV Zalesovo Beam 60.39 333 P **P 18 50 02.8 -1.2**
ZALV Zalesovo Beam 60.39 333 P **P 18 50 02.8 -1.2**
1.9nm,0.4s,baz=125,slow=6.1,SNR=9.5
KURK Kurchatov 61.54 328 *e*P **P 18 50 11.1 -0.7**
7.6nm,0.5s
KKAR Karatay Array 63.02 317 *e*P **P 18 50 22.2 +0.2**
4.0nm,0.8s
BVAR Borovoye Array 67.12 327 P **P 18 50 47.8 -0.6**
BVAR Borovoye Array 67.12 327 P **P 18 50 47.8 -0.6**
1.2nm,0.5s,baz=130,slow=6.8
BRVK Borovoye 67.19 327 *e*P **P 18 50 47.2 -1.6**
9.1nm,1.0s
ABKAR Akbulak array 71.94 321 *e*P **P 18 51 17.1 -1.1**
2.4nm,0.6s
AKTO Aktyubinsk 73.45 322 P **P 18 51 26.1 -1.1**
AKTO Aktyubinsk 73.45 322 P **P 18 51 26.1 -1.1**
2.7nm,0.8s,baz=96,slow=7.5,SNR=9.3
ILAR Eielson Array 85.04 25 P **P 18 52 31.1 +1.0**
ILAR Eielson Array 85.04 25 P **P 18 52 31.1 +1.0**
0.5nm,0.8s,baz=260,slow=5.1,SNR=4.0
BRTR Keskin Array B 89.81 310 P **P 18 52 52.9 -0.9**
BRTR Keskin Array B 89.81 310 P **P 18 52 52.9 -0.9**
0.5nm,0.7s,baz=89,slow=6.3,SNR=3.1
ARCES ARCESS Array B 90.26 340 P **P 18 52 54.2 -0.9**
ARCES ARCESS Array B 90.26 340 P **P 18 52 54.2 -0.9**
2.5nm,0.9s,baz=82,slow=7.4,SNR=4.2
FINES FINESS Array B 91.64 332 P **P 18 53 01.4 -0.1**
FINES FINESS Array B 91.64 332 P **P 18 53 01.4 -0.1**
0.9nm,0.7s,baz=98,slow=3.1,SNR=4.2
ISCO Idaho Springs 115.37 42 *e*PKPdf **PKPdf 18 58 37.4 +0.3**

*IDC **11** 18:41:43.6±0.6,3.˙70N×126.˙67E,h0km,mb4.2/20, mb1 4.3/20,mb1mx4.2/25,mbtmp4.2/20,Error ellipse: s-maj=28.1km s-min=13.5km az=71.0*
*ISCJB **11** 18:41:48.9±0.4,3.˙70N±0.˙06×126.˙7E±0.˙1,h53km, mb4.3/26,Error ellipse: s-maj=18.0km s-min=7.9km az=166.9*
*NEIC **11** 18:41:48.8±0.3,3.˙69N×126.˙68E,h35km,mb4.6/5,Error ellipse: s-maj=14.2km s-min=6.2km az=75.0*
ISC 11 18:41:50.8±0.5,3.˙70N±0.˙09×126.˙7E±0.˙2,h53km,n49, σ0ᵗ69/49,mb4.3/26,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.68**	**183**	P		**P**	**P**	**18 46 36.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**21.68**	**183**	P		**P**	**P**	**18 46 36.8**	**-0.5**
	7.4nm,0.9s,baz=3.5,slow=12,SNR=4.0								
WRAB	**Tennant Creek**	**24.66**	**163**	*e*P		**P**	**P**	**18 47 05.7**	**-1.1**
	23nm,0.9s								
WRA	**Warramunga Arr**	**24.66**	**163**	P		**P**	**P**	**18 47 05.8**	**-1.0**
WRA	**Warramunga Arr**	**24.66**	**163**	P		**P**	**P**	**18 47 05.8**	**-1.0**
	3µm,0.3s,baz=333,slow=12,SNR=6.2								
MBWA	**Marble Bar**	**25.63**	**195**	*e*P		**P**	**P**	**18 47 16.3**	**+0.8**
ASAR	**Alice Springs**	**28.09**	**166**	P		**P**	**P**	**18 47 37.3**	**-0.4**
ASAR	**Alice Springs**	**28.09**	**166**	P		**P**	**P**	**18 47 37.3**	**-0.4**
	1.2nm,0.6s,baz=348,slow=7.8,SNR=3.1								
CMAR	**Chiang Mai Arr**	**30.86**	**300**	P		**P**	**P**	**18 48 03.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**30.86**	**300**	P		**P**	**P**	**18 48 03.1**	**+0.8**
	1.5nm,0.8s,baz=116,slow=7.3,SNR=3.5								
KSAR	**Wonju Array Be**	**33.60**	**2**	P		**P**	**P**	**18 48 25.6**	**-0.5**
KSRS	**Korea Array**	**33.62**	**2**	P		**P**	**P**	**18 48 25.6**	**-0.6**
	2.0nm,0.7s,baz=176,slow=9.8,SNR=4.8								
STKA	**Stephens Creek**	**38.11**	**159**	*e*P		**P**	**P**	**18 49 04.9**	**+0.1**
STKA	**Stephens Creek**	**38.11**	**159**	P		**P**	**P**	**18 49 04.9**	**+0.1**
	11nm,0.7s,baz=337,slow=9.1,SNR=7.1								
USRK	**Ussuriysk Arra**	**40.61**	**6**	P		**P**	**P**	**18 49 25.0**	**-0.4**
	0.9nm,0.4s,baz=161,slow=8.2,SNR=3.4								
MDJ	**Mudanjiang**	**40.83**	**3**	*e*P		**P**	**P**	**18 49 27.6**	**+0.3**
	6.9nm,0.8s								
ASAJ	**Asahikawa**	**42.63**	**17**	P		**P**	**P**	**18 49 42.1**	**+0.1**
ASAJ	**Asahikawa**	**42.63**	**17**	P		**P**	**P**	**18 49 42.1**	**+0.1**
	3.5nm,0.7s,baz=228,slow=12,SNR=3.2								
DZM	**Mont Dzumac**	**46.55**	**125**	P		**P**	**P**	**18 50 14.3**	**+0.6**
DZM	**Mont Dzumac**	**46.55**	**125**	P		**P**	**P**	**18 50 14.3**	**+0.6**
	2.7nm,0.6s,baz=274,slow=9.0,SNR=6.4								
PETK	**Petropavlovsk-**	**55.48**	**22**	P		**P**	**P**	**18 51 20.4**	**+0.3**
PETK	**Petropavlovsk-**	**55.48**	**22**	P		**P**	**P**	**18 51 20.4**	**+0.3**
	2.0nm,0.6s,baz=190,slow=7.3,SNR=7.4								
MKAR	**Makanchi Array**	**57.56**	**325**	P		**P**	**P**	**18 51 35.6**	**+0.5**
MKAR	**Makanchi Array**	**57.56**	**325**	P		**P**	**P**	**18 51 35.6**	**+0.5**
	1.6nm,0.6s,baz=119,slow=8.7,SNR=3.5								
YAK	**Yakutsk**	**58.24**	**2**	*e*P		**P**	**P**	**18 51 39.6**	**+0.1**
	7.1nm,0.8s								
ZALV	**Zalesovo Beam**	**60.60**	**333**	P		**P**	**P**	**18 51 57.2**	**+1.3**
ZALV	**Zalesovo Beam**	**60.60**	**333**	P		**P**	**P**	**18 51 57.2**	**+1.3**
	0.9nm,0.6s,baz=126,slow=7.3,SNR=2.5								
KURBB	**Kurchatov Arra**	**61.75**	**327**	P		**P**	**P**	**18 52 03.9**	**+0.1**
	3.0nm,0.6s,baz=128,slow=6.7,SNR=3.0								
KURK	**Kurchatov**	**61.75**	**328**	*e*P		**P**	**P**	**18 52 02.7**	**-1.1**
KKAR	**Karatay Array**	**63.23**	**317**	*e*P		**P**	**P**	**18 52 13.0**	**-0.9**
	2.3nm,0.7s								
BVAR	**Borovoye Array**	**67.33**	**327**	P		**P**	**P**	**18 52 40.2**	**+0.1**
BVAR	**Borovoye Array**	**67.33**	**327**	P		**P**	**P**	**18 52 40.2**	**+0.1**
	1.5nm,0.7s,baz=125,slow=7.6,SNR=4.0								
BRVK	**Borovoye**	**67.40**	**327**	P		**P**	**P**	**18 52 40.1**	**-0.5**
	4.2nm,0.7s								
AKTO	**Aktyubinsk**	**73.66**	**322**	P		**P**	**P**	**18 53 19.7**	**+0.9**
AKTO	**Aktyubinsk**	**73.66**	**322**	P		**P**	**P**	**18 53 19.7**	**+0.9**
	2.1nm,0.7s,baz=94,slow=11,SNR=3.7								
ILAR	**Eielson Array**	**85.15**	**25**	P		**P**	**P**	**18 54 21.4**	**+0.3**
ILAR	**Eielson Array**	**85.15**	**25**	P		**P**	**P**	**18 54 21.4**	**+0.3**
	0.4nm,0.6s,baz=249,slow=5.7,SNR=6.6								
BRTR	**Keskin Array B**	**90.01**	**310**	P		**P**	**P**	**18 54 44.6**	**-0.6**
BRTR	**Keskin Array B**	**90.01**	**310**	P		**P**	**P**	**18 54 44.6**	**-0.6**
	0.6nm,0.7s,baz=98,slow=7.7,SNR=3.5								
ARCES	**ARCESS Array B**	**90.47**	**340**	P		**P**	**P**	**18 54 44.9**	**-1.6**
ARCES	**ARCESS Array B**	**90.47**	**340**	P		**P**	**P**	**18 54 44.9**	**-1.6**
	0.9nm,0.6s,baz=81,slow=5.6,SNR=3.9								
FINES	**FINESS Array B**	**91.84**	**332**	P		**P**	**P**	**18 54 53.0**	**+0.1**
FINES	**FINESS Array B**	**91.84**	**332**	P		**P**	**P**	**18 54 53.0**	**+0.1**
	1.5nm,0.9s,baz=77,slow=6.1,SNR=2.8								
AKASG	**Malin Array Be**	**91.89**	**321**	P		**P**	**P**	**18 54 53.0**	**-0.5**
AKASG	**Malin Array Be**	**91.89**	**321**	P		**P**	**P**	**18 54 53.0**	**-0.5**
	0.7nm,0.5s,baz=68,slow=5.6,SNR=4.0								
MLR	**Muntele Rosu**	**94.90**	**316**	P		**P**	**P**	**18 55 07.0**	**-0.6**
MLR	**Muntele Rosu**	**94.90**	**316**	P		**P**	**P**	**18 55 07.0**	**-0.6**
	0.5nm,0.8s,baz=221,slow=15,SNR=3.2								
TORD	**Torodi Ar. Bea**	**122.89**	**288**	PKP		**PKPdf**		**19 00 42.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**122.89**	**288**	PKP		**PKPdf**		**19 00 42.2**	**+0.1**
	0.4nm,0.7s,baz=54,slow=2.7,SNR=3.2								

*IDC **11** 18:44:25.2±0.5,3.˙58N×126.˙62E,h0km,mb4.7/32, mb1 4.7/32,mb1mx4.7/33,mbtmp4.7/32,MS5.2/1, Ms1 5.2/1,ms1mx4.6/42,Error ellipse: s-maj=18.0km s-min=11.0km az=74.0*
*BJI **11** 18:44:26.9,3.˙35N×126.˙79E,h37km,mb5.0/28,Ms5.2/2, Ms7 5.0/2*

*MOS **11** 18:44:27.9±0.9,3.˙60N×126.˙69E,h31km,mb5.2/23,Error ellipse: s-maj=14.1km s-min=6.0km az=115.5*
*NEIC **11** 18:44:30.2±0.2,3.˙59N×126.˙67E,h35km,mb4.9/21,Error ellipse: s-maj=8.4km s-min=4.7km az=74.0*
*DJA **11** 18:44:30,3.˙69N×126.˙88E,h10km,mb4.9/8*
*ISCJB **11** 18:44:33.9±0.7,3.˙60N±0.˙04×126.˙72E±0.˙05,h85km±6km, mb4.7/79,Error ellipse: s-maj=8.7km s-min=5.3km az=157.4*
ISC 11 18:44:30.2±0.5,3.˙63N±0.˙04×126.˙70E±0.˙08,h33km±3km, h33km:pP-P,n193,σ1ᵗ23/196,mb4.8/78,17C-6D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.92**	**167**	P		**Pb**	**Pb**	**18 45 20.9**	**-0.7**
DAV	**Davao City (W)**	**3.59**	**342**	Pn		**Pb**	**Pb**	**18 45 30.4**	**-2.7**
DAV				Sn		**Sb**	**Sb**	**18 46 20.9**	**+4.6**
DAV	**Davao City (W)**	**3.59**	**342**	Pn		**Pb**	**Pb**	**18 45 30.4**	**-2.7**
	35nm,0.3s,baz=259,slow=10,SNR=2.2								
DAV				Sn		**Sb**	**Sb**	**18 46 20.8**	**+4.6**
	64nm,0.3s,baz=270,slow=20,SNR=3.3								
KCP	**Kidapawan**	**3.72**	**334**	⇓*e*P		Pb	Pb	18 45 32.2	-3.1
CTBH	**Cotabato--PC H**	**4.32**	**326**	⇑*i*P		Pn	Pn	18 45 37.2	+3.5
MRSI	**Marisa**	**5.70**	**237**	P		Pn	Pn	18 46 00.0	+7.4
	443nm,0.7s,2.1nm								
FAKI	**Fak Fak**	**8.55**	**140**	P		**Pn**	**Pn**	**18 46 34.5**	**+2.7**
	322nm,1.1s,1.3nm								
TTSI	**Tana Toraja**	**9.56**	**226**	P		Pn	Pn	18 46 55.8	+10
	111nm,0.8s								
SPSI	**Sidrap Palu**	**10.25**	**223**	P		Pn	Pn	18 47 15.3	+20
BAKI	**Biak**	**10.55**	**117**	P		Pn	Pn	18 47 03.2	+3.9
	584nm,1.1s								
KKM	**Kota Kinabalu**	**10.72**	**283**	P		Pn	Pn	18 47 06.8	+5.1
	19nm,0.8s								
TLE	**Tual**	**11.01**	**147**	P		Pn	Pn	18 47 10.3	+4.8
	1µm,0.9s								
SMPI	**Sarmi**	**13.24**	**115**	P		P	P	18 47 51.3	+5.8
SBUM	**Sibu**	**14.51**	**266**	P		**P**	**P**	**18 48 01.4**	**+1.8**
	137nm,0.9s								
STKI	**Sintang**	**15.62**	**257**	P		P	P	18 48 17.1	+5.1
TWG	**Pinlang**	**19.84**	**345**	*e*P		**P**	**P**	**18 48 56.3**	**-2.2**
	42nm,0.8s								
SSLB	**Suanglung**	**20.79**	**345**	*e*P		**P**	**P**	**18 49 06.0**	**-2.9**
	50nm,0.9s								
YHNB	**Yeheng**	**21.54**	**347**	*e*P		**P**	**P**	**18 49 16.3**	**-0.5**
	34nm,0.8s								
FITZ	**Fitzroy Crossi**	**21.62**	**183**	P		**P**	**P**	**18 49 17.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**21.62**	**183**	P		**P**	**P**	**18 49 17.2**	**-0.6**
	13nm,0.6s,baz=13,slow=8.7,SNR=9.7								
QZH	**Quanzhou**	**22.58**	**341**	P		**P**	**P**	**18 49 28.0**	**0.0**
QZH				pmax		pmax	pmax		
	comp=Z,110nm,0.8s								
JOW	**Kunigami**	**23.12**	**4**	P		**P**	**P**	**18 49 34.3**	**+0.7**
JOW	**Kunigami**	**23.12**	**4**	P		**P**	**P**	**18 49 34.3**	**+0.7**
	comp=Z,32nm,0.7s,baz=193,slow=7.7,SNR=14								
JOW				LR		LR	LR	18 57 26.8	
	comp=Z,6µm,19.9s,baz=40,slow=34								
PMG	**Port Moresby**	**24.15**	**123**	P		**P**	**P**	**18 49 41.6**	**-2.0**
	comp=Z,11nm,1.1s								
WRAB	**Tennant Creek**	**24.59**	**162**	*e*P		**P**	**P**	**18 49 46.6**	**-1.0**
WRAB				pmax		pmax	pmax		
	comp=Z,49nm,0.9s								
WRAB	**Tennant Creek**	**24.59**	**162**	*e*P		**P**	**P**	**18 49 46.6**	**-1.0**
	comp=Z,49nm,0.9s								
WRA	**Warramunga Arr**	**24.60**	**163**	P		**P**	**P**	**18 49 46.8**	**-0.8**
WRA	**Warramunga Arr**	**24.60**	**163**	P		**P**	**P**	**18 49 46.8**	**-0.8**
	comp=Z,29nm,0.6s,baz=339,slow=10,SNR=19								
MBWA	**Marble Bar**	**25.57**	**195**	*e*P		**P**	**P**	**18 49 56.8**	**+0.4**
	comp=Z,15nm,0.8s								
IPM	**Ipoh**	**25.63**	**273**	*e*P		**P**	**P**	**18 49 54.9**	**-2.1**
	comp=Z,11nm,0.9s								
PSI	**Prapat**	**27.75**	**269**	P		**P**	**P**	**18 50 16.3**	**0.0**
PSI	**Prapat**	**27.75**	**269**	P		**P**	**P**	**18 50 16.3**	**0.0**
	comp=Z,6.0nm,0.6s,baz=56,slow=11,SNR=5.0								
AS31	**Alice Springs**	**28.03**	**166**	*e*P		**P**	**P**	**18 50 17.6**	**-1.0**
ASAR	**Alice Springs**	**28.03**	**166**	P		**P**	**P**	**18 50 17.4**	**-1.2**
ASAR	**Alice Springs**	**28.03**	**166**	P		**P**	**P**	**18 50 17.4**	**-1.2**
	comp=Z,2.8nm,0.7s,baz=343,slow=7.1,SNR=6.7								
WHN	**Wuhan**	**29.20**	**338**	P		**P**	**P**	**18 50 29.5**	**+0.6**
JNU	**Nakatsue**	**29.60**	**7**	P		**P**	**P**	**18 50 31.3**	**-1.1**
JNU	**Nakatsue**	**29.60**	**7**	P		**P**	**P**	**18 50 31.3**	**-1.1**
	comp=Z,12nm,0.8s,baz=204,slow=12,SNR=6.7								
CMAR	**Chiang Mai Arr**	**30.90**	**301**	P		**P**	**P**	**18 50 44.7**	**+0.6**
CMAR	**Chiang Mai Arr**	**30.90**	**301**	P		**P**	**P**	**18 50 44.7**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=112,slow=6.8,SNR=19								
CHTO	**Chiang Mai**	**31.05**	**301**	*e*P		**P**	**P**	**18 50 45.3**	**-0.1**
CHTO				pmax		pmax	pmax		
	comp=Z,7.0nm,0.8s								
CHTO	**Chiang Mai**	**31.05**	**301**	*e*P		**P**	**P**	**18 50 45.3**	**-0.1**
	comp=Z,6.7nm,0.8s								
ENH	**Enshi**	**31.10**	**330**	*e*P		**P**	**P**	**18 50 44.8**	**-0.9**
	comp=Z,16nm,0.9s								
KSAR	**Wonju Array Be**	**33.66**	**2**	P		**P**	**P**	**18 51 08.7**	**+0.6**
KSAR				PcP		**PcP**	**PcP**	**18 53 49.0**	**+1.3**
KSRS	**Korea Array**	**33.68**	**2**	P		**P**	**P**	**18 51 08.7**	**+0.5**
	comp=Z,14nm,0.8s,baz=180,slow=10,SNR=37								
KSRS				PcP		**PcP**	**PcP**	**18 53 49.0**	**+1.3**
	comp=Z,1.9nm,0.7s,baz=188,slow=2.6,SNR=6.8								
FORT	**Forrest**	**34.24**	**178**	*e*P		**P**	**P**	**18 51 13.2**	**0.0**
	comp=Z,30nm,0.7s								
MJAR	**Matsushiro Arr**	**34.42**	**17**	P		**P**	**P**	**18 51 15.8**	**+1.1**
MJAR				PcP		**PcP**	**PcP**	**18 53 51.0**	**+1.1**
MJAR	**Matsushiro Arr**	**34.42**	**17**	P		**P**	**P**	**18 51 15.8**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=188,slow=9.9,SNR=4.2								
MJAR				PcP		**PcP**	**PcP**	**18 53 51.0**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=201,slow=4.7,SNR=5.5								
XAN	**Xi'an**	**34.49**	**333**	P		**P**	**P**	**18 51 14.2**	**-1.2**
XAN				pP		**pP**	**pP**	**18 51 25.7**	**+0.8**
XAN				pmax		pmax	pmax		
	comp=Z,3.0nm,0.9s								
DL2	**Dalian**	**35.41**	**353**	⇓P		**P**	**P**	**18 51 24.8**	**+1.6**
DL2				pmax		pmax	pmax		
	comp=Z,50nm,0.9s								
KLBR	**Kellerberrin**	**36.05**	**193**	*e*P		**P**	**P**	**18 51 29.2**	**+0.4**
	comp=Z,8.4nm,0.5s								
BJT	**Baijiatuau**	**37.45**	**347**	*e*P		**P**	**P**	**18 51 41.2**	**+0.6**
	comp=Z,180nm,1.1s								
BJI	**Beijing**	**37.47**	**347**	P		**P**	**P**	**18 51 41.8**	**+1.0**
BJI				pmax		pmax	pmax		
	comp=Z,110nm,1.1s								
STKA	**Stephens Creek**	**38.05**	**159**	*e*P		**P**	**P**	**18 51 44.8**	**-0.9**
STKA	**Stephens Creek**	**38.05**	**159**	P		**P**	**P**	**18 51 45.5**	**-0.2**
	comp=Z,22nm,0.6s,baz=336,slow=8.9,SNR=22								
SNY	**Shenyang**	**38.13**	**356**	⇑P		**P**	**P**	**18 51 47.0**	**+0.7**
LZH	**Lanzhou**	**38.57**	**330**	*e*P		P	P	18 51 46.1	-4.2
LZH				pmax		pmax	pmax		
	comp=Z,13nm,1.0s								
CN2	**Changchun**	**40.02**	**359**	*e*P		**P**	**P**	**18 52 01.6**	**-0.4**
CN2				pmax		pmax	pmax		
	comp=Z,10.0nm,0.7s								
USRK	**Ussuriysk Arra**	**40.67**	**6**	P		**P**	**P**	**18 52 08.6**	**+1.1**
	comp=Z,16nm,0.8s,baz=191,slow=7.5,SNR=25								
MDJ	**Mudanjiang**	**40.89**	**3**	*e*P		**P**	**P**	**18 52 09.8**	**+0.5**
	comp=Z,25nm,1.0s								
LSA	**Lhasa**	**42.48**	**311**	*e*P		**P**	**P**	**18 52 23.5**	**+0.4**
LSA				pmax		pmax	pmax		
	comp=Z,11nm,0.7s								
LSA	**Lhasa**	**42.48**	**311**	*e*P		**P**	**P**	**18 52 23.5**	**+0.4**
	comp=Z,11nm,0.7s								
ASAJ	**Asahikawa**	**42.69**	**17**	P		**P**	**P**	**18 52 24.7**	**+0.7**
ASAJ	**Asahikawa**	**42.69**	**17**	P		**P**	**P**	**18 52 24.7**	**+0.7**
	comp=Z,10nm,0.8s,baz=240,slow=9.4,SNR=8.2								
GTA	**Gaotai**	**43.17**	**329**	*e*P		**P**	**P**	**18 52 28.5**	**+0.4**
GTA				pP		**pP**	**pP**	**18 52 40.0**	**+2.2**
GTA				sP		**sP**	**sP**	**18 52 42.6**	**+0.9**
GTA				PcP		**PcP**	**PcP**	**18 54 19.5**	**+2.1**
GTA				pmax		pmax	pmax		
	comp=Z,12nm,1.0s								
TAPN	**Taplejung**	**44.05**	**306**	*e*P		**P**	**P**	**18 52 35.1**	**-0.5**
	comp=Z,26nm,0.8s								
ODAN	**Odare**	**44.10**	**306**	*e*P		**P**	**P**	**18 52 35.4**	**-0.6**
	comp=Z,20nm,0.7s								
RAMN	**Ramite**	**44.78**	**305**	*e*P		**P**	**P**	**18 52 41.1**	**-0.3**
	comp=Z,40nm,1.1s								
HABR	**Khabarovsk**	**45.24**	**8**	*e*P		**P**	**P**	**18 52 42.6**	**-1.8**
HABR				*e*PP		**pP**	**pP**	**18 52 52.2**	**-1.9**
HABR				*e*SP		**sP**	**sP**	**18 52 56.7**	**-1.4**
HABR				*e*				18 54 22.0	
HABR				*e*				18 54 28.7	
HABR				*e*SS		**sS**	**sS**	**18 59 37.7**	**-0.7**
HABR				*e*				19 02 36.4	
HABR				*e*SSS		SSS	SSS	19 03 33.7	
HABR				pmax		pmax	pmax		
	comp=Z,33nm,1.7s								
HABR				pmax		pmax	pmax		
	comp=E,27nm,2.2s								
HABR				pmax		pmax			
	comp=N,32nm,1.7s								
HABR				MLR		MLR			
	comp=Z,7µm,16.0s								
YSS	**Yuzh-Sakhalins**	**45.34**	**15**	*e*P		**P**	**P**	**18 52 46.0**	**+0.8**
JIRN	**Jiri**	**45.41**	**306**	*e*P		**P**	**P**	**18 52 46.0**	**-0.5**
	comp=Z,12nm,0.9s								
KLR	**Kul'dur**	**45.63**	**5**	*e*P		P	P	18 52 44.0	-3.5
KLR				pmax		pmax			
	comp=Z,64nm,1.8s								
GUN	**Gumba**	**45.76**	**306**	*e*P		**P**	**P**	**18 52 48.6**	**-0.7**
	comp=Z,56nm,0.8s								
HIA	**Hailar**	**45.85**	**354**	*e*P		**P**	**P**	**18 52 50.1**	**+0.8**
	comp=Z,62nm,1.3s								
PKI	**Pulchoki**	**46.00**	**305**	*e*P		**P**	**P**	**18 52 50.7**	**-0.5**
	comp=Z,22nm,1.1s								
KKN	**Kakani**	**46.20**	**306**	*e*P		**P**	**P**	**18 52 51.5**	**-1.1**
	comp=Z,20nm,1.0s								
DMN	**Daman**	**46.27**	**305**	*e*P		**P**	**P**	**18 52 52.5**	**-0.7**
	comp=Z,30nm,1.0s								
DZM	**Mont Dzumac**	**46.50**	**125**	P		**P**	**P**	**18 52 54.9**	**0.0**
DZM	**Mont Dzumac**	**46.50**	**125**	P		**P**	**P**	**18 52 54.9**	**0.0**
	comp=Z,9.1nm,0.8s,baz=309,slow=6.5,SNR=10								
GKN	**Gorkha**	**46.80**	**306**	*e*P		**P**	**P**	**18 52 56.1**	**-1.2**
	comp=Z,12nm,0.7s								
ULN	**Ulaanbaatar**	**47.20**	**342**	*e*P		**P**	**P**	**18 53 00.1**	**0.0**
	comp=Z,17nm,1.0s								
SONM	**Songino Array**	**47.38**	**341**	P		**P**	**P**	**18 53 01.9**	**+0.5**
SONM				PcP		**PcP**	**PcP**	**18 54 30.7**	**-1.1**
SONM	**Songino Array**	**47.38**	**341**	P		**P**	**P**	**18 53 01.9**	**+0.5**
	comp=Z,5.7nm,0.7s,baz=156,slow=8.0,SNR=16								
SONM				PcP		**PcP**	**PcP**	**18 54 30.7**	**-1.1**
	comp=Z,4.9nm,0.9s,baz=143,slow=2.6,SNR=6.3								
KOLN	**Koldanda**	**47.56**	**305**	*e*P		**P**	**P**	**18 53 03.3**	**+0.1**
	comp=Z,53nm,0.9s								
DANN	**Dangsing**	**47.65**	**306**	*e*P		**P**	**P**	**18 53 03.4**	**-0.6**
	comp=Z,31nm,0.6s								
HYB	**Hyderabad**	**49.12**	**290**	*i*P		**P**	**P**	**18 53 14.0**	**-1.2**
CIT	**Chita**	**49.46**	**349**	*e*P		**P**	**P**	**18 53 18.7**	**+1.5**
CIT				*e*				18 53 25.2	
CIT				pmax		pmax	pmax		
	comp=Z,115nm,2.0s								
ZAK	**Zakamensk**	**50.61**	**341**	*e*P		**P**	**P**	**18 53 24.8**	**-1.3**
ZAK				*e*				18 54 43.0	
ZAK				pmax		pmax	pmax		
	comp=Z,3.0nm,1.5s								
TLY	**Talaya**	**51.61**	**342**	*e*P		**P**	**P**	**18 53 33.1**	**-0.4**
TLY				pmax		pmax	pmax		
	comp=Z,11nm,0.8s								
TLY	**Talaya**	**51.61**	**342**	*e*P		**P**	**P**	**18 53 34.0**	**+0.5**
	comp=Z,12nm,0.8s								
IRK	**Irkutsk**	**51.91**	**343**	*e*P		**P**	**P**	**18 53 37.2**	**+1.5**
IRK				pmax		pmax	pmax		
	comp=Z,37nm,2.1s								
MOY	**Mondy**	**52.46**	**340**	*e*P		**P**	**P**	**18 53 42.4**	**+2.5**
BOD	**Bodaibo**	**54.96**	**352**	*e*P		**P**	**P**	**18 53 58.5**	**+0.6**
BOD				pmax		pmax	pmax		
	comp=Z,26nm,1.2s								
PETK	**Petropav

ILAR	**Eielson Array**	**85.20**	**25**	P		**P**	**18 57 03.5**	**+0.3**
	comp=E,0.7nm,0.7s,baz=254,slow=4.6,SNR=7.5							
KLMR	**Klimovskoe**	**85.47**	**331**	*e*P		**P**	**18 57 04.4**	**-0.2**
KLMR				pmax	pmax			
	comp=Z,38nm,0.9s							
VORD	**Divnogorie**	**85.57**	**321**	*e*P		**P**	**18 57 04.8**	**-0.4**
VSR	**Storozhevoye**	**85.65**	**321**	*e*P		**P**	**18 57 04.7**	**-0.9**
MOS	**Moscow**	**86.50**	**325**	*e*P		**P**	**18 57 08.1**	**-1.7**
MOS				*e*			18 57 25.6	
OBN	**Obninsk**	**87.12**	**325**	*i* P		**P**	**18 57 12.6**	**-0.2**
OBN				pmax	pmax			
	comp=Z,32nm,1.5s							
ASF	**Jabal al Asfar**	**87.92**	**302**	P		**P**	**18 57 17.3**	**0.0**
ASF	**Jabal al Asfar**	**87.92**	**302**	P		**P**	**18 57 17.3**	**0.0**
	comp=Z,7.1nm,0.9s,baz=127,slow=1.2,SNR=6.8							
KMBO	**Kilima Mbogo**	**89.52**	**269**	*e*P		**P**	**18 57 26.1**	**+0.7**
	comp=Z,21nm,1.6s							
EIL	**Elat**	**89.75**	**300**	P		**P**	**18 57 25.0**	**-0.8**
EIL	**Elat**	**89.75**	**300**	P		**P**	**18 57 25.0**	**-0.8**
	comp=Z,4.6nm,1.0s,baz=50,slow=12,SNR=4.1							
BRTR	**Keskin Array B**	**90.06**	**310**	P		**P**	**18 57 26.5**	**-0.8**
BRTR	**Keskin Array B**	**90.06**	**310**	P		**P**	**18 57 26.5**	**-0.8**
	comp=Z,4.9nm,0.9s,baz=106,slow=4.9,SNR=13							
ARCES	**ARCESS Array B**	**90.53**	**340**	P		**P**	**18 57 28.1**	**-0.5**
ARCES	**ARCESS Array B**	**90.53**	**340**	P		**P**	**18 57 28.1**	**-0.5**
	comp=Z,9.4nm,0.7s,baz=86,slow=6.4,SNR=16							
FINES	**FINESS Array B**	**91.90**	**332**	P		**P**	**18 57 34.8**	**-0.3**
FINES	**FINESS Array B**	**91.90**	**332**	P		**P**	**18 57 34.8**	**-0.3**
	comp=Z,2.9nm,0.8s,baz=72,slow=4.5,SNR=4.9							
AKASG	**Malin Array Be**	**91.95**	**321**	*i* P		**P**	**18 57 34.7**	**-0.9**
AKASG				pmax	pmax			
	comp=Z,4.0nm,0.8s							
AKASG	**Malin Array Be**	**91.95**	**321**	P		**P**	**18 57 34.1**	**-1.4**
AKASG	**Malin Array Be**	**91.95**	**321**	P		**P**	**18 57 34.1**	**-1.4**
	comp=Z,3.6nm,0.8s,baz=69,slow=4.7,SNR=8.5							
TESR		**94.29**	**317**⇑	*i*P		**P**	**18 57 46.4**	**-0.1**
VRI	**Vrincioaia**	**94.34**	**316**⇑	P		**P**	**18 57 46.7**	**-0.1**
VRI	**Vrincioaia**	**94.34**	**316**⇑	*i*P		**P**	**18 57 46.7**	**-0.1**
PLOR	**Plostina**	**94.40**	**316**⇑	P		**P**	**18 57 47.4**	**+0.3**
PLOR	**Plostina**	**94.40**	**316**⇑	*i*P		**P**	**18 57 47.4**	**+0.3**
MLR	**Muntele Rosu**	**94.95**	**316**	P		**P**	**18 57 48.8**	**-0.9**
MLR	**Muntele Rosu**	**94.95**	**316**⇑	*i*P		**P**	**18 57 49.6**	**-0.1**
MLR	**Muntele Rosu**	**94.95**	**316**	P		**P**	**18 57 48.8**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=153,slow=4.5,SNR=8.8							
BURAR	**Bucovina Array**	**95.06**	**318**⇑	*i*P		**P**	**18 57 49.6**	**-0.5**
UZH	**Uzhgorod**	**96.76**	**320**	*e*P		**P**	**18 57 57.9**	**+0.2**
DRGR		**96.90**	**318**⇓	*j*P		**P**	**18 57 58.6**	**+0.1**
DRGR		**96.90**	**318**⇓	*j*P		**P**	**18 57 58.6**	**+0.1**
VTS	**Vitosha**	**97.44**	**314**⇑	P		**P**	**18 57 59.3**	**-1.8**
VTS	**Vitosha**	**97.44**	**314**⇑	*i*P		**P**	**18 57 59.3**	**-1.8**
BZS	**Buzias**	**97.90**	**317**⇑	P		**P**	**18 58 02.3**	**-0.6**
BZS	**Buzias**	**97.90**	**317**⇑	*i*P		**P**	**18 58 02.3**	**-0.6**
PSZ	**Piszkesteto**	**98.48**	**319**⇑	P		Pdif	18 58 12.7	+7.1
PSZ	**Piszkesteto**	**98.48**	**319**⇑	*i*P		Pdif	18 58 12.7	+7.1
NB2	**NORSAR Subarra**	**98.86**	**334**	P		**P**	**18 58 05.6**	**-1.3**
	comp=Z,4.2nm,1.0s,baz=65,slow=4.6							
NOA	**NORSAR Array B**	**98.86**	**334**	P		**P**	**18 58 05.3**	**-1.6**
NOA	**NORSAR Array B**	**98.86**	**334**	P		**P**	**18 58 05.3**	**-1.6**
	comp=Z,2.7nm,0.8s,baz=65,slow=4.6,SNR=6.4							
YKA	**Yellowknife Ar**	**99.60**	**24**	P		**Pdif**	**18 58 10.3**	**+0.2**
YKA	**Yellowknife Ar**	**99.60**	**24**	P		**Pdif**	**18 58 10.3**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=298,slow=4.4,SNR=11							
GERES	**GERESS Array B**	**102.14**	**322**	P		**Pdif**	**18 58 21.5**	**-0.4**
GERES	**GERESS Array B**	**102.14**	**322**	P		**Pdif**	**18 58 21.5**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=106,slow=2.5,SNR=3.7							
BCLA	**Clavier**	**106.51**	**325**	P		**Pdif**	**18 58 46.6**	**+5.4**
SNF	**Seneffe**	**107.05**	**326**	P		**Pdif**	**18 58 39.6**	**-3.9**
DOU	**Dourbes**	**107.07**	**325**	P		**Pdif**	**18 58 45.7**	**+2.1**
TXAR	**Lajitas Array**	**121.68**	**52**	PKP		**PKPdf**	**19 03 22.1**	**+0.5**
TXAR	**Lajitas Array**	**121.68**	**52**	PKP		**PKPdf**	**19 03 22.1**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=270,slow=3.6,SNR=4.8							
TORD	**Torodi Ar. Bea**	**122.92**	**288**	PKP		**PKPdf**	**19 03 23.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**122.92**	**288**	PKP		**PKPdf**	**19 03 23.7**	**-0.5**
	comp=Z,2.4nm,0.8s,baz=54,slow=2.0,SNR=14							
SIV	**San Ignacio**	**165.53**	**149**	PKPab		**PKPab**	**19 05 32.0**	**+1.1**
SIV	**San Ignacio**	**165.53**	**149**	PKPab		**PKPab**	**19 05 32.0**	**+1.1**
	comp=Z,1.7nm,0.9s,baz=0.0,slow=1.0,SNR=3.1							

IDC ***11*** *18:47:20.9±0.4, 3.˚81N×126.˚53E, h0km, mb4.8/40, mb1 4.8/40, mb1mx4.8/41, mbtmp4.8/40, Error ellipse: s-maj=14.6km s-min=9.0km az=67.0*

ISCJB ***11*** *18:47:24.1±0.2, 3.˚80N±0.˚03×126.˚68E±0.˚04, h33km, mb5.1/107, MS5.6/9, Error ellipse: s-maj=6.0km s-min=3.9km az=154.1*

BJI ***11*** *18:47:24.2, 3.˚82N×126.˚62E, h34km, mB5.8/11, mb5.0/42, Ms5.7/17, Ms7 5.6/19*

MOS ***11*** *18:47:24.1±1.1, 3.˚82N×126.˚53E, h33km, mb5.3/25, Error ellipse: s-maj=10.9km s-min=5.6km az=115.9*

NEIC ***11*** *18:47:26.2±0.2, 3.˚83N×126.˚51E, h35km, mb5.3/28, Error ellipse: s-maj=8.2km s-min=4.7km az=71.0*

DJA ***11*** *18:47:28, 3.˚66N×126.˚84E, h10km, mb5.2/18*

ISC 11 18:47:26.6±0.3, 3.˚81N±0.˚04×126.˚56E±0.˚05, h37km±1km, h38km:pP-P, n336, σ1s40/328, mb5.1/105, MS5.7/9, 25C-19D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.77**	**325**	*ep*			**Pn**	**18 48 11.6**	**+3.0**
GSPH				*es*			Sn	18 48 51.5	+11
MNI	**Manado**	**2.91**	**216**	P			Pn	18 48 22.8	+12
TNTI	**Ternate**	**3.12**	**165**	P			Pn	18 48 17.7	+4.4
MATI	**Mati**	**3.13**	**354**	*ep*			**Pn**	**18 48 16.1**	**+2.7**
DAV	**Davao City (W)**	**3.38**	**343**	Pn			Pn	18 48 23.6	+6.7
DAV				Sn			Sn	18 49 10.4	+15
DAV	**Davao City (W)**	**3.38**	**343**	Pn			Pn	18 48 23.6	+6.7
	73nm,0.3s,baz=131,slow=2.0,SNR=4.6								
DAV				Sn			Sn	18 49 10.4	+15
	139nm,0.3s,baz=90,slow=20,SNR=4.1								
DMPH	**Davao City--Mi**	**3.42**	**342**	*lj*			Pn	18 48 21.6	+4.3
KCP	**Kidapawan**	**3.50**	**335**	*ep*			Pn	18 48 25.1	+6.6
KCP				*i* S			Sn	18 49 09.5	+11
CTBH	**Cotabato--PC H**	**4.10**	**326**	*lj*			**Pn**	**18 48 28.6**	**+1.9**
BUKP	**Musuan**	**4.31**	**340**	*ep*			Pn	18 48 32.8	+3.2
CGP	**Cagayan de Oro**	**4.97**	**338**	*lj*	*e*	P	Pn	18 48 43.0	+4.3
CGP				*es*			Sn	18 49 52.5	+18
PAGZ	**Pagadian**	**5.11**	**322**	*ep*			Pn	18 48 44.6	+4.1
BUTP	**Butuan**	**5.21**	**350**	*ep*			Pn	18 48 46.5	+4.6
ZMPH	**Zamboanga City**	**5.46**	**305**⇑	*ip*			**Pn**	**18 48 47.1**	**+1.7**
ZMPH				*i* S			**Sn**	**18 49 47.1**	**+0.2**
IPIL	**Ipil**	**5.60**	**315**	*ep*			**Pn**	**18 48 50.0**	**+2.7**
MRSI	**Marisa**	**5.68**	**234**	P			Pn	18 48 58.2	+10
	493nm,0.9s,2.0nm								
MSLP	**Maasin**	**6.50**	**345**	*ep*			Pn	18 49 03.1	+3.3
SWI	**Sorong**	**6.60**	**135**	P			**Pn**	**18 49 03.4**	**+2.3**
	205nm,0.9s,1.0nm								
LLP	**Lapu-Lapu**	**6.96**	**338**	*e*			**Pn**	**18 49 08.6**	**+2.6**
LLP				*es*			Sn	18 50 38.8	+15
OCLP	**Ormoc**	**7.45**	**345**	*ep*			Pn	18 49 16.4	+3.6
GUIM	**Jordan**	**7.83**	**330**	*ep*			Pn	18 49 22.1	+4.1
KDI	**Kendari**	**8.66**	**207**	P			Pn	18 49 41.2	+12
	384nm,0.7s,1.6nm								
TSM	**Tawau**	**8.68**	**273**	P			Pn	18 49 34.4	+4.8
FAKI	**Fak Fak**	**8.78**	**140**	P			Pn	18 49 34.7	+3.7
	125nm,1.1s,0.5nm								
CUYO	**Cuyo Island**	**8.89**	**322**	*ep*			Pn	18 49 35.9	+3.3
SDKM	**Sandakan**	**9.51**	**281**	P			Pn	18 49 49.1	+8.0
TTSI	**Tana Toraja**	**9.58**	**225**	P			Pn	18 49 53.6	+12
	282nm,0.9s								
BATP	**Bataraza**	**10.02**	**300**	*ep*			Pn	18 49 56.4	+8.4
KDM	**Kudat**	**10.16**	**288**	P			Pn	18 49 57.6	+7.6
ENPP	**El Nido**	**10.20**	**316**	*ep*			Pn	18 49 54.2	+3.8
SPSI	**Sidrap Palu**	**10.28**	**221**	P			Pn	18 50 04.7	+13
	86nm,0.8s								
KKM	**Kota Kinabalu**	**10.54**	**283**	*ep*			Pn	18 50 01.4	+6.1
	38nm,0.6s								
KKM	**Kota Kinabalu**	**10.54**	**283**	P			Pn	18 50 02.2	+6.9
KKM	**Kota Kinabalu**	**10.54**	**283**	P			Pn	18 50 03.9	+8.6
	54nm,0.7s								
BAKI	**Biak**	**10.76**	**117**	P			Pn	18 50 03.7	+5.6
	237nm,0.8s								
KAPI	**Kappang**	**11.10**	**218**	Pn			Pn	18 50 07.2	+4.4
KAPI	**Kappang**	**11.10**	**218**	P			Pn	18 50 26.8	+24
KAPI	**Kappang**	**11.10**	**218**	Pn			Pn	18 50 07.2	+4.4
	2.6nm,0.3s,baz=324,slow=4.3,SNR=3.5								
TLE	**Tual**	**11.23**	**147**	P			Pn	18 50 10.0	+5.4
	1μm,0.8s								
TGY	**Tagaytay City**	**11.63**	**332**	Pn			Pn	18 50 14.9	+4.7
TGY	**Tagaytay City**	**11.63**	**332**	Pn			Pn	18 50 14.9	+4.7
	15nm,0.3s,baz=155,slow=19,SNR=2.2								
KBKI	**Kotabaru**	**12.56**	**236**	P			**P**	**18 50 32.8**	**-1.0**
	184nm,0.9s								
MMRI	**Maumere**	**13.09**	**199**	P			**P**	18 50 49.0	+9.3
SMPI	**Sarmi**	**13.44**	**115**	P			**P**	**18 50 43.2**	**-0.4**
	131nm,1.3s								
BTM	**Bintulu**	**13.47**	**268**	P			**P**	**18 50 41.8**	**-2.1**
BBKI	**Banjar Baru**	**13.76**	**238**	P			P	18 50 55.0	+7.8
	155nm,1.0s								
SBUM	**Sibu**	**14.38**	**265**	P			**P**	**18 50 53.9**	**-0.2**
SBUM	**Sibu**	**14.38**	**265**	P			P	18 50 58.7	+4.6
	160nm,0.7s								
JAY	**Jayapura**	**15.47**	**114**	P			**P**	**18 51 06.0**	**-0.2**
	194nm,0.9s								
STKI	**Sintang**	**15.53**	**256**	P			P	18 51 18.7	+12
	91nm,0.9s								
KSM	**Kuching**	**16.40**	**262**	P			**P**	**18 51 20.6**	**+4.0**
KSM	**Kuching**	**16.40**	**262**	P			P	18 51 24.0	+7.5
	80nm,1.0s								
TWG	**Pinlang**	**19.63**	**345**	*ep*			**P**	**18 51 49.1**	**-2.9**
	56nm,0.5s								
YULB	**Yu-li**	**20.12**	**346**	*ep*			**P**	**18 51 54.6**	**-2.8**
	29nm,0.5s								
TPUB	**Ta-pu**	**20.21**	**344**	*ep*			**P**	**18 51 56.0**	**-2.3**
GUMO	**Guam**	**20.52**	**61**	P			**P**	**18 52 00.2**	**-1.6**
GUMO	**Guam**	**20.52**	**61**	P			**P**	**18 52 00.2**	**-1.6**
	46nm,0.6s,baz=184,slow=9.3,SNR=3.7								
SSLB	**Suanglung**	**20.59**	**345**	*ep*			**P**	**18 51 59.6**	**-2.8**
YHNB	**Yeheng**	**21.33**	**347**	*ep*			**P**	**18 52 09.1**	**-1.4**
	86nm,0.8s								
FITZ	**Fitzroy Crossi**	**21.79**	**182**	P			**P**	**18 52 15.4**	**0.0**
FITZ	**Fitzroy Crossi**	**21.79**	**182**	*ep*			**P**	**18 52 15.1**	**-0.3**
	46nm,0.9s								
FITZ	**Fitzroy Crossi**	**21.79**	**182**	P			**P**	**18 52 15.4**	**0.0**
	12nm,0.5s,baz=16,slow=9.7,SNR=8.8								
QZH	**Quanzhou**	**22.37**	**341**⇑	*ip*			**P**	**18 52 22.1**	**+0.6**
QZH				pmax	pmax				
	comp=Z,120nm,1.2s								
MYKOM	**Kota Tinggi**	**22.77**	**266**	P			**P**	**18 52 29.7**	**+3.7**
MYKOM	**Kota Tinggi**	**22.77**	**266**	P			P	18 52 34.8	+8.8
	comp=Z,104nm,0.7s								
JOW	**Kunigami**	**22.95**	**4**	*ep*			**P**	**18 52 28.6**	**+0.9**
	comp=Z,19nm,0.7s								
JOW	**Kunigami**	**22.95**	**4**	P			**P**	**18 52 28.1**	**+0.3**
	comp=Z,48nm,0.8s,baz=183,slow=8.4,SNR=9.5								
CGJI	**Cibinong**	**23.27**	**244**	P			P	18 52 35.7	+4.7
	comp=Z,80nm,0.6s								
KGM	**Kluang**	**23.28**	**266**	P			**P**	**18 52 33.9**	**+2.7**
LWLI	**Liwa**	**24.13**	**249**	P			P	18 52 55.8	+16
PMG	**Port Moresby**	**24.37**	**123**	*ep*			**P**	**18 52 37.7**	**-3.7**
	comp=Z,22nm,1.0s								
PMG	**Port Moresby**	**24.37**	**123**	P			**P**	**18 52 40.1**	**-1.3**
	comp=Z,481nm,0.9s								
PMG	**Port Moresby**	**24.37**	**123**	P			**P**	**18 52 39.5**	**-1.9**
	comp=Z,24nm,1.0s,baz=314,slow=5.1,SNR=7.5								
WRAB	**Tennant Creek**	**24.81**	**162**	*ep*			**P**	**18 52 44.5**	**-0.8**
WRAB				pmax	pmax				
	comp=Z,161nm,1.0s								
WRAB	**Tennant Creek**	**24.81**	**162**	*ep*			**P**	**18 52 44.5**	**-0.8**
	comp=Z,161nm,1.0s								
WRAB	**Tennant Creek**	**24.81**	**162**	P			**P**	**18 52 44.0**	**-1.3**
	comp=Z,888nm,0.9s,SNR=21								
WRA	**Warramunga Ar**	**24.81**	**162**	P			**P**	**18 52 44.6**	**-0.7**
WRA	**Warramunga Ar**	**24.81**	**162**	P			**P**	**18 52 44.6**	**-0.7**
	comp=Z,82nm,0.6s,baz=338,slow=11,SNR=27								
FRIM	**Kepong**	**24.89**	**269**	P			**P**	**18 52 48.0**	**+1.8**
IPM	**Ipoh**	**25.48**	**272**	*ep*			**P**	**18 52 54.3**	**+2.8**
	comp=Z,26nm,0.8s								
IPM	**Ipoh**	**25.48**	**272**	P			**P**	**18 52 53.8**	**+2.3**
IPM	**Ipoh**	**25.48**	**272**	P			P	18 52 59.0	+7.5
	comp=Z,226nm,0.9s								
MBWA	**Marble Bar**	**25.70**	**195**	*ep*			**P**	**18 52 53.7**	**+0.3**
BKNI	**Bangkinang**	**25.73**	**263**	P			P	18 53 04.5	+11
	comp=Z,228nm,0.7s								
PPI	**Pang Panjang**	**26.49**	**261**	P			P	18 53 12.0	+11
	comp=Z,151nm,1.2s								
MNSI	**Mandailing Nat**	**27.12**	**264**	P			P	18 53 16.6	+10
	comp=Z,76nm,1.0s								
PSI	**Prapat**	**27.61**	**269**	P			**P**	**18 53 10.2**	**-0.6**
PSI	**Prapat**	**27.61**	**269**	P			P	18 53 18.2	+7.3
	comp=Z,20nm,0.8s								
PSI	**Prapat**	**27.61**	**269**	P			**P**	**18 53 10.2**	**-0.6**
	comp=Z,6.2nm,0.8s,baz=100,slow=6.1,SNR=3.8								
ASAR	**Alice Springs**	**28.23**	**166**	P			**P**	**18 53 15.3**	**-0.9**
ASAR	**Alice Springs**	**28.23**	**166**	P			**P**	**18 53 15.3**	**-0.9**
	comp=Z,6.6nm,0.6s,baz=344,slow=7.5,SNR=9.7								
WHN	**Wuhan**	**28.98**	**338**	P			**P**	**18 53 23.0**	**+0.3**
NJ2	**Nanjing**	**29.01**	**346**	*ep*			**P**	**18 53 23.6**	**+0.6**
NJ2				pmax	pmax				
	comp=Z,20nm,1.0s								
GSI	**Gunungsitoli**	**29.06**	**266**	P			P	18 53 32.4	+8.7
	comp=Z,127nm,1.7s								
JNU	**Nakatsue**	**29.44**	**7**	P			**P**	**18 53 27.0**	**+0.2**
JNU	**Nakatsue**	**29.44**	**7**	P			**P**	**18 53 27.0**	**+0.2**
	comp=Z,11nm,0.7s,baz=208,slow=7.9,SNR=6.4								
GYA	**Guiyang**	**29.50**	**322**⇑	*ip*			**P**	**18 53 29.0**	**+1.4**
GYA				pP			**pP**	**18 53 38.9**	**+0.8**
GYA				PP			**PnPn**	**18 54 26.0**	**+3.2**
GYA				PcP			**PcP**	**18 56 33.8**	**+1.3**
GYA				S			**S**	**18 58 21.0**	**+1.1**
GYA				sS			**sS**	**18 58 38.2**	**+0.8**
GYA				SS			SS	18 59 55.4	-31
GYA				ScP			**ScP**	**19 00 11.2**	**-0.5**
GYA				pmax	pmax				
	comp=Z,20nm,0.8s								
GYA				pmax	pmax				
	comp=Z,140nm,6.4s								
CTA	**Charters Tower**	**30.63**	**142**	P			**P**	**18 53 37.8**	**+0.3**
CTA	**Charters Tower**	**30.63**	**142**	*ep*			**P**	**18 53 38.3**	**+0.8**
	comp=Z,12nm,1.0s								
CTA	**Charters Tower**	**30.63**	**142**	P			**P**	**18 53 37.8**	**+0.3**
	comp=Z,13nm,0.9s,baz=308,slow=11,SNR=4.3								
CTAO	**Charters Tower**	**30.63**	**142**	*ep*			**P**	**18 53 38.0**	**+0.5**
CTAO				pmax	pmax				
	comp=Z,29nm,1.1s								
CTAO	**Charters Tower**	**30.63**	**142**	*ep*			**P**	**18 53 38.0**	**+0.5**
	comp=Z,28nm,1.1s								
CM31	**Chiang Mai Arr**	**30.68**	**300**	*ep*			**P**	**18 53 37.9**	**-0.1**
	comp=Z,6.4nm,0.6s								
CMAR	**Chiang Mai Arr**	**30.68**	**300**	P			**P**	**18 53 38.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**30.68**	**300**	P			**P**	**18 53 38.6**	**+0.6**
	comp=Z,7.3nm,0.8s,baz=121,slow=6.1,SNR=13								
CHTO	**Chiang Mai**	**30.84**	**301**	*ep*			**P**	**18 53 39.7**	**+0.3**
CHTO				pmax	pmax				
	comp=Z,11nm,0.7s								
CHTO	**Chiang Mai**	**30.84**	**301**	*ep*			**P**	**18 53 39.6**	**+0.3**
	comp=Z,11nm,0.7s								
CHTO	**Chiang Mai**	**30.84**	**301**	P			**P**	**18 53 41.7**	**+2.4**
	comp=Z,22nm,0.9s								
ENH	**Enshi**	**30.88**	**330**	*ep*			**P**	**18 53 38.9**	**-0.6**
KMI	**Kunming**	**31.20**	**315**	P			**P**	**18 53 43.6**	**+0.8**
KMI				pmax	pmax				
	comp=Z,13nm,1.0s								
KSAR	**Wonju Array Be**	**33.49**	**2**	P			**P**	**18 54 03.2**	**+0.8**
KSAR				PcP			**PcP**	**18 56 43.7**	**+0.9**
KSRS	**Korea Array**	**33.51**	**2**	P			**P**	**18 54 03.2**	**+0.7**
	comp=Z,4.7nm,0.5s,baz=180,slow=9.7,SNR=12								
KSRS				PcP			**PcP**	**18 56 43.7**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=195,slow=3.6,SNR=3.2								
XAN	**Xi'an**	**34.27**	**333**	P			**P**	**18 54 07.7**	**-1.6**
XAN				pP			**pP**	**18 54 17.9**	**-2.0**
XAN				S			**S**	**18 59 29.3**	**-4.6**
XAN				sS			sS	18 59 45.6	-6.0
XAN				pmax	pmax				
	comp=Z,9.0nm,0.9s								
XAN				pmax	pmax				
	comp=Z,2μm,13.1s								
XAN				LR	LR				
	comp=N,2μm,20.4s								
XAN				LR	LR				
	comp=E,2μm,17.8s								
XAN				LR	LR				
	comp=Z,2μm,15.6s								
MAT	**Matsushiro**	**34.29**	**17**	P			**P**	**18 54 07.6**	**-1.8**
MJAR	**Matsushiro Arr**	**34.29**	**17**	P			**P**	**18 54 08.0**	**-1.4**
MJAR				PcP			**PcP**	**18 56 46.1**	**+0.9**
MJAR	**Matsushiro Arr**	**34.29**	**17**	P			**P**	**18 54 08.0**	**-1.4**
	comp=Z,2.3nm,0.7s,baz=186,slow=10,SNR=9.0								
MJAR				PcP			**PcP**	**18 56 46.1**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=189,slow=3.1,SNR=4.9								
FORT	**Forrest**	**34.42**	**178**	*ep*			**P**	**18 54 08.8**	**-1.8**
	comp=Z,74nm,0.8s								
FORT	**Forrest**	**34.42**	**178**	*ep*			**P**	**18 54 09.0**	**-1.5**
	comp=Z,58nm,0.8s								
CD2	**Chengdu**	**34.48**	**324**	P			**P**	**18 54 11.6**	**+0.5**
CD2				pP			**pP**	**18 54 21.3**	**-0.5**
CD2				sP			**sP**	**18 54 25.2**	**-1.1**
CD2				PcP			**PcP**	**18 56 46.0**	**+0.1**
CD2				S			**S**	**18 59 37.6**	**+0.3**
CD2				sS			**sS**	**18 59 53.6**	**-1.3**
CD2				PcS			**PcS**	**19 00 31.3**	**-1.2**
CD2				SS			**SnSn**	**19 01 50.2**	**-0.1**
CD2				pmax	pmax				
	comp=Z,20nm,0.6s								
CD2				pmax	pmax				
	comp=Z,250nm,5.8s								
CD2				LR	LR				
	comp=N,9μm,16.2s								
CD2				LR	LR				
	comp=E,12μm,18.6s								
CD2				LR	LR				
	comp=Z,10μm,13.2s								
DL2	**Dalian**	**35.22**	**353**	P			**P**	**18 54 18.4**	**+1.1**
DL2				pmax	pmax				
	comp=Z,60nm,0.9s								
HNR	**Honiara**	**35.78**	**112**	P			**P**	**18 54 22.7**	**+0.2**
HNR	**Honiara**	**35.78**	**112**	P			**P**	**18 54 22.7**	**+0.2**
	comp=Z,17nm,0.4s,baz=243,slow=5.1,SNR=3.6								
KLBR	**Kellerberrin**	**36.19**	**193**	*ep*			**P**	**18 54 25.6**	**-0.1**
	comp=Z,10nm,0.4s								
BJT	**Baijiatuao**	**37.25**	**347**	*ep*			**P**	**18 54 34.4**	**-0.2**
	comp=Z,73nm,0.8s								
BJI	**Beijing**	**37.27**	**347**	P			**P**	**18 54 34.0**	**-0.8**
BJI				pmax	pmax				
	comp=Z,49nm,0.9s								
BBOO	**Buckleboo**	**37.52**	**167**	*ep*			**P**	**18 54 36.3**	**-0.7**
	comp=Z,772nm,1.1s								
NWAO	**Narrogin (SRO)**	**37.59**	**193**	P			**P**	**18 54 37.8**	**+0.2**
NWAO	**Narrogin (SRO)**	**37.59**	**193**	P			**P**	**18 54 37.8**	**+0.2**
	comp=Z,34nm,1.0s,baz=31,slow=8.0,SNR=8.6								
SNY	**Shenyang**	**37.95**	**356**	*lj*			**P**	**18 54 41.3**	**+0.8**
STKA	**Stephens Creek**	**38.26**	**159**	P			**P**	**18 54 43.0**	**-0.4**
STKA	**Stephens Creek**	**38.26**	**159**	*ep*			**P**	**18 54 42.4**	**-0.9**
	comp=Z,41nm,0.8s								
STKA	**Stephens Creek**	**38.26**	**159**	P			**P**	**18 54 43.0**	**-0.4**
	comp=Z,48nm,0.7s,baz=340,slow=9.9,SNR=22								
LZH	**Lanzhou**	**38.35**	**330**	*ep*			**P**	**18 54 44.4**	**+0.2**
LZH				pP			**pP**	**18 54 54.1**	**-0.9**
LZH				sP			**sP**	**18 55 00.7**	**+1.3**
LZH				S			**S**	**19 00 36.5**	**0.0**
LZH				sS			**sS**	**19 00 52.0**	**-2.2**
LZH				SS			**SnSn**	**19 03 18.0**	**-5.9**
LZH				pmax	pmax				
	comp=Z,45nm,1.0s								
LZH				pmax	pmax				
	comp=Z,200nm,5.2s								
LZH				LR	LR				
	comp=N,9μm,16.2s			

CIT					pmax	pmax			
	comp=Z,137nm,1.2s								
ZAK	**Zakamensk**	**50.39**	**341**	*e*P		**P**	**18 56 19.0**	**-1.2**
ZAK				*e*			18 57 41.7		
ZAK					pmax	pmax			
	comp=Z,5.0nm,1.2s								
TLY	**Talaya**	**51.40**	**342**	*e*P		**P**	**18 56 27.7**	**0.0**
TLY					pmax	pmax			
	comp=Z,21nm,0.9s								
TLY	**Talaya**	**51.40**	**342**	*e*P		**P**	**18 56 27.8**	**+0.2**
	comp=Z,19nm,0.8s								
IRK	**Irkutsk**	**51.70**	**343**	*e*P		P	18 56 37.2	+7.3
IRK					pmax	pmax			
	comp=Z,33nm,2.3s								
WMQ	**Urumqi**	**52.56**	**325**	P		**P**	**18 56 38.4**	**+1.9**
WMQ				pP		**pP**	**18 56 48.1**	**+0.5**
WMQ				sP		**sP**	**18 56 52.0**	**0.0**
WMQ					pmax	pmax			
	comp=Z,8.0nm,1.2s								
WMQ					LR	LR			
	comp=Z,7µm,19.7s								
BOD	**Bodaibo**	**54.76**	**352**	*e*P		**P**	**18 56 52.5**	**+0.3**
BOD					pmax	pmax			
	comp=Z,26nm,1.1s								
MSVF	**Nonsavu**	**55.10**	**115**	*e*P		**P**	**18 56 56.4**	**+0.9**
MSVF					pmax	pmax			
	comp=Z,44nm,0.9s								
MSVF	**Nonsavu**	**55.10**	**115**	*e*P		**P**	**18 56 56.4**	**+0.9**
	comp=Z,44nm,0.9s								
MSVF	**Nonsavu**	**55.10**	**115**	P		**P**	**18 56 56.0**	**+0.5**
	comp=Z,343nm,0.9s,SNR=10								
PETK	**Petropavlovsk-**	**55.42**	**22**	P		**P**	**18 56 57.6**	**+0.5**
PETK	**Petropavlovsk-**	**55.42**	**22**	P		**P**	**18 56 57.6**	**+0.5**
PETK	**Petropavlovsk-**	**55.42**	**22**	P		**P**	**18 56 57.6**	**+0.5**
	comp=Z,9.9nm,0.7s,baz=190,slow=3.8,SNR=14								
MK31	**Makanchi Array**	**57.39**	**325**	*e*P		**P**	**18 57 10.7**	**-0.6**
MK31					pmax	pmax			
	comp=Z,5.0nm,0.4s								
MK31	**Makanchi Array**	**57.39**	**325**	*e*P		**P**	**18 57 10.6**	**-0.8**
MKAR	**Makanchi Array**	**57.39**	**325**	P		**P**	**18 57 10.9**	**-0.5**
MKAR	**Makanchi Array**	**57.39**	**325**	P		**P**	**18 57 10.9**	**-0.5**
MKAR				ScP		**ScP**	**19 02 06.6**	**+4.5**
MKAR	**Makanchi Array**	**57.39**	**325**	P		**P**	**18 57 10.9**	**-0.5**
	comp=Z,7.3nm,0.5s,baz=118,slow=7.4,SNR=22								
MKAR				ScP		**ScP**	**19 02 06.6**	**+4.5**
	comp=Z,2.1nm,0.7s,baz=118,slow=4.6,SNR=4.9								
KSH	**Kashi**	**57.87**	**315**	*e*P		**P**	**18 57 16.4**	**+1.5**
KSH				pP		**pP**	**18 57 26.3**	**+0.2**
KSH				sP		**sP**	**18 57 30.4**	**-0.1**
KSH				PcP		**PcP**	**18 58 07.8**	**+0.7**
KSH				PP		**PP**	**18 59 26.3**	**+2.8**
KSH				ScP		**ScP**	**19 02 04.9**	**+0.4**
KSH				PcS		**PcS**	**19 02 07.8**	**-0.8**
KSH				S		**S**	**19 05 12.3**	**0.0**
KSH				sS		**sS**	**19 05 30.2**	**-0.6**
KSH				ScS		**ScS**	**19 06 59.5**	**-2.4**
KSH				SS		**SS**	**19 09 06.2**	**+2.6**
KSH				LR		LR			
	comp=N,2µm,11.3s								
KSH				LR		LR			
	comp=E,1µm,15.2s								
KSH				LR		LR			
	comp=Z,6µm,19.8s								
YAK	**Yakutsk**	**58.13**	**2**	*e*P		**P**	**18 57 15.0**	**-1.2**
YAK				*e*			18 57 26.0		
YAK					pmax	pmax			
	comp=Z,61nm,0.9s								
YAK					pmax	pmax			
	comp=E,2.0nm,0.8s								
YAK					pmax	pmax			
	comp=N,30nm,1.5s								
YAK	**Yakutsk**	**58.13**	**2**	*e*P		**P**	**18 57 15.5**	**-0.7**
	comp=N,60nm,0.8s								
AAK	**Ala-Archa**	**60.18**	**318**	*i*P		**P**	**18 57 32.5**	**+1.5**
AAK					pmax	pmax			
	comp=Z,11nm,0.7s								
AAK	**Ala-Archa**	**60.18**	**318**	*e*P		**P**	**18 57 31.1**	**+0.1**
	comp=Z,64nm,1.2s								
AAK	**Ala-Archa**	**60.18**	**318**	P		**P**	**18 57 31.2**	**+0.2**
	comp=Z,4.9nm,0.7s,baz=158,slow=8.7,SNR=9.9								
ZALV	**Zalesovo Beam**	**60.44**	**333**	P		**P**	**18 57 30.7**	**-1.6**
ZALV	**Zalesovo Beam**	**60.44**	**333**	P		**P**	**18 57 30.7**	**-1.6**
ZALV	**Zalesovo Beam**	**60.44**	**333**	P		**P**	**18 57 30.7**	**-1.6**
	comp=Z,2.9nm,0.5s,baz=118,slow=5.8,SNR=7.9								
KURBB	**Kurchatov Arra**	**61.58**	**327**	P		**P**	**18 57 40.0**	**-0.1**
	comp=Z,10nm,0.6s,baz=131,slow=6.6,SNR=12								
KURK	**Kurchatov**	**61.58**	**328**	*i*P		**P**	**18 57 39.5**	**-0.6**
KURK					pmax	pmax			
	comp=Z,19nm,0.7s								
KURK	**Kurchatov**	**61.58**	**328**	*e*P		**P**	**18 57 38.4**	**-1.7**
KURK	**Kurchatov**	**61.58**	**328**	P		**P**	**18 57 39.0**	**-1.1**
	comp=Z,215nm,0.6s,SNR=14								
NVS	**Novosibirsk**	**61.72**	**333**	*e*P		**P**	**18 57 39.6**	**-1.4**
NVS					pmax	pmax			
	comp=Z,10.0nm,0.6s								
NVS					pmax	pmax			
	comp=N,3.0nm,0.7s								
NVS					pmax	pmax			
	comp=E,6.0nm,0.7s								
SEY	**Seymchan**	**61.99**	**13**	*i*P		P	18 57 45.7	+3.1
FX1	**Attu Island--F**	**62.10**	**30**	P		**P**	**18 57 43.5**	**-0.1**
FX1	**Attu Island--F**	**62.10**	**30**	P		**P**	**18 57 43.5**	**-0.1**
	comp=E,23nm,0.7s,baz=287,slow=11								
KK31	**Karatay Array**	**63.06**	**317**	*i*P		**P**	**18 57 49.2**	**-1.0**
KK31					pmax	pmax			
	comp=Z,12nm,0.8s								
KKAR	**Karatay Array**	**63.06**	**317**	*e*P		**P**	**18 57 48.8**	**-1.4**
KKAR					pmax	pmax			
	comp=Z,16nm,0.9s								
KKAR	**Karatay Array**	**63.06**	**317**	*e*P		**P**	**18 57 48.8**	**-1.4**
	comp=Z,16nm,0.9s								
AFI	**Afiamalu**	**63.63**	**107**	*e*P		**P**	**18 57 55.3**	**+0.8**
	comp=Z,113nm,1.1s								
AFI	**Afiamalu**	**63.63**	**107**	P		**P**	**18 57 54.8**	**+0.3**
	comp=Z,40nm,0.7s,baz=278,slow=17,SNR=8.2								
BVA0	**Borovoye Array**	**67.16**	**327**	P		**P**	**18 58 16.5**	**-0.1**
BVA0					pmax	pmax			
	comp=Z,2.0nm,0.8s								
BVAR	**Borovoye Array**	**67.16**	**327**	P		**P**	**18 58 17.1**	**+0.5**
BVAR	**Borovoye Array**	**67.16**	**327**	P		**P**	**18 58 17.1**	**+0.5**
BVAR	**Borovoye Array**	**67.16**	**327**	P		**P**	**18 58 17.1**	**+0.5**
	comp=Z,7.0nm,0.7s,baz=155,slow=11,SNR=14								
BRVK	**Borovoye**	**67.23**	**327**	‖*e*P		**P**	**18 58 17.8**	**+0.7**
BRVK					pmax	pmax			
	comp=Z,25nm,1.1s								
BRVK	**Borovoye**	**67.23**	**327**	*e*P		**P**	**18 58 16.4**	**-0.6**
BRVK	**Borovoye**	**67.23**	**327**	P		**P**	**18 58 17.7**	**+0.7**
	comp=Z,157nm,1.2s,SNR=12								
BILL	**Bilibino**	**69.52**	**15**	*i*P		**P**	**18 58 32.7**	**+1.6**
BILL				*e*			18 58 50.4		
BILL					pmax	pmax			
	comp=Z,10.0nm,1.4s								
BILL	**Bilibino**	**69.52**	**15**	*e*P		**P**	**18 58 32.9**	**+1.8**
	comp=Z,8.7nm,0.9s								
AB31	**Akbulak array**	**71.98**	**321**	*i*P		**P**	**18 58 45.2**	**-1.2**
AB31					pmax	pmax			
	comp=Z,11nm,0.8s								
ABKAR	**Akbulak array**	**71.98**	**321**	*e*P		**P**	**18 58 45.4**	**-1.0**
AKTO	**Aktyubinsk**	**73.49**	**322**	P		**P**	**18 58 54.6**	**-0.8**
AKTO	**Aktyubinsk**	**73.49**	**322**	P		**P**	**18 58 54.6**	**-0.8**
AKTO	**Aktyubinsk**	**73.49**	**322**	P		**P**	**18 58 54.6**	**-0.8**
	comp=Z,11nm,0.7s,baz=96,slow=6.4,SNR=14								
SVE	**Sverdlovsk**	**73.80**	**328**	‖*e*P		**P**	**18 58 59.0**	**+2.0**
SVE					pmax	pmax			
	comp=Z,28nm,1.0s								
ARU	**Arti**	**74.78**	**328**	*c i*P		**P**	**18 59 02.2**	**-0.5**
ARU							19 01 51.6		
ARU				S		**S**	**19 08 37.5**	**+0.9**
ARU					pmax	pmax			
	comp=Z,15nm,1.0s								
QRN	**Al-Qurain**	**78.22**	**298**	*e*P		**P**	**18 59 22.4**	**-0.5**
QRN				AMb		AMB	18 59 24.7		
	comp=Z,74nm,1.4s								
KBD	**Kabd**	**78.43**	**299**	*e*P		**P**	**18 59 23.4**	**-0.5**
RDF	**Al-Radifah**	**78.55**	**299**	*e*P		**P**	**18 59 24.0**	**-0.6**
RDF				AMb		AMB	18 59 27.9		
	comp=Z,32nm,0.9s								
MIB	**Mutribah**	**78.77**	**299**	*e*P		**P**	**18 59 24.7**	**-1.1**
MIB				AMb		AMB	18 59 28.3		
	comp=Z,45nm,0.7s								
NAY	**Al-Naaiem**	**78.83**	**299**	*e*P		**P**	**18 59 25.1**	**-1.1**
NAY				AMb		AMB	18 59 28.5		
	comp=Z,23nm,0.9s								
BHD	**Baghdad**	**81.39**	**303**	*i* x		P	18 59 32.6	-7.3
BHD				*i* x		x	19 09 40.0		

ZEI	**Tsey**	**82.04**	**312**	*e*P		**P**	**18 59 44.0**	**+0.6**
ZEI					pmax	pmax			
	comp=Z,5.0nm,0.7s								
KIV	**Kislovodsk**	**82.96**	**314**	*e*P		**P**	**18 59 45.9**	**-2.1**
KIV					pmax	pmax			
	comp=Z,5.0nm,0.9s								
VRHR	**Novokhopersk**	**83.87**	**321**	*e*P		P	18 59 57.4	+5.0
VRHR					pmax	pmax			
	comp=Z,10.0nm,0.6s								
VRHR					pmax	pmax			
	comp=N,10.0nm,0.7s								
VRHR					pmax	pmax			
	comp=E,10.0nm,0.6s								
PMR	**Palmer**	**83.95**	**29**	*e*P		**P**	**18 59 52.3**	**-0.3**
PMR					pmax	pmax			
	comp=Z,102nm,1.7s								
PMR	**Palmer**	**83.95**	**29**	*e*P		**P**	**18 59 52.3**	**-0.3**
	comp=Z,102nm,1.7s								
ILAR	**Eielson Array**	**85.10**	**25**	P		**P**	**18 59 58.5**	**+0.2**
ILAR	**Eielson Array**	**85.10**	**25**	P		**P**	**18 59 58.5**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=252,slow=6.4,SNR=9.9								
KLMR	**Klimovskoe**	**85.25**	**331**	*e*P		**P**	**18 59 57.8**	**-1.4**
KLMR					pmax	pmax			
	comp=Z,112nm,1.4s								
VORD	**Divnogorie**	**85.34**	**321**	*e*P		**P**	**18 59 59.4**	**-0.4**
VSR	**Storozhevoye**	**85.42**	**321**	*e*P		**P**	**18 59 59.0**	**-1.2**
DIV	**Divide**	**85.56**	**29**	*e*P		**P**	**19 00 02.6**	**+1.8**
	comp=Z,51nm,1.0s								
MOS	**Moscow**	**86.28**	**325**	*e*P		**P**	**19 00 02.6**	**-1.8**
OBN	**Obninsk**	**86.90**	**325**	*i*P		**P**	**19 00 07.0**	**-0.4**
OBN				*e*			19 03 28.6		
OBN					pmax	pmax			
	comp=Z,100nm,4.0s								
ASF	**Jabal al Asfar**	**87.71**	**302**	P		**P**	**19 00 12.7**	**+0.7**
ASF	**Jabal al Asfar**	**87.71**	**302**	P		**P**	**19 00 12.7**	**+0.7**
	comp=Z,4.0nm,0.7s,baz=357,slow=6.1,SNR=5.1								
MMAI	**Mount Meron Ar**	**88.92**	**303**	P		**P**	**19 00 18.3**	**+0.6**
MMAI	**Mount Meron Ar**	**88.92**	**303**	P		**P**	**19 00 18.3**	**+0.6**
	comp=Z,9.0nm,1.1s,baz=76,slow=6.1,SNR=4.3								
JOF	**Joensuu**	**89.03**	**333**	*e*P		**P**	**19 00 16.9**	**-0.5**
JOF					pmax	pmax			
	comp=Z,13nm,0.6s								
JOF	**Joensuu**	**89.03**	**333**	*e*p		**P**	**19 00 16.9**	**-0.5**
	comp=Z,13nm,0.6s								
KMBO	**Kilima Mbogo**	**89.38**	**269**	*e*P		**P**	**19 00 21.1**	**+0.6**
	comp=Z,6.2nm,1.0s								
EIL	**Elat**	**89.53**	**300**	P		**P**	**19 00 20.7**	**+0.1**
EIL	**Elat**	**89.53**	**300**	P		**P**	**19 00 20.7**	**+0.1**
	comp=Z,4.5nm,0.7s,baz=83,slow=4.0,SNR=5.9								
KEV	**Kevo**	**89.76**	**340**	*e*P		**P**	**19 00 19.3**	**-1.4**
KEV					pmax	pmax			
	comp=Z,3.0nm,0.6s								
KEV	**Kevo**	**89.76**	**340**	*e*p		**P**	**19 00 19.3**	**-1.4**
	comp=Z,3.4nm,0.6s								
BRTR	**Keskin Array B**	**89.84**	**310**	P		**P**	**19 00 20.9**	**-1.1**
BRTR	**Keskin Array B**	**89.84**	**310**	P		**P**	**19 00 20.9**	**-1.1**
	comp=Z,3.6nm,0.9s,baz=117,slow=4.1,SNR=9.7								
ARCES	**ARCESS Array B**	**90.31**	**340**	P		**P**	**19 00 23.1**	**-0.3**
ARCES	**ARCESS Array B**	**90.31**	**340**	P		**P**	**19 00 23.1**	**-0.3**
	comp=Z,4.5nm,0.6s,baz=69,slow=4.9,SNR=15								
KAF	**Kangasniemi**	**91.45**	**332**	*e*P		**P**	**19 00 27.7**	**-1.0**
KAF					pmax	pmax			
	comp=Z,7.0nm,0.6s								
KAF	**Kangasniemi**	**91.45**	**332**	*e*p		**P**	**19 00 27.7**	**-1.0**
	comp=Z,6.8nm,0.6s								
FINES	**FINESS Array B**	**91.68**	**332**	P		**P**	**19 00 29.3**	**-0.5**
FINES	**FINESS Array B**	**91.68**	**332**	P		**P**	**19 00 29.3**	**-0.5**
	comp=Z,4.6nm,0.7s,baz=80,slow=3.2,SNR=11								
AKASG	**Malin Array Be**	**91.72**	**321**	P		**P**	**19 00 28.5**	**-1.8**
AKASG	**Malin Array Be**	**91.72**	**321**	P		**P**	**19 00 28.4**	**-1.8**
AKASG	**Malin Array Be**	**91.72**	**321**	P		**P**	**19 00 28.4**	**-1.8**
	comp=Z,3.8nm,0.7s,baz=74,slow=4.5,SNR=8.9								
SYO	**Syowa Base**	**92.44**	**201**	‖*e*pP		pP	19 00 42.0	-2.8
NACGM	**Naroch**	**92.52**	**325**	*e*		**P**	**19 00 31.0**	**-2.8**
WRAK	**Wrangell Islan**	**92.97**	**33**	*e*P		**P**	**19 00 37.2**	**+1.3**
	comp=Z,11nm,0.7s								
TIRR	**Tirgusor**	**93.16**	**315**	⇑P		P	19 00 42.3	+5.3
TIRR	**Tirgusor**	**93.16**	**315**	⇑*i*P		P	19 00 42.3	+5.3
CFR	**Carcaliu**	**93.25**	**316**	⇑P		P	19 00 45.4	+8.0
CFR	**Carcaliu**	**93.25**	**316**	⇑*i*P		P	19 00 45.4	+8.0
QSPA	**South Pole Qui**	**93.72**	**180**	*e*P		**P**	**19 00 39.7**	**+0.5**
	comp=Z,18nm,1.3s								
QSPA	**South Pole Qui**	**93.72**	**180**	P		**P**	**19 00 40.3**	**+1.0**
	comp=Z,3.6nm,0.8s,baz=221,slow=0.9,SNR=7.1								
TESR		**94.06**	**317**	‖*i*P		**P**	**19 00 40.6**	**-0.6**
VRI	**Vrincioaia**	**94.12**	**316**	‖P		**P**	**19 00 40.0**	**-1.5**
VRI	**Vrincioaia**	**94.12**	**316**	‖*i*P		**P**	**19 00 40.0**	**-1.5**
MLR	**Muntele Rosu**	**94.72**	**316**	P		**P**	**19 00 44.1**	**-0.3**
MLR	**Muntele Rosu**	**94.72**	**316**	‖*i*P		**P**	**19 00 43.9**	**-0.5**
MLR	**Muntele Rosu**	**94.72**	**316**	P		**P**	**19 00 44.1**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=123,slow=2.3,SNR=8.2								
SUW	**Suwalki**	**94.76**	**325**	*e*P		**P**	**19 00 45.4**	**+1.2**
SUW	**Suwalki**	**94.76**	**325**	*e*P		**P**	**19 00 45.4**	**+1.2**
SUW	**Suwalki**	**94.76**	**325**	*e*P		**P**	**19 00 45.3**	**+1.2**
SUW	**Suwalki**	**94.76**	**325**	*e*P		**P**	**19 00 45.3**	**+1.2**
	comp=Z,48nm,1.0s								
BURAR	**Bucovina Array**	**94.83**	**318**	‖*i*P		**P**	**19 00 44.7**	**-0.1**
UZH	**Uzhgorod**	**96.53**	**320**	*e*P		**P**	**19 00 50.1**	**-2.3**
UZH				*i*			19 01 00.9		
DRGR		**96.67**	**318**	⇑P		**P**	**19 00 52.4**	**-0.8**
DRGR		**96.67**	**318**	⇑*i*P		**P**	**19 00 52.4**	**-0.8**
HFS	**Hagfors**	**97.87**	**332**	P		Pdif	19 00 58.0	-0.2
HFS	**Hagfors**	**97.87**	**332**	P		Pdif	19 00 58.0	-0.2
	comp=Z,1.0nm,0.5s,baz=197,slow=4.5,SNR=4.3								
NB2	**NORSAR Subarra**	**98.64**	**334**	P		**P**	**19 01 00.7**	**-1.0**
	comp=Z,4.2nm,0.8s,baz=70,slow=4.6								
NOA	**NORSAR Array B**	**98.64**	**334**	P		**P**	**19 01 00.7**	**-1.0**
NOA	**NORSAR Array B**	**98.64**	**334**	P		**P**	**19 01 00.7**	**-1.0**
	comp=Z,2.0nm,0.7s,baz=66,slow=4.6,SNR=8.1								
YKA	**Yellowknife Ar**	**99.50**	**24**	P		**Pdif**	**19 01 05.0**	**-0.4**
YKA	**Yellowknife Ar**	**99.50**	**24**	P		**Pdif**	**19 01 04.9**	**-0.4**
	comp=Z,1.7nm,1.0s,baz=291,slow=4.0,SNR=12								
BRG	**Berggiesshubel**	**101.07**	**323**	*e*P		Pdif	19 01 24.6	+12
	comp=Z,10nm,1.1s								
BRG	**Berggiesshubel**	**101.07**	**323**	*e*P		Pdif	19 01 24.6	+12
BRG					pmax	pmax			
	comp=Z,11nm,1.1s								
GERES	**GERESS Array B**	**101.92**	**322**	P		**Pdif**	**19 01 16.8**	**+0.2**
GERES	**GERESS Array B**	**101.92**	**322**	P		**Pdif**	**19 01 16.8**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=103,slow=4.3,SNR=4.3								
NVAR	**Mina Array Bea**	**106.98**	**48**	Pdif		**Pdif**	**19 01 40.9**	**+1.3**
NVAR	**Mina Array Bea**	**106.98**	**48**	Pdiff		**Pdif**	**19 01 40.9**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=280,slow=5.4,SNR=8.8								
PDAR	**Pinedale Array**	**111.41**	**41**	PKKPbc		PKKPbc	19 17 01.2	+7.4
	comp=Z,0.6nm,0.7s,baz=120,slow=6.0,SNR=5.1								
RSSD	**Black Hills**	**114.23**	**38**	*e*PKIKP		PKPdf	19 06 02.7	0.0
RSSD	**Black Hills**	**114.23**	**38**	*e*PKiKP		**PKiKP**	**19 06 02.7**	**0.0**
P26A	**Davis Ranch, A**	**117.06**	**42**	‖P		**PKPdf**	**19 06 08.9**	**+0.7**
	baz=117								
Z22A	**Elephant Butte**	**117.45**	**49**	⇑P		**PKPdf**	**19 06 09.9**	**+0.8**
	baz=117								
V25A	**Rancho No Teng**	**118.02**	**46**	⇑P		**PKPdf**	**19 06 11.1**	**+0.9**
	baz=118								
T26A	**Comanche Natio**	**118.09**	**44**	‖P		**PKPdf**	**19 06 11.0**	**+0.7**
	baz=118								
Y24A	**Capitan**	**118.31**	**48**	⇑P		**PKPdf**	**19 06 11.6**	**+0.8**
	baz=118								
ECSD	**EROS Data Cent**	**118.82**	**34**	*e*PKPdf		**PKPdf**	**19 06 11.5**	**+0.2**
124A	**Stringfield Ra**	**118.83**	**49**	‖P		**PKPdf**	**19 06 12.4**	**+0.4**
	baz=119								
X26A	**CR and CF Fran**	**119.21**	**47**	‖P		**PKPdf**	**19 06 12.0**	**-0.5**
	baz=119								
MNTX	**Cornudas Mount**	**119.33**	**50**	⇑P		**PKPdf**	**19 06 13.1**	**+0.5**
	baz=119								
125A	**Gardner Draw,**	**119.46**	**49**	‖P		**PKPdf**	**19 06 13.2**	**+0.2**
	baz=119								
Y27A	**Causey**	**120.00**	**47**	⇑P		**PKPdf**	**19 06 14.9**	**+0.9**
	baz=120								
425A	**Indio Mountain**	**120.03**	**51**	⇑P		**PKPdf**	**19 06 14.9**	**+0.7**
	baz=120								
Z27A	**Tatum**	**120.23**	**48**	⇑P		**PKPdf**	**19 06 14.5**	**0.0**
	baz=120								
SCHQ	**Schefferville**	**120.51**	**9**	PKP		**PKPdf**	**19 06 16.7**	**+2.5**
SCHQ	**Schefferville**	**120.51**	**9**	PKP		**PKPdf**	**19 06 16.7**	**+2.5**
	comp=Z,2.1nm,0.9s,baz=349,slow=5.2,SNR=3.5								
128A	**Castleberry Fa**	**121.10**	**48**	⇑P		**PKPdf**	**19 06 16.3**	**+0.2**
	baz=121								
427A	**Hayter Ranch,**	**121.22**	**50**	‖P		**PKPdf**	**19 06 16.4**	**0.0**
	baz=121								
527A	**Woodward Ranch**	**121.37**	**51**	⇑P		**PKPdf**	**19 06 17.3**	**+0.5**
	baz=121								
328A	**Wristen Ranch,**	**121.43**	**50**	⇑P		**PKPdf**	**19 06 16.6**	**-0.1**
	baz=121								
TXAR	**Lajitas Array**	**121.68**	**52**	PKP		**PKPdf**	**19 06 18.3**	**+1.0**
TXAR	**Lajitas Array**	**121.68**	**52**	PKP		**PKPdf**	**19 06 18.3**	**+1.0**

	comp=Z,1.1nm,0.8s,baz=29,slow=2.1,SNR=6.2								
627A	**Terlingua Ranc**	**121.85**	**52**	⇑P		**PKPdf**	**19 06 17.4**	**-0.2**
	baz=122								
528A	**Cox Ranch, San**	**122.00**	**51**	‖P		**PKPdf**	**19 06 18.4**	**+0.5**
	baz=122								
628A	**Black Gap, Mar**	**122.23**	**52**	‖P		**PKPdf**	**19 06 19.1**	**+0.9**
	baz=122								
TORD	**Torodi Ar. Bea**	**122.73**	**288**	PKP		**PKPdf**	**19 06 18.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**122.73**	**288**	PKP		**PKPdf**	**19 06 18.7**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=342,slow=1.0,SNR=7.9								
JCT	**Junction City**	**124.13**	**49**	*e*PKIKP		**PKPdf**	**19 06 22.3**	**+0.4**
JCT	**Junction City**	**124.13**	**49**	*e*PKPdf		**PKPdf**	**19 06 22.3**	**+0.4**
JCT	**Junction City**	**124.13**	**49**	⇑P		**PKPdf**	**19 06 21.9**	**0.0**
	baz=124								
DBIC	**Dimbokro**	**130.40**	**282**	SKPbc		**SKPbc**	**19 09 58.0**	**+3.2**
	comp=Z,2.2nm,0.7s,baz=49,slow=6.9,SNR=3.9								
CPUP	**Villa Florida**	**157.30**	**171**	PKPab		**PKPab**	**19 07 51.1**	**+0.9**
CPUP	**Villa Florida**	**157.30**	**171**	PKPab		**PKPab**	**19 07 51.1**	**+0.9**
	comp=Z,4.7nm,0.7s,baz=82,slow=4.4,SNR=7.8								

BJI ***11*** *18:53:55.9,3.24N×126.75E,h35km, mB5.2/7, mb4.8/43, Ms5.5/17, Ms7 5.4/16*

IDC ***11*** *18:53:58.0±0.4,3.97N×126.66E, h0km, mb4.8/38, mb1 4.9/38, mb1mx4.9/39, mbtmp4.8/38, MS5.5/1, Ms1 5.4/1, ms1mx4.2/40, Error ellipse: s-maj=15.8km s-min=9.5km az=78.0*

MOS ***11*** *18:54:01.2±1.0,3.98N×126.68E, h33km, mb5.3/21, Error ellipse: s-maj=13.3km s-min=6.1km az=116.8*

ISCJB ***11*** *18:54:02.8±0.2, 4.09N±0.04×126.82E±0.04, h45km, mb5.0/104, MS5.4/8, Error ellipse: s-maj=5.3km s-min=3.9km az=173.8*

NEIC ***11*** *18:54:03.1±0.2, 3.95N×126.71E, h35km, mb5.1/19, Error ellipse: s-maj=7.7km s-min=4.7km az=74.0*

DJA ***11*** *18:54:10, 3.66N×126.80E, h51km, mb5.1/41*

ISC 11 18:54:04.3±0.3, **4.01N**±0.04×**126.71E**±0.06, **h45**km, **n337,** σ1°**28**/328, **mb5.0**/101, **MS5.5**/8, **27C-21D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**3.16**	**216**	P	Pn	18 54 57.4	+5.8
DAV	**Davao City (W)**	**3.24**	**340**	Pn	Pn	18 54 58.4	+5.7
DAV				Sn	Sn	18 55 38.0	+8.0
DAV	**Davao City (W)**	**3.24**	**340**	Pn	Pn	18 54 58.4	+5.7
	91nm,0.3s,baz=68,slow=1.9,SNR=7.4						
DAV				Sn	Sn	18 55 38.0	+8.0
	58nm,0.3s,baz=90,slow=20,SNR=2.8						
DMPH	**Davao City--Mi**	**3.28**	**339**	*e*P	Pn	18 55 00.4	+7.2
TNTI	**Ternate**	**3.28**	**168**	P	Pn	18 54 56.3	+3.0
KCP	**Kidapawan**	**3.39**	**332**	‖*e*P	Pn	18 55 02.1	+7.3
KCP				*i* S	Sn	18 55 55.0	+21
CTBH	**Cotabato--PC H**	**4.02**	**323**	⇑*i*P	**Pn**	**18 55 04.6**	**+1.1**
MRSI	**Marisa**	**5.92**	**234**	P	Pn	18 55 33.8	+4.3
	449nm,0.7s,7µm2.1nm						
LUWI	**Luwuk**	**6.38**	**218**	P	Pn	18 55 47.4	+12
TSM	**Tawau**	**8.82**	**272**	P	**Pn**	**18 56 08.5**	**-0.8**
FAKI	**Fak Fak**

PSI Prapat 27.76 268 P **P** **18 59 49.2 -0.1**
11nm,0.8s,baz=342,slow=0.9,SNR=4.7
ASAR Alice Springs 28.39 166 P **P** **18 59 54.0 -0.7**
ASAR Alice Springs 28.39 166 P **P** **18 59 54.0 -0.7**
5.3nm,0.5s,baz=346,slow=7.7,SNR=12
NJ2 Nanjing 28.85 346 *e*P **P** **19 00 00.0 +1.4**
NJ2 pmax pmax
comp=Z,20nm,0.6s
WHN Wuhan 28.86 338 *e*P P 19 00 02.6 +4.0
GSI Gunungsitoli 29.22 266 P **P** **19 00 01.7 -0.5**
comp=Z,39nm,1.3s
JNU Nakatsue 29.22 7 P **P** **19 00 01.9 -0.1**
JNU Nakatsue 29.22 7 P **P** **19 00 01.9 -0.1**
comp=Z,6.2nm,0.5s,baz=171,slow=5.6,SNR=11
GYA Guiyang 29.44 321⇑ *i*P **P** **19 00 06.5 +2.5**
GYA pP **pP** **19 00 15.9 -0.1**
GYA PP **PnPn** **19 01 02.3 +2.7**
GYA S **S** **19 04 57.6 +2.3**
GYA sS **sS** **19 05 15.0 -0.4**
GYA SS SS 19 06 32.5 -29
GYA ScP **ScP** **19 06 48.8 +1.2**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,140nm,6.1s
GYA LR LR
comp=N,550nm,17.4s
GYA LR LR
comp=E,480nm,18.3s
CTA Charters Tower 30.70 142 P **P** **19 00 13.4 -1.7**
CTA Charters Tower 30.70 142 P **P** **19 00 13.4 -1.7**
comp=E,5.1nm,0.8s,baz=324,slow=8.7,SNR=2.7
CM31 Chiang Mai Arr 30.71 300 *e*P **P** **19 00 15.2 0.0**
comp=E,9.0nm,0.7s
CMAR Chiang Mai Arr 30.71 300 P **P** **19 00 15.8 +0.5**
CMAR Chiang Mai Arr 30.71 300 P **P** **19 00 15.8 +0.5**
comp=E,10nm,0.8s,baz=117,slow=7.0,SNR=41
ENH Enshi 30.78 330 *e*P **P** **19 00 14.9 -0.8**
comp=E,21nm,0.8s
CHTO Chiang Mai 30.86 301 *e*P **P** **19 00 16.6 0.0**
CHTO Chiang Mai 30.86 301 *e*P **P** **19 00 16.6 0.0**
CHTO Chiang Mai 30.86 301 P **P** **19 00 16.8 +0.2**
comp=E,230nm,0.8s
KMI Kunming 31.17 315 P **P** **19 00 19.3 -0.2**
KMI sP **sP** **19 00 36.2 -0.7**
KMI pmax pmax
comp=Z,11nm,1.1s
KSAR Wonju Array Be 33.29 2 P **P** **19 00 38.8 +1.1**
KSAR PcP **PcP** **19 03 20.6 +1.5**
KSRS Korea Array 33.30 2 P **P** **19 00 38.8 +1.0**
comp=Z,6.4nm,0.7s,baz=179,slow=10.0,SNR=20
KSRS PcP **PcP** **19 03 20.6 +1.5**
comp=Z,3.7nm,0.7s,baz=183,slow=3.0,SNR=7.9
MJAR Matsushiro Arr 34.06 17 P **P** **19 00 42.9 -1.5**
MJAR Matsushiro Arr 34.06 17 P **P** **19 00 42.9 -1.5**
comp=Z,3.5nm,0.8s,baz=185,slow=11,SNR=9.6
MAT Matsushiro 34.06 17 P **P** **19 00 42.7 -1.7**
XAN Xi'an 34.16 333 P **P** **19 00 44.2 -1.1**
XAN pP **pP** **19 00 54.5 -2.9**
XAN S **S** **19 06 04.8 -3.9**
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN LR LR
comp=N,3μm,20.8s
XAN LR LR
comp=E,2μm,18.7s
XAN LR LR
comp=Z,3μm,17.5s
CD2 Chengdu 34.41 324 P **P** **19 00 47.4 -0.1**
CD2 pP **pP** **19 00 57.1 -2.5**
CD2 sP **sP** **19 01 01.0 -3.9**
CD2 PcP **PcP** **19 03 22.0 -0.5**
CD2 S **S** **19 06 13.7 +1.1**
CD2 sS **sS** **19 06 29.7 -3.1**
CD2 PcS **PcS** **19 07 07.0 -2.0**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,160nm,5.8s
CD2 LR LR
comp=N,8μm,16.8s
CD2 LR LR
comp=E,9μm,16.0s
CD2 LR LR
comp=Z,8μm,14.4s
FORT Forrest 34.62 178 *e*P **P** **19 00 48.4 -0.8**
FORT Forrest 34.62 178 *e*P **P** **19 00 48.8 -0.4**
comp=Z,33nm,0.7s
KLBR Kellerberrin 36.42 193 *e*P **P** **19 01 03.9 -0.8**
comp=Z,54nm,0.7s
BJT Baijiatuau 37.09 347 *e*P **P** **19 01 10.8 +0.5**
BJI Beijing 37.11 347 P **P** **19 01 12.2 +1.7**
BJI pmax pmax
comp=Z,56nm,0.6s
NWAO Narrogin (SRO) 37.82 193 *e*P **P** **19 01 16.3 -0.3**
comp=Z,44nm,0.9s
NWAO Narrogin (SRO) 37.82 193 P **P** **19 01 16.4 -0.2**
comp=Z,40nm,0.7s,baz=20,slow=9.3,SNR=21
LZH Lanzhou 38.25 329 *e*P **P** **19 01 21.1 +0.7**
LZH pP **pP** **19 01 32.8 +0.2**
LZH sP **sP** **19 01 36.0 -1.9**
LZH S **S** **19 07 13.2 +1.7**
LZH sS **sS** **19 07 30.0 -1.8**
LZH pmax pmax
comp=Z,43nm,1.0s
LZH pmax pmax
comp=Z,260nm,5.8s
LZH LR LR
comp=N,7μm,17.4s
LZH LR LR
comp=E,5μm,16.4s
LZH LR LR
comp=Z,7μm,16.2s
STKA Stephens Creek 38.40 159 *e*P **P** **19 01 20.1 -1.3**
comp=Z,3.9nm,0.6s
STKA Stephens Creek 38.40 159 *e*P **P** **19 01 20.2 -1.3**
comp=Z,15nm,0.5s
STKA Stephens Creek 38.40 159 P **P** **19 01 20.6 -0.9**
comp=Z,18nm,0.6s,baz=334,slow=8.8,SNR=26
STKA LR LR 19 18 35.6
comp=Z,7μm,18.1s,baz=147,slow=38
HHC Hu-ho-hao-te 39.13 342 *e*P **P** **19 01 27.9 +0.3**
HHC pP **pP** **19 01 38.9 -0.9**
HHC sP **sP** **19 01 42.4 -2.8**
HHC PP **PnPn** **19 03 03.3 +2.5**
HHC S **S** **19 07 27.3 +2.9**
HHC sS **sS** **19 07 42.8 -2.0**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC LR LR
comp=N,6μm,17.8s
HHC LR LR
comp=E,3μm,16.7s
HHC LR LR
comp=Z,7μm,20.2s
CN2 Changchun 39.64 359 *e*P **P** **19 01 32.8 +1.1**
CN2 *e*S **S** **19 07 34.6 +2.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,10.0s
CN2 LR LR
comp=N,10μm,16.0s
CN2 LR LR
comp=E,7μm,16.0s
CN2 LR LR
comp=Z,7μm,18.0s
USRK Ussuriysk Arra 40.30 6 P **P** **19 01 38.2 +1.2**
comp=Z,5.6nm,0.8s,baz=191,slow=7.3,SNR=7.8
MDJ Mudanjiang 40.52 3 P **P** **19 01 40.4 +1.4**
MDJ pmax pmax
comp=Z,13nm,1.1s
MDJ Mudanjiang 40.52 3 *e*P **P** **19 01 40.9 +1.9**
comp=Z,4.6nm,0.8s
ARMA Armidale 41.71 147 *e*P **P** **19 01 49.3 +0.2**
LSA Lhasa 42.24 311 *e*P P 19 01 50.2 -3.7
LSA Lhasa 42.24 311 *e*P P 19 01 50.1 -3.7
ASAJ Asahikawa 42.33 17 P **P** **19 01 55.0 +1.2**
ASAJ Asahikawa 42.33 17 P **P** **19 01 55.0 +1.2**
comp=Z,9.2nm,0.6s,baz=216,slow=5.5,SNR=12
GTA Gaotai 42.85 329 *e*P **P** **19 01 58.4 +0.1**
GTA pP **pP** **19 02 07.6 -3.0**
GTA sP **sP** **19 02 12.4 -3.5**
GTA PP **PP** **19 03 41.6 +3.2**
GTA pmax pmax
comp=Z,8.0nm,0.9s
TAPN Taplejung 43.84 306 *e*P **P** **19 02 06.6 -0.1**
comp=Z,55nm,0.8s
TAPN Taplejung 43.84 306 *e*P **P** **19 02 06.6 -0.1**
comp=Z,55nm,0.8s
ODAN Odare 43.89 305 *e*P **P** **19 02 06.8 -0.2**
comp=Z,61nm,0.7s
ODAN Odare 43.89 305 *e*P **P** **19 02 06.8 -0.2**
comp=Z,61nm,0.7s
CAN Canberra 44.37 154 *e*P **P** **19 02 11.6 +1.1**
comp=Z,16nm,0.7s
RAMN Ramite 44.57 305 *e*P **P** **19 02 12.1 -0.4**
comp=Z,45nm,0.8s
RAMN Ramite 44.57 305 *e*P **P** **19 02 12.3 -0.2**
comp=Z,45nm,0.8s
TOO Toolangi 44.91 159 *e*P **P** **19 02 15.6 +0.9**
comp=Z,75nm,1.2s
JIRN Jiri 45.19 306 *e*P **P** **19 02 17.3 -0.3**
comp=Z,13nm,0.8s
JIRN Jiri 45.19 306 *e*P **P** **19 02 17.4 -0.2**
comp=Z,13nm,0.8s
KLR Kul'dur 45.26 5 *e*P **P** **19 02 14.2 -3.1**
HIA Hailar 45.48 354 *e*P **P** **19 02 20.5 +1.4**
comp=Z,23nm,1.0s
GUN Gumba 45.54 306 *e*P **P** **19 02 20.0 -0.3**
comp=Z,72nm,0.7s
GUN Gumba 45.54 306 *e*P **P** **19 02 20.0 -0.3**
comp=Z,72nm,0.7s
PKI Pulchoki 45.79 305 *e*P **P** **19 02 21.4 -0.8**
PKI Pulchoki 45.79 305 *e*P **P** **19 02 21.5 -0.8**
comp=Z,11nm,0.5s
KKN Kakani 45.98 305 *e*P **P** **19 02 22.7 -1.0**
comp=Z,28nm,0.8s
KKN Kakani 45.98 305 *e*P **P** **19 02 23.0 -0.7**
comp=Z,28nm,0.8s
DMN Daman 46.05 305 *e*P **P** **19 02 23.7 -0.5**
comp=Z,36nm,0.8s
DMN Daman 46.05 305 *e*P **P** **19 02 23.8 -0.5**
comp=Z,36nm,0.8s
GKN Gorkha 46.59 305 *e*P **P** **19 02 27.6 -0.7**
GKN Gorkha 46.59 305 *e*P **P** **19 02 27.6 -0.7**
comp=Z,15nm,0.5s
DZM Mont Dzumac 46.71 125 P **P** **19 02 29.2 -0.1**
DZM Mont Dzumac 46.71 125 P **P** **19 02 29.2 -0.1**
comp=Z,9.0nm,0.8s,baz=315,slow=10.0,SNR=10
ULN Ulaanbaatar 46.85 342 *e*P **P** **19 02 30.8 +0.8**
ULN Ulaanbaatar 46.85 342 P P 19 02 33.9 +3.9
comp=Z,88nm,1.1s
SONM Songino Array 47.03 341 P **P** **19 02 32.3 +0.9**
SONM PcP **PcP** **19 04 04.1 +1.1**
SONM Songino Array 47.03 341 P **P** **19 02 32.3 +0.9**
comp=Z,6.4nm,0.7s,baz=161,slow=8.8,SNR=13
SONM PcP **PcP** **19 04 04.1 +1.1**
comp=Z,6.5nm,0.9s,baz=142,slow=4.2,SNR=7.5
KOLN Koldanda 47.35 305 *e*P **P** **19 02 34.0 -0.3**
comp=Z,106nm,0.7s
KOLN Koldanda 47.35 305 *e*P **P** **19 02 34.1 -0.3**
comp=Z,106nm,0.7s
DANN Dangsing 47.44 305 *e*P **P** **19 02 34.2 -0.9**
comp=Z,115nm,0.7s
DANN Dangsing 47.44 305 *e*P **P** **19 02 34.7 -0.4**
comp=Z,115nm,0.7s
HYB Hyderabad 49.00 290 *i*P **P** **19 02 46.0 -1.0**
ZAK Zakamensk 50.25 341 *e*P **P** **19 02 55.2 -0.9**
ZAK pmax pmax
comp=Z,3.0nm,1.2s
TLY Talaya 51.26 342 *e*P **P** **19 03 04.3 +0.7**
TLY pmax pmax
comp=Z,10.0nm,0.8s
TLY Talaya 51.26 342 *e*P **P** **19 03 04.6 +1.1**
IRK Irkutsk 51.56 343 *e*P P 19 03 11.6 +5.8
IRK pmax pmax
comp=Z,27nm,1.7s
MOY Mondy 52.11 340 *e*P **P** **19 03 10.3 +0.3**
WMQ Urumqi 52.48 325 P **P** **19 03 12.6 -0.3**
WMQ pP **pP** **19 03 23.8 -1.7**
WMQ sP **sP** **19 03 26.5 -4.2**
WMQ pmax pmax
comp=Z,11nm,0.9s
POO Poona 53.60 290 *e*PKP **P** **19 03 19.0 -2.5**
BOD Bodaibo 54.59 352 *e*P **P** **19 03 28.7 +0.8**
BOD pmax pmax
comp=Z,15nm,1.3s
PETK Petropavlovsk- 55.18 22 P **P** **19 03 33.2 +0.8**
PETK Petropavlovsk- 55.18 22 P **P** **19 03 33.2 +0.8**
PETK Petropavlovsk- 55.18 22 P **P** **19 03 33.2 +0.8**
comp=Z,10nm,0.6s,baz=193,slow=4.2,SNR=12
MK31 Makanchi Array 57.31 325 *e*P **P** **19 03 47.5 -0.2**
MK31 Makanchi Array 57.31 325 *e*P **P** **19 03 47.5 -0.2**
MKAR Makanchi Array 57.31 325 P **P** **19 03 48.0 +0.3**
MKAR 19 04 42.3
MKAR Makanchi Array 57.31 325 P **P** **19 03 48.0 +0.3**
MKAR PcP **PcP** **19 04 42.3 +0.8**
MKAR Makanchi Array 57.31 325 P **P** **19 03 48.0 +0.3**
comp=Z,14nm,0.7s,baz=118,slow=7.9,SNR=14
MKAR PcP **PcP** **19 04 42.3 +0.8**
comp=Z,8.4nm,0.8s,baz=116,slow=5.5,SNR=5.5
KSH Kashi 57.83 315 *e*P **P** **19 03 53.7 +2.1**
KSH pP **pP** **19 04 03.3 -1.1**
KSH sP **sP** **19 04 07.4 -2.2**
KSH PcP **PcP** **19 04 44.1 +0.3**
KSH PP **PP** **19 06 03.3 +3.1**
KSH ScP **ScP** **19 08 39.9 -0.5**
KSH PcS **PcS** **19 08 44.1 -1.2**
KSH S **S** **19 11 49.5 +1.3**
KSH sS **sS** **19 12 06.1 -3.4**
KSH ScS **ScS** **19 13 36.8 -1.0**
KSH SS **SS** **19 15 42.5 +3.0**
KSH LR LR
comp=N,1μm,12.7s
KSH LR LR
comp=E,3μm,15.4s
KSH LR LR
comp=Z,7μm,18.3s
YAK Yakutsk 57.93 2 *e*P **P** **19 03 51.9 +0.2**
YAK pmax pmax
comp=Z,56nm,0.9s
YAK pmax pmax
comp=N,19nm,1.2s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK Yakutsk 57.93 2 *e*P **P** **19 03 52.5 +0.8**
comp=E,76nm,0.8s
AAK Ala-Archa 60.13 318 *i*P **P** **19 04 09.0 +1.4**
AAK pmax pmax
comp=Z,15nm,1.1s
AAK Ala-Archa 60.13 318 *e*P **P** **19 04 07.0 -0.6**
AAK Ala-Archa 60.13 318 P **P** **19 04 07.4 -0.2**
comp=Z,4.6nm,0.8s,baz=164,slow=12,SNR=10
ZALV Zalesovo Beam 60.33 333 P **P** **19 04 07.9 -0.5**
ZALV Zalesovo Beam 60.33 333 P **P** **19 04 07.9 -0.5**
ZALV Zalesovo Beam 60.33 333 P **P** **19 04 07.9 -0.5**
comp=Z,3.3nm,0.4s,baz=131,slow=5.9,SNR=9.6
KURBB Kurchatov Arra 61.49 327 P **P** **19 04 15.9 -0.5**
comp=Z,12nm,0.7s,baz=130,slow=6.4,SNR=17
KURK Kurchatov 61.49 327 *i*P **P** **19 04 15.7 -0.7**
KURK pmax pmax
comp=Z,9.0nm,0.6s
KURK Kurchatov 61.49 327 *e*P P 19 04 10.8 -5.6
KURK Kurchatov 61.49 327 P **P** **19 04 16.8 +0.4**
comp=Z,225nm,0.4s,SNR=8.5
SEY Seymchan 61.77 13‖ *e*P **P** **19 04 20.4 +2.4**
KK31 Karatay Array 63.01 317 *i*P **P** **19 04 26.9 +0.1**
KK31 pmax pmax
comp=Z,18nm,0.9s
KKAR Karatay Array 63.01 317 *e*P **P** **19 04 26.2 -0.6**
KKAR pmax pmax
comp=Z,17nm,0.9s
KKAR Karatay Array 63.01 317 *e*P **P** **19 04 26.2 -0.6**
comp=Z,17nm,0.9s
BVA0 Borovoye Array 67.07 327 P **P** **19 04 52.5 -0.5**
BVA0 pmax pmax
comp=Z,4.0nm,1.8s
BVAR Borovoye Array 67.07 327 P **P** **19 04 53.2 +0.2**
BVAR Borovoye Array 67.07 327 P **P** **19 04 53.2 +0.2**
BVAR Borovoye Array 67.07 327 P **P** **19 04 53.2 +0.2**
comp=Z,4.3nm,0.7s,baz=128,slow=9.5,SNR=13
BRVK Borovoye 67.15 327 *i*P **P** **19 04 53.7 +0.3**
BRVK pmax pmax
comp=Z,11nm,0.7s
BRVK Borovoye 67.15 327 *e*P **P** **19 04 53.0 -0.4**
BRVK Borovoye 67.15 327 P **P** **19 04 53.3 -0.1**
comp=Z,94nm,1.0s,SNR=5.4
BILL Bilibino 69.29 15 *e*P **P** **19 05 04.8 -1.7**
BILL *e* 19 05 27.3
BILL *e* 19 07 37.1
BILL pmax pmax
comp=Z,4.0nm,1.1s
ABKT Ailbek 70.70 309 P **P** **19 05 16.6 +0.7**
comp=Z,84nm,0.9s,SNR=5.1
AB31 Akbulak array 71.92 321 *i*P **P** **19 05 22.5 -0.4**
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 71.92 321 *e*P **P** **19 05 22.6 -0.3**
comp=Z,4.9nm,0.6s
SVE Sverdlovsk 73.71 328⇑ *e*P **P** **19 05 33.4 0.0**
SVE pmax pmax
comp=Z,16nm,0.8s
ARU Arti 74.69 328 *d i*P **P** **19 05 39.1 0.0**
ARU 19 08 22.9
ARU S **S** **19 15 13.0 +1.2**
ARU pmax pmax
comp=Z,19nm,1.0s
ARU Arti 74.69 328 P **P** **19 05 39.5 +0.4**
comp=Z,114nm,0.6s,SNR=6.5
QRN Al-Qurain 78.26 298 *e*P **P** **19 05 59.3 -0.6**
QRN AMb AMB 19 06 07.8
comp=Z,78nm,1.3s
RDF Al-Radifah 78.58 299 *e*P **P** **19 06 01.5 -0.2**
RDF AMb AMB 19 06 10.4
comp=Z,54nm,1.3s
MIB Mutribah 78.80 299 *e*P **P** **19 06 02.1 -0.8**
MIB AMb AMB 19 06 04.6
comp=Z,52nm,0.8s
NAY Al-Naaiem 78.86 299 *e*P **P** **19 06 02.4 -0.9**
NAY AMb AMB 19 06 04.8
comp=Z,21nm,0.9s
OPO Ambohidratompo 81.37 251 P **P** **19 06 17.0 -0.1**
OPO Ambohidratompo 81.37 251 P **P** **19 06 17.0 -0.1**
comp=Z,4.9nm,0.7s,baz=60,slow=4.8,SNR=5.4
KDAK Kodiak Island 81.67 32 P **P** **19 06 18.6 +1.0**
KDAK Kodiak Island 81.67 32 P **P** **19 06 19.0 +1.3**
comp=Z,201nm,0.8s,SNR=5.9
KDAK Kodiak Island 81.67 32 P **P** **19 06 18.6 +1.0**
comp=Z,22nm,0.8s,baz=271,slow=7.3,SNR=11
ZEI Tsey 82.01 312 *e*P **P** **19 06 19.8 -0.4**
ZEI pmax pmax
comp=Z,17nm,0.9s
KIV Kislovodsk 82.93 314 *e*P **P** **19 06 24.0 -0.8**
KIV pmax pmax
comp=Z,13nm,0.9s
SLKM Skilak Lake 83.11 30 *e*P **P** **19 06 24.6 -0.6**
SLKM Skilak Lake 83.11 30 *e*P **P** **19 06 24.6 -0.6**
VRHR Novokhopersk 83.81 321 *e*P **P** **19 06 28.3 -0.7**
VRHR pmax pmax
comp=Z,10.0nm,1.2s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,9.0nm,1.0s
MAW Mawson 84.01 200 P **P** **19 06 30.5 +0.9**
MAW Mawson 84.01 200 P **P** **19 06 30.5 +0.9**
comp=E,18nm,0.3s,baz=326,slow=3.6,SNR=6.9
ILAR Eielson Array 84.86 25 P **P** **19 06 34.9 +0.9**
ILAR Eielson Array 84.86 25 P **P** **19 06 34.9 +0.9**
comp=E,5.8nm,0.9s,baz=251,slow=5.5,SNR=36
KLMR Klimovskoe 85.15 331 *e*P **P** **19 06 34.5 -1.0**
KLMR pmax pmax
comp=Z,81nm,0.9s
VORD Divnogorie 85.28 321 *e*P **P** **19 06 36.0 -0.4**
DIV Divide 85.31 29 *e*P **P** **19 06 37.5 +1.1**
comp=Z,67nm,1.1s
VSR Storozhevoye 85.36 321 *e*P **P** **19 06 36.5 -0.3**
MOS Moscow 86.20 325 *e*P **P** **19 06 39.9 -0.9**
OBN Obninsk 86.82 325‖ *e*P **P** **19 06 43.9 0.0**
OBN pmax pmax
comp=Z,64nm,1.6s
ASF Jabal al Asfar 87.73 302 P **P** **19 06 49.6 +0.7**
ASF Jabal al Asfar 87.73 302 P **P** **19 06 49.6 +0.7**
comp=Z,7.4nm,0.7s,baz=130,slow=7.9,SNR=11
JOF Joensuu 88.92 333 *e*P **P** **19 06 54.1 +0.3**
JOF pmax pmax
comp=Z,12nm,0.7s
JOF Joensuu 88.92 333 *ep* **P** **19 06 54.1 +0.3**
comp=Z,12nm,0.7s
KMBO Kilima Mbogo 89.54 269 *e*P **P** **19 06 58.3 +0.3**
EIL Elat 89.56 300 P **P** **19 06 58.0 +0.5**
EIL Elat 89.56 300 P **P** **19 06 58.0 +0.5**
comp=Z,8.4nm,0.8s,baz=46,slow=3.1,SNR=8.1
KEV Kevo 89.62 340 *e*P **P** **19 06 59.3 +2.4**
KEV pmax pmax
comp=Z,5.0nm,0.8s
KEV Kevo 89.62 340 *ep* **P** **19 06 59.3 +2.4**
comp=Z,5.1nm,0.8s
BRTR Keskin Array B 89.83 310 P **P** **19 06 57.8 -1.0**
BRTR Keskin Array B 89.83 310 P **P** **19 06 57.8 -1.0**
comp=Z,8.1nm,0.9s,baz=116,slow=4.8,SNR=28
INK Inuvik 89.91 21 P **P** **19 06 59.2 +0.9**
INK Inuvik 89.91 21 P **P** **19 06 59.2 +0.9**
comp=Z,2.1nm,0.8s,baz=306,slow=5.1,SNR=4.3
ARCES ARCESS Array B 90.18 340 P **P** **19 06 59.3 -0.3**
ARCES ARCESS Array B 90.18 340 P **P** **19 06 59.3 -0.3**
comp=Z,6.9nm,0.8s,baz=76,slow=5.2,SNR=11
KAF Kangasniemi 91.34 332 *e*P **P** **19 07 04.4 -0.7**
KAF pmax pmax
comp=Z,9.0nm,0.8s
KAF Kangasniemi 91.34 332 *ep* **P** **19 07 04.4 -0.7**
comp=Z,8.7nm,0.8s
FINES FINESS Array B 91.58 332 P **P** **19 07 06.4 +0.2**
FINES FINESS Array B 91.58 332 P **P** **19 07 06.4 +0.2**
comp=Z,8.3nm,0.8s,baz=76,slow=5.9,SNR=13
AKASG Malin Array Be 91.66 321 *i*P **P** **19 07 06.3 -0.6**
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG Malin Array Be 91.66 321 P **P** **19 07 06.2 -0.6**
AKASG Malin Array Be 91.66 321 P **P** **19 07 06.2 -0.6**
comp=Z,9.7nm,0.7s,baz=68,slow=4.9,SNR=25
KIEV Kiev 91.67 321 *e*P **P** **19 07 05.7 -1.2**
KIEV pmax pmax
comp=Z,10.0nm,0.9s
KIEV Kiev 91.67 321 *e*P **P** **19 07 05.7 -1.2**
comp=Z,10.0nm,0.9s
NACGM Naroch 92.44 325 *e* P 19 07 07.0 -3.3
SYO Syowa Base 92.68 201⇑ *i*P **P** **19 07 10.8 -0.3**
TLCR 92.74 315⇑ P **P** **19 07 11.6 -0.3**
TLCR 92.74 315⇑ *i*P **P** **19 07 11.6 -0.3**
TIRR Tirgusor 93.13 315‖ *i*P P 19 07 07.0 -6.7
TIRR Tirgusor 93.13 315‖ *i*P P 19 07 07.0 -6.7
CFR Carcaliu 93.21 316⇑ P **P** **19 07 13.8 -0.3**
CFR Carcaliu 93.21 316⇑ *i*P **P** **19 07 13.8 -0.3**
QSPA South Pole Qui 93.92 180 *e*P **P** **19 07 17.4 +0.4**
comp=Z,11nm,0.9s
QSPA South Pole Qui 93.92 180 P **P** **19 07 17.2 +0.2**
comp=Z,9.9nm,0.9s,baz=315,slow=0.7,SNR=15
TESR 94.02 317⇑ P **P** **19 07 17.7 -0.1**
VRI Vrincioaia 94.08 316⇑ P **P** **19 07 18.4 +0.3**
VRI Vrincioaia 94.08 316⇑ *i*P **P** **19 07 18.4 +0.3**
PLOR Plostina 94.13 316⇑ P **P** **19 07 17.1 -1.3**
PLOR Plostina 94.13 316⇑ *i*P **P** **19 07 17.1 -1.3**
SUW Suwalki 94.68 325 *e*P **P** **19 07 19.8 -0.8**
SUW pmax pmax
comp=Z,52nm,0.8s
SUW Suwalki 94.68 325 *e*P **P** **19 07 19.8 -0.8**
comp=Z,52nm,0.8s
MLR Muntele Rosu 94.69 316 P **P** **19 07 21.0 -0.1**
MLR Muntele Rosu 94.69 316‖ *i*P **P** **19 07 20.9 -0.2**
MLR Muntele Rosu 94.69 316 P **P** **19 07 21.0 -0.1**
comp=Z,3.1nm,0.8s,baz=141,slow=3.6,SNR=19
BURAR Bucovina Array 94.78 318⇑ *i*P **P** **19 07 21.6 +0.2**
BUR08 Bucovina Ar. S 94.78 318 *e*P **P** **19 07 21.0 -0.5**
VOIR 95.31 316⇑ P **P** **19 07 22.7 -1.2**
VOIR 95.31 316⇑ *i*P **P** **19 07 22.6 -1.3**
LOT Lotru 96.19 316⇑ *i*P **P** **19 07 28.4 +0.5**
KOLS Kolonicke sedl 96.42 320 *e*P **P** **19 07 28.9 +0.2**
KOLS *e* 19 09 12.6
TRPA Tarpa 96.43 319⇑ *i*P **P** **19 07 28.3 -0.5**
UZH Uzhgorod 96.47 320⇑ *i*P **P** **19 07 29.5 +0.5**
UZH *e* 19 07 41.9
DRGR 96.62 318⇑ P **P** **19 07 29.3 -0.5**
DRGR 96.62 318⇑ *i*P **P** **19 07 29.3 -0.5**
CRVS Cervenica-Dubn 96.94 320 *e*P **P** **19 07 31.8 +0.7**
CRVS *e* 19 09 14.7
CRVS *e* 19 11 47.9
VTS Vitosha 97.19 314‖ *e*P **P** **19 07 31.4 -1.2**
VTS Vitosha 97.19 314‖ *i*P **P** **19 07 31.4 -1.2**
BZS Buzias 97.63 317‖ P **P** **19 07 32.5 -1.8**
BZS Buzias 97.63 317‖ *i*P **P** **19 07 32.5 -1.8**
HFS Hagfors 97.76 332 P Pdif 19 07 33.9 -0.6
HFS Hagfors 97.76 332 P Pdif 19 07 33.9 -0.6

	comp=Z,1.4nm,0.5s,baz=126,slow=7.3,SNR=6.6							
NB2	**NORSAR Subarra**	98.53	334	P		Pdif	19 07 37.5	-0.5
	comp=Z,3.9nm,0.9s,baz=68,slow=4.6							
NOA	**NORSAR Array B**	98.53	334	P		Pdif	19 07 37.6	-0.5
NOA	**NORSAR Array B**	98.53	334	P		Pdif	19 07 37.6	-0.5
	comp=Z,1.9nm,0.7s,baz=67,slow=4.5,SNR=6.8							
MORC	**Moravsky Berou**	99.17	322	⇓P		Pdif	19 07 29.0	-12
MORC	**Moravsky Berou**	99.17	322	⇓iP		Pdif	19 07 29.0	-12
MORC	**Moravsky Berou**	99.17	322	⇑iP		PP	19 11 41.2	-2.6
YKA	**Yellowknife Ar**	99.25	24	P		**Pdif**	19 07 42.6	+1.5
YKA	**Yellowknife Ar**	99.25	24	P		**Pdif**	19 07 42.6	+1.5
	comp=Z,0.4nm,0.5s,baz=299,slow=4.3,SNR=9.2							
KSP	**Ksiaz**	99.61	323	*e*P		**Pdif**	19 07 44.0	+1.0
KSP	**Ksiaz**	99.61	323	*e*P		**Pdif**	19 07 44.0	+1.0
BRG	**Berggiesshubel**	101.00	323	*e*P		**Pdif**	19 07 49.9	+0.7
	comp=Z,8.5nm,0.8s							
BRG	**Berggiesshubel**	101.00	323	*e*P		**Pdif**	19 07 49.9	+0.7
BRG				pmax		pmax		
	comp=Z,9.0nm,0.9s							
CLL	**Collm**	101.40	324	*e*P		**Pdif**	19 07 51.0	0.0
CLL				pmax		pmax		
	comp=Z,6.0nm,0.9s							
CLL	**Collm**	101.40	324	*e*Pdif		**Pdif**	19 07 51.0	0.0
	comp=Z,6.0nm,0.9s							
GERES	**GERESS Array B**	101.85	322	P		**Pdif**	19 07 52.8	-0.4
GERES	**GERESS Array B**	101.85	322	P		**Pdif**	19 07 52.8	-0.4
	comp=Z,2.2nm,0.9s,baz=93,slow=4.9,SNR=8.3							
NVAR	**Mina Array Bea**	106.74	48	Pdif		**Pdif**	19 08 15.9	+0.6
NVAR	**Mina Array Bea**	106.74	48	Pdiff		**Pdif**	19 08 15.9	+0.6
	comp=Z,0.8nm,0.8s,baz=258,slow=4.5,SNR=3.2							
J22A	**Midwest**	112.83	39	⇓P		**PKiKP**	19 12 36.9	+0.1
	baz=113							
ULM	**Lac du Bonnet**	114.72	29	PKP		PKPdf	19 12 40.2	+0.2
ULM	**Lac du Bonnet**	114.72	29	PKP		PKPdf	19 12 40.2	+0.2
	comp=Z,0.8nm,0.4s,baz=269,slow=2.7,SNR=3.8							
ISCO	**Idaho Springs**	115.18	42	⇑P		**PKPdf**	19 12 41.5	-0.1
	baz=115							
V25A	**Rancho No Teng**	117.78	46	⇓P		**PKPdf**	19 12 47.0	+0.4
	baz=118							
Y24A	**Capitan**	118.06	48	⇓P		**PKPdf**	19 12 47.8	+0.6
	baz=118							
ECSD	**EROS Data Cent**	118.57	34	*e*PKPdf		**PKPdf**	19 12 47.8	+0.2
MNTX	**Cornudas Mount**	119.09	50	⇓P		**PKPdf**	19 12 49.7	+0.8
	baz=119							
425A	**Indio Mountain**	119.79	51	⇑P		**PKPdf**	19 12 51.2	+0.7
	baz=120							
Z27A	**Tatum**	119.99	48	⇓P		**PKPdf**	19 12 51.0	+0.3
	baz=120							
SCHQ	**Schefferville**	120.29	9	PKP		**PKPdf**	19 12 51.5	+0.9
SCHQ	**Schefferville**	120.29	9	PKP		**PKPdf**	19 12 51.5	+0.9
	comp=Z,4.5nm,1.0s,baz=325,slow=3.6,SNR=5.5							
427A	**Hayter Ranch,**	120.98	50	⇓P		**PKPdf**	19 12 53.3	+0.6
	baz=121							
527A	**Woodward Ranch**	121.13	51	⇑P		**PKPdf**	19 12 53.4	+0.3
	baz=121							
TXAR	**Lajitas Array**	121.44	52	PKP		**PKPdf**	19 12 54.7	+1.0
TXAR	**Lajitas Array**	121.44	52	PKP		**PKPdf**	19 12 54.7	+1.0
	comp=Z,2.0nm,0.7s,baz=237,slow=3.1,SNR=3.0							
627A	**Terlingua Ranc**	121.61	52	⇑P		**PKPdf**	19 12 54.6	+0.6
	baz=122							
528A	**Cox Ranch, San**	121.76	51	⇑P		**PKPdf**	19 12 54.7	+0.4
	baz=122							
TORD	**Torodi Ar. Bea**	122.81	288	PKP		**PKPdf**	19 12 56.6	+0.1
TORD	**Torodi Ar. Bea**	122.81	288	PKP		**PKPdf**	19 12 56.6	+0.1
	comp=Z,1.5nm,0.7s,baz=67,slow=1.8,SNR=8.2							
JCT	**Junction City**	123.89	49	*e*PKIKP		**PKPdf**	19 12 59.5	+1.3
JCT	**Junction City**	123.89	49	*e*PKPdf		**PKPdf**	19 12 59.5	+1.3
JCT	**Junction City**	123.89	49	⇓P		**PKPdf**	19 12 58.7	+0.4
	baz=124							
DBIC	**Dimbokro**	130.50	282	PKP		**PKPdf**	19 13 12.2	+0.9
DBIC	**Dimbokro**	130.50	282	PKP		**PKPdf**	19 13 12.2	+0.9
	comp=Z,2.0nm,0.7s,baz=45,slow=2.9,SNR=3.3							
PLCA	**Paso Flores**	140.27	159	PKP		**PKPdf**	19 13 31.0	+2.2
PLCA	**Paso Flores**	140.27	159	PKP		**PKPdf**	19 13 31.0	+2.2
	comp=Z,2.3nm,0.9s,baz=0.0,slow=2.0,SNR=4.0							
CFAA	**Coronel Fontan**	149.16	155	PKPbc		**PKPbc**	19 13 48.2	-0.3
CFAA	**Coronel Fontan**	149.16	155	PKPbc		**PKPbc**	19 13 48.2	-0.3
	comp=Z,0.4nm,0.3s,baz=182,slow=11,SNR=4.7							
CPUP	**Villa Florida**	157.47	171	PKPab		**PKPab**	19 14 28.9	+1.0
CPUP	**Villa Florida**	157.47	171	PKPab		**PKPab**	19 14 28.9	+1.0
	comp=Z,6.7nm,0.7s,baz=174,slow=4.9,SNR=14							

IDC ***11*** *18:55:41.0±0.5, 3°.94N×126°.46E, h0km, mb4.6/26, mb1 4.7/26, mb1mx4.7/28, mbtmp4.6/26, Error ellipse: s-maj=24.2km s-min=11.8km az=75.0*
NEIC ***11*** *18:55:43.7±4.4, 3°.95N×126°.50E, h18km±27km, mb4.9/13, Error ellipse: s-maj=11.9km s-min=6.6km az=75.0*
ISCJB ***11*** *18:55:45.6±0.3, 3°.96N±0°.05×126°.60E±0°.07, h45km, mb4.7/40, Error ellipse: s-maj=10.9km s-min=7.0km az=163.9*

ISC 11 18:55:47.5±0.4, 3°.97N±0°.07×126°.6E±0°.1, h45km, n93, σ0s89/89, mb4.8/38, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KKM	**Kota Kinabalu**	10.54	282	P		Pn	18 58 11.3	-4.8
	153nm,0.9s							
YULB	**Yu-li**	19.97	346	*e*P		**P**	19 00 13.0	-3.2
SSLB	**Suanglung**	20.44	345	*e*P		**P**	19 00 20.7	-0.5
YHNB	**Yeheng**	21.18	347	*e*P		**P**	19 00 28.8	-0.4
FITZ	**Fitzroy Crossi**	21.95	182	P		**P**	19 00 37.6	+0.2
FITZ	**Fitzroy Crossi**	21.95	182	P		**P**	19 00 37.6	+0.2
	7.9nm,0.4s,baz=9.4,slow=10,SNR=3.4							
WRA	**Warramunga Arr**	24.95	162	P		**P**	19 01 04.5	-2.3
WRA	**Warramunga Arr**	24.95	162	P		**P**	19 01 04.6	-2.3
	520nm,0.3s,baz=336,slow=11,SNR=2.6							
IPM	**Ipoh**	25.50	272	*e*P		**P**	19 01 14.1	+2.2
	12nm,0.9s							
MBWA	**Marble Bar**	25.86	195	*e*P		**P**	19 01 14.4	-0.6
	36nm,1.1s							
ASAR	**Alice Springs**	28.38	166	P		**P**	19 01 37.7	0.0
ASAR	**Alice Springs**	28.38	166	P		**P**	19 01 37.7	0.0
	2.9nm,0.7s,baz=346,slow=11,SNR=2.6							
CM31	**Chiang Mai Arr**	30.63	300	*e*P		**P**	19 01 58.2	+0.4
	6.1nm,0.8s							
CMAR	**Chiang Mai Arr**	30.63	300	P		**P**	19 01 58.0	+0.3
CMAR	**Chiang Mai Arr**	30.63	300	P		**P**	19 01 58.0	+0.3
	4.0nm,0.8s,baz=124,slow=7.4,SNR=5.2							
CHTO	**Chiang Mai**	30.78	301	*e*P		**P**	19 02 00.3	+1.3
	8.0nm,0.7s							
KSAR	**Wonju Array Be**	33.33	2	P		**P**	19 02 21.4	+0.2
KSRS	**Korea Array**	33.35	2	P		**P**	19 02 21.4	+0.1
	2.5nm,0.6s,baz=180,slow=10,SNR=3.8							
MJAR	**Matsushiro Arr**	34.13	17	P		**P**	19 02 28.4	+0.2
MJAR	**Matsushiro Arr**	34.13	17	P		**P**	19 02 28.4	+0.2
	1.4nm,0.6s,baz=191,slow=8.6,SNR=3.6							
KLBR	**Kellerberrin**	36.35	193	*e*P		**P**	19 02 46.7	-0.6
	131nm,2.0s							
BJT	**Baijiatuao**	37.10	347	*e*P		**P**	19 02 53.0	-0.6
	24nm,0.6s							
NWAO	**Narrogin (SRO)**	37.75	193	P		**P**	19 02 59.0	-0.1
NWAO	**Narrogin (SRO)**	37.75	193	P		**P**	19 02 59.0	-0.1
	7.4nm,0.4s,baz=48,slow=9.7,SNR=3.7							
STKA	**Stephens Creek**	38.40	159	*e*P		**P**	19 03 03.1	-1.5
	7.5nm,1.0s							
STKA	**Stephens Creek**	38.40	159	P		**P**	19 03 03.5	-1.2
	30nm,0.9s,baz=333,slow=8.1,SNR=6.5							
USRK	**Ussuriysk Arra**	40.35	6	P		**P**	19 03 22.1	+1.5
	2.9nm,0.8s,baz=202,slow=8.2,SNR=2.8							
LSA	**Lhasa**	42.17	311	*e*P		**P**	19 03 37.3	+0.8
	26nm,0.8s							
ASAJ	**Asahikawa**	42.40	17	P		**P**	19 03 39.2	+1.6
ASAJ	**Asahikawa**	42.40	17	P		**P**	19 03 39.2	+1.6
	3.4nm,0.5s,baz=225,slow=7.1,SNR=2.5							
TAPN	**Taplejung**	43.76	306	*e*P		**P**	19 03 49.1	-0.1
	36nm,0.6s							
ODAN	**Odare**	43.82	305	*e*P		**P**	19 03 49.9	+0.3
	34nm,0.7s							
RAMN	**Ramite**	44.50	305	*e*P		**P**	19 03 54.8	-0.3
	26nm,0.8s							
JIRN	**Jiri**	45.12	306	*e*P		**P**	19 04 00.5	+0.4
GUN	**Gumba**	45.47	306	*e*P		**P**	19 04 02.5	-0.4
	29nm,0.6s							
HIA	**Hailar**	45.51	354	*e*P		P	19 03 58.8	-3.7
	28nm,1.2s							
PKI	**Pulchoki**	45.72	305	*e*P		**P**	19 04 04.5	-0.3
	34nm,0.9s							
KKN	**Kakani**	45.91	305	*e*P		**P**	19 04 05.7	-0.5
	42nm,1.1s							
DMN	**Daman**	45.98	305	*e*P		**P**	19 04 05.9	-0.9
GKN	**Gorkha**	46.51	305	*e*P		**P**	19 04 10.7	-0.2
	20nm,0.7s							
DZM	**Mont Dzumac**	46.79	125	P		**P**	19 04 14.6	+1.6
DZM	**Mont Dzumac**	46.79	125	P		**P**	19 04 14.6	+1.6
	8.3nm,0.9s,baz=316,slow=8.2,SNR=4.7							
KOLN	**Koldanda**	47.27	305	*e*P		**P**	19 04 17.0	+0.1
	48nm,0.6s							
DANN	**Dangsing**	47.36	305	*e*P		**P**	19 04 17.7	0.0
	56nm,0.5s							
HYB	**Hyderabad**	48.90	290	*i* P		**P**	19 04 30.0	+0.6
PETK	**Petropavlovsk-**	55.26	22	P		**P**	19 05 16.8	+0.7
PETK	**Petropavlovsk-**	55.26	22	P		**P**	19 05 16.7	+0.7
	3.2nm,0.5s,baz=208,slow=5.9,SNR=2.8							
MKAR	**Makanchi Array**	57.28	325	P		**P**	19 05 30.3	-0.4
MKAR	**Makanchi Array**	57.28	325	P		**P**	19 05 30.3	-0.4
	6.4nm,0.5s,baz=120,slow=6.6,SNR=6.4							
YAK	**Yakutsk**	57.97	2	*e*P		**P**	19 05 36.0	+0.8
	29nm,0.7s							
ZALV	**Zalesovo Beam**	60.31	333	P		**P**	19 05 50.5	-0.9
ZALV	**Zalesovo Beam**	60.31	333	P		**P**	19 05 50.5	-0.9
	5.3nm,0.6s,baz=130,slow=6.5,SNR=6.2							
KURBB	**Kurchatov Arra**	61.46	327	P		**P**	19 05 59.0	-0.3
	9.6nm,0.5s,baz=126,slow=7.1,SNR=7.6							
KURK	**Kurchatov**	61.46	327	*e*P		**P**	19 05 58.6	-0.8
	15nm,0.6s							
KKAR	**Karatay Array**	62.96	317	*e*P		**P**	19 06 10.7	+1.1
BVAR	**Borovoye Array**	67.04	327	P		**P**	19 06 36.2	+0.3
BVAR	**Borovoye Array**	67.04	327	P		**P**	19 06 36.2	+0.3
	2.1nm,0.4s,baz=136,slow=9.4,SNR=6.1							
BRVK	**Borovoye**	67.11	327	*e*P		**P**	19 06 34.5	-1.9
	7.7nm,0.7s							
ABKAR	**Akbulak array**	71.88	321	*e*P		**P**	19 07 04.8	-1.0
	1.7nm,0.4s							
KDAK	**Kodiak Island**	81.76	32	P		**P**	19 08 01.1	-0.3
KDAK	**Kodiak Island**	81.76	32	P		**P**	19 08 01.1	-0.3
	19nm,1.1s,baz=288,slow=3.2,SNR=3.4							
ILAR	**Eielson Array**	84.95	25	P		**P**	19 08 17.4	-0.3
ILAR	**Eielson Array**	84.95	25	P		**P**	19 08 17.4	-0.3
	1.5nm,0.9s,baz=242,slow=5.5,SNR=4.1							
MMAI	**Mount Meron Ar**	88.86	303	P		**P**	19 08 36.9	-0.5
MMAI	**Mount Meron Ar**	88.86	303	P		**P**	19 08 36.9	-0.5
	2.3nm,0.6s,baz=93,slow=5.8,SNR=2.1							
BRTR	**Keskin Array B**	89.76	310	P		**P**	19 08 40.8	-0.8
BRTR	**Keskin Array B**	89.76	310	P		**P**	19 08 40.8	-0.8
	3.3nm,0.9s,baz=104,slow=4.6,SNR=6.5							
ARCES	**ARCESS Array B**	90.17	340	P		**P**	19 08 42.4	-0.3
ARCES	**ARCESS Array B**	90.17	340	P		**P**	19 08 42.4	-0.3
	3.1nm,0.6s,baz=80,slow=5.6,SNR=6.8							
FINES	**FINESS Array B**	91.56	332	P		**P**	19 08 48.8	-0.4
FINES	**FINESS Array B**	91.56	332	P		**P**	19 08 48.8	-0.4
	2.2nm,0.5s,baz=91,slow=5.6,SNR=6.3							
AKASG	**Malin Array Be**	91.62	321	P		**P**	19 08 48.6	-1.1
AKASG	**Malin Array Be**	91.62	321	P		**P**	19 08 48.6	-1.1
	3.5nm,0.6s,baz=71,slow=4.8,SNR=9.7							
MLR	**Muntele Rosu**	94.63	316	P		P	19 09 04.1	+0.1
MLR	**Muntele Rosu**	94.63	316	P		**P**	19 09 04.1	+0.1
	1.3nm,0.7s,baz=38,slow=3.7,SNR=5.3							
SUW	**Suwalki**	94.65	325	*e*P		**P**	19 09 03.5	-0.2
	29nm,0.9s							
BUR08	**Bucovina Ar. S**	94.73	318	*e*P		P	19 09 03.7	-0.6
HFS	**Hagfors**	97.74	332	P		Pdif	19 09 18.0	+0.3
HFS	**Hagfors**	97.74	332	P		Pdif	19 09 18.0	+0.4
	1.9nm,0.6s,baz=114,slow=6.5,SNR=4.9							
NB2	**NORSAR Subarra**	98.51	334	P		P	19 09 20.1	-1.0
	comp=Z,0.8nm,0.6s,baz=67,slow=4.6							
NOA	**NORSAR Array B**	98.51	334	P		P	19 09 20.5	-0.6
NOA	**NORSAR Array B**	98.51	334	P		P	19 09 20.5	-0.6
	comp=Z,1.6nm,0.8s,baz=67,slow=4.5,SNR=4.5							
YKA	**Yellowknife Ar**	99.34	24	P		**Pdif**	19 09 25.2	+0.5
YKA	**Yellowknife Ar**	99.34	24	P		**Pdif**	19 09 25.2	+0.5
	comp=Z,0.4nm,0.9s,baz=298,slow=4.9,SNR=3.1							
BRG	**Berggiesshubel**	100.96	323	*e*P		**Pdif**	19 09 33.5	+1.3
	comp=Z,9.9nm,1.2s							
GERES	**GERESS Array B**	101.81	322	P		**Pdif**	19 09 35.9	-0.3
GERES	**GERESS Array B**	101.81	322	P		**Pdif**	19 09 35.9	-0.3
	comp=Z,1.4nm,0.9s,baz=74,slow=4.2,SNR=4.7							
TORD	**Torodi Ar. Bea**	122.71	288	PKP		**PKPdf**	19 14 39.3	-0.1
TORD	**Torodi Ar. Bea**	122.71	288	PKP		**PKPdf**	19 14 39.3	-0.1
	comp=Z,1.2nm,0.6s,baz=65,slow=1.9,SNR=8.6							
CFAA	**Coronel Fontan**	149.18	155	PKPbc		**PKPbc**	19 15 32.2	+0.4
CFAA	**Coronel Fontan**	149.18	155	PKPbc		**PKPbc**	19 15 32.2	+0.4
	comp=Z,0.5nm,0.8s,baz=168,slow=4.4,SNR=1.9							
CPUP	**Villa Florida**	157.45	171	PKPab		**PKPab**	19 16 11.1	+0.2
CPUP	**Villa Florida**	157.45	171	PKPab		**PKPab**	19 16 11.1	+0.2
	comp=Z,3.3nm,0.8s,baz=144,slow=3.9,SNR=4.5							
PETK	**Petropavlovsk-**	55.47	22	P		**P**	19 07 50.9	+0.2
	4.5nm,0.8s,baz=234,slow=6.9,SNR=3.6							
MKAR	**Makanchi Array**	57.38	325	P		**P**	19 08 03.6	-0.8
MKAR	**Makanchi Array**	57.38	325	P		**P**	19 08 03.6	-0.8
	2.1nm,0.4s,baz=120,slow=7.3,SNR=11							
YAK	**Yakutsk**	58.16	2	*e*P		**P**	19 08 07.5	-2.1
	26nm,0.8s							
ZALV	**Zalesovo Beam**	60.43	333	P		**P**	19 08 24.2	-1.3
ZALV	**Zalesovo Beam**	60.43	333	P		**P**	19 08 24.2	-1.3
	1.1nm,0.4s,baz=115,slow=6.5,SNR=3.9							
KURBB	**Kurchatov Arra**	61.57	327	P		**P**	19 08 33.0	-0.2
	6.0nm,0.6s,baz=126,slow=5.8,SNR=8.3							
KURK	**Kurchatov**	61.57	328	*e*P		**P**	19 08 31.3	-1.9
	20nm,1.0s							
KKAR	**Karatay Array**	63.03	317	*e*P		**P**	19 08 43.4	+0.2
	14nm,0.9s							
BVAR	**Borovoye Array**	67.15	327	P		**P**	19 09 10.0	+0.2
BVAR	**Borovoye Array**	67.15	327	P		**P**	19 09 10.0	+0.2
	17nm,1.0s,baz=126,slow=7.3,SNR=13							
BRVK	**Borovoye**	67.22	327	*e*P		**P**	19 09 10.2	+0.1
	34nm,1.2s							
ABKAR	**Akbulak array**	71.96	321	*e*P		**P**	19 09 39.2	-0.3
	7.6nm,0.8s							
ILAR	**Eielson Array**	85.15	25	P		**P**	19 10 51.7	-0.1
ILAR	**Eielson Array**	85.15	25	P		**P**	19 10 51.7	-0.1
	0.8nm,0.9s,baz=252,slow=5.1,SNR=3.2							
ASF	**Jabal al Asfar**	87.67	302	P		P	19 11 05.0	0.0
ASF	**Jabal al Asfar**	87.67	302	P		P	19 11 05.0	0.0
	4.1nm,0.8s,baz=338,slow=12,SNR=3.9							
KMBO	**Kilima Mbogo**	89.32	269	*e*P		P	19 11 13.7	+0.3
	6.2nm,1.1s							
BRTR	**Keskin Array B**	89.81	310	P		P	19 11 13.6	-1.4
BRTR	**Keskin Array B**	89.81	310	P		P	19 11 13.6	-1.4
	2.8nm,0.9s,baz=103,slow=4.1,SNR=4.0							
ARCES	**ARCESS Array B**	90.32	340	P		P	19 11 17.0	+0.5
ARCES	**ARCESS Array B**	90.32	340	P		P	19 11 17.0	+0.5
	3.1nm,0.8s,baz=76,slow=6.2,SNR=10.0							
FINES	**FINESS Array B**	91.67	332	P		P	19 11 22.2	-0.7
FINES	**FINESS Array B**	91.67	332	P		P	19 11 22.2	-0.7
	3.2nm,0.9s,baz=78,slow=7.3,SNR=4.3							
AKASG	**Malin Array Be**	91.70	321	P		P	19 11 21.8	-1.5
AKASG	**Malin Array Be**	91.70	321	P		P	19 11 21.8	-1.5
	2.3nm,0.7s,baz=69,slow=4.1,SNR=5.8							
CFR	**Carcaliu**	93.23	316	⇓iP		P	19 11 29.9	-0.5
TESR		94.04	317	⇑iP		P	19 11 33.6	-0.6
VRI	**Vrincioaia**	94.09	316	⇓iP		P	19 11 34.7	+0.2
PLOR	**Plostina**	94.15	316	⇑iP		P	19 11 34.5	-0.3
MLR	**Muntele Rosu**	94.70	316	P		P	19 11 36.0	-1.4
MLR	**Muntele Rosu**	94.70	316	⇓iP		P	19 11 36.7	-0.7
MLR	**Muntele Rosu**	94.70	316	P		P	19 11 36.0	-1.4
	0.9nm,0.9s,baz=225,slow=5.7,SNR=3.4							
SUW	**Suwalki**	94.74	325	*e*P		P	19 11 36.3	-0.9
	8.8nm,0.5s							
BURAR	**Bucovina Array**	94.81	318	⇑iP		P	19 11 37.6	-0.2
BUR08	**Bucovina Ar. S**	94.81	318	*e*P		P	19 11 36.6	-1.2
DRGR		96.65	318	⇑iP		P	19 11 45.8	-0.4
VTS	**Vitosha**	97.19	314	⇓iP		P	19 11 39.6	-9.3
HFS	**Hagfors**	97.86	332	P		P	19 11 50.9	-0.4
HFS	**Hagfors**	97.86	332	P		P	19 11 50.9	-0.4
	1.4nm,0.7s,baz=87,slow=7.4,SNR=3.0							
NB2	**NORSAR Subarra**	98.63	334	P		P	19 11 53.1	-1.7
	comp=Z,3.4nm,1.1s,baz=67,slow=4.6							
NOA	**NORSAR Array B**	98.63	334	P		P	19 11 54.7	-0.1
NOA	**NORSAR Array B**	98.63	334	P		P	19 11 54.7	-0.1
	comp=Z,1.0nm,0.8s,baz=63,slow=4.7,SNR=2.6							
YKA	**Yellowknife Ar**	99.54	24	P		**Pdif**	19 11 59.8	+1.1
YKA	**Yellowknife Ar**	99.54	24	P		**Pdif**	19 11 59.8	+1.1
	comp=Z,0.3nm,0.7s,baz=300,slow=5.2,SNR=3.9							
GERES	**GERESS Array B**	101.90	322	P		**Pdif**	19 12 09.4	-0.3
GERES	**GERESS Array B**	101.90	322	P		**Pdif**	19 12 09.4	-0.3
	comp=Z,1.1nm,1.0s,baz=46,slow=7.0,SNR=5.0							
NVAR	**Mina Array Bea**	107.04	48	Pdif		**Pdif**	19 12 29.5	-3.4
NVAR	**Mina Array Bea**	107.04	48	Pdiff		**Pdif**	19 12 29.5	-3.4
	comp=Z,0.2nm,0.5s,baz=257,slow=3.6,SNR=2.8							
TORD	**Torodi Ar. Bea**	122.68	288	PKP		**PKPdf**	19 17 11.8	-0.7
TORD	**Torodi Ar. Bea**	122.68	288	PKP		**PKPdf**	19 17 11.8	-0.7
	comp=Z,0.5nm,0.6s,baz=89,slow=2.6,SNR=3.8							
CFAA	**Coronel Fontan**	149.05	155	PKPbc		**PKPbc**	19 18 04.8	+0.2
CFAA	**Coronel Fontan**	149.05	155	PKPbc		**PKPbc**	19 18 04.8	+0.2
	comp=Z,0.3nm,0.5s,baz=270,slow=6.1,SNR=2.9							
CPUP	**Villa Florida**	157.28	171	PKPab		**PKPab**	19 18 44.7	+1.4
CPUP	**Villa Florida**	157.28	171	PKPab		**PKPab**	19 18 44.7	+1.4
	comp=Z,1.3nm,0.7s,baz=180,slow=3.0,SNR=2.2							

IDC ***11*** *19:00:14.3±0.5, 3°.85N×126°.26E, h0km, mb4.4/28, mb1 4.5/28, mb1mx4.5/29, mbtmp4.4/28, MS5.7/1, Ms1 5.7/1, ms1mx4.6/39, Error ellipse: s-maj=23.5km s-min=11.8km az=72.0*
ISCJB ***11*** *19:00:18.9±0.4, 3°.87N±0°.06×126°.26E±0°.07, h45km, mb4.5/39, MS5.7/1, Error ellipse: s-maj=10.9km s-min=7.5km az=156.5*
NEIC ***11*** *19:00:19.7±0.3, 3°.89N×126°.33E, h35km, mb4.8/14, Error ellipse: s-maj=10.8km s-min=6.7km az=70.0*

ISC 11 19:00:20.8±0.4, 3°.87N±0°.07×126°.31E±0°.10, h45km, n87, σ0s97/82, mb4.5/38, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTBH	**Cotabato--PC H**	3.91	328	⇑iP		Pn	19 01 24.8	+6.4
KKM	**Kota Kinabalu**	10.29	283	*e*P		**Pn**	19 02 46.8	+0.8
TGY	**Tagaytay City**	11.47	333	Pn		Pn	19 03 07.0	+4.9
TGY	**Tagaytay City**	11.47	333	Pn		Pn	19 03 07.0	+4.9
	32nm,0.3s,baz=143,slow=10,SNR=5.1							
TWG	**Pinlang**	19.51	345	*e*P		**P**	19 04 42.6	-1.8
	28nm,0.4s							
YULB	**Yu-li**	20.00	346	*e*P		**P**	19 04 47.7	-2.1
	12nm,0.6s							
SSLB	**Suanglung**	20.47	346	*e*P		**P**	19 04 54.0	-0.8
	25nm,0.7s							
GUMO	**Guam**	20.71	61	P		Pn	19 05 01.4	+1.1
GUMO	**Guam**	20.71	61	P		Pn	19 05 01.3	+1.1
	31nm,0.7s,baz=315,slow=16,SNR=2.6							
YHNB	**Yeheng**	21.22	348	*e*P		**P**	19 05 04.2	+1.3
	21nm,0.6s							
FITZ	**Fitzroy Crossi**	21.84	182	P		**P**	19 05 09.5	-0.1
FITZ	**Fitzroy

SONM	**Songino Array**	**47.03**	**342**	P		**P**	**19 08 48.4**	**+0.5**
	1.5nm,0.6s,baz=162,slow=6.9,SNR=4.3							
PETK	**Petropavlovsk-**	**55.46**	**22**	P		**P**	**19 09 50.8**	**0.0**
PETK	**Petropavlovsk-**	**55.46**	**22**	P		**P**	**19 09 50.8**	**0.0**
	4.1nm,0.5s,baz=195,slow=4.8,SNR=4.8							
MKAR	**Makanchi Array**	**57.20**	**325**	P		**P**	**19 10 03.5**	**0.0**
MKAR	**Makanchi Array**	**57.20**	**325**	P		**P**	**19 10 03.5**	**0.0**
	2.1nm,0.4s,baz=117,slow=7.2,SNR=6.6							
YAK	**Yakutsk**	**58.08**	**2**	P		**P**	**19 10 09.5**	**+0.3**
	40nm,0.8s							
AAK	**Ala-Archa**	**59.97**	**318**	P		**P**	**19 10 23.0**	**0.0**
AAK	**Ala-Archa**	**59.97**	**318**	P		**P**	**19 10 23.0**	**0.0**
	1.2nm,0.7s,baz=104,slow=4.2,SNR=2.0							
ZALV	**Zalesovo Beam**	**60.28**	**333**	P		**P**	**19 10 24.4**	**-0.2**
ZALV	**Zalesovo Beam**	**60.28**	**333**	P		**P**	**19 10 24.4**	**-0.2**
	0.9nm,0.4s,baz=135,slow=8.8,SNR=2.4							
KBL	**Kabul**	**61.11**	**308**	*e*P		**P**	**19 10 31.0**	**+0.1**
	9.5nm,0.8s							
KURBB	**Kurchatov Arra**	**61.40**	**327**	P		**P**	**19 10 32.1**	**-0.1**
	3.7nm,0.5s,baz=130,slow=7.0,SNR=4.1							
KURK	**Kurchatov**	**61.40**	**328**	P		**P**	**19 10 32.1**	**-0.1**
KKAR	**Karatay Array**	**62.85**	**317**	*e*P		**P**	**19 10 41.8**	**-0.4**
	7.2nm,0.8s							
BVAR	**Borovoye Array**	**66.98**	**327**	P		**P**	**19 11 10.1**	**+1.3**
BVAR	**Borovoye Array**	**66.98**	**327**	P		**P**	**19 11 10.1**	**+1.3**
	4.2nm,0.8s,baz=133,slow=8.5,SNR=5.0							
BRVK	**Borovoye**	**67.05**	**327**	*e*P		**P**	**19 11 08.6**	**-0.7**
	30nm,1.1s							
BILL	**Bilibino**	**69.53**	**15**	*e*P		**P**	**19 11 27.6**	**+3.1**
	5.1nm,0.8s							
ABKAR	**Akbulak array**	**71.78**	**321**	*e*P		**P**	**19 11 37.0**	**-1.5**
	3.8nm,0.6s							
ARU	**Arti**	**74.60**	**328**	*e*P		**P**	**19 11 54.3**	**-0.8**
	11nm,1.0s							
KDAK	**Kodiak Island**	**81.99**	**32**	P		**P**	**19 12 37.0**	**+1.1**
KDAK	**Kodiak Island**	**81.99**	**32**	P		**P**	**19 12 37.0**	**+1.1**
	19nm,0.8s,baz=143,slow=4.7,SNR=6.4							
PMR	**Palmer**	**84.02**	**29**	*e*P		**P**	**19 12 48.9**	**+2.6**
	20nm,1.0s							
ILAR	**Eielson Array**	**85.16**	**25**	P		**P**	**19 12 51.6**	**-0.4**
ILAR	**Eielson Array**	**85.16**	**25**	P		**P**	**19 12 51.6**	**-0.4**
	1.3nm,0.8s,baz=245,slow=4.9,SNR=4.1							
BRTR	**Keskin Array B**	**89.61**	**310**	P		**P**	**19 13 14.1**	**-0.2**
BRTR	**Keskin Array B**	**89.61**	**310**	P		**P**	**19 13 14.1**	**-0.2**
	0.9nm,0.7s,baz=123,slow=3.8,SNR=4.3							
ARCES	**ARCESS Array B**	**90.17**	**340**	P		**P**	**19 13 15.6**	**-0.4**
ARCES	**ARCESS Array B**	**90.17**	**340**	P		**P**	**19 13 15.6**	**-0.4**
	1.7nm,0.7s,baz=74,slow=6.7,SNR=6.2							
FINES	**FINESS Array B**	**91.51**	**332**	P		**P**	**19 13 21.3**	**-1.1**
FINES	**FINESS Array B**	**91.51**	**332**	P		**P**	**19 13 21.3**	**-1.1**
	1.5nm,0.6s,baz=64,slow=3.9,SNR=3.7							
AKASG	**Malin Array Be**	**91.52**	**321**	P		**P**	**19 13 21.0**	**-1.7**
AKASG	**Malin Array Be**	**91.52**	**321**	P		**P**	**19 13 21.0**	**-1.7**
	1.2nm,0.6s,baz=70,slow=4.5,SNR=4.3							
NB2	**NORSAR Subarra**	**98.48**	**334**	P		**P**	**19 13 53.0**	**-1.3**
	baz=69,slow=4.6							
NB2	**NORSAR Subarra**	**98.48**	**334**	P		**P**	**19 13 53.0**	**-1.3**
	comp=Z,3.1nm,0.9s,baz=69,slow=4.6							
NOA	**NORSAR Array B**	**98.48**	**334**	P		**P**	**19 13 53.3**	**-0.9**
NOA	**NORSAR Array B**	**98.48**	**334**	P		**P**	**19 13 53.3**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=69,slow=4.5,SNR=2.8							
YKA	**Yellowknife Ar**	**99.54**	**24**	P		**Pdif**	**19 13 57.8**	**-1.2**
YKA	**Yellowknife Ar**	**99.54**	**24**	P		**Pdif**	**19 13 57.7**	**-1.2**
	comp=Z,0.2nm,0.7s,baz=300,slow=4.4,SNR=3.0							
TORD	**Torodi Ar. Bea**	**122.48**	**288**	PKP		**PKPdf**	**19 19 12.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**122.48**	**288**	PKP		**PKPdf**	**19 19 12.0**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=52,slow=3.5,SNR=2.8							
CFAA	**Coronel Fontan**	**149.20**	**155**	PKPbc		**PKPab**	**19 20 08.0**	**-1.6**
CFAA	**Coronel Fontan**	**149.20**	**155**	PKPbc		**PKPab**	**19 20 08.0**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=248,slow=3.9,SNR=5.1							
CPUP	**Villa Florida**	**157.40**	**171**	PKPab		**PKPab**	**19 20 44.3**	**+0.3**
CPUP	**Villa Florida**	**157.40**	**171**	PKPab		**PKPab**	**19 20 44.3**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=144,slow=5.3,SNR=3.4							

BJI **11** *19:01:51.1,3.˚45N×126.˚63E,h38km,mB5.8/14,mb5.4/50, Ms5.6/28,Ms7 5.5/25*
MOS **11** *19:01:53.2±1.0,3.˚82N×126.˚49E,h33km,mb5.7/61,Error ellipse: s-maj=9.5km s-min=4.8km az=114.1*
ISCJB **11** *19:01:54.9±0.1,3.˚91N±0.˚02×126.˚64E±0.˚03,h45km, mb5.5/165,MS5.5/17,Error ellipse: s-maj=3.9km s-min=2.9km az=162.4*
NEIC **11** *19:01:55.4±0.2,3.˚83N×126.˚48E,h35km,mb5.5/64,Error ellipse: s-maj=6.6km s-min=4.0km az=73.0*
NEIC Felt [III] in the Kepulauan Talaud.
IDC **11** *19:01:55.3±1.7,3.˚83N×126.˚49E,h33km±12km,mb5.1/42, mb1 5.0/42,mb1mx5.0/43,mbtmp5.0/42,MS5.3/2, Ms1 5.3/2,ms1mx4.8/42,Error ellipse: s-maj=13.0km s-min=8.5km az=75.0*
DJA **11** *19:02:01,3.˚72N×126.˚71E,h77km,mb5.5/57*
ISC 11 19:01:56.7±0.2,**3.˚92N**±0.˚03×**126.˚54E**±0.˚04,**h45**km, **h45**km:**pP-P,n551**,σ1s**56**/582,**mb5.5**/160,**MS5.5**/17, **43C-29D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.67**	**324**	*e*P		Pn	19 02 41.5	+4.1
GSPH				*e*S		Sn	19 03 18.2	+10
MNI	**Manado**	**2.99**	**215**	P		Pn	19 02 49.8	+8.1
MATI	**Mati**	**3.02**	**355**	*e*P		Pn	19 02 47.4	+5.4
TNTI	**Ternate**	**3.24**	**165**	P		**Pn**	**19 02 45.6**	**+0.5**
DMPH	**Davao City--Mi**	**3.30**	**342**	‖*e*P		Pn	19 02 54.1	+8.2
KCP	**Kidapawan**	**3.39**	**335**	‖*e*P		Pn	19 02 53.0	+5.9
KCP				*i* S		Sn	19 03 41.7	+15
KMSI	**Cibinong**	**4.19**	**218**	P		Pn	19 03 06.9	+8.7
LBMI	**Labuha**	**4.63**	**168**	P		Pn	19 03 16.1	+12
CGP	**Cagayan de Oro**	**4.86**	**338**	*e*S		Sn	19 04 13.7	+11
PAGZ	**Pagadian**	**5.01**	**321**	*e*P		Pn	19 03 13.9	+4.5
BUTP	**Butuan**	**5.10**	**350**	*e*P		Pn	19 03 02.9	-7.7
IPIL	**Ipil**	**5.51**	**314**	*e*P		Pn	19 03 19.6	+3.4
MRSI	**Marisa**	**5.73**	**233**	P		Pn	19 03 23.6	+4.3
	1μm,1.1s,25μm7.9nm							
LUWI	**Luwuk**	**6.20**	**217**	P		Pn	19 03 33.1	+7.3
	4μm,0.9s,40μm15nm							
MSLP	**Maasin**	**6.39**	**345**	*e*P		Pn	19 03 34.2	+5.8
SWI	**Sorong**	**6.70**	**135**	P		**Pn**	**19 03 31.3**	**-1.3**
	921nm,1.3s,12μm3.8nm							
LLP	**Lapu-Lapu**	**6.85**	**338**	*e*P		Pn	19 03 38.4	+3.8
OCLP	**Ormoc**	**7.34**	**345**	*e*P		Pn	19 03 46.9	+5.5
MSAI	**Masohi**	**7.61**	**162**	P		Pn	19 03 48.5	+3.4
	70nm,0.9s,2μm0.3nm							
GUIM	**Jordan**	**7.73**	**330**	*e*P		**Pn**	**19 03 49.4**	**+2.7**
AAI	**Ambon**	**7.74**	**168**	P		Pn	19 03 51.4	+4.5
	353nm,1.0s,1.3nm							
TSM	**Tawau**	**8.65**	**273**	P		Pn	19 04 03.4	+4.1
TSM	**Tawau**	**8.65**	**273**	P		Pn	19 04 05.3	+5.9
KDI	**Kendari**	**8.75**	**207**	P		**Pn**	**19 04 03.8**	**+3.0**
	251nm,0.9s,1.1nm							
CUYO	**Cuyo Island**	**8.79**	**322**	*e*P		Pn	19 04 05.4	+4.1
FAKI	**Fak Fak**	**8.88**	**140**	P		**Pn**	**19 04 02.4**	**-0.1**
	481nm,0.9s,1.9nm							
SDKM	**Sandakan**	**9.46**	**281**	P		Pn	19 04 15.4	+4.8
SDKM	**Sandakan**	**9.46**	**281**	P		Pn	19 04 15.6	+4.9
TTSI	**Tana Toraja**	**9.64**	**224**	P		Pn	19 04 17.7	+4.7
	581nm,1.4s							
ENPP	**El Nido**	**10.10**	**316**	*e*P		Pn	19 04 23.2	+3.9
KDM	**Kudat**	**10.11**	**288**	P		Pn	19 04 27.9	+8.6
KDM	**Kudat**	**10.11**	**288**	P		Pn	19 04 25.9	+6.6
SPSI	**Sidrap Palu**	**10.35**	**221**	P		Pn	19 04 28.2	+5.5
	167nm,0.9s							
KKM	**Kota Kinabalu**	**10.50**	**282**	*e*P		Pn	19 04 29.4	+4.6
	546nm,1.4s							
KKM	**Kota Kinabalu**	**10.50**	**282**	P		Pn	19 04 31.3	+6.5
KKM	**Kota Kinabalu**	**10.50**	**282**	P		Pn	19 04 32.0	+7.2
	187nm,1.1s							
BOAC	**Boac**	**10.55**	**334**	*e*P		Pn	19 04 33.9	+8.5
BAKI	**Biak**	**10.83**	**118**	P		**Pn**	**19 04 31.0**	**+1.8**
	707nm,1.6s,11μm							
KAPI	**Kappang**	**11.17**	**217**	Pn		**Pn**	**19 04 36.1**	**+2.2**
KAPI	**Kappang**	**11.17**	**217**	P		Pn	19 04 39.7	+5.8
	178nm,1.3s							
KAPI	**Kappang**	**11.17**	**217**	Pn		**Pn**	**19 04 36.1**	**+2.2**
	3.9nm,0.3s,baz=3.2,slow=8.4,SNR=13							
KAPI				LR		LR	19 09 23.5	
	comp=Z,9μm,18.1s,baz=189,slow=40							
BKSI	**Bulukumba**	**11.20**	**215**	P		Pn	19 04 38.8	+4.5
	150nm,1.0s							
TLE	**Tual**	**11.34**	**147**	P		**Pn**	**19 04 37.7**	**+1.5**
	570nm,1.2s							
TGY	**Tagaytay City**	**11.53**	**332**	Pn		Pn	19 04 44.4	+5.5
TGY	**Tagaytay City**	**11.53**	**332**	Pn		Pn	19 04 44.4	+5.5
	25nm,0.3s,baz=190,slow=6.1,SNR=3.5							
KBKI	**Kotabaru**	**12.60**	**235**	P		Pn	19 04 59.2	+5.7
	335nm,1.2s							
BALP	**Baler**	**12.72**	**338**	*e*P		**P**	**19 05 03.6**	**-1.6**
MMRI	**Maumere**	**13.19**	**199**	P		P	19 05 16.6	+6.2
BTM	**Bintulu**	**13.45**	**267**	P		Pn	19 05 10.3	+5.2
SMPI	**Sarmi**	**13.51**	**116**	P		**Pn**	**19 05 06.3**	**+0.4**
	264nm,1.4s							
BBKI	**Banjar Baru**	**13.80**	**238**	P		**P**	**19 05 15.4**	**-1.8**
	1μm,1.1s,13μm							
BOLP	**Bolinao**	**13.99**	**333**	*e*P		P	19 05 24.4	+5.1
SBUM	**Sibu**	**14.37**	**265**	P		**P**	**19 05 23.0**	**-0.5**
SBUM	**Sibu**	**14.37**	**265**	P		**P**	**19 05 23.2**	**-0.4**
	322nm,1.5s,6μm							
ABRA	**Dolores**	**14.79**	**338**	*e*P		**Pn**	**19 05 25.8**	**+2.7**
WSI	**Waingapu**	**14.86**	**205**	P		**Pn**	**19 05 25.8**	**+1.7**
	731nm,0.9s,10μm							
PIP	**Pasuquin**	**15.44**	**338**	‖*e*P		**P**	**19 05 34.3**	**-1.2**
STKI	**Sintang**	**15.53**	**256**	P		**P**	**19 05 38.7**	**+2.2**
	178nm,1.2s							
JAY	**Jayapura**	**15.54**	**114**	P		**P**	**19 05 35.3**	**-1.3**
	262nm,1.2s							
KHKI	**Kahang-Kahang**	**16.36**	**222**	P		**P**	**19 05 46.7**	**+1.0**
	235nm,0.8s							
KSM	**Kuching**	**16.39**	**262**	*e*P		**P**	**19 05 47.2**	**+1.2**
	212nm,0.9s							
KSM	**Kuching**	**16.39**	**262**	P		**P**	**19 05 48.8**	**+2.8**
KSM	**Kuching**	**16.39**	**262**	P		**P**	**19 05 49.2**	**+3.1**
KSM	**Kuching**	**16.39**	**262**	P		**P**	**19 05 48.9**	**+2.9**
	258nm,0.9s,4μm							
KMMI	**Kalianget**	**16.62**	**229**	P		**P**	**19 05 53.1**	**+4.6**
	230nm,1.2s							
IGBI	**Denpasar**	**17.00**	**222**	P		**P**	**19 05 56.2**	**+3.4**
	202nm,1.1s							
NBBI	**Negara**	**17.04**	**224**	P		**P**	**19 05 55.1**	**+1.9**
	439nm,1.0s							
BLJI	**Banyuglugur**	**17.35**	**228**	P		P	19 06 03.0	+6.4
	278nm,0.8s							
GMJI	**Gumukmas**	**17.81**	**227**	P		**P**	**19 06 06.5**	**+4.8**
	397nm,0.9s							
SJI	**Sawahan**	**18.74**	**232**	P		**P**	**19 06 12.8**	**+0.7**
	205nm,2.0s							
PWJI	**Pagerwojo**	**18.89**	**231**	P		**Pn**	**19 06 16.4**	**+1.9**
	198nm,0.8s							
SMRI	**Semarang**	**19.41**	**236**	P		Pn	19 06 31.9	+11
TWG	**Pinlang**	**19.52**	**345**	*e*P		**P**	**19 06 18.8**	**-1.7**
	101nm,0.7s							
YULB	**Yu-li**	**20.01**	**346**	*e*P		**P**	**19 06 24.1**	**-1.7**
	41nm,0.4s							
TPUB	**Ta-pu**	**20.09**	**344**	*e*P		**P**	**19 06 25.9**	**-0.8**
SSLB	**Suanglung**	**20.47**	**345**	*e*P		**P**	**19 06 30.3**	**-0.5**
	151nm,0.7s							
GUMO	**Guam**	**20.49**	**61**	*e*P		**P**	**19 06 29.9**	**-1.1**
	160nm,1.0s							
GUMO	**Guam**	**20.49**	**61**	P		**P**	**19 06 29.6**	**-1.4**
	120nm,0.9s,baz=171,slow=7.1,SNR=6.5							
NACB	**Ninganchiao**	**20.69**	**347**	*e*P		**P**	**19 06 31.7**	**-1.4**
	37nm,0.7s							
CLJI	**Cilicap**	**20.96**	**237**	P		P	19 06 44.9	+8.7
	124nm,1.6s							
YHNB	**Yeheng**	**21.22**	**347**	*e*P		**P**	**19 06 38.3**	**-0.6**
	110nm,0.8s							
PPBI	**Pangkal Pinang**	**21.27**	**254**	P		**P**	**19 06 42.6**	**+3.1**
	106nm,0.9s							
TATO	**Taipei**	**21.49**	**347**	*e*P		**P**	**19 06 41.8**	**+0.1**
	91nm,0.9s							
LEM	**Lembang**	**21.70**	**241**	P		**P**	**19 06 45.5**	**+1.3**
	329nm,0.8s,5μm							
CISI	**Cisompet, Garu**	**21.89**	**239**	P		**P**	**19 06 47.7**	**+1.6**
	170nm,1.4s							
FITZ	**Fitzroy Crossi**	**21.90**	**182**	*e*P		**P**	**19 06 44.4**	**-1.8**
	74nm,0.7s							
FITZ				S		S	19 10 38.3	-7.4
FITZ	**Fitzroy Crossi**	**21.90**	**182**	*e*P		**P**	**19 06 44.5**	**-1.7**
	70nm,0.6s							
FITZ	**Fitzroy Crossi**	**21.90**	**182**	P		**P**	**19 06 45.0**	**-1.2**
	32nm,0.5s,baz=18,slow=8.1,SNR=14							
FITZ				S		S	19 10 38.3	-7.4
	57nm,1.2s,baz=222,slow=14,SNR=9.1							
QIZ	**Qiongzhong**	**22.17**	**314**	*e*P		**P**	**19 06 50.1**	**+1.0**
	42nm,1.1s							
QZH	**Quanzhou**	**22.25**	**341**	‖*i*P		**P**	**19 06 50.4**	**+0.5**
QZH				S		**S**	**19 10 49.0**	**-3.2**
QZH				pmax	pmax			
	comp=Z,180nm,0.7s							
QZH				LR	LR			
	comp=N,10μm,13.7s							
QZH				LR	LR			
	comp=E,10μm,17.8s							
QZH				LR	LR			
	comp=Z,20μm,15.8s							
SKJI	**Sukabumi**	**22.71**	**241**	P		P	19 07 00.8	+5.9
	comp=Z,368nm,0.9s							
MYKOM	**Kota Tinggi**	**22.76**	**265**	P		**P**	**19 06 59.2**	**+3.7**
MYKOM	**Kota Tinggi**	**22.76**	**265**	P		**P**	**19 06 58.1**	**+2.7**
	comp=Z,160nm,0.9s							
JOW	**Kunigami**	**22.84**	**4**	*e*P		**P**	**19 06 57.0**	**+0.9**
	comp=Z,55nm,0.9s							
JOW	**Kunigami**	**22.84**	**4**	P		**P**	**19 06 56.6**	**+0.5**
	comp=Z,122nm,0.8s,baz=189,slow=9.4,SNR=12							
GZH	**Guangzhou**	**22.93**	**327**	P		**P**	**19 07 00.5**	**+3.4**
GZH				S		**S**	**19 11 07.1**	**+3.1**
GZH				LR	LR			
	comp=N,7μm,20.3s							
GZH				LR	LR			
	comp=E,5μm,16.1s							
KGM	**Kluang**	**23.26**	**266**	P		**P**	**19 07 01.9**	**+1.3**
CGJI	**Cibinong**	**23.29**	**243**	P		**P**	**19 06 59.9**	**-0.9**
	comp=E,379nm,0.8s							
KASI	**Kota Agung**	**23.93**	**247**	P		**P**	**19 07 08.5**	**+1.7**
	comp=E,231nm,1.2s							
LWLI	**Liwa**	**24.15**	**249**	P		**P**	**19 07 10.1**	**+1.1**
	comp=E,297nm,0.8s,comp=E,4μm							
COEN	**Coen**	**24.25**	**137**	*e*P		**P**	**19 07 07.5**	**-2.3**
	comp=E,158nm,0.6s							
PMG	**Port Moresby**	**24.45**	**123**	*e*P		**P**	**19 07 07.7**	**-3.8**
	comp=E,90nm,1.2s							
PMG	**Port Moresby**	**24.45**	**123**	P		**P**	**19 07 09.0**	**-2.6**
	comp=E,77nm,1.1s							
PMG	**Port Moresby**	**24.45**	**123**	P		**P**	**19 07 08.9**	**-2.6**
	comp=E,25nm,1.1s,baz=326,slow=8.1,SNR=10							
FRIM	**Kepong**	**24.87**	**269**	P		**P**	**19 07 16.7**	**+1.2**
WRAB	**Tennant Creek**	**24.92**	**162**	*e*P		**P**	**19 07 13.6**	**-2.2**
WRAB				pmax	pmax			
	comp=Z,537nm,1.2s							
WRAB	**Tennant Creek**	**24.92**	**162**	*e*P		**P**	**19 07 13.6**	**-2.2**
	comp=Z,536nm,1.2s							
WRAB	**Tennant Creek**	**24.92**	**162**	P		**P**	**19 07 14.0**	**-1.8**
	comp=Z,1μm,0.6s,SNR=12							
WRA	**Warramunga Ar**	**24.92**	**162**	P		**P**	**19 07 13.8**	**-2.1**
WRA	**Warramunga Arr**	**24.92**	**162**	P		**P**	**19 07 13.8**	**-2.1**
	comp=Z,126nm,0.6s,baz=338,slow=11,SNR=21							
KSI	**Kapahiang**	**25.08**	**253**	P		**P**	**19 07 20.4**	**+3.0**
	comp=Z,156nm,0.9s							
IPM	**Ipoh**	**25.45**	**272**	*e*P		**P**	**19 07 21.1**	**+0.4**
	comp=Z,415nm,1.4s							
IPM	**Ipoh**	**25.45**	**272**	P		**P**	**19 07 24.2**	**+3.4**
IPM	**Ipoh**	**25.45**	**272**	P		**P**	**19 07 23.6**	**+2.9**
	comp=Z,162nm,1.6s,comp=Z,4μm							
BKNI	**Bangkinang**	**25.73**	**263**	P		**P**	**19 07 25.8**	**+2.6**
	comp=Z,384nm,1.4s							
MBWA	**Marble Bar**	**25.80**	**195**	*e*P		**P**	**19 07 22.9**	**-0.8**
	comp=Z,111nm,0.8s							
MBWA	**Marble Bar**	**25.80**	**195**	P		**P**	**19 07 23.7**	**0.0**
	SNR=6.4							
PPI	**Padang Panjang**	**26.48**	**261**	P		**P**	**19 07 31.4**	**+1.4**
	comp=Z,119nm,0.8s							
MNSI	**Mandailing Nat**	**27.11**	**264**	P		**P**	**19 07 37.5**	**+1.8**
	comp=Z,220nm,1.1s							
CBIJ	**Chichi jima**	**27.47**	**31**	P		**P**	**19 07 38.4**	**-0.4**
CBIJ	**Chichi jima**	**27.47**	**31**	P		**P**	**19 07 38.4**	**-0.4**
	comp=Z,154nm,0.8s,baz=297,slow=20,SNR=3.7							
PSI	**Prapat**	**27.59**	**269**	P		**P**	**19 07 39.5**	**-0.6**
PSI				ScP		**ScP**	**19 14 34.2**	**-0.3**
PSI	**Prapat**	**27.59**	**269**	P		**P**	**19 07 40.6**	**+0.5**
	comp=Z,129nm,0.8s							
PSI	**Prapat**	**27.59**	**269**	P		**P**	**19 07 39.5**	**-0.6**
	comp=Z,51nm,0.8s,baz=84,slow=3.3,SNR=16							
PSI				ScP		**ScP**	**19 14 34.2**	**-0.3**
	comp=Z,8.5nm,0.9s,baz=211,slow=5.9,SNR=3.9							
PSI				LR		LR	19 18 43.3	
	comp=Z,11μm,19.8s,baz=161,slow=37							
AS31	**Alice Springs**	**28.34**	**166**	*e*P		**P**	**19 07 45.2**	**-1.5**
ASAR	**Alice Springs**	**28.35**	**166**	P		**P**	**19 07 44.6**	**-2.0**
ASAR				S		**S**	**19 12 35.0**	**+4.6**
ASAR				ScP		**ScP**	**19 14 36.0**	**-0.4**
ASAR	**Alice Springs**	**28.35**	**166**	P		**P**	**19 07 44.6**	**-2.0**
	comp=Z,8.8nm,0.4s,baz=343,slow=8.0,SNR=20							
ASAR				S		**S**	**19 12 35.0**	**+4.6**
	comp=Z,9.5nm,1.0s,baz=350,slow=16,SNR=4.5							
ASAR				ScP		**ScP**	**19 14 36.0**	**-0.4**
	comp=Z,2.8nm,0.9s,baz=357,slow=3.9,SNR=4.5							
NJ2	**Nanjing**	**28.90**	**346**	*e*P		**P**	**19 07 53.1**	**+1.7**
NJ2				pmax	pmax			
	comp=Z,60nm,0.8s							
GSI	**Gunungsitoli**	**29.05**	**266**	P		**P**	**19 07 52.2**	**-0.8**
	comp=Z,95nm,0.9s							
TPTI		**29.31**	**270**	P		**P**	**19 07 58.4**	**+3.1**
	comp=Z,511nm,1.7s							
JNU	**Nakatsue**	**29.33**	**7**	P		**P**	**19 07 55.9**	**+0.6**
JNU	**Nakatsue**	**29.33**	**7**	P		**P**	**19 07 55.9**	**+0.6**
	comp=Z,28nm,0.7s,baz=48,slow=4.2,SNR=6.8							
GYA	**Guiyang**	**29.40**	**322**	‖*i*P		**P**	**19 07 56.7**	**+0.6**
GYA				pP		**pP**	**19 08 08.7**	**+0.6**
GYA				PP		**PnPn**	**19 08 55.0**	**+3.5**
GYA				PcP		**PcP**	**19 11 03.6**	**+2.1**
GYA				S		**S**	**19 12 50.0**	**+2.8**
GYA				sS		**sS**	**19 13 06.8**	**-0.4**
GYA				SS		SS	19 14 23.2	-30
GYA				pmax	pmax			
	comp=Z,60nm,0.8s							
GYA				pmax	pmax			
	comp=Z,190nm,6.2s							
GYA				LR	LR			
	comp=N,950nm,17.9s							
GYA				LR	LR			
	comp=E,780nm,18.5s							
LHMI	**Lhok Sumawe**	**29.52**	**274**	P		P	19 08 02.2	+5.0
	comp=E,274nm,1.0s							
CM31	**Chiang Mai Arr**	**30.61**	**300**	*e*P		**P**	**19 08 07.8**	**+1.0**
	comp=E,27nm,0.8s							
CMAR	**Chiang Mai Arr**	**30.61**	**300**	P		**P**	**19 08 08.1**	**+1.3**
CMAR				PcP		**PcP**	**19 11 08.2**	**+3.6**
CMAR				ScP		**ScP**	**19 14 44.8**	**+1.0**
CMAR	**Chiang Mai Arr**	**30.61**	**300**	P		**P**	**19 08 08.1**	**+1.3**
	comp=E,25nm,0.8s,baz=108,slow=6.8,SNR=26							
CMAR				PcP		**PcP**	**19 11 08.2**	**+3.6**
	comp=E,7.4nm,0.8s,baz=121,slow=1.6,SNR=7.4							
CMAR				ScP		**ScP**	**19 14 44.8**	**+1.0**
	comp=E,5.4nm,0.9s,baz=142,slow=1.8,SNR=8.0							
CTA	**Charters Tower**	**30.73**	**142**	P		**P**	**19 08 08.4**	**+0.5**
CTA				ScP		**ScP**	**19 14 44.9**	**+0.8**
CTA	**Charters Tower**	**30.73**	**142**	*e*P		**P**	**19 08 05.7**	**-2.1**
	comp=E,9.3nm,0.6s							
CTA	**Charters Tower**	**30.73**	**142**	P		**P**	**19 08 08.4**	**+0.5**
	comp=E,16nm,0.9s,baz=315,slow=9.8,SNR=8.1							
CTA				ScP		**ScP**	**19 14 44.9**	**+0.8**
	comp=E,26nm,1.1s,baz=316,slow=2.4,SNR=6.8							
CTAO	**Charters Tower**	**30.73**	**142**	*e*P		**P**	**19 08 07.5**	**-0.3**
CTAO				pmax	pmax			
	comp=Z,26nm,1.1s							
CTAO	**Charters Tower**	**30.73**	**142**	*e*P		**P**	**19 08 07.5**	**-0.3**
	comp=Z,26nm,1.1s							
CHTO	**Chiang Mai**	**30.76**	**301**	*e*P		**P**	**19 08 09.0**	**+0.9**
CHTO	**Chiang Mai**	**30.76**	**301**	*e*P		**P**	**19 08 09.0**	**+0.9**
CHTO	**Chiang Mai**	**30.76**	**301**	P		**P**	**19 08 09.1**	**+0.9**
	SNR=13							
CHTO	**Chiang Mai**	**30.76**	**301**	P		**P**	**19 08 08.9**	**+0.9**
	comp=Z,233nm,0.8s							
ENH	**Enshi**	**30.77**	**330**	*e*P		**P**	**19 08 08.0**	**-0.1**
	comp=Z,71nm,0.8s							
KMI	**Kunming**	**31.11**	**315**	P		**P**	**19 08 13.1**	**+1.7**
KMI				pP		**pP**	**19 08 24.0**	**+0.6**
KMI				pmax	pmax			
	comp=Z,22nm,0.9s							
KSAR	**Wonju Array Be**	**33.38**	**2**	P		**P**	**19 08 32.2**	**+1.3**
KSAR				PcP		**PcP**	**19 11 13.4**	**+1.7**
KSRS	**Korea Array**	**33.40**	**2**	P		**P**	**19 08 32.2**	**+1.2**
	comp=Z,19nm,0.8s,baz=181,slow=10,SNR=19							

comp=Z,61nm,0.8s,baz=336,slow=7.7,SNR=17
HHC Hu-ho-hao-te 39.16 342 *e*P **P 19 09 21.1 +0.8**
HHC pP **pP 19 09 31.0 -1.5**
HHC sP **sP 19 09 34.5 -3.3**
HHC PP **PnPn 19 10 55.4 +1.8**
HHC S **S 19 15 19.4 +2.1**
HHC sS **sS 19 15 36.1 -1.6**
HHC SS **SS 19 18 05.9 -5.6**
HHC pmax pmax
comp=Z,51nm,0.9s
HHC pmax pmax
comp=Z,3μm,5.4s
HHC LR LR
comp=N,4μm,14.3s
HHC LR LR
comp=E,3μm,15.5s
HHC LR LR
comp=E,6μm,20.2s
VLA Vladivostok 39.32 6⇓*e*P **P 19 09 23.4 +1.9**
VLA *i* S **S 19 15 24.6 +5.2**
VLA pmax pmax
comp=Z,43nm,1.3s
BTO Baotou 39.44 340 *e*P **P 19 09 22.5 -0.1**
SHL Shillong 39.61 306 *e*PKP **P 19 09 25.0 +0.6**
SHL *ex* x 19 15 19.0
CN2 Changchun 39.73 359 ⇑P **P 19 09 25.7 +0.9**
CN2 *e*pP **pP 19 09 35.4 -1.7**
CN2 PP **PnPn 19 11 01.9 +1.7**
CN2 *e*S **S 19 15 28.7 +3.2**
CN2 pmax pmax
comp=Z,20nm,0.5s
CN2 pmax pmax
comp=Z,200nm,10.0s
CN2 LR LR
comp=N,4μm,16.0s
CN2 LR LR
comp=E,4μm,16.0s
CN2 LR LR
comp=Z,8μm,16.0s
USRK Ussuriysk Arra 40.40 6 P **P 19 09 31.7 +1.3**
comp=Z,24nm,0.7s,baz=199,slow=6.4,SNR=14
MDJ Mudanjiang 40.62 3 P **P 19 09 33.5 +1.3**
MDJ sP **sP 19 09 46.5 -3.3**
MDJ PcP **PcP 19 11 34.5 +0.9**
MDJ ScP **ScP 19 15 21.4 +1.8**
MDJ S **S 19 15 44.4 +5.6**
MDJ pmax pmax
comp=Z,56nm,0.9s
MDJ LR LR
comp=N,4μm,31.4s
MDJ LR LR
comp=E,4μm,29.5s
MDJ LR LR
comp=Z,6μm,25.6s
MDJ Mudanjiang 40.62 3 *e*P **P 19 09 33.4 +1.2**
comp=Z,67nm,0.8s
ARMA Armidale 41.73 147 *e*P **P 19 09 40.2 -1.5**
comp=Z,53nm,0.9s
ARMA Armidale 41.73 147 *e*P **P 19 09 41.1 -0.6**
LSA Lhasa 42.17 311 P **P 19 09 46.7 +0.9**
LSA pmax pmax
comp=Z,60nm,0.8s
LSA Lhasa 42.17 311 *e*P **P 19 09 46.9 +1.2**
LSA Lhasa 42.17 311 *e*P **P 19 09 46.9 +1.2**
ASAJ Asahikawa 42.47 17 *e*P **P 19 09 48.2 +0.8**
comp=Z,18nm,1.0s
ASAJ Asahikawa 42.47 17 P **P 19 09 46.9 -0.5**
comp=Z,32nm,1.0s,baz=238,slow=11,SNR=8.3
GTA Gaotai 42.83 329 *e*P **P 19 09 50.9 +0.3**
GTA pP **pP 19 10 02.7 -0.2**
GTA sP **sP 19 10 06.4 -1.8**
GTA PcP **PcP 19 11 44.1 +2.9**
GTA ScP **ScP 19 15 30.3 +1.6**
GTA S **S 19 16 14.2 +2.2**
GTA sS **sS 19 16 29.9 -2.7**
GTA SS **SS 19 19 19.0 -5.5**
GTA ScS **ScS 19 19 48.2 +0.2**
GTA pmax pmax
comp=Z,21nm,0.8s
GTA LR LR
comp=N,4μm,22.3s
GTA LR LR
comp=E,4μm,20.4s
GTA LR LR
comp=Z,7μm,19.0s
TAPN Taplejung 43.75 306 *e*P **P 19 09 58.2 -0.2**
comp=Z,140nm,0.9s
ODAN Odare 43.80 305 *e*P **P 19 09 58.5 -0.2**
comp=Z,194nm,0.7s
CAN Canberra 44.37 153 *e*P **P 19 10 03.0 +0.1**
CAN pmax pmax
comp=Z,109nm,1.3s
CAN Canberra 44.37 153 *e*P **P 19 10 03.0 +0.1**
comp=Z,109nm,1.3s
RAMN Ramite 44.48 305 *e*P **P 19 10 04.4 +0.2**
comp=Z,116nm,0.6s
CNB Canberra Magne 44.53 153 *e*P **P 19 10 04.1 -0.1**
comp=Z,131nm,1.0s
TOO Toolangi 44.89 159 *e*P **P 19 10 06.3 -0.7**
comp=Z,108nm,0.8s
HABR Khabarovsk 44.98 8 *e*P **P 19 10 07.8 +0.3**
HABR *e**PP **pP 19 10 16.5 -3.4**
HABR *e**SP **sP 19 10 20.7 -4.5**
HABR *e* 19 11 46.6
HABR *e*S **S 19 16 45.3 +2.6**
HABR *e**SS **sS 19 17 02.2 -1.2**
HABR *e*SSS SSS 19 20 57.1
HABR pmax pmax
comp=N,83nm,2.2s
HABR pmax pmax
comp=E,66nm,2.2s
HABR pmax pmax
comp=Z,72nm,1.1s
HABR MLR MLR
comp=Z,6μm,23.0s
JIRN Jiri 45.10 306 *e*P **P 19 10 09.5 +0.2**
comp=Z,27nm,0.7s
YSS Yuzh-Sakhalins 45.11 16 *e*P **P 19 10 09.6 +1.1**
YSS *e* 19 10 19.5
YSS pmax pmax
comp=Z,40nm,1.0s
YSS Yuzh-Sakhalins 45.11 16 *e*P **P 19 10 08.6 0.0**
comp=Z,26nm,0.6s
GUN Gumba 45.46 306 *e*P **P 19 10 12.1 0.0**
comp=Z,176nm,0.8s
HIA Hailar 45.55 354 *e*P **P 19 10 13.5 +1.4**
PKI Pulchoki 45.70 305 *e*P **P 19 10 13.5 -0.5**
comp=Z,33nm,0.7s
KKN Kakani 45.89 306 *e*P **P 19 10 15.1 -0.3**
comp=Z,69nm,0.9s
DMN Daman 45.96 305 *e*P **P 19 10 15.6 -0.4**
comp=Z,69nm,0.8s
GKN Gorkha 46.50 306 *e*P **P 19 10 19.6 -0.5**
comp=Z,45nm,0.6s
NOUC Port Laguerre 46.70 125 *e*P **P 19 10 19.7 -1.8**
DZM Mont Dzumac 46.80 125 *e*P **P 19 10 20.0 -2.4**
DZM Mont Dzumac 46.80 125 *e*P **P 19 10 21.5 -0.8**
comp=Z,170nm,1.4s
DZM Mont Dzumac 46.80 125 P **P 19 10 21.6 -0.8**
comp=Z,53nm,1.0s,baz=317,slow=6.4,SNR=23
ULN Ulaanbaatar 46.88 342 *e*P **P 19 10 23.2 +0.5**
comp=Z,50nm,1.0s
ULN Ulaanbaatar 46.88 342 P **P 19 10 23.7 +1.1**
SNR=9.8
ULN Ulaanbaatar 46.88 342 P **P 19 10 23.6 +0.9**
comp=Z,156nm,1.5s
SONM Songino Array 47.06 342 P **P 19 10 24.8 +0.7**
SONM PcP **PcP 19 11 56.2 +0.6**
SONM Songino Array 47.06 342 P **P 19 10 24.8 +0.7**
comp=Z,24nm,0.8s,baz=154,slow=8.6,SNR=28
SONM PcP **PcP 19 11 56.2 +0.6**
comp=Z,12nm,0.8s,baz=146,slow=4.3,SNR=4.0
KOLN Koldanda 47.26 305 *e*P **P 19 10 25.9 -0.1**
comp=Z,178nm,0.6s
DANN Dangsing 47.35 306 *e*P **P 19 10 26.4 -0.5**
comp=Z,200nm,0.6s
HYB Hyderabad 48.87 290 *i* P **P 19 10 37.0 -1.4**
ZAK Zakamensk 50.28 341 *e*P **P 19 10 48.4 -0.3**
ZAK *e* 19 12 07.4
ZAK pmax pmax
comp=Z,12nm,1.3s
LATR Latur 50.91 290 *e*PKP **P 19 10 54.0 +0.1**
TLY Talaya 51.29 342 *e*P **P 19 10 56.3 +0.1**
TLY pmax pmax
comp=Z,32nm,0.8s
TLY Talaya 51.29 342 *e*P **P 19 10 57.0 +0.8**
TLY Talaya 51.29 342 P **P 19 10 57.7 +1.5**
SNR=11
TLY Talaya 51.29 342 P **P 19 10 57.0 +0.8**
comp=Z,236nm,0.7s,SNR=21
IRK Irkutsk 51.59 343 *e*P **P 19 11 00.1 +1.7**
IRK pmax pmax
comp=Z,85nm,1.9s
AGRA Agra 51.79 302 *e*PKP **P 19 10 59.3 -1.1**
AGRA AMb AMB 19 11 02.7
comp=Z,77nm,0.5s
MOY Mondy 52.14 340 *e*P **P 19 11 04.2 +1.6**
MOY pmax pmax
comp=Z,35nm,1.6s
ASOR Ausora 52.41 304 *e*PKP **P 19 11 04.2 -0.8**
WMQ Urumqi 52.46 325 P **P 19 11 05.8 +0.7**
WMQ pP **pP 19 11 16.3 -1.5**
WMQ sP **sP 19 11 19.7 -3.3**
WMQ PcP **PcP 19 12 16.0 +0.6**
WMQ ScS **ScS 19 20 50.4 -1.0**
WMQ pmax pmax
WMQ comp=Z,42nm,0.8s
WMQ LR LR
comp=N,8μm,23.4s
WMQ LR LR
comp=E,5μm,22.0s
WMQ LR LR
comp=Z,6μm,21.2s
DDI Dehra Dun 52.70 306 *e*PKP **P 19 11 05.0 -2.2**
DDI *ex* x 19 15 14.5
SONA Sohna 52.83 303 *e*PKP **P 19 11 07.3 -0.7**
NDI New Delhi 52.85 303 *ex* P 19 11 02.0 -6.2
AYAN Aya Nagar 52.87 303 *e*PKP **P 19 11 06.5 -1.8**
AYAN AMb AMB 19 11 08.7
comp=Z,97nm,1.4s
BHGR Bahadurgarh 53.09 303 *e*PKP **P 19 11 08.4 -1.5**
KUDL Kundal 53.30 302 *e*PKP **P 19 11 10.7 -0.8**
KUDL AMb AMB 19 11 13.0
comp=Z,167nm,1.0s
POO Poona 53.47 290⇓*i*P **P 19 11 11.0 -2.0**
comp=Z,80nm,1.0s
KKR Kurukshetra 53.59 305 *e*PKP **P 19 11 13.5 -0.1**
SMLA Simla 53.70 306 *i* P **P 19 11 14.5 +0.2**
KHET Khetri 53.85 302 *e*PKP **P 19 11 14.7 -0.9**
KHET AMb AMB 19 11 17.8
comp=Z,150nm,0.8s
BOD Bodaibo 54.65 352 *e*P **P 19 11 22.1 +1.3**
BOD pmax pmax
comp=Z,37nm,1.5s
MSVF Nonsavu 55.17 115 *e*P **P 19 11 26.1 +0.8**
MSVF pmax pmax
comp=Z,140nm,1.3s
MSVF Nonsavu 55.17 115 *e*P **P 19 11 26.1 +0.8**
comp=Z,140nm,1.3s
MSVF Nonsavu 55.17 115 P **P 19 11 26.6 +1.3**
comp=Z,496nm,1.0s,SNR=14
PEA0B Petropavlovsk- 55.33 22 *e*P **P 19 11 27.4 +1.6**
PETK Petropavlovsk- 55.33 22 P **P 19 11 27.4 +1.6**
PETK pmax pmax
comp=Z,33nm,0.8s
PETK Petropavlovsk- 55.33 22 P **P 19 11 27.4 +1.6**
PETK Petropavlovsk- 55.33 22 P **P 19 11 27.4 +1.6**
comp=Z,33nm,0.8s,baz=193,slow=7.8,SNR=15
PET Petropavlovsk 55.63 23 *e*P **P 19 11 28.7 +0.8**
PET pmax pmax
comp=Z,73nm,1.6s
MK31 Makanchi Array 57.29 325 *e*P **P 19 11 39.7 -0.3**
MK31 Makanchi Array 57.29 325 *e*P **P 19 11 39.7 -0.3**
MKAR Makanchi Array 57.29 325 P **P 19 11 39.8 -0.2**
MKAR pmax pmax
comp=Z,20nm,0.5s
MKAR Makanchi Array 57.29 325 P **P 19 11 39.8 -0.2**
MKAR Makanchi Array 57.29 325 P **P 19 11 39.8 -0.2**
comp=Z,20nm,0.5s,baz=117,slow=7.0,SNR=27
KSH Kashi 57.77 315 P **P 19 11 45.0 +1.4**
KSH pP **pP 19 11 54.9 -1.5**
KSH sP **sP 19 11 58.7 -2.9**
KSH PcP **PcP 19 12 36.4 +0.4**
KSH PP **PP 19 13 54.9 +2.8**
KSH ScP **ScP 19 16 32.5 -0.1**
KSH PcS **PcS 19 16 36.4 -1.0**
KSH S **S 19 19 40.8 +1.0**
KSH sS **sS 19 19 57.5 -3.6**
KSH ScS **ScS 19 21 28.1 -1.7**
KSH SS **SS 19 23 33.8 +2.8**
KSH LR LR
comp=N,1μm,11.9s
KSH LR LR
comp=E,1μm,13.5s
KSH LR LR
comp=Z,7μm,19.3s
YAK Yakutsk 58.02 2 *e*P **P 19 11 44.3 -0.5**
YAK *e* 19 12 02.2
YAK pmax pmax
comp=Z,55nm,1.0s
YAK pmax pmax
comp=N,26nm,1.2s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK Yakutsk 58.02 2 *e*P **P 19 11 45.6 +0.8**
comp=E,381nm,1.1s
KZA Kyzart 59.34 318 P **P 19 11 56.8 +1.9**
SNR=18
TKM2 Tokmak 2 59.48 319 *i* P **P 19 11 56.9 +1.4**
TKM2 Tokmak 2 59.48 319 *e*P **P 19 11 55.2 -0.3**
comp=E,67nm,0.8s
TKM2 Tokmak 2 59.48 319 P **P 19 11 57.0 +1.4**
SNR=21
KBK Karagaybulak 59.79 318 P **P 19 11 59.4 +1.7**
SNR=19
UCH Uchtor 59.90 317 P **P 19 12 00.4 +1.6**
SNR=21
CHMS Chumysh 60.07 318 P **P 19 12 00.4 +1.0**
SNR=25
AAK Ala-Archa 60.09 318⇓*e*P **P 19 12 00.7 +1.0**
AAK pmax pmax
comp=Z,166nm,1.7s
AAK Ala-Archa 60.09 318 P **P 19 12 00.6 +1.0**
AAK Ala-Archa 60.09 318 P **P 19 12 00.2 +0.5**
comp=Z,241nm,0.8s,SNR=17
AAK Ala-Archa 60.09 318 P **P 19 12 00.9 +1.2**
SNR=9.7
AAK Ala-Archa 60.09 318 P **P 19 12 00.1 +0.4**
SNR=28
AAK Ala-Archa 60.09 318 P **P 19 12 00.6 +1.0**
comp=Z,26nm,0.8s,baz=96,slow=6.7,SNR=24
ZALV Zalesovo Beam 60.33 333 P **P 19 12 00.0 -0.9**
ZALV pmax pmax
comp=Z,16nm,0.6s
ZALV Zalesovo Beam 60.33 333 P **P 19 12 00.0 -0.9**
ZALV Zalesovo Beam 60.33 333 P **P 19 12 00.0 -0.9**
comp=Z,16nm,0.6s,baz=124,slow=6.0,SNR=16
ZALV PKPPKP P'P'df 19 41 42.4 +18
comp=Z,0.6nm,0.6s,baz=291,slow=6.2,SNR=3.7
USP Ospenovka 60.35 318 P **P 19 12 02.6 +1.3**
SNR=55
AML Almayashu 60.42 317 P **P 19 12 03.7 +1.4**
SNR=63
EKS2 Erkin-Say 60.58 318 *e*P **P 19 12 03.1 +0.1**
EKS2 pmax pmax
comp=Z,83nm,0.8s
EKS2 Erkin-Say 60.58 318 *e*P **P 19 12 03.0 +0.1**
comp=Z,83nm,0.8s
EKS2 Erkin-Say 60.58 318 P **P 19 12 04.4 +1.4**
SNR=53
KBL Kabul 61.25 307 *e*P **P 19 12 06.9 -0.9**
KBL pmax pmax
comp=Z,81nm,0.8s
KBL Kabul 61.25 307 *e*P **P 19 12 06.9 -0.9**
comp=Z,81nm,0.8s
KURBB Kurchatov Arra 61.47 327 P **P 19 12 08.7 0.0**
comp=Z,61nm,0.8s,baz=122,slow=6.8,SNR=30
KURK Kurchatov 61.48 328⇑*e*P **P 19 12 08.3 -0.4**
KURK pmax pmax
comp=Z,115nm,0.8s
KURK Kurchatov 61.48 328 *e*P **P 19 12 08.3 -0.4**
comp=Z,77nm,0.6s
KURK Kurchatov 61.48 328 P **P 19 12 09.0 +0.2**
SNR=18
KURK Kurchatov 61.48 328 P **P 19 12 08.9 +0.2**
comp=Z,812nm,0.9s,SNR=33
NVS Novosibirsk 61.61 333 *i* P **P 19 12 08.8 -0.8**
NVS *i* S **S 19 20 27.0 -1.4**
NVS *i* 19 21 53.1
NVS pmax pmax
comp=N,13nm,0.9s
NVS pmax pmax
comp=E,20nm,0.9s
NVS pmax pmax
comp=Z,31nm,0.9s
NVS smax smax
comp=N,11nm,1.5s
NVS smax smax
comp=E,33nm,1.5s
SEY Seymchan 61.89 13⇓*e*P **P 19 12 13.9 +2.6**
FX1 Attu Island--F 62.01 30 P **P 19 12 13.9 +1.6**
FX1 Attu Island--F 62.01 30 P **P 19 12 13.9 +1.6**
comp=E,38nm,0.7s,baz=89,slow=22,SNR=6.2
KK31 Karatay Array 62.96 317 P **P 19 12 18.3 -0.6**
KK31 pmax pmax
comp=Z,95nm,0.8s
KKAR Karatay Array 62.96 317 *e*P **P 19 12 18.3 -0.6**
KKAR pmax pmax
comp=Z,88nm,0.8s
KKAR Karatay Array 62.96 317 *e*P **P 19 12 18.3 -0.6**
comp=Z,88nm,0.8s
AFI Afiamalu 63.69 108 *e*P **P 19 12 25.1 +0.8**
comp=Z,68nm,1.1s
AFI Afiamalu 63.69 108 P **P 19 12 24.9 +0.7**
comp=Z,8.4nm,0.3s,baz=204,slow=7.7,SNR=7.3
BVA0 Borovoye Array 67.06 327 P **P 19 12 44.4 -0.9**
BVA0 pmax pmax
comp=Z,11nm,1.0s
BVAR Borovoye Array 67.06 327 P **P 19 12 45.3 0.0**
BVAR pmax pmax
comp=Z,46nm,0.8s
BVAR Borovoye Array 67.06 327 P **P 19 12 45.3 0.0**
BVAR Borovoye Array 67.06 327 P **P 19 12 45.3 0.0**
comp=Z,46nm,0.8s,baz=129,slow=8.4,SNR=28
BRVK Borovoye 67.13 327*c* *i*P **P 19 12 45.3 -0.5**
BRVK pmax pmax
comp=Z,88nm,0.8s
BRVK Borovoye 67.13 327 *e*P **P 19 12 45.2 -0.5**
comp=Z,126nm,1.0s
BRVK Borovoye 67.13 327 P **P 19 12 45.5 -0.2**
comp=Z,629nm,0.9s,SNR=18
BRVK Borovoye 67.13 327 P **P 19 12 45.7 0.0**
SNR=21
JMDO Jabal Madar 68.58 292 P **P 19 12 54.6 -0.9**
SNR=8.0
HOQ Hoqain 69.41 294 ⇓P **P 19 12 59.6 -1.1**
SNR=6.2
BILL Bilibino 69.42 15 *i* P **P 19 13 03.6 +3.8**
BILL *e**SP sP 19 13 14.8 -3.2
BILL *e* 19 13 21.5
BILL *e*S **S 19 22 06.8 +3.4**
BILL pmax pmax
comp=Z,15nm,1.6s
BILL Bilibino 69.42 15 *e*P **P 19 13 01.2 +1.4**
comp=Z,14nm,0.9s
ABKT Ailbek 70.62 309 P **P 19 13 07.9 +0.1**
comp=Z,256nm,1.0s,SNR=7.4
AB31 Akbulak array 71.88 321 P **P 19 13 14.2 -0.9**
AB31 pmax pmax
comp=Z,46nm,0.8s
ABKAR Akbulak array 71.88 321 *e*P **P 19 13 13.3 -1.8**
comp=Z,33nm,1.8s
ABTO Aybut 72.85 287 ⇑P **P 19 13 20.3 -1.3**
SNR=5.9
UNV Unalaska Valle 73.38 35 *e*P **P 19 13 24.6 +0.7**
comp=Z,220nm,1.4s
AKTO Aktyubinsk 73.39 322 P **P 19 13 23.6 -0.5**
AKTO pmax pmax
comp=Z,15nm,0.9s
SVE Sverdlovsk 73.70 328⇑*i*P **P 19 13 25.9 +0.2**
SVE pmax pmax
comp=Z,92nm,0.8s
ARU Arti 74.67 328*d* *i*P **P 19 13 30.9 -0.5**
ARU S **S 19 23 04.9 +0.8**
ARU pmax pmax
comp=Z,76nm,0.8s
ARU Arti 74.67 328 *e*P **P 19 13 30.6 -0.8**
comp=Z,64nm,0.7s
ARU Arti 74.67 328 P **P 19 13 30.8 -0.6**
comp=Z,595nm,0.6s,SNR=24
SDPT Sand Point 77.14 34 *e*P **P 19 13 46.7 +1.2**
comp=Z,117nm,0.7s
QRN Al-Qurain 78.15 298 *e*P **P 19 13 50.5 -1.2**
QRN AMb AMB 19 13 53.8
comp=Z,196nm,0.7s
UMR Umm Al-Rimmam 78.35 299 *e*P **P 19 13 51.5 -1.3**
UMR AMb AMB 19 13 55.0
comp=Z,106nm,0.7s
RDF Al-Radifah 78.48 299 *e*P **P 19 13 52.6 -1.0**
RDF AMb AMB 19 13 56.3
comp=Z,147nm,0.9s
MIB Mutribah 78.69 299 *e*P **P 19 13 53.4 -1.3**
MIB AMb AMB 19 13 57.2
comp=Z,181nm,0.8s
NAY Al-Naaiem 78.76 299 *e*P **P 19 13 53.7 -1.4**
NAY AMb AMB 19 13 57.0
comp=Z,74nm,0.7s
OPO Ambohidratompo 81.18 251 P **P 19 14 07.5 -1.0**
OPO Ambohidratompo 81.18 251 P **P 19 14 07.5 -1.0**
comp=Z,3.7nm,0.5s,baz=64,slow=4.4,SNR=5.7
GNI Garni 81.21 310 *e*P **P 19 14 10.1 +1.8**
comp=Z,48nm,1.1s
BHD Baghdad 81.31 303 *i* x P **P 19 14 07.0 -1.7**
BHD *i* x x 19 24 18.0
KDAK Kodiak Island 81.83 32 P **P 19 14 12.1 +1.1**
KDAK Kodiak Island 81.83 32 P **P 19 14 13.9 +2.9**
comp=Z,299nm,0.8s,SNR=6.0
KDAK Kodiak Island 81.83 32 P **P 19 14 12.1 +1.1**
comp=Z,23nm,0.6s,baz=124,slow=23,SNR=14
ZEI Tsey 81.95 312 *e*P **P 19 14 11.9 -0.3**
ZEI pmax pmax
comp=Z,32nm,0.8s
KIV Kislovodsk 82.87 314 *e*P **P 19 14 17.0 +0.1**
KIV pmax pmax
comp=Z,23nm,1.0s
KIV Kislovodsk 82.87 314 *e*P **P 19 14 16.8 0.0**
comp=Z,17nm,0.8s
SLKM Skilak Lake 83.27 30 *e*P **P 19 14 20.0 +1.5**
SLKM Skilak Lake 83.27 30 *e*P **P 19 14 19.9 +1.5**
RC01 Rabbit Creek A 83.55 29 *e*P **P 19 14 20.6 +0.7**
comp=Z,89nm,1.1s
SEW Seward 83.63 30 *e*P **P 19 14 22.1 +1.9**
comp=Z,121nm,1.2s
VRHR Novokhopersk 83.77 321 *e*P **P 19 14 20.0 -1.2**
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
COLD Coldfoot 83.79 23 *e*P **P 19 14 23.1 +2.1**
comp=E,37nm,0.9s
PMR Palmer 83.87 29 *e*P **P 19 14 22.2 +0.8**
PMR pmax pmax
comp=Z,53nm,1.0s
PMR Palmer 83.87 29 *e*P **P 19 14 22.2 +0.8**
comp=Z,53nm,1.0s
MCK McKinley 84.08 26 *e*P **P 19 14 23.4 +0.9**
MCK pmax pmax
comp=Z,77nm,1.1s
MCK McKinley 84.08 26 *e*P **P 19 14 23.4 +0.9**
comp=Z,77nm,1.1s
SML Sawmill 84.26 28 *e*P **P 19 14 24.5 +1.0**
SML pmax pmax
comp=Z,16nm,0.9s
SML Sawmill 84.26 28 *e*P **P 19 14 24.5 +1.0**
comp=Z,16nm,0.9s
COLA College 84.61 25 *e*P **P 19 14 25.6 +0.5**
COLA pmax pmax
comp=Z,15nm,1.0s
COLA College 84.61 25 *e*P **P 19 14 25.6 +0.5**
comp=Z,15nm,1.0s
ILAR Eielson Array 85.01 25 P **P 19 14 28.9 +1.7**
ILAR Eielson Array 85.01 25 P **P 19 14 28.9 +1.7**
comp=Z,5.1nm,0.8s,baz=247,slow=5.7,SNR=18
KLMR Klimovskoe 85.14 331 *e*P **P 19 14 25.4 -2.5**
KLMR *e*S S 19 24 45.2 -9.0
KLMR pmax pmax
comp=Z,327nm,1.5s
KLMR pmax pmax
comp=Z,3μm,9.9s
VORD Divnogorie 85.24 321 *e*P **P 19 14 28.4 -0.2**
VSR Storozhevoye 85.32 321 *e*P **P 19 14 28.6 -0.4**
DIV Divide 85.47 29 *e*P **P 19 14 31.1 +1.4**
comp=Z,111nm,1.1s
BMRM Bremner River 86.04 29 *e*P **P 19 14 34.9 +2.4**

comp=Z,52nm,1.0s
MOS Moscow 86.17 325 *e*P **P** 19 14 30.4 **-2.7**
MOS *e* 19 25 02.3
MOS pmax pmax
comp=Z,176nm,1.4s
MENT Mentasta 86.42 27 *e*P **P** 19 14 35.6 **+1.3**
ANN Anapa 86.63 315 *e*P **P** 19 14 34.4 **-1.2**
ANN *e* 19 18 00.1
ANN *e*S **SKSac** 19 24 58.0 **-0.8**
ANN pmax pmax
comp=N,21nm,0.8s
ANN pmax pmax
comp=E,13nm,0.8s
ANN pmax pmax
comp=Z,85nm,0.8s
OBN Obninsk 86.79 325*c i*P **P** 19 14 35.8 **-0.4**
OBN *e* 19 14 50.6
OBN *e* 19 17 58.8
OBN *e*S **SKSac** 19 24 58.9 **-0.5**
OBN pmax pmax
comp=Z,168nm,1.2s
OBN Obninsk 86.79 325 *e*P **P** 19 14 35.7 **-0.5**
comp=Z,172nm,1.1s
OBN Obninsk 86.79 325 P **P** 19 14 35.5 **-0.7**
comp=Z,712nm,0.6s,SNR=8.9
LVZ Lovozero 87.11 338⇑ *e*P **P** 19 14 37.9 **+0.4**
LVZ pmax pmax
comp=Z,31nm,0.7s
LVZ Lovozero 87.11 338 *e*P **P** 19 14 36.1 **-1.4**
comp=Z,35nm,0.8s
EGAK Eagle 87.47 25 *e*P **P** 19 14 41.0 **+1.7**
comp=Z,111nm,1.0s
APA Apatity 87.60 337⇑ *i*P **P** 19 14 40.0 **+0.1**
APA pmax pmax
comp=Z,25nm,1.0s
APA MLR MLR
comp=Z,7µm,23.0s
JOF Joensuu 88.92 333 *e*P **P** 19 14 45.6 **-0.6**
JOF pmax pmax
comp=Z,41nm,0.6s
JOF Joensuu 88.92 333 *e*p **P** 19 14 45.6 **-0.6**
comp=Z,41nm,0.6s
KMBO Kilima Mbogo 89.36 269 P **P** 19 14 50.3 **+0.6**
SNR=14
EIL Elat 89.46 300 P **P** 19 14 50.0 **+0.5**
EIL Elat 89.46 300 P **P** 19 14 50.0 **+0.5**
comp=Z,24nm,0.8s,baz=39,slow=2.9,SNR=22
KEV Kevo 89.64 340 *e*P **P** 19 14 48.7 **-0.7**
KEV pmax pmax
comp=Z,9.0nm,0.7s
KEV Kevo 89.64 340 *e*p **P** 19 14 48.7 **-0.7**
comp=Z,8.9nm,0.7s
BRTR Keskin Array B 89.75 310 P **P** 19 14 49.9 **-0.9**
BRTR Keskin Array B 89.75 310 P **P** 19 14 49.9 **-0.9**
comp=Z,19nm,0.8s,baz=117,slow=4.9,SNR=48
PUL Pulkovo 89.78 330⇑ *e*P **P** 19 14 50.9 **+0.7**
PUL pmax pmax
comp=Z,50nm,0.8s
INK Inuvik 90.06 21 P **P** 19 14 50.4 **-1.0**
INK Inuvik 90.06 21 P **P** 19 14 50.4 **-1.0**
comp=Z,3.0nm,0.7s,baz=269,slow=6.4,SNR=8.2
ARCES ARCESS Array B 90.20 340 P **P** 19 14 51.8 **-0.3**
ARCES ARCESS Array B 90.20 340 P **P** 19 14 51.8 **-0.3**
comp=Z,21nm,0.8s,baz=79,slow=3.5,SNR=25
SPB4 Spitsbergen Ar 90.26 349 *e*P **P** 19 14 54.7 **+2.4**
CSS Prodhromos 90.41 305 *e*P **P** 19 14 53.7 **-0.1**
comp=Z,41nm,0.8s
KAF Kangasniemi 91.34 332 *e*P **P** 19 14 56.2 **-1.3**
KAF pmax pmax
comp=Z,19nm,0.7s
KAF Kangasniemi 91.34 332 *e*p **P** 19 14 56.2 **-1.3**
comp=Z,19nm,0.7s
FINES FINESS Array B 91.57 332 P **P** 19 14 57.8 **-0.8**
FINES FINESS Array B 91.57 332 P **P** 19 14 57.8 **-0.8**
comp=Z,11nm,0.6s,baz=86,slow=5.9,SNR=18
AKASG Malin Array Be 91.62 321 P **P** 19 14 58.0 **-1.0**
AKASG pmax pmax
comp=Z,19nm,0.7s
AKASG Malin Array Be 91.62 321 P **P** 19 14 58.0 **-1.0**
AKASG Malin Array Be 91.62 321 P **P** 19 14 58.0 **-1.0**
comp=Z,19nm,0.7s,baz=70,slow=4.7,SNR=46
KIEV Kiev 91.63 321 *e*P **P** 19 14 57.7 **-1.4**
KIEV pmax pmax
comp=Z,17nm,0.8s
KIEV Kiev 91.63 321 *e*P **P** 19 14 57.7 **-1.4**
comp=Z,17nm,0.8s
VSU Vasula 91.80 329 *i* P **P** 19 14 58.3 **-1.4**
VSU pmax pmax
comp=Z,39nm,1.0s
MICGM Minsk 91.86 325 *e*P **P** 19 14 58.0 **-2.1**
MNK Minsk 91.88 325 *e*P **P** 19 14 58.0 **-2.2**
NACGM Naroch 92.42 325 *e* **P** 19 15 00.0 **-2.6**
SYO Syowa Base 92.53 201⇓ *e*P **P** 19 15 01.3 **-1.5**
SYO Syowa Base 92.53 201⇓ *e*sP sP 19 15 18.5 -2.8
IZAR Zarasai 92.56 326 *e*P **P** 19 15 03.3 **0.0**
IZAR AMB AMB 19 15 06.2
comp=Z,13nm,0.9s
IZAR Zarasai 92.56 326 *e*P **P** 19 15 03.3 **0.0**
IZAR AMB AMB 19 15 06.2
comp=Z,13nm,0.9s
IIGN Ignalina 92.65 326 *e*P **P** 19 15 03.7 **0.0**
IIGN AMB AMB 19 15 05.1
comp=Z,8.5nm,0.9s
IIGN Ignalina 92.65 326 *e*P **P** 19 15 03.7 **0.0**
IIGN AMB AMB 19 15 05.1
comp=Z,8.5nm,0.9s
ISAL Salakas 92.66 326 *e*P **P** 19 15 03.7 **0.0**
ISAL AMB AMB 19 15 06.7
comp=Z,8.7nm,1.0s
ISAL Salakas 92.66 326 *e*P **P** 19 15 03.7 **0.0**
ISAL AMB AMB 19 15 06.7
comp=Z,8.7nm,1.0s
TLCR 92.68 315⇓ *e*P **P** 19 15 03.7 **-0.4**
TLCR 92.68 315⇓ *i*P **P** 19 15 03.7 **-0.4**
TIRR Tirgusor 93.07 315⇓ P P 19 15 01.5 -4.4
TIRR Tirgusor 93.07 315⇓ *i*P P 19 15 01.5 -4.4
CFR Carcaliu 93.16 316⇑ P **P** 19 15 05.4 **-0.9**
CFR Carcaliu 93.16 316⇑ *i*P **P** 19 15 05.4 **-0.9**
GHRR 93.52 316⇑ *i*P **P** 19 15 08.3 **+0.3**
QSPA South Pole Qui 93.83 180 *e*P **P** 19 15 09.3 **+0.3**
comp=Z,89nm,1.9s
QSPA South Pole Qui 93.83 180 P **P** 19 15 08.9 **-0.1**
comp=Z,3.2nm,0.9s,baz=334,slow=1.9,SNR=4.8
TESR 93.97 317⇑ *i*P **P** 19 15 09.6 **-0.4**
VRI Vrincioaia 94.02 316 P **P** 19 15 11.1 **+0.8**
VRI Vrincioaia 94.02 316⇑ *i*P **P** 19 15 10.4 **+0.1**
PLOR Plostina 94.08 316⇓ P **P** 19 15 09.9 **-0.7**
PLOR Plostina 94.08 316⇓ *i*P **P** 19 15 09.9 **-0.7**
MLR Muntele Rosu 94.63 316⇓ *i*P **P** 19 15 12.8 **-0.4**
SUW Suwalki 94.66 325 *e*P **P** 19 15 12.8 **-0.2**
SUW Suwalki 94.66 325 *e*P **P** 19 15 12.8 **-0.2**
SUW Suwalki 94.66 325 *e*P **P** 19 15 12.8 **-0.2**
SUW Suwalki 94.66 325 *e*P **P** 19 15 12.2 **-0.7**
comp=Z,107nm,0.9s
BURAR Bucovina Array 94.73 318⇑ *i*P **P** 19 15 13.4 **-0.2**
BUR08 Bucovina Ar. S 94.74 318 *e*P **P** 19 15 13.6 **0.0**
DOPR Dopca 94.92 317⇓ *i*P **P** 19 15 14.5 **+0.1**
LVV L'vov 95.06 321 *e*P **P** 19 15 12.4 **-2.5**
VOIR 95.26 316⇓ P **P** 19 15 15.4 **-0.7**
VOIR 95.26 316⇓ *i*P **P** 19 15 15.4 **-0.7**
HUMR Humele 95.48 315⇑ *i*P P 19 15 13.9 -3.1
BMR Baia Mare 95.86 319 P **P** 19 15 19.4 **+0.8**
BMR Baia Mare 95.86 319⇑ *i*P **P** 19 15 18.8 **+0.2**
KWP Kalwaria Pacla 95.94 321⇑ P P 19 15 14.4 -4.6
KWP Kalwaria Pacla 95.94 321⇑ *i*P P 19 15 14.4 -4.6
LOT Lotru 96.14 316⇑ *i*P **P** 19 15 19.4 **-0.7**
KOLS Kolonicke sedl 96.38 320 *e*P **P** 19 15 20.8 **-0.2**
KOLS Kolonicke sedl 96.38 320 *e*P **P** 19 15 20.8 **-0.2**
KOLS *e* 19 19 30.6
TRPA Tarpa 96.39 319⇑ *i*P **P** 19 15 18.3 **-2.7**
UZH Uzhgorod 96.43 320⇑ *i*P **P** 19 15 21.5 **+0.3**
UZH *e* 19 15 37.7
DRGR 96.57 318 P **P** 19 15 22.0 **0.0**
DRGR 96.57 318⇑ *i*P **P** 19 15 20.8 **-1.2**
GZR Gura Zlata 96.83 316 P **P** 19 15 23.7 **+0.5**
GZR Gura Zlata 96.83 316⇑ *i*P **P** 19 15 23.0 **-0.2**
CRVS Cervenica-Dubn 96.90 320 *e*P **P** 19 15 23.7 **+0.3**
CRVS Cervenica-Dubn 96.90 320 *e*P **P** 19 15 23.7 **+0.3**
CRVS *e* 19 19 33.1
DAG Danmarks Havn 97.04 352 *i* P **P** 19 15 22.8 **-0.6**
DAG Danmarks Havn 97.04 352 *i* P **P** 19 15 22.8 **-0.6**
VTS Vitosha 97.12 314⇓ P P 19 15 20.4 -4.3
VTS Vitosha 97.12 314⇓ *i*P P 19 15 20.4 -4.3
NIE Niedzica 97.50 321 *e*P **P** 19 15 26.0 **-0.1**
NIE Niedzica 97.50 321 *e*P **P** 19 15 26.4 **+0.3**
BZS Buzias 97.58 317⇑ P **P** 19 15 25.2 **-1.3**
BZS Buzias 97.58 317⇑ *i*P **P** 19 15 25.2 **-1.3**
OJC Ojcow 97.61 322 *e*P **P** 19 15 26.1 **-0.5**
OJC Ojcow 97.61 322 *e*P **P** 19 15 26.6 **+0.1**
RES Resolute Bay 97.66 10 P Pdif 19 15 27.0 +0.8
RES Resolute Bay 97.66 10 P Pdif 19 15 27.0 +0.8
comp=Z,3.0nm,0.7s,baz=327,slow=4.8,SNR=8.3
HFS Hagfors 97.76 332 P **P** 19 15 26.0 **-0.9**
HFS Hagfors 97.76 332 P **P** 19 15 26.0 **-0.9**
comp=Z,7.4nm,0.8s,baz=70,slow=10,SNR=6.6
VAY Valandovo 97.86 312 *e*P **P** 19 15 25.7 **-2.1**
PSZ Piszkesteto 98.16 319⇑ P P 19 15 25.4 -3.7
PSZ Piszkesteto 98.16 319⇑ *i*P P 19 15 25.4 -3.7
NB2 NORSAR Subarra 98.53 334 P **P** 19 15 29.2 **-1.2**
baz=65,slow=4.6
NB2 NORSAR Subarra 98.53 334 P **P** 19 15 29.2 **-1.2**
comp=Z,11nm,0.8s,baz=65,slow=4.6
NOA NORSAR Array B 98.53 334 P **P** 19 15 29.5 **-1.0**
NOA NORSAR Array B 98.53 334 P **P** 19 15 29.5 **-1.0**
comp=Z,9.2nm,0.7s,baz=66,slow=4.6,SNR=29
SKO Skopje 98.54 313 *e*P P 19 15 26.8 -4.1
VYHS Vyhne 98.69 320 *e*P **P** 19 15 31.3 **-0.1**
VYHS Vyhne 98.69 320 PDIF **P** 19 15 31.3 **-0.1**
OKC Ostrava-Krasne 98.74 322 *e*P **P** 19 15 31.8 **+0.2**
OKC Ostrava-Krasne 98.74 322 *e*PDIFF **P** 19 15 31.8 **+0.2**
NAO01 NORSAR Array S 98.76 333 *e*P **P** 19 15 30.5 **-0.9**
LSZ Lusaka 99.07 255 *e*P **Pdif** 19 15 32.8 **-1.1**
comp=Z,12nm,0.8s
MORC Moravsky Berou 99.14 322⇑ P **Pdif** 19 15 27.7 **-5.7**
MORC Moravsky Berou 99.14 322⇑ *i*P **Pdif** 19 15 27.7 **-5.7**
YKA Yellowknife Ar 99.40 24 P **Pdif** 19 15 34.9 **+0.7**
YKA PKKPbc **PKKPbc** 19 31 56.2 **-3.7**
YKA Yellowknife Ar 99.40 24 P **Pdif** 19 15 34.9 **+0.7**
comp=Z,0.7nm,0.6s,baz=300,slow=4.4,SNR=8.3
YKA PKKPbc **PKKPbc** 19 31 56.2 **-3.7**
comp=Z,0.4nm,0.7s,baz=112,slow=5.5,SNR=5.8
PKSM Moragy 99.44 318⇑ P **Pdif** 19 15 34.2 **-0.6**
PKSM Moragy 99.44 318⇑ *i*P **Pdif** 19 15 34.2 **-0.6**
KSP Ksiaz 99.57 323 *e*P **Pdif** 19 15 35.6 **+0.3**
DPC Dobruska-Polom 99.71 322 *e*P **Pdif** 19 15 36.4 **+0.4**
DPC *e* 19 15 50.5
DPC Dobruska-Polom 99.71 322 *e*PDIFF **Pdif** 19 15 36.4 **+0.4**
DPC *e*pP **pP** 19 15 50.5 **+1.0**
UPC Upice 99.85 323 *e*P **Pdif** 19 15 37.1 **+0.6**
UPC *e* 19 15 48.8
UPC Upice 99.85 323 *e*PDIFF **Pdif** 19 15 37.1 **+0.6**
UPC *e*pP **pP** 19 15 48.8 **-1.3**
VRAC Vranov 99.87 321 P **Pdif** 19 15 37.5 **+0.9**
VRAC Vranov 99.87 321⇓ *i*P **Pdif** 19 15 33.3 **-3.3**
VRAC Vranov 99.87 321 P **Pdif** 19 15 37.5 **+0.9**
comp=Z,8.2nm,0.8s,baz=113,slow=5.0,SNR=7.3
PVCC Panska Ves 100.71 323 *e*P **Pdif** 19 15 40.6 **+0.2**
PVCC Panska Ves 100.71 323 *e*PDIFF **Pdif** 19 15 40.6 **+0.2**
PVCC *e*pP pP 19 15 56.0 +2.0
PRU Pruhonice 100.91 322 *e*P **Pdif** 19 15 41.7 **+0.4**
PRU Pruhonice 100.91 322 *e*PDIFF **Pdif** 19 15 41.7 **+0.4**
PRU *e*pP pP 19 15 54.1 -0.8
PRA Prague 100.95 323 PDIFF **Pdif** 19 15 42.0 **+0.6**
BRG Berggiesshubel 100.97 323 *e*P **Pdif** 19 15 41.7 **+0.2**
comp=Z,19nm,1.0s
BRG *e*PP **PP** 19 19 47.1 **-2.7**
comp=Z,20nm,1.7s
BRG Berggiesshubel 100.97 323 *e*Pdiff **Pdif** 19 15 42.2 **+0.7**
BRG Berggiesshubel 100.97 323 *e*P **Pdif** 19 15 41.7 **+0.2**
BRG *e* 19 19 47.1
BRG pmax pmax
comp=Z,19nm,1.0s
BRG pmax pmax
comp=Z,20nm,1.7s
FBE Freiberg 101.30 324 *e*Pdiff **Pdif** 19 15 44.0 **+1.0**
CLL Collm 101.37 324 *e*Pdiff **Pdif** 19 15 43.7 **+0.4**
CLL Collm 101.37 324 *i* P **Pdif** 19 15 43.4 **+0.1**
CLL pmax pmax
comp=Z,13nm,1.3s
CLL MLR MLR
comp=Z,7µm,19.2s
CLL Collm 101.37 324 *i* Pdif **Pdif** 19 15 43.4 **+0.1**
comp=Z,13nm,1.3s
CLL *es*Pdif sPdif 19 15 58.0 -3.8
CLL *e*(sPP) 19 20 09.0
CLL LmV 20 03 00.0
comp=Z,7µm,19.2s
KHC Kasperske Hory 101.79 322 *e*P **Pdif** 19 15 45.6 **+0.3**
KHC Kasperske Hory 101.79 322 *e*PDIFF **Pdif** 19 15 45.6 **+0.3**
GEC2 GERESS Array S 101.82 322 *e*Pdiff **Pdif** 19 15 46.0 **+0.6**
GERES GERESS Array B 101.82 322 P **Pdif** 19 15 44.8 **-0.6**
GERES GERESS Array B 101.82 322 P **Pdif** 19 15 44.8 **-0.6**
comp=Z,3.7nm,0.9s,baz=70,slow=4.4,SNR=18
TANN Tannenbergstha 102.02 323 *e*Pdiff **Pdif** 19 15 46.9 **+0.7**
NKC Novy Kostel 102.09 323 *e*P **Pdif** 19 15 47.0 **+0.5**
NKC Novy Kostel 102.09 323 *e*PDIFF **Pdif** 19 15 47.0 **+0.5**
NKC *e*pP 19 16 00.3
GUNZ Gunzen 102.11 323 *e*Pdiff **Pdif** 19 15 47.4 **+0.8**
NEUB Neuenburg 102.12 324 *e*Pdiff **Pdif** 19 15 47.4 **+0.8**
ROTZ Rotzenmuhle 102.40 323 *e*Pdiff **Pdif** 19 15 49.2 **+1.3**
MOX Moxa 102.43 324 *e*Pdiff **Pdif** 19 15 48.9 **+0.9**
CLZ Clausthal 102.69 325 *e*Pdiff **Pdif** 19 15 50.4 **+1.2**
DAVOX Davos/Dischmat 104.97 321 Pdif **Pdif** 19 16 00.9 **+1.2**
DAVOX Davos/Dischmat 104.97 321 Pdiff **Pdif** 19 16 00.9 **+1.2**
comp=Z,3.8nm,0.7s,baz=83,slow=9.0,SNR=4.3
CDF Champ du Feu 105.92 323 *e*P **Pdif** 19 16 02.9 **-0.8**
comp=Z,8.8nm,0.8s
NVAR Mina Array Bea 106.92 48 Pdif **Pdif** 19 16 11.3 **+2.8**
NVAR PKKPbc **PKKPbc** 19 31 37.3 **+0.1**
NVAR Mina Array Bea 106.92 48 Pdiff **Pdif** 19 16 11.3 **+2.8**
comp=Z,1.0nm,0.8s,baz=272,slow=5.9,SNR=5.0
NVAR PKKPbc **PKKPbc** 19 31 37.3 **+0.1**
comp=Z,1.2nm,0.8s,baz=139,slow=3.7,SNR=5.1
LPG La Plagne 107.47 320 *e*P **Pdif** 19 16 14.3 **+3.4**
comp=Z,35nm,1.3s
PDAR Pinedale Array 111.34 41 PKKPbc PKKPbc 19 31 24.8 +1.6
PDAR Pinedale Array 111.34 41 PKKPbc PKKPbc 19 31 24.8 +1.6
comp=Z,2.7nm,0.8s,baz=120,slow=6.3,SNR=4.3
ECSD EROS Data Cent 118.74 34 *e*PKPdf **PKPdf** 19 20 39.0 **-1.3**
Y25A Mesa, Roswell 118.80 48⇑ P **PKPdf** 19 20 40.8 **-0.1**
baz=119
324A Moseley Ranch, 119.31 51⇓ P **PKPdf** 19 20 42.2 **+0.2**
baz=119
425A Indio Mountain 119.97 51⇑ P **PKPdf** 19 20 43.9 **+0.6**
baz=120
127A Arkansas Junct 120.37 48⇑ P **PKPdf** 19 20 44.4 **+0.4**
baz=120
SCHQ Schefferville 120.41 9 PKP **PKPdf** 19 20 43.8 **+0.6**
SCHQ Schefferville 120.41 9 PKP **PKPdf** 19 20 43.8 **+0.6**
comp=Z,3.2nm,0.8s,baz=16,slow=3.5,SNR=4.0
EVO Evora 120.45 320⇑ *i*PKIKP **PKPdf** 19 20 46.0 **+2.2**
comp=Z,44nm,1.4s
427A Hayter Ranch, 121.17 50⇓ P **PKPdf** 19 20 46.1 **+0.6**
baz=121
527A Woodward Ranch 121.32 51⇓ P **PKPdf** 19 20 46.2 **+0.3**
baz=121
328A Wriston Ranch, 121.38 49⇑ P **PKPdf** 19 20 46.1 **+0.3**
baz=121
TXAR Lajitas Array 121.63 52 PKP **PKPdf** 19 20 47.8 **+1.3**
TXAR Lajitas Array 121.63 52 PKP **PKPdf** 19 20 47.8 **+1.3**
comp=Z,1.1nm,0.6s,baz=242,slow=2.7,SNR=4.6
428A Kincaid Ranch, 121.78 50⇑ P **PKPdf** 19 20 47.4 **+0.7**
baz=122
627A Terlingua Ranc 121.80 52⇑ P **PKPdf** 19 20 47.2 **+0.4**
baz=122
628A Black Gap, Mar 122.18 51⇓ P **PKPdf** 19 20 47.5 **+0.1**
baz=122
TORD Torodi Ar. Bea 122.68 288 PKP **PKPdf** 19 20 48.2 **-0.5**
TORD PKKPbc **PKKPab** 19 30 42.4 **-0.1**
TORD Torodi Ar. Bea 122.68 288 PKP **PKPdf** 19 20 48.2 **-0.5**
comp=Z,4.9nm,0.7s,baz=56,slow=1.8,SNR=18
TORD PKKPbc **PKKPab** 19 30 42.4 **-0.1**
comp=Z,0.8nm,0.8s,baz=254,slow=2.4,SNR=4.8
JCT Junction City 124.08 49 *e*PKIKP **PKPdf** 19 20 51.7 **+0.7**
JCT Junction City 124.08 49 *e*PKPdf **PKPdf** 19 20 51.7 **+0.7**
JCT Junction City 124.08 49⇓ P **PKPdf** 19 20 51.7 **+0.7**
baz=124
DBIC Dimbokro 130.35 282 PKP **PKPdf** 19 21 03.5 **+0.1**
DBIC SKPbc **SKPab** 19 24 23.1 **+0.1**
DBIC Dimbokro 130.35 282 PKP **PKPdf** 19 21 03.5 **+0.1**
comp=Z,2.7nm,0.6s,baz=130,slow=10,SNR=5.5
DBIC SKPbc **SKPab** 19 24 23.1 **+0.1**
comp=Z,9.3nm,0.7s,baz=79,slow=4.4,SNR=10
LIC Lamto 130.60 282 *e*PKIKP **PKPdf** 19 21 04.7 **+0.9**
comp=Z,82nm,1.4s
PLCA Paso Flores 140.25 160 PKP **PKPdf** 19 21 22.1 **+0.9**
PLCA Paso Flores 140.25 160 PKP **PKPdf** 19 21 22.1 **+0.9**
comp=Z,2.8nm,0.8s,baz=156,slow=7.7,SNR=5.1
TRQA Tornquist 145.15 168 *e*PKPdf **PKPbc** 19 21 28.9 **-0.5**
CFAA Coronel Fontan 149.16 155 PKPbc **PKPbc** 19 21 41.0 **0.0**
CFAA Coronel Fontan 149.16 155 PKPbc **PKPbc** 19 21 41.0 **0.0**
comp=Z,1.9nm,0.7s,baz=230,slow=2.0,SNR=10.0
LCO Las Campanas 150.16 149 *e*PKPbc **PKPbc** 19 21 44.2 **+0.4**
CPUP Villa Florida 157.41 171 PKPab **PKPab** 19 22 19.4 **-0.7**
CPUP Villa Florida 157.41 171 PKPab **PKPab** 19 22 19.4 **-0.7**
comp=Z,4.9nm,0.8s,baz=192,slow=4.6,SNR=4.7
BDFB Brasilia 167.18 204 PKPab **PKPab** 19 23 03.1 **-0.1**
BDFB Brasilia 167.18 204 PKPab **PKPab** 19 23 03.1 **-0.1**
comp=Z,2.1nm,0.6s,baz=155,slow=6.3,SNR=3.4

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*IDC **11** 19:05:57.8±0.7,3˚.80N×126˚.76E, h0km, mb4.9/22, mb1 4.9/22, mb1mx4.9/24, mbtmp4.8/22, Error ellipse: s-maj=28.4km s-min=16.3km az=81.0*
*ISCJB **11** 19:06:02.0±0.4, 3˚.86N±0˚.06×126˚.80E±0˚.07, h36km, mb4.9/37, Error ellipse: s-maj=10.2km s-min=9.0km az=21.6*
*NEIC **11** 19:06:02.6±4.3, 3˚.84N×126˚.88E, h31km±29km, mb5.0/8, Error ellipse: s-maj=12.0km s-min=9.5km az=105.0*
ISC 11 19:06:03.5±0.5, 3˚.84N±0˚.08×126˚.8E±0˚.1, h36km, n108, σ0s89/107, mb4.9/36, 11C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSM	**Kuching**	**16.67**	**262**	*e*P		**Pn**		**19 09 54.2**	**-0.3**
TPUB	**Ta-pu**	**20.25**	**343**	*e*P		**P**		**19 10 34.5**	**-1.4**
FITZ	**Fitzroy Crossi**	**21.84**	**183**	P		**P**		**19 10 54.6**	**+1.7**
	22nm,0.8s,baz=97,slow=3.2,SNR=3.2								
JOW	**Kunigami**	**22.90**	**3**	*e*P		**P**		**19 11 04.7**	**+0.4**
	15nm,0.9s								
JOW	**Kunigami**	**22.90**	**3**	P		**P**		**19 11 04.9**	**+0.6**
	32nm,0.9s,baz=202,slow=9.9,SNR=5.4								
IPM	**Ipoh**	**25.75**	**272**	*e*P		**P**		**19 11 33.2**	**+2.2**
ASAR	**Alice Springs**	**28.20**	**166**	P		**P**		**19 11 52.2**	**-0.8**
ASAR	**Alice Springs**	**28.20**	**166**	P		**P**		**19 11 52.2**	**-0.8**
	4.6nm,0.7s,baz=345,slow=9.1,SNR=2.9								
JNU	**Nakatsue**	**29.38**	**7**	P		**P**		**19 12 02.6**	**-0.7**
JNU	**Nakatsue**	**29.38**	**7**	P		**P**		**19 12 02.6**	**-0.7**
	16nm,0.9s,baz=152,slow=8.1,SNR=3.9								
CMAR	**Chiang Mai Arr**	**30.90**	**300**	P		**P**		**19 12 17.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**30.90**	**300**	P		**P**		**19 12 17.4**	**+0.4**
	5.9nm,0.8s,baz=121,slow=7.4,SNR=5.6								
CHTO	**Chiang Mai**	**31.05**	**301**	*e*P		**P**		**19 12 18.3**	**0.0**
	15nm,0.8s								
KSAR	**Wonju Array Be**	**33.45**	**2**	P		**P**		**19 12 39.3**	**+0.2**
KSRS	**Korea Array**	**33.47**	**2**	P		**P**		**19 12 39.3**	**+0.1**
	6.0nm,0.9s,baz=176,slow=9.9,SNR=4.0								
MJAR	**Matsushiro Arr**	**34.19**	**16**	P		P		19 12 42.3	-3.2
MJAR	**Matsushiro Arr**	**34.19**	**16**	P		P		19 12 42.3	-3.2
	4.8nm,1.1s,baz=210,slow=7.0,SNR=3.2								
BJT	**Baijiatuan**	**37.28**	**346**	*e*P		**P**		**19 13 12.8**	**+0.8**
STKA	**Stephens Creek**	**38.20**	**159**	P		**P**		**19 13 19.5**	**-0.4**
STKA	**Stephens Creek**	**38.20**	**159**	P		**P**		**19 13 19.5**	**-0.4**
	18nm,0.6s,baz=334,slow=8.8,SNR=5.5								
USRK	**Ussuriysk Arra**	**40.45**	**6**	P		**P**		**19 13 39.8**	**+1.3**
	5.6nm,0.7s,baz=204,slow=5.3,SNR=3.6								
MDJ	**Mudanjiang**	**40.68**	**3**	*e*P		**P**		**19 13 40.8**	**+0.4**
	21nm,0.9s								
LSA	**Lhasa**	**42.44**	**311**	*e*P		**P**		**19 13 56.4**	**+0.7**
TAPN	**Taplejung**	**44.03**	**306**	*e*P		**P**		**19 14 08.2**	**-0.1**
	69nm,1.0s								
ODAN	**Odare**	**44.09**	**305**	*e*P		**P**		**19 14 08.5**	**-0.2**
	40nm,0.7s								
RAMN	**Ramite**	**44.77**	**305**	*e*P		**P**		**19 14 14.1**	**-0.1**
	50nm,1.0s								
JIRN	**Jiri**	**45.39**	**306**	*e*P		**P**		**19 14 19.0**	**-0.2**
	16nm,1.0s								
HIA	**Hailar**	**45.66**	**354**	*e*P		**P**		**19 14 21.4**	**+0.8**
GUN	**Gumba**	**45.74**	**306**	*e*P		**P**		**19 14 21.7**	**-0.3**
	88nm,1.0s								
PKI	**Pulchoki**	**45.99**	**305**	*e*P		**P**		**19 14 23.1**	**-0.8**
KKN	**Kakani**	**46.18**	**305**	*e*P		**P**		**19 14 24.6**	**-0.7**
	28nm,0.9s								
DMN	**Daman**	**46.25**	**305**	*e*P		**P**		**19 14 25.3**	**-0.6**
	36nm,1.0s								
GKN	**Gorkha**	**46.79**	**305**	*e*P		**P**		**19 14 29.3**	**-0.7**
ULN	**Ulaanbaatar**	**47.05**	**342**	*e*P		**P**		**19 14 33.5**	**+1.8**
SONM	**Songino Array**	**47.23**	**341**	P		**P**		**19 14 33.1**	**+0.1**
SONM					PcP	**PcP**		**19 16 05.3**	**+1.3**
SONM	**Songino Array**	**47.23**	**341**	P		**P**		**19 14 33.1**	**+0.1**
	11nm,0.9s,baz=159,slow=7.8,SNR=6.7								
SONM					PcP	**PcP**		**19 16 05.3**	**+1.3**
	11nm,0.8s,baz=162,slow=2.7,SNR=7.9								
KOLN	**Koldanda**	**47.55**	**305**	*e*P		**P**		**19 14 35.8**	**-0.2**
	68nm,0.7s								
DANN	**Dangsing**	**47.63**	**305**	*e*P		**P**		**19 14 36.3**	**-0.5**
	61nm,0.7s								
HYB	**Hyderabad**	**49.17**	**290**	*i* P		**P**		**19 14 48.5**	**0.0**
TLY	**Talaya**	**51.46**	**342**	*e*P		**P**		**19 15 06.3**	**+1.2**
PETK	**Petropavlovsk-**	**55.29**	**22**	P		**P**		**19 15 32.2**	**-1.1**
PETK	**Petropavlovsk-**	**55.29**	**22**	P		**P**		**19 15 32.2**	**-1.1**
	6.0nm,0.7s,baz=190,slow=7.3,SNR=3.8								
MK31	**Makanchi Array**	**57.52**	**325**	*e*P		**P**		**19 15 49.4**	**+0.1**
MKAR	**Makanchi Array**	**57.52**	**325**	P		**P**		**19 15 49.0**	**-0.3**
MKAR					PcP	**PcP**		**19 16 42.0**	**-0.5**
MKAR	**Makanchi Array**	**57.52**	**325**	P		**P**		**19 15 49.0**	**-0.3**
	14nm,0.8s,baz=118,slow=7.5,SNR=8.3								
MKAR					PcP	**PcP**		**19 16 42.0**	**-0.5**
	13nm,0.8s,baz=116,slow=5.5,SNR=4.6								
YAK	**Yakutsk**	**58.09**	**2**	*e*P		**P**		**19 15 53.4**	**+0.4**
ZALV	**Zalesovo Beam**	**60.53**	**333**	P		**P**		**19 16 09.4**	**-0.6**
ZALV	**Zalesovo Beam**	**60.53**	**333**	P		**P**		**19 16 09.4**	**-0.6**
	2.4nm,0.4s,baz=128,slow=6.6,SNR=6.9								
KBL	**Kabul**	**61.54**	**307**	*e*P		**P**		**19 16 17.1**	**-0.3**
KURBB	**Kurchatov Arra**	**61.70**	**327**	P		**P**		**19 16 17.9**	**0.0**
	17nm,0.8s,baz=129,slow=6.5,SNR=7.9								
KURK	**Kurchatov**	**61.70**	**327**	*e*P		**P**		**19 16 16.1**	**-1.9**
KKAR	**Karatay Array**	**63.22**	**317**	*e*P		**P**		**19 16 28.7**	**+0.3**
	9.1nm,1.0s								
BVAR	**Borovoye Array**	**67.28**	**327**	P		**P**		**19 16 55.2**	**+0.7**
BVAR	**Borovoye Array**	**67.28**	**327**	P		**P**		**19 16 55.2**	**+0.7**
	17nm,0.8s,baz=126,slow=7.5,SNR=8.1								
BRVK	**Borovoye**	**67.36**	**327**	*e*P		**P**		**19 16 56.0**	**+1.1**
	49nm,1.0s								
QRN	**Al-Qurain**	**78.44**	**298**	*e*P		**P**		**19 18 01.0**	**-0.2**
QRN					AMb	AMB		19 18 05.5	
	comp=Z,76nm,1.2s								
UMR	**Umm Al-Rimmam**	**78.65**	**299**	*e*P		**P**		**19 18 01.6**	**-0.6**
UMR					AMb	AMB		19 18 02.8	
	comp=Z,58nm,1.3s								

SUW	Suwalki	94.89	325	*e*P		P		19 19 22.4	+0.5
	comp=Z,62nm,1.0s								
BURAR	Bucovina Array	94.99	318	‖ *i*P		P		19 19 23.1	+0.5
BUR08	Bucovina Ar. S	94.99	318	*e*P		P		19 19 23.1	+0.5
VOIR		95.52	316	⇑ *i*P		P		19 19 34.4	+9.3
TRPA	Tarpa	96.64	319	⇑ *i*P		P		19 19 30.1	+0.2
DRGR		96.83	318	⇑ *i*P		P		19 19 30.8	-0.2
GZR	Gura Zlata	97.10	316	‖ *i*P		Pdif		19 19 33.1	+0.8
VTS	Vitosha	97.39	314	⇑ *i*P		P		19 19 33.0	-0.7
BZS	Buzias	97.84	317	⇑ *i*P		Pdif		19 19 35.8	+0.3
HFS	Hagfors	97.97	332	P		P		19 19 33.8	-1.9
HFS	Hagfors	97.97	332	P		P		19 19 33.8	-1.9
	comp=Z,10nm,1.0s,baz=46,slow=8.5,SNR=3.8								
NOA	NORSAR Array B	98.73	334	P		P		19 19 37.9	-1.2
NOA	NORSAR Array B	98.73	334	P		P		19 19 37.9	-1.2
	comp=Z,6.0nm,1.0s,baz=67,slow=4.6,SNR=4.9								
YKA	Yellowknife Ar	99.36	24	P		Pdif		19 19 42.0	+0.2
YKA	Yellowknife Ar	99.36	24	P		Pdif		19 19 42.0	+0.2
	comp=Z,1.0nm,0.9s,baz=297,slow=5.9,SNR=3.7								
MORC	Moravsky Berou	99.38	322	⇑ *i*P		Pdif		19 19 43.7	+1.4
GERES	GERESS Array B	102.06	322	P		Pdif		19 19 54.7	+0.4
GERES	GERESS Array B	102.06	322	P		Pdif		19 19 54.7	+0.4
	comp=Z,3.4nm,1.0s,baz=72,slow=6.3,SNR=3.9								
NVAR	Mina Array Bea	106.76	48	Pdif		Pdif		19 20 14.8	-0.8
NVAR	Mina Array Bea	106.76	48	Pdiff		Pdif		19 20 14.8	-0.8
	comp=Z,0.5nm,0.8s,baz=263,slow=7.2,SNR=2.6								
TORD	Torodi Ar. Bea	122.98	288	PKP		PKPdf		19 24 57.0	-0.1
TORD	Torodi Ar. Bea	122.98	288	PKP		PKPdf		19 24 57.0	-0.1
	comp=Z,4.1nm,0.8s,baz=66,slow=1.8,SNR=6.1								
CPUP	Villa Florida	157.28	170	PKPab		PKPab		19 26 28.7	+1.4
CPUP	Villa Florida	157.28	170	PKPab		PKPab		19 26 28.7	+1.4
	comp=Z,0.6nm,0.4s,baz=169,slow=5.2,SNR=3.5								

IDC 11 19:11:31.3±1.4, 3.35N×126.96E, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.9/21, mbtmp4.1/6, Error ellipse: s-maj=111.0km s-min=19.3km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	Fitzroy Crossi	21.36	183	P		P	19 16 21.7	+1.4
	4.9nm,0.9s,baz=8.5,slow=11,SNR=4.2							
WRA	Warramunga Arr	24.26	163	P		P	19 16 50.7	+0.3
	13nm,0.7s,baz=339,slow=11,SNR=11							
ASAR	Alice Springs	27.69	166	P		P	19 17 20.3	-1.1
	1.6nm,0.9s,baz=347,slow=7.6,SNR=3.4							
STKA	Stephens Creek	37.70	159	P		P	19 18 48.6	-0.1
	1.9nm,0.4s,baz=325,slow=9.9,SNR=6.0							
ZALV	Zalesovo Beam	61.03	333	P		P	19 21 45.1	-1.5
	1.0nm,0.8s,baz=144,slow=5.2,SNR=3.6							
KURBB	Kurchatov Arra	62.18	327	P		P	19 21 55.3	+0.8
	1.0nm,0.8s,baz=126,slow=6.2,SNR=4.1							

IDC 11 19:14:43.3±1.0, 4.03N×126.89E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/22, mbtmp3.9/11, Error ellipse: s-maj=67.4km s-min=14.8km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	Fitzroy Crossi	22.02	183	P		P	19 19 39.4	-0.1
	3.3nm,0.8s,baz=0.8,slow=11,SNR=3.6							
WRA	Warramunga Arr	24.92	163	P		P	19 20 08.7	+0.4
	5.2nm,0.7s,baz=340,slow=11,SNR=6.0							
ASAR	Alice Springs	28.36	166	P		P	19 20 39.4	0.0
	0.4nm,0.5s,baz=346,slow=8.4,SNR=3.8							
CMAR	Chiang Mai Arr	30.86	300	P		P	19 21 01.3	-0.3
	0.7nm,0.5s,baz=125,slow=7.4,SNR=4.6							
STKA	Stephens Creek	38.35	160	P		P	19 22 05.7	-0.4
	1.4nm,0.6s,baz=357,slow=9.8,SNR=3.6							
SONM	Songino Array	47.07	341	P		P	19 23 16.7	-0.3
	0.4nm,0.6s,baz=132,slow=2.1,SNR=3.3							
MKAR	Makanchi Array	57.40	325	P		P	19 24 33.5	-0.3
	0.8nm,0.5s,baz=119,slow=7.8,SNR=8.1							
ZALV	Zalesovo Beam	60.40	333	P		P	19 24 54.1	-0.2
	0.4nm,0.3s,baz=132,slow=6.2,SNR=2.7							
KURBB	Kurchatov Arra	61.58	327	P		P	19 25 03.2	+0.8
	1.5nm,0.7s,baz=131,slow=6.6,SNR=5.7							
BVAR	Borovoye Array	67.16	327	P		P	19 25 39.1	+0.1
	0.5nm,0.4s,baz=65,slow=6.8,SNR=6.2							
ARCES	ARCESS Array B	90.22	340	P		P	19 27 44.9	-0.6
	5.3nm,1.1s,baz=73,slow=6.7,SNR=4.8							

IDC 11 19:15:13.0±1.0, 3.51N×126.82E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/22, mbtmp4.0/8, Error ellipse: s-maj=74.3km s-min=16.9km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	Fitzroy Crossi	21.51	183	P		P	19 20 04.5	+0.8
	3.8nm,0.8s,baz=26,slow=8.2,SNR=4.2							
WRA	Warramunga Arr	24.45	163	P		P	19 20 33.4	-0.5
	8.0nm,0.8s,baz=346,slow=9.5,SNR=5.5							
ASAR	Alice Springs	27.88	166	P		P	19 21 04.0	-0.9
	0.8nm,0.7s,baz=342,slow=8.3,SNR=3.1							
KSRS	Korea Array	33.79	2	P		P	19 21 57.6	+0.9
	0.7nm,0.6s,baz=183,slow=8.5,SNR=3.4							
STKA	Stephens Creek	37.90	159	P		P	19 22 32.5	+0.5
	2.1nm,0.5s,baz=343,slow=11,SNR=4.2							
MKAR	Makanchi Array	57.78	325	P		P	19 25 06.1	0.0
	0.9nm,0.5s,baz=119,slow=7.8,SNR=5.0							
KURBB	Kurchatov Arra	61.97	327	P		P	19 25 34.6	-0.2
	1.2nm,0.6s,baz=132,slow=6.6,SNR=5.0							
BVAR	Borovoye Array	67.55	327	P		P	19 26 10.5	-0.7
	1.1nm,0.9s,baz=132,slow=8.4,SNR=2.8							

*IDC **11** 19:18:49.9±0.4, 3.90N×126.64E, h0km, mb4.7/32, mb1 4.7/32, mb1mx4.7/34, mbtmp4.6/32, Error ellipse: s-maj=19.9km s-min=10.9km az=72.0*

*MOS **11** 19:18:52.7±0.9, 3.89N×126.72E, h33km, mb5.2/28, Error ellipse: s-maj=15.5km s-min=6.0km az=116.6*

*ISCJB **11** 19:18:52.6±0.2, 3.97N±0.03×126.76E±0.05, h30km, mb4.8/82, MS5.2/1, Error ellipse: s-maj=7.3km s-min=4.5km az=161.9*

*BJI **11** 19:18:52.0, 3.70N×126.43E, h32km, mB5.9/9, mb5.0/36, Ms5.3/6, Ms7 5.1/6*

*NEIC **11** 19:18:54.9±0.3, 3.95N×126.83E, h35km, mb5.0/22, Error ellipse: s-maj=9.7km s-min=6.3km az=67.0*

NEIC Felt [III] in the Kepulauan Talaud.

*DJA **11** 19:19:00, 3.77N×126.88E, h57km, mb4.9/14*

ISC 11 19:18:54.8±0.5, 3.96N±0.03×126.74E±0.06, h32km±3km, h32km: pP-P, n242, σ1≤12/228, mb4.9/80, 15C-17D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GSPH	General Santos	2.77	320	‖ *e*P		Pb	19 19 40.9	-2.9
MNI	Manado	3.14	217	P		Pb	19 19 49.4	-0.5
TNTI	Ternate	3.22	169	P		Pn	19 19 45.2	+2.0
DAV	Davao City (W)	3.30	340	Pn		Pb	19 19 50.7	-2.1
DAV	Davao City (W)	3.30	340	P		Pb	19 19 54.6	+1.8
DAV	Davao City (W)	3.30	340	Pn		Pb	19 19 50.7	-2.1
	147nm,0.3s,baz=265,slow=18,SNR=6.2							
KCP	Kidapawan	3.45	332	‖ *e*P		Pb	19 19 54.3	-1.1
KCP				*i* S		Sb	19 20 45.8	+8.9
CTBH	Cotabato--PC H	4.09	323	⇑ *i*P		Pn	19 19 58.1	+3.0
BUKP	Musuan	4.24	337	*e*P		Pn	19 20 01.5	+4.2
KMSI	Cibinong	4.35	219	P		Pb	19 20 11.2	+0.7
LBMI	Labuha	4.62	171	P		Pb	19 20 09.2	-6.1
CGP	Cagayan de Oro	4.91	336	‖ *e*P		Pn	19 20 11.2	+4.7
BUTP	Butuan	5.10	347	*e*P		Pn	19 20 14.0	+4.9
PAGZ	Pagadian	5.11	319	*e*P		Pn	19 20 12.3	+3.1
MRSI	Marisa	5.91	234	P		Pn	19 20 23.3	+3.1
	306nm,0.6s,1.0nm							
LUWI	Luwuk	6.36	219	P		Pb	19 20 39.2	-5.6
MSLP	Maasin	6.42	343	*e*P		Pn	19 20 32.6	+5.4
SWI	Sorong	6.58	137	P		Pn	19 20 29.1	-0.3
	122nm,0.5s,4μm0.5nm							
OCLP	Ormoc	7.36	343	*e*P		Pn	19 20 47.2	+7.1
FAKI	Fak Fak	8.77	141	P		Pn	19 21 07.9	+8.4
KDI	Kendari	8.88	208	P		Pn	19 21 12.0	+11
TTSI	Tana Toraja	9.81	225	P		Pn	19 21 19.2	+5.5
	60nm,0.7s							
SPSI	Sidrap Palu	10.51	222	P		Pn	19 21 37.4	+14
BAKI	Biak	10.66	118	P		Pn	19 21 30.4	+5.0
	101nm,1.1s							
KKM	Kota Kinabalu	10.69	282	*e*P		Pn	19 21 30.0	+4.0
	28nm,0.8s							
KKM	Kota Kinabalu	10.69	282	P		Pn	19 21 34.1	+8.2
	84nm,1.1s							
KAPI	Kappang	11.32	218	Pn		Pn	19 21 38.3	+3.8
KAPI	Kappang	11.32	218	Pn		Pn	19 21 38.3	+3.8
	0.6nm,0.3s,baz=39,slow=14,SNR=2.7							
SMPI	Sarmi	13.34	116	P		P	19 22 18.0	+6.8
SBUM	Sibu	14.58	265	P		P	19 22 25.0	0.0
	64nm,1.1s							
WSI	Waingapu	14.98	205	P		Pn	19 22 21.8	-2.6
KSM	Kuching	16.60	262	*e*P		P	19 22 49.2	+1.7
	32nm,0.9s							
KSM	Kuching	16.60	262	P		P	19 22 53.5	+6.0
	59nm,0.7s							
TPUB	Ta-pu	20.12	343	*e*P		P	19 23 25.0	-1.2
	53nm,0.6s							
SSLB	Suanglung	20.49	345	*e*P		P	19 23 29.0	-1.2
	55nm,0.6s							
LEM	Lembang	21.89	241	P		P	19 23 58.3	+13
FITZ	Fitzroy Crossi	21.95	183	P		P	19 23 46.0	+0.2
FITZ	Fitzroy Crossi	21.95	183	*e*P		P	19 23 45.6	-0.3
	22nm,0.6s							
FITZ	Fitzroy Crossi	21.95	183	P		P	19 23 46.0	+0.2
	12nm,0.6s,baz=30,slow=6.9,SNR=12							
JOW	Kunigami	22.80	4	P		P	19 23 56.6	+1.7
JOW	Kunigami	22.80	4	P		P	19 23 56.6	+1.7
	34nm,0.7s,baz=195,slow=7.4,SNR=12							
CGJI	Cibinong	23.49	244	P		P	19 24 10.3	+8.3
	45nm,0.8s,3μm							
PMG	Port Moresby	24.29	123	P		P	19 24 07.3	-2.2
PMG	Port Moresby	24.29	123	P		P	19 24 07.3	-2.2
	3.9nm,0.8s,baz=284,slow=6.4,SNR=3.6							
WRAB	Tennant Creek	24.89	163	*e*P		P	19 24 13.2	-1.7
WRAB					pmax	pmax		
	comp=Z,47nm,0.8s							
WRAB	Tennant Creek	24.89	163	*e*P		P	19 24 13.2	-1.7
	comp=Z,47nm,0.8s							
IPM	Ipoh	25.65	272	*e*P		P	19 24 22.0	0.0
	comp=Z,13nm,0.8s							
IPM	Ipoh	25.65	272	P		P	19 24 27.5	+5.5
	comp=Z,78nm,0.7s							
BKNI	Bangkinang	25.93	263	P		P	19 24 44.7	+20
PPI	Padang Panjang	26.69	261	P		P	19 24 40.3	+9.0
	comp=Z,27nm,0.9s							
AS31	Alice Springs	28.33	166	*e*P		P	19 24 44.9	-1.0
ASAR	Alice Springs	28.33	166	P		P	19 24 44.8	-1.2
ASAR	Alice Springs	28.33	166	P		P	19 24 44.8	-1.2
	comp=Z,2.7nm,0.4s,baz=343,slow=7.6,SNR=13							
GSI	Gunungsitoli	29.25	266	P		P	19 24 57.9	+3.6
JNU	Nakatsue	29.27	7	P		P	19 24 53.7	-0.5
JNU	Nakatsue	29.27	7	P		P	19 24 53.7	-0.5
	comp=Z,6.6nm,0.5s,baz=136,slow=4.5,SNR=5.8							
CTA	Charters Tower	30.63	142	P		P	19 25 05.3	-1.1
CTA	Charters Tower	30.63	142	*e*P		P	19 25 07.8	+1.4
	comp=Z,3.9nm,0.8s							
CTA	Charters Tower	30.63	142	P		P	19 25 05.3	-1.1
	comp=Z,4.8nm,0.8s,baz=316,slow=14,SNR=3.6							
CM31	Chiang Mai Arr	30.77	300	*e*P		P	19 25 07.7	+0.1
	comp=Z,4.4nm,0.6s							
CMAR	Chiang Mai Arr	30.77	300	P		P	19 25 08.0	+0.3
CMAR					PcP	PcP	19 28 05.2	+0.4
CMAR	Chiang Mai Arr	30.77	300	P		P	19 25 08.0	+0.3
	comp=Z,4.2nm,0.7s,baz=124,slow=7.8,SNR=28							
CMAR					PcP	PcP	19 28 05.2	+0.4
	comp=Z,0.8nm,0.7s,baz=116,slow=2.1,SNR=4.2							
ENH	Enshi	30.84	330	*e*P		P	19 25 07.6	-0.5
	comp=Z,52nm,0.7s							
CHTO	Chiang Mai	30.92	301	*e*P		P	19 25 08.1	-0.8
CHTO					pmax	pmax		
	comp=Z,14nm,0.8s							
CHTO	Chiang Mai	30.92	301	*e*P		P	19 25 08.1	-0.8
	comp=Z,14nm,0.8s							
KSAR	Wonju Array Be	33.34	2	P		P	19 25 31.1	+1.1
KSAR					PcP	PcP	19 28 12.8	+1.4
KSRS	Korea Array	33.36	2	P		P	19 25 31.1	+1.0
	comp=Z,5.0nm,0.8s,baz=176,slow=9.1,SNR=14							
KSRS					PcP	PcP	19 28 12.8	+1.4
	comp=Z,2.6nm,0.7s,baz=190,slow=2.9,SNR=7.7							
MJAR	Matsushiro Arr	34.10	17	P		P	19 25 35.2	-1.4
MJAR					PcP	PcP	19 28 14.5	+0.9
MJAR	Matsushiro Arr	34.10	17	P		P	19 25 35.2	-1.4
	comp=Z,1.4nm,0.8s,baz=268,slow=9.5,SNR=4.3							
MJAR					PcP	PcP	19 28 14.5	+0.9
	comp=Z,0.7nm,0.5s,baz=198,slow=4.4,SNR=4.7							
XAN	Xi'an	34.22	333	P		P	19 25 36.9	-0.8
XAN					pP	pP	19 25 47.1	0.0
XAN					pmax	pmax		
	comp=Z,27nm,0.7s							
FORT	Forrest	34.56	178	*e*P		P	19 25 41.6	+1.0
	comp=Z,22nm,0.7s							
DL2	Dalian	35.10	353	P		P	19 25 47.2	+2.0
DL2					pmax	pmax		
	comp=Z,20nm,0.7s							
KLBR	Kellerberrin	36.37	193	*e*P		P	19 25 55.2	-1.0
	comp=Z,8.9nm,0.6s							
BJT	Baijiatuan	37.15	347	*e*P		P	19 26 03.1	+0.4
	comp=Z,50nm,0.6s							
BJI	Beijing	37.17	347	P		P	19 26 03.5	+0.6
BJI					pmax	pmax		
	comp=Z,72nm,0.6s							
SNY	Shenyang	37.81	356	⇑P		P	19 26 09.0	+0.7
STKA	Stephens Creek	38.33	159	P		P	19 26 11.9	-0.9
STKA	Stephens Creek	38.33	159	*e*P		P	19 26 11.9	-0.9
	comp=Z,14nm,0.6s							
STKA	Stephens Creek	38.33	159	P		P	19 26 11.9	-0.9
	comp=Z,14nm,0.5s,baz=336,slow=8.4,SNR=18							
CN2	Changchun	39.70	359	*e*P		P	19 26 24.1	0.0
CN2					pmax	pmax		
	comp=Z,10.0nm,0.6s							
USRK	Ussuriysk Arra	40.35	6	P		P	19 26 29.2	-0.2
	comp=Z,4.5nm,0.6s,baz=191,slow=8.0,SNR=11							
MDJ	Mudanjiang	40.57	3	P		P	19 26 33.2	+1.9
MDJ					pmax	pmax		
	comp=Z,19nm,0.9s							
MDJ	Mudanjiang	40.57	3	*e*P		P	19 26 34.4	+3.0
	comp=Z,18nm,0.9s							
ARMA	Armidale	41.65	147	*e*P		P	19 26 40.4	-0.1
LSA	Lhasa	42.30	311	*e*P		P	19 26 46.7	+0.4
LSA					pmax	pmax		
	comp=Z,17nm,0.6s							
LSA	Lhasa	42.30	311	*e*P		P	19 26 46.7	+0.4
	comp=Z,18nm,0.6s							
ASAJ	Asahikawa	42.37	17	P		P	19 26 47.0	+1.0
ASAJ	Asahikawa	42.37	17	P		P	19 26 47.0	+1.0
	comp=Z,7.2nm,0.7s,baz=224,slow=15,SNR=7.6							
GTA	Gaotai	42.91	329	*e*P		P	19 26 50.7	0.0
GTA					pP	pP	19 27 01.5	+1.2
GTA					sP	sP	19 27 05.0	+0.8
GTA					PcP	PcP	19 28 41.7	+0.5
GTA					pmax	pmax		
	comp=Z,14nm,0.6s							
TAPN	Taplejung	43.90	306	*e*P		P	19 26 58.3	-0.8
	comp=Z,21nm,0.6s							
ODAN	Odare	43.95	305	*e*P		P	19 26 58.6	-0.8
	comp=Z,36nm,0.6s							
CAN	Canberra	44.31	154	*e*P		P	19 27 02.5	+0.6
	comp=Z,9.9nm,1.2s							
RAMN	Ramite	44.63	305	*e*P		P	19 27 04.3	-0.6
	comp=Z,29nm,0.7s							
TOO	Toolamgi	44.84	159	*e*P		P	19 27 07.1	+1.0
	comp=Z,44nm,0.9s							
HABR	Khabarovsk	44.92	8	P		P	19 27 06.9	+0.4
HABR					*e**PP	pP	19 27 15.3	-0.8
HABR					*e**SP	sP	19 27 19.6	-0.4
HABR					*e*		19 28 51.3	
HABR					*e*S	S	19 33 43.8	+1.4
HABR					*e*SSS	SSS	19 37 53.6	
HABR					pmax	pmax		
	comp=Z,54nm,2.5s							
HABR					pmax	pmax		
	comp=E,33nm,1.7s							
HABR					pmax	pmax		
	comp=N,24nm,1.7s							
HABR					MLR	MLR		
	comp=Z,2μm,15.0s							
JIRN	Jiri	45.25	306	*e*P		P	19 27 08.9	-1.1
	comp=Z,8.8nm,0.5s							
KLR	Kul'dur	45.31	5	*e*P		P	19 27 07.8	-1.8
HIA	Hailar	45.54	354	*e*P		P	19 27 12.6	+1.1
	comp=Z,38nm,0.8s							
GUN	Gumba	45.60	306	*e*P		P	19 27 11.8	-0.9
	comp=Z,68nm,0.7s							
PKI	Pulchoki	45.85	305	*e*P		P	19 27 13.3	-1.4
	comp=Z,12nm,0.6s							
KKN	Kakani	46.04	305	*e*P		P	19 27 14.8	-1.2
	comp=Z,22nm,0.9s							
DMN	Daman	46.11	305	*e*P		P	19 27 15.4	-1.3
	comp=Z,17nm,0.7s							
GKN	Gorkha	46.65	305	*e*P		P	19 27 19.3	-1.4
	comp=Z,18nm,0.6s							
DZM	Mont Dzumac	46.65	125	P		P	19 27 20.3	-0.5
	comp=Z,6.4nm,0.6s,baz=296,slow=9.3,SNR=12							
ULN	Ulaanbaatar	46.91	342	*e*P		P	19 27 22.6	+0.2
	comp=Z,11nm,0.9s							
SONM	Songino Array	47.09	341	P		P	19 27 24.0	+0.2
SONM					PcP	PcP	19 28 56.3	+0.8
SONM	Songino Array	47.09	341	P		P	19 27 24.0	+0.2
	comp=Z,7.3nm,0.7s,baz=156,slow=8.1,SNR=37							
SONM					PcP	PcP	19 28 56.3	+0.8
	comp=Z,3.0nm,0.7s,baz=155,slow=2.7,SNR=4.7							
KOLN	Koldanda	47.41	305	*e*P		P	19 27 25.9	-0.8
	comp=Z,86nm,0.6s							
DANN	Dangsing	47.50	305	*e*P		P	19 27 26.4	-1.1
	comp=Z,94nm,0.6s							
HYB	Hyderabad	49.05	290	*i* P		P	19 27 38.0	-1.4
CIT	Chita	49.15	349	*e*P		P	19 27 41.2	+1.6
CIT				*e*			19 27 53.4	
CIT					pmax	pmax		
	comp=Z,69nm,1.8s							
ZAK	Zakamensk	50.32	341	*e*P		P	19 27 48.0	-0.5
ZAK					pmax	pmax		
	comp=Z,3.0nm,1.3s							
TLY	Talaya	51.32	342	*e*P		P	19 27 56.0	0.0
TLY				*e*			19 28 08.1	
TLY					pmax	pmax		
	comp=Z,9.0nm,0.7s							
TLY	Talaya	51.32	342	*e*P		P	19 27 56.9	+0.9
	comp=Z,11nm,0.6s							
MOY	Mondy	52.18	340	*e*P		P	19 28 03.4	+0.9
MOY					pmax	pmax		
	comp=Z,18nm,1.8s							
POO	Poona	53.65	290	*ex*		P	19 28 16.0	+2.2
BOD	Bodaibo	54.65	352	*e*P		P	19 28 21.4	+1.1
BOD					pmax	pmax		
	comp=Z,11nm,0.8s							
PETK	Petropavlovsk-	55.22	22	P		P	19 28 26.0	+1.4
PETK	Petropavlovsk-	55.22	22	P		P	19 28 26.0	+1.4
PETK	Petropavlovsk-	55.22	22	P		P	19 28 26.0	+1.4
	comp=Z,5.8nm,0.7s,baz=190,slow=5.7,SNR=5.4							
PET	Petropavlovsk	55.52	23	*e*P		P	19 28 35.1	+8.4
PET				*e*S		Px	19 28 45.9	
MK31	Makanchi Array	57.38	325	*e*P		P	19 28 39.5	-0.6
MK31	Makanchi Array	57.38	325	*e*P		P	19 28 39.5	-0.6
MKAR	Makanchi Array	57.38	325	P		P	19 28 40.0	-0.2
MKAR							19 29 35.5	
MKAR	Makanchi Array	57.38	325	P		P	19 28 40.0	-0.2
MKAR					PcP	PcP	19 29 35.5	+1.6
MKAR	Makanchi Array	57.38	325	P		P	19 28 40.0	-0.2
	comp=Z,11nm,0.6s,baz=120,slow=8.0,SNR=23							
MKAR					PcP	PcP	19 29 35.4	+1.6
	comp=Z,4.1nm,0.7s,baz=127,slow=4.7,SNR=2.3							
YAK	Yakutsk	57.98	2	*e*P		P	19 28 43.7	-0.3
YAK					pmax	pmax		
	comp=Z,29nm,1.0s							
YAK					pmax	pmax		
	comp=N,7.0nm,1.1s							
YAK	Yakutsk	57.98	2	*e*P		P	19 28 44.7	+0.7
	comp=N,40nm,0.8s							
KZA	Kyzart	59.46	317	P		P	19 28 55.6	+0.3
	SNR=5.3							
TKM2	Tokmak 2	59.59	318	*i* P		P	19 28 55.6	-0.3
TKM2	Tokmak 2	59.59	318	P		P	19 28 55.6	-0.3
	SNR=6.6							
AAK	Ala-Archa	60.20	318	*i* P		P	19 29 00.8	+0.8
AAK					pmax	pmax		
	comp=Z,18nm,1.2s							
AAK	Ala-Archa	60.20	318	P		P	19 28 59.7	-0.3
AAK	Ala-Archa	60.20	318	P		P	19 28 59.7	-0.3
	comp=Z,2.8nm,0.6s,baz=79,slow=5.6,SNR=12							
ZALV	Zalesovo Beam	60.39	333	P		P	19 29 00.1	-0.8
ZALV	Zalesovo Beam	60.39	333	P		P	19 29 00.1	-0.8
ZALV	Zalesovo Beam	60.39	333	P		P	19 29 00.1	-0.8
	comp=Z,6.1nm,0.5s,baz=128,slow=6.4,SNR=25							
USP	Ospenovka	60.46	318	P		P	19 29 02.6	+1.0
	SNR=8.8							
AML	Almayashu	60.53	317	P		P	19 29 03.7	+1.1
	SNR=10							
EKS2	Erkin-Say	60.69	318	P		P	19 29 04.8	+1.4
	SNR=6.3							
KBL	Kabul	61.40	307	*e*P		P	19 29 07.8	-0.6
KBL					pmax	pmax		
	comp=Z,9.0nm,0.8s							
KBL	Kabul	61.40	307	*e*P		P	19 29 07.8	-0.6
	comp=Z,8.9nm,0.8s							
KURBB	Kurchatov Arra	61.56	327	P		P	19 29 08.4	-0.4
	comp=Z,16nm,0.7s,baz=124,slow=6.6,SNR=48							
KURK	Kurchatov	61.56	327	⇑ *e*P		P	19 29 08.2	-0.7
KURK					pmax	pmax		
	comp=Z,27nm,0.9s							

JOF pmax pmax
comp=Z,9.0nm,0.7s
JOF Joensuu 88.99 333 *ep* **P 19 31 45.7 -0.5**
comp=Z,8.5nm,0.7s
MMAI Mount Meron Ar 89.00 303 P **P 19 31 47.0 0.0**
MMAI Mount Meron Ar 89.00 303 P **P 19 31 47.0 0.0**
comp=Z,4.4nm,0.8s,baz=69,slow=5.4,SNR=5.6
KMBO Kilima Mbogo 89.57 269 *eP* **P 19 31 50.0 -0.3**
comp=Z,8.6nm,1.3s
KEV Kevo 89.69 340 *eP* P 19 31 53.5 +4.2
KEV pmax pmax
comp=Z,5.0nm,0.8s
KEV Kevo 89.69 340 *ep* P 19 31 53.5 +4.2
comp=Z,4.7nm,0.8s
BRTR Keskin Array B 89.89 310 P **P 19 31 49.7 -1.5**
BRTR Keskin Array B 89.89 310 P **P 19 31 49.7 -1.5**
comp=Z,3.1nm,0.8s,baz=112,slow=4.5,SNR=18
ARCES ARCESS Array B 90.24 340 P **P 19 31 51.5 -0.4**
ARCES ARCESS Array B 90.24 340 P **P 19 31 51.5 -0.4**
comp=Z,6.2nm,0.8s,baz=84,slow=5.5,SNR=13
KAF Kangasniemi 91.40 332 *eP* **P 19 31 55.7 -1.8**
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 91.40 332 *ep* **P 19 31 55.7 -1.8**
comp=Z,4.3nm,0.6s
FINES FINESS Array B 91.64 332 P **P 19 31 58.3 -0.3**
FINES FINESS Array B 91.64 332 P **P 19 31 58.3 -0.3**
comp=Z,2.4nm,0.6s,baz=65,slow=5.0,SNR=13
AKASG Malin Array Be 91.73 321 *i P* **P 19 31 58.0 -1.2**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 91.73 321 P **P 19 31 58.0 -1.2**
AKASG Malin Array Be 91.73 321 P **P 19 31 58.0 -1.2**
comp=Z,3.5nm,0.6s,baz=70,slow=4.7,SNR=18
KIEV Kiev 91.74 321 *eP* **P 19 31 57.6 -1.7**
KIEV pmax pmax
comp=Z,7.0nm,1.1s
KIEV Kiev 91.74 321 *eP* **P 19 31 57.6 -1.7**
comp=Z,7.0nm,1.1s
LEOM Leova 93.00 317 ↓↓*P* P 19 32 21.2 +16
LEOM Leova 93.00 317 ↓*i P* P 19 32 21.2 +16
CFR Carcaliu 93.28 316 ↓↓*P* **P 19 32 05.3 -1.2**
CFR Carcaliu 93.28 316 ↓*i P* **P 19 32 05.3 -1.2**
GHRR 93.64 316 ↓*i P* **P 19 32 10.9 +2.7**
QSPA South Pole Qui 93.86 180 P **P 19 32 09.4 +0.5**
QSPA South Pole Qui 93.86 180 P **P 19 32 09.4 +0.5**
comp=Z,2.4nm,0.9s,baz=110,slow=6.0,SNR=5.2
TESR 94.08 317 ↓*i P* **P 19 32 08.9 -1.3**
VRI Vrincioaia 94.14 316 ↓↓*P* **P 19 32 10.2 -0.3**
VRI Vrincioaia 94.14 316 ↓↓*P* **P 19 32 10.2 -0.3**
PLOR Plostina 94.20 316 ↑↑*P* **P 19 32 09.7 -1.1**
PLOR Plostina 94.20 316 ↑*i P* **P 19 32 09.7 -1.1**
MLR Muntele Rosu 94.75 316 ↑*i P* **P 19 32 12.7 -0.8**
SUW Suwalki 94.75 325 *eP* **P 19 32 12.6 -0.4**
SUW pmax pmax
comp=Z,34nm,1.2s
SUW Suwalki 94.75 325 *eP* **P 19 32 12.6 -0.4**
comp=Z,34nm,1.2s
BURAR Bucovina Array 94.84 318 ↓↓*i P* **P 19 32 12.9 -0.9**
BUR08 Bucovina Ar. S 94.85 318 *eP* **P 19 32 13.5 -0.4**
TRPA Tarpa 96.50 319 ↑*i P* **P 19 32 19.3 -1.9**
UZH Uzhgorod 96.54 320 ↑*i P* **P 19 32 21.3 -0.1**
DRGR 96.69 318 ↑↑*P* **P 19 32 21.9 -0.3**
DRGR 96.69 318 ↑*i P* **P 19 32 21.9 -0.3**
GZR Gura Zlata 96.95 316 ↓↓*P* P 19 32 16.6 -6.8
GZR Gura Zlata 96.95 316 ↓*i P* P 19 32 16.6 -6.8
VTS Vitosha 97.25 314 ↑↑*P* **P 19 32 23.7 -1.3**
VTS Vitosha 97.25 314 ↑*i P* **P 19 32 23.7 -1.3**
RES Resolute Bay 97.59 10 P Pdif 19 32 27.4 +1.8
RES Resolute Bay 97.59 10 P Pdif 19 32 27.4 +1.8
comp=Z,0.8nm,0.7s,baz=32,slow=9.5,SNR=2.5
NB2 NORSAR Subarra 98.59 334 P **P 19 32 29.7 -0.7**
comp=Z,2.0nm,0.6s,baz=66,slow=4.6
NOA NORSAR Array B 98.59 334 P **P 19 32 29.3 -1.1**
NOA NORSAR Array B 98.59 334 P **P 19 32 29.3 -1.1**
comp=Z,2.4nm,0.7s,baz=67,slow=4.6,SNR=9.7
YKA Yellowknife Ar 99.29 24 P **Pdif 19 32 34.3 +0.8**
YKA Yellowknife Ar 99.29 24 P **Pdif 19 32 34.3 +0.8**
comp=Z,0.3nm,0.5s,baz=294,slow=4.0,SNR=4.2
PKSM Moragy 99.55 318 ↓↓*P* Pdif 19 32 24.0 -11
PKSM Moragy 99.55 318 ↓*i P* Pdif 19 32 24.0 -11
GERES GERESS Array B 101.92 322 P **Pdif 19 32 44.2 -1.4**
GERES GERESS Array B 101.92 322 P **Pdif 19 32 44.2 -1.4**
comp=Z,0.7nm,0.7s,baz=45,slow=9.6,SNR=4.2
PDAR Pinedale Array 111.18 41 PKKPbc PKKPbc 19 48 36.9 +13
comp=Z,0.4nm,0.7s,baz=112,slow=0.8,SNR=3.5
TORD Torodi Ar. Bea 122.86 288 PKP **PKPdf 19 37 48.4 -0.4**
TORD Torodi Ar. Bea 122.86 288 PKP **PKPdf 19 37 48.4 -0.4**
comp=Z,1.8nm,0.5s,baz=77,slow=1.7,SNR=35
DBIC Dimbokro 130.54 282 PKP **PKPdf 19 38 03.7 +0.2**
DBIC SKPbc **SKPbc 19 41 24.6 -0.4**
DBIC Dimbokro 130.54 282 PKP **PKPdf 19 38 03.7 +0.2**
comp=Z,1.6nm,0.7s,baz=24,slow=3.5,SNR=6.1
DBIC SKPbc **SKPbc 19 41 24.6 -0.4**
comp=Z,5.0nm,0.8s,baz=111,slow=2.2,SNR=6.5
PLCA Paso Flores 140.21 159 PKP **PKPdf 19 38 21.9 +1.1**
PLCA Paso Flores 140.21 159 PKP **PKPdf 19 38 21.9 +1.1**
comp=Z,1.6nm,0.9s,baz=205,slow=1.1,SNR=2.8
CPUP Villa Florida 157.41 170 PKPab **PKPab 19 39 21.4 +1.6**
CPUP Villa Florida 157.41 170 PKPab **PKPab 19 39 21.4 +1.6**
comp=Z,1.5nm,0.6s,baz=207,slow=12,SNR=3.8

*IDC **11** 19:22:33.1±0.6,3.°95N×126.°52E,h0km,mb4.4/21,*
mb1 4.5/21,mb1mx4.4/24,mbtmp4.4/21,Error ellipse:
s-maj=27.7km s-min=13.7km az=77.0
*ISCJB **11** 19:22:36.3±0.3,3.°95N±0.°05×126.°62E±0.°08,h33km,*
mb4.7/43,Error ellipse: s-maj=12.0km s-min=6.5km
az=165.5
*NEIC **11** 19:22:38.4±0.3,3.°94N×126.°57E,h35km,mb4.7/17,Error*
ellipse: s-maj=13.2km s-min=6.0km az=76.0
*DJA **11** 19:22:43,3.°84N×126.°81E,h57km,mb4.8/8*
ISC 11 19:22:37.5±0.9,3.°96N±0.°06×126.°6E±0.°1,h28km±5km,n97,
σ0s79/109,mb4.7/43,1C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
KCP	**Kidapawan**	**3.39**	**334**	↓↓*eP*		**Pb 19 23 37.3**	**+0.3**
CTBH	**Cotabato--PC H**	**4.01**	**324**	↑*i P*		Pb 19 23 43.3	-4.2
KSM	**Kuching**	**16.47**	**262**	*eP*		**P 19 26 32.0**	**+2.8**
	22nm,0.8s						
TPUB	**Ta-pu**	**20.08**	**344**	*eP*		**P 19 27 08.2**	**-0.8**
SSLB	**Suanglung**	**20.46**	**345**	*eP*		**P 19 27 12.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**21.94**	**182**	P		**P 19 27 28.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**21.94**	**182**	*eP*		**P 19 27 27.8**	**-1.2**
	30nm,1.3s						
FITZ	**Fitzroy Crossi**	**21.94**	**182**	P		**P 19 27 28.5**	**-0.5**
	5.9nm,0.6s,baz=22,slow=8.6,SNR=3.3						
JOW	**Kunigami**	**22.80**	**4**	*eP*		**P 19 27 37.9**	**-0.3**
	5.1nm,0.8s						
JOW	**Kunigami**	**22.80**	**4**	P		**P 19 27 37.6**	**-0.6**
	8.5nm,0.8s,baz=209,slow=13,SNR=3.2						
WRAB	**Tennant Creek**	**24.93**	**163**	*eP*		**P 19 27 56.8**	**-1.8**
	23nm,0.7s						
AS31	**Alice Springs**	**28.36**	**166**	*eP*		**P 19 28 31.8**	**+2.3**
ASAR	**Alice Springs**	**28.36**	**166**	P		**P 19 28 29.2**	**-0.3**
ASAR	**Alice Springs**	**28.36**	**166**	P		**P 19 28 29.2**	**-0.3**
	2.5nm,0.5s,baz=346,slow=7.4,SNR=6.9						
CMAR	**Chiang Mai Arr**	**30.66**	**300**	P		**P 19 28 50.1**	**+0.2**
CMAR				PcP		**PcP 19 31 47.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**30.66**	**300**	P		**P 19 28 50.1**	**+0.2**
	2.0nm,0.8s,baz=122,slow=7.7,SNR=7.7						
CMAR				PcP		**PcP 19 31 47.4**	**-0.5**
	1.5nm,0.8s,baz=138,slow=2.1,SNR=6.1						
ENH	**Enshi**	**30.77**	**330**	*eP*		**P 19 28 50.7**	**-0.1**
CHTO	**Chiang Mai**	**30.80**	**301**	*eP*		**P 19 28 52.0**	**+0.8**
MEEK	**Meekatharra**	**31.38**	**194**	*eP*		**P 19 28 56.8**	**+0.6**
	70nm,0.6s						
KSAR	**Wonju Array Be**	**33.35**	**2**	P		**P 19 29 12.9**	**-0.4**
KSAR				PcP		**PcP 19 31 55.2**	**+0.4**
KSRS	**Korea Array**	**33.36**	**2**	P		**P 19 29 12.9**	**-0.5**
	1.9nm,0.6s,baz=185,slow=10,SNR=8.4						
KSRS				PcP		**PcP 19 31 55.2**	**+0.4**
	1.9nm,0.9s,baz=163,slow=4.7,SNR=4.5						
MJAR	**Matsushiro Arr**	**34.14**	**17**	P		**P 19 29 21.8**	**+1.6**
MJAR	**Matsushiro Arr**	**34.14**	**17**	P		**P 19 29 21.8**	**+1.6**
	0.9nm,0.6s,baz=192,slow=8.3,SNR=3.1						
XAN	**Xi'an**	**34.16**	**333**	P		**P 19 29 19.8**	**-0.7**
XAN				pP		**pP 19 29 29.0**	**+0.2**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,27nm,11.2s						
KLBR	**Kellerberrin**	**36.34**	**193**	*eP*		**P 19 29 38.8**	**-0.4**
	comp=Z,53nm,1.6s						
BJT	**Baijiatuau**	**37.12**	**347**	*eP*		**P 19 29 46.2**	**+0.5**
	comp=Z,20nm,0.6s						
BJI	**Beijing**	**37.14**	**347**	P		**P 19 29 45.9**	**0.0**
BJI				pmax	pmax		
	comp=Z,20nm,0.8s						
LZH	**Lanzhou**	**38.25**	**330**	*eP*		**P 19 29 56.3**	**+0.7**
LZH				pP		**pP 19 30 03.6**	**-0.3**
LZH				sP		**sP 19 30 06.8**	**-0.5**
LZH				pmax	pmax		
	comp=Z,37nm,1.3s						
LZH				pmax	pmax		
	comp=Z,170nm,7.2s						
STKA	**Stephens Creek**	**38.38**	**159**	*eP*		**P 19 29 55.8**	**-0.6**
	comp=Z,2.0nm,0.7s						
STKA				PcP		**PcP 19 32 09.2**	**-0.6**
STKA	**Stephens Creek**	**38.38**	**159**	*eP*		**P 19 29 55.9**	**-0.6**
	comp=Z,10nm,0.7s						
STKA	**Stephens Creek**	**38.38**	**159**	P		**P 19 29 56.1**	**-0.4**
	comp=Z,11nm,0.8s,baz=328,slow=11,SNR=6.5						
STKA				PcP		**PcP 19 32 09.2**	**-0.6**
	comp=Z,4.2nm,0.5s,baz=343,slow=6.6,SNR=3.8						
USRK	**Ussuriysk Arra**	**40.36**	**6**	P		**P 19 30 13.2**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=184,slow=9.7,SNR=5.1						
MDJ	**Mudanjiang**	**40.58**	**3**	*eP*		**P 19 30 16.5**	**+1.9**
	comp=Z,6.4nm,0.8s						
ARMA	**Armidale**	**41.72**	**147**	*eP*		**P 19 30 24.1**	**-0.3**
LSA	**Lhasa**	**42.20**	**311**	*eP*		**P 19 30 29.8**	**+1.1**
	comp=Z,14nm,0.7s						
TAPN	**Taplejung**	**43.79**	**306**	*eP*		**P 19 30 41.3**	**-0.2**
	comp=Z,5.8nm,0.5s						
ODAN	**Odare**	**43.84**	**305**	*eP*		**P 19 30 41.7**	**-0.1**
	comp=Z,18nm,0.7s						
RAMN	**Ramite**	**44.52**	**305**	*eP*		**P 19 30 47.6**	**+0.3**
	comp=Z,16nm,0.8s						
JIRN	**Jiri**	**45.14**	**306**	*eP*		**P 19 30 52.4**	**0.0**
	comp=Z,2.8nm,0.6s						
GUN	**Gumba**	**45.50**	**306**	*eP*		**P 19 30 55.0**	**-0.2**
	comp=Z,23nm,0.7s						
HIA	**Hailar**	**45.52**	**354**	*eP*		**P 19 30 55.8**	**+1.1**
	comp=Z,15nm,0.8s						
PKI	**Pulchoki**	**45.74**	**305**	*eP*		**P 19 30 56.6**	**-0.5**
KKN	**Kakani**	**45.94**	**305**	*eP*		**P 19 30 57.9**	**-0.6**
DMN	**Daman**	**46.01**	**305**	*eP*		**P 19 30 58.6**	**-0.5**
	comp=Z,20nm,1.2s						
GKN	**Gorkha**	**46.54**	**305**	*eP*		**P 19 31 02.3**	**-0.9**
	comp=Z,10nm,0.9s						
ULN	**Ulaanbaatar**	**46.87**	**342**	*eP*		**P 19 31 05.9**	**+0.5**
SONM	**Songino Array**	**47.05**	**341**	P		**P 19 31 06.7**	**-0.1**
SONM				PcP		**PcP 19 32 38.9**	**+0.3**
SONM	**Songino Array**	**47.05**	**341**	P		**P 19 31 06.7**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=157,slow=8.5,SNR=8.6						
SONM				PcP		**PcP 19 32 38.9**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=150,slow=3.9,SNR=3.3						
KOLN	**Koldanda**	**47.30**	**305**	*eP*		**P 19 31 09.3**	**+0.1**
	comp=Z,32nm,0.6s						
DANN	**Dangsing**	**47.39**	**305**	*eP*		**P 19 31 09.5**	**-0.5**
	comp=Z,28nm,0.6s						
TLY	**Talaya**	**51.28**	**342**	*eP*		**P 19 31 39.5**	**+0.5**
	comp=Z,5.5nm,0.6s						
PETK	**Petropavlovsk-**	**55.27**	**22**	P		**P 19 32 08.0**	**-0.2**
PETK	**Petropavlovsk-**	**55.27**	**22**	P		**P 19 32 08.0**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=188,slow=5.3,SNR=5.6						
MK31	**Makanchi Array**	**57.30**	**325**	*eP*		**P 19 32 22.7**	**-0.2**
MKAR	**Makanchi Array**	**57.30**	**325**	P		**P 19 32 23.1**	**+0.1**
MKAR				PcP		**PcP 19 33 18.1**	**+1.2**
MKAR	**Makanchi Array**	**57.30**	**325**	P		**P 19 32 23.1**	**+0.1**
	comp=Z,7.0nm,0.8s,baz=127,slow=8.2,SNR=10						
MKAR				PcP		**PcP 19 33 18.1**	**+1.2**
	comp=Z,3.4nm,0.8s,baz=119,slow=5.3,SNR=3.6						
YAK	**Yakutsk**	**57.99**	**2**	*eP*		**P 19 32 27.6**	**+0.2**
	comp=Z,20nm,0.8s						
ZALV	**Zalesovo Beam**	**60.33**	**333**	P		**P 19 32 43.0**	**-0.8**
ZALV	**Zalesovo Beam**	**60.33**	**333**	P		**P 19 32 43.0**	**-0.8**
	comp=Z,3.9nm,0.6s,baz=131,slow=6.4,SNR=11						
KBL	**Kabul**	**61.29**	**307**	*eP*		**P 19 32 51.2**	**+0.2**
	comp=Z,5.1nm,0.7s						
KURBB	**Kurchatov Arra**	**61.49**	**327**	P		**P 19 32 51.7**	**0.0**
	comp=Z,14nm,0.8s,baz=123,slow=6.6,SNR=20						
KURK	**Kurchatov**	**61.49**	**327**	*eP*		**P 19 32 51.4**	**-0.3**
	comp=Z,18nm,0.7s						
KKAR	**Karatay Array**	**62.99**	**317**	*eP*		**P 19 33 01.5**	**-0.5**
	comp=Z,6.8nm,0.9s						
BVAR	**Borovoye Array**	**67.07**	**327**	P		**P 19 33 27.8**	**-0.5**
BVAR	**Borovoye Array**	**67.07**	**327**	P		**P 19 33 27.8**	**-0.5**
	comp=Z,4.4nm,0.8s,baz=126,slow=7.5,SNR=8.3						
BRVK	**Borovoye**	**67.14**	**327**	*eP*		**P 19 33 28.2**	**-0.5**
	comp=Z,11nm,1.0s						
ABKAR	**Akbulak array**	**71.90**	**321**	*eP*		**P 19 33 56.6**	**-1.6**
	comp=Z,4.2nm,0.8s						
AKTO	**Aktyubinsk**	**73.41**	**322**	P		**P 19 34 06.3**	**-0.8**
AKTO	**Aktyubinsk**	**73.41**	**322**	P		**P 19 34 06.3**	**-0.8**
	comp=Z,6.8nm,0.8s,baz=102,slow=9.0,SNR=14						
ARU	**Arti**	**74.68**	**328**	*eP*		**P 19 34 13.8**	**-0.6**
	comp=Z,7.7nm,0.7s						
UMR	**Umm Al-Rimmam**	**78.40**	**299**	*eP*		**P 19 34 35.6**	**-0.4**
RDF	**Al-Radifah**	**78.53**	**299**	*eP*		**P 19 34 37.3**	**+0.5**
RDF				AMb	AMB	19 34 40.3	
	comp=Z,40nm,1.5s						
MIB	**Mutribah**	**78.74**	**299**	*eP*		**P 19 34 37.6**	**-0.3**
MIB				AMb	AMB	19 34 38.1	
	comp=Z,24nm,0.8s						
NAY	**Al-Naaiem**	**78.81**	**299**	*eP*		**P 19 34 37.7**	**-0.6**
NAY				AMb	AMB	19 34 38.8	
	comp=Z,11nm,0.7s						
ILAR	**Eielson Array**	**84.95**	**25**	P		**P 19 35 09.7**	**-0.3**
ILAR	**Eielson Array**	**84.95**	**25**	P		**P 19 35 09.7**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=242,slow=5.0,SNR=5.1						
KMBO	**Kilima Mbogo**	**89.44**	**269**	*eP*		**P 19 35 33.3**	**+0.3**
	comp=Z,2.7nm,1.0s						
BRTR	**Keskin Array B**	**89.79**	**310**	P		**P 19 35 33.0**	**-1.0**
BRTR	**Keskin Array B**	**89.79**	**310**	P		**P 19 35 33.0**	**-1.0**
	comp=Z,1.5nm,0.8s,baz=118,slow=4.3,SNR=6.2						
ARCES	**ARCESS Array B**	**90.20**	**340**	P		**P 19 35 33.3**	**-1.8**
ARCES	**ARCESS Array B**	**90.20**	**340**	P		**P 19 35 33.3**	**-1.8**
	comp=Z,1.3nm,0.6s,baz=81,slow=7.5,SNR=7.8						
FINES	**FINESS Array B**	**91.58**	**332**	P		**P 19 35 41.4**	**-0.2**
FINES	**FINESS Array B**	**91.58**	**332**	P		**P 19 35 41.4**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=64,slow=4.9,SNR=7.6						
AKASG	**Malin Array Be**	**91.64**	**321**	P		**P 19 35 40.8**	**-1.4**
AKASG	**Malin Array Be**	**91.64**	**321**	P		**P 19 35 40.8**	**-1.4**
	comp=Z,2.3nm,0.7s,baz=72,slow=4.4,SNR=7.2						
BUR08	**Bucovina Ar. S**	**94.76**	**318**	*eP*		**P 19 35 56.9**	**+0.1**
NB2	**NORSAR Subarra**	**98.53**	**334**	P		**P 19 36 12.6**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=66,slow=4.6						
NOA	**NORSAR Array B**	**98.53**	**334**	P		**P 19 36 12.9**	**-0.6**
NOA	**NORSAR Array B**	**98.53**	**334**	P		**P 19 36 12.9**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=68,slow=4.6,SNR=4.2						
GERES	**GERESS Array B**	**101.84**	**322**	P		**Pdif 19 36 28.6**	**0.0**
GERES	**GERESS Array B**	**101.84**	**322**	P		**Pdif 19 36 28.6**	**0.0**
	comp=Z,0.6nm,0.8s,baz=34,slow=5.0,SNR=4.1						
TXAR	**Lajitas Array**	**121.55**	**52**	PKP		**PKPdf 19 41 30.1**	**+0.7**
TXAR	**Lajitas Array**	**121.55**	**52**	PKP		**PKPdf 19 41 30.1**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=253,slow=3.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**122.74**	**288**	PKP		**PKPdf 19 41 31.9**	**0.0**
TORD	**Torodi Ar. Bea**	**122.74**	**288**	PKP		**PKPdf 19 41 31.9**	**0.0**
	comp=Z,1.1nm,0.7s,baz=41,slow=2.6,SNR=6.8						
CPUP	**Villa Florida**	**157.43**	**171**	PKPab		**PKPab 19 43 04.0**	**+0.8**
CPUP	**Villa Florida**	**157.43**	**171**	PKPab		**PKPab 19 43 04.0**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=151,slow=3.3,SNR=5.9						

*IDC **11** 19:25:15.0±0.9,3.°79N×126.°68E,h0km,mb4.1/11,*
mb1 4.3/11,mb1mx4.1/21,mbtmp4.1/11,Error ellipse:
s-maj=42.8km s-min=19.7km az=68.0
*ISCJB **11** 19:25:19.3±0.6,3.°7N±0.°1×126.°6E±0.°2,h45km,mb4.3/15,*
Error ellipse: s-maj=30.4km s-min=11.2km az=160.0
*NEIC **11** 19:25:20.1±0.5,3.°74N×126.°67E,h35km,mb4.7/4,Error*
ellipse: s-maj=29.7km s-min=11.1km az=70.0
ISC 11 19:25:21.5±0.8,3.°8N±0.°1×126.°7E±0.°2,h45km,n26,
σ1s10/26,mb4.4/15,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
WRAB	**Tennant Creek**	**24.73**	**163**	*eP*		**P 19 30 37.3**	**-1.5**
	19nm,0.9s						
WRA	**Warramunga Arr**	**24.73**	**163**	P		**P 19 30 37.6**	**-1.2**
WRA	**Warramunga Arr**	**24.73**	**163**	P		**P 19 30 37.6**	**-1.2**
	17nm,0.9s,baz=345,slow=9.5,SNR=5.8						
ASAR	**Alice Springs**	**28.16**	**166**	P		**P 19 31 11.3**	**+1.5**
ASAR	**Alice Springs**	**28.16**	**166**	P		**P 19 31 11.3**	**+1.5**
	1.2nm,0.6s,baz=345,slow=8.7,SNR=2.8						
CMAR	**Chiang Mai Arr**	**30.84**	**300**	P		**P 19 31 34.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**30.84**	**300**	P		**P 19 31 34.3**	**+0.7**
	0.9nm,0.7s,baz=128,slow=8.1,SNR=3.4						
BJT	**Baijiatuau**	**37.32**	**347**	P		**P 19 32 29.7**	**+0.2**
	13nm,0.5s						
HIA	**Hailar**	**45.71**	**354**	P		**P 19 33 38.5**	**+0.4**
	7.5nm,1.1s						
SONM	**Songino Array**	**47.25**	**341**	P		**P 19 33 51.4**	**+1.1**
SONM	**Songino Array**	**47.25**	**341**	P		**P 19 33 51.4**	**+1.1**
	0.8nm,0.7s,baz=170,slow=10,SNR=2.6						
PETK	**Petropavlovsk-**	**55.39**	**22**	P		**P 19 34 52.2**	**+1.2**
PETK	**Petropavlovsk-**	**55.39**	**22**	P		**P 19 34 52.2**	**+1.2**
	3.5nm,0.8s,baz=179,slow=4.4,SNR=4.8						
MKAR	**Makanchi Array**	**57.51**	**325**	P		**P 19 35 05.3**	**-1.0**
MKAR	**Makanchi Array**	**57.51**	**325**	P		**P 19 35 05.3**	**-1.0**
	0.8nm,0.4s,baz=126,slow=8.6,SNR=5.0						
ZALV	**Zalesovo Beam**	**60.54**	**333**	P		**P 19 35 26.0**	**-1.1**
ZALV	**Zalesovo Beam**	**60.54**	**333**	P		**P 19 35 26.0**	**-1.1**
	0.5nm,0.4s,baz=124,slow=7.9,SNR=3.6						
KURBB	**Kurchatov Arra**	**61.70**	**327**	P		**P 19 35 34.6**	**-0.4**
	1.6nm,0.5s,baz=126,slow=6.2,SNR=4.9						
KURK	**Kurchatov**	**61.70**	**327**	P		**P 19 35 34.6**	**-0.4**
BVAR	**Borovoye Array**	**67.28**	**327**	P		**P 19 36 10.5**	**-0.9**
BVAR	**Borovoye Array**	**67.28**	**327**	P		**P 19 36 10.5**	**-0.9**
	4.0nm,0.9s,baz=125,slow=7.4,SNR=4.3						
BRVK	**Borovoye**	**67.35**	**327**	P		**P 19 36 11.3**	**-0.6**
	10.0nm,1.2s						
ILAR	**Eielson Array**	**85.06**	**25**	P		**P 19 37 51.7**	**-0.5**
ILAR	**Eielson Array**	**85.06**	**25**	P		**P 19 37 51.7**	**-0.5**
	0.7nm,1.0s,baz=294,slow=2.9,SNR=4.2						
ARCES	**ARCESS Array B**	**90.40**	**340**	P		**P 19 38 16.3**	**-1.5**
ARCES	**ARCESS Array B**	**90.40**	**340**	P		**P 19 38 16.3**	**-1.5**
	2.8nm,0.9s,baz=76,slow=6.4,SNR=4.9						

*IDC **11** 19:26:47.7±0.6,3.°57N×126.°60E,h0km,mb4.3/17,*
mb1 4.4/17,mb1mx4.3/23,mbtmp4.3/17,Error ellipse:
s-maj=30.8km s-min=12.7km az=69.0
*ISCJB **11** 19:26:52.9±0.4,3.°56N±0.°07×126.°7E±0.°1,h53km,*
mb4.4/23,Error ellipse: s-maj=20.9km s-min=7.8km
az=159.5
*NEIC **11** 19:26:53.2±2.8,3.°56N×126.°65E,h39km±27km,mb4.7/7,*
Error ellipse: s-maj=17.9km s-min=6.7km az=69.0
ISC 11 19:26:54.8±0.6,3.°56N±0.°10×126.°7E±0.°2,h53km,n43,
σ0s76/43,mb4.4/23,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
CTBH	**Cotabato--PC H**	**4.38**	**326**	↑*i P*		**Pn 19 28 00.7**	**+1.8**
TPUB	**Ta-pu**	**20.49**	**344**	*eP*		**P 19 31 26.4**	**-2.1**
	26nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.55**	**183**	P		**P 19 31 39.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**21.55**	**183**	P		**P 19 31 39.7**	**-0.2**
	7.3nm,0.5s,baz=6.4,slow=5.0,SNR=7.5						
WRAB	**Tennant Creek**	**24.53**	**162**	*eP*		**P 19 32 08.9**	**-0.7**
	45nm,0.9s						
WRA	**Warramunga Arr**	**24.53**	**162**	P		**P 19 32 09.0**	**-0.7**
WRA	**Warramunga Arr**	**24.53**	**162**	P		**P 19 32 09.0**	**-0.7**
	33nm,0.6s,baz=342,slow=10,SNR=23						
ASAR	**Alice Springs**	**27.96**	**166**	P		**P 19 32 40.8**	**+0.2**
ASAR	**Alice Springs**	**27.96**	**166**	P		**P 19 32 40.8**	**+0.2**
	3.0nm,0.5s,baz=349,slow=13,SNR=7.8						
CMAR	**Chiang Mai Arr**	**30.93**	**301**	P		**P 19 33 07.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**30.93**	**301**	P		**P 19 33 07.3**	**+0.4**
	2.1nm,0.7s,baz=124,slow=7.6,SNR=5.9						
KSAR	**Wonju Array Be**	**33.74**	**2**	P		**P 19 33 31.5**	**+0.2**
KSRS	**Korea Array**	**33.76**	**2**	P		**P 19 33 31.5**	**+0.1**
	2.0nm,0.7s,baz=181,slow=10,SNR=6.5						
BJT	**Baijiatuau**	**37.53**	**347**	*eP*		**P 19 34 04.0**	**+0.3**
	17nm,0.6s						
STKA	**Stephens Creek**	**37.98**	**159**	*eP*		**P 19 34 07.1**	**-0.6**
	1.8nm,0.7s						
STKA	**Stephens Creek**	**37.98**	**159**	P		**P 19 34 07.4**	**-0.3**
	7.7nm,0.5s,baz=344,slow=8.0,SNR=7.8						
USRK	**Ussuriysk Arra**	**40.75**	**6**	P		**P 19 34 30.6**	**0.0**
	2.0nm,0.6s,baz=193,slow=8.0,SNR=3.7						
LSA	**Lhasa**	**42.52**	**312**	*eP*		**P 19 34 45.9**

KURBB	**Kurchatov Arra**	**61.63**	**327**	P		**P**	19 38 23.7	**-0.7**
	1.9nm,0.8s,baz=128,slow=6.2,SNR=3.1							
KURK	**Kurchatov**	**61.63**	**327**	*eP*		**P**	19 38 24.1	**-0.3**
	4.4nm,0.8s							
BVAR	**Borovoye Array**	**67.22**	**327**	P		**P**	19 38 59.5	**-1.4**
BVAR	**Borovoye Array**	**67.22**	**327**	P		**P**	19 38 59.5	**-1.4**
	1.5nm,0.8s,baz=123,slow=5.3,SNR=2.1							
HON	**Honolulu**	**74.74**	**69**	*eP*		**P**	19 39 45.4	**-1.7**
ILAR	**Eielson Array**	**84.86**	**25**	P		**P**	19 40 40.4	**-0.7**
ILAR	**Eielson Array**	**84.86**	**25**	P		**P**	19 40 40.4	**-0.7**
	0.8nm,0.9s,baz=247,slow=6.2,SNR=4.3							
BRTR	**Keskin Array B**	**89.99**	**310**	P		**P**	19 41 06.9	**+0.4**
BRTR	**Keskin Array B**	**89.99**	**310**	P		**P**	19 41 06.9	**+0.4**
	0.9nm,0.8s,baz=80,slow=8.1,SNR=3.9							
FINES	**FINESS Array B**	**91.71**	**332**	P		**P**	19 41 14.3	**+0.4**
FINES	**FINESS Array B**	**91.71**	**332**	P		**P**	19 41 14.3	**+0.4**
	3.3nm,1.1s,baz=71,slow=6.0,SNR=2.4							
TORD	**Torodi Ar. Bea**	**122.97**	**288**	PKP		**PKPdf**	19 47 04.6	**+0.7**
TORD	**Torodi Ar. Bea**	**122.97**	**288**	PKP		**PKPdf**	19 47 04.6	**+0.7**
	0.3nm,0.5s,baz=71,slow=2.0,SNR=4.1							

IDC 11 19:31:37.7*±1.0,*3°83.8*N×*126°85.6*E,*h0*km,*mb4.0*/11, *mb1 4.1*/11,*mb1mx3.9*/22,*mbtmp4.0*/11,*1C*,*Error ellipse: s-maj=70.4km s-min=15.3km az=67.0*,*Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.25**	**323**	*iP*		Pb	19 32 51.0	-2.4
FITZ	**Fitzroy Crossi**	**21.82**	**183**	P		P	19 36 33.1	+1.4
	1.9nm,0.7s,baz=8.7,slow=13,SNR=2.6							
WRA	**Warramunga Arr**	**24.74**	**163**	P		P	19 37 00.9	-0.2
	2.4nm,0.4s,baz=342,slow=10,SNR=5.4							
ASAR	**Alice Springs**	**28.18**	**166**	P		P	19 37 31.3	-0.9
	0.6nm,0.9s,baz=2.1,slow=7.4,SNR=3.2							
CMAR	**Chiang Mai Arr**	**30.93**	**300**	P		P	19 37 56.7	+0.1
	0.8nm,0.8s,baz=118,slow=7.1,SNR=4.1							
STKA	**Stephens Creek**	**38.18**	**159**	P		P	19 38 59.2	+0.1
	1.7nm,0.6s,baz=323,slow=11,SNR=3.1							
SONM	**Songino Array**	**47.25**	**341**	P		P	19 40 13.9	+1.1
	0.5nm,0.6s,baz=145,slow=6.3,SNR=3.6							
MKAR	**Makanchi Array**	**57.55**	**325**	P		P	19 41 29.1	-0.1
	1.0nm,0.4s,baz=119,slow=6.6,SNR=16							
KURBB	**Kurchatov Arra**	**61.72**	**327**	P		P	19 41 57.0	-0.8
	1.8nm,0.5s,baz=129,slow=6.4,SNR=14							
BVAR	**Borovoye Array**	**67.31**	**327**	P		P	19 42 35.2	+0.8
	1.2nm,0.8s,baz=114,slow=6.5,SNR=4.7							
BRTR	**Keskin Array B**	**90.05**	**310**	P		P	19 44 38.9	-1.1
	0.2nm,0.4s,baz=116,slow=1.5,SNR=3.6							
ARCES	**ARCESS Array B**	**90.40**	**340**	P		P	19 44 40.5	-0.2
	5.1nm,1.0s,baz=81,slow=8.3,SNR=3.8							

IDC 11 19:32:01.0*±0.6,*3°69.9*N×*126°47.6*E,*h0*km,*mb4.1*/17, *mb1 4.2*/17,*mb1mx4.1*/23,*mbtmp4.1*/17,*MS4.8*/1, *Ms1 4.8*/1,*ms1mx3.7*/47,*Error ellipse: s-maj=27.8km s-min=12.7km az=66.0*,*Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.67**	**182**	P		P	19 36 54.3	+0.8
	2.9nm,0.4s,baz=18,slow=6.2,SNR=5.8							
WRA	**Warramunga Arr**	**24.73**	**162**	P		P	19 37 24.8	+0.5
	15nm,0.7s,baz=337,slow=12,SNR=12							
CBIJ	**Chichi jima**	**27.70**	**31**	LR		LR	19 47 58.8	
	comp=Z,2μm,21.9s,baz=126,slow=35							
ASAR	**Alice Springs**	**28.14**	**165**	P		P	19 37 53.7	-1.5
	0.7nm,0.5s,baz=344,slow=8.3,SNR=4.4							
CMAR	**Chiang Mai Arr**	**30.67**	**301**	P		P	19 38 18.5	+0.9
	0.4nm,0.6s,baz=126,slow=7.4,SNR=3.2							
KSRS	**Korea Array**	**33.62**	**2**	P		P	19 38 43.7	+0.4
	0.5nm,0.5s,baz=180,slow=10.0,SNR=3.2							
KSRS				PcP		PcP	19 41 22.9	-0.7
	1.0nm,0.6s,baz=185,slow=3.0,SNR=4.2							
MJAR	**Matsushiro Arr**	**34.43**	**17**	P		P	19 38 51.1	+0.7
	1.4nm,0.9s,baz=192,slow=11,SNR=3.1							
HNR	**Honiara**	**35.82**	**112**	P		P	19 39 03.4	+0.8
	24nm,0.7s,baz=338,slow=2.7,SNR=3.6							
STKA	**Stephens Creek**	**38.19**	**159**	P		P	19 39 23.2	+0.7
	6.3nm,0.6s,baz=343,slow=8.1,SNR=8.3							
DZM	**Mont Dzumac**	**46.73**	**125**	P		P	19 40 31.7	-0.6
	2.4nm,0.6s,baz=120,slow=20,SNR=4.7							
SONM	**Songino Array**	**47.25**	**342**	P		P	19 40 37.5	+1.4
	0.5nm,0.6s,baz=147,slow=5.9,SNR=3.6							
PETK	**Petropavlovsk-**	**55.56**	**22**	P		P	19 41 37.5	-0.7
	5.6nm,1.0s,baz=204,slow=6.0,SNR=3.3							
MKAR	**Makanchi Array**	**57.44**	**325**	P		P	19 41 52.0	+0.3
	1.4nm,0.5s,baz=117,slow=7.4,SNR=8.0							
ZALV	**Zalesovo Beam**	**60.50**	**333**	P		P	19 42 11.5	-1.3
	0.6nm,0.4s,baz=128,slow=2.4,SNR=2.7							
KURBB	**Kurchatov Arra**	**61.63**	**327**	P		P	19 42 20.8	+0.3
	0.8nm,0.7s,baz=124,slow=7.0,SNR=4.3							
BVAR	**Borovoye Array**	**67.21**	**327**	P		P	19 42 57.4	+0.4
	0.5nm,0.4s,baz=106,slow=5.1,SNR=6.3							
BRTR	**Keskin Array B**	**89.84**	**310**	P		P	19 45 01.5	-0.8
	0.7nm,0.8s,baz=87,slow=6.8,SNR=4.0							
ARCES	**ARCESS Array B**	**90.39**	**340**	P		P	19 45 03.0	-1.0
	3.1nm,0.9s,baz=81,slow=7.5,SNR=4.9							
FINES	**FINESS Array B**	**91.74**	**332**	P		P	19 45 09.9	-0.5
	4.5nm,1.1s,baz=79,slow=4.1,SNR=3.7							
TORD	**Torodi Ar. Bea**	**122.68**	**288**	PKP		PKPdf	19 50 59.1	-0.8
	0.6nm,0.5s,baz=70,slow=1.8,SNR=6.4							

IDC 11 19:36:04.3*±0.9,*3°82.8*N×*126°82.6*E,*h0*km,*mb4.0*/10, *mb1 4.1*/10,*mb1mx3.9*/21,*mbtmp4.0*/10,*MS5.2*/1, *Ms1 5.2*/1,*ms1mx3.6*/46,*2D*,*Error ellipse: s-maj=68.7km s-min=14.7km az=69.0*,*Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KCP	**Kidapawan**	**3.60**	**332**	*eP*		Pg	19 37 12.4	-1.0
CTBH	**Cotabato--PC H**	**4.24**	**323**	*eP*		Pn	19 37 04.9	-5.3
MSLP	**Maasin**	**6.56**	**343**	*eP*		Pb	19 37 54.7	-4.8
FITZ	**Fitzroy Crossi**	**21.82**	**183**	P		P	19 40 57.6	-0.7
	3.6nm,0.5s,baz=0.8,slow=6.4,SNR=7.2							
WRA	**Warramunga Arr**	**24.75**	**163**	P		P	19 41 27.6	-0.2
	1μm,0.3s,baz=342,slow=10,SNR=4.6							
ASAR	**Alice Springs**	**28.18**	**166**	P		P	19 41 58.7	-0.1
	0.9nm,0.4s,baz=347,slow=8.3,SNR=6.7							
CTA	**Charters Tower**	**30.48**	**142**	LR		LR	19 53 18.8	
	comp=Z,4μm,19.9s,baz=211,slow=34							
CMAR	**Chiang Mai Arr**	**30.90**	**300**	P		P	19 42 24.4	+1.4
	0.2nm,0.7s,baz=82,slow=9.2,SNR=2.9							
STKA	**Stephens Creek**	**38.19**	**159**	P		P	19 43 26.5	+0.7
	4.0nm,0.5s,baz=336,slow=10,SNR=10							
SONM	**Songino Array**	**47.24**	**341**	P		P	19 44 40.4	+1.1
	1.0nm,0.3s,baz=142,slow=7.3,SNR=12							
MKAR	**Makanchi Array**	**57.53**	**325**	P		P	19 45 54.5	-1.2
	0.5nm,0.5s,baz=119,slow=7.1,SNR=5.1							
ZALV	**Zalesovo Beam**	**60.55**	**333**	P		P	19 46 17.2	+0.8
	0.4nm,0.4s,baz=126,slow=7.3,SNR=3.1							
KURBB	**Kurchatov Arra**	**61.71**	**327**	P		P	19 46 23.4	-1.0
	0.6nm,0.5s,baz=128,slow=6.6,SNR=5.2							
BVAR	**Borovoye Array**	**67.29**	**327**	P		P	19 47 00.8	-0.1
	0.2nm,0.4s,baz=128,slow=9.3,SNR=3.2							
ARCES	**ARCESS Array B**	**90.39**	**340**	P		P	19 49 06.4	-0.9
	3.0nm,0.9s,baz=69,slow=4.9,SNR=2.7							
TORD	**Torodi Ar. Bea**	**122.97**	**288**	PKP		PKPdf	19 55 03.3	-0.4
	0.2nm,0.4s,baz=56,slow=3.6,SNR=4.3							

*IDC **11** 19:36:40.2*±*1.0*,*3°88.8*N×*126°83.6*E,*h0*km,*mb4.2/8, mb1 4.3/8,mb1mx4.0/20,mbtmp4.2/8,Error ellipse: s-maj=72.3km s-min=20.8km az=72.0*

*ISCJB **11** 19:36:43.6*±*0.7,*3°95.0*N±*0.1*°×*126°9.6*E±*0.1*′,*h36*km, *mb4.2/11,Error ellipse: s-maj=20.0km s-min=13.2km az=157.8*

*NEIC **11** 19:36:45.4*±*0.7,*3°96.0*N×*126°99.6*E,*h35*km,*mb4.5/3,Error ellipse: s-maj=22.7km s-min=13.8km az=67.0*

ISC 11 19:36:45.5±0.8,**4°0.0**N±0.1′×**127°0.0**E±0.2′,**h36**km,**n26, σ1°28/22,mb4.4/10,1C,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSPH	**General Santos**	**2.95**	**316**	*eP*		Sn	19 37 57.3	-6.8
DMPH	**Davao City--Mi**	**3.45**	**335**	*eP*		Pn	19 37 43.1	+6.4
BUTP	**Butuan**	**5.17**	**345**	*eP*		Pn	19 38 08.1	+7.7
KKM	**Kota Kinabalu**	**10.94**	**281**	*eP*		**Pn**	**19 39 20.2**	**+0.6**
TPUB	**Ta-pu**	**20.20**	**343**	*eP*		**P**	**19 41 15.2**	**-2.1**
SSLB	**Suanglung**	**20.57**	**344**	*eP*		**P**	**19 41 21.3**	**0.0**
ASAR	**Alice Springs**	**28.26**	**167**	P		**P**	**19 42 36.6**	**+1.2**
ASAR	**Alice Springs**	**28.26**	**167**	P		**P**	**19 42 36.6**	**+1.2**
	1.2nm,0.5s,baz=342,slow=9.9,SNR=4.2							
ENH	**Enshi**	**30.98**	**330**	*eP*		**P**	**19 42 58.5**	**-1.0**
	5.7nm,0.8s							
KSAR	**Wonju Array Be**	**33.35**	**1**	P		**P**	**19 43 20.8**	**+0.7**
KSRS	**Korea Array**	**33.36**	**1**	P		**P**	**19 43 20.8**	**+0.6**
	0.9nm,0.6s,baz=179,slow=9.4,SNR=3.6							
STKA	**Stephens Creek**	**38.24**	**160**	P		**P**	**19 44 00.3**	**-1.8**
STKA	**Stephens Creek**	**38.24**	**160**	P		**P**	**19 44 00.3**	**-1.8**
	3.5nm,0.7s,baz=334,slow=7.6,SNR=4.0							
LSA	**Lhasa**	**42.50**	**311**	*eP*		**P**	**19 44 37.6**	**-0.4**
	3.9nm,0.8s							
MKAR	**Makanchi Array**	**57.53**	**325**	P		**P**	**19 46 30.1**	**-1.2**
MKAR	**Makanchi Array**	**57.53**	**325**	P		**P**	**19 46 30.1**	**-1.2**
	1.6nm,0.4s,baz=120,slow=8.0,SNR=6.0							
YAK	**Yakutsk**	**57.99**	**1**	*eP*		**P**	**19 46 35.2**	**+1.0**
	9.9nm,0.8s							
KURBB	**Kurchatov Arra**	**61.70**	**327**	P		**P**	**19 47 00.2**	**+0.3**
	1.5nm,0.4s,baz=128,slow=6.0,SNR=7.9							
KURK	**Kurchatov**	**61.70**	**327**	P		**P**	**19 47 00.2**	**+0.3**
ARCES	**ARCESS Array B**	**90.34**	**340**	P		**P**	**19 49 42.0**	**-0.5**
ARCES	**ARCESS Array B**	**90.34**	**340**	P		**P**	**19 49 42.0**	**-0.5**
	1.7nm,0.8s,baz=68,slow=8.2,SNR=4.0							
FINES	**FINESS Array B**	**91.77**	**332**	P		**P**	**19 49 51.4**	**+2.1**
FINES	**FINESS Array B**	**91.77**	**332**	P		**P**	**19 49 51.4**	**+2.1**
	1.8nm,0.9s,baz=73,slow=6.4,SNR=3.8							
SYO	**Syowa Base**	**92.72**	**201**	*eP*		P	19 50 02.6	+9.1
YKA	**Yellowknife Ar**	**99.19**	**24**	P		**Pdif**	**19 50 23.9**	**+0.8**
YKA	**Yellowknife Ar**	**99.19**	**24**	P		**Pdif**	**19 50 23.9**	**+0.8**
	0.2nm,0.7s,baz=297,slow=4.6,SNR=3.4							

*IDC **11** 19:37:04.1*±*0.6,*3°86.6*N×*126°39.6*E,*h0*km,*mb4.4/25, mb1 4.4/25,mb1mx4.4/27,mbtmp4.3/25,Error ellipse: s-maj=23.4km s-min=13.5km az=75.0*

*ISCJB **11** 19:37:08.5*±*0.4,*3°88.1*N±*0.0*°×*126°54.4*E±*0.0*′,*h45*km, *mb4.5/42,Error ellipse: s-maj=12.1km s-min=8.0km az=165.4*

*NEIC **11** 19:37:09.3*±*0.4,*3°86.1*N×*126°45.6*E,*h35*km,*mb4.7/20,Error ellipse: s-maj=14.4km s-min=7.5km az=75.0*

*DJA **11** 19:37:15,3°81.1*N×*126°78.6*E,*h47*km,*mb4.6/8*

ISC 11 19:37:10.5±0.5,**3°91.1**N±0.0°×**126°5.2**E±0.1′,**h45**km,**n81, σ1°10/75,mb4.5/41,1D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KCP	**Kidapawan**	**3.40**	**335**	*i* S		Sn	19 38 52.0	+12
BUKP	**Musuan**	**4.21**	**340**	*eP*		Pn	19 38 17.4	+5.2
CGP	**Cagayan de Oro**	**4.88**	**338**	*eP*		Pn	19 38 32.4	+11
CGP				*eS*		Sn	19 39 33.4	+17
PAGZ	**Pagadian**	**5.02**	**321**	*eP*		Pn	19 38 27.2	+3.9
KKM	**Kota Kinabalu**	**10.51**	**282**	*eP*		Pn	19 39 42.6	+3.9
	17nm,0.6s							
KSM	**Kuching**	**16.40**	**262**	*eP*		**P**	**19 41 03.0**	**+3.2**
	56nm,1.4s							
YULB	**Yu-li**	**20.02**	**346**	*eP*		**P**	**19 41 37.9**	**-1.9**
	14nm,0.8s							
TPUB	**Ta-pu**	**20.11**	**344**	*eP*		**P**	**19 41 39.7**	**-0.9**
	58nm,0.7s							
SSLB	**Suanglung**	**20.49**	**345**	*eP*		**P**	**19 41 42.8**	**-2.0**
	38nm,0.4s							
FITZ	**Fitzroy Crossi**	**21.89**	**182**	P		**P**	**19 41 59.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**21.89**	**182**	P		**P**	**19 41 59.6**	**-0.2**
	2.7nm,0.5s,baz=1.2,slow=11,SNR=3.4							
JOW	**Kunigami**	**22.86**	**4**	*eP*		**P**	**19 42 10.5**	**+0.4**
	10nm,1.0s							
JOW	**Kunigami**	**22.86**	**4**	P		**P**	**19 42 10.7**	**+0.6**
	14nm,0.6s,baz=162,slow=11,SNR=6.9							
WRAB	**Tennant Creek**	**24.90**	**162**	*eP*		**P**	**19 42 27.9**	**-1.5**
IPM	**Ipoh**	**25.46**	**272**	*eP*		**P**	**19 42 36.8**	**+2.2**
	30nm,1.1s							
ASAR	**Alice Springs**	**28.33**	**166**	P		**P**	**19 42 59.8**	**-0.6**
ASAR	**Alice Springs**	**28.33**	**166**	P		**P**	**19 42 59.8**	**-0.6**
	0.7nm,0.6s,baz=349,slow=7.0,SNR=4.8							
JNU	**Nakatsue**	**29.35**	**7**	P		**P**	**19 43 09.9**	**+0.7**
JNU	**Nakatsue**	**29.35**	**7**	P		**P**	**19 43 09.9**	**+0.7**
	10nm,0.9s,baz=2.5,slow=19,SNR=3.5							
CMAR	**Chiang Mai Arr**	**30.62**	**300**	P		**P**	**19 43 20.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**30.62**	**300**	P		**P**	**19 43 20.6**	**-0.1**
	1.8nm,0.7s,baz=124,slow=8.0,SNR=7.2							
CHTO	**Chiang Mai**	**30.77**	**301**	*eP*		**P**	**19 43 22.6**	**+0.6**
	8.2nm,0.9s							
ENH	**Enshi**	**30.78**	**330**	*eP*		**P**	**19 43 21.6**	**-0.4**
	7.0nm,0.6s							
KSAR	**Wonju Array Be**	**33.40**	**2**	P		**P**	**19 43 45.8**	**+1.0**
KSRS	**Korea Array**	**33.41**	**2**	P		**P**	**19 43 45.8**	**+0.9**
	3.5nm,0.7s,baz=179,slow=10.0,SNR=10.0							
MJAR	**Matsushiro Arr**	**34.21**	**17**	P		**P**	**19 43 51.2**	**-0.6**
MJAR	**Matsushiro Arr**	**34.21**	**17**	P		**P**	**19 43 51.2**	**-0.6**
	1.8nm,0.8s,baz=224,slow=10,SNR=5.1							
BJT	**Baijiatuan**	**37.15**	**347**	*eP*		**P**	**19 44 17.9**	**+0.9**
	33nm,0.6s							
STKA	**Stephens Creek**	**38.36**	**159**	*eP*		**P**	**19 44 27.8**	**+0.4**
	1.8nm,0.7s							
STKA	**Stephens Creek**	**38.36**	**159**	P		**P**	**19 44 27.2**	**-0.1**
	9.2nm,0.8s,baz=322,slow=6.7,SNR=5.3							
USRK	**Ussuriysk Arra**	**40.41**	**6**	P		**P**	**19 44 45.2**	**+1.0**
	4.1nm,0.8s,baz=180,slow=8.9,SNR=6.3							
MDJ	**Mudanjiang**	**40.63**	**3**	*eP*		**P**	**19 44 48.0**	**+1.9**
	9.0nm,0.8s							
LSA	**Lhasa**	**42.18**	**311**	*eP*		**P**	**19 45 00.2**	**+0.5**
	5.7nm,0.6s							
ASAJ	**Asahikawa**	**42.48**	**17**	P		**P**	**19 45 01.8**	**+0.6**
ASAJ	**Asahikawa**	**42.48**	**17**	P		**P**	**19 45 01.8**	**+0.6**
	4.7nm,0.6s,baz=247,slow=11,SNR=3.8							
HIA	**Hailar**	**45.56**	**354**	*eP*		**P**	**19 45 28.6**	**+2.7**
	25nm,1.1s							
DZM	**Mont Dzumac**	**46.79**	**125**	P		**P**	**19 45 36.1**	**0.0**
DZM	**Mont Dzumac**	**46.79**	**125**	P		**P**	**19 45 36.1**	**0.0**
	5.7nm,0.7s,baz=315,slow=8.8,SNR=6.2							
ULN	**Ulaanbaatar**	**46.89**	**342**	*eP*		**P**	**19 45 36.7**	**+0.1**
	9.6nm,1.0s							
SONM	**Songino Array**	**47.07**	**342**	P		**P**	**19 45 37.4**	**-0.6**
SONM	**Songino Array**	**47.07**	**342**	P		**P**	**19 45 37.4**	**-0.6**
	2.4nm,0.7s,baz=155,slow=9.1,SNR=7.4							
PETK	**Petropavlovsk-**	**55.34**	**22**	P		**P**	**19 46 39.2**	**-0.5**
PETK	**Petropavlovsk-**	**55.34**	**22**	P		**P**	**19 46 39.2**	**-0.5**
	5.0nm,0.7s,baz=189,slow=8.4,SNR=4.3							
MKAR	**Makanchi Array**	**57.30**	**325**	P		**P**	**19 46 53.4**	**-0.5**
MKAR	**Makanchi Array**	**57.30**	**325**	P		**P**	**19 46 53.4**	**-0.5**
	1.4nm,0.3s,baz=118,slow=6.6,SNR=7.9							
YAK	**Yakutsk**	**58.04**	**2**	*eP*		**P**	**19 46 59.4**	**+0.7**
	35nm,0.8s							
AAK	**Ala-Archa**	**60.10**	**318**	P		**P**	**19 47 13.3**	**-0.2**
AAK	**Ala-Archa**	**60.10**	**318**	P		**P**	**19 47 13.3**	**-0.2**
	1.3nm,0.5s,baz=161,slow=7.8,SNR=6.1							
ZALV	**Zalesovo Beam**	**60.35**	**333**	P		**P**	**19 47 13.6**	**-1.2**
ZALV	**Zalesovo Beam**	**60.35**	**333**	P		**P**	**19 47 13.6**	**-1.2**
	1.1nm,0.4s,baz=136,slow=7.4,SNR=4.9							
KURBB	**Kurchatov Arra**	**61.49**	**327**	P		**P**	**19 47 22.7**	**+0.1**
	7.5nm,0.7s,baz=124,slow=6.5,SNR=12							
KURK	**Kurchatov**	**61.49**	**328**	P		**P**	**19 47 22.7**	**+0.1**
KKAR	**Karatay Array**	**62.98**	**317**	*eP*		**P**	**19 47 32.9**	**+0.1**
	4.5nm,0.7s							
BVAR	**Borovoye Array**	**67.07**	**327**	P		**P**	**19 47 59.4**	**+0.3**
BVAR	**Borovoye Array**	**67.07**	**327**	P		**P**	**19 47 59.4**	**+0.3**
	4.7nm,0.7s,baz=126,slow=7.5,SNR=11							
BRVK	**Borovoye**	**67.14**	**327**	*eP*		**P**	**19 48 01.0**	**+1.4**
	12nm,0.9s							
ABKAR	**Akbulak array**	**71.90**	**321**	*eP*		**P**	**19 48 28.0**	**-1.0**
	2.8nm,0.6s							
ARU	**Arti**	**74.69**	**328**	*eP*		**P**	**19 48 44.1**	**-1.2**
	5.6nm,0.6s							
UMR	**Umm Al-Rimmam**	**78.37**	**299**	*eP*		**P**	**19 49 05.1**	**-1.5**
RDF	**Al-Radifah**	**78.49**	**299**	*eP*		**P**	**19 49 07.0**	**-0.4**
RDF					AMb	AMB	19 49 10.6	
	comp=Z,38nm,1.4s							
MIB	**Mutribah**	**78.70**	**299**	*eP*		**P**	**19 49 07.1**	**-1.4**
MIB					AMb	AMB	19 49 09.0	
	comp=Z,26nm,0.7s							
NAY	**Al-Naaiem**	**78.77**	**299**	*eP*		**P**	**19 49 07.8**	**-1.2**
NAY					AMb	AMB	19 49 09.2	
	comp=Z,11nm,0.8s							
COLD	**Coldfoot**	**83.80**	**23**	*eP*		P	19 49 38.1	+3.3
	comp=Z,5.2nm,1.0s							
ILAR	**Eielson Array**	**85.02**	**25**	P		**P**	**19 49 43.8**	**+2.8**
ILAR	**Eielson Array**	**85.02**	**25**	P		**P**	**19 49 43.8**	**+2.8**
	comp=Z,0.3nm,0.6s,baz=244,slow=6.2,SNR=3.3							
BRTR	**Keskin Array B**	**89.77**	**310**	P		**P**	**19 50 03.7**	**-1.0**
BRTR	**Keskin Array B**	**89.77**	**310**	P		**P**	**19 50 03.7**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=121,slow=4.6,SNR=7.6							
ARCES	**ARCESS Array B**	**90.22**	**340**	P		**P**	**19 50 05.5**	**-0.5**
ARCES	**ARCESS Array B**	**90.22**	**340**	P		**P**	**19 50 05.5**	**-0.5**
	comp=Z,3.7nm,0.7s,baz=79,slow=5.6,SNR=6.1							
FINES	**FINESS Array B**	**91.59**	**332**	P		**P**	**19 50 12.0**	**-0.5**
FINES	**FINESS Array B**	**91.59**	**332**	P		**P**	**19 50 12.0**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=38,slow=9.6,SNR=5.9							
AKASG	**Malin Array Be**	**91.64**	**321**	P		**P**	**19 50 11.9**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=68,slow=4.9,SNR=5.3							
NOA	**NORSAR Array B**	**98.55**	**334**	P		**P**	**19 50 42.5**	**-1.8**
NOA	**NORSAR Array B**	**98.55**	**334**	P		**P**	**19 50 42.5**	**-1.8**
	comp=Z,0.8nm,0.7s,baz=69,slow=4.7,SNR=3.6							
YKA	**Yellowknife Ar**	**99.41**	**24**	P		**Pdif**	**19 50 48.5**	**+0.4**
YKA	**Yellowknife Ar**	**99.41**	**24**	P		**Pdif**	**19 50 48.5**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=282,slow=4.9,SNR=3.7							
GERES	**GERESS Array B**	**101.83**	**322**	P		**Pdif**	**19 50 59.2**	**-0.1**
GERES	**GERESS Array B**	**101.83**	**322**	P		**Pdif**	**19 50 59.2**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=242,slow=2.1,SNR=3.7							
TORD	**Torodi Ar. Bea**	**122.69**	**288**	PKP		**PKPdf**	**19 56 02.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**122.69**	**288**	PKP		**PKPdf**	**19 56 02.0**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=51,slow=1.8,SNR=3.2							

*IDC **11** 19:39:39.8*±*0.6,*3°64.N×*126°.57E,*h0*km,*mb4.5/15, mb1 4.6/15,mb1mx4.4/23,mbtmp4.5/15,MS5.1/1, Ms1 5.1/1,ms1mx4.2/47,Error ellipse: s-maj=38.5km s-min=12.6km az=65.0*

*ISCJB **11** 19:39:44.9*±*0.4,*3°.65N±*0.0*°×*126°.6E±*0.1′,*h53*km, *mb4.7/30,MS5.0/1,Error ellipse: s-maj=16.5km s-min=6.2km az=154.9*

*NEIC **11** 19:39:44.7*±*0.3,*3°.64N×*126°.64E,*h35*km,*mb4.6/10,Error ellipse: s-maj=15.9km s-min=5.3km az=70.0*

ISC 11 19:39:47.0±0.5,**3°.63N**±0.09°×**126°.6E**±0.2′,**h53**km,**n67, σ0°80/70,mb4.7/30,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.61**	**182**	P		**P**	**19 44 32.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**21.61**	**182**	*eP*		**P**	**19 44 31.5**	**-1.2**
	10nm,0.4s							
FITZ	**Fitzroy Crossi**	**21.61**	**182**	P		**P**	**19 44 32.4**	**-0.3**
	6.6nm,0.5s,baz=355,slow=5.5,SNR=6.0							
WRAB	**Tennant Creek**	**24.63**	**162**	*eP*		**P**	**19 45 01.4**	**-1.3**
WRA	**Warramunga Arr**	**24.63**	**162**	P		**P**	**19 45 02.2**	**-0.5**
WRA	**Warramunga Arr**	**24.63**	**162**	P		**P**	**19 45 02.2**	**-0.5**
	37nm,0.5s,baz=336,slow=11,SNR=22							
MBWA	**Marble Bar**	**25.53

baz=305
ENA eS Sb 19 42 19.2 +0.5
baz=305
TWC Suao 0.76 313 *i* P Pb 19 42 08.8 -0.6
baz=306
TWC S Sb 19 42 19.0 -0.4
baz=306
TWD Chiawan 0.79 270 *e*P Pb 19 42 09.3 -0.5
baz=268
TWD eS Sb 19 42 19.3 -0.7
baz=268
TWE Neicheng 0.96 311 *e*P Pn 19 42 11.9 -0.7
baz=311
TWE eS Sn 19 42 25.0 -0.5
baz=311
ESL Shilin 0.98 254 *e*P Pn 19 42 11.3 -1.5
baz=244
ESL eS Sn 19 42 24.2 -1.7
baz=244
ENTT Nioudou 0.98 304 *e*P Pn 19 42 12.9 -0.1
baz=293
ENTT eS Sn 19 42 26.1 0.0
baz=293
TWB1 Santiao Chiao 1.01 335 P Pn 19 42 12.7 -0.6
baz=321
TWB1 S Sn 19 42 26.0 -0.9
baz=321
NNS Nan Shan 1.05 290 *e*P Pn 19 42 13.7 -0.3
baz=289
NNS eS Sn 19 42 27.3 -0.6
baz=289
WHF Hehuan Shan 1.09 273 *e*P Pn 19 42 13.9 -0.9
baz=271
NWF Wu-fen Shan 1.16 328 P Pn 19 42 14.9 -0.6
baz=328
NWF S Sn 19 42 30.0 -0.6
baz=328
NSK Sanguang 1.16 301 *e*P Pn 19 42 15.9 +0.5
baz=288
NSK eS Sn 19 42 29.3 -1.3
baz=288
TWT Tachien 1.18 278 *e*P Pn 19 42 16.2 +0.3
baz=266
TWT eS Sn 19 42 30.6 -0.6
baz=266
IRIF Iriomote-Funau 1.19 78 P Pn 19 42 14.9 -0.8
IRIF eS Sn 19 42 31.0 -0.1
EHY Hungye 1.19 241 P Pn 19 42 15.1 -0.6
baz=251
EHY eS Sn 19 42 29.5 -1.6
baz=251
TWA Mucha 1.20 318 *e*P Pn 19 42 15.9 0.0
baz=333
TWA eS Sn 19 42 31.3 0.0
baz=333
HATJ Hateruma jima 1.23 91 eS Sn 19 42 33.6 +1.5
TAP Taipei 1.29 318 *e*P Pn 19 42 17.7 +0.6
baz=332
TAP eS Sn 19 42 33.8 +0.3
baz=332
TWF1 Yuli 1.29 236 P Pn 19 42 16.4 -0.8
baz=248
TWF1 eS Sn 19 42 32.3 -1.3
baz=248
TWS1 Kuangyinshan 1.39 317 *e*P Pn 19 42 19.0 +0.5
baz=331
TWS1 eS Sn 19 42 36.8 +0.8
baz=331
CHKT Chengkung 1.40 226 *e*P Pn 19 42 17.6 -1.1
baz=215
CHKT eS Sn 19 42 32.9 -3.5
baz=215
TWY Chenhua 1.42 327 *e*P Pn 19 42 18.7 -0.3
baz=327
JKRS Kuro-shima 1.43 84 P Pn 19 42 18.9 -0.1
JKRS eS Sn 19 42 37.9 +1.0
NSTT Nanjuang 1.44 293 *e*P Pn 19 42 20.1 +1.0
baz=291
NSTT eS Sn 19 42 37.5 +0.2
baz=291
SMLT Sun Moon Lake 1.44 262 *e*P Pn 19 42 19.2 -0.1
baz=253
SMLT eS Sn 19 42 36.7 -0.8
baz=253
TYC Yuchr 1.48 263 *e*P Pn 19 42 19.8 +0.1
baz=261
TYC eS Sn 19 42 37.4 -0.8
baz=261
TWQ1 Liyutan 1.56 280 *e*P Pn 19 42 21.2 +0.3
baz=278
TWQ1 eS Sn 19 42 40.3 0.0
baz=278
JIJ Ishigaki jima 1.56 79 P Pn 19 42 20.0 -0.9
JIJ eS Sn 19 42 39.2 -1.1
NSY Sanyi 1.58 282 *e*P Pn 19 42 22.5 +1.3
baz=281
ELDTW Lidau 1.59 236 *e*P Pn 19 42 20.9 -0.5
baz=234
ELDTW eS Sn 19 42 39.1 -2.1
baz=234
ALS Alishan 1.62 250 *e*P Pn 19 42 21.6 -0.3
baz=248
ALS eS Sn 19 42 41.3 -0.8
baz=248
TCU Taichung 1.63 273 *e*P Pn 19 42 23.0 +1.2
baz=271
CHN5 Tsauling 1.70 254 *e*P Pn 19 42 23.6 +0.7
baz=252
CHN5 eS Sn 19 42 44.4 +0.5
baz=252
WGK Gukeng 1.78 258 *e*P Pn 19 42 25.1 +1.2
baz=256
WGK eS Sn 19 42 47.2 +1.5
baz=256
TWG Pinlang 1.79 226 *e*P Pn 19 42 23.0 -1.0
baz=234
TWG eS Sn 19 42 43.3 -2.7
baz=234
STYT Tauyuan 1.81 240 *e*P Pn 19 42 24.8 +0.4
baz=231
STYT eS Sn 19 42 46.1 -0.5
baz=231
WTP Ta-pu 1.89 244 *e*P Pn 19 42 26.6 +1.2
baz=242
WTP eS Sn 19 42 48.6 +0.2
baz=242
TWK Hsinying 1.98 246 *e*P Pn 19 42 27.1 +0.4
baz=244
TWK eS Sn 19 42 51.2 +0.5
baz=244
CHN1 Nanshi 1.98 244 *e*P Pn 19 42 27.5 +0.8
baz=242
CHN1 eS Sn 19 42 51.1 +0.3
baz=242
SGST Jiashian 1.99 240 *e*P Pn 19 42 28.3 +1.5
baz=238
SGST eS Sn 19 42 52.6 +1.7
baz=238
ECL Taimali 2.02 223 *e*P Pn 19 42 26.9 -0.4
baz=230
JTJ Tarama 2.12 74 eS Sn 19 42 52.2 -1.9
SSD Sandimen 2.14 232 *e*P Pn 19 42 30.3 +1.4
baz=227
SSD eS Sn 19 42 54.9 +0.2
baz=227
CHN8 Yiju 2.19 251 *e*P Pn 19 42 29.9 +0.5
baz=249
EAST Anshuo 2.25 222 *e*P Pn 19 42 31.2 +0.8
baz=220
SCZT Fangliau 2.40 225 *e*P Pn 19 42 32.5 +0.1
baz=223

IDC ***11*** *19:43:13.0±0.8, 3.°93N×126.°74E, h0km, mb4.1/13, mb1 4.3/13, mb1mx4.1/20, mbtmp4.1/13, Error ellipse: s-maj=48.4km s-min=14.4km az=69.0*

ISCJB ***11*** *19:43:17.8±0.6, 3.°81N±0.°09×126.°6E±0.°1, h45km, mb4.2/15, Error ellipse: s-maj=23.3km s-min=9.3km az=153.4*

ISC 11 19:43:19.6±0.7, **3.°8N**±0.°1×**126.°7E**±0.°2, **h45**km, **n26, σ0.°82/26, mb4.3**/19, **1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.16**	**325**	⇓ *i*P		**Pn**	**19 44 21.7**	**+1.0**
FITZ	**Fitzroy Crossi**	**21.78**	**183**	P		**P**	**19 48 07.3**	**-0.4**
	5.8nm,0.7s,baz=37,slow=10,SNR=5.5							
WRA	**Warramunga Arr**	**24.77**	**163**	P		**P**	**19 48 37.7**	**+0.4**
	37nm,0.7s,baz=346,slow=10,SNR=37							
ASAR	**Alice Springs**	**28.19**	**166**	P		**P**	**19 49 08.0**	**-0.2**
	1.8nm,0.7s,baz=341,slow=6.8,SNR=4.9							
CMAR	**Chiang Mai Arr**	**30.77**	**300**	P		**P**	**19 49 32.1**	**+1.0**
	1.2nm,0.8s,baz=115,slow=6.6,SNR=5.4							
KSRS	**Korea Array**	**33.52**	**2**	P		**P**	**19 49 56.2**	**+1.2**
	1.1nm,0.8s,baz=180,slow=9.6,SNR=3.4							
STKA	**Stephens Creek**	**38.22**	**159**	P		**P**	**19 50 36.2**	**+1.0**
	16nm,0.7s,baz=337,slow=8.0,SNR=27							
TAPN	**Taplejung**	**43.91**	**306**	*e*P		**P**	**19 51 22.5**	**-0.1**
	8.3nm,0.8s							
ODAN	**Odare**	**43.97**	**305**	*e*P		**P**	**19 51 22.8**	**-0.2**
	13nm,0.8s							
RAMN	**Ramite**	**44.65**	**305**	*e*P		**P**	**19 51 28.6**	**+0.2**
JIRN	**Jiri**	**45.27**	**306**	*e*P		**P**	**19 51 32.5**	**-1.0**
GUN	**Gumba**	**45.62**	**306**	*e*P		**P**	**19 51 36.0**	**-0.3**
	13nm,0.7s							
KKN	**Kakani**	**46.06**	**306**	*e*P		**P**	**19 51 39.1**	**-0.5**
DMN	**Daman**	**46.13**	**305**	*e*P		**P**	**19 51 39.5**	**-0.7**
SONM	**Songino Array**	**47.21**	**341**	P		**P**	**19 51 47.4**	**-0.7**
	1.0nm,0.8s,baz=156,slow=11,SNR=4.3							
KOLN	**Koldanda**	**47.42**	**305**	*e*P		**P**	**19 51 49.8**	**-0.4**
DANN	**Dangsing**	**47.51**	**306**	*e*P		**P**	**19 51 50.6**	**-0.4**
	17nm,0.6s							
MKAR	**Makanchi Array**	**57.46**	**325**	P		**P**	**19 53 02.1**	**-1.9**
	2.2nm,0.8s,baz=119,slow=7.0,SNR=14							
ZALV	**Zalesovo Beam**	**60.50**	**333**	P		**P**	**19 53 23.7**	**-1.2**
	0.8nm,0.6s,baz=142,slow=7.3,SNR=3.2							
KURBB	**Kurchatov Arra**	**61.64**	**327**	P		**P**	**19 53 31.9**	**-0.8**
	1.7nm,0.6s,baz=128,slow=6.5,SNR=4.5							
BVAR	**Borovoye Array**	**67.22**	**327**	P		**P**	**19 54 08.6**	**-0.6**
	1.4nm,0.8s,baz=116,slow=6.8,SNR=4.6							
ILAR	**Eielson Array**	**85.08**	**25**	P		**P**	**19 55 49.9**	**-0.6**
	0.5nm,0.8s,baz=249,slow=7.0,SNR=5.1							
BRTR	**Keskin Array B**	**89.92**	**310**	P		**P**	**19 56 14.0**	**-0.5**
	0.4nm,0.7s,baz=113,slow=5.6,SNR=4.2							
ARCES	**ARCESS Array B**	**90.36**	**340**	P		**P**	**19 56 15.2**	**-0.5**
	3.8nm,1.0s,baz=72,slow=8.6,SNR=3.0							
FINES	**FINESS Array B**	**91.74**	**332**	P		**P**	**19 56 23.2**	**+1.0**
	1.3nm,0.7s,baz=70,slow=6.3,SNR=5.1							
TORD	**Torodi Ar. Bea**	**122.82**	**288**	PKP		**PKPdf**	**20 02 12.1**	**+0.3**
	0.7nm,0.9s,baz=85,slow=2.0,SNR=3.2							

IDC 11 19:47:30.9±1.1, **3.°82N×126.°29E, h0km, mb3.8**/8, **mb1 3.9**/8, **mb1mx3.7**/20, **mbtmp3.8**/8, **Error ellipse: s-maj=80.0km s-min=20.9km az=71.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.90**	**162**	P		P	19 52 55.3	-0.5
	3μm,0.3s,baz=0.0,slow=0.0,SNR=2.8							
ASAR	**Alice Springs**	**28.30**	**165**	P		P	19 53 27.0	+0.5
	0.4nm,0.5s,baz=349,slow=9.6,SNR=2.9							
KSRS	**Korea Array**	**33.51**	**2**	P		P	19 54 11.6	-0.6
	0.9nm,0.7s,baz=194,slow=9.9,SNR=4.3							
SONM	**Songino Array**	**47.08**	**342**	P		P	19 56 05.5	+0.8
	0.4nm,0.6s,baz=161,slow=9.2,SNR=2.6							
MKAR	**Makanchi Array**	**57.24**	**325**	P		P	19 57 20.2	0.0
	0.4nm,0.3s,baz=123,slow=5.3,SNR=9.4							
KURBB	**Kurchatov Arra**	**61.43**	**328**	P		P	19 57 48.7	-0.4
	0.5nm,0.5s,baz=127,slow=6.1,SNR=5.6							
BVAR	**Borovoye Array**	**67.01**	**327**	P		P	19 58 25.7	0.0
	1.0nm,0.8s,baz=140,slow=11,SNR=4.9							
BRTR	**Keskin Array B**	**89.63**	**310**	P		P	20 00 30.7	-0.5
	0.2nm,0.3s,baz=73,slow=5.0,SNR=3.7							
ARCES	**ARCESS Array B**	**90.22**	**340**	P		P	20 00 33.3	+0.2
	2.9nm,0.9s,baz=67,slow=7.0,SNR=3.1							

IDC 11 19:48:20.0±1.2, **3.°77N×126.°54E, h0km, mb3.9**/8, **mb1 4.0**/8, **mb1mx3.8**/22, **mbtmp3.9**/8, **Error ellipse: s-maj=107.7km s-min=15.5km az=70.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.75**	**182**	P		P	19 53 13.9	+0.5
	1.3nm,0.3s,baz=16,slow=10,SNR=4.0							
WRA	**Warramunga Arr**	**24.78**	**162**	P		P	19 53 42.9	-0.9
	8.3nm,0.8s,baz=40,slow=0.0,SNR=3.1							
ASAR	**Alice Springs**	**28.20**	**166**	P		P	19 54 15.0	+0.3
	0.4nm,0.3s,baz=349,slow=9.4,SNR=4.6							
STKA	**Stephens Creek**	**38.24**	**159**	P		P	19 55 42.1	+0.1
	5.3nm,0.8s,baz=325,slow=8.9,SNR=7.3							
SONM	**Songino Array**	**47.20**	**342**	P		P	19 56 55.1	+0.4
	0.2nm,0.3s,baz=151,slow=6.6,SNR=3.0							
MKAR	**Makanchi Array**	**57.41**	**325**	P		P	19 58 10.0	-0.6
	0.4nm,0.5s,baz=121,slow=6.9,SNR=3.3							
KURBB	**Kurchatov Arra**	**61.60**	**327**	P		P	19 58 39.1	-0.2
	0.6nm,0.6s,baz=128,slow=6.4,SNR=3.6							
BVAR	**Borovoye Array**	**67.18**	**327**	P		P	19 59 16.1	+0.2
	0.7nm,0.7s,baz=124,slow=7.2,SNR=3.4							

IDC 11 19:50:00.9±1.5, **3.°89N×127.°30E, h0km, mb4.0**/8, **mb1 4.1**/8, **mb1mx3.9**/20, **mbtmp4.0**/8, **1C, Error ellipse: s-maj=172.3km s-min=17.5km az=67.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.49**	**318**	⇑ *i*P		Pb	19 51 15.9	-4.8
FITZ	**Fitzroy Crossi**	**21.92**	**184**	P		P	19 54 59.2	+3.2
	1.4nm,0.5s,baz=10,slow=14,SNR=3.6							
WRA	**Warramunga Arr**	**24.68**	**164**	P		P	19 55 23.4	-0.4
	12nm,0.8s,baz=343,slow=10,SNR=12							
ASAR	**Alice Springs**	**28.14**	**167**	P		P	19 55 53.8	-1.1
	0.6nm,0.5s,baz=354,slow=8.4,SNR=3.7							
STKA	**Stephens Creek**	**38.08**	**160**	P		P	19 57 22.3	+0.7
	6.3nm,0.6s,baz=327,slow=9.8,SNR=10							
SONM	**Songino Array**	**47.33**	**341**	P		P	19 58 36.4	-0.2
	0.9nm,0.7s,baz=146,slow=6.5,SNR=3.6							
MKAR	**Makanchi Array**	**57.75**	**325**	P		P	19 59 53.2	-0.6
	0.4nm,0.5s,baz=113,slow=6.9,SNR=3.8							
ZALV	**Zalesovo Beam**	**60.70**	**333**	P		P	20 00 13.7	-0.4
	0.4nm,0.4s,baz=105,slow=5.1,SNR=2.0							
KURBB	**Kurchatov Arra**	**61.91**	**327**	P		P	20 00 22.3	+0.1
	0.7nm,0.7s,baz=131,slow=6.7,SNR=3.1							
BRTR	**Keskin Array B**	**90.36**	**310**	P		P	20 03 05.5	+0.9
	0.3nm,0.3s,baz=153,slow=14,SNR=5.0							

IDC 11 19:50:40.5±0.8, **3.°97N×126.°47E, h0km, mb4.1**/12, **mb1 4.2**/12, **mb1mx4.0**/21, **mbtmp4.1**/12, **Error ellipse: s-maj=46.1km s-min=15.3km az=70.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.94**	**182**	P		P	19 55 35.4	-0.4
	2.7nm,0.8s,baz=14,slow=12,SNR=2.3							
WRA	**Warramunga Arr**	**24.98**	**162**	P		P	19 56 05.3	-0.8
	2.5nm,0.5s,baz=338,slow=11,SNR=3.7							
ASAR	**Alice Springs**	**28.40**	**166**	P		P	19 56 38.5	+1.6
	0.7nm,0.6s,baz=346,slow=8.3,SNR=2.8							
CMAR	**Chiang Mai Arr**	**30.53**	**300**	P		P	19 56 57.1	+1.2
	0.2nm,0.3s,baz=112,slow=9.8,SNR=4.1							
STKA	**Stephens Creek**	**38.44**	**159**	P		P	19 58 04.2	+0.1
	2.4nm,0.5s,baz=346,slow=7.9,SNR=4.4							
SONM	**Songino Array**	**46.99**	**342**	P		P	19 59 14.8	+1.2
	0.4nm,0.5s,baz=157,slow=6.1,SNR=4.2							
PETK	**Petropavlovsk-**	**55.31**	**22**	P		P	20 00 16.5	+0.7
	1.9nm,0.7s,baz=168,slow=2.1,SNR=3.9							
MKAR	**Makanchi Array**	**57.22**	**325**	P		P	20 00 29.6	0.0
	1.7nm,0.4s,baz=117,slow=7.7,SNR=16							
ZALV	**Zalesovo Beam**	**60.26**	**333**	P		P	20 00 49.0	-1.6
	0.6nm,0.4s,baz=115,slow=6.9,SNR=4.0							
KURBB	**Kurchatov Arra**	**61.40**	**327**	P		P	20 00 58.6	+0.2
	1.7nm,0.5s,baz=126,slow=7.2,SNR=9.3							
ARCES	**ARCESS Array B**	**90.11**	**340**	P		P	20 03 41.6	-0.8
	2.3nm,0.8s,baz=78,slow=5.6,SNR=6.5							
FINES	**FINESS Array B**	**91.50**	**332**	P		P	20 03 47.2	-1.6
	0.9nm,0.7s,baz=111,slow=4.3,SNR=4.3							

TAP 11 19:50:48.5, 24.°12N×122.°45E, h36km, ML3.8, 2D, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.72**	**296**	⇓ *i*P		Pn	19 51 02.5	+0.3
	baz=296							
ENA				*e*S		Sn	19 51 12.7	+0.7
	baz=296							
TWC	**Suao**	**0.74**	**312**	⇓ *i*P		Pn	19 51 02.5	+0.1
	baz=312							
TWC				*e*S		Sn	19 51 12.6	+0.2
	baz=312							
TWD	**Chiawan**	**0.78**	**268**	*e*P		Pn	19 51 03.1	+0.1
	baz=255							
TWD				*e*S		Sn	19 51 13.6	+0.1
	baz=255							
HWA	**Hwalien**	**0.79**	**260**	*e*P		Pn	19 51 04.6	+1.6
	baz=259							
HWA				*e*S		Sn	19 51 14.8	+1.2
	baz=259							
ILA	**Ilan**	**0.91**	**315**	*e*P		Pn	19 51 06.3	+1.5
	baz=316							
ILA				*e*S		Sn	19 51 19.6	+2.9
	baz=316							
TWE	**Neicheng**	**0.94**	**310**	*i* P		Pn	19 51 05.9	+0.8
	baz=311							
TWE				*e*S		Sn	19 51 18.9	+1.6
	baz=311							
ENTT	**Nioudou**	**0.96**	**303**	P		Pn	19 51 06.4	+0.9
	baz=303							
ENTT				*e*S		Sn	19 51 19.9	+1.9
	baz=303							
ESL	**Shilin**	**0.98**	**252**	*e*P		Pn	19 51 04.1	-1.6
	baz=242							
TWB1	**Santiao Chiao**	**0.98**	**335**	P		Pn	19 51 06.2	+0.4
	baz=349							
TWB1				S		Sn	19 51 19.9	+1.5
	baz=349							
NNS	**Nan Shan**	**1.04**	**288**	P		Pn	19 51 07.5	+0.8
	baz=288							
NNS				S		Sn	19 51 21.4	+1.3
	baz=288							
WHF	**Hehuan Shan**	**1.08**	**272**	P		Pn	19 51 07.8	+0.1
	baz=271							
WHF				*e*S		Sn	19 51 22.5	+0.6
	baz=271							
NWF	**Wu-fen Shan**	**1.13**	**327**	*i* P		Pn	19 51 08.8	+0.8
	baz=328							
NWF				*e*S		Sn	19 51 24.1	+1.8
	baz=328							
NSK	**Sanguang**	**1.14**	**299**	P		Pn	19 51 09.1	+1.0
	baz=285							
NSK				*e*S		Sn	19 51 23.5	+0.9
	baz=285							
TWA	**Mucha**	**1.17**	**318**	*e*P		Pn	19 51 10.0	+1.6
	baz=334							
TWA				*e*S		Sn	19 51 26.0	+2.9
	baz=334							
TWT	**Tachien**	**1.17**	**277**	*e*P		Pn	19 51 10.7	+2.1
	baz=264							
TWT				*e*S		Sn	19 51 24.8	+1.2
	baz=264							
EHY	**Hungye**	**1.20**	**240**	P		Pn	19 51 08.8	0.0
	baz=238							
EHY				*e*S		Sn	19 51 23.2	-0.6
	baz=238							
TAP1	**Taipei**	**1.25**	**318**	*e*P		Pn	19 51 11.2	+1.8
	baz=318							
TAP1				*e*S		Sn	19 51 29.0	+4.0
	baz=318							
TAP	**Taipei**	**1.26**	**317**	*e*S		Sn	19 51 27.9	+2.6
	baz=318							
TWF1	**Yuli**	**1.30**	**235**	P		Pn	19 51 10.1	-0.1
	baz=223							
TWF1				*e*S		Sn	19 51 25.3	-1.1
	baz=223							
TWS1	**Kuangyinshan**	**1.36**	**316**	*e*P		Pn	19 51 12.1	+1.2
	baz=332							
TWS1				*e*S		Sn	19 51 30.7	+2.9
	baz=332							
TWY	**Chenhua**	**1.39**	**326**	P		Pn	19 51 12.8	+1.4
	baz=327							
TWY				*e*S		Sn	19 51 30.1	+1.6
	baz=327							
CHKT	**Chengkung**	**1.42**	**225**	*e*P		Pn	19 51 11.4	-0.4
	baz=215							
CHKT				*e*S		Sn	19 51 26.7	-2.5
	baz=215							
NSTT	**Nanjuang**	**1.42**	**292**	*e*P		Pn	19 51 14.3	+2.5
	baz=290							
NSTT				*e*S		Sn	19 51 31.3	+2.1
	baz=290							
NCU	**National Centr**	**1.43**	**307**	*e*S		Sn	19 51 32.5	+2.9
	baz=307							
SMLT	**Sun Moon Lake**	**1.44**	**261**	*e*P		Pn	19 51 13.0	+0.8
	baz=260							
SMLT				*e*S		Sn	19 51 30.9	+1.0
	baz=260							
TYC	**Yuchr**	**1.47**	**262**	P		Pn	19 51 13.5	+1.0
	baz=261							
TYC				*e*S		Sn	19 51 31.4	+0.9
	baz=261							
HSN	**Hsinchu**	**1.51**	**297**	*e*S		Sn	19 51 35.4	+3.8
	baz=298							
TWQ1	**Liyutan**	**1.55**	**279**	*e*P		Pn	19 51 15.8	+2.2
	baz=277							
TWQ1				*e*S		Sn	19 51 35.5	+3.1
	baz=277							
NSY	**Sanyi**	**1.57**	**281**	*e*S		Sn	19 51 36.4	+3.3
	baz=280							
ELDTW	**Lidau**	**1.61**	**235**	*e*P		Pn	19 51 14.6	+0.1
	baz=233							
ELDTW				*e*S		Sn	19 51 33.8	-0.3
	baz=233							
TCU	**Taichung**	**1.62**	**272**	*e*P		Pn	19 51 16.9	+2.3
	baz=270							
TCU				*e*S		Sn	19 51 37.4	+3.2
	baz=270							
ALS	**Alishan**	**1.62**	**249**	P		Pn	19 51 16.2	+1.2
	baz=247							
ALS				*e*S		Sn	19 51 35.4	+0.5
	baz=247							
WNT	**Mingjian**	**1.63**	**262**	*e*P		Pn	19 51 17.1	+2.3
	baz=260							
WNT				*e*S		Sn	19 51 37.3	+2.8
	baz=260							
CHN5	**Tsauling**	**1.70**	**253**	P		Pn	19 51 17.6	+1.8
	baz=251							
CHN5				*e*S		Sn	19 51 39.0	+2.6
	baz=251							
WGK	**Gukeng**	**1.78**	**257**	*e*P		Pn	19 51 18.5	+1.7
	baz=255							
WGK				*e*S		Sn	19 51 41.4	+3.3
	baz=255							
TWG	**Pinlang**	**1.81**	**225**	*e*P		Pn	19 51 17.0	-0.1
	baz=234							
TWG				*e*S		Sn	19 51 37.2	-1.6
	baz=234							
TTN	**Taitung**	**1.81**	**222**	*e*S		Sn	19 51 38.5	-0.3
	baz=212							
STYT	**Tauyuan**	**1.82**	**239**	*e*P		Pn	19 51 18.5	+1.1
	baz=229							
STYT				*e*S		Sn	19 51 40.1	+0.8
	baz=229							
WTP	**Ta-pu**	**1.89**	**243**	*e*P		Pn	19 51 20.1	+1.8
	baz=241							
WTP				*e*S		Sn	19 51 44.2	+3.2
	baz=241							
CHN2	**Minshiung**	**1.90**	**253**	*e*S		Sn	19 51 45.4	+4.3
	baz=251							
CHY	**Chiayi**	**1.96**	**252**	*e*S		Sn	19 51 45.7	+3.3
	baz=250							
TWK	**Hsinying**	**1.99**	**245**	*e*P		Pn	19 51 21.6	+1.9
	baz=243							
TWK				*e*S		Sn	19 51 45.8	+2.4
	baz=243							
CHN1	**Nanshi**	**1.99**	**243**	*e*P		Pn	19 51 21.9	+2.2
	baz=241							
CHN1				*e*S		Sn	19 51 46.9	+3.5
	baz=241							
SGST	**Jiashian**	**2.00**	**239**	*e*P		Pn	19 51 22.2	+2.4
	baz=227							
SGST				*e*S		Sn	19 51 46.8	+3.2
	baz=227							
WTCT	**Ta-ch'eng**	**2.00**	**263**	*e*P		Pn	19 51 22.8	+3.1
	baz=275							
ECL	**Taimali**	**2.04**	**223**	*e*P		Pn	19 51 20.3	-0.1
	baz=231							
ECL				*e*S		Sn	19 51 42.5	-2.1
	baz=231							
WSF	**Szhu**	**2.10**	**257**	*e*S		Sn	19 51 49.5	+3.7
	baz=256							
SSD	**Sandimen**	**2.16**	**231**	*e*P		Pn	19 51 23.9	+1.9
	baz=223							
CHN8	**Yiju**	**2.19**	**250**	*e*P		Pn	19 51 25.8	+3.4
	baz=248							
CHN8				*e*S		Sn	19 51 51.1	+2.9
	baz=248							
LAY	**Lan-yu**	**2.23**	**202**	*e*S		Sn	19 51 45.9	-3.3
	baz=200							
TWM1	**Shoushan**	**2.26**	**236**	*e*P		Pn	19 51 27.8	+4.3
	baz=235							

EAST	**Anshuo**	**2.27 221**	*e*P	Pn	19 51 24.8	+1.3
	baz=227							
EAST			*e*S	Sn	19 51 49.1	-1.2
	baz=227							
SCLT	**Jiali**	**2.27 246**	*e*S	Sn	19 51 52.0	+1.8
	baz=245							
SCZT	**Fangliau**	**2.42 225**	*e*P	Pn	19 51 28.2	+2.7
	baz=222							
SCZT			*e*S	Sn	19 51 54.9	+1.0
	baz=222							
HEN	**Hengchun**	**2.63 217**	*e*S	Sn	19 51 59.3	+0.3
	baz=215							
TSEB	**Hengchuen, Pin**	**2.63 213**	*e*S	Sn	19 51 59.9	+0.9
	baz=212							
TWK1	**Hengchun**	**2.64 215**	*e*S	Sn	19 51 58.7	-0.6
	baz=221							
PNG	**Penghu**	**2.71 259**	*e*P	Pn	19 51 30.1	+0.6
	baz=257							
PNG			*e*S	Sn	19 52 02.6	+1.6
	baz=257							
KNM	**Kinmen**	**3.68 276**	*e*S	Sn	19 52 26.9	+1.9
	baz=262							

IDC ***11*** *19:52:42.6±0.6, 3.°93N×126.°53E, h0km, mb4.3/19, mb1 4.4/19, mb1mx4.3/25, mbtmp4.3/19, Error ellipse: s-maj=37.1km s-min=12.7km az=73.0*
ISCJB ***11*** *19:52:46.9±0.5, 3.°89N±0.°08×126.°6E±0.°1, h45km, mb4.3/19, Error ellipse: s-maj=21.8km s-min=9.0km az=156.1*

ISC 11 19:52:48.9±0.6, 3.°9N±0.°1×126.°6E±0.°2, h45km, n39, σ0s77/38, mb4.5/28, 2C-5D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.02 325**		⇑*i*P	Pn	19 53 54.4	+6.4
FITZ	**Fitzroy Crossi**	**21.88 182**		P	**P**	**19 57 37.2**	**-0.9**
	3.4nm,0.6s,baz=11,slow=10,SNR=4.7						
WRA	**Warramunga Arr**	**24.90 162**		P	**P**	**19 58 06.7**	**-1.1**
	12nm,0.7s,baz=338,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**28.32 166**		P	**P**	**19 58 37.4**	**-1.2**
	0.8nm,0.6s,baz=348,slow=8.5,SNR=3.0						
CMAR	**Chiang Mai Arr**	**30.63 300**		P	**P**	**19 58 59.2**	**0.0**
	3.4nm,0.8s,baz=111,slow=6.8,SNR=14						
KSRS	**Korea Array**	**33.42 2**		P	**P**	**19 59 23.6**	**+0.2**
	0.6nm,0.5s,baz=180,slow=9.9,SNR=4.1						
NWAO	**Narrogin (SRO)**	**37.67 193**		P	**P**	**20 00 01.2**	**+1.2**
	14nm,0.9s,baz=36,slow=7.5,SNR=5.6						
STKA	**Stephens Creek**	**38.35 159**		P	**P**	**20 00 05.4**	**-0.3**
	2.8nm,0.4s,baz=317,slow=7.2,SNR=6.2						
TAPN	**Taplejung**	**43.77 306**		*e*P	**P**	**20 00 51.1**	**+0.3**
	19nm,0.6s						
ODAN	**Odare**	**43.83 305**		*e*P	**P**	**20 00 52.1**	**+0.9**
	15nm,0.7s						
RAMN	**Ramite**	**44.51 305**		*e*P	**P**	**20 00 57.0**	**+0.4**
	9.2nm,0.6s						
JIRN	**Jiri**	**45.13 306**		*e*P	**P**	**20 01 02.1**	**+0.4**
	2.8nm,0.6s						
GUN	**Gumba**	**45.48 306**		*e*P	**P**	**20 01 04.8**	**+0.3**
	20nm,0.7s						
PKI	**Pulchoki**	**45.73 305**		*e*P	**P**	**20 01 06.2**	**-0.2**
KKN	**Kakani**	**45.92 306**		*e*P	**P**	**20 01 07.9**	**+0.1**
	5.8nm,0.5s						
DMN	**Daman**	**45.99 305**		*e*P	**P**	**20 01 08.5**	**+0.1**
	11nm,0.8s						
GKN	**Gorkha**	**46.52 306**		*e*P	**P**	**20 01 12.5**	**0.0**
	5.7nm,0.5s						
SONM	**Songino Array**	**47.08 342**		P	**P**	**20 01 15.6**	**-0.9**
	1.6nm,0.7s,baz=149,slow=10,SNR=6.5						
SONM				PcP	**PcP**	**20 02 48.7**	**+0.8**
	1.4nm,0.8s,baz=163,slow=3.2,SNR=4.3						
DANN	**Dangsing**	**47.37 306**		*e*P	**P**	**20 01 19.4**	**+0.1**
	36nm,0.7s						
MKAR	**Makanchi Array**	**57.32 325**		P	**P**	**20 02 32.4**	**0.0**
	3.1nm,0.5s,baz=119,slow=8.0,SNR=14						
MKAR				PcP	**PcP**	**20 03 27.0**	**+0.9**
	3.0nm,0.8s,baz=115,slow=4.6,SNR=7.3						
ZALV	**Zalesovo Beam**	**60.36 333**		P	**P**	**20 02 51.9**	**-1.4**
	2.1nm,0.5s,baz=123,slow=6.4,SNR=11						
KURBB	**Kurchatov Arra**	**61.50 327**		P	**P**	**20 03 00.9**	**-0.3**
	2.6nm,0.4s,baz=127,slow=6.6,SNR=12						
BVAR	**Borovoye Array**	**67.08 327**		P	**P**	**20 03 37.4**	**-0.3**
	1.8nm,0.6s,baz=138,slow=9.9,SNR=8.4						
AKTO	**Aktyubinsk**	**73.42 322**		P	**P**	**20 04 16.4**	**-0.1**
	2.9nm,0.7s,baz=111,slow=13,SNR=10						
ILAR	**Eielson Array**	**85.03 25**		P	**P**	**20 05 20.6**	**+1.1**
	0.4nm,0.7s,baz=243,slow=6.0,SNR=1.2						
BRTR	**Keskin Array B**	**89.78 310**		P	**P**	**20 05 42.4**	**-0.8**
	1.7nm,0.8s,baz=113,slow=5.1,SNR=7.2						
ARCES	**ARCESS Array B**	**90.23 340**		P	**P**	**20 05 44.2**	**-0.3**
	2.2nm,0.6s,baz=74,slow=4.1,SNR=5.6						
FINES	**FINESS Array B**	**91.60 332**		P	**P**	**20 05 50.5**	**-0.5**
	3.6nm,0.9s,baz=76,slow=5.6,SNR=7.7						
MANR	**Mangalia**	**93.06 314**		⇓*i*P	P	20 06 04.5	+6.4
TESR		**93.99 317**		⇑*i*P	**P**	**20 06 01.5**	**-0.9**
PLOR	**Plostina**	**94.11 316**		⇓*i*P	**P**	**20 06 02.5**	**-0.4**
MLR	**Muntele Rosu**	**94.66 316**		P	**P**	**20 06 06.2**	**+0.6**
	0.7nm,0.8s,baz=279,slow=4.4,SNR=5.6						
BURAR	**Bucovina Array**	**94.76 318**		⇓*i*P	**P**	**20 06 06.7**	**+0.7**
DRGR		**96.60 318**		⇓*i*P	**P**	**20 06 14.2**	**-0.1**
NOA	**NORSAR Array B**	**96.58 334**		P	**P**	**20 06 21.6**	**-1.2**
	0.7nm,0.8s,baz=53,slow=2.0,SNR=3.4						
GERES	**GERESS Array B**	**101.84 322**		P	**Pdif**	**20 06 37.9**	**+0.1**
	0.4nm,0.7s,baz=50,slow=3.1,SNR=4.2						
AQU	**L'Aquila**	**104.20 315**		⇓*i*P		20 23 06.1	
TORD	**Torodi Ar. Bea**	**122.69 288**		PKP	**PKPdf**	**20 11 40.9**	**0.0**
	0.4nm,0.7s,baz=54,slow=2.0,SNR=3.4						
CPUP	**Villa Florida**	**157.38 171**		PKPab	**PKPab**	**20 13 14.1**	**+2.0**
	2.4nm,0.7s,baz=167,slow=2.3,SNR=6.3						

IDC 11 19:53:40.7±1.7, 3.°84N×126.°67E, h0km, mb4.2/5, mb1 4.4/5, mb1mx3.9/21, mbtmp4.2/5, Error ellipse: s-maj=201.7km s-min=19.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.80 163**		P	P	19 59 04.8	+0.1
	15nm,0.6s,baz=342,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**28.23 166**		P	P	19 59 35.9	+0.3
	1.0nm,0.5s,baz=345,slow=7.0,SNR=3.3						
STKA	**Stephens Creek**	**38.25 159**		P	P	20 01 02.1	-0.6
	7.0nm,0.7s,baz=322,slow=9.2,SNR=5.2						
KURBB	**Kurchatov Arra**	**61.62 327**		P	P	20 03 59.4	-0.7
	0.7nm,0.5s,baz=127,slow=6.8,SNR=2.2						
BVAR	**Borovoye Array**	**67.20 327**		P	P	20 04 37.3	+0.6
	0.9nm,0.8s,baz=77,slow=7.8,SNR=2.0						

IDC 11 19:53:57.8±1.4, 3.°98N×126.°29E, h0km, mb4.3/9, mb1 4.3/9, mb1mx4.1/22, mbtmp4.3/9, Error ellipse: s-maj=186.3km s-min=16.5km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.06 162**		P	P	19 59 24.0	0.0
	4.1nm,0.4s,baz=339,slow=12,SNR=3.6						
ASAR	**Alice Springs**	**28.47 165**		P	P	19 59 54.5	-0.3
	1.3nm,0.6s,baz=344,slow=8.8,SNR=2.7						
STKA	**Stephens Creek**	**38.52 159**		P	P	20 01 22.3	+0.2
	4.1nm,0.5s,baz=335,slow=7.7,SNR=3.6						
SONM	**Songino Array**	**46.92 342**		P	P	20 02 30.5	+0.2
	1.6nm,0.9s,baz=157,slow=7.2,SNR=3.9						
MKAR	**Makanchi Array**	**57.10 325**		P	P	20 03 45.6	-0.5
	1.8nm,0.6s,baz=117,slow=7.8,SNR=4.2						
ZALV	**Zalesovo Beam**	**60.16 333**		P	P	20 04 05.8	-1.5
	1.0nm,0.5s,baz=127,slow=7.2,SNR=3.6						
KURBB	**Kurchatov Arra**	**61.29 327**		P	P	20 04 15.4	+0.5
	5.4nm,0.8s,baz=124,slow=6.3,SNR=6.1						
BVAR	**Borovoye Array**	**66.87 327**		P	P	20 04 52.3	+0.6
	2.1nm,0.9s,baz=125,slow=9.0,SNR=3.4						
AKTO	**Aktyubinsk**	**73.19 322**		P	P	20 05 30.7	+0.2
	1.3nm,0.6s,baz=90,slow=10,SNR=4.7						

IDC 11 19:55:27.9±0.8, 3.°76N×126.°74E, h0km, mb4.1/9, mb1 4.2/9, mb1mx3.9/21, mbtmp4.1/9, Error ellipse: s-maj=63.5km s-min=16.6km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.70 163**		P	P	20 00 50.3	-0.7
	1.8nm,0.3s,baz=336,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**28.14 166**		P	P	20 01 23.3	+1.4
	0.5nm,0.7s,baz=341,slow=11,SNR=2.7						
STKA	**Stephens Creek**	**38.15 159**		P	P	20 02 48.5	-0.6
	2.8nm,0.7s,baz=346,slow=10,SNR=3.3						
SONM	**Songino Array**	**47.28 341**		P	P	20 04 02.4	-0.8
	1.0nm,0.6s,baz=146,slow=6.8,SNR=2.9						
PETK	**Petropavlovsk-**	**55.40 22**		P	P	20 05 04.3	+0.4
	7.0nm,1.1s,baz=182,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**57.54 325**		P	P	20 05 20.3	+1.0
	1.8nm,0.5s,baz=120,slow=7.7,SNR=6.9						
ZALV	**Zalesovo Beam**	**60.57 333**		P	P	20 05 38.7	-1.4
	0.8nm,0.4s,baz=130,slow=7.0,SNR=4.4						
KURBB	**Kurchatov Arra**	**61.72 327**		P	P	20 05 48.0	0.0
	1.2nm,0.5s,baz=130,slow=5.7,SNR=7.8						
BVAR	**Borovoye Array**	**67.31 327**		P	P	20 06 24.7	+0.2
	1.7nm,0.9s,baz=127,slow=6.0,SNR=4.0						

BJI ***11*** *19:56:42.9, 3.°50N×126.°63E, h32km, mB5.9/13, mb5.4/52, Ms5.4/19, Ms7 5.2/15*
IDC ***11*** *19:56:43.3±0.3, 3.°91N×126.°56E, h0km, mb5.2/42, mb1 5.2/42, mb1mx5.2/43, mbtmp5.2/42, MS4.7/1, Ms1 4.7/1, ms1mx4.2/47, Error ellipse: s-maj=14.5km s-min=8.4km az=72.0*
MOS ***11*** *19:56:46.7±0.9, 3.°91N×126.°60E, h33km, mb5.6/66, Error ellipse: s-maj=9.9km s-min=4.7km az=115.9*
ISCJB ***11*** *19:56:46.4±0.1, 4.°03N±0.°02×126.°75E±0.°03, h31km, mb5.4/154, MS5.1/10, Error ellipse: s-maj=4.1km s-min=3.1km az=160.9*
NEIC ***11*** *19:56:48.6±0.2, 3.°96N×126.°66E, h35km, mb5.5/62, Error ellipse: s-maj=6.6km s-min=4.0km az=69.0*
NEIC Felt [IV] in the Kepulauan Talaud.
DJA ***11*** *19:56:54, 3.°82N×126.°85E, h69km, mb5.2/47*

ISC 11 19:56:48.3±0.4, 4.°00N±0.°04×126.°65E±0.°05, h31km±2km, h30km: pP-P, n546, σ1s26/543, mb5.5/151, MS5.1/10, 54C-28D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.68 321**		*e*P	**Pb**	**19 57 34.1**	**-1.6**
MATI	**Mati**	**2.96 352**		*e*P	**Pb**	**19 57 38.7**	**-1.6**
MNI	**Manado**	**3.12 216**		P	Pn	19 57 39.2	+3.8
DAV	**Davao City (W)**	**3.23 341**		Pn	**Pb**	**19 57 42.3**	**-2.7**
DAV	**Davao City (W)**	**3.23 341**		P	**Pb**	**19 57 46.2**	**+1.1**
DAV	**Davao City (W)**	**3.23 341**		Pn	**Pb**	**19 57 42.3**	**-2.7**
	0.3nm,0.3s,baz=248,slow=13,SNR=7.0						
DMPH	**Davao City--Mi**	**3.27 340**		⇑*e*P	**Pb**	**19 57 43.1**	**-2.6**
TNTI	**Ternate**	**3.28 167**		P	**Pn**	**19 57 38.5**	**+0.8**
KCP	**Kidapawan**	**3.37 333**		⇓*e*P	**Pb**	**19 57 46.9**	**-0.6**
KCP				*i* S	Sb	19 58 35.5	+7.5
CTBH	**Cotabato--PC H**	**4.00 323**		⇑*i*P	Pn	19 57 51.9	+4.3
BUKP	**Musuan**	**4.17 338**		*e*P	Pb	19 57 56.2	-4.8
KMSI	**Cibinong**	**4.32 218**		P	Pb	19 57 58.1	-5.5
LBMI	**Labuha**	**4.68 170**		P	**Pn**	**19 57 58.9**	**+1.9**
PAGZ	**Pagadian**	**5.02 320**		*e*P	Pn	19 58 05.6	+4.0
BUTP	**Butuan**	**5.04 348**		*e*P	Pn	19 58 07.9	+6.0
IPIL	**Ipil**	**5.54 313**		*e*P	Pn	19 58 12.8	+4.1
MRSI	**Marisa**	**5.86 233**		P	Pn	19 58 16.6	+3.4
	1μm,1.0s,11μm4.6nm						
LUWI	**Luwuk**	**6.33 218**		P	Pn	19 58 27.6	+8.0
	2μm,1.1s,17μm6.7nm						
MSLP	**Maasin**	**6.35 344**		*e*P	Pn	19 58 25.1	+5.2
LLP	**Lapu-Lapu**	**6.82 337**		*e*P	Pn	19 58 30.9	+4.6
LLP				*e*S	Sn	19 59 53.6	+11
OCLP	**Ormoc**	**7.29 344**		*e*P	Pn	19 58 40.2	+7.4
PLP	**Palo**	**7.31 347**		⇓*e*P	Pn	19 58 39.3	+6.2
MSAI	**Masohi**	**7.64 163**		P	Pn	19 58 43.1	+5.5
	63nm,0.8s,662nm0.2nm						
GUIM	**Jordan**	**7.72 329**		*e*P	Pn	19 58 45.8	+7.1
AAI	**Ambon**	**7.79 169**		P	Pn	19 58 47.0	+7.4
	244nm,1.3s,4μm1.0nm						
CNP	**Catarman**	**8.68 347**		*e*P	Pn	19 59 06.0	+14
TSM	**Tawau**	**8.76 272**		P	Pn	19 58 57.0	+4.0
CUYO	**Cuyo Island**	**8.80 321**		*e*P	Pn	19 58 58.1	+4.5
FAKI	**Fak Fak**	**8.86 141**		P	**Pn**	**19 58 54.9**	**+0.5**
	239nm,1.0s,0.7nm						
KDI	**Kendari**	**8.87 207**		P	**Pn**	**19 58 57.4**	**+2.9**
	167nm,0.9s						
SDKM	**Sandakan**	**9.56 280**		P	Pn	19 59 09.0	+4.9
SDKM	**Sandakan**	**9.56 280**		P	Pn	19 59 08.5	+4.4
TTSI	**Tana Toraja**	**9.78 224**		P	Pn	19 59 10.7	+3.8
	338nm,1.1s,5μm						
BATP	**Bataraza**	**10.00 299**		*e*P	Pn	19 59 15.1	+5.0
ENPP	**El Nido**	**10.13 315**		*e*P	Pn	19 59 17.0	+5.3
KDM	**Kudat**	**10.19 287**		P	Pn	19 59 19.7	+7.1
KDM	**Kudat**	**10.19 287**		P	Pn	19 59 19.7	+7.1
SPSI	**Sidrap Palu**	**10.48 221**		P	Pn	19 59 22.7	+6.1
	130nm,1.0s						
KKM	**Kota Kinabalu**	**10.59 281**		*e*P	Pn	19 59 24.3	+6.1
	93nm,0.8s						
KKM	**Kota Kinabalu**	**10.59 281**		P	Pn	19 59 24.7	+6.5
KKM	**Kota Kinabalu**	**10.59 281**		P	Pn	19 59 25.0	+6.8
	173nm,1.9s,3μm						
BAKI	**Biak**	**10.76 118**		P	**Pn**	**19 59 22.9**	**+2.4**
	452nm,1.4s,6μm						
KAPI	**Kappang**	**11.30 218**		Pn	**Pn**	**19 59 30.2**	**+2.4**
KAPI	**Kappang**	**11.30 218**		P	Pn	19 59 37.2	+9.4
KAPI	**Kappang**	**11.30 218**		Pn	**Pn**	**19 59 30.2**	**+2.4**
	2.8nm,0.3s,baz=64,slow=10,SNR=9.1						
KAPI				LR	LR	20 04 18.5	
	comp=Z,4μm,19.7s,baz=190,slow=41						
BKSI	**Bulukumba**	**11.32 215**		P	Pn	19 59 43.2	+15
TLE	**Tual**	**11.34 148**		P	**Pn**	**19 59 30.4**	**+2.1**
	352nm,1.1s,6μm						
TGY	**Tagaytay City**	**11.51 331**		Pn	Pn	19 59 38.3	+7.6
TGY	**Tagaytay City**	**11.51 331**		Pn	Pn	19 59 38.3	+7.6
	27nm,0.3s,baz=131,slow=11,SNR=7.8						
TGY				LR	LR	20 04 53.6	
	comp=Z,48nm,18.6s,baz=30,slow=42						
KBKI	**Kotabaru**	**12.74 235**		P	P	19 59 54.1	-4.2
	102nm,1.1s						
SMPI	**Sarmi**	**13.44 116**		P	**Pn**	**19 59 58.2**	**+1.1**
	156nm,1.9s,7μm						
BTM	**Bintulu**	**13.56 267**		P	P	20 00 03.6	-3.9
BBKI	**Banjar Baru**	**13.94 238**		P	**P**	**20 00 13.4**	**+1.8**
	428nm,1.6s,7μm						
SBUM	**Sibu**	**14.49 264**		P	**P**	**20 00 16.4**	**-1.3**
SBUM	**Sibu**	**14.49 264**		P	**P**	**20 00 16.5**	**-1.3**
	205nm,1.2s,3μm						
WSI	**Waingapu**	**14.98 205**		P	**P**	**20 00 22.8**	**-0.4**
	390nm,1.1s,7μm						
JAY	**Jayapura**	**15.46 115**		P	**P**	**20 00 27.1**	**-1.5**
	204nm,1.0s,4μm						
STKI	**Sintang**	**15.66 256**		P	**P**	**20 00 32.1**	**+1.4**
	101nm,1.2s,7μm						
KHKI	**Kang-Kahang**	**16.50 222**		P	P	20 00 47.2	+7.2
KSM	**Kuching**	**16.52 262**		*e*P	**P**	**20 00 41.7**	**+1.4**
	162nm,1.0s						
KSM	**Kuching**	**16.52 262**		P	**P**	**20 00 42.6**	**+2.4**
KSM	**Kuching**	**16.52 262**		P	**P**	**20 00 42.9**	**+2.6**
	170nm,1.0s						
IGBI	**Denpasar**	**17.14 222**		P	P	20 00 58.3	+11
BLJI	**Banyuglugur**	**17.49 228**		P	P	20 00 58.8	+7.8
	117nm,0.7s						
GMJI	**Gumukmas**	**17.95 227**		P	P	20 01 05.4	+9.3
SJI	**Sawahan**	**18.88 232**		P	**Pn**	**20 01 10.0**	**+2.8**
	163nm,0.8s						
PWJI	**Pagerwojo**	**19.02 231**		P	Pn	20 01 20.5	+12
TWG	**Pinlang**	**19.48 344**		*e*P	**P**	**20 01 10.9**	**-1.9**
	96nm,0.6s						
YULB	**Yu-li**	**19.96 345**		*e*P	**P**	**20 01 16.1**	**-2.0**
	69nm,0.4s						
TPUB	**Ta-pu**	**20.05 344**		*e*P	**P**	**20 01 17.9**	**-1.2**
	257nm,0.8s						
GUMO	**Guam**	**20.35 61**		P	**P**	**20 01 23.1**	**+0.7**
GUMO	**Guam**	**20.35 61**		P	**P**	**20 01 23.1**	**+0.7**
	23nm,0.3s,baz=198,slow=16,SNR=3.6						
SSLB	**Suanglung**	**20.43 345**		*e*P	**P**	**20 01 21.2**	**-2.1**
	114nm,0.7s						
YHNB	**Yeheng**	**21.17 347**		*e*P	**P**	**20 01 30.6**	**-0.8**
	104nm,0.6s						
PPBI	**Pangkal Pinang**	**21.40 254**		P	P	20 01 41.3	+7.5
	51nm,0.9s						
TATO	**Taipei**	**21.44 347**		*e*P	**P**	**20 01 34.3**	**+0.2**
	49nm,0.6s						
LEM	**Lembang**	**21.83 241**		P	**P**	**20 01 41.6**	**+3.0**
	99nm,1.2s,3μm						
FITZ	**Fitzroy Crossi**	**21.98 183**		P	**P**	**20 01 38.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**21.98 183**		*e*P	**P**	**20 01 38.3**	**-1.7**
	127nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.98 183**		P	**P**	**20 01 38.9**	**-1.1**
	28nm,0.6s,baz=25,slow=8.2,SNR=16						
QIZ	**Qiongzhong**	**22.20 314**		*e*P	**P**	**20 01 43.3**	**+1.0**
	51nm,0.9s						
QZH	**Quanzhou**	**22.22 340**		⇑*i*P	**P**	**20 01 43.0**	**+0.5**
QZH				S	Sn	20 05 52.9	-5.0
QZH				pmax	pmax		
	comp=Z,180nm,0.8s						
QZH				LR	LR		
	comp=N,6μm,15.4s						
QZH				LR	LR		
	comp=E,2μm,15.8s						
QZH				LR	LR		
	comp=Z,11μm,21.1s						
JOW	**Kunigami**	**22.76 4**		P	**P**	**20 01 48.5**	**+0.3**
JOW	**Kunigami**	**22.76 4**		P	**P**	**20 01 48.5**	**+0.3**
	comp=Z,38nm,0.7s,baz=196,slow=8.1,SNR=14						
MYKOM	**Kota Tinggi**	**22.88 265**		P	**P**	**20 01 52.8**	**+3.2**
MYKOM	**Kota Tinggi**	**22.88 265**		P	**P**	**20 01 52.0**	**+2.4**
	comp=Z,85nm,1.3s						
GZH	**Guangzhou**	**22.93 327**		P	**P**	**20 01 52.9**	**+2.9**
GZH				LR	LR		
	comp=N,3μm,17.8s						
GZH				LR	LR		
	comp=E,4μm,19.5s						
KGM	**Kluang**	**23.38 266**		P	**P**	**20 01 56.9**	**+2.2**
KGM	**Kluang**	**23.38 266**		P	**P**	**20 01 56.7**	**+2.0**
CGJI	**Cibinong**	**23.43 243**		P	**P**	**20 01 54.7**	**-0.4**
	comp=E,158nm,1.1s						
KASI	**Kota Agung**	**24.06 247**		P	**P**	**20 02 03.0**	**+1.8**
	comp=E,90nm,1.1s						
COEN	**Coen**	**24.23 138**		*e*P	**P**	**20 01 59.1**	**-3.6**
	comp=E,245nm,0.9s						
LWLI	**Liwa**	**24.28 249**		P	P	20 02 09.8	+6.5
	comp=E,166nm,1.1s,comp=E,2μm						
PMG	**Port Moresby**	**24.39 123**		P	**P**	**20 02 00.6**	**-3.6**
PMG	**Port Moresby**	**24.39 123**		P	**P**	**20 02 01.4**	**-2.8**
	comp=E,77nm,1.1s						
PMG	**Port Moresby**	**24.39 123**		P	**P**	**20 02 00.6**	**-3.6**
	comp=E,52nm,1.1s,baz=333,slow=8.3,SNR=13						
WRAB	**Tennant Creek**	**24.96 163**		*e*P	**P**	**20 02 07.7**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,253nm,1.0s						
WRAB	**Tennant Creek**	**24.96 163**		*e*P	**P**	**20 02 07.7**	**-1.6**
	comp=Z,253nm,1.0s						
WRA	**Warramunga Arr**	**24.96 163**		P	**P**	**20 02 07.5**	**-1.8**
WRA	**Warramunga Arr**	**24.96 163**		P	**P**	**20 02 07.5**	**-1.8**
	comp=Z,184nm,0.9s,baz=338,slow=11,SNR=62						
FRIM	**Kepong**	**24.99 269**		P	**P**	**20 02 11.8**	**+2.2**
KSI	**Kapahiang**	**25.21 253**		P	P	20 02 19.1	+7.4
	comp=Z,93nm,0.9s						
IPM	**Ipoh**	**25.56 272**		*e*P	**P**	**20 02 14.5**	**-0.3**
	comp=Z,300nm,1.5s						
IPM	**Ipoh**	**25.56 272**		P	**P**	**20 02 17.1**	**+2.3**
IPM	**Ipoh**	**25.56 272**		P	**P**	**20 02 17.8**	**+3.0**
IPM	**Ipoh**	**25.56 272**		P	**P**	**20 02 17.0**	**+2.2**
	comp=Z,118nm,1.5s						
MBWA	**Marble Bar**	**25.91 195**		*e*P	**P**	**20 02 17.0**	**-0.8**
	comp=Z,54nm,0.9s						
PPI	**Padang Panjang**	**26.61 261**		P	**P**	**20 02 27.0**	**+2.7**
	comp=Z,74nm,1.3s						
MNSI	**Mandailing Nat**	**27.23 264**		P	P	20 02 37.4	+7.5
	comp=Z,125nm,1.1s						
CBIJ	**Chichi jima**	**27.35 31**		P	**P**	**20 02 29.8**	**-1.0**
CBIJ	**Chichi jima**	**27.35 31**		P	**P**	**20 02 29.8**	**-1.0**
	comp=Z,97nm,0.6s,baz=285,slow=20,SNR=3.4						
PSI	**Prapat**	**27.70 268**		P	**P**	**20 02 34.9**	**+0.6**
PSI				ScP	**ScP**	**20 09 29.1**	**-0.6**
PSI	**Prapat**	**27.70 268**		P	**P**	**20 02 34.7**	**+0.4**
	comp=Z,49nm,1.2s						
PSI	**Prapat**	**27.70 268**		P	**P**	**20 02 34.9**	**+0.6**
	comp=Z,22nm,1.0s,baz=135,slow=3.2,SNR=10						
PSI				ScP	**ScP**	**20 09 29.1**	**-0.6**
	comp=Z,3.1nm,0.4s,baz=308,slow=19,SNR=4.2						
AS31	**Alice Springs**	**28.39 166**		*e*P	**P**	**20 02 38.5**	**-1.7**
ASAR	**Alice Springs**	**28.39 166**		P	**P**	**20 02 39.5**	**-0.6**
ASAR				S	**S**	**20 07 26.8**	**+1.4**
ASAR				ScP	**ScP**	**20 09 31.9**	**+0.4**
ASAR	**Alice Springs**	**28.39 166**		P	**P**	**20 02 39.5**	**-0.6**
	comp=Z,4.9nm,0.4s,baz=339,slow=7.7,SNR=16						
ASAR				S	**S**	**20 07 26.8**	**+1.4**
	comp=Z,4.5nm,1.0s,baz=349,slow=19,SNR=4.5						
ASAR				ScP	**ScP**	**20 09 31.9**	**+0.4**
	comp=Z,3.3nm,0.9s,baz=345,slow=3.2,SNR=4.8						
WHN	**Wuhan**	**28.85 338**		P	**P**	**20 02 45.1**	**+1.0**
WHN				S	**S**	**20 07 37.5**	**+5.2**
WHN				pmax	pmax		
	comp=Z

comp=Z,1µm,24.3s
FORT Forrest 34.61 178 *e*P **P 20 03 34.6 -0.1**
comp=Z,81nm,0.8s
FORT Forrest 34.61 178 *e*P **P 20 03 34.2 -0.5**
comp=Z,64nm,0.7s
DL2 Dalian 35.05 353 ⇑P **P 20 03 39.5 +1.1**
DL2 pmax pmax
comp=Z,110nm,1.2s
HNR Honiara 35.76 112 P **P 20 03 44.7 -0.2**
HNR Honiara 35.76 112 P **P 20 03 44.7 -0.2**
comp=Z,36nm,0.6s,baz=113,slow=15,SNR=3.5
KLBR Kellerberrin 36.39 193 *e*P **P 20 03 48.8 -1.3**
comp=Z,14nm,0.4s
BJT Baijiatuan 37.09 347 *e*P **P 20 03 56.5 +0.6**
comp=Z,118nm,0.6s
BJI Beijing 37.11 347 P **P 20 03 56.4 +0.4**
BJI pmax pmax
comp=Z,140nm,0.8s
BJI pmax pmax
comp=Z,1µm,4.3s
EIDS Eidsvold 37.61 142 *e*P **P 20 03 58.5 -2.0**
comp=Z,71nm,0.9s
IMP Imphal 37.65 306 *ex* PcP 20 06 13.0 -5.2
BBOO Buckleboo 37.68 167 *e*P **P 20 04 00.8 -0.2**
comp=Z,421nm,0.7s
SNY Shenyang 37.77 356 ⇑P **P 20 04 02.7 +1.1**
SNY pmax pmax
comp=Z,58nm,1.1s
NWAO Narrogin (SRO) 37.79 193 P **P 20 04 00.7 -1.2**
NWAO Narrogin (SRO) 37.79 193 P **P 20 04 00.7 -1.2**
comp=Z,18nm,0.7s,baz=22,slow=8.0,SNR=17
LZH Lanzhou 38.23 330 *e*P **P 20 04 06.5 +0.6**
LZH pP **pP 20 04 15.8 +0.9**
LZH sP **sP 20 04 18.5 -0.1**
LZH pmax pmax
comp=Z,170nm,1.0s
LZH pmax pmax
comp=Z,500nm,4.8s
LZH LR LR
comp=N,1µm,13.0s
LZH LR LR
comp=E,2µm,16.8s
LZH LR LR
comp=Z,3µm,19.3s
STKA Stephens Creek 38.41 159 P **P 20 04 06.3 -0.8**
STKA PcP **PcP 20 06 19.9 -0.4**
STKA Stephens Creek 38.41 159 *e*P **P 20 04 06.1 -1.0**
comp=Z,46nm,0.6s
STKA Stephens Creek 38.41 159 P **P 20 04 06.3 -0.8**
comp=Z,78nm,0.7s,baz=334,slow=8.2,SNR=40
STKA PcP **PcP 20 06 19.9 -0.4**
comp=Z,7.2nm,0.6s,baz=323,slow=8.1,SNR=3.3
VLA Vladivostok 39.23 6⇑*i*P **P 20 04 14.2 +0.3**
VLA S **S 20 10 13.2 +0.8**
VLA pmax pmax
comp=Z,72nm,1.3s
BTO Baotou 39.41 340 *e*P **P 20 04 13.5 -2.0**
CN2 Changchun 39.65 359 *e*P **P 20 04 17.6 +0.2**
CN2 *e*pP **pP 20 04 27.4 +0.9**
CN2 *e*sP **sP 20 04 31.4 +1.3**
CN2 PcP **PcP 20 06 25.4 +1.4**
CN2 *e*S **S 20 10 20.8 +2.1**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,2µm,19.0s
CN2 LR LR
comp=E,2µm,19.0s
CN2 LR LR
comp=Z,2µm,19.0s
SHL Shillong 39.66 306 *e*PKP **P 20 04 18.0 +0.1**
SHL *e*S **S 20 10 19.0 -0.7**
USRK Ussuriysk Arra 40.31 6 P **P 20 04 24.2 +1.4**
comp=Z,21nm,0.8s,baz=191,slow=7.5,SNR=32
MDJ Mudanjiang 40.53 3 P **P 20 04 26.1 +1.4**
MDJ pmax pmax
comp=Z,74nm,1.2s
MDJ Mudanjiang 40.53 3 *e*P **P 20 04 25.7 +1.0**
comp=Z,80nm,1.0s
ARMA Armidale 41.73 147 *e*P **P 20 04 34.2 -0.7**
comp=Z,103nm,0.9s
ARMA Armidale 41.73 147 *e*P **P 20 04 34.4 -0.5**
LSA Lhasa 42.20 311 *e*P **P 20 04 39.5 +0.3**
LSA pmax pmax
comp=Z,91nm,0.7s
LSA Lhasa 42.20 311 *e*P **P 20 04 39.5 +0.3**
comp=Z,91nm,0.7s
ASAJ Asahikawa 42.36 17 P **P 20 04 40.8 +1.1**
ASAJ Asahikawa 42.36 17 P **P 20 04 40.8 +1.1**
comp=Z,15nm,0.6s,baz=232,slow=18,SNR=17
GTA Gaotai 42.83 329 ⇑P **P 20 04 43.8 0.0**
GTA pP **pP 20 04 53.4 +0.5**
GTA sP **sP 20 04 58.3 +1.7**
GTA PcP **PcP 20 06 36.1 +1.5**
GTA ScP **ScP 20 10 24.5 +0.8**
GTA S **S 20 11 06.1 -0.2**
GTA ScS **ScS 20 14 41.6 -1.3**
GTA pmax pmax
comp=Z,43nm,0.7s
GTA LR LR
comp=N,3µm,19.9s
GTA LR LR
comp=E,2µm,23.8s
GTA LR LR
comp=Z,5µm,22.3s
YUK Yuzh-Kuril'sk 43.33 20 P P 20 04 44.3 -3.2
YUK S **S 20 11 13.0 -0.2**
YUK pmax pmax
comp=Z,561nm,1.8s
YUK pmax pmax
comp=N,205nm,1.4s
YUK pmax pmax
comp=Z,453nm,1.4s
YUK pmax pmax
comp=Z,1µm,2.2s
YUK MLR MLR
comp=E,300nm,22.0s
YUK MLR MLR
comp=N,505nm,22.0s
YUK MLR MLR
comp=Z,2µm,22.0s
TAPN Taplejung 43.80 306 *e*P **P 20 04 51.6 -0.4**
comp=Z,48nm,0.6s
ODAN Odare 43.85 305 *e*P **P 20 04 51.9 -0.4**
comp=Z,93nm,0.7s
CAN Canberra 44.38 154 *e*P **P 20 04 56.4 +0.2**
CAN pmax pmax
comp=Z,71nm,1.3s
CAN Canberra 44.38 154 *e*P **P 20 04 56.4 +0.2**
comp=Z,71nm,1.3s
RAMN Ramite 44.53 305 *e*P **P 20 04 57.5 -0.3**
comp=Z,137nm,0.8s
CNB Canberra Magne 44.54 153 *e*P **P 20 04 58.6 +1.1**
comp=Z,143nm,1.2s
HABR Khabarovsk 44.89 8 *e*P **P 20 05 00.0 0.0**
HABR *e**SP **sP 20 05 11.8 -1.0**
HABR *e* 20 06 43.1
HABR *e*PPP PPP 20 07 21.7
HABR *e*S **S 20 11 35.8 0.0**
HABR *e**SS **sS 20 11 51.2 +0.3**
HABR *e* 20 14 52.1
HABR *e*SSS SSS 20 15 43.8
HABR pmax pmax
comp=N,45nm,1.8s
HABR pmax pmax
comp=Z,125nm,1.8s
HABR pmax pmax
comp=E,54nm,1.4s
HABR MLR MLR
comp=Z,1µm,18.0s
TOO Toolangi 44.92 159 *e*P **P 20 05 01.8 +1.4**
comp=Z,119nm,1.5s
YSS Yuzh-Sakhalins 45.01 16 *e*P **P 20 05 02.8 +1.9**
YSS Yuzh-Sakhalins 45.01 16 *e*P **P 20 05 00.6 -0.3**
comp=Z,28nm,0.8s
JIRN Jiri 45.15 306 *e*P **P 20 05 02.5 -0.4**
comp=Z,34nm,0.6s
KLR Kul'dur 45.28 5 *e*P **P 20 05 00.0 -3.1**
KLR pmax pmax
comp=Z,120nm,1.6s
HIA Hailar 45.49 354 *e*P **P 20 05 05.9 +1.1**
comp=Z,105nm,0.8s
GUN Gumba 45.51 306 *e*P **P 20 05 05.2 -0.5**
comp=Z,219nm,0.7s
PKI Pulchoki 45.75 305 *e*P **P 20 05 06.6 -1.0**
comp=Z,96nm,1.0s
KKN Kakani 45.94 305 *e*P **P 20 05 08.2 -0.8**
comp=Z,166nm,1.2s
DMN Daman 46.01 305 *e*P **P 20 05 08.8 -0.8**
comp=Z,74nm,0.9s
GKN Gorkha 46.55 305 *e*P **P 20 05 12.7 -1.0**
comp=Z,112nm,1.0s
DZM Mont Dzumac 46.75 125 *e*P P 20 05 09.3 -6.0
DZM Mont Dzumac 46.75 125 *e*P **P 20 05 14.8 -0.5**
comp=Z,30nm,0.8s
DZM Mont Dzumac 46.75 125 P **P 20 05 15.1 -0.1**
comp=Z,31nm,0.7s,baz=45,slow=2.9,SNR=25
ULN Ulaanbaatar 46.84 342 *e*P **P 20 05 16.0 +0.4**
comp=Z,48nm,1.0s
ULN Ulaanbaatar 46.84 342 P **P 20 05 16.4 +0.8**
SNR=24
SONM Songino Array 47.02 341 P **P 20 05 17.4 +0.4**
SONM PcP **PcP 20 06 49.4 +0.5**
SONM Songino Array 47.02 341 P **P 20 05 17.4 +0.4**
comp=Z,20nm,0.6s,baz=155,slow=8.6,SNR=72
SONM PcP **PcP 20 06 49.4 +0.5**
comp=Z,8.7nm,0.7s,baz=169,slow=6.0,SNR=3.9
KOLN Koldanda 47.31 305 *e*P **P 20 05 19.4 -0.3**
comp=Z,215nm,0.7s
DANN Dangsing 47.40 305 *e*P **P 20 05 19.7 -0.8**
comp=Z,196nm,0.6s
HYB Hyderabad 48.95 290 *i*P **P 20 05 31.5 -0.8**
CIT Chita 49.09 349 *e*P **P 20 05 34.4 +1.6**
CIT *e* 20 05 43.8
CIT pmax pmax
comp=Z,429nm,1.5s
NGP Nagpur 49.25 295 *e*PKP **P 20 05 33.7 -0.8**
ZAK Zakamensk 50.25 341 *e*P **P 20 05 41.4 -0.3**
ZAK pmax pmax
comp=Z,15nm,1.4s
LATR Latur 50.99 290 *e*PKP **P 20 05 47.5 -0.2**
AKL Akola 51.01 293 *e*PKP **P 20 05 47.0 -0.9**
AKL AMb AMB 20 05 48.3
comp=Z,81nm,1.5s
TLY Talaya 51.25 342 *e*P **P 20 05 49.7 +0.5**
TLY pmax pmax
comp=Z,38nm,0.7s
TLY Talaya 51.25 342 *e*P **P 20 05 49.6 +0.5**
comp=Z,38nm,0.7s
TLY Talaya 51.25 342 P **P 20 05 50.5 +1.3**
SNR=28
IRK Irkutsk 51.55 343 *e*P **P 20 05 52.1 +0.7**
IRK pmax pmax
comp=Z,103nm,1.9s
MOY Mondy 52.10 340 *e*P **P 20 05 56.1 +0.4**
WMQ Urumqi 52.46 325 P **P 20 05 58.4 0.0**
WMQ pP **pP 20 06 09.9 +2.2**
WMQ pmax pmax
comp=Z,55nm,0.8s
DDI Dehra Dun 52.75 305 *e*PKP **P 20 05 58.5 -2.3**
KAD Karad 53.05 289 *e*PKP **P 20 06 01.9 -1.3**
POO Poona 53.55 290 *e*PKP **P 20 06 05.7 -1.1**
POO AMb AMB 20 06 06.6
comp=Z,63nm,0.7s
SMLA Simla 53.74 306 *i*P **P 20 06 07.8 -0.1**
BOD Bodaibo 54.59 352 *e*P **P 20 06 14.4 +0.8**
BOD pmax pmax
comp=Z,53nm,1.3s
MSVF Nonsavu 55.09 115 *e*P **P 20 06 18.6 +0.5**
MSVF pmax pmax
comp=Z,68nm,1.1s
MSVF Nonsavu 55.09 115 *e*P **P 20 06 18.6 +0.5**
comp=Z,68nm,1.1s
PEA0B Petropavlovsk- 55.21 22 *e*P **P 20 06 18.5 +0.2**
PETK Petropavlovsk- 55.21 22 P **P 20 06 19.1 +0.8**
PETK pmax pmax
comp=Z,14nm,0.6s
PETK Petropavlovsk- 55.21 22 P **P 20 06 19.1 +0.8**
PETK Petropavlovsk- 55.21 22 P **P 20 06 19.1 +0.8**
comp=Z,14nm,0.6s,baz=191,slow=4.7,SNR=31
THN Thein Dam 55.35 307 *e*PKP **P 20 06 17.4 -2.2**
MK31 Makanchi Array 57.29 325 *e*P **P 20 06 32.9 -0.4**
MK31 Makanchi Array 57.29 325 *e*P **P 20 06 32.9 -0.4**
MKAR Makanchi Array 57.29 325 P **P 20 06 33.0 -0.3**
MKAR pmax pmax
comp=Z,48nm,0.6s
MKAR pmax pmax
comp=N,3.0nm,0.7s
MKAR Makanchi Array 57.29 325 P **P 20 06 33.0 -0.3**
MKAR ScP **ScP 20 11 28.7 +3.6**
MKAR Makanchi Array 57.29 325 P **P 20 06 33.0 -0.3**
comp=N,48nm,0.6s,baz=124,slow=8.0,SNR=89
MKAR ScP **ScP 20 11 28.7 +3.6**
comp=N,2.5nm,0.7s,baz=126,slow=5.7,SNR=4.8
YAK Yakutsk 57.94 2*c i*P **P 20 06 37.8 +0.3**
YAK *e* 20 07 26.9
YAK *e* 20 08 55.1
YAK pmax pmax
comp=Z,158nm,0.9s
YAK pmax pmax
comp=N,70nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=Z,376nm,6.1s
YAK pmax pmax
comp=N,272nm,4.7s
YAK pmax pmax
comp=E,104nm,3.7s
YAK Yakutsk 57.94 2 *e*P **P 20 06 38.0 +0.6**
comp=E,201nm,0.9s
KZA Kyzart 59.37 317 P **P 20 06 48.8 +0.4**
SNR=23
TKM2 Tokmak 2 59.49 318 *i*P **P 20 06 48.7 -0.2**
TKM2 Tokmak 2 59.49 318 *e*P **P 20 06 48.4 -0.5**
comp=E,29nm,0.9s
TKM2 Tokmak 2 59.49 318 P **P 20 06 48.8 -0.2**
SNR=17
KBK Karagaybulak 59.81 318 P **P 20 06 53.2 +2.1**
SNR=17
UCH Uchtor 59.92 317 P **P 20 06 54.1 +1.9**
SNR=9.7
CHMS Chumysh 60.09 318 P **P 20 06 52.5 -0.3**
SNR=17
AAK Ala-Archa 60.11 318*c i*P **P 20 06 52.7 -0.4**
AAK pmax pmax
comp=Z,107nm,1.6s
AAK Ala-Archa 60.11 318 P **P 20 06 52.9 -0.2**
AAK Ala-Archa 60.11 318 P **P 20 06 53.9 +0.8**
SNR=12
AAK Ala-Archa 60.11 318 P **P 20 06 54.3 +1.2**
SNR=14
AAK Ala-Archa 60.11 318 P **P 20 06 52.9 -0.2**
comp=Z,11nm,0.8s,baz=134,slow=5.2,SNR=24
ZAA0 Zalesovo Array 60.31 333 *e*P **P 20 06 53.0 -1.0**
ZALV Zalesovo Beam 60.31 333 P **P 20 06 53.1 -1.0**
ZALV pmax pmax
comp=Z,26nm,0.5s
ZALV Zalesovo Beam 60.31 333 P **P 20 06 53.1 -1.0**
ZALV Zalesovo Beam 60.31 333 P **P 20 06 53.1 -1.0**
comp=Z,26nm,0.5s,baz=131,slow=6.8,SNR=92
ZALV PKP2bc 20 36 25.9
comp=Z,0.3nm,0.5s,baz=262,slow=1.0,SNR=3.6
USP Ospenovka 60.37 318 P **P 20 06 54.5 -0.3**
SNR=34
AML Almayashu 60.44 317 P **P 20 06 56.1 +0.4**
SNR=40
EKS2 Erkin-Say 60.60 318 *e*P **P 20 06 56.5 +0.1**
EKS2 pmax pmax
comp=Z,113nm,1.4s
EKS2 Erkin-Say 60.60 318 *e*P **P 20 06 56.5 +0.1**
comp=Z,113nm,1.4s
EKS2 Erkin-Say 60.60 318 P **P 20 06 56.3 -0.2**
SNR=25
KBL Kabul 61.30 307 *e*P **P 20 07 00.3 -1.2**
KBL pmax pmax
comp=Z,58nm,0.9s
KBL Kabul 61.30 307 *e*P **P 20 07 00.3 -1.2**
comp=Z,58nm,0.9s
KURBB Kurchatov Arra 61.47 327 P **P 20 07 01.4 -0.6**
comp=Z,93nm,0.7s,baz=123,slow=6.3,SNR=105
KURK Kurchatov 61.47 327 P **P 20 07 01.5 -0.5**
KURK pmax pmax
comp=Z,93nm,0.7s
KURK Kurchatov 61.47 327 P **P 20 07 01.4 -0.5**
KURK Kurchatov 61.47 327 P **P 20 07 01.8 -0.2**
SNR=34
NVS Novosibirsk 61.60 333⇑*i*P **P 20 07 01.8 -1.0**
NVS *e*S **S 20 15 18.3 -4.5**
NVS *i* 20 16 48.4
NVS pmax pmax
comp=N,15nm,0.7s
NVS pmax pmax
comp=E,23nm,0.7s
NVS pmax pmax
comp=Z,30nm,0.7s
NVS smax smax
comp=N,19nm,1.8s
NVS smax smax
comp=E,35nm,1.8s
SEY Seymchan 61.79 13 *i*P **P 20 07 05.5 +1.6**
RPZ Rata Peaks 62.02 145 *e*P **P 20 07 04.8 -1.1**
comp=E,59nm,0.9s
URZ Urewera 62.79 137 *e*P **P 20 07 08.6 -2.4**
KKAR Karatay Array 62.98 317 *e*P **P 20 07 11.3 -1.0**
KKAR pmax pmax
comp=Z,44nm,0.9s
KKAR Karatay Array 62.98 317 *e*P **P 20 07 11.3 -1.0**
comp=Z,44nm,0.9s
AFI Afiamalu 63.60 108 *e*P **P 20 07 17.5 +0.6**
comp=Z,131nm,1.3s
BVAR Borovoye Array 67.05 327 P **P 20 07 38.0 -0.6**
BVAR pmax pmax
comp=Z,35nm,0.8s
BVAR Borovoye Array 67.05 327 P **P 20 07 38.0 -0.6**
BVAR Borovoye Array 67.05 327 P **P 20 07 38.0 -0.6**
comp=Z,35nm,0.8s,baz=130,slow=6.3,SNR=49
BRVK Borovoye 67.13 327*c i*P **P 20 07 38.5 -0.5**
BRVK pmax pmax
comp=Z,64nm,1.0s
BRVK Borovoye 67.13 327 *e*P **P 20 07 38.3 -0.7**
comp=Z,34nm,0.6s
BRVK Borovoye 67.13 327 P **P 20 07 39.0 -0.1**
SNR=20
BILL Bilibino 69.32 15⇑*e*P **P 20 07 52.4 -0.1**
BILL *e* 20 08 12.9
BILL *e* 20 10 28.2
BILL *e*S **S 20 17 01.6 +4.8**
BILL pmax pmax
comp=Z,24nm,1.7s
BILL Bilibino 69.32 15 *e*P **P 20 07 52.2 -0.3**
comp=Z,22nm,1.1s
ABKT Ailbek 70.66 309 P **P 20 08 01.2 -0.2**
comp=Z,185nm,1.5s,SNR=11
ABKAR Akbulak array 71.89 321 *e*P **P 20 08 07.7 -0.8**
comp=Z,13nm,0.6s
ABTO Aybut 72.94 287 ⇑P **P 20 08 14.2 -1.2**
SNR=5.8
AKTO Aktyubinsk 73.40 322 P **P 20 08 16.8 -0.7**
AKTO pmax pmax
comp=Z,45nm,0.8s
AKTO Aktyubinsk 73.40 322 P **P 20 08 16.8 -0.7**
AKTO Aktyubinsk 73.40 322 P **P 20 08 16.8 -0.7**
comp=Z,45nm,0.8s,baz=100,slow=8.5,SNR=93
SVE Sverdlovsk 73.69 328⇑*i*P **P 20 08 19.0 -0.1**
SVE pmax pmax
comp=Z,93nm,1.5s
GAMB Gambell 74.19 24 *e*P **P 20 08 22.2 +0.5**
comp=Z,40nm,0.9s
ARU Arti 74.67 328*c i*P **P 20 08 23.8 -1.0**
ARU S **S 20 17 59.1 +0.4**
ARU SS **SS 20 22 44.2 -2.1**
ARU pmax pmax
comp=Z,41nm,0.7s
ARU Arti 74.67 328 *e*P **P 20 08 23.3 -1.5**
comp=Z,46nm,0.8s
ARU Arti 74.67 328 P **P 20 08 24.9 +0.1**
comp=Z,352nm,0.6s,SNR=23
SDPT Sand Point 77.02 34 *e*P **P 20 08 37.9 -0.3**
comp=Z,68nm,0.6s
QRN Al-Qurain 78.21 298 *e*P **P 20 08 43.9 -1.5**
QRN AMb AMB 20 08 45.7
comp=Z,114nm,0.7s
CHGN Chignik 78.34 33 *e*P **P 20 08 46.2 +0.7**
UMR Umm Al-Rimmam 78.42 299 *e*P **P 20 08 45.1 -1.4**
RDF Al-Radifah 78.54 299 *e*P **P 20 08 46.4 -0.9**
RDF AMb AMB 20 08 47.9
comp=Z,54nm,0.7s
MIB Mutribah 78.75 299 *e*P **P 20 08 46.9 -1.5**
MIB AMb AMB 20 08 48.7
comp=Z,116nm,0.8s
NAY Al-Naaiem 78.82 299 *e*P **P 20 08 47.0 -1.8**
NAY AMb AMB 20 08 48.9
comp=Z,51nm,0.9s
GNI Garni 81.25 310 P **P 20 09 04.2 +2.2**
GNI Garni 81.25 310 P **P 20 09 04.2 +2.2**
comp=Z,1.7nm,0.4s,baz=162,slow=6.4,SNR=2.2
BHD Baghdad 81.36 303 *i*x x 20 09 13.0
BHD *i*x x 20 19 26.0
KDAK Kodiak Island 81.71 32 *e*P **P 20 09 04.7 +1.0**
ZEI Tsey 81.98 312 *e*P **P 20 09 04.9 -0.9**
ZEI pmax pmax
comp=Z,18nm,0.8s
KIV Kislovodsk 82.90 314 *e*P **P 20 09 11.5 +1.1**
KIV pmax pmax
comp=Z,14nm,0.9s
KIV Kislovodsk 82.90 314 *e*P **P 20 09 09.0 -1.4**
comp=Z,14nm,0.8s
SLKM Skilak Lake 83.15 30 *e*P **P 20 09 11.1 -0.2**
SLKM Skilak Lake 83.15 30 *e*P **P 20 09 11.1 -0.2**
TRF Thorofare Moun 83.34 27 *e*P **P 20 09 11.9 -0.4**
comp=Z,56nm,1.2s
RC01 Rabbit Creek A 83.43 29 *e*P **P 20 09 12.4 -0.2**
comp=Z,29nm,0.8s
COLD Coldfoot 83.68 23 *e*P **P 20 09 15.3 +1.5**
comp=Z,45nm,1.1s
PMR Palmer 83.75 29 *e*P **P 20 09 14.1 -0.1**
PMR pmax pmax
comp=Z,54nm,1.1s
PMR Palmer 83.75 29 *e*P **P 20 09 14.1 -0.1**
comp=Z,54nm,1.1s
VRHR Novokhopersk 83.78 321 *e*P **P 20 09 13.3 -1.3**
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,7.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.8s
MCK McKinley 83.96 26 *e*P **P 20 09 15.5 +0.2**
MCK pmax pmax
comp=Z,79nm,1.2s
MCK McKinley 83.96 26 *e*P **P 20 09 15.5 +0.2**
comp=Z,79nm,1.2s
SML Sawmill 84.14 28 *e*P **P 20 09 15.1 -1.2**
SML pmax pmax
comp=Z,17nm,1.0s
SML Sawmill 84.14 28 *e*P **P 20 09 15.1 -1.2**
comp=Z,17nm,1.0s
COLA College 84.49 25 *e*P **P 20 09 17.8 -0.1**
COLA pmax pmax
comp=Z,18nm,1.1s
COLA College 84.49 25 *e*P **P 20 09 17.8 -0.1**
comp=Z,18nm,1.1s
ILAR Eielson Array 84.90 25 P **P 20 09 20.0 0.0**
ILAR Eielson Array 84.90 25 P **P 20 09 20.0 0.0**
comp=Z,5.4nm,0.9s,baz=250,slow=5.1,SNR=29
KLMR Klimovskoe 85.13 331*c i*P **P 20 09 21.0 -0.3**
KLMR pmax pmax
comp=Z,313nm,1.2s
VORD Divnogorie 85.25 321 *e*P **P 20 09 22.1 0.0**
VOR Voronezh 85.31 321 P **P 20 09 22.0 -0.3**
VOR pmax pmax
comp=Z,250nm,1.0s
VSR Storozhevoye 85.33 321 *e*P **P 20 09 21.8 -0.7**
VSR pmax pmax
comp=Z,50nm,1.1s
VSR pmax pmax
comp=N,9.0nm,1.7s
VSR pmax pmax
comp=E,40nm,1.0s
DIV Divide 85.35 29 *e*P **P 20 09 23.4 +0.9**
comp=E,54nm,1.0s
BMRM Bremner River 85.92 29 *e*P **P 20 09 26.6 +1.3**
comp=E,78nm,1.2s
MOS Moscow 86.17 325 *e*P P 20 09 23.3 -3.3
MOS *e* 20 12 53.2
MOS pmax pmax
comp=Z,267nm,1.4s
MOS pmax pmax
comp=Z,400nm,1.7s
ANN Anapa 86.66 315 *e*P **P 20 09 26.0 -3.2**
ANN *e*PPP PPP 20 14 46.4
ANN *e*S S 20 19 49.5 -15
ANN *e*SS **SS 20 25 44.7 -1.0**
ANN pmax pmax
comp=Z,75nm,1.2s

OBN	**Obninsk**	**86.80**	**325**	*c*	*i*P	**P**	**20 09 29.1**	**-0.5**
OBN					*e*		20 12 56.4	
OBN					*e*S	S	20 19 56.9	-8.4
OBN					pmax	pmax		
	comp=Z,276nm,1.6s							
OBN	**Obninsk**	**86.80**	**325**		*e*P	**P**	**20 09 29.1**	**-0.5**
	comp=Z,241nm,1.3s							
LVZ	**Lovozero**	**87.08**	**338**		*i*P	**P**	**20 09 31.9**	**+1.1**
LVZ					pmax	pmax		
	comp=Z,166nm,4.3s							
LVZ	**Lovozero**	**87.08**	**338**		*e*P	**P**	**20 09 31.5**	**+0.7**
APA	**Apatity**	**87.58**	**337**	⇑	*i*P	**P**	**20 09 34.0**	**+0.8**
APA					pmax	pmax		
	comp=Z,92nm,1.4s							
APA					MLR	MLR		
	comp=Z,2µm,27.0s							
ASF	**Jabal al Asfar**	**87.69**	**302**		P	**P**	**20 09 35.5**	**+0.9**
ASF	**Jabal al Asfar**	**87.69**	**302**		P	**P**	**20 09 35.5**	**+0.9**
	comp=Z,10.0nm,0.7s,baz=340,slow=2.7,SNR=14							
MMAI	**Mount Meron Ar**	**88.89**	**303**		P	**P**	**20 09 40.1**	**-0.2**
MMAI	**Mount Meron Ar**	**88.89**	**303**		P	**P**	**20 09 40.1**	**-0.2**
	comp=Z,9.6nm,0.8s,baz=81,slow=7.1,SNR=5.6							
JOF	**Joensuu**	**88.91**	**333**		*e*P	**P**	**20 09 39.2**	**-0.3**
JOF					pmax	pmax		
	comp=Z,36nm,0.8s							
JOF	**Joensuu**	**88.91**	**333**		*e*p	**P**	**20 09 39.2**	**-0.3**
	comp=Z,36nm,0.8s							
KMBO	**Kilima Mbogo**	**89.48**	**269**		*e*P	**P**	**20 09 43.5**	**-0.1**
	comp=Z,29nm,1.3s							
KMBO	**Kilima Mbogo**	**89.48**	**269**		P	**P**	**20 09 44.3**	**+0.7**
	SNR=9.2							
EIL	**Elat**	**89.52**	**300**		P	**P**	**20 09 43.0**	**-0.1**
EIL	**Elat**	**89.52**	**300**		P	**P**	**20 09 43.0**	**-0.1**
	comp=Z,10nm,0.9s,baz=5.5,slow=2.1,SNR=9.9							
KEV	**Kevo**	**89.61**	**340**		*e*P	**P**	**20 09 41.9**	**-0.8**
KEV					pmax	pmax		
	comp=Z,7.0nm,0.7s							
KEV	**Kevo**	**89.61**	**340**		*e*p	**P**	**20 09 41.9**	**-0.8**
	comp=Z,6.6nm,0.7s							
PUL	**Pulkovo**	**89.77**	**330**		*i*P	**P**	**20 09 43.7**	**+0.1**
PUL					pmax	pmax		
	comp=Z,121nm,1.5s							
BRTR	**Keskin Array B**	**89.79**	**310**		P	**P**	**20 09 43.3**	**-1.1**
BRTR	**Keskin Array B**	**89.79**	**310**		P	**P**	**20 09 43.3**	**-1.1**
	comp=Z,9.0nm,0.9s,baz=121,slow=5.3,SNR=35							
INK	**Inuvik**	**89.94**	**21**		P	**P**	**20 09 44.0**	**-0.2**
INK					PP	**PP**	**20 13 13.3**	**-3.7**
INK	**Inuvik**	**89.94**	**21**		P	**P**	**20 09 44.0**	**-0.2**
	comp=Z,10nm,1.1s,baz=273,slow=10,SNR=6.9							
INK					PP	**PP**	**20 13 13.3**	**-3.7**
	comp=Z,2.3nm,0.6s,baz=259,slow=3.5,SNR=5.2							
ARCES	**ARCESS Array B**	**90.17**	**340**		P	**P**	**20 09 44.3**	**-1.1**
ARCES	**ARCESS Array B**	**90.17**	**340**		P	**P**	**20 09 44.3**	**-1.1**
	comp=Z,8.0nm,0.7s,baz=84,slow=6.8,SNR=26							
SPITS	**Spitsbergen Ar**	**90.20**	**349**		P	**P**	**20 09 45.2**	**-0.2**
SPITS	**Spitsbergen Ar**	**90.20**	**349**		P	**P**	**20 09 45.2**	**-0.2**
	comp=Z,14nm,0.8s,baz=116,slow=13,SNR=6.2							
SPB4	**Spitsbergen Ar**	**90.21**	**349**		*e*P	**P**	**20 09 43.9**	**-1.5**
KAF	**Kangasniemi**	**91.32**	**332**		*e*P	**P**	**20 09 49.8**	**-1.0**
KAF					pmax	pmax		
	comp=Z,16nm,0.7s							
KAF	**Kangasniemi**	**91.32**	**332**		*e*p	**P**	**20 09 49.8**	**-1.0**
	comp=Z,16nm,0.7s							
FINES	**FINESS Array B**	**91.56**	**332**		P	**P**	**20 09 51.4**	**-0.6**
FINES	**FINESS Array B**	**91.56**	**332**		P	**P**	**20 09 51.4**	**-0.6**
	comp=Z,14nm,0.7s,baz=94,slow=5.7,SNR=28							
AKASG	**Malin Array Be**	**91.64**	**321**		P	**P**	**20 09 51.3**	**-1.2**
AKASG					pmax	pmax		
	comp=Z,20nm,0.8s							
AKASG	**Malin Array Be**	**91.64**	**321**		P	**P**	**20 09 51.3**	**-1.2**
AKASG	**Malin Array Be**	**91.64**	**321**		P	**P**	**20 09 51.3**	**-1.2**
	comp=Z,20nm,0.8s,baz=70,slow=4.2,SNR=32							
KIEV	**Kiev**	**91.65**	**321**		*e*P	**P**	**20 09 51.6**	**-1.0**
KIEV					pmax	pmax		
	comp=Z,40nm,1.2s							
KIEV	**Kiev**	**91.65**	**321**		*e*P	**P**	**20 09 51.6**	**-1.0**
	comp=Z,40nm,1.2s							
VSU	**Vasula**	**91.80**	**329**	*d*	*i*P	**P**	**20 09 52.5**	**-0.6**
VSU					pmax	pmax		
	comp=Z,86nm,1.6s							
MICGM	**Minsk**		**91.86**	**325**	*e*P	**P**	**20 09 52.0**	**-1.5**
MNK	**Minsk**		**91.89**	**325**	*e*P	**P**	**20 09 52.0**	**-1.6**
NACGM	**Naroch**		**92.42**	**325**	*e*	**P**	**20 09 53.0**	**-3.1**
SYO	**Syowa Base**		**92.65**	**201**	⇑	*e*P	P	20 09 51.0	-5.8
TIRR	**Tirgusor**		**93.10**	**315**	⇑	*i*P	**P**	**20 09 57.4**	**-2.0**
TIRR	**Tirgusor**		**93.10**	**315**	⇑	*i*P	**P**	**20 09 57.4**	**-2.0**
CFR	**Carcaliu**		**93.18**	**316**	⇑	*i*P	**P**	**20 09 58.6**	**-1.3**
CFR	**Carcaliu**		**93.18**	**316**	⇑	*i*P	**P**	**20 09 58.5**	**-1.3**
GHRR			**93.55**	**316**	⇓	*i*P	P	20 10 15.6	+14
DLBC	**Dease Lake**		**93.56**	**31**		P	**P**	**20 10 01.5**	**+0.1**
DLBC	**Dease Lake**		**93.56**	**31**		P	**P**	**20 10 01.5**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=289,slow=6.0,SNR=6.8								
PETR			**93.72**	**316**	⇑	*i*P	**P**	**20 10 03.7**	**+1.4**
TESR			**93.99**	**317**	⇑	*i*P	**P**	**20 10 03.2**	**-0.3**
VRI	**Vrincioaia**		**94.05**	**316**	⇓	P	**P**	**20 10 03.9**	**+0.1**
VRI	**Vrincioaia**		**94.05**	**316**	⇓	*i*P	**P**	**20 10 03.9**	**+0.1**
PLOR	**Plostina**		**94.10**	**316**	⇑	P	**P**	**20 10 03.6**	**-0.5**
PLOR	**Plostina**		**94.10**	**316**	⇑	*i*P	**P**	**20 10 03.6**	**-0.5**
MLR	**Muntele Rosu**		**94.65**	**316**		P	**P**	**20 10 05.6**	**-1.2**
MLR	**Muntele Rosu**		**94.65**	**316**	⇓	*i*P	**P**	**20 10 06.3**	**-0.5**
MLR	**Muntele Rosu**		**94.65**	**316**		P	**P**	**20 10 05.6**	**-1.2**
	comp=Z,5.5nm,0.9s,baz=304,slow=1.2,SNR=36								
SUW	**Suwalki**		**94.66**	**325**		*e*P	**P**	**20 10 05.7**	**-0.7**
SUW	**Suwalki**		**94.66**	**325**		*e*P	**P**	**20 10 05.7**	**-0.7**
SUW	**Suwalki**		**94.66**	**325**		*e*P	**P**	**20 10 05.4**	**-1.0**
SUW						pmax	pmax		
	comp=Z,135nm,0.9s								
SUW	**Suwalki**		**94.66**	**325**		*e*P	**P**	**20 10 05.4**	**-1.0**
	comp=Z,135nm,0.9s								
BURAR	**Bucovina Array**		**94.75**	**318**	⇓	*i*P	**P**	**20 10 07.4**	**+0.3**
BUR08	**Bucovina Ar. S**		**94.75**	**318**		*e*P	**P**	**20 10 06.8**	**-0.4**
LVV	**L'vov**		**95.07**	**321**		*e*P	**P**	**20 10 07.2**	**-1.2**
VOIR			**95.28**	**316**	⇑	P	P	20 10 02.7	-6.9
VOIR			**95.28**	**316**	⇑	*i*P	P	20 10 02.7	-6.9
BMR	**Baia Mare**		**95.88**	**319**	⇑	P	**P**	**20 10 11.6**	**-0.5**
BMR	**Baia Mare**		**95.88**	**319**	⇑	*i*P	**P**	**20 10 11.6**	**-0.5**
KWP	**Kalwaria Pacla**		**95.95**	**321**		*e*P	**P**	**20 10 12.3**	**-0.1**
KWP	**Kalwaria Pacla**		**95.95**	**321**		*e*P	**P**	**20 10 12.3**	**-0.1**
KWP	**Kalwaria Pacla**		**95.95**	**321**		*e*P	**P**	**20 10 12.3**	**-0.1**
KOLS	**Kolonicke sedl**		**96.39**	**320**		*e*P	**P**	**20 10 14.3**	**-0.2**
KOLS	**Kolonicke sedl**		**96.39**	**320**		*e*P	**P**	**20 10 14.3**	**-0.2**
KOLS						*e*		20 14 21.8	
TRPA	**Tarpa**		**96.40**	**319**	⇓	*i*P	**P**	**20 10 14.0**	**-0.5**
UZH	**Uzhgorod**		**96.45**	**320**	⇑	*i*P	**P**	**20 10 14.7**	**0.0**
UZH						*i*		20 10 29.7	
DRGR			**96.59**	**318**		P	**P**	**20 10 15.4**	**-0.1**
DRGR			**96.59**	**318**	⇑	*i*P	**P**	**20 10 15.2**	**-0.3**
BEL	**Belsk**		**96.59**	**323**		*e*P	**P**	**20 10 15.8**	**+0.5**
BEL	**Belsk**		**96.59**	**323**		*e*P	**P**	**20 10 15.8**	**+0.5**
BEL	**Belsk**		**96.59**	**323**		*e*P	**P**	**20 10 15.8**	**+0.5**
GZR	**Gura Zlata**		**96.86**	**316**	⇑	P	**P**	**20 10 15.8**	**-0.9**
GZR	**Gura Zlata**		**96.86**	**316**	⇑	*i*P	**P**	**20 10 15.8**	**-0.9**
CRVS	**Cervenica-Dubn**		**96.92**	**320**		*e*P	**P**	**20 10 17.0**	**+0.1**
CRVS	**Cervenica-Dubn**		**96.92**	**320**		*e*P	**P**	**20 10 17.0**	**+0.1**
VTS	**Vitosha**		**97.16**	**314**	⇑	P	**P**	**20 10 16.4**	**-1.9**
VTS	**Vitosha**		**97.16**	**314**	⇑	*i*P	**P**	**20 10 16.4**	**-1.9**
NIE	**Niedzica**		**97.52**	**321**		*e*P	**P**	**20 10 19.1**	**-0.5**
NIE	**Niedzica**		**97.52**	**321**		*e*P	Pdif	20 10 19.9	+0.3
RES	**Resolute Bay**		**97.56**	**10**		P	Pdif	20 10 19.3	0.0
RES	**Resolute Bay**		**97.56**	**10**		P	Pdif	20 10 19.3	0.0
	comp=Z,2.8nm,0.6s,baz=328,slow=4.1,SNR=8.2								
BZS	**Buzias**		**97.60**	**317**	⇓	P	P	20 10 16.1	-3.9
BZS	**Buzias**		**97.60**	**317**	⇓	*i*P	P	20 10 16.1	-3.9
OJC	**Ojcow**		**97.63**	**322**		*e*P	**P**	**20 10 19.1**	**-1.0**
OJC	**Ojcow**		**97.63**	**322**		*e*P	**P**	**20 10 19.6**	**-0.4**
HFS	**Hagfors**		**97.75**	**332**		P	**P**	**20 10 19.4**	**-0.9**
HFS	**Hagfors**		**97.75**	**332**		P	**P**	**20 10 19.4**	**-0.9**
	comp=Z,3.9nm,0.6s,baz=92,slow=4.5,SNR=12								
PSZ	**Piszkesteto**		**98.18**	**319**	⇑	P	**P**	**20 10 20.9**	**-1.7**
PSZ	**Piszkesteto**		**98.18**	**319**		*e*P	**P**	**20 10 21.5**	**-1.1**
	comp=Z,27nm,1.3s								
PSZ	**Piszkesteto**		**98.18**	**319**	⇑	*i*P	**P**	**20 10 20.9**	**-1.7**
GKP	**Gorka Klasztor**		**98.27**	**325**		*e*P	Pdif	20 10 23.4	+0.6
GKP	**Gorka Klasztor**		**98.27**	**325**		*e*P	Pdif	20 10 23.4	+0.6
GKP	**Gorka Klasztor**		**98.27**	**325**		*e*P	Pdif	20 10 23.4	+0.6
NB2	**NORSAR Subarra**		**98.51**	**334**		P	**P**	**20 10 22.2**	**-1.6**
	baz=65,slow=4.6								
NB2	**NORSAR Subarra**		**98.51**	**334**		P	**P**	**20 10 22.2**	**-1.6**
	comp=Z,8.9nm,0.8s,baz=65,slow=4.6								
NOA	**NORSAR Array B**		**98.51**	**334**		P	**P**	**20 10 22.7**	**-1.1**
NOA	**NORSAR Array B**		**98.51**	**334**		P	**P**	**20 10 22.7**	**-1.1**
	comp=Z,5.6nm,0.7s,baz=68,slow=4.6,SNR=25								
VYHS	**Vyhne**		**98.70**	**320**		*e*P	**P**	**20 10 24.2**	**-0.7**
VYHS						*e*		20 14 28.1	
VYHS	**Vyhne**		**98.70**	**320**		PDIF	**P**	**20 10 24.2**	**-0.7**
VYHS						*e*PP	**PP**	**20 14 28.1**	**+2.2**
NAO01	**NORSAR Array S**		**98.74**	**334**		*e*P	**P**	**20 10 23.8**	**-1.0**
	comp=Z,9.2nm,0.7s								
OKC	**Ostrava-Krasne**		**98.75**	**322**		*e*P	Pdif	20 10 25.3	+0.2
OKC	**Ostrava-Krasne**		**98.75**	**322**		*e*PDIFF	Pdif	20 10 25.3	+0.2
MORC	**Moravsky Berou**		**99.15**	**322**	⇑	P	**Pdif**	**20 10 26.6**	**-0.3**
MORC	**Moravsky Berou**		**99.15**	**322**	⇑	*i*P	**Pdif**	**20 10 26.6**	**-0.3**
YKA	**Yellowknife Ar**		**99.29**	**24**		P	**Pdif**	**20 10 27.3**	**+0.1**
YKA						PKKPbc	PKKPdf	20 27 04.2	+7.1
YKA	**Yellowknife Ar**		**99.29**	**24**		P	**Pdif**	**20 10 27.3**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=299,slow=4.3,SNR=14								
YKA						PKKPbc	PKKPdf	20 27 04.2	+7.1
	comp=Z,0.3nm,0.7s,baz=116,slow=1.4,SNR=3.7								
PKSM	**Moragy**		**99.46**	**318**	⇑	P	**Pdif**	**20 10 27.0**	**-1.3**
PKSM	**Moragy**		**99.46**	**318**	⇑	*i*P	**Pdif**	**20 10 27.0**	**-1.3**
KSP	**Ksiaz**		**99.58**	**323**		*e*P	**Pdif**	**20 10 29.3**	**+0.6**
KSP	**Ksiaz**		**99.58**	**323**		*e*P	**Pdif**	**20 10 29.3**	**+0.6**
KSP	**Ksiaz**		**99.58**	**323**		*e*P	**Pdif**	**20 10 28.3**	**-0.5**
KSP						*e*PP	**pP**	**20 10 37.0**	**-1.6**
DPC	**Dobruska-Polom**		**99.72**	**322**		*e*P	**Pdif**	**20 10 30.0**	**+0.6**
DPC						*e*		20 10 38.0	
DPC	**Dobruska-Polom**		**99.72**	**322**		*e*PDIFF	**Pdif**	**20 10 30.0**	**+0.6**
DPC						*e*pP	**pP**	**20 10 38.0**	**-1.3**
UPC	**Upice**		**99.86**	**323**		*e*P	**Pdif**	**20 10 30.4**	**+0.4**
UPC						*e*		20 10 40.8	
UPC	**Upice**		**99.86**	**323**		*e*PDIFF	**Pdif**	**20 10 30.4**	**+0.4**
UPC						*e*pP	**pP**	**20 10 40.8**	**+0.9**
VRAC	**Vranov**		**99.88**	**321**		P	**Pdif**	**20 10 30.5**	**+0.4**
VRAC	**Vranov**		**99.88**	**321**	⇑	*i*P	**Pdif**	**20 10 27.8**	**-2.3**
VRAC	**Vranov**		**99.88**	**321**		P	**Pdif**	**20 10 30.5**	**+0.4**
	comp=Z,8.1nm,0.8s,baz=91,slow=3.0,SNR=8.6								
RUE	**Ruedersdorf**		**100.51**	**325**		*e*Pdiff	**Pdif**	**20 10 33.7**	**+0.9**
RUE	**Ruedersdorf**		**100.51**	**325**		*e*P	**Pdif**	**20 10 33.2**	**+0.4**
	comp=Z,25nm,0.4s								
PVCC	**Panska Ves**		**100.72**	**323**		*e*P	**Pdif**	**20 10 34.5**	**+0.7**
PVCC	**Panska Ves**		**100.72**	**323**		*e*PDIFF	**Pdif**	**20 10 34.5**	**+0.7**
PVCC						*e*pP	pP	20 10 44.1	+0.3
PRU	**Pruhonice**		**100.92**	**322**		*e*P	**Pdif**	**20 10 34.9**	**+0.2**
PRU	**Pruhonice**		**100.92**	**322**		*e*PDIFF	**Pdif**	**20 10 34.9**	**+0.2**
PRU						*e*pP	pP	20 10 42.6	-2.1
BRG	**Berggiesshubel**		**100.98**	**323**		*e*P	**Pdif**	**20 10 35.2**	**+0.3**
	comp=Z,24nm,1.0s								
BRG						*e*PP	PP	20 14 31.1	-12
	comp=Z,2.1nm,1.7s								
BRG	**Berggiesshubel**		**100.98**	**323**		*e*Pdiff	**Pdif**	**20 10 35.6**	**+0.7**
BRG	**Berggiesshubel**		**100.98**	**323**		*e*P	**Pdif**	**20 10 35.2**	**+0.3**
BRG						pmax	pmax		
	comp=Z,24nm,1.0s								
BRG						pmax	pmax		
	comp=Z,2.0nm,1.7s								
FBE	**Freiberg**		**101.31**	**324**		*e*Pdiff	**Pdif**	**20 10 37.2**	**+0.8**
CLL	**Collm**		**101.38**	**324**		*e*Pdiff	**Pdif**	**20 10 37.1**	**+0.4**
CLL	**Collm**		**101.38**	**324**		*e*P	**Pdif**	**20 10 36.0**	**-0.7**
CLL						pmax	pmax		
	comp=Z,15nm,1.2s								
CLL	**Collm**		**101.38**	**324**		*e*Pdif	**Pdif**	**20 10 36.0**	**-0.7**
	comp=Z,15nm,1.2s								
CLL						*e*pPdif	**pPdif**	**20 10 46.0**	**-0.6**
KHC	**Kasperske Hory**		**101.81**	**322**		*e*P	**Pdif**	**20 10 38.7**	**0.0**
KHC	**Kasperske Hory**		**101.81**	**322**		*e*PDIFF	**Pdif**	**20 10 38.7**	**0.0**
GEC2	**GERESS Array S**		**101.83**	**322**		*e*Pdiff	**Pdif**	**20 10 39.3**	**+0.4**
GERES	**GERESS Array B**		**101.83**	**322**		P	**Pdif**	**20 10 38.0**	**-0.9**
GERES	**GERESS Array B**		**101.83**	**322**		P	**Pdif**	**20 10 38.0**	**-0.9**
	comp=Z,5.6nm,1.0s,baz=73,slow=4.6,SNR=25								
TANN	**Tannenbergstha**		**102.02**	**323**		*e*Pdiff	**Pdif**	**20 10 40.2**	**+0.5**
NKC	**Novy Kostel**		**102.10**	**323**		*e*P	**Pdif**	**20 10 40.9**	**+0.9**
NKC	**Novy Kostel**		**102.10**	**323**		*e*PDIFF	**Pdif**	**20 10 40.9**	**+0.9**
WERD	**Werda**		**102.10**	**323**		*e*Pdiff	**Pdif**	**20 10 40.6**	**+0.6**
GUNZ	**Gunzen**		**102.12**	**323**		*e*Pdiff	**Pdif**	**20 10 40.7**	**+0.6**
WERN	**Wernitzgruen**		**102.12**	**323**		*e*Pdiff	**Pdif**	**20 10 40.9**	**+0.8**
NEUB	**Neuenburg**		**102.13**	**324**		*e*Pdiff	**Pdif**	**20 10 40.7**	**+0.6**
PLN	**Plauen**		**102.18**	**324**		*e*Pdiff	**Pdif**	**20 10 41.0**	**+0.7**
WET	**Wettzell**		**102.23**	**322**		*e*Pdiff	**Pdif**	**20 10 41.3**	**+0.7**
ROTZ	**Rotzenmuhle**		**102.41**	**323**		*e*Pdiff	**Pdif**	**20 10 42.5**	**+1.1**
MOX	**Moxa**		**102.44**	**324**		*e*Pdiff	**Pdif**	**20 10 42.2**	**+0.7**
NRDL	**Niedersach Rie**		**102.58**	**326**		*e*Pdiff	**Pdif**	**20 10 43.0**	**+1.1**
CLZ	**Clausthal**		**102.69**	**325**		*e*Pdiff	**Pdif**	**20 10 43.7**	**+1.1**
GRF	**Grafenberg Arr**		**103.03**	**323**		*e*Pdiff	**Pdif**	**20 10 45.0**	**+0.8**
TNS	**Tanus Mts**		**104.46**	**324**		*e*Pdiff	**Pdif**	**20 10 51.5**	**+0.9**
BUG	**Bochum--Univer**		**104.61**	**326**		*e*Pdiff	**Pdif**	**20 10 52.0**	**+0.9**
NVAR	**Mina Array Bea**	**106.79**	**48**		Pdif	**Pdif**	**20 11 04.8**	**+3.4**
NVAR					PKiKP	**PKiKP**	**20 15 12.5**	**+0.9**
NVAR					PKKP	**PKKPdf**	**20 26 42.5**	**-0.7**
NVAR	**Mina Array Bea**	**106.79**	**48**		Pdiff	**Pdif**	**20 11 04.8**	**+3.4**
	comp=Z,0.2nm,0.4s,baz=266,slow=5.7,SNR=3.8								
NVAR					PKiKP	**PKiKP**	**20 15 12.5**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=270,slow=2.7,SNR=3.4								
NVAR					PKKP	**PKKPdf**	**20 26 42.5**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=134,slow=5.1,SNR=5.6								
LPG	**La Plagne**	**107.49**	**320**		*e*PKIKP	PKiKP	20 15 18.0	+5.3
	comp=Z,16nm,1.0s								
ELK	**Elko**	**108.19**	**45**		PKiKP	**PKiKP**	**20 15 16.6**	**+2.5**
ELK	**Elko**	**108.19**	**45**		PKiKP	**PKiKP**	**20 15 16.6**	**+2.5**
PDAR	**Pinedale Array**	**111.21**	**41**		PKiKP	**PKiKP**	**20 15 21.9**	**+2.1**
PDAR					PKKPbc	**PKKPbc**	**20 26 18.6**	**+1.4**
PDAR	**Pinedale Array**	**111.21**	**41**		PKiKP	**PKiKP**	**20 15 21.9**	**+2.1**
	comp=Z,0.6nm,0.8s,baz=0.0,slow=0.5,SNR=4.2								
PDAR					PKKPbc	**PKKPbc**	**20 26 18.6**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=151,slow=3.9,SNR=2.9								
J22A	**Midwest**	**112.88**	**39**	⇓	P	**PKiKP**	**20 15 23.0**	**+0.2**
	baz=113								
S21A	**Coal Bank Pass**	**114.72**	**45**	⇓	P	PKPdf	20 15 28.6	+1.9
	baz=115								
O23A	**Lake Granby, G**	**114.82**	**42**	⇑	P	PKPdf	20 15 28.5	+1.7
	baz=115								
W20A	**Ramah**	**115.31**	**48**	⇓	P	**PKPdf**	**20 15 29.7**	**+1.9**
	baz=115								
ANMO	**Albuquerque**	**116.90**	**47**		PKP	**PKPdf**	**20 15 32.3**	**+1.5**
ANMO	**Albuquerque**	**116.90**	**47**		PKP	**PKPdf**	**20 15 32.3**	**+1.5**
	comp=Z,1.0nm,0.5s,baz=2.1,slow=6.1,SNR=3.8								
T24A	**Torres, Weston**	**116.93**	**45**	⇓	P	**PKPdf**	**20 15 31.8**	**+0.9**
	baz=117								
V25A	**Rancho No Teng**	**117.83**	**46**	⇓	P	**PKPdf**	**20 15 33.4**	**+0.9**
	baz=118								
T26A	**Comanche Natio**	**117.90**	**44**	⇑	P	**PKPdf**	**20 15 33.4**	**+0.7**
	baz=118								
Y24A	**Capitan**	**118.11**	**48**	⇑	P	**PKPdf**	**20 15 33.8**	**+0.6**
	baz=118								
Y25A	**Mesa, Roswell**	**118.67**	**48**	⇑	P	**PKPdf**	**20 15 34.5**	**+0.4**
	baz=119								
T28A	**Walsh**	**118.95**	**43**	⇓	P	**PKPdf**	**20 15 34.8**	**+0.2**
	baz=119								
MNTX	**Cornudas Mount**	**119.14**	**50**	⇓	P	**PKPdf**	**20 15 36.0**	**+1.0**
	baz=119								
324A	**Moseley Ranch,**	**119.17**	**51**	⇓	P	**PKPdf**	**20 15 36.3**	**+1.0**
	baz=119								
425A	**Indio Mountain**	**119.84**	**51**	⇓	P	**PKPdf**	**20 15 37.3**	**+0.8**
	baz=120								
226A	**Malaga, Loving**	**119.95**	**49**	⇓	P	**PKPdf**	**20 15 37.7**	**+1.1**
	baz=120								
Z27A	**Tatum**	**120.04**	**48**	⇓	P	**PKPdf**	**20 15 37.5**	**+0.7**
	baz=120								
SCHQ	**Schefferville**	**120.32**	**9**		PKP	**PKPdf**	**20 15 37.5**	**+1.0**
SCHQ	**Schefferville**	**120.32**	**9**		PKP	**PKPdf**	**20 15 37.5**	**+1.0**
	comp=Z,6.5nm,1.1s,baz=326,slow=1.6,SNR=7.0								
326A	**Caldwell Ranch**	**120.38**	**50**	⇓	P	**PKPdf**	**20 15 37.8**	**+0.3**
	baz=120								
X29A	**Tulia**	**120.59**	**46**	⇓	P	**PKPdf**	**20 15 38.7**	**+0.9**
	baz=120								
128A	**Castleberry Fa**	**120.91**	**48**	⇓	P	**PKPdf**	**20 15 39.6**	**+1.2**
	baz=121								
427A	**Hayter Ranch,**	**121.03**	**50**	⇓	P	**PKPdf**	**20 15 39.7**	**+0.9**
	baz=121								
Z29A	**Hungry Hill Ra**	**121.17**	**47**	⇑	P	**PKPdf**	**20 15 39.7**	**+0.8**
	baz=121								
527A	**Woodward Ranch**	**121.19**	**51**	⇓	P	**PKPdf**	**20 15 39.0**	**-0.1**
	baz=121								
328A	**Wristen Ranch,**	**121.24**	**49**	⇓	P	**PKPdf**	**20 15 39.6**	**+0.5**
	baz=121								
TXAR	**Lajitas Array**	**121.50**	**52**		PKP	**PKPdf**	**20 15 40.8**	**+1.1**
TXAR	**Lajitas Array**	**121.50**	**52**		PKP	**PKPdf**	**20 15 40.8**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=340,slow=1.9,SNR=7.1								
627A	**Terlingua Ranc**	**121.66**	**52**	⇑	P	**PKPdf**	**20 15 40.1**	**+0.1**
	baz=122								
528A	**Cox Ranch, San**	**121.82**	**51**	⇑	P	**PKPdf**	**20 15 40.9**	**+0.6**
	baz=122								
628A	**Black Gap, Mar**	**122.04**	**51**	⇑	P	**PKPdf**	**20 15 41.2**	**+0.5**
	baz=122								
TORD	**Torodi Ar. Bea**	**122.76**	**288**		PKP	**PKPdf**	**20 15 41.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**122.76**	**288**		PKP	**PKPdf**	**20 15 41.7**	**-0.6**
	comp=Z,4.5nm,0.7s,baz=46,slow=2.0,SNR=28								
JCT	**Junction City**	**123.94**	**49**		*e*PKiKP	**PKPdf**	**20 15 44.9**	**+0.6**
JCT	**Junction City**	**123.94**	**49**	⇑	P	**PKPdf**	**20 15 44.5**	**+0.3**
	baz=124								
FVM	**French Village**	**125.91**	**36**		*e*PKiKP	**PKPdf**	**20 15 48.4**	**+0.6**
FVM	**French Village**	**125.91**	**36**		*e*PKPdf	**PKPdf**	**20 15 48.4**	**+0.6**
MIAR	**Mount Ida**	**126.13**	**41**		*e*PKiKP	**PKPdf**	**20 15 49.7**	**+1.4**
MIAR	**Mount Ida**	**126.13**	**41**		*e*PKPdf	**PKPdf**	**20 15 49.7**	**+1.4**
DBIC	**Dimbokro**	**130.44**	**282**		PKP	**PKPdf**	**20 15 57.1**	**+0.1**
DBIC					SKPbc	**SKPbc**	**20 19 18.6**	**+0.1**
DBIC	**Dimbokro**	**130.44**	**282**		PKP	**PKPdf**	**20 15 57.1**	**+0.1**
	comp=Z,4.4nm,0.7s,baz

FITZ	Fitzroy Crossi	21.59 183	P		P		20 13 17.0	+0.3		
FITZ	Fitzroy Crossi	21.59 183	P		P		20 13 17.0	+0.3		
	5.5nm,0.5s,baz=357,slow=12,SNR=9.0									
WRAB	Tennant Creek	24.54 163	*eP*		P		20 13 45.5	-0.7		
WRA	Warramunga Arr	24.55 163	P		P		20 13 46.6	+0.4		
WRA	Warramunga Arr	24.55 163	P		P		20 13 46.6	+0.4		
	12nm,0.6s									
ASAR	Alice Springs	27.98 166	P		P		20 14 17.0	-0.2		
ASAR	Alice Springs	27.98 166	P		P		20 14 17.0	-0.2		
	1.0nm,0.3s,baz=343,slow=11,SNR=7.9									
BJI	Beijing	37.52 347	P		P		20 15 40.8	+0.6		
STKA	Stephens Creek	37.99 159	P		P		20 15 44.4	+0.1		
STKA	Stephens Creek	37.99 159	P		P		20 15 44.4	+0.1		
	2.4nm,0.4s,baz=328,slow=12,SNR=7.3									
SONM	Songino Array	47.43 341	P		P		20 17 01.1	+0.4		
SONM	Songino Array	47.43 341	P		P		20 17 01.2	+0.4		
	0.6nm,0.5s,baz=159,slow=8.9,SNR=2.4									
DDI	Dehra Dun	53.08 306	*ex*		x		20 17 40.5			
MK31	Makanchi Array	57.69 325	*eP*		P		20 18 15.6	-1.0		
MKAR	Makanchi Array	57.69 325	P		P		20 18 17.0	+0.5		
MKAR	Makanchi Array	57.69 325	P		P		20 18 17.0	+0.5		
	0.7nm,0.4s,baz=118,slow=7.0,SNR=6.4									
KURBB	Kurchatov Arra	61.87 327	P		P		20 18 44.9	-0.3		
	2.1nm,0.6s,baz=129,slow=6.4,SNR=11									
KURK	Kurchatov	61.87 328	*eP*		P		20 18 44.8	-0.4		
	2.9nm,0.5s									
BVAR	Borovoye Array	67.45 327	P		P		20 19 21.8	+0.2		
BVAR	Borovoye Array	67.45 327	P		P		20 19 21.7	+0.2		
	0.3nm,0.4s,baz=130,slow=8.3,SNR=5.8									
AKTO	Aktyubinsk	73.79 322	P		P		20 20 00.0	-0.2		
AKTO	Aktyubinsk	73.79 322	P		P		20 20 00.0	-0.2		
	0.9nm,0.5s,baz=96,slow=12,SNR=4.0									
ARCES	ARCESS Array B	90.58 340	P		P		20 21 26.8	-0.9		
ARCES	ARCESS Array B	90.58 340	P		P		20 21 26.8	-0.9		
	3.4nm,0.9s,baz=90,slow=6.3,SNR=6.6									

IDC **11** *20:09:25.1±0.3,4.05N×126.71E,h0km,mb5.0/39, mb1 5.0/39,mb1mx5.0/40,mbtmp5.0/39,Error ellipse: s-maj=15.1km s-min=8.9km az=74.0*

BJI **11** *20:09:25.2,3.61N×126.78E,h34km,mB5.5/14,mb5.2/45, Ms5.4/8,Ms7 5.2/7*

MOS **11** *20:09:28.5±1.1,4.06N×126.71E,h33km,mb5.5/62,Error ellipse: s-maj=10.5km s-min=4.7km az=114.7*

NEIC **11** *20:09:30.2±0.2,4.03N×126.74E,h35km,mb5.4/45,Error ellipse: s-maj=6.8km s-min=4.0km az=74.0*

NEIC Felt [IV] in the Kepulauan Talaud.

ISCJB **11** *20:09:33.9±0.4,4.11N±0.02×126.78E±0.03,h80km±3km, mb5.1/141,Error ellipse: s-maj=5.2km s-min=3.7km az=171.2*

DJA **11** *20:09:36,3.99N×126.86E,h78km,mb5.2/33*

ISC 11 20:09:33.5±0.9,4.09N±0.04×126.76E±0.05,h61km±8km, n487,σ1§16/476,mb5.2/140**,47C-25D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSPH	General Santos	2.68 318	⇑	*eP*		Pn	20 10 15.8		+1.4
MATI	Mati	2.88 350		*eP*		Pn	20 10 20.6		+3.6
DAV	Davao City (W)	3.19 338		Pn		Pn	20 10 20.4		-0.8
DAV				Sn		Sn	20 11 08.9		+11
DAV	Davao City (W)	3.19 338		P		Pn	20 10 28.1		+6.9
DAV	Davao City (W)	3.19 338		Pn		Pn	20 10 20.3		-0.8
	15nm,0.3s,baz=99,slow=13,SNR=2.7								
DAV				Sn		Sn	20 11 08.9		+11
	179nm,0.3s,baz=249,slow=18,SNR=5.9								
DMPH	Davao City--Mi	3.23 337		*eP*		Pn	20 10 26.8		+5.0
MNI	Manado	3.25 216		P		Pn	20 10 24.7		+2.7
KCP	Kidapawan	3.34 330	⇓	*eP*		Pn	20 10 27.0		+3.6
KCP				*i* S		Sn	20 11 28.2		+26
TNTI	Ternate	3.35 170		P		Pn	20 10 26.8		+3.4
CTBH	Cotabato--PC H	3.99 321	⇑	*eP*		Pn	20 10 32.8		+0.6
BUKP	Musuan	4.13 336		*eP*		Pn	20 10 33.9		-0.3
KMSI	Cibinong	4.46 219		P		Pn	20 10 42.3		+3.7
LBMI	Labuha	4.75 171		P		Pn	20 10 48.5		+5.9
CGP	Cagayan de Oro	4.80 335	⇓	*eP*		Pn	20 10 48.1		+4.8
BUTP	Butuan	4.98 347		*eP*		Pn	20 10 49.3		+3.5
PAGZ	Pagadian	5.02 318		*eP*		Pn	20 10 47.3		+0.9
ZMPH	Zamboanga City	5.47 302	⇓	*iP*		Pn	20 10 51.7		-0.7
ZMPH				*i* S		Sn	20 11 29.4		-25
MRSI	Marisa	6.00 233		P		Pn	20 11 01.0		+1.3
	753nm,1.1s,8μm3.6nm								
MSLP	Maasin	6.30 343		*eP*		Pn	20 11 07.1		+3.3
LUWI	Luwuk	6.47 218		P		Pn	20 11 10.8		+4.7
	1μm,1.2s,14μm4.3nm								
LLP	Lapu-Lapu	6.78 336		*eP*		Pn	20 11 12.0		+1.6
OCLP	Ormoc	7.24 343		*eP*		Pn	20 11 20.6		+3.9
MSAI	Masohi	7.70 164		P		Pn	20 11 23.4		+0.5
	40nm,1.1s,6μm0.2nm								
GUIM	Jordan	7.70 328		*eP*		Pn	20 11 29.3		+6.3
AAI	Ambon	7.85 169		P		Pn	20 11 33.4		+8.3
CUYO	Cuyo Island	8.80 320		*eP*		Pn	20 11 39.7		+1.6
FAKI	Fak Fak	8.86 142		P		Pn	20 11 39.1		+0.2
	71nm,0.7s,0.3nm								
TSM	Tawau	8.87 272		P		Pn	20 11 41.3		+2.3
KDI	Kendari	9.00 207		P		Pn	20 11 40.3		-0.5
	115nm,1.4s								
OTRP	Odiongan	9.46 331		*eP*		Pn	20 11 55.4		+8.2
SDKM	Sandakan	9.65 280		P		Pn	20 11 51.0		+1.2
TTSI	Tana Toraja	9.91 224		P		Pn	20 11 54.1		+0.8
	213nm,1.1s								
ENPP	El Nido	10.14 315		*eP*		Pn	20 11 57.1		+0.7
SPSI	Sidrap Palu	10.62 221		P		Pn	20 12 05.8		+2.9
	112nm,1.0s								
KKM	Kota Kinabalu	10.68 281		*eP*		Pn	20 12 05.4		+1.5
	114nm,1.1s								
KKM	Kota Kinabalu	10.68 281		P		Pn	20 12 08.0		+4.1
	97nm,1.3s								
BAKI	Biak	10.71 119		P		Pn	20 12 06.9		+2.7
	250nm,1.0s								
TLE	Tual	11.36 148		P		Pn	20 12 17.1		+4.1
	295nm,1.0s								
KAPI	Kappang	11.43 218		Pn		Pn	20 12 12.7		-1.4
KAPI	Kappang	11.43 218		P		Pn	20 12 15.8		+1.7
	56nm,1.1s								
KAPI	Kappang	11.43 218		Pn		Pn	20 12 12.7		-1.4
	1.6nm,0.3s,baz=27,slow=5.5,SNR=7.0								
BKSI	Bulukumba	11.46 215		P		Pn	20 12 20.4		+6.0
	59nm,1.3s								
KBKI	Kotabaru	12.88 235		P		Pn	20 12 36.0		+2.2
	125nm,1.3s								
SMPI	Sarmi	13.38 117		P		Pn	20 12 42.6		+1.9
	89nm,1.3s								
MMRI	Maumere	13.42 200		P		P	20 12 54.1		+5.6
BTM	Bintulu	13.68 267		P		Pn	20 12 46.5		+1.9
BBKI	Banjar Baru	14.07 238		P		P	20 12 53.6		-2.2
	395nm,0.8s,5μm								
SBUM	Sibu	14.61 264		P		Pn	20 12 59.1		+2.2
SBUM	Sibu	14.61 264		P		Pn	20 12 59.0		+2.1
SBUM	Sibu	14.61 264		P		Pn	20 12 59.1		+2.2
	163nm,0.8s								
WSI	Waingapu	15.11 205		P		P	20 13 06.6		-0.7
	491nm,1.1s,6μm								
JAY	Jayapura	15.40 115		P		P	20 13 13.2		+2.5
	77nm,0.9s								
STKI	Sintang	15.78 256		P		P	20 13 15.9		+1.1
KHKI	Kahang-Kahang	16.63 222		P		P	20 13 23.7		-0.5
	317nm,1.0s,3μm								
KSM	Kuching	16.63 261		*eP*		P	20 13 24.0		-0.3
	168nm,1.1s								
KSM	Kuching	16.63 261		P		P	20 13 25.9		+1.7
KSM	Kuching	16.63 261		P		P	20 13 24.8		+0.5
KSM	Kuching	16.63 261		P		P	20 13 25.4		+1.1
	153nm,1.1s,2μm								
IGBI	Denpasar	17.27 222		P		P	20 13 32.5		+1.2
	220nm,0.6s								
NBBI	Negara	17.31 224		P		P	20 13 37.6		+5.9
	269nm,0.9s								
BLJI	Banyuglugur	17.62 228		P		P	20 13 41.4		+6.2
	211nm,0.6s								
GRJI	Gresik	17.96 233		P		Pn	20 13 52.6		+14
GMJI	Gumukmas	18.09 227		P		Pn	20 13 43.4		+2.8
	220nm,1.0s,2μm								
SJI	Sawahan	19.02 232		P		P	20 13 49.0		-1.6
	141nm,1.0s								
PWJI	Pagerwojo	19.16 231		P		Pn	20 13 54.4		+0.8
	194nm,1.1s,2μm								
PPBI	Pangkal Pinang	21.52 254		P		P	20 14 21.3		+3.6
	36nm,0.9s								
LEM	Lembang	21.97 241		P		P	20 14 24.1		+1.5
	143nm,1.2s								
FITZ	Fitzroy Crossi	22.07 183		P		P	20 14 20.4		-3.1
FITZ	Fitzroy Crossi	22.07 183		*eP*		P	20 14 19.8		-3.7
	50nm,0.6s								
FITZ	Fitzroy Crossi	22.07 183		P		P	20 14 20.4		-3.1
	20nm,0.5s,baz=21,slow=7.9,SNR=15								
QZH	Quanzhou	22.18 340	⇓	*iP*		P	20 14 24.9		+0.4
QZH				pmax		pmax			
	comp=Z,80nm,0.7s								
QIZ	Qiongzhong	22.22 313		*eP*		P	20 14 24.0		-1.1
	comp=Z,104nm,1.2s								
DBJI	Dramaga	22.60 242		P		P	20 14 37.8		+8.5
	comp=Z,78nm,1.1s								
JOW	Kunigami	22.66 4		P		P	20 14 28.5		-1.3
JOW	Kunigami	22.66 4		P		P	20 14 28.5		-1.3
	comp=Z,31nm,0.7s,baz=192,slow=9.2,SNR=12								
MYKOM	Kota Tinggi	22.99 265		P		P	20 14 33.7		+0.4
MYKOM	Kota Tinggi	22.99 265		P		P	20 14 33.5		+0.2
MYKOM	Kota Tinggi	22.99 265		P		P	20 14 33.9		+0.6
	comp=Z,88nm,0.8s								
PMBI	Palembang	23.05 253		P		P	20 14 40.1		+6.2
	comp=Z,265nm,1.1s								
KGM	Kluang	23.50 266		P		P	20 14 39.0		+0.8
KGM	Kluang	23.50 266		P		P	20 14 39.3		+1.1
CGJI	Cibinong	23.56 243		P		P	20 14 46.2		+7.5
	comp=Z,115nm,1.0s								
KASI	Kota Agung	24.20 247		P		P	20 14 50.5		+6.0
	comp=Z,100nm,0.9s								
PMG	Port Moresby	24.35 123		P		P	20 14 43.8		-2.1
PMG	Port Moresby	24.35 123		P		P	20 14 43.8		-2.1
	comp=Z,9.7nm,0.9s,baz=248,slow=5.4,SNR=2.9								
LWLI	Liwa	24.41 248		P		P	20 14 49.2		+2.6
	comp=Z,158nm,0.8s,comp=Z,2μm								
WRAB	Tennant Creek	25.01 163		*eP*		P	20 14 49.1		-2.7
WRAB				pmax		pmax			
	comp=Z,146nm,0.8s								
WRAB	Tennant Creek	25.01 163		*eP*		P	20 14 49.1		-2.7
	comp=Z,146nm,0.8s								
WRA	Warramunga Arr	25.01 163		P		P	20 14 49.3		-2.6
WRA	Warramunga Arr	25.01 163		P		P	20 14 49.3		-2.6
	comp=Z,147nm,0.8s								
FRIM	Kepong	25.10 269		P		P	20 14 54.2		+1.4
FRIM	Kepong	25.10 269		P		P	20 14 53.3		+0.5
FRIM	Kepong	25.10 269		P		P	20 14 53.1		+0.3
KSI	Kapahiang	25.34 253		P		P	20 15 00.6		+5.6
	comp=Z,96nm,0.8s,comp=Z,2μm								
IPM	Ipoh	25.66 272		*eP*		P	20 14 57.3		-0.6
	comp=Z,66nm,0.9s								
IPM	Ipoh	25.66 272		P		P	20 14 57.6		-0.3
IPM	Ipoh	25.66 272		P		P	20 15 00.1		+2.2
IPM	Ipoh	25.66 272		P		P	20 14 59.3		+1.4
	comp=Z,84nm,1.3s,comp=Z,2μm								
BKNI	Bangkinang	25.96 262		P		P	20 15 03.3		+2.7
	comp=Z,210nm,1.2s,comp=Z,2μm								
MBWA	Marble Bar	26.02 195		*eP*		P	20 14 59.6		-1.4
	comp=Z,84nm,0.8s								
MBWA	Marble Bar	26.02 195		P		P	20 15 00.2		-0.8
	SNR=8.6								
PPI	Padang Panjang	26.73 261		P		P	20 15 08.3		+0.8
	comp=Z,54nm,1.1s								
MNSI	Mandailing Nat	27.35 264		P		P	20 15 13.8		+0.8
	comp=Z,60nm,1.5s								
PSI	Prapat	27.81 268		P		P	20 15 14.7		-2.7
PSI	Prapat	27.81 268		P		P	20 15 16.6		-0.8
	comp=Z,38nm,1.1s								
PSI	Prapat	27.81 268		P		P	20 15 14.7		-2.7
	comp=Z,32nm,1.0s,baz=122,slow=4.1,SNR=12								
AS31	Alice Springs	28.45 166		*eP*		P	20 15 19.8		-3.0
ASAR	Alice Springs	28.45 166		P		P	20 15 20.2		-2.6
ASAR				PcP		PcP	20 18 33.8		0.0
ASAR	Alice Springs	28.45 166		P		P	20 15 20.2		-2.6
	comp=Z,5.5nm,0.5s,baz=340,slow=6.6,SNR=14								
ASAR				PcP		PcP	20 18 33.8		0.0
	comp=Z,4.1nm,0.7s,baz=342,slow=4.5,SNR=5.0								
WHN	Wuhan	28.81 337		P		P	20 15 26.2		+0.4
JNU	Nakatsue	29.14 7		P		P	20 15 27.6		-1.2
JNU				PcP		PcP	20 18 37.4		+2.0
JNU	Nakatsue	29.14 7		P		P	20 15 27.6		-1.2
	comp=Z,22nm,1.0s,baz=121,slow=3.3,SNR=9.7								
JNU				PcP		PcP	20 18 37.4		+2.0
	comp=Z,9.1nm,0.8s,baz=76,slow=3.9,SNR=3.8								
GSI	Gunungsitoli	29.28 265		P		P	20 15 29.1		-1.2
	comp=Z,75nm,0.8s,comp=Z,2μm								
GYA	Guiyang	29.41 321	⇑	*iP*		P	20 15 31.6		+0.2
GYA				pmax		pmax			
	comp=Z,20nm,0.8s								
CM31	Chiang Mai Arr	30.72 300		*eP*		P	20 15 42.7		-0.2
	comp=Z,22nm,0.8s								
CMAR	Chiang Mai Arr	30.72 300		P		P	20 15 42.4		-0.6
CMAR				PcP		PcP	20 18 42.0		+2.3
CMAR	Chiang Mai Arr	30.72 300		P		P	20 15 42.4		-0.6
	comp=Z,21nm,0.8s,baz=122,slow=7.6,SNR=81								
CMAR				PcP		PcP	20 18 42.0		+2.3
	comp=Z,3.1nm,0.9s,baz=126,slow=1.5,SNR=5.2								
CTA	Charters Tower	30.73 142		P		P	20 15 44.0		+1.0
CTA	Charters Tower	30.73 142		*eP*		P	20 15 44.2		+1.2
	comp=Z,5.3nm,0.9s								
CTA	Charters Tower	30.73 142		P		P	20 15 44.0		+1.0
	comp=Z,8.8nm,1.0s,baz=320,slow=13,SNR=5.4								
KSAR	Wonju Array Be	33.21 2		P		P	20 16 05.0		+0.4
KSAR				PcP		PcP	20 18 48.1		+2.1
KSRS	Korea Array	33.23 2		P		P	20 16 05.0		+0.3
	comp=Z,5.3nm,0.6s,baz=180,slow=9.2,SNR=22								
KSRS				PcP		PcP	20 18 48.1		+2.1
	comp=Z,9.5nm,0.7s,baz=184,slow=2.7,SNR=21								
MAT	Matsushiro	33.98 17		P		P	20 16 08.4		-2.9
MJAR	Matsushiro Arr	33.98 17		P		P	20 16 09.2		-2.1
MJAR				PcP		PcP	20 18 49.8		+1.5
MJAR	Matsushiro Arr	33.98 17		P		P	20 16 09.2		-2.1
	comp=Z,4.8nm,0.9s,baz=188,slow=9.9,SNR=9.3								
MJAR				PcP		PcP	20 18 49.8		+1.5
	comp=Z,2.5nm,0.8s,baz=179,slow=3.2,SNR=4.1								
XAN	Xi'an	34.11 333		P		P	20 16 11.2		-1.3
XAN				pmax		pmax			
	comp=Z,38nm,0.7s								
FORT	Forrest	34.69 178		*eP*		P	20 16 14.5		-2.9
	comp=Z,66nm,0.8s								
FORT	Forrest	34.69 178		*eP*		P	20 16 15.6		-1.9
	comp=Z,61nm,0.8s								
DL2	Dalian	34.97 353		P		P	20 16 21.1		+1.3
DL2				pmax		pmax			
	comp=Z,30nm,1.1s								
KLBR	Kellerberrin	36.50 193		*eP*		P	20 16 31.6		-1.4
	comp=Z,57nm,0.6s								
BJT	Baijiatuan	37.03 346		*eP*		P	20 16 37.8		+0.5
	comp=Z,115nm,0.8s								
BJI	Beijing	37.05 346		P		P	20 16 38.0		+0.5
BJI				pmax		pmax			
	comp=Z,99nm,0.9s								
BJI				pmax		pmax			
	comp=Z,590nm,6.9s								
EIDS	Eidsvold	37.61 142		*eP*		P	20 16 40.5		-2.1
	comp=Z,36nm,0.8s								
SNY	Shenyang	37.69 356	⇑	P		P	20 16 43.5		+0.6
SNY				pmax		pmax			
	comp=Z,19nm,1.0s								
BBOO	Buckleboo	37.74 167		*eP*		P	20 16 42.1		-1.4
	comp=Z,528nm,0.8s								
NWAO	Narrogin (SRO)	37.90 193		P		P	20 16 44.0		-0.8
NWAO	Narrogin (SRO)	37.90 193		P		P	20 16 44.0		-0.8
	comp=Z,74nm,0.9s,baz=24,slow=9.9,SNR=22								
LZH	Lanzhou	38.21 329		*eP*		P	20 16 47.8		+0.1
LZH				pP		pP	20 16 56.2		-6.8
LZH				sP		sP	20 17 00.5		-10
LZH				pmax		pmax			
	comp=Z,99nm,1.0s								
LZH				pmax		pmax			
	comp=Z,320nm,5.0s								
LZH				LR		LR			
	comp=N,2μm,16.6s								
LZH				LR		LR			
	comp=E,3μm,17.3s								
LZH				LR		LR			
	comp=Z,1μm,18.6s								
STKA	Stephens Creek	38.45 159		*eP*		P	20 16 47.9		-1.6
	comp=Z,14nm,0.9s								
STKA				PcP		PcP	20 19 02.0		+0.3
STKA	Stephens Creek	38.45 159		*eP*		P	20 16 47.8		-1.7
	comp=Z,39nm,0.7s								
STKA	Stephens Creek	38.45 159		P		P	20 16 48.2		-1.3
	comp=Z,40nm,0.8s,baz=333,slow=8.4,SNR=28								
STKA				PcP		PcP	20 19 02.0		+0.3
	comp=Z,12nm,0.6s,baz=355,slow=7.5,SNR=2.9								
VLA	Vladivostok	39.14 6	⇑	*eP*		P	20 16 52.5		-2.5
VLA				*i* S		S	20 22 50.9		+0.4
VLA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
CN2	Changchun	39.57 359		*eP*		P	20 17 02.2		+3.6
CN2				*ep*P		pP	20 17 11.9		-2.2
CN2				PcP		PcP	20 19 06.7		+1.7
CN2				*e*S		S	20 23 04.4		+7.4
CN2				pmax		pmax			
	comp=Z,10.0nm,0.6s								
CN2				pmax		pmax			
	comp=Z,200nm,6.0s								
SHL	Shillong	39.69 306		*e*PKP		P	20 17 00.0		-0.2
SHL				*e*S		S	20 23 40.0		+40
USRK	Ussuriysk Arra	40.22 6		P		P	20 17 03.2		-0.8
	comp=Z,5.3nm,0.6s,baz=186,slow=5.7,SNR=13								
USRK				PcP		PcP	20 19 08.0		+1.0
	comp=Z,1.1nm,0.4s,baz=221,slow=3.2,SNR=2.8								
MDJ	Mudanjiang	40.44 3		P		P	20 17 05.9		0.0
MDJ				pmax		pmax			
	comp=Z,15nm,1.0s								
MDJ	Mudanjiang	40.44 3		*eP*		P	20 17 06.1		+0.2
	comp=Z,23nm,0.8s								
ARMA	Armidale	41.75 147		*eP*		P	20 17 16.6		-0.4
	comp=Z,61nm,1.1s								
ARMA	Armidale	41.75 147		*eP*		P	20 17 16.5		-0.4
LSA	Lhasa	42.23 311		*eP*		P	20 17 21.3		0.0
LSA				pmax		pmax			
	comp=Z,33nm,0.6s								
LSA	Lhasa	42.23 311		*eP*		P	20 17 21.3		0.0
	comp=Z,33nm,0.6s								
ASAJ	Asahikawa	42.24 17		P		P	20 17 20.7		0.0
ASAJ	Asahikawa	42.24 17		P		P	20 17 20.7		0.0
	comp=Z,8.7nm,0.6s,baz=234,slow=16,SNR=8.3								
GTA	Gaotai	42.81 329	⇑	P		P	20 17 25.4		-0.1
GTA				PcP		PcP	20 19 17.6		+1.7
GTA				pmax		pmax			
	comp=Z,28nm,0.8s								
TAPN	Taplejung	43.83 306		*eP*		P	20 17 33.4		-0.8
	comp=Z,96nm,0.7s								
ODAN	Odare	43.89 305		*eP*		P	20 17 33.8		-0.7
	comp=Z,138nm,0.7s								
CAN	Canberra	44.42 154		*eP*		P	20 17 38.7		+0.3
CAN				pmax		pmax			
	comp=Z,24nm,0.8s								
CAN	Canberra	44.42 154		*eP*		P	20 17 38.7		+0.3
	comp=Z,24nm,0.8s								
RAMN	Ramite	44.57 305		*eP*		P	20 17 39.4		-0.6
	comp=Z,126nm,0.8s								
CNB	Canberra Magne	44.57 153		*eP*		P	20 17 40.3		+0.7
	comp=Z,76nm,1.0s								
HABR	Khabarovsk	44.79 8		*eP*		P	20 17 38.9		-2.2
HABR				*e**PP		pP	20 17 48.7		-8.0
HABR				*e*			20 19 23.5		
HABR				*e*			20 27 33.1		
HABR				*e*SSS		SSS	20 28 22.5		
HABR				pmax		pmax			
	comp=Z,37nm,1.7s								
HABR				pmax		pmax			
	comp=E,17nm,1.7s								
HABR				pmax		pmax			
	comp=N,45nm,2.8s								
HABR				MLR		MLR			
	comp=Z,2μm,19.0s								
YSS	Yuzh-Sakhalins	44.89 16		*eP*		P	20 17 42.0		+0.1
TOO	Toolangi	44.96 159		*eP*		P	20 17 43.1		+0.5
	comp=Z,40nm,0.7s								
KLR	Kul'dur	45.18 5		*eP*		P	20 17 41.2		-3.0
JIRN	Jiri	45.19 306		*eP*		P	20 17 44.3		-0.8
	comp=Z,27nm,0.7s								
HIA	Hailar	45.41 354		*eP*		P	20 17 46.5		+0.5
	comp=Z,44nm,0.9s								
GUN	Gumba	45.54 306		*eP*		P	20 17 47.0		-0.8
	comp=Z,142nm,0.7s								
PKI	Pulchoki	45.79 305		*eP*		P	20 17 48.6		-1.2
	comp=Z,44nm,0.8s								
KKN	Kakani	45.98 305		*eP*		P	20 17 49.9		-1.2
	comp=Z,60nm,0.8s								
DMN	Daman	46.05 305		*eP*		P	20 17 50.7		-1.0
	comp=Z,78nm,0.9s								
GKN	Gorkha	46.59 305		*eP*		P	20 17 54.7		-1.1
	comp=Z,51nm,0.7s								
DZM	Mont Dzumac	46.72 126		P		P	20 17 56.4		-0.4
DZM	Mont Dzumac	46.72 126		P		P	20 17 56.4		-0.4
	comp=Z,8.6nm,0.7s,baz=334,slow=8.5,SNR=9.1								
ULN	Ulaanbaatar	46.79 342		*eP*		P	20 17 57.3		+0.2
	comp=Z,29nm,0.9s								
ULN	Ulaanbaatar	46.79 342		P		P	20 17 58.3		+1.2
	SNR=9.5								
ULN	Ulaanbaatar	46.79 342		P		P	20 17 57.5		+0.4
	comp=Z,28nm,1.2s								
SONM	Songino Array	46.97 341		P		P	20 17 58.5		0.0
SONM				PcP		PcP	20 19 31.1		+1.0
SONM	Songino Array	46.97 341		P		P	20 17 58.5		0.0
	comp=Z,10.0nm,0.7s,baz=155,slow=8.4,SNR=26								
SONM				PcP		PcP	20 19 31.1		+1.0
	comp=Z,17nm,0.7s,baz=162,slow=3.3,SNR=13								
KOLN	Koldanda	47.35 304		*eP*		P

YAK comp=Z,109nm,3.2s pmax pmax
YAK comp=N,163nm,3.8s pmax pmax
YAK comp=E,64nm,3.5s smax smax
YAK comp=N,79nm,3.2s smax smax
YAK **Yakutsk** **57.85 2** *eP* **P** **20 19 18.6 0.0**
comp=E,98nm,0.8s
KZA **Kyzart** **59.37 317** P **P** **20 19 30.4 +0.3**
SNR=8.4
TKM2 **Tokmak 2** **59.50 318** *eP* **P** **20 19 28.5 -2.2**
TKM2 pmax pmax
comp=Z,15nm,0.9s
TKM2 **Tokmak 2** **59.50 318** *eP* **P** **20 19 28.5 -2.2**
comp=Z,15nm,0.9s
TKM2 **Tokmak 2** **59.50 318** P **P** **20 19 30.4 -0.3**
SNR=7.4
KBK **Karagaybulak** **59.82 318** P **P** **20 19 32.9 0.0**
SNR=8.2
UCH **Uchtor** **59.93 317** P **P** **20 19 35.5 +1.6**
SNR=6.6
CHMS **Chumysh** **60.09 318** P **P** **20 19 35.1 +0.5**
SNR=6.6
AAK **Ala-Archa** **60.11 318**⇓ *eP* **P** **20 19 35.3 +0.4**
AAK pmax pmax
comp=Z,60nm,1.7s
AAK **Ala-Archa** **60.11 318** P **P** **20 19 34.5 -0.3**
AAK **Ala-Archa** **60.11 318** P **P** **20 19 35.8 +0.9**
SNR=6.6
AAK **Ala-Archa** **60.11 318** P **P** **20 19 34.5 -0.3**
comp=Z,3.8nm,0.8s,baz=121,slow=6.4,SNR=8.9
ZAA0 **Zalesovo Array** **60.28 333** *eP* **P** **20 19 34.6 -1.0**
ZALV **Zalesovo Beam** **60.28 333** P **P** **20 19 34.7 -0.9**
ZALV pmax pmax
comp=Z,13nm,0.8s
ZALV **Zalesovo Beam** **60.28 333** P **P** **20 19 34.6 -0.9**
ZALV **Zalesovo Beam** **60.28 333** P **P** **20 19 34.6 -0.9**
comp=Z,13nm,0.8s,baz=116,slow=6.8,SNR=25
USP **Ospenovka** **60.37 318** P **P** **20 19 35.9 -0.6**
SNR=9.5
AML **Almayashu** **60.45 317** P **P** **20 19 37.9 +0.4**
SNR=15
EKS2 **Erkin-Say** **60.61 317** P **P** **20 19 38.7 +0.5**
SNR=11
KBL **Kabul** **61.33 307** *eP* **P** **20 19 42.1 -1.2**
KBL pmax pmax
comp=Z,33nm,0.8s
KBL **Kabul** **61.33 307** *eP* **P** **20 19 42.1 -1.2**
comp=Z,32nm,0.8s
KURBB **Kurchatov Arra** **61.46 327** P **P** **20 19 43.2 -0.4**
comp=Z,34nm,0.8s,baz=128,slow=6.3,SNR=60
KURK **Kurchatov** **61.46 327** P **P** **20 19 43.2 -0.4**
KURK pmax pmax
comp=Z,35nm,0.8s
KURK **Kurchatov** **61.46 327** P **P** **20 19 43.2 -0.4**
NVS **Novosibirsk** **61.57 333**⇑ *iP* **P** **20 19 43.1 -1.1**
NVS pmax pmax
comp=Z,31nm,1.0s
NVS pmax pmax
comp=N,9.0nm,0.7s
NVS pmax pmax
comp=E,4.0nm,0.6s
SEY **Seymchan** **61.68 13** *i* P **P** **20 19 45.8 +0.9**
KK31 **Karatay Array** **62.99 317** *i* P **P** **20 19 53.2 -0.9**
KK31 pmax pmax
comp=Z,31nm,1.0s
KKAR **Karatay Array** **62.99 317** *eP* **P** **20 19 53.1 -1.0**
KKAR pmax pmax
comp=Z,11nm,0.8s
KKAR **Karatay Array** **62.99 317** *eP* **P** **20 19 53.1 -1.0**
comp=Z,11nm,0.8s
BVAR **Borovoye Array** **67.04 327** P **P** **20 20 19.3 -0.8**
BVAR pmax pmax
comp=Z,26nm,0.8s
BVAR **Borovoye Array** **67.04 327** P **P** **20 20 19.3 -0.8**
BVAR **Borovoye Array** **67.04 327** P **P** **20 20 19.3 -0.8**
comp=Z,26nm,0.8s,baz=127,slow=8.7,SNR=60
BRVK **Borovoye** **67.11 327** *i* P **P** **20 20 20.2 -0.4**
BRVK pmax pmax
comp=Z,38nm,0.7s
BRVK **Borovoye** **67.11 327** *eP* **P** **20 20 20.1 -0.5**
comp=Z,41nm,0.8s
BRVK **Borovoye** **67.11 327** P **P** **20 20 20.6 0.0**
SNR=14
BILL **Bilibino** **69.20 15**⇓ *eP* **P** **20 20 33.6 +0.2**
BILL *e* 20 20 52.3
BILL *e* 20 23 05.4
BILL pmax pmax
comp=Z,6.0nm,0.9s
ABKT **Ailbek** **70.69 309** P **P** **20 20 43.5 +0.3**
comp=Z,159nm,0.7s,SNR=8.0
CASY **Casey** **71.17 187** *eP* **P** **20 20 45.9 +0.5**
AB31 **Akbulak array** **71.89 321** *i* P **P** **20 20 49.4 -0.7**
AB31 pmax pmax
comp=Z,7.0nm,0.5s
ABKAR **Akbulak array** **71.89 321** *eP* **P** **20 20 49.2 -0.9**
comp=Z,11nm,0.7s
ABTO **Aybut** **73.01 287**⇓ P **P** **20 20 55.8 -1.7**
SNR=8.5
AKTO **Aktyubinsk** **73.40 322** P **P** **20 20 58.6 -0.5**
AKTO pmax pmax
comp=Z,15nm,0.7s
AKTO **Aktyubinsk** **73.40 322** P **P** **20 20 58.6 -0.5**
AKTO **Aktyubinsk** **73.40 322** P **P** **20 20 58.6 -0.5**
comp=Z,15nm,0.7s,baz=108,slow=5.7,SNR=37
SVE **Sverdlovsk** **73.67 328**⇑ *eP* **P** **20 21 00.9 +0.4**
SVE pmax pmax
comp=Z,62nm,1.1s
ARU **Arti** **74.65 328** *c iP* **P** **20 21 05.5 -0.7**
ARU S **S** **20 30 39.7 +2.3**
ARU pmax pmax
comp=Z,48nm,1.0s
ARU **Arti** **74.65 328** *eP* **P** **20 21 05.1 -1.1**
comp=Z,56nm,1.0s
ARU **Arti** **74.65 328** P **P** **20 21 06.7 +0.5**
comp=Z,273nm,0.7s,SNR=15
QRN **Al-Qurain** **78.27 298** *eP* **P** **20 21 25.5 -1.7**
QRN AMb AMB 20 21 28.6
comp=Z,96nm,0.9s
UMR **Umm Al-Rimmam** **78.47 299** *eP* **P** **20 21 26.6 -1.8**
RDF **Al-Radifah** **78.59 299** *eP* **P** **20 21 27.6 -1.4**
RDF AMb AMB 20 21 30.8
comp=Z,49nm,1.0s
MIB **Mutribah** **78.80 299** *eP* **P** **20 21 28.3 -1.9**
MIB AMb AMB 20 21 31.6
comp=Z,82nm,0.9s
NAY **Al-Naaiem** **78.87 299** *eP* **P** **20 21 28.8 -1.8**
NAY AMb AMB 20 21 30.9
comp=Z,31nm,1.3s
GNI **Garni** **81.28 310** P **P** **20 21 44.4 +0.8**
GNI **Garni** **81.28 310** P **P** **20 21 44.4 +0.8**
comp=Z,5.4nm,0.7s,baz=287,slow=19,SNR=2.8
BHD **Baghdad** **81.40 303** *i* x **P** **20 21 43.0 -1.1**
BHD *i* x x 20 31 54.0
OPO **Ambohidratompo** **81.44 251** P **P** **20 21 44.3 -0.5**
OPO **Ambohidratompo** **81.44 251** P **P** **20 21 44.3 -0.5**
comp=Z,6.6nm,0.6s,baz=83,slow=2.5,SNR=7.0
ABPO **Ambohimpanom** **81.46 250** *eP* **P** **20 21 43.4 -1.5**
ABPO pmax pmax
comp=Z,17nm,0.8s
ABPO **Ambohimpanom** **81.46 250** *eP* **P** **20 21 43.4 -1.5**
comp=Z,17nm,0.8s
ZEI **Tsey** **82.00 312** *eP* **P** **20 21 47.1 -0.3**
ZEI pmax pmax
comp=Z,21nm,0.9s
KIV **Kislovodsk** **82.91 314** *eP* **P** **20 21 54.0 +2.0**
KIV pmax pmax
comp=Z,10.0nm,0.9s
KIV **Kislovodsk** **82.91 314** *eP* **P** **20 21 52.5 +0.6**
comp=Z,8.8nm,0.8s
SLKM **Skilak Lake** **83.02 30** *eP* **P** **20 21 52.2 +0.1**
SLKM **Skilak Lake** **83.02 30** *eP* **P** **20 21 52.1 +0.1**
TRF **Thorofare Moun** **83.21 27** *eP* **P** **20 21 52.5 -0.7**
comp=Z,38nm,1.1s
ATD **Arta Tunnel** **83.24 281** P **P** **20 21 53.7 -0.5**
ATD **Arta Tunnel** **83.24 281** P **P** **20 21 53.7 -0.5**
comp=Z,8.5nm,0.6s,baz=262,slow=21,SNR=3.6
RC01 **Rabbit Creek A** **83.30 29** *eP* **P** **20 21 53.5 +0.1**
comp=Z,33nm,0.8s
COLD **Coldfoot** **83.56 23** *eP* **P** **20 21 56.2 +1.5**
comp=Z,48nm,1.1s
PMR **Palmer** **83.62 29** *eP* **P** **20 21 55.2 +0.1**
PMR pmax pmax
comp=Z,57nm,1.1s
PMR **Palmer** **83.62 29** *eP* **P** **20 21 55.1 +0.1**
comp=Z,57nm,1.1s
VNDA **Vanda** **83.77 173** *eP* **P** **20 21 55.2 -0.3**
comp=Z,34nm,1.0s
VRHR **Novokhopersk** **83.78 321** *eP* **P** **20 21 55.4 -0.7**
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,7.0nm,0.5s
MCK **McKinley** **83.83 26** *eP* **P** **20 21 56.2 0.0**
MCK pmax pmax
comp=Z,93nm,1.3s
MCK **McKinley** **83.83 26** *eP* **P** **20 21 56.2 0.0**
comp=Z,93nm,1.3s
SML **Sawmill** **84.01 28** *eP* **P** **20 21 57.7 +0.5**
SML pmax pmax
comp=Z,29nm,1.1s
SML **Sawmill** **84.01 28** *eP* **P** **20 21 57.7 +0.5**
comp=Z,29nm,1.1s
COLA **College** **84.36 25** *eP* **P** **20 21 57.6 -1.1**
COLA pmax pmax
comp=Z,9.0nm,0.8s
COLA **College** **84.36 25** *eP* **P** **20 21 57.6 -1.1**
comp=Z,8.5nm,0.8s
ILAR **Eielson Array** **84.77 25** P **P** **20 22 00.8 -0.1**
ILAR **Eielson Array** **84.77 25** P **P** **20 22 00.8 -0.1**
comp=Z,8.8nm,0.9s,baz=243,slow=5.8,SNR=46
KLMR **Klimovskoe** **85.11 331** *eP* **P** **20 22 00.4 -2.2**
KLMR pmax pmax
comp=Z,190nm,1.0s
DIV **Divide** **85.22 29** *eP* **P** **20 22 04.5 +1.2**
comp=Z,109nm,1.1s
VORD **Divnogorie** **85.25 321** *eP* **P** **20 22 03.4 -0.1**
VSR **Storozhevoye** **85.33 321** *eP* **P** **20 22 03.7 -0.2**
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=Z,60nm,1.2s
VSR pmax pmax
comp=E,40nm,1.1s
BMRM **Bremner River** **85.79 29** *eP* **P** **20 22 06.0 -0.1**
comp=E,41nm,1.1s
MOS **Moscow** **86.16 325** *eP* **P** **20 22 06.6 -1.3**
MOS pmax pmax
comp=Z,143nm,1.1s
ANN **Anapa** **86.67 315** *eP* **P** **20 22 09.5 -1.2**
ANN *eS* S 20 32 32.9 -10
ANN pmax pmax
comp=Z,36nm,0.6s
OBN **Obninsk** **86.79 325** *c iP* **P** **20 22 10.8 -0.2**
OBN pmax pmax
comp=Z,162nm,1.4s
OBN **Obninsk** **86.79 325** *eP* **P** **20 22 10.7 -0.2**
comp=Z,218nm,1.4s
LVZ **Lovozero** **87.04 338** *i* P **P** **20 22 13.0 +0.9**
ASF **Jabal al Asfar** **87.73 302** P **P** **20 22 17.1 +0.8**
ASF **Jabal al Asfar** **87.73 302** P **P** **20 22 17.1 +0.8**
comp=Z,11nm,0.6s,baz=341,slow=3.2,SNR=19
JOF **Joensuu** **88.88 333** *eP* **P** **20 22 20.4 -0.4**
JOF pmax pmax
comp=Z,20nm,0.6s
JOF **Joensuu** **88.88 333** *ep* **P** **20 22 20.4 -0.4**
comp=Z,20nm,0.6s
MMAI **Mount Meron Ar** **88.94 303** P **P** **20 22 23.1 +1.1**
MMAI **Mount Meron Ar** **88.94 303** P **P** **20 22 23.1 +1.1**
comp=Z,11nm,0.8s,baz=84,slow=8.5,SNR=11
KEV **Kevo** **89.57 340** *eP* **P** **20 22 23.1 -0.8**
KEV pmax pmax
comp=Z,6.0nm,0.7s
KEV **Kevo** **89.57 340** *ep* **P** **20 22 23.1 -0.8**
comp=Z,5.7nm,0.7s
EIL **Elat** **89.57 300** P **P** **20 22 25.3 +0.4**
EIL **Elat** **89.57 300** P **P** **20 22 25.3 +0.4**
comp=Z,14nm,0.8s,baz=26,slow=3.7,SNR=15
KMBO **Kilima Mbogo** **89.59 269** *eP* **P** **20 22 25.5 0.0**
comp=Z,29nm,1.1s
KMBO **Kilima Mbogo** **89.59 269** P **P** **20 22 26.4 +0.8**
SNR=10
BRTR **Keskin Array B** **89.82 310** P **P** **20 22 25.2 -0.8**
BRTR **Keskin Array B** **89.82 310** P **P** **20 22 25.2 -0.8**
comp=Z,10nm,0.8s,baz=123,slow=4.2,SNR=38
INK **Inuvik** **89.82 21** P **P** **20 22 24.6 -0.6**
INK **Inuvik** **89.82 21** P **P** **20 22 24.6 -0.6**
comp=Z,7.6nm,1.0s,baz=257,slow=4.1,SNR=6.7
ARCES **ARCESS Array B** **90.13 340** P **P** **20 22 26.6 0.0**
ARCES **ARCESS Array B** **90.13 340** P **P** **20 22 26.6 0.0**
comp=Z,14nm,0.8s,baz=85,slow=6.5,SNR=23
SPITS **Spitsbergen Ar** **90.14 349** P **P** **20 22 26.1 -0.4**
SPITS **Spitsbergen Ar** **90.14 349** P **P** **20 22 26.1 -0.4**
comp=Z,8.2nm,0.8s,baz=138,slow=12,SNR=5.9
KAF **Kangasniemi** **91.30 332** *eP* **P** **20 22 31.2 -0.9**
KAF pmax pmax
comp=Z,9.0nm,0.5s
KAF **Kangasniemi** **91.30 332** *ep* **P** **20 22 31.2 -0.9**
comp=Z,8.9nm,0.5s
FINES **FINESS Array B** **91.53 332** P **P** **20 22 33.5 +0.2**
FINES **FINESS Array B** **91.53 332** P **P** **20 22 33.5 +0.2**
comp=Z,11nm,0.8s,baz=51,slow=5.0,SNR=24
AKASG **Malin Array Be** **91.64 321** P **P** **20 22 33.3 -0.7**
AKASG pmax pmax
comp=Z,12nm,0.7s
AKASG **Malin Array Be** **91.64 321** P **P** **20 22 33.2 -0.7**
AKASG **Malin Array Be** **91.64 321** P **P** **20 22 33.2 -0.7**
comp=Z,12nm,0.7s,baz=72,slow=4.5,SNR=40
AKBB **Malin Array Si** **91.64 321** *eP* **P** **20 22 33.0 -1.0**
AKBB **Malin Array Si** **91.64 321** *eP* **P** **20 22 33.0 -1.0**
KIEV **Kiev** **91.65 321** *eP* **P** **20 22 32.9 -1.1**
KIEV pmax pmax
comp=Z,35nm,1.3s
KIEV **Kiev** **91.65 321** *eP* **P** **20 22 32.9 -1.1**
comp=Z,36nm,1.3s
MICGM **Minsk** **91.85 325** *e* **P** **20 22 34.0 -0.9**
MNK **Minsk** **91.88 325** *eP* **P** **20 22 34.0 -1.0**
IDID **Didziasalis** **92.36 326** *eP* **P** **20 22 37.5 +0.3**
IDID AMB AMB 20 22 38.8
comp=Z,15nm,0.9s
IDID **Didziasalis** **92.36 326** *eP* **P** **20 22 37.5 +0.3**
IDID AMB AMB 20 22 38.8
comp=Z,15nm,0.9s
NACGM **Naroch** **92.41 325** *e* **P** **20 22 35.0 -2.4**
IZAR **Zarasai** **92.55 326** *eP* **P** **20 22 38.3 +0.2**
IZAR AMB AMB 20 22 39.6
comp=Z,10nm,1.0s
IZAR **Zarasai** **92.55 326** *eP* **P** **20 22 38.3 +0.2**
IZAR AMB AMB 20 22 39.6
comp=Z,10nm,1.0s
IIGN **Ignalina** **92.64 326** *eP* **P** **20 22 38.7 +0.2**
IIGN AMB AMB 20 22 40.1
comp=Z,9.7nm,0.9s
IIGN **Ignalina** **92.64 326** *eP* **P** **20 22 38.7 +0.2**
IIGN AMB AMB 20 22 40.1
comp=Z,9.7nm,0.9s
ISAL **Salakas** **92.65 326** *eP* **P** **20 22 38.9 +0.3**
ISAL AMB AMB 20 22 41.1
comp=Z,6.6nm,1.2s
ISAL **Salakas** **92.65 326** *eP* **P** **20 22 38.9 +0.3**
ISAL AMB AMB 20 22 41.1
comp=Z,6.6nm,1.2s
TLCR **92.72 315**⇓ *P* **P** **20 22 38.6 -0.5**
TLCR **92.72 315**⇓ *iP* **P** **20 22 38.6 -0.5**
SYO **Syowa Base** **92.77 201**⇑ *eP* **P** **20 22 38.0 -0.7**
TIRR **Tirgusor** **93.11 315**⇑ *P* **P** **20 22 39.5 -1.4**
TIRR **Tirgusor** **93.11 315**⇑ *iP* **P** **20 22 39.5 -1.4**
CFR **Carcaliu** **93.19 316**⇑ *P* **P** **20 22 41.0 -0.3**
CFR **Carcaliu** **93.19 316**⇑ *iP* **P** **20 22 41.0 -0.3**
PETR **93.73 316**⇑ *iP* **P** **20 22 44.2 +0.4**
QSPA **South Pole Qui** **93.99 180** *eP* **P** **20 22 44.8 +0.2**
QSPA comp=Z,32nm,1.1s PKKP **PKKPdf** **20 39 47.7 -1.4**
QSPA **South Pole Qui** **93.99 180** P **P** **20 22 44.5 -0.1**
comp=Z,24nm,1.0s,baz=340,slow=2.8,SNR=24
QSPA PKKP **PKKPdf** **20 39 47.7 -1.4**
comp=Z,1.4nm,0.5s,baz=238,slow=3.4,SNR=4.4
TESR **94.00 317**⇑ *iP* **P** **20 22 44.8 -0.2**
VRI **Vrincioaia** **94.06 316**⇓ *P* **P** **20 22 45.7 +0.4**
VRI **Vrincioaia** **94.06 316**⇓ *iP* **P** **20 22 45.7 +0.4**
PLOR **Plostina** **94.11 316**⇑ *P* **P** **20 22 45.4 -0.2**
PLOR **Plostina** **94.11 316**⇑ *iP* **P** **20 22 45.4 -0.2**
ISR **Istrita** **94.32 316**⇓ *P* **P** **20 22 47.4 +0.8**
ISR **Istrita** **94.32 316**⇓ *iP* **P** **20 22 47.4 +0.8**
SUW **Suwalki** **94.65 325** *eP* **P** **20 22 47.2 -0.6**
SUW **Suwalki** **94.65 325** *eP* **P** **20 22 47.2 -0.6**
SUW **Suwalki** **94.65 325** *eP* **P** **20 22 47.6 -0.2**
SUW pmax pmax
comp=Z,127nm,1.0s
SUW **Suwalki** **94.65 325** *eP* **P** **20 22 47.6 -0.2**
comp=Z,127nm,1.0s
MLR **Muntele Rosu** **94.67 316**⇑ *iP* **P** **20 22 48.0 -0.2**
BURAR **Bucovina Array** **94.76 318**⇑ *iP* **P** **20 22 47.4 -1.2**
BUR08 **Bucovina Ar. S** **94.76 318** *eP* **P** **20 22 48.8 +0.2**
LVV **L'vov** **95.07 321** *eP* **P** **20 22 49.6 -0.2**
BMR **Baia Mare** **95.88 319**⇑ *P* **P** **20 22 50.9 -2.7**
BMR **Baia Mare** **95.88 319**⇑ *iP* **P** **20 22 50.9 -2.7**
KWP **Kalwaria Pacla** **95.95 321** *eP* **P** **20 22 54.7 +0.8**
KWP **Kalwaria Pacla** **95.95 321** *eP* **P** **20 22 54.7 +0.8**
KWP **Kalwaria Pacla** **95.95 321** *eP* **P** **20 22 54.3 +0.4**
KWP pmax pmax
comp=Z,20nm,0.9s
KWP **Kalwaria Pacla** **95.95 321** *eP* **P** **20 22 54.3 +0.4**
comp=Z,20nm,0.9s
KOLS **Kolonicke sedl** **96.39 320** *eP* **P** **20 22 56.1 +0.2**
KOLS *e* 20 26 49.8
KOLS **Kolonicke sedl** **96.39 320** *eP* **P** **20 22 56.1 +0.2**
KOLS *ePP* **PP** **20 26 49.8 -0.2**
TRPA **Tarpa** **96.41 319**⇑ *iP* **P** **20 22 55.9 0.0**
UZH **Uzhgorod** **96.45 320**⇑ *iP* **P** **20 22 56.7 +0.6**
UZH *e* 20 23 03.9
BEL **Belsk** **96.59 323** *eP* **P** **20 22 57.5 +0.9**
BEL **Belsk** **96.59 323** *eP* **P** **20 22 57.5 +0.9**
BEL **Belsk** **96.59 323** *eP* **P** **20 22 57.5 +0.9**
DRGR **96.60 318**⇑ *P* **P** **20 22 57.2 +0.2**
DRGR **96.60 318**⇑ *iP* **P** **20 22 57.2 +0.2**
GZR **Gura Zlata** **96.87 316**⇓ *P* **P** **20 22 57.1 -1.1**
GZR **Gura Zlata** **96.87 316**⇓ *iP* **P** **20 22 57.0 -1.1**
CRVS **Cervenica-Dubn** **96.92 320** *eP* **P** **20 22 58.9 +0.6**
CRVS *e* 20 26 52.0
CRVS **Cervenica-Dubn** **96.92 320** *eP* **P** **20 22 58.9 +0.6**
CRVS *ePP* **PP** **20 26 52.0 -2.1**
VTS **Vitosha** **97.17 314**⇑ *P* P 20 22 54.9 -4.8
VTS **Vitosha** **97.17 314**⇑ *iP* P 20 22 54.9 -4.8
NIE **Niedzica** **97.52 321** *eP* Pdif 20 23 01.1 0.0
NIE **Niedzica** **97.52 321** *eP* Pdif 20 23 01.8 +0.7
BZS **Buzias** **97.61 317**⇑ *P* **P** **20 23 01.1 -0.3**
BZS **Buzias** **97.61 317**⇑ *iP* **P** **20 23 01.1 -0.3**
OJC **Ojcow** **97.62 322** *eP* **P** **20 23 01.1 -0.4**
OJC **Ojcow** **97.62 322** *eP* Pdif 20 23 01.6 +0.1
PSZ **Piszkesteto** **98.18 319**⇑ *P* **P** **20 23 03.7 -0.4**
PSZ **Piszkesteto** **98.18 319**⇑ *iP* **P** **20 23 03.7 -0.4**
NB2 **NORSAR Subarra** **98.48 334** P **P** **20 23 04.1 -1.0**
baz=66,slow=4.6
NB2 **NORSAR Subarra** **98.48 334** P **P** **20 23 04.1 -1.0**
comp=Z,5.3nm,0.8s,baz=66,slow=4.6
NOA **NORSAR Array B** **98.48 334** P **P** **20 23 04.0 -1.0**
NOA **NORSAR Array B** **98.48 334** P **P** **20 23 04.0 -1.0**
comp=Z,5.4nm,0.8s,baz=66,slow=4.6,SNR=12
VYHS **Vyhne** **98.70 320** *eP* **P** **20 23 06.2 -0.1**
VYHS **Vyhne** **98.70 320** PDIF **P** **20 23 06.2 -0.1**
OKC **Ostrava-Krasne** **98.75 322** *eP* Pdif 20 23 06.5 0.0
OKC **Ostrava-Krasne** **98.75 322** *ePDIFF* Pdif 20 23 06.5 0.0
MORC **Moravsky Berou** **99.14 322**⇑ *P* **Pdif** **20 23 08.8 +0.5**
MORC **Moravsky Berou** **99.14 322**⇑ *iP* **Pdif** **20 23 08.8 +0.5**
YKA **Yellowknife Ar** **99.16 24** P **Pdif** **20 23 08.6 +0.5**
YKA PKiKP **PKiKP** **20 27 38.4 +0.5**
YKA **Yellowknife Ar** **99.16 24** P **Pdif** **20 23 08.5 +0.5**
comp=Z,0.8nm,0.6s,baz=296,slow=4.5,SNR=17
YKA PKiKP **PKiKP** **20 27 38.3 +0.5**
comp=Z,0.2nm,0.5s,baz=296,slow=1.6,SNR=3.8
PKSM **Moragy** **99.47 318**⇑ *P* **Pdif** **20 23 09.6 -0.1**
PKSM **Moragy** **99.47 318**⇑ *iP* **Pdif** **20 23 09.6 -0.1**
KSP **Ksiaz** **99.58 323** *eP* **Pdif** **20 23 10.7 +0.6**
KSP **Ksiaz** **99.58 323** *eP* **Pdif** **20 23 10.7 +0.6**
KSP **Ksiaz** **99.58 323** *eP* **Pdif** **20 23 10.6 +0.5**
DPC **Dobruska-Polom** **99.72 322** *eP* **Pdif** **20 23 11.4 +0.6**
DPC **Dobruska-Polom** **99.72 322** *ePDIFF* **Pdif** **20 23 11.4 +0.6**
UPC **Upice** **99.85 323** *eP* **Pdif** **20 23 12.2 +0.8**
UPC **Upice** **99.85 323** *ePDIFF* **Pdif** **20 23 12.2 +0.8**
VRAC **Vranov** **99.88 321**⇑ *iP* **Pdif** **20 23 12.3 +0.8**
RUE **Ruedersdorf** **100.50 325** *ePdiff* **Pdif** **20 23 15.4 +1.3**
PVCC **Panska Ves** **100.72 323** *eP* **Pdif** **20 23 15.8 +0.6**
PVCC **Panska Ves** **100.72 323** *ePDIFF* **Pdif** **20 23 15.8 +0.6**
PRU **Pruhonice** **100.92 323** *eP* **Pdif** **20 23 17.0 +0.9**
PRU **Pruhonice** **100.92 323** *ePDIFF* **Pdif** **20 23 17.0 +0.9**
BRG **Berggiesshubel** **100.97 323** *eP* **Pdif** **20 23 17.2 +0.9**
comp=Z,22nm,1.0s
BRG **Berggiesshubel** **100.97 323** *ePdiff* **Pdif** **20 23 17.4 +1.1**
BRG **Berggiesshubel** **100.97 323** *eP* **Pdif** **20 23 17.2 +0.9**
BRG pmax pmax
comp=Z,22nm,1.0s
FBE **Freiberg** **101.30 324** *ePdiff* **Pdif** **20 23 19.1 +1.3**
CLL **Collm** **101.37 324** *ePdiff* **Pdif** **20 23 18.8 +0.7**
CLL **Collm** **101.37 324** *eP* **Pdif** **20 23 18.0 -0.1**
CLL pmax pmax
comp=Z,16nm,1.2s
CLL **Collm** **101.37 324** *ePdif* **Pdif** **20 23 18.0 -0.1**
comp=Z,16nm,1.2s
KHC **Kasperske Hory** **101.80 322** *eP* **Pdif** **20 23 20.5 +0.4**
KHC **Kasperske Hory** **101.80 322** *ePDIFF* **Pdif** **20 23 20.5 +0.4**
GE2 **GERESS Array S** **101.83 322** *ePdiff* **Pdif** **20 23 21.1 +0.8**
GERES **GERESS Array B** **101.83 322** P **Pdif** **20 23 20.9 +0.6**
GERES **GERESS Array B** **101.83 322** P **Pdif** **20 23 20.9 +0.6**
comp=Z,4.6nm,0.9s,baz=70,slow=4.7,SNR=22
BSEG **Bad Segeberg** **101.86 327** *ePdiff* **Pdif** **20 23 22.3 +2.1**
TANN **Tannenbergstha** **102.02 323** *ePdiff* **Pdif** **20 23 22.1 +1.0**
NKC **Novy Kostel** **102.09 323** *eP* **Pdif** **20 23 21.9 +0.5**
NKC **Novy Kostel** **102.09 323** *ePDIFF* **Pdif** **20 23 21.9 +0.5**
WERD **Werda** **102.10 323** *ePdiff* **Pdif** **20 23 22.4 +1.0**
GUNZ **Gunzen** **102.11 323** *ePdiff* **Pdif** **20 23 22.6 +1.1**
WERN **Wernitzgruen** **102.11 323** *ePdiff* **Pdif** **20 23 22.6 +1.1**
PLN **Plauen** **102.17 324** *ePdiff* **Pdif** **20 23 22.7 +1.0**
WET **Wettzell** **102.23 322** *ePdiff* **Pdif** **20 23 23.0 +1.0**
ROTZ **Rotzenmuhle** **102.41 323** *ePdiff* **Pdif** **20 23 24.3 +1.5**
MOX **Moxa** **102.43 324** *ePdiff* **Pdif** **20 23 23.9 +1.1**
CLZ **Clausthal** **102.68 325** *ePdiff* **Pdif** **20 23 25.4 +1.4**
GRF **Grafenberg Arr** **103.03 323** *ePdiff* **Pdif** **20 23 26.7 +1.2**
ULM **Lac du Bonnet** **114.64 29** PKP PKPdf 20 28 06.0 -1.0
ULM **Lac du Bonnet** **114.64 29** PKP PKPdf 20 28 06.0 -1.0
comp=Z,0.7nm,0.3s,baz=304,slow=5.7,SNR=3.5
Z22A **Elephant Butte** **117.12 49**⇓ **PKPdf** **20 28 12.2 -0.2**
baz=117
Y24A **Capitan** **117.97 48**⇑ **PKPdf** **20 28 14.5 +0.4**
baz=118
Y25A **Mesa, Roswell** **118.53 48**⇑ **PKPdf** **20 28 15.2 0.0**
baz=118
W26A **Owens Ranch, T** **118.66 46**⇓ **PKPdf** **20 28 15.7 +0.3**
baz=119
Z25A **Roswell** **118.80 48**⇑ **PKPdf** **20 28 16.4 +0.7**
baz=119
BGNE **Belgrade** **119.00 37**⇓ **PKPdf** **20 28 16.3 +0.7**
baz=119
MNTX **Cornudas Mount** **119.00 50**⇓ **PKPdf** **20 28 16.9 +0.9**
baz=119
324A **Moseley Ranch,** **119.03 51**⇑ **PKPdf** **20 28 16.4 +0.2**
baz=119
Y27A **Causey** **119.67 47**⇓ **PKPdf** **20 28 17.5 +0.2**
baz=120
425A **Indio Mountain** **119.70 51**⇓ **PKPdf** **20 28 17.7 +0.2**
baz=120
Z27A **Tatum** **119.90 48**⇑ **PKPdf** **20 28 18.5 +0.8**
baz=120
SCHQ **Schefferville** **120.21 9** PKP **PKPdf** **20 28 18.9 +1.4**
SCHQ **Schefferville** **120.21 9** PKP **PKPdf** **20 28 18.9 +1.4**
comp=Z,8.2nm,0.8s,baz=39,slow=3.0,SNR=13
427A **Hayter Ranch,** **120.89 50**⇑ **PKPdf** **20 28 20.4 +0.7**
baz=121
527A **Woodward Ranch** **121.05 51**⇓ **PKPdf** **20 28 20.1 0.0**
baz=121
328A **Wristen Ranch,** **121.11 49**⇓ **PKPdf** **20 28 20.6 +0.5**
baz=121
129A **Stewart Farms,** **121.22 48**⇑ **PKPdf** **20 28 20.4 +0.1**
baz=121
TXAR **Lajitas Array** **121.36 52** PKP **PKPdf** **20 28 22.0 +1.3**
TXAR **Lajitas Array** **121.36 52** PKP **PKPdf** **20 28 22.0 +1.3**
comp=Z,1.1nm,0.8s,baz=318,slow=1.7,SNR=5.0
627A **Terlingua Ranc** **121.53 52**⇑ **PKPdf** **20 28 21.6 +0.6**
baz=122
528A **Cox Ranch, San** **121.68 51**⇓ **PKPdf** **20 28 21.8 +0.5**
baz=122
TORD **Torodi Ar. Bea** **122.83 288** PKP **PKPdf** **20 28 24.1 +0.4**
TORD PP **PP** **20 30 04.0 +1.4**
TORD **Torodi Ar. Bea** **122.83 288** PKP **PKPdf** **20 28 24.1 +0.4**
comp=Z,4.0nm,0.7s,baz=85,slow=1.5,SNR=21
TORD PP **PP** **20 30 04.0 +1.4**
comp=Z,3.5nm,0.9s,baz=70,slow=3.4,SNR=5.6
JCT **Junction City** **123.81 49** *ePKIKP* **PKPdf** **20 28 26.7 +1.4**
JCT **Junction City** **123.81 49** *eP* **PKPdf** **20 28 26.7 +1.4**

JCT	Junction City	123.81	49	⇑P		PKPdf	20 28 25.9 +0.7
	baz=124						
DBIC	Dimbokro	130.53	282	PKP		PKPdf	20 28 39.4 +0.9
DBIC	Dimbokro	130.53	282	PKP		PKPdf	20 28 39.4 +0.9
	comp=Z,2.4nm,0.6s,baz=12,slow=1.0,SNR=5.4						
PLCA	Paso Flores	140.33	159	PKP		PKPdf	20 28 57.4 +1.3
PLCA	Paso Flores	140.33	159	PKP		PKPdf	20 28 57.4 +1.3
	comp=Z,4.1nm,0.7s,baz=222,slow=3.1,SNR=8.5						
TRQA	Tornquist	145.26	168	ePKPdf		PKPbc	20 29 04.6 0.0
LCO	Las Campanas	150.18	148	ePKPbc		PKPbc	20 29 19.3 +0.7
CPUP	Villa Florida	157.54	170	PKPab		PKPab	20 29 56.7 +1.4
CPUP	Villa Florida	157.54	170	PKPab		PKPab	20 29 56.7 +1.4
	comp=Z,10nm,0.7s,baz=173,slow=3.0,SNR=21						
SDV	Santo Domingo	158.40	53	ePKPdf		PKPdf	20 29 26.2 +1.0
BDFB	Brasilia	167.42	204	PKPab		PKPab	20 30 40.1 +1.1
BDFB	Brasilia	167.42	204	PKPab		PKPab	20 30 40.1 +1.1
	comp=Z,4.3nm,0.6s,baz=148,slow=2.7,SNR=5.0						

IDC ***11*** *20:10:02.0±2.4, 3.˚80N×126.˚65E, h0km, mb4.9/17, mb1 4.9/17, mb1mx4.9/23, mbtmp4.8/17, Error ellipse: s-maj=56.7km s-min=31.3km az=152.0*

ISCJB ***11*** *20:10:08.2±0.5, 4.˚01N±0.˚09×126.˚5E±0.˚1, h45km, mb5.0/40, Error ellipse: s-maj=17.1km s-min=11.5km az=158.9*

NEIC ***11*** *20:10:09.3±4.5, 3.˚94N×126.˚60E, h46km±40km, mb5.2/20, Error ellipse: s-maj=17.8km s-min=12.4km az=58.0*

ISC 11 20:10:09.3±0.7, 4.˚0N±0.˚1×126.˚7E±0.˚2, h45km, n62, σ1§01/62, mb5.0/39, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	Tennant Creek	24.91	163	*e*P	P	20 15 28.3	+0.1
WHN	Wuhan	28.89	338	P	P	20 16 04.2	+0.2
WHN				pmax	pmax		
	comp=Z,55nm,0.8s						
JNU	Nakatsue	29.27	7	P	P	20 16 06.7	-0.7
JNU	Nakatsue	29.27	7	P	P	20 16 06.7	-0.7
	comp=Z,16nm,0.8s,baz=143,slow=5.1,SNR=2.9						
ENH	Enshi	30.81	330	*e*P	P	20 16 20.1	-0.9
	comp=Z,47nm,0.7s						
KSAR	Wonju Array Be	33.34	2	P	P	20 16 43.8	+0.7
KSRS	Korea Array	33.35	2	P	P	20 16 43.8	+0.6
	comp=Z,5.2nm,0.7s,baz=180,slow=10.0,SNR=3.2						
MJAR	Matsushiro Arr	34.11	17	P	P	20 16 48.4	-1.5
MJAR	Matsushiro Arr	34.11	17	P	P	20 16 48.4	-1.5
	comp=Z,3.7nm,0.6s,baz=186,slow=10,SNR=6.4						
DL2	Dalian	35.09	353	P	P	20 17 00.0	+1.8
DL2				pmax	pmax		
	comp=Z,40nm,1.0s						
BJT	Baijiatuau	37.13	347	*e*P	P	20 17 16.4	+0.7
	comp=Z,34nm,0.7s						
BJI	Beijing	37.15	347	P	P	20 17 16.5	+0.7
BJI				pmax	pmax		
	comp=Z,11nm,0.6s						
BJI				pmax	pmax		
	comp=Z,52nm,1.0s						
STKA	Stephens Creek	38.36	159	*e*P	P	20 17 28.9	+2.8
	comp=Z,5.0nm,0.8s						
USRK	Ussuriysk Arra	40.35	6	P	P	20 17 43.6	+1.1
	comp=Z,8.2nm,0.7s,baz=188,slow=8.2,SNR=5.8						
MDJ	Mudanjiang	40.57	3	*e*P	P	20 17 45.8	+1.4
	comp=Z,25nm,0.9s						
ARMA	Armidale	41.68	147	*e*P	P	20 17 51.1	-2.8
	comp=Z,11nm,0.8s						
LSA	Lhasa	42.26	311	*e*P	P	20 17 59.7	+0.7
	comp=Z,30nm,0.6s						
ULN	Ulaanbaatar	46.89	342	*e*P	P	20 18 35.7	+0.3
	comp=Z,16nm,0.8s						
SONM	Songino Array	47.07	341	P	P	20 18 37.3	+0.6
SONM	Songino Array	47.07	341	P	P	20 18 37.3	+0.6
	comp=Z,5.3nm,0.5s,baz=161,slow=7.7,SNR=7.3						
TLY	Talaya	51.30	342	*e*P	P	20 19 08.4	-0.4
	comp=Z,17nm,0.8s						
PETK	Petropavlovsk-	55.23	22	P	P	20 19 38.6	+0.9
PETK	Petropavlovsk-	55.23	22	P	P	20 19 38.6	+0.9
	comp=Z,9.6nm,0.5s,baz=192,slow=6.5,SNR=6.9						
MK31	Makanchi Array	57.34	325	*e*P	P	20 19 52.7	-0.3
MKAR	Makanchi Array	57.34	325	P	P	20 19 53.1	+0.1
MKAR	Makanchi Array	57.34	325	P	P	20 19 53.1	+0.1
	comp=Z,9.9nm,0.6s,baz=120,slow=8.0,SNR=7.0						
YAK	Yakutsk	57.98	2	*e*P	P	20 19 57.4	+0.4
	comp=Z,96nm,0.8s						
ZAA0	Zalesovo Array	60.37	333	*e*P	P	20 20 11.7	-2.0
ZALV	Zalesovo Beam	60.37	333	P	P	20 20 12.4	-1.3
ZALV	Zalesovo Beam	60.37	333	P	P	20 20 12.4	-1.3
	comp=Z,12nm,0.5s,baz=126,slow=6.6,SNR=11						
KURBB	Kurchatov Arra	61.52	327	P	P	20 20 22.1	+0.4
	comp=Z,27nm,0.8s,baz=124,slow=6.2,SNR=7.8						
KURK	Kurchatov	61.53	327	*e*P	P	20 20 21.7	0.0
	comp=Z,39nm,0.7s						
KKAR	Karatay Array	63.04	317	*e*P	P	20 20 31.2	-0.8
	comp=Z,12nm,0.8s						
BVAR	Borovoye Array	67.11	327	P	P	20 20 58.5	+0.3
BVAR	Borovoye Array	67.11	327	P	P	20 20 58.5	+0.3
	comp=Z,12nm,0.9s,baz=140,slow=9.1,SNR=3.8						
AKTO	Aktyubinsk	73.45	322	P	P	20 21 37.1	0.0
AKTO	Aktyubinsk	73.45	322	P	P	20 21 37.1	0.0
	comp=Z,13nm,0.8s,baz=105,slow=16,SNR=4.4						
ARU	Arti	74.72	328	*e*P	P	20 21 43.3	-1.0
	comp=Z,15nm,0.7s						
RC01	Rabbit Creek A	83.44	29	*e*P	P	20 22 32.6	+0.7
	comp=Z,12nm,0.6s						
COLD	Coldfoot	83.69	23	*e*P	P	20 22 34.8	+1.7
	comp=Z,12nm,0.8s						
PMR	Palmer	83.76	29	*e*P	P	20 22 33.8	+0.3
	comp=Z,28nm,1.0s						
MCK	McKinley	83.97	26	*e*P	P	20 22 32.8	-1.9
	comp=Z,25nm,1.0s						
SML	Sawmill	84.15	28	*e*P	P	20 22 36.5	+0.9
	comp=Z,11nm,1.1s						
ILAR	Eielson Array	84.91	25	P	P	20 22 39.6	+0.3
ILAR	Eielson Array	84.91	25	P	P	20 22 39.6	+0.3
	comp=Z,1.9nm,0.6s,baz=247,slow=6.4,SNR=7.2						
DIV	Divide	85.36	29	*e*P	P	20 22 43.6	+1.9
	comp=Z,22nm,0.8s						
OBN	Obninsk	86.85	325	*e*P	P	20 22 48.3	-0.7
	comp=Z,17nm,0.7s						
BRTR	Keskin Array B	89.84	310	P	P	20 23 03.2	-0.7
BRTR	Keskin Array B	89.84	310	P	P	20 23 03.2	-0.7
	comp=Z,2.8nm,0.8s,baz=132,slow=4.2,SNR=2.4						
ARCES	ARCESS Array B	90.22	340	P	P	20 23 04.4	-0.4
ARCES	ARCESS Array B	90.22	340	P	P	20 23 04.4	-0.4
	comp=Z,5.2nm,0.6s,baz=78,slow=5.2,SNR=5.6						
AKASG	Malin Array Be	91.69	321	P	P	20 23 11.2	-0.7
AKASG	Malin Array Be	91.69	321	P	P	20 23 11.2	-0.7
	comp=Z,4.3nm,0.7s,baz=66,slow=4.3,SNR=5.1						
SUW	Suwalki	94.71	325	*e*P	P	20 23 25.7	-0.1
	comp=Z,61nm,1.1s						
BUR08	Bucovina Ar. S	94.81	318	*e*P	P	20 23 26.1	-0.5
NOA	NORSAR Array B	98.56	334	P	P	20 23 42.8	-0.4
NOA	NORSAR Array B	98.56	334	P	P	20 23 42.8	-0.4
	comp=Z,1.9nm,0.8s,baz=68,slow=4.6,SNR=3.3						
YKA	Yellowknife Ar	99.31	24	P	Pdif	20 23 47.0	+0.6
YKA	Yellowknife Ar	99.31	24	P	Pdif	20 23 47.0	+0.6
	comp=Z,0.7nm,0.6s,baz=298,slow=4.4,SNR=4.6						
CLL	Collm	101.43	324	*e*Pdif	Pdif	20 23 57.0	+0.9
	comp=Z,4.0nm,1.0s						
GERES	GERESS Array B	101.88	322	P	Pdif	20 23 59.0	+0.7
GERES	GERESS Array B	101.88	322	P	Pdif	20 23 59.0	+0.7
	comp=Z,2.1nm,0.9s,baz=53,slow=5.2,SNR=5.3						

IDC ***11*** *20:12:30.4±0.9, 3.˚59N×126.˚07E, h0km, mb4.4/14, mb1 4.5/14, mb1mx4.3/24, mbtmp4.4/14, Error ellipse: s-maj=56.3km s-min=19.8km az=71.0*

NEIC ***11*** *20:12:36.0±0.7, 3.˚42N×125.˚77E, h35km, mb4.7/6, Error ellipse: s-maj=29.6km s-min=12.2km az=76.0*

ISCJB ***11*** *20:12:43.0±0.7, 3.˚3N±0.˚1×125.˚6E±0.˚2, h116km, mb4.3/20, Error ellipse: s-maj=37.1km s-min=13.1km az=158.1*

ISC 11 20:12:44.5±0.9, 3.˚3N±0.˚2×125.˚8E±0.˚2, h116km, n36, σ1§16/30, mb4.3/19, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	3.71	357	Pn	Pn	20 13 31.5	-8.6
DAV	Davao City (W)	3.71	357	Pn	Pn	20 13 31.5	-8.6
	79nm,0.3s,baz=180,slow=20,SNR=3.8						
CTBH	Cotabato--PC H	4.14	339	‖*e*P	Pn	20 13 39.6	-6.2
FITZ	Fitzroy Crossi	21.30	180	P	P	20 17 21.6	-0.5
FITZ	Fitzroy Crossi	21.30	180	P	P	20 17 21.6	-0.5
	8.9nm,0.9s,baz=0.0,slow=12,SNR=2.4						
WRA	Warramunga Arr	24.63	160	P	P	20 17 54.1	-0.2
WRA	Warramunga Arr	24.63	160	P	P	20 17 54.1	-0.2
	9.9nm,0.5s						
CHTO	Chiang Mai	30.39	302	*e*P	P	20 18 43.6	-2.3
	3.4nm,0.7s						
ENH	Enshi	30.89	332	*e*P	P	20 18 40.9	-9.2
	15nm,0.7s						
LSA	Lhasa	41.97	312	*e*P	P	20 20 24.3	-0.5
	4.5nm,0.8s						
MKAR	Makanchi Array	57.32	326	P	P	20 22 20.2	-0.1
MKAR	Makanchi Array	57.32	326	P	P	20 22 20.3	-0.1
	1.4nm,0.4s,baz=119,slow=7.6,SNR=8.2						
ZALV	Zalesovo Beam	60.50	334	P	P	20 22 42.0	-0.1
ZALV	Zalesovo Beam	60.50	334	P	P	20 22 42.0	-0.1
	0.8nm,0.4s,baz=102,slow=6.1,SNR=3.4						
KURBB	Kurchatov Arra	61.54	328	P	P	20 22 49.1	-0.2
	4.9nm,0.8s,baz=128,slow=7.0,SNR=7.0						
KURK	Kurchatov	61.55	328	*e*P	P	20 22 48.4	-0.9
	7.7nm,0.8s						
KKAR	Karatay Array	62.85	317	*e*P	P	20 22 59.1	+0.9
	6.9nm,0.9s						
BVAR	Borovoye Array	67.12	327	P	P	20 23 25.2	-0.3
BVAR	Borovoye Array	67.12	327	P	P	20 23 25.2	-0.3
	7.3nm,1.0s,baz=131,slow=7.9,SNR=3.7						
BRVK	Borovoye	67.19	327	*e*P	P	20 23 26.8	+0.8
	15nm,1.1s						
AKTO	Aktyubinsk	73.36	322	P	P	20 24 04.7	+1.0
AKTO	Aktyubinsk	73.36	322	P	P	20 24 04.7	+1.0
	4.5nm,0.9s,baz=99,slow=7.9,SNR=4.1						
ILAR	Eielson Array	85.87	25	P	P	20 25 10.4	-0.6
ILAR	Eielson Array	85.87	25	P	P	20 25 10.4	-0.6
	0.5nm,0.8s,baz=251,slow=5.1,SNR=3.0						
ASF	Jabal al Asfar	87.27	302	P	P	20 25 21.4	+2.7
ASF	Jabal al Asfar	87.27	302	P	P	20 25 21.4	+2.7
	1.7nm,0.8s,baz=172,slow=7.1,SNR=3.5						
BRTR	Keskin Array B	89.52	310	P	P	20 25 29.6	+0.4
BRTR	Keskin Array B	89.52	310	P	P	20 25 29.6	+0.4
	1.4nm,0.8s,baz=103,slow=5.4,SNR=4.0						
ARCES	ARCESS Array B	90.48	340	P	P	20 25 32.0	-0.8
ARCES	ARCESS Array B	90.48	340	P	P	20 25 32.0	-0.8
	3.8nm,0.8s,baz=74,slow=6.7,SNR=5.4						
AKASG	Malin Array Be	91.58	321	P	P	20 25 37.4	-0.8
AKASG	Malin Array Be	91.58	321	P	P	20 25 37.4	-0.8
	0.8nm,0.5s,baz=69,slow=4.5,SNR=3.3						
FINES	FINESS Array B	91.71	332	P	P	20 25 40.5	+1.9
FINES	FINESS Array B	91.71	332	P	P	20 25 40.6	+1.9
	2.8nm,0.9s,baz=54,slow=7.1,SNR=2.3						
NOA	NORSAR Array B	98.70	333	P	Pdif	20 26 09.9	-0.7
NOA	NORSAR Array B	98.70	333	P	Pdif	20 26 09.9	-0.7
	1.0nm,0.8s,baz=74,slow=11,SNR=3.5						

IDC 11 20:14:00.4±1.0, 3.˚37N×126.˚92E, h0km, mb4.1/5, mb1 4.1/5, mb1mx3.9/19, mbtmp4.1/5, Error ellipse: s-maj=85.7km s-min=18.6km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.29	163	P	P	20 19 18.1	-1.6
	3µm,0.3s,baz=232,slow=0.0,SNR=9.7						
KSRS	Korea Array	33.33	1	P	P	20 20 44.2	-1.2
	1.4nm,0.7s,baz=180,slow=10.0,SNR=3.3						
STKA	Stephens Creek	37.73	159	P	P	20 21 19.2	+1.2
	4.3nm,0.6s,baz=332,slow=10.0,SNR=3.2						
SONM	Songino Array	47.70	341	P	P	20 22 40.8	+1.8
	0.9nm,0.6s,baz=160,slow=7.3,SNR=2.6						
MKAR	Makanchi Array	57.96	325	P	P	20 23 54.2	-0.6
	1.3nm,0.6s,baz=124,slow=8.3,SNR=3.1						
KURBB	Kurchatov Arra	62.14	327	P	P	20 24 22.9	-0.5
	2.1nm,0.7s,baz=129,slow=6.4,SNR=3.5						

IDC ***11*** *20:16:12.4±0.4, 3.˚82N×126.˚42E, h0km, mb4.7/34, mb1 4.7/35, mb1mx4.7/36, mbtmp4.7/35, ML3.8/1, Error ellipse: s-maj=16.9km s-min=9.9km az=77.0*

BJI ***11*** *20:16:13.1, 3.˚50N×126.˚50E, h32km, mB5.4/12, mb4.9/31, Ms5.2/5, Ms7 5.1/5*

ISCJB ***11*** *20:16:15.9±0.2, 3.˚73N±0.˚03×126.˚46E±0.˚05, h35km, mb5.0/87, MS5.0/1, Error ellipse: s-maj=7.7km s-min=4.5km az=166.5*

MOS ***11*** *20:16:15.7±1.0, 3.˚77N×126.˚39E, h33km, mb5.2/25, Error ellipse: s-maj=13.5km s-min=5.8km az=117.9*

NEIC ***11*** *20:16:18.4±1.1, 3.˚78N×126.˚47E, h42km±10km, mb5.0/20, Error ellipse: s-maj=9.2km s-min=5.5km az=79.0*

DJA ***11*** *20:16:22, 3.˚80N×126.˚78E, h77km, mb5.2/6*

ISC 11 20:16:17.9±0.6, 3.˚79N±0.˚04×126.˚45E±0.˚06, h34km±1km, h34km:pP-P, n260, σ1§19/243, mb5.0/86, 11C-14D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	General Santos	2.72	327	‖*e*P	Pb	20 17 02.9	-3.1
MNI	Manado	2.83	215	P	Pb	20 17 09.8	+2.0
MATI	Mati	3.14	357	*e*P	Pn	20 17 06.6	+1.7
DAV	Davao City (W)	3.37	345	Pn	Pn	20 17 10.8	+2.7
DAV				Sn	Sn	20 17 50.2	+3.2
DAV	Davao City (W)	3.37	345	Pn	Pn	20 17 10.8	+2.7
	26nm,0.3s,baz=75,slow=20,SNR=1.9						
DAV				Sn	Sn	20 17 50.2	+3.2
	148nm,0.3s,baz=76,slow=23,SNR=3.6						
DMPH	Davao City--Mi	3.40	344	*e*P	Pn	20 17 11.6	+3.0
KCP	Kidapawan	3.47	337	‖*e*P	Pb	20 17 14.5	-4.1
KCP				*i* S	Sb	20 18 02.2	+1.8
CTBH	Cotabato--PC H	4.05	327	‖*e*P	Pn	20 17 20.6	+3.1
BUKP	Musuan	4.29	341	*e*P	Pn	20 17 23.7	+2.9
CGP	Cagayan de Oro	4.95	339	‖*e*P	Pb	20 17 37.1	-6.7
PAGZ	Pagadian	5.05	323	*e*P	Pn	20 17 35.6	+4.3
ZMPH	Zamboanga City	5.38	306	‖*i*P	Pn	20 17 38.3	+2.6
ZMPH				*i* S	Sn	20 18 31.0	-5.5
MRSI	Marisa	5.58	234	P	Pn	20 17 44.9	+6.3
	393nm,0.6s,7µm2.3nm						
LUWI	Luwuk	6.05	217	P	Pb	20 17 58.4	-4.2
	979nm,1.4s,13µm3.8nm						
MSLP	Maasin	6.49	346	*e*P	Pn	20 17 54.5	+3.4
TSM	Tawau	8.57	274	P	Pn	20 18 30.1	+10
KDI	Kendari	8.60	206	P	Pn	20 18 34.7	+15
FAKI	Fak Fak	8.84	139	P	Pn	20 18 27.8	+4.5
SDKM	Sandakan	9.40	282	P	Pn	20 18 40.4	+9.3
TTSI	Tana Toraja	9.49	224	P	Pn	20 18 39.9	+7.6
	174nm,1.1s,2µm						
KDM	Kudat	10.06	288	P	Pn	20 18 50.0	+10
KKM	Kota Kinabalu	10.44	283	P	Pn	20 18 53.8	+8.5
KKM	Kota Kinabalu	10.44	283	P	Pn	20 18 52.9	+7.5
	70nm,1.3s						
BAKI	Biak	10.85	117	P	Pn	20 19 02.0	+11
	141nm,1.4s						
KAPI	Kapang	11.01	217	Pn	Pn	20 18 52.7	-0.5
KAPI	Kapang	11.01	217	Pn	Pn	20 18 52.7	-0.5
	0.6nm,0.3s,baz=83,slow=16,SNR=2.0						
TLE	Tual	11.28	146	P	Pn	20 19 12.3	+15
	96nm,1.3s						
KBKI	Kotabaru	12.46	236	P	P	20 19 24.4	+0.1
	53nm,1.5s						
BTM	Bintulu	13.35	268	P	P	20 19 32.9	-1.4
SMPI	Sarmi	13.54	115	P	P	20 19 48.4	+12
SBUM	Sibu	14.27	265	P	P	20 19 45.6	+1.2
SBUM	Sibu	14.27	265	P	P	20 19 46.3	+1.8
	63nm,1.6s						
WSI	Waingapu	14.71	205	P	P	20 20 05.8	+16
STKI	Sintang	15.41	256	P	P	20 20 02.5	+5.3
	37nm,1.3s						
KSM	Kuching	16.29	262	P	P	20 20 12.1	+5.2
KSM	Kuching	16.29	262	P	P	20 20 12.3	+5.4
	60nm,1.2s,2µm						
GRJI	Gresik	17.54	233	P	P	20 20 26.5	+5.7
FITZ	Fitzroy Crossi	21.77	182	P	P	20 21 06.8	-0.1
FITZ	Fitzroy Crossi	21.77	182	*e*P	P	20 21 06.7	-0.1
	27nm,0.7s						
FITZ	Fitzroy Crossi	21.77	182	P	P	20 21 06.8	-0.1
	4.6nm,0.4s,baz=23,slow=9.4,SNR=8.0						
QZH	Quanzhou	22.34	341	P	P	20 21 13.3	+0.3
MYKOM	Kota Tinggi	22.66	266	P	P	20 21 25.0	+8.5
JOW	Kunigami	22.98	4	P	P	20 21 18.5	-1.2
JOW	Kunigami	22.98	4	P	P	20 21 18.5	-1.2
	31nm,0.6s,baz=183,slow=9.4,SNR=19						
KGM	Kluang	23.17	266	P	P	20 21 30.3	+8.6
FRIM	Kepong	24.78	270	P	P	20 21 46.9	+10
WRAB	Tennant Creek	24.82	162	*e*P	P	20 21 35.4	-1.8
WRAB				pmax	pmax		
	comp=Z,78nm,1.1s						
WRAB	Tennant Creek	24.82	162	*e*P	P	20 21 35.4	-1.8
	comp=Z,78nm,1.1s						
WRA	Warramunga Arr	24.83	162	P	P	20 21 35.7	-1.6
WRA	Warramunga Arr	24.83	162	P	P	20 21 35.7	-1.6
	comp=Z,3µm,0.3s,baz=0.0,slow=0.0,SNR=7.0						
IPM	Ipoh	25.36	272	*e*P	P	20 21 43.8	+1.6
	comp=Z,53nm,1.3s						
IPM	Ipoh	25.36	272	P	P	20 21 52.7	+10
MBWA	Marble Bar	25.66	195	*e*P	P	20 21 45.5	+0.8
	comp=Z,29nm,0.9s						
PSI	Prapat	27.50	269	P	P	20 22 01.6	0.0
PSI	Prapat	27.50	269	P	P	20 22 01.6	0.0
	comp=Z,15nm,1.0s,baz=128,slow=5.9,SNR=5.4						
ASAR	Alice Springs	28.25	165	P	P	20 22 07.1	-0.9
ASAR	Alice Springs	28.25	165	P	P	20 22 07.1	-0.9
	comp=Z,2.7nm,0.4s,baz=344,slow=8.2,SNR=9.7						
WHN	Wuhan	28.96	338	*e*P	P	20 22 14.3	+0.1
JNU	Nakatsue	29.47	8	P	P	20 22 17.2	-1.6
JNU	Nakatsue	29.47	8	P	P	20 22 17.2	-1.6
	comp=Z,9.1nm,0.8s,baz=268,slow=1.6,SNR=5.1						
CMAR	Chiang Mai Arr	30.60	301	P	P	20 22 26.4	-2.6
CMAR	Chiang Mai Arr	30.60	301	P	P	20 22 26.4	-2.6
	comp=Z,4.4nm,1.1s,baz=150,slow=1.5,SNR=4.8						
CHTO	Chiang Mai	30.75	301	*e*P	P	20 22 30.5	+0.2
CHTO				pmax	pmax		
	comp=Z,16nm,1.0s						
CHTO	Chiang Mai	30.75	301	*e*P	P	20 22 30.5	+0.2
	comp=Z,16nm,1.0s						
ENH	Enshi	30.83	331	*e*P	P	20 22 29.9	-1.1
	comp=Z,13nm,0.6s						
KSAR	Wonju Array Be	33.51	2	P	P	20 22 54.4	+0.1
KSRS	Korea Array	33.53	2	P	P	20 22 54.4	0.0
	comp=Z,6.8nm,0.8s,baz=178,slow=10,SNR=16						
XAN	Xi'an	34.23	334	P	P	20 22 59.4	-1.3
XAN				pP	pP	20 23 10.0	-0.5
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
MJAR	Matsushiro Arr	34.34	17	P	P	20 22 58.9	-2.7
MJAR	Matsushiro Arr	34.34	17	P	P	20 22 58.9	-2.7
	comp=Z,4.0nm,0.8s,baz=185,slow=9.8,SNR=6.8						
FORT	Forrest	34.41	178	*e*P	P	20 23 01.9	-0.3
	comp=Z,23nm,0.7s						
DL2	Dalian	35.22	353	P	P	20 23 10.6	+1.5
DL2				pmax	pmax		
	comp=Z,50nm,0.8s						
HNR	Honiara	35.88	112	P	P	20 23 14.2	-0.9
HNR	Honiara	35.88	112	P	P	20 23 14.1	-0.9
	comp=Z,47nm,0.6s,baz=25,slow=11,SNR=3.6						
KLBR	Kellerberrin	36.15	193	*e*P	P	20 23 17.6	+0.5
	comp=Z,18nm,0.8s						
BJT	Baijiatuau	37.24	347	*e*P	P	20 23 26.7	+0.4
	comp=Z,59nm,0.6s						
BJI	Beijing	37.26	347	P	P	20 23 26.9	+0.4
BJI				pmax	pmax		
	comp=Z,92nm,0.7s						
BJI				pmax	pmax		
	comp=Z,1µm,8.4s						
NWAO	Narrogin (SRO)	37.55	193	*e*P	P	20 23 29.9	+0.9
NWAO	Narrogin (SRO)	37.55	193	P	P	20 23 29.9	+0.9
	comp=Z,22nm,0.9s,baz=344,slow=5.7,SNR=6.0						
SNY	Shenyang	37.95	357	‖P	P	20 23 33.4	+1.1
SNY				pmax	pmax		
	comp=Z,38nm,0.6s						
STKA	Stephens Creek	38.29	159	*e*P	P	20 23 34.7	-0.6
STKA	Stephens Creek	38.29	159	*e*P	P	20 23 34.6	-0.7
	comp=Z,15nm,0.9s						
STKA	Stephens Creek	38.29	159	P	P	20 23 34.8	-0.6
	comp=Z,11nm,0.6s,baz=340,slow=7.7,SNR=16						
LZH	Lanzhou	38.31	330	*e*P	P	20 23 36.5	+0.9
LZH				pP	pP	20 23 45.5	0.0
LZH				sP	sP	20 23 51.7	+2.2
LZH				pmax	pmax		
	comp=Z,37nm,1.2s						
LZH				pmax	pmax		
	comp=Z,200nm,7.2s						
CN2	Changchun	39.85	359	*e*P	P	20 23 47.4	-0.8
CN2				*e*pP	pP	20 23 57.3	-0.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,6.0s						
USRK	Ussuriysk Arra	40.54	6	P	P	20 23 54.0	+0.2
	comp=Z,9.0nm,0.9s,baz=191,slow=6.6,SNR=13						
MDJ	Mudanjiang	40.75	3	P	P	20 23 55.6	0.0
MDJ				pmax	pmax		
	comp=Z,34nm,1.0s						
MDJ	Mudanjiang	40.75	3	*e*P	P	20 23 55.6	0.0
	comp=Z,23nm,0.8s						
ARMA	Armidale	41.67	146	*e*P	P	20 24 02.9	-0.7
LSA	Lhasa	42.19	312	*e*P	P	20 24 08.7	+0.5
LSA				pmax	pmax		
	comp=Z,14nm,0.8s						
LSA	Lhasa	42.19	312	*e*P	P	20 24 08.7	+0.5
	comp=Z,

POO Poona 53.43 290 *e*PKP **P** **20 25 34.0 -1.1**
KKR Kurukshetra 53.59 305 *ex* P 20 25 32.5 -3.5
KKR AMb AMB 20 25 37.0
comp=Z,66nm,0.3s
KHET Khetri 53.85 302 *e*PKP **P** **20 25 37.3 -0.7**
KHET AMb AMB 20 25 38.7
comp=Z,34nm,1.2s
BOD Bodaibo 54.76 352 *e*P **P** **20 25 43.9 -0.1**
BOD pmax pmax
comp=Z,18nm,1.4s
PETK Petropavlovsk- 55.48 22 P **P** **20 25 49.5 +0.2**
PETK Petropavlovsk- 55.48 22 P **P** **20 25 49.5 +0.2**
PETK Petropavlovsk- 55.48 22 P **P** **20 25 49.5 +0.2**
comp=Z,12nm,0.7s,baz=194,slow=8.2,SNR=9.1
MK31 Makanchi Array 57.34 325 *e*P **P** **20 26 02.1 -0.7**
MK31 Makanchi Array 57.34 325 *e*P **P** **20 26 02.1 -0.7**
MKAR Makanchi Array 57.34 325 *i* P **P** **20 26 02.5 -0.3**
MKAR pmax pmax
comp=Z,4.0nm,0.4s
MKAR Makanchi Array 57.34 325 P **P** **20 26 01.6 -1.2**
MKAR Makanchi Array 57.34 325 P **P** **20 26 01.6 -1.2**
comp=Z,3.6nm,0.4s,baz=120,slow=7.5,SNR=41
YAK Yakutsk 58.15 2 *e*P **P** **20 26 10.1 +2.0**
YAK pmax pmax
comp=Z,24nm,0.8s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=N,20nm,1.2s
KZA Kyzart 59.38 318 P **P** **20 26 19.6 +2.1**
SNR=5.9
TKM2 Tokmak 2 59.51 319 *e*P **P** **20 26 17.9 -0.3**
TKM2 pmax pmax
comp=Z,5.0nm,0.7s
TKM2 Tokmak 2 59.51 319 *e*P **P** **20 26 17.9 -0.3**
comp=Z,4.7nm,0.7s
KBK Karagaybulak 59.83 318 P **P** **20 26 21.4 +1.0**
SNR=7.2
AAK Ala-Archa 60.12 318 *i* P **P** **20 26 23.0 +0.7**
AAK pmax pmax
comp=Z,39nm,1.5s
AAK Ala-Archa 60.12 318 P **P** **20 26 22.6 +0.3**
AAK Ala-Archa 60.12 318 P **P** **20 26 22.6 +0.3**
comp=Z,2.5nm,0.6s,baz=95,slow=5.9,SNR=7.7
USP Ospenovka 60.39 319 P **P** **20 26 24.0 0.0**
SNR=9.0
ZALV Zalesovo Beam 60.40 333 P **P** **20 26 22.5 -1.3**
ZALV Zalesovo Beam 60.40 333 P **P** **20 26 22.4 -1.3**
ZALV Zalesovo Beam 60.40 333 P **P** **20 26 22.4 -1.3**
comp=Z,3.3nm,0.5s,baz=126,slow=6.7,SNR=11
AML Almayashu 60.45 317 P **P** **20 26 25.1 +0.2**
SNR=13
EKS2 Erkin-Say 60.61 318 *e*P **P** **20 26 26.8 +1.1**
EKS2 pmax pmax
comp=Z,6.0nm,0.6s
EKS2 Erkin-Say 60.61 318 *e*P **P** **20 26 26.8 +1.1**
comp=Z,5.7nm,0.6s
EKS2 Erkin-Say 60.61 318 P **P** **20 26 26.1 +0.4**
SNR=6.9
KBL Kabul 61.26 308 *e*P **P** **20 26 29.0 -1.3**
KBL pmax pmax
comp=Z,13nm,0.7s
KBL Kabul 61.26 308 *e*P **P** **20 26 29.0 -1.3**
comp=Z,12nm,0.7s
KURBB Kurchatov Arra 61.53 327 P **P** **20 26 30.3 -1.2**
comp=Z,12nm,0.7s,baz=128,slow=6.6,SNR=31
KURK Kurchatov 61.53 328 *i* P **P** **20 26 31.0 -0.6**
KURK pmax pmax
comp=Z,15nm,0.7s
KURK Kurchatov 61.53 328 *e*P **P** **20 26 30.4 -1.2**
NVS Novosibirsk 61.69 333 *i* P **P** **20 26 32.9 +0.4**
SEY Seymchan 62.03 13⇓ *e*P **P** **20 26 36.1 +1.4**
KKAR Karatay Array 62.99 317 *e*P **P** **20 26 41.1 -0.4**
KKAR pmax pmax
comp=Z,8.0nm,0.7s
KKAR Karatay Array 62.99 317 *e*P **P** **20 26 41.1 -0.4**
comp=Z,8.4nm,0.7s
BVAR Borovoye Array 67.11 327 P **P** **20 27 07.1 -1.0**
BVAR Borovoye Array 67.11 327 P **P** **20 27 07.1 -1.0**
BVAR Borovoye Array 67.11 327 P **P** **20 27 07.1 -1.0**
comp=Z,7.5nm,0.6s,baz=146,slow=11,SNR=24
BRVK Borovoye 67.19 327 *e*P **P** **20 27 07.4 -1.1**
BRVK pmax pmax
comp=Z,25nm,1.0s
BRVK Borovoye 67.19 327 *e*P **P** **20 27 07.3 -1.1**
comp=Z,25nm,1.0s
BILL Bilibino 69.56 15 *e*P **P** **20 27 24.1 +1.0**
BILL *e* 20 27 47.1
BILL *e* 20 29 57.4
BILL pmax pmax
comp=Z,2.0nm,1.0s
ABKAR Akbulak array 71.92 321 *e*P **P** **20 27 36.8 -1.0**
comp=Z,4.6nm,0.6s
AKTO Aktyubinsk 73.43 322 P **P** **20 27 46.2 -0.6**
AKTO Aktyubinsk 73.43 322 P **P** **20 27 46.2 -0.6**
AKTO Aktyubinsk 73.43 322 P **P** **20 27 46.2 -0.6**
comp=Z,7.3nm,0.6s,baz=101,slow=9.8,SNR=18
SVE Sverdlovsk 73.76 329 *e*P **P** **20 27 48.5 -0.1**
ARU Arti 74.73 328 *d*iP **P** **20 27 53.3 -0.9**
ARU S **S** **20 37 28.6 +0.4**
ARU SS **SS** **20 42 18.7 +2.6**
ARU pmax pmax
comp=Z,21nm,1.2s
ARU Arti 74.73 328 *e*P **P** **20 27 53.0 -1.2**
comp=Z,11nm,0.6s
ARU Arti 74.73 328 P **P** **20 27 53.3 -0.9**
comp=Z,130nm,0.5s,SNR=8.7
QRN Al-Qurain 78.13 298 *e*P **P** **20 28 13.1 -1.0**
QRN AMb AMB 20 28 15.4
comp=Z,93nm,0.7s
MIB Mutribah 78.67 299 *e*P **P** **20 28 16.0 -1.1**
MIB AMb AMB 20 28 17.7
comp=Z,46nm,0.8s
NAY Al-Naaiem 78.74 299 *e*P **P** **20 28 15.9 -1.6**
NAY AMb AMB 20 28 17.9
comp=Z,19nm,0.8s
BHD Baghdad 81.30 303 *i* x **P** **20 28 32.0 +0.8**
BHD *i* x 20 38 42.0
ZEI Tsey 81.97 312 *e*P P 20 28 31.6 -3.2
ZEI pmax pmax
comp=Z,10.0nm,1.4s
KIV Kislovodsk 82.89 314 *e*P **P** **20 28 40.7 +1.2**
KIV pmax pmax
comp=Z,7.0nm,1.0s
VRHR Novokhopersk 83.81 321 *e*P **P** **20 28 43.1 -0.8**
VRHR pmax pmax
comp=Z,30nm,1.6s
VRHR pmax pmax
comp=N,10.0nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,0.8s
COLD Coldfoot 83.94 23 *e*P **P** **20 28 45.2 +1.0**
comp=E,29nm,1.4s
MCK McKinley 84.23 26 *e*P **P** **20 28 46.1 +0.3**
MCK pmax pmax
comp=Z,45nm,1.5s
MCK McKinley 84.23 26 *e*P **P** **20 28 46.1 +0.3**
comp=Z,45nm,1.5s
ILAR Eielson Array 85.17 25 P **P** **20 28 50.4 -0.2**
ILAR Eielson Array 85.17 25 P **P** **20 28 50.4 -0.2**
comp=Z,0.6nm,0.5s,baz=244,slow=6.4,SNR=10
KLMR Klimovskoe 85.21 331 *e*P **P** **20 28 48.3 -2.5**
KLMR pmax pmax
comp=Z,106nm,1.5s
VORD Divnogorie 85.28 321 *e*P **P** **20 28 50.4 -0.9**
VSR Storozhevoye 85.36 321 *e*P **P** **20 28 51.0 -0.7**
VSR pmax pmax
comp=Z,20nm,1.4s
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,10.0nm,1.0s
MOS Moscow 86.23 325 *e*P **P** **20 28 53.7 -2.2**
MOS pmax pmax
comp=Z,73nm,1.1s
OBN Obninsk 86.85 325 *i* P **P** **20 28 58.3 -0.6**
OBN pmax pmax
comp=Z,65nm,1.5s
ASF Jabal al Asfar 87.62 302 P **P** **20 29 03.0 -0.4**
ASF Jabal al Asfar 87.62 302 P **P** **20 29 03.0 -0.4**
comp=Z,3.9nm,0.8s,baz=312,slow=3.0,SNR=5.8
MMAI Mount Meron Ar 88.83 303 P **P** **20 29 09.1 0.0**
MMAI Mount Meron Ar 88.83 303 P **P** **20 29 09.1 0.0**
comp=Z,9.6nm,1.1s,baz=86,slow=7.9,SNR=4.3
JOF Joensuu 88.99 333 *e*P **P** **20 29 08.7 -0.3**
JOF pmax pmax
comp=Z,8.0nm,0.5s
JOF Joensuu 88.99 333 *ep* **P** **20 29 08.7 -0.3**
comp=Z,7.5nm,0.5s
EIL Elat 89.44 300 P **P** **20 29 12.9 +1.0**
EIL Elat 89.44 300 P **P** **20 29 12.9 +1.0**
comp=Z,2.9nm,0.8s,baz=37,slow=6.1,SNR=3.5
KEV Kevo 89.73 340 *e*P **P** **20 29 11.8 -0.6**
KEV pmax pmax
comp=Z,6.0nm,0.8s
KEV Kevo 89.73 340 *ep* **P** **20 29 11.8 -0.6**
comp=Z,5.8nm,0.8s
BR131 Keskin Array S 89.76 310 *e*P **P** **20 29 13.3 -0.1**
comp=Z,3.6nm,0.9s
BRTR Keskin Array B 89.76 310 P **P** **20 29 12.3 -1.1**
BRTR Keskin Array B 89.76 310 P **P** **20 29 12.3 -1.1**
comp=Z,3.7nm,0.8s,baz=126,slow=4.7,SNR=14
ARCES ARCESS Array B 90.29 340 P **P** **20 29 14.8 -0.2**
ARCES ARCESS Array B 90.29 340 P **P** **20 29 14.8 -0.2**
comp=Z,4.9nm,0.7s,baz=66,slow=5.2,SNR=15
KAF Kangasniemi 91.41 332 *e*P **P** **20 29 19.0 -1.3**
KAF pmax pmax
comp=Z,5.0nm,0.5s
KAF Kangasniemi 91.41 332 *ep* **P** **20 29 19.0 -1.3**
comp=Z,4.6nm,0.5s
FINES FINESS Array B 91.64 332 P **P** **20 29 20.9 -0.5**
FINES FINESS Array B 91.64 332 P **P** **20 29 20.9 -0.5**
comp=Z,3.3nm,0.6s,baz=65,slow=4.1,SNR=16
AKASG Malin Array Be 91.67 321 P **P** **20 29 20.5 -1.3**
AKASG Malin Array Be 91.67 321 P **P** **20 29 20.5 -1.3**
AKASG Malin Array Be 91.67 321 P **P** **20 29 20.5 -1.3**
comp=Z,4.6nm,0.7s,baz=71,slow=4.5,SNR=14
TIRR Tirgusor 93.09 315 ⇑P **P** **20 29 27.7 -0.8**
TIRR Tirgusor 93.09 315 ⇑*i*P **P** **20 29 27.6 -0.9**
QSPA South Pole Qui 93.70 180 P **P** **20 29 30.4 -0.5**
QSPA South Pole Qui 93.70 180 P **P** **20 29 30.4 -0.5**
comp=Z,5.8nm,1.1s,baz=38,slow=1.7,SNR=4.3
TESR 94.00 317 ⇑*i*P **P** **20 29 31.8 -0.9**
VRI Vrincioaia 94.05 316 ⇑P **P** **20 29 32.6 -0.4**
VRI Vrincioaia 94.05 316 ⇑*i*P **P** **20 29 32.6 -0.4**
PLOR Plostina 94.11 316 ⇑P **P** **20 29 32.0 -1.3**
PLOR Plostina 94.11 316 ⇑*i*P **P** **20 29 32.0 -1.3**
MLR Muntele Rosu 94.66 316 ⇑*i*P **P** **20 29 35.8 -0.1**
BURAR Bucovina Array 94.77 318 ⇑*i*P **P** **20 29 36.2 -0.1**
BUR08 Bucovina Ar. S 94.77 318 *e*P **P** **20 29 35.8 -0.6**
VOIR 95.29 316 ⇓P **P** **20 29 37.4 -1.3**
VOIR 95.29 316 ⇓*i*P **P** **20 29 37.4 -1.3**
LOT Lotru 96.17 316 ⇑*i*P **P** **20 29 42.7 -0.1**
KOLS Kolonicke sedl 96.41 320 *e*P **P** **20 29 43.8 +0.1**
KOLS Kolonicke sedl 96.41 320 *e*P **P** **20 29 43.8 +0.1**
KOLS *e* 20 32 40.6
UZH Uzhgorod 96.47 320⇓ *e*P **P** **20 29 44.3 +0.4**
UZH *e* 20 29 51.1
DRGR 96.61 318 ⇓P **P** **20 29 44.2 -0.5**
DRGR 96.61 318 ⇓*i*P **P** **20 29 44.2 -0.5**
CRVS Cervenica-Dubn 96.94 320 *e*P **P** **20 29 46.7 +0.6**
CRVS Cervenica-Dubn 96.94 320 *e*P **P** **20 29 46.7 +0.6**
CRVS *e* 20 32 43.6
NB2 NORSAR Subarra 98.60 334 P **P** **20 29 52.0 -1.3**
baz=65,slow=4.6
NB2 NORSAR Subarra 98.60 334 P **P** **20 29 52.0 -1.3**
comp=Z,1.7nm,0.6s,baz=65,slow=4.6
NOA NORSAR Array B 98.60 334 P **P** **20 29 52.4 -0.9**
NOA NORSAR Array B 98.60 334 P **P** **20 29 52.4 -0.9**
comp=Z,1.8nm,0.6s,baz=67,slow=4.6,SNR=6.7
VYHS Vyhne 98.73 320 *e*P **P** **20 29 53.9 -0.2**
VYHS Vyhne 98.73 320 PDIF **P** **20 29 53.9 -0.2**
MORC Moravsky Berou 99.18 322 ⇓P **Pdif** **20 29 55.7 -0.5**
MORC Moravsky Berou 99.18 322 ⇓*i*P **Pdif** **20 29 55.7 -0.5**
YKA Yellowknife Ar 99.56 24 P **Pdif** **20 29 57.6 +0.2**
YKA Yellowknife Ar 99.56 24 P **Pdif** **20 29 57.6 +0.2**
comp=Z,0.5nm,0.7s,baz=300,slow=4.6,SNR=5.4
BRG Berggiesshubel 101.02 323 *e*P **Pdif** **20 30 03.9 -0.3**
comp=Z,8.9nm,1.1s
BRG Berggiesshubel 101.02 323 *e*P **Pdif** **20 30 03.9 -0.3**
BRG pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 101.42 324 *e*P Pdif 20 30 23.0 +17
CLL Collm 101.42 324 *e*Pdif **Pdif** **20 30 06.0 0.0**
comp=Z,16nm,1.6s
GERES GERESS Array B 101.86 322 P **Pdif** **20 30 08.0 -0.2**
GERES GERESS Array B 101.86 322 P **Pdif** **20 30 08.0 -0.2**
comp=Z,1.0nm,0.9s,baz=64,slow=3.1,SNR=5.0
TXAR Lajitas Array 121.78 52 PKP **PKPdf** **20 35 10.5 +1.2**
TXAR Lajitas Array 121.78 52 PKP **PKPdf** **20 35 10.5 +1.2**
comp=Z,0.5nm,0.7s,baz=323,slow=2.3,SNR=3.1
TORD Torodi Ar. Bea 122.63 288 PKP **PKPdf** **20 35 11.1 0.0**
TORD Torodi Ar. Bea 122.63 288 PKP **PKPdf** **20 35 11.1 0.0**
comp=Z,1.9nm,0.7s,baz=64,slow=1.9,SNR=9.7
DBIC Dimbokro 130.29 282 PKP **PKPdf** **20 35 27.1 +1.3**
DBIC Dimbokro 130.29 282 PKP **PKPdf** **20 35 27.1 +1.3**
comp=Z,1.5nm,0.8s,baz=53,slow=5.1,SNR=3.5
CPUP Villa Florida 157.30 171 PKPab **PKPab** **20 36 41.8 -0.2**
CPUP Villa Florida 157.30 171 PKPab **PKPab** **20 36 41.8 -0.2**
comp=Z,4.2nm,0.9s,baz=168,slow=5.3,SNR=5.2

BJI ***11*** *20:19:07.1,3.˝34N×126.˚69E,h26km,mB5.3/7,mb4.9/32, Ms5.2/3,Ms7 5.1/3*
IDC ***11*** *20:19:09.9±0.5,3.˚93N×126.˚45E,h0km,mb4.7/31, mb1 4.7/31,mb1mx4.7/32,mbtmp4.6/31,Error ellipse: s-maj=20.8km s-min=11.2km az=76.0*
ISCJB ***11*** *20:19:14.5±0.3,3.˚92N±0.˚04×126.˚52E±0.˚06,h45km, mb4.7/52,MS5.1/2,Error ellipse: s-maj=9.6km s-min=5.9km az=160.7*
NEIC ***11*** *20:19:15.1±0.2,3.˚92N×126.˚51E,h35km,mb4.9/13,Error ellipse: s-maj=10.1km s-min=5.6km az=76.0*
NEIC Felt [III] in the Kepulauan Talaud.
ISC 11 20:19:16.2±0.4,3.˚92N±0.˚06×126.˚5E±0.˚1,h45km,n138, σθ92/143,mb4.8/51,6C-6D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.26**	**343**	Pn		**Pn**	**20 20 06.5**	**+1.6**
DAV	**Davao City (W)**	**3.26**	**343**	Pn		**Pn**	**20 20 06.5**	**+1.6**
	29nm,0.3s,baz=102,slow=20,SNR=2.3							
KCP	**Kidapawan**	**3.38**	**335**⇓	*e*P		Pn	20 20 14.5	+8.0
KCP				*i* S		Sn	20 21 13.7	+28
CTBH	**Cotabato--PC H**	**3.98**	**326**⇓	*e*P		**Pn**	**20 20 16.4**	**+1.7**
CGP	**Cagayan de Oro**	**4.85**	**338**	⇓*i*P		Pn	20 20 34.5	+7.7
FITZ	**Fitzroy Crossi**	**21.90**	**182**	P		**P**	**20 24 05.7**	**0.0**
FITZ	**Fitzroy Crossi**	**21.90**	**182**	*e*P		**P**	**20 24 05.9**	**+0.2**
	21nm,0.9s							
FITZ	**Fitzroy Crossi**	**21.90**	**182**	P		**P**	**20 24 05.7**	**0.0**
	7.9nm,0.6s,baz=34,slow=8.4,SNR=4.0							
QZH	**Quanzhou**	**22.25**	**341**	⇓*i*P		**P**	**20 24 10.8**	**+1.4**
QZH				*e*S		**S**	**20 28 14.0**	**+2.4**
QZH				pmax	pmax			
	comp=Z,50nm,0.6s							
QZH				LR	LR			
	comp=N,3μm,17.5s							
QZH				LR	LR			
	comp=E,5μm,21.1s							
QZH				LR	LR			
	comp=Z,8μm,23.8s							
JOW	**Kunigami**	**22.84**	**4**	P		**P**	**20 24 15.5**	**-0.2**
JOW	**Kunigami**	**22.84**	**4**	P		**P**	**20 24 15.5**	**-0.2**
	comp=Z,22nm,0.7s,baz=186,slow=11,SNR=6.7							
WRAB	**Tennant Creek**	**24.93**	**162**	*e*P		**P**	**20 24 35.5**	**+0.1**
	comp=Z,29nm,0.9s							
WRA	**Warramunga Arr**	**24.93**	**162**	P		**P**	**20 24 34.6**	**-0.9**
WRA	**Warramunga Arr**	**24.93**	**162**	P		**P**	**20 24 34.6**	**-0.9**
	comp=Z,20nm,0.7s							
IPM	**Ipoh**	**25.42**	**272**	*e*P		**P**	**20 24 42.3**	**+2.3**
	comp=Z,18nm,1.0s							
MBWA	**Marble Bar**	**25.80**	**195**	*e*P		**P**	**20 24 43.3**	**0.0**
	comp=Z,10nm,0.8s							
ASAR	**Alice Springs**	**28.35**	**166**	P		**P**	**20 25 05.2**	**-1.0**
ASAR	**Alice Springs**	**28.35**	**166**	P		**P**	**20 25 05.2**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=342,slow=7.2,SNR=2.7							
WHN	**Wuhan**	**28.86**	**338**	P		**P**	**20 25 11.6**	**+1.0**
WHN				S		**S**	**20 29 56.9**	**-0.9**
WHN				LR	LR			
	comp=N,3μm,16.9s							
WHN				LR	LR			
	comp=E,4μm,17.2s							
WHN				LR	LR			
	comp=Z,12μm,23.0s							
JNU	**Nakatsue**	**29.33**	**7**	P		**P**	**20 25 13.7**	**-1.1**
JNU	**Nakatsue**	**29.33**	**7**	P		**P**	**20 25 13.7**	**-1.1**
	comp=Z,11nm,1.0s,baz=168,slow=5.7,SNR=4.4							
CMAR	**Chiang Mai Arr**	**30.59**	**300**	P		**P**	**20 25 26.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**30.59**	**300**	P		**P**	**20 25 26.9**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=118,slow=7.0,SNR=8.6							
CHTO	**Chiang Mai**	**30.74**	**301**	*e*P		**P**	**20 25 27.5**	**+0.1**
ENH	**Enshi**	**30.75**	**330**	*e*P		**P**	**20 25 27.2**	**-0.2**
KSAR	**Wonju Array Be**	**33.38**	**2**	P		**P**	**20 25 50.7**	**+0.3**
KSAR				PcP		**PcP**	**20 28 32.2**	**+0.9**
KSRS	**Korea Array**	**33.40**	**2**	P		**P**	**20 25 50.7**	**+0.2**
	comp=Z,2.3nm,0.5s,baz=183,slow=9.9,SNR=7.5							
KSRS				PcP		**PcP**	**20 28 32.2**	**+0.9**
	comp=Z,2.2nm,0.8s,baz=186,slow=3.0,SNR=4.9							
XAN	**Xi'an**	**34.15**	**333**	P		**P**	**20 25 56.4**	**-0.8**
XAN				pmax	pmax			
	comp=Z,15nm,0.8s							
MJAR	**Matsushiro Arr**	**34.20**	**17**	P		**P**	**20 25 58.5**	**+1.0**
MJAR	**Matsushiro Arr**	**34.20**	**17**	P		**P**	**20 25 58.5**	**+1.0**
	comp=Z,2.1nm,0.7s,baz=182,slow=9.5,SNR=5.3							
DL2	**Dalian**	**35.10**	**353**	P		**P**	**20 26 05.4**	**+0.1**
DL2				pmax	pmax			
	comp=Z,30nm,1.0s							
BJT	**Baijiatuau**	**37.13**	**347**	*e*P		**P**	**20 26 22.7**	**+0.1**
	comp=Z,22nm,0.6s							
BJI	**Beijing**	**37.15**	**347**	P		**P**	**20 26 22.9**	**+0.2**
BJI				pmax	pmax			
	comp=Z,25nm,0.8s							
BJI				pmax	pmax			
	comp=Z,210nm,3.8s							
SNY	**Shenyang**	**37.83**	**356**	⇑P		**P**	**20 26 29.1**	**+0.6**
LZH	**Lanzhou**	**38.23**	**330**	*e*P		**P**	**20 26 32.9**	**+0.7**
LZH				pP		**pP**	**20 26 42.8**	**-1.5**
LZH				sP		**sP**	**20 26 47.4**	**-2.3**
LZH				pmax	pmax			
	comp=Z,55nm,1.2s							
LZH				pmax	pmax			
	comp=Z,200nm,4.8s							
STKA	**Stephens Creek**	**38.39**	**159**	*e*P		**P**	**20 26 33.0**	**-0.4**
	comp=Z,7.6nm,0.6s							
STKA	**Stephens Creek**	**38.39**	**159**	*e*P		**P**	**20 26 33.3**	**0.0**
	comp=Z,16nm,0.8s							
STKA	**Stephens Creek**	**38.39**	**159**	P		**P**	**20 26 33.1**	**-0.2**
	comp=Z,16nm,0.7s,baz=329,slow=8.3,SNR=6.2							
CN2	**Changchun**	**39.72**	**359**	*e*P		**P**	**20 26 43.4**	**-0.9**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
USRK	**Ussuriysk Arra**	**40.40**	**6**	P		**P**	**20 26 49.9**	**-0.1**
	comp=Z,5.1nm,0.8s,baz=181,slow=9.1,SNR=6.0							
MDJ	**Mudanjiang**	**40.62**	**3**	P		**P**	**20 26 52.0**	**+0.3**
MDJ				pmax	pmax			
	comp=Z,21nm,1.1s							
MDJ	**Mudanjiang**	**40.62**	**3**	*e*P		**P**	**20 26 52.7**	**+1.0**
	comp=Z,14nm,0.9s							
ARMA	**Armidale**	**41.75**	**147**	*e*P		**P**	**20 27 01.2**	**-0.2**
LSA	**Lhasa**	**42.15**	**311**	*e*P		**P**	**20 27 06.2**	**+1.1**
ASAJ	**Asahikawa**	**42.47**	**17**	P		**P**	**20 27 07.5**	**+0.5**
ASAJ	**Asahikawa**	**42.47**	**17**	P		**P**	**20 27 07.5**	**+0.5**
	comp=Z,8.9nm,0.7s,baz=183,slow=15,SNR=5.3							
GTA	**Gaotai**	**42.82**	**329**	*e*P		**P**	**20 27 10.1**	**+0.1**
GTA				pP		**pP**	**20 27 17.5**	**-4.9**
GTA				sP		sP	20 27 20.1	-7.5
GTA				pmax	pmax			
	comp=Z,10.0nm,0.7s							
TAPN	**Taplejung**	**43.73**	**306**	*e*P		**P**	**20 27 17.8**	**+0.1**
	comp=Z,17nm,0.6s							
ODAN	**Odare**	**43.78**	**305**	*e*P		**P**	**20 27 18.0**	**-0.1**
	comp=Z,22nm,0.7s							
RAMN	**Ramite**	**44.46**	**305**	*e*P		**P**	**20 27 23.7**	**+0.1**
	comp=Z,67nm,1.3s							
JIRN	**Jiri**	**45.08**	**306**	*e*P		**P**	**20 27 28.7**	**0.0**
	comp=Z,4.9nm,0.7s							
GUN	**Gumba**	**45.44**	**306**	*e*P		**P**	**20 27 31.5**	**+0.1**
	comp=Z,36nm,0.7s							
HIA	**Hailar**	**45.55**	**354**	*e*P		**P**	**20 27 31.7**	**+0.2**
	comp=Z,29nm,0.9s							
PKI	**Pulchoki**	**45.68**	**305**	*e*P		**P**	**20 27 32.7**	**-0.7**
KKN	**Kakani**	**45.87**	**306**	*e*P		**P**	**20 27 34.4**	**-0.3**
DMN	**Daman**	**45.94**	**305**	*e*P		**P**	**20 27 35.3**	**0.0**
	comp=Z,29nm,1.0s							
GKN	**Gorkha**	**46.48**	**306**	*e*P		**P**	**20 27 39.0**	**-0.4**
	comp=Z,11nm,0.6s							
DZM	**Mont Dzumac**	**46.82**	**125**	P		**P**	**20 27 43.0**	**+0.9**
DZM	**Mont Dzumac**	**46.82**	**125**	P		**P**	**20 27 43.0**	**+0.9**
	comp=Z,5.1nm,0.7s,baz=319,slow=15,SNR=3.8							
ULN	**Ulaanbaatar**	**46.87**	**342**	*e*P		**P**	**20 27 42.3**	**+0.1**
SONM	**Songino Array**	**47.05**	**342**	P		**P**	**20 27 43.2**	**-0.3**
SONM	**Songino Array**	**47.05**	**342**	P		**P**	**20 27 43.2**	**-0.3**
	comp=Z,14nm,0.7s,baz=155,slow=8.0,SNR=6.8							
KOLN	**Koldanda**	**47.23**	**305**	*e*P		**P**	**20 27 45.6**	**+0.2**
	comp=Z,34nm,0.5s							
DANN	**Dangsing**	**47.33**	**306**	*e*P		**P**	**20 27 46.1**	**-0.1**
	comp=Z,35nm,0.6s							
HYB	**Hyderabad**	**48.85**	**290**	*i* P		**P**	**20 27 57.5**	**-0.3**
PETK	**Petropavlovsk-**	**55.33**	**22**	P		**P**	**20 28 45.8**	**+0.4**
PETK	**Petropavlovsk-**	**55.33**	**22**	P		**P**	**20 28 45.8**	**+0.4**
	comp=Z,4.5nm,0.5s,baz=192,slow=6.3,SNR=4.8							
MK31	**Makanchi Array**	**57.27**	**325**	*e*P		**P**	**20 28 59.0**	**-0.3**
MKAR	**Makanchi Array**	**57.27**	**325**	P		**P**	**20 28 59.2**	**-0.2**
MKAR	**Makanchi Array**	**57.27**	**325**	P		**P**	**20 28 59.2**	**-0.2**
	comp=Z,8.0nm,0.6s,baz=121,slow=7.9,SNR=14							
YAK	**Yakutsk**	**58.02**	**2**	*e*P		**P**	**20 29 04.2**	**0.0**
	comp=Z,64nm,0.9s							
TKM2	**Tokmak 2**	**59.46**	**319**	*e*P		**P**	**20 29 12.4**	**-2.5**
	comp=Z,7.6nm,0.8s							
AAK	**Ala-Archa**	**60.07**	**318**	P		**P**	**20 29 18.9**	**-0.2**
AAK	**Ala-Archa**	**60.07**	**318**	P		**P**	**20 29 18.9**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=157,slow=13,SNR=4.5							
ZALV	**Zalesovo Beam**	**60.32**	**333**	P		**P**	**20 29 19.4**	**-1.0**
ZALV	**Zalesovo Beam**	**60.32**	**333**	P		**P**	**20 29 19.4**	**-1.0**
	comp=Z,6.4nm,0.6s,baz=131,slow=6.7,SNR=15							
EKS2	**Erkin-Say**	**60.56**	**318**	*e*P		**P**	**20 29 20.2**	**-2.2**
	comp=Z,8.2nm,0.9s							
KBL	**Kabul**	**61.23**	**307**	*e*P		**P**	**20 29 27.4**	**+0.2**
	comp=Z,6.5nm,0.8s							
KURBB	**Kurchatov Arra**	**61.46**	**327**	P		**P**	**20 29 27.8**	**-0.4**
	comp=Z,21nm,0.8s,baz=124,slow=6.4,SNR=24							
KURK	**Kurchatov**	**61.46**	**328**	P		**P**	**20 29 27.8**	**-0.4**
KKAR	**Karatay Array**	**62.94**	**317**	*e*P		**P**	**20 29 37.6**	**-0.7**
BVAR	**Borovoye Array**	**67.04**	**327**	P		**P**	**20 30 04.2**	**-0.5**
BVAR	**Borovoye Array**	**67.04**	**327**	P		**P**	**20 30 04.2**	**-0.5**
	comp=Z,5.3nm,0.7s,baz=130,slow=9.3,SNR=8.0							
BRVK	**Borovoye**	**67.11**	**327**	*e*P		**P**	**20 30 04.4**	**-0.7**
ABKAR	**Akbulak array**	**71.86**	**321**	*e*P		**P**	**20 30 33.4**	**-1.1**
AKTO	**Aktyubinsk**	**73.37**	**322**	P		**P**	**20 30 43.5**	**-0.1**
AKTO	**Aktyubinsk**	**73.37**	**322**	P		**P**	**20 30 43.5**	**-0.1**
	comp=Z,11nm,0.8s,baz=98,slow=7.7,SNR=16							
ARU	**Arti**	**74.66**	**328**	*e*P		**P**	**20 30 49.9**	**-0.9**
KDAK	**Kodiak Island**	**81.84**	**32**	P		**P**	**20 31 30.9**	**+0.3**
KDAK	**Kodiak Island**	**81.84**	**32**	P		**P**	**20 31 30.9**	**+0.3**
	comp=Z,10nm,0.7s,baz=205,slow=8.5,SNR=5.9							
COLD	**Coldfoot**	**83.80**	**23**	*e*P		**P**	**20 31 41.1**	**+0.6**
	comp=Z,7.7nm,0.8s							
MCK	**McKinley**	**84.09**	**26**	*e*P		**P**	**20 31 41.7**	**-0.4**
	comp=Z,8.7nm,0.9s							
ILAR	**Eielson Array**	**85.02**	**25**	P		**P**	**20 31 45.9**	**-0.9**
ILAR	**Eielson Array**	**85.02**	**25**	P		**P**	**20 31 45.9**	**-0.9**
	comp=Z,2.3nm,0.9s,baz=241,slow=5.3,SNR=7.7							
ASF	**Jabal al Asfar**

HFS	**Hagfors**	**97.75**	**332**	P	**P**	**20 32 46.2**	**-0.2**
HFS	**Hagfors**	**97.75**	**332**	P	**P**	**20 32 46.2**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=108,slow=9.3,SNR=2.6						
NB2	**NORSAR Subarra**	**98.52**	**334**	P	**P**	**20 32 49.4**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=66,slow=4.6						
NOA	**NORSAR Array B**	**98.52**	**334**	P	**P**	**20 32 49.4**	**-0.6**
NOA	**NORSAR Array B**	**98.52**	**334**	P	**P**	**20 32 49.4**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=68,slow=4.6,SNR=7.9						
YKA	**Yellowknife Ar**	**99.41**	**24**	P	**Pdif**	**20 32 53.8**	**0.0**
YKA	**Yellowknife Ar**	**99.41**	**24**	P	**Pdif**	**20 32 53.8**	**0.0**
	comp=Z,0.3nm,0.6s,baz=302,slow=4.7,SNR=4.2						
BRG	**Berggiesshubel**	**100.95**	**323**	*eP*	**Pdif**	**20 33 01.7**	**+0.8**
	comp=Z,5.7nm,0.9s						
GERES	**GERESS Array B**	**101.80**	**322**	P	**Pdif**	**20 33 04.3**	**-0.6**
GERES	**GERESS Array B**	**101.80**	**322**	P	**Pdif**	**20 33 04.3**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=57,slow=4.9,SNR=6.1						
TORD	**Torodi Ar. Bea**	**122.65**	**288**	PKP	**PKPdf**	**20 38 08.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**122.65**	**288**	PKP	**PKPdf**	**20 38 08.1**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=93,slow=1.8,SNR=6.6						
DBIC	**Dimbokro**	**130.32**	**282**	PKP	**PKPdf**	**20 38 21.8**	**-1.0**
DBIC	**Dimbokro**	**130.32**	**282**	PKP	**PKPdf**	**20 38 21.8**	**-1.0**
	comp=Z,3.1nm,0.9s,baz=146,slow=3.6,SNR=3.5						
PLCA	**Paso Flores**	**140.26**	**160**	PKP	**PKPdf**	**20 38 40.3**	**-0.5**
PLCA	**Paso Flores**	**140.26**	**160**	PKP	**PKPdf**	**20 38 40.3**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=229,slow=4.9,SNR=4.1						
CPUP	**Villa Florida**	**157.42**	**171**	PKPab	**PKPab**	**20 39 41.2**	**+1.7**
CPUP	**Villa Florida**	**157.42**	**171**	PKPab	**PKPab**	**20 39 41.2**	**+1.7**
	comp=Z,4.1nm,0.7s,baz=147,slow=3.7,SNR=9.1						
RCBR	**Riachuelo**	**162.38**	**263**	PKPab	**PKPab**	**20 40 02.4**	**+0.5**
RCBR	**Riachuelo**	**162.38**	**263**	PKPab	**PKPab**	**20 40 02.4**	**+0.5**
	comp=Z,12nm,1.1s,baz=135,slow=5.7,SNR=2.9						

*IDC **11** 20:19:42.9±0.5, 3.79N×126.57E, h0km, mb4.7/30, mb1 4.7/30,mb1mx4.7/32, mbtmp4.7/30, Error ellipse: s-maj=21.4km s-min=10.9km az=73.0*
*ISCJB **11** 20:19:47.6±0.3, 3.79N±0.04×126.54E±0.07, h45km, mb4.8/43, Error ellipse: s-maj=10.5km s-min=5.6km az=164.7*
*NEIC **11** 20:19:48.1±0.3, 3.79N×126.66E, h35km, mb5.1/7, Error ellipse: s-maj=12.9km s-min=6.6km az=80.0*
*DJA **11** 20:19:59, 3.64N×126.98E, h55km, mb5.1/7*
ISC 11 20:19:49.5±0.4, 3.79N±0.06×126.63E±0.09, h45km, n104, σ1§21/96, mb4.8/42, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**2.94**	**217**	P	Pn	20 20 50.5	+17
TNTI	**Ternate**	**3.09**	**166**	P	Pn	20 20 45.6	+10
LUWI	**Luwuk**	**6.16**	**219**	P	Pn	20 21 41.8	+24
AAI	**Ambon**	**7.59**	**168**	P	Pn	20 21 50.3	+13
	132nm,1.0s,0.4nm						
FAKI	**Fak Fak**	**8.72**	**140**	P	Pn	20 21 57.2	+4.0
	102nm,0.8s,0.3nm						
SPSI	**Sidrap Palu**	**10.31**	**222**	P	Pn	20 22 33.6	+19
BAKI	**Biak**	**10.69**	**117**	P	Pn	20 22 23.9	+3.7
	120nm,1.4s						
KAPI	**Kappang**	**11.12**	**218**	Pn	**Pn**	**20 22 26.9**	**+0.9**
KAPI	**Kappang**	**11.12**	**218**	Pn	**Pn**	**20 22 26.9**	**+0.9**
	0.9nm,0.3s,baz=39,slow=13,SNR=3.6						
TLE	**Tual**	**11.18**	**147**	P	Pn	20 22 34.6	+7.7
	101nm,1.0s						
KBKI	**Kotabaru**	**12.60**	**236**	P	**P**	**20 22 56.6**	**-0.1**
	69nm,1.2s						
MMRI	**Maumere**	**13.10**	**200**	P	P	20 23 10.4	+8.2
KHKI	**Kahang-Kahang**	**16.33**	**222**	P	**P**	**20 23 40.2**	**+2.1**
	144nm,0.9s						
BLJI	**Banyuglugur**	**17.33**	**229**	P	P	20 23 57.0	+7.8
	153nm,0.8s						
GMJI	**Gumukmas**	**17.79**	**228**	P	P	20 24 00.4	+6.1
	136nm,1.1s						
FITZ	**Fitzroy Crossi**	**21.78**	**183**	P	**P**	**20 24 36.3**	**-1.3**
FITZ	**Fitzroy Crossi**	**21.78**	**183**	P	**P**	**20 24 36.3**	**-1.3**
	24nm,0.4s,baz=21,slow=4.2,SNR=12						
JOW	**Kunigami**	**22.97**	**4**	P	**P**	**20 24 50.0**	**-0.3**
JOW	**Kunigami**	**22.97**	**4**	P	**P**	**20 24 50.0**	**-0.3**
	30nm,0.7s,baz=153,slow=4.5,SNR=3.4						
KASI	**Kota Agung**	**23.96**	**247**	P	P	20 25 05.3	+5.3
	73nm,1.1s						
PMG	**Port Moresby**	**24.30**	**123**	P	**P**	**20 25 02.6**	**-0.4**
PMG	**Port Moresby**	**24.30**	**123**	P	**P**	**20 25 02.6**	**-0.4**
	8.5nm,0.9s,baz=323,slow=12,SNR=3.1						
WRAB	**Tennant Creek**	**24.77**	**162**	*eP*	**P**	**20 25 05.7**	**-1.5**
	177nm,0.8s						
MBWA	**Marble Bar**	**25.70**	**195**	*eP*	**P**	**20 25 15.8**	**+0.2**
	42nm,1.0s						
AS31	**Alice Springs**	**28.20**	**166**	*eP*	**P**	**20 25 37.9**	**-0.3**
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**	**20 25 36.3**	**-1.9**
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**	**20 25 36.3**	**-1.9**
	14nm,0.9s,baz=343,slow=8.4,SNR=9.3						
JNU	**Nakatsue**	**29.45**	**7**	P	**P**	**20 25 46.7**	**-2.5**
JNU	**Nakatsue**	**29.45**	**7**	P	**P**	**20 25 46.7**	**-2.5**
	7.0nm,0.7s,baz=129,slow=4.3,SNR=3.4						
CTA	**Charters Tower**	**30.58**	**142**	P	**P**	**20 26 00.3**	**+1.0**
CTA	**Charters Tower**	**30.58**	**142**	P	**P**	**20 26 00.3**	**+1.0**
	3.8nm,0.6s,baz=330,slow=12,SNR=3.5						
CMAR	**Chiang Mai Arr**	**30.75**	**300**	P	**P**	**20 26 01.0**	**+0.1**
CMAR				ScP	**ScP**	**20 32 40.8**	**+3.7**
CMAR	**Chiang Mai Arr**	**30.75**	**300**	P	**P**	**20 26 01.0**	**+0.1**
	6.2nm,0.7s,baz=120,slow=6.2,SNR=4.3						
CMAR				ScP	**ScP**	**20 32 40.8**	**+3.7**
	1.2nm,0.8s,baz=139,slow=2.1,SNR=5.0						
KSAR	**Wonju Array Be**	**33.51**	**2**	P	**P**	**20 26 24.9**	**+0.1**
KSAR				PcP	**PcP**	**20 29 06.2**	**+1.2**
KSRS	**Korea Array**	**33.52**	**2**	P	**P**	**20 26 24.9**	**0.0**
	4.8nm,0.8s,baz=179,slow=9.9,SNR=4.1						
KSRS				PcP	**PcP**	**20 29 06.2**	**+1.2**
	2.8nm,0.6s,baz=183,slow=2.7,SNR=7.2						
MAT	**Matsushiro**	**34.29**	**17**	P	**P**	**20 26 33.9**	**+2.2**
MJAR	**Matsushiro Arr**	**34.29**	**17**	P	**P**	**20 26 32.2**	**+0.5**
MJAR	**Matsushiro Arr**	**34.29**	**17**	P	**P**	**20 26 32.2**	**+0.5**
	3.1nm,0.8s,baz=196,slow=11,SNR=4.3						
FORT	**Forrest**	**34.40**	**178**	*eP*	**P**	**20 26 31.9**	**-0.7**
	56nm,0.6s						
KLBR	**Kellerberrin**	**36.19**	**193**	*eP*	**P**	**20 26 47.8**	**-0.2**
	16nm,0.6s						
BJI	**Beijing**	**37.30**	**347**	P	**P**	**20 26 57.1**	**-0.3**
BJI				pmax	pmax		
	comp=Z,36nm,0.7s						
BJI				pmax	pmax		
	comp=Z,1μm,18.3s						
NWAO	**Narrogin (SRO)**	**37.59**	**193**	P	**P**	**20 27 00.2**	**+0.4**
NWAO	**Narrogin (SRO)**	**37.59**	**193**	P	**P**	**20 27 00.2**	**+0.4**
	comp=Z,30nm,0.9s,baz=34,slow=9.4,SNR=5.8						
STKA	**Stephens Creek**	**38.22**	**159**	P	**P**	**20 27 04.8**	**-0.5**
STKA	**Stephens Creek**	**38.22**	**159**	P	**P**	**20 27 04.8**	**-0.5**
	comp=Z,46nm,0.7s,baz=338,slow=8.0,SNR=12						
USRK	**Ussuriysk Arra**	**40.52**	**6**	P	**P**	**20 27 23.2**	**-1.0**
	comp=Z,7.9nm,0.8s,baz=191,slow=6.3,SNR=5.6						
MDJ	**Mudanjiang**	**40.74**	**3**	*eP*	**P**	**20 27 28.3**	**+2.3**
	comp=Z,21nm,0.9s						
ARMA	**Armidale**	**41.57**	**147**	*eP*	**P**	**20 27 31.1**	**-2.2**
	comp=Z,33nm,0.7s						
CNB	**Canberra Magne**	**44.37**	**153**	*eP*	**P**	**20 27 56.5**	**+0.7**
	comp=Z,49nm,0.9s						
TOO	**Toolangi**	**44.73**	**159**	*eP*	**P**	**20 27 59.5**	**+0.9**
	comp=Z,64nm,0.9s						
HIA	**Hailar**	**45.69**	**354**	*eP*	**P**	**20 28 07.5**	**+1.5**
	comp=Z,15nm,0.8s						
DZM	**Mont Dzumac**	**46.66**	**125**	P	**P**	**20 28 14.6**	**+0.5**
DZM	**Mont Dzumac**	**46.66**	**125**	P	**P**	**20 28 14.6**	**+0.5**
	comp=Z,17nm,0.9s,baz=288,slow=7.4,SNR=7.0						
SONM	**Songino Array**	**47.21**	**341**	P	**P**	**20 28 19.2**	**+1.1**
SONM	**Songino Array**	**47.21**	**341**	P	**P**	**20 28 19.2**	**+1.1**
	comp=Z,3.4nm,0.6s,baz=155,slow=8.0,SNR=2.9						
HYB	**Hyderabad**	**49.00**	**290**	*iP*	P	**20 28 32.0**	**-0.3**
PETK	**Petropavlovsk-**	**55.41**	**22**	P	**P**	**20 29 19.3**	**0.0**
PETK	**Petropavlovsk-**	**55.41**	**22**	P	**P**	**20 29 19.3**	**0.0**
	comp=Z,9.0nm,0.7s,baz=189,slow=7.2,SNR=5.9						
MKAR	**Makanchi Array**	**57.45**	**325**	P	**P**	**20 29 33.0**	**-0.9**
MKAR	**Makanchi Array**	**57.45**	**325**	P	**P**	**20 29 33.0**	**-0.9**
	comp=Z,4.3nm,0.5s,baz=122,slow=7.3,SNR=4.6						
ZALV	**Zalesovo Beam**	**60.49**	**333**	P	**P**	**20 29 53.6**	**-1.2**
ZALV	**Zalesovo Beam**	**60.49**	**333**	P	**P**	**20 29 53.6**	**-1.2**
	comp=Z,4.3nm,0.6s,baz=126,slow=6.4,SNR=5.3						
KURBB	**Kurchatov Arra**	**61.63**	**327**	P	**P**	**20 30 02.8**	**+0.1**
	comp=Z,6.7nm,0.7s,baz=270,slow=11,SNR=4.7						
KURK	**Kurchatov**	**61.63**	**328**	P	**P**	**20 30 02.8**	**+0.1**
BVAR	**Borovoye Array**	**67.21**	**327**	P	**P**	**20 30 38.8**	**-0.3**
BVAR	**Borovoye Array**	**67.21**	**327**	P	**P**	**20 30 38.8**	**-0.3**
	comp=Z,7.6nm,0.7s,baz=121,slow=5.5,SNR=5.6						
AKTO	**Aktyubinsk**	**73.55**	**322**	P	**P**	**20 31 17.9**	**+0.1**
AKTO	**Aktyubinsk**	**73.55**	**322**	P	**P**	**20 31 17.9**	**+0.1**
	comp=Z,8.4nm,0.8s,baz=100,slow=7.7,SNR=5.2						
ARU	**Arti**	**74.83**	**328**	*eP*	**P**	**20 31 22.8**	**-2.4**
	comp=Z,13nm,0.9s						
MCK	**McKinley**	**84.16**	**26**	*eP*	**P**	**20 32 14.3**	**-1.5**
	comp=Z,34nm,1.1s						
ILAR	**Eielson Array**	**85.09**	**25**	P	**P**	**20 32 20.5**	**0.0**
ILAR	**Eielson Array**	**85.09**	**25**	P	**P**	**20 32 20.5**	**0.0**
	comp=Z,3.3nm,1.0s,baz=253,slow=6.2,SNR=7.6						
ASF	**Jabal al Asfar**	**87.78**	**302**	P	**P**	**20 32 35.1**	**+0.7**
ASF	**Jabal al Asfar**	**87.78**	**302**	P	**P**	**20 32 35.1**	**+0.7**
	comp=Z,3.1nm,0.7s,baz=208,slow=8.2,SNR=4.8						
EIL	**Elat**	**89.60**	**300**	P	**P**	**20 32 42.2**	**-0.8**
EIL	**Elat**	**89.60**	**300**	P	**P**	**20 32 42.2**	**-0.8**
	comp=Z,4.5nm,0.9s,baz=18,slow=8.4,SNR=3.9						
BRTR	**Keskin Array B**	**89.90**	**310**	P	**P**	**20 32 43.5**	**-0.9**
BRTR	**Keskin Array B**	**89.90**	**310**	P	**P**	**20 32 43.5**	**-0.9**
	comp=Z,3.0nm,0.9s,baz=117,slow=4.1,SNR=6.4						
ARCES	**ARCESS Array B**	**90.36**	**340**	P	**P**	**20 32 45.0**	**-0.7**
ARCES	**ARCESS Array B**	**90.36**	**340**	P	**P**	**20 32 45.0**	**-0.7**
	comp=Z,3.4nm,0.6s,baz=80,slow=6.7,SNR=4.8						
FINES	**FINESS Array B**	**91.73**	**332**	P	**P**	**20 32 51.3**	**-0.9**
FINES	**FINESS Array B**	**91.73**	**332**	P	**P**	**20 32 51.3**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=83,slow=4.8,SNR=3.3						
AKASG	**Malin Array Be**	**91.78**	**321**	P	**P**	**20 32 51.8**	**-0.9**
AKASG	**Malin Array Be**	**91.78**	**321**	P	**P**	**20 32 51.8**	**-0.9**
	comp=Z,1.5nm,0.6s,baz=79,slow=3.5,SNR=4.2						
HFS	**Hagfors**	**97.92**	**332**	P	**P**	**20 33 19.6**	**-0.9**
HFS	**Hagfors**	**97.92**	**332**	P	**P**	**20 33 19.6**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=90,slow=7.2,SNR=2.7						
NB2	**NORSAR Subarra**	**98.69**	**334**	P	**P**	**20 33 22.7**	**-1.3**
	baz=67,slow=4.6						
NB2	**NORSAR Subarra**	**98.69**	**334**	P	**P**	**20 33 22.7**	**-1.3**
	comp=Z,3.2nm,0.8s,baz=67,slow=4.6						
NOA	**NORSAR Array B**	**98.69**	**334**	P	**P**	**20 33 22.9**	**-1.0**
NOA	**NORSAR Array B**	**98.69**	**334**	P	**P**	**20 33 22.9**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=69,slow=4.5,SNR=3.4						
YKA	**Yellowknife Ar**	**99.49**	**24**	P	**Pdif**	**20 33 25.6**	**-1.9**
YKA	**Yellowknife Ar**	**99.49**	**24**	P	**Pdif**	**20 33 25.5**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=302,slow=4.5,SNR=3.6						
GERES	**GERESS Array B**	**101.97**	**322**	P	**Pdif**	**20 33 37.0**	**-1.9**
GERES	**GERESS Array B**	**101.97**	**322**	P	**Pdif**	**20 33 37.0**	**-1.9**
	comp=Z,0.8nm,0.8s,baz=163,slow=5.0,SNR=4.2						
SCHQ	**Schefferville**	**120.52**	**9**	PKP	**PKPdf**	**20 38 36.6**	**+0.3**
SCHQ	**Schefferville**	**120.52**	**9**	PKP	**PKPdf**	**20 38 36.6**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=260,slow=6.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**122.80**	**288**	PKP	**PKPdf**	**20 38 40.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**122.80**	**288**	PKP	**PKPdf**	**20 38 40.9**	**-0.8**
	comp=Z,3.0nm,0.7s,baz=71,slow=1.5,SNR=9.5						
DBIC	**Dimbokro**	**130.46**	**282**	PKP	**PKPdf**	**20 38 57.2**	**+0.9**
DBIC	**Dimbokro**	**130.46**	**282**	PKP	**PKPdf**	**20 38 57.2**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=315,slow=5.8,SNR=4.2						
PLCA	**Paso Flores**	**140.10**	**160**	PKP	**PKPdf**	**20 39 14.8**	**+1.1**
PLCA	**Paso Flores**	**140.10**	**160**	PKP	**PKPdf**	**20 39 14.8**	**+1.1**
	comp=Z,2.4nm,0.8s,baz=206,slow=6.4,SNR=3.4						
CPUP	**Villa Florida**	**157.27**	**171**	PKPab	**PKPab**	**20 40 11.3**	**-0.9**
CPUP	**Villa Florida**	**157.27**	**171**	PKPab	**PKPab**	**20 40 11.3**	**-0.9**
	comp=Z,2.2nm,0.6s,baz=144,slow=1.7,SNR=4.5						

MEX 11 20:24:43.8±0.7, 15.62N×93.57W, h84km±7km, MD3.6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.34**	**76**	*eP*	Pn	20 24 55.3	-1.5
PCIG				*i* S	Sn	20 25 05.1	-1.3
TGIG		**1.22**	**20**	*i* P	Pn	20 25 04.7	-1.2
TGIG				*i* S	Sn	20 25 20.5	-2.1
THIG		**1.44**	**119**	*i* P	Pn	20 25 07.7	-0.9
THIG				*i* S	Sn	20 25 25.3	-1.9
CCIG	**Comitan**	**1.52**	**64**	*i* P	Pn	20 25 09.2	-0.7
CCIG				*i* S	Sn	20 25 27.7	-1.8
CMIG	**Matias Romero**	**1.93**	**319**	*i* P	Pn	20 25 12.9	-2.0
CMIG				*i* S	Sn	20 25 37.5	-1.2

*IDC **11** 20:26:37.9±0.6, 3.77N×126.72E, h0km, mb4.1/15, mb1 4.3/15,mb1mx4.1/22, mbtmp4.1/15, Error ellipse: s-maj=33.6km s-min=13.8km az=73.0*
*ISCJB **11** 20:26:43.2±0.5, 3.75N±0.08×126.7E±0.1, h53km, mb4.3/21, Error ellipse: s-maj=22.1km s-min=8.3km az=157.9*
*NEIC **11** 20:26:43.2±0.4, 3.76N×126.70E, h35km, mb4.5/5, Error ellipse: s-maj=22.3km s-min=8.3km az=71.0*
ISC 11 20:26:44.9±0.6, 3.72N±0.10×126.7E±0.2, h53km, n42, σ0§93/41, mb4.2/21, 2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.94**	**323**	*eP*	**Pn**	**20 27 30.1**	**+0.8**
GSPH				*eS*	Sn	20 28 13.7	+10
KCP	**Kidapawan**	**3.65**	**334**	*eP*	Pn	20 27 43.6	+4.6
KCP				*i* S	Sn	20 28 39.6	+19
CTBH	**Cotabato--PC H**	**4.26**	**325**	*iP*	**Pn**	**20 27 47.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**21.71**	**183**	P	**P**	**20 31 30.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**21.71**	**183**	P	**P**	**20 31 30.4**	**-1.3**
	2.3nm,0.5s,baz=32,slow=9.5,SNR=2.1						
WRAB	**Tennant Creek**	**24.68**	**163**	*eP*	**P**	**20 32 03.4**	**+2.4**
	24nm,0.7s						
WRA	**Warramunga Arr**	**24.68**	**163**	P	**P**	**20 32 01.1**	**0.0**
WRA	**Warramunga Arr**	**24.68**	**163**	P	**P**	**20 32 01.1**	**0.0**
	794nm,1.3s,baz=0.0,slow=0.0,SNR=8.8						
ASAR	**Alice Springs**	**28.11**	**166**	P	**P**	**20 32 33.1**	**+1.1**
ASAR	**Alice Springs**	**28.11**	**166**	P	**P**	**20 32 33.1**	**+1.1**
	0.9nm,0.5s,baz=349,slow=7.0,SNR=4.8						
CMAR	**Chiang Mai Arr**	**30.86**	**300**	P	**P**	**20 32 58.0**	**+1.4**
CMAR	**Chiang Mai Arr**	**30.86**	**300**	P	**P**	**20 32 58.0**	**+1.4**
	1.8nm,0.9s,baz=164,slow=2.1,SNR=5.8						
KSAR	**Wonju Array Be**	**33.58**	**2**	P	**P**	**20 33 21.1**	**+1.1**
KSRS	**Korea Array**	**33.59**	**2**	P	**P**	**20 33 21.1**	**+1.0**
	1.0nm,0.7s,baz=174,slow=12,SNR=3.7						
XAN	**Xi'an**	**34.42**	**333**	P	**P**	**20 33 25.8**	**-1.6**
XAN				pP	pP	20 33 34.6	-6.5
XAN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
STKA	**Stephens Creek**	**38.13**	**159**	*eP*	**P**	**20 33 58.9**	**-0.2**
	comp=Z,2.6nm,0.8s						
STKA	**Stephens Creek**	**38.13**	**159**	P	**P**	**20 33 59.0**	**0.0**
	comp=Z,11nm,0.7s,baz=324,slow=7.2,SNR=12						
LSA	**Lhasa**	**42.43**	**311**	*eP*	**P**	**20 34 35.5**	**+0.1**
	comp=Z,3.0nm,0.6s						
SONM	**Songino Array**	**47.30**	**341**	P	**P**	**20 35 12.6**	**-0.8**
SONM	**Songino Array**	**47.30**	**341**	P	**P**	**20 35 12.6**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=168,slow=7.4,SNR=3.6						
PETK	**Petropavlovsk-**	**55.44**	**22**	P	**P**	**20 36 13.8**	**-0.3**
PETK	**Petropavlovsk-**	**55.44**	**22**	P	**P**	**20 36 13.8**	**-0.3**
	comp=Z,4.3nm,0.9s,baz=171,slow=5.8,SNR=4.4						
MK31	**Makanchi Array**	**57.55**	**325**	*eP*	**P**	**20 36 28.2**	**-1.1**
MKAR	**Makanchi Array**	**57.55**	**325**	P	**P**	**20 36 27.9**	**-1.3**
MKAR	**Makanchi Array**	**57.55**	**325**	P	**P**	**20 36 27.9**	**-1.3**
	comp=Z,1.1nm,0.4s,baz=118,slow=7.3,SNR=11						
KURBB	**Kurchatov Arra**	**61.74**	**327**	P	**P**	**20 36 58.1**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=128,slow=6.2,SNR=10.0						
KURK	**Kurchatov**	**61.74**	**328**	*eP*	**P**	**20 36 57.8**	**-0.1**
	comp=Z,4.1nm,0.6s						
BVAR	**Borovoye Array**	**67.32**	**327**	P	**P**	**20 37 34.5**	**+0.3**
BVAR	**Borovoye Array**	**67.32**	**327**	P	**P**	**20 37 34.5**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=126,slow=9.3,SNR=7.2						
BRVK	**Borovoye**	**67.39**	**327**	*eP*	**P**	**20 37 35.0**	**+0.3**
	comp=Z,3.1nm,0.8s						
AKTO	**Aktyubinsk**	**73.66**	**322**	P	**P**	**20 38 12.4**	**-0.6**
AKTO	**Aktyubinsk**	**73.66**	**322**	P	**P**	**20 38 12.4**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=75,slow=12,SNR=4.7						
ILAR	**Eielson Array**	**85.12**	**25**	P	**P**	**20 39 15.2**	**+0.2**
ILAR	**Eielson Array**	**85.12**	**25**	P	**P**	**20 39 15.2**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=242,slow=6.1,SNR=6.7						
BRTR	**Keskin Array B**	**90.02**	**310**	P	**P**	**20 39 39.6**	**+0.3**
BRTR	**Keskin Array B**	**90.02**	**310**	P	**P**	**20 39 39.6**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=117,slow=4.1,SNR=5.1						
ARCES	**ARCESS Array B**	**90.45**	**340**	P	**P**	**20 39 39.8**	**-0.8**
ARCES	**ARCESS Array B**	**90.45**	**340**	P	**P**	**20 39 39.8**	**-0.8**
	comp=Z,2.7nm,0.8s,baz=81,slow=5.6,SNR=2.9						
FINES	**FINESS Array B**	**91.83**	**332**	P	**P**	**20 39 47.0**	**-0.1**
FINES	**FINESS Array B**	**91.83**	**332**	P	**P**	**20 39 46.9**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=141,slow=4.6,SNR=3.0						
TORD	**Torodi Ar. Bea**	**122.91**	**288**	PKP	**PKPdf**	**20 45 37.5**	**+1.2**
TORD	**Torodi Ar. Bea**	**122.91**	**288**	PKP	**PKPdf**	**20 45 37.5**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=70,slow=3.1,SNR=3.9						

*BJI **11** 20:27:22.3, 3.63N×126.53E, h30km, mB5.5/8, mb5.0/35, Ms5.2/5, Ms7 5.0/5*
*MOS **11** 20:27:23.0±0.8, 3.69N×126.63E, h33km, mb5.3/30, Error ellipse: s-maj=13.4km s-min=6.2km az=113.1*
*IDC **11** 20:27:23.9±3.9, 3.70N×126.60E, h24km±25km, mb4.6/36, mb1 4.7/36,mb1mx4.7/37, mbtmp4.6/36, Error ellipse: s-maj=16.7km s-min=10.1km az=80.0*
*ISCJB **11** 20:27:23.7±0.2, 3.78N±0.03×126.65E±0.04, h33km, mb5.0/101, MS5.1/1, Error ellipse: s-maj=5.9km s-min=4.3km az=162.5*
*NEIC **11** 20:27:25.3±0.2, 3.72N×126.60E, h35km, mb5.2/22, Error ellipse: s-maj=9.0km s-min=5.3km az=84.0*
NEIC Felt [III] in the Kepulauan Talaud.
*DJA **11** 20:27:32, 3.53N×126.66E, h71km, mb5.0/37*
ISC 11 20:27:25.3±0.5, 3.71N±0.04×126.63E±0.06, h33km±2km, h33km:pP-P, n259, σ1§35/255, mb5.0/100, 13C-12D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**2.88**	**219**	P	**Pb**	**20 28 13.6**	**-2.3**
TNTI	**Ternate**	**3.01**	**166**	P	**Pn**	**20 28 12.5**	**+1.9**
MATI	**Mati**	**3.24**	**353**	*eP*	**Pn**	**20 28 15.9**	**+2.1**
DAV	**Davao City (W)**	**3.50**	**343**	Pn	Pn	20 28 21.4	+4.0
DAV				Sn	**Sb**	**20 29 12.8**	**+4.1**
DAV	**Davao City (W)**	**3.50**	**343**	P	Pb	20 28 43.1	+17
DAV	**Davao City (W)**	**3.50**	**343**	Pn	Pn	20 28 21.4	+4.0
	27nm,0.3s,baz=72,slow=19,SNR=4.0						
DAV				Sn	**Sb**	**20 29 12.8**	**+4.1**
	128nm,0.3s,baz=103,slow=20,SNR=4.9						
KMSI	**Cibinong**	**4.09**	**220**	P	Pb	20 28 46.8	+10
LBMI	**Labuha**	**4.40**	**169**	P	**Pb**	**20 28 40.8**	**-1.1**
BUKP	**Musuan**	**4.43**	**339**	*eP*	**Pn**	**20 28 33.0**	**+2.8**
CGP	**Cagayan de Oro**	**5.09**	**338**	*eP*	Pn	20 28 44.8	+5.5
CGP				*i* S	**Sb**	**20 29 50.7**	**-3.8**
PAGZ	**Pagadian**	**5.23**	**322**	*eP*	**Pn**	**20 28 43.6**	**+2.4**
ZMPH	**Zamboanga City**	**5.58**	**306**	*iP*	**Pn**	**20 28 48.3**	**+2.3**
ZMPH				*i* S	**Sn**	**20 29 49.1**	**+0.2**
MRSI	**Marisa**	**5.68**	**236**	P	Pn	20 28 52.1	+4.7
	302nm,1.1s,4μm1.0nm						
IPIL	**Ipil**	**5.72**	**315**	*eP*	**Pn**	**20 28 50.6**	**+2.6**
LUWI	**Luwuk**	**6.10**	**219**	P	Pb	20 29 04.5	-6.3
	447nm,1.6s,6μm2.9nm						
MSLP	**Maasin**	**6.62**	**345**	*eP*	Pn	20 29 04.6	+4.3
MSAI	**Masohi**	**7.37**	**162**	P	Pb	20 29 28.7	-3.8
GUIM	**

BJT	Baijiatuau	37.37	347	eP		P	20	34	35.9 +1.0
	comp=Z,85nm,0.8s								
BJI	Beijing	37.39	347	P		P	20	34	36.0 +1.0
BJI				pmax	pmax				
	comp=Z,110nm,0.8s								
NWAO	Narrogin (SRO)	37.51	193	P		P	20	34	36.0 -0.1
NWAO	Narrogin (SRO)	37.51	193	P		P	20	34	36.0 -0.1
	comp=Z,12nm,0.9s,baz=39,slow=11,SNR=4.0								
STKA	Stephens Creek	38.14	159	eP		P	20	34	40.8 -0.8
	comp=Z,3.3nm,0.6s								
STKA	Stephens Creek	38.14	159	P		P	20	34	40.5 -1.0
	comp=Z,16nm,0.7s,baz=330,slow=8.6,SNR=11								
LZH	Lanzhou	38.47	330	eP		P	20	34	44.7 +0.2
LZH				pP		pP	20	34	54.0 -0.2
LZH				sP		sP	20	34	58.0 -0.2
LZH				pmax	pmax				
	comp=Z,28nm,1.2s								
VLA	Vladivostok	39.52	6	c iP		P	20	34	51.9 -1.0
VLA				e			20	36	22.4
VLA							20	36	58.2
VLA				S		S	20	40	53.0 -0.1
VLA				pmax	pmax				
	comp=Z,41nm,1.4s								
SHL	Shillong	39.81	306	ePKP		P	20	34	56.0 +0.2
SHL				eS		S	20	40	58.0 -0.4
CN2	Changchun	39.94	359	eP		P	20	34	56.2 -0.2
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
USRK	Ussuriysk Arra	40.60	6	P		P	20	35	01.6 -0.2
	comp=Z,4.7nm,0.4s,baz=186,slow=7.2,SNR=19								
MDJ	Mudanjiang	40.82	3	P		P	20	35	03.7 0.0
MDJ				pmax	pmax				
	comp=Z,38nm,1.4s								
MDJ	Mudanjiang	40.82	3	eP		P	20	35	04.1 +0.4
	comp=Z,82nm,1.4s								
LSA	Lhasa	42.38	311	eP		P	20	35	17.1 -0.2
LSA				pmax	pmax				
	comp=Z,18nm,0.6s								
LSA	Lhasa	42.38	311	eP		P	20	35	17.1 -0.2
	comp=Z,18nm,0.6s								
ASAJ	Asahikawa	42.64	17	P		P	20	35	16.5 -2.0
ASAJ	Asahikawa	42.64	17	P		P	20	35	16.5 -2.0
	comp=Z,17nm,0.8s,baz=246,slow=15,SNR=6.8								
GTA	Gaotai	43.07	329	eP		P	20	35	23.0 +0.7
GTA				pP		pP	20	35	34.9 +2.8
GTA				sP		sP	20	35	38.9 +2.8
GTA				PcP		PcP	20	37	13.1 +1.1
GTA				pmax	pmax				
	comp=Z,7.0nm,0.8s								
TAPN	Taplejung	43.95	306	eP		P	20	35	29.3 -0.5
	comp=Z,48nm,1.1s								
ODAN	Odare	44.00	306	eP		P	20	35	29.7 -0.5
	comp=Z,38nm,0.7s								
RAMN	Ramite	44.68	305	eP		P	20	35	35.2 -0.4
	comp=Z,41nm,0.9s								
HABR	Khabarovsk	45.18	8	eP		P	20	35	37.1 -1.8
HABR				e*PP		pP	20	35	46.6 -2.1
HABR				S		S	20	42	15.3 -1.0
HABR				e*SS		sS	20	42	31.7 -0.9
HABR				e			20	45	31.3
HABR				eSSS		SSS	20	46	27.1
HABR				pmax	pmax				
	comp=Z,84nm,1.7s								
HABR				pmax	pmax				
	comp=N,36nm,2.1s								
HABR				pmax	pmax				
	comp=E,23nm,1.4s								
HABR				MLR	MLR				
	comp=Z,2μm,16.0s								
YSS	Yuzh-Sakhalins	45.29	16	eP		P	20	35	40.8 +1.0
YSS				pmax	pmax				
	comp=Z,40nm,1.1s								
JIRN	Jiri	45.31	306	eP		P	20	35	40.4 -0.3
	comp=Z,8.6nm,0.7s								
KLR	Kul'dur	45.56	5	eP		P	20	35	38.3 -3.6
KLR				pmax	pmax				
	comp=Z,80nm,1.6s								
GUN	Gumba	45.66	306	eP		P	20	35	43.1 -0.4
	comp=Z,45nm,0.7s								
HIA	Hailar	45.77	354	eP		P	20	35	44.0 +0.4
	comp=Z,56nm,1.1s								
PKI	Pulchoki	45.90	305	eP		P	20	35	44.5 -0.9
KKN	Kakani	46.10	306	eP		P	20	35	46.2 -0.6
	comp=Z,9.9nm,0.4s								
DMN	Daman	46.16	305	eP		P	20	35	46.7 -0.7
	comp=Z,22nm,0.9s								
DZM	Mont Dzumac	46.60	125	P		P	20	35	50.8 +0.2
DZM	Mont Dzumac	46.60	125	P		P	20	35	50.8 +0.2
	comp=Z,6.4nm,0.7s,baz=34,slow=5.0,SNR=6.9								
GKN	Gorkha	46.70	306	eP		P	20	35	50.7 -0.8
	comp=Z,10nm,0.5s								
ULN	Ulaanbaatar	47.11	342	P		P	20	35	55.6 +1.3
	SNR=6.3								
ULN	Ulaanbaatar	47.11	342	P		P	20	35	55.2 +0.9
	comp=Z,103nm,1.5s								
SONM	Songino Array	47.29	342	P		P	20	35	55.1 -0.6
SONM	Songino Array	47.29	342	P		P	20	35	55.1 -0.6
	comp=Z,6.0nm,0.7s,baz=156,slow=8.7,SNR=21								
KOLN	Koldanda	47.46	305	eP		P	20	35	56.8 -0.6
	comp=Z,43nm,0.6s								
DANN	Dangsing	47.55	306	eP		P	20	35	57.5 -0.7
	comp=Z,54nm,0.6s								
HYB	Hyderabad	49.03	290	i P		P	20	36	09.0 -0.5
CIT	Chita	49.37	349	eP		P	20	36	12.1 +0.5
CIT				e			20	36	19.4
CIT				e			20	36	26.2
TLY	Talaya	51.52	342	eP		P	20	36	27.4 -0.4
TLY				pmax	pmax				
	comp=Z,8.0nm,0.7s								
TLY	Talaya	51.52	342	P		P	20	36	28.9 +1.1
	SNR=5.6								
IRK	Irkutsk	51.82	343	eP		P	20	36	29.8 -0.2
IRK				pmax	pmax				
	comp=Z,22nm,1.6s								
MOY	Mondy	52.37	340	eP		P	20	36	37.2 +3.0
MOY				pmax	pmax				
	comp=Z,20nm,1.7s								
DDI	Dehra Dun	52.90	306	ex		P	20	36	37.0 -1.5
BOD	Bodaibo	54.87	352	eP		P	20	36	52.4 +0.1
BOD				pmax	pmax				
	comp=Z,20nm,1.2s								
PETK	Petropavlovsk-	55.49	22	P		P	20	36	57.5 +0.7
PETK	Petropavlovsk-	55.49	22	P		P	20	36	57.5 +0.7
PETK	Petropavlovsk-	55.49	22	P		P	20	36	57.5 +0.7
	comp=Z,9.6nm,0.7s,baz=182,slow=4.6,SNR=18								
MK31	Makanchi Array	57.52	325	i P		P	20	37	10.8 -0.7
MK31				pmax	pmax				
	comp=Z,4.0nm,0.4s								
MK31	Makanchi Array	57.52	325	eP		P	20	37	10.8 -0.7
MKAR	Makanchi Array	57.52	325	ceP		P	20	37	11.0 -0.5
MKAR				pmax	pmax				
	comp=Z,4.0nm,0.4s								
MKAR	Makanchi Array	57.52	325	P		P	20	37	11.3 -0.2
MKAR				ScP		ScP	20	42	02.2 -0.2
MKAR	Makanchi Array	57.52	325	P		P	20	37	11.3 -0.2
	comp=Z,4.3nm,0.5s,baz=119,slow=7.9,SNR=13								
MKAR				ScP		ScP	20	42	02.2 -0.2
	comp=Z,0.5nm,0.7s,baz=145,slow=5.3,SNR=3.6								
YAK	Yakutsk	58.23	2	eP		P	20	37	16.0 -0.1
YAK				e			20	37	21.4
YAK				pmax	pmax				
	comp=Z,38nm,1.1s								
YAK				pmax	pmax				
	comp=N,25nm,1.5s								
YAK				pmax	pmax				
	comp=E,5.0nm,1.5s								
YAK	Yakutsk	58.23	2	eP		P	20	37	15.9 -0.1
	comp=E,30nm,0.8s								
KZA	Kyzart	59.57	318	P		P	20	37	27.3 +1.0
	SNR=10								
TKM2	Tokmak 2	59.70	319	i P		P	20	37	27.4 +0.4
TKM2	Tokmak 2	59.70	319	eP		P	20	37	27.2 +0.2
	comp=E,16nm,1.0s								
TKM2	Tokmak 2	59.70	319	P		P	20	37	27.4 +0.4
	SNR=7.7								
KBK	Karagaybulak	60.02	318	P		P	20	37	29.5 +0.4
	SNR=6.7								
CHMS	Chumysh	60.29	318	P		P	20	37	30.9 +0.1
	SNR=5.7								
AAK	Ala-Archa	60.31	318	eP		P	20	37	31.9 +0.8
AAK				pmax	pmax				
	comp=Z,25nm,1.2s								
AAK	Ala-Archa	60.31	318	P		P	20	37	30.8 -0.3
AAK	Ala-Archa	60.31	318	P		P	20	37	30.8 -0.3
	comp=Z,4.7nm,0.8s,baz=164,slow=11,SNR=11								
ZALV	Zalesovo Beam	60.56	333	P		P	20	37	31.1 -1.2
ZALV	Zalesovo Beam	60.56	333	P		P	20	37	31.1 -1.2
ZALV	Zalesovo Beam	60.56	333	P		P	20	37	31.1 -1.2
	comp=Z,2.7nm,0.4s,baz=131,slow=7.3,SNR=8.2								
USP	Ospenovka	60.57	319	P		P	20	37	33.8 +1.1
	SNR=13								
AML	Almayashu	60.64	317	P		P	20	37	34.4 +0.7
	SNR=13								
EKS2	Erkin-Say	60.80	318	eP		P	20	37	35.0 +0.6
EKS2				pmax	pmax				
	comp=Z,17nm,0.8s								
EKS2	Erkin-Say	60.80	318	eP		P	20	37	35.0 +0.6
	comp=Z,17nm,0.8s								
EKS2	Erkin-Say	60.80	318	P		P	20	37	35.9 +1.5
	SNR=10.0								
KBL	Kabul	61.46	308	eP		P	20	37	38.5 -0.6
KBL				pmax	pmax				
	comp=Z,13nm,0.8s								
KBL	Kabul	61.46	308	eP		P	20	37	38.5 -0.6
	comp=Z,12nm,0.8s								
KURBB	Kurchatov Arra	61.70	327	P		P	20	37	39.8 -0.4
	comp=Z,11nm,0.5s,baz=131,slow=5.7,SNR=21								
KURK	Kurchatov	61.71	328	eP		P	20	37	40.1 -0.1
KURK				pmax	pmax				
	comp=Z,30nm,1.0s								
KURK	Kurchatov	61.71	328	P		P	20	37	39.8 -0.4
KURK	Kurchatov	61.71	328	P		P	20	37	39.9 -0.2
	SNR=6.2								
NVS	Novosibirsk	61.85	333	eP		P	20	37	43.5 +2.5
NVS				pmax	pmax				
	comp=Z,14nm,1.2s								
NVS				pmax	pmax				
	comp=N,2.0nm,0.5s								
NVS				pmax	pmax				
	comp=E,3.0nm,0.7s								
SEY	Seymchan	62.08	13	eP		P	20	37	42.9 +0.5
FX1	Attu Island--F	62.15	30	P		P	20	37	44.3 +1.2
FX1	Attu Island--F	62.15	30	P		P	20	37	44.3 +1.2
	comp=E,14nm,0.7s,baz=305,slow=13,SNR=3.5								
KK31	Karatay Array	63.18	317	i P		P	20	37	49.2 -1.1
KK31				pmax	pmax				
	comp=Z,16nm,0.8s								
KKAR	Karatay Array	63.18	317	eP		P	20	37	49.3 -1.0
KKAR				pmax	pmax				
	comp=Z,14nm,0.8s								
KKAR	Karatay Array	63.18	317	eP		P	20	37	49.3 -1.0
	comp=Z,14nm,0.8s								
BVAR	Borovoye Array	67.29	327	P		P	20	38	16.9 +0.3
BVAR	Borovoye Array	67.29	327	P		P	20	38	16.9 +0.3
BVAR	Borovoye Array	67.29	327	P		P	20	38	16.9 +0.3
	comp=Z,20nm,0.9s,baz=126,slow=7.5,SNR=31								
BRVK	Borovoye	67.36	327	d iP		P	20	38	16.6 -0.5
BRVK				pmax	pmax				
	comp=Z,53nm,1.2s								
BRVK	Borovoye	67.36	327	eP		P	20	38	16.8 -0.2
	comp=Z,41nm,1.0s								
BRVK	Borovoye	67.36	327	P		P	20	38	16.9 -0.2
	SNR=11								
BILL	Bilibino	69.60	15	eP		P	20	38	31.5 +0.7
BILL				e			20	38	52.2
BILL				e			20	41	05.4
BILL				pmax	pmax				
	comp=Z,14nm,1.7s								
AB31	Akbulak array	72.11	321	i P		P	20	38	45.7 -0.7
AB31				pmax	pmax				
	comp=Z,10.0nm,0.6s								
ABKAR	Akbulak array	72.11	321	eP		P	20	38	45.5 -0.9
	comp=Z,11nm,0.7s								
AKTO	Aktyubinsk	73.62	322	i P		P	20	38	54.5 -0.8
AKTO				pmax	pmax				
	comp=Z,4.0nm,0.9s								
AKTO	Aktyubinsk	73.62	322	P		P	20	38	54.5 -0.8
AKTO	Aktyubinsk	73.62	322	P		P	20	38	54.5 -0.8
	comp=Z,16nm,0.8s,baz=98,slow=7.9,SNR=34								
SVE	Sverdlovsk	73.93	328	eP		P	20	38	56.6 -0.4
SVE				pmax	pmax				
	comp=Z,22nm,0.9s								
GAMB	Gambell	74.46	24	eP		P	20	39	01.6 +1.7
	comp=Z,49nm,1.5s								
ARU	Arti	74.90	328	d iP		P	20	39	02.3 -0.4
ARU							20	41	44.9
ARU				S		S	20	48	37.0 -0.6
ARU				SS		SS	20	53	21.0 -5.2
ARU				pmax	pmax				
	comp=Z,23nm,1.0s								
ARU	Arti	74.90	328	P		P	20	39	02.5 -0.2
	comp=Z,150nm,0.6s,SNR=7.5								
QRN	Al-Qurain	78.33	298	eP		P	20	39	21.6 -1.1
UMR	Umm Al-Rimmam	78.54	299	eP		P	20	39	22.4 -1.4
RDF	Al-Radifah	78.66	299	eP		P	20	39	22.6 -1.9
RDF				AMb	AMb		20	39	32.3
	comp=Z,38nm,1.7s								
MIB	Mutribah	78.88	299	eP		P	20	39	24.4 -1.3
MIB				AMb	AMb		20	39	25.8
	comp=Z,38nm,1.4s								
NAY	Al-Naaiem	78.94	299	eP		P	20	39	24.4 -1.7
NAY				AMb	AMb		20	39	27.1
	comp=Z,16nm,1.6s								
BHD	Baghdad	81.50	303	i x		P	20	39	39.7 0.0
BHD				i x		x	20	49	53.0
KDAK	Kodiak Island	81.96	32	P		P	20	39	41.0 -0.6
KDAK	Kodiak Island	81.96	32	P		P	20	39	41.0 -0.6
	comp=Z,26nm,1.2s,baz=280,slow=12,SNR=3.0								
ZEI	Tsey	82.16	312	eP		P	20	39	42.5 -0.8
ZEI				pmax	pmax				
	comp=Z,8.0nm,0.9s								
TRF	Thorofare Moun	83.60	27	eP		P	20	39	49.7 -0.6
	comp=Z,93nm,1.8s								
VRHR	Novokhopersk	84.00	321	eP		P	20	39	51.6 -0.7
VRHR				pmax	pmax				
	comp=N,10.0nm,0.7s								
VRHR				pmax	pmax				
	comp=Z,20nm,0.7s								
VRHR				pmax	pmax				
	comp=E,10.0nm,1.0s								
MCK	McKinley	84.22	26	eP		P	20	39	52.1 -1.2
MCK				pmax	pmax				
	comp=Z,147nm,1.9s								
MCK	McKinley	84.22	26	eP		P	20	39	52.1 -1.2
	comp=Z,147nm,1.9s								
ILAR	Eielson Array	85.16	25	P		P	20	39	58.6 +0.6
ILAR	Eielson Array	85.16	25	P		P	20	39	58.6 +0.6
	comp=Z,0.9nm,0.5s,baz=246,slow=5.5,SNR=16								
KLMR	Klimovskoe	85.38	331	eP		P	20	39	56.7 -2.4
KLMR				pmax	pmax				
	comp=Z,85nm,1.2s								
VORD	Divnogorie	85.47	321	eP		P	20	39	58.5 -1.2
VSR	Storozhevoye	85.55	321	eP		P	20	39	59.0 -1.1
VSR				pmax	pmax				
	comp=Z,20nm,1.2s								
VSR				pmax	pmax				
	comp=N,4.0nm,0.8s								
VSR				pmax	pmax				
	comp=E,10.0nm,1.1s								
DIV	Divide	85.61	29	eP		P	20	40	01.5 +1.2
	comp=E,65nm,1.3s								
MOS	Moscow	86.40	325	eP		P	20	40	02.6 -1.6
MOS				pmax	pmax				
	comp=Z,90nm,1.1s								
MENT	Mentasta	86.56	27	eP		P	20	40	07.4 +2.5
OBN	Obninsk	87.02	325	eP		P	20	40	06.6 -0.7
OBN				pmax	pmax				
	comp=Z,68nm,1.7s								
KMBO	Kilima Mbogo	89.45	269	P		P	20	40	21.1 +1.0
	SNR=6.0								
EIL	Elat	89.65	300	P		P	20	40	19.7 -0.6
EIL	Elat	89.65	300	P		P	20	40	19.7 -0.6
	comp=Z,11nm,1.1s,baz=60,slow=5.7,SNR=5.5								
BRTR	Keskin Array B	89.96	310	P		P	20	40	20.8 -1.0
BRTR	Keskin Array B	89.96	310	P		P	20	40	20.8 -1.0
	comp=Z,5.2nm,0.9s,baz=129,slow=4.0,SNR=20								
ARCES	ARCESS Array B	90.44	340	P		P	20	40	22.6 -0.5
ARCES	ARCESS Array B	90.44	340	P		P	20	40	22.6 -0.5
	comp=Z,8.6nm,0.8s,baz=82,slow=6.4,SNR=14								
SPITS	Spitsbergen Ar	90.48	349	P		P	20	40	24.4 +1.1
SPITS	Spitsbergen Ar	90.48	349	P		P	20	40	24.4 +1.1
	comp=Z,7.1nm,0.8s,baz=107,slow=6.5,SNR=4.3								
FINES	FINESS Array B	91.81	332	P		P	20	40	29.1 -0.5
FINES	FINESS Array B	91.81	332	P		P	20	40	29.1 -0.5
	comp=Z,1.5nm,0.5s,baz=54,slow=4.6,SNR=7.1								
AKASG	Malin Array Be	91.85	321	ceP		P	20	40	28.8 -1.3
AKASG				pmax	pmax				
	comp=Z,5.0nm,0.8s								
AKASG	Malin Array Be	91.85	321	P		P	20	40	29.0 -1.1
AKASG	Malin Array Be	91.85	321	P		P	20	40	29.0 -1.1
	comp=Z,4.9nm,0.8s,baz=69,slow=4.7,SNR=12								
QSPA	South Pole Qui	93.61	180	P		P	20	40	38.8 +0.7
QSPA	South Pole Qui	93.61	180	P		P	20	40	38.7 +0.7
	comp=Z,1.1nm,0.5s,baz=276,slow=9.2,SNR=2.5								
TESR		94.19	317	i P		P	20	40	40.7 -0.3
VRI	Vrincioaia	94.24	316	P		P	20	40	40.6 -0.7
VRI	Vrincioaia	94.24	316	i P		P	20	40	40.6 -0.7
PLOR	Plostina	94.30	316	P		P	20	40	39.6 -2.0
PLOR	Plostina	94.30	316	i P		P	20	40	39.6 -2.0
MLR	Muntele Rosu	94.85	316	P		P	20	40	43.7 -0.6
MLR	Muntele Rosu	94.85	316	i P		P	20	40	43.9 -0.3
MLR	Muntele Rosu	94.85	316	P		P	20	40	43.7 -0.6
	comp=Z,3nm,0.8s,baz=356,slow=4.0,SNR=9.7								
BURAR	Bucovina Array	94.95	318	i P		P	20	40	42.8 -1.8
BUR08	Bucovina Ar. S	94.96	318	eP		P	20	40	44.5 -0.1
UZH	Uzhgorod	96.66	320	i P		P	20	40	51.9 -0.3
UZH				e			20	40	58.1
DRGR		96.79	318	P		P	20	40	52.8 -0.2
DRGR		96.79	318	i P		P	20	40	52.8 -0.2
BZS	Buzias	97.80	317	P		P	20	40	56.8 -0.7
BZS	Buzias	97.80	317	i P		P	20	40	56.8 -0.7
HFS	Hagfors	97.99	332	P		P	20	40	58.0 0.0
HFS	Hagfors	97.99	332	P		P	20	40	58.0 0.0
	comp=Z,1.5nm,0.7s,baz=101,slow=7.7,SNR=6.0								
NB2	NORSAR Subarra	98.76	334	P		P	20	41	00.1 -1.4
	comp=Z,3.5nm,0.8s,baz=67,slow=4.4								
NOA	NORSAR Array B	98.76	334	P		P	20	41	00.6 -0.9
NOA	NORSAR Array B	98.76	334	P		P	20	41	00.6 -0.9
	comp=Z,2.7nm,0.8s,baz=66,slow=4.5,SNR=7.6								
YKA	Yellowknife Ar	99.56	24	P		Pdif	20	41	05.5 +0.6
YKA	Yellowknife Ar	99.56	24	P		Pdif	20	41	05.5 +0.6
	comp=Z,0.7nm,0.8s,baz=300,slow=4.5,SNR=7.7								
BRG	Berggiesshubel	101.20	323	eP		Pdif	20	41	13.3 +0.8
	comp=Z,7.0nm,1.2s								
BRG	Berggiesshubel	101.20	323	eP		Pdif	20	41	13.3 +0.8
BRG				pmax	pmax				
	comp=Z,7.0nm,1.2s								
CLL	Collm	101.60	324	i P		Pdif	20	41	14.5 +0.2
CLL	Collm	101.60	324	i Pdif		Pdif	20	41	14.5 +0.2
	comp=Z,56nm,2.2s								
GERES	GERESS Array B	102.04	322	P		Pdif	20	41	16.3 -0.1
GERES	GERESS Array B	102.04	322	P		Pdif	20	41	16.3 -0.1
	comp=Z,1.0nm,0.7s,baz=15,slow=5.5,SNR=7.1								
TORD	Torodi Ar. Bea	122.83	288	PKP		PKPdf	20	46	18.7 -0.3
TORD	Torodi Ar. Bea	122.83	288	PKP		PKPdf	20	46	18.7 -0.3
	comp=Z,1.1nm,0.6s,baz=85,slow=1.4,SNR=6.7								
PLCA	Paso Flores	140.02	160	PKP		PKPdf	20	46	50.2 -0.6
PLCA	Paso Flores	140.02	160	PKP		PKPdf	20	46	50.2 -0.6
	comp=Z,1.2nm,0.8s,baz=176,slow=1.1,SNR=1.8								
CFAA	Coronel Fontan	148.92	155	PKPbc		PKPbc	20	47	10.5 0.0
CFAA	Coronel Fontan	148.92	155	PKPbc		PKPbc	20	47	10.5 0.0
	comp=Z,0.5nm,0.5s,baz=184,slow=4.3,SNR=5.3								

IDC ***11*** *20:28:48.5±1.0,3.65N×126.70E,h0km,mb4.3/6, mb1 4.4/6,mb1mx4.0/20,mbtmp4.3/6, Error ellipse: s-maj=80.7km s-min=18.2km az=70.0*
ISCJB ***11*** *20:28:53.0±0.7,3.7N±0.1×126.8E±0.4,h48km,mb4.7/8, Error ellipse: s-maj=52.6km s-min=11.9km az=162.3*
NEIC ***11*** *20:28:53.6±0.5,3.66N×126.79E,h35km,mb4.5/2, Error ellipse: s-maj=52.6km s-min=10.0km az=71.0*

ISC 11 20:28:54.9±0.9,3.7N±0.2×126.8E±0.5,h48km,n15, σ0.44/15,mb4.5/8,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	24.59	163	eP		P	P	20 34 10.5	-0.3
	28nm,0.8s								
WRA	Warramunga Arr	24.60	163	P		P	P	20 34 10.7	-0.1
WRA	Warramunga Arr	24.60	163	P		P	P	20 34 10.7	-0.1
	573nm,0.3s,baz=227,slow=0.0,SNR=9.6								
KSAR	Wonju Array Be	33.62	2	P		P	P	20 35 31.0	+0.2
KSRS	Korea Array	33.64	2	P		P	P	20 35 31.0	+0.1
	1.6nm,0.8s,baz=184,slow=9.2,SNR=2.5								
STKA	Stephens Creek	38.04	159	eP		P	P	20 36 08.9	+0.1
	2.0nm,0.7s								
STKA	Stephens Creek	38.04	159	P		P	P	20 36 09.1	+0.3
	11nm,0.7s,baz=315,slow=11,SNR=2.5								
SONM	Songino Array	47.39	341	P		P	P	20 37 24.3	-0.2
SONM	Songino Array	47.39	341	P		P	P	20 37 24.3	-0.2
	2.4nm,0.7s,baz=157,slow=6.7,SNR=2.2								
MKAR	Makanchi Array	57.66	325	P		P	P	20 38 41.0	+0.5
MKAR	Makanchi Array	57.66	325	P		P	P	20 38 41.0	+0.5
	1.7nm,0.5s,baz=122,slow=8.5,SNR=1.7								
KURBB	Kurchatov Arra	61.84	327	P		P	P	20 39 09.4	+0.3
	3.7nm,0.7s,baz=126,slow=6.4,SNR=2.7								
KURK	Kurchatov	61.84	327	P		P	P	20 39 09.4	+0.3
BVAR	Borovoye Array	67.42	327	P		P	P	20 39 44.7	-0.8
BVAR	Borovoye Array	67.42	327	P		P	P	20 39 44.7	-0.8

*IDC **11** 20:34:51.6±0.5, 3˚81N×126˚42E, h0km, mb4.3/24, mb1 4.4/24, mb1mx4.4/26, mbtmp4.3/24, Error ellipse: s-maj=25.2km s-min=11.6km az=72.0*
*ISCJB **11** 20:34:56.4±0.3, 3˚80N±0˚05×126˚56E±0˚08, h45km, mb4.4/34, Error ellipse: s-maj=11.5km s-min=6.7km az=154.7*
*NEIC **11** 20:34:57.0±0.3, 3˚80N×126˚47E, h35km, mb4.8/11, Error ellipse: s-maj=13.0km s-min=6.3km az=71.0*
ISC 11 20:34:58.2±0.5, 3˚82N±0˚08×126˚5E±0˚1, h45km, n80, σ0s99/77, mb4.4/33, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	3.36	344	Sn	Sn	20 36 38.0	+11
DAV	Davao City (W)	3.36	344	Sn	Sn	20 36 38.0	+11
	84nm,0.3s,baz=307,slow=23,SNR=3.8						
KCP	Kidapawan	3.47	336	iP	Pn	20 35 56.0	+6.2
KCP				*i* S	Sn	20 36 40.6	+11
YULB	Yu-li	20.10	346	*e*P	P	20 39 26.4	-1.9
	11nm,0.6s						
FITZ	Fitzroy Crossi	21.80	182	P	P	20 39 45.7	-0.9
FITZ	Fitzroy Crossi	21.80	182	P	P	20 39 45.7	-0.9
	7.2nm,0.8s,baz=357,slow=15,SNR=3.1						
WRAB	Tennant Creek	24.83	162	*e*P	P	20 40 15.3	-1.2
	74nm,1.4s						
WRA	Warramunga Arr	24.84	162	P	P	20 40 15.6	-0.9
WRA	Warramunga Arr	24.84	162	P	P	20 40 15.6	-0.9
	18nm,0.6s						
MBWA	Marble Bar	25.70	195	*e*P	P	20 40 23.7	-0.7
ASAR	Alice Springs	28.26	166	P	P	20 40 48.1	+0.7
ASAR	Alice Springs	28.26	166	P	P	20 40 48.1	+0.7
	1.1nm,0.3s,baz=343,slow=9.2,SNR=3.4						
CMAR	Chiang Mai Arr	30.64	300	P	P	20 41 10.4	+1.8
CMAR	Chiang Mai Arr	30.64	300	P	P	20 41 10.4	+1.8
	1.3nm,0.7s,baz=113,slow=7.2,SNR=4.3						
CTA	Charters Tower	30.67	142	P	P	20 41 08.9	+0.1
CTA	Charters Tower	30.67	142	P	P	20 41 08.9	+0.1
	6.0nm,0.8s,baz=328,slow=11,SNR=5.5						
CHTO	Chiang Mai	30.79	301	*e*P	P	20 41 10.9	+1.0
	3.3nm,0.6s						
ENH	Enshi	30.84	330	*e*P	P	20 41 09.0	-1.2
	4.4nm,0.7s						
KSAR	Wonju Array Be	33.48	2	P	P	20 41 34.0	+0.8
KSRS	Korea Array	33.50	2	P	P	20 41 34.0	+0.7
	2.5nm,0.6s,baz=176,slow=9.9,SNR=10						
MJAR	Matsushiro Arr	34.30	17	P	P	20 41 38.3	-2.1
MJAR	Matsushiro Arr	34.30	17	P	P	20 41 38.3	-2.1
	1.0nm,0.5s,baz=184,slow=9.4,SNR=4.8						
BJT	Baijiatuan	37.23	347	*e*P	P	20 42 06.6	+1.2
	20nm,0.6s						
STKA	Stephens Creek	38.29	159	*e*P	P	20 42 13.3	-1.2
	3.3nm,0.8s						
STKA	Stephens Creek	38.29	159	P	P	20 42 13.3	-1.2
	15nm,0.7s,baz=337,slow=8.9,SNR=9.6						
USRK	Ussuriysk Arra	40.50	6	P	P	20 42 32.5	-0.2
	2.2nm,0.5s,baz=186,slow=8.1,SNR=7.7						
MDJ	Mudanjiang	40.72	3	*e*P	P	20 42 35.1	+0.6
	13nm,1.0s						
ASAJ	Asahikawa	42.57	17	P	P	20 42 50.2	+0.5
ASAJ	Asahikawa	42.57	17	P	P	20 42 50.2	+0.5
	5.3nm,0.8s,baz=254,slow=7.4,SNR=4.7						
TAPN	Taplejung	43.79	306	*e*P	P	20 43 00.8	+0.6
	16nm,0.9s						
ODAN	Odare	43.84	306	*e*P	P	20 43 02.2	+1.6
	13nm,0.5s						
RAMN	Ramite	44.52	305	*e*P	P	20 43 08.2	+2.2
	9.1nm,0.6s						
JIRN	Jiri	45.14	306	*e*P	P	20 43 11.4	+0.3
GUN	Gumba	45.50	306	*e*P	P	20 43 14.0	+0.1
	21nm,0.7s						
HIA	Hailar	45.65	354	*e*P	P	20 43 15.7	+1.4
KKN	Kakani	45.93	306	*e*P	P	20 43 17.1	-0.1
DMN	Daman	46.00	305	*e*P	P	20 43 19.7	+1.9
	9.8nm,0.7s						
GKN	Gorkha	46.54	306	*e*P	P	20 43 23.0	+1.1
	9.0nm,0.7s						
DZM	Mont Dzumac	46.76	125	P	P	20 43 24.7	+1.1
DZM	Mont Dzumac	46.76	125	P	P	20 43 24.7	+1.1
	3.7nm,0.6s,baz=314,slow=15,SNR=6.2						
SONM	Songino Array	47.14	342	P	P	20 43 26.5	+0.3
SONM	Songino Array	47.14	342	P	P	20 43 26.5	+0.3
	1.7nm,0.7s,baz=160,slow=9.0,SNR=7.1						
KOLN	Koldanda	47.30	305	*e*P	P	20 43 28.3	+0.5
	22nm,0.6s						
DANN	Dangsing	47.39	306	*e*P	P	20 43 28.8	+0.1
	31nm,0.6s						
MSVF	Nonsavu	55.15	115	*e*P	P	20 44 27.2	+0.5
	30nm,1.5s						
PETK	Petropavlovsk-	55.43	22	P	P	20 44 28.6	+0.5
PETK	Petropavlovsk-	55.43	22	P	P	20 44 28.6	+0.5
	4.8nm,0.6s,baz=185,slow=6.6,SNR=6.0						
MK31	Makanchi Array	57.36	325	*e*P	P	20 44 40.6	-1.3
MKAR	Makanchi Array	57.36	325	P	P	20 44 42.0	+0.1
MKAR	Makanchi Array	57.36	325	P	P	20 44 42.0	+0.1
	1.7nm,0.4s,baz=118,slow=7.3,SNR=12						
ZALV	Zalesovo Beam	60.41	333	P	P	20 45 03.2	+0.3
ZALV	Zalesovo Beam	60.41	333	P	P	20 45 03.2	+0.3
	0.8nm,0.3s,baz=118,slow=7.7,SNR=5.7						
KURBB	Kurchatov Arra	61.55	327	P	P	20 45 11.1	+0.4
KURK	Kurchatov	61.55	328	*e*P	P	20 45 10.6	-0.1
	8.0nm,0.7s						
BVAR	Borovoye Array	67.13	327	P	P	20 45 46.8	-0.5
BVAR	Borovoye Array	67.13	327	P	P	20 45 46.8	-0.5
	1.9nm,0.6s,baz=132,slow=7.0,SNR=8.2						
BRVK	Borovoye	67.20	327	*e*P	P	20 45 46.9	-0.8
AKTO	Aktyubinsk	73.45	322	P	P	20 46 25.6	-0.4
AKTO	Aktyubinsk	73.45	322	P	P	20 46 25.6	-0.4
	1.5nm,0.5s,baz=91,slow=11,SNR=3.3						
KDAK	Kodiak Island	81.93	32	P	P	20 47 13.6	+0.6
KDAK	Kodiak Island	81.93	32	P	P	20 47 13.6	+0.6
	8.3nm,0.7s,baz=252,slow=11,SNR=4.9						
COLD	Coldfoot	83.89	23	*e*P	P	20 47 24.8	+1.8
	5.3nm,0.9s						
MCK	McKinley	84.18	26	*e*P	P	20 47 24.7	+0.1
	44nm,1.7s						
ILAR	Eielson Array	85.11	25	P	P	20 47 27.9	-1.3
ILAR	Eielson Array	85.11	25	P	P	20 47 27.9	-1.3
	1.1nm,0.6s,baz=240,slow=6.0,SNR=10						
BRTR	Keskin Array B	89.80	310	P	P	20 47 51.5	-1.0
BRTR	Keskin Array B	89.80	310	P	P	20 47 51.5	-1.0
	0.5nm,0.6s,baz=108,slow=3.3,SNR=2.6						
ARCES	ARCESS Array B	90.29	340	P	P	20 47 53.6	-0.3
ARCES	ARCESS Array B	90.29	340	P	P	20 47 53.6	-0.3
	2.2nm,0.8s,baz=92,slow=5.7,SNR=6.3						
FINES	FINESS Array B	91.65	332	P	P	20 47 59.2	-1.2
FINES	FINESS Array B	91.65	332	P	P	20 47 59.2	-1.2
	1.1nm,0.6s,baz=60,slow=5.3,SNR=6.4						
AKASG	Malin Array Be	91.69	321	P	P	20 48 00.1	-0.8
AKASG	Malin Array Be	91.69	321	P	P	20 48 00.1	-0.8
	0.7nm,0.4s,baz=66,slow=5.0,SNR=3.9						
MLR	Muntele Rosu	94.69	316	P	P	20 48 14.2	-0.8
MLR	Muntele Rosu	94.69	316	P	P	20 48 14.2	-0.8
	0.3nm,0.7s,baz=322,slow=19,SNR=4.4						
YKA	Yellowknife Ar	99.50	24	P	Pdif	20 48 35.6	-0.5
YKA	Yellowknife Ar	99.50	24	P	Pdif	20 48 35.6	-0.5
	0.2nm,0.5s,baz=295,slow=4.2,SNR=4.1						
TORD	Torodi Ar. Bea	122.69	288	PKP	PKPdf	20 53 49.9	-0.2
TORD	Torodi Ar. Bea	122.69	288	PKP	PKPdf	20 53 49.9	-0.2
	0.3nm,0.4s,baz=92,slow=1.8,SNR=6.1						
JCT	Junction City	124.16	49	*e*PKPdf	PKPdf	20 53 53.1	+0.4

*IDC **11** 20:36:43.2±0.9, 4˚14N×126˚60E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.2/23, mbtmp4.2/15, Error ellipse: s-maj=36.9km s-min=22.8km az=61.0*
*ISCJB **11** 20:36:48.0±0.8, 4˚2N±0˚2×126˚6E±0˚2, h45km, mb4.3/18, Error ellipse: s-maj=29.7km s-min=17.8km az=146.2*
*NEIC **11** 20:36:48.4±0.6, 4˚13N×126˚64E, h35km, mb4.6/3, Error ellipse: s-maj=23.2km s-min=13.8km az=58.0*
ISC 11 20:36:49.7±0.8, 4˚1N±0˚2×126˚7E±0˚2, h45km, n35, σ0s70/35, mb4.4/18, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	30.60	300	P	P	20 43 00.5	+0.8
CMAR	Chiang Mai Arr	30.60	300	P	P	20 43 00.5	+0.8
	1.0nm,0.7s,baz=113,slow=6.9,SNR=4.0						
ENH	Enshi	30.64	330	*e*P	P	20 42 59.5	-0.4
	5.1nm,0.6s						
STKA	Stephens Creek	38.54	159	*e*P	P	20 44 08.5	+0.4
STKA	Stephens Creek	38.54	159	P	P	20 44 08.4	+0.3
	4.1nm,0.6s,baz=327,slow=13,SNR=3.0						
LSA	Lhasa	42.11	311	*e*P	P	20 44 39.4	+1.1
	6.8nm,0.6s						
SONM	Songino Array	46.89	341	P	P	20 45 16.4	+0.7
SONM	Songino Array	46.89	341	P	P	20 45 16.4	+0.7
	0.9nm,0.5s,baz=155,slow=9.0,SNR=3.6						
PETK	Petropavlovsk-	55.08	22	P	P	20 46 17.4	+0.4
PETK	Petropavlovsk-	55.08	22	P	P	20 46 17.4	+0.4
	1.5nm,0.5s,baz=196,slow=4.7,SNR=4.4						
MK31	Makanchi Array	57.17	325	*e*P	P	20 46 31.9	-0.3
MKAR	Makanchi Array	57.17	325	P	P	20 46 32.1	0.0
MKAR	Makanchi Array	57.17	325	P	P	20 46 32.1	0.0
	2.6nm,0.5s,baz=119,slow=7.9,SNR=6.1						
ZALV	Zalesovo Beam	60.19	333	P	P	20 46 52.3	-0.6
ZALV	Zalesovo Beam	60.19	333	P	P	20 46 52.3	-0.6
	2.9nm,0.5s,baz=124,slow=6.3,SNR=7.7						
KURBB	Kurchatov Arra	61.35	327	P	P	20 47 00.7	-0.2
	4.2nm,0.6s,baz=127,slow=7.3,SNR=6.3						
KURK	Kurchatov	61.35	327	*e*P	P	20 47 00.4	-0.5
	5.9nm,0.8s						
BVAR	Borovoye Array	66.93	327	P	P	20 47 37.6	+0.1
BVAR	Borovoye Array	66.93	327	P	P	20 47 37.6	+0.1
	1.5nm,0.7s,baz=128,slow=9.3,SNR=4.2						
AKTO	Aktyubinsk	73.29	322	P	P	20 48 16.0	-0.5
AKTO	Aktyubinsk	73.29	322	P	P	20 48 16.0	-0.5
	3.2nm,0.7s,baz=96,slow=8.6,SNR=4.1						
ILAR	Eielson Array	84.77	25	P	P	20 49 19.6	+0.5
ILAR	Eielson Array	84.77	25	P	P	20 49 19.6	+0.5
	0.6nm,0.9s,baz=244,slow=5.9,SNR=3.0						
BRTR	Keskin Array B	89.70	310	P	P	20 49 42.9	-0.7
BRTR	Keskin Array B	89.70	310	P	P	20 49 42.9	-0.7
	0.8nm,0.8s,baz=134,slow=7.1,SNR=3.8						
ARCES	ARCESS Array B	90.04	340	P	P	20 49 43.4	-1.0
ARCES	ARCESS Array B	90.04	340	P	P	20 49 43.4	-1.0
	3.0nm,0.9s,baz=79,slow=6.5,SNR=4.5						
FINES	FINESS Array B	91.44	332	P	P	20 49 50.9	-0.1
FINES	FINESS Array B	91.44	332	P	P	20 49 50.8	-0.1
	1.6nm,0.7s,baz=48,slow=4.5,SNR=3.3						
AKASG	Malin Array Be	91.53	321	P	P	20 49 50.1	-1.5
AKASG	Malin Array Be	91.53	321	P	P	20 49 50.1	-1.5
	0.2nm,0.3s,baz=74,slow=3.4,SNR=4.7						
MLR	Muntele Rosu	94.55	316	P	P	20 50 05.1	-0.7
MLR	Muntele Rosu	94.55	316	P	P	20 50 05.1	-0.7
	0.6nm,0.9s,baz=108,slow=6.4,SNR=3.5						
TORD	Torodi Ar. Bea	122.72	288	PKP	PKPdf	20 55 41.2	-0.5
TORD	Torodi Ar. Bea	122.72	288	PKP	PKPdf	20 55 41.2	-0.5
	0.6nm,0.8s,baz=48,slow=2.9,SNR=3.1						

IDC 11 20:38:19.1±1.1, 3˚81N×126˚62E, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.1/22, mbtmp4.2/10, MS5.1/1, Ms1 5.1/1, ms1mx3.9/37, Error ellipse: s-maj=109.7km s-min=15.2km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	21.80	183	P	P	20 43 13.4	+0.6
	3.2nm,0.4s,baz=358,slow=12,SNR=6.2						
WRA	Warramunga Arr	24.80	162	P	P	20 43 43.2	+0.2
	7.2nm,0.6s						
ASAR	Alice Springs	28.22	166	P	P	20 44 13.8	-0.1
	0.8nm,0.5s,baz=358,slow=8.3,SNR=3.0						
STKA	Stephens Creek	38.25	159	P	P	20 45 40.5	-0.6
	3.6nm,0.7s,baz=326,slow=9.4,SNR=2.9						
SONM	Songino Array	47.18	341	P	P	20 46 54.9	+1.2
	0.7nm,0.5s,baz=141,slow=5.4,SNR=3.7						
PETK	Petropavlovsk-	55.39	22	LR	LR	21 07 59.7	
	comp=Z,2µm,21.1s,baz=156,slow=32						
MKAR	Makanchi Array	57.42	325	P	P	20 48 09.8	+0.1
	0.9nm,0.4s,baz=120,slow=7.7,SNR=5.4						
ZALV	Zalesovo Beam	60.46	333	P	P	20 48 29.4	-1.1
	1.2nm,0.4s,baz=129,slow=6.7,SNR=5.6						
KURBB	Kurchatov Arra	61.61	327	P	P	20 48 38.0	-0.4
	0.9nm,0.5s,baz=128,slow=6.5,SNR=4.9						
BVAR	Borovoye Array	67.19	327	P	P	20 49 15.1	+0.1
	0.6nm,0.4s,baz=60,slow=4.6,SNR=5.2						
NOA	NORSAR Array B	98.66	334	P	P	20 51 59.5	-0.6
	1.5nm,0.9s,baz=62,slow=4.9,SNR=3.4						

*IDC **11** 20:38:35.8±1.1, 9˚43N×126˚17E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/22, mbtmp3.9/10, Error ellipse: s-maj=40.9km s-min=24.8km az=67.0*
*ISCJB **11** 20:38:40.9±0.7, 9˚54N±0˚06×126˚53E±0˚06, h43km, mb4.0/10, Error ellipse: s-maj=9.7km s-min=8.4km az=37.2*
ISC 11 20:38:42.6±0.8, 9˚48N±0˚06×126˚45E±0˚09, h43km, n20, σ1s33/19, mb3.9/10, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	Butuan	0.97	238	*e*P	Pn	20 38 58.5	-1.2
MSLP	Maasin	1.70	293	*e*P	Pn	20 39 10.4	+0.7
BUKP	Musuan	2.10	221	*e*P	Pn	20 39 17.3	+1.9
PLP	Palo	2.21	319	iP	Pn	20 39 17.5	+0.6
PLP				*e*S	Sn	20 39 40.8	-2.2
OCLP	Ormoc	2.39	311	*e*P	Pn	20 39 21.8	+2.5
LLP	Lapu-Lapu	2.59	289	iP	Pn	20 39 22.9	+1.0
LLP				*i* S	Sn	20 39 52.3	+0.1
DCPH	Dipolog City	3.19	254	*e*P	Sn	20 40 08.1	+1.0
PAGZ	Pagadian	3.44	242	*e*P	Pn	20 39 35.3	+1.6
CNP	Catarman	3.48	330	*e*P	Pn	20 39 35.5	+1.2
GUIM	Jordan	3.97	287	*e*P	Pn	20 39 41.7	+0.7
ASAR	Alice Springs	33.74	168	P	P	20 45 19.4	-0.8
	0.4nm,0.3s,baz=354,slow=7.5,SNR=3.0						
PETK	Petropavlovsk-	50.28	24	P	P	20 47 35.8	+1.2
	1.4nm,0.6s,baz=211,slow=5.0,SNR=4.1						
MKAR	Makanchi Array	52.76	323	P	P	20 47 52.2	-1.1
	1.0nm,0.6s,baz=120,slow=7.6,SNR=2.8						
ZALV	Zalesovo Beam	55.40	332	P	P	20 48 10.8	-1.5
	0.3nm,0.3s,baz=110,slow=8.8,SNR=2.2						
KURBB	Kurchatov Arra	56.82	326	P	P	20 48 20.2	-2.3
	1.2nm,0.5s,baz=125,slow=6.9,SNR=4.6						
BVAR	Borovoye Array	62.41	326	P	P	20 49 00.5	-0.6
	0.4nm,0.5s,baz=120,slow=8.5,SNR=2.4						
ILAR	Eielson Array	80.07	26	P	P	20 50 47.2	-0.3
	0.2nm,0.6s,baz=236,slow=4.3,SNR=4.4						
ARCES	ARCESS Array B	84.99	340	P	P	20 51 12.6	-0.5
	5.4nm,1.1s,baz=82,slow=6.6,SNR=22						
FINES	FINESS Array B	86.67	332	P	P	20 51 19.6	-1.9
	1.7nm,0.9s,baz=88,slow=4.6,SNR=4.0						
YKA	Yellowknife Ar	94.40	24	P	P	20 51 58.3	+0.6
	0.2nm,0.6s,baz=291,slow=3.9,SNR=3.7						

*GEN **11** 20:39:13.4, 44˚57N×10˚38E, h19km, ML2.0*
*CSEM **11** 20:39:13.4±0.1, 44˚54N×10˚31E, h24km±1km, ML2.3/4, Error ellipse: s-maj=2.9km s-min=2.1km az=94.0*
ROM 11 20:39:13.3±0.1, 44˚54N×10˚36E, h27km±1km, Md2.3/10, Ml2.2/5, Error ellipse: s-maj=5.3km s-min=1.3km az=82.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERBM	Eremo	0.13	163	Pg	Pb	20 39 18.1	-0.4
ERBM				Sg	Sb	20 39 22.9	+0.8
	345nm,0.2s						
ERBM	Eremo	0.13	163	Pg	Pb	20 39 18.1	-0.4
ERBM				Sg	Sb	20 39 22.9	+0.8
	345nm,0.2s						
GRAM	Graiana	0.22	256	P	Pb	20 39 19.0	-0.5
GRAM				S	Sb	20 39 22.9	-0.7
PRMA	PARMA	0.22	351	Pg	Pb	20 39 18.9	-0.5
PRMA				Sg	Sb	20 39 24.4	+0.8
	182nm,0.4s						
PRMA	PARMA	0.22	351	Pg	Pb	20 39 18.9	-0.5
PRMA				Sg	Sb	20 39 24.4	+0.8
	182nm,0.4s						
VLC	Villacollemand	0.38	177	Pg	Pb	20 39 21.7	-0.1
VLC				Sg	Sb	20 39 27.8	+0.3
	82nm,0.5s						
VLC	Villacollemand	0.38	177	Pg	Pb	20 39 21.7	-0.1
VLC				Sg	Sb	20 39 27.8	+0.3
	82nm,0.5s						
BDI	Bagni Di Lucca	0.51	160	Pg	Pb	20 39 23.9	0.0
BDI				Sg	Sb	20 39 31.8	+0.8
	53nm,0.3s						
BDI	Bagni Di Lucca	0.51	160	Pg	Pb	20 39 23.9	0.0
BDI				Sg	Sb	20 39 31.8	+0.8
	53nm,0.3s						
CRDM	Cardoso	0.52	170	P	Pb	20 39 24.0	0.0
CRDM				S	Sb	20 39 31.3	0.0
SC2M	Scurtabo	0.61	257	P	Pb	20 39 25.2	-0.3
SC2M				S	Sb	20 39 33.5	-0.2
MAIM	Mastiano	0.64	171	P	Pb	20 39 26.0	+0.1
MAIM				S	Sb	20 39 34.5	+0.1
PII	Pisa	0.83	172	Pg	Pn	20 39 29.6	+0.4
	21nm,0.2s						
PII	Pisa	0.83	172	Pg	Pn	20 39 29.6	+0.4
	21nm,0.2s						
SALO	Salr	1.08	6	Pg	Pb	20 39 33.8	+0.4
SALO				Sg	Sb	20 39 48.2	+1.0
SALO	Salr	1.08	6	Pg	Pb	20 39 33.8	+0.4
SALO				Sg	Sb	20 39 48.2	+1.0
ROVR	Rover¯¤ Verone	1.21	24	Pg	Pn	20 39 34.9	+0.2
ROVR				Sg	Sb	20 39 51.6	+0.4
ROVR	Rover¯¤ Verone	1.21	24	Pg	Pn	20 39 34.9	+0.2
ROVR				Sg	Sb	20 39 51.6	+0.4
PCP	Piancastagn	1.30	271	P	Pn	20 39 35.9	+0.1
PCP				S	Sn	20 39 51.0	-1.3
MDI	Monti di Nese	1.32	340	Pg	Pb	20 39 36.9	-0.6
MDI	Monti di Nese	1.32	340	Pg	Pb	20 39 36.9	-0.6
MABI	Malga Bissina	1.52	4	Pg	Pn	20 39 39.6	+0.6
MABI	Malga Bissina	1.52	4	Pg	Pn	20 39 39.6	+0.6
RORO	Rocca Rossa	1.70	256	P	Pn	20 39 40.7	-0.5
RORO				S	Sn	20 39 58.7	-3.4
CTI	Castel Tesino	1.76	31	Pg	Pn	20 39 42.5	+0.3
CTI				Sg	Sn	20 40 04.0	+0.2
	69nm,0.2s						
CTI	Castel Tesino	1.76	31	Pg	Pn	20 39 42.5	+0.3
CTI				Sg	Sn	20 40 04.0	+0.2
	69nm,0.2s						
IMI	Imperia	1.88	251	P	Pn	20 39 43.5	-0.3

*IDC **11** 20:40:10.6±0.6, 3˚61N×126˚53E, h0km, mb4.2/17, mb1 4.3/17, mb1mx4.2/23, mbtmp4.2/17, Error ellipse: s-maj=27.5km s-min=11.8km az=74.0*
*ISCJB **11** 20:40:15.7±0.4, 3˚59N±0˚07×126˚6E±0˚1, h53km, mb4.3/21, Error ellipse: s-maj=20.6km s-min=8.0km az=162.8*
*NEIC **11** 20:40:15.7±0.3, 3˚59N×126˚55E, h35km, mb4.7/3, Error ellipse: s-maj=16.6km s-min=6.5km az=73.0*
ISC 11 20:40:17.8±0.6, 3˚57N±0˚09×126˚6E±0˚2, h53km, n38, σ0s87/40, mb4.3/21, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	Cotabato--PC H	4.31	327	iP	Pn	20 41 22.4	+1.6
FITZ	Fitzroy Crossi	21.55	182	P	P	20 45 02.7	-0.1
FITZ	Fitzroy Crossi	21.55	182	P	P	20 45 02.7	-0.1
	3.9nm,0.6s,baz=5.5,slow=8.4,SNR=4.3						
WRAB	Tennant Creek	24.57	162	*e*P	P	20 45 32.5	-0.4
	42nm,0.8s						
WRA	Warramunga Arr	24.58	162	P	P	20 45 32.2	-0.8
WRA	Warramunga Arr	24.58	162	P	P	20 45 32.2	-0.8
	41nm,0.7s,baz=48,slow=0.0,SNR=3.5						
ASAR	Alice Springs	28.00	166	P	P	20 46 02.9	-1.0
ASAR	Alice Springs	28.00	166	P	P	20 46 02.9	-1.0
	1.4nm,0.5s,baz=346,slow=7.7,SNR=6.1						
CMAR	Chiang Mai Arr	30.82	301	P	P	20 46 29.4	+0.3
CMAR	Chiang Mai Arr	30.82	301	P	P	20 46 29.4	+0.3
	1.3nm,0.8s,baz=111,slow=6.5,SNR=6.7						
KSAR	Wonju Array Be	33.73	2	P	P	20 46 53.4	-0.8
KSRS	Korea Array	33.75	2	P	P	20 46 53.4	-0.9
	1.4nm,0.5s,baz=178,slow=10.0,SNR=8.9						
NWAO	Narrogin (SRO)	37.36	193	P	P	20 47 26.0	+0.6
NWAO	Narrogin (SRO)	37.36	193	P	P	20 47 26.0	+0.6
	8.7nm,0.8s,baz=35,slow=12,SNR=4.5						
STKA	Stephens Creek	38.03	159	P	P	20 47 31.3	+0.2
STKA	Stephens Creek	38.03	159	P	P	20 47 31.3	+0.2
	11nm,0.6s,baz=339,slow=8.5,SNR=12						
USRK	Ussuriysk Arra	40.74	6	P	P	20 47 53.7	+0.2
	1.3nm,0.5s,baz=197,slow=8.5,SNR=4.8						
DZM	Mont Dzumac	46.56	125	P	P	20 48 41.5	+0.7
DZM	Mont Dzumac	46.56	125	P	P	20 48 41.5	+0.7
	4.2nm,0.8s,baz=272,slow=9.2,SNR=6.2						
SONM	Songino Array	47.40	342	P	P	20 48 46.3	-0.7
SONM	Songino Array	47.40	342	P	P	20 48 46.3	-0.7
	0.6nm,0.5s,baz=158,slow=8.8,SNR=3.9						
PETK	Petropavlovsk-	55.63	22	P	P	20 49 48.5	+0.2
PETK	Petropavlovsk-	55.63	22	P	P	20 49 48.5	+0.2
	4.3nm,0.7s,baz=180,slow=0.1,SNR=7.0						
MKAR	Makanchi Array	57.60	325	P	P	20 50 01.4	-0.9
MKAR				PcP	PcP	20 50 57.0	+1.8
MKAR	Makanchi Array	57.60	325	P	P	20 50 01.4	-0.9
	1.0nm,0.4s,baz=116,slow=7.2,SNR=9.7						
MKAR				PcP	PcP	20 50 57.0	+1.8
	0.5nm,0.5s,baz=105,slow=3.3,SNR=2.1						
ZALV	Zalesovo Beam	60.66	333	P	P	20 50 23.0	-0.4
ZALV	Zalesovo Beam	60.66	333	P

BOSA AML AML 20 44 25.1
comp=Z,2.3nm,0.3s

IDC 11 20:43:32.0±6.8, 3°31N×126°46E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.8/5, Error ellipse: s-maj=187.7km s-min=62.1km az=13.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**47.61**	**342**	P	P	20 52 09.9	0.0
	0.5nm,0.7s,baz=155,slow=9.0,SNR=3.4						
MKAR	**Makanchi Array**	**57.75**	**326**	P	P	20 53 24.6	-0.3
	0.7nm,0.4s,baz=121,slow=7.2,SNR=8.5						
KURBB	**Kurchatov Arra**	**61.95**	**328**	P	P	20 53 53.4	-0.3
	0.8nm,0.5s,baz=134,slow=6.4,SNR=5.6						
BVAR	**Borovoye Array**	**67.53**	**327**	P	P	20 54 30.7	+0.6
	1.3nm,0.8s,baz=134,slow=8.2,SNR=4.0						
ILAR	**Eielson Array**	**85.60**	**25**	P	P	20 56 12.1	-0.1
	0.5nm,1.0s,baz=274,slow=4.4,SNR=3.9						

IDC 11 20:45:18.3±0.5, 3°89N×126°39E, h0km, mb4.5/26, mb1 4.5/26, mb1mx4.5/29, mbtmp4.4/26, Error ellipse: s-maj=26.6km s-min=11.5km az=77.0
ISCJB 11 20:45:22.6±0.3, 3°85N±0°05×126°51E±0°09, h45km, mb4.5/35, Error ellipse: s-maj=13.7km s-min=6.7km az=160.3
NEIC 11 20:45:23.8±2.1, 3°89N×126°47E, h40km±20km, mb4.8/10, Error ellipse: s-maj=15.3km s-min=5.7km az=76.0
DJA 11 20:45:51, 2°78N×125°42E, h53km, mb4.5/11

ISC 11 20:45:24.5±0.5, 3°89N±0°07×126°5E±0°1, h45km, n98, σ1°16/96, mb4.7/42, 4C-5D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**3.05**	**355**	*eP*	**Pn**	**20 46 12.1**	**+1.9**
DAV	**Davao City (W)**	**3.29**	**344**	Sn	Sn	20 47 01.4	+10
DAV	**Davao City (W)**	**3.29**	**344**	Sn	Sn	20 47 01.4	+10
	40nm,0.3s,baz=233,slow=20,SNR=2.9						
KCP	**Kidapawan**	**3.41**	**336**	⇑*eP*	Pn	20 46 21.8	+6.5
KCP				*i* S	Sn	20 47 12.6	+18
CTBH	**Cotabato--PC H**	**4.00**	**326**	⇑*eP*	**Pn**	**20 46 26.5**	**+3.1**
BUKP	**Musuan**	**4.22**	**340**	*eP*	Pn	20 46 30.5	+4.1
PAGZ	**Pagadian**	**5.01**	**322**	*eP*	Pn	20 46 41.3	+4.0
IPIL	**Ipil**	**5.51**	**315**	*eP*	Pn	20 46 47.6	+3.5
SSLB	**Suanglung**	**20.50**	**345**	*eP*	**P**	**20 49 56.8**	**-2.1**
	14nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.87**	**182**	P	**P**	**20 50 13.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**21.87**	**182**	*eP*	**P**	**20 50 14.0**	**+0.4**
	14nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.87**	**182**	P	**P**	**20 50 13.8**	**+0.2**
	2.2nm,0.5s,baz=345,slow=7.1,SNR=6.2						
JOW	**Kunigami**	**22.88**	**4**	P	**P**	**20 50 25.3**	**+1.0**
JOW	**Kunigami**	**22.88**	**4**	P	**P**	**20 50 25.3**	**+1.0**
	9.6nm,0.7s,baz=225,slow=8.6,SNR=2.5						
WRAB	**Tennant Creek**	**24.89**	**162**	*eP*	**P**	**20 50 42.2**	**-1.1**
	21nm,0.8s						
WRA	**Warramunga Arr**	**24.90**	**162**	P	**P**	**20 50 42.4**	**-1.1**
WRA	**Warramunga Arr**	**24.90**	**162**	P	**P**	**20 50 42.4**	**-1.1**
	16nm,0.7s						
ASAR	**Alice Springs**	**28.32**	**166**	P	**P**	**20 51 14.2**	**-0.1**
ASAR	**Alice Springs**	**28.32**	**166**	P	**P**	**20 51 14.2**	**-0.1**
	0.9nm,0.5s,baz=349,slow=7.7,SNR=5.5						
CMAR	**Chiang Mai Arr**	**30.60**	**300**	P	**P**	**20 51 35.3**	**+0.8**
CMAR	**Chiang Mai Arr**	**30.60**	**300**	P	**P**	**20 51 35.3**	**+0.8**
	2.8nm,0.8s,baz=116,slow=7.3,SNR=20						
ENH	**Enshi**	**30.78**	**330**	*eP*	**P**	**20 51 35.3**	**-0.7**
	20nm,0.8s						
KSAR	**Wonju Array Be**	**33.42**	**2**	P	**P**	**20 51 59.8**	**+0.8**
KSRS	**Korea Array**	**33.43**	**2**	P	**P**	**20 51 59.8**	**+0.7**
	3.4nm,0.8s,baz=181,slow=8.7,SNR=13						
NWAO	**Narrogin (SRO)**	**37.66**	**193**	*eP*	**P**	**20 52 35.3**	**-0.1**
	10nm,1.0s						
NWAO	**Narrogin (SRO)**	**37.66**	**193**	P	**P**	**20 52 35.2**	**-0.2**
	7.0nm,0.7s,baz=27,slow=12,SNR=7.0						
STKA	**Stephens Creek**	**38.35**	**159**	*eP*	**P**	**20 52 41.1**	**-0.3**
	3.0nm,0.9s						
STKA	**Stephens Creek**	**38.35**	**159**	*eP*	**P**	**20 52 41.4**	**+0.1**
	6.4nm,0.8s						
STKA	**Stephens Creek**	**38.35**	**159**	P	**P**	**20 52 41.6**	**+0.3**
	9.1nm,0.8s,baz=332,slow=9.0,SNR=8.7						
USRK	**Ussuriysk Arra**	**40.44**	**6**	P	**P**	**20 52 58.5**	**0.0**
	1.3nm,0.6s,baz=186,slow=6.6,SNR=4.8						
ARMA	**Armidale**	**41.72**	**147**	*eP*	**P**	**20 53 10.2**	**+0.8**
LSA	**Lhasa**	**42.17**	**311**	*eP*	**P**	**20 53 14.5**	**+0.9**
	16nm,0.6s						
TAPN	**Taplejung**	**43.75**	**306**	*eP*	**P**	**20 53 26.1**	**-0.1**
	17nm,0.8s						
ODAN	**Odare**	**43.80**	**305**	*eP*	**P**	**20 53 26.1**	**-0.4**
	13nm,0.7s						
RAMN	**Ramite**	**44.48**	**305**	*eP*	**P**	**20 53 32.2**	**+0.2**
	15nm,0.6s						
JIRN	**Jiri**	**45.10**	**306**	*eP*	**P**	**20 53 36.8**	**-0.3**
	6.2nm,0.8s						
GUN	**Gumba**	**45.45**	**306**	*eP*	**P**	**20 53 39.8**	**-0.1**
	30nm,0.7s						
HIA	**Hailar**	**45.58**	**354**	*eP*	**P**	**20 53 40.3**	**+0.2**
	16nm,0.8s						
KKN	**Kakani**	**45.89**	**306**	*eP*	**P**	**20 53 43.0**	**-0.2**
DMN	**Daman**	**45.96**	**305**	*eP*	**P**	**20 53 43.4**	**-0.4**
SONM	**Songino Array**	**47.08**	**342**	P	**P**	**20 53 51.8**	**-0.3**
SONM				PcP	**PcP**	**20 55 23.5**	**0.0**
SONM	**Songino Array**	**47.08**	**342**	P	**P**	**20 53 51.8**	**-0.3**
	3.3nm,0.7s,baz=155,slow=9.1,SNR=20						
SONM				PcP	**PcP**	**20 55 23.5**	**0.0**
	2.1nm,0.7s,baz=164,slow=6.3,SNR=5.2						
KOLN	**Koldanda**	**47.25**	**305**	*eP*	**P**	**20 53 54.0**	**+0.2**
	30nm,0.7s						
DANN	**Dangsing**	**47.35**	**306**	*eP*	**P**	**20 53 54.4**	**-0.2**
	33nm,0.6s						
TLY	**Talaya**	**51.31**	**342**	*eP*	**P**	**20 54 24.1**	**0.0**
	5.2nm,0.6s						
PETK	**Petropavlovsk-**	**55.37**	**22**	P	**P**	**20 54 54.4**	**+0.5**
PETK	**Petropavlovsk-**	**55.37**	**22**	P	**P**	**20 54 54.4**	**+0.5**
	1.9nm,0.4s,baz=201,slow=7.7,SNR=6.2						
MK31	**Makanchi Array**	**57.30**	**325**	*eP*	**P**	**20 55 07.3**	**-0.6**
MKAR	**Makanchi Array**	**57.30**	**325**	P	**P**	**20 55 07.4**	**-0.4**
MKAR				PcP	**PcP**	**20 56 02.3**	**+0.6**
MKAR	**Makanchi Array**	**57.30**	**325**	P	**P**	**20 55 07.4**	**-0.4**
	5.7nm,0.7s,baz=130,slow=8.0,SNR=32						
MKAR				PcP	**PcP**	**20 56 02.3**	**+0.6**
	2.5nm,0.8s,baz=127,slow=4.8,SNR=3.9						
AAK	**Ala-Archa**	**60.09**	**318**	*eP*	**P**	**20 55 27.0**	**-0.5**
AAK	**Ala-Archa**	**60.09**	**318**	P	**P**	**20 55 26.2**	**-1.3**
	1.8nm,0.8s,baz=76,slow=3.0,SNR=3.3						
ZALV	**Zalesovo Beam**	**60.35**	**333**	P	**P**	**20 55 27.8**	**-1.0**
ZALV	**Zalesovo Beam**	**60.35**	**333**	P	**P**	**20 55 27.8**	**-1.0**
	3.7nm,0.6s,baz=132,slow=6.6,SNR=19						
KURBB	**Kurchatov Arra**	**61.49**	**327**	P	**P**	**20 55 36.3**	**-0.3**
	12nm,0.8s,baz=123,slow=6.4,SNR=45						
KURK	**Kurchatov**	**61.49**	**328**	*eP*	**P**	**20 55 35.7**	**-0.9**
	19nm,0.8s						
KKAR	**Karatay Array**	**62.97**	**317**	*eP*	**P**	**20 55 45.5**	**-1.3**
BVAR	**Borovoye Array**	**67.07**	**327**	P	**P**	**20 56 12.3**	**-0.8**
BVAR	**Borovoye Array**	**67.07**	**327**	P	**P**	**20 56 12.3**	**-0.8**
	3.8nm,0.8s,baz=128,slow=8.7,SNR=14						
BRVK	**Borovoye**	**67.14**	**327**	*eP*	**P**	**20 56 12.0**	**-1.6**
	5.0nm,0.8s						
ABKAR	**Akbulak array**	**71.89**	**321**	*eP*	**P**	**20 56 42.2**	**-0.7**
AKTO	**Aktyubinsk**	**73.40**	**322**	P	**P**	**20 56 51.3**	**-0.7**
AKTO	**Aktyubinsk**	**73.40**	**322**	P	**P**	**20 56 51.3**	**-0.7**
	7.3nm,0.8s,baz=96,slow=8.3,SNR=17						
QRN	**Al-Qurain**	**78.14**	**298**	*eP*	**P**	**20 57 19.1**	**-0.4**
MIB	**Mutribah**	**78.68**	**299**	*eP*	**P**	**20 57 22.3**	**-0.1**
MIB				AMb	AMB	20 57 23.2	
	comp=Z,19nm,0.8s						
NAY	**Al-Naaiem**	**78.75**	**299**	*eP*	**P**	**20 57 22.3**	**-0.6**
NAY				AMb	AMB	20 57 24.3	
	comp=Z,15nm,1.5s						
ILAR	**Eielson Array**	**85.06**	**25**	P	**P**	**20 57 55.3**	**+0.1**
ILAR	**Eielson Array**	**85.06**	**25**	P	**P**	**20 57 55.3**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=240,slow=5.2,SNR=5.1						
ASF	**Jabal al Asfar**	**87.63**	**302**	P	**P**	**20 58 09.5**	**+0.8**
ASF	**Jabal al Asfar**	**87.63**	**302**	P	**P**	**20 58 09.5**	**+0.8**
	comp=Z,2.7nm,0.6s,baz=13,slow=2.6,SNR=4.1						
EIL	**Elat**	**89.45**	**300**	P	**P**	**20 58 17.0**	**-0.3**
EIL	**Elat**	**89.45**	**300**	P	**P**	**20 58 17.0**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=53,slow=5.1,SNR=5.1						
BRTR	**Keskin Array B**	**89.75**	**310**	P	**P**	**20 58 18.1**	**-0.5**
BRTR	**Keskin Array B**	**89.75**	**310**	P	**P**	**20 58 18.1**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=117,slow=6.0,SNR=11						
ARCES	**ARCESS Array B**	**90.22**	**340**	P	**P**	**20 58 20.1**	**+0.1**
ARCES	**ARCESS Array B**	**90.22**	**340**	P	**P**	**20 58 20.1**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=74,slow=8.9,SNR=6.8						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**91.59**	**332**	P	**P**	**20 58 26.5**	**+0.1**
FINES	**FINESS Array B**	**91.59**	**332**	P	**P**	**20 58 26.5**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=26,slow=4.9,SNR=6.4						
AKASG	**Malin Array Be**	**91.63**	**321**	P	**P**	**20 58 26.2**	**-0.7**
AKASG	**Malin Array Be**	**91.63**	**321**	P	**P**	**20 58 26.2**	**-0.7**
	comp=Z,1.9nm,0.6s,baz=69,slow=4.9,SNR=9.3						
TIRR	**Tirgusor**	**93.07**	**315**	⇑*iP*	**P**	**20 58 32.5**	**-1.2**
TESR		**93.97**	**317**	⇓*iP*	**P**	**20 58 37.4**	**-0.4**
VRI	**Vrincioaia**	**94.03**	**316**	⇓*iP*	**P**	**20 58 38.5**	**+0.4**
MLR	**Muntele Rosu**	**94.64**	**316**	P	**P**	**20 58 41.0**	**0.0**
MLR	**Muntele Rosu**	**94.64**	**316**	⇓*iP*	**P**	**20 58 40.0**	**-1.1**
MLR	**Muntele Rosu**	**94.64**	**316**	P	**P**	**20 58 41.0**	**0.0**
	comp=Z,1.1nm,0.9s,baz=295,slow=5.5,SNR=8.6						
BURAR	**Bucovina Array**	**94.74**	**318**	⇑*iP*	**P**	**20 58 39.3**	**-2.2**
BUR08	**Bucovina Ar. S**	**94.74**	**318**	*eP*	**P**	**20 58 41.3**	**-0.2**
DRGR		**96.58**	**318**	⇓*iP*	**P**	**20 58 49.7**	**-0.1**
BZS	**Buzias**	**97.58**	**317**	⇑*iP*	**P**	**20 58 53.7**	**-0.6**
NOA	**NORSAR Array B**	**98.55**	**334**	P	**P**	**20 58 57.5**	**-0.8**
NOA	**NORSAR Array B**	**98.55**	**334**	P	**P**	**20 58 57.5**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=67,slow=4.6,SNR=5.5						
SCO	**Scoresbysund**	**102.85**	**350**	*i* P	**Pdif**	**20 59 16.7**	**-0.5**
	comp=Z,2.5nm,1.0s						
SUMG	**Summit**	**103.07**	**355**	*i* P	**Pdif**	**20 59 10.6**	**-8.1**
	comp=Z,17nm,0.9s						
TORD	**Torodi Ar. Bea**	**122.66**	**288**	PKP	**PKPdf**	**21 04 16.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**122.66**	**288**	PKP	**PKPdf**	**21 04 16.6**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=60,slow=1.6,SNR=6.5						
CPUP	**Villa Florida**	**157.38**	**171**	PKPab	**PKPab**	**21 05 49.2**	**+1.5**
CPUP	**Villa Florida**	**157.38**	**171**	PKPab	**PKPab**	**21 05 49.2**	**+1.5**
	comp=Z,3.2nm,0.7s,baz=200,slow=4.8,SNR=7.0						

DJA 11 20:45:22, 20°84S×68°54W, h10km, mb5.3/3
ISCJB 11 20:45:29.6±0.4, 20°13S±0°03×68°80W±0°03, h92km±3km, mb5.3/176, Error ellipse: s-maj=5.1km s-min=4.0km az=139.1
GUC 11 20:45:31.7±0.7, 20°34S×69°22W, h117km±5km, ML5.5
MOS 11 20:45:31.8±1.1, 19°92S×68°79W, h103km, mb5.4/39, Error ellipse: s-maj=15.2km s-min=6.8km az=116.3
IDC 11 20:45:32.8±0.3, 20°21S×68°90W, h109km±2km, mb4.9/27, mb1 5.0/30, mb1mx5.0/32, mbtmp4.9/30, MS4.5/3, Ms1 4.5/3, ms1mx4.0/25, Error ellipse: s-maj=11.8km s-min=8.2km az=43.0
NEIC 11 20:45:32.6±0.1, 20°25S×68°79W, mb5.3/124, Error ellipse: s-maj=5.5km s-min=3.6km az=71.0
NEIC Felt [IV] at Alto Hospicio, Camina, Iquique and Pica; [III] at Arica, Cuya, La Tirana, Pozo Almonte and Ujina; [II] at Maria Elena, Pisagua and Tocopilla. Also felt at Tacna, Peru.
BJI 11 20:45:33.0, 20°20S×68°70W, h109km, mB5.5/11
LDG 11 20:45:33.5±0.4, 19°71S×68°82W, h113km, Mb5.1/11, Error ellipse: s-maj=25.9km s-min=14.9km az=30.0

ISC 11 20:45:32.6±0.2, 20°25S±0°03×68°91W±0°04, h109km±1km, h109km: pP-P, n871, σ1°11/1071, mb5.3/176, 209C-201D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**Plate Boundary**	**0.95**	**214**	⇑*iP*	**Pn**	**20 45 51.8**	**-1.5**
PB01				*i* S	**Sn**	**20 46 06.5**	**-2.5**
PB01				AML	AML	20 46 08.4	
	comp=N,169μm,0.3s						
MNMC	**Minimini**	**1.29**	**330**	⇑*iP*	**Pn**	**20 45 57.0**	**-0.2**
MNMC				*i* S	**Sn**	**20 46 16.1**	**+0.3**
PSGC	**Pisagua**	**1.31**	**300**	⇑*iP*	**Pn**	**20 45 55.5**	**-1.8**
PSGC				*i* S	**Sn**	**20 46 13.2**	**-2.7**
PSGC				AML	AML	20 46 16.4	
	comp=N,96μm,0.8s						
PB09	**Plate Boundary**	**1.57**	**191**	⇑*iP*	**Pn**	**20 45 59.6**	**-0.8**
PB09				*i* S	**Sn**	**20 46 20.3**	**-1.1**
PB09				AML	AML	20 46 22.8	
	comp=E,117μm,0.5s						
PB07	**Plate Boundary**	**1.73**	**212**	⇑*iP*	**Pn**	**20 46 00.3**	**-2.0**
PB07				*i* S	**Sn**	**20 46 21.7**	**-3.1**
PB07				AML	AML	20 46 24.1	
	comp=E,45μm,0.4s						
PB04	**Plate Boundary**	**2.07**	**195**	⇑*iP*	**Pn**	**20 46 07.9**	**+1.5**
PB04				*i* S	**Sn**	**20 46 35.0**	**+2.7**
PB04				AML	AML	20 46 45.5	
	comp=E,21μm,0.7s						
MACH	**Maria Elena**	**2.09**	**202**	*eP*	**Pn**	**20 46 05.3**	**-1.5**
MACH				S	**Sn**	**20 46 29.9**	**-3.2**
MACH	**Maria Elena**	**2.09**	**202**	*eP*	**Pn**	**20 46 05.3**	**-1.5**
MACH				*i* S	**Sn**	**20 46 29.9**	**-3.2**
ARCH	**Arica**	**2.19**	**323**	⇑*iP*	**Pn**	**20 46 06.8**	**-1.1**
ARCH				*i* S	**Sn**	**20 46 33.7**	**-1.2**
ARCH				AML	AML	20 46 38.7	
	comp=N,55μm,0.3s						
LVC	**Limon Verde**	**2.35**	**180**	⇓*iP*	**Pn**	**20 46 10.2**	**-0.1**
LVC				*i* S	**Sn**	**20 46 38.9**	**-0.2**
LVC	**Limon Verde**	**2.35**	**180**	⇓*iP*	**Pn**	**20 46 10.2**	**-0.1**
LVC				*i* S	**Sn**	**20 46 38.9**	**-0.2**
PB06	**Plate Boundary**	**2.52**	**194**	⇓*iP*	**Pn**	**20 46 10.6**	**-1.7**
PB06				*i* S	**Sn**	**20 46 39.6**	**-3.3**
PB06				AML	AML	20 46 50.5	
	comp=E,19μm,0.4s						
MECH	**Mejillones**	**3.18**	**206**	*eP*	**Pn**	**20 46 18.9**	**-2.0**
MECH	**Mejillones**	**3.18**	**206**	*eP*	**Pn**	**20 46 18.9**	**-2.0**
LPAZ	**La Paz**	**4.01**	**11**	*ePn*	**Pn**	**20 46 35.1**	**+2.4**
SIV	**San Ignacio**	**8.57**	**62**	P	**Pn**	**20 47 32.5**	**-1.5**
SIV				S	**Sn**	**20 49 04.2**	**-4.8**
SIV	**San Ignacio**	**8.57**	**62**	P	**Pn**	**20 47 32.5**	**-1.5**
	comp=E,76nm,0.3s,baz=255,slow=15,SNR=516						
SIV				S	**Sn**	**20 49 04.2**	**-4.8**
	baz=318,slow=19,SNR=2.4						
SIV				LR	LR	20 51 36.7	
	comp=E,2μm,19.9s,slow=43						
LCO	**Las Campanas**	**8.87**	**190**	*ePn*	**Pn**	**20 47 39.7**	**+1.6**
NNA	**Nana**	**11.20**	**316**	*ePn*	Pn	20 48 06.1	-3.6
NNA	**Nana**	**11.20**	**316**	Pn	Pn	20 48 06.3	-3.3
	comp=E,430nm,0.7s,SNR=5.4						
NNA	**Nana**	**11.20**	**316**	P	**Pn**	**20 48 06.9**	**-2.7**
	comp=E,4.5nm,0.3s,baz=145,slow=10,SNR=15						
CFAA	**Coronel Fontan**	**11.32**	**177**	P	Pn	20 48 05.8	-5.2
CFAA				S	Sn	20 50 01.8	-14
CFAA	**Coronel Fontan**	**11.32**	**177**	P	Pn	20 48 05.8	-5.2
	comp=E,0.4nm,0.3s,baz=357,slow=14,SNR=24						
CFAA				S	Sn	20 50 01.8	-14
	comp=E,1.5nm,0.3s,baz=256,slow=18,SNR=6.4						
CPUP	**Villa Florida**	**12.24**	**122**	*eP*	**Pn**	**20 48 20.8**	**-2.4**
	comp=E,1.4nm,0.7s						
CPUP	**Villa Florida**	**12.24**	**122**	P	**Pn**	**20 48 21.9**	**-1.3**
	comp=E,34nm,0.3s,baz=285,slow=12,SNR=324						
SAML	**Samuel**	**12.53**	**27**	*ePn*	Pn	20 48 23.7	-3.4
	comp=E,1.6nm,0.6s						
ATAH	**Atahualpa**	**15.96**	**324**	P	**Pn**	**20 49 11.3**	**0.0**
ATAH	**Atahualpa**	**15.96**	**324**	P	**Pn**	**20 49 11.3**	**0.0**
	comp=E,0.6nm,0.3s,baz=204,slow=12,SNR=5.5						
ATAH				LR	LR	20 55 45.9	
	comp=E,2μm,21.5s,baz=78,slow=38						
TRQA	**Tornquist**	**18.73**	**163**	*eP*	**P**	**20 49 42.3**	**-0.5**
	comp=E,218nm,0.7s						
SPB	**Sao Paulo**	**20.20**	**103**	*eP*	**P**	**20 49 56.9**	**-1.9**
	comp=E,222nm,0.7s						
BDFB	**Brasilia**	**20.40**	**80**	P	**P**	**20 50 00.3**	**-0.8**
BDFB	**Brasilia**	**20.40**	**80**	P	**P**	**20 50 00.3**	**-0.8**
	comp=E,200nm,0.5s,baz=255,slow=12,SNR=275						
PLCA	**Paso Flores**	**20.46**	**184**	*eP*	**P**	**20 50 01.3**	**-0.3**
	comp=E,227nm,1.0s						
PLCA				ScP	**ScP**	**20 57 37.4**	**+1.5**
PLCA	**Paso Flores**	**20.46**	**184**	P	**P**	**20 50 01.3**	**-0.3**
	comp=E,149nm,0.9s,baz=5.6,slow=12,SNR=134						
PLCA				ScP	**ScP**	**20 57 37.4**	**+1.5**
	comp=E,4.1nm,1.1s,baz=337,slow=5.7,SNR=4.1						
OTAV	**Otavalo**	**22.41**	**334**	*eP*	**P**	**20 50 23.7**	**+0.9**
	comp=E,133nm,1.0s						
CAM4	**Nova Friburgo**	**24.63**	**100**	⇑*iP*	**P**	**20 50 41.0**	**-2.3**
CAM4				*i*		20 50 41.7	
CAM4				*i*		20 50 49.7	
CAM4				*i*		20 50 53.7	
CAM4				*i*		20 50 55.3	
CAM4				*i*		20 50 59.7	
CAM4				*i*		20 51 08.8	
CAM4				*i*		20 51 16.7	
CAM4				*i*		20 51 20.0	
CAM4				*i*		20 51 22.3	
CAM4				*i*		20 51 26.3	
CAM4				*i*		20 51 29.6	
ROSC	**El Rosal**	**25.52**	**347**	P	**P**	**20 50 50.7**	**-0.8**
ROSC				pP	**pP**	**20 51 16.0**	**+0.6**
ROSC				*ep*P	**pwP**	**20 51 20.3**	**+5.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**25.52**	**347**	P	**P**	**20 50 50.7**	**-0.8**
	comp=E,13nm,0.6s,baz=93,slow=19,SNR=2.7						
ROSC				pP	**pP**	**20 51 16.0**	**+0.6**
	comp=E,17nm,0.5s,baz=98,slow=16,SNR=3.2						
SDV	**Santo Domingo**	**29.01**	**356**	*eP*	**P**	**20 51 21.1**	**-1.4**
	comp=E,53nm,0.9s						
JTS	**JuntasAbangare**	**34.21**	**331**	P	**P**	**20 52 09.7**	**+1.7**
JTS	**JuntasAbangare**	**34.21**	**331**	P	**P**	**20 52 09.5**	**+1.5**
	comp=E,245nm,0.9s,SNR=5.7						
JTS	**JuntasAbangare**	**34.21**	**331**	P	**P**	**20 52 09.7**	**+1.7**
	comp=E,22nm,0.8s,baz=135,slow=7.6						
USHA	**Ushuaia**	**34.52**	**180**	P	**P**	**20 52 09.8**	**-0.4**
USHA	**Ushuaia**	**34.52**	**180**	P	**P**	**20 52 09.8**	**-0.4**
	comp=E,20nm,0.7s,baz=20,slow=6.8,SNR=7.3						
RCBR	**Riachuelo**	**35.11**	**70**	*eP*	**P**	**20 52 15.1**	**-0.8**
	comp=E,238nm,1.2s						
RCBR	**Riachuelo**	**35.11**	**70**	P	**P**	**20 52 15.6**	**-0.3**
	comp=E,149nm,0.9s,baz=236,slow=9.3,SNR=41						
CRPR	**Cabo Rojo, PR**	**38.06**	**3**	*ep*P	pP	20 53 05.6	+0.2
OBIP	**Obispado Ponce**	**38.13**	**4**	P	**P**	**20 52 41.1**	**-0.1**
	comp=E,115nm,0.8s						
OBIP				*ep*P	**pP**	**20 53 06.5**	**+0.6**
CELP	**Cerrillos**	**38.16**	**4**	*eP*	**P**	**20 52 40.8**	**-0.7**
SJG	**San Juan**	**38.22**	**4**	*eP*	**P**	**20 52 39.6**	**-2.4**
	comp=E,87nm,0.8s						
SJG				*ep*P	**pP**	**20 53 05.5**	**-1.2**
SJG				*e*ScP	**S**	**20 58 24.0**	**-3.8**
LSP	**Las Mesas**	**38.23**	**3**	*ep*P	pP	20 53 06.6	-0.3
LRS	**Lares**	**38.36**	**3**	*eP*	**P**	**20 52 42.3**	**-0.9**
LRS				*ep*P	**pP**	**20 53 07.9**	**-0.1**
AOPR	**Arecibo Observ**	**38.42**	**3**	*ep*P	pP	20 53 08.8	+0.4
TGUH	**Tegucigalpa,Un**	**38.58**	**331**	*eP*	**P**	**20 52 46.2**	**+1.2**
	comp=E,104nm,0.8s						
HOPE	**Hope Point**	**41.97**	**152**	*eP*	**P**	**20 53 14.2**	**+1.6**
	comp=E,160nm,1.2s						
TEIG	**Tepich**	**44.47**	**334**	P	**P**	**20 53 32.8**	**-0.3**
TEIG				pP	**pP**	**20 53 58.0**	**-0.4**
TEIG				sP	**sP**	**20 54 09.7**	**-1.0**
TEIG	**Tepich**	**44.47**	**334**	P	**P**	**20 53 32.8**	**-0.3**
	comp=E,44nm,0.7s,baz=155,slow=5.4,SNR=29						
TEIG				pP	**pP**	**20 53 58.0**	**-0.4**
	comp=E,93nm,0.8s,baz=147,slow=6.3,SNR=14						
TEIG				sP	**sP**	**20 54 09.7**	**-1.0**
	comp=E,58nm,0.8s,baz=149,slow=20,SNR=4.5						
CMIG	**Matias Romero**	**45.03**	**324**	P	**P**	**20 53 38.0**	**+0.5**
CMIG				pP	**pP**	**20 54 02.8**	**-0.1**
CMIG				sP	**sP**	**20 54 14.6**	**-0.6**
CMIG	**Matias Romero**	**45.03**	**324**	P	**P**	**20 53 38.0**	**+0.5**
	comp=E,40nm,1.0s,baz=125,slow=5.4,SNR=38						
CMIG				pP	**pP**	**20 54 02.8**	**-0.1**
	comp=E,15nm,0.8s,baz=122,slow=6.6,SNR=4.1						
CMIG				sP	**sP**	**20 54 14.6**	**-0.6**
	comp=E,14nm,0.8s,baz=126,slow=8.5,SNR=2.6						
CMIG				LR	LR	21 12 05.6	
	comp=E,1μm,20.6s,baz=144,slow=35						
DWPF	**Disney**	**49.58**	**345**	*eP*	**P**	**20 54 13.0**	**+0.3**
	comp=E,55nm,0.7s						
DWPF				*ep*P	**pP**	**20 54 39.8**	**+1.4**
BBSR	**BB Station**	**52.48**	**4**	*ep*P	pP	20 55 00.5	+0.2
BRAL	**Brewton**	**53.87**	**341**	*eP*	**P**	**20 54 45.6**	**+1.0**
	comp=E,76nm,0.8s						
NHSC	**New Hope**	**54.14**	**348**	*eP*	**P**	**20 54 47.2**	**+0.8**
	comp=E,356nm

WCI **Wyandotte Cave** 60.42 344 *e*P P 20 55 28.8 -1.8
comp=Z,76nm,1.2s
WCI *ep*P **pP** **20 55 56.5 -0.7**
427A **Hayter Ranch,** 60.66 326 ⇓P P **20 55 32.0 -0.5**
baz=61,SNR=7.9
SIUC **Southern Illin** 60.74 342 *e*P P 20 55 31.8 -0.9
comp=Z,121nm,1.0s
328A **Wristen Ranch,** 60.78 327 ⇓P P 20 55 32.5 -0.7
baz=61,SNR=17
426A **McDonald Obser** 60.85 325 ⇑P P 20 55 33.3 -0.6
baz=61,SNR=27
327A **Balmorhea Ranc** 61.12 326 ⇑P P 20 55 35.2 -0.3
baz=61
SSPA **Standing Stone** 61.15 352 *e*P P 20 55 35.6 +0.1
comp=Z,31nm,0.9s
129A **Stewart Farms,** 61.31 328 ⇓P P 20 55 35.8 -1.0
baz=62
326A **Caldwell Ranch** 61.33 326 ⇓P P 20 55 36.6 -0.4
baz=62,SNR=21
FVM **French Village** 61.36 341 *e*P P 20 55 36.0 -0.9
FVM pmax pmax
comp=Z,112nm,0.8s
FVM **French Village** 61.36 341 *e*P P 20 55 36.0 -0.9
comp=Z,112nm,0.8s
BLO **Bloomington** 61.37 344 *e*P P 20 55 35.7 -1.2
BLO pmax pmax
comp=Z,67nm,0.6s
BLO **Bloomington** 61.37 344 *e*P P 20 55 35.7 -1.2
comp=Z,67nm,0.6s
OLIL **Olney** 61.37 343 *e*P P 20 55 28.8 -8.1
comp=Z,42nm,0.9s
TUL1 **Tulsa** 61.39 335 ⇓P P **20 55 36.6 -0.5**
baz=62,SNR=13
425A **Indio Mountain** 61.46 325 ⇑P P **20 55 37.3 -0.6**
baz=62,SNR=34
227A **Bennet, Jal** 61.53 327 ⇑P P **20 55 37.9 -0.3**
baz=62,SNR=6.0
ACSO **Alum Creek Sta** 61.59 348 *e*P P **20 55 37.8 -0.5**
comp=Z,86nm,0.9s
ACSO *ep*P **pP** **20 56 04.8 -0.3**
WMOK **Wichita Mounta** 61.62 332 *e*P P **20 55 37.9 -0.9**
WMOK pmax pmax
comp=Z,31nm,1.4s
WMOK **Wichita Mounta** 61.62 332 *e*P P **20 55 37.9 -0.9**
comp=Z,31nm,1.4s
Z29A **Hungry Hill Ra** 61.74 329 ⇑P P **20 55 38.6 -1.1**
baz=62,SNR=8.1
325A **Bean Ranch, Si** 61.90 325 ⇑P P **20 55 40.3 -0.6**
baz=62,SNR=89
BRYW **Bryant College** 61.90 358 *e*P P **20 55 40.5 +0.1**
comp=Z,32nm,0.7s
226A **Malaga, Loving** 61.98 326 ⇓P P **20 55 41.5 +0.2**
baz=62,SNR=23
BBTS **Babate** 62.08 60 P P **20 55 42.2 0.0**
BBTS **Babate** 62.08 60 P P **20 55 42.2 0.0**
comp=Z,222nm,0.9s,baz=255,slow=0.9,SNR=47
127A **Arkansas Junct** 62.09 327 ⇓P P **20 55 41.2 -0.8**
baz=62,SNR=6.4
Z28A **Tucker Farm, M** 62.09 328 ⇓P P **20 55 40.8 -1.3**
baz=62,SNR=7.3
Y29A **Porterfield Fa** 62.21 329 ⇓P P **20 55 41.9 -1.0**
baz=62,SNR=6.4
GDL2 **Guadalupe Moun** 62.23 326 *e*P P 20 55 39.5 -3.6
GDL2 *ep*P pP 20 56 09.5 -0.3
GDL2 *eP'P'* 21 24 46.9
324A **Moseley Ranch,** 62.23 325 ⇓P P **20 55 41.9 -1.2**
baz=62,SNR=44
MNTX **Cornudas Mount** 62.38 325 *e*P P **20 55 42.4 -1.5**
comp=Z,26nm,1.1s
MNTX *ep*P **pP** **20 56 09.2 -1.5**
MNTX **Cornudas Mount** 62.38 325 ⇓P P **20 55 42.9 -1.0**
baz=63,SNR=28
225A **Deer Hill, Car** 62.40 326 ⇑P P **20 55 43.9 -0.4**
baz=63,SNR=16
126A **Clayton Basin,** 62.40 327 ⇑P P **20 55 43.4 -0.7**
baz=63
ALLY **Alegheny Colle** 62.46 351 *e*P P **20 55 44.2 -0.1**
comp=Z,147nm,0.8s
ALLY *ep*P **pP** **20 56 10.9 -0.1**
BINY **Binghamton** 62.48 354 *e*P P **20 55 44.9 +0.6**
comp=Z,52nm,0.9s
HRV **Adam Dziewonsk** 62.49 358 *e*P P **20 55 44.2 -0.2**
HRV *e**PP **pP** **20 56 11.9 +0.7**
HRV pmax pmax
comp=Z,71nm,1.2s
HRV **Adam Dziewonsk** 62.49 358 *e*P P **20 55 44.2 -0.2**
comp=Z,71nm,1.2s
HRV *ep*P **pP** **20 56 11.8 +0.7**
Z27A **Tatum** 62.53 328 ⇑P P **20 55 43.9 -1.1**
baz=63,SNR=24
Y28A **McKinney Farm,** 62.53 329 ⇓P P **20 55 43.7 -1.2**
baz=63,SNR=5.5
SFIN **Scholer Farm** 62.65 344 ⇓P P **20 55 44.0 -1.5**
baz=63,SNR=28
X29A **Tulia** 62.71 330 ⇓P P **20 55 45.0 -1.1**
baz=63
125A **Gardner Draw,** 62.74 326 ⇓P P **20 55 45.3 -1.1**
baz=63,SNR=11
224A **Cornudas Mount** 62.74 325 ⇑P P **20 55 45.2 -1.3**
baz=63,SNR=34
TRY **Troy** 62.82 356 *e*P P **20 55 46.8 +0.3**
TRY *ep*P **pP** **20 56 14.7 +1.4**
MSTX **Muleshoe** 62.83 329 ⇓P P **20 55 46.0 -1.0**
baz=63,SNR=29
Z26A **Caprock** 62.88 327 ⇓P P **20 55 46.6 -0.7**
baz=63,SNR=14
ERPA **Erie** 62.90 351 *e*P P **20 55 47.2 +0.1**
comp=Z,190nm,0.8s
ERPA *ep*P **pP** **20 56 14.0 +0.1**
Y27A **Causey** 62.96 328 ⇑P P **20 55 46.5 -1.3**
baz=63,SNR=17
X28A **Dimmitt** 63.00 329 ⇓P P **20 55 47.2 -0.9**
baz=63
AMTX **Amarillo** 63.05 330 *e*P P **20 55 47.5 -0.9**
comp=Z,50nm,1.4s
AMTX **Amarillo** 63.05 330 ⇑P P **20 55 47.6 -0.8**
baz=63,SNR=6.8
223A **Chaparral, Ant** 63.18 325 ⇑P P **20 55 48.5 -0.8**
baz=64
124A **Stringfield Ra** 63.19 326 ⇑P P **20 55 48.7 -0.9**
baz=64,SNR=16
W29A **Amraillo** 63.23 330 ⇑P P **20 55 48.3 -1.3**
baz=64,SNR=7.3
Z25A **Roswell** 63.26 327 ⇓P P **20 55 49.0 -0.8**
baz=64,SNR=14
HDIL **Hopedale** 63.40 343 *e*P P **20 55 49.3 -1.2**
comp=Z,98nm,0.8s
HDIL *ep*P **pP** **20 56 16.8 -0.5**
SNAA **Sanae** 63.45 161 *e*P P 20 55 43.5 -7.0
comp=Z,41nm,0.8s
ACCN **Adirondack Com** 63.47 356 *e*PKPdf P **20 55 49.6 -1.3**
comp=Z,16nm,0.9s
ACCN *ep*P **pP** **20 56 18.6 +0.9**
X27A **F and S Farms,** 63.54 329 ⇓P P **20 55 50.5 -1.1**
baz=64
123A **Bell Site, Whi** 63.57 325 ⇑P P **20 55 51.0 -0.9**
baz=64
W28A **Vega** 63.61 330 ⇓P P **20 55 51.4 -0.7**
baz=64
222A **Williams Famil** 63.62 324 ⇑P P **20 55 52.3 0.0**
baz=64,SNR=13
Z24A **Sheeppen Canyo** 63.64 326 ⇑P P **20 55 51.8 -0.6**
baz=64,SNR=15
Y25A **Mesa, Roswell** 63.76 327 ⇓P P **20 55 52.0 -1.1**
baz=64,SNR=15
X26A **CR and CF Fran** 63.81 328 ⇑P P **20 55 52.4 -1.1**
baz=64,SNR=14
320A **Kipp Ranch, An** 63.85 323 ⇓P P **20 55 54.1 +0.3**
baz=64,SNR=11
221A **Mesquite Ranch** 63.92 324 ⇑P P **20 55 54.9 +0.7**
baz=64
V28A **Channing** 64.02 330 ⇓P P **20 55 54.2 -0.6**
baz=64
122A **Conniff Cattle** 64.02 325 ⇓P P **20 55 55.7 +0.8**
baz=64
Z23A **Rita Site, Whi** 64.04 326 ⇓P P **20 55 55.0 0.0**
baz=64,SNR=9.1
NCB **Newcomb** 64.09 356 *e*PKPdf P **20 55 54.6 -0.3**
comp=Z,22nm,0.9s
NCB *ep*P **pP** **20 56 22.4 +0.6**
Y24A **Capitan** 64.14 327 ⇓P P **20 55 54.4 -1.3**
baz=64
X25A **Clemmons Ranch** 64.22 328 ⇑P P **20 55 54.9 -1.2**
baz=64
W26A **Owens Ranch, T** 64.22 329 ⇑P P **20 55 56.0 -0.1**
baz=64,SNR=5.9
220A **Playas Peak, P** 64.27 323 ⇑P P **20 55 56.8 +0.2**
baz=65,SNR=32
319A **Douglas** 64.31 322 ⇓P P **20 55 57.2 +0.5**
baz=65,SNR=13
121A **Cookes Peak, D** 64.32 324 ⇑P P **20 55 57.5 +0.6**
baz=65,SNR=20
Z22A **Elephant Butte** 64.42 325 ⇑P P **20 55 58.0 +0.4**
baz=65,SNR=27
Y23A **Love Mesa,** 64.46 326 ⇑P P **20 55 57.5 -0.3**
baz=65,SNR=7.8
KSU1 **Kansas State U** 64.49 336 *e*P P **20 55 57.2 -0.4**
comp=Z,64nm,1.0s
X24A **Lazy VL Ranch,** 64.64 327 ⇑P P **20 55 58.2 -0.8**
baz=65
W25A **X Bar L Ranch,** 64.66 328 ⇓P P **20 55 58.7 -0.3**
baz=65,SNR=11
LONY **Lake Ozonia** 64.76 356 *e*PKPdf P **20 55 59.3 0.0**
comp=Z,52nm,1.0s
120A **U Bar Ranch, L** 64.81 323 ⇑P P **20 56 00.5 +0.5**
baz=65,SNR=22
Z21A **St. Cloud Mine** 64.85 325 ⇑P P **20 56 01.1 +0.7**
baz=65,SNR=9.7
FRNY **Flat Rock** 64.91 356 *e*P P **20 56 00.7 +0.4**
comp=Z,29nm,0.9s
FRNY *ep*P **pP** **20 56 28.0 +0.8**
BNM **Barren Site** 64.93 326 *e*P P **20 56 00.8 -0.2**
comp=Z,17nm,1.1s
BNM *ep*P **pP** **20 56 27.4 -0.5**
Y22A **Socorro** 64.95 326 ⇓P P **20 56 00.9 -0.1**
baz=65
X23A **Hourglass Bar** 65.04 327 ⇑P P **20 56 01.3 -0.3**
baz=65
LPM **Los Pinos Moun** 65.06 326 *e*P P **20 56 02.0 +0.3**
LPM *ep*P **pP** **20 56 28.3 -0.3**
LPM *eP'P'* 21 24 45.1
T28A **Walsh** 65.09 331 ⇑P P **20 56 01.0 -0.8**
baz=65,SNR=7.8
LENM **Lemitar** 65.13 326 *e*P P **20 56 01.6 -0.5**
comp=Z,78nm,1.0s
W24A **Lazy 6 Ranch,** 65.13 328 ⇑P P **20 56 01.8 -0.4**
baz=65,SNR=7.1
Z20A **Nine Sixteen R** 65.21 324 ⇓P P **20 56 03.3 +0.6**
baz=66,SNR=29
V25A **Rancho No Teng** 65.23 329 ⇓P P **20 56 02.4 -0.3**
baz=66,SNR=30
U26A **Atchley Ranch,** 65.26 330 ⇑P P **20 56 02.6 -0.3**
baz=66,SNR=34
T27A **Campo** 65.32 331 ⇓P P **20 56 02.7 -0.6**
baz=66,SNR=8.7
SADO **Sadowa** 65.38 352 P P **20 56 02.9 -0.3**
SADO pP **pP** **20 56 29.8 -0.5**
SADO sP **sP** **20 56 41.9 -0.1**
SADO **Sadowa** 65.38 352 P P **20 56 02.9 -0.3**
comp=Z,16nm,0.5s,baz=185,slow=6.4,SNR=17
SADO pP **pP** **20 56 29.8 -0.5**
comp=Z,37nm,0.9s,baz=207,slow=6.1,SNR=8.9
SADO sP **sP** **20 56 41.9 -0.1**
comp=Z,43nm,0.9s,baz=195,slow=4.4,SNR=7.3
Y21A **Point of Rocks** 65.38 325 ⇑P P **20 56 04.4 +0.6**
baz=66,SNR=20
LAZ **Ladron** 65.40 326 *e*P P **20 56 04.5 +0.6**
comp=Z,25nm,1.4s
LAZ *ep*P **pP** **20 56 30.7 -0.1**
ANMO **Albuquerque** 65.46 327 *e*P P **20 56 04.5 +0.2**
comp=Z,209nm,2.5s
ANMO pP **pP** **20 56 31.1 -0.1**
ANMO **Albuquerque** 65.46 327 P P **20 56 04.2 -0.1**
comp=Z,9.4nm,0.8s,baz=145,slow=8.7,SNR=18
ANMO pP **pP** **20 56 31.1 -0.1**
comp=Z,15nm,0.9s,baz=149,slow=8.4,SNR=8.1
V24A **Rampart Ranch,** 65.47 328 ⇓P P **20 56 03.9 -0.4**
baz=66,SNR=7.7
W23A **Werner Place,** 65.47 327 ⇑P P **20 56 04.4 +0.1**
baz=66
CBKS **Cedar Bluff** 65.48 334 *e*P P **20 56 04.5 +0.4**
CBKS pmax pmax
comp=Z,81nm,0.8s
CBKS **Cedar Bluff** 65.48 334 *e*P P **20 56 04.5 +0.4**
comp=Z,81nm,0.8s
CBKS **Cedar Bluff** 65.48 334 ⇓P P **20 56 04.1 0.0**
baz=66,SNR=7.2
U25A **Circle Dot Ran** 65.58 329 ⇓P P **20 56 04.6 -0.4**
baz=66,SNR=31
Y20A **Horse Springs,** 65.69 325 ⇑P P **20 56 06.2 +0.4**
baz=66,SNR=26
W22A **Albuquerque** 65.77 326 ⇓P P **20 56 07.1 +0.8**
baz=66
SCIA **State Center** 65.81 340 *e*P P **20 56 05.8 -0.3**
comp=Z,100nm,1.0s
SCIA *ep*P **pP** **20 56 33.3 +0.2**
T26A **Comanche Natio** 65.82 330 ⇑P P **20 56 06.2 -0.3**
baz=66,SNR=23
TUC **Tucson** 65.86 322 *e*P P **20 56 07.3 +0.5**
TUC pmax pmax
comp=Z,42nm,1.3s
TUC **Tucson** 65.86 322 *e*P P **20 56 07.2 +0.5**
comp=Z,42nm,1.3s
S27A **Las Animas** 65.91 331 ⇓P P **20 56 06.5 -0.6**
baz=66,SNR=5.1
V23A **Ortiz Mt. (NFS** 65.94 327 ⇓P P **20 56 07.8 +0.5**
baz=66,SNR=6.9
U24A **Moreno Valley** 66.01 328 ⇓P P **20 56 08.3 +0.4**
baz=66
S26A **Kim** 66.12 330 ⇓P P **20 56 08.2 -0.2**
baz=66,SNR=36
T25A **Trinidad** 66.17 330 ⇑P P **20 56 08.9 +0.1**
baz=66,SNR=11
Y19A **Nutrioso** 66.20 324 ⇓P P **20 56 09.9 +0.8**
baz=66,SNR=58
X20A **Quemado** 66.23 325 ⇑P P **20 56 10.0 +0.7**
baz=66,SNR=17
R27A **Eads** 66.36 331 ⇓P P **20 56 09.0 -0.9**
baz=67,SNR=5.8
U23A **El Rito** 66.40 328 ⇑P P **20 56 10.5 +0.2**
baz=67
T24A **Torres, Weston** 66.43 329 ⇑P P **20 56 11.0 +0.5**
baz=67
S25A **Robets Cordova** 66.60 330 ⇓P P **20 56 11.5 0.0**
baz=67,SNR=17
R26A **Arlington** 66.66 331 ⇑P P **20 56 11.5 -0.3**
baz=67,SNR=22
W20A **Ramah** 66.67 325 ⇑P P **20 56 12.4 +0.4**
baz=67,SNR=15
V21A **Milan** 66.73 326 ⇓P P **20 56 13.0 +0.6**
baz=67,SNR=6.0
U22A **Llaves** 66.78 327 ⇑P P **20 56 13.6 +1.0**
baz=67
214A **Organ Pipe Nat** 66.81 320 ⇓P P **20 56 13.7 +0.9**
baz=67,SNR=48
KSCO **Kaye Shedlock'** 66.88 332 ⇑P P **20 56 13.2 0.0**
baz=67,SNR=9.0
T23A **Casias Ranch,** 66.88 328 ⇓P P **20 56 13.8 +0.4**
baz=67
R25A **Fountain Ranch** 66.92 330 ⇑P P **20 56 13.4 -0.1**
baz=67,SNR=6.0
S24A **Houchin Ranch,** 66.96 329 ⇑P P **20 56 14.4 +0.4**
baz=67,SNR=19
X18A **Snowflake** 67.01 324 ⇓P P **20 56 14.7 +0.5**
baz=67,SNR=9.4
BGNE **Belgrade** 67.08 336 ⇑P P **20 56 13.9 -0.3**
baz=67,SNR=36
V20A **Brimhall** 67.16 326 ⇑P P **20 56 15.6 +0.4**
baz=68,SNR=11
SDCO **Great Sand Dun** 67.18 329 *e*P P **20 56 15.7 +0.4**
comp=Z,61nm,1.3s
SDCO **Great Sand Dun** 67.18 329 *e*Pdif **SKSac** **21 06 05.1 +2.3**
SDCO **Great Sand Dun** 67.18 329 ⇓P P **20 56 15.4 +0.1**
baz=68,SNR=38
Q26A **Hugo** 67.20 331 ⇓P P **20 56 15.2 0.0**
baz=68,SNR=14
U21A **Nageezi** 67.22 327 ⇑P P **20 56 16.1 +0.6**
baz=68,SNR=14
T22A **Edith** 67.29 328 ⇓P P **20 56 16.7 +0.7**
baz=68,SNR=14
W18A **Petrified Fore** 67.33 324 ⇓P P **20 56 16.9 +0.7**
baz=68,SNR=7.4
X17A **Forest Lakes** 67.35 323 ⇓P P **20 56 17.4 +1.0**
baz=68,SNR=18
R24A **Sanders Place,** 67.38 330 ⇓P P **20 56 17.1 +0.7**
baz=68,SNR=12
S23A **Nye Farm, Mont** 67.39 329 ⇑P P **20 56 16.8 +0.2**
baz=68
114A **Black Gap (USA** 67.41 321 ⇓P P **20 56 17.4 +0.9**
baz=68,SNR=10
Q25A **Bedland, Calha** 67.53 331 ⇑P P **20 56 17.4 0.0**
baz=68,SNR=6.8
T21A **Navajo Lake** 67.59 327 ⇑P P **20 56 18.2 +0.4**
baz=68,SNR=7.1
U20A **Newcomb** 67.63 326 ⇑P P **20 56 18.4 +0.4**
baz=68,SNR=12
P26A **Davis Ranch, A** 67.64 332 ⇑P P **20 56 18.0 0.0**
baz=68,SNR=5.5
R23A **Moffat** 67.69 329 ⇓P P **20 56 18.7 +0.2**
baz=68,SNR=15
X16A **Lo Mia Camp, P** 67.77 323 ⇑P P **20 56 19.9 +1.0**
baz=68,SNR=25
O27A **Beecher Island** 67.78 333 ⇓P P **20 56 19.3 +0.4**
baz=68,SNR=7.5
S22A **4UR Ranch, Cre** 67.83 328 ⇑P P **20 56 19.7 +0.3**
baz=68,SNR=12
Z14A **Wintersburg** 67.88 321 ⇑P P **20 56 20.0 +0.5**
baz=68,SNR=6.9
U19A **Dine' College,** 67.93 326 ⇑P P **20 56 19.6 -0.3**
baz=68
MAIT **Maitri** 67.96 159 *e*P P **20 56 22.0 +2.6**
P25A **Willow Gulch B** 67.97 331 ⇓P P **20 56 20.7 +0.6**
baz=68,SNR=19
Q24A **Divide** 67.98 330 ⇓P P **20 56 20.5 +0.1**
baz=68,SNR=15
NVL **N'lazarevskaya** 67.99 159 *e*P P **20 56 20.6 +1.0**
NVL pmax pmax
comp=Z,30nm,0.8s
LIC **Lamto** 68.05 74 ⇑*i*P P **20 56 20.0 -0.9**
comp=Z,140nm,0.8s,baz=247
R22A **Saguache, Gunn** 68.17 329 ⇑P P **20 56 21.8 +0.3**
baz=68,SNR=9.5
O26A **Horse Wrangler** 68.19 332 ⇑P P **20 56 21.7 +0.3**
baz=68,SNR=7.1
OGNE **Ogallala** 68.22 334 *e*P P **20 56 21.8 +0.3**
comp=Z,22nm,0.6s
OGNE **Ogallala** 68.22 334 ⇓P P **20 56 21.4 -0.1**
baz=68
T19A **Beclabito** 68.24 326 ⇑P P **20 56 22.1 +0.2**
baz=68,SNR=13
S21A **Coal Bank Pass** 68.24 328 ⇓P P **20 56 22.3 +0.3**
baz=68,SNR=16
MVCO **Mesa Verde** 68.26 327 *e*P P **20 56 22.5 +0.5**
MVCO **Mesa Verde** 68.26 327 ⇓P P **20 56 22.3 +0.3**
baz=69,SNR=19
Q23A **Hartsel** 68.26 330 ⇓P P **20 56 22.3 +0.2**
baz=69
P24A **Kohler Place,** 68.31 331 ⇓P P **20 56 23.0 +0.8**
baz=69
N27A **Anderson Farm,** 68.32 333 ⇑P P **20 56 22.1 0.0**
baz=69
Y14A **Wickenburg** 68.32 322 ⇓P P **20 56 23.1 +0.9**
baz=69,SNR=9.2
DBIC **Dimbokro** 68.39 74 *e*P P **20 56 22.5 -0.5**
comp=Z,222nm,0.8s
DBIC pP **pP** **20 56 50.7 +0.5**
DBIC **Dimbokro** 68.39 74 P P **20 56 22.4 -0.5**
comp=Z,189nm,0.7s,baz=223,slow=6.4,SNR=215
DBIC pP **pP** **20 56 50.7 +0.5**
comp=Z,46nm,0.7s,baz=193,slow=6.6,SNR=3.9
O25A **Wiggins** 68.44 332 ⇓P P **20 56 23.5 +0.5**
baz=69
WUAZ **Wupatki** 68.53 324 *e*P P **20 56 24.7 +1.1**
comp=Z,59nm,1.0s
WUAZ **Wupatki** 68.53 324 ⇑P P **20 56 24.1 +0.4**
baz=69,SNR=34
ECSD **EROS Data Cent** 68.56 339 *e*P P **20 56 22.1 -1.4**
comp=Z,81nm,1.5s
N26A **Koester Ranch,** 68.63 333 ⇓P P **20 56 24.6 +0.4**
baz=69,SNR=6.8
P23A **Jefferson** 68.63 330 ⇑P P **20 56 24.9 +0.4**
baz=69,SNR=7.6
S20A **Disappointment** 68.66 327 ⇓P P **20 56 25.0 +0.4**
baz=69,SNR=40
R21A **Cimarron** 68.67 328 ⇑P P **20 56 25.1 +0.5**
baz=69,SNR=18
SPMN **St. Paul** 68.70 342 ⇓P P **20 56 23.4 -0.8**
baz=69
Q22A **Crested Butte,** 68.74 329 ⇑P P **20 56 25.5 +0.4**
baz=69,SNR=10.0
GLA **Glamis** 68.79 320 *e*P P **20 56 26.7 +1.5**
GLA *e**PP **PcP** **20 56 50.2 +1.1**
GLA pmax pmax
comp=Z,25nm,0.9s
GLA **Glamis** 68.79 320 *e*P P **20 56 26.7 +1.5**
comp=Z,24nm,0.9s
GLA *ep*P **PcP** **20 56 50.2 +1.1**
GLA **Glamis** 68.79 320 ⇑P P **20 56 26.2 +1.0**
baz=69,SNR=5.3
M27A **Reverse DX Ran** 68.85 334 ⇓P P **20 56 25.3 -0.1**
baz=69
ISCO **Idaho Springs** 68.87 330 *e*P P **20 56 26.2 +0.3**
ISCO pmax pmax
comp=Z,35nm,1.3s
ISCO **Idaho Springs** 68.87 330 *e*P P **20 56 26.2 +0.3**
comp=Z,35nm,1.3s
ISCO **Idaho Springs** 68.87 330 ⇓P P **20 56 26.1 +0.2**
baz=69,SNR=18
O24A **Longmont** 68.88 331 ⇑P P **20 56 26.3 +0.6**
baz=69
T18A **Mexican Hat** 68.92 326 ⇓P P **20 56 26.3 +0.3**
baz=69,SNR=45
R20A **Redvale** 68.94 328 ⇓P P **20 56 27.1 +0.9**
baz=69,SNR=16
S19A **Harvey Farm, M** 68.99 327 ⇓P P **20 56 26.9 +0.4**
baz=69,SNR=25
N25A **Grover** 69.00 332 ⇓P P **20 56 27.2 +0.7**
baz=69
PV01 **Paradox Valley** 69.00 327 *e*P P **20 56 27.1 +0.5**
comp=Z,3µm,1.3s
PV01 *ep*P **pP** **20 56 53.8 0.0**
SMCO **Snowmass** 69.02 329 *e*P P **20 56 27.7 +0.8**
comp=Z,30nm,1.0s
SMCO *ep*P **pP** **20 56 55.5 +1.4**
Q21A **Lamborn Mesa,** 69.04 329 ⇑P P **20 56 27.5 +0.7**
baz=69
Y12C **Blythe** 69.09 320 ⇑P P **20 56 27.8 +0.9**
baz=69,SNR=11
M26A **McRoberts Ranc** 69.12 333 ⇑P P **20 56 27.3 +0.2**
baz=69
P22A **Eagle** 69.24 330 ⇑P P **20 56 28.4 +0.3**
baz=70,SNR=8.1
PDMCI **Parker Dam,Lak** 69.24 321 ⇑P P **20 56 28.8 +1.0**
baz=70,SNR=7.3
L27A **T5 Ranch, Ells** 69.29 334 ⇓P P **20 56 28.5 +0.4**
baz=70
DVTC **Desert V Tower** 69.30 319 ⇓P P **20 56 29.6 +1.2**
baz=70,SNR=11
SWSC **Sam W. Stewart** 69.31 319 ⇑P P **20 56 28.7 +0.4**
baz=70
T17A **Navajo Res., N** 69.31 325 ⇑P P **20 56 29.7 +1.2**
baz=70,SNR=44
O23A **Lake Granby, G** 69.33 330 ⇑P P **20 56 29.0 +0.3**
baz=70,SNR=12
N24A **Carr** 69.36 332 ⇑P P **20 56 29.3 +0.6**
baz=70
PV04 **Paradox Valley** 69.37 327 *e*P P **20 56 29.7 +0.9**
S18A **Hurst Farm, Bl** 69.39 326 ⇓P P **20 56 29.9 +0.8**
baz=70,SNR=56
R19A **Curley Farm, L** 69.47 327 ⇑P P **20 56 29.4 -0.1**
baz=70,SNR=7.3
M25A **Palm-Egli Farm** 69.49 332 ⇑P P **20 56 29.7 +0.3**
baz=70
Q20A **Ridgley Place,** 69.49 328 ⇓P P **20 56 30.0 +0.5**
baz=70
P21A **Newcastle** 69.52 329 ⇑P P **20 56 30.4 +0.7**
baz=70,SNR=10.0
L26A **Underwood Farm** 69.56 333 ⇑P P **20 56 30.3 +0.5**
baz=70
BC3 **Big Chuckawall** 69.58 320 ⇓P P **20 56 31.3 +1.1**
baz=70,SNR=38
O22A **Kremmling** 69.59 330 ⇓P P **20 56 30.5 +0.2**
baz=70,SNR=33
MONP **Monument Peak** 69.66 319 ⇑P P **20 56 31.8 +1.1**
baz=70,SNR=12
BAR **Barrett** 69.67 318 *e*P P **20 56 31.7 +1.1**
comp=Z,55nm,1.0s
BAR *ep*P **pP** **20 56 58.3 +0.4**
IRM **Iron Mountain** 69.75 320 ⇓P P **20 56 31.9 +0.8**
baz=70,SNR=48
K27A **Flueckinger Fa** 69.77 334 ⇑P P **20 56 31.6 +0.5**
baz=70,SNR=13
S17A **Black Ridge (B** 69.78 326 ⇓P P **20 56 32.1 +0.8**
baz=70,SNR=6.5
M24A **Cheyenne** 69.85 332 ⇓P P **20 56 32.3 +0.6**
baz=70,SNR=22
R18A **Canyonlands Na** 69.87 327 ⇑P P **20 56 31.8 -0.1**
baz=70,SNR=14
N23A **Red Feather La** 69.89 331 ⇓P P **20 56 32.3 +0.2**
baz=70,SNR=14
DRLN **Deer Lake** 69.94 8 *ep*P pP 20 56 59.2 +0.1
P20A **De Beque** 69.96 328 ⇓P P **20 56 32.9 +0.5**
baz=70

Q19A **Hogan Spring (** 69.97 327 ⇓P P 20 56 33.0 +0.5
baz=70,SNR=24
L25A **Engebretsen Ra** 70.04 333 ⇓P P 20 56 33.2 +0.5
baz=70
N22A **Wattenberg Ran** 70.05 331 ⇑P P 20 56 33.9 +0.8
baz=70,SNR=9.1
O21A **Pagoda** 70.07 329 ⇑P P 20 56 34.1 +0.9
baz=70,SNR=7.1
109C **Camp Elliot, M** 70.08 318 ⇓P P 20 56 33.9 +0.8
baz=70
BELC **Belle Mtn. Jos** 70.15 320 ⇑P P 20 56 34.3 +0.7
baz=70,SNR=21
K26A **Motz Farm, Whi** 70.16 334 ⇓P P 20 56 33.8 +0.4
baz=70,SNR=5.2
PFO **Pinyon Flat Ob** 70.16 319 *eP* P 20 56 34.1 +0.4
comp=Z,46nm,1.1s
PFO **Pinyon Flat Ob** 70.16 319 P P 20 56 34.4 +0.7
comp=Z,198nm,1.1s,SNR=11
PFO **Pinyon Flat Ob** 70.16 319 ⇓P P 20 56 34.6 +0.8
baz=70,SNR=17
M23A **Laramie** 70.25 331 ⇓P P 20 56 34.6 +0.4
baz=71,SNR=8.7
S16A **Weppner Ranch,** 70.27 325 ⇓P P 20 56 34.9 +0.6
baz=71,SNR=11
R17A **Hanksville Air** 70.31 326 ⇓P P 20 56 35.0 +0.5
baz=71,SNR=19
P19A **Cripple Cowboy** 70.35 328 ⇓P P 20 56 35.4 +0.5
baz=71,SNR=30
L24A **Wheatland** 70.36 332 ⇑P P 20 56 35.3 +0.5
baz=71
K25A **Mack Ranch, Ha** 70.37 333 ⇑P P 20 56 35.3 +0.5
baz=71
O20A **White River Ci** 70.38 329 ⇑P P 20 56 35.8 +0.8
baz=71,SNR=5.5
GMRC **Granite Mounta** 70.48 320 ⇑P P 20 56 36.8 +1.1
baz=71,SNR=48
N21A **Black Mountain** 70.52 330 ⇑P P 20 56 36.8 +0.9
baz=71,SNR=6.8
Q18A **Rafter H Ranch** 70.53 327 ⇑P P 20 56 36.4 +0.6
baz=71,SNR=7.7
M22A **Cedar Creek Ra** 70.59 331 ⇑P P 20 56 36.7 +0.3
baz=71,SNR=9.7
MURC **Murrieta** 70.62 319 ⇑P P 20 56 37.3 +0.9
baz=71,SNR=6.1
R16A **Teasdale** 70.62 326 ⇑P P 20 56 37.3 +0.8
baz=71,SNR=8.5
SRU **San Rafael** 70.73 327 *eP* P 20 56 37.8 +0.6
SRU pmax pmax
comp=Z,34nm,0.9s
SRU **San Rafael** 70.73 327 *eP* P 20 56 37.8 +0.6
comp=Z,34nm,0.9s
SRU **San Rafael** 70.73 327 ⇑P P 20 56 37.6 +0.4
baz=71,SNR=28
L23A **Garrett** 70.76 332 ⇑P P 20 56 37.5 +0.2
baz=71
EYMN **Ely** 70.85 344 *eP* P 20 56 36.3 -1.1
comp=Z,29nm,0.8s
K24A **Anderson Ranch** 70.86 333 ⇓P P 20 56 38.5 +0.7
baz=71,SNR=8.5
BBRC **Big Bear Solar** 70.89 319 ⇓P P 20 56 39.2 +0.9
baz=71
HEC **Hector,Ludlow** 70.92 320 ⇓P P 20 56 39.4 +1.2
baz=71,SNR=30
Q16A **Castle Valley** 70.93 326 ⇓P P 20 56 39.1 +0.8
baz=71,SNR=22
N20A **Spence Gulch,** 70.93 329 ⇑P P 20 56 38.5 +0.2
baz=71,SNR=23
O19A **Miners Draw (B** 70.93 329 ⇓P P 20 56 38.9 +0.6
baz=71,SNR=6.8
P18A **Preston Nutter** 70.98 327 ⇑P P 20 56 39.6 +0.8
baz=71,SNR=32
R15A **Junction** 70.99 325 ⇑P P 20 56 39.7 +1.0
baz=71
L22A **Ellis Ranch, M** 71.02 331 ⇓P P 20 56 39.5 +0.7
baz=71
SCI **San Clemente I** 71.05 317 ⇓P P 20 56 39.7 +0.7
baz=71
TUQ **Turquoise Moun** 71.09 321 ⇓P P 20 56 40.3 +1.0
baz=71,SNR=5.4
CCUT **Cedar City** 71.10 324 *eP* P 20 56 41.2 +1.8
comp=Z,79nm,1.0s
M21A **Separation Pea** 71.11 330 ⇑P P 20 56 39.8 +0.3
baz=71,SNR=9.9
P17A **Butcher Ranch,** 71.12 327 ⇓P P 20 56 40.0 +0.6
baz=71,SNR=18
MSU **Marysvale** 71.16 325 *eP* P 20 56 40.9 +1.1
MSU **Marysvale** 71.16 325 *eP* P 20 56 40.9 +1.1
TMUT **Trail Mountain** 71.23 327 *eP* P 20 56 41.4 +1.1
comp=Z,84nm,1.8s
K23A **Bowen Ranch, D** 71.24 332 ⇑P P 20 56 40.7 +0.6
baz=72,SNR=8.9
CIS **Catalina Islan** 71.24 318 ⇓P P 20 56 40.7 +0.6
baz=72
J24A **Dixon Ranch, L** 71.29 333 ⇑P P 20 56 41.1 +0.7
baz=72,SNR=6.6
ARUT **Antelope Range** 71.32 324 *eP* P 20 56 42.2 +1.5
ARUT *e**PP pP 20 57 08.8 +0.8
ARUT pmax pmax
comp=Z,78nm,0.9s
ARUT **Antelope Range** 71.32 324 *eP* P 20 56 42.1 +1.5
comp=Z,78nm,0.9s
ARUT *epP* pP 20 57 08.8 +0.8
BFSC **Mount Baldy Ra** 71.33 319 ⇑P P 20 56 41.3 +0.6
baz=72,SNR=16
O18A **Roosevelt** 71.34 328 ⇑P P 20 56 41.3 +0.5
baz=72,SNR=6.6
RRX **Edison Barstow** 71.35 320 ⇑P P 20 56 41.7 +1.0
baz=72
FMP **Fort Macarthur** 71.37 318 ⇑P P 20 56 41.5 +0.6
baz=72
L21A **Rawlins** 71.39 331 ⇑P P 20 56 41.1 0.0
baz=72,SNR=22
M20A **Sweetwater, Wa** 71.40 330 ⇑P P 20 56 41.4 +0.2
baz=72,SNR=9.5
N19A **John Jarvie Ra** 71.42 329 ⇑P P 20 56 41.3 +0.1
baz=72,SNR=18
GSC **Goldstone** 71.52 320 *eP* P 20 56 43.1 +1.2
GSC *e**PP pP 20 57 10.1 +0.9
GSC pmax pmax
comp=Z,117nm,1.6s
GSC **Goldstone** 71.52 320 *eP* P 20 56 43.1 +1.2
comp=Z,118nm,1.6s
GSC *epP* pP 20 57 10.1 +0.9
GSC *eP'P'* 21 24 39.0
GSC **Goldstone** 71.52 320 ⇑P P 20 56 43.0 +1.2
baz=72,SNR=16
K22A **Casper** 71.55 332 ⇑P P 20 56 42.2 +0.2
baz=72,SNR=6.2
MWC **Mount Wilson** 71.56 319 *eP* P 20 56 43.5 +1.2
MWC *e**PP pP 20 57 10.7 +1.0
MWC pmax pmax
comp=Z,107nm,1.4s
MWC **Mount Wilson** 71.56 319 *eP* P 20 56 43.5 +1.2
comp=Z,107nm,1.4s
MWC *epP* pP 20 57 10.7 +1.0
PASC **Pasadena Art C** 71.61 319 *eP* P 20 56 43.9 +1.6
comp=Z,78nm,1.2s
PASC *epP* pP 20 57 10.8 +1.1
SHOC **Shoshone** 71.61 321 ⇑P P 20 56 43.0 +0.6
baz=72
O17A **Robinson Place** 71.66 327 ⇓P P 20 56 43.6 +0.9
baz=72,SNR=40
RSSD **Black Hills** 71.68 334 *eP* P 20 56 43.2 +0.4
RSSD pmax pmax
comp=Z,26nm,0.9s
RSSD **Black Hills** 71.68 334 *eP* P 20 56 43.2 +0.4
comp=Z,26nm,0.9s
P16A **Fountain Green** 71.69 326 ⇓P P 20 56 44.1 +1.2
baz=72,SNR=11
I24A **Kuemmerle Ranc** 71.71 334 ⇓P P 20 56 43.2 +0.4
baz=72,SNR=6.5
J23A **Dilts Ranch, B** 71.73 333 ⇓P P 20 56 43.7 +0.7
baz=72
DECC **Green Verdugo** 71.75 319 ⇓P P 20 56 44.3 +1.1
baz=72
K21A **Alcova** 71.87 331 ⇓P P 20 56 44.2 +0.3
baz=72
M19A **Rock Springs** 71.87 329 ⇑P P 20 56 43.9 -0.2
baz=72
L20A **Wamsutter** 71.88 330 ⇓P P 20 56 44.1 +0.1
baz=72,SNR=15
R13A **O'Grain Ranch,** 71.89 324 ⇓P P 20 56 45.6 +1.4
baz=72,SNR=35
EDW2 **Edwards Air Fo** 71.96 319 ⇓P P 20 56 44.9 +0.4
baz=72,SNR=20
MPU **Maple Canyon** 71.98 327 *eP* P 20 56 45.6 +1.0
comp=Z,62nm,1.2s
MPU *epP* pP 20 57 13.0 +0.9

P15A **Leamington** 71.99 326 ⇑P P 20 56 45.7 +1.1
baz=72,SNR=8.1
DAU **Daniels Canyon** 72.08 327 *eP* P 20 56 46.4 +1.0
DAU **Daniels Canyon** 72.08 327 *eP* P 20 56 46.4 +1.0
BLG **Laguna Peak** 72.12 318 ⇓P P 20 56 46.3 +0.9
baz=72,SNR=5.7
J22A **Midwest** 72.14 332 ⇑P P 20 56 45.6 +0.2
baz=72,SNR=22
LRMC **Laurel Mountai** 72.17 320 ⇑P P 20 56 46.8 +1.0
baz=72
OSI **Osito Adit** 72.23 319 *eP* P 20 56 47.5 +1.4
comp=Z,52nm,1.0s
OSI **Osito Adit** 72.23 319 ⇑P P 20 56 46.6 +0.5
baz=72
M18A **Lyman** 72.26 329 ⇓P P 20 56 46.2 -0.1
baz=73
N17A **Moffit Pass** 72.27 328 ⇑P P 20 56 47.0 +0.6
baz=73,SNR=49
JLU **Jordanelle** 72.32 327 *eP* P 20 56 47.7 +0.9
comp=Z,105nm,1.4s
JLU *epP* pP 20 57 15.4 +1.2
FURC **Furnace Creek,** 72.35 321 ⇓P P 20 56 47.6 +1.0
baz=73,SNR=30
AGMN **Agassiz Nation** 72.38 341 *eP* P 20 56 46.0 -0.6
comp=Z,45nm,0.9s
K20A **Yellowstone Ra** 72.38 331 ⇓P P 20 56 46.7 -0.3
baz=73,SNR=9.4
BSC **Santa Cruz Isl** 72.40 318 ⇑P P 20 56 47.7 +0.7
baz=73,SNR=7.1
H24A **Dirks Ranch, A** 72.41 334 ⇓P P 20 56 46.9 -0.1
baz=73,SNR=21
L19A **Farson** 72.43 330 ⇓P P 20 56 47.7 +0.4
baz=73,SNR=20
MPMC **Manual Prospec** 72.44 320 ⇓P P 20 56 48.0 +0.5
baz=73,SNR=20
J21A **Lysite** 72.52 332 ⇓P P 20 56 48.0 +0.2
baz=73,SNR=18
I22A **9 Mile Ranch,** 72.53 332 ⇓P P 20 56 47.9 +0.2
baz=73,SNR=18
N16A **Rees Ranch, Co** 72.53 328 ⇓P P 20 56 48.8 +0.9
baz=73,SNR=16
M17A **Scullys Gap (B** 72.58 328 ⇓P P 20 56 48.3 +0.1
baz=73,SNR=12
H23A **Clabaugh Cattl** 72.61 334 ⇑P P 20 56 48.4 +0.3
baz=73
O15A **The Old Anders** 72.61 326 ⇑P P 20 56 49.3 +0.9
baz=73,SNR=8.0
L18A **Fontenelle, Gr** 72.62 329 ⇑P P 20 56 48.6 +0.2
baz=73,SNR=15
ARVC **Arvin** 72.64 319 ⇓P P 20 56 49.2 +0.7
baz=73
DUG **Dugway** 72.72 326 *eP* P 20 56 50.0 +1.0
DUG pmax pmax
comp=Z,65nm,1.3s
DUG **Dugway** 72.72 326 *eP* P 20 56 50.0 +1.0
comp=Z,65nm,1.3s
DUG **Dugway** 72.72 326 ⇑P P 20 56 49.7 +0.7
baz=73,SNR=34
K19A **Absolon Red Bu** 72.75 330 ⇓P P 20 56 48.9 -0.2
baz=73,SNR=16
ISA **Isabella** 72.77 320 *eP* P 20 56 50.7 +1.4
ISA pmax pmax
comp=Z,50nm,0.9s
ISA **Isabella** 72.77 320 *eP* P 20 56 50.7 +1.4
comp=Z,50nm,0.9s
ISA **Isabella** 72.77 320 ⇓P P 20 56 50.3 +1.0
baz=73,SNR=27
J20A **Shoshoni** 72.81 331 ⇑P P 20 56 49.8 +0.4
baz=73,SNR=8.4
I21A **Big Trails, Te** 72.82 332 ⇓P P 20 56 49.9 +0.4
baz=73,SNR=42
G24A **Alzada** 72.83 335 ⇑P P 20 56 49.5 +0.1
baz=73
R11A **Troy Canyon, C** 72.91 323 ⇑P P 20 56 50.7 +0.6
baz=73,SNR=47
GRAC **Grapevine Rang** 73.01 321 ⇓P P 20 56 51.7 +1.1
baz=73
H22A **Clearmont** 73.03 333 ⇓P P 20 56 50.5 -0.1
baz=73,SNR=5.2
BW06 **Boulder Array** 73.03 330 *eP* P 20 56 50.4 -0.5
comp=Z,122nm,2.4s
BW06 **Boulder Array** 73.03 330 ⇓P P 20 56 50.7 -0.1
baz=73,SNR=20
PDAR **Pinedale Array** 73.03 330 P P 20 56 50.6 -0.2
PDAR **Pinedale Array** 73.03 330 P P 20 56 50.6 -0.2
comp=Z,8.4nm,1.0s,baz=145,slow=5.4,SNR=34
PD02 **Pinedale Array** 73.05 330 *eP* P 20 56 50.4 -0.5
CWC **Cottonwood Cre** 73.05 320 ⇑P P 20 56 51.5 +0.5
baz=73,SNR=15
PD01 **Pinedale Array** 73.06 330 *eP* P 20 56 50.7 -0.3
N15A **Stansbury Isla** 73.08 327 ⇑P P 20 56 51.6 +0.5
baz=73,SNR=9.9
PKM **Peak Mountain** 73.10 318 ⇑P P 20 56 52.4 +1.1
baz=73,SNR=15
G23A **Bidle** 73.12 334 ⇓P P 20 56 51.2 +0.1
baz=73,SNR=12
HWUT **Hardware Ranch** 73.13 328 *eP* P 20 56 51.6 +0.2
comp=Z,68nm,1.4s
L17A **Cokeville** 73.16 329 ⇓P P 20 56 51.7 +0.1
baz=74
K18A **Toltan Ranch,** 73.17 330 ⇑P P 20 56 52.4 +0.7
baz=74,SNR=19
MDND **Maddock** 73.17 339 ⇓P P 20 56 51.7 +0.4
baz=74,SNR=26
J19A **Crowheart** 73.18 331 ⇑P P 20 56 52.0 +0.3
baz=74,SNR=29
F24A **Ekalaka** 73.26 335 ⇑P P 20 56 51.9 0.0
baz=74,SNR=7.1
VES **Vestal, Richgr** 73.26 319 ⇑P P 20 56 53.1 +1.0
baz=74,SNR=16
I20A **Worland** 73.30 332 ⇑P P 20 56 52.2 -0.1
baz=74,SNR=9.6
H21A **Big Horn, Sher** 73.36 333 ⇓P P 20 56 52.2 -0.4
baz=74,SNR=7.2
L16A **Fish Haven** 73.37 328 ⇑P P 20 56 52.8 0.0
baz=74,SNR=14
M15A **Larsen Ranch,** 73.47 327 ⇓P P 20 56 53.5 +0.2
baz=74,SNR=42
SMMC **Simmler** 73.48 318 ⇑P P 20 56 54.5 +1.1
baz=74,SNR=12
G22A **Birney** 73.51 333 ⇑P P 20 56 53.2 -0.2
baz=74,SNR=5.9
F23A **Volborg** 73.55 334 ⇓P P 20 56 53.8 +0.2
baz=74,SNR=22
J18A **Kendall Valley** 73.59 330 ⇑P P 20 56 54.0 -0.2
baz=74,SNR=47
H20A **Greybull** 73.66 332 ⇑P P 20 56 54.1 -0.3
baz=74,SNR=11
RCTC **Rector, Farmer** 73.67 320 ⇓P P 20 56 54.8 +0.4
baz=74
K17A **Gardner Place,** 73.67 329 ⇑P P 20 56 54.5 -0.1
baz=74,SNR=6.6
I19A **Meeteetse** 73.75 331 ⇑P P 20 56 55.6 +0.6
baz=74,SNR=20
AHID **Auburn Hatcher** 73.77 329 *eP* P 20 56 55.9 +0.8
comp=Z,62nm,1.2s
AHID *epP* pP 20 57 24.5 +1.8
E24A **Baker** 73.80 335 ⇓P P 20 56 55.4 +0.4
baz=74,SNR=12
L15A **Malad City** 73.83 328 ⇑P P 20 56 55.8 +0.2
baz=74,SNR=54
PTRM **Twissleman Ran** 73.84 319 *eP* P 20 56 57.2 +1.7
HVU **Hansel Valley** 73.87 327 *eP* P 20 56 56.0 +0.3
HVU pmax pmax
comp=Z,42nm,1.1s
HVU **Hansel Valley** 73.87 327 *eP* P 20 56 56.0 +0.3
comp=Z,42nm,1.1s
I18A **Diamond G Ranc** 73.87 330 ⇓P P 20 56 56.0 +0.2
baz=74,SNR=12
TBI **Tubuai** 73.90 251 *eP* P 20 56 58.3 +2.1
comp=Z,210nm,1.1s
G21A **Lodge Grass** 73.90 333 ⇓P P 20 56 55.5 -0.2
baz=74,SNR=9.4
F22A **Rosebud** 73.94 334 ⇑P P 20 56 55.8 -0.2
baz=74,SNR=12
MTUM **Tungsten Hills** 73.95 321 *eP* P 20 56 57.4 +1.0
MTUM *epP* pP 20 57 24.3 +0.5
J17A **Brown Place, J** 74.04 330 ⇓P P 20 56 57.5 +0.8
baz=74,SNR=10
K16A **Soda Springs** 74.06 329 ⇓P P 20 56 57.4 +0.6
baz=74,SNR=80
REDW **Red Top Meadow** 74.10 330 *eP* P 20 56 57.7 +0.6
comp=Z,54nm,1.3s
SNOW **Snow King Moun** 74.13 330 *eP* P 20 56 58.4 +1.1
comp=Z,32nm,1.0s
ULM **Lac du Bonnet** 74.13 342 P P 20 56 56.3 -0.5
ULM pP pP 20 57 23.0 -1.3
ULM **Lac du Bonnet** 74.13 342 P P 20 56 56.3 -0.5
comp=Z,26nm,0.6s,baz=155,slow=6.0,SNR=69
ULM pP pP 20 57 23.0 -1.3
comp=Z,16nm,0.7s,baz=151,slow=5.2,SNR=5.2
MEH **Mehetia** 74.14 256 *eP* P 20 56 59.1 +1.4
comp=Z,98nm,1.2s
LOHW **Long Hollow** 74.17 330 *eP* P 20 56 58.0 +0.5
comp=Z,45nm,1.4s
H19A **Powell** 74.24 331 ⇑P P 20 56 58.0 +0.2
baz=75,SNR=15
TPAW **Teton Pass** 74.25 330 *eP* P 20 56 59.5 +1.5
comp=Z,34nm,1.0s
D24A **Glendive** 74.26 336 ⇓P P 20 56 58.0 +0.3
baz=75,SNR=6.7
L14A **Malta** 74.29 327 ⇓P P 20 56 58.4 +0.3
baz=75,SNR=23
MLAC **Mammoth Lakes** 74.30 321 ⇓P P 20 56 59.3 +0.9
baz=75
RRI2 **Red Ridge** 74.31 329 *eP* P 20 56 59.1 +0.7
comp=Z,66nm,1.0s
G20A **Bridger** 74.33 332 ⇑P P 20 56 58.1 -0.2
baz=75,SNR=29
F21A **Absaloka Mine,** 74.34 333 ⇓P P 20 56 58.7 +0.4
baz=75,SNR=6.6
MOOW **Moose Ponds** 74.34 330 *eP* P 20 56 58.9 +0.4
comp=Z,49nm,1.5s
E22A **Miles City** 74.35 334 ⇓P P 20 56 58.1 -0.1
baz=75,SNR=6.7
I17A **Pilgrim Ck.** 74.39 330 ⇑P P 20 56 59.9 +1.1
baz=75,SNR=46
J16A **Bone** 74.40 329 ⇑P P 20 56 59.2 +0.4
baz=75,SNR=18
ELK **Elko** 74.40 325 *eP* P 20 56 59.5 +0.6
ELK pP pP 20 57 26.7 +0.2
ELK **Elko** 74.40 325 P P 20 56 59.5 +0.6
comp=Z,13nm,1.0s,baz=124,slow=4.5,SNR=42
ELK pP pP 20 57 26.7 +0.2
comp=Z,12nm,1.0s,baz=106,slow=3.7,SNR=6.3
K15A **Arbon** 74.41 328 ⇓P P 20 56 59.6 +0.8
baz=75,SNR=21
DCID1 **Drake Creek** 74.44 330 *eP* P 20 57 00.3 +1.3
comp=Z,55nm,1.1s
NVAR **Mina Array Bea** 74.52 322 P P 20 57 00.6 +0.9
NVAR pP pP 20 57 27.7 +0.5
NVAR PP PP 20 59 49.4 +1.6
NVAR **Mina Array Bea** 74.52 322 P P 20 57 00.6 +0.9
comp=Z,20nm,0.9s,baz=152,slow=6.7,SNR=81
NVAR pP pP 20 57 27.7 +0.5
comp=Z,16nm,0.8s,baz=149,slow=6.1,SNR=10
NVAR PP PP 20 59 49.4 +1.6
comp=Z,3.0nm,1.1s,baz=150,slow=9.3,SNR=3.6
IMW **Indian Meadow** 74.55 330 *eP* P 20 57 00.5 +0.7
comp=Z,62nm,1.3s
H18A **Shoshone NF, C** 74.56 331 ⇑P P 20 56 59.7 0.0
baz=75,SNR=26
FLWY **Flagg Ranch** 74.58 330 *eP* P 20 57 00.8 +1.0
comp=Z,93nm,1.1s
K14A **Jones Ranch, D** 74.63 328 ⇑P P 20 57 00.2 +0.2
baz=75,SNR=14
C24A **Savage** 74.64 336 ⇓P P 20 57 00.3 +0.4
baz=75,SNR=10
D23A **Lindsay** 74.65 335 ⇓P P 20 57 00.5 +0.5
baz=75,SNR=20
RLMT **Red Lodge** 74.72 332 *eP* P 20 57 01.4 +0.8
comp=Z,86nm,1.4s
RLMT **Red Lodge** 74.72 332 ⇓P P 20 57 01.2 +0.6
baz=75,SNR=27
H17A **Grant Village** 74.76 330 ⇑P P 20 57 01.9 +1.0
baz=75,SNR=8.6
F20A **Billings** 74.76 333 ⇓P P 20 57 00.8 +0.1
baz=75,SNR=7.1
I16A **Newdale** 74.79 330 ⇑P P 20 57 01.7 +0.7
baz=75,SNR=15
SCHQ **Schefferville** 74.80 1 *eP* P 20 57 00.6 0.0
comp=Z,31nm,0.8s
SCHQ pP pP 20 57 28.7 +0.5
SCHQ **Schefferville** 74.80 1 P P 20 57 00.2 -0.4
comp=Z,17nm,0.7s,baz=190,slow=4.5,SNR=36
SCHQ pP pP 20 57 28.7 +0.5
comp=Z,27nm,0.8s,baz=186,slow=4.1,SNR=7.7
LKWY **Lake** 74.81 331 *epP* pP 20 57 32.3 +3.5
PMOR **Pomariorio Ree** 74.82 259 *eP* P 20 57 03.2 +1.6
comp=Z,148nm,1.1s
J15A **Blackfoot** 74.89 329 ⇓P P 20 57 02.4 +0.8
baz=75,SNR=18
E21A **Keefer Ranch,** 74.90 334 ⇓P P 20 57 01.8 +0.3
baz=75,SNR=25
YFT **Old Faithful** 74.92 330 *eP* P 20 57 04.0 +2.1
comp=Z,32nm,1.1s
G18A **Lazy EL Ranch,** 75.00 332 ⇓P P 20 57 02.7 +0.5
baz=75,SNR=50
D22A **Cohagen** 75.02 335 ⇓P P 20 57 02.9 +0.8
baz=75,SNR=32
YNR **Norris Juncio** 75.05 331 *eP* P 20 57 04.2 +1.6
comp=Z,14nm,0.9s
YMR **Madison River** 75.15 330 *eP* P 20 57 04.5 +1.4
comp=Z,136nm,1.3s
F19A **Roth Farm, Mol** 75.15 332 ⇑P P 20 57 03.5 +0.6
baz=76,SNR=37
C23A **Lambert** 75.16 336 ⇑P P 20 57 03.3 +0.4
baz=76,SNR=9.6
TVO **Taravao** 75.25 256 *eP* P 20 57 05.8 +1.6
comp=Z,174nm,1.4s
D21A **La Casta Ranch** 75.28 334 ⇓P P 20 57 04.2 +0.6
baz=76,SNR=26
H16A **Russell Place,** 75.30 330 ⇑P P 20 57 05.1 +1.1
baz=76,SNR=25
E20A **Meyer Farm, Mu** 75.31 333 ⇓P P 20 57 04.4 +0.6
baz=76,SNR=26
DGMT **Dagmar** 75.33 337 *eP* P 20 57 04.7 +0.8
comp=Z,79nm,0.9s
DGMT *epP* pP 20 57 31.9 +0.4
DGMT **Dagmar** 75.33 337 ⇑P P 20 57 04.6 +0.8
baz=76,SNR=15
I15A **Monteview** 75.36 329 ⇓P P 20 57 05.3 +1.1
baz=76,SNR=15
C22A **Vida** 75.39 335 ⇑P P 20 57 04.6 +0.4
baz=76,SNR=14
GCMT **Greycliff** 75.42 332 *eP* P 20 57 05.0 +0.5
comp=Z,53nm,1.2s
CMB **Columbia Colle** 75.48 320 *eP* P 20 57 05.5 +0.5
CMB pmax pmax
comp=Z,17nm,1.0s
CMB **Columbia Colle** 75.48 320 *eP* P 20 57 05.5 +0.5
comp=Z,17nm,1.0s
QLMT **Earthquake Lak** 75.48 330 *eP* P 20 57 06.5 +1.4
G17A **Pierce Place,** 75.54 331 ⇓P P 20 57 06.5 +1.3
baz=76
E19A **Rath Farm, Rou** 75.56 333 ⇑P P 20 57 05.5 +0.3
baz=76,SNR=25
PAE **Paea** 75.59 256 *eP* P 20 57 07.6 +1.6
PAE *epP* pP 20 57 33.8 +0.2
comp=Z,11nm,1.1s
PPT2 **Papeete2** 75.60 256 *eP* P 20 57 07.8 +1.6
comp=Z,100nm,1.3s
B23A **Brockton** 75.63 336 ⇑P P 20 57 05.9 +0.3
baz=76,SNR=18
A24A **Westby** 75.64 337 ⇑P P 20 57 06.2 +0.6
baz=76,SNR=13
J13A **Cove Ranch, Pi** 75.75 328 ⇓P P 20 57 07.7 +1.1
baz=76,SNR=16
D20A **Manuel Ranch,** 75.78 334 ⇓P P 20 57 07.0 +0.6
baz=76,SNR=42
I14A **Mackay** 75.78 328 ⇓P P 20 57 08.2 +1.5
baz=76,SNR=44
B22A **Reddig Ranch S** 75.88 335 ⇑P P 20 57 07.4 +0.4
baz=76,SNR=20
H15A **Lima** 75.90 329 ⇑P P 20 57 08.6 +1.3
baz=76,SNR=8.6
C21A **Desert Coulee** 75.93 335 ⇓P P 20 57 07.6 +0.3
baz=76,SNR=32
WCN **Washoe City** 75.94 322 *eP* P 20 57 09.5 +1.8
WCN pmax pmax
comp=Z,32nm,1.4s
WCN **Washoe City** 75.94 322 *eP* P 20 57 09.5 +1.8
comp=Z,32nm,1.4s
WCN **Washoe City** 75.94 322 ⇑P P 20 57 08.6 +0.9
baz=76
F17A **Fitzpatrick Pl** 75.95 331 ⇓P P 20 57 08.0 +0.4
baz=76,SNR=35
G16A **Moss Hill, Enn** 75.96 330 ⇑P P 20 57 08.3 +0.6
baz=76,SNR=16
A23A **Redstone** 75.99 336 ⇑P P 20 57 08.2 +0.6
baz=76
HLID **Hailey** 75.99 328 *eP* P 20 57 09.1 +1.2
comp=Z,55nm,1.0s
HLID **Hailey** 75.99 328 ⇓P P 20 57 08.8 +0.9
baz=76,SNR=79

I13A **Wildhorse Cree** 76.10 328 ⇓P P 20 57 09.9 +1.3
baz=76,SNR=29
E18A **Harlowton** 76.13 332 ⇑P P 20 57 09.2 +0.7
baz=76,SNR=28
MCMT **McKenzie Canyo** 76.15 329 P P 20 57 10.1 +1.2
BOZ **Bozeman (W)** 76.19 331 eP P 20 57 09.3 +0.3
BOZ pmax pmax
comp=Z,28nm,1.2s
BOZ **Bozeman (W)** 76.19 331 eP P 20 57 09.2 +0.3
comp=Z,28nm,1.2s
BOZ **Bozeman (W)** 76.19 331 ⇑P P 20 57 09.2 +0.3
baz=76,SNR=6.5
C20A **Veseth Ranch,** 76.21 334 ⇓P P 20 57 08.6 -0.3
baz=76,SNR=18
G15A **Dillon** 76.23 330 ⇓P P 20 57 10.2 +0.9
baz=76,SNR=26
H14A **Leadore** 76.25 329 ⇑P P 20 57 10.2 +0.9
baz=76,SNR=22
F16A **Kennard Place,** 76.30 331 ⇓P P 20 57 10.0 +0.5
baz=77
B21A **Ellsworth Farm** 76.38 335 ⇑P P 20 57 10.2 +0.4
baz=77,SNR=5.6
A22A **Carney Farms,** 76.41 336 ⇑P P 20 57 10.4 +0.4
baz=77,SNR=18
DLMT **Dillon** 76.43 330 eP P 20 57 11.3 +1.0
comp=Z,58nm,1.3s
E17A **Martinsdale** 76.46 332 ⇑P P 20 57 11.1 +0.6
baz=77,SNR=43
I12A **Atlanta** 76.52 327 ⇑P P 20 57 12.0 +1.1
baz=77
D18A **Linhart Farms,** 76.56 333 ⇓P P 20 57 11.3 +0.4
baz=77,SNR=21
MFID **Camas Ranch** 76.61 327 eP P 20 57 12.3 +1.0
comp=Z,60nm,1.2s
MFID **Camas Ranch** 76.61 327 ⇑P P 20 57 12.1 +0.8
baz=77,SNR=32
H13A **Challis** 76.64 328 ⇓P P 20 57 12.6 +1.0
baz=77,SNR=64
C19A **Slack Wire Ran** 76.66 333 ⇑P P 20 57 11.8 +0.3
baz=77,SNR=34
LRM **Limekiln Ridge** 76.70 330 eP P 20 57 13.2 +1.2
LRM epP pP 20 57 41.6 +1.9
F15A **Butte** 76.74 330 ⇓P P 20 57 12.6 +0.5
baz=77,SNR=9.8
G14A **Jackson** 76.75 329 ⇑P P 20 57 12.7 +0.5
baz=77,SNR=17
B20A **Solberg Farm,** 76.80 334 ⇑P P 20 57 12.4 +0.2
baz=77,SNR=11
A21A **Bergtoll Ranch** 76.80 335 ⇑P P 20 57 12.3 +0.2
baz=77,SNR=20
E16A **East Helena** 76.89 331 ⇑P P 20 57 13.5 +0.7
baz=77,SNR=15
D17A **Six Diamond Ra** 76.92 332 ⇑P P 20 57 13.2 +0.2
baz=77,SNR=50
H12A **Diamond D Ranc** 76.92 328 ⇓P P 20 57 13.8 +0.6
baz=77,SNR=35
TORD **Torodi Ar. Bea** 76.94 71 P P 20 57 12.7 -1.0
TORD pP pP 20 57 41.6 +0.2
TORD sP sP 20 57 54.1 +1.1
TORD **Torodi Ar. Bea** 76.94 71 P P 20 57 12.7 -1.0
comp=Z,52nm,0.6s,baz=252,slow=5.3,SNR=199
TORD pP pP 20 57 41.6 +0.2
comp=Z,131nm,0.8s,baz=251,slow=5.3,SNR=16
TORD sP sP 20 57 54.1 +1.1
comp=Z,37nm,0.7s,baz=255,slow=5.2,SNR=3.4
OHCM **Honcut** 76.98 321 eP P 20 57 14.4 +1.1
G13A **Cobalt** 77.01 329 ⇓P P 20 57 14.5 +0.9
baz=77,SNR=128
HRY **Holter Researc** 77.09 331 eP P 20 57 15.0 +1.0
HRY epP pP 20 57 44.0 +2.3
A20A **Cobblestone Ra** 77.11 335 ⇑P P 20 57 13.8 -0.1
baz=77,SNR=30
F14A **Wisdom** 77.13 330 ⇓P P 20 57 15.3 +1.0
baz=77,SNR=39
B19A **Brinkman Farms** 77.19 334 ⇑P P 20 57 14.5 +0.1
baz=78,SNR=38
EGMT **Eagleton** 77.19 333 eP P 20 57 14.7 +0.3
comp=Z,63nm,1.0s
EGMT **Eagleton** 77.19 333 ⇓P P 20 57 14.5 0.0
baz=78,SNR=35
D16A **Dana Ranch, Ca** 77.20 332 ⇑P P 20 57 15.5 +0.9
baz=78,SNR=62
E15A **Deer Lodge** 77.24 331 ⇓P P 20 57 15.6 +0.8
baz=78,SNR=16
C17A **Wharram Farm,** 77.32 332 ⇓P P 20 57 15.5 +0.4
baz=78,SNR=24
A19A **Klindworth Far** 77.48 334 ⇑P P 20 57 16.1 +0.1
baz=78,SNR=25
B18A **Beardsley Farm** 77.48 333 ⇓P P 20 57 16.5 +0.4
baz=78,SNR=46
F13A **Darby** 77.57 329 ⇑P P 20 57 17.6 +1.0
baz=78,SNR=84
E14A **Clinton** 77.63 330 ⇑P P 20 57 18.1 +1.1
baz=78,SNR=12
D15A **Lincoln** 77.65 331 ⇑P P 20 57 18.1 +1.0
baz=78,SNR=31
SYO **Syowa Base** 77.66 160⇑eP P 20 57 14.3 -2.4
SYO **Syowa Base** 77.66 160 eSH SKSac 21 07 20.0 +0.1
B17A **L&G Farms, Che** 77.84 333 ⇓P P 20 57 17.9 -0.1
baz=78,SNR=12
C16A **Fuhringer Ranc** 77.88 332 ⇓P P 20 57 18.6 +0.3
baz=78,SNR=37
CHMT **Chamberlain Mo** 77.89 331 eP P 20 57 19.7 +1.2
A18A **Metzger Ranch,** 77.92 334 ⇑P P 20 57 18.4 0.0
baz=78,SNR=28
MOD **Modoc** 77.97 323 eP P 20 57 19.1 +0.1
comp=Z,51nm,1.3s
E13A **Victor** 77.98 330 ⇓P P 20 57 19.8 +0.9
baz=78,SNR=25
F12A **Elk City** 77.99 329 ⇓P P 20 57 19.5 +0.5
baz=78,SNR=25
VNDA **Vanda** 78.07 190 eP P 20 57 20.4 +1.6
comp=Z,96nm,1.9s
D14A **Greenough** 78.13 331 ⇑P P 20 57 20.5 +0.8
baz=78,SNR=10
MSO **Missoula** 78.14 330 eP P 20 57 20.8 +1.0
comp=Z,28nm,1.3s
MSO epP pP 20 57 49.5 +1.9
MSO **Missoula** 78.14 330 ⇑P P 20 57 20.6 +0.8
baz=78,SNR=9.7
C15A **Salmond Ranch,** 78.24 332 ⇑P P 20 57 21.1 +0.8
baz=78,SNR=49
SLMT **Seeley Lake** 78.24 331 eP P 20 57 21.2 +0.8
SLMT epP pP 20 57 48.6 +0.4
B16A **M & M Farms, S** 78.32 332 ⇑P P 20 57 20.7 0.0
baz=79,SNR=13
BMO **Blue Mountains** 78.37 327 eP P 20 57 21.8 +0.7
BMO pmax pmax
comp=Z,36nm,1.0s
BMO **Blue Mountains** 78.37 327 eP P 20 57 21.8 +0.7
comp=Z,36nm,1.0s
WDC **Whiskeytown Da** 78.40 321 eP P 20 57 20.4 -0.8
WDC pmax pmax
comp=Z,25nm,0.8s
WDC **Whiskeytown Da** 78.40 321 eP P 20 57 20.4 -0.8
comp=Z,24nm,0.8s
D13A **Huson** 78.58 330 ⇓P P 20 57 23.1 +0.9
baz=79,SNR=34
B15A **Bradely Ranch,** 78.62 332 ⇑P P 20 57 22.3 0.0
baz=79,SNR=36
SWMT **Swartz Lake** 78.67 331 eP P 20 57 23.6 +0.9
SWMT epP pP 20 57 51.4 +0.8
YBMT **Yellow Bay** 78.94 331 eP P 20 57 24.6 +0.4
comp=Z,21nm,0.8s
B14A **Marquette Ranc** 78.97 332 ⇓P P 20 57 24.1 -0.2
baz=79,SNR=26
JTMT **Jette** 78.98 331 eP P 20 57 25.1 +0.8
C13A **Hot Springs** 79.06 331 ⇓P P 20 57 25.1 +0.3
baz=79,SNR=33
A15A **Johnson Ranch,** 79.20 332 ⇓P P 20 57 25.2 -0.3
baz=80,SNR=9.0
BLMT **Blacktail Moun** 79.21 331 eP P 20 57 26.5 +0.8
BLMT epP pP 20 57 55.0 +1.5
SUR **Sutherland** 79.21 121 P P 20 57 27.5 +1.3
comp=Z,161nm,1.5s,SNR=5.6
YBH **Yreka Blue Hor** 79.23 322 P P 20 57 25.4 -0.4
YBH **Yreka Blue Hor** 79.23 322 P P 20 57 25.5 -0.4
comp=Z,19nm,0.9s,baz=100,slow=6.0,SNR=16
BSMT **Bassoo Peak** 79.28 331 eP P 20 57 27.0 +0.8
A14A **Double T Ranch** 79.49 332 ⇑P P 20 57 27.2 +0.1
baz=80,SNR=20
C12B **Naegeli Ranch,** 79.50 330 ⇓P P 20 57 27.8 +0.7
baz=80,SNR=8.2
B13A **Whitefish** 79.52 331 ⇑P P 20 57 27.7 +0.5
baz=80,SNR=28
WALA **Waterton Lakes** 79.78 332 eP P 20 57 29.0 +0.3
comp=Z,1.4nm,0.9s

FFC **Flin Flon** 79.86 341 iP P 20 57 28.7 -0.1
FFC **Flin Flon** 79.86 341 eP P 20 57 28.6 -0.2
comp=Z,29nm,1.1s
FFC **Flin Flon** 79.86 341 P P 20 57 28.4 -0.4
comp=Z,128nm,1.0s,SNR=15
VIPM **Ingram Point** 79.87 325 P P 20 57 30.5 +1.2
VIPM **Ingram Point** 79.87 325 P P 20 57 30.5 +1.2
B12A **Libby** 80.10 331 ⇑P P 20 57 31.0 +0.6
baz=80,SNR=13
TSUM **Tsumeb** 80.40 107 eP P 20 57 33.0 +0.2
comp=Z,41nm,0.8s
A12A **Yaak River Ran** 80.47 331 ⇑P P 20 57 32.9 +0.6
baz=81,SNR=5.2
HAWA **Hanford** 80.56 327 eP P 20 57 33.9 +1.1
comp=Z,57nm,1.0s
HAWA epP pP 20 58 01.4 +0.7
MORF **Marmelete** 80.58 45 eP P 20 57 34.4 +1.2
comp=Z,38nm,2.0s
MORF iP pP 20 58 05.0 +3.9
MORF **Marmelete** 80.58 45 ePP PP 21 00 41.5 +3.0
MORF **Marmelete** 80.58 45 eP P 20 57 32.2 -1.0
WRD **Warden** 80.65 328 P P 20 57 35.1 +1.8
NEW **Newport** 80.67 330 eP P 20 57 33.3 -0.1
comp=Z,61nm,1.8s
NEW **Newport** 80.67 330 ⇓P P 20 57 33.1 -0.3
baz=81,SNR=11
VFP **Flag Point** 80.86 325 P P 20 57 35.7 +1.1
MDT **Midelt** 80.95 50 P P 20 57 35.9 +0.6
MDT pP pP 20 58 05.3 +2.0
MDT **Midelt** 80.95 50 P P 20 57 35.9 +0.6
comp=Z,15nm,1.0s,baz=239,slow=4.2,SNR=18
MDT pP pP 20 58 05.3 +2.0
comp=Z,24nm,1.1s,baz=247,slow=5.3,SNR=6.8
PBDV **Barranco-do-Ve** 81.02 45 eP P 20 57 35.2 -0.3
comp=Z,54nm,1.6s
PBDV **Barranco-do-Ve** 81.02 45 ePP PP 21 00 41.9 -0.2
MESJ **Messejana** 81.16 44 eP P 20 57 35.4 -0.8
MESJ AMb AMB 20 58 20.4
comp=Z,64nm,1.6s
MESJ **Messejana** 81.16 44 eP P 20 57 35.4 -0.8
comp=Z,64nm,1.6s
MESJ **Messejana** 81.16 44 eP P 20 57 35.4 -0.8
PCVE **Castro Verde** 81.16 45 eP P 20 57 37.0 +0.8
comp=Z,31nm,1.9s
PCVE iP pP 20 58 07.0 +2.8
PVAQ **Vaqueiros** 81.25 45 eP P 20 57 36.6 -0.1
comp=Z,39nm,1.3s
MPOR **Mary's Peak** 81.47 324 P P 20 57 39.0 +1.2
PBEJ **Beja** 81.50 44 eP P 20 57 38.7 +0.8
comp=Z,29nm,1.6s
PBEJ iP pP 20 58 08.3 +2.4
TBM **Table Mountain** 81.63 327 P P 20 57 39.6 +1.0
EVO **Evora** 81.68 44 eP P 20 57 39.3 +0.4
comp=Z,30nm,1.4s
EVO iP pP 20 58 08.8 +1.9
EVO **Evora** 81.68 44 eP P 20 57 38.7 -0.2
comp=Z,16nm,0.6s
PMTG **Montargil** 81.85 43 eP P 20 57 40.2 +0.5
comp=Z,34nm,1.7s
PMTG iP pP 20 58 09.7 +1.9
LON **Longmire** 81.98 326 eP P 20 57 40.5 +0.2
LON e*PP pP 20 58 07.1 -1.2
LON pmax pmax
comp=Z,15nm,0.9s
LON **Longmire** 81.98 326 eP P 20 57 40.5 +0.2
comp=Z,15nm,0.9s
LON epP pP 20 58 07.1 -1.2
PTOM **Tomar** 82.04 43 eP P 20 57 41.5 +0.8
comp=Z,40nm,1.2s
PTOM iP pP 20 58 10.3 +1.6
PBAR **Barrancos** 82.12 45 eP P 20 57 41.8 +0.6
comp=Z,24nm,1.3s
PBAR iP pP 20 58 10.7 +1.5
PESTR **Estremoz** 82.14 44 eP P 20 57 41.9 +0.6
comp=Z,29nm,1.0s
PESTR iP pP 20 58 11.7 +2.3
PMRV **Marv??o** 82.58 43 eP P 20 57 45.5 +1.9
comp=Z,24nm,1.8s
PVIS **Viseu** 82.98 42 eP P 20 57 45.0 -0.7
comp=Z,42nm,1.9s
POLO **Lamas de Olo** 83.41 42 eP P 20 57 47.6 -0.4
comp=Z,22nm,1.9s
POLO iP pP 20 58 15.5 -0.5
POLO **Lamas de Olo** 83.41 42 ePP PP 21 01 01.8 +0.1
NLWA **Neilton Lookou** 83.47 326 eP P 20 57 49.1 +1.1
comp=Z,74nm,1.4s
NLWA epP pP 20 58 17.0 +0.9
MVO **Moncorvo** 83.78 42 eP P 20 57 50.0 +0.2
comp=Z,27nm,1.4s
MVO iP pP 20 58 19.7 +1.8
BOSA **Boshof** 84.03 118 eP P 20 57 51.8 +0.1
comp=Z,46nm,0.9s
BOSA pP pP 20 58 21.1 +1.4
BOSA **Boshof** 84.03 118 P P 20 57 51.7 +0.1
comp=Z,32nm,1.1s,baz=237,slow=4.9,SNR=23
BOSA pP pP 20 58 21.1 +1.4
comp=Z,41nm,0.9s,baz=245,slow=3.7,SNR=11
PGC **Sidney** 84.05 327 eP P 20 57 51.5 +0.7
comp=Z,2.7nm,0.8s
PGC epP pP 20 58 19.3 +0.3
TAM **Tamanrasset** 84.26 63 eP P 20 57 52.3 -0.5
TAM e*PP pP 20 58 22.0 +1.1
TAM pmax pmax
comp=Z,92nm,1.2s
TAM **Tamanrasset** 84.26 63 eP P 20 57 52.3 -0.5
comp=Z,92nm,1.2s
TAM epP pP 20 58 22.0 +1.1
PBRG **Braganca** 84.31 42 eP P 20 57 52.7 +0.3
comp=Z,67nm,1.4s
PBRG iP pP 20 58 22.6 +2.0
PAB **San Pablo** 84.63 45 eP P 20 57 54.6 +0.5
PAB e*PP pP 20 58 23.9 +1.6
PAB pmax pmax
comp=Z,36nm,1.0s
PAB **San Pablo** 84.63 45 eP P 20 57 54.6 +0.5
comp=Z,36nm,1.0s
PAB epP pP 20 58 23.9 +1.6
ESDC **Sonseca Array** 84.95 45 P P 20 57 56.2 +0.4
ESDC epP pP 20 58 24.9 +0.9
ESDC **Sonseca Array** 84.95 45 P P 20 57 56.2 +0.4
comp=Z,8.1nm,0.9s,baz=243,slow=5.2,SNR=24
ESDC pP pP 20 58 24.9 +0.9
comp=Z,16nm,1.0s,baz=245,slow=5.4,SNR=9.3
LBTB **Lobatse** 85.54 115 eP P 20 57 59.8 +0.6
comp=Z,40nm,0.8s
SFJD **Kangerlussuaq** 88.06 7 pP pP 20 58 38.3 -0.2
SFJD **Kangerlussuaq** 88.06 7 pP pP 20 58 38.3 -0.2
comp=Z,14nm,0.8s,baz=190,slow=6.7,SNR=5.1
BBB **Bella Bella** 88.58 328 pP pP 20 58 41.0 -0.3
BBB **Bella Bella** 88.58 328 pP pP 20 58 41.0 -0.3
comp=Z,13nm,0.9s,baz=190,slow=11,SNR=2.9
ETSF **Etsaut** 88.79 43 eP P 20 58 13.3 -1.0
EPF **Esparros** 89.43 43 eP P 20 58 16.8 -0.5
comp=Z,15nm,1.0s
EPF epP pP 20 58 46.8 +1.1
YKA **Yellowknife Ar** 90.02 341 P P 20 58 19.4 0.0
YKA pP pP 20 58 47.5 -0.3
YKA sP sP 20 58 59.5 +0.2
YKA **Yellowknife Ar** 90.02 341 P P 20 58 19.4 0.0
comp=Z,60nm,0.9s,baz=134,slow=4.6,SNR=616
YKA pP pP 20 58 47.5 -0.3
comp=Z,29nm,0.7s,baz=134,slow=4.8,SNR=12
YKA sP sP 20 58 59.5 +0.2
comp=Z,20nm,0.8s,baz=134,slow=4.7,SNR=3.5
LFF **La Frestale** 90.59 42 eP P 20 58 21.8 -0.7
comp=Z,29nm,0.8s
LFF epP pP 20 58 51.9 +0.9
MFF **Saint Martin d** 90.85 40 eP P 20 58 22.8 -0.9
comp=Z,23nm,0.9s
MFF epP pP 20 58 52.8 +0.7
RJF **Les Rejaudoux** 91.25 42 eP P 20 58 23.9 -1.7
comp=Z,17nm,0.9s
RJF epP pP 20 58 54.0 -0.1
GRR **Gorron** 91.30 38 eP P 20 58 24.6 -1.1
CAF **Calviac** 91.42 42 eP P 20 58 25.5 -0.9
CAF epP pP 20 58 55.6 +0.7
TCF **Toulx Ste Croi** 92.14 41 eP P 20 58 28.5 -1.2
BGF **Bois d'Agland** 92.65 41 eP P 20 58 30.9 -1.2
comp=Z,17nm,1.0s
AVF **Avril sur Loir** 93.07 41 eP P 20 58 33.0 -0.9
DLBC **Dease Lake** 93.10 333 eP P 20 58 34.7 +0.8
DLBC pP pP 20 59 02.1 -0.3
DLBC epP pwP 20 59 02.3 -0.1
DLBC **Dease Lake** 93.10 333 P P 20 58 34.1 +0.2
comp=Z,12nm,0.9s,baz=132,slow=4.1,SNR=15

DLBC pP pP 20 59 02.1 -0.3
comp=Z,11nm,0.8s,baz=143,slow=3.4,SNR=5.1
SSF **Saint Saulge** 93.28 41 eP P 20 58 34.3 -0.6
comp=Z,9.1nm,0.9s
SSF epP pP 20 59 03.8 +0.4
LOR **Lormes** 93.59 41 eP P 20 58 35.1 -1.3
comp=Z,11nm,0.9s
LMR **La Mourre** 93.60 45 eP P 20 58 35.7 -0.8
MBDF **Montbardon** 94.35 44 eP P 20 58 39.5 -0.6
LPL **La Plagne** 94.65 43 eP P 20 58 41.3 -0.2
LPG **La Plagne** 94.65 43 eP P 20 58 41.4 -0.3
CABF **La Chapelle** 94.69 42 eP P 20 58 40.9 -0.6
MEZF **Maizieres J'vi** 94.85 40 eP P 20 58 40.9 -1.2
PAGF **Fort de Pagny** 95.27 40 eP P 20 58 43.5 -0.6
HAU **Haudompre** 95.43 41 eP P 20 58 43.4 -1.4
RES **Resolute Bay** 96.17 353 P P 20 58 47.5 -0.1
RES **Resolute Bay** 96.17 353 P P 20 58 47.5 -0.1
comp=Z,1.4nm,0.7s,baz=165,slow=17,SNR=4.0
GRFO **Grafenberg** 99.04 40 eP Pdif 20 59 06.3 +5.3
GRFO pmax pmax
comp=Z,29nm,1.6s
GRFO **Grafenberg** 99.04 40 eP Pdif 20 59 06.3 +5.3
comp=Z,29nm,1.6s
GERES **GERESS Array B** 100.29 42 P Pdif 20 59 07.1 +0.4
GERES PP PP 21 03 05.4 -9.0
GERES **GERESS Array B** 100.29 42 P Pdif 20 59 07.1 +0.4
comp=Z,0.3nm,0.7s,baz=210,slow=8.9,SNR=3.5
GERES PP PP 21 03 05.4 -9.0
comp=Z,0.5nm,0.8s,baz=246,slow=6.3,SNR=2.9
CLL **Collm** 100.66 39 eP Pdif 20 59 11.0 +2.8
CLL e 21 03 12.0
ILAR **Eielson Array** 103.13 335 Pdif Pdif 20 59 17.5 -1.3
ILAR PP PP 21 03 28.6 -6.5
ILAR **Eielson Array** 103.13 335 Pdif Pdif 20 59 17.5 -1.3
comp=Z,0.4nm,0.7s,baz=122,slow=2.0,SNR=5.8
ILAR PP PP 21 03 28.6 -6.5
comp=Z,2.2nm,1.1s,baz=104,slow=5.9,SNR=4.8
KIS **Kishinev** 109.71 46 LRM MLR 21 00 00.0
comp=Z,1µm,18.0s
FINES **FINESS Array B** 109.94 31 Pdif Pdif 20 59 45.9 -3.3
FINES PKKPbc PKKPbc 21 14 54.1 -1.6
FINES **FINESS Array B** 109.94 31 Pdiff Pdif 20 59 45.9 -3.3
comp=Z,3.9nm,1.0s,baz=261,slow=14,SNR=2.9
FINES PKKPbc PKKPbc 21 14 54.1 -1.6
comp=Z,2.1nm,0.7s,baz=116,slow=4.4,SNR=5.9
ARCES **ARCESS Array B** 110.34 22 PKKPbc PKKPbc 21 14 52.5 -2.2
ARCES **ARCESS Array B** 110.34 22 PKKPbc PKKPbc 21 14 52.5 -2.2
comp=Z,2.9nm,0.9s,baz=92,slow=6.1,SNR=4.4
AKASG **Malin Array Be** 110.49 42 PKKPbc PKKPbc 21 14 52.1 -1.4
AKASG **Malin Array Be** 110.49 42 PP PP 21 04 20.8 -8.7
comp=Z,1.4nm,0.6s,baz=264,slow=5.5,SNR=4.4
AKASG PKKPbc PKKPbc 21 14 52.1 -1.4
comp=Z,1.6nm,0.5s,baz=70,slow=4.0,SNR=8.2
BRTR **Keskin Array B** 112.11 54 PP PP 21 04 26.5 -15
BRTR PKKPab PKKPab 21 14 56.1 +1.0
BRTR **Keskin Array B** 112.11 54 PP PP 21 04 26.5 -15
comp=Z,0.9nm,0.7s,baz=214,slow=4.9,SNR=3.6
BRTR PKKPab PKKPab 21 14 56.1 +1.0
comp=Z,1.5nm,0.8s,baz=76,slow=5.2,SNR=8.1
OBN **Obninsk** 115.19 38 ePKIKP PKPdf 21 04 00.1 -0.7
OBN e 21 04 26.7
OBN e 21 04 59.9
OBN pmax pmax
comp=Z,5.0nm,1.0s
TARA **Tarawa** 116.82 261 ePKPdf PKPdf 21 04 11.5 +6.2
KIV **Kislovodsk** 119.19 50 ePKIKP PKPdf 21 04 06.2 -2.8
KIV pmax pmax
comp=Z,8.0nm,1.1s
BILL **Bilibino** 121.37 339 iPKIKP PKPdf 21 04 11.9 -0.4
BILL e 21 05 44.9
BILL pmax pmax
comp=Z,4.0nm,1.0s
NWAO **Narrogin (SRO)** 126.79 186 PKP PKPdf 21 04 23.8 -0.2
NWAO **Narrogin (SRO)** 126.79 186 PKP PKPdf 21 04 23.8 -0.2
comp=Z,7.4nm,0.8s,baz=127,slow=5.1,SNR=3.4
ARU **Arti** 127.12 34 iPKIKP PKPdf 21 04 23.2 -0.5
ARU 21 06 23.1
ARU SS SS 21 23 21.2 -2.2
ARU **Arti** 127.12 34 ePKPdf PKPdf 21 04 23.5 -0.2
CTA **Charters Tower** 127.15 223 PKP PKPdf 21 04 25.1 +0.2
CTA **Charters Tower** 127.15 223 eP PKPdf 21 04 25.1 +0.2
comp=Z,8.8nm,0.7s
CTA **Charters Tower** 127.15 223 PKP PKPdf 21 04 25.1 +0.2
comp=Z,10nm,0.7s,baz=172,slow=1.4,SNR=13
SVE **Sverdlovsk** 128.03 33 eP Pdif 21 01 30.9 +21
SVE pmax pmax
comp=Z,11nm,1.1s
KLBR **Kellerberrin** 128.06 187 eP PKPdf 21 04 26.0 -0.4
comp=Z,18nm,0.8s
AKTO **Aktyubinsk** 128.71 41 PKIKP PKPdf 21 04 25.9 -1.0
AKTO 21 04 56.7
AKTO **Aktyubinsk** 128.71 41 PKP PKPdf 21 04 25.9 -1.0
AKTO pPKP pPKPdf 21 04 56.6 +0.1
AKTO PP PP 21 06 29.1 -5.4
AKTO **Aktyubinsk** 128.71 41 PKP PKPdf 21 04 25.9 -1.0
comp=Z,2.8nm,0.8s,baz=329,slow=1.5,SNR=3.8
AKTO pPKP pPKPdf 21 04 56.6 +0.1
comp=Z,6.4nm,0.8s,baz=300,slow=1.6,SNR=8.3
AKTO PP PP 21 06 29.1 -5.4
comp=Z,4.2nm,0.9s,baz=308,slow=10,SNR=4.5
SEY **Seymchan** 128.96 337⇓iPKIKP PKPdf 21 04 27.7 +0.7
ABKAR **Akbulak array** 130.23 42 ePKPdf PKPdf 21 04 30.9 +1.1
ASAR **Alice Springs** 131.01 208 PKP PKPdf 21 04 31.7 -0.6
ASAR pPKP pPKPdf 21 05 01.1 -0.8
ASAR PP PP 21 06 45.1 -3.6
ASAR SKPbc SKPbc 21 07 46.9 0.0
ASAR **Alice Springs** 131.01 208 PKP PKPdf 21 04 31.7 -0.6
comp=Z,13nm,1.0s,baz=128,slow=1.7,SNR=20
ASAR pPKP pPKPdf 21 05 01.1 -0.8
comp=Z,5.4nm,0.8s,baz=149,slow=2.3,SNR=4.6
ASAR PP PP 21 06 45.1 -3.6
comp=Z,2.0nm,0.9s,baz=158,slow=6.6,SNR=6.3
ASAR SKPbc SKPbc 21 07 46.9 0.0
comp=Z,5.8nm,1.0s,baz=148,slow=4.6,SNR=8.8
AS31 **Alice Springs** 131.01 208 ePKPdf PKPdf 21 04 31.8 -0.5
PETK **Petropavlovsk-** 131.56 324 PKIKP PKPdf 21 04 31.0 -1.3
PETK 21 05 02.4
PETK **Petropavlovsk-** 131.56 324 PKP PKPdf 21 04 30.9 -1.3
PETK pPKP pPKPdf 21 05 02.4 +0.5
PETK **Petropavlovsk-** 131.56 324 PKP PKPdf 21 04 30.9 -1.3
comp=Z,7.9nm,0.9s,baz=73,slow=10,SNR=5.0
PETK pPKP pPKPdf 21 05 02.4 +0.5
comp=Z,9.5nm,0.9s,baz=116,slow=8.4,SNR=4.4
COEN **Coen** 133.62 225 ePKPdf PKPdf 21 04 38.0 +0.7
PMG **Port Moresby** 133.87 234 PKPpre PKPpre 21 04 34.7
PMG SKPbc SKPbc 21 07 57.0 0.0
PMG **Port Moresby** 133.87 234 PKP PKPdf 21 04 39.7 +1.9
PMG **Port Moresby** 133.87 234 PKhKP PKPpre 21 04 34.7
comp=Z,8.2nm,0.7s,baz=140,slow=7.9,SNR=3.8
PMG SKPbc SKPbc 21 07 57.0 0.0
comp=Z,3.7nm,0.6s,baz=16,slow=1.7,SNR=5.5
WRA **Warramunga Arr** 134.02 211 PKP PKPdf 21 04 37.6 -0.4
WRA **Warramunga Arr** 134.02 211 PKP PKPdf 21 04 37.6 -0.4
comp=Z,9.2nm,0.7s
WRAB **Tennant Creek** 134.02 211 ePKIKP PKPdf 21 04 37.8 -0.2
WRAB **Tennant Creek** 134.02 211 ePKPdf PKPdf 21 04 37.8 -0.2
BRVK **Borovoye** 134.70 34 iPKIKP PKPdf 21 04 39.4 +1.3
BVAR **Borovoye Array** 134.77 34 PKIKP PKPdf 21 04 39.4 +1.1
BVAR 21 05 10.2
BVAR **Borovoye Array** 134.77 34 PKP PKPdf 21 04 39.4 +1.1
BVAR pPKP pPKPdf 21 05 10.2 +2.3
BVAR **Borovoye Array** 134.77 34 PKP PKPdf 21 04 39.4 +1.1
comp=Z,2.0nm,0.7s,baz=262,slow=3.0,SNR=11
BVAR pPKP pPKPdf 21 05 10.2 +2.3
comp=Z,7.1nm,0.7s,baz=272,slow=2.3,SNR=12
KKAR **Karatay Array** 139.17 47 ePKIKP PKPdf 21 04 48.8 +2.0
KKAR **Karatay Array** 139.17 47 ePKPdf PKPdf 21 04 48.8 +2.0
FITZ **Fitzroy Crossi** 139.30 201 PKPpre PKPpre 21 04 38.1
FITZ PKP PKPdf 21 04 48.1 +0.3
FITZ **Fitzroy Crossi** 139.30 201 eP PKPpre 21 04 37.8
comp=Z,16nm,0.9s
FITZ **Fitzroy Crossi** 139.30 201 PKhKP PKPpre 21 04 38.1
comp=Z,6.2nm,0.8s,baz=141,slow=4.5,SNR=5.2
FITZ PKP PKPdf 21 04 48.1 +0.3
comp=Z,6.3nm,0.7s,baz=201,slow=5.2,SNR=6.0
NVS **Novosibirsk** 139.54 25 ePKIKP PKPdf 21 04 47.2 +0.2
NVS pmax pmax
comp=Z,9.0nm,1.1s
NVS pmax pmax
comp=N,4.0nm,1.2s
NVS pmax pmax
comp=E,4.0nm,1.2s
KURK **Kurchatov** 140.28 32 PKHKP PKPpre 21 04 43.3
KURK 21 04 46.8

KURK 21 05 19.7
KURK 21 07 44.0
KURK Kurchatov 140.28 32 PKPpre PKPpre 21 04 43.2
KURK PKP **PKPdf 21 04 46.8 -1.8**
KURK *e*PKPdf **PKiKP 21 04 49.5 -1.6**
KURK pPKP pPKPdf 21 05 19.7 +1.5
KURK PP **PP 21 07 44.0 -3.3**
KURBB Kurchatov Arra 140.30 32 PKhKP PKPpre 21 04 43.2
comp=E,0.9nm,0.6s,baz=313,slow=3.3,SNR=6.7
KURBB PKP **PKPdf 21 04 46.8 -1.8**
comp=E,1.9nm,0.6s,baz=304,slow=2.7,SNR=9.3
KURBB pPKP pPKPdf 21 05 19.7 +1.5
comp=E,10.0nm,0.9s,baz=296,slow=2.5,SNR=8.8
KURBB PP **PP 21 07 44.0 -3.4**
comp=E,1.3nm,0.9s,baz=298,slow=5.2,SNR=3.4
ZAA0 Zalesovo Array 140.83 24 *e*P **PKPdf 21 04 47.4 -2.0**
ZALV Zalesovo Beam 140.83 24 PKHKP PKPpre 21 04 42.8
ZALV 21 04 47.9
ZALV 21 05 20.5
ZALV Zalesovo Beam 140.83 24 PKPpre PKPpre 21 04 42.8
ZALV PKP **PKPdf 21 04 47.9 -1.5**
ZALV pPKP pPKPdf 21 05 20.5 +1.4
ZALV Zalesovo Beam 140.83 24 PKhKP PKPpre 21 04 42.8
comp=E,3.7nm,0.7s,baz=307,slow=3.1,SNR=11
ZALV PKP **PKPdf 21 04 47.9 -1.5**
comp=E,8.5nm,0.7s,baz=312,slow=2.4,SNR=24
ZALV pPKP pPKPdf 21 05 20.5 +1.4
comp=E,22nm,0.8s,baz=308,slow=2.4,SNR=8.3
AAK Ala-Archa 142.05 46 PKIKP **PKPdf 21 04 48.5 -3.7**
AAK Ala-Archa 142.05 46 PKPpre PKPpre 21 04 48.5
AAK PKP **PKPdf 21 04 51.6 -0.6**
AAK Ala-Archa 142.05 46 PKhKP PKPpre 21 04 48.5
comp=E,1.8nm,0.8s,baz=259,slow=10,SNR=6.6
AAK PKP **PKPdf 21 04 51.6 -0.6**
comp=E,2.5nm,0.7s,baz=134,slow=2.3,SNR=9.9
BOD Bodaibo 142.42 357 *e*PKHKP PKPpre 21 04 46.5
BOD pmax pmax
comp=Z,10.0nm,1.5s
TKM2 Tokmak 2 142.66 45 *e*PKIKP **PKPdf 21 04 53.7 +0.3**
TKM2 Tokmak 2 142.66 45 *e*PKPdf **PKPdf 21 04 53.7 +0.3**
KSH Kashi 144.31 50 PKP PKPbc 21 04 55.3 +0.5
KSH pPKP pPKPdf 21 05 21.5 -4.4
KSH sPKP 21 05 32.6
KSH PP **PP 21 08 14.4 +1.9**
KSH PKS **PKSdf 21 08 29.8 -2.1**
KSH SKS **SKSdf 21 11 53.7 -2.2**
KSH SKKS **SKKSac 21 14 52.4 -2.5**
KSH SS **SS 21 26 48.2 -1.8**
KSH LR LR
comp=N,130nm,5.7s
KSH LR LR
comp=E,100nm,4.3s
KSH LR LR
comp=Z,220nm,6.8s
ASAJ Asahikawa 144.62 319 *e*PKPdf **PKPdf 21 04 56.0 -0.4**
ASAJ PKP PKPbc 21 04 56.4 +0.9
ASAJ pPKP **pPKPdf 21 05 25.6 -0.5**
ASAJ Asahikawa 144.62 319 PKP **PKPdf 21 04 56.4 -0.1**
comp=Z,46nm,0.7s,baz=236,slow=1.1,SNR=42
ASAJ pPKP **pPKPdf 21 05 25.6 -0.5**
comp=Z,24nm,0.7s,baz=126,slow=2.9,SNR=4.0
MKAR Makanchi Array 144.62 35 *e*PKIKP **PKPab 21 04 54.6 -0.7**
MKAR 21 05 25.2
MKAR Makanchi Array 144.62 35 *e*PKPdf **PKPab 21 04 54.6 -0.7**
MKAR PKP PKPbc 21 04 55.9 +0.4
MKAR pPKP **pPKPdf 21 05 25.1 -1.0**
MKAR Makanchi Array 144.62 35 PKP PKPbc 21 04 55.9 +0.4
comp=Z,10nm,0.7s,baz=325,slow=3.3,SNR=51
MKAR pPKP pPKPdf 21 05 25.1 -1.0
comp=Z,24nm,0.8s,baz=318,slow=3.3,SNR=11
POO Poona 144.88 86 *e*PKP **PKPab 21 04 56.0 -1.1**
SMPI Sarmi 145.04 234 PKP **PKPdf 21 04 58.1 0.0**
ERM Erimo 145.33 316 *e*PKIKP **PKPab 21 04 59.3 +1.3**
ERM Erimo 145.33 316 *e*PKPab **PKPab 21 04 59.3 +1.3**
HABR Khabarovsk 145.88 331 *e*PKIKP **PKPdf 21 04 58.0 -0.4**
HABR *e* 21 05 28.1
HABR *e* 21 05 32.6
HABR 21 11 56.8
HABR *e* 21 21 05.0
HABR *e*SS SS 21 27 03.7 -2.4
HABR *e*SSS SSS 21 32 32.2
HABR MLR MLR
comp=Z,383nm,18.0s
TLE Tual 146.61 222 PKP **PKPab 21 05 04.1 +0.5**
KLR Kul'dur 146.70 335 *e*PKHKP **PKPdf 21 04 57.5 -2.3**
GUMO Guam 147.05 264 PKPbc **PKPbc 21 05 02.8 -0.8**
GUMO *e*PKPdf **PKPdf 21 05 03.0 +1.6**
GUMO pPKPbc **pPKPbc 21 05 32.5 -0.5**
GUMO Guam 147.05 264 PKPbc **PKPbc 21 05 02.8 -0.8**
comp=Z,306nm,0.7s,baz=175,slow=8.5,SNR=21
GUMO pPKPbc **pPKPbc 21 05 32.5 -0.5**
comp=Z,154nm,1.0s,baz=167,slow=11,SNR=2.9
BAKI Biak 147.51 232 PKP **PKPbc 21 05 05.6 +0.6**
IRK Irkutsk 147.63 8 *e*PKIKP **PKPdf 21 05 01.8 +0.5**
IRK *e* 21 05 33.5
IRK pmax pmax
comp=Z,46nm,2.1s
MOY Mondy 147.67 12 *e*PKIKP **PKPdf 21 05 02.8 +1.3**
MOY *e* 21 05 35.0
MOY pmax pmax
comp=Z,32nm,1.2s
TLY Talaya 148.10 9 *e*PKIKP **PKPdf 21 05 02.6 +0.5**
TLY *e* 21 05 38.5
TLY pmax pmax
comp=Z,14nm,0.9s
TLY Talaya 148.10 9 *e*PKPdf **PKPdf 21 05 03.4 +1.3**
CIT Chita 148.24 357 *e*PKIKP **PKPdf 21 05 03.9 +1.5**
CIT *e* 21 05 35.9
CIT pmax pmax
comp=Z,93nm,1.6s
DDI Dehra Dun 148.59 65 *ex* **PKPdf 21 05 03.5 -0.1**
HYB Hyderabad 149.10 90 *i* PKP **PKPbc 21 05 10.0 +1.0**
HYB *ep*PKP **pPKPdf 21 05 37.0 +2.5**
HYB *es*PKP 21 05 49.5
ZAK Zakamensk 149.31 10 *e*PKIKP **PKPdf 21 05 04.9 +0.7**
ZAK *e* 21 05 38.5
ZAK pmax pmax
comp=Z,16nm,1.3s
WMQ Urumqi 149.45 34 PKPbc **PKPdf 21 05 05.3 +0.7**
WMQ pPKP **pPKPdf 21 05 29.5 -4.9**
HIA Hailar 150.23 349 *e*PKPdf **PKPbc 21 05 10.9 +0.1**
USRK Ussuriysk Arra 150.45 329 PKP **PKPdf 21 05 06.5 +0.5**
comp=Z,20nm,0.9s,baz=239,slow=4.1,SNR=5.2
USRK PKPbc **PKiKP 21 05 11.8 -0.3**
comp=Z,28nm,0.8s,baz=353,slow=0.9,SNR=58
USRK pPKPbc **pPKPbc 21 05 41.0 +0.1**
comp=Z,35nm,0.9s,baz=22,slow=2.1,SNR=8.5
MDJ Mudanjiang 151.25 332 PKPbc **PKPdf 21 05 07.6 +0.3**
MDJ PP **PP 21 08 54.7 +2.6**
MDJ SS SS 21 28 07.6 +1.2
MDJ Mudanjiang 151.25 332 *e*PKPdf **PKPdf 21 05 07.8 +0.5**
MJAR Matsushiro Arr 151.28 310 PKPbc **PKPbc 21 05 13.6 -0.1**
MJAR pPKPbc **pPKPbc 21 05 42.9 -0.4**
MJAR Matsushiro Arr 151.28 310 PKPbc **PKPbc 21 05 13.6 -0.1**
comp=Z,22nm,0.8s,baz=109,slow=1.0,SNR=46
MJAR pPKPbc **pPKPbc 21 05 42.9 -0.4**
comp=Z,25nm,0.8s,baz=100,slow=1.8,SNR=9.5
MAJO Matsushiro 151.28 310 *e*PKIKP **PKPbc 21 05 14.0 +0.3**
MAJO Matsushiro 151.28 310 *e*PKPdf **PKPbc 21 05 14.0 +0.3**
MAT Matsushiro 151.28 310 PKP **PKPbc 21 05 13.3 -0.4**
CISI Cisompet, Garu 152.18 173 PKP **PKPbc 21 05 16.6 +0.2**
SONM Songino Array 152.22 7 PKP **PKPdf 21 05 09.8 +1.0**
SONM PKPbc **pKiKP 21 05 15.9 0.0**
SONM pPKPbc **pPKPbc 21 05 45.3 +0.1**
SONM Songino Array 152.22 7 PKP **PKPdf 21 05 09.8 +1.0**
comp=Z,5.9nm,0.9s,baz=278,slow=0.6,SNR=23
SONM PKPbc **pKiKP 21 05 15.9 0.0**
comp=Z,15nm,0.8s,baz=309,slow=1.3,SNR=32
SONM pPKPbc **pPKPbc 21 05 45.3 +0.1**
comp=Z,28nm,0.9s,baz=312,slow=2.2,SNR=9.0
ULN Ulaanbaatar 152.26 6 *e*PKPdf **PKPdf 21 05 10.0 +1.0**
KDI Kendari 153.41 206 PKP **PKPbc 21 05 19.6 +0.5**
KAPI Kappang 153.49 200 PKPbc **PKPbc 21 05 18.6 -0.6**
KAPI PKPab **PKPab 21 05 31.1 -0.6**
KAPI pPKPab **pPKPab 21 05 59.1 -1.3**
KAPI Kappang 153.49 200 PKPbc **PKPbc 21 05 18.7 -0.6**
comp=Z,27nm,0.9s,baz=194,slow=1.9,SNR=6.8
KAPI PKPab **PKPab 21 05 31.1 -0.6**
comp=Z,52nm,0.9s,baz=219,slow=6.5,SNR=8.2
KAPI pPKPab **pPKPab 21 05 59.1 -1.3**
comp=Z,19nm,0.7s,baz=198,slow=10.0,SNR=2.9
CN2 Changchun 153.63 336 *e*PKPbc **PKPdf 21 05 11.4 +0.6**
CN2 PP **PP 21 09 08.2 +2.8**

SPSI Sidrap Palu 154.47 200 PKP **PKPbc 21 05 22.8 +1.4**
SPSI PKP **PKPab 21 05 36.7 +0.8**
KSRS Korea Array 157.45 323 PKP **PKPdf 21 05 16.9 +0.8**
comp=Z,4.5nm,0.8s,baz=108,slow=0.8,SNR=17
KSRS PKPab **PKPab 21 05 47.5 -0.7**
comp=Z,11nm,0.8s,baz=60,slow=3.5,SNR=21
KSRS pPKPab **pPKPab 21 06 16.6 -0.2**
comp=Z,8.4nm,0.9s,baz=62,slow=4.3,SNR=6.1
KSAR Wonju Array Be 157.48 323 PKP **PKPdf 21 05 16.9 +0.7**
KSAR PKPab **PKPab 21 05 47.5 -0.8**
KSAR pPKPab **pPKPab 21 06 16.6 -0.3**
JNU Nakatsue 158.21 310 PKPab **PKPab 21 05 51.1 -0.6**
JNU Nakatsue 158.21 310 PKPab **PKPab 21 05 51.1 -0.6**
comp=Z,7.2nm,0.7s,baz=87,slow=4.4,SNR=5.1
GTA Gaotai 158.58 25 PKP **PKPdf 21 05 18.3 +0.6**
GTA pPKP **pPKPdf 21 05 48.3 +0.8**
GTA sPKP 21 06 00.9
GTA PP **PP 21 09 36.9 +3.8**
GTA SKS **SKSdf 21 12 13.2 -0.4**
GTA SKKS **SKKSac 21 16 11.7 -1.0**
GTA SS **SS 21 29 28.4 +2.7**
GTA LR LR
comp=N,190nm,19.0s
GTA LR LR
comp=E,190nm,19.5s
GTA LR LR
comp=Z,420nm,26.1s
PSI Prapat 158.98 144 PKP **PKPdf 21 05 18.6 -0.3**
PSI PKPab **PKPab 21 05 56.6 +1.1**
PSI pPKPab **pPKPab 21 06 25.2 +1.0**
PSI Prapat 158.98 144 PKP **PKPdf 21 05 18.6 -0.3**
comp=Z,4.8nm,0.8s,baz=251,slow=12,SNR=3.8
PSI PKPab **PKPab 21 05 56.6 +1.1**
comp=Z,7.5nm,0.9s,baz=242,slow=14,SNR=4.5
PSI pPKPab **pPKPab 21 06 25.2 +1.0**
comp=Z,12nm,1.0s,baz=163,slow=11,SNR=2.7
HHC Hu-ho-hao-te 159.47 359 *e*PKP **PKPdf 21 05 20.4 +1.8**
HHC pPKP **pPKPdf 21 05 47.2 -1.3**
HHC sPKP 21 05 57.9
HHC PP PP 21 09 42.7 +5.3
HHC SKS **SKSdf 21 12 14.9 +0.6**
HHC SKKS **SKKSac 21 16 19.9 +2.9**
HHC AMB AMB
comp=Z,720nm,9.5s
HHC LR LR
comp=N,690nm,17.8s
HHC LR LR
comp=E,410nm,19.0s
HHC LR LR
comp=Z,660nm,16.7s
LSA Lhasa 159.65 59 *e*PKIKP **PKPdf 21 05 20.5 +0.9**
LSA *e* 21 05 50.0
LSA Lhasa 159.65 59 *e*PKPdf **PKPdf 21 05 20.5 +0.9**
LSA *e*PKPab PKPab 21 05 50.0 -8.7
KSM Kuching 161.32 178 *e*PKPab **PKPab 21 06 06.5 +1.0**
LZH Lanzhou 162.99 20 *e*PKP **PKPdf 21 05 24.0 +1.4**
LZH pPKP **pPKPdf 21 05 55.9 +3.5**
LZH sPKP 21 06 04.5
LZH PP PP 21 10 02.0 +5.4
LZH SKKS 21 16 37.0
LZH SS **SS 21 30 15.5 +3.8**
LZH AMB AMB
comp=Z,250nm,6.6s
CD2 Chengdu 167.50 30 PKP **PKPdf 21 05 26.5 +0.1**
CMAR Chiang Mai Arr 168.40 97 PKP **PKPdf 21 05 26.1 -1.1**
CMAR pPKP **pPKPdf 21 05 57.9 +0.8**
CMAR PKPab **PKPab 21 06 36.8 -0.1**
CMAR pPKPab **pPKPab 21 07 06.7 +1.2**
CMAR PP **PP 21 10 24.9 -1.6**
CMAR Chiang Mai Arr 168.40 97 PKP **PKPdf 21 05 26.1 -1.1**
comp=Z,3.2nm,1.0s,baz=268,slow=2.0,SNR=19
CMAR pPKP **pPKPdf 21 05 57.9 +0.8**
comp=Z,1.4nm,0.8s,baz=299,slow=2.3,SNR=3.4
CMAR PKPab **PKPab 21 06 36.8 -0.1**
comp=Z,3.6nm,0.7s,baz=258,slow=6.6,SNR=17
CMAR pPKPab **pPKPab 21 07 06.7 +1.2**
comp=Z,3.0nm,0.8s,baz=255,slow=6.2,SNR=3.9
CMAR PP **PP 21 10 24.9 -1.6**
comp=Z,2.6nm,1.0s,baz=252,slow=5.5,SNR=7.2
WHN Wuhan 169.34 345 PKP **PKPdf 21 05 26.5 -1.0**
WHN PKPab **PKPab 21 06 39.5 -0.8**
ENH Enshi 169.92 8 *e*PKPdf **PKPdf 21 05 28.2 +0.2**
KMI Kunming 170.90 56 PKP **PKPdf 21 05 29.4 +0.5**
GYA Guiyang 172.61 33 PKP **PKPdf 21 05 28.0 -1.5**
GYA pPKP **pPKPdf 21 05 58.0 -1.4**
GYA sPKP 21 06 09.8
GYA PKPab **PKPab 21 06 55.4 +0.2**
GYA PKS **PKSdf 21 08 58.9 -3.1**
GYA PP **PP 21 10 47.5 +1.5**
GYA AMB AMB
comp=Z,150nm,8.5s

IDC 11 20:46:37.5±0.8, 4°04'N×126°80'E, h0km, mb4.2/14, mb1 4.4/14, mb1mx4.2/24, mbtmp4.2/14, Error ellipse: s-maj=41.6km s-min=13.4km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.03**	**183**	P	P	20 51 33.3	-0.4
	3.3nm,0.5s,baz=359,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**24.95**	**163**	P	P	20 52 03.2	+0.3
	24nm,0.7s						
ASAR	**Alice Springs**	**28.39**	**166**	P	P	20 52 33.1	-0.7
	1.5nm,0.5s,baz=345,slow=7.1,SNR=4.5						
CMAR	**Chiang Mai Arr**	**30.78**	**300**	P	P	20 52 56.1	+1.1
	1.7nm,0.7s,baz=121,slow=7.4,SNR=9.0						
NWAO	**Narrogin (SRO)**	**37.86**	**193**	P	P	20 53 56.5	+0.3
	6.6nm,0.5s,baz=17,slow=7.6,SNR=4.9						
STKA	**Stephens Creek**	**38.39**	**160**	*e*P	P	20 54 00.5	-0.2
	7.9nm,0.7s						
STKA	**Stephens Creek**	**38.39**	**160**	P	P	20 54 01.1	+0.4
	10nm,0.7s,baz=332,slow=7.2,SNR=7.2						
ARMA	**Armidale**	**41.68**	**147**	*e*P	P	20 54 29.6	+1.4
SONM	**Songino Array**	**47.03**	**341**	P	P	20 55 12.7	+1.8
	0.9nm,0.5s,baz=160,slow=8.2,SNR=4.1						
MKAR	**Makanchi Array**	**57.35**	**325**	P	P	20 56 27.8	+0.3
	1.6nm,0.5s,baz=121,slow=7.0,SNR=6.6						
ZALV	**Zalesovo Beam**	**60.35**	**333**	P	P	20 56 47.8	-0.4
	1.5nm,0.7s,baz=124,slow=6.9,SNR=3.3						
KURBB	**Kurchatov Arra**	**61.52**	**327**	P	P	20 56 55.8	-0.4
	1.2nm,0.4s,baz=123,slow=7.4,SNR=5.2						
BVAR	**Borovoye Array**	**67.10**	**327**	P	P	20 57 32.6	-0.3
	1.1nm,0.6s,baz=119,slow=5.6,SNR=2.8						
AKTO	**Aktyubinsk**	**73.47**	**322**	P	P	20 58 10.7	-1.2
	1.3nm,0.5s,baz=84,slow=9.2,SNR=2.3						
ILAR	**Eielson Array**	**84.80**	**25**	P	P	20 59 13.7	+0.1
	0.4nm,0.7s,baz=245,slow=5.8,SNR=2.5						
BRTR	**Keskin Array B**	**89.88**	**310**	P	P	20 59 38.3	-0.7
	0.8nm,0.8s,baz=104,slow=4.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**122.89**	**288**	PKP	PKPdf	21 05 36.6	-0.1
	0.6nm,0.7s,baz=63,slow=2.6,SNR=3.5						

*ISCJB **11** 20:47:48.5±0.4, 36°29N±0°03×71°45E±0°07, h114km, mb4.3/8, Error ellipse: s-maj=7.6km s-min=3.8km az=169.9*
*NEIC **11** 20:47:50.9±1.0, 36°58N×70°85E, h75km±11km, mb4.9/2, Error ellipse: s-maj=16.3km s-min=9.6km az=114.0*
*NNC **11** 20:47:50.8±5.7, 36°85N×70°89E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=46.9km s-min=35.7km az=167.0*
*IDC **11** 20:47:54.5±8.7, 36°67N×71°18E, h120km±57km, mb3.6/4, mb1 3.6/9, mb1mx3.3/29, mbtmp3.6/9, MS3.1/1, Ms1 3.1/1, ms1mx3.1/46, Error ellipse: s-maj=83.3km s-min=42.4km az=157.0*

ISC 11 20:47:49.7±0.6, 36°30N±0°05×71°33E±0°08, h114km, n57, σ1§55/57, mb4.2/8, 5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.52**	**169**	⇓P	**Pn**	**20 48 30.6**	**+0.9**
CEP				S	**Sn**	**20 49 01.0**	**+0.6**
KBL	**Kabul**	**2.57**	**227**	*e*P	**Pn**	**20 48 28.8**	**-1.5**
CHCP	**Chirah Chowk**	**3.08**	**148**	P	**Pn**	**20 48 38.5**	**+1.6**
THW	**Thamme Wali**	**3.52**	**174**	P	**Pn**	**20 48 42.9**	**+0.1**
SARP	**Sargodha**	**4.51**	**165**	P	**Pn**	**20 48 55.5**	**-0.5**
AML	**Almayashu**	**6.10**	**17**	P	**Pn**	**20 49 17.7**	**-0.1**
	SNR=176						
KZA	**Kyzart**	**6.52**	**27**	P	**Pn**	**20 49 23.8**	**+0.4**
	SNR=9.6						
EKS2	**Erkin-Say**	**6.62**	**16**	*e*P	**Pn**	**20 49 24.4**	**-0.2**
	18nm,0.6s						
EKS2	**Erkin-Say**	**6.62**	**16**	P	**Pn**	**20 49 24.7**	**+0.1**
	SNR=15						
AAK	**Ala-Archa**	**6.78**	**20**	*e*P	**Pn**	**20 49 27.0**	**+0.3**
	141nm,0.4s						
AAK				S	**Sn**	**20 50 41.0**	**-1.5**
AAK	**Ala-Archa**	**6.78**	**20**	P	**Pn**	**20 49 27.3**	**+0.6**
	SNR=28						
AAK	**Ala-Archa**	**6.78**	**20**	P	**Pn**	**20 49 27.4**	**+0.7**
	12nm,0.3s,baz=166,slow=5.9,SNR=172						
AAK				S	**Sn**	**20 50 41.0**	**-1.5**
	1.7nm,0.3s,baz=147,slow=23,SNR=13						
KK31	**Karatay Array**	**6.82**	**355**	⇓P	**Pn**	**20 49 25.7**	**-1.5**
	12nm,0.3s,baz=181,slow=13,SNR=664						
KK31				⇓S	Sn	20 50 37.5	-5.8
	11nm,0.5s,baz=175,slow=25,SNR=8.3						
KKAR	**Karatay Array**	**6.82**	**355**	*e*P	**Pn**	**20 49 25.5**	**-1.6**
	41nm,0.3s						
KBK	**Karagaybulak**	**6.93**	**23**	P	**Pn**	**20 49 29.8**	**+1.0**
	SNR=10						
CHMS	**Chumysh**	**7.19**	**20**	P	**Pn**	**20 49 32.4**	**+0.3**
	SNR=19						
USP	**Ospenovka**	**7.37**	**18**	P	**Pn**	**20 49 34.8**	**+0.1**
	SNR=40						
TKM2	**Tokmak 2**	**7.38**	**25**	⇓P	**Pn**	**20 49 35.3**	**+0.3**
	5.6nm,0.5s						
TKM2				⇓S	**Sn**	**20 50 57.7**	**+0.5**
	6.0nm,0.8s						
TKM2	**Tokmak 2**	**7.38**	**25**	*e*P	**Pn**	**20 49 34.7**	**-0.2**
	8.5nm,0.4s						
TKM2	**Tokmak 2**	**7.38**	**25**	P	**Pn**	**20 49 35.5**	**+0.6**
	SNR=8.7						
DANN	**Dangsing**	**13.16**	**124**	*e*P	**Pn**	**20 50 49.9**	**-2.6**
	9.9nm,0.3s						
MKAR	**Makanchi Array**	**13.30**	**35**	P	**P**	**20 51 01.4**	**+2.0**
MKAR	**Makanchi Array**	**13.30**	**35**	P	**P**	**20 51 01.4**	**+2.0**
	0.1nm,0.3s,baz=208,slow=8.7,SNR=5.8						
KOLN	**Koldanya**	**13.43**	**126**	*e*P	Pn	20 50 52.3	-3.7
GKN	**Gorkha**	**13.97**	**123**	*e*P	**Pn**	**20 51 00.2**	**-2.7**
	21nm,0.5s						
DMN	**Daman**	**14.54**	**123**	*e*P	**Pn**	**20 51 07.6**	**-2.7**
	5.5nm,0.2s						
KKN	**Kakani**	**14.55**	**122**	*e*P	**Pn**	**20 51 07.7**	**-2.6**
	16nm,0.5s						
PKI	**Pulchoki**	**14.77**	**122**	*e*P	**Pn**	**20 51 11.3**	**-2.0**
	11nm,0.3s						
GUN	**Gumba**	**14.89**	**120**	*e*P	**Pn**	**20 51 11.9**	**-2.8**
	9.7nm,0.4s						
KURBB	**Kurchatov Arra**	**15.22**	**18**	P	**P**	**20 51 20.8**	**+0.1**
	0.1nm,0.3s,baz=204,slow=10,SNR=4.3						
JIRN	**Jiri**	**15.26**	**120**	*e*P	**Pn**	**20 51 17.1**	**-2.3**
	6.4nm,0.4s						
KURK	**Kurchatov**	**15.33**	**18**	P	**Pn**	**20 51 20.8**	**+1.0**
AB31	**Akbulak array**	**15.38**	**331**	P	**Pn**	**20 51 17.7**	**-2.8**
	1.5nm,0.3s,baz=151,slow=12,SNR=93						
ABKAR	**Akbulak array**	**15.38**	**331**	*e*P	**Pn**	**20 51 17.1**	**-3.4**
	3.0nm,0.3s						
RAMN	**Ramite**	**15.99**	**121**	*e*P	**Pn**	**20 51 26.4**	**-2.0**
	6.4nm,0.3s						
TAPN	**Taplejung**	**16.52**	**118**	*e*P	**Pn**	**20 51 33.4**	**-1.6**
	19nm,0.7s						
ODAN	**Odare**	**16.59**	**120**	*e*P	**Pn**	**20 51 34.1**	**-1.7**
	5.3nm,0.4s						
BVAR	**Borovoye Array**	**16.73**	**358**	P	**Pn**	**20 51 36.8**	**-0.3**
BVAR	**Borovoye Array**	**16.73**	**358**	P	**Pn**	**20 51 36.8**	**-0.3**
	0.3nm,0.3s,baz=160,slow=11,SNR=6.0						
AKTO	**Aktyubinsk**	**17.08**	**330**	P	**P**	**20 51 39.5**	**-1.9**
AKTO	**Aktyubinsk**	**17.08**	**330**	P	**P**	**20 51 39.5**	**-1.9**
	0.7nm,0.3s,baz=137,slow=15,SNR=11						
ZALV	**Zalesovo Beam**	**19.98**	**24**	P	**P**	**20 52 13.8**	**+0.9**
ZALV	**Zalesovo Beam**	**19.98**	**24**	P	**P**	**20 52 13.8**	**+0.9**
	1.1nm,0.3s,baz=208,slow=9.8,SNR=21						
AKASG	**Malin Array Be**	**33.28**	**309**	P	**P**	**20 54 18.3**	**+2.2**
AKASG	**Malin Array Be**	**33.28**	**309**	P	**P**	**20 54 18.3**	**+2.2**
	1.1nm,0.6s,baz=113,slow=8.6,SNR=4.3						
JOF	**Joensuu**	**36.17**	**330**	*ep*	**P**	**20 54 42.3**	**+1.5**
	2.0nm,0.4s						
FINES	**FINESS Array B**	**37.80**	**326**	P	**P**	**20 54 55.9**	**+1.3**
FINES	**FINESS Array B**	**37.80**	**326**	P	**P**	**20 54 55.9**	**+1.3**
	0.8nm,0.3s,baz=118,slow=8.9,SNR=11						
ARCES	**ARCESS Array B**	**41.43**	**338**	P	**P**	**20 55 25.6**	**+1.0**
ARCES	**ARCESS Array B**	**41.43**	**338**	P	**P**	**20 55 25.6**	**+1.0**
	3.2nm,0.8s,baz=107,slow=7.8,SNR=5.6						
NB2	**NORSAR Subarra**	**44.70**	**323**	P	**P**	**20 55 51.4**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.70**	**323**	P	**P**	**20 55 51.5**	**+0.5**
NOA	**NORSAR Array B**	**44.70**	**323**	P	**P**	**20 55 51.5**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=97,slow=7.8,SNR=7.8						
TGY	**Tagaytay City**	**49.41**	**103**	LR	LR	21 18 48.4	
	comp=Z,21nm,19.9s,baz=137,slow=37						
LSZ	**Lusaka**	**65.51**	**226**	*e*P	P	20 58 27.2	+6.0
	comp=Z,11nm,0.8s						
SFJD	**Kangerlussuaq**	**68.04**	**339**	*i* P	**P**	**20 58 37.6**	**+1.3**
	comp=Z,15nm,0.9s						
WRAB	**Tennant Creek**	**81.66**	**122**	*e*P	P	21 00 04.4	+8.9
	comp=Z,12nm,0.8s						

DDA 11 20:47:55.3, 37°98N×38°36E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MALT	**Malatya**	**0.33**	**9**	*e*PG	Pg	20 47 57.4	-4.5
AKCD	**Akcadag**	**0.46**	**312**	*i* P	Pg	20 48 04.5	+0.2
AKCD				*i* S	Sb	20 48 20.8	+7.7
ELZG	**Elazig**	**0.71**	**44**	*i* P	Pg	20 48 03.5	-5.6
ELZG				*i* S	Sb	20 48 19.8	-0.5

*IDC **11** 20:49:53.5±0.5, 3°64N×126°57E, h0km, mb4.5/26, mb1 4.5/26, mb1mx4.5/29, mbtmp4.5/26, Error ellipse: s-maj=21.5km s-min=11.7km az=75.0*
*BJI **11** 20:49:56.9, 3°67N×126°67E, h31km, mB5.5/8, mb4.9/27, Ms4.9/5, Ms7 4.9/5*
*ISCJB **11** 20:49:58.8±0.3, 3°59N±0°05×126°65E±0°07, h53km, mb4.7/47, Error ellipse: s-maj=10.7km s-min=6.1km az=161.9*
*NEIC **11** 20:49:58.7±0.3, 3°62N×126°62E, h35km, mb4.8/12, Error ellipse: s-maj=12.7km s-min=6.2km az=77.0*

ISC 11 20:50:00.6±0.5, 3°60N±0°07×126°6E±0°1, h53km, n101, σ1§09/104, mb4.7/57, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.99**	**326**	⇓*e*	**Pn**	**20 50 48.1**	**+2.5**
MATI	**Mati**	**3.34**	**353**	*e*P	**Pn**	**20 50 51.4**	**+1.0**
BUKP	**Musuan**	**4.53**	**340**	*e*P	**Pn**	**20 51 08.7**	**+1.9**
PAGZ	**Pagadian**	**5.32**	**323**	*e*P	**Pn**	**20 51 19.4**	**+1.8**
FITZ	**Fitzroy Crossi**	**21.59**	**183**	P	**P**	**20 54 46.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**21.59**	**183**	*e*P	**P**	**20 54 46.6**	**+0.5**
	12nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.59**	**183**	P	**P**	**20 54 46.7**	**+0.6**
	3.1nm,0.5s,baz=16,slow=10,SNR=5.5						
JOW	**Kunigami**	**23.15**	**4**	P	**P**	**20 55 01.8**	**-0.8**
JOW	**Kunigami**	**23.15**	**4**	P	**P**	**20 55 01.8**	**-0.8**
	19nm,0.8s,baz=202,slow=10,SNR=6.9						
WRAB	**Tennant Creek**	**24.59**	**162**	*e*P	**P**	**20 55 15.4**	**-0.5**
	23nm,0.8s						
WRA	**Warramunga Arr**	**24.59**	**162**	P	**P**	**20 55 15.8**	**-0.1**
WRA	**Warramunga Arr**	**24.59**	**162**	P	**P**	**20 55 15.8**	**-0.1**
	17nm,0.7s						
MBWA	**Marble Bar**	**25.52**	**195**	*e*P	**P**	**20 55 24.5**	**+0.2**
ASAR	**Alice Springs**	**28.01**	**166**	P	**P**	**20 55 45.6**	**-1.2**
ASAR	**Alice Springs**	**28.01**	**166**	P	**P**	**20 55 45.6**	**-1.2**
	0.8nm,0.5s,baz=347,slow=7.9,SNR=7.4						
WHN

comp=Z,50nm,1.2s
BJT Baijiatuau 37.47 347 *eP* **P 20 57 09.8 +0.7**
comp=Z,144nm,1.1s
BJI Beijing 37.49 347 P **P 20 57 09.5 +0.3**
BJI pmax pmax
comp=Z,86nm,0.7s
STKA Stephens Creek 38.04 159 *eP* **P 20 57 14.2 +0.2**
comp=Z,2.3nm,0.7s
STKA Stephens Creek 38.04 159 *eP* **P 20 57 14.2 +0.2**
comp=Z,8.9nm,0.6s
STKA Stephens Creek 38.04 159 P **P 20 57 14.5 +0.5**
comp=Z,11nm,0.6s,baz=330,slw=8.3,SNR=19
SNY Shenyang 38.16 356 ⇑P **P 20 57 15.6 +0.8**
LZH Lanzhou 38.57 330 *eP* **P 20 57 18.6 0.0**
LZH pP **pP 20 57 28.5 -3.9**
LZH sP sP 20 57 33.3 -5.3
LZH pmax pmax
comp=Z,26nm,1.2s
CN2 Changchun 40.05 359 *eP* **P 20 57 30.3 -0.3**
CN2 esP sP 20 57 44.1 -6.5
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,6.0s
USRK Ussuriysk Arra 40.71 6 P **P 20 57 36.1 +0.1**
comp=Z,10.0nm,0.8s,baz=187,slow=7.3,SNR=16
MDJ Mudanjiang 40.93 3 P **P 20 57 38.0 +0.1**
MDJ pmax pmax
comp=Z,23nm,1.1s
MDJ Mudanjiang 40.93 3 *eP* **P 20 57 38.1 +0.3**
comp=Z,25nm,1.0s
ARMA Armidale 41.41 147 *eP* **P 20 57 43.0 +0.8**
LSA Lhasa 42.46 312 *eP* **P 20 57 52.2 +1.0**
comp=Z,12nm,0.6s
ASAJ Asahikawa 42.74 17 P **P 20 57 53.3 +0.7**
ASAJ Asahikawa 42.74 17 P **P 20 57 53.3 +0.7**
comp=Z,9.6nm,0.9s,baz=219,slow=14,SNR=4.9
GTA Gaotai 43.16 329 *eP* **P 20 57 56.9 +0.6**
GTA pP pP 20 58 01.5 -8.8
GTA sP sP 20 58 05.3 -11
GTA pmax pmax
comp=Z,3.0nm,0.4s
TAPN Taplejung 44.02 306 *eP* **P 20 58 03.1 -0.5**
comp=Z,19nm,0.9s
ODAN Odare 44.07 306 *eP* **P 20 58 04.2 +0.2**
comp=Z,12nm,0.5s
RAMN Ramite 44.75 305 *eP* **P 20 58 10.0 +0.6**
comp=Z,10nm,0.5s
JIRN Jiri 45.37 306 *eP* **P 20 58 14.1 -0.4**
comp=Z,2.9nm,0.5s
GUN Gumba 45.73 306 *eP* **P 20 58 17.2 -0.1**
comp=Z,19nm,0.5s
HIA Hailar 45.88 354 *eP* **P 20 58 18.5 +0.8**
comp=Z,50nm,1.3s
PKI Pulchoki 45.97 306 *eP* **P 20 58 18.9 -0.3**
KKN Kakani 46.16 306 *eP* **P 20 58 20.5 -0.1**
comp=Z,6.2nm,0.5s
DMN Daman 46.23 305 *eP* **P 20 58 21.4 +0.3**
comp=Z,14nm,0.8s
DZM Mont Dzumac 46.53 125 P **P 20 58 23.9 +0.5**
DZM Mont Dzumac 46.53 125 P **P 20 58 23.9 +0.5**
comp=Z,6.0nm,0.8s,baz=121,slow=21,SNR=5.4
GKN Gorkha 46.77 306 *eP* **P 20 58 24.8 -0.4**
comp=Z,7.3nm,0.6s
SONM Songino Array 47.39 342 P **P 20 58 29.3 -0.4**
SONM PcP **PcP 21 00 00.4 +0.7**
SONM Songino Array 47.39 342 P **P 20 58 29.3 -0.4**
comp=Z,3.8nm,0.7s,baz=154,slow=8.9,SNR=12
SONM PcP **PcP 21 00 00.4 +0.7**
comp=Z,1.5nm,0.8s,baz=151,slow=2.8,SNR=4.4
KOLN Koldanda 47.52 305 *eP* **P 20 58 31.7 +0.5**
comp=Z,27nm,0.5s
DANN Dangsing 47.62 306 *eP* **P 20 58 32.2 +0.2**
comp=Z,33nm,0.6s
TLY Talaya 51.62 342 *eP* **P 20 59 02.3 +0.6**
comp=Z,3.7nm,0.6s
PETK Petropavlovsk- 55.58 22 P **P 20 59 30.9 +0.3**
PETK Petropavlovsk- 55.58 22 P **P 20 59 30.9 +0.3**
comp=Z,3.3nm,0.7s,baz=205,slow=9.0,SNR=4.1
MK31 Makanchi Array 57.61 325 *eP* **P 20 59 45.0 -0.3**
MKAR Makanchi Array 57.61 325 P **P 20 59 44.8 -0.4**
MKAR Makanchi Array 57.61 325 P **P 20 59 44.8 -0.4**
comp=Z,5.9nm,0.5s,baz=118,slow=7.4,SNR=47
YAK Yakutsk 58.34 2 *eP* **P 20 59 50.2 +0.2**
comp=Z,54nm,1.1s
AAK Ala-Archa 60.39 318 P **P 21 00 04.6 -0.1**
AAK Ala-Archa 60.39 318 P **P 21 00 04.6 -0.1**
comp=Z,1.7nm,0.8s,baz=175,slow=8.5,SNR=6.0
ZALV Zalesovo Beam 60.66 333 P **P 21 00 05.2 -0.9**
ZALV Zalesovo Beam 60.66 333 P **P 21 00 05.2 -0.9**
comp=Z,1.2nm,0.4s,baz=120,slow=6.1,SNR=9.7
EKS2 Erkin-Say 60.88 318 *eP* **P 21 00 09.0 +0.9**
comp=Z,4.4nm,0.8s
KURBB Kurchatov Arra 61.80 327 P **P 21 00 13.3 -0.6**
comp=Z,8.6nm,0.5s,baz=130,slow=6.5,SNR=64
KURK Kurchatov 61.80 328 P **P 21 00 13.3 -0.6**
KKAR Karatay Array 63.26 317 *eP* **P 21 00 24.3 +0.4**
comp=Z,5.7nm,0.8s
BVAR Borovoye Array 67.38 327 P **P 21 00 49.6 -0.7**
BVAR Borovoye Array 67.38 327 P **P 21 00 49.6 -0.7**
comp=Z,2.4nm,0.4s,baz=59,slow=4.5,SNR=24
BRVK Borovoye 67.38 327 *eP* **P 21 00 50.2 -0.6**
AKTO Aktyubinsk 73.70 322 P **P 21 01 27.2 -1.7**
AKTO Aktyubinsk 73.70 322 P **P 21 01 27.2 -1.7**
comp=Z,4.4nm,0.7s,baz=115,slow=6.9,SNR=6.7
ARU Arti 75.00 328 *eP* **P 21 01 35.7 -0.6**
comp=Z,6.9nm,0.6s
RDF Al-Radifah 78.72 299 *eP* **P 21 01 57.0 -0.9**
MIB Mutribah 78.94 300 *eP* **P 21 01 58.9 -0.1**
MIB AMb AMB 21 02 01.1
comp=Z,16nm,0.6s
NAY Al-Naaiem 79.00 299 *eP* **P 21 01 58.9 -0.5**
NAY AMb AMB 21 02 01.3
comp=Z,9.1nm,0.9s
KDAK Kodiak Island 82.04 32 P **P 21 02 15.1 +0.1**
KDAK Kodiak Island 82.04 32 P **P 21 02 15.1 +0.1**
comp=Z,11nm,0.9s,baz=306,slow=8.7,SNR=3.5
ILAR Eielson Array 85.26 25 P **P 21 02 32.9 +1.5**
ILAR Eielson Array 85.26 25 P **P 21 02 32.9 +1.5**
comp=Z,0.5nm,0.6s,baz=261,slow=4.8,SNR=6.6
ASF Jabal al Asfar 87.89 302 P **P 21 02 46.8 +1.7**
ASF Jabal al Asfar 87.89 302 P **P 21 02 46.8 +1.7**
comp=Z,3.6nm,0.8s,baz=220,slow=3.9,SNR=6.1
BRTR Keskin Array B 90.03 310 P **P 21 02 55.1 +0.1**
BRTR Keskin Array B 90.03 310 P **P 21 02 55.1 +0.1**
comp=Z,2.3nm,0.9s,baz=113,slow=5.6,SNR=10
ARCES ARCESS Array B 90.54 340 P **P 21 02 56.5 -0.1**
ARCES ARCESS Array B 90.54 340 P **P 21 02 56.5 -0.1**
comp=Z,3.1nm,0.7s,baz=78,slow=5.7,SNR=8.2
FINES FINESS Array B 91.90 332 P **P 21 03 01.6 -1.5**
FINES FINESS Array B 91.90 332 P **P 21 03 01.6 -1.5**
comp=Z,2.6nm,0.9s,baz=190,slow=7.1,SNR=3.2
AKASG Malin Array Be 91.93 321 P **P 21 03 00.6 -2.8**
AKASG Malin Array Be 91.93 321 P **P 21 03 00.6 -2.8**
comp=Z,2.4nm,0.8s,baz=66,slow=5.3,SNR=5.1
BUR08 Bucovina Ar. S 95.04 318 *eP* **P 21 03 18.2 +0.2**
NB2 NORSAR Subarra 98.86 334 P P 21 03 31.4 -3.5
comp=Z,1.5nm,0.8s,baz=71,slow=5.1
TORD Torodi Ar. Bea 122.87 288 PKP **PKPdf 21 08 53.0 +1.1**
TORD Torodi Ar. Bea 122.87 288 PKP **PKPdf 21 08 53.0 +1.1**
comp=Z,0.7nm,0.8s,baz=56,slow=1.3,SNR=3.6

IDC 11 20:52:36.8±25.0, 4°.13N×126°.58E, h0km, mb3.9/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.9/5, Error ellipse: s-maj=586.5km s-min=172.9km az=123.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**46.88**	**341**	P	P	21 01 09.2	+0.3
	0.5nm,0.6s,baz=152,slow=9.8,SNR=2.6						
MKAR	**Makanchi Array**	**57.14**	**325**	P	P	21 02 25.6	+0.1
	0.7nm,0.5s,baz=120,slow=7.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**60.17**	**333**	P	P	21 02 45.2	-1.1
	0.9nm,0.4s,baz=126,slow=6.6,SNR=4.8						
KURBB	**Kurchatov Arra**	**61.32**	**327**	P	P	21 02 54.0	-0.2
	1.1nm,0.6s,baz=128,slow=6.9,SNR=4.7						
BVAR	**Borovoye Array**	**66.91**	**327**	P	P	21 03 31.4	+0.5
	0.5nm,0.6s,baz=134,slow=8.3,SNR=3.4						

IDC 11 20:54:42.1±1.5, 3°.63N×126°.38E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/20, mbtmp4.0/5, MS5.0/2, Ms1 5.0/2, ms1mx4.0/44, Error ellipse: s-maj=121.3km s-min=18.8km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.61**	**182**	P	P	20 59 34.3	+0.5
	2.5nm,0.5s,baz=14,slow=8.5,SNR=5.5						
WRA	**Warramunga Arr**	**24.69**	**162**	P	P	21 00 04.1	-1.0
	190nm,1.2s,baz=0.0,slow=0.0,SNR=2.4						
CBIJ	**Chichi jima**	**27.80**	**31**	LR	LR	21 09 21.3	
	comp=Z,2μm,20.6s,baz=322,slow=32						
ASAR	**Alice Springs**	**28.10**	**165**	P	P	21 00 36.0	+0.2
	1.1nm,0.5s,baz=340,slow=7.4,SNR=11						
STKA	**Stephens Creek**	**38.16**	**159**	P	P	21 02 03.6	+0.2
	3.7nm,0.4s,baz=338,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**57.44**	**325**	P	P	21 04 32.3	-0.5
	0.3nm,0.4s,baz=119,slow=7.1,SNR=5.9						
KURBB	**Kurchatov Arra**	**61.64**	**328**	P	P	21 05 02.1	+0.4
	0.7nm,0.5s,baz=131,slow=6.6,SNR=5.7						
FINES	**FINESS Array B**	**91.76**	**332**	LR	LR	21 52 51.6	
	comp=Z,1μm,21.5s,baz=94,slow=38						

IDC 11 20:58:20.6±1.4, 4°.13N×126°.92E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/22, mbtmp3.9/7, Error ellipse: s-maj=78.8km s-min=18.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.13**	**183**	P	P	21 03 18.3	+0.3
	1.6nm,0.5s,baz=21,slow=8.6,SNR=3.2						
WRA	**Warramunga Arr**	**25.01**	**163**	P	P	21 03 46.1	-0.4
	5.7nm,0.7s,baz=338,slow=11,SNR=5.0						
CMAR	**Chiang Mai Arr**	**30.84**	**300**	P	P	21 04 39.8	+1.0
	0.6nm,0.7s,baz=125,slow=8.9,SNR=4.2						
STKA	**Stephens Creek**	**38.44**	**160**	P	P	21 05 44.2	0.0
	1.8nm,0.6s,baz=333,slow=6.1,SNR=2.3						
MKAR	**Makanchi Array**	**57.34**	**325**	P	P	21 08 10.8	+0.2
	0.8nm,0.5s,baz=116,slow=6.8,SNR=3.4						
KURBB	**Kurchatov Arra**	**61.51**	**327**	P	P	21 08 38.9	-0.4
	1.5nm,0.7s,baz=129,slow=5.2,SNR=5.2						
BVAR	**Borovoye Array**	**67.09**	**327**	P	P	21 09 15.7	-0.3
	1.2nm,1.0s,baz=116,slow=6.6,SNR=2.3						
TORD	**Torodi Ar. Bea**	**122.98**	**288**	PKP	PKPdf	21 17 19.5	-0.6
	0.1nm,0.4s,baz=72,slow=1.6,SNR=4.6						

IDC 11 20:59:19.9±1.9, 3°.84N×126°.58E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/22, mbtmp4.0/6, Error ellipse: s-maj=137.9km s-min=22.2km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.82**	**182**	P	P	21 04 13.7	-0.2
	2.3nm,0.9s,baz=348,slow=14,SNR=2.1						
STKA	**Stephens Creek**	**38.28**	**159**	P	P	21 06 42.3	0.0
	1.7nm,0.6s,baz=343,slow=9.5,SNR=2.0						
MKAR	**Makanchi Array**	**57.38**	**325**	P	P	21 09 10.4	+0.2
	1.0nm,0.6s,baz=112,slow=5.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**60.42**	**333**	P	P	21 09 30.4	-0.8
	1.1nm,0.4s,baz=113,slow=7.5,SNR=2.2						
KURBB	**Kurchatov Arra**	**61.56**	**327**	P	P	21 09 38.7	-0.3
	1.1nm,0.6s,baz=128,slow=5.9,SNR=2.6						
BVAR	**Borovoye Array**	**67.15**	**327**	P	P	21 10 16.2	+0.7
	0.9nm,0.8s,baz=104,slow=6.1,SNR=2.6						

IDC 11 20:59:28.1±1.2, 4°.56N×126°.76E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.8/21, mbtmp4.0/6, Error ellipse: s-maj=74.0km s-min=27.6km az=62.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.89**	**160**	P	P	21 06 55.4	-0.2
	2.8nm,0.7s,baz=332,slow=7.4,SNR=3.6						
MKAR	**Makanchi Array**	**56.90**	**325**	P	P	21 09 15.0	0.0
	1.7nm,0.6s,baz=121,slow=7.4,SNR=5.3						
ZALV	**Zalesovo Beam**	**59.87**	**333**	P	P	21 09 35.2	-0.4
	1.1nm,0.4s,baz=118,slow=7.2,SNR=4.5						
KURBB	**Kurchatov Arra**	**61.07**	**327**	P	P	21 09 44.0	+0.2
	0.9nm,0.5s,baz=123,slow=7.1,SNR=7.0						
BVAR	**Borovoye Array**	**66.65**	**327**	P	P	21 10 20.5	-0.1
	0.6nm,0.5s,baz=132,slow=6.4,SNR=4.1						
ILAR	**Eielson Array**	**84.35**	**25**	P	P	21 12 02.1	+0.1
	0.5nm,0.9s,baz=260,slow=5.2,SNR=3.4						

IDC 11 21:02:13.8±0.7, 3°.67N×126°.64E, h0km, mb4.1/18, mb1 4.2/18, mb1mx4.1/25, mbtmp4.1/18, Error ellipse: s-maj=30.4km s-min=13.6km az=78.0
ISCJB 11 21:02:18.8±0.4, 3°.68N±0°.06×126°.6E±0°.1, h53km, mb4.1/23, Error ellipse: s-maj=18.5km s-min=6.9km az=164.5
NEIC 11 21:02:18.8±0.4, 3°.67N×126°.61E, h35km, mb4.2/9, Error ellipse: s-maj=16.6km s-min=7.1km az=76.0
ISC 11 21:02:20.7±0.6, 3°.68N±0°.08×126°.6E±0°.2, h53km, n42, σ0s84/44, mb4.0/23, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.52**	**343**	Sn	Sn	**21 03 52.4**	**-1.1**
	36nm,0.3s,baz=72,slow=20,SNR=1.8						
CTBH	**Cotabato--PC H**	**4.24**	**326**	⇑*eP*	Pn	**21 03 23.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**21.67**	**183**	*eP*	P	**21 07 06.8**	**-0.2**
	1.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.67**	**183**	P	P	**21 07 06.8**	**-0.2**
	1.6nm,0.7s,baz=9.6,slow=12,SNR=3.2						
JOW	**Kunigami**	**23.08**	**4**	*eP*	P	**21 07 20.9**	**-1.0**
	2.8nm,0.7s						
JOW	**Kunigami**	**23.08**	**4**	P	P	**21 07 21.2**	**-0.7**
	8.0nm,0.8s,baz=175,slow=12,SNR=3.0						
WRAB	**Tennant Creek**	**24.66**	**162**	*eP*	P	**21 07 36.2**	**-0.6**
	12nm,0.8s						
WRA	**Warramunga Arr**	**24.67**	**162**	P	P	**21 07 36.3**	**-0.5**
WRA	**Warramunga Arr**	**24.67**	**162**	P	P	**21 07 36.3**	**-0.5**
	7.6nm,0.5s,baz=338,slow=11,SNR=22						
ASAR	**Alice Springs**	**28.09**	**166**	P	P	**21 08 07.3**	**-0.3**
ASAR	**Alice Springs**	**28.09**	**166**	P	P	**21 08 07.3**	**-0.3**
	0.6nm,0.4s,baz=354,slow=7.6,SNR=5.6						
CMAR	**Chiang Mai Arr**	**30.80**	**301**	P	P	**21 08 33.2**	**+1.5**
CMAR	**Chiang Mai Arr**	**30.80**	**301**	P	P	**21 08 33.2**	**+1.5**
	0.7nm,0.7s,baz=115,slow=7.6,SNR=4.6						
KSAR	**Wonju Array Be**	**33.62**	**2**	P	P	**21 08 56.3**	**+0.1**
KSRS	**Korea Array**	**33.63**	**2**	P	P	**21 08 56.3**	**0.0**
	0.6nm,0.5s,baz=182,slow=11,SNR=4.0						
MJAR	**Matsushiro Arr**	**34.40**	**17**	P	P	**21 09 02.6**	**-0.4**
MJAR	**Matsushiro Arr**	**34.40**	**17**	P	P	**21 09 02.6**	**-0.4**
	1.5nm,0.7s,baz=192,slow=11,SNR=3.6						
STKA	**Stephens Creek**	**38.12**	**159**	*eP*	P	**21 09 34.6**	**-0.2**
	0.5nm,0.6s						
STKA	**Stephens Creek**	**38.12**	**159**	P	P	**21 09 34.2**	**-0.6**
	2.0nm,0.4s,baz=348,slow=9.5,SNR=5.5						
USRK	**Ussuriysk Arra**	**40.63**	**6**	P	P	**21 09 55.4**	**-0.1**
	1.0nm,0.5s,baz=204,slow=5.0,SNR=3.0						
LSA	**Lhasa**	**42.39**	**312**	*eP*	P	**21 10 09.0**	**-1.8**
	6.0nm,0.8s						
ASAJ	**Asahikawa**	**42.67**	**17**	*eP*	P	**21 10 13.2**	**+1.0**
	4.2nm,0.8s						
ASAJ	**Asahikawa**	**42.67**	**17**	P	P	**21 10 13.2**	**+1.0**
	8.1nm,0.8s,baz=264,slow=9.2,SNR=4.3						
ULN	**Ulaanbaatar**	**47.13**	**342**	*eP*	P	**21 10 47.8**	**-0.1**
	1.1nm,0.5s						
SONM	**Songino Array**	**47.31**	**342**	P	P	**21 10 49.8**	**+0.6**
SONM				PcP	PcP	**21 12 20.8**	**+1.2**
SONM	**Songino Array**	**47.31**	**342**	P	P	**21 10 49.8**	**+0.6**
	1.0nm,0.7s,baz=157,slow=9.1,SNR=4.1						
SONM				PcP	PcP	**21 12 20.7**	**+1.2**
	0.5nm,0.7s,baz=93,slow=3.0,SNR=2.8						
PETK	**Petropavlovsk-**	**55.52**	**22**	P	P	**21 11 51.2**	**+0.9**
PETK	**Petropavlovsk-**	**55.52**	**22**	P	P	**21 11 51.2**	**+0.9**
	3.3nm,0.6s,baz=184,slow=7.1,SNR=4.8						
MKAR	**Makanchi Array**	**57.53**	**325**	P	P	**21 12 04.7**	**-0.1**
MKAR	**Makanchi Array**	**57.53**	**325**	P	P	**21 12 04.7**	**-0.1**
	0.8nm,0.4s,baz=119,slow=7.2,SNR=12						
ZALV	**Zalesovo Beam**	**60.58**	**333**	P	P	**21 12 24.7**	**-1.1**
ZALV	**Zalesovo Beam**	**60.58**	**333**	P	P	**21 12 24.7**	**-1.1**
	0.5nm,0.5s,baz=125,slow=9.0,SNR=3.5						
KBL	**Kabul**	**61.47**	**308**	*eP*	P	**21 12 31.5**	**-0.9**
KURBB	**Kurchatov Arra**	**61.72**	**327**	P	P	**21 12 33.5**	**0.0**
	1.8nm,0.7s,baz=127,slow=7.2,SNR=11						
KURK	**Kurchatov**	**61.72**	**328**	*eP*	P	**21 12 33.5**	**-0.1**
	2.7nm,0.6s						
BVAR	**Borovoye Array**	**67.30**	**327**	P	P	**21 13 11.1**	**+1.1**
BVAR	**Borovoye Array**	**67.30**	**327**	P	P	**21 13 11.1**	**+1.1**
	2.5nm,0.9s,baz=138,slow=9.5,SNR=7.6						
BRVK	**Borovoye**	**67.37**	**327**	*eP*	P	**21 13 10.6**	**+0.2**
	3.4nm,1.0s						
AKTO	**Aktyubinsk**	**73.63**	**322**	P	P	**21 13 49.9**	**+1.3**
	0.9nm,0.6s,baz=122,slow=7.5,SNR=5.7						
ARCES	**ARCESS Array B**	**90.46**	**340**	P	P	**21 15 15.7**	**-0.7**
ARCES	**ARCESS Array B**	**90.46**	**340**	P	P	**21 15 15.7**	**-0.7**
	4.0nm,1.0s,baz=81,slow=6.8,SNR=3.4						

IDC 11 21:05:51.0±1.2, 3°.74N×126°.92E, h0km, mb4.0/9, mb1 4.0/9, mb1mx3.8/21, mbtmp4.0/9, 1C, Error ellipse: s-maj=155.3km s-min=15.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.56**	**338**	Sn	Sb	21 07 34.7	-4.2
	59nm,0.3s,baz=284,slow=19,SNR=2.4						
CTBH	**Cotabato--PC H**	**4.36**	**322**	⇑*iP*	Pb	21 07 05.9	-2.7
WRA	**Warramunga Arr**	**24.64**	**163**	P	P	21 11 12.3	-1.2
	112nm,1.3s						
ASAR	**Alice Springs**	**28.08**	**166**	P	P	21 11 46.2	+1.7
	0.5nm,0.6s,baz=349,slow=6.3,SNR=4.5						
STKA	**Stephens Creek**	**38.08**	**160**	P	P	21 13 11.1	-0.5
	2.5nm,0.6s,baz=331,slow=12,SNR=4.3						
SONM	**Songino Array**	**47.35**	**341**	P	P	21 14 28.1	+1.3
	0.9nm,0.6s,baz=157,slow=8.0,SNR=6.2						
MKAR	**Makanchi Array**	**57.65**	**325**	P	P	21 15 43.5	+0.4
	0.9nm,0.5s,baz=117,slow=7.6,SNR=10.0						
ZALV	**Zalesovo Beam**	**60.66**	**333**	P	P	21 16 02.9	-1.0
	0.3nm,0.4s,baz=145,slow=5.3,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.83**	**327**	P	P	21 16 11.7	-0.1
	1.5nm,0.6s,baz=131,slow=6.6,SNR=16						
BVAR	**Borovoye Array**	**67.41**	**327**	P	P	21 16 48.2	-0.1
	0.6nm,0.6s,baz=127,slow=5.8,SNR=5.6						
AKTO	**Aktyubinsk**	**73.77**	**322**	P	P	21 17 27.0	-0.2
	1.4nm,0.7s,baz=83,slow=9.2,SNR=5.6						
ARCES	**ARCESS Array B**	**90.50**	**340**	P	P	21 18 53.9	-0.6
	1.8nm,0.7s,baz=70,slow=8.0,SNR=4.5						

IDC 11 21:06:29.3±0.7, 3°.66N×126°.68E, h0km, mb4.2/16, mb1 4.2/16, mb1mx4.1/23, mbtmp4.2/16, Error ellipse: s-maj=46.9km s-min=13.5km az=70.0
ISCJB 11 21:06:34.4±0.4, 3°.65N±0°.08×126°.7E±0°.1, h53km, mb4.3/21, Error ellipse: s-maj=20.1km s-min=7.7km az=154.2
NEIC 11 21:06:34.3±0.3, 3°.64N×126°.67E, h35km, mb4.5/6, Error ellipse: s-maj=16.4km s-min=5.0km az=68.0
ISC 11 21:06:36.3±0.6, 3°.6N±0°.1×126°.7E±0°.2, h53km, n50, σ0s50/52, mb4.5/26, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.61**	**183**	*eP*	P	**21 11 22.0**	**-0.1**
	7.3nm,1.0s						
FITZ	**Fitzroy Crossi**	**21.61**	**183**	P	P	**21 11 22.3**	**+0.2**
	1.3nm,0.5s,baz=26,slow=9.3,SNR=4.2						
WRAB	**Tennant Creek**	**24.60**	**162**	*eP*	P	**21 11 51.5**	**-0.2**
	13nm,0.9s						
WRA	**Warramunga Arr**	**24.60**	**162**	P	P	**21 11 51.7**	**-0.1**
WRA	**Warramunga Arr**	**24.60**	**162**	P	P	**21 11 51.7**	**-0.1**
	298nm,1.3s,baz=232,slow=0.0,SNR=5.7						
ASAR	**Alice Springs**	**28.03**	**166**	P	P	**21 12 22.6**	**-0.1**
ASAR	**Alice Springs**	**28.03**	**166**	P	P	**21 12 22.6**	**-0.1**
	0.5nm,0.4s,baz=343,slow=9.1,SNR=2.6						
CTAO	**Charters Tower**	**30.42**	**142**	P	P	**21 12 43.6**	**-0.3**
CM31	**Chiang Mai Arr**	**30.88**	**301**	*eP*	P	**21 12 47.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**30.88**	**301**	P	P	**21 12 48.8**	**+0.7**
CMAR	**Chiang Mai Arr**	**30.88**	**301**	P	P	**21 12 48.8**	**+0.7**
	1.7nm,0.8s,baz=114,slow=6.6,SNR=9.8						
KSAR	**Wonju Array Be**	**33.67**	**2**	P	P	**21 13 12.8**	**+0.5**
KSRS	**Korea Array**	**33.69**	**2**	P	P	**21 13 12.8**	**+0.4**
	1.7nm,0.7s,baz=181,slow=11,SNR=6.3						
BJT	**Baijiatuau**	**37.46**	**347**	*eP*	P	**21 13 44.2**	**-0.4**
	13nm,0.6s						
STKA	**Stephens Creek**	**38.05**	**159**	*eP*	P	**21 13 49.8**	**0.0**
	0.6nm,0.5s						
STKA	**Stephens Creek**	**38.05**	**159**	P	P	**21 13 49.9**	**+0.1**
	4.0nm,0.6s,baz=335,slow=9.5,SNR=7.1						
TAPN	**Taplejung**	**44.03**	**306**	*eP*	P	**21 14 39.6**	**+0.1**
ODAN	**Odare**	**44.09**	**306**	*eP*	P	**21 14 39.4**	**-0.4**
	11nm,0.7s						
RAMN	**Ramite**	**44.77**	**305**	*eP*	P	**21 14 45.5**	**+0.2**
	7.6nm,0.7s						
JIRN	**Jiri**	**45.39**	**306**	*eP*	P	**21 14 50.5**	**+0.1**
GUN	**Gumba**	**45.74**	**306**	*eP*	P	**21 14 52.9**	**-0.2**
	14nm,0.7s						
KKN	**Kakani**	**46.18**	**306**	*eP*	P	**21 14 56.2**	**-0.2**
ULN	**Ulaanbaatar**	**47.20**	**342**	*eP*	P	**21 15 03.2**	**-0.8**
	9.0nm,1.3s						
SONM	**Songino Array**	**47.38**	**341**	P	P	**21 15 05.7**	**+0.3**
SONM				PcP	PcP	**21 16 36.7**	**+1.3**
SONM	**Songino Array**	**47.38**	**341**	P	P	**21 15 05.7**	**+0.3**
	1.5nm,0.6s,baz=159,slow=7.6,SNR=8.8						
SONM				PcP	PcP	**21 16 36.7**	**+1.3**
	0.9nm,0.7s,baz=126,slow=2.5,SNR=3.1						
KOLN	**Koldanda**	**47.54**	**305**	*eP*	P	**21 15 07.2**	**+0.2**
	14nm,0.5s						
DANN	**Dangsing**	**47.63**	**306**	*eP*	P	**21 15 07.4**	**-0.4**
	18nm,0.5s						
MK31	**Makanchi Array**	**57.61**	**325**	*eP*	P	**21 16 20.4**	**-0.6**
MKAR	**Makanchi Array**	**57.61**	**325**	P	P	**21 16 20.4**	**-0.5**
MKAR	**Makanchi Array**	**57.61**	**325**	P	P	**21 16 20.4**	**-0.5**
	2.6nm,0.5s,baz=118,slow=6.4,SNR=16						
AAK	**Ala-Archa**	**60.40**	**318**	*eP*	P	**21 16 40.3**	**-0.3**
AAK	**Ala-Archa**	**60.40**	**318**	P	P	**21 16 40.9**	**+0.3**
	1.2nm,0.8s,baz=158,slow=12,SNR=3.1						
ZALV	**Zalesovo Beam**	**60.66**	**333**	P	P	**21 16 41.0**	**-0.8**
ZALV	**Zalesovo Beam**	**60.66**	**333**	P	P	**21 16 41.0**	**-0.8**
	0.8nm,0.4s,baz=131,slow=7.2,SNR=5.0						
KURBB	**Kurch

s-maj=20.2km s-min=11.4km az=74.0
BJI ***11*** *21:10:37.4, 3˚.57N× 126˚.55E, h28km, mB5.4/10, mb4.9/38, Ms4.9/5, Ms7 4.7/5*
ISCJB ***11*** *21:10:37.5±0.2, 3˚.74N±0˚.03× 126˚.80E±0˚.05, h27km, mb4.9/81, MS4.8/1, Error ellipse: s-maj=7.2km s-min=4.5km az=163.0*
MOS ***11*** *21:10:38.4±1.0, 3˚.74N× 126˚.76E, h33km, mb5.2/30, Error ellipse: s-maj=13.0km s-min=5.9km az=115.5*
NEIC ***11*** *21:10:40.3±0.2, 3˚.73N× 126˚.79E, h35km, mb5.0/24, Error ellipse: s-maj=6.4km s-min=4.8km az=84.0*
DJA ***11*** *21:10:47, 3˚.50N× 126˚.95E, h50km, mb4.9/8*

ISC 11 21:10:39.9±0.6, 3˚.83N±0˚.03× 126˚.83E±0˚.06, h28km±3km, n241, σ1°21/237, mb4.9/80, 17C-12D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.92**	**320**	*eP*	**Pb**	**21 11 29.0**	**-2.5**
TNTI	**Ternate**	**3.08**	**170**	P	**Pn**	**21 11 29.0**	**+2.3**
MNI	**Manado**	**3.09**	**220**	P	**Pb**	**21 11 31.7**	**-2.5**
MATI	**Mati**	**3.15**	**350**	*eP*	**Pb**	**21 11 34.5**	**-0.8**
DAV	**Davao City (W)**	**3.45**	**339**	Pn	**Pb**	**21 11 38.4**	**-2.0**
DAV				Sn	**Sb**	**21 12 21.8**	**-0.2**
DAV	**Davao City (W)**	**3.45**	**339**	P	Pb	21 11 45.6	+5.2
DAV	**Davao City (W)**	**3.45**	**339**	Pn	**Pb**	**21 11 38.4**	**-2.0**
	30nm,0.3s,baz=74,slow=20,SNR=3.8						
DAV				Sn	**Sb**	**21 12 21.7**	**-0.2**
	64nm,0.3s,baz=270,slow=19,SNR=2.8						
KCP	**Kidapawan**	**3.60**	**331**	*eP*	**Pb**	**21 11 40.5**	**-2.5**
KCP				*i* S	Sb	21 12 36.5	+10
CTBH	**Cotabato--PC H**	**4.24**	**323**	*iP*	Pn	21 11 46.6	+4.0
KMSI	**Cibinong**	**4.31**	**221**	P	**Pb**	**21 11 57.3**	**+2.4**
BUKP	**Musuan**	**4.39**	**336**	*eP*	Pn	21 11 49.2	+4.4
LBMI	**Labuha**	**4.49**	**171**	P	Pn	21 11 50.5	+4.4
CGP	**Cagayan de Oro**	**5.06**	**335**	*eP*	Pb	21 12 04.3	-3.5
CGP				*i* S	**Sb**	**21 13 10.2**	**+2.0**
PAGZ	**Pagadian**	**5.26**	**319**	*eP*	Pn	21 12 00.8	+4.1
MRSI	**Marisa**	**5.91**	**236**	P	Pn	21 12 09.8	+4.2
	297nm,0.7s,3μm1.0nm						
SWI	**Sorong**	**6.43**	**136**	P	**Pn**	**21 12 12.8**	**+0.1**
	128nm,0.7s,2μm0.5nm						
MSLP	**Maasin**	**6.56**	**343**	*eP*	Pn	21 12 21.4	+6.8
FAKI	**Fak Fak**	**8.62**	**141**	P	Pn	21 12 47.0	+4.2
	54nm,0.9s,0.2nm						
KDI	**Kendari**	**8.80**	**209**	P	Pn	21 12 54.9	+10
TSM	**Tawau**	**8.95**	**273**	P	Pn	21 12 53.8	+6.4
SDKM	**Sandakan**	**9.77**	**281**	P	Pn	21 13 05.7	+7.1
TTSI	**Tana Toraja**	**9.78**	**226**	P	Pn	21 13 06.7	+7.9
	81nm,1.0s,1μm						
KDM	**Kudat**	**10.41**	**288**	P	Pn	21 13 15.0	+7.6
BAKI	**Biak**	**10.53**	**118**	P	Pn	21 13 16.9	+7.9
	70nm,1.1s						
KKM	**Kota Kinabalu**	**10.80**	**282**	*eP*	**Pn**	**21 13 13.2**	**+0.3**
	17nm,0.6s						
KKM	**Kota Kinabalu**	**10.80**	**282**	P	Pn	21 13 18.7	+5.8
KKM	**Kota Kinabalu**	**10.80**	**282**	P	Pn	21 13 20.3	+7.4
	38nm,1.2s						
KAPI	**Kappang**	**11.28**	**219**	Pn	**Pn**	**21 13 19.6**	**+0.3**
KAPI	**Kappang**	**11.28**	**219**	Pn	**Pn**	**21 13 19.6**	**+0.3**
	0.5nm,0.3s,baz=80,slow=17,SNR=3.0						
SBUM	**Sibu**	**14.65**	**265**	P	**P**	**21 14 10.5**	**-0.9**
SBUM	**Sibu**	**14.65**	**265**	P	**P**	**21 14 11.2**	**-0.2**
	32nm,1.8s						
KSM	**Kuching**	**16.67**	**262**	*ePn*	**Pn**	**21 14 30.3**	**-1.4**
	20nm,0.8s						
KSM	**Kuching**	**16.67**	**262**	P	**P**	**21 14 35.5**	**+1.7**
KSM	**Kuching**	**16.67**	**262**	P	**P**	**21 14 36.2**	**+2.4**
	31nm,0.9s						
MTN	**Manton Dam**	**17.11**	**166**	*eP*	**Pn**	**21 14 33.8**	**-3.3**
GUMO	**Guam**	**20.28**	**60**	P	Pn	21 15 16.1	+0.5
GUMO	**Guam**	**20.28**	**60**	P	Pn	21 15 16.1	+0.5
	39nm,0.6s,baz=201,slow=18,SNR=2.9						
FITZ	**Fitzroy Crossi**	**21.82**	**183**	P	**P**	**21 15 28.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**21.82**	**183**	*eP*	**P**	**21 15 28.7**	**-1.4**
	20nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.82**	**183**	P	**P**	**21 15 28.8**	**-1.3**
	8.9nm,0.5s,baz=20,slow=9.6,SNR=21						
LEM	**Lembang**	**21.91**	**241**	P	P	21 15 40.7	+9.5
	56nm,0.8s						
JOW	**Kunigami**	**22.92**	**3**	P	**P**	**21 15 43.1**	**+1.4**
JOW	**Kunigami**	**22.92**	**3**	P	**P**	**21 15 43.1**	**+1.4**
	15nm,0.6s,baz=186,slow=11,SNR=6.5						
MYKOM	**Kota Tinggi**	**23.04**	**266**	P	**P**	**21 15 43.9**	**+0.8**
CGJI	**Cibinong**	**23.51**	**244**	P	**P**	**21 15 51.8**	**+4.0**
KGM	**Kluang**	**23.55**	**266**	P	**P**	**21 15 49.9**	**+1.7**
WRAB	**Tennant Creek**	**24.74**	**163**	*eP*	**P**	**21 15 57.4**	**-1.8**
WRAB				*eS*	**S**	**21 20 19.6**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,53nm,0.8s						
WRAB	**Tennant Creek**	**24.74**	**163**	*eP*	**P**	**21 15 57.4**	**-1.8**
	comp=Z,53nm,0.8s						
WRAB				*eS*	**S**	**21 20 19.6**	**-0.2**
WRA	**Warramunga Arr**	**24.75**	**163**	P	**P**	**21 15 57.6**	**-1.6**
WRA				S	**S**	**21 20 21.3**	**+1.4**
WRA	**Warramunga Arr**	**24.75**	**163**	P	**P**	**21 15 57.6**	**-1.6**
	comp=Z,41nm,0.7s,baz=343,slow=10,SNR=40						
WRA				S	**S**	**21 20 21.3**	**+1.4**
IPM	**Ipoh**	**25.75**	**272**	*eP*	**P**	**21 16 07.0**	**-1.5**
IPM	**Ipoh**	**25.75**	**272**	P	**P**	**21 16 08.4**	**-0.1**
MBWA	**Marble Bar**	**25.79**	**195**	*eP*	**P**	**21 16 08.3**	**-0.3**
	comp=Z,10nm,0.6s						
PSI	**Prapat**	**27.88**	**269**	P	**P**	**21 16 27.4**	**-0.3**
PSI	**Prapat**	**27.88**	**269**	P	**P**	**21 16 27.4**	**-0.3**
	comp=Z,7.0nm,0.8s,baz=121,slow=5.9,SNR=3.4						
AS31	**Alice Springs**	**28.18**	**166**	*eP*	**P**	**21 16 28.7**	**-1.6**
ASAR	**Alice Springs**	**28.18**	**166**	P	**P**	**21 16 28.0**	**-2.2**
ASAR				S	**S**	**21 21 12.9**	**-1.3**
ASAR	**Alice Springs**	**28.18**	**166**	P	**P**	**21 16 28.0**	**-2.2**
	comp=Z,2.2nm,0.5s,baz=345,slow=7.1,SNR=18						
ASAR				S	**S**	**21 21 12.9**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=352,slow=20,SNR=3.1						
WHN	**Wuhan**	**29.07**	**337**	P	**P**	**21 16 39.3**	**+1.3**
JNU	**Nakatsue**	**29.39**	**7**	P	**P**	**21 16 40.4**	**-0.5**
JNU	**Nakatsue**	**29.39**	**7**	P	**P**	**21 16 40.4**	**-0.5**
	comp=Z,9.1nm,0.8s,baz=181,slow=4.3,SNR=4.3						
CM31	**Chiang Mai Arr**	**30.91**	**300**	*eP*	**P**	**21 16 54.2**	**-0.2**
	comp=Z,6.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**30.91**	**300**	P	**P**	**21 16 54.3**	**-0.2**
CMAR				ScP	**ScP**	**21 23 33.8**	**+1.9**
CMAR	**Chiang Mai Arr**	**30.91**	**300**	P	**P**	**21 16 54.3**	**-0.2**
	comp=Z,6.1nm,0.8s,baz=114,slow=7.1,SNR=39						
CMAR				ScP	**ScP**	**21 23 33.8**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=130,slow=2.3,SNR=3.3						
ENH	**Enshi**	**30.99**	**330**	*eP*	**P**	**21 16 55.3**	**+0.2**
	comp=Z,39nm,0.8s						
CHTO	**Chiang Mai**	**31.06**	**301**	*eP*	**P**	**21 16 55.1**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,12nm,0.8s						
CHTO	**Chiang Mai**	**31.06**	**301**	*eP*	**P**	**21 16 55.1**	**-0.7**
	comp=Z,12nm,0.8s						
KMI	**Kunming**	**31.38**	**315**	P	**P**	**21 16 59.6**	**+0.8**
KMI				pP	**pP**	**21 17 05.9**	**-1.2**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KSAR	**Wonju Array Be**	**33.47**	**2**	P	**P**	**21 17 16.8**	**+0.2**
KSAR				PcP	**PcP**	**21 19 58.2**	**+0.7**
KSRS	**Korea Array**	**33.48**	**2**	P	**P**	**21 17 16.8**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=182,slow=10,SNR=13						
KSRS				PcP	**PcP**	**21 19 58.2**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=183,slow=3.0,SNR=8.8						
MJAR	**Matsushiro Arr**	**34.20**	**16**	P	**P**	**21 17 22.0**	**-1.1**
MJAR				PcP	**PcP**	**21 20 01.4**	**+1.8**
MJAR	**Matsushiro Arr**	**34.20**	**16**	P	**P**	**21 17 22.0**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=185,slow=10,SNR=3.3						
MJAR				PcP	**PcP**	**21 20 01.4**	**+1.8**
	comp=Z,1.6nm,0.9s,baz=194,slow=3.8,SNR=2.6						
XAN	**Xi'an**	**34.38**	**333**	P	**P**	**21 17 24.4**	**-0.3**
XAN				pP	**pP**	**21 17 35.1**	**+2.1**
XAN				pmax	pmax		
	comp=Z,11nm,0.7s						
FORT	**Forrest**	**34.43**	**178**	*eP*	**P**	**21 17 24.1**	**-1.0**
	comp=Z,37nm,0.7s						
DL2	**Dalian**	**35.24**	**353**	P	P	21 17 36.5	+4.6
DL2				pmax	pmax		
	comp=Z,30nm,0.9s						
KLBR	**Kellerberrin**	**36.27**	**193**	*eP*	**P**	**21 17 39.5**	**-1.4**
	comp=Z,48nm,1.3s						
BJT	**Baijiatuau**	**37.30**	**346**	*eP*	**P**	**21 17 48.5**	**-1.1**
	comp=Z,88nm,0.7s						
BJI	**Beijing**	**37.31**	**346**	P	**P**	**21 17 51.0**	**+1.3**
BJI				pmax	pmax		
	comp=Z,130nm,0.7s						
NWAO	**Narrogin (SRO)**	**37.67**	**193**	P	**P**	**21 17 53.8**	**+1.0**
NWAO	**Narrogin (SRO)**	**37.67**	**193**	P	**P**	**21 17 53.8**	**+1.0**
	comp=Z,3.0nm,0.4s,baz=22,slow=11,SNR=7.6						
STKA	**Stephens Creek**	**38.19**	**159**	P	**P**	**21 17 55.6**	**-1.6**
STKA	**Stephens Creek**	**38.19**	**159**	*eP*	**P**	**21 17 55.4**	**-1.8**
	comp=Z,13nm,0.6s						
STKA	**Stephens Creek**	**38.19**	**159**	P	**P**	**21 17 55.6**	**-1.6**
	comp=Z,11nm,0.6s,baz=332,slow=10,SNR=15						
LZH	**Lanzhou**	**38.47**	**329**	*eP*	**P**	**21 18 00.6**	**+0.9**
LZH				pP	**pP**	**21 18 06.7**	**-1.4**
LZH				sP	**sP**	**21 18 10.3**	**-1.2**
LZH				pmax	pmax		
	comp=Z,35nm,1.0s						
LZH				pmax	pmax		
	comp=Z,230nm,7.5s						
CN2	**Changchun**	**39.83**	**358**	*eP*	**P**	**21 18 12.1**	**+1.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
USRK	**Ussuriysk Arra**	**40.46**	**6**	P	**P**	**21 18 16.9**	**+0.9**
	comp=Z,6.3nm,0.7s,baz=190,slow=8.0,SNR=18						
MDJ	**Mudanjiang**	**40.70**	**3**	P	**P**	**21 18 19.1**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,11nm,1.1s						
MDJ	**Mudanjiang**	**40.70**	**3**	*eP*	**P**	**21 18 17.8**	**-0.2**
	comp=Z,8.7nm,0.7s						
ARMA	**Armidale**	**41.49**	**147**	*eP*	**P**	**21 18 25.8**	**+1.0**
LSA	**Lhasa**	**42.45**	**311**	P	**P**	**21 18 33.7**	**+0.6**
LSA				pmax	pmax		
	comp=Z,20nm,1.0s						
LSA	**Lhasa**	**42.45**	**311**	*eP*	**P**	**21 18 32.7**	**-0.4**
LSA				pmax	pmax		
	comp=Z,30nm,0.6s						
LSA	**Lhasa**	**42.45**	**311**	*eP*	**P**	**21 18 32.7**	**-0.4**
	comp=Z,30nm,0.6s						
ASAJ	**Asahikawa**	**42.47**	**17**	P	**P**	**21 18 34.5**	**+2.0**
ASAJ	**Asahikawa**	**42.47**	**17**	P	**P**	**21 18 34.5**	**+2.0**
	comp=Z,13nm,0.8s,baz=252,slow=12,SNR=5.6						
GTA	**Gaotai**	**43.06**	**329**	*eP*	**P**	**21 18 38.0**	**+0.4**
GTA				pP	**pP**	**21 18 46.9**	**+0.9**
GTA				sP	**sP**	**21 18 51.0**	**+1.6**
GTA				PP	**PP**	**21 20 19.8**	**+1.9**
GTA				S	**S**	**21 25 01.3**	**-0.6**
GTA				pmax	pmax		
	comp=Z,13nm,0.6s						
GTA				LR	LR		
	comp=N,530nm,18.1s						
GTA				LR	LR		
	comp=E,770nm,18.5s						
GTA				LR	LR		
	comp=Z,1μm,18.5s						
TAPN	**Taplejung**	**44.04**	**306**	*eP*	**P**	**21 18 45.1**	**-0.7**
	comp=Z,31nm,0.7s						
ODAN	**Odare**	**44.09**	**305**	*eP*	**P**	**21 18 45.8**	**-0.4**
	comp=Z,48nm,0.7s						
RAMN	**Ramite**	**44.77**	**305**	*eP*	**P**	**21 18 51.2**	**-0.5**
	comp=Z,31nm,0.8s						
JIRN	**Jiri**	**45.40**	**306**	*eP*	**P**	**21 18 56.3**	**-0.4**
	comp=Z,7.2nm,0.7s						
KLR	**Kul'dur**	**45.43**	**5**	*eP*	**P**	**21 18 54.0**	**-2.2**
HIA	**Hailar**	**45.68**	**354**	*eP*	**P**	**21 18 58.8**	**+0.6**
	comp=Z,20nm,0.8s						
GUN	**Gumba**	**45.75**	**306**	*eP*	**P**	**21 18 58.6**	**-0.9**
	comp=Z,62nm,0.7s						
PKI	**Pulchoki**	**45.99**	**305**	*eP*	**P**	**21 19 00.4**	**-1.0**
KKN	**Kakani**	**46.19**	**305**	*eP*	**P**	**21 19 02.1**	**-0.7**
	comp=Z,19nm,0.8s						
DMN	**Daman**	**46.26**	**305**	*eP*	**P**	**21 19 02.1**	**-1.3**
	comp=Z,25nm,0.8s						
DZM	**Mont Dzumac**	**46.51**	**125**	P	**P**	**21 19 03.8**	**-1.5**
DZM	**Mont Dzumac**	**46.51**	**125**	P	**P**	**21 19 03.8**	**-1.5**
	comp=Z,5.0nm,0.8s,baz=235,slow=12,SNR=3.9						
GKN	**Gorkha**	**46.79**	**305**	*eP*	**P**	**21 19 06.1**	**-1.4**
	comp=Z,24nm,0.9s						
ULN	**Ulaanbaatar**	**47.06**	**342**	*eP*	**P**	**21 19 09.7**	**+0.4**
	comp=Z,17nm,0.9s						
ULN				*e*PcP	**PcP**	**21 20 40.5**	**-0.5**
SONM	**Songino Array**	**47.24**	**341**	P	**P**	**21 19 11.4**	**+0.8**
SONM				PcP	**PcP**	**21 20 42.7**	**+1.1**
SONM	**Songino Array**	**47.24**	**341**	P	**P**	**21 19 11.4**	**+0.8**
	comp=Z,6.5nm,0.6s,baz=156,slow=8.5,SNR=40						
SONM				PcP	**PcP**	**21 20 42.7**	**+1.1**
	comp=Z,3.5nm,0.8s,baz=150,slow=3.4,SNR=4.6						
KOLN	**Koldanda**	**47.55**	**305**	*eP*	**P**	**21 19 12.7**	**-0.8**
	comp=Z,55nm,0.6s						
DANN	**Dangsing**	**47.64**	**305**	*eP*	**P**	**21 19 13.2**	**-1.1**
	comp=Z,66nm,0.6s						
HYB	**Hyderabad**	**49.18**	**290**	*i* P	**P**	**21 19 26.5**	**+0.6**
CIT	**Chita**	**49.29**	**349**	*eP*	**P**	**21 19 28.4**	**+2.1**
CIT				pmax	pmax		
	comp=Z,98nm,2.1s						
ZAK	**Zakamensk**	**50.47**	**341**	*eP*	**P**	**21 19 35.4**	**+0.1**
ZAK				*e*		21 20 54.0	
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TLY	**Talaya**	**51.47**	**342**	*eP*	**P**	**21 19 43.4**	**+0.7**
TLY				pmax	pmax		
	comp=Z,13nm,0.8s						
TLY	**Talaya**	**51.47**	**342**	*eP*	**P**	**21 19 43.4**	**+0.7**
	comp=Z,13nm,0.8s						
TLY	**Talaya**	**51.47**	**342**	P	**P**	**21 19 44.7**	**+2.0**
	comp=Z,115nm,0.7s,SNR=5.8						
IRK	**Irkutsk**	**51.77**	**343**	*eP*	**P**	**21 19 45.9**	**+1.0**
IRK				pmax	pmax		
	comp=Z,47nm,1.6s						
MOY	**Mondy**	**52.33**	**340**	*eP*	**P**	**21 19 50.6**	**+1.4**
MOY				pmax	pmax		
	comp=Z,44nm,2.5s						
BOD	**Bodaibo**	**54.78**	**352**	*eP*	**P**	**21 20 07.6**	**+0.6**
BOD				pmax	pmax		
	comp=Z,11nm,1.0s						
PETK	**Petropavlovsk-**	**55.30**	**22**	P	**P**	**21 20 11.7**	**+0.9**
PETK	**Petropavlovsk-**	**55.30**	**22**	P	**P**	**21 20 11.7**	**+0.9**
PETK	**Petropavlovsk-**	**55.30**	**22**	P	**P**	**21 20 11.7**	**+0.9**
	comp=Z,5.4nm,0.8s,baz=182,slow=7.3,SNR=4.8						
MK31	**Makanchi Array**	**57.53**	**325**	*eP*	**P**	**21 20 26.8**	**-0.1**
MK31	**Makanchi Array**	**57.53**	**325**	*eP*	**P**	**21 20 26.8**	**-0.1**
MKAR	**Makanchi Array**	**57.53**	**325**	P	**P**	**21 20 26.5**	**-0.4**
MKAR	**Makanchi Array**	**57.53**	**325**	P	**P**	**21 20 26.5**	**-0.4**
MKAR	**Makanchi Array**	**57.53**	**325**	P	**P**	**21 20 26.5**	**-0.4**
	comp=Z,8.8nm,0.5s,baz=121,slow=8.0,SNR=55						
YAK	**Yakutsk**	**58.11**	**2**	*eP*	**P**	**21 20 31.1**	**+0.6**
YAK				pmax	pmax		
	comp=Z,39nm,1.0s						
YAK				pmax	pmax		
	comp=N,11nm,1.1s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.1s						
YAK	**Yakutsk**	**58.11**	**2**	*eP*	**P**	**21 20 31.5**	**+1.0**
	comp=E,37nm,0.8s						
KZA	**Kyzart**	**59.61**	**317**	P	**P**	**21 20 43.5**	**+1.6**
	SNR=6.2						
TKM2	**Tokmak 2**	**59.74**	**318**	*eP*	**P**	**21 20 43.0**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,12nm,0.8s						
TKM2	**Tokmak 2**	**59.74**	**318**	*eP*	**P**	**21 20 43.0**	**+0.4**
	comp=Z,12nm,0.8s						
TKM2	**Tokmak 2**	**59.74**	**318**	P	**P**	**21 20 43.9**	**+1.4**
	SNR=7.6						
KBK	**Karagaybulak**	**60.06**	**318**	P	**P**	**21 20 46.3**	**+1.6**
	SNR=7.0						
CHMS	**Chumysh**	**60.33**	**318**	P	**P**	**21 20 47.4**	**+0.9**
	SNR=5.5						
AAK	**Ala-Archa**	**60.35**	**318**	P	**P**	**21 20 45.8**	**-0.9**
AAK	**Ala-Archa**	**60.35**	**318**	P	**P**	**21 20 45.8**	**-0.9**
AAK	**Ala-Archa**	**60.35**	**318**	P	**P**	**21 20 48.2**	**+1.5**
	SNR=5.7						
AAK	**Ala-Archa**	**60.35**	**318**	P	**P**	**21 20 45.8**	**-0.9**
	comp=Z,5.5nm,0.8s,baz=126,slow=6.2,SNR=16						
ZAA0	**Zalesovo Array**	**60.55**	**333**	*eP*	**P**	**21 20 46.6**	**-1.0**
ZALV	**Zalesovo Beam**	**60.55**	**333**	P	**P**	**21 20 47.1**	**-0.5**
ZALV	**Zalesovo Beam**	**60.55**	**333**	P	**P**	**21 20 47.1**	**-0.5**
ZALV	**Zalesovo Beam**	**60.55**	**333**	P	**P**	**21 20 47.1**	**-0.5**
	comp=Z,9.9nm,0.8s,baz=133,slow=6.6,SNR=15						
USP	**Ospenovka**	**60.61**	**318**	P	**P**	**21 20 49.5**	**+1.1**
	SNR=21						
AML	**Almayashu**	**60.69**	**317**	P	**P**	**21 20 50.9**	**+1.6**
	SNR=16						
EKS2	**Erkin-Say**	**60.84**	**318**	*eP*	**P**	**21 20 50.7**	**+0.7**
EKS2				pmax	pmax		
	comp=Z,14nm,0.8s						
EKS2	**Erkin-Say**	**60.84**	**318**	*eP*	**P**	**21 20 50.7**	**+0.7**
	comp=Z,14nm,0.8s						
EKS2	**Erkin-Say**	**60.84**	**318**	P	**P**	**21 20 51.6**	**+1.6**
	SNR=15						
KBL	**Kabul**	**61.54**	**307**	*eP*	**P**	**21 20 53.9**	**-1.1**
KBL				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KBL	**Kabul**	**61.54**	**307**	*eP*	**P**	**21 20 53.9**	**-1.1**
	comp=Z,10.0nm,0.8s						
KURBB	**Kurchatov Arra**	**61.71**	**327**	P	**P**	**21 20 54.9**	**-0.6**
	comp=Z,14nm,0.6s,baz=129,slow=6.4,SNR=49						
KURK	**Kurchatov**	**61.71**	**327**	*eP*	**P**	**21 20 55.9**	**+0.4**
KURK	**Kurchatov**	**61.71**	**327**	P	**P**	**21 20 54.9**	**-0.6**
NVS	**Novosibirsk**	**61.83**	**333**	*eP*	**P**	**21 20 55.8**	**-0.4**
NVS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
NVS				pmax	pmax		
	comp=N,4.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.7s						
SEY	**Seymchan**	**61.91**	**13**	*eP*	**P**	**21 20 59.4**	**+2.7**
KK31	**Karatay Array**	**63.23**	**317**	*i* P	**P**	**21 21 06.2**	**+0.3**
KK31				pmax	pmax		
	comp=Z,12nm,0.7s						
KKAR	**Karatay Array**	**63.23**	**317**	*eP*	**P**	**21 21 06.3**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,13nm,0.8s						
KKAR	**Karatay Array**	**63.23**	**317**	*eP*	**P**	**21 21 06.3**	**+0.4**
	comp=Z,13nm,0.8s						
BVAR	**Borovoye Array**	**67.29**	**327**	P	**P**	**21 21 32.3**	**+0.3**
BVAR	**Borovoye Array**	**67.29**	**327**	P	**P**	**21 21 32.3**	**+0.3**
BVAR	**Borovoye Array**	**67.29**	**327**	P	**P**	**21 21 32.3**	**+0.3**
	comp=Z,11nm,0.9s,baz=107,slow=5.3,SNR=29						
BRVK	**Borovoye**	**67.36**	**327**	*eP*	**P**	**21 21 33.0**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,15nm,1.0s						
BRVK	**Borovoye**	**67.36**	**327**	*eP*	**P**	**21 21 31.7**	**-0.8**
	comp=Z,20nm,1.1s						
BILL	**Bilibino**	**69.43**	**15**	*eP*	**P**	**21 21 46.9**	**+1.8**
BILL				*e*		21 22 04.3	
BILL				*e*		21 22 08.4	
BILL				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AB31	**Akbulak array**	**72.14**	**321**	*i* P	**P**	**21 22 01.5**	**-0.4**
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ABKAR	**Akbulak array**	**72.14**	**321**	*eP*	**P**	**21 22 01.0**	**-0.9**
	comp=Z,5.6nm,0.7s						
AKTO	**Aktyubinsk**	**73.64**	**322**	*i* P	**P**	**21 22 11.0**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKTO	**Aktyubinsk**	**73.64**	**322**	P	**P**	**21 22 11.3**	**+0.4**
AKTO	**Aktyubinsk**	**73.64**	**322**	P	**P**	**21 22 11.3**	**+0.4**
	comp=Z,10nm,0.8s,baz=102,slow=5.4,SNR=35						
SVE	**Sverdlovsk**	**73.93**	**328**	*iP*	**P**	**21 22 13.2**	**+0.8**
SVE				pmax	pmax		
	comp=Z,15nm,0.7s						
ARU	**Arti**	**74.91**	**328**	*diP*	**P**	**21 22 17.8**	**-0.3**
ARU						21 25 01.6	
ARU				S	**S**	**21 31 52.0**	**-1.5**
ARU				pmax	pmax		
	comp=Z,17nm,1.0s						
ARU	**Arti**	**74.91**	**328**	*eP*	**P**	**21 22 17.3**	**-0.7**
	comp=Z,12nm,0.6s						
ARU	**Arti**	**74.91**	**328**	P	**P**	**21 22 17.4**	**-0.7**
	comp=Z,124nm,0.5s,SNR=11						
RDF	**Al-Radifah**	**78.78**	**299**	*eP*	**P**	**21 22 38.9**	**-1.6**
RDF				AMb	AMB	21 22 40.3	
	comp=Z,44nm,1.4s						
MIB	**Mutribah**	**78.99**	**299**	*eP*	**P**	**21 22 40.2**	**-1.4**
MIB				AMb	AMB	21 22 44.1	
	comp=Z,20nm,0.7s						
NAY	**Al-Naaiem**	**79.06**	**299**	*eP*	**P**	**21 22 40.6**	**-1.5**
NAY				AMb	AMB	21 22 49.3	
	comp=Z,9.9nm,1.0s						
BHD	**Baghdad**	**81.60**	**303**	*ex*	**P**	**21 22 54.4**	**-1.2**
BHD				*ex*	x	21 33 05.3	
ZEI	**Tsey**	**82.22**	**312**	*eP*	**P**	**21 22 59.1**	**+0.1**
ZEI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
KIV	**Kislovodsk**	**83.14**	**314**	*eP*	**P**	**21 23 00.5**	**-3.1**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.1s						
COLD	**Coldfoot**	**83.76**	**23**	*eP*	**P**	**21 23 07.4**	**+1.2**
	comp=Z,8.6nm,1.0s						
VRHR	**Novokhopersk**	**84.03**	**321**	*eP*	**P**	**21 23 07.9**	**+0.1**
VRHR				pmax	pmax		
	comp=Z,20nm,0.7s						
VRHR				pmax	pmax		
	comp=N,10.0nm,1.5s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.7s						
ILAR	**Eielson

comp=Z,0.3nm,0.4s,baz=331,slow=5.2,SNR=2.9
TORD Torodi Ar. Bea 122.98 288 PKP PKPdf 21 29 34.2 -0.5
TORD Torodi Ar. Bea 122.98 288 PKP PKPdf 21 29 34.2 -0.5
comp=Z,2.0nm,0.7s,baz=52,slow=1.9,SNR=15
PLCA Paso Flores 140.06 159 PKP PKPdf 21 30 07.7 +1.4
PLCA Paso Flores 140.06 159 PKP PKPdf 21 30 07.7 +1.4
comp=Z,0.7nm,0.7s,baz=252,slow=3.2,SNR=2.5

IDC ***11*** *21:11:28.0±0.7, 5°.43S×151°.83E, h0km, mb4.5/15, mb1 4.6/15, mb1mx4.5/22, mbtmp4.5/15, Error ellipse: s-maj=23.8km s-min=18.1km az=89.0*
ISCJB ***11*** *21:11:32.9±0.5, 5°.48S±0°.06×151°.76E±0°.09, h45km, mb4.4/16, Error ellipse: s-maj=13.6km s-min=8.1km az=22.8*
NEIC ***11*** *21:11:34.2±1.9, 5°.39S×151°.80E, h42km±17km, mb4.3/8, Error ellipse: s-maj=14.4km s-min=9.4km az=58.0*
ISC 11 21:11:34.4±0.6, 5°.46S±0°.08×151°.8E±0°.1, h45km, n55, σ0s80/58, mb4.4/16, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.06**	**229**	*e*Pn		**Pn**	**21 13 01.1**	**-0.4**
	185nm,0.9s							
PMG				Sn		**Sn**	**21 14 08.6**	**-1.0**
PMG				*e*Sn		Sn	21 14 09.4	-0.2
PMG	**Port Moresby**	**6.06**	**229**	Pn		**Pn**	**21 13 03.4**	**+1.9**
	9.8nm,0.3s,baz=42,slow=8.1,SNR=56							
PMG				Sn		**Sn**	**21 14 08.6**	**-1.0**
	16nm,0.3s,baz=320,slow=22,SNR=11							
CTA	**Charters Tower**	**15.51**	**200**	Pn		**P**	**21 15 13.3**	**-0.7**
CTA	**Charters Tower**	**15.51**	**200**	*e*P		**P**	**21 15 13.2**	**-0.7**
	3.5nm,0.8s							
CTA	**Charters Tower**	**15.51**	**200**	Pn		**P**	**21 15 13.3**	**-0.7**
	0.3nm,0.3s,baz=29,slow=13,SNR=4.9							
CTAO	**Charters Tower**	**15.51**	**200**	*e*P		**Pn**	**21 15 10.0**	**-0.2**
	4.4nm,0.7s							
EIDS	**Eidsvold**	**19.81**	**182**	*e*P		**P**	**21 16 01.5**	**+0.2**
	12nm,0.6s							
MTN	**Manton Dam**	**21.69**	**249**	*e*P		**P**	**21 16 24.3**	**+2.7**
DZM	**Mont Dzumac**	**21.74**	**141**	*e*P		**P**	**21 16 22.5**	**+0.2**
	4.7nm,0.6s							
DZM	**Mont Dzumac**	**21.74**	**141**	P		**P**	**21 16 22.3**	**0.0**
	5.5nm,0.6s,baz=195,slow=9.1,SNR=14							
ASAR	**Alice Springs**	**25.01**	**222**	P		**P**	**21 16 55.7**	**+1.4**
ASAR	**Alice Springs**	**25.01**	**222**	P		**P**	**21 16 55.7**	**+1.4**
	9.8nm,0.7s,baz=58,slow=8.5,SNR=21							
STKA	**Stephens Creek**	**27.97**	**199**	*e*P		**P**	**21 17 21.3**	**+0.4**
	1.2nm,0.8s							
STKA	**Stephens Creek**	**27.97**	**199**	P		**P**	**21 17 19.6**	**-1.2**
	2.7nm,0.7s,baz=17,slow=10,SNR=5.5							
FITZ	**Fitzroy Crossi**	**28.49**	**242**	*e*P		**P**	**21 17 25.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**28.49**	**242**	P		**P**	**21 17 24.9**	**-0.8**
	9.1nm,0.3s,baz=57,slow=14,SNR=9.8							
JOW	**Kunigami**	**39.37**	**326**	*e*P		**P**	**21 18 58.2**	**-1.6**
	3.8nm,0.7s							
JOW	**Kunigami**	**39.37**	**326**	P		**P**	**21 19 00.9**	**+1.1**
	8.3nm,0.6s,baz=125,slow=6.1,SNR=4.3							
YHNB	**Yeheng**	**42.13**	**317**	*e*P		**P**	**21 19 23.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**57.28**	**296**	P		**P**	**21 21 17.1**	**-1.0**
CMAR	**Chiang Mai Arr**	**57.28**	**296**	P		**P**	**21 21 17.1**	**-1.0**
	0.8nm,0.4s,baz=118,slow=6.2,SNR=6.5							
CHTO	**Chiang Mai**	**57.40**	**296**	*e*P		**P**	**21 21 18.7**	**-0.1**
ULN	**Ulaanbaatar**	**66.05**	**329**	*e*P		**P**	**21 22 16.1**	**-0.6**
SONM	**Songino Array**	**66.37**	**328**	P		**P**	**21 22 19.6**	**+0.8**
SONM	**Songino Array**	**66.37**	**328**	P		**P**	**21 22 19.6**	**+0.8**
	3.8nm,0.6s,baz=147,slow=5.4,SNR=12							
MKAR	**Makanchi Array**	**80.18**	**319**	P		**P**	**21 23 40.1**	**0.0**
MKAR	**Makanchi Array**	**80.18**	**319**	P		**P**	**21 23 40.1**	**0.0**
	1.1nm,0.6s,baz=99,slow=7.0,SNR=4.3							
ZALV	**Zalesovo Beam**	**81.16**	**327**	P		**P**	**21 23 44.4**	**-0.8**
ZALV	**Zalesovo Beam**	**81.16**	**327**	P		**P**	**21 23 44.4**	**-0.8**
	2.1nm,0.4s,baz=117,slow=6.3,SNR=5.5							
ILAR	**Eielson Array**	**83.14**	**22**	P		**P**	**21 23 54.9**	**-0.4**
ILAR	**Eielson Array**	**83.14**	**22**	P		**P**	**21 23 54.9**	**-0.4**
	1.9nm,0.7s,baz=262,slow=5.3,SNR=12							
KURK	**Kurchatov**	**83.69**	**322**	*e*P		**P**	**21 23 57.8**	**-0.6**
	5.3nm,0.9s							
KURBB	**Kurchatov Arra**	**83.72**	**322**	P		**P**	**21 23 58.7**	**+0.2**
	0.9nm,0.4s,baz=102,slow=4.0,SNR=4.5							
AAK	**Ala-Archa**	**84.41**	**314**	*e*P		**P**	**21 24 02.7**	**+0.2**
	10nm,0.8s							
AAK	**Ala-Archa**	**84.41**	**314**	P		**P**	**21 24 03.1**	**+0.5**
	2.0nm,0.8s,baz=157,slow=4.8,SNR=3.8							
EKS2	**Erkin-Say**	**84.94**	**314**	*e*P		**P**	**21 24 05.8**	**+0.7**
	4.4nm,1.0s							
BVAR	**Borovoye Array**	**89.19**	**323**	P		**P**	**21 24 24.6**	**-0.7**
BVAR	**Borovoye Array**	**89.19**	**323**	P		**P**	**21 24 24.6**	**-0.7**
	2.7nm,0.8s,baz=117,slow=5.2,SNR=5.8							
SYO	**Syowa Base**	**92.72**	**200**	*e*P		PKiKP	21 29 24.0	-5.3
YKA	**Yellowknife Ar**	**96.46**	**28**	P		**P**	**21 24 59.2**	**+0.6**
YKA	**Yellowknife Ar**	**96.46**	**28**	P		**P**	**21 24 59.2**	**+0.6**
	0.3nm,0.6s,baz=265,slow=4.8,SNR=4.9							
PDAR	**Pinedale Array**	**100.01**	**48**	P		**Pdif**	**21 25 16.1**	**+0.7**
PDAR	**Pinedale Array**	**100.01**	**48**	P		**Pdif**	**21 25 16.1**	**+0.7**
	0.9nm,0.7s,baz=238,slow=1.7,SNR=8.4							
BRTR	**Keskin Array B**	**115.01**	**311**	PKP		**PKPdf**	**21 30 10.6**	**-0.5**
BRTR	**Keskin Array B**	**115.01**	**311**	PKP		**PKPdf**	**21 30 10.6**	**-0.5**
	0.5nm,0.7s,baz=117,slow=1.9,SNR=3.6							
NOA	**NORSAR Array B**	**117.20**	**340**	PKP		**PKPdf**	**21 30 14.2**	**-0.3**
NOA	**NORSAR Array B**	**117.20**	**340**	PKP		**PKPdf**	**21 30 14.2**	**-0.3**
	0.7nm,0.7s,baz=48,slow=1.8,SNR=2.8							
GERES	**GERESS Array B**	**124.10**	**328**	PKP		**PKPdf**	**21 30 28.6**	**+0.4**
GERES	**GERESS Array B**	**124.10**	**328**	PKP		**PKPdf**	**21 30 28.6**	**+0.4**
	1.8nm,0.6s,baz=66,slow=1.4,SNR=20							
TORD	**Torodi Ar. Bea**	**149.57**	**287**	PKPbc		**PKPbc**	**21 31 19.9**	**-0.2**
TORD				PKPab		**PKPab**	**21 31 25.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**149.57**	**287**	PKPbc		**PKPbc**	**21 31 19.9**	**-0.2**
	11nm,0.7s,baz=109,slow=2.5,SNR=50							
TORD				PKPab		**PKPab**	**21 31 25.2**	**+0.1**
	3.9nm,0.7s,baz=75,slow=2.9,SNR=13							
BDFB	**Brasilia**	**151.27**	**137**	PKPbc		**PKPbc**	**21 31 24.1**	**-0.1**
BDFB	**Brasilia**	**151.27**	**137**	PKPbc		**PKPbc**	**21 31 24.1**	**-0.1**
	2.4nm,0.5s,baz=216,slow=5.1,SNR=4.0							
DBIC	**Dimbokro**	**156.78**	**274**	PKPab		**PKPab**	**21 31 55.8**	**+0.2**
DBIC	**Dimbokro**	**156.78**	**274**	PKPab		**PKPab**	**21 31 55.8**	**+0.2**
	1.5nm,0.5s,baz=83,slow=5.2,SNR=6.2							

ISCJB ***11*** *21:11:34.0±0.4, 2°.71N±0°.06×99°.93E±0°.09, h200km, mb3.8/17, Error ellipse: s-maj=13.0km s-min=8.2km az=161.8*
NEIC ***11*** *21:11:36.8±0.6, 2°.45N×99°.75E, h223km±4km, mb4.0/7, Error ellipse: s-maj=11.5km s-min=8.6km az=69.0*
IDC ***11*** *21:11:36.7±1.0, 2°.45N×99°.72E, h218km±4km, mb3.7/12, mb1 3.7/13, mb1mx3.5/27, mbtmp3.6/13, Error ellipse: s-maj=29.6km s-min=16.6km az=85.0*
DJA ***11*** *21:11:37, 2°.31N×99°.67E, h218km, MLv3.9/9*
ISC 11 21:11:35.6±0.5, 2°.59N±0°.06×100°.02E±0°.06, h200km, n48, σ1s46/41, mb4.0/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.11**	**281**	P		Pn	21 11 08.2	+2.0
PSI				S		**Sn**	**21 12 31.9**	**+1.8**
PSI	**Prapat**	**1.11**	**281**	P		Pn	21 12 08.0	+1.7
PSI	**Prapat**	**1.11**	**281**	P		Pn	21 12 08.2	+2.0
	10nm,0.3s,baz=36,slow=22,SNR=35							
PSI				S		**Sn**	**21 12 31.9**	**+1.8**
	17nm,0.3s,baz=145,slow=23,SNR=75							
SBSI	**Sibolga**	**1.53**	**228**	P		**Pn**	**21 12 08.7**	**-0.9**
MNSI	**Mandailing Nat**	**1.84**	**194**	P		Pn	21 12 12.9	+0.4
IPM	**Ipoh**	**2.13**	**28**	*e*Pn		Pn	21 12 22.0	+6.5
IPM				*e*S		Sn	21 12 56.5	+10
BKNI	**Bangkinang**	**2.47**	**156**	P		Pn	21 12 22.1	+2.9
GSI	**Gunungsitoli**	**2.76**	**242**	P		**Pn**	**21 12 21.1**	**-1.3**
TPTI		**2.91**	**283**	P		**Pn**	**21 12 24.0**	**-0.2**
PPI	**Padang Panjang**	**3.05**	**173**	P		Pn	21 12 33.4	+7.6
RGRI	**Rengat**	**3.73**	**142**	P		**Pn**	**21 12 34.9**	**+0.9**
LHMI	**Lhok Sumawe**	**4.03**	**311**	P		**Pn**	**21 12 40.0**	**+2.2**
CMAR	**Chiang Mai Arr**	**15.80**	**356**	P		**P**	**21 15 09.2**	**+1.8**
CMAR	**Chiang Mai Arr**	**15.80**	**356**	P		**P**	**21 15 09.2**	**+1.8**
	0.1nm,0.3s,baz=187,slow=11,SNR=6.7							
QIZ	**Qiongzhong**	**18.96**	**30**	P		**P**	**21 15 44.4**	**+2.6**
WRAB	**Tennant Creek**	**40.45**	**125**	*e*P		**P**	**21 18 54.9**	**-0.1**
	6.4nm,0.5s							
ASAR	**Alice Springs**	**42.06**	**130**	P		**P**	**21 19 07.8**	**-0.2**
ASAR	**Alice Springs**	**42.06**	**130**	P		**P**	**21 19 07.8**	**-0.2**
	0.9nm,0.4s,baz=300,slow=7.7,SNR=2.8							
AAK	**Ala-Archa**	**45.93**	**334**	*e*P		**P**	**21 19 38.1**	**-0.5**
	10.0nm,0.8s							
AAK	**Ala-Archa**	**45.93**	**334**	P		**P**	**21 19 39.3**	**+0.7**
	1.7nm,0.6s,baz=170,slow=12,SNR=9.4							
MK31	**Makanchi Array**	**46.65**	**343**	*e*P		P	21 19 42.4	-1.6
MKAR	**Makanchi Array**	**46.65**	**343**	P		**P**	**21 19 43.7**	**-0.3**
MKAR	**Makanchi Array**	**46.65**	**343**	P		**P**	**21 19 43.7**	**-0.3**
	0.8nm,0.4s,baz=169,slow=8.0,SNR=10							
KKAR	**Karatay Array**	**48.14**	**331**	*e*P		P	21 19 53.2	-2.3
	1.2nm,0.4s							
KURBB	**Kurchatov Arra**	**51.19**	**343**	P		**P**	**21 20 18.2**	**-0.1**
	3.2nm,0.4s,baz=158,slow=7.1,SNR=22							
KURK	**Kurchatov**	**51.25**	**343**	*e*P		**P**	**21 20 17.8**	**-0.9**
	3.1nm,0.7s							
ZAA0	**Zalesovo Array**	**52.69**	**349**	*e*P		**P**	**21 20 29.1**	**-0.2**
ZALV	**Zalesovo Beam**	**52.69**	**349**	P		**P**	**21 20 29.3**	**0.0**
ZALV	**Zalesovo Beam**	**52.69**	**349**	P		**P**	**21 20 29.3**	**0.0**
	5.4nm,0.4s,baz=176,slow=6.3,SNR=25							
BVAR	**Borovoye Array**	**55.92**	**339**	P		**P**	**21 20 51.6**	**-1.0**
BVAR	**Borovoye Array**	**55.92**	**339**	P		**P**	**21 20 51.6**	**-1.0**
	1.8nm,0.6s,baz=141,slow=8.9,SNR=12							
BRVK	**Borovoye**	**55.99**	**339**	*e*P		**P**	**21 20 52.2**	**-0.9**
	1.2nm,0.4s							
ABKAR	**Akbulak array**	**57.67**	**330**	*e*P		**P**	**21 21 03.5**	**-1.6**
	1.0nm,0.4s							
AKTO	**Aktyubinsk**	**59.39**	**330**	P		**P**	**21 21 14.7**	**-2.1**
AKTO	**Aktyubinsk**	**59.39**	**330**	P		**P**	**21 21 14.7**	**-2.1**
	0.6nm,0.3s,baz=106,slow=4.8,SNR=5.2							
BRTR	**Keskin Array B**	**70.29**	**311**	P		**P**	**21 22 25.1**	**-2.6**
BRTR	**Keskin Array B**	**70.29**	**311**	P		**P**	**21 22 25.1**	**-2.6**
	1.5nm,0.7s,baz=122,slow=6.9,SNR=9.9							
BUR08	**Bucovina Ar. S**	**77.88**	**318**	*e*P		**P**	**21 23 10.7**	**-0.7**
BOSA	**Boshof**	**77.91**	**240**	*e*P		**P**	**21 23 09.2**	**-2.7**
	2.1nm,0.5s							
BOSA	**Boshof**	**77.91**	**240**	P		**P**	**21 23 09.7**	**-2.2**
	1.9nm,0.4s,baz=112,slow=7.6,SNR=10							
FINES	**FINESS Array B**	**80.09**	**332**	P		**P**	**21 23 21.6**	**-1.3**
FINES	**FINESS Array B**	**80.09**	**332**	P		**P**	**21 23 21.6**	**-1.3**
	1.4nm,0.4s,baz=106,slow=5.7,SNR=22							
ARCES	**ARCESS Array B**	**82.19**	**340**	P		**P**	**21 23 32.9**	**-1.0**
ARCES	**ARCESS Array B**	**82.19**	**340**	P		**P**	**21 23 32.9**	**-1.0**
	1.0nm,0.4s,baz=100,slow=5.5,SNR=14							
GERES	**GERESS Array B**	**85.64**	**319**	P		**P**	**21 23 50.5**	**-1.4**
GERES	**GERESS Array B**	**85.64**	**319**	P		**P**	**21 23 50.5**	**-1.4**
	0.5nm,0.5s,baz=95,slow=6.7,SNR=5.9							
BDFB	**Brasilia**	**145.95**	**246**	PKPbc		**PKPdf**	**21 30 51.1**	**-0.7**
BDFB	**Brasilia**	**145.95**	**246**	PKPbc		**PKPdf**	**21 30 51.1**	**-0.7**
	1.3nm,0.3s,baz=158,slow=5.9,SNR=3.7							

IDC 11 21:15:29.2±0.8, 3°.97N×126°.50E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.0/22, mbtmp4.1/11, 1C, Error ellipse: s-maj=54.3km s-min=18.6km az=68.0, Taland Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**3.93**	**325**	*i*P		Pb	21 16 39.7	+0.2
WRA	**Warramunga Arr**	**24.98**	**162**	P		P	21 20 55.0	+0.1
	2.4nm,0.5s							
STKA	**Stephens Creek**	**38.44**	**159**	P		P	21 22 52.8	-0.1
	1.0nm,0.3s,baz=348,slow=14,SNR=4.7							
SONM	**Songino Array**	**47.00**	**342**	P		P	21 24 03.3	+1.0
	0.8nm,0.7s,baz=157,slow=7.1,SNR=3.6							
PETK	**Petropavlovsk-**	**55.29**	**22**	P		P	21 25 04.4	-0.1
	2.2nm,0.7s,baz=231,slow=9.1,SNR=3.5							
MKAR	**Makanchi Array**	**57.23**	**325**	P		P	21 25 18.4	-0.1
	1.3nm,0.5s,baz=118,slow=7.9,SNR=11							
ZALV	**Zalesovo Beam**	**60.27**	**333**	P		P	21 25 38.2	-1.2
	0.9nm,0.4s,baz=127,slow=6.8,SNR=4.7							
KURBB	**Kurchatov Arra**	**61.41**	**327**	P		P	21 25 47.4	+0.2
	3.0nm,0.8s,baz=126,slow=6.5,SNR=9.2							
BVAR	**Borovoye Array**	**66.99**	**327**	P		P	21 26 24.7	+0.8
	0.4nm,0.5s,baz=77,slow=4.0,SNR=4.3							
AKTO	**Aktyubinsk**	**73.33**	**322**	P		P	21 27 02.8	0.0
	1.1nm,0.6s,baz=104,slow=8.4,SNR=4.1							
ARCES	**ARCESS Array B**	**90.14**	**340**	P		P	21 28 30.1	-1.0
	1.2nm,0.6s,baz=69,slow=5.1,SNR=4.4							
FINES	**FINESS Array B**	**91.51**	**332**	P		P	21 28 37.2	-0.3
	1.6nm,0.8s,baz=96,slow=4.2,SNR=4.4							

IDC ***11*** *21:18:57.4±0.8, 3°.61N×126°.43E, h0km, mb4.0/13, mb1 4.1/13, mb1mx4.0/22, mbtmp4.0/13, Error ellipse: s-maj=44.2km s-min=15.7km az=68.0*
ISCJB ***11*** *21:19:01.9±0.6, 3°.55N±0°.10×126°.5E±0°.2, h53km, mb4.0/14, Error ellipse: s-maj=29.8km s-min=10.6km az=160.9*
NEIC ***11*** *21:19:01.6±0.5, 3°.44N×126°.50E, h35km, mb3.9/2, Error ellipse: s-maj=30.1km s-min=11.1km az=69.0*
ISC 11 21:19:04.1±0.7, 3°.5N±0°.1×126°.5E±0°.2, h53km, n28, σ1s25/26, mb4.0/14, 2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.72**	**338**	*e*P		Pn	21 20 05.2	+6.1
KCP				*i* S		Sn	21 21 10.5	+29
CTBH	**Cotabato--PC H**	**4.28**	**329**	*i*P		Pn	21 20 10.6	+3.8
WRAB	**Tennant Creek**	**24.57**	**162**	*e*P		**P**	**21 24 16.2**	**-3.1**
	5.8nm,0.7s							
WRA	**Warramunga Arr**	**24.58**	**162**	P		**P**	**21 24 18.9**	**-0.5**
WRA	**Warramunga Arr**	**24.58**	**162**	P		**P**	**21 24 18.9**	**-0.5**
	3.7nm,0.8s,baz=338,slow=11,SNR=6.7							
ASAR	**Alice Springs**	**27.99**	**165**	P		**P**	**21 24 52.5**	**+2.4**
ASAR	**Alice Springs**	**27.99**	**165**	P		**P**	**21 24 52.5**	**+2.4**
	0.5nm,0.5s,baz=349,slow=4.8,SNR=4.2							
CMAR	**Chiang Mai Arr**	**30.76**	**301**	P		**P**	**21 25 14.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**30.76**	**301**	P		**P**	**21 25 14.4**	**-0.3**
	0.3nm,0.3s,baz=115,slow=7.3,SNR=4.2							
KSAR	**Wonju Array Be**	**33.76**	**2**	P		**P**	**21 25 40.0**	**-0.9**
KSRS	**Korea Array**	**33.78**	**2**	P		**P**	**21 25 40.0**	**-0.9**
	1.1nm,0.7s,baz=178,slow=9.9,SNR=4.8							
STKA	**Stephens Creek**	**38.04**	**159**	*e*P		**P**	**21 26 15.8**	**-1.7**
	0.8nm,0.9s							
STKA	**Stephens Creek**	**38.04**	**159**	P		**P**	**21 26 18.1**	**+0.6**
	2.2nm,0.6s,baz=333,slow=10,SNR=5.2							
SONM	**Songino Array**	**47.40**	**342**	P		**P**	**21 27 32.9**	**-0.4**
SONM	**Songino Array**	**47.40**	**342**	P		**P**	**21 27 32.9**	**-0.4**
	0.6nm,0.6s,baz=157,slow=8.7,SNR=4.0							
PETK	**Petropavlovsk-**	**55.70**	**22**	P		**P**	**21 28 36.3**	**+1.2**
PETK	**Petropavlovsk-**	**55.70**	**22**	P		**P**	**21 28 36.3**	**+1.2**
	3.8nm,0.9s,baz=224,slow=9.5,SNR=2.8							
MKAR	**Makanchi Array**	**57.57**	**325**	P		**P**	**21 28 48.6**	**+0.1**
MKAR	**Makanchi Array**	**57.57**	**325**	P		**P**	**21 28 48.6**	**+0.1**
	1.6nm,0.5s,baz=118,slow=7.9,SNR=19							
ZALV	**Zalesovo Beam**	**60.65**	**333**	P		**P**	**21 29 08.9**	**-0.7**
ZALV	**Zalesovo Beam**	**60.65**	**333**	P		**P**	**21 29 08.9**	**-0.7**
	0.5nm,0.4s,baz=109,slow=7.8,SNR=2.6							
KURBB	**Kurchatov Arra**	**61.77**	**328**	P		**P**	**21 29 16.5**	**-0.7**
	2.9nm,0.5s,baz=130,slow=6.2,SNR=36							
BVAR	**Borovoye Array**	**67.35**	**327**	P		**P**	**21 29 54.0**	**+0.4**
BVAR	**Borovoye Array**	**67.35**	**327**	P		**P**	**21 29 54.0**	**+0.4**
	0.4nm,0.4s,baz=61,slow=4.3,SNR=5.1							
AKTO	**Aktyubinsk**	**73.66**	**322**	P		**P**	**21 30 33.7**	**+1.5**
AKTO	**Aktyubinsk**	**73.66**	**322**	P		**P**	**21 30 33.7**	**+1.5**
	0.7nm,0.5s,baz=108,slow=10,SNR=3.2							
ARCES	**ARCESS Array B**	**90.54**	**340**	P		**P**	**21 31 59.6**	**-0.5**
ARCES	**ARCESS Array B**	**90.54**	**340**	P		**P**	**21 31 59.6**	**-0.5**
	4.1nm,1.0s,baz=83,slow=7.4,SNR=3.3							

IDC ***11*** *21:19:25.2±0.5, 3°.97N×126°.50E, h0km, mb4.5/24, mb1 4.5/24, mb1mx4.4/27, mbtmp4.5/24, Error ellipse: s-maj=24.1km s-min=11.0km az=75.0*
ISCJB ***11*** *21:19:28.3±0.3, 3°.96N±0°.05×126°.58E±0°.08, h33km, mb4.5/35, Error ellipse: s-maj=12.8km s-min=5.8km az=159.6*
NEIC ***11*** *21:19:30.2±0.2, 3°.97N×126°.55E, h35km, mb4.6/9, Error ellipse: s-maj=10.0km s-min=4.2km az=72.0*
ISC 11 21:19:28.5±1.0, 3°.95N±0°.07×126°.6E±0°.1, h22km±8km, n84, σ0s76/93, mb4.6/35, Taland Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.25**	**342**	Pn		**Pb**	**21 20 24.8**	**-0.8**
DAV				Sn		**Sn**	**21 20 59.2**	**+2.9**
DAV	**Davao City (W)**	**3.25**	**342**	Pn		**Pb**	**21 20 24.7**	**-0.8**
	57nm,0.3s,baz=126,slow=17,SNR=2.7							
DAV				Sn		**Sn**	**21 20 59.2**	**+2.9**
	47nm,0.3s,baz=321,slow=18,SNR=3.5							
FITZ	**Fitzroy Crossi**	**21.93**	**182**	P		**P**	**21 24 22.0**	**+1.3**
FITZ	**Fitzroy Crossi**	**21.93**	**182**	P		**P**	**21 24 22.0**	**+1.3**
	5.5nm,0.5s,baz=14,slow=17,SNR=5.6							
JOW	**Kunigami**	**22.81**	**4**	P		**P**	**21 24 29.7**	**-0.3**
JOW	**Kunigami**	**22.81**	**4**	P		**P**	**21 24 29.7**	**-0.3**
	12nm,0.9s,baz=215,slow=8.2,SNR=3.9							
WRAB	**Tennant Creek**	**24.94**	**162**	*e*P		**P**	**21 24 50.2**	**-0.2**
	19nm,1.0s							
WRA	**Warramunga Arr**	**24.94**	**162**	P		**P**	**21 24 50.8**	**+0.3**
WRA	**Warramunga Arr**	**24.94**	**162**	P		**P**	**21 24 50.8**	**+0.3**
	264nm,0.2s							
AS31	**Alice Springs**	**28.37**	**166**	*e*P		**P**	**21 25 20.8**	**-0.5**
ASAR	**Alice Springs**	**28.37**	**166**	P		**P**	**21 25 21.1**	**-0.2**
ASAR	**Alice Springs**	**28.37**	**166**	P		**P**	**21 25 21.1**	**-0.2**
	0.9nm,0.6s,baz=345,slow=10,SNR=5.5							
JNU	**Nakatsue**	**29.30**	**7**	P		**P**	**21 25 30.4**	**+0.8**
JNU	**Nakatsue**	**29.30**	**7**	P		**P**	**21 25 30.4**	**+0.8**
	4.2nm,0.8s,baz=203,slow=7.7,SNR=3.0							
CM31	**Chiang Mai Arr**	**30.62**	**300**	*e*P		**P**	**21 25 40.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**30.62**	**300**	P		**P**	**21 25 42.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**30.62**	**300**	P		**P**	**21 25 42.2**	**+0.8**
	2.5nm,0.8s,baz=106,slow=6.8,SNR=14							
ENH	**Enshi**	**30.76**	**330**	*e*P		**P**	**21 25 42.0**	**-0.4**
	16nm,0.8s							
KSAR	**Wonju Array Be**	**33.35**	**2**	P		**P**	**21 26 05.3**	**+0.2**
KSAR				PcP		**PcP**	**21 28 47.6**	**+0.9**
KSRS	**Korea Array**	**33.37**	**2**	P		**P**	**21 26 05.3**	**+0.1**
	2.3nm,0.8s,baz=172,slow=10,SNR=6.3							
KSRS				PcP		**PcP**	**21 28 47.6**	**+0.8**
	1.6nm,0.8s,baz=193,slow=3.7,SNR=5.1							
FORT	**Forrest**	**34.56**	**178**	*e*P		**P**	**21 26 15.9**	**+0.2**
	24nm,1.0s							
KLBR	**Kellerberrin**	**36.33**	**193**	*e*P		**P**	**21 26 31.3**	**+0.4**
	45nm,1.3s							
NWAO	**Narrogin (SRO)**	**37.73**	**193**	P		**P**	**21 26 43.5**	**+0.8**
NWAO	**Narrogin (SRO)**	**37.73**	**193**	P		**P**	**21 26 43.5**	**+0.8**
	5.8nm,0.4s,baz=32,slow=9.4,SNR=15							
STKA	**Stephens Creek**	**38.39**	**159**	*e*P		**P**	**21 26 48.4**	**0.0**
	3.5nm,1.0s							
STKA	**Stephens Creek**	**38.39**	**159**	*e*P		**P**	**21 26 48.6**	**+0.2**
	10nm,1.0s							
STKA	**Stephens Creek**	**38.39**	**159**	P		**P**	**21 26 48.6**	**+0.2**
	18nm,0.9s,baz=340,slow=6.4,SNR=13							
USRK	**Ussuriysk Arra**	**40.37**	**6**	P		**P**	**21 27 05.9**	**+1.2**
	2.1nm,0.7s,baz=194,slow=7.5,SNR=5.7							
ARMA	**Armidale**	**41.74**	**147**	*e*P		**P**	**21 27 16.9**	**+0.5**
TAPN	**Taplejung**	**43.76**	**306**	*e*P		**P**	**21 27 33.4**	**+0.3**
	20nm,0.6s							
ODAN	**Odare**	**43.81**	**305**	*e*P		**P**	**21 27 33.9**	**+0.5**
	14nm,0.6s							
RAMN	**Ramite**	**44.49**	**305**	*e*P		**P**	**21 27 39.6**	**+0.7**
	17nm,0.7s							
JIRN	**Jiri**	**45.11**	**306**	*e*P		**P**	**21 27

STKA	Stephens Creek	38.14	160	*eP*		P	21 29 34.4	-1.5
	0.6nm,0.7s							
STKA	Stephens Creek	38.14	160	P		P	21 29 36.3	+0.5
	1.4nm,0.4s,baz=327,slow=8.5,SNR=2.4							
ULN	Ulaanbaatar	47.09	342	*eP*		P	21 30 47.0	-1.4
	2.8nm,1.0s							
SONM	Songino Array	47.27	341	P		P	21 30 49.9	+0.1
SONM	Songino Array	47.27	341	P		P	21 30 49.9	+0.1
	0.5nm,0.6s,baz=161,slow=6.9,SNR=2.1							
MKAR	Makanchi Array	57.66	325	P		P	21 32 06.2	-0.5
MKAR	Makanchi Array	57.66	325	P		P	21 32 06.2	-0.5
	1.0nm,0.5s,baz=118,slow=7.3,SNR=4.1							
ZALV	Zalesovo Beam	60.63	333	P		P	21 32 26.4	-0.7
ZALV	Zalesovo Beam	60.63	333	P		P	21 32 26.4	-0.7
	0.5nm,0.5s,baz=160,slow=9.0,SNR=3.0							
KURBB	Kurchatov Arra	61.83	327	P		P	21 32 34.9	-0.4
	1.2nm,0.5s,baz=130,slow=6.5,SNR=10							
KURK	Kurchatov	61.83	327	*eP*		P	21 32 34.9	-0.4
	5.1nm,0.6s							
BVAR	Borovoye Array	67.41	327	P		P	21 33 11.7	0.0
BVAR	Borovoye Array	67.41	327	P		P	21 33 11.7	0.0
	0.4nm,0.4s,baz=78,slow=4.6,SNR=4.7							
AKTO	Aktyubinsk	73.80	322	P		P	21 33 50.8	+0.1
AKTO	Aktyubinsk	73.80	322	P		P	21 33 50.8	+0.1
	1.3nm,0.7s,baz=67,slow=7.7,SNR=4.4							
ARCES	ARCESS Array B	90.43	340	P		P	21 35 17.8	+0.3
ARCES	ARCESS Array B	90.43	340	P		P	21 35 17.8	+0.3
	2.6nm,0.8s,baz=74,slow=5.2,SNR=4.7							
FINES	FINESS Array B	91.89	332	P		P	21 35 24.1	-0.2
FINES	FINESS Array B	91.89	332	P		P	21 35 24.1	-0.2
	3.5nm,1.0s,baz=33,slow=5.3,SNR=3.2							
TORD	Torodi Ar. Bea	123.29	288	PKP		PKPdf	21 41 14.5	+0.4
TORD	Torodi Ar. Bea	123.29	288	PKP		PKPdf	21 41 14.5	+0.4
	0.4nm,0.9s,baz=95,slow=1.6,SNR=2.9							

*IDC **11** 21:23:28.3±0.6,3°.83N×126°.44E,h0km,mb4.3/21, mb1 4.4/21,mb1mx4.4/25,mbtmp4.3/21, Error ellipse: s-maj=34.8km s-min=12.8km az=74.0*
*NEIC **11** 21:23:29.7±3.8,3°.83N×126°.46E,h12km±23km,mb4.7/11, Error ellipse: s-maj=14.3km s-min=5.0km az=79.0*
*ISCJB **11** 21:23:32.4±0.4,3°.82N±0°.05×126°.46E±0°.10,h45km, mb4.4/34, Error ellipse: s-maj=14.5km s-min=6.8km az=164.8*

ISC 11 21:23:34.3±0.5,3°.84N±0°.07×126°.4E±0°.1,h45km,n74, σ0s96/77,mb4.5/34,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.33	345	Pn		Pn	Pn	21 24 21.0	-2.9
DAV				Sn		Sn	Sn	21 25 10.6	+8.4
DAV	Davao City (W)	3.33	345	Sn		Sn	Sn	21 25 10.5	+8.4
	44nm,0.3s,baz=68,slow=19,SNR=2.0								
FITZ	Fitzroy Crossi	21.81	182	*eP*		P	P	21 28 21.6	-1.2
	5.1nm,0.7s								
FITZ	Fitzroy Crossi	21.81	182	*eP*		P	P	21 28 21.2	-1.6
	10nm,0.8s								
FITZ	Fitzroy Crossi	21.81	182	P		P	P	21 28 22.6	-0.1
	5.3nm,0.7s,baz=334,slow=2.2,SNR=4.0								
JOW	Kunigami	22.93	4	*eP*		P	P	21 28 33.5	-1.1
JOW	Kunigami	22.93	4	P		P	P	21 28 38.2	+3.6
	9.7nm,0.8s,baz=115,slow=12,SNR=3.8								
WRAB	Tennant Creek	24.87	162	*eP*		P	P	21 28 52.5	-0.3
	11nm,0.6s								
WRA	Warramunga Arr	24.87	162	P		P	P	21 28 52.6	-0.3
WRA	Warramunga Arr	24.87	162	P		P	P	21 28 52.6	-0.3
	7.8nm,0.7s								
MBWA	Marble Bar	25.70	195	*eP*		P	P	21 28 59.8	-0.6
	11nm,0.6s								
ASAR	Alice Springs	28.29	165	P		P	P	21 29 23.9	+0.2
ASAR	Alice Springs	28.29	165	P		P	P	21 29 23.9	+0.2
	1.6nm,0.6s,baz=342,slow=8.6,SNR=4.1								
CMAR	Chiang Mai Arr	30.57	300	P		P	P	21 29 45.6	+1.6
CMAR	Chiang Mai Arr	30.57	300	P		P	P	21 29 45.6	+1.6
	1.6nm,0.6s,baz=121,slow=8.4,SNR=6.8								
KSAR	Wonju Array Be	33.47	2	P		P	P	21 30 10.6	+1.4
KSRS	Korea Array	33.48	2	P		P	P	21 30 10.6	+1.3
	1.4nm,0.6s,baz=185,slow=11,SNR=4.5								
MAJO	Matsushiro	34.30	17	*eP*		P	P	21 30 15.5	-1.0
KLBR	Kellerberrin	36.19	193	*eP*		P	P	21 30 33.2	+0.5
	9.6nm,0.6s								
NWAO	Narrogin (SRO)	37.59	193	*eP*		P	P	21 30 43.5	-1.1
	14nm,0.9s								
NWAO	Narrogin (SRO)	37.59	193	P		P	P	21 30 45.2	+0.7
	12nm,0.9s,baz=22,slow=9.0,SNR=5.6								
STKA	Stephens Creek	38.33	159	*eP*		P	P	21 30 51.1	+0.2
STKA				PcP		PcP	PcP	21 33 04.3	+0.2
STKA	Stephens Creek	38.33	159	*eP*		P	P	21 30 50.9	+0.1
	6.2nm,0.7s								
STKA	Stephens Creek	38.33	159	P		P	P	21 30 51.0	+0.1
	6.8nm,0.7s,baz=335,slow=7.5,SNR=4.4								
STKA				PcP		PcP	PcP	21 33 04.3	+0.2
	2.9nm,0.8s,baz=297,slow=4.8,SNR=3.0								
USRK	Ussuriysk Arra	40.50	6	P		P	P	21 31 10.4	+1.7
	1.1nm,0.5s,baz=207,slow=5.2,SNR=4.1								
TAPN	Taplejung	43.72	306	*eP*		P	P	21 31 36.4	+0.7
	9.7nm,0.6s								
ODAN	Odare	43.77	306	*eP*		P	P	21 31 36.7	+0.6
	15nm,0.6s								
RAMN	Ramite	44.45	305	*eP*		P	P	21 31 42.4	+0.9
	13nm,0.6s								
JIRN	Jiri	45.08	306	*eP*		P	P	21 31 47.3	+0.7
	2.4nm,0.5s								
GUN	Gumba	45.43	306	*eP*		P	P	21 31 50.0	+0.6
	20nm,0.8s								
HIA	Hailar	45.62	354	*eP*		P	P	21 31 49.7	-0.5
	10nm,1.0s								
PKI	Pulchoki	45.67	305	*eP*		P	P	21 31 51.4	+0.1
KKN	Kakani	45.87	306	*eP*		P	P	21 31 52.9	+0.2
	4.4nm,0.6s								
DMN	Daman	45.94	305	*eP*		P	P	21 31 53.5	+0.2
	8.4nm,0.8s								
GKN	Gorkha	46.47	306	*eP*		P	P	21 31 57.3	-0.1
	8.1nm,0.7s								
ULN	Ulaanbaatar	46.93	342	*eP*		P	P	21 32 00.8	+0.1
	2.1nm,0.6s								
SONM	Songino Array	47.11	342	P		P	P	21 32 02.6	+0.6
SONM				PcP		PcP	PcP	21 33 34.4	+1.1
SONM	Songino Array	47.11	342	P		P	P	21 32 02.6	+0.6
	2.0nm,0.6s,baz=157,slow=9.0,SNR=7.1								
SONM				PcP		PcP	PcP	21 33 34.4	+1.1
	1.1nm,0.7s,baz=175,slow=3.3,SNR=3.2								
KOLN	Koldanda	47.23	305	*eP*		P	P	21 32 03.9	+0.5
	22nm,0.5s								
DANN	Dangsing	47.32	306	*eP*		P	P	21 32 04.4	+0.2
	24nm,0.6s								
MK31	Makanchi Array	57.31	325	*eP*		P	P	21 33 17.9	+0.3
MKAR	Makanchi Array	57.31	325	P		P	P	21 33 18.1	+0.4
MKAR	Makanchi Array	57.31	325	P		P	P	21 33 18.1	+0.4
	1.4nm,0.4s,baz=115,slow=7.7,SNR=5.0								
AAK	Ala-Archa	60.09	318	*eP*		P	P	21 33 37.7	+0.5
AAK	Ala-Archa	60.09	318	P		P	P	21 33 39.0	+1.7
	1.8nm,0.7s,baz=127,slow=8.8,SNR=6.4								
ZALV	Zalesovo Beam	60.36	333	P		P	P	21 33 38.0	-0.7
ZALV	Zalesovo Beam	60.36	333	P		P	P	21 33 38.0	-0.7
	1.4nm,0.6s,baz=119,slow=6.0,SNR=3.6								
KBL	Kabul	61.23	307	*eP*		P	P	21 33 45.0	-0.3
	3.6nm,0.6s								
KURBB	Kurchatov Arra	61.50	327	P		P	P	21 33 46.2	-0.2
	4.3nm,0.8s,baz=129,slow=6.4,SNR=8.1								
KURK	Kurchatov	61.50	328	*eP*		P	P	21 33 46.6	+0.2
	8.0nm,0.8s								
KKAR	Karatay Array	62.96	317	*eP*		P	P	21 33 56.3	-0.1
	2.7nm,0.7s								
BVAR	Borovoye Array	67.08	327	P		P	P	21 34 23.1	+0.2
BVAR	Borovoye Array	67.08	327	P		P	P	21 34 23.1	+0.2
	6.5nm,1.0s,baz=126,slow=7.5,SNR=8.6								
BRVK	Borovoye	67.15	327	*eP*		P	P	21 34 23.6	+0.3
	9.1nm,1.0s								
ABKAR	Akbulak array	71.89	321	*eP*		P	P	21 34 52.4	-0.4
	2.5nm,0.6s								
AKTO	Aktyubinsk	73.40	322	P		P	P	21 35 02.0	+0.3
AKTO	Aktyubinsk	73.40	322	P		P	P	21 35 02.0	+0.3
	5.2nm,0.8s,baz=103,slow=10,SNR=12								
RDF	Al-Radifah	78.44	299	*eP*		P	P	21 35 28.2	-2.6
MIB	Mutribah	78.65	299	*eP*		P	P	21 35 30.7	-1.3
MIB					AMb		AMB	21 35 33.0	
	comp=Z,16nm,0.8s								
NAY	Al-Naaiem	78.72	299	*eP*		P	P	21 35 30.7	-1.7
NAY					AMb		AMB	21 35 34.0	
	comp=Z,12nm,1.0s								
ILAR	Eielson Array	85.13	25	P		P	P	21 36 05.5	+0.2
ILAR	Eielson Array	85.13	25	P		P	P	21 36 05.5	+0.2
	comp=Z,0.4nm,0.7s,baz=243,slow=5.9,SNR=4.3								
BRTR	Keskin Array B	89.73	310	P		P	P	21 36 28.0	-0.3
BRTR	Keskin Array B	89.73	310	P		P	P	21 36 28.0	-0.3
	comp=Z,1.8nm,0.9s,baz=116,slow=5.9,SNR=2.5								
ARCES	ARCESS Array B	90.25	340	P		P	P	21 36 30.6	+0.7
ARCES	ARCESS Array B	90.25	340	P		P	P	21 36 30.6	+0.7
	comp=Z,1.7nm,0.8s,baz=72,slow=7.8,SNR=4.2								
FINES	FINESS Array B	91.60	332	P		P	P	21 36 36.6	+0.3
FINES	FINESS Array B	91.60	332	P		P	P	21 36 36.6	+0.3
	comp=Z,1.4nm,0.7s,baz=79,slow=7.5,SNR=3.4								
AKASG	Malin Array Be	91.63	321	P		P	P	21 36 35.8	-0.8
AKASG	Malin Array Be	91.63	321	P		P	P	21 36 35.8	-0.8
	comp=Z,2.0nm,0.6s,baz=65,slow=5.0,SNR=5.0								
NOA	NORSAR Array B	98.56	334	P		P	P	21 37 07.8	-0.3
NOA	NORSAR Array B	98.56	334	P		P	P	21 37 07.8	-0.3
	comp=Z,0.8nm,0.7s,baz=68,slow=4.6,SNR=3.3								
TORD	Torodi Ar. Bea	122.61	288	PKP		PKPdf	P	21 42 26.6	+0.5
TORD	Torodi Ar. Bea	122.61	288	PKP		PKPdf	P	21 42 26.6	+0.5
	comp=Z,0.4nm,0.6s,baz=94,slow=1.2,SNR=4.1								

*IDC **11** 21:26:44.2±0.7,3°.98N×126°.85E,h0km,mb4.0/13, mb1 4.1/14,mb1mx4.0/23,mbtmp4.0/14,ML4.4/1,Error ellipse: s-maj=48.7km s-min=14.0km az=68.0*
*ISCJB **11** 21:26:48.3±0.5,3°.92N±0°.09×126°.7E±0°.2,h45km, mb4.0/18,Error ellipse: s-maj=29.9km s-min=8.3km az=159.6*
*NEIC **11** 21:26:49.4±0.4,3°.96N×126°.76E,h35km,mb4.1/5,Error ellipse: s-maj=26.6km s-min=7.4km az=69.0*

ISC 11 21:26:50.6±0.6,3°.9N±0°.1×126°.7E±0°.2,h45km,n42, σ1s89/43,mb3.9/18,1C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.31	341	Pn		Pn	Pn	21 27 37.8	-2.2
DAV				Sn		Sn	Sn	21 28 31.4	+13
DAV	Davao City (W)	3.31	341	Pn		Pn	P	21 27 37.8	-2.2
	36nm,0.3s,baz=135,slow=1.4,SNR=2.6								
DAV				Sn		Sn	Sn	21 28 31.4	+13
	34nm,0.3s,baz=270,slow=20,SNR=2.4								
CTBH	Cotabato--PC H	4.07	324	*iP*		Pn		21 27 57.4	+7.1
FITZ	Fitzroy Crossi	21.90	183	*eP*		P	P	21 31 38.1	-1.8
FITZ	Fitzroy Crossi	21.90	183	P		P	P	21 31 38.1	-2.0
	5.1nm,0.9s,baz=8.1,slow=7.1,SNR=2.5								
WRAB	Tennant Creek	24.88	163	*eP*		P	P	21 32 08.7	-0.6
	24nm,0.8s								
WRA	Warramunga Arr	24.89	163	P		P	P	21 32 08.6	-0.8
WRA	Warramunga Arr	24.89	163	P		P	P	21 32 08.6	-0.8
	20nm,0.8s,baz=342,slow=10,SNR=19								
ASAR	Alice Springs	28.31	166	P		P	P	21 32 40.1	-0.1
ASAR	Alice Springs	28.31	166	P		P	P	21 32 40.1	-0.1
	1.2nm,0.9s,baz=335,slow=5.5,SNR=2.8								
CM31	Chiang Mai Arr	30.72	300	*eP*		P	P	21 33 01.4	-0.3
CMAR	Chiang Mai Arr	30.72	300	P		P	P	21 33 03.4	+1.7
CMAR	Chiang Mai Arr	30.72	300	P		P	P	21 33 03.4	+1.7
	0.9nm,0.7s,baz=111,slow=6.9,SNR=4.8								
STKA	Stephens Creek	38.33	159	*eP*		P	P	21 34 08.1	+0.9
	2.3nm,0.7s								
STKA	Stephens Creek	38.33	159	P		P	P	21 34 06.9	-0.3
	11nm,0.7s,baz=331,slow=7.6,SNR=12								
ULN	Ulaanbaatar	46.92	342	*eP*		P	P	21 35 15.8	-1.1
	1.0nm,0.6s								
SONM	Songino Array	47.10	341	P		P	P	21 35 19.0	+0.7
SONM				ScP		ScP	P	21 40 46.7	+6.7
SONM	Songino Array	47.10	341	P		P	P	21 35 19.0	+0.7
	0.6nm,0.6s,baz=161,slow=6.9,SNR=3.7								
SONM				ScP		ScP	P	21 40 46.7	+6.7
	1.0nm,0.8s,baz=156,slow=4.4,SNR=3.6								
MK31	Makanchi Array	57.36	325	*eP*		P	P	21 36 34.0	-0.4
MKAR	Makanchi Array	57.36	325	P		P	P	21 36 34.2	-0.1
MKAR	Makanchi Array	57.36	325	P		P	P	21 36 34.2	-0.1
	1.4nm,0.6s,baz=123,slow=7.9,SNR=6.0								
ZALV	Zalesovo Beam	60.39	333	P		P	P	21 36 54.4	-0.8
ZALV	Zalesovo Beam	60.39	333	P		P	P	21 36 54.4	-0.8
	0.4nm,0.4s,baz=120,slow=8.5,SNR=2.8								
KURBB	Kurchatov Arra	61.54	327	P		P	P	21 37 03.1	0.0
	1.7nm,0.8s,baz=126,slow=6.3,SNR=5.1								
KURK	Kurchatov	61.54	327	*eP*		P	P	21 37 03.1	0.0
BVAR	Borovoye Array	67.12	327	P		P	P	21 37 40.4	+0.8
BVAR	Borovoye Array	67.12	327	P		P	P	21 37 40.4	+0.8
	1.5nm,0.8s,baz=117,slow=8.5,SNR=4.3								
BRVK	Borovoye	67.20	327	*eP*		P	P	21 37 40.1	0.0
	1.5nm,0.6s								
ABKAR	Akbulak array	71.96	321	*eP*		P	P	21 38 09.6	+0.1
	0.7nm,0.6s								
AKTO	Aktyubinsk	73.47	322	P		P	P	21 38 19.1	+0.6
AKTO	Aktyubinsk	73.47	322	P		P	P	21 38 19.1	+0.6
	1.0nm,0.6s,baz=103,slow=12,SNR=3.9								
ILAR	Eielson Array	84.96	25	P		P	P	21 39 20.1	-0.8
ILAR	Eielson Array	84.96	25	P		P	P	21 39 20.1	-0.8
	0.5nm,0.7s,baz=252,slow=5.2,SNR=5.5								
BRTR	Keskin Array B	89.85	310	P		P	P	21 39 44.5	-0.6
BRTR	Keskin Array B	89.85	310	P		P	P	21 39 44.5	-0.6
	0.4nm,0.7s,baz=92,slow=4.8,SNR=2.1								
FINES	FINESS Array B	91.63	332	P		P	P	21 39 51.5	-1.2
FINES	FINESS Array B	91.63	332	P		P	P	21 39 51.5	-1.2
	1.0nm,0.7s,baz=3.4,slow=4.7,SNR=2.2								
SYO	Syowa Base	92.58	201	*iP*		P	P	21 39 55.0	-1.9
TORD	Torodi Ar. Bea	122.79	288	PKP		PKPdf	P	21 45 45.0	+2.3
TORD	Torodi Ar. Bea	122.79	288	PKP		PKPdf	P	21 45 45.0	+2.3
	0.4nm,0.8s,baz=79,slow=2.7,SNR=2.9								
CPUP	Villa Florida	157.39	171	PKPab		PKPab	P	21 47 15.2	+1.4
CPUP	Villa Florida	157.39	171	PKPab		PKPab	P	21 47 15.2	+1.4
	0.3nm,0.3s,baz=149,slow=5.9,SNR=2.9								

*IDC **11** 21:28:08.6±0.8,4°.00N×127°.00E,h0km,mb3.9/9, mb1 4.1/9,mb1mx3.9/21,mbtmp4.0/9,Error ellipse: s-maj=69.0km s-min=16.6km az=73.0*
*NEIC **11** 21:28:13.5±0.5,3°.96N×126°.96E,h35km,mb4.2/4,Error ellipse: s-maj=40.3km s-min=8.7km az=74.0*

ISC 11 21:28:13.9±0.8,4°.0N±0°.1×127°.0E±0°.3,h36km,n20, σ0s72/22,mb4.0/12,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.01	184	*eP*		P	P	21 33 04.3	-0.9
	2.1nm,0.6s								
FITZ	Fitzroy Crossi	22.01	184	P		P	P	21 33 04.1	-1.1
	1.8nm,0.4s,baz=35,slow=16,SNR=3.0								
WRAB	Tennant Creek	24.85	163	*eP*		P	P	21 33 31.7	-1.5
	8.4nm,0.6s								
WRA	Warramunga Arr	24.86	163	P		P	P	21 33 32.4	-0.8
WRA	Warramunga Arr	24.86	163	P		P	P	21 33 32.4	-0.8
	9.4nm,0.7s,baz=346,slow=10,SNR=4.8								
ASAR	Alice Springs	28.31	167	P		P	P	21 34 05.1	+0.8
ASAR	Alice Springs	28.31	167	P		P	P	21 34 05.1	+0.8
	0.7nm,0.6s,baz=344,slow=11,SNR=2.5								
STKA	Stephens Creek	38.28	160	*eP*		P	P	21 35 30.7	-0.2
STKA	Stephens Creek	38.28	160	P		P	P	21 35 31.0	0.0
	6.3nm,0.6s,baz=333,slow=8.2,SNR=8.0								
ULN	Ulaanbaatar	46.95	342	*eP*		P	P	21 36 40.6	-0.8
	1.1nm,0.6s								
SONM	Songino Array	47.14	341	P		P	P	21 36 43.2	+0.5
SONM				PcP		PcP	P	21 38 14.4	+0.3
SONM	Songino Array	47.14	341	P		P	P	21 36 43.2	+0.5
	0.4nm,0.5s,baz=169,slow=7.9,SNR=2.6								
SONM				PcP		PcP	P	21 38 14.4	+0.3
	0.6nm,0.7s,baz=152,slow=3.5,SNR=3.2								
MKAR	Makanchi Array	57.50	325	P		P	P	21 37 59.1	-0.5
MKAR	Makanchi Array	57.50	325	P		P	P	21 37 59.1	-0.5
	0.7nm,0.5s,baz=120,slow=7.7,SNR=2.7								
ZALV	Zalesovo Beam	60.48	333	P		P	P	21 38 20.5	+0.5
ZALV	Zalesovo Beam	60.48	333	P		P	P	21 38 20.5	+0.5
	0.4nm,0.4s,baz=120,slow=8.5,SNR=2.4								
KURBB	Kurchatov Arra	61.67	327	P		P	P	21 38 27.8	-0.4
	1.0nm,0.7s,baz=127,slow=6.6,SNR=3.2								
KURK	Kurchatov	61.67	327	*eP*		P	P	21 38 27.2	-0.9
	1.7nm,0.5s								
ILAR	Eielson Array	84.72	25	P		P	P	21 40 44.0	0.0
ILAR	Eielson Array	84.72	25	P		P	P	21 40 44.0	0.0
	0.3nm,0.8s,baz=287,slow=6.9,SNR=4.4								

*IDC **11** 21:28:52.8±0.9,3°.95N×126°.87E,h0km,mb3.9/11, mb1 4.0/11,mb1mx3.9/21,mbtmp3.9/11,Error ellipse: s-maj=56.9km s-min=15.7km az=67.0*
*ISCJB **11** 21:28:56.3±0.7,3°.9N±0°.1×126°.7E±0°.2,h36km,mb3.9/12, Error ellipse: s-maj=38.0km s-min=11.3km az=158.4*
*NEIC **11** 21:28:57.9±0.5,3°.88N×126°.75E,h35km,mb4.1/2,Error ellipse: s-maj=28.3km s-min=8.6km az=69.0*

ISC 11 21:28:58.1±0.9,3°.9N±0°.1×126°.8E±0°.3,h36km,n25, σ0s83/25,mb3.8/11,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.86	183	*eP*		P	P	21 33 48.2	+0.4
	24nm,1.5s								
FITZ	Fitzroy Crossi	21.86	183	P		P	P	21 33 49.6	+1.8
	2.7nm,0.6s,baz=4.8,slow=8.0,SNR=2.4								
WRA	Warramunga Arr	24.81	163	P		P	P	21 34 17.6	+0.5
WRA	Warramunga Arr	24.81	163	P		P	P	21 34 17.6	+0.5
	21nm,0.8s,baz=341,slow=11,SNR=9.9								
ASAR	Alice Springs	28.24	166	P		P	P	21 34 46.7	-1.3
ASAR	Alice Springs	28.24	166	P		P	P	21 34 46.7	-1.3
	0.8nm,0.6s,baz=347,slow=8.0,SNR=3.5								
CMAR	Chiang Mai Arr	30.82	300	P		P	P	21 35 10.9	0.0
CMAR	Chiang Mai Arr	30.82	300	P		P	P	21 35 10.9	0.0
	0.5nm,0.4s,baz=115,slow=6.9,SNR=4.2								
STKA	Stephens Creek	38.25	159	*eP*		P	P	21 36 15.3	+0.4
	1.5nm,0.8s								
STKA	Stephens Creek	38.25	159	P		P	P	21 36 15.4	+0.4
	7.7nm,0.8s,baz=332,slow=7.2,SNR=5.8								
SONM	Songino Array	47.17	341	P		P	P	21 37 27.9	+0.6
SONM	Songino Array	47.17	341	P		P	P	21 37 27.9	+0.6
	0.5nm,0.6s,baz=157,slow=7.7,SNR=2.2								
MKAR	Makanchi Array	57.45	325	P		P	P	21 38 42.8	-0.7
MKAR	Makanchi Array	57.45	325	P		P	P	21 38 42.8	-0.7
	0.6nm,0.6s,baz=115,slow=8.5,SNR=3.1								
AAK	Ala-Archa	60.27	318	*eP*		P	P	21 39 03.1	-0.2
AAK	Ala-Archa	60.27	318	P		P	P	21 39 05.4	+2.1
	0.4nm,0.5s,baz=174,slow=10,SNR=3.9								
ZALV	Zalesovo Beam	60.48	333	P		P	P	21 39 03.8	-0.5
ZALV	Zalesovo Beam	60.48	333	P		P	P	21 39 03.8	-0.5
	0.5nm,0.6s,baz=126,slow=7.3,SNR=2.7								
KURBB	Kurchatov Arra	61.63	327	P		P	P	21 39 11.8	-0.4
	1.1nm,0.7s,baz=127,slow=6.2,SNR=3.2								
BRTR	Keskin Array B	89.95	310	P		P	P	21 41 53.8	-0.5
BRTR	Keskin Array B	89.95	310	P		P	P	21 41 53.8	-0.5
	0.6nm,0.7s,baz=116,slow=6.6,SNR=3.5								
YKA	Yellowknife Ar	99.36	24	P		P	Pdif	21 42 36.3	-0.2
YKA	Yellowknife Ar	99.36	24	P		P	Pdif	21 42 36.3	-0.2
	0.1nm,0.3s,baz=304,slow=4.4,SNR=7.0								
TORD	Torodi Ar. Bea	122.90	288	PKP		PKPdf	P	21 47 51.7	+0.1
TORD	Torodi Ar. Bea	122.90	288	PKP		PKPdf	P	21 47 51.7	+0.1
	0.4nm,1.0s,baz=80,slow=1.7,SNR=2.3								

*IDC **11** 21:30:26.4±0.6,3°.90N×126°.58E,h0km,mb4.3/22, mb1 4.3/22,mb1mx4.3/26,mbtmp4.3/22,Error ellipse: s-maj=27.9km s-min=12.5km az=79.0*
*ISCJB **11** 21:30:30.8±0.4,3°.90N±0°.05×126°.62E±0°.09,h45km, mb4.3/28,Error ellipse: s-maj=13.9km s-min=6.6km az=162.8*
*NEIC **11** 21:30:32.0±3.0,3°.89N×126°.59E,h41km±29km,mb4.5/9, Error ellipse: s-maj=13.7km s-min=6.5km az=77.0*

ISC 11 21:30:32.6±0.6,3°.89N±0°.07×126°.6E±0°.1,h45km,n63, σ0s59/61,mb4.4/32,1C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.32	342	Sn		Sn	Sn	21 32 00.1	-0.2
	32nm,0.3s,baz=72,slow=20,SNR=2.0								
KCP	Kidapawan	3.45	334	*iP*		Pn		21 31 29.6	+5.7
KCP						Sn		21 32 19.4	+16
CTBH	Cotabato--PC H	4.06	325	*iP*		Pn		21 31 36.0	+3.8
FIT

*DDA **11** 21:33:39.1, 39°43.N × 28°17.E, h7km, MD2.7*
*ISK **11** 21:33:40.2, 39°46.N × 28°24.E, h7km, MD2.6*
ISC 11 21:33:39.1±0.8, **39°41.N**±0°02 × **28°14.E**±0°03, **h0**km, **n33**, σ**0**:**56**/44, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.30**	**319**	*e*PG	**Pb**	**21 33 47.1**	**-0.3**
BALB				*e*SG	**Sb**	**21 33 52.6**	**-0.4**
BALB	**Balikesir**	**0.30**	**319**	*e*Pg	**Pb**	**21 33 47.1**	**-0.3**
BALB				*e*Sg	**Sb**	**21 33 52.6**	**-0.4**
DURS	**Dursunbey**	**0.32**	**54**	*i* P	**Pg**	**21 33 45.6**	**+0.3**
DURS				*i* S	**Sg**	**21 33 49.9**	**+0.4**
DURS	**Dursunbey**	**0.32**	**54**	*i* P	**Pg**	**21 33 45.6**	**+0.3**
DURS				*i* S	**Sg**	**21 33 49.9**	**+0.4**
DST	**Dursunbey**	**0.42**	**62**	*e*PG	**Pg**	**21 33 47.6**	**+0.4**
DST	**Dursunbey**	**0.42**	**62**	*e*Pg	**Pg**	**21 33 47.6**	**+0.4**
DEMI	**Demirci**	**0.58**	**129**	*i* P	**Pg**	**21 33 50.3**	**+0.1**
DEMI				*i* S	**Sg**	**21 33 58.0**	**+0.3**
DEMI	**Demirci**	**0.58**	**129**	*i* P	**Pg**	**21 33 50.3**	**+0.1**
DEMI				*i* S	**Sg**	**21 33 58.0**	**+0.3**
AKHS	**Akhisar**	**0.59**	**205**	*i* P	**Pg**	**21 33 50.3**	**-0.1**
AKHS				*i* S	**Sb**	**21 34 00.0**	**-1.1**
AKHS	**Akhisar**	**0.59**	**205**	*i* P	**Pg**	**21 33 50.3**	**-0.1**
AKHS				*i* S	**Sb**	**21 34 00.0**	**-1.1**
GONE	**Gonen-Balikesi**	**0.72**	**331**	*e*PG	**Pb**	**21 33 54.8**	**+0.2**
GONE	**Gonen-Balikesi**	**0.72**	**331**	*e*Pg	**Pb**	**21 33 54.8**	**+0.2**
KCTX	**Karacabey (Bur**	**0.87**	**11**	*e*PG	**Pg**	**21 33 56.0**	**+0.2**
KCTX	**Karacabey (Bur**	**0.87**	**11**	*e*Pg	**Pg**	**21 33 56.0**	**+0.2**
EDC	**Edincik**	**0.96**	**347**	*e*PG	**Pg**	**21 33 58.4**	**+0.9**
EDC	**Edincik**	**0.96**	**347**	*e*Pg	**Pg**	**21 33 58.4**	**+0.9**
MANT	**Manisa**	**0.97**	**160**	*i* P	**Pg**	**21 33 58.2**	**+0.4**
MANT				*i* S	**Sg**	**21 34 11.0**	**+0.6**
MANT	**Manisa**	**0.97**	**160**	*i* P	**Pg**	**21 33 58.2**	**+0.4**
MANT				*i* S	**Sg**	**21 34 11.0**	**+0.6**
KULA	**Kula-Manisa**	**0.98**	**155**	*e*PG	**Pb**	**21 33 59.7**	**+0.6**
KULA	**Kula-Manisa**	**0.98**	**155**	*e*Pg	**Pb**	**21 33 59.7**	**+0.6**
GDZ	**Gediz**	**1.09**	**107**	*i* P	**Pg**	**21 34 00.4**	**+0.3**
GDZ				*i* S	**Sg**	**21 34 14.8**	**+0.6**
GDZ	**Gediz**	**1.09**	**107**	*i* P	**Pg**	**21 34 00.4**	**+0.3**
GDZ				*i* S	**Sg**	**21 34 14.8**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.12**	**31**	*e*PG	**Pg**	**21 34 00.5**	**0.0**
MDNY	**Mudanya-Bursa**	**1.12**	**31**	*e*Pg	**Pg**	**21 34 00.5**	**0.0**
KRBG	**Karabiga-Canak**	**1.18**	**327**	*e*PN	**Pb**	**21 34 02.9**	**+0.6**
KRBG	**Karabiga-Canak**	**1.18**	**327**	*e*Pn	**Pb**	**21 34 02.9**	**+0.6**
GEMT	**Gemlik**	**1.30**	**38**	*e*PN	**Pg**	**21 34 03.1**	**-1.0**
GEMT	**Gemlik**	**1.30**	**38**	*e*Pn	**Pg**	**21 34 03.1**	**-1.0**
RKY	**Sarkoy-Tekirda**	**1.47**	**330**	*e*PN	**Pg**	**21 34 08.1**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.47**	**330**	*e*Pn	**Pg**	**21 34 08.1**	**+0.7**
KHAL	**Karahalli**	**1.48**	**134**	*i* P	Pn	21 34 03.3	-3.8
YLV	**Yalova**	**1.50**	**39**	*e*PN	**Pn**	**21 34 06.8**	**-0.5**
YLV	**Yalova**	**1.50**	**39**	*e*Pn	**Pn**	**21 34 06.8**	**-0.5**

*IDC **11** 21:34:51.3±0.9, 4°07.N × 126°84.E, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.1/22, mbtmp4.1/13, Error ellipse: s-maj=54.1km s-min=13.2km az=70.0*
*ISCJB **11** 21:34:54.7±0.6, 4°.0N±0°.1 × 126°.8E±0°.3, h36km, mb4.3/16, Error ellipse: s-maj=39.7km s-min=9.0km az=160.9*
*NEIC **11** 21:34:56.4±0.4, 4°.03N × 126°.83E, h35km, mb4.3/4, Error ellipse: s-maj=24.9km s-min=5.9km az=73.0*
ISC 11 21:34:56.8±0.8, **4°.0N**±0°.1 × **126°.8E**±0°.3, **h36**km, **n34**, σ**0**:**51**/36, **mb4.1**/16, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.00**	**183**	*e*P	**P**	**21 39 47.7**	**-0.3**
	12nm,1.2s						
FITZ	**Fitzroy Crossi**	**22.00**	**183**	P	**P**	**21 39 47.8**	**-0.3**
	2.6nm,0.5s,baz=276,slow=15,SNR=7.3						
WRAB	**Tennant Creek**	**24.93**	**163**	*e*P	**P**	**21 40 16.3**	**-0.5**
	8.7nm,0.7s						
WRA	**Warramunga Arr**	**24.94**	**163**	P	**P**	**21 40 16.9**	**+0.1**
WRA	**Warramunga Arr**	**24.94**	**163**	P	**P**	**21 40 16.9**	**+0.1**
	3µm,0.3s,baz=50,slow=0.0,SNR=14						
ASAR	**Alice Springs**	**28.37**	**166**	P	**P**	**21 40 47.5**	**-0.3**
ASAR	**Alice Springs**	**28.37**	**166**	P	**P**	**21 40 47.5**	**-0.3**
	0.6nm,0.3s,baz=342,slow=9.2,SNR=5.6						
CMAR	**Chiang Mai Arr**	**30.78**	**300**	P	**P**	**21 41 09.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**30.78**	**300**	P	**P**	**21 41 09.6**	**+0.4**
	0.4nm,0.4s,baz=110,slow=7.0,SNR=16						
NWAO	**Narrogin (SRO)**	**37.84**	**193**	*e*P	**P**	**21 42 10.1**	**0.0**
	2.3nm,0.6s						
NWAO	**Narrogin (SRO)**	**37.84**	**193**	P	**P**	**21 42 10.2**	**+0.1**
	20nm,1.2s,baz=72,slow=10,SNR=3.6						
STKA	**Stephens Creek**	**38.37**	**159**	P	**P**	**21 42 14.4**	**-0.2**
	4.2nm,0.6s,baz=320,slow=6.2,SNR=9.4						
ULN	**Ulaanbaatar**	**46.87**	**342**	*e*P	**P**	**21 43 23.1**	**-0.4**
SONM	**Songino Array**	**47.05**	**341**	P	**P**	**21 43 25.4**	**+0.4**
SONM	**Songino Array**	**47.05**	**341**	P	**P**	**21 43 25.4**	**+0.4**
	0.5nm,0.5s,baz=141,slow=7.1,SNR=3.4						
MK31	**Makanchi Array**	**57.36**	**325**	*e*P	**P**	**21 44 41.1**	**-0.4**
MKAR	**Makanchi Array**	**57.36**	**325**	P	**P**	**21 44 41.1**	**-0.3**
MKAR				PcP	**PcP**	**21 45 35.9**	**+0.7**
MKAR	**Makanchi Array**	**57.36**	**325**	P	**P**	**21 44 41.1**	**-0.3**
	0.8nm,0.5s,baz=119,slow=7.6,SNR=14						
MKAR				PcP	**PcP**	**21 45 35.9**	**+0.7**
	0.9nm,0.7s,baz=114,slow=5.4,SNR=4.7						
ZALV	**Zalesovo Beam**	**60.36**	**333**	P	**P**	**21 45 01.3**	**-0.8**
ZALV	**Zalesovo Beam**	**60.36**	**333**	P	**P**	**21 45 01.3**	**-0.8**
	0.3nm,0.3s,baz=98,slow=10,SNR=3.4						
KURBB	**Kurchatov Arra**	**61.53**	**327**	P	**P**	**21 45 09.8**	**-0.3**
	0.6nm,0.4s,baz=128,slow=6.3,SNR=7.7						
KURK	**Kurchatov**	**61.53**	**327**	*e*P	**P**	**21 45 09.8**	**-0.4**
	1.5nm,0.4s						
BVAR	**Borovoye Array**	**67.11**	**327**	P	**P**	**21 45 46.4**	**-0.2**
BVAR	**Borovoye Array**	**67.11**	**327**	P	**P**	**21 45 46.4**	**-0.2**
	1.2nm,0.8s,baz=116,slow=10,SNR=6.6						
BRTR	**Keskin Array B**	**89.88**	**310**	P	**P**	**21 47 51.9**	**-0.7**
BRTR	**Keskin Array B**	**89.88**	**310**	P	**P**	**21 47 51.9**	**-0.7**
	0.8nm,0.8s,baz=114,slow=5.9,SNR=5.1						
ARCES	**ARCESS Array B**	**90.20**	**340**	P	**P**	**21 47 53.2**	**0.0**
ARCES	**ARCESS Array B**	**90.20**	**340**	P	**P**	**21 47 53.2**	**0.0**
	4.1nm,1.1s,baz=69,slow=6.2,SNR=3.7						
FINES	**FINESS Array B**	**91.61**	**332**	P	**P**	**21 47 59.8**	**-0.1**
FINES	**FINESS Array B**	**91.61**	**332**	P	**P**	**21 47 59.8**	**-0.1**
	2.7nm,0.9s,baz=102,slow=6.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**122.88**	**288**	PKP	**PKPdf**	**21 53 50.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**122.88**	**288**	PKP	**PKPdf**	**21 53 50.3**	**+0.1**
	0.1nm,0.4s,baz=69,slow=2.5,SNR=3.7						
CPUP	**Villa Florida**	**157.46**	**170**	PKPab	**PKPab**	**21 55 22.6**	**+1.3**
CPUP	**Villa Florida**	**157.46**	**170**	PKPab	**PKPab**	**21 55 22.6**	**+1.3**
	1.9nm,0.8s,baz=254,slow=7.4,SNR=3.3						

*IDC **11** 21:36:23.3±0.5, 3°77.N × 126°48.E, h0km, mb4.3/24, mb1 4.4/24, mb1mx4.4/26, mbtmp4.3/24, Error ellipse: s-maj=25.3km s-min=11.7km az=74.0*
*NEIC **11** 21:36:26.1±3.0, 3°77.N × 126°51.E, h21km±21km, mb4.5/11, Error ellipse: s-maj=13.2km s-min=5.3km az=72.0*
*ISCJB **11** 21:36:27.5±0.3, 3°74.N±0°05 × 126°52.E±0°09, h45km, mb4.4/33, Error ellipse: s-maj=13.1km s-min=6.0km az=161.4*
*DJA **11** 21:36:33, 3°65.N × 126°91.E, h81km, MLv4.6/3*
ISC 11 21:36:29.3±0.5, **3°76.N**±0°07 × **126°.5E**±0°.1, **h45**km, **n79**, σ**0**:**83**/80, **mb4.5**/40, **4C-1D**, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.41**	**344**	*e*Pn	**Pn**	**21 37 17.3**	**-2.7**
DAV				S	Sn	21 38 08.4	+9.2
DAV	**Davao City (W)**	**3.41**	**344**	Sn	**Sn**	**21 38 01.2**	**+2.0**
	1.9nm,0.3s,baz=108,slow=20,SNR=1.6						
FITZ	**Fitzroy Crossi**	**21.74**	**182**	*e*P	**P**	**21 41 16.4**	**-0.6**
	6.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.74**	**182**	P	**P**	**21 41 16.9**	**-0.1**
	5.4nm,0.6s,baz=15,slow=8.1,SNR=7.3						
WRAB	**Tennant Creek**	**24.78**	**162**	*e*P	**P**	**21 41 45.5**	**-1.5**
	20nm,0.8s						
WRA	**Warramunga Arr**	**24.78**	**162**	P	**P**	**21 41 46.7**	**-0.4**
WRA	**Warramunga Arr**	**24.78**	**162**	P	**P**	**21 41 46.7**	**-0.4**
	690nm,0.3s,baz=340,slow=10,SNR=10.0						
AS31	**Alice Springs**	**28.20**	**166**	*e*P	**P**	**21 42 16.9**	**-1.0**
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**	**21 42 19.3**	**+1.4**
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**	**21 42 19.3**	**+1.4**
	1.8nm,0.4s,baz=341,slow=10,SNR=9.9						
CMAR	**Chiang Mai Arr**	**30.66**	**301**	P	**P**	**21 42 41.4**	**+1.6**
CMAR	**Chiang Mai Arr**	**30.66**	**301**	P	**P**	**21 42 41.4**	**+1.6**
	2.3nm,0.9s,baz=116,slow=7.4,SNR=8.6						
CHTO	**Chiang Mai**	**30.81**	**301**	*e*P	**P**	**21 42 40.5**	**-0.6**
	1.8nm,0.6s						
ENH	**Enshi**	**30.89**	**330**	*e*P	**P**	**21 42 41.1**	**-0.6**
	4.3nm,0.6s						
KSAR	**Wonju Array Be**	**33.54**	**2**	P	**P**	**21 43 05.4**	**+0.6**
KSRS	**Korea Array**	**33.56**	**2**	P	**P**	**21 43 05.4**	**+0.5**
	1.2nm,0.4s,baz=176,slow=9.9,SNR=8.9						
BLDU	**Ballidu**	**35.44**	**195**	*e*P	**P**	**21 43 19.4**	**-1.9**
KLBR	**Kellerberrin**	**36.13**	**193**	*e*P	**P**	**21 43 27.5**	**+0.3**
	22nm,1.1s						
NWAO	**Narrogin (SRO)**	**37.53**	**193**	*e*P	**P**	**21 43 39.2**	**+0.1**
	11nm,1.1s						
NWAO	**Narrogin (SRO)**	**37.53**	**193**	P	**P**	**21 43 39.5**	**+0.4**
	5.6nm,0.7s,baz=40,slow=10,SNR=3.1						
STKA	**Stephens Creek**	**38.24**	**159**	*e*P	**P**	**21 43 44.5**	**-0.7**
	0.9nm,0.5s						
STKA	**Stephens Creek**	**38.24**	**159**	*e*P	**P**	**21 43 45.1**	**0.0**
	3.6nm,0.4s						
STKA	**Stephens Creek**	**38.24**	**159**	P	**P**	**21 43 45.2**	**+0.1**
	3.9nm,0.4s,baz=345,slow=8.6,SNR=11						
USRK	**Ussuriysk Arra**	**40.56**	**6**	P	**P**	**21 44 04.8**	**+0.6**
	1.3nm,0.5s,baz=189,slow=5.1,SNR=6.9						
ASAJ	**Asahikawa**	**42.63**	**17**	*e*P	**P**	**21 44 21.2**	**0.0**
ASAJ	**Asahikawa**	**42.63**	**17**	P	**P**	**21 44 22.6**	**+1.4**
	5.7nm,0.8s,baz=127,slow=26,SNR=4.1						
TAPN	**Taplejung**	**43.81**	**306**	*e*P	**P**	**21 44 31.9**	**+0.4**
	7.0nm,0.7s						
ODAN	**Odare**	**43.87**	**306**	*e*P	**P**	**21 44 32.4**	**+0.6**
	11nm,0.7s						
RAMN	**Ramite**	**44.55**	**305**	*e*P	**P**	**21 44 38.1**	**+0.8**
	8.2nm,0.6s						
JIRN	**Jiri**	**45.17**	**306**	*e*P	**P**	**21 44 42.9**	**+0.5**
GUN	**Gumba**	**45.52**	**306**	*e*P	**P**	**21 44 45.6**	**+0.5**
	16nm,0.7s						
KKN	**Kakani**	**45.96**	**306**	*e*P	**P**	**21 44 48.4**	**0.0**
	2.7nm,0.3s						
DMN	**Daman**	**46.03**	**305**	*e*P	**P**	**21 44 49.2**	**+0.2**
GKN	**Gorkha**	**46.56**	**306**	*e*P	**P**	**21 44 53.2**	**+0.1**
	5.9nm,0.6s						
DZM	**Mont Dzumac**	**46.74**	**125**	*e*P	**P**	**21 44 54.3**	**-0.2**
DZM	**Mont Dzumac**	**46.74**	**125**	P	**P**	**21 44 54.9**	**+0.4**
	2.1nm,0.7s,baz=309,slow=14,SNR=3.2						
ULN	**Ulaanbaatar**	**47.02**	**342**	*e*P	**P**	**21 44 55.7**	**-0.6**
	5.2nm,1.3s						
SONM	**Songino Array**	**47.20**	**342**	P	**P**	**21 44 57.9**	**+0.2**
SONM				PcP	**PcP**	**21 46 29.6**	**+1.0**
SONM	**Songino Array**	**47.20**	**342**	P	**P**	**21 44 57.9**	**+0.2**
	1.2nm,0.6s,baz=155,slow=8.5,SNR=7.4						
SONM				PcP	**PcP**	**21 46 29.6**	**+1.0**
	1.2nm,0.7s,baz=179,slow=3.2,SNR=5.3						
KOLN	**Kklanda**	**47.32**	**305**	*e*P	**P**	**21 44 59.7**	**+0.6**
	16nm,0.4s						
DANN	**Dangsing**	**47.41**	**306**	*e*P	**P**	**21 45 00.2**	**+0.3**
	20nm,0.5s						
PETK	**Petropavlovsk-**	**55.48**	**22**	P	**P**	**21 46 00.5**	**+0.9**
PETK	**Petropavlovsk-**	**55.48**	**22**	P	**P**	**21 46 00.5**	**+0.9**
	6.0nm,0.8s,baz=188,slow=5.6,SNR=4.8						
MK31	**Makanchi Array**	**57.40**	**325**	*e*P	**P**	**21 46 12.8**	**-0.4**
MKAR	**Makanchi Array**	**57.40**	**325**	P	**P**	**21 46 13.4**	**+0.2**
MKAR	**Makanchi Array**	**57.40**	**325**	P	**P**	**21 46 13.4**	**+0.2**
	2.7nm,0.5s,baz=119,slow=7.4,SNR=15						
AAK	**Ala-Archa**	**60.18**	**318**	P	**P**	**21 46 33.6**	**+0.8**
	1.3nm,0.7s,baz=160,slow=12,SNR=7.8						
ZALV	**Zalesovo Beam**	**60.46**	**333**	P	**P**	**21 46 33.7**	**-0.6**
ZALV	**Zalesovo Beam**	**60.46**	**333**	P	**P**	**21 46 33.7**	**-0.6**
	1.2nm,0.4s,baz=112,slow=6.2,SNR=5.5						
KURBB	**Kurchatov Arra**	**61.59**	**327**	P	**P**	**21 46 42.1**	**+0.1**
	4.3nm,0.6s,baz=124,slow=7.6,SNR=22						
KURK	**Kurchatov**	**61.59**	**328**	*e*P	**P**	**21 46 41.7**	**-0.4**
	7.1nm,0.6s						
KKAR	**Karatay Array**	**63.05**	**317**	*e*P	**P**	**21 46 52.6**	**+0.5**
	3.5nm,0.7s						
BVAR	**Borovoye Array**	**67.17**	**327**	P	**P**	**21 47 19.7**	**+1.1**
BVAR	**Borovoye Array**	**67.17**	**327**	P	**P**	**21 47 19.7**	**+1.1**
	3.0nm,0.7s,baz=131,slow=8.4,SNR=15						
BRVK	**Borovoye**	**67.24**	**327**	*e*P	**P**	**21 47 18.9**	**-0.1**
	8.8nm,1.0s						
ABKAR	**Akbulak array**	**71.98**	**321**	*e*P	**P**	**21 47 47.9**	**-0.4**
	2.9nm,0.6s						
ILAR	**Eielson Array**	**85.17**	**25**	P	**P**	**21 49 00.2**	**-0.3**
ILAR	**Eielson Array**	**85.17**	**25**	P	**P**	**21 49 00.2**	**-0.3**
	0.6nm,0.8s,baz=241,slow=5.5,SNR=8.2						
BRTR	**Keskin Array B**	**89.83**	**310**	P	**P**	**21 49 23.4**	**-0.3**
BRTR	**Keskin Array B**	**89.83**	**310**	P	**P**	**21 49 23.4**	**-0.3**
	1.8nm,0.9s,baz=117,slow=5.5,SNR=8.9						
ARCES	**ARCESS Array B**	**90.34**	**340**	P	**P**	**21 49 24.9**	**-0.4**
ARCES	**ARCESS Array B**	**90.34**	**340**	P	**P**	**21 49 24.9**	**-0.4**
	2.8nm,0.9s,baz=88,slow=7.4,SNR=8.1						
FINES	**FINESS Array B**	**91.70**	**332**	P	**P**	**21 49 31.7**	**0.0**
FINES	**FINESS Array B**	**91.70**	**332**	P	**P**	**21 49 31.7**	**0.0**
	1.3nm,0.6s,baz=35,slow=7.0,SNR=7.0						
AKASG	**Malin Array Be**	**91.72**	**321**	P	**P**	**21 49 31.9**	**-0.2**
AKASG	**Malin Array Be**	**91.72**	**321**	P	**P**	**21 49 31.9**	**-0.2**
	1.0nm,0.4s,baz=68,slow=4.6,SNR=4.3						
TESR		**94.06**	**317**	⟘ *i*P	**P**	**21 49 43.2**	**+0.2**
MLR	**Muntele Rosu**	**94.72**	**316**	⟘ *i*P	**P**	**21 49 45.4**	**-0.8**
BURAR	**Bucovina Array**	**94.83**	**318**	⟘ *i*P	**P**	**21 49 46.6**	**0.0**
BUR08	**Bucovina Ar. S**	**94.83**	**318**	*e*P	**P**	**21 49 47.0**	**+0.3**
DRGR		**96.67**	**318**	⟘ *i*P	**P**	**21 49 55.4**	**+0.4**
PSZ	**Piszkesteto**	**98.26**	**319**	⟘ *i*P	P	21 49 44.0	-18
NB2	**NORSAR Subarra**	**98.66**	**334**	P	**P**	**21 50 01.9**	**-1.7**
	comp=Z,0.7nm,0.7s,baz=66,slow=4.6						
NOA	**NORSAR Array B**	**98.66**	**334**	P	**P**	**21 50 02.2**	**-1.4**
NOA	**NORSAR Array B**	**98.66**	**334**	P	**P**	**21 50 02.2**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=65,slow=4.5,SNR=3.8						
YKA	**Yellowknife Ar**	**99.56**	**24**	P	**Pdif**	**21 50 07.8**	**+0.3**
YKA	**Yellowknife Ar**	**99.56**	**24**	P	**Pdif**	**21 50 07.8**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=303,slow=4.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**122.69**	**288**	PKP	**PKPdf**	**21 55 21.6**	**+0.3**
TORD	**Torodi Ar. Bea**	**122.69**	**288**	PKP	**PKPdf**	**21 55 21.6**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=69,slow=1.8,SNR=9.3						

IDC 11 21:38:50.8±1.2, **4°.00N** × **126°.74E**, **h0**km, **mb4.1**/8, **mb1 4.2**/8, **mb1mx3.9**/20, **mbtmp4.1**/8, **Error ellipse: s-maj=93.1km s-min=20.2km az=63.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.94**	**163**	P	P	21 44 15.6	-0.4
	3.3nm,0.5s,baz=342,slow=10,SNR=4.0						
CMAR	**Chiang Mai Arr**	**30.74**	**300**	P	P	21 45 08.1	+0.1
	0.4nm,0.4s,baz=95,slow=6.4,SNR=3.1						
STKA	**Stephens Creek**	**38.38**	**159**	P	P	21 46 14.2	+0.3
	2.3nm,0.7s,baz=332,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**57.34**	**325**	P	P	21 48 40.9	+0.1
	1.2nm,0.5s,baz=117,slow=7.6,SNR=5.6						
ZALV	**Zalesovo Beam**	**60.35**	**333**	P	P	21 49 00.7	-0.8
	1.1nm,0.4s,baz=130,slow=6.8,SNR=5.3						
KURBB	**Kurchatov Arra**	**61.51**	**327**	P	P	21 49 09.6	+0.1
	1.0nm,0.5s,baz=128,slow=5.8,SNR=6.3						
BRTR	**Keskin Array B**	**89.85**	**310**	P	P	21 51 51.9	-0.2
	0.5nm,0.9s,baz=105,slow=3.4,SNR=2.7						
ARCES	**ARCESS Array B**	**90.30**	**340**	P	P	21 51 53.4	+0.5
	3.8nm,1.0s,baz=51,slow=5.9,SNR=3.9						

*BJI **11** 21:39:06.7, 3°62.N × 126°54.E, h32km, mB5.1/11, mb4.7/31, Ms4.7/5, Ms7.4/5*
*IDC **11** 21:39:06.2±0.5, 3°99.N × 126°54.E, h0km, mb4.5/23, mb1 4.5/23, mb1mx4.5/25, mbtmp4.4/23, Error ellipse: s-maj=26.6km s-min=11.6km az=68.0*
*NEIC **11** 21:39:09.3±2.6, 3°98.N × 126°50.E, h22km±19km, mb4.8/16, Error ellipse: s-maj=11.3km s-min=4.7km az=69.0*
*ISCJB **11** 21:39:10.7±0.3, 3°96.N±0°05 × 126°46.E±0°08, h45km, mb4.6/43, MS4.3/1, Error ellipse: s-maj=12.6km s-min=6.0km az=156.2*
*DJA **11** 21:39:19.9±0.9, 4°N±9°×12°7E±°, h93km±11km, M4.8/11, mB5.4/2, mb4.8/11, MLv4.9/1, Mw(mB)4.9/2*
ISC 11 21:39:12.4±0.4, **4°.05N**±0°07 × **126°.55E**±0°.10, **h45**km, **n100**, σ**1**º**24**/102, **mb4.7**/42, **5C-3D**, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.15**	**342**	*e*Pn	**Pn**	**21 39 57.4**	**-2.1**
DAV				S	Sn	21 40 51.0	+15
DAV	**Davao City (W)**	**3.15**	**342**	Pn	Pn	21 40 04.4	+4.8
	39nm,0.3s,baz=262,slow=12,SNR=1.4						
DAV				Sn	Sn	21 40 51.0	+15
	50nm,0.3s,baz=69,slow=17,SNR=3.0						
KCP	**Kidapawan**	**3.28**	**334**	*e*P	Pn	21 40 08.8	+7.5
CTBH	**Cotabato--PC H**	**3.90**	**324**	⟘ *i*P	Pn	21 40 16.6	+6.9
MRSI	**Marisa**	**5.81**	**233**	P	Pn	21 40 41.2	+5.1
	206nm,0.6s,2µm0.6nm						
TTSI	**Tana Toraja**	**9.74**	**224**	P	Pn	21 41 50.2	+20
BAKI	**Biak**	**10.88**	**118**	P	Pn	21 41 49.2	+3.6
	64nm,1.1s						
SBUM	**Sibu**	**14.39**	**264**	P	**P**	**21 42 41.1**	**+1.6**
	32nm,1.4s						
JAY	**Jayapura**	**15.58**	**115**	P	**P**	**21 42 54.3**	**+1.6**
	41nm,1.0s,4µm						
KSM	**Kuching**	**16.42**	**261**	P	**P**	**21 43 06.1**	**+4.1**
	32nm,1.1s						
TPUB	**Ta-pu**	**19.98**	**344**	*e*P	**P**	**21 43 39.8**	**-1.3**
	34nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.03**	**182**	*e*P	**P**	**21 44 01.9**	**-1.3**
	5.4nm,0.5s						
FITZ	**Fitzroy Crossi**	**22.03**	**182**	*e*P	**P**	**21 44 01.9**	**-1.3**
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.03**	**182**	P	**P**	**21 44 02.0**	**-1.2**
	5.7nm,0.8s,baz=4.3,slow=9.3,SNR=4.7						
JOW	**Kunigami**	**22.72**	**4**	P	**P**	**21 44 11.7**	**+1.1**
JOW	**Kunigami**	**22.72**	**4**	P	**P**	**21 44 11.7**	**+1.1**
	18nm,1.1s,baz=175,slow=12,SNR=3.7						
WRAB	**Tennant Creek**	**25.03**	**162**	*e*P	**P**	**21 44 30.7**	**-1.8**
	13nm,0.6s						
WRA	**Warramunga Arr**	**25.04**	**162**	P	**P**	**21 44 31.5**	**-1.1**
WRA	**Warramunga Arr**	**25.04**	**162**	P	**P**	**21 44 31.5**	**-1.1**
	12nm,0.5s,baz=335,slow=12,SNR=11						
MNSI	**Mandailing Nat**	**27.13**	**264**	P	P	21 45 02.2	+11
ASAR	**Alice Springs**	**28.46**	**166**	P	**P**	**21 45 03.0**	**-0.4**
ASAR	**Alice Springs**	**28.46**	**166**	P	**P**	**21 45 02.9**	**-0.4**
	1.2nm,0.6s,baz=346,slow=14,SNR=6.4						
WHN	**Wuhan**	**28.76**	**338**	P	**P**	**21 45 07.1**	**+1.2**
CM31	**Chiang Mai Arr**	**30.56**	**300**	*e*P	**P**	**21 45 21.3**	**-0.7**
	11nm,0.3s						
CMAR	**Chiang Mai Arr**	**30.56**	**300**	P	**P**	**21 45 23.6**	**+1.6**
CMAR	**Chiang Mai Arr**	**30.56**	**300**	P	**P**	**21 45 23.6**	**+1.6**
	2.7nm,0.8s,baz=113,slow=7.5,SNR=11						
ENH	**Enshi**	**30.66**	**330**	*e*P	**P**	**21 45 22.4**	**-0.4**
	19nm,0.8s						
CHTO	**Chiang Mai**	**30.70**	**301**	*e*P	**P**	**21 45 22.8**	**-0.5**
	7.4nm,0.8s						
CHTO	**Chiang Mai**	**30.70**	**301**	P	**P**	**21 45 24.8**	**+1.5**
	11nm,1.4s						
CTA	**Charters Tower**	**30.82**	**142**	P	**P**	**21 45 25.2**	**+0.9**
CTA	**Charters Tower**	**30.82**	**142**	P	**P**	**21 45 25.2**	**+0.9**
	6.8nm,1.1s,baz=324,slow=14,SNR=3.9						
CTAO	**Charters Tower**	**30.82**	**142**	*e*P	**P**	**21 45 23.6**	**-0.7**
	4.6nm,0.8s						
KSAR	**Wonju Array Be**	**33.26**	**2**	P	**P**	**21 45 46.5**	**+1.1**
**KSRS

comp=Z,0.2nm,0.7s,baz=70,slow=5.6
NOA NORSAR Array B 98.42 334 P P 21 52 45.3 -0.3
NOA NORSAR Array B 98.42 334 P P 21 52 45.3 -0.3
comp=Z,1.4nm,0.8s,baz=68,slow=4.7,SNR=4.4
YKA Yellowknife Ar 99.28 24 P Pdif 21 52 50.0 +0.7
YKA Yellowknife Ar 99.28 24 P Pdif 21 52 50.0 +0.7
comp=Z,0.1nm,0.4s,baz=295,slow=4.7,SNR=4.1
GERES GERESS Array B 101.72 322 P Pdif 21 53 00.5 -0.2
GERES GERESS Array B 101.72 322 P Pdif 21 53 00.5 -0.2
comp=Z,0.2nm,0.4s,baz=104,slow=7.2,SNR=4.3
TORD Torodi Ar. Bea 122.65 288 PKP PKPdf 21 58 04.0 -0.2
TORD Torodi Ar. Bea 122.65 288 PKP PKPdf 21 58 04.0 -0.2
comp=Z,1.0nm,0.7s,baz=40,slow=2.3,SNR=6.7

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*IDC **11** 21:41:39.9±0.4,3.83N×126.59E,h0km,mb4.6/30, mb1 4.6/30,mb1mx4.6/31,mbtmp4.6/30,MS4.0/2, Ms1 4.0/2,ms1mx3.4/50,Error ellipse: s-maj=19.0km s-min=10.4km az=71.0*

*BJI **11** 21:41:42.1,3.67N×126.47E,h30km,mB5.2/12,mb4.9/33, Ms4.9/4,Ms7 4.5/4*

*MOS **11** 21:41:43.2±1.1,3.79N×126.56E,h33km,mb5.2/24,Error ellipse: s-maj=12.7km s-min=6.0km az=114.3*

*ISCJB **11** 21:41:43.2±0.2,3.89N±0.03×126.67E±0.04,h31km, mb4.8/86,MS4.1/2,Error ellipse: s-maj=6.7km s-min=4.3km az=153.1*

*NEIC **11** 21:41:45.2±0.2,3.79N×126.61E,h35km,mb4.9/21,Error ellipse: s-maj=7.6km s-min=5.0km az=68.0*

*DJA **11** 21:41:51,3.81N×126.91E,h51km,mb4.9/20*

ISC 11 21:41:45.4±0.5,3.90N±0.04×126.62E±0.06,h33km±1km, h33km:pP-P,n240,σ1§31/223,mb4.9/84,12C-17D,Taalud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MNI	Manado	3.02	216	P			Pb	21 42 40.7	+2.2
MATI	Mati	3.05	353	eP			Pb	21 42 36.0	-3.1
TNTI	Ternate	3.19	166	P			Pn	21 42 35.7	+2.4
DAV	Davao City (W)	3.32	342	Pn			Pb	21 42 44.1	+0.4
DAV				Sn			Sn	21 43 12.7	-0.7
DAV	Davao City (W)	3.32	342	Pn			Pb	21 42 44.1	+0.4
	70nm,0.3s,baz=133,slow=4.5,SNR=2.7								
DAV				Sn			Sn	21 43 12.7	-0.7
	96nm,0.3s,baz=270,slow=20,SNR=4.6								
KCP	Kidapawan	3.45	334	eP			Pb	21 42 45.0	-1.0
KCP				i S			Sb	21 43 34.8	+7.3
KCP	Kidapawan	3.45	334	eP			Pb	21 42 46.7	+0.8
CTBH	Cotabato--PC H	4.06	325	iP			Pb	21 42 51.1	-5.2
BUKP	Musuan	4.25	339	eP			Pn	21 42 53.0	+5.1
CGP	Cagayan de Oro	4.92	337	eP			Pn	21 43 01.9	+4.9
CGP				eS			Sb	21 44 02.9	-6.7
PAGZ	Pagadian	5.08	321	eP			Pn	21 43 04.4	+5.1
ZMPH	Zamboanga City	5.46	304	iP			Pn	21 43 07.5	+2.9
ZMPH				i S			Sn	21 44 04.5	-1.7
IPIL	Ipil	5.58	314	eP			Pn	21 43 10.0	+3.8
MRSI	Marisa	5.78	234	P			Pn	21 43 14.0	+5.1
	450nm,1.0s,5µm1.9nm								
SWI	Sorong	6.62	135	P			Pn	21 43 21.0	+0.5
	146nm,0.6s,2µm								
APSI	Ampana	6.89	226	P			Pn	21 43 30.9	+6.7
	9µm,0.8s,834µm								
TSM	Tawau	8.74	273	P			Pn	21 43 55.3	+5.8
KDI	Kendari	8.77	207	P			Pn	21 44 02.0	+12
FAKI	Fak Fak	8.80	140	P			Pn	21 43 52.5	+2.1
	52nm,1.0s,0.2nm								
SDKM	Sandakan	9.55	281	P			Pn	21 44 06.7	+5.9
TTSI	Tana Toraja	9.68	225	P			Pn	21 44 08.7	+6.2
	116nm,1.1s,1µm								
BATP	Bataraza	10.03	299	eP			Pn	21 44 19.2	+12
KDM	Kudat	10.20	288	P			Pn	21 44 15.9	+6.4
SPSI	Sidrap Palu	10.38	221	P			Pn	21 44 31.6	+19
KKM	Kota Kinabalu	10.59	282	ePn			Pn	21 44 14.1	-0.9
	21nm,0.4s								
KKM	Kota Kinabalu	10.59	282	P			Pn	21 44 20.8	+5.9
KKM	Kota Kinabalu	10.59	282	P			Pn	21 44 22.7	+7.7
	47nm,1.4s								
BAKI	Biak	10.74	118	P			Pn	21 44 22.9	+5.8
KAPI	Kappang	11.20	218	LR			LR	21 49 14.2	
	comp=Z,844nm,19.1s,baz=82,slow=41								
TLE	Tual	11.27	147	P			Pn	21 44 27.9	+3.6
	85nm,1.2s								
KBKI	Kotabaru	12.66	236	P			P	21 44 52.8	-1.4
	50nm,1.2s,796nm								
BTM	Bintulu	13.53	268	P			P	21 45 00.7	-3.2
SBUM	Sibu	14.45	265	P			P	21 45 13.4	-0.7
SBUM	Sibu	14.45	265	P			P	21 45 13.7	-0.4
	49nm,1.6s								
STKI	Sintang	15.60	256	P			P	21 45 30.3	+3.4
	55nm,0.7s,8µm								
KSM	Kuching	16.47	262	ePn			Pn	21 45 34.4	+0.3
	31nm,0.9s								
KSM	Kuching	16.47	262	P			P	21 45 39.9	+3.3
KSM	Kuching	16.47	262	P			P	21 45 39.5	+2.9
	41nm,1.2s								
GUMO	Guam	20.43	61	LR			LR	21 51 58.6	
	comp=Z,428nm,21.1s,baz=292,slow=30								
PPBI	Pangkal Pinang	21.34	254	P			P	21 46 36.6	+6.7
	29nm,1.3s,2µm								
LEM	Lembang	21.75	241	P			P	21 46 38.0	+3.4
	60nm,1.4s								
FITZ	Fitzroy Crossi	21.88	183	P			P	21 46 35.3	-0.3
FITZ	Fitzroy Crossi	21.88	183	eP			P	21 46 34.8	-0.8
	30nm,0.8s								
FITZ	Fitzroy Crossi	21.88	183	P			P	21 46 35.3	-0.3
	3.8nm,0.6s,baz=12,slow=6.2,SNR=5.8								
QZH	Quanzhou	22.31	340	P			P	21 46 30.7	-10
MYKOM	Kota Tinggi	22.84	265	P			P	21 46 52.1	+6.1
JOW	Kunigami	22.86	4	P			P	21 46 48.5	+2.5
JOW	Kunigami	22.86	4	P			P	21 46 48.5	+2.5
	29nm,0.9s,baz=204,slow=11,SNR=8.8								
CGJI	Cibinong	23.36	244	P			P	21 46 54.9	+3.7
	66nm,0.9s								
KASI	Kota Agung	24.00	247	P			P	21 47 04.1	+6.8
	41nm,0.8s								
PMG	Port Moresby	24.36	123	P			P	21 46 58.9	-1.7
PMG	Port Moresby	24.36	123	P			P	21 46 58.9	-1.7
	10.0nm,1.0s,baz=288,slow=20,SNR=3.6								
WRAB	Tennant Creek	24.87	162	eP			P	21 47 03.3	-1.9
WRAB				pmax		pmax			
	comp=Z,34nm,0.8s								
WRAB	Tennant Creek	24.87	162	eP			P	21 47 03.3	-1.9
	comp=Z,34nm,0.8s								
WRA	Warramunga Arr	24.87	163	P			P	21 47 02.9	-2.4
WRA	Warramunga Arr	24.87	163	P			P	21 47 02.8	-2.4
	comp=Z,23nm,0.7s,baz=338,slow=11,SNR=17								
FRIM	Kepong	24.96	269	P			P	21 47 12.9	+6.8
IPM	Ipoh	25.53	272	eP			P	21 47 11.2	-0.2
	comp=Z,57nm,1.0s								
IPM	Ipoh	25.53	272	P			P	21 47 18.2	+6.8
IPM	Ipoh	25.53	272	P			P	21 47 17.6	+6.2
	comp=Z,61nm,1.1s,comp=Z,704nm								
MBWA	Marble Bar	25.80	195	eP			P	21 47 13.3	-0.3
	comp=Z,15nm,0.7s								
BKNI	Bangkinang	25.80	263	P			P	21 47 21.1	+7.3
	comp=Z,79nm,1.1s								
PPI	Padang Panjang	26.56	261	P			P	21 47 27.1	+6.5
	comp=Z,27nm,1.0s								
MNSI	Mandailing Nat	27.19	264	P			P	21 47 34.8	+8.5
	comp=Z,40nm,1.0s								
PSI	Prapat	27.67	269	P			P	21 47 30.9	+0.1
PSI	Prapat	27.67	269	P			P	21 47 30.9	+0.1
	comp=Z,9.6nm,0.9s,baz=26,slow=5.0,SNR=4.1								
ASAR	Alice Springs	28.30	166	P			P	21 47 34.7	-1.4
ASAR	Alice Springs	28.30	166	P			P	21 47 34.7	-1.4
	comp=Z,1.3nm,0.4s,baz=338,slow=6.7,SNR=7.7								
WHN	Wuhan	28.93	338	P			P	21 47 42.7	+1.1
WHN				pmax		pmax			
	comp=Z,41nm,0.8s								
JNU	Nakatsue	29.35	7	P			P	21 47 45.1	-0.3
JNU	Nakatsue	29.35	7	P			P	21 47 45.1	-0.3
	comp=Z,8.1nm,0.8s,baz=208,slow=2.0,SNR=4.1								
CTA	Charters Tower	30.66	142	P			P	21 47 55.1	-2.0
CTA				ScP			ScP	21 54 35.0	-0.2
CTA	Charters Tower	30.66	142	eP			P	21 47 57.6	+0.5
	comp=Z,4.5nm,0.9s								
CTA	Charters Tower	30.66	142	P			P	21 47 55.1	-2.0
	comp=Z,2.1nm,0.6s,baz=6.3,slow=9.2,SNR=2.8								
CTA				ScP			ScP	21 54 35.0	-0.2
	comp=Z,6.0nm,0.9s,baz=336,slow=3.3,SNR=3.9								
CM31	Chiang Mai Arr	30.70	300	eP			P	21 47 57.2	-0.3
	comp=Z,9.9nm,0.8s								
CMAR	Chiang Mai Arr	30.70	300	P			P	21 47 58.2	+0.8
CMAR				ScP			ScP	21 54 36.2	+0.8
	comp=Z,5.2nm,0.9s,baz=123,slow=7.8,SNR=16								
CMAR				ScP			ScP	21 54 36.2	+0.8
	comp=Z,1.6nm,1.0s,baz=165,slow=2.0,SNR=6.0								
ENH	Enshi	30.83	330	eP			P	21 47 57.9	-0.6
	comp=Z,14nm,0.7s								
CHTO	Chiang Mai	30.84	301	eP			P	21 47 58.8	0.0
CHTO				pmax		pmax			
	comp=Z,18nm,0.9s								
CHTO	Chiang Mai	30.84	301	eP			P	21 47 58.8	0.0
	comp=Z,18nm,0.9s								
CHTO	Chiang Mai	30.84	301	P			P	21 47 59.4	+0.6
KSAR	Wonju Array Be	33.41	2	P			P	21 48 22.7	+1.7
KSRS	Korea Array	33.42	2	P			P	21 48 22.7	+1.6
	comp=Z,3.8nm,0.7s,baz=182,slow=9.2,SNR=8.9								
MJAR	Matsushiro Arr	34.20	17	P			P	21 48 26.8	-1.1
MJAR	Matsushiro Arr	34.20	17	P			P	21 48 26.8	-1.1
	comp=Z,1.8nm,0.6s,baz=179,slow=9.1,SNR=5.8								
FORT	Forrest	34.51	178	eP			P	21 48 26.5	-4.1
	comp=Z,16nm,0.6s								
DL2	Dalian	35.14	353	P			P	21 48 37.9	+1.9
DL2				pmax		pmax			
	comp=Z,30nm,1.0s								
HNR	Honiara	35.75	112	eP			P	21 48 39.8	-1.8
	comp=Z,127nm,0.6s								
KLBR	Kellerberrin	36.29	193	eP			P	21 48 45.1	-0.8
BJT	Baijiatuan	37.18	347	eP			P	21 48 53.7	+0.3
	comp=Z,37nm,0.6s								
BJI	Beijing	37.20	347	P			P	21 48 53.8	+0.2
BJI				pmax		pmax			
	comp=Z,53nm,0.7s								
BJI				pmax		pmax			
	comp=Z,100nm,3.5s								
NWAO	Narrogin (SRO)	37.69	193	P			P	21 48 57.7	-0.1
NWAO	Narrogin (SRO)	37.69	193	P			P	21 48 57.7	-0.1
	comp=Z,7.7nm,0.8s,baz=59,slow=4.8,SNR=5.7								
LZH	Lanzhou	38.31	330	eP			P	21 49 03.7	+0.5
LZH				pP			pP	21 49 10.6	-2.4
LZH				sP			sP	21 49 12.5	-4.6
LZH				pmax		pmax			
	comp=Z,23nm,1.0s								
STKA	Stephens Creek	38.32	159	P			P	21 49 02.2	-0.9
STKA	Stephens Creek	38.32	159	eP			P	21 49 02.8	-0.4
	comp=Z,23nm,0.6s								
STKA	Stephens Creek	38.32	159	P			P	21 49 02.2	-0.9
	comp=Z,32nm,0.7s,baz=343,slow=8.2,SNR=19								
CN2	Changchun	39.75	359	eP			P	21 49 16.0	+1.0
USRK	Ussuriysk Arra	40.42	6	P			P	21 49 21.9	+1.4
	comp=Z,5.1nm,0.8s,baz=191,slow=8.3,SNR=8.3								
MDJ	Mudanjiang	40.64	3	P			P	21 49 23.8	+1.5
MDJ				pmax		pmax			
	comp=Z,15nm,1.2s								
ASAJ	Asahikawa	42.47	17	P			P	21 49 39.8	+2.5
ASAJ	Asahikawa	42.47	17	P			P	21 49 39.8	+2.5
	comp=Z,7.3nm,0.8s,baz=260,slow=6.1,SNR=3.8								
GTA	Gaotai	42.90	329	eP			P	21 49 41.4	+0.3
GTA				pP			pP	21 49 53.1	+2.1
GTA				sP			sP	21 49 56.7	+1.7
GTA				pmax		pmax			
	comp=Z,6.0nm,1.2s								
GTA	Gaotai	42.90	329	eP			P	21 49 41.3	+0.2
GTA				pP			pP	21 49 53.1	+2.1
GTA				sP			sP	21 49 56.7	+1.7
GTA				pmax		pmax			
	comp=Z,6.0nm,1.2s								
TAPN	Taplejung	43.83	306	eP			P	21 49 48.8	-0.2
	comp=Z,25nm,0.8s								
ODAN	Odare	43.89	305	eP			P	21 49 49.0	-0.4
	comp=Z,26nm,0.7s								
RAMN	Ramite	44.57	305	eP			P	21 49 54.5	-0.3
	comp=Z,17nm,0.6s								
HABR	Khabarovsk	45.00	8	eP			P	21 49 56.7	-0.9
HABR				*PP			pP	21 50 06.5	-1.0
HABR								21 51 36.0	
HABR				PPP			PPP	21 52 22.1	
HABR				S			S	21 56 34.7	+0.9
HABR				e*SS			sS	21 56 51.7	+1.5
HABR				e				21 59 50.7	
HABR				eSSS			SSS	22 00 46.8	
HABR				pmax		pmax			
	comp=E,106nm,2.4s								
HABR				pmax		pmax			
	comp=N,76nm,3.5s								
HABR				pmax		pmax			
	comp=Z,117nm,3.5s								
HABR				MLR		MLR			
	comp=Z,291nm,15.0s								
JIRN	Jiri	45.19	306	eP			P	21 49 59.5	-0.4
	comp=Z,6.6nm,0.6s								
KLR	Kul'dur	45.38	5	eP			P	21 49 57.2	-3.4
GUN	Gumba	45.54	306	eP			P	21 50 02.3	-0.4
HIA	Hailar	45.59	354	eP			P	21 50 03.3	+1.0
	comp=Z,11nm,0.8s								
PKI	Pulchoki	45.79	305	eP			P	21 50 03.6	-1.0
KKN	Kakani	45.98	306	eP			P	21 50 05.0	-1.0
	comp=Z,9.7nm,0.6s								
DMN	Daman	46.05	305	eP			P	21 50 05.8	-0.8
	comp=Z,34nm,1.2s								
GKN	Gorkha	46.58	305	eP			P	21 50 10.0	-0.7
	comp=Z,14nm,0.7s								
DZM	Mont Dzumac	46.72	125	P			P	21 50 11.7	0.0
DZM	Mont Dzumac	46.72	125	P			P	21 50 11.7	0.0
	comp=Z,8.7nm,0.9s,baz=318,slow=18,SNR=6.5								
ULN	Ulaanbaatar	46.93	342	eP			P	21 50 14.3	+1.2
	comp=Z,11nm,0.9s								
SONM	Songino Array	47.11	341	P			P	21 50 14.5	+0.1
SONM	Songino Array	47.11	341	P			P	21 50 14.5	+0.1
	comp=Z,3.2nm,0.6s,baz=163,slow=9.2,SNR=9.4								
KOLN	Koldanda	47.34	305	eP			P	21 50 16.2	-0.5
	comp=Z,44nm,0.5s								
DANN	Dangsing	47.43	306	eP			P	21 50 16.9	-0.6
	comp=Z,52nm,0.6s								
HYB	Hyderabad	48.96	290	iP			P	21 50 28.5	-0.6
CIT	Chita	49.19	349	eP			P	21 50 32.0	+1.7
CIT				e				21 50 41.6	
ZAK	Zakamensk	50.33	341	eP			P	21 50 37.6	-1.5
ZAK				e				21 51 54.4	
ZAK				pmax		pmax			
	comp=Z,1.0nm,1.1s								
TLY	Talaya	51.34	342	eP			P	21 50 46.8	+0.2
TLY	Talaya	51.34	342	eP			P	21 50 47.5	+1.0
	comp=Z,7.5nm,0.8s								
MOY	Mondy	52.19	340	eP			P	21 50 54.6	+1.6
WMQ	Urumqi	52.53	325	P			P	21 50 56.2	+0.6
WMQ				pP			pP	21 51 05.0	-0.7
WMQ				sP			sP	21 51 10.1	+0.4
WMQ				pmax		pmax			
	comp=Z,9.0nm,0.9s								
BOD	Bodaibo	54.69	352	eP			P	21 51 12.2	+1.1
BOD				pmax		pmax			
	comp=Z,9.0nm,1.1s								
PETK	Petropavlovsk-	55.32	22	P			P	21 51 16.8	+1.0
PETK	Petropavlovsk-	55.32	22	P			P	21 51 16.8	+1.0
PETK	Petropavlovsk-	55.32	22	P			P	21 51 16.8	+1.0
	comp=Z,5.5nm,0.6s,baz=190,slow=7.8,SNR=5.7								
MK31	Makanchi Array	57.36	325	eP			P	21 51 29.8	-0.7
MK31	Makanchi Array	57.36	325	eP			P	21 51 29.8	-0.7
MKAR	Makanchi Array	57.36	325	P			P	21 51 30.1	-0.4
MKAR	Makanchi Array	57.36	325	P			P	21 51 30.1	-0.4
MKAR				ScP			ScP	21 56 25.5	+3.7
MKAR	Makanchi Array	57.36	325	P			P	21 51 30.1	-0.4
	comp=Z,5.2nm,0.4s,baz=117,slow=7.3,SNR=33								
MKAR				ScP			ScP	21 56 25.5	+3.7
	comp=Z,2.3nm,0.8s,baz=118,slow=4.9,SNR=2.4								
YAK	Yakutsk	58.05	2	eP			P	21 51 34.3	-0.6
YAK				e				21 51 40.3	
YAK				pmax		pmax			
	comp=Z,20nm,1.0s								
YAK				pmax		pmax			
	comp=N,11nm,1.4s								
YAK				pmax		pmax			
	comp=E,2.0nm,1.1s								
YAK	Yakutsk	58.05	2	eP			P	21 51 35.3	+0.3
	comp=E,49nm,0.9s								
KZA	Kyzart	59.42	318	P			P	21 51 47.1	+1.7
	SNR=9.4								
TKM2	Tokmak 2	59.55	319	eP			P	21 51 46.0	-0.1
TKM2				pmax		pmax			
	comp=Z,6.0nm,0.8s								
TKM2	Tokmak 2	59.55	319	eP			P	21 51 46.0	-0.1
	comp=Z,6.1nm,0.8s								
KBK	Karagaybulak	59.87	318	P			P	21 51 49.4	+1.2
	SNR=5.6								
CHMS	Chumysh	60.15	318	P			P	21 51 50.7	+0.8
	SNR=5.3								
AAK	Ala-Archa	60.16	318	eP			P	21 51 50.9	+0.7
AAK				pmax		pmax			
	comp=Z,15nm,1.2s								
AAK	Ala-Archa	60.16	318	P			P	21 51 49.6	-0.6
AAK	Ala-Archa	60.16	318	P			P	21 51 49.6	-0.6
	comp=Z,2.5nm,0.7s,baz=122,slow=7.0,SNR=9.0								
ZAA0	Zalesovo Array	60.39	333	eP			P	21 51 49.8	-1.5
ZALV	Zalesovo Beam	60.39	333	P			P	21 51 50.3	-1.1
ZALV	Zalesovo Beam	60.39	333	P			P	21 51 50.2	-1.1
ZALV	Zalesovo Beam	60.39	333	P			P	21 51 50.2	-1.1
	comp=Z,1.1nm,0.3s,baz=127,slow=7.2,SNR=6.6								
USP	Ospenovka	60.42	318	P			P	21 51 52.7	+0.8
	SNR=16								
AML	Almayashu	60.49	317	P			P	21 51 54.2	+1.4
	SNR=13								
EKS2	Erkin-Say	60.66	318	eP			P	21 51 54.0	+0.4
EKS2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
EKS2	Erkin-Say	60.66	318	eP			P	21 51 54.0	+0.4
	comp=Z,10.0nm,0.8s								
EKS2	Erkin-Say	60.66	318	P			P	21 51 54.9	+1.4
	SNR=12								
KBL	Kabul	61.34	307	eP			P	21 51 57.3	-1.1
KBL				pmax		pmax			
	comp=Z,9.0nm,0.6s								
KBL	Kabul	61.34	307	eP			P	21 51 57.3	-1.1
	comp=Z,8.6nm,0.6s								
KURBB	Kurchatov Arra	61.54	327	P			P	21 51 58.5	-0.7
	comp=Z,13nm,0.8s,baz=130,slow=7.3,SNR=23								
KURK	Kurchatov	61.54	327	iP			P	21 51 59.0	-0.2
KURK				pmax		pmax			
	comp=Z,25nm,0.8s								
KURK	Kurchatov	61.54	327	P			P	21 51 58.5	-0.7
NVS	Novosibirsk	61.68	333	eP			P	21 51 59.3	-0.7
NVS				pmax		pmax			
	comp=N,4.0nm,1.2s								
NVS				pmax		pmax			
	comp=Z,14nm,1.2s								
NVS				pmax		pmax			
	comp=E,4.0nm,1.0s								
SEY	Seymchan	61.90	13	eP			P	21 52 03.5	+2.1
KKAR	Karatay Array	63.04	317	eP			P	21 52 08.9	-0.5
KKAR				pmax		pmax			
	comp=Z,13nm,0.8s								
KKAR	Karatay Array	63.04	317	eP			P	21 52 08.9	-0.5
	comp=Z,13nm,0.8s								
BRVK	Borovoye	67.19	327	eP			P	21 52 36.2	0.0
BRVK				pmax		pmax			
	comp=Z,29nm,1.0s								
BRVK	Borovoye	67.19	327	eP			P	21 52 35.7	-0.5
	comp=Z,25nm,1.0s								
BILL	Bilibino	69.42	15	eP			P	21 52 52.1	+2.2
BILL				e				21 53 14.9	
BILL				pmax		pmax			
	comp=Z,17nm,2.5s								
ABKAR	Akbulak array	71.95	321	eP			P	21 53 05.5	-0.2
	comp=Z,8.8nm,0.8s								
SVE	Sverdlovsk	73.76	328	eP			P	21 53 15.5	-0.7
SVE				pmax		pmax			
	comp=Z,8.0nm,0.6s								
ARU	Arti	74.74	328	diP			P	21 53 21.4	-0.5
ARU				S			S	22 02 56.6	+0.7
ARU				SS			SS	22 07 39.6	-4.3
ARU				pmax		pmax			
	comp=Z,8.0nm,0.6s								
KIP	Kipapa	74.97	69	ceP			P	21 53 25.0	+1.1
KIP				pmax		pmax			
	comp=Z,124nm,1.7s								
UMR	Umm Al-Rimmam	78.44	299	eP			P	21 53 42.8	-0.6
UMR				AMb		AMB		21 53 43.6	
	comp=Z,22nm,0.7s								
RDF	Al-Radifah	78.56	299	eP			P	21 53 43.6	-0.5
RDF				AMb		AMB		21 53 45.0	
	comp=Z,50nm,1.7s								
MIB	Mutribah	78.78	299	eP			P	21 53 44.2	-1.1
MIB				AMb		AMB		21 53 45.4	
	comp=Z,46nm,0.8s								
NAY	Al-Naaiem	78.84	299	eP			P	21 53 44.4	-1.2
NAY				AMb		AMB		21 53 45.3	
	comp=Z,17nm,0.9s								
BHD	Baghdad	81.39	303	ex			P	21 54 01.5	+2.2
BHD				ex			x	22 04 14.0	
ZEI	Tsey	82.03	312	eP			P	21 54 02.1	-0.7
ZEI				pmax		pmax			
	comp=Z,6.0nm,0.9s								
COLD	Coldfoot	83.78	23	eP			P	21 54 12.2	+1.1
	comp=Z,8.6nm,1.0s								
VRHR	Novokhopersk	83.84	321	eP			P	21 54 10.8	-0.9
VRHR				pmax		pmax			
	comp=N,6.0nm,0.6s								
VRHR				pmax		pmax			
	comp=E,6.0nm,0.6s								
VRHR				pmax		pmax			
	comp=Z,8.0nm,0.6s								
MCK	McKinley	84.06	26	eP			P	21 54 12.9	+0.3
MCK				pmax		pmax			
	comp=Z,28nm,1.2s								
MCK	McKinley	84.06	26	eP			P	21 54 12.9	+0.3
	comp=Z,28nm,1.2s								
ILAR	Eielson Array	85.00	25	P			P	21 54 17.2	0.0
ILAR	Eielson Array	85.00	25	P			P	21 54 17.2	0.0
	comp=Z,1.4nm,0.8s,baz=246,slow=4.5,SNR=16								
KLMR	Klimovskoe	85.21	331	eP			P	21 54 16.1	-2.3
KLMR				pmax		pmax			
	comp=Z,53nm,1.1s								
VSR	Storozhevoye	85.39	321	eP			P	21 54 18.8	-0.7
VSR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
VSR				pmax		pmax			
	comp=N,1.0nm,0.4s			

NOA	**NORSAR Array B**	**98.59**	**334**	P		**P**		**21 55 20.0**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=68,slow=4.7,SNR=8.3								
YKA	**Yellowknife Ar**	**99.39**	**24**	P		**Pdif**		**21 55 25.3**	**+1.0**
YKA	**Yellowknife Ar**	**99.39**	**24**	P		**Pdif**		**21 55 25.3**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=298,slow=4.6,SNR=5.1								
GERES	**GERESS Array B**	**101.89**	**322**	P		**Pdif**		**21 55 35.6**	**-0.3**
GERES	**GERESS Array B**	**101.89**	**322**	P		**Pdif**		**21 55 35.6**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=46,slow=3.9,SNR=5.9								
PDAR	**Pinedale Array**	**111.30**	**41**	PKKPbc		PKKPbc		22 11 20.8	+7.2
PDAR	**Pinedale Array**	**111.30**	**41**	PKKPbc		PKKPbc		22 11 20.8	+7.2
	comp=Z,0.7nm,0.9s,baz=110,slow=8.7,SNR=3.8								
TXAR	**Lajitas Array**	**121.58**	**52**	PKP		**PKPdf**		**22 00 37.0**	**+0.4**
TXAR	**Lajitas Array**	**121.58**	**52**	PKP		**PKPdf**		**22 00 37.0**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=243,slow=2.9,SNR=3.0								
TORD	**Torodi Ar. Bea**	**122.77**	**288**	PKP		**PKPdf**		**22 00 38.2**	**-0.8**
TORD	**Torodi Ar. Bea**	**122.77**	**288**	PKP		**PKPdf**		**22 00 38.2**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=68,slow=1.7,SNR=13								
CPUP	**Villa Florida**	**157.37**	**171**	PKPab		**PKPab**		**22 02 09.6**	**-0.4**
CPUP	**Villa Florida**	**157.37**	**171**	PKPab		**PKPab**		**22 02 09.6**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=188,slow=7.1,SNR=2.7								

IDC ***11*** *21:45:01.5±0.5,4.°01N×126.°56E, h0km, mb4.5/21, mb1 4.6/22, mb1mx4.5/26, mbtmp4.5/22, ML4.9/1, Error ellipse: s-maj=29.4km s-min=11.4km az=70.0*

BJI ***11*** *21:45:03.8, 3.°71N×126.°62E, h36km, mB5.2/19, mb4.7/32, Ms4.6/19, Ms7 4.3/20*

ISCJB ***11*** *21:45:04.8±0.3, 3.°94N±0.°05×126.°63E±0.°09, h33km, mb4.7/50, MS4.2/8, Error ellipse: s-maj=14.0km s-min=5.4km az=158.9*

NEIC ***11*** *21:45:06.8±0.2, 3.°93N×126.°56E, h35km, mb4.8/15, Error ellipse: s-maj=11.6km s-min=4.9km az=69.0*

ISC 11 21:45:06.8±0.5, 3.°93N±0.°05×126.°63E±0.°10, h33km±1km, n98, σ1°70/143, mb4.8/50, MS4.3/8, 6C-3D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
DAV	**Davao City (W)**	**3.29**	**342**	Pn	Pn		21 45 51.4	-4.7
DAV				Sn	**Sb**		**21 46 45.9**	**+1.6**
DAV	**Davao City (W)**	**3.29**	**342**	Pn	Pn		21 45 51.3	-4.7
	126nm,0.3s,baz=153,slow=6.8,SNR=5.7							
DAV				Sn	**Sb**		**21 46 45.8**	**+1.6**
	baz=288,slow=19,SNR=1.7							
FITZ	**Fitzroy Crossi**	**21.91**	**183**	P	**P**		**21 49 57.2**	**0.0**
FITZ	**Fitzroy Crossi**	**21.91**	**183**	*e*P	**P**		**21 49 57.3**	**0.0**
	15nm,0.6s							
FITZ	**Fitzroy Crossi**	**21.91**	**183**	P	**P**		**21 49 57.2**	**0.0**
	3.9nm,0.4s,baz=356,slow=10,SNR=7.9							
WRAB	**Tennant Creek**	**24.90**	**163**	*e*P	**P**		**21 50 26.4**	**-0.4**
	26nm,0.8s							
WRA	**Warramunga Arr**	**24.90**	**163**	P	**P**		**21 50 26.8**	**-0.1**
WRA	**Warramunga Arr**	**24.90**	**163**	P	**P**		**21 50 26.8**	**-0.1**
	9.6nm,0.5s,baz=344,slow=10,SNR=7.2							
MBWA	**Marble Bar**	**25.83**	**195**	*e*P	**P**		**21 50 33.8**	**-1.4**
	16nm,0.8s							
ASAR	**Alice Springs**	**28.33**	**166**	P	**P**		**21 50 57.7**	**-0.1**
ASAR	**Alice Springs**	**28.33**	**166**	P	**P**		**21 50 57.7**	**-0.1**
	1.1nm,0.4s,baz=344,slow=11,SNR=3.6							
WHN	**Wuhan**	**28.90**	**338**	P	**P**		**21 51 04.0**	**+1.3**
WHN				pmax	pmax			
	comp=Z,27nm,1.0s							
GYA	**Guiyang**	**29.45**	**322**	⇑*i*P	**P**		**21 51 10.0**	**+2.2**
GYA				pP	**pP**		**21 51 19.8**	**+2.4**
GYA				PP	**PnPn**		**21 52 07.4**	**+4.7**
GYA				PcP	**PcP**		**21 54 15.0**	**+1.8**
GYA				S	**S**		**21 56 01.4**	**+1.3**
GYA				sS	**sS**		**21 56 19.0**	**+3.0**
GYA				SS	SS		21 57 36.6	-29
GYA				ScP	**ScP**		**21 57 52.7**	**0.0**
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,130nm,6.6s							
GYA				LR	LR			
	comp=N,550nm,17.8s							
GYA				LR	LR			
	comp=E,480nm,18.1s							
GYA				LR	LR			
	comp=Z,530nm,17.9s							
CTA	**Charters Tower**	**30.68**	**142**	P	**P**		**21 51 19.0**	**+0.4**
CTA	**Charters Tower**	**30.68**	**142**	P	**P**		**21 51 19.0**	**+0.4**
	comp=Z,4.7nm,0.9s,baz=322,slow=12,SNR=2.8							
CMAR	**Chiang Mai Arr**	**30.68**	**300**	P	**P**		**21 51 19.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**30.68**	**300**	P	**P**		**21 51 19.0**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=106,slow=5.9,SNR=5.2							
ENH	**Enshi**	**30.81**	**330**	*e*P	**P**		**21 51 19.0**	**-0.7**
	comp=Z,17nm,0.9s							
CHTO	**Chiang Mai**	**30.83**	**301**	*e*P	**P**		**21 51 19.8**	**-0.2**
	comp=Z,5.5nm,0.8s							
KMI	**Kunming**	**31.17**	**315**	P	**P**		**21 51 24.8**	**+1.7**
KMI				pmax	pmax			
	comp=Z,7.0nm,1.1s							
KSAR	**Wonju Array Be**	**33.38**	**2**	P	**P**		**21 51 40.9**	**-1.2**
KSRS	**Korea Array**	**33.39**	**2**	P	**P**		**21 51 40.8**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=185,slow=9.5,SNR=2.6							
XAN	**Xi'an**	**34.20**	**333**	P	**P**		**21 51 48.0**	**-1.3**
XAN				pP	**pP**		**21 51 58.5**	**-0.5**
XAN				S	**S**		**21 57 08.6**	**-5.2**
XAN				pmax	pmax			
	comp=Z,7.0nm,0.9s							
XAN				LR	LR			
	comp=N,170nm,17.1s							
XAN				LR	LR			
	comp=E,96nm,18.6s							
XAN				LR	LR			
	comp=Z,110nm,19.2s							
CD2	**Chengdu**	**34.42**	**324**	P	**P**		**21 51 51.4**	**0.0**
CD2				pP	**pP**		**21 52 01.1**	**+0.1**
CD2				sP	**sP**		**21 52 05.0**	**-0.1**
CD2				PcP	**PcP**		**21 54 26.5**	**0.0**
CD2				S	**S**		**21 57 16.5**	**-1.0**
CD2				sS	**sS**		**21 57 32.5**	**-1.0**
CD2				PcS	**PcS**		**21 58 11.8**	**-1.2**
CD2				SS	**SnSn**		**21 59 28.2**	**-1.4**
CD2				pmax	pmax			
	comp=Z,20nm,0.5s							
CD2				pmax	pmax			
	comp=Z,340nm,9.3s							
CD2				LR	LR			
	comp=N,530nm,18.6s							
CD2				LR	LR			
	comp=E,970nm,17.2s							
CD2				LR	LR			
	comp=Z,630nm,19.6s							
FORT	**Forrest**	**34.54**	**178**	*e*P	**P**		**21 51 51.9**	**-0.3**
	comp=Z,20nm,0.7s							
KLBR	**Kellerberrin**	**36.32**	**193**	*e*P	**P**		**21 52 07.4**	**-0.1**
	comp=Z,12nm,0.4s							
BJI	**Beijing**	**37.17**	**347**	P	**P**		**21 52 14.6**	**-0.1**
BJI				pmax	pmax			
	comp=Z,13nm,1.0s							
NWAO	**Narrogin (SRO)**	**37.72**	**193**	P	**P**		**21 52 19.8**	**+0.4**
NWAO	**Narrogin (SRO)**	**37.72**	**193**	P	**P**		**21 52 19.8**	**+0.4**
	comp=Z,12nm,0.5s,baz=28,slow=9.3,SNR=12							
LZH	**Lanzhou**	**38.28**	**330**	*e*P	**P**		**21 52 24.2**	**-0.2**
LZH				pP	**pP**		**21 52 32.6**	**-1.5**
LZH				sP	**sP**		**21 52 36.3**	**-1.8**
LZH				SS	**SnSn**		**22 00 54.5**	**-8.5**
LZH				pmax	pmax			
	comp=Z,26nm,1.1s							
LZH				pmax	pmax			
	comp=Z,300nm,7.7s							
LZH				LR	LR			
	comp=N,140nm,10.2s							
LZH				LR	LR			
	comp=E,210nm,12.4s							
LZH				LR	LR			
	comp=Z,350nm,14.0s							
STKA	**Stephens Creek**	**38.35**	**159**	*e*P	**P**		**21 52 24.2**	**-0.5**
	comp=Z,4.6nm,0.9s							
STKA	**Stephens Creek**	**38.35**	**159**	*e*P	**P**		**21 52 24.7**	**0.0**
	comp=Z,13nm,0.9s							
STKA	**Stephens Creek**	**38.35**	**159**	P	**P**		**21 52 25.0**	**+0.3**
	comp=Z,10nm,0.6s,baz=342,slow=9.0,SNR=6.8							
HHC	**Hu-ho-hao-te**	**39.18**	**342**	*e*P	P		21 52 35.2	+3.4
HHC				pP	pP		21 52 45.8	+4.3
HHC				sP	sP		21 52 49.3	+3.8
HHC				PP	**PnPn**		**21 54 10.2**	**+5.4**
HHC				S	**S**		**21 58 34.2**	**+4.4**
HHC				sS	sS		21 58 50.9	+5.0
HHC				SS	**SS**		**22 01 20.7**	**-2.9**
HHC				pmax	pmax			
	comp=Z,15nm,0.6s							
HHC				pmax	pmax			
	comp=Z,290nm,7.1s							
HHC				LR	LR			
	comp=N,190nm,16.6s							
HHC				LR	LR			
	comp=E,270nm,15.5s							
HHC				LR	LR			
	comp=Z,320nm,17.8s							
MDJ	**Mudanjiang**	**40.61**	**3**	P	**P**		**21 52 43.7**	**+0.3**
MDJ				sP	**sP**		**21 52 55.6**	**-1.6**
MDJ				PP	**PP**		**21 54 16.8**	**-0.6**
MDJ				PcP	**PcP**		**21 54 45.2**	**+0.1**
MDJ				S	**S**		**21 58 55.2**	**+4.3**
MDJ				SS	**SS**		**22 01 47.1**	**-4.7**
MDJ				pmax	pmax			
	comp=Z,7.0nm,0.9s							
MDJ				LR	LR			
	comp=E,220nm,36.0s							
MDJ				LR	LR			
	comp=Z,330nm,39.0s							
LSA	**Lhasa**	**42.23**	**311**	*e*P	**P**		**21 52 57.9**	**+0.3**
	comp=Z,16nm,0.6s							
GTA	**Gaotai**	**42.88**	**329**	*e*P	**P**		**21 53 01.7**	**-0.5**
GTA				pP	**pP**		**21 53 11.9**	**-0.2**
GTA				sP	**sP**		**21 53 15.9**	**-0.2**
GTA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
CAN	**Canberra**	**44.33**	**154**	*e*P	**P**		**21 53 15.3**	**+1.4**
	comp=Z,13nm,0.8s							
TOO	**Toolangi**	**44.86**	**159**	*e*P	**P**		**21 53 17.9**	**-0.1**
	comp=Z,61nm,1.0s							
HIA	**Hailar**	**45.56**	**354**	*e*P	**P**		**21 53 24.1**	**+0.7**
	comp=Z,16nm,1.0s							
DZM	**Mont Dzumac**	**46.73**	**125**	P	**P**		**21 53 34.0**	**+0.9**
DZM	**Mont Dzumac**	**46.73**	**125**	P	**P**		**21 53 34.0**	**+0.9**
	comp=Z,5.7nm,0.9s,baz=312,slow=15,SNR=2.7							
ULN	**Ulaanbaatar**	**46.90**	**342**	*e*P	**P**		**21 53 34.3**	**+0.1**
	comp=Z,5.1nm,0.8s							
SONM	**Songino Array**	**47.08**	**341**	P	**P**		**21 53 35.3**	**-0.2**
SONM				PcP	**PcP**		**21 55 07.6**	**+0.4**
SONM	**Songino Array**	**47.08**	**341**	P	**P**		**21 53 35.3**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=151,slow=7.3,SNR=4.2							
SONM				PcP	**PcP**		**21 55 07.6**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=146,slow=3.4,SNR=4.2							
WMQ	**Urumqi**	**52.51**	**325**	P	**P**		**21 54 16.7**	**-0.1**
WMQ				pP	**pP**		**21 54 24.0**	**-2.9**
WMQ				sP	**sP**		**21 54 30.0**	**-0.8**
WMQ				pmax	pmax			
	comp=Z,8.0nm,0.8s							
WMQ				pmax	pmax			
	comp=Z,100nm,6.4s							
WMQ				LR	LR			
	comp=Z,540nm,22.3s							
PETK	**Petropavlovsk-**	**55.29**	**22**	P	**P**		**21 54 36.9**	**0.0**
PETK	**Petropavlovsk-**	**55.29**	**22**	P	**P**		**21 54 36.9**	**0.0**
	comp=Z,2.9nm,0.6s,baz=193,slow=5.9,SNR=2.9							
MK31	**Makanchi Array**	**57.34**	**325**	*e*P	**P**		**21 54 50.6**	**-1.0**
MKAR	**Makanchi Array**	**57.34**	**325**	*e*P	**P**		**21 54 51.3**	**-0.3**
MKAR				PcP	**PcP**		**21 55 45.7**	**+0.2**
MKAR				ScP	**ScP**		**21 59 44.4**	**+1.3**
MKAR	**Makanchi Array**	**57.34**	**325**	P	**P**		**21 54 50.5**	**-1.2**
	comp=Z,6.7nm,0.7s,baz=121,slow=8.0,SNR=7.0							
MKAR				PcP	**PcP**		**21 55 45.7**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=111,slow=5.0,SNR=3.0							
MKAR				ScP	**ScP**		**21 59 44.4**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=134,slow=4.2,SNR=4.4							
KSH	**Kashi**	**57.83**	**315**	P	**P**		**21 54 57.1**	**+1.7**
KSH				pP	**pP**		**21 55 06.7**	**+1.1**
KSH				sP	**sP**		**21 55 10.9**	**+1.4**
KSH				PcP	**PcP**		**21 55 47.5**	**-0.3**
KSH				PP	**PP**		**21 57 06.7**	**+2.8**
KSH				ScP	**ScP**		**21 59 44.7**	**-0.9**
KSH				PcS	**PcS**		**21 59 47.5**	**-1.7**
KSH				S	**S**		**22 02 53.0**	**+0.1**
KSH				sS	**sS**		**22 03 09.6**	**-0.1**
KSH				ScS	**ScS**		**22 04 40.2**	**-2.7**
KSH				SS	**SS**		**22 06 46.0**	**+1.9**
KSH				LR	LR			
	comp=N,140nm,5.7s							
KSH				LR	LR			
	comp=E,130nm,6.1s							
KSH				LR	LR			
	comp=Z,280nm,16.2s							
AAK	**Ala-Archa**	**60.14**	**318**	P	**P**		**21 55 11.1**	**-0.4**
AAK	**Ala-Archa**	**60.14**	**318**	P	**P**		**21 55 11.1**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=169,slow=10,SNR=3.1							
ZALV	**Zalesovo Beam**	**60.37**	**333**	P	**P**		**21 55 11.2**	**-1.3**
ZALV	**Zalesovo Beam**	**60.37**	**333**	P	**P**		**21 55 11.2**	**-1.3**
	comp=Z,3.0nm,0.4s,baz=128,slow=6.2,SNR=8.7							
KBL	**Kabul**	**61.32**	**307**	*e*P	**P**		**21 55 19.3**	**-0.4**
	comp=Z,8.9nm,0.8s							
KURBB	**Kurchatov Arra**	**61.52**	**327**	P	**P**		**21 55 19.6**	**-0.9**
	comp=Z,7.0nm,0.7s,baz=124,slow=6.3,SNR=7.1							
KURK	**Kurchatov**	**61.52**	**327**	*e*P	**P**		**21 55 19.6**	**-0.8**
	comp=Z,9.0nm,0.7s							
KKAR	**Karatay Array**	**63.02**	**317**	*e*P	**P**		**21 55 30.4**	**-0.3**
BRVK	**Borovoye**	**67.17**	**327**	*e*P	**P**		**21 55 57.6**	**+0.2**
ABKAR	**Akbulak array**	**71.93**	**321**	*e*P	**P**		**21 56 25.6**	**-1.3**
	comp=Z,6.6nm,1.1s							
ARU	**Arti**	**74.72**	**328**	*e*P	**P**		**21 56 42.7**	**-0.4**
	comp=Z,7.3nm,0.6s							
COLD	**Coldfoot**	**83.75**	**23**	*e*P	**P**		**21 57 33.6**	**+1.4**
	comp=Z,9.1nm,1.1s							
ILAR	**Eielson Array**	**84.97**	**25**	P	**P**		**21 57 38.2**	**-0.2**
ILAR	**Eielson Array**	**84.97**	**25**	P	**P**		**21 57 38.2**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=239,slow=7.4,SNR=4.2							
KMBO	**Kilima Mbogo**	**89.45**	**269**	*e*P	**P**		**21 58 02.0**	**+0.5**
	comp=Z,8.3nm,1.3s							
BRTR	**Keskin Array B**	**89.82**	**310**	P	**P**		**21 58 01.5**	**-1.1**
BRTR	**Keskin Array B**	**89.82**	**310**	P	**P**		**21 58 01.5**	**-1.1**
	comp=Z,2.0nm,0.9s,baz=104,slow=5.5,SNR=7.2							
ARCES	**ARCESS Array B**	**90.23**	**340**	P	**P**		**21 58 02.7**	**-1.0**
ARCES	**ARCESS Array B**	**90.23**	**340**	P	**P**		**21 58 02.7**	**-1.0**
	comp=Z,3.9nm,0.8s,baz=65,slow=7.1,SNR=4.6							
FINES	**FINESS Array B**	**91.61**	**332**	P	**P**		**21 58 09.7**	**-0.5**
FINES	**FINESS Array B**	**91.61**	**332**	P	**P**		**21 58 09.7**	**-0.5**
	comp=Z,2.6nm,0.7s,baz=73,slow=6.6,SNR=4.6							
AKASG	**Malin Array Be**	**91.68**	**321**	P	**P**		**21 58 09.1**	**-1.7**
AKASG	**Malin Array Be**	**91.68**	**321**	P	**P**		**21 58 09.1**	**-1.7**
	comp=Z,2.9nm,0.7s,baz=64,slow=5.7,SNR=6.7							
TESR		**94.03**	**317**	⇓*i*P	**P**		**21 58 21.1**	**-0.7**
VRI	**Vrincioaia**	**94.08**	**316**	⇑*i*P	**P**		**21 58 22.0**	**-0.1**
MLR	**Muntele Rosu**	**94.69**	**316**	⇓*i*P	**P**		**21 58 24.0**	**-1.0**
SUW	**Suwalki**	**94.70**	**325**	*e*P	**P**		**21 58 23.8**	**-0.8**
SUW	**Suwalki**	**94.70**	**325**	*e*P	**P**		**21 58 23.8**	**-0.8**
SUW	**Suwalki**	**94.70**	**325**	*e*P	**P**		**21 58 24.2**	**-0.5**
	comp=Z,30nm,1.0s							
BURAR	**Bucovina Array**	**94.79**	**318**	⇑*i*P	**P**		**21 58 24.9**	**-0.5**
KWP	**Kalwaria Pacla**	**95.99**	**321**	⇓*i*P	**P**		**21 58 30.3**	**-0.4**
LOT	**Lotru**	**96.20**	**316**	⇑*i*P	**P**		**21 58 31.6**	**-0.3**
DRGR		**96.63**	**316**	⇑*i*P	**P**		**21 58 33.3**	**-0.4**
BZS	**Buzias**	**97.64**	**317**	⇑*i*P	**P**		**21 58 37.2**	**-1.0**
NB2	**NORSAR Subarra**	**98.57**	**334**	P	**P**		**21 58 40.2**	**-1.9**
	comp=Z,1.1nm,0.7s,baz=66,slow=4.8							
NOA	**NORSAR Array B**	**98.57**	**334**	P	**P**		**21 58 41.1**	**-1.0**
NOA	**NORSAR Array B**	**98.57**	**334**	P	**P**		**21 58 41.1**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=67,slow=4.7,SNR=4.1							
LON	**Longmire**	**101.70**	**41**	*e*Pdif	**Pdif**		**21 59 02.4**	**+5.9**
GERES	**GERESS Array B**	**101.87**	**322**	P	**Pdif**		**21 58 56.9**	**-0.2**
GERES	**GERESS Array B**	**101.87**	**322**	P	**Pdif**		**21 58 56.9**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=35,slow=4.9,SNR=4.7							
TORD	**Torodi Ar. Bea**	**122.76**	**288**	PKP	**PKPdf**		**22 03 59.5**	**-0.9**
TORD	**Torodi Ar. Bea**	**122.76**	**288**	PKP	**PKPdf**		**22 03 59.5**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=51,slow=1.9,SNR=5.8							
DBIC	**Dimbokro**	**130.44**	**282**	PKP	**PKPdf**		**22 04 13.6**	**-1.4**
DBIC	**Dimbokro**	**130.44**	**282**	PKP	**PKPdf**		**22 04 13.6**	**-1.4**
	comp=Z,2.5nm,0.8s,baz=79,slow=8.5,SNR=4.0							
CPUP	**Villa Florida**	**157.40**	**171**	PKPab	**PKPab**		**22 05 32.6**	**+1.2**
CPUP	**Villa Florida**	**157.40**	**171**	PKPab	**PKPab**		**22 05 32.6**	**+1.2**
	comp=Z,3.5nm,0.7s,baz=134,slow=3.8,SNR=6.3							

IDC 11 21:51:11.0±1.1, 3.°66N×126.°53E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/20, mbtmp3.9/8, MS4.1/1, Ms1 4.1/1, ms1mx3.0/46, Error ellipse: s-maj=86.8km s-min=17.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**24.68**	**162**	P	P		21 56 32.6	-1.2
	4.2nm,0.8s,baz=335,slow=12,SNR=4.1							
CBIJ	**Chichi jima**	**27.70**	**31**	LR	LR		22 06 06.2	
	comp=Z,391nm,19.3s,baz=348,slow=32							
ASAR	**Alice Springs**	**28.09**	**166**	P	P		21 57 05.8	+1.1
	0.4nm,0.8s,baz=350,slow=8.4,SNR=3.3							
CMAR	**Chiang Mai Arr**	**30.74**	**301**	P	P		21 57 27.9	-0.2
	0.5nm,0.7s,baz=95,slow=6.4,SNR=4.2							
STKA	**Stephens Creek**	**38.13**	**159**	P	P		**21 58 32.2**	**+0.2**
	4.2nm,0.8s,baz=341,slow=10,SNR=2.8							
SONM	**Songino Array**	**47.30**	**342**	P	P		21 59 46.4	-0.1
	0.4nm,0.6s,baz=157,slow=7.6,SNR=3.6							
MKAR	**Makanchi Array**	**57.50**	**325**	P	P		22 01 02.2	+0.1
	1.4nm,0.7s,baz=122,slow=8.0,SNR=7.1							
ZALV	**Zalesovo Beam**	**60.56**	**333**	P	P		22 01 22.3	-0.8
	0.7nm,0.4s,baz=120,slow=7.7,SNR=4.5							
KURBB	**Kurchatov Arra**	**61.69**	**327**	P	P		22 01 31.5	+0.6
	0.6nm,0.5s,baz=127,slow=6.4,SNR=6.1							

IDC 11 21:54:00.3±0.8, 3.°63N×126.°66E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/20, mbtmp3.9/10, Error ellipse: s-maj=47.6km s-min=15.2km az=74.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
FITZ	**Fitzroy Crossi**	**21.62**	**183**	P	P		21 58 52.9	+0.7
	1.8nm,0.6s,baz=354,slow=9.2,SNR=5.0							
WRA	**Warramunga Arr**	**24.61**	**162**	P	P		21 59 21.3	-1.3
	1.8nm,0.4s,baz=344,slow=10,SNR=7.3							
ASAR	**Alice Springs**	**28.04**	**166**	P	P		21 59 54.3	+0.8
	0.2nm,0.3s,baz=349,slow=9.4,SNR=6.3							
CMAR	**Chiang Mai Arr**	**30.86**	**301**	P	P		22 00 19.6	+1.0
	0.4nm,0.7s,baz=113,slow=5.7,SNR=4.1							
KSRS	**Korea Array**	**33.68**	**2**	P	P		22 00 43.5	+0.4
	1.0nm,0.5s,baz=177,slow=9.6,SNR=4.6							
STKA	**Stephens Creek**	**38.06**	**159**	P	P		22 01 20.8	+0.1
	2.8nm,0.6s,baz=343,slow=7.1,SNR=4.6							
USRK	**Ussuriysk Arra**	**40.67**	**6**	P	P		22 01 43.3	+0.9
	0.6nm,0.5s,baz=224,slow=6.8,SNR=4.0							
SONM	**Songino Array**	**47.37**	**342**	P	P		22 02 36.2	-0.1
	0.3nm,0.5s,baz=155,slow=8.6,SNR=4.0							
MKAR	**Makanchi Array**	**57.60**	**325**	P	P		22 03 51.3	-0.8
	1.1nm,0.5s,baz=118,slow=7.1,SNR=13							
ARCES	**ARCESS Array B**	**90.52**	**340**	P	P		22 07 02.3	-1.6
	3.5nm,0.8s,baz=60,slow=4.8,SNR=4.5							

ISCJB ***11*** *22:01:57.1±0.4, 3.°88N±0.°06×126.°7E±0.°1, h10km, mb4.3/30, Error ellipse: s-maj=17.2km s-min=6.5km az=161.9*

IDC ***11*** *22:01:57.6±0.5, 3.°91N×126.°64E, h0km, mb4.1/18, mb1 4.3/18, mb1mx4.3/20, mbtmp4.1/18, MS3.3/1, Ms1 3.3/1, ms1mx2.5/43, Error ellipse: s-maj=29.0km s-min=12.9km az=77.0*

NEIC ***11*** *22:02:02.5±0.3, 3.°90N×126.°65E, h35km, mb4.4/13, Error ellipse: s-maj=12.7km s-min=5.3km az=70.0*

ISC 11 22:01:58.9±0.5, 3.°98N±0.°07×126.°6E±0.°1, h10km, n58, σ1°25/63, mb4.4/29, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
DAV	**Davao City (W)**	**3.24**	**341**	*e*Pn	**Pn**		**22 02 50.4**	**+0.5**
DAV				*e*Sn	**Sb**		**22 03 32.1**	**-4.1**
DAV	**Davao City (W)**	**3.24**	**341**	LR	LR		22 04 17.5	
	comp=Z,457nm,19.5s,baz=345,slow=42							
CTBH	**Cotabato--PC H**	**4.00**	**324**	⇓*i*P	**Pb**		**22 03 07.1**	**-2.5**
FITZ	**Fitzroy Crossi**	**21.96**	**183**	*e*P	**P**		**22 06 52.9**	**-0.2**
	3.7nm,0.6s							
FITZ	**Fitzroy Crossi**	**21.96**	**183**	P	**P**		**22 06 53.3**	**+0.2**
	4.2nm,0.6s,baz=55,slow=3.7,SNR=7.0							
WRAB	**Tennant Creek**	**24.95**	**163**	*e*P	**P**		**22 07 21.4**	**-1.3**
	21nm,0.9s							
WRA	**Warramunga Arr**	**24.95**	**163**	P	**P**		**22 07 20.6**	**-2.1**
WRA	**Warramunga Arr**	**24.95**	**163**	P	**P**		**22 07 20.6**	**-2.1**
	499nm,0.3s,baz=188,slow=0.0,SNR=12							
ASAR	**Alice Springs**	**28.38**	**166**	P	**P**		**22 07 53.0**	**-0.6**
ASAR				PcP	**PcP**		**22 11 04.9**	**-1.4**
ASAR	**Alice Springs**	**28.38**	**166**	P	**P**		**22 07 53.0**	**-0.6**
	1.1nm,0.6s,baz=347,slow=7.1,SNR=9.3							
ASAR				PcP	**PcP**		**22 11 04.9**	**-1.4**
	1.1nm,0.8s,baz=329,slow=1.6,SNR=6.0							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.65**	**164**	P	P	22 10 35.3	0.0
	1.2nm,0.4s						
SONM	**Songino Array**	**47.34**	**341**	P	P	22 13 48.4	-0.2
	0.3nm,0.7s,baz=157,slow=7.8,SNR=2.4						
MKAR	**Makanchi Array**	**57.71**	**325**	P	P	22 15 05.2	-0.2
	0.6nm,0.6s,baz=117,slow=8.3,SNR=4.2						
KURBB	**Kurchatov Arra**	**61.88**	**327**	P	P	22 15 34.0	+0.1
	0.8nm,0.6s,baz=130,slow=6.0,SNR=7.3						

IDC ***11*** *22:05:34.2±0.5,3.61N×126.51E,h0km,mb4.4/26, mb1 4.5/26,mb1mx4.5/30,mbtmp4.4/26,MS3.0/1, Ms1 3.0/1,ms1mx2.3/39,Error ellipse: s-maj=24.2km s-min=11.6km az=71.0*

NEIC ***11*** *22:05:37.4±3.3,3.62N×126.59E,h23km±23km,mb4.7/24, Error ellipse: s-maj=11.2km s-min=5.0km az=70.0*

ISCJB ***11*** *22:05:39.5±0.3,3.65N±0.05×126.59E±0.07,h53km, mb4.6/49,MS2.8/1,Error ellipse: s-maj=11.1km s-min=5.2km az=150.1*

DJA ***11*** *22:05:46,3.31N×126.71E,h65km,mb4.6/5*

ISC 11 22:05:41.3±0.4,3.64N±0.07×126.6E±0.1,h53km,n102, σ0s83/102,mb4.6/48,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**		**2.78 219**	P	Pn	22 06 36.1	+13
TNTI	**Ternate**		**2.96 164**	P	**Pn**	**22 06 27.9**	**+2.1**
CTBH	**Cotabato--PC H**		**4.25 327**	i P	**Pn**	**22 06 45.1**	**+1.6**
MRSI	**Marisa**		**5.59 236**	P	Pn	22 07 09.1	+7.1
	127nm,0.6s,2μm0.5nm						
SWI	**Sorong**		**6.47 134**	P	**Pn**	**22 07 13.9**	**-0.2**
	119nm,1.0s						
FAKI	**Fak Fak**		**8.64 139**	P	**Pn**	**22 07 45.2**	**+1.5**
	46nm,1.0s,0.2nm						
TTSI	**Tana Toraja**		**9.47 226**	P	Pn	22 08 22.0	+27
SBUM	**Sibu**		**14.38 266**	P	P	22 09 12.4	+4.7
	20nm,1.5s						
TPUB	**Ta-pu**		**20.38 344**	eP	**P**	**22 10 13.1**	**-0.6**
	40nm,0.8s						
SSLB	**Suanglung**		**20.75 345**	eP	**P**	**22 10 14.6**	**-3.3**
	19nm,0.6s						
YHNB	**Yeheng**		**21.50 347**	eP	**P**	**22 10 25.2**	**-0.7**
	20nm,0.8s						
FITZ	**Fitzroy Crossi**		**21.62 182**	eP	**P**	**22 10 25.4**	**-1.7**
	3.9nm,0.5s						
FITZ	**Fitzroy Crossi**		**21.62 182**	eP	**P**	**22 10 27.5**	**+0.4**
	7.3nm,0.6s						
FITZ	**Fitzroy Crossi**		**21.62 182**	P	**P**	**22 10 26.0**	**-1.1**
	4.5nm,0.6s,baz=339,slow=5.8,SNR=5.5						
JOW	**Kunigami**		**23.12 4**	P	**P**	**22 10 42.6**	**-0.3**
JOW	**Kunigami**		**23.12 4**	P	**P**	**22 10 42.6**	**-0.3**
	11nm,0.7s,baz=200,slow=11,SNR=4.9						
COEN	**Coen**		**24.02 137**	eP	**P**	**22 10 49.5**	**-1.9**
	18nm,0.6s						
WRAB	**Tennant Creek**		**24.64 162**	eP	**P**	**22 10 57.2**	**+0.1**
	17nm,0.8s						
WRA	**Warramunga Arr**		**24.64 162**	P	**P**	**22 10 56.4**	**-0.7**
WRA	**Warramunga Arr**		**24.64 162**	P	**P**	**22 10 56.4**	**-0.7**
	10.0nm,0.4s						
WRA				LR	LR	22 19 19.9	
	comp=Z,31nm,19.6s,baz=30,slow=34						
AS31	**Alice Springs**		**28.06 166**	eP	**P**	**22 11 27.5**	**-0.5**
ASAR	**Alice Springs**		**28.06 166**	P	**P**	**22 11 27.4**	**-0.6**
ASAR				PcP	**PcP**	**22 14 42.9**	**+1.2**
ASAR	**Alice Springs**		**28.06 166**	P	**P**	**22 11 27.4**	**-0.6**
	1.1nm,0.3s,baz=347,slow=7.8,SNR=11						
ASAR				PcP	**PcP**	**22 14 42.9**	**+1.2**
	0.4nm,0.4s,baz=346,slow=2.1,SNR=4.3						
JNU	**Nakatsue**		**29.61 7**	P	**P**	**22 11 41.2**	**-0.4**
JNU	**Nakatsue**		**29.61 7**	P	**P**	**22 11 41.2**	**-0.4**
	4.0nm,0.6s,baz=348,slow=3.6,SNR=4.3						
CM31	**Chiang Mai Arr**		**30.78 301**	eP	**P**	**22 11 51.6**	**-0.5**
	3.3nm,0.7s						
CMAR	**Chiang Mai Arr**		**30.78 301**	P	**P**	**22 11 52.5**	**+0.3**
CMAR	**Chiang Mai Arr**		**30.78 301**	P	**P**	**22 11 52.5**	**+0.3**
	4.6nm,0.8s,baz=113,slow=7.0,SNR=35						
CHTO	**Chiang Mai**		**30.93 301**	eP	**P**	**22 11 53.7**	**+0.2**
	5.0nm,0.7s						
CHTO	**Chiang Mai**		**30.93 301**	P	**P**	**22 11 54.7**	**+1.2**
	9.2nm,0.8s						
ENH	**Enshi**		**31.03 330**	eP	**P**	**22 11 53.3**	**-0.9**
	10nm,0.7s						
KSAR	**Wonju Array Be**		**33.66 2**	P	**P**	**22 12 17.9**	**+0.8**
KSRS	**Korea Array**		**33.68 2**	P	**P**	**22 12 17.9**	**+0.7**
	3.8nm,0.7s,baz=182,slow=9.8,SNR=15						
BJT	**Baijiatuan**		**37.42 347**	eP	**P**	**22 12 49.6**	**+0.3**
	41nm,0.7s						
STKA	**Stephens Creek**		**38.10 159**	eP	**P**	**22 12 54.5**	**-0.6**
	1.4nm,0.7s						
STKA	**Stephens Creek**		**38.10 159**	eP	**P**	**22 12 55.6**	**+0.4**
	4.9nm,0.6s						
STKA	**Stephens Creek**		**38.10 159**	P	**P**	**22 12 55.1**	**-0.1**
	3.6nm,0.3s,baz=334,slow=8.2,SNR=13						
USRK	**Ussuriysk Arra**		**40.68 6**	P	**P**	**22 13 16.4**	**0.0**
	2.8nm,0.7s,baz=191,slow=7.5,SNR=11						
MDJ	**Mudanjiang**		**40.90 3**	eP	**P**	**22 13 16.4**	**-1.9**
	9.7nm,0.8s						
LSA	**Lhasa**		**42.38 312**	eP	**P**	**22 13 31.2**	**0.0**
	7.8nm,0.6s						
ASAJ	**Asahikawa**		**42.73 17**	eP	**P**	**22 13 33.4**	**+0.2**
ASAJ	**Asahikawa**		**42.73 17**	P	**P**	**22 13 34.0**	**+0.7**
	6.1nm,0.9s,baz=358,slow=16,SNR=4.0						
TAPN	**Taplejung**		**43.95 306**	eP	**P**	**22 13 44.1**	**+0.4**
	21nm,0.8s						
ODAN	**Odare**		**44.00 306**	eP	**P**	**22 13 44.3**	**+0.2**
	18nm,0.6s						
RAMN	**Ramite**		**44.67 305**	eP	**P**	**22 13 50.0**	**+0.5**
	11nm,0.6s						
JIRN	**Jiri**		**45.30 306**	eP	**P**	**22 13 54.9**	**+0.3**
	3.7nm,0.7s						
GUN	**Gumba**		**45.65 306**	eP	**P**	**22 13 57.5**	**+0.1**
	28nm,0.7s						
HIA	**Hailar**		**45.84 354**	eP	**P**	**22 13 59.9**	**+1.8**
	16nm,0.9s						
PKI	**Pulchoki**		**45.90 306**	eP	**P**	**22 13 59.0**	**-0.3**
KKN	**Kakani**		**46.09 306**	eP	**P**	**22 14 00.5**	**-0.2**
DMN	**Daman**		**46.16 305**	eP	**P**	**22 14 01.3**	**0.0**
DZM	**Mont Dzumac**		**46.61 125**	eP	**P**	**22 14 04.3**	**-0.4**
DZM	**Mont Dzumac**		**46.61 125**	P	**P**	**22 14 05.0**	**-0.4**
	3.6nm,0.7s,baz=297,slow=12,SNR=7.1						
GKN	**Gorkha**		**46.69 306**	eP	**P**	**22 14 05.2**	**-0.1**
	7.0nm,0.5s						
ULN	**Ulaanbaatar**		**47.16 342**	eP	**P**	**22 14 07.8**	**-0.9**
	2.3nm,0.6s						
ULN	**Ulaanbaatar**		**47.16 342**	P	**P**	**22 14 10.0**	**+1.4**
	4.5nm,0.7s						
SONM	**Songino Array**		**47.34 342**	P	**P**	**22 14 10.4**	**+0.5**
SONM				PcP	**PcP**	**22 15 41.0**	**+0.8**
SONM	**Songino Array**		**47.34 342**	P	**P**	**22 14 10.4**	**+0.5**
	3.0nm,0.6s,baz=156,slow=8.6,SNR=21						
SONM				PcP	**PcP**	**22 15 41.0**	**+0.8**
	1.3nm,0.7s,baz=153,slow=3.6,SNR=4.0						
KOLN	**Koldanda**		**47.45 305**	eP	**P**	**22 14 11.5**	**+0.2**
	28nm,0.5s						
DANN	**Dangsing**		**47.54 306**	eP	**P**	**22 14 12.2**	**+0.1**
	36nm,0.6s						
MK31	**Makanchi Array**		**57.54 325**	eP	**P**	**22 15 25.4**	**0.0**
MKAR	**Makanchi Array**		**57.54 325**	P	**P**	**22 15 25.6**	**+0.1**
MKAR	**Makanchi Array**		**57.54 325**	P	**P**	**22 15 25.6**	**+0.1**
	6.1nm,0.6s,baz=122,slow=8.1,SNR=32						
TKM2	**Tokmak 2**		**59.71 319**	eP	**P**	**22 15 40.8**	**0.0**
	6.6nm,0.7s						
AAK	**Ala-Archa**		**60.32 318**	eP	**P**	**22 15 46.7**	**+1.7**
	14nm,0.9s						
AAK	**Ala-Archa**		**60.32 318**	P	**P**	**22 15 45.9**	**+0.9**
	2.6nm,0.8s,baz=146,slow=5.8,SNR=9.4						
ZALV	**Zalesovo Beam**		**60.60 333**	P	**P**	**22 15 45.5**	**-0.9**
ZALV	**Zalesovo Beam**		**60.60 333**	P	**P**	**22 15 45.5**	**-0.9**
	0.9nm,0.4s,baz=121,slow=6.7,SNR=8.8						
KBL	**Kabul**		**61.45 308**	eP	**P**	**22 15 51.9**	**-1.0**
	4.2nm,0.8s						
KURBB	**Kurchatov Arra**		**61.73 327**	P	**P**	**22 15 53.9**	**-0.2**
	12nm,0.6s,baz=132,slow=6.4,SNR=51						
KURK	**Kurchatov**		**61.73 328**	eP	**P**	**22 15 53.9**	**-0.3**
	19nm,0.6s						
KKAR	**Karatay Array**		**63.19 317**	eP	**P**	**22 16 04.4**	**+0.3**
	7.6nm,0.7s						
BVAR	**Borovoye Array**		**67.31 327**	P	**P**	**22 16 30.5**	**-0.1**
BVAR	**Borovoye Array**		**67.31 327**	P	**P**	**22 16 30.5**	**-0.1**
	8.0nm,0.8s,baz=131,slow=9.1,SNR=32						
BRVK	**Borovoye**		**67.38 327**	eP	**P**	**22 16 31.0**	**-0.1**
	15nm,0.9s						
ABKAR	**Akbulak array**		**72.12 321**	eP	**P**	**22 16 60.0**	**-0.3**
	5.7nm,0.6s						
ARU	**Arti**		**74.93 328**	eP	**P**	**22 17 15.5**	**-1.1**
	5.1nm,0.6s						
QRN	**Al-Qurain**		**78.31 298**	eP	**P**	**22 17 36.4**	**+0.1**
QRN				AMb	AMB	22 17 41.1	
	comp=Z,46nm,1.3s						
RDF	**Al-Radifah**		**78.64 299**	eP	**P**	**22 17 37.8**	**-0.4**
RDF				AMb	AMB	22 17 39.2	
	comp=Z,44nm,1.4s						
MIB	**Mutribah**		**78.86 300**	eP	**P**	**22 17 38.8**	**-0.5**
MIB				AMb	AMB	22 17 40.4	
	comp=Z,15nm,0.8s						
NAY	**Al-Naaiem**		**78.92 299**	eP	**P**	**22 17 38.6**	**-1.1**
NAY				AMb	AMB	22 17 44.8	
	comp=Z,14nm,1.9s						
ILAR	**Eielson Array**		**85.25 25**	P	**P**	**22 18 12.9**	**+0.8**
ILAR	**Eielson Array**		**85.25 25**	P	**P**	**22 18 12.9**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=248,slow=5.9,SNR=7.1						
ASF	**Jabal al Asfar**		**87.81 302**	P	**P**	**22 18 26.0**	**+0.6**
ASF	**Jabal al Asfar**		**87.81 302**	P	**P**	**22 18 26.0**	**+0.6**
	comp=Z,3.4nm,0.7s,baz=341,slow=3.0,SNR=6.1						
KMBO	**Kilima Mbogo**		**89.39 269**	eP	**P**	**22 18 33.0**	**-0.4**
	comp=Z,2.5nm,0.9s						
EIL	**Elat**		**89.63 300**	P	**P**	**22 18 33.9**	**0.0**
EIL	**Elat**		**89.63 300**	P	**P**	**22 18 33.9**	**0.0**
	comp=Z,3.8nm,0.8s,baz=311,slow=2.8,SNR=3.9						
BRTR	**Keskin Array B**		**89.96 310**	P	**P**	**22 18 35.2**	**-0.2**
BRTR	**Keskin Array B**		**89.96 310**	P	**P**	**22 18 35.2**	**-0.2**
	comp=Z,2.7nm,0.9s,baz=104,slow=4.4,SNR=12						
ARCES	**ARCESS Array B**		**90.48 340**	P	**P**	**22 18 37.1**	**+0.1**
ARCES	**ARCESS Array B**		**90.48 340**	P	**P**	**22 18 37.1**	**+0.1**
	comp=Z,4.2nm,0.7s,baz=82,slow=6.5,SNR=13						
FINES	**FINESS Array B**		**91.84 332**	P	**P**	**22 18 44.0**	**+0.5**
FINES	**FINESS Array B**		**91.84 332**	P	**P**	**22 18 44.0**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=57,slow=7.0,SNR=6.9						
AKASG	**Malin Array Be**		**91.86 321**	P	**P**	**22 18 43.1**	**-0.7**
AKASG	**Malin Array Be**		**91.86 321**	P	**P**	**22 18 43.1**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=71,slow=4.9,SNR=6.2						
MLR	**Muntele Rosu**		**94.86 316**	P	**P**	**22 18 57.8**	**-0.1**
MLR	**Muntele Rosu**		**94.86 316**	P	**P**	**22 18 57.8**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=150,slow=7.4						
YKA	**Yellowknife Ar**		**99.65 24**	P	**Pdif**	**22 19 17.9**	**-1.0**
YKA	**Yellowknife Ar**		**99.65 24**	P	**Pdif**	**22 19 18.0**	**-1.0**
	comp=Z,0.1nm,0.4s,baz=292,slow=5.3,SNR=3.4						
TORD	**Torodi Ar. Bea**		**122.80 288**	PKP	**PKPdf**	**22 24 33.1**	**+0.7**
TORD	**Torodi Ar. Bea**		**122.80 288**	PKP	**PKPdf**	**22 24 33.1**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=48,slow=2.4,SNR=3.6						

IDC 11 22:09:06.2±1.2,3.83N×126.36E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.7/20,mbtmp3.8/5,Error ellipse: s-maj=83.3km s-min=25.7km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**		**24.89 162**	P	P	22 14 30.9	0.0
	2.5nm,0.7s						
MKAR	**Makanchi Array**		**57.26 325**	P	P	22 18 56.1	+0.5
	0.4nm,0.4s,baz=116,slow=7.9,SNR=4.3						
ZALV	**Zalesovo Beam**		**60.33 333**	P	P	22 19 16.1	-0.7
	0.3nm,0.3s,baz=121,slow=5.6,SNR=2.7						
KURBB	**Kurchatov Arra**		**61.45 327**	P	P	22 19 24.6	+0.1
	0.6nm,0.5s,baz=127,slow=5.6,SNR=4.6						
ILAR	**Eielson Array**		**85.17 25**	P	P	22 21 44.4	+0.2
	0.9nm,1.0s,baz=243,slow=9.9,SNR=4.3						

IDC ***11*** *22:09:33.3±0.7,3.69N×126.65E,h0km,mb4.1/15, mb1 4.3/15,mb1mx4.2/21,mbtmp4.1/15,Error ellipse: s-maj=32.2km s-min=14.6km az=72.0*

ISCJB ***11*** *22:09:38.5±0.4,3.67N±0.07×126.6E±0.1,h53km, mb4.2/21,Error ellipse: s-maj=19.6km s-min=8.4km az=162.6*

NEIC ***11*** *22:09:38.5±0.3,3.65N×126.60E,h35km,mb4.6/6,Error ellipse: s-maj=14.4km s-min=5.9km az=71.0*

ISC 11 22:09:40.4±0.6,3.66N±0.10×126.6E±0.2,h53km,n41, σ0s71/41,mb4.2/20,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**		**21.65 183**	eP	**P**	**22 14 25.5**	**-0.9**
WRAB	**Tennant Creek**		**24.65 162**	eP	**P**	**22 14 55.9**	**-0.3**
WRA	**Warramunga Arr**		**24.65 162**	P	**P**	**22 14 56.0**	**-0.3**
WRA	**Warramunga Arr**		**24.65 162**	P	**P**	**22 14 56.0**	**-0.3**
	12nm,0.7s						
ASAR	**Alice Springs**		**28.08 166**	P	**P**	**22 15 27.4**	**+0.3**
ASAR	**Alice Springs**		**28.08 166**	P	**P**	**22 15 27.4**	**+0.3**
	0.8nm,0.7s,baz=349,slow=9.0,SNR=3.2						
CMAR	**Chiang Mai Arr**		**30.81 301**	P	**P**	**22 15 51.5**	**0.0**
CMAR	**Chiang Mai Arr**		**30.81 301**	P	**P**	**22 15 51.5**	**0.0**
	1.0nm,0.8s,baz=120,slow=8.3,SNR=6.6						
CHTO	**Chiang Mai**		**30.96 301**	eP	**P**	**22 15 51.9**	**-0.9**
	1.5nm,0.7s						
ENH	**Enshi**		**31.03 330**	eP	**P**	**22 15 52.2**	**-1.1**
	2.4nm,0.4s						
KSAR	**Wonju Array Be**		**33.64 2**	P	**P**	**22 16 14.6**	**-1.3**
KSRS	**Korea Array**		**33.65 2**	P	**P**	**22 16 14.6**	**-1.4**
	1.4nm,0.6s,baz=181,slow=12,SNR=5.6						
BJT	**Baijiatuan**		**37.41 347**	eP	**P**	**22 16 48.3**	**0.0**
	14nm,0.6s						
STKA	**Stephens Creek**		**38.11 159**	eP	**P**	**22 16 54.2**	**-0.1**
STKA	**Stephens Creek**		**38.11 159**	P	**P**	**22 16 54.0**	**-0.3**
	6.2nm,0.7s,baz=319,slow=7.2,SNR=9.3						
USRK	**Ussuriysk Arra**		**40.65 6**	P	**P**	**22 17 14.6**	**-0.6**
	2.3nm,0.7s,baz=194,slow=7.0,SNR=6.8						
LSA	**Lhasa**		**42.40 312**	eP	**P**	**22 17 31.1**	**+0.6**
HIA	**Hailar**		**45.81 354**	eP	**P**	**22 17 58.0**	**+1.1**
	9.7nm,1.0s						
ULN	**Ulaanbaatar**		**47.15 342**	eP	**P**	**22 18 07.6**	**0.0**
SONM	**Songino Array**		**47.33 342**	P	**P**	**22 18 10.1**	**+1.2**
SONM	**Songino Array**		**47.33 342**	P	**P**	**22 18 10.1**	**+1.2**
	1.0nm,0.7s,baz=160,slow=7.4,SNR=4.9						
PETK	**Petropavlovsk-**		**55.53 22**	P	**P**	**22 19 10.5**	**+0.4**
PETK	**Petropavlovsk-**		**55.53 22**	P	**P**	**22 19 10.5**	**+0.4**
	4.0nm,0.7s,baz=178,slow=8.4,SNR=3.3						
MK31	**Makanchi Array**		**57.55 325**	eP	**P**	**22 19 24.6**	**0.0**
MKAR	**Makanchi Array**		**57.55 325**	P	**P**	**22 19 24.9**	**+0.3**
MKAR	**Makanchi Array**		**57.55 325**	P	**P**	**22 19 24.9**	**+0.3**
	1.0nm,0.5s,baz=120,slow=7.9,SNR=8.5						
AAK	**Ala-Archa**		**60.33 318**	eP	**P**	**22 19 44.8**	**+0.7**
	22nm,1.4s						
ZALV	**Zalesovo Beam**		**60.60 333**	P	**P**	**22 19 44.3**	**-1.2**
ZALV	**Zalesovo Beam**		**60.60 333**	P	**P**	**22 19 44.3**	**-1.2**
	0.5nm,0.3s,baz=116,slow=6.6,SNR=3.3						
KURBB	**Kurchatov Arra**		**61.74 327**	P	**P**	**22 19 53.6**	**+0.3**
	3.7nm,0.7s,baz=128,slow=6.2,SNR=9.1						
KURK	**Kurchatov**		**61.74 328**	eP	**P**	**22 19 53.2**	**0.0**
	2.3nm,0.6s						
BVAR	**Borovoye Array**		**67.32 327**	P	**P**	**22 20 30.2**	**+0.6**
BVAR	**Borovoye Array**		**67.32 327**	P	**P**	**22 20 30.2**	**+0.6**
	3.5nm,0.9s,baz=130,slow=6.4,SNR=8.6						
ILAR	**Eielson Array**		**85.21 25**	P	**P**	**22 22 10.9**	**0.0**
ILAR	**Eielson Array**		**85.21 25**	P	**P**	**22 22 10.9**	**0.0**
	1.2nm,0.9s,baz=249,slow=6.8,SNR=7.5						
BRTR	**Keskin Array B**		**89.98 310**	P	**P**	**22 22 34.5**	**0.0**
BRTR	**Keskin Array B**		**89.98 310**	P	**P**	**22 22 34.5**	**0.0**
	0.6nm,0.8s,baz=78,slow=5.7,SNR=3.7						
YKA	**Yellowknife Ar**		**99.60 24**	P	**Pdif**	**22 23 18.8**	**+1.0**
YKA	**Yellowknife Ar**		**99.60 24**	P	**Pdif**	**22 23 18.8**	**+1.0**
	0.3nm,0.6s,baz=299,slow=4.5,SNR=6.3						
TORD	**Torodi Ar. Bea**		**122.84 288**	PKP	**PKPdf**	**22 28 32.3**	**+0.7**
TORD	**Torodi Ar. Bea**		**122.84 288**	PKP	**PKPdf**	**22 28 32.3**	**+0.7**
	0.3nm,0.8s,baz=56,slow=1.4,SNR=3.1						

IDC 11 22:10:27.3±2.5,3.16N×126.85E,h0km,mb4.2/5, mb1 4.3/5,mb1mx3.9/20,mbtmp4.2/5,Error ellipse: s-maj=396.5km s-min=21.0km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**		**24.11 163**	P	P	22 15 45.4	+0.4
	7.9nm,0.7s						
STKA	**Stephens Creek**		**37.55 159**	P	P	22 17 42.8	-0.6
	3.4nm,0.7s,baz=331,slow=8.0,SNR=3.6						
MKAR	**Makanchi Array**		**58.09 325**	P	P	22 20 21.7	-0.9
	1.0nm,0.6s,baz=118,slow=7.3,SNR=2.2						
ZALV	**Zalesovo Beam**		**61.15 333**	P	P	22 20 43.4	-0.1
	1.2nm,0.7s,baz=111,slow=6.3,SNR=2.8						
KURBB	**Kurchatov Arra**		**62.28 327**	P	P	22 20 52.2	+1.0
	1.4nm,0.8s,baz=126,slow=6.2,SNR=4.1						

IDC 11 22:11:35.8±2.2,3.52N×126.17E,h0km,mb3.8/5, mb1 3.9/5,mb1mx3.7/20,mbtmp3.8/5,Error ellipse: s-maj=322.9km s-min=20.5km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**		**28.05 165**	P	P	22 17 29.2	0.0
	0.3nm,0.4s,baz=344,slow=12,SNR=2.4						
STKA	**Stephens Creek**		**38.14 158**	P	P	22 18 56.7	-0.2
	2.9nm,0.6s,baz=324,slow=5.7,SNR=3.6						
MKAR	**Makanchi Array**		**57.41 326**	P	P	22 21 26.0	-0.3
	0.5nm,0.4s,baz=124,slow=7.7,SNR=3.8						
ZALV	**Zalesovo Beam**		**60.52 333**	P	P	22 21 47.6	-0.1
	0.4nm,0.4s,baz=120,slow=5.2,SNR=2.2						
KURBB	**Kurchatov Arra**		**61.61 328**	P	P	22 21 55.5	+0.3
	0.8nm,0.5s,baz=131,slow=6.2,SNR=4.2						

BJI ***11*** *22:14:24.1,3.45N×126.63E,h33km,mB6.0/45,mb5.8/73, Ms5.7/80,Ms7 5.6/72*

ISCJB ***11*** *22:14:25.6±0.1,3.73N±0.02×126.74E±0.02,h29km, mb5.9/207,MS5.5/247,Error ellipse: s-maj=3.6km s-min=2.5km az=161.6*

IDC ***11*** *22:14:26.7±1.7,3.73N×126.66E,h22km±10km,mb5.7/41, mb1 5.7/42,mb1mx5.7/43,mbtmp5.6/42,ML3.8/1,MS5.4/30, Ms1 5.4/30,ms1mx5.3/44,Error ellipse: s-maj=12.6km s-min=8.4km az=78.0*

NEIC ***11*** *22:14:26.7±0.1,3.72N×126.65E,h25km,mb5.9/96,ME5.7, MS5.5/170,MW5.9,Error ellipse: s-maj=5.1km s-min=3.3km az=74.0 Broadband fault plane solution: P waves. NP1:φs40.00000°,δ75.00000°,λ130.00000°. NP2:φs147.00000°,δ42.00000°,λ23.00000°. Principal axes: T Plg45.0000°, Azm350.0000°; N Plg0.0000°, Azm0.0000°; P Plg20.0000°, Azm101.0000°; Moment Tensor Solution. s31 Moment tensor: Scale 10^17 Nm; Mrr6.64; Mθθ1.46; Mφφ-8.10; Mrθ-1.18; Mθφ5.17; Mφr2.14; Best double couple: M0:9.40000×10^17 NP1:φs333.00000°, δ53.00000°,λ85.00000°. NP2:φs161.00000°,δ37.00000°, λ96.00000°. Principal axes: T 7.0000, Plg81.0000°, Azm220.0000°; N 3.7000, Plg3.0000°, Azm335.0000°; P -10.7000, Plg7.0000°, Azm66.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

MOS ***11*** *22:14:26.4±1.0,3.68N×126.62E,h33km,mb6.2/57, MS5.5/63 Error ellipse: s-maj=9.3km s-min=4.3km az=117.9*

DJA ***11*** *22:14:33,3.73N×126.86E,h85km,Mw5.6/61*

ISC 11 22:14:27.7±0.3,3.66N±0.02×126.64E±0.03,h32km±1km, h33km:pP-P,n1215,σ1s45/1249,mb6.0/203,MS5.5/247, 239C-191D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**		**2.84 219**	P	**Pb**	**22 15 15.3**	**-2.5**
GSPH	**General Santos**		**2.95 325**	eP	**Pb**	**22 15 16.8**	**-2.9**
TNTI	**Ternate**		**2.95 166**	P	**Pn**	**22 15 14.5**	**+2.1**
MATI	**Mati**		**3.29 353**	eP	**Pn**	**22 15 20.5**	**+3.4**
DAV	**Davao City (W)**		**3.55 343**	ePn	**Pn**	**22 15 23.2**	**+2.6**
DAV				eS	Sb	22 16 30.5	+18
DAV	**Davao City (W)**		**3.55 343**	i eP	Pn	22 15 23.8	+3.1
DAV	**Davao City (W)**		**3.55 343**	P	Pb	22 15 25.1	-4.8
	SNR=48						
DAV	**Davao City (W)**		**3.55 343**	P	Pb	22 15 25.2	-4.8
DAV	**Davao City (W)**		**3.55 343**	Pn	**Pn**	**22 15 22.5**	**+1.9**
	108nm,0.3s,baz=98,slow=1.1,SNR=29						
DMPH	**Davao City--Mi**		**3.59 342**	eP	Pn	22 15 25.1	+4.0
DMPH				i S	Sb	22 16 21.5	+7.9
KCP	**Kidapawan**		**3.67 335**	‖ eP	**Pb**	**22 15 30.1**	**-1.9**
KCP				i S	Sb	22 16 21.9	+5.8
KMSI	**Cibinong**		**4.05 221**	P	Pn	22 15 34.4	-4.0
CTBH	**Cotabato--PC H**		**4.27 326**	‖ eP	Pn	22 15 34.7	+4.2
LBMI	**Labuha**		**4.35 169**	P	**Pn**	**22 15 34.4**	**+2.8**
BUKP	**Musuan**		**4.48 340**	eP	Pn	22 15 37.3	+3.9
CGP	**Cagayan de Oro**		**5.15 338**	i P	Pn	22 15 47.6	+5.1
CGP				i S	**Sb**	**22 16 58.4**	**0.0**
PAGZ	**Pagadian**		**5.28 322**	eP	Pn	22 15 48.1	+3.7
ZMPH	**Zamboanga City**		**5.61 306**	i P	**Pn**	**22 15 52.1**	**+3.1**
ZMPH				i S	Px	22 15 55.8	
MRSI	**Marisa**		**5.66 236**	P	Pn	22 15 54.9	+5.3
	4μm,0.8s,37μm94μm12nm						
IPIL	**Ipil**		**5.77 316**

861nm,1.4s,10µm
MTN Manton Dam 16.99 165 *e*P **Pn 22 18 20.9 -2.1**
BLJI Banyuglugur 17.25 229 P **P 22 18 30.9 +3.3**
389nm,0.8s,4µm
GMJI Gumukmas 17.71 228 P **P 22 18 36.6 +3.9**
430nm,1.0s,5µm
SJI Sawahan 18.66 233 P **Pn 22 18 44.3 +0.5**
368nm,1.1s,5µm
PWJI Pagerwojo 18.81 232 P **Pn 22 18 45.9 +0.5**
239nm,0.8s,4µm
SMRI Semarang 19.35 237 P Pn 22 18 57.1 +5.1
248nm,0.9s
TWG Pinlang 19.80 345 *e*P **P 22 18 53.2 -2.4**
437nm,0.6s
TPI Tanjungpandan 20.02 252 P Pn 22 19 07.4 +7.5
159nm,1.2s,2µm
YULB Yu-li 20.29 346 *e*P **P 22 18 58.6 -2.3**
607nm,1.1s
TPUB Ta-pu 20.38 344 *e*P **P 22 19 00.5 -1.4**
3µm,1.3s
GUMO Guam 20.53 60 *e*Pn **P 22 19 01.7 -1.8**
428nm,1.1s
GUMO LR LR
comp=Z,5µm,19.0s
GUMO Guam 20.53 60 P **P 22 19 01.7 -1.8**
comp=Z,72nm,0.4s,baz=195,slow=8.1,SNR=8.8
SSLB Suanglung 20.75 345 *e*P **P 22 19 03.8 -2.2**
comp=Z,881nm,0.9s
NACB Ninganchiao 20.97 347 *e*P **P 22 19 05.7 -2.5**
comp=Z,319nm,1.0s
NACB *e*S **S 22 22 58.9 -1.4**
PPBI Pangkal Pinang 21.29 255 P **P 22 19 14.8 +3.0**
comp=Z,185nm,1.4s,comp=Z,3µm
YHNB Yeheng 21.50 347⇑*i*P **P 22 19 11.9 -2.1**
comp=Z,718nm,0.7s
YHNB *e*S **S 22 23 09.2 -1.7**
YHNB LR LR
comp=Z,14µm,22.0s
FITZ Fitzroy Crossi 21.64 183 P **P 22 19 15.3 -0.2**
FITZ S **S 22 23 09.0 -4.5**
FITZ Fitzroy Crossi 21.64 183 *e*P **P 22 19 15.3 -0.2**
comp=Z,174nm,0.4s
FITZ *e*S **S 22 23 08.8 -4.8**
FITZ Fitzroy Crossi 21.64 183 P **P 22 19 15.3 -0.2**
comp=Z,88nm,0.6s,baz=15,slow=8.7,SNR=83
FITZ S **S 22 23 09.0 -4.5**
comp=Z,50nm,0.9s,baz=177,slow=20,SNR=10
LEM Lembang 21.66 241 P **P 22 19 18.4 +2.5**
comp=Z,428nm,1.1s,comp=Z,5µm
TATO Taipei 21.77 347 *e*P **P 22 19 15.3 -1.4**
comp=Z,355nm,0.6s
TATO LR LR
comp=Z,12µm,22.0s
CISI Cisompet, Garu 21.84 239 P **P 22 19 18.5 +0.8**
comp=Z,341nm,1.0s,comp=Z,4µm
HKC Hong Kong Obse 22.13 328⇑*i*P **P 22 19 19.0 -1.7**
DBJI Dramaga 22.30 243 P **P 22 19 24.8 +2.2**
comp=Z,469nm,1.2s
QIZ Qiongzhong 22.43 314 P **P 22 19 23.1 -0.9**
QIZ pP **pP 22 19 32.9 +0.2**
QIZ sP **sP 22 19 36.1 -0.7**
QIZ S **S 22 23 28.1 -0.4**
QIZ pmax pmax
comp=Z,3µm,8.5s
QIZ LR LR
comp=N,9µm,15.3s
QIZ LR LR
comp=E,3µm,14.1s
QIZ LR LR
comp=Z,14µm,19.3s
QIZ Qiongzhong 22.43 314 *e*P **P 22 19 21.6 -2.4**
comp=Z,195nm,1.3s
QIZ *e*S **S 22 23 35.0 +6.5**
QIZ LR LR
comp=Z,14µm,19.0s
QZH Quanzhou 22.54 341⇑*i*P **P 22 19 24.1 -1.0**
QZH S S 22 23 23.0 -7.3
QZH pmax pmax
comp=Z,1µm,1.1s
QZH pmax pmax
comp=Z,5µm,4.1s
QZH LR LR
comp=N,35µm,18.8s
QZH LR LR
comp=E,5µm,15.4s
QZH LR LR
comp=Z,41µm,19.4s
SKJI Sukabumi 22.67 242 P **P 22 19 27.7 +1.1**
comp=Z,480nm,1.2s,comp=Z,6µm
PMBI Palembang 22.82 254 P P 22 19 33.4 +5.3
comp=Z,1µm,1.2s
MYKOM Kota Tinggi 22.84 266 P **P 22 19 30.9 +2.5**
MYKOM Kota Tinggi 22.84 266 P **P 22 19 30.2 +1.8**
comp=Z,428nm,1.0s,comp=Z,5µm
JOW Kunigami 23.10 4 *e*P **P 22 19 30.7 -0.2**
JOW Kunigami 23.10 4 P **P 22 19 28.5 -2.4**
comp=Z,454nm,0.6s,baz=189,slow=8.6,SNR=232
JOW LR LR 22 27 50.0
comp=Z,10µm,21.9s,baz=186,slow=35
GZH Guangzhou 23.21 327 P **P 22 19 34.0 +2.0**
GZH S **S 22 23 46.5 +4.6**
GZH LR LR
comp=N,17µm,18.8s
GZH LR LR
comp=E,18µm,18.8s
GZH LR LR
comp=Z,36µm,18.6s
CGJI Cibinong 23.27 244 P **P 22 19 32.7 0.0**
comp=Z,962nm,0.9s,comp=Z,7µm
KGM Kluang 23.35 267 P **P 22 19 35.3 +1.8**
KASI Kota Agung 23.93 248 P **P 22 19 39.8 +0.8**
comp=Z,543nm,1.0s,comp=Z,4µm
COEN Coen 23.98 137 *e*P **P 22 19 36.0 -3.5**
comp=Z,1µm,0.9s
LWLI Liwa 24.15 249 P **P 22 19 42.2 +0.9**
comp=Z,631nm,0.9s,comp=Z,5µm
PMG Port Moresby 24.22 123 *e*P **P 22 19 38.1 -3.6**
PMG Port Moresby 24.22 123 P **P 22 19 38.3 -3.4**
comp=Z,54nm,1.1s,comp=Z,3µm
PMG Port Moresby 24.22 123 P **P 22 19 37.3 -4.4**
comp=Z,27nm,0.7s,baz=326,slow=8.3,SNR=15
PMG LR LR 22 30 21.6
comp=Z,12µm,19.6s,baz=108,slow=39
RGRI Rengat 24.62 261 P **P 22 19 48.7 +3.3**
comp=Z,216nm,0.9s
WRAB Tennant Creek 24.64 162 *e*P **P 22 19 44.4 -1.1**
WRAB pmax pmax
comp=Z,929nm,0.9s
WRAB MLR MLR
comp=Z,9µm,20.0s
WRAB Tennant Creek 24.64 162 *e*P **P 22 19 44.4 -1.1**
comp=Z,929nm,0.9s
WRAB LR LR
comp=Z,9µm,20.0s
WRA Warramunga Arr 24.64 162 P **P 22 19 44.7 -0.9**
WRA S **S 22 24 00.6 -4.5**
WRA Warramunga Arr 24.64 162 P **P 22 19 44.7 -0.9**
comp=Z,537nm,0.3s,baz=35,slow=0.0,SNR=3.4
WRA S **S 22 24 00.6 -4.5**
MNAI Manna 24.97 252 P **P 22 19 53.0 +4.4**
comp=Z,541nm,1.1s,comp=Z,8µm
FRIM Kepong 24.98 270 P **P 22 19 50.1 +1.4**
KSI Kapahiang 25.11 253 P **P 22 19 52.0 +2.1**
comp=Z,438nm,1.0s,comp=Z,5µm
IPM Ipoh 25.57 273 *e*P **P 22 19 54.2 +0.2**
comp=Z,294nm,1.2s
IPM Ipoh 25.57 273 P **P 22 19 55.1 +1.0**
IPM Ipoh 25.57 273 P **P 22 19 54.7 +0.7**
IPM Ipoh 25.57 273 P **P 22 19 55.0 +1.0**
comp=Z,180nm,1.3s,comp=Z,3µm
MBWA Marble Bar 25.57 195 *e*P **P 22 19 54.4 +0.4**
comp=Z,243nm,1.0s
MBWA LR LR
comp=Z,5µm,20.0s
MBWA Marble Bar 25.57 195 P **P 22 19 55.0 +1.1**
SNR=32
BKNI Bangkinang 25.80 263 P **P 22 19 57.8 +1.7**
comp=Z,674nm,1.0s,comp=Z,5µm
KRJI Kerinci 25.81 258 P **P 22 19 58.6 +2.3**
comp=Z,545nm,1.1s
PPI Padang Panjang 26.55 262 P **P 22 20 03.9 +1.0**
comp=Z,106nm,0.8s,comp=Z,2µm
MNSI Mandailing Nat 27.19 265 P **P 22 20 09.4 +0.7**
comp=Z,262nm,1.0s,comp=Z,3µm
CBIJ Chichi jima 27.64 31 P **P 22 20 10.8 -1.8**
CBIJ Chichi jima 27.64 31 P **P 22 20 10.8 -1.8**
comp=Z,359nm,0.6s,baz=300,slow=18,SNR=7.6
CBIJ LR LR 22 30 55.3
comp=Z,5µm,18.1s,baz=357,slow=36
PSI Prapat 27.69 269 P **P 22 20 13.4 +0.1**
PSI ScP **ScP 22 27 08.1 -0.5**
PSI Prapat 27.69 269 P **P 22 20 14.0 +0.7**
comp=Z,132nm,1.0s,comp=Z,2µm
PSI Prapat 27.69 269 P **P 22 20 13.4 +0.1**
comp=Z,102nm,0.9s,baz=96,slow=3.3,SNR=37
PSI ScP **ScP 22 27 08.1 -0.5**
comp=Z,16nm,0.9s,baz=212,slow=6.3,SNR=6.3
PSI LR LR 22 32 06.4
comp=Z,10µm,21.6s,baz=258,slow=38
SSE Sheshan 27.77 350⇑P **P 22 20 14.4 +0.7**
SSE pP **pP 22 20 25.1 +2.0**
SSE S **S 22 24 53.0 -1.4**
SSE sS **sS 22 25 11.0 +1.0**
SSE pmax pmax
comp=Z,380nm,1.3s
SSE pmax pmax
comp=Z,2µm,6.1s
SSE LR LR
comp=N,6µm,20.0s
SSE LR LR
comp=E,2µm,20.0s
SSE LR LR
comp=Z,6µm,20.1s
AS31 Alice Springs 28.06 166 *e*P **P 22 20 15.8 -0.6**
ASAR Alice Springs 28.06 166 P **P 22 20 15.7 -0.7**
ASAR PcP **PcP 22 23 31.6 +1.0**
ASAR S **S 22 24 56.2 -3.0**
ASAR ScP **ScP 22 27 09.3 -0.1**
ASAR *e* 22 52 39.4
ASAR Alice Springs 28.06 166 P **P 22 20 15.7 -0.7**
comp=Z,28nm,0.5s,baz=352,slow=7.8,SNR=153
ASAR PcP **PcP 22 23 31.6 +1.0**
comp=Z,25nm,0.7s,baz=350,slow=3.2,SNR=5.7
ASAR S **S 22 24 56.2 -3.0**
comp=Z,14nm,1.0s,baz=352,slow=21,SNR=3.0
ASAR ScP **ScP 22 27 09.3 -0.1**
comp=Z,9.3nm,0.9s,baz=353,slow=1.3,SNR=4.7
ASAR P3KPbc 22 52 39.4
comp=Z,2.5nm,0.7s,baz=163,slow=4.9,SNR=13
GSI Gunungsitoli 29.13 266 P **P 22 20 25.3 -0.7**
comp=Z,259nm,1.1s,comp=Z,3µm
WHN Wuhan 29.16 338 P **P 22 20 26.3 +0.3**
WHN pmax pmax
comp=Z,380nm,1.0s
WHN LR LR
comp=N,20µm,18.3s
WHN LR LR
comp=E,26µm,18.5s
WHN LR LR
comp=Z,46µm,19.2s
NJ2 Nanjing 29.18 346 *e*P **P 22 20 27.1 +0.9**
NJ2 pP **pP 22 20 36.7 +1.1**
NJ2 sP **sP 22 20 40.7 +1.1**
NJ2 PP **PnPn 22 21 22.5 +2.7**
NJ2 S **S 22 25 19.0 +2.5**
NJ2 sS **sS 22 25 37.0 +4.9**
NJ2 pmax pmax
comp=Z,150nm,1.0s
NJ2 pmax pmax
comp=Z,2µm,10.2s
NJ2 LR LR
comp=N,5µm,22.1s
NJ2 LR LR
comp=E,7µm,22.0s
NJ2 LR LR
comp=Z,7µm,18.9s
TPTI 29.41 270 P **P 22 20 29.3 +0.8**
comp=Z,46nm,0.9s
JNU Nakatsue 29.58 7 *e*P **P 22 20 28.4 -1.4**
comp=Z,152nm,1.1s
JNU Nakatsue 29.58 7 P **P 22 20 28.9 -1.0**
comp=Z,284nm,1.1s,baz=176,slow=7.1,SNR=59
JNU LR LR 22 32 07.3
comp=Z,9µm,22.0s,baz=73,slow=36
LHMI Lhok Sumawe 29.64 274 P **P 22 20 33.4 +2.8**
comp=Z,178nm,0.9s,comp=Z,3µm
GYA Guiyang 29.67 322⇑*i*P **P 22 20 30.3 -0.5**
GYA pP **pP 22 20 38.7 -1.5**
GYA PP **PnPn 22 21 29.1 +2.4**
GYA PcP **PcP 22 23 35.6 +0.8**
GYA S **S 22 25 25.9 +1.2**
GYA sS **sS 22 25 36.0 -4.2**
GYA SS **SnSn 22 27 01.0 +5.7**
GYA ScP **ScP 22 27 15.6 +1.0**
GYA pmax pmax
comp=Z,40nm,1.0s
GYA pmax pmax
comp=Z,190nm,6.2s
CTA Charters Tower 30.46 142 P **P 22 20 36.9 -0.8**
CTA ScP **ScP 22 27 17.8 +0.7**
CTA Charters Tower 30.46 142 *e*P **P 22 20 36.8 -1.0**
comp=Z,64nm,0.8s
CTA *e*SCP **ScP 22 27 18.6 +1.5**
CTA Charters Tower 30.46 142 P **P 22 20 36.9 -0.8**
comp=Z,39nm,0.9s,baz=324,slow=12,SNR=31
CTA ScP **ScP 22 27 17.8 +0.7**
comp=Z,29nm,1.0s,baz=293,slow=5.4,SNR=8.4
CTAO Charters Tower 30.46 142⇓*e*P **P 22 20 36.7 -1.0**
CTAO S **S 22 25 36.0 -1.0**
CTAO pmax pmax
comp=Z,102nm,0.9s
CTAO MLR MLR
comp=Z,5µm,20.0s
CTAO Charters Tower 30.46 142⇓*e*P **P 22 20 36.6 -1.0**
comp=Z,102nm,0.9s
CTAO S **S 22 25 36.0 -1.0**
CTAO LR LR
comp=Z,5µm,20.0s
CM31 Chiang Mai Arr 30.83 301 *e*P **P 22 20 41.2 +0.1**
comp=Z,29nm,0.6s
CM31 LR LR
comp=Z,5µm,20.0s
CMAR Chiang Mai Arr 30.83 301 P **P 22 20 41.0 0.0**
CMAR PcP **PcP 22 23 39.9 +2.0**
CMAR ScP **ScP 22 27 19.3 +0.9**
CMAR PKiKP **PKiKP 22 31 08.9 +0.2**
CMAR *e* 22 52 30.9
CMAR P'P' 22 54 35.8
CMAR Chiang Mai Arr 30.83 301 P **P 22 20 41.0 0.0**
comp=Z,44nm,0.8s,baz=118,slow=7.4,SNR=149
CMAR PcP **PcP 22 23 39.9 +2.0**
comp=Z,14nm,1.0s,baz=121,slow=1.3,SNR=4.6
CMAR ScP **ScP 22 27 19.3 +0.9**
comp=Z,3.1nm,0.5s,baz=141,slow=1.9,SNR=6.9
CMAR PKiKP **PKiKP 22 31 08.9 +0.2**
comp=Z,1.6nm,0.7s,baz=258,slow=1.2,SNR=4.8
CMAR LR LR 22 34 25.1
comp=Z,5µm,18.2s,baz=123,slow=39
CMAR P3KPbc 22 52 30.9
comp=Z,0.5nm,0.3s,baz=273,slow=5.9,SNR=6.5
CMAR PKPPKP **P'P'df 22 54 35.8 +0.4**
comp=Z,0.7nm,0.4s,baz=260,slow=5.5,SNR=5.8
CHTO Chiang Mai 30.98 301 *e*P **P 22 20 42.0 -0.4**
CHTO pmax pmax
comp=Z,114nm,0.9s
CHTO MLR MLR
comp=Z,5µm,19.0s
CHTO Chiang Mai 30.98 301 *e*P **P 22 20 42.0 -0.4**
comp=Z,114nm,0.9s
CHTO LR LR
comp=Z,5µm,19.0s
CHTO Chiang Mai 30.98 301 P **P 22 20 43.0 +0.6**
SNR=77
CHTO Chiang Mai 30.98 301 P **P 22 20 42.6 +0.2**
comp=Z,167nm,1.1s,comp=Z,2µm
ENH Enshi 31.05 330⇑*i*P **P 22 20 42.1 -0.7**
comp=Z,214nm,0.7s
ENH *e*S **S 22 25 43.6 -2.4**
ENH LR LR
comp=Z,23µm,19.0s
BSI Banda Aceh 31.30 275 P **P 22 20 44.5 -0.7**
comp=Z,86nm,1.2s,comp=Z,1µm
KMI Kunming 31.37 315⇑P **P 22 20 46.2 +0.2**
KMI pP **pP 22 20 57.2 +1.8**
KMI sP **sP 22 21 01.9 +2.6**
KMI PP **PnPn 22 21 51.2 +2.1**
KMI PcP **PcP 22 23 40.8 +1.4**
KMI S **S 22 25 50.5 -1.1**
KMI sS **sS 22 26 09.2 +2.1**
KMI ScP **ScP 22 27 19.5 -0.8**
KMI SS **SnSn 22 27 36.6 -0.2**
KMI pmax pmax
comp=Z,45nm,1.3s
KMI pmax pmax
comp=Z,940nm,7.0s
KMI LR LR
comp=N,4µm,19.1s
KMI LR LR
comp=E,6µm,24.1s
KMI LR LR
comp=Z,12µm,27.1s
COCO West Island 33.55 242 PFAKE 22 21 20.0 +15
COCO LR LR
comp=Z,4µm,21.0s
KSAR Wonju Array Be 33.65 2 P **P 22 21 05.8 +0.4**
KSAR PcP **PcP 22 23 47.0 +1.9**
KSRS Korea Array 33.66 2 P **P 22 21 05.8 +0.3**
comp=Z,222nm,0.8s,baz=180,slow=9.8,SNR=427
KSRS PcP **PcP 22 23 47.0 +1.9**
comp=Z,24nm,0.6s,baz=182,slow=2.7,SNR=14
KSRS LR LR 22 34 10.4
comp=Z,3µm,21.9s,baz=194,slow=35
INCN Inchon 33.67 360 *e*P **P 22 21 06.4 +0.7**
comp=Z,196nm,0.6s
INCN LR LR
comp=Z,7µm,19.0s
INCN Inchon 33.67 360 P **P 22 21 06.8 +1.2**
SNR=9.0
FORT Forrest 34.27 178 *e*P **P 22 21 09.5 -1.4**
comp=Z,24µm,0.8s
FORT Forrest 34.27 178 *e*P **P 22 21 11.0 +0.1**
comp=Z,262nm,0.7s
FORT *e*S **S 22 26 30.9 -5.1**
MAJO Matsushiro 34.42 17 *e*P **P 22 21 09.8 -2.4**
MAJO pmax pmax
comp=Z,58nm,0.7s
MAJO MLR MLR
comp=Z,10µm,19.0s
MAJO Matsushiro 34.42 17 *e*P **P 22 21 09.8 -2.4**
comp=Z,58nm,0.7s
MAJO LR LR
comp=Z,10µm,19.0s
MAT Matsushiro 34.42 17 P **P 22 21 09.6 -2.6**
MAT S S 22 26 30.0 -8.3
MJAR Matsushiro Arr 34.42 17 P **P 22 21 10.2 -2.0**
MJAR PcP **PcP 22 23 49.0 +1.6**
MJAR Matsushiro Arr 34.42 17 P **P 22 21 10.2 -2.0**
comp=Z,39nm,0.6s,baz=186,slow=9.4,SNR=101
MJAR PcP **PcP 22 23 49.0 +1.6**
comp=Z,20nm,0.9s,baz=196,slow=3.7,SNR=6.2
MJAR LR LR 22 35 10.6
comp=Z,9µm,19.2s,baz=195,slow=36
XAN Xi'an 34.44 333 P **P 22 21 11.7 -0.8**
XAN pP **pP 22 21 17.5 -4.5**
XAN S S 22 26 28.4 -10
XAN pmax pmax
comp=Z,73nm,0.7s
XAN pmax pmax
comp=Z,310nm,12.7s
XAN LR LR
comp=N,8µm,21.0s
XAN LR LR
comp=E,4µm,21.0s
XAN LR LR
comp=Z,4µm,21.0s
CD2 Chengdu 34.65 324⇑P **P 22 21 14.2 -0.2**
CD2 pP **pP 22 21 23.9 +0.1**
CD2 sP **sP 22 21 27.8 0.0**
CD2 PcP **PcP 22 23 47.4 -0.8**
CD2 S **S 22 26 41.5 -0.6**
CD2 sS **sS 22 26 57.5 -0.2**
CD2 PcS **PcS 22 27 32.9 -2.0**
CD2 SS **SnSn 22 28 55.7 -0.4**
CD2 pmax pmax
comp=Z,130nm,0.8s
CD2 pmax pmax
comp=Z,1µm,5.0s
CD2 LR LR
comp=N,10µm,17.8s
CD2 LR LR
comp=E,10µm,16.9s
CD2 LR LR
comp=Z,12µm,18.2s
DL2 Dalian 35.38 353⇑*i*P **P 22 21 21.9 +1.5**
DL2 S **S 22 26 54.1 +1.1**
DL2 pmax pmax
comp=Z,830nm,1.0s
DL2 pmax pmax
comp=Z,1µm,5.1s
DL2 LR LR
comp=N,3µm,22.4s
DL2 LR LR
comp=E,3µm,22.6s
DL2 LR LR
comp=Z,4µm,20.6s
HNR Honiara 35.65 112 LR LR 22 35 29.2
comp=Z,6µm,21.0s,baz=120,slow=35
KLBR Kellerberrin 36.06 193 *e*P **P 22 21 27.0 +0.6**
comp=Z,53nm,0.6s
KLBR *e*PCP **PcP 22 23 53.4 +1.2**
TIY Taiyuan 36.31 341 *e*P **P 22 21 28.7 +0.2**
TIY S **S 22 27 08.5 +1.1**
TIY pmax pmax
comp=Z,190nm,0.9s
TIY pmax pmax
comp=Z,1µm,5.9s
TIY LR LR
comp=N,8µm,20.4s
TIY LR LR
comp=E,9µm,19.8s
TIY LR LR
comp=Z,10µm,20.4s
EIDS Eidsvold 37.35 142 *e*P **P 22 21 35.9 -1.5**
comp=Z,152nm,0.8s
BBOO Buckleboo 37.35 167 *e*P **P 22 21 37.2 -0.2**
comp=Z,2µm,1.0s
BJT Baijiatuau 37.42 347⇑*i*P **P 22 21 38.1 +0.2**
comp=Z,1µm,0.6s
BJT *e*S **S 22 27 22.7 -1.4**
BJT LR LR
comp=Z,6µm,21.0s
BJI Beijing 37.44 347 P **P 22 21 38.3 +0.3**
BJI PP **PnPn 22 23 06.1 +1.4**
BJI S **S 22 27 24.3 0.0**
BJI SS **SnSn 22 30 02.0 -1.2**
BJI pmax pmax
comp=Z,2µm,1.0s
BJI LR LR
comp=N,5µm,21.0s
BJI LR LR
comp=E,6µm,21.6s
BJI LR LR
comp=Z,4µm,21.6s
NWAO Narrogin (SRO) 37.46 193 *e*P **P 22 21 39.4 +1.1**
NWAO LR LR
comp=Z,3µm,19.0s
NWAO Narrogin (SRO) 37.46 193 P **P 22 21 39.0 +0.7**
comp=Z,36nm,0.5s,baz=19,slow=7.4,SNR=31
IMP Imphal 37.84 307 *e*PKP **P 22 21 40.0 -1.8**
IMP *ex* x 22 23 58.0
STKA Stephens Creek 38.09 159⇓*i*P **P 22 21 43.0 -0.6**
comp=Z,66nm,0.6s
STKA *e*PP **PP 22 23 10.8 -0.4**
STKA *e*S S 22 27 28.6 -5.9
STKA Stephens Creek 38.09 159 *e*P **P 22 21 42.6 -1.0**
comp=Z,295nm,0.6s
STKA *e*PP **PP 22 23 11.5 +0.4**
STKA *e*S **S 22 27 29.7 -4.8**
STKA Stephens Creek 38.09 159 P **P 22 21 43.4 -0.2**
comp=Z,327nm,0.6s,baz=334,slow=8.3,SNR=284
SNY Shenyang 38.10 356⇑P **P 22 21 44.5 +0.9**
SNY S **S 22 27 35.0 +0.6**
SNY pmax pmax
comp=Z,520nm,1.1s
SNY pmax pmax
comp=Z,4µm,3.3s
SNY LR LR
comp=N,2µm,22.2s
SNY LR LR
comp=E,6µm,24.3s
SNY LR LR
comp=Z,6µm,24.0s
LZH Lanzhou 38.52 330⇑P **P 22 21 47.8 +0.4**
LZH pP **pP 22 21 53.9 -3.1**
LZH sP **sP 22 21 56.2 -4.7**
LZH SS SnSn 22 30 18.2 -12
LZH pmax pmax
comp=Z,650nm,1.3s
LZH pmax pmax

LZH comp=Z,2μm,4.0s LR LR
LZH comp=N,15μm,19.9s LR LR
LZH comp=E,15μm,20.5s LR LR
LZH comp=Z,23μm,20.6s LR LR
HHC Hu-ho-hao-te 39.44 342 *e*P **P 22 21 55.4 +0.4**
HHC pP **pP 22 22 05.2 +0.6**
HHC sP **sP 22 22 09.9 +1.4**
HHC PP **PnPn 22 23 30.8 +1.9**
HHC S **S 22 27 53.6 -1.3**
HHC sS **sS 22 28 10.3 -0.3**
HHC SS SS 22 30 38.9 -11
HHC ScS **ScS 22 31 59.8 -1.4**
HHC pmax pmax
HHC comp=Z,67nm,1.3s pmax pmax
HHC comp=Z,2μm,3.6s LR LR
HHC comp=N,7μm,20.2s LR LR
HHC comp=E,4μm,20.2s LR LR
HHC comp=Z,9μm,23.8s LR LR
VLA Vladivostok 39.57 6 ⇓*i*P **P 22 21 55.9 0.0**
VLA 22 24 01.5
VLA S **S 22 27 56.9 +0.4**
VLA pmax pmax
AGT comp=Z,313nm,1.2s
AGT Agartala 39.63 304 *e*PKP **P 22 21 56.0 -0.6**
AGT *ex* x 22 22 05.0
BTO Baotou 39.72 340 *e*P **P 22 21 55.4 -1.9**
SHL Shillong 39.85 307 *ex* x 22 27 54.0
CN2 Changchun 39.99 359 ⇑P **P 22 21 59.3 -0.1**
CN2 *e*pP **pP 22 22 09.0 +0.1**
CN2 *e*sP **sP 22 22 13.1 +0.2**
CN2 PP **PnPn 22 23 36.3 +1.0**
CN2 PcP **PcP 22 24 05.0 +0.8**
CN2 *e*S **S 22 28 02.9 +0.1**
CN2 SS **SS 22 30 56.6 -4.0**
CN2 pmax pmax
CN2 comp=Z,20nm,0.7s pmax pmax
CN2 comp=Z,200nm,6.0s LR LR
CN2 comp=N,2μm,18.0s LR LR
CN2 comp=E,3μm,18.0s LR LR
CN2 comp=Z,3μm,16.0s LR LR
USRK Ussuriysk Arra 40.65 6 P **P 22 22 05.0 +0.2**
comp=Z,99nm,0.7s,baz=187,slow=7.4,SNR=213
MDJ Mudanjiang 40.88 3 P **P 22 22 07.3 +0.6**
MDJ pP **pP 22 22 12.6 -3.7**
MDJ PcP **PcP 22 24 06.7 -0.3**
MDJ PcS **PcS 22 27 57.8 +0.1**
MDJ S **S 22 28 16.1 +0.1**
MDJ SS **SS 22 31 18.4 +0.2**
MDJ pmax pmax
MDJ comp=Z,510nm,1.1s pmax pmax
MDJ comp=Z,1μm,13.1s LR LR
MDJ comp=N,4μm,31.9s LR LR
MDJ comp=E,2μm,31.9s LR LR
MDJ comp=Z,5μm,27.1s LR LR
MDJ Mudanjiang 40.88 3 ⇑*i*P **P 22 22 06.9 +0.3**
MDJ comp=Z,581nm,1.0s LR LR
MDJ comp=Z,4μm,22.0s LR LR
ERM Erimo 40.95 19 *e*P **P 22 22 07.0 -0.3**
ERM pmax pmax
ERM comp=Z,47nm,0.6s MLR MLR
ERM comp=Z,7μm,20.0s
ERM Erimo 40.95 19 *e*P **P 22 22 07.0 -0.3**
ERM comp=Z,47nm,0.6s LR LR
ERM comp=Z,7μm,20.0s
ARMA Armidale 41.45 147 *e*P **P 22 22 11.6 -0.2**
comp=Z,225nm,0.6s
ARMA Armidale 41.45 147 *e*P **P 22 22 12.2 +0.4**
ARMA eS **S 22 28 24.0 -1.1**
CAL Calcutta 41.57 300 *e*PKP **P 22 22 11.9 -0.8**
CAL *ex* x 22 28 28.0
WAKE Wake Island 42.03 65 *e*P **P 22 22 16.4 -0.1**
LSA Lhasa 42.42 312 P **P 22 22 21.1 +0.9**
LSA pmax pmax
LSA comp=Z,40nm,1.0s pmax pmax
LSA comp=Z,970nm,10.0s LR LR
LSA comp=N,2μm,22.0s LR LR
LSA comp=E,3μm,26.0s LR LR
LSA comp=Z,4μm,26.0s LR LR
LSA Lhasa 42.42 312 ⇑*i*P **P 22 22 20.6 +0.4**
LSA *e*S **S 22 28 36.9 -3.3**
LSA pmax pmax
LSA comp=Z,235nm,0.6s MLR MLR
LSA comp=Z,5μm,22.0s
LSA Lhasa 42.42 312 ⇑*i*P **P 22 22 20.6 +0.4**
LSA comp=Z,236nm,0.6s *e*S **S 22 28 36.9 -3.3**
LSA LR LR
LSA comp=Z,5μm,22.0s
ASAJ Asahikawa 42.69 17 *e*P **P 22 22 22.4 +1.0**
comp=Z,90nm,0.6s
ASAJ Asahikawa 42.69 17 P **P 22 22 22.6 +1.2**
comp=Z,256nm,0.8s,baz=233,slow=13,SNR=147
ASAJ LR LR 22 40 43.9
comp=Z,8μm,20.1s,baz=16,slow=37
GTA Gaotai 43.12 329 ⇑P **P 22 22 25.2 0.0**
GTA pP **pP 22 22 33.2 -1.7**
GTA sP **sP 22 22 37.8 -1.0**
GTA PcP **PcP 22 24 16.7 +2.0**
GTA ScP **ScP 22 28 05.5 +1.8**
GTA S **S 22 28 48.0 -1.5**
GTA sS **sS 22 29 01.3 -4.1**
GTA ScS **ScS 22 32 22.5 -1.1**
GTA pmax pmax
GTA comp=Z,88nm,0.9s pmax pmax
GTA comp=Z,1μm,6.6s LR LR
GTA comp=N,7μm,23.3s LR LR
GTA comp=E,14μm,21.4s LR LR
GTA comp=Z,16μm,22.3s LR LR
YUK Yuzh-Kuril'sk 43.65 20*c i*P P 22 22 25.0 -4.3
YUK *i* S S 22 28 48.6 -8.3
YUK *i* SS SS 22 32 01.8 -11
YUK *i* 22 32 24.7
YUK pmax pmax
YUK comp=Z,952nm,1.4s pmax pmax
YUK comp=E,245nm,1.4s pmax pmax
YUK comp=N,112nm,0.7s pmax pmax
YUK comp=Z,319nm,6.0s MLR MLR
YUK comp=E,755nm,18.0s MLR MLR
YUK comp=Z,3μm,18.0s MLR MLR
YUK comp=N,702nm,18.0s
RIV Riverview 43.88 150 *e*P **P 22 22 33.1 +1.8**
TAPN Taplejung 43.99 306 *e*P **P 22 22 32.7 0.0**
comp=N,400nm,1.0s
ODAN Odare 44.04 306 *e*P **P 22 22 33.0 0.0**
comp=N,269nm,0.7s
CAN Canberra 44.08 153 *e*P **P 22 22 34.0 +1.0**
CAN pmax pmax
CAN comp=Z,118nm,0.9s MLR MLR
CAN comp=Z,8μm,20.0s
CAN Canberra 44.08 153 *e*P **P 22 22 34.0 +1.0**
comp=Z,118nm,0.9s

CAN LR LR
comp=Z,8μm,20.0s
CNB Canberra Magne 44.24 153 *e*P **P 22 22 35.4 +1.1**
comp=Z,374nm,1.2s
TOO Toolangi 44.60 159 *e*P **P 22 22 38.5 +1.4**
TOO comp=Z,264nm,0.6s *e*S **S 22 29 09.2 -1.8**
RAMN Ramite 44.72 305 *e*P **P 22 22 38.6 +0.1**
comp=Z,349nm,0.7s
HABR Khabarovsk 45.23 8*c i*P **P 22 22 41.7 -0.1**
HABR *e**PP **pP 22 22 49.9 -1.6**
HABR *e**SP **sP 22 22 54.2 -1.2**
HABR *e* 22 24 19.3
HABR *e* 22 24 26.4
HABR *e*PPP PPP 22 25 06.0
HABR *e*S **S 22 29 20.0 +0.3**
HABR *e**SS **sS 22 29 35.7 +0.1**
HABR *e* 22 32 34.1
HABR *e*SSS SSS 22 33 31.5
HABR pmax pmax
HABR comp=N,127nm,1.1s pmax pmax
HABR comp=Z,431nm,1.1s pmax pmax
HABR comp=E,153nm,1.5s pmax pmax
HABR comp=Z,1μm,2.5s pmax pmax
HABR comp=Z,2μm,18.0s MLR MLR
YSS Yuzh-Sakhalins 45.34 16 *e*P **P 22 22 43.0 +0.3**
YSS *e* 22 24 23.3
YSS pmax pmax
YSS comp=Z,392nm,0.9s MLR MLR
YSS comp=Z,2μm,20.0s
YSS Yuzh-Sakhalins 45.34 16 *e*P **P 22 22 43.0 +0.3**
comp=Z,392nm,0.9s
YSS *e*PcP **PcP 22 24 23.3 +1.4**
YSS LR LR
comp=Z,2μm,20.0s
JIRN Jiri 45.34 306 *e*P **P 22 22 43.5 -0.1**
comp=Z,72nm,0.7s
KLR Kul'dur 45.62 5 ⇓*i*P **P 22 22 42.5 -2.4**
KLR eS **S 22 29 20.0 -5.3**
KLR *e* 22 32 33.5
KLR pmax pmax
KLR comp=N,57nm,1.4s pmax pmax
KLR comp=E,80nm,1.4s pmax pmax
KLR comp=Z,500nm,1.4s pmax pmax
KLR comp=N,1μm,10.0s pmax pmax
KLR comp=Z,2μm,10.0s
GUN Gumba 45.70 306 *e*P **P 22 22 46.1 -0.2**
comp=Z,690nm,0.8s
HIA Hailar 45.83 354 ⇑*i*P **P 22 22 47.2 +0.6**
comp=Z,727nm,1.1s
HIA *e*PP **PP 22 24 34.5 +0.2**
HIA *e*S **S 22 29 33.5 +5.1**
HIA LR LR
comp=Z,5μm,20.0s
PKI Pulchoki 45.94 305 *e*P **P 22 22 47.7 -0.5**
comp=Z,359nm,1.1s
KKN Kakani 46.13 306 *e*P **P 22 22 49.0 -0.6**
comp=Z,276nm,1.1s
DMN Daman 46.20 305 *e*P **P 22 22 49.9 -0.3**
comp=Z,187nm,0.8s
NOUC Port Laguerre 46.46 125 *e*P **P 22 22 50.1 -1.9**
DZM Mont Dzumac 46.56 125 *e*P **P 22 22 53.0 +0.1**
comp=Z,197nm,0.8s
DZM *e*S **S 22 29 44.3 +4.4**
DZM comp=Z,7μm,28.2s *e*LR LR 22 36 14.2
comp=Z,5μm,25.3s
DZM Mont Dzumac 46.56 125 *e*P **P 22 22 51.3 -1.6**
DZM Mont Dzumac 46.56 125 *e*P **P 22 22 53.4 +0.5**
DZM Mont Dzumac 46.56 125 P **P 22 22 53.0 +0.1**
comp=Z,108nm,0.7s,baz=312,slow=6.8,SNR=90
GKN Gorkha 46.74 306 *e*P **P 22 22 53.7 -0.6**
comp=Z,201nm,0.7s
ULN Ulaanbaatar 47.16 342 ⇑*i*P **P 22 22 57.7 +0.4**
comp=Z,72nm,0.6s
ULN *e*PcP **PcP 22 24 28.7 +0.2**
ULN LR LR
comp=Z,6μm,21.0s
ULN Ulaanbaatar 47.16 342 P **P 22 22 58.0 +0.7**
SNR=70
ULN Ulaanbaatar 47.16 342 P **P 22 22 57.3 0.0**
comp=Z,137nm,1.1s,comp=Z,3μm
SONM Songino Array 47.34 342 P **P 22 22 58.7 +0.1**
SONM PcP **PcP 22 24 30.5 +1.4**
SONM Songino Array 47.34 342 P **P 22 22 58.7 +0.1**
comp=Z,80nm,0.7s,baz=158,slow=7.9,SNR=171
SONM PcP **PcP 22 24 30.5 +1.4**
comp=Z,52nm,0.9s,baz=154,slow=2.6,SNR=7.5
SONM LR LR 22 45 46.0
comp=Z,5μm,21.2s,baz=260,slow=40
KOLN Koldanda 47.49 305 *e*P **P 22 23 00.4 +0.1**
comp=Z,556nm,0.6s
DANN Dangsing 47.59 306 *e*P **P 22 23 00.7 -0.4**
comp=Z,426nm,0.5s
ALBI Allahabad 48.12 301 *ex* **P 22 23 02.0 -2.9**
HYB Hyderabad 49.06 290 *i* P **P 22 23 11.0 -1.3**
HYB eS **S 22 30 14.0 -1.3**
NGP Nagpur 49.38 295 *i* P **P 22 23 11.9 -2.8**
NGP *ex* x 22 30 15.0
CIT Chita 49.42 349 *e*P **P 22 23 16.1 +1.6**
CIT *e* 22 23 24.1
CIT *e* 22 23 31.8
CIT *e* 22 30 21.1
CIT pmax pmax
comp=Z,1μm,1.5s
MOO Moorlands 49.52 160 *e*P **P 22 23 18.1 +2.8**
comp=Z,239nm,0.9s
TRD Trivandrum 49.61 278 *ex* x 22 25 15.3
TRD AMb AMB 22 25 18.1
comp=Z,272nm,0.8s
TAU Tasmania Unive 49.98 160 PFAKE 22 23 30.0 +11
TAU LR LR
comp=Z,6μm,20.0s
ZAK Zakamensk 50.57 341 *e*P **P 22 23 21.8 -1.5**
ZAK *e* 22 24 43.1
ZAK pmax pmax
comp=Z,23nm,1.2s
LGTI Lohaghat 50.85 305 *e*PKP **P 22 23 27.1 +1.4**
LGTI *ex* x 22 24 45.7
LATR Latur 51.11 291 *e*PKP **P 22 23 28.3 +0.6**
AKL Akola 51.13 294 ⇑*i*P **P 22 23 28.7 +0.8**
AKL *i* x x 22 30 41.2
TLY Talaya 51.57 342*c i*P **P 22 23 31.4 +0.7**
TLY *e* 22 23 49.9
TLY *e* 22 24 38.7
TLY *e* 22 25 25.8
TLY *e*S **S 22 30 52.9 +3.6**
TLY *e* 22 33 18.6
TLY *e*SS **SS 22 34 25.2 -0.6**
TLY *e*SSS SSS 22 35 54.4
TLY pmax pmax
TLY comp=Z,107nm,0.7s MLR MLR
comp=Z,5μm,20.0s
TLY Talaya 51.57 342 ⇑*i*P **P 22 23 31.4 +0.7**
comp=Z,116nm,0.8s
TLY LR LR
comp=Z,5μm,20.0s
TLY Talaya 51.57 342 P **P 22 23 31.8 +1.1**
SNR=82
TLY Talaya 51.57 342 P **P 22 23 31.1 +0.4**
comp=Z,949nm,0.7s,SNR=63
IRK Irkutsk 51.87 343 ⇑*i*P **P 22 23 32.9 0.0**
IRK pmax pmax
comp=Z,360nm,1.7s
MOY Mondy 52.42 340 ⇑*i*P **P 22 23 37.7 +0.6**
MOY pmax pmax
comp=Z,293nm,3.5s
WMQ Urumqi 52.73 325 P **P 22 23 39.2 -0.4**
WMQ pP **pP 22 23 48.3 -1.1**
WMQ sP **sP 22 23 52.5 -0.8**
WMQ PP **PP 22 25 42.0 +2.9**
WMQ PcS **PcS 22 28 47.0 -0.5**
WMQ S **S 22 31 03.0 -2.6**
WMQ ScS **ScS 22 33 26.0 -1.1**
WMQ pmax pmax
WMQ comp=Z,110nm,1.6s pmax pmax
WMQ comp=Z,910nm,4.9s LR LR
WMQ comp=N,11μm,18.6s LR LR
WMQ comp=E,7μm,17.8s LR LR
WMQ comp=Z,8μm,19.3s LR LR
DDI Dehra Dun 52.94 306 ⇑*i*P **P 22 23 39.0 -2.3**
SKR Severo-Kuril's 53.02 23 *e*P P 22 23 48.1 +6.7
SKR *e* 22 23 55.0
SKR *e* 22 31 24.0
SKR pmax pmax
comp=Z,80nm,0.6s
NDI New Delhi 53.09 303 *ex* P 22 23 36.0 -6.4
GOA Goa 53.25 287 ⇓*e*PKP **P 22 23 43.0 -0.7**
GOA *ex* x 22 31 07.7
HMDM Hanimaadhoo 53.31 276 P **P 22 23 44.7 +0.5**
comp=Z,195nm,1.3s,comp=Z,3μm
POO Poona 53.66 290 *e*PKP **P 22 23 44.7 -2.0**
POO AMb AMB 22 23 47.6
comp=Z,251nm,0.5s
AJM Ajmer 54.63 300 *e*PKP **P 22 23 52.0 -1.8**
BOD Bodaibo 54.92 352 ⇓*i*P **P 22 23 55.7 +0.5**
BOD pmax pmax
comp=Z,127nm,1.0s
MSVF Nonsavu 54.96 115 *e*P **P 22 23 57.2 +0.9**
MSVF pmax pmax
MSVF comp=Z,181nm,1.2s MLR MLR
comp=Z,4μm,21.0s
MSVF Nonsavu 54.96 115 *e*P **P 22 23 57.2 +0.9**
comp=Z,181nm,1.2s
MSVF LR LR
comp=Z,4μm,21.0s
DGAR Diego Garcia 55.18 258 ⇑*e*P **P 22 23 57.4 -0.4**
DGAR Diego Garcia 55.18 258 *e*P **P 22 23 56.8 -1.0**
comp=Z,158nm,1.2s
DGAR LR LR
comp=Z,3μm,21.0s
DLH Dalhousie 55.38 307 *e*PKP **P 22 23 59.0 -0.3**
DLH *ex* x 22 24 53.0
PEA0B Petropavlovsk- 55.53 22 *e*P **P 22 24 00.6 +0.9**
PEA0B *e*PcP **PcP 22 24 59.8 +0.5**
PETK Petropavlovsk- 55.53 22 P **P 22 24 00.2 +0.5**
PETK Petropavlovsk- 55.53 22 P **P 22 24 00.1 +0.5**
PETK Petropavlovsk- 55.53 22 P **P 22 24 00.1 +0.5**
comp=Z,100nm,0.7s,baz=183,slow=5.6,SNR=124
PETK LR LR 22 50 27.5
comp=Z,2μm,18.4s,baz=220,slow=39
THN Thein Dam 55.55 307 *e*PKP **P 22 23 58.4 -1.7**
PET Petropavlovsk 55.83 23 *e*P **P 22 24 02.0 +0.2**
PET *e*S **S 22 31 47.9 +1.1**
PET pmax pmax
comp=Z,196nm,1.4s
PET pmax pmax
comp=Z,1μm,6.0s
PET pmax pmax
comp=Z,600nm,6.7s
PET MLR MLR
comp=Z,2μm,18.0s
PET MLR MLR
comp=Z,2μm,19.0s
PET Petropavlovsk 55.83 23 *e*P **P 22 24 02.4 +0.6**
comp=Z,238nm,1.1s
PET LR LR
comp=Z,2μm,20.0s
MK31 Makanchi Array 57.57 325*ce*P **P 22 24 13.8 -0.5**
MK31 pmax pmax
comp=Z,72nm,0.4s
MK31 Makanchi Array 57.57 325 ⇑*i*P **P 22 24 14.0 -0.3**
MKAR Makanchi Array 57.57 325 P **P 22 24 14.0 -0.4**
MKAR Makanchi Array 57.57 325 P **P 22 24 14.0 -0.4**
MKAR P'P' 22 53 52.4
MKAR Makanchi Array 57.57 325 P **P 22 24 14.0 -0.4**
comp=Z,131nm,0.6s,baz=121,slow=6.3,SNR=224
MKAR LR LR 22 50 52.0
comp=Z,5μm,20.9s,baz=113,slow=38
MKAR PKPPKP P'P'df 22 53 52.4 -9.1
comp=Z,1.6nm,1.0s,baz=278,slow=3.6,SNR=6.5
NIL Nilore 57.90 308 PFAKE 22 24 30.0 +13
NIL LR LR
comp=Z,62nm,22.0s
KSH Kashi 58.03 315 ⇑*i*P **P 22 24 18.9 +1.0**
KSH pP **pP 22 24 28.8 +1.0**
KSH sP **sP 22 24 32.9 +1.2**
KSH PcP **PcP 22 25 09.3 -0.3**
KSH PP **PP 22 26 30.1 +3.4**
KSH ScP **ScP 22 29 06.1 -1.5**
KSH PcS **PcS 22 29 09.3 -1.8**
KSH S **S 22 32 16.3 -0.4**
KSH sS **sS 22 32 33.2 +0.1**
KSH ScS **ScS 22 34 02.0 -3.5**
KSH SS **SS 22 36 09.3 +0.9**
KSH pmax pmax
comp=Z,160nm,1.2s
KSH pmax pmax
comp=Z,490nm,3.4s
KSH LR LR
comp=N,3μm,16.0s
KSH LR LR
comp=E,4μm,18.1s
KSH LR LR
comp=Z,5μm,20.3s
YAK Yakutsk 58.28 2 *e*P **P 22 24 19.2 +0.2**
YAK *e* 22 25 10.1
YAK pmax pmax
comp=Z,662nm,0.7s
YAK MLR MLR
comp=Z,3μm,20.0s
YAK Yakutsk 58.28 2 *e*P **P 22 24 19.2 +0.2**
comp=Z,662nm,0.7s
YAK *e*PcP **PcP 22 25 10.1 +0.2**
YAK LR LR
comp=Z,3μm,20.0s
OUZ Omahuta 58.58 135 *e*P **P 22 24 21.9 +0.4**
comp=Z,121nm,1.4s
ULHL Ulahol 59.02 318 P **P 22 24 25.5 +0.7**
SNR=8.0
KZA Kyzart 59.61 318 P **P 22 24 30.3 +1.2**
SNR=66
TKM2 Tokmak 2 59.74 319 *i* P **P 22 24 29.8 0.0**
TKM2 Tokmak 2 59.74 319 PFAKE 22 24 40.0 +10
TKM2 LR LR
comp=Z,5μm,22.0s
TKM2 Tokmak 2 59.74 319 P **P 22 24 29.8 0.0**
SNR=63
KBK Karagaybulak 60.06 318 P **P 22 24 32.2 +0.3**
SNR=54
UCH Uchtor 60.17 317 P **P 22 24 34.2 +1.2**
SNR=25
CHMS Chumysh 60.34 318 P **P 22 24 33.3 -0.3**
SNR=38
AAK Ala-Archa 60.35 318 *e*P **P 22 24 33.5 -0.5**
AAK pmax pmax
comp=Z,214nm,0.9s
AAK Ala-Archa 60.35 318 *e*P **P 22 24 33.5 -0.5**
comp=Z,214nm,0.9s
AAK P'P' 22 53 59.6
AAK Ala-Archa 60.35 318 P **P 22 24 34.3 +0.4**
SNR=41
AAK Ala-Archa 60.35 318 P **P 22 24 34.8 +0.8**
SNR=42
AAK Ala-Archa 60.35 318 P **P 22 24 34.9 +1.0**
comp=Z,32nm,0.9s,baz=110,slow=6.3,SNR=59
AAK LR LR 22 51 50.5
comp=Z,3μm,20.2s,baz=86,slow=37
AAK PKPPKP **P'P'df** 22 53 59.6 **+1.8**
comp=Z,3.6nm,1.1s,baz=163,slow=4.2,SNR=3.9
FRU Bishkek 60.35 318 *i* P **P 22 24 34.0 +0.2**
FRU *e* 22 24 50.0
FRU pmax pmax
comp=Z,120nm,2.0s
FRU MLR MLR
comp=Z,6μm,20.0s
ZAA0 Zalesovo Array 60.61 333 *e*P **P 22 24 34.4 -0.9**
ZALV Zalesovo Beam 60.61 333 P **P 22 24 34.3 -1.0**
ZALV Zalesovo Beam 60.61 333 P **P 22 24 34.3 -1.0**
ZALV P'P' 22 53 53.4
ZALV Zalesovo Beam 60.61 333 P **P 22 24 34.3 -1.0**
comp=Z,28nm,0.5s,baz=115,slow=5.7,SNR=101
ZALV PKPPKP **P'P'df** 22 53 53.4 **-2.9**
comp=Z,0.8nm,0.4s,baz=300,slow=2.9,SNR=6.0
ZALV LR LR 22 54 41.7
comp=Z,5μm,18.5s,baz=136,slow=40

USP	**Ospenovka**	**60.62**	**319**		P		**P**	**22 24 35.4**	**-0.2**
	SNR=138								
AML	**Almayashu**	**60.68**	**317**		P		**P**	**22 24 38.7**	**+2.2**
	SNR=11								
EKS2	**Erkin-Say**	**60.84**	**318**		*e*P		**P**	**22 24 37.4**	**+0.1**
EKS2						pmax	pmax		
	comp=Z,101nm,0.8s								
EKS2						MLR	MLR		
	comp=Z,9μm,22.0s								
EKS2	**Erkin-Say**	**60.84**	**318**		*e*P		**P**	**22 24 37.4**	**+0.1**
	comp=Z,101nm,0.8s								
EKS2						LR	LR		
	comp=Z,9μm,22.0s								
EKS2	**Erkin-Say**	**60.84**	**318**		P		**P**	**22 24 39.4**	**+2.1**
	SNR=91								
KBL	**Kabul**	**61.50**	**308**		*e*P		**P**	**22 24 41.0**	**-0.9**
KBL						pmax	pmax		
	comp=Z,166nm,1.2s								
KBL	**Kabul**	**61.50**	**308**		*e*P		**P**	**22 24 41.0**	**-0.9**
	comp=Z,166nm,1.2s								
RPZ	**Rata Peaks**	**61.75**	**145**		*e*P		**P**	**22 24 43.5**	**+0.3**
	comp=Z,142nm,0.9s								
KURBB	**Kurchatov Arra**	**61.75**	**327**		P		**P**	**22 24 42.5**	**-0.5**
	comp=Z,178nm,0.6s,baz=130,slow=6.2,SNR=213								
KURBB						ScS	**ScS**	**22 34 37.6**	**+5.3**
	comp=Z,0.7nm,0.4s,baz=131,slow=5.9,SNR=6.9								
KURBB						LR	LR	22 52 59.7	
	comp=Z,3μm,21.9s,baz=130,slow=38								
KURBB						PKPPKP	P'P'df	22 53 46.0	-8.7
	comp=Z,2.0nm,1.1s,baz=271,slow=3.6,SNR=4.5								
KURBB						PKP2bc		22 53 58.5	
	comp=Z,3.9nm,1.1s,baz=292,slow=3.9,SNR=7.8								
KURK	**Kurchatov**	**61.76**	**328**		P		**P**	**22 24 42.5**	**-0.5**
KURK	**Kurchatov**	**61.76**	**328**		P		**P**	**22 24 42.5**	**-0.5**
KURK					ScS		**ScS**	**22 34 37.6**	**+5.3**
KURK					P'P'			22 53 46.0	
KURK				⇑	*e*			22 53 58.5	
KURK	**Kurchatov**	**61.76**	**328**		P		**P**	**22 24 43.0**	**0.0**
	SNR=124								
NVS	**Novosibirsk**	**61.90**	**333**	⇑	*i*P		**P**	**22 24 43.1**	**-0.8**
NVS					*e*S		**S**	**22 33 00.2**	**-5.3**
NVS					*i*			22 34 28.9	
NVS						pmax	pmax		
	comp=N,26nm,0.6s								
NVS						pmax	pmax		
	comp=Z,47nm,0.6s								
NVS						pmax	pmax		
	comp=E,17nm,0.6s								
NVS						smax	smax		
	comp=N,108nm,2.6s								
NVS						smax	smax		
	comp=E,60nm,2.0s								
SEY	**Seymchan**	**62.12**	**13**	⇑	*e*P		**P**	**22 24 46.6**	**+1.3**
RAO	**Raoul Island**	**62.36**	**126**		PFAKE			22 25 00.0	+13
RAO						LR	LR		
	comp=Z,3μm,22.0s								
KHZ	**Kahutara**	**62.46**	**142**		*e*P		**P**	**22 24 48.0**	**+0.1**
	comp=Z,98nm,0.9s								
URZ	**Urewera**	**62.55**	**137**		*e*P		**P**	**22 24 49.0**	**+0.5**
	comp=Z,210nm,1.3s								
SNZO	**South Karori**	**62.56**	**141**		*e*P		**P**	**22 24 48.2**	**-0.4**
	comp=Z,123nm,1.0s								
SNZO						LR	LR		
	comp=Z,8μm,19.0s								
KK31	**Karatay Array**	**63.23**	**317**	*ce*	P		**P**	**22 24 52.4**	**-0.7**
KK31						pmax	pmax		
	comp=Z,92nm,0.8s								
KKAR	**Karatay Array**	**63.23**	**317**	⇑	*i*P		**P**	**22 24 52.3**	**-0.8**
KKAR						pmax	pmax		
	comp=Z,92nm,0.8s								
KKAR	**Karatay Array**	**63.23**	**317**	⇑	*i*P		**P**	**22 24 52.3**	**-0.8**
	comp=Z,92nm,0.8s								
AFI	**Afiamalu**	**63.51**	**107**		*e*P		**P**	**22 24 55.0**	**-0.4**
	comp=Z,196nm,1.3s								
AFI						LR	LR		
	comp=Z,4μm,22.0s								
JOHN	**Johnston Islan**	**63.90**	**73**		PFAKE			22 25 10.0	+12
JOHN						LR	LR		
	comp=Z,18nm,22.0s								
ADK	**Adak**	**67.07**	**34**		PFAKE			22 25 30.0	+12
ADK						LR	LR		
	comp=Z,3μm,20.0s								
BVAR	**Borovoye Array**	**67.33**	**327**		P		**P**	**22 25 19.0**	**-0.5**
BVAR	**Borovoye Array**	**67.33**	**327**		P		**P**	**22 25 19.0**	**-0.5**
BVAR					P'P'			22 53 40.8	
BVAR	**Borovoye Array**	**67.33**	**327**		P		**P**	**22 25 19.0**	**-0.5**
	comp=Z,332nm,1.2s,baz=126,slow=7.5,SNR=204								
BVAR					PKPPKP		**P'P'df**	**22 53 40.8**	**-4.8**
	comp=Z,3.3nm,1.1s,baz=292,slow=4.7,SNR=3.8								
BVAR						LR	LR	22 58 56.5	
	comp=Z,3μm,19.6s,baz=219,slow=40								
BRVK	**Borovoye**	**67.41**	**327**	*c*	*i*P		**P**	**22 25 19.5**	**-0.4**
BRVK						pmax	pmax		
	comp=Z,354nm,1.2s								
BRVK	**Borovoye**	**67.41**	**327**		*e*P		**P**	**22 25 19.7**	**-0.2**
	comp=Z,355nm,1.1s								
BRVK						LR	LR		
	comp=Z,3μm,20.0s								
BRVK	**Borovoye**	**67.41**	**327**		P		**P**	**22 25 19.9**	**0.0**
	SNR=131								
WBK	**Wadi Bani Khal**	**68.00**	**293**	⇑	P		**P**	**22 25 23.7**	**-0.6**
	SNR=13								
JMDO	**Jabal Madar**	**68.78**	**292**	⇑	P		**P**	**22 25 28.4**	**-0.8**
	SNR=17								
SMDO	**Samad**	**68.89**	**293**	⇑	P		**P**	**22 25 29.0**	**-0.9**
	SNR=7.5								
HOQ	**Hoqain**	**69.61**	**294**		P		**P**	**22 25 33.7**	**-0.6**
	SNR=11								
BSY	**Bisya**	**69.64**	**293**		P		**P**	**22 25 34.3**	**-0.2**
	SNR=10								
BILL	**Bilibino**	**69.65**	**15**	*c*	*i*P		**P**	**22 25 33.6**	**0.0**
BILL					*e*			22 25 50.1	
BILL					*e*			22 25 56.3	
BILL					*e*			22 28 05.6	
BILL					*e*S		**S**	**22 34 40.7**	**+1.0**
BILL						pmax	pmax		
	comp=Z,22nm,1.0s								
BILL	**Bilibino**	**69.65**	**15**		*e*P		**P**	**22 25 32.8**	**-0.8**
	comp=Z,72nm,1.2s								
BILL						LR	LR		
	comp=Z,3μm,22.0s								
ARQ	**Araqi**	**70.31**	**293**		P		**P**	**22 25 38.5**	**-0.1**
	SNR=6.0								
CASY	**Casey**	**70.73**	**187**		PFAKE			22 25 50.0	+10
CASY						LR	LR		
	comp=Z,2μm,20.0s								
CASY	**Casey**	**70.73**	**187**		*e*P		**P**	**22 25 41.9**	**+1.7**
ABKT	**Ailbek**	**70.87**	**309**		P		**P**	**22 25 41.0**	**-0.8**
	comp=Z,378nm,1.1s,SNR=18								
MSEY	**Mahe Island**	**71.58**	**264**		*e*P		**P**	**22 25 46.4**	**-0.1**
	comp=Z,67nm,1.2s								
MSEY						LR	LR		
	comp=Z,3μm,21.0s								
PAF	**Port-aux-Franc**	**71.76**	**215**		PFAKE			22 26 00.0	+13
PAF						LR	LR		
	comp=Z,1μm,19.0s								
MRIV	**Mauritius Mete**	**71.84**	**247**		*e*P		**P**	**22 25 48.4**	**+0.5**
AB31	**Akbulak array**	**72.15**	**321**	*ce*	P		**P**	**22 25 48.7**	**-0.5**
AB31						pmax	pmax		
	comp=Z,111nm,0.8s								
ABKAR	**Akbulak array**	**72.15**	**321**		*e*P		**P**	**22 25 48.9**	**-0.3**
	comp=Z,54nm,0.6s								
RBK	**Rabkut**	**72.16**	**287**		P		**P**	**22 25 48.8**	**-1.1**
	SNR=6.0								
ABTO	**Aybut**	**73.03**	**287**		P		**P**	**22 25 54.6**	**-0.5**
	SNR=15								
UNV	**Unalaska Valle**	**73.53**	**35**		*e*P		**P**	**22 25 57.7**	**+0.4**
	comp=Z,87nm,0.7s								
RER	**Riviere de l'E**	**73.61**	**247**		*e*P		**P**	**22 25 58.9**	**+0.3**
	comp=Z,110nm,0.8s								
RER						LR	LR		
	comp=Z,2μm,19.0s								
AKTO	**Aktyubinsk**	**73.66**	**322**		P		**P**	**22 25 57.8**	**-0.4**
AKTO	**Aktyubinsk**	**73.66**	**322**		P		**P**	**22 25 57.8**	**-0.4**
AKTO	**Aktyubinsk**	**73.66**	**322**		P		**P**	**22 25 57.8**	**-0.4**
	comp=Z,102nm,0.7s,baz=102,slow=6.9,SNR=179								
SVE	**Sverdlovsk**	**73.98**	**328**	*d*	*i*P		**P**	**22 25 59.7**	**-0.2**
SVE					*e*S		**SKiKP**	**22 35 23.8**	**-2.3**
SVE					*e*			22 36 10.1	
SVE					*e*SS		**SS**	**22 40 13.5**	**-1.3**
SVE					*e*SSS		SSS	22 43 24.6	
SVE						pmax	pmax		
	comp=Z,229nm,0.9s								
SVE						MLR	MLR		
	comp=Z,3μm,19.0s								
ARU	**Arti**	**74.95**	**328**	*c*	*i*P		**P**	**22 26 04.7**	**-0.8**
ARU								22 28 49.1	
ARU						S	**S**	**22 35 41.0**	**+0.2**
ARU						SS	**SS**	**22 40 26.2**	**-3.4**
ARU						pmax	pmax		
	comp=Z,242nm,1.2s								
ARU	**Arti**	**74.95**	**328**	⇑	*e*P		**P**	**22 26 04.6**	**-1.0**
	comp=Z,142nm,0.7s								
ARU						LR	LR		
	comp=Z,3μm,21.0s								
ARU	**Arti**	**74.95**	**328**		P		**P**	**22 26 04.7**	**-0.8**
	comp=Z,1μm,0.6s,SNR=95								
XMAS	**Kiritimati**	**75.82**	**89**		PFAKE			22 26 20.0	+8.6
XMAS						LR	LR		
	comp=Z,3μm,20.0s								
TNA	**Tin City**	**76.69**	**23**		*e*P		**P**	**22 26 15.6**	**+0.3**
	comp=Z,20nm,0.9s								
MUKL	**Al Mukalla**	**77.10**	**284**		*e*P		**P**	**22 26 18.0**	**-0.5**
SDPT	**Sand Point**	**77.31**	**34**		*e*P		**P**	**22 26 18.4**	**-0.5**
	comp=Z,308nm,0.6s								
QRN	**Al-Qurain**	**78.37**	**298**		*e*P		**P**	**22 26 24.8**	**-0.6**
QRN						AMb	AMB	22 26 26.0	
	comp=Z,202nm,0.8s								
UMR	**Umm Al-Rimmam**	**78.57**	**299**		*e*P		**P**	**22 26 25.9**	**-0.7**
KBD	**Kabd**	**78.58**	**299**		*e*P		**P**	**22 26 25.8**	**-0.8**
KBD						AMb	AMB	22 26 28.1	
	comp=Z,115nm,0.7s								
RDF	**Al-Radifah**	**78.70**	**299**		*e*P		**P**	**22 26 26.7**	**-0.5**
RDF						AMb	AMB	22 26 29.3	
	comp=Z,205nm,0.7s								
MIB	**Mutribah**	**78.91**	**300**		*e*P		**P**	**22 26 27.5**	**-0.9**
MIB						AMb	AMB	22 26 30.2	
	comp=Z,229nm,0.7s								
NAY	**Al-Naaiem**	**78.98**	**299**		*e*P		**P**	**22 26 27.4**	**-1.4**
NAY						AMb	AMB	22 26 30.8	
	comp=Z,99nm,0.8s								
MAK	**Makhachkala**	**79.57**	**313**		*e*P		**P**	**22 26 31.2**	**-0.5**
MAK					*e*			22 29 33.5	
MAK					*e*S		**S**	**22 36 29.1**	**-2.3**
MAK					*e*SS		**SS**	**22 41 33.2**	**-6.6**
MAK						pmax	pmax		
	comp=Z,161nm,1.0s								
DGRG	**David-gareji**	**81.05**	**311**		P		**P**	**22 26 39.6**	**-0.2**
OPO	**Ambohidratompo**	**81.19**	**251**		LR		LR	23 00 03.4	
	comp=Z,1μm,20.1s,baz=86,slow=34								
ABPO	**Ambohimpanom**	**81.20**	**250**		*e*P		**P**	**22 26 41.3**	**+0.1**
ABPO						pmax	pmax		
	comp=Z,105nm,0.9s								
ABPO						MLR	MLR		
	comp=Z,1μm,19.0s								
ABPO	**Ambohimpanom**	**81.20**	**250**		*e*P		**P**	**22 26 41.3**	**+0.1**
	comp=Z,105nm,0.9s								
ABPO						LR	LR		
	comp=Z,1μm,19.0s								
GNI	**Garni**	**81.46**	**310**		*e*P		**P**	**22 26 42.6**	**+0.4**
	comp=Z,140nm,1.4s								
GNI						LR	LR		
	comp=Z,840nm,19.0s								
GNI	**Garni**	**81.46**	**310**		P		**P**	**22 26 42.7**	**+0.5**
	comp=Z,15nm,0.7s,baz=56,slow=6.3,SNR=5.2								
TBLG	**Delisi**	**81.53**	**311**		P		**P**	**22 26 42.8**	**+0.5**
TBLG	**Delisi**	**81.53**	**311**		P		**P**	**22 26 42.8**	**+0.5**
BHD	**Baghdad**	**81.54**	**303**		*i* x		**P**	**22 26 40.0**	**-2.5**
BHD					*i* x		S	22 36 45.0	-7.5
SANA	**San'a**	**81.75**	**285**		*e*P		**P**	**22 26 45.8**	**+1.5**
TRBA	**At Turbah**	**81.91**	**283**		*e*P		**P**	**22 26 45.9**	**+0.9**
KDAK	**Kodiak Island**	**82.00**	**32**		P		**P**	**22 26 44.6**	**+0.2**
KDAK					*e*PP		**PP**	**22 29 51.5**	**-0.7**
KDAK						LR	LR		
	comp=Z,2μm,21.0s								
KDAK	**Kodiak Island**	**82.00**	**32**		P		**P**	**22 26 44.6**	**+0.2**
	comp=Z,45nm,0.8s,baz=274,slow=1.9,SNR=58								
HAKT	**HAKKARI**	**82.18**	**307**		*i* P		**P**	**22 26 47.0**	**+0.9**
RSO	**Redoubt South**	**82.20**	**30**		*e*P		**P**	**22 26 45.8**	**+0.2**
	comp=Z,169nm,0.8s								
ZEI	**Tsey**	**82.20**	**312**		*e*P		**P**	**22 26 46.1**	**0.0**
ZEI						pmax	pmax		
	comp=Z,72nm,1.0s								
DYDN	**Diyadin**	**82.25**	**309**		*i* P		**P**	**22 26 47.4**	**+1.0**
AKH	**Akhalkalaki**	**82.46**	**311**		P		**P**	**22 26 48.2**	**+0.8**
TUTA	**Tutak**	**82.92**	**309**		*i* P		**P**	**22 26 51.5**	**+1.5**
KIV	**Kislovodsk**	**83.12**	**314**		*e*P		**P**	**22 26 50.4**	**-0.3**
KIV					*e*			22 30 03.4	
KIV					*e*PPP		PPP	22 31 54.4	
KIV					*e*S		**S**	**22 37 07.8**	**-0.8**
KIV					*e*SS		**SS**	**22 42 37.8**	**+4.8**
KIV					*e*SSS		SSS	22 46 02.1	
KIV						pmax	pmax		
	comp=Z,33nm,0.9s								
KIV						pmax	pmax		
	comp=Z,560nm,4.8s								
KIV	**Kislovodsk**	**83.12**	**314**		*e*P		**P**	**22 26 51.3**	**+0.5**
	comp=Z,26nm,0.7s								
KIV						LR	LR		
	comp=Z,3μm,19.0s								
KIV	**Kislovodsk**	**83.12**	**314**		P		**P**	**22 26 51.2**	**+0.5**
	comp=Z,236nm,0.7s,SNR=5.1								
ATD	**Arta Tunnel**	**83.21**	**281**		P		**P**	**22 26 52.1**	**+0.5**
ATD	**Arta Tunnel**	**83.21**	**281**		P		**P**	**22 26 52.1**	**+0.5**
	comp=Z,55nm,0.7s,baz=89,slow=3.7,SNR=20								
SIRN	**S¯¯rnak**	**83.21**	**307**		*i* P		**P**	**22 26 51.9**	**+0.6**
VNDA	**Vanda**	**83.36**	**173**		*e*P		**P**	**22 26 51.5**	**+0.4**
	comp=Z,34nm,1.0s								
VNDA						LR	LR		
	comp=Z,2μm,19.0s								
DAGI	**Agillar**	**83.64**	**311**		*i* P		**P**	**22 26 54.0**	**+0.6**
DDEM	**Demirkent**	**83.76**	**311**		*i* P		**P**	**22 26 54.9**	**+0.9**
DBOC	**Borcka**	**83.83**	**311**		*i* P		**P**	**22 26 55.2**	**+0.9**
VRHR	**Novokhopersk**	**84.04**	**321**		*e*P		**P**	**22 26 54.2**	**-0.9**
VRHR					*e*S		**S**	**22 37 14.2**	**-3.0**
VRHR						pmax	pmax		
	comp=N,30nm,0.6s								
VRHR						pmax	pmax		
	comp=E,60nm,0.6s								
VRHR						pmax	pmax		
	comp=Z,160nm,0.6s								
VRHR						pmax	pmax		
	comp=N,50nm,0.8s								
VRHR						pmax	pmax		
	comp=E,120nm,0.8s								
VRHR						pmax	pmax		
	comp=Z,200nm,0.8s								
VRHR						smax	smax		
	comp=N,360nm,1.7s								
VRHR						smax	smax		
	comp=E,330nm,1.7s								
VRHR						smax	smax		
	comp=Z,70nm,1.7s								
ERZM	**Erzurum**	**84.05**	**310**		*i* P		**P**	**22 26 57.5**	**+1.8**
BEST	**Besiri**	**84.12**	**308**		*i* P		**P**	**22 26 57.5**	**+1.6**
BNGL	**BINGOL**	**84.21**	**309**		*i* P		**P**	**22 26 58.1**	**+1.5**
MCK	**McKinley**	**84.27**	**26**		*e*P		**P**	**22 26 55.9**	**-0.1**
MCK						pmax	pmax		
	comp=Z,72nm,0.8s								
MCK	**McKinley**	**84.27**	**26**		*e*P		**P**	**22 26 55.9**	**-0.1**
	comp=Z,72nm,0.8s								
SBA	**Scott Base**	**84.27**	**172**		PFAKE			22 27 10.0	+14
SBA						LR	LR		
	comp=Z,3μm,20.0s								
SML	**Sawmill**	**84.44**	**28**		*e*P		**P**	**22 26 57.4**	**+0.4**
SML						pmax	pmax		
	comp=Z,48nm,0.9s								
SML	**Sawmill**	**84.44**	**28**		*e*P		**P**	**22 26 57.4**	**+0.4**
	comp=Z,48nm,0.9s								
MARD	**Mardin**	**84.51**	**307**		*i* P		**P**	**22 26 58.8**	**+0.9**
KOPT	**Kop Dagi**	**84.72**	**310**		*i* P		**P**	**22 27 01.7**	**+2.5**
COLA	**College**	**84.80**	**25**		*e*P		**P**	**22 26 58.0**	**-0.6**
COLA						pmax	pmax		
	comp=Z,78nm,1.5s								
COLA						MLR	MLR		
	comp=Z,1μm,19.0s								
COLA	**College**	**84.80**	**25**		*e*P		**P**	**22 26 58.0**	**-0.6**
	comp=Z,78nm,1.5s								
COLA						LR	LR		
	comp=Z,1μm,19.0s								
PPT2	**Papeete2**	**85.18**	**108**		*e*P		**P**	**22 27 04.6**	**+3.0**
	comp=Z,71nm,1.4s								
PPT2					*e*S		**S**	**22 37 29.0**	**-0.9**
	comp=Z,932nm,26.0s								
PPT2					*e*SS		SS	22 43 15.0	+10
	comp=Z,2μm,30.5s								
PPT2					*e*LQ		LQ	22 50 26.0	
	comp=Z,7μm,38.5s								
PPT2					*e*LR		LR	22 54 09.2	
	comp=Z,3μm,26.5s								
PAE	**Paea**	**85.18**	**108**		*e*P		**P**	**22 27 04.2**	**+2.7**
	comp=Z,8.6nm,1.0s								
ILAR	**Eielson Array**	**85.21**	**25**		P		**P**	**22 26 59.8**	**-0.9**
ILAR					PP		PP	22 30 23.7	+5.4
ILAR					PKKPbc		**PKKPbc**	**22 45 07.8**	**-1.5**
ILAR	**Eielson Array**	**85.21**	**25**		P		**P**	**22 26 59.8**	**-0.9**
	comp=Z,18nm,1.1s,baz=280,slow=3.7,SNR=51								
ILAR					PP		PP	22 30 23.7	+5.4
	comp=Z,2.1nm,1.0s,baz=278,slow=6.8,SNR=4.1								
ILAR					PKKPbc		**PKKPbc**	**22 45 07.8**	**-1.5**
	comp=Z,1.7nm,0.8s,baz=35,slow=2.3,SNR=12								
ILAR					LR		LR	23 03 27.0	
	comp=Z,1μm,21.3s,baz=32,slow=34								
MACK	**Trabzon**	**85.26**	**311**		*i* P		**P**	**22 27 02.9**	**+1.3**
SOC	**Sochi**	**85.27**	**313**	*c*	*i*P		**P**	**22 27 00.8**	**-0.7**
SOC					*e**PP		**pP**	**22 27 10.1**	**-1.7**
SOC					*e**SP		**sP**	**22 27 14.5**	**-1.1**
SOC					*e*S		**SKSac**	**22 37 21.4**	**-2.9**
SOC					*e*SSS		SSS	22 46 32.9	
SOC						pmax	pmax		
	comp=Z,144nm,0.9s								
SOC						pmax	pmax		
	comp=Z,760nm,3.5s								
SOC						MLR	MLR		
	comp=Z,3μm,22.0s								
TIAR	**Tiarei**	**85.39**	**108**		*e*P		**P**	**22 27 05.6**	**+3.0**
	comp=Z,51nm,0.9s								
TVO	**Taravao**	**85.50**	**108**		*e*P		**P**	**22 27 06.2**	**+3.0**
	comp=Z,139nm,1.4s								
VORD	**Divnogorie**	**85.51**	**321**		*e*P		**P**	**22 27 01.9**	**-0.6**
VORD					*e*S		**S**	**22 37 28.7**	**-3.2**
VOR	**Voronezh**	**85.57**	**321**		*e*P		**P**	**22 27 01.0**	**-1.8**
VOR						pmax	pmax		
	comp=Z,750nm,1.2s								
VSR	**Storozhevoye**	**85.59**	**321**		*e*P		**P**	**22 27 02.3**	**-0.6**
VSR					*e*S		**S**	**22 37 30.4**	**-2.3**
VSR						pmax	pmax		
	comp=Z,290nm,0.9s								
VSR						pmax	pmax		
	comp=N,8.0nm,0.9s								
VSR						pmax	pmax		
	comp=E,200nm,0.9s								
VSR						pmax	pmax		
	comp=N,10.0nm,0.9s								
VSR						pmax	pmax		
	comp=E,170nm,0.9s								
VSR						pmax	pmax		
	comp=Z,330nm,0.9s								
VSR						smax	smax		
	comp=N,200nm,2.4s								
VSR						smax	smax		
	comp=E,100nm,2.4s								
VSR						smax	smax		
	comp=Z,60nm,2.4s								
DIV	**Divide**	**85.65**	**29**		*e*P		**P**	**22 27 03.5**	**+0.4**
	comp=Z,176nm,1.0s								
TBI	**Tubuai**	**85.84**	**114**		*e*P		P	22 27 08.1	+3.4
	comp=Z,183nm,1.1s								
TBI					*e*S		**S**	**22 37 36.1**	**0.0**
	comp=Z,3μm,29.0s								
TBI					*e*SS		**SS**	**22 43 17.7**	**+3.8**
	comp=Z,1μm,32.8s								
TBI					*e*LQ		LQ	22 50 42.5	
	comp=Z,2μm,39.8s								
TBI					*e*LR		LR	22 54 20.4	
	comp=Z,4μm,29.8s								
ELZG	**Elazig**	**85.91**	**308**		*i* P		**P**	**22 27 05.9**	**+0.8**
BMRM	**Bremner River**	**86.22**	**29**		*e*P		**P**	**22 27 07.2**	**+1.3**
	comp=Z,182nm,1.3s								
KEMA	**Kemaliye**	**86.28**	**309**		*i* P		**P**	**22 27 07.9**	**+1.2**
MALT	**Malatya**	**86.36**	**308**		PFAKE			22 27 20.0	+13
MALT						LR	LR		
	comp=Z,17nm,21.0s								
MOS	**Moscow**	**86.45**	**325**	*a*	*i*P		**P**	**22 27 06.6**	**-0.4**
MOS					*e*S		**SKSac**	**22 37 30.6**	**-0.5**
MOS						pmax	pmax		
	comp=Z,512nm,1.3s								
MOS						pmax	pmax		
	comp=Z,932nm,1.6s								
MOS						MLR	MLR		
	comp=Z,3μm,22.0s								
SUSE	**Susehri**	**86.47**	**310**		*i* P		**P**	**22 27 08.7**	**+1.0**
PMOR	**Pomariorio Ree**	**86.56**	**105**		*e*P		**P**	**22 27 11.5**	**+3.1**
	comp=Z,130nm,1.2s								
MEH	**Mehetia**	**86.64**	**108**		*e*P		**P**	**22 27 11.4**	**+2.6**
	comp=Z,124nm,1.3s								
AKCD	**Akcadag**	**86.75**	**308**		*i* P		**P**	**22 27 10.1**	**+1.0**
ANN	**Anapa**	**86.89**	**315**		*e*P		**P**	**22 27 08.6**	**-0.8**
ANN					*e*			22 30 37.3	
ANN					*e*PPP		PPP	22 32 24.7	
ANN					*e*S		**SKSac**	**22 37 32.8**	**-1.4**
ANN						pmax	pmax		
	comp=N,96nm,1.1s								
ANN						pmax	pmax		
	comp=E,94nm,1.1s								
ANN						pmax	pmax		
	comp=Z,418nm,1.1s								
ANN						smax	smax		
	comp=E,799nm,13.1s								
OBN	**Obninsk**	**87.07**	**325**	*c*	*i*P		**P**	**22 27 09.6**	**-0.5**
OBN					*e*			22 30 33.9	
OBN					*e*S		**SKSac**	**22 37 32.7**	**-2.2**
OBN					*e*SS		**SS**	**22 43 31.0**	**+0.8**
OBN						pmax	pmax		
	comp=Z,617nm,1.7s								
OBN	**Obninsk**	**87.07**	**325**		*e*P		**P**	**22 27 09.4**	**-0.7**
	comp=Z,170nm,0.6s								
OBN						LR	LR		
	comp=Z,3μm,21.0s								
OBN	**Obninsk**	**87.07**	**325**		P		**P**	**22 27 09.2**	**-0.8**
	comp=Z,2μm,0.5s,SNR=33								
GZT	**Gaziantep**	**87.07**	**307**		*i* P		**P**	**22 27 11.7**	**+1.0**
LVZ	**Lovozero**	**87.39**	**338**		*i* P		**P**	**22 27 11.6**	**+0.1**
LVZ						pmax	pmax		
	comp=Z,99nm,1.1s								
LVZ	**Lovozero**	**87.39**	**338**		*e*P		**P**	**22 27 11.0**	**-0.5**
	comp=Z,144nm,1.3s								
LVZ						LR	LR		
	comp=Z,7

BR131 LR LR
comp=Z,1µm,20.0s
BRTR Keskin Array B 90.00 310 P **P** **22 27 23.6 -0.9**
BRTR PP **PP** **22 31 02.3 +4.6**
BRTR PKKPbc **PKKPbc** **22 44 56.4 -0.4**
BRTR Keskin Array B 90.00 310 P **P** **22 27 23.6 -0.9**
comp=Z,51nm,0.9s,baz=122,slow=4.3,SNR=151
BRTR PP **PP** **22 31 02.3 +4.6**
comp=Z,4.8nm,1.0s,baz=92,slow=6.2,SNR=4.2
BRTR PKKPbc **PKKPbc** **22 44 56.4 -0.4**
comp=Z,0.8nm,0.8s,baz=337,slow=2.8,SNR=3.5
BRTR LR LR 23 17 05.7
comp=Z,1µm,19.8s,baz=237,slow=42
PUL Pulkovo 90.06 330⇓ *eP* **P** **22 27 24.3 +0.2**
PUL pmax pmax
comp=Z,275nm,1.0s
INK Inuvik 90.26 21 *eP* **P** **22 27 24.6 -0.3**
INK PKKPbc **PKKPdf** **22 44 54.7 +2.3**
INK Inuvik 90.26 21 P **P** **22 27 24.3 -0.6**
comp=Z,19nm,0.9s,baz=283,slow=4.9,SNR=33
INK PKKPbc **PKKPdf** **22 44 54.7 +2.3**
comp=Z,6.8nm,0.8s,baz=101,slow=4.1,SNR=14
ARCES ARCESS Array B 90.49 340 P **P** **22 27 24.8 -1.2**
ARCES PKiKP **PKiKP** **22 32 21.4 +0.9**
ARCES PKKPbc **PKKPbc** **22 44 56.5 0.0**
ARCES ARCESS Array B 90.49 340 P **P** **22 27 24.8 -1.2**
comp=Z,69nm,0.6s,baz=88,slow=4.9,SNR=294
ARCES PKiKP **PKiKP** **22 32 21.4 +0.9**
comp=Z,2.7nm,0.8s,baz=43,slow=2.1,SNR=4.2
ARCES PKKPbc **PKKPbc** **22 44 56.5 0.0**
comp=Z,2.6nm,0.9s,baz=359,slow=6.1,SNR=3.8
ARCES LR LR 23 13 58.3
comp=Z,3µm,20.1s,baz=84,slow=40
ARE0 ARCESS Array S 90.49 340 *eP* **P** **22 27 26.1 +0.1**
ARE0 ARCESS Array S 90.49 340 *eP* **P** **22 27 25.2 -0.8**
SPA0 Spitsbergen Ar 90.53 349 *eP* **P** **22 27 27.4 +1.4**
SPITS Spitsbergen Ar 90.53 349 LR LR 23 13 32.6
comp=Z,3µm,20.8s,baz=65,slow=39
CSS Prodhromos 90.64 305 *eP* **P** **22 27 27.6 +0.1**
comp=Z,102nm,1.0s
CSS LR LR
comp=Z,1µm,22.0s
KBS Kingsbay 91.06 350 *eP* **P** **22 27 28.6 +0.2**
KBS *e*SKS **SKSac** **22 37 58.2 +0.5**
KBS AMS AMS 23 14 11.9
comp=Z,2µm,23.8s
KBS Kingsbay 91.06 350⇑ *eP* **P** **22 27 28.2 -0.3**
KBS pmax pmax
comp=Z,78nm,1.7s
KBS Kingsbay 91.06 350 PFAKE 22 27 40.0 +12
KBS LR LR
comp=Z,3µm,19.0s
KTK1 Kautokeino 91.39 339 *eP* **P** **22 27 29.3 -0.8**
KTK1 *e*SKS **SKSac** **22 37 53.8 -6.2**
KAF Kangasniemi 91.62 332 *eP* **P** **22 27 29.3 -2.0**
KAF pmax pmax
comp=Z,29nm,0.5s
KAF Kangasniemi 91.62 332 *ep* **P** **22 27 29.3 -2.0**
comp=Z,29nm,0.5s
FINES FINESS Array B 91.86 332 P **P** **22 27 31.3 -1.2**
FINES FINESS Array B 91.86 332 P **P** **22 27 31.3 -1.2**
comp=Z,26nm,0.6s,baz=58,slow=5.0,SNR=126
FINES LR LR 23 14 17.2
comp=Z,3µm,20.7s,baz=78,slow=39
AKASG Malin Array Be 91.89 321 *ceP* **P** **22 27 32.0 -0.9**
AKASG pmax pmax
comp=Z,48nm,0.8s
AKASG Malin Array Be 91.89 321 P **P** **22 27 31.6 -1.3**
AKASG Malin Array Be 91.89 321 P **P** **22 27 31.6 -1.3**
comp=Z,48nm,0.8s,baz=74,slow=4.1,SNR=104
AKASG LR LR 23 14 30.4
comp=Z,3µm,19.7s,baz=55,slow=39
AKBB Malin Array Si 91.89 321 *eP* **P** **22 27 31.5 -1.3**
AKBB Malin Array Si 91.89 321 *eP* **P** **22 27 31.5 -1.3**
KIEV Kiev 91.91 321 *eP* **P** **22 27 32.1 -0.8**
KIEV pmax pmax
comp=Z,79nm,1.1s
KIEV MLR MLR
comp=Z,3µm,20.0s
KIEV Kiev 91.91 321 *eP* **P** **22 27 32.1 -0.8**
comp=Z,79nm,1.1s
KIEV LR LR
comp=Z,3µm,20.0s
HENT Hendek 91.98 311 *i* P **P** **22 27 33.7 +0.1**
VSU Vasula 92.08 329⇓ *eP* **P** **22 27 33.2 -0.3**
VSU pmax pmax
comp=Z,55nm,0.8s
MICGM Minsk 92.13 325⇓ *iP* **P** **22 27 33.0 -0.9**
MNK Minsk 92.16 325⇓ *iP* **P** **22 27 33.0 -1.0**
MNK *e* 22 38 05.0
MNK *e*S **S** **22 38 35.0 +0.7**
MNK pmax pmax
comp=Z,170nm,1.0s
SEYT Eskypehyr 92.16 310 *i* P **P** **22 27 34.1 -0.4**
ISP Isparta 92.61 308 *eP* **P** **22 27 35.0 -1.7**
ISP pmax pmax
comp=Z,24nm,0.8s
ISP MLR MLR
comp=Z,2µm,20.0s
ISP Isparta 92.61 308 *eP* **P** **22 27 35.0 -1.7**
comp=Z,24nm,0.8s
ISP LR LR
comp=Z,2µm,20.0s
ISP Isparta 92.61 308⇑ *iP* **P** **22 27 34.9 -1.7**
IDID Didziasalis 92.64 326 *eP* **P** **22 27 36.0 -0.3**
IDID AMB AMB 22 27 41.4
comp=Z,23nm,0.9s
IDID Didziasalis 92.64 326 *eP* **P** **22 27 36.0 -0.3**
IDID AMB AMB 22 27 41.4
comp=Z,23nm,0.9s
KIS Kishinev 92.68 317 *eP* **P** **22 27 36.0 -0.6**
KIS *e*S S 22 38 32.0 -7.3
KIS MLR MLR
comp=E,2µm,20.0s
KIS MLR MLR
comp=Z,2µm,20.0s
KIS MLR MLR
comp=Z,3µm,24.0s
KIS Kishinev 92.68 317 *eP* **P** **22 27 36.0 -0.6**
KIS *e*S S 22 38 32.0 -7.3
KIS LRM MLR 23 14 20.0
comp=Z,3µm,24.0s
TRO Tromso 92.69 340 *eP* **P** **22 27 35.0 -1.2**
IZAR Zarasai 92.84 326 *eP* **P** **22 27 36.9 -0.2**
IZAR AMB AMB 22 27 42.3
comp=Z,14nm,0.9s
IZAR Zarasai 92.84 326 *eP* **P** **22 27 36.9 -0.2**
IZAR AMB AMB 22 27 42.3
comp=Z,14nm,0.9s
IIGN Ignalina 92.93 326 *eP* **P** **22 27 37.3 -0.3**
IIGN AMB AMB 22 27 41.9
comp=Z,23nm,1.1s
IIGN Ignalina 92.93 326 *eP* **P** **22 27 37.3 -0.3**
IIGN AMB AMB 22 27 41.9
comp=Z,23nm,1.1s
ISAL Salakas 92.94 326 *eP* **P** **22 27 37.3 -0.3**
ISAL AMB AMB 22 27 42.8
comp=Z,18nm,1.0s
ISAL Salakas 92.94 326 *eP* **P** **22 27 37.3 -0.3**
ISAL AMB AMB 22 27 42.8
comp=Z,18nm,1.0s
TLCR 92.94 315⇑ P **P** **22 27 37.9 +0.1**
TLCR 92.94 315⇑ *iP* **P** **22 27 37.9 +0.1**
WRAK Wrangell Islan 93.05 33 PFAKE 22 27 50.0 +12
WRAK LR LR
comp=Z,2µm,21.0s
LEOM Leova 93.15 317⇑ P **P** **22 27 38.3 -0.4**
LEOM Leova 93.15 317⇑ *iP* **P** **22 27 38.3 -0.4**
MANR Mangalia 93.30 314⇓ *iP* **P** **22 27 40.2 +0.7**
TIRR Tirgusor 93.33 315 *eP* **P** **22 27 38.8 -0.8**
TIRR pmax pmax
comp=Z,52nm,1.0s
TIRR Tirgusor 93.33 315 *eP* **P** **22 27 38.8 -0.8**
comp=Z,52nm,1.0s
TIRR Tirgusor 93.33 315⇑ *iP* **P** **22 27 38.8 -0.8**
CFR Carcaliu 93.42 316⇑ P **P** **22 27 39.5 -0.5**
CFR Carcaliu 93.42 316⇑ *iP* **P** **22 27 39.5 -0.5**
IAS Iasi 93.50 318 P **P** **22 27 40.5 +0.1**
QSPA South Pole Qui 93.56 180 P **P** **22 27 41.1 +0.8**
QSPA PKKPbc **PKKPdf** **22 44 47.6 -0.2**
QSPA LR LR
comp=Z,3µm,20.0s
QSPA South Pole Qui 93.56 180 P **P** **22 27 41.1 +0.8**
comp=Z,29nm,1.1s,baz=156,slow=19

QSPA PKKPbc **PKKPdf** **22 44 47.6 -0.2**
comp=Z,5.9nm,1.0s,baz=180,slow=1.4,SNR=7.2
DIB Dawson Inlet, 93.60 36 T T 00 11 42.9
SNR=7.1
PSN Preselentsi 93.61 314 *i* P **P** **22 27 40.7 -0.2**
PSN Preselentsi 93.61 314 *i* P **P** **22 27 40.7 -0.2**
GHRR 93.79 316⇓ *iP* **P** **22 27 42.5 +0.8**
DLBC Dease Lake 93.85 31 *eP* **P** **22 27 42.0 +0.2**
DLBC Dease Lake 93.85 31 P **P** **22 27 42.5 +0.7**
comp=Z,17nm,0.9s,baz=276,slow=3.9,SNR=24
DLBC LR LR 23 07 26.1
comp=Z,2µm,21.0s,baz=291,slow=34
PETR 93.96 316⇑ *iP* **P** **22 27 43.4 +0.9**
GRER 94.20 316⇓ *iP* **P** **22 27 45.6 +2.0**
TESR 94.23 317⇑ *iP* **P** **22 27 43.4 -0.4**
PRD Provadia 94.24 314 *i* P **P** **22 27 43.3 -0.6**
PGOR Pogoanele 94.27 315⇑ *iP* **P** **22 27 45.2 +1.3**
PGOR Pogoanele 94.27 315⇑ *iP* **P** **22 27 45.2 +1.3**
VRI Vrincioaia 94.29 316 ⇓ *P* **P** **22 27 44.5 +0.4**
VRI Vrincioaia 94.29 316⇓ *iP* **P** **22 27 44.5 +0.4**
PLOR Plostina 94.34 316⇑ P **P** **22 27 44.3 0.0**
PLOR Plostina 94.34 316⇑ *iP* **P** **22 27 44.3 0.0**
SULR 94.82 315⇑ *iP* **P** **22 27 45.8 -0.7**
SECR 94.89 316⇓ *iP* **P** **22 27 48.3 +1.5**
MLR Muntele Rosu 94.89 316⇑ *iP* **P** **22 27 46.5 -0.5**
MLR Muntele Rosu 94.89 316 LR LR 23 19 54.5
comp=Z,1µm,21.0s,baz=322,slow=41
MLR Muntele Rosu 94.89 316⇑ *iP* **P** **22 27 46.5 -0.5**
SUW Suwalki 94.93 325 *eP* **P** **22 27 46.2 -0.6**
SUW Suwalki 94.93 325 *eP* **P** **22 27 46.2 -0.6**
SUW Suwalki 94.93 325 *eP* **P** **22 27 46.2 -0.6**
SUW Suwalki 94.93 325 *eP* **P** **22 27 45.5 -1.2**
comp=Z,87nm,0.9s
JMB Yambol 94.95 313 *i* P **P** **22 27 46.6 -0.6**
BURAR Bucovina Array 95.00 318⇑ *iP* **P** **22 27 47.7 +0.3**
BUR08 Bucovina Ar. S 95.00 318 *eP* **P** **22 27 47.4 -0.1**
DOPR Dopca 95.19 317⇑ P **P** **22 27 50.5 +2.3**
DOPR Dopca 95.19 317⇑ *iP* **P** **22 27 50.5 +2.3**
LVV L'vov 95.33 321 *eP* **P** **22 27 48.0 -0.7**
MOR8 Moi Rana 95.47 338 *eP* **P** **22 27 47.9 -1.2**
VOIR 95.52 316⇑ P **P** **22 27 49.1 -0.7**
VOIR 95.52 316⇑ *iP* **P** **22 27 49.1 -0.7**
HUMR Humele 95.74 315⇑ *iP* **P** **22 27 50.6 -0.1**
MDB Medias 95.85 317⇑ P **P** **22 27 50.4 -0.8**
MDB Medias 95.85 317⇑ *iP* **P** **22 27 50.4 -0.8**
MDB Medias 95.85 317⇑ *iP* **P** **22 27 50.4 -0.8**
MBAR Mbarara 95.93 270 PFAKE 22 28 00.0 +7.6
MBAR LR LR
comp=Z,518nm,22.0s
STOK Stokkvaagen 95.94 338 *eP* **P** **22 27 51.6 +0.5**
KDZ Kurdzhali 95.95 312 *i* P **P** **22 27 50.5 -1.3**
BMR Baia Mare 96.13 319⇑ P **P** **22 27 52.6 +0.2**
BMR Baia Mare 96.13 319⇑ *iP* **P** **22 27 52.6 +0.2**
KWP Kalwaria Pacla 96.21 321 *eP* **P** **22 27 52.8 +0.1**
KWP Kalwaria Pacla 96.21 321 *eP* **P** **22 27 52.8 +0.1**
KWP Kalwaria Pacla 96.21 321 *eP* **P** **22 27 53.0 +0.3**
KWP pmax pmax
comp=Z,83nm,0.9s
KWP MLR MLR
comp=Z,2µm,22.0s
KWP Kalwaria Pacla 96.21 321 *eP* **P** **22 27 53.0 +0.3**
comp=Z,83nm,0.9s
KWP LR LR
comp=Z,2µm,22.0s
KWP Kalwaria Pacla 96.21 321⇓ *iP* **P** **22 27 51.8 -0.9**
LOT Lotru 96.40 316⇓ *iP* **P** **22 27 54.0 +0.1**
BBB Bella Bella 96.41 37 LR LR 23 09 14.9
comp=Z,504nm,19.6s,baz=285,slow=34
RZN Rozhen 96.46 312 *i* P **P** **22 27 52.7 -1.6**
KOLS Kolonicke sedl 96.64 320 *eP* **P** **22 27 54.5 -0.2**
KOLS Kolonicke sedl 96.64 320 *eP* **P** **22 27 54.5 -0.2**
TRPA Tarpa 96.66 319⇓ *iP* **P** **22 27 54.0 -0.7**
TRPA Tarpa 96.66 319⇑ *e* **P** **22 27 54.7 0.0**
UZH Uzhgorod 96.70 320⇑ *iP* **P** **22 27 55.5 +0.6**
UZH *e* 22 28 02.5
UZH *e* 22 38 33.7
UZH *e*S **S** **22 39 11.0 -3.3**
UZH *e* 22 40 41.3
UZH *e* 22 45 48.9
UZH *e* 22 49 37.9
UZH MLR MLR
comp=N,1µm,17.0s
UZH MLR MLR
comp=E,1µm,17.0s
UZH MLR MLR
comp=Z,850nm,17.0s
DRGR 96.84 318⇑ P **P** **22 27 55.6 -0.1**
DRGR 96.84 318⇑ *iP* **P** **22 27 55.6 -0.1**
DRGR 96.84 318⇑ *iP* **P** **22 27 55.6 -0.1**
MPEP Malo Peshtene 96.85 314 *i* P **P** **22 27 54.8 -1.0**
BEL Belsk 96.86 323 *eP* **P** **22 27 56.0 +0.4**
BEL Belsk 96.86 323 *eP* **P** **22 27 56.0 +0.4**
BEL Belsk 96.86 323 *eP* **P** **22 27 56.0 +0.4**
DEV Deva 96.91 317⇓ *P* **P** **22 27 56.1 +0.1**
DEV Deva 96.91 317⇓ *iP* **P** **22 27 56.1 +0.1**
NSS Namsos 97.07 337 *eP* **P** **22 27 55.6 -0.6**
GZR Gura Zlata 97.10 316⇓ P Pdif 22 27 57.1 +0.1
GZR Gura Zlata 97.10 316⇓ *iP* Pdif 22 27 57.1 +0.1
CRVS Cervenica-Dubn 97.17 320 *eP* Pdif 22 27 57.6 +0.4
CRVS Cervenica-Dubn 97.17 320 *eP* Pdif 22 27 57.5 +0.3
MMB Musomiste 97.21 313 *i* P **P** **22 27 55.8 -1.7**
DAG Danmarks Havn 97.31 352 *i* P Pdif 22 27 57.2 0.0
DAG pmax pmax
comp=Z,74nm,0.7s
DAG MLR MLR
comp=Z,2µm,20.0s
DAG Danmarks Havn 97.31 352 *i* P Pdif 22 27 57.2 0.0
comp=Z,739nm,0.7s
DAG
comp=Z,3µm,20.0s
VTS Vitosha 97.38 314⇑ P **P** **22 27 58.4 0.0**
VTS Vitosha 97.38 314⇑ *iP* **P** **22 27 58.4 0.0**
VTS Vitosha 97.38 314 *i* P **P** **22 27 56.8 -1.6**
IDI Anoyia 97.46 306 *eP* Pdif 22 27 59.0 +0.1
comp=Z,24nm,0.7s
KKB Krupnik 97.62 313 *i* P **P** **22 27 58.4 -0.9**
NIE Niedzica 97.78 321 *eP* Pdif 22 28 00.0 +0.1
NIE Niedzica 97.78 321 *eP* Pdif 22 28 00.4 +0.5
BZS Buzias 97.84 317⇑ P **P** **22 27 59.7 -0.5**
BZS Buzias 97.84 317⇑ *iP* **P** **22 27 59.7 -0.5**
OJC Ojcow 97.89 322 *eP* **P** **22 28 00.0 -0.2**
OJC Ojcow 97.89 322 *eP* **P** **22 28 00.1 -0.2**
RES Resolute Bay 97.90 10 *eP* **P** **22 27 59.8 0.0**
comp=Z,46nm,0.9s
RES Resolute Bay 97.90 10 LR LR 23 10 39.8
comp=Z,674nm,20.6s,baz=79,slow=34
HFS Hagfors 98.04 332 P **P** **22 28 00.0 -0.7**
HFS Hagfors 98.04 332 P **P** **22 28 00.0 -0.7**
comp=Z,22nm,0.6s,baz=72,slow=4.8,SNR=55
HFS LR LR 23 17 45.2
comp=Z,2µm,21.5s,baz=69,slow=39
VAY Valandovo 98.11 312 *eP* **P** **22 27 59.2 -2.3**
PSZ Piszkesteto 98.43 319⇑ P **P** **22 28 02.5 -0.4**
PSZ Piszkesteto 98.43 319 *eP* **P** **22 28 02.1 -0.8**
comp=Z,29nm,1.1s
PSZ LR LR
comp=Z,2µm,21.0s
PSZ Piszkesteto 98.43 319⇑ *iP* **P** **22 28 02.5 -0.4**
PSZ Piszkesteto 98.43 319⇓ *e* **P** **22 28 02.9 0.0**
GKP Gorka Klasztor 98.54 325 *eP* Pdif 22 28 04.2 +1.1
GKP Gorka Klasztor 98.54 325 *eP* Pdif 22 28 04.2 +1.1
GKP Gorka Klasztor 98.54 325 *eP* Pdif 22 28 04.2 +1.1
PKSN Nyarlorinc 98.71 318 *e* Pdif 22 28 04.8 +0.8
NC602 NORSAR Array S 98.79 333 *eP* **P** **22 28 03.1 -1.0**
SKO Skopje 98.80 313 *eP* **P** **22 28 01.9 -2.6**
NB2 NORSAR Subarra 98.81 334 P **P** **22 28 02.9 -1.4**
baz=68,slow=4.6
NB2 NORSAR Subarra 98.81 334 P **P** **22 28 02.9 -1.4**
comp=Z,23nm,0.7s,baz=68,slow=4.6
NOA NORSAR Array B 98.81 334 P **P** **22 28 02.9 -1.4**
NOA PKKPbc **PKKPbc** **22 44 32.1 -2.1**
NOA NORSAR Array B 98.81 334 P **P** **22 28 02.9 -1.4**
comp=Z,35nm,0.9s,baz=67,slow=4.6,SNR=59
NOA PKKPbc **PKKPbc** **22 44 32.1 -2.1**
comp=Z,2.1nm,0.9s,baz=267,slow=4.7,SNR=3.7
VYHS Vyhne 98.96 320 *eP* Pdif 22 28 05.4 +0.2
VYHS Vyhne 98.96 320 PDIF Pdif 22 28 05.4 +0.2
PKS6 Bocsa 98.99 318⇓ *e* **P** **22 28 05.9 +0.6**
OKC Ostrava-Krasne 99.02 322 *i* P **Pdif** **22 28 05.4 0.0**
OKC *e* 22 28 15.7
OKC MLR MLR
comp=Z,1µm,19.3s
OKC Ostrava-Krasne 99.02 322 *i* PDIFF **Pdif** **22 28 05.4 0.0**

OKC *e*pP **pP** **22 28 15.7 -0.1**
OKC *e*XSKS 22 38 57.2
OKC AMS AMS 23 18 00.0
comp=Z,1µm,19.3s
NAO01 NORSAR Array S 99.04 333 *eP* **Pdif** **22 28 04.4 -0.8**
comp=Z,53nm,0.9s
NAO01 LR LR
comp=Z,4µm,19.0s
BIA Bitola 99.10 312 *eP* **Pdif** **22 28 03.5 -2.5**
LSZ Lusaka 99.10 255 PFAKE 22 28 20.0 +13
LSZ LR LR
comp=Z,2µm,21.0s
RKT Rikitea 99.13 113 *e*LR LR 23 00 30.0
comp=Z,2µm,25.0s
MORC Moravsky Berou 99.41 322⇑ P **Pdif** **22 28 07.4 +0.2**
MORC Moravsky Berou 99.41 322 *eP* **Pdif** **22 28 07.5 +0.3**
comp=Z,16nm,1.0s
MORC Moravsky Berou 99.41 322⇑ *iP* **Pdif** **22 28 07.4 +0.2**
PKSG 99.55 319⇓ *e* **Pdif** **22 28 08.2 +0.4**
PKSG 99.55 319⇓ *eP* **Pdif** **22 28 08.2 +0.4**
YKA Yellowknife Ar 99.60 24 P **Pdif** **22 28 07.3 -0.3**
YKA PKiKP **PKiKP** **22 32 37.7 +1.2**
YKA PKKPbc **PKKPbc** **22 44 27.4 -4.5**
YKA Yellowknife Ar 99.60 24 P **Pdif** **22 28 07.3 -0.3**
comp=Z,6.1nm,0.7s,baz=300,slow=4.5,SNR=103
YKA PKiKP **PKiKP** **22 32 37.7 +1.2**
comp=Z,0.8nm,0.4s,baz=297,slow=1.6,SNR=12
YKA PKKPbc **PKKPbc** **22 44 27.4 -4.5**
comp=Z,1.3nm,0.6s,baz=114,slow=2.5,SNR=14
MOL Molde 99.71 336 *eP* **Pdif** **22 28 08.8 +0.7**
MOL AMS AMS 23 17 28.8
comp=Z,7µm,16.9s
PKSM Moragy 99.71 318⇑ P **Pdif** **22 28 07.9 -0.6**
PKSM Moragy 99.71 318⇑ *iP* **Pdif** **22 28 07.9 -0.6**
PKSM Moragy 99.71 318⇓ *e* **Pdif** **22 28 08.5 0.0**
PKST T"'s 99.82 319⇓ *e* **Pdif** **22 28 09.2 +0.2**
PKST T"'s 99.82 319⇓ *eP* **Pdif** **22 28 09.2 +0.2**
PKS9 Tamasi 99.84 318⇓ *e* **Pdif** **22 28 09.4 +0.3**
KSP Ksiaz 99.85 323 *eP* **Pdif** **22 28 08.7 -0.3**
KSP Ksiaz 99.85 323 *eP* **Pdif** **22 28 08.7 -0.3**
KSP Ksiaz 99.85 323⇑ *eP* **Pdif** **22 28 09.3 +0.2**
KSP MLR MLR
comp=Z,4µm,24.6s
JMIC Jan Mayen 99.91 346 LR LR 23 22 31.7
comp=Z,1µm,18.7s,baz=260,slow=41
DPC Dobruska-Polom 99.98 322 *i* P **Pdif** **22 28 10.8 +1.1**
DPC *e* 22 28 18.0
DPC *e* 22 32 16.8
DPC MLR MLR
comp=Z,2µm,19.6s
DPC Dobruska-Polom 99.98 322 *i* PDIFF **Pdif** **22 28 10.8 +1.1**
DPC *e*pP **pP** **22 28 18.0 -2.2**
DPC *e*PP **PP** **22 32 16.8 +2.0**
DPC AMS AMS 23 15 20.0
comp=Z,2µm,19.6s
RHK3 Tenkes 100.06 318 *e* **Pdif** **22 28 09.9 -0.2**
TIR Tirane 100.09 313 PFAKE 22 28 20.0 +10
TIR LR LR
comp=Z,2µm,21.0s
UPC Upice 100.12 323 *i* P **Pdif** **22 28 11.1 +0.8**
UPC Upice 100.12 323 *i* PDIFF **Pdif** **22 28 11.1 +0.8**
KONO Kongsberg 100.13 333 PFAKE 22 28 20.0 +10
KONO LR LR
comp=Z,2µm,21.0s
VRAC Vranov 100.14 321⇑ *iP* **Pdif** **22 28 10.5 +0.1**
NLWA Neilton Lookou 100.36 41 PFAKE 22 28 20.0 +8.6
NLWA LR LR
comp=Z,2µm,20.0s
RUE Ruedersdorf 100.78 325 *e*Pdiff **Pdif** **22 28 14.3 +1.2**
TREC Trest 100.83 322 *i* P **Pdif** **22 28 14.5 +1.0**
TREC MLR MLR
comp=Z,3µm,19.4s
TREC Trest 100.83 322 *i* PDIFF **Pdif** **22 28 14.5 +1.0**
TREC AMS AMS 23 19 30.0
comp=Z,3µm,19.4s
PVCC Panska Ves 100.99 323 *i* P **Pdif** **22 28 14.5 +0.4**
PVCC MLR MLR
comp=Z,2µm,17.5s
PVCC Panska Ves 100.99 323 *i* PDIFF **Pdif** **22 28 14.5 +0.4**
PVCC AMS AMS 23 19 10.0
comp=Z,2µm,17.5s
CONA Conrad Observa 101.03 320⇓ *iP* **Pdif** **22 28 14.9 +0.4**
comp=Z,10nm,1.3s
CONA Conrad Observa 101.03 320⇓ *i* Pdiff **Pdif** **22 28 14.9 +0.4**
comp=Z,10nm,1.3s
PRU Pruhonice 101.19 322 *i* P **Pdif** **22 28 15.2 +0.2**
PRU MLR MLR
comp=Z,2µm,19.5s
PRU Pruhonice 101.19 322 *i* PDIFF **Pdif** **22 28 15.2 +0.2**
PRU *ep*P pP 22 28 22.1 -3.5
PRU AMS AMS 23 19 00.0
comp=Z,2µm,19.5s
FOO Floro 101.21 335 AMS AMS 23 18 32.0
comp=Z,6µm,19.5s
PRA Prague 101.22 323 PDIFF **Pdif** **22 28 16.0 +0.8**
PRA PP **PP** **22 32 26.0 +1.9**
BRG Berggiesshubel 101.25 323 *eP* **Pdif** **22 28 15.3 +0.1**
comp=Z,27nm,1.3s
BRG *e*PP PP 22 32 10.1 -14
comp=Z,16nm,1.4s
BRG Berggiesshubel 101.25 323 *e*Pdiff **Pdif** **22 28 16.2 +0.9**
BRG Berggiesshubel 101.25 323 *eP* **Pdif** **22 28 15.3 +0.1**
BRG pmax pmax
comp=Z,27nm,1.3s
BRG pmax pmax
comp=Z,16nm,1.4s
ARSA Arzberg 101.45 320⇑ *iP* **Pdif** **22 28 16.5 +0.2**
comp=Z,11nm,0.9s
ARSA Arzberg 101.45 320⇑ *i* Pdiff **Pdif** **22 28 16.5 +0.2**
comp=Z,11nm,0.9s
LBTB Lobatse 101.54 245 *e*Pdif **Pdif** **22 28 17.7 +0.4**
LBTB LR LR
comp=Z,1µm,21.0s
FBE Freiberg 101.58 324 *e*Pdiff **Pdif** **22 28 17.9 +1.2**
CLL Collm 101.65 324 *e*Pdiff **Pdif** **22 28 17.6 +0.6**
CLL Collm 101.65 324 *eP* **Pdif** **22 28 17.0 0.0**
CLL *e* 22 38 58.0
CLL pmax pmax
comp=Z,18nm,1.2s
CLL MLR MLR
comp=Z,3µm,19.9s
MUD Monsted U'grnd 101.71 330 *eP* **Pdif** **22 28 17.0 -0.1**
MUD pmax pmax
comp=Z,9.0nm,0.9s
MUD MLR MLR
comp=Z,2µm,16.0s
MUD Monsted U'grnd 101.71 330 *i* P **Pdif** **22 28 17.0 -0.1**
comp=Z,9.1nm,0.9s
MUD
comp=Z,2µm,16.0s
BOSA Boshof 101.74 242 P **Pdif** **22 28 18.8 +0.7**
BOSA LR LR
comp=Z,2µm,22.0s
BOSA Boshof 101.74 242 P **Pdif** **22 28 18.8 +0.7**
comp=Z,4.7nm,0.9s,baz=4.2,slow=10,SNR=4.3
SOKA Soboth 101.95 319⇓ *iP* **Pdif** **22 28 18.7 +0.1**
comp=Z,12nm,0.9s
SOKA Soboth 101.95 319⇓ *i* Pdiff **Pdif** **22 28 18.7 +0.1**
comp=Z,12nm,0.9s
KHC Kasperske Hory 102.07 322 *i* P **Pdif** **22 28 19.3 +0.3**
KHC *e* 22 38 57.4
KHC MLR MLR
comp=Z,2µm,18.0s
KHC Kasperske Hory 102.07 322 *e*Pdif **Pdif** **22 28 18.8 -0.2**
comp=Z,7.3nm,0.9s
KHC Kasperske Hory 102.07 322 *i* PDIFF **Pdif** **22 28 19.3 +0.3**
KHC *ep*P 22 28 27.6
KHC *ex* x 22 29 07.0
KHC *ex* x 22 31 28.0
KHC *e*SKS 22 38 57.4
KHC AMS AMS 23 20 40.0
comp=Z,2µm,18.0s
MOA Molln 102.07 320⇓ *iP* **Pdif** **22 28 19.9 +0.9**
comp=Z,34nm,1.1s
MOA Molln 102.07 320⇓ *i* Pdiff **Pdif** **22 28 19.9 +0.9**
comp=Z,34nm,1.1s
GEC2 GERESS Array S 102.09 322 *e*Pdif **Pdif** **22 28 20.1 +0.9**
GERES GERESS Array B 102.09 322 P **Pdif** **22 28 19.8 +0.6**
GERES PP **PKiKP** **22 32 38.0 -3.5**
GERES GERESS Array B 102.09 322 P **Pdif** **22 28 19.8 +0.6**
comp=Z,15nm,1.1s,baz=67,slow=4.5,SNR=39
GERES PP **PKiKP** **22 32 38.0 -3.5**
comp=Z,3.2nm,0.9s,baz=64,slow=3.1,SNR=4.8
BSEG Bad Segeberg 102.16 327 *e*Pdiff **Pdif** **22 28 20.2 +1.0**
TANN Tannenbergstha 102.29 323 *e*Pdiff **Pdif** **22 28 20.9 +0.9**

OBKA Obir 102.33 319⇓*e*P Pdif 22 28 20.4 +0.1
comp=Z,11nm,1.0s
OBKA Obir 102.33 319⇓*e*Pdiff Pdif 22 28 20.4 +0.1
comp=Z,11nm,1.0s
NKC Novy Kostel 102.36 323 *i* P Pdif 22 28 21.2 +0.9
NKC MLR MLR
comp=Z,2µm,18.1s
NKC Novy Kostel 102.36 323 *i* PDIFF Pdif 22 28 21.2 +0.9
NKC AMS AMS 23 17 40.0
comp=Z,2µm,18.1s
WERD Werda 102.37 323 *e*Pdiff Pdif 22 28 21.2 +0.9
GUNZ Gunzen 102.39 323 *e*Pdiff Pdif 22 28 21.5 +1.1
WERN Wernitzgruen 102.39 323 *e*Pdiff Pdif 22 28 21.6 +1.2
NEUB Neuenburg 102.40 324 *e*Pdiff Pdif 22 28 21.4 +1.0
WET Wettzell 102.49 322 *e*Pdiff Pdif 22 28 22.0 +1.1
ROTZ Rotzenmuhle 102.68 323 *e*Pdiff Pdif 22 28 23.1 +1.4
MOX Moxa 102.71 324 *e*Pdiff Pdif 22 28 22.8 +1.0
NRDL Niedersach Rie 102.86 326 *e*Pdiff Pdif 22 28 23.7 +1.4
KBA Koelnbreinsper 102.92 320⇓*i*P Pdif 22 28 22.7 -0.3
KBA pmax pmax
comp=Z,12nm,1.2s
KBA Koelnbreinsper 102.92 320⇓*i*P Pdif 22 28 22.7 -0.3
comp=Z,12nm,1.2s
KBA Koelnbreinsper 102.92 320⇓*i*Pdiff Pdif 22 28 22.7 -0.3
comp=Z,12nm,1.2s
TIP Timpagrande 102.94 311 PFAKE 22 28 30.0 +6.8
TIP LR LR
comp=Z,2µm,20.0s
CLZ Clausthal 102.97 325 *e*Pdiff Pdif 22 28 24.3 +1.4
RJOB Jochberg 103.04 321 *e*Pdiff Pdif 22 28 23.9 +0.5
SCO Scoresbysund 103.10 350 *i* P Pdif 22 28 23.2 +0.2
SCO pmax pmax
comp=Z,8.0nm,1.4s
SCO MLR MLR
comp=Z,2µm,20.0s
SCO Scoresbysund 103.10 350 *i* P Pdif 22 28 23.2 +0.2
comp=Z,7.6nm,1.4s
SCO
comp=Z,2µm,20.0s
SCO Scoresbysund 103.10 350 *i* P PP 22 32 33.0 -4.4
GRF Grafenberg Arr 103.30 323 *e*Pdiff Pdif 22 28 25.5 +1.0
SUMG Summit 103.31 355 *i* P Pdif 22 28 25.1 +0.6
SUMG pmax pmax
comp=Z,9.0nm,1.0s
SUMG Summit 103.31 355 *e*Pdif Pdif 22 28 24.8 +0.4
comp=Z,11nm,0.9s
SUMG Summit 103.31 355 *i* P Pdif 22 28 25.1 +0.6
comp=Z,9.1nm,1.0s
SUMG Summit 103.31 355 *i* P PP 22 32 32.4 -7.0
SUMG Summit 103.31 355 *i* P PKKPbc 22 44 18.9 -3.0
comp=Z,5.3nm,1.0s
SUMG *i* 22 44 39.6
CUC Castrocucco 103.42 312 PFAKE 22 28 40.0 +15
CUC LR LR
comp=Z,1µm,20.0s
HAWA Hanford 103.49 41 PFAKE 22 28 40.0 +15
HAWA LR LR
comp=Z,2µm,22.0s
ABTA Abfaltersbach 103.57 320⇓*e*P Pdif 22 28 25.3 -0.5
comp=Z,16nm,1.2s
ABTA Abfaltersbach 103.57 320⇓*e*Pdiff Pdif 22 28 25.3 -0.5
comp=Z,16nm,1.2s
UBBA Unterbreizbach 103.59 324 *e*Pdiff Pdif 22 28 27.3 +1.8
FUR Furstenfeldbru 103.84 321 *e*Pdiff Pdif 22 28 27.8 +0.9
WTTA Wattenberg 103.94 321⇓*i*P Pdif 22 28 27.9 +0.3
WTTA pmax pmax
comp=Z,25nm,1.1s
WTTA Wattenberg 103.94 321⇓*i*P Pdif 22 28 27.9 +0.3
comp=Z,25nm,1.1s
WTTA Wattenberg 103.94 321⇓*i*Pdiff Pdif 22 28 27.9 +0.3
comp=Z,25nm,1.1s
WATA Walderalm 103.95 321⇑*i*P Pdif 22 28 27.8 +0.2
WATA pmax pmax
comp=Z,7.0nm,0.6s
WATA Walderalm 103.95 321⇑*i*P Pdif 22 28 27.8 +0.2
comp=Z,6.6nm,0.6s
WATA Walderalm 103.95 321⇑*i*Pdiff Pdif 22 28 27.8 +0.2
comp=Z,6.6nm,0.6s
SQTA Sankt Quirin 104.23 321⇑*i*P Pdif 22 28 29.3 +0.5
SQTA Sankt Quirin 104.23 321⇑*i*P Pdif 22 28 29.3 +0.5
SQTA Sankt Quirin 104.23 321⇑*i*Pdiff Pdif 22 28 29.3 +0.5
IBBN Ibbenburen 104.24 326 *e*Pdiff Pdif 22 28 29.8 +1.3
MOTA Moosalm 104.25 321⇑*i*P Pdif 22 28 29.3 +0.4
MOTA pmax pmax
comp=Z,11nm,0.9s
MOTA Moosalm 104.25 321⇑*i*P Pdif 22 28 29.3 +0.4
comp=Z,11nm,0.9s
MOTA Moosalm 104.25 321⇑*i*Pdiff Pdif 22 28 29.3 +0.4
comp=Z,11nm,0.9s
NEW Newport 104.34 38 PFAKE 22 28 40.0 +11
NEW LR LR
comp=Z,1µm,19.0s
NEW Newport 104.34 38 ⇓P Pdif 22 28 29.0 -0.1
baz=104
AQU L'Aquila 104.44 315 PFAKE 22 28 40.0 +10
AQU LR LR
comp=Z,2µm,21.0s
FETA Feichten 104.61 321⇓*i*P Pdif 22 28 31.0 +0.5
comp=Z,16nm,1.1s
FETA Feichten 104.61 321⇓*i*Pdiff Pdif 22 28 31.0 +0.5
comp=Z,16nm,1.1s
BUG Bochum--Univer 104.89 326 *e*Pdiff Pdif 22 28 32.6 +1.2
BEKR Beckworth 105.05 47 ⇑P Pdif 22 28 32.2 -0.5
baz=105
SUR Sutherland 105.31 238 PFAKE 22 33 00.0
SUR LR LR
comp=Z,2µm,19.0s
WVOR Wild Horse Val 105.45 44 PFAKE 22 33 00.0
WVOR LR LR
comp=Z,2µm,22.0s
BMO Blue Mountains 105.50 42 PFAKE 22 33 00.0
BMO LR LR
comp=Z,835nm,22.0s
WDD Wield Dalam 105.56 309 PFAKE 22 33 00.0
WDD LR LR
comp=Z,971nm,21.0s
BFO Black Forest 105.59 322 PFAKE 22 33 00.0
BFO LR LR
comp=Z,2µm,20.0s
TUE Stuetta 105.70 320 PFAKE 22 33 00.0
TUE LR LR
comp=Z,2µm,19.0s
VLC Villacollemand 105.89 318 PFAKE 22 33 00.0
VLC LR LR
comp=Z,2µm,20.0s
WALA Waterton Lakes 105.96 37 *e*PKKPab PKKPab 22 44 29.1 +0.2
CDF Champ du Feu 106.19 323 *e*P Pdif 22 28 37.1 -0.3
comp=Z,47nm,1.4s
WLF Walferdange 106.31 324 PFAKE 22 33 00.0
WLF LR LR
comp=Z,3µm,22.0s
ECH Echery 106.35 323 PFAKE 22 33 00.0
ECH LR LR
comp=Z,2µm,21.0s
D13A Huson 106.46 39 ⇑P PKiKP 22 32 49.7 +0.1
baz=106
A15A Johnson Ranch, 106.70 36 ⇓P PKiKP 22 32 50.0 0.0
baz=106
MSO Missoula 106.89 39 PFAKE 22 33 00.0
MSO LR LR
comp=Z,665nm,20.0s
MSO Missoula 106.89 39 ⇓P PKiKP 22 32 50.7 +0.2
baz=107
E13A Victor 106.89 39 ⇑P PKiKP 22 32 51.0 +0.6
baz=107
NVAR Mina Array Bea 107.02 48 Pdif Pdif 22 28 42.3 +0.7
NVAR PKiKP PKiKP 22 32 53.2 +2.1
NVAR PKKPbc PKKPbc 22 44 10.9 +1.5
NVAR PKKPab PKKPab 22 44 25.1 +0.9
NVAR Mina Array Bea 107.02 48 Pdiff Pdif 22 28 42.3 +0.7
comp=Z,1.0nm,0.7s,baz=286,slow=3.5,SNR=5.2
NVAR PKiKP PKiKP 22 32 53.2 +2.1
comp=Z,1.4nm,0.6s,baz=270,slow=2.4,SNR=6.9
NVAR PKKPbc PKKPbc 22 44 10.9 +1.5
comp=Z,3.0nm,1.0s,baz=131,slow=3.6,SNR=8.8
NVAR PKKPab PKKPab 22 44 25.1 +0.9
comp=Z,4.6nm,0.7s,baz=130,slow=4.3,SNR=17
MFID Camas Ranch 107.02 43 ⇓P PKiKP 22 32 51.9 +1.1
baz=107
D14A Greenough 107.05 38 ⇑P PKiKP 22 32 51.2 +0.4
baz=107
B15A Bradely Ranch, 107.09 37 ⇑P PKiKP 22 32 50.9 +0.1
baz=107
BMN Battle Mountai 107.14 46 PFAKE 22 33 00.0
BMN LR LR
comp=Z,2µm,19.0s

C15A Salmond Ranch, 107.30 37 ⇓P PKiKP 22 32 51.4 +0.2
baz=107
E14A Clinton 107.34 39 ⇑P PKiKP 22 32 51.7 +0.4
baz=107
B16A M & M Farms, S 107.56 37 ⇑P PKiKP 22 32 51.6 0.0
baz=107
H13A Challis 107.62 41 ⇓P PKiKP 22 32 52.5 +0.6
baz=108
LPG La Plagne 107.75 320 *e*P Pdif 22 28 45.0 +0.3
comp=Z,12nm,0.9s
LPL La Plagne 107.75 320 *e*P Pdif 22 28 44.9 +0.3
comp=Z,61nm,1.4s
C16A Fuhringer Ranc 107.81 37 ⇓P PKiKP 22 32 52.4 +0.2
baz=108
E15A Deer Lodge 107.87 39 ⇓P PKiKP 22 32 52.6 +0.3
baz=108
HLID Hailey 107.92 42 PFAKE 22 33 00.0
HLID LR LR
comp=Z,2µm,22.0s
HLID Hailey 107.92 42 ⇑P PKiKP 22 32 53.2 +0.6
baz=108
TPH Tonopah 107.94 48 PFAKE 22 33 00.0
TPH LR LR
comp=Z,1µm,19.0s
I13A Wildhorse Cree 107.97 42 ⇑P PKiKP 22 32 53.4 +0.7
baz=108
BNI Bardonecchia 107.98 320 PFAKE 22 33 00.0
BNI LR LR
comp=Z,2µm,20.0s
J13A Cove Ranch, Pi 108.14 42 ⇑P PKiKP 22 32 54.0 +1.0
baz=108
F15A Butte 108.22 39 ⇑P PKiKP 22 32 53.6 +0.5
baz=108
DAC Darwin (Calif) 108.25 50 PFAKE 22 33 10.0
DAC LR LR
comp=Z,2µm,20.0s
ESK Eskdalemuir 108.27 332 PFAKE 22 33 00.0
ESK LR LR
comp=Z,3µm,20.0s
D16A Dana Ranch, Ca 108.28 38 ⇑P PKiKP 22 32 54.1 +1.0
baz=108
EDW2 Edwards Air Fo 108.39 52 ⇑P PKiKP 22 32 55.0 +1.4
baz=108
MPMC Manual Prospec 108.40 50 ⇓P PKiKP 22 32 54.5 +0.8
baz=108
A18A Metzger Ranch, 108.41 35 ⇓P PKiKP 22 32 54.0 +0.8
baz=108
ORIF Oris-en-Rattie 108.55 320 *e*P Pdif 22 28 48.9 +0.9
F16A Kennard Place, 108.79 39 ⇓P PKiKP 22 32 55.2 +1.1
baz=109
BOZ Bozeman (W) 108.85 39 PFAKE 22 33 10.0
BOZ LR LR
comp=Z,1µm,19.0s
BOZ Bozeman (W) 108.85 39 ⇓P PKiKP 22 32 54.7 +0.5
baz=109
EGMT Eagleton 108.89 36 *e*PKiKP PKiKP 22 32 53.3 -0.8
EGMT LR LR
comp=Z,1µm,22.0s
EGMT Eagleton 108.89 36 ⇑P PKiKP 22 32 54.6 +0.5
baz=109
G16A Moss Hill, Enn 108.92 40 ⇑P PKiKP 22 32 54.9 +0.6
baz=109
A19A Klindworth Far 109.04 35 ⇓P PKiKP 22 32 54.7 +0.3
baz=109
R11A Troy Canyon, C 109.06 47 ⇑P PKiKP 22 32 55.0 +0.1
baz=109
K14A Jones Ranch, D 109.16 43 ⇑P PKiKP 22 32 56.0 +1.2
baz=109
B19A Brinkman Farms 109.16 36 ⇓P PKiKP 22 32 55.5 +0.9
baz=109
TSUM Tsumeb 109.19 251 PFAKE 22 33 10.0
TSUM LR LR
comp=Z,1µm,20.0s
J15A Blackfoot 109.30 41 ⇓P PKiKP 22 32 56.5 +1.4
baz=109
FFC Flin Flon 109.34 27 PFAKE 22 33 10.0
FFC LR LR
comp=Z,2µm,21.0s
F17A Fitzpatrick Pl 109.34 39 ⇑P PKiKP 22 32 55.7 +0.6
baz=109
SFJD Kangerlussuaq 109.48 359 PFAKE 22 33 10.0
SFJD LR LR
comp=Z,3µm,22.0s
H16A Russell Place, 109.50 40 ⇓P PKiKP 22 32 56.2 +0.6
baz=109
K15A Arbon 109.53 42 ⇓P PKiKP 22 32 57.0 +1.4
baz=109
KEST Kesra 109.61 310 PP PP 22 33 29.2 +2.6
KEST Kesra 109.61 310 PP PP 22 33 29.2 +2.6
comp=Z,11nm,1.1s,baz=354,slow=6.4,SNR=5.2
B20A Solberg Farm, 109.70 35 ⇑P PKiKP 22 32 56.2 +0.6
baz=110,SNR=5.6
I16A Newdale 109.71 41 ⇓P PKiKP 22 32 57.2 +1.3
baz=110
J16A Bone 109.89 41 ⇓P PKiKP 22 32 57.0 +0.7
baz=110
L15A Malad City 109.91 43 ⇑P PKiKP 22 32 57.5 +1.2
baz=110
PFO Pinyon Flat Ob 110.00 52 PFAKE 22 33 10.0
PFO LR LR
comp=Z,1µm,20.0s
PFO Pinyon Flat Ob 110.00 52 ⇓P PKiKP 22 32 57.2 +0.6
baz=110
A21A Bergtoll Ranch 110.04 34 ⇑P PKiKP 22 32 57.2 +1.0
baz=110
C20A Veseth Ranch, 110.08 36 ⇓P PKiKP 22 32 57.2 +0.9
baz=110
LKWY Lake 110.11 40 PFAKE 22 33 10.0
LKWY LR LR
comp=Z,2µm,20.0s
E19A Rath Farm, Rou 110.22 37 ⇓P PKiKP 22 32 57.9 +1.2
baz=110
BELC Belle Mtn. Jos 110.23 52 ⇑P PKiKP 22 32 58.1 +0.9
baz=110
TPAW Teton Pass 110.23 41 *e*PKKPab PKKPab 22 44 10.8 +0.7
GMRC Granite Mounta 110.23 51 ⇓P PKiKP 22 32 58.6 +1.5
baz=110
N15A Stansbury Isla 110.28 44 ⇓P PKiKP 22 32 58.4 +1.4
baz=110
D20A Manuel Ranch, 110.31 37 ⇑P PKiKP 22 32 58.0 +1.2
baz=110
DUG Dugway 110.35 45 *e*PKKPbc PKKPbc 22 43 59.5 +0.6
DUG *e*PKKPab PKKPab 22 44 09.4 +0.1
DUG LR LR
comp=Z,1µm,20.0s
DUG Dugway 110.35 45 ⇓P PKiKP 22 32 58.3 +1.1
baz=110
REDW Red Top Meadow 110.35 41 *e*PKiKP PKiKP 22 32 57.5 +0.3
LOHW Long Hollow 110.41 41 *e*PKiKP PKiKP 22 32 57.9 +0.6
J17A Brown Place, J 110.44 41 ⇓P PKiKP 22 32 58.3 +1.0
baz=110
AHID Auburn Hatcher 110.45 42 *e*PKKPab PKKPab 22 44 09.2 +0.3
AHID LR LR
comp=Z,1µm,20.0s
H18A Shoshone NF, C 110.53 39 ⇑P PKiKP 22 32 58.4 +0.9
baz=110
C21A Desert Coulee 110.55 35 ⇑P PKiKP 22 32 58.5 +1.3
baz=110
L16A Fish Haven 110.55 42 ⇓P PKiKP 22 32 58.4 +0.8
baz=110
RLMT Red Lodge 110.57 39 PFAKE 22 33 10.0
RLMT LR LR
comp=Z,960nm,19.0s
RLMT Red Lodge 110.57 39 ⇑P PKiKP 22 32 58.4 +0.9
baz=110
A22A Carney Farms, 110.61 34 ⇓P PKiKP 22 32 58.2 +0.9
baz=110
HWUT Hardware Ranch 110.64 43 *e*PKiKP PKiKP 22 32 57.8 +0.1
HWUT LR LR
comp=Z,1µm,20.0s
BC3 Big Chuckawall 110.77 52 ⇓P PKiKP 22 32 59.0 +0.8
baz=111
ARUT Antelope Range 110.84 47 *e*PKKPab PKKPab 22 44 07.2 -0.1
L17A Cokeville 110.89 42 ⇓P PKiKP 22 32 59.0 +0.8
baz=111
B22A Reddig Ranch S 110.93 35 ⇑P PKiKP 22 32 58.5 +0.5
baz=111
D21A La Casta Ranch 111.00 36 ⇓P PKiKP 22 32 59.4 +1.4
baz=111
G20A Bridger 111.17 38 ⇑P PKiKP 22 32 59.8 +1.3
baz=111,SNR=6.8
A23A Redstone 111.20 34 ⇑P PKiKP 22 32 59.7 +1.3
baz=111
K18A Toltan Ranch, 111.21 41 ⇓P PKiKP 22 32 59.5 +0.7
baz=111
I19A Meeteetse 111.25 40 ⇓P PKiKP 22 32 59.3 +0.5
baz=111

C22A Vida 111.29 35 ⇓P PKiKP 22 32 59.6 +1.0
baz=111
M17A Scullys Gap (B 111.30 43 ⇓P PKiKP 22 32 59.9 +0.9
baz=111
B23A Brockton 111.41 34 ⇑P PKiKP 22 32 59.9 +1.1
baz=111
N17A Moffit Pass 111.42 43 ⇓P PKiKP 22 33 00.4 +1.0
baz=111
D22A Cohagen 111.43 36 ⇓P PKiKP 22 33 00.3 +1.4
baz=111,SNR=13
MVU Marysvale 111.45 46 PFAKE 22 33 10.0
MVU LR LR
comp=Z,1µm,20.0s
BW06 Boulder Array 111.47 41 PFAKE 22 33 10.0
BW06 LR LR
comp=Z,1µm,20.0s
BW06 Boulder Array 111.47 41 ⇑P PKiKP 22 33 00.4 +1.0
baz=111
PDAR Pinedale Array 111.47 41 PKiKP PKiKP 22 33 00.2 +0.9
PDAR PKKPbc PKKPbc 22 43 53.1 -2.2
PDAR PKKPab PKKPab 22 44 04.3 -0.2
PDAR Pinedale Array 111.47 41 PKiKP PKiKP 22 33 00.2 +0.9
comp=Z,1.5nm,0.7s,baz=172,slow=0.9,SNR=8.7
PDAR PKKPbc PKKPbc 22 43 53.1 -2.2
comp=Z,2.5nm,0.7s,baz=123,slow=5.6,SNR=14
PDAR PKKPab PKKPab 22 44 04.3 -0.2
comp=Z,7.8nm,0.9s,baz=117,slow=5.2,SNR=20
MSU Marysvale 111.47 46 *e*PKiKP PKiKP 22 32 59.8 +0.3
MSU Marysvale 111.47 46 *e*PKiKP PKiKP 22 32 59.8 +0.3
L18A Fontenelle, Gr 111.53 42 ⇓P PKiKP 22 33 00.3 +0.9
baz=111
F21A Absaloka Mine, 111.55 37 ⇑P PKiKP 22 32 60.0 +0.8
baz=111
J19A Crowheart 111.57 40 ⇓P PKiKP 22 33 00.0 +0.6
baz=111
C23A Lambert 111.66 35 ⇑P PKiKP 22 33 00.3 +1.0
baz=112
H20A Greybull 111.66 39 ⇑P PKiKP 22 33 00.6 +1.1
baz=112
A24A Westby 111.70 33 ⇑P PKiKP 22 33 00.0 +0.7
baz=112
G21A Lodge Grass 111.79 38 ⇓P PKiKP 22 33 00.8 +1.1
baz=112
O17A Robinson Place 111.80 44 ⇓P PKiKP 22 33 01.2 +1.2
baz=112
I20A Worland 111.84 39 ⇑P PKiKP 22 33 01.1 +1.2
baz=112,SNR=10.0
DGMT Dagmar 111.85 34 PFAKE 22 33 10.0
DGMT LR LR
comp=Z,1µm,21.0s
DGMT Dagmar 111.85 34 ⇓P PKiKP 22 33 00.6 +0.9
baz=112
K19A Absolon Red Bu 111.91 41 ⇓P PKiKP 22 33 00.8 +0.7
baz=112,SNR=6.6
E22A Miles City 111.93 36 ⇓P PKiKP 22 33 01.0 +1.1
baz=112,SNR=6.1
D23A Lindsay 111.98 35 ⇓P PKiKP 22 33 00.7 +0.7
baz=112
Q16A Castle Valley 112.03 45 ⇑P PKiKP 22 33 01.2 +0.7
baz=112
R16A Teasdale 112.06 46 ⇓P PKiKP 22 33 01.3 +0.6
baz=112
F22A Rosebud 112.09 37 ⇓P PKiKP 22 33 01.1 +0.9
baz=112
J20A Shoshoni 112.15 40 ⇑P PKiKP 22 33 01.8 +1.3
baz=112,SNR=11
S16A Weppner Ranch, 112.21 47 ⇑P PKiKP 22 33 01.8 +0.9
baz=112
C24A Savage 112.24 35 ⇓P PKiKP 22 33 01.7 +1.3
baz=112
O18A Roosevelt 112.28 44 ⇑P PKiKP 22 33 01.5 +0.7
baz=112
M19A Rock Springs 112.31 42 ⇓P PKiKP 22 33 01.8 +0.9
baz=112
K20A Yellowstone Ra 112.31 41 ⇑P PKiKP 22 33 01.7 +0.8
baz=112
P18A Preston Nutter 112.38 44 ⇑P PKiKP 22 33 02.3 +1.1
baz=112
SRU San Rafael 112.41 45 ⇓P PKiKP 22 33 02.4 +1.2
baz=112
I21A Big Trails, Te 112.44 39 ⇓P PKiKP 22 33 01.6 +0.5
baz=112,SNR=5.6
D24A Glendive 112.52 35 ⇑P PKiKP 22 33 01.5 +0.5
baz=112
J21A Lysite 112.56 40 ⇓P PKiKP 22 33 02.1 +0.7
baz=112
R17A Hanksville Air 112.56 46 ⇓P PKiKP 22 33 02.6 +1.2
baz=112
N19A John Jarvie Ra 112.57 43 ⇑P PKiKP 22 33 02.3 +0.9
baz=112
Y14A Wickenburg 112.59 51 ⇓P PKiKP 22 33 01.8 +0.3
baz=112
L20A Wamsutter 112.62 41 ⇑P PKiKP 22 33 01.8 +0.3
baz=112
F23A Volborg 112.63 37 ⇓P PKiKP 22 33 02.1 +0.8
baz=112,SNR=5.2
Q18A Rafter H Ranch 112.69 45 ⇑P PKiKP 22 33 01.8 +0.2
baz=112
S17A Black Ridge (B 112.82 47 ⇓P PKiKP 22 33 02.9 +1.0
baz=113
E24A Baker 112.83 36 ⇓P PKiKP 22 33 02.7 +1.1
baz=113
I22A 9 Mile Ranch, 112.90 39 ⇓P PKiKP 22 33 02.4 +0.5
baz=113,SNR=5.6
M20A Sweetwater, Wa 112.96 42 ⇓P PKiKP 22 33 03.1 +0.9
baz=113
K21A Alcova 113.03 40 ⇓P PKiKP 22 33 03.1 +0.8
baz=113
T17A Navajo Res., N 113.08 47 ⇑P PKiKP 22 33 03.6 +1.0
baz=113
114A Black Gap (USA 113.11 52 ⇑P PKiKP 22 33 03.4 +0.9
baz=113
F24A Ekalaka 113.14 36 ⇓P PKiKP 22 33 02.9 +0.7
baz=113
J22A Midwest 113.15 39 ⇓P PKiKP 22 33 03.0 +0.5
baz=113,SNR=19
R18A Canyonlands Na 113.16 45 ⇓P PKiKP 22 33 03.3 +0.7
baz=113
N20A Spence Gulch, 113.21 42 ⇑P PKiKP 22 33 04.0 +1.2
baz=113,SNR=7.3
WUAZ Wupatki 113.24 49 PFAKE 22 33 10.0
WUAZ LR LR
comp=Z,1µm,20.0s
WUAZ Wupatki 113.24 49 ⇑P PKiKP 22 33 03.4 +0.5
baz=113
P19A Cripple Cowboy 113.26 44 ⇓P PKiKP 22 33 03.4 +0.6
baz=113
L21A Rawlins 113.28 41 ⇓P PKiKP 22 33 03.6 +0.8
baz=113,SNR=7.6
Q19A Hogan Spring (113.36 45 ⇓P PKiKP 22 33 03.7 +0.8
baz=113
S18A Hurst Farm, Bl 113.38 46 ⇑P PKiKP 22 33 03.4 +0.2
baz=113
214A Organ Pipe Nat 113.44 53 ⇑P PKiKP 22 33 03.8 +0.6
baz=113
M21A Separation Pea 113.45 41 ⇓P PKiKP 22 33 03.9 +0.7
baz=113,SNR=11
K22A Casper 113.49 40 ⇓P PKiKP 22 33 04.0 +0.8
baz=113
O20A White River Ci 113.55 43 ⇓P PKiKP 22 33 04.3 +1.0
baz=113
X16A Lo Mia Camp, P 113.61 50 ⇑P PKiKP 22 33 04.8 +1.2
baz=114
R19A Curley Farm, L 113.65 45 ⇓P PKiKP 22 33 04.4 +0.8
baz=114
H24A Dirks Ranch, A 113.66 37 ⇑P PKiKP 22 33 04.2 +0.9
baz=114,SNR=7.5
T18A Mexican Hat 113.70 47 ⇓P PKiKP 22 33 04.9 +1.3
baz=114
P20A De Beque 113.73 44 ⇓P PKiKP 22 33 04.5 +0.9
baz=114
J23A Dilts Ranch, B 113.73 39 ⇑P PKiKP 22 33 04.0 +0.5
baz=114
N21A Black Mountain 113.75 42 ⇑P PKiKP 22 33 04.6 +0.8
baz=114,SNR=5.9
S19A Harvey Farm, M 113.97 46 ⇓P PKiKP 22 33 04.3 0.0
baz=114
K23A Bowen Ranch, D 114.02 40 ⇑P PKiKP 22 33 04.9 +0.8
baz=114
O21A Pagoda 114.03 43 ⇑P PKiKP 22 33 04.5 +0.2
baz=114
Q20A Ridgley Place, 114.04 44 ⇓P PKiKP 22 33 04.8 +0.5
baz=114
M22A Cedar Creek Ra 114.05 41 ⇓P PKiKP 22 33 05.3 +0.9
baz=114
X17A Forest Lakes 114.13 50 ⇓P PKPdf 22 33 06.2 +1.5
baz=114
PV01 Paradox Valley 114.21 45 *e*PKiKP PKPdf 22 33 04.6 -0.1

L23A Garrett 114.29 40 ⇑P PKPdf 22 33 05.3 +0.6
baz=114
RSSD Black Hills 114.30 38 *e*PKIKP PKPdf 22 33 03.3 -1.4
RSSD Black Hills 114.30 38 *e*PKiKP PKPdf 22 33 03.3 -1.4
N22A Wattenberg Ran 114.44 42 ⇑P PKPdf 22 33 06.4 +1.3
baz=114,SNR=5.6
T19A Beclabito 114.44 47 ⇑P PKPdf 22 33 06.2 +1.0
baz=114
S20A Disappointment 114.49 45 ⇑P PKPdf 22 33 07.0 +1.7
baz=114,SNR=6.5
M23A Laramie 114.60 41 ⇑P PKPdf 22 33 06.1 +0.7
baz=114
Q21A Lamborn Mesa, 114.60 44 ⇑P PKPdf 22 33 06.3 +0.9
baz=114
MVCO Mesa Verde 114.66 46 *e*PKiKP PKPdf 22 33 05.7 +0.1
MVCO LR LR
comp=Z,1μm,22.0s
MVCO Mesa Verde 114.66 46 ⇓P PKPdf 22 33 07.1 +1.5
baz=114,SNR=9.0
O22A Kremmling 114.68 42 ⇓P PKPdf 22 33 06.2 +0.6
baz=114
X18A Snowflake 114.70 49 ⇑P PKPdf 22 33 06.7 +1.0
baz=115
MDND Maddock 114.71 32 ⇓P PKPdf 22 33 06.5 +1.4
baz=114
N23A Red Feather La 114.73 42 ⇑P PKPdf 22 33 06.7 +1.0
baz=115
P22A Eagle 114.81 43 ⇑P PKPdf 22 33 07.0 +1.2
baz=115
R21A Cimarron 114.82 45 ⇑P PKPdf 22 33 07.3 +1.4
baz=115
TUC Tucson 114.92 52 *e*PKIKP PKPdf 22 33 05.9 -0.1
TUC MLR MLR
comp=Z,1μm,20.0s
TUC Tucson 114.92 52 *e*PKiKP **PKiKP** **22 33 05.9 -0.2**
TUC LR LR
comp=Z,1μm,20.0s
S21A Coal Bank Pass 114.97 45 ⇑P PKPdf 22 33 08.6 +2.3
baz=115,SNR=26
U20A Newcomb 115.00 47 ⇑P PKPdf 22 33 07.9 +1.6
baz=115
Q22A Crested Butte, 115.04 44 ⇑P **PKPdf** **22 33 07.5 +1.2**
baz=115,SNR=6.5
ULM Lac du Bonnet 115.07 29 PKP **PKPdf** **22 33 05.8 +0.2**
ULM PKKPbc **PKKPbc** **22 43 40.9 -2.3**
ULM Lac du Bonnet 115.07 29 PKP **PKPdf** **22 33 05.8 +0.2**
comp=Z,5.9nm,0.6s,baz=316,slow=2.5,SNR=14
ULM PKKPbc **PKKPbc** **22 43 40.9 -2.3**
comp=Z,1.6nm,0.5s,baz=113,slow=1.8,SNR=4.2
O23A Lake Granby, G 115.08 42 ⇓P **PKPdf** **22 33 08.1 +1.7**
baz=115,SNR=7.5
M24A Cheyenne 115.18 41 ⇓P **PKPdf** **22 33 07.7 +1.3**
baz=115
K25A Mack Ranch, Ha 115.20 39 ⇓P **PKPdf** **22 33 07.6 +1.2**
baz=115
V20A Brimhall 115.29 48 ⇓P **PKPdf** **22 33 07.8 +1.0**
baz=115
L25A Engebretsen Ra 115.38 39 ⇓P **PKPdf** **22 33 07.8 +1.1**
baz=115
R22A Saguache, Gunn 115.44 44 ⇓P **PKPdf** **22 33 08.7 +1.5**
baz=115
T21A Navajo Lake 115.45 46 ⇑P **PKPdf** **22 33 09.4 +2.3**
baz=115,SNR=8.5
Y19A Nutrioso 115.46 50 ⇑P **PKPdf** **22 33 09.0 +1.7**
baz=115,SNR=5.8
ISCO Idaho Springs 115.48 42 *e*PKIKP **PKPdf** **22 33 06.6 -0.6**
ISCO MLR MLR
comp=Z,1μm,20.0s
ISCO Idaho Springs 115.48 42 *e*PKPdf **PKPdf** **22 33 06.6 -0.6**
ISCO LR LR
comp=Z,1μm,20.0s
ISCO Idaho Springs 115.48 42 ⇓P **PKPdf** **22 33 08.3 +1.1**
baz=115,SNR=6.9
P23A Jefferson 115.54 43 ⇑P **PKPdf** **22 33 08.5 +1.1**
baz=115
W20A Ramah 115.55 48 ⇓P **PKPdf** **22 33 08.9 +1.6**
baz=115,SNR=7.5
K26A Motz Farm, Whi 115.58 39 ⇓P **PKPdf** **22 33 07.6 +0.6**
baz=115,SNR=8.0
U21A Nageezi 115.61 47 ⇓P **PKPdf** **22 33 09.2 +1.7**
baz=116,SNR=12
S22A 4UR Ranch, Cre 115.61 45 ⇓P **PKPdf** **22 33 09.1 +1.6**
baz=116
X20A Quemado 115.79 49 ⇓P **PKPdf** **22 33 09.1 +1.3**
baz=116
T22A Edith 115.89 46 ⇑P **PKPdf** **22 33 09.7 +1.7**
baz=116
V21A Milan 115.90 47 ⇓P **PKPdf** **22 33 09.7 +1.7**
baz=116
R23A Moffat 116.11 44 ⇓P **PKPdf** **22 33 10.1 +1.7**
baz=116
Y20A Horse Springs, 116.15 49 ⇓P **PKPdf** **22 33 10.2 +1.6**
baz=116,SNR=5.8
K27A Flueckinger Fa 116.17 38 ⇓P **PKPdf** **22 33 09.1 +0.9**
baz=116
Q24A Divide 116.20 43 ⇑P **PKPdf** **22 33 09.6 +1.0**
baz=116
U22A Llaves 116.21 46 ⇑P **PKPdf** **22 33 10.8 +2.2**
baz=116,SNR=16
Z20A Nine Sixteen R 116.31 50 ⇓P **PKPdf** **22 33 10.9 +2.1**
baz=116,SNR=12
O25A Wiggins 116.33 42 ⇑P **PKPdf** **22 33 09.5 +0.9**
baz=116
AGMN Agassiz Nation 116.37 30 PFAKE 22 33 20.0 +12
AGMN LR LR
comp=Z,1μm,19.0s
319A Douglas 116.45 52 ⇑P **PKPdf** **22 33 11.2 +2.1**
baz=116,SNR=5.2
T23A Casias Ranch, 116.50 45 ⇑P **PKPdf** **22 33 11.0 +1.8**
baz=116,SNR=6.2
120A U Bar Ranch, L 116.50 51 ⇓P **PKPdf** **22 33 11.1 +1.9**
baz=116
SDCO Great Sand Dun 116.55 44 PFAKE 22 33 20.0 +11
SDCO LR LR
comp=Z,1μm,21.0s
SDCO Great Sand Dun 116.55 44 ⇓P **PKPdf** **22 33 10.7 +1.4**
baz=116,SNR=6.4
R24A Sanders Place, 116.59 44 ⇓P **PKPdf** **22 33 10.2 +1.0**
baz=116
P25A Willow Gulch B 116.60 42 ⇑P **PKPdf** **22 33 10.7 +1.5**
baz=116,SNR=12
Y21A Point of Rocks 116.64 49 ⇑P **PKPdf** **22 33 11.3 +1.8**
baz=116,SNR=11
220A Playas Peak, P 116.84 51 ⇑P **PKPdf** **22 33 11.5 +1.7**
baz=117,SNR=6.0
Q25A Bedland, Calha 116.84 43 ⇓P **PKPdf** **22 33 11.3 +1.5**
baz=117,SNR=8.3
TAM Tamanrasset 116.85 298 *e*PKIKP **PKPdf** **22 33 12.5 +2.5**
TAM MLR MLR
comp=Z,956nm,21.0s
TAM Tamanrasset 116.85 298 *e*PKPdf **PKPdf** **22 33 12.5 +2.5**
TAM LR LR
comp=Z,956nm,21.0s
V23A Ortiz Mt. (NFS 116.98 47 ⇓P **PKPdf** **22 33 12.0 +1.9**
baz=117
320A Kipp Ranch, An 117.06 52 ⇓P **PKPdf** **22 33 12.2 +2.0**
baz=117,SNR=7.5
P26A Davis Ranch, A 117.12 42 ⇑P **PKPdf** **22 33 11.5 +1.4**
baz=117,SNR=9.0
ANMO Albuquerque 117.14 48 *e*PKPdf **PKPdf** **22 33 11.3 +0.9**
ANMO LR LR
comp=Z,1μm,19.0s
121A Cookes Peak, D 117.16 51 ⇓P **PKPdf** **22 33 12.4 +1.9**
baz=117,SNR=11
T24A Torres, Weston 117.18 45 ⇓P **PKPdf** **22 33 11.9 +1.4**
baz=117
Y22A Socorro 117.20 49 ⇓P **PKPdf** **22 33 12.2 +1.7**
baz=117,SNR=7.2
OGNE Ogallala 117.25 40 PFAKE 22 33 20.0 +10
OGNE LR LR
comp=Z,865nm,20.0s
W23A Werner Place, 117.27 47 ⇑P **PKPdf** **22 33 12.1 +1.4**
baz=117
Q26A Hugo 117.33 42 ⇓P **PKPdf** **22 33 11.7 +1.1**
baz=117
S25A Robets Cordova 117.33 44 ⇑P **PKPdf** **22 33 11.7 +1.0**
baz=117,SNR=5.2
ESDC Sonseca Array 117.45 319 PKP **PKPdf** **22 33 10.7 0.0**
ESDC PP **PP** **22 34 22.2 +0.2**
ESDC Sonseca Array 117.45 319 PKP **PKPdf** **22 33 10.7 0.0**
comp=Z,0.7nm,0.5s,baz=37,slow=1.8,SNR=6.8
ESDC PP **PP** **22 34 22.2 +0.2**
comp=Z,1.9nm,0.8s,baz=52,slow=7.2,SNR=5.2
ESLA Sonseca Array 117.45 319 PFAKE 22 33 20.0 +9.3
ESLA LR LR
comp=Z,10μm,21.0s
Z22A Elephant Butte 117.49 49 ⇓P **PKPdf** **22 33 13.0 +2.0**
baz=117,SNR=15
T25A Trinidad 117.60 45 ⇓P **PKPdf** **22 33 13.0 +1.7**
baz=117,SNR=6.8
V24A Rampart Ranch, 117.65 46 ⇑P **PKPdf** **22 33 13.7 +2.3**
baz=118,SNR=7.8
R26A Arlington 117.69 43 ⇓P **PKPdf** **22 33 12.8 +1.5**
baz=118,SNR=7.9
122A Conniff Cattle 117.70 50 ⇓P **PKPdf** **22 33 13.3 +1.8**
baz=118
PAB San Pablo 117.78 319 PFAKE 22 33 20.0 +8.7
PAB LR LR
comp=Z,2μm,20.0s
W24A Lazy 6 Ranch, 117.79 47 ⇑P **PKPdf** **22 33 13.6 +1.9**
baz=118,SNR=15
222A Williams Famil 117.87 51 ⇑P **PKPdf** **22 33 13.5 +1.7**
baz=118,SNR=7.3
KSCO Kaye Shedlock' 117.88 42 ⇑P **PKPdf** **22 33 12.7 +1.1**
baz=118
Y23A Lovelace Mesa, 117.88 48 ⇑P **PKPdf** **22 33 13.0 +1.2**
baz=118,SNR=5.3
U25A Circle Dot Ran 117.95 45 ⇓P **PKPdf** **22 33 13.4 +1.5**
baz=118,SNR=5.4
S26A Kim 118.01 44 ⇑P **PKPdf** **22 33 13.0 +1.1**
baz=118,SNR=6.3
PBRG Braganca 118.06 322 *e*PKPdf **PKPdf** **22 33 11.7 -0.1**
V25A Rancho No Teng 118.07 46 ⇑P **PKPdf** **22 33 13.5 +1.3**
baz=118,SNR=15
R27A Eads 118.14 43 ⇑P **PKPdf** **22 33 12.7 +0.6**
baz=118
T26A Comanche Natio 118.15 44 ⇓P **PKPdf** **22 33 13.3 +1.0**
baz=118,SNR=23
Y24A Capitan 118.35 48 ⇑P **PKPdf** **22 33 14.0 +1.3**
baz=118,SNR=16
U26A Atchley Ranch, 118.42 45 ⇑P **PKPdf** **22 33 14.1 +1.2**
baz=118,SNR=6.1
W25A X Bar L Ranch, 118.47 46 ⇓P **PKPdf** **22 33 14.0 +1.1**
baz=118
PMSA Palmer Station 118.52 175 PFAKE 22 33 20.0 +8.2
PMSA LR LR
comp=Z,936nm,21.0s
MVO Moncorvo 118.61 322 *e*PKPdf **PKPdf** **22 33 14.0 +1.1**
MVO *e*LQ LQ 23 10 04.7
MVO *e*LR LR 23 13 08.3
comp=Z,2μm,22.0s
X25A Clemmons Ranch 118.65 47 ⇑P **PKPdf** **22 33 14.0 +0.7**
baz=118
Z24A Sheeppen Canyo 118.67 49 ⇓P **PKPdf** **22 33 15.0 +1.6**
baz=118,SNR=14
EYMN Ely 118.74 28 PFAKE 22 33 20.0 +7.2
EYMN LR LR
comp=Z,2μm,22.0s
T27A Campo 118.81 44 ⇓P **PKPdf** **22 33 14.7 +1.2**
baz=119,SNR=5.8
124A Stringfield Ra 118.87 49 ⇑P **PKPdf** **22 33 14.9 +1.1**
baz=119,SNR=9.8
ECSD EROS Data Cent 118.90 35 *e*PKPdf **PKPdf** **22 33 12.9 -0.4**
ECSD LR LR
comp=Z,1μm,21.0s
PGAV Gavieira, Arco 118.90 323 *e*PKPdf **PKPdf** **22 33 14.4 +1.0**
PGAV *e*LQ LQ 23 09 18.4
PGAV *e*LR LR 23 16 25.0
comp=Z,1μm,20.0s
Y25A Mesa, Roswell 118.90 48 ⇓P **PKPdf** **22 33 15.0 +1.2**
baz=119,SNR=15
POLO Lamas de Olo 118.96 322 *e*PKPdf **PKPdf** **22 33 15.3 +1.7**
POLO Lamas de Olo 118.96 322 *e*PP PP 22 34 35.3 +2.9
PVRL Vila Real 118.97 322 *e*PKPdf **PKPdf** **22 33 14.6 +1.1**
PVRL Vila Real 118.97 322 *e*PP PP 22 34 33.6 +1.2
W26A Owens Ranch, T 119.04 46 ⇓P **PKPdf** **22 33 15.2 +1.3**
baz=119,SNR=7.9
224A Cornudas Mount 119.09 50 ⇓P **PKPdf** **22 33 15.5 +1.3**
baz=119,SNR=7.5
Z25A Roswell 119.17 49 ⇓P **PKPdf** **22 33 15.5 +1.2**
baz=119,SNR=6.5
T28A Walsh 119.20 44 ⇑P **PKPdf** **22 33 15.2 +1.1**
baz=119
X26A CR and CF Fran 119.26 47 ⇑P **PKPdf** **22 33 15.4 +1.0**
baz=119,SNR=8.6
MNTX Cornudas Mount 119.36 50 PFAKE 22 33 30.0 +15
MNTX LR LR
comp=Z,682nm,20.0s
MNTX Cornudas Mount 119.36 50 ⇓P **PKPdf** **22 33 16.0 +1.5**
baz=119,SNR=31
324A Moseley Ranch, 119.39 51 ⇓P **PKPdf** **22 33 16.3 +1.5**
baz=119,SNR=23
PVIS Viseu 119.40 322 *e*PKPdf **PKPdf** **22 33 15.3 +0.9**
BGNE Belgrade 119.41 37 ⇑P **PKPdf** **22 33 15.1 +0.8**
baz=119
125A Gardner Draw, 119.50 49 ⇑P **PKPdf** **22 33 16.2 +1.4**
baz=119,SNR=12
225A Deer Hill, Car 119.61 50 ⇓P **PKPdf** **22 33 16.7 +1.5**
baz=120,SNR=7.0
PCBR Castelo Branco 119.64 321 *e*PKPdf **PKPdf** **22 33 16.1 +1.3**
Z26A Caprock 119.73 48 ⇓P **PKPdf** **22 33 16.1 +0.8**
baz=120,SNR=7.1
X27A F and S Farms, 119.73 46 ⇑P **PKPdf** **22 33 16.5 +1.2**
baz=120
V28A Channing 119.81 45 ⇓P **PKPdf** **22 33 16.6 +1.2**
baz=120,SNR=6.5
PMRV Marv??o 119.81 320 *e*PKPdf **PKPdf** **22 33 16.2 +1.0**
PMRV *i* P 23 10 40.7
PMRV *e*LR LR 23 23 01.8
comp=Z,2μm,22.0s
325A Bean Ranch, Si 119.82 51 ⇓P **PKPdf** **22 33 16.5 +0.9**
baz=120,SNR=12
CBKS Cedar Bluff 119.89 41 PFAKE 22 33 30.0 +15
CBKS LR LR
comp=Z,1μm,22.0s
CBKS Cedar Bluff 119.89 41 ⇑P **PKPdf** **22 33 16.1 +0.7**
baz=120
126A Clayton Basin, 119.98 49 ⇑P **PKPdf** **22 33 16.8 +1.0**
baz=120,SNR=9.3
SPMN St. Paul 119.99 31 ⇑P **PKPdf** **22 33 15.7 +0.4**
baz=120
Y27A Causey 120.04 47 ⇑P **PKPdf** **22 33 16.7 +0.7**
baz=120,SNR=12
425A Indio Mountain 120.06 51 ⇓P **PKPdf** **22 33 17.1 +1.0**
baz=120,SNR=18
W28A Vega 120.07 45 ⇑P **PKPdf** **22 33 16.8 +0.9**
baz=120
226A Malaga, Loving 120.18 50 ⇓P **PKPdf** **22 33 16.8 +0.6**
baz=120,SNR=11
V29A Stinnett 120.25 44 ⇓P **PKPdf** **22 33 17.5 +1.3**
baz=120
Z27A Tatum 120.27 48 ⇑P **PKPdf** **22 33 17.3 +1.0**
baz=120,SNR=28
PBAR Barrancos 120.28 319 *e*PKPdf **PKPdf** **22 33 15.9 -0.2**
MSTX Muleshoe 120.29 47 ⇓P **PKPdf** **22 33 17.4 +1.0**
baz=120,SNR=12
X28A Dimmitt 120.44 46 ⇑P **PKPdf** **22 33 17.6 +1.0**
baz=120
127A Arkansas Junct 120.46 49 ⇓P **PKPdf** **22 33 18.3 +1.6**
baz=120
326A Caldwell Ranch 120.61 50 ⇑P **PKPdf** **22 33 18.0 +0.9**
baz=120
AMTX Amarillo 120.63 46 *e*PKPdf **PKPdf** **22 33 16.3 -0.6**
AMTX LR LR
comp=Z,1μm,20.0s
AMTX Amarillo 120.63 46 ⇑P **PKPdf** **22 33 18.1 +1.1**
baz=120
SCHQ Schefferville 120.65 9 *e*PKPdf **PKPdf** **22 33 16.3 0.0**
SCHQ PKP **PKPdf** **22 33 16.5 +0.2**
SCHQ LR LR
comp=Z,2μm,21.0s
SCHQ Schefferville 120.65 9 PKP **PKPdf** **22 33 16.5 +0.2**
comp=Z,14nm,0.8s,baz=332,slow=1.7,SNR=30
Y28A McKinney Farm, 120.70 47 ⇑P **PKPdf** **22 33 18.0 +0.9**
baz=121
EVO Evora 120.72 320 *e*PKPdf **PKPdf** **22 33 17.8 +0.9**
EVO Evora 120.72 320 ⇑*i*PKIKP **PKPdf** **22 33 18.1 +1.2**
comp=Z,28nm,0.8s
X29A Tulia 120.83 46 ⇑P **PKPdf** **22 33 18.2 +0.9**
baz=121
426A McDonald Obser 120.85 51 ⇑P **PKPdf** **22 33 18.5 +0.8**
baz=121,SNR=9.9
PBEJ Beja 120.91 319 *e*PKPdf **PKPdf** **22 33 18.9 +1.6**
Y29A Porterfield Fa 121.14 47 ⇓P **PKPdf** **22 33 19.0 +1.0**
baz=121
PVAQ Vaqueiros 121.15 318 *e*PKPdf **PKPdf** **22 33 18.6 +0.8**
PVAQ *e*LQ LQ 23 05 35.8
PVAQ *e*LR LR 23 18 26.1
comp=Z,1μm,18.0s
PCVE Castro Verde 121.24 319 *e*PKPdf **PKPdf** **22 33 16.5 -1.4**
PCVE *i* P **PKiKP** **22 33 19.8 +1.7**
PCVE Castro Verde 121.24 319 *e*PP PP 22 34 48.1 +0.1
MESJ Messejana 121.24 319 *e*PP PP 22 34 47.1 -0.9
MESJ *e*SS SS 22 51 20.8 +1.4
MESJ A A 23 32 49.6
comp=Z,1μm,21.7s
MESJ Messejana 121.24 319 *e*PP PP 22 34 47.1 -0.9
MESJ *e*SS SS 22 51 20.8 +1.4
MESJ A A 23 32 49.6
comp=Z,1μm,21.7s
626A Big Bend Ranch 121.25 52 ⇓P **PKPdf** **22 33 19.1 +0.8**
baz=121,SNR=8.6
427A Hayter Ranch, 121.26 50 ⇑P **PKPdf** **22 33 19.2 +0.9**
baz=121,SNR=19
PNCL Nicolau / Gran 121.29 319 *e*PKPdf **PKPdf** **22 33 19.1 +1.1**
LIS Lisbon 121.34 320 *e*PP PP 22 34 47.5 -1.1
LIS *e*SS SS 22 51 21.9 +1.3
LIS AMS AMS 23 32 21.1
comp=Z,2μm,20.2s
LIS Lisbon 121.34 320 *e*PP PP 22 34 47.5 -1.1
LIS *e*SS SS 22 51 21.9 +1.3
LIS A A 23 32 21.1
comp=Z,2μm,20.2s
PBDV Barranco-do-Ve 121.39 318 *e*PKPdf **PKPdf** **22 33 18.4 +0.1**
PBDV Barranco-do-Ve 121.39 318 *e*PP PP 22 34 49.6 +0.5
Z29A Hungry Hill Ra 121.41 47 ⇑P **PKPdf** **22 33 19.0 +0.5**
baz=121
328A Wristen Ranch, 121.47 50 ⇑P **PKPdf** **22 33 19.6 +1.0**
baz=121
129A Stewart Farms, 121.59 48 ⇓P **PKPdf** **22 33 19.5 +0.6**
baz=121
TXAR Lajitas Array 121.71 52 PKP **PKPdf** **22 33 19.3 +0.1**
TXAR PKKPbc **PKKPab** **22 43 19.8 +0.5**
TXAR SKKPbc SKKPbc 22 47 09.2 +4.1
TXAR Lajitas Array 121.71 52 PKP **PKPdf** **22 33 19.3 +0.1**
comp=Z,7.5nm,0.7s,baz=273,slow=1.0,SNR=40
TXAR PKKPbc **PKKPab** **22 43 19.8 +0.5**
comp=Z,1.2nm,0.8s,baz=127,slow=5.9,SNR=4.6
TXAR SKKPbc SKKPbc 22 47 09.2 +4.1
comp=Z,1.8nm,1.0s,baz=108,slow=4.1,SNR=3.6
KSU1 Kansas State U 121.72 39 PFAKE 22 33 30.0 +11
KSU1 LR LR
comp=Z,1μm,22.0s
MORF Marmelete 121.83 319 *e*PKPdf **PKPdf** **22 33 19.4 +0.3**
428A Kincaid Ranch, 121.86 50 ⇑P **PKPdf** **22 33 20.7 +1.3**
baz=122
SCIA State Center 121.99 34 PFAKE 22 33 30.0 +11
SCIA LR LR
comp=Z,941nm,20.0s
528A Cox Ranch, San 122.04 51 ⇑P **PKPdf** **22 33 21.2 +1.4**
baz=122
PFVI Vila Bisbo 122.04 319 *e*PKPdf **PKPdf** **22 33 18.2 -1.3**
PFVI *i* P **PKiKP** **22 33 21.1 +1.5**
628A Black Gap, Mar 122.26 52 ⇑P **PKPdf** **22 33 21.2 +1.1**
baz=122
RTC Rabat Centre 122.38 314 PFAKE 22 33 30.0 +10
RTC LR LR
comp=Z,1μm,21.0s
WMOK Wichita Mounta 122.75 44 *e*PKIKP **PKPdf** **22 33 20.9 -0.1**
WMOK MLR MLR
comp=Z,1μm,21.0s
WMOK Wichita Mounta 122.75 44 *e*PKPdf **PKPdf** **22 33 20.9 -0.1**
WMOK LR LR
comp=Z,1μm,21.0s
TOA0 Torodi Ar. Sit 122.86 288 *e*PKPdf **PKPdf** **22 33 21.3 -0.3**
TORD Torodi Ar. Bea 122.86 288 PKP **PKPdf** **22 33 20.9 -0.7**
TORD PP **PP** **22 35 02.4 +2.2**
TORD PKKPbc **PKKPab** **22 43 15.3 +1.0**
TORD Torodi Ar. Bea 122.86 288 PKP **PKPdf** **22 33 20.9 -0.7**
comp=Z,27nm,0.7s,baz=43,slow=1.8,SNR=128
TORD PP **PP** **22 35 02.4 +2.2**
comp=Z,13nm,1.2s,baz=68,slow=4.4,SNR=5.1
TORD PKKPbc **PKKPab** **22 43 15.3 +1.0**
comp=Z,1.1nm,0.5s,baz=242,slow=2.6,SNR=24
TUL1 Tulsa 124.12 41 ⇑P **PKPdf** **22 33 24.5 +1.0**
baz=124
JCT Junction City 124.17 49 *e*PKIKP **PKPdf** **22 33 24.4 +0.6**
JCT MLR MLR
comp=Z,1μm,20.0s
JCT Junction City 124.17 49 *e*PKPdf **PKPdf** **22 33 24.4 +0.6**
JCT LR LR
comp=Z,1μm,20.0s
JCT Junction City 124.17 49 ⇑P **PKPdf** **22 33 24.9 +1.1**
baz=124
GLMI Grayling 124.24 27 PFAKE 22 33 40.0 +17
GLMI LR LR
comp=Z,1μm,20.0s
HDIL Hopedale 125.08 33 PFAKE 22 33 40.0 +15
HDIL LR LR
comp=Z,1μm,19.0s
SFIN Scholer Farm 126.38 32 ⇓P **PKPdf** **22 33 28.4 +0.7**
baz=126
MIAR Mount Ida 126.39 41 *e*PKIKP **PKPdf** **22 33 28.1 +0.2**
MIAR MLR MLR
comp=Z,1μm,20.0s
MIAR Mount Ida 126.39 41 *e*PKPdf **PKPdf** **22 33 28.1 +0.2**
MIAR LR LR
comp=Z,1μm,20.0s
SADO Sadowa 126.56 23 PKP **PKPdf** **22 33 28.4 +0.5**
SADO Sadowa 126.56 23 PKP **PKPdf** **22 33 28.4 +0.5**
comp=Z,7.6nm,0.9s,baz=290,slow=5.3,SNR=7.3
AAM Ann Arbor 126.64 28 PFAKE 22 33 40.0 +12
AAM LR LR
comp=Z,1μm,22.0s
KVTX Kingsville 127.05 51 PFAKE 22 33 40.0 +11
KVTX LR LR
comp=Z,1μm,20.0s
NATX Nacogdoches 127.26 45 PFAKE 22 33 40.0 +10
NATX LR LR
comp=Z,1μm,20.0s
USHA Ushuaia 127.53 169 PKP **PKPdf** **22 33 30.0 +0.6**
USHA Ushuaia 127.53 169 PKP **PKPdf** **22 33 30.0 +0.6**
comp=Z,21nm,0.8s,baz=76,slow=0.3,SNR=5.9
LONY Lake Ozonia 128.32 19 PFAKE 22 33 40.0 +8.7
LONY LR LR
comp=Z,2μm,22.0s
ERPA Erie 128.42 25 PFAKE 22 33 40.0 +8.4
ERPA LR LR
comp=Z,1μm,19.0s
ACSO Alum Creek Sta 128.57 29 PFAKE 22 33 40.0 +8.1
ACSO LR LR
comp=Z,1μm,19.0s
NCB Newcomb 129.01 19 PFAKE 22 33 40.0 +7.3
NCB LR LR
comp=Z,2μm,22.0s
OXF Oxford 129.09 39 PFAKE 22 33 40.0 +7.0
OXF LR LR
comp=Z,1μm,19.0s
LBNH Lisbon 129.49 17 PFAKE 22 33 50.0 +16
LBNH LR LR
comp=Z,1μm,22.0s
PLAL Pickwick Lake 129.60 37 PFAKE 22 33 50.0 +16
PLAL LR LR
comp=Z,1μm,21.0s
VBMS Vicksburg 129.83 42 PFAKE 22 33 50.0 +16
VBMS LR LR
comp=Z,1μm,19.0s
HNH Hanover 129.87 18 *e*PKPdf **PKPdf** **22 33 35.2 +1.0**
BINY Binghamton 129.95 22 PFAKE 22 33 50.0 +16
BINY LR LR
comp=Z,1μm,20.0s
DBIC Dimbokro 130.51 282 PKP **PKPdf** **22 33 37.0 +0.8**
DBIC SKPbc **SKPbc** **22 36 57.6 0.0**
DBIC LR LR
comp=Z,880nm,21.0s
DBIC Dimbokro 130.51 282 PKP **PKPdf** **22 33 37.0 +0.8**
comp=Z,19nm,0.7s,baz=69,slow=2.7,SNR=13
DBIC SKPbc **SKPbc** **22 36 57.6 0.0**
comp=Z,20nm,0.8s,baz=60,slow=3.7,SNR=9.6
SSPA Standing Stone 130.53 25 *e*PKPdf **PKPdf** **22 33 35.4 -0.2**
LIC Lamto 130.75 281 *e*PKIKP **PKPdf** **22 33 37.3 +0.6**
comp=Z,60nm,0.7s
LRAL Lakeview Retre 131.57 38 PFAKE 22 33 50.0 +12
LRAL LR LR
comp=Z,1μm,22.0s
TKL Tuckaleechee C 131.62 33 PKP **PKPdf** **22 33 38.0 +0.1**
TKL Tuckaleechee C 131.62 33 PKP **PKPdf** **22 33 38.0 +0.1**
comp=Z,32nm,0.7s,baz=116,slow=1.9,SNR=17
SHEL Horse Pasture 131.64 252 PFAKE 22 33 50.0 +12
SHEL LR LR
comp=Z,1μm,19.0s
BLA Blacksburg 132.17 29 PFAKE 22 33 50.0 +11
BLA LR LR
comp=Z,1μm,20.0s
CBN Corbin 132.78 26 PFAKE 22 33 50.0 +10
CBN LR LR
comp=Z,1μm,20.0s
BRAL Brewton 132.88 41 PFAKE 22 33 50.0 +10
BRAL LR LR

comp=Z,1µm,20.0s
KMSC Kings Mountain 133.32 32 ⇓P PKPdf 22 33 42.2 +1.2
baz=133
GOGA Godfrey 133.43 35 PFAKE 22 33 50.0 +8.7
GOGA LR LR
comp=Z,1µm,22.0s
CMIG Matias Romero 134.11 62 PKP **PKPdf 22 33 42.8 -0.1**
CMIG Matias Romero 134.11 62 PKP **PKPdf 22 33 42.8 -0.1**
comp=Z,15nm,0.8s,baz=303,slow=3.2,SNR=24
CNNC Cliffs of the 134.97 29 PFAKE 22 34 00.0 +16
CNNC LR LR
comp=Z,3µm,19.0s
NHSC New Hope 135.49 33 PFAKE 22 34 00.0 +15
NHSC LR LR
comp=Z,1µm,20.0s
TEIG Tepich 138.31 54 PKP **PKPdf 22 33 52.6 +1.9**
TEIG Tepich 138.31 54 PKP **PKPdf 22 33 52.6 +1.9**
comp=Z,14nm,1.0s,baz=240,slow=6.3,SNR=3.6
BBTS Babate 139.22 297 PKP **PKPdf 22 33 54.0 +1.5**
BBTS Babate 139.22 297 PKP **PKPdf 22 33 54.0 +1.5**
comp=Z,36nm,1.1s,baz=131,slow=3.0,SNR=5.3
PLCA Paso Flores 139.97 160 PKPpre PKPpre 22 33 45.8
PLCA PKP **PKiKP 22 33 55.1 -0.6**
PLCA SKPbc **SKPbc 22 37 27.4 +0.4**
PLCA LR LR
comp=Z,1µm,22.0s
PLCA Paso Flores 139.97 160 PKhKP PKPpre 22 33 45.8
comp=Z,7.6nm,1.1s,baz=212,slow=5.2,SNR=6.8
PLCA PKP **PKiKP 22 33 55.1 -0.6**
comp=Z,17nm,0.9s,baz=211,slow=4.0,SNR=16
PLCA SKPbc **SKPbc 22 37 27.4 +0.4**
comp=Z,6.0nm,0.9s,baz=165,slow=7.9,SNR=4.4
BBSR BB Station 142.59 16 PFAKE 22 34 10.0 +12
BBSR LR LR
comp=Z,1µm,22.0s
PAYG Puerto Ayora 142.98 86 PFAKE 22 34 10.0 +11
PAYG LR LR
comp=Z,2µm,21.0s
TRQA Tornquist 144.87 168 *e*PKPdf PKPbc 22 34 01.4 +0.3
TRQA LR LR
comp=Z,1µm,20.0s
SACV Santiago Islan 145.20 303 *e*PKPbc **PKPbc 22 34 02.2 -0.5**
SACV LR LR
comp=Z,1µm,20.0s
JTS JuntasAbangare 145.62 66 PKPbc **PKPab 22 34 05.1 +0.6**
JTS JuntasAbangare 145.62 66 PKPbc **PKPab 22 34 05.1 +0.6**
comp=Z,34nm,0.6s,baz=329,slow=2.1,SNR=25
LMEL Las Melosas 146.10 154⇑ *i*P **PKPab 22 34 06.2 +0.3**
FCH Farellones 146.51 154⇑ *i*P **PKPdf 22 34 00.5 -4.9**
MTDJ Mount Denham 147.74 47 PFAKE 22 34 20.0 +7.4
MTDJ LR LR
comp=Z,1µm,20.0s
GTBY Guantanamo Bay 148.28 42 PFAKE 22 34 20.0 +5.4
GTBY LR LR
comp=Z,1µm,22.0s
CFAA Coronel Fontan 148.87 155 PKP **PKPdf 22 34 09.9 +1.0**
CFAA PKPbc **PKPbc 22 34 13.3 +0.5**
CFAA Coronel Fontan 148.87 155 PKP **PKPdf 22 34 09.9 +1.0**
comp=Z,6.7nm,0.7s,baz=237,slow=3.1,SNR=18
CFAA PKPbc **PKPbc 22 34 13.3 +0.5**
comp=Z,6.7nm,0.7s,baz=225,slow=3.5,SNR=55
GRTK Grand Turk 149.53 34 PFAKE 22 34 20.0 +0.5
GRTK LR LR
comp=Z,2µm,20.0s
LCO Las Campanas 149.88 149 *e*PKPdf **PKPdf 22 34 11.8 +0.9**
LCO *e*PKPbc **PKiKP 22 34 16.8 +0.1**
LCO LR LR
comp=Z,2µm,21.0s
BCIP Isla Barro Col 150.69 64 *e*PKPdf **PKPdf 22 34 12.9 +0.7**
BCIP *e*PKPbc **PKiKP 22 34 18.4 +0.1**
BCIP LR LR
comp=Z,1µm,22.0s
SDDR Presa de Saban 151.41 37 PFAKE 22 34 20.0 +0.7
SDDR LR LR
comp=Z,2µm,20.0s
OTAV Otavalo 154.63 82 *e*PKPdf **PKPdf 22 34 19.2 +0.6**
OTAV LR LR
comp=Z,788nm,21.0s
ATAH Atahualpa 154.84 99 PKP **PKPdf 22 34 20.6 +1.7**
ATAH PKPbc **PKiKP 22 34 30.2 +2.7**
ATAH Atahualpa 154.84 99 PKP **PKPdf 22 34 20.6 +1.7**
comp=Z,23nm,1.1s,baz=292,slow=3.2,SNR=14
ATAH PKPbc **PKiKP 22 34 30.2 +2.7**
comp=Z,28nm,0.8s,baz=231,slow=0.9,SNR=13
SJG San Juan 154.96 30 PFAKE 22 34 30.0 +3.0
SJG LR LR
comp=Z,1µm,21.0s
NNA Nana 155.33 111 PKP **PKPdf 22 34 21.1 +2.1**
NNA LR LR
comp=Z,1µm,20.0s
NNA Nana 155.33 111 PKP **PKPdf 22 34 21.1 +2.1**
comp=Z,13nm,0.9s,baz=343,slow=5.5,SNR=3.9
LVC Limon Verde 155.87 143 *e*PKPdf **PKPdf 22 34 21.4 +1.6**
LVC LR LR
comp=Z,35nm,20.0s
CPUP Villa Florida 157.13 171 PKP **PKPdf 22 34 22.3 +1.3**
CPUP PKPab **PKPab 22 34 53.3 +1.9**
CPUP Villa Florida 157.13 171 PKP **PKPdf 22 34 22.3 +1.3**
comp=Z,7.9nm,0.9s,baz=55,slow=2.7,SNR=11
CPUP PKPab **PKPab 22 34 53.3 +1.9**
comp=Z,32nm,1.0s,baz=184,slow=4.5,SNR=8.3
ANWB Willy Bob 157.24 21 PFAKE 22 34 30.0 +8.7
ANWB LR LR
comp=Z,1µm,19.0s
ROSC El Rosal 157.41 68 PKP **PKPdf 22 34 22.6 +0.4**
ROSC El Rosal 157.41 68 PKP **PKPdf 22 34 22.6 +0.4**
comp=Z,6.7nm,0.4s,baz=101,slow=14,SNR=3.8
CAM4 Nova Friburgo 158.67 208⇓ *i*P **PKPab 22 35 00.2 +1.7**
CAM4 *i* 22 35 02.9
CAM4 *i* 22 35 09.0
CAM4 *i* 22 35 15.8
CAM4 *i* 22 35 22.7
CAM4 *i* 22 35 29.2
CAM4 *i* 22 35 33.1
CAM4 *i* 22 35 42.9
SDV Santo Domingo 158.74 54 *e*PKPdf **PKPdf 22 34 23.0 -0.6**
SDV LR LR
comp=Z,365nm,20.0s
SPB Sao Paulo 159.37 196 PFAKE 22 34 30.0 +6.2
SPB LR LR
comp=Z,1µm,20.0s
FDF Fort de France 160.16 23 PFAKE 22 34 40.0 +15
FDF LR LR
comp=Z,1µm,21.0s
LPAZ La Paz 160.81 132 *e*PKPdf **PKPdf 22 34 27.3 +1.0**
LPAZ LR LR
comp=Z,1µm,21.0s
BBGH Gun Hill 162.21 20 PFAKE 22 34 40.0 +13
BBGH LR LR
comp=Z,3µm,21.0s
GRGR Grenville 162.28 28 PFAKE 22 34 40.0 +13
GRGR LR LR
comp=Z,1µm,21.0s
RCBR Riachuelo 162.47 262 PFAKE 22 34 40.0 +13
RCBR LR LR
comp=Z,1µm,20.0s
SIV San Ignacio 165.58 149 PKP **PKPdf 22 34 30.9 +0.7**
SIV San Ignacio 165.58 149 PKP **PKPdf 22 34 30.9 +0.7**
comp=Z,11nm,1.0s,baz=207,slow=1.3,SNR=19
BDFB Brasilia 166.98 203 PKP **PKPdf 22 34 32.1 +0.7**
BDFB PKPab **PKPab 22 35 36.4 +1.6**
BDFB LR LR
comp=Z,2µm,21.0s
BDFB Brasilia 166.98 203 PKP **PKPdf 22 34 32.1 +0.7**
comp=Z,8.5nm,0.9s,baz=68,slow=2.0,SNR=8.6
BDFB PKPab **PKPab 22 35 36.4 +1.6**
comp=Z,13nm,1.1s,baz=109,slow=5.7,SNR=6.2
SAML Samuel 168.91 119 PFAKE 22 34 40.0 +7.4
SAML LR LR
comp=Z,2µm,21.0s

IDC 11 22:21:27.3±4.2, 23°.91S × 68°.00W, h168km±31km, mb3.5/2, mb1 3.5/4, mb1mx3.4/16, mbtmp3.4/4, Error ellipse: s-maj=64.5km s-min=26.8km az=118.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**7.67**	**182**	P	Pn	22 23 15.6	-0.6
	0.1nm,0.3s,baz=6.6,slow=12,SNR=8.9						
CPUP	**Villa Florida**	**9.97**	**106**	P	Pn	22 23 48.2	+1.6
	0.7nm,0.3s,baz=264,slow=16,SNR=5.1						
SIV	**San Ignacio**	**10.22**	**41**	P	Pn	22 23 50.7	+0.6
	1.0nm,0.3s,baz=228,slow=13,SNR=8.5						
BDFB	**Brasilia**	**20.51**	**70**	P	P	22 25 51.1	-1.6
	5.6nm,0.5s,baz=244,slow=10,SNR=10						
TORD	**Torodi Ar. Bea**	**77.39**	**69**	P	P	22 33 04.6	+0.4
	0.5nm,0.6s,baz=252,slow=5.7,SNR=9.9						

IDC 11 22:22:42.4±1.4, 3°.92N × 126°.92E, h0km, mb4.0/7, mb1 4.0/7, mb1mx3.8/21, mbtmp4.0/7, Error ellipse: s-maj=182.5km s-min=18.3km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**28.25**	**166**	P	P	22 28 38.2	+0.7
	1.8nm,1.0s,baz=344,slow=12,SNR=2.2						
STKA	**Stephens Creek**	**38.24**	**160**	P	P	22 30 03.5	-0.8
	3.3nm,0.7s,baz=337,slow=11,SNR=3.6						
SONM	**Songino Array**	**47.18**	**341**	P	P	22 31 17.2	+0.3
	0.6nm,0.6s,baz=156,slow=8.9,SNR=3.6						
MKAR	**Makanchi Array**	**57.51**	**325**	P	P	22 32 32.7	-0.8
	0.9nm,0.4s,baz=118,slow=5.8,SNR=9.0						
ZALV	**Zalesovo Beam**	**60.50**	**333**	P	P	22 32 53.7	-0.5
	1.4nm,0.9s,baz=119,slow=8.4,SNR=2.9						
KURBB	**Kurchatov Arra**	**61.68**	**327**	P	P	22 33 02.7	+0.5
	1.3nm,0.5s,baz=126,slow=5.7,SNR=5.5						
BVAR	**Borovoye Array**	**67.26**	**327**	P	P	22 33 39.0	+0.3
	0.8nm,0.6s,baz=106,slow=9.2,SNR=4.0						

CSEM ***11*** *22:26:00.6±0.2, 38°.69N × 21°.79E, h36km±3km, MD2.9, Error ellipse: s-maj=12.3km s-min=5.5km az=90.0*

ATH 11 22:25:59.9, 38°.68N × 21°.80E, h44km±1km, MD2.9/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.24**	**2**	*e*P	Pn	22 26 08.0	-0.1
EVR				*e*S	Sn	22 26 14.5	+0.7
EVR	**Evrytania**	**0.24**	**2**	*e*P	Pn	22 26 08.0	-0.1
EVR				*e*S	Sn	22 26 14.5	+0.7
EFP	**Efpalio**	**0.27**	**162**	*e*P	Pn	22 26 08.9	+0.7
EFP				*e*S	Sn	22 26 14.9	+1.0
EFP	**Efpalio**	**0.27**	**162**	*e*P	Pn	22 26 08.9	+0.7
EFP				*e*S	Sn	22 26 14.9	+1.0
RLS	**Riolos of Patr**	**0.67**	**203**	*e*P	Pn	22 26 14.0	+0.9
RLS	**Riolos of Patr**	**0.67**	**203**	*e*P	Pn	22 26 14.0	+0.9
GUR	**Goura**	**0.86**	**150**	*e*P	Pn	22 26 16.4	+0.7
GUR	**Goura**	**0.86**	**150**	*e*P	Pn	22 26 16.4	+0.7
THL	**Klokotos Trika**	**0.90**	**11**	*e*P	Pn	22 26 17.3	+1.2
THL	**Klokotos Trika**	**0.90**	**11**	*e*P	Pn	22 26 17.3	+1.2

IDC 11 22:26:06.2±2.0, 3°.57N × 126°.10E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/21, mbtmp3.9/7, Error ellipse: s-maj=306.3km s-min=16.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.73**	**161**	P	P	22 31 29.2	-0.4
	7.0nm,0.6s						
ASAR	**Alice Springs**	**28.12**	**165**	P	P	22 32 00.3	+0.2
	1.1nm,1.0s,baz=345,slow=12,SNR=3.8						
STKA	**Stephens Creek**	**38.21**	**158**	P	P	22 33 27.9	0.0
	5.5nm,0.7s,baz=336,slow=9.7,SNR=7.1						
MKAR	**Makanchi Array**	**57.33**	**326**	P	P	22 35 55.7	-0.4
	0.3nm,0.4s,baz=118,slow=6.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**60.44**	**333**	P	P	22 36 17.5	-0.1
	0.5nm,0.4s,baz=148,slow=8.5,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.53**	**328**	P	P	22 36 24.8	-0.3
	0.6nm,0.4s,baz=128,slow=6.3,SNR=5.7						
BVAR	**Borovoye Array**	**67.11**	**327**	P	P	22 37 02.1	+0.5
	0.3nm,0.5s,baz=108,slow=7.7,SNR=2.6						

IDC 11 22:30:29.2±1.4, 3°.61N × 126°.65E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/21, mbtmp3.8/7, Error ellipse: s-maj=185.1km s-min=16.6km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.60**	**162**	P	P	22 35 51.0	-0.4
	3.3nm,0.7s						
ASAR	**Alice Springs**	**28.02**	**166**	P	P	22 36 21.8	-0.5
	0.4nm,0.5s,baz=345,slow=11,SNR=2.9						
STKA	**Stephens Creek**	**38.05**	**159**	P	P	22 37 50.3	+0.7
	2.4nm,0.6s,baz=331,slow=9.5,SNR=5.3						
SONM	**Songino Array**	**47.38**	**342**	P	P	22 39 05.0	-0.3
	0.3nm,0.5s,baz=170,slow=7.6,SNR=2.6						
MKAR	**Makanchi Array**	**57.61**	**325**	P	P	22 40 21.9	+0.8
	0.8nm,0.6s,baz=120,slow=8.6,SNR=8.3						
KURBB	**Kurchatov Arra**	**61.79**	**327**	P	P	22 40 49.7	-0.1
	0.7nm,0.5s,baz=131,slow=6.5,SNR=11						
BVAR	**Borovoye Array**	**67.37**	**327**	P	P	22 41 25.8	-0.6
	0.5nm,0.6s,baz=97,slow=6.2,SNR=3.7						

BJI ***11*** *22:32:42.2, 2°.98N × 127°.12E, h35km, mB5.5/16, mb4.8/42, Ms5.1/21, Ms7 5.0/21*

IDC ***11*** *22:32:45.0±0.4, 3°.76N × 126°.72E, h0km, mb4.7/34, mb1 4.8/34, mb1mx4.8/35, mbtmp4.7/34, MS4.6/1, Ms1 4.6/1, ms1mx3.5/42, Error ellipse: s-maj=17.5km s-min=9.5km az=76.0*

MOS ***11*** *22:32:48.2±1.0, 3°.76N × 126°.79E, h33km, mb5.3/31, Error ellipse: s-maj=13.6km s-min=5.7km az=117.9*

NEIC ***11*** *22:32:50.0±0.2, 3°.82N × 126°.94E, h35km, mb5.1/36, Error ellipse: s-maj=7.8km s-min=4.8km az=76.0*

ISCJB ***11*** *22:32:51.3±0.5, 3°.83N±0°.02 × 126°.96E±0°.04, h59km±4km, mb5.0/109, MS4.9/10, Error ellipse: s-maj=6.2km s-min=3.9km az=166.4*

DJA ***11*** *22:32:56, 3°.51N × 126°.86E, h64km, mb5.0/13*

ISC 11 22:32:50.6±0.3, 3°.78N±0°.04 × 126°.85E±0°.06, h40km±2km, n330, σ1°45/345, mb5.0/108, MS5.0/10, 29C-9D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.97**	**321**	*e*P	**Pn**	**22 33 38.0**	**+2.6**
TNTI	**Ternate**	**3.03**	**170**	P	**Pn**	**22 33 38.8**	**+2.7**
MNI	**Manado**	**3.07**	**221**	P	**Pn**	**22 33 39.5**	**+2.9**
MATI	**Mati**	**3.20**	**349**	*e*P	**Pn**	**22 33 40.6**	**+2.1**
DAV	**Davao City (W)**	**3.51**	**339**	*e*Pn	**Pn**	**22 33 43.9**	**+1.3**
DAV	**Davao City (W)**	**3.51**	**339**	P	Pn	22 33 52.3	+10
DAV	**Davao City (W)**	**3.51**	**339**	Pn	Pn	22 33 46.6	+3.9
	100nm,0.3s,baz=119,slow=5.1,SNR=9.0						
KCP	**Kidapawan**	**3.66**	**331**⇓	*e*P	**Pn**	**22 33 45.6**	**+0.9**
KCP				*i* S	Sn	22 34 40.6	+14
KMSI	**Cibinong**	**4.28**	**222**	P	Pn	22 33 58.1	+4.8
CTBH	**Cotabato--PC H**	**4.29**	**323**⇑	*e*P	**Pn**	**22 33 54.3**	**+0.8**
LBMI	**Labuha**	**4.43**	**172**	P	Pn	22 33 59.6	+4.2
BUKP	**Musuan**	**4.45**	**337**	*e*P	**Pn**	**22 33 57.9**	**+2.3**
CGP	**Cagayan de Oro**	**5.12**	**335**⇓	*e*P	Pn	22 34 10.2	+5.5
CGP				*e*S	Px	22 34 17.1	
PAGZ	**Pagadian**	**5.31**	**320**	*e*P	**Pn**	**22 34 08.6**	**+1.1**
ZMPH	**Zamboanga City**	**5.71**	**304**⇑	*i*P	**Pn**	**22 34 13.7**	**+0.7**
ZMPH				*i* S	**Sn**	**22 35 15.6**	**-1.7**
IPIL	**Ipil**	**5.83**	**313**	*e*P	**Pn**	**22 34 16.8**	**+2.2**
MRSI	**Marisa**	**5.90**	**236**	P	Pn	22 34 19.1	+3.6
	600nm,0.6s,5µm1.9nm						
SWI	**Sorong**	**6.38**	**136**	P	**Pn**	**22 34 23.9**	**+1.8**
	150nm,1.1s,0.6nm						
MSLP	**Maasin**	**6.62**	**343**	*e*P	Pn	22 34 30.1	+4.8
NLAI	**Namlea**	**6.97**	**178**	P	Pn	22 34 33.4	+3.1
	153nm,0.7s						
APSI	**Ampana**	**6.98**	**228**	P	Pn	22 34 47.5	+17
MSAI	**Masohi**	**7.38**	**164**	P	Pn	22 34 48.1	+12
FAKI	**Fak Fak**	**8.57**	**141**	P	Pn	22 34 56.1	+3.9
	114nm,0.9s,0.4nm						
KDI	**Kendari**	**8.77**	**209**	P	**Pn**	**22 34 57.1**	**+2.1**
	98nm,0.8s,0.4nm						
TSM	**Tawau**	**8.97**	**274**	P	Pn	22 35 04.4	+6.7
TTSI	**Tana Toraja**	**9.76**	**226**	P	**Pn**	**22 35 09.0**	**+0.4**
	104nm,1.1s						
SDKM	**Sandakan**	**9.80**	**281**	P	Pn	22 35 15.4	+6.3
KDM	**Kudat**	**10.45**	**288**	P	Pn	22 35 24.4	+6.4
SPSI	**Sidrap Palu**	**10.45**	**223**	P	Pn	22 35 25.6	+7.6
	56nm,1.0s						
BAKI	**Biak**	**10.49**	**118**	P	Pn	22 35 24.1	+5.6
	130nm,0.8s						
KKM	**Kota Kinabalu**	**10.83**	**282**	*e*Pn	**Pn**	**22 35 26.1**	**+2.7**
KKM	**Kota Kinabalu**	**10.83**	**282**	P	Pn	22 35 30.0	+6.7
KKM	**Kota Kinabalu**	**10.83**	**282**	P	Pn	22 35 29.6	+6.3
	68nm,1.6s						
TLE	**Tual**	**11.05**	**148**	P	Pn	22 35 32.3	+6.1
	98nm,1.2s						
KAPI	**Kappang**	**11.25**	**219**	*e*Pn	**Pn**	**22 35 31.4**	**+2.5**
KAPI	**Kappang**	**11.25**	**219**	Pn	**Pn**	**22 35 29.1**	**+0.2**
	1.2nm,0.3s,baz=327,slow=3.0,SNR=5.6						
KAPI				LR	LR	22 40 30.3	
	comp=Z,3µm,19.1s,baz=328,slow=42						
KBKI	**Kotabaru**	**12.78**	**237**	P	**P**	**22 36 00.2**	**+0.1**
MMRI	**Maumere**	**13.16**	**200**	P	P	22 36 13.4	+9.0
SMPI	**Sarmi**	**13.17**	**116**	P	P	22 36 14.8	+10
BTM	**Bintulu**	**13.75**	**268**	P	**P**	**22 36 08.4**	**-2.6**
SBUM	**Sibu**	**14.67**	**265**	P	**P**	**22 36 20.4**	**-0.7**
SBUM	**Sibu**	**14.67**	**265**	P	**P**	**22 36 19.7**	**-1.4**
	73nm,1.1s						
JAY	**Jayapura**	**15.19**	**114**	P	P	22 36 34.1	+7.1
STKI	**Sintang**	**15.80**	**257**	P	**P**	**22 36 36.7**	**+3.0**
KHKI	**Kahang-Kahang**	**16.47**	**223**	P	**P**	**22 36 44.1**	**+3.0**
	86nm,1.1s						
KSM	**Kuching**	**16.68**	**263**	*e*Pn	**P**	**22 36 44.8**	**+1.3**
	63nm,1.1s						
KSM	**Kuching**	**16.68**	**263**	P	**P**	**22 36 45.9**	**+2.4**
KSM	**Kuching**	**16.68**	**263**	P	**P**	**22 36 45.2**	**+1.7**
	62nm,0.9s						
MTN	**Manton Dam**	**17.05**	**166**	*e*P	**Pn**	**22 36 45.0**	**-1.2**
BLJI	**Banyuglugur**	**17.49**	**229**	P	P	22 36 59.8	+7.4
	150nm,0.7s						
GMJI	**Gumukmas**	**17.95**	**228**	P	P	22 37 04.2	+6.7
	151nm,0.9s						
SJI	**Sawahan**	**18.90**	**233**	P	**Pn**	**22 37 12.5**	**+3.5**
	76nm,1.8s						
TWG	**Pinlang**	**19.74**	**344**	*e*P	**P**	**22 37 15.3**	**-1.8**
	40nm,0.5s						
PPBI	**Pangkal Pinang**	**21.53**	**254**	P	P	22 37 42.5	+6.0
	28nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.77**	**183**	*e*P	**P**	**22 37 38.0**	**-1.0**
	26nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.77**	**183**	*e*P	**P**	**22 37 38.1**	**-1.0**
	45nm,0.8s						
FITZ				*e*S	**S**	**22 41 34.5**	**-3.4**
FITZ	**Fitzroy Crossi**	**21.77**	**183**	P	**P**	**22 37 37.6**	**-1.5**
	24nm,0.7s,baz=17,slow=8.9,SNR=38						
LEM	**Lembang**	**21.90**	**241**	P	**P**	**22 37 44.1**	**+3.4**
	82nm,1.0s						
QZH	**Quanzhou**	**22.50**	**340**	*e*P	P	22 37 53.3	+6.5
DBJI	**Dramaga**	**22.54**	**243**	P	**P**	**22 37 49.3**	**+1.9**
	198nm,0.8s						
JOW	**Kunigami**	**22.97**	**3**	*e*P	**P**	**22 37 51.4**	**-0.3**
	16nm,1.0s						
JOW	**Kunigami**	**22.97**	**3**	P	**P**	**22 37 51.7**	**-0.1**
	11nm,0.6s,baz=211,slow=5.0,SNR=7.1						
MYKOM	**Kota Tinggi**	**23.05**	**266**	P	**P**	**22 37 53.9**	**+1.1**
MYKOM	**Kota Tinggi**	**23.05**	**266**	P	**P**	**22 37 54.8**	**+2.0**
	90nm,0.8s						
CGJI	**Cibinong**	**23.51**	**244**	P	P	22 38 11.8	+15
KGM	**Kluang**	**23.56**	**266**	P	**P**	**22 37 58.6**	**+0.8**
COEN	**Coen**	**23.93**	**138**	*e*P	**P**	**22 38 00.3**	**-0.9**
	70nm,0.9s						
KASI	**Kota Agung**	**24.16**	**248**	P	**P**	**22 38 06.7**	**+3.4**
	149nm,0.8s						
LWLI	**Liwa**	**24.39**	**249**	P	**P**	**22 38 08.3**	**+2.8**
	96nm,0.8s						
WRAB	**Tennant Creek**	**24.69**	**163**	*e*P	**P**	**22 38 07.3**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,127nm,1.1s						
WRAB	**Tennant Creek**	**24.69**	**163**	*e*P	**P**	**22 38 07.3**	**-0.8**
	comp=Z,127nm,1.1s						
WRAB	**Tennant Creek**	**24.69**	**163**	P	**P**	**22 38 07.8**	**-0.3**
	comp=Z,570nm,1.2s,SNR=26						
WRA	**Warramunga Arr**	**24.69**	**163**	P	**P**	**22 38 07.8**	**-0.3**
WRA	**Warramunga Arr**	**24.69**	**163**	P	**P**	**22 38 07.9**	**-0.3**
	comp=Z,91nm,0.9s						
MBWA	**Marble Bar**	**25.75**	**195**	*e*P	**P**	**22 38 18.3**	**+0.6**
	comp=Z,46nm,1.1s						
IPM	**Ipoh**	**25.77**	**272**	*e*P	**P**	**22 38 20.2**	**+2.3**
	comp=Z,54nm,1.4s						
IPM	**Ipoh**	**25.77**	**272**	P	**P**	**22 38 18.4**	**+0.4**
IPM	**Ipoh**	**25.77**	**272**	P	P	22 38 24.7	+6.7
	comp=Z,64nm,1.2s						
PPI	**Padang Panjang**	**26.77**	**262**	P	**P**	**22 38 31.1**	**+4.1**
	comp=Z,142nm,0.8s						
MNSI	**Mandailing Nat**	**27.41**	**264**	P	**P**	**22 38 35.1**	**+2.4**
	comp=Z,32nm,0.8s						
PSI	**Prapat**	**27.89**	**269**	P	**P**	**22 38 36.8**	**-0.5**
PSI	**Prapat**	**27.89**	**269**	P	**P**	**22 38 37.8**	**+0.5**
	comp=Z,22nm,1.0s						
PSI	**Prapat**	**27.89**	**269**	P	**P**	**22 38 36.8**	**-0.5**
	comp=Z,13nm,0.9s,baz=156,slow=2.2,SNR=6.8						
AS31	**Alice Springs**	**28.13**	**166**	*e*P	**P**	**22 38 38.8**	**-0.4**
AS31				*e*S	**S**	**22 43 22.5**	**+0.7**
ASAR	**Alice Springs**	**28.13**	**166**	P	**P**	**22 38 38.1**	**-1.0**
ASAR	**Alice Springs**	**28.13**	**166**	P	**P**	**22 38 38.1**	**-1.0**
	comp=Z,3.1nm,0.5s,baz=346,slow=6.4,SNR=18						
NJ2	**Nanjing**	**29.11**	**346**	*e*P	P	22 38 51.8	+4.1
NJ2				pmax	pmax		
	comp=Z,20nm,1.1s						
WHN	**Wuhan**	**29.12**	**337**	*e*P	**P**	**22 38 47.4**	**-0.4**
GSI	**Gunungsitoli**	**29.34**	**266**	P	**P**	**22 38 49.4**	**-0.6**
	comp=Z,33nm,0.8s						
JNU	**Nakatsue**	**29.44**	**7**	P	**P**	**22 38 50.6**	**0.0**
JNU	**Nakatsue**	**29.44**	**7**	P	**P**	**22 38 50.6**	**0.0**
	comp=Z,11nm,0.9s,baz=293,slow=7.7,SNR=6.4						
GYA	**Guiyang**	**29.70**	**321**⇑	*i*P	**P**	**22 38 56.0**	**+2.8**
GYA				pP	**pP**	**22 39 05.4**	**+1.2**
GYA				S	**S**	**22 43 50.0**	**+3.3**
GYA				sS	**sS**	**22 44 06.4**	**+1.4**
GYA				ScP	**ScP**	**22 45 36.5**	**+0.6**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,6.4s						
GYA				LR	LR		
	comp=N,570nm,17.5s						
GYA				LR	LR		
	comp=E,490nm,18.4s						
GYA				LR	LR		
	comp=Z,510nm,17.5s						
CTA	**Charters Tower**	**30.43**	**142**	P	**P**	**22 38 59.9**	**+0.3**
CTA	**Charters Tower**	**30.43**	**142**	*e*P	P	22 39 05.9	+6.4
	comp=Z,6.6nm,0.9s						
CTA	**Charters Tower**	**30.43**	**142**	P	**P**	**22 38 59.9**	**+0.3**
	comp=Z,3.5nm,0.9s,baz=270,slow=16,SNR=2.7						
CMAR	**Chiang Mai Arr**	**30.95**	**300**	P	**P**	**22 39 04.7**	**+0.5**
CMAR				ScP	**ScP**	**22 45 44.2**	**+4.3**
CMAR	**Chiang Mai Arr**	**30.95**	**300**	P	**P**	**22 39 04.7**	**+0.5**
	comp=Z,5.2nm,0.7s,baz=120,slow=7.4,SNR=26						
CMAR				ScP	**ScP**	**22 45 44.2**	**+4.3**
	comp=Z,0.9nm,0.3s,baz=144,slow=1.1,SNR=7.6						
ENH	**Enshi**	**31.05**	**330**	*e*P	**P**	**22 39 03.3**	**-1.6**
	comp=Z,15nm,0.7s						
ENH				*e*PcP	**PcP**	**22 42 00.7**	**+0.6**
CHTO	**Chiang Mai**	**31.10**	**301**	*e*P	**P**	**22 39 04.5**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
CHTO	**Chiang Mai**	**31.10**	**301**	*e*P	**P**	**22 39 04.5**	**-1.0**
	comp=Z,9.1nm,0.7s						
CHTO	**Chiang Mai**	**31.10**	**301**	P	**P**	**22 39 05.7**	**+0.2**
	comp=Z,17nm,0.8s						
KMI	**Kunming

CD2 pmax pmax
comp=Z,160nm,5.8s
CD2 LR LR
comp=N,2µm,14.7s
CD2 LR LR
comp=E,1µm,15.2s
CD2 LR LR
comp=Z,2µm,15.7s
DL2 Dalian 35.29 353 P **P** **22 39 42.3 +0.6**
DL2 pmax pmax
comp=Z,20nm,1.0s
KLBR Kellerberrin 36.22 193 *eP* **P** **22 39 50.3 +0.4**
comp=Z,13nm,0.3s
BJT Baijiatuan 37.35 346 *eP* **P** **22 40 00.0 +0.7**
comp=Z,38nm,0.6s
BJI Beijing 37.37 346 P **P** **22 40 00.2 +0.7**
BJI pmax pmax
comp=Z,57nm,1.1s
BBOO Buckleboo 37.42 167 *eP* **P** **22 40 00.9 +0.9**
comp=Z,255nm,0.7s
NWAO Narrogin (SRO) 37.62 193 *eP* **P** **22 40 02.4 +0.6**
NWAO Narrogin (SRO) 37.62 193 P **P** **22 40 00.6 -1.2**
comp=Z,14nm,0.4s,baz=23,slow=8.3,SNR=33
SNY Shenyang 38.00 356 ⇑P **P** **22 40 06.4 +1.6**
STKA Stephens Creek 38.13 159 *eP* **P** **22 40 06.5 +0.4**
comp=Z,6.9nm,0.8s
STKA Stephens Creek 38.13 159 *eP* **P** **22 40 06.4 +0.4**
comp=Z,28nm,0.8s
STKA Stephens Creek 38.13 159 P **P** **22 40 06.5 +0.4**
comp=Z,36nm,0.8s,baz=334,slow=7.8,SNR=47
LZH Lanzhou 38.52 329 *eP* **P** **22 40 10.2 +0.7**
LZH pP **pP** **22 40 21.3 +0.6**
LZH sP **sP** **22 40 26.3 +0.9**
LZH pmax pmax
comp=Z,34nm,1.0s
LZH pmax pmax
comp=Z,200nm,6.5s
LZH LR LR
comp=N,2µm,14.6s
LZH LR LR
comp=E,2µm,13.8s
LZH LR LR
comp=Z,2µm,15.2s
HHC Hu-ho-hao-te 39.39 342 *eP* **P** **22 40 18.0 +1.4**
HHC pP **pP** **22 40 28.2 +0.4**
HHC sP **sP** **22 40 31.8 -0.8**
HHC PP **PnPn** **22 41 52.7 +2.1**
HHC S **S** **22 46 16.7 +1.1**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,5µm,7.0s
HHC LR LR
comp=N,930nm,15.5s
HHC LR LR
comp=E,960nm,15.5s
HHC LR LR
comp=Z,2µm,15.5s
CN2 Changchun 39.88 358 *eP* **P** **22 40 21.7 +1.2**
CN2 *e*PP **pP** **22 40 31.5 -0.2**
CN2 PP **PnPn** **22 41 55.2 -1.0**
CN2 PcP **PcP** **22 42 27.5 +1.8**
CN2 *e*S **S** **22 46 24.9 +2.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,900nm,15.0s
CN2 LR LR
comp=E,1µm,15.0s
CN2 LR LR
comp=Z,2µm,15.0s
USRK Ussuriysk Arra 40.51 6 P **P** **22 40 26.2 +0.5**
comp=Z,5.1nm,0.6s,baz=187,slow=7.4,SNR=21
MDJ Mudanjiang 40.74 3 P **P** **22 40 28.8 +1.2**
MDJ pmax pmax
comp=Z,14nm,1.1s
MDJ Mudanjiang 40.74 3 *eP* **P** **22 40 27.5 -0.1**
comp=Z,16nm,0.8s
ARMA Armidale 41.44 147 *eP* P 22 40 37.3 +3.6
comp=Z,24nm,0.8s
ARMA Armidale 41.44 147 *eP* **P** **22 40 35.2 +1.5**
LSA Lhasa 42.50 311 *eP* **P** **22 40 42.3 -0.5**
LSA pmax pmax
comp=Z,13nm,0.6s
LSA Lhasa 42.50 311 *eP* **P** **22 40 42.3 -0.5**
comp=Z,13nm,0.6s
ASAJ Asahikawa 42.51 17 *eP* **P** **22 40 41.6 -0.6**
ASAJ Asahikawa 42.51 17 P **P** **22 40 42.9 +0.7**
comp=Z,7.0nm,0.5s,baz=259,slow=16,SNR=3.0
CNB Canberra Magne 44.26 153 *eP* **P** **22 40 59.1 +2.7**
comp=Z,31nm,0.9s
HABR Khabarovsk 45.08 8 *eP* **pP** **22 41 15.3 +1.3**
HABR *e*S **S** **22 47 39.3 +0.3**
HABR *e**SS sS 22 47 56.1 -1.7
HABR *e* 22 50 55.5
HABR *e*SSS SSS 22 51 50.8
HABR pmax pmax
comp=Z,159nm,3.3s
HABR pmax pmax
comp=N,70nm,3.3s
HABR pmax pmax
comp=E,136nm,3.3s
HABR MLR MLR
comp=Z,1µm,20.0s
YSS Yuzh-Sakhalins 45.16 15 *eP* P 22 41 06.9 +3.5
KLR Kul'dur 45.48 5 *eP* **P** **22 41 03.2 -2.7**
HIA Hailar 45.73 354 *eP* **P** **22 41 08.7 +0.8**
comp=Z,43nm,1.1s
HIA *e*PcP **PcP** **22 42 46.0 +0.7**
DZM Mont Dzumac 46.47 125 *eP* **P** **22 41 13.1 -1.0**
DZM Mont Dzumac 46.47 125 P **P** **22 41 14.2 0.0**
comp=Z,9.3nm,1.0s,baz=4.2,slow=11,SNR=5.6
ULN Ulaanbaatar 47.11 342 *eP* **P** **22 41 19.5 +0.6**
comp=Z,27nm,1.2s
ULN *e*PcP **PcP** **22 42 51.3 +1.0**
ULN Ulaanbaatar 47.11 342 P **P** **22 41 20.4 +1.5**
comp=Z,93nm,0.9s
SONM Songino Array 47.29 341 P **P** **22 41 20.1 -0.2**
SONM PcP **PcP** **22 42 52.6 +1.7**
SONM Songino Array 47.29 341 P **P** **22 41 20.1 -0.2**
comp=Z,4.6nm,0.6s,baz=155,slow=8.1,SNR=30
SONM PcP **PcP** **22 42 52.6 +1.7**
comp=Z,8.8nm,0.9s,baz=161,slow=4.0,SNR=8.4
HYB Hyderabad 49.21 290 *iP* **P** **22 41 34.5 -1.0**
CIT Chita 49.34 349 *eP* **P** **22 41 36.8 +0.9**
ZAK Zakamensk 50.52 341 *eP* P 22 41 41.1 -3.9
ZAK *e* 22 42 58.6
ZAK pmax pmax
comp=Z,4.0nm,1.2s
TLY Talaya 51.52 342 *eP* **P** **22 41 52.7 +0.3**
TLY pmax pmax
comp=Z,14nm,0.8s
TLY Talaya 51.52 342 *eP* **P** **22 41 53.0 +0.6**
comp=Z,12nm,0.8s
MOY Mondy 52.38 340 *eP* **P** **22 42 00.2 +1.3**
WMQ Urumqi 52.75 325 P **P** **22 42 02.5 +0.8**
WMQ pP **pP** **22 42 12.0 -1.3**
WMQ sP **sP** **22 42 14.5 -3.5**
WMQ PP **PP** **22 44 03.0 +1.6**
WMQ *e*S **S** **22 49 27.0 -0.2**
WMQ pmax pmax
comp=Z,11nm,1.0s
WMQ LR LR
comp=N,1µm,16.0s
WMQ LR LR
comp=E,1µm,16.6s
WMQ LR LR
comp=Z,1µm,20.5s
DDI Dehra Dun 53.04 305 *ex* **P** **22 42 02.5 -1.6**
POO Poona 53.81 290 *ex* P 22 42 07.0 -2.9
BOD Bodaibo 54.84 352 *eP* **P** **22 42 17.7 +1.1**
BOD pmax pmax
comp=Z,14nm,1.1s
PETK Petropavlovsk- 55.34 22 P **P** **22 42 22.0 +1.6**
PETK Petropavlovsk- 55.34 22 P **P** **22 42 21.9 +1.6**
PETK Petropavlovsk- 55.34 22 P **P** **22 42 21.9 +1.6**
comp=Z,6.5nm,0.7s,baz=190,slow=8.7,SNR=7.4
MK31 Makanchi Array 57.58 325 *eP* **P** **22 42 34.9 -1.6**
MK31 *e* 22 43 30.3
MK31 Makanchi Array 57.58 325 *eP* **P** **22 42 34.9 -1.6**
MK31 *e*PcP **PcP** **22 43 30.3 +0.8**
MKAR Makanchi Array 57.58 325 P **P** **22 42 35.3 -1.2**
MKAR 22 43 30.4
MKAR Makanchi Array 57.58 325 P **P** **22 42 35.3 -1.2**
MKAR PcP **PcP** **22 43 30.4 +0.9**
MKAR Makanchi Array 57.58 325 P **P** **22 42 35.3 -1.2**
comp=Z,9.3nm,0.5s,baz=121,slow=8.2,SNR=48
MKAR PcP **PcP** **22 43 30.4 +0.9**
comp=Z,6.2nm,0.7s,baz=117,slow=4.2,SNR=4.4
KSH Kashi 58.09 315 P **P** **22 42 42.6 +2.3**
KSH pP **pP** **22 42 52.5 +0.5**
KSH sP **sP** **22 42 56.6 0.0**
KSH PcP **PcP** **22 43 31.7 -0.1**
KSH PP **PP** **22 44 52.8 +3.5**
KSH ScP **ScP** **22 47 28.6 -0.4**
KSH PcS **PcS** **22 47 31.7 -1.6**
KSH S **S** **22 50 40.0 +1.1**
KSH sS **sS** **22 50 57.0 -1.2**
KSH ScS **ScS** **22 52 24.7 -2.4**
KSH SS **SS** **22 54 34.3 +3.5**
KSH LR LR
comp=N,720nm,17.7s
KSH LR LR
comp=E,650nm,16.4s
KSH LR LR
comp=Z,2µm,17.8s
YAK Yakutsk 58.16 2 *eP* **P** **22 42 39.6 -0.5**
YAK pmax pmax
comp=Z,31nm,0.9s
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK Yakutsk 58.16 2 *eP* **P** **22 42 40.6 +0.5**
comp=N,34nm,0.7s
KZA Kyzart 59.66 317 P **P** **22 42 52.5 +1.0**
SNR=7.4
TKM2 Tokmak 2 59.79 318 *eP* **P** **22 42 51.9 -0.2**
TKM2 pmax pmax
comp=Z,68nm,1.2s
TKM2 Tokmak 2 59.79 318 *eP* **P** **22 42 51.9 -0.2**
comp=Z,68nm,1.2s
TKM2 Tokmak 2 59.79 318 P **P** **22 42 53.7 +1.6**
SNR=7.0
KBK Karagaybulak 60.11 318 P **P** **22 42 55.4 +1.1**
SNR=8.2
AAK Ala-Archa 60.40 318 *eP* **P** **22 42 56.3 0.0**
AAK Ala-Archa 60.40 318 *eP* **P** **22 42 56.3 0.0**
AAK Ala-Archa 60.40 318 P **P** **22 42 55.8 -0.5**
comp=Z,3.5nm,0.8s,baz=168,slow=11,SNR=12
ZAA0 Zalesovo Array 60.60 333 *eP* **P** **22 42 55.6 -1.5**
ZALV Zalesovo Beam 60.60 333 P **P** **22 42 55.5 -1.7**
ZALV Zalesovo Beam 60.60 333 P **P** **22 42 55.5 -1.7**
ZALV Zalesovo Beam 60.60 333 P **P** **22 42 55.5 -1.7**
comp=Z,4.7nm,0.4s,baz=128,slow=5.7,SNR=27
USP Ospenovka 60.66 318 P **P** **22 42 58.4 +0.5**
SNR=18
AML Almayashu 60.74 317 P **P** **22 42 59.7 +0.8**
SNR=17
EKS2 Erkin-Say 60.89 318 *eP* **P** **22 43 00.4 +0.8**
EKS2 pmax pmax
comp=Z,11nm,0.9s
EKS2 Erkin-Say 60.89 318 *eP* **P** **22 43 00.4 +0.8**
comp=Z,11nm,0.9s
EKS2 Erkin-Say 60.89 318 P **P** **22 43 01.4 +1.8**
SNR=12
KBL Kabul 61.59 307 *eP* **P** **22 43 04.5 -0.1**
KBL pmax pmax
comp=Z,15nm,0.9s
KBL Kabul 61.59 307 *eP* **P** **22 43 04.5 -0.1**
comp=Z,15nm,0.9s
KURBB Kurchatov Arra 61.76 327 P **P** **22 43 05.4 +0.3**
comp=Z,13nm,0.5s,baz=127,slow=6.0,SNR=64
KURK Kurchatov 61.76 327*c iP* **P** **22 43 05.5 +0.4**
KURK pmax pmax
comp=Z,26nm,0.8s
KURK Kurchatov 61.76 327 *eP* **P** **22 43 05.5 +0.4**
KURK Kurchatov 61.76 327 P **P** **22 43 05.8 +0.7**
comp=Z,226nm,0.6s,SNR=23
NVS Novosibirsk 61.88 333 *eP* **P** **22 43 05.3 -0.5**
NVS pmax pmax
comp=Z,16nm,1.2s
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS pmax pmax
comp=E,4.0nm,0.7s
SEY Seymchan 61.96 13 *iP* **P** **22 43 08.2 +2.0**
KKAR Karatay Array 63.28 317 *eP* **P** **22 43 15.2 -0.3**
KKAR pmax pmax
comp=Z,15nm,0.9s
KKAR Karatay Array 63.28 317 *eP* **P** **22 43 15.2 -0.3**
comp=Z,14nm,0.9s
BVAR Borovoye Array 67.34 327 P **P** **22 43 41.5 -0.1**
BVAR Borovoye Array 67.34 327 P **P** **22 43 41.5 -0.1**
BVAR Borovoye Array 67.34 327 P **P** **22 43 41.5 -0.1**
comp=Z,5.7nm,0.7s,baz=142,slow=9.9,SNR=24
BRVK Borovoye 67.42 327*d iP* **P** **22 43 41.8 -0.2**
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 67.42 327 *eP* **P** **22 43 41.7 -0.2**
comp=Z,12nm,0.7s
BRVK *e*PP **PP** **22 46 11.5 +0.5**
BRVK Borovoye 67.42 327 P **P** **22 43 42.9 +0.9**
comp=Z,108nm,0.5s,SNR=11
BILL Bilibino 69.48 15⇓*eP* **P** **22 43 54.8 +0.2**
BILL *e* 22 44 15.4
BILL *e*S **S** **22 53 01.7 +2.7**
BILL pmax pmax
comp=Z,8.0nm,1.5s
DRV Dumont d'Urvil 70.91 174 P P 22 43 58.0 -5.3
DRV Dumont d'Urvil 70.91 174 PP PP 22 46 38.0 -2.9
DRV SS SKSac 22 54 10.0 +7.8
ABKAR Akbulak array 72.19 321 *eP* **P** **22 44 11.0 -0.5**
comp=Z,4.3nm,0.5s
AKTO Aktyubinsk 73.70 322 P **P** **22 44 20.6 +0.2**
AKTO Aktyubinsk 73.70 322 P **P** **22 44 20.6 +0.2**
AKTO Aktyubinsk 73.70 322 P **P** **22 44 20.6 +0.2**
comp=Z,7.0nm,0.6s,baz=118,slow=6.0,SNR=21
SVE Sverdlovsk 73.98 328 *eP* **P** **22 44 22.8 +0.9**
SVE pmax pmax
comp=Z,25nm,1.1s
ARU Arti 74.96 328*d iP* **P** **22 44 26.6 -1.0**
ARU S **S** **22 54 03.0 +0.8**
ARU SS **SS** **22 58 47.8 -3.4**
ARU pmax pmax
comp=Z,11nm,0.8s
ARU Arti 74.96 328 *eP* **P** **22 44 26.8 -0.8**
comp=Z,12nm,0.6s
ARU Arti 74.96 328 P **P** **22 44 27.0 -0.6**
comp=Z,124nm,0.6s,SNR=7.7
QRN Al-Qurain 78.49 298 *eP* **P** **22 44 47.7 -0.4**
QRN AMb AMB 22 44 50.1
comp=Z,70nm,1.1s
UMR Umm Al-Rimmam 78.69 299 *eP* **P** **22 44 49.1 -0.1**
UMR AMb AMB 22 44 59.1
comp=Z,36nm,1.3s
KBD Kabd 78.70 299 *eP* **P** **22 44 49.4 +0.1**
KBD AMb AMB 22 45 05.9
comp=Z,28nm,1.6s
RDF Al-Radifah 78.82 299 *eP* **P** **22 44 50.5 +0.6**
RDF AMb AMB 22 44 50.7
comp=Z,55nm,1.3s
MIB Mutribah 79.03 299 *eP* **P** **22 44 50.7 -0.3**
MIB AMb AMB 22 44 52.2
comp=Z,59nm,1.0s
NAY Al-Naaiem 79.10 299 *eP* **P** **22 44 51.1 -0.3**
NAY AMb AMB 22 44 52.1
comp=Z,20nm,0.9s
OPO Ambohidratompo 81.42 251 P **P** **22 45 04.9 +0.5**
OPO Ambohidratompo 81.42 251 P **P** **22 45 04.9 +0.5**
comp=Z,7.6nm,0.9s,baz=105,slow=5.9,SNR=5.6
BHD Baghdad 81.64 303 *ex* **P** **22 45 06.7 +1.7**
BHD *ex* **S** **22 55 18.3 +3.4**
ZEI Tsey 82.27 312 *eP* **P** **22 45 08.0 -0.4**
ZEI pmax pmax
comp=Z,10.0nm,0.9s
TRF Thorofare Moun 83.44 27 *eP* **P** **22 45 13.2 -0.7**
comp=Z,14nm,1.0s
COLD Coldfoot 83.80 23 *eP* **P** **22 45 15.3 -0.3**
comp=Z,21nm,1.1s
MCK McKinley 84.07 26 *eP* **P** **22 45 16.6 -0.4**
MCK pmax pmax
comp=Z,19nm,1.0s
MCK McKinley 84.07 26 *eP* **P** **22 45 16.6 -0.4**
comp=Z,19nm,1.0s
VRHR Novokhopersk 84.08 321 *eP* **P** **22 45 16.1 -1.1**
VRHR pmax pmax
comp=N,6.0nm,0.5s
VRHR pmax pmax
comp=E,8.0nm,0.5s
VRHR pmax pmax
comp=Z,10.0nm,0.5s
ILAR Eielson Array 85.01 25 P **P** **22 45 22.5 +0.8**
ILAR Eielson Array 85.01 25 P **P** **22 45 22.5 +0.8**
comp=Z,2.7nm,1.1s,baz=238,slow=4.7,SNR=7.4
KLMR Klimovskoe 85.42 331 *eP* **P** **22 45 22.9 -0.9**
KLMR pmax pmax
comp=Z,92nm,1.4s
VORD Divnogorie 85.55 321 *eP* **P** **22 45 25.1 +0.5**
VSR Storozhevoye 85.63 321 *eP* **P** **22 45 25.0 0.0**
VSR pmax pmax
comp=N,3.0nm,0.8s
VSR pmax pmax
comp=E,8.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
MOS Moscow 86.47 325 *eP* **P** **22 45 28.5 -0.6**
MOS pmax pmax
comp=Z,42nm,1.2s
OBN Obninsk 87.09 325⇑*eP* **P** **22 45 32.2 +0.1**
OBN *e*S **SKSac** **22 55 57.1 +0.9**
OBN *e*SS **SS** **23 01 56.6 +4.7**
OBN pmax pmax
comp=Z,17nm,0.9s
OBN Obninsk 87.09 325 *eP* **P** **22 45 31.4 -0.7**
comp=Z,66nm,1.4s
ASF Jabal al Asfar 87.97 302 P **P** **22 45 37.4 +0.3**
ASF Jabal al Asfar 87.97 302 P **P** **22 45 37.4 +0.3**
comp=Z,9.0nm,0.9s,baz=322,slow=2.9,SNR=11
JOF Joensuu 89.19 333 *eP* **P** **22 45 41.5 -0.4**
JOF pmax pmax
comp=Z,9.0nm,0.5s
JOF Joensuu 89.19 333 *ep* **P** **22 45 41.5 -0.4**
comp=Z,8.6nm,0.5s
KMBO Kilima Mbogo 89.67 269 *eP* **P** **22 45 46.0 +0.5**
comp=Z,11nm,1.0s
KEV Kevo 89.89 340 *eP* **P** **22 45 45.9 +0.8**
KEV pmax pmax
comp=Z,4.0nm,0.8s
KEV Kevo 89.89 340 *ep* **P** **22 45 45.9 +0.8**
comp=Z,4.2nm,0.8s
BR131 Keskin Array S 90.08 310 *eP* **P** **22 45 46.1 -0.7**
comp=Z,6.7nm,0.8s
BRTR Keskin Array B 90.08 310 P **P** **22 45 46.0 -0.9**
BRTR Keskin Array B 90.08 310 P **P** **22 45 46.0 -0.9**
comp=Z,7.1nm,0.8s,baz=112,slow=4.1,SNR=27
ARCES ARCESS Array B 90.44 340 P **P** **22 45 47.3 -0.4**
ARCES ARCESS Array B 90.44 340 P **P** **22 45 47.3 -0.4**
comp=Z,6.8nm,0.9s,baz=82,slow=6.4,SNR=14
KAF Kangasniemi 91.61 332 *eP* **P** **22 45 51.3 -1.9**
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 91.61 332 *ep* **P** **22 45 51.3 -1.9**
comp=Z,4.1nm,0.6s
FINES FINESS Array B 91.85 332 P **P** **22 45 53.9 -0.4**
FINES FINESS Array B 91.85 332 P **P** **22 45 53.9 -0.4**
comp=Z,2.6nm,0.5s,baz=53,slow=6.1,SNR=16
AKASG Malin Array Be 91.93 321 P **P** **22 45 54.5 -0.5**
AKASG Malin Array Be 91.93 321 P **P** **22 45 54.5 -0.5**
AKASG Malin Array Be 91.93 321 P **P** **22 45 54.5 -0.5**
comp=Z,4.7nm,0.6s,baz=72,slow=4.7,SNR=17
AKBB Malin Array Si 91.93 321 *eP* **P** **22 45 54.5 -0.5**
AKBB Malin Array Si 91.93 321 *eP* **P** **22 45 54.5 -0.5**
KIEV Kiev 91.94 321 *eP* **P** **22 45 53.8 -1.2**
KIEV pmax pmax
comp=Z,9.0nm,1.0s
KIEV Kiev 91.94 321 *eP* **P** **22 45 53.8 -1.2**
comp=Z,9.3nm,1.0s
SYO Syowa Base 92.51 201⇑*e*PcP **PcP** **22 46 02.4 +4.5**
TIRR Tirgusor 93.39 315 ⇑P **P** **22 46 01.7 -0.2**
TIRR Tirgusor 93.39 315⇑*iP* **P** **22 46 01.7 -0.2**
CFR Carcaliu 93.48 316 ⇑P P 22 45 59.2 -3.0
CFR Carcaliu 93.48 316⇑*iP* P 22 45 59.2 -3.0
QSPA South Pole Qui 93.68 180 P **P** **22 46 03.5 +0.6**
QSPA South Pole Qui 93.68 180 P **P** **22 46 03.4 +0.6**
comp=Z,3.9nm,0.9s,baz=278,slow=4.0,SNR=4.0
TESR 94.28 317⇓*iP* **P** **22 46 05.8 -0.2**
VRI Vrincioaia 94.34 316 ⇑P **P** **22 46 06.6 +0.3**
VRI Vrincioaia 94.34 316⇑*iP* **P** **22 46 06.6 +0.3**
PLOR Plostina 94.40 316 ⇑P **P** **22 46 06.3 -0.2**
PLOR Plostina 94.40 316⇑*iP* **P** **22 46 06.3 -0.2**
MLR Muntele Rosu 94.95 316 P **P** **22 46 09.2 0.0**
MLR Muntele Rosu 94.95 316⇑*iP* **P** **22 46 08.6 -0.6**
MLR Muntele Rosu 94.95 316 P **P** **22 46 09.2 0.0**
comp=Z,2.4nm,0.9s,baz=70,slow=7.4
SUW Suwalki 94.95 325 *eP* **P** **22 46 09.1 +0.3**
SUW Suwalki 94.95 325 *eP* **P** **22 46 09.1 +0.3**
SUW Suwalki 94.95 325 *eP* **P** **22 46 08.7 -0.1**
SUW pmax pmax
comp=Z,46nm,1.0s
SUW Suwalki 94.95 325 *eP* **P** **22 46 08.7 -0.1**
comp=Z,46nm,1.0s
BURAR Bucovina Array 95.05 318⇑*iP* **P** **22 46 10.0 +0.5**
BUR08 Bucovina Ar. S 95.05 318 *eP* **P** **22 46 09.3 -0.2**
VOIR 95.58 316 ⇓P **P** **22 46 11.7 -0.3**
VOIR 95.58 316⇓*iP* **P** **22 46 11.7 -0.3**
KWP Kalwaria Pacla 96.25 321 *eP* **P** **22 46 16.1 +1.2**
KWP Kalwaria Pacla 96.25 321 *eP* **P** **22 46 16.1 +1.2**
KWP Kalwaria Pacla 96.25 321 ⇑P **P** **22 46 14.1 -0.8**
KWP Kalwaria Pacla 96.25 321 *eP* **P** **22 46 15.3 +0.4**
comp=Z,20nm,1.0s
KWP Kalwaria Pacla 96.25 321⇑*iP* **P** **22 46 14.1 -0.8**
KOLS Kolonicke sedl 96.68 320 *eP* **P** **22 46 17.9 +1.0**
KOLS Kolonicke sedl 96.68 320 *eP* **P** **22 46 17.9 +1.0**
TRPA Tarpa 96.70 319⇑*iP* **P** **22 46 17.2 +0.3**
UZH Uzhgorod 96.74 320⇑*iP* **P** **22 46 18.0 +0.9**
UZH *e* 22 46 32.1
DRGR 96.89 318 ⇑P **P** **22 46 18.4 +0.5**
DRGR 96.89 318⇑*iP* **P** **22 46 18.4 +0.5**
GZR Gura Zlata 97.15 316 ⇑P Pdif 22 46 19.9 +0.7
GZR Gura Zlata 97.15 316⇑*iP* Pdif 22 46 19.9 +0.7
CRVS Cervenica-Dubn 97.21 320 *eP* Pdif 22 46 20.4 +1.1
CRVS Cervenica-Dubn 97.21 320 *eP* Pdif 22 46 20.4 +1.1
DAG Danmarks Havn 97.22 352 *iP* **P** **22 46 18.8 +0.1**
DAG pmax pmax
comp=Z,5.0nm,0.9s
DAG Danmarks Havn 97.22 352 *iP* **P** **22 46 18.8 +0.1**
comp=Z,51nm,0.9s
BZS Buzias 97.90 317 ⇑P **P** **22 46 20.4 -2.0**
BZS Buzias 97.90 317⇑*iP* **P** **22 46 20.4 -2.0**
OJC Ojcow 97.92 322 *eP* Pdif 22 46 23.0 +0.6
OJC Ojcow 97.92 322 *eP* Pdif 22 46 23.3 +0.9
HFS Hagfors 98.03 332 P **P** **22 46 21.2 -1.5**
HFS Hagfors 98.03 332 P **P** **22 46 21.2 -1.5**
comp=Z,3.4nm,0.8s,baz=176,slow=4.5,SNR=3.9
NB2 NORSAR Subarra 98.80 334 P **P** **22 46 25.2 -0.9**
comp=Z,1.2nm,0.6s,baz=66,slow=4.6
NOA NORSAR Array B 98.80 334 P **P** **22 46 24.6 -1.6**
NOA NORSAR Array B 98.80 334 P **P** **22 46 24.6 -1.6**
comp=Z,2.8nm,0.9s,baz=67,slow=4.7,SNR=6.7
VYHS Vyhne 99.00 320 *eP* **Pdif** **22 46 21.5 -5.8**
VYHS Vyhne 99.00 320 PDIF **Pdif** **22 46 21.5 -5.8**
YKA Yellowknife Ar 99.41 24 P **Pdif** **22 46 28.6 -0.1**
YKA PKiKP **PKiKP** **22 51 00.2 +2.2**
YKA PKKPbc **PKKPbc** **23 02 53.2 -1.2**
YKA Yellowknife Ar 99.41 24 P **Pdif** **22 46 28.6 -0.1**
comp=Z,0.4nm,0.6s,baz=299,slow=4.3,SNR=5.3
YKA PKiKP **PKiKP** **22 51 00.2 +2.2**
comp=Z,0.2nm,0.6s,baz=289,slow=1.6,SNR=3.9
YKA PKKPbc **PKKPbc** **23 02 53.2 -1.2**
comp=Z,0.1nm,0.6s,baz=102,slow=2.4,SNR=3.7
PKSM Moragy 99.75 318 ⇑P **Pdif** **22 46 31.3 +0.6**
PKSM Moragy 99.75 318⇑*iP* **Pdif** **22 46 31.3 +0.6**
VRAC Vranov 100.17 321 P **Pdif** **22 46 33.1 +0.6**
VRAC Vranov 100.17 321⇓*iP* **Pdif** **22 46 34.2 +1.7**
VRAC Vranov 100.17 321 P **Pdif** **22 46 33.1 +0.6**
comp=Z,4.2nm,0.9s,baz=165,slow=1.8,SNR=5.3
BRG Berggiesshubel 101.27 323 *eP* **Pdif** **22 46 38.3 +1.0**
comp=Z,4.1nm,0.8s
BRG *e* 22 46 45.5
comp=Z,5.0nm,1.0s
BRG *e*PKPPKP 22 53 04.7
comp=Z,4.1nm,1.1s
BRG
comp=N,1µm,18.9s
BRG
comp=E,1µm,20.9s
BRG
comp=Z,3µm,24.3s
BRG Berggiesshubel 101.27 323 *eP* **Pdif** **22 46 38.3 +1.0**
BRG *e* 22 53 04.7
BRG pmax pmax
comp=Z,4.0nm,0.9s
BRG pmax pmax

comp=Z,5.0nm,1.0s
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG MLR MLR
comp=N,1µm,18.9s
BRG MLR MLR
comp=E,1µm,20.9s
BRG MLR MLR
comp=Z,3µm,24.3s
GERES GERESS Array B 102.12 322 P Pdif 22 46 41.2 0.0
GERES GERESS Array B 102.12 322 P Pdif 22 46 41.2 0.0
comp=Z,2.0nm,0.9s,baz=56,slow=5.0,SNR=7.7
NVAR Mina Array Bea 106.79 48 PKKPbc PKKPab 23 02 45.3 -2.0
comp=Z,0.6nm,0.7s,baz=164,slow=2.0,SNR=3.5
PDAR Pinedale Array 111.24 41 PKKPbc PKKPab 23 02 25.6 -1.8
PDAR Pinedale Array 111.24 41 PKKPbc PKKPab 23 02 25.6 -1.8
comp=Z,0.5nm,0.8s,baz=117,slow=5.8,SNR=3.8
SCHQ Schefferville 120.50 9 PKP PKPdf 22 51 37.5 -0.5
SCHQ Schefferville 120.50 9 PKP PKPdf 22 51 37.5 -0.5
comp=Z,4.1nm,0.9s,baz=172,slow=3.6,SNR=4.5
TXAR Lajitas Array 121.48 52 PKP PKPdf 22 51 41.4 +0.7
TXAR Lajitas Array 121.48 52 PKP PKPdf 22 51 41.4 +0.7
comp=Z,0.2nm,0.3s,baz=242,slow=1.9,SNR=3.4
TORD Torodi Ar. Bea 123.02 288 PKP PKPdf 22 51 44.2 +0.4
TORD Torodi Ar. Bea 123.02 288 PKP PKPdf 22 51 44.2 +0.4
comp=Z,3.1nm,0.9s,baz=45,slow=1.9,SNR=15
CFAA Coronel Fontan 148.89 155 PKPbc PKPbc 22 52 36.2 +1.3
CFAA Coronel Fontan 148.89 155 PKPbc PKPbc 22 52 36.2 +1.3
comp=Z,1.0nm,0.8s,baz=249,slow=3.9,SNR=15
CPUP Villa Florida 157.22 170 PKPab PKPab 22 53 15.8 +2.1
CPUP Villa Florida 157.22 170 PKPab PKPab 22 53 15.8 +2.1
comp=Z,3.8nm,0.7s,baz=174,slow=2.3,SNR=8.0

IDC 11 22:35:20.6± 0.9, 3°62.9'N × 126°47.6'E, h0^km, mb4.3/10, mb1 4.4/10, mb1mx4.2/21, mbtmp4.3/10, Error ellipse: s-maj=41.6km s-min=17.6km az=78.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.66**	**162**	P	P	22 40 43.1	-0.1
	12nm,0.6s						
ASAR	**Alice Springs**	**28.07**	**165**	P	P	22 41 14.3	+0.2
	1.0nm,0.5s,baz=346,slow=12,SNR=2.4						
KSRS	**Korea Array**	**33.70**	**2**	P	P	22 42 04.0	+0.5
	4.6nm,0.9s,baz=180,slow=10,SNR=6.0						
MJAR	**Matsushiro Arr**	**34.50**	**17**	P	P	22 42 10.5	0.0
	2.2nm,0.9s,baz=202,slow=4.2,SNR=4.1						
USRK	**Ussuriysk Arra**	**40.71**	**6**	P	P	22 43 02.8	-0.1
	2.6nm,0.7s,baz=184,slow=6.5,SNR=4.8						
SONM	**Songino Array**	**47.32**	**342**	P	P	22 43 56.2	-0.1
	1.5nm,0.7s,baz=161,slow=7.3,SNR=3.5						
PETK	**Petropavlovsk-**	**55.63**	**22**	P	P	22 44 57.7	-0.5
	4.7nm,0.7s,baz=190,slow=5.5,SNR=3.9						
MKAR	**Makanchi Array**	**57.50**	**325**	P	P	22 45 12.3	+0.6
	2.8nm,0.7s,baz=119,slow=8.0,SNR=5.5						
KURBB	**Kurchatov Arra**	**61.70**	**328**	P	P	22 45 40.2	-0.3
	4.5nm,0.5s,baz=132,slow=6.3,SNR=14						
BVAR	**Borovoye Array**	**67.27**	**327**	P	P	22 46 16.4	-0.7
	2.6nm,0.8s,baz=120,slow=8.8,SNR=5.0						

IDC 11 22:35:51.8± 2.0, 3°96.0'N × 126°84.6'E, h0^km, mb4.2/5, mb1 4.3/5, mb1mx3.9/21, mbtmp4.2/5, Error ellipse: s-maj=208.5km s-min=25.0km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**28.31**	**166**	P	P	22 41 47.4	0.0
	0.9nm,0.4s,baz=342,slow=11,SNR=2.6						
SONM	**Songino Array**	**47.12**	**341**	P	P	22 44 25.6	-0.3
	1.6nm,0.7s,baz=166,slow=9.1,SNR=3.4						
MKAR	**Makanchi Array**	**57.43**	**325**	P	P	22 45 42.5	0.0
	2.6nm,0.6s,baz=118,slow=8.2,SNR=4.2						
KURBB	**Kurchatov Arra**	**61.60**	**327**	P	P	22 46 11.1	-0.1
	4.2nm,0.5s,baz=131,slow=6.3,SNR=8.0						
BVAR	**Borovoye Array**	**67.19**	**327**	P	P	22 46 47.8	+0.1
	2.8nm,0.9s,baz=126,slow=7.5,SNR=3.6						

IDC 11 22:37:30.8± 1.2, 3°97.0'N × 127°05.1'E, h0^km, mb4.1/8, mb1 4.3/8, mb1mx4.0/21, mbtmp4.1/8, Error ellipse: s-maj=106.8km s-min=15.5km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.97**	**184**	P	P	22 42 26.2	-0.2
	6.1nm,0.4s,baz=16,slow=9.9,SNR=9.9						
WRA	**Warramunga Arr**	**24.82**	**163**	P	P	22 42 54.8	-0.1
	15nm,0.7s						
ASAR	**Alice Springs**	**28.27**	**167**	P	P	22 43 26.4	+0.3
	1.0nm,0.3s,baz=345,slow=12,SNR=4.9						
STKA	**Stephens Creek**	**38.24**	**160**	*eP*	P	22 44 53.7	+1.0
	4.8nm,0.7s						
STKA	**Stephens Creek**	**38.24**	**160**	P	P	22 44 52.5	-0.3
	4.5nm,0.5s,baz=327,slow=7.7,SNR=5.5						
SONM	**Songino Array**	**47.18**	**341**	P	P	22 46 05.4	+0.1
	0.4nm,0.7s,baz=154,slow=4.4,SNR=2.6						
MKAR	**Makanchi Array**	**57.54**	**325**	P	P	22 47 22.3	+0.1
	0.3nm,0.3s,baz=122,slow=6.9,SNR=4.0						
ZALV	**Zalesovo Beam**	**60.52**	**333**	P	P	22 47 41.9	-0.8
	0.7nm,0.5s,baz=134,slow=6.9,SNR=2.9						
KURBB	**Kurchatov Arra**	**61.71**	**327**	P	P	22 47 51.1	+0.3
	1.3nm,0.7s,baz=126,slow=6.5,SNR=3.2						

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*IDC **11** 22:39:50.5± 0.6, 3°91.9'N × 126°47.6'E, h0^km, mb4.4/25, mb1 4.4/25, mb1mx4.4/27, mbtmp4.4/25, Error ellipse: s-maj=23.7km s-min=12.3km az=72.0*
*ISCJB **11** 22:39:54.9± 0.3, 3°89.8'N± 0.05' × 126°58.6'E± 0.08', h45^km, mb4.6/40, Error ellipse: s-maj=11.6km s-min=5.4km az=156.7*
*NEIC **11** 22:39:55.6± 0.3, 3°90.0'N × 126°52.6'E, h35^km, mb4.8/17, Error ellipse: s-maj=12.0km s-min=5.1km az=76.0*
ISC 11 22:39:56.8± 0.5, 3°93.0'N± 0.07' × 126°6.6'E± 0.1', h45^km, n98, σ0^s92/92, mb4.6/40, 1C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.71**	**322**	*eP*	Pn	22 40 41.7	+3.7
GSPH				*eS*	**Sn**	**22 41 09.6**	**0.0**
MATI	**Mati**	**3.02**	**353**	*eP*	Pn	22 40 46.1	+4.1
DAV	**Davao City (W)**	**3.28**	**342**	*ePn*	**Pn**	**22 40 44.3**	**-1.4**
DAV	**Davao City (W)**	**3.28**	**342**	Pn	Pn	22 40 51.3	+5.6
	30nm,0.3s,baz=62,slow=15,SNR=3.1						
KCP	**Kidapawan**	**3.41**	**334**	*ieP*	Pn	22 40 53.9	+6.4
KCP				*iS*	Sn	22 41 42.7	+16
CTBH	**Cotabato--PC H**	**4.03**	**324**	*ieP*	**Pn**	**22 40 58.5**	**+2.6**
BUKP	**Musuan**	**4.21**	**339**	*eP*	Pn	22 41 01.7	+3.1
CGP	**Cagayan de Oro**	**4.88**	**337**	*ieP*	Pn	22 41 12.4	+4.8
PAGZ	**Pagadian**	**5.05**	**321**	*eP*	Pn	22 41 13.4	+3.5
IPIL	**Ipil**	**5.55**	**314**	*eP*	**Pn**	**22 41 19.3**	**+2.4**
TWG	**Pinlang**	**19.53**	**345**	*eP*	**P**	**22 44 18.7**	**-1.9**
	31nm,0.6s						
SSLB	**Suanglung**	**20.48**	**345**	*eP*	**P**	**22 44 29.9**	**-1.1**
	33nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.91**	**182**	*eP*	**P**	**22 44 44.9**	**-1.5**
	4.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.91**	**182**	*eP*	**P**	**22 44 44.7**	**-1.6**
	22nm,1.2s						
FITZ	**Fitzroy Crossi**	**21.91**	**182**	P	**P**	**22 44 45.8**	**-0.5**
	6.0nm,0.9s,baz=345,slow=8.6,SNR=5.5						
WRAB	**Tennant Creek**	**24.91**	**162**	*eP*	**P**	**22 45 14.5**	**-1.2**
WRA	**Warramunga Arr**	**24.91**	**163**	P	**P**	**22 45 14.7**	**-1.1**
WRA	**Warramunga Arr**	**24.91**	**163**	P	**P**	**22 45 14.7**	**-1.1**
	584nm,0.3s,baz=234,slow=0.0,SNR=2.9						
MBWA	**Marble Bar**	**25.83**	**195**	*eP*	**P**	**22 45 23.6**	**-0.5**
	43nm,1.5s						
ASAR	**Alice Springs**	**28.34**	**166**	P	**P**	**22 45 48.5**	**+1.8**
ASAR	**Alice Springs**	**28.34**	**166**	P	**P**	**22 45 48.5**	**+1.8**
	0.8nm,0.3s,baz=348,slow=12,SNR=4.6						
JNU	**Nakatsue**	**29.31**	**7**	P	**P**	**22 45 56.0**	**+0.7**
JNU	**Nakatsue**	**29.31**	**7**	P	**P**	**22 45 56.0**	**+0.7**
	9.9nm,1.0s,baz=191,slow=5.2,SNR=3.8						
CMAR	**Chiang Mai Arr**	**30.67**	**300**	P	**P**	**22 46 08.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**30.67**	**300**	P	**P**	**22 46 08.2**	**+0.8**
	3.0nm,0.8s,baz=126,slow=6.6,SNR=8.8						
ENH	**Enshi**	**30.80**	**330**	*eP*	**P**	**22 46 08.2**	**-0.1**
	11nm,0.8s						
CHTO	**Chiang Mai**	**30.82**	**301**	*eP*	**P**	**22 46 08.4**	**-0.3**
	5.9nm,0.8s						
KSAR	**Wonju Array Be**	**33.37**	**2**	P	**P**	**22 46 32.4**	**+1.6**
KSRS	**Korea Array**	**33.38**	**2**	P	**P**	**22 46 32.4**	**+1.5**
	1.8nm,0.4s,baz=180,slow=10,SNR=11						
MJAR	**Matsushiro Arr**	**34.16**	**17**	P	**P**	**22 46 37.4**	**-0.4**
MJAR	**Matsushiro Arr**	**34.16**	**17**	P	**P**	**22 46 37.4**	**-0.4**
	0.9nm,0.5s,baz=184,slow=9.6,SNR=3.5						
FORT	**Forrest**	**34.54**	**178**	*eP*	**P**	**22 46 40.6**	**-0.4**
	19nm,1.0s						
BJT	**Baijiatuan**	**37.15**	**347**	*eP*	**P**	**22 47 03.8**	**+0.5**
	28nm,0.6s						
NWAO	**Narrogin (SRO)**	**37.72**	**193**	*eP*	**P**	**22 47 08.2**	**0.0**
	7.9nm,0.7s						
STKA	**Stephens Creek**	**38.36**	**159**	*eP*	**P**	**22 47 13.3**	**-0.3**
	3.0nm,0.9s						
STKA	**Stephens Creek**	**38.36**	**159**	*eP*	**P**	**22 47 13.1**	**-0.5**
	9.9nm,0.8s						
STKA	**Stephens Creek**	**38.36**	**159**	P	**P**	**22 47 13.6**	**0.0**
	12nm,0.8s,baz=340,slow=6.9,SNR=7.8						
USRK	**Ussuriysk Arra**	**40.38**	**6**	P	**P**	**22 47 30.6**	**+0.3**
	3.1nm,0.6s,baz=179,slow=7.5,SNR=13						
ARMA	**Armidale**	**41.70**	**147**	*eP*	**P**	**22 47 43.1**	**+1.6**
TAPN	**Taplejung**	**43.80**	**306**	*eP*	**P**	**22 47 58.8**	**-0.1**
ODAN	**Odare**	**43.86**	**305**	*eP*	**P**	**22 47 58.9**	**-0.3**
RAMN	**Ramite**	**44.54**	**305**	*eP*	**P**	**22 48 04.7**	**0.0**
	10nm,0.6s						
JIRN	**Jiri**	**45.16**	**306**	*eP*	**P**	**22 48 09.4**	**-0.4**
GUN	**Gumba**	**45.51**	**306**	*eP*	**P**	**22 48 12.0**	**-0.5**
	22nm,0.7s						
HIA	**Hailar**	**45.55**	**354**	*eP*	**P**	**22 48 12.2**	**+0.1**
	23nm,1.3s						
KKN	**Kakani**	**45.95**	**306**	*eP*	**P**	**22 48 15.5**	**-0.3**
	6.7nm,0.6s						
GKN	**Gorkha**	**46.56**	**305**	*eP*	**P**	**22 48 20.1**	**-0.4**
	7.6nm,0.7s						
DZM	**Mont Dzumac**	**46.75**	**125**	*eP*	**P**	**22 48 23.0**	**+1.0**
	7.5nm,0.8s						
DZM	**Mont Dzumac**	**46.75**	**125**	P	**P**	**22 48 23.0**	**+1.0**
	6.3nm,0.7s,baz=128,slow=11,SNR=5.2						
ULN	**Ulaanbaatar**	**46.89**	**342**	*eP*	**P**	**22 48 24.2**	**+1.3**
SONM	**Songino Array**	**47.07**	**341**	P	**P**	**22 48 24.8**	**+0.6**
SONM	**Songino Array**	**47.07**	**341**	P	**P**	**22 48 24.8**	**+0.6**
	2.9nm,0.6s,baz=157,slow=8.4,SNR=14						
KOLN	**Koldanda**	**47.31**	**305**	*eP*	**P**	**22 48 26.6**	**+0.1**
	9.8nm,0.3s						
DANN	**Dangsing**	**47.40**	**305**	*eP*	**P**	**22 48 27.1**	**-0.2**
	23nm,0.6s						
PETK	**Petropavlovsk-**	**55.29**	**22**	P	**P**	**22 49 26.6**	**+1.0**
PETK	**Petropavlovsk-**	**55.29**	**22**	P	**P**	**22 49 26.6**	**+1.0**
	5.3nm,0.8s,baz=174,slow=4.9,SNR=7.2						
MK31	**Makanchi Array**	**57.32**	**325**	*eP*	**P**	**22 49 39.4**	**-0.9**
MKAR	**Makanchi Array**	**57.32**	**325**	P	**P**	**22 49 40.1**	**-0.1**
MKAR	**Makanchi Array**	**57.32**	**325**	P	**P**	**22 49 40.1**	**-0.1**
	2.2nm,0.5s,baz=117,slow=8.0,SNR=12						
AAK	**Ala-Archa**	**60.13**	**318**	*eP*	**P**	**22 49 59.7**	**-0.3**
	27nm,1.3s						
AAK	**Ala-Archa**	**60.13**	**318**	P	**P**	**22 50 00.8**	**+0.8**
	1.2nm,0.8s,baz=63,slow=13,SNR=3.9						
ZALV	**Zalesovo Beam**	**60.36**	**333**	P	**P**	**22 50 00.5**	**-0.6**
ZALV	**Zalesovo Beam**	**60.36**	**333**	P	**P**	**22 50 00.5**	**-0.6**
	2.4nm,0.8s,baz=118,slow=9.7,SNR=5.8						
KBL	**Kabul**	**61.31**	**307**	*eP*	**P**	**22 50 08.4**	**+0.2**
	4.5nm,0.7s						
KURBB	**Kurchatov Arra**	**61.51**	**327**	P	**P**	**22 50 08.1**	**-0.9**
	5.6nm,0.8s,baz=125,slow=6.3,SNR=14						
KURK	**Kurchatov**	**61.51**	**327**	*eP*	**P**	**22 50 08.5**	**-0.5**
	6.6nm,0.6s						
BVAR	**Borovoye Array**	**67.09**	**327**	P	**P**	**22 50 45.4**	**-0.2**
BVAR	**Borovoye Array**	**67.09**	**327**	P	**P**	**22 50 45.4**	**-0.2**
	7.3nm,0.9s,baz=126,slow=7.5,SNR=16						
BRVK	**Borovoye**	**67.16**	**327**	*eP*	**P**	**22 50 45.6**	**-0.3**
	9.6nm,0.9s						
ABKAR	**Akbulak array**	**71.92**	**321**	*eP*	**P**	**22 51 14.9**	**-0.5**
AKTO	**Aktyubinsk**	**73.43**	**322**	P	**P**	**22 51 24.4**	**0.0**
AKTO	**Aktyubinsk**	**73.43**	**322**	P	**P**	**22 51 24.4**	**0.0**
	6.7nm,0.9s,baz=101,slow=9.9,SNR=17						
ARU	**Arti**	**74.70**	**328**	*eP*	**P**	**22 51 31.1**	**-0.5**
	9.5nm,1.1s						
QRN	**Al-Qurain**	**78.21**	**298**	*eP*	**P**	**22 51 51.4**	**-0.7**
RDF	**Al-Radifah**	**78.54**	**299**	*eP*	**P**	**22 51 52.1**	**-1.8**
MIB	**Mutribah**	**78.75**	**299**	*eP*	**P**	**22 51 54.0**	**-1.1**
MIB					AMb	AMB	22 51 55.5
	comp=Z,25nm,0.7s						
NAY	**Al-Naaiem**	**78.82**	**299**	*eP*	**P**	**22 51 54.0**	**-1.4**
NAY					AMb	AMB	22 51 56.1
	comp=Z,15nm,1.7s						
ILAR	**Eielson Array**	**84.97**	**25**	P	**P**	**22 52 27.5**	**+0.4**
ILAR	**Eielson Array**	**84.97**	**25**	P	**P**	**22 52 27.5**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=250,slow=6.0,SNR=6.6						
ASF	**Jabal al Asfar**	**87.69**	**302**	P	**P**	**22 52 40.6**	**-0.6**
ASF	**Jabal al Asfar**	**87.69**	**302**	P	**P**	**22 52 40.6**	**-0.6**
	comp=Z,2.1nm,0.7s,baz=318,slow=5.7,SNR=3.8						
KMBO	**Kilima Mbogo**	**89.44**	**269**	P	**P**	**22 52 49.9**	**-0.2**
	comp=Z,2.8nm,1.0s						
BRTR	**Keskin Array B**	**89.80**	**310**	P	**P**	**22 52 50.1**	**-1.0**
BRTR	**Keskin Array B**	**89.80**	**310**	P	**P**	**22 52 50.1**	**-1.0**
	comp=Z,1.7nm,0.9s,baz=104,slow=5.2,SNR=6.0						
ARCES	**ARCESS Array B**	**90.22**	**340**	P	**P**	**22 52 51.5**	**-0.7**
ARCES	**ARCESS Array B**	**90.22**	**340**	P	**P**	**22 52 51.5**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=86,slow=6.2,SNR=5.0						
FINES	**FINESS Array B**	**91.60**	**332**	P	**P**	**22 52 58.0**	**-0.7**
FINES	**FINESS Array B**	**91.60**	**332**	P	**P**	**22 52 58.0**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=90,slow=3.8,SNR=6.5						
AKASG	**Malin Array Be**	**91.66**	**321**	P	**P**	**22 52 57.9**	**-1.4**
AKASG	**Malin Array Be**	**91.66**	**321**	P	**P**	**22 52 57.9**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=67,slow=4.8,SNR=6.2						
MLR	**Muntele Rosu**	**94.67**	**316**	P	**P**	**22 53 13.6**	**+0.1**
MLR	**Muntele Rosu**	**94.67**	**316**	P	**P**	**22 53 13.6**	**+0.1**
	comp=Z,1.0nm,1.0s,baz=82,slow=15,SNR=4.4						
NB2	**NORSAR Subarra**	**98.56**	**334**	P	**P**	**22 53 30.1**	**-0.5**
	baz=66,slow=4.6						
NB2	**NORSAR Subarra**	**98.56**	**334**	P	**P**	**22 53 30.1**	**-0.5**
	comp=Z,3.2nm,1.2s,baz=66,slow=4.6						
NOA	**NORSAR Array B**	**98.56**	**334**	P	**P**	**22 53 29.9**	**-0.7**
NOA	**NORSAR Array B**	**98.56**	**334**	P	**P**	**22 53 29.9**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=78,slow=8.1,SNR=3.7						
GERES	**GERESS Array B**	**101.86**	**322**	P	**Pdif**	**22 53 46.3**	**+0.6**
GERES	**GERESS Array B**	**101.86**	**322**	P	**Pdif**	**22 53 46.3**	**+0.6**
	comp=Z,1.4nm,1.1s,baz=29,slow=3.0,SNR=4.2						

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*IDC **11** 22:44:07.7± 0.6, 3°76.N × 126°62.6'E, h0^km, mb4.1/15, mb1 4.3/15, mb1mx4.2/23, mbtmp4.2/15, Error ellipse: s-maj=34.4km s-min=13.8km az=72.0*
*ISCJB **11** 22:44:13.0± 0.5, 3°72.N± 0.08' × 126°6.6'E± 0.2', h53^km, mb4.2/17, Error ellipse: s-maj=22.4km s-min=8.8km az=161.6*
*NEIC **11** 22:44:12.8± 0.3, 3°72.N × 126°63.6'E, h35^km, mb4.3/4, Error ellipse: s-maj=16.8km s-min=6.6km az=71.0*
ISC 11 22:44:15.0± 0.6, 3°72.N± 0.09' × 126°7.6'E± 0.2', h53^km, n42, σ0^s83/40, mb4.1/17, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.26**	**325**	*i|eP*	**Pn**	**22 45 19.6**	**+2.2**
FITZ	**Fitzroy Crossi**	**21.70**	**183**	*eP*	**P**	**22 49 01.3**	**-0.4**
	4.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.70**	**183**	*eP*	**P**	**22 49 02.4**	**+0.7**
	10.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.70**	**183**	P	**P**	**22 49 01.8**	**+0.1**
	1.6nm,0.4s,baz=338,slow=7.8,SNR=6.0						
WRAB	**Tennant Creek**	**24.67**	**163**	*eP*	**P**	**22 49 30.5**	**-0.6**
WRA	**Warramunga Arr**	**24.68**	**163**	P	**P**	**22 49 30.6**	**-0.6**
WRA	**Warramunga Arr**	**24.68**	**163**	P	**P**	**22 49 30.6**	**-0.6**
	10nm,0.5s						
ASAR	**Alice Springs**	**28.10**	**166**	P	**P**	**22 50 02.2**	**+0.2**
ASAR	**Alice Springs**	**28.10**	**166**	P	**P**	**22 50 02.2**	**+0.2**
	1.2nm,0.6s,baz=346,slow=7.4,SNR=6.7						
CMAR	**Chiang Mai Arr**	**30.86**	**300**	P	**P**	**22 50 26.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**30.86**	**300**	P	**P**	**22 50 26.5**	**-0.1**
	0.9nm,0.6s,baz=117,slow=6.3,SNR=4.3						
CHTO	**Chiang Mai**	**31.01**	**301**	P	**P**	**22 50 26.6**	**-1.3**
KSAR	**Wonju Array Be**	**33.58**	**2**	P	**P**	**22 50 50.5**	**+0.4**
KSRS	**Korea Array**	**33.60**	**2**	P	**P**	**22 50 50.5**	**+0.3**
	0.6nm,0.4s,baz=180,slow=8.8,SNR=3.1						
STKA	**Stephens Creek**	**38.12**	**159**	*eP*	**P**	**22 51 29.5**	**+0.4**
	1.3nm,0.6s						
STKA	**Stephens Creek**	**38.12**	**159**	*eP*	**P**	**22 51 29.3**	**+0.2**
	7.2nm,0.7s						
STKA	**Stephens Creek**	**38.12**	**159**	P	**P**	**22 51 29.5**	**+0.4**
	7.5nm,0.6s,baz=340,slow=7.9,SNR=12						
ULN	**Ulaanbaatar**	**47.13**	**342**	*eP*	**P**	**22 52 41.1**	**-0.9**
SONM	**Songino Array**	**47.31**	**341**	P	**P**	**22 52 43.1**	**-0.3**
SONM	**Songino Array**	**47.31**	**341**	P	**P**	**22 52 43.1**	**-0.3**
	0.7nm,0.7s,baz=154,slow=9.6,SNR=4.4						
PETK	**Petropavlovsk-**	**55.45**	**22**	P	**P**	**22 53 44.5**	**+0.3**
PETK	**Petropavlovsk-**	**55.45**	**22**	P	**P**	**22 53 44.4**	**+0.3**
	3.9nm,0.9s,baz=190,slow=7.3,SNR=4.5						
MK31	**Makanchi Array**	**57.56**	**325**	*eP*	**P**	**22 53 58.5**	**-0.8**
MKAR	**Makanchi Array**	**57.56**	**325**	P	**P**	**22 53 58.1**	**-1.2**
MKAR	**Makanchi Array**	**57.56**	**325**	P	**P**	**22 53 58.1**	**-1.2**
	1.1nm,0.4s,baz=118,slow=7.0,SNR=20						
KURBB	**Kurchatov Arra**	**61.74**	**327**	P	**P**	**22 54 27.1**	**-0.9**
	2.0nm,0.5s,baz=133,slow=6.5,SNR=9.2						
KURK	**Kurchatov**	**61.74**	**328**	*eP*	**P**	**22 54 28.0**	**0.0**
	6.2nm,0.9s						
BVAR	**Borovoye Array**	**67.32**	**327**	P	**P**	**22 55 03.3**	**-1.1**
BVAR	**Borovoye Array**	**67.32**	**327**	P	**P**	**22 55 03.3**	**-1.1**
	1.4nm,0.7s,baz=138,slow=11,SNR=8.0						
BRVK	**Borovoye**	**67.39**	**327**	*eP*	**P**	**22 55 04.0**	**-0.8**
	4.6nm,0.9s						
AKTO	**Aktyubinsk**	**73.66**	**322**	P	**P**	**22 55 41.9**	**-1.2**
AKTO	**Aktyubinsk**	**73.66**	**322**	P	**P**	**22 55 41.9**	**-1.2**
	2.0nm,0.8s,baz=113,slow=6.4,SNR=6.3						
ILAR	**Eielson Array**	**85.12**	**25**	P	**P**	**22 56 44.9**	**-0.2**
ILAR	**Eielson Array**	**85.12**	**25**	P	**P**	**22 56 44.9**	**-0.2**
	0.2nm,0.5s,baz=270,slow=6.2,SNR=6.7						
BRTR	**Keskin Array B**	**90.02**	**310**	P	**P**	**22 57 08.5**	**-0.9**
BRTR	**Keskin Array B**	**90.02**	**310**	P	**P**	**22 57 08.5**	**-0.9**
	0.7nm,0.8s,baz=100,slow=4.1,SNR=4.4						
FINES	**FINESS Array B**	**91.84**	**332**	P	**P**	**22 57 18.5**	**+1.3**
FINES	**FINESS Array B**	**91.84**	**332**	P	**P**	**22 57 18.5**	**+1.3**
	2.1nm,0.9s,baz=67,slow=5.0,SNR=3.4						
ULM	**Lac du Bonnet**	**114.98**	**29**	PKP	PKPdf	23 02 49.1	-1.1
ULM	**Lac du Bonnet**	**114.98**	**29**	PKP	PKPdf	23 02 49.1	-1.1
	0.9nm,0.4s,baz=282,slow=9.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**122.91**	**288**	PKP	**PKPdf**	**23 03 06.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**122.91**	**288**	PKP	**PKPdf**	**23 03 06.5**	**+0.1**
	0.1nm,0.4s,baz=68,slow=2.1,SNR=5.3						

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*IDC **11** 22:48:33.5± 0.6, 3°56.N × 126°50.E, h0^km, mb4.3/23, mb1 4.4/23, mb1mx4.3/27, mbtmp4.3/23, Error ellipse: s-maj=26.8km s-min=12.6km az=76.0*
*ISCJB **11** 22:48:38.8± 0.4, 3°56.N± 0.06' × 126°5.E± 0.1', h53^km, mb4.4/31, Error ellipse: s-maj=17.4km s-min=7.8km az=163.4*
*NEIC **11** 22:48:38.5± 3.4, 3°57.N × 126°56.E, h34^km± 24^km, mb4.6/10, Error ellipse: s-maj=12.2km s-min=5.4km az=75.0*
ISC 11 22:48:40.5± 0.6, 3°55.N± 0.09' × 126°6.E± 0.2', h53^km, n61, σ0^s67/59, mb4.4/30, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**3.75**	**336**	*i|eP*	Pn	22 49 40.5	+4.5
CTBH	**Cotabato--PC H**	**4.33**	**327**	*i|P*	**Pn**	**22 49 45.3**	**+1.4**
SSLB	**Suanglung**	**20.84**	**345**	*eP*	**P**	**22 53 15.9**	**-2.1**
	19nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.54**	**182**	*eP*	**P**	**22 53 24.9**	**-0.5**
	6.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.54**	**182**	P	**P**	**22 53 24.5**	**-0.9**
	1.7nm,0.5s,baz=37,slow=5.1,SNR=3.3						
JOW	**Kunigami**	**23.21**	**4**	P	**P**	**22 53 42.6**	**-0.4**
JOW	**Kunigami**	**23.21**	**4**	P	**P**	**22 53 42.6**	**-0.4**
	16nm,0.8s,baz=185,slow=9.7,SNR=6.1						
WRAB	**Tennant Creek**	**24.55**	**162**	*eP*	**P**	**22 53 55.4**	**-0.1**
	17nm,0.9s						
WRA	**Warramunga Arr**	**24.55**	**162**	P	**P**	**22 53 55.7**	**+0.2**
WRA	**Warramunga Arr**	**24.55**	**162**	P	**P**	**22 53 55

MNI	Manado	3.08	220	P		Pn		22 52 24.3	+8.6	
TNTI	Ternate	3.08	170	P		Pn		22 52 16.7	+0.9	
KCP	Kidapawan	3.60	332	*e*P		Pn		22 52 30.1	+7.2	
CTBH	Cotabato--PC H	4.23	323	⇑*i*P		Pn		22 52 33.3	+1.7	
LBMI	Labuha	4.49	171	P		Pn		22 52 42.4	+7.3	
MRSI	Marisa	5.90	236	P		Pn		22 52 56.0	+1.6	
	577nm,0.8s,5μm1.8nm									
SWI	Sorong	6.44	136	P		Pn		22 53 03.2	+1.4	
	120nm,1.1s,2μm0.6nm									
FAKI	Fak Fak	8.62	141	P		Pn		22 53 34.2	+2.4	
	104nm,0.8s,960nm0.4nm									
KDI	Kendari	8.79	209	P		Pn		22 53 40.5	+6.4	
	36nm,1.4s									
TTSI	Tana Toraja	9.77	226	P		Pn		22 53 51.3	+3.8	
	88nm,1.0s									
SPSI	Sidrap Palu	10.46	222	P		Pn		22 54 11.7	+15	
KKM	Kota Kinabalu	10.79	282	*e*Pn		Pn		22 53 59.5	-2.0	
KKM	Kota Kinabalu	10.79	282	P		Pn		22 54 05.6	+4.1	
	26nm,1.0s									
TLE	Tual	11.11	148	P		Pn		22 54 09.9	+4.1	
	97nm,1.2s									
KAPI	Kappang	11.26	219	Pn		Pn		22 54 09.2	+1.3	
KAPI	Kappang	11.26	219	Pn		Pn		22 54 09.2	+1.3	
	4.1nm,0.3s,baz=218,slow=11,SNR=4.1									
BBKI	Banjar Baru	13.98	239	P		P		22 54 51.4	-0.2	
	94nm,1.7s									
SBUM	Sibu	14.63	265	P		Pn		22 54 56.0	+2.3	
	42nm,1.3s									
STKI	Sintang	15.77	257	P		P		22 55 13.2	+1.7	
	46nm,1.2s									
KSM	Kuching	16.65	262	*e*Pn		Pn		22 55 16.5	-3.0	
	36nm,0.8s									
KSM	Kuching	16.65	262	P		P		22 55 21.7	+0.4	
	47nm,1.1s									
SSLB	Suanglung	20.64	345	*e*P		P		22 56 04.5	-0.4	
	92nm,1.7s									
YHNB	Yeheng	21.38	346	*e*P		P		22 56 12.6	-0.3	
	13nm,0.6s									
FITZ	Fitzroy Crossi	21.82	183	*e*P		P		22 56 16.4	-1.2	
	9.3nm,0.7s									
FITZ	Fitzroy Crossi	21.82	183	*e*P		P		22 56 17.4	-0.2	
	13nm,0.6s									
FITZ	Fitzroy Crossi	21.82	183	P		P		22 56 16.0	-1.6	
	5.4nm,0.5s,baz=6.5,slow=8.1,SNR=11									
JOW	Kunigami	22.92	3	P		P		22 56 30.2	+0.9	
JOW	Kunigami	22.92	3	P		P		22 56 30.2	+0.9	
	14nm,0.8s,baz=205,slow=11,SNR=4.2									
CGJI	Cibinong	23.50	244	P		P		22 56 34.5	-0.5	
KLI	Kotabumi	23.57	249	P		P		22 56 45.9	+10	
COEN	Coen	23.99	138	*e*P		P		22 56 38.0	-1.6	
	85nm,1.1s									
KASI	Kota Agung	24.15	248	P		P		22 56 48.0	+7.0	
	45nm,0.8s									
WRAB	Tennant Creek	24.75	163	*e*P		P		22 56 45.7	-0.7	
WRAB				pmax	pmax					
	comp=Z,35nm,0.8s									
WRAB	Tennant Creek	24.75	163	*e*P		P		22 56 45.7	-0.7	
	comp=Z,35nm,0.8s									
WRA	Warramunga Arr	24.75	163	P		P		22 56 46.1	-0.3	
WRA	Warramunga Arr	24.75	163	P		P		22 56 46.1	-0.3	
	comp=Z,33nm,0.7s									
IPM	Ipoh	25.73	272	*e*P		P		22 56 59.5	+4.1	
	comp=Z,22nm,0.8s									
IPM	Ipoh	25.73	272	P		P		22 57 00.6	+5.1	
	comp=Z,34nm,1.2s									
MBWA	Marble Bar	25.78	195	*e*P		P		22 56 56.0	+0.2	
	comp=Z,68nm,1.8s									
PPI	Padang Panjang	26.74	261	P		P		22 57 08.8	+4.2	
	comp=Z,15nm,0.6s									
MNSI	Mandailing Nat	27.37	264	P		P		22 57 15.7	+5.4	
	comp=Z,31nm,1.0s									
PSI	Prapat	27.86	269	P		P		22 57 13.2	-1.6	
PSI	Prapat	27.86	269	P		P		22 57 16.0	+1.2	
	comp=Z,20nm,0.8s									
PSI	Prapat	27.86	269	P		P		22 57 13.2	-1.6	
	comp=Z,8.5nm,0.9s,baz=75,slow=9.8,SNR=4.8									
AS31	Alice Springs	28.18	166	*e*P		P		22 57 17.3	-0.2	
ASAR	Alice Springs	28.19	166	P		P		22 57 16.9	-0.5	
ASAR	Alice Springs	28.19	166	P		P		22 57 16.9	-0.5	
	comp=Z,1.6nm,0.6s,baz=342,slow=6.6,SNR=7.8									
NJ2	Nanjing	29.06	346	*e*P		P		22 57 26.1	+1.1	
NJ2				pmax	pmax					
	comp=Z,20nm,0.7s									
WHN	Wuhan	29.07	337	P		P		22 57 25.7	+0.6	
GSI	Gunungsitoli	29.31	266	P		P		22 57 29.7	+2.1	
	comp=Z,27nm,1.1s,comp=Z,2μm									
GYA	Guiyang	29.65	321	⇑*i*P		P		22 57 31.8	+1.3	
GYA				pP		pP		22 57 42.0	-1.8	
GYA				PP		PnPn		22 58 29.3	+1.9	
GYA				PcP		PcP		23 00 35.2	+1.0	
GYA				S		S		23 02 23.4	+0.7	
GYA				SS		SnSn		23 04 01.8	+6.2	
GYA				pmax	pmax					
	comp=Z,20nm,0.8s									
GYA				pmax	pmax					
	comp=Z,130nm,6.1s									
GYA				LR	LR					
	comp=N,510nm,17.5s									
GYA				LR	LR					
	comp=E,460nm,18.4s									
GYA				LR	LR					
	comp=Z,530nm,17.5s									
CMAR	Chiang Mai Arr	30.89	300	P		P		22 57 40.8	-0.8	
CMAR	Chiang Mai Arr	30.89	300	P		P		22 57 40.8	-0.8	
	comp=Z,1.3nm,0.4s,baz=117,slow=7.5,SNR=13									
CHTO	Chiang Mai	31.04	301	*e*P		P		22 57 42.0	-0.8	
CHTO	Chiang Mai	31.04	301	*e*P		P		22 57 42.0	-0.8	
CHTO	Chiang Mai	31.04	301	P		P		22 57 42.2	-0.6	
	comp=Z,8.8nm,1.3s									
KMI	Kunming	31.37	315	P		P		22 57 48.2	+2.3	
KMI				pmax	pmax					
	comp=Z,8.0nm,0.8s									
KSAR	Wonju Array Be	33.47	2	P		P		22 58 05.7	+1.8	
KSRS	Korea Array	33.48	2	P		P		22 58 05.7	+1.7	
	comp=Z,2.5nm,0.6s,baz=182,slow=9.6,SNR=8.1									
XAN	Xi'an	34.37	333	P		P		22 58 10.5	-1.3	
XAN				pmax	pmax					
	comp=Z,5.0nm,0.8s									
CD2	Chengdu	34.62	324	P		P		22 58 13.1	-0.8	
CD2				PcP		PcP		23 00 47.2	-0.4	
CD2				S		S		23 03 39.4	-0.5	
CD2				PcS		PcS		23 04 32.6	-1.6	
CD2				SS		SnSn		23 05 52.4	-3.7	
CD2				pmax	pmax					
	comp=Z,10.0nm,0.5s									
CD2				pmax	pmax					
	comp=Z,120nm,5.6s									
CD2				LR	LR					
	comp=N,1μm,14.8s									
CD2				LR	LR					
	comp=E,1μm,15.8s									
CD2				LR	LR					
	comp=Z,1μm,16.0s									
BJT	Baijiatuau	37.30	346	*e*P		P		22 58 36.6	0.0	
	comp=Z,23nm,0.6s									
BJI	Beijing	37.31	346	P		P		22 58 37.1	+0.3	
BJI				pmax	pmax					
	comp=Z,44nm,0.7s									
NWAO	Narrogin (SRO)	37.66	193	*e*P		P		22 58 39.4	-0.4	
STKA	Stephens Creek	38.19	159	*e*P		P		22 58 44.3	0.0	
STKA	Stephens Creek	38.19	159	*e*P		P		22 58 44.2	-0.1	
	comp=Z,14nm,0.6s									
STKA	Stephens Creek	38.19	159	P		P		22 58 44.3	0.0	
	comp=Z,20nm,0.7s,baz=340,slow=7.3,SNR=18									
LZH	Lanzhou	38.46	329	pP		pP		22 58 57.0	-3.3	
LZH				sP		sP		22 59 00.8	-5.6	
LZH	Lanzhou	38.46	329	*e*P		P		22 58 46.9	+0.1	
LZH				pP		pP		22 58 57.0	-3.3	
LZH				pmax	pmax					
	comp=Z,14nm,1.0s									
HHC	Hu-ho-hao-te	39.33	342	*e*P		P		22 58 54.3	+0.4	
HHC				pP		pP		22 59 04.7	-2.8	
HHC				PP		PnPn		23 00 29.2	+1.0	
HHC				S		S		23 04 53.2	+1.6	
HHC				SS		SS		23 07 38.5	-8.5	
HHC				pmax	pmax					
	comp=Z,12nm,0.6s									
HHC				pmax	pmax					
	comp=Z,2μm,5.0s									
HHC				LR	LR					
	comp=N,520nm,13.1s									
HHC				LR	LR					
	comp=E,340nm,15.5s									
HHC				LR	LR					
	comp=Z,500nm,17.8s									
CN2	Changchun	39.83	358	*e*P		P		22 58 58.0	+0.2	
CN2				*e*S		S		23 05 01.1	+2.5	
CN2				pmax	pmax					
	comp=Z,10.0nm,0.7s									
CN2				pmax	pmax					
	comp=Z,200nm,6.0s									
CN2				LR	LR					
	comp=N,500nm,12.0s									
CN2				LR	LR					
	comp=E,400nm,12.0s									
CN2				LR	LR					
	comp=Z,600nm,14.0s									
SHL	Shillong	39.89	306	*e*PKP		P		22 58 58.0	-0.9	
SHL				*ex*		x		23 01 04.5		
SHL				*eS*		S		23 04 48.0	-12	
USRK	Ussuriysk Arra	40.47	6	P		P		22 59 04.1	+1.0	
	comp=Z,2.4nm,0.7s,baz=161,slow=6.3,SNR=5.6									
MDJ	Mudanjiang	40.70	3	P		P		22 59 04.2	-0.8	
MDJ				S		S		23 05 07.6	-4.0	
MDJ				pmax	pmax					
	comp=Z,9.0nm,1.1s									
MDJ				LR	LR					
	comp=N,410nm,21.0s									
MDJ				LR	LR					
	comp=E,470nm,18.4s									
MDJ				LR	LR					
	comp=Z,530nm,18.4s									
ARMA	Armidale	41.50	147	*e*P		P		22 59 13.6	+1.6	
LSA	Lhasa	42.44	311	*e*P		P		22 59 19.2	-0.9	
LSA				pmax	pmax					
	comp=Z,8.0nm,0.6s									
LSA	Lhasa	42.44	311	*e*P		P		22 59 19.2	-0.9	
	comp=Z,8.4nm,0.6s									
GTA	Gaotai	43.06	329	*e*P		P		22 59 24.9	+0.3	
GTA				pmax	pmax					
	comp=Z,3.0nm,0.5s									
TAPN	Taplejung	44.03	306	*e*P		P		22 59 31.5	-1.3	
	comp=Z,21nm,0.8s									
ODAN	Odare	44.08	305	*e*P		P		22 59 32.1	-1.1	
	comp=Z,20nm,0.6s									
RAMN	Ramite	44.76	305	*e*P		P		22 59 37.5	-1.1	
	comp=Z,20nm,0.6s									
JIRN	Jiri	45.38	306	*e*P		P		22 59 42.5	-1.2	
	comp=Z,4.8nm,0.6s									
KLR	Kul'dur	45.44	5	*e*P		P		22 59 40.8	-2.5	
GUN	Gumba	45.74	306	*e*P		P		22 59 45.0	-1.4	
	comp=Z,21nm,0.5s									
PKI	Pulchoki	45.98	305	*e*P		P		22 59 46.5	-1.9	
KKN	Kakani	46.17	305	*e*P		P		22 59 48.1	-1.6	
	comp=Z,7.1nm,0.5s									
DZM	Mont Dzumac	46.52	125	P		P		22 59 53.7	+1.3	
	comp=Z,5.0nm,0.8s,baz=281,slow=17,SNR=5.1									
GKN	Gorkha	46.78	305	*e*P		P		22 59 52.5	-1.9	
	comp=Z,8.8nm,0.5s									
ULN	Ulaanbaatar	47.05	342	*e*P		P		22 59 56.2	0.0	
	comp=Z,5.1nm,0.8s									
ULN	Ulaanbaatar	47.05	342	P		pP		23 00 11.3	+1.2	
SONM	Songino Array	47.23	341	P		P		22 59 57.7	+0.1	
SONM				PcP		PcP		23 01 28.0	-0.2	
SONM	Songino Array	47.23	341	P		P		22 59 57.7	+0.1	
	comp=Z,2.9nm,0.7s,baz=155,slow=9.1,SNR=12									
SONM				PcP		PcP		23 01 28.0	-0.2	
	comp=Z,1.7nm,0.8s,baz=162,slow=3.8,SNR=4.2									
KOLN	Koldanda	47.54	305	*e*P		P		22 59 59.3	-1.1	
	comp=Z,33nm,0.5s									
DANN	Dangsing	47.63	305	*e*P		P		22 59 59.7	-1.5	
	comp=Z,43nm,0.6s									
HYB	Hyderabad	49.16	290	*i* P		P		23 00 13.0	+0.2	
ZAK	Zakamensk	50.46	341	*e*P		P		23 00 23.4	+1.2	
ZAK				pmax	pmax					
	comp=Z,2.0nm,1.2s									
TLY	Talaya	51.47	342	*e*P		P		23 00 28.1	-1.6	
TLY				pmax	pmax					
	comp=Z,3.0nm,0.6s									
MOY	Mondy	52.32	340	*e*P		P		23 00 39.5	+3.4	
WMQ	Urumqi	52.69	325	*e*P		P		23 00 39.5	+0.5	
WMQ				pmax	pmax					
	comp=Z,7.0nm,1.2s									
WMQ				LR	LR					
	comp=Z,380nm,21.6s									
BOD	Bodaibo	54.78	352	*e*P		P		23 00 55.8	+1.9	
PETK	Petropavlovsk-	55.31	22	P		P		23 01 00.2	+2.4	
PETK	Petropavlovsk-	55.31	22	P		P		23 01 00.2	+2.4	
PETK	Petropavlovsk-	55.31	22	P		P		23 01 00.2	+2.4	
	comp=Z,3.4nm,0.7s,baz=196,slow=7.1,SNR=4.9									
MK31	Makanchi Array	57.52	325	*e*P		P		23 01 12.8	-0.9	
MK31	Makanchi Array	57.52	325	*e*P		P		23 01 12.8	-0.9	
MKAR	Makanchi Array	57.52	325	*e*P		P		23 01 13.1	-0.6	
MKAR	Makanchi Array	57.52	325	*e*P		P		23 01 13.1	-0.6	
MKAR	Makanchi Array	57.52	325	P		P		23 01 13.0	-0.8	
	comp=Z,3.4nm,0.4s,baz=118,slow=8.0,SNR=19									
KSH	Kashi	58.03	315	P		P		23 01 18.5	+0.9	
KSH				PcP		PcP		23 02 09.9	+0.8	
KSH				PP		PP		23 03 29.7	+3.1	
KSH				PcS		PcS		23 06 09.9	-0.7	
KSH				S		S		23 09 16.9	+2.1	
KSH				ScS		ScS		23 11 01.6	-1.5	
KSH				SS		SS		23 13 09.9	+3.1	
KSH				LR	LR					
	comp=N,110nm,6.9s									
KSH				LR	LR					
	comp=E,240nm,14.1s									
KSH				LR	LR					
	comp=Z,470nm,18.9s									
KZA	Kyzart	59.60	317	P		P		23 01 29.9	+1.1	
	SNR=5.2									
TKM2	Tokmak 2	59.73	318	*i* P		P		23 01 29.9	+0.5	
TKM2	Tokmak 2	59.73	318	P		P		23 01 29.9	+0.5	
	SNR=6.1									
AAK	Ala-Archa	60.34	318	*e*P		P		23 01 34.4	+0.8	
AAK				pmax	pmax					
	comp=Z,16nm,0.8s									
AAK	Ala-Archa	60.34	318	*e*P		P		23 01 34.4	+0.8	
	comp=Z,16nm,0.8s									
AAK	Ala-Archa	60.34	318	P		P		23 01 32.5	-1.0	
	comp=Z,2.2nm,0.6s,baz=106,slow=4.6,SNR=12									
ZALV	Zalesovo Beam	60.54	333	P		P		23 01 33.2	-1.3	
ZALV	Zalesovo Beam	60.54	333	P		P		23 01 33.2	-1.3	
ZALV	Zalesovo Beam	60.54	333	P		P		23 01 33.2	-1.3	
	comp=Z,1.9nm,0.5s,baz=116,slow=5.9,SNR=7.5									
USP	Ospenovka	60.60	318	P		P		23 01 35.6	+0.4	
	SNR=11									
AML	Almayashu	60.68	317	P		P		23 01 36.4	+0.3	
	SNR=9.2									
EKS2	Erkin-Say	60.84	318	*e*P		P		23 01 37.5	+0.7	
EKS2				pmax	pmax					
	comp=Z,9.0nm,0.8s									
EKS2	Erkin-Say	60.84	318	*e*P		P		23 01 37.5	+0.7	
	comp=Z,9.2nm,0.8s									
EKS2	Erkin-Say	60.84	318	P		P		23 01 37.6	+0.7	
	SNR=8.9									
KBL	Kabul	61.53	307	*e*P		P		23 01 40.4	-1.4	
KBL				pmax	pmax					
	comp=Z,8.0nm,0.8s									
KBL	Kabul	61.53	307	*e*P		P		23 01 40.4	-1.4	
	comp=Z,7.5nm,0.8s									
KURBB	Kurchatov Arra	61.70	327	P		P		23 01 41.1	-1.2	
	comp=Z,6.0nm,0.4s,baz=226,slow=3.9,SNR=30									
KURK	Kurchatov	61.70	327	*c i*P		P		23 01 42.5	+0.1	
KURK				pmax	pmax					
	comp=Z,18nm,0.9s									
KURK	Kurchatov	61.70	327	*e*P		P		23 01 41.7	-0.7	
	comp=Z,17nm,0.5s									
NVS	Novosibirsk	61.82	333	*e*P		P		23 01 42.0	-1.1	
KKAR	Karatay Array	63.22	317	*e*P		P		23 01 52.1	-0.6	
KKAR	Karatay Array	63.22	317	*e*P		P		23 01 52.1	-0.6	
BVAR	Borovoye Array	67.29	327	P		P		23 02 18.2	-0.6	
BVAR	Borovoye Array	67.29	327	P		P		23 02 18.2	-0.6	
BVAR	Borovoye Array	67.29	327	P		P		23 02 18.2	-0.6	
	comp=Z,8.2nm,0.9s,baz=133,slow=8.3,SNR=19									
BRVK	Borovoye	67.36	327	*c e*P		P		23 02 18.3	-1.0	
BRVK				pmax	pmax					
	comp=Z,20nm,1.4s									
BRVK	Borovoye	67.36	327	*e*P		P		23 02 18.4	-0.8	
	comp=Z,11nm,0.8s									
BILL	Bilibino	69.44	15	*e*P		P		23 02 29.1	-2.9	
BILL				*e*				23 02 50.9		
BILL				pmax	pmax					
	comp=Z,3.0nm,1.5s									
ABKAR	Akbulak array	72.13	321	*e*P		P		23 02 47.6	-1.1	
SVE	Sverdlovsk	73.92	328	*e*P		P		23 02 59.1	0.0	
SVE				pmax	pmax					
	comp=Z,15nm,0.9s									
ARU	Arti	74.90	328	*d i*P		P		23 03 04.1	-0.7	
ARU				S		S		23 12 37.8	-0.3	
ARU				pmax	pmax					
	comp=Z,12nm,1.2s									
ARU	Arti	74.90	328	*e*P		P		23 03 03.9	-1.0	
	comp=Z,6.8nm,0.8s									
KDAK	Kodiak Island	81.77	32	P		P		23 03 45.2	+2.5	
KDAK	Kodiak Island	81.77	32	P		P		23 03 45.2	+2.5	
	comp=Z,16nm,1.0s,baz=161,slow=16,SNR=4.3									
VRHR	Novokhopersk	84.02	321	*e*P		P		23 03 53.4	-1.1	
VRHR				pmax	pmax					
	comp=N,9.0nm,0.7s									
VRHR				pmax	pmax					
	comp=E,10.0nm,0.7s									
VRHR				pmax	pmax					
	comp=Z,9.0nm,0.7s									
ILAR	Eielson Array	84.98	25	P		P		23 04 00.8	+1.7	
ILAR	Eielson Array	84.98	25	P		P		23 04 00.8	+1.7	
	comp=Z,0.4nm,0.7s,baz=240,slow=5.2,SNR=4.0									
KLMR	Klimovskoe	85.36	331	*e*P		P		23 03 59.6	-1.5	
KLMR				pmax	pmax					
	comp=Z,45nm,1.3s									
VORD	Divnogorie	85.49	321	*e*P		P		23 04 01.4	-0.5	
VSR	Storozhevoye	85.57	321	*e*P		P		23 04 01.0	-1.3	
VSR				pmax	pmax					
	comp=N,3.0nm,0.8s									
VSR				pmax	pmax					
	comp=E,7.0nm,0.8s									
VSR				pmax	pmax					
	comp=Z,8.0nm,0.8s									
OBN	Obninsk	87.03	325	*i* P		P		23 04 09.2	-0.2	
OBN				pmax	pmax					
	comp=Z,48nm,1.5s									
BRTR	Keskin Array B	90.02	310	P		P		23 04 23.1	-1.1	
BRTR	Keskin Array B	90.02	310	P		P		23 04 23.1	-1.1	
	comp=Z,2.1nm,0.8s,baz=124,slow=5.6,SNR=12									
ARCES	ARCESS Array B	90.39	340	P		P		23 04 24.7	-0.3	
ARCES	ARCESS Array B	90.39	340	P		P		23 04 24.7	-0.3	
	comp=Z,5.3nm,0.9s,baz=76,slow=6.8,SNR=6.2									
FINES	FINESS Array B	91.79	332	P		P		23 04 30.3	-1.3	
FINES	FINESS Array B	91.79	332	P		P		23 04 30.3	-1.3	
	comp=Z,2.1nm,0.7s,baz=64,slow=7.7,SNR=8.6									
AKASG	Malin Array Be	91.87	321	P		P		23 04 31.3	-0.9	
AKASG	Malin Array Be	91.87	321	P		P		23 04 31.3	-0.9	
AKASG	Malin Array Be	91.87	321	P		P		23 04 31.3	-0.9	
	comp=Z,2.7nm,0.6s,baz=66,slow=5.2,SNR=8.8									
TESR		94.22	317	⇑*i*P		P		23 04 42.1	-1.1	
VRI	Vrincioaia	94.28	316	⇑P		P		23 04 43.7	+0.2	
VRI	Vrincioaia	94.28	316	⇑*i*P		P		23 04 43.7	+0.2	
PLOR	Plostina	94.34	316	⇑P		P		23 04 43.1	-0.7	
PLOR	Plostina	94.34	316	⇑*i*P		P		23 04 43.1	-0.7	
MLR	Muntele Rosu	94.89	316	P		P		23 04 45.4	-1.1	
MLR	Muntele Rosu	94.89	316	⇓*i*P		P		23 04 43.9	-2.6	
MLR	Muntele Rosu	94.89	316	P		P		23 04 45.4	-1.1	
	comp=Z,0.6nm,0.7s,baz=171,slow=6.5,SNR=3.1									
BUR08	Bucovina Ar. S	94.99	318	*e*P		P		23 04 46.0	-0.9	
UZH	Uzhgorod	96.68	320	*e*P		P		23 04 53.9	-0.5	
DRGR		96.83	318	⇑P		P		23 04 53.8	-1.4	
DRGR		96.83	318	⇑*i*P		P		23 04 53.8	-1.4	
RES	Resolute Bay	97.70	10	*e*P		P		23 04 53.5	-5.0	
	comp=Z,62nm,2.8s									
NB2	NORSAR Subarra	98.74	334	P		P		23 05 02.3	-1.1	
	comp=Z,1.6nm,0.7s,baz=66,slow=4.8									
NOA	NORSAR Array B	98.74	334	P		P		23 05 02.7	-0.7	
NOA	NORSAR Array B	98.74	334	P		P		23 05 02.7	-0.7	
	comp=Z,1.9nm,0.7s,baz=68,slow=4.6,SNR=6.1									
GERES	GERESS Array B	102.06	322	P		Pdif		23 05 18.8	+0.2	
GERES	GERESS Array B	102.06	322	P		Pdif		23 05 18.8	+0.2	
	comp=Z,0.8nm,0.9s,baz=37,slow=6.9,SNR=4.1									
TORD	Torodi Ar. Bea	122.97	288	PKP		PKPdf		23 10 21.1	-0.1	
TORD	Torodi Ar. Bea	122.97	288	PKP		PKPdf		23 10 21.1	-0.1	
	comp=Z,0.6nm,0.6s,baz=75,slow=1.7,SNR=10									
CPUP	Villa Florida	157.27	170	PKP		PKPdf		23 11 20.9	+0.4	
CPUP				PKPab		PKPab		23 11 52.0	+0.6	
CPUP	Villa Florida	157.27	170	PKP		PKPdf		23 11 20.9	+0.4	
	comp=Z,0.3nm,0.3s,baz=91,slow=6.2,SNR=2.9									
CPUP				PKPab		PKPab		23 11 52.0	+0.6	
	comp=Z,0.9nm,0.5s,baz=89,slow=11,SNR=3.4									

IDC ***11*** *22:53:28.5±0.6,3.°95N×126.°57E, h0km, mb4.4/20, mb1 4.5/20, mb1mx4.5/24, mbtmp4.4/20, Error ellipse: s-maj=29.8km s-min=13.1km az=75.0*

ISCJB ***11*** *22:53:32.7±0.3,3.°96N±0.°05×126.°62E±0.°08, h36km, mb4.8/73, MS4.4/9, Error ellipse: s-maj=12.4km s-min=5.7km az=160.6*

BJI ***11*** *22:53:32.9, 4.°08N×126.°84E, h34km, mB5.4/10, mb4.7/29, Ms4.7/16, Ms7 4.5/17*

MOS ***11*** *22:53:32.4±1.0,3.°98N×126.°71E, h36km, mb5.1/23, Error ellipse: s-maj=18.5km s-min=7.0km az=114.4*

NEIC ***11*** *22:53:34.4±0.3,3.°98N×126.°63E, h35km, mb4.9/25, Error ellipse: s-maj=13.4km s-min=6.0km az=70.0*

**ISC 11 22:

CHTO	**Chiang Mai**	**30.94**	**301**	*e*P		**P**		**22**	**59**	**49.4**	**+0.9**
CHTO					pmax	pmax					
	comp=Z,13nm,1.1s										
CHTO	**Chiang Mai**	**30.94**	**301**	*e*P		**P**		**22**	**59**	**49.4**	**+0.9**
	comp=Z,13nm,1.1s										
KMI	**Kunming**	**31.24**	**315**	P		pP		22	59	56.9	-4.8
KMI					pmax	pmax					
	comp=Z,6.0nm,1.4s										
KSAR	**Wonju Array Be**	**33.31**	**2**	P		**P**		**23**	**00**	**08.9**	**-0.1**
KSRS	**Korea Array**	**33.33**	**2**	P		**P**		**23**	**00**	**08.9**	**-0.2**
	comp=Z,2.0nm,0.9s,baz=182,slow=11,SNR=4.5										
KSRS	**Korea Array**	**33.33**	**2**	P		pP		23	00	18.0	-1.5
	comp=Z,10nm,0.7s,baz=180,slow=9.8,SNR=15										
XAN	**Xi'an**	**34.22**	**333**	P		**P**		**23**	**00**	**14.7**	**-2.4**
XAN				pP		**pP**		**23**	**00**	**23.6**	**-3.8**
XAN				S		S		23	05	33.4	-8.1
XAN					pmax	pmax					
	comp=Z,7.0nm,0.7s										
XAN				LR		LR					
	comp=N,330nm,15.8s										
XAN				LR		LR					
	comp=E,190nm,18.9s										
XAN				LR		LR					
	comp=Z,250nm,18.4s										
CD2	**Chengdu**	**34.47**	**324**	P		**P**		**23**	**00**	**19.6**	**+0.3**
CD2				pP		**pP**		**23**	**00**	**29.3**	**-0.4**
CD2				sP		**sP**		**23**	**00**	**33.2**	**-0.9**
CD2				PcP		**PcP**		**23**	**02**	**54.7**	**+0.5**
CD2				S		**S**		**23**	**05**	**44.7**	**-0.9**
CD2				sS		**sS**		**23**	**06**	**00.7**	**-2.0**
CD2				PcS		**PcS**		**23**	**06**	**40.0**	**-0.7**
CD2				SS		**SnSn**		**23**	**07**	**56.4**	**-1.9**
CD2					pmax	pmax					
	comp=Z,10.0nm,0.5s										
CD2					pmax	pmax					
	comp=Z,110nm,5.2s										
CD2				LR		LR					
	comp=N,1μm,14.8s										
CD2				LR		LR					
	comp=E,1μm,15.8s										
CD2				LR		LR					
	comp=Z,1μm,16.0s										
DL2	**Dalian**	**35.07**	**353**	P		**pP**		**23**	**00**	**33.4**	**-1.3**
DL2					pmax	pmax					
	comp=Z,50nm,0.9s										
KLBR	**Kellerberrin**	**36.41**	**193**	*e*P		**P**		**23**	**00**	**35.2**	**-0.7**
	comp=Z,9.9nm,0.6s										
BJT	**Baijiatuan**	**37.13**	**346**	*e*P		**P**		**23**	**00**	**43.5**	**+1.6**
	comp=Z,517nm,1.6s										
BJI	**Beijing**	**37.15**	**346**	P		**pP**		**23**	**00**	**49.9**	**-2.6**
BJI					pmax	pmax					
	comp=Z,76nm,1.2s										
SNY	**Shenyang**	**37.79**	**356**	⇑P		**pP**		**23**	**00**	**55.9**	**-2.0**
SNY					pmax	pmax					
	comp=Z,49nm,0.8s										
LZH	**Lanzhou**	**38.31**	**329**	*e*P		**P**		**23**	**00**	**51.5**	**-0.7**
LZH				pP		**pP**		**23**	**00**	**59.8**	**-2.9**
LZH					pmax	pmax					
	comp=Z,18nm,1.0s										
LZH				LR		LR					
	comp=N,310nm,16.4s										
LZH				LR		LR					
	comp=E,600nm,14.4s										
LZH				LR		LR					
	comp=Z,610nm,15.9s										
STKA	**Stephens Creek**	**38.35**	**159**	*e*P		**P**		**23**	**00**	**51.4**	**-0.9**
	comp=Z,3.8nm,0.6s										
STKA	**Stephens Creek**	**38.35**	**159**	*e*P		**P**		**23**	**00**	**51.9**	**-0.4**
	comp=Z,18nm,0.6s										
STKA	**Stephens Creek**	**38.35**	**159**	P		**P**		**23**	**00**	**51.6**	**-0.7**
	comp=Z,19nm,0.6s,baz=340,slow=8.9,SNR=16										
HHC	**Hu-ho-hao-te**	**39.17**	**342**	*e*P		**P**		**23**	**01**	**01.6**	**+2.3**
HHC				pP		**pP**		**23**	**01**	**12.5**	**+2.7**
HHC				sP		**sP**		**23**	**01**	**16.1**	**+2.0**
HHC				PP		**PnPn**		**23**	**02**	**37.0**	**+4.7**
HHC				S		**S**		**23**	**06**	**59.8**	**+2.7**
HHC				sS		**sS**		**23**	**07**	**15.3**	**+0.9**
HHC				SS		**SS**		**23**	**09**	**46.3**	**-4.6**
HHC				ScS		**ScS**		**23**	**11**	**06.0**	**+0.2**
HHC					pmax	pmax					
	comp=Z,10.0nm,0.8s										
HHC					pmax	pmax					
	comp=Z,380nm,6.5s										
HHC				LR		LR					
	comp=N,290nm,16.6s										
HHC				LR		LR					
	comp=E,260nm,16.7s										
HHC				LR		LR					
	comp=Z,310nm,15.5s										
CN2	**Changchun**	**39.67**	**358**	*e*P		P		23	01	07.2	+4.0
CN2				*e*pP		pP		23	01	16.9	+3.2
CN2				*e*S		**S**		**23**	**07**	**07.4**	**+3.2**
CN2					pmax	pmax					
	comp=Z,10.0nm,0.6s										
CN2					pmax	pmax					
	comp=Z,200nm,6.0s										
CN2				LR		LR					
	comp=N,600nm,15.0s										
CN2				LR		LR					
	comp=E,500nm,15.0s										
CN2				LR		LR					
	comp=Z,600nm,19.0s										
USRK	**Ussuriysk Arra**	**40.31**	**6**	P		pP		23	01	17.1	-1.9
	comp=Z,11nm,0.7s,baz=192,slow=7.9,SNR=14										
MDJ	**Mudanjiang**	**40.54**	**3**	P		**P**		**23**	**01**	**11.4**	**+1.0**
MDJ				pP		**pP**		**23**	**01**	**19.5**	**-1.4**
MDJ				sP		**sP**		**23**	**01**	**23.3**	**-2.0**
MDJ				S		**S**		**23**	**07**	**15.1**	**-2.1**
MDJ					pmax	pmax					
	comp=Z,21nm,1.1s										
MDJ				LR		LR					
	comp=N,200nm,31.0s										
MDJ				LR		LR					
	comp=E,200nm,32.7s										
MDJ				LR		LR					
	comp=Z,330nm,34.4s										
ARMA	**Armidale**	**41.65**	**147**	*e*P		**P**		**23**	**01**	**22.8**	**+2.9**
	comp=Z,20nm,0.7s										
ARMA	**Armidale**	**41.65**	**147**	*e*P		**P**		**23**	**01**	**20.8**	**+0.9**
LSA	**Lhasa**	**42.31**	**311**	*e*P		**P**		**23**	**01**	**25.7**	**-0.1**
LSA					pmax	pmax					
	comp=Z,23nm,0.7s										
LSA	**Lhasa**	**42.31**	**311**	*e*P		**P**		**23**	**01**	**25.6**	**-0.1**
	comp=Z,23nm,0.7s										
GTA	**Gaotai**	**42.91**	**329**	*e*P		**P**		**23**	**01**	**29.1**	**-1.0**
GTA				pP		**pP**		**23**	**01**	**38.2**	**-2.4**
GTA				sP		**sP**		**23**	**01**	**42.8**	**-2.1**
GTA				S		**S**		**23**	**07**	**52.2**	**-0.5**
GTA					pmax	pmax					
	comp=Z,5.0nm,0.7s										
GTA				LR		LR					
	comp=N,350nm,17.6s										
GTA				LR		LR					
	comp=E,530nm,18.5s										
GTA				LR		LR					
	comp=Z,680nm,19.5s										
KLR	**Kul'dur**	**45.28**	**5**	*e*P		**P**		**23**	**01**	**51.7**	**+3.0**
HIA	**Hailar**	**45.51**	**354**	*e*P		**P**		**23**	**01**	**50.0**	**-0.6**
	comp=Z,40nm,1.1s										
DZM	**Mont Dzumac**	**46.64**	**125**	*e*P		**P**		**23**	**02**	**01.2**	**+1.2**
	comp=Z,6.6nm,0.8s										
ULN	**Ulaanbaatar**	**46.89**	**342**	*e*P		**P**		**23**	**02**	**01.8**	**+0.1**
	comp=Z,8.2nm,0.7s										
SONM	**Songino Array**	**47.08**	**341**	P		**P**		**23**	**02**	**02.4**	**-0.7**
SONM	**Songino Array**	**47.08**	**341**	P		**P**		**23**	**02**	**02.4**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=151,slow=8.8,SNR=5.5										
SONM	**Songino Array**	**47.08**	**341**	P		pP		23	02	12.2	-1.5
	comp=Z,3.6nm,0.6s,baz=161,slow=7.7,SNR=10										
ZAK	**Zakamensk**	**50.30**	**341**	*e*P		P		23	02	23.4	-4.4
ZAK					pmax	pmax					
	comp=Z,2.0nm,1.3s										
TLY	**Talaya**	**51.30**	**342**	*e*P		**P**		**23**	**02**	**34.4**	**-0.8**
TLY					pmax	pmax					
	comp=Z,10.0nm,1.1s										
TLY	**Talaya**	**51.30**	**342**	*e*P		**P**		**23**	**02**	**35.5**	**+0.3**
	comp=Z,13nm,1.2s										
WMQ	**Urumqi**	**52.55**	**325**	*e*P		P		23	02	49.3	+4.6
WMQ				pP		pP		23	02	57.7	+2.2
WMQ					pmax	pmax					
	comp=Z,8.0nm,1.0s										
WMQ				LR		LR					
	comp=Z,490nm,20.0s										
BOD	**Bodaibo**	**54.62**	**352**	*e*P		**P**		**23**	**02**	**59.2**	**-0.3**
BOD					pmax	pmax					
	comp=Z,10.0nm,1.7s										
PETK	**Petropavlovsk-**	**55.17**	**22**	P		**P**		**23**	**03**	**03.6**	**0.0**
PETK	**Petropavlovsk-**	**55.17**	**22**	P		**P**		**23**	**03**	**03.6**	**0.0**
	comp=Z,3.2nm,0.8s,baz=180,slow=7.2,SNR=3.8										
PETK	**Petropavlovsk-**	**55.17**	**22**	P		pP		23	03	11.1	-3.4
	comp=Z,3.8nm,0.6s,baz=199,slow=5.9,SNR=8.2										
MK31	**Makanchi Array**	**57.38**	**325**	*e*P		**P**		**23**	**03**	**19.0**	**-0.6**
MK31	**Makanchi Array**	**57.38**	**325**	*e*P		**P**		**23**	**03**	**19.0**	**-0.6**
MKAR	**Makanchi Array**	**57.38**	**325**	*e*P		**P**		**23**	**03**	**18.5**	**-1.0**
MKAR	**Makanchi Array**	**57.38**	**325**	*e*P		**P**		**23**	**03**	**18.5**	**-1.0**
MKAR	**Makanchi Array**	**57.38**	**325**	P		**P**		**23**	**03**	**18.4**	**-1.2**
	comp=Z,5.0nm,0.6s,baz=122,slow=8.2,SNR=8.2										
MKAR	**Makanchi Array**	**57.38**	**325**	P		pP		23	03	26.6	-3.8
	comp=Z,8.6nm,0.6s,baz=122,slow=8.2,SNR=12										
KSH	**Kashi**	**57.90**	**315**	*e*P		P		23	03	27.8	+4.3
KSH					pP	pP		23	03	37.7	+3.3
KSH					sP	sP		23	03	41.8	+3.2
KSH					PcP	**PcP**		**23**	**04**	**18.2**	**+2.6**
KSH					PP	PP		23	05	37.7	+5.6
KSH					ScP	**ScP**		**23**	**08**	**15.3**	**+2.2**
KSH					PcS	**PcS**		**23**	**08**	**18.2**	**+1.2**
KSH					S	**S**		**23**	**11**	**23.7**	**+2.5**
KSH					sS	sS		23	11	40.6	+1.5
KSH					ScS	**ScS**		**23**	**13**	**10.9**	**+0.3**
KSH					SS	**SS**		**23**	**15**	**16.6**	**+4.1**
KSH					LR	LR					
	comp=N,150nm,5.6s										
KSH					LR	LR					
	comp=E,250nm,11.5s										
KSH					LR	LR					
	comp=Z,430nm,16.7s										
YAK	**Yakutsk**	**57.95**	**2**	*e*P		**P**		**23**	**03**	**21.2**	**-2.0**
YAK					pmax	pmax					
	comp=Z,47nm,1.0s										
YAK					pmax	pmax					
	comp=N,21nm,1.2s										
YAK					pmax	pmax					
	comp=E,8.0nm,1.0s										
YAK	**Yakutsk**	**57.95**	**2**	*e*P		**P**		**23**	**03**	**22.4**	**-0.8**
AAK	**Ala-Archa**	**60.21**	**318**	*e*P		**P**		**23**	**03**	**39.5**	**+0.1**
AAK					pmax	pmax					
	comp=Z,51nm,1.4s										
AAK	**Ala-Archa**	**60.21**	**318**	*e*P		**P**		**23**	**03**	**39.5**	**+0.1**
	comp=Z,51nm,1.4s										
AAK	**Ala-Archa**	**60.21**	**318**	P		pP		23	03	47.1	-3.3
	comp=Z,2.4nm,0.8s,baz=166,slow=11,SNR=5.2										
ZAA0	**Zalesovo Array**	**60.39**	**333**	*e*P		**P**		**23**	**03**	**38.3**	**-1.9**
ZALV	**Zalesovo Beam**	**60.39**	**333**	P		**P**		**23**	**03**	**38.3**	**-1.9**
ZALV	**Zalesovo Beam**	**60.39**	**333**	P		**P**		**23**	**03**	**38.3**	**-1.9**
ZALV	**Zalesovo Beam**	**60.39**	**333**	P		**P**		**23**	**03**	**38.3**	**-1.9**
	comp=Z,2.3nm,0.6s,baz=119,slow=6.6,SNR=4.8										
ZALV	**Zalesovo Beam**	**60.39**	**333**	P		pP		23	03	46.5	-4.7
	comp=Z,3.1nm,0.6s,baz=119,slow=5.8,SNR=6.4										
EKS2	**Erkin-Say**	**60.70**	**317**	*e*P		**P**		**23**	**03**	**42.6**	**-0.2**
EKS2					pmax	pmax					
	comp=Z,9.0nm,0.8s										
EKS2	**Erkin-Say**	**60.70**	**317**	*e*P		**P**		**23**	**03**	**42.6**	**-0.2**
	comp=Z,8.6nm,0.8s										
KURBB	**Kurchatov Arra**	**61.55**	**327**	P		**P**		**23**	**03**	**47.0**	**-1.2**
	comp=Z,7.2nm,0.7s,baz=122,slow=7.8,SNR=10										
KURBB	**Kurchatov Arra**	**61.55**	**327**	P		pP		23	03	54.9	-4.3
	comp=Z,14nm,0.6s,baz=127,slow=7.3,SNR=18										
KURK	**Kurchatov**	**61.56**	**327**	*c i*P		**P**		**23**	**03**	**46.6**	**-1.6**
KURK					pmax	pmax					
	comp=Z,15nm,0.6s										
KURK	**Kurchatov**	**61.56**	**327**	*e*P		**P**		**23**	**03**	**47.1**	**-1.1**
	comp=Z,30nm,0.6s										
SEY	**Seymchan**	**61.77**	**13**	*i*P		**P**		**23**	**03**	**50.5**	**+1.1**
KKAR	**Karatay Array**	**63.08**	**317**	*e*P		**P**		**23**	**03**	**58.1**	**-0.6**
KKAR	**Karatay Array**	**63.08**	**317**	*e*P		**P**		**23**	**03**	**58.1**	**-0.6**
BVAR	**Borovoye Array**	**67.14**	**327**	P		**P**		**23**	**04**	**24.3**	**-0.4**
BVAR	**Borovoye Array**	**67.14**	**327**	P		**P**		**23**	**04**	**24.3**	**-0.4**
BVAR	**Borovoye Array**	**67.14**	**327**	P		**P**		**23**	**04**	**24.3**	**-0.4**
	comp=Z,6.1nm,0.8s,baz=120,slow=8.8,SNR=9.4										
BRVK	**Borovoye**	**67.21**	**327**	*c i*P		**P**		**23**	**04**	**25.0**	**-0.2**
BRVK					pmax	pmax					
	comp=Z,9.0nm,0.9s										
BRVK	**Borovoye**	**67.21**	**327**	*e*P		**P**		**23**	**04**	**24.9**	**-0.2**
	comp=Z,20nm,1.0s										
BILL	**Bilibino**	**69.29**	**15**	⇑*e*P		**P**		**23**	**04**	**39.7**	**+1.7**
BILL				*e*				23	05	01.0	
BILL					pmax	pmax					
	comp=Z,2.0nm,1.0s										
ABKAR	**Akbulak array**	**71.99**	**321**	*e*P		**P**		**23**	**04**	**54.7**	**0.0**
SVE	**Sverdlovsk**	**73.77**	**328**	*e*P		**P**		**23**	**05**	**04.1**	**-1.1**
SVE					pmax	pmax					
	comp=Z,11nm,0.8s										
ARU	**Arti**	**74.75**	**328**	*d i*P		**P**		**23**	**05**	**09.8**	**-1.1**
ARU								23	07	53.6	
ARU				S		**S**		**23**	**14**	**44.3**	**-0.4**
ARU				SS		**SS**		**23**	**19**	**28.7**	**-4.1**
ARU					pmax	pmax					
	comp=Z,5.0nm,1.0s										
ARU	**Arti**	**74.75**	**328**	*e*P		**P**		**23**	**05**	**09.3**	**-1.6**
COLD	**Coldfoot**	**83.64**	**23**	*e*P		**P**		**23**	**06**	**01.1**	**+1.8**
	comp=Z,7.7nm,1.0s										
VRHR	**Novokhopersk**	**83.88**	**321**	*e*P		P		23	06	05.0	+4.3
VRHR					pmax	pmax					
	comp=N,6.0nm,0.6s										
VRHR					pmax	pmax					
	comp=E,3.0nm,0.6s										
VRHR					pmax	pmax					
	comp=Z,7.0nm,0.6s										
ILAR	**Eielson Array**	**84.85**	**25**	P		**P**		**23**	**06**	**05.5**	**0.0**
ILAR	**Eielson Array**	**84.85**	**25**	P		**P**		**23**	**06**	**05.5**	**0.0**
	comp=Z,1.5nm,1.0s,baz=249,slow=5.2,SNR=6.0										
KLMR	**Klimovskoe**	**85.21**	**331**	*e*P		**P**		**23**	**06**	**06.1**	**-1.2**
KLMR					pmax	pmax					
	comp=Z,38nm,1.3s										
VORD	**Divnogorie**	**85.35**	**321**	*e*P		pP		23	06	14.1	-5.4
VSR	**Storozhevoye**	**85.43**	**321**	*e*P		pP		23	06	14.3	-5.6
VSR					pmax	pmax					
	comp=N,7.0nm,0.9s										
VSR					pmax	pmax					
	comp=E,6.0nm,0.9s										
VSR					pmax	pmax					
	comp=Z,10.0nm,0.9s										
OBN	**Obninsk**	**86.89**	**325**	*i*P		**P**		**23**	**06**	**14.6**	**-1.0**
OBN				*e*				23	09	36.3	
OBN				*e*S		S		23	16	39.2	-12
OBN					pmax	pmax					
	comp=Z,6.0nm,1.0s										
JOF	**Joensuu**	**88.98**	**333**	*e*P		**P**		**23**	**06**	**24.2**	**-1.3**
JOF					pmax	pmax					
	comp=Z,5.0nm,0.6s										
JOF	**Joensuu**	**88.98**	**333**	*e*p		**P**		**23**	**06**	**24.2**	**-1.3**
	comp=Z,4.6nm,0.6s										
KMBO	**Kilima Mbogo**	**89.61**	**269**	*e*P		**P**		**23**	**06**	**29.9**	**0.0**
	comp=Z,5.4nm,1.1s										
KEV	**Kevo**	**89.67**	**340**	*e*P		**pP**		**23**	**06**	**44.2**	**+4.2**
KEV					pmax	pmax					
	comp=Z,6.0nm,0.8s										
KEV	**Kevo**	**89.67**	**340**	*e*p		pP		23	06	44.2	+4.2
	comp=Z,5.6nm,0.8s										
BRTR	**Keskin Array B**	**89.90**	**310**	P		**P**		**23**	**06**	**28.8**	**-1.8**
BRTR	**Keskin Array B**	**89.90**	**310**	P		**P**		**23**	**06**	**28.8**	**-1.8**
	comp=Z,1.1nm,0.9s,baz=98,slow=6.6,SNR=4.3										
INK	**Inuvik**	**89.91**	**21**	P		**P**		**23**	**06**	**29.1**	**-0.6**
INK	**Inuvik**	**89.91**	**21**	P		**P**		**23**	**06**	**29.1**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=287,slow=6.4,SNR=3.0										
ARCES	**ARCESS Array B**	**90.23**	**340**	P		**P**		**23**	**06**	**29.9**	**-1.4**
ARCES	**ARCESS Array B**	**90.23**	**340**	P		**P**		**23**	**06**	**29.9**	**-1.4**
	comp=Z,3.2nm,0.8s,baz=36,slow=6.4,SNR=3.6										
ARCES	**ARCESS Array B**	**90.23**	**340**	P		pP		23	06	37.0	-5.6
	comp=Z,5.2nm,0.6s,baz=93,slow=8.5,SNR=13										
KAF	**Kangasniemi**	**91.40**	**332**	*e*P		**P**		**23**	**06**	**34.8**	**-2.0**
KAF					pmax	pmax					
	comp=Z,3.0nm,0.6s										
KAF	**Kangasniemi**	**91.40**	**332**	*e*p		**P**		**23**	**06**	**34.8**	**-2.0**
	comp=Z,2.6nm,0.6s										
FINES	**FINESS Array B**	**91.63**	**332**	P		**P**		**23**	**06**	**37.4**	**-0.5**
FINES	**FINESS Array B**	**91.63**	**332**	P		**P**		**23**	**06**	**37.4**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=29,slow=4.4,SNR=4.4										
FINES	**FINESS Array B**	**91.63**	**332**	P		pP		23	06	44.9	-4.5
	comp=Z,1.9nm,0.6s,baz=43,slow=5.9,SNR=8.4										
AKASG	**Malin Array Be**	**91.73**	**321**	*i*P		**P**		**23**	**06**	**38.7**	**+0.1**
AKASG					pmax	pmax					
	comp=Z,1.0nm,0.5s										
AKASG	**Malin Array Be**	**91.73**	**321**	P		**P**		**23**	**06**	**36.8**	**-1.8**
AKASG	**Malin Array Be**	**91.73**	**321**	P		**P**		**23**	**06**	**36.8**	**-1.8**
	comp=Z,1.2nm,0.5s,baz=65,slow=4.7,SNR=7.0										
AKASG	**Malin Array Be**	**91.73**	**321**	P		pP		23	06	44.7	-5.3
	comp=Z,2.7nm,0.7s,baz=74,slow=4.4,SNR=7.2										
TESR		**94.09**	**317**	⇑*i*P		**P**		**23**	**06**	**47.5**	**-2.1**
VRI	**Vrincioaia**	**94.15**	**316**	⇓P		**P**		**23**	**06**	**48.2**	**-1.7**
VRI	**Vrincioaia**	**94.15**	**316**	⇓*i*P		**P**		**23**	**06**	**48.2**	**-1.7**
PLOR	**Plostina**	**94.20**	**316**	⇓P		**P**		**23**	**06**	**48.9**	**-1.3**
PLOR	**Plostina**	**94.20**	**316**	⇓*i*P		**P**		**23**	**06**	**48.9**	**-1.3**
SUW	**Suwalki**	**94.75**	**325**	*e*P		**P**		**23**	**06**	**50.9**	**-1.5**
SUW					pmax	pmax					
	comp=Z,23nm,1.1s										
SUW	**Suwalki**	**94.75**	**325**	*e*P		**P**		**23**	**06**	**50.9**	**-1.5**
	comp=Z,23nm,1.1s										
MLR	**Muntele Rosu**	**94.76**	**316**	⇑*i*P		**P**		**23**	**06**	**51.9**	**-0.9**
BURAR	**Bucovina Array**	**94.85**	**318**	⇓*i*P		**P**		**23**	**06**	**51.5**	**-1.7**
BUR08	**Bucovina Ar. S**	**94.85**	**318**	*e*P		**P**		**23**	**06**	**52.5**	**-0.7**
UZH	**Uzhgorod**	**96.54**	**320**	*e*P		**P**		**23**	**07**	**02.9**	**+2.2**
DRGR		**96.69**	**318**	⇓P		P		23	06	59.0	-2.6
DRGR		**96.69**	**318**	⇓*i*P		P		23	06	59.0	-2.6
BZS	**Buzias**	**97.70**	**317**	⇑P		**P**		**23**	**07**	**04.3**	**-1.7**
BZS	**Buzias**	**97.70**	**317**	⇑*i*P		**P**		**23**	**07**	**04.3**	**-1.7**
HFS	**Hagfors**	**97.82**	**332**	P		Pdif		23	07	14.0	+7.7
HFS	**Hagfors**	**97.82**	**332**	P		Pdif		23	07	14.0	+7.7
	comp=Z,1.1nm,0.6s,baz=167,slow=2.6,SNR=5.1										
NB2	**NORSAR Subarra**	**98.58**	**334**	P		**P**		**23**	**07**	**09.0**	**-0.7**
	baz=68,slow=4.6										
NB2	**NORSAR Subarra**	**98.58**	**334**	P		**P**		**23**	**07**	**09.0**	**-0.7**
	comp=Z,13nm,1.4s,baz=68,slow=4.6										
YKA	**Yellowknife Ar**	**99.24**	**24**	P		**Pdif**		**23**	**07**	**11.9**	**-0.7**
YKA	**Yellowknife Ar**	**99.24**	**24**	P		**Pdif**		**23**	**07**	**11.9**	**-0.7**
	comp=Z,0.1nm,0.5s,baz=293,slow=4.4,SNR=3.3										
TORD	**Torodi Ar. Bea**	**122.89**	**288**	PKP		**PKPdf**		**23**	**12**	**27.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**122.89**	**288**	PKP		**PKPdf**		**23**	**12**	**27.9**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=47,slow=1.6,SNR=6.3										

IDC ***11*** *22:57:08.0±0.6, 3.87N×126.75E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.3/22, mbtmp4.2/18, Error ellipse: s-maj=31.2km s-min=12.4km az=77.0*
ISCJB ***11*** *22:57:11.4±0.3, 3.89N±0.06×126.7E±0.1, h36km, mb4.4/29, Error ellipse: s-maj=16.8km s-min=6.6km az=161.2*
NEIC ***11*** *22:57:13.0±0.3, 3.86N×126.75E, h35km, mb4.6/10, Error ellipse: s-maj=13.6km s-min=5.4km az=69.0*

ISC 11 22:57:13.3±0.5, 3.87N±0.08×126.7E±0.1, h36km, n56, σ0s87/55, mb4.4/28, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.38**	**340**	Pn			**Pn**	**22 58 02.2**	**-1.4**
FITZ	**Fitzroy Crossi**	**21.86**	**183**	*e*P		P	**P**	**23 02 02.5**	**-0.5**
	17nm,0.9s								
FITZ	**Fitzroy Crossi**	**21.86**	**183**	*e*P		P	**P**	**23 02 02.5**	**-0.5**
	18nm,0.6s								
FITZ	**Fitzroy Crossi**	**21.86**	**183**	P		P	**P**	**23 02 01.4**	**-1.7**
	9.4nm,0.5s,baz=12,slow=7.8,SNR=14								
QIZ	**Qiongzhong**	**22.35**	**314**	*e*P		P	**P**	**23 02 07.8**	**-0.5**
WRAB	**Tennant Creek**	**24.81**	**163**	*e*P		P	**P**	**23 02 31.7**	**-0.5**
WRA	**Warramunga Arr**	**24.82**	**163**	P		P	**P**	**23 02 31.7**	**-0.6**
WRA	**Warramunga Arr**	**24.82**	**163**	P		P	**P**	**23 02 31.7**	**-0.6**
	72nm,0.8s								
ASAR	**Alice Springs**	**28.25**	**166**	P		P	**P**	**23 03 03.1**	**-0.1**
ASAR	**Alice Springs**	**28.25**	**166**	P		P	**P**	**23 03 03.1**	**-0.1**
	2.9nm,0.5s,baz=343,slow=8.0,SNR=5.1								
CMAR	**Chiang Mai Arr**	**30.81**	**300**	P		P	**P

CMAR	Chiang Mai Arr	30.65	301	P	P	23 09 22.3	-0.6
CMAR	Chiang Mai Arr	30.65	301	P	P	23 09 22.3	-0.6
	1.2nm,0.9s,baz=110,slow=7.4,SNR=5.5						
CHTO	Chiang Mai	30.80	302	eP	P	23 09 23.5	-0.7
	1.1nm,0.4s						
KSAR	Wonju Array Be	33.72	2	P	P	23 09 47.9	-1.6
KSRS	Korea Array	33.73	2	P	P	23 09 47.9	-1.7
	2.2nm,0.7s,baz=177,slow=10,SNR=8.1						
STKA	Stephens Creek	38.12	159	eP	P	23 10 27.4	+0.2
	0.9nm,0.5s						
STKA	Stephens Creek	38.12	159	P	P	23 10 27.5	+0.2
	5.6nm,0.6s,baz=335,slow=8.3,SNR=9.1						
ULN	Ulaanbaatar	47.15	342	eP	P	23 11 40.2	-0.2
	1.1nm,0.7s						
SONM	Songino Array	47.32	342	P	P	23 11 42.3	+0.5
SONM	Songino Array	47.32	342	P	P	23 11 42.3	+0.5
	0.9nm,0.6s,baz=158,slow=8.4,SNR=7.8						
PETK	Petropavlovsk-	55.69	22	P	P	23 12 44.2	+0.1
PETK	Petropavlovsk-	55.69	22	P	P	23 12 44.2	+0.1
	4.9nm,1.0s,baz=257,slow=1.9,SNR=5.3						
MK31	Makanchi Array	57.48	325	eP	P	23 12 56.6	-0.3
MKAR	Makanchi Array	57.48	325	P	P	23 12 57.5	+0.6
MKAR	Makanchi Array	57.48	325	P	P	23 12 57.6	+0.6
	2.1nm,0.5s,baz=118,slow=7.8,SNR=23						
AAK	Ala-Archa	60.23	318	P	P	23 13 18.1	+1.8
	0.5nm,0.5s,baz=162,slow=6.4,SNR=3.9						
ZALV	Zalesovo Beam	60.56	333	P	P	23 13 18.7	+0.6
ZALV	Zalesovo Beam	60.56	333	P	P	23 13 18.7	+0.6
	0.4nm,0.4s,baz=122,slow=7.0,SNR=3.6						
KURBB	Kurchatov Arra	61.67	328	P	P	23 13 25.4	-0.3
	2.9nm,0.5s,baz=124,slow=7.4,SNR=25						
KURK	Kurchatov	61.67	328	eP	P	23 13 25.7	0.0
	5.9nm,0.6s						
KURK				ePcP	PcP	23 14 07.1	+0.4
KKAR	Karatay Array	63.10	317	eP	P	23 13 36.4	+1.0
	2.3nm,0.9s						
BVAR	Borovoye Array	67.25	327	P	P	23 14 02.7	+0.6
BVAR	Borovoye Array	67.25	327	P	P	23 14 02.7	+0.6
	1.7nm,0.7s,baz=125,slow=9.3,SNR=11						
ABKAR	Akbulak array	72.04	321	eP	P	23 14 31.1	-0.5
	1.7nm,0.6s						
ILAR	Eielson Array	85.37	25	P	P	23 15 45.5	+0.9
ILAR	Eielson Array	85.37	25	P	P	23 15 45.5	+0.9
	0.7nm,1.0s,baz=266,slow=5.4,SNR=3.5						
BRTR	Keskin Array B	89.85	310	P	P	23 16 05.7	-1.2
BRTR	Keskin Array B	89.85	310	P	P	23 16 05.7	-1.2
	0.4nm,0.6s,baz=77,slow=5.6,SNR=3.6						
ARCES	ARCESS Array B	90.46	340	P	P	23 16 08.7	-0.2
ARCES	ARCESS Array B	90.46	340	P	P	23 16 08.7	-0.2
	1.0nm,0.6s,baz=64,slow=5.5,SNR=6.0						
FINES	FINESS Array B	91.79	332	P	P	23 16 15.1	-0.1
FINES	FINESS Array B	91.79	332	P	P	23 16 15.1	-0.1
	0.6nm,0.6s,baz=316,slow=12,SNR=3.3						
TORD	Torodi Ar. Bea	122.64	288	PKP	PKPdf	23 22 05.5	+1.4
TORD	Torodi Ar. Bea	122.64	288	PKP	PKPdf	23 22 05.5	+1.4
	0.2nm,0.5s,baz=74,slow=1.6,SNR=3.3						

*IDC **11** 23:03:44.2±0.9, 3.°90N×126.°41E, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.0/21, mbtmp4.2/8, Error ellipse: s-maj=46.2km s-min=17.0km az=70.0*
*ISCJB **11** 23:03:48.2±0.6, 3.°90N±0.°08×126.°4E±0.°2, h45km, mb4.2/12, Error ellipse: s-maj=25.9km s-min=9.5km az=162.2*
*NEIC **11** 23:03:49.0±0.5, 3.°83N×126.°35E, h35km, mb4.3/4, Error ellipse: s-maj=21.8km s-min=8.2km az=70.0*

ISC 11 23:03:50.3±0.7, 3.°9N±0.°1×126.°4E±0.°2, h45km, n24, σ0s83/26, mb4.2/12, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	21.83	182	P	P	23 08 40.1	+1.1
	4.1nm,0.5s,baz=1.0,slow=6.9,SNR=9.1						
WRAB	Tennant Creek	24.91	162	eP	P	23 09 07.9	-1.3
	7.8nm,0.5s						
WRA	Warramunga Arr	24.91	162	P	P	23 09 10.1	+0.8
WRA	Warramunga Arr	24.91	162	P	P	23 09 10.1	+0.8
	5.9nm,0.4s,baz=336,slow=11,SNR=5.6						
MBWA	Marble Bar	25.70	194	eP	P	23 09 16.1	-0.3
	9.5nm,0.8s						
ASAR	Alice Springs	28.32	165	P	P	23 09 38.7	-1.4
ASAR	Alice Springs	28.32	165	P	P	23 09 38.7	-1.4
	1.9nm,0.6s,baz=350,slow=7.3,SNR=7.4						
CMAR	Chiang Mai Arr	30.50	301	P	P	23 10 00.2	+0.9
CMAR	Chiang Mai Arr	30.50	301	P	P	23 10 00.2	+0.9
	0.7nm,0.4s,baz=109,slow=6.8,SNR=5.5						
CHTO	Chiang Mai	30.65	301	eP	P	23 10 00.0	-0.7
	2.3nm,0.6s						
KLBR	Kellerberrin	36.19	192	eP	P	23 10 50.4	+1.6
	6.4nm,0.5s						
NWAO	Narrogin (SRO)	37.59	193	eP	P	23 11 00.3	-0.4
STKA	Stephens Creek	38.38	159	eP	P	23 11 07.2	0.0
	1.2nm,0.6s						
STKA	Stephens Creek	38.38	159	P	P	23 11 07.5	+0.2
	5.6nm,0.7s,baz=322,slow=9.4,SNR=4.4						
ULN	Ulaanbaatar	46.89	342	eP	P	23 12 16.0	-0.4
PETK	Petropavlovsk-	55.45	22	P	P	23 13 21.0	+0.7
PETK	Petropavlovsk-	55.45	22	P	P	23 13 21.0	+0.7
	2.5nm,0.7s,baz=195,slow=8.4,SNR=3.7						
MK31	Makanchi Array	57.25	325	eP	P	23 13 32.4	-0.9
MKAR	Makanchi Array	57.25	325	P	P	23 13 33.6	+0.3
MKAR				PcP	PcP	23 14 27.5	+0.2
MKAR	Makanchi Array	57.25	325	P	P	23 13 33.6	+0.3
	0.8nm,0.5s,baz=117,slow=8.2,SNR=3.1						
MKAR				PcP	PcP	23 14 27.5	+0.2
	1.0nm,0.7s,baz=116,slow=4.8,SNR=3.6						
BVAR	Borovoye Array	67.02	327	P	P	23 14 37.9	-0.7
BVAR	Borovoye Array	67.02	327	P	P	23 14 37.9	-0.7
	0.9nm,0.7s,baz=110,slow=8.3,SNR=3.1						
TORD	Torodi Ar. Bea	122.53	288	PKP	PKPdf	23 22 41.9	-0.1
TORD	Torodi Ar. Bea	122.53	288	PKP	PKPdf	23 22 41.9	-0.1
	0.6nm,0.7s,baz=40,slow=1.8,SNR=4.6						

IDC 11 23:05:39.5±0.8, 3.°64N×126.°79E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/21, mbtmp4.0/10, Error ellipse: s-maj=52.9km s-min=14.8km az=74.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	21.63	183	P	P	23 10 33.4	+1.9
	1.0nm,0.4s,baz=0.0,slow=12,SNR=3.2						
WRA	Warramunga Arr	24.58	163	P	P	23 11 00.4	-1.1
	3.5nm,0.3s,baz=334,slow=12,SNR=7.5						
ASAR	Alice Springs	28.01	166	P	P	23 11 32.5	+0.1
	0.7nm,0.7s,baz=359,slow=9.3,SNR=3.3						
STKA	Stephens Creek	38.02	159	P	P	23 12 59.1	-0.4
	5.1nm,0.6s,baz=336,slow=8.1,SNR=7.8						
SONM	Songino Array	47.40	341	P	P	23 14 16.5	+0.8
	0.5nm,0.6s,baz=152,slow=8.8,SNR=2.7						
PETK	Petropavlovsk-	55.49	22	P	P	23 15 16.5	+0.4
	3.2nm,0.9s,baz=197,slow=1.5,SNR=4.4						
MKAR	Makanchi Array	57.66	325	P	P	23 15 32.0	+0.3
	1.2nm,0.6s,baz=120,slow=7.6,SNR=6.8						
ZALV	Zalesovo Beam	60.69	333	P	P	23 15 52.1	-0.5
	0.4nm,0.5s,baz=145,slow=5.3,SNR=2.4						
KURBB	Kurchatov Arra	61.85	327	P	P	23 15 59.5	-0.9
	0.9nm,0.5s,baz=128,slow=6.2,SNR=5.3						
FINES	FINESS Array B	91.94	332	P	P	23 18 49.1	-0.6
	1.0nm,0.8s,baz=230,slow=15,SNR=2.6						

IDC 11 23:07:56.0±1.3, 3.°76N×126.°68E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/20, mbtmp3.8/6, Error ellipse: s-maj=108.9km s-min=17.1km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	21.75	183	P	P	23 12 50.4	+1.1
	1.7nm,0.5s,baz=12,slow=10,SNR=3.6						
WRA	Warramunga Arr	24.73	163	P	P	23 13 18.8	-0.5
	217nm,0.3s,baz=340,slow=11,SNR=12						
ASAR	Alice Springs	28.16	166	P	P	23 13 50.5	+0.2
	0.4nm,0.4s,baz=348,slow=8.5,SNR=3.3						
STKA	Stephens Creek	38.18	159	P	P	23 15 16.9	-0.5
	2.1nm,0.6s,baz=333,slow=9.4,SNR=4.5						
MKAR	Makanchi Array	57.50	325	P	P	23 17 46.2	-0.9
	0.5nm,0.5s,baz=116,slow=6.9,SNR=5.2						
ZALV	Zalesovo Beam	60.53	333	P	P	23 18 09.1	+1.1
	0.3nm,0.3s,baz=134,slow=8.3,SNR=3.0						
KURBB	Kurchatov Arra	61.68	327	P	P	23 18 15.2	-0.6
	0.6nm,0.4s,baz=126,slow=6.4,SNR=4.1						

IDC 11 23:09:19.8±1.7, 3.°88N×126.°76E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=108.0km s-min=23.1km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	21.88	183	P	P	23 14 14.4	0.0
	2.1nm,0.8s,baz=360,slow=11,SNR=2.5						
WRA	Warramunga Arr	24.82	163	P	P	23 14 44.1	+0.1
	152nm,0.3s,baz=342,slow=11,SNR=2.6						
ASAR	Alice Springs	28.25	166	P	P	23 15 14.8	-0.1
	0.6nm,0.8s,baz=346,slow=11,SNR=2.6						
STKA	Stephens Creek	38.26	159	P	P	23 16 41.8	-0.2
	4.1nm,0.7s,baz=341,slow=9.6,SNR=5.6						
MKAR	Makanchi Array	57.45	325	P	P	23 19 10.5	-0.1
	0.5nm,0.6s,baz=122,slow=7.5,SNR=3.1						

*IDC **11** 23:10:11.0±0.6, 3.°95N×126.°58E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.3/23, mbtmp4.2/18, MS3.7/2, Ms1 3.7/2, ms1mx3.0/45, Error ellipse: s-maj=27.8km s-min=13.0km az=79.0*
*ISCJB **11** 23:10:15.5±0.5, 3.°96N±0.°06×126.°5E±0.°1, h45km, mb4.3/23, MS3.6/1, Error ellipse: s-maj=18.3km s-min=8.3km az=168.1*
*NEIC **11** 23:10:16.3±0.4, 3.°98N×126.°55E, h35km, mb4.5/7, Error ellipse: s-maj=15.1km s-min=6.9km az=76.0*

ISC 11 23:10:17.3±0.6, 3.°98N±0.°08×126.°6E±0.°2, h45km, n48, σ0s81/46, mb4.5/23, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	3.22	342	Pn	Pn	23 11 03.0	-2.4
KAPI	Kappang	11.23	217	LR	LR	23 16 46.0	
	comp=Z,404nm,21.6s,baz=201,slow=35						
TPUB	Ta-pu	20.05	344	eP	P	23 14 45.7	-1.2
	22nm,0.6s						
GUMO	Guam	20.43	61	LR	LR	23 22 23.0	
	comp=Z,236nm,19.7s,baz=28,slow=36						
FITZ	Fitzroy Crossi	21.96	182	eP	P	23 15 07.8	+0.4
	2.9nm,0.6s						
FITZ	Fitzroy Crossi	21.96	182	P	P	23 15 07.8	+0.4
	1.8nm,0.5s,baz=6.7,slow=11,SNR=5.1						
WRA	Warramunga Arr	24.97	162	P	P	23 15 35.8	-1.2
WRA	Warramunga Arr	24.97	162	P	P	23 15 35.7	-1.2
	10nm,0.8s						
PSI	Prapat	27.62	268	P	P	23 16 00.1	-1.0
PSI	Prapat	27.62	268	P	P	23 16 00.1	-1.0
	3.0nm,0.7s,baz=84,slow=7.3,SNR=2.6						
ASAR	Alice Springs	28.40	166	P	P	23 16 07.9	+0.2
ASAR	Alice Springs	28.40	166	P	P	23 16 07.9	+0.2
	0.7nm,0.5s,baz=336,slow=7.4,SNR=4.5						
CMAR	Chiang Mai Arr	30.60	300	P	P	23 16 27.6	+0.2
CMAR	Chiang Mai Arr	30.60	300	P	P	23 16 27.6	+0.2
	0.7nm,0.5s,baz=123,slow=7.7,SNR=4.5						
ENH	Enshi	30.73	330	eP	P	23 16 28.9	+0.5
KSAR	Wonju Array Be	33.32	2	P	P	23 16 52.1	+1.1
KSRS	Korea Array	33.34	2	P	P	23 16 52.1	+1.0
	1.5nm,0.7s,baz=176,slow=11,SNR=5.9						
NWAO	Narrogin (SRO)	37.76	193	P	P	23 17 29.0	-0.1
	4.8nm,0.7s,baz=49,slow=9.3,SNR=2.5						
STKA	Stephens Creek	38.42	159	P	P	23 17 33.1	-1.6
	4.9nm,0.7s,baz=351,slow=6.1,SNR=7.3						
USRK	Ussuriysk Arra	40.34	6	P	P	23 17 51.8	+1.3
	0.7nm,0.4s,baz=182,slow=5.6,SNR=2.9						
SONM	Songino Array	47.01	341	P	P	23 18 45.4	+1.1
SONM	Songino Array	47.01	341	P	P	23 18 45.4	+1.1
	0.9nm,0.5s,baz=154,slow=8.4,SNR=5.5						
PETK	Petropavlovsk-	55.26	22	P	P	23 19 46.0	0.0
PETK	Petropavlovsk-	55.26	22	P	P	23 19 46.0	0.0
	8.1nm,1.0s,baz=193,slow=3.9,SNR=6.2						
MK31	Makanchi Array	57.26	325	eP	P	23 20 00.4	0.0
MKAR	Makanchi Array	57.26	325	P	P	23 20 00.5	+0.2
MKAR	Makanchi Array	57.26	325	P	P	23 20 00.5	+0.2
	1.8nm,0.4s,baz=118,slow=7.4,SNR=26						
ZALV	Zalesovo Beam	60.29	333	P	P	23 20 21.1	-0.2
ZALV	Zalesovo Beam	60.29	333	P	P	23 20 21.1	-0.2
	1.4nm,0.3s,baz=122,slow=6.6,SNR=9.6						
KBL	Kabul	61.24	307	eP	P	23 20 27.8	-0.6
	4.9nm,0.9s						
KURK	Kurchatov	61.44	327	eP	P	23 20 28.8	-0.4
	5.3nm,0.7s						
KKAR	Karatay Array	62.94	317	eP	P	23 20 40.6	+1.2
	4.1nm,0.9s						
ABKAR	Akbulak array	71.85	321	eP	P	23 21 35.4	-0.2
	1.4nm,0.6s						
ARU	Arti	74.64	328	eP	P	23 21 52.6	+0.7
	2.1nm,0.6s						
ILAR	Eielson Array	84.95	25	P	P	23 22 46.6	-0.9
ILAR	Eielson Array	84.95	25	P	P	23 22 46.7	-0.9
	1.2nm,1.0s,baz=242,slow=5.0,SNR=7.1						
BRTR	Keskin Array B	89.73	310	P	P	23 23 11.4	0.0
BRTR	Keskin Array B	89.73	310	P	P	23 23 11.4	0.0
	0.8nm,0.8s,baz=95,slow=4.0,SNR=4.2						
ARCES	ARCESS Array B	90.16	340	P	P	23 23 12.7	+0.1
ARCES	ARCESS Array B	90.16	340	P	P	23 23 12.7	+0.1
	1.6nm,0.7s,baz=79,slow=6.5,SNR=10						
SPITS	Spitsbergen Ar	90.20	349	P	P	23 23 13.6	+1.0
SPITS	Spitsbergen Ar	90.20	349	P	P	23 23 13.6	+1.0
	9.7nm,1.1s,baz=54,slow=10,SNR=3.3						
FINES	FINESS Array B	91.53	332	P	P	23 23 19.2	+0.2
FINES	FINESS Array B	91.53	332	P	P	23 23 19.2	+0.2
	0.9nm,0.4s,baz=48,slow=5.7,SNR=6.9						
TORD	Torodi Ar. Bea	122.68	288	PKP	PKPdf	23 29 09.8	+0.5
TORD	Torodi Ar. Bea	122.68	288	PKP	PKPdf	23 29 09.8	+0.5
	0.4nm,0.8s,baz=54,slow=1.9,SNR=7.6						
CPUP	Villa Florida	157.47	171	PKPab	PKPab	23 30 41.0	+0.1
CPUP	Villa Florida	157.47	171	PKPab	PKPab	23 30 41.0	+0.1
	0.3nm,0.3s,baz=226,slow=12,SNR=3.2						

IDC 11 23:14:03.4±1.3, 3.°89N×126.°33E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/19, mbtmp3.9/6, Error ellipse: s-maj=216.5km s-min=20.8km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.95	162	P	P	23 19 28.6	-0.1
	1.1nm,0.4s,baz=334,slow=12,SNR=3.9						
STKA	Stephens Creek	38.41	159	P	P	23 21 26.9	+0.1
	2.1nm,0.7s,baz=349,slow=11,SNR=3.3						
SONM	Songino Array	47.03	342	P	P	23 22 37.5	+0.7
	0.4nm,0.7s,baz=142,slow=7.3,SNR=2.7						
MKAR	Makanchi Array	57.20	325	P	P	23 23 52.9	+0.4
	0.6nm,0.5s,baz=122,slow=8.1,SNR=9.4						
ZALV	Zalesovo Beam	60.27	333	P	P	23 24 12.4	-1.2
	0.7nm,0.5s,baz=123,slow=4.9,SNR=3.6						
ARCES	ARCESS Array B	90.17	340	P	P	23 27 05.0	-0.4
	2.1nm,0.8s,baz=87,slow=6.4,SNR=3.0						

CASC 11 23:15:59.4±2.3, 14.°08N×89.°77W, h0km±8km, MD3.5, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RBDL	Robledal	0.09	69	eP	Pg	23 15 57.9	-3.4
RBDL				eS	Sg	23 16 04.0	+1.4
RTR	El Retiro	0.22	147	eP	Pg	23 16 04.8	+0.9
MTO2	Montecristo 2	0.51	51	eP	Pb	23 16 11.5	0.0
MTO2				eS	Sb	23 16 19.6	0.0
IXG	Ixpaco	0.67	278	eP	Pb	23 16 13.5	-0.8
IXG				eS	Sb	23 16 23.1	-1.1
NBG	Las Nubes	0.75	312	eP	Pb	23 16 15.6	-0.2
NBG				eS	Sb	23 16 27.4	+0.5
MRL	Marmol	0.98	4	eP	Pg	23 16 17.4	-1.1
MRL				eS	Sn	23 16 34.9	-0.6
FUG	Fuego 3	1.10	289	eP	Pg	23 16 20.3	-0.5
FUG				eS	Sn	23 16 38.6	+0.2

*IDC **11** 23:17:14.7±0.6, 3.°62N×126.°45E, h0km, mb4.1/17, mb1 4.3/17, mb1mx4.2/20, mbtmp4.1/17, Error ellipse: s-maj=33.5km s-min=13.6km az=75.0*
*ISCJB **11** 23:17:20.1±0.5, 3.°61N±0.°08×126.°6E±0.°1, h53km, mb4.1/17, Error ellipse: s-maj=17.4km s-min=9.2km az=154.2*

ISC 11 23:17:21.9±0.6, 3.°60N±0.°10×126.°6E±0.°2, h53km, n31, σ0s76/33, mb4.2/16, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	Cotabato--PC H	4.28	327	||iP	Pn	23 18 26.8	+2.3
FITZ	Fitzroy Crossi	21.59	182	eP	P	23 22 09.0	+1.6
	17nm,1.5s						
FITZ	Fitzroy Crossi	21.59	182	P	P	23 22 07.2	-0.2
	3.5nm,0.7s,baz=0.7,slow=7.1,SNR=5.6						
WRA	Warramunga Arr	24.61	162	P	P	23 22 36.8	-0.7
	8.3nm,0.6s,baz=340,slow=11,SNR=24						
ASAR	Alice Springs	28.03	166	P	P	23 23 08.3	-0.1
	0.7nm,0.4s,baz=340,slow=8.6,SNR=9.4						
ASAR				PcP	PcP	23 26 22.9	+0.6
	0.6nm,0.4s,baz=352,slow=2.3,SNR=5.5						
CMAR	Chiang Mai Arr	30.80	301	P	P	23 23 32.2	-0.8
	0.6nm,0.3s,baz=124,slow=7.7,SNR=6.9						
KSRS	Korea Array	33.71	2	P	P	23 23 58.2	+0.1
	2.7nm,0.7s,baz=177,slow=9.0,SNR=8.9						
STKA	Stephens Creek	38.07	159	eP	P	23 24 35.7	+0.2
	6.8nm,1.8s						
STKA	Stephens Creek	38.07	159	P	P	23 24 35.7	+0.2
	2.4nm,0.6s,baz=308,slow=18,SNR=7.2						
USRK	Ussuriysk Arra	40.71	6	P	P	23 24 57.3	-0.1
	1.3nm,0.5s,baz=177,slow=7.6,SNR=4.8						
TAPN	Taplejung	43.97	306	eP	P	23 25 24.3	-0.3
	3.2nm,0.5s						
ODAN	Odare	44.02	306	eP	P	23 25 25.0	+0.1
	5.9nm,0.4s						
RAMN	Ramite	44.70	305	eP	P	23 25 30.6	+0.3
	6.3nm,0.5s						
JIRN	Jiri	45.32	306	eP	P	23 25 35.5	+0.1
GUN	Gumba	45.68	306	eP	P	23 25 38.1	-0.1
	7.1nm,0.4s						
KKN	Kakani	46.11	306	eP	P	23 25 41.0	-0.5
	2.9nm,0.4s						
DMN	Daman	46.18	305	eP	P	23 25 42.0	-0.1
GKN	Gorkha	46.72	306	eP	P	23 25 45.8	-0.4
	5.1nm,0.6s						
SONM	Songino Array	47.37	342	P	P	23 25 50.5	-0.4
	1.0nm,0.5s,baz=156,slow=7.7,SNR=6.5						
SONM				PcP	PcP	23 27 21.3	+0.3
	0.5nm,0.7s,baz=198,slow=2.9,SNR=2.6						
KOLN	Koldanda	47.47	305	eP	P	23 25 52.4	+0.3
	8.2nm,0.3s						
DANN	Dangsing	47.56	306	eP	P	23 25 52.6	-0.3
	18nm,0.5s						
PETK	Petropavlovsk-	55.60	22	P	P	23 26 51.9	-0.3
	2.2nm,0.5s,baz=171,slow=7.4,SNR=4.3						
MKAR	Makanchi Array	57.57	325	P	P	23 27 05.8	-0.6
	2.6nm,0.5s,baz=123,slow=8.1,SNR=36						
ZALV	Zalesovo Beam	60.63	333	P	P	23 27 26.4	-0.9
	0.7nm,0.3s,baz=132,slow=6.7,SNR=5.4						
ILAR	Eielson Array	85.28	25	P	P	23 29 54.0	+1.2
	0.2nm,0.5s,baz=244,slow=4.5,SNR=4.2						
BRTR	Keskin Array B	89.98	310	P	P	23 30 15.1	-1.1
	0.5nm,0.6s,baz=138,slow=5.6,SNR=3.0						
ARCES	ARCESS Array B	90.51	340	P	P	23 30 17.1	-0.8
	7.0nm,1.1s,baz=89,slow=7.4,SNR=12						
FINES	FINESS Array B	91.87	332	P	P	23 30 24.3	0.0
	2.7nm,0.9s,baz=357,slow=2.8,SNR=3.7						
NOA	NORSAR Array B	96.83	334	P	P	23 30 54.7	-1.4
	1.1nm,0.9s,baz=52,slow=3.9,SNR=2.6						
YKA	Yellowknife Ar	99.68	24	P	Pdif	23 30 59.0	-0.7
	0.1nm,0.4s,baz=301,slow=4.8,SNR=2.9						
TORD	Torodi Ar. Bea	122.81	288	PKP	PKPdf	23 36 13.4	+0.2
	0.2nm,0.4s,baz=89,slow=2.1,SNR=4.5						

IDC 11 23:20:05.9±1.3, 3.°20N×125.°70E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.5/3, Error ellipse: s-maj=152.2km s-min=21.0km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.51	160	P	P	23 25 27.4	+0.1
	205nm,0.3s,baz=338,slow=9.5,SNR=10						
ASAR	Alice Springs	27.88	164	P	P	23 25 57.4	-0.3
	0.2nm,0.4s,baz=354,slow=7.0,SNR=3.5						
SONM	Songino Array	47.48	342	P	P	23 28 42.3	-0.5
	0.2nm,0.7s,baz=155,slow=7.9,SNR=3.2						
MKAR	Makanchi Array	57.41	326	P	P	23 29 56.7	+0.3
	0.6nm,0.4s,baz=119,slow=6.6,SNR=9.5						

IDC 11 23:21:30.1±1.6, 3.°87N×126.°63E, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.7/18, mbtmp4.2/3, Error ellipse: s-maj=215.3km s-min=26.5km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.85	163	P	P	23 26 54.4	0.0
	421nm,1.0s,baz=341,slow=12,SNR=2.7						
MKAR	Makanchi Array	57.38	325	P	P	23 31 20.4	0.0
	0.5nm,0.4s,baz=118,slow=7.4,SNR=9.0						
ZALV	Zalesovo Beam	60.41	333	P	P	23 31 41.1	-0.2
	0.5nm,0.5s,baz=110,slow=7.8,SNR=2.9						
ARCES	ARCESS Array B	90.28	340	P	P	23 34 32.6	0.0
	13nm,1.3s,baz=82,slow=6.6,SNR=2.9						

**IDC 11 23:27:29.5±1.8, 3.°77N×126.°21E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/20, mbtmp3.9/4, MS4.2/1

22nm,0.8s
FITZ Fitzroy Crossi 21.92 183 P P 23 33 33.6 -1.5
5.5nm,0.4s,baz=17,slow=10,SNR=19
JOW Kunigami 22.82 4 P P 23 33 49.2 +4.4
JOW Kunigami 22.82 4 P P 23 33 49.2 +4.4
7.2nm,0.6s,baz=211,slow=14,SNR=3.0
WRAB Tennant Creek 24.88 163 *eP* **P 23 34 01.8 -2.4**
62nm,0.8s
WRA Warramunga Arr 24.88 163 P P 23 34 02.9 -1.3
WRA Warramunga Arr 24.88 163 P P 23 34 02.9 -1.3
64nm,0.8s,baz=346,slow=9.8,SNR=71
IPM Ipoh 25.62 272 *eP* **P 23 34 10.4 -0.6**
21nm,1.2s
IPM Ipoh 25.62 272 P Px 23 34 37.1
MBWA Marble Bar 25.85 195 *eP* **P 23 34 11.0 -2.0**
15nm,1.0s
MNSI Mandailing Nat 27.28 264 P P 23 34 37.7 +12
19nm,1.2s
PSI Prapat 27.75 269 P P 23 34 30.6 +0.2
PSI Prapat 27.75 269 P P 23 34 40.3 +10
16nm,0.8s,576nm
PSI Prapat 27.75 269 P P 23 34 30.6 +0.2
2.8nm,0.4s,baz=22,slow=16,SNR=2.2
AS31 Alice Springs 28.31 166 *eP* **P 23 34 33.9 -1.2**
ASAR Alice Springs 28.31 166 P P 23 34 33.6 -1.5
ASAR Alice Springs 28.31 166 P P 23 34 33.6 -1.5
2.8nm,0.5s,baz=348,slow=12,SNR=18
CMAR Chiang Mai Arr 30.75 300 P P 23 34 56.8 -0.1
CMAR Chiang Mai Arr 30.75 300 P P 23 34 56.8 -0.1
0.8nm,0.3s,baz=115,slow=7.3,SNR=6.7
ENH Enshi 30.84 330 *eP* **P 23 34 57.0 -0.5**
8.4nm,0.8s
CHTO Chiang Mai 30.90 301 *eP* **P 23 34 57.7 -0.4**
3.6nm,0.8s
CHTO Chiang Mai 30.90 301 P P 23 34 59.9 +1.8
6.0nm,1.1s
KSAR Wonju Array Be 33.37 2 P P 23 35 23.6 +4.1
KSRS Korea Array 33.38 2 P P 23 35 23.6 +4.0
0.8nm,0.5s,baz=182,slow=8.2,SNR=4.0
FORT Forrest 34.54 178 *eP* P 23 35 24.1 -5.6
28nm,0.9s
KLBR Kellerberrin 36.34 193 *eP* **P 23 35 44.2 -1.0**
15nm,0.8s
NWAO Narrogin (SRO) 37.74 193 P P 23 35 57.0 0.0
NWAO Narrogin (SRO) 37.74 193 P P 23 35 57.0 0.0
4.5nm,0.3s,baz=27,slow=8.5,SNR=8.3
STKA Stephens Creek 38.32 159 P P 23 36 01.4 -0.6
STKA Stephens Creek 38.32 159 *eP* **P 23 36 01.5 -0.6**
28nm,0.7s
STKA Stephens Creek 38.32 159 P P 23 36 01.4 -0.6
35nm,0.7s,baz=337,slow=8.9,SNR=55
USRK Ussuriysk Arra 40.38 6 P P 23 36 27.2 +8.3
2.8nm,0.8s,baz=187,slow=9.4,SNR=4.8
ARMA Armidale 41.65 147 *eP* **P 23 36 30.4 +0.6**
LSA Lhasa 42.29 311 *eP* **P 23 36 36.0 +0.5**
6.0nm,0.6s
TAPN Taplejung 43.88 306 *eP* **P 23 36 48.4 +0.2**
8.4nm,0.6s
ODAN Odare 43.93 305 *eP* **P 23 36 48.4 -0.2**
12nm,0.7s
RAMN Ramite 44.62 305 *eP* **P 23 36 53.8 -0.2**
15nm,0.9s
JIRN Jiri 45.23 306 *eP* **P 23 36 59.0 -0.1**
6.4nm,1.0s
GUN Gumba 45.59 306 *eP* **P 23 37 01.7 -0.2**
24nm,0.9s
GKN Gorkha 46.63 305 *eP* **P 23 37 09.4 -0.5**
3.8nm,0.4s
DZM Mont Dzumac 46.67 125 P P 23 37 10.2 +0.1
DZM Mont Dzumac 46.67 125 P P 23 37 10.2 +0.1
2.5nm,0.6s,baz=294,slow=11,SNR=3.7
ULN Ulaanbaatar 46.92 342 *eP* **P 23 37 12.6 +0.8**
8.8nm,1.2s
SONM Songino Array 47.10 341 P P 23 37 14.0 +0.8
SONM PcP **PcP 23 38 45.0 +0.5**
SONM Songino Array 47.10 341 P P 23 37 14.0 +0.8
1.2nm,0.8s,baz=158,slow=7.9,SNR=8.1
SONM PcP **PcP 23 38 45.0 +0.5**
0.8nm,0.7s,baz=161,slow=5.8,SNR=2.2
KOLN Koldanda 47.39 305 *eP* **P 23 37 15.8 -0.1**
20nm,0.6s
DANN Dangsing 47.48 305 *eP* **P 23 37 16.3 -0.3**
22nm,0.6s
PETK Petropavlovsk- 55.26 22 P P 23 38 14.9 +0.8
PETK Petropavlovsk- 55.26 22 P P 23 38 14.9 +0.8
3.6nm,0.8s,baz=223,slow=6.9,SNR=3.5
MKAR Makanchi Array 57.38 325 P P 23 38 29.2 -0.1
MKAR Makanchi Array 57.38 325 P P 23 38 29.2 -0.1
1.8nm,0.4s,baz=118,slow=6.7,SNR=31
ZALV Zalesovo Beam 60.40 333 P P 23 38 48.7 -1.4
ZALV Zalesovo Beam 60.40 333 P P 23 38 48.7 -1.4
0.9nm,0.5s,baz=145,slow=5.3,SNR=4.3
KBL Kabul 61.38 307 *eP* **P 23 38 57.3 -0.2**
4.5nm,0.8s
KURBB Kurchatov Arra 61.56 327 P P 23 38 58.1 0.0
2.7nm,0.5s,baz=125,slow=6.2,SNR=13
KURK Kurchatov 61.56 327 *eP* **P 23 38 57.4 -0.7**
6.1nm,0.6s
KKAR Karatay Array 63.07 317 *eP* **P 23 39 08.7 +0.3**
1.9nm,0.7s
BVAR Borovoye Array 67.14 327 P P 23 39 35.4 +0.8
BVAR Borovoye Array 67.14 327 P P 23 39 35.4 +0.8
2.1nm,0.8s,baz=144,slow=6.0,SNR=13
BRVK Borovoye 67.21 327 *eP* **P 23 39 35.9 +0.8**
6.7nm,0.9s
ABKAR Akbulak array 71.98 321 *eP* **P 23 40 04.6 +0.1**
1.9nm,0.7s
ARU Arti 74.75 328 *eP* **P 23 40 20.4 -0.3**
3.0nm,0.5s
ILAR Eielson Array 84.94 25 P P 23 41 14.6 -1.0
ILAR Eielson Array 84.94 25 P P 23 41 14.6 -1.0
0.7nm,0.8s,baz=249,slow=5.3,SNR=6.9
BRTR Keskin Array B 89.88 310 P P 23 41 39.5 -0.7
BRTR Keskin Array B 89.88 310 P P 23 41 39.5 -0.7
1.1nm,0.7s,baz=143,slow=8.8,SNR=5.0
ARCES ARCESS Array B 90.25 340 P P 23 41 40.9 -0.2
ARCES ARCESS Array B 90.25 340 P P 23 41 40.9 -0.2
2.0nm,0.7s,baz=87,slow=6.2,SNR=4.1
FINES FINESS Array B 91.64 332 P P 23 41 48.3 +0.6
FINES FINESS Array B 91.64 332 P P 23 41 48.3 +0.6
1.6nm,0.7s,baz=96,slow=4.3,SNR=3.4
NOA NORSAR Array B 98.60 334 P Pdif 23 42 20.1 +0.6
NOA NORSAR Array B 98.60 334 P Pdif 23 42 20.1 +0.6
1.0nm,0.7s,baz=67,slow=4.3,SNR=2.6
TORD Torodi Ar. Bea 122.83 288 PKP **PKPdf 23 47 37.8 0.0**
TORD Torodi Ar. Bea 122.83 288 PKP **PKPdf 23 47 37.8 0.0**
0.8nm,0.8s,baz=68,slow=2.7,SNR=4.8
CPUP Villa Florida 157.39 171 PKPab **PKPab 23 49 09.6 +0.9**
CPUP Villa Florida 157.39 171 PKPab **PKPab 23 49 09.6 +0.9**
0.6nm,0.4s,baz=170,slow=6.8,SNR=4.4

IDC 11 23:32:15.1±9.9, 4.00N×126.35E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.5/21, mbtmp3.7/5, Error ellipse: s-maj=222.6km s-min=55.6km az=171.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**46.93**	**342**	P	P	23 40 47.5	-0.2
	0.2nm,0.6s,baz=150,slow=6.7,SNR=2.3						
PETK	**Petropavlovsk-**	**55.33**	**22**	P	P	23 41 50.5	-0.1
	1.1nm,0.7s,baz=256,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**57.12**	**325**	P	P	23 42 03.2	-0.4
	0.3nm,0.4s,baz=120,slow=8.4,SNR=5.9						
KURBB	**Kurchatov Arra**	**61.31**	**327**	P	P	23 42 33.0	+0.5
	0.7nm,0.5s,baz=124,slow=7.7,SNR=6.9						
BVAR	**Borovoye Array**	**66.89**	**327**	P	P	23 43 08.9	-0.2
	0.9nm,0.9s,baz=132,slow=6.4,SNR=5.0						

IDC 11 23:35:27.7±1.1, 3.65N×126.25E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.7/21, mbtmp3.7/7, Error ellipse: s-maj=102.6km s-min=15.8km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.63**	**182**	P	P	23 40 21.2	+1.6
	1.1nm,0.5s,baz=5.7,slow=10,SNR=3.0						
WRA	**Warramunga Arr**	**24.76**	**162**	P	P	23 40 50.4	-0.9
	178nm,0.3s,baz=339,slow=12,SNR=11						
ASAR	**Alice Springs**	**28.16**	**165**	P	P	23 41 22.3	+0.3
	0.5nm,0.7s,baz=337,slow=11,SNR=4.8						
STKA	**Stephens Creek**	**38.23**	**159**	P	P	23 42 48.8	-0.7
	1.8nm,0.7s,baz=327,slow=9.4,SNR=3.0						
SONM	**Songino Array**	**47.22**	**342**	P	P	23 44 03.8	+1.3
	0.3nm,0.6s,baz=150,slow=7.5,SNR=2.4						
MKAR	**Makanchi Array**	**57.34**	**325**	P	P	23 45 17.1	-0.6
	0.3nm,0.4s,baz=118,slow=7.5,SNR=11						
KURBB	**Kurchatov Arra**	**61.54**	**328**	P	P	23 45 46.0	-0.6
	0.8nm,0.3s,baz=128,slow=5.9,SNR=2.7						
BVAR	**Borovoye Array**	**67.12**	**327**	P	P	23 46 23.0	-0.1
	0.3nm,0.6s,baz=128,slow=6.3,SNR=2.8						

PRE 11 23:39:46.5±0.9, 26.97S×26.84E, h2km, ML1.7, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWZ	**Schweizer**	**1.36**	**261**	*eP*	Pn	23 40 12.1	-0.7
SWZ				*eS*	Sn	23 40 31.9	+0.4
SWZ				AML	AML	23 40 36.4	
	comp=Z,16nm,0.4s						
SEK	**Senekal**	**1.52**	**153**	*eP*	Pg	23 40 16.2	+0.2
SEK				*eS*	Sg	23 40 36.4	+0.5
SEK				AML	AML	23 40 43.4	
	comp=Z,8.7nm,0.2s						
BOSA	**Boshof**	**2.16**	**220**	*eP*	Pn	23 40 23.8	+0.1
BOSA				*eS*	Sn	23 40 52.3	+1.1
BOSA				AML	AML	23 40 59.9	
	comp=Z,1.7nm,0.5s						
LBTB	**Lobatse**	**2.24**	**330**	*eP*	Pn	23 40 25.3	+0.5
LBTB				*eS*	Sn	23 40 54.1	+0.9
LBTB				AML	AML	23 40 58.6	
	comp=Z,6.1nm,0.5s						

IDC 11 23:40:14.8±1.0, 3.92N×126.64E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/21, mbtmp3.8/8, Error ellipse: s-maj=58.8km s-min=18.1km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.91**	**183**	P	P	23 45 09.7	-0.1
	2.3nm,0.9s,baz=5.5,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**24.89**	**163**	P	P	23 45 38.7	-0.9
	4.1nm,0.8s,baz=345,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**28.32**	**166**	P	P	23 46 12.4	+1.9
	0.2nm,0.2s,baz=346,slow=12,SNR=3.5						
STKA	**Stephens Creek**	**38.34**	**159**	P	P	23 47 36.6	-1.0
	1.7nm,0.7s,baz=330,slow=7.4,SNR=5.1						
PETK	**Petropavlovsk-**	**55.28**	**22**	P	P	23 49 50.2	+0.2
	4.1nm,1.0s,baz=219,slow=8.9,SNR=2.4						
MKAR	**Makanchi Array**	**57.35**	**325**	P	P	23 50 04.2	-0.6
	0.2nm,0.4s,baz=119,slow=7.8,SNR=6.1						
KURBB	**Kurchatov Arra**	**61.53**	**327**	P	P	23 50 33.2	-0.4
	0.3nm,0.3s,baz=123,slow=6.8,SNR=2.2						
BRTR	**Keskin Array B**	**89.83**	**310**	P	P	23 53 16.8	+0.8
	0.3nm,0.6s,baz=81,slow=6.7,SNR=3.5						

IDC 11 23:40:29.3±1.2, 3.81N×126.72E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.7/23, mbtmp3.7/9, Error ellipse: s-maj=109.1km s-min=16.1km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.80**	**183**	P	P	23 45 23.2	+0.1
	2.8nm,1.0s,baz=349,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**24.77**	**163**	P	P	23 45 52.1	-0.9
	2.8nm,0.5s,baz=340,slow=12,SNR=6.6						
ASAR	**Alice Springs**	**28.20**	**166**	P	P	23 46 24.4	+0.6
	0.4nm,0.6s,baz=348,slow=8.5,SNR=4.9						
STKA	**Stephens Creek**	**38.21**	**159**	P	P	23 47 51.0	+0.1
	2.4nm,0.7s,baz=334,slow=9.2,SNR=3.2						
SONM	**Songino Array**	**47.21**	**341**	P	P	23 49 03.5	-0.6
	0.2nm,0.4s,baz=156,slow=9.3,SNR=3.4						
MKAR	**Makanchi Array**	**57.48**	**325**	P	P	23 50 19.8	-0.4
	0.3nm,0.3s,baz=119,slow=6.8,SNR=7.5						
KURBB	**Kurchatov Arra**	**61.66**	**327**	P	P	23 50 49.4	+0.5
	0.4nm,0.4s,baz=125,slow=6.3,SNR=6.2						
BVAR	**Borovoye Array**	**67.24**	**327**	P	P	23 51 25.7	+0.1
	1.2nm,0.9s,baz=126,slow=9.3,SNR=5.8						
AKTO	**Aktyubinsk**	**73.58**	**322**	P	P	23 52 04.5	+0.1
	0.3nm,0.3s,baz=92,slow=8.4,SNR=3.7						

*IDC **11** 23:40:54.9±0.6, 3.80N×126.53E, h0km, mb4.4/25, mb1 4.5/25, mb1mx4.5/28, mbtmp4.4/25, MS3.7/1, Ms1 3.7/1, ms1mx2.7/44, Error ellipse: s-maj=27.1km s-min=11.9km az=75.0*
*BJI **11** 23:40:55.5, 3.44N×126.73E, h32km, mB5.2/14, mb4.6/27, Ms4.7/11, Ms7 4.4/12*
*ISCJB **11** 23:40:58.6±0.2, 3.84N±0.04×126.65E±0.06, h36km, mb4.6/59, MS4.4/4, Error ellipse: s-maj=9.2km s-min=4.4km az=153.6*
*NEIC **11** 23:41:00.2±0.3, 3.82N×126.62E, h35km, mb4.7/22, Error ellipse: s-maj=10.2km s-min=7.0km az=60.0*
*DJA **11** 23:41:05, 3.65N×126.92E, h84km, mb4.8/8*
ISC 11 23:41:00.4±0.4, 3.87N±0.04×126.77E±0.07, h36km, n133, σ1°63/157, mb4.7/58, MS4.3/5, 4C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**3.09**	**219**	P	Pn	23 41 54.5	+7.8
TNTI	**Ternate**	**3.14**	**169**	P	**Pn**	**23 41 48.5**	**+1.2**
DAV	**Davao City (W)**	**3.39**	**340**	*ePn*	**Pn**	**23 41 48.6**	**-2.2**
DAV				Sn	**Sn**	**23 42 24.1**	**-5.8**
DAV	**Davao City (W)**	**3.39**	**340**	Pn	**Pn**	**23 41 53.9**	**+3.0**
	44nm,0.3s,baz=175,slow=12,SNR=1.9						
DAV				LR	LR	23 43 28.4	
	comp=Z,1μm,20.1s,baz=354,slow=45						
CTBH	**Cotabato--PC H**	**4.17**	**323**	↑*iP*	Pn	23 42 07.0	+5.4
KMSI	**Cibinong**	**4.30**	**220**	P	Px	23 42 21.8	
LBMI	**Labuha**	**4.54**	**171**	P	**Pn**	**23 42 08.0**	**+1.4**
MRSI	**Marisa**	**5.89**	**235**	P	**Pn**	**23 42 28.3**	**+3.1**
	214nm,0.7s,3μm0.7nm						
LUWI	**Luwuk**	**6.31**	**219**	P	Pn	23 42 38.3	+7.3
	315nm,1.1s,3μm1.3nm						
SWI	**Sorong**	**6.50**	**136**	P	**Pn**	**23 42 35.4**	**+1.8**
	78nm,0.9s						
FAKI	**Fak Fak**	**8.69**	**141**	P	**Pn**	**23 43 06.1**	**+2.5**
	42nm,0.8s,0.1nm						
KDI	**Kendari**	**8.82**	**208**	P	Pn	23 43 12.1	+6.7
	24nm,1.2s,880nm0.1nm						
TTSI	**Tana Toraja**	**9.77**	**225**	P	Pn	23 43 25.0	+6.5
	54nm,0.9s,2μm						
SPSI	**Sidrap Palu**	**10.47**	**222**	P	Px	23 43 43.8	
KKM	**Kota Kinabalu**	**10.74**	**282**	*ePn*	**Pn**	**23 43 32.4**	**+0.5**
TLE	**Tual**	**11.17**	**148**	P	Pn	23 43 41.7	+4.0
	88nm,2.0s						
SBUM	**Sibu**	**14.60**	**265**	P	**P**	**23 44 29.1**	**-1.4**
	23nm,1.1s,563nm						
KSM	**Kuching**	**16.62**	**262**	*ePn*	**Pn**	**23 44 51.1**	**+0.4**
	16nm,0.9s						
KSM	**Kuching**	**16.62**	**262**	P	P	23 44 59.5	+6.6
	20nm,1.6s						
MTN	**Manton Dam**	**17.16**	**165**	*eP*	**Pn**	**23 44 54.4**	**-3.2**
GUMO	**Guam**	**20.31**	**60**	*eP*	Pn	23 45 37.8	+2.1
	118nm,0.6s						
SSLB	**Suanglung**	**20.58**	**345**	*eP*	**P**	**23 45 35.4**	**-1.0**
	14nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.86**	**183**	*eP*	**P**	**23 45 49.4**	**-0.8**
	15nm,1.0s						
FITZ	**Fitzroy Crossi**	**21.86**	**183**	*eP*	**P**	**23 45 49.6**	**-0.6**
	12nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.86**	**183**	P	**P**	**23 45 49.6**	**-0.6**
	4.1nm,0.4s,baz=9.2,slow=12,SNR=14						
PMG	**Port Moresby**	**24.22**	**123**	P	**P**	**23 46 12.0**	**-2.1**
WRAB	**Tennant Creek**	**24.80**	**163**	*eP*	**P**	**23 46 18.4**	**-0.9**
	43nm,0.7s						
WRA	**Warramunga Arr**	**24.81**	**163**	P	**P**	**23 46 18.2**	**-1.1**
WRA	**Warramunga Arr**	**24.81**	**163**	P	**P**	**23 46 18.2**	**-1.1**
	35nm,0.5s,baz=337,slow=12,SNR=40						
PPI	**Padang Panjang**	**26.71**	**261**	P	P	23 46 43.0	+6.4
	3μm,1.1s,145μm						
MNSI	**Mandailing Nat**	**27.34**	**264**	P	P	23 46 51.3	+9.0
CBIJ	**Chichi jima**	**27.39**	**31**	P	**P**	**23 46 45.9**	**+3.2**
CBIJ	**Chichi jima**	**27.39**	**31**	P	**P**	**23 46 45.9**	**+3.2**
	92nm,0.7s,baz=267,slow=17,SNR=2.5						
ASAR	**Alice Springs**	**28.24**	**166**	P	**P**	**23 46 49.5**	**-0.8**
ASAR	**Alice Springs**	**28.24**	**166**	P	**P**	**23 46 49.5**	**-0.8**
	2.3nm,0.4s,baz=339,slow=7.9,SNR=22						
NJ2	**Nanjing**	**29.00**	**346**	*eP*	**P**	**23 46 57.2**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GYA	**Guiyang**	**29.59**	**321**	↑*iP*	**P**	**23 47 03.6**	**+1.3**
GYA				pP	**pP**	**23 47 12.8**	**+0.2**
GYA				PP	**PnPn**	**23 48 01.0**	**+3.1**
GYA				PcP	**PcP**	**23 50 06.9**	**+0.1**
GYA				S	**S**	**23 51 55.6**	**+0.3**
GYA				sS	**sS**	**23 52 12.3**	**-0.1**
GYA				SS	**SnSn**	**23 53 30.8**	**+5.3**
GYA				ScP	**ScP**	**23 53 45.2**	**-0.9**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.1s						
GYA				LR	LR		
	comp=N,490nm,17.7s						
GYA				LR	LR		
	comp=E,470nm,18.2s						
GYA				LR	LR		
	comp=Z,510nm,17.6s						
CMAR	**Chiang Mai Arr**	**30.84**	**300**	P	**P**	**23 47 12.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**30.84**	**300**	P	**P**	**23 47 12.9**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=121,slow=7.6,SNR=10						
ENH	**Enshi**	**30.93**	**330**	*eP*	**P**	**23 47 13.0**	**-1.0**
	comp=Z,11nm,0.9s						
CHTO	**Chiang Mai**	**30.99**	**301**	*eP*	**P**	**23 47 14.1**	**-0.6**
KMI	**Kunming**	**31.31**	**315**	P	**P**	**23 47 15.4**	**-2.3**
KMI				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KSAR	**Wonju Array Be**	**33.43**	**2**	P	**P**	**23 47 37.4**	**+1.6**
KSRS	**Korea Array**	**33.44**	**2**	P	**P**	**23 47 37.4**	**+1.5**
	comp=Z,1.3nm,0.4s,baz=179,slow=11,SNR=4.4						
XAN	**Xi'an**	**34.31**	**333**	P	**P**	**23 47 42.2**	**-1.4**
XAN				pP	**pP**	**23 47 52.4**	**-1.6**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FORT	**Forrest**	**34.48**	**178**	*eP*	**P**	**23 47 42.9**	**-2.1**
	comp=Z,19nm,0.7s						
CD2	**Chengdu**	**34.55**	**324**	P	**P**	**23 47 47.5**	**+1.7**
CD2				pP	**pP**	**23 47 57.6**	**+1.4**
CD2				sP	**sP**	**23 48 01.8**	**+1.3**
CD2				PP	**PP**	**23 49 04.9**	**+0.3**
CD2				PcP	**PcP**	**23 50 21.2**	**+1.0**
CD2				S	**S**	**23 53 14.1**	**+1.5**
CD2				sS	**sS**	**23 53 30.8**	**+1.1**
CD2				PcS	**PcS**	**23 54 06.6**	**-0.2**
CD2				SS	**SnSn**	**23 55 27.8**	**+1.7**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,110nm,5.2s						
CD2				LR	LR		
	comp=N,1μm,14.8s						
CD2				LR	LR		
	comp=E,1μm,15.8s						
CD2				LR	LR		
	comp=Z,1μm,16.0s						
KLBR	**Kellerberrin**	**36.30**	**193**	*eP*	**P**	**23 48 00.0**	**-0.7**
	comp=Z,87nm,1.8s						
BJI	**Beijing**	**37.26**	**347**	P	**P**	**23 48 09.0**	**+0.3**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
NWAO	**Narrogin (SRO)**	**37.70**	**193**	P	**P**	**23 48 12.2**	**-0.4**
	comp=Z,3.6nm,0.4s,baz=34,slow=8.1,SNR=5.5						
STKA	**Stephens Creek**	**38.25**	**159**	*eP*	**P**	**23 48 16.8**	**-0.4**
	comp=Z,3.8nm,0.8s						
STKA	**Stephens Creek**	**38.25**	**159**	*eP*	**P**	**23 48 16.7**	**-0.4**
	comp=Z,15nm,0.7s						
STKA	**Stephens Creek**	**38.25**	**159**	P	**P**	**23 48 16.8**	**-0.4**
	comp=Z,20nm,0.6s,baz=335,slow=7.8,SNR=33						
LZH	**Lanzhou**	**38.40**	**329**	*eP*	P	23 48 22.5	+3.8
LZH				pP	pP	23 48 33.0	+3.8
LZH				sP	sP	23 48 38.2	+4.7
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC	**Hu-ho-hao-te**	**39.28**	**342**	*eP*	**P**	**23 48 27.3**	**+1.4**
HHC				pP	**pP**	**23 48 37.7**	**+1.3**
HHC				sP	**sP**	**23 48 41.3**	**+0.6**
HHC				PP	**PnPn**	**23 50 02.2**	**+2.9**
HHC				S	**S**	**23 54 27.4**	**+3.0**
HHC				sS	**sS**	**23 54 42.8**	**+1.1**
HHC				SS	**SS**	**23 57 13.9**	**-4.8**
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,280nm,5.0s						
HHC				LR	LR		
	comp=N,280nm,13.1s						
HHC				LR	LR		
	comp=E,270nm,14.3s						
HHC				LR	LR		
	comp=Z,380nm,16.7s						
CN2	**Changchun**	**39.78**	**358**	*eP*	**P**	**23 48 31.5**	**+1.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	**Ussuriysk Arra**	**40.43**	**6**	P	**P**	**23 48 35.7**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=159,slow=5.4,SNR=5.9						
MDJ	**Mudanjiang**	**40.65**	**3**	P	**P**	**23 48 37.2**	**+0.1**
MDJ				pP	**pP**	**23 48 46.0**	**-1.6**
MDJ				S	**S**	**23 54 46.7**	**+2.1**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,130nm,7.6s						
MDJ				LR	LR		
	comp=N,200nm,27.8s						
MDJ				LR	LR		
	comp=Z,140nm,34.4s						
ARMA	**Armidale**	**41.56**	**147**	*eP*	**P**	**23 48 45.6**	**+0.7**
	comp=Z,30nm,0.9s						
ARMA	**Armidale**	**41.56**	**147**	*eP*	**P**	**23 48 45.4**	**+0.5**
LSA	**Lhasa**	**42.38**	**311**	*eP*	**P**	**23 48 51.9**	**-0.2**
	comp=Z,8.3nm,0.6s						
GTA	**Gaotai**	**43.00**	**329**	*eP*	**P**	**23 48 55.9**	**-0.6**
GTA				pP	**pP**	**23 49 05.8**	**-1.3**
GTA				sP	**sP**	**23 49 10.3**	**-1.1**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TAPN	**Taplejung**	**43.97**	**306**	*eP*	**P**	**23 49 03.2**	**-1.6**
	comp=Z,6.2nm,0.6s						
TAPN	**Taplejung**	**43.97**	**306**	*eP*	**P**	**23 49 03.2**	**-1.6**
	comp=Z,6.2nm,0.6s						
ODAN	**Odare**	**44.02**	**305**	*eP*	**P**	**23 49 03.7**	**-1.4**
	comp=Z,12nm,0.6s						
ODAN	**Odare**	**44.02**	**305**	*eP*	**P**	**23 49 03.7**	**-1.4**
	comp=Z,12nm,0.6s						
RAMN	**Ramite**	**44.70**	**305**	*eP*	**P**	**23 49 09.7**	**-0.9**
	comp=Z,8.9nm,0.6s						
RAMN	**Ramite**	**44.70**	**305**	*eP*	**P**	**23 49 09.7**	**-0.9**
	comp=Z,8.9nm,0.6s						
JIRN	**Jiri**	**45.32**	**306**	*eP*	**P**	**23 49 14.6**	**-1.1**
	comp=Z,2.7nm,0.6s						
JIRN	**Jiri**	**45.32**	**306**	*eP*	**P**	**23 49 14.6**	**-1.1**
	comp=Z,2.7nm,0.6s						
GUN	**Gumba**	**45.68**	**306**	*eP*	**P**	**23 49 17.3**	**-1.1**
	comp=Z,19nm,0.6s						
GUN	**Gumba**	**45.68**	**306**	*eP*	**P**	**23 49 17.3**	**-1.1**
	comp=Z,19nm,0.6s						
PKI	**Pulchoki**	**45.92**	**305**	*eP*	**P**	**23 49 19.8**	**-0.6**
	comp=Z,2.0nm,0.3s						
KKN	**Kakani**	**46.12**	**305**	*eP*	**P**	**23 49 20.1**	**-1.6**
KKN	**Kakani**	**46.12**	**305**	*eP*	**P**	**23 49 20.1**	**-1.6**
GKN	**Gorkha**	**46.72**	**305**	*eP*	**P**	**23 49 25.2**	**-1.2**
	comp=Z,5.3nm,0.5s						
GKN	**Gorkha**	**46.72**	**305**	*eP*	**P**	**23 49 25.2**	**-1.2**

KSH ScP **ScP** **23 55 37.5 -1.7**
KSH PcS **PcS** **23 55 41.6 -1.5**
KSH S **S** **23 58 48.6 +0.7**
KSH sS **sS** **23 59 06.2 +0.4**
KSH ScS **ScS** **00 00 33.3 -3.6**
KSH SS **SS** **00 02 41.6 +2.2**
KSH LR LR
comp=N,170nm,7.7s
KSH LR LR
comp=E,150nm,6.4s
KSH LR LR
comp=Z,370nm,8.3s
AAK Ala-Archa 60.28 318 P **P** **23 51 06.1 +0.4**
comp=Z,1.5nm,0.7s,baz=179,slow=9.9,SNR=4.9
ZALV Zalesovo Beam 60.48 333 P **P** **23 51 05.2 -1.4**
ZALV Zalesovo Beam 60.48 333 P **P** **23 51 05.2 -1.4**
comp=Z,0.9nm,0.4s,baz=128,slow=7.0,SNR=7.4
KBL Kabul 61.47 307 *eP* **P** **23 51 13.2 -0.8**
comp=Z,4.8nm,0.8s
KURBB Kurchatov Arra 61.64 327 P **P** **23 51 13.4 -1.1**
comp=Z,4.4nm,0.8s,baz=125,slow=6.4,SNR=15
KURK Kurchatov 61.65 327 *eP* **P** **23 51 13.7 -0.8**
comp=Z,8.5nm,0.7s
KKAR Karatay Array 63.16 317 *eP* **P** **23 51 24.8 -0.1**
BVAR Borovoye Array 67.22 327 P **P** **23 51 51.6 +0.5**
BVAR Borovoye Array 67.22 327 P **P** **23 51 51.6 +0.5**
comp=Z,2.8nm,0.9s,baz=125,slow=7.4,SNR=8.9
BRVK Borovoye 67.30 327 *eP* **P** **23 51 52.7 +1.2**
comp=Z,7.1nm,0.9s
DRV Dumont d'Urvil 71.01 174 S **S** **00 01 30.0 +2.6**
DRV SS **SS** **00 06 05.0 +3.9**
DRV R 00 13 00.0
ABKAR Akbulak array 72.07 321 *eP* **P** **23 52 19.7 -1.3**
AKTO Aktyubinsk 73.58 322 P **P** **23 52 28.4 -1.4**
AKTO Aktyubinsk 73.58 322 P **P** **23 52 28.4 -1.4**
comp=Z,2.4nm,0.6s,baz=96,slow=8.0,SNR=14
ARU Arti 74.84 328 *eP* **P** **23 52 36.4 -0.7**
comp=Z,6.1nm,0.8s
ILAR Eielson Array 84.96 25 P **P** **23 53 32.5 +0.8**
ILAR Eielson Array 84.96 25 P **P** **23 53 32.5 +0.8**
comp=Z,1.1nm,0.9s,baz=243,slow=6.0,SNR=5.6
ASF Jabal al Asfar 87.86 302 P **P** **23 53 46.5 -0.3**
ASF Jabal al Asfar 87.86 302 P **P** **23 53 46.5 -0.3**
comp=Z,2.2nm,0.8s,baz=341,slow=11,SNR=3.6
MMAI Mount Meron Ar 89.06 303 P **P** **23 53 52.9 +0.5**
MMAI Mount Meron Ar 89.06 303 P **P** **23 53 52.9 +0.5**
comp=Z,4.5nm,0.9s,baz=70,slow=9.3,SNR=3.8
BRTR Keskin Array B 89.96 310 P **P** **23 53 54.7 -1.9**
BRTR Keskin Array B 89.96 310 P **P** **23 53 54.7 -1.9**
comp=Z,1.4nm,0.8s,baz=129,slow=5.5,SNR=8.9
ARCES ARCESS Array B 90.33 340 P **P** **23 53 56.3 -1.1**
ARCES ARCESS Array B 90.33 340 P **P** **23 53 56.3 -1.1**
comp=Z,3.7nm,0.8s,baz=76,slow=4.6,SNR=7.4
FINES FINESS Array B 91.73 332 P **P** **23 54 03.8 -0.2**
FINES FINESS Array B 91.73 332 P **P** **23 54 03.8 -0.2**
comp=Z,1.9nm,0.7s,baz=79,slow=4.0,SNR=8.4
AKASG Malin Array Be 91.81 321 P **P** **23 54 03.3 -1.4**
AKASG Malin Array Be 91.81 321 P **P** **23 54 03.3 -1.4**
comp=Z,2.0nm,0.6s,baz=66,slow=5.4,SNR=6.8
SYO Syowa Base 92.57 201⇑ *eX* P 23 54 14.0 +6.2
SYO Syowa Base 92.57 201⇑ *ep*PKiKP pPKiKP 23 59 05.8 -2.1
MLR Muntele Rosu 94.83 316 P **P** **23 54 18.1 -0.8**
MLR Muntele Rosu 94.83 316 P **P** **23 54 18.1 -0.8**
comp=Z,0.5nm,0.7s,baz=314,slow=4.0,SNR=6.5
HFS Hagfors 97.91 332 P **P** **23 54 31.0 -1.4**
HFS Hagfors 97.91 332 P **P** **23 54 31.0 -1.4**
comp=Z,2.7nm,0.9s,baz=108,slow=4.7,SNR=4.1
NB2 NORSAR Subarra 98.68 334 P **P** **23 54 34.1 -1.8**
comp=Z,1.3nm,0.8s,baz=66,slow=4.6
NOA NORSAR Array B 98.68 334 P **P** **23 54 33.8 -2.1**
NOA NORSAR Array B 98.68 334 P **P** **23 54 33.8 -2.1**
comp=Z,1.1nm,0.7s,baz=66,slow=4.5,SNR=4.9
YKA Yellowknife Ar 99.35 24 P **Pdif** **23 54 40.0 +1.2**
YKA Yellowknife Ar 99.35 24 P **Pdif** **23 54 40.0 +1.2**
comp=Z,0.2nm,0.7s,baz=303,slow=4.9,SNR=5.5
GERES GERESS Array B 102.00 322 P **Pdif** **23 54 50.9 -0.2**
GERES GERESS Array B 102.00 322 P **Pdif** **23 54 50.9 -0.2**
comp=Z,0.3nm,0.8s,baz=30,slow=8.0,SNR=2.6
TORD Torodi Ar. Bea 122.92 288 PKP **PKPdf** **23 59 53.8 -0.1**
TORD Torodi Ar. Bea 122.92 288 PKP **PKPdf** **23 59 53.8 -0.1**
comp=Z,0.7nm,0.5s,baz=77,slow=1.6,SNR=15

IDC 11 23:42:14.0±11.0, 3°31N×126°63E, h0km, mb4.0/5, mb1 4.0/5, mb1mx3.8/20, mbtmp4.0/5, Error ellipse: s-maj=342.0km s-min=110.5km az=105.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**47.66**	**342**	P	P	23 50 52.1	-0.2
	0.7nm,0.6s,baz=152,slow=6.8,SNR=2.7						
MKAR	**Makanchi Array**	**57.84**	**325**	P	P	23 52 07.3	-0.3
	1.1nm,0.5s,baz=118,slow=8.4,SNR=2.7						
ZALV	**Zalesovo Beam**	**60.91**	**333**	P	P	23 52 28.5	-0.1
	0.8nm,0.5s,baz=136,slow=8.0,SNR=2.5						
KURBB	**Kurchatov Arra**	**62.03**	**328**	P	P	23 52 36.5	+0.3
	2.0nm,0.7s,baz=124,slow=5.8,SNR=2.8						
BRTR	**Keskin Array B**	**90.21**	**310**	P	P	23 55 16.9	-0.1
	0.9nm,0.9s,baz=108,slow=4.7,SNR=3.7						

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*IDC **11** 23:43:27.3±0.5, 5°42S×151°88E, h0km, mb4.9/17, mb1 5.0/18, mb1mx4.9/23, mbtmp4.9/18, ML3.8/1, MS4.5/8, Ms1 4.5/8, ms1mx4.1/36, Error ellipse: s-maj=18.0km s-min=12.2km az=107.0*

*BJI **11** 23:43:28.0, 5°66S×151°91E, h26km, mB5.3/22, mb4.9/38, Ms5.2/21, Ms7 4.9/21*

*MOS **11** 23:43:32.0±0.9, 5°37S×151°55E, h33km, mb5.4/22, Error ellipse: s-maj=12.4km s-min=8.4km az=72.6*

*ISCJB **11** 23:43:32.9±0.2, 5°52S±0°04×151°64E±0°03, h45km, mb5.1/70, MS4.7/15, Error ellipse: s-maj=5.8km s-min=4.2km az=155.1*

*NEIC **11** 23:43:35.0±1.2, 5°54S×151°66E, h53km±10km, mb5.2/35, Error ellipse: s-maj=7.6km s-min=6.2km az=66.0*

*DJA **11** 23:43:43, 5°72S×151°31E, h66km, mb5.3/11*

ISC 11 23:43:33.6±0.3, 5°55S±0°05×151°81E±0°05, h45km, n408, σ1§25/391, mb5.1/65, MS4.7/15, 88C-58D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.99**	**230**	*e*Pn	**Pn**	**23 45 00.5**	**+0.6**
PMG				Sn	**Sn**	**23 46 07.0**	**-0.2**
PMG	**Port Moresby**	**5.99**	**230**	P	**Pn**	**23 45 00.8**	**+1.0**
	924nm,0.9s,8μm3.0nm						
PMG	**Port Moresby**	**5.99**	**230**	Pn	Pn	23 45 02.7	+2.9
	16nm,0.3s,baz=45,slow=8.3,SNR=217						
PMG				Sn	**Sn**	**23 46 07.0**	**-0.2**
	52nm,0.3s,baz=160,slow=18,SNR=9.2						
HNR	**Honiara**	**8.94**	**116**	*e*Pn	**Pn**	**23 45 37.4**	**-2.9**
HNR	**Honiara**	**8.94**	**116**	Pn	**Pn**	**23 45 40.4**	**+0.1**
	11nm,0.3s,baz=156,slow=4.8,SNR=5.8						
HNR				LR	LR	23 48 40.1	
	comp=Z,2μm,20.8s,baz=147,slow=35						
COEN	**Coen**	**11.92**	**225**	*e*Pn	**Pn**	**23 46 19.3**	**-1.8**
	122nm,0.8s						
CTA	**Charters Tower**	**15.43**	**200**	Pn	**Pn**	**23 47 08.2**	**-0.2**
CTA	**Charters Tower**	**15.43**	**200**	*e*P	**Pn**	**23 47 07.8**	**-0.6**
	19nm,0.7s						
CTA	**Charters Tower**	**15.43**	**200**	Pn	**Pn**	**23 47 08.2**	**-0.2**
	0.3nm,0.3s,baz=24,slow=13,SNR=11						
CTA				LR	LR	23 51 00.4	
	comp=Z,537nm,19.5s,baz=25,slow=29						
CTAO	**Charters Tower**	**15.43**	**200**	*e*P	**Pn**	**23 47 08.2**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,32nm,0.9s						
CTAO	**Charters Tower**	**15.43**	**200**	*e*Pn	**Pn**	**23 47 08.2**	**-0.2**
	comp=Z,32nm,0.9s						
TLE	**Tual**	**18.98**	**269**	P	**Pn**	**23 47 55.3**	**+2.7**
	comp=Z,112nm,0.7s						
EIDS	**Eidsvold**	**19.72**	**182**	*e*Pn	**Pn**	**23 48 00.9**	**-0.4**
	comp=Z,64nm,0.8s						
GUMO	**Guam**	**20.22**	**340**	P	Pn	23 48 06.3	-1.0
GUMO				*e*Pn	**P**	**23 48 07.5**	**+2.5**
GUMO	**Guam**	**20.22**	**340**	P	Pn	23 48 06.3	-1.0
	comp=Z,95nm,0.8s,baz=212,slow=12,SNR=5.0						
GUMO				LR	LR	23 55 10.8	
	comp=Z,280nm,18.6s,baz=338,slow=35						
SWI	**Sorong**	**21.03**	**282**	P	**P**	**23 48 16.3**	**+2.5**
	comp=Z,72nm,0.8s						
MTN	**Manton Dam**	**21.64**	**249**	*e*P	**P**	**23 48 23.0**	**+2.6**
DZM	**Mont Dzumac**	**21.68**	**141**	*e*P	**P**	**23 48 21.1**	**+0.2**
	comp=Z,81nm,1.1s						
DZM				*e*LR	LR	23 53 38.9	
	comp=Z,4μm,24.1s						
DZM	**Mont Dzumac**	**21.68**	**141**	P	**P**	**23 48 21.1**	**+0.2**
DZM	**Mont Dzumac**	**21.68**	**141**	P	**P**	**23 48 21.1**	**+0.2**
	comp=Z,9.4nm,0.6s,baz=322,slow=11,SNR=21						
DZM				LR	LR	23 54 14.3	
	comp=Z,512nm,18.7s,baz=99,slow=30						
WRAB	**Tennant Creek**	**22.20**	**228**	*e*P	**P**	**23 48 27.3**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,61nm,0.7s						
WRAB	**Tennant Creek**	**22.20**	**228**	*e*P	**P**	**23 48 27.3**	**+1.0**
	comp=Z,61nm,0.7s						
WRAB	**Tennant Creek**	**22.20**	**228**	P	**P**	**23 48 28.0**	**+1.7**
	comp=Z,448nm,0.8s,SNR=7.0						
WRA	**Warramunga Arr**	**22.21**	**228**	P	**P**	**23 48 27.1**	**+0.6**
WRA	**Warramunga Arr**	**22.21**	**228**	P	**P**	**23 48 27.1**	**+0.6**
	comp=Z,54nm,0.9s,baz=52,slow=10.0,SNR=19						
ARMA	**Armidale**	**24.74**	**180**	*e*P	**P**	**23 48 52.0**	**+0.9**
	comp=Z,30nm,0.9s						
AS31	**Alice Springs**	**24.93**	**222**	*e*P	**P**	**23 48 54.0**	**+1.1**
ASAR	**Alice Springs**	**24.93**	**222**	P	**P**	**23 48 54.2**	**+1.3**
ASAR				S	S	23 53 22.4	+8.9
ASAR	**Alice Springs**	**24.93**	**222**	P	**P**	**23 48 54.2**	**+1.3**
	comp=Z,61nm,0.8s,baz=56,slow=9.2,SNR=114						
ASAR				S	S	23 53 22.4	+8.9
	comp=Z,12nm,1.1s,baz=40,slow=18,SNR=9.4						
STKA	**Stephens Creek**	**27.88**	**199**	*e*P	**P**	**23 49 22.5**	**+3.2**
STKA	**Stephens Creek**	**27.88**	**199**	P	**P**	**23 49 19.2**	**-0.1**
	comp=Z,10nm,0.9s,baz=14,slow=8.9,SNR=3.6						
STKA				LR	LR	00 00 48.5	
	comp=Z,1μm,19.4s,baz=22,slow=37						
FITZ	**Fitzroy Crossi**	**28.43**	**242**	P	**P**	**23 49 24.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**28.43**	**242**	*e*P	**P**	**23 49 23.9**	**-0.5**
	comp=Z,137nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.43**	**242**	P	**P**	**23 49 24.0**	**-0.4**
	comp=Z,79nm,0.8s,baz=75,slow=6.8,SNR=25						
PCI	**Palu**	**32.24**	**277**	P	**P**	**23 49 58.5**	**+0.3**
	comp=Z,700nm,1.1s						
FORT	**Forrest**	**33.59**	**219**	*e*P	**P**	**23 50 09.6**	**-0.1**
	comp=Z,23nm,0.6s						
MBWA	**Marble Bar**	**34.74**	**240**	*e*P	**P**	**23 50 19.0**	**-0.8**
	comp=Z,40nm,0.9s						
JOW	**Kunigami**	**39.44**	**326**	*e*P	**P**	**23 51 00.4**	**+0.8**
	comp=Z,18nm,0.8s						
JOW	**Kunigami**	**39.44**	**326**	P	**P**	**23 51 00.5**	**+0.9**
	comp=Z,39nm,0.8s,baz=137,slow=6.6,SNR=13						
KLBR	**Kellerberrin**	**41.08**	**227**	*e*P	P	23 51 16.8	+3.7
	comp=Z,22nm,0.8s						
YULB	**Yu-li**	**41.41**	**315**	*e*P	**P**	**23 51 16.0**	**0.0**
	comp=Z,25nm,0.7s						
NACB	**Ninganchiao**	**41.71**	**316**	*e*P	**P**	**23 51 19.1**	**+0.7**
	comp=Z,28nm,0.7s						
TPUB	**Ta-pu**	**41.83**	**314**	*e*P	**P**	**23 51 19.1**	**-0.3**
	comp=Z,35nm,0.8s						
SSLB	**Suanglung**	**41.91**	**315**	*e*P	**P**	**23 51 20.2**	**+0.2**
	comp=Z,21nm,0.7s						
NWAO	**Narrogin (SRO)**	**42.16**	**225**	LR	LR	00 09 49.9	
	comp=Z,1μm,19.4s,baz=27,slow=37						
YHNB	**Yeheng**	**42.19**	**317**	*e*P	**P**	**23 51 22.3**	**-0.1**
	comp=Z,37nm,0.8s						
QZH	**Quanzhou**	**44.30**	**315**⇑	*i*P	**P**	**23 51 39.4**	**+0.1**
QZH				pmax	pmax		
	comp=Z,140nm,0.8s						
NJ2	**Nanjing**	**48.81**	**322**	*e*P	**P**	**23 52 16.0**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,30nm,1.0s						
WHN	**Wuhan**	**50.72**	**317**	P	P	23 52 25.0	-4.1
YSS	**Yuzh-Sakhalins**	**52.89**	**352**	*e*	**P**	**23 52 44.1**	**-0.9**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
MDJ	**Mudanjiang**	**53.78**	**340**	P	P	23 52 54.2	+2.6
MDJ				pP	pP	23 53 00.7	-3.6
MDJ				S	**S**	**00 00 26.2**	**+3.2**
MDJ				sS	sS	00 00 36.8	-7.3
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,110nm,7.4s						
MDJ				LR	LR		
	comp=N,240nm,32.2s						
MDJ				LR	LR		
	comp=E,98nm,33.3s						
MDJ				LR	LR		
	comp=Z,340nm,24.4s						
ENH	**Enshi**	**53.95**	**314**	*e*P	**P**	**23 52 52.5**	**-0.6**
	comp=Z,41nm,1.2s						
GYA	**Guiyang**	**54.07**	**308**⇑	*i*P	**P**	**23 52 56.0**	**+1.8**
GYA				pP	**pP**	**23 53 05.4**	**-1.5**
GYA				PP	**PP**	**23 54 59.3**	**+3.1**
GYA				ScP	**ScP**	**23 57 55.0**	**+1.6**
GYA				S	**S**	**00 00 29.4**	**+1.6**
GYA				sS	sS	00 00 42.3	-6.6
GYA				SS	**SS**	**00 04 10.9**	**+0.9**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.8s						
GYA				LR	LR		
	comp=N,580nm,19.8s						
GYA				LR	LR		
	comp=E,560nm,20.1s						
GYA				LR	LR		
	comp=Z,610nm,19.4s						
CN2	**Changchun**	**54.58**	**337**	*e*P	**P**	**23 52 58.3**	**+0.8**
CN2				*e*S	**S**	**00 00 35.0**	**+1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,2μm,19.0s						
CN2				LR	LR		
	comp=E,2μm,19.0s						
CN2				LR	LR		
	comp=Z,1μm,21.0s						
XAN	**Xi'an**	**56.49**	**317**	P	**P**	**23 53 10.4**	**-1.0**
XAN				pP	pP	23 53 18.5	-5.7
XAN				sP	sP	23 53 21.6	-7.8
XAN				PP	**PP**	**23 55 17.5**	**-0.1**
XAN				S	**S**	**00 00 55.7**	**-4.0**
XAN				pmax	pmax		
	comp=Z,5.0nm,1.3s						
XAN				pmax	pmax		
	comp=Z,24nm,6.4s						
XAN				LR	LR		
	comp=N,810nm,25.6s						
XAN				LR	LR		
	comp=E,350nm,25.3s						
XAN				LR	LR		
	comp=Z,350nm,21.3s						
KMI	**Kunming**	**56.59**	**305**	P	**P**	**23 53 13.3**	**+0.8**
KMI				sP	**sP**	**23 53 25.8**	**-4.7**
KMI				pmax	pmax		
	comp=Z,15nm,1.4s						
CMAR	**Chiang Mai Arr**	**57.31**	**296**	P	**P**	**23 53 17.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**57.31**	**296**	P	**P**	**23 53 17.9**	**+0.5**
	comp=Z,4.9nm,0.7s,baz=128,slow=5.3,SNR=26						
CHTO	**Chiang Mai**	**57.42**	**296**	*e*P	**P**	**23 53 18.4**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,43nm,1.7s						
CHTO	**Chiang Mai**	**57.42**	**296**	*e*P	**P**	**23 53 18.4**	**+0.1**
	comp=Z,43nm,1.7s						
CHTO	**Chiang Mai**	**57.42**	**296**	P	**P**	**23 53 18.3**	**+0.1**
PPT2	**Papeete2**	**58.45**	**107**	*e*LR	LR	00 10 40.7	
	comp=Z,400nm,23.5s						
CD2	**Chengdu**	**58.48**	**311**	P	**P**	**23 53 26.3**	**+0.8**
CD2				pP	**pP**	**23 53 35.2**	**-3.1**
CD2				sP	**sP**	**23 53 38.8**	**-4.7**
CD2				ScP	**ScP**	**23 58 13.1**	**+0.4**
CD2				S	**S**	**00 01 26.2**	**+0.2**
CD2				sS	sS	00 01 41.0	-6.3
CD2				ScS	**ScS**	**00 03 10.2**	**-1.8**
CD2				SS	**SS**	**00 05 20.4**	**+1.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2				pmax	pmax		
	comp=Z,190nm,6.8s						
CD2				LR	LR		
	comp=N,920nm,14.8s						
CD2				LR	LR		
	comp=E,780nm,15.8s						
CD2				LR	LR		
	comp=Z,880nm,16.0s						
PETK	**Petropavlovsk-**	**58.65**	**4**	P	**P**	**23 53 26.1**	**-0.1**
PETK	**Petropavlovsk-**	**58.65**	**4**	P	**P**	**23 53 26.1**	**-0.1**
PETK	**Petropavlovsk-**	**58.65**	**4**	P	**P**	**23 53 26.1**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=156,slow=8.5,SNR=3.3						
HHC	**Hu-ho-hao-te**	**59.08**	**325**	*e*P	P	23 53 32.2	+2.6
HHC				pP	pP	23 53 42.3	-0.1
HHC				sP	sP	23 53 45.9	-1.7
HHC				PP	PP	23 55 46.0	+5.4
HHC				S	**S**	**00 01 35.7**	**+2.1**
HHC				sS	sS	00 01 52.3	-2.7
HHC				ScS	**ScS**	**00 03 16.8**	**+0.7**
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,130nm,4.2s						
HHC				LR	LR		
	comp=N,1μm,21.4s						
HHC				LR	LR		
	comp=E,1μm,23.8s						
HHC				LR	LR		
	comp=Z,3μm,22.6s						
TBI	**Tubuai**	**59.16**	**114**	*e*LR	LR	00 11 04.2	
	comp=Z,598nm,31.0s						
PMOR	**Pomariorio Ree**	**59.91**	**104**	*e*P	**P**	**23 53 37.2**	**+1.6**
	comp=Z,88nm,0.9s						
LZH	**Lanzhou**	**61.08**	**317**	*e*P	**P**	**23 53 44.1**	**+0.6**
LZH				pP	**pP**	**23 53 51.5**	**-4.8**
LZH				sP	sP	23 53 54.2	-7.3
LZH				pmax	pmax		
	comp=Z,32nm,1.2s						
LZH				pmax	pmax		
	comp=Z,250nm,5.5s						
GTA	**Gaotai**	**65.54**	**318**	*e*P	**P**	**23 54 13.2**	**+0.3**
GTA				pP	**pP**	**23 54 23.9**	**-1.9**
GTA				sP	**sP**	**23 54 27.4**	**-3.6**
GTA				PP	**PP**	**23 56 40.0**	**+2.4**
GTA				S	**S**	**00 02 57.2**	**+2.2**
GTA				sS	**sS**	**00 03 15.7**	**-0.9**
GTA				SS	**SS**	**00 07 13.2**	**+3.6**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,180nm,5.7s						
GTA				LR	LR		
	comp=N,430nm,21.8s						
GTA				LR	LR		
	comp=E,520nm,24.2s						
GTA				LR	LR		
	comp=Z,430nm,19.0s						
SONM	**Songino Array**	**66.44**	**328**	P	**P**	**23 54 18.9**	**+0.5**
SONM	**Songino Array**	**66.44**	**328**	P	**P**	**23 54 18.9**	**+0.5**
	comp=Z,9.5nm,0.7s,baz=141,slow=5.3,SNR=26						
LSA	**Lhasa**	**67.85**	**305**	*e*P	**P**	**23 54 28.0**	**-0.2**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
LSA	**Lhasa**	**67.85**	**305**	*e*P	**P**	**23 54 27.9**	**-0.2**
	comp=Z,6.6nm,0.8s						
TAPN	**Taplejung**	**69.95**	**302**	*e*P	**P**	**23 54 40.6**	**-0.5**
	comp=Z,26nm,1.0s						
ODAN	**Odare**	**70.07**	**301**	*e*P	**P**	**23 54 41.4**	**-0.4**
	comp=Z,24nm,0.8s						
TLY	**Talaya**	**70.23**	**330**	*e*P	**P**	**23 54 40.4**	**-1.6**
TLY				pmax	pmax		
	comp=Z,10.0nm,1.0s						
TLY	**Talaya**	**70.23**	**330**	*e*P	**P**	**23 54 42.0**	**0.0**
	comp=Z,10nm,1.0s						
RAMN	**Ramite**	**70.78**	**301**	*e*P	**P**	**23 54 45.3**	**-0.8**
	comp=Z,14nm,0.8s						
JIRN	**Jiri**	**71.33**	**301**	*e*P	**P**	**23 54 49.2**	**-0.4**
	comp=Z,3.6nm,0.7s						
MOY	**Mondy**	**71.55**	**329**	*e*P	**P**	**23 54 50.0**	**-0.1**
MOY				pmax	pmax		
	comp=Z,21nm,1.5s						
GUN	**Gumba**	**71.67**	**302**	*e*P	**P**	**23 54 51.0**	**-0.6**
	comp=Z,22nm,0.6s						
PKI	**Pulchoki**	**71.97**	**301**	*e*P	**P**	**23 54 52.6**	**-0.8**
KKN	**Kakani**	**72.14**	**301**	*e*P	**P**	**23 54 53.6**	**-0.7**
	comp=Z,26nm,0.8s						
DMN	**Daman**	**72.24**	**301**	*e*P	**P**	**23 54 54.5**	**-0.4**
	comp=Z,34nm,0.7s						
GKN	**Gorkha**	**72.75**	**301**	*e*P	**P**	**23 54 57.0**	**-0.8**
	comp=Z,33nm,0.8s						
KOLN	**Koldanda**	**73.56**	**301**	*e*P	**P**	**23 55 01.2**	**-1.5**
	comp=Z,28nm,0.8s						
DANN	**Dangsing**	**73.58**	**302**	*e*P	**P**	**23 55 01.9**	**-1.0**
	comp=Z,43nm,0.9s						
BILL	**Bilibino**	**74.13**	**6**	*e*P	**P**	**23 55 05.7**	**+0.8**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WMQ	**Urumqi**	**75.62**	**318**	P	**P**	**23 55 13.8**	**-0.4**
WMQ				PP	**PP**	**23 58 05.0**	**+0.8**
WMQ				*e*S	**S**	**00 04 50.0**	**-2.2**
WMQ				pmax	pmax		
	comp=Z,13nm,1.4s						
WMQ				pmax	pmax		
	comp=Z,190nm,8.0s						
WMQ				LR	LR		
	comp=N,420nm,25.4s						
WMQ				LR	LR		
	comp=E,390nm,24.6s						
WMQ				LR	LR		
	comp=Z,360nm,27.8s						
HYB	**Hyderabad**	**75.80**	**289**	*i*P	**P**	**23 55 14.0**	**-1.7**
HYB				*e*		23 55 27.0	
MKAR	**Makanchi Array**	**80.24**	**319**	*e*P	**P**	**23 55 39.1**	**-0.6**
MKAR	**Makanchi Array**	**80.24**	**319**	*e*P	**P**	**23 55 39.0**	**-0.6**
MKAR	**Makanchi Array**	**80.24**	**319**	P	**P**	**23 55 39.0**	**-0.6**
	comp=Z,7.6nm,0.9s,baz=101,slow=6.3,SNR=33						
ZALV	**Zalesovo Beam**	**81.23**	**327**	P	**P**	**23 55 43.1**	**-1.6**
ZALV	**Zalesovo Beam**	**81.23**	**327**	P	**P**	**23 55 43.1**	**-1.6**
ZALV	**Zalesovo Beam**	**81.23**	**327**	P	**P**	**23 55 43.1**	**-1.6**
	comp=Z,4.8nm,0.4s,baz=111,slow=5.9,SNR=32						
NVS	**Novosibirsk**	**82.42**	**327**	*e*P	**P**	**23 55 49.2**	**-1.8**
NVS				pmax	pmax		
	comp=Z,32nm,1.9s						
NVS				pmax	pmax		
	comp=N,7.0nm,1.6s						
NVS				pmax	pmax		
	comp=E,13nm,1.4s						
KSH	**Kashi**	**82.67**	**311**	P	**P**	**23 55 54.2**	**+1.4**
KSH				pP	**pP**	**23 56 05.1**	**-1.1**
KSH				sP	**sP**	**23 56 09.2**	**-2.1**
KSH				SKS	**SKSac**	**00 06 09.2**	**-1.7**
KSH				sS	**sS**	**00 06 26.1**	**-3.6**
KSH				SS	**SS**	**00 11 34.7**	**+4.3**
KSH				LR	LR		
	comp=N,200nm,6.4s						
KSH				LR	LR		
	comp=E,470nm,13.8s						
KSH				LR	LR		
	comp=Z,320nm,15.6s						
TKM2	**Tokmak 2**	**83.74**	**314**	P	**P**	**23 55 58.2**	**-0.2**
	SNR=14						
KURK	**Kurchatov**	**83.75**	**322**	*e*P	**P**	**23 55 57.0**	**-0.9**
KURK				pmax	pmax		
	comp=Z,20nm,1.0s						
KURK	**Kurchatov**	**83.75**	**322**	*e*P	**P**	**23 55 57.0**	**-0.9**
	comp=Z,20nm,1.0s						
KURK	**Kurchatov**	**83.75**	**322**	P	**P**	**23 55 57.7**	**-0.2**
	comp=Z,108nm,0.9s,SNR=11						
KZA	**Kyzart**	**83.79**	**313**	P	**P**	**23 56 00.1**	**+1.1**
	SNR=13						
KBK	**Karagaybulak**	**84.14**	**314**	P	**P**	**23 56 00.4**	**0.0**
	SNR=8.8						
CHMS	**Chumysh**	**84.36**

comp=Z,630nm,19.7s,baz=145,slow=31
BRVK Borovoye 89.31 323 P **P** 23 56 23.6 -1.5
comp=Z,70nm,0.9s,SNR=9.4
NLWA Neilton Lookou 90.21 43 *e*P **P** 23 56 30.8 +1.3
comp=Z,25nm,1.1s
HUMO Hull Mountain 90.22 47 *e*P **P** 23 56 31.4 +1.7
comp=Z,27nm,0.9s
BROR Big Rock Looko 90.79 46 P **P** 23 56 33.1 +0.9
FL2 Flat Top 2 91.09 44 P **P** 23 56 34.4 +0.6
BKCOR Black Crater 91.33 46 P **P** 23 56 36.1 +1.2
JCW Jim Creek 91.60 42 P **P** 23 56 37.0 +1.0
VIPM Ingram Point 92.12 46 P **P** 23 56 39.6 +1.0
VIPM Ingram Point 92.12 46 P **P** 23 56 39.6 +1.0
WCN Washoe City 92.27 51 *e*P **P** 23 56 41.1 +1.6
WCN pmax pmax
comp=Z,14nm,1.0s
WCN Washoe City 92.27 51 *e*P **P** 23 56 41.1 +1.6
comp=Z,14nm,1.0s
WCN Washoe City 92.27 51 ⇓P **P** 23 56 41.1 +1.6
baz=92
SYO Syowa Base 92.64 200 ⇓*e*PcP **PcP** 23 56 44.8 +3.9
ISA Isabella 92.97 55 ⇓P **P** 23 56 43.7 +1.1
baz=93
HAWA Hanford 93.05 44 *e*P **P** 23 56 43.8 +1.1
comp=Z,19nm,1.1s
MWC Mount Wilson 93.19 56 *e*P **P** 23 56 45.7 +1.9
MWC pmax pmax
comp=Z,14nm,0.9s
MWC Mount Wilson 93.19 56 *e*P **P** 23 56 45.7 +1.9
comp=Z,14nm,0.9s
EDW2 Edwards Air Fo 93.30 55 ⇑P **P** 23 56 45.6 +1.4
baz=93
NVAR Mina Array Bea 93.32 52 P **P** 23 56 45.9 +1.5
NVAR Mina Array Bea 93.32 52 P **P** 23 56 45.9 +1.5
comp=Z,9.4nm,0.8s,baz=256,slow=6.6,SNR=54
CWC Cottonwood Cre 93.35 54 ⇑P **P** 23 56 45.5 +1.0
baz=94
MPMC Manual Prospec 93.80 54 ⇑P **P** 23 56 47.9 +1.3
baz=94
GRAC Grapevine Rang 93.96 53 ⇑P **P** 23 56 48.4 +1.3
baz=94
GSC Goldstone 94.30 55 ⇓P **P** 23 56 49.9 +1.1
baz=94
FURC Furnace Creek, 94.33 54 ⇑P **P** 23 56 50.2 +1.4
baz=94
MONP Monument Peak 94.46 58 ⇓P **P** 23 56 51.0 +1.2
baz=95
PFO Pinyon Flat Ob 94.48 57 ⇑P **P** 23 56 51.0 +1.3
baz=95
HEC Hector,Ludlow 94.66 56 ⇓P **P** 23 56 51.7 +1.2
baz=95
NEW Newport 94.81 42 *e*P **P** 23 56 51.5 +0.7
comp=Z,13nm,1.1s
NEW Newport 94.81 42 ⇑P **P** 23 56 50.8 +0.1
baz=95
BELC Belle Mtn. Jos 94.88 56 ⇓P **P** 23 56 53.1 +1.5
baz=95
GMRC Granite Mounta 95.21 56 ⇓P **P** 23 56 54.1 +1.1
baz=95
C11A Tepee Creek (N 95.38 43 ⇑P **P** 23 56 54.0 +0.6
baz=96
ABKAR Akbulak array 95.38 319 *e*P **P** 23 56 51.8 -1.5
R11A Troy Canyon, C 95.45 52 ⇑P **P** 23 56 55.0 +0.9
baz=96
MFID Camas Ranch 95.49 47 *e*P **P** 23 56 55.0 +0.9
comp=Z,19nm,1.5s
MFID Camas Ranch 95.49 47 ⇑P **P** 23 56 54.8 +0.7
baz=96
IRM Iron Mountain 95.60 56 ⇑P **P** 23 56 56.0 +1.3
baz=96
E12A Beaver Dam Sad 95.79 44 ⇑P **P** 23 56 55.4 0.0
baz=96
GLA Glamis 95.81 57 *e*P P 23 56 59.5 +3.8
GLA pmax pmax
comp=Z,13nm,1.3s
GLA Glamis 95.81 57 *e*P P 23 56 59.5 +3.8
comp=Z,13nm,1.3s
G12A Big Creek, Yel 95.92 45 ⇓P **P** 23 56 56.2 +0.2
baz=96
D12A Red Ives Fores 95.96 43 ⇑P **P** 23 56 56.4 +0.3
baz=96
F12A Elk City 95.99 45 ⇑P **P** 23 56 56.3 0.0
baz=96
I12A Atlanta 96.01 47 ⇓P **P** 23 56 56.7 +0.2
baz=96
H12A Diamond D Ranc 96.23 46 ⇓P **P** 23 56 57.1 -0.5
baz=96
BSMT Bassoo Peak 96.36 43 *e*P **P** 23 56 58.6 +0.6
ARU Arti 96.38 326 P **P** 23 56 55.6 -2.0
ARU Arti 96.38 326 *e*P **P** 23 56 56.0 -1.7
comp=Z,7.8nm,0.6s
HLID Hailey 96.53 47 *e*P **P** 23 56 59.5 +0.6
comp=Z,5.4nm,0.8s
HLID Hailey 96.53 47 ⇑P **P** 23 56 59.4 +0.6
baz=97
YKA Yellowknife Ar 96.55 28 P **P** 23 56 58.5 +0.3
YKA PKKPbc **PKKPbc** 00 13 41.4 -3.5
YKA Yellowknife Ar 96.55 28 P **P** 23 56 58.5 +0.3
comp=Z,1.0nm,0.7s,baz=271,slow=4.7,SNR=27
YKA PKKPbc **PKKPbc** 00 13 41.3 -3.5
comp=Z,0.4nm,0.8s,baz=88,slow=2.7,SNR=6.8
D13A Huson 96.57 43 ⇓P **P** 23 56 58.9 0.0
baz=97
B13A Whitefish 96.59 42 ⇓P **P** 23 56 59.6 +0.7
baz=97
A13A Flathead Natio 96.63 41 ⇑P **P** 23 56 59.6 +0.5
baz=97
F13A Darby 96.64 45 ⇑P **P** 23 56 59.1 -0.2
baz=97
AKTO Aktyubinsk 96.66 320 P **P** 23 56 57.4 -1.6
AKTO Aktyubinsk 96.66 320 P **P** 23 56 57.4 -1.6
AKTO Aktyubinsk 96.66 320 P **P** 23 56 57.4 -1.6
comp=Z,0.5nm,0.5s,baz=97,slow=7.1,SNR=3.7
H13A Challis 96.66 46 ⇓P **P** 23 57 00.1 +0.6
baz=97
W13A Hualapai Mount 96.68 55 ⇑P **P** 23 57 01.7 +1.8
baz=97
G13A Cobalt 96.69 45 ⇓P **P** 23 56 59.9 +0.4
baz=97
J13A Cove Ranch, Pi 96.70 47 ⇓P **P** 23 57 00.2 +0.6
baz=97
R13A O'Grain Ranch, 96.71 52 ⇓P **P** 23 57 01.2 +1.3
baz=97
I13A Wildhorse Cree 96.75 47 ⇑P **P** 23 57 00.6 +0.6
baz=97
WALA Waterton Lakes 96.96 41 *e*P **P** 23 57 02.1 +1.4
comp=Z,0.3nm,0.8s
C14A Swan Lake 97.06 43 ⇑P Pdif 23 57 01.1 -0.1
baz=97
CCUT Cedar City 97.18 53 *e*P Pdif 23 57 04.1 +1.9
comp=Z,7.6nm,1.1s
G14A Jackson 97.24 45 ⇑P Pdif 23 57 02.3 +0.1
baz=97
A14A Double T Ranch 97.29 41 ⇑P Pdif 23 57 03.0 +0.8
baz=97
L14A Malta 97.36 48 ⇑P Pdif 23 57 03.7 +0.9
baz=98
B14A Marquette Ranc 97.38 42 ⇑P Pdif 23 57 02.8 +0.1
baz=98
K14A Jones Ranch, D 97.42 48 ⇑P Pdif 23 57 04.0 +1.0
baz=98
HVU Hansel Valley 97.70 49 *e*P Pdif 23 57 05.5 +1.2
HVU pmax pmax
comp=Z,9.0nm,0.9s
HVU Hansel Valley 97.70 49 *e*P Pdif 23 57 05.5 +1.2
comp=Z,9.1nm,0.9s
A15A Johnson Ranch, 97.74 41 ⇑P Pdif 23 57 04.4 +0.2
baz=98
E15A Deer Lodge 97.82 44 ⇑P Pdif 23 57 05.0 +0.3
baz=98
H15A Lima 97.82 46 ⇑P Pdif 23 57 05.3 +0.6
baz=98
C15A Salmond Ranch, 97.83 43 ⇑P Pdif 23 57 04.8 +0.1
baz=98
B15A Bradely Ranch, 97.86 42 ⇑P Pdif 23 57 04.5 -0.3
baz=98
N15A Stansbury Isla 97.89 50 ⇓P Pdif 23 57 05.4 +0.3
baz=98
K15A Arbon 97.89 48 ⇓P Pdif 23 57 05.7 +0.7
baz=98
D15A Lincoln 97.90 43 ⇓P Pdif 23 57 04.9 -0.1
baz=98
F15A Butte 97.92 45 ⇑P Pdif 23 57 05.2 0.0
baz=98
G15A Dillon 97.93 45 ⇓P Pdif 23 57 05.5 +0.2
baz=98
M15A Larsen Ranch, 97.95 49 ⇓P Pdif 23 57 05.7 +0.4
baz=98
J15A Blackfoot 97.97 47 ⇑P Pdif 23 57 05.9 +0.5
baz=98
L15A Malad City 98.00 48 ⇓P Pdif 23 57 05.7 +0.2
baz=98
U15A North Rim 98.01 54 ⇓P Pdif 23 57 07.3 +1.4
baz=98
P15A Leamington 98.06 51 ⇓P Pdif 23 57 06.9 +1.0
baz=98
G16A Moss Hill, Enn 98.41 45 ⇑P Pdif 23 57 07.9 +0.5
baz=98
C16A Fuhringer Ranc 98.41 43 ⇑P Pdif 23 57 07.0 -0.2
baz=98
E16A East Helena 98.48 44 ⇓P Pdif 23 57 07.7 +0.1
baz=99
A16A West Butte Ran 98.49 41 ⇑P Pdif 23 57 07.8 +0.2
baz=99
BOZ Bozeman (W) 98.53 45 *e*P Pdif 23 57 08.7 +0.9
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 98.53 45 *e*P Pdif 23 57 08.7 +0.9
comp=Z,4.2nm,0.8s
J16A Bone 98.57 47 ⇓P Pdif 23 57 08.9 +0.8
baz=99
K16A Soda Springs 98.59 48 ⇓P Pdif 23 57 09.3 +1.1
baz=99
I16A Newdale 98.65 47 ⇑P Pdif 23 57 09.4 +0.9
baz=99
O16A Springville 98.66 50 ⇓P Pdif 23 57 09.9 +1.3
baz=99
R16A Teasdale 98.67 52 ⇓P Pdif 23 57 10.6 +1.8
baz=99
L16A Fish Haven 98.71 48 ⇑P Pdif 23 57 08.9 +0.1
baz=99
N16A Rees Ranch, Co 98.71 50 ⇑P Pdif 23 57 10.0 +1.1
baz=99
WUAZ Wupatki 98.74 55 *e*P Pdif 23 57 12.0 +3.0
comp=Z,3.8nm,0.9s
H16A Russell Place, 98.81 46 ⇑P Pdif 23 57 10.3 +1.1
baz=99
TMUT Trail Mountain 98.89 51 *e*P Pdif 23 57 11.7 +1.9
comp=Z,7.8nm,0.9s
B17A L&G Farms, Che 99.04 42 ⇑P **Pdif** **23 57 09.7 -0.2**
baz=99
TPAW Eton Pass 99.05 47 *e*P **Pdif** **23 57 12.3 +2.0**
comp=Z,16nm,1.5s
A17A Triple J Farms 99.08 41 ⇑P **Pdif** **23 57 10.9 +0.8**
baz=99
C17A Wharram Farm, 99.08 43 ⇑P **Pdif** **23 57 10.4 +0.2**
baz=99
D17A Six Diamond Ra 99.15 43 ⇑P **Pdif** **23 57 10.7 +0.2**
baz=99
MOOW Moose Ponds 99.19 47 *e*P **Pdif** **23 57 11.4 +0.5**
comp=Z,4.8nm,1.1s
F17A Fitzpatrick Pl 99.20 45 ⇓P **Pdif** **23 57 11.5 +0.7**
baz=99
T17A Navajo Res., N 99.21 54 ⇓P **Pdif** **23 57 12.4 +1.2**
baz=99
FLWY Flagg Ranch 99.22 46 *e*P **Pdif** **23 57 12.2 +1.2**
comp=Z,5.0nm,0.8s
O17A Robinson Place 99.25 50 ⇓P **Pdif** **23 57 12.1 +0.8**
baz=99
R17A Hanksville Air 99.28 52 ⇑P **Pdif** **23 57 12.7 +1.4**
baz=99
H17A Grant Village 99.30 46 ⇑P **Pdif** **23 57 13.4 +1.9**
baz=99
I17A Pilgrim Ck. 99.31 47 ⇓P **Pdif** **23 57 12.3 +0.8**
baz=99
SRU San Rafael 99.42 51 ⇑P **Pdif** **23 57 12.8 +0.8**
baz=100
P18A Preston Nutter 99.63 51 ⇑P **Pdif** **23 57 14.6 +1.5**
baz=100
A18A Metzger Ranch, 99.64 41 ⇓P **Pdif** **23 57 12.9 +0.3**
baz=100
E18A Harlowton 99.70 44 ⇑P **Pdif** **23 57 13.8 +0.8**
baz=100
B18A Beardsley Farm 99.71 42 ⇓P **Pdif** **23 57 12.9 0.0**
baz=100
Q18A Rafter H Ranch 99.73 51 ⇓P **Pdif** **23 57 13.9 +0.6**
baz=100
J18A Kendall Valley 99.73 47 ⇓P **Pdif** **23 57 13.7 +0.4**
baz=100
EGMT Eagleton 99.75 42 ⇑P **Pdif** **23 57 13.8 +0.7**
baz=100
S18A Hurst Farm, Bl 99.85 53 ⇑P **Pdif** **23 57 15.3 +1.3**
baz=100
F18A Big Timber 99.86 45 ⇑P **Pdif** **23 57 15.1 +1.4**
baz=100
I18A Diamond G Ranc 99.86 47 ⇑P **Pdif** **23 57 14.5 +0.5**
baz=100
R18A Canyonlands Na 99.92 52 ⇓P **Pdif** **23 57 14.8 +0.5**
baz=100
G18A Lazy EL Ranch, 99.99 45 ⇓P **Pdif** **23 57 14.0 -0.4**
baz=100
BW06 Boulder Array 100.08 48 *e*Pdif **Pdif** **23 57 14.7 -0.2**
BW06 Boulder Array 100.08 48 ⇑P **Pdif** **23 57 14.8 -0.2**
baz=100
PDAR Pinedale Array 100.08 48 P **Pdif** **23 57 14.8 -0.1**
PDAR Pinedale Array 100.08 48 P **Pdif** **23 57 14.8 -0.1**
comp=Z,5.4nm,0.8s,baz=243,slow=2.1,SNR=39
RLMT Lodge 100.21 45 *e*Pdif **Pdif** **23 57 17.0 +1.6**
C19A Slack Wire Ran 100.23 43 ⇑P **Pdif** **23 57 16.0 +0.7**
baz=100
A19A Klindworth Far 100.37 41 ⇑P **Pdif** **23 57 16.0 +0.2**
baz=100
D19A Cripps Ranch, 100.38 43 ⇑P **Pdif** **23 57 16.4 +0.5**
baz=100
F19A Roth Farm, Mol 100.40 45 ⇑P **Pdif** **23 57 16.2 +0.1**
baz=100
R19A Curley Farm, L 100.42 52 ⇑P **Pdif** **23 57 17.2 +0.7**
baz=100
J19A Crowheart 100.43 47 ⇓P **Pdif** **23 57 17.5 +1.0**
baz=101
I19A Meeteetse 100.45 46 ⇓P **Pdif** **23 57 16.8 +0.4**
baz=101
E19A Rath Farm, Rou 100.48 44 ⇓P **Pdif** **23 57 16.6 +0.2**
baz=101
S19A Harvey Farm, M 100.53 53 ⇑P **Pdif** **23 57 18.6 +1.6**
baz=101
K19A Abson Red Bu 100.60 48 ⇓P **Pdif** **23 57 17.0 -0.2**
baz=101
P19A Cripple Cowboy 100.61 51 ⇑P **Pdif** **23 57 18.0 +0.7**
baz=101
PV04 Paradox Valley 100.70 52 *e*Pdif **Pdif** **23 57 19.2 +1.5**
A20A Cobblestone Ra 100.91 41 ⇑P **Pdif** **23 57 19.0 +0.7**
baz=101
MVCO Mesa Verde 101.05 53 ⇑P **Pdif** **23 57 20.6 +1.2**
baz=101
I20A Worland 101.07 46 ⇓P **Pdif** **23 57 19.9 +0.7**
baz=102
N20A Spence Gulch, 101.12 50 ⇓P **Pdif** **23 57 20.2 +0.6**
baz=101
S20A Disappointment 101.14 53 ⇑P **Pdif** **23 57 20.8 +1.0**
baz=101
Q20A Ridgley Place, 101.16 52 ⇑P **Pdif** **23 57 20.7 +1.0**
baz=101
A21A Bergtoll Ranch 101.56 41 ⇑P **Pdif** **23 57 21.8 +0.7**
baz=102
S21A Coal Bank Pass 101.60 53 ⇑P **Pdif** **23 57 22.8 +0.9**
baz=102
J21A Lysite 101.60 47 ⇓P **Pdif** **23 57 22.0 +0.4**
baz=102
E21A Keefer Ranch, 101.65 44 ⇑P **Pdif** **23 57 22.4 +0.8**
baz=102
G21A Lodge Grass 101.66 45 ⇑P **Pdif** **23 57 22.8 +1.1**
baz=102
Q21A Lamborn Mesa, 101.73 52 ⇓P **Pdif** **23 57 23.4 +1.1**
baz=102
R21A Cimarron 101.77 52 ⇓P **Pdif** **23 57 23.9 +1.3**
baz=102
K21A Alcova 101.79 48 ⇓P **Pdif** **23 57 23.3 +0.8**
baz=102
P21A Newcastle 101.80 51 ⇓P **Pdif** **23 57 23.6 +1.0**
baz=102
D22A Cohagen 102.22 43 ⇓P **Pdif** **23 57 24.8 +0.8**
baz=102
Q22A Crested Butte, 102.24 52 ⇑P **Pdif** **23 57 26.2 +1.5**
baz=102
J22A Midwest 102.30 47 ⇑P **Pdif** **23 57 25.1 +0.4**
baz=102
H22A Clearmont 102.31 46 ⇑P **Pdif** **23 57 25.8 +1.2**
baz=102
P22A Eagle 102.33 51 ⇑P **Pdif** **23 57 26.3 +1.3**
baz=102
T22A Edith 102.33 53 ⇑P **Pdif** **23 57 26.6 +1.6**
baz=102
S22A 4UR Ranch, Cre 102.36 53 ⇑P **Pdif** **23 57 27.0 +1.7**
baz=102
O22A Kremmling 102.46 50 ⇓P **Pdif** **23 57 26.2 +0.6**
baz=103
C23A Lambert 102.83 42 ⇑P **Pdif** **23 57 27.9 +1.2**
baz=103
N23A Red Feather La 102.87 49 ⇓P **Pdif** **23 57 27.9 +0.4**
baz=103
B23A Brockton 102.89 42 ⇓P **Pdif** **23 57 28.4 +1.4**
baz=103
G23A Biddle 102.94 45 ⇑P **Pdif** **23 57 28.3 +0.9**
baz=103
L23A Garrett 102.97 48 ⇓P **Pdif** **23 57 28.2 +0.4**
baz=103
SDCO Great Sand Dun 103.41 53 ⇑P **Pdif** **23 57 30.7 +0.8**
baz=104
A24A Westby 103.48 41 ⇑P **Pdif** **23 57 30.3 +0.6**
baz=104
H24A Dirks Ranch, A 103.57 45 ⇑P **Pdif** **23 57 30.2 0.0**
baz=104
ARCES ARCESS Array B 107.29 343 PKiKP **PKiKP** **00 01 54.5 -0.1**
ARCES ARCESS Array B 107.29 343 PKiKP **PKiKP** **00 01 54.5 -0.1**
comp=Z,1.5nm,0.7s,baz=0.0,slow=1.2,SNR=5.7
FINES FINESS Array B 111.32 335 PKiKP **PKiKP** **00 02 02.1 -0.3**
FINES FINESS Array B 111.32 335 PKiKP **PKiKP** **00 02 02.1 -0.3**
comp=Z,2.5nm,0.7s,baz=70,slow=1.6,SNR=5.0
AKASG Malin Array Be 114.52 324 PKiKP PKPdf 00 02 08.0 -0.8
AKASG Malin Array Be 114.52 324 PKP PKPdf 00 02 08.0 -0.8
AKASG Malin Array Be 114.52 324 PKP PKPdf 00 02 08.0 -0.8
comp=Z,3.9nm,0.7s,baz=67,slow=2.0,SNR=11
BRTR Keskin Array B 115.06 311 PKP **PKPdf** **00 02 09.7 -0.8**
BRTR Keskin Array B 115.06 311 PKP **PKPdf** **00 02 09.7 -0.8**
comp=Z,1.8nm,0.7s,baz=112,slow=2.0,SNR=8.3
HFS Hagfors 117.00 338 PKP **PKPdf** **00 02 12.5 -0.9**
HFS Hagfors 117.00 338 PKP **PKPdf** **00 02 12.5 -0.9**
comp=Z,1.2nm,0.7s,baz=54,slow=9.7,SNR=3.0
NB2 NORSAR Subarra 117.27 340 P **PKPdf** **00 02 12.7 -1.2**
comp=Z,2.4nm,0.8s,baz=70,slow=4.8
NOA NORSAR Array B 117.27 340 PKP **PKPdf** **00 02 13.2 -0.7**
NOA NORSAR Array B 117.27 340 PKP **PKPdf** **00 02 13.2 -0.7**
comp=Z,1.8nm,0.7s,baz=52,slow=1.9,SNR=6.2
MLR Muntele Rosu 118.58 320 PKP **PKPdf** **00 02 16.4 -0.6**
MLR Muntele Rosu 118.58 320 PKP **PKPdf** **00 02 16.4 -0.6**
comp=Z,1.0nm,0.8s,baz=152,slow=13,SNR=4.8
PLCA Paso Flores 119.77 144 PKP **PKPdf** **00 02 19.8 +0.3**
PLCA Paso Flores 119.77 144 PKP **PKPdf** **00 02 19.8 +0.3**
comp=Z,1.3nm,0.7s,baz=182,slow=7.9,SNR=4.7
OJC Ojcow 120.10 327 *e*P **PKPdf** **00 02 19.1 -0.6**
OJC Ojcow 120.10 327 *e*PKiKP **PKPdf** **00 02 19.6 0.0**
SADO Sadowa 120.94 40 PKP **PKPdf** **00 02 21.2 -0.2**
SADO Sadowa 120.94 40 PKP **PKPdf** **00 02 21.2 -0.2**
comp=Z,2.6nm,0.8s,baz=325,slow=4.3,SNR=5.4
SCHQ Schefferville 121.88 25 PKP **PKPdf** **00 02 23.2 +0.3**
SCHQ Schefferville 121.88 25 PKP **PKPdf** **00 02 23.2 +0.3**
comp=Z,5.1nm,1.0s,baz=353,slow=8.1,SNR=3.3
VRAC Vranov 122.34 327 PKP **PKPdf** **00 02 25.2 +1.2**
VRAC Vranov 122.34 327 PKP **PKPdf** **00 02 25.2 +1.2**
comp=Z,0.9nm,0.5s,baz=284,slow=1.9,SNR=4.8
VAY Valandovo 122.51 316 *e*PKP **PKPdf** **00 02 23.3 -1.2**
PVCC Panska Ves 122.71 329 *i* PKiKP **PKPdf** **00 02 24.8 +0.2**
PVCC Panska Ves 122.71 329 *i* P **PKPdf** **00 02 24.8 +0.2**
BRG Berggiesshubel 122.82 330 *i* P **PKPdf** **00 02 24.8 0.0**
comp=Z,8.2nm,0.8s
BRG Berggiesshubel 122.82 330 *e*PKPdf **PKPdf** **00 02 25.2 +0.4**
BRG Berggiesshubel 122.82 330 *i* PKiKP **PKPdf** **00 02 24.8 0.0**
BRG pmax pmax
comp=Z,8.0nm,0.8s
TREC Trest 122.95 327 *i* PKiKP **PKPdf** **00 02 25.0 -0.2**
TREC Trest 122.95 327 *i* P **PKPdf** **00 02 25.0 -0.2**
TREC Trest 122.95 327 P **PKPdf** **00 02 25.0 -0.2**
SKO Skopje 123.01 317 *e*PKP **PKPdf** **00 02 25.3 -0.1**
CLL Collm 123.02 330 *e*PKPdf **PKPdf** **00 02 25.3 +0.1**
CLL Collm 123.02 330 ⇓*i*PKiKP **PKPdf** **00 02 25.1 -0.1**
CLL *e* 00 02 35.0
CLL pmax pmax
comp=Z,9.0nm,0.7s
CLL Collm 123.02 330 ⇓*i*PKPdf **PKPdf** **00 02 25.1 -0.1**
comp=Z,9.0nm,0.7s
PRU Pruhonice 123.04 328 *e*PKiKP **PKPdf** **00 02 25.1 -0.2**
PRU Pruhonice 123.04 328 *e*P **PKPdf** **00 02 25.1 -0.2**
PRU Pruhonice 123.04 328 P **PKPdf** **00 02 25.1 -0.2**
FBE Freiberg 123.08 330 *e*PKPdf **PKPdf** **00 02 25.9 +0.6**
CONA Conrad Observa 123.52 326 ⇑*i*P **PKPdf** **00 02 26.2 -0.2**
CONA Conrad Observa 123.52 326 ⇑*i*PKiKP **PKPdf** **00 02 26.2 -0.2**
comp=Z,6.1nm,0.7s
NRDL Niedersach Rie 123.62 333 *e*PKPdf **PKPdf** **00 02 26.8 +0.6**
NEUB Neuenburg 123.68 331 *e*PKPdf **PKPdf** **00 02 26.9 +0.5**
TANN Tannenbergstha 123.84 330 *e*PKPdf **PKPdf** **00 02 27.2 +0.3**
CLZ Clausthal 123.93 332 *e*PKPdf **PKPdf** **00 02 27.6 +0.6**
GUNZ Gunzen 123.94 330 *e*PKPdf **PKPdf** **00 02 27.6 +0.6**
NKC Novy Kostel 123.97 330 *e*PKiKP **PKPdf** **00 02 27.1 0.0**
NKC Novy Kostel 123.97 330 *e*P **PKPdf** **00 02 27.1 0.0**
WERN Wernitzgruen 123.97 330 *e*PKPdf **PKPdf** **00 02 27.6 +0.5**
KHC Kasperske Hory 124.06 328 *e*PKiKP **PKPdf** **00 02 27.1 -0.2**
KHC *e* 00 02 36.8
KHC Kasperske Hory 124.06 328 *e*P **PKPdf** **00 02 27.1 -0.2**
KHC *ex* x 00 02 36.8
GEC2 GERESS Array S 124.17 328 *e*PKPdf **PKPdf** **00 02 27.7 +0.1**
GERES GERESS Array B 124.17 328 PKP **PKPdf** **00 02 27.6 -0.1**
GERES GERESS Array B 124.17 328 PKP **PKPdf** **00 02 27.6 -0.1**
comp=Z,6.5nm,0.6s,baz=86,slow=1.3,SNR=39
SOKA Soboth 124.68 325 ⇑*i*P **PKPdf** **00 02 28.6 -0.1**
SOKA Soboth 124.68 325 ⇑*i*PKiKP **PKPdf** **00 02 28.6 -0.1**
comp=Z,7.4nm,0.9s
GRF Grafenberg Arr 124.92 330 *e*PKPdf **PKPdf** **00 02 29.2 +0.3**
MOTA Moosalm 126.46 328 ⇑*i*PKiKP **PKPdf** **00 02 32.1 0.0**
MOTA Moosalm 126.46 328 ⇑*i*P **PKPdf** **00 02 32.1 0.0**
MOTA Moosalm 126.46 328 ⇑*i*PKiKP **PKPdf** **00 02 32.1 0.0**
comp=Z,10.0nm,0.7s
STU Stuttgart 126.53 330 *e*PKPdf **PKPdf** **00 02 32.4 +0.4**
DAVOX Davos/Dischmat 127.47 328 PKP **PKPdf** **00 02 34.5 +0.4**
DAVOX Davos/Dischmat 127.47 328 PKP **PKPdf** **00 02 34.5 +0.4**
comp=Z,5.6nm,0.6s,baz=144,slow=6.9,SNR=6.4
GIVF Givet 127.66 334 *e*PKiKP **PKPdf** **00 02 32.8 -1.3**
comp=Z,46nm,1.1s
CDF Champ du Feu 127.72 331 *e*PKiKP **PKPdf** **00 02 32.3 -2.1**
BAIF Baives 127.96 334 *e*PKiKP **PKPdf** **00 02 33.2 -1.5**
HINF Hinteralfeld 128.33 330 *e*PKiKP **PKPdf** **00 02 33.7 -1.8**
comp=Z,23nm,1.0s
PAGF Fort de Pagny 128.36 332 *e*PKiKP **PKPdf** **00 02 34.1 -1.4**
HAU Haudompre 128.45 331 *e*PKiKP **PKPdf** **00 02 34.0 -1.7**
comp=Z,20nm,0.7s
MEZF Maizieres J'vi 128.71 332 *e*PKiKP **PKPdf** **00 02 35.2 -1.0**
SFTF Sexfontaines 128.93 332 *e*PKiKP **PKPdf** **00 02 34.6 -2.0**
CABF La Chapelle 129.54 330 *e*PKiKP **PKPdf** **00 02 36.4 -1.5**
LPL La Plagne 129.95 328 *e*PKiKP **PKPdf** **00 02 37.6 -1.3**
comp=Z,15nm,0.8s
LPG La Plagne 129.95 328 *e*PKiKP **PKPdf** **00 02 37.8 -1.2**
comp=Z,39nm,1.2s
LOR Lorres 130.16 332 *e*PKiKP **PKPdf** **00 02 36.9 -2.1**
comp=Z,12nm,0.8s
MBDF Montbardon 130.45 328 *e*PKiKP **PKPdf** **00 02 37.9 -1.9**
comp=Z,18nm,0.9s
SSF Saint Saulge 130.47 332 *e*PKiKP **PKPdf** **00 02 38.0 -1.6**
comp=Z,14nm,0.9s
ORIF Oris-en-Rattie 130.80 328 *e*PKiKP **PKPdf** **00 02 38.9 -1.5**
comp=Z,14nm,0.7s
FLN La Foliniere 130.93 336 *e*PKiKP **PKPdf** **00 02 39.2 -1.2**
BGF Bois d'Agland 131.15 332 *e*PKiKP **PKPdf** **00 02 39.9 -1.0**
comp=Z,14nm,0.7s
GRR Gorron 131.38 336 *e*PKiKP **PKPdf** **00 02 39.6 -1.6**
VIVF Saint-Julien-l 131.47 329 *e*PKiKP **PKPdf** **00 02 40.4 -1.2**
TCF Toulx Ste Croi 131.65 332 *e*PKiKP **PKPdf** **00 02 40.4 -1.5**
comp=Z,14nm,0.7s
MFF Saint Martin d 132.48 334 *e*PKiKP **PKPdf** **00 02 42.3 -1.1**
KEST Kesra 134.27 316 PKP **PKPdf** **00 02 47.6 +0.4**
KEST Kesra 134.27 316 PKP **PKPdf** **00 02 47.6 +0.4**
comp=Z,5.0nm,1.0s,baz=154,slow=4.9,SNR=5.8
LPAZ La Paz 134.92 119 PKP **PKPdf** **00 02 51.0 +1.5**
LPAZ La Paz 134.92 119 PKP **PKPdf** **00 02 51.0 +1.5**
comp=Z,3.6nm,0.8s,baz=260,slow=1.2,SNR=12
ETSF Etsaut 135.49 331 *e*PKiKP **PKPdf** **00 02 47.3 -2.0**
comp=Z,14nm,0.7s
CPUP Villa Florida 137.55 140 PKP **PKPdf** **00 02 54.4 +0.9**
CPUP Villa Florida 137.55 140 PKP **PKPdf** **00 02 54.4 +0.9**
comp=Z,1.8nm,0.6s,baz=231,slow=3.6,SNR=5.0
ESDC Sonseca Array 139.61 331 PKP **PKPdf** **00 02 58.5 +1.6**
ESDC PP **PP** **00 05 51.3 0.0**
ESDC Sonseca Array 139.61 331 PKP **PKPdf** **00 02 58.5 +1.6**
comp=Z,0.5nm,0.6s,baz=15,slow=2.9,SNR=4.1
ESDC PP **PP** **00 05 51.3 0.0**
comp=Z,0.2nm,0.4s,baz=34,slow=7.1,SNR=5.4
EVO Evora 142.41 334 *e*PKiKP **PKPdf** **00 03 00.0 -1.9**
comp=Z,13nm,0.8s
MDT Midelt 145.09 324 PKPbc **PKPdf** **00 03 06.4 -0.6**
MDT Midelt 145.09 324 PKPbc **PKPdf** **00 03 06.4 -0.6**
comp=Z,6.0nm,0.9s,baz=77,slow=4.5,SNR=13

TORD	**Torodi Ar. Bea**	**149.58**	**287**	PKPbc	**PKPbc**	**00**	**03**	**19.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**149.58**	**287**	PKPbc	**PKPbc**	**00**	**03**	**19.4**	**+0.1**
	comp=Z,57nm,0.7s,baz=52,slow=1.1,SNR=168								
BDFB	**Brasilia**	**151.21**	**137**	PKPbc	**PKPbc**	**00**	**03**	**23.8**	**+0.5**
BDFB	**Brasilia**	**151.21**	**137**	PKPbc	**PKPbc**	**00**	**03**	**23.8**	**+0.5**
	comp=Z,19nm,0.8s,baz=220,slow=2.4,SNR=30								
DBIC	**Dimbokro**	**156.77**	**274**	PKP	**PKPdf**	**00**	**03**	**24.1**	**-1.1**
DBIC				PKPab	**PKPab**	**00**	**03**	**54.7**	**-0.1**
DBIC	**Dimbokro**	**156.77**	**274**	PKP	**PKPdf**	**00**	**03**	**24.1**	**-1.1**
	comp=Z,3.2nm,0.9s,baz=283,slow=3.0,SNR=3.3								
DBIC				PKPab	**PKPab**	**00**	**03**	**54.7**	**-0.1**
	comp=Z,7.5nm,0.8s,baz=84,slow=5.4,SNR=8.2								
LIC	**Lamto**	**156.95**	**273**	*e*PKIKP	PKPdf	00	03	32.9	+7.5
	comp=Z,21nm,0.9s								

NIED ***11*** *23:48:00,43.80N×147.70E,h35km,Mw4.7 Best double couple: M0 1.16000×10^16 NP1:φs47.00000°,δ77.00000°, λ92.00000°. NP2:φs217.00000°,δ14.00000°,λ80.00000°.*
BJI ***11*** *23:48:06.3,43.88N×148.27E,h35km,mB5.1/25,mb4.9/42, Ms4.7/24,Ms7 4.3/25*
JMA ***11*** *23:48:08.6±0.3,43.77N×147.66E,h0km,M4.9*
JMA Felt I J1.
SKHL ***11*** *23:48:09.6±0.1,43.91N×148.04E,h44km±13km,mb5.0/7*
MOS ***11*** *23:48:09.0±0.9,44.06N×147.73E,h36km,mb5.1/64,Error ellipse: s-maj=7.4km s-min=5.0km az=104.2*
ISCJB ***11*** *23:48:10.2±0.5,44.02N±0.03×147.81E±0.03,h47km±3km, mb4.9/173,MS4.6/11,Error ellipse: s-maj=5.7km s-min=3.4km az=148.7*
IDC ***11*** *23:48:10.2±4.7,44.07N×147.78E,h33km±35km,mb4.5/35, mb1 4.5/39,mb1mx4.5/41,mbtmp4.4/39,ML3.9/4,MS4.3/10, Ms1 4.3/10,ms1mx3.9/61,Error ellipse: s-maj=12.6km s-min=11.1km az=133.0*
NEIC ***11*** *23:48:11.7±0.6,44.08N×147.79E,h45km±5km,mb4.9/60, Error ellipse: s-maj=6.3km s-min=3.9km az=152.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
SZGRF ***11*** *23:48:14.8,45.05N×147.82E,h33km,mb5.1,Kuril Islands, Russia*
ISC 11 23:48:11.2±0.4, 44.04N±0.04×147.84E±0.04, h41km±2km, h40km:pP-P,n415,σ1§12/472, mb4.9/173, MS4.4/12, 50C-11D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.19**		**1**	⇓*i*	P	**Pn**	**23 48 31.0**	**-0.3**
KUR					*e*	S	**Sn**	**23 48 47.0**	**+0.7**
KUR						pmax	pmax		
	comp=N,1μm,0.7s								
KUR						pmax	pmax		
	comp=Z,2μm,0.7s								
KUR						pmax	pmax		
	comp=E,900nm,0.4s								
KUR						smax	smax		
	comp=N,9μm,0.5s								
KUR						smax	smax		
	comp=E,6μm,0.5s								
KUR	**Kuril'sk**	**1.19**		**1**	⇓*i*	P	**Pn**	**23 48 31.0**	**-0.3**
KUR					⇓*i*	P	**Pn**	**23 48 31.0**	**-0.3**
KUR					⇓*i*	P	**Pn**	**23 48 31.0**	**-0.3**
KUR						AMB	AMB	23 48 34.0	
	comp=E,900nm,0.4s								
KUR						AMB	AMB	23 48 34.0	
	comp=E,1μm,0.7s								
KUR						AMB	AMB	23 48 34.0	
	comp=E,2μm,0.7s								
KUR					*e*	S	**Sn**	**23 48 47.0**	**+0.7**
KUR						A	A	23 48 50.0	
	comp=E,9μm,0.5s								
KUR						A	A	23 48 50.0	
	comp=E,6μm,0.5s								
KUR						A	A	23 48 52.0	
	comp=E,22μm,1.6s								
KUR						A	A	23 48 52.0	
	comp=E,12μm,1.8s								
YUK	**Yuzh-Kuril'sk**	**1.43**	**270**	*i*	PN		**Pn**	**23 48 34.0**	**-0.5**
YUK				*i*	S		**Sn**	**23 48 52.3**	**+0.3**
YUK						pmax	pmax		
	comp=E,1μm,0.2s								
YUK						pmax	pmax		
	comp=N,982nm,0.2s								
YUK						pmax	pmax		
	comp=Z,2μm,0.4s								
YUK						smax	smax		
	comp=E,4μm,0.6s								
YUK						smax	smax		
	comp=N,9μm,0.6s								
YUK	**Yuzh-Kuril'sk**	**1.43**	**270**	⇓*i*	P		**Pn**	**23 48 34.0**	**-0.5**
YUK						AMB	AMB	23 48 41.0	
	comp=N,982nm,0.2s								
YUK						AMB	AMB	23 48 41.0	
	comp=N,1μm,0.2s								
YUK						AMB	AMB	23 48 41.0	
	comp=N,2μm,0.2s								
YUK					*i*	S	**Sn**	**23 48 52.4**	**+0.4**
YUK						A	A	23 49 01.2	
	comp=N,9μm,0.6s								
YUK						A	A	23 49 01.2	
	comp=N,4μm,0.6s								
NEM2	**Nemuro 2**	**1.66**	**247**		P		**Pn**	**23 48 35.9**	**-1.9**
NEM2					*e*	S	**Sn**	**23 48 55.9**	**-2.0**
JRA	**Rausu**	**1.96**	**268**		P		**Pn**	**23 48 41.9**	**0.0**
JNK	**Nakash**	**2.30**	**260**		P		**Pn**	**23 48 46.1**	**-0.5**
JNK					*e*	S	**Sn**	**23 49 13.8**	**+0.1**
JAK	**Akkeshi**	**2.51**	**247**		P		**Pn**	**23 48 48.4**	**-1.0**
JTKR	**Abashiri--Toko**	**2.84**	**270**		P		**Pn**	**23 48 54.7**	**+0.8**
JAR	**Ashorobuto**	**3.04**	**257**		P		**Pn**	**23 48 57.5**	**+0.7**
JAR					*e*	S	**Sn**	**23 49 33.8**	**+1.8**
JOB	**Onbets**	**3.13**	**250**		P		**Pn**	**23 48 58.1**	**+0.2**
JOB					*e*	S	**Sn**	**23 49 34.6**	**+0.6**
JMP	**Maruseppu**	**3.23**	**271**		P		**Pn**	**23 49 00.5**	**+1.1**
JCH	**Churui**	**3.56**	**248**		P		**Pn**	**23 49 03.4**	**-0.5**
JKK2	**Kamakawa 2**	**3.68**	**269**		P		**Pn**	**23 49 07.4**	**+1.9**
ASAJ	**Asahikawa**	**3.78**	**273**	*e*	Pn		**Pn**	**23 49 08.8**	**+1.9**
ASAJ					Sn		Sn	23 50 07.4	+17
ASAJ	**Asahikawa**	**3.78**	**273**		Pn		**Pn**	**23 49 09.9**	**+3.1**
	comp=N,13nm,0.3s,baz=94,slow=14,SNR=24								
ASAJ					Sn		Sn	23 50 07.4	+17
	comp=N,3.6nm,0.3s,baz=271,slow=29,SNR=3.5								
ASAJ					LR		LR	23 50 57.4	
	comp=N,2μm,18.7s,baz=116,slow=45								
JSE	**Soyaes**	**3.87**	**286**		P		**Pn**	**23 49 09.5**	**+1.4**
JFR	**Furan**	**3.91**	**259**		P		**Pn**	**23 49 09.8**	**+1.1**
ERM	**Erimo**	**3.98**	**241**	*e*	PN		**Pn**	**23 49 11.2**	**+1.5**
ERM					*e*	S	**Sn**	**23 49 57.6**	**+2.5**
ERM	**Erimo**	**3.98**	**241**	*e*	Pn		**Pn**	**23 49 11.2**	**+1.5**
ERM					*e*	S	**Sn**	**23 49 57.6**	**+2.5**
JNBK	**Urakawa-nobuka**	**4.12**	**246**		P		**Pn**	**23 49 11.9**	**+0.4**
JWK2	**Keihoku**	**4.42**	**289**		P		Pn	23 49 18.9	+3.2
YSS	**Yuzh-Sakhalins**	**4.61**	**311**	⇓*i*	PN		**Pn**	**23 49 21.2**	**+3.0**
YSS					*i*	S	**Sn**	**23 50 12.4**	**+1.9**
YSS						pmax	pmax		
	comp=E,60nm,0.8s								
YSS						pmax	pmax		
	comp=Z,50nm,0.8s								
YSS						smax	smax		
	comp=N,140nm,0.9s								
YSS						smax	smax		
	comp=E,190nm,0.9s								
YSS						MLR	MLR		
	comp=Z,1μm,18.0s								
YSS						MLR	MLR		
	comp=E,1μm,17.0s								
YSS	**Yuzh-Sakhalins**	**4.61**	**311**	*e*	Pn		**Pn**	**23 49 19.0**	**+0.8**
YSS	**Yuzh-Sakhalins**	**4.61**	**311**	⇓*i*	P		**Pn**	**23 49 21.2**	**+3.0**
YSS						AMB	AMB	23 49 22.0	
	comp=E,50nm,0.8s								
YSS						AMB	AMB	23 49 22.0	
	comp=E,60nm,0.8s								
YSS					*es*	P	sPn	23 49 39.3	+7.6
YSS					*i*	S	**Sn**	**23 50 12.4**	**+1.9**
YSS						A	A	23 50 27.3	
	comp=E,140nm,0.9s								
YSS						A	A	23 50 27.3	
	comp=E,190nm,0.9s								
YSS					*e*	LQ	LQ	23 50 31.0	
YSS						AMS	AMS	23 51 00.0	
	comp=E,1μm,18.0s								
YSS						AMS	AMS	23 51 00.0	
	comp=E,1μm,17.0s								
TYV	**Tymovskoe**	**7.67**	**335**	*e*	P		**Pn**	**23 50 03.0**	**+2.7**
TYV						AMB	AMB	23 50 05.0	
	comp=E,13nm,0.8s								
SKR	**Severo-Kuril's**	**8.70**	**37**	*e*	PN		Pn	23 50 18.6	+4.3
SKR						S	Sn	23 51 59.5	+8.6
SKR						pmax	pmax		
	comp=N,70nm,0.5s								
SKR						pmax	pmax		
	comp=E,70nm,0.5s								
SKR						pmax	pmax		
	comp=Z,80nm,0.5s								
SKR						smax	smax		
	comp=N,200nm,1.0s								
SKR						smax	smax		
	comp=E,250nm,1.0s								
SKR	**Severo-Kuril's**	**8.70**	**37**	*e*	P		Pn	23 50 18.6	+4.3
SKR						AMB	AMB	23 50 32.0	
	comp=E,70nm,0.5s								
SKR						AMB	AMB	23 50 32.0	
	comp=E,80nm,0.5s								
SKR						A	A	23 52 34.5	
	comp=E,200nm,1.0s								
SKR						A	A	23 52 34.5	
	comp=E,250nm,1.0s								
SKR						A	A	23 52 34.5	
	comp=E,110nm,1.0s								
HABR	**Khabarovsk**	**9.90**	**301**	*e*	PN		**Pn**	**23 50 30.2**	**-0.6**
HABR						pmax	pmax		
	comp=N,34nm,2.2s								
HABR						pmax	pmax		
	comp=Z,103nm,3.3s								
HABR						pmax	pmax		
	comp=E,180nm,3.3s								
HABR						MLR	MLR		
	comp=Z,830nm,19.0s								
NKL	**Nikolayevsk**	**10.27**	**335**	*e*	P		**Pn**	**23 50 35.0**	**-0.7**
NKL						AMB	AMB	23 50 38.5	
	comp=Z,26nm,1.0s								
NKL						AMB	AMB	23 50 38.5	
	comp=Z,28nm,1.0s								
NKL						AMB	AMB	23 50 38.5	
	comp=Z,43nm,1.0s								
MAJO	**Matsushiro**	**10.49**	**228**	*e*	PN		**Pn**	**23 50 38.2**	**-0.8**
MAJO	**Matsushiro**	**10.49**	**228**	*e*	Pn		**Pn**	**23 50 38.2**	**-0.8**
MAT	**Matsushiro**	**10.49**	**228**		P		**Pn**	**23 50 37.7**	**-1.3**
MAT					S		Sn	23 52 28.9	-6.2
MJAR	**Matsushiro Arr**	**10.49**	**228**		Pn		**Pn**	**23 50 38.0**	**-0.9**
MJAR					Sn		**Sn**	**23 52 34.8**	**-0.4**
MJAR	**Matsushiro Arr**	**10.49**	**228**		Pn		**Pn**	**23 50 38.0**	**-0.9**
	comp=Z,1.7nm,0.3s,baz=26,slow=12,SNR=9.1								
MJAR					Sn		**Sn**	**23 52 34.8**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=61,slow=15,SNR=2.7								
MJAR					LR		LR	23 55 39.4	
	comp=Z,197nm,18.2s,baz=75,slow=43								
PEA0B	**Petropavlovsk-**	**11.17**	**32**	*e*	Pn		**Pn**	**23 50 46.1**	**-2.0**
PETK	**Petropavlovsk-**	**11.17**	**32**		PN		**Pn**	**23 50 48.8**	**+0.7**
PETK					pmax		pmax		
	comp=Z,1.0nm,0.3s								
PETK	**Petropavlovsk-**	**11.17**	**32**		Pn		**Pn**	**23 50 48.8**	**+0.7**
PETK	**Petropavlovsk-**	**11.17**	**32**		Pn		**Pn**	**23 50 48.8**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=204,slow=13,SNR=14								
USRK	**Ussuriysk Arra**	**11.39**	**276**		Pn		**Pn**	**23 50 54.0**	**+2.8**
	comp=Z,0.6nm,0.3s,baz=90,slow=13,SNR=13								
USRK					LR		LR	23 55 22.8	
	comp=Z,834nm,18.9s,baz=254,slow=38								
KLR	**Kul'dur**	**12.21**	**301**	*e*	PN		**Pn**	**23 51 03.0**	**+0.7**
MDJ	**Mudanjiang**	**13.08**	**279**		P		**Pn**	**23 51 14.2**	**-0.1**
MDJ					S		**Sn**	**23 53 37.5**	**-0.8**
MDJ					pmax		pmax		
	comp=Z,29nm,1.0s								
MDJ					pmax		pmax		
	comp=Z,120nm,5.4s								
MDJ					LR		LR		
	comp=Z,660nm,21.0s								
MDJ	**Mudanjiang**	**13.08**	**279**	*e*	P		**Pn**	**23 51 15.2**	**+0.9**
	comp=Z,26nm,0.8s								
CN2	**Changchun**	**16.13**	**277**	*e*	P		**Pn**	**23 51 54.9**	**+0.1**
CN2					*es*	P	**sP**	**23 52 10.4**	**-2.3**
CN2					*e*	S	**Sn**	**23 54 52.4**	**-0.1**
CN2						pmax	pmax		
	comp=Z,10.0nm,0.9s								
CN2						pmax	pmax		
	comp=Z,200nm,4.0s								
CN2						LR	LR		
	comp=N,500nm,16.0s								
CN2						LR	LR		
	comp=E,500nm,16.0s								
CN2						LR	LR		
	comp=Z,500nm,17.0s								
KSRS	**Korea Array**	**16.45**	**253**		Pn		**Pn**	**23 51 57.5**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=64,slow=12,SNR=12								
KSRS					LR		LR	23 58 49.4	
	comp=Z,352nm,18.6s,baz=65,slow=39								
KSAR	**Wonju Array Be**	**16.48**	**253**		Pn		**Pn**	**23 51 57.5**	**-1.7**
ZEA	**Zeya**	**16.60**	**313**	*e*	P		**Pn**	**23 52 00.5**	**-0.1**
ZEA						AMB	AMB	23 52 08.1	
	comp=Z,58nm,1.2s								
ZEA						AMB	AMB	23 52 08.1	
	comp=Z,64nm,1.0s								
JNU	**Nakatsue**	**17.13**	**236**	*e*	P		**P**	**23 52 09.8**	**+1.0**
	comp=Z,18nm,1.0s								
JNU	**Nakatsue**	**17.13**	**236**		Pn		**P**	**23 52 10.4**	**+1.6**
	comp=Z,1.4nm,0.3s,baz=50,slow=11,SNR=8.0								
JNU					LR		LR	23 59 52.4	
	comp=Z,404nm,18.0s,baz=192,slow=41								
FX1	**Attu Island--F**	**18.90**	**53**		P		**Pn**	**23 52 29.1**	**+0.3**
FX1	**Attu Island--F**	**18.90**	**53**		P		**Pn**	**23 52 29.1**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=259,slow=5.2,SNR=2.6								
SEY	**Seymchan**	**19.11**	**6**	⇑*e*	P		**P**	**23 52 29.7**	**-0.5**
HIA	**Hailar**	**19.92**	**295**	*e*	P		**P**	**23 52 37.5**	**-1.7**
	comp=Z,5.8nm,0.6s								
DL2	**Dalian**	**20.26**	**264**		P		Pn	23 52 46.0	+0.9
DL2					pmax		pmax		
	comp=Z,40nm,0.9s								
YAK	**Yakutsk**	**20.93**	**336**	*e*	P		**P**	**23 52 48.1**	**-1.9**
YAK					pmax		pmax		
	comp=E,23nm,1.2s								
YAK					pmax		pmax		
	comp=Z,58nm,1.0s								
YAK					pmax		pmax		
	comp=N,29nm,1.2s								
BJI	**Beijing**	**23.77**	**271**		P		**P**	**23 53 18.4**	**-1.4**
BJI					pmax		pmax		
	comp=Z,54nm,1.4s								
BJT	**Baijiatuan**	**23.79**	**271**	*e*	P		**P**	**23 53 18.9**	**-1.0**
	comp=Z,33nm,0.6s								
BOD	**Bodaibo**	**25.07**	**315**	*e*	P		**P**	**23 53 29.2**	**-2.2**
NJ2	**Nanjing**	**25.64**	**252**	*e*	P		**P**	**23 53 37.0**	**+0.2**
NJ2					pmax		pmax		
	comp=Z,70nm,1.2s								
BILL	**Bilibino**	**25.94**	**16**	⇑*e*	P		**P**	**23 53 39.8**	**+0.5**
BILL					*e*			23 57 09.5	
BILL					pmax		pmax		
	comp=Z,6.0nm,1.0s								
BILL	**Bilibino**	**25.94**	**16**	*e*	P		**P**	**23 53 39.4**	**+0.1**
	comp=Z,4.6nm,0.8s								
HHC	**Hu-ho-hao-te**	**26.82**	**276**	*e*	P		**P**	**23 53 47.9**	**+0.3**
HHC					pP		**pP**	**23 53 57.9**	**-0.8**
HHC					sP		**sP**	**23 54 03.9**	**+0.3**
HHC					PP		**PnPn**	**23 54 34.4**	**+4.1**
HHC					S		**S**	**23 58 19.2**	**-1.9**
HHC					sS		**sS**	**23 58 37.0**	**-2.6**
HHC					SS		**SnSn**	**23 59 34.1**	**+6.5**
HHC					pmax		pmax		
	comp=Z,20nm,0.8s								
HHC					pmax		pmax		
	comp=Z,210nm,3.6s								
HHC					LR		LR		
	comp=N,1μm,21.4s								
HHC					LR		LR		
	comp=E,1μm,19.0s								
HHC					LR		LR		
	comp=Z,2μm,22.6s								
ULN	**Ulaanbaatar**	**28.38**	**292**	*e*	P		**P**	**23 54 01.5**	**0.0**
	comp=Z,22nm,1.1s								
SONM	**Songino Array**	**28.82**	**292**		P		**P**	**23 54 05.0**	**-0.4**
SONM	**Songino Array**	**28.82**	**292**		P		**P**	**23 54 05.0**	**-0.4**
	comp=Z,3.1nm,0.5s,baz=79,slow=8.9,SNR=21								
SONM					LR		LR	00 06 50.9	
	comp=Z,532nm,18.1s,baz=183,slow=39								
WHN	**Wuhan**	**29.64**	**254**	*e*	P		**P**	**23 54 12.5**	**-0.1**
WHN					pmax		pmax		
	comp=Z,49nm,0.6s								
ZAK	**Zakamensk**	**30.55**	**298**	*e*	P		**P**	**23 54 20.4**	**-0.3**
ZAK					*e*			23 54 37.5	
ZAK					*e*			23 57 17.8	
ZAK					pmax		pmax		
	comp=Z,2.0nm,1.1s								
TNA	**Tin City**	**32.34**	**33**	*e*	P		**P**	**23 54 36.5**	**+0.5**
	comp=Z,18nm,1.0s								
LZH	**Lanzhou**	**34.26**	**272**	*e*	P		**P**	**23 54 54.0**	**+0.6**
LZH					pP		**pP**	**23 55 05.3**	**+0.7**
LZH					sP		**sP**	**23 55 09.0**	**-0.4**
LZH					pmax		pmax		
	comp=Z,48nm,1.0s								
LZH					pmax		pmax		
	comp=Z,220nm,4.6s								
LZH					LR		LR		
	comp=N,200nm,14.0s								
LZH					LR		LR		
	comp=E,120nm,8.5s								
LZH					LR		LR		
	comp=Z,200nm,9.3s								
GTA	**Gaotai**	**35.74**	**280**		P		**P**	**23 55 06.6**	**+0.6**
GTA					pP		**pP**	**23 55 17.7**	**+0.4**
GTA					sP		**sP**	**23 55 23.1**	**+1.0**
GTA					PP		**PP**	**23 56 29.3**	**+1.8**
GTA					S		**S**	**00 00 40.1**	**-0.1**
GTA					sS		**sS**	**00 00 59.6**	**+0.7**
GTA					SS		**SnSn**	**00 03 03.6**	**-0.8**
GTA					pmax		pmax		
	comp=Z,11nm,0.6s								
GTA					pmax		pmax		
	comp=Z,400nm,7.6s								
GTA					LR		LR		
	comp=N,430nm,19.0s								
GTA					LR		LR		
	comp=E,520nm,22.3s								
GTA					LR		LR		
	comp=Z,390nm,19.0s								
CD2	**Chengdu**	**36.93**	**264**		P		**P**	**23 55 15.9**	**-0.3**
CD2					pP		**pP**	**23 55 29.1**	**+1.6**
CD2					sP		**sP**	**23 55 35.0**	**+2.7**
CD2					PP		**PnPn**	**23 56 42.6**	**+1.5**
CD2					PcP		**PcP**	**23 57 37.4**	**+0.5**
CD2					S		**S**	**00 00 56.1**	**-2.3**
CD2					sS		**sS**	**00 01 18.4**	**+1.2**
CD2					pmax		pmax		
	comp=Z,20nm,0.5s								
CD2					pmax		pmax		
	comp=Z,190nm,5.8s								
CD2					LR		LR		
	comp=N,1μm,14.8s								
CD2					LR		LR		
	comp=E,1μm,15.8s								
CD2					LR		LR		
	comp=Z,1μm,16.0s								
GYA	**Guiyang**	**37.48**	**256**	⇑*i*	P		**P**	**23 55 23.0**	**+2.1**
GYA					pP		**pP**	**23 55 34.8**	**+2.6**
GYA					PP		**PnPn**	**23 56 51.4**	**+3.5**
GYA					PcP		**PcP**	**23 57 41.5**	**+2.8**
GYA					S		**S**	**00 01 07.6**	**+0.7**
GYA					sS		**sS**	**00 01 27.0**	**+1.3**
GYA					SS		**SnSn**	**00 03 42.0**	**-4.7**
GYA					pmax		pmax		
	comp=Z,20nm,0.8s								
GYA					pmax		pmax		
	comp=Z,120nm,5.5s								
GYA					LR		LR		
	comp=N,490nm,18.7s								
GYA					LR		LR		
	comp=E,470nm,18.2s								
GYA					LR		LR		
	comp=Z,510nm,19.6s								
COLD	**Coldfoot**	**39.64**	**33**	*e*	P		**P**	**23 55 39.4**	**+0.9**
	comp=Z,8.7nm,0.9s								
MCK	**McKinley**	**40.10**	**38**	*e*	P		**P**	**23 55 42.7**	**+0.3**
	comp=Z,21nm,0.9s								
SML	**Sawmill**	**40.47**	**41**	*e*	P		**P**	**23 55 44.8**	**-0.7**
	comp=Z,6.7nm,0.8s								
COLA	**College**	**40.54**	**36**	*e*	P		**P**	**23 55 46.3**	**+0.3**
	comp=Z,25nm,0.8s								
ILAR	**Eielson Array**	**40.96**	**36**		P		**P**	**23 55 49.4**	**0.0**
ILAR	**Eielson Array**	**40.96**	**36**		P		**P**	**23 55 49.4**	**0.0**
	comp=Z,20nm,1.0s,baz=271,slow=8.1,SNR=61								
KMI	**Kunming**	**41.06**	**258**		P		**P**	**23 55 50.5**	**-0.5**
KMI					pP		**pP**	**23 56 00.5**	**-1.9**
KMI					pmax		pmax		
	comp=Z,15nm,1.1s								
ZALV	**Zalesovo Beam**	**41.22**	**307**		PcP		**PcP**	**23 57 49.8**	**-0.2**
ZALV	**Zalesovo Beam**	**41.22**	**307**		PcP		**PcP**	**23 57 49.8**	**-0.2**
	comp=Z,5.7nm,0.6s,baz=78,slow=4.1,SNR=9.9								
ZALV					LR		LR	00 13 34.4	
	comp=Z,226nm,20.6s,baz=327,slow=37								
DOT	**Dot Lake**	**42.27**	**38**	*e*	P		**P**	**23 55 58.8**	**-1.4**
	comp=Z,12nm,0.8s								
WMQ	**Urumqi**	**42.45**	**292**		P		**P**	**23 56 01.9**	**-0.1**
WMQ					pP		**pP**	**23 56 12.0**	**-1.4**
WMQ					sP		**sP**	**23 56 14.4**	**-3.8**
WMQ					pmax		pmax		
	comp=Z,16nm,1.1s								
WMQ					pmax		pmax		
	comp=Z,270nm,5.1s								
WMQ					LR		LR		
	comp=Z,520nm,28.2s								
EGAK	**Eagle**	**43.40**	**36**	*e*	P		**P**	**23 56 07.2**	**-2.1**
	comp=Z,53nm,1.4s								
MKAR	**Makanchi Array**	**44.89**	**298**		P		**P**	**23 56 20.8**	**-0.7**
MKAR								23 58 02.4	
MKAR					pmax		pmax		
	comp=Z,9.0nm,0.8s								
MKAR	**Makanchi Array**	**44.89**	**298**		P		**P**	**23 56 20.8**	**-0.7**
MKAR					PcP		**PcP**	**23 58 02.4**	**-0.1**
MKAR	**Makanchi Array**	**44.89**	**298**		P		**P**	**23 56 20.8**	**-0.7**
	comp=Z,8.8nm,0.8s,baz=80,slow=8.6,SNR=13								
MKAR					PcP		**PcP**	**23 58 02.4**	**-0.1**
	comp=Z,3.8nm,0.9s,baz=50,slow=4.9,SNR=3.8								
KURK	**Kurchatov**	**45.78**	**304**	*i*	P		**P**	**23 56 29.6**	**+1.2**
KURK					pmax		pmax		
	comp=Z,11nm,1.0s								
INK	**Inuvik**	**45.90**	**31**	*e*	P		**P**	**23 56 26.2**	**-2.9**
	comp=Z,12nm,0.9s								
LSA	**Lhasa**	**46.68**	**272**	*e*	P		**P**	**23 56 36.4**	**0.0**
	comp=Z,9.2nm,1.0s								
CHTO	**Chiang Mai**	**47.84**	**254**	*e*	P		**P**	**23 56 45.1**	**+0.1**
CHTO					pmax		pmax		
	comp=Z,21nm,0.9s								
CHTO	**Chiang Mai**	**47.84**	**254**	*e*	P		**P**	**23 56 45.1**	**+0.1**
	comp=Z,21nm,0.9s								
CMAR	**Chiang Mai Arr**	**48.08**	**254**		P		**P**	**23 56 47.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**48.08**	**254**		P		**P**	**23 56 47.4**	**+0.6**
	comp=Z,4.4nm,0.7s,baz=40,slow=7.3,SNR=24								
BRVK	**Borovoye**	**49.75**	**309**	*i*	P		**P**	**23 56 59.5**	**+0.4**
BRVK					pmax		pmax		
	comp=Z,8.0nm,1.2s								
KIP	**Kipapa**	**49.83**	**99**	⇑*e*	P		**P**	**23

SNR=8.1
KSH **Kashi** 52.22 292 P P 23 57 22.0 +3.9
KSH pP pP 23 57 34.4 +4.6
KSH sP sP 23 57 40.2 +5.7
KSH PcP **PcP** **23 58 32.9 +3.7**
KSH PP PP 23 59 22.0 +5.5
KSH ScP **ScP** **00 02 24.6 +1.8**
KSH PcS **PcS** **00 02 29.0 +1.4**
KSH S **S** **00 04 43.0 +3.0**
KSH sS sS 00 05 04.8 +5.4
KSH ScS **ScS** **00 07 04.8 +0.2**
KSH SS **SS** **00 08 20.4 +3.0**
KSH LR LR
comp=N,190nm,9.4s
KSH LR LR
comp=E,180nm,6.6s
KSH LR LR
comp=Z,370nm,8.3s
DMN **Daman** 52.23 274 *e*Pn **P** 23 57 18.5 +0.1
comp=Z,62nm,0.9s
GKN **Gorkha** 52.33 274 *e*Pn **P** 23 57 19.0 -0.1
comp=Z,69nm,1.0s
DANN **Dangsing** 52.76 275 *e*Pn **P** 23 57 22.8 +0.4
comp=Z,102nm,0.9s
KOLN **Koldanda** 53.22 275 *e*Pn **P** 23 57 25.8 +0.1
comp=Z,40nm,0.8s
SVE **Sverdlovsk** 53.27 317⇓ *e*P **P** 23 57 24.9 -0.5
SVE pmax pmax
comp=Z,15nm,1.2s
KKAR **Karatay Array** 54.02 298 *e*P **P** 23 57 31.0 -0.1
KKAR **Karatay Array** 54.02 298 *e*P **P** 23 57 31.0 -0.1
ARU **Arti** 54.47 317 *d* iP **P** 23 57 34.1 -0.1
ARU S **S** **00 05 10.3 +0.5**
ARU SS **SS** **00 08 46.4 -5.5**
ARU pmax pmax
comp=Z,14nm,1.2s
ARU **Arti** 54.47 317 *e*P **P** 23 57 33.2 -1.0
comp=Z,7.8nm,0.6s
RES **Resolute Bay** 54.55 17 *e*P **P** 23 57 33.6 -0.8
comp=Z,7.7nm,0.8s
YKA **Yellowknife Ar** 55.28 34 P **P** 23 57 40.1 +0.2
YKA **Yellowknife Ar** 55.28 34 P **P** 23 57 40.1 +0.2
comp=Z,3.6nm,0.6s,baz=300,slow=7.0,SNR=25
ABKAR **Akbulak array** 57.27 309 *e*P **P** 23 57 54.3 0.0
AKTO **Aktyubinsk** 57.72 311 P **P** 23 57 57.3 -0.2
AKTO pmax pmax
comp=Z,4.0nm,0.6s
AKTO **Aktyubinsk** 57.72 311 P **P** 23 57 57.3 -0.2
AKTO **Aktyubinsk** 57.72 311 P **P** 23 57 57.3 -0.2
comp=Z,4.4nm,0.6s,baz=67,slow=7.5,SNR=17
ARCES **ARCESS Array B** 59.15 340 P **P** 23 58 05.2 -1.9
ARCES **ARCESS Array B** 59.15 340 P **P** 23 58 05.2 -1.9
comp=Z,3.2nm,1.0s,baz=46,slow=7.7,SNR=9.0
DAG **Danmarks Havn** 59.16 356 *i* P **PcP** **23 58 53.7 -1.5**
comp=Z,21nm,0.8s
PSI **Prapat** 59.53 241 P **P** 23 58 10.4 -0.3
PSI **Prapat** 59.53 241 P **P** 23 58 10.4 -0.3
comp=Z,7.9nm,0.9s,baz=90,slow=3.0,SNR=3.5
KBL **Kabul** 59.56 290 *e*P **P** 23 58 09.7 -1.1
KBL pmax pmax
comp=Z,22nm,1.0s
KBL **Kabul** 59.56 290 *e*P **P** 23 58 09.7 -1.1
comp=Z,22nm,1.0s
KLMR **Klimovskoe** 60.45 328 *e*P **P** 23 58 15.3 -0.9
KLMR pmax pmax
comp=Z,26nm,1.2s
JOF **Joensuu** 62.06 332 *e*P **P** 23 58 25.5 -1.5
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF **Joensuu** 62.06 332 *e*p **P** 23 58 25.5 -1.5
comp=Z,3.9nm,0.6s
HYB **Hyderabad** 63.28 269 *i* P **P** 23 58 34.0 -1.9
HYB *e* 23 58 45.0
SUMG **Summit** 63.60 2 *i* P **P** **23 58 37.6 0.0**
SUMG pmax pmax
comp=Z,18nm,0.8s
SUMG **Summit** 63.60 2 *e*P **P** **23 58 37.6 0.0**
comp=Z,22nm,0.9s
SUMG **Summit** 63.60 2 *i* P **P** **23 58 37.6 0.0**
comp=Z,18nm,0.8s
CTA **Charters Tower** 63.83 182 P **P** 23 58 39.4 +0.2
CTA **Charters Tower** 63.83 182 P **P** 23 58 39.4 +0.2
comp=Z,1.6nm,0.4s,baz=14,slow=8.3,SNR=2.5
CTA LR LR 00 23 32.1
comp=Z,1μm,18.6s,baz=330,slow=33
SWMT **Swartz Lake** 63.91 48 *e*P **P** **23 58 40.7 +1.0**
KAF **Kangasniemi** 64.27 334 *e*P **P** 23 58 39.0 -2.7
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF **Kangasniemi** 64.27 334 *e*p **P** 23 58 39.0 -2.7
comp=Z,3.2nm,0.6s
SLMT **Seeley Lake** 64.34 48 *e*P **P** 23 58 43.5 +0.9
FINES **FINESS Array B** 64.84 333 P **P** 23 58 44.0 -1.4
FINES **FINESS Array B** 64.84 333 P **P** 23 58 44.0 -1.4
comp=Z,8.1nm,0.6s,baz=41,slow=8.0,SNR=46
FITZ **Fitzroy Crossi** 65.09 203 P **P** 23 58 46.8 -0.7
FITZ **Fitzroy Crossi** 65.09 203 P **P** 23 58 46.8 -0.7
comp=Z,3.9nm,0.8s,baz=0.0,slow=3.0,SNR=4.0
FFC **Flin Flon** 65.17 37 *i* P **P** 23 58 48.1 +0.4
FFC **Flin Flon** 65.17 37 *e*P **P** 23 58 47.1 -0.5
comp=Z,8.5nm,0.9s
OBN **Obninsk** 65.37 324 *e*P **P** 23 58 49.0 +0.1
OBN pmax pmax
comp=Z,5.0nm,0.8s
SCO **Scoresbysund** 65.55 356 *i* P **P** 23 58 49.8 0.0
SCO pmax pmax
comp=Z,5.0nm,1.0s
SCO **Scoresbysund** 65.55 356 *i* P **P** 23 58 49.8 0.0
comp=Z,4.8nm,1.0s
VRHR **Novokhopersk** 65.75 318 *e*P **P** 23 58 49.8 -1.7
VRHR pmax pmax
comp=N,2.0nm,0.8s
VRHR pmax pmax
comp=E,5.0nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
LRM **Limekiln Ridge** 65.79 49 *e*P **P** 23 58 49.7 -2.4
EGMT **Eagleton** 65.83 46 *e*P **P** 23 58 52.5 +0.3
comp=Z,27nm,0.2s
CMB **Columbia Colle** 65.96 60 *e*P **P** 23 58 54.0 +0.9
CMB pmax pmax
comp=Z,4.0nm,0.8s
CMB **Columbia Colle** 65.96 60 *e*P **P** 23 58 54.0 +0.9
comp=Z,3.8nm,0.8s
HLID **Hailey** 66.11 52 *e*P **P** 23 58 54.6 +0.5
comp=Z,52nm,2.8s
BOZ **Bozeman (W)** 66.34 49 *e*P **P** 23 58 56.4 +0.8
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ **Bozeman (W)** 66.34 49 *e*P **P** 23 58 56.4 +0.8
comp=Z,4.4nm,0.8s
VSR **Storozhevoye** 66.83 320 *e*P **P** 23 58 58.1 -0.3
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=E,8.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORD **Divnogorie** 66.94 319 *e*P **P** 23 58 58.6 -0.5
NVAR **Mina Array Bea** 67.00 58 P **P** 23 59 00.6 +0.6
NVAR **Mina Array Bea** 67.00 58 P **P** 23 59 00.6 +0.6
comp=Z,6.5nm,0.7s,baz=289,slow=7.0,SNR=19
IMW **Indian Meadow** 67.84 50 *e*P **P** 23 59 07.0 +1.6
comp=Z,4.7nm,0.9s
FLWY **Flagg Ranch** 67.85 50 *e*P **P** 23 59 07.0 +1.7
comp=Z,5.1nm,1.0s
DZM **Mont Dzumac** 67.97 161 P **P** 23 59 07.2 +1.4
DZM **Mont Dzumac** 67.97 161 P **P** 23 59 07.2 +1.4
comp=Z,1.8nm,0.6s,baz=246,slow=9.3,SNR=3.3
RRI2 **Red Ridge** 67.98 51 *e*P **P** 23 59 07.3 +1.1
comp=Z,7.9nm,0.8s
MOOW **Moose Ponds** 68.04 50 *e*P **P** 23 59 06.9 +0.4
comp=Z,5.6nm,1.0s
TPAW **Teton Pass** 68.10 50 *e*P **P** 23 59 08.5 +1.6
comp=Z,7.0nm,0.9s
ASAR **Alice Springs** 68.58 194 P **P** 23 59 09.0 -0.7
ASAR **Alice Springs** 68.58 194 P **P** 23 59 09.0 -0.7
comp=Z,1.4nm,0.7s,baz=11,slow=6.0,SNR=5.2
HWUT **Hardware Ranch** 68.97 52 *e*P **P** 23 59 11.5 -0.8
comp=Z,6.2nm,1.1s
DUG **Dugway** 69.17 54 *e*P **P** 23 59 14.1 +0.6
DUG pmax pmax
comp=Z,4.0nm,0.8s
DUG **Dugway** 69.17 54 *e*P **P** 23 59 14.1 +0.6
comp=Z,4.2nm,0.8s
BW06 **Boulder Array** 69.34 50 *e*P **P** 23 59 14.7 +0.1
comp=Z,60nm,2.8s
PDAR **Pinedale Array** 69.34 50 P **P** 23 59 14.6 0.0
PDAR **Pinedale Array** 69.34 50 P **P** 23 59 14.6 0.0
comp=Z,3.3nm,0.8s,baz=262,slow=2.4,SNR=12
NB2 **NORSAR Subarra** 69.51 339 P **P** 23 59 14.6 -0.5
comp=Z,9.9nm,1.0s,baz=31,slow=6.5
NOA **NORSAR Array B** 69.51 339 P **P** 23 59 14.7 -0.5
NOA **NORSAR Array B** 69.51 339 P **P** 23 59 14.7 -0.5
comp=Z,9.3nm,1.0s,baz=31,slow=6.1,SNR=10
HFS **Hagfors** 69.61 337 P **P** 23 59 14.3 -1.4
HFS **Hagfors** 69.61 337 P **P** 23 59 14.3 -1.4
comp=Z,3.1nm,0.4s,baz=46,slow=6.4,SNR=30
KIV **Kislovodsk** 69.94 312 *c* iP **P** 23 59 18.6 +0.5
KIV pmax pmax
comp=Z,80nm,0.9s
KIV MLR MLR
comp=Z,159nm,18.0s
KIV **Kislovodsk** 69.94 312 *e*P **P** 23 59 18.8 +0.7
comp=Z,68nm,0.8s
MPU **Maple Canyon** 69.97 53 *e*P **P** 23 59 19.9 +1.4
comp=Z,5.2nm,0.7s
ZEI **Tsey** 70.08 311 *e*P **P** 23 59 18.2 -0.9
ZEI pmax pmax
comp=Z,44nm,0.9s
DGRG **David-gareji** 70.13 309 P **P** 23 59 19.3 +0.1
TBLG **Delisi** 70.30 309 *e*P **P** 23 59 21.0 +0.7
TBLG **Delisi** 70.30 309 P **P** 23 59 21.0 +0.7
GOR **Gori** 70.48 310 P **P** 23 59 22.3 +0.9
ULM **Lac du Bonnet** 70.97 38 P **P** 23 59 23.0 -1.1
ULM **Lac du Bonnet** 70.97 38 P **P** 23 59 23.0 -1.1
comp=Z,2.3nm,0.6s,baz=317,slow=5.2,SNR=5.2
AKH **Akhalkalaki** 71.21 310 P **P** 23 59 27.1 +1.1
SRU **San Rafael** 71.21 54 *e*P **P** 23 59 26.8 +0.7
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU **San Rafael** 71.21 54 *e*P **P** 23 59 26.8 +0.7
comp=Z,9.0nm,0.8s
BORG **Borgarnes** 71.22 355 P **P** 23 59 25.0 -0.4
BORG **Borgarnes** 71.22 355 P **P** 23 59 25.0 -0.4
comp=Z,24nm,1.0s,baz=18,slow=9.6,SNR=3.8
GNI **Garni** 71.36 308 *e*P **P** 23 59 27.4 +0.5
comp=Z,30nm,1.0s
GNI **Garni** 71.36 308 P **P** 23 59 28.4 +1.5
comp=Z,10nm,0.8s,baz=358,slow=2.3,SNR=6.4
AKASG **Malin Array Be** 71.64 324 P **P** 23 59 27.5 -0.6
AKASG pmax pmax
comp=Z,15nm,0.7s
AKASG **Malin Array Be** 71.64 324 P **P** 23 59 27.5 -0.6
AKASG **Malin Array Be** 71.64 324 P **P** 23 59 27.5 -0.6
comp=Z,15nm,0.7s,baz=38,slow=5.9,SNR=35
AKBB **Malin Array Si** 71.64 324 *e*P **P** 23 59 27.0 -1.1
AKBB **Malin Array Si** 71.64 324 *e*P **P** 23 59 27.0 -1.1
KIEV **Kiev** 71.65 324 *e*P **P** 23 59 27.5 -0.7
KIEV pmax pmax
comp=Z,25nm,0.9s
KIEV **Kiev** 71.65 324 *e*P **P** 23 59 27.5 -0.7
comp=Z,25nm,0.9s
PV04 **Paradox Valley** 72.63 53 *e*P **P** 23 59 35.5 +0.9
WUAZ **Wupatki** 73.11 57 *e*P **P** 23 59 39.1 +1.7
comp=Z,55nm,2.6s
SMCO **Snowmass** 73.20 52 *e*P **P** 23 59 38.5 +0.2
comp=Z,9.6nm,1.4s
ISCO **Idaho Springs** 73.53 50 *e*P **P** 23 59 40.7 +0.6
ISCO pmax pmax
comp=Z,2.0nm,0.8s
ISCO **Idaho Springs** 73.53 50 *e*P **P** 23 59 40.6 +0.6
comp=Z,2.3nm,0.8s
BEL **Belsk** 74.11 329 *e*P **P** 23 59 43.1 +0.3
BEL **Belsk** 74.11 329 *e*P **P** 23 59 43.1 +0.3
BEL **Belsk** 74.11 329 *e*P **P** 23 59 43.1 +0.3
KIS **Kishinev** 74.60 322 *e*P **P** 23 59 45.0 -0.7
KIS **Kishinev** 74.60 322 *e*P **P** 23 59 45.0 -0.7
EYMN **Ely** 74.60 37 *e*P **P** 23 59 45.4 -0.4
comp=Z,49nm,2.2s
KWP **Kalwaria Pacla** 75.14 327 *e*P **P** 23 59 49.4 +0.6
KWP **Kalwaria Pacla** 75.14 327 *e*P **P** 23 59 49.4 +0.6
KWP **Kalwaria Pacla** 75.14 327 ⇑P **P** 23 59 49.1 +0.3
KWP **Kalwaria Pacla** 75.14 327 ⇑*i*P **P** 23 59 49.1 +0.3
ECSD **EROS Data Cent** 75.42 43 *e*P **P** 23 59 50.3 -0.2
comp=Z,56nm,2.3s
BURAR **Bucovina Array** 75.69 324 ⇑*i*P **P** 23 59 52.3 +0.1
STKA **Stephens Creek** 75.77 185 P **P** 23 59 51.3 -1.1
STKA **Stephens Creek** 75.77 185 P **P** 23 59 51.3 -1.1
comp=Z,1.2nm,0.7s,baz=283,slow=5.4,SNR=3.5
STKA LR LR 00 29 14.8
comp=Z,1μm,20.6s,baz=335,slow=32
OJC **Ojcow** 75.79 329 *e*P **P** 23 59 52.0 -0.5
OJC **Ojcow** 75.79 329 *e*P **P** 23 59 52.4 -0.2
OJC pmax pmax
comp=Z,32nm,1.1s
OJC **Ojcow** 75.79 329 *e*P **P** 23 59 52.4 -0.2
comp=Z,32nm,1.1s
BSEG **Bad Segeberg** 75.87 336 *e*P **P** 23 59 53.3 +0.5
comp=Z,15nm,0.8s
KOLS **Kolonicke sedl** 75.87 326 *e*P **P** 23 59 53.4 +0.4
KOLS pmax pmax
comp=Z,13nm,1.1s
TESR 75.93 322 ⇑*i*P **P** 23 59 52.9 -0.5
TLCR 75.97 320 ⇑P **P** 23 59 52.4 -1.2
TLCR 75.97 320 ⇑*i*P **P** 23 59 52.4 -1.2
RUE **Ruedersdorf** 76.03 333 *e*P **P** 23 59 54.2 +0.4
comp=Z,27nm,1.2s
UZH **Uzhgorod** 76.10 326 *e*P **P** 23 59 54.7 +0.4
CRVS **Cervenica-Dubn** 76.21 327 *e*P **P** 23 59 55.5 +0.5
CRVS pmax pmax
comp=Z,8.0nm,0.8s
CRVS **Cervenica-Dubn** 76.21 327 *e*P **P** 23 59 55.5 +0.5
NIE **Niedzica** 76.24 328 *e*P **P** 23 59 55.1 -0.1
NIE **Niedzica** 76.24 328 ⇓*e*P **P** 23 59 55.7 +0.5
PETR 76.28 322 ⇑*i*P **P** 23 59 56.5 +1.1
CFR **Carcaliu** 76.29 321 ⇑P **P** 23 59 54.3 -1.1
CFR **Carcaliu** 76.29 321 ⇑*i*P **P** 23 59 54.3 -1.1
VRI **Vrincioaia** 76.39 322 ⇑P **P** 23 59 55.3 -0.8
VRI **Vrincioaia** 76.39 322 ⇑*i*P **P** 23 59 55.3 -0.8
TRPA **Tarpa** 76.40 326 ⇑*i*P **P** 23 59 56.3 +0.3
PLOR **Plostina** 76.44 322 ⇓P **P** 23 59 56.3 -0.1
PLOR **Plostina** 76.44 322 ⇓*i*P **P** 23 59 56.3 -0.1
KSP **Ksiaz** 76.56 331 *e*P **P** 23 59 58.1 +1.2
KSP **Ksiaz** 76.56 331 *e*P **P** 23 59 58.1 +1.2
KSP **Ksiaz** 76.56 331 *e*P **P** 23 59 56.9 0.0
TIRR **Tirgusor** 76.71 320 ⇑P **P** 23 59 56.9 -0.9
TIRR **Tirgusor** 76.71 320 ⇑*i*P **P** 23 59 56.9 -0.9
OKC **Ostrava-Krasne** 76.72 329 ⇑*i*P **P** 23 59 57.9 +0.1
OKC **Ostrava-Krasne** 76.72 329 ⇑*i*P **P** 23 59 57.9 +0.1
UMR **Umm Al-Rimmam** 76.73 298 *e*P **P** 23 59 57.9 -0.3
UMR AMb AMB 23 59 58.5
comp=Z,61nm,0.8s
MIB **Mutribah** 76.80 299 *e*P **P** 23 59 58.3 -0.3
MIB AMb AMB 23 59 59.4
comp=Z,61nm,0.9s
UPC **Upice** 76.93 331 ⇑*e*P pP 00 00 10.5 -0.8
UPC **Upice** 76.93 331 ⇑*i*P **P** **23 59 59.2 +0.2**
UPC *e*pP **pP** **00 00 10.5 -0.8**
DPC **Dobruska-Polom** 76.96 331 *e*P **P** **23 59 58.5 -0.7**
DPC pmax pmax
comp=Z,30nm,1.1s
DPC **Dobruska-Polom** 76.96 331 *e*P **P** **23 59 58.5 -0.7**
comp=Z,30nm,1.1s
DPC **Doka-Polom** 76.96 331 ⇑*i*P **P** 23 59 59.6 +0.4
MORC **Moravsky Berou** 76.99 330 *e*P **P** 23 59 59.5 +0.1
MORC pmax pmax
comp=Z,22nm,0.9s
MORC **Moravsky Berou** 76.99 330 *e*P **P** 23 59 59.5 +0.1
comp=Z,22nm,0.9s
KBD **Kabd** 77.00 298 *e*P **P** 23 59 59.5 -0.3
KBD AMb AMB 00 00 00.7
comp=Z,28nm,1.0s
MLR **Muntele Rosu** 77.03 322 P **P** **00 00 00.1 +0.3**
MLR **Muntele Rosu** 77.03 322 P **P** **00 00 00.1 +0.3**
comp=Z,1.1nm,0.4s,baz=214,slow=16,SNR=23
QRN **Al-Qurain** 77.15 297 *e*P **P** **00 00 00.6 -0.1**
QRN AMb AMB 00 00 01.8
comp=Z,67nm,0.5s
NRDL **Niedersach Rie** 77.18 335 *e*P **P** **00 00 00.4 +0.2**
comp=Z,17nm,1.0s
SCHQ **Schefferville** 77.18 20 *e*P **P** **00 00 00.3 0.0**
comp=Z,18nm,1.2s
SCHQ **Schefferville** 77.18 20 P **P** **00 00 00.5 +0.1**
comp=Z,4.7nm,0.5s,baz=353,slow=7.1,SNR=23
NAY **Al-Naaiem** 77.24 298 *e*P **P** **00 00 00.6 -0.5**
NAY AMb AMB 00 00 01.4
comp=Z,26nm,0.7s
RDF **Al-Radifah** 77.27 298 *e*P **P** **00 00 01.7 +0.5**
RDF AMb AMB 00 00 02.6
comp=Z,95nm,0.7s
CLL **Collm** 77.28 333 *e*P **P** **00 00 00.9 0.0**
comp=Z,26nm,0.7s
CLL **Collm** 77.28 333 ⇑*i*P **P** **00 00 00.5 -0.4**
CLL *i* *PP **pP** **00 00 16.1 +2.9**
CLL pmax pmax
comp=Z,35nm,1.0s
CLL **Collm** 77.28 333 ⇑*i*P **P** **00 00 00.5 -0.4**
comp=Z,35nm,1.0s
CLL *i* pP **pP** **00 00 16.1 +2.9**
BRG **Berggiesshubel** 77.34 332 *e*P **P** **00 00 01.4 +0.1**
comp=Z,12nm,1.1s
PVCC **Panska Ves** 77.42 332 ⇑*i*P **P** **00 00 01.8 +0.1**
PVCC **Panska Ves** 77.42 332 ⇑*i*P **P** **00 00 01.8 +0.1**
FBE **Freiberg** 77.50 332 *e*P **P** **00 00 02.6 +0.5**
comp=Z,18nm,0.8s
VYHS **Vyhne** 77.56 328 *e*P **P** **00 00 02.8 +0.2**
VYHS pmax pmax
comp=Z,10.0nm,1.3s
PSZ **Piszkesteto** 77.62 327 *e*P **P** **00 00 03.0 0.0**
PSZ pmax pmax
comp=Z,14nm,0.9s
PSZ **Piszkesteto** 77.62 327 *e*P **P** **00 00 03.0 0.0**
comp=Z,14nm,0.9s
CLZ **Clausthal** 77.67 335 *e*P **P** **00 00 03.8 +0.7**
comp=Z,23nm,0.7s
BRTR **Keskin Array B** 77.70 314 P **P** **00 00 03.9 +0.2**
BRTR **Keskin Array B** 77.70 314 P **P** **00 00 03.9 +0.2**
comp=Z,4.1nm,0.7s,baz=69,slow=3.5,SNR=23
VRAC **Vranov** 77.73 330 P **P** **00 00 04.3 +0.8**
VRAC **Vranov** 77.73 330 P **P** **00 00 04.3 +0.8**
comp=Z,21nm,1.0s,baz=32,slow=5.5,SNR=22
NEUB **Neuenburg** 77.77 333 *e*P **P** **00 00 03.8 +0.2**
comp=Z,15nm,0.8s
PRU **Pruhonice** 77.88 331 ⇑*i*P **P** **00 00 04.5 +0.2**
PRU *e* 00 00 15.3
PRU **Pruhonice** 77.88 331 ⇑*i*P **P** **00 00 04.5 +0.2**
PRU *ex* x 00 00 15.3
IBBN **Ibbenburen** 78.04 336 *e*P **P** **00 00 05.4 +0.3**
comp=Z,22nm,0.8s
SMOL **Smolenice** 78.08 329 *e*P **P** **00 00 06.5 +1.1**
TREC **Trest** 78.14 330 ⇑*i*P **P** **00 00 06.0 +0.2**
TREC **Trest** 78.14 330 ⇑*i*P **P** **00 00 06.0 +0.2**
WERD **Werda** 78.25 333 *e*P **P** **00 00 06.7 +0.3**
comp=Z,10.0nm,0.9s
PLN **Plauen** 78.27 333 *e*P **P** **00 00 06.8 +0.4**
comp=Z,61nm,1.1s
MOX **Moxa** 78.31 333 *e*P **P** **00 00 06.9 +0.2**
comp=Z,12nm,0.9s
GUNZ **Gunzen** 78.31 333 *e*P **P** **00 00 07.1 +0.4**
comp=Z,11nm,0.8s
WERN **Wernitzgruen** 78.36 333 *e*P **P** **00 00 07.5 +0.5**
comp=Z,13nm,0.8s
NKC **Novy Kostel** 78.39 333 ⇑*i*P **P** **00 00 06.9 -0.2**
NKC **Novy Kostel** 78.39 333 ⇑*i*P **P** **00 00 06.9 -0.2**
ROTZ **Rotzenmuhle** 78.87 332 *e*P **P** **00 00 10.5 +0.7**
comp=Z,11nm,1.1s
KHC **Kasperske Hory** 78.94 331 ⇑*i*P **P** **00 00 10.4 +0.1**
KHC *e* 00 00 19.8
KHC **Kasperske Hory** 78.94 331 *e*P **P** **00 00 10.5 +0.3**
comp=Z,18nm,0.7s
KHC **Kasperske Hory** 78.94 331 ⇑*i*P **P** **00 00 10.4 +0.1**
KHC *ex* x 00 00 19.8
GEC2 **GERESS Array S** 79.14 331 *e*P **P** **00 00 11.6 +0.2**
comp=Z,7.0nm,0.7s
GERES **GERESS Array B** 79.14 331 P **P** **00 00 11.1 -0.3**
GERES **GERESS Array B** 79.14 331 P **P** **00 00 11.1 -0.3**
comp=Z,4.8nm,0.6s,baz=40,slow=5.7,SNR=30
CONA **Conrad Observa** 79.15 329 *i* P **P** **00 00 11.9 +0.5**
comp=Z,7.6nm,0.6s
CONA **Conrad Observa** 79.15 329 *i* P **P** **00 00 11.9 +0.5**
comp=Z,7.6nm,0.6s
WET **Wettzell** 79.17 332 *e*P **P** **00 00 12.1 +0.6**
comp=Z,16nm,1.0s
GRF **Grafenberg Arr** 79.26 333 *e*P **P** **00 00 12.7 +0.8**
comp=Z,29nm,0.9s
GRFO **Grafenberg** 79.26 333 *e*P **P** **00 00 11.8 -0.1**
GRFO pmax pmax
comp=Z,26nm,0.9s
GRFO **Grafenberg** 79.26 333 *e*P **P** **00 00 11.8 -0.1**
comp=Z,26nm,0.9s
GDL2 **Guadalupe Moun** 79.60 55 *e*P **P** **00 00 14.7 +0.5**
TNS **Taunus Mts** 79.67 335 *e*P **P** **00 00 14.6 +0.4**
comp=Z,11nm,0.9s
MOA **Molln** 79.79 330 *i* P **P** **00 00 15.1 +0.2**
comp=Z,5.9nm,0.8s
MOA **Molln** 79.79 330 *i* P **P** **00 00 15.1 +0.2**
comp=Z,5.9nm,0.8s
MEM **Membach** 80.06 336 P **P** **00 00 16.4 +0.2**
comp=Z,9.7nm,1.0s
RJOB **Jochberg** 80.41 331 *e*P **P** **00 00 19.0 +0.8**
comp=Z,8.0nm,0.9s
BCLA **Clavier** 80.43 337 P **P** **00 00 17.7 -0.5**
comp=Z,24nm,2.7s
SOKA **Soboth** 80.50 329 *i* P **P** **00 00 18.9 +0.1**
comp=Z,13nm,0.8s
SOKA **Soboth** 80.50 329 *i* P **P** **00 00 18.9 +0.1**
comp=Z,13nm,0.8s
FUR **Furstenfeldbru** 80.56 332 *e*P **P** **00 00 19.5 +0.5**
comp=Z,25nm,1.0s
RAR **Rarotonga** 80.71 131 P **P** **00 00 21.4 +1.4**
RAR **Rarotonga** 80.71 131 P **P** **00 00 21.4 +1.4**
comp=Z,4.1nm,0.3s,baz=328,slow=15,SNR=2.5
KBA **Koelnbreinsper** 80.78 330 *i* P **P** **00 00 21.0 +0.6**
KBA pmax pmax
comp=Z,12nm,0.6s
KBA **Koelnbreinsper** 80.78 330 *i* P **P** **00 00 20.9 +0.6**
comp=Z,12nm,0.6s
KBA **Koelnbreinsper** 80.78 330 *i* P **P** **00 00 21.0 +0.6**
comp=Z,12nm,0.6s
GIVF **Givet** 80.85 337 *e*P **P** **00 00 19.9 -0.6**
comp=Z,22nm,0.8s
BAIF **Baives** 81.06 337 *e*P **P** **00 00 21.3 -0.3**
WTTA **Wattenberg** 81.22 332 *i* P **P** **00 00 23.1 +0.4**
WTTA pmax pmax
comp=Z,20nm,0.7s
WTTA **Wattenberg** 81.22 332 *i* P **P** **00 00 23.1 +0.4**
comp=Z,20nm,0.7s
WTTA **Wattenberg** 81.22 332 *i* P **P** **00 00 23.1 +0.4**
comp=Z,20nm,0.7s
RETA **Reutte** 81.32 332 *i* P **P** **00 00 23.4 +0.3**
comp=Z,14nm,1.0s
RETA **Reutte** 81.32 332 *i* P **P** **00 00 23.4 +0.3**
comp=Z,14nm,1.0s
BFO **Black Forest** 81.38 334 *e*P **P** **00 00 23.5 +0.1**
comp=Z,9.0nm,1.0s
BFO **Black Forest** 81.38 334 *e*P **P** **00 00 23.4 +0.1**
BFO pmax pmax
comp=Z,14nm,1.2s
BFO **Black Forest** 81.38 334 *e*P **P** **00 00 23.4 0.0**
comp=Z,14nm,1.2s
ASF **Jabal al Asfar** 81.46 307 P **P** **00 00 23.2 -1.0**
ASF **Jabal al Asfar** 81.46 307 P **P** **00 00 23.2 -1.0**
comp=Z,5.8nm,0.7s,baz=326,slow=2.7,SNR=10
NWAO **Narrogin (SRO)** 81.53 206 P **P** **00 00 23.5 -0.6**
NWAO **Narrogin (SRO)** 81.53 206 P **P** **00 00 23.5 -0.6**
comp=Z,12nm,1.0s,baz=43,slow=6.5,SNR=2.4
NWAO LR LR 00 32 38.4
comp=Z,745nm,20.4s,baz=150,slow=33
CDF **Champ du Feu** 81.63 335 ⇑*i*P **P** **00 00 24.3 -0.5**
comp=Z,31nm,1.1s
MMAI **Mount Meron Ar** 81.70 308 P **P** **00 00 26.5 +1.1**
MMAI **Mount Meron Ar** 81.70 308 P **P** **00 00 26.5 +1.1**
comp=Z,11nm,0.6s,baz=45,slow=6.0,SNR=23
SKO **Skopje** 81.81 323 *e*P **P** **00 00 25.1 -0.6**
VAY **Valandovo** 81.83 322 *e*P **P** **00 00 24.8 -1.1**
PAGF **Fort de Pagny** 81.97 336 ⇑*i*P **P** **00 00 26.4 -0.1**
comp=Z,6.8nm,0.7s
TXAR **Lajitas Array** 82.07 57 P **P** **00 00 27.6 +0.1**
TXAR PKKPbc **PKKPbc** **00 18 56.0 +1.7**
TXAR **Lajitas Array** 82.07 57 P **P** **00 00 27.6 +0.1**
comp=Z,5.4nm,0.8s,baz=296,slow=3.8,SNR=29
TXAR PKKPbc **PKKPbc** **00 18 56.0 +1.7**
comp=Z,0.2nm,0.6s,baz=176,slow=3.8,SNR=3.7
MEZF **Maizieres J'vi** 82.22 336 *e*P **P** **00 00 27.4 -0.3**
comp=Z,23nm,0.9s
DAVOX **Davos/Dischmat** 82.23 332 P **P** **00 00 27.7 -0.4**
DAVOX **Davos/Dischmat** 82.23 332 P **P** **00 00 27.7 -0.4**
comp=Z,4.0nm,0.6s,baz=59,slow=2.8,SNR=8.1
FUORN **Ofenpass-Fuorn** 82.24 332 *e*P **P** **00 00 28.7 +0.5**
comp=Z,16nm,0.9s
HAU **Haudompre** 82.28 335 *e*P **P** **00 00 27.4 -0.7**
comp=Z,9.9nm,0.7s
HINF **Hinteralfeld** 82.29 335 ⇑*i*P **P** **00 00 27.4 -0.8**
comp=Z,14nm,0.8s
SFTF **Sexfontaines** 82.49 336 ⇑*i*P **P** **00 00 28.8 -0.4**

comp=Z,20nm,0.8s
BIA Bitola 82.63 322 *eP* **P 00 00 28.7 -1.4**
TUE Stuetta 82.68 332 *eP* **P 00 00 30.6 +0.2**
comp=Z,48nm,1.8s
FLN La Foliniere 83.49 340⇑*iP* **P 00 00 33.9 -0.4**
LDF La Druitiere 83.56 339 *eP* **P 00 00 34.6 -0.1**
comp=Z,18nm,0.9s
CABF La Chapelle 83.60 335 *eP* **P 00 00 34.5 -0.6**
LOR Lormes 83.68 336⇑*iP* **P 00 00 34.9 -0.5**
comp=Z,32nm,1.0s
MIAR Mount Ida 83.90 47 *eP* **P 00 00 37.1 +0.4**
MIAR pmax pmax
comp=Z,9.0nm,0.9s
MIAR Mount Ida 83.90 47 *eP* **P 00 00 37.1 +0.4**
comp=Z,8.6nm,0.9s
GRR Gorron 83.93 340 *eP* **P 00 00 36.5 -0.1**
comp=Z,47nm,1.0s
SSF Saint Saulge 83.97 336 *eP* **P 00 00 36.3 -0.5**
comp=Z,25nm,0.9s
HYF Humbligny 84.03 337 *eP* **P 00 00 37.0 -0.1**
LPL La Plagne 84.38 334⇑*iP* **P 00 00 39.1 -0.1**
comp=Z,33nm,0.9s
LPG La Plagne 84.39 334⇑*iP* **P 00 00 39.4 +0.1**
comp=Z,17nm,0.7s
EIL Elat 84.43 306 P **P 00 00 40.0 +0.6**
EIL Elat 84.43 306 P **P 00 00 40.0 +0.6**
comp=Z,20nm,1.0s,baz=27,slow=7.2,SNR=13
SGMF Saint Gilles 84.47 341⇑*iP* **P 00 00 39.5 +0.2**
comp=Z,38nm,0.8s
ROSF Rostrenen 84.57 341 *eP* **P 00 00 39.7 -0.1**
comp=Z,58nm,1.0s
BGF Bois d'Agland 84.62 337 *eP* **P 00 00 39.1 -1.0**
QUIF Quistinic 84.94 341⇑*iP* **P 00 00 41.6 0.0**
comp=Z,18nm,0.8s
TCF Toulx Ste Croi 85.05 337 *eP* **P 00 00 42.3 0.0**
comp=Z,32nm,1.1s
MBDF Montbardon 85.07 333 *eP* **P 00 00 41.9 -0.7**
ORIF Oris-en-Rattie 85.18 334⇑*iP* **P 00 00 43.1 0.0**
comp=Z,31nm,1.0s
MFF Saint Martin d 85.40 338⇑*iP* **P 00 00 44.3 +0.3**
comp=Z,32nm,0.8s
VIVF Saint-Julien-l 85.62 335 *eP* **P 00 00 44.6 -0.6**
comp=Z,36nm,1.1s
RJF Les Rejaudoux 86.14 337 *eP* **P 00 00 47.8 0.0**
comp=Z,35nm,1.1s
CAF Calviac 86.33 336 *eP* **P 00 00 49.3 +0.6**
comp=Z,51nm,1.2s
LMR La Mourre 86.39 333 *eP* **P 00 00 48.5 -0.5**
comp=Z,73nm,1.1s
LFF La Frestale 86.69 337 *eP* **P 00 00 49.7 -0.7**
comp=Z,27nm,0.8s
SWET Sewanee 87.21 41 *eP* **P 00 00 53.2 0.0**
comp=Z,22nm,1.4s
TKL Tuckaleechee C 87.86 40 *eP* **P 00 00 56.2 0.0**
EPF Esparros 88.56 337 *eP* **P 00 00 59.6 +0.1**
comp=Z,14nm,0.9s
SJPF Ste Jean 88.92 338 *eP* **P 00 01 00.3 -0.9**
comp=Z,64nm,1.2s
ETSF Etsaut 88.94 337 *eP* **P 00 01 00.8 -0.5**
ESDC Sonseca Array 92.87 339 P **P 00 01 19.1 -0.6**
ESDC Sonseca Array 92.87 339 P **P 00 01 19.1 -0.6**
comp=Z,1.0nm,0.6s,baz=26,slow=3.8,SNR=7.5
TORD Torodi Ar. Bea 115.27 323 PKP **PKPdf 00 06 47.3 -1.2**
TORD Torodi Ar. Bea 115.27 323 PKP **PKPdf 00 06 47.3 -1.2**
comp=Z,0.8nm,0.9s,baz=28,slow=3.4,SNR=4.5
DBIC Dimbokro 123.82 327 PKP **PKPdf 00 07 04.2 -0.8**
DBIC Dimbokro 123.82 327 PKP **PKPdf 00 07 04.2 -0.8**
comp=Z,2.0nm,0.7s,baz=56,slow=3.6,SNR=3.7
NVL N'lazarevskaya 145.64 204 *e*PKP2 **PKPab 00 07 44.6 +0.2**
NVL pmax pmax
comp=Z,8.0nm,0.9s
BDFB Brasilia 148.65 30 PKPbc **PKPbc 00 07 53.9 -0.3**
BDFB Brasilia 148.65 30 PKPbc **PKPbc 00 07 53.9 -0.3**
comp=Z,6.8nm,0.8s,baz=86,slow=2.5,SNR=6.7
PLCA Paso Flores 151.62 97 PKPbc **PKPbc 00 08 00.9 +0.2**
PLCA Paso Flores 151.62 97 PKPbc **PKPbc 00 08 00.9 +0.2**
comp=Z,3.9nm,0.8s,baz=277,slow=2.5,SNR=8.9
CPUP Villa Florida 153.05 57 PKPbc **PKPbc 00 08 03.8 -0.4**
CPUP Villa Florida 153.05 57 PKPbc **PKPbc 00 08 03.8 -0.4**
comp=Z,0.6nm,0.5s,baz=90,slow=6.1,SNR=2.9

*IDC **11** 23:48:57.5±0.9,5°.33S×151°.85E, h0km, mb4.5/11, mb1 4.6/11,mb1mx4.4/17,mbtmp4.4/11, Error ellipse: s-maj=34.2km s-min=17.7km az=120.0*
*ISCJB **11** 23:49:02.6±0.6,5°.35S±0°.08×151°.8E±0°.1, h45km, mb4.5/14, Error ellipse: s-maj=16.3km s-min=9.0km az=30.4*
*NEIC **11** 23:49:02.8±0.5,5°.28S×151°.89E, h35km, mb4.5/3, Error ellipse: s-maj=14.5km s-min=8.8km az=113.0*
ISC 11 23:49:04.0±0.6,5°.40S±0°.09×151°.8E±0°.1, h45km, n37, σ0°96/41, mb4.5/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.10**	**229**	Pn	**Pn**	**23 50 32.5**	**+0.9**
PMG				Sn	**Sn**	**23 51 39.1**	**-1.0**
PMG	**Port Moresby**	**6.10**	**229**	Pn	**Pn**	**23 50 32.5**	**+0.9**
	4.2nm,0.3s,baz=39,slow=11,SNR=4.2						
PMG				Sn	**Sn**	**23 51 39.1**	**-1.0**
	10nm,0.3s,baz=143,slow=21,SNR=6.5						
CTA	**Charters Tower**	**15.57**	**200**	Pn	**P**	**23 52 43.5**	**-0.6**
CTA	**Charters Tower**	**15.57**	**200**	Pn	**P**	**23 52 43.5**	**-0.6**
	0.1nm,0.3s,baz=10.0,slow=17,SNR=3.5						
DZM	**Mont Dzumac**	**21.80**	**141**	*e*P	**P**	**23 53 51.9**	**-0.5**
WRAB	**Tennant Creek**	**22.30**	**228**	*e*P	**P**	**23 53 58.2**	**+0.4**
	10nm,0.6s						
WRA	**Warramunga Arr**	**22.32**	**228**	P	**P**	**23 53 58.9**	**+0.9**
WRA	**Warramunga Arr**	**22.32**	**228**	P	**P**	**23 53 58.9**	**+0.9**
	3µm,0.3s,baz=0.0,slow=0.0,SNR=12						
ASAR	**Alice Springs**	**25.05**	**222**	P	**P**	**23 54 24.6**	**+0.3**
ASAR	**Alice Springs**	**25.05**	**222**	P	**P**	**23 54 24.6**	**+0.3**
	13nm,0.7s,baz=58,slow=8.6,SNR=21						
STKA	**Stephens Creek**	**28.03**	**199**	*e*P	**P**	**23 54 51.7**	**+0.7**
	1.1nm,1.1s						
STKA	**Stephens Creek**	**28.03**	**199**	P	**P**	**23 54 52.0**	**+1.0**
	1.7nm,0.7s,baz=29,slow=10.0,SNR=2.9						
FITZ	**Fitzroy Crossi**	**28.52**	**242**	*e*P	**P**	**23 54 56.8**	**+1.3**
	13nm,0.9s						
FITZ	**Fitzroy Crossi**	**28.52**	**242**	P	**P**	**23 54 53.9**	**-1.6**
	14nm,0.8s,baz=74,slow=5.6,SNR=10						
JOW	**Kunigami**	**39.32**	**326**	P	**P**	**23 56 29.5**	**+0.6**
JOW	**Kunigami**	**39.32**	**326**	P	**P**	**23 56 29.5**	**+0.6**
	16nm,0.9s,baz=121,slow=16,SNR=3.7						
ULN	**Ulaanbaatar**	**65.99**	**329**	P	**P**	**23 59 45.5**	**-0.4**
	3.8nm,0.8s						
SONM	**Songino Array**	**66.31**	**328**	P	**P**	**23 59 48.2**	**+0.2**
SONM	**Songino Array**	**66.31**	**328**	P	**P**	**23 59 48.2**	**+0.2**
	2.3nm,0.7s,baz=144,slow=4.4,SNR=11						
MKAR	**Makanchi Array**	**80.13**	**319**	P	**P**	**00 01 09.2**	**-0.2**
MKAR	**Makanchi Array**	**80.13**	**319**	P	**P**	**00 01 09.2**	**-0.2**
	1.9nm,0.8s,baz=99,slow=6.3,SNR=6.2						
ZALV	**Zalesovo Beam**	**81.11**	**327**	P	**P**	**00 01 13.6**	**-0.8**
ZALV	**Zalesovo Beam**	**81.11**	**327**	P	**P**	**00 01 13.6**	**-0.8**
	0.9nm,0.4s,baz=102,slow=5.7,SNR=4.4						
ILAR	**Eielson Array**	**83.08**	**22**	P	**P**	**00 01 23.6**	**-1.0**
ILAR	**Eielson Array**	**83.08**	**22**	P	**P**	**00 01 23.6**	**-1.0**
	1.3nm,0.7s,baz=254,slow=4.8,SNR=13						
NVAR	**Mina Array Bea**	**93.22**	**52**	P	**P**	**00 02 15.5**	**+1.3**
NVAR	**Mina Array Bea**	**93.22**	**52**	P	**P**	**00 02 15.5**	**+1.3**
	2.1nm,0.8s,baz=262,slow=5.5,SNR=7.1						
YKA	**Yellowknife Ar**	**96.41**	**28**	P	**P**	**00 02 28.5**	**+0.5**
YKA	**Yellowknife Ar**	**96.41**	**28**	P	**P**	**00 02 28.5**	**+0.5**
	0.3nm,0.7s,baz=270,slow=4.1,SNR=4.1						
PDAR	**Pinedale Array**	**99.97**	**48**	P	**Pdif**	**00 02 43.4**	**-1.4**
PDAR	**Pinedale Array**	**99.97**	**48**	P	**Pdif**	**00 02 43.4**	**-1.4**
	1.5nm,0.9s,baz=235,slow=2.3,SNR=5.9						
GERES	**GERESS Array B**	**124.04**	**328**	PKP	**PKPdf**	**00 07 56.7**	**-1.0**
GERES	**GERESS Array B**	**124.04**	**328**	PKP	**PKPdf**	**00 07 56.7**	**-1.0**
	1.2nm,0.7s,baz=48,slow=2.0,SNR=8.1						
TORD	**Torodi Ar. Bea**	**149.55**	**287**	PKPbc	**PKPbc**	**00 08 48.7**	**-0.9**
TORD				PKPab	**PKPab**	**00 08 56.2**	**+1.6**
TORD	**Torodi Ar. Bea**	**149.55**	**287**	PKPbc	**PKPbc**	**00 08 48.7**	**-0.9**
	12nm,0.8s,baz=75,slow=2.7,SNR=38						
TORD				PKPab	**PKPab**	**00 08 56.2**	**+1.6**
	4.6nm,0.7s,baz=74,slow=2.2,SNR=8.8						
DBIC	**Dimbokro**	**156.77**	**274**	PKPab	**PKPab**	**00 09 24.4**	**-0.7**
DBIC	**Dimbokro**	**156.77**	**274**	PKPab	**PKPab**	**00 09 24.4**	**-0.7**
	2.5nm,0.9s,baz=138,slow=1.6,SNR=2.2						

JMA 11 23:51:27.0,33°.04N×130°.97E, h12km±1km, M0.5, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**0.11**	**317**	P	Pg	23 51 30.2	+0.1

JNU	**Nakatsue**	**0.11**	**317**	P	Pg	23 51 30.3	+0.2
JNU				*e*S	Sg	23 51 32.3	0.0
JNU	**Nakatsue**	**0.11**	**317**	P	Pg	23 51 30.2	+0.1
	5.0nm,0.3s,baz=111,slow=6.7,SNR=20						

IDC 11 23:53:09.9±1.3,3°.30N×126°.15E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/19, mbtmp3.8/6, Error ellipse: s-maj=150.0km s-min=18.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.46**	**161**	P	P	23 58 31.3	+0.5
	1.9nm,0.4s,baz=340,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**27.85**	**165**	P	P	23 59 01.9	+0.5
	0.2nm,0.4s,baz=344,slow=6.0,SNR=3.2						
STKA	**Stephens Creek**	**37.94**	**158**	P	P	00 00 28.6	-0.8
	2.5nm,0.6s,baz=329,slow=7.0,SNR=5.8						
SONM	**Songino Array**	**47.52**	**342**	P	P	00 01 46.9	-0.2
	0.6nm,0.6s,baz=148,slow=8.5,SNR=4.2						
MKAR	**Makanchi Array**	**57.58**	**326**	P	P	00 03 01.2	-0.4
	0.4nm,0.4s,baz=120,slow=8.1,SNR=8.2						
AKTO	**Aktyubinsk**	**73.64**	**322**	P	P	00 04 45.6	+0.3
	0.8nm,0.6s,baz=80,slow=6.5,SNR=4.0						

*IDC **11** 23:57:22.4±0.7,3°.91N×126°.76E, h0km, mb4.2/15, mb1 4.4/15, mb1mx4.2/23, mbtmp4.2/15, Error ellipse: s-maj=44.7km s-min=13.5km az=71.0*
*ISCJB **11** 23:57:27.1±0.6,3°.80N±0°.09×126°.6E±0°.2, h45km, mb4.2/15, Error ellipse: s-maj=34.1km s-min=9.6km az=163.2*
ISC 11 23:57:28.9±0.7,3°.8N±0°.1×126°.7E±0°.3, h45km, n21, σ0°71/21, mb4.2/15, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.42**	**340**	Pn	**Pn**	**23 58 21.2**	**+1.5**
	64nm,0.3s,baz=168,slow=20,SNR=2.3						
CTBH	**Cotabato--PC H**	**4.18**	**324**⇑*iP*	Pn		23 58 35.1	+5.0
FITZ	**Fitzroy Crossi**	**21.82**	**183**	*e*P	**P**	**00 02 17.6**	**+0.2**
	6.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.82**	**183**	P	**P**	**00 02 17.3**	**-0.1**
	1.8nm,0.3s,baz=348,slow=8.3,SNR=7.7						
WRA	**Warramunga Arr**	**24.78**	**163**	P	**P**	**00 02 46.1**	**-0.6**
	7.2nm,0.6s,baz=341,slow=11,SNR=16						
ASAR	**Alice Springs**	**28.21**	**166**	P	**P**	**00 03 17.4**	**-0.3**
	0.4nm,0.3s,baz=344,slow=7.9,SNR=4.7						
CMAR	**Chiang Mai Arr**	**30.82**	**300**	P	**P**	**00 03 40.7**	**-0.2**
	0.9nm,0.3s,baz=118,slow=7.1,SNR=4.7						
NWAO	**Narrogin (SRO)**	**37.65**	**193**	P	**P**	**00 04 40.6**	**+0.9**
	13nm,1.1s,baz=19,slow=4.8,SNR=2.9						
STKA	**Stephens Creek**	**38.22**	**159**	*e*P	**P**	**00 04 44.8**	**+0.2**
	5.2nm,0.6s						
STKA	**Stephens Creek**	**38.22**	**159**	P	**P**	**00 04 44.6**	**0.0**
	5.6nm,0.6s,baz=321,slow=9.3,SNR=15						
SONM	**Songino Array**	**47.20**	**341**	P	**P**	**00 05 57.0**	**-0.4**
	0.7nm,0.5s,baz=156,slow=7.4,SNR=6.7						
SONM				PcP	**PcP**	**00 07 28.9**	**+0.6**
	0.7nm,0.7s,baz=175,slow=5.5,SNR=3.1						
MKAR	**Makanchi Array**	**57.48**	**325**	P	**P**	**00 07 12.6**	**-0.9**
	1.2nm,0.5s,baz=121,slow=7.5,SNR=17						
ZALV	**Zalesovo Beam**	**60.50**	**333**	P	**P**	**00 07 32.8**	**-1.4**
	0.9nm,0.5s,baz=129,slow=8.6,SNR=6.4						
KURBB	**Kurchatov Arra**	**61.66**	**327**	P	**P**	**00 07 41.4**	**-0.7**
	1.2nm,0.5s,baz=123,slow=6.5,SNR=9.2						
AKTO	**Aktyubinsk**	**73.58**	**322**	P	**P**	**00 08 57.8**	**+0.4**
	1.1nm,0.5s,baz=96,slow=8.9,SNR=6.7						
ILAR	**Eielson Array**	**85.02**	**25**	P	**P**	**00 09 59.9**	**+0.5**
	0.7nm,0.9s,baz=261,slow=5.4,SNR=4.5						
ARCES	**ARCESS Array B**	**90.36**	**340**	P	**P**	**00 10 24.4**	**-0.6**
	1.7nm,0.7s,baz=49,slow=4.1,SNR=4.0						
FINES	**FINESS Array B**	**91.75**	**332**	P	**P**	**00 10 31.3**	**-0.2**
	1.4nm,0.8s,baz=13,slow=2.5,SNR=3.5						
AKASG	**Malin Array Be**	**91.82**	**321**	P	**P**	**00 10 31.5**	**-0.7**
	0.7nm,0.5s,baz=67,slow=5.3,SNR=3.2						
TORD	**Torodi Ar. Bea**	**122.89**	**288**	PKP	**PKPdf**	**00 16 20.9**	**-0.3**
	0.3nm,0.6s,baz=107,slow=2.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**122.89**	**288**	PKP	**PKPdf**	**00 16 20.9**	**-0.3**

*CSEM **12** 00:00:31.9±0.2, 43°.48N×7°.93E, h15km, ML3.0/12, Error ellipse: s-maj=4.1km s-min=3.1km az=16.0*
*ISCJB **12** 00:00:33.0±0.5, 43°.55N±0°.03×7°.93E±0°.03, h33km±3km, Error ellipse: s-maj=5.2km s-min=3.8km az=10.5*
*LDG **12** 00:00:33.0±0.1, 43°.44N×7°.85E, h13km±1km, Md2.7/2, Ml2.8/14, Error ellipse: s-maj=3.0km s-min=1.9km az=58.0*
*ROM **12** 00:00:34.6±0.2, 43°.63N×7°.91E, h30km±2km, Ml2.6/5, Error ellipse: s-maj=5.1km s-min=1.9km az=34.0*
*STR **12** 00:00:34.3±0.3, 43°.52N×7°.85E, h5km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*GEN **12** 00:00:34.6, 43°.57N×7°.94E, h19km, ML2.5*
ISC 12 00:00:31.9±1.0, 43°.47N±0°.03×7°.94E±0°.02, h23km±10km, n76, σ1°43/124, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEGI	**Seborga**	**0.41**	**336**	P	**Pb**	**00 00 41.4**	**+0.8**
NEGI				S	**Sb**	**00 00 46.1**	**-0.4**
IMI	**Imperia**	**0.44**	**356**	Pg	**Pn**	**00 00 41.9**	**-1.0**
IMI				Sg	**Sb**	**00 00 47.2**	**-0.1**
	404nm,0.4s						
IMI	**Imperia**	**0.44**	**356**	Pg	**Pn**	**00 00 41.9**	**-1.0**
IMI				S	**Sb**	**00 00 46.7**	**-0.6**
IMI				Sg	**Sb**	**00 00 47.2**	**-0.1**
	404nm,0.4s						
REVF	**Revere**	**0.49**	**303**	Pg	**Pn**	**00 00 42.8**	**-0.8**
REVF				Sg	**Sb**	**00 00 48.7**	**-0.1**
REVF	**Revere**	**0.49**	**303**	Pg	**Pn**	**00 00 42.8**	**-0.8**
REVF				Sg	**Sb**	**00 00 48.7**	**-0.1**
SBF	**Sospel**	**0.53**	**317**	*e*Pg	**Pn**	**00 00 43.4**	**-0.8**
	SNR=1.0						
SBF				*e*Sg	**Sb**	**00 00 49.8**	**-0.2**
	3µm,0.4s						
SBF	**Sospel**	**0.53**	**317**	*e*Pg	**Pn**	**00 00 43.4**	**-0.8**
	SNR=1.0						
SBF				*e*Sg	**Sb**	**00 00 49.8**	**-0.2**
	1µm,0.4s						
SAOF	**Saorge**	**0.58**	**332**	Pg	**Pn**	**00 00 44.1**	**-0.7**
SAOF				Sg	**Sb**	**00 00 51.2**	**-0.2**
SAOF	**Saorge**	**0.58**	**332**	Pg	**Pn**	**00 00 44.1**	**-0.7**
SAOF				Sg	**Sb**	**00 00 51.2**	**-0.2**
AUTN	**L'Aution**	**0.64**	**325**	Pg	**Pb**	**00 00 45.2**	**+0.6**
AUTN				Sg	**Sb**	**00 00 53.1**	**-0.1**
AUTN	**L'Aution**	**0.64**	**325**	Pg	**Pb**	**00 00 45.2**	**+0.6**
AUTN				Sg	**Sb**	**00 00 53.1**	**-0.1**
RORO	**Rocca Rossa**	**0.64**	**8**	Pg	**Pn**	**00 00 45.3**	**-0.3**
RORO				Sg	**Sb**	**00 00 53.0**	**-0.1**
	215nm,0.1s						
RORO	**Rocca Rossa**	**0.64**	**8**	P	**Pn**	**00 00 45.3**	**-0.3**
RORO				S	**Sb**	**00 00 52.1**	**-1.0**
RORO				Sg	**Sb**	**00 00 53.0**	**-0.1**
	215nm,0.1s						
MVIF	**Mont Vial**	**0.71**	**307**	Pg	**Pn**	**00 00 46.4**	**-0.2**
MVIF				Sg	**Sb**	**00 00 55.3**	**+0.2**
MVIF	**Mont Vial**	**0.71**	**307**	Pg	**Pn**	**00 00 46.4**	**-0.2**
MVIF				Sg	**Sb**	**00 00 55.3**	**+0.2**
TOUF	**Mont Tournerai**	**0.73**	**317**	Pg	**Pn**	**00 00 46.7**	**-0.3**
TOUF				Sg	**Sb**	**00 00 55.7**	**-0.2**
TOUF	**Mont Tournerai**	**0.73**	**317**	Pg	**Pn**	**00 00 46.7**	**-0.3**
TOUF				Sg	**Sb**	**00 00 55.7**	**-0.2**
FINB	**Finale Ligure**	**0.76**	**22**	Pg	**Pn**	**00 00 47.1**	**-0.1**
	265nm,0.7s						
FINB	**Finale Ligure**	**0.76**	**22**	Pg	**Pn**	**00 00 47.1**	**-0.1**
	265nm,0.7s						
CALN	**Calern**	**0.81**	**290**	Pg	**Pn**	**00 00 48.3**	**+0.3**
CALN				Sg	**Sb**	**00 00 58.0**	**0.0**
CALN	**Calern**	**0.81**	**290**	Pg	**Pn**	**00 00 48.3**	**+0.3**
CALN				Sg	**Sb**	**00 00 58.0**	**0.0**
STV	**Sant Anna di V**	**0.89**	**330**	Pg	**Pn**	**00 00 49.4**	**+0.3**
STV				Sg	**Sb**	**00 00 59.7**	**-0.5**
STV	**Sant Anna di V**	**0.89**	**330**	Pg	**Pn**	**00 00 49.4**	**+0.3**
STV				S	**Sb**	**00 00 59.3**	**-0.9**
STV				Sg	**Sb**	**00 00 59.7**	**-0.5**
LMR	**La Mourre**	**1.05**	**263**	*e*Pg	**Pn**	**00 00 51.2**	**0.0**
	SNR=1.0						
LMR				*e*Sg	**Sb**	**00 01 03.5**	**-1.2**
	71nm,0.2s,SNR=1.0						
LMR	**La Mourre**	**1.05**	**263**	*e*Pg	**Pn**	**00 00 51.2**	**0.0**
	SNR=1.0						
LMR				*e*Sg	**Sb**	**00 01 03.5**	**-1.2**
	36nm,0.2s,SNR=1.0						
DOI	**San Damiano**	**1.14**	**334**	Pg	**Pb**	**00 00 53.2**	**+0.2**
	224nm,0.3s						
DOI	**San Damiano**	**1.14**	**334**	Pg	**Pb**	**00 00 53.2**	**+0.2**
	224nm,0.3s						
PCP	**Piancastagn**	**1.15**	**22**	P	**Pb**	**00 00 53.1**	**-0.1**
PZZ	**Stroppo**	**1.19**	**330**	Pg	**Pb**	**00 00 54.0**	**+0.1**
	121nm,0.4s						
PZZ	**Stroppo**	**1.19**	**330**	P	**Pb**	**00 00 53.8**	**-0.1**
PGF	**Pioggiola**	**1.21**	**140**	*e*Pn	**Pb**	**00 00 54.2**	**0.0**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**00 01 09.7**	**+0.5**
	42nm,0.2s						
PGF	**Pioggiola**	**1.21**	**140**	*e*Pn	**Pb**	**00 00 54.2**	**0.0**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**00 01 09.7**	**+0.5**
	21nm,0.2s						
SURF	**Saint Ours**	**1.29**	**322**	Pg	**Pb**	**00 00 56.5**	**+0.9**
SURF	**Saint Ours**	**1.29**	**322**	Pg	**Pb**	**00 00 56.5**	**+0.9**
TAVF	**Tavernes**	**1.37**	**277**	Pn	**Pb**	**00 00 57.3**	**+0.4**
TAVF	**Tavernes**	**1.37**	**277**	Pn	**Pb**	**00 00 57.3**	**+0.4**
ROTM	**Rocchetta Tana**	**1.41**	**12**	P	**Pb**	**00 00 57.4**	**-0.1**
SC2M	**Scurtabo**	**1.48**	**51**	P	**Pn**	**00 00 58.0**	**+0.8**
MBDF	**Montbardon**	**1.51**	**327**	*e*Pn	**Pn**	**00 00 58.4**	**+0.8**
	SNR=1.0						
MBDF	**Montbardon**	**1.51**	**327**	*e*Pg	**Pb**	**00 01 01.6**	**+2.3**
MBDF				*e*Sn	**Sn**	**00 01 16.5**	**-0.1**
	44nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**1.51**	**327**	*e*Pn	**Pn**	**00 00 58.4**	**+0.8**
	SNR=1.0						
MBDF	**Montbardon**	**1.51**	**327**	*e*Pg	**Pb**	**00 01 01.6**	**+2.3**
MBDF				*e*Sn	**Sn**	**00 01 16.5**	**-0.1**
	22nm,0.2s,SNR=1.0						
RSP	**Reno Superiore**	**1.74**	**344**	P	**Pn**	**00 01 01.1**	**+0.3**
RSP				S	**Sn**	**00 01 19.5**	**-2.9**
GRAM	**Graiana**	**1.84**	**56**	P	**Pb**	**00 01 04.1**	**-0.8**
GRAM				S	**Sn**	**00 01 23.9**	**-0.9**
TREF	**Trevaresse**	**1.86**	**275**	Pn	**Pb**	**00 01 05.0**	**-0.2**
TREF	**Trevaresse**	**1.86**	**275**	Pn	**Pb**	**00 01 05.0**	**-0.2**
MAIM	**Mastiano**	**1.91**	**76**	P	**Pn**	**00 01 03.9**	**+1.0**
MAIM				S	**Sn**	**00 01 24.4**	**-1.8**
CRDM	**Cardoso**	**1.93**	**72**	P	**Pn**	**00 01 04.4**	**+1.2**
CRDM				S	**Sn**	**00 01 25.4**	**-1.3**
ORIF	**Oris-en-Rattie**	**2.07**	**315**	*e*Pn	**Pn**	**00 01 04.9**	**-0.4**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.07**	**315**	*e*Pg	**Pb**	**00 01 11.4**	**+2.6**
ORIF				*e*Sn	**Sn**	**00 01 28.9**	**-1.5**
ORIF				*e*Sg	**Sb**	**00 01 37.5**	**+3.4**
	14nm,0.2s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.07**	**315**	*e*Pn	**Pn**	**00 01 04.9**	**-0.4**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**2.07**	**315**	*e*Pg	**Pb**	**00 01 11.4**	**+2.6**
ORIF				*e*Sn	**Sn**	**00 01 28.9**	**-1.5**
ORIF				*e*Sg	**Sb**	**00 01 37.5**	**+3.4**
	6.9nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**2.19**	**338**	*e*P	**Pb**	**00 01 09.8**	**-1.3**
	SNR=1.0						
LPG	**La Plagne**	**2.19**	**338**	*e*Pg	Pb	00 01 14.4	+3.3
LPG				*e*Sn	**Sn**	**00 01 33.0**	**-0.8**
	SNR=1.0						
LPG				*e*Sg	**Sb**	**00 01 42.7**	**+4.8**
	4.2nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**2.19**	**338**	*e*P	**Pb**	**00 01 09.8**	**-1.3**
	SNR=1.0						
LPG	**La Plagne**	**2.19**	**338**	*e*Pg	Pb	00 01 14.4	+3.3
LPG				*e*Sn	**Sn**	**00 01 33.0**	**-0.8**
	SNR=1.0						
LPG				*e*Sg	**Sb**	**00 01 42.7**	**+4.8**
	2.1nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**2.22**	**338**	*e*Pn	**Pn**	**00 01 08.4**	**+1.0**
	SNR=1.0						
LPL	**La Plagne**	**2.22**	**338**	*e*P	**Pb**	**00 01 10.9**	**-0.5**
	SNR=1.0						
LPL	**La Plagne**	**2.22**	**338**	*e*Pg	Pb	00 01 15.0	+3.6
LPL				*e*Sn	**Sn**	**00 01 33.7**	**-0.5**
LPL				*e*Sg	Sb	00 01 44.0	+5.5
	12nm,0.4s						
LPL	**La Plagne**	**2.22**	**338**	*e*Pn	**Pn**	**00 01 08.4**	**+1.0**
	SNR=1.0						
LPL	**La Plagne**	**2.22**	**338**	*e*P	**Pb**	**00 01 10.9**	**-0.5**
	SNR=1.0						
LPL	**La Plagne**	**2.22**	**338**	*e*Pg	Pb	00 01 15.0	+3.6
LPL				*e*Sn	**Sn**	**00 01 33.7**	**-0.5**
LPL				*e*Sg	Sb	00 01 44.0	+5.5
	5.9nm,0.4s						
VIVF	**Saint-Julien-l**	**2.72**	**302**	*e*Pn	**Pn**	**00 01 15.0**	**+0.7**
	SNR=1.0						
VIVF				*e*Sn	**Sn**	**00 01 44.1**	**-2.4**
VIVF				*e*Sg	**Sb**	**00 01 57.3**	**+4.4**
	7

KSAR **Wonju Array Be** 33.39 2 P P 00 07 31.5 -1.5
KSRS **Korea Array** 33.41 2 P P 00 07 31.5 -1.6
2.7nm,0.7s,baz=183,slow=10.0,SNR=10
STKA **Stephens Creek** 38.34 159 *e*P P 00 08 14.7 -0.8
1.6nm,0.7s
STKA **Stephens Creek** 38.34 159 P P 00 08 15.0 -0.5
7.7nm,0.7s,baz=317,slow=7.4,SNR=10
USRK **Ussuriysk Arra** 40.41 6 P P 00 08 31.8 -0.7
1.9nm,0.8s,baz=165,slow=8.1,SNR=4.6
TAPN **Taplejung** 43.81 306 *e*P P 00 09 01.8 +0.8
9.5nm,0.6s
ODAN **Odare** 43.87 305 *e*P P 00 09 02.4 +1.0
RAMN **Ramite** 44.55 305 *e*P P 00 09 07.4 +0.6
7.3nm,0.6s
JIRN **Jiri** 45.17 306 *e*P P 00 09 12.2 +0.3
GUN **Gumba** 45.52 306 *e*P P 00 09 15.0 +0.3
HIA **Hailar** 45.57 354 *e*P P 00 09 13.7 -0.6
16nm,1.0s
DZM **Mont Dzumac** 46.74 125 *e*P P 00 09 23.8 -0.2
DZM **Mont Dzumac** 46.74 125 P P 00 09 25.3 +1.3
2.7nm,0.7s,baz=0.0,slow=13,SNR=2.6
ULN **Ulaanbaatar** 46.91 342 *e*P P 00 09 25.8 +0.7
5.1nm,0.8s
SONM **Songino Array** 47.09 341 P P 00 09 26.4 0.0
SONM **Songino Array** 47.09 341 P P 00 09 26.4 0.0
2.9nm,0.9s,baz=156,slow=8.0,SNR=13
KOLN **Koldanda** 47.32 305 *e*P P 00 09 29.0 +0.4
DANN **Dangsing** 47.41 306 *e*P P 00 09 29.3 -0.1
21nm,0.6s
PETK **Petropavlovsk-** 55.31 22 P P 00 10 28.4 +0.6
PETK **Petropavlovsk-** 55.31 22 P P 00 10 28.4 +0.6
3.7nm,0.6s,baz=186,slow=7.9,SNR=5.0
MK31 **Makanchi Array** 57.34 325 *e*P P 00 10 42.2 -0.2
MKAR **Makanchi Array** 57.34 325 P P 00 10 42.4 0.0
MKAR PcP **PcP** 00 11 37.1 +1.0
MKAR **Makanchi Array** 57.34 325 P P 00 10 42.4 0.0
4.3nm,0.6s,baz=119,slow=7.7,SNR=31
MKAR PcP **PcP** 00 11 37.1 +1.0
2.2nm,0.7s,baz=126,slow=4.2,SNR=5.1
AAK **Ala-Archa** 60.14 318 *e*P P 00 11 01.9 -0.3
AAK **Ala-Archa** 60.14 318 P P 00 11 02.5 +0.3
0.9nm,0.7s,baz=98,slow=7.1,SNR=3.7
ZALV **Zalesovo Beam** 60.37 333 P P 00 11 02.6 -0.6
ZALV **Zalesovo Beam** 60.37 333 P P 00 11 02.6 -0.6
3.5nm,0.6s,baz=135,slow=6.7,SNR=19
KBL **Kabul** 61.32 307 *e*P P 00 11 10.2 -0.1
5.0nm,0.8s
KURBB **Kurchatov Arra** 61.52 327 P P 00 11 11.2 0.0
7.4nm,0.8s,baz=124,slow=6.5,SNR=25
KURK **Kurchatov** 61.52 327 *e*P P 00 11 11.2 0.0
10nm,0.8s
KKAR **Karatay Array** 63.02 317 *e*P P 00 11 20.9 -0.5
3.5nm,0.8s
BRVK **Borovoye** 67.18 327 *e*P P 00 11 47.4 -0.7
4.5nm,0.6s
ABKAR **Akbulak array** 71.94 321 *e*P P 00 12 17.1 -0.4
1.4nm,0.6s
AKTO **Aktyubinsk** 73.44 322 P P 00 12 26.3 -0.2
AKTO **Aktyubinsk** 73.44 322 P P 00 12 26.3 -0.2
5.1nm,0.8s,baz=97,slow=7.5,SNR=18
ILAR **Eielson Array** 85.00 25 P P 00 13 29.1 -0.2
ILAR **Eielson Array** 85.00 25 P P 00 13 29.1 -0.2
1.9nm,1.0s,baz=246,slow=6.1,SNR=12
BRTR **Keskin Array B** 89.81 310 P P 00 13 53.0 -0.3
BRTR **Keskin Array B** 89.81 310 P P 00 13 53.0 -0.3
1.6nm,0.9s,baz=105,slow=4.1,SNR=6.6
ARCES **ARCESS Array B** 90.24 340 P P 00 13 54.1 -0.2
ARCES **ARCESS Array B** 90.24 340 P P 00 13 54.1 -0.2
2.4nm,0.6s,baz=78,slow=7.6,SNR=10
SPITS **Spitsbergen Ar** 90.28 349 P P 00 13 55.1 +0.7
SPITS **Spitsbergen Ar** 90.28 349 P P 00 13 55.1 +0.7
10nm,1.0s,baz=165,slow=8.1,SNR=3.2
SPITS LR LR 01 00 44.8
comp=Z,1μm,21.5s,baz=50,slow=40
FINES **FINESS Array B** 91.62 332 P P 00 14 00.5 -0.4
FINES **FINESS Array B** 91.62 332 P P 00 14 00.5 -0.4
1.7nm,0.8s,baz=60,slow=7.5,SNR=6.2
AKASG **Malin Array Be** 91.68 321 P P 00 14 01.1 -0.2
AKASG **Malin Array Be** 91.68 321 P P 00 14 01.1 -0.2
2.1nm,0.7s,baz=65,slow=5.1,SNR=8.3
TESR 94.03 317 *i*P P 00 14 12.7 +0.3
VRI **Vrincioaia** 94.08 316 *i*P P 00 14 13.6 +0.9
MLR **Muntele Rosu** 94.69 316 *i*P P 00 14 15.1 -0.5
BURAR **Bucovina Array** 94.79 318 *i*P P 00 14 16.5 +0.5
TRPA **Tarpa** 96.44 319 *i*P P 00 14 23.9 +0.6
DRGR 96.63 318 *i*P P 00 14 24.8 +0.5
BZS **Buzias** 97.64 317 *i*P P 00 14 28.6 -0.2
NB2 **NORSAR Subarra** 98.57 334 P P 00 14 32.4 -0.3
comp=Z,2.1nm,0.8s,baz=69,slow=4.8
NOA **NORSAR Array B** 98.57 334 P P 00 14 32.6 -0.1
NOA **NORSAR Array B** 98.57 334 P P 00 14 32.6 -0.1
comp=Z,1.2nm,0.7s,baz=68,slow=4.8,SNR=4.4
YKA **Yellowknife Ar** 99.39 24 P Pdif 00 14 36.1 -0.1
YKA **Yellowknife Ar** 99.39 24 P Pdif 00 14 36.1 -0.1
comp=Z,0.1nm,0.5s,baz=302,slow=4.5,SNR=4.4
TXAR **Lajitas Array** 121.58 52 PKP **PKPdf** 00 19 49.7 +1.3
TXAR **Lajitas Array** 121.58 52 PKP **PKPdf** 00 19 49.7 +1.3
comp=Z,0.4nm,0.8s,baz=253,slow=0.9,SNR=3.7
TORD **Torodi Ar. Bea** 122.75 288 PKP **PKPdf** 00 19 51.4 +0.5
TORD **Torodi Ar. Bea** 122.75 288 PKP **PKPdf** 00 19 51.4 +0.5
comp=Z,0.6nm,0.8s,baz=50,slow=1.8,SNR=6.5
PLCA **Paso Flores** 140.22 159 PKP **PKPdf** 00 20 23.5 +0.3
PLCA **Paso Flores** 140.22 159 PKP **PKPdf** 00 20 23.5 +0.3
comp=Z,0.5nm,0.4s,baz=120,slow=1.2,SNR=3.1
CPUP **Villa Florida** 157.39 171 PKPab **PKPab** 00 21 23.5 +1.5
CPUP **Villa Florida** 157.39 171 PKPab **PKPab** 00 21 23.5 +1.5
comp=Z,1.9nm,0.6s,baz=180,slow=4.6,SNR=6.5

BJI ***12*** *00:02:57.9,3˚.92N×126˚.62E,h28km,mB5.3/45,mb5.4/71, Ms5.2/65,Ms7 5.1/61*
MOS ***12*** *00:02:58.2±1.0,3˚.94N×126˚.58E,h33km,mb5.4/65, MS5.0/27,Error ellipse: s-maj=9.6km s-min=4.8km az=114.3*
ISCJB ***12*** *00:02:58.2±0.1,4˚.04N±0˚.02×126˚.69E±0˚.03,h32km, mb5.4/148,MS5.0/64, Error ellipse: s-maj=4.4km s-min=2.7km az=162.2*
IDC ***12*** *00:02:59.0±1.8,3˚.93N×126˚.62E,h27km±11km,mb5.0/36, mb1 5.0/36,mb1mx5.0/37,mbtmp5.0/36,MS4.9/24, Ms1 4.9/24,ms1mx4.8/36,Error ellipse: s-maj=14.3km s-min=8.0km az=69.0*
NEIC ***12*** *00:03:00.0±0.2,3˚.93N×126˚.58E,h35km,mb5.5/53,Error ellipse: s-maj=6.7km s-min=3.8km az=67.0*
DJA ***12*** *00:03:04,3˚.77N×126˚.68E,h29km,mb5.5/16*
ISC 12 00:02:59.9±0.3,3˚.92N±0˚.03×126˚.57E±0˚.04,h33km±1km, h34km:pP-P,n476,σ1§59/534,mb5.4/144,MS5.0/67, 33C-30D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	2.70	323	*e*P		**Pb**		**00 03 45.8**	**-1.8**
MNI	**Manado**	3.00	215	P		**Pb**		**00 03 50.0**	**-2.8**
MATI	**Mati**	3.03	354	*e*P		Pb		00 03 49.4	-3.8
TNTI	**Ternate**	3.22	166	P		**Pn**		**00 03 49.9**	**+1.7**
DAV	**Davao City (W)**	3.29	342	Pn		Pb		00 03 53.2	-4.4
DAV				Sn		**Sb**		**00 04 40.6**	**+3.5**
DAV	**Davao City (W)**	3.29	342	*e*P		Pb		00 03 53.4	-4.1
DAV	**Davao City (W)**	3.29	342	P		**Pb**		**00 03 58.5**	**+0.9**
DAV	**Davao City (W)**	3.29	342	Pn		Pb		00 03 53.2	-4.4
	281nm,0.3s,baz=71,slow=6.4,SNR=11								
DAV				Sn		**Sb**		**00 04 40.6**	**+3.5**
	408nm,0.3s,baz=132,slow=18,SNR=4.8								
DAV				LR		LR		00 05 34.9	
	comp=Z,48μm,18.4s,baz=231,slow=47								
DMPH	**Davao City--Mi**	3.32	341	*e*P		Pb		00 03 54.1	-4.1
KCP	**Kidapawan**	3.41	334	*i*P		**Pb**		**00 03 59.3**	**-0.4**
KMSI	**Cibinong**	4.21	218	P		Pb		00 04 08.9	-4.4
BUKP	**Musuan**	4.21	339	*e*P		Pn		00 04 06.1	+4.2
LBMI	**Labuha**	4.62	168	P		**Pn**		**00 04 09.8**	**+2.4**
CGP	**Cagayan de Oro**	4.88	338	*e*P		Pn		00 04 17.2	+6.1
PAGZ	**Pagadian**	5.03	321	*e*P		Pn		00 04 17.3	+4.2
IPIL	**Ipil**	5.54	314	*e*P		Pn		00 04 24.4	+4.4
MRSI	**Marisa**	5.75	234	P		Pn		00 04 28.7	+5.7
	1μm,0.6s,11μm4.1nm								
LUWI	**Luwuk**	6.22	218	P		Pn		00 04 37.9	+8.5
	1μm,1.2s,19μm6.2nm								
MSLP	**Maasin**	6.41	345	*e*P		Pn		00 04 38.0	+6.0
SWI	**Sorong**	6.67	135	P		**Pn**		**00 04 36.6**	**+1.0**
	568nm,1.2s,5μm2.1nm								
NLAI	**Namlea**	7.13	176	P		**Pn**		**00 04 43.3**	**+1.4**
	337nm,0.7s,5μm1.8nm								
PLP	**Palo**	7.37	348	*e*P		**Pn**		**00 04 48.0**	**+2.7**
MSAI	**Masohi**	7.59	162	P		Pn		00 04 52.9	+4.7
	68nm,0.8s,920nm0.3nm								
AAI	**Ambon**	7.72	168	P		Pn		00 04 54.4	+4.3
	236nm,0.8s,4μm1.0nm								
GUIM	**Jordan**	7.75	330	*e*P		**Pn**		**00 04 51.5**	**+1.0**
TSM	**Tawau**	8.69	273	P		Pn		00 05 08.5	+5.1
KDI	**Kendari**	8.76	207	P		**Pn**		**00 05 06.6**	**+2.2**
	120nm,1.0s,3μm0.7nm								
FAKI	**Fak Fak**	8.85	140	P		**Pn**		**00 05 07.4**	**+1.9**
	418nm,0.9s,3μm1.2nm								
BNDI	**Bandanaira**	9.02	158	P		Pn		00 05 15.9	+8.0
SDKM	**Sandakan**	9.50	281	P		Pn		00 05 20.2	+5.6
TTSI	**Tana Toraja**	9.66	224	P		Pn		00 05 22.4	+5.7
	293nm,1.4s,4μm								
KDM	**Kudat**	10.14	288	P		Pn		00 05 32.7	+9.4
BBSI	**Bau Bau**	10.16	203	P		Pn		00 05 36.4	+13
SPSI	**Sidrap Palu**	10.37	221	P		Pn		00 05 33.2	+6.8
	86nm,0.8s,2μm								
KKM	**Kota Kinabalu**	10.54	282	*e*Pn		Pn		00 05 35.2	+6.4
KKM				*e*S		Sn		00 07 34.8	+9.1
KKM	**Kota Kinabalu**	10.54	282	P		Pn		00 05 34.3	+5.6
KKM	**Kota Kinabalu**	10.54	282	P		Pn		00 05 36.8	+8.1
	95nm,0.9s,3μm								
BAKI	**Biak**	10.79	118	P		Pn		00 05 35.9	+3.7
	615nm,1.0s,8μm								
KAPI	**Kappang**	11.19	218	*e*Pn		Pn		00 05 42.1	+4.6
KAPI	**Kappang**	11.19	218	P		Pn		00 05 46.5	+8.9
	100nm,1.2s,1μm								
KAPI	**Kappang**	11.19	218	Pn		**Pn**		**00 05 40.5**	**+2.9**
	2.3nm,0.3s,baz=49,slow=3.7,SNR=6.6								
KAPI				LR		LR		00 10 51.4	
	comp=Z,4μm,18.1s,baz=59,slow=42								
BKSI	**Bulukumba**	11.21	215	P		Pn		00 05 45.6	+7.7
	55nm,1.3s,891nm								
TLE	**Tual**	11.31	147	P		Pn		00 05 42.4	+3.1
	707nm,1.1s,9μm								
TGY	**Tagaytay City**	11.55	332	Pn		Pn		00 05 47.9	+5.3
TGY	**Tagaytay City**	11.55	332	Pn		Pn		00 05 47.9	+5.3
	38nm,0.3s,baz=162,slow=9.6,SNR=3.8								
TGY				LR		LR		00 10 55.3	
	comp=Z,88nm,19.6s,baz=134,slow=41								
KBKI	**Kotabaru**	12.63	236	P		P		00 06 05.1	-3.2
	87nm,1.2s,3μm								
MMRI	**Maumere**	13.20	199	P		P		00 06 21.7	+7.1
SMPI	**Sarmi**	13.47	116	P		Pn		00 06 11.3	+2.4
	323nm,1.1s,8μm								
BTM	**Bintulu**	13.48	267	P		**P**		**00 06 15.6**	**-2.2**
SBUM	**Sibu**	14.41	265	P		**P**		**00 06 29.6**	**+1.5**
SBUM	**Sibu**	14.41	265	P		**P**		**00 06 29.1**	**+1.0**
	149nm,1.3s,3μm								
JAY	**Jayapura**	15.50	114	P		**P**		**00 06 40.2**	**-0.1**
	274nm,1.1s,22μm								
STKI	**Sinang**	15.56	256	P		P		00 06 48.2	+7.3
	108nm,1.2s,19μm								
KHKI	**Kahang-Kahang**	16.38	222	P		**P**		**00 06 52.6**	**+2.6**
	184nm,1.2s								
KSM	**Kuching**	16.43	262	*e*Pn		**P**		**00 06 54.0**	**+3.4**
	136nm,1.1s								
KSM	**Kuching**	16.43	262	P		P		00 06 55.7	+5.2
KSM	**Kuching**	16.43	262	P		P		00 06 55.6	+5.1
	99nm,1.0s,2μm								
NBBI	**Negara**	17.06	224	P		P		00 07 12.0	+14
MTN	**Manton Dam**	17.25	165	*e*P		**Pn**		**00 06 55.8**	**-2.6**
BLJI	**Banyuglugur**	17.38	228	P		P		00 07 10.9	+10
GMJI	**Gumukmas**	17.84	227	P		P		00 07 11.9	+5.8
	150nm,1.1s								
SJI	**Sawahan**	18.77	232	P		**Pn**		**00 07 20.1**	**+3.0**
	114nm,0.7s								
PWJI	**Pagerwojo**	18.91	231	P		Pn		00 07 28.2	+9.4
	95nm,0.9s								
TWG	**Pinlang**	19.53	345	*e*P		**P**		**00 07 22.8**	**-2.0**
YULB	**Yu-li**	20.02	346	*e*P		**P**		**00 07 28.0**	**-2.1**
	112nm,0.6s								
TPUB	**Ta-pu**	20.11	344	*e*P		**P**		**00 07 29.8**	**-1.2**
GUMO	**Guam**	20.46	61	P		**P**		**00 07 33.6**	**-1.3**
GUMO	**Guam**	20.46	61	P		**P**		**00 07 33.6**	**-1.3**
	41nm,0.6s,baz=219,slow=19,SNR=3.2								
GUMO				LR		LR		00 14 03.5	
	comp=Z,2μm,22.0s,baz=240,slow=32								
SSLB	**Suanglung**	20.49	345	*e*P		**P**		**00 07 33.2**	**-1.9**
NACB	**Ninganchiao**	20.70	347	*e*P		**P**		**00 07 37.5**	**+0.1**
YHNB	**Yeheng**	21.23	347	*e*P		**P**		**00 07 42.5**	**-0.7**
	130nm,0.6s								
PPBI	**Pangkal Pinang**	21.30	254	P		pP		00 07 54.3	+1.4
	68nm,0.9s,2μm								
TATO	**Taipei**	21.50	347	*e*P		**P**		**00 07 47.3**	**+1.3**
FITZ	**Fitzroy Crossi**	21.90	182	*e*P		**P**		**00 07 53.8**	**+3.5**
	89nm,0.8s								
FITZ				S		S		00 11 43.6	-7.0
FITZ	**Fitzroy Crossi**	21.90	182	*e*P		**P**		**00 07 50.0**	**-0.3**
	112nm,0.8s								
FITZ				*e*S		**S**		**00 11 46.2**	**-4.3**
FITZ	**Fitzroy Crossi**	21.90	182	P		**P**		**00 07 48.3**	**-2.0**
	62nm,0.8s,baz=19,slow=9.4,SNR=34								
FITZ				S		S		00 11 43.6	-7.0
	5.6nm,0.7s,baz=72,slow=20,SNR=2.7								
QIZ	**Qiongzhong**	22.20	314	P		**P**		**00 07 53.8**	**+0.2**
QIZ				S		**S**		**00 11 55.6**	**-0.7**
QIZ				LR		LR			
	comp=N,2μm,16.0s								
QIZ				LR		LR			
	comp=Z,4μm,28.4s								
QIZ	**Qiongzhong**	22.20	314	*e*P		**P**		**00 07 53.1**	**-0.5**
	comp=Z,40nm,0.8s								
QZH	**Quanzhou**	22.27	341	*i*P		**P**		**00 07 53.4**	**-0.9**
QZH				S		S		00 11 50.3	-7.2
QZH				pmax		pmax			
	comp=Z,240nm,0.7s								
QZH				LR		LR			
	comp=N,11μm,19.0s								
QZH				LR		LR			
	comp=E,5μm,18.5s								
QZH				LR		LR			
	comp=Z,23μm,23.4s								
DBJI	**Dramaga**	22.36	242	P		P		00 08 02.6	+7.2
	comp=Z,94nm,1.4s								
MYKOM	**Kota Tinggi**	22.79	265	P		**P**		**00 08 03.8**	**+3.9**
MYKOM	**Kota Tinggi**	22.79	265	P		P		00 08 07.9	+7.9
	comp=Z,54nm,1.3s,comp=Z,1μm								
JOW	**Kunigami**	22.85	4	*e*P		**P**		**00 08 00.2**	**-0.2**
JOW				S		**S**		**00 12 05.0**	**-2.7**
JOW	**Kunigami**	22.85	4	P		**P**		**00 08 00.2**	**-0.2**
	comp=Z,107nm,0.6s,baz=183,slow=9.0,SNR=33								
JOW				S		**S**		**00 12 05.0**	**-2.7**
	comp=Z,5.5nm,0.8s,baz=142,slow=19,SNR=2.5								
JOW				LR		LR		00 16 38.6	
	comp=Z,4μm,21.6s,baz=270,slow=36								
GZH	**Guangzhou**	22.96	327	P		**P**		**00 08 04.4**	**+2.9**
GZH				S		**S**		**00 12 11.3**	**+1.7**
GZH				LR		LR			
	comp=N,6μm,21.5s								
GZH				LR		LR			
	comp=E,4μm,21.2s								
KGM	**Kluang**	23.30	266	P		**P**		**00 08 09.0**	**+3.8**
CGJI	**Cibinong**	23.32	243	P		**P**		**00 08 07.2**	**+1.9**
	comp=E,120nm,0.7s,comp=E,2μm								
COEN	**Coen**	24.22	137	*e*P		**P**		**00 08 11.9**	**-1.9**
PMG	**Port Moresby**	24.41	123	*e*P		**P**		**00 08 13.1**	**-2.5**
PMG	**Port Moresby**	24.41	123	P		**P**		**00 08 14.3**	**-1.3**
	comp=E,94nm,1.0s,comp=E,1μm								
PMG	**Port Moresby**	24.41	123	P		**P**		**00 08 13.3**	**-2.3**
	comp=E,56nm,0.8s,baz=7.2,slow=7.9,SNR=17								
WRAB	**Tennant Creek**	24.90	162	*e*P		**P**		**00 08 18.9**	**-1.1**
WRAB	**Tennant Creek**	24.90	162	*e*P		**P**		**00 08 18.9**	**-1.1**
WRAB	**Tennant Creek**	24.90	162	P		**P**		**00 08 19.4**	**-0.6**
	comp=E,1μm,0.9s,SNR=29								
WRA	**Warramunga Arr**	24.91	162	P		**P**		**00 08 18.8**	**-1.2**
WRA	**Warramunga Arr**	24.91	162	P		**P**		**00 08 18.8**	**-1.2**
	comp=E,516nm,0.3s,baz=338,slow=11,SNR=11								
FRIM	**Kepong**	24.91	269	P		**P**		**00 08 24.0**	**+3.8**
FRIM	**Kepong**	24.91	269	P		P		00 08 28.9	+8.7
KSI	**Kapahiang**	25.11	253	P		pP		00 08 32.3	+0.7
	comp=E,139nm,0.5s,comp=E,9μm								
IPM	**Ipoh**	25.49	272	*e*P		**P**		**00 08 25.5**	**+0.1**
	comp=E,67nm,0.9s								
IPM	**Ipoh**	25.49	272	P		**P**		**00 08 29.4**	**+4.0**
IPM	**Ipoh**	25.49	272	P		**P**		**00 08 29.4**	**+4.0**
	comp=E,76nm,1.0s,comp=E,1μm								
BKNI	**Bangkinang**	25.76	263	P		P		00 08 35.6	+7.7
	comp=E,140nm,0.8s,comp=E,2μm								
MBWA	**Marble Bar**	25.81	195	*e*P		**P**		**00 08 28.1**	**0.0**
	comp=E,105nm,0.8s								
MBWA	**Marble Bar**	25.81	195	P		**P**		**00 08 29.4**	**+1.2**
	SNR=9.2								
PPI	**Padang Panjang**	26.52	261	P		**P**		**00 08 39.4**	**+4.7**
	comp=E,46nm,1.1s,comp=E,1μm								
MNSI	**Mandailing Nat**	27.15	264	P		pP		00 08 50.3	+0.3
	comp=E,136nm,0.9s,comp=E,3μm								
CBIJ	**Chichi jima**	27.46	31	LR		LR		00 17 51.3	
	comp=E,1μm,21.4s,baz=260,slow=32								
SSE	**Sheshan**	27.51	350	P		**P**		**00 08 44.4**	**+1.0**
SSE				S		**S**		**00 13 25.1**	**+2.9**
SSE				pmax		pmax			
	comp=Z,88nm,0.8s								
SSE				pmax		pmax			
	comp=Z,670nm,9.8s								
SSE				LR		LR			
	comp=N,1μm,22.8s								
SSE				LR		LR			
	comp=E,1μm,22.8s								
SSE				LR		LR			
	comp=Z,2μm,21.3s								
PSI	**Prapat**	27.62	269	P		**P**		**00 08 46.0**	**+1.2**
PSI				S		**S**		**00 13 22.8**	**-2.0**
PSI				ScP		**ScP**		**00 15 39.1**	**-1.3**
PSI	**Prapat**	27.62	269	P		P		00 08 49.6	+4.8
	comp=Z,37nm,1.0s,comp=Z,672nm								
PSI	**Prapat**	27.62	269	P		**P**		**00 08 46.0**	**+1.2**
	comp=Z,18nm,0.8s,baz=74,slow=3.7,SNR=7.0								
PSI				S		**S**		**00 13 22.8**	**-2.0**
	comp=Z,2.0nm,0.3s,baz=160,slow=12,SNR=3.4								
PSI				ScP		**ScP**		**00 15 39.1**	**-1.3**
	comp=Z,1.6nm,0.3s,baz=131,slow=20,SNR=6.1								
PSI				LR		LR		00 21 57.9	
	comp=Z,3μm,18.7s,baz=244,slow=41								
AS31	**Alice Springs**	28.33	166	*e*P		**P**		**00 08 50.1**	**-0.8**
ASAR	**Alice Springs**	28.33	166	P		**P**		**00 08 49.7**	**-1.2**
ASAR				S		**S**		**00 13 38.1**	**+2.7**
ASAR	**Alice Springs**	28.33	166	P		**P**		**00 08 49.7**	**-1.2**
	comp=Z,13nm,0.8s,baz=347,slow=6.1,SNR=26								
ASAR				S		**S**		**00 13 38.1**	**+2.7**
	comp=Z,3.0nm,0.8s,baz=346,slow=19,SNR=3.4								
WHN	**Wuhan**	28.89	338	P		**P**		**00 08 56.5**	**+0.8**
WHN				S		**S**		**00 13 47.8**	**+3.8**
WHN				pmax		pmax			
	comp=Z,250nm,0.9s								
WHN				LR		LR			
	comp=N,7μm,17.2s								
WHN				LR		LR			
	comp=E,11μm,21.5s								
WHN				LR		LR			
	comp=Z,24μm,25.2s								
NJ2	**Nanjing**	28.91	346	*e*P		**P**		**00 08 56.8**	**+0.9**
NJ2				pP		**pP**		**00 09 01.6**	**-4.0**
NJ2				sP		**sP**		**00 09 07.0**	**-2.6**
NJ2				PP		**PnPn**		**00 09 49.7**	**+1.5**
NJ2				S		S		00 13 52.5	+8.2
NJ2				pmax		pmax			
	comp=Z,50nm,0.7s								
NJ2				pmax		pmax			
	comp=Z,890nm,10.2s								
NJ2				LR		LR			
	comp=N,3μm,24.2s								
NJ2				LR		LR			
	comp=E,2μm,21.8s								
NJ2				LR		LR			
	comp=Z,5μm,22.0s								
GSI	**Gunungsitoli**	29.08	266	P		P		00 09 02.9	+5.2
	comp=Z,66nm,1.0s,comp=Z,2μm								
JNU	**Nakatsue**	29.33	7	P		**P**		**00 08 58.7**	**-1.0**
JNU	**Nakatsue**	29.33	7	P		**P**		**00 08 58.7**	**-1.0**
	comp=Z,41nm,0.7s,baz=200,slow=4.7,SNR=12								
JNU				LR		LR		00 20 33.0	
	comp=Z,2μm,21.6s,baz=172,slow=36								
TPTI		29.34	270	P		P		00 09 18.6	+19
GYA	**Guiyang**	29.43	322	*i*P		**P**		**00 09 01.1**	**+0.4**
GYA				pP		**pP**		**00 09 12.8**	**+2.4**
GYA				PP		**PnPn**		**00 09 58.7**	**+3.3**
GYA				PcP		**PcP**		**00 12 07.6**	**+1.4**
GYA				S		**S**		**00 13 53.4**	**+0.6**
GYA				sS		**sS**		**00 14 11.0**	**+2.2**
GYA				SS		**SnSn**		**00 15 27.9**	**+6.5**
GYA				ScP		**ScP**		**00 15 45.2**	**-0.5**
GYA				pmax		pmax			
	comp=Z,40nm,0.8s								
GYA				pmax		pmax			
	comp=Z,160nm,6.0s								
GYA				LR		LR			
	comp=N,2μm,17.3s								
GYA				LR		LR			
	comp=E,790nm,18.6s								
GYA				LR		LR			
	comp=Z,2μm,17.7s								
CMAR	**Chiang Mai Arr**	30.64	300	P		**P**		**00 09 11.8**	**+0.4**
CMAR				ScP		**ScP**		**00 15 49.4**	**-0.4**
CMAR	**Chiang Mai Arr**	30.64	300	P		**P**		**00 09 11.8**	**+0.4**
	comp=Z,10nm,0.7s,baz=123,slow=7.9,SNR=35								
CMAR				ScP		**ScP**		**00 15 49.4**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=143,slow=1.7,SNR=16								
CMAR				LR		LR		00 24 03.3	
	comp=Z,2μm,18.1s,baz=128,slow=41								
CTA	**Charters Tower**	30.70	142	P		**P**		**00 09 11.8**	**-0.1**
CTA				ScP		**ScP**		**00 15 50.2**	**+0.4**
CTA	**Charters Tower**	30.70	142	*e*P		**P**		**00 09 12.0**	**+0.1**
	comp=Z,23nm,0.7s								
CTA				*e*S		**S**		**00 14 13.5**	**+0.7**
CTA				*e*ScP		**ScP**		**00 15 49.2**	**-0.6**
CTA	**Charters Tower**	30.70	142	P		**P**		**00 09 11.8**	**-0.1**
	comp=Z,30nm,0.8s,baz=326,slow=10,SNR=38								
CTA				ScP		**ScP**		**00 15 50.2**	**+0.4**
	comp=Z,8.9nm,1.0s,baz=31,slow=2.3,SNR=

MAJO pmax pmax
comp=Z,17nm,0.7s
MAJO Matsushiro 34.19 17 *e*P **P 00 09 40.2 -2.1**
comp=Z,17nm,0.7s
MAT Matsushiro 34.19 17 P **P 00 09 39.7 -2.6**
MAT *e*S **S 00 15 07.0 +0.3**
MJAR Matsushiro Arr 34.19 17 P **P 00 09 40.2 -2.1**
MJAR Matsushiro Arr 34.19 17 P **P 00 09 40.2 -2.1**
comp=Z,15nm,0.7s,baz=186,slow=10.0,SNR=29
MJAR LR LR 00 24 23.3
comp=Z,2μm,18.3s,baz=190,slow=38
CD2 Chengdu 34.40 324 ‖P **P 00 09 44.5 +0.2**
CD2 pP **pP 00 09 54.2 +0.2**
CD2 sP **sP 00 09 58.1 0.0**
CD2 PcP **PcP 00 12 19.9 +0.3**
CD2 S **S 00 15 09.3 -0.9**
CD2 sS **sS 00 15 25.3 -1.0**
CD2 PcS **PcS 00 16 05.2 -0.9**
CD2 SS **SnSn 00 17 20.5 -1.6**
CD2 pmax pmax
comp=Z,40nm,0.8s
CD2 pmax pmax
comp=Z,300nm,7.3s
CD2 LR LR
comp=N,3μm,18.6s
CD2 LR LR
comp=E,4μm,20.1s
CD2 LR LR
comp=Z,5μm,20.6s
FORT Forrest 34.53 178 *e*P **P 00 09 44.8 -0.4**
comp=Z,155nm,0.8s
DL2 Dalian 35.12 353 P **P 00 09 50.8 +0.6**
DL2 S **S 00 15 22.2 +1.3**
DL2 pmax pmax
comp=Z,190nm,0.8s
DL2 pmax pmax
comp=Z,390nm,6.1s
DL2 LR LR
comp=N,1μm,21.5s
DL2 LR LR
comp=E,870nm,21.6s
DL2 LR LR
comp=Z,2μm,21.4s
HNR Honiara 35.80 112 LR LR 00 23 44.8
comp=Z,2μm,20.9s,baz=76,slow=35
KLBR Kellerberrin 36.30 193 *e*P **P 00 10 00.3 -0.2**
comp=Z,97nm,0.8s
BJT Baijiatuan 37.15 347 *e*P **P 00 10 07.5 -0.1**
comp=Z,302nm,0.7s
BJI Beijing 37.17 347 P **P 00 10 08.6 +0.8**
BJI S **S 00 15 49.4 -2.9**
BJI pmax pmax
comp=Z,400nm,0.7s
BJI pmax pmax
comp=Z,670nm,6.8s
BJI LR LR
comp=N,2μm,20.7s
BJI LR LR
comp=E,2μm,20.7s
BJI LR LR
comp=Z,1μm,25.0s
EIDS Eidsvold 37.59 142 *e*P **P 00 10 11.2 -0.4**
comp=Z,116nm,0.8s
BBOO Buckleboo 37.62 167 *e*P **P 00 10 11.7 +0.1**
comp=Z,2μm,0.9s
BBOO *e*PP **PP 00 11 35.8 -2.2**
NWAO Narrogin (SRO) 37.70 193 *e*P **P 00 10 12.2 -0.1**
comp=Z,103nm,1.2s
NWAO Narrogin (SRO) 37.70 193 P **P 00 10 12.3 -0.1**
comp=Z,56nm,0.8s,baz=18,slow=9.2,SNR=27
SNY Shenyang 37.84 356 ‖P **P 00 10 14.6 +1.2**
SNY S **S 00 16 04.9 +2.5**
SNY pmax pmax
comp=Z,130nm,0.7s
SNY LR LR
comp=N,810nm,23.5s
SNY LR LR
comp=E,2μm,20.0s
SNY LR LR
comp=Z,2μm,26.5s
LZH Lanzhou 38.27 330 *e*P **P 00 10 17.4 +0.1**
LZH pP **pP 00 10 28.0 +0.9**
LZH sP **sP 00 10 32.5 +1.3**
LZH S **S 00 16 08.0 -1.4**
LZH sS **sS 00 16 25.4 -0.1**
LZH SS **SnSn 00 18 48.5 -7.2**
LZH pmax pmax
comp=Z,120nm,1.0s
LZH pmax pmax
comp=Z,330nm,5.7s
LZH LR LR
comp=N,2μm,14.9s
LZH LR LR
comp=E,5μm,20.1s
LZH LR LR
comp=Z,8μm,20.6s
STKA Stephens Creek 38.36 159 *e*P **P 00 10 17.8 -0.1**
comp=Z,32nm,0.7s
STKA *e*PP **PP 00 11 45.2 -0.9**
STKA *e*PcP **PcP 00 12 31.1 -0.2**
STKA Stephens Creek 38.36 159 *e*P **P 00 10 17.5 -0.4**
comp=Z,134nm,0.7s
STKA *e*S S 00 16 04.1 -6.4
STKA Stephens Creek 38.36 159 P **P 00 10 17.6 -0.4**
comp=Z,151nm,0.7s,baz=335,slow=8.1,SNR=75
HHC Hu-ho-hao-te 39.17 342 *e*P **P 00 10 25.2 +0.4**
HHC pP **pP 00 10 34.8 +0.2**
HHC sP **sP 00 10 38.7 0.0**
HHC PP **PnPn 00 11 59.6 +1.8**
HHC S **ScP 00 16 21.5 +1.5**
HHC sS **sS 00 16 39.3 +0.3**
HHC SS **SS 00 19 09.1 -7.5**
HHC ScS **ScS 00 20 30.0 -1.6**
HHC pmax pmax
comp=Z,69nm,0.6s
HHC pmax pmax
comp=Z,410nm,8.2s
HHC LR LR
comp=N,3μm,21.4s
HHC LR LR
comp=E,2μm,19.0s
HHC LR LR
comp=Z,4μm,19.0s
VLA Vladivostok 39.32 6 ‖*i*P **P 00 10 25.8 -0.1**
VLA 00 11 55.2
VLA *e* 00 12 33.0
VLA S **S 00 16 24.2 -0.5**
VLA pmax pmax
comp=Z,70nm,1.4s
BTO Baotou 39.46 340 *e*P **P 00 10 26.0 -1.2**
CN2 Changchun 39.73 359 *e*P **P 00 10 28.7 -0.6**
CN2 *e*pP **pP 00 10 38.5 -0.6**
CN2 *e*PP **PnPn 00 12 04.9 +0.6**
CN2 *e*S **S 00 16 31.5 +0.6**
CN2 *e*SS **SS 00 19 20.8 -6.7**
CN2 pmax pmax
comp=Z,40nm,0.6s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,1μm,22.0s
CN2 LR LR
comp=E,1μm,22.0s
CN2 LR LR
comp=Z,2μm,24.0s
USRK Ussuriysk Arra 40.40 6 P **P 00 10 35.4 +0.6**
comp=Z,41nm,0.7s,baz=190,slow=7.6,SNR=45
USRK LR LR 00 26 36.1
comp=Z,784nm,21.3s,baz=6.4,slow=35
MDJ Mudanjiang 40.62 3 P **P 00 10 37.7 +1.1**
MDJ pP **pP 00 10 46.6 +0.1**
MDJ sP **sP 00 10 50.3 -0.2**
MDJ PP **PP 00 12 12.0 +1.4**
MDJ PcP **PcP 00 12 37.6 -0.6**
MDJ ScP **ScP 00 16 24.8 -0.6**
MDJ PcS **PcS 00 16 28.3 -0.5**
MDJ S **S 00 16 44.8 +0.7**
MDJ ScS **ScS 00 20 40.2 +0.5**
MDJ pmax pmax
comp=Z,110nm,0.8s
MDJ pmax pmax
comp=Z,350nm,5.6s
MDJ LR LR
comp=N,2μm,22.4s
MDJ LR LR
comp=Z,2μm,29.1s
MDJ Mudanjiang 40.62 3 *e*P **P 00 10 37.6 +0.9**
comp=Z,82nm,0.8s
ARMA Armidale 41.71 147 *e*P **P 00 10 46.4 +0.5**
comp=Z,126nm,0.9s
ARMA Armidale 41.71 147 *e*P **P 00 10 46.7 +0.8**
LSA Lhasa 42.20 311 P **P 00 10 52.0 +1.6**
LSA pmax pmax
comp=Z,40nm,1.0s
LSA Lhasa 42.20 311 *e*P **P 00 10 50.5 +0.1**
LSA pmax pmax
comp=Z,30nm,0.6s
LSA Lhasa 42.20 311 *e*P **P 00 10 50.5 +0.1**
comp=Z,30nm,0.6s
ASAJ Asahikawa 42.46 17 *e*P **P 00 10 51.3 -0.4**
comp=Z,16nm,0.8s
ASAJ Asahikawa 42.46 17 P **P 00 10 51.8 +0.1**
comp=Z,24nm,0.6s,baz=200,slow=9.3,SNR=11
ASAJ LR LR 00 28 58.0
comp=Z,2μm,20.9s,baz=338,slow=37
GTA Gaotai 42.86 329 *e*P **P 00 10 55.6 +0.4**
GTA pP **pP 00 11 06.0 +0.9**
GTA sP **sP 00 11 09.7 +0.6**
GTA ScP **ScP 00 16 34.7 +0.1**
GTA S **S 00 17 18.0 +0.3**
GTA sS **sS 00 17 32.7 -1.3**
GTA SS SS 00 20 22.8 -7.0
GTA ScS **ScS 00 20 53.0 -0.9**
GTA pmax pmax
comp=Z,24nm,0.8s
GTA pmax pmax
comp=Z,330nm,6.6s
GTA LR LR
comp=N,3μm,21.8s
GTA LR LR
comp=E,5μm,20.4s
GTA LR LR
comp=Z,7μm,22.8s
YUK Yuzh-Kuril'sk 43.43 20 P P 00 10 56.4 -3.2
YUK *e*S S 00 17 18.5 -7.1
YUK *e*SS SS 00 20 32.2 -8.4
YUK MLR MLR
comp=E,188nm,21.0s
YUK MLR MLR
comp=Z,1μm,21.0s
YUK MLR MLR
comp=N,102nm,14.0s
TAPN Taplejung 43.78 306 *e*P **P 00 11 02.5 -0.6**
comp=N,34nm,0.6s
ODAN Odare 43.84 305 *e*P **P 00 11 03.3 -0.1**
comp=N,95nm,0.8s
CAN Canberra 44.35 153 *e*P **P 00 11 08.0 +0.9**
CAN *e* 00 12 50.7
CAN pmax pmax
comp=Z,150nm,0.8s
CAN Canberra 44.35 153 *e*P **P 00 11 08.0 +0.9**
comp=Z,150nm,0.8s
CAN *e*PcP **PP 00 12 50.7 -0.3**
CNB Canberra Magne 44.50 153 *e*P **P 00 11 09.7 +1.3**
comp=Z,333nm,0.9s
RAMN Ramite 44.52 305 *e*P **P 00 11 08.8 -0.1**
comp=Z,43nm,0.6s
TOO Toolangi 44.87 159 *e*P **P 00 11 13.0 +1.8**
comp=Z,272nm,0.9s
HABR Khabarovsk 44.98 8 *de*P **P 00 11 10.1 -1.8**
HABR *e**PP **pP 00 11 19.9 -2.0**
HABR *e**SP **sP 00 11 24.2 -1.7**
HABR *e* 00 12 51.0
HABR *e* 00 12 55.6
HABR *e*PPP PPP 00 13 34.2
HABR *i* S **S 00 17 46.7 -1.4**
HABR *e**SS **sS 00 18 03.5 -1.0**
HABR *e* 00 21 04.6
HABR *e*SSS SSS 00 21 55.9
HABR pmax pmax
comp=Z,301nm,3.1s
HABR pmax pmax
comp=E,176nm,3.1s
HABR pmax pmax
comp=N,68nm,2.3s
HABR MLR MLR
comp=Z,887nm,20.0s
YSS Yuzh-Sakhalins 45.11 16 ‖*e*P **P 00 11 15.0 +2.1**
YSS *e* 00 11 20.3
YSS *e**SP sP 00 11 31.2 +4.3
YSS *e*S **S 00 17 52.0 +2.1**
YSS *e*SS **ScS 00 21 06.0 -1.4**
YSS pmax pmax
comp=Z,20nm,0.5s
YSS MLR MLR
comp=Z,900nm,17.0s
YSS MLR MLR
comp=N,1μm,18.0s
YSS MLR MLR
comp=E,1μm,17.0s
YSS Yuzh-Sakhalins 45.11 16 *e*P **P 00 11 13.3 +0.4**
comp=E,26nm,0.6s
JIRN Jiri 45.14 306 *e*P **P 00 11 13.5 -0.5**
comp=E,18nm,0.6s
KLR Kul'dur 45.37 5 *e*P P 00 11 11.8 -3.2
GUN Gumba 45.49 306 *e*P **P 00 11 16.4 -0.4**
comp=E,136nm,0.7s
HIA Hailar 45.56 354 *e*P **P 00 11 17.9 +1.3**
comp=E,62nm,0.8s
PKI Pulchoki 45.74 305 *e*P **P 00 11 17.8 -0.9**
KKN Kakani 45.93 306 *e*P **P 00 11 19.5 -0.6**
DMN Daman 46.00 305 *e*P **P 00 11 20.0 -0.7**
comp=E,47nm,0.8s
GKN Gorkha 46.53 305 *e*P **P 00 11 24.0 -0.8**
comp=E,28nm,0.5s
DZM Mont Dzumac 46.77 125 *e*P **P 00 11 27.3 +0.7**
comp=E,336nm,1.1s
DZM *e*S **S 00 18 18.8 +4.0**
DZM comp=E,930nm,28.4s *e*LR LR 00 24 41.7
comp=E,2μm,25.2s
DZM Mont Dzumac 46.77 125 *e*P **P 00 11 26.9 +0.4**
comp=E,244nm,1.2s
DZM Mont Dzumac 46.77 125 P **P 00 11 26.6 +0.1**
comp=E,102nm,0.8s,baz=282,slow=7.1,SNR=69
DZM LR LR 00 29 21.1
comp=E,553nm,20.3s,baz=127,slow=34
ULN Ulaanbaatar 46.90 342 P **P 00 11 27.6 +0.4**
SNR=27
SONM Songino Array 47.07 341 P **P 00 11 28.9 +0.3**
SONM PcP **PcP 00 13 01.5 +1.2**
SONM Songino Array 47.07 341 P **P 00 11 28.9 +0.3**
comp=E,30nm,0.7s,baz=156,slow=8.5,SNR=58
SONM PcP **PcP 00 13 01.5 +1.2**
comp=E,5.7nm,0.8s,baz=151,slow=4.8,SNR=2.8
SONM LR LR 00 34 01.1
comp=E,2μm,20.5s,baz=156,slow=40
KOLN Koldanda 47.29 305 *e*P **P 00 11 30.8 +0.1**
comp=E,88nm,0.5s
DANN Dangsing 47.38 306 *e*P **P 00 11 30.9 -0.6**
comp=E,113nm,0.5s
HYB Hyderabad 48.91 290 *i* P **P 00 11 43.0 -0.2**
CIT Chita 49.16 349 *e*P **P 00 11 44.5 0.0**
CIT *e* 00 11 54.6
CIT *e* 00 12 01.5
CIT *e* 00 13 07.5
CIT pmax pmax
comp=Z,319nm,1.2s
MOO Moorlands 49.79 160 *e*P **P 00 11 50.3 +0.9**
comp=Z,294nm,0.9s
ZAK Zakamensk 50.30 341 *e*P **P 00 11 53.2 -0.1**
ZAK pmax pmax
comp=Z,14nm,1.4s
TLY Talaya 51.30 342 *c i*P **P 00 12 01.2 +0.4**
TLY *e*S S 00 19 23.9 +6.3
TLY *e* 00 21 46.1
TLY pmax pmax
comp=Z,28nm,0.8s
TLY MLR MLR
comp=Z,1μm,20.0s
TLY Talaya 51.30 342 *e*P **P 00 12 01.5 +0.8**
comp=Z,29nm,0.8s
TLY Talaya 51.30 342 P **P 00 12 01.8 +1.1**
SNR=26
TLY Talaya 51.30 342 P **P 00 12 01.1 +0.3**
comp=Z,240nm,0.7s,SNR=20
IRK Irkutsk 51.61 343 *e*P **P 00 12 03.5 +0.5**
IRK pmax pmax
comp=Z,225nm,0.7s
AGRA Agra 51.83 302 *e*PKP **P 00 12 04.0 -1.0**
AGRA AMb AMB 00 12 05.0
comp=Z,41nm,0.3s
MOY Mondy 52.16 340 *e*P **P 00 12 07.8 +0.6**
MOY pmax pmax
comp=Z,55nm,1.6s
ASOR Ausora 52.45 304 *ex* **P 00 12 08.6 -1.1**
ASOR AMb AMB 00 12 09.8
comp=Z,80nm,0.3s
WMQ Urumqi 52.48 325 P **P 00 12 10.0 +0.2**
WMQ pP **pP 00 12 20.0 +0.1**
WMQ sP **sP 00 12 24.0 +0.2**
WMQ PcP **PcP 00 13 20.0 -0.1**
WMQ PP **PP 00 14 11.0 +2.1**
WMQ PcS **PcS 00 17 21.5 +3.0**
WMQ S **S 00 19 30.8 -3.3**
WMQ ScS **ScS 00 21 51.0 -6.3**
WMQ pmax pmax
comp=Z,24nm,1.4s
WMQ pmax pmax
comp=Z,370nm,6.0s
WMQ LR LR
comp=N,3μm,18.2s
WMQ LR LR
comp=E,3μm,20.4s
WMQ LR LR
comp=Z,4μm,22.4s
DDI Dehra Dun 52.74 306 *e*PKP **P 00 12 09.5 -2.4**
AYAN Aya Nagar 52.90 303 *e*PKP P 00 12 10.0 -3.0
AYAN AMb AMB 00 12 11.2
comp=Z,27nm,1.1s
BHGR Bahadurgarh 53.12 303 *e*PKP **P 00 12 13.7 -1.0**
BHGR AMb AMB 00 12 16.8
comp=Z,162nm,0.6s
KUDL Kundal 53.33 302 *e*PKP **P 00 12 15.0 -1.2**
KUDL AMb AMB 00 12 16.1
comp=Z,58nm,0.4s
POO Poona 53.51 290 *e*PKP **P 00 12 16.0 -1.7**
KKR Kurukshetra 53.62 305 *e*PKP **P 00 12 18.3 -0.1**
KKR AMb AMB 00 12 20.7
comp=Z,61nm,0.1s
SMLA Simla 53.73 306 *i* P **P 00 12 19.4 +0.4**
SMLA *i* x x 00 19 46.2
KHET Khetri 53.89 302 *e*PKP **P 00 12 19.2 -1.1**
KHET AMb AMB 00 12 21.0
comp=Z,50nm,0.9s
BOD Bodaibo 54.66 352 *e*P **P 00 12 26.1 +0.8**
BOD pmax pmax
comp=Z,76nm,1.2s
MSVF Nonsavu 55.13 115 *e*P **P 00 12 30.8 +1.3**
MSVF pmax pmax
comp=Z,250nm,1.0s
MSVF Nonsavu 55.13 115 *e*P **P 00 12 30.8 +1.3**
comp=Z,250nm,1.0s
PEA0B Petropavlovsk- 55.32 22 *e*P **P 00 12 30.2 0.0**
PETK Petropavlovsk- 55.32 22 P **P 00 12 30.5 +0.3**
PETK pmax pmax
comp=Z,27nm,0.6s
PETK MLR MLR
comp=Z,701nm,18.2s
PETK Petropavlovsk- 55.32 22 P **P 00 12 30.5 +0.3**
PETK Petropavlovsk- 55.32 22 P **P 00 12 30.5 +0.3**
comp=Z,27nm,0.6s,baz=189,slow=7.4,SNR=36
PETK LR LR 00 36 31.1
comp=Z,701nm,18.1s,baz=219,slow=36
PET Petropavlovsk 55.62 23 *e*P **P 00 12 33.2 +0.9**
PET *e*S **S 00 20 14.6 -1.3**
PET pmax pmax
comp=Z,29nm,0.7s
PET MLR MLR
comp=Z,900nm,19.0s
PET MLR MLR
comp=Z,900nm,19.0s
MK31 Makanchi Array 57.31 325 *e*P **P 00 12 45.0 +0.4**
MK31 Makanchi Array 57.31 325 *e*P **P 00 12 45.0 +0.4**
MKAR Makanchi Array 57.31 325 P **P 00 12 44.6 -0.1**
MKAR pmax pmax
comp=Z,18nm,0.4s
MKAR pmax pmax
comp=N,4.0nm,0.8s
MKAR MLR MLR
comp=Z,3μm,19.8s
MKAR Makanchi Array 57.31 325 P **P 00 12 44.5 -0.1**
MKAR *e*S **S 00 20 45.2 -2.3**
MKAR ScP **ScP 00 17 35.3 -0.7**
MKAR Makanchi Array 57.31 325 P **P 00 12 44.5 -0.1**
comp=Z,18nm,0.4s,baz=119,slow=7.6,SNR=51
MKAR ScP **ScP 00 17 35.3 -0.7**
comp=Z,4.4nm,0.8s,baz=122,slow=4.4,SNR=5.2
MKAR LR LR 00 39 17.3
comp=Z,3μm,19.8s,baz=116,slow=38
KSH Kashi 57.80 315 P **P 00 12 49.2 +0.9**
KSH pP **pP 00 12 58.8 +0.3**
KSH sP **sP 00 13 02.9 +0.4**
KSH PcP **PcP 00 13 39.6 -1.2**
KSH PP **PP 00 14 58.8 +2.1**
KSH ScP **ScP 00 17 35.5 -3.0**
KSH PcS **PcS 00 17 39.6 -2.5**
KSH S **S 00 20 45.1 -0.5**
KSH sS **sS 00 21 01.7 -0.7**
KSH ScS **ScS 00 22 31.3 -4.4**
KSH SS **SS 00 24 38.0 +1.3**
KSH LR LR
comp=N,850nm,15.8s
KSH LR LR
comp=E,470nm,12.4s
KSH LR LR
comp=Z,2μm,18.4s
YAK Yakutsk 58.03 2 *c i*P **P 00 12 49.7 +0.4**
YAK *e**PP **pP 00 12 58.1 -1.4**
YAK *e* 00 14 55.9
YAK *e*S **S 00 20 45.2 -2.3**
YAK *e* 00 22 30.6
YAK *e*SS **SS 00 24 40.9 +1.8**
YAK pmax pmax
comp=Z,133nm,0.8s
YAK pmax pmax
comp=N,53nm,1.1s
YAK pmax pmax
comp=E,22nm,1.2s
YAK pmax pmax
comp=Z,13nm,0.5s
YAK smax smax
comp=E,350nm,4.5s
YAK smax smax
comp=N,35nm,1.4s
YAK MLR MLR
comp=N,1μm,25.0s
YAK MLR MLR
comp=E,1μm,23.0s
YAK Yakutsk 58.03 2 *e*P **P 00 12 49.5 +0.2**
comp=E,188nm,0.8s
OUZ Omahuta 58.81 136 *e*P P 00 12 58.4 +3.2
comp=E,97nm,1.4s
KZA Kyzart 59.37 318 P **P 00 13 00.3 +0.7**
SNR=12
TKM2 Tokmak 2 59.51 319 *e*P **P 00 13 00.0 -0.2**
TKM2 pmax pmax
comp=Z,24nm,0.8s
TKM2 Tokmak 2 59.51 319 *e*P **P 00 12 60.0 -0.2**
comp=Z,24nm,0.8s
TKM2 Tokmak 2 59.51 319 P **P 00 12 59.9 -0.4**
SNR=18
KBK Karagaybulak 59.82 318 P **P 00 13 01.6 -0.8**
SNR=16
UCH Uchtor 59.93 317 P **P 00 13 05.2 +1.7**
SNR=6.8
AAK Ala-Archa 60.12 318 *c i*P **P 00 13 04.3 -0.1**
AAK pmax pmax
comp=Z,31nm,1.2s
AAK Ala-Archa 60.12 318 *e*P **P 00 13 04.2 -0.1**
comp=Z,80nm,1.1s
AAK Ala-Archa 60.12 318 P **P 00 13 05.0 +0.6**
comp=Z,58nm,0.8s,SNR=5.9
AAK Ala-Archa 60.12 318 P **P 00 13 05.3 +0.9**
SNR=7.8
AAK Ala-Archa 60.12 318 P **P 00 13 05.0 +0.6**
SNR=7.1
AAK Ala-Archa 60.12 318 P **P 00 13 04.5 +0.2**
comp=Z,4.4nm,0.6s,baz=161,slow=8.9,SNR=9.5
AAK LR LR 00 37 55.5
comp=Z,470nm,21.8s,baz=81,slow=35
ZAA0 Zalesovo Array 60.35 333 *e*P **P 00 13 04.4 -1.1**
ZAA0 *e*PP **PP 00 15 18.4 -0.4**
ZALV Zalesovo Beam 60.35 333 P **P 00 13 04.8 -0.7**
ZALV pmax pmax
comp=Z,6.0nm,0.4s
ZALV MLR MLR

comp=Z,2µm,19.6s
ZALV Zalesovo Beam 60.35 333 P P 00 13 04.8 -0.7
ZALV Zalesovo Beam 60.35 333 P P 00 13 04.8 -0.7
comp=Z,6.1nm,0.4s,baz=128,slow=7.1,SNR=29
ZALV LR LR 00 41 43.9
comp=Z,2µm,19.6s,baz=114,slow=38
USP Ospenovka 60.38 318 P P **00 13 06.1 0.0**
SNR=22
AML Almayashu 60.45 317 P P 00 13 08.3 +1.4
SNR=23
EKS2 Erkin-Say 60.61 318 *e*P P **00 13 07.5 -0.2**
EKS2 pmax pmax
comp=Z,25nm,1.0s
EKS2 Erkin-Say 60.61 318 *e*P P **00 13 07.5 -0.2**
comp=Z,25nm,1.0s
EKS2 Erkin-Say 60.61 318 P P **00 13 09.1 +1.4**
SNR=16
KBL Kabul 61.29 307 *e*P P **00 13 11.7 -0.9**
KBL pmax pmax
comp=Z,26nm,0.9s
KBL Kabul 61.29 307 *e*P P **00 13 11.7 -0.9**
comp=Z,26nm,0.9s
KURBB Kurchatov Arra 61.50 327 P P **00 13 13.0 -0.4**
comp=Z,47nm,0.8s,baz=125,slow=6.1,SNR=70
KURK Kurchatov 61.50 328*ce*P P **00 13 13.1 -0.3**
KURK pmax pmax
comp=Z,53nm,0.7s
KURK Kurchatov 61.50 328 *e*P P **00 13 13.3 -0.1**
comp=Z,51nm,0.7s
KURK Kurchatov 61.50 328 P P **00 13 12.9 -0.5**
SNR=26
NVS Novosibirsk 61.64 333⇑ *i*P P **00 13 11.7 -2.5**
NVS *e*S S 00 21 28.6 -5.6
NVS *i* 00 22 58.2
NVS pmax pmax
comp=Z,28nm,0.8s
NVS pmax pmax
comp=N,29nm,0.7s
NVS pmax pmax
comp=E,16nm,0.7s
NVS smax smax
comp=N,8.0nm,1.5s
NVS smax smax
comp=E,14nm,1.5s
SEY Seymchan 61.89 13⇑ *e*P P **00 13 17.1 +1.3**
RPZ Rata Peaks 62.00 145 *e*P P **00 13 17.3 +0.4**
comp=E,116nm,0.9s
KK31 Karatay Array 62.99 317 *i* P P **00 13 22.8 -0.8**
KK31 pmax pmax
comp=Z,26nm,0.9s
KKAR Karatay Array 62.99 317 *e*P P **00 13 23.2 -0.4**
KKAR pmax pmax
comp=Z,27nm,0.9s
KKAR Karatay Array 62.99 317 *e*P P **00 13 23.2 -0.4**
comp=Z,27nm,0.9s
AFI Afiamalu 63.65 108 *e*P P **00 13 29.9 +1.4**
comp=Z,279nm,1.1s
AFI Afiamalu 63.65 108 P P **00 13 29.3 +0.8**
comp=Z,151nm,0.9s,baz=255,slow=2.0,SNR=21
BVA0 Borovoye Array 67.08 327 *i* P P **00 13 49.0 -0.9**
BVA0 pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 67.15 327*c i*P P **00 13 49.6 -0.8**
BRVK pmax pmax
comp=Z,43nm,1.0s
BRVK Borovoye 67.15 327 *e*P P **00 13 50.0 -0.4**
comp=Z,94nm,0.8s
BRVK Borovoye 67.15 327 P P **00 13 50.7 +0.3**
comp=Z,691nm,0.9s,SNR=24
BRVK Borovoye 67.15 327 P P **00 13 50.2 -0.2**
SNR=29
BILL Bilibino 69.42 15⇑ *e*P P **00 14 04.1 -0.2**
BILL *e* 00 16 37.1
BILL *e*S **S** **00 23 05.9 -3.0**
BILL *e*SS **SS** **00 27 43.0 +6.6**
BILL pmax pmax
comp=Z,11nm,1.0s
AB31 Akbulak array 71.91 321 *i* P P **00 14 19.0 -0.8**
AB31 pmax pmax
comp=Z,28nm,0.9s
ABKAR Akbulak array 71.91 321 *e*P P **00 14 19.0 -0.9**
AKTO Aktyubinsk 73.42 322 P P **00 14 28.6 -0.2**
AKTO pmax pmax
comp=Z,32nm,0.8s
AKTO Aktyubinsk 73.42 322 P P **00 14 28.6 -0.2**
AKTO Aktyubinsk 73.42 322 P P **00 14 28.6 -0.2**
comp=Z,32nm,0.8s,baz=100,slow=7.8,SNR=66
SVE Sverdlovsk 73.72 328⇑ *e*P P **00 14 30.3 -0.1**
SVE *e*S **SKiKP** **00 23 59.0 +1.3**
SVE pmax pmax
comp=Z,37nm,0.9s
SVE MLR MLR
comp=Z,1µm,21.0s
AKUT Akutan 73.86 35 *e*P P **00 14 31.7 +0.5**
comp=Z,84nm,0.6s
GAMB Gambell 74.29 24 *e*P P **00 14 33.8 +0.2**
comp=Z,26nm,0.8s
ARU Arti 74.70 328*d i*P P **00 14 35.4 -0.7**
ARU S **S** **00 24 06.7 -3.2**
ARU pmax pmax
comp=Z,28nm,1.2s
ARU MLR MLR
comp=Z,1µm,22.0s
ARU Arti 74.70 328 *e*P P **00 14 35.6 -0.5**
comp=Z,16nm,0.6s
ARU Arti 74.70 328 P P **00 14 35.6 -0.5**
comp=Z,162nm,0.4s,SNR=14
SDPT Sand Point 77.13 34 *e*P P **00 14 50.4 +0.4**
comp=Z,112nm,0.6s
QRN Al-Qurain 78.18 298 *e*P P **00 14 55.3 -1.2**
QRN AMb AMB 00 14 57.4
comp=Z,85nm,0.7s
UMR Umm Al-Rimmam 78.39 299 *e*P P **00 14 56.8 -0.8**
UMR AMb AMB 00 14 58.2
comp=Z,39nm,0.7s
KBD Kabd 78.39 299 *e*P P **00 14 56.3 -1.4**
KBD AMb AMB 00 14 57.9
comp=Z,20nm,0.8s
RDF Al-Radifah 78.51 299 *e*P P **00 14 57.5 -0.8**
RDF AMb AMB 00 14 59.5
comp=Z,61nm,0.9s
MIB Mutribah 78.73 299 *e*P P **00 14 58.1 -1.3**
MIB AMb AMB 00 15 00.4
comp=Z,74nm,0.7s
NAY Al-Naaiem 78.79 299 *e*P P **00 14 58.2 -1.6**
NAY AMb AMB 00 15 00.3
comp=Z,32nm,0.8s
MAK Makhachkala 79.34 313 P P 00 14 59.2 -3.3
MAK *e*S **S** **00 25 01.9 +0.9**
MAK pmax pmax
comp=Z,441nm,2.5s
GNI Garni 81.25 310 P P **00 15 15.0 +1.9**
GNI Garni 81.25 310 P P **00 15 15.0 +1.9**
comp=Z,7.2nm,0.9s,baz=90,slow=20,SNR=3.4
BHD Baghdad 81.34 303 *ex* P 00 15 06.8 -6.7
BHD *ex* S 00 25 15.7 -6.7
BHD *i* x x 00 25 24.7
ZEI Tsey 81.98 312 *e*P P **00 15 15.7 -1.3**
ZEI pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 82.90 314 *e*P P 00 15 16.0 -5.6
KIV pmax pmax
comp=Z,9.0nm,0.9s
KIV MLR MLR
comp=Z,715nm,20.0s
KIV Kislovodsk 82.90 314 *e*P P **00 15 21.6 0.0**
comp=Z,9.0nm,0.8s
VRHR Novokhopersk 83.80 321 *e*P P **00 15 24.6 -1.3**
VRHR pmax pmax
comp=N,7.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,30nm,0.8s
VRHR MLR MLR
comp=N,330nm,18.0s
VRHR MLR MLR
comp=E,590nm,18.0s
VRHR MLR MLR
comp=Z,610nm,18.0s
PMR Palmer 83.86 29 *e*P P **00 15 25.9 -0.1**
PMR pmax pmax
comp=Z,26nm,0.9s
PMR Palmer 83.86 29 *e*P P **00 15 25.9 -0.1**
comp=Z,26nm,0.9s
MCK McKinley 84.07 26 *e*P P **00 15 27.7 +0.6**
MCK pmax pmax
comp=Z,75nm,1.2s
MCK McKinley 84.07 26 *e*P P **00 15 27.7 +0.6**
comp=Z,75nm,1.2s
SML Sawmill 84.25 28 *e*P P **00 15 28.2 +0.1**
SML pmax pmax
comp=Z,25nm,1.2s
SML Sawmill 84.25 28 *e*P P **00 15 28.2 +0.1**
comp=Z,25nm,1.2s
ILAR Eielson Array 85.00 25 P P **00 15 30.9 -0.8**
ILAR Eielson Array 85.00 25 P P **00 15 30.9 -0.8**
comp=Z,3.6nm,0.6s,baz=249,slow=5.8,SNR=48
KLMR Klimovskoe 85.17 331*c i*P P **00 15 32.3 -0.3**
KLMR *e*S S 00 25 53.9 -6.1
KLMR pmax pmax
comp=Z,131nm,1.2s
KLMR pmax pmax
comp=Z,146nm,5.9s
KLMR MLR MLR
comp=Z,1µm,22.0s
VORD Divnogorie 85.27 321 *e*P P **00 15 32.9 -0.4**
PPT2 Papeete2 85.32 108 *e*S **S** **00 26 02.1 -1.2**
PPT2 *e*LR LR 00 42 38.4
comp=Z,421nm,25.5s
comp=Z,1µm,27.0s
VSR Storozhevoye 85.35 321 *e*P P **00 15 32.9 -0.8**
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,6.0nm,0.6s
VSR pmax pmax
comp=Z,9.0nm,0.6s
VSR MLR MLR
comp=N,440nm,24.0s
VSR MLR MLR
comp=E,1µm,24.0s
VSR MLR MLR
comp=Z,1µm,24.0s
DIV Divide 85.46 29 *e*P P **00 15 34.6 +0.4**
comp=Z,61nm,1.1s
TBI Tubuai 86.00 114 *e*S **S** **00 26 08.5 -1.2**
comp=Z,945nm,28.5s
TBI *e*LR LR 00 42 55.9
comp=Z,1µm,29.0s
MOS Moscow 86.20 325 *e*P P **00 15 36.3 -1.5**
MOS *e*S **SKSac** **00 25 56.0 -5.5**
MOS pmax pmax
comp=Z,73nm,1.2s
MOS MLR MLR
comp=Z,1µm,20.0s
MOS MLR MLR
comp=E,1µm,20.0s
ANN Anapa 86.66 315 *e*P P **00 15 39.3 -1.0**
ANN *e*S S 00 26 03.0 -12
ANN pmax pmax
comp=Z,60nm,1.4s
OBN Obninsk 86.82 325⇓ *e*P P **00 15 41.1 +0.2**
OBN *e* 00 18 59.6
OBN *e*S S 00 26 05.3 -11
OBN *i* S **SKKSac** **00 26 15.4 +1.6**
OBN pmax pmax
comp=Z,75nm,1.2s
OBN MLR MLR
comp=Z,1µm,19.0s
OBN Obninsk 86.82 325 *e*P P **00 15 40.9 0.0**
comp=Z,30nm,0.6s
APA Apatity 87.62 337⇑ *e*P P **00 15 43.9 -0.6**
APA *i* 00 15 53.8
APA MLR MLR
comp=Z,4µm,19.0s
ASF Jabal al Asfar 87.67 302 P P **00 15 45.8 +0.2**
ASF Jabal al Asfar 87.67 302 P P **00 15 45.8 +0.2**
comp=Z,3.7nm,0.6s,baz=349,slow=4.7,SNR=12
MMAI Mount Meron Ar 88.87 303 P P **00 15 52.5 +1.1**
MMAI Mount Meron Ar 88.87 303 P P **00 15 52.5 +1.1**
comp=Z,2.8nm,0.6s,baz=87,slow=7.0,SNR=8.0
JOF Joensuu 88.94 333 *e*P P **00 15 50.1 -0.8**
JOF pmax pmax
comp=Z,34nm,0.8s
JOF Joensuu 88.94 333 *ep* P **00 15 50.1 -0.8**
comp=Z,34nm,0.8s
KMBO Kilima Mbogo 89.40 269 *e*P P **00 15 54.0 -0.4**
comp=Z,7.3nm,1.0s
EIL Elat 89.50 300 P P **00 15 55.0 +0.7**
EIL Elat 89.50 300 P P **00 15 55.0 +0.7**
comp=Z,5.8nm,0.6s,baz=104,slow=8.3,SNR=6.6
KEV Kevo 89.66 340 *e*P P **00 15 54.0 -0.1**
KEV pmax pmax
comp=Z,49nm,1.9s
KEV Kevo 89.66 340 *ep* P **00 15 54.0 -0.1**
comp=Z,49nm,1.9s
BR131 Keskin Array S 89.78 310 *e*P P **00 15 54.8 -0.7**
comp=Z,5.3nm,0.8s
BRTR Keskin Array B 89.78 310 P P **00 15 54.5 -1.1**
BRTR Keskin Array B 89.78 310 P P **00 15 54.5 -1.1**
comp=Z,5.1nm,0.9s,baz=117,slow=5.1,SNR=22
BRTR LR LR 01 05 40.2
comp=Z,355nm,20.2s,baz=220,slow=42
INK Inuvik 90.05 21 *e*P P **00 15 55.9 0.0**
comp=Z,14nm,1.1s
ARCES ARCESS Array B 90.22 340 P P **00 15 56.4 -0.4**
ARCES ARCESS Array B 90.22 340 P P **00 15 56.4 -0.4**
comp=Z,7.9nm,0.6s,baz=78,slow=5.8,SNR=35
SPITS Spitsbergen Ar 90.27 349 P P **00 15 54.8 -2.0**
SPITS Spitsbergen Ar 90.27 349 P P **00 15 54.8 -2.0**
comp=Z,4.7nm,0.9s,baz=50,slow=6.1,SNR=3.8
KAF Kangasniemi 91.36 332 *e*P P **00 16 01.5 -0.7**
KAF pmax pmax
comp=Z,17nm,0.8s
KAF Kangasniemi 91.36 332 *ep* P **00 16 01.5 -0.7**
comp=Z,16nm,0.8s
FINES FINESS Array B 91.60 332 P P **00 16 02.9 -0.4**
FINES FINESS Array B 91.60 332 P P **00 16 02.9 -0.4**
comp=Z,6.3nm,0.7s,baz=76,slow=4.3,SNR=19
AKASG Malin Array Be 91.65 321*ce*P P **00 16 03.0 -0.8**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKASG Malin Array Be 91.65 321 P P **00 16 02.6 -1.2**
AKASG Malin Array Be 91.65 321 P P **00 16 02.6 -1.2**
comp=Z,6.5nm,0.7s,baz=70,slow=4.5,SNR=19
AKASG LR LR 01 03 08.7
comp=Z,1µm,21.0s,baz=70,slow=39
KIEV Kiev 91.66 321 *e*P P **00 16 02.5 -1.3**
KIEV pmax pmax
comp=Z,8.0nm,0.8s
KIEV Kiev 91.66 321 *e*P P **00 16 02.5 -1.3**
comp=Z,8.1nm,0.8s
VSU Vasula 91.83 329 *i* P P **00 16 03.8 -0.6**
VSU pmax pmax
comp=Z,22nm,0.9s
NACGM Naroch 92.44 325 *e* P **00 16 05.0 -2.4**
SYO Syowa Base 92.54 201⇑ *e*X P **00 16 05.5 -1.9**
QSPA South Pole Qui 93.82 180 *e*P P **00 16 13.7 +0.1**
comp=Z,13nm,1.0s
QSPA South Pole Qui 93.82 180 LR LR 01 01 26.4
comp=Z,559nm,19.4s,baz=2.3,slow=37
TESR 94.00 317⇑ *i*P P **00 16 14.5 -0.2**
VRI Vrincioaia 94.05 316 ⇓P P **00 16 15.0 0.0**
VRI Vrincioaia 94.05 316 ⇓*i*P P **00 16 15.0 0.0**
PLOR Plostina 94.11 316 ⇑P P **00 16 15.4 +0.1**
PLOR Plostina 94.11 316 ⇑*i*P P **00 16 15.4 +0.1**
MLR Muntele Rosu 94.66 316 ⇑*i*P P **00 16 18.0 0.0**
MLR Muntele Rosu 94.66 316 LR LR 01 07 50.9
comp=Z,265nm,19.3s,baz=53,slow=41
SUW Suwalki 94.68 325 *e*P P **00 16 17.2 -0.5**
SUW Suwalki 94.68 325 *e*P P **00 16 17.2 -0.5**
SUW Suwalki 94.68 325 *e*P P **00 16 17.3 -0.4**
SUW pmax pmax
comp=Z,50nm,1.0s
SUW Suwalki 94.68 325 *e*P P **00 16 17.3 -0.4**
comp=Z,50nm,1.0s
BURAR Bucovina Array 94.76 318 ⇓*i*P P **00 16 18.4 +0.1**
BUR08 Bucovina Ar. S 94.77 318 *e*P P **00 16 17.6 -0.8**
VOIR 95.29 316 ⇓P P **00 16 19.1 -1.7**
VOIR 95.29 316 ⇓*i*P P **00 16 19.1 -1.7**
KWP Kalwaria Pacla 95.97 321 *e*P P **00 16 23.3 -0.4**
KWP Kalwaria Pacla 95.97 321 *e*P P **00 16 23.3 -0.4**
KWP Kalwaria Pacla 95.97 321 ⇓P P **00 16 24.3 +0.6**
KWP Kalwaria Pacla 95.97 321 *e*P P **00 16 23.5 -0.2**
comp=Z,12nm,0.8s
KWP Kalwaria Pacla 95.97 321 ⇓*i*P P **00 16 24.3 +0.6**
KOLS Kolonicke sedl 96.40 320 *e*P P **00 16 25.8 +0.1**
KOLS Kolonicke sedl 96.40 320 *e*P P **00 16 25.8 +0.1**
TRPA Tarpa 96.42 319⇑ *i*P P **00 16 25.1 -0.6**
UZH Uzhgorod 96.46 320⇑ *i*P P **00 16 26.1 +0.2**
UZH *e* 00 16 32.9
DRGR 96.60 318⇑ P P **00 16 26.7 0.0**
DRGR 96.60 318⇑ *i*P P **00 16 26.7 0.0**
GZR Gura Zlata 96.86 316 ⇓P P **00 16 27.7 -0.2**
GZR Gura Zlata 96.86 316 ⇓*i*P P **00 16 27.7 -0.2**
CRVS Cervenica-Dubn 96.93 320 *e*P P **00 16 28.5 +0.4**
CRVS Cervenica-Dubn 96.93 320 *e*P P **00 16 28.5 +0.4**
DAG Danmarks Havn 97.05 352 *i* P P **00 16 27.4 -0.6**
DAG pmax pmax
comp=Z,6.0nm,0.9s
DAG Danmarks Havn 97.05 352 *i* P P **00 16 27.4 -0.6**
comp=Z,64nm,0.9s
VTS Vitosha 97.16 314 ⇓P P **00 16 27.8 -1.6**
VTS Vitosha 97.16 314 ⇓*i*P P **00 16 27.8 -1.6**
NIE Niedzica 97.53 321 *e*P Pdif 00 16 31.1 +0.2
NIE Niedzica 97.53 321 *e*P Pdif 00 16 31.5 +0.6
BZS Buzias 97.61 317⇑ P P **00 16 30.7 -0.5**
BZS Buzias 97.61 317⇑ *i*P P **00 16 30.7 -0.5**
OJC Ojcow 97.64 322 *e*P P **00 16 31.0 -0.2**
OJC Ojcow 97.64 322 *e*P P **00 16 31.3 0.0**
PSZ Piszkesteto 98.19 319 ⇓P P **00 16 32.9 -1.0**
PSZ Piszkesteto 98.19 319 ⇓*i*P P **00 16 32.9 -1.0**
NB2 NORSAR Subarra 98.55 334 P P **00 16 34.2 -0.9**
comp=Z,3.6nm,0.6s,baz=66,slow=4.8
NOA NORSAR Array B 98.55 334 P P **00 16 33.7 -1.4**
NOA NORSAR Array B 98.55 334 P P **00 16 33.7 -1.4**
comp=Z,3.9nm,0.7s,baz=68,slow=4.6,SNR=14
VYHS Vyhne 98.72 320 *e*P Pdif 00 16 36.4 +0.3
VYHS Vyhne 98.72 320 PDIF Pdif 00 16 36.4 +0.3
OKC Ostrava-Krasne 98.77 322 AMS AMS 01 08 10.0
comp=Z,600nm,17.5s
MORC Moravsky Berou 99.16 322⇑ P **Pdif** **00 16 33.5 -4.7**
MORC Moravsky Berou 99.16 322⇑ *i*P **Pdif** **00 16 33.5 -4.7**
RKT Rikitea 99.29 113 *e*LR LR 00 49 07.1
comp=Z,998nm,44.5s
YKA Yellowknife Ar 99.39 24 P **Pdif** **00 16 38.3 -0.5**
YKA PP PP 00 20 47.7 +5.9
YKA Yellowknife Ar 99.39 24 P **Pdif** **00 16 38.3 -0.5**
comp=Z,0.8nm,0.6s,baz=298,slow=4.4,SNR=11
YKA PP PP 00 20 47.7 +5.9
comp=Z,1.2nm,1.0s,baz=309,slow=6.5,SNR=4.3
PKSM Moragy 99.47 318 ⇓P **Pdif** **00 16 39.2 -0.3**
PKSM Moragy 99.47 318 ⇓*i*P **Pdif** **00 16 39.2 -0.3**
KSP Ksiaz 99.60 323 *e*P **Pdif** **00 16 40.1 +0.1**
DPC Dobruska-Polom 99.74 322 *e*P **Pdif** **00 16 41.3 +0.6**
DPC MLR MLR
comp=Z,800nm,25.0s
DPC Dobruska-Polom 99.74 322 *e*PDIFF **Pdif** **00 16 41.3 +0.6**
DPC AMS AMS 01 02 50.0
comp=Z,800nm,25.0s
VRAC Vranov 99.89 321 ⇓*i*P **Pdif** **00 16 41.3 -0.1**
TREC Trest 100.59 322 AMS AMS 01 08 10.0
comp=Z,1µm,20.3s
PVCC Panska Ves 100.74 323 *e*P **Pdif** **00 16 46.0 +0.9**
PVCC MLR MLR
comp=Z,1µm,22.5s
PVCC Panska Ves 100.74 323 *e*PDIFF **Pdif** **00 16 46.0 +0.9**
PVCC AMS AMS 01 03 50.0
comp=Z,1µm,22.5s
PRU Pruhonice 100.94 322 *e*P **Pdif** **00 16 46.6 +0.6**
PRU MLR MLR
comp=Z,1µm,28.2s
PRU Pruhonice 100.94 322 *e*PDIFF **Pdif** **00 16 46.6 +0.6**
PRU AMS AMS 01 03 30.0
comp=Z,1µm,28.2s
BRG Berggiesshubel 101.00 323 *e*P **Pdif** **00 16 46.1 -0.1**
comp=Z,8.9nm,0.9s
BRG
comp=N,521nm,14.7s
BRG
comp=E,748nm,15.7s
BRG
comp=Z,1µm,17.3s
BRG Berggiesshubel 101.00 323 *e*P **Pdif** **00 16 46.1 -0.1**
BRG pmax pmax
comp=Z,9.0nm,0.9s
BRG MLR MLR
comp=N,521nm,14.7s
BRG MLR MLR
comp=E,748nm,15.7s
BRG MLR MLR
comp=Z,1µm,17.3s
CLL Collm 101.40 324 *e*P **Pdif** **00 16 48.0 0.0**
CLL *e* 00 20 55.0
CLL pmax pmax
comp=Z,12nm,1.4s
CLL MLR MLR
comp=Z,900nm,21.9s
CLL Collm 101.40 324 *e*Pdif **Pdif** **00 16 48.0 0.0**
comp=Z,12nm,1.4s
CLL *e*PP **PP** **00 20 55.0 -2.4**
CLL *e*SKSac SKSac 00 27 12.0 -13
CLL *e*Sdif **Sdif** **00 28 18.0 -7.8**
CLL *e*PPS PPS 00 30 38.0
CLL *e*SSS SSS 00 39 54.0
CLL LmV 01 08 00.0
comp=N,300nm,18.0s
CLL LmV 01 08 00.0
comp=E,800nm,22.0s
CLL LmV 01 08 00.0
comp=Z,900nm,21.9s
KHC Kasperske Hory 101.82 322 AMS AMS 01 04 10.0
comp=Z,900nm,22.3s
GERES GERESS Array B 101.84 322 P **Pdif** **00 16 50.0 -0.2**
GERES GERESS Array B 101.84 322 P **Pdif** **00 16 50.0 -0.2**
comp=Z,1.8nm,0.9s,baz=70,slow=5.8,SNR=6.2
NKC Novy Kostel 102.12 323 AMS AMS 01 06 00.0
comp=Z,1µm,19.1s
NVAR Mina Array Bea 106.90 48 PKKPab PKKPab 00 32 55.5 -1.4
NVAR Mina Array Bea 106.90 48 PKKPab PKKPab 00 32 55.5 -1.4
comp=Z,0.7nm,0.7s,baz=129,slow=4.0,SNR=4.2
LPG La Plagne 107.50 320 *e*PKIKP **PKiKP** **00 21 28.7 +4.8**
comp=Z,24nm,1.1s
LPG La Plagne 107.50 320 *e*PKPdf **PKiKP** **00 21 28.7 +4.8**
LPL La Plagne 107.51 320 *e*PKIKP PKiKP 00 21 29.1 +5.3
comp=Z,29nm,1.2s
PDAR Pinedale Array 111.32 41 PKKPbc PKKPbc 00 32 24.6 -3.4
PDAR PKKPab **PKKPab** **00 32 36.4 -0.9**
PDAR Pinedale Array 111.32 41 PKKPbc PKKPbc 00 32 24.6 -3.4
comp=Z,0.6nm,0.4s,baz=9.8,slow=18,SNR=13
PDAR PKKPab **PKKPab** **00 32 36.4 -0.9**
comp=Z,1.6nm,0.9s,baz=123,slow=7.3,SNR=7.1
ANMO Albuquerque 117.01 47 PKP **PKPdf** **00 21 42.6 +0.4**
ANMO Albuquerque 117.01 47 PKP **PKPdf** **00 21 42.6 +0.4**
comp=Z,0.5nm,0.5s,baz=270,slow=19,SNR=2.1
V25A Rancho No Teng 117.94 46 ⇓P **PKPdf** **00 21 45.2 +1.2**
baz=118
ECSD EROS Data Cent 118.72 34 *e*PKPdf **PKPdf** **00 21 45.0 0.0**
MNTX Cornudas Mount 119.25 50 ⇓P **PKPdf** **00 21 47.3 +0.9**
baz=119
Z27A Tatum 120.15 48⇑ P **PKPdf** **00 21 48.6 +0.5**
baz=120
SCHQ Schefferville 120.41 9 PKP **PKPdf** **00 21 48.9 +1.0**
SCHQ Schefferville 120.41 9 PKP **PKPdf** **00 21 48.9 +1.0**
comp=Z,1.2nm,0.4s,baz=279,slow=4.2,SNR=8.0
626A Big Bend Ranch 121.15 52 ⇓P **PKPdf** **00 21 50.6 +0.4**
baz=121
527A Woodward Ranch 121.30 51 ⇓P **PKPdf** **00 21 51.4 +0.9**
baz=121
TXAR Lajitas Array 121.61 52 PKP **PKPdf** **00 21 51.4 +0.4**
TXAR Lajitas Array 121.61 52 PKP **PKPdf** **00 21 51.4 +0.4**
comp=Z,0.8nm,0.7s,baz=349,slow=1.8,SNR=8.1
428A Kincaid Ranch, 121.75 50 ⇓P **PKPdf** **00 21 52.2 +1.0**
baz=122
627A Terlingua Ranc 121.77 52 ⇓P **PKPdf** **00 21 51.8 +0.4**
baz=122
528A Cox Ranch, San 121.93 51⇑ P **PKPdf** **00 21 52.5 +0.8**
baz=122
628A Black Gap, Mar 122.15 52 ⇓P **PKPdf** **00 21 53.3 +1.2**
baz=122
TOA0 Torodi Ar. Sit 122.71 288 *e*PKPdf **PKPdf** **00 21 53.4 0.0**
TORD Torodi Ar. Bea 122.71 288 PKP **PKPdf** **00 21 53.4 +0.1**
TORD PP **PP** **00 23 32.8 +1.6**
TORD PKKPbc **PKKPbc** **00 31 45.7 -0.7**
TORD Torodi Ar. Bea 122.71 288 PKP **PKPdf** **00 21 53.4 +0.1**
comp=Z,1.7nm,0.7s,baz=70,slow=1.7,SNR=12
TORD PP **PP** **00 23 32.8 +1.6**
comp=Z,1.8nm,0.9s,baz=56,slow=3.9,SNR=3.5
TORD PKKPbc **PKKPbc** **00 31 45.7 -0.7**
comp=Z,0.8nm,0.8s,baz=259,slow=2.1,SNR=6.6
JCT Junction City 124.06 49 *e*PKIKP **PKPdf** **00 21 55.6 -0.1**
JCT Junction City 124.06 49 *e*PKPdf **PKPdf** **00 21 55.6 -0.1**
MIAR Mount Ida 126.24 41 *e*PKIKP **PKPdf** **00 22 00.5 +0.9**
MIAR Mount Ida 126.24 41 *e*PKPdf **PKPdf** **00 22 00.5 +0.9**
PLAL Pickwick Lake 129.44 37 *e*PKPdf **PKPdf** **00 22 06.3 +0.5**

DBIC	**Dimbokro**	**130.39**	**282**	PKP	**PKPdf**	**00 22 08.3**	**+0.2**
DBIC				SKPbc	**SKPab**	**00 25 28.6**	**-0.4**
DBIC	**Dimbokro**	**130.39**	**282**	PKP	**PKPdf**	**00 22 08.3**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=91,slow=14,SNR=5.3						
DBIC				SKPbc	**SKPab**	**00 25 28.6**	**-0.4**
	comp=Z,21nm,1.2s,baz=51,slow=3.9,SNR=8.6						
LIC	**Lamto**	**130.64**	**282**	*e*PKIKP	**PKPdf**	**00 22 09.5**	**+0.9**
LIC	**Lamto**	**130.64**	**282**	*e*PKPdf	**PKPdf**	**00 22 09.5**	**+0.9**
TKL	**Tuckaleechee C**	**131.44**	**33**	PKP	**PKPdf**	**00 22 12.2**	**+2.7**
TKL	**Tuckaleechee C**	**131.44**	**33**	PKP	**PKPdf**	**00 22 12.2**	**+2.7**
	comp=Z,2.8nm,0.7s,baz=0.0,slow=4.0,SNR=6.1						
CMIG	**Matias Romero**	**134.05**	**62**	PKP	**PKPdf**	**00 22 16.2**	**+1.3**
CMIG	**Matias Romero**	**134.05**	**62**	PKP	**PKPdf**	**00 22 16.2**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=203,slow=13,SNR=3.7						
PLCA	**Paso Flores**	**140.23**	**160**	PKP	**PKPdf**	**00 22 25.6**	**-0.2**
PLCA	**Paso Flores**	**140.23**	**160**	PKP	**PKPdf**	**00 22 25.6**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=200,slow=12,SNR=6.3						
TRQA	**Tornquist**	**145.13**	**168**	*e*PKP	**PKPdf**	**00 22 34.7**	**+0.2**
LCO	**Las Campanas**	**150.13**	**149**	*e*PKPdf	**PKPdf**	**00 22 43.5**	**+0.1**
LCO				*e*PKPbc	**PKiKP**	**00 22 49.1**	**-0.1**
CPUP	**Villa Florida**	**157.40**	**171**	PKPab	**PKPab**	**00 23 25.7**	**+1.1**
CPUP	**Villa Florida**	**157.40**	**171**	PKPab	**PKPab**	**00 23 25.7**	**+1.1**
	comp=Z,9.4nm,0.7s,baz=179,slow=5.0,SNR=14						

PRE 12 00:04:29.0±1.2, 27°01S×26°69E, h2km, ML2.5, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOAB	**Moab Khotsong**	**0.10**	**78**	*e*P	Pg	00 04 30.9	-0.3
MOAB				*e*S	Sg	00 04 33.2	+0.4
MOAB				AML	AML	00 04 36.4	
	comp=Z,838nm,0.3s						
BFSD	**Buffelsfontein**	**0.17**	**32**	*e*P	Pg	00 04 33.1	+0.6
BFSD				*e*S	Sg	00 04 34.4	-0.5
BFSD				AML	AML	00 04 35.0	
	comp=Z,2µm,0.2s						
PRYS	**Parys**	**0.61**	**82**	*e*P	Pg	00 04 41.5	+0.6
PRYS				*e*S	Sg	00 04 49.0	0.0
PRYS				AML	AML	00 04 58.6	
	comp=Z,41nm,0.2s						
SWZ	**Schweizer**	**1.22**	**262**	*e*P	Pg	00 04 52.7	+0.1
SWZ				*e*S	Sg	00 05 08.8	+0.2
SWZ				AML	AML	00 05 12.6	
	comp=Z,95nm,0.2s						
ERPM	**east rand prop**	**1.54**	**65**	*e*P	Pg	00 04 59.6	+0.7
ERPM				*e*S	Sg	00 05 20.1	+1.1
ERPM				AML	AML	00 05 21.1	
	comp=Z,34nm,0.3s						
SEK	**Senekal**	**1.55**	**148**	*e*P	Pb	00 04 58.5	-0.2
SEK				*e*S	Sg	00 05 19.3	0.0
SEK				AML	AML	00 05 23.3	
	comp=Z,55nm,0.2s						
SLR	**Silverton**	**1.91**	**49**	*e*P	Pn	00 05 03.5	+0.7
SLR				*e*S	Sn	00 05 27.7	+0.1
SLR				AML	AML	00 05 30.5	
	comp=Z,108nm,0.3s						
BOSA	**Boshof**	**2.04**	**218**	*e*P	Pb	00 05 05.9	-1.1
BOSA				*e*S	Sn	00 05 31.7	+1.0
BOSA				AML	AML	00 05 36.5	
	comp=Z,14nm,0.3s						
LBTB	**Lobatse**	**2.21**	**334**	*e*P	Pn	00 05 08.0	+1.0
LBTB				*e*S	Sn	00 05 35.6	+0.6
LBTB				AML	AML	00 05 40.6	
	comp=Z,16nm,0.3s						
SUR	**Sutherland**	**7.40**	**222**	*e*P	Pn	00 06 19.6	+1.3
SUR				*e*S	Sn	00 07 39.0	-4.0
SUR				AML	AML	00 07 55.0	
	comp=Z,4.0nm,0.8s						

IDC ***12*** *00:11:25.0±0.5, 3°67N×126°36E, h0km, mb4.4/23, mb1 4.5/23, mb1mx4.5/26, mbtmp4.4/23, Error ellipse: s-maj=26.0km s-min=11.3km az=68.0*

ISCJB ***12*** *00:11:30.8±0.2, 3°73N±0°04×126°49E±0°06, h53km, mb4.6/44, Error ellipse: s-maj=9.6km s-min=4.3km az=156.0*

NEIC ***12*** *00:11:30.3±0.2, 3°73N×126°57E, h35km, mb4.7/20, Error ellipse: s-maj=8.8km s-min=5.2km az=71.0*

DJA ***12*** *00:11:42, 3°09N×126°83E, h50km, mb5.1/7*

ISC 12 00:11:32.5±0.4, 3°75N±0°06×126°52E±0°08, h53km, n108, σ0s96/103, mb4.6/43, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.80**	**326**	*e*P	**Pn**	**00 12 18.1**	**+3.1**
MNI	**Manado**	**2.83**	**216**	P	Pn	00 12 20.2	+4.8
TNTI	**Ternate**	**3.08**	**164**	P	**Pn**	**00 12 18.8**	**+0.1**
DAV	**Davao City (W)**	**3.43**	**344**	Pn	Pn	00 12 29.5	+6.0
	78nm,0.3s,baz=107,slow=19,SNR=3.3						
DAV				Sn	Sn	00 13 14.5	+11
	67nm,0.3s,baz=106,slow=23,SNR=3.7						
KCP	**Kidapawan**	**3.54**	**336**	*e*P	Pn	00 12 32.9	+7.8
BUKP	**Musuan**	**4.35**	**341**	*e*P	**Pn**	**00 12 37.9**	**+1.7**
BUKP				*e*S	**Sn**	**00 13 23.5**	**-2.2**
LBMI	**Labuha**	**4.47**	**167**	P	**Pn**	**00 12 40.6**	**+2.8**
PAGZ	**Pagadian**	**5.13**	**323**	*e*P	**Pn**	**00 12 49.1**	**+2.2**
PAGZ				*e*S	Sn	00 13 03.6	-41
MRSI	**Marisa**	**5.61**	**235**	P	Pn	00 12 58.4	+5.0
	412nm,0.7s,4µm1.2nm						
LUWI	**Luwuk**	**6.05**	**218**	P	Pn	00 13 09.2	+10
	622nm,1.2s,6µm2.0nm						
KDI	**Kendari**	**8.59**	**207**	P	Pn	00 13 44.4	+10
FAKI	**Fak Fak**	**8.76**	**139**	P	**Pn**	**00 13 37.0**	**+0.4**
	40nm,0.8s,0.2nm						
TTSI	**Tana Toraja**	**9.50**	**225**	P	Pn	00 13 57.3	+10
	114nm,1.1s						
SPSI	**Sidrap Palu**	**10.20**	**221**	P	Pn	00 14 12.1	+16
KKM	**Kota Kinabalu**	**10.51**	**283**	P	Pn	00 14 08.5	+7.8
	30nm,0.7s						
TLE	**Tual**	**11.20**	**146**	P	**Pn**	**00 14 12.2**	**+2.1**
	122nm,1.2s						
SBUM	**Sibu**	**14.33**	**265**	P	**P**	**00 14 59.5**	**+1.1**
	127nm,1.3s						
JAY	**Jayapura**	**15.49**	**113**	P	**P**	**00 15 10.8**	**-0.5**
KSM	**Kuching**	**16.34**	**262**	*e*Pn	**Pn**	**00 15 18.2**	**-0.5**
MTN	**Manton Dam**	**17.11**	**165**	*e*P	**Pn**	**00 15 26.3**	**-1.9**
FITZ	**Fitzroy Crossi**	**21.73**	**182**	*e*P	**P**	**00 16 18.6**	**-1.0**
	12nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.73**	**182**	*e*P	**P**	**00 16 19.2**	**-0.3**
	26nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.73**	**182**	P	**P**	**00 16 18.1**	**-1.4**
	13nm,0.7s,baz=3.5,slow=10,SNR=10.0						
JOW	**Kunigami**	**23.02**	**4**	P	**P**	**00 16 34.6**	**+1.5**
JOW	**Kunigami**	**23.02**	**4**	P	**P**	**00 16 34.6**	**+1.5**
	11nm,0.6s,baz=155,slow=16,SNR=3.5						
WRAB	**Tennant Creek**	**24.76**	**162**	*e*P	**P**	**00 16 48.7**	**-0.8**
	34nm,0.6s						
WRA	**Warramunga Arr**	**24.77**	**162**	P	**P**	**00 16 48.2**	**-1.3**
WRA	**Warramunga Arr**	**24.77**	**162**	P	**P**	**00 16 48.2**	**-1.3**
	46nm,0.8s						
IPM	**Ipoh**	**25.43**	**273**	*e*P	**P**	**00 16 55.8**	**+0.1**
	84nm,1.5s						
MBWA	**Marble Bar**	**25.63**	**195**	*e*P	**P**	**00 16 58.1**	**+0.8**
	11nm,0.7s						
PSI	**Prapat**	**27.56**	**269**	P	**P**	**00 17 16.1**	**+1.1**
PSI	**Prapat**	**27.56**	**269**	P	**P**	**00 17 16.1**	**+1.1**
	6.8nm,0.9s,baz=79,slow=5.2,SNR=3.7						
AS31	**Alice Springs**	**28.18**	**166**	*e*P	**P**	**00 17 19.9**	**-0.4**
ASAR	**Alice Springs**	**28.18**	**166**	P	**P**	**00 17 19.9**	**-0.4**
ASAR	**Alice Springs**	**28.18**	**166**	P	**P**	**00 17 19.9**	**-0.4**
	2.6nm,0.6s,baz=340,slow=6.8,SNR=9.4						
CTA	**Charters Tower**	**30.61**	**141**	P	**P**	**00 17 42.4**	**+0.5**
CTA	**Charters Tower**	**30.61**	**141**	P	**P**	**00 17 42.4**	**+0.5**
	7.5nm,0.9s,baz=307,slow=10,SNR=2.4						
CMAR	**Chiang Mai Arr**	**30.68**	**301**	P	**P**	**00 17 41.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**30.68**	**301**	P	**P**	**00 17 41.9**	**-0.6**
	0.8nm,0.3s,baz=115,slow=7.4,SNR=5.2						
CHTO	**Chiang Mai**	**30.83**	**301**	*e*P	**P**	**00 17 43.8**	**0.0**
	5.2nm,0.9s						
KSAR	**Wonju Array Be**	**33.56**	**2**	P	**P**	**00 18 08.1**	**+0.7**
KSRS	**Korea Array**	**33.57**	**2**	P	**P**	**00 18 08.1**	**+0.6**
	2.0nm,0.6s,baz=180,slow=9.8,SNR=7.1						
FORT	**Forrest**	**34.37**	**178**	*e*P	**P**	**00 18 13.4**	**-1.1**
	28nm,0.7s						
KLBR	**Kellerberrin**	**36.12**	**193**	*e*P	**P**	**00 18 29.8**	**+0.2**
	20nm,0.8s						
BJT	**Baijiatuau**	**37.30**	**347**	*e*P	**P**	**00 18 39.5**	**0.0**
	17nm,0.5s						
NWAO	**Narrogin (SRO)**	**37.52**	**193**	*e*P	**P**	**00 18 40.8**	**-0.7**
STKA	**Stephens Creek**	**38.22**	**159**	*e*P	**P**	**00 18 46.4**	**-1.0**
	5.6nm,0.8s						
STKA				PcP	**PcP**	**00 21 01.9**	**+0.8**
STKA	**Stephens Creek**	**38.22**	**159**	*e*P	**P**	**00 18 46.7**	**-0.8**
	21nm,0.9s						
STKA	**Stephens Creek**	**38.22**	**159**	P	**P**	**00 18 45.5**	**-2.0**
	24nm,0.8s,baz=334,slow=8.5,SNR=14						
STKA				PcP	**PcP**	**00 21 01.9**	**+0.8**
	3.9nm,0.6s,baz=302,slow=4.6,SNR=3.6						
USRK	**Ussuriysk Arra**	**40.58**	**6**	P	**P**	**00 19 07.5**	**+0.6**
	1.9nm,0.5s,baz=190,slow=6.9,SNR=3.7						
ARMA	**Armidale**	**41.60**	**146**	*e*P	**P**	**00 19 17.1**	**+1.4**
LSA	**Lhasa**	**42.27**	**312**	*e*P	**P**	**00 19 21.7**	**+0.2**
	6.7nm,0.6s						
TAPN	**Taplejung**	**43.83**	**306**	*e*P	**P**	**00 19 33.5**	**-0.6**
ODAN	**Odare**	**43.88**	**306**	*e*P	**P**	**00 19 34.4**	**0.0**
RAMN	**Ramite**	**44.56**	**305**	*e*P	**P**	**00 19 40.2**	**+0.3**
JIRN	**Jiri**	**45.19**	**306**	*e*P	**P**	**00 19 45.1**	**+0.1**
	2.3nm,0.4s						
GUN	**Gumba**	**45.54**	**306**	*e*P	**P**	**00 19 47.5**	**-0.3**
HIA	**Hailar**	**45.72**	**354**	*e*P	**P**	**00 19 48.7**	**+0.3**
	9.0nm,0.7s						
GKN	**Gorkha**	**46.58**	**306**	*e*P	**P**	**00 19 55.3**	**-0.4**
DZM	**Mont Dzumac**	**46.72**	**125**	*e*P	P	00 19 53.2	-3.5
	6.8nm,0.8s						
DZM	**Mont Dzumac**	**46.72**	**125**	P	**P**	**00 19 57.0**	**+0.2**
	7.7nm,0.8s,baz=315,slow=6.5,SNR=7.2						
ULN	**Ulaanbaatar**	**47.04**	**342**	*e*P	**P**	**00 19 59.0**	**+0.1**
SONM	**Songino Array**	**47.21**	**342**	P	**P**	**00 20 00.0**	**-0.2**
SONM				PcP	**PcP**	**00 21 31.9**	**+0.9**
SONM	**Songino Array**	**47.21**	**342**	P	**P**	**00 20 00.0**	**-0.2**
	1.4nm,0.7s,baz=160,slow=8.4,SNR=7.5						
SONM				PcP	**PcP**	**00 21 31.9**	**+0.9**
	0.5nm,0.6s,baz=157,slow=4.0,SNR=2.3						
KOLN	**Koldanda**	**47.34**	**305**	*e*P	**P**	**00 20 01.9**	**+0.2**
	23nm,0.5s						
DANN	**Dangsing**	**47.43**	**306**	*e*P	**P**	**00 20 02.3**	**-0.2**
	28nm,0.5s						
PETK	**Petropavlovsk-**	**55.49**	**22**	P	**P**	**00 21 01.6**	**-0.4**
PETK	**Petropavlovsk-**	**55.49**	**22**	P	**P**	**00 21 01.6**	**-0.4**
	3.7nm,0.6s,baz=179,slow=4.6,SNR=6.9						
MK31	**Makanchi Array**	**57.42**	**325**	*e*P	**P**	**00 21 16.1**	**+0.2**
MKAR	**Makanchi Array**	**57.42**	**325**	P	**P**	**00 21 15.6**	**-0.2**
MKAR	**Makanchi Array**	**57.42**	**325**	P	**P**	**00 21 15.6**	**-0.2**
	2.8nm,0.4s,baz=117,slow=7.7,SNR=38						
TKM2	**Tokmak 2**	**59.59**	**319**	*e*P	**P**	**00 21 30.9**	**-0.3**
	27nm,0.6s						
AAK	**Ala-Archa**	**60.20**	**318**	*e*P	**P**	**00 21 35.2**	**-0.2**
AAK	**Ala-Archa**	**60.20**	**318**	P	**P**	**00 21 36.0**	**+0.5**
	2.0nm,0.9s,baz=184,slow=12,SNR=4.3						
ZAA0	**Zalesovo Array**	**60.48**	**333**	*e*P	**P**	**00 21 36.8**	**-0.1**
ZALV	**Zalesovo Beam**	**60.48**	**333**	P	**P**	**00 21 36.0**	**-0.8**
ZALV	**Zalesovo Beam**	**60.48**	**333**	P	**P**	**00 21 36.0**	**-0.8**
	2.0nm,0.7s,baz=127,slow=7.3,SNR=7.0						
EKS2	**Erkin-Say**	**60.69**	**318**	*e*P	**P**	**00 21 39.1**	**+0.4**
	3.8nm,0.8s						
KBL	**Kabul**	**61.34**	**308**	*e*P	**P**	**00 21 42.6**	**-0.8**
	5.4nm,0.8s						
KURBB	**Kurchatov Arra**	**61.61**	**327**	P	**P**	**00 21 43.8**	**-0.8**
	5.0nm,0.6s,baz=127,slow=6.4,SNR=9.7						
KURK	**Kurchatov**	**61.61**	**328**	*e*P	**P**	**00 21 45.3**	**+0.7**
	13nm,0.8s						
KKAR	**Karatay Array**	**63.07**	**317**	*e*P	**P**	**00 21 55.1**	**+0.5**
	2.3nm,0.7s						
BVAR	**Borovoye Array**	**67.19**	**327**	P	**P**	**00 22 20.9**	**-0.1**
BVAR	**Borovoye Array**	**67.19**	**327**	P	**P**	**00 22 20.9**	**-0.1**
	5.2nm,0.9s,baz=126,slow=7.5,SNR=20						
BRVK	**Borovoye**	**67.26**	**327**	*e*P	**P**	**00 22 21.7**	**+0.2**
	10nm,1.0s						
ABKAR	**Akbulak array**	**72.00**	**321**	*e*P	**P**	**00 22 50.3**	**-0.5**
	2.5nm,0.6s						
AKTO	**Aktyubinsk**	**73.51**	**322**	P	**P**	**00 22 59.2**	**-0.5**
AKTO	**Aktyubinsk**	**73.51**	**322**	P	**P**	**00 22 59.2**	**-0.5**
	3.0nm,0.8s,baz=119,slow=6.9,SNR=9.8						
ARU	**Arti**	**74.81**	**328**	*e*P	**P**	**00 23 07.1**	**-0.1**
	4.8nm,0.6s						
COLD	**Coldfoot**	**83.96**	**23**	*e*P	**P**	**00 23 56.5**	**-0.2**
	7.2nm,0.9s						
MCK	**McKinley**	**84.24**	**26**	*e*P	**P**	**00 23 58.5**	**+0.1**
	46nm,1.7s						
ILAR	**Eielson Array**	**85.18**	**25**	P	**P**	**00 24 03.7**	**+0.7**
ILAR	**Eielson Array**	**85.18**	**25**	P	**P**	**00 24 03.7**	**+0.7**
	1.2nm,0.8s,baz=252,slow=4.6,SNR=13						
BRTR	**Keskin Array B**	**89.84**	**310**	P	**P**	**00 24 25.6**	**-0.5**
BRTR	**Keskin Array B**	**89.84**	**310**	P	**P**	**00 24 25.6**	**-0.5**
	1.1nm,0.7s,baz=90,slow=3.7,SNR=6.2						
ARCES	**ARCESS Array B**	**90.36**	**340**	P	**P**	**00 24 26.1**	**-1.6**
ARCES	**ARCESS Array B**	**90.36**	**340**	P	**P**	**00 24 26.1**	**-1.6**
	8.5nm,1.1s,baz=76,slow=7.5,SNR=5.1						
FINES	**FINESS Array B**	**91.72**	**332**	P	**P**	**00 24 33.4**	**-0.7**
FINES	**FINESS Array B**	**91.72**	**332**	P	**P**	**00 24 33.4**	**-0.7**
	1.2nm,0.6s,baz=35,slow=7.0,SNR=10						
AKASG	**Malin Array Be**	**91.74**	**321**	P	**P**	**00 24 33.5**	**-1.0**
AKASG	**Malin Array Be**	**91.74**	**321**	P	**P**	**00 24 33.5**	**-1.0**
	2.6nm,0.6s,baz=72,slow=4.3,SNR=4.0						
BUR08	**Bucovina Ar. S**	**94.85**	**318**	*e*P	**P**	**00 24 50.1**	**+1.0**
YKA	**Yellowknife Ar**	**99.57**	**24**	P	**Pdif**	**00 25 09.3**	**-0.6**
YKA	**Yellowknife Ar**	**99.57**	**24**	P	**Pdif**	**00 25 09.3**	**-0.6**
	0.1nm,0.5s,baz=294,slow=4.8,SNR=3.7						
TXAR	**Lajitas Array**	**121.76**	**52**	PKP	**PKPdf**	**00 30 22.5**	**+1.0**
TXAR	**Lajitas Array**	**121.76**	**52**	PKP	**PKPdf**	**00 30 22.5**	**+1.0**
	0.2nm,0.6s,baz=204,slow=2.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**122.71**	**288**	PKP	**PKPdf**	**00 30 22.5**	**-1.1**
TORD	**Torodi Ar. Bea**	**122.71**	**288**	PKP	**PKPdf**	**00 30 22.5**	**-1.1**
	1.0nm,0.8s,baz=75,slow=1.9,SNR=5.5						

IDC ***12*** *00:14:19.6±0.7, 3°85N×126°41E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.2/22, mbtmp4.1/16, Error ellipse: s-maj=44.1km s-min=14.5km az=64.0*

ISCJB ***12*** *00:14:24.5±0.4, 3°72N±0°07×126°2E±0°1, h45km, mb4.2/22, Error ellipse: s-maj=21.4km s-min=7.9km az=159.4*

NEIC ***12*** *00:14:25.6±1.4, 3°74N×126°27E, h39km±13km, mb4.6/6, Error ellipse: s-maj=18.4km s-min=6.5km az=69.0*

ISC 12 00:14:26.2±0.6, 3°76N±0°10×126°3E±0°2, h45km, n45, σ0s88/45, mb4.2/22, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.36**	**348**	Pn	**Pn**	**00 15 15.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**21.73**	**182**	*e*P	**P**	**00 19 14.0**	**+0.2**
	5.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.73**	**182**	P	**P**	**00 19 15.2**	**+1.4**
	1.6nm,0.5s,baz=4.7,slow=7.0,SNR=3.3						
WRAB	**Tennant Creek**	**24.84**	**162**	*e*P	**P**	**00 19 44.9**	**+0.3**
	23nm,0.6s						
WRA	**Warramunga Arr**	**24.85**	**162**	P	**P**	**00 19 44.0**	**-0.6**
WRA	**Warramunga Arr**	**24.85**	**162**	P	**P**	**00 19 44.0**	**-0.6**
	148nm,1.1s,baz=58,slow=0.0,SNR=2.7						
ASAR	**Alice Springs**	**28.25**	**165**	P	**P**	**00 20 15.9**	**+0.6**
ASAR	**Alice Springs**	**28.25**	**165**	P	**P**	**00 20 15.9**	**+0.6**
	0.5nm,0.3s,baz=344,slow=11,SNR=3.4						
CMAR	**Chiang Mai Arr**	**30.48**	**301**	P	**P**	**00 20 35.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**30.48**	**301**	P	**P**	**00 20 35.4**	**+0.3**
	0.8nm,0.3s,baz=123,slow=6.6,SNR=2.7						
CHTO	**Chiang Mai**	**30.64**	**301**	*e*P	**P**	**00 20 36.2**	**-0.2**
KSAR	**Wonju Array Be**	**33.55**	**2**	P	**P**	**00 21 04.3**	**+2.5**
KSRS	**Korea Array**	**33.57**	**2**	P	**P**	**00 21 04.3**	**+2.4**
	0.9nm,0.5s,baz=184,slow=9.8,SNR=3.5						
STKA	**Stephens Creek**	**38.31**	**159**	*e*P	**P**	**00 21 42.4**	**-0.3**
	2.8nm,0.8s						
STKA	**Stephens Creek**	**38.31**	**159**	P	**P**	**00 21 41.2**	**-1.5**
	2.5nm,0.4s,baz=319,slow=12,SNR=3.7						
HIA	**Hailar**	**45.68**	**354**	*e*P	**P**	**00 22 43.6**	**+1.0**
	8.9nm,0.8s						
DZM	**Mont Dzumac**	**46.91**	**125**	*e*P	**P**	**00 22 52.1**	**-0.5**
DZM	**Mont Dzumac**	**46.91**	**125**	P	**P**	**00 22 52.3**	**-0.4**
	2.2nm,0.7s,baz=233,slow=20,SNR=3.6						
ULN	**Ulaanbaatar**	**46.96**	**342**	*e*P	**P**	**00 22 52.4**	**-0.4**
	3.2nm,0.8s						
SONM	**Songino Array**	**47.13**	**342**	P	**P**	**00 22 54.1**	**0.0**
SONM	**Songino Array**	**47.13**	**342**	P	**P**	**00 22 54.1**	**0.0**
	1.0nm,0.6s,baz=159,slow=8.7,SNR=3.3						
MK31	**Makanchi Array**	**57.28**	**325**	*e*P	**P**	**00 24 09.8**	**+0.4**
MKAR	**Makanchi Array**	**57.28**	**325**	P	**P**	**00 24 09.3**	**-0.1**
MKAR	**Makanchi Array**	**57.28**	**325**	P	**P**	**00 24 09.3**	**-0.1**
	0.7nm,0.5s,baz=113,slow=8.7,SNR=4.1						
TKM2	**Tokmak 2**	**59.44**	**319**	P	**P**	**00 24 25.4**	**+0.7**
	14nm,1.4s						
ZALV	**Zalesovo Beam**	**60.36**	**333**	P	**P**	**00 24 29.4**	**-1.2**
ZALV	**Zalesovo Beam**	**60.36**	**333**	P	**P**	**00 24 29.4**	**-1.2**
	0.5nm,0.6s,baz=113,slow=9.6,SNR=3.0						
KURBB	**Kurchatov Arra**	**61.48**	**328**	P	**P**	**00 24 38.2**	**0.0**
	1.8nm,0.5s,baz=125,slow=5.8,SNR=5.4						
KURK	**Kurchatov**	**61.48**	**328**	*e*P	**P**	**00 24 38.7**	**+0.5**
BVAR	**Borovoye Array**	**67.06**	**327**	P	**P**	**00 25 15.0**	**+0.3**
BVAR	**Borovoye Array**	**67.06**	**327**	P	**P**	**00 25 15.0**	**+0.3**
	1.0nm,0.6s,baz=126,slow=7.3,SNR=4.2						
BRVK	**Borovoye**	**67.13**	**327**	*e*P	**P**	**00 25 16.5**	**+1.3**
ABKAR	**Akbulak array**	**71.85**	**321**	*e*P	**P**	**00 25 44.2**	**-0.2**
AKTO	**Aktyubinsk**	**73.37**	**322**	P	**P**	**00 25 53.8**	**+0.4**
AKTO	**Aktyubinsk**	**73.37**	**322**	P	**P**	**00 25 53.8**	**+0.4**
	1.6nm,0.6s,baz=102,slow=11,SNR=4.0						
ILAR	**Eielson Array**	**85.26**	**25**	P	**P**	**00 26 58.3**	**+0.4**
ILAR	**Eielson Array**	**85.26**	**25**	P	**P**	**00 26 58.3**	**+0.4**
	0.1nm,0.5s,baz=253,slow=5.4,SNR=3.4						
BRTR	**Keskin Array B**	**89.67**	**310**	P	**P**	**00 27 19.3**	**-0.6**
BRTR	**Keskin Array B**	**89.67**	**310**	P	**P**	**00 27 19.3**	**-0.6**
	0.8nm,0.9s,baz=126,slow=2.0,SNR=2.6						
ARCES	**ARCESS Array B**	**90.27**	**340**	P	**P**	**00 27 20.6**	**-1.3**
ARCES	**ARCESS Array B**	**90.27**	**340**	P	**P**	**00 27 20.6**	**-1.3**
	3.2nm,0.9s,baz=78,slow=8.4,SNR=3.6						
FINES	**FINESS Array B**	**91.60**	**332**	P	**P**	**00 27 27.6**	**-0.6**
FINES	**FINESS Array B**	**91.60**	**332**	P	**P**	**00 27 27.6**	**-0.6**
	1.8nm,0.8s,baz=52,slow=5.4,SNR=2.5						
NOA	**NORSAR Array B**	**98.57**	**334**	P	**P**	**00 27 59.5**	**-0.6**
NOA	**NORSAR Array B**	**98.57**	**334**	P	**P**	**00 27 59.5**	**-0.6**
	1.9nm,1.1s,baz=66,slow=4.4,SNR=2.8						

IDC 12 00:14:28.8±0.8, 3°92N×126°35E, h0km, mb4.4/15, mb1 4.4/15, mb1mx4.3/23, mbtmp4.3/15, Error ellipse: s-maj=55.9km s-min=16.2km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.23**	**346**	Pn	Pg	00 15 31.1	+0.5
	57nm,0.3s,baz=197,slow=19,SNR=2.7						
ASAR	**Alice Springs**	**28.39**	**165**	P	P	00 20 25.6	+0.6
	1.3nm,0.3s,baz=340,slow=7.9,SNR=5.0						
ASAR				S	S	00 25 26.8	+14
	4.6nm,0.9s,baz=347,slow=22,SNR=10.0						
ASAR	**Alice Springs**	**28.39**	**165**	S	S	00 25 26.8	+14
NWAO	**Narrogin (SRO)**	**37.65**	**193**	P	P	00 21 46.0	+0.3
	8.5nm,0.6s,baz=19,slow=8.1,SNR=4.6						
STKA	**Stephens Creek**	**38.44**	**159**	P	P	00 21 52.1	-0.3
	13nm,0.7s,baz=334,slow=8.3,SNR=6.2						
SONM	**Songino Array**	**47.00**	**342**	P	P	00 23 03.3	+1.4
	0.9nm,0.7s,baz=166,slow=8.0,SNR=5.0						
SONM				PcP	PcP	00 24 34.8	+0.5
	0.7nm,0.6s,baz=148,slow=5.2,SNR=2.6						
SONM	**Songino Array**	**47.00**	**342**	PcP	PcP	00 24 34.8	+0.5
MKAR	**Makanchi Array**	**57.19**	**325**	P	P	00 24 17.8	+0.2
	2.1nm,0.4s,baz=116,slow=7.4,SNR=15						
ZALV	**Zalesovo Beam**	**60.25**	**333**	P	P	00 24 37.9	-0.9
	1.0nm,0.4s,baz=126,slow=6.8,SNR=6.0						
KURBB	**Kurchatov Arra**	**61.38**	**327**	P	P	00 24 47.2	+0.7
	3.9nm,0.6s,baz=125,slow=6.5,SNR=4.5						
BVAR	**Borovoye Array**	**66.96**	**327**	P	P	00 25 24.0	+0.8
	2.5nm,0.8s,baz=126,slow=7.5,S

4.2nm,0.9s,baz=68,slow=5.9,SNR=3.3
FINES FINESS Array B 91.66 332 P P 00 34 12.6 -0.6
1.0nm,0.6s,baz=54,slow=7.1,SNR=4.5

IDC 12 00:23:28.1±5.4, 5.°38S×151.°69E, h55km±47km, mb4.0/6, mb1 4.3/7, mb1mx3.9/17, mbtmp4.0/7, Error ellipse: s-maj=72.0km s-min=26.7km az=135.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.01**	**228**	P	Pn	00 24 55.4	+0.9
	3.8nm,0.3s,baz=34,slow=9.5,SNR=28						
PMG				S	Sn	00 25 59.1	-3.0
	6.7nm,0.3s,baz=45,slow=10.0,SNR=9.9						
WRA	**Warramunga Arr**	**22.23**	**228**	P	P	00 28 20.2	-0.2
	6.9nm,0.6s						
ASAR	**Alice Springs**	**24.98**	**222**	P	P	00 28 46.5	-0.3
	4.5nm,0.7s,baz=57,slow=9.1,SNR=30						
FITZ	**Fitzroy Crossi**	**28.41**	**241**	P	P	00 29 17.4	-0.4
	10.0nm,0.6s,baz=76,slow=8.0,SNR=9.5						
ILAR	**Eielson Array**	**83.11**	**22**	P	P	00 35 47.2	-0.5
	0.8nm,0.7s,baz=243,slow=5.6,SNR=8.8						
NVAR	**Mina Array Bea**	**93.31**	**52**	P	P	00 36 37.9	+0.2
	1.3nm,0.8s,baz=253,slow=6.5,SNR=8.0						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	P	00 36 50.9	-0.2
	0.1nm,0.4s,baz=270,slow=4.8,SNR=3.6						
PDAR	**Pinedale Array**	**100.06**	**48**	P	Pdif	00 37 07.8	-0.4
	0.7nm,0.8s,baz=202,slow=1.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**149.43**	**287**	PKPbc	PKPbc	00 43 12.5	+0.3
	6.6nm,0.7s,baz=76,slow=3.0,SNR=45						
BDFB	**Brasilia**	**151.41**	**137**	PKPbc	PKPbc	00 43 16.9	-0.1
	1.8nm,0.6s,baz=198,slow=6.4,SNR=3.2						

*IDC **12** 00:25:16.1±0.7, 3.°91N×126.°54E, h0km, mb4.2/16, mb1 4.3/16, mb1mx4.2/23, mbtmp4.2/16, Error ellipse: s-maj=37.3km s-min=14.0km az=65.0*
*ISCJB **12** 00:25:20.3±0.5, 3.°88N±0.°09×126.°4E±0.°1, h45km, mb4.3/21, Error ellipse: s-maj=22.9km s-min=9.0km az=155.7*
*NEIC **12** 00:25:21.1±0.4, 3.°90N×126.°53E, h35km, mb4.5/4, Error ellipse: s-maj=23.1km s-min=8.6km az=67.0*
ISC 12 00:25:22.3±0.7, 3.°9N±0.°1×126.°5E±0.°2, h45km, n35, σ0s75/34, mb4.2/21, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.91**	**162**	*eP*	**P**	**00 30 40.4**	**-1.0**
	16nm,1.0s						
WRA	**Warramunga Arr**	**24.92**	**162**	P	**P**	**00 30 39.7**	**-1.7**
WRA	**Warramunga Arr**	**24.92**	**162**	P	**P**	**00 30 39.7**	**-1.7**
	6.3nm,0.6s						
ASAR	**Alice Springs**	**28.34**	**166**	P	**P**	**00 31 13.4**	**+1.2**
ASAR	**Alice Springs**	**28.34**	**166**	P	**P**	**00 31 13.4**	**+1.2**
	0.4nm,0.4s,baz=344,slow=9.6,SNR=3.0						
CMAR	**Chiang Mai Arr**	**30.61**	**300**	P	**P**	**00 31 32.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**30.61**	**300**	P	**P**	**00 31 32.9**	**+0.5**
	0.6nm,0.4s,baz=109,slow=7.1,SNR=4.1						
CHTO	**Chiang Mai**	**30.76**	**301**	*eP*	**P**	**00 31 32.8**	**-0.9**
ENH	**Enshi**	**30.77**	**330**	*eP*	**P**	**00 31 32.6**	**-1.1**
	5.2nm,0.6s						
KSAR	**Wonju Array Be**	**33.39**	**2**	P	**P**	**00 31 56.8**	**+0.3**
KSRS	**Korea Array**	**33.40**	**2**	P	**P**	**00 31 56.7**	**+0.2**
	1.2nm,0.4s,baz=184,slow=10,SNR=5.0						
STKA	**Stephens Creek**	**38.37**	**159**	P	**P**	**00 32 39.2**	**-0.1**
	4.6nm,0.6s,baz=327,slow=7.4,SNR=8.4						
USRK	**Ussuriysk Arra**	**40.41**	**6**	P	**P**	**00 32 56.8**	**+0.7**
	2.2nm,0.7s,baz=186,slow=8.7,SNR=4.7						
DZM	**Mont Dzumac**	**46.80**	**125**	P	**P**	**00 33 47.8**	**-0.2**
	1.8nm,0.5s,baz=340,slow=18,SNR=4.5						
ULN	**Ulaanbaatar**	**46.88**	**342**	*eP*	**P**	**00 33 48.3**	**0.0**
	1.7nm,0.6s						
SONM	**Songino Array**	**47.06**	**342**	P	**P**	**00 33 49.8**	**+0.1**
SONM	**Songino Array**	**47.06**	**342**	P	**P**	**00 33 49.8**	**+0.1**
	1.5nm,0.6s,baz=157,slow=9.3,SNR=12						
POO	**Poona**	**53.47**	**290**	*i*P	P	00 34 44.0	+5.4
	110nm,1.0s						
MK31	**Makanchi Array**	**57.29**	**325**	*eP*	**P**	**00 35 05.6**	**0.0**
MKAR	**Makanchi Array**	**57.29**	**325**	P	**P**	**00 35 05.8**	**+0.3**
MKAR	**Makanchi Array**	**57.29**	**325**	P	**P**	**00 35 05.8**	**+0.3**
	2.0nm,0.5s,baz=118,slow=7.5,SNR=23						
ZALV	**Zalesovo Beam**	**60.34**	**333**	P	**P**	**00 35 25.5**	**-1.0**
ZALV	**Zalesovo Beam**	**60.34**	**333**	P	**P**	**00 35 25.5**	**-1.0**
	0.8nm,0.4s,baz=138,slow=6.8,SNR=7.5						
KURBB	**Kurchatov Arra**	**61.48**	**327**	P	**P**	**00 35 34.5**	**+0.2**
	4.0nm,0.6s,baz=126,slow=6.3,SNR=16						
KURK	**Kurchatov**	**61.48**	**328**	*eP*	**P**	**00 35 33.9**	**-0.5**
	5.7nm,0.6s						
BVAR	**Borovoye Array**	**67.06**	**327**	P	**P**	**00 36 11.6**	**+0.7**
BVAR	**Borovoye Array**	**67.06**	**327**	P	**P**	**00 36 11.6**	**+0.7**
	1.2nm,0.6s,baz=135,slow=9.9,SNR=7.1						
AKTO	**Aktyubinsk**	**73.39**	**322**	P	**P**	**00 36 50.3**	**+0.6**
AKTO	**Aktyubinsk**	**73.39**	**322**	P	**P**	**00 36 50.3**	**+0.6**
	2.2nm,0.7s,baz=135,slow=8.3,SNR=6.5						
ILAR	**Eielson Array**	**85.02**	**25**	P	**P**	**00 37 53.0**	**+0.2**
ILAR	**Eielson Array**	**85.02**	**25**	P	**P**	**00 37 53.0**	**+0.2**
	0.5nm,1.0s,baz=244,slow=6.3,SNR=4.4						
ARCES	**ARCESS Array B**	**90.21**	**340**	P	**P**	**00 38 17.5**	**-0.2**
ARCES	**ARCESS Array B**	**90.21**	**340**	P	**P**	**00 38 17.5**	**-0.2**
	2.8nm,0.8s,baz=80,slow=6.5,SNR=4.8						
FINES	**FINESS Array B**	**91.58**	**332**	P	**P**	**00 38 23.9**	**-0.2**
FINES	**FINESS Array B**	**91.58**	**332**	P	**P**	**00 38 23.9**	**-0.2**
	1.1nm,0.7s,baz=20,slow=6.1,SNR=4.9						

IDC 12 00:26:11.9±1.1, 4.°00N×126.°80E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/21, mbtmp4.0/9, Error ellipse: s-maj=78.0km s-min=16.1km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.99**	**183**	P	P	00 31 07.5	-0.3
	1.4nm,0.5s,baz=23,slow=7.7,SNR=1.8						
WRA	**Warramunga Arr**	**24.92**	**163**	P	P	00 31 36.7	-0.2
	492nm,0.3s,baz=222,slow=0.0,SNR=18						
ASAR	**Alice Springs**	**28.35**	**166**	P	P	00 32 07.0	-0.9
	0.4nm,0.5s,baz=347,slow=11,SNR=2.4						
NWAO	**Narrogin (SRO)**	**37.83**	**193**	P	P	00 33 30.6	+0.2
	8.0nm,1.0s,baz=12,slow=9.3,SNR=2.5						
STKA	**Stephens Creek**	**38.35**	**160**	P	P	00 33 35.3	+0.6
	2.2nm,0.5s,baz=327,slow=8.3,SNR=3.2						
SONM	**Songino Array**	**47.07**	**341**	P	P	00 34 44.8	-0.8
	1.1nm,0.6s,baz=160,slow=9.0,SNR=3.8						
MKAR	**Makanchi Array**	**57.38**	**325**	P	P	00 36 00.8	-1.4
	0.8nm,0.4s,baz=119,slow=6.6,SNR=3.5						
BVAR	**Borovoye Array**	**67.14**	**327**	P	P	00 37 08.9	+1.4
	1.0nm,0.6s,baz=126,slow=7.3,SNR=2.4						
ARCES	**ARCESS Array B**	**90.22**	**340**	P	P	00 39 14.6	+0.5
	0.8nm,0.6s,baz=73,slow=6.1,SNR=2.9						
FINES	**FINESS Array B**	**91.63**	**332**	P	P	00 39 20.7	-0.1
	0.7nm,0.7s,baz=69,slow=7.9,SNR=2.6						

*IDC **12** 00:27:13.4±0.7, 3.°71N×126.°50E, h0km, mb4.2/17, mb1 4.3/17, mb1mx4.2/22, mbtmp4.2/17, Error ellipse: s-maj=37.5km s-min=15.3km az=74.0*
*ISCJB **12** 00:27:18.6±0.5, 3.°72N±0.°08×126.°6E±0.°2, h53km, mb4.4/21, Error ellipse: s-maj=24.9km s-min=8.8km az=164.3*
*NEIC **12** 00:27:18.4±0.3, 3.°69N×126.°55E, h35km, mb4.2/5, Error ellipse: s-maj=19.6km s-min=6.3km az=72.0*
ISC 12 00:27:20.3±0.6, 3.°65N±0.°10×126.°5E±0.°2, h53km, n40, σ0s69/44, mb4.3/21, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.63**	**182**	*eP*	**P**	**00 32 06.1**	**-0.1**
	3.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.63**	**182**	P	**P**	**00 32 06.7**	**+0.5**
	1.6nm,0.4s,baz=5.6,slow=14,SNR=1.9						
WRAB	**Tennant Creek**	**24.66**	**162**	*eP*	**P**	**00 32 37.1**	**+0.8**
	13nm,0.8s						
WRA	**Warramunga Arr**	**24.67**	**162**	P	**P**	**00 32 37.1**	**+0.8**
WRA	**Warramunga Arr**	**24.67**	**162**	P	**P**	**00 32 37.1**	**+0.8**
	3μm,0.3s,baz=0.0,slow=0.0,SNR=2.7						
ASAR	**Alice Springs**	**28.09**	**166**	P	**P**	**00 33 07.1**	**-0.1**
ASAR	**Alice Springs**	**28.09**	**166**	P	**P**	**00 33 07.1**	**-0.1**
	0.5nm,0.5s,baz=349,slow=7.1,SNR=2.8						
CMAR	**Chiang Mai Arr**	**30.74**	**301**	P	**P**	**00 33 29.8**	**-0.9**
CMAR	**Chiang Mai Arr**	**30.74**	**301**	P	**P**	**00 33 29.8**	**-0.9**
	1.4nm,0.5s,baz=107,slow=7.6,SNR=4.3						
KSAR	**Wonju Array Be**	**33.65**	**2**	P	**P**	**00 33 54.8**	**-1.3**
KSRS	**Korea Array**	**33.67**	**2**	P	**P**	**00 33 54.8**	**-1.4**
	1.5nm,0.5s,baz=184,slow=9.7,SNR=4.5						
STKA	**Stephens Creek**	**38.13**	**159**	*eP*	**P**	**00 34 33.1**	**-1.3**
	1.1nm,0.7s						
STKA	**Stephens Creek**	**38.13**	**159**	P	**P**	**00 34 34.4**	**0.0**
	2.0nm,0.3s,baz=336,slow=7.2,SNR=3.2						
USRK	**Ussuriysk Arra**	**40.67**	**6**	P	**P**	**00 34 56.0**	**+0.7**
	1.1nm,0.7s,baz=190,slow=5.9,SNR=2.2						
ULN	**Ulaanbaatar**	**47.13**	**342**	*eP*	**P**	**00 35 47.4**	**0.0**
	2.7nm,0.8s						
SONM	**Songino Array**	**47.31**	**342**	P	**P**	**00 35 48.9**	**+0.2**
SONM				PcP	**PcP**	**00 37 19.2**	**+0.2**
SONM	**Songino Array**	**47.31**	**342**	P	**P**	**00 35 48.9**	**+0.2**
	0.9nm,0.6s,baz=161,slow=8.0,SNR=4.1						
SONM				PcP	**PcP**	**00 37 19.2**	**+0.2**
	0.8nm,0.8s,baz=146,slow=3.5,SNR=3.6						
PETK	**Petropavlovsk-**	**55.58**	**22**	P	**P**	**00 36 50.0**	**-0.4**
PETK	**Petropavlovsk-**	**55.58**	**22**	P	**P**	**00 36 50.0**	**-0.4**
	2.4nm,0.7s,baz=241,slow=5.9,SNR=2.6						
MK31	**Makanchi Array**	**57.51**	**325**	*eP*	**P**	**00 37 04.2**	**0.0**
MKAR	**Makanchi Array**	**57.51**	**325**	P	**P**	**00 37 04.4**	**+0.2**
MKAR				PcP	**PcP**	**00 37 58.6**	**+1.4**
MKAR	**Makanchi Array**	**57.51**	**325**	P	**P**	**00 37 04.4**	**+0.2**
	1.4nm,0.4s,baz=118,slow=7.1,SNR=9.2						
MKAR				PcP	**PcP**	**00 37 58.6**	**+1.4**
	1.0nm,0.6s,baz=115,slow=4.8,SNR=3.1						
ZALV	**Zalesovo Beam**	**60.57**	**333**	P	**P**	**00 37 24.6**	**-0.6**
ZALV	**Zalesovo Beam**	**60.57**	**333**	P	**P**	**00 37 24.6**	**-0.6**
	0.8nm,0.3s,baz=126,slow=6.6,SNR=4.8						
KURBB	**Kurchatov Arra**	**61.70**	**327**	P	**P**	**00 37 32.9**	**0.0**
	4.1nm,0.6s,baz=128,slow=6.4,SNR=9.5						
KURK	**Kurchatov**	**61.70**	**328**	*eP*	**P**	**00 37 32.5**	**-0.4**
	7.1nm,0.6s						
AKTO	**Aktyubinsk**	**73.59**	**322**	P	**P**	**00 38 47.8**	**-0.2**
AKTO	**Aktyubinsk**	**73.59**	**322**	P	**P**	**00 38 47.8**	**-0.2**
	3.6nm,0.7s,baz=92,slow=10,SNR=8.9						
BRTR	**Keskin Array B**	**89.91**	**310**	P	**P**	**00 40 14.6**	**+0.4**
BRTR	**Keskin Array B**	**89.91**	**310**	P	**P**	**00 40 14.6**	**+0.4**
	1.2nm,0.9s,baz=113,slow=5.8,SNR=5.8						
ARCES	**ARCESS Array B**	**90.45**	**340**	P	**P**	**00 40 16.0**	**+0.1**
ARCES	**ARCESS Array B**	**90.45**	**340**	P	**P**	**00 40 16.0**	**+0.1**
	3.0nm,0.9s,baz=67,slow=5.8,SNR=5.7						
FINES	**FINESS Array B**	**91.81**	**332**	P	**P**	**00 40 23.0**	**+0.7**
FINES	**FINESS Array B**	**91.81**	**332**	P	**P**	**00 40 23.0**	**+0.7**
	2.7nm,0.8s,baz=147,slow=4.5,SNR=4.0						
AKASG	**Malin Array Be**	**91.83**	**321**	P	**P**	**00 40 22.5**	**-0.1**
AKASG	**Malin Array Be**	**91.83**	**321**	P	**P**	**00 40 22.5**	**-0.1**
	1.9nm,0.7s,baz=70,slow=5.0,SNR=7.5						
MLR	**Muntele Rosu**	**94.82**	**316**	P	**P**	**00 40 38.0**	**+1.3**
MLR	**Muntele Rosu**	**94.82**	**316**	P	**P**	**00 40 38.0**	**+1.3**
	0.5nm,0.7s,baz=90,slow=3.0,SNR=3.8						
BUR08	**Buovina Ar. S**	**94.93**	**318**	*eP*	**P**	**00 40 36.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**122.75**	**288**	PKP	**PKPdf**	**00 46 11.8**	**+0.4**
	0.5nm,0.9s,baz=78,slow=1.0,SNR=2.9						

*IDC **12** 00:31:17.1±0.7, 4.°04N×126.°71E, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.1/21, mbtmp4.0/14, MS4.9/1, Ms1 4.9/1, ms1mx3.1/52, Error ellipse: s-maj=43.0km s-min=15.5km az=73.0*
*ISCJB **12** 00:31:21.4±0.5, 4.°06N±0.°07×126.°6E±0.°2, h45km, mb4.1/18, MS4.7/1, Error ellipse: s-maj=24.1km s-min=7.1km az=162.8*
*NEIC **12** 00:31:22.2±0.3, 4.°05N×126.°63E, h35km, mb4.5/4, Error ellipse: s-maj=19.3km s-min=6.6km az=71.0*
ISC 12 00:31:23.2±0.6, 4.°06N±0.°09×126.°6E±0.°2, h45km, n36, σ0s98/39, mb4.1/17, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.17**	**341**	Pn	**Pn**	**00 32 08.4**	**-2.2**
DAV				Sn	**Sn**	**00 32 45.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**22.04**	**182**	*eP*	**P**	**00 36 14.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**22.04**	**182**	P	**P**	**00 36 14.5**	**+0.3**
	3.4nm,1.0s,baz=10,slow=9.9,SNR=2.8						
WRAB	**Tennant Creek**	**25.02**	**163**	*eP*	**P**	**00 36 43.2**	**0.0**
	17nm,1.0s						
WRA	**Warramunga Arr**	**25.03**	**163**	P	**P**	**00 36 43.2**	**-0.1**
WRA	**Warramunga Arr**	**25.03**	**163**	P	**P**	**00 36 43.2**	**-0.1**
	4.6nm,0.6s						
WRA				LR	LR	00 44 45.4	
	comp=Z,3μm,20.1s,baz=15,slow=32						
ASAR	**Alice Springs**	**28.46**	**166**	P	**P**	**00 37 12.6**	**-1.5**
ASAR	**Alice Springs**	**28.46**	**166**	P	**P**	**00 37 12.6**	**-1.5**
	0.2nm,0.5s,baz=345,slow=8.5,SNR=2.7						
CMAR	**Chiang Mai Arr**	**30.61**	**300**	P	**P**	**00 37 33.3**	**0.0**
CMAR	**Chiang Mai Arr**	**30.61**	**300**	P	**P**	**00 37 33.3**	**0.0**
	0.7nm,0.3s,baz=116,slow=8.1,SNR=3.1						
CHTO	**Chiang Mai**	**30.76**	**301**	*eP*	**P**	**00 37 34.1**	**-0.5**
	2.1nm,0.6s						
KSAR	**Wonju Array Be**	**33.24**	**2**	P	**P**	**00 37 56.1**	**0.0**
KSRS	**Korea Array**	**33.26**	**2**	P	**P**	**00 37 56.1**	**-0.1**
	1.0nm,0.6s,baz=202,slow=5.8,SNR=3.6						
STKA	**Stephens Creek**	**38.47**	**159**	P	**P**	**00 38 40.3**	**-0.7**
STKA	**Stephens Creek**	**38.47**	**159**	P	**P**	**00 38 39.9**	**-1.1**
	2.6nm,0.7s,baz=349,slow=11,SNR=2.4						
ULN	**Ulaanbaatar**	**46.77**	**342**	*eP*	**P**	**00 39 48.1**	**-0.2**
	4.9nm,1.0s						
SONM	**Songino Array**	**46.95**	**341**	P	**P**	**00 39 51.6**	**+1.9**
SONM				PcP	**PcP**	**00 41 23.3**	**+1.6**
SONM	**Songino Array**	**46.95**	**341**	P	**P**	**00 39 51.6**	**+1.9**
	0.9nm,0.7s,baz=160,slow=10,SNR=5.4						
SONM				PcP	**PcP**	**00 41 23.3**	**+1.6**
	0.7nm,0.6s,baz=152,slow=3.1,SNR=3.7						
MK31	**Makanchi Array**	**57.23**	**325**	*eP*	**P**	**00 41 06.4**	**+0.4**
MKAR	**Makanchi Array**	**57.23**	**325**	P	**P**	**00 41 06.7**	**+0.7**
MKAR	**Makanchi Array**	**57.23**	**325**	P	**P**	**00 41 06.7**	**+0.7**
	1.7nm,0.6s,baz=119,slow=6.2,SNR=13						
ZALV	**Zalesovo Beam**	**60.25**	**333**	P	**P**	**00 41 26.6**	**-0.2**
ZALV	**Zalesovo Beam**	**60.25**	**333**	P	**P**	**00 41 26.6**	**-0.2**
	0.7nm,0.5s,baz=122,slow=5.6,SNR=6.0						
KURK	**Kurchatov**	**61.41**	**327**	*eP*	**P**	**00 41 34.6**	**-0.1**
	4.1nm,0.6s						
ILAR	**Eielson Array**	**84.86**	**25**	P	**P**	**00 43 52.9**	**0.0**
ILAR	**Eielson Array**	**84.86**	**25**	P	**P**	**00 43 52.9**	**0.0**
	0.7nm,0.8s,baz=255,slow=6.4,SNR=6.4						
ARCES	**ARCESS Array B**	**90.10**	**340**	P	**P**	**00 44 18.2**	**+0.1**
ARCES	**ARCESS Array B**	**90.10**	**340**	P	**P**	**00 44 18.2**	**+0.1**
	2.9nm,0.9s,baz=86,slow=5.3,SNR=3.9						
FINES	**FINESS Array B**	**91.49**	**332**	P	**P**	**00 44 24.9**	**+0.3**
FINES	**FINESS Array B**	**91.49**	**332**	P	**P**	**00 44 24.9**	**+0.3**
	2.9nm,1.0s,baz=160,slow=4.4,SNR=2.9						
MLR	**Muntele Rosu**	**94.59**	**316**	P	**P**	**00 44 39.9**	**+0.4**
MLR	**Muntele Rosu**	**94.59**	**316**	P	**P**	**00 44 39.9**	**+0.4**
	0.5nm,0.9s,baz=83,slow=7.6,SNR=3.8						
YKA	**Yellowknife Ar**	**99.25**	**24**	P	**Pdif**	**00 45 00.7**	**+0.7**
YKA	**Yellowknife Ar**	**99.25**	**24**	P	**Pdif**	**00 45 00.7**	**+0.7**
	0.2nm,0.5s,baz=297,slow=4.7,SNR=2.4						
TORD	**Torodi Ar. Bea**	**122.71**	**288**	PKP	**PKPdf**	**00 50 17.0**	**+1.8**
TORD	**Torodi Ar. Bea**	**122.71**	**288**	PKP	**PKPdf**	**00 50 17.0**	**+1.8**
	0.7nm,0.9s,baz=44,slow=2.0,SNR=3.7						

IDC 12 00:32:33.0±1.4, 3.°94N×126.°49E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.8/5, Error ellipse: s-maj=59.5km s-min=29.6km az=76.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**28.37**	**166**	P	P	00 38 29.2	+0.1
	0.4nm,0.5s,baz=354,slow=7.5,SNR=3.0						
SONM	**Songino Array**	**47.03**	**342**	P	P	00 41 07.1	+0.8
	0.4nm,0.4s,baz=162,slow=8.2,SNR=4.3						
PETK	**Petropavlovsk-**	**55.33**	**22**	P	P	00 42 08.3	-0.2
	1.4nm,0.6s,baz=205,slow=6.4,SNR=3.3						
MKAR	**Makanchi Array**	**57.25**	**325**	P	P	00 42 21.6	-0.7
	0.5nm,0.4s,baz=116,slow=7.6,SNR=6.0						
ILAR	**Eielson Array**	**85.02**	**25**	P	P	00 45 10.1	-0.1
	0.4nm,0.6s,baz=249,slow=6.1,SNR=5.4						

IDC 12 00:36:34.5±1.0, 3.°69N×126.°39E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/19, mbtmp3.8/6, Error ellipse: s-maj=119.0km s-min=19.3km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.75**	**162**	P	P	00 41 56.1	-1.9
	3.2nm,0.8s						
ASAR	**Alice Springs**	**28.16**	**165**	P	P	00 42 30.5	+1.8
	0.2nm,0.3s,baz=345,slow=12,SNR=3.3						
SONM	**Songino Array**	**47.23**	**342**	P	P	00 45 09.4	0.0
	0.3nm,0.6s,baz=150,slow=8.9,SNR=3.3						
MKAR	**Makanchi Array**	**57.39**	**325**	P	P	00 46 25.0	+0.1
	0.7nm,0.4s,baz=119,slow=7.5,SNR=14						
ZALV	**Zalesovo Beam**	**60.47**	**333**	P	P	00 46 46.0	0.0
	0.3nm,0.5s,baz=79,slow=7.5,SNR=2.5						
NOA	**NORSAR Array B**	**98.67**	**334**	P	P	00 50 14.0	-1.6
	0.8nm,0.8s,baz=60,slow=7.1,SNR=2.5						
TXAR	**Lajitas Array**	**121.89**	**52**	PKP	PKPdf	00 55 31.9	+0.2
	0.3nm,0.9s,baz=313,slow=7.3,SNR=2.3						

*IDC **12** 00:36:51.5±0.5, 3.°90N×126.°60E, h0km, mb4.3/21, mb1 4.4/21, mb1mx4.4/23, mbtmp4.3/21, Error ellipse: s-maj=26.7km s-min=12.2km az=75.0*
*ISCJB **12** 00:36:55.9±0.3, 3.°91N±0.°06×126.°6E±0.°1, h45km, mb4.2/29, Error ellipse: s-maj=15.8km s-min=6.5km az=161.8*
*NEIC **12** 00:36:56.6±0.3, 3.°92N×126.°56E, h35km, mb4.4/10, Error ellipse: s-maj=12.8km s-min=5.4km az=71.0*
ISC 12 00:36:57.8±0.4, 3.°96N±0.°07×126.°6E±0.°1, h45km, n68, σ1s12/68, mb4.2/28, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.67**	**322**	*eP*	Pn	00 37 42.6	+4.1
GSPH				*i* S	Sn	00 38 19.5	+10
DAV	**Davao City (W)**	**3.25**	**342**	*eP* Pn	**Pn**	**00 37 43.9**	**-2.4**
DAV				Sn	**Sn**	**00 38 23.6**	**-0.2**
DAV	**Davao City (W)**	**3.25**	**342**	Pn	Pn	00 37 55.5	+9.2
	61nm,0.3s,baz=318,slow=10,SNR=3.9						
DAV				Sn	Sn	00 38 39.3	+15
	109nm,0.3s,baz=253,slow=19,SNR=5.9						
KCP	**Kidapawan**	**3.38**	**334**	*e*P	Pn	00 37 56.6	+8.5
BUKP	**Musuan**	**4.18**	**339**	*eP*	Pn	00 38 02.8	+3.7
BUKP				*eS*	Px	00 38 14.7	
PAGZ	**Pagadian**	**5.01**	**321**	*eP*	Pn	00 38 14.1	+3.6
PAGZ				*eS*	Px	00 38 27.9	
FITZ	**Fitzroy Crossi**	**21.94**	**182**	*eP*	**P**	**00 41 46.1**	**-1.5**
	24nm,1.4s						
FITZ	**Fitzroy Crossi**	**21.94**	**182**	*eP*	**P**	**00 41 46.0**	**-1.7**
	10nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.94**	**182**	P	**P**	**00 41 45.5**	**-2.2**
	2.8nm,0.6s,baz=2.4,slow=12,SNR=5.2						
JOW	**Kunigami**	**22.80**	**4**	P	**P**	**00 41 56.8**	**-0.1**
JOW	**Kunigami**	**22.80**	**4**	P	**P**	**00 41 56.8**	**-0.1**
	9.1nm,0.7s,baz=215,slow=9.1,SNR=5.7						
WRAB	**Tennant Creek**	**24.94**	**162**	*eP*	**P**	**00 42 15.6**	**-1.5**
	17nm,0.8s						
WRA	**Warramunga Arr**	**24.94**	**162**	P	**P**	**00 42 15.8**	**-1.3**
WRA	**Warramunga Arr**	**24.94**	**162**	P	**P**	**00 42 15.8**	**-1.3**
	6.6nm,0.5s						
ASAR	**Alice Springs**	**28.37**	**166**	P	**P**	**00 42 49.0**	**+1.0**
ASAR	**Alice Springs**	**28.37**	**166**	P	**P**	**00 42 49.0**	**+1.0**
	1.0nm,0.6s,baz=340,slow=6.1,SNR=4.3						
CMAR	**Chiang Mai Arr**	**30.63**	**300**	P	**P**	**00 43 09.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**30.63**	**300**	P	**P**	**00 43 09.2**	**+1.1**
	1.0nm,0.4s,baz=119,slow=7.3,SNR=5.5						
CTA	**Charters Tower**	**30.73**	**142**	P	**P**	**00 43 10.7**	**+1.7**
CTA	**Charters Tower**	**30.73**	**142**	P	**P**	**00 43 10.7**	**+1.7**
	4.7nm,0.9s,baz=347,slow=9.9,SNR=4.7						
ENH	**Enshi**	**30.76**	**330**	*eP*	**P**	**00 43 09.3**	**+0.2**
CHTO	**Chiang Mai**	**30.78**	**301**	*eP*	**P**	**00 43 08.8**	**-0.7**
	6.3nm,0.8s						
KSAR	**Wonju Array Be**	**33.35**	**2**	P	**P**	**00 43 32.0**	**+0.3**
KSRS	**Korea Array**	**33.36**	**2**	P	**P**	**00 43 32.0**	**+0.2**
	2.3nm,0.6s,baz=177,slow=10,SNR=8.7						
MJAR	**Matsushiro Arr**	**34.15**	**17**	P	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**11.73**	**332**	LR	LR	00 52 59.9	
	comp=Z,18nm,20.9s,baz=349,slow=38						
FITZ	**Fitzroy Crossi**	**21.71**	**182**	P	P	00 50 20.8	+0.1
	2.0nm,0.7s,baz=14,slow=12,SNR=2.6						
WRA	**Warramunga Arr**	**24.72**	**162**	P	P	00 50 50.5	-0.6
	1.1nm,0.3s						
ASAR	**Alice Springs**	**28.14**	**166**	P	P	00 51 23.3	+1.3
	0.3nm,0.4s,baz=343,slow=11,SNR=5.4						
STKA	**Stephens Creek**	**38.17**	**159**	P	P	00 52 48.2	-1.0
	1.7nm,0.7s,baz=332,slow=8.1,SNR=3.0						
SONM	**Songino Array**	**47.26**	**342**	P	P	00 54 03.7	+0.6
	0.3nm,0.6s,baz=141,slow=9.3,SNR=3.0						
MKAR	**Makanchi Array**	**57.49**	**325**	P	P	00 55 18.4	-0.6
	0.3nm,0.4s,baz=118,slow=7.6,SNR=12						
KURBB	**Kurchatov Arra**	**61.68**	**327**	P	P	00 55 47.4	-0.3
	0.7nm,0.6s,baz=129,slow=6.4,SNR=9.3						
BVAR	**Borovoye Array**	**67.26**	**327**	P	P	00 56 24.7	+0.5
	0.6nm,0.8s,baz=116,slow=6.6,SNR=4.3						

IDC 12 00:45:37.6±34.0, 3°.79N×126°.15E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=750.0km s-min=180.2km az=132.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**47.06**	**342**	P	P	00 54 11.0	-0.2
	0.4nm,0.5s,baz=156,slow=8.4,SNR=3.8						
MKAR	**Makanchi Array**	**57.17**	**325**	P	P	00 55 26.5	0.0
	0.9nm,0.5s,baz=115,slow=7.9,SNR=16						
ZALV	**Zalesovo Beam**	**60.27**	**333**	P	P	00 55 48.0	+0.2
	0.4nm,0.4s,baz=112,slow=5.5,SNR=2.8						
KURBB	**Kurchatov Arra**	**61.37**	**328**	P	P	00 55 55.1	-0.3
	1.4nm,0.5s,baz=130,slow=6.3,SNR=15						

*IDC **12** 00:46:51.8±0.5, 3°.65N×126°.57E, h0km, mb4.6/31, mb1 4.6/31, mb1mx4.6/32, mbtmp4.6/31, Error ellipse: s-maj=21.4km s-min=11.5km az=72.0*
*ISCJB **12** 00:46:57.6±0.2, 3°.78N±0°.04×126°.73E±0°.06, h53km, mb4.7/53, Error ellipse: s-maj=8.5km s-min=4.8km az=162.0*
*BJI **12** 00:46:57.0, 3°.96N×126°.69E, h33km, mB5.1/12, mb4.8/26, Ms4.8/4, Ms7 4.5/4*
*NEIC **12** 00:46:57.1±0.2, 3°.67N×126°.59E, h35km, mb4.8/17, Error ellipse: s-maj=10.1km s-min=5.6km az=71.0*
*DJA **12** 00:47:02, 3°.53N×126°.90E, h50km, mb4.6/7*
ISC 12 00:46:59.4±0.3, 3°.74N±0°.05×126°.70E±0°.08, h53km, n141, σ1°.37/133, mb4.6/51, 2C-3D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**2.94**	**219**	P	Pn	00 47 50.1	+6.4
TNTI	**Ternate**	**3.02**	**167**	P	**Pn**	**00 47 45.5**	**+0.7**
DAV	**Davao City (W)**	**3.49**	**341**	Pn	**Pn**	**00 47 52.3**	**+1.0**
DAV				Sn	Sn	00 48 39.5	+8.1
DAV	**Davao City (W)**	**3.49**	**341**	P	Pn	00 48 03.4	+12
DAV	**Davao City (W)**	**3.49**	**341**	Pn	**Pn**	**00 47 52.3**	**+1.0**
	53nm,0.3s,baz=246,slow=20,SNR=3.2						
DAV				Sn	Sn	00 48 39.5	+8.1
	70nm,0.3s,baz=221,slow=21,SNR=5.1						
KMSI	**Cibinong**	**4.16**	**221**	P	Pn	00 48 12.9	+13
LBMI	**Labuha**	**4.42**	**170**	P	**Pn**	**00 48 05.8**	**+1.8**
PAGZ	**Pagadian**	**5.25**	**321**	*eP*	**Pn**	**00 48 16.1**	**+0.7**
MRSI	**Marisa**	**5.76**	**236**	P	Pn	00 48 25.8	+3.5
	198nm,0.7s,2μm0.7nm						
LUWI	**Luwuk**	**6.16**	**220**	P	Pn	00 48 35.4	+7.5
	495nm,1.0s,4μm1.6nm						
SWI	**Sorong**	**6.45**	**135**	P	**Pn**	**00 48 30.7**	**-1.2**
	106nm,0.5s,0.4nm						
MSAI	**Masohi**	**7.38**	**162**	P	Pn	00 48 53.7	+9.1
FAKI	**Fak Fak**	**8.63**	**140**	P	**Pn**	**00 49 02.2**	**+0.5**
	43nm,0.8s,0.2nm						
KDI	**Kendari**	**8.66**	**208**	P	Pn	00 49 06.5	+4.3
	26nm,0.8s,792nm						
TTSI	**Tana Toraja**	**9.63**	**226**	P	Pn	00 49 24.1	+8.7
	57nm,1.0s,4μm						
KKM	**Kota Kinabalu**	**10.70**	**283**	P	Pn	00 49 35.8	+5.7
	22nm,1.6s						
TLE	**Tual**	**11.09**	**147**	P	Pn	00 49 40.6	+5.2
KAPI	**Kappang**	**11.13**	**219**	Pn	**Pn**	**00 49 38.2**	**+2.3**
KAPI	**Kappang**	**11.13**	**219**	Pn	**Pn**	**00 49 38.2**	**+2.3**
	0.6nm,0.3s,baz=12,slow=20,SNR=2.9						
SBUM	**Sibu**	**14.52**	**265**	P	**P**	**00 50 28.5**	**+1.2**
	15nm,1.5s						
JAY	**Jayapura**	**15.31**	**114**	P	Pn	00 50 24.2	-8.1
	188nm,0.5s,19μm						
KSM	**Kuching**	**16.53**	**263**	P	P	00 50 54.6	+4.9
	22nm,0.9s						
MTN	**Manton Dam**	**17.05**	**165**	*eP*	**Pn**	**00 50 50.3**	**-4.0**
FITZ	**Fitzroy Crossi**	**21.73**	**183**	P	**P**	**00 51 42.4**	**-3.9**
FITZ	**Fitzroy Crossi**	**21.73**	**183**	*eP*	**P**	**00 51 45.6**	**-0.7**
	19nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.73**	**183**	P	**P**	**00 51 42.4**	**-3.9**
	2.4nm,0.3s,baz=18,slow=10,SNR=5.9						
JOW	**Kunigami**	**23.01**	**4**	P	**P**	**00 51 58.2**	**-1.7**
JOW	**Kunigami**	**23.01**	**4**	P	**P**	**00 51 58.2**	**-1.7**
	11nm,0.5s,baz=192,slow=15,SNR=3.0						
WRAB	**Tennant Creek**	**24.70**	**163**	*eP*	**P**	**00 52 14.1**	**-1.6**
	32nm,0.8s						
WRA	**Warramunga Arr**	**24.70**	**163**	P	**P**	**00 52 14.1**	**-1.7**
WRA	**Warramunga Arr**	**24.70**	**163**	P	**P**	**00 52 14.0**	**-1.7**
	33nm,0.7s						
MBWA	**Marble Bar**	**25.67**	**195**	*eP*	**P**	**00 52 22.8**	**-1.7**
	10nm,0.9s						
ASAR	**Alice Springs**	**28.13**	**166**	P	**P**	**00 52 45.2**	**-1.4**
ASAR	**Alice Springs**	**28.13**	**166**	P	**P**	**00 52 45.2**	**-1.4**
	1.8nm,0.4s,baz=336,slow=7.8,SNR=13						
JNU	**Nakatsue**	**29.49**	**7**	P	**P**	**00 52 57.6**	**-1.0**
JNU	**Nakatsue**	**29.49**	**7**	P	**P**	**00 52 57.6**	**-1.0**
	8.4nm,0.6s,baz=124,slow=3.8,SNR=5.1						
CMAR	**Chiang Mai Arr**	**30.84**	**300**	P	**P**	**00 53 11.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**30.84**	**300**	P	**P**	**00 53 11.0**	**+0.2**
	1.9nm,0.6s,baz=126,slow=8.1,SNR=16						
CHTO	**Chiang Mai**	**30.99**	**301**	*eP*	**P**	**00 53 10.8**	**-1.3**
	5.6nm,0.9s						
CHTO	**Chiang Mai**	**30.99**	**301**	P	**P**	**00 53 13.4**	**+1.3**
ENH	**Enshi**	**31.01**	**330**	*eP*	**P**	**00 53 10.6**	**-1.5**
	11nm,0.8s						
KSAR	**Wonju Array Be**	**33.56**	**2**	P	**P**	**00 53 34.5**	**+0.2**
KSAR				PcP	**PcP**	**00 56 15.2**	**+1.2**
KSRS	**Korea Array**	**33.57**	**2**	P	**P**	**00 53 34.5**	**+0.1**
	4.6nm,0.7s,baz=183,slow=11,SNR=16						
KSRS				PcP	**PcP**	**00 56 15.2**	**+1.2**
	2.1nm,0.6s,baz=195,slow=2.9,SNR=5.0						
MJAR	**Matsushiro Arr**	**34.32**	**17**	P	**P**	**00 53 42.3**	**+1.3**
MJAR	**Matsushiro Arr**	**34.32**	**17**	P	**P**	**00 53 42.3**	**+1.3**
	2.5nm,0.6s,baz=193,slow=9.6,SNR=5.2						
XAN	**Xi'an**	**34.40**	**333**	P	**P**	**00 53 40.3**	**-1.4**
XAN				pP	**pP**	**00 53 50.4**	**-4.9**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BJT	**Baijiatuau**	**37.35**	**347**	*eP*	**P**	**00 54 05.9**	**-0.9**
	comp=Z,59nm,0.5s						
BJI	**Beijing**	**37.37**	**347**	P	**P**	**00 54 07.2**	**+0.2**
BJI				pmax	pmax		
	comp=Z,83nm,0.5s						
SNY	**Shenyang**	**38.03**	**356**	⇑P	**P**	**00 54 13.3**	**+0.8**
STKA	**Stephens Creek**	**38.15**	**159**	*eP*	**P**	**00 54 12.7**	**-0.9**
	comp=Z,2.0nm,0.5s						
STKA	**Stephens Creek**	**38.15**	**159**	*eP*	**P**	**00 54 13.0**	**-0.7**
	comp=Z,9.1nm,0.6s						
STKA	**Stephens Creek**	**38.15**	**159**	P	**P**	**00 54 12.8**	**-0.9**
	comp=Z,12nm,0.6s,baz=337,slow=8.4,SNR=32						
LZH	**Lanzhou**	**38.48**	**330**	*eP*	**P**	**00 54 16.7**	**+0.1**
LZH				pP	pP	00 54 24.8	-5.6
LZH				sP	sP	00 54 27.9	-8.7
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
CN2	**Changchun**	**39.91**	**359**	*eP*	**P**	**00 54 28.0**	**-0.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
USRK	**Ussuriysk Arra**	**40.56**	**6**	P	**P**	**00 54 33.9**	**+0.3**
	comp=Z,5.5nm,0.5s,baz=197,slow=7.8,SNR=14						
MDJ	**Mudanjiang**	**40.79**	**3**	P	**P**	**00 54 35.2**	**-0.3**
MDJ				pmax	pmax		
	comp=Z,21nm,1.8s						
MDJ				pmax	pmax		
	comp=Z,140nm,4.9s						
ARMA	**Armidale**	**41.49**	**147**	*eP*	**P**	**00 54 42.3**	**+0.7**
LSA	**Lhasa**	**42.41**	**311**	P	**P**	**00 54 50.7**	**+1.1**
LSA				pmax	pmax		
	comp=Z,40nm,1.0s						
LSA	**Lhasa**	**42.41**	**311**	*eP*	**P**	**00 54 48.4**	**-1.2**
	comp=Z,10nm,0.6s						
GTA	**Gaotai**	**43.08**	**329**	*eP*	**P**	**00 54 54.6**	**+0.2**
GTA				pP	**pP**	**00 55 05.2**	**-3.2**
GTA				sP	sP	00 55 09.1	-5.4
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TAPN	**Taplejung**	**43.99**	**306**	*eP*	**P**	**00 55 01.7**	**-0.5**
ODAN	**Odare**	**44.04**	**306**	*eP*	**P**	**00 55 02.0**	**-0.5**
	comp=Z,18nm,0.7s						
RAMN	**Ramite**	**44.72**	**305**	*eP*	**P**	**00 55 07.9**	**-0.1**
	comp=Z,12nm,0.6s						
JIRN	**Jiri**	**45.34**	**306**	*eP*	**P**	**00 55 12.3**	**-0.8**
GUN	**Gumba**	**45.70**	**306**	*eP*	**P**	**00 55 15.2**	**-0.6**
	comp=Z,27nm,0.8s						
HIA	**Hailar**	**45.75**	**354**	*eP*	**P**	**00 55 15.4**	**0.0**
	comp=Z,31nm,0.9s						
DZM	**Mont Dzumac**	**46.56**	**125**	P	**P**	**00 55 22.7**	**+0.3**
DZM	**Mont Dzumac**	**46.56**	**125**	P	**P**	**00 55 22.7**	**+0.3**
	comp=Z,5.4nm,0.7s,baz=245,slow=17,SNR=9.2						
SONM	**Songino Array**	**47.28**	**341**	P	**P**	**00 55 27.4**	**-0.3**
SONM				PcP	**PcP**	**00 56 59.0**	**+0.9**
SONM	**Songino Array**	**47.28**	**341**	P	**P**	**00 55 27.4**	**-0.3**
	comp=Z,3.2nm,0.7s,baz=151,slow=8.6,SNR=20						
SONM				PcP	**PcP**	**00 56 59.0**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=171,slow=4.7,SNR=4.0						
KOLN	**Koldanda**	**47.50**	**305**	*eP*	**P**	**00 55 29.3**	**-0.4**
	comp=Z,27nm,0.5s						
DANN	**Dangsing**	**47.59**	**306**	*eP*	**P**	**00 55 29.7**	**-0.9**
	comp=Z,30nm,0.6s						
PETK	**Petropavlovsk-**	**55.43**	**22**	P	**P**	**00 56 29.6**	**+1.2**
PETK	**Petropavlovsk-**	**55.43**	**22**	P	**P**	**00 56 29.6**	**+1.2**
	comp=Z,6.9nm,0.6s,baz=181,slow=4.0,SNR=14						
MK31	**Makanchi Array**	**57.53**	**325**	*eP*	**P**	**00 56 42.8**	**-0.7**
MKAR	**Makanchi Array**	**57.53**	**325**	P	**P**	**00 56 43.2**	**-0.2**
MKAR				ScP	**ScP**	**01 01 36.5**	**+4.4**
MKAR	**Makanchi Array**	**57.53**	**325**	P	**P**	**00 56 43.2**	**-0.2**
	comp=Z,2.4nm,0.4s,baz=117,slow=7.6,SNR=30						
MKAR				ScP	**ScP**	**01 01 36.5**	**+4.4**
	comp=Z,0.9nm,0.7s,baz=128,slow=4.6,SNR=5.7						
YAK	**Yakutsk**	**58.20**	**2**	*eP*	**P**	**00 56 47.2**	**-0.6**
	comp=Z,36nm,0.8s						
TKM2	**Tokmak 2**	**59.72**	**319**	*eP*	**P**	**00 56 58.6**	**-0.4**
	comp=Z,34nm,0.9s						
AAK	**Ala-Archa**	**60.33**	**318**	P	**P**	**00 57 02.7**	**-0.5**
AAK	**Ala-Archa**	**60.33**	**318**	P	**P**	**00 57 02.7**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=162,slow=9.6,SNR=3.6						
ZAAO	**Zalesovo Array**	**60.57**	**333**	*eP*	**P**	**00 57 03.9**	**-0.4**
ZALV	**Zalesovo Beam**	**60.57**	**333**	P	**P**	**00 57 03.3**	**-1.0**
ZALV	**Zalesovo Beam**	**60.57**	**333**	P	**P**	**00 57 03.3**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=119,slow=6.5,SNR=12						
EKS2	**Erkin-Say**	**60.83**	**318**	*eP*	**P**	**00 57 06.5**	**0.0**
	comp=Z,6.0nm,0.8s						
KBL	**Kabul**	**61.49**	**307**	*eP*	**P**	**00 57 10.3**	**-1.0**
	comp=Z,7.5nm,0.8s						
KURBB	**Kurchatov Arra**	**61.72**	**327**	P	**P**	**00 57 12.0**	**-0.2**
	comp=Z,8.6nm,0.7s,baz=128,slow=6.2,SNR=32						
KURK	**Kurchatov**	**61.72**	**328**	P	**P**	**00 57 12.0**	**-0.2**
KKAR	**Karatay Array**	**63.21**	**317**	*eP*	**P**	**00 57 21.4**	**-0.9**
	comp=Z,0.9nm,0.8s						
BVAR	**Borovoye Array**	**67.30**	**327**	P	**P**	**00 57 48.5**	**-0.1**
BVAR	**Borovoye Array**	**67.30**	**327**	P	**P**	**00 57 48.5**	**-0.1**
	comp=Z,9.4nm,1.0s,baz=126,slow=7.5,SNR=26						
BRVK	**Borovoye**	**67.37**	**327**	*eP*	**P**	**00 57 48.4**	**-0.6**
	comp=Z,15nm,1.0s						
ABKAR	**Akbulak array**	**72.13**	**321**	*eP*	**P**	**00 58 17.3**	**-1.1**
	comp=Z,6.0nm,0.8s						
UNV	**Unalaska Valle**	**73.43**	**35**	P	**P**	**00 58 26.8**	**+0.8**
AKTO	**Aktyubinsk**	**73.64**	**322**	P	**P**	**00 58 27.0**	**-0.3**
AKTO	**Aktyubinsk**	**73.64**	**322**	P	**P**	**00 58 27.0**	**-0.3**
	comp=Z,5.5nm,0.7s,baz=100,slow=8.1,SNR=23						
KDAK	**Kodiak Island**	**81.90**	**32**	P	**P**	**00 59 13.6**	**+0.5**
KDAK	**Kodiak Island**	**81.90**	**32**	P	**P**	**00 59 13.6**	**+0.5**
	comp=Z,13nm,0.8s,baz=304,slow=11,SNR=3.8						
COLD	**Coldfoot**	**83.89**	**23**	*eP*	**P**	**00 59 23.7**	**+0.4**
	comp=Z,14nm,1.2s						
ILAR	**Eielson Array**	**85.11**	**25**	P	**P**	**00 59 29.3**	**-0.1**
ILAR	**Eielson Array**	**85.11**	**25**	P	**P**	**00 59 29.3**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=261,slow=4.1,SNR=5.7						
BR131	**Keskin Array S**	**89.99**	**310**	*eP*	**P**	**00 59 52.9**	**-0.8**
	comp=Z,1.6nm,0.8s						
BRTR	**Keskin Array B**	**89.99**	**310**	P	**P**	**00 59 52.7**	**-1.0**
BRTR	**Keskin Array B**	**89.99**	**310**	P	**P**	**00 59 52.7**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=113,slow=6.0,SNR=11						
INK	**Inuvik**	**90.17**	**21**	P	**P**	**00 59 53.7**	**+0.1**
INK	**Inuvik**	**90.17**	**21**	P	**P**	**00 59 53.7**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=273,slow=4.1,SNR=4.4						
ARCES	**ARCESS Array B**	**90.43**	**340**	P	**P**	**00 59 54.1**	**-0.8**
ARCES	**ARCESS Array B**	**90.43**	**340**	P	**P**	**00 59 54.1**	**-0.8**
	comp=Z,3.9nm,0.9s,baz=91,slow=7.3,SNR=12						
SPITS	**Spitsbergen Ar**	**90.47**	**349**	P	**P**	**00 59 54.5**	**-0.5**
SPITS	**Spitsbergen Ar**	**90.47**	**349**	P	**P**	**00 59 54.5**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=111,slow=11,SNR=2.9						
FINES	**FINESS Array B**	**91.81**	**332**	P	**P**	**01 00 01.2**	**-0.2**
FINES	**FINESS Array B**	**91.81**	**332**	P	**P**	**01 00 01.2**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=64,slow=4.4,SNR=7.6						
AKASG	**Malin Array Be**	**91.87**	**321**	P	**P**	**01 00 01.4**	**-0.6**
AKASG	**Malin Array Be**	**91.87**	**321**	P	**P**	**01 00 01.4**	**-0.6**
	comp=Z,3.9nm,0.7s,baz=69,slow=4.8,SNR=7.1						
QSPA	**South Pole Qui**	**93.64**	**180**	P	**P**	**01 00 12.2**	**+2.3**
QSPA	**South Pole Qui**	**93.64**	**180**	P	**P**	**01 00 12.2**	**+2.3**
	comp=Z,0.6nm,0.3s,baz=246,slow=5.1,SNR=3.5						
TESR		**94.21**	**317**	‖iP	**P**	**01 00 12.4**	**-0.5**
MLR	**Muntele Rosu**	**94.88**	**316**	P	**P**	**01 00 15.7**	**-0.4**
MLR	**Muntele Rosu**	**94.88**	**316**	‖iP	**P**	**01 00 15.9**	**-0.2**
MLR	**Muntele Rosu**	**94.88**	**316**	P	**P**	**01 00 15.7**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=37,slow=10						
BURAR	**Bucovina Array**	**94.98**	**318**	⇑iP	**P**	**01 00 15.7**	**-0.8**
BUR08	**Bucovina Ar. S**	**94.98**	**318**	*eP*	**P**	**01 00 16.0**	**-0.5**
DRGR		**96.82**	**318**	‖iP	**P**	**01 00 24.5**	**-0.3**
RES	**Resolute Bay**	**97.81**	**10**	P	Pdif	01 00 29.0	+0.3
RES	**Resolute Bay**	**97.81**	**10**	P	Pdif	01 00 29.0	+0.4
	comp=Z,3.2nm,0.8s,baz=310,slow=5.6,SNR=16						
NB2	**NORSAR Subarra**	**98.77**	**334**	P	Pdif	01 00 33.5	+0.3
	baz=68,slow=4.6						
NB2	**NORSAR Subarra**	**98.77**	**334**	P	Pdif	01 00 33.5	+0.3
	comp=Z,4.7nm,1.0s,baz=68,slow=4.6						
NOA	**NORSAR Array B**	**98.77**	**334**	P	**P**	**01 00 33.0**	**-0.3**
NOA	**NORSAR Array B**	**98.77**	**334**	P	**P**	**01 00 33.0**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=67,slow=4.6,SNR=6.9						
YKA	**Yellowknife Ar**	**99.50**	**24**	P	**Pdif**	**01 00 37.0**	**+0.6**
YKA	**Yellowknife Ar**	**99.50**	**24**	P	**Pdif**	**01 00 36.9**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=300,slow=4.5,SNR=14						
TXAR	**Lajitas Array**	**121.61**	**52**	PKP	**PKPdf**	**01 05 48.6**	**+0.5**
TXAR	**Lajitas Array**	**121.61**	**52**	PKP	**PKPdf**	**01 05 48.6**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=40,slow=1.7,SNR=8.1						
TORD	**Torodi Ar. Bea**	**122.89**	**288**	PKP	**PKPdf**	**01 05 50.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**122.89**	**288**	PKP	**PKPdf**	**01 05 50.9**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=80,slow=2.1,SNR=5.6						
DBIC	**Dimbokro**	**130.55**	**282**	PKP	**PKPdf**	**01 06 06.7**	**+1.3**
DBIC	**Dimbokro**	**130.55**	**282**	PKP	**PKPdf**	**01 06 06.7**	**+1.3**
	comp=Z,2.3nm,0.7s,baz=144,slow=7.1,SNR=4.4						
TKL	**Tuckaleechee C**	**131.51**	**33**	PKP	**PKPdf**	**01 06 08.2**	**+1.5**
TKL	**Tuckaleechee C**	**131.51**	**33**	PKP	**PKPdf**	**01 06 08.2**	**+1.5**
	comp=Z,2.1nm,0.6s,baz=54,slow=5.3,SNR=4.5						
CPUP	**Villa Florida**	**157.21**	**171**	PKPab	**PKPab**	**01 07 23.9**	**+3.1**
CPUP	**Villa Florida**	**157.21**	**171**	PKPab	**PKPab**	**01 07 23.9**	**+3.1**
	comp=Z,1.6nm,0.6s,baz=160,slow=3.1,SNR=5.0						

IDC 12 00:53:25.3±0.9, 3°.64N×126°.91E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/21, mbtmp3.8/9, Error ellipse: s-maj=67.5km s-min=15.9km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.64**	**183**	P	P	00 58 17.7	+0.3
	1.1nm,0.4s,baz=10,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**24.54**	**163**	P	P	00 58 46.7	-0.2
	209nm,0.3s,baz=233,slow=0.0,SNR=11						
ASAR	**Alice Springs**	**27.98**	**166**	P	P	00 59 17.3	-0.7
	0.2nm,0.3s,baz=344,slow=11,SNR=5.1						
STKA	**Stephens Creek**	**37.98**	**159**	P	P	01 00 45.6	+0.6
	1.4nm,0.5s,baz=313,slow=7.9,SNR=4.6						
SONM	**Songino Array**	**47.44**	**341**	P	P	01 02 02.0	+0.1
	0.2nm,0.3s,baz=166,slow=8.8,SNR=4.1						
MKAR	**Makanchi Array**	**57.73**	**325**	P	P	01 03 17.6	-0.5
	0.5nm,0.4s,baz=120,slow=7.7,SNR=11						
KURBB	**Kurchatov Arra**	**61.91**	**327**	P	P	01 03 46.9	+0.1
	0.5nm,0.3s,baz=183,slow=3.7,SNR=12						
AKTO	**Aktyubinsk**	**73.84**	**322**	P	P	01 05 02.0	+0.1
	0.4nm,0.3s,baz=102,slow=15,SNR=3.7						
ILAR	**Eielson Array**	**85.11**	**25**	P	P	01 06 02.8	-0.2
	0.1nm,0.5s,baz=248,slow=5.5,SNR=3.0						
ARCES	**ARCESS Array B**	**90.60**	**340**	P	P	01 06 29.3	+0.1
	3.7nm,1.0s,baz=79,slow=5.6,SNR=3.5						

IDC 12 00:54:13.8±1.8, 3°.99N×126°.03E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/21, mbtmp3.7/6, Error ellipse: s-maj=200.8km s-min=24.5km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**28.53**	**165**	P	P	01 00 11.4	0.0
	0.4nm,0.4s,baz=348,slow=8.5,SNR=2.7						
SONM	**Songino Array**	**46.84**	**342**	P	P	01 02 46.1	+0.4
	0.2nm,0.4s,baz=148,slow=8.5,SNR=2.2						
MKAR	**Makanchi Array**	**56.95**	**325**	P	P	01 04 02.1	+1.1
	0.5nm,0.6s,baz=123,slow=7.7,SNR=6.0						
ZALV	**Zalesovo Beam**	**60.05**	**333**	P	P	01 04 21.6	-0.9
	0.6nm,0.4s,baz=121,slow=6.9,SNR=5.0						
KURBB	**Kurchatov Arra**	**61.15**	**328**	P	P	01 04 28.5	-1.5
	0.9nm,0.6s,baz=122,slow=6.4,SNR=4.9						
BVAR	**Borovoye Array**	**66.73**	**327**	P	P	01 05 07.1	+0.4
	0.5nm,0.6s,baz=132,slow=10,SNR=2.7						

*IDC **12** 00:54:38.3±0.6, 3°.79N×126°.42E, h0km, mb4.2/15, mb1 4.2/15, mb1mx4.2/22, mbtmp4.2/15, MS3.4/1, Ms1 3.4/1, ms1mx2.9/45, Error ellipse: s-maj=38.3km s-min=14.3km az=74.0*
*ISCJB **12** 00:54:42.6±0.5, 3°.77N±0°.08×126°.4E±0°.2, h45km, mb4.3/21, Error ellipse: s-maj=26.4km s-min=9.0km az=163.4*
*NEIC **12** 00:54:43.4±0.3, 3°.77N×126°.39E, h35km, mb4.4/7, Error ellipse: s-maj=16.0km s-min=5.4km az=73.0*
ISC 12 00:54:44.5±0.6, 3°.77N±0°.10×126°.4E±0°.2, h45km, n39, σ0°.48/40, mb4.3/21, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.39**	**346**	LR	LR	00 57 17.4	
	comp=Z,492nm,18.4s,baz=316,slow=47						
FITZ	**Fitzroy Crossi**	**21.74**	**182**	*eP*	**P**	**00 59 31.6**	**-0.7**
	1.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.74**	**182**	P	**P**	**00 59 31.3**	**-1.0**
	1.8nm,0.4s,baz=0.0,slow=12,SNR=5.6						
WRAB	**Tennant Creek**	**24.81**	**162**	*eP*	**P**	**01 00 02.3**	**-0.3**
	11nm,0.6s						
WRA	**Warramunga Arr**	**24.81**	**162**	P	**P**	**01 00 02.4**	**-0.3**
WRA	**Warramunga Arr**	**24.81**	**162**	P	**P**	**01 00 02.4**	**-0.3**
	47nm,1.1s,baz=240,slow=0.0,SNR=3.4						
ASAR	**Alice Springs**	**28.23**	**165**	P	**P**	**01 00 34.0**	**+0.6**
ASAR	**Alice Springs**	**28.23**	**165**	P	**P**	**01 00 34.0**	**+0.6**
	1.2nm,0.5s,baz=347,slow=7.3,SNR=5.7						
KSAR	**Wonju Array Be**	**33.54**	**2**	P	**P**	**01 01 19.9**	**-0.1**
KSRS	**Korea Array**	**33.55**	**2**	P	**P**	**01 01 19.9**	**-0.2**
	0.8nm,0.4s,baz=180,slow=9.3,SNR=4.9						
STKA	**Stephens Creek**	**38.27**	**159**	*eP*	**P**	**01 02 00.5**	**-0.2**
	1.3nm,0.8s						
STKA	**Stephens Creek**	**38.27**	**159**	P	**P**	**01 02 00.3**	**-0

0.9nm,0.2s,SNR=7.9
ENIJ S Sn 01 05 20.0 +0.6
5.3nm,0.2s,SNR=7.9
EBER Berja 3.86 336 P Pn 01 04 38.1 +0.6
0.4nm,0.3s,SNR=7.9
EBER S Sn 01 05 25.3 +2.6
5.1nm,0.3s,SNR=7.9
EBER Berja 3.86 336 P Pn 01 04 38.1 +0.6
0.4nm,0.3s,SNR=7.9
EBER S Sn 01 05 25.3 +2.6
5.1nm,0.3s,SNR=7.9
EGUA Guajares 4.07 329 P Pn 01 04 38.3 -1.8
1.8nm,0.2s,SNR=7.9
EGUA S Sn 01 05 28.8 +1.3
2.9nm,0.2s,SNR=7.9
EMIJ Mijas 4.47 317 S Sn 01 05 34.8 -2.6
1.7nm,0.2s,SNR=7.9
EMUR La Murta 4.47 357 P Pn 01 04 45.6 -0.2
2.4nm,0.3s,SNR=7.9
EMUR S Sn 01 05 35.3 -2.3
0.9nm,0.2s,SNR=7.9
EMUR La Murta 4.47 357 P Pn 01 04 45.6 -0.2
2.4nm,0.3s,SNR=7.9
EMUR S Sn 01 05 35.3 -2.3
0.9nm,0.2s,SNR=7.9
EHUE Huescar 4.63 344 P Pn 01 04 50.9 +2.9
0.7nm,0.3s,SNR=7.9
EHUE S Sn 01 05 42.1 +0.5
0.4nm,0.1s,SNR=7.9
EHUE Huescar 4.63 344 P Pn 01 04 50.9 +2.9
0.7nm,0.3s,SNR=7.9
EHUE S Sn 01 05 42.1 +0.5
0.4nm,0.1s,SNR=7.9
EQES Quesada 4.75 339 P Pn 01 04 50.7 +1.1
0.2nm,0.2s,SNR=7.9
EQES S Sn 01 05 41.7 -2.7
0.6nm,0.2s,SNR=7.9
EQES Quesada 4.75 339 P Pn 01 04 50.7 +1.1
0.2nm,0.2s,SNR=7.9
TZC Tazercounte 4.81 257 P Pn 01 04 57.0 +6.4
ETOB Tobarra 5.29 355 P Pn 01 04 57.7 +0.7
2.1nm,0.2s,SNR=6.5
ETOB S Sn 01 05 47.8 -10
2.2nm,0.2s,SNR=7.9
ETOB Tobarra 5.29 355 P Pn 01 04 57.7 +0.7
2.1nm,0.2s,SNR=6.5
EIBI Ibiza 5.95 18 P Pn 01 05 07.0 +1.0
1.6nm,0.2s,SNR=7.9
EIBI Ibiza 5.95 18 P Pn 01 05 07.0 +1.0
1.6nm,0.2s,SNR=7.9

IDC **12** *01:08:31.4±0.9, 3°.69N×126°.97E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/21, mbtmp4.0/9, MS3.4/1, Ms1 3.4/1, ms1mx3.0/41, Error ellipse: s-maj=67.6km s-min=14.5km az=69.0*
ISCJB **12** *01:08:35.9±0.6, 3°.6N±0°.1×126°.9E±0°.3, h48km, mb4.2/15, Error ellipse: s-maj=42.5km s-min=8.7km az=160.7*
NEIC **12** *01:08:36.3±0.5, 3°.65N×126°.95E, h35km, mb4.3/7, Error ellipse: s-maj=35.4km s-min=7.4km az=71.0*
ISC 12 01:08:37.7±0.8, 3°.7N±0°.1×127°.0E±0°.3, h48km, n29, σ0 98/29, mb4.1/15, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.63**	**336**	Op	Pn	**Pn**	**01 09 30.1**	**-1.4**
KAPI	**Kappang**	**11.33**	**220**	LR	LR		01 15 48.2	
	comp=Z,162nm,18.7s,baz=237,slow=39							
FITZ	**Fitzroy Crossi**	**21.73**	**184**	*e*P		**P**	**01 13 24.0**	**-1.0**
	5.9nm,0.9s							
FITZ	**Fitzroy Crossi**	**21.73**	**184**	P		**P**	**01 13 23.8**	**-1.2**
	1.1nm,0.5s,baz=24,slow=10.0,SNR=3.2							
WRAB	**Tennant Creek**	**24.57**	**163**	*e*P		**P**	**01 13 51.7**	**-1.7**
	43nm,1.8s							
WRA	**Warramunga Arr**	**24.58**	**163**	P		**P**	**01 13 52.2**	**-1.2**
WRA	**Warramunga Arr**	**24.58**	**163**	P		**P**	**01 13 52.2**	**-1.2**
	93nm,1.3s,baz=234,slow=0.0,SNR=3.6							
ASAR	**Alice Springs**	**28.03**	**167**	P		**P**	**01 14 26.2**	**+1.7**
ASAR	**Alice Springs**	**28.03**	**167**	P		**P**	**01 14 26.2**	**+1.7**
	0.7nm,0.5s,baz=340,slow=9.4,SNR=7.3							
CMAR	**Chiang Mai Arr**	**31.15**	**300**	P		**P**	**01 14 52.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**31.15**	**300**	P		**P**	**01 14 52.0**	**-0.2**
	0.5nm,0.3s,baz=116,slow=6.7,SNR=4.1							
BJT	**Baijiatuan**	**37.45**	**346**	*e*P		**P**	**01 15 47.4**	**+0.9**
	23nm,0.7s							
STKA	**Stephens Creek**	**38.01**	**160**	*e*P		**P**	**01 15 50.6**	**-0.6**
	0.8nm,0.8s							
STKA	**Stephens Creek**	**38.01**	**160**	P		**P**	**01 15 51.0**	**-0.3**
	2.3nm,0.4s,baz=335,slow=8.5,SNR=8.2							
ULN	**Ulaanbaatar**	**47.23**	**342**	*e*P		**P**	**01 17 06.6**	**+0.5**
	1.0nm,0.6s							
SONM	**Songino Array**	**47.41**	**341**	P		**P**	**01 17 09.0**	**+1.5**
SONM	**Songino Array**	**47.41**	**341**	P		**P**	**01 17 09.0**	**+1.5**
	1.0nm,0.6s,baz=158,slow=8.2,SNR=9.1							
MK31	**Makanchi Array**	**57.74**	**325**	*e*P		**P**	**01 18 23.5**	**-0.3**
MK31				*e*PcP		**PcP**	**01 19 15.2**	**-1.0**
MKAR	**Makanchi Array**	**57.74**	**325**	P		**P**	**01 18 24.6**	**+0.7**
MKAR	**Makanchi Array**	**57.74**	**325**	P		**P**	**01 18 24.6**	**+0.7**
	1.1nm,0.5s,baz=117,slow=7.7,SNR=17							
KURBB	**Kurchatov Arra**	**61.92**	**327**	P		**P**	**01 18 52.2**	**-0.1**
	2.3nm,0.6s,baz=132,slow=6.5,SNR=22							
KURK	**Kurchatov**	**61.92**	**327**	*e*P		**P**	**01 18 51.8**	**-0.6**
	4.3nm,0.6s							
BVAR	**Borovoye Array**	**67.50**	**327**	P		**P**	**01 19 28.6**	**-0.1**
BVAR	**Borovoye Array**	**67.50**	**327**	P		**P**	**01 19 28.6**	**-0.1**
	0.5nm,0.4s,baz=121,slow=10,SNR=6.2							
ABKAR	**Akbulak array**	**72.36**	**321**	*e*P		**P**	**01 19 58.4**	**-0.2**
	1.2nm,0.6s							
ARCES	**ARCESS Array B**	**90.57**	**340**	P		**P**	**01 21 34.4**	**0.0**
ARCES	**ARCESS Array B**	**90.57**	**340**	P		**P**	**01 21 34.4**	**0.0**
	0.9nm,0.6s,baz=77,slow=5.5,SNR=6.5							
TORD	**Torodi Ar. Bea**	**123.22**	**288**	PKP		**PKPdf**	**01 27 30.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**123.22**	**288**	PKP		**PKPdf**	**01 27 30.2**	**-0.1**
	0.6nm,0.9s,baz=119,slow=2.0,SNR=6.0							

ISCJB **12** *01:09:22.0±0.4, 44°.89N±0°.05×146°.81E±0°.07, h174km±4km, mb3.9/24, Error ellipse: s-maj=8.8km s-min=7.1km az=150.5*
MOS **12** *01:09:22.1±1.2, 45°.11N×146°.73E, h168km, mb4.0/14, Error ellipse: s-maj=14.3km s-min=8.7km az=65.6*
BJI **12** *01:09:22.9, 45°.73N×147°.15E, h192km, mB4.8/4, mb4.3/6*
JMA **12** *01:09:23.7±0.4, 44°.77N×146°.80E, h168km±4km, M3.8*
IDC **12** *01:09:24.7±1.1, 45°.25N×146°.58E, h172km±11km, mb3.6/20, mb1 3.8/25, mb1mx3.7/35, mbtmp3.6/25, Error ellipse: s-maj=17.2km s-min=9.1km az=158.0*
ISC 12 01:09:22.8±0.7, 44°.86N±0°.06×146°.81E±0°.06, h168km±7km, n55, σ1 936/66, mb4.0/24, 5C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.07**	**220**	*c i*PN		**Pn**	**01 09 50.4**	**+0.5**
YUK				*i* S		**Sn**	**01 10 11.8**	**+1.2**
YUK				pmax	pmax			
	comp=E,138nm,0.3s							
YUK				pmax	pmax			
	comp=Z,2µm,0.6s							
YUK				pmax	pmax			
	comp=N,174nm,0.6s							
YUK				smax	smax			
	comp=N,716nm,0.7s							
YUK				smax	smax			
	comp=E,2µm,0.7s							
JRA	**Rausu**	**1.52**	**233**	P		**Pn**	**01 09 54.4**	**+0.4**
NEM2	**Nemuro 2**	**1.68**	**208**	P		**Pn**	**01 09 55.5**	**-0.1**
NEM2				*e*S		**Sn**	**01 10 19.8**	**-1.1**
JNK	**Nakash**	**1.97**	**230**	P		**Pn**	**01 09 59.5**	**+0.8**
JTKR	**Abashiri--Toko**	**2.26**	**248**	P		**Pn**	**01 10 02.5**	**+0.5**
JTKR				*e*S		**Sn**	**01 10 32.6**	**+0.3**
JAK	**Akkeshi**	**2.41**	**220**	P		**Pn**	**01 10 04.0**	**+0.3**
JAK				*e*S		**Sn**	**01 10 34.4**	**-1.0**
JMP	**Maruseppu**	**2.61**	**252**	P		**Pn**	**01 10 06.7**	**+0.5**
JAR	**Ashorobuto**	**2.69**	**236**	P		**Pn**	**01 10 08.3**	**+1.2**
JSE	**Soyaes**	**3.00**	**273**	P		**Pn**	**01 10 11.6**	**+0.7**
JKK2	**Kamakawa 2**	**3.08**	**253**	P		**Pn**	**01 10 13.0**	**+1.2**
JKK2				*e*S		**Sn**	**01 10 51.3**	**+1.4**
ASAJ	**Asahikawa**	**3.10**	**258**	P		**Pn**	**01 10 13.6**	**+1.4**
	comp=E,4.4nm,0.3s,baz=87,slow=17,SNR=15							
ASAJ				S		**Sn**	**01 10 52.2**	**+1.7**
	comp=E,3.3nm,0.3s,baz=222,slow=25,SNR=11							
JCH	**Churui**	**3.36**	**229**	P		**Pn**	**01 10 15.9**	**+0.5**
JCH				*e*S		**Sn**	**01 10 54.7**	**-1.6**
JWK2	**Keihoku**	**3.51**	**279**	P		**Pn**	**01 10 18.8**	**+1.6**
YSS	**Yuzh-Sakhalins**	**3.52**	**308**	⇓*i*PN		**Pn**	**01 10 18.0**	**+0.7**
YSS				*e*S		**Sn**	**01 11 00.0**	**+0.2**
YSS				smax	smax			
	comp=E,80nm,1.0s							
ERM	**Erimo**	**3.90**	**224**	*d i*PN		**Pn**	**01 10 23.6**	**+1.4**
ERM				*i* S		**Sn**	**01 11 08.4**	**0.0**
JNBK	**Urakawa-nobuka**	**3.92**	**230**	P		**Pn**	**01 10 22.1**	**-0.4**
JNBK				*e*S		**Sn**	**01 11 04.9**	**-4.1**
JEW	**Eniwo**	**4.37**	**244**	P		**Pn**	**01 10 30.1**	**+1.8**
JKB	**Kayabe**	**5.15**	**237**	P		**Pn**	**01 10 38.1**	**-0.4**
JKB				*e*S		**Sn**	**01 11 33.8**	**-4.0**
SKR	**Severo-Kuril's**	**8.55**	**44**	*e*PN		**Pn**	01 11 20.0	-3.3
USRK	**Ussuriysk Arra**	**10.60**	**272**	P		**Pn**	**01 11 50.3**	**+0.1**
	comp=E,0.7nm,0.3s,baz=84,slow=11,SNR=8.4							
PETK	**Petropavlovsk-**	**10.91**	**37**	*e*PN		**Pn**	**01 11 53.5**	**-0.8**
PETK				pmax	pmax			
	comp=Z,2.0nm,0.3s							
PETK	**Petropavlovsk-**	**10.91**	**37**	P		**Pn**	**01 11 52.8**	**-1.4**
	comp=Z,2.0nm,0.3s,baz=202,slow=12,SNR=31							
KSRS	**Korea Array**	**16.01**	**249**	P		**Pn**	**01 12 58.8**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=55,slow=10,SNR=8.5							
SEY	**Seymchan**	**18.39**	**8**	*e*P		**P**	**01 13 24.4**	**-0.2**
FX1	**Attu Island--F**	**19.02**	**56**	P		**Pn**	**01 13 33.0**	**-1.2**
	comp=Z,2.9nm,0.3s,baz=278,slow=7.1,SNR=6.5							
BILL	**Bilibino**	**25.36**	**17**	⇓*e*P		**P**	**01 14 34.8**	**+0.9**
BILL				pmax	pmax			
	comp=Z,6.0nm,1.6s							
SONM	**Songino Array**	**27.83**	**291**	P		**P**	**01 14 55.2**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=82,slow=8.8,SNR=15							
GTA	**Gaotai**	**34.88**	**278**	*e*P		**P**	**01 15 59.2**	**+1.1**
GTA				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KDAK	**Kodiak Island**	**38.68**	**48**	P		**P**	**01 16 29.7**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=314,slow=10,SNR=9.4							
ILAR	**Eielson Array**	**40.74**	**37**	P		**P**	**01 16 46.1**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=257,slow=5.8,SNR=52							
MKAR	**Makanchi Array**	**43.86**	**296**	*e*P		**P**	**01 17 12.2**	**0.0**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**43.86**	**296**	P		**P**	**01 17 11.4**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=76,slow=8.5,SNR=14							
KURK	**Kurchatov**	**44.71**	**303**	⇑*i*P		**P**	**01 17 18.2**	**-0.6**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KURBB	**Kurchatov Arra**	**44.80**	**303**	P		**P**	**01 17 18.0**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=75,slow=9.0,SNR=7.9							
INK	**Inuvik**	**45.57**	**31**	P		**P**	**01 17 24.3**	**-1.0**
	comp=Z,2.6nm,0.4s,baz=287,slow=5.9,SNR=24							
CMAR	**Chiang Mai Arr**	**47.62**	**252**	P		**P**	**01 17 43.6**	**+1.8**
	comp=Z,1.6nm,0.6s,baz=40,slow=7.0,SNR=11							
BVAR	**Borovoye Array**	**48.61**	**308**	P		**P**	**01 17 47.9**	**-1.2**
BVAR	**Borovoye Array**	**48.61**	**308**	P		**P**	**01 17 47.9**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=85,slow=10.0,SNR=4.2							
DLBC	**Dease Lake**	**50.03**	**43**	P		**P**	**01 18 01.1**	**+1.3**
	comp=Z,2.9nm,0.8s,baz=310,slow=11,SNR=4.2							
AAK	**Ala-Archa**	**50.66**	**295**	P		**P**	**01 18 04.7**	**-0.2**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AAK	**Ala-Archa**	**50.66**	**295**	P		**P**	**01 18 04.7**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=112,slow=5.4,SNR=6.0							
RES	**Resolute Bay**	**53.97**	**17**	P		**P**	**01 18 26.4**	**-2.2**
	comp=Z,1.3nm,0.4s,baz=339,slow=4.8,SNR=19							
YKA	**Yellowknife Ar**	**55.02**	**34**	P		**P**	**01 18 36.1**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=300,slow=7.0,SNR=26							
ARCES	**ARCESS Array B**	**58.12**	**339**	P		**P**	**01 18 56.5**	**-1.6**
	comp=Z,2.5nm,0.9s,baz=14,slow=7.8,SNR=2.8							
FINES	**FINESS Array B**	**63.77**	**333**	P		**P**	**01 19 34.1**	**-2.2**
	comp=Z,0.6nm,0.5s,baz=46,slow=11,SNR=6.2							
OBN	**Obninsk**	**64.27**	**323**	⇑*i*P		**P**	**01 19 37.1**	**-2.5**
OBN				*e*S		**S**	**01 28 03.9**	**+0.4**
OBN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
FFC	**Flin Flon**	**64.95**	**37**	*ce*P		**P**	**01 19 45.4**	**+1.3**
NVAR	**Mina Array Bea**	**67.20**	**58**	P		**P**	**01 20 00.6**	**+1.6**
	comp=Z,2.1nm,0.7s,baz=293,slow=6.8,SNR=16							
ASAR	**Alice Springs**	**69.21**	**193**	P		**P**	**01 20 13.6**	**+2.4**
	comp=Z,0.2nm,0.4s,baz=1.9,slow=5.7,SNR=3.2							
PDAR	**Pinedale Array**	**69.38**	**50**	P		**P**	**01 20 13.3**	**+0.9**
	comp=Z,2.8nm,0.5s,baz=224,slow=0.3,SNR=40							
ANMO	**Albuquerque**	**76.54**	**54**	P		**P**	**01 20 56.1**	**+1.5**
	comp=Z,1.1nm,0.5s,baz=306,slow=8.2,SNR=6.8							
SCHQ	**Schefferville**	**76.65**	**19**	P		**P**	**01 20 54.3**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=321,slow=8.9,SNR=10							
TXAR	**Lajitas Array**	**82.23**	**56**	P		**P**	**01 21 26.4**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=296,slow=3.5,SNR=31							
BDFB	**Brasilia**	**148.29**	**28**	PKPbc		**PKPbc**	**01 28 50.6**	**+1.1**
	comp=Z,3.8nm,1.1s,baz=72,slow=3.2,SNR=3.3							
PLCA	**Paso Flores**	**152.44**	**95**	PKPbc		**PKPbc**	**01 28 59.6**	**+1.0**
	comp=Z,1.3nm,0.6s,baz=260,slow=4.4,SNR=3.6							

IDC 12 01:17:49.2±1.1, 3°.99N×126°.78E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/23, mbtmp4.0/9, Error ellipse: s-maj=100.9km s-min=14.6km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.98**	**183**	P		P	01 22 45.1	+0.2
	1.2nm,0.5s,baz=75,slow=14,SNR=5.6							
WRA	**Warramunga Arr**	**24.91**	**163**	P		P	01 23 13.4	-0.8
	2.1nm,0.4s							
WRA				PcP		PcP	01 26 50.1	-0.2
	3µm,0.3s,baz=0.0,slow=0.0,SNR=9.8							
ASAR	**Alice Springs**	**28.35**	**166**	P		P	01 23 45.7	+0.5
	0.5nm,0.5s,baz=343,slow=9.8,SNR=7.4							
STKA	**Stephens Creek**	**38.35**	**159**	P		P	01 25 12.0	-0.1
	5.4nm,0.6s,baz=328,slow=8.7,SNR=13							
SONM	**Songino Array**	**47.07**	**341**	P		P	01 26 22.9	-0.1
	0.5nm,0.5s,baz=160,slow=9.1,SNR=5.8							
MKAR	**Makanchi Array**	**57.38**	**325**	P		P	01 27 39.0	-0.5
	0.8nm,0.4s,baz=120,slow=7.4,SNR=29							
KURBB	**Kurchatov Arra**	**61.55**	**327**	P		P	01 28 08.3	+0.1
	1.9nm,0.7s							
BVAR	**Borovoye Array**	**67.14**	**327**	P		P	01 28 45.6	+0.8
	0.4nm,0.4s,baz=91,slow=5.5,SNR=4.0							
AKTO	**Aktyubinsk**	**73.49**	**322**	P		P	01 29 23.0	-0.8
	1.0nm,0.7s,baz=99,slow=6.9,SNR=4.5							

IDC **12** *01:25:22.0±0.3, 3°.93N×126°.75E, h0km, mb5.1/37, mb1 5.1/37, mb1mx5.1/38, mbtmp5.1/37, MS5.1/20, Ms1 5.1/20, ms1mx4.8/40, Error ellipse: s-maj=14.7km s-min=8.2km az=85.0*
BJI **12** *01:25:24.4, 4°.00N×126°.90E, h27km, mB5.5/38, mb5.2/60, Ms5.4/70, Ms7 5.3/63*
NEIC **12** *01:25:25.2±2.0, 4°.04N×126°.80E, h16km±12km, mb5.5/82, MS5.2/152, MW5.5, Error ellipse: s-maj=5.2km s-min=3.5km az=76.0, Moment Tensor Solution. s58 Moment tensor: Scale 10^17 Nm; Mrr 1.73; Mθθ -0.07; Mφφ -1.66; Mrθ -0.29; Mrφ 0.02; Mθφ 0.74; Best double couple: Mo 1.90000×10^17 NP1:φs 351.00000°, δ57.00000°, λ81.00000°. NP2:φs 187.00000°, δ34.00000°, λ103.00000°. Principal axes: T 1.9200, Plg75.0000°, Azm235.0000°; N -0.1100, Plg7.0000°, Azm355.0000°; P -1.8200, Plg11.0000°, Azm87.0000°;*
MOS **12** *01:25:26.1±1.2, 4°.06N×126°.76E, h33km, mb5.7/80, MS5.1/65 Error ellipse: s-maj=8.5km s-min=4.4km az=114.0*
ISCJB **12** *01:25:27.8±0.5, 4°.09N±0°.02×126°.84E±0°.03, h49km±4km, mb5.4/175, MS5.2/211, Error ellipse: s-maj=4.5km s-min=3.3km az=156.1*
TEH **12** *01:25:28.0, 4°.07N×126°.80E, h35km, ML5.8*
DJA **12** *01:25:32, 3°.83N×126°.87E, h27km, mb5.4/22*
ISC 12 01:25:27.2±0.4, 4°.07N±0°.03×126°.80E±0°.04, h30km±2km, h30km: pP-P, n755, σ1 9 47/714, mb5.5/171, MS5.2/212, 50C-57D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.91**	**349**	*e*P		**Pb**	**01 26 16.6**	**-1.8**
DAV	**Davao City (W)**	**3.22**	**338**	*e*Pn		**Pn**	**01 26 17.4**	**+1.7**
DAV				*e*S		**Sn**	**01 26 49.0**	**-4.1**
DAV				Lg		Lg	01 27 05.0	
DAV	**Davao City (W)**	**3.22**	**338**	⇓*e*P		**Pb**	**01 26 20.8**	**-3.0**
DAV	**Davao City (W)**	**3.22**	**338**	P		Pb	01 26 20.1	-3.6
	SNR=36							
DAV	**Davao City (W)**	**3.22**	**338**	P		**Pb**	**01 26 24.2**	**+0.5**
DAV	**Davao City (W)**	**3.22**	**338**	Pn		Pn	01 26 19.6	+3.8
	183nm,0.3s,baz=315,slow=2.4,SNR=11							
DAV				Sn		**Sn**	**01 26 54.0**	**+0.9**
	268nm,0.3s,baz=284,slow=21,SNR=7.5							
DAV				Lg		Lg	01 27 05.0	
	359nm,0.3s,baz=61,slow=19,SNR=4.4							
TNTI	**Ternate**	**3.32**	**170**	P		**Pn**	**01 26 18.2**	**+1.1**
KCP	**Kidapawan**	**3.38**	**330**	⇑*e*P		**Pb**	**01 26 26.5**	**+0.1**
BUKP	**Musuan**	**4.16**	**336**	*e*P		Pb	01 26 35.2	-4.6
KMSI	**Cibinong**	**4.47**	**219**	P		Pn	01 26 37.9	+5.0
LBMI	**Labuha**	**4.73**	**171**	P		**Pn**	**01 26 38.3**	**+1.8**
BUTP	**Butuan**	**5.01**	**347**	*e*P		Pb	01 26 47.9	-6.3
PAGZ	**Pagadian**	**5.07**	**318**	*e*P		Pn	01 26 46.5	+5.4
ZMPH	**Zamboanga City**	**5.52**	**302**	⇑*i*P		**Pn**	**01 26 49.4**	**+2.0**
ZMPH				*i* S		**Sn**	**01 27 49.7**	**-0.1**
IPIL	**Ipil**	**5.60**	**312**	*e*P		Pn	01 26 52.3	+3.9
MRSI	**Marisa**	**6.02**	**234**	P		Pn	01 26 57.8	+3.5
	970nm,0.6s,11µm3.7nm							
MSLP	**Maasin**	**6.33**	**342**	*e*P		Pn	01 27 04.7	+6.2
LUWI	**Luwuk**	**6.48**	**218**	P		Pn	01 27 06.4	+5.9
	2µm,1.2s,26µm56µm7.5nm							
SWI	**Sorong**	**6.62**	**138**	P		**Pn**	**01 27 02.6**	**+0.1**
	513nm,0.8s,4µm1.8nm							
NLAI	**Namlea**	**7.26**	**178**	P		**Pn**	**01 27 13.1**	**+1.8**
	324nm,0.6s,5µm1.3nm							
OCLP	**Ormoc**	**7.27**	**343**	*e*P		**Pn**	**01 27 13.7**	**+2.3**
GUIM	**Jordan**	**7.74**	**328**	*e*P		Pn	01 27 25.8	+8.0
AAI	**Ambon**	**7.83**	**170**	P		Pn	01 27 24.4	+5.3
	237nm,0.8s,4µm1.4nm							
FAKI	**Fak Fak**	**8.82**	**142**	P		**Pn**	**01 27 34.2**	**+1.5**
	167nm,0.9s,2µm0.6nm							
TSM	**Tawau**	**8.90**	**272**	P		Pn	01 27 38.7	+4.8
KDI	**Kendari**	**9.00**	**208**	P		**Pn**	**01 27 35.6**	**+0.4**
	175nm,1.0s,3µm1.0nm							
BNDI	**Bandanaira**	**9.08**	**160**	P		Pn	01 27 44.9	+8.6
	770nm,1.6s,10µm3.1nm							
SDKM	**Sandakan**	**9.70**	**280**	P		Pn	01 27 49.9	+5.2
TTSI	**Tana Toraja**	**9.93**	**225**	P		Pn	01 27 52.6	+4.7
	304nm,1.7s,5µm							
KDM	**Kudat**	**10.31**	**286**	P		Pn	01 27 59.3	+6.1
SPSI	**Sidrap Palu**	**10.63**	**221**	P		Pn	01 28 03.5	+6.0
	150nm,1.4s,3µm							
BAKI	**Biak**	**10.67**	**119**	P		Pn	01 28 01.9	+3.8
	445nm,1.4s,7µm							
KKM	**Kota Kinabalu**	**10.72**	**281**	*e*Pn		**Pn**	**01 28 00.2**	**+1.3**
KKM				*e*S		**Sn**	**01 30 00.4**	**+2.3**
KKM	**Kota Kinabalu**	**10.72**	**281**	P		Pn	01 28 05.5	+6.6
KKM	**Kota Kinabalu**	**10.72**	**281**	P		Pn	01 28 05.9	+7.0
	140nm,1.4s,5µm							
TLE	**Tual**	**11.32**	**148**	P		Pn	01 28 10.3	+3.3
	221nm,1.3s,6µm							
KAPI	**Kappang**	**11.44**	**218**	*e*Pn		**Pn**	**01 28 09.0**	**+0.3**
KAPI	**Kappang**	**11.44**	**218**	P		Pn	01 28 14.3	+5.7
	102nm,1.4s,2µm							
KAPI	**Kappang**	**11.44**	**218**	Pn		**Pn**	**01 28 09.3**	**+0.7**
	1.1nm,0.3s,baz=62,slow=8.8,SNR=4.8							
BKSI	**Bulukumba**	**11.46**	**216**	P		Pn	01 28 12.2	+3.2
	69nm,1.6s,1µm							
KBKI	**Kotabaru**	**12.90**	**236**	P		P	01 28 34.0	-4.9
	188nm,1.4s,4µm							
SMPI	**Sarmi**	**13.34**	**117**	P		Pn	01 28 39.2	+4.6
	258nm,1.4s							
MMRI	**Maumere**	**13.41**	**200**	P		P	01 28 51.3	+6.6
	587nm,1.0s,5µm							
BTM	**Bintulu**	**13.71**	**267**	P		**P**	**01 28 45.4**	**-2.6**
PLKI	**Palangkaraya**	**14.29**	**244**	P		P	01 28 57.2	+2.8
	522nm,1.2s							
SBUM	**Sibu**	**14.64**	**264**	P		**P**	**01 28 56.8**	**-1.5**
SBUM	**Sibu**	**14.64**	**264**	P		**P**	**01 28 56.4**	**-1.9**
	143nm,1.9s,7µm							
WSI	**Waingapu**	**15.11**	**205**	P		**Pn**	**01 29 00.5**	**+1.9**
	785nm,0.7s,32µm							
JAY	**Jayapura**	**15.36**	**115**	P		**P**	**01 29 10.0**	**+3.6**
	148nm,0.9s,11µm							
STKI	**Sintang**	**15.82**	**256**	P		**P**	**01 29 13.9**	**+2.5**
	130nm,1.4s,20µm							
KHKI	**Kahang-Kahang**	**16.64**	**222**	P		**P**	**01 29 21.2**	**+0.6**
	274nm,1.4s,3µm							
KSM	**Kuching**	**16.67**	**262**	*e*Pn		**P**	**01 29 20.6**	**-0.2**
	192nm,0.3s							
KSM	**Kuching**	**16.67**	**262**	P		**P**	**01 29 22.4**	**+1.6**
KSM	**Kuching**	**16.67**	**262**	P		**P**	**01 29 22.5**	**+1.6**
	297nm,1.3s,5µm							
IGBI	**Denpasar**	**17.29**	**222**	P		P	01 29 32.0	+4.3
	200nm,1.1s,24µm							
MTN	**Manton Dam**	**17.34**	**166**	*e*P		**Pn**	**01 29 23.6**	**-3.6**
BLJI	**Banyuglugur**	**17.64**	**228**	P		P	01 29 38.8	+7.2
	189nm,1.3s,4µm							
GMJI	**Gumukmas**	**18.10**	**227**	P		P	01 29 41.6	+4.9
	291nm,1.2s,4µm							
SJI	**

comp=E,198nm,0.7s,comp=E,2µm
COEN Coen 24.18 138 *e*P **P** **01 30 39.2 -2.0**
comp=E,629nm,1.5s
KASI Kota Agung 24.23 247 P **P** **01 30 45.0 +3.4**
comp=E,117nm,0.8s,comp=E,2µm
PMG Port Moresby 24.31 123 *e*P **P** **01 30 40.0 -2.4**
comp=E,51nm,1.1s
PMG LR LR
comp=Z,3µm,20.0s
PMG Port Moresby 24.31 123 P pP 01 30 54.2 +3.1
comp=Z,30nm,1.1s
PMG Port Moresby 24.31 123 P **P** **01 30 39.9 -2.4**
comp=Z,2.6nm,0.3s,baz=267,slow=11,SNR=4.9
LWLI Liwa 24.44 249 P P 01 30 49.1 +5.4
comp=Z,191nm,1.0s
WRAB Tennant Creek 24.98 163 *e*P **P** **01 30 47.2 -1.2**
WRAB pmax pmax
comp=Z,199nm,0.8s
WRAB MLR MLR
comp=Z,3µm,20.0s
WRAB Tennant Creek 24.98 163 *e*P **P** **01 30 47.2 -1.2**
comp=Z,199nm,0.8s
WRAB LR LR
comp=Z,3µm,20.0s
WRAB Tennant Creek 24.98 163 P **P** **01 30 47.0 -1.4**
comp=Z,2µm,0.8s,SNR=86
WRA Warramunga Arr 24.98 163 P **P** **01 30 47.0 -1.4**
WRA Warramunga Arr 24.98 163 P **P** **01 30 47.0 -1.4**
comp=Z,169nm,0.8s
FRIM Kepong 25.14 269 P **P** **01 30 50.9 +1.0**
KSI Kapahiang 25.37 253 P P 01 30 57.2 +5.1
comp=Z,142nm,0.7s,comp=Z,5µm
IPM Ipoh 25.70 272 *e*P **P** **01 30 55.9 +0.8**
comp=Z,93nm,1.1s
IPM Ipoh 25.70 272 P **P** **01 30 56.3 +1.3**
IPM Ipoh 25.70 272 P **P** **01 30 57.1 +2.0**
comp=Z,108nm,1.2s,comp=Z,1µm
BKNI Bangkinang 26.00 262 P **P** **01 31 01.8 +4.1**
comp=Z,322nm,1.2s,comp=Z,3µm
MBWA Marble Bar 26.01 195 *e*P **P** **01 30 57.4 -0.2**
comp=Z,103nm,0.9s
MBWA LR LR
comp=Z,2µm,21.0s
MBWA Marble Bar 26.01 195 P **P** **01 30 57.8 +0.1**
SNR=12
PPI Padang Panjang 26.76 261 P **P** **01 31 05.2 +0.6**
comp=Z,88nm,1.2s,comp=Z,2µm
CBIJ Chichi jima 27.21 31 P **P** **01 31 07.7 -0.8**
CBIJ Chichi jima 27.21 31 P **P** **01 31 07.7 -0.8**
comp=Z,191nm,0.8s,baz=287,slow=15,SNR=4.8
CBIJ LR LR 01 41 01.2
comp=Z,4µm,19.1s,baz=344,slow=34
MNSI Mandailing Nat 27.38 264 P **P** **01 31 13.7 +3.5**
comp=Z,106nm,1.2s,comp=Z,5µm
SSE Sheshan 27.40 349 P **P** **01 31 11.4 +1.3**
SSE S **S** **01 35 51.3 +2.8**
SSE sS sS 01 36 07.1 +4.1
SSE pmax pmax
comp=Z,87nm,1.0s
SSE pmax pmax
comp=Z,760nm,11.7s
SSE LR LR
comp=N,3µm,17.1s
SSE LR LR
comp=E,2µm,17.1s
SSE LR LR
comp=Z,4µm,19.4s
PSI Prapat 27.85 268 P **P** **01 31 13.9 -0.6**
PSI Prapat 27.85 268 P **P** **01 31 14.9 +0.4**
comp=Z,36nm,1.0s,comp=Z,912nm
PSI Prapat 27.85 268 P **P** **01 31 13.9 -0.6**
comp=Z,34nm,1.1s,baz=116,slow=1.7,SNR=13
AS31 Alice Springs 28.42 166 *e*P **P** **01 31 18.8 -0.6**
ASAR Alice Springs 28.42 166 P **P** **01 31 17.8 -1.6**
ASAR S S 01 36 17.7 +13
ASAR ScP **ScP** **01 38 12.0 +1.4**
ASAR Alice Springs 28.42 166 P **P** **01 31 17.8 -1.6**
comp=Z,7.8nm,0.5s,baz=344,slow=6.8,SNR=56
ASAR S S 01 36 17.7 +13
comp=Z,3.7nm,0.8s,baz=354,slow=21,SNR=4.1
ASAR ScP **ScP** **01 38 12.0 +1.4**
comp=Z,2.7nm,1.0s,baz=345,slow=3.4,SNR=4.8
NJ2 Nanjing 28.82 346 *e*P **P** **01 31 25.9 +3.1**
NJ2 pP **pP** **01 31 32.8 +1.2**
NJ2 sP sP 01 31 36.6 +1.3
NJ2 PP **PnPn** **01 32 20.0 +5.5**
NJ2 S **S** **01 36 14.0 +3.2**
NJ2 sS sS 01 36 29.5 +4.1
NJ2 pmax pmax
comp=Z,40nm,0.8s
NJ2 pmax pmax
comp=Z,570nm,10.8s
NJ2 LR LR
comp=N,3µm,20.8s
NJ2 LR LR
comp=E,4µm,17.5s
NJ2 LR LR
comp=Z,6µm,19.0s
WHN Wuhan 28.84 337 ⇓ *i*P **P** **01 31 23.6 +0.6**
WHN S **S** **01 36 11.1 -0.1**
WHN LR LR
comp=N,13µm,20.6s
WHN LR LR
comp=E,13µm,17.9s
WHN LR LR
comp=Z,24µm,20.4s
JNU Nakatsue 29.16 7 *e*P **P** **01 31 25.7 -0.2**
comp=Z,26nm,1.3s
JNU Nakatsue 29.16 7 P **P** **01 31 25.6 -0.2**
comp=Z,18nm,0.8s,baz=146,slow=0.8,SNR=9.3
GSI Gunungsitoli 29.32 265 P **P** **01 31 27.5 +0.1**
comp=Z,129nm,0.6s,comp=Z,2µm
GYA Guiyang 29.45 321 ⇑ *i*P **P** **01 31 28.4 -0.2**
GYA pP pP 01 31 41.0 +3.6
GYA PP **PnPn** **01 32 27.8 +4.5**
GYA PcP **PcP** **01 34 35.3 +1.2**
GYA S **S** **01 36 22.0 +0.8**
GYA sS sS 01 36 41.8 +6.1
GYA SS **SnSn** **01 37 56.9 +7.2**
GYA ScP **ScP** **01 38 13.2 -0.7**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,160nm,6.0s
GYA LR LR
comp=N,1µm,17.5s
GYA LR LR
comp=E,890nm,18.3s
GYA LR LR
comp=Z,1µm,17.9s
TPTI 29.57 269 P **P** **01 31 27.4 -2.3**
comp=Z,1µm,1.9s,comp=Z,44µm
CTA Charters Tower 30.69 142 *e*P **P** **01 31 38.8 -0.7**
comp=Z,8.0nm,0.8s
CTA *e*S **S** **01 36 37.0 -3.5**
CTAO Charters Tower 30.69 142 *e*P **P** **01 31 38.8 -0.7**
CTAO pmax pmax
comp=Z,54nm,1.5s
CTAO MLR MLR
comp=Z,2µm,20.0s
CTAO Charters Tower 30.69 142 *e*P **P** **01 31 38.8 -0.7**
comp=Z,54nm,1.5s
CTAO LR LR
comp=Z,2µm,20.0s
CM31 Chiang Mai Arr 30.76 300 *e*P **P** **01 31 40.1 -0.1**
CM31 LR LR
comp=Z,3µm,20.0s
CMAR Chiang Mai Arr 30.76 300 P **P** **01 31 39.6 -0.5**
CMAR PcP **PcP** **01 34 37.4 -0.1**
CMAR ScP **ScP** **01 38 20.6 +2.4**
CMAR Chiang Mai Arr 30.76 300 P **P** **01 31 39.6 -0.5**
comp=Z,11nm,0.6s,baz=120,slow=7.2,SNR=58
PcP **PcP** **01 34 37.4 -0.1**
comp=Z,3.9nm,0.9s,baz=99,slow=5.6,SNR=3.8
CMAR ScP **ScP** **01 38 20.6 +2.4**
comp=Z,1.5nm,0.3s,baz=105,slow=1.4,SNR=6.0
CMAR LR LR 01 43 34.1
comp=Z,2µm,19.1s,baz=100,slow=36
ENH Enshi 30.77 330 *e*P **P** **01 31 39.8 -0.4**
comp=Z,117nm,1.2s
ENH LR LR
comp=Z,8µm,19.0s
CHTO Chiang Mai 30.91 301 *e*P **P** **01 31 41.5 0.0**
CHTO pmax pmax
comp=Z,68nm,0.8s
CHTO MLR MLR
comp=Z,2µm,20.0s
CHTO Chiang Mai 30.91 301 *e*P **P** **01 31 41.5 0.0**
comp=Z,68nm,0.8s
CHTO LR LR
comp=Z,2µm,20.0s
CHTO Chiang Mai 30.91 301 P **P** **01 31 41.1 -0.4**
SNR=38
CHTO Chiang Mai 30.91 301 P **P** **01 31 41.4 0.0**
comp=Z,114nm,1.0s,comp=Z,1µm
KMI Kunming 31.19 314 P **P** **01 31 45.7 +1.5**
KMI pP **pP** **01 31 54.1 +1.1**
KMI PP **PnPn** **01 32 47.5 +1.0**
KMI S **S** **01 36 46.4 -2.4**
KMI sS **sS** **01 37 00.7 -2.6**
KMI pmax pmax
comp=Z,30nm,1.1s
KMI LR LR
comp=N,3µm,17.8s
KMI LR LR
comp=E,2µm,17.8s
KMI LR LR
comp=Z,5µm,20.6s
JHJ Hachijo jima 2 31.35 21 LR LR 01 44 19.5
comp=Z,5µm,18.4s,baz=214,slow=36
KSAR Wonju Array Be 33.23 2 P **P** **01 32 01.9 +0.3**
KSAR PcP **PcP** **01 34 42.9 -0.9**
KSAR ScP **ScP** **01 38 28.8 +2.6**
KSRS Korea Array 33.24 2 P **P** **01 32 01.9 +0.2**
comp=Z,7.6nm,0.5s,baz=180,slow=10.0,SNR=34
KSRS PcP **PcP** **01 34 42.9 -0.9**
comp=Z,4.0nm,0.6s,baz=183,slow=2.2,SNR=8.1
KSRS ScP **ScP** **01 38 28.8 +2.6**
comp=Z,1.6nm,0.8s,baz=194,slow=2.4,SNR=4.4
INCN Inchon 33.26 360 PFAKE 01 32 10.0 +8.1
INCN LR LR
comp=Z,3µm,20.0s
COCO West Island 33.88 241 PFAKE 01 32 20.0 +12
COCO LR LR
comp=Z,2µm,22.0s
MAJO Matsushiro 33.98 17 *e*P **P** **01 32 06.7 -1.5**
MAJO pmax pmax
comp=Z,23nm,0.8s
MAJO MLR MLR
comp=Z,3µm,22.0s
MAJO Matsushiro 33.98 17 *e*P **P** **01 32 06.7 -1.5**
comp=Z,23nm,0.8s
MAJO LR LR
comp=Z,3µm,22.0s
MAT Matsushiro 33.98 17 P **P** **01 32 05.9 -2.3**
MAT S **S** **01 37 28.0 -3.5**
MJAR Matsushiro Arr 33.98 17 P **P** **01 32 07.3 -0.9**
MJAR Matsushiro Arr 33.98 17 P **P** **01 32 07.3 -0.9**
comp=Z,8.4nm,0.7s,baz=193,slow=10,SNR=16
MJAR LR LR 01 45 30.2
comp=Z,2µm,20.8s,baz=190,slow=35
XAN Xi'an 34.15 333 P **P** **01 32 08.4 -1.3**
XAN pP **pP** **01 32 19.3 +0.7**
XAN PP **PnPn** **01 33 22.7 -1.3**
XAN S S 01 37 29.5 -4.7
XAN sS **sS** **01 37 46.5 -2.3**
XAN pmax pmax
comp=Z,30nm,0.8s
XAN LR LR
comp=N,3µm,19.5s
XAN LR LR
comp=E,1µm,16.4s
XAN LR LR
comp=Z,2µm,18.2s
CD2 Chengdu 34.41 323 ⇓ P **P** **01 32 12.1 0.0**
CD2 pP **pP** **01 32 21.8 +0.9**
CD2 sP sP 01 32 25.7 +1.1
CD2 PcP **PcP** **01 34 46.6 -0.8**
CD2 S **S** **01 37 38.0 -0.4**
CD2 sS sS 01 37 54.0 +1.0
CD2 PcS **PcS** **01 38 31.9 -2.0**
CD2 SS **SnSn** **01 39 50.6 +0.5**
CD2 pmax pmax
comp=Z,70nm,0.9s
CD2 pmax pmax
comp=Z,460nm,6.7s
CD2 LR LR
comp=N,6µm,20.1s
CD2 LR LR
comp=E,5µm,19.6s
CD2 LR LR
comp=Z,7µm,18.1s
FORT Forrest 34.67 178 *e*P **P** **01 32 13.8 -0.4**
comp=Z,86nm,0.8s
FORT Forrest 34.67 178 *e*P **P** **01 32 13.9 -0.3**
comp=Z,64nm,0.6s
DL2 Dalian 35.00 353 P **P** **01 32 16.9 0.0**
DL2 S **S** **01 37 50.5 +3.5**
DL2 pmax pmax
comp=Z,60nm,0.8s
DL2 pmax pmax
comp=Z,260nm,6.1s
DL2 LR LR
comp=N,680nm,19.2s
DL2 LR LR
comp=E,1µm,19.4s
DL2 LR LR
comp=Z,1µm,20.0s
HNR Honiara 35.65 112 LR LR 01 46 01.4
comp=Z,2µm,18.7s,baz=285,slow=35
TIY Taiyuan 35.97 340 *e*P **P** **01 32 25.8 +0.4**
TIY S **S** **01 38 04.4 +2.2**
TIY LR LR
comp=N,2µm,15.1s
TIY LR LR
comp=E,730nm,13.7s
TIY LR LR
comp=Z,2µm,16.2s
KLBR Kellerberrin 36.49 193 *e*P **P** **01 32 29.6 -0.2**
comp=Z,87nm,0.7s
BJT Baijiatuau 37.06 346 *e*P **P** **01 32 35.7 +1.2**
comp=Z,189nm,0.8s
BJT LR LR
comp=Z,2µm,20.0s
BJI Beijing 37.08 346 P **P** **01 32 35.5 +0.8**
BJI sP sP 01 32 49.7 +2.4
BJI S **S** **01 38 21.6 +2.8**
BJI sS **ScP** **01 38 36.0 -4.0**
BJI pmax pmax
comp=Z,93nm,1.2s
BJI LR LR
comp=N,970nm,19.9s
BJI LR LR
comp=E,3µm,19.3s
BJI LR LR
comp=Z,2µm,22.4s
EIDS Eidsvold 37.57 142 *e*P **P** **01 32 39.2 0.0**
comp=Z,61nm,1.1s
SNY Shenyang 37.71 356 ⇑ P **P** **01 32 40.7 +0.7**
SNY pmax pmax
comp=Z,42nm,1.3s
SNY LR LR
comp=N,1µm,17.7s
SNY LR LR
comp=E,3µm,16.7s
SNY LR LR
comp=Z,2µm,18.1s
BBOO Buckleboo 37.71 167 *e*P **P** **01 32 39.9 -0.2**
comp=Z,6µm,1.6s
IMP Imphal 37.73 306 *e*PKP **P** **01 32 40.0 -0.5**
NWAO Narrogin (SRO) 37.89 193 *e*P **P** **01 32 41.4 -0.3**
comp=Z,123nm,1.3s
NWAO LR LR
comp=Z,1µm,19.0s
NWAO Narrogin (SRO) 37.89 193 P **P** **01 32 42.5 +0.8**
SNR=5.7
NWAO Narrogin (SRO) 37.89 193 P **P** **01 32 41.6 -0.1**
comp=Z,47nm,0.8s,baz=29,slow=9.9,SNR=12
LZH Lanzhou 38.25 329 ⇑ P **P** **01 32 45.2 +0.3**
LZH pP **pP** **01 32 54.9 +1.1**
LZH sP sP 01 33 00.2 +2.7
LZH S **S** **01 38 37.2 +0.1**
LZH sS sS 01 38 54.0 +2.2
LZH SS **SnSn** **01 41 15.5 -7.5**
LZH pmax pmax
comp=Z,130nm,1.0s
LZH pmax pmax
comp=Z,440nm,4.0s
LZH LR LR
comp=N,4µm,16.2s
LZH LR LR
comp=E,6µm,17.9s
LZH LR LR
comp=Z,7µm,20.8s
STKA Stephens Creek 38.42 160 *e*P **P** **01 32 45.4 -0.8**
comp=Z,18nm,0.7s
STKA Stephens Creek 38.42 160 *e*P **P** **01 32 45.2 -1.0**
comp=Z,81nm,0.7s
STKA *e*S **S** **01 38 35.9 -3.5**
STKA Stephens Creek 38.42 160 P **P** **01 32 45.2 -1.0**
comp=Z,63nm,0.7s,baz=336,slow=8.1,SNR=83
HHC Hu-ho-hao-te 39.10 342 *e*P **P** **01 32 52.6 +0.7**
HHC pP pP 01 33 03.1 +2.2
HHC sP sP 01 33 06.0 +1.5
HHC S **S** **01 38 49.5 -0.2**
HHC sS sS 01 39 06.6 +2.1
HHC SS **SS** **01 41 36.3 -6.7**
HHC ScS **ScS** **01 42 57.6 -1.7**
HHC pmax pmax
comp=Z,40nm,1.0s
HHC pmax pmax
comp=Z,710nm,4.1s
HHC LR LR
comp=N,3µm,20.1s
HHC LR LR
comp=E,2µm,23.5s
HHC LR LR
comp=Z,3µm,20.6s
VLA Vladivostok 39.15 6 ⇑ *i*P **P** **01 32 49.9 -2.2**
VLA 01 34 20.2
VLA 01 34 58.6
VLA S **S** **01 38 49.0 -1.1**
VLA pmax pmax
comp=Z,37nm,0.8s
BTO Baotou 39.39 340 *e*P **P** **01 32 54.6 +0.3**
CN2 Changchun 39.59 358 *e*P **P** **01 32 55.9 +0.1**
CN2 *e*PP **PnPn** **01 34 32.2 +2.0**
CN2 *e*S **S** **01 38 57.9 +1.2**
CN2 *e*SS **SS** **01 41 48.0 -4.4**
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,2µm,17.0s
CN2 LR LR
comp=E,1µm,17.0s
CN2 LR LR
comp=Z,2µm,18.0s
SHL Shillong 39.73 306 *i* P **P** **01 32 58.0 +0.5**
SHL *ex* x 01 38 54.0
USRK Ussuriysk Arra 40.23 6 P **P** **01 33 00.9 -0.2**
comp=Z,8.9nm,0.7s,baz=178,slow=8.0,SNR=14
MDJ Mudanjiang 40.46 3 P **P** **01 33 03.5 +0.5**
MDJ pP **pP** **01 33 12.0 0.0**
MDJ sP sP 01 33 16.0 +0.4
MDJ PP **PP** **01 34 35.5 -1.0**
MDJ PcP **PcP** **01 35 05.8 +0.3**
MDJ ScP **ScP** **01 38 52.9 0.0**
MDJ PcS **PcS** **01 38 56.8 +0.9**
MDJ S **S** **01 39 06.6 -3.1**
MDJ SS **SS** **01 42 07.3 -2.5**
MDJ ScS **ScS** **01 43 07.3 +0.5**
MDJ pmax pmax
comp=Z,26nm,1.5s
MDJ pmax pmax
comp=Z,500nm,9.3s
MDJ LR LR
comp=N,2µm,15.2s
MDJ LR LR
comp=E,760nm,15.2s
MDJ LR LR
comp=Z,2µm,20.0s
MDJ Mudanjiang 40.46 3 *e*P **P** **01 33 03.3 +0.3**
comp=Z,53nm,1.1s
MDJ LR LR
comp=Z,2µm,20.0s
ERM Erimo 40.52 19 PFAKE 01 33 20.0 +17
ERM LR LR
comp=Z,3µm,20.0s
CAL Calcutta 41.50 300 *e*PKP **P** **01 33 11.5 -0.4**
CAL *ex* x 01 38 10.0
ARMA Armidale 41.71 147 *e*P **P** **01 33 14.5 +0.9**
comp=Z,441nm,2.1s
ARMA Armidale 41.71 147 *e*P **P** **01 33 14.1 +0.5**
ARMA *e*S **S** **01 39 27.5 -1.4**
ASAJ Asahikawa 42.25 17 *e*P **P** **01 33 19.3 +1.6**
comp=Z,22nm,1.0s
ASAJ Asahikawa 42.25 17 P **P** **01 33 19.4 +1.7**
comp=Z,34nm,0.9s,baz=233,slow=21,SNR=6.6
ASAJ LR LR 01 52 26.2
comp=Z,3µm,18.6s,baz=207,slow=38
LSA Lhasa 42.27 311 *e*P **P** **01 33 19.3 +0.6**
LSA *e* 01 35 08.1
LSA pmax pmax
comp=Z,34nm,0.6s
LSA MLR MLR
comp=Z,2µm,20.0s
LSA Lhasa 42.27 311 *e*P **P** **01 33 19.3 +0.6**
comp=Z,34nm,0.6s
LSA *e*PcP **PcP** **01 35 08.1 -4.2**
LSA LR LR
comp=Z,2µm,20.0s
GTA Gaotai 42.84 329 *e*P **P** **01 33 23.3 +0.5**
GTA pP pP 01 33 34.1 +2.3
GTA sP sP 01 33 38.4 +2.9
GTA PP **PP** **01 35 04.9 +2.3**
GTA PcP **PcP** **01 35 14.9 +1.3**
GTA ScP **ScP** **01 39 05.5 +2.8**
GTA S **S** **01 39 41.3 -4.2**
GTA sS **sS** **01 39 56.9 -3.5**
GTA ScS **ScS** **01 43 21.6 -0.3**
GTA pmax pmax
comp=Z,26nm,0.8s
GTA pmax pmax
comp=Z,500nm,10.0s
GTA LR LR
comp=N,5µm,18.1s
GTA LR LR
comp=E,4µm,19.0s
GTA LR LR
comp=Z,8µm,19.5s
YUK Yuzh-Kuril'sk 43.21 20 *d* *i*P **P** **01 33 24.0 -1.5**
YUK *i* PPP PPP 01 35 40.9
YUK *e*S **S** **01 39 50.3 -0.1**
YUK pmax pmax
comp=Z,291nm,8.4s
YUK MLR MLR
comp=N,643nm,18.0s
YUK MLR MLR
comp=E,484nm,18.0s
YUK MLR MLR
comp=Z,1µm,18.0s
TAPN Taplejung 43.87 306 *e*P **P** **01 33 30.6 -0.9**
ODAN Odare 43.93 305 *e*P **P** **01 33 31.6 -0.3**
comp=Z,117nm,0.8s
CAN Canberra 44.38 154 *e*P **P** **01 33 36.0 +0.9**
CAN pmax pmax
comp=Z,91nm,1.3s
CAN MLR MLR
comp=Z,2µm,20.0s
CAN Canberra 44.38 154 *e*P **P** **01 33 36.0 +0.9**
comp=Z,91nm,1.3s
CAN LR LR
comp=Z,2µm,20.0s
CNB Canberra Magne 44.54 153 *e*P **P** **01 33 37.1 +0.7**
comp=Z,170nm,1.1s
RAMN Ramite 44.61 305 *e*P **P** **01 33 36.6 -0.8**
HABR Khabarovsk 44.80 8 *c* *e*P **P** **01 33 38.2 0.0**
HABR *e**SP **sP** **01 33 50.2 -0.7**
HABR *e* 01 35 17.0
HABR *e*S **S** **01 40 13.5 0.0**
HABR *e**SS **sS** **01 40 28.1 -0.3**
HABR *e* 01 43 30.4
HABR *e*SSS SSS 01 44 19.4
HABR pmax pmax
comp=Z,199nm,2.4s
HABR pmax pmax
comp=E,64nm,1.8s
HABR pmax pmax
comp=N,89nm,2.4s
HABR MLR MLR
comp=Z,1µm,17.0s
YSS Yuzh-Sakhalins 44.90 15 *e*P **P** **01 33 41.8 +2.8**
YSS *e* 01 33 51.8
YSS pmax pmax
comp=Z,70nm,1.1s

YSS					MLR	MLR			
	comp=N,1μm,19.0s								
YSS					MLR	MLR			
	comp=Z,2μm,19.0s								
YSS					MLR	MLR			
	comp=E,2μm,17.0s								
YSS	**Yuzh-Sakhalins**	**44.90**	**15**	*e*P	**P**		**01 33 40.0**	**+1.0**	
	comp=E,28nm,0.6s								
YSS					LR	LR			
	comp=Z,783nm,19.0s								
TOO	**Toolangi**	**44.93**	**159**	*e*P	**P**		**01 33 40.4**	**+1.0**	
	comp=Z,238nm,1.5s								
KLR	**Kul'dur**	**45.20**	**5**	*e*P	P		01 33 37.8	-3.5	
KLR				*e*S	S		01 40 25.5	+6.3	
KLR					pmax	pmax			
	comp=Z,85nm,1.8s								
KLR					MLR	MLR			
	comp=Z,2μm,15.0s								
JIRN	**Jiri**	**45.23**	**306**	*e*P	**P**		**01 33 41.6**	**-0.8**	
HIA	**Hailar**	**45.44**	**354**	*e*P	**P**		**01 33 44.4**	**+1.1**	
	comp=Z,62nm,1.0s								
HIA					LR	LR			
	comp=Z,2μm,20.0s								
GUN	**Gumba**	**45.58**	**306**	*e*P	**P**		**01 33 44.0**	**-1.2**	
PKI	**Pulchoki**	**45.83**	**305**	*e*P	**P**		**01 33 45.7**	**-1.4**	
KKN	**Kakani**	**46.02**	**305**	*e*P	**P**		**01 33 47.3**	**-1.2**	
DMN	**Daman**	**46.09**	**305**	*e*P	**P**		**01 33 48.0**	**-1.1**	
GKN	**Gorkha**	**46.63**	**305**	*e*P	**P**		**01 33 51.8**	**-1.4**	
	comp=Z,40nm,0.6s								
DZM	**Mont Dzumac**	**46.67**	**126**	*e*P	**P**		**01 33 53.6**	**+0.1**	
	comp=Z,74nm,1.1s								
DZM	**Mont Dzumac**	**46.67**	**126**	*e*P	**P**		**01 33 53.7**	**+0.2**	
	comp=Z,26nm,0.9s								
ULN	**Ulaanbaatar**	**46.82**	**342**	*e*P	**P**		**01 33 54.6**	**+0.2**	
	comp=Z,53nm,0.9s								
ULN					LR	LR			
	comp=Z,4μm,20.0s								
ULN	**Ulaanbaatar**	**46.82**	**342**	P	**P**		**01 33 55.1**	**+0.8**	
	SNR=31								
ULN	**Ulaanbaatar**	**46.82**	**342**	P	**P**		**01 33 54.9**	**+0.5**	
	comp=Z,46nm,1.2s,comp=Z,868nm								
SONM	**Songino Array**	**47.00**	**341**	P	**P**		**01 33 56.3**	**+0.5**	
SONM				PcP	**PcP**		**01 35 29.5**	**+1.8**	
SONM	**Songino Array**	**47.00**	**341**	P	**P**		**01 33 56.3**	**+0.5**	
	comp=Z,11nm,0.6s,baz=155,slow=8.3,SNR=62								
SONM				PcP	**PcP**		**01 35 29.5**	**+1.8**	
	comp=Z,12nm,0.8s,baz=153,slow=3.4,SNR=5.4								
SONM				LR	LR		01 55 10.0		
	comp=Z,3μm,20.2s,baz=155,slow=38								
KOLN	**Koldanda**	**47.39**	**304**	*e*P	**P**		**01 33 58.3**	**-0.9**	
	comp=Z,142nm,0.6s								
DANN	**Dangsing**	**47.48**	**305**	*e*P	**P**		**01 33 59.0**	**-1.0**	
	comp=Z,142nm,0.5s								
CIT	**Chita**	**49.05**	**349**	*e*P	**P**		**01 34 12.8**	**+1.4**	
CIT				pmax	pmax				
	comp=Z,382nm,2.0s								
HYB	**Hyderabad**	**49.07**	**289**	*i* P	**P**		**01 34 10.5**	**-1.6**	
TRD	**Trivandrum**	**49.71**	**278**	⇑*i* x	x		01 35 43.0		
TRD				*i* x	x		01 40 13.0		
ZAK	**Zakamensk**	**50.23**	**341**	*e*P	**P**		**01 34 20.1**	**-0.4**	
ZAK				*e*			01 35 39.4		
ZAK				pmax	pmax				
	comp=Z,13nm,1.3s								
TAU	**Tasmania Unive**	**50.31**	**160**	*e*P	**P**		**01 34 21.7**	**+0.6**	
TAU				pmax	pmax				
	comp=Z,60nm,1.1s								
TAU				MLR	MLR				
	comp=Z,1μm,20.0s								
TAU	**Tasmania Unive**	**50.31**	**160**	*e*P	**P**		**01 34 21.7**	**+0.6**	
	comp=Z,60nm,1.1s								
TAU				LR	LR				
	comp=Z,1μm,20.0s								
LATR	**Latur**	**51.11**	**290**	*e*PKP	**P**		**01 34 26.7**	**-0.8**	
TLY	**Talaya**	**51.23**	**342**	*e*P	**P**		**01 34 28.3**	**+0.3**	
TLY				*e*S	S		01 41 37.5	-7.1	
TLY				*e*SS	**SS**		**01 45 21.2**	**+0.8**	
TLY				pmax	pmax				
	comp=Z,44nm,1.0s								
TLY				MLR	MLR				
	comp=Z,2μm,20.0s								
TLY	**Talaya**	**51.23**	**342**	*e*P	**P**		**01 34 29.1**	**+1.1**	
	comp=Z,45nm,1.0s								
TLY				LR	LR				
	comp=Z,2μm,20.0s								
TLY	**Talaya**	**51.23**	**342**	P	**P**		**01 34 29.1**	**+1.1**	
	SNR=23								
TLY	**Talaya**	**51.23**	**342**	P	**P**		**01 34 29.3**	**+1.4**	
	comp=Z,257nm,0.8s,SNR=9.1								
IRK	**Irkutsk**	**51.53**	**342**	*e*P	**P**		**01 34 30.6**	**+0.5**	
IRK				pmax	pmax				
	comp=Z,169nm,1.8s								
MOY	**Mondy**	**52.09**	**340**	*e*P	**P**		**01 34 34.8**	**+0.3**	
MOY				pmax	pmax				
	comp=Z,167nm,2.4s								
WMQ	**Urumqi**	**52.49**	**325**	P	**P**		**01 34 37.8**	**+0.3**	
WMQ				pP	**pP**		**01 34 47.4**	**+0.7**	
WMQ				sP	sP		01 34 51.7	+1.4	
WMQ				PcP	**PcP**		**01 35 46.1**	**-1.7**	
WMQ				PP	**PP**		**01 36 38.0**	**+1.4**	
WMQ				PcS	**PcS**		**01 39 45.8**	**-0.5**	
WMQ				S	**S**		**01 41 59.4**	**-2.8**	
WMQ				ScS	**ScS**		**01 44 21.0**	**-4.4**	
WMQ				pmax	pmax				
	comp=Z,40nm,1.0s								
WMQ				pmax	pmax				
	comp=Z,220nm,5.6s								
WMQ				LR	LR				
	comp=N,7μm,19.3s								
WMQ				LR	LR				
	comp=E,5μm,19.4s								
WMQ				LR	LR				
	comp=Z,5μm,21.6s								
DDI	**Dehra Dun**	**52.83**	**305**	*ex*	**P**		**01 34 38.5**	**-1.8**	
SMLA	**Simla**	**53.82**	**306**	*i* P	**P**		**01 34 47.7**	**+0.2**	
	comp=Z,103nm,0.8s								
BOD	**Bodaibo**	**54.54**	**352**	*e*P	**P**		**01 34 53.0**	**+0.8**	
BOD				pmax	pmax				
	comp=Z,72nm,1.1s								
MSVF	**Nonsavu**	**54.99**	**115**	*e*P	**P**		**01 34 57.0**	**+0.7**	
MSVF				pmax	pmax				
	comp=Z,35nm,1.0s								
MSVF				MLR	MLR				
	comp=Z,914nm,21.0s								
MSVF	**Nonsavu**	**54.99**	**115**	*e*P	**P**		**01 34 57.0**	**+0.7**	
	comp=Z,35nm,1.0s								
MSVF				LR	LR				
	comp=Z,914nm,21.0s								
PEA0B	**Petropavlovsk-**	**55.09**	**22**	*e*P	**P**		**01 34 57.2**	**+0.9**	
PETK	**Petropavlovsk-**	**55.09**	**22**	P	**P**		**01 34 57.5**	**+1.1**	
PETK				pmax	pmax				
	comp=Z,17nm,0.6s								
PETK				MLR	MLR				
	comp=Z,1μm,18.1s								
PETK	**Petropavlovsk-**	**55.09**	**22**	P	**P**		**01 34 57.5**	**+1.1**	
PETK	**Petropavlovsk-**	**55.09**	**22**	P	**P**		**01 34 57.5**	**+1.1**	
	comp=Z,17nm,0.6s,baz=192,slow=5.7,SNR=18								
PETK				LR	LR		02 00 49.7		
	comp=Z,1μm,18.1s,baz=94,slow=38								
PET	**Petropavlovsk**	**55.39**	**23**	*e*P	**P**		**01 34 59.7**	**+1.3**	
PET				*e*S	**S**		**01 42 42.8**	**+1.9**	
PET				pmax	pmax				
	comp=Z,1μm,4.9s								
PET				pmax	pmax				
	comp=Z,43nm,1.3s								
PET				pmax	pmax				
	comp=Z,600nm,5.8s								
PET				MLR	MLR				
	comp=Z,1μm,19.0s								
PET				MLR	MLR				
	comp=Z,1μm,19.0s								
PET	**Petropavlovsk**	**55.39**	**23**	PFAKE			01 35 10.0	+12	
PET				LR	LR				
	comp=Z,2μm,19.0s								
DGAR	**Diego Garcia**	**55.41**	**258**	*e*P	**P**		**01 34 58.3**	**-1.0**	
DGAR				pmax	pmax				
	comp=Z,64nm,0.9s								
DGAR				MLR	MLR				
	comp=Z,1μm,19.0s								
DGAR	**Diego Garcia**	**55.41**	**258**	*e*P	**P**		**01 34 58.3**	**-1.0**	
	comp=Z,64nm,0.9s								
DGAR				LR	LR				
	comp=Z,1μm,19.0s								
MK31	**Makanchi Array**	**57.32**	**325**	P	**P**		**01 35 11.2**	**-1.2**	
MK31				pmax	pmax				
	comp=Z,16nm,0.5s								
MK31	**Makanchi Array**	**57.32**	**325**	*e*P	**P**		**01 35 12.1**	**-0.3**	
MKAR	**Makanchi Array**	**57.32**	**325**	P	**P**		**01 35 11.8**	**-0.6**	
MKAR							01 36 06.9		
MKAR				pmax	pmax				
	comp=Z,18nm,0.5s								
MKAR				pmax	pmax				
	comp=Z,16nm,0.7s								
MKAR				pmax	pmax				
	comp=N,2.0nm,0.8s								
MKAR				MLR	MLR				
	comp=Z,4μm,19.6s								
MKAR	**Makanchi Array**	**57.32**	**325**	*e*P	**P**		**01 35 11.8**	**-0.6**	
MKAR				PcP	**PcP**		**01 36 06.9**	**+0.6**	
MKAR				ScP	**ScP**		**01 40 05.1**	**+0.9**	
MKAR	**Makanchi Array**	**57.32**	**325**	P	**P**		**01 35 11.8**	**-0.6**	
	comp=Z,18nm,0.5s,baz=121,slow=8.8,SNR=120								
MKAR				PcP	**PcP**		**01 36 06.9**	**+0.6**	
	comp=Z,16nm,0.7s,baz=123,slow=6.9,SNR=2.7								
MKAR				ScP	**ScP**		**01 40 05.1**	**+0.9**	
	comp=Z,2.3nm,0.8s,baz=126,slow=5.1,SNR=3.8								
MKAR				LR	LR		02 01 06.0		
	comp=Z,4μm,19.6s,baz=116,slow=37								
KSH	**Kashi**	**57.85**	**315**	P	**P**		**01 35 17.4**	**+1.0**	
KSH				pP	pP		01 35 27.3	+1.6	
KSH				sP	sP		01 35 31.4	+2.1	
KSH				PcP	**PcP**		**01 36 08.8**	**+0.1**	
KSH				PP	**PP**		**01 37 27.3**	**+2.4**	
KSH				ScP	**ScP**		**01 40 04.6**	**-2.3**	
KSH				PcS	**PcS**		**01 40 08.8**	**-1.3**	
KSH				S	**S**		**01 43 13.2**	**-1.1**	
KSH				sS	sS		01 43 30.1	+0.5	
KSH				ScS	**ScS**		**01 45 00.5**	**-3.7**	
KSH				SS	**SS**		**01 47 06.2**	**+0.7**	
KSH				LR	LR				
	comp=N,2μm,15.8s								
KSH				LR	LR				
	comp=E,2μm,17.2s								
KSH				LR	LR				
	comp=Z,3μm,18.3s								
YAK	**Yakutsk**	**57.87**	**2**	*e*P	**P**		**01 35 15.6**	**-0.3**	
YAK				*e**PP	pP		01 35 28.8	+3.6	
YAK				*e*			01 37 21.7		
YAK				*e*S	S		01 43 07.5	-5.9	
YAK				*e**SS	sS		01 43 37.2	+8.5	
YAK				*e*			01 45 06.0		
YAK				*e*SS	**SS**		**01 47 00.6**	**-4.0**	
YAK				*e*SSS	SSS		01 49 22.6		
YAK				pmax	pmax				
	comp=Z,106nm,0.7s								
YAK				pmax	pmax				
	comp=E,13nm,1.0s								
YAK				pmax	pmax				
	comp=N,45nm,1.1s								
YAK				pmax	pmax				
	comp=Z,13nm,0.7s								
YAK				smax	smax				
	comp=N,491nm,14.1s								
YAK				smax	smax				
	comp=E,311nm,11.8s								
YAK	**Yakutsk**	**57.87**	**2**	*e*P	**P**		**01 35 15.8**	**0.0**	
	comp=E,177nm,0.8s								
YAK				LR	LR				
	comp=Z,1μm,20.0s								
KZA	**Kyzart**	**59.41**	**317**	P	**P**		**01 35 28.2**	**+0.7**	
	SNR=10								
TKM2	**Tokmak 2**	**59.54**	**318**	*e*P	**P**		**01 35 28.1**	**-0.1**	
TKM2				pmax	pmax				
	comp=Z,14nm,0.7s								
TKM2				MLR	MLR				
	comp=Z,5μm,22.0s								
TKM2	**Tokmak 2**	**59.54**	**318**	*e*P	**P**		**01 35 28.1**	**-0.1**	
	comp=Z,14nm,0.7s								
TKM2				LR	LR				
	comp=Z,5μm,22.0s								
TKM2	**Tokmak 2**	**59.54**	**318**	P	**P**		**01 35 28.3**	**+0.1**	
	SNR=12								
KBK	**Karagaybulak**	**59.86**	**318**	P	**P**		**01 35 30.9**	**+0.5**	
	SNR=10								
UCH	**Uchtor**	**59.97**	**317**	P	**P**		**01 35 32.2**	**+0.8**	
	SNR=6.0								
CHMS	**Chumysh**	**60.13**	**318**	P	**P**		**01 35 31.1**	**-0.9**	
	SNR=8.2								
AAK	**Ala-Archa**	**60.15**	**318**	*e*P	**P**		**01 35 32.6**	**+0.2**	
AAK							01 36 19.0		
AAK				pmax	pmax				
	comp=Z,180nm,1.4s								
AAK				MLR	MLR				
	comp=Z,6μm,22.0s								
AAK	**Ala-Archa**	**60.15**	**318**	*e*P	**P**		**01 35 32.6**	**+0.2**	
	comp=Z,180nm,1.4s								
AAK				PcP	**PcP**		**01 36 19.0**	**+1.2**	
AAK				LR	LR				
	comp=Z,6μm,22.0s								
AAK	**Ala-Archa**	**60.15**	**318**	P	**P**		**01 35 32.8**	**+0.4**	
	comp=Z,90nm,1.7s,SNR=6.8								
AAK	**Ala-Archa**	**60.15**	**318**	P	**P**		**01 35 33.1**	**+0.8**	
	SNR=12								
AAK	**Ala-Archa**	**60.15**	**318**	P	**P**		**01 35 33.6**	**+1.2**	
	SNR=7.7								
AAK	**Ala-Archa**	**60.15**	**318**	P	**P**		**01 35 32.0**	**-0.3**	
	comp=Z,3.2nm,0.6s,baz=101,slow=6.6,SNR=16								
AAK				PcP	**PcP**		**01 36 19.0**	**+1.2**	
	comp=Z,7.5nm,0.8s,baz=104,slow=8.3,SNR=2.4								
FRU	**Bishkek**	**60.16**	**318**	*e*P	**P**		**01 35 32.0**	**-0.2**	
FRU				pmax	pmax				
	comp=Z,60nm,2.0s								
FRU				MLR	MLR				
	comp=E,4μm,20.0s								
ZAA0	**Zalesovo Array**	**60.32**	**333**	*e*P	**P**		**01 35 32.1**	**-0.9**	
ZALV	**Zalesovo Beam**	**60.32**	**333**	P	**P**		**01 35 31.8**	**-1.2**	
ZALV				pmax	pmax				
	comp=Z,12nm,0.5s								
ZALV				MLR	MLR				
	comp=Z,2μm,18.2s								
ZALV	**Zalesovo Beam**	**60.32**	**333**	P	**P**		**01 35 31.8**	**-1.2**	
ZALV	**Zalesovo Beam**	**60.32**	**333**	P	**P**		**01 35 31.8**	**-1.2**	
	comp=Z,12nm,0.5s,baz=115,slow=6.3,SNR=37								
ZALV				LR	LR		02 03 30.1		
	comp=Z,2μm,18.2s,baz=133,slow=38								
USP	**Ospenovka**	**60.41**	**318**	P	**P**		**01 35 33.9**	**-0.1**	
	SNR=16								
AML	**Almayashu**	**60.49**	**317**	P	**P**		**01 35 35.2**	**+0.3**	
	SNR=8.8								
EKS2	**Erkin-Say**	**60.65**	**317**	*e*P	**P**		**01 35 35.7**	**0.0**	
EKS2				pmax	pmax				
	comp=Z,91nm,1.8s								
EKS2				MLR	MLR				
	comp=Z,6μm,22.0s								
EKS2	**Erkin-Say**	**60.65**	**317**	*e*P	**P**		**01 35 35.7**	**0.0**	
	comp=Z,91nm,1.8s								
EKS2				LR	LR				
	comp=Z,6μm,22.0s								
EKS2	**Erkin-Say**	**60.65**	**317**	P	**P**		**01 35 37.0**	**+1.3**	
	SNR=9.8								
KBL	**Kabul**	**61.37**	**307**	*e*P	**P**		**01 35 40.2**	**-0.7**	
KBL				pmax	pmax				
	comp=Z,68nm,1.4s								
KBL	**Kabul**	**61.37**	**307**	*e*P	**P**		**01 35 40.2**	**-0.7**	
	comp=Z,68nm,1.4s								
KURBB	**Kurchatov Arra**	**61.49**	**327**	P	**P**		**01 35 39.9**	**-1.2**	
	comp=Z,19nm,0.4s,baz=129,slow=6.0,SNR=18								
KURBB				LR	LR		02 04 12.0		
	comp=Z,1μm,19.1s,baz=110,slow=38								
KURK	**Kurchatov**	**61.49**	**327**	*e*P	**P**		**01 35 41.0**	**-0.1**	
KURK				pmax	pmax				
	comp=Z,68nm,0.7s								
KURK	**Kurchatov**	**61.49**	**327**	*e*P	**P**		**01 35 41.0**	**-0.1**	
	comp=Z,68nm,0.7s								
KURK	**Kurchatov**	**61.49**	**327**	P	**P**		**01 35 40.8**	**-0.2**	
	SNR=30								
NVS	**Novosibirsk**	**61.60**	**333**	⇑*i* P	**P**		**01 35 40.3**	**-1.4**	
NVS				*e*S	S		01 43 56.6	-5.2	
NVS				*i*			01 45 27.5		
NVS				pmax	pmax				
	comp=N,24nm,1.0s								
NVS				pmax	pmax				
	comp=E,23nm,1.0s								
NVS				pmax	pmax				
	comp=Z,49nm,1.0s								
NVS				pmax	pmax				
	comp=Z,24nm,1.8s								
NVS				pmax	pmax				
	comp=N,14nm,1.5s								
NVS				pmax	pmax				
	comp=E,3.0nm,0.8s								
NVS				smax	smax				
	comp=N,11nm,1.4s								
NVS				smax	smax				
	comp=E,40nm,2.1s								
SEY	**Seymchan**	**61.69**	**13**	*e*P	**P**		**01 35 42.1**	**-0.1**	
FX1	**Attu Island--F**	**61.76**	**30**	*e*P	**P**		**01 35 45.9**	**+3.1**	
RPZ	**Rata Peaks**	**62.00**	**145**	*e*P	**P**		**01 35 45.3**	**+0.7**	
SNZO	**South Karori**	**62.78**	**141**	PFAKE			01 36 00.0	+10	
SNZO				LR	LR				
	comp=Z,1μm,19.0s								
KK31	**Karatay Array**	**63.03**	**317**	P	**P**		**01 35 50.0**	**-1.6**	
KK31				pmax	pmax				
	comp=Z,53nm,1.2s								
KKAR	**Karatay Array**	**63.03**	**317**	*e*P	**P**		**01 35 51.2**	**-0.4**	
KKAR	**Karatay Array**	**63.03**	**317**	*e*P	**P**		**01 35 51.2**	**-0.4**	
AFI	**Afiamalu**	**63.48**	**108**	LR	LR		02 02 24.2		
	comp=Z,816nm,18.9s,baz=116,slow=35								
ADK	**Adak**	**66.65**	**34**	PFAKE			01 36 30.0	+15	
ADK				LR	LR				
	comp=Z,2μm,20.0s								
BVA0	**Borovoye Array**	**67.08**	**327**	P	**P**		**01 36 16.7**	**-1.0**	
BVA0				pmax	pmax				
	comp=Z,8.0nm,1.2s								
BVAR	**Borovoye Array**	**67.08**	**327**	P	**P**		**01 36 16.8**	**-0.8**	
BVAR				pmax	pmax				
	comp=Z,28nm,0.8s								
BVAR				MLR	MLR				
	comp=Z,2μm,20.5s								
BVAR	**Borovoye Array**	**67.08**	**327**	P	**P**		**01 36 16.8**	**-0.8**	
BVAR	**Borovoye Array**	**67.08**	**327**	P	**P**		**01 36 16.8**	**-0.8**	
	comp=Z,28nm,0.8s,baz=124,slow=7.9,SNR=72								
BVAR				LR	LR		02 06 32.5		
	comp=Z,2μm,20.5s,baz=119,slow=37								
BRVK	**Borovoye**	**67.15**	**327**	*e*P	**P**		**01 36 18.1**	**0.0**	
BRVK				pmax	pmax				
	comp=Z,49nm,1.0s								
BRVK	**Borovoye**	**67.15**	**327**	*e*P	**P**		**01 36 18.1**	**0.0**	
	comp=Z,41nm,0.8s								
BRVK				LR	LR				
	comp=Z,2μm,21.0s								
BRVK	**Borovoye**	**67.15**	**327**	P	**P**		**01 36 18.1**	**0.0**	
	comp=Z,311nm,1.0s,SNR=16								
BRVK	**Borovoye**	**67.15**	**327**	P	**P**		**01 36 18.5**	**+0.4**	
	SNR=24								
ZRNK	**Zerenda**	**67.80**	**326**	P	**P**		**01 36 21.3**	**-1.0**	
ZRNK				pmax	pmax				
	comp=Z,51nm,1.0s								
IMYA	**Miami**	**68.89**	**307**	*e*P	**P**		**01 36 28.9**	**-0.7**	
BILL	**Bilibino**	**69.21**	**15**	⇓*i* P	**P**		**01 36 31.0**	**+0.3**	
BILL				*e*			01 39 06.1		
BILL				*e*S	**S**		**01 45 36.6**	**+2.0**	
BILL				pmax	pmax				
	comp=Z,29nm,2.5s								
BILL				MLR	MLR				
	comp=Z,1μm,21.0s								
BILL	**Bilibino**	**69.21**	**15**	*e*P	**P**		**01 36 31.1**	**+0.3**	
	comp=Z,14nm,0.8s								
BILL				LR	LR				
	comp=Z,1μm,20.0s								
ISRO	**Mashad**	**69.38**	**307**	*e*P	**P**		**01 36 31.8**	**-0.8**	
IKRD	**Kardeh**	**70.22**	**308**	*e*P	P		01 36 32.9	-5.0	
ABKT	**Ailbek**	**70.74**	**309**	P	**P**		**01 36 41.7**	**+0.9**	
	comp=Z,160nm,0.8s,SNR=9.0								
CASY	**Casey**	**71.16**	**187**	PFAKE			01 36 50.0	+7.4	
CASY				LR	LR				
	comp=Z,683nm,19.0s								
DRV	**Dumont d'Urvil**	**71.20**	**174**	P	P		01 36 34.0	-8.9	
DRV				S	**S**		**01 45 55.0**	**-2.7**	
DRV				L	L		01 53 00.0		
DRV				R			02 00 00.0		
MSEY	**Mahe Island**	**71.78**	**264**	PFAKE			01 37 00.0	+12	
MSEY				LR	LR				
	comp=Z,1μm,21.0s								
IBAF	**Bafgh**	**71.90**	**302**	*e*P	**P**		**01 36 46.5**	**-1.6**	
AB31	**Akbulak array**	**71.93**	**321**	*i* P	**P**		**01 36 47.3**	**-0.4**	
AB31				pmax	pmax				
	comp=Z,31nm,0.9s								
ABKAR	**Akbulak array**	**71.93**	**321**	*e*P	**P**		**01 36 47.7**	**0.0**	
IMEH	**Mehriz**	**72.69**	**301**	*e*P	**P**		**01 36 51.0**	**-1.9**	
ABTO	**Aybut**	**73.06**	**287**	⇓P	**P**		**01 36 53.1**	**-2.0**	
	SNR=8.1								
AKTO	**Aktyubinsk**	**73.44**	**322**	P	**P**		**01 36 56.6**	**-0.1**	
AKTO				pmax	pmax				
	comp=Z,10.0nm,1.3s								
AKTO	**Aktyubinsk**	**73.44**	**322**	P	**P**		**01 36 56.6**	**-0.1**	
AKTO	**Aktyubinsk**	**73.44**	**322**	P	**P**		**01 36 56.6**	**-0.1**	
	comp=Z,14nm,0.6s,baz=105,slow=8.3,SNR=48								
SVE	**Sverdlovsk**	**73.71**	**328**	*d*eP	**P**		**01 36 57.6**	**-0.5**	
SVE				*e*PPP	PPP		01 41 23.6		
SVE				*e*S	S		01 46 33.0	+6.1	
SVE				*e*			01 47 15.7		
SVE				pmax	pmax				
	comp=Z,95nm,1.4s								
SVE				MLR	MLR				
	comp=Z,1μm,20.0s								
IPAR	**Pars**	**73.89**	**300**	*e*P	**P**		**01 36 58.5**	**-1.6**	
GAMB	**Gambell**	**74.06**	**24**	*e*P	**P**		**01 36 59.7**	**-0.3**	
	comp=Z,46nm,1.2s								
IFIR	**Firoozkooh**	**74.68**	**306**	*e*P	**P**		**01 37 06.5**	**+1.9**	
ARU	**Arti**	**74.69**	**328**	*c i*P	**P**		**01 37 03.4**	**-0.4**	
ARU							01 39 48.2		
ARU				PPP	PPP		01 41 34.2		
ARU				S	**S**		**01 46 37.8**	**-0.1**	
ARU				pmax	pmax				
	comp=Z,49nm,1.0s								
ARU				MLR	MLR				
	comp=Z,1μm,20.0s								
ARU	**Arti**	**74.69**	**328**	*e*P	**P**		**01 37 03.3**	**-0.4**	
	comp=Z,44nm,0.9s								
ARU				LR	LR				
	comp=Z,1μm,20.0s								
ARU	**Arti**	**74.69**	**328**	P	**P**		**01 37 03.5**	**-0.4**	
	comp=Z,322nm,0.5s,SNR=16								
IZEF	**Zefreh**	**74.76**	**303**	*e*P	**P**		**01 37 03.9**	**-1.2**	
IPIR	**Pirpir**	**75.95**	**303**	*e*P	**P**		**01 37 11.6**	**-0.4**	
TNA	**Tin City**	**76.25**	**23**	*e*P	**P**		**01 37 13.5**	**+0.9**	
	comp=Z,14nm,1.3s								
SDPT	**Sand Point**	**76.88**	**34**	*e*P	**P**		**01 37 17.0**	**+0.7**	
	comp=Z,86nm,0.7s								
IRAZ	**Razeghan**	**76.95**	**305**	*e*P	**P**		**01 37 16.9**	**-0.6**	
QRN	**Al-Qurain**	**78.31**	**298**	*e*P	**P**		**01 37 23.7**	**-1.2**	
QRN				AMb	AMB		01 37 32.8		
	comp=Z,110nm,0.8s								
UMR	**Umm Al-Rimmam**	**78.51**	**299**	*e*P	**P**		**01 37 24.4**	**-1.6**	
UMR				AMb	AMB		01 37 32.0		
	comp=Z,64nm,0.8s								
RDF	**Al-Radifah**	**78.64**	**299**	*e*P	**P**		**01 37 25.8**	**-0.9**	
RDF				AMb	AMB		01 37 31.1		
	comp=Z,61nm,0.7s								
MIB	**Mutribah

ABPO LR LR
comp=Z,365nm,19.0s
KDAK Kodiak Island 81.57 32 *eP* **P 01 37 42.9 +1.0**
comp=Z,29nm,0.6s
KDAK Kodiak Island 81.57 32 P **P 01 37 43.9 +2.0**
comp=Z,344nm,0.7s,SNR=8.5
KDAK Kodiak Island 81.57 32 P **P 01 37 42.8 +0.9**
comp=Z,33nm,0.7s,baz=236,slow=12,SNR=25
KDAK LR LR 02 10 26.6
comp=Z,705nm,20.3s,baz=256,slow=33
ZEI Tsey 82.04 312 *eP* **P 01 37 44.8 -0.3**
ZEI pmax pmax
comp=Z,28nm,1.0s
SPU Mount Spurr 82.18 29 *eP* **P 01 37 45.8 +0.6**
AKH Akhalkalaki 82.31 311 P **P 01 37 48.2 +1.8**
KIV Kislovodsk 82.96 314 *eP* **P 01 37 49.3 -0.3**
KIV *e* 01 40 59.4
KIV *eS* **S 01 48 07.1 +0.2**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,1μm,19.0s
KIV Kislovodsk 82.96 314 *eP* **P 01 37 50.3 +0.7**
comp=Z,18nm,0.9s
KIV LR LR
comp=Z,1μm,21.0s
SLKM Skilak Lake 83.02 30 *eP* **P 01 37 49.7 +0.2**
SLKM Skilak Lake 83.02 30 *eP* **P 01 37 49.7 +0.2**
TRF Thorofare Moun 83.21 27 *eP* **P 01 37 50.5 -0.1**
comp=Z,248nm,1.6s
RC01 Rabbit Creek A 83.30 29 *eP* **P 01 37 51.3 +0.4**
comp=Z,39nm,0.5s
COLD Coldfoot 83.56 23 *eP* **P 01 37 53.8 +1.7**
comp=Z,78nm,1.2s
PMR Palmer 83.62 29 *eP* **P 01 37 52.9 +0.4**
PMR pmax pmax
comp=Z,221nm,1.7s
PMR Palmer 83.62 29 *eP* **P 01 37 52.9 +0.4**
comp=Z,221nm,1.7s
VNDA Vanda 83.75 173 *eP* **P 01 37 53.7 +0.9**
comp=Z,43nm,1.2s
VNDA LR LR
comp=Z,671nm,19.0s
VRHR Novokhopersk 83.82 321 *eP* **P 01 37 53.0 -0.8**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,40nm,0.9s
VRHR MLR MLR
comp=Z,1μm,20.0s
VRHR MLR MLR
comp=N,270nm,17.0s
VRHR MLR MLR
comp=E,670nm,20.0s
MCK McKinley 83.83 26 *eP* **P 01 37 53.7 +0.1**
MCK pmax pmax
comp=Z,77nm,1.0s
MCK McKinley 83.83 26 *eP* **P 01 37 53.7 +0.1**
comp=Z,77nm,1.0s
SML Sawmill 84.01 28 *eP* **P 01 37 55.0 +0.4**
SML pmax pmax
comp=Z,34nm,1.1s
SML Sawmill 84.01 28 *eP* **P 01 37 55.0 +0.4**
comp=Z,34nm,1.1s
COLA College 84.36 25 *eP* **P 01 37 55.7 -0.5**
COLA pmax pmax
comp=Z,17nm,0.8s
COLA MLR MLR
comp=Z,727nm,19.0s
COLA College 84.36 25 *eP* **P 01 37 55.7 -0.5**
comp=Z,17nm,0.8s
COLA LR LR
comp=Z,727nm,19.0s
ILAR Eielson Array 84.77 25 P **P 01 37 57.6 -0.7**
ILAR Eielson Array 84.77 25 P **P 01 37 57.6 -0.7**
comp=Z,8.8nm,0.8s,baz=261,slow=2.9,SNR=35
ILAR LR LR 02 15 51.8
comp=Z,679nm,20.5s,baz=142,slow=36
SOC Sochi 85.11 313 *eP* **P 01 37 59.3 -1.2**
SOC *eS* S 01 48 20.0 -8.2
SOC pmax pmax
comp=Z,37nm,1.0s
SOC pmax pmax
comp=Z,233nm,2.6s
KLMR Klimovskoe 85.15 331 *c iP* **P 01 37 59.9 -0.4**
KLMR *eS* S 01 48 20.2 -7.7
KLMR pmax pmax
comp=Z,430nm,1.5s
KLMR pmax pmax
comp=Z,168nm,4.1s
KLMR MLR MLR
comp=Z,2μm,22.0s
PPT2 Papeete2 85.15 108 *eS* S 01 48 22.8 -6.9
comp=Z,788nm,25.5s
PPT2 *eSS* **SS 01 54 03.1 -1.1**
comp=Z,746nm,30.0s
PPT2 *eLR* LR 02 04 49.8
comp=Z,720nm,26.5s
VORD Divnogorie 85.29 321 *eP* **P 01 38 00.7 -0.5**
PAX Paxson 85.37 27 *eP* **P 01 38 02.5 +1.0**
PAX pmax pmax
comp=Z,94nm,1.5s
PAX Paxson 85.37 27 *eP* **P 01 38 02.5 +1.0**
comp=Z,94nm,1.5s
VSR Storozhevoye 85.37 321 *eP* **P 01 38 00.8 -0.8**
VSR pmax pmax
comp=Z,80nm,1.1s
VSR pmax pmax
comp=N,2.0nm,0.6s
VSR pmax pmax
comp=E,40nm,1.2s
VSR MLR MLR
comp=Z,1μm,19.0s
VSR MLR MLR
comp=N,120nm,10.0s
VSR MLR MLR
comp=E,800nm,19.0s
BMRM Bremner River 85.79 29 *eP* **P 01 38 04.5 +0.9**
comp=E,96nm,1.0s
TBI Tubuai 85.86 114 *eS* S 01 48 28.3 -8.1
comp=E,917nm,28.8s
TBI *eSS* **SS 01 54 11.7 -2.5**
comp=E,562nm,30.5s
TBI *eLR* LR 02 05 12.4
comp=E,1μm,26.5s
DOT Dot Lake 86.00 27 *eP* **P 01 38 05.7 +1.1**
comp=E,14nm,0.9s
MENT Mentasta 86.17 27 *eP* **P 01 38 06.4 +1.0**
MOS Moscow 86.20 325 *eP* **P 01 38 04.0 -1.6**
MOS *eS* S 01 48 29.0 -9.5
MOS pmax pmax
comp=Z,317nm,1.6s
MOS pmax pmax
comp=N,86nm,1.6s
MOS pmax pmax
comp=Z,900nm,2.2s
MOS MLR MLR
comp=E,2μm,18.0s
MOS MLR MLR
comp=Z,2μm,19.0s
ANN Anapa 86.71 315 *eP* **P 01 38 07.0 -1.4**
ANN *eS* S 01 48 30.8 -13
ANN pmax pmax
comp=Z,67nm,1.0s
ANN MLR MLR
comp=Z,1μm,22.0s
OBN Obninsk 86.83 325 ⇑ *iP* **P 01 38 08.2 -0.5**
OBN *i* 01 41 34.0
OBN *i* S S 01 48 37.6 -6.9
OBN pmax pmax
comp=Z,190nm,1.7s
OBN MLR MLR
comp=Z,2μm,17.0s
OBN Obninsk 86.83 325 *eP* **P 01 38 08.4 -0.2**
comp=Z,583nm,1.7s
OBN LR LR
comp=Z,2μm,20.0s
OBN Obninsk 86.83 325 P **P 01 38 08.2 -0.5**
comp=Z,762nm,1.6s,SNR=12
LVZ Lovozero 87.07 338 PFAKE 01 38 20.0 +10
LVZ LR LR
comp=Z,3μm,19.0s
EGAK Eagle 87.22 25 PFAKE 01 38 20.0 +10
EGAK LR LR
comp=Z,622nm,20.0s

APA Apatity 87.57 337 ⇑ *iP* P 01 38 16.0 +4.0
APA pmax pmax
comp=Z,50nm,1.2s
ASF Jabal al Asfar 87.78 302 P **P 01 38 14.2 +0.2**
ASF Jabal al Asfar 87.78 302 P **P 01 38 14.2 +0.2**
comp=Z,7.4nm,0.7s,baz=282,slow=1.0,SNR=16
JOF Joensuu 88.91 333 *eP* **P 01 38 18.2 -0.3**
JOF pmax pmax
comp=Z,34nm,0.6s
JOF Joensuu 88.91 333 *ep* **P 01 38 18.2 -0.3**
comp=Z,34nm,0.6s
MMAI Mount Meron Ar 88.98 303 P **P 01 38 19.4 -0.2**
MMAI Mount Meron Ar 88.98 303 P **P 01 38 19.4 -0.2**
comp=Z,3.4nm,0.6s,baz=85,slow=10,SNR=9.5
KEV Kevo 89.60 340 *eP* **P 01 38 20.7 -0.9**
KEV pmax pmax
comp=Z,17nm,1.0s
KEV Kevo 89.60 340 PFAKE 01 38 30.0 +8.4
KEV LR LR
comp=Z,2μm,22.0s
KEV Kevo 89.60 340 *ep* **P 01 38 20.7 -0.9**
comp=Z,17nm,1.0s
EIL Elat 89.61 300 P **P 01 38 22.6 0.0**
EIL Elat 89.61 300 P **P 01 38 22.6 0.0**
comp=Z,9.7nm,0.8s,baz=6.9,slow=0.9,SNR=8.9
KMBO Kilima Mbogo 89.63 269 *eP* **P 01 38 23.1 -0.1**
comp=Z,51nm,1.4s
KMBO LR LR
comp=Z,634nm,21.0s
KMBO Kilima Mbogo 89.63 269 P **P 01 38 23.7 +0.5**
SNR=12
PUL Pulkovo 89.78 330 *eP* **P 01 38 23.4 +0.8**
PUL pmax pmax
comp=Z,69nm,1.4s
INK Inuvik 89.83 21 *eP* **P 01 38 22.0 -0.6**
comp=Z,25nm,1.2s
INK Inuvik 89.83 21 LR LR 02 23 58.2
comp=Z,428nm,19.2s,baz=317,slow=39
BR131 Keskin Array S 89.86 310 *eP* **P 01 38 23.2 -0.5**
comp=Z,8.4nm,0.8s
BR131 LR LR
comp=Z,617nm,19.0s
BRTR Keskin Array B 89.86 310 P **P 01 38 22.2 -1.5**
BRTR Keskin Array B 89.86 310 P **P 01 38 22.2 -1.5**
comp=Z,7.9nm,0.7s,baz=117,slow=3.6,SNR=25
ARCES ARCESS Array B 90.16 340 P **P 01 38 24.0 -0.2**
ARCES PKiKP **PKiKP 01 43 21.1 +1.3**
ARCES ARCESS Array B 90.16 340 P **P 01 38 24.0 -0.2**
comp=Z,5.6nm,0.5s,baz=88,slow=7.0,SNR=35
ARCES PKiKP **PKiKP 01 43 21.1 +1.3**
comp=Z,1.8nm,0.7s,baz=48,slow=1.8,SNR=3.9
SPITS Spitsbergen Ar 90.16 349 P **P 01 38 25.0 +0.9**
SPITS Spitsbergen Ar 90.16 349 P **P 01 38 25.0 +0.9**
comp=Z,3.4nm,0.5s,baz=132,slow=8.7,SNR=6.2
CSS Prodhromos 90.54 305 PFAKE 01 38 40.0 +13
CSS LR LR
comp=Z,637nm,22.0s
KBS Kingsbay 90.68 350 PFAKE 01 38 40.0 +13
KBS LR LR
comp=Z,1μm,20.0s
KAF Kangasniemi 91.33 332 *eP* **P 01 38 28.5 -1.3**
KAF pmax pmax
comp=Z,27nm,0.8s
KAF Kangasniemi 91.33 332 *ep* **P 01 38 28.5 -1.3**
comp=Z,27nm,0.8s
FINES FINESS Array B 91.57 332 P **P 01 38 31.1 +0.2**
FINES FINESS Array B 91.57 332 P **P 01 38 31.1 +0.2**
comp=Z,7.1nm,0.5s,baz=166,slow=3.1,SNR=49
AKASG Malin Array Be 91.67 321 P **P 01 38 31.0 -0.7**
AKASG pmax pmax
comp=Z,11nm,0.8s
AKASG Malin Array Be 91.67 321 P **P 01 38 31.0 -0.7**
AKASG Malin Array Be 91.67 321 P **P 01 38 31.0 -0.7**
comp=Z,11nm,0.8s,baz=74,slow=3.9,SNR=46
AKBB Malin Array Si 91.67 321 *eP* **P 01 38 30.0 -1.6**
AKBB Malin Array Si 91.67 321 *eP* **P 01 38 30.0 -1.6**
KIEV Kiev 91.69 321 *eP* **P 01 38 30.4 -1.3**
KIEV pmax pmax
comp=Z,49nm,1.3s
KIEV MLR MLR
comp=Z,1μm,21.0s
KIEV Kiev 91.69 321 *eP* **P 01 38 30.4 -1.3**
comp=Z,49nm,1.3s
KIEV LR LR
comp=Z,1μm,21.0s
MICGM Minsk 91.89 325 *eP* **P 01 38 31.0 -1.6**
MNK Minsk 91.92 325 *eP* **P 01 38 31.0 -1.7**
NACGM Naroch 92.45 325 *e* P 01 38 32.0 -3.1
ISP Isparta 92.48 308 PFAKE 01 38 50.0 +14
ISP LR LR
comp=Z,754nm,22.0s
KIS Kishinev 92.49 317 *eP* **P 01 38 34.0 -1.5**
KIS MLR MLR
comp=Z,2μm,20.0s
KIS MLR MLR
comp=Z,2μm,22.0s
KIS Kishinev 92.49 317 *eP* **P 01 38 34.0 -1.5**
KIS LRM MLR 02 23 50.0
comp=Z,2μm,22.0s
IZAR Zarasai 92.59 326 *eP* **P 01 38 35.5 -0.2**
IZAR AMB AMB 01 38 41.5
comp=Z,14nm,1.1s
IZAR Zarasai 92.59 326 *eP* **P 01 38 35.5 -0.2**
IZAR AMB AMB 01 38 41.5
comp=Z,14nm,1.1s
WRAK Wrangell Islan 92.63 33 *eP* **P 01 38 37.6 +1.7**
comp=Z,24nm,0.8s
WRAK LR LR
comp=Z,601nm,19.0s
IIGN Ignalina 92.68 326 *eP* **P 01 38 35.9 -0.3**
IIGN AMB AMB 01 38 39.8
comp=Z,12nm,1.3s
IIGN Ignalina 92.68 326 *eP* **P 01 38 35.9 -0.3**
IIGN AMB AMB 01 38 39.8
comp=Z,12nm,1.3s
ISAL Salakas 92.69 326 *eP* **P 01 38 36.0 -0.2**
ISAL AMB AMB 01 38 41.0
comp=Z,11nm,1.4s
ISAL Salakas 92.69 326 *eP* **P 01 38 36.0 -0.2**
ISAL AMB AMB 01 38 41.0
comp=Z,11nm,1.4s
TLCR 92.76 315 ⇑ *iP* **P 01 38 38.3 +1.5**
TLCR 92.76 315 ⇑ *iP* **P 01 38 38.3 +1.5**
SYO Syowa Base 92.76 201 ⇓ *eP* **P 01 38 35.2 -1.0**
SYO Syowa Base 92.76 201 ⇓ *ePcP* **PcP 01 38 37.7 +0.8**
LEOM Leova 92.96 317 ⇑ *iP* **P 01 38 38.4 +0.7**
LEOM Leova 92.96 317 ⇑ *iP* **P 01 38 38.4 +0.7**
TIRR Tirgusor 93.15 315 ⇓ *iP* **P 01 38 38.6 -0.1**
TIRR Tirgusor 93.15 315 *eP* **P 01 38 36.9 -1.7**
comp=Z,28nm,1.3s
TIRR Tirgusor 93.15 315 ⇓ *iP* **P 01 38 38.5 -0.1**
CFR Carcaliu 93.24 316 ⇓ *iP* **P 01 38 38.9 -0.1**
CFR Carcaliu 93.24 316 ⇓ *iP* **P 01 38 38.9 -0.1**
DLBC Dease Lake 93.42 31 *eP* **P 01 38 41.5 +1.9**
DLBC Dease Lake 93.42 31 LR LR 02 15 58.6
comp=Z,971nm,21.1s,baz=325,slow=32
CVD Cernavoda 93.44 315 ⇓ *iP* P 01 38 56.2 +16
PETR 93.78 316 ⇓ *iP* **P 01 38 44.1 +2.6**
QSPA South Pole Qui 93.97 180 *eP* **P 01 38 42.3 +0.3**
comp=Z,65nm,1.4s
QSPA LR LR
comp=Z,1μm,19.0s
QSPA South Pole Qui 93.97 180 P **P 01 38 42.0 0.0**
comp=Z,19nm,1.1s,baz=308,slow=1.6,SNR=19
TESR 94.04 317 ⇑ *iP* **P 01 38 42.9 +0.2**
VRI Vrincioaia 94.10 316 ⇑ *iP* **P 01 38 43.5 +0.5**
VRI Vrincioaia 94.10 316 ⇑ *iP* **P 01 38 43.5 +0.5**
PLOR Plostina 94.16 316 ⇓ *iP* **P 01 38 42.9 -0.4**
PLOR Plostina 94.16 316 ⇓ *iP* **P 01 38 42.9 -0.4**
SUW Suwalki 94.69 325 *eP* **P 01 38 45.8 +0.3**
SUW Suwalki 94.69 325 *eP* **P 01 38 45.8 +0.3**
SUW Suwalki 94.69 325 *eP* **P 01 38 45.1 -0.4**
SUW pmax pmax
comp=Z,157nm,1.1s
SUW Suwalki 94.69 325 *eP* **P 01 38 45.1 -0.4**
comp=Z,156nm,1.1s
MLR Muntele Rosu 94.71 316 P **P 01 38 45.5 -0.4**
MLR Muntele Rosu 94.71 316 ⇑ *iP* **P 01 38 46.2 +0.3**
MLR Muntele Rosu 94.71 316 P **P 01 38 45.5 -0.4**
comp=Z,6.2nm,1.0s,baz=5.0,slow=3.4,SNR=20
BURAR Bucovina Array 94.80 318 ⇓ *iP* **P 01 38 47.0 +0.7**
BUR08 Bucovina Ar. S 94.80 318 *eP* **P 01 38 46.3 0.0**
LVV L'vov 95.11 321 *eP* **P 01 38 47.2 -0.3**
VOIR 95.33 316 ⇓ *P* **P 01 38 50.6 +1.8**
VOIR 95.33 316 ⇓ *iP* **P 01 38 50.6 +1.8**

HUMR Humele 95.56 315 ⇓ *iP* **P 01 38 50.2 +0.5**
BMR Baia Mare 95.92 319 ⇓ *P* **P 01 38 52.0 +0.7**
BMR Baia Mare 95.92 319 ⇓ *iP* **P 01 38 52.0 +0.7**
BBB Bella Bella 95.99 37 LR LR 02 22 24.1
comp=Z,516nm,18.2s,baz=263,slow=36
KWP Kalwaria Pacla 95.99 321 *eP* **P 01 38 51.9 +0.4**
KWP Kalwaria Pacla 95.99 321 *eP* **P 01 38 51.9 +0.4**
KWP Kalwaria Pacla 95.99 321 ⇑ *P* **P 01 38 52.8 +1.2**
KWP Kalwaria Pacla 95.99 321 *eP* **P 01 38 51.8 +0.2**
comp=Z,40nm,1.0s
KWP LR LR
comp=Z,1μm,20.0s
KWP Kalwaria Pacla 95.99 321 ⇑ *iP* **P 01 38 52.8 +1.2**
KOLS Kolonicke sedl 96.43 320 *eP* **P 01 38 54.1 +0.5**
KOLS Kolonicke sedl 96.43 320 *eP* **P 01 38 54.0 +0.5**
TRPA Tarpa 96.45 319 ⇑ *iP* **P 01 38 54.1 +0.5**
TRPA Tarpa 96.45 319 ⇓ *ePKKPbc* **P 01 38 53.8 +0.2**
UZH Uzhgorod 96.49 320 ⇓ *eP* **P 01 38 53.5 -0.3**
UZH *e* 01 39 08.9
BEL Belsk 96.63 323 *eP* **P 01 38 55.1 +0.8**
BEL Belsk 96.63 323 *eP* **P 01 38 55.1 +0.8**
BEL Belsk 96.63 323 *eP* **P 01 38 55.1 +0.8**
DRGR 96.64 318 ⇑ *P* **P 01 38 55.2 +0.6**
DRGR 96.64 318 ⇑ *iP* **P 01 38 55.2 +0.6**
GZR Gura Zlata 96.91 316 ⇑ *P* **P 01 38 55.9 0.0**
GZR Gura Zlata 96.91 316 ⇑ *iP* **P 01 38 55.9 0.0**
DAG Danmarks Havn 96.93 352 *i P* **P 01 38 54.6 -0.6**
DAG pmax pmax
comp=Z,18nm,1.0s
DAG Danmarks Havn 96.93 352 *i P* **P 01 38 54.6 -0.6**
comp=Z,179nm,1.0s
CRVS Cervenica-Dubn 96.96 320 *eP* **P 01 38 56.2 +0.2**
CRVS Cervenica-Dubn 96.96 320 *eP* **P 01 38 56.2 +0.2**
VTS Vitosha 97.21 314 ⇓ *P* Pdif 01 38 57.8 +0.3
VTS Vitosha 97.21 314 ⇓ *iP* Pdif 01 38 57.8 +0.3
RES Resolute Bay 97.47 10 *eP* Pdif 01 38 58.0 +0.3
comp=Z,7.6nm,0.3s
NIE Niedzica 97.56 321 *eP* Pdif 01 38 59.0 +0.3
NIE Niedzica 97.56 321 *eP* Pdif 01 38 59.5 +0.8
BZS Buzias 97.65 317 ⇓ *P* **P 01 38 58.4 -0.7**
BZS Buzias 97.65 317 ⇓ *iP* **P 01 38 58.4 -0.7**
OJC Ojcow 97.66 322 *eP* **P 01 38 59.1 0.0**
OJC Ojcow 97.66 322 *eP* **P 01 38 59.3 +0.2**
OJC pmax pmax
comp=Z,47nm,1.4s
OJC Ojcow 97.66 322 *eP* **P 01 38 59.3 +0.2**
comp=Z,47nm,1.4s
HFS Hagfors 97.75 332 P Pdif 01 39 00.2 +0.9
HFS Hagfors 97.75 332 P Pdif 01 39 00.2 +0.9
baz=106,slow=4.8
PSZ Piszkesteto 98.22 319 *eP* **P 01 39 00.8 -1.0**
PSZ pmax pmax
comp=Z,29nm,1.3s
PSZ MLR MLR
comp=Z,978nm,19.0s
PSZ Piszkesteto 98.22 319 *eP* **P 01 39 00.8 -1.0**
comp=Z,29nm,1.3s
PSZ LR LR
comp=Z,978nm,19.0s
PSZ Piszkesteto 98.22 319 ⇓ *e* **P 01 39 02.0 +0.3**
NB2 NORSAR Subarra 98.52 334 P **P 01 39 02.3 -0.4**
baz=64,slow=4.6
NB2 NORSAR Subarra 98.52 334 P **P 01 39 02.3 -0.4**
comp=Z,14nm,1.1s,baz=64,slow=4.6
NOA NORSAR Array B 98.52 334 P **P 01 39 02.5 -0.3**
NOA NORSAR Array B 98.52 334 P **P 01 39 02.5 -0.3**
comp=Z,5.2nm,0.9s,baz=66,slow=4.5,SNR=9.4
VYHS Vyhne 98.74 320 *eP* **P 01 39 04.2 +0.2**
VYHS Vyhne 98.74 320 PDIF **P 01 39 04.2 +0.2**
OKC Ostrava-Krasne 98.79 322 *eP* **P 01 39 03.7 -0.5**
OKC MLR MLR
comp=Z,700nm,17.9s
OKC Ostrava-Krasne 98.79 322 *e*PDIFF **P 01 39 03.7 -0.5**
OKC AMS AMS 02 25 50.0
comp=Z,700nm,17.9s
BUD Budapest 98.90 319 ⇓ *e* **P 01 39 05.3 +0.6**
RKT Rikitea 99.14 113 *e*SKSac **SKSac 01 49 38.9 -4.1**
comp=Z,422nm,27.5s
RKT *e*SP **SP 01 51 58.9 -3.3**
comp=Z,364nm,28.8s
RKT *e*LR LR 02 11 11.8
comp=Z,727nm,26.5s
YKA Yellowknife Ar 99.17 24 P **Pdif 01 39 05.0 -0.5**
YKA Yellowknife Ar 99.17 24 P **Pdif 01 39 05.0 -0.5**
comp=Z,1.0nm,0.5s,baz=298,slow=4.3,SNR=13
MORC Moravsky Berou 99.19 322 ⇓ *P* **Pdif 01 39 07.5 +1.5**
MORC Moravsky Berou 99.19 322 ⇓ *iP* **Pdif 01 39 07.5 +1.5**
LSZ Lusaka 99.36 255 *eP* **Pdif 01 39 07.5 -0.1**
comp=Z,9.1nm,0.8s
LSZ LR LR
comp=Z,1μm,22.0s
PKSM Moragy 99.51 318 ⇑ *P* **Pdif 01 39 07.3 -0.1**
PKSM Moragy 99.51 318 ⇑ *iP* **Pdif 01 39 07.3 -0.1**
PKSM Moragy 99.51 318 ⇓ *e* **Pdif 01 39 07.4 0.0**
JMIC Jan Mayen 99.55 346 LR LR 02 29 37.3
comp=Z,1μm,18.8s,baz=261,slow=39
KSP Ksiaz 99.62 323 *eP* **Pdif 01 39 08.9 +1.1**
KSP Ksiaz 99.62 323 *eP* **Pdif 01 39 08.9 +1.1**
KSP Ksiaz 99.62 323 *eP* **Pdif 01 39 07.9 +0.1**
KSP MLR MLR
comp=Z,4μm,18.8s
DPC Dobruska-Polom 99.76 322 *eP* **Pdif 01 39 09.1 +0.6**
DPC MLR MLR
comp=Z,2μm,20.8s
DPC Dobruska-Polom 99.76 322 *e*Pdif **Pdif 01 39 09.4 +0.8**
comp=Z,32nm,1.3s
DPC Dobruska-Polom 99.76 322 *e*PDIFF **Pdif 01 39 09.1 +0.6**
DPC AMS AMS 02 26 30.0
comp=Z,2μm,20.8s
KONO Kongsberg 99.84 333 PFAKE 01 39 20.0 +11
KONO LR LR
comp=Z,2μm,19.0s
UPC Upice 99.89 323 *eP* **Pdif 01 39 09.4 +0.3**
UPC Upice 99.89 323 *e*PDIFF **Pdif 01 39 09.4 +0.3**
VRAC Vranov 99.92 321 ⇑ *iP* **Pdif 01 39 10.6 +1.4**
NLWA Neilton Lookou 99.94 41 PFAKE 01 39 20.0 +11
NLWA LR LR
comp=Z,926nm,20.0s
TREC Trest 100.61 322 *eP* **Pdif 01 39 12.8 +0.5**
TREC MLR MLR
comp=Z,900nm,23.4s
TREC Trest 100.61 322 *e*PDIFF **Pdif 01 39 12.8 +0.5**
TREC AMS AMS 02 26 40.0
comp=Z,900nm,23.4s
PVCC Panska Ves 100.76 323 *eP* **Pdif 01 39 13.5 +0.6**
PVCC MLR MLR
comp=Z,2μm,16.6s
PVCC Panska Ves 100.76 323 *e*PDIFF **Pdif 01 39 13.5 +0.6**
PVCC AMS AMS 02 27 00.0
comp=Z,2μm,16.6s
PRU Pruhonice 100.96 323 *eP* **Pdif 01 39 13.5 -0.3**
PRU MLR MLR
comp=Z,2μm,19.2s
PRU Pruhonice 100.96 323 *e*PDIFF **Pdif 01 39 13.5 -0.3**
PRU AMS AMS 02 27 20.0
comp=Z,2μm,19.2s
PRA Prague 100.99 323 PDIFF **Pdif 01 39 14.0 0.0**
BRG Berggiesshubel 101.01 324 *eP* **Pdif 01 39 14.0 0.0**
comp=Z,31nm,1.2s
BRG Berggiesshubel 101.01 324 *e*Pdiff **Pdif 01 39 14.9 +0.9**
BRG Berggiesshubel 101.01 324 *eP* **Pdif 01 39 14.0 0.0**
BRG pmax pmax
comp=Z,31nm,1.2s
FBE Freiberg 101.34 324 *e*Pdiff **Pdif 01 39 16.7 +1.2**
CLL Collm 101.41 324 *e*Pdiff **Pdif 01 39 16.3 +0.5**
CLL Collm 101.41 324 ⇓ *iP* **Pdif 01 39 16.1 +0.3**
CLL *e* 01 43 23.0
CLL pmax pmax
comp=Z,24nm,1.4s
CLL MLR MLR
comp=Z,1μm,19.3s
CLL Collm 101.41 324 ⇓ *i*Pdif **Pdif 01 39 16.1 +0.3**
comp=Z,24nm,1.4s
CLL *e*PP **PP 01 43 23.0 -2.2**
CLL *e*Sdif Sdif 01 51 14.0 +20
CLL *e*PS **PS 01 52 24.0 -5.1**
CLL *e*PPS PPS 01 53 24.0
CLL *e*SS **SS 01 57 54.0 -0.5**
CLL *e* 02 02 42.0
CLL LmV 02 28 00.0
comp=N,600nm,20.6s
CLL LmV 02 28 00.0
comp=E,600nm,20.8s
CLL LmV 02 28 00.0

comp=Z,1μm,19.3s
KHC Kasperske Hory 101.84 322 *e*P Pdif 01 39 18.4 +0.6
KHC MLR MLR
comp=Z,1μm,18.4s
KHC Kasperske Hory 101.84 322 *e*PDIFF Pdif 01 39 18.4 +0.6
KHC AMS AMS 02 28 00.0
comp=Z,1μm,18.4s
LBTB Lobatse 101.86 245 PFAKE 01 39 30.0 +12
LBTB LR LR
comp=Z,608nm,20.0s
GEC2 GERESS Array S 101.86 322 *e*Pdiff Pdif 01 39 18.8 +0.8
GERES GERESS Array B 101.86 322 P Pdif 01 39 18.6 +0.6
GERES GERESS Array B 101.86 322 P Pdif 01 39 18.6 +0.6
comp=Z,3.2nm,0.8s,baz=75,slow=5.7,SNR=16
TANN Tannenbergstha 102.06 323 *e*Pdiff Pdif 01 39 19.7 +0.9
BOSA Boshof 102.07 242 PFAKE 01 39 30.0 +11
BOSA LR LR
comp=Z,874nm,22.0s
NKC Novy Kostel 102.13 323 *e*P Pdif 01 39 19.9 +0.8
NKC MLR MLR
comp=Z,2μm,18.7s
NKC Novy Kostel 102.13 323 *e*PDIFF Pdif 01 39 19.9 +0.8
NKC AMS AMS 02 28 30.0
comp=Z,2μm,18.7s
WERD Werda 102.14 323 *e*Pdiff Pdif 01 39 19.9 +0.8
GUNZ Gunzen 102.15 323 *e*Pdiff Pdif 01 39 20.1 +0.9
WERN Wernitzgruen 102.15 323 *e*Pdiff Pdif 01 39 20.2 +1.0
NEUB Neuenburg 102.16 324 *e*Pdiff Pdif 01 39 20.0 +0.9
PLN Plauen 102.21 324 *e*Pdiff Pdif 01 39 20.4 +1.0
WET Wettzell 102.27 322 *e*Pdiff Pdif 01 39 20.9 +1.2
ROTZ Rotzenmuhle 102.45 323 *e*Pdiff Pdif 01 39 21.9 +1.4
MOX Moxa 102.47 324 *e*Pdiff Pdif 01 39 21.5 +1.0
NRDL Niedersach Rie 102.60 326 *e*Pdiff Pdif 01 39 22.3 +1.3
CLZ Clausthal 102.72 325 *e*Pdiff Pdif 01 39 23.0 +1.3
SCO Scoresbysund 102.72 350 *e*P Pdif 01 39 22.7 +1.5
SCO pmax pmax
comp=Z,3.0nm,1.1s
SCO Scoresbysund 102.72 350 *i* P Pdif 01 39 22.7 +1.5
comp=Z,2.7nm,1.1s
TIP Timpagrande 102.79 312 PFAKE 01 39 30.0 +7.7
TIP LR LR
comp=Z,1μm,19.0s
GRF Grafenberg Arr 103.07 323 *e*Pdiff Pdif 01 39 24.2 +1.0
HAWA Hanford 103.08 41 PFAKE 01 39 30.0 +6.7
HAWA LR LR
comp=Z,577nm,20.0s
CUC Castrocucco 103.26 313 PFAKE 01 39 40.0 +16
CUC LR LR
comp=Z,885nm,22.0s
NEW Newport 103.92 38 *e*Pdif Pdif 01 39 28.6 +1.4
NEW LR LR
comp=Z,461nm,19.0s
AQU L'Aquila 104.26 315 PFAKE 01 39 40.0 +11
AQU LR LR
comp=Z,932nm,19.0s
TNS Taunus Mts 104.49 324 *e*Pdiff Pdif 01 39 31.1 +1.5
STU Stuttgart 104.65 323 *e*Pdiff Pdif 01 39 31.3 +1.0
FUORN Ofenpass-Fuorn 104.84 320 *e*Pdif Pdif 01 39 32.2 +0.7
WVOR Wild Horse Val 105.05 44 PFAKE 01 44 00.0
WVOR LR LR
comp=Z,764nm,19.0s
BMO Blue Mountains 105.09 42 PFAKE 01 44 00.0
BMO LR LR
comp=Z,546nm,20.0s
BFO Black Forest 105.36 323 PFAKE 01 44 00.0
BFO LR LR
comp=Z,1μm,19.0s
TUE Stuetta 105.48 320 PFAKE 01 44 00.0
TUE LR LR
comp=Z,985nm,19.0s
VLC Villacollemand 105.69 318 PFAKE 01 44 00.0
VLC LR LR
comp=Z,1μm,21.0s
WLF Walferdange 106.07 324 PFAKE 01 44 00.0
WLF LR LR
comp=Z,1μm,20.0s
ECH Echery 106.11 323 PFAKE 01 44 00.0
ECH LR LR
comp=Z,1μm,20.0s
MSO Missoula 106.47 39 PFAKE 01 44 00.0
MSO LR LR
comp=Z,401nm,20.0s
MFID Camas Ranch 106.62 42 *e*Pdif Pdif 01 39 43.3 +4.0
NVAR Mina Array Bea 106.63 48 Pdif Pdif 01 39 40.9 +1.3
NVAR PKKPbc **PKKPbc 01 55 12.9 +2.5**
NVAR Mina Array Bea 106.63 48 Pdiff Pdif 01 39 40.9 +1.3
comp=Z,0.9nm,0.8s,baz=266,slow=4.1,SNR=5.5
NVAR PKKPbc **PKKPbc 01 55 12.9 +2.5**
comp=Z,0.6nm,0.6s,baz=132,slow=5.4,SNR=4.9
BMN Battle Mountai 106.74 46 PFAKE 01 44 00.0
BMN LR LR
comp=Z,750nm,20.0s
MTUM Tungsten Hills 106.79 49 *e*Pdif Pdif 01 39 41.9 +1.6
HLID Hailey 107.51 42 PFAKE 01 44 00.0
HLID LR LR
comp=Z,501nm,20.0s
LPG La Plagne 107.53 320 *e*PKIKP PKiKP 01 43 56.9 +5.2
comp=Z,90nm,1.7s
LPG La Plagne 107.53 320 *e*PKPdf PKiKP 01 43 56.9 +5.2
TPH Tonopah 107.55 48 PFAKE 01 44 00.0
TPH LR LR
comp=Z,879nm,22.0s
BNI Bardonecchia 107.77 320 PFAKE 01 44 00.0
BNI LR LR
comp=Z,2μm,20.0s
DAC Darwin (Calif) 107.87 50 PFAKE 01 44 00.0
DAC LR LR
comp=Z,1μm,20.0s
ESK Eskdalemuir 107.98 333 PFAKE 01 44 00.0
ESK LR LR
comp=Z,1μm,20.0s
BOZ Bozeman (W) 108.43 39 PFAKE 01 44 10.0
BOZ LR LR
comp=Z,478nm,22.0s
EGMT Eagleton 108.47 36 PFAKE 01 44 00.0
EGMT LR LR
comp=Z,627nm,20.0s
SSF Saint Saulge 108.84 323 *e*PKIKP PKiKP 01 43 51.5 -2.2
SSF Saint Saulge 108.84 323 *e*PKPdf PKiKP 01 43 51.5 -2.2
FFC Flin Flon 108.90 27 PFAKE 01 44 10.0
FFC LR LR
comp=Z,998nm,22.0s
TSUM Tsumeb 109.47 251 PFAKE 01 44 10.0
TSUM LR LR
comp=Z,930nm,21.0s
PFO Pinyon Flat Ob 109.62 52 PFAKE 01 44 10.0
PFO LR LR
comp=Z,631nm,20.0s
LKWY Lake 109.69 40 PFAKE 01 44 10.0
LKWY LR LR
comp=Z,809nm,21.0s
REDW Red Top Meadow 109.94 41 *e*Pdif Pdif 01 39 54.9 +0.6
DUG Dugway 109.95 45 PFAKE 01 44 10.0
DUG LR LR
comp=Z,591nm,19.0s
AHID Auburn Hatcher 110.04 42 PFAKE 01 44 10.0
AHID LR LR
comp=Z,444nm,20.0s
RLMT Red Lodge 110.15 39 PFAKE 01 44 10.0
RLMT LR LR
comp=Z,425nm,20.0s
HWUT Hardware Ranch 110.23 43 PFAKE 01 44 10.0
HWUT LR LR
comp=Z,736nm,22.0s
D22A Cohagen 111.01 36 ⇑P PKiKP 01 43 58.5 +0.6
baz=111
BW06 Boulder Array 111.06 41 PFAKE 01 44 10.0
BW06 LR LR
comp=Z,942nm,21.0s
MVU Marysvale 111.06 46 PFAKE 01 44 10.0
MVU LR LR
comp=Z,794nm,21.0s
PDAR Pinedale Array 111.06 41 PKKPbc PKKPbc 01 54 56.8 +0.3
PDAR Pinedale Array 111.06 41 PKKPbc PKKPbc 01 54 56.8 +0.3
comp=Z,0.5nm,0.8s,baz=114,slow=4.4,SNR=3.4
DGMT Dagmar 111.42 34 PFAKE 01 44 10.0
DGMT LR LR
comp=Z,658nm,20.0s
J20A Shoshoni 111.74 40 ⇑P PKiKP 01 44 00.5 +1.0
baz=112
F23A Volborg 112.21 37 ⇓P PKiKP 01 44 01.3 +1.1
baz=112
J22A Midwest 112.73 39 ⇑P PKiKP 01 44 01.7 +0.2
baz=113
N20A Spence Gulch, 112.81 42 ⇓P PKiKP 01 44 03.0 +1.2
baz=113
WUAZ Wupatki 112.86 49 PFAKE 01 44 10.0
WUAZ LR LR
comp=Z,536nm,20.0s
L21A Rawlins 112.87 41 ⇑P PKiKP 01 44 02.3 +0.5
baz=113
H24A Dirks Ranch, A 113.23 37 ⇓P PKiKP 01 44 03.0 +0.8
baz=113
T18A Mexican Hat 113.31 47 ⇑P PKiKP 01 44 03.5 +0.8
baz=113
MVCO Mesa Verde 114.27 46 PFAKE 01 44 20.0 +15
MVCO LR LR
comp=Z,818nm,21.0s
MVCO Mesa Verde 114.27 46 ⇑P PKPdf 01 44 05.6 +1.0
baz=114
TUC Tucson 114.54 52 PFAKE 01 44 20.0 +15
TUC LR LR
comp=Z,710nm,21.0s
S21A Coal Bank Pass 114.57 45 ⇓P PKPdf 01 44 06.2 +0.9
baz=114
ULM Lac du Bonnet 114.63 29 PKP PKPdf 01 44 05.3 +0.7
ULM Lac du Bonnet 114.63 29 PKP PKPdf 01 44 05.3 +0.7
comp=Z,1.1nm,0.7s,baz=295,slow=1.2,SNR=4.1
ISCO Idaho Springs 115.08 42 PFAKE 01 44 20.0 +14
ISCO LR LR
comp=Z,450nm,20.0s
ISCO Idaho Springs 115.08 42 ⇓P PKPdf 01 44 07.2 +1.0
baz=115
T22A Edith 115.50 46 ⇓P PKPdf 01 44 09.0 +1.9
baz=115
R23A Moffat 115.71 44 ⇑P PKPdf 01 44 08.7 +1.2
baz=116
AGMN Agassiz Nation 115.94 30 PFAKE 01 44 20.0 +13
AGMN LR LR
comp=Z,702nm,19.0s
X21A Alamocita Cree 115.98 49 ⇓P PKPdf 01 44 08.5 +0.5
baz=116
SDCO Great Sand Dun 116.14 44 PFAKE 01 44 20.0 +12
SDCO LR LR
comp=Z,480nm,19.0s
P25A Willow Gulch B 116.19 42 ⇑P PKPdf 01 44 09.1 +0.9
baz=116
320A Kipp Ranch, An 116.69 52 ⇓P PKPdf 01 44 10.0 +0.6
baz=117
P26A Davis Ranch, A 116.71 42 ⇓P PKPdf 01 44 09.8 +0.6
baz=117
ANMO Albuquerque 116.75 47 PFAKE 01 44 20.0 +11
ANMO LR LR
comp=Z,462nm,19.0s
TAM Tamanrasset 116.79 298 PFAKE 01 44 20.0 +10
TAM LR LR
comp=Z,323nm,20.0s
Y22A Socorro 116.81 49 ⇓P PKPdf 01 44 10.4 +0.9
baz=117
OGNE Ogallala 116.83 40 PFAKE 01 44 20.0 +11
OGNE LR LR
comp=Z,592nm,20.0s
ESLA Sonseca Array 117.25 319 PFAKE 01 44 20.0 +10
ESLA LR LR
comp=Z,5μm,20.0s
W24A Lazy 6 Ranch, 117.40 47 ⇓P PKPdf 01 44 11.8 +1.1
baz=117
U25A Circle Dot Ran 117.55 45 ⇑P PKPdf 01 44 12.2 +1.2
baz=118
PAB San Pablo 117.57 319 PFAKE 01 44 20.0 +9.3
PAB LR LR
comp=Z,986nm,20.0s
V25A Rancho No Teng 117.67 46 ⇓P PKPdf 01 44 11.9 +0.7
baz=118
T26A Comanche Natio 117.75 44 ⇑P PKPdf 01 44 11.5 +0.2
baz=118
Y24A Capitan 117.96 48 ⇓P PKPdf 01 44 12.3 +0.5
baz=118
W25A X Bar L Ranch, 118.08 46 ⇑P PKPdf 01 44 12.9 +1.0
baz=118
EYMN Ely 118.31 28 PFAKE 01 44 20.0 +8.2
EYMN LR LR
comp=Z,639nm,19.0s
ECSD EROS Data Cent 118.47 35 *e*PKPdf PKPdf 01 44 12.8 +0.6
ECSD LR LR
comp=Z,624nm,21.0s
124A Stringfield Ra 118.49 49 ⇑P PKPdf 01 44 13.9 +1.0
baz=118
Y25A Mesa, Roswell 118.51 48 ⇑P PKPdf 01 44 13.7 +0.9
baz=118
MNTX Cornudas Mount 118.98 50 PFAKE 01 44 30.0 +16
MNTX LR LR
comp=Z,469nm,21.0s
BGNE Belgrade 118.99 37 ⇓P PKPdf 01 44 13.9 +0.6
baz=119
CBKS Cedar Bluff 119.48 41 PFAKE 01 44 30.0 +16
CBKS LR LR
comp=Z,659nm,21.0s
226A Malaga, Loving 119.80 49 ⇓P PKPdf 01 44 16.0 +0.7
baz=120
Z27A Tatum 119.88 48 ⇑P PKPdf 01 44 15.5 0.0
baz=120
SCHQ Schefferville 120.23 9 PKP PKPdf 01 44 16.7 +1.4
SCHQ *e*PKPdf **PKiKP 01 44 17.0 +1.6**
SCHQ LR LR
comp=Z,1μm,21.0s
SCHQ Schefferville 120.23 9 PKP PKPdf 01 44 16.7 +1.4
comp=Z,5.8nm,0.8s,baz=17,slow=5.4,SNR=12
AMTX Amarillo 120.23 45 PFAKE 01 44 30.0 +14
AMTX LR LR
comp=Z,846nm,19.0s
EVO Evora 120.51 320 *e*PKIKP PKPdf 01 44 16.7 +0.4
comp=Z,65nm,1.4s
EVOP Sao Brissos 120.58 320 *e*PKIKP PKPdf 01 44 16.7 +0.3
EVOP Sao Brissos 120.58 320 *e*PKPdf PKPdf 01 44 16.7 +0.3
128A Castleberry Fa 120.75 48 ⇑P PKPdf 01 44 17.3 +0.2
baz=121
427A Hayter Ranch, 120.88 50 ⇓P PKPdf 01 44 18.0 +0.6
baz=121
527A Woodward Ranch 121.03 51 ⇑P PKPdf 01 44 18.3 +0.6
baz=121
328A Wristen Ranch, 121.09 50 ⇑P PKPdf 01 44 18.5 +0.8
baz=121
MDT Midelt 121.17 312 PKP PKPdf 01 44 19.3 +1.4
MDT Midelt 121.17 312 PKP PKPdf 01 44 19.3 +1.4
comp=Z,3.1nm,0.8s,baz=73,slow=0.5,SNR=7.7
KSU1 Kansas State U 121.31 39 PFAKE 01 44 30.0 +12
KSU1 LR LR
comp=Z,602nm,22.0s
TXAR Lajitas Array 121.34 52 PKP PKPdf 01 44 19.4 +1.1
TXAR Lajitas Array 121.34 52 PKP PKPdf 01 44 19.4 +1.1
comp=Z,1.2nm,0.9s,baz=267,slow=1.7,SNR=4.9
428A Kincaid Ranch, 121.48 50 ⇓P PKPdf 01 44 19.3 +0.7
baz=121
627A Terlingua Ranc 121.51 52 ⇓P PKPdf 01 44 19.1 +0.4
baz=121
SCIA State Center 121.56 34 PFAKE 01 44 30.0 +12
SCIA LR LR
comp=Z,607nm,22.0s
528A Cox Ranch, San 121.66 51 ⇓P PKPdf 01 44 19.6 +0.7
baz=122
628A Black Gap, Mar 121.88 52 ⇓P PKPdf 01 44 20.3 +1.0
baz=122
RTC Rabat Centre 122.20 315 PFAKE 01 44 30.0 +10
RTC LR LR
comp=Z,385nm,20.0s
WMOK Wichita Mounta 122.35 44 *e*PKIKP PKPdf 01 44 20.6 +0.6
WMOK MLR MLR
comp=Z,678nm,19.0s
WMOK Wichita Mounta 122.35 44 *e*PKPdf PKPdf 01 44 20.6 +0.6
WMOK LR LR
comp=Z,678nm,19.0s
TOA0 Torodi Ar. Sit 122.88 288 *e*PKPdf PKPdf 01 44 21.7 +0.3
TORD Torodi Ar. Bea 122.88 288 PKP PKPdf 01 44 22.0 +0.5
TORD Torodi Ar. Bea 122.88 288 PKP PKPdf 01 44 22.0 +0.5
comp=Z,2.6nm,0.7s,baz=59,slow=2.5,SNR=40
JCT Junction City 123.79 49 *e*PKIKP PKPdf 01 44 23.6 +0.7
JCT MLR MLR
comp=Z,543nm,19.0s
JCT Junction City 123.79 49 *e*PKPdf PKPdf 01 44 23.6 +0.7
JCT LR LR
comp=Z,543nm,19.0s
JCT Junction City 123.79 49 ⇓P PKPdf 01 44 23.5 +0.7
baz=124
GLMI Grayling 123.80 27 PFAKE 01 44 30.0 +7.5
GLMI LR LR
comp=Z,758nm,20.0s
HDIL Hopedale 124.65 33 PFAKE 01 44 40.0 +16
HDIL LR LR
comp=Z,516nm,19.0s
FVM French Village 125.77 36 *e*PKIKP PKPdf 01 44 26.7 +0.2
FVM French Village 125.77 36 *e*PKPdf PKPdf 01 44 26.6 +0.2
MIAR Mount Ida 125.98 41 *e*PKIKP PKPdf 01 44 27.9 +1.0
MIAR MLR MLR
comp=Z,891nm,22.0s
MIAR Mount Ida 125.98 41 *e*PKPdf PKPdf 01 44 27.9 +1.0
MIAR LR LR
comp=Z,891nm,22.0s
AAM Ann Arbor 126.20 28 PFAKE 01 44 40.0 +13
AAM LR LR
comp=Z,481nm,20.0s
OLIL Olney 126.58 34 *e*PKPdf PKPdf 01 44 28.8 +0.9
KVTX Kingsville 126.67 51 PFAKE 01 44 40.0 +12
KVTX LR LR
comp=Z,442nm,19.0s
NATX Nacogdoches 126.86 45 PFAKE 01 44 40.0 +11
NATX LR LR
comp=Z,595nm,20.0s
HKT Hockley 127.01 47 PKIKP PKPdf 01 44 30.1 +1.2
HKT Hockley 127.01 47 PKPdf PKPdf 01 44 30.1 +1.2
LONY Lake Ozonia 127.88 19 PFAKE 01 44 40.0 +10
LONY LR LR
comp=Z,718nm,22.0s
ERPA Erie 127.98 25 PFAKE 01 44 40.0 +9.5
ERPA LR LR
comp=Z,802nm,22.0s
ACSO Alum Creek Sta 128.13 29 PFAKE 01 44 40.0 +9.1
ACSO LR LR
comp=Z,1μm,19.0s
NCB Newcomb 128.58 19 PFAKE 01 44 40.0 +8.4
NCB LR LR
comp=Z,698nm,20.0s
OXF Oxford 128.68 39 PFAKE 01 44 40.0 +7.9
OXF LR LR
comp=Z,633nm,22.0s
LBNH Lisbon 129.05 17 PFAKE 01 44 40.0 +7.5
LBNH LR LR
comp=Z,756nm,20.0s
PLAL Pickwick Lake 129.18 37 *e*PKPdf PKPdf 01 44 33.0 0.0
PLAL LR LR
comp=Z,541nm,20.0s
VBMS Vicksburg 129.43 42 PFAKE 01 44 50.0 +16
VBMS LR LR
comp=Z,878nm,21.0s
BINY Binghamton 129.51 22 PFAKE 01 44 50.0 +17
BINY LR LR
comp=Z,651nm,19.0s
DBIC Dimbokro 130.57 282 PKPdf PKPdf 01 44 36.9 +0.7
DBIC PKP PKPdf 01 44 37.2 +1.0
DBIC SKPbc SKPab 01 47 59.4 +1.5
DBIC LR LR
comp=Z,375nm,21.0s
DBIC Dimbokro 130.57 282 PKP PKPdf 01 44 37.2 +1.0
comp=Z,7.7nm,0.8s,baz=90,slow=2.6,SNR=12
DBIC SKPbc **SKPab 01 47 59.4 +1.5**
comp=Z,4.3nm,0.7s,baz=128,slow=7.5,SNR=3.7
LIC Lamto 130.82 282 *e*PKIKP PKPdf 01 44 36.2 -0.5
comp=Z,23nm,0.9s
LIC Lamto 130.82 282 *e*PKPdf PKPdf 01 44 36.2 -0.5
LRAL Lakeview Retre 131.16 38 PFAKE 01 44 50.0 +13
LRAL LR LR
comp=Z,570nm,20.0s
BLA Blacksburg 131.74 29 PFAKE 01 44 50.0 +12
BLA LR LR
comp=Z,597nm,20.0s
SHEL Horse Pasture 131.92 252 PFAKE 01 44 50.0 +11
SHEL LR LR
comp=Z,744nm,19.0s
CBN Corbin 132.34 26 PFAKE 01 44 50.0 +11
CBN LR LR
comp=Z,1μm,20.0s
BRAL Brewton 132.46 40 PFAKE 01 44 50.0 +11
BRAL LR LR
comp=Z,558nm,19.0s
GOGA Godfrey 133.00 35 PFAKE 01 44 50.0 +10
GOGA LR LR
comp=Z,649nm,20.0s
CNNC Cliffs of the 134.54 29 PFAKE 01 44 50.0 +6.9
CNNC LR LR
comp=Z,2μm,19.0s
NHSC New Hope 135.06 33 PFAKE 01 45 00.0 +16
NHSC LR LR
comp=Z,832nm,20.0s
PLCA Paso Flores 140.29 159 PKP PKPdf 01 44 53.6 -0.1
PLCA LR LR
comp=Z,589nm,19.0s
PLCA Paso Flores 140.29 159 PKP PKPdf 01 44 53.6 -0.1
comp=Z,3.3nm,0.8s,baz=305,slow=0.9,SNR=2.1
TGUH Tegucigalpa,Un 141.71 61 PFAKE 01 45 10.0 +13
TGUH LR LR
comp=Z,445nm,21.0s
BBSR BB Station 142.15 16 PFAKE 01 45 10.0 +13
BBSR LR LR
comp=Z,420nm,20.0s
SACV Santiago Islan 145.11 303 PFAKE 01 45 10.0 +7.2
SACV LR LR
comp=Z,392nm,19.0s
TRQA Tornquist 145.23 168 *e*PKPdf PKPbc 01 45 02.1 +0.1
TRQA LR LR
comp=Z,602nm,21.0s
GRTK Grand Turk 149.10 34 PFAKE 01 45 20.0 +2.4
GRTK LR LR
comp=Z,381nm,19.0s
LCO Las Campanas 150.14 148 *e*PKPbc PKPbc 01 45 16.9 +0.7
BCIP Isla Barro Col 150.37 64 PFAKE 01 45 20.0 -3.1
BCIP LR LR
comp=Z,656nm,20.0s
SDDR Presa de Saban 150.99 37 *e*PKPbc PKPbc 01 45 19.2 +1.0
SDDR LR LR
comp=Z,651nm,20.0s
OTAV Otavalo 154.41 81 *e*PKPdf PKPdf 01 45 17.7 -0.4
OTAV LR LR
comp=Z,425nm,22.0s
SJG San Juan 154.53 30 PFAKE 01 45 30.0 +4.1
SJG LR LR
comp=Z,411nm,21.0s
NNA Nana 155.32 110 PFAKE 01 45 30.0 +11
NNA LR LR
comp=Z,531nm,21.0s
ROSC El Rosal 157.11 67 PKP PKPdf 01 45 23.3 +1.7
ROSC El Rosal 157.11 67 PKP PKPdf 01 45 23.3 +1.7
comp=Z,2.6nm,0.3s,baz=264,slow=23,SNR=4.4
CPUP Villa Florida 157.51 170 PKP PKPdf 01 45 23.5 +2.3
CPUP PKPab **PKPab 01 45 53.3 +0.5**
CPUP Villa Florida 157.51 170 PKP PKPdf 01 45 23.5 +2.3
comp=Z,1.0nm,0.6s,baz=328,slow=20,SNR=3.0
CPUP PKPab **PKPab 01 45 53.3 +0.5**
comp=Z,5.1nm,0.7s,baz=153,slow=3.0,SNR=8.5
SDV Santo Domingo 158.38 53 *e*PKPdf PKPdf 01 45 23.9 +0.9
SDV LR LR
comp=Z,200nm,22.0s
FDF Fort de France 159.73 23 PFAKE 01 45 40.0 +16
FDF LR LR
comp=Z,1μm,19.0s
SPB Sao Paulo 159.81 195 PFAKE 01 45 40.0 +16
SPB LR LR
comp=Z,563nm,22.0s
LPAZ La Paz 160.96 131 *e*PKPdf PKPdf 01 45 27.7 +1.4
LPAZ LR LR
comp=Z,446nm,20.0s
GRGR Grenville 161.84 27 PFAKE 01 45 40.0 +13
GRGR LR LR
comp=Z,551nm,19.0s
RCBR Riachuelo 162.68 264 PFAKE 01 45 40.0 +13
RCBR LR LR
comp=Z,778nm,20.0s
BDFB Brasilia 167.42 204 PKPab PKPab 01 46 36.8 +0.3
BDFB LR LR
comp=Z,1μm,21.0s
BDFB Brasilia 167.42 204 PKPab PKPab 01 46 36.8 +0.3
comp=Z,6.4nm,1.0s,baz=79,slow=1.2,SNR=4.8
SAML Samuel 168.96 117 *e*PKPdf PKPdf 01 45 33.2 +0.7
SAML LR LR
comp=Z,704nm,20.0s

IPEC ***12*** *01:25:54.3±0.3,51°.61N×16°.26E,h0km,ML2.8/3,Error ellipse: s-maj=2.0km s-min=1.6km az=38.0*
WAR ***12*** *01:25:55.4,51°.56N×16°.02E*
ISCJB ***12*** *01:25:55.3±0.5,51°.42N±0°.03×16°.08E±0°.03,h0km,Error ellipse: s-maj=4.1km s-min=2.3km az=21.8*
CSEM ***12*** *01:25:55.4±0.2,51°.52N×16°.12E,h2km,ML3.8/10,Error ellipse: s-maj=4.0km s-min=2.4km az=22.0*
BGR ***12*** *01:25:56.8±0.5,51°.49N×16°.12E,h1km,ML3.2/15,Error*

ellipse: s-maj=6.7km s-min=2.2km az=15.0
*PRU **12** 01:25:56.8,51°.48N×16°.10E,h0km*
*VIE **12** 01:25:58.5±0.6,51°.32N×16°.06E,h0km,mb2.6/5,ML3.1/6, Error ellipse: s-maj=4.2km s-min=3.7km az=137.0 70 km WNW of Wroclaw Suspected Mining induced.*
*LDG **12** 01:26:00.9±0.2,51°.15N×15°.76E,h1km,Ml3.5/4,Error ellipse: s-maj=5.9km s-min=3.4km az=3.0,Suspected Mining induced.*

ISC 12 01:25:55.3±0.9,51°.56N±0°.03×16°.09E±0°.02,h0km,n74,
σ1s00/119,5C-3D,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**170**	*e*Pg	**Pg**	**01 26 09.2**	**0.0**
KSP				*e*Sg	**Sg**	**01 26 17.8**	**-0.8**
KSP	**Ksiaz**	**0.73**	**170**	*e*Pg	**Pg**	**01 26 09.2**	**0.0**
KSP				*e*Sg	**Sg**	**01 26 17.8**	**-0.8**
KSP	**Ksiaz**	**0.73**	**170**	*e*L	L	01 26 23.0	
KSP	**Ksiaz**	**0.73**	**170**	*e*Pg	**Pg**	**01 26 09.3**	**0.0**
	SNR=14						
KSP	**Ksiaz**	**0.73**	**170**	*e*Pg	**Pg**	**01 26 09.1**	**0.0**
	baz=358						
KSP				*e*Sg	**Sg**	**01 26 18.7**	**+0.1**
UPC	**Upice**	**1.05**	**183**	*e*PG	**Pg**	**01 26 15.2**	**-0.2**
UPC	**Upice**	**1.05**	**183**	Pg	**Pg**	**01 26 15.2**	**-0.2**
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*Pg	**Pg**	**01 26 18.1**	**-0.5**
	SNR=43						
DPC				*e*Sg	**Sg**	**01 26 33.7**	**-0.7**
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*PG	**Pg**	**01 26 17.9**	**-0.7**
DPC				*e*SG	**Sg**	**01 26 32.2**	**-2.2**
	comp=Z,65nm,0.3s						
DPC	**Dobruska-Polom**	**1.22**	**173**	Pg	**Pg**	**01 26 17.9**	**-0.7**
DPC				Sg	**Sg**	**01 26 33.7**	**-0.7**
PVCC	**Panska Ves**	**1.41**	**224**	*e*PG	**Pb**	**01 26 22.0**	**-0.4**
PVCC				*e*SG	**Sn**	**01 26 40.8**	**-0.6**
	comp=Z,322nm,0.3s						
PVCC	**Panska Ves**	**1.41**	**224**	Pg	**Pb**	**01 26 22.0**	**-0.4**
PVCC	**Panska Ves**	**1.41**	**224**	*e*Pn	**Pb**	**01 26 22.5**	**+0.1**
	baz=44						
PVCC				Sg	**Sn**	**01 26 40.8**	**-0.6**
	322nm,0.3s						
BRG	**Berggiesshubel**	**1.51**	**244**	PN	**Pb**	**01 26 23.9**	**-0.3**
BRG				PG	**Pg**	**01 26 24.8**	**+0.5**
BRG				SG	**Sn**	**01 26 45.4**	**+1.3**
	210nm,0.6s						
KRLC	**Kraliky**	**1.55**	**163**	*e*PG	**Pn**	**01 26 23.7**	**-0.5**
KRLC	**Kraliky**	**1.55**	**163**	Pg	**Pn**	**01 26 23.7**	**-0.5**
PRA	**Prague**	**1.82**	**216**	PG	**Pn**	**01 26 28.0**	**+0.1**
PRA				*ex*	x	01 26 57.0	
FBE	**Freiberg**	**1.83**	**251**	*e*Pg	**Pg**	**01 26 30.3**	**-0.1**
	SNR=16						
FBE				*e*Sg	**Sg**	**01 26 54.6**	**+0.4**
FBE	**Freiberg**	**1.83**	**251**	Pg	**Pg**	**01 26 30.3**	**-0.1**
	SNR=16						
FBE				Sg	**Sg**	**01 26 54.6**	**+0.4**
PRU	**Pruhonice**	**1.85**	**213**	*e*PN	**Pn**	**01 26 27.8**	**-0.5**
PRU				*e*PG	**Pb**	**01 26 29.6**	**-0.4**
PRU				*e*SG	**Sg**	**01 26 53.8**	**-1.0**
	comp=Z,105nm,0.4s						
PRU	**Pruhonice**	**1.85**	**213**	Pn	**Pn**	**01 26 27.8**	**-0.5**
CLL	**Collm**	**1.95**	**264**	*e*Pg	**Pg**	**01 26 32.9**	**+0.3**
	SNR=6.2						
CLL				*e*Sg	**Sg**	**01 26 58.4**	**+0.6**
CLL	**Collm**	**1.95**	**264**	*e*Pn	**Pn**	**01 26 29.0**	**-0.6**
CLL				*e*Pg	**Pg**	**01 26 33.0**	**+0.3**
CLL				*i*		01 26 35.8	
CLL				*i*		01 26 36.5	
CLL				*e*Sg	**Sg**	**01 26 58.0**	**+0.1**
	comp=Z,135nm,0.8s						
CLL	**Collm**	**1.95**	**264**	Pg	**Pg**	**01 26 32.9**	**+0.3**
	SNR=6.2						
CLL				Sg	**Sg**	**01 26 58.4**	**+0.6**
RAC	**Raciborz**	**1.99**	**137**	*e*Pg	**Pb**	**01 26 32.3**	**0.0**
RAC				*e*Sg	**Sg**	**01 26 59.7**	**+0.5**
MORC	**Moravsky Berou**	**2.01**	**152**	*e*Pn	**Pn**	**01 26 29.8**	**-0.7**
	SNR=19						
MORC	**Moravsky Berou**	**2.01**	**152**	Pn	**Pn**	**01 26 29.8**	**-0.7**
	SNR=19						
MORC				*e*Sg	**Sn**	**01 26 57.3**	**+1.0**
	comp=Z,58nm,0.4s,baz=336						
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*Pn	**Pn**	**01 26 31.7**	**-0.9**
	SNR=2.5						
OKC				*e*Pg	**Pb**	**01 26 35.6**	**+0.3**
	SNR=7.9						
OKC				*e*Sg	**Sb**	**01 27 03.2**	**+0.5**
OKC	**Ostrava-Krasne**	**2.16**	**142**	*e*PG	**Pb**	**01 26 35.5**	**+0.3**
OKC				*e*SG	**Sn**	**01 27 01.5**	**+1.5**
OKC	**Ostrava-Krasne**	**2.16**	**142**	Pn	**Pn**	**01 26 31.7**	**-0.9**
	SNR=2.5						
VRAC	**Vranov**	**2.27**	**172**	*e*Pn	**Pn**	**01 26 33.5**	**-0.6**
VRAC				*e*Sg	**Sb**	**01 27 06.3**	**+0.4**
	comp=Z,62nm,0.6s,baz=355						
KRUC	**Moravsky**	**2.51**	**175**	*e*Pn	**Pn**	**01 26 37.0**	**-0.3**
	baz=358						
KRUC				*e*Sg	**Sb**	**01 27 14.1**	**+1.6**
	comp=Z,39nm,0.6s,baz=358						
TANN	**Tannenbergstha**	**2.56**	**245**	*e*Pn	**Pn**	**01 26 38.3**	**+0.2**
	SNR=7.0						
TANN	**Tannenbergstha**	**2.56**	**245**	Pn	**Pn**	**01 26 38.3**	**+0.2**
	SNR=7.0						
WERD	**Werda**	**2.63**	**247**	*e*Pn	**Pn**	**01 26 39.6**	**+0.5**
	SNR=2.7						
WERD				*e*Sg	**Sg**	**01 27 19.4**	**-0.5**
WERD	**Werda**	**2.63**	**247**	Pn	**Pn**	**01 26 39.6**	**+0.5**
	SNR=2.7						
WERD				Sg	**Sg**	**01 27 19.4**	**-0.5**
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN	**Pn**	**01 26 39.8**	**+0.4**
NKC				*e*PG	**Pn**	**01 26 45.6**	**-0.7**
NKC				*e*SG	**Sg**	**01 27 20.8**	**+0.1**
	comp=Z,180nm,0.3s						
NKC	**Novy Kostel**	**2.66**	**242**	Pn	**Pn**	**01 26 39.8**	**+0.4**
OJC	**Ojcow**	**2.70**	**118**	*e*Pg	**Pb**	**01 26 46.0**	**+1.5**
OJC				*e*Sg	**Sb**	**01 27 21.1**	**+2.8**
OJC	**Ojcow**	**2.70**	**118**	*e*Pn	**Pn**	**01 26 39.8**	**-0.2**
	SNR=2.1						
OJC				*e*Pg	**Pb**	**01 26 46.1**	**+1.6**
	SNR=10.0						
OJC	**Ojcow**	**2.70**	**118**	Pn	**Pn**	**01 26 39.8**	**-0.2**
	SNR=2.1						
OJC	**Ojcow**	**2.70**	**118**	Pg	**Pb**	**01 26 46.1**	**+1.6**
	SNR=10.0						
OJC				*e*Sg	**Sg**	**01 27 21.6**	**-0.5**
KHC	**Kasperske Hory**	**2.91**	**214**	*e*PN	**Pn**	**01 26 42.8**	**-0.1**
KHC				*e*PG	**Pb**	**01 26 48.9**	**+0.8**
KHC				*e*SG	**Sg**	**01 27 25.8**	**-3.0**
	comp=Z,37nm,0.6s						
KHC	**Kasperske Hory**	**2.91**	**214**	Pn	**Pn**	**01 26 42.8**	**-0.1**
MOX	**Moxa**	**2.96**	**254**	*e*Pn	**Pn**	**01 26 43.8**	**+0.2**
	SNR=2.8						
MOX				*e*Sg	**Sg**	**01 27 30.3**	**-0.2**
MOX	**Moxa**	**2.96**	**254**	Pn	**Pn**	**01 26 43.8**	**+0.2**
	SNR=2.8						
MOX				Sg	**Sg**	**01 27 30.3**	**-0.2**
ROTZ	**Rotzenmuhle**	**3.05**	**236**	*e*Pn	**Pn**	**01 26 45.4**	**+0.6**
	SNR=9.1						
ROTZ	**Rotzenmuhle**	**3.05**	**236**	Pn	**Pn**	**01 26 45.4**	**+0.6**
	SNR=9.1						
GEC2	**GERESS Array S**	**3.12**	**210**	*e*Pn	**Pn**	**01 26 46.1**	**+0.3**
	SNR=7.9						
GEC2	**GERESS Array S**	**3.12**	**210**	Pn	**Pn**	**01 26 46.1**	**+0.3**
	SNR=7.9						
SMOL	**Smolenice**	**3.17**	**164**	*e*PN	**Pn**	**01 26 45.7**	**-0.7**
SMOL				*e*SG	**Sg**	**01 27 35.7**	**-1.3**
SMOL	**Smolenice**	**3.17**	**164**	*e*Pn	**Pn**	**01 26 45.7**	**-0.7**
SMOL				*e*Sg	**Sg**	**01 27 35.7**	**-1.3**
WET	**Wettzell**	**3.17**	**222**	*e*Pn	**Pn**	**01 26 47.0**	**+0.5**
	SNR=7.9						
WET	**Wettzell**	**3.17**	**222**	Pn	**Pn**	**01 26 47.0**	**+0.5**
	SNR=7.9						
VYHS	**Vyhne**	**3.54**	**149**	*e*SG	**Sg**	**01 27 47.4**	**-1.6**
VYHS	**Vyhne**	**3.54**	**149**	*e*Sg	**Sg**	**01 27 47.4**	**-1.6**
CLZ	**Clausthal**	**3.57**	**277**	*e*Pn	**Pn**	**01 26 53.4**	**+1.4**
	SNR=4.6						
CLZ	**Clausthal**	**3.57**	**277**	Pn	**Pn**	**01 26 53.4**	**+1.4**
	SNR=4.6						
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**01 26 51.9**	**-0.8**
BSD				*i* S	**Sn**	**01 27 31.7**	**-4.6**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**01 26 51.9**	**-0.8**
CONA	**Conrad Observa**	**3.63**	**182**	⇓*i*Pn	**Pn**	**01 26 53.6**	**+0.7**
	comp=Z,0.4nm,0.1s						
CONA				⇓*i*Sg	**Sg**	**01 27 50.4**	**-1.7**
	comp=Z,27nm,0.3s						
CONA	**Conrad Observa**	**3.63**	**182**	Pn	**Pn**	**01 26 53.6**	**+0.7**
	comp=Z,0.4nm,0.1s						
CONA				Sg	**Sg**	**01 27 50.4**	**-1.7**
	comp=Z,27nm,0.3s						
MOA	**Molln**	**3.90**	**198**	⇑*i*Pn	**Pn**	**01 26 56.7**	**+0.3**
	comp=Z,3.1nm,0.2s						
MOA				⇓*i*Sg	**Sg**	**01 28 00.5**	**+0.1**
	comp=Z,30nm,0.4s						
MOA	**Molln**	**3.90**	**198**	Pn	**Pn**	**01 26 56.7**	**+0.3**
	comp=Z,3.1nm,0.2s						
MOA				Sg	**Sg**	**01 28 00.5**	**+0.1**
	comp=Z,30nm,0.4s						
ARSA	**Arzberg**	**4.33**	**185**	⇑*i*Pn	**Pn**	**01 27 03.8**	**+1.4**
	comp=Z,0.3nm,0.2s						
ARSA				⇑*i*Sg	**Sg**	**01 28 13.8**	**-0.4**
	comp=Z,16nm,0.7s						
ARSA	**Arzberg**	**4.33**	**185**	Pn	**Pn**	**01 27 03.8**	**+1.4**
	comp=Z,0.3nm,0.2s						
ARSA				Sg	**Sg**	**01 28 13.8**	**-0.4**
	comp=Z,16nm,0.7s						
KBA	**Koelnbreinsper**	**4.83**	**203**	⇑*i*Pn	**Pn**	**01 27 09.8**	**+0.4**
	comp=Z,1.5nm,0.3s						
KBA				⇑*i*Sg	**Sg**	**01 28 30.5**	**+0.2**
	comp=Z,23nm,0.7s						
KBA	**Koelnbreinsper**	**4.83**	**203**	Pn	**Pn**	**01 27 09.8**	**+0.4**
	comp=Z,1.5nm,0.3s						
KBA				Sg	**Sg**	**01 28 30.5**	**+0.2**
	comp=Z,23nm,0.7s						
CDF	**Champ du Feu**	**6.50**	**244**	*e*Pn	**Pn**	**01 27 31.9**	**-0.3**
CDF				*e*Sg	Sb	01 29 13.9	+6.5
	comp=Z,20nm,0.8s						
CDF	**Champ du Feu**	**6.50**	**244**	*e*Pn	**Pn**	**01 27 31.9**	**-0.3**
HINF	**Hinteralfeld**	**7.06**	**242**	*e*Pn	**Pn**	**01 27 38.3**	**-1.6**
HINF				*e*Sg	Sb	01 29 31.1	+7.5
	comp=Z,8.8nm,0.6s						
HINF	**Hinteralfeld**	**7.06**	**242**	*e*Pn	**Pn**	**01 27 38.3**	**-1.6**
HAU	**Haudompre**	**7.24**	**244**	*e*Sg	Sb	01 29 36.6	+8.0
	comp=Z,12nm,0.7s						
CABF	**La Chapelle**	**8.22**	**237**	*e*Pn	**Pn**	**01 27 52.9**	**-2.9**

IDC 12 01:27:52.2±1.2,3°.13N×125°.41E,h0km,mb4.6/6,
mb1 4.7/6,mb1mx4.4/20,mbtmp4.6/6,MS5.0/4,Ms1 5.0/4,
ms1mx4.4/36,Error ellipse: s-maj=83.7km
s-min=25.4km az=63.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.55**	**159**	P	P	01 33 13.7	-0.2
	11nm,0.5s						
PSI	**Prapat**	**26.45**	**270**	LR	LR	01 44 35.8	
	comp=Z,5μm,18.6s,baz=112,slow=38						
CTA	**Charters Tower**	**30.84**	**139**	LR	LR	01 46 01.1	
	comp=Z,4μm,18.4s,baz=354,slow=35						
STKA	**Stephens Creek**	**38.06**	**157**	LR	LR	01 51 45.0	
	comp=Z,1μm,20.8s,baz=104,slow=38						
MKAR	**Makanchi Array**	**57.31**	**326**	P	P	01 37 42.0	0.0
	5.1nm,0.6s,baz=115,slow=5.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**60.53**	**334**	P	P	01 38 02.2	-1.9
	2.0nm,0.5s,baz=142,slow=6.5,SNR=3.1						
KURBB	**Kurchatov Arra**	**61.54**	**328**	P	P	01 38 11.8	+0.6
	6.9nm,0.6s,baz=130,slow=6.3,SNR=6.3						
BVAR	**Borovoye Array**	**67.11**	**328**	P	P	01 38 48.5	+0.8
	8.9nm,1.0s,baz=134,slow=8.3,SNR=4.7						
ILAR	**Eielson Array**	**86.21**	**25**	P	P	01 40 35.8	+0.4
	1.8nm,0.8s,baz=240,slow=6.7,SNR=4.7						
MMAI	**Mount Meron Ar**	**88.32**	**303**	LR	LR	02 23 00.3	
	comp=Z,564nm,21.3s,baz=95,slow=38						

IDC 12 01:31:14.3±1.6,3°.96N×126°.15E,h0km,mb4.2/5,
mb1 4.3/5,mb1mx3.9/20,mbtmp4.2/5,Error ellipse:
s-maj=201.3km s-min=19.5km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.08**	**162**	P	P	01 36 39.5	-1.3
	6.1nm,0.7s						
ASAR	**Alice Springs**	**28.48**	**165**	P	P	01 37 12.9	+1.4
	2.1nm,0.9s,baz=342,slow=9.2,SNR=2.5						
SONM	**Songino Array**	**46.90**	**342**	P	P	01 39 47.0	+0.3
	0.6nm,0.5s,baz=152,slow=9.5,SNR=2.9						
MKAR	**Makanchi Array**	**57.04**	**325**	P	P	01 41 02.7	+0.5
	1.2nm,0.4s,baz=115,slow=7.7,SNR=7.4						
KURBB	**Kurchatov Arra**	**61.23**	**328**	P	P	01 41 30.2	-1.0
	1.9nm,0.4s,baz=128,slow=6.2,SNR=8.7						

*IDC **12** 01:35:19.2±0.5,3°.81N×126°.53E,h0km,mb4.4/23,*
mb1 4.5/23,mb1mx4.5/25,mbtmp4.4/23,Error ellipse:
s-maj=29.1km s-min=10.7km az=72.0
*ISCJB **12** 01:35:22.2±0.4,3°.89N±0°.05×126°.79E±0°.09,h33km,*
mb4.5/44,MS4.4/2, Error ellipse: s-maj=12.8km
s-min=6.9km az=165.8
*BJI **12** 01:35:23.3,4°.10N×127°.20E,h35km,mB5.3/15,mb4.7/22,*
Ms4.9/11,Ms7 4.8/11
*NEIC **12** 01:35:24.1±0.4,3°.92N×126°.86E,h35km,mb4.6/15,Error ellipse: s-maj=12.8km s-min=7.7km az=73.0*
*DJA **12** 01:35:30,3°.59N×126°.87E,h63km,mb4.7/8*
ISC 12 01:35:20.2±1.4,3°.90N±0°.07×126°.7E±0°.1,h6km±7km,n90,
σ1s72/105,mb4.6/42,1C-5D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.76**	**322**	*e*P	**Pg**	**01 36 11.2**	**-1.9**
GSPH				*e*S	**Sg**	**01 36 47.0**	**-1.8**
MATI	**Mati**	**3.05**	**353**	*e*P	**Pg**	**01 36 17.9**	**-0.9**
BUKP	**Musuan**	**4.26**	**338**	*e*P	Pb	01 36 31.0	-4.5
PAGZ	**Pagadian**	**5.10**	**320**	*e*P	Pb	01 36 43.7	-6.1
KKM	**Kota Kinabalu**	**10.61**	**282**	*e*Pn	Pn	01 37 57.7	+4.7
KSM	**Kuching**	**16.50**	**262**	*e*Pn	P	01 39 18.3	+3.2
	14nm,0.8s						
SSLB	**Suanglung**	**20.52**	**345**	P	**P**	**01 40 00.0**	**+0.6**
	8.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.88**	**183**	P	**P**	**01 40 13.6**	**-0.4**
FITZ	**Fitzroy Crossi**	**21.88**	**183**	P	**P**	**01 40 13.6**	**-0.4**
	4.4nm,0.9s,baz=14,slow=7.5,SNR=4.8						
WRAB	**Tennant Creek**	**24.86**	**163**	*e*P	**P**	**01 40 42.7**	**-1.0**
	28nm,1.0s						
WRA	**Warramunga Arr**	**24.87**	**163**	P	**P**	**01 40 43.4**	**-0.4**
WRA	**Warramunga Arr**	**24.87**	**163**	P	**P**	**01 40 43.4**	**-0.4**
	20nm,0.8s,baz=234,slow=0.0,SNR=2.7						
MBWA	**Marble Bar**	**25.81**	**195**	*e*P	**P**	**01 40 52.5**	**+0.2**
	7.1nm,0.9s						
ASAR	**Alice Springs**	**28.30**	**166**	P	**P**	**01 41 15.8**	**+1.1**
ASAR				S	**S**	**01 46 01.1**	**-0.4**
ASAR	**Alice Springs**	**28.30**	**166**	P	**P**	**01 41 15.8**	**+1.1**
	1.8nm,0.7s,baz=335,slow=10,SNR=9.3						
ASAR				S	**S**	**01 46 01.1**	**-0.4**
	0.8nm,0.7s,baz=341,slow=19,SNR=4.9						
NJ2	**Nanjing**	**28.95**	**346**	*e*P	P	01 41 25.6	+5.2
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GYA	**Guiyang**	**29.49**	**322**	P	**P**	**01 41 27.9**	**+2.5**
GYA				pP	PP	01 41 37.6	-54
GYA				S	**S**	**01 46 21.0**	**+0.5**
GYA				sS	sS	01 46 36.9	+13
GYA				SS	**SnSn**	**01 47 55.0**	**+7.4**
GYA				ScS	ScS	01 52 01.3	-7.2
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.8s						
GYA				LR	LR		
	comp=N,460nm,18.5s						
GYA				LR	LR		
	comp=E,420nm,19.3s						
GYA				LR	LR		
	comp=Z,450nm,18.9s						
CMAR	**Chiang Mai Arr**	**30.72**	**300**	P	**P**	**01 41 37.4**	**+1.1**
CMAR	**Chiang Mai Arr**	**30.72**	**300**	P	**P**	**01 41 37.4**	**+1.1**
	comp=Z,2.0nm,0.3s,baz=130,slow=7.9,SNR=6.8						
KMI	**Kunming**	**31.21**	**315**	P	P	01 41 47.1	+6.4
KMI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KSAR	**Wonju Array Be**	**33.40**	**2**	P	**P**	**01 42 01.2**	**+1.7**
KSRS	**Korea Array**	**33.42**	**2**	P	**P**	**01 42 01.2**	**+1.6**
	comp=Z,1.6nm,0.5s,baz=175,slow=8.9,SNR=6.0						
BJT	**Baijiatuan**	**37.19**	**347**	*e*P	**P**	**01 42 31.3**	**-0.9**
	comp=Z,25nm,0.6s						
BJI	**Beijing**	**37.21**	**347**	P	**P**	**01 42 33.8**	**+1.5**
BJI				pmax	pmax		
	comp=Z,33nm,0.7s						
STKA	**Stephens Creek**	**38.31**	**159**	P	**P**	**01 42 41.0**	**-0.8**
	comp=Z,3.7nm,0.7s						
STKA	**Stephens Creek**	**38.31**	**159**	P	**P**	**01 42 41.7**	**-0.1**
	comp=Z,18nm,0.7s,baz=335,slow=8.3,SNR=20						
LZH	**Lanzhou**	**38.32**	**330**	*e*P	**P**	**01 42 42.2**	**+0.2**
LZH				pP	pP	01 42 50.0	+6.1
LZH				sP	sP	01 42 55.0	+10
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC	**Hu-ho-hao-te**	**39.22**	**342**	*e*P	**P**	**01 42 50.5**	**+1.1**
HHC				pP	pP	01 43 00.3	+9.0
HHC				sP	sP	01 43 05.1	+13
HHC				PP	**PnPn**	**01 44 26.0**	**+4.1**
HHC				S	**ScP**	**01 48 48.8**	**+0.9**
HHC				sS	S	01 49 05.5	+15
HHC				SS	**SnSn**	**01 51 36.5**	**-6.7**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,500nm,3.7s						
HHC				LR	LR		
	comp=N,490nm,15.5s						
HHC				LR	LR		
	comp=E,680nm,15.5s						
HHC				LR	LR		
	comp=Z,970nm,17.8s						
CN2	**Changchun**	**39.75**	**359**	*e*P	**P**	**01 42 51.3**	**-2.4**
CN2				*e*pP	pP	01 43 01.2	+5.6
CN2				PcP	**PcP**	**01 44 57.8**	**-2.3**
CN2				*e*S	S	01 48 53.3	-4.6
USRK	**Ussuriysk Arra**	**40.41**	**6**	P	**P**	**01 43 00.1**	**+0.9**
	comp=Z,1.6nm,0.5s,baz=201,slow=7.4,SNR=4.4						
MDJ	**Mudanjiang**	**40.63**	**3**	P	**P**	**01 42 58.9**	**-2.1**
MDJ				pmax	pmax		
	comp=Z,11nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,280nm,7.5s						
LSA	**Lhasa**	**42.27**	**311**	*e*P	**P**	**01 43 16.4**	**+1.2**
	comp=Z,50nm,2.1s						
HIA	**Hailar**	**45.59**	**354**	*e*P	**P**	**01 43 38.6**	**-2.4**
SONM	**Songino Array**	**47.11**	**341**	P	**P**	**01 43 53.8**	**+0.6**
SONM				PcP	**PcP**	**01 45 25.5**	**+0.5**
SONM	**Songino Array**	**47.11**	**341**	P	**P**	**01 43 53.8**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=155,slow=8.2,SNR=7.1						
SONM				PcP	**PcP**	**01 45 25.5**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=158,slow=3.3,SNR=5.2						
PETK	**Petropavlovsk-**	**55.30**	**22**	P	**P**	**01 44 56.0**	**+1.5**
PETK	**Petropavlovsk-**	**55.30**	**22**	P	**P**	**01 44 56.0**	**+1.5**
	comp=Z,2.9nm,0.7s,baz=199,slow=5.9,SNR=5.2						
MK31	**Makanchi Array**	**57.37**	**325**	*e*P	**P**	**01 45 09.1**	**-0.4**
MKAR	**Makanchi Array**	**57.37**	**325**	*e*P	**P**	**01 45 09.4**	**0.0**
MKAR				PcP	**PcP**	**01 46 03.1**	**-0.2**
MKAR				ScP	**ScP**	**01 50 06.5**	**+2.5**
MKAR	**Makanchi Array**	**57.37**	**325**	P	**P**	**01 45 09.2**	**-0.2**
	comp=Z,2.4nm,0.5s,baz=119,slow=7.4,SNR=19						
MKAR				PcP	**PcP**	**01 46 03.1**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=128,slow=4.5,SNR=3.8						
MKAR				ScP	**ScP**	**01 50 06.5**	**+2.5**
	comp=Z,0.6nm,0.7s,baz=114,slow=4.4,SNR=5.6						
KSH	**Kashi**	**57.87**	**315**	*e*P	**P**	**01 45 14.5**	**+1.3**
KSH				pP	PcP	01 45 24.4	-41
KSH				sP	sP	01 45 28.6	+13
KSH				PcP	PcP	01 46 05.9	+0.3
KSH				PP	**PP**	**01 47 25.7**	**+4.2**
KSH				ScP	**ScP**	**01 50 01.8**	**-4.7**
KSH				PcS	**PcS**	**01 50 05.9**	**-1.1**
KSH				S	**S**	**01 53 12.0**	**-1.6**
KSH				sS	sS	01 53 29.9	+13
KSH				ScS	**ScS**	**01 54 58.3**	**-5.4**
KSH				SS	**SS**	**01 57 05.9**	**+1.5**
TKM2	**Tokmak 2**	**59.57**	**319**	*e*P	**P**	**01 45 25.9**	**+0.8**
AAK	**Ala-Archa**	**60.18**	**318**	P	**P**	**01 45 29.5**	**+0.3**
AAK	**Ala-Archa**	**60.18**	**318**	P	**P**	**01 45 29.5**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=125,slow=12,SNR=4.2						
ZALV	**Zalesovo Beam**	**60.40**	**333**	P	**P**	**01 45 29.7**	**-0.6**
ZALV	**Zalesovo Beam**	**60.40**	**333**	P	**P**	**01 45 29.7**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=131,slow=6.5,SNR=4.6						
EKS2	**Erkin-Say**	**60.67**	**318**	*e*P	**P**	**01 45 33.5**	**+1.0**
	comp=Z,3.1nm,0.6s						
KBL	**Kabul**	**61.36**	**307**	*e*P	**P**	**01 45 37.3**	**-0.2**
	comp=Z,5.6nm,0.7s						
KURBB	**Kurchatov Arra**	**61.56**	**327**	P	**P**	**01 45 38.0**	**-0.2**
	comp=Z,6.7nm,0.8s,baz=127,slow=6.3,SNR=26						
KURK	**Kurchatov**	**61.56**	**327**	*e*P	**P**	**01 45 37.9**	**-0.2**
	comp=Z,9.2nm,0.7s						
BVAR	**Borovoye Array**	**67.14**	**327**	P	**P**	**01 46 15.5**	**+0.7**
BVAR	**Borovoye Array**	**67.14**	**327**	P	**P**	**01 46 15.5**	**+0.7**
	comp=Z,9.0nm,1.0s,baz=126,slow=7.5,SNR=13						
BRVK	**Borovoye**	**67.21**	**327**	*e*P	**P**	**01 46 16.3**	**+1.1**
	comp=Z,15nm,1.1s						
ABKAR	**Akbulak array**	**71.97**	**321**	*e*P	**P**	**01 46 44.0**	**-0.6**
	comp=Z,2.6nm,0.6s						
AKTO	**Aktyubinsk**	**73.48**	**322**	P	**P**	**01 46 53.6**	**0.0**
AKTO	**Aktyubinsk**	**73.48**	**322**	P	**P**	**01 46 53.6**	**0.0**
	comp=Z,5.4nm,0.8s,

comp=Z,589nm,19.6s,baz=128,slow=34
SONM Songino Array 47.27 341 P P 01 49 13.3 -0.2
0.5nm,0.7s,baz=159,slow=7.5,SNR=4.0
MKAR Makanchi Array 57.60 325 P P 01 50 29.9 -0.2
0.7nm,0.5s,baz=119,slow=6.9,SNR=9.1
KURBB Kurchatov Arra 61.77 327 P P 01 50 59.2 +0.5
1.6nm,0.6s,baz=129,slow=6.1,SNR=13
BVAR Borovoye Array 67.36 327 P P 01 51 34.7 -0.5
1.4nm,0.7s,baz=122,slow=10,SNR=6.7

IDC 12 01:41:46.3±0.7, 4.06N×126.58E, h0km, mb4.0/14, mb1 4.1/14, mb1mx4.0/23, mbtmp4.0/14, MS3.9/1, Ms1 3.9/1, ms1mx3.2/48, Error ellipse: s-maj=44.2km s-min=14.5km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.15**	**342**	LR	LR	01 43 18.9	
	comp=Z,2μm,19.7s,baz=69,slow=29						
FITZ	**Fitzroy Crossi**	**22.04**	**182**	P	P	01 46 44.6	+2.0
	1.6nm,0.7s,baz=9.6,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**25.04**	**163**	P	P	01 47 11.5	-0.8
	2.0nm,0.4s						
ASAR	**Alice Springs**	**28.47**	**166**	P	P	01 47 43.3	0.0
	0.3nm,0.4s,baz=352,slow=15,SNR=4.1						
STKA	**Stephens Creek**	**38.49**	**159**	P	P	01 49 09.5	-0.8
	3.0nm,0.8s,baz=0.5,slow=8.0,SNR=5.1						
SONM	**Songino Array**	**46.94**	**341**	P	P	01 50 19.8	+0.9
	0.7nm,0.7s,baz=159,slow=9.6,SNR=4.4						
PETK	**Petropavlovsk-**	**55.19**	**22**	P	P	01 51 20.8	+0.1
	1.0nm,0.5s,baz=188,slow=7.1,SNR=5.3						
MKAR	**Makanchi Array**	**57.20**	**325**	P	P	01 51 35.1	-0.1
	1.5nm,0.5s,baz=121,slow=7.9,SNR=16						
ZALV	**Zalesovo Beam**	**60.23**	**333**	P	P	01 51 55.3	-0.9
	1.3nm,0.5s,baz=114,slow=6.4,SNR=6.5						
KURBB	**Kurchatov Arra**	**61.38**	**327**	P	P	01 52 03.9	-0.2
	3.5nm,0.8s,baz=123,slow=6.4,SNR=15						
BVAR	**Borovoye Array**	**66.96**	**327**	P	P	01 52 40.7	-0.1
	0.8nm,0.6s,baz=110,slow=5.0,SNR=4.5						
AKTO	**Aktyubinsk**	**73.31**	**322**	P	P	01 53 20.7	+1.0
	1.2nm,0.6s,baz=109,slow=11,SNR=6.1						
ILAR	**Eielson Array**	**84.88**	**25**	P	P	01 54 23.9	+1.1
	0.2nm,0.5s,baz=263,slow=4.7,SNR=5.3						
ARCES	**ARCESS Array B**	**90.09**	**340**	P	P	01 54 46.7	-1.1
	3.0nm,0.9s,baz=80,slow=7.9						
FINES	**FINESS Array B**	**91.47**	**332**	P	P	01 54 53.5	-0.9
	0.4nm,0.4s,baz=79,slow=7.2,SNR=3.8						

IDC 12 01:42:03.9±0.3, 4.06N×126.56E, h0km, mb5.3/36, mb1 5.3/36, mb1mx5.3/37, mbtmp5.3/36, MS4.8/1, Ms1 4.8/1, ms1mx3.6/49, Error ellipse: s-maj=15.2km s-min=8.1km az=73.0

MOS 12 01:42:07.2±1.0, 4.02N×126.56E, h33km, mb5.7/71, Error ellipse: s-maj=9.0km s-min=4.4km az=115.0

TEH 12 01:42:09.0, 4.04N×126.75E, h35km, ML5.4

NEIC 12 01:42:09.6±0.8, 4.01N×126.63E, h42km±7km, mb5.5/87, Error ellipse: s-maj=6.0km s-min=3.6km az=72.0

BJI 12 01:42:09.3, 4.20N×126.57E, h33km, mB5.6/20, mb5.5/55, Ms5.0/28, Ms7 4.8/26

ISCJB 12 01:42:10.4±0.4, 3.98N±0.02×126.69E±0.03, h65km±3km, mb5.4/168, Error ellipse: s-maj=4.6km s-min=3.3km az=164.2

DJA 12 01:42:14, 3.84N×126.72E, h79km, mb5.4/34

ISC 12 01:42:09.0±0.3, 4.00N±0.03×126.55E±0.04, h34km±1km, h35km:pP-P,n707,σ1९27/775, mb5.6/165, MS4.8/14, 137C-71D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.62**	**322**	*e*P	**Pb**	**01 42 53.8**	**-1.5**
MATI	**Mati**	**2.94**	**354**	*e*P	**Pb**	**01 42 58.2**	**-2.5**
MNI	**Manado**	**3.06**	**214**	P	**Pn**	**01 42 58.0**	**+3.0**
DAV	**Davao City (W)**	**3.20**	**342**	*e*Pn	**Pn**	**01 42 58.6**	**+1.7**
DAV				Sn	**Sb**	**01 43 40.6**	**-3.1**
DAV	**Davao City (W)**	**3.20**	**342**	P	Pb	01 43 01.5	-3.6
	SNR=19						
DAV	**Davao City (W)**	**3.20**	**342**	P	**Pb**	**01 43 04.4**	**-0.7**
DAV	**Davao City (W)**	**3.20**	**342**	Pn	Pn	01 43 00.8	+4.0
	84nm,0.3s,baz=196,slow=2.9,SNR=16						
DAV				Sn	**Sb**	**01 43 40.6**	**-3.1**
	178nm,0.3s,baz=269,slow=23,SNR=4.2						
TNTI	**Ternate**	**3.31**	**166**	P	**Pn**	**01 42 59.5**	**+1.1**
KCP	**Kidapawan**	**3.32**	**334**	⇑*e*P	**Pb**	**01 43 08.2**	**+0.9**
KCP				*i* S	**Sb**	**01 43 49.9**	**+2.5**
BUKP	**Musuan**	**4.13**	**339**	*e*P	Pn	01 43 14.3	+4.6
KMSI	**Cibinong**	**4.26**	**217**	P	Pn	01 43 15.7	+4.2
LBMI	**Labuha**	**4.71**	**168**	P	**Pn**	**01 43 19.5**	**+1.9**
PAGZ	**Pagadian**	**4.95**	**321**	*e*P	Pn	01 43 26.0	+5.0
MRSI	**Marisa**	**5.79**	**233**	P	Pn	01 43 36.2	+3.8
	2μm,0.6s,17μm6.3nm						
LUWI	**Luwuk**	**6.28**	**217**	P	Pn	01 43 45.0	+5.8
	3μm,0.9s,25μm8.7nm						
MSLP	**Maasin**	**6.32**	**345**	*e*P	Pn	01 43 47.0	+7.2
SWI	**Sorong**	**6.74**	**136**	P	**Pn**	**01 43 44.3**	**-1.3**
	343nm,1.0s						
LLP	**Lapu-Lapu**	**6.78**	**338**	*e*P	Pn	01 43 51.5	+5.5
NLAI	**Namlea**	**7.21**	**176**	P	**Pn**	**01 43 53.4**	**+1.3**
	279nm,0.6s,3μm1.3nm						
OCLP	**Ormoc**	**7.26**	**345**	*e*P	Pn	01 43 59.8	+7.1
GUIM	**Jordan**	**7.67**	**329**	*e*P	Pb	01 44 11.7	-10
TSM	**Tawau**	**8.66**	**272**	P	Pn	01 44 16.9	+4.9
KDI	**Kendari**	**8.83**	**206**	P	**Pn**	**01 44 15.7**	**+1.5**
	86nm,0.8s,3μm0.8nm						
FAKI	**Fak Fak**	**8.93**	**140**	P	**Pn**	**01 44 15.4**	**-0.2**
	120nm,1.3s,0.4nm						
SDKM	**Sandakan**	**9.46**	**280**	P	Pn	01 44 28.9	+5.8
TTSI	**Tana Toraja**	**9.71**	**224**	P	Pn	01 44 30.9	+4.6
	350nm,0.9s,5μm						
KDM	**Kudat**	**10.10**	**287**	P	Pn	01 44 41.0	+9.3
BBSI	**Bau Bau**	**10.23**	**203**	P	Pn	01 44 49.0	+16
	163nm,0.8s,2μm						
SPSI	**Sidrap Palu**	**10.42**	**221**	P	Pn	01 44 41.9	+5.9
	132nm,0.8s,2μm						
KKM	**Kota Kinabalu**	**10.49**	**282**	*e*Pn	Pn	01 44 43.6	+6.4
KKM				*e*S	**Sn**	**01 46 29.1**	**-4.6**
KKM	**Kota Kinabalu**	**10.49**	**282**	P	Pn	01 44 44.6	+7.4
KKM	**Kota Kinabalu**	**10.49**	**282**	P	Pn	01 44 44.8	+7.6
	160nm,1.6s						
BAKI	**Biak**	**10.85**	**118**	P	**Pn**	**01 44 43.8**	**+1.8**
	428nm,1.2s						
KAPI	**Kappang**	**11.24**	**217**	*e*Pn	Pn	01 44 51.1	+3.8
KAPI	**Kappang**	**11.24**	**217**	Pn	Pn	01 44 51.9	+4.6
	3.9nm,0.3s,baz=13,slow=8.1,SNR=11						
KAPI				LR	LR	01 49 46.9	
	comp=Z,4μm,19.7s,baz=226,slow=41						
BKSI	**Bulukumba**	**11.27**	**215**	P	Pn	01 44 54.1	+6.4
	58nm,1.0s						
TLE	**Tual**	**11.39**	**147**	P	**Pn**	**01 44 51.3**	**+1.9**
	182nm,1.1s						
TGY	**Tagaytay City**	**11.46**	**331**	Pn	Pn	01 44 55.5	+5.1
TGY	**Tagaytay City**	**11.46**	**331**	Pn	Pn	01 44 55.5	+5.1
	54nm,0.3s,baz=174,slow=22,SNR=3.2						
KBKI	**Kotabaru**	**12.66**	**235**	P	P	01 45 13.6	-4.0
	133nm,1.3s						
MMRI	**Maumere**	**13.27**	**199**	P	P	01 45 31.6	+7.2
	288nm,0.9s,3μm						
BTM	**Bintulu**	**13.47**	**267**	P	**P**	**01 45 24.3**	**-2.3**
SMPI	**Sarmi**	**13.53**	**116**	P	**Pn**	**01 45 19.8**	**+1.2**
	213nm,1.1s						
SBUM	**Sibu**	**14.39**	**264**	P	**P**	**01 45 36.7**	**-0.2**
SBUM	**Sibu**	**14.39**	**264**	P	**P**	**01 45 36.2**	**-0.7**
	160nm,1.0s						
JAY	**Jayapura**	**15.55**	**114**	P	**P**	**01 45 49.2**	**-0.7**
	222nm,1.1s						
STKI	**Sintang**	**15.56**	**256**	P	**P**	**01 45 53.5**	**+3.6**
	126nm,1.1s,20μm						
KSM	**Kuching**	**16.42**	**262**	*e*Pn	**P**	**01 46 01.4**	**+2.0**
	147nm,0.9s						
KSM	**Kuching**	**16.42**	**262**	P	**P**	**01 46 02.4**	**+3.0**
KSM	**Kuching**	**16.42**	**262**	P	**P**	**01 46 02.9**	**+3.5**
	175nm,1.2s						
KHKI	**Kahang-Kahang**	**16.43**	**222**	P	**P**	**01 46 01.4**	**+1.9**
	274nm,1.0s						
MTN	**Manton Dam**	**17.34**	**165**	*e*P	**Pn**	**01 46 06.6**	**-1.9**
BLJI	**Banyuglugur**	**17.41**	**228**	P	P	01 46 17.8	+7.4
GMJI	**Gumukmas**	**17.88**	**227**	P	P	01 46 20.4	+4.9
	204nm,0.9s						
SJI	**Sawahan**	**18.80**	**232**	P	**Pn**	**01 46 27.6**	**+1.1**
	160nm,0.7s						
PWJI	**Pagerwojo**	**18.95**	**231**	P	Pn	01 46 34.0	+5.8
	121nm,1.1s						
TWG	**Pinlang**	**19.45**	**345**	*e*P	**P**	**01 46 31.1**	**-1.7**
	115nm,0.7s						
YULB	**Yu-li**	**19.93**	**346**	*e*P	**P**	**01 46 36.7**	**-1.4**
	75nm,1.0s						
TPUB	**Ta-pu**	**20.02**	**344**	*e*P	**P**	**01 46 37.4**	**-1.7**
	182nm,0.9s						
SSLB	**Suanglung**	**20.40**	**345**	*e*P	**P**	**01 46 41.8**	**-1.4**
	95nm,0.7s						
GUMO	**Guam**	**20.44**	**61**	P	Pn	01 46 46.7	+0.9
GUMO	**Guam**	**20.44**	**61**	P	Pn	01 46 46.7	+0.9
	55nm,0.7s,baz=178,slow=21,SNR=3.4						
NACB	**Ninganchiao**	**20.62**	**347**	*e*P	**P**	**01 46 45.8**	**+0.4**
	39nm,0.8s						
YHNB	**Yeheng**	**21.14**	**347**	*e*P	**P**	**01 46 50.7**	**-0.5**
	70nm,0.6s						
PPBI	**Pangkal Pinang**	**21.30**	**254**	P	**P**	**01 46 56.9**	**+4.0**
	94nm,0.8s						
TATO	**Taipei**	**21.41**	**347**	*e*P	**P**	**01 46 53.7**	**-0.3**
	68nm,0.8s						
LEM	**Lembang**	**21.75**	**240**	P	**P**	**01 47 00.0**	**+2.1**
	190nm,1.0s						
CISI	**Cisompet, Garu**	**21.94**	**238**	P	**P**	**01 47 01.4**	**+1.6**
	139nm,0.8s,8μm						
FITZ	**Fitzroy Crossi**	**21.98**	**182**	P	**P**	**01 46 59.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**21.98**	**182**	*e*P	**P**	**01 46 58.3**	**-1.8**
	97nm,0.6s						
FITZ				*e*S	**S**	**01 50 55.2**	**-5.8**
FITZ	**Fitzroy Crossi**	**21.98**	**182**	P	**P**	**01 46 59.9**	**-0.2**
	36nm,0.7s,baz=8.5,slow=7.8,SNR=28						
QIZ	**Qiongzhong**	**22.12**	**314**	*e*P	**P**	**01 47 01.8**	**+0.1**
	55nm,0.9s						
QZH	**Quanzhou**	**22.18**	**341**	P	**P**	**01 47 02.3**	**0.0**
QZH				S	**S**	**01 51 04.0**	**-0.8**
QZH				LR	LR		
	comp=N,3μm,15.2s						
QZH				LR	LR		
	comp=E,2μm,12.6s						
QZH				LR	LR		
	comp=Z,4μm,16.8s						
DBJI	**Dramaga**	**22.38**	**242**	P	**P**	**01 47 05.9**	**+1.4**
	comp=Z,156nm,1.4s						
JOW	**Kunigami**	**22.76**	**4**	*e*P	**P**	**01 47 08.3**	**-0.1**
	comp=Z,32nm,0.6s						
JOW	**Kunigami**	**22.76**	**4**	P	**P**	**01 47 08.9**	**+0.5**
	comp=Z,78nm,0.6s,baz=183,slow=10,SNR=23						
MYKOM	**Kota Tinggi**	**22.78**	**265**	P	**P**	**01 47 11.0**	**+2.2**
KGM	**Kluang**	**23.28**	**266**	P	**P**	**01 47 16.3**	**+2.4**
CGJI	**Cibinong**	**23.34**	**243**	P	**P**	**01 47 14.3**	**-0.2**
	comp=Z,176nm,0.7s,comp=Z,2μm						
KASI	**Kota Agung**	**23.97**	**247**	P	**P**	**01 47 21.7**	**+1.2**
	comp=Z,134nm,0.8s,comp=Z,3μm						
LWLI	**Liwa**	**24.19**	**248**	P	**P**	**01 47 25.2**	**+2.6**
	comp=Z,204nm,0.9s,comp=Z,11μm						
COEN	**Coen**	**24.30**	**138**	*e*P	**P**	**01 47 20.5**	**-2.9**
	comp=Z,245nm,1.0s						
PMG	**Port Moresby**	**24.48**	**123**	*e*P	**P**	**01 47 21.8**	**-3.3**
	comp=Z,49nm,1.0s						
PMG	**Port Moresby**	**24.48**	**123**	P	**P**	**01 47 22.8**	**-2.3**
	comp=Z,65nm,1.2s						
PMG	**Port Moresby**	**24.48**	**123**	P	**P**	**01 47 23.3**	**-1.9**
	comp=Z,29nm,1.1s,baz=306,slow=7.6,SNR=7.6						
FRIM	**Kepong**	**24.89**	**269**	P	**P**	**01 47 31.2**	**+2.3**
WRAB	**Tennant Creek**	**24.99**	**162**	*e*P	**P**	**01 47 28.1**	**-1.6**
WRAB				pmax	pmax		
	comp=Z,133nm,0.8s						
WRAB	**Tennant Creek**	**24.99**	**162**	*e*P	**P**	**01 47 28.1**	**-1.6**
	comp=Z,133nm,0.8s						
WRA	**Warramunga Arr**	**25.00**	**162**	P	**P**	**01 47 29.2**	**-0.6**
WRA	**Warramunga Arr**	**25.00**	**162**	P	**P**	**01 47 29.2**	**-0.6**
	comp=Z,112nm,0.9s						
KSI	**Kapahiang**	**25.12**	**253**	P	P	01 47 37.9	+6.9
	comp=Z,185nm,0.9s,comp=Z,8μm						
IPM	**Ipoh**	**25.46**	**272**	*e*P	**P**	**01 47 34.7**	**+0.6**
	comp=Z,76nm,0.8s						
IPM	**Ipoh**	**25.46**	**272**	P	**P**	**01 47 35.9**	**+1.9**
IPM	**Ipoh**	**25.46**	**272**	P	**P**	**01 47 36.0**	**+1.9**
	comp=Z,110nm,1.0s						
BKNI	**Bangkinang**	**25.75**	**262**	P	**P**	**01 47 38.5**	**+1.8**
	comp=Z,230nm,1.0s						
MBWA	**Marble Bar**	**25.88**	**195**	*e*P	**P**	**01 47 37.3**	**-0.5**
	comp=Z,83nm,0.8s						
MBWA	**Marble Bar**	**25.88**	**195**	P	**P**	**01 47 37.9**	**+0.1**
	SNR=7.2						
PPI	**Padang Panjang**	**26.51**	**261**	P	**P**	**01 47 45.0**	**+1.4**
	comp=Z,72nm,1.2s						
MNSI	**Mandaling Nat**	**27.13**	**264**	P	**P**	**01 47 50.1**	**+0.9**
	comp=Z,124nm,0.9s,comp=Z,4μm						
PSI	**Prapat**	**27.60**	**268**	P	**P**	**01 47 54.6**	**+1.0**
PSI	**Prapat**	**27.60**	**268**	P	**P**	**01 47 54.4**	**+0.8**
	comp=Z,51nm,1.0s						
PSI	**Prapat**	**27.60**	**268**	P	**P**	**01 47 54.6**	**+1.0**
	comp=Z,35nm,0.9s,baz=87,slow=2.2,SNR=19						
AS31	**Alice Springs**	**28.42**	**166**	*e*P	**P**	**01 47 59.7**	**-0.9**
ASAR	**Alice Springs**	**28.42**	**166**	P	**P**	**01 47 59.9**	**-0.7**
ASAR				PcP	**PcP**	**01 51 12.7**	**+0.1**
ASAR				S	S	01 52 53.9	+8.2
ASAR	**Alice Springs**	**28.42**	**166**	P	**P**	**01 47 59.9**	**-0.7**
	comp=Z,5.7nm,0.7s,baz=350,slow=7.5,SNR=4.5						
ASAR				PcP	**PcP**	**01 51 12.7**	**+0.1**
	comp=Z,8.8nm,1.0s,baz=359,slow=3.7,SNR=5.2						
ASAR				S	S	01 52 53.9	+8.2
	comp=Z,4.4nm,0.9s,baz=347,slow=19,SNR=4.3						
WHN	**Wuhan**	**28.80**	**338**	⇑P	**P**	**01 48 04.7**	**+0.8**
WHN				pmax	pmax		
	comp=Z,220nm,1.0s						
NJ2	**Nanjing**	**28.82**	**346**	*e*P	**P**	**01 48 04.2**	**+0.2**
NJ2				pP	**pP**	**01 48 12.5**	**-1.5**
NJ2				sP	**sP**	**01 48 17.9**	**-0.2**
NJ2				PP	**PnPn**	**01 48 59.6**	**+3.6**
NJ2				pmax	pmax		
	comp=Z,50nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,640nm,8.0s						
GSI	**Gunungsitoli**	**29.07**	**266**	P	**P**	**01 48 06.3**	**-0.2**
	comp=Z,86nm,1.0s						
JNU	**Nakatsue**	**29.25**	**7**	*e*P	**P**	**01 48 07.1**	**-0.9**
	comp=Z,12nm,0.8s						
JNU				P'P'ab	P'P'ab	02 24 17.9	+6.9
JNU	**Nakatsue**	**29.25**	**7**	P	**P**	**01 48 07.0**	**-0.9**
	comp=Z,16nm,0.8s,baz=217,slow=4.0,SNR=8.2						
JNU				PKP2ab		02 24 17.9	
	comp=Z,8.5nm,0.8s,baz=12,slow=5.9,SNR=4.1						
GYA	**Guiyang**	**29.35**	**322**	⇑*i*P	**P**	**01 48 08.8**	**-0.1**
GYA				pP	**pP**	**01 48 22.0**	**+3.2**
GYA				PP	**PnPn**	**01 49 07.6**	**+4.3**
GYA				PcP	**PcP**	**01 51 16.8**	**+1.8**
GYA				S	**S**	**01 53 03.2**	**+2.8**
GYA				sS	**sS**	**01 53 19.8**	**+3.0**
GYA				ScP	**ScP**	**01 54 54.1**	**-0.2**
GYA				pmax	pmax		
	comp=Z,20nm,0.9s						
GYA				pmax	pmax		
	comp=Z,160nm,6.0s						
GYA				LR	LR		
	comp=N,1μm,17.9s						
GYA				LR	LR		
	comp=E,790nm,18.1s						
GYA				LR	LR		
	comp=Z,1μm,17.4s						
CM31	**Chiang Mai Arr**	**30.58**	**300**	*e*P	**P**	**01 48 21.2**	**+1.3**
	comp=Z,22nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.58**	**300**	P	**P**	**01 48 19.8**	**0.0**
CMAR				ScP	**ScP**	**01 55 04.0**	**+5.7**
CMAR	**Chiang Mai Arr**	**30.58**	**300**	P	**P**	**01 48 19.8**	**0.0**
	comp=Z,23nm,0.8s,baz=127,slow=7.2,SNR=46						
CMAR				ScP	**ScP**	**01 55 04.0**	**+5.7**
	comp=Z,1.2nm,0.3s,baz=108,slow=2.0,SNR=4.2						
ENH	**Enshi**	**30.70**	**330**	*e*P	**P**	**01 48 20.7**	**-0.1**
	comp=Z,156nm,0.8s						
CHTO	**Chiang Mai**	**30.73**	**301**	*e*P	**P**	**01 48 21.9**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,54nm,0.8s						
CHTO	**Chiang Mai**	**30.73**	**301**	*e*P	**P**	**01 48 21.9**	**+0.8**
	comp=Z,54nm,0.8s						
CHTO	**Chiang Mai**	**30.73**	**301**	P	**P**	**01 48 22.2**	**+1.1**
	SNR=37						
CHTO	**Chiang Mai**	**30.73**	**301**	P	**P**	**01 48 21.8**	**+0.6**
	comp=Z,73nm,0.9s						
CTA	**Charters Tower**	**30.79**	**142**	P	**P**	**01 48 21.1**	**-0.5**
CTA	**Charters Tower**	**30.79**	**142**	*e*P	**P**	**01 48 21.1**	**-0.5**
	comp=Z,18nm,0.9s						
CTA	**Charters Tower**	**30.79**	**142**	P	**P**	**01 48 21.1**	**-0.5**
	comp=Z,15nm,0.7s,baz=331,slow=9.5,SNR=15						
CTAO	**Charters Tower**	**30.79**	**142**	*e*P	**P**	**01 48 20.8**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,29nm,1.0s						
CTAO	**Charters Tower**	**30.79**	**142**	*e*P	**P**	**01 48 20.8**	**-0.8**
	comp=Z,29nm,1.0s						
KMI	**Kunming**	**31.06**	**315**	P	**P**	**01 48 25.8**	**+1.5**
KMI				pP	**pP**	**01 48 32.1**	**-2.1**
KMI				pmax	pmax		
	comp=Z,33nm,1.1s						
BSI	**Banda Aceh**	**31.18**	**274**	P	P	01 48 32.1	+6.9
	comp=Z,28nm,1.0s						
KSAR	**Wonju Array Be**	**33.30**	**2**	P	**P**	**01 48 43.0**	**-0.5**
KSAR				PcP	**PcP**	**01 51 26.6**	**+1.4**
KSRS	**Korea Array**	**33.32**	**2**	P	**P**	**01 48 43.0**	**-0.6**
	comp=Z,13nm,0.8s,baz=180,slow=7.8,SNR=41						
KSRS				PcP	**PcP**	**01 51 26.6**	**+1.4**
	comp=Z,15nm,0.9s,baz=186,slow=3.6,SNR=15						
XAN	**Xi'an**	**34.09**	**333**	P	**P**	**01 48 50.0**	**-0.5**
XAN				pP	**pP**	**01 49 00.3**	**-0.2**
XAN				S	**S**	**01 54 10.6**	**-3.6**
XAN				sS	**sS**	**01 54 27.3**	**-3.4**
XAN				pmax	pmax		
	comp=Z,76nm,0.9s						
XAN				LR	LR		
	comp=N,640nm,18.1s						
XAN				LR	LR		
	comp=E,330nm,16.3s						
XAN				LR	LR		
	comp=Z,360nm,15.8s						
MJAR	**Matsushiro Arr**	**34.11**	**17**	P	**P**	**01 48 48.6**	**-1.9**
MJAR				PcP	**PcP**	**01 51 28.6**	**+1.1**
MJAR				ScS	ScS	01 59 13.2	+1.1
MJAR	**Matsushiro Arr**	**34.11**	**17**	P	**P**	**01 48 48.6**	**-1.9**
	comp=Z,11nm,0.9s,baz=199,slow=11,SNR=14						
MJAR				PcP	**PcP**	**01 51 28.6**	**+1.1**
	comp=Z,10.0nm,0.8s,baz=193,slow=3.1,SNR=8.6						
MJAR				ScS	ScS	01 59 13.2	+1.1
	comp=Z,0.8nm,0.4s,baz=218,slow=6.9,SNR=4.3						
MAJO	**Matsushiro**	**34.12**	**17**	*e*P	**P**	**01 48 48.7**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,34nm,1.1s						
MAJO	**Matsushiro**	**34.12**	**17**	*e*P	**P**	**01 48 48.7**	**-1.9**
	comp=Z,34nm,1.1s						
MAT	**Matsushiro**	**34.12**	**17**	P	**P**	**01 48 48.1**	**-2.5**
CD2	**Chengdu**	**34.32**	**324**	⇓P	**P**	**01 48 52.9**	**+0.4**
CD2				pP	**pP**	**01 49 02.6**	**+0.1**
CD2				sP	**sP**	**01 49 06.5**	**-0.1**
CD2				PcP	**PcP**	**01 51 28.0**	**-0.3**
CD2				S	**S**	**01 54 18.0**	**+0.2**
CD2				sS	**sS**	**01 54 34.0**	**-0.3**
CD2				PcS	**PcS**	**01 55 13.3**	**-1.4**
CD2				SS	**SnSn**	**01 56 29.7**	**+0.6**
CD2				pmax	pmax		
	comp=Z,70nm,0.7s						
CD2				pmax	pmax		
	comp=Z,410nm,6.8s						
CD2				LR	LR		
	comp=N,6μm,20.1s						
CD2				LR	LR		
	comp=E,5μm,19.6s						
CD2				LR	LR		
	comp=Z,7μm,18.1s						
FORT	**Forrest**	**34.62**	**178**	*e*P	**P**	**01 48 53.5**	**-1.4**
	comp=Z,66nm,0.8s						
FORT	**Forrest**	**34.62**	**178**	*e*P	**P**	**01 48 54.1**	**-0.8**
	comp=Z,48nm,0.6s						
DL2	**Dalian**	**35.03**	**353**	P	**P**	**01 48 59.9**	**+1.5**
DL2				*e*S	**S**	**01 54 32.3**	**+3.9**
DL2				pmax	pmax		
	comp=Z,110nm,1.1s						
DL2				pmax	pmax		
	comp=Z,1μm,5.3s						
DL2				LR	LR		
	comp=N,580nm,17.1s						
DL2				LR	LR		
	comp=E,390nm,15.1s						
DL2				LR	LR		
	comp=Z,600nm,14.0s						
KLBR	**Kellerberrin**	**36.37**	**193**	*e*P	**P**	**01 49 09.5**	**-0.6**
	comp=Z,84nm,0.7s						
BJT	**Baijiatuao**	**37.06**	**347**	*e*P	**P**	**01 49 16.5**	**+0.7**
	comp=Z,112nm,0.6s						
BJI	**Beijing**	**37.08**	**347**	P	**P**	**01 49 16.5**	**+0.5**
BJI				pmax	pmax		
	comp=Z,120nm,0.8s						
IMP	**Imphal**	**37.56**	**307**	*e*PKP	**P**	**01 49 19.0**	**-1.4**
EIDS	**Eidsvold**	**37.67**	**142**	*e*P	**P**	**01 49 20.2**	**-1.0**
	comp=Z,41nm,0.8s						
BBOO	**Buckleboo**	**37.70**	**167**	*e*P	**P**	**01 49 20.5**	**-0.9**
	comp=Z,892nm,0.8s						
SNY	**Shenyang**	**37.76**	**356**	⇑P	**P**	**01 49 22.7**	**+1.1**
SNY				pP	**pP**	**01 49 32.9**	**+1.2**
SNY				pmax	pmax		
	comp=Z,44nm,0.9s						
NWAO	**Narrogin (SRO)**	**37.77**	**193**	*e*P	**P**	**01 49 21.8**	**-0.1**
	comp=Z,62nm,1.0s						
NWAO	**Narrogin (SRO)**	**37.77**	**193**	P	**P**	**01 49 21.9**	**-0.1**
	comp=Z,64nm,0.9s,baz=27,slow=9.6,SNR=22						
LZH	**Lanzhou**	**38.18**	**330**	⇑P	**P**	**01 49 26.5**	**+0.9**
LZH				pP	**pP**	**01 49 37.6**	**+2.0**
LZH				sP	**sP**	**01 49 42.3**	**+2.5**
LZH				S	**S**	**01 55 20.0**	**+3.1**
LZH				sS	**sS**	**01 55 35.0**	**+1.5**
LZH				SS	**SnSn**	**01 57 56.2**	**-6.3**
LZH				pmax	pmax		
	comp=Z,270nm,1.1s						
LZH				pmax	pmax

comp=Z,103nm,0.7s
LSA Lhasa 42.13 311 *e*P **P 01 49 59.9 +1.1**
comp=Z,103nm,0.7s
ASAJ Asahikawa 42.38 17 *e*P **P 01 50 00.5 +0.5**
comp=Z,87nm,1.9s
ASAJ Asahikawa 42.38 17 P **P 01 50 01.2 +1.2**
comp=Z,12nm,0.7s,baz=254,slow=11,SNR=7.0
GTA Gaotai 42.77 329⇑ *i*P **P 01 50 03.8 +0.3**
GTA pP **pP 01 50 14.9 +1.3**
GTA sP **sP 01 50 18.2 +0.5**
GTA PcP **PcP 01 51 55.7 +1.2**
GTA S **S 01 56 25.0 -0.3**
GTA sS **sS 01 56 39.2 -2.9**
GTA pmax pmax
comp=Z,41nm,0.8s
GTA LR LR
comp=N,990nm,18.5s
GTA LR LR
comp=E,1μm,19.0s
GTA LR LR
comp=Z,1μm,20.0s
TAPN Taplejung 43.71 306 *e*P **P 01 50 11.5 +0.1**
ODAN Odare 43.77 305 *e*P **P 01 50 11.8 0.0**
comp=Z,231nm,1.1s
CAN Canberra 44.43 154 *e*P **P 01 50 17.1 +0.4**
CAN pmax pmax
comp=Z,80nm,1.1s
CAN Canberra 44.43 154 *e*P **P 01 50 17.1 +0.4**
comp=Z,80nm,1.1s
RAMN Ramite 44.45 305 *e*P **P 01 50 17.4 +0.1**
comp=Z,242nm,1.1s
CNB Canberra Magne 44.59 153 *e*P **P 01 50 19.1 +1.1**
comp=Z,180nm,1.0s
HABR Khabarovsk 44.90 8 P **P 01 50 18.6 -1.6**
HABR *e**PP **pP 01 50 27.5 -2.9**
HABR *e**SP **sP 01 50 31.4 -3.1**
HABR *e* 01 52 02.6
HABR *e**SS **sS 01 57 10.5 -2.1**
HABR *e* 02 00 12.0
HABR *e*SSS SSS 02 01 02.9
HABR pmax pmax
comp=N,89nm,2.8s
HABR pmax pmax
comp=Z,175nm,2.1s
HABR pmax pmax
comp=E,133nm,2.8s
HABR MLR MLR
comp=Z,409nm,17.0s
TOO Toolangi 44.96 159 *e*P **P 01 50 21.8 +0.9**
comp=Z,144nm,1.3s
YSS Yuzh-Sakhalins 45.03 16⇑ *e*P **P 01 50 23.0 +1.8**
YSS *e* 01 50 33.0
JIRN Jiri 45.07 306 *e*P **P 01 50 22.4 0.0**
comp=Z,37nm,0.8s
KLR Kul'dur 45.28 5 *e*P **P 01 50 20.4 -2.8**
KLR pmax pmax
comp=E,24nm,1.4s
KLR pmax pmax
comp=Z,100nm,1.4s
GUN Gumba 45.42 306 *e*P **P 01 50 25.1 -0.1**
comp=Z,152nm,0.7s
HIA Hailar 45.47 354 *e*P **P 01 50 25.5 +0.7**
comp=Z,134nm,0.9s
PKI Pulchoki 45.67 305 *e*P **P 01 50 26.6 -0.5**
KKN Kakani 45.86 305 *e*P **P 01 50 28.1 -0.4**
DMN Daman 45.93 305 *e*P **P 01 50 28.7 -0.4**
comp=Z,141nm,1.1s
GKN Gorkha 46.47 305 *e*P **P 01 50 32.7 -0.5**
MDRS Chennai 46.60 284 *e*PKP **P 01 50 33.8 -0.4**
ULN Ulaanbaatar 46.81 342 *e*P **P 01 50 35.8 +0.4**
comp=Z,52nm,0.9s
ULN Ulaanbaatar 46.81 342 P **P 01 50 36.2 +0.7**
SNR=28
ULN Ulaanbaatar 46.81 342 P **P 01 50 35.9 +0.4**
comp=Z,61nm,1.1s,comp=Z,779nm
DZM Mont Dzumac 46.84 125 *e*P **P 01 50 35.4 -0.7**
DZM Mont Dzumac 46.84 125 *e*P **P 01 50 35.8 -0.2**
comp=Z,52nm,1.0s
DZM Mont Dzumac 46.84 125 P **P 01 50 36.5 +0.5**
comp=Z,42nm,1.0s,baz=325,slow=7.7,SNR=23
SONM Songino Array 46.98 341 P **P 01 50 37.1 +0.3**
SONM PcP **PcP 01 52 09.5 +0.6**
SONM Songino Array 46.98 341 P **P 01 50 37.1 +0.3**
comp=Z,42nm,1.0s,baz=154,slow=9.0,SNR=97
SONM PcP **PcP 01 52 09.5 +0.6**
comp=Z,13nm,0.7s,baz=166,slow=4.5,SNR=6.5
KOLN Koldanda 47.22 305 *e*P **P 01 50 39.1 0.0**
comp=Z,199nm,0.8s
DANN Dangsing 47.31 305 *e*P **P 01 50 39.7 -0.2**
comp=Z,211nm,0.7s
HYB Hyderabad 48.86 290 *i*P **P 01 50 51.5 -0.2**
CIT Chita 49.07 349 *e*P **P 01 50 54.2 +1.4**
CIT *e* 01 51 03.8
CIT pmax pmax
comp=Z,451nm,1.4s
TRD Trivandrum 49.47 278 *ex* x 01 52 55.6
TRD AMb AMB 01 53 06.4
comp=Z,35nm,0.8s
ZAK Zakamensk 50.21 341⇓ *i*P **P 01 51 01.4 -0.2**
ZAK *e* 01 52 20.4
ZAK pmax pmax
comp=Z,10.0nm,1.2s
TLY Talaya 51.22 342 *i*P **P 01 51 10.0 +1.0**
TLY *e* 01 51 19.7
TLY pmax pmax
comp=Z,36nm,0.7s
TLY Talaya 51.22 342 *e*P **P 01 51 10.1 +1.0**
comp=Z,43nm,0.7s
TLY Talaya 51.22 342 P **P 01 51 10.4 +1.4**
SNR=27
IRK Irkutsk 51.52 343⇑ *i*P **P 01 51 11.3 0.0**
IRK pmax pmax
comp=Z,105nm,1.7s
MOY Mondy 52.07 340 *e*P **P 01 51 16.4 +0.9**
MOY pmax pmax
comp=Z,67nm,1.4s
WMQ Urumqi 52.40 325 P **P 01 51 18.4 +0.3**
WMQ pP **pP 01 51 28.0 -0.5**
WMQ sP **sP 01 51 32.3 -0.2**
WMQ PcP **PcP 01 52 26.7 -2.0**
WMQ PP **PP 01 53 18.6 +1.5**
WMQ *e*S **S 01 58 41.0 -0.8**
WMQ pmax pmax
comp=Z,54nm,1.0s
WMQ LR LR
comp=N,830nm,15.3s
WMQ LR LR
comp=E,660nm,19.8s
WMQ LR LR
comp=Z,630nm,21.4s
DDI Dehra Dun 52.67 305 *e*PKP **P 01 51 18.0 -2.3**
NDI New Delhi 52.82 303 *e*PKP **P 01 51 19.0 -2.4**
POO Poona 53.46 290 *e*PKP **P 01 51 25.4 -0.9**
POO AMb AMB 01 51 26.6
comp=Z,111nm,0.7s
BOD Bodaibo 54.57 352 *e*P **P 01 51 34.3 +0.7**
BOD pmax pmax
comp=Z,57nm,1.1s
MSVF Nonsavu 55.19 115 *e*P **P 01 51 39.5 +0.6**
MSVF pmax pmax
comp=Z,58nm,1.3s
MSVF Nonsavu 55.19 115 *e*P **P 01 51 39.5 +0.6**
comp=Z,58nm,1.3s
PEA0B Petropavlovsk- 55.25 22 *e*P **P 01 51 39.5 +0.9**
PETK Petropavlovsk- 55.25 22 P **P 01 51 38.9 +0.3**
PETK pmax pmax
comp=Z,9.0nm,0.5s
PETK Petropavlovsk- 55.25 22 P **P 01 51 38.9 +0.3**
PETK Petropavlovsk- 55.25 22 P **P 01 51 38.9 +0.3**
comp=Z,9.0nm,0.5s,baz=190,slow=4.4,SNR=31
MK31 Makanchi Array 57.23 325 *i*P **P 01 51 52.8 -0.2**
MK31 pmax pmax
comp=Z,96nm,0.9s
MK31 Makanchi Array 57.23 325 *e*P **P 01 51 53.0 0.0**
MKAR Makanchi Array 57.23 325 P **P 01 51 52.5 -0.5**
MKAR 01 52 47.5
MKAR pmax pmax
comp=Z,40nm,0.7s
MKAR pmax pmax
comp=Z,25nm,0.8s
MKAR pmax pmax
comp=N,2.0nm,0.8s
MKAR Makanchi Array 57.23 325 P **P 01 51 52.5 -0.5**
MKAR PcP **PcP 01 52 47.5 +0.3**
MKAR ScP **ScP 01 56 45.3 +0.7**
MKAR Makanchi Array 57.23 325 P **P 01 51 52.5 -0.5**
comp=N,40nm,0.7s,baz=114,slow=8.4,SNR=5.3
MKAR PcP **PcP 01 52 47.5 +0.3**
comp=N,25nm,0.8s,baz=122,slow=4.6,SNR=6.8
MKAR ScP **ScP 01 56 45.3 +0.7**
comp=N,2.3nm,0.8s,baz=111,slow=7.8,SNR=4.5
KSH Kashi 57.73 315⇑ P **P 01 51 57.8 +1.1**
KSH pP **pP 01 52 07.7 +0.5**
KSH sP **sP 01 52 10.9 -0.3**
KSH PcP **PcP 01 52 48.5 -0.9**
KSH PP **PP 01 54 07.7 +2.7**
KSH ScP **ScP 01 56 44.4 -2.6**
KSH PcS **PcS 01 56 48.5 -2.2**
KSH S **S 01 59 53.0 -0.5**
KSH sS **sS 02 00 10.6 -0.1**
KSH ScS **ScS 02 01 40.2 -3.8**
KSH SS **SS 02 03 45.9 +1.5**
KSH LR LR
comp=N,520nm,15.5s
KSH LR LR
comp=E,650nm,15.1s
KSH LR LR
comp=Z,790nm,17.3s
YAK Yakutsk 57.94 2*c i*P **P 01 51 57.9 +0.3**
YAK pmax pmax
comp=Z,201nm,0.9s
YAK pmax pmax
comp=N,98nm,1.1s
YAK pmax pmax
comp=E,24nm,1.0s
YAK Yakutsk 57.94 2 *e*P **P 01 51 57.7 +0.1**
comp=E,193nm,0.8s
KZA Kyzart 59.30 317 P **P 01 52 08.5 +0.5**
SNR=25
TKM2 Tokmak 2 59.43 318 *e*P **P 01 52 08.3 -0.3**
TKM2 pmax pmax
comp=Z,86nm,1.3s
TKM2 Tokmak 2 59.43 318 *e*P **P 01 52 08.3 -0.3**
comp=Z,86nm,1.3s
TKM2 Tokmak 2 59.43 318 P **P 01 52 08.5 -0.1**
SNR=32
KBK Karagaybulak 59.74 318 P **P 01 52 12.8 +2.1**
SNR=21
UCH Uchtor 59.85 317 P **P 01 52 13.0 +1.1**
SNR=13
CHMS Chumysh 60.02 318 P **P 01 52 11.3 -1.2**
SNR=13
AAK Ala-Archa 60.04 318 *e*P **P 01 52 12.0 -0.8**
AAK 01 52 59.5
AAK pmax pmax
comp=Z,171nm,1.3s
AAK Ala-Archa 60.04 318 *e*P **P 01 52 12.0 -0.8**
comp=Z,171nm,1.3s
AAK PcP **PcP 01 52 59.5 +1.0**
AAK SKKP 02 17 01.5
AAK ⇑*e* 02 21 53.5
AAK Ala-Archa 60.04 318 P **P 01 52 13.8 +1.0**
SNR=16
AAK Ala-Archa 60.04 318 P **P 01 52 09.7 -3.0**
SNR=15
AAK Ala-Archa 60.04 318 P **P 01 52 12.9 +0.1**
comp=Z,13nm,0.8s,baz=155,slow=8.9,SNR=22
AAK PcP **PcP 01 52 59.5 +1.0**
comp=Z,14nm,0.9s,baz=120,slow=7.9,SNR=4.5
AAK SKKP 02 17 01.5
comp=Z,1.4nm,0.5s,baz=279,slow=5.3,SNR=5.3
AAK PKP2bc 02 21 53.5
comp=Z,1.6nm,0.8s,baz=32,slow=4.7,SNR=3.6
ZAA0 Zalesovo Array 60.27 333 *e*P **P 01 52 13.1 -0.8**
ZALV Zalesovo Beam 60.27 333 P **P 01 52 13.1 -0.8**
ZALV pmax pmax
comp=Z,25nm,0.5s
ZALV Zalesovo Beam 60.27 333 P **P 01 52 13.1 -0.8**
ZALV ⇑*e* 02 21 45.9
ZALV Zalesovo Beam 60.27 333 P **P 01 52 13.1 -0.8**
comp=Z,25nm,0.5s,baz=132,slow=6.8,SNR=95
ZALV PKP2bc 02 21 45.9
comp=Z,2.7nm,1.0s,baz=232,slow=1.7,SNR=6.0
USP Ospenovka 60.30 318 P **P 01 52 14.4 0.0**
SNR=46
AML Almayashu 60.37 317 P **P 01 52 15.8 +0.4**
SNR=43
EKS2 Erkin-Say 60.53 318 *e*P **P 01 52 16.2 +0.1**
EKS2 pmax pmax
comp=Z,52nm,0.9s
EKS2 Erkin-Say 60.53 318 *e*P **P 01 52 16.2 +0.1**
comp=Z,52nm,0.9s
EKS2 Erkin-Say 60.53 318 P **P 01 52 16.5 +0.4**
SNR=33
KBL Kabul 61.22 307 *e*P **P 01 52 20.6 -0.4**
KBL pmax pmax
comp=Z,82nm,0.9s
KBL Kabul 61.22 307 *e*P **P 01 52 20.6 -0.4**
comp=Z,82nm,0.9s
KURBB Kurchatov Arra 61.41 327 P **P 01 52 21.4 -0.3**
comp=Z,108nm,0.8s,baz=123,slow=6.3,SNR=135
KURBB PKKPbc PKKPdf 02 13 50.3 +32
comp=Z,0.3nm,0.5s,baz=127,slow=6.7,SNR=4.3
KURK Kurchatov 61.42 327 *e*P **P 01 52 21.4 -0.4**
KURK pmax pmax
comp=Z,143nm,0.8s
KURK Kurchatov 61.42 327 *e*P **P 01 52 21.4 -0.4**
comp=Z,143nm,0.8s
KURK PKKPbc PKKPdf 02 13 50.3 +32
KURK Kurchatov 61.42 327 P **P 01 52 21.8 +0.1**
SNR=37
NVS Novosibirsk 61.55 333⇑ *i*P **P 01 52 21.7 -0.9**
NVS pmax pmax
comp=N,25nm,0.7s
NVS pmax pmax
comp=E,37nm,0.7s
NVS pmax pmax
comp=Z,91nm,0.7s
WHZ Wether Hill Ro 61.77 148 *e*P **P 01 52 23.4 -0.8**
SEY Seymchan 61.81 13*ce*P **P 01 52 24.2 0.0**
RPZ Rata Peaks 62.09 145 *e*P **P 01 52 25.7 -0.7**
comp=Z,76nm,1.0s
URZ Urewera 62.86 137 *e*P **P 01 52 30.6 -1.0**
comp=Z,52nm,1.0s
KK31 Karatay Array 62.91 317 P **P 01 52 31.2 -0.8**
KK31 pmax pmax
comp=Z,58nm,0.9s
KKAR Karatay Array 62.91 317 *e*P **P 01 52 31.5 -0.5**
KKAR pmax pmax
comp=Z,66nm,0.9s
KKAR Karatay Array 62.91 317 *e*P **P 01 52 31.4 -0.5**
comp=Z,66nm,0.9s
BVAR Borovoye Array 67.00 327 P **P 01 52 58.0 -0.4**
BVAR pmax pmax
comp=Z,46nm,1.0s
BVAR Borovoye Array 67.00 327 P **P 01 52 58.0 -0.4**
BVAR Borovoye Array 67.00 327 P **P 01 52 58.0 -0.4**
comp=Z,46nm,1.0s,baz=127,slow=9.4,SNR=59
BRVK Borovoye 67.07 327*ce*P **P 01 52 58.4 -0.4**
BRVK pmax pmax
comp=Z,79nm,1.2s
BRVK Borovoye 67.07 327 *e*P **P 01 52 58.3 -0.4**
comp=Z,77nm,0.9s
BRVK Borovoye 67.07 327 P **P 01 52 58.9 +0.1**
SNR=30
IMYA Miami 68.73 307 *e*P **P 01 53 10.0 +0.2**
ISRO Mashad 69.23 307 *e*P **P 01 53 13.0 +0.2**
BILL Bilibino 69.34 15⇑ *i*P **P 01 53 12.4 -0.3**
BILL *e* 01 55 45.2
BILL *e*S **S 02 02 13.2 -3.6**
BILL pmax pmax
comp=Z,19nm,1.0s
BILL MLR MLR
comp=Z,400nm,17.0s
BILL Bilibino 69.34 15 *e*P **P 01 53 12.3 -0.3**
comp=Z,18nm,1.0s
IKRD Kardeh 70.07 308 *e*P P 01 53 14.0 -4.2
IEMG Emamgholi 70.08 308 *e*P **P 01 53 18.6 +0.3**
ISFR Sfrayin 70.52 308 *e*P **P 01 53 21.0 0.0**
ABKT Ailbek 70.58 309 P **P 01 53 21.7 +0.6**
comp=Z,283nm,0.9s,SNR=14
CASY Casey 71.06 187 *e*P **P 01 53 24.2 +1.0**
IBAF Bafgh 71.73 302 *e*P **P 01 53 27.2 -1.1**
AB31 Akbulak array 71.83 321 *i*P **P 01 53 27.6 -0.7**
AB31 pmax pmax
comp=Z,143nm,1.5s
ABKAR Akbulak array 71.83 321 *e*P **P 01 53 27.6 -0.7**
comp=Z,17nm,0.6s
ABTO Aybut 72.84 287⇑ P **P 01 53 33.3 -1.7**
SNR=9.3
UNV Unalaska Valle 73.30 35 *e*P **P 01 53 36.9 0.0**
comp=Z,63nm,0.8s
AKTO Aktyubinsk 73.34 322 P **P 01 53 36.1 -1.1**
AKTO pmax pmax
comp=Z,14nm,0.9s
AKTO Aktyubinsk 73.34 322 P **P 01 53 36.8 -0.4**
AKTO Aktyubinsk 73.34 322 P **P 01 53 36.8 -0.4**
comp=Z,60nm,0.8s,baz=101,slow=9.0,SNR=99
SVE Sverdlovsk 73.64 328⇑ *e*P **P 01 53 39.1 +0.2**
SVE pmax pmax
comp=Z,56nm,0.8s
GAMB Gambell 74.22 24 *e*P **P 01 53 42.7 +0.6**
comp=Z,65nm,1.0s
IFIR Firoozkooh 74.52 306 *e*P **P 01 53 43.9 -0.9**
IZEF Zefreh 74.59 303 *e*P **P 01 53 43.4 -1.9**
ARU Arti 74.61 328*c i*P **P 01 53 43.7 -0.8**
ARU 01 56 28.6
ARU S **S 02 03 16.8 -1.0**
ARU SS **SS 02 07 59.1 -6.2**
ARU pmax pmax
comp=Z,63nm,0.8s
ARU Arti 74.61 328 *e*P **P 01 53 43.9 -0.7**
comp=Z,52nm,0.7s
ARU Arti 74.61 328 P **P 01 53 43.6 -0.9**
comp=Z,487nm,0.7s,SNR=25
IGAR Gharneh 74.79 302 *e*P **P 01 53 45.0 -1.4**
IPIR Pirpir 75.78 303 *e*P **P 01 53 51.3 -0.9**
TNA Tin City 76.41 23 *e*P **P 01 53 56.1 +1.4**
comp=Z,15nm,1.0s
SDPT Sand Point 77.07 34 *e*P **P 01 53 58.5 -0.1**
comp=Z,117nm,0.7s
QRN Al-Qurain 78.12 298 *e*P **P 01 54 04.0 -1.1**
QRN AMb AMB 01 54 05.3
comp=Z,166nm,0.8s
UMR Umm Al-Rimmam 78.33 299 *e*P **P 01 54 05.3 -0.9**
UMR AMb AMB 01 54 06.5
comp=Z,102nm,0.9s
RDF Al-Radifah 78.45 299 *e*P **P 01 54 06.1 -0.8**
RDF AMb AMB 01 54 07.8
comp=Z,135nm,0.9s
MIB Mutribah 78.66 299 *e*P **P 01 54 06.8 -1.2**
MIB AMb AMB 01 54 08.8
comp=Z,176nm,0.8s
NAY Al-Naaiem 78.73 299 *e*P **P 01 54 06.9 -1.5**
NAY AMb AMB 01 54 09.0
comp=Z,66nm,0.9s
ITBZ Tabriz 80.00 308 *e*P **P 01 54 15.1 -0.3**
IAZR Azarshahr 80.10 307 *e*P **P 01 54 16.4 +0.3**
IMRD Marand 80.37 308 *e*P **P 01 54 17.0 -0.4**
DGRG David-gareji 80.75 311 P **P 01 54 20.0 +0.8**
GNI Garni 81.17 310 *e*P **P 01 54 22.9 +1.3**
comp=Z,28nm,1.0s
GNI Garni 81.17 310 P **P 01 54 21.5 -0.2**
comp=Z,4.0nm,0.6s,baz=229,slow=21,SNR=3.5
ABPO Ambohimpanom 81.23 250 *e*P **P 01 54 22.3 0.0**
ABPO pmax pmax
comp=Z,31nm,1.0s
ABPO Ambohimpanom 81.23 250 *e*P **P 01 54 22.3 0.0**
comp=Z,30nm,1.0s
TBLG Delisi 81.24 311 *e*P **P 01 54 22.2 +0.4**
TBLG Delisi 81.24 311 P **P 01 54 22.2 +0.4**
BHD Baghdad 81.28 303 *ex* **P 01 54 21.0 -1.1**
BHD *ex* **S 02 04 28.0 -2.5**
KDAK Kodiak Island 81.76 32 *e*P **P 01 54 24.3 +0.3**
comp=Z,49nm,0.8s
KDAK Kodiak Island 81.76 32 P **P 01 54 23.8 -0.2**
comp=Z,25nm,0.6s,baz=24,slow=6.1,SNR=11
ZEI Tsey 81.90 312 *e*P **P 01 54 25.2 -0.3**
ZEI pmax pmax
comp=Z,40nm,0.9s
TUTA Tutak 82.64 309 *i*P **P 01 54 29.9 +0.5**
KIV Kislovodsk 82.82 314 *e*P **P 01 54 31.2 +1.1**
KIV pmax pmax
comp=Z,24nm,0.9s
KIV Kislovodsk 82.82 314 *e*P **P 01 54 31.1 +1.1**
comp=Z,19nm,0.8s
KIV Kislovodsk 82.82 314 P **P 01 54 31.1 +1.0**
comp=Z,163nm,0.7s,SNR=5.5
ATD Arta Tunnel 83.05 281 P **P 01 54 31.8 0.0**
ATD Arta Tunnel 83.05 281 P **P 01 54 31.8 0.0**
comp=Z,3.7nm,0.3s,baz=284,slow=24,SNR=3.8
HOMI Horasan 83.35 310 *i*P **P 01 54 33.9 +0.8**
DAGI Agillar 83.35 311 *i*P **P 01 54 33.6 +0.7**
TRF Thorofare Moun 83.38 27 *e*P **P 01 54 31.9 -0.7**
comp=Z,51nm,0.9s
DDEM Demirkent 83.47 311 *i*P **P 01 54 34.7 +1.2**
RC01 Rabbit Creek A 83.47 29 *e*P **P 01 54 32.7 -0.3**
comp=Z,69nm,1.0s
DBAD Bademkaya 83.51 311 *i*P **P 01 54 34.6 +0.9**
DBOC Borcka 83.54 311 *i*P **P 01 54 33.8 0.0**
COLD Coldfoot 83.71 23 *e*P **P 01 54 35.5 +1.5**
comp=Z,73nm,1.0s
VNDA Vanda 83.72 173 *e*P **P 01 54 33.9 +0.1**
comp=Z,40nm,0.9s
VRHR Novokhopersk 83.72 321 *e*P **P 01 54 33.2 -1.2**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR pmax pmax
comp=Z,60nm,0.7s
PMR Palmer 83.79 29 *e*P **P 01 54 34.4 -0.2**
PMR *e* 01 54 45.0
PMR pmax pmax
comp=Z,94nm,1.0s
PMR Palmer 83.79 29 *e*P **P 01 54 34.4 -0.2**
comp=Z,94nm,1.0s
PMR *e* 01 54 45.0
BEST Besiri 83.84 308 *i*P **P 01 54 35.2 -0.3**
BNGL BINGOL 83.93 309 *i*P **P 01 54 37.1 +1.0**
MCK McKinley 84.00 26 *e*P **P 01 54 35.5 -0.1**
MCK pmax pmax
comp=Z,42nm,0.9s
MCK McKinley 84.00 26 *e*P **P 01 54 35.5 -0.1**
comp=Z,42nm,0.9s
SML Sawmill 84.18 28 *e*P **P 01 54 36.8 +0.1**
SML pmax pmax
comp=Z,35nm,1.1s
SML Sawmill 84.18 28 *e*P **P 01 54 36.8 +0.1**
comp=Z,36nm,1.1s
KOPT Kop Dagi 84.43 310 *i*P **P 01 54 39.9 +1.2**
COLA College 84.53 25 *e*P **P 01 54 37.7 -0.5**
COLA pmax pmax
comp=Z,14nm,0.8s
COLA College 84.53 25 *e*P **P 01 54 37.7 -0.5**
comp=Z,14nm,0.8s
ILAR Eielson Array 84.94 25 P **P 01 54 39.3 -1.0**
ILAR PKKPbc **PKKPbc 02 12 49.6 -1.3**
ILAR Eielson Array 84.94 25 P **P 01 54 39.3 -1.0**
comp=Z,7.8nm,0.9s,baz=267,slow=3.5,SNR=42
ILAR PKKPbc **PKKPbc 02 12 49.6 -1.3**
comp=Z,0.3nm,0.9s,baz=337,slow=1.2,SNR=5.0
KLMR Klimovskoe 85.08 331*c i*P **P 01 54 41.0 -0.1**
KLMR pmax pmax
comp=Z,547nm,1.4s
VORD Divnogorie 85.19 321 *e*P **P 01 54 41.3 -0.6**
VSR Storozhevoye 85.27 321 *e*P **P 01 54 41.5 -0.8**
VSR pmax pmax
comp=Z,60nm,0.8s
VSR pmax pmax
comp=N,3.0nm,0.5s
VSR pmax pmax
comp=E,50nm,0.9s
KELT Kelkit 85.38 310 *i*P **P 01 54 42.5 -0.9**
DIV Divide 85.40 29 *e*P **P 01 54 44.2 +1.4**
comp=E,100nm,1.0s
PAX Paxson 85.54 27 *e*P **P 01 54 44.1 +0.6**
PAX pmax pmax
comp=Z,45nm,1.3s
PAX Paxson 85.54 27 *e*P **P 01 54 44.1 +0.6**
comp=Z,45nm,1.3s
ELZG Elazig 85.63 308 *i*P **P 01 54 46.6 +2.0**
BMRM Bremner River 85.97 29 *e*P **P 01 54 46.4 +0.8**
comp=Z,64nm,1.0s
MOS Moscow 86.12 325 *e*P **P 01 54 45.4 -1.0**
MOS *e* 02 00 03.3
MOS pmax pmax
comp=Z,283nm,1.2s
MOS pmax pmax
comp=Z,500nm,1.6s
DOT Dot Lake 86.17 27 *e*P **P 01 54 47.5 +1.0**
comp=Z,4.4nm,0.9s
SUSE Susehri 86.18 310 *i*P **P 01 54 47.9 +0.6**
AKCD Akcadag 86.47 308 *i*P **P 01 54 49.0 +0.2**
ANN Anapa 86.58 315 *e*P **P 01 54 47.0 -1.9**
ANN *e*S S 02 05 10.8 -13

ANN pmax pmax
comp=Z,98nm,1.0s
OBN Obninsk 86.74 325 ⇑*i*P **P 01 54 49.2 -0.2**
OBN *e* 01 58 12.2
OBN *e*S S 02 05 12.0 -12
OBN pmax pmax
comp=Z,195nm,1.7s
OBN Obninsk 86.74 325 *e*P **P 01 54 49.3 -0.1**
comp=Z,245nm,1.1s
LVZ Lovozero 87.04 338 *ce*P **P 01 54 52.3 +1.6**
LVZ pmax pmax
comp=Z,120nm,2.5s
ERBA Erbaa 87.27 310 *i*P **P 01 54 52.7 +0.3**
EGAK Eagle 87.39 25 *e*P **P 01 54 52.5 +0.1**
comp=Z,8.1nm,0.4s
TOKA Tokat 87.50 310 *i*P **P 01 54 54.0 +0.5**
APA Apatity 87.53 337 ⇑*i*P **P 01 54 54.0 +1.0**
APA pmax pmax
comp=Z,72nm,1.2s
APA MLR MLR
comp=Z,1μm,22.0s
MMAI Mount Meron Ar 88.81 303 P **P 01 55 01.0 +1.0**
MMAI Mount Meron Ar 88.81 303 P **P 01 55 01.0 +1.0**
comp=Z,21nm,1.0s,baz=81,slow=6.0,SNR=6.6
JOF Joensuu 88.86 333 *e*P **P 01 54 57.9 -1.5**
JOF pmax pmax
comp=Z,98nm,0.8s
JOF Joensuu 88.86 333 *ep* **P 01 54 57.9 -1.5**
comp=Z,98nm,0.8s
KMBO Kilima Mbogo 89.38 269 *e*P **P 01 55 03.7 +0.4**
comp=Z,30nm,1.0s
KMBO *e* 01 55 14.7
KMBO Kilima Mbogo 89.38 269 P **P 01 55 04.2 +1.0**
SNR=13
EIL Elat 89.43 300 P **P 01 55 03.1 +0.3**
EIL Elat 89.43 300 P **P 01 55 03.1 +0.3**
comp=Z,21nm,0.9s,baz=41,slow=1.6,SNR=16
KEV Kevo 89.58 340 *e*P **P 01 55 01.6 -1.0**
KEV pmax pmax
comp=Z,13nm,0.8s
KEV Kevo 89.58 340 *ep* **P 01 55 01.6 -1.0**
comp=Z,13nm,0.8s
BR131 Keskin Array S 89.71 310 *e*P **P 01 55 03.3 -0.8**
comp=Z,18nm,0.9s
BRTR Keskin Array B 89.71 310 P **P 01 55 03.0 -1.2**
BRTR PP **PP 01 58 34.6 -1.8**
BRTR Keskin Array B 89.71 310 P **P 01 55 03.0 -1.2**
comp=Z,20nm,0.9s,baz=116,slow=4.7,SNR=76
BRTR PP **PP 01 58 34.6 -1.8**
comp=Z,1.4nm,0.8s,baz=100,slow=5.3,SNR=4.4
PUL Pulkovo 89.72 330 *di*P **P 01 55 03.5 0.0**
PUL pmax pmax
comp=Z,193nm,1.3s
INK Inuvik 89.98 21 *e*P **P 01 55 04.1 -0.4**
comp=Z,21nm,1.2s
ARCES ARCES Array B 90.13 340 P **P 01 55 04.7 -0.6**
ARCES ARCES Array B 90.13 340 P **P 01 55 04.7 -0.6**
comp=Z,14nm,0.6s,baz=83,slow=5.1,SNR=41
SPB4 Spitsbergen Ar 90.18 349 *e*P **P 01 55 05.3 -0.1**
KAF Kangasniemi 91.28 332 *e*P **P 01 55 09.9 -0.8**
KAF pmax pmax
comp=Z,53nm,0.8s
KAF Kangasniemi 91.28 332 *ep* **P 01 55 09.9 -0.8**
comp=Z,53nm,0.8s
FINES FINESS Array B 91.51 332 P **P 01 55 11.5 -0.3**
FINES FINESS Array B 91.51 332 P **P 01 55 11.5 -0.3**
comp=Z,30nm,0.8s,baz=88,slow=5.9,SNR=59
AKASG Malin Array Be 91.57 321 *ce*P **P 01 55 11.3 -1.0**
AKASG pmax pmax
comp=Z,30nm,0.8s
AKASG Malin Array Be 91.57 321 P **P 01 55 11.4 -1.0**
AKASG Malin Array Be 91.57 321 P **P 01 55 11.4 -1.0**
comp=Z,30nm,0.8s,baz=72,slow=4.5,SNR=74
AKBB Malin Array Si 91.57 321 *e*P **P 01 55 11.3 -1.1**
AKBB Malin Array Si 91.57 321 *e*P **P 01 55 11.3 -1.1**
KIEV Kiev 91.58 321 *e*P **P 01 55 11.4 -1.0**
KIEV pmax pmax
comp=Z,62nm,1.3s
KIEV Kiev 91.58 321 *e*P **P 01 55 11.4 -1.0**
comp=Z,62nm,1.3s
MICGM Minsk 91.80 325 *e*P **P 01 55 12.0 -1.3**
MNK Minsk 91.83 325 *e*P **P 01 55 12.0 -1.4**
IDID Didziasalis 92.31 326 *e*P **P 01 55 15.3 -0.4**
IDID AMB AMB 01 55 17.1
comp=Z,34nm,0.9s
IDID Didziasalis 92.31 326 *e*P **P 01 55 15.3 -0.4**
IDID AMB AMB 01 55 17.1
comp=Z,34nm,0.9s
NACGM Naroch 92.36 325 *e*P **P 01 55 13.0 -2.9**
KIS Kishinev 92.37 317 *e*P **P 01 55 15.0 -1.1**
KIS Kishinev 92.37 317 *e*P **P 01 55 15.0 -1.1**
KIS LRM MLR 02 44 16.0
comp=Z,500nm,18.0s
IZAR Zarasai 92.51 326 *e*P **P 01 55 16.1 -0.4**
IZAR AMB AMB 01 55 17.9
comp=Z,26nm,0.9s
IZAR Zarasai 92.51 326 *e*P **P 01 55 16.1 -0.4**
IZAR AMB AMB 01 55 17.9
comp=Z,26nm,0.9s
IIGN Ignalina 92.59 326 *e*P **P 01 55 16.5 -0.4**
IIGN AMB AMB 01 55 18.4
comp=Z,24nm,0.9s
IIGN Ignalina 92.59 326 *e*P **P 01 55 16.5 -0.4**
IIGN AMB AMB 01 55 18.4
comp=Z,24nm,0.9s
ISAL Salakas 92.61 326 *e*P **P 01 55 16.6 -0.4**
ISAL AMB AMB 01 55 18.3
comp=Z,22nm,1.0s
ISAL Salakas 92.61 326 *e*P **P 01 55 16.6 -0.4**
ISAL AMB AMB 01 55 18.3
comp=Z,22nm,1.0s
SYO Syowa Base 92.61 201 ⇓*e*P **P 01 55 14.8 -1.9**
SYO Syowa Base 92.61 201 ⇓*e*P P 01 55 21.2 +4.5
TLCR 92.63 315 ⇑P **P 01 55 17.7 +0.3**
TLCR 92.63 315 ⇑*i*P **P 01 55 17.7 +0.3**
LEOM Leova 92.84 317 ⇓P **P 01 55 18.0 -0.3**
LEOM Leova 92.84 317 ⇓*i*P **P 01 55 18.0 -0.3**
TIRR Tirgusor 93.02 315 ⇑P **P 01 55 18.5 -0.7**
TIRR Tirgusor 93.02 315 ⇑*i*P **P 01 55 18.5 -0.7**
CFR Carcaliu 93.11 316 ⇑P **P 01 55 19.2 -0.4**
CFR Carcaliu 93.11 316 ⇑*i*P **P 01 55 19.2 -0.4**
IAS Iasi 93.13 318 P **P 01 55 19.8 -0.1**
GHRR 93.48 316 ⇓*i*P **P 01 55 21.9 +0.6**
PETR 93.65 316 ⇑*i*P **P 01 55 23.6 +1.5**
QSPA South Pole Qui 93.91 180 *e*P **P 01 55 23.1 +0.2**
comp=Z,36nm,1.1s
QSPA South Pole Qui 93.91 180 P **P 01 55 23.1 +0.2**
comp=Z,27nm,1.0s,baz=328,slow=2.1,SNR=36
TESR 93.92 317 ⇓*i*P **P 01 55 23.2 -0.1**
PRD Provadia 93.94 314 *e*P **P 01 55 23.2 -0.2**
VRI Vrincioaia 93.98 316 P **P 01 55 24.1 +0.5**
VRI Vrincioaia 93.98 316 ⇓*i*P **P 01 55 23.9 +0.3**
PLOR Plostina 94.03 316 ⇓P **P 01 55 24.1 +0.2**
PLOR Plostina 94.03 316 ⇓*i*P **P 01 55 24.1 +0.2**
MLR Muntele Rosu 94.58 316 ⇓*i*P **P 01 55 25.5 -1.0**
SUW Suwalki 94.60 325 *e*P **P 01 55 25.5 -0.7**
SUW Suwalki 94.60 325 *e*P **P 01 55 25.5 -0.7**
SUW Suwalki 94.60 325 *e*P **P 01 55 25.6 -0.7**
SUW *e* 01 55 36.8
SUW pmax pmax
comp=Z,224nm,0.9s
SUW Suwalki 94.60 325 *e*P **P 01 55 25.6 -0.7**
comp=Z,224nm,0.9s
SUW *e* 01 55 36.8
BURAR Bucovina Array 94.68 318 ⇑*i*P **P 01 55 27.1 +0.2**
BUR08 Bucovina Ar. S 94.69 318 *e*P **P 01 55 26.9 0.0**
DOPR Dopca 94.88 317 ⇓*i*P **P 01 55 29.1 +1.4**
SZH Strazhica 94.99 314 *e*P **P 01 55 28.1 -0.2**
VOIR 95.21 316 ⇓P **P 01 55 28.7 -0.7**
VOIR 95.21 316 ⇓*i*P **P 01 55 28.7 -0.7**
HUMR Humele 95.43 315 ⇑*i*P **P 01 55 29.1 -1.2**
BMR Baia Mare 95.81 319 ⇑P **P 01 55 32.3 +0.4**
BMR Baia Mare 95.81 319 ⇑*i*P **P 01 55 32.3 +0.4**
KWP Kalwaria Pacla 95.89 321 *e*P **P 01 55 32.1 -0.1**
KWP Kalwaria Pacla 95.89 321 *e*P **P 01 55 32.1 -0.1**
KWP Kalwaria Pacla 95.89 321 ⇓P **P 01 55 32.5 +0.3**
KWP Kalwaria Pacla 95.89 321 *e*P **P 01 55 32.1 -0.1**
comp=Z,75nm,1.0s
KWP Kalwaria Pacla 95.89 321 ⇓*i*P **P 01 55 32.5 +0.3**
LOT Lotru 96.09 316 ⇑*i*P **P 01 55 33.9 +0.5**
KOLS Kolonicke sedl 96.32 320 *e*P **P 01 55 34.5 +0.2**
KOLS *e* 01 55 53.2
KOLS Kolonicke sedl 96.32 320 *e*P **P 01 55 34.5 +0.2**
KOLS *es*P **sP 01 55 53.2 +4.0**

TRPA Tarpa 96.34 319 ⇑*i*P **P 01 55 34.1 -0.2**
TRPA Tarpa 96.34 319 ⇑*e*PKKPbc **P 01 55 34.2 -0.1**
UZH Uzhgorod 96.38 320 ⇑*i*P **P 01 55 34.7 +0.2**
UZH *e* 01 55 43.7
UZH *e* 01 55 53.1
DRGR 96.52 318 P **P 01 55 35.2 -0.1**
DRGR 96.52 318 ⇑*i*P **P 01 55 35.1 -0.2**
BEL Belsk 96.53 323 *e*P **P 01 55 35.3 +0.2**
BEL Belsk 96.53 323 *e*P **P 01 55 35.3 +0.2**
BEL Belsk 96.53 323 *e*P **P 01 55 35.3 +0.2**
DEV Deva 96.59 317 ⇑P **P 01 55 34.2 -1.3**
DEV Deva 96.59 317 ⇑*i*P **P 01 55 34.2 -1.3**
GZR Gura Zlata 96.79 316 ⇑P **P 01 55 36.3 -0.2**
GZR Gura Zlata 96.79 316 ⇑*i*P **P 01 55 36.3 -0.2**
CRVS Cervenica-Dubn 96.85 320 *e*P **P 01 55 37.1 +0.5**
CRVS Cervenica-Dubn 96.85 320 *e*P **P 01 55 37.1 +0.5**
DAG Danmarks Havn 96.96 352 *i*P **P 01 55 35.8 -0.7**
DAG *i* 01 55 45.6
DAG pmax pmax
comp=Z,22nm,0.9s
DAG Danmarks Havn 96.96 352 *i*P **P 01 55 35.8 -0.7**
comp=Z,221nm,0.9s
DAG *i* 01 55 45.6
VTS Vitosha 97.08 314 ⇓P **P 01 55 37.5 -0.5**
VTS Vitosha 97.08 314 ⇓*i*P **P 01 55 37.5 -0.5**
KKB Krupnik 97.32 313 *e*P **P 01 55 37.7 -1.2**
NIE Niedzica 97.45 321 *e*P **P 01 55 39.1 -0.3**
NIE Niedzica 97.45 321 *e*P Pdif 01 55 39.8 +0.4
BZS Buzias 97.53 317 ⇑P **P 01 55 39.1 -0.7**
BZS Buzias 97.53 317 ⇑*i*P **P 01 55 39.1 -0.7**
OJC Ojcow 97.56 322 *e*P **P 01 55 39.1 -0.7**
OJC Ojcow 97.56 322 *e*P Pdif 01 55 39.9 0.0
RES Resolute Bay 97.58 10 *e*P **P 01 55 39.3 -0.1**
comp=Z,5.5nm,0.8s
PSZ Piszkesteto 98.11 319 ⇓P **P 01 55 42.0 -0.4**
PSZ Piszkesteto 98.11 319 *e*P Pdif 01 55 42.5 0.0
comp=Z,30nm,1.2s
PSZ Piszkesteto 98.11 319 ⇓*i*P **P 01 55 42.0 -0.4**
PSZ Piszkesteto 98.11 319 ⇑*e*PKKPbc **P 01 55 41.8 -0.6**
NB2 NORSAR Subarra 98.47 334 P **P 01 55 42.4 -1.3**
baz=66,slow=4.6
NB2 NORSAR Subarra 98.47 334 P **P 01 55 42.4 -1.3**
comp=Z,10nm,0.8s,baz=66,slow=4.6
NOA NORSAR Array B 98.47 334 P **P 01 55 42.6 -1.0**
NOA NORSAR Array B 98.47 334 P **P 01 55 42.6 -1.0**
comp=Z,8.0nm,0.7s,baz=68,slow=4.6,SNR=36
VYHS Vyhne 98.64 320 *e*P Pdif 01 55 44.8 +0.1
VYHS Vyhne 98.64 320 PDIF Pdif 01 55 44.8 +0.1
OKC Ostrava-Krasne 98.69 322 ⇑*i*P Pdif 01 55 44.9 0.0
OKC *e* 01 55 53.7
OKC Ostrava-Krasne 98.69 322 ⇑*i*PDIFF Pdif 01 55 44.9 0.0
OKC *ep*P pP 01 55 53.7 -2.2
BUD Budapest 98.79 319 ⇑*e* **P 01 55 45.3 -0.1**
MORC Moravsky Berou 99.08 322 ⇑P **Pdif 01 55 47.0 +0.3**
MORC Moravsky Berou 99.08 322 ⇑*i*P **Pdif 01 55 47.0 +0.3**
LSZ Lusaka 99.10 255 *e*P **Pdif 01 55 46.7 -0.9**
comp=Z,7.9nm,0.8s
YKA Yellowknife Ar 99.33 24 P **Pdif 01 55 47.2 -0.2**
YKA PKiKP **PKiKP 02 00 19.1 +2.2**
YKA PKKPbc **PKKPbc 02 12 09.9 -3.7**
YKA Yellowknife Ar 99.33 24 P **Pdif 01 55 47.2 -0.2**
comp=Z,1.2nm,0.8s,baz=302,slow=4.6,SNR=20
YKA PKiKP **PKiKP 02 00 19.1 +2.2**
comp=Z,0.4nm,0.6s,baz=297,slow=1.7,SNR=4.4
YKA PKKPbc **PKKPbc 02 12 09.9 -3.7**
comp=Z,0.2nm,0.6s,baz=118,slow=2.7,SNR=4.1
PKSM Moragy 99.39 318 ⇓P **Pdif 01 55 48.0 -0.1**
PKSM Moragy 99.39 318 ⇓*i*P **Pdif 01 55 48.0 -0.1**
PKSM Moragy 99.39 318 ⇑*e* **Pdif 01 55 47.7 -0.4**
KRLC Kraliky 99.46 322 ⇑*i*PDIFF **Pdif 01 55 48.6 +0.2**
KSP Ksiaz 99.52 323 *e*P **Pdif 01 55 49.1 +0.6**
KSP Ksiaz 99.52 323 *e*P **Pdif 01 55 49.1 +0.6**
KSP Ksiaz 99.52 323 ⇑*e*P **Pdif 01 55 49.0 +0.4**
KSP *e**PP **pP 01 55 59.2 -0.4**
DPC Dobruska-Polom 99.66 322 ⇑*i*P **Pdif 01 55 49.7 +0.4**
DPC *e* 01 55 59.8
DPC Dobruska-Polom 99.66 322 ⇑*i*PDIFF **Pdif 01 55 49.7 +0.4**
DPC *ep*P **pP 01 55 59.8 -0.5**
UPC Upice 99.80 323 *e*P **Pdif 01 55 50.5 +0.7**
UPC *e* 01 56 01.0
UPC Upice 99.80 323 ⇑*e*PDIFF **Pdif 01 55 50.5 +0.7**
UPC *ep*P **pP 01 56 01.0 +0.2**
VRAC Vranov 99.81 321 ⇓*i*P **Pdif 01 55 50.5 +0.6**
SOP Sopron 100.33 320 ⇑*e* **Pdif 01 55 52.1 -0.1**
RUE Ruedersdorf 100.45 325 *e*Pdiff **Pdif 01 55 53.7 +1.1**
TREC Trest 100.51 322 ⇑P **Pdif 01 55 53.2 +0.2**
TREC Trest 100.51 322 ⇑*i*PDIFF **Pdif 01 55 53.2 +0.2**
TREC *ep*P pP 01 56 04.1 0.0
BEHE Becsehely 100.56 319 ⇑*e* Pdif 01 56 05.5 +12
PVCC Panska Ves 100.66 323 ⇑P **Pdif 01 55 54.2 +0.6**
PVCC Panska Ves 100.66 323 ⇑*i*PDIFF **Pdif 01 55 54.2 +0.6**
CONA Conrad Observa 100.70 320 ⇑*i*P **Pdif 01 55 53.7 -0.3**
comp=Z,11nm,1.2s
CONA Conrad Observa 100.70 320 ⇑*i*Pdiff **Pdif 01 55 53.7 -0.3**
comp=Z,11nm,1.2s
PRU Pruhonice 100.86 322 ⇑P **Pdif 01 55 54.8 +0.3**
PRU Pruhonice 100.86 322 ⇑*i*PDIFF **Pdif 01 55 54.8 +0.3**
PRU *ep*P pP 01 56 05.8 +0.2
BRG Berggiesshubel 100.92 323 *i*P **Pdif 01 55 55.1 +0.4**
comp=Z,36nm,0.9s
BRG *e* 01 56 14.4
comp=Z,12nm,1.1s
BRG
comp=N,1μm,23.0s
BRG
comp=E,1μm,18.8s
BRG
comp=Z,2μm,20.0s
BRG Berggiesshubel 100.92 323 *e*Pdiff **Pdif 01 55 55.6 +0.8**
BRG Berggiesshubel 100.92 323 *i*P **Pdif 01 55 55.1 +0.4**
BRG pmax pmax
comp=Z,36nm,0.9s
BRG pmax pmax
comp=Z,13nm,1.1s
BRG MLR MLR
comp=N,1μm,23.0s
BRG MLR MLR
comp=E,1μm,18.8s
BRG MLR MLR
comp=Z,2μm,20.0s
FBE Freiberg 101.25 324 *e*Pdiff **Pdif 01 55 57.3 +1.1**
CLL Collm 101.32 324 *e*Pdiff **Pdif 01 55 57.0 +0.5**
CLL Collm 101.32 324 ⇓*i*P **Pdif 01 55 56.8 +0.3**
CLL pmax pmax
comp=Z,20nm,1.1s
CLL Collm 101.32 324 ⇓*i*Pdif **Pdif 01 55 56.8 +0.3**
comp=Z,20nm,1.1s
CLL *ep*Pdif **pPdif 01 56 07.0 -0.5**
CLL *e*(PS) 02 08 54.0
MUD Monsted U'grnd 101.36 330 *i*P **Pdif 01 55 57.2 +0.6**
MUD pmax pmax
comp=Z,10.0nm,0.9s
MUD Monsted U'grnd 101.36 330 *i*P **Pdif 01 55 57.2 +0.6**
comp=Z,10nm,0.9s
KHC Kasperske Hory 101.74 322 ⇑*i*P **Pdif 01 55 58.6 +0.1**
KHC Kasperske Hory 101.74 322 ⇑*i*PDIFF **Pdif 01 55 58.6 +0.1**
KHC *ep*P pP 01 56 09.0 -0.8
MOA Molln 101.75 320 ⇑*i*P **Pdif 01 55 58.8 +0.3**
comp=Z,28nm,1.1s
MOA Molln 101.75 320 ⇑*i*Pdiff **Pdif 01 55 58.8 +0.3**
comp=Z,28nm,1.1s
GEC2 GERESS Array S 101.76 322 *e*Pdiff **Pdif 01 55 59.4 +0.7**
GERES GERESS Array B 101.76 322 P **Pdif 01 55 58.5 -0.2**
GERES PP **PP 02 00 10.3 +1.1**
GERES GERESS Array B 101.76 322 P **Pdif 01 55 58.5 -0.2**
comp=Z,9.1nm,0.9s,baz=69,slow=4.6,SNR=34
GERES PP **PP 02 00 10.3 +1.1**
comp=Z,1.5nm,0.9s,baz=54,slow=6.8,SNR=4.4
BSEG Bad Segeberg 101.82 327 *e*Pdiff **Pdif 01 55 59.7 +1.0**
TANN Tannenbergstha 101.96 323 *e*Pdiff **Pdif 01 56 00.3 +0.8**
OBKA Obir 102.00 319 ⇑*i*P **Pdif 01 56 00.2 +0.4**
comp=Z,16nm,1.1s
OBKA Obir 102.00 319 ⇑*i*Pdiff **Pdif 01 56 00.2 +0.4**
comp=Z,16nm,1.1s
NKC Novy Kostel 102.03 323 ⇑P **Pdif 01 55 59.9 +0.1**
NKC Novy Kostel 102.03 323 ⇑*i*PDIFF **Pdif 01 55 59.9 +0.1**
WERD Werda 102.04 323 *e*Pdiff **Pdif 01 56 00.7 +0.9**
GUNZ Gunzen 102.06 323 *e*Pdiff **Pdif 01 56 00.8 +0.9**
WERN Wernitzgruen 102.06 323 *e*Pdiff **Pdif 01 56 00.9 +1.0**
PLN Plauen 102.11 323 *e*Pdiff **Pdif 01 56 01.0 +0.9**
WET Wettzell 102.17 322 *e*Pdiff **Pdif 01 56 01.3 +0.9**
ROTZ Rotzenmuhle 102.35 323 *e*Pdiff **Pdif 01 56 02.5 +1.3**
MOX Moxa 102.38 324 *e*Pdiff **Pdif 01 56 02.1 +0.8**

NRDL Niedersach Rie 102.52 326 *e*Pdiff **Pdif 01 56 03.0 +1.2**
KBA Koelnbreinsper 102.59 320 ⇑*i*P **Pdif 01 56 01.6 -0.9**
KBA pmax pmax
comp=Z,9.0nm,1.1s
KBA Koelnbreinsper 102.59 320 ⇑*i*P **Pdif 01 56 01.6 -0.9**
comp=Z,8.5nm,1.1s
KBA Koelnbreinsper 102.59 320 ⇑*i*Pdiff **Pdif 01 56 01.6 -0.9**
comp=Z,8.5nm,1.1s
CLZ Clausthal 102.63 325 *e*Pdiff **Pdif 01 56 03.8 +1.4**
RJOB Jochberg 102.72 321 *e*Pdiff **Pdif 01 56 03.3 +0.4**
SCO Scoresbysund 102.74 350 *e*P **Pdif 01 56 03.1 +0.7**
SCO Scoresbysund 102.74 350 *i*P **Pdif 01 56 03.1 +0.7**
SUMG Summit 102.96 355 *i*P **Pdif 01 56 03.8 -0.1**
SUMG pmax pmax
comp=Z,4.0nm,1.0s
SUMG Summit 102.96 355 *i*P **Pdif 01 56 03.8 -0.1**
comp=Z,4.1nm,1.0s
GRF Grafenberg Arr 102.97 323 *e*Pdiff **Pdif 01 56 05.0 +1.0**
WTTA Wattenberg 103.62 321 ⇑*i*P **Pdif 01 56 06.8 -0.3**
WTTA pmax pmax
comp=Z,18nm,1.0s
WTTA Wattenberg 103.62 321 ⇑*i*P **Pdif 01 56 06.8 -0.3**
comp=Z,18nm,1.0s
WTTA Wattenberg 103.62 321 ⇑*i*Pdiff **Pdif 01 56 06.8 -0.3**
comp=Z,18nm,1.0s
MOTA Moosalm 103.93 321 ⇑*i*P **Pdif 01 56 08.0 -0.5**
MOTA pmax pmax
comp=Z,10.0nm,0.9s
MOTA Moosalm 103.93 321 ⇑*i*P **Pdif 01 56 08.0 -0.5**
comp=Z,10nm,0.9s
MOTA Moosalm 103.93 321 ⇑*i*Pdiff **Pdif 01 56 08.0 -0.5**
comp=Z,10nm,0.9s
FETA Feichten 104.28 321 ⇑*i*P **Pdif 01 56 09.9 -0.1**
comp=Z,12nm,1.0s
FETA Feichten 104.28 321 ⇑*i*Pdiff **Pdif 01 56 10.0 -0.1**
comp=Z,12nm,1.0s
BUG Bochum--Univer 104.56 326 *e*Pdiff **Pdif 01 56 11.9 +1.0**
CDF Champ du Feu 105.86 323 *e*PKIKP **PKiKP 02 00 26.9 -2.5**
CDF Champ du Feu 105.86 323 *e*PKPdf **PKiKP 02 00 26.9 -2.5**
NVAR Mina Array Bea 106.86 48 Pdif **Pdif 01 56 24.8 +3.0**
NVAR PKiKP **PKiKP 02 00 33.3 +1.5**
NVAR PP **PP 02 00 49.5 +1.8**
NVAR PKKPbc **PKKPbc 02 11 51.6 +0.7**
NVAR PKKPab **PKKPab 02 12 06.2 +0.3**
NVAR Mina Array Bea 106.86 48 Pdiff **Pdif 01 56 24.8 +3.0**
comp=Z,0.6nm,0.8s,baz=310,slow=5.6,SNR=3.1
NVAR PKiKP **PKiKP 02 00 33.3 +1.5**
comp=Z,0.7nm,0.7s,baz=272,slow=3.9,SNR=4.3
NVAR PP **PP 02 00 49.5 +1.8**
comp=Z,0.6nm,0.7s,baz=254,slow=2.7,SNR=3.6
NVAR PKKPbc **PKKPbc 02 11 51.6 +0.7**
comp=Z,0.8nm,0.8s,baz=108,slow=9.5,SNR=5.3
NVAR PKKPab **PKKPab 02 12 06.2 +0.3**
comp=Z,1.2nm,0.6s,baz=136,slow=3.7,SNR=5.8
LPG La Plagne 107.42 320 *e*PKIKP **PKiKP 02 00 29.9 -2.8**
LPG La Plagne 107.42 320 *e*PKPdf **PKiKP 02 00 29.9 -2.8**
BOZ Bozeman (W) 108.64 39 ⇑P **PKiKP 02 00 35.4 +0.6**
baz=108
SSF Saint Saulge 108.74 323 *e*PKIKP **PKiKP 02 00 32.0 -2.7**
comp=Z,15nm,1.1s
SSF Saint Saulge 108.74 323 *e*PKPdf **PKiKP 02 00 32.0 -2.7**
R11A Troy Canyon, C 108.89 47 ⇓P **PKiKP 02 00 35.7 +0.2**
baz=109
C19A Slack Wire Ran 109.23 36 ⇑P **PKiKP 02 00 36.4 +0.7**
baz=109
C20A Veseth Ranch, 109.85 36 ⇓P **PKiKP 02 00 37.3 +0.4**
baz=110
C21A Desert Coulee 110.32 35 ⇑P **PKiKP 02 00 38.6 +0.9**
baz=110
A23A Redstone 110.97 33 ⇑P **PKiKP 02 00 39.0 +0.1**
baz=111
D22A Cohagen 111.20 36 ⇑P **PKiKP 02 00 39.6 +0.2**
baz=111
PDAR Pinedale Array 111.27 41 PKKPbc PKKPbc 02 11 34.6 -2.4
PDAR Pinedale Array 111.27 41 PKKPbc PKKPbc 02 11 34.6 -2.4
comp=Z,1.1nm,1.0s,baz=116,slow=3.4,SNR=5.2
L18A Fontenelle, Gr 111.33 42 ⇑P **PKiKP 02 00 39.8 -0.2**
baz=111
J19A Crowheart 111.36 40 ⇓P **PKiKP 02 00 40.6 +0.6**
baz=111
K19A Absolon Red Bu 111.70 41 ⇑P **PKiKP 02 00 41.2 +0.5**
baz=112
D23A Lindsay 111.75 35 ⇓P **PKiKP 02 00 41.1 +0.6**
baz=112
J20A Shoshoni 111.95 40 ⇓P **PKiKP 02 00 41.7 +0.6**
baz=112
I21A Big Trails, Te 112.23 39 ⇑P **PKiKP 02 00 41.6 0.0**
baz=112
R17A Hanksville Air 112.39 46 ⇑P **PKiKP 02 00 42.0 -0.1**
baz=112
G23A Biddle 112.69 37 ⇓P **PKiKP 02 00 42.5 +0.2**
baz=112
K21A Alcova 112.83 40 ⇑P **PKiKP 02 00 43.1 +0.3**
baz=113
J22A Midwest 112.94 39 ⇑P **PKiKP 02 00 42.7 -0.3**
baz=113
N20A Spence Gulch, 113.02 42 ⇑P **PKiKP 02 00 44.0 +0.6**
baz=113
Q19A Hogan Spring (113.18 45 ⇓P **PKiKP 02 00 44.9 +1.4**
baz=113
S18A Hurst Farm, Bl 113.21 46 ⇓P **PKiKP 02 00 44.7 +0.9**
baz=113
M21A Separation Pea 113.25 41 ⇑P **PKiKP 02 00 44.3 +0.5**
baz=113
O20A White River Ci 113.36 43 ⇑P **PKiKP 02 00 44.8 +0.9**
baz=113
H24A Dirks Ranch, A 113.44 37 ⇓P **PKiKP 02 00 43.9 +0.1**
baz=113
RSSD Black Hills 114.08 38 *e*PKIKP PKPdf 02 00 45.5 +0.3
RSSD Black Hills 114.08 38 *e*PKPdf PKPdf 02 00 45.5 +0.3
MVCO Mesa Verde 114.49 46 ⇓P PKPdf 02 00 46.9 +0.7
baz=114
S21A Coal Bank Pass 114.79 45 ⇓P PKPdf 02 00 48.7 +1.8
baz=115
O23A Lake Granby, G 114.89 42 ⇓P PKPdf 02 00 48.1 +1.1
baz=115
K25A Mack Ranch, Ha 114.99 39 ⇓P PKPdf 02 00 47.2 +0.3
baz=115
ISCO Idaho Springs 115.29 42 ⇑P **PKPdf 02 00 48.4 +0.6**
baz=115
K26A Motz Farm, Whi 115.37 38 ⇓P **PKPdf 02 00 47.5 -0.1**
baz=115
S22A 4UR Ranch, Cre 115.43 45 ⇑P **PKPdf 02 00 48.3 +0.2**
baz=115
U22A Llaves 116.04 46 ⇓P **PKPdf 02 00 50.9 +1.6**
baz=116
Z20A Nine Sixteen R 116.16 50 ⇑P **PKPdf 02 00 50.5 +1.0**
baz=116
X21A Alamocita Cree 116.21 48 ⇑P **PKPdf 02 00 51.2 +1.6**
baz=116
V22A San Miguel Ran 116.21 47 ⇓P **PKPdf 02 00 50.9 +1.3**
baz=116
319A Douglas 116.31 52 ⇓P **PKPdf 02 00 51.4 +1.6**
baz=116
SDCO Great Sand Dun 116.36 44 ⇑P **PKPdf 02 00 50.5 +0.6**
baz=116
220A Playas Peak, P 116.70 51 ⇑P **PKPdf 02 00 51.6 +1.1**
baz=116
V23A Ortiz Mt. (NFS 116.81 47 ⇑P **PKPdf 02 00 51.8 +1.1**
baz=117
320A Kipp Ranch, An 116.92 52 ⇓P **PKPdf 02 00 52.1 +1.1**
baz=117
P26A Davis Ranch, A 116.92 42 ⇓P **PKPdf 02 00 51.5 +0.8**
baz=117
R25A Fountain Ranch 117.01 43 ⇓P **PKPdf 02 00 51.0 +0.1**
baz=117
121A Cookes Peak, D 117.01 50 ⇑P **PKPdf 02 00 51.7 +0.5**
baz=117
Y22A Socorro 117.04 49 ⇑P **PKPdf 02 00 52.1 +0.9**
baz=117
Q26A Hugo 117.13 42 ⇑P **PKPdf 02 00 51.9 +0.8**
baz=117
ESDC Sonseca Array 117.14 319 PP PP 02 02 03.0 +2.3
ESDC PKKPbc **PKKPbc 02 11 16.7 0.0**
ESDC Sonseca Array 117.14 319 PP PP 02 02 03.0 +2.3
comp=Z,1.3nm,0.8s,baz=50,slow=5.5,SNR=4.7
ESDC PKKPbc **PKKPbc 02 11 16.7 0.0**
comp=Z,0.6nm,0.8s,baz=238,slow=4.1,SNR=5.2
S25A Robets Cordova 117.14 44 ⇓P **PKPdf 02 00 51.6 +0.3**
baz=117
X23A Hourglass Bar 117.33 48 ⇓P **PKPdf 02 00 52.5 +0.7**
baz=117
Z22A Elephant Butte 117.33 49 ⇑P **PKPdf 02 00 52.6 +0.9**
baz=117
T25A Trinidad 117.41 44 ⇑P **PKPdf 02 00 52.4 +0.5**
baz=117
V24A Rampart Ranch, 117.48 46 ⇓P **PKPdf 02 00 53.0 +0.9**

	baz=117							
W24A	**Lazy 6 Ranch,**	**117.62**	**47**	⇓P		**PKPdf**	**02 00 53.6**	**+1.3**
	baz=118							
S26A	**Kim**	**117.83**	**43**	⇑P		**PKPdf**	**02 00 52.8**	**+0.3**
	baz=118							
V25A	**Rancho No Teng**	**117.89**	**46**	⇑P		**PKPdf**	**02 00 54.1**	**+1.3**
	baz=118							
T26A	**Comanche Natio**	**117.97**	**44**	⇓P		**PKPdf**	**02 00 53.5**	**+0.6**
	baz=118							
Y24A	**Capitan**	**118.18**	**48**	⇑P		**PKPdf**	**02 00 54.0**	**+0.6**
	baz=118							
U26A	**Atchley Ranch,**	**118.25**	**45**	⇓P		**PKPdf**	**02 00 54.5**	**+1.1**
	baz=118							
W25A	**X Bar L Ranch,**	**118.30**	**46**	⇓P		**PKPdf**	**02 00 54.4**	**+0.9**
	baz=118							
X25A	**Clemmons Ranch**	**118.48**	**47**	⇑P		**PKPdf**	**02 00 54.6**	**+0.7**
	baz=118							
Z24A	**Sheeppen Canyo**	**118.50**	**49**	⇓P		**PKPdf**	**02 00 55.1**	**+1.0**
	baz=118							
ECSD	**EROS Data Cent**	**118.66**	**34**	*e*PKPdf		**PKPdf**	**02 00 53.9**	**+0.1**
124A	**Stringfield Ra**	**118.72**	**49**	⇑P		**PKPdf**	**02 00 55.4**	**+0.9**
	baz=119							
Y25A	**Mesa, Roswell**	**118.73**	**48**	⇓P		**PKPdf**	**02 00 55.0**	**+0.7**
	baz=119							
224A	**Cornudas Mount**	**118.94**	**50**	⇑P		**PKPdf**	**02 00 55.4**	**+0.5**
	baz=119							
T28A	**Walsh**	**119.01**	**43**	⇓P		**PKPdf**	**02 00 55.3**	**+0.5**
	baz=119							
Z25A	**Roswell**	**119.01**	**48**	⇑P		**PKPdf**	**02 00 55.9**	**+1.0**
	baz=119							
X26A	**CR and CF Fran**	**119.09**	**47**	⇓P		**PKPdf**	**02 00 55.5**	**+0.5**
	baz=119							
MNTX	**Cornudas Mount**	**119.21**	**50**	*e*PKPdf		**PKPdf**	**02 00 56.1**	**+0.9**
MNTX	**Cornudas Mount**	**119.21**	**50**	⇓P		**PKPdf**	**02 00 56.3**	**+1.1**
	baz=119							
324A	**Moseley Ranch,**	**119.25**	**51**	⇑P		**PKPdf**	**02 00 56.3**	**+0.8**
	baz=119							
125A	**Gardner Draw,**	**119.34**	**49**	⇑P		**PKPdf**	**02 00 56.2**	**+0.6**
	baz=119							
225A	**Deer Hill, Car**	**119.46**	**50**	⇑P		**PKPdf**	**02 00 56.7**	**+0.8**
	baz=119							
V28A	**Channing**	**119.63**	**45**	⇑P		**PKPdf**	**02 00 56.6**	**+0.6**
	baz=120							
325A	**Bean Ranch, Si**	**119.67**	**50**	⇑P		**PKPdf**	**02 00 56.5**	**+0.2**
	baz=120							
SPMN	**St. Paul**	**119.74**	**31**	⇓P		**PKPdf**	**02 00 56.0**	**+0.2**
	baz=120							
Y27A	**Causey**	**119.88**	**47**	⇑P		**PKPdf**	**02 00 57.1**	**+0.6**
	baz=120							
425A	**Indio Mountain**	**119.91**	**51**	⇓P		**PKPdf**	**02 00 57.4**	**+0.7**
	baz=120							
Z27A	**Tatum**	**120.11**	**48**	⇓P		**PKPdf**	**02 00 57.4**	**+0.4**
	baz=120							
MSTX	**Muleshoe**	**120.12**	**47**	⇑P		**PKPdf**	**02 00 57.1**	**+0.1**
	baz=120							
X28A	**Dimmitt**	**120.27**	**46**	⇓P		**PKPdf**	**02 00 57.7**	**+0.4**
	baz=120							
SCHQ	**Schefferville**	**120.33**	**9**	PKP		**PKPdf**	**02 00 57.8**	**+1.2**
SCHQ	**Schefferville**	**120.33**	**9**	PKP		**PKPdf**	**02 00 57.8**	**+1.2**
	comp=Z,4.3nm,0.7s,baz=295,slow=2.4,SNR=9.9							
EVO	**Evora**	**120.40**	**320**	*e*PKIKP		**PKPdf**	**02 00 58.1**	**+0.9**
326A	**Caldwell Ranch**	**120.46**	**50**	⇓P		**PKPdf**	**02 00 57.4**	**-0.3**
	baz=120							
EVOP	**Sao Brissos**	**120.47**	**320**	*e*PKIKP		**PKPdf**	**02 00 58.1**	**+0.7**
EVOP	**Sao Brissos**	**120.47**	**320**	*e*PKPdf		**PKPdf**	**02 00 58.1**	**+0.7**
426A	**McDonald Obser**	**120.70**	**51**	⇓P		**PKPdf**	**02 00 58.9**	**+0.5**
	baz=121							
Y29A	**Porterfield Fa**	**120.97**	**46**	⇑P		**PKPdf**	**02 00 59.1**	**+0.4**
	baz=121							
MDT	**Midelt**	**121.03**	**312**	PKP		**PKPdf**	**02 00 59.7**	**+0.9**
MDT	**Midelt**	**121.03**	**312**	PKP		**PKPdf**	**02 00 59.7**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=109,slow=6.9,SNR=5.3							
427A	**Hayter Ranch,**	**121.11**	**50**	⇓P		**PKPdf**	**02 00 59.3**	**+0.3**
	baz=121							
Z29A	**Hungry Hill Ra**	**121.24**	**47**	⇓P		**PKPdf**	**02 00 59.5**	**+0.3**
	baz=121							
527A	**Woodward Ranch**	**121.26**	**51**	⇑P		**PKPdf**	**02 00 59.9**	**+0.6**
	baz=121							
129A	**Stewart Farms,**	**121.43**	**48**	⇓P		**PKPdf**	**02 00 59.7**	**+0.2**
	baz=121							
KSU1	**Kansas State U**	**121.51**	**39**	*e*PKPdf		**PKPdf**	**02 00 59.1**	**-0.2**
TXAR	**Lajitas Array**	**121.57**	**52**	PKP		**PKPdf**	**02 01 00.6**	**+0.6**
TXAR				PKKPab		**PKKPab**	**02 11 03.1**	**+2.2**
TXAR	**Lajitas Array**	**121.57**	**52**	PKP		**PKPdf**	**02 01 00.6**	**+0.6**
	comp=Z,2.9nm,1.0s,baz=268,slow=0.8,SNR=17							
TXAR				PKKPab		**PKKPab**	**02 11 03.1**	**+2.2**
	comp=Z,0.6nm,0.9s,baz=120,slow=6.0,SNR=5.4							
428A	**Kincaid Ranch,**	**121.71**	**50**	⇓P		**PKPdf**	**02 01 01.1**	**+1.0**
	baz=122							
627A	**Terlingua Ranc**	**121.74**	**52**	⇓P		**PKPdf**	**02 01 00.8**	**+0.6**
	baz=122							
528A	**Cox Ranch, San**	**121.89**	**51**	⇑P		**PKPdf**	**02 01 01.1**	**+0.6**
	baz=122							
329A	**Wagon Wheel Ra**	**121.89**	**49**	⇑P		**PKPdf**	**02 01 01.1**	**+0.6**
	baz=122							
628A	**Black Gap, Mar**	**122.11**	**51**	⇑P		**PKPdf**	**02 01 01.5**	**+0.6**
	baz=122							
WMOK	**Wichita Mounta**	**122.56**	**44**	*e*PKIKP		**PKPdf**	**02 01 01.8**	**+0.2**
WMOK	**Wichita Mounta**	**122.56**	**44**	*e*PKPdf		**PKPdf**	**02 01 01.8**	**+0.2**
TOA0	**Torodi Ar. Sit**	**122.67**	**288**	*e*PKPdf		**PKPdf**	**02 01 01.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**122.67**	**288**	PKP		**PKPdf**	**02 01 01.8**	**-0.4**
TORD				PP		**PP**	**02 02 42.0**	**+2.2**
TORD				PKKPbc		**PKKPbc**	**02 10 55.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**122.67**	**288**	PKP		**PKPdf**	**02 01 01.8**	**-0.4**
	comp=Z,7.1nm,0.8s,baz=53,slow=2.0,SNR=38							
TORD				PP		**PP**	**02 02 42.0**	**+2.2**
	comp=Z,3.4nm,1.0s,baz=70,slow=6.6,SNR=4.3							
TORD				PKKPbc		**PKKPbc**	**02 10 55.8**	**+0.3**
	comp=Z,1.1nm,1.0s,baz=279,slow=1.8,SNR=4.5							
JCT	**Junction City**	**124.02**	**49**	*e*PKIKP		**PKPdf**	**02 01 05.4**	**+0.9**
JCT	**Junction City**	**124.02**	**49**	*e*PKPdf		**PKPdf**	**02 01 05.4**	**+0.9**
JCT	**Junction City**	**124.02**	**49**	⇑P		**PKPdf**	**02 01 05.1**	**+0.6**
	baz=124							
WHTX	**Lake Whitney**	**124.97**	**46**	⇑P		**PKPdf**	**02 01 07.3**	**+1.1**
	baz=125							
FVM	**French Village**	**125.96**	**36**	*e*PKIKP		**PKPdf**	**02 01 08.0**	**0.0**
FVM	**French Village**	**125.96**	**36**	*e*PKPdf		**PKPdf**	**02 01 08.0**	**0.0**
MIAR	**Mount Ida**	**126.19**	**41**	*e*PKIKP		**PKPdf**	**02 01 09.3**	**+0.8**
MIAR	**Mount Ida**	**126.19**	**41**	*e*PKPdf		**PKPdf**	**02 01 09.3**	**+0.8**
WVT	**Waverly**	**128.74**	**36**	*e*PKIKP		**PKPdf**	**02 01 13.7**	**+0.4**
WVT	**Waverly**	**128.74**	**36**	*e*PKPdf		**PKPdf**	**02 01 13.7**	**+0.4**
PLAL	**Pickwick Lake**	**129.38**	**37**	*e*PKPdf		**PKPdf**	**02 01 14.6**	**+0.1**
DBIC	**Dimbokro**	**130.35**	**282**	PKP		**PKPdf**	**02 01 16.8**	**-0.1**
DBIC				*e*PKPdf		**PKiKP**	**02 01 17.4**	**-0.4**
DBIC	**Dimbokro**	**130.35**	**282**	PKP		**PKPdf**	**02 01 16.8**	**-0.1**
	comp=Z,5.4nm,0.8s,baz=73,slow=4.1,SNR=9.3							
SWET	**Sewanee**	**130.48**	**35**	*e*PKPdf		**PKPdf**	**02 01 16.9**	**+0.2**
LIC	**Lamto**	**130.60**	**282**	⇑*i*PKIKP		**PKPdf**	**02 01 17.1**	**-0.3**
	comp=Z,32nm,1.1s							
LIC	**Lamto**	**130.60**	**282**	⇑*i*PKPdf		**PKPdf**	**02 01 17.1**	**-0.3**
TKL	**Tuckaleechee C**	**131.38**	**33**	*e*PKPdf		**PKPdf**	**02 01 18.1**	**-0.3**
PLCA	**Paso Flores**	**140.32**	**160**	PKPpre		PKPpre	02 01 27.0	
PLCA				PKP		**PKPdf**	**02 01 35.8**	**+0.9**
PLCA	**Paso Flores**	**140.32**	**160**	PKhKP		PKPpre	02 01 27.0	
	comp=Z,2.5nm,0.9s,baz=188,slow=4.1,SNR=5.0							
PLCA				PKP		**PKPdf**	**02 01 35.8**	**+0.9**
	comp=Z,5.6nm,0.9s,baz=192,slow=3.2,SNR=7.0							
TRQA	**Tornquist**	**145.22**	**168**	*e*PKPdf		**PKPbc**	**02 01 43.1**	**-0.1**
LCO	**Las Campanas**	**150.22**	**148**	*e*PKPbc		**PKPbc**	**02 01 57.8**	**+0.3**
CPUP	**Villa Florida**	**157.49**	**171**	PKPbc		PKPdf	02 02 10.3	+7.9
CPUP				PKPab		**PKPab**	**02 02 34.8**	**+0.9**
CPUP	**Villa Florida**	**157.49**	**171**	PKPbc		PKPdf	02 02 10.3	+7.9
	comp=Z,1.9nm,0.8s,baz=134,slow=1.8,SNR=4.0							
CPUP				PKPab		**PKPab**	**02 02 34.8**	**+0.9**
	comp=Z,24nm,0.8s,baz=165,slow=3.9,SNR=30							
SDV	**Santo Domingo**	**158.61**	**53**	*e*PKPdf		**PKPdf**	**02 02 04.1**	**-0.3**
LPAZ	**La Paz**	**161.10**	**131**	*e*PKPdf		**PKPdf**	**02 02 07.9**	**+0.3**
BDFB	**Brasilia**	**167.26**	**204**	PKPab		**PKPab**	**02 03 17.6**	**+0.5**
BDFB	**Brasilia**	**167.26**	**204**	PKPab		**PKPab**	**02 03 17.6**	**+0.5**
	comp=Z,5.9nm,1.0s,baz=170,slow=9.5,SNR=4.4							

PRE 12 01:46:57.1±1.0, 26°10S×27°67E, h2km, ML2.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPM	**east rand prop**	**0.57**	**115**	*e*P	Pg	01 47 08.2	-0.1
ERPM				*e*S	Sg	01 47 14.5	-1.4
ERPM				AML	AML	01 47 15.8	
	comp=Z,72nm,0.4s						
SLR	**Silverton**	**0.66**	**57**	*e*P	Pg	01 47 09.8	-0.2
SLR				*e*S	Sg	01 47 18.4	-0.3
SLR				AML	AML	01 47 21.8	
	comp=Z,77nm,0.4s						
PRYS	**Parys**	**0.87**	**198**	*e*P	Pg	01 47 13.9	-0.1
PRYS				*e*S	Sg	01 47 25.9	+0.5
PRYS				AML	AML	01 47 33.0	
	comp=Z,52nm,0.1s						
BFSD	**Buffelsfontein**	**1.10**	**226**	*e*P	Pg	01 47 18.3	0.0
BFSD				*e*S	Sg	01 47 33.1	+0.4
BFSD				AML	AML	01 47 39.5	
	comp=Z,104nm,0.2s						
LBTB	**Lobatse**	**2.16**	**300**	*e*P	Pn	01 47 35.1	+0.9
LBTB				*e*S	Sn	01 48 02.5	+0.7
LBTB				AML	AML	01 48 09.6	
	comp=Z,32nm,0.3s						
SEK	**Senekal**	**2.21**	**181**	*e*P	Pn	01 47 36.3	+1.2
SEK				*e*S	Sn	01 48 03.6	+0.3
SEK				AML	AML	01 48 08.2	
	comp=Z,61nm,0.6s						
SWZ	**Schweizer**	**2.35**	**242**	*e*P	Pn	01 47 38.0	+1.0
SWZ				*e*S	Sn	01 48 06.5	-0.1
SWZ				AML	AML	01 48 14.9	
	comp=Z,38nm,0.6s						
BOSA	**Boshof**	**3.30**	**220**	*e*P	Pn	01 47 50.8	+0.9
BOSA				*e*S	Sn	01 48 29.2	-0.7
BOSA				AML	AML	01 48 48.4	
	comp=Z,8.2nm,0.5s						
BLWY	**Bulawayo**	**6.00**	**9**	*i* P	Pg	01 48 49.9	-2.3
BLWY				*i*		01 48 50.2	
	baz=302,slow=5.6						
BLWY				*i* S	Sg	01 50 03.3	-6.9

BJI **12** *01:47:16.9, 3°.30N×127°.45E, h35km, mB5.3/12, mb4.6/25, Ms4.8/10, Ms7 4.5/11*
IDC **12** *01:47:21.5±0.6, 4°.09N×126°.72E, h0km, mb4.4/19, mb1 4.5/19, mb1mx4.4/22, mbtmp4.4/19, Error ellipse: s-maj=29.6km s-min=13.3km az=74.0*
ISCJB **12** *01:47:24.4±0.4, 4°.11N±0°.05×126°.84E±0°.08, h33km, mb4.7/43, MS4.5/4, Error ellipse: s-maj=12.5km s-min=6.9km az=162.2*
NEIC **12** *01:47:26.4±0.3, 4°.16N×127°.00E, h35km, mb4.6/15, Error ellipse: s-maj=11.6km s-min=6.8km az=76.0*

ISC 12 01:47:26.3±0.6, 4°.10N±0°.08×126°.9E±0°.1, h34km±1km, n87, σ1§34/110, mb4.6/47, MS4.4/4, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.79**	**281**	Pn	Pn	01 50 02.0	+3.3
KSM	**Kuching**	**16.75**	**262**	*e*Pn	**P**	**01 51 22.2**	**+1.7**
	31nm,0.9s						
YULB	**Yu-li**	**19.93**	**345**	*e*P	**P**	**01 51 53.4**	**-2.0**
TPUB	**Ta-pu**	**20.02**	**343**	*e*P	**P**	**01 51 56.2**	**-0.3**
	28nm,0.7s						
YHNB	**Yeheng**	**21.13**	**346**	*e*P	**P**	**01 52 07.4**	**-1.1**
	6.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**22.09**	**183**	P	**P**	**01 52 17.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**22.09**	**183**	P	**P**	**01 52 17.9**	**-0.8**
	4.2nm,0.4s,baz=357,slow=9.7,SNR=5.2						
WRAB	**Tennant Creek**	**24.98**	**163**	*e*P	**P**	**01 52 46.7**	**-0.4**
WRA	**Warramunga Arr**	**24.99**	**163**	P	**P**	**01 52 47.2**	**+0.1**
WRA	**Warramunga Arr**	**24.99**	**163**	P	**P**	**01 52 47.3**	**+0.1**
	3μm,0.3s,baz=0.0,slow=0.0,SNR=11						
MBWA	**Marble Bar**	**26.06**	**195**	*e*P	**P**	**01 52 56.7**	**-0.1**
ASAR	**Alice Springs**	**28.43**	**166**	P	**P**	**01 53 20.2**	**+2.1**
ASAR	**Alice Springs**	**28.43**	**166**	P	**P**	**01 53 20.2**	**+2.1**
	1.9nm,0.7s,baz=351,slow=8.7,SNR=4.5						
NJ2	**Nanjing**	**28.81**	**346**	*e*P	P	01 53 25.2	+3.9
NJ2				pmax	pmax		
	comp=Z,70nm,1.2s						
WHN	**Wuhan**	**28.84**	**337**	⇑P	**P**	**01 53 22.8**	**+1.2**
GYA	**Guiyang**	**29.47**	**321**	P	**P**	**01 53 30.0**	**+2.5**
GYA				pP	**pP**	**01 53 40.1**	**+2.9**
GYA				PP	PP	01 54 25.9	-8.5
GYA				S	**S**	**01 58 21.2**	**+1.3**
GYA				sS	**sS**	**01 58 38.5**	**+2.5**
GYA				ScS	**ScS**	**02 04 05.7**	**-1.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.8s						
GYA				LR	LR		
	comp=N,440nm,17.5s						
GYA				LR	LR		
	comp=E,400nm,18.3s						
GYA				LR	LR		
	comp=Z,460nm,17.9s						
ENH	**Enshi**	**30.78**	**330**	*e*P	**P**	**01 53 38.6**	**-0.3**
	comp=Z,17nm,0.9s						
CMAR	**Chiang Mai Arr**	**30.81**	**300**	P	**P**	**01 53 39.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**30.81**	**300**	P	**P**	**01 53 39.1**	**-0.2**
	comp=Z,3.2nm,0.6s,baz=111,slow=5.6,SNR=7.6						
CHTO	**Chiang Mai**	**30.96**	**300**	*e*P	**P**	**01 53 40.2**	**-0.4**
	comp=Z,8.4nm,0.8s						
KMI	**Kunming**	**31.23**	**314**	P	**P**	**01 53 46.0**	**+2.9**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KSAR	**Wonju Array Be**	**33.20**	**1**	P	**P**	**01 54 00.8**	**+0.9**
KSRS	**Korea Array**	**33.21**	**2**	P	**P**	**01 54 00.8**	**+0.8**
	comp=Z,1.7nm,0.4s,baz=180,slow=9.6,SNR=6.5						
XAN	**Xi'an**	**34.16**	**333**	P	**P**	**01 54 07.2**	**-1.2**
XAN				pP	**pP**	**01 54 16.6**	**-1.7**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BJT	**Baijiatuau**	**37.05**	**346**	*e*P	**P**	**01 54 33.3**	**+0.2**
	comp=Z,14nm,0.5s						
BJI	**Beijing**	**37.07**	**346**	P	**P**	**01 54 34.2**	**+1.0**
BJI				pmax	pmax		
	comp=Z,24nm,0.9s						
LZH	**Lanzhou**	**38.26**	**329**	*e*P	**P**	**01 54 43.7**	**0.0**
LZH				pP	**pP**	**01 54 51.8**	**-1.8**
LZH				sP	**sP**	**01 54 54.4**	**-3.2**
LZH				pmax	pmax		
	comp=Z,28nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,4.2s						
STKA	**Stephens Creek**	**38.42**	**160**	*e*P	**P**	**01 54 44.1**	**-0.7**
	comp=Z,3.4nm,1.2s						
STKA	**Stephens Creek**	**38.42**	**160**	P	**P**	**01 54 44.7**	**-0.1**
	comp=Z,7.9nm,0.9s,baz=39,slow=8.3,SNR=4.9						
HHC	**Hu-ho-hao-te**	**39.10**	**341**	*e*P	**P**	**01 54 48.9**	**-1.6**
HHC				pP	**pP**	**01 54 59.8**	**-0.7**
HHC				sP	**sP**	**01 55 03.4**	**-1.1**
HHC				PP	PP	01 56 23.8	+3.2
HHC				S	**S**	**02 00 48.3**	**+0.3**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				LR	LR		
	comp=N,460nm,14.2s						
HHC				LR	LR		
	comp=E,370nm,12.3s						
HHC				LR	LR		
	comp=Z,560nm,15.5s						
CN2	**Changchun**	**39.56**	**358**	*e*P	P	01 54 50.3	-3.9
CN2				*e*pP	pP	01 55 00.2	-3.9
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
USRK	**Ussuriysk Arra**	**40.19**	**6**	P	**P**	**01 55 00.5**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=208,slow=7.7,SNR=4.4						
LSA	**Lhasa**	**42.31**	**311**	*e*P	**P**	**01 55 18.4**	**+0.8**
	comp=Z,5.6nm,0.6s						
GTA	**Gaotai**	**42.86**	**329**	*e*P	**P**	**01 55 21.4**	**-0.2**
GTA				pP	**pP**	**01 55 31.8**	**+0.2**
GTA				sP	**sP**	**01 55 36.2**	**+0.6**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
TAPN	**Taplejung**	**43.92**	**306**	*e*P	**P**	**01 55 29.3**	**-1.2**
ODAN	**Odare**	**43.98**	**305**	*e*P	**P**	**01 55 29.8**	**-1.1**
	comp=Z,20nm,0.7s						
RAMN	**Ramite**	**44.66**	**305**	*e*P	**P**	**01 55 35.9**	**-0.5**
	comp=Z,17nm,0.8s						
JIRN	**Jiri**	**45.27**	**306**	*e*P	**P**	**01 55 40.3**	**-1.1**
HIA	**Hailar**	**45.41**	**353**	*e*P	**P**	**01 55 39.8**	**-1.9**
GUN	**Gumba**	**45.63**	**306**	*e*P	**P**	**01 55 43.3**	**-0.9**
	comp=Z,36nm,0.9s						
GKN	**Gorkha**	**46.67**	**305**	*e*P	**P**	**01 55 50.9**	**-1.3**
ULN	**Ulaanbaatar**	**46.82**	**342**	*e*P	**P**	**01 55 52.4**	**-0.6**
SONM	**Songino Array**	**47.00**	**341**	P	**P**	**01 55 55.1**	**+0.7**
SONM				PcP	**PcP**	**01 57 27.6**	**+1.2**
SONM	**Songino Array**	**47.00**	**341**	P	**P**	**01 55 55.1**	**+0.7**
	comp=Z,1.4nm,0.4s,baz=162,slow=8.1,SNR=11						
SONM				PcP	**PcP**	**01 57 27.6**	**+1.2**
	comp=Z,2.4nm,0.7s,baz=166,slow=2.8,SNR=5.4						
KOLN	**Koldanda**	**47.43**	**304**	*e*P	**P**	**01 55 57.1**	**-1.1**
	comp=Z,22nm,0.6s						
DANN	**Dangsing**	**47.52**	**305**	*e*P	**P**	**01 55 57.6**	**-1.4**
	comp=Z,77nm,1.0s						
TLY	**Talaya**	**51.23**	**342**	*e*P	**P**	**01 56 27.6**	**+1.0**
	comp=Z,7.0nm,0.9s						
WMQ	**Urumqi**	**52.51**	**325**	*e*P	**P**	**01 56 37.7**	**+1.4**
WMQ				pP	**pP**	**01 56 46.0**	**-0.5**
WMQ				sP	**sP**	**01 56 50.0**	**-0.5**
WMQ				pmax	pmax		
	comp=Z,9.0nm,1.2s						
WMQ				LR	LR		
	comp=Z,240nm,20.0s						
PETK	**Petropavlovsk-**	**55.04**	**22**	P	**P**	**01 56 55.3**	**+0.7**
PETK	**Petropavlovsk-**	**55.04**	**22**	P	**P**	**01 56 55.3**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=190,slow=4.7,SNR=7.4						
MK31	**Makanchi Array**	**57.34**	**325**	*e*P	**P**	**01 57 10.9**	**-0.2**
MKAR	**Makanchi Array**	**57.34**	**325**	*e*P	**P**	**01 57 11.2**	**+0.1**
MKAR				PcP	**PcP**	**01 58 07.5**	**+2.6**
MKAR	**Makanchi Array**	**57.34**	**325**	P	**P**	**01 57 10.8**	**-0.3**
	comp=Z,4.7nm,0.6s,baz=119,slow=8.0,SNR=16						
MKAR				PcP	**PcP**	**01 58 07.5**	**+2.6**
	comp=Z,2.5nm,0.6s,baz=151,slow=2.8,SNR=5.3						
KSH	**Kashi**	**57.89**	**315**	P	**P**	**01 57 15.1**	**-0.2**
KSH				pP	**pP**	**01 57 25.0**	**-0.6**
KSH				sP	**sP**	**01 57 29.1**	**-0.5**
KSH				PcP	**PcP**	**01 58 06.5**	**-0.9**
KSH				PP	**PP**	**01 59 26.3**	**+2.5**
KSH				ScP	**ScP**	**02 02 02.3**	**-2.9**
KSH				PcS	**PcS**	**02 02 06.5**	**-2.4**
KSH				S	**S**	**02 05 13.5**	**+0.4**
KSH				ScS	**ScS**	**02 06 58.2**	**-4.5**
KSH				LR	LR		
	comp=N,250nm,15.3s						
KSH				LR	LR		
	comp=E,620nm,17.6s						
KSH				LR	LR		
	comp=Z,790nm,17.3s						
TKM2	**Tokmak 2**	**59.57**	**318**	*e*P	**P**	**01 57 26.0**	**-1.0**
	comp=Z,1.4nm,0.4s						
ZALV	**Zalesovo Beam**	**60.33**	**333**	P	**P**	**01 57 30.8**	**-0.9**
ZALV	**Zalesovo Beam**	**60.33**	**333**	P	**P**	**01 57 30.8**	**-0.9**
	comp=Z,1.8nm,0.4s,baz=128,slow=6.9,SNR=8.5						
KURBB	**Kurchatov Arra**	**61.51**	**327**	P	**P**	**01 57 39.3**	**-0.5**
	comp=Z,5.5nm,0.6s,baz=127,slow=6.4,SNR=22						
KURK	**Kurchatov**	**61.51**	**327**	*e*P	**P**	**01 57 39.9**	**+0.1**
	comp=Z,12nm,0.7s						
BVAR	**Borovoye Array**	**67.09**	**327**	P	**P**	**01 58 16.2**	**-0.2**
BVAR	**Borovoye Array**	**67.09**	**327**	P	**P**	**01 58 16.2**	**-0.2**
	comp=Z,2.7nm,0.6s,baz=116,slow=4.2,SNR=9.6						
BRVK	**Borovoye**	**67.16**	**327**	*e*P	**P**	**01 58 17.3**	**+0.4**
	comp=Z,7.4nm,0.8s						
ABKAR	**Akbulak array**	**71.96**	**321**	*e*P	**P**	**01 58 46.5**	**0.0**
AKTO	**Aktyubinsk**	**73.46**	**322**	P	**P**	**01 58 55.4**	**0.0**
AKTO	**Aktyubinsk**	**73.46**	**322**	P	**P**	**01 58 55.4**	**0.0**
	comp=Z,2.3nm,0.6s,baz=82,slow=4.6,SNR=5.8						
ARU	**Arti**	**74.70**	**328**	*e*P	**P**	**01 59 02.2**	**-0.3**
	comp=Z,4.0nm,0.6s						
COLD	**Coldfoot**	**83.50**	**23**	*e*P	**P**	**01 59 50.6**	**+0.2**
	comp=Z,9.5nm,1.2s						
ILAR	**Eielson Array**	**84.71**	**25**	P	**P**	**01 59 56.1**	**-0.6**
ILAR	**Eielson Array**	**84.71**	**25**	P	**P**	**01 59 56.1**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=248,slow=4.6,SNR=8.4						
OBN	**Obninsk**	**86.84**	**325**	*e*P	**P**	**02 00 07.1**	**-0.3**
	comp=Z,162nm,2.0s						
BRTR	**Keskin Array B**	**89.90**	**310**	P	**P**	**02 00 21.1**	**-1.4**
BRTR	**Keskin Array B**	**89.90**	**310**	P	**P**	**02 00 21.1**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=135,slow=4.5,SNR=5.4						
ARCES	**ARCESS Array B**	**90.16**	**340**	P	**P**	**02 00 22.0**	**-0.8**
ARCES	**ARCESS Array B**	**90.16**	**340**	P	**P**	**02 00 22.0**	**-0.8**
	comp=Z,5.2nm,1.1s,baz=90,slow=7.2,SNR=4.6						
FINES	**FINESS Array B**	**91.58**	**332**	P	**P**	**02 00 29.6**	**0.0**
FINES	**FINESS Array B**	**91.58**	**332**	P	**P**	**02 00 29.6**	**0.0**
	comp=Z,2.9nm,0.7s,baz=52,slow=4.

mb1 4.1/8, mb1mx3.9/22, mbtmp4.0/8, MS2.6/1, Ms1 2.6/1, ms1mx2.6/46, 2C, Error ellipse: s-maj=75.3km s-min=16.0km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**11.73**	**331**	LR	LR	02 03 28.7	
	comp=Z,29nm,20.1s,baz=81,slow=37						
FITZ	**Fitzroy Crossi**	**21.83**	**183**	P	P	02 01 05.1	0.0
	2.4nm,0.5s,baz=8.3,slow=11,SNR=7.8						
WRA	**Warramunga Arr**	**24.76**	**163**	P	P	02 01 34.0	-0.6
	6.5nm,0.7s						
ASAR	**Alice Springs**	**28.20**	**166**	P	P	02 02 05.9	+0.4
	0.5nm,0.4s,baz=346,slow=10,SNR=4.8						
NWAO	**Narrogin (SRO)**	**37.67**	**193**	P	P	02 03 28.2	+0.2
	10nm,1.0s,baz=350,slow=12,SNR=2.8						
STKA	**Stephens Creek**	**38.20**	**159**	P	P	02 03 32.3	-0.2
	4.9nm,0.6s,baz=341,slow=8.2,SNR=14						
SONM	**Songino Array**	**47.22**	**341**	P	P	02 04 46.5	+0.7
	0.4nm,0.7s,baz=145,slow=5.3,SNR=2.8						
MK31	**Makanchi Array**	**57.52**	**325**	⇑Pn	P	02 06 01.7	-0.4
	0.4nm,0.4s,baz=122,slow=8.3,SNR=5.4						
MK31				⇑Lg	Lg	02 06 51.5	
	0.4nm,0.3s,baz=117,slow=7.8,SNR=5.2						
MKAR	**Makanchi Array**	**57.52**	**325**	P	P	02 06 01.3	-0.8
	0.3nm,0.5s,baz=119,slow=7.7,SNR=5.7						
KURBB	**Kurchatov Arra**	**61.69**	**327**	P	P	02 06 30.7	-0.2
	0.8nm,0.6s,baz=124,slow=6.2,SNR=5.5						

IDC 12 01:57:03.5±1.1, 3.72N×126.02E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/22, mbtmp3.9/8, Error ellipse: s-maj=109.9km s-min=15.7km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.68**	**181**	P	P	02 01 55.4	-0.7
	1.5nm,0.6s,baz=0.7,slow=11,SNR=2.0						
WRA	**Warramunga Arr**	**24.89**	**161**	P	P	02 02 28.3	+0.1
	7.6nm,0.6s						
ASAR	**Alice Springs**	**28.28**	**165**	P	P	02 02 59.8	+0.9
	0.7nm,0.5s,baz=344,slow=8.8,SNR=5.1						
STKA	**Stephens Creek**	**38.37**	**158**	P	P	02 04 25.9	-0.7
	1.8nm,0.3s,baz=348,slow=5.9,SNR=6.6						
SONM	**Songino Array**	**47.09**	**342**	P	P	02 05 36.6	-0.7
	0.1nm,0.3s,baz=166,slow=9.4,SNR=2.6						
MKAR	**Makanchi Array**	**57.16**	**326**	P	P	02 06 51.2	-1.0
	0.5nm,0.4s,baz=117,slow=7.7,SNR=5.2						
KURBB	**Kurchatov Arra**	**61.37**	**328**	P	P	02 07 21.9	+0.7
	1.2nm,0.5s,baz=129,slow=6.4,SNR=9.6						
BVAR	**Borovoye Array**	**66.95**	**327**	P	P	02 07 58.3	+0.5
	0.2nm,0.4s,baz=142,slow=7.3,SNR=4.8						

IDC 12 02:01:17.2±1.7, 3.86N×126.06E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/21, mbtmp3.6/5, Error ellipse: s-maj=133.8km s-min=20.2km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.82**	**181**	P	P	02 06 10.5	-0.7
	1.2nm,0.4s,baz=0.0,slow=7.1,SNR=3.5						
ASAR	**Alice Springs**	**28.40**	**165**	P	P	02 07 15.5	+1.9
	0.2nm,0.3s,baz=345,slow=9.6,SNR=3.8						
STKA	**Stephens Creek**	**38.49**	**159**	P	P	02 08 39.6	-1.6
	2.4nm,0.7s,baz=326,slow=12,SNR=5.6						
MKAR	**Makanchi Array**	**57.07**	**326**	P	P	02 11 05.2	-0.1
	0.3nm,0.5s,baz=121,slow=7.9,SNR=4.4						
KURBB	**Kurchatov Arra**	**61.27**	**328**	P	P	02 11 34.2	0.0
	0.2nm,0.5s,baz=126,slow=6.5,SNR=4.0						

*IDC **12** 02:05:48.4±0.6, 3.62N×126.50E, h0km, mb4.2/22, mb1 4.3/22, mb1mx4.3/26, mbtmp4.2/22, Error ellipse: s-maj=27.1km s-min=12.1km az=67.0*
*ISCJB **12** 02:05:53.7±0.4, 3.62N±0.06×126.5E±0.1, h53km, mb4.4/30, Error ellipse: s-maj=17.9km s-min=6.6km az=162.1*
*NEIC **12** 02:05:53.4±0.3, 3.60N×126.56E, h35km, mb4.5/12, Error ellipse: s-maj=14.6km s-min=5.6km az=72.0*

ISC 12 02:05:55.5±0.5, 3.65N±0.08×126.5E±0.2, h53km, n55, σ0s79/56, mb4.4/30, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.53**	**344**	*e*Pn	**Pn**	**02 06 46.8**	**-1.1**
DAV				Sn	**Sn**	**02 07 27.9**	**-0.4**
YULB	**Yu-li**	**20.27**	**346**	*e*P	**P**	**02 10 24.5**	**-2.3**
	4.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.64**	**182**	*e*P	**P**	**02 10 40.3**	**-1.2**
	2.5nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.64**	**182**	*e*P	**P**	**02 10 40.9**	**-0.6**
	16nm,1.7s						
FITZ	**Fitzroy Crossi**	**21.64**	**182**	P	**P**	**02 10 41.2**	**-0.3**
	1.5nm,0.5s,baz=24,slow=8.0,SNR=6.1						
WRAB	**Tennant Creek**	**24.66**	**162**	*e*P	**P**	**02 11 09.8**	**-1.8**
	46nm,1.0s						
WRA	**Warramunga Arr**	**24.67**	**162**	P	**P**	**02 11 10.1**	**-1.5**
WRA	**Warramunga Arr**	**24.67**	**162**	P	**P**	**02 11 10.1**	**-1.5**
	22nm,0.8s						
ASAR	**Alice Springs**	**28.09**	**166**	P	**P**	**02 11 42.1**	**-0.3**
ASAR	**Alice Springs**	**28.09**	**166**	P	**P**	**02 11 42.1**	**-0.3**
	0.8nm,0.3s,baz=347,slow=12,SNR=16						
CMAR	**Chiang Mai Arr**	**30.75**	**301**	P	**P**	**02 12 06.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**30.75**	**301**	P	**P**	**02 12 06.8**	**+0.8**
	2.2nm,0.4s,baz=111,slow=7.0,SNR=10						
CHTO	**Chiang Mai**	**30.90**	**301**	*e*P	**P**	**02 12 07.3**	**-0.2**
	3.3nm,0.6s						
ENH	**Enshi**	**31.00**	**330**	*e*P	**P**	**02 12 08.1**	**-0.1**
	7.1nm,0.8s						
KSAR	**Wonju Array Be**	**33.65**	**2**	P	**P**	**02 12 31.7**	**+0.5**
KSRS	**Korea Array**	**33.66**	**2**	P	**P**	**02 12 31.7**	**+0.4**
	1.8nm,0.6s,baz=181,slow=9.6,SNR=6.7						
STKA	**Stephens Creek**	**38.12**	**159**	P	**P**	**02 13 08.8**	**-0.8**
	15nm,0.7s						
STKA	**Stephens Creek**	**38.12**	**159**	*e*P	**P**	**02 13 08.4**	**-1.2**
	5.9nm,0.7s						
STKA	**Stephens Creek**	**38.12**	**159**	P	**P**	**02 13 08.8**	**-0.8**
	6.3nm,0.7s,baz=333,slow=12,SNR=13						
USRK	**Ussuriysk Arra**	**40.67**	**6**	P	**P**	**02 13 31.3**	**+0.7**
	2.0nm,0.8s,baz=210,slow=8.8,SNR=4.6						
DZM	**Mont Dzumac**	**46.65**	**125**	P	**P**	**02 14 19.9**	**+0.7**
	1.8nm,0.6s,baz=139,slow=20,SNR=3.1						
ULN	**Ulaanbaatar**	**47.13**	**342**	*e*P	**P**	**02 14 22.5**	**-0.2**
	0.8nm,0.4s						
SONM	**Songino Array**	**47.31**	**342**	P	**P**	**02 14 24.7**	**+0.7**
SONM	**Songino Array**	**47.31**	**342**	P	**P**	**02 14 24.7**	**+0.7**
	0.5nm,0.3s,baz=167,slow=8.6,SNR=8.1						
PETK	**Petropavlovsk-**	**55.57**	**22**	P	**P**	**02 15 25.6**	**+0.1**
PETK	**Petropavlovsk-**	**55.57**	**22**	P	**P**	**02 15 25.6**	**+0.1**
	1.6nm,0.6s,baz=216,slow=7.1,SNR=3.1						
MK31	**Makanchi Array**	**57.51**	**325**	*e*P	**P**	**02 15 39.2**	**-0.3**
MKAR	**Makanchi Array**	**57.51**	**325**	P	**P**	**02 15 39.2**	**-0.3**
MKAR	**Makanchi Array**	**57.51**	**325**	P	**P**	**02 15 39.2**	**-0.3**
	2.2nm,0.6s,baz=120,slow=8.1,SNR=26						
AAK	**Ala-Archa**	**60.29**	**318**	*e*P	**P**	**02 15 59.9**	**+0.9**
	22nm,1.1s						
AAK	**Ala-Archa**	**60.29**	**318**	P	**P**	**02 15 59.9**	**+0.9**
	1.2nm,0.7s,baz=179,slow=13,SNR=4.7						
ZALV	**Zalesovo Beam**	**60.57**	**333**	P	**P**	**02 15 59.9**	**-0.6**
ZALV	**Zalesovo Beam**	**60.57**	**333**	P	**P**	**02 15 59.9**	**-0.6**
	0.7nm,0.5s,baz=128,slow=6.6,SNR=4.2						
KURBB	**Kurchatov Arra**	**61.70**	**327**	P	**P**	**02 16 07.8**	**-0.4**
	5.1nm,0.6s,baz=130,slow=6.4,SNR=46						
KKAR	**Karatay Array**	**63.16**	**317**	*e*P	**P**	**02 16 18.4**	**+0.2**
	3.9nm,0.8s						
BVAR	**Borovoye Array**	**67.28**	**327**	P	**P**	**02 16 45.3**	**+0.7**
BVAR	**Borovoye Array**	**67.28**	**327**	P	**P**	**02 16 45.3**	**+0.7**
	4.8nm,0.8s,baz=128,slow=9.6,SNR=26						
BRVK	**Borovoye**	**67.35**	**327**	*e*P	**P**	**02 16 45.3**	**+0.2**
	11nm,0.9s						
ABKAR	**Akbulak array**	**72.09**	**321**	*e*P	**P**	**02 17 14.1**	**-0.2**
	3.0nm,0.7s						
AKTO	**Aktyubinsk**	**73.60**	**322**	P	**P**	**02 17 23.6**	**+0.3**
AKTO	**Aktyubinsk**	**73.60**	**322**	P	**P**	**02 17 23.6**	**+0.3**
	5.3nm,1.1s,baz=99,slow=7.5,SNR=12						
ARU	**Arti**	**74.90**	**328**	*e*P	**P**	**02 17 30.5**	**-0.2**
	4.5nm,0.9s						
ILAR	**Eielson Array**	**85.25**	**25**	P	**P**	**02 18 27.3**	**+1.0**
ILAR	**Eielson Array**	**85.25**	**25**	P	**P**	**02 18 27.3**	**+1.0**
	0.1nm,0.5s,baz=262,slow=5.2,SNR=4.1						
LVZ	**Lovozero**	**87.36**	**338**	*e*P	**P**	**02 18 38.5**	**+1.9**
	94nm,0.6s						
ASF	**Jabal al Asfar**	**87.78**	**302**	P	**P**	**02 18 39.8**	**+0.3**
ASF	**Jabal al Asfar**	**87.78**	**302**	P	**P**	**02 18 39.8**	**+0.3**
	2.6nm,0.8s,baz=360,slow=4.2,SNR=4.2						
BRTR	**Keskin Array B**	**89.92**	**310**	P	**P**	**02 18 49.3**	**-0.2**
BRTR	**Keskin Array B**	**89.92**	**310**	P	**P**	**02 18 49.3**	**-0.2**
	1.2nm,0.9s,baz=116,slow=5.1,SNR=7.7						
ARCES	**ARCESS Array B**	**90.45**	**340**	P	**P**	**02 18 51.1**	**0.0**
ARCES	**ARCESS Array B**	**90.45**	**340**	P	**P**	**02 18 51.1**	**0.0**
	1.9nm,0.9s,baz=82,slow=5.0,SNR=8.5						
FINES	**FINESS Array B**	**91.81**	**332**	P	**P**	**02 18 57.5**	**0.0**
FINES	**FINESS Array B**	**91.81**	**332**	P	**P**	**02 18 57.6**	**0.0**
	0.9nm,0.6s,baz=63,slow=6.4,SNR=4.2						
YKA	**Yellowknife Ar**	**99.65**	**24**	P	**Pdif**	**02 19 33.8**	**+0.6**
YKA	**Yellowknife Ar**	**99.65**	**24**	P	**Pdif**	**02 19 33.8**	**+0.6**
	0.0nm,0.5s,baz=299,slow=4.1,SNR=3.0						

*IDC **12** 02:06:05.4±0.4, 3.93N×126.39E, h0km, mb4.5/32, mb1 4.5/33, mb1mx4.5/36, mbtmp4.5/33, ML4.7/1, Error ellipse: s-maj=22.6km s-min=10.3km az=73.0*
*ISCJB **12** 02:06:10.1±0.3, 3.92N±0.05×126.41E±0.08, h45km, mb4.5/43, Error ellipse: s-maj=11.3km s-min=5.2km az=174.8*
*NEIC **12** 02:06:10.5±1.1, 3.94N×126.39E, h35km±10km, mb4.7/17, Error ellipse: s-maj=10.3km s-min=5.6km az=75.0*
*DJA **12** 02:06:19, 2.01N×127.51E, h27km, ML4.8/5*

ISC 12 02:06:11.8±0.4, 3.92N±0.05×126.41E±0.08, h45km, n116, σ1s26/106, mb4.6/40, 1C-3D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**2.92**	**213**	P	Pn	02 07 00.2	+4.5
MATI	**Mati**	**3.01**	**357**	*e*P	Pn	02 07 01.3	+4.3
MATI				*e*S	**Sn**	**02 07 32.9**	**+1.0**
DAV	**Davao City (W)**	**3.24**	**345**	Pn	**Pn**	**02 06 57.2**	**-2.9**
DAV				Sn	**Sn**	**02 07 41.0**	**+3.5**
DAV	**Davao City (W)**	**3.24**	**345**	Pn	**Pn**	**02 06 57.2**	**-2.9**
	90nm,0.3s,baz=224,slow=6.6,SNR=2.5						
DAV				Sn	**Sn**	**02 07 41.0**	**+3.5**
	65nm,0.3s,baz=243,slow=17,SNR=6.0						
KMSI	**Cibinong**	**4.12**	**216**	P	Pn	02 07 18.0	+5.8
BUKP	**Musuan**	**4.16**	**341**	*e*P	**Pn**	**02 07 09.8**	**-3.0**
PAGZ	**Pagadian**	**4.93**	**322**	*e*P	Pn	02 07 14.9	-8.4
LUWI	**Luwuk**	**6.13**	**217**	P	**Pn**	**02 07 38.1**	**-1.7**
NLAI	**Namlea**	**7.14**	**174**	P	Pn	02 08 01.9	+8.1
KDI	**Kendari**	**8.70**	**206**	P	Pn	02 08 17.8	+2.8
	30nm,0.8s						
TTSI	**Tana Toraja**	**9.55**	**224**	P	Pn	02 08 31.8	+5.0
	68nm,1.0s						
SPSI	**Sidrap Palu**	**10.27**	**220**	P	Pn	02 08 54.7	+18
KKM	**Kota Kinabalu**	**10.38**	**282**	*e*Pn	**Pn**	**02 08 35.7**	**-2.5**
	25nm,0.9s						
KKM	**Kota Kinabalu**	**10.38**	**282**	P	Pn	02 08 46.9	+8.7
	29nm,1.4s						
BBKI	**Banjar Baru**	**13.69**	**238**	P	**P**	**02 09 32.8**	**+1.7**
	78nm,0.9s						
SBUM	**Sibu**	**14.24**	**265**	P	**P**	**02 09 37.5**	**+0.3**
	30nm,1.6s						
KSM	**Kuching**	**16.27**	**262**	*e*Pn	**Pn**	**02 09 56.4**	**-0.8**
	25nm,0.9s						
KSM	**Kuching**	**16.27**	**262**	P	P	02 10 04.7	+5.0
	44nm,1.0s						
TPUB	**Ta-pu**	**20.06**	**344**	*e*P	**P**	**02 10 40.8**	**-0.6**
	33nm,0.7s						
SSLB	**Suanglung**	**20.44**	**346**	*e*P	**P**	**02 10 45.0**	**-0.6**
	23nm,1.0s						
FITZ	**Fitzroy Crossi**	**21.90**	**182**	*e*P	**P**	**02 11 00.6**	**-0.6**
	8.2nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.90**	**182**	P	**P**	**02 11 00.9**	**-0.3**
	3.4nm,0.5s,baz=117,slow=0.4,SNR=7.1						
FITZ	**Fitzroy Crossi**	**21.90**	**182**	P	pP	02 11 15.7	+3.6
	9.6nm,0.7s,baz=6.2,slow=9.4,SNR=6.8						
JOW	**Kunigami**	**22.85**	**4**	P	**P**	**02 11 11.8**	**+0.4**
JOW	**Kunigami**	**22.85**	**4**	P	**P**	**02 11 11.8**	**+0.4**
	14nm,0.6s,baz=233,slow=5.1,SNR=2.8						
WRAB	**Tennant Creek**	**24.95**	**162**	*e*P	**P**	**02 11 30.2**	**-0.9**
	23nm,0.6s						
WRA	**Warramunga Arr**	**24.96**	**162**	P	**P**	**02 11 30.7**	**-0.5**
WRA	**Warramunga Arr**	**24.96**	**162**	P	**P**	**02 11 30.7**	**-0.5**
	13nm,0.5s						
MBWA	**Marble Bar**	**25.77**	**194**	*e*P	**P**	**02 11 38.6**	**+0.1**
	11nm,0.6s						
PSI	**Prapat**	**27.46**	**269**	P	**P**	**02 11 54.7**	**+0.6**
PSI	**Prapat**	**27.46**	**269**	P	**P**	**02 11 56.7**	**+2.6**
	12nm,0.8s						
PSI	**Prapat**	**27.46**	**269**	P	**P**	**02 11 54.7**	**+0.6**
	4.7nm,0.8s,baz=194,slow=9.0,SNR=4.5						
ASAR	**Alice Springs**	**28.38**	**165**	P	**P**	**02 12 03.6**	**+1.7**
ASAR				PcP	**PcP**	**02 15 13.5**	**-0.4**
ASAR	**Alice Springs**	**28.38**	**165**	P	**P**	**02 12 03.6**	**+1.7**
	1.1nm,0.6s,baz=334,slow=12,SNR=4.5						
ASAR				PcP	**PcP**	**02 15 13.5**	**-0.4**
	1.0nm,0.8s,baz=322,slow=3.5,SNR=4.0						
CHTO	**Chiang Mai**	**30.65**	**301**	*e*P	**P**	**02 12 21.8**	**-0.4**
	5.0nm,0.7s						
CHTO	**Chiang Mai**	**30.65**	**301**	P	**P**	**02 12 24.4**	**+2.2**
	16nm,2.0s						
CTA	**Charters Tower**	**30.81**	**141**	P	**P**	**02 12 25.0**	**+1.4**
CTA	**Charters Tower**	**30.81**	**141**	P	**P**	**02 12 25.0**	**+1.4**
	2.0nm,0.6s,baz=335,slow=11,SNR=2.9						
KSAR	**Wonju Array Be**	**33.39**	**2**	P	**P**	**02 12 47.1**	**+1.1**
KSRS	**Korea Array**	**33.40**	**2**	P	**P**	**02 12 47.1**	**+1.0**
	1.0nm,0.4s,baz=185,slow=9.8,SNR=6.2						
KLBR	**Kellerberrin**	**36.27**	**193**	*e*P	**P**	**02 13 10.4**	**-0.5**
	14nm,0.7s						
NWAO	**Narrogin (SRO)**	**37.66**	**193**	*e*P	**P**	**02 13 22.8**	**+0.1**
	5.8nm,0.6s						
NWAO	**Narrogin (SRO)**	**37.66**	**193**	P	**P**	**02 13 22.9**	**+0.1**
	7.1nm,0.7s,baz=6.0,slow=7.3,SNR=6.7						
STKA	**Stephens Creek**	**38.42**	**159**	*e*P	**P**	**02 13 28.0**	**-1.1**
	1.6nm,0.6s						
STKA				PcP	**PcP**	**02 15 42.0**	**+0.1**
STKA	**Stephens Creek**	**38.42**	**159**	P	**P**	**02 13 28.1**	**-1.1**
	8.7nm,0.7s,baz=334,slow=8.4,SNR=9.2						
STKA				PcP	**PcP**	**02 15 42.0**	**+0.1**
	2.3nm,0.5s,baz=348,slow=5.6,SNR=3.6						
USRK	**Ussuriysk Arra**	**40.42**	**6**	P	**P**	**02 13 46.2**	**+0.7**
	1.9nm,0.6s,baz=208,slow=5.4,SNR=3.9						
HIA	**Hailar**	**45.54**	**354**	*e*P	**P**	**02 14 27.6**	**+0.6**
	18nm,1.0s						
ULN	**Ulaanbaatar**	**46.84**	**342**	*e*P	**P**	**02 14 36.7**	**-0.8**
	6.9nm,1.0s						
ULN	**Ulaanbaatar**	**46.84**	**342**	P	**P**	**02 14 38.3**	**+0.9**
	7.4nm,0.9s						
DZM	**Mont Dzumac**	**46.90**	**125**	P	**P**	**02 14 37.1**	**-1.1**
DZM	**Mont Dzumac**	**46.90**	**125**	P	**P**	**02 14 38.0**	**-0.3**
	5.2nm,0.8s,baz=359,slow=9.8,SNR=5.1						
SONM	**Songino Array**	**47.02**	**342**	P	**P**	**02 14 39.4**	**+0.6**
SONM				PcP	**PcP**	**02 16 11.6**	**+1.1**
SONM	**Songino Array**	**47.02**	**342**	P	**P**	**02 14 39.4**	**+0.6**
	2.1nm,0.6s,baz=155,slow=9.0,SNR=15						
SONM				PcP	**PcP**	**02 16 11.6**	**+1.1**
	1.5nm,0.9s,baz=156,slow=5.3,SNR=3.6						
SONM	**Songino Array**	**47.02**	**342**	P	pP	02 14 50.2	-1.1
	1.6nm,0.7s,baz=148,slow=9.8,SNR=5.9						
TLY	**Talaya**	**51.25**	**342**	*e*P	**P**	**02 15 10.4**	**-0.6**
	6.5nm,0.8s						
PETK	**Petropavlovsk-**	**55.38**	**22**	P	**P**	**02 15 41.3**	**+0.1**
PETK	**Petropavlovsk-**	**55.38**	**22**	P	**P**	**02 15 41.3**	**+0.1**
	6.4nm,0.9s,baz=74,slow=8.3,SNR=3.7						
MK31	**Makanchi Array**	**57.22**	**325**	*e*P	**P**	**02 15 54.9**	**+0.4**
MKAR	**Makanchi Array**	**57.22**	**325**	P	**P**	**02 15 55.0**	**+0.5**
MKAR				PcP	**PcP**	**02 16 49.6**	**+1.0**
MKAR				ScP	**ScP**	**02 20 48.4**	**+3.5**
MKAR	**Makanchi Array**	**57.22**	**325**	P	**P**	**02 15 55.1**	**+0.5**
	2.9nm,0.5s,baz=117,slow=7.6,SNR=14						
MKAR				PcP	**PcP**	**02 16 49.6**	**+1.0**
	1.5nm,0.5s,baz=128,slow=6.4,SNR=3.8						
MKAR				ScP	**ScP**	**02 20 48.4**	**+3.5**
	0.5nm,0.8s,baz=116,slow=3.1,SNR=3.2						
MKAR	**Makanchi Array**	**57.22**	**325**	P	pP	02 16 05.4	-1.9
	2.8nm,0.6s,baz=125,slow=7.7,SNR=5.9						
AAK	**Ala-Archa**	**60.00**	**318**	*e*P	**P**	**02 16 13.2**	**-1.0**
	27nm,1.2s						
AAK	**Ala-Archa**	**60.00**	**318**	P	**P**	**02 16 14.8**	**+0.6**
	2.1nm,0.9s,baz=110,slow=14,SNR=3.9						
ZALV	**Zalesovo Beam**	**60.28**	**333**	P	**P**	**02 16 14.8**	**-0.8**
ZALV	**Zalesovo Beam**	**60.28**	**333**	P	**P**	**02 16 14.8**	**-0.8**
	1.3nm,0.5s,baz=112,slow=6.5,SNR=6.3						
ZALV	**Zalesovo Beam**	**60.28**	**333**	P	pP	02 16 26.6	-1.8
	1.8nm,0.6s,baz=123,slow=5.5,SNR=7.1						
KBL	**Kabul**	**61.16**	**307**	*e*P	**P**	**02 16 21.5**	**-0.7**
	5.6nm,0.8s						
KURBB	**Kurchatov Arra**	**61.41**	**327**	P	**P**	**02 16 23.3**	**0.0**
	11nm,0.7s,baz=129,slow=6.8,SNR=6.6						
KURBB	**Kurchatov Arra**	**61.41**	**327**	P	pP	02 16 35.4	-0.8
	8.0nm,0.8s,baz=129,slow=6.5,SNR=5.4						
KURK	**Kurchatov**	**61.41**	**328**	*e*P	**P**	**02 16 22.9**	**-0.4**
	11nm,0.5s						
KKAR	**Karatay Array**	**62.88**	**317**	*e*P	**P**	**02 16 33.8**	**+0.4**
	6.4nm,0.8s						
BVAR	**Borovoye Array**	**66.99**	**327**	P	**P**	**02 17 00.7**	**+0.8**
BVAR	**Borovoye Array**	**66.99**	**327**	P	**P**	**02 17 00.7**	**+0.8**
	7.7nm,0.9s,baz=126,slow=7.5,SNR=16						
BVAR	**Borovoye Array**	**66.99**	**327**	P	pP	02 17 12.4	-0.5
	6.5nm,0.9s,baz=117,slow=8.5,SNR=6.7						
BRVK	**Borovoye**	**67.06**	**327**	*e*P	**P**	**02 17 00.6**	**+0.3**
	14nm,0.9s						
AKTO	**Aktyubinsk**	**73.31**	**322**	P	**P**	**02 17 38.9**	**+0.2**
AKTO	**Aktyubinsk**	**73.31**	**322**	P	**P**	**02 17 38.9**	**+0.2**
	9.2nm,0.8s,baz=106,slow=4.1,SNR=24						
ILAR	**Eielson Array**	**85.07**	**25**	P	**P**	**02 18 42.0**	**-0.5**
ILAR	**Eielson Array**	**85.07**	**25**	P	**P**	**02 18 42.0**	**-0.5**
	0.9nm,1.0s,baz=233,slow=6.4,SNR=5.2						
ILAR	**Eielson Array**	**85.07**	**25**	P	pP	02 18 56.2	+0.3
	1.7nm,0.9s,baz=247,slow=6.9,SNR=10						
ASF	**Jabal al Asfar**	**87.53**	**302**	P	**P**	**02 18 54.8**	**-0.6**
ASF	**Jabal al Asfar**	**87.53**	**302**	P	**P**	**02 18 54.8**	**-0.6**
	2.0nm,0.7s,baz=328,slow=7.4,SNR=3.6						
BRTR	**Keskin Array B**	**89.66**	**310**	P	**P**	**02 19 04.8**	**-0.6**
BRTR	**Keskin Array B**	**89.66**	**310**	P	**P**	**02 19 04.8**	**-0.6**
	1.5nm,0.9s,baz=142,slow=4.2,SNR=6.7						
INK	**Inuvik**	**90.10**	**21**	P	**P**	**02 19 05.2**	**-1.5**
INK	**Inuvik**	**90.10**	**21**	P	**P**	**02 19 05.2**	**-1.5**
	2.2nm,1.1s,baz=336,slow=4.2,SNR=3.3						
ARCES	**ARCESS Array B**	**90.16**	**340**	P	**P**	**02 19 05.2**	**-1.7**
ARCES	**ARCESS Array B**	**90.16**	**340**	P	**P**	**02 19 05.2**	**-1.7**
	2.8nm,0.6s,baz=81,slow=4.3,SNR=13						
FINES	**FINESS Array B**	**91.52**	**332**	P	**P**	**02 19 13.7**	**+0.3**
FINES	**FINESS Array B**	**91.52**	**332**	P	**P**	**02 19 13.7**	**+0.3**
	1.0nm,0.5s,baz=49,slow=7.9,SNR=8.5						
AKASG	**Malin Array Be**	**91.55**	**321**	P	**P**	**02 19 12.1**	**-1.6**
AKASG	**Malin Array Be**	**91.55**	**321**	P	**P**	**02 19 12.1**	**-1.6**
	0.7nm,0.3s,baz=69,slow=4.7,SNR=8.4						
QSPA	**South Pole Qui**	**93.83**	**180**	P	**P**	**02 19 24.1**	**+0.1**
QSPA	**South Pole Qui**	**93.83**	**180**	P	**P**	**02 19 24.1**	**+0.1**
	4.4nm,1.1s,baz=305,slow=3.2,SNR=5.9						
TESR		**93.88**	**317**	⇓*i*P	**P**	**02 19 24.9**	**+0.2**
VRI	**Vrincioaia**	**93.94**	**316**	⇓*i*P	**P**	**02 19 25.7**	**+0.7**
MLR	**Muntele Rosu**	**94.54**	**316**	P	**P**	**02 19 26.8**	**-1.0**
MLR	**Muntele Rosu**	**94.54**	**316**	⇓*i*P	**P**	**02 19 27.8**	**-0.1**
MLR	**Muntele Rosu**	**94.54**	**316**	P	**P**	**02 19 26.8**	**-1.0**
	1.3nm,0.9s,baz=177,slow=1.5,SNR=7.7						
BURAR	**Bucovina Array**	**94.65**	**318**	⇑*i*P	**P**	**02 19 28.6**	**+0.3**
BUR08	**Bucovina Ar. S**	**94.65**	**318**	*e*P	**P**	**02 19 28.1**	**-0.2**
RES	**Resolute Bay**	**97.68**	**10**	P	Pdif	02 19 41.8	+0.4
RES	**Resolute Bay**	**97.68**	**10**	P	Pdif	02 19 41.8	+0.4
	1.5nm,1.1s,baz=346,slow=4.2,SNR=3.3						
HFS	**Hagfors**	**97.70**	**332**	P	Pdif	02 19 41.4	-0.4
HFS	**Hagfors**	**97.70**	**332**	P	Pdif	02 19 41.4	-0.4
	1.2nm,0.6s,baz=113,slow=3.7,SNR=3.9						
NB2		**98.48**	**334**	P	**P**	**02 19 44.3**	**-0.9**
	comp=

ISC 12 02:15:06.6±0.3, 4°07N±0°04×126°75E±0°05, h39$^{km}_{\pi}$3$^{km}_{\pi}$, n330, σ1$^{s}_{\pi}$50/351, mb5.0/114, MS4.3/14, 18C-12D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.69**	**318**	*e*P	Pn	02 15 51.4	+4.0
DAV	**Davao City (W)**	**3.20**	**339**	*e*Pn	**Pn**	**02 15 55.1**	**+0.7**
DAV				*e*S	Sn	02 16 37.2	+5.9
DAV	**Davao City (W)**	**3.20**	**339**	P	Pn	02 16 07.5	+13
DAV	**Davao City (W)**	**3.20**	**339**	Pn	Pn	02 15 58.2	+3.8
	47nm,0.3s,baz=22,slow=9.3,SNR=3.7						
MNI	**Manado**	**3.23**	**216**	P	Pn	02 15 59.2	+4.3
TNTI	**Ternate**	**3.33**	**169**	P	Pn	02 16 00.1	+3.9
KCP	**Kidapawan**	**3.35**	**331**	*e*P	Pn	02 16 05.6	+9.0
KCP				*i* S	Sn	02 16 46.6	+11
BUKP	**Musuan**	**4.14**	**336**	*e*P	Pn	02 16 12.0	+4.7
BUKP				*e*S	Sn	02 16 32.9	-22
KMSI	**Cibinong**	**4.44**	**219**	P	Pn	02 16 18.1	+6.6
LBMI	**Labuha**	**4.74**	**171**	P	Pn	02 16 21.4	+5.9
CGP	**Cagayan de Oro**	**4.81**	**335**	*e*P	Pn	02 16 24.8	+8.3
CGP				*i* S	Sn	02 17 26.5	+15
PAGZ	**Pagadian**	**5.03**	**318**	*e*P	Pn	02 16 23.5	+4.0
PAGZ				*e*S	Px	02 16 32.8	
ZMPH	**Zamboanga City**	**5.47**	**302**	*i*P	**Pn**	**02 16 26.7**	**+1.0**
ZMPH				*i* S	**Sn**	**02 17 28.3**	**+0.9**
MRSI	**Marisa**	**5.99**	**234**	P	**Pn**	**02 16 35.4**	**+2.7**
	462nm,0.6s,6μm1.7nm						
LUWI	**Luwuk**	**6.45**	**218**	P	Pn	02 16 45.4	+6.3
	818nm,1.2s,8μm2.8nm						
SWI	**Sorong**	**6.66**	**137**	P	**Pn**	**02 16 42.1**	**+0.2**
	86nm,0.9s						
NLAI	**Namlea**	**7.27**	**177**	P	Pn	02 16 54.6	+4.3
	80nm,0.6s,2μm0.5nm						
FAKI	**Fak Fak**	**8.85**	**142**	P	Pn	02 17 15.7	+3.6
	41nm,1.0s,0.2nm						
TSM	**Tawau**	**8.86**	**272**	P	Pn	02 17 17.0	+4.8
KDI	**Kendari**	**8.98**	**207**	P	Pn	02 17 17.6	+3.8
	61nm,1.1s,1μm0.2nm						
SDKM	**Sandakan**	**9.65**	**280**	P	Pn	02 17 27.7	+4.7
TTSI	**Tana Toraja**	**9.90**	**225**	P	Pn	02 17 30.1	+3.7
	146nm,0.9s,2μm						
KDM	**Kudat**	**10.27**	**286**	P	Pn	02 17 37.5	+6.1
SPSI	**Sidrap Palu**	**10.60**	**221**	P	Pn	02 17 43.8	+7.8
	50nm,0.9s						
KKM	**Kota Kinabalu**	**10.68**	**281**	*e*Pn	Pn	02 17 41.8	+4.6
KKM				*e*S	**Sn**	**02 19 32.0**	**-3.5**
KKM	**Kota Kinabalu**	**10.68**	**281**	P	Pn	02 17 42.7	+5.5
KKM	**Kota Kinabalu**	**10.68**	**281**	P	Pn	02 17 44.4	+7.2
	51nm,1.0s,1μm						
BAKI	**Biak**	**10.71**	**119**	P	Pn	02 17 43.6	+6.1
	96nm,1.4s,2μm						
TLE	**Tual**	**11.35**	**148**	P	Pn	02 17 52.7	+6.5
	89nm,1.6s						
KAPI	**Kappang**	**11.42**	**218**	Pn	**Pn**	**02 17 46.0**	**-1.2**
KAPI	**Kappang**	**11.42**	**218**	Pn	**Pn**	**02 17 46.0**	**-1.2**
	1.3nm,0.3s,baz=229,slow=19,SNR=4.1						
BTM	**Bintulu**	**13.67**	**267**	P	**P**	**02 18 23.2**	**-2.9**
SBUM	**Sibu**	**14.60**	**264**	P	**P**	**02 18 35.4**	**-1.0**
SBUM	**Sibu**	**14.60**	**264**	P	**P**	**02 18 34.7**	**-1.7**
	65nm,1.7s,1μm						
STKI	**Sintang**	**15.77**	**256**	P	P	02 18 59.5	+10
KSM	**Kuching**	**16.62**	**262**	*e*Pn	**P**	**02 19 00.3**	**+1.4**
	64nm,0.9s						
KSM	**Kuching**	**16.62**	**262**	P	**P**	**02 19 01.8**	**+2.9**
KSM	**Kuching**	**16.62**	**262**	P	**P**	**02 19 01.6**	**+2.7**
	83nm,0.9s,849nm						
MTN	**Manton Dam**	**17.36**	**166**	*e*P	**Pn**	**02 19 02.0**	**-4.0**
GMJI	**Gumukmas**	**18.07**	**227**	P	P	02 19 24.4	+10
SJI	**Sawahan**	**19.00**	**232**	P	**Pn**	**02 19 28.7**	**+2.5**
	80nm,1.7s						
TWG	**Pinlang**	**19.43**	**344**	*e*P	**P**	**02 19 28.9**	**-0.9**
	29nm,0.6s						
YULB	**Yu-li**	**19.92**	**345**	*e*P	**P**	**02 19 33.9**	**-1.2**
	14nm,0.5s						
TPUB	**Ta-pu**	**20.01**	**343**	*e*P	**P**	**02 19 34.1**	**-1.9**
	63nm,0.7s						
SSLB	**Suanglung**	**20.39**	**345**	*e*P	**P**	**02 19 39.4**	**-0.8**
	44nm,0.8s						
YHNB	**Yeheng**	**21.12**	**346**	*e*P	**P**	**02 19 48.3**	**+0.1**
	404nm,1.2s						
PPBI	**Pangkal Pinang**	**21.51**	**254**	P	pP	02 20 03.2	+0.8
LEM	**Lembang**	**21.95**	**241**	P	P	02 20 04.5	+7.2
FITZ	**Fitzroy Crossi**	**22.06**	**183**	*e*P	**P**	**02 19 56.8**	**-1.4**
	9.9nm,0.5s						
FITZ	**Fitzroy Crossi**	**22.06**	**183**	*e*P	**P**	**02 19 57.3**	**-0.8**
	22nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.06**	**183**	P	**P**	**02 19 57.4**	**-0.8**
	19nm,0.8s,baz=0.3,slow=7.0,SNR=23						
QZH	**Quanzhou**	**22.19**	**340**	P	**P**	**02 20 00.5**	**+1.0**
QZH				S	**S**	**02 23 58.0**	**-3.6**
QZH				LR	LR		
	comp=N,670nm,9.0s						
QZH				LR	LR		
	comp=E,450nm,11.4s						
QZH				LR	LR		
	comp=Z,1μm,14.5s						
QIZ	**Qiongzhong**	**22.22**	**313**	*e*P	**P**	**02 20 01.7**	**+1.7**
	comp=Z,51nm,1.4s						
JOW	**Kunigami**	**22.68**	**4**	P	**P**	**02 20 05.4**	**+0.6**
	comp=Z,9.4nm,0.8s						
JOW	**Kunigami**	**22.68**	**4**	P	**P**	**02 20 05.1**	**+0.4**
	comp=Z,15nm,0.7s,baz=171,slow=11,SNR=6.3						
MYKOM	**Kota Tinggi**	**22.98**	**265**	P	**P**	**02 20 10.4**	**+2.4**
MYKOM	**Kota Tinggi**	**22.98**	**265**	P	**P**	**02 20 11.4**	**+3.3**
	comp=Z,68nm,0.6s,comp=Z,3μm						
KGM	**Kluang**	**23.49**	**266**	P	**P**	**02 20 15.2**	**+2.2**
CGJI	**Cibinong**	**23.55**	**243**	P	**P**	**02 20 16.6**	**+3.0**
	comp=Z,62nm,0.6s,comp=Z,3μm						
KTGM	**Kuala Trenggan**	**23.57**	**274**	P	**P**	**02 20 17.0**	**+3.1**
PMG	**Port Moresby**	**24.35**	**123**	P	**P**	**02 20 22.0**	**+1.0**
PMG	**Port Moresby**	**24.35**	**123**	P	**P**	**02 20 22.0**	**+1.0**
	comp=Z,1.8nm,0.3s,baz=263,slow=17,SNR=1.9						
RGRI	**Rengat**	**24.79**	**260**	P	P	02 20 30.7	+5.6
	comp=Z,1μm,0.4s,comp=Z,180μm						
WRAB	**Tennant Creek**	**25.00**	**163**	*e*P	**P**	**02 20 24.9**	**-2.0**
WRAB				pmax	pmax		
	comp=Z,100nm,0.9s						
WRAB	**Tennant Creek**	**25.00**	**163**	*e*P	**P**	**02 20 24.9**	**-2.0**
	comp=Z,100nm,0.9s						
WRA	**Warramunga Arr**	**25.00**	**163**	P	**P**	**02 20 25.3**	**-1.6**
WRA				S	**S**	**02 24 48.4**	**-0.1**
WRA	**Warramunga Arr**	**25.00**	**163**	P	**P**	**02 20 25.3**	**-1.6**
	comp=Z,2μm,0.3s,baz=240,slow=0.0,SNR=6.4						
WRA				S	**S**	**02 24 48.4**	**-0.1**
FRIM	**Kepong**	**25.09**	**269**	P	P	02 20 32.9	+5.1
IPM	**Ipoh**	**25.66**	**272**	*e*P	**P**	**02 20 35.5**	**+2.5**
	comp=Z,19nm,0.9s						
IPM	**Ipoh**	**25.66**	**272**	P	**P**	**02 20 36.2**	**+3.2**
IPM	**Ipoh**	**25.66**	**272**	P	P	02 20 39.4	+6.4
	comp=Z,24nm,1.3s						
BKNI	**Bangkinang**	**25.96**	**262**	P	pP	02 20 47.3	+0.8
MBWA	**Marble Bar**	**26.00**	**195**	*e*P	**P**	**02 20 35.5**	**-0.4**
	comp=Z,32nm,0.6s						
PPI	**Padang Panjang**	**26.72**	**261**	P	P	02 20 51.5	+9.0
MNSI	**Mandailing Nat**	**27.34**	**264**	P	P	02 20 57.9	+10
PSI	**Prapat**	**27.81**	**268**	P	**P**	**02 20 52.4**	**-0.1**
PSI	**Prapat**	**27.81**	**268**	P	**P**	**02 20 54.0**	**+1.5**
	comp=Z,17nm,1.0s,comp=Z,403nm						
PSI	**Prapat**	**27.81**	**268**	P	**P**	**02 20 52.4**	**-0.1**
	comp=Z,13nm,0.9s,baz=64,slow=4.5,SNR=5.7						
AS31	**Alice Springs**	**28.44**	**166**	*e*P	**P**	**02 20 56.6**	**-1.3**
ASAR	**Alice Springs**	**28.44**	**166**	P	**P**	**02 20 56.3**	**-1.5**
ASAR				S	**S**	**02 25 46.1**	**+3.4**
ASAR	**Alice Springs**	**28.44**	**166**	P	**P**	**02 20 56.3**	**-1.5**
	comp=Z,3.1nm,0.7s,baz=349,slow=7.1,SNR=16						
ASAR				S	**S**	**02 25 46.1**	**+3.4**
	comp=Z,0.3nm,0.6s,baz=303,slow=37,SNR=1.6						
NJ2	**Nanjing**	**28.80**	**346**	*e*P	P	02 21 06.2	+5.2
NJ2				pP	pP	02 21 15.2	+3.3
NJ2				sP	sP	02 21 19.2	+2.6
NJ2				PP	**PP**	**02 22 01.9**	**-4.7**
NJ2				pmax	pmax		
	comp=Z,20nm,0.9s						
WHN	**Wuhan**	**28.82**	**337**	P	**P**	**02 21 01.9**	**+0.8**
WHN				*e*S	**S**	**02 25 53.6**	**+5.2**
WHN				LR	LR		
	comp=Z,1μm,16.7s						
JNU	**Nakatsue**	**29.16**	**7**	P	**P**	**02 21 05.8**	**+1.6**
JNU	**Nakatsue**	**29.16**	**7**	P	**P**	**02 21 05.8**	**+1.6**
	comp=Z,8.2nm,0.8s,baz=332,slow=1.6,SNR=4.6						
GSI	**Gunungsitoli**	**29.27**	**265**	P	**P**	**02 21 06.8**	**+1.4**
	comp=Z,41nm,0.8s						
GYA	**Guiyang**	**29.42**	**321**	*i*P	**P**	**02 21 07.9**	**+1.2**
GYA				pP	**pP**	**02 21 22.6**	**+5.0**
GYA				PP	**PnPn**	**02 22 06.0**	**+4.3**
GYA				PcP	**PcP**	**02 24 13.6**	**+1.5**
GYA				S	**S**	**02 25 58.7**	**+0.4**
GYA				sS	sS	02 26 22.0	+5.6
GYA				SS	**SnSn**	**02 27 34.5**	**+7.1**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.5s						
GYA				LR	LR		
	comp=N,550nm,18.0s						
GYA				LR	LR		
	comp=E,500nm,18.4s						
GYA				LR	LR		
	comp=Z,510nm,19.2s						
CTA	**Charters Tower**	**30.72**	**142**	P	**P**	**02 21 17.8**	**-0.3**
CTA	**Charters Tower**	**30.72**	**142**	*e*P	**P**	**02 21 19.6**	**+1.5**
	comp=Z,4.1nm,0.9s						
CTA	**Charters Tower**	**30.72**	**142**	P	**P**	**02 21 17.8**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=328,slow=12,SNR=3.3						
CM31	**Chiang Mai Arr**	**30.72**	**300**	*e*P	**P**	**02 21 19.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**30.72**	**300**	P	**P**	**02 21 18.6**	**+0.4**
CMAR				ScP	ScP	02 28 03.4	+8.1
CMAR	**Chiang Mai Arr**	**30.72**	**300**	P	**P**	**02 21 18.6**	**+0.4**
	comp=Z,5.7nm,0.7s,baz=116,slow=7.1,SNR=13						
CMAR				ScP	ScP	02 28 03.4	+8.1
	comp=Z,1.1nm,0.4s,baz=238,slow=1.3,SNR=5.7						
ENH	**Enshi**	**30.75**	**330**	*e*P	**P**	**02 21 17.5**	**-0.8**
	comp=Z,33nm,1.0s						
CHTO	**Chiang Mai**	**30.87**	**301**	*e*P	**P**	**02 21 19.2**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,13nm,0.7s						
CHTO	**Chiang Mai**	**30.87**	**301**	*e*P	**P**	**02 21 19.2**	**-0.3**
	comp=Z,13nm,0.7s						
CHTO	**Chiang Mai**	**30.87**	**301**	P	**P**	**02 21 20.1**	**+0.6**
	comp=Z,22nm,0.9s						
KMI	**Kunming**	**31.16**	**315**	P	**P**	**02 21 23.2**	**+1.0**
KMI				pmax	pmax		
	comp=Z,14nm,0.6s						
KMI				LR	LR		
	comp=N,200nm,19.6s						
KMI				LR	LR		
	comp=E,260nm,23.4s						
KMI				LR	LR		
	comp=Z,350nm,18.7s						
KSAR	**Wonju Array Be**	**33.23**	**2**	P	**P**	**02 21 40.2**	**+0.3**
KSAR				PcP	**PcP**	**02 24 23.3**	**+1.4**
KSRS	**Korea Array**	**33.24**	**2**	P	**P**	**02 21 40.2**	**+0.2**
	comp=Z,4.4nm,0.9s,baz=173,slow=10,SNR=10						
KSRS				PcP	**PcP**	**02 24 23.3**	**+1.4**
	comp=Z,3.9nm,0.7s,baz=178,slow=3.4,SNR=6.0						
MJAR	**Matsushiro Arr**	**33.99**	**17**	P	**P**	**02 21 45.3**	**-1.3**
MJAR				PcP	**PcP**	**02 24 25.5**	**+1.4**
MJAR	**Matsushiro Arr**	**33.99**	**17**	P	**P**	**02 21 45.3**	**-1.3**
	comp=Z,2.4nm,0.7s,baz=183,slow=8.6,SNR=3.7						
MJAR				PcP	**PcP**	**02 24 25.5**	**+1.4**
	comp=Z,2.6nm,0.6s,baz=194,slow=3.1,SNR=4.8						
XAN	**Xi'an**	**34.12**	**333**	P	**P**	**02 21 46.6**	**-1.2**
XAN				pP	**pP**	**02 21 56.6**	**-2.2**
XAN				sP	**sP**	**02 22 00.7**	**-2.8**
XAN				pmax	pmax		
	comp=Z,12nm,0.9s						
XAN				pmax	pmax		
	comp=Z,27nm,7.0s						
XAN				LR	LR		
	comp=N,250nm,16.9s						
XAN				LR	LR		
	comp=E,76nm,16.9s						
XAN				LR	LR		
	comp=Z,100nm,16.4s						
CD2	**Chengdu**	**34.38**	**324**	⇑P	**P**	**02 21 50.3**	**+0.2**
CD2				pP	**pP**	**02 22 00.0**	**-1.1**
CD2				sP	**sP**	**02 22 03.9**	**-1.9**
CD2				PcP	**PcP**	**02 24 25.7**	**+0.3**
CD2				S	**S**	**02 27 15.1**	**-0.4**
CD2				sS	**sS**	**02 27 31.1**	**-2.7**
CD2				PcS	**PcS**	**02 28 11.0**	**-0.9**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,230nm,7.8s						
CD2				LR	LR		
	comp=N,490nm,14.7s						
CD2				LR	LR		
	comp=E,470nm,17.6s						
CD2				LR	LR		
	comp=Z,500nm,19.6s						
FORT	**Forrest**	**34.68**	**178**	*e*P	**P**	**02 21 51.7**	**-0.9**
	comp=Z,30nm,0.7s						
KLBR	**Kellerberrin**	**36.49**	**193**	*e*P	**P**	**02 22 07.2**	**-0.9**
	comp=Z,36nm,0.7s						
BJT	**Baijiatuan**	**37.04**	**346**	*e*P	**P**	**02 22 13.3**	**+0.5**
	comp=Z,41nm,0.8s						
BJI	**Beijing**	**37.06**	**346**	P	**P**	**02 22 13.6**	**+0.7**
BJI				pmax	pmax		
	comp=Z,25nm,1.1s						
EIDS	**Eidsvold**	**37.61**	**142**	*e*P	**P**	**02 22 16.7**	**-1.0**
	comp=Z,53nm,1.4s						
SNY	**Shenyang**	**37.70**	**356**	⇓P	**P**	**02 22 19.3**	**+1.1**
SNY				pmax	pmax		
	comp=Z,15nm,1.5s						
BBOO	**Buckleboo**	**37.73**	**167**	*e*P	**P**	**02 22 17.9**	**-0.8**
	comp=Z,373nm,0.6s						
NWAO	**Narrogin (SRO)**	**37.89**	**193**	*e*P	**P**	**02 22 19.1**	**-0.8**
	comp=Z,64nm,1.5s						
NWAO	**Narrogin (SRO)**	**37.89**	**193**	P	**P**	**02 22 19.2**	**-0.8**
	comp=Z,23nm,0.7s,baz=32,slow=11,SNR=19						
LZH	**Lanzhou**	**38.22**	**329**	*e*P	**P**	**02 22 23.2**	**+0.2**
LZH				pmax	pmax		
	comp=Z,47nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,4.4s						
LZH				LR	LR		
	comp=N,340nm,13.6s						
LZH				LR	LR		
	comp=E,320nm,13.4s						
LZH				LR	LR		
	comp=Z,350nm,15.8s						
STKA	**Stephens Creek**	**38.44**	**159**	*e*P	**P**	**02 22 23.3**	**-1.3**
	comp=Z,7.2nm,0.8s						
STKA	**Stephens Creek**	**38.44**	**159**	*e*P	**P**	**02 22 23.6**	**-1.1**
	comp=Z,28nm,0.6s						
STKA	**Stephens Creek**	**38.44**	**159**	P	**P**	**02 22 23.5**	**-1.1**
	comp=Z,30nm,0.7s,baz=340,slow=8.9,SNR=22						
HHC	**Hu-ho-hao-te**	**39.08**	**342**	*e*P	**P**	**02 22 30.6**	**+0.5**
HHC				pP	**pP**	**02 22 40.5**	**-0.7**
HHC				sP	**sP**	**02 22 44.4**	**-1.5**
HHC				PP	**PnPn**	**02 24 05.7**	**+2.8**
HHC				S	**S**	**02 28 28.0**	**+1.0**
HHC				ScS	**ScS**	**02 32 35.5**	**-0.9**
HHC				pmax	pmax		
	comp=Z,17nm,1.1s						
HHC				LR	LR		
	comp=N,260nm,15.5s						
HHC				LR	LR		
	comp=E,240nm,14.3s						
HHC				LR	LR		
	comp=Z,220nm,17.8s						
CN2	**Changchun**	**39.58**	**359**	*e*P	**P**	**02 22 31.5**	**-2.5**
CN2				*e*pP	**pP**	**02 22 43.8**	**-1.4**
USRK	**Ussuriysk Arra**	**40.23**	**6**	P	**P**	**02 22 39.8**	**+0.4**
	comp=Z,2.3nm,0.5s,baz=186,slow=5.8,SNR=6.1						
MDJ	**Mudanjiang**	**40.46**	**3**	P	**P**	**02 22 41.0**	**-0.3**
MDJ				pmax	pmax		
	comp=Z,15nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,230nm,10.1s						
MDJ	**Mudanjiang**	**40.46**	**3**	*e*P	**P**	**02 22 41.3**	**0.0**
	comp=Z,14nm,0.8s						
ARMA	**Armidale**	**41.74**	**147**	*e*P	**P**	**02 22 52.5**	**+0.3**
	comp=Z,25nm,0.9s						
ARMA	**Armidale**	**41.74**	**147**	*e*P	**P**	**02 22 52.3**	**+0.1**
LSA	**Lhasa**	**42.23**	**311**	*e*P	**P**	**02 22 57.5**	**+0.9**
LSA	**Lhasa**	**42.23**	**311**	*e*P	**P**	**02 22 57.6**	**+0.9**
LSA				pmax	pmax		
	comp=Z,11nm,0.7s						
LSA	**Lhasa**	**42.23**	**311**	*e*P	**P**	**02 22 57.6**	**+0.9**
	comp=Z,11nm,0.7s						
ASAJ	**Asahikawa**	**42.26**	**17**	P	**P**	**02 22 56.9**	**+0.7**
ASAJ	**Asahikawa**	**42.26**	**17**	P	**P**	**02 22 56.9**	**+0.7**
	comp=Z,6.2nm,0.6s,baz=342,slow=20,SNR=2.4						
GTA	**Gaotai**	**42.82**	**329**	*e*P	**P**	**02 23 00.7**	**-0.2**
GTA				pP	**pP**	**02 23 14.8**	**+2.7**
GTA				sP	**sP**	**02 23 19.9**	**+3.1**
GTA				PcP	**PcP**	**02 24 53.5**	**+1.8**
GTA				S	**S**	**02 29 21.5**	**-1.2**
GTA				sS	**sS**	**02 29 40.9**	**-0.3**
GTA				SS	**SS**	**02 32 29.6**	**-5.2**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,240nm,5.7s						
GTA				LR	LR		
	comp=N,280nm,21.4s						
GTA				LR	LR		
	comp=E,440nm,18.5s						
GTA				LR	LR		
	comp=Z,490nm,16.1s						
TAPN	**Taplejung**	**43.83**	**306**	*e*P	**P**	**02 23 08.6**	**-0.9**
	comp=Z,45nm,0.9s						
ODAN	**Odare**	**43.89**	**305**	*e*P	**P**	**02 23 09.4**	**-0.5**
	comp=Z,33nm,0.7s						
CNB	**Canberra Magne**	**44.56**	**153**	*e*P	P	02 23 19.6	+4.7
	comp=Z,111nm,0.9s						
RAMN	**Ramite**	**44.57**	**305**	*e*P	**P**	**02 23 15.1**	**-0.3**
	comp=Z,30nm,0.7s						
TOO	**Toolangi**	**44.95**	**159**	*e*P	**P**	**02 23 19.6**	**+1.7**
	comp=Z,95nm,1.3s						
JIRN	**Jiri**	**45.19**	**306**	*e*P	**P**	**02 23 19.7**	**-0.7**
	comp=Z,8.7nm,0.6s						
KLR	**Kul'dur**	**45.20**	**5**	*e*P	P	02 23 16.2	-3.4
GUN	**Gumba**	**45.54**	**306**	*e*P	**P**	**02 23 22.6**	**-0.6**
	comp=Z,61nm,0.7s						
PKI	**Pulchoki**	**45.79**	**305**	*e*P	**P**	**02 23 24.4**	**-0.7**
KKN	**Kakani**	**45.98**	**305**	*e*P	**P**	**02 23 25.4**	**-1.1**
DMN	**Daman**	**46.05**	**305**	*e*P	**P**	**02 23 26.3**	**-0.8**
GKN	**Gorkha**	**46.59**	**305**	*e*P	**P**	**02 23 30.1**	**-1.1**
DZM	**Mont Dzumac**	**46.71**	**126**	*e*P	**P**	**02 23 31.8**	**-0.3**
	comp=Z,8.9nm,0.6s						
ULN	**Ulaanbaatar**	**46.80**	**342**	*e*P	**P**	**02 23 32.7**	**+0.2**
	comp=Z,11nm,0.9s						
ULN	**Ulaanbaatar**	**46.80**	**342**	P	**P**	**02 23 33.1**	**+0.6**
	comp=Z,19nm,0.8s						
SONM	**Songino Array**	**46.98**	**341**	P	**P**	**02 23 34.0**	**+0.1**
SONM				PcP	**PcP**	**02 25 06.2**	**+0.4**
SONM	**Songino Array**	**46.98**	**341**	P	**P**	**02 23 34.0**	**+0.1**
	comp=Z,6.2nm,0.8s,baz=161,slow=8.9,SNR=19						
SONM				PcP	**PcP**	**02 25 06.2**	**+0.4**
	comp=Z,2.9nm,0.9s,baz=148,slow=4.0,SNR=3.9						
KOLN	**Koldanda**	**47.35**	**305**	*e*P	**P**	**02 23 36.3**	**-0.9**
	comp=Z,39nm,0.5s						
DANN	**Dangsing**	**47.44**	**305**	*e*P	**P**	**02 23 36.9**	**-1.1**
	comp=Z,82nm,0.6s						
HYB	**Hyderabad**	**49.02**	**289**	*i* P	**P**	**02 23 49.0**	**-1.0**
CIT	**Chita**	**49.04**	**349**	*e*P	**P**	**02 23 50.7**	**+1.1**
CIT				*e*		02 23 56.0	
CIT				*e*		02 24 07.5	
CIT				pmax	pmax		
	comp=Z,117nm,1.4s						
ZAK	**Zakamensk**	**50.21**	**341**	*e*P	**P**	**02 23 57.6**	**-1.1**
ZAK				*e*		02 25 18.1	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
TLY	**Talaya**	**51.21**	**342**	*e*P	**P**	**02 24 05.8**	**-0.3**
TLY				pmax	pmax		
	comp=Z,14nm,1.3s						
TLY	**Talaya**	**51.21**	**342**	*e*P	**P**	**02 24 07.0**	**+0.9**
	comp=Z,11nm,0.7s						
IRK	**Irkutsk**	**51.51**	**343**	*e*P	**P**	**02 24 08.6**	**+0.3**
IRK				pmax	pmax		
	comp=Z,39nm,1.3s						
MOY	**Mondy**	**52.07**	**340**	*e*P	**P**	**02 24 13.9**	**+1.3**
MOY				pmax	pmax		
	comp=Z,25nm,2.3s						
WMQ	**Urumqi**	**52.46**	**325**	P	**P**	**02 24 15.9**	**+0.3**
WMQ				pP	**pP**	**02 24 25.7**	**-1.3**
WMQ				sP	**sP**	**02 24 28.5**	**-3.1**
WMQ				PcP	**PcP**	**02 25 23.0**	**-2.9**
WMQ				*e*S	**S**	**02 31 37.0**	**-2.3**
WMQ				pmax	pmax		
	comp=Z,12nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,150nm,6.5s						
WMQ				LR	LR		
	comp=N,390nm,17.0s						
WMQ				LR	LR		
	comp=E,410nm,16.0s						
WMQ				LR	LR		
	comp=Z,410nm,23.4s						
DDI	**Dehra Dun**	**52.79**	**305**	*ex*	**P**	**02 24 16.0**	**-2.3**
POO	**Poona**	**53.62**	**290**	*ex*	**P**	**02 24 22.0**	**-2.5**
BOD	**Bodaibo**	**54.53**	**352**	*e*P	**P**	**02 24 31.0**	**+0.6**
BOD				pmax	pmax		
	comp=Z,19nm,1.2s						
PETK	**Petropavlovsk-**	**55.11**	**22**	P	**P**	**02 24 34.5**	**-0.2**
PETK	**Petropavlovsk-**	**55.11**	**22**	P	**P**	**02 24 34.5**	**-0.2**
PETK	**Petropavlovsk-**	**55.11**	**22**	P	**P**	**02 24 34.5**	**-0.2**
	comp=Z,3.6nm,0.6s,baz=183,slow=3.7,SNR=9.1						
MK31	**Makanchi Array**	**57.29**	**325**	P	**P**	**02 24 49.3**	**-1.1**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MK31	**Makanchi Array**	**57.29**	**325**	*e*P	**P**	**02 24 50.0**	**-0.4**
MKAR	**Makanchi Array**	**57.29**	**325**	*e*P	**P**	**02 24 49.8**	**-0.6**
MKAR						02 25 45.0	
MKAR	**Makanchi Array**	**57.29**	**325**	*e*P	**P**	**02 24 49.8**	**-0.6**
MKAR				PcP	**PcP**	**02 25 45.0**	**+0.6**
MKAR				ScP	**ScP**	**02 29 44.8**	**+3.5**
MKAR	**Makanchi Array**	**57.29**	**325**	P	**P**	**02 24 49.5**	**-0.9**
	comp=Z,4.9nm,0.5s,baz=119,slow=7.8,SNR=29						
MKAR				PcP	**PcP**	**02 25 45.0**	**+0.6**
	comp=Z,4.7nm,0.7s,baz=111,slow=5.2,SNR=5.0						

comp=Z,23nm,1.2s
KURK Kurchatov 61.47 327 *e*P **P 02 25 18.4 -0.7**
comp=Z,22nm,0.7s
NVS Novosibirsk 61.58 333 *e*P **P 02 25 18.2 -1.6**
NVS pmax pmax
comp=Z,10.0nm,1.3s
NVS pmax pmax
comp=N,6.0nm,1.2s
NVS pmax pmax
comp=E,2.0nm,0.6s
SEY Seymchan 61.70 13 *e*P **P 02 25 21.8 +1.4**
KK31 Karatay Array 63.00 317 P **P 02 25 29.5 -0.1**
KK31 pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 63.00 317 *e*P **P 02 25 29.7 +0.1**
KKAR pmax pmax
comp=Z,14nm,1.1s
KKAR Karatay Array 63.00 317 *e*P **P 02 25 29.7 +0.1**
comp=Z,14nm,1.1s
AFI Afiamalu 63.53 108 LR LR 02 51 10.7
comp=Z,157nm,19.5s,baz=16,slow=34
BVA0 Borovoye Array 67.05 327 *i*P **P 02 25 55.4 -0.3**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s
BVAR Borovoye Array 67.05 327 P **P 02 25 55.1 -0.6**
BVAR Borovoye Array 67.05 327 P **P 02 25 55.1 -0.6**
BVAR Borovoye Array 67.05 327 P **P 02 25 55.1 -0.6**
comp=Z,7.6nm,0.8s,baz=132,slow=8.2,SNR=21
BRVK Borovoye 67.12 327 *e*P **P 02 25 55.4 -0.7**
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 67.12 327 *e*P **P 02 25 55.4 -0.7**
comp=Z,20nm,1.0s
BILL Bilibino 69.22 15⇓ *e*P **P 02 26 08.8 -0.2**
BILL *e* 02 28 39.0
BILL pmax pmax
comp=Z,4.0nm,1.7s
BILL MLR MLR
comp=Z,100nm,17.0s
AB31 Akbulak array 71.90 321 P **P 02 26 25.0 -0.7**
AB31 pmax pmax
comp=Z,10.0nm,1.0s
ABKAR Akbulak array 71.90 321 *e*P **P 02 26 25.5 -0.2**
comp=Z,1.9nm,0.4s
AKTO Aktyubinsk 73.41 322 P **P 02 26 34.3 -0.4**
AKTO Aktyubinsk 73.41 322 P **P 02 26 34.3 -0.4**
AKTO Aktyubinsk 73.41 322 P **P 02 26 34.3 -0.4**
comp=Z,5.9nm,0.6s,baz=106,slow=7.7,SNR=17
AKTO LR LR 03 01 32.1
comp=Z,179nm,19.4s,baz=238,slow=38
SVE Sverdlovsk 73.68 328⇓ *i*P **P 02 26 37.0 +0.9**
SVE pmax pmax
comp=Z,22nm,1.2s
ARU Arti 74.66 328 *c i*P **P 02 26 41.4 -0.4**
ARU 02 29 24.3
ARU S **S 02 36 14.1 -0.8**
ARU pmax pmax
comp=Z,13nm,1.2s
ARU Arti 74.66 328 *e*P **P 02 26 41.5 -0.3**
ARU Arti 74.66 328 P **P 02 26 41.2 -0.6**
comp=Z,80nm,0.5s,SNR=5.9
QRN Al-Qurain 78.27 298 *e*P **P 02 27 01.8 -1.1**
RDF Al-Radifah 78.59 299 *e*P **P 02 27 04.2 -0.5**
RDF AMb AMB 02 27 10.2
comp=Z,36nm,1.7s
MIB Mutribah 78.80 299 *e*P **P 02 27 04.8 -1.0**
MIB AMb AMB 02 27 12.6
comp=Z,30nm,0.8s
NAY Al-Naaiem 78.87 299 *e*P **P 02 27 04.8 -1.4**
NAY AMb AMB 02 27 10.2
comp=Z,18nm,0.8s
OPO Ambohidratompo 81.43 251 P **P 02 27 20.6 +0.2**
OPO Ambohidratompo 81.43 251 P **P 02 27 20.6 +0.2**
comp=Z,2.6nm,0.5s,baz=58,slow=4.5,SNR=4.5
KDAK Kodiak Island 81.59 32 P **P 02 27 21.1 +0.9**
KDAK Kodiak Island 81.59 32 P **P 02 27 21.1 +0.9**
comp=Z,16nm,1.0s,baz=106,slow=7.9,SNR=5.9
ZEI Tsey 82.00 312 *e*P **P 02 27 22.8 -0.2**
ZEI pmax pmax
comp=Z,11nm,1.0s
KIV Kislovodsk 82.92 314 *e*P **P 02 27 27.5 -0.1**
KIV pmax pmax
comp=Z,10.0nm,0.9s
TRF Thorofare Moun 83.23 27 *e*P **P 02 27 27.5 -1.4**
comp=Z,19nm,1.1s
ATD Arta Tunnel 83.23 281 P **P 02 27 30.5 +0.8**
ATD Arta Tunnel 83.23 281 P **P 02 27 30.5 +0.8**
comp=Z,3.9nm,0.3s,baz=270,slow=23,SNR=3.7
RC01 Rabbit Creek A 83.31 29 *e*P **P 02 27 29.3 +0.1**
comp=Z,5.9nm,0.4s
COLD Coldfoot 83.57 23 *e*P **P 02 27 31.7 +1.3**
PMR Palmer 83.64 29 *e*P **P 02 27 30.3 -0.5**
PMR Palmer 83.64 29 *e*P **P 02 27 30.3 -0.5**
VNDA Vanda 83.76 173 *e*P **P 02 27 30.6 -0.5**
comp=Z,12nm,0.9s
VRHR Novokhopersk 83.79 321 *e*P **P 02 27 33.4 +1.6**
VRHR pmax pmax
comp=Z,20nm,1.3s
VRHR pmax pmax
comp=N,8.0nm,1.0s
VRHR pmax pmax
comp=E,9.0nm,1.0s
MCK McKinley 83.85 26 *e*P **P 02 27 31.1 -0.8**
MCK pmax pmax
comp=Z,65nm,1.5s
MCK McKinley 83.85 26 *e*P **P 02 27 31.1 -0.8**
comp=Z,64nm,1.5s
SML Sawmill 84.03 28 *e*P **P 02 27 32.9 +0.1**
SML pmax pmax
comp=Z,13nm,1.2s
SML Sawmill 84.03 28 *e*P **P 02 27 32.9 +0.1**
comp=Z,13nm,1.2s
ILAR Eielson Array 84.79 25 P **P 02 27 35.9 -0.7**
ILAR Eielson Array 84.79 25 P **P 02 27 35.9 -0.7**
comp=Z,3.9nm,1.0s,baz=251,slow=5.3,SNR=13
KLMR Klimovskoe 85.12 331 *e*P **P 02 27 36.3 -2.0**
KLMR pmax pmax
comp=Z,105nm,1.4s
DIV Divide 85.24 29 *e*P **P 02 27 39.8 +0.8**
comp=Z,16nm,0.7s
VSR Storozhevoye 85.34 321 *e*P **P 02 27 39.1 -0.5**
VSR pmax pmax
comp=Z,20nm,1.4s
VSR pmax pmax
comp=N,10.0nm,1.6s
VSR pmax pmax
comp=E,10.0nm,0.9s
PAX Paxson 85.39 27 *e*P **P 02 27 41.2 +1.5**
PAX Paxson 85.39 27 *e*P **P 02 27 41.2 +1.5**
MOS Moscow 86.17 325 *e*P P 02 27 40.2 -3.4
MOS pmax pmax
comp=Z,60nm,1.2s
OBN Obninsk 86.80 325⇓ *i*P **P 02 27 46.3 -0.4**
OBN pmax pmax
comp=Z,74nm,1.8s
OBN MLR MLR
comp=Z,100nm,17.0s
OBN Obninsk 86.80 325 *e*P **P 02 27 46.9 +0.2**
comp=Z,17nm,0.7s
JOF Joensuu 88.89 333 *e*P **P 02 27 56.1 -0.4**
JOF pmax pmax
comp=Z,10.0nm,0.5s
JOF Joensuu 88.89 333 *ep* **P 02 27 56.1 -0.4**
comp=Z,10nm,0.5s
EIL Elat 89.57 300 P **P 02 28 00.8 +0.3**
EIL Elat 89.57 300 P **P 02 28 00.8 +0.3**
comp=Z,4.0nm,0.7s,baz=291,slow=9.3,SNR=4.2
KEV Kevo 89.58 340 *e*P **P 02 28 00.4 +0.8**
KEV Kevo 89.58 340 *ep* **P 02 28 00.4 +0.8**
KMBO Kilima Mbogo 89.58 269 *e*P **P 02 28 01.3 +0.1**
BR131 Keskin Array S 89.82 310 *e*P **P 02 28 00.8 -0.9**
comp=Z,3.7nm,0.8s
BRTR Keskin Array B 89.82 310 P **P 02 28 00.6 -1.1**
BRTR Keskin Array B 89.82 310 P **P 02 28 00.6 -1.1**
comp=Z,4.6nm,0.9s,baz=136,slow=3.6,SNR=12
INK Inuvik 89.84 21 P **P 02 28 00.2 -0.7**
INK Inuvik 89.84 21 P **P 02 28 00.2 -0.7**
comp=Z,3.5nm,1.1s,baz=323,slow=1.1,SNR=4.8
ARCES ARCESS Array B 90.14 340 P **P 02 28 02.4 +0.1**
ARCES ARCESS Array B 90.14 340 P **P 02 28 02.4 +0.1**
comp=Z,6.1nm,0.9s,baz=83,slow=5.4,SNR=13
SPITS Spitsbergen Ar 90.15 349 P **P 02 28 04.4 +2.1**
SPITS Spitsbergen Ar 90.15 349 P **P 02 28 04.4 +2.1**
comp=Z,2.6nm,0.7s,baz=190,slow=18,SNR=4.7
KAF Kangasniemi 91.31 332 *e*P **P 02 28 07.6 -0.3**
KAF pmax pmax
comp=Z,9.0nm,0.6s
KAF Kangasniemi 91.31 332 *ep* **P 02 28 07.6 -0.3**
comp=Z,9.4nm,0.6s
FINES FINESS Array B 91.54 332 P **P 02 28 08.4 -0.6**
FINES FINESS Array B 91.54 332 P **P 02 28 08.4 -0.6**
comp=Z,5.0nm,0.6s,baz=49,slow=5.3,SNR=19
AKASG Malin Array Be 91.64 321 P **P 02 28 08.4 -1.3**
AKASG Malin Array Be 91.64 321 P **P 02 28 08.4 -1.3**
AKASG Malin Array Be 91.64 321 P **P 02 28 08.4 -1.3**
comp=Z,5.4nm,0.7s,baz=73,slow=3.9,SNR=9.4
QSPA South Pole Qui 93.97 180 *e*P **P 02 28 20.9 +0.7**
comp=Z,8.5nm,0.8s
QSPA South Pole Qui 93.97 180 P **P 02 28 21.4 +1.2**
comp=Z,6.7nm,0.9s,baz=316,slow=3.6,SNR=10.0
TESR 94.00 317⇑ *i*P **P 02 28 20.3 -0.4**
VRI Vrincioaia 94.06 316⇑ P **P 02 28 21.4 +0.4**
VRI Vrincioaia 94.06 316⇑ *i*P **P 02 28 21.4 +0.4**
PLOR Plostina 94.12 316⇓ P **P 02 28 24.4 +3.1**
PLOR Plostina 94.12 316⇓ *i*P **P 02 28 24.4 +3.1**
SUW Suwalki 94.66 325 *e*P **P 02 28 22.5 -1.0**
SUW Suwalki 94.66 325 *e*P **P 02 28 22.5 -1.0**
SUW Suwalki 94.66 325 *e*P **P 02 28 22.5 -1.0**
SUW Suwalki 94.66 325 *e*P **P 02 28 23.1 -0.4**
comp=Z,60nm,1.1s
MLR Muntele Rosu 94.67 316 P **P 02 28 23.7 -0.2**
MLR Muntele Rosu 94.67 316⇑ *i*P **P 02 28 23.8 -0.2**
MLR Muntele Rosu 94.67 316 P **P 02 28 23.7 -0.2**
comp=Z,1.9nm,0.7s,baz=59,slow=16,SNR=7.6
BURAR Bucovina Array 94.76 318⇓ *i*P **P 02 28 24.2 -0.1**
BUR08 Bucovina Ar. S 94.77 318 *e*P **P 02 28 24.2 -0.1**
KWP Kalwaria Pacla 95.96 321⇑ P **P 02 28 29.8 +0.2**
KWP Kalwaria Pacla 95.96 321⇑ *i*P **P 02 28 29.8 +0.2**
KOLS Kolonicke sedl 96.40 320 *e*P **P 02 28 32.1 +0.5**
KOLS Kolonicke sedl 96.40 320 *e*P **P 02 28 32.1 +0.5**
TRPA Tarpa 96.41 319⇑ *i*P **P 02 28 30.5 -1.1**
UZH Uzhgorod 96.46 320 *e*P **P 02 28 31.1 -0.7**
UZH *e* 02 28 42.9
DRGR 96.61 318⇑ P **P 02 28 31.9 -0.8**
DRGR 96.61 318⇑ *i*P **P 02 28 31.9 -0.8**
GZR Gura Zlata 96.88 316⇓ P **P 02 28 33.4 -0.5**
GZR Gura Zlata 96.88 316⇓ *i*P **P 02 28 33.4 -0.5**
CRVS Cervenica-Dubn 96.93 320 *e*P **P 02 28 34.1 +0.1**
CRVS Cervenica-Dubn 96.93 320 *e*P **P 02 28 34.1 +0.1**
RES Resolute Bay 97.47 10 P **P 02 28 34.7 -1.2**
RES Resolute Bay 97.47 10 P **P 02 28 34.7 -1.2**
comp=Z,1.1nm,1.1s,baz=289,slow=4.1,SNR=2.8
BZS Buzias 97.62 317⇑ P **P 02 28 34.4 -2.8**
BZS Buzias 97.62 317⇑ *i*P **P 02 28 34.4 -2.8**
HFS Hagfors 97.73 332 P **P 02 28 36.6 -0.7**
HFS Hagfors 97.73 332 *i*P **P 02 28 36.6 -0.7**
comp=Z,4.1nm,0.9s,baz=112,slow=6.6,SNR=11
NB2 NORSAR Subarra 98.49 334 P **P 02 28 40.0 -0.8**
comp=Z,2.1nm,0.7s,baz=68,slow=4.6
NOA NORSAR Array B 98.49 334 P **P 02 28 39.9 -0.8**
NOA NORSAR Array B 98.49 334 P **P 02 28 39.9 -0.8**
comp=Z,1.4nm,0.6s,baz=68,slow=4.6,SNR=3.5
VYHS Vyhne 98.71 320 *e*P Pdif 02 28 42.5 +0.5
VYHS Vyhne 98.71 320 PDIF Pdif 02 28 42.5 +0.5
MORC Moravsky Berou 99.15 322⇑ P **Pdif 02 28 42.9 -1.1**
MORC Moravsky Berou 99.15 322⇑ *i*P **Pdif 02 28 42.9 -1.1**
YKA Yellowknife Ar 99.18 24 P **Pdif 02 28 44.1 +0.3**
YKA PKiKP **PKiKP 02 33 14.5 +0.8**
YKA Yellowknife Ar 99.18 24 P **Pdif 02 28 44.1 +0.3**
comp=Z,0.5nm,0.7s,baz=296,slow=4.5,SNR=6.7
YKA PKiKP **PKiKP 02 33 14.5 +0.8**
comp=Z,0.2nm,0.5s,baz=304,slow=1.7,SNR=5.6
BRG Berggiesshubel 100.98 323 *e*P **Pdif 02 28 52.6 +0.6**
comp=Z,10nm,1.5s
BRG Berggiesshubel 100.98 323 *e*P **Pdif 02 28 52.7 +0.6**
BRG pmax pmax
comp=Z,11nm,1.5s
GERES GERESS Array B 101.83 322 P **Pdif 02 28 56.1 0.0**
GERES GERESS Array B 101.83 322 P **Pdif 02 28 56.1 0.0**
comp=Z,1.6nm,0.9s,baz=68,slow=4.7,SNR=8.0
SCHQ Schefferville 120.23 9 PKP **PKPdf 02 33 53.9 +0.5**
SCHQ Schefferville 120.23 9 PKP **PKPdf 02 33 53.9 +0.5**
comp=Z,3.5nm,0.6s,baz=351,slow=1.7,SNR=12
TXAR Lajitas Array 121.37 52 PKP **PKPdf 02 33 57.7 +1.3**
TXAR Lajitas Array 121.37 52 PKP **PKPdf 02 33 57.7 +1.3**
comp=Z,0.6nm,0.7s,baz=16,slow=0.4,SNR=5.8
TOA0 Torodi Ar. Sit 122.83 288 *e*PKPdf **PKPdf 02 33 59.9 +0.4**
TORD Torodi Ar. Bea 122.83 288 PKP **PKPdf 02 33 59.5 0.0**
TORD Torodi Ar. Bea 122.83 288 PKP **PKPdf 02 33 59.5 0.0**
comp=Z,2.4nm,0.7s,baz=76,slow=2.1,SNR=12
DBIC Dimbokro 130.53 282 PKP **PKPdf 02 34 12.2 -2.1**
DBIC Dimbokro 130.53 282 PKP **PKPdf 02 34 12.2 -2.1**
comp=Z,2.6nm,1.1s,baz=249,slow=2.9,SNR=3.1
TKL Tuckaleechee C 131.21 33 PKP **PKPdf 02 34 15.0 0.0**
TKL Tuckaleechee C 131.21 33 PKP **PKPdf 02 34 15.0 0.0**
comp=Z,3.5nm,0.8s,baz=225,slow=7.1,SNR=2.7
PLCA Paso Flores 140.31 159 PKP **PKPdf 02 34 33.5 +1.6**
PLCA Paso Flores 140.31 159 PKP **PKPdf 02 34 33.5 +1.6**
comp=Z,1.8nm,0.9s,baz=175,slow=6.7,SNR=3.3
CFAA Coronel Fontan 149.20 154 PKPbc **PKPbc 02 34 50.9 -0.7**
CFAA Coronel Fontan 149.20 154 PKPbc **PKPbc 02 34 50.9 -0.7**
comp=Z,0.4nm,0.5s,baz=222,slow=5.0,SNR=8.1
CPUP Villa Florida 157.52 170 PKPab **PKPab 02 35 30.0 -1.0**
CPUP Villa Florida 157.52 170 PKPab **PKPab 02 35 30.0 -1.0**
comp=Z,2.8nm,0.7s,baz=187,slow=5.9,SNR=6.3
SIV San Ignacio 165.88 148 PKPab **PKPab 02 36 07.6 -0.2**
SIV San Ignacio 165.88 148 PKPab **PKPab 02 36 07.6 -0.2**
comp=Z,1.1nm,0.8s,baz=188,slow=7.1,SNR=2.8

IDC 12 02:21:23.9±3.7, 4°.23N×127°.38E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.8/5, Error ellipse: s-maj=421.0km s-min=20.1km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.98**	**164**	P	P	02 26 48.4	-1.1
	2.7nm,0.5s						
ASAR	**Alice Springs**	**28.45**	**167**	P	P	02 27 21.6	+0.8
	0.6nm,0.8s,baz=346,slow=11,SNR=3.1						
STKA	**Stephens Creek**	**38.38**	**160**	P	P	02 28 47.2	+0.2
	1.5nm,0.6s,baz=323,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**57.52**	**325**	P	P	02 31 14.9	-0.3
	0.4nm,0.4s,baz=119,slow=7.6,SNR=5.2						
KURBB	**Kurchatov Arra**	**61.67**	**327**	P	P	02 31 43.8	+0.1
	0.4nm,0.5s,baz=128,slow=6.4,SNR=3.6						

CSEM ***12*** *02:27:30.0, 43°.22N×20°.83E, h1km, ML1.5, After BEO*
BEO 12 02:27:30.0±0.5, 43°.22N×20°.83E, h1km±4km, ML1.5/7, 4C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SELS	**Selova**	**0.21**	**90**⇑	*i*Pg	Pg	02 27 33.4	-0.7
SELS				*e*Sg	Sg	02 27 36.5	-0.4
SELS	**Selova**	**0.21**	**90**⇑	*i*Pg	Pg	02 27 33.4	-0.7
SELS				*e*Sg	Sg	02 27 36.5	-0.4
IVAS	**Ivanjica**	**0.61**	**306**	*e*Pg	Pg	02 27 41.3	-0.5
IVAS				*e*Sg	Sg	02 27 49.3	-0.5
IVAS	**Ivanjica**	**0.61**	**306**	*e*Pg	Pg	02 27 41.3	-0.5
IVAS				*e*Sg	Sg	02 27 49.3	-0.5
GRUS	**Gruza**	**0.67**	**353**	*e*Pg	Pg	02 27 41.4	-1.6
GRUS				*e*Sg	Sg	02 27 52.1	+0.4
GRUS	**Gruza**	**0.67**	**353**	*e*Pg	Pg	02 27 41.4	-1.6
GRUS				*e*Sg	Sg	02 27 52.1	+0.4
BARS	**Barje**	**0.83**	**119**	*e*Pg	Pg	02 27 44.4	-1.5
BARS				*e*Sg	Sg	02 27 56.8	+0.1
BARS	**Barje**	**0.83**	**119**	*e*Pg	Pg	02 27 44.4	-1.5
BARS				*e*Sg	Sg	02 27 56.8	+0.1
DIVS	**Divibare**	**1.07**	**326**	*e*Pg	Pg	02 27 49.0	-1.6
DIVS				*e*Sg	Sg	02 28 04.1	-0.5
DIVS	**Divibare**	**1.07**	**326**	*e*Pg	Pg	02 27 49.0	-1.6
DIVS				*e*Sg	Sg	02 28 04.1	-0.5
ZAPS	**Zavoj**	**1.32**	**87**⇑	*i*Pg	Pg	02 27 54.2	-1.2
ZAPS				*e*Sg	Sg	02 28 11.5	-1.0
ZAPS	**Zavoj**	**1.32**	**87**⇑	*i*Pg	Pg	02 27 54.2	-1.2
ZAPS				*e*Sg	Sg	02 28 11.5	-1.0

IDC 12 02:27:43.3±1.3, 3°.91N×126°.65E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/21, mbtmp3.5/6, MS3.6/2, Ms1 3.6/2, ms1mx2.9/28, Error ellipse: s-maj=111.8km s-min=17.7km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.32**	**341**	LR	LR	02 29 56.3	
	comp=Z,370nm,20.6s,baz=209,slow=40						
FITZ	**Fitzroy Crossi**	**21.89**	**183**	P	P	02 32 38.8	+0.7
	1.8nm,0.8s,baz=346,slow=8.3,SNR=2.7						
ASAR	**Alice Springs**	**28.31**	**166**	P	P	02 33 40.6	+1.7
	0.2nm,0.5s,baz=354,slow=7.7,SNR=2.6						
STKA	**Stephens Creek**	**38.32**	**159**	P	P	02 35 03.9	-2.1
	3.1nm,0.7s,baz=330,slow=8.0,SNR=6.9						
DZM	**Mont Dzumac**	**46.70**	**125**	LR	LR	02 54 17.0	
	comp=Z,157nm,18.0s,baz=221,slow=34						
SONM	**Songino Array**	**47.10**	**341**	P	P	02 36 18.9	+1.7
	0.2nm,0.7s,baz=145,slow=5.3,SNR=1.9						
MKAR	**Makanchi Array**	**57.36**	**325**	P	P	02 37 32.6	-0.9
	0.2nm,0.4s,baz=121,slow=8.3,SNR=3.4						
KURBB	**Kurchatov Arra**	**61.55**	**327**	P	P	02 38 01.5	-0.8
	0.3nm,0.7s,baz=123,slow=6.4,SNR=3.2						

IDC 12 02:32:04.2±8.3, 4°.28N×125°.46E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=228.8km s-min=67.2km az=14.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**46.38**	**342**	P	P	02 40 32.4	-0.1
	0.3nm,0.6s,baz=164,slow=6.3,SNR=3.1						
MKAR	**Makanchi Array**	**56.38**	**326**	P	P	02 41 47.6	+0.2
	0.2nm,0.4s,baz=116,slow=7.6,SNR=8.2						
KURBB	**Kurchatov Arra**	**60.60**	**328**	P	P	02 42 16.4	-0.3
	0.5nm,0.5s,baz=129,slow=6.0,SNR=7.4						
ILAR	**Eielson Array**	**85.15**	**25**	P	P	02 44 42.1	0.0
	0.2nm,0.5s,baz=281,slow=4.5,SNR=4.8						

IDC 12 02:34:16.9±1.4, 3°.80N×126°.33E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.4/21, mbtmp3.4/6, Error ellipse: s-maj=117.1km s-min=18.2km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.78**	**182**	P	P	02 39 11.1	+0.6
	1.1nm,0.5s,baz=8.1,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**28.28**	**165**	P	P	02 40 11.7	-0.5
	0.3nm,0.6s,baz=347,slow=8.0,SNR=2.7						
STKA	**Stephens Creek**	**38.34**	**159**	P	P	02 41 39.6	-0.1
	0.8nm,0.5s,baz=325,slow=12,SNR=2.8						
SONM	**Songino Array**	**47.10**	**342**	P	P	02 42 51.2	+0.3
	0.2nm,0.6s,baz=154,slow=14,SNR=1.9						
MKAR	**Makanchi Array**	**57.27**	**325**	P	P	02 44 04.9	-1.5
	0.1nm,0.5s,baz=114,slow=9.0,SNR=4.2						
KURBB	**Kurchatov Arra**	**61.46**	**328**	P	P	02 44 36.1	+0.9
	0.1nm,0.3s,baz=116,slow=8.5,SNR=2.6						

ISCJB ***12*** *02:35:13.9±0.7, 51°.51N±0°.04×16°.08E±0°.04, h0km, Error ellipse: s-maj=5.3km s-min=3.2km az=17.8*
CSEM ***12*** *02:35:14.9±0.3, 51°.53N×16°.06E, h2km, ML3.3/5, Error ellipse: s-maj=5.2km s-min=3.9km az=13.0*
WAR ***12*** *02:35:15.7, 51°.55N×16°.06E*
PRU ***12*** *02:35:16.9, 51°.47N×16°.07E, h0km*
ISC 12 02:35:14.4±0.9, 51°.59N±0°.03×16°.08E±0°.03, h0km, n27, σ0s91/51, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.76**	**170**	*e*Pg	**Pg**	**02 35 29.2**	**+0.3**
KSP				*e*Sg	**Sg**	**02 35 38.5**	**-0.1**
KSP	**Ksiaz**	**0.76**	**170**	*e*Pg	**Pg**	**02 35 29.2**	**+0.3**
KSP				*e*Sg	**Sg**	**02 35 38.5**	**-0.1**
KSP	**Ksiaz**	**0.76**	**170**⇓	*i*Pg	**Pg**	**02 35 29.2**	**+0.3**
KSP				*e*Sg	**Sg**	**02 35 38.6**	**-0.1**
UPC	**Upice**	**1.08**	**182**	*e*PG	**Pg**	**02 35 35.2**	**+0.1**
UPC	**Upice**	**1.08**	**182**	Pg	**Pg**	**02 35 35.2**	**+0.1**
DPC	**Dobruska-Polom**	**1.25**	**173**	*e*PG	**Pg**	**02 35 37.9**	**-0.4**
DPC				*e*SG	**Sg**	**02 35 52.3**	**-2.1**
	comp=Z,16nm,0.2s						
DPC	**Dobruska-Polom**	**1.25**	**173**	Pg	**Pg**	**02 35 37.9**	**-0.4**
DPC				Sg	**Sg**	**02 35 52.3**	**-2.1**
	16nm,0.2s						
PVCC	**Panska Ves**	**1.43**	**222**	*e*PG	**Pb**	**02 35 42.1**	**+0.3**
PVCC				*e*SG	**Sn**	**02 36 00.6**	**-0.3**
	comp=Z,64nm,0.2s						
PVCC	**Panska Ves**	**1.43**	**222**	Pg	**Pb**	**02 35 42.1**	**+0.3**
PVCC				Sg	**Sn**	**02 36 00.6**	**-0.3**
	64nm,0.2s						
BRG	**Berggiesshubel**	**1.52**	**243**	PG	**Pg**	**02 35 44.1**	**+0.6**
BRG				SG	**Sn**	**02 36 04.5**	**+1.2**
	37nm,0.5s						
KRLC	**Kraliky**	**1.58**	**163**	*e*PG	**Pb**	**02 35 44.4**	**0.0**
KRLC	**Kraliky**	**1.58**	**163**	Pg	**Pb**	**02 35 44.4**	**0.0**
PRU	**Pruhonice**	**1.87**	**212**	*e*PN	**Pn**	**02 35 47.8**	**+0.1**
PRU				*e*PG	**Pb**	**02 35 49.4**	**0.0**
PRU				*e*SG	**Sb**	**02 36 13.4**	**0.0**
	comp=Z,16nm,0.3s						
PRU	**Pruhonice**	**1.87**	**212**	Pn	**Pn**	**02 35 47.8**	**+0.1**
CLL	**Collm**	**1.94**	**263**	*e*Pn	**Pn**	**02 35 49.0**	**+0.4**
CLL				*e*Pg	**Pg**	**02 35 52.0**	**+0.4**
CLL				*i* Sg	**Sg**	**02 36 17.7**	**+0.9**
	comp=Z,11nm,0.6s						
MORC	**Moravsky Berou**	**2.04**	**152**	*e*Pn	**Pn**	**02 35 49.5**	**-0.5**
MORC				*e*Sg	**Sb**	**02 36 13.1**	**-0.1**
OKC	**Ostrava-Krasne**	**2.19**	**142**	*e*PG	**Pb**	**02 35 55.5**	**+0.6**
OKC				*e*SG	**Sb**	**02 36 22.2**	**-0.3**
OKC	**Ostrava-Krasne**	**2.19**	**142**	Pg	**Pb**	**02 35 55.5**	**+0.6**
OKC				Sg	**Sb**	**02 36 22.2**	**-0.3**
VRAC	**Vranov**	**2.31**	**172**	*e*Pn	**Pn**	**02 35 54.0**	**+0.4**
VRAC				*e*Sg	**Sb**	**02 36 26.3**	**+0.5**
NKC	**Novy Kostel**	**2.67**	**241**	*e*PN	**Pn**	**02 35 59.2**	**+0.6**
NKC				*e*PG	**Pg**	**02 36 05.2**	**-0.2**
NKC				*e*SG	**Sg**	**02 36 39.7**	**-0.3**
	comp=Z,45nm,0.3s						
NKC	**Novy Kostel**	**2.67**	**241**	Pn	**Pn**	**02 35 59.2**	**+0.6**
OJC	**Ojcow**	**2.73**	**119**	*e*Pg	**Pg**	**02 36 07.0**	**+0.5**
OJC				*e*Sg	**Sg**	**02 36 43.0**	**+1.2**
OJC	**Ojcow**	**2.73**	**119**	*e*Pg	**Pg**	**02 36 07.4**	**+0.8**
OJC				*e*Sg	**Sg**	**02 36 43.4**	**+1.5**
KHC	**Kasperske Hory**	**2.93**	**214**	*e*PN	**Pn**	**02 36 02.5**	**+0.2**
KHC				*e*PG	**Pb**	**02 36 08.9**	**+1.4**
KHC				*e*SG	**Sg**	**02 36 46.5**	**-2.1**
	comp=Z,3.9nm,0.3s						
KHC	**Kasperske Hory**	**2.93**	**214**	Pn	**Pn**	**02 36 02.5**	**+0.2**
BSD	**Bornholm Skovb**	**3.60**	**349**	*i* P	**Pn**	**02 36 11.6**	**+0.2**
BSD				*i* S	**Sn**	**02 36 52.0**	**-2.5**
BSD	**Bornholm Skovb**	**3.60**	**349**	*i* P	**Pn**	**02 36 11.6**	**+0.2**
BSD				*i* S	**Sn**	**02 36 52.0**	**-2.5**

BJI ***12*** *02:35:09.1, 3°.34N×127°.24E, h35km, mB5.1/14, mb4.8/33, Ms4.6/15, Ms7 4.4/15*
IDC ***12*** *02:35:12.3±0.5, 4°.08N×126°.77E, h0km, mb4.5/30, mb1 4.6/30, mb1mx4.6/33, mbtmp4.5/30, Error ellipse: s-maj=20.6km s-min=10.9km az=76.0*
ISCJB ***12*** *02:35:15.3±0.2, 4°.09N±0°.03×126°.87E±0°.05, h33km, mb4.8/84, MS4.2/4, Error ellipse: s-maj=7.6km s-min=4.3km az=160.9*
NEIC ***12*** *02:35:17.3±0.2, 4°.08N×126°.88E, h35km, mb4.8/46, Error ellipse: s-maj=6.9km s-min=4.0km az=74.0*
DJA ***12*** *02:35:21, 4°.14N×127°.13E, h55km, mb4.8/13*
ISC 12 02:35:17.1±0.5, 4°.09N±0°.04×126°.93E±0°.06, h34km±1km, n187, σ1s27/199, mb4.8/81, MS4.3/4, 5C-4D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.80**	**315**	*e*P	Pb	02 36 02.9	-3.7
MATI	**Mati**	**2.92**	**347**	*e*P	**Pb**	**02 36 07.5**	**-1.0**
DAV	**Davao City (W)**	**3.25**	**336**	Pn	**Pb**	**02 36 11.7**	**-2.6**
DAV				Sn	**

NLAI	Namlea	7.28	179	P		Pn	02 37 05.0	+3.9
	54nm,0.5s,2µm0.6nm							
FAKI	Fak Fak	8.76	143	P		Pn	02 37 32.9	+11
KDI	Kendari	9.07	208	P		Pn	02 37 32.5	+6.7
	36nm,0.9s,683nm							
TTSI	Tana Toraja	10.03	225	P		Pn	02 37 46.1	+7.2
	42nm,1.3s,1µm							
KKM	Kota Kinabalu	10.85	281	*e*Pn		**Pn**	**02 37 51.2**	**+1.0**
	22nm,0.9s							
KKM	Kota Kinabalu	10.85	281	P		Pn	02 37 59.2	+9.0
	24nm,1.2s,1µm							
SBUM	Sibu	14.77	264	P		**P**	**02 38 50.2**	**+0.9**
	46nm,1.5s,1µm							
KSM	Kuching	16.80	262	*e*P		**P**	**02 39 13.4**	**+1.6**
	26nm,0.9s							
KSM	Kuching	16.80	262	P		**P**	**02 39 13.5**	**+1.6**
	30nm,0.9s							
MTN	Manton Dam	17.33	166	*e*P		**Pn**	**02 39 14.3**	**-2.3**
YULB	Yu-li	19.95	345	*e*P		**P**	**02 39 44.5**	**-2.0**
	110nm,2.0s							
TPUB	Ta-pu	20.05	343	*e*P		**P**	**02 39 46.2**	**-1.3**
	37nm,0.9s							
SSLB	Suanglung	20.42	344	*e*P		**P**	**02 39 51.3**	**-0.3**
	19nm,0.7s							
YHNB	Yeheng	21.15	346	*e*P		**P**	**02 40 00.7**	**+1.2**
	16nm,0.4s							
TATO	Taipei	21.42	346	*e*P		**P**	**02 40 02.6**	**+0.3**
	28nm,0.7s							
FITZ	Fitzroy Crossi	22.08	183	*e*P		**P**	**02 40 09.3**	**-0.3**
	8.6nm,0.8s							
FITZ	Fitzroy Crossi	22.08	183	*e*P		**P**	**02 40 09.1**	**-0.4**
	8.4nm,0.4s							
FITZ	Fitzroy Crossi	22.08	183	P		**P**	**02 40 09.2**	**-0.3**
	4.5nm,0.5s,baz=13,slow=8.8,SNR=12							
QIZ	Qiongzhong	22.34	313	*e*P		**P**	**02 40 12.9**	**+0.7**
	14nm,0.7s							
JOW	Kunigami	22.66	3	P		**P**	**02 40 16.4**	**+0.8**
JOW	Kunigami	22.66	3	P		**P**	**02 40 16.4**	**+0.8**
	12nm,0.7s,baz=164,slow=10.0,SNR=4.2							
WRAB	Tennant Creek	24.96	163	*e*P		**P**	**02 40 37.0**	**-0.6**
	29nm,0.9s							
WRA	Warramunga Arr	24.96	163	P		**P**	**02 40 37.5**	**-0.3**
WRA	Warramunga Arr	24.96	163	P		**P**	**02 40 37.5**	**-0.3**
	15nm,0.6s							
IPM	Ipoh	25.83	272	*e*P		**P**	**02 40 45.4**	**-0.3**
	10nm,0.7s							
IPM	Ipoh	25.83	272	P		P	02 40 53.1	+7.4
MBWA	Marble Bar	26.06	195	*e*P		**P**	**02 40 47.7**	**+0.1**
	17nm,1.0s							
PSI	Prapat	27.98	268	P		**P**	**02 41 04.8**	**-0.4**
PSI	Prapat	27.98	268	P		**P**	**02 41 04.8**	**-0.4**
	2.7nm,0.3s,baz=91,slow=7.5,SNR=5.7							
AS31	Alice Springs	28.41	166	*e*P		**P**	**02 41 08.1**	**-0.6**
ASAR	Alice Springs	28.41	166	P		**P**	**02 41 08.4**	**-0.3**
ASAR	Alice Springs	28.41	166	P		**P**	**02 41 08.4**	**-0.3**
	1.1nm,0.5s,baz=348,slow=7.4,SNR=19							
NJ2	Nanjing	28.83	346	*e*P		P	02 41 15.8	+3.4
NJ2				pmax	pmax			
	comp=Z,20nm,0.6s							
WHN	Wuhan	28.87	337	P		**P**	**02 41 15.0**	**+2.3**
JNU	Nakatsue	29.12	7	P		**P**	**02 41 14.6**	**-0.4**
JNU	Nakatsue	29.12	7	P		**P**	**02 41 14.6**	**-0.4**
	comp=Z,6.0nm,0.7s,baz=286,slow=7.4,SNR=3.4							
GSI	Gunungsitoli	29.45	265	P		P	02 41 22.3	+4.2
	comp=Z,26nm,0.8s							
GYA	Guiyang	29.52	321	P		**P**	**02 41 21.0**	**+2.3**
GYA				pP		**pP**	**02 41 30.4**	**+2.0**
GYA				PP		**PnPn**	**02 42 17.8**	**+4.0**
GYA				S		**S**	**02 46 13.2**	**+1.8**
GYA				sS		**sS**	**02 46 29.9**	**+2.5**
GYA				ScP		**ScP**	**02 48 02.3**	**-0.9**
GYA				ScS		**ScS**	**02 51 55.6**	**-2.5**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
GYA				pmax	pmax			
	comp=Z,110nm,4.8s							
GYA				LR	LR			
	comp=N,490nm,17.6s							
GYA				LR	LR			
	comp=E,460nm,18.1s							
GYA				LR	LR			
	comp=Z,480nm,17.8s							
CTAO	Charters Tower	30.62	142	*e*P		**P**	**02 41 27.6**	**-0.8**
	comp=Z,5.8nm,1.0s							
ENH	Enshi	30.82	330	*e*P		**P**	**02 41 29.4**	**-0.7**
	comp=Z,12nm,0.8s							
CMAR	Chiang Mai Arr	30.86	300	P		**P**	**02 41 30.6**	**0.0**
CMAR				PcP		**PcP**	**02 44 25.9**	**-1.2**
CMAR				ScP		**ScP**	**02 48 10.8**	**+3.3**
CMAR	Chiang Mai Arr	30.86	300	P		**P**	**02 41 30.6**	**0.0**
	comp=Z,4.1nm,0.7s,baz=113,slow=7.0,SNR=16							
CMAR				PcP		**PcP**	**02 44 25.9**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=93,slow=1.8,SNR=3.3							
CMAR				ScP		**ScP**	**02 48 10.8**	**+3.3**
	comp=Z,1.1nm,0.4s,baz=48,slow=2.1,SNR=6.6							
CHTO	Chiang Mai	31.01	300	*e*P		**P**	**02 41 32.8**	**+1.0**
	comp=Z,7.5nm,0.9s							
CHTO	Chiang Mai	31.01	300	P		**P**	**02 41 33.2**	**+1.3**
KMI	Kunming	31.27	314	P		P	02 41 38.8	+4.5
KMI				pmax	pmax			
	comp=Z,10.0nm,1.1s							
KMI				LR	LR			
	comp=N,250nm,23.1s							
KMI				LR	LR			
	comp=E,250nm,23.1s							
KMI				LR	LR			
	comp=Z,350nm,28.1s							
KSAR	Wonju Array Be	33.21	1	P		**P**	**02 41 51.4**	**+0.5**
KSRS	Korea Array	33.22	1	P		**P**	**02 41 51.4**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=183,slow=9.9,SNR=8.2							
MAJO	Matsushiro	33.93	16	*e*P		**P**	**02 41 55.8**	**-1.4**
	comp=Z,5.1nm,0.4s							
XAN	Xi'an	34.19	333	P		**P**	**02 41 58.4**	**-1.2**
XAN				pP		**pP**	**02 42 08.3**	**-1.0**
XAN				pmax	pmax			
	comp=Z,8.0nm,0.7s							
CD2	Chengdu	34.48	323	P		**P**	**02 42 02.2**	**+0.1**
CD2				pP		**pP**	**02 42 11.9**	**0.0**
CD2				sP		**sP**	**02 42 15.8**	**-0.1**
CD2				PcP		**PcP**	**02 44 37.0**	**0.0**
CD2				S		**S**	**02 47 27.7**	**-0.8**
CD2				PcS		**PcS**	**02 48 22.3**	**-1.2**
CD2				pmax	pmax			
	comp=Z,30nm,0.5s							
CD2				pmax	pmax			
	comp=Z,230nm,7.8s							
CD2				LR	LR			
	comp=N,490nm,14.7s							
CD2				LR	LR			
	comp=E,470nm,17.6s							
CD2				LR	LR			
	comp=Z,500nm,19.6s							
KLBR	Kellerberrin	36.54	193	*e*P		**P**	**02 42 19.2**	**-0.5**
	comp=Z,14nm,0.7s							
BJT	Baijiatuau	37.07	346	*e*P		**P**	**02 42 25.1**	**+1.0**
	comp=Z,31nm,0.9s							
BJI	Beijing	37.09	346	P		**P**	**02 42 24.9**	**+0.6**
BJI				pmax	pmax			
	comp=Z,33nm,0.5s							
EIDS	Eidsvold	37.51	143	*e*P		**P**	**02 42 27.8**	**-0.3**
	comp=Z,14nm,1.0s							
SNY	Shenyang	37.70	356	⇓P		**P**	**02 42 31.9**	**+2.5**
SNY				pmax	pmax			
	comp=Z,21nm,0.4s							
BBOO	Buckleboo	37.70	167	*e*P		**P**	**02 42 29.6**	**+0.1**
	comp=Z,128nm,0.4s							
NWAO	Narrogin (SRO)	37.94	193	*e*P		**P**	**02 42 31.6**	**0.0**
	comp=Z,12nm,0.9s							
NWAO	Narrogin (SRO)	37.94	193	P		**P**	**02 42 31.9**	**+0.3**
	comp=Z,4.2nm,0.3s,baz=29,slow=5.4,SNR=7.3							
LZH	Lanzhou	38.30	329	*e*P		**P**	**02 42 34.8**	**0.0**
LZH				pP		**pP**	**02 42 44.0**	**-0.6**
LZH				sP		**sP**	**02 42 48.5**	**-0.2**
LZH				pmax	pmax			
	comp=Z,31nm,1.0s							
LZH				pmax	pmax			
	comp=Z,140nm,6.0s							
LZH				LR	LR			
	comp=N,300nm,12.8s							
LZH				LR	LR			
	comp=E,380nm,14.5s							
LZH				LR	LR			
	comp=Z,280nm,8.8s							
STKA	Stephens Creek	38.39	160	*e*P		**P**	**02 42 35.1**	**-0.2**
	comp=Z,3.1nm,0.9s							
STKA	Stephens Creek	38.39	160	*e*P		**P**	**02 42 35.2**	**-0.2**
	comp=Z,8.9nm,0.6s							
STKA	Stephens Creek	38.39	160	P		**P**	**02 42 35.8**	**+0.3**
	comp=Z,12nm,0.8s,baz=331,slow=9.6,SNR=17							
CN2	Changchun	39.57	358	*e*P		**P**	**02 42 44.3**	**-0.8**
CN2				*e*pP		**pP**	**02 42 54.1**	**-0.9**
USRK	Ussuriysk Arra	40.20	6	P		**P**	**02 42 51.2**	**+0.9**
	comp=Z,2.3nm,0.6s,baz=188,slow=8.0,SNR=7.8							
MDJ	Mudanjiang	40.43	3	P		**P**	**02 42 52.9**	**+0.6**
MDJ				pmax	pmax			
	comp=Z,6.0nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,120nm,8.7s							
MDJ	Mudanjiang	40.43	3	*e*P		**P**	**02 42 53.1**	**+0.8**
	comp=Z,5.6nm,0.7s							
ARMA	Armidale	41.66	147	*e*P		**P**	**02 43 03.9**	**+1.2**
GTA	Gaotai	42.90	329	*e*P		**P**	**02 43 12.4**	**-0.3**
GTA				pP		**pP**	**02 43 22.8**	**+0.2**
GTA				sP		**sP**	**02 43 26.5**	**-0.2**
GTA				pmax	pmax			
	comp=Z,10.0nm,0.6s							
TAPN	Taplejung	43.97	306	*e*P		**P**	**02 43 21.2**	**-0.5**
	comp=Z,16nm,0.5s							
ODAN	Odare	44.02	305	*e*P		**P**	**02 43 21.4**	**-0.7**
	comp=Z,26nm,0.7s							
RAMN	Ramite	44.71	305	*e*P		**P**	**02 43 27.0**	**-0.6**
	comp=Z,18nm,0.7s							
JIRN	Jiri	45.33	306	*e*P		**P**	**02 43 31.9**	**-0.8**
HIA	Hailar	45.43	353	*e*P		**P**	**02 43 32.4**	**-0.3**
	comp=Z,8.8nm,0.8s							
GUN	Gurdaa	45.68	306	*e*P		**P**	**02 43 34.3**	**-1.1**
	comp=Z,26nm,0.6s							
PKI	Pulchoki	45.93	305	*e*P		**P**	**02 43 36.1**	**-1.3**
DZM	Mont Dzumac	46.58	126	P		**P**	**02 43 44.5**	**+2.2**
DZM	Mont Dzumac	46.58	126	P		**P**	**02 43 44.5**	**+2.2**
	comp=Z,1.6nm,0.6s,baz=241,slow=19,SNR=3.3							
ULN	Ulaanbaatar	46.84	342	*e*P		**P**	**02 43 44.6**	**+0.6**
	comp=Z,19nm,1.5s							
SONM	Songino Array	47.03	341	P		**P**	**02 43 45.9**	**+0.5**
SONM	Songino Array	47.03	341	P		**P**	**02 43 45.9**	**+0.5**
	comp=Z,2.7nm,0.6s,baz=158,slow=8.6,SNR=26							
KOLN	Koldanda	47.48	304	*e*P		**P**	**02 43 48.4**	**-1.0**
	comp=Z,45nm,0.6s							
DANN	Dangsing	47.57	305	*e*P		**P**	**02 43 48.9**	**-1.3**
	comp=Z,43nm,0.6s							
TLY	Talaya	51.26	342	*e*P		**P**	**02 44 18.6**	**+1.0**
	comp=Z,6.7nm,0.8s							
PETK	Petropavlovsk-	55.03	22	P		**P**	**02 44 46.4**	**+1.1**
PETK	Petropavlovsk-	55.03	22	P		**P**	**02 44 46.4**	**+1.1**
	comp=Z,4.8nm,0.7s,baz=188,slow=5.9,SNR=7.2							
MK31	Makanchi Array	57.38	325	*e*P		**P**	**02 45 01.2**	**-1.0**
MKAR	Makanchi Array	57.38	325	*e*P		**P**	**02 45 01.6**	**-0.7**
MKAR	Makanchi Array	57.38	325	P		**P**	**02 45 01.4**	**-0.8**
	comp=Z,7.7nm,0.5s,baz=117,slow=8.0,SNR=119							
YAK	Yakutsk	57.85	2	*e*P		**P**	**02 45 04.3**	**-0.9**
	comp=Z,22nm,0.5s							
KSH	Kashi	57.93	315	*e*P		**P**	**02 45 05.4**	**-1.0**
KSH				pP		**pP**	**02 45 15.3**	**-1.4**
KSH				sP		**sP**	**02 45 19.5**	**-1.1**
KSH				PcP		**PcP**	**02 45 56.8**	**-1.6**
KSH				PP		**PP**	**02 47 16.6**	**+1.6**
KSH				ScP		**ScP**	**02 49 52.0**	**-4.3**
KSH				PcS		**PcS**	**02 49 56.8**	**-3.1**
KSH				S		**S**	**02 53 03.8**	**-0.7**
KSH				ScS		**ScS**	**02 54 49.1**	**-4.7**
KSH				LR	LR			
	comp=N,110nm,4.6s							
KSH				LR	LR			
	comp=E,160nm,5.0s							
KSH				LR	LR			
	comp=Z,140nm,9.0s							
TKM2	Tokmak 2	59.61	318	*e*P		**P**	**02 45 17.2**	**-1.0**
	comp=Z,2.6nm,0.6s							
AAK	Ala-Archa	60.23	318	*e*P		**P**	**02 45 19.6**	**-2.7**
	comp=Z,15nm,1.0s							
AAK	Ala-Archa	60.23	318	P		**P**	**02 45 22.5**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=160,slow=9.0,SNR=3.7							
ZAA0	Zalesovo Array	60.36	333	*e*P		**P**	**02 45 21.2**	**-1.6**
ZALV	Zalesovo Beam	60.36	333	P		**P**	**02 45 21.4**	**-1.4**
ZALV	Zalesovo Beam	60.36	333	P		**P**	**02 45 21.4**	**-1.4**
	comp=Z,2.3nm,0.4s,baz=117,slow=6.5,SNR=14							
EKS2	Erkin-Say	60.72	317	*e*P		**P**	**02 45 25.0**	**-0.7**
	comp=Z,3.2nm,0.7s							
KURBB	Kurchatov Arra	61.55	327	P		**P**	**02 45 30.1**	**-0.8**
	comp=Z,6.6nm,0.5s,baz=129,slow=6.4,SNR=94							
KURK	Kurchatov	61.55	327	*e*P		**P**	**02 45 30.3**	**-0.6**
	comp=Z,14nm,0.5s							
KKAR	Karatay Array	63.11	317	*e*P		**P**	**02 45 41.5**	**0.0**
BVAR	Borovoye Array	67.13	327	P		**P**	**02 46 07.3**	**-0.1**
BVAR	Borovoye Array	67.13	327	P		**P**	**02 46 07.4**	**-0.1**
	comp=Z,8.1nm,0.7s,baz=128,slow=9.6,SNR=34							
BRVK	Borovoye	67.20	327	*e*P		**P**	**02 46 07.2**	**-0.7**
	comp=Z,10nm,0.7s							
ABKAR	Akbulak array	72.00	321	*e*P		**P**	**02 46 37.0**	**-0.5**
AKTO	Aktyubinsk	73.50	322	P		**P**	**02 46 46.3**	**-0.2**
AKTO	Aktyubinsk	73.50	322	P		**P**	**02 46 46.3**	**-0.2**
	comp=Z,5.4nm,0.7s,baz=104,slow=9.4,SNR=33							
ARU	Arti	74.74	328	*e*P		**P**	**02 46 52.7**	**-0.9**
	comp=Z,9.1nm,0.8s							
RDF	Al-Radifah	78.74	299	*e*P		**P**	**02 47 15.3**	**-1.4**
RDF				AMb	AMB	AMB	02 47 23.0	
	comp=Z,30nm,1.3s							
MIB	Mutribah	78.95	299	*e*P		**P**	**02 47 17.0**	**-0.9**
MIB				AMb	AMB	AMB	02 47 19.0	
	comp=Z,23nm,1.1s							
NAY	Al-Naaiem	79.02	299	*e*P		**P**	**02 47 16.7**	**-1.5**
NAY				AMb	AMB	AMB	02 47 28.2	
	comp=Z,8.9nm,1.0s							
SLKM	Skilak Lake	82.94	30	*e*P		**P**	**02 47 39.0**	**+0.5**
TRF	Thorofare Moun	83.14	27	*e*P		**P**	**02 47 39.1**	**-0.6**
	comp=Z,87nm,1.8s							
RC01	Rabbit Creek A	83.22	29	*e*P		**P**	**02 47 40.1**	**+0.2**
	comp=Z,12nm,0.5s							
COLD	Coldfoot	83.49	23	*e*P		**P**	**02 47 42.8**	**+1.6**
	comp=Z,21nm,1.2s							
PMR	Palmer	83.54	29	*e*P		**P**	**02 47 41.7**	**+0.1**
	comp=Z,24nm,1.1s							
VNDA	Vanda	83.75	173	*e*P		**P**	**02 47 42.4**	**+0.1**
	comp=Z,5.9nm,0.9s							
MCK	McKinley	83.76	26	*e*P		**P**	**02 47 43.3**	**+0.6**
	comp=Z,42nm,1.3s							
SML	Sawmill	83.93	28	*e*P		**P**	**02 47 43.8**	**+0.2**
	comp=Z,12nm,1.2s							
COLA	College	84.29	25	*e*P		**P**	**02 47 45.7**	**+0.4**
	comp=Z,4.6nm,0.8s							
ILAR	Eielson Array	84.70	25	P		**P**	**02 47 47.6**	**+0.2**
ILAR	Eielson Array	84.70	25	P		**P**	**02 47 47.7**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=245,slow=5.8,SNR=22							
DIV	Divide	85.14	29	*e*P		**P**	**02 47 51.4**	**+1.6**
	comp=Z,76nm,1.4s							
ASF	Jabal al Asfar	87.88	302	P		**P**	**02 48 03.1**	**-0.7**
ASF	Jabal al Asfar	87.88	302	P		**P**	**02 48 03.1**	**-0.7**
	comp=Z,1.7nm,0.6s,baz=180,slow=2.0,SNR=2.7							
JOF	Joensuu	88.95	333	*e*p		**P**	**02 48 07.0**	**-1.1**
	comp=Z,6.3nm,0.7s							
KMBO	Kilima Mbogo	89.75	269	*e*P		**P**	**02 48 13.0**	**-0.2**
	comp=Z,4.1nm,1.0s							
INK	Inuvik	89.76	22	*e*P		**P**	**02 48 12.2**	**+0.4**
	comp=Z,9.7nm,1.3s							
BR131	Keskin Array S	89.95	310	*e*P		**P**	**02 48 13.4**	**-0.1**
	comp=Z,1.4nm,0.8s							
BRTR	Keskin Array B	89.95	310	P		**P**	**02 48 12.9**	**-0.6**
BRTR	Keskin Array B	89.95	310	P		**P**	**02 48 12.9**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=123,slow=4.2,SNR=8.9							
SPITS	Spitsbergen Ar	90.17	349	P		**P**	**02 48 14.0**	**+0.4**
SPITS	Spitsbergen Ar	90.17	349	P		**P**	**02 48 14.0**	**+0.4**
	comp=Z,8.0nm,1.0s,baz=93,slow=28,SNR=2.7							
ARCES	ARCESS Array B	90.18	340	P		**P**	**02 48 13.5**	**-0.3**
ARCES	ARCESS Array B	90.18	340	P		**P**	**02 48 13.5**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=78,slow=5.5,SNR=15							
KAF	Kangasniemi	91.37	332	*e*p		**P**	**02 48 17.9**	**-1.5**
	comp=Z,7.7nm,0.9s							
FINES	FINESS Array B	91.61	332	P		**P**	**02 48 20.4**	**-0.1**
FINES	FINESS Array B	91.61	332	P		**P**	**02 48 20.4**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=78,slow=3.9,SNR=9.7							
AKASG	Malin Array Be	91.74	321	P		**P**	**02 48 20.4**	**-0.9**
AKASG	Malin Array Be	91.74	321	P		**P**	**02 48 20.5**	**-0.9**
	comp=Z,2.5nm,0.7s,baz=73,slow=4.4,SNR=10							
QSPA	South Pole Qui	93.99	180	*e*P		**P**	**02 48 32.2**	**+0.6**
	comp=Z,6.1nm,1.0s							
TESR		94.11	317	⇓*i*P		**P**	**02 48 31.6**	**-0.9**
VRI	Vrincioaia	94.17	316	⇓*i*P		**P**	**02 48 32.7**	**-0.1**
SUW	Suwalki	94.75	325	*e*P		**P**	**02 48 35.2**	**+0.1**
	comp=Z,21nm,0.9s							
MLR	Muntele Rosu	94.78	316	P		**P**	**02 48 35.6**	**-0.1**
MLR	Muntele Rosu	94.78	316	⇑*i*P		**P**	**02 48 35.7**	**-0.1**
MLR	Muntele Rosu	94.78	316	P		**P**	**02 48 35.6**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=334,slow=6.2							
BURAR	Bucovina Array	94.87	318	⇑*i*P		**P**	**02 48 34.9**	**-1.1**
BUR08	Bucovina Ar. S	94.87	318	*e*P		**P**	**02 48 36.2**	**+0.2**
TRPA	Tarpa	96.52	319	⇑*i*P		**P**	**02 48 43.7**	**+0.3**
DRGR		96.71	318	⇑*i*P		**P**	**02 48 44.2**	**-0.2**
RES	Resolute Bay	97.43	10	*e*P		**P**	**02 48 46.5**	**-0.4**
	comp=Z,2.8nm,1.2s							
BZS	Buzias	97.73	317	⇑*i*P		**P**	**02 48 47.9**	**-1.0**
HFS	Hagfors	97.80	332	P		Pdif	02 48 49.5	+0.6
HFS	Hagfors	97.80	332	P		Pdif	02 48 49.5	+0.6
	comp=Z,0.7nm,0.5s,baz=110,slow=7.8,SNR=4.2							
YKA	Yellowknife Ar	99.09	24	P		**Pdif**	**02 48 55.3**	**+0.7**
YKA	Yellowknife Ar	99.09	24	P		**Pdif**	**02 48 55.3**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=298,slow=4.4,SNR=12							
LSZ	Lusaka	99.48	255	*e*P		**Pdif**	**02 48 58.5**	**+0.9**
	comp=Z,1.8nm,0.8s							
GERES	GERESS Array B	101.93	322	P		**Pdif**	**02 49 08.3**	**+0.6**
GERES	GERESS Array B	101.93	322	P		**Pdif**	**02 49 08.3**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=48,slow=6.0,SNR=4.3							
NVAR	Mina Array Bea	106.52	48	Pdif		**Pdif**	**02 49 31.0**	**+2.5**
NVAR	Mina Array Bea	106.52	48	Pdiff		**Pdif**	**02 49 31.0**	**+2.5**
	comp=Z,0.2nm,0.5s,baz=291,slow=5.7,SNR=2.6							
HRY	Holter Researc	107.74	38	*e*PKKPbc	PKKPbc	PKKPbc	03 04 53.2	-3.3
SCHQ	Schefferville	120.19	9	PKP		**PKPdf**	**02 54 05.7**	**+1.1**
SCHQ	Schefferville	120.19	9	PKP		**PKPdf**	**02 54 05.7**	**+1.1**
	comp=Z,3.8nm,0.9s,baz=128,slow=1.3,SNR=5.1							
TXAR	Lajitas Array	121.23	52	PKP		**PKPdf**	**02 54 09.1**	**+1.6**
TXAR	Lajitas Array	121.23	52	PKP		**PKPdf**	**02 54 09.1**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=230,slow=1.0,SNR=5.1							
TOA0	Torodi Ar. Sit	122.99	288	*e*PKPdf		**PKPdf**	**02 54 11.1**	**0.0**
TORD	Torodi Ar. Bea	122.99	288	PKP		**PKPdf**	**02 54 11.2**	**+0.1**
TORD	Torodi Ar. Bea	122.99	288	PKP		**PKPdf**	**02 54 11.2**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=78,slow=1.7,SNR=20							
JCT	Junction City	123.68	49	*e*PKPdf		**PKPdf**	**02 54 11.6**	**-0.5**
DBIC	Dimbokro	130.69	282	PKP		**PKPdf**	**02 54 26.8**	**+0.9**
DBIC	Dimbokro	130.69	282	PKP		**PKPdf**	**02 54 26.8**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=96,slow=9.2,SNR=3.6							
TRQA	Tornquist	145.22	168	*e*PKPbc		**PKPdf**	**02 54 52.1**	**+0.2**

BJI **12** *02:36:31.8, 3˚.20N×127˚.10E, h35km, mB5.1/16, mb4.8/31, Ms4.6/22, Ms7 4.3/23*
IDC **12** *02:36:34.2±0.4, 3˚.88N×126˚.65E, h0km, mb4.5/30, mb1 4.6/30, mb1mx4.6/31, mbtmp4.5/30, MS4.1/8, Ms1 4.1/8, ms1mx3.7/34, Error ellipse: s-maj=21.1km s-min=10.4km az=74.0*
MOS **12** *02:36:37.4±1.1, 3˚.89N×126˚.69E, h33km, mb5.1/22, Error ellipse: s-maj=15.0km s-min=6.1km az=114.2*
NEIC **12** *02:36:37.9±2.6, 3˚.93N×126˚.81E, h25km±19km, mb4.9/30, Error ellipse: s-maj=9.0km s-min=4.4km az=64.0*
ISCJB **12** *02:36:37.4±0.2, 3˚.94N±0˚.03×126˚.77E±0˚.05, h32km, mb4.8/76, MS4.2/15, Error ellipse: s-maj=7.7km s-min=3.9km az=156.4*
DJA **12** *02:36:58, 2˚.84N×127˚.35E, h55km, mb5.0/9*
ISC 12 02:36:39.9±0.4, **3˚.91N**±0˚.04×**126˚.74E**±0˚.07, **h42**km±2km, **n194**, σ1$52/210, **mb4.8**/75, **MS4.3**/15, **3C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	Ternate	3.18	169	P		Pn	02 37 31.3	+3.8
DAV	Davao City (W)	3.35	340	Sn		Sn	02 38 23.5	+15
	145nm,0.3s,baz=74,slow=23,SNR=1.7							
DAV				LR		LR	02 39 14.2	
	comp=Z,5µm,18.5s,baz=161,slow=48							
KMSI	Cibinong	4.31	220	P		Pn	02 38 13.7	+31
LBMI	Labuha	4.58	170	P		**Pn**	**02 37 48.9**	**+2.2**
LUWI	Luwuk	6.32	219	P		Pn	02 38 23.5	+13
	605nm,1.1s,5µm2.0nm							
NLAI	Namlea	7.11	177	P		Pn	02 38 25.7	+4.2
	118nm,0.5s,3µm0.6nm							
MSAI	Masohi	7.53	163	P		Pn	02 38 33.5	+6.2
	26nm,0.7s,885nm0.1nm							
FAKI	Fak Fak	8.73	141	P		**Pn**	**02 38 45.7**	**+1.9**
	56nm,1.1s,0.2nm							
KDI	Kendari	8.84	208	P		Pn	02 39 01.9	+17
TSM	Tawau	8.86	273	P		Pn	02 38 49.4	+3.9
SDKM

comp=Z,6.9nm,0.9s,baz=334,slow=11,SNR=5.0
CTAO Charters Tower 30.60 142 *e*P **P** 02 42 49.8 -0.4
CTAO pmax pmax
comp=Z,11nm,1.1s
CTAO Charters Tower 30.60 142 *e*P **P** 02 42 49.8 -0.4
comp=Z,11nm,1.1s
CMAR Chiang Mai Arr 30.79 300 P **P** 02 42 52.3 +0.4
CMAR Chiang Mai Arr 30.79 300 P **P** 02 42 52.3 +0.4
comp=Z,2.8nm,0.6s,baz=119,slow=7.2,SNR=6.4
ENH Enshi 30.88 330 *e*P **P** 02 42 51.0 -1.5
comp=Z,15nm,0.8s
CHTO Chiang Mai 30.94 301 *e*P **P** 02 42 52.4 -0.8
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 30.94 301 *e*P **P** 02 42 52.4 -0.8
comp=Z,7.6nm,0.8s
KMI Kunming 31.26 315 P P 02 43 00.6 +4.3
KMI pmax pmax
comp=Z,16nm,0.5s
KMI LR LR
comp=N,250nm,18.3s
KMI LR LR
comp=E,250nm,22.5s
KMI LR LR
comp=Z,350nm,24.1s
JHJ Hachijo jima 2 31.51 21 LR LR 02 54 09.7
comp=Z,332nm,20.9s,baz=46,slow=33
KSAR Wonju Array Be 33.39 2 P **P** 02 43 15.3 +0.9
KSAR PcP **PcP** 02 45 56.4 +1.0
KSRS Korea Array 33.40 2 P **P** 02 43 15.3 +0.8
comp=Z,4.1nm,0.7s,baz=183,slow=10.0,SNR=6.6
KSRS PcP **PcP** 02 45 56.4 +1.0
comp=Z,1.6nm,0.8s,baz=184,slow=1.8,SNR=4.1
KSRS LR LR 02 56 59.6
comp=Z,171nm,20.7s,baz=25,slow=37
MJAR Matsushiro Arr 34.15 17 P **P** 02 43 23.1 +2.0
MJAR Matsushiro Arr 34.15 17 P **P** 02 43 23.1 +2.0
comp=Z,1.0nm,0.5s,baz=193,slow=9.6,SNR=3.2
MJAR LR LR 02 55 27.6
comp=Z,154nm,20.6s,baz=210,slow=33
CD2 Chengdu 34.51 324 P **P** 02 43 27.0 +2.7
CD2 pP **pP** 02 43 36.7 +1.0
CD2 sP **sP** 02 43 40.6 -0.1
CD2 PcP **PcP** 02 46 00.2 +1.4
CD2 S **S** 02 48 54.4 +4.0
CD2 sS **sS** 02 49 10.4 +1.0
CD2 PcS **PcS** 02 49 45.6 +0.2
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,230nm,7.8s
CD2 LR LR
comp=N,490nm,14.7s
CD2 LR LR
comp=E,470nm,17.6s
CD2 LR LR
comp=Z,500nm,19.6s
FORT Forrest 34.52 178 *e*P **P** 02 43 24.2 -0.1
comp=Z,31nm,0.7s
FORT Forrest 34.52 178 *e*P **P** 02 43 23.6 -0.7
comp=Z,32nm,0.8s
HNR Honiara 35.65 112 LR LR 02 57 37.5
comp=Z,189nm,18.9s,baz=315,slow=35
KLBR Kellerberrin 36.33 193 *e*P **P** 02 43 39.5 -0.4
comp=Z,25nm,0.9s
BJT Baijiatuau 37.20 347 *e*P **P** 02 43 46.9 -0.3
comp=Z,27nm,0.7s
BJI Beijing 37.22 347 P **P** 02 43 47.3 0.0
BJI pmax pmax
comp=Z,36nm,1.0s
EIDS Eidsvold 37.48 142 *e*P **P** 02 43 50.1 +0.3
comp=Z,31nm,0.8s
BBOO Buckleboo 37.57 167 *e*P **P** 02 43 50.7 +0.2
NWAO Narrogin (SRO) 37.73 193 *e*P **P** 02 43 52.5 +0.7
comp=Z,21nm,0.9s
NWAO Narrogin (SRO) 37.73 193 P **P** 02 43 52.0 +0.2
comp=Z,16nm,0.8s,baz=25,slow=9.6,SNR=4.9
STKA Stephens Creek 38.29 159 *e*P **P** 02 43 56.2 -0.3
comp=Z,36nm,0.6s
STKA Stephens Creek 38.29 159 P **P** 02 43 56.2 -0.3
comp=Z,51nm,0.6s,baz=336,slow=8.3,SNR=26
LZH Lanzhou 38.35 329 *e*P **P** 02 43 57.1 -0.1
LZH pP **pP** 02 44 06.5 -2.2
LZH sP **sP** 02 44 10.1 -3.6
LZH pmax pmax
comp=Z,14nm,1.0s
LZH LR LR
comp=N,540nm,19.4s
LZH LR LR
comp=E,140nm,9.7s
LZH LR LR
comp=Z,430nm,16.2s
HHC Hu-ho-hao-te 39.23 342 *e*P **P** 02 44 06.2 +1.8
HHC pP **pP** 02 44 16.0 0.0
HHC sP **sP** 02 44 19.9 -1.0
HHC PP **PnPn** 02 45 40.4 +2.5
HHC S **S** 02 50 05.0 +2.8
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,160nm,10.7s
HHC LR LR
comp=N,340nm,15.5s
HHC LR LR
comp=E,200nm,17.8s
HHC LR LR
comp=Z,320nm,17.6s
CN2 Changchun 39.74 359 *e*P **P** 02 44 08.7 +0.2
CN2 epP **pP** 02 44 18.6 -1.4
USRK Ussuriysk Arra 40.39 6 P **P** 02 44 14.0 +0.2
comp=Z,1.2nm,0.4s,baz=192,slow=9.6,SNR=3.6
MDJ Mudanjiang 40.62 3 P **P** 02 44 16.5 +0.8
MDJ pmax pmax
comp=Z,4.0nm,0.6s
MDJ pmax pmax
comp=Z,81nm,6.2s
ARMA Armidale 41.61 147 *e*P **P** 02 44 23.7 -0.5
comp=Z,30nm,0.8s
LSA Lhasa 42.33 311 *e*P **P** 02 44 30.9 +0.3
LSA pmax pmax
comp=Z,23nm,0.6s
LSA Lhasa 42.33 311 *e*P **P** 02 44 30.9 +0.3
comp=Z,23nm,0.6s
ASAJ Asahikawa 42.42 17 P **P** 02 44 31.5 +1.0
comp=Z,5.5nm,0.6s,baz=223,slow=19,SNR=2.1
GTA Gaotai 42.95 329 *e*P **P** 02 44 34.3 -0.8
GTA pP **pP** 02 44 45.7 -1.0
GTA sP **sP** 02 44 48.9 -2.7
GTA S **S** 02 50 55.7 -1.9
GTA pmax pmax
comp=Z,5.0nm,0.5s
GTA pmax pmax
comp=Z,110nm,4.7s
GTA LR LR
comp=N,330nm,19.0s
GTA LR LR
comp=E,320nm,18.1s
GTA LR LR
comp=Z,680nm,20.9s
CAN Canberra 44.27 154 *e*P **P** 02 44 46.9 +1.3
CAN pmax pmax
comp=Z,28nm,0.7s
CAN Canberra 44.27 154 *e*P **P** 02 44 46.9 +1.3
comp=Z,28nm,0.7s
CNB Canberra Magne 44.42 153 *e*P **P** 02 44 48.4 +1.5
comp=Z,108nm,1.0s
TOO Toolangi 44.80 159 *e*P **P** 02 44 51.7 +1.9
comp=Z,46nm,0.6s
YSS Yuzh-Sakhalins 45.07 15 *e*P **P** 02 44 52.0 +0.3
KLR Kul'dur 45.36 5 *e*P P 02 44 49.2 -4.8
HIA Hailar 45.58 354 *e*P **P** 02 44 54.6 -1.3
comp=Z,13nm,0.9s
DZM Mont Dzumac 46.63 125 *e*P **P** 02 45 03.6 -0.9
comp=Z,4.8nm,0.5s
DZM Mont Dzumac 46.63 125 P **P** 02 45 05.0 +0.4
comp=Z,4.8nm,0.5s,baz=318,slow=6.6,SNR=9.6
ULN Ulaanbaatar 46.95 342 *e*P **P** 02 45 07.3 +0.5
comp=Z,11nm,0.9s
SONM Songino Array 47.13 341 P **P** 02 45 08.9 +0.7
SONM PcP **PcP** 02 46 41.7 +2.2
SONM Songino Array 47.13 341 P **P** 02 45 08.9 +0.7
comp=Z,3.9nm,0.8s,baz=157,slow=8.4,SNR=5.3
SONM PcP **PcP** 02 46 41.7 +2.2
comp=Z,2.2nm,0.8s,baz=136,slow=3.2,SNR=3.8
CIT Chita 49.19 349 *e*P **P** 02 45 26.1 +2.2
CIT *e* 02 45 34.6
CIT *e* 02 45 41.6
TAU Tasmania Unive 50.19 160 *e*P **P** 02 45 32.5 +1.0
TAU Tasmania Unive 50.19 160 *e*P **P** 02 45 32.5 +1.0
TLY Talaya 51.36 342 *e*P **P** 02 45 39.8 -0.5
TLY pmax pmax
comp=Z,8.0nm,0.9s
TLY Talaya 51.36 342 *e*P **P** 02 45 41.2 +0.9
comp=Z,9.7nm,1.0s
WMQ Urumqi 52.59 325 *e*P **P** 02 45 52.5 +2.9
WMQ pP **pP** 02 46 02.5 +1.0
WMQ sP **sP** 02 46 06.5 +0.1
WMQ *e*S **S** 02 53 16.0 +2.1
WMQ pmax pmax
comp=Z,10.0nm,1.0s
WMQ LR LR
comp=N,690nm,18.2s
WMQ LR LR
comp=E,330nm,12.6s
WMQ LR LR
comp=Z,690nm,19.4s
BOD Bodaibo 54.69 352 *e*P **P** 02 46 04.4 -0.3
BOD pmax pmax
comp=Z,10.0nm,2.2s
PETK Petropavlovsk- 55.26 22 P **P** 02 46 08.7 -0.2
PETK Petropavlovsk- 55.26 22 P **P** 02 46 08.7 -0.2
PETK Petropavlovsk- 55.26 22 P **P** 02 46 08.7 -0.2
comp=Z,2.9nm,0.5s,baz=169,slow=2.3,SNR=4.6
MK31 Makanchi Array 57.41 325 *e*P **P** 02 46 23.7 -0.7
MK31 Makanchi Array 57.41 325 *e*P **P** 02 46 23.7 -0.7
MKAR Makanchi Array 57.41 325 P **P** 02 46 23.8 -0.7
MKAR 02 47 19.6
MKAR Makanchi Array 57.41 325 P **P** 02 46 23.8 -0.7
MKAR PcP **PcP** 02 47 19.6 +1.7
MKAR ScP **ScP** 02 51 17.8 +3.2
MKAR Makanchi Array 57.41 325 P **P** 02 46 23.8 -0.7
comp=Z,3.5nm,0.5s,baz=121,slow=7.5,SNR=8.4
MKAR PcP **PcP** 02 47 19.6 +1.7
comp=Z,3.5nm,0.7s,baz=123,slow=4.5,SNR=3.9
MKAR ScP **ScP** 02 51 17.8 +3.2
comp=Z,2.2nm,0.9s,baz=115,slow=5.4,SNR=6.4
KSH Kashi 57.93 315 *e*P **P** 02 46 27.6 -0.7
KSH pP **pP** 02 46 37.5 -2.8
KSH sP **sP** 02 46 41.7 -3.4
KSH PcP **PcP** 02 47 19.1 -1.1
KSH PP **PP** 02 48 38.8 +1.8
KSH ScP **ScP** 02 51 14.9 -2.3
KSH PcS **PcS** 02 51 19.1 -2.6
KSH S **S** 02 54 26.1 +0.4
KSH ScS **ScS** 02 56 10.7 -4.1
KSH LR LR
comp=N,130nm,5.0s
KSH LR LR
comp=E,160nm,5.0s
KSH LR LR
comp=Z,200nm,8.1s
YAK Yakutsk 58.03 2 *e*P **P** 02 46 27.7 -0.7
YAK Yakutsk 58.03 2 *e*P **P** 02 46 27.7 -0.7
TKM2 Tokmak 2 59.62 318 *e*P **P** 02 46 39.6 -0.5
TKM2 pmax pmax
comp=Z,65nm,1.2s
TKM2 Tokmak 2 59.62 318 *e*P **P** 02 46 39.6 -0.5
comp=Z,65nm,1.2s
AAK Ala-Archa 60.23 318 *e*P **P** 02 46 45.8 +1.5
AAK pmax pmax
comp=Z,6.0nm,1.2s
AAK Ala-Archa 60.23 318 *e*P **P** 02 46 45.2 +0.9
ZALV Zalesovo Beam 60.43 333 P **P** 02 46 43.9 -1.3
ZALV Zalesovo Beam 60.43 333 P **P** 02 46 43.9 -1.3
ZALV Zalesovo Beam 60.43 333 P **P** 02 46 43.9 -1.3
comp=Z,2.4nm,0.4s,baz=131,slow=6.9,SNR=5.7
EKS2 Erkin-Say 60.73 318 *e*P **P** 02 46 48.3 +0.7
EKS2 pmax pmax
comp=Z,5.0nm,0.7s
EKS2 Erkin-Say 60.73 318 *e*P **P** 02 46 48.3 +0.7
comp=Z,4.6nm,0.7s
KBL Kabul 61.42 307 *e*P **P** 02 46 52.4 -0.2
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL Kabul 61.42 307 *e*P **P** 02 46 52.4 -0.2
comp=Z,8.3nm,0.8s
KURBB Kurchatov Arra 61.59 327 P **P** 02 46 52.5 -0.6
comp=Z,7.5nm,0.5s,baz=127,slow=6.2,SNR=11
KURK Kurchatov 61.60 327 *e*P **P** 02 46 54.2 +1.1
KURK pmax pmax
comp=Z,12nm,0.8s
KURK Kurchatov 61.60 327 *e*P **P** 02 46 52.3 -0.8
comp=Z,20nm,1.0s
NVS Novosibirsk 61.72 333 *e*P **P** 02 46 52.7 -1.1
SEY Seymchan 61.85 13 *e*P **P** 02 46 56.3 +1.7
KKAR Karatay Array 63.11 317 *e*P **P** 02 47 04.1 +0.6
KKAR Karatay Array 63.11 317 *e*P **P** 02 47 04.0 +0.6
BVAR Borovoye Array 67.18 327 P **P** 02 47 30.6 +1.0
BVAR Borovoye Array 67.18 327 P **P** 02 47 30.6 +1.0
BVAR Borovoye Array 67.18 327 P **P** 02 47 30.5 +1.0
comp=Z,6.9nm,0.7s,baz=134,slow=10,SNR=8.0
BRVK Borovoye 67.25 327 *e*P **P** 02 47 31.0 +0.9
BRVK pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 67.25 327 *e*P **P** 02 47 30.8 +0.7
comp=Z,26nm,1.2s
BILL Bilibino 69.38 15[] *e*P **P** 02 47 44.4 +1.3
BILL pmax pmax
comp=Z,4.0nm,1.2s
ABKAR Akbulak array 72.02 321 *e*P **P** 02 48 00.9 +1.3
AKTO Aktyubinsk 73.53 322 P **P** 02 48 09.8 +1.3
AKTO Aktyubinsk 73.53 322 P **P** 02 48 09.8 +1.3
AKTO Aktyubinsk 73.53 322 P **P** 02 48 09.8 +1.3
comp=Z,5.0nm,0.7s,baz=104,slow=9.8,SNR=8.1
SVE Sverdlovsk 73.81 328 *e*P **P** 02 48 12.5 +2.5
SVE pmax pmax
comp=Z,18nm,1.2s
ARU Arti 74.79 328 *d i*P **P** 02 48 17.3 +1.6
ARU 02 50 58.4
ARU S **S** 02 57 52.5 +3.2
ARU SS **SS** 03 02 32.1 -5.5
ARU pmax pmax
comp=Z,12nm,1.2s
ARU Arti 74.79 328 *e*P **P** 02 48 16.9 +1.2
comp=Z,7.4nm,0.7s
ZEI Tsey 82.11 312 *e*P **P** 02 48 56.3 -0.4
ZEI pmax pmax
comp=Z,6.0nm,0.9s
COLD Coldfoot 83.72 23 *e*P **P** 02 49 06.0 +1.7
comp=Z,12nm,1.0s
ILAR Eielson Array 84.94 25 P **P** 02 49 09.6 -0.8
ILAR Eielson Array 84.94 25 P **P** 02 49 09.6 -0.8
comp=Z,2.3nm,0.9s,baz=244,slow=5.8,SNR=8.4
KLMR Klimovskoe 85.25 331 *e*P **P** 02 49 10.9 -1.2
KLMR pmax pmax
comp=Z,50nm,1.6s
OBN Obninsk 86.92 325[] *e*P **P** 02 49 21.6 +1.2
OBN *e*S S 02 59 48.0 -7.7
OBN pmax pmax
comp=Z,23nm,1.2s
ASF Jabal al Asfar 87.81 302 P **P** 02 49 24.1 -1.3
ASF Jabal al Asfar 87.81 302 P **P** 02 49 24.1 -1.3
comp=Z,2.9nm,0.8s,baz=181,slow=3.6,SNR=3.8
MMAI Mount Meron Ar 89.02 303 P **P** 02 49 31.4 +0.3
MMAI Mount Meron Ar 89.02 303 P **P** 02 49 31.3 +0.3
comp=Z,3.7nm,0.8s,baz=37,slow=5.6,SNR=3.0
JOF Joensuu 89.03 333 *e*P **P** 02 49 30.0 -0.3
JOF pmax pmax
comp=Z,15nm,0.9s
JOF Joensuu 89.03 333 *e*p **P** 02 49 30.0 -0.3
comp=Z,15nm,0.9s
BRTR Keskin Array B 89.92 310 P **P** 02 49 34.2 -1.0
BRTR Keskin Array B 89.92 310 P **P** 02 49 34.2 -1.0
comp=Z,2.2nm,0.8s,baz=112,slow=5.3,SNR=8.6
ARCES ARCESS Array B 90.28 340 P **P** 02 49 35.7 -0.4
ARCES ARCESS Array B 90.28 340 P **P** 02 49 35.7 -0.4
comp=Z,1.0nm,0.6s,baz=121,slow=14,SNR=5.0
ARCES LR LR 03 33 15.3
comp=Z,201nm,19.1s,baz=271,slow=38
KAF Kangasniemi 91.44 332 *e*P **P** 02 49 41.3 -0.3
KAF pmax pmax
comp=Z,5.0nm,0.8s
KAF Kangasniemi 91.44 332 *e*p **P** 02 49 41.3 -0.3
comp=Z,5.0nm,0.8s
FINES FINESS Array B 91.68 332 P **P** 02 49 42.8 +0.1
FINES FINESS Array B 91.68 332 P **P** 02 49 42.8 +0.1
comp=Z,2.4nm,0.7s,baz=52,slow=2.7,SNR=5.5
AKASG Malin Array Be 91.76 321 P **P** 02 49 42.0 -1.3
AKASG Malin Array Be 91.76 321 P **P** 02 49 42.0 -1.3
AKASG Malin Array Be 91.76 321 P **P** 02 49 42.0 -1.3
comp=Z,1.9nm,0.6s,baz=73,slow=4.7,SNR=5.6
MLR Muntele Rosu 94.78 316 P **P** 02 49 58.6 +1.1
MLR Muntele Rosu 94.78 316 P **P** 02 49 58.6 +1.1
comp=Z,0.7nm,0.8s,baz=342,slow=6.4,SNR=3.6
UZH Uzhgorod 96.57 320 *e*P **P** 02 50 06.0 +0.6
UZH *i* 02 50 14.7
HFS Hagfors 97.87 332 P **P** 02 50 11.3 +0.2
HFS Hagfors 97.87 332 P **P** 02 50 11.3 +0.2
comp=Z,0.8nm,0.5s,baz=155,slow=8.0,SNR=3.2
NB2 NORSAR Subarra 98.63 334 P **P** 02 50 14.3 -0.2
comp=Z,2.1nm,0.8s,baz=69,slow=4.6
NOA NORSAR Array B 98.63 334 P **P** 02 50 14.7 +0.2
NOA NORSAR Array B 98.63 334 P **P** 02 50 14.7 +0.2
comp=Z,1.0nm,0.7s,baz=69,slow=4.6,SNR=4.7
YKA Yellowknife Ar 99.33 24 P **Pdif** 02 50 18.1 +0.6
YKA Yellowknife Ar 99.33 24 P **Pdif** 02 50 18.1 +0.6
comp=Z,0.3nm,0.5s,baz=300,slow=4.5,SNR=4.0
BRG Berggiesshubel 101.10 323 *e*P **Pdif** 02 50 29.1 +3.4
comp=Z,5.2nm,1.0s
BRG Berggiesshubel 101.10 323 *e*P **Pdif** 02 50 29.1 +3.4
BRG pmax pmax
comp=Z,5.0nm,1.0s
GERES GERESS Array B 101.95 322 P **Pdif** 02 50 30.2 +0.6
GERES GERESS Array B 101.95 322 P **Pdif** 02 50 30.2 +0.6
comp=Z,0.5nm,0.7s,baz=153,slow=7.5,SNR=3.8
SCHQ Schefferville 120.39 9 PKP **PKPdf** 02 55 28.2 +1.4
SCHQ Schefferville 120.39 9 PKP **PKPdf** 02 55 28.2 +1.4
comp=Z,1.2nm,0.5s,baz=355,slow=8.1,SNR=5.9
TXAR Lajitas Array 121.48 52 PKP **PKPdf** 02 55 30.6 +0.9
TXAR Lajitas Array 121.48 52 PKP **PKPdf** 02 55 30.6 +0.9
comp=Z,0.4nm,0.7s,baz=188,slow=1.1,SNR=8.4
TORD Torodi Ar. Bea 122.88 288 PKP **PKPdf** 02 55 33.3 +0.6
TORD Torodi Ar. Bea 122.88 288 PKP **PKPdf** 02 55 33.3 +0.6
comp=Z,1.1nm,0.7s,baz=34,slow=1.8,SNR=4.1
CPUP Villa Florida 157.37 170 PKPab **PKPab** 02 57 05.0 +1.6
CPUP Villa Florida 157.37 170 PKPab **PKPab** 02 57 05.0 +1.6
comp=Z,8.4nm,0.8s,baz=172,slow=3.7,SNR=15

IDC 12 02:42:02.2±1.3, 4.4°14.1N×126.6°58.4E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/22, mbtmp3.9/8, Error ellipse: s-maj=76.3km s-min=27.7km az=63.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.56**	**159**	P	P	02 49 26.8	0.0
	2.6nm,0.8s,baz=321,slow=8.5,SNR=2.6						
SONM	**Songino Array**	**46.87**	**341**	P	P	02 50 35.1	+0.8
	0.6nm,0.8s,baz=161,slow=8.3,SNR=4.1						
MKAR	**Makanchi Array**	**57.14**	**325**	P	P	02 51 50.9	+0.1
	0.8nm,0.5s,baz=118,slow=7.6,SNR=4.8						
ZALV	**Zalesovo Beam**	**60.16**	**333**	P	P	02 52 10.8	-0.8
	0.6nm,0.5s,baz=116,slow=6.6,SNR=2.8						
KURBB	**Kurchatov Arra**	**61.32**	**327**	P	P	02 52 19.2	-0.4
	1.3nm,0.5s,baz=128,slow=6.0,SNR=8.6						
BVAR	**Borovoye Array**	**66.90**	**327**	P	P	02 52 56.0	-0.3
	1.0nm,0.5s,baz=126,slow=7.5,SNR=4.3						
AKTO	**Aktyubinsk**	**73.25**	**322**	P	P	02 53 35.8	+0.5
	1.1nm,0.6s,baz=102,slow=9.9,SNR=5.3						
ILAR	**Eielson Array**	**84.80**	**25**	P	P	02 54 38.1	-0.2
	0.3nm,0.8s,baz=229,slow=8.2,SNR=4.6						

*IDC **12** 02:44:36.6±0.7, 3.8°84N×126.4°43E, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.1/23, mbtmp4.1/15, Error ellipse: s-maj=42.2km s-min=14.5km az=73.0*
*ISCJB **12** 02:44:41.1±0.5, 3.7°77N±0.8°×126.6°6E±0.2, h45km, mb4.0/15, Error ellipse: s-maj=30.2km s-min=7.3km az=161.2*

ISC 12 02:44:42.9±0.7, 3.8°8N±0.1°×126.6°6E±0.2, h45km, n19, σ1.9 19/18, mb4.0/15, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.80**	**324**	*e*P	Pn	02 45 27.3	+2.0
DAV	**Davao City (W)**	**3.39**	**342**	Sn	Sn	02 46 16.9	+4.5
	51nm,0.3s,baz=68,slow=16,SNR=2.7						
BUKP	**Musuan**	**4.32**	**339**	*e*P	Pn	02 45 48.8	+2.6
BUKP				*e*S	**Sn**	**02 46 37.0**	**+1.7**
PAGZ	**Pagadian**	**5.13**	**321**	*e*P	**Pn**	**02 45 58.5**	**+1.2**
PAGZ				*e*S	Sn	02 46 23.2	-32
FITZ	**Fitzroy Crossi**	**21.80**	**183**	P	P	**02 49 31.8**	**+0.5**
	3.5nm,0.7s,baz=29,slow=4.1,SNR=3.2						
WRA	**Warramunga Arr**	**24.80**	**162**	P	P	**02 50 00.2**	**-0.8**
	6.4nm,0.8s						
ASAR	**Alice Springs**	**28.23**	**166**	P	P	**02 50 32.8**	**+1.0**
	0.6nm,0.5s,baz=346,slow=11,SNR=3.4						
KSRS	**Korea Array**	**33.49**	**2**	P	P	**02 51 19.3**	**+1.3**
	1.5nm,0.7s,baz=180,slow=9.5,SNR=4.1						
STKA	**Stephens Creek**	**38.25**	**159**	P	P	**02 51 59.5**	**+0.7**
	3.0nm,0.6s,baz=1.5,slow=8.8,SNR=6.5						
SONM	**Songino Array**	**47.18**	**341**	P	P	**02 53 10.0**	**-1.1**
	0.7nm,0.7s,baz=155,slow=8.7,SNR=6.2						
SONM				PcP	**PcP**	**02 54 43.0**	**+0.8**
	0.4nm,0.8s,baz=178,slow=4.3,SNR=2.5						
PETK	**Petropavlovsk-**	**55.39**	**22**	P	P	**02 54 11.2**	**-1.3**
	3.2nm,1.0s,baz=183,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**57.42**	**325**	P	P	**02 54 25.8**	**-1.3**
	0.6nm,0.4s,baz=118,slow=7.6,SNR=13						
ZALV	**Zalesovo Beam**	**60.46**	**333**	P	P	**02 54 47.0**	**-1.0**
	0.3nm,0.3s,baz=170,slow=4.0,SNR=3.4						
KURBB	**Kurchatov Arra**	**61.60**	**327**	P	P	**02 54 56.0**	**+0.3**
	3.0nm,0.8s,baz=122,slow=6.7,SNR=12						
BVAR	**Borovoye Array**	**67.18**	**327**	P	P	**02 55 32.1**	**-0.2**
	1.9nm,0.8s,baz=118,slow=9.1,SNR=6.9						
AKTO	**Aktyubinsk**	**73.52**	**322**	P	P	**02 56 10.4**	**-0.6**
	2.0nm,0.8s,baz=81,slow=6.8,SNR=9.4						
ILAR	**Eielson Array**	**85.07**	**25**	P	P	**02 57 15.1**	**+1.4**
	0.3nm,0.6s,baz=243,slow=6.2,SNR=5.5						
BRTR	**Keskin Array B**	**89.88**	**310**	P	P	**02 57 35.8**	**-1.9**
	0.6nm,0.8s,baz=111,slow=6.8,SNR=3.7						
ARCES	**ARCESS Array B**	**90.33**	**340**	P	P	**02 57 37.8**	**-1.0**
	2.5nm,0.7s,baz=65,slow=6.4,SNR=3.6						

IDC 12 02:47:21.4±0.6, 3.6°69N×126.7°70E, h0km, mb4.1/17, mb1 4.3/17, mb1mx4.2/23, mbtmp4.1/17, Error ellipse: s-maj=32.7km s-min=13.8km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.68**	**183**	P	P	02 52 14.1	+0.3
	3.2nm,0.7s,baz=40,slow=16,SNR=3.5						
WRA	**Warramunga Arr**	**24.65**	**163**	P	P	02 52 43.7	-0.3
	16nm,0.9s						
ASAR	**Alice Springs**	**28.08**	**166**	P	P	02 53 14.5	-0.5
	1.1nm,0.8s,baz=347,slow=7.6,SNR=3.5						
CMAR	**Chiang Mai Arr**	**30.86**	**301**	P	P	02 53 41.0	+1.3
	1.0nm,0.3s,baz=116,slow=8.1,SNR=6.0						
STKA	**Stephens Creek**	**38.10**	**159**	P	P	02 54 41.9	-0.2
	2.2nm,0.4s,baz=339,slow=8.3,SNR=5.3						
USRK	**Ussuriysk Arra**	**40.62**	**6**	P	P	02 55 02.9	-0.1
	1.6nm,0.7s,baz=216,slow=6.3,SNR=2.9						
SONM	**Songino Array**	**47.33**	**341**	P	P	02 55 56.4	-0.7
	0.9nm,0.6s,baz=158,slow=8.7,SNR=5.3						
SONM				PcP	PcP	02 57 28.6	+0.5
	0.8nm,0.9s,baz=149,slow=3.0,SNR=3.3						
PETK	**Petropavlovsk-**	**55.48**	**22**	P	P	02 56 57.9	-0.1
	3.0nm,0.8s,baz=181,slow=7.2,SNR=3.2						
MKAR	**Makanchi Array**	**57.57**	**325**	P	P	02 57 12.4	-0.6
	0.8nm,0.5s,baz=116,slow=7.5,SNR=9.4						
MKAR				ScP	ScP	03 02 07.2	-0.7
	0.6nm,0.7s,baz=109,slow=5.1,SNR=4.8						
ZALV	**Zalesovo Beam**	**60.61**	**333**	P	P	02 57 32.8	-1.1
	0.6nm,0.4s,baz=130,slow=8.1,SNR=3.2						
KURBB	**Kurchatov Arra**	**61.76**	**327**	P	P	02 57 41.4	-0.4
	1.9nm,0.7s,baz=123,slow=6.7,SNR=7.8						
BVAR	**Borovoye Array**	**67.34**	**327**	P	P	02 58 18.7	+0.4
	1.8nm,0.8s,baz=97,slow=6.1,SNR=4.8						
AKTO	**Aktyubinsk**	**73.67**	**322**	P	P	02 58 57.0	0.0
	1.5nm,0.7s,baz=87,slow=6.2,SNR=5.9						
ILAR	**Eielson Array**	**85.16**	**25**	P	P	03 00 00.4	+1.1
	0.4nm,0.9s,baz=239,slow=6.2,SNR=3.4						
BRTR	**Keskin Array B**	**90.02**	**310**	P	P	03 00 23.2	-0.3
	0.9nm,0.8s,baz=77,slow=5.5,SNR=5.7						
ARCES	**ARCESS Array B**	**90.48**	**340**	P	P	03 00 23.6	-1.2
	2.5nm,0.8s,baz=91,slow=6.4,SNR=5.7						
FINES	**FINESS Array B**	**91.85**	**332**	P	P	03 00 31.8	+0.6
	1.3nm,0.9s,baz=354,slow=11,SNR=2.9						
TORD	**Torodi Ar. Bea**	**122.90**	**288**	PKP	PKPdf	03 06 21.1	+0.4
	0.4nm,0.8s,baz=51,slow=1.7,SNR=3.4						

IDC 12 02:49:59.2±1.6, 4.3°31N×127.4°5E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/21, mbtmp4.0/7, Error ellipse: s-maj=107.8km s-min=18.6km az=62.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.04**	**165**	P	P	02 55 24.9	-0.4
	5.4nm,0.7s						
ASAR	**Alice Springs**	**28.51**	**168**	P	P	02 55 56.0	-0.7
	0.4nm,0.6s,baz=355,slow=6.8,SNR=3.0						
CMAR	**Chiang Mai Arr**	**31.21**	**299**	P	P	02 56 20.9	+0.3
	1.2nm,0.3s,baz=107,slow=6.5,SNR=4.5						
STKA	**Stephens Creek**	**38.43**	**160**	P	P	02 57 23.7	+1.0
	3.7nm,0.7s,baz=332,slow=8.3,SNR=5.0						
MKAR	**Makanchi Array**	**57.49**	**325**	P	P	02 59 51.2	+0.9
	0.4nm,0.4s,baz=122,slow=8.5,SNR=4.4						
KURBB	**Kurchatov Arra**	**61.64**	**327**	P	P	03 00 19.1	+0.2
	0.5nm,0.6s,baz=127,slow=6.4,SNR=3.8						
AKTO	**Aktyubinsk**	**73.65**	**321**	P	P	03 01 33.0	-1.7
	0.5nm,0.6s,baz=101,slow=10,SNR=2.5						

IDC 12 02:52:27.4±1.9, 3°.82N×126°.80E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/20, mbtmp3.8/5, Error ellipse: s-maj=227.3km s-min=20.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.75**	**163**	P	P	02 57 49.8	-1.1
	2.7nm,0.8s						
ASAR	**Alice Springs**	**28.18**	**166**	P	P	02 58 23.3	+1.4
	0.9nm,1.1s,baz=339,slow=10,SNR=3.3						
SONM	**Songino Array**	**47.23**	**341**	P	P	03 01 02.5	+0.1
	0.4nm,0.5s,baz=162,slow=7.8,SNR=3.4						
MKAR	**Makanchi Array**	**57.52**	**325**	P	P	03 02 18.7	0.0
	0.7nm,0.5s,baz=119,slow=7.5,SNR=8.9						
KURBB	**Kurchatov Arra**	**61.70**	**327**	P	P	03 02 47.2	-0.2
	0.9nm,0.5s,baz=124,slow=6.2,SNR=6.7						

IDC 12 02:55:06.5±0.9, 3°.35N×126°.05E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=68.5km s-min=16.2km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.32**	**181**	P	P	02 59 56.6	+1.4
	2.8nm,0.8s,baz=12,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**24.54**	**161**	P	P	03 00 27.7	-0.4
	153nm,0.3s,baz=48,slow=0.0,SNR=11						
ASAR	**Alice Springs**	**27.92**	**164**	P	P	03 00 59.2	+0.6
	0.7nm,0.3s,baz=349,slow=12,SNR=7.6						
STKA	**Stephens Creek**	**38.02**	**158**	P	P	03 02 25.3	-1.4
	3.8nm,0.6s,baz=1.7,slow=6.2,SNR=6.5						
SONM	**Songino Array**	**47.44**	**342**	P	P	03 03 42.2	-1.0
	0.4nm,0.5s,baz=159,slow=7.7,SNR=3.7						
MKAR	**Makanchi Array**	**57.48**	**326**	P	P	03 04 57.0	-0.5
	0.9nm,0.5s,baz=119,slow=8.6,SNR=12						
KURBB	**Kurchatov Arra**	**61.69**	**328**	P	P	03 05 26.8	+0.4
	1.0nm,0.5s,baz=128,slow=6.8,SNR=13						
ILAR	**Eielson Array**	**85.73**	**25**	P	P	03 07 48.4	+1.1
	0.4nm,0.9s,baz=259,slow=6.2,SNR=4.4						

*CSEM **12** 02:58:00.3±0.2, 38°.31N×21°.45E, h12km, ML2.2/3, Error ellipse: s-maj=7.0km s-min=4.7km az=165.0*
*ATH **12** 02:58:00.6, 38°.28N×21°.50E, h23km±2km, MD3.1/7*
*ISCJB **12** 02:58:01.0±0.7, 38°.24N±0°.05×21°.52E±0°.07, h24km±6km, Error ellipse: s-maj=10.6km s-min=6.6km az=138.1*
*THE **12** 02:58:01.0, 38°.22N×21°.57E, h27km±2km, ML2.2/3, Error ellipse: s-maj=3.9km s-min=0.9km az=148.0*
ISC 12 02:58:00.9±1.1, 38°.27N±0°.05×21°.52E±0°.04, h22km±7km, n26, σ0°.48/37, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.21**	**87**	*e*PB	**Pb**	**02 58 06.4**	**-0.1**
UPR	**University Cam**	**0.21**	**87**	*e*Pb	**Pb**	**02 58 06.4**	**-0.1**
RLS	**Riolos of Patr**	**0.22**	**191**	P	**Pb**	**02 58 06.6**	**0.0**
RLS				S	**Sb**	**02 58 10.9**	**+0.5**
RLS	**Riolos of Patr**	**0.22**	**191**	*e*PB	**Pb**	**02 58 06.5**	**0.0**
RLS				*e*SB	**Sb**	**02 58 11.1**	**+0.7**
RLS	**Riolos of Patr**	**0.22**	**191**	P	**Pb**	**02 58 06.6**	**0.0**
RLS				S	**Sb**	**02 58 10.9**	**+0.5**
EFP	**Efpalio**	**0.34**	**63**	P	**Pb**	**02 58 08.2**	**-0.2**
EFP				S	**Sb**	**02 58 13.8**	**+0.3**
EFP	**Efpalio**	**0.34**	**63**	*e*PB	**Pb**	**02 58 07.9**	**-0.5**
EFP				*e*SB	**Sb**	**02 58 13.8**	**+0.3**
EFP	**Efpalio**	**0.34**	**63**	*e*Pb	**Pb**	**02 58 07.9**	**-0.5**
EFP	**Efpalio**	**0.34**	**63**	P	**Pb**	**02 58 08.2**	**-0.2**
EFP				S	**Sb**	**02 58 13.8**	**+0.3**
LAKA	**Lakka**	**0.36**	**95**	P	**Pb**	**02 58 08.5**	**-0.3**
LAKA				S	**Sb**	**02 58 14.2**	**+0.1**
LAKA	**Lakka**	**0.36**	**95**	P	**Pb**	**02 58 08.5**	**-0.3**
LAKA				S	**Sb**	**02 58 14.2**	**+0.1**
TRIZ	**Trizonia**	**0.45**	**78**	P	**Pb**	**02 58 09.7**	**-0.4**
TRIZ	**Trizonia**	**0.45**	**78**	P	**Pb**	**02 58 09.7**	**-0.4**
KALE	**Kalithea**	**0.50**	**76**	P	**Pb**	**02 58 10.6**	**-0.6**
KALE				S	**Sb**	**02 58 18.6**	**+0.5**
KALE	**Kalithea**	**0.50**	**76**	P	**Pb**	**02 58 10.6**	**-0.6**
KALE				S	**Sb**	**02 58 18.6**	**+0.5**
EVR	**Evrytania**	**0.68**	**19**	P	**Pb**	**02 58 14.3**	**+0.1**
EVR				S	**Sn**	**02 58 26.0**	**+0.7**
EVR	**Evrytania**	**0.68**	**19**	*e*PN	**Pn**	**02 58 14.5**	**-0.9**
EVR	**Evrytania**	**0.68**	**19**	*e*Pn	**Pn**	**02 58 14.5**	**-0.9**
VLS	**Valsamata**	**0.74**	**263**	*e*PN	**Pb**	**02 58 14.9**	**-0.2**
VLS	**Valsamata**	**0.74**	**263**	*e*Pn	**Pb**	**02 58 14.9**	**-0.2**
LTK	**Loutraki**	**1.17**	**102**	*e*PN	**Pb**	**02 58 23.2**	**+0.7**
LTK	**Loutraki**	**1.17**	**102**	*e*Pn	**Pb**	**02 58 23.2**	**+0.7**
LKR	**Lokris**	**1.22**	**72**	*e*PN	**Pb**	**02 58 23.6**	**+0.3**
LKR	**Lokris**	**1.22**	**72**	*e*Pn	**Pb**	**02 58 23.6**	**+0.3**
THL	**Klokotos Trika**	**1.35**	**17**	*e*PN	**Pb**	**02 58 26.2**	**+0.7**
THL	**Klokotos Trika**	**1.35**	**17**	*e*Pn	**Pb**	**02 58 26.2**	**+0.7**

*IDC **12** 03:01:10.0±0.4, 3°.68N×126°.49E, h0km, mb4.9/23, mb1 5.0/23, mb1mx5.0/24, mbtmp4.9/23, MS4.0/13, Ms1 4.0/13, ms1mx3.7/49, Error ellipse: s-maj=20.3km s-min=8.6km az=75.0*
*BJI **12** 03:01:12.9, 3°.43N×126°.65E, h58km, mB5.1/24, mb5.0/43, Ms4.6/27, Ms7 4.3/30*
*MOS **12** 03:01:13.6±0.9, 3°.77N×126°.46E, h33km, mb5.3/38, Error ellipse: s-maj=12.6km s-min=5.6km az=117.1*
*NEIC **12** 03:01:15.5±0.2, 3°.81N×126°.57E, h35km, mb5.1/49, Error ellipse: s-maj=5.6km s-min=3.5km az=74.0*
*ISCJB **12** 03:01:17.1±0.5, 3°.79N±0°.02×126°.59E±0°.03, h65km±4km, mb5.0/113, Error ellipse: s-maj=5.3km s-min=3.5km az=157.4*
*DJA **12** 03:01:21.3, 3°.62N×126°.72E, h93km, mb5.2/32*
ISC 12 03:01:17.7±0.4, 3.79N±0°.03×126°.54E±0°.05, h53km±2km, n340, σ1$46/381, mb5.1/111, MS4.0/26, 24C-22D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.77**	**325**	⇑*e*P	**Pn**	**03 02 02.1**	**+2.3**
MNI	**Manado**	**2.88**	**216**	P	**Pn**	**03 02 03.2**	**+2.0**
TNTI	**Ternate**	**3.11**	**165**	P	**Pn**	**03 02 04.1**	**-0.2**
MATI	**Mati**	**3.15**	**355**	*e*P	**Pn**	**03 02 05.6**	**+0.8**
MATI				*e*S	Sn	03 03 04.9	+24
DAV	**Davao City (W)**	**3.39**	**344**	*e*Pn	**Pn**	**03 02 07.6**	**-0.5**
DAV				*e*Sn	Sn	03 02 40.3	-6.9
DAV	**Davao City (W)**	**3.39**	**344**	Pn	Pn	03 02 16.7	+8.5
	94nm,0.3s,baz=41,slow=18,SNR=7.1						
DAV				*i* S	Sn	03 03 01.7	+15
	155nm,0.3s,baz=104,slow=21,SNR=3.8						
KCP	**Kidapawan**	**3.50**	**336**	⇓*i*P	Pn	03 02 16.1	+6.3
KCP				*i* S	Sn	03 02 57.1	+7.1
KMSI	**Cibinong**	**4.09**	**219**	P	Pn	03 02 21.9	+4.2
BUKP	**Musuan**	**4.32**	**340**	*e*P	**Pn**	**03 02 22.6**	**+1.7**
LBMI	**Labuha**	**4.50**	**168**	P	**Pn**	**03 02 23.8**	**+0.4**
CGP	**Cagayan de Oro**	**4.98**	**339**	⇓*e*P	Pn	03 02 33.2	+3.2
PAGZ	**Pagadian**	**5.11**	**322**	*e*P	**Pn**	**03 02 33.3**	**+1.7**
ZMPH	**Zamboanga City**	**5.45**	**305**	⇑*i*P	**Pn**	**03 02 37.2**	**+0.8**
ZMPH				*i* S	**Sn**	**03 03 39.8**	**+2.0**
MRSI	**Marisa**	**5.65**	**234**	P	**Pn**	**03 02 41.8**	**+2.7**
	1μm,0.6s,11μm4.1nm						
LUWI	**Luwuk**	**6.10**	**218**	P	Pn	03 02 49.9	+4.6
	1μm,1.1s,10μm4.3nm						
SWI	**Sorong**	**6.61**	**134**	P	**Pn**	**03 02 51.1**	**-1.2**
	577nm,0.8s,6μm						
NLAI	**Namlea**	**7.01**	**175**	P	**Pn**	**03 02 57.9**	**+0.2**
	168nm,0.5s,5μm1.5nm						
KDI	**Kendari**	**8.63**	**207**	P	**Pn**	**03 03 20.5**	**+0.4**
	105nm,0.9s,1μm0.4nm						
TSM	**Tawau**	**8.66**	**274**	P	**Pn**	**03 03 23.2**	**+2.8**
FAKI	**Fak Fak**	**8.78**	**139**	P	**Pn**	**03 03 21.5**	**-0.5**
	276nm,0.8s,3μm1.0nm						
SDKM	**Sandakan**	**9.49**	**282**	P	Pn	03 03 35.0	+3.2
TTSI	**Tana Toraja**	**9.55**	**225**	P	Pn	03 03 35.7	+3.1
	167nm,0.9s,2μm						
KDM	**Kudat**	**10.15**	**288**	P	Pn	03 03 44.2	+3.4
SPSI	**Sidrap Palu**	**10.25**	**221**	P	Pn	03 03 48.0	+5.8
	69nm,1.0s,855nm						
KKM	**Kota Kinabalu**	**10.52**	**283**	*e*Pn	**Pn**	**03 03 46.8**	**+0.7**
KKM				Sn	**Sn**	**03 05 41.0**	**-1.5**
KKM	**Kota Kinabalu**	**10.52**	**283**	P	Pn	03 03 50.3	+4.3
KKM	**Kota Kinabalu**	**10.52**	**283**	P	Pn	03 03 50.6	+4.6
	57nm,0.9s,977nm						
BAKI	**Biak**	**10.77**	**117**	P	**Pn**	**03 03 51.4**	**+2.1**
	191nm,1.2s,2μm						
KAPI	**Kappang**	**11.06**	**218**	Pn	**Pn**	**03 03 51.8**	**-1.6**
KAPI	**Kappang**	**11.06**	**218**	Pn	Pn	03 03 57.0	+3.7
	4.0nm,0.3s,baz=344,slow=14,SNR=8.4						
KAPI				LR	LR	03 08 41.4	
	comp=Z,1μm,19.5s,baz=59,slow=41						
TLE	**Tual**	**11.23**	**146**	P	**Pn**	**03 03 58.1**	**+2.5**
	118nm,1.2s						
KBKI	**Kotabaru**	**12.53**	**236**	P	**P**	**03 04 22.3**	**-1.1**
MMRI	**Maumere**	**13.07**	**199**	P	P	03 04 36.5	+7.1
BTM	**Bintulu**	**13.44**	**268**	P	**P**	**03 04 34.4**	**+0.8**
SMPI	**Sarmi**	**13.46**	**115**	P	**Pn**	**03 04 27.5**	**+1.5**
	58nm,1.3s						
SBUM	**Sibu**	**14.36**	**265**	P	**P**	**03 04 42.1**	**-1.6**
SBUM	**Sibu**	**14.36**	**265**	P	**P**	**03 04 42.9**	**-0.8**
	63nm,1.2s,1μm						
STKI	**Sintang**	**15.50**	**257**	P	**P**	**03 04 59.2**	**+2.8**
	94nm,1.0s,20μm25μm						
KHKI	**Kahang-Kahang**	**16.27**	**222**	P	**P**	**03 05 07.6**	**+2.6**
	85nm,1.1s						
KSM	**Kuching**	**16.37**	**262**	*e*Pn	**Pn**	**03 05 03.8**	**-0.3**
	94nm,1.0s						
KSM	**Kuching**	**16.37**	**262**	P	**P**	**03 05 07.5**	**+1.3**
KSM	**Kuching**	**16.37**	**262**	P	**P**	**03 05 08.7**	**+2.5**
	111nm,1.0s,1μm						
BYJI	**Banyuwangi**	**17.02**	**226**	P	P	03 05 21.7	+8.3
BLJI	**Banyuglugur**	**17.26**	**228**	P	P	03 05 23.3	+7.3
JAGI	**Jagi, Banyuwa**	**17.35**	**225**	P	**P**	**03 05 20.5**	**+3.6**
	162nm,0.9s						
GMJI	**Gumukmas**	**17.72**	**227**	P	P	03 05 26.7	+5.6
	160nm,1.0s						
SJI	**Sawahan**	**18.66**	**232**	P	**P**	**03 05 31.4**	**-0.1**
	99nm,0.7s,5μm						
UGM	**Wanagama**	**19.76**	**234**	*e*P	**Pn**	**03 05 44.5**	**-0.9**
	490nm,1.4s						
YULB	**Yu-li**	**20.13**	**346**	*e*P	**P**	**03 05 45.4**	**-2.0**
	24nm,0.7s						
TPUB	**Ta-pu**	**20.22**	**344**	*e*P	**P**	**03 05 45.9**	**-2.5**
	66nm,0.8s						
GUMO	**Guam**	**20.55**	**61**	LR	LR	03 12 34.3	
	comp=Z,354nm,20.0s,baz=225,slow=33						
SSLB	**Suanglung**	**20.60**	**345**	*e*P	**P**	**03 05 50.7**	**-1.8**
	46nm,0.7s						
NACB	**Ninganchiao**	**20.82**	**347**	*e*P	**P**	**03 05 53.5**	**-1.4**
PPBI	**Pangkal Pinang**	**21.23**	**254**	P	**P**	**03 06 02.0**	**+2.6**
	39nm,1.2s,3μm						
YHNB	**Yeheng**	**21.34**	**347**	*e*P	**P**	**03 05 59.8**	**-0.8**
	27nm,0.6s						
LEM	**Lembang**	**21.63**	**241**	P	**P**	**03 06 06.1**	**+2.3**
	152nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.77**	**182**	*e*P	**P**	**03 06 04.4**	**-0.7**
	28nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.77**	**182**	*e*P	**P**	**03 06 03.8**	**-1.3**
	39nm,0.6s						
FITZ				*e*S	**S**	**03 09 58.5**	**-4.6**
	60nm,1.1s						
FITZ	**Fitzroy Crossi**	**21.77**	**182**	P	**P**	**03 06 03.8**	**-1.3**
	48nm,1.0s,baz=16,slow=10.0,SNR=60						
CNJI	**Cibinong**	**22.29**	**240**	P	**P**	**03 06 11.7**	**+1.0**
	114nm,0.9s						
QZH	**Quanzhou**	**22.38**	**341**	*e*P	**P**	**03 06 13.0**	**+1.5**
QZH				S	**S**	**03 10 15.0**	**+0.9**
QZH				LR	LR		
	comp=Z,820nm,20.9s						
MYKOM	**Kota Tinggi**	**22.75**	**266**	P	**P**	**03 06 16.7**	**+1.1**
MYKOM	**Kota Tinggi**	**22.75**	**266**	P	**P**	**03 06 17.3**	**+1.7**
	comp=Z,32nm,0.9s						
JOW	**Kunigami**	**22.97**	**4**	*e*P	**P**	**03 06 18.4**	**+0.7**
	comp=Z,13nm,0.8s						
JOW	**Kunigami**	**22.97**	**4**	P	**P**	**03 06 18.8**	**+1.0**
	comp=Z,29nm,0.8s,baz=187,slow=6.8,SNR=5.9						
JOW				LR	LR	03 15 12.7	
	comp=Z,243nm,18.4s,baz=223,slow=36						
CGJI	**Cibinong**	**23.23**	**244**	P	**P**	**03 06 19.9**	**-0.6**
	comp=Z,224nm,0.9s,comp=Z,6μm						
KGM	**Kluang**	**23.25**	**266**	P	**P**	**03 06 19.4**	**-1.3**
KASI	**Kota Agung**	**23.88**	**247**	P	**P**	**03 06 29.1**	**+2.6**
	comp=Z,112nm,0.7s						
LWLI	**Liwa**	**24.10**	**249**	P	**P**	**03 06 30.4**	**+1.7**
	comp=Z,196nm,0.8s						
COEN	**Coen**	**24.16**	**137**	*e*P	**P**	**03 06 27.4**	**-1.7**
	comp=Z,70nm,0.7s						
PMG	**Port Moresby**	**24.38**	**123**	*e*P	**P**	**03 06 30.5**	**-0.6**
	comp=Z,14nm,0.8s						
PMG	**Port Moresby**	**24.38**	**123**	P	P	03 06 41.7	+11
PMG	**Port Moresby**	**24.38**	**123**	P	**P**	**03 06 33.4**	**+2.3**
	comp=Z,2.5nm,0.3s,baz=252,slow=15,SNR=3.6						
WRAB	**Tennant Creek**	**24.80**	**162**	*e*P	**P**	**03 06 33.3**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,56nm,0.7s						
WRAB	**Tennant Creek**	**24.80**	**162**	*e*P	**P**	**03 06 33.3**	**-1.5**
	comp=Z,56nm,0.7s						
WRA	**Warramunga Arr**	**24.80**	**162**	P	**P**	**03 06 33.8**	**-1.1**
WRA				S	**S**	**03 10 56.4**	**+2.5**
WRA	**Warramunga Arr**	**24.80**	**162**	P	**P**	**03 06 33.8**	**-1.1**
	comp=Z,61nm,0.6s						
WRA				S	**S**	**03 10 56.4**	**+2.5**
FRIM	**Kepong**	**24.87**	**270**	P	**P**	**03 06 36.6**	**+1.0**
XMIS	**Christmas Isla**	**25.17**	**236**	*e*P	**P**	**03 06 38.8**	**+0.5**
	comp=Z,457nm,0.9s						
IPM	**Ipoh**	**25.45**	**272**	*e*P	**P**	**03 06 41.8**	**+0.9**
	comp=Z,61nm,1.3s						
IPM	**Ipoh**	**25.45**	**272**	P	**P**	**03 06 41.0**	**+0.1**
IPM	**Ipoh**	**25.45**	**272**	P	**P**	**03 06 43.7**	**+2.8**
	comp=Z,45nm,1.1s						
MBWA	**Marble Bar**	**25.68**	**195**	*e*P	**P**	**03 06 43.0**	**+0.2**
	comp=Z,48nm,0.8s						
MBWA	**Marble Bar**	**25.68**	**195**	*e*P	**P**	**03 06 42.8**	**0.0**
PPI	**Padang Panjang**	**26.46**	**261**	P	**P**	**03 06 54.3**	**+4.3**
	comp=Z,38nm,0.8s						
MNSI	**Mandailing Nat**	**27.09**	**264**	P	P	03 07 03.4	+7.7
	comp=Z,50nm,0.9s,comp=Z,5μm						
CBIJ	**Chichi jima**	**27.58**	**31**	LR	LR	03 15 16.7	
	comp=Z,441nm,21.5s,baz=206,slow=31						
PSI	**Prapat**	**27.58**	**269**	P	**P**	**03 07 00.3**	**0.0**
PSI	**Prapat**	**27.58**	**269**	P	**P**	**03 07 00.8**	**+0.5**
	comp=Z,28nm,1.0s						
PSI	**Prapat**	**27.58**	**269**	P	**P**	**03 07 00.3**	**0.0**
	comp=Z,20nm,0.9s,baz=109,slow=2.4,SNR=15						
AS31	**Alice Springs**	**28.22**	**166**	*e*P	**P**	**03 07 04.8**	**-0.9**
AS31				*e*PP	**PP**	**03 08 08.6**	**-1.7**
ASAR	**Alice Springs**	**28.22**	**166**	P	**P**	**03 07 04.8**	**-0.9**
ASAR				PcP	**PcP**	**03 10 18.8**	**+0.4**
ASAR				S	**S**	**03 11 48.7**	**+0.7**
ASAR	**Alice Springs**	**28.22**	**166**	P	**P**	**03 07 04.8**	**-0.9**
	comp=Z,3.8nm,0.3s,baz=343,slow=7.2,SNR=43						
ASAR				PcP	**PcP**	**03 10 18.8**	**+0.4**
	comp=Z,3.4nm,0.8s,baz=344,slow=2.5,SNR=4.3						
ASAR				S	**S**	**03 11 48.7**	**+0.7**
	comp=Z,3.5nm,1.0s,baz=348,slow=21,SNR=5.6						
WHN	**Wuhan**	**28.99**	**338**	‖P	**P**	**03 07 12.7**	**+0.3**
WHN				*e*S	**S**	**03 12 05.0**	**+5.2**
WHN				LR	LR		
	comp=Z,1μm,17.4s						
NJ2	**Nanjing**	**29.02**	**346**	*e*P	**P**	**03 07 13.6**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,30nm,1.1s						
GSI	**Gunungsitoli**	**29.03**	**266**	P	**P**	**03 07 12.4**	**-0.7**
	comp=Z,47nm,0.8s						
JNU	**Nakatsue**	**29.46**	**7**	P	**P**	**03 07 19.6**	**+3.0**
JNU	**Nakatsue**	**29.46**	**7**	P	**P**	**03 07 19.6**	**+3.0**
	comp=Z,12nm,0.9s,baz=90,slow=4.7,SNR=4.9						
GYA	**Guiyang**	**29.50**	**322**	⇑*i*P	**P**	**03 07 18.8**	**+1.6**
GYA				pP	**pP**	**03 07 31.7**	**+1.0**
GYA				sP	**sP**	**03 07 38.9**	**+1.8**
GYA				PP	**PnPn**	**03 08 15.6**	**+2.0**
GYA				S	**S**	**03 12 08.2**	**0.0**
GYA				sS	**sS**	**03 12 31.8**	**+0.6**
GYA				SS	**SnSn**	**03 13 45.5**	**+5.4**
GYA				ScP	**ScP**	**03 13 58.0**	**-1.3**
GYA				PcS	**PcS**	**03 14 02.4**	**-2.6**
GYA				ScS	**ScS**	**03 17 51.0**	**-3.2**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,4.9s						
GYA				LR	LR		
	comp=N,590nm,17.6s						
GYA				LR	LR		
	comp=E,510nm,16.8s						
GYA				LR	LR		
	comp=Z,580nm,17.0s						
CTA	**Charters Tower**	**30.63**	**142**	*e*P	**P**	**03 07 26.9**	**-0.2**
	comp=Z,12nm,1.9s						
CTAO	**Charters Tower**	**30.63**	**142**	*e*P	**P**	**03 07 26.2**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,162nm,2.9s						
CTAO	**Charters Tower**	**30.63**	**142**	*e*P	**P**	**03 07 26.2**	**-0.9**
	comp=Z,162nm,2.9s						
CMAR	**Chiang Mai Arr**	**30.67**	**300**	P	**P**	**03 07 28.4**	**+0.8**
CMAR				ScP	**ScP**	**03 14 05.3**	**+2.2**
CMAR	**Chiang Mai Arr**	**30.67**	**300**	P	**P**	**03 07 28.4**	**+0.8**
	comp=Z,9.5nm,0.8s,baz=114,slow=7.1,SNR=42						
CMAR				ScP	**ScP**	**03 14 05.3**	**+2.2**
	comp=Z,1.0nm,0.4s,baz=126,slow=1.4,SNR=5.4						
CMAR				LR	LR	03 20 20.4	
	comp=Z,202nm,20.8s,baz=326,slow=38						
CHTO	**Chiang Mai**	**30.82**	**301**	*e*P	**P**	**03 07 29.3**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,12nm,0.8s						
CHTO	**Chiang Mai**	**30.82**	**301**	*e*P	**P**	**03 07 29.3**	**+0.5**
	comp=Z,12nm,0.8s						
CHTO	**Chiang Mai**	**30.82**	**301**	P	**P**	**03 07 29.3**	**+0.5**
	comp=Z,19nm,0.9s						
ENH	**Enshi**	**30.88**	**330**	*e*P	**P**	**03 07 28.8**	**-0.4**
	comp=Z,23nm,0.7s						
KMI	**Kunming**	**31.20**	**315**	P	**P**	**03 07 32.3**	**0.0**
KMI				LR	LR		
	comp=N,140nm,28.0s						
KMI				LR	LR		
	comp=E,250nm,21.8s						
KMI				LR	LR		
	comp=Z,360nm,24.6s						
MEEK	**Meekatharra**	**31.21**	**194**	*e*P	**P**	**03 07 31.5**	**-0.6**
	comp=Z,403nm,0.6s						
KSAR	**Wonju Array Be**	**33.51**	**2**	P	**P**	**03 07 53.0**	**+0.9**
KSAR				PcP	**PcP**	**03 10 33.4**	**+1.3**
KSRS	**Korea Array**	**33.53**	**2**	P	**P**	**03 07 53.0**	**+0.8**
	comp=Z,5.3nm,0.5s,baz=184,slow=10,SNR=13						
KSRS				PcP	**PcP**	**03 10 33.4**	**+1.3**
	comp=Z,2.8nm,0.7s,baz=189,slow=2.9,SNR=6.7						
KSRS				LR	LR	03 21 21.3	
	comp=Z,147nm,20.3s,baz=193,slow=36						
XAN	**Xi'an**	**34.27**	**334**	P	**P**	**03 07 57.7**	**-1.2**
XAN				pP	**pP**	**03 08 08.1**	**-4.5**
XAN				PP	**PnPn**	**03 09 12.0**	**-2.6**
XAN				S	S	03 13 29.1	+6.7
XAN				pmax	pmax		
	comp=Z,11nm,0.8s						
XAN				LR	LR		
	comp=N,170nm,16.9s						
XAN				LR	LR		
	comp=E,77nm,17.9s						
XAN				LR	LR		
	comp=Z,78nm,19.2s						
MJAR	**Matsushiro Arr**	**34.32**	**17**	P	**P**	**03 07 58.5**	**-0.7**
MJAR	**Matsushiro Arr**	**34.32**	**17**	P	**P**	**03 07 58.5**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=189,slow=9.3,SNR=3.2						
MJAR				LR	LR	03 19 59.9	
	comp=Z,244nm,19.8s,baz=205,slow=33						
FORT	**Forrest**	**34.41**	**178**	*e*P	**P**	**03 07 59.4**	**-0.5**
	comp=Z,70nm,0.8s						
FORT	**Forrest**	**34.41**	**178**	*e*P	**P**	**03 07 59.3**	**-0.7**
	comp=Z,58nm,0.8s						
CD2	**Chengdu**	**34.48**	**324**	P	**P**	**03 08 00.1**	**-0.6**
CD2				pP	**pP**	**03 08 09.8**	**-4.6**
CD2				PcP	**PcP**	**03 10 34.5**	**-0.6**
CD2				S	**S**	**03 13 26.1**	**+0.5**
CD2				PcS	**PcS**	**03 14 19.8**	**-1.9**
CD2				SS	**SnSn**	**03 15 38.7**	**-2.1**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,230nm,7.8s						
CD2				LR	LR		
	comp=N,490nm,14.7s						
CD2				LR	LR		
	comp=E,470nm,17.6s						
CD2				LR	LR		
	comp=Z,500nm,19.6s						
BLDU	**Ballidu**	**35.48**	**195**	*e*P	**P**	**03 08 08.5**	**-0.7**
HNR	**Honiara**	**35.79**	**112**	LR	LR	03 22 23.6	
	comp=Z,229nm,20.9s,baz=307,slow=36						
KLBR	**Kellerberrin**	**36.17**	**193**	⇑*i*P	**P**	**03 08 14.7**	**-0.4**
	comp=Z,23nm,0

comp=Z,19nm,0.8s
ARMA Armidale 41.62 147 *e*P **P** 03 09 01.7 +0.8
comp=Z,17nm,0.8s
ARMA Armidale 41.62 147 *e*P **P** 03 09 01.2 +0.3
LSA Lhasa 42.25 311 *e*P **P** 03 09 05.4 -1.2
LSA pmax pmax
comp=Z,23nm,0.6s
LSA Lhasa 42.25 311 *e*P **P** 03 09 05.4 -1.2
comp=Z,23nm,0.6s
ASAJ Asahikawa 42.59 17 *e*P **P** 03 09 08.8 +0.4
ASAJ Asahikawa 42.59 17 LR LR 03 25 03.9
comp=Z,191nm,21.4s,baz=58,slow=34
GTA Gaotai 42.95 329 *e*P **P** 03 09 11.3 -0.3
GTA pP **pP** 03 09 24.2 -1.4
GTA sP **sP** 03 09 29.2 -2.7
GTA S **S** 03 15 34.6 +1.5
GTA sS **sS** 03 15 54.5 -2.2
GTA SS **SS** 03 18 41.7 -4.8
GTA pmax pmax
comp=Z,5.0nm,0.6s
GTA pmax pmax
comp=Z,130nm,5.2s
GTA LR LR
comp=N,210nm,19.0s
GTA LR LR
comp=E,280nm,19.5s
GTA LR LR
comp=Z,400nm,22.8s
TAPN Taplejung 43.82 306 *e*P **P** 03 09 18.6 -0.5
ODAN Odare 43.88 306 *e*P **P** 03 09 19.2 -0.2
comp=Z,70nm,0.7s
CAN Canberra 44.25 153 *e*P **P** 03 09 22.9 +0.8
CAN pmax pmax
comp=Z,8.0nm,0.5s
CAN Canberra 44.25 153 *e*P **P** 03 09 22.9 +0.8
comp=Z,7.8nm,0.5s
CAN Canberra 44.25 153 *e*P **P** 03 09 22.8 +0.7
comp=Z,6.8nm,0.6s
RAMN Ramite 44.55 305 *e*P **P** 03 09 24.4 -0.5
comp=Z,46nm,0.6s
JIRN Jiri 45.18 306 *e*P **P** 03 09 29.8 -0.2
comp=Z,13nm,0.7s
GUN Gumba 45.53 306 *e*P **P** 03 09 32.4 -0.4
comp=Z,67nm,0.7s
HIA Hailar 45.68 354 *e*P **P** 03 09 33.1 -0.1
comp=Z,22nm,0.8s
PKI Pulchoki 45.77 305 *e*P **P** 03 09 33.7 -1.0
KKN Kakani 45.97 306 *e*P **P** 03 09 35.4 -0.6
comp=Z,21nm,0.5s
DMN Daman 46.04 305 *e*P **P** 03 09 36.3 -0.3
GKN Gorkha 46.57 306 *e*P **P** 03 09 40.0 -0.7
DZM Mont Dzumac 46.73 125 *e*P **P** 03 09 41.4 -0.5
comp=Z,14nm,0.9s
ULN Ulaanbaatar 47.00 342 *e*P **P** 03 09 42.1 -1.6
comp=Z,14nm,1.0s
SONM Songino Array 47.18 342 P **P** 03 09 45.0 -0.1
SONM PcP **PcP** 03 11 16.6 +0.7
SONM Songino Array 47.18 342 P **P** 03 09 45.0 -0.1
comp=Z,8.2nm,0.7s,baz=155,slow=9.0,SNR=58
SONM PcP **PcP** 03 11 16.6 +0.7
comp=Z,5.0nm,0.7s,baz=154,slow=4.5,SNR=6.7
KOLN Koldanda 47.33 305 *e*P **P** 03 09 46.3 -0.4
comp=Z,80nm,0.5s
DANN Dangsing 47.42 306 *e*P **P** 03 09 46.8 -0.7
comp=Z,104nm,0.5s
HYB Hyderabad 48.91 290 *i* P **P** 03 09 59.0 +0.1
ZAK Zakamensk 50.40 341 *e*P **P** 03 10 09.0 -0.7
ZAK *e* 03 11 28.0
ZAK pmax pmax
comp=Z,4.0nm,1.0s
TLY Talaya 51.41 342 *e*P **P** 03 10 17.0 -0.2
TLY pmax pmax
comp=Z,7.0nm,0.6s
TLY Talaya 51.41 342 P **P** 03 10 18.4 +1.2
comp=Z,89nm,0.6s,SNR=5.7
MOY Mondy 52.26 340 *e*P **P** 03 10 24.3 +0.7
WMQ Urumqi 52.56 325 P **P** 03 10 26.2 +0.2
WMQ pP **pP** 03 10 38.5 -1.9
WMQ sP **sP** 03 10 44.0 -2.5
WMQ *e*S **S** 03 17 48.5 -0.7
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ pmax pmax
comp=Z,200nm,5.8s
WMQ LR LR
comp=N,410nm,16.5s
WMQ LR LR
comp=E,260nm,11.8s
WMQ LR LR
comp=Z,300nm,22.9s
POO Poona 53.51 290⇓ *i*P **P** 03 10 31.0 -2.3
comp=Z,70nm,1.0s
BOD Bodaibo 54.78 352 *e*P **P** 03 10 42.5 +0.7
BOD pmax pmax
comp=Z,15nm,1.4s
MSVF Nonsavu 55.11 115 *e*P **P** 03 10 45.5 +0.5
MSVF pmax pmax
comp=Z,27nm,1.3s
MSVF Nonsavu 55.11 115 *e*P **P** 03 10 45.5 +0.5
comp=Z,27nm,1.3s
PETK Petropavlovsk- 55.45 22 P **P** 03 10 47.9 +1.1
PETK Petropavlovsk- 55.45 22 P **P** 03 10 47.9 +1.1
PETK Petropavlovsk- 55.45 22 P **P** 03 10 47.9 +1.1
comp=Z,4.9nm,0.7s,baz=198,slow=6.1,SNR=6.9
PETK LR LR 03 31 49.1
comp=Z,89nm,19.4s,baz=105,slow=33
MK31 Makanchi Array 57.39 325 *e*P **P** 03 11 00.1 -0.7
MK31 pmax pmax
comp=Z,7.0nm,0.4s
MK31 Makanchi Array 57.39 325 *e*P **P** 03 11 00.1 -0.7
MK31 *e*PcP **PcP** 03 11 53.7 -0.5
MKAR Makanchi Array 57.39 325*ce*P **P** 03 11 00.2 -0.6
MKAR pmax pmax
comp=Z,8.0nm,0.4s
MKAR Makanchi Array 57.39 325 P **P** 03 11 00.1 -0.6
MKAR PcP **PcP** 03 11 53.9 -0.3
MKAR Makanchi Array 57.39 325 P **P** 03 11 00.1 -0.6
comp=Z,8.4nm,0.4s,baz=119,slow=7.5,SNR=98
MKAR PcP **PcP** 03 11 53.9 -0.3
comp=Z,3.6nm,0.5s,baz=124,slow=5.2,SNR=3.9
KSH Kashi 57.86 315 P **P** 03 11 05.8 +1.5
KSH pP **pP** 03 11 21.5 +2.6
KSH sP **sP** 03 11 28.5 +3.5
KSH PcP **PcP** 03 11 56.6 +0.3
KSH PP **PP** 03 13 17.0 +3.9
KSH ScP **ScP** 03 15 49.5 -2.6
KSH PcS **PcS** 03 15 56.6 -1.2
KSH S **S** 03 19 01.7 +1.4
KSH sS **sS** 03 19 28.5 +3.7
KSH ScS **ScS** 03 20 46.7 -2.9
KSH SS **SS** 03 22 55.3 +3.4
KSH LR LR
comp=N,200nm,5.7s
KSH LR LR
comp=E,94nm,5.3s
KSH LR LR
comp=Z,240nm,6.1s
YAK Yakutsk 58.15 2 *e*P **P** 03 11 05.7 0.0
YAK pmax pmax
comp=Z,39nm,0.9s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.1s
KZA Kyzart 59.44 318 P **P** 03 11 17.2 +1.6
SNR=12
TKM2 Tokmak 2 59.57 319 *e*P **P** 03 11 15.7 -0.5
TKM2 pmax pmax
comp=Z,13nm,0.6s
TKM2 Tokmak 2 59.57 319 *e*P **P** 03 11 15.7 -0.5
comp=Z,13nm,0.6s
TKM2 Tokmak 2 59.57 319 P **P** 03 11 17.3 +1.0
SNR=23
KBK Karagaybulak 59.89 318 P **P** 03 11 18.3 -0.1
SNR=9.1
UCH Uchtor 60.00 317 P **P** 03 11 20.9 +1.4
SNR=5.4
CHMS Chumysh 60.16 318 P **P** 03 11 20.6 +0.5
SNR=6.4
AAK Ala-Archa 60.18 318*d* *i*P **P** 03 11 20.9 +0.5
AAK Ala-Archa 60.18 318 *e*P **P** 03 11 19.9 -0.5
comp=Z,31nm,0.7s
AAK Ala-Archa 60.18 318 P **P** 03 11 21.5 +1.2
SNR=11
AAK Ala-Archa 60.18 318 P **P** 03 11 20.6 +0.2
comp=Z,7.1nm,0.7s,baz=162,slow=13,SNR=19

USP Ospenovka 60.45 319 P **P** 03 11 21.7 -0.3
SNR=34
ZAA0 Zalesovo Array 60.45 333 *e*P **P** 03 11 20.4 -1.4
ZALV Zalesovo Beam 60.45 333 P **P** 03 11 20.6 -1.1
ZALV Zalesovo Beam 60.45 333 P **P** 03 11 20.6 -1.1
ZALV Zalesovo Beam 60.45 333 P **P** 03 11 20.6 -1.1
comp=Z,5.4nm,0.6s,baz=133,slow=6.7,SNR=21
ZALV LR LR 03 41 16.2
comp=Z,96nm,19.8s,baz=251,slow=40
AML Almayashu 60.51 317 P **P** 03 11 24.2 +1.3
SNR=29
EKS2 Erkin-Say 60.67 318 *e*P **P** 03 11 23.8 +0.1
EKS2 pmax pmax
comp=Z,23nm,0.8s
EKS2 Erkin-Say 60.67 318 *e*P **P** 03 11 23.8 +0.1
comp=Z,23nm,0.8s
EKS2 Erkin-Say 60.67 318 P **P** 03 11 23.9 +0.2
SNR=19
KURBB Kurchatov Arra 61.58 327 P **P** 03 11 28.6 -0.8
comp=Z,24nm,0.8s,baz=127,slow=6.3,SNR=88
KURK Kurchatov 61.58 328*ce*P **P** 03 11 28.7 -0.8
KURK pmax pmax
comp=Z,40nm,0.8s
KURK Kurchatov 61.58 328 *e*P **P** 03 11 28.9 -0.6
comp=Z,30nm,0.6s
NVS Novosibirsk 61.73 333⇑ *i*P **P** 03 11 29.0 -1.4
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,3.0nm,0.8s
NVS pmax pmax
comp=Z,7.0nm,0.8s
SEY Seymchan 62.02 13*ce*P **P** 03 11 34.2 +2.0
KK31 Karatay Array 63.05 317 *i* P **P** 03 11 39.1 -0.4
KK31 pmax pmax
comp=Z,18nm,0.7s
KKAR Karatay Array 63.05 317 *e*P **P** 03 11 39.0 -0.5
KKAR Karatay Array 63.05 317 *e*P **P** 03 11 39.0 -0.5
BVA0 Borovoye Array 67.16 327 *i* P **P** 03 12 05.6 -0.4
BVA0 pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 67.23 327*ce*P **P** 03 12 05.7 -0.7
BRVK pmax pmax
comp=Z,37nm,0.8s
BRVK Borovoye 67.23 327 *e*P **P** 03 12 05.8 -0.6
comp=Z,32nm,0.8s
BILL Bilibino 69.54 15⇑ *e*P **P** 03 12 22.5 +2.0
BILL *e* 03 14 56.5
BILL *e*S **S** 03 21 21.9 -2.3
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,100nm,16.0s
AB31 Akbulak array 71.98 321 *i* P **P** 03 12 35.3 -0.4
AB31 pmax pmax
comp=Z,6.0nm,0.4s
ABKAR Akbulak array 71.98 321 *e*P **P** 03 12 35.0 -0.7
comp=Z,12nm,0.6s
SVE Sverdlovsk 73.81 328⇓ *e*P **P** 03 12 46.4 0.0
SVE pmax pmax
comp=Z,25nm,0.8s
ARU Arti 74.78 328*d* *i*P **P** 03 12 51.5 -0.5
ARU S **S** 03 22 26.1 +1.5
ARU pmax pmax
comp=Z,22nm,0.7s
ARU Arti 74.78 328 P **P** 03 12 51.7 -0.3
comp=Z,191nm,0.7s,SNR=8.3
SDPT Sand Point 77.25 34 *e*P **P** 03 13 07.1 +1.0
comp=Z,41nm,0.6s
QRN Al-Qurain 78.21 298 *e*P **P** 03 13 11.1 -1.0
RDF Al-Radifah 78.54 299 *e*P **P** 03 13 13.2 -0.7
RDF AMb AMB 03 13 14.8
comp=Z,38nm,1.0s
MIB Mutribah 78.75 299 *e*P **P** 03 13 13.8 -1.2
MIB AMb AMB 03 13 15.3
comp=Z,56nm,0.8s
NAY Al-Naaiem 78.82 299 *e*P **P** 03 13 14.0 -1.4
NAY AMb AMB 03 13 15.5
comp=Z,19nm,0.8s
ZEI Tsey 82.03 312 *e*P P 03 13 29.2 -3.5
ZEI pmax pmax
comp=Z,9.0nm,0.9s
KIV Kislovodsk 82.95 314 *e*P **P** 03 13 38.3 +1.0
KIV pmax pmax
comp=Z,8.0nm,0.8s
KIV Kislovodsk 82.95 314 P **P** 03 13 37.5 +0.2
comp=Z,8.4nm,0.8s
VRHR Novokhopersk 83.87 321 *e*P **P** 03 13 40.5 -1.2
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,4.0nm,0.6s
VRHR pmax pmax
comp=E,8.0nm,0.6s
COLD Coldfoot 83.91 23 *e*P **P** 03 13 41.6 0.0
comp=E,13nm,0.9s
MCK McKinley 84.19 26 *e*P **P** 03 13 43.5 +0.4
MCK pmax pmax
comp=Z,19nm,1.0s
MCK McKinley 84.19 26 *e*P **P** 03 13 43.5 +0.4
comp=Z,19nm,1.0s
SML Sawmill 84.37 28 *e*P **P** 03 13 44.0 -0.1
SML pmax pmax
comp=Z,7.0nm,1.0s
SML Sawmill 84.37 28 *e*P **P** 03 13 44.0 -0.1
comp=Z,7.5nm,1.0s
ILAR Eielson Array 85.13 25 P **P** 03 13 48.0 +0.2
ILAR Eielson Array 85.13 25 P **P** 03 13 48.0 +0.2
comp=Z,2.1nm,0.9s,baz=250,slow=4.3,SNR=16
KLMR Klimovskoe 85.26 331 *e*P **P** 03 13 47.7 -0.8
KLMR pmax pmax
comp=Z,52nm,0.7s
VORD Divnogorie 85.34 321 *e*P **P** 03 13 48.1 -1.0
VSR Storozhevoye 85.42 321 *e*P **P** 03 13 48.8 -0.7
VSR pmax pmax
comp=Z,20nm,1.0s
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
PAX Paxson 85.73 27 *e*P **P** 03 13 52.0 +1.0
PAX pmax pmax
comp=Z,11nm,1.2s
PAX Paxson 85.73 27 *e*P **P** 03 13 52.0 +1.0
comp=Z,11nm,1.2s
MOS Moscow 86.28 325 *e*P P 03 13 48.8 -4.8
ANN Anapa 86.72 315 *e*P P 03 13 50.7 -5.3
ANN pmax pmax
comp=Z,52nm,0.9s
OBN Obninsk 86.90 325⇑ *i*P **P** 03 13 56.1 -0.6
OBN pmax pmax
comp=Z,13nm,0.8s
OBN MLR MLR
comp=Z,100nm,19.0s
OBN Obninsk 86.90 325 *e*P **P** 03 13 56.0 -0.7
comp=Z,15nm,0.6s
JOF Joensuu 89.04 333 *e*P **P** 03 14 05.7 -1.0
JOF pmax pmax
comp=Z,17nm,0.7s
JOF Joensuu 89.04 333 *ep* **P** 03 14 05.7 -1.0
comp=Z,17nm,0.7s
KMBO Kilima Mbogo 89.36 269 *e*P **P** 03 14 09.6 0.0
comp=Z,7.5nm,0.9s
EIL Elat 89.52 300 P **P** 03 14 10.2 +0.4
EIL Elat 89.52 300 P **P** 03 14 10.2 +0.4
comp=Z,7.5nm,0.8s,baz=327,slow=2.8,SNR=7.4
KEV Kevo 89.77 340 *e*P **P** 03 14 09.3 -0.7
KEV pmax pmax
comp=Z,15nm,1.1s
KEV Kevo 89.77 340 *ep* **P** 03 14 09.3 -0.7
comp=Z,15nm,1.1s
BR131 Keskin Array S 89.83 310 *e*P **P** 03 14 09.8 -1.4
comp=Z,6.7nm,0.8s
BRTR Keskin Array B 89.83 310 P **P** 03 14 10.1 -1.1
BRTR Keskin Array B 89.83 310 P **P** 03 14 10.1 -1.1
comp=Z,9.5nm,0.9s,baz=116,slow=4.9,SNR=39
INK Inuvik 90.18 21 *e*P **P** 03 14 11.5 -0.4
ARCES ARCESS Array B 90.32 340 P **P** 03 14 12.3 -0.3
ARCES ARCESS Array B 90.32 340 P **P** 03 14 12.3 -0.3
comp=Z,9.4nm,0.8s,baz=74,slow=6.3,SNR=19
KAF Kangasniemi 91.45 332 *e*P **P** 03 14 16.9 -1.1
KAF pmax pmax
comp=Z,8.0nm,0.7s
KAF Kangasniemi 91.45 332 *ep* **P** 03 14 16.9 -1.1
comp=Z,8.4nm,0.7s
FINES FINESS Array B 91.69 332 P **P** 03 14 18.6 -0.5

FINES FINESS Array B 91.69 332 P **P** 03 14 18.6 -0.5
comp=Z,4.1nm,0.7s,baz=49,slow=5.0,SNR=17
AKASG Malin Array Be 91.72 321 P **P** 03 14 18.3 -1.2
AKASG Malin Array Be 91.72 321 P **P** 03 14 18.3 -1.2
comp=Z,7.4nm,0.6s,baz=70,slow=4.7,SNR=32
AKBB Malin Array Si 91.72 321 *e*P **P** 03 14 18.4 -1.1
AKBB Malin Array Si 91.72 321 *e*P **P** 03 14 18.4 -1.1
KIEV Kiev 91.73 321 *e*P **P** 03 14 18.8 -0.8
KIEV pmax pmax
comp=Z,5.0nm,0.7s
KIEV Kiev 91.73 321 *e*P **P** 03 14 18.8 -0.8
comp=Z,5.1nm,0.7s
SYO Syowa Base 92.41 201⇑ *e*P **P** 03 14 21.8 -0.4
TIRR Tirgusor 93.16 315⇑ P **P** 03 14 25.3 -1.0
TIRR Tirgusor 93.16 315⇑ *i*P **P** 03 14 25.3 -1.0
CFR Carcaliu 93.25 316⇓ P **P** 03 14 25.2 -1.4
CFR Carcaliu 93.25 316⇓ *i*P **P** 03 14 25.2 -1.4
QSPA South Pole Qui 93.70 180 *e*P **P** 03 14 28.7 +0.3
comp=Z,7.8nm,1.1s
DLBC Dease Lake 93.79 31 LR LR 03 49 45.1
comp=Z,216nm,21.8s,baz=331,slow=31
TESR 94.06 317⇓ *i*P **P** 03 14 30.0 -0.4
VRI Vrincioaia 94.12 316⇑ P **P** 03 14 30.0 -0.7
VRI Vrincioaia 94.12 316⇑ *i*P **P** 03 14 30.0 -0.7
PLOR Plostina 94.17 316⇓ P **P** 03 14 30.9 -0.1
PLOR Plostina 94.17 316⇓ *i*P **P** 03 14 30.9 -0.1
MLR Muntele Rosu 94.72 316⇑ *i*P **P** 03 14 33.1 -0.5
SUW Suwalki 94.76 325 *e*P **P** 03 14 32.6 -0.8
SUW pmax pmax
comp=Z,38nm,0.9s
SUW Suwalki 94.76 325 *e*P **P** 03 14 32.6 -0.8
comp=Z,38nm,0.9s
BURAR Bucovina Array 94.83 318⇓ *i*P **P** 03 14 34.0 0.0
BUR08 Bucovina Ar. S 94.83 318 *e*P **P** 03 14 34.0 -0.1
DOPR Dopca 95.02 317⇓ *i*P **P** 03 14 35.7 +0.9
KWP Kalwaria Pacla 96.04 321⇑ P **P** 03 14 39.8 +0.4
KWP Kalwaria Pacla 96.04 321 *e*P **P** 03 14 38.7 -0.7
comp=Z,13nm,0.9s
KWP Kalwaria Pacla 96.04 321⇑ *i*P **P** 03 14 39.8 +0.4
KOLS Kolonicke sedl 96.47 320 *e*P **P** 03 14 41.2 -0.2
KOLS Kolonicke sedl 96.47 320 *e*P **P** 03 14 41.2 -0.2
TRPA Tarpa 96.48 319⇑ *i*P **P** 03 14 40.8 -0.6
UZH Uzhgorod 96.53 320⇑ *i*P **P** 03 14 41.3 -0.3
DRGR 96.67 318⇓ P **P** 03 14 42.1 -0.3
DRGR 96.67 318⇓ *i*P **P** 03 14 42.1 -0.3
CRVS Cervenica-Dubn 97.00 320 *e*P Pdif 03 14 44.0 +0.1
CRVS Cervenica-Dubn 97.00 320 *e*P Pdif 03 14 44.0 +0.1
VTS Vitosha 97.21 314⇓ P **P** 03 14 44.3 -0.8
VTS Vitosha 97.21 314⇓ *i*P **P** 03 14 44.3 -0.8
BZS Buzias 97.67 317⇑ P **P** 03 14 45.9 -0.9
BZS Buzias 97.67 317⇑ *i*P **P** 03 14 45.9 -0.9
OJC Ojcow 97.72 322 *e*P **P** 03 14 46.1 -0.9
OJC Ojcow 97.72 322 *e*P **P** 03 14 46.6 -0.3
RES Resolute Bay 97.79 10 *e*P Pdif 03 14 47.2 +0.4
comp=Z,39nm,2.3s
NB2 NORSAR Subarra 98.64 334 P **P** 03 14 49.3 -1.6
baz=68,slow=4.6
NB2 NORSAR Subarra 98.64 334 P **P** 03 14 49.3 -1.6
comp=Z,4.5nm,0.7s,baz=68,slow=4.6
NOA NORSAR Array B 98.64 334 P **P** 03 14 49.6 -1.3
NOA NORSAR Array B 98.64 334 P **P** 03 14 49.6 -1.3
comp=Z,4.3nm,0.7s,baz=67,slow=4.6,SNR=17
MORC Moravsky Berou 99.24 322⇓ P **Pdif** 03 14 54.1 +0.2
MORC Moravsky Berou 99.24 322⇓ *i*P **Pdif** 03 14 54.0 +0.2
YKA Yellowknife Ar 99.52 24 P **Pdif** 03 14 55.5 +0.8
YKA Yellowknife Ar 99.52 24 P **Pdif** 03 14 55.5 +0.8
comp=Z,0.3nm,0.5s,baz=298,slow=4.4,SNR=8.2
PKSM Moragy 99.53 318⇓ P **Pdif** 03 14 55.0 -0.1
PKSM Moragy 99.53 318⇓ *i*P **Pdif** 03 14 55.0 -0.1
BRG Berggiesshubel 101.07 323 *e*P **Pdif** 03 15 02.4 +0.5
comp=Z,6.6nm,0.9s
BRG Berggiesshubel 101.07 323 *e*P **Pdif** 03 15 02.4 +0.5
BRG pmax pmax
comp=Z,7.0nm,0.9s
GERES GERESS Array B 101.92 322 P **Pdif** 03 15 05.2 -0.6
GERES GERESS Array B 101.92 322 P **Pdif** 03 15 05.2 -0.6
comp=Z,1.3nm,0.8s,baz=57,slow=4.9,SNR=7.2
NVAR Mina Array Bea 107.01 48 PKKPbc PKKPbc 03 30 56.7 -0.1
NVAR PKKP **PKKPdf** 03 31 10.2 +1.0
NVAR Mina Array Bea 107.01 48 PKKPbc PKKPbc 03 30 56.7 -0.1
comp=Z,0.2nm,0.4s,baz=117,slow=6.0,SNR=4.7
NVAR PKKP **PKKPdf** 03 31 10.2 +1.0
comp=Z,0.9nm,0.7s,baz=133,slow=4.2,SNR=7.2
PDAR Pinedale Array 111.44 41 PKKP **PKKPab** 03 30 50.7 -1.4
comp=Z,1.6nm,0.8s,baz=126,slow=6.5,SNR=14
TXAR Lajitas Array 121.71 52 PKP **PKPdf** 03 20 07.3 +0.8
TXAR PKKPbc **PKKPab** 03 30 09.7 +2.9
TXAR Lajitas Array 121.71 52 PKP **PKPdf** 03 20 07.3 +0.8
comp=Z,0.5nm,0.7s,baz=221,slow=0.4,SNR=7.6
TXAR PKKPbc **PKKPab** 03 30 09.7 +2.9
comp=Z,0.3nm,0.8s,baz=150,slow=5.6,SNR=4.8
TOA0 Torodi Ar. Sit 122.72 288 *e*PKPdf **PKPdf** 03 20 08.4 -0.2
TORD Torodi Ar. Bea 122.72 288 PKP **PKPdf** 03 20 08.5 -0.2
TORD PKKPbc **PKKPab** 03 30 02.9 +0.5
TORD Torodi Ar. Bea 122.72 288 PKP **PKPdf** 03 20 08.5 -0.2
comp=Z,3.0nm,0.7s,baz=60,slow=1.6,SNR=25
TORD PKKPbc **PKKPab** 03 30 02.9 +0.5
comp=Z,0.3nm,0.6s,baz=265,slow=3.0,SNR=4.6
JCT Junction City 124.17 49 *e*PKIKP **PKPdf** 03 20 11.7 +0.6
JCT Junction City 124.17 49 *e*PKPdf **PKPdf** 03 20 11.7 +0.6
DBIC Dimbokro 130.38 282 PKP **PKPdf** 03 20 23.8 +0.5
DBIC Dimbokro 130.38 282 PKP **PKPdf** 03 20 23.8 +0.5
comp=Z,2.0nm,0.7s,baz=35,slow=5.5,SNR=6.4
PLCA Paso Flores 140.13 160 PKPpre PKPpre 03 20 32.1
PLCA Paso Flores 140.13 160 PKhKP PKPpre 03 20 32.1
comp=Z,2.8nm,1.0s,baz=237,slow=9.1,SNR=3.4
CFAA Coronel Fontan 149.04 155 PKPbc **PKPbc** 03 21 01.1 +0.5
CFAA Coronel Fontan 149.04 155 PKPbc **PKPbc** 03 21 01.1 +0.5
comp=Z,1.3nm,0.7s,baz=246,slow=2.9,SNR=23
CPUP Villa Florida 157.28 171 PKPab **PKPab** 03 21 39.2 -0.2
CPUP Villa Florida 157.28 171 PKPab **PKPab** 03 21 39.2 -0.2
comp=Z,2.2nm,0.7s,baz=133,slow=2.2,SNR=5.6
RCBR Riachuelo 162.38 263 PKPab **PKPab** 03 22 02.1 -0.3
RCBR Riachuelo 162.38 263 PKPab **PKPab** 03 22 02.1 -0.3
comp=Z,9.4nm,0.8s,baz=258,slow=3.7,SNR=4.6
BDFB Brasilia 167.06 204 PKPab **PKPab** 03 22 22.1 -0.5
BDFB Brasilia 167.06 204 PKPab **PKPab** 03 22 22.1 -0.5
comp=Z,4.3nm,0.9s,baz=135,slow=5.1,SNR=5.3

IDC ***12*** *03:19:09.9±0.5, 3.°58N×126.°60E, h0km, mb4.7/25, mb1 4.7/25, mb1mx4.7/27, mbtmp4.6/25, MS4.1/5, Ms1 4.2/5, ms1mx3.6/47, Error ellipse: s-maj=19.8km s-min=12.4km az=73.0*
MOS ***12*** *03:19:13.4±1.0, 3.°67N×126.°64E, h33km, mb5.3/36, Error ellipse: s-maj=13.4km s-min=5.8km az=116.7*
BJI ***12*** *03:19:14.2, 3.°50N×126.°83E, h55km, mB5.2/27, mb4.9/48, Ms4.7/30, Ms7 4.3/31*
NEIC ***12*** *03:19:15.0±0.2, 3.°59N×126.°65E, h35km, mb5.1/45, Error ellipse: s-maj=8.5km s-min=4.3km az=74.0*
ISCJB ***12*** *03:19:17.3±0.5, 3.°64N±0.°03×126.°77E±0.°05, h71km±4km, mb4.9/99, Error ellipse: s-maj=7.9km s-min=4.3km az=166.3*
DJA ***12*** *03:19:19, 3.°61N×127.°02E, h72km, mb4.9/23*
ISC 12 03:19:18.1±0.4, **3.°66N**±0.°04×**126.°79E**±0.°06, **h61**km±2km, **n302, σ1s51**/324, **mb5.0**/96, **23C-26D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.92**	**169**	P	**Pn**	**03 20 03.1**	**+0.9**
MNI	**Manado**	**2.93**	**222**	P	**Pn**	**03 20 04.9**	**+2.6**
GSPH	**General Santos**	**3.03**	**323**	*e*P	**Pn**	**03 20 03.9**	**+0.2**
MATI	**Mati**	**3.31**	**351**	*e*P	**Pn**	**03 20 08.1**	**+0.7**
DAV	**Davao City (W)**	**3.60**	**341**	Pn	**Pn**	**03 20 11.6**	**+0.2**
DAV				Sn	Sn	03 21 08.2	+15
DAV	**Davao City (W)** SNR=22	**3.60**	**341**	Pn	**Pn**	**03 20 12.4**	**+1.0**
DAV	**Davao City (W)**	**3.60**	**341**	P	Pn	03 20 25.1	+14
DAV	**Davao City (W)** 82nm,0.3s,baz=219,slow=2.9,SNR=9.5	**3.60**	**341**	Pn	**Pn**	**03 20 11.6**	**+0.2**
DAV	162nm,0.3s,baz=169,slow=16,SNR=4.8			Sn	Sn	03 21 08.1	+15
DMPH	**Davao City--Mi**	**3.63**	**340**⇑	*e*P	**Pn**	**03 20 12.3**	**+0.4**
KCP	**Kidapawan**	**3.73**	**333**⇑	*e*P	Pn	03 20 18.0	+4.7
KMSI	**Cibinong**	**4.15**	**223**	P	Pn	03 20 25.8	+6.9
LBMI	**Labuha**	**4.33**	**170**	P	Pn	03 20 24.9	+3.5
BUKP	**Musuan**	**4.53**	**338**	*e*P	**Pn**	**03 20 23.9**	**-0.3**
CGP	**Cagayan de Oro**	**5.20**	**337**⇑	*e*P	Pn	03 20 38.7	+5.3
PAGZ	**Pagadian**	**5.37**	**321**	*e*P	**Pn**	**03 20 35.6**	**0.0**
MRSI	**Marisa**	**5.78**	**237**	P	**Pn**	**03 20 43.8**	**+2.5**
	380nm,0.7s,3μm1.3nm						
LUWI	**Luwuk**	**6.15**	**221**	P	Pn	03 20 53.0	+6.6

428nm,1.2s,7µm3.0nm
MSLP Maasin 6.71 344 *e*P Pn 03 20 57.7 +3.6
NLAI Namlea 6.86 177 P **Pn** **03 20 56.9 +0.9**
88nm,0.6s,2µm0.5nm
MSAI Masohi 7.28 163 P Pn 03 21 12.2 +10
PLP Palo 7.67 347⇓*e*P Pn 03 21 11.2 +4.0
FAKI Fak Fak 8.51 140 P **Pn** **03 21 18.2 -0.6**
57nm,1.0s,734nm0.3nm
KDI Kendari 8.63 209 P **Pn** **03 21 21.0 +0.6**
34nm,1.3s,948nm0.2nm
TTSI Tana Toraja 9.63 226 P Pn 03 21 40.0 +6.0
107nm,1.0s,1µm
SPSI Sidrap Palu 10.32 223 P Pn 03 21 58.1 +15
BAKI Biak 10.49 117 P Pn 03 21 50.4 +4.6
KKM Kota Kinabalu 10.80 283 *e*Pn Pn 03 21 53.5 +3.5
KKM Kota Kinabalu 10.80 283 P Pn 03 21 54.9 +4.9
65nm,1.2s,1µm
TLE Tual 10.98 147 P Pn 03 22 01.2 +8.7
SBUM Sibu 14.59 266 P **P** **03 22 45.4 -0.8**
57nm,1.7s,908nm
WSI Waingapu 14.73 206 P **Pn** **03 22 40.9 -2.2**
1µm,0.5s,25µm
JAY Jayapura 15.20 114 P **Pn** **03 22 45.5 -3.8**
85nm,0.6s,19µm
STKI Sintang 15.71 257 P P 03 23 05.8 +7.2
KSM Kuching 16.60 263 *e*Pn **P** **03 23 10.1 +1.6**
51nm,1.0s
KSM Kuching 16.60 263 P **P** **03 23 10.7 +2.2**
54nm,1.1s,871nm
BLJI Banyuglugur 17.36 229 P pP 03 23 31.5 +1.5
KNRA Kununurra 19.31 174 *e*P **P** **03 23 38.4 +0.1**
408nm,0.6s
TWG Pinlang 19.84 344 *e*P **P** **03 23 43.4 -0.7**
44nm,0.8s
YULB Yu-li 20.32 345 *e*P **P** **03 23 46.4 -2.9**
26nm,0.8s
GUMO Guam 20.40 60 LR LR 03 31 11.0
comp=Z,213nm,18.2s,baz=226,slow=35
TPUB Ta-pu 20.42 344 *e*P **P** **03 23 48.3 -2.0**
89nm,1.0s
SSLB Suanglung 20.79 345 *e*P **P** **03 23 53.0 -1.3**
43nm,0.8s
YHNB Yeheng 21.53 346 *e*P **P** **03 24 01.8 -0.6**
31nm,0.6s
FITZ Fitzroy Crossi 21.65 183 *e*P **P** **03 24 02.6 -0.9**
19nm,0.7s
FITZ Fitzroy Crossi 21.65 183 *e*P **P** **03 24 02.8 -0.7**
35nm,0.6s
FITZ Fitzroy Crossi 21.65 183 P **P** **03 24 02.1 -1.4**
12nm,0.5s,baz=12,slow=5.2,SNR=23
QZH Quanzhou 22.59 340⇓*i*P **P** **03 24 12.6 -1.0**
QZH S **S** **03 28 11.0 -5.9**
QZH LR LR
comp=N,910nm,15.2s
QZH LR LR
comp=E,2µm,19.6s
QZH LR LR
comp=Z,2µm,16.8s
JOW Kunigami 23.09 3 P **P** **03 24 19.0 +0.3**
JOW Kunigami 23.09 3 P **P** **03 24 19.0 +0.3**
comp=Z,14nm,0.6s,baz=251,slow=14,SNR=3.8
CGJI Cibinong 23.40 244 P **P** **03 24 22.9 +1.1**
comp=Z,74nm,1.0s,comp=Z,1µm
KASI Kota Agung 24.06 248 P P 03 24 35.5 +7.7
WRAB Tennant Creek 24.59 163 *e*P **P** **03 24 31.2 -1.4**
WRAB pmax pmax
comp=Z,122nm,1.0s
WRAB Tennant Creek 24.59 163 *e*P **P** **03 24 31.2 -1.4**
comp=Z,122nm,1.0s
MBWA Marble Bar 25.61 195 *e*P P 03 24 47.4 +5.5
comp=Z,34nm,1.0s
MBWA Marble Bar 25.61 195 *e*P **P** **03 24 42.6 +0.7**
IPM Ipoh 25.71 273 *e*P **P** **03 24 46.1 +3.2**
comp=Z,24nm,1.0s
IPM Ipoh 25.71 273 P **P** **03 24 46.9 +4.0**
comp=Z,29nm,1.3s
PPI Padang Panjang 26.69 262 P pP 03 25 00.9 -5.8
MNSI Mandailing Nat 27.33 265 P pP 03 25 07.9 -4.6
PSI Prapat 27.83 269 P **P** **03 25 00.1 -2.0**
PSI Prapat 27.83 269 P **P** **03 25 05.8 +3.7**
comp=Z,15nm,1.3s
PSI Prapat 27.83 269 P **P** **03 25 00.1 -2.0**
comp=Z,3.1nm,0.6s,baz=127,slow=10,SNR=2.5
AS31 Alice Springs 28.03 166 *e*P **P** **03 25 02.8 -0.9**
ASAR Alice Springs 28.03 166 P **P** **03 25 02.5 -1.1**
ASAR S S 03 30 01.4 +17
ASAR Alice Springs 28.03 166 P **P** **03 25 02.5 -1.1**
comp=Z,3.3nm,0.6s,baz=340,slow=5.9,SNR=26
ASAR S S 03 30 01.4 +17
comp=Z,1.8nm,0.8s,baz=336,slow=18,SNR=5.7
WHN Wuhan 29.21 338⇓P **P** **03 25 13.9 -0.1**
WHN *e*S **S** **03 30 04.9 +2.6**
WHN LR LR
comp=Z,2µm,19.4s
NJ2 Nanjing 29.21 346 *e*P **P** **03 25 16.6 +2.6**
NJ2 pmax pmax
comp=Z,20nm,0.8s
JNU Nakatsue 29.56 7 LR LR 03 36 30.7
comp=Z,295nm,21.9s,baz=12,slow=35
GYA Guiyang 29.76 322⇑*i*P **P** **03 25 22.0 +2.9**
GYA pP **pP** **03 25 37.4 +3.2**
GYA PP **PnPn** **03 26 20.0 +2.9**
GYA S **S** **03 30 13.4 +2.1**
GYA SS **ScP** **03 31 53.9 -4.8**
GYA ScP **ScP** **03 31 58.8 +0.1**
GYA PcS **PcS** **03 32 05.5 +0.2**
GYA ScS **ScS** **03 35 53.9 -0.2**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=N,550nm,17.8s
GYA LR LR
comp=E,530nm,16.7s
GYA LR LR
comp=Z,580nm,17.4s
CMAR Chiang Mai Arr 30.96 300 P **P** **03 25 29.1 -0.5**
CMAR Chiang Mai Arr 30.96 300 P **P** **03 25 29.1 -0.5**
comp=Z,7.6nm,0.9s,baz=121,slow=7.4,SNR=16
CMAR LR LR 03 40 23.9
comp=Z,346nm,18.2s,baz=130,slow=41
CHTO Chiang Mai 31.11 301 *e*P **P** **03 25 30.7 -0.2**
CHTO pmax pmax
comp=Z,17nm,1.0s
CHTO Chiang Mai 31.11 301 *e*P **P** **03 25 30.7 -0.2**
comp=Z,17nm,1.0s
CHTO Chiang Mai 31.11 301 P **P** **03 25 30.5 -0.4**
SNR=10
CHTO Chiang Mai 31.11 301 P **P** **03 25 30.8 -0.2**
comp=Z,16nm,1.4s
ENH Enshi 31.12 330 *e*P **P** **03 25 29.9 -1.1**
comp=Z,19nm,0.7s
KMI Kunming 31.47 315 P P 03 25 40.2 +5.9
KMI pmax pmax
comp=Z,19nm,0.8s
KMI LR LR
comp=N,450nm,19.4s
KMI LR LR
comp=E,320nm,21.3s
KMI LR LR
comp=Z,420nm,17.5s
JHJ Hachijo jima 2 31.73 21 LR LR 03 38 03.7
comp=Z,622nm,20.6s,baz=148,slow=36
KSAR Wonju Array Be 33.64 2 P **P** **03 25 52.7 -0.2**
KSAR PcP **PcP** **03 28 34.0 +2.1**
KSRS Korea Array 33.65 2 P **P** **03 25 52.7 -0.3**
comp=Z,4.5nm,0.6s,baz=178,slow=10,SNR=12
KSRS PcP **PcP** **03 28 34.0 +2.1**
comp=Z,2.3nm,0.7s,baz=193,slow=3.3,SNR=5.8
FORT Forrest 34.26 178 *e*P **P** **03 25 58.1 -0.3**
comp=Z,43nm,0.7s
FORT Forrest 34.26 178 *e*P **P** **03 25 57.9 -0.4**
comp=Z,32nm,0.7s
MJAR Matsushiro Arr 34.38 16 P **P** **03 26 00.8 +1.5**
MJAR PcP **PcP** **03 28 36.2 +2.1**
MJAR Matsushiro Arr 34.38 16 P **P** **03 26 00.8 +1.5**
comp=Z,2.2nm,0.6s,baz=202,slow=8.4,SNR=5.7
MJAR PcP **PcP** **03 28 36.2 +2.1**
comp=Z,2.3nm,0.8s,baz=191,slow=3.5,SNR=5.2
MJAR LR LR 03 39 54.4
comp=Z,507nm,19.1s,baz=195,slow=36
XAN Xi'an 34.51 333 P **P** **03 25 58.5 -2.0**
XAN S S 03 31 18.6 -6.3
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN LR LR
comp=N,320nm,16.8s
XAN LR LR
comp=E,96nm,19.8s
XAN LR LR
comp=Z,160nm,18.3s
CD2 Chengdu 34.73 324 P **P** **03 26 02.0 -0.5**
CD2 PcP **PcP** **03 28 35.4 +0.2**
CD2 S **S** **03 31 29.2 +0.6**
CD2 PcS **PcS** **03 32 20.8 -1.2**
CD2 SS **SnSn** **03 33 43.1 -4.0**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,230nm,7.8s
CD2 LR LR
comp=N,490nm,14.7s
CD2 LR LR
comp=E,470nm,17.6s
CD2 LR LR
comp=Z,500nm,19.6s
DL2 Dalian 35.40 353 P **P** **03 26 08.1 +0.1**
DL2 pmax pmax
comp=Z,40nm,1.7s
KLBR Kellerberrin 36.09 193 *e*P **P** **03 26 14.3 +0.2**
comp=Z,76nm,1.8s
EIDS Eidsvold 37.26 142 *e*P **P** **03 26 22.7 -1.4**
comp=Z,14nm,0.9s
BBOO Buckleboo 37.32 167 *e*P **P** **03 26 24.2 -0.3**
comp=Z,139nm,0.5s
BJT Baijiatuan 37.45 347 *e*P **P** **03 26 25.6 +0.1**
comp=Z,134nm,0.6s
BJI Beijing 37.47 347 P **P** **03 26 25.7 0.0**
BJI pP **pP** **03 26 41.8 +0.8**
BJI sP **sP** **03 26 48.0 -0.2**
BJI S **S** **03 32 10.9 +0.9**
BJI LR LR
comp=N,140nm,15.4s
BJI LR LR
comp=E,330nm,21.4s
BJI LR LR
comp=Z,160nm,22.6s
NWAO Narrogin (SRO) 37.49 193 *e*P P 03 26 21.6 -4.4
STKA Stephens Creek 38.04 159 *e*P **P** **03 26 30.4 -0.3**
comp=Z,4.9nm,0.6s
STKA Stephens Creek 38.04 159 *e*P **P** **03 26 30.2 -0.4**
comp=Z,20nm,0.6s
STKA Stephens Creek 38.04 159 P **P** **03 26 30.3 -0.3**
comp=Z,23nm,0.7s,baz=334,slow=8.4,SNR=36
SNY Shenyang 38.11 356⇑P **P** **03 26 32.6 +1.5**
SNY pmax pmax
comp=Z,19nm,0.5s
LZH Lanzhou 38.59 330 *e*P **P** **03 26 34.8 -0.6**
LZH pP **pP** **03 26 50.2 -0.7**
LZH sP **sP** **03 26 55.9 -2.1**
LZH pmax pmax
comp=Z,73nm,1.4s
LZH pmax pmax
comp=Z,190nm,4.8s
LZH LR LR
comp=N,500nm,16.7s
LZH LR LR
comp=E,1µm,20.8s
LZH LR LR
comp=Z,700nm,16.1s
HHC Hu-ho-hao-te 39.48 342 *e*P **P** **03 26 43.1 +0.4**
HHC pP pP 03 26 53.0 -5.2
HHC PP **PnPn** **03 28 18.0 +0.2**
HHC S **S** **03 32 43.8 +3.2**
HHC SS **SS** **03 35 29.7 -7.5**
HHC ScS **ScS** **03 36 45.8 +0.4**
HHC pmax pmax
comp=Z,21nm,1.3s
HHC pmax pmax
comp=Z,150nm,4.9s
HHC LR LR
comp=N,230nm,16.7s
HHC LR LR
comp=E,240nm,14.3s
HHC LR LR
comp=Z,320nm,17.8s
CN2 Changchun 39.99 358 *e*P **P** **03 26 48.3 +1.5**
CN2 *e*pP **pP** **03 27 03.8 +1.5**
CN2 *e*PP **PnPn** **03 28 25.5 +1.8**
CN2 *e*S **S** **03 32 49.4 +1.5**
CN2 *e*SS **SS** **03 35 42.7 -4.4**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,400nm,20.0s
CN2 LR LR
comp=E,400nm,20.0s
CN2 LR LR
comp=Z,200nm,21.0s
USRK Ussuriysk Arra 40.64 6 P **P** **03 26 52.5 +0.5**
comp=Z,6.1nm,0.9s,baz=192,slow=9.0,SNR=8.4
MDJ Mudanjiang 40.87 3 P **P** **03 26 54.3 +0.3**
MDJ pmax pmax
comp=Z,18nm,1.4s
MDJ pmax pmax
comp=Z,140nm,5.8s
MDJ Mudanjiang 40.87 3 *e*P **P** **03 26 54.5 +0.5**
comp=Z,24nm,0.9s
ERM Erimo 40.91 19 *e*P **P** **03 26 55.0 +0.7**
ARMA Armidale 41.38 147 *e*P **P** **03 26 58.8 +0.3**
LSA Lhasa 42.53 311 *e*P **P** **03 27 07.5 -0.9**
LSA pmax pmax
comp=Z,16nm,0.7s
LSA Lhasa 42.53 311 *e*P **P** **03 27 07.5 -0.9**
comp=Z,16nm,0.7s
ASAJ Asahikawa 42.65 17 *e*P **P** **03 27 09.0 +0.5**
ASAJ Asahikawa 42.65 17 P **P** **03 27 09.4 +0.9**
comp=Z,9.8nm,0.7s,baz=263,slow=20,SNR=6.5
GTA Gaotai 43.19 329 *e*P **P** **03 27 12.6 -0.6**
GTA pP **pP** **03 27 28.8 0.0**
GTA sP **sP** **03 27 34.4 -1.5**
GTA pmax pmax
comp=Z,16nm,1.8s
GTA pmax pmax
comp=Z,180nm,6.2s
GTA LR LR
comp=N,280nm,17.1s
GTA LR LR
comp=E,420nm,17.1s
GTA LR LR
comp=Z,610nm,16.2s
TAPN Taplejung 44.10 306 *e*P **P** **03 27 19.6 -1.3**
ODAN Odare 44.16 306 *e*P **P** **03 27 19.9 -1.4**
comp=Z,54nm,0.9s
RAMN Ramite 44.84 305 *e*P **P** **03 27 25.8 -0.9**
YSS Yuzh-Sakhalins 45.30 15⇑*e*P P 03 27 36.7 +7.0
JIRN Jiri 45.46 306 *e*P **P** **03 27 30.7 -1.1**
comp=Z,9.2nm,0.8s
KLR Kul'dur 45.60 5 *e*P P 03 27 28.5 -3.6
KLR pmax pmax
comp=Z,45nm,1.6s
GUN Gumba 45.81 306 *e*P **P** **03 27 33.3 -1.3**
comp=Z,56nm,0.9s
HIA Hailar 45.84 354 *e*P **P** **03 27 34.1 +0.1**
comp=Z,53nm,1.3s
PKI Pulchoki 46.06 305 *e*P **P** **03 27 35.0 -1.5**
KKN Kakani 46.25 306 *e*P **P** **03 27 36.4 -1.4**
DMN Daman 46.32 305 *e*P **P** **03 27 36.9 -1.5**
DZM Mont Dzumac 46.45 125 *e*P **P** **03 27 38.8 -0.5**
comp=Z,32nm,1.1s
DZM Mont Dzumac 46.45 125 *e*P **P** **03 27 39.5 +0.3**
comp=Z,17nm,1.0s
DZM Mont Dzumac 46.45 125 P **P** **03 27 38.8 -0.5**
comp=Z,4.4nm,0.7s,baz=3.4,slow=7.3,SNR=7.9
GKN Gorkha 46.85 306 *e*P **P** **03 27 40.6 -1.9**
ULN Ulaanbaatar 47.20 342 *e*P **P** **03 27 44.5 -0.4**
comp=Z,74nm,1.5s
ULN Ulaanbaatar 47.20 342 P **P** **03 27 44.9 0.0**
SNR=18
ULN Ulaanbaatar 47.20 342 P **P** **03 27 44.9 0.0**
comp=Z,33nm,1.6s
SONM Songino Array 47.38 341 P **P** **03 27 45.8 -0.5**
SONM PcP **PcP** **03 29 18.6 +2.5**
SONM Songino Array 47.38 341 P **P** **03 27 45.8 -0.5**
comp=Z,5.5nm,0.6s,baz=161,slow=7.6,SNR=44
SONM PcP **PcP** **03 29 18.6 +2.5**
comp=Z,3.3nm,0.8s,baz=163,slow=4.2,SNR=4.4
KOLN Koldanda 47.61 305 *e*P **P** **03 27 47.4 -1.1**
comp=Z,56nm,0.6s
DANN Dangsing 47.70 306 *e*P **P** **03 27 47.9 -1.4**
comp=Z,66nm,0.7s
HYB Hyderabad 49.19 290 *i*P **P** **03 27 59.5 -1.1**
CIT Chita 49.45 349 *e*P **P** **03 28 02.5 +0.5**
CIT *e* 03 28 13.3
CIT *e* 03 28 18.6
CIT *e* 03 29 59.2
CIT pmax pmax
comp=Z,197nm,1.7s
ZAK Zakamensk 50.61 341 *e*P **P** **03 28 09.7 -1.2**
ZAK *e* 03 29 28.5
ZAK pmax pmax
comp=Z,5.0nm,1.7s
TLY Talaya 51.62 342 *e*P **P** **03 28 16.2 -2.1**
TLY pmax pmax
comp=Z,32nm,1.6s
TLY Talaya 51.62 342 *e*P **P** **03 28 19.2 +0.9**
comp=Z,78nm,1.7s
TLY Talaya 51.62 342 P **P** **03 28 19.0 +0.7**
SNR=17
IRK Irkutsk 51.91 343 *e*P **P** **03 28 20.6 +0.1**
IRK pmax pmax
comp=Z,77nm,1.9s
MOY Mondy 52.47 340 *e*P **P** **03 28 24.7 0.0**
MOY pmax pmax
comp=Z,80nm,2.9s
WMQ Urumqi 52.81 325⇓*i*P **P** **03 28 27.3 -0.1**
WMQ pP **pP** **03 28 43.5 0.0**
WMQ sP **sP** **03 28 50.5 0.0**
WMQ PcP **PcP** **03 29 40.0 +3.9**
WMQ *e*S **S** **03 35 50.0 -1.5**
WMQ ScS **ScS** **03 38 08.0 -3.7**
WMQ pmax pmax
comp=Z,15nm,1.5s
WMQ pmax pmax
comp=Z,280nm,5.0s
WMQ LR LR
comp=N,620nm,13.6s
WMQ LR LR
comp=E,400nm,14.6s
WMQ LR LR
comp=Z,560nm,17.4s
DDI Dehra Dun 53.06 306 *ex* P 03 28 26.0 -3.4
POO Pooa 53.79 290 *ex* P 03 28 30.0 -4.9
BOD Bodaibo 54.95 352 *e*P **P** **03 28 42.8 +0.2**
BOD pmax pmax
comp=Z,13nm,2.4s
PETK Petropavlovsk- 55.48 22 P **P** **03 28 48.3 +1.8**
PETK Petropavlovsk- 55.48 22 P **P** **03 28 48.3 +1.8**
PETK Petropavlovsk- 55.48 22 P **P** **03 28 48.3 +1.8**
comp=Z,4.9nm,0.6s,baz=194,slow=5.3,SNR=3.3
MK31 Makanchi Array 57.65 325 P **P** **03 29 01.3 -0.8**
MK31 pmax pmax
comp=Z,6.0nm,0.4s
MK31 Makanchi Array 57.65 325 *e*P **P** **03 29 01.3 -0.8**
MKAR Makanchi Array 57.65 325*ce*P **P** **03 29 01.6 -0.5**
MKAR pmax pmax
comp=Z,7.0nm,0.4s
MKAR Makanchi Array 57.65 325 *e*P **P** **03 29 01.5 -0.5**
MKAR Makanchi Array 57.65 325 P **P** **03 29 01.6 -0.5**
comp=Z,7.4nm,0.4s,baz=119,slow=7.8,SNR=72
KSH Kashi 58.13 315 P **P** **03 29 06.3 +0.5**
KSH pP **pP** **03 29 21.9 -0.2**
KSH sP **sP** **03 29 28.9 -0.1**
KSH PcP **PcP** **03 29 56.7 -0.1**
KSH PP **PP** **03 31 17.5 +2.4**
KSH ScP **ScP** **03 33 49.7 -2.2**
KSH PcS **PcS** **03 33 56.7 -1.7**
KSH S **S** **03 37 02.2 -0.6**
KSH sS **sS** **03 37 30.2 -0.1**
KSH ScS **ScS** **03 38 45.8 -4.5**
KSH SS **SS** **03 40 57.7 +2.5**
KSH LR LR
comp=N,140nm,5.9s
KSH LR LR
comp=E,150nm,4.6s
KSH LR LR
comp=Z,210nm,5.3s
YAK Yakutsk 58.28 2 *e*P **P** **03 29 04.7 -1.4**
YAK pmax pmax
comp=Z,31nm,1.1s
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK Yakutsk 58.28 2 *e*P **P** **03 29 06.1 -0.1**
comp=E,65nm,0.9s
KZA Kyzart 59.70 318 P **P** **03 29 18.1 +1.2**
SNR=7.3
TKM2 Tokmak 2 59.84 319 *e*P **P** **03 29 17.2 -0.4**
TKM2 pmax pmax
comp=Z,25nm,0.6s
TKM2 Tokmak 2 59.84 319 *e*P **P** **03 29 17.2 -0.4**
comp=Z,25nm,0.6s
TKM2 Tokmak 2 59.84 319 P **P** **03 29 17.6 0.0**
SNR=12
AAK Ala-Archa 60.45 318⇓*i*P **P** **03 29 22.0 +0.3**
AAK pmax pmax
comp=Z,44nm,1.7s
AAK Ala-Archa 60.45 318 *e*P **P** **03 29 21.4 -0.3**
comp=Z,48nm,1.0s
AAK Ala-Archa 60.45 318 P **P** **03 29 22.6 +0.9**
SNR=6.5
AAK Ala-Archa 60.45 318 P **P** **03 29 22.8 +1.1**
SNR=8.3
AAK Ala-Archa 60.45 318 P **P** **03 29 21.8 +0.1**
comp=Z,6.3nm,0.9s,baz=150,slow=4.5,SNR=10
ZAA0 Zalesovo Array 60.68 333 *e*P **P** **03 29 21.9 -0.9**
ZALV Zalesovo Beam 60.68 333 P **P** **03 29 22.1 -0.8**
ZALV Zalesovo Beam 60.68 333 P **P** **03 29 22.1 -0.8**
ZALV Zalesovo Beam 60.68 333 P **P** **03 29 22.1 -0.8**
comp=Z,2.0nm,0.4s,baz=122,slow=7.2,SNR=15
USP Ospenovka 60.71 319 P **P** **03 29 23.0 -0.4**
SNR=22
AML Almayashu 60.78 317 P **P** **03 29 25.3 +1.0**
SNR=16
EKS2 Erkin-Say 60.94 318 *e*P **P** **03 29 25.9 +0.9**
EKS2 pmax pmax
comp=Z,20nm,0.9s
EKS2 Erkin-Say 60.94 318 *e*P **P** **03 29 25.9 +0.9**
comp=Z,20nm,0.9s
EKS2 Erkin-Say 60.94 318 P **P** **03 29 24.8 -0.2**
SNR=16
KBL Kabul 61.61 307 *e*P **P** **03 29 29.8 0.0**
KBL pmax pmax
comp=Z,16nm,0.9s
KBL Kabul 61.61 307 *e*P **P** **03 29 29.8 0.0**
comp=Z,16nm,0.9s
KURBB Kurchatov Arra 61.83 327 P **P** **03 29 30.4 -0.3**
comp=Z,32nm,1.0s,baz=129,slow=6.3,SNR=58
KURBB PP **PP** **03 31 44.6 -2.7**
comp=Z,1.2nm,0.8s,baz=125,slow=7.5,SNR=4.6
KURK Kurchatov 61.83 328*c i*P **P** **03 29 30.0 -0.7**
KURK pmax pmax
comp=Z,50nm,1.3s
KURK Kurchatov 61.83 328 *e*P **P** **03 29 29.2 -1.5**
comp=Z,28nm,0.8s
KURK PP **PP** **03 31 44.6 -2.8**
KURK Kurchatov 61.83 328 P **P** **03 29 30.1 -0.7**
SNR=14
NVS Novosibirsk 61.96 333 *e*P **P** **03 29 29.4 -2.1**
NVS pmax pmax
comp=Z,12nm,1.0s
NVS pmax pmax
comp=N,5.0nm,0.9s
NVS pmax pmax
comp=E,5.0nm,1.2s
SEY Seymchan 62.09 13 *e*P **P** **03 29 34.3 +2.1**
KK31 Karatay Array 63.32 317 *i*P **P** **03 29 40.5 -0.3**
KK31 pmax pmax
comp=Z,11nm,0.7s
BVA0 Borovoye Array 67.41 327 *i*P **P** **03 30 06.9 -0.2**
BVA0 pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 67.41 327 P **P** **03 30 06.6 -0.5**
BVAR Borovoye Array 67.41 327 P **P** **03 30 06.6 -0.5**
BVAR Borovoye Array 67.41 327 P **P** **03 30 06.6 -0.5**
comp=Z,24nm,1.0s,baz=122,slow=7.2,SNR=28
BRVK Borovoye 67.48 327*ce*P **P** **03 30 06.9 -0.6**
BRVK pmax pmax
comp=Z,28nm,1.0s
BRVK Borovoye 67.48 327 *e*P **P** **03 30 07.0 -0.5**
comp=Z,32nm,1.0s
BRVK Borovoye 67.48 327 P **P** **03 30 06.9 -0.6**
SNR=19

ZRNK	**Zerenda**	**68.14**	**327**		P	**P**	**03 30 11.1**	**-0.5**
ZRNK	comp=Z,25nm,0.9s				pmax	pmax		
BILL	**Bilibino**	**69.61**	**15**	⇑*i*	P	**P**	**03 30 19.9**	**-0.6**
BILL				*e*			03 32 57.5	
BILL				*e*	S	**S**	**03 39 28.1**	**+4.3**
BILL	comp=Z,6.0nm,1.5s				pmax	pmax		
BILL	comp=Z,400nm,20.0s				MLR	MLR		
BILL	**Bilibino**	**69.61**	**15**	*e*	P	**P**	**03 30 20.6**	**+0.1**
	comp=Z,7.8nm,1.0s							
AB31	**Akbulak array**	**72.24**	**321**	*i*	P	**P**	**03 30 36.4**	**-0.4**
AB31	comp=Z,10.0nm,0.7s				pmax	pmax		
ABKAR	**Akbulak array**	**72.24**	**321**	*e*	P	**P**	**03 30 36.2**	**-0.6**
AKTO	**Aktyubinsk**	**73.75**	**322**		P	**P**	**03 30 45.3**	**-0.4**
AKTO	comp=Z,4.0nm,1.2s				pmax	pmax		
SVE	**Sverdlovsk**	**74.05**	**328**	⇑*e*	P	**P**	**03 30 47.2**	**-0.1**
SVE	comp=Z,29nm,1.2s				pmax	pmax		
ARU	**Arti**	**75.03**	**328**	*d i*	P	**P**	**03 30 52.7**	**-0.3**
ARU							03 33 37.4	
ARU					S	**S**	**03 40 28.6**	**+2.5**
ARU					SS	**SS**	**03 45 12.5**	**-3.4**
ARU	comp=Z,23nm,1.2s				pmax	pmax		
ARU	**Arti**	**75.03**	**328**	*e*	P	**P**	**03 30 51.7**	**-1.3**
	comp=Z,16nm,0.8s							
ARU	**Arti**	**75.03**	**328**		P	**P**	**03 30 53.4**	**+0.4**
	comp=Z,141nm,1.2s,SNR=5.8							
QRN	**Al-Qurain**	**78.49**	**298**	*e*	P	**P**	**03 31 12.2**	**-0.9**
MIB	**Mutribah**	**79.03**	**300**	*e*	P	**P**	**03 31 15.4**	**-0.6**
MIB	comp=Z,28nm,1.1s				AMb	AMB	03 31 23.5	
NAY	**Al-Naaiem**	**79.10**	**299**	*e*	P	**P**	**03 31 15.3**	**-1.1**
NAY	comp=Z,14nm,0.9s				AMb	AMB	03 31 21.5	
ZEI	**Tsey**	**82.31**	**312**	*e*	P	**P**	**03 31 33.9**	**+0.3**
ZEI	comp=Z,9.0nm,0.9s				pmax	pmax		
TRF	**Thorofare Moun**	**83.58**	**27**	*e*	P	**P**	**03 31 39.7**	**+0.1**
	comp=Z,22nm,1.1s							
RC01	**Rabbit Creek A**	**83.66**	**29**	*e*	P	**P**	**03 31 40.3**	**+0.4**
COLD	**Coldfoot**	**83.94**	**23**	*e*	P	**P**	**03 31 43.3**	**+2.1**
	comp=Z,24nm,1.0s							
VRHR	**Novokhopersk**	**84.13**	**321**	*e*	P	**P**	**03 31 42.7**	**+0.2**
VRHR	comp=Z,10.0nm,0.7s				pmax	pmax		
VRHR	comp=N,8.0nm,0.9s				pmax	pmax		
VRHR	comp=E,9.0nm,0.7s				pmax	pmax		
MCK	**McKinley**	**84.20**	**26**	*e*	P	**P**	**03 31 43.1**	**+0.5**
MCK	comp=Z,23nm,1.1s				pmax	pmax		
MCK	**McKinley**	**84.20**	**26**	*e*	P	**P**	**03 31 43.1**	**+0.5**
	comp=Z,23nm,1.1s							
ILAR	**Eielson Array**	**85.15**	**25**		P	**P**	**03 31 47.4**	**0.0**
ILAR	**Eielson Array**	**85.15**	**25**		P	**P**	**03 31 47.4**	**0.0**
	comp=Z,1.1nm,0.9s,baz=246,slow=5.6,SNR=9.5							
KLMR	**Klimovskoe**	**85.50**	**331**	*e*	P	**P**	**03 31 46.9**	**-2.2**
KLMR	comp=Z,128nm,1.5s				pmax	pmax		
DIV	**Divide**	**85.58**	**29**	*e*	P	**P**	**03 31 50.2**	**+0.5**
	comp=Z,66nm,1.2s							
VORD	**Divnogorie**	**85.60**	**321**	*e*	P	**P**	**03 31 49.0**	**-0.8**
VSR	**Storozhevoye**	**85.68**	**321**	*e*	P	**P**	**03 31 49.9**	**-0.3**
VSR	comp=Z,20nm,1.1s				pmax	pmax		
VSR	comp=N,8.0nm,1.3s				pmax	pmax		
VSR	comp=E,20nm,1.0s				pmax	pmax		
PMOR	**Pomariorio Ree**	**86.42**	**105**	*e*	P	**P**	**03 31 52.4**	**-2.2**
	comp=E,132nm,1.2s							
MOS	**Moscow**	**86.53**	**325**	*e*	P	**P**	**03 31 53.2**	**-1.1**
MOS	comp=Z,86nm,1.4s				pmax	pmax		
OBN	**Obninsk**	**87.15**	**325**	⇓*e*	P	**P**	**03 31 57.1**	**-0.2**
OBN				*e*	S		03 42 24.9	-7.1
OBN	comp=Z,103nm,1.7s				pmax	pmax		
OBN	comp=Z,1μm,21.0s				MLR	MLR		
OBN	**Obninsk**	**87.15**	**325**	*e*	P	**P**	**03 31 57.2**	**-0.1**
	comp=Z,190nm,1.8s							
JOF	**Joensuu**	**89.27**	**333**	*e*	P	**P**	**03 32 06.3**	**-0.9**
JOF	comp=Z,14nm,0.8s				pmax	pmax		
JOF	**Joensuu**	**89.27**	**333**	*e*	P	**P**	**03 32 06.3**	**-0.9**
	comp=Z,14nm,0.8s							
KMBO	**Kilima Mbogo**	**89.60**	**269**	*e*	P	**P**	**03 32 11.0**	**+0.8**
	comp=Z,8.0nm,1.0s							
KEV	**Kevo**	**89.98**	**340**	*e*	P	**P**	**03 32 10.4**	**0.0**
KEV	comp=Z,30nm,1.5s				pmax	pmax		
KEV	**Kevo**	**89.98**	**340**	*e*	P	**P**	**03 32 10.4**	**0.0**
	comp=Z,30nm,1.5s							
BR131	**Keskin Array S**	**90.11**	**310**	*e*	P	**P**	**03 32 10.9**	**-1.1**
	comp=Z,5.9nm,0.9s							
BRTR	**Keskin Array B**	**90.11**	**310**		P	**P**	**03 32 11.8**	**-0.1**
BRTR	**Keskin Array B**	**90.11**	**310**		P	**P**	**03 32 11.8**	**-0.1**
	comp=Z,6.5nm,0.9s,baz=120,slow=5.0,SNR=20							
INK	**Inuvik**	**90.21**	**21**	*e*	P	P	03 32 17.0	+5.5
	comp=Z,8.7nm,1.2s							
ARCES	**ARCESS Array B**	**90.54**	**340**		P	**P**	**03 32 12.3**	**-0.7**
ARCES	**ARCESS Array B**	**90.54**	**340**		P	**P**	**03 32 12.3**	**-0.7**
	comp=Z,6.3nm,0.6s,baz=87,slow=6.2,SNR=21							
KAF	**Kangasniemi**	**91.69**	**332**	*e*	P	**P**	**03 32 17.4**	**-1.1**
KAF	comp=Z,13nm,0.8s				pmax	pmax		
KAF	**Kangasniemi**	**91.69**	**332**	*e*	P	**P**	**03 32 17.4**	**-1.1**
	comp=Z,13nm,0.8s							
FINES	**FINESS Array B**	**91.92**	**332**		P	**P**	**03 32 19.2**	**-0.4**
FINES	**FINESS Array B**	**91.92**	**332**		P	**P**	**03 32 19.2**	**-0.4**
	comp=Z,4.0nm,0.8s,baz=60,slow=5.9,SNR=14							
AKASG	**Malin Array Be**	**91.98**	**321**		P	**P**	**03 32 19.4**	**-0.8**
AKASG	**Malin Array Be**	**91.98**	**321**		P	**P**	**03 32 19.4**	**-0.8**
AKASG	**Malin Array Be**	**91.98**	**321**		P	**P**	**03 32 19.4**	**-0.8**
	comp=Z,4.6nm,0.7s,baz=69,slow=4.3,SNR=12							
KIEV	**Kiev**	**91.99**	**321**	*e*	P	**P**	**03 32 20.3**	**+0.1**
KIEV	comp=Z,110nm,2.7s				pmax	pmax		
KIEV	**Kiev**	**91.99**	**321**	*e*	P	**P**	**03 32 20.3**	**+0.1**
	comp=Z,110nm,2.7s							
TESR		**94.33**	**317**	⇓*i*	P	**P**	**03 32 30.9**	**-0.2**
VRI	**Vrincioaia**	**94.39**	**316**	⇓*i*	P	**P**	**03 32 32.3**	**+0.9**
VRI	**Vrincioaia**	**94.39**	**316**	⇓*i*	P	**P**	**03 32 32.3**	**+0.9**
PLOR	**Plostina**	**94.44**	**316**	⇑*i*	P	**P**	**03 32 33.3**	**+1.6**
PLOR	**Plostina**	**94.44**	**316**	⇑*i*	P	**P**	**03 32 33.3**	**+1.6**
MLR	**Muntele Rosu**	**94.99**	**316**	⇑*i*	P	**P**	**03 32 34.7**	**+0.4**
SUW	**Suwalki**	**95.01**	**325**	*e*	P	**P**	**03 32 34.4**	**+0.4**
SUW	comp=Z,27nm,1.0s				pmax	pmax		
SUW	**Suwalki**	**95.01**	**325**	*e*	P	**P**	**03 32 34.4**	**+0.4**
	comp=Z,27nm,1.0s							
BURAR	**Bucovina Array**	**95.09**	**318**	⇑*i*	P	**P**	**03 32 35.4**	**+0.7**
BUR08	**Bucovina Ar. S**	**95.10**	**318**	*e*	P	**P**	**03 32 34.7**	**-0.1**
KWP	**Kalwaria Pacla**	**96.30**	**321**	⇓*i*	P	**P**	**03 32 41.2**	**+1.2**
KWP	**Kalwaria Pacla**	**96.30**	**321**	*e*	P	**P**	**03 32 39.5**	**-0.5**
	comp=Z,11nm,0.9s							
KWP	**Kalwaria Pacla**	**96.30**	**321**	⇓*i*	P	**P**	**03 32 41.2**	**+1.2**
TRPA	**Tarpa**	**96.75**	**319**	⇑*i*	P	**P**	**03 32 45.0**	**+3.0**
UZH	**Uzhgorod**	**96.79**	**320**	*e*	P	**P**	**03 32 42.3**	**+0.1**
UZH				*e*			03 32 53.5	
DRGR		**96.93**	**318**	⇓*i*	P	**P**	**03 32 42.9**	**-0.1**
DRGR		**96.93**	**318**	⇓*i*	P	**P**	**03 32 42.9**	**-0.1**
RES	**Resolute Bay**	**97.87**	**10**	*e*	P	Pdif	03 32 47.3	+0.7
	comp=Z,15nm,1.9s							
BZS	**Buzias**	**97.94**	**317**	⇑*i*	P	Pdif	03 32 47.6	+0.1
BZS	**Buzias**	**97.94**	**317**	⇑*i*	P	Pdif	03 32 47.6	+0.1
NB2	**NORSAR Subarra**	**98.88**	**334**		P	**P**	**03 32 50.6**	**-0.8**
	baz=67,slow=4.6							
NB2	**NORSAR Subarra**	**98.88**	**334**		P	**P**	**03 32 50.6**	**-0.8**
	comp=Z,5.9nm,1.1s,baz=67,slow=4.6							
NOA	**NORSAR Array B**	**98.88**	**334**		P	**P**	**03 32 50.7**	**-0.8**
NOA	**NORSAR Array B**	**98.88**	**334**		P	**P**	**03 32 50.7**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=67,slow=4.6,SNR=5.5							
LSZ	**Lusaka**	**99.24**	**255**		P	**Pdif**	**03 32 53.1**	**-1.0**
	comp=Z,8.7nm,1.4s							
YKA	**Yellowknife Ar**	**99.54**	**24**		P	**Pdif**	**03 32 56.3**	**+2.0**
YKA	**Yellowknife Ar**	**99.54**	**24**		P	**Pdif**	**03 32 56.3**	**+2.0**
	comp=Z,0.9nm,1.0s,baz=296,slow=4.5,SNR=4.5							
BRG	**Berggiesshubel**	**101.33**	**323**	*e*	P	**Pdif**	**03 33 04.1**	**+1.6**
	comp=Z,65nm,2.8s							
BRG	**Berggiesshubel**	**101.33**	**323**	*e*	P	**Pdif**	**03 33 04.1**	**+1.6**
BRG	comp=Z,65nm,2.8s				pmax	pmax		
GERES	**GERESS Array B**	**102.18**	**322**		P	**Pdif**	**03 33 05.0**	**-1.4**
GERES	**GERESS Array B**	**102.18**	**322**		P	**Pdif**	**03 33 05.0**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=89,slow=5.0,SNR=3.8							
GRFO	**Grafenberg**	**103.39**	**323**	*e*	P	**Pdif**	**03 33 14.7**	**+3.0**
GRFO	**Grafenberg**	**103.39**	**323**	*e*	Pdif	**Pdif**	**03 33 14.7**	**+3.0**
HRY	**Holter Researc**	**108.16**	**38**	*e*	Pdif	**Pdif**	**03 33 35.9**	**+2.8**
W24A	**Lazy 6 Ranch,**	**117.68**	**47**	⇑P		**PKPdf**	**03 37 59.5**	**+1.4**
	baz=118							
S26A	**Kim**	**117.91**	**44**	⇓P		**PKPdf**	**03 37 59.7**	**+1.3**
	baz=118							
V25A	**Rancho No Teng**	**117.97**	**46**	⇓P		**PKPdf**	**03 38 00.2**	**+1.5**
	baz=118							
T26A	**Comanche Natio**	**118.05**	**44**	⇑P		**PKPdf**	**03 38 00.3**	**+1.6**
	baz=118							
Y24A	**Capitan**	**118.24**	**48**	⇓P		**PKPdf**	**03 38 00.7**	**+1.5**
	baz=118							
Y25A	**Mesa, Roswell**	**118.79**	**48**	⇓P		**PKPdf**	**03 38 01.6**	**+1.3**
	baz=119							
MNTX	**Cornudas Mount**	**119.25**	**50**	⇓P		**PKPdf**	**03 38 02.8**	**+1.7**
	baz=119							
324A	**Moseley Ranch,**	**119.28**	**51**	⇓P		**PKPdf**	**03 38 02.3**	**+1.0**
	baz=119							
Y27A	**Causey**	**119.94**	**47**	⇑P		**PKPdf**	**03 38 03.5**	**+1.1**
	baz=120							
425A	**Indio Mountain**	**119.95**	**51**	⇑P		**PKPdf**	**03 38 03.9**	**+1.3**
	baz=120							
Z27A	**Tatum**	**120.17**	**48**	⇓P		**PKPdf**	**03 38 04.0**	**+1.2**
	baz=120							
SCHQ	**Schefferville**	**120.63**	**9**		PKP	**PKPdf**	**03 38 03.7**	**+0.7**
SCHQ	**Schefferville**	**120.63**	**9**		PKP	**PKPdf**	**03 38 03.7**	**+0.7**
	comp=Z,2.0nm,0.9s,baz=310,slow=8.6,SNR=4.6							
Y29A	**Porterfield Fa**	**121.04**	**47**	⇓P		**PKPdf**	**03 38 06.3**	**+1.8**
	baz=121							
527A	**Woodward Ranch**	**121.29**	**51**	⇓P		**PKPdf**	**03 38 06.0**	**+0.8**
	baz=121							
TXAR	**Lajitas Array**	**121.60**	**52**		PKP	**PKPdf**	**03 38 05.4**	**-0.3**
TXAR	**Lajitas Array**	**121.60**	**52**		PKP	**PKPdf**	**03 38 05.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=58,slow=20,SNR=12							
428A	**Kincaid Ranch,**	**121.75**	**50**	⇓P		**PKPdf**	**03 38 07.2**	**+1.2**
	baz=122							
627A	**Terlingua Ranc**	**121.77**	**52**	⇓P		**PKPdf**	**03 38 07.2**	**+1.1**
	baz=122							
628A	**Black Gap, Mar**	**122.15**	**52**	⇑P		**PKPdf**	**03 38 08.0**	**+1.3**
	baz=122							
TORD	**Torodi Ar. Bea**	**122.99**	**288**		PKP	**PKPdf**	**03 38 08.7**	**+0.1**
TORD					PP	**PP**	**03 39 48.7**	**+0.5**
TORD	**Torodi Ar. Bea**	**122.99**	**288**		PKP	**PKPdf**	**03 38 08.7**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=56,slow=2.1,SNR=11							
TORD					PP	**PP**	**03 39 48.7**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=82,slow=4.1,SNR=3.5							
JCT	**Junction City**	**124.06**	**49**	*e*	PKIKP	**PKPdf**	**03 38 11.5**	**+1.1**
JCT	**Junction City**	**124.06**	**49**	*e*	PKPdf	**PKPdf**	**03 38 11.4**	**+1.1**
JCT	**Junction City**	**124.06**	**49**	⇓P		**PKPdf**	**03 38 11.7**	**+1.4**
	baz=124							
PLCA	**Paso Flores**	**139.92**	**159**		PKP	**PKPdf**	**03 38 41.8**	**+1.9**
PLCA	**Paso Flores**	**139.92**	**159**		PKP	**PKPdf**	**03 38 41.8**	**+1.9**
	comp=Z,1.4nm,0.8s,baz=171,slow=5.7,SNR=5.1							
TRQA	**Tornquist**	**144.84**	**168**	*e*	PKPdf	**PKPdf**	**03 38 48.6**	**0.0**
LPAZ	**La Paz**	**160.70**	**132**	*e*	PKPdf	**PKPdf**	**03 39 12.9**	**0.0**

IDC 12 03:27:12.5±1.6, 4.°13N×127.°50E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/21, mbtmp4.0/8, Error ellipse: s-maj=198.8km s-min=16.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.85**	**165**	P	P	03 32 35.7	-1.2
	6.1nm,0.7s						
ASAR	**Alice Springs**	**28.33**	**168**	P	P	03 33 09.7	+1.4
	0.4nm,0.4s,baz=343,slow=12,SNR=4.5						
STKA	**Stephens Creek**	**38.24**	**160**	P	P	03 34 34.0	-0.4
	1.1nm,0.3s,baz=317,slow=3.6,SNR=4.5						
SONM	**Songino Array**	**47.17**	**341**	P	P	03 35 47.6	+0.7
	0.5nm,0.6s,baz=160,slow=6.0,SNR=4.0						
MKAR	**Makanchi Array**	**57.67**	**325**	P	P	03 37 04.3	-0.5
	1.1nm,0.5s,baz=122,slow=8.1,SNR=14						
ZALV	**Zalesovo Beam**	**60.58**	**333**	P	P	03 37 24.1	-0.7
	0.6nm,0.6s,baz=74,slow=5.2,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.82**	**327**	P	P	03 37 33.6	+0.3
	2.0nm,0.5s,baz=131,slow=6.3,SNR=9.6						
BVAR	**Borovoye Array**	**67.41**	**327**	P	P	03 38 10.0	+0.2
	3.0nm,1.0s,baz=138,slow=7.2,SNR=8.7						

IDC 12 03:30:09.6±1.3, 3.°57N×126.°18E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.8/20, mbtmp4.0/6, Error ellipse: s-maj=192.9km s-min=17.8km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.71**	**161**	P	P	03 35 33.1	+0.4
	9.3nm,0.7s						
ASAR	**Alice Springs**	**28.10**	**165**	P	P	03 36 03.0	-0.3
	0.3nm,0.5s,baz=342,slow=8.8,SNR=3.7						
STKA	**Stephens Creek**	**38.18**	**159**	P	P	03 37 30.8	-0.2
	6.8nm,0.7s,baz=333,slow=9.2,SNR=14						
SONM	**Songino Array**	**47.27**	**342**	P	P	03 38 44.3	-0.5
	0.1nm,0.3s,baz=161,slow=9.2,SNR=2.6						
MKAR	**Makanchi Array**	**57.37**	**326**	P	P	03 39 59.0	-0.8
	0.3nm,0.4s,baz=123,slow=8.8,SNR=3.9						
KURBB	**Kurchatov Arra**	**61.52**	**328**	P	P	03 40 29.7	+1.0
	0.9nm,0.5s,baz=125,slow=6.5,SNR=4.2						

IDC 12 03:31:22.2±1.1, 3.°28N×126.°31E, h0km, mb4.3/9, mb1 4.4/9, mb1mx4.1/21, mbtmp4.3/9, Error ellipse: s-maj=147.2km s-min=15.8km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.39**	**161**	P	P	03 36 42.4	0.0
	9.7nm,0.5s						
ASAR	**Alice Springs**	**27.79**	**165**	P	P	03 37 13.2	0.0
	1.1nm,0.5s,baz=344,slow=7.2,SNR=7.5						
STKA	**Stephens Creek**	**37.87**	**159**	P	P	03 38 40.8	-0.2
	12nm,0.8s,baz=337,slow=8.2,SNR=12						
SONM	**Songino Array**	**47.59**	**342**	P	P	03 39 60.0	0.0
	1.1nm,0.6s,baz=162,slow=7.2,SNR=9.7						
MKAR	**Makanchi Array**	**57.68**	**326**	P	P	03 41 15.1	+0.5
	0.6nm,0.3s,baz=126,slow=7.8,SNR=7.0						
KURBB	**Kurchatov Arra**	**61.89**	**328**	P	P	03 41 43.0	-0.4
	1.9nm,0.6s,baz=130,slow=6.6,SNR=6.2						
BVAR	**Borovoye Array**	**67.46**	**327**	P	P	03 42 19.4	-0.4
	1.2nm,0.8s,baz=142,slow=5.6,SNR=5.2						
AKTO	**Aktyubinsk**	**73.75**	**322**	P	P	03 42 58.1	-0.1
	1.2nm,0.5s,baz=102,slow=8.5						
ARCES	**ARCESS Array B**	**90.72**	**340**	P	P	03 44 26.7	0.0
	3.1nm,1.0s,baz=75,slow=6.9,SNR=3.6						
TORD	**Torodi Ar. Bea**	**122.66**	**288**	PKP	PKPdf	03 50 21.2	+0.2
	0.4nm,0.9s,baz=52,slow=1.5,SNR=4.5						

IDC 12 03:36:05.2±2.0, 55.°52S×26.°53W, h0km, mb3.6/1, mb1 3.6/1, mb1mx3.5/12, mbtmp3.6/1, Error ellipse: s-maj=114.1km s-min=74.1km az=141.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**72.41**	**29**	P	P	03 47 33.0	+0.1
	0.3nm,0.7s,baz=195,slow=5.6,SNR=5.0						
YKA	**Yellowknife Ar**	**136.03**	**318**	PKP	PKPdf	03 55 28.0	+1.4
	0.1nm,0.5s,baz=128,slow=2.3,SNR=5.3						
ILAR	**Eielson Array**	**150.04**	**312**	PKPbc	PKPbc	03 55 55.0	-1.0
	0.9nm,0.9s,baz=129,slow=2.6,SNR=6.3						
SONM	**Songino Array**	**150.31**	**85**	PKPbc	PKPbc	03 55 56.9	-0.5
	0.3nm,0.5s,baz=220,slow=3.0,SNR=4.0						

*IDC **12** 03:36:55.2±1.3, 52.°26N×171.°27W, h0km, mb3.4/8, mb1 3.7/12, mb1mx3.6/32, mbtmp3.5/12, ML3.2/4, Error ellipse: s-maj=41.3km s-min=12.8km az=179.0*

*ISCJB **12** 03:36:58.8±0.8, 52.°1N±0.°2×171.°42W±0.°08, h44km, mb3.3/8, Error ellipse: s-maj=23.5km s-min=4.7km az=167.8*

*NEIC **12** 03:36:59.4, 52.°05N×171.°41W, h16km, ML3.3(AEIC), After AEIC.*

ISC 12 03:37:00.5±1.1, 52.°1N±0.°2×171.°41W±0.°06, h44km, n17, σ0=66/20, mb3.3/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**1.71**	**273**	P	**Pn**	**03 37 26.9**	**-0.8**
ATKA				S	**Sn**	**03 37 48.3**	**-0.1**
NIKO	**Nikolski**	**1.77**	**61**	P	**Pn**	**03 37 27.7**	**-0.9**
ADK	**Adak**	**3.27**	**268**	P	**Pn**	**03 37 49.2**	**+0.1**
ADK				S	**Sn**	**03 38 26.8**	**+0.1**
MSW	**Makushin Switc**	**3.32**	**56**	P	**Pn**	**03 37 50.8**	**+1.0**
UNV	**Unalaska Valle**	**3.43**	**58**	P	**Pn**	**03 37 52.0**	**+0.7**
UNV				S	**Sn**	**03 38 31.7**	**+1.1**
FX1	**Attu Island--F**	**9.44**	**281**	Pn	**Pn**	**03 39 14.7**	**+1.1**
	0.6nm,0.3s,baz=72,slow=20,SNR=2.2						
KDAK	**Kodiak Island**	**12.19**	**55**	Pn	**Pn**	**03 39 50.7**	**-0.6**
	0.1nm,0.3s,baz=108,slow=16,SNR=2.2						
ILAR	**Eielson Array**	**17.86**	**35**	P	**Pn**	**03 41 04.8**	**-0.5**
	0.1nm,0.3s,baz=224,slow=8.8,SNR=5.5						
PETK	**Petropavlovsk-**	**18.71**	**285**	P	**Pn**	**03 41 15.5**	**-0.2**
	0.1nm,0.3s,baz=84,slow=13,SNR=3.4						
INK	**Inuvik**	**24.24**	**34**	P	**P**	**03 42 11.7**	**-1.0**
	0.4nm,0.4s,baz=279,slow=10,SNR=3.8						
YKA	**Yellowknife Ar**	**31.34**	**48**	P	**P**	**03 43 16.4**	**+0.2**
	0.1nm,0.4s,baz=276,slow=7.7,SNR=5.2						
NVAR	**Mina Array Bea**	**38.92**	**89**	P	**P**	**03 44 22.0**	**0.0**
	0.3nm,0.6s,baz=289,slow=8.5,SNR=3.3						
PDAR	**Pinedale Array**	**41.68**	**78**	P	**P**	**03 44 45.0**	**+0.1**
	0.4nm,0.7s,baz=311,slow=2.3,SNR=4.1						
SONM	**Songino Array**	**50.33**	**300**	P	**P**	**03 45 53.2**	**+0.6**
	0.1nm,0.5s,baz=58,slow=4.7,SNR=4.2						
TXAR	**Lajitas Array**	**54.01**	**87**	P	**P**	**03 46 19.8**	**-0.4**
	0.3nm,0.6s,baz=298,slow=4.9,SNR=5.7						
KURBB	**Kurchatov Arra**	**61.81**	**317**	P	**P**	**03 47 14.3**	**0.0**
	0.3nm,0.7s,baz=49,slow=7.0,SNR=2.7						
BVAR	**Borovoye Array**	**63.15**	**323**	P	**P**	**03 47 23.3**	**0.0**
	0.5nm,0.6s,baz=56,slow=6.4,SNR=3.8						

IDC 12 03:40:30.7±2.3, 3.°82N×126.°21E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=301.6km s-min=22.6km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.93**	**162**	P	P	03 45 55.6	-0.2
	1.5nm,0.5s,baz=341,slow=9.9,SNR=7.9						
STKA	**Stephens Creek**	**38.40**	**159**	P	P	03 47 54.0	+0.1
	4.4nm,1.1s,baz=345,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**57.19**	**325**	P	P	03 50 20.3	+0.7
	0.2nm,0.4s,baz=124,slow=7.3,SNR=4.5						
KURBB	**Kurchatov Arra**	**61.39**	**328**	P	P	03 50 47.9	-0.6
	0.3nm,0.5s,baz=124,slow=6.9,SNR=3.0						

*IDC **12** 03:42:44.7±0.6, 3.°80N×126.°30E, h0km, mb4.3/19, mb1 4.4/19, mb1mx4.3/24, mbtmp4.3/19, Error ellipse: s-maj=41.0km s-min=13.1km az=70.0*

*NEIC **12** 03:42:50.0±1.0, 3.°77N×126.°29E, h36km±8km, mb4.4/10, Error ellipse: s-maj=11.8km s-min=4.7km az=71.0*

*DJA **12** 03:42:55, 3.°65N×126.°76E, h63km, mb4.8/13*

ISC 12 03:42:51.1±0.5, 3.°87N±0.°07×126.°4E±0.°1, h45km, n71, σ0=95/62, mb4.5/29, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.62**	**327**	*e* P	**Pn**	**03 43 33.9**	**+2.9**
MNI	**Manado**	**2.86**	**213**	P	Pn	03 43 41.8	+7.6
TNTI	**Ternate**	**3.23**	**162**	P	**Pn**	**03 43 39.8**	**+0.5**
DAV	**Davao City (W)**	**3.28**	**346**	*e* Pn	**Pn**	**03 43 39.4**	**-0.6**
DAV	**Davao City (W)**	**3.28**	**346**	Pn	Pn	03 43 44.9	+5.0
	72nm,0.3s,baz=176,slow=1.8,SNR=1.9						
DAV					Sn	Sn	03 44 36.1	+18
	45nm,0.3s,baz=66,slow=23,SNR=4.0						
KMSI	**Cibinong**	**4.06**	**216**	P	Pn	03 44 05.4	+15
MRSI	**Marisa**	**5.57**	**233**	P	Pn	03 44 17.5	+6.0
	153nm,0.5s,2μm0.8nm						
LUWI	**Luwuk**	**6.07**	**217**	P	Pn	03 44 27.9	+10
	206nm,0.9s,2μm0.9nm						
NLAI	**Namlea**	**7.10**	**174**	P	**Pn**	**03 44 34.1**	**+1.6**
	55nm,0.7s,6μm0.9nm						
KDI	**Kendari**	**8.64**	**206**	P	Pn	03 45 01.0	+7.5
	24nm,0.8s,0.1nm						
FAKI	**Fak Fak**	**8.94**	**139**	P	**Pn**	**03 44 58.1**	**+0.4**
	25nm,0.8s,0.1nm

	1.3nm,0.6s,baz=70,slow=5.8,SNR=8.1							
FINES	FINESS Array B	91.54	332	P		P	03 55 52.6	-0.2
FINES	FINESS Array B	91.54	332	P		P	03 55 52.6	-0.2
	1.3nm,0.5s,baz=58,slow=7.2,SNR=7.2							
AKASG	Malin Array Be	91.56	321	P		P	03 55 52.9	-0.2
AKASG	Malin Array Be	91.56	321	P		P	03 55 52.9	-0.2
	0.8nm,0.4s,baz=68,slow=4.9,SNR=4.6							
MLR	Muntele Rosu	94.56	316	P		P	03 56 07.7	+0.5
MLR	Muntele Rosu	94.56	316	P		P	03 56 07.7	+0.5
	0.3nm,0.7s,baz=267,slow=23,SNR=4.5							
NOA	NORSAR Array B	98.50	334	P		P	03 56 23.3	-1.4
NOA	NORSAR Array B	98.50	334	P		P	03 56 23.3	-1.4
	1.1nm,0.8s,baz=56,slow=5.6,SNR=3.5							
TORD	Torodi Ar. Bea	122.54	288	PKP		PKPdf	04 01 42.6	-0.1
TORD	Torodi Ar. Bea	122.54	288	PKP		PKPdf	04 01 42.6	-0.1
	0.4nm,0.7s,baz=62,slow=1.6,SNR=6.7							

IDC ***12*** *03:47:52.4±0.5,3.72N×126.47E, h0km, mb4.6/30, mb1 4.6/30,mb1mx4.6/31,mbtmp4.6/30, Error ellipse: s-maj=21.7km s-min=10.9km az=78.0*

ISCJB ***12*** *03:47:57.8±0.3,3.85N±0.03×126.81E±0.05, h53km, mb4.8/59, Error ellipse: s-maj=6.6km s-min=4.4km az=172.6*

NEIC ***12*** *03:47:57.7±1.0,3.79N×126.67E, h36km±9km, mb4.9/25, Error ellipse: s-maj=8.7km s-min=5.1km az=81.0*

DJA ***12*** *03:48:04,3.43N×126.67E, h107km, mb4.8/4*

ISC 12 03:47:59.9±0.4,3.77N±0.05×126.69E±0.07,h53km,n173, σ1s54/154,mb4.8/58,1C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	2.88	323	eP	Pn	03 48 44.0	+0.5
MNI	Manado	2.96	219	P	Pn	03 48 48.1	+3.7
TNTI	Ternate	3.06	167	P	Pn	03 48 45.7	-0.1
MATI	Mati	3.18	352	eP	Pn	03 48 50.2	+2.7
MATI				eS	Sn	03 49 28.3	+4.1
DAV	Davao City (W)	3.46	341	ePn	Pn	03 48 48.5	-2.8
DAV				Sn	Sn	03 49 35.3	+4.3
DAV	Davao City (W)	3.46	341	i P	Sn	03 49 38.2	+7.2
DAV	Davao City (W)	3.46	341	P	Pn	03 49 02.5	+11
DAV	Davao City (W)	3.46	341	Pn	Pn	03 48 52.7	+1.4
	56nm,0.3s,baz=284,slow=11,SNR=6.6						
DAV				Sn	Sn	03 49 35.3	+4.3
	97nm,0.3s,baz=264,slow=21,SNR=4.7						
DMPH	Davao City--Mi	3.49	340	eP	Pn	03 48 52.3	+0.5
KCP	Kidapawan	3.59	334	‖ eP	Pn	03 48 59.5	+6.4
KMSI	Cibinong	4.17	220	P	Pn	03 49 07.9	+6.8
BUKP	Musuan	4.39	338	eP	Pn	03 49 05.0	+0.9
LBMI	Labuha	4.45	169	P	Pn	03 49 06.6	+1.6
MRSI	Marisa	5.76	236	P	Pn	03 49 25.0	+2.1
	500nm,0.7s,6μm11nm						
LUWI	Luwuk	6.18	219	P	Pn	03 49 37.4	+8.8
MSLP	Maasin	6.58	344	eP	Pn	03 49 37.6	+3.6
NLAI	Namlea	6.97	177	P	Pn	03 49 39.7	+0.1
	98nm,0.7s,3μm3.6nm						
FAKI	Fak Fak	8.66	140	P	Pn	03 50 05.2	+2.5
KDI	Kendari	8.69	208	P	Pn	03 50 05.6	+2.6
	69nm,1.6s,1μm						
TSM	Tawau	8.81	274	P	Pn	03 50 06.8	+2.2
SDKM	Sandakan	9.64	281	P	Pn	03 50 18.5	+2.4
TTSI	Tana Toraja	9.64	225	P	Pn	03 50 22.3	+6.2
	121nm,1.5s,2μm						
KDM	Kudat	10.29	288	P	Pn	03 50 32.5	+7.5
SPSI	Sidrap Palu	10.33	222	P	Pn	03 50 37.5	+12
BAKI	Biak	10.63	117	P	Pn	03 50 36.0	+6.4
KKM	Kota Kinabalu	10.67	283	ePn	Pn	03 50 30.0	-0.3
	46nm,0.7s						
KKM	Kota Kinabalu	10.67	283	P	Pn	03 50 34.0	+3.6
KKM	Kota Kinabalu	10.67	283	P	Pn	03 50 33.6	+3.3
	88nm,1.8s,2μm						
TLE	Tual	11.13	147	P	Pn	03 50 45.7	+9.2
BTM	Bintulu	13.59	268	P	Pn	03 51 11.9	+1.8
BBKI	Banjar Baru	13.85	239	P	P	03 51 31.2	+11
SBUM	Sibu	14.50	265	P	P	03 51 25.9	-1.7
SBUM	Sibu	14.50	265	P	P	03 51 25.4	-2.3
	68nm,2.5s,2μm						
JAY	Jayapura	15.34	114	P	P	03 51 40.1	+3.1
STKI	Sintang	15.64	257	P	P	03 51 43.0	+2.7
	88nm,1.0s						
KSM	Kuching	16.52	262	ePn	Pn	03 51 47.7	-0.5
	27nm,0.8s						
KSM	Kuching	16.52	262	P	P	03 51 51.0	+1.0
KSM	Kuching	16.52	262	P	P	03 51 52.1	+2.0
	59nm,0.7s,905nm						
GMJI	Gumukmas	17.82	228	P	pP	03 52 18.2	+1.9
SJI	Sawahan	18.77	232	P	Pn	03 52 23.6	+7.7
	71nm,0.9s						
TWG	Pinlang	19.70	344	eP	P	03 52 21.8	-3.2
	48nm,0.6s						
YULB	Yu-li	20.19	346	eP	P	03 52 27.5	-2.9
	19nm,0.4s						
TPUB	Ta-pu	20.28	344	eP	P	03 52 28.4	-3.0
	52nm,0.6s						
SSLB	Suanglung	20.66	345	eP	P	03 52 33.2	-2.2
	46nm,0.6s						
PPBI	Pangkal Pinang	21.37	254	P	P	03 52 48.6	+5.5
	28nm,1.5s,1μm						
YHNB	Yeheng	21.40	347	eP	P	03 52 41.5	-1.9
	38nm,0.6s						
LEM	Lembang	21.75	241	P	P	03 52 51.9	+4.5
	62nm,0.8s,1μm						
FITZ	Fitzroy Crossi	21.76	183	P	P	03 52 45.0	-2.2
FITZ	Fitzroy Crossi	21.76	183	P	P	03 52 45.0	-2.2
	10nm,0.6s,baz=7.6,slow=11,SNR=16						
MYKOM	Kota Tinggi	22.89	266	P	P	03 53 01.2	+1.8
MYKOM	Kota Tinggi	22.89	266	P	P	03 53 01.1	+1.7
	36nm,0.7s,549nm						
JOW	Kunigami	22.98	4	P	P	03 53 00.1	-0.1
JOW	Kunigami	22.98	4	P	P	03 53 00.1	-0.1
	16nm,0.5s,baz=197,slow=9.7,SNR=6.4						
CGJI	Cibinong	23.36	244	P	P	03 53 03.6	-0.4
	90nm,1.0s,3μm						
KGM	Kluang	23.40	266	P	P	03 53 07.1	+2.6
KASI	Kota Agung	24.01	248	P	P	03 53 17.3	+7.3
	70nm,0.9s						
WRA	Warramunga Arr	24.74	163	P	P	03 53 15.5	-1.1
WRA	Warramunga Arr	24.74	163	P	P	03 53 15.5	-1.1
	2μm,0.3s,baz=47,slow=0.0,SNR=4.6						
FRIM	Kepong	25.02	270	P	P	03 53 23.9	+4.7
IPM	Ipoh	25.60	272	eP	P	03 53 24.4	-0.2
	112nm,1.5s						
IPM	Ipoh	25.60	272	P	P	03 53 27.7	+3.1
IPM	Ipoh	25.60	272	P	P	03 53 30.8	+6.2
	44nm,1.6s,618nm						
MNSI	Mandailing Nat	27.24	264	P	P	03 53 47.6	+8.3
	39nm,0.8s						
PSI	Prapat	27.73	269	P	P	03 53 44.7	+0.8
PSI	Prapat	27.73	269	P	P	03 53 51.5	+7.6
	18nm,1.6s						
PSI	Prapat	27.73	269	P	P	03 53 44.7	+0.8
	4.6nm,0.6s,baz=93,slow=9.1,SNR=5.0						
AS31	Alice Springs	28.16	166	eP	P	03 53 47.0	-0.4
ASAR	Alice Springs	28.16	166	P	P	03 53 46.7	-0.8
ASAR	Alice Springs	28.16	166	P	P	03 53 46.7	-0.8
	2.6nm,0.4s,baz=352,slow=8.0,SNR=20						
GSI	Gunungsitoli	29.18	266	P	P	03 53 56.6	-0.1
JNU	Nakatsue	29.46	7	P	P	03 53 58.8	-0.2
JNU	Nakatsue	29.46	7	P	P	03 53 58.8	-0.2
	8.5nm,0.8s,baz=206,slow=1.7,SNR=5.2						
CMAR	Chiang Mai Arr	30.81	300	P	P	03 54 10.2	-0.8
CMAR	Chiang Mai Arr	30.81	300	P	P	03 54 10.2	-0.8
	2.7nm,0.6s,baz=121,slow=7.6,SNR=9.5						
CHTO	Chiang Mai	30.96	301	eP	P	03 54 11.6	-0.8
	8.8nm,0.8s						
CHTO	Chiang Mai	30.96	301	P	P	03 54 14.3	+1.9
	21nm,1.2s						
ENH	Enshi	30.97	330	eP	P	03 54 11.7	-0.6
	16nm,0.8s						
KSAR	Wonju Array Be	33.53	2	P	P	03 54 34.4	-0.2
KSRS	Korea Array	33.54	2	P	P	03 54 34.4	-0.3
	4.8nm,0.6s,baz=174,slow=10,SNR=14						
MJAR	Matsushiro Arr	34.30	17	P	P	03 54 39.9	-1.4
MJAR	Matsushiro Arr	34.30	17	P	P	03 54 39.9	-1.4
	1.7nm,0.5s,baz=187,slow=9.9,SNR=5.9						
FORT	Forrest	34.38	178	eP	P	03 54 41.8	-0.2
	42nm,0.8s						
BJT	Baijiatuan	37.32	347	eP	P	03 55 05.9	-1.2
	54nm,0.4s						
NWAO	Narrogin (SRO)	37.58	193	P	P	03 55 08.7	-0.7
NWAO	Narrogin (SRO)	37.58	193	P	P	03 55 08.7	-0.7
	14nm,0.8s,baz=330,slow=6.7,SNR=7.5						
STKA	Stephens Creek	38.18	159	P	P	03 55 13.2	-1.3
STKA	Stephens Creek	38.18	159	P	P	03 55 13.2	-1.3
	13nm,0.5s,baz=338,slow=9.5,SNR=19						
USRK	Ussuriysk Arra	40.53	6	P	P	03 55 34.6	+0.7
	3.1nm,0.4s,baz=189,slow=7.9,SNR=10						
MDJ	Mudanjiang	40.76	3	eP	P	03 55 36.0	+0.3
	18nm,0.9s						
ARMA	Armidale	41.52	147	eP	P	03 55 42.2	-0.2
	14nm,0.7s						
LSA	Lhasa	42.38	311	eP	P	03 55 49.5	-0.3
	10.0nm,0.6s						
TAPN	Taplejung	43.96	306	eP	P	03 56 01.4	-1.0
ODAN	Odare	44.01	305	eP	P	03 56 03.0	+0.2
	41nm,0.7s						
RAMN	Ramite	44.69	305	eP	P	03 56 07.5	-0.8
	20nm,0.5s						
JIRN	Jiri	45.31	306	eP	P	03 56 12.4	-0.9
GUN	Gumba	45.66	306	eP	P	03 56 14.8	-1.3
	45nm,0.8s						
HIA	Hailar	45.72	354	eP	P	03 56 16.2	+0.4
	35nm,1.0s						
PKI	Pulchoki	45.91	305	eP	P	03 56 16.9	-1.1
KKN	Kakani	46.10	306	eP	P	03 56 19.1	-0.3
	14nm,0.6s						
DMN	Daman	46.17	305	eP	P	03 56 19.7	-0.3
GKN	Gorkha	46.71	306	eP	P	03 56 23.0	-1.1
ULN	Ulaanbaatar	47.07	342	eP	P	03 56 26.2	-0.3
	14nm,1.0s						
ULN	Ulaanbaatar	47.07	342	P	P	03 56 27.6	+1.1
	18nm,1.1s						
SONM	Songino Array	47.24	341	P	P	03 56 28.2	+0.3
SONM	Songino Array	47.24	341	P	P	03 56 28.2	+0.3
	3.2nm,0.6s,baz=162,slow=6.2,SNR=21						
KOLN	Koldanda	47.46	305	eP	P	03 56 29.0	-1.0
	35nm,0.4s						
DANN	Dangsing	47.56	306	eP	P	03 56 29.4	-1.4
	36nm,0.4s						
TLY	Talaya	51.48	342	eP	P	03 57 00.2	+0.2
	9.1nm,0.8s						
PETK	Petropavlovsk-	55.41	22	P	P	03 57 29.0	+0.2
PETK	Petropavlovsk-	55.41	22	P	P	03 57 29.0	+0.2
	4.5nm,0.6s,baz=194,slow=5.3,SNR=6.4						
MK31	Makanchi Array	57.50	325	eP	P	03 57 42.7	-1.1
MKAR	Makanchi Array	57.50	325	P	P	03 57 42.5	-1.2
MKAR	Makanchi Array	57.50	325	P	P	03 57 42.5	-1.2
	4.3nm,0.4s,baz=117,slow=7.4,SNR=48						
YAK	Yakutsk	58.17	2	eP	P	03 57 48.5	+0.3
	80nm,0.9s						
AAK	Ala-Archa	60.30	318	P	P	03 58 02.8	-0.7
AAK	Ala-Archa	60.30	318	P	P	03 58 02.8	-0.7
	2.4nm,0.6s,baz=130,slow=8.9,SNR=7.9						
ZAA0	Zalesovo Array	60.53	333	eP	P	03 58 04.1	-0.5
ZALV	Zalesovo Beam	60.53	333	P	P	03 58 03.1	-1.5
ZALV	Zalesovo Beam	60.53	333	P	P	03 58 03.1	-1.5
	2.4nm,0.4s,baz=122,slow=6.5,SNR=12						
EKS2	Erkin-Say	60.79	318	eP	P	03 58 06.6	-0.1
	7.9nm,0.7s						
KURBB	Kurchatov Arra	61.68	327	P	P	03 58 11.8	-0.6
	7.5nm,0.6s,baz=128,slow=7.3,SNR=30						
KURK	Kurchatov	61.68	328	P	P	03 58 11.8	-0.7
KKAR	Karatay Array	63.17	317	eP	P	03 58 21.8	-0.8
	5.5nm,0.7s						
BVAR	Borovoye Array	67.26	327	P	P	03 58 49.0	+0.1
BVAR	Borovoye Array	67.26	327	P	P	03 58 49.0	+0.1
	20nm,1.1s,baz=142,slow=7.5,SNR=22						
BRVK	Borovoye	67.33	327	eP	P	03 58 48.3	-1.0
	28nm,1.0s						
ABKAR	Akbulak array	72.09	321	eP	P	03 59 16.8	-1.9
	0.2nm,0.9s						
AKTO	Aktyubinsk	73.60	322	P	P	03 59 27.0	-0.6
AKTO	Aktyubinsk	73.60	322	P	P	03 59 27.0	-0.6
	7.6nm,0.9s,baz=98,slow=8.1,SNR=12						
ARU	Arti	74.88	328	eP	P	03 59 34.0	-0.9
	8.0nm,0.6s						
COLD	Coldfoot	83.87	23	eP	P	04 00 24.2	+0.5
	9.9nm,0.9s						
ILAR	Eielson Array	85.09	25	P	P	04 00 31.7	+1.8
ILAR	Eielson Array	85.09	25	P	P	04 00 31.7	+1.8
	1.3nm,0.7s,baz=253,slow=5.0,SNR=13						
ASF	Jabal al Asfar	87.84	302	P	P	04 00 44.2	+0.1
ASF	Jabal al Asfar	87.84	302	P	P	04 00 44.2	+0.1
	4.1nm,0.7s,baz=55,slow=3.7,SNR=6.0						
MMAI	Mount Meron Ar	89.05	303	P	P	04 00 48.6	-1.2
MMAI	Mount Meron Ar	89.05	303	P	P	04 00 48.6	-1.2
	2.9nm,0.7s,baz=111,slow=7.9,SNR=3.7						
JOF	Joensuu	89.12	333	ep	P	04 00 48.1	-1.3
	7.1nm,0.6s						
KMBO	Kilima Mbogo	89.51	269	eP	P	04 00 51.9	-0.7
	9.0nm,1.3s						
BR131	Keskin Array S	89.96	310	eP	P	04 00 52.9	-1.2
	0.7nm,0.4s						
BRTR	Keskin Array B	89.96	310	P	P	04 00 52.5	-1.6
BRTR	Keskin Array B	89.96	310	P	P	04 00 52.5	-1.6
	1.8nm,0.8s,baz=127,slow=4.5,SNR=13						
INK	Inuvik	90.14	21	P	P	04 00 54.4	+0.4
INK	Inuvik	90.14	21	P	P	04 00 54.4	+0.4
	1.1nm,0.7s,baz=318,slow=7.3,SNR=4.5						
ARCES	ARCESS Array B	90.39	340	P	P	04 00 53.9	-1.4
ARCES	ARCESS Array B	90.39	340	P	P	04 00 53.9	-1.4
	1.9nm,0.6s,baz=84,slow=6.5,SNR=18						
FINES	FINESS Array B	91.78	332	P	P	04 01 01.3	-0.5
FINES	FINESS Array B	91.78	332	P	P	04 01 01.3	-0.5
	3.9nm,0.8s,baz=53,slow=5.1,SNR=12						
AKASG	Malin Array Be	91.83	321	P	P	04 01 01.0	-1.3
AKASG	Malin Array Be	91.83	321	P	P	04 01 01.0	-1.3
	2.1nm,0.5s,baz=66,slow=5.0,SNR=6.8						
MLR	Muntele Rosu	94.84	316	P	P	04 01 15.9	-0.6
MLR	Muntele Rosu	94.84	316	P	P	04 01 15.9	-0.6
	0.5nm,0.6s,baz=313,slow=6.6,SNR=6.2						
BUR08	Bucovina Ar. S	94.95	318	eP	P	04 01 16.3	-0.5
HFS	Hagfors	97.96	332	P	P	04 01 29.3	-0.8
HFS	Hagfors	97.96	332	P	P	04 01 29.3	-0.8
	3.6nm,0.9s,baz=73,slow=5.1,SNR=6.6						
NB2	NORSAR Subarra	98.73	334	P	P	04 01 32.3	-1.3
	baz=66,slow=4.4						
NB2	NORSAR Subarra	98.73	334	P	P	04 01 32.3	-1.3
	comp=Z,4.0nm,1.0s,baz=66,slow=4.4						
NOA	NORSAR Array B	98.73	334	P	P	04 01 32.3	-1.3
NOA	NORSAR Array B	98.73	334	P	P	04 01 32.3	-1.3
	comp=Z,2.2nm,0.8s,baz=67,slow=4.7,SNR=5.4						
YKA	Yellowknife Ar	99.48	24	P	Pdif	04 01 37.2	+0.4
YKA	Yellowknife Ar	99.48	24	P	Pdif	04 01 37.2	+0.4
	comp=Z,0.4nm,0.6s,baz=301,slow=4.4,SNR=9.5						
BRG	Berggiesshubel	101.18	323	eP	Pdif	04 01 48.4	+3.7
	comp=Z,10.0nm,1.5s						
TXAR	Lajitas Array	121.61	52	PKP	PKPdf	04 06 50.1	+1.5
TXAR	Lajitas Array	121.61	52	PKP	PKPdf	04 06 50.1	+1.5
	comp=Z,0.4nm,0.6s,baz=48,slow=2.2,SNR=7.5						
TORD	Torodi Ar. Bea	122.86	288	PKP	PKPdf	04 06 50.7	-0.5
TORD	Torodi Ar. Bea	122.86	288	PKP	PKPdf	04 06 50.7	-0.5
	comp=Z,0.5nm,0.4s,baz=79,slow=1.7,SNR=13						
JCT	Junction City	124.07	49	ePKPdf	PKPdf	04 06 52.9	-0.3
PLCA	Paso Flores	140.06	159	PKP	PKPdf	04 07 24.2	+1.2
PLCA	Paso Flores	140.06	159	PKP	PKPdf	04 07 24.2	+1.2
	comp=Z,1.7nm,1.0s,baz=7.8,slow=6.5,SNR=2.8						
JTS	JuntasAbangare	145.54	66	PKPbc	PKPab	04 07 35.0	+1.1
JTS	JuntasAbangare	145.54	66	PKPbc	PKPab	04 07 35.0	+1.1
	comp=Z,14nm,0.9s,baz=298,slow=5.4,SNR=8.5						
CFAA	Coronel Fontan	148.96	155	PKPbc	PKPbc	04 07 42.9	+0.2
CFAA	Coronel Fontan	148.96	155	PKPbc	PKPbc	04 07 42.9	+0.2
	comp=Z,0.4nm,0.5s,baz=240,slow=2.6,SNR=9.8						

IDC ***12*** *03:49:35.3±0.3,3.95N×126.51E, h0km, mb5.7/42, mb1 5.7/42,mb1mx5.7/44,mbtmp5.7/42,MS5.7/13, Ms1 5.7/13,ms1mx5.5/22, Error ellipse: s-maj=13.6km s-min=9.0km az=85.0*

MOS ***12*** *03:49:38.3±0.9,3.92N×126.50E,h33km,mb6.1/81, MS5.8/77, Error ellipse: s-maj=8.3km s-min=4.4km az=114.6*

NEIC ***12*** *03:49:39.7±0.1,3.95N×126.41E,h26km,mb6.0/126, ME5.9,MS5.8/180,MW6.0,MW6.0. Error ellipse: s-maj=6.4km s-min=4.5km az=67.0,Moment Tensor Solution. s90 Moment tensor: Scale 10^18Nm; Mrr0.00; Mθθ0.00; Mϕϕ0.00; Mrθ0.00; Mθϕ0.00; Mϕr0.00; Best double couple: M0 1.10000×10^18 NP1:ϕs0.00000°, δ70.00000°,λ135.00000°. NP2:ϕs109.00000°,δ48.00000°, λ27.00000°. Principal axes: T 1.1600, Plg45.0000°, Azm315.0000°; N -0.0200, Plg41.0000°, Azm161.0000°; P -1.1400, Plg13.0000°, Azm59.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [III] at Tahuna, Sangir and on Pulau Talaud. Felt [II PIVS] at Davao, Philippines.

ISCJB ***12*** *03:49:39.5±0.1,3.97N±0.02×126.60E±0.02, h41km, mb5.9/230,MS5.8/247 Error ellipse: s-maj=3.5km s-min=2.5km az=149.7*

BJI ***12*** *03:49:39.6,4.01N×126.58E, h35km, mB6.1/52, mb5.8/70, Ms5.9/80, Ms7 5.9/73*

TEH ***12*** *03:49:41.0,3.88N×126.48E, h42km, ML6.0*

DJA ***12*** *03:49:45,3.86N×126.76E, h87km, Mw5.9/55*

NEIC ***12*** *03:49:59.2±0.0,4.32N×126.74E, h10km,Moment Tensor Solution. s180 Moment tensor: Scale 10^18Nm; Mrr0.00; Mθθ0.00; Mϕϕ0.00; Mrθ0.00; Mθϕ0.00; Mϕr0.00; Best double couple: M0 1.20000×10^18 NP1:ϕs20.00000°, δ77.00000°,λ112.00000°. NP2:ϕs139.00000°,δ26.00000°, λ32.00000°. Principal axes: T 1.2200, Plg53.0000°, Azm315.0000°; N -0.0100, Plg21.0000°, Azm194.0000°; P -1.2100, Plg28.0000°, Azm92.0000°;*

ISC 12 03:49:40.9±0.2,3.98N±0.03×126.48E±0.04,h35km±2km, h36km:pP-P,n1408,σ1s61/1376,mb6.0/225,MS5.8/251, 201C-170D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	2.59	324	eP	Pn	03 50 23.8	+3.4
MNI	Manado	3.00	213	P	Pn	03 50 32.2	+6.2
DAV	Davao City (W)	3.20	344	Pn	Pn	03 50 36.5	+7.7
DAV				Sn	Sn	03 51 17.8	+12
DAV	Davao City (W)	3.20	344	P	Pn	03 50 38.2	+9.5
DAV	Davao City (W)	3.20	344	Pn	Pn	03 50 36.4	+7.7
	328nm,0.3s,baz=54,slow=2.7,SNR=5.0						
DAV				Sn	Sn	03 51 17.7	+12
	524nm,0.3s,baz=276,slow=23,SNR=3.9						
DAV				LR	LR	03 52 04.3	
	comp=Z,242μm,18.3s,baz=245,slow=46						
TNTI	Ternate	3.30	164	P	Pn	03 50 30.9	+0.8
KCP	Kidapawan	3.31	335	‖ iP	Pn	03 50 39.0	+8.7
KCP				i S	Sn	03 51 25.7	+17
LBMI	Labuha	4.70	167	P	Pn	03 50 52.8	+3.5
CGP	Cagayan de Oro	4.79	338	i P	Pn	03 50 58.8	+8.2
CGP				i S	Sn	03 52 03.9	+19
PAGZ	Pagadian	4.93	321	eP	Pn	03 50 57.4	+5.0
ZMPH	Zamboanga City	5.30	304	i P	Pn	03 51 01.6	+4.1
ZMPH				i S	Sn	03 52 03.6	+6.2
IPIL	Ipil	5.43	314	eP	Pn	03 51 04.3	+5.0
MRSI	Marisa	5.71	233	P	Pn	03 51 09.8	+6.5
	4μm,0.8s,49μm165μm16nm						
LUWI	Luwuk	6.21	217	P	Pn	03 51 19.7	+10
	5μm,0.9s,82μm27nm						
TBP	Tagbilaran	6.24	336	eP	Pn	03 51 16.6	+6.0
MSLP	Maasin	6.33	345	eP	Pn	03 51 18.0	+6.4
LLP	Lapu-Lapu	6.78	339	eP	Pn	03 51 22.0	+4.2
LLP				eS	Sn	03 52 44.5	+11
NLAI	Namlea	7.19	175	P	Pn	03 51 25.3	+1.7
	756nm,0.7s,13μm4.1nm						
OCLP	Ormoc	7.27	345	eP	Pn	03 51 31.3	+6.7
PLP	Palo	7.29	348	‖ eP	Pn	03 51 31.1	+6.1
QUIM	Jordan	7.65	330	eP	Pn	03 51 35.4	+5.6
MSAI	Masohi	7.67	161	P	Pn	03 51 33.6	+3.4
	246nm,1.3s,5μm1.2nm						
AAI	Ambon	7.80	167	P	Pn	03 51 36.4	+4.4
	928nm,1.3s,12μm4.1nm						
RCP	Roxas	8.39	334	‖ eP	Pn	03 51 45.5	+5.4
TSM	Tawau	8.59	272	P	Pn	03 51 49.3	+6.5
CNP	Catarman	8.67	348	eP	Pn	03 51 55.2	+11
CUYO	Cuyo Island	8.71	322	eP	Pn	03 51 50.0	+5.5
KDI	Kendari	8.77	206	P	Pn	03 51 48.1	+2.8
	575nm,1.2s,9μm2.4nm						
FAKI	Fak Fak	8.95	140	P	Pn	03 51 47.1	-0.7
	1μm,1.1s,9μm133μm2.8nm						
BNDI	Bandanaira	9.11	158	P	Pn	03 51 55.0	+5.1
	2μm,1.4s,34μm10nm						
SDKM	Sandakan	9.40	280	P	Pn	03 52 01.7	+7.8
OTRP	Odiongan	9.43	332	eP	Pn	03 52 03.1	+8.9
TTSI	Tana Toraja	9.64	224	P	Pn	03 52 03.5	+6.3
	916nm,1.7s,13μm67μm						
PVCP	Virac	9.83	347	eP	Pn	03 52 09.9	+10
BATP	Bataraza	9.86	299	eP	Pn	03 52 08.0	+7.8
AUQP	San Andres	10.02	338	eP	Pn	03 52 11.3	+9.0
ENPP	El Nido	10.02	316	eP	Pn	03 52 09.2	+6.8
KDM	Kudat	10.04	287	P	Pn	03 52 10.1	+7.5
SPSI	Sidrap Palu	10.35	220	P	Pn	03 52 14.5	+7.6
	336nm,1.1s,7μm						
KKM	Kota Kinabalu	10.43	282	ePn	Pn	03 52 15.0	+6.9
KKM				eS	Sn	03 54 11.5	+7.6
KKM	Kota Kinabalu	10.43	282	P	Pn	03 52 15.6	+7.5
KKM	Kota Kinabalu	10.43	282	P	Pn	03 52 17.4	+9.3
	730nm,1.8s,19μm139μm						
BAKI	Biak	10.91	118	P	Pn	03 52 15.5	+1.0
	2μm,1.4s,24μm						
KAPI	Kappang	11.18	217	ePn	Pn	03 52 15.5	-2.7

784nm,1.4s
GUMO Guam 20.51 61 P **P** **03 54 16.6 +0.5**
156nm,0.6s,baz=200,slow=8.2,SNR=9.9
GUMO LR LR 04 00 45.9
comp=Z,20μm,21.9s,baz=229,slow=33
NACB Ninganchiao 20.63 347 *e*P **P** **03 54 16.4 -1.0**
133nm,0.8s
NACB *e*S **S** **03 58 07.0 +1.0**
CLJI Cilicap 20.94 236 P Pn 03 54 30.6 +7.1
308nm,0.8s,7μm
YHNB Yeheng 21.15 347 *e*P **P** **03 54 22.2 -0.9**
YHNB *e*S **S** **03 58 16.3 -0.3**
PPBI Pangkal Pinang 21.23 254 P P 03 54 29.9 +6.0
236nm,1.6s,7μm37μm
TATO Taipei 21.42 348 *e*P **P** **03 54 26.1 +0.2**
463nm,1.2s
TATO *e*S Sn 03 58 28.3 -2.4
TATO Taipei 21.42 348 P **P** **03 54 26.8 +0.9**
SNR=7.3
LEM Lembang 21.67 240 P P 03 54 32.7 +3.8
619nm,0.9s,11μm
HKC Hong Kong Obse 21.77 328⇑ *i*P **P** **03 54 30.0 +0.3**
CISI Cisompet, Garu 21.86 238 P **P** **03 54 33.5 +2.7**
367nm,0.7s,9μm
FITZ Fitzroy Crossi 21.95 182 *e*P **P** **03 54 29.6 -2.0**
248nm,1.2s
FITZ Fitzroy Crossi 21.95 182 *e*P **P** **03 54 29.1 -2.5**
360nm,0.8s
FITZ *e*S S 03 58 25.2 -7.0
FITZ Fitzroy Crossi 21.95 182 P **P** **03 54 29.7 -2.0**
102nm,0.7s,baz=9.3,slow=13,SNR=23
QIZ Qiongzhong 22.09 314 P **P** **03 54 32.9 -0.2**
QIZ S **S** **03 58 36.6 +1.7**
QIZ LR LR
comp=N,16μm,16.5s
QIZ LR LR
comp=Z,31μm,26.8s
QIZ Qiongzhong 22.09 314 *e*P **P** **03 54 33.3 +0.1**
comp=Z,182nm,1.0s
QIZ LR LR
comp=Z,26μm,21.0s
QZH Quanzhou 22.18 341⇑ *i*P **P** **03 54 32.7 -1.4**
QZH sP **sP** **03 54 48.5 +0.5**
QZH S **S** **03 58 31.0 -5.5**
QZH pmax pmax
comp=Z,1μm,1.0s
QZH pmax pmax
comp=Z,8μm,7.6s
QZH LR LR
comp=N,65μm,17.6s
QZH LR LR
comp=E,13μm,16.4s
QZH LR LR
comp=Z,104μm,23.2s
CNJI Cibinong 22.33 240 P P 03 54 43.0 +7.3
comp=Z,368nm,1.5s
MYKOM **Kota Tinggi 22.70 265** P P 03 54 44.3 +4.5
MYKOM **Kota Tinggi 22.70 265** P P 03 54 43.3 +3.5
comp=Z,279nm,1.3s,comp=Z,9μmcomp=Z,64μm
JOW Kunigami 22.79 4 *e*P **P** **03 54 40.9 +0.3**
comp=Z,185nm,1.1s
JOW Kunigami 22.79 4 P **P** **03 54 40.4 -0.1**
comp=Z,253nm,0.7s,baz=186,slow=8.4,SNR=35
JOW LR LR 04 03 17.6
comp=Z,16μm,21.6s,baz=192,slow=36
GZH Guangzhou 22.86 327 P **P** **03 54 43.4 +2.2**
GZH S **S** **03 58 53.0 +4.6**
GZH LR LR
comp=N,32μm,19.5s
GZH LR LR
comp=E,21μm,18.0s
GZH LR LR
comp=Z,47μm,20.6s
KGM Kluang 23.21 266 P P 03 54 48.8 +3.8
CGJI Cibinong 23.27 243 P **P** **03 54 46.3 +0.8**
comp=Z,537nm,0.9s,comp=Z,6μm
KASI Kota Agung 23.90 247 P P 03 54 55.9 +4.3
comp=Z,331nm,0.9s,comp=Z,6μm
LWLI Liwa 24.11 248 P P 03 54 59.2 +5.5
comp=Z,450nm,0.8s,comp=Z,10μm
COEN Coen 24.33 137 *e*P **P** **03 54 51.6 -3.9**
comp=Z,1μm,0.9s
RGRI Rengat 24.51 260 P P 03 55 07.3 +10
comp=Z,208nm,1.3s,comp=Z,114μm
PMG Port Moresby 24.53 123 *e*P **P** **03 54 53.3 -4.0**
comp=Z,305nm,1.1s
PMG Port Moresby 24.53 123 P **P** **03 54 53.3 -4.0**
comp=Z,280nm,1.1s,comp=Z,4μm
PMG Port Moresby 24.53 123 P **P** **03 54 53.6 -3.8**
comp=Z,52nm,0.8s,baz=323,slow=6.2,SNR=30
PMG LR LR 04 05 19.2
comp=Z,15μm,18.4s,baz=95,slow=39
FRIM Kepong 24.82 269 P **P** **03 55 03.3 +3.3**
WRAB Tennant Creek 24.99 162 *e*P **P** **03 54 59.2 -2.3**
WRAB pmax pmax
comp=Z,245nm,0.6s
WRAB MLR MLR
comp=Z,16μm,19.0s
WRAB Tennant Creek 24.99 162 *e*P **P** **03 54 59.2 -2.3**
comp=Z,245nm,0.6s
WRAB LR LR
comp=Z,16μm,19.0s
KSI Kapahiang 25.04 253 P P 03 55 07.8 +5.7
comp=Z,454nm,1.5s,comp=Z,18μm
XMIS Christmas Isla 25.23 235 *e*P **P** **03 55 04.5 +0.8**
comp=Z,1μm,0.6s
IPM Ipoh 25.39 272 *e*P **P** **03 55 07.0 +1.8**
comp=Z,479nm,1.3s
IPM Ipoh 25.39 272 P **P** **03 55 08.5 +3.3**
IPM Ipoh 25.39 272 P P 03 55 09.4 +4.2
comp=Z,396nm,0.9s,comp=Z,6μm
BKNI Bangkinang 25.67 262 P P 03 55 11.7 +3.9
comp=Z,595nm,1.2s,comp=Z,9μm
KRJI Kerinci 25.72 257 P P 03 55 18.2 +10
comp=Z,1μm,1.7s
MBWA Marble Bar 25.84 195 *e*P **P** **03 55 08.1 -1.0**
comp=Z,182nm,0.8s
MBWA LR LR
comp=Z,6μm,20.0s
MBWA Marble Bar 25.84 195 *e*P **P** **03 55 07.9 -1.3**
MBWA Marble Bar 25.84 195 P **P** **03 55 09.7 +0.5**
SNR=16
PPI Padang Panjang 26.43 261 P P 03 55 18.6 +3.9
comp=Z,196nm,1.2s,comp=Z,9μm
MNSI Mandailing Nat 27.06 264 P **P** **03 55 23.4 +3.1**
comp=Z,384nm,1.0s,comp=Z,9μm
SSE Sheshan 27.43 350 P **P** **03 55 24.3 +0.9**
SSE sP sP 03 55 40.2 +2.3
SSE S **S** **04 00 05.1 +3.5**
SSE sS **sS** **04 00 19.4 +1.0**
SSE pmax pmax
comp=Z,160nm,1.0s
SSE pmax pmax
comp=Z,4μm,7.8s
SSE LR LR
comp=N,7μm,18.8s
SSE LR LR
comp=E,12μm,18.8s
SSE LR LR
comp=Z,11μm,19.5s
CBIJ Chichi jima 27.46 32 P **P** **03 55 22.4 -1.3**
CBIJ Chichi jima 27.46 32 P **P** **03 55 22.4 -1.3**
comp=Z,396nm,0.7s,baz=284,slow=14,SNR=4.5
CBIJ LR LR 04 05 35.8
comp=Z,10μm,18.7s,baz=215,slow=35
PSI Prapat 27.53 268 P **P** **03 55 25.4 +0.7**
PSI Prapat 27.53 268 P **P** **03 55 27.0 +2.3**
comp=Z,122nm,1.0s,comp=Z,4μm
PSI Prapat 27.53 268 P **P** **03 55 25.4 +0.7**
comp=Z,44nm,0.8s,baz=84,slow=5.1,SNR=18
PSI LR LR 04 08 46.8
comp=Z,25μm,18.3s,baz=89,slow=42
ASAR Alice Springs 28.41 166 P **P** **03 55 30.4 -1.9**
ASAR S **S** **04 00 18.4 +1.2**
ASAR Alice Springs 28.41 166 P **P** **03 55 30.4 -1.9**
comp=Z,19nm,0.6s,baz=318,slow=5.2,SNR=12
ASAR S **S** **04 00 18.4 +1.2**
comp=Z,9.7nm,1.0s,baz=358,slow=18,SNR=2.4
WHN Wuhan 28.80 338 ⇓P **P** **03 55 35.4 -0.2**
WHN S **S** **04 00 18.5 -4.6**
WHN LR LR
comp=N,43μm,18.8s
WHN LR LR
comp=E,52μm,18.3s
WHN LR LR
comp=Z,102μm,20.2s
NJ2 Nanjing 28.83 346 *e*P **P** **03 55 35.2 -0.7**
NJ2 pP **pP** **03 55 43.3 -2.8**
NJ2 sP **sP** **03 55 48.7 -1.7**
NJ2 PP **PnPn** **03 56 31.2 +3.3**
NJ2 S S 04 00 30.0 +6.4
NJ2 pmax pmax
comp=Z,290nm,1.1s
NJ2 pmax pmax
comp=Z,3μm,9.5s
NJ2 LR LR
comp=N,15μm,21.6s
NJ2 LR LR
comp=E,17μm,22.9s
NJ2 LR LR
comp=Z,49μm,21.6s
GSI Gunungsitoli 28.99 266 P **P** **03 55 38.5 +0.9**
comp=Z,220nm,0.8s,comp=Z,5μm
TPTI 29.25 270 P P 03 55 43.2 +3.3
comp=Z,36nm,1.1s
JNU Nakatsue 29.29 8 *e*P **P** **03 55 39.1 -0.9**
comp=Z,83nm,1.0s
JNU Nakatsue 29.29 8 P **P** **03 55 39.1 -0.9**
comp=Z,102nm,0.9s,baz=175,slow=4.3,SNR=13
JNU LR LR 04 07 12.4
comp=Z,10μm,20.2s,baz=76,slow=36
GYA Guiyang 29.32 322⇑ *i*P P 03 55 43.9 +3.4
GYA PP **PP** **03 56 42.3 -4.8**
GYA S S 04 00 38.3 +6.6
GYA ScP **ScP** **04 02 23.0 -2.9**
GYA ScS **ScS** **04 06 18.0 -2.5**
GYA pmax pmax
comp=Z,50nm,0.8s
GYA LR LR
comp=N,11μm,19.8s
GYA LR LR
comp=E,16μm,20.5s
GYA LR LR
comp=Z,25μm,20.8s
CM31 Chiang Mai Arr 30.53 300 *e*P **P** **03 55 52.5 +1.4**
comp=Z,77nm,0.9s
CM31 LR LR
comp=Z,13μm,20.0s
CMAR Chiang Mai Arr 30.53 300 P **P** **03 55 51.5 +0.4**
CMAR ScP **ScP** **04 02 29.5 -0.3**
CMAR Chiang Mai Arr 30.53 300 P **P** **03 55 51.5 +0.4**
comp=Z,46nm,0.8s,baz=120,slow=7.5,SNR=29
CMAR ScP **ScP** **04 02 29.5 -0.3**
comp=Z,19nm,1.1s,baz=137,slow=1.6,SNR=9.6
CHTO Chiang Mai 30.68 301 *e*P **P** **03 55 52.7 +0.2**
CHTO *e* 03 58 52.7
CHTO pmax pmax
comp=Z,162nm,0.9s
CHTO MLR MLR
comp=Z,15μm,21.0s
CHTO Chiang Mai 30.68 301 *e*P **P** **03 55 52.7 +0.2**
comp=Z,162nm,0.9s
CHTO *e*PcP **PcP** **03 58 52.7 +2.6**
CHTO LR LR
comp=Z,15μm,21.0s
CHTO Chiang Mai 30.68 301 P **P** **03 55 53.3 +0.8**
SNR=32
CHTO Chiang Mai 30.68 301 P **P** **03 55 53.3 +0.8**
comp=Z,238nm,0.9s,comp=Z,3μm
ENH Enshi 30.69 330 *e*P **P** **03 55 51.7 -0.8**
comp=Z,447nm,0.8s
ENH LR LR
comp=Z,43μm,21.0s
CTA Charters Tower 30.81 142 *e*P P 03 55 49.6 -4.0
comp=Z,130nm,0.8s
CTA *e*S **S** **04 00 52.9 -2.1**
CTAO Charters Tower 30.81 142 *e*P **P** **03 55 52.1 -1.5**
CTAO pmax pmax
comp=Z,216nm,0.9s
CTAO MLR MLR
comp=Z,5μm,20.0s
CTAO Charters Tower 30.81 142 *e*P **P** **03 55 52.1 -1.5**
comp=Z,216nm,0.9s
CTAO LR LR
comp=Z,5μm,20.0s
KMI Kunming 31.03 315 P **P** **03 55 56.1 +0.4**
KMI pP pP 03 56 08.2 +2.3
KMI sP sP 03 56 13.5 +3.3
KMI PP **PnPn** **03 56 59.8 +2.2**
KMI S **S** **04 00 55.6 -3.2**
KMI sS sS 04 01 17.7 +2.1
KMI pmax pmax
comp=Z,100nm,1.2s
KMI pmax pmax
comp=Z,1μm,8.0s
KMI LR LR
comp=N,7μm,22.6s
KMI LR LR
comp=E,18μm,23.8s
KMI LR LR
comp=Z,31μm,25.1s
BSI Banda Aceh 31.11 274 P P 03 55 58.4 +2.0
comp=Z,68nm,1.4s,comp=Z,2μm
TIA Tai'an 33.22 346⇑P **P** **03 56 13.5 -1.0**
TIA S **S** **04 01 30.5 -1.7**
TIA SS **SnSn** **04 03 35.6 +1.7**
TIA pmax pmax
comp=Z,380nm,1.1s
TIA pmax pmax
comp=Z,2μm,8.6s
TIA LR LR
comp=N,4μm,20.2s
TIA LR LR
comp=E,17μm,22.5s
TIA LR LR
comp=Z,11μm,26.1s
KSAR Wonju Array Be 33.33 2 P **P** **03 56 15.2 -0.3**
KSAR PcP **PcP** **03 58 59.8 +2.8**
KSRS Korea Array 33.34 2 P **P** **03 56 15.2 -0.4**
comp=Z,44nm,0.7s,baz=179,slow=9.9,SNR=51
KSRS PcP **PcP** **03 58 59.8 +2.8**
comp=Z,45nm,0.9s,baz=183,slow=3.1,SNR=15
KSRS LR LR 04 09 46.1
comp=Z,8μm,21.3s,baz=319,slow=36
INCN Inchon 33.35 0 P **P** **03 56 16.9 +1.2**
comp=Z,73nm,0.7s
INCN *e*PcP **PcP** **03 58 59.3 +2.2**
INCN LR LR
comp=Z,12μm,20.0s
COCO West Island 33.56 241 PFAKE 03 56 30.0 +12
COCO LR LR
comp=Z,10μm,22.0s
XAN Xi'an 34.09 333 P **P** **03 56 20.5 -1.7**
XAN pP **pP** **03 56 32.0 -0.4**
XAN sP **sP** **03 56 37.4 +0.7**
XAN PP **PP** **03 57 42.5 +2.7**
XAN pmax pmax
comp=Z,200nm,0.9s
XAN LR LR
comp=N,15μm,17.4s
XAN LR LR
comp=E,4μm,18.1s
XAN LR LR
comp=Z,8μm,18.8s
MAJO Matsushiro 34.16 17 *e*P **P** **03 56 20.2 -2.5**
MAJO *e* 03 59 02.0
MAJO pmax pmax
comp=Z,463nm,2.2s
MAJO MLR MLR
comp=Z,15μm,20.0s
MAJO Matsushiro 34.16 17 *e*P **P** **03 56 20.2 -2.5**
comp=Z,463nm,2.2s
MAJO *e*PcP **PcP** **03 59 02.0 +2.6**
MAJO LR LR
comp=Z,15μm,20.0s
MAT Matsushiro 34.16 17 P **P** **03 56 21.1 -1.7**
MAT S **S** **04 01 46.0 -0.8**
MJAR Matsushiro Arr 34.16 17 P **P** **03 56 20.7 -2.1**
MJAR PcP **PcP** **03 59 00.6 +1.2**
MJAR Matsushiro Arr 34.16 17 P **P** **03 56 20.7 -2.1**
comp=Z,15nm,0.8s,baz=196,slow=10,SNR=18
MJAR PcP **PcP** **03 59 00.6 +1.2**
comp=Z,41nm,1.0s,baz=196,slow=3.4,SNR=8.9
MJAR LR LR 04 10 24.0
comp=Z,11μm,19.4s,baz=200,slow=36
CD2 Chengdu 34.30 324⇑P **P** **03 56 25.0 +0.9**
CD2 pP pP 03 56 38.1 +3.8
CD2 sP sP 03 56 44.1 +5.5
CD2 PcP **PcP** **03 58 59.2 -0.7**
CD2 S **S** **04 01 49.4 +0.2**
CD2 sS sS 04 02 11.4 +5.3
CD2 PcS **PcS** **04 02 44.6 -1.8**
CD2 SS **SnSn** **04 04 03.0 +2.7**
CD2 pmax pmax
comp=Z,140nm,0.9s
CD2 pmax pmax
comp=Z,2μm,5.5s
CD2 LR LR
comp=N,18μm,21.1s
CD2 LR LR
comp=E,21μm,20.1s
CD2 LR LR
comp=Z,27μm,19.2s
FORT Forrest 34.59 178 *e*P **P** **03 56 24.5 -2.0**
comp=Z,491nm,1.0s
FORT Forrest 34.59 178 *e*P **P** **03 56 24.3 -2.2**
comp=Z,254nm,0.6s
QLP Quilpie 34.90 151 *e*P **P** **03 56 27.4 -1.8**
DL2 Dalian 35.05 353 P **P** **03 56 30.8 +0.5**
DL2 S **S** **04 02 01.1 +0.8**
DL2 pmax pmax
comp=Z,620nm,1.0s
DL2 pmax pmax
comp=Z,2μm,6.3s
DL2 LR LR
comp=E,7μm,21.1s
DL2 LR LR
comp=Z,9μm,21.6s
HNR Honiara 35.91 112 P P 03 56 34.6 -3.5
HNR Honiara 35.91 112 P P 03 56 34.6 -3.5
comp=Z,145nm,0.7s,baz=234,slow=7.4,SNR=3.7
HNR LR LR 04 10 26.1
comp=Z,11μm,21.2s,baz=104,slow=35
TIY Taiyuan 35.95 341 *e*P **P** **03 56 38.5 +0.2**
TIY S **S** **04 02 11.2 -3.3**
TIY pmax pmax
comp=Z,280nm,1.0s
TIY pmax pmax
comp=Z,1μm,8.0s
TIY LR LR
comp=N,15μm,18.7s
TIY LR LR
comp=E,12μm,18.4s
TIY LR LR
comp=Z,25μm,23.7s
KLBR Kellerberrin 36.33 193 *e*P **P** **03 56 39.6 -1.9**
comp=Z,98nm,0.7s
BJT Baijiatuan 37.07 347 *e*P **P** **03 56 47.3 -0.4**
comp=Z,428nm,0.7s
BJT *e*PcP **PcP** **03 59 10.8 +2.9**
BJT LR LR
comp=Z,9μm,22.0s
BJI Beijing 37.09 347 P **P** **03 56 47.2 -0.6**
BJI pP **pP** **03 57 00.2 +2.1**
BJI sP sP 03 57 05.1 +2.7
BJI S **S** **04 02 29.7 -1.9**
BJI sS **sS** **04 02 46.7 -1.9**
BJI SS **SnSn** **04 05 03.6 -4.0**
BJI ScS **ScS** **04 07 02.1 +2.3**
BJI pmax pmax
comp=Z,3μm,7.2s
BJI LR LR
comp=N,5μm,16.9s
BJI LR LR
comp=E,10μm,27.8s
IMP Imphal 37.52 307 *e*PKP **P** **03 56 52.0 +0.2**
IMP *ex* x 03 59 05.0
BBOO Buckleboo 37.70 167 *e*P **P** **03 56 50.8 -2.2**
comp=E,5μm,1.3s
EIDS Eidsvold 37.70 142 *e*P **P** **03 56 50.9 -2.3**
comp=E,359nm,0.8s
NWAO Narrogin (SRO) 37.73 193 *e*P **P** **03 56 52.1 -1.3**
comp=E,120nm,1.0s
NWAO LR LR
comp=Z,4μm,22.0s
NWAO Narrogin (SRO) 37.73 193 P **P** **03 56 53.2 -0.1**
SNR=8.8
NWAO Narrogin (SRO) 37.73 193 P **P** **03 56 51.8 -1.5**
comp=Z,64nm,0.6s,baz=27,slow=9.8,SNR=14
SNY Shenyang 37.78 356⇑P **P** **03 56 53.5 -0.1**
SNY S **S** **04 02 37.4 -4.5**
SNY pmax pmax
comp=Z,32nm,0.8s
SNY pmax pmax
comp=Z,5μm,6.7s
SNY LR LR
comp=N,4μm,19.6s
SNY LR LR
comp=E,18μm,22.1s
SNY LR LR
comp=Z,9μm,26.5s
LZH Lanzhou 38.16 330⇓P **P** **03 56 57.2 0.0**
LZH pP pP 03 57 11.1 +3.6
LZH sP sP 03 57 14.6 +2.8
LZH S **S** **04 02 49.0 +0.6**
LZH sS **sS** **04 03 05.0 -0.4**
LZH SS **SnSn** **04 05 27.5 -6.4**
LZH pmax pmax
comp=Z,670nm,1.0s
LZH pmax pmax
comp=Z,2μm,7.8s
LZH LR LR
comp=N,18μm,15.3s
LZH LR LR
comp=E,17μm,17.9s
LZH LR LR
comp=Z,37μm,20.3s
STKA Stephens Creek 38.45 159 *e*P **P** **03 56 57.4 -2.0**
comp=Z,88nm,0.8s
STKA Stephens Creek 38.45 159 *e*P **P** **03 56 57.7 -1.7**
comp=Z,300nm,0.6s
STKA Stephens Creek 38.45 159 P **P** **03 56 57.9 -1.5**
comp=Z,248nm,0.7s,baz=338,slow=8.3,SNR=35
HHC Hu-ho-hao-te 39.09 342 *i* P **P** **03 57 05.0 +0.2**
HHC pP **pP** **03 57 14.7 -0.5**
HHC sP **sP** **03 57 18.2 -1.2**
HHC PP **PnPn** **03 58 40.4 +2.9**
HHC S **S** **04 03 02.5 +0.4**
HHC sS **sS** **04 03 18.6 -0.5**
HHC SS **SS** **04 05 48.5 -7.0**
HHC ScS **ScS** **04 07 11.7 +0.2**
HHC pmax pmax
comp=Z,220nm,1.1s
HHC pmax pmax
comp=Z,2μm,8.8s
HHC LR LR
comp=N,15μm,20.2s
HHC LR LR
comp=E,12μm,21.4s
HHC LR LR
comp=Z,23μm,23.0s
VLA Vladivostok 39.27 6*c i*P **P** **03 57 06.8 +0.7**
VLA 03 58 37.4
VLA 03 59 15.2
VLA *e*S **S** **04 03 05.3 +0.8**
VLA pmax pmax
comp=Z,222nm,1.2s
BTO Baotou 39.37 340 *e*P **P** **03 57 05.8 -1.3**
SHL Shillong 39.53 306 *e*PKP **P** **03 57 08.0 -0.8**
SHL *i* PCP **PcP** **03 59 16.0 -0.1**
SHL *i* x x 04 03 02.0
CN2 Changchun 39.67 359 *e*P **P** **03 57 07.2 -2.3**
CN2 *e*pP **pP** **03 57 19.5 -0.3**
CN2 *e*PP **PnPn** **03 58 43.9 -0.4**
CN2 *e*S **S** **04 03 09.4 -1.1**
CN2 *e*SS **SS** **04 06 01.8 -5.0**
CN2 pmax pmax
comp=Z,70nm,0.8s
CN2 pmax pmax
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,3μm,20.0s
CN2 LR LR
comp=E,10μm,20.0s
CN2 LR LR
comp=Z,5μm,21.0s
USRK Ussuriysk Arra 40.35 6 P **P** **03 57 14.9 -0.2**
comp=Z,40nm,0.7s,baz=179,slow=7.6,SNR=30
USRK PcP **PcP** **03 59 19.3 +1.3**
comp=Z,53nm,1.1s,baz=222,slow=2.6,SNR=3.5
MDJ Mudanjiang 40.57 3 P **P** **03 57 18.5 +1.6**
MDJ pP pP 03 57 29.7 +2.4
MDJ sP sP 03 57 34.9 +3.4
MDJ PP **PP** **03 58 50.5 -0.3**
MDJ PcP **PcP** **03 59 18.8 +0.1**
MDJ ScP **ScP** **04 03 04.7 -0.9**
MDJ PcS **PcS** **04 03 09.6 +0.4**
MDJ S **S** **04 03 27.2 +3.3**

MDJ ScS **ScS** **04 07 21.0 +1.1**
MDJ pmax pmax
comp=Z,190nm,1.0s
MDJ pmax pmax
comp=Z,2μm,6.2s
MDJ LR LR
comp=N,4μm,23.5s
MDJ LR LR
comp=E,7μm,28.5s
MDJ LR LR
comp=Z,8μm,28.5s
MDJ Mudanjiang 40.57 3 *e*P **P** **03 57 16.4 -0.5**
comp=Z,157nm,0.8s
MDJ *e*PcP **PcP** **03 59 21.3 +2.6**
MDJ LR LR
comp=Z,8μm,19.0s
ERM Erimo 40.70 19*d i*P **P** **03 57 18.6 +0.6**
ERM Erimo 40.70 19 PFAKE 03 57 30.0 +12
ERM LR LR
comp=Z,12μm,19.0s
CAL Calcutta 41.27 300 *e*PKP **P** **03 57 22.9 -0.2**
CAL *ex* x 04 03 30.4
ARMA Armidale 41.81 147 *e*P **P** **03 57 26.2 -1.2**
comp=Z,310nm,0.7s
ARMA Armidale 41.81 147 *e*P **P** **03 57 26.0 -1.4**
WAKE Wake Island 42.04 65 PFAKE 03 57 40.0 +11
WAKE LR LR
comp=Z,8μm,22.0s
LSA Lhasa 42.09 311 P **P** **03 57 29.8 -0.4**
LSA PP PP 03 59 13.7 +5.6
LSA pmax pmax
comp=Z,30nm,1.0s
LSA pmax pmax
comp=Z,420nm,6.0s
LSA LR LR
comp=N,4μm,23.0s
LSA LR LR
comp=E,8μm,25.0s
LSA LR LR
comp=Z,9μm,25.0s
LSA Lhasa 42.09 311 *e*P **P** **03 57 30.5 +0.3**
LSA pmax pmax
comp=Z,155nm,0.8s
LSA MLR MLR
comp=Z,9μm,22.0s
LSA Lhasa 42.09 311 *e*P **P** **03 57 30.5 +0.3**
comp=Z,155nm,0.8s
LSA LR LR
comp=Z,9μm,22.0s
ASAJ Asahikawa 42.43 17 *e*P **P** **03 57 32.6 +0.4**
comp=Z,55nm,1.0s
ASAJ *e*PcP **PcP** **03 59 27.8 +2.9**
ASAJ Asahikawa 42.43 17 P **P** **03 57 31.7 -0.5**
comp=Z,65nm,0.8s,baz=243,slow=14,SNR=16
ASAJ LR LR 04 16 43.1
comp=Z,10μm,19.0s,baz=358,slow=38
GTA Gaotai 42.76 329 ⇑P **P** **03 57 34.9 -0.2**
GTA pP **pP** **03 57 47.0 +1.5**
GTA sP sP 03 57 52.6 +2.8
GTA PP PP 03 59 19.6 +4.8
GTA PcP **PcP** **03 59 27.9 +1.7**
GTA ScP **ScP** **04 03 15.5 +0.8**
GTA S **S** **04 03 55.9 -0.9**
GTA sS **sS** **04 04 14.1 +0.1**
GTA SS **SS** **04 07 03.7 -4.8**
GTA ScS **ScS** **04 07 32.4 -1.4**
GTA pmax pmax
comp=Z,85nm,0.8s
GTA pmax pmax
comp=Z,1μm,6.2s
GTA LR LR
comp=N,12μm,21.4s
GTA LR LR
comp=E,12μm,19.5s
GTA LR LR
comp=Z,35μm,22.3s
BWNR Bhubaneshwar 42.78 296 *e*PKP **P** **03 57 34.0 -1.4**
YUK Yuzh-Kuril'sk 43.41 20*c i*P P 03 57 35.0 -5.1
YUK *i* 03 59 35.3
YUK *i* S S 04 03 57.0 -8.8
YUK *i* SS **SS** **04 07 15.3 -5.4**
YUK pmax pmax
comp=Z,174nm,9.1s
YUK MLR MLR
comp=N,1μm,19.0s
YUK MLR MLR
comp=E,1μm,19.0s
YUK MLR MLR
comp=Z,7μm,19.0s
TAPN Taplejung 43.67 306 *e*P **P** **03 57 42.9 0.0**
ODAN Odare 43.72 305 *e*P **P** **03 57 43.1 -0.1**
comp=Z,413nm,0.8s
RAMN Ramite 44.40 305 *e*P **P** **03 57 48.8 +0.1**
comp=Z,698nm,1.2s
CAN Canberra 44.44 153 *e*P **P** **03 57 47.5 -1.1**
CAN pmax pmax
comp=Z,268nm,1.1s
CAN MLR MLR
comp=Z,12μm,19.0s
CAN Canberra 44.44 153 *e*P **P** **03 57 47.5 -1.1**
comp=Z,268nm,1.1s
CAN LR LR
comp=Z,12μm,19.0s
CNB Canberra Magne 44.60 153 *e*P **P** **03 57 49.4 -0.5**
comp=Z,594nm,1.0s
CNB *e*S S 04 04 15.9 -7.7
HABR Khabarovsk 44.94 8*c e*P **P** **03 57 51.3 -0.9**
HABR *e**PP **pP** **03 58 03.8 +1.1**
HABR *e* 03 59 36.3
HABR *e*PPP PPP 04 00 16.1
HABR *e*S **S** **04 04 27.2 -0.8**
HABR *e**SS sS 04 04 49.3 +4.1
HABR *e* 04 07 42.9
HABR *e*SSS SSS 04 08 37.8
HABR pmax pmax
comp=Z,363nm,1.7s
HABR pmax pmax
comp=N,170nm,2.3s
HABR pmax pmax
comp=E,138nm,1.7s
HABR pmax pmax
comp=Z,2μm,4.2s
HABR MLR MLR
comp=Z,6μm,21.0s
TOO Toolangi 44.96 159 *e*P **P** **03 57 51.8 -0.9**
comp=Z,580nm,0.9s
JIRN Jiri 45.02 306 *e*P **P** **03 57 53.5 -0.3**
YSS Yuzh-Sakhalins 45.07 16*α i*P **P** **03 57 55.0 +1.6**
YSS *e* 03 58 05.5
YSS *e* 03 58 11.0
YSS *e* 03 59 31.2
YSS *e*S **S** **04 04 29.0 -1.0**
YSS *e* 04 04 50.0
YSS *e*SS **ScS** **04 07 46.0 -1.7**
YSS pmax pmax
comp=N,130nm,1.2s
YSS pmax pmax
comp=E,90nm,1.2s
YSS pmax pmax
comp=Z,190nm,1.2s
YSS pmax pmax
comp=Z,1μm,6.0s
YSS smax smax
comp=E,1μm,15.0s
YSS smax smax
comp=E,2μm,12.0s
YSS MLR MLR
comp=Z,6μm,18.0s
YSS MLR MLR
comp=N,6μm,17.0s
YSS MLR MLR
comp=E,6μm,17.0s
YSS Yuzh-Sakhalins 45.07 16 eP **P** **03 57 53.8 +0.4**
comp=E,174nm,1.1s
YSS *e* 03 59 36.9
YSS LR LR
comp=Z,3μm,21.0s
KLR Kul'dur 45.31 5 *e*P P 03 57 51.0 -4.3
KLR *e*S S 04 04 26.5 -6.9
KLR *e* 04 07 40.0
KLR pmax pmax
comp=E,68nm,1.6s
KLR pmax pmax
comp=Z,400nm,1.6s
KLR pmax pmax
comp=N,2μm,7.5s
KLR pmax pmax
comp=Z,3μm,7.5s
KLR MLR MLR
comp=E,8μm,20.0s
GUN Gumba 45.38 306 *e*P **P** **03 57 56.2 -0.4**
HIA Hailar 45.49 354 *e*P **P** **03 57 57.1 +0.4**
comp=E,343nm,0.9s
HIA *e* 03 59 38.4
HIA LR LR
comp=Z,10μm,19.0s
PKI Pulchoki 45.62 305 *e*P **P** **03 57 57.9 -0.6**
comp=Z,289nm,1.1s
KKN Kakani 45.81 306 *e*P **P** **03 57 59.3 -0.6**
DMN Daman 45.88 305 *e*P **P** **03 57 59.8 -0.7**
comp=Z,355nm,1.1s
GKN Gorkha 46.42 305 *e*P **P** **03 58 04.0 -0.6**
NOUC Port Laguerre 46.78 125 *e*P **P** **03 58 04.9 -2.3**
ULN Ulaanbaatar 46.81 342 *e*P **P** **03 58 07.4 +0.1**
ULN LR LR
comp=Z,17μm,22.0s
ULN Ulaanbaatar 46.81 342 P **P** **03 58 07.1 +0.4**
SNR=42
ULN Ulaanbaatar 46.81 342 P **P** **03 58 07.1 -0.2**
comp=Z,232nm,1.1s,comp=Z,3μm
DZM Mont Dzumac 46.88 125 *e*P **P** **03 58 06.8 -1.3**
comp=Z,632nm,1.4s
DZM *e*S **S** **04 04 56.8 -0.1**
comp=Z,12μm,29.1s
DZM *e*SS **SS** **04 08 22.2 -1.8**
comp=Z,6μm,26.1s
DZM *e*LR LR 04 11 17.1
comp=Z,11μm,24.2s
DZM Mont Dzumac 46.88 125 *e*P **P** **03 58 06.8 -1.3**
comp=Z,277nm,1.1s
SONM Songino Array 46.99 342 P **P** **03 58 08.2 -0.4**
SONM PcP **PcP** **03 59 43.3 +2.7**
SONM ScP **ScP** **04 03 33.8 +1.9**
SONM Songino Array 46.99 342 P **P** **03 58 08.2 -0.4**
comp=Z,89nm,0.7s,baz=156,slow=8.7,SNR=52
SONM PcP **PcP** **03 59 43.3 +2.7**
comp=Z,36nm,0.9s,baz=164,slow=4.6,SNR=3.9
SONM ScP **ScP** **04 03 33.8 +1.9**
comp=Z,6.6nm,1.2s,baz=174,slow=5.8,SNR=3.0
SONM LR LR 04 19 38.4
comp=Z,10μm,18.7s,baz=154,slow=38
KOLN Koldanda 47.18 305 *e*P **P** **03 58 10.6 0.0**
comp=Z,403nm,0.7s
DANN Dangsing 47.27 306 *e*P **P** **03 58 10.5 -0.9**
ALBI Allahabad 47.82 301 *e*PKP **P** **03 58 12.5 -2.8**
HYB Hyderabad 48.80 290 ⇑*i*P **P** **03 58 22.0 -1.0**
comp=Z,85nm,1.0s
HYB *e*pP **pP** **03 58 29.5 -4.1**
HYB *e*sP **sP** **03 58 34.0 -3.8**
HYB *e*PP **PP** **04 00 19.0 +2.5**
HYB *e*S **S** **04 05 22.0 -2.2**
HYB *e*ScS **ScS** **04 08 10.0 -3.4**
HYB *e*SS SS 04 09 18.0 +23
HYB LR LR 04 18 00.0
comp=Z,7.1nm,20.0s
CIT Chita 49.08 349 *e*P **P** **03 58 24.3 -0.3**
CIT *e* 03 58 34.5
CIT *e* 03 58 43.0
CIT *e* 03 59 50.7
CIT *e* 04 05 30.2
CIT pmax pmax
comp=Z,1μm,1.3s
NGP Nagpur 49.10 295 *e*PKP **P** **03 58 22.8 -2.5**
NGP *ex* x 04 05 22.9
MOO Moorlands 49.88 160 *e*P **P** **03 58 31.0 +0.2**
comp=Z,492nm,0.9s
TAU Tasmania Unive 50.34 160 *e*P **P** **03 58 33.9 -0.4**
TAU pmax pmax
comp=Z,136nm,1.0s
TAU MLR MLR
comp=Z,7μm,20.0s
TAU Tasmania Unive 50.34 160 *e*P **P** **03 58 33.9 -0.4**
comp=Z,136nm,1.0s
TAU LR LR
comp=Z,7μm,20.0s
LGTI Lohaghat 50.54 305 *ex* P 03 58 31.7 -4.3
LGTI *ex* x 04 00 08.9
PTH Pithoragarh 50.60 305 *e*PKP **P** **03 58 35.0 -1.7**
PTH *ex* x 04 03 47.0
LATR Latur 50.84 290 *e*PKP **P** **03 58 38.0 -0.5**
AKL Akola 50.86 293 *e*PKP **P** **03 58 38.5 -0.1**
AKL AMb AMB 03 58 42.0
comp=Z,289nm,0.8s
AKL *i* x x 04 05 49.2
TLY Talaya 51.22 342*c i*P **P** **03 58 41.2 +0.4**
TLY *e* 04 00 34.4
TLY *e*S **S** **04 05 55.4 -1.5**
TLY *e* 04 08 28.8
TLY *e*SS **SS** **04 09 36.8 +4.1**
TLY pmax pmax
comp=Z,119nm,0.8s
TLY MLR MLR
comp=Z,10μm,20.0s
TLY Talaya 51.22 342 *e*P **P** **03 58 40.8 -0.1**
comp=Z,126nm,0.9s
TLY LR LR
comp=Z,12μm,20.0s
TLY Talaya 51.22 342 P **P** **03 58 41.5 +0.6**
TLY Talaya 51.22 342 P **P** **03 58 40.7 -0.1**
SNR=26
comp=Z,810nm,0.9s,SNR=23
IRK Irkutsk 51.52 343⇓*i*P **P** **03 58 44.2 +1.1**
IRK *e*S S 04 06 10.6 +10
IRK *e* 04 08 32.4
IRK pmax pmax
comp=Z,286nm,1.5s
MOY Mondy 52.07 340 *e*P **P** **03 58 47.4 +0.1**
MOY pmax pmax
comp=Z,222nm,1.6s
WMQ Urumqi 52.38 325⇑*i*P **P** **03 58 49.7 0.0**
WMQ pP **pP** **03 59 02.2 +1.8**
WMQ sP sP 03 59 07.5 +3.0
WMQ PcP **PcP** **04 00 01.0 +0.6**
WMQ PP **PP** **04 00 50.5 +1.8**
WMQ ScP **ScP** **04 03 56.2 +1.2**
WMQ S **S** **04 06 10.9 -2.3**
WMQ sS sS 04 06 33.3 +2.5
WMQ ScS **ScS** **04 08 35.0 -2.0**
WMQ pmax pmax
comp=Z,140nm,1.0s
WMQ pmax pmax
comp=Z,1μm,5.9s
WMQ LR LR
comp=N,18μm,18.7s
WMQ LR LR
comp=E,18μm,20.5s
WMQ LR LR
comp=Z,20μm,21.5s
DDI Dehra Dun 52.62 306 *ex* P 03 58 48.0 -3.7
CLNS Chul'man 52.73 359 *e*P **P** **03 58 52.6 +0.6**
CLNS *e* 04 00 02.1
CLNS *e* 04 00 46.0
CLNS *e*PPP PPP 04 01 54.8
CLNS *e*S **S** **04 06 18.4 +1.0**
CLNS pmax pmax
comp=Z,166nm,1.0s
CLNS pmax pmax
comp=N,105nm,1.1s
CLNS pmax pmax
comp=E,53nm,1.1s
CLNS pmax pmax
comp=E,55nm,1.2s
CLNS pmax pmax
comp=Z,29nm,1.4s
CLNS pmax pmax
comp=N,93nm,1.3s
CLNS smax smax
comp=E,2μm,13.0s
CLNS smax smax
comp=N,1μm,13.7s
CLNS MLR MLR
comp=N,2μm,18.0s
CLNS MLR MLR
comp=E,2μm,19.0s
CLNS MLR MLR
comp=Z,2μm,23.0s
SONA Sohna 52.75 303 *e*PKP **P** **03 58 51.4 -1.3**
SONA AMb AMB 03 58 54.9
comp=Z,414nm,1.0s
AYAN Aya Nagar 52.79 303 *e*PKP **P** **03 58 51.5 -1.3**
AYAN AMb AMB 03 58 54.6
comp=Z,300nm,1.6s
SKR Severo-Kuril's 52.79 23 *e*P P 03 58 42.0 -10
SKR *e*S S 04 06 10.0 -8.3
SKR *e*SSS SSS 04 11 36.0
SKR pmax pmax
comp=Z,510nm,1.4s
SKR smax smax
comp=N,3μm,14.0s
SKR smax smax
comp=E,5.0nm,14.0s
SKR MLR MLR
comp=N,4μm,18.0s
SKR MLR MLR
comp=E,4μm,18.0s
SKR MLR MLR
comp=Z,6μm,18.0s
GOA Goa 53.00 286⇑*e*PKP **P** **03 58 53.8 -0.8**
GOA *ex* x 04 06 17.5
HMDM Hanimaadhoo 53.12 275 P P 03 58 57.8 +2.3
comp=Z,128nm,1.3s,comp=Z,3μm
KUDL Kundal 53.22 302 *e*PKP **P** **03 58 54.5 -1.6**
KUDL AMb AMB 03 58 58.2
comp=Z,503nm,1.2s
POO Poona 53.40 290 *e*PKP **P** **03 58 56.7 -0.9**
POO AMb AMB 03 59 00.0
comp=Z,240nm,0.9s
KKR Kurukshetra 53.51 305 *e*PKP **P** **03 58 56.5 -1.7**
KKR AMb AMB 03 59 01.4
comp=Z,416nm,0.8s
SMLA Simla 53.62 306 *i* P **P** **03 58 58.2 -0.8**
KHET Khetri 53.78 302 *e*PKP **P** **03 58 58.8 -1.4**
KHET AMb AMB 03 59 03.2
comp=Z,422nm,0.8s
FUNA Funafuti 54.02 103 *e*P **P** **03 59 01.8 -0.3**
comp=Z,662nm,1.5s
FUNA LR LR
comp=Z,12μm,21.0s
BOD Bodaibo 54.59 352 *e*P **P** **03 59 06.0 +0.5**
BOD pmax pmax
comp=Z,230nm,1.5s
DGAR Diego Garcia 55.09 258 *e*P **P** **03 59 09.2 -0.7**
DGAR pmax pmax
comp=Z,79nm,0.8s
DGAR MLR MLR
comp=Z,4μm,20.0s
DGAR Diego Garcia 55.09 258 *e*P **P** **03 59 09.2 -0.7**
comp=Z,79nm,0.8s
DGAR LR LR
comp=Z,4μm,20.0s
THN Thein Dam 55.22 307 *ex* **P** **03 59 08.0 -2.6**
MSVF Nonsavu 55.24 115 *e*P **P** **03 59 10.4 -0.6**
MSVF pmax pmax
comp=Z,2μm,1.9s
MSVF MLR MLR
comp=Z,6μm,21.0s
MSVF Nonsavu 55.24 115 *e*P **P** **03 59 10.4 -0.6**
comp=Z,2μm,1.9s
MSVF LR LR
comp=Z,6μm,21.0s
PEA0B Petropavlovsk- 55.30 22 *e*P **P** **03 59 10.2 -0.6**
PETK Petropavlovsk- 55.30 22 P **P** **03 59 10.2 -0.6**
PETK pmax pmax
comp=Z,85nm,1.0s
PETK Petropavlovsk- 55.30 22 P **P** **03 59 10.2 -0.6**
PETK Petropavlovsk- 55.30 22 P **P** **03 59 10.2 -0.6**
comp=Z,85nm,1.0s,baz=188,slow=4.6,SNR=22
PET Petropavlovsk 55.60 23 *e*P **P** **03 59 12.6 -0.3**
PET *e*S **S** **04 06 56.7 +0.5**
PET pmax pmax
comp=Z,2μm,3.9s
PET pmax pmax
comp=Z,900nm,5.5s
PET pmax pmax
comp=Z,148nm,1.2s
PET MLR MLR
comp=Z,4μm,18.0s
PET MLR MLR
comp=Z,3μm,16.0s
PET Petropavlovsk 55.60 23 *e*P **P** **03 59 13.5 +0.6**
comp=Z,182nm,1.2s
PET LR LR
comp=Z,4μm,19.0s
MK31 Makanchi Array 57.21 325 *e*P **P** **03 59 24.1 -0.5**
MK31 Makanchi Array 57.21 325 *e*P **P** **03 59 24.1 -0.5**
MKAR Makanchi Array 57.21 325 P **P** **03 59 24.9 +0.3**
MKAR 04 00 21.0
MKAR pmax pmax
comp=Z,118nm,0.7s
MKAR pmax pmax
comp=Z,35nm,0.6s
MKAR pmax pmax
comp=N,9.0nm,0.7s
MKAR Makanchi Array 57.21 325 P **P** **03 59 24.9 +0.3**
MKAR PcP **PcP** **04 00 21.0 +2.2**
MKAR ScP **ScP** **04 04 17.6 +1.5**
MKAR ⇑*e* 04 29 40.3
MKAR Makanchi Array 57.21 325 P **P** **03 59 24.9 +0.3**
comp=N,118nm,0.7s,baz=126,slow=8.0,SNR=34
MKAR PcP **PcP** **04 00 21.0 +2.2**
comp=N,35nm,0.6s,baz=131,slow=4.5,SNR=3.7
MKAR ScP **ScP** **04 04 17.6 +1.5**
comp=N,8.6nm,0.7s,baz=123,slow=4.4,SNR=4.8
MKAR PKP2bc 04 29 40.3
comp=N,1.9nm,0.8s,baz=33,slow=4.6,SNR=3.8
KSH Kashi 57.69 315 P **P** **03 59 29.2 +0.9**
KSH pP pP 03 59 41.7 +2.7
KSH sP sP 03 59 47.4 +4.2
KSH PcP **PcP** **04 00 20.7 -0.3**
KSH PP **PP** **04 01 39.1 +2.6**
KSH ScP **ScP** **04 04 15.2 -3.3**
KSH PcS **PcS** **04 04 20.7 -1.6**
KSH S **S** **04 07 24.8 +0.1**
KSH sS sS 04 07 45.9 +3.5
KSH ScS **ScS** **04 09 11.1 -4.3**
KSH SS **SS** **04 11 17.8 +2.3**
KSH LR LR
comp=N,6μm,16.8s
KSH LR LR
comp=E,6μm,17.4s
KSH LR LR
comp=Z,12μm,23.4s
YAK Yakutsk 57.97 2 *e*P **P** **03 59 28.6 -1.0**
YAK *e**PP pP 03 59 44.6 +4.3
YAK *e* 04 00 23.1
YAK *e* 04 01 33.4
YAK *e*S **S** **04 07 24.5 -2.7**
YAK *e* 04 09 12.9
YAK *e*SS **SS** **04 11 22.6 +3.9**
YAK pmax pmax
comp=Z,549nm,1.2s
YAK pmax pmax
comp=N,314nm,1.2s
YAK pmax pmax
comp=E,100nm,1.2s
YAK pmax pmax
comp=N,198nm,2.0s
YAK pmax pmax
comp=E,75nm,1.4s
YAK pmax pmax
comp=Z,95nm,1.1s
YAK smax smax
comp=E,783nm,3.0s
YAK smax smax
comp=N,1μm,3.7s
YAK MLR MLR
comp=E,7μm,23.0s
YAK MLR MLR
comp=Z,6μm,20.0s
YAK MLR MLR
comp=N,6μm,20.0s
YAK Yakutsk 57.97 2 *e*P **P** **03 59 29.1 -0.5**
comp=N,499nm,0.8s
YAK LR LR
comp=Z,6μm,20.0s
MIDW Midway 58.48 59 PFAKE 03 59 50.0 +16
MIDW LR LR
comp=Z,5μm,21.0s
AAA Alma-Ata 58.67 319 *i* P **P** **03 59 35.1 +0.2**
AAA *e*S S 04 07 45.0 +7.8
AAA pmax pmax
comp=Z,2μm,5.2s
AAA smax smax
comp=E,2μm,8.9s
AAA MLR MLR
comp=Z,11μm,21.0s
ULHL Ulahol 58.67 318 P **P** **03 59 36.4 +1.2**

SNR=5.7
OUZ Omahuta 58.92 136 *e*P **P 03 59 37.1 +0.5**
comp=Z,274nm,1.9s
KZA Kyzart 59.27 318 P **P 03 59 40.0 +0.5**
SNR=47
TKM2 Tokmak 2 59.40 319 *i* P **P 03 59 40.4 +0.3**
TKM2 Tokmak 2 59.40 319 PFAKE 03 59 50.0 +10
TKM2 LR LR
comp=Z,16µm,22.0s
TKM2 Tokmak 2 59.40 319 P **P 03 59 40.5 +0.3**
SNR=11
KBK Karagaybulak 59.71 318 P **P 03 59 42.0 -0.3**
SNR=40
UCH Uchtor 59.82 317 P **P 03 59 44.7 +1.3**
SNR=23
CHMS Chumysh 59.99 318 P **P 03 59 44.4 +0.4**
SNR=20
AAK Ala-Archa 60.01 318 *i* P **P 03 59 44.5 +0.2**
AAK Ala-Archa 60.01 318 *e*P **P 03 59 44.8 +0.5**
AAK LR LR
comp=Z,19µm,22.0s
AAK Ala-Archa 60.01 318 P **P 03 59 45.2 +0.8**
SNR=30
AAK Ala-Archa 60.01 318 P **P 03 59 45.4 +1.0**
SNR=30
AAK Ala-Archa 60.01 318 P **P 03 59 44.7 +0.3**
comp=Z,23nm,0.8s,baz=110,slow=5.4,SNR=30
FRU Bishkek 60.01 318 *e*P **P 03 59 42.0 -2.2**
FRU *e* 04 00 29.0
FRU pmax pmax
comp=Z,110nm,2.0s
FRU MLR MLR
comp=E,16µm,22.0s
ZAA0 Zalesovo Array 60.26 333 *e*P **P 03 59 44.4 -1.2**
ZALV Zalesovo Beam 60.26 333 P **P 03 59 44.5 -1.1**
ZALV pmax pmax
comp=Z,35nm,0.4s
ZALV Zalesovo Beam 60.26 333 P **P 03 59 44.5 -1.1**
ZALV ⇑ *e* 04 29 26.3
ZALV Zalesovo Beam 60.26 333 P **P 03 59 44.5 -1.1**
comp=Z,34nm,0.4s,baz=120,slow=6.4,SNR=44
ZALV PKP2bc 04 29 26.3
comp=Z,6.4nm,1.0s,baz=270,slow=3.0,SNR=4.2
USP Ospenovka 60.27 318 P **P 03 59 46.6 +0.6**
SNR=68
AML Almayashu 60.34 317 P **P 03 59 47.9 +1.0**
SNR=56
EKS2 Erkin-Say 60.50 318 *e*P **P 03 59 48.4 +0.8**
EKS2 pmax pmax
comp=Z,173nm,1.1s
EKS2 MLR MLR
comp=Z,19µm,22.0s
EKS2 Erkin-Say 60.50 318 *e*P **P 03 59 48.4 +0.8**
comp=Z,173nm,1.1s
EKS2 LR LR
comp=Z,19µm,22.0s
EKS2 Erkin-Say 60.50 318 P **P 03 59 48.8 +1.1**
SNR=62
KURBB Kurchatov Arra 61.40 327 P **P 03 59 52.8 -0.6**
comp=Z,269nm,0.8s,baz=127,slow=7.1,SNR=46
KURK Kurchatov 61.40 328*c**e*P **P 03 59 52.7 -0.7**
KURK pmax pmax
comp=Z,256nm,0.7s
KURK Kurchatov 61.40 328 *e*P **P 03 59 52.8 -0.6**
KURK LR LR
comp=Z,4µm,19.0s
KURK Kurchatov 61.40 328 P **P 03 59 52.9 -0.5**
SNR=46
NVS Novosibirsk 61.54 333 *e*P **P 03 59 52.5 -1.8**
NVS *i* S **S 04 08 10.0 -3.5**
NVS *i* 04 09 36.4
NVS pmax pmax
comp=N,54nm,0.7s
NVS pmax pmax
comp=Z,79nm,0.7s
NVS pmax pmax
comp=E,47nm,0.7s
NVS smax smax
comp=N,117nm,2.5s
NVS smax smax
comp=E,133nm,2.0s
WHZ Wether Hill Ro 61.78 148 *e*P **P 03 59 55.5 -0.5**
SEY Seymchan 61.85 13*c**e*P **P 03 59 57.1 +0.9**
FX1 Attu Island--F 61.99 30 *e*P **P 03 59 58.5 +1.1**
FX1 Attu Island--F 61.99 30 P **P 03 59 57.4 0.0**
comp=E,97nm,0.8s,baz=231,slow=3.6,SNR=12
RPZ Rata Peaks 62.11 145 *e*P **P 03 59 57.3 -1.0**
comp=E,164nm,0.8s
RAO Raoul Island 62.68 126 PFAKE 04 00 10.0 +7.6
RAO LR LR
comp=Z,4µm,21.0s
ODZ Otahua Downs 62.69 146 *e*P **P 04 00 02.1 0.0**
comp=Z,413nm,1.3s
KHZ Kahutara 62.81 142 *e*P **P 04 00 00.9 -2.1**
comp=Z,119nm,1.1s
KK31 Karatay Array 62.88 317 P **P 04 00 02.7 -0.9**
KK31 pmax pmax
comp=Z,179nm,1.1s
KKAR Karatay Array 62.88 317 *e*P **P 04 00 03.7 +0.1**
KKAR Karatay Array 62.88 317 *e*P **P 04 00 03.7 +0.1**
URZ Urewera 62.89 137 *e*P **P 04 00 03.0 -0.6**
comp=Z,98nm,0.8s
SNZO South Karori 62.91 141 *e*P **P 04 00 03.8 +0.1**
SNZO LR LR
comp=Z,10µm,19.0s
AFI Afiamalu 63.76 108 *e*P **P 04 00 09.3 -0.6**
AFI LR LR
comp=Z,618nm,1.2s
comp=Z,6µm,21.0s
ADK Adak 66.90 34 P **P 04 00 30.2 +0.7**
ADK MLR MLR
comp=Z,5µm,20.0s
ADK Adak 66.90 34 P **P 04 00 30.2 +0.7**
ADK LR LR
comp=Z,5µm,20.0s
BVA0 Borovoye Array 66.98 327 P **P 04 00 29.3 -0.7**
BVA0 pmax pmax
comp=Z,22nm,0.9s
BVAR Borovoye Array 66.98 327 P **P 04 00 29.4 -0.6**
BVAR pmax pmax
comp=Z,88nm,0.8s
BVAR Borovoye Array 66.98 327 P **P 04 00 29.4 -0.6**
BVAR Borovoye Array 66.98 327 P **P 04 00 29.4 -0.6**
comp=Z,88nm,0.8s,baz=126,slow=10.0,SNR=40
BRVK Borovoye 67.05 327*c**e*P **P 04 00 29.9 -0.6**
BRVK pmax pmax
comp=Z,211nm,1.0s
BRVK Borovoye 67.05 327 *e*P **P 04 00 29.8 -0.6**
comp=Z,263nm,1.2s
BRVK LR LR
comp=Z,8µm,21.0s
BRVK Borovoye 67.05 327 P **P 04 00 29.8 -0.6**
SNR=38
WBK Wadi Bani Khal 67.73 293 ⇑P **P 04 00 34.2 -1.1**
SNR=6.4
IMON Monand 68.47 304 *e*P **P 04 00 39.3 -0.8**
JMDO Jabal Madar 68.51 292 ⇓P **P 04 00 38.6 -1.6**
SNR=8.4
IMYA Miami 68.69 307 *e*P **P 04 00 40.7 -0.6**
IKOO Kooshah 68.90 303 *e*P **P 04 00 42.0 -0.8**
ISRO Mashad 69.19 307 *e*P **P 04 00 44.7 +0.4**
ITEG Tejag 69.19 304 *e*P **P 04 00 44.0 -0.5**
BSY Bisya 69.37 293 P **P 04 00 44.6 -1.0**
SNR=6.2
BILL Bilibino 69.38 15 ⇑ *i*P **P 04 00 44.0 -0.7**
BILL *e* 04 03 20.6
BILL *i* S S 04 09 41.6 -7.4
BILL *e*SS **SS 04 14 12.1 -4.3**
BILL pmax pmax
comp=Z,88nm,2.5s
BILL MLR MLR
comp=Z,4µm,20.0s
BILL Bilibino 69.38 15 *e*P **P 04 00 43.5 -1.3**
comp=Z,50nm,1.0s
BILL LR LR
comp=Z,4µm,20.0s
IPAY Payeh 69.59 307 *e*P **P 04 00 47.9 +0.9**
IKRD Kardeh 70.03 308 *e*P P 04 00 45.1 -4.6
ISFR Sfrayin 70.48 308 *e*P **P 04 00 52.5 0.0**
ABKT Ailbek 70.54 309 P **P 04 00 53.0 +0.4**
comp=Z,717nm,1.1s,SNR=16
CASY Casey 71.03 187 *e*P **P 04 00 56.1 +1.2**
comp=Z,532nm,2.1s
CASY LR LR
comp=Z,3µm,21.0s
CASY Casey 71.03 187 *e*P **P 04 00 56.0 +1.2**

DRV Dumont d'Urvil 71.14 174 P **P 04 00 54.0 -1.5**
DRV S S 04 10 02.0 -7.5
MSEY Mahe Island 71.45 264 *e*P **P 04 00 59.1 +0.6**
comp=Z,76nm,1.5s
MSEY LR LR
comp=Z,8µm,22.0s
AB31 Akbulak array 71.80 321 P **P 04 00 58.7 -1.2**
AB31 pmax pmax
comp=Z,24nm,0.5s
RBK Rabkut 71.92 287 ⇓P **P 04 01 00.0 -1.2**
SNR=6.3
PAF Port-aux-Franc 71.93 215 PFAKE 04 01 10.0 +9.5
PAF LR LR
comp=Z,5µm,20.0s
IMEH Mehriz 72.47 302 *e*P **P 04 01 02.7 -1.9**
ICHK Chekchek 72.73 302 *e*P **P 04 01 03.4 -2.7**
ABTO Aybut 72.78 287 ⇓P **P 04 01 04.4 -1.9**
SNR=13
AKTO Aktyubinsk 73.31 322 P **P 04 01 08.0 -0.8**
AKTO pmax pmax
comp=Z,99nm,0.8s
AKTO Aktyubinsk 73.31 322 P **P 04 01 08.0 -0.8**
AKTO Aktyubinsk 73.31 322 P **P 04 01 08.0 -0.8**
comp=Z,99nm,0.8s,baz=104,slow=7.9,SNR=42
UNV Unalaska Valle 73.36 35 *e*P **P 04 01 08.8 -0.2**
comp=Z,157nm,0.8s
IANJ Anjilo 73.51 306 *e*P **P 04 01 10.5 -0.2**
RER Riviere de l'E 73.59 247 PFAKE 04 01 20.0 +8.9
RER LR LR
comp=Z,5µm,19.0s
SVE Sverdlovsk 73.62 328 ⇓ *e*P **P 04 01 09.8 -0.7**
SVE *e*S **SKiKP 04 10 35.2 -2.8**
SVE pmax pmax
comp=Z,134nm,0.9s
SVE MLR MLR
comp=Z,5µm,19.0s
IPAR Pars 73.66 300 *e*P **P 04 01 10.2 -1.5**
AKUT Akutan 73.86 35 *e*P **P 04 01 10.4 -1.6**
comp=Z,282nm,0.7s
GAMB Gambell 74.28 24 *e*P **P 04 01 13.3 -0.9**
comp=Z,137nm,1.1s
IFIR Firoozkooh 74.47 306 *e*P **P 04 01 16.4 +0.1**
IZEF Zefreh 74.55 303 *e*P **P 04 01 15.6 -1.2**
ARU Arti 74.59 328*c* *i*P **P 04 01 15.0 -1.2**
ARU 04 04 01.9
ARU PPP PPP 04 05 44.2
ARU S **S 04 10 46.8 -2.5**
ARU SS SS 04 15 44.3 +7.6
ARU pmax pmax
comp=Z,95nm,0.7s
ARU MLR MLR
comp=Z,6µm,22.0s
ARU Arti 74.59 328 *e*P **P 04 01 15.1 -1.1**
comp=Z,100nm,0.7s
ARU LR LR
comp=Z,4µm,22.0s
ARU Arti 74.59 328 P **P 04 01 15.7 -0.5**
comp=Z,800nm,0.8s,SNR=17
IGAR Gharneh 74.74 302 *e*P **P 04 01 17.5 -0.4**
KIP Kipapa 75.07 69 *e*P **P 04 01 19.9 +0.3**
KIP pmax pmax
comp=Z,110nm,0.9s
KIP MLR MLR
comp=Z,5µm,20.0s
KIP Kipapa 75.07 69 *e*P **P 04 01 19.9 +0.3**
comp=Z,110nm,0.9s
KIP LR LR
comp=Z,5µm,20.0s
IKLH Kolahrood 75.21 303 *e*P **P 04 01 20.2 -0.4**
IPIR Pirpir 75.73 303 *e*P **P 04 01 23.4 -0.3**
XMAS Kiritimati 75.97 89 *e*P **P 04 01 25.8 +0.8**
comp=Z,334nm,1.4s
XMAS LR LR
comp=Z,7µm,20.0s
RAR Rarotonga 76.36 113 *e*P P 04 01 33.9 +6.9
comp=Z,495nm,1.8s
SOKR Solikamsk 76.37 331*c* *i*P **P 04 01 26.1 -0.2**
SOKR 04 04 26.1
SOKR S **S 04 11 05.7 -3.1**
SOKR SSS SSS 04 19 25.1
SOKR pmax pmax
comp=Z,150nm,1.2s
SOKR MLR MLR
comp=Z,5µm,18.0s
TNA Tin City 76.46 23 *e*P **P 04 01 28.4 +1.7**
comp=Z,30nm,1.0s
IRAZ Razeghan 76.75 305 *e*P **P 04 01 29.3 0.0**
SDPT Sand Point 77.13 34 *e*P **P 04 01 30.0 -0.7**
comp=Z,295nm,0.7s
POHA Pohakuloa 77.37 71 *e*P **P 04 01 33.2 +0.1**
comp=Z,806nm,1.8s
PUH Pauahi 77.66 71 *e*P **P 04 01 36.6 +2.0**
QRN Al-Qurain 78.07 298 *e*P **P 04 01 35.3 -1.3**
QRN AMb AMB 04 01 41.7
comp=Z,372nm,0.8s
KBD Kabd 78.28 299 *e*P **P 04 01 36.4 -1.3**
KBD AMb AMB 04 01 40.1
comp=Z,126nm,0.9s
RDF Al-Radifah 78.40 299 *e*P **P 04 01 37.6 -0.7**
RDF AMb AMB 04 01 41.9
comp=Z,216nm,0.8s
MIB Mutribah 78.61 299 *e*P **P 04 01 38.1 -1.4**
MIB AMb AMB 04 01 42.3
comp=Z,341nm,0.9s
NAY Al-Naaiem 78.68 299 *e*P **P 04 01 38.1 -1.7**
NAY AMb AMB 04 01 42.5
comp=Z,140nm,0.8s
IVIS Veis 79.21 304 *e*P **P 04 01 40.6 -2.3**
MAK Makhachkala 79.23 313 *e*P P 04 01 35.1 -7.5
MAK *e* 04 04 42.4
MAK *e*PPP PPP 04 06 39.5
MAK pmax pmax
comp=Z,326nm,1.2s
IBST Bostanabad 79.34 307 *e*P **P 04 01 43.9 +0.2**
IAZR Azarshahr 80.06 307 *e*P **P 04 01 47.4 -0.2**
SVW2 Sparrevohn 80.71 29 *e*P **P 04 01 51.9 +1.7**
comp=Z,159nm,1.6s
DGRG David-gareji 80.71 311 P **P 04 01 50.8 +0.1**
GNI Garni 81.13 310 *e*P **P 04 01 54.0 +0.8**
GNI Garni 81.13 310 *e*P **P 04 01 53.3 +0.1**
comp=Z,73nm,1.0s
GNI LR LR
comp=Z,2µm,21.0s
GNI Garni 81.13 310 P **P 04 01 53.6 +0.4**
comp=Z,7.7nm,0.8s,baz=136,slow=7.8,SNR=6.8
ABPO Ambohimpanom 81.16 250 *e*P **P 04 01 53.5 -0.2**
ABPO pmax pmax
comp=Z,48nm,0.8s
ABPO MLR MLR
comp=Z,2µm,22.0s
ABPO Ambohimpanom 81.16 250 *e*P **P 04 01 53.5 -0.2**
comp=Z,48nm,0.8s
ABPO LR LR
comp=Z,2µm,22.0s
TBLG Delisi 81.20 311 *e*P **P 04 01 52.9 -0.4**
TBLG Delisi 81.20 311 P **P 04 01 52.9 -0.4**
BHD Baghdad 81.23 303 *i* x **P 04 01 51.5 -2.1**
BHD *i* x S 04 11 56.0 -5.7
BHD *i* x x 04 12 05.5
CLDR Caldiran 81.74 309 *e*P **P 04 01 57.0 +0.6**
KDAK Kodiak Island 81.82 32 *e*P **P 04 01 58.0 +1.9**
comp=Z,1µm,2.0s
KDAK LR LR
comp=Z,4µm,20.0s
KDAK Kodiak Island 81.82 32 P **P 04 01 55.9 -0.2**
comp=Z,99nm,0.8s,baz=270,slow=2.9,SNR=23
HAKT HAKKARI 81.86 307 *i* P **P 04 01 56.8 -0.3**
ZEI Tsey 81.87 312 *e*P **P 04 01 55.7 -1.4**
ZEI pmax pmax
comp=Z,78nm,1.0s
CUKT Cukurca 81.93 307 *e*P **P 04 01 57.5 0.0**
RSO Redoubt South 82.00 30 *e*P **P 04 01 59.1 +1.7**
AKH Akhalkalaki 82.12 311 P **P 04 01 58.8 +0.4**
VANB Van 82.14 308 *e*P **P 04 01 59.0 +0.6**
SPU Mount Spurr 82.42 29 *e*P **P 04 01 59.2 -0.1**
KARS Kars 82.42 310 *e*P **P 04 01 58.6 -1.3**
AGRB Hanur-Agry 82.46 309 *e*P **P 04 02 01.8 +1.6**
TUTA Tutak 82.60 309 *i* P **P 04 02 02.4 +1.4**
KIV Kislovodsk 82.79 314*c* *i*P **P 04 02 00.9 -0.8**
KIV *e* 04 05 16.8
KIV *e*PPP PPP 04 07 11.5
KIV *e*S **S 04 12 20.1 +2.5**
KIV pmax pmax
comp=Z,47nm,1.0s
KIV pmax pmax
comp=Z,611nm,4.5s
KIV MLR MLR
comp=Z,4µm,19.0s
KIV Kislovodsk 82.79 314 *e*P **P 04 02 03.3 +1.6**
comp=Z,198nm,1.7s
KIV LR LR
comp=Z,3µm,21.0s
KIV Kislovodsk 82.79 314 P **P 04 02 02.1 +0.4**
comp=Z,298nm,0.9s,SNR=5.1
SIRN S¯–rnak 82.89 307 *i* P **P 04 02 04.3 +2.0**
ATD Arta Tunnel 82.98 281 P **P 04 02 04.8 +1.6**
ATD Arta Tunnel 82.98 281 P **P 04 02 04.8 +1.6**
comp=Z,15nm,0.6s,baz=95,slow=21,SNR=15
SLKM Skilak Lake 83.25 30 *e*P **P 04 02 02.5 -1.2**
SLKM Skilak Lake 83.25 30 *e*P **P 04 02 02.5 -1.2**
ARTV Artvin 83.30 311 *i* P **P 04 02 03.6 -1.0**
HOMI Horasan 83.31 310 *i* P **P 04 02 06.2 +1.6**
DAGI Agillar 83.31 311 *i* P **P 04 02 04.4 -0.1**
DDEM Demirkent 83.43 311 *i* P **P 04 02 05.3 +0.2**
TRF Thorofare Moun 83.43 27 *e*P **P 04 02 04.4 -0.3**
comp=Z,315nm,1.5s
DBAD Bademkaya 83.47 311 *i* P **P 04 02 06.5 +1.2**
DBOC Borcka 83.50 311 *i* P **P 04 02 04.8 -0.5**
RC01 Rabbit Creek A 83.53 29 *e*P **P 04 02 04.9 -0.1**
comp=Z,184nm,1.0s
BCA Borcka 83.53 311 *e*P P 04 02 02.2 -3.3
SEW Seward 83.61 30 *e*P **P 04 02 05.5 +0.1**
comp=Z,383nm,1.4s
BTMT Batman 83.62 308 *e*P **P 04 02 06.6 +0.5**
VRTB Varto-Mus 83.65 309 *e*P **P 04 02 06.6 +0.3**
VRHR Novokhopersk 83.69 321 *e*P **P 04 02 06.6 +0.6**
VRHR *e*S **S 04 12 22.0 -4.2**
VRHR pmax pmax
comp=Z,150nm,1.1s
VRHR pmax pmax
comp=N,70nm,1.4s
VRHR pmax pmax
comp=E,70nm,0.8s
VRHR smax smax
comp=E,160nm,1.3s
VRHR smax smax
comp=Z,20nm,1.6s
VRHR smax smax
comp=N,120nm,1.4s
VRHR MLR MLR
comp=Z,3µm,21.0s
VRHR MLR MLR
comp=N,2µm,17.0s
VRHR MLR MLR
comp=E,1µm,20.0s
VNDA Vanda 83.70 173 *e*P **P 04 02 04.9 -0.6**
comp=E,144nm,1.6s
VNDA LR LR
comp=Z,3µm,19.0s
ERZM Erzurum 83.72 310 *i* P **P 04 02 08.4 +1.5**
EZM Erzurum 83.72 310 *e*P **P 04 02 07.0 +0.2**
COLD Coldfoot 83.76 23 *e*P **P 04 02 07.4 +1.3**
comp=Z,176nm,1.2s
PMR Palmer 83.85 29 *e*P **P 04 02 07.0 +0.4**
PMR pmax pmax
comp=Z,247nm,1.2s
PMR Palmer 83.85 29 *e*P **P 04 02 07.0 +0.4**
comp=Z,247nm,1.2s
BNGL BINGOL 83.89 309 *i* P P 04 02 11.2 +3.6
MCK McKinley 84.06 26 *e*P **P 04 02 07.3 -0.4**
MCK pmax pmax
comp=Z,222nm,1.1s
MCK McKinley 84.06 26 *e*P **P 04 02 07.3 -0.4**
comp=Z,222nm,1.1s
MARD Mardin 84.19 307 *i* P **P 04 02 09.4 +0.3**
SML Sawmill 84.24 28 *e*P **P 04 02 09.5 +0.8**
SML pmax pmax
comp=Z,126nm,1.3s
SML Sawmill 84.24 28 *e*P **P 04 02 09.5 +0.8**
comp=Z,126nm,1.3s
BNGB Bing¯ll 84.25 309 *e*P **P 04 02 08.6 -0.7**
KOPT Kop Dagi 84.39 310 *i* P **P 04 02 11.7 +1.5**
COLA College 84.58 25 *e*P **P 04 02 09.5 -0.8**
COLA pmax pmax
comp=Z,43nm,0.9s
COLA MLR MLR
comp=Z,2µm,22.0s
COLA College 84.58 25 *e*P **P 04 02 09.5 -0.8**
comp=Z,43nm,0.9s
COLA LR LR
comp=Z,2µm,22.0s
SBA Scott Base 84.61 172 PFAKE 04 02 20.0 +10
SBA LR LR
comp=Z,3µm,19.0s
BAYT Ayd¯ntepe-Bay 84.66 310 *e*P P 04 02 08.2 -3.2
KTUT Trabzon 84.93 311 *e*P **P 04 02 12.2 -0.4**
SOC Sochi 84.94 313*c* *i*P **P 04 02 11.1 -1.4**
SOC *e**PP **pP 04 02 23.6 -0.1**
SOC *e* 04 05 27.0
SOC *e*S S 04 12 28.3 -11
SOC *e*S **SKSac 04 12 30.3 -4.2**
SOC pmax pmax
comp=Z,43nm,0.8s
SOC pmax pmax
comp=Z,1µm,4.4s
SOC MLR MLR
comp=Z,5µm,19.0s
ERZN Erzincan 84.99 309 *e*P **P 04 02 13.8 +0.7**
ILAR Eielson Array 84.99 25 P **P 04 02 11.3 -1.1**
ILAR PKKPbc PKKPbc 04 20 29.6 +7.1
ILAR Eielson Array 84.99 25 P **P 04 02 11.3 -1.1**
comp=Z,34nm,1.2s,baz=264,slow=3.8,SNR=38
ILAR PKKPbc PKKPbc 04 20 29.6 +7.1
comp=Z,1.1nm,0.8s,baz=83,slow=1.4,SNR=6.5
KLMR Klimovskoe 85.07 331*c* *i*P **P 04 02 12.5 -0.3**
KLMR *e*S S 04 12 31.9 -7.7
KLMR pmax pmax
comp=Z,2µm,1.4s
KLMR pmax pmax
comp=Z,819nm,6.9s
KLMR MLR MLR
comp=Z,6µm,21.0s
GUMT Gumushane 85.16 310 *e*P **P 04 02 14.2 +0.3**
VORD Divnogorie 85.16 321 *e*P **P 04 02 12.2 -1.3**
VORD *e*S **S 04 12 36.4 -4.5**
VOR Voronezh 85.22 321 *e*P **P 04 02 11.0 -2.7**
VOR pmax pmax
comp=Z,300nm,1.0s
VSR Storozhevoye 85.24 321 *e*P **P 04 02 12.9 -1.0**
VSR *e*S **S 04 12 42.6 +1.0**
VSR pmax pmax
comp=Z,130nm,1.3s
VSR pmax pmax
comp=N,10.0nm,1.6s
VSR pmax pmax
comp=E,60nm,1.1s
VSR smax smax
comp=E,140nm,3.1s
VSR smax smax
comp=Z,20nm,3.0s
VSR smax smax
comp=N,60nm,1.1s
VSR MLR MLR
comp=Z,3µm,18.0s
VSR MLR MLR
comp=N,3µm,23.0s
VSR MLR MLR
comp=E,3µm,23.0s
PTK Pertek 85.26 309 *e*P **P 04 02 13.0 -1.5**
EZC Erzincan 85.27 309 *e*P P 04 02 10.6 -3.9
KELT Kelkit 85.34 310 *i* P **P 04 02 15.6 +0.7**
SVRC Sivrice-ELAZID 85.34 308 *e*P **P 04 02 13.8 -1.1**
PPT2 Papeete2 85.43 108 *e*P **P 04 02 18.2 +2.6**
comp=E,114nm,1.5s
PPT2 Papeete2 85.43 108 *e*PP PP 04 05 34.8 +0.5
comp=E,399nm,24.0s
PPT2 *e*S **S 04 12 43.7 -1.2**
comp=E,6µm,25.5s
PPT2 *e*SS **SS 04 18 16.9 -3.9**
comp=E,2µm,28.8s
PPT2 *e*LQ LQ 04 25 32.9
comp=E,9µm,39.8s
PPT2 *e*LR LR 04 29 09.7
comp=E,8µm,26.2s,baz=277
PAE Paea 85.43 108 *e*P **P 04 02 17.8 +2.3**
comp=E,8.8nm,0.9s
DIV Divide 85.45 29 *e*P **P 04 02 16.2 +1.3**
comp=E,436nm,1.2s
ELZG Elazig 85.59 308 *i* P **P 04 02 18.5 +2.3**
PAX Paxson 85.60 27 *e*P **P 04 02 16.6 +1.0**
PAX pmax pmax

comp=Z,191nm,1.5s
PAX Paxson 85.60 27 *e*P **P 04 02 16.6 +1.0**
comp=Z,192nm,1.5s
TIAR Tiarei 85.64 108 *e*P **P 04 02 19.2 +2.6**
comp=Z,87nm,0.9s
ESPY Espiye-Giresun 85.72 311 *e*P P 04 02 11.0 -5.5
TVO Taravao 85.76 108 *e*P **P 04 02 19.8 +2.6**
comp=Z,270nm,1.5s
ILIC ilic-Erzincan 85.89 309 *e*P **P 04 02 18.2 +0.7**
BMRM Bremner River 86.03 29 *e*P **P 04 02 18.9 +1.2**
comp=Z,359nm,1.4s
MALT Malatya 86.03 308 *e*P **P 04 02 17.6 -0.7**
GRSN GIRESUNGRSN 86.07 311 *i*P **P 04 02 18.2 -0.1**
MOS Moscow 86.10 325 *e*P **P 04 02 16.5 -1.5**
MOS *e* 04 02 26.4
MOS *e*S **SKSac 04 12 39.0 -2.3**
MOS *i* 04 12 44.9
MOS pmax pmax
comp=Z,821nm,1.3s
MOS pmax pmax
comp=Z,1μm,1.4s
MOS MLR MLR
comp=Z,9μm,21.0s
MOS MLR MLR
comp=E,8μm,21.0s
TBI Tubuai 86.12 114 *e*PP PP 04 05 35.0 -4.6
comp=E,464nm,25.5s
TBI *e*S **S 04 12 50.4 -0.9**
comp=E,8μm,27.2s
TBI *e*SS **SS 04 18 28.4 -2.1**
comp=E,2μm,28.8s
TBI *e*LQ LQ 04 25 51.0
comp=E,2μm,38.2s
TBI *e*LR LR 04 29 27.1
comp=E,9μm,29.0s
SUSE Susehri 86.14 310 *i*P **P 04 02 19.0 +0.1**
ATAB Bozova 86.17 307 *i*P **P 04 02 20.4 +1.6**
DOT Dot Lake 86.22 27 *e*P **P 04 02 19.1 +0.5**
comp=E,11nm,0.8s
AKCD Akcadag 86.43 308 *i*P **P 04 02 22.4 +2.1**
ANN Anapa 86.55 315 *e*P **P 04 02 18.2 -2.3**
ANN *e**PP **pP 04 02 32.1 +0.4**
ANN *e*S **SKSac 04 12 39.4 -5.2**
ANN pmax pmax
comp=Z,176nm,1.2s
OBN Obninsk 86.72 325⇑ *e*P **P 04 02 20.5 -0.6**
OBN *e* 04 05 43.0
OBN *i*S S 04 12 49.0 -6.9
OBN pmax pmax
comp=Z,597nm,1.9s
OBN MLR MLR
comp=Z,9μm,21.0s
OBN Obninsk 86.72 325 *e*P **P 04 02 20.6 -0.6**
comp=Z,2μm,1.7s
OBN LR LR
comp=Z,9μm,21.0s
OBN Obninsk 86.72 325 P **P 04 02 20.4 -0.6**
comp=Z,3μm,1.0s,SNR=19
GZT Gaziantep 86.75 307 *i*P **P 04 02 21.9 0.0**
PMOR Pomariorio Ree 86.80 105 *e*P **P 04 02 24.1 +1.8**
comp=Z,507nm,1.5s
RSDY Resadiye-TOKAT 86.80 310 *e*P **P 04 02 21.4 -0.5**
MEH Mehetia 86.89 108 *e*P **P 04 02 24.7 +2.0**
comp=Z,184nm,1.4s
LVZ Lovozero 87.03 338 *ce*P **P 04 02 22.7 +0.2**
LVZ pmax pmax
comp=Z,158nm,1.2s
LVZ Lovozero 87.03 338 *e*P **P 04 02 21.8 -0.7**
comp=Z,113nm,1.0s
LVZ LR LR
comp=Z,15μm,19.0s
LVZ Lovozero 87.03 338 P **P 04 02 22.2 -0.3**
comp=Z,654nm,0.9s,SNR=5.6
GAZ Gaziantep 87.04 307 *e*P **P 04 02 23.4 +0.2**
KUZU Kuzuini 87.17 306 *i*P **P 04 02 23.8 0.0**
FURI Furi 87.22 279 *e*P P 04 02 29.1 +4.3
comp=Z,79nm,1.1s
ERBA Erbaa 87.23 310 *i*P **P 04 02 24.2 +0.2**
KMRS Kahramanmaras 87.27 307 *e*P **P 04 02 21.4 -2.9**
EGAK Eagle 87.44 25 *e*P **P 04 02 24.9 +0.5**
comp=Z,38nm,1.4s
EGAK LR LR
comp=Z,3μm,22.0s
APA Apatity 87.53 337⇓ *i*P **P 04 02 26.4 +1.6**
APA *i*S **S 04 13 06.0 +2.7**
APA pmax pmax
comp=Z,184nm,1.2s
APA MLR MLR
comp=Z,19μm,19.0s
ASF Jabal al Asfar 87.55 302 P **P 04 02 26.5 +0.7**
ASF Jabal al Asfar 87.55 302 P **P 04 02 26.5 +0.7**
comp=Z,36nm,0.9s,baz=327,slow=0.6,SNR=23
PINB Pinarbasi 87.60 308 *i*P **P 04 02 26.3 +0.2**
KVT Kavak 87.74 311 *e*P **P 04 02 24.2 -2.3**
BNN Bunyan 88.03 309 *e*P **P 04 02 26.2 -1.8**
KOZT Kozan 88.13 307 *e*P **P 04 02 29.4 +1.1**
CEYT Ceyhan 88.22 307 *e*P **P 04 02 26.6 -2.1**
BHL Bhannes 88.49 304 *e*P **P 04 02 30.0 -0.2**
CTKT Corum 88.72 310 *i*P **P 04 02 31.7 +0.4**
MMAI Mount Meron Ar 88.76 303 P **P 04 02 32.4 +0.9**
MMAI Mount Meron Ar 88.76 303 P **P 04 02 32.4 +0.9**
comp=Z,9.1nm,0.5s,baz=81,slow=6.9,SNR=16
HOPEN Hopen 88.83 347 *e*P **P 04 02 31.5 +0.7**
HOPEN *e*SKS **SKSac 04 12 59.4 +2.2**
HOPEN AMS AMS 04 49 48.6
comp=Z,7μm,19.7s
JOF Joensuu 88.85 333 *e*P **P 04 02 29.7 -1.4**
JOF pmax pmax
comp=Z,224nm,0.6s
JOF Joensuu 88.85 333 *ep* **P 04 02 29.7 -1.4**
comp=Z,224nm,0.6s
CORM Corum 88.88 310 *e*P **P 04 02 32.1 +0.1**
GULE Gulek 88.97 307 *i*P **P 04 02 32.9 +0.4**
CDAG Cicekdag 89.12 309 *i*P **P 04 02 32.1 -1.0**
BZK Bozkurt 89.21 312 *e*P **P 04 02 32.2 -1.1**
KMBO Kilima Mbogo 89.31 269 *e*P **P 04 02 34.4 -0.3**
comp=Z,78nm,1.1s
KMBO LR LR
comp=Z,5μm,22.0s
EIL Elat 89.38 300 P **P 04 02 34.5 +0.1**
EIL Elat 89.38 300 P **P 04 02 34.5 +0.1**
comp=Z,30nm,0.8s,baz=69,slow=1.8,SNR=17
KEV Kevo 89.57 340 *e*P **P 04 02 33.6 -0.8**
KEV pmax pmax
comp=Z,24nm,0.6s
KEV Kevo 89.57 340 PFAKE 04 02 50.0 +16
KEV LR LR
comp=Z,5μm,21.0s
KEV Kevo 89.57 340 *ep* **P 04 02 33.6 -0.8**
comp=Z,24nm,0.6s
CANT Cankiri 89.61 310 *e*P **P 04 02 33.4 -1.9**
BR131 Keskin Array S 89.67 310 *e*P **P 04 02 34.6 -1.1**
comp=Z,25nm,0.8s
BR131 LR LR
comp=Z,2μm,20.0s
BRTR Keskin Array B 89.67 310 P **P 04 02 34.3 -1.4**
BRTR Keskin Array B 89.67 310 P **P 04 02 34.3 -1.4**
comp=Z,40nm,0.9s,baz=135,slow=4.1,SNR=38
PUL Pulkovo 89.70 330 *e*P **P 04 02 37.0 +1.8**
PUL pmax pmax
comp=Z,569nm,1.2s
BALT Daday 89.71 311 *i*P **P 04 02 35.2 -0.7**
INK Inuvik 90.03 21 *e*P **P 04 02 35.9 -0.6**
comp=Z,102nm,1.4s
INK Inuvik 90.03 21 P **P 04 02 35.6 -0.9**
comp=Z,82nm,1.3s,baz=290,slow=5.6,SNR=29
BBAL Bala 90.08 309 *i*P **P 04 02 37.0 -0.7**
ARCES ARCESS Array B 90.13 340 P **P 04 02 36.4 -0.7**
ARCES ARCESS Array B 90.13 340 P **P 04 02 36.4 -0.7**
comp=Z,35nm,0.6s,baz=77,slow=5.6,SNR=36
ARE0 ARCESS Array S 90.13 340 *e*P **P 04 02 35.2 -1.8**
ARE0 *e*SKS **SKSac 04 13 04.0 -1.2**
ARE0 ARCESS Array S 90.13 340 *e*P **P 04 02 36.4 -0.6**
SPA0 Spitsbergen Ar 90.19 349 *e*P **P 04 02 38.4 +1.2**
SPA0 *e*PP **PP 04 06 11.1 +0.3**
SPA0 *e*SKS **SKSac 04 13 03.6 -1.6**
SPITS Spitsbergen Ar 90.19 349 P **P 04 02 38.4 +1.2**
SPITS Spitsbergen Ar 90.19 349 P **P 04 02 38.3 +1.2**
comp=Z,26nm,0.7s,baz=114,slow=8.7,SNR=16
SPB4 Spitsbergen Ar 90.19 349 *e*P **P 04 02 38.6 +1.4**
SPB4 *e*PP **PP 04 06 13.2 +2.4**
SAFT Safranbolu 90.26 311 *e*P P 04 02 33.8 -4.5
CSS Prodhromos 90.33 305 *e*P **P 04 02 38.8 0.0**
comp=Z,37nm,0.8s
CSS LR LR
comp=Z,2μm,22.0s
KBS Kingsbay 90.72 350 *e*P **P 04 02 41.5 +2.0**
KBS AMS AMS 04 46 21.4
comp=Z,5μm,21.6s
KBS Kingsbay 90.72 350 *ce*P **P 04 02 41.6 +2.0**
KBS pmax pmax
comp=Z,36nm,1.2s
KBS Kingsbay 90.72 350 PFAKE 04 02 50.0 +10
KBS LR LR
comp=Z,6μm,21.0s
SKAG Skagway 90.77 30 *e*P **P 04 02 40.6 +0.5**
comp=Z,37nm,1.0s
KTK1 Kautokeino 91.04 339 *e*P **P 04 02 39.9 -1.4**
KTK1 *e*SKS **SKSac 04 13 08.0 -2.4**
KTK1 AMS AMS 04 46 12.3
comp=Z,11μm,23.7s
KAF Kangasniemi 91.26 332 *e*P **P 04 02 41.5 -0.9**
KAF pmax pmax
comp=Z,200nm,0.9s
KAF Kangasniemi 91.26 332 *ep* **P 04 02 41.5 -0.9**
comp=Z,200nm,0.9s
FINES FINESS Array B 91.50 332 P **P 04 02 42.7 -0.8**
FINES FINESS Array B 91.50 332 P **P 04 02 42.7 -0.8**
comp=Z,77nm,0.8s,baz=83,slow=6.0,SNR=47
AKASG Malin Array Be 91.54 321 P **P 04 02 42.7 -1.2**
AKASG pmax pmax
comp=Z,79nm,0.8s
AKASG Malin Array Be 91.54 321 P **P 04 02 42.7 -1.2**
AKASG Malin Array Be 91.54 321 P **P 04 02 42.7 -1.2**
comp=Z,79nm,0.8s,baz=72,slow=4.2,SNR=40
AKBB Malin Array Si 91.54 321 *e*P **P 04 02 42.6 -1.4**
AKBB Malin Array Si 91.54 321 *e*P **P 04 02 42.6 -1.4**
KIEV Kiev 91.56 321 *e*P **P 04 02 42.4 -1.6**
KIEV pmax pmax
comp=Z,104nm,1.0s
KIEV MLR MLR
comp=Z,6μm,21.0s
KIEV Kiev 91.56 321 *e*P **P 04 02 42.4 -1.6**
comp=Z,104nm,1.0s
KIEV LR LR
comp=Z,6μm,21.0s
VSU Vasula 91.73 329 *e*P **P 04 02 43.4 -1.2**
VSU pmax pmax
comp=Z,327nm,1.2s
MICGM Minsk 91.78 325⇓ *e*P **P 04 02 42.0 -3.0**
MNK Minsk 91.81 325⇓ *e*P P 04 02 42.0 -3.1
MNK *e**PP pP 04 02 56.0 -0.4
MNK *e* 04 13 10.0
MNK *e*S S 04 13 34.0 -10
MNK *e*PS **PS 04 14 56.0 -1.5**
MNK *e*PS PnS 04 15 30.0 +32
MNK *e*SS **SS 04 19 54.0 +2.6**
MNK *e*SSS SSS 04 23 30.0
MNK pmax pmax
comp=Z,830nm,1.2s
MNK pmax pmax
comp=E,460nm,1.5s
MNK MLR MLR
comp=Z,18μm,18.0s
MNK MLR MLR
comp=E,14μm,18.0s
ISP Isparta 92.29 308 PFAKE 04 03 00.0 +12
ISP LR LR
comp=Z,3μm,22.0s
IDID Didziasalis 92.29 326 *e*P **P 04 02 46.8 -0.5**
IDID AMB AMB 04 02 50.6
comp=Z,68nm,0.9s
IDID Didziasalis 92.29 326 *e*P **P 04 02 46.8 -0.5**
IDID AMB AMB 04 02 50.6
comp=Z,68nm,0.9s
TRO Tromso 92.34 340 *e*P **P 04 02 46.9 -0.3**
TRO *e*SKS **SKSac 04 13 15.0 -2.6**
TRO AMS AMS 04 46 52.5
comp=Z,9μm,24.4s
KIS Kishinev 92.34 317 *e*P **P 04 02 46.0 -1.7**
KIS *e* 04 06 30.0
KIS *i* 04 13 15.0
KIS *e* 04 14 58.0
KIS Kishinev 92.34 317 *e*P **P 04 02 46.0 -1.7**
KIS Kishinev 92.34 317 *e*PP PP 04 06 30.0 +1.5
KIS LRM MLR 04 49 24.0
comp=Z,4μm,20.0s
NACGM Naroch 92.34 325 *e*P P 04 02 44.0 -3.6
IZAR Zarasai 92.49 326 *e*P **P 04 02 47.7 -0.5**
IZAR AMB AMB 04 02 51.4
comp=Z,56nm,0.9s
IZAR Zarasai 92.49 326 *e*P **P 04 02 47.7 -0.5**
IZAR AMB AMB 04 02 51.4
comp=Z,56nm,0.9s
SYO Syowa Base 92.56 201⇑ *e*P **P 04 02 46.9 -1.3**
IIGN Ignalina 92.57 326 *e*P **P 04 02 48.2 -0.5**
IIGN AMB AMB 04 02 51.9
comp=Z,50nm,0.9s
IIGN Ignalina 92.57 326 *e*P **P 04 02 48.2 -0.5**
IIGN AMB AMB 04 02 51.9
comp=Z,50nm,0.9s
ISAL Salakas 92.59 326 *e*P **P 04 02 48.1 -0.6**
ISAL AMB AMB 04 02 51.9
comp=Z,38nm,0.9s
ISAL Salakas 92.59 326 *e*P **P 04 02 48.1 -0.6**
ISAL AMB AMB 04 02 51.9
comp=Z,38nm,0.9s
TLCR 92.60 315⇑ *i*P **P 04 02 51.3 +2.3**
LEOM Leova 92.81 317⇓ P **P 04 02 49.5 -0.4**
LEOM Leova 92.81 317⇓ *i*P **P 04 02 49.5 -0.4**
WRAK Wrangell Islan 92.88 33 *e*P **P 04 02 50.1 +0.2**
comp=Z,56nm,0.9s
WRAK LR LR
comp=Z,3μm,21.0s
TIRR Tirgusor 92.99 315⇓ P **P 04 02 49.9 -0.9**
TIRR Tirgusor 92.99 315 *e*P **P 04 02 49.6 -1.1**
comp=Z,38nm,1.0s
TIRR Tirgusor 92.99 315⇓ *i*P **P 04 02 49.9 -0.9**
CFR Carcaliu 93.08 316⇑ P **P 04 02 50.4 -0.8**
CFR Carcaliu 93.08 316⇑ *i*P **P 04 02 50.4 -0.8**
IAS Iasi 93.16 318 P **P 04 02 50.9 -0.6**
PSN Preselentsi 93.27 314 P P 04 02 57.8 +5.7
DIB Dawson Inlet, 93.44 36 T T 05 46 39.8
SNR=4.8
GHRR 93.44 316⇑ *i*P **P 04 02 53.4 +0.5**
PETR 93.62 316⇑ *i*P **P 04 02 55.2 +1.5**
DLBC Dease Lake 93.66 31 *e*P **P 04 02 54.4 +0.7**
DLBC Dease Lake 93.66 31 P **P 04 02 53.4 -0.3**
comp=Z,16nm,1.1s,baz=276,slow=3.2,SNR=13
QSPA South Pole Qui 93.88 180 *e*P **P 04 02 54.1 -0.4**
comp=Z,66nm,1.0s
QSPA LR LR
comp=Z,3μm,19.0s
TESR 93.89 317⇑ *i*P **P 04 02 54.2 -0.7**
PRD Provadia 93.91 314 P **P 04 02 56.2 +1.2**
VRI Vrincioaia 93.94 316⇑ P **P 04 02 54.9 -0.3**
VRI Vrincioaia 93.94 316⇑ *i*P **P 04 02 54.9 -0.3**
PLOR Plostina 94.00 316⇑ P **P 04 02 55.0 -0.5**
PLOR Plostina 94.00 316⇑ *i*P **P 04 02 55.0 -0.5**
STEI Steigen 94.17 339 *e*P **P 04 02 55.8 +0.1**
MLR Muntele Rosu 94.55 316 P **P 04 02 57.5 -0.7**
MLR Muntele Rosu 94.55 316⇑ *i*P **P 04 02 57.5 -0.7**
MLR Muntele Rosu 94.55 316 P **P 04 02 57.5 -0.7**
comp=Z,18nm,0.9s,baz=3.7,slow=2.1,SNR=27
SUW Suwalki 94.58 325 *e*P **P 04 02 57.1 -0.8**
SUW Suwalki 94.58 325 *e*P **P 04 02 57.1 -0.8**
SUW Suwalki 94.58 325 *e*P **P 04 02 57.0 -0.8**
SUW pmax pmax
comp=Z,573nm,0.9s
SUW Suwalki 94.58 325 *e*P **P 04 02 57.0 -0.8**
comp=Z,573nm,0.9s
JMB Yambol 94.62 313 P **P 04 02 59.9 +1.6**
BURAR Bucovina Array 94.65 318⇑ *i*P **P 04 02 58.2 -0.3**
BUR08 Bucovina Ar. S 94.66 318 *e*P **P 04 02 57.9 -0.7**
DOPR Dopca 94.85 317⇓ *i*P **P 04 03 00.8 +1.4**
SZH Strazhica 94.95 314 P **P 04 02 58.6 -1.3**
LVV L'vov 94.98 321 *e*P **P 04 03 00.4 +0.6**
LVV *e* 04 13 29.9
MOR8 Moi Rana 95.11 338 *e*P **P 04 02 58.8 -1.3**
VOIR 95.18 316⇓ P **P 04 03 00.0 -1.0**
VOIR 95.18 316⇓ *i*P **P 04 03 00.0 -1.0**
HUMR Humele 95.40 315⇓ *i*P **P 04 03 00.5 -1.4**
DIM Dimitrovgrad 95.46 313 P **P 04 03 02.8 +0.6**
MBAR Mbarara 95.77 270 PFAKE 04 03 20.0 +16
MBAR LR LR
comp=Z,620nm,21.0s
BMR Baia Mare 95.78 319⇓ P **P 04 03 03.9 +0.4**
BMR Baia Mare 95.78 319⇓ *i*P **P 04 03 03.9 +0.4**
KWP Kalwaria Pacla 95.86 321 *e*P **P 04 03 04.5 +0.6**
KWP Kalwaria Pacla 95.86 321⇓ P **P 04 03 03.7 -0.2**
KWP Kalwaria Pacla 95.86 321 *e*P **P 04 03 03.3 -0.6**
comp=Z,176nm,1.0s
KWP LR LR
comp=Z,5μm,21.0s
KWP Kalwaria Pacla 95.86 321⇓ *i*P **P 04 03 03.7 -0.2**
LOT Lotru 96.06 316⇓ *i*P **P 04 03 05.0 0.0**
RZN Rozhen 96.12 312 P **P 04 03 05.4 -0.1**
KOLS Kolonicke sedl 96.30 320 *e*P **P 04 03 05.7 -0.2**
KOLS *e* 04 07 00.6
KOLS Kolonicke sedl 96.30 320 *e*P **P 04 03 05.7 -0.2**
KOLS *e*PP **PP 04 07 00.6 +1.3**
TRPA Tarpa 96.31 319⇑ *i*P **P 04 03 05.3 -0.6**
TRPA Tarpa 96.31 319⇓ P **P 04 03 07.7 +1.8**
UZH Uzhgorod 96.35 320 *e*P **P 04 03 06.1 0.0**
UZH *e* 04 03 16.1
UZH *e* 04 13 33.1
UZH *e*S **S 04 14 20.3 -3.4**
UZH MLR MLR
comp=N,1μm,19.0s
UZH MLR MLR
comp=E,3μm,19.0s
UZH MLR MLR
comp=Z,1μm,19.0s
DRGR 96.49 318⇓ P **P 04 03 05.2 -1.7**
DRGR 96.49 318⇓ *i*P **P 04 03 05.2 -1.7**
BEL Belsk 96.51 323 *e*P **P 04 03 07.8 +1.1**
BEL Belsk 96.51 323 *e*P **P 04 03 07.8 +1.1**
BEL Belsk 96.51 323 *e*P **P 04 03 07.8 +1.1**
MPEP Malo Peshtene 96.51 314 P **P 04 03 06.4 -0.6**
DEV Deva 96.56 317⇑ P **P 04 03 07.3 +0.2**
DEV Deva 96.56 317⇑ *i*P **P 04 03 07.3 +0.2**
NSS Namsos 96.71 337 *e*P **P 04 03 07.9 +0.5**
CRVS Cervenica-Dubn 96.82 320 *e*P **P 04 03 07.9 -0.4**
CRVS Cervenica-Dubn 96.82 320 *e*P **P 04 03 07.9 -0.4**
MMB Musomiste 96.87 313 P **P 04 03 08.8 +0.1**
DAG Danmarks Havn 96.98 352 *i*P **P 04 03 07.7 -0.7**
DAG *i*S **SKSac 04 13 42.1 -0.3**
DAG pmax pmax
comp=Z,47nm,0.9s
DAG MLR MLR
comp=Z,6μm,27.0s
DAG Danmarks Havn 96.98 352 *i*P **P 04 03 07.7 -0.7**
comp=Z,473nm,0.9s
DAG Danmarks Havn 96.98 352 *i*S **SKSac 04 13 42.1 -0.3**
DAG
VTS Vitosha 97.05 314⇓ P **P 04 03 08.7 -0.9**
VTS Vitosha 97.05 314⇓ *i*P **P 04 03 08.7 -0.9**
VTS Vitosha 97.05 314 *e*P **P 04 03 07.5 -2.1**
KKB Krupnik 97.29 313 P **P 04 03 10.1 -0.4**
NIE Niedzica 97.42 321 *e*P **P 04 03 11.0 0.0**
NIE Niedzica 97.42 321 *e*P Pdif 04 03 11.2 +0.1
BZS Buzias 97.50 317⇑ P **P 04 03 10.5 -0.9**
BZS Buzias 97.50 317⇑ *i*P **P 04 03 10.5 -0.9**
OJC Ojcow 97.54 322 *e*P **P 04 03 11.0 -0.4**
OJC *e*PP **PP 04 07 09.1 +0.2**
OJC *e*SKKSac SKKSac 04 14 07.1 -7.0
OJC L L 04 54 31.1
comp=Z,5μm,19.6s
OJC Ojcow 97.54 322 *e*P **P 04 03 11.1 -0.4**
OJC *e* 04 07 09.5
OJC Ojcow 97.54 322 *e*P **P 04 03 09.9 -1.6**
comp=Z,84nm,1.0s
RES Resolute Bay 97.62 10 *e*P **P 04 03 11.0 -0.2**
comp=Z,47nm,1.3s
RES Resolute Bay 97.62 10 P **P 04 03 11.0 -0.2**
comp=Z,19nm,1.0s,baz=310,slow=5.3,SNR=28
HFS Hagfors 97.69 332 P **P 04 03 10.2 -1.7**
HFS PKKPbc PKKPdf 04 19 59.0 +7.2
HFS Hagfors 97.69 332 P **P 04 03 10.2 -1.7**
comp=Z,76nm,1.1s,baz=109,slow=4.7,SNR=26
HFS PKKPbc PKKPdf 04 19 59.0 +7.2
comp=Z,2.6nm,0.8s,baz=198,slow=4.4,SNR=4.0
VAY Valandovo 97.78 312 *e*P **P 04 03 12.4 -0.3**
comp=Z,50nm,0.8s
PSZ Piszkesteto 98.08 319⇓ P **P 04 03 13.7 -0.4**
PSZ Piszkesteto 98.08 319 *e*P **P 04 03 13.4 -0.7**
comp=Z,63nm,1.0s
PSZ LR LR
comp=Z,4μm,21.0s
PSZ Piszkesteto 98.08 319⇓ *i*P **P 04 03 13.7 -0.4**
PSZ Piszkesteto 98.08 319⇓ P Pdif 04 03 13.6 +0.5
GKP Gorka Klasztor 98.19 325 *e*P **P 04 03 13.8 -0.5**
GKP Gorka Klasztor 98.19 325 *e*P **P 04 03 13.8 -0.5**
GKP Gorka Klasztor 98.19 325 *e*P **P 04 03 13.8 -0.5**
NC602 NORSAR Array S 98.44 333 *e*PP PP 04 07 14.6 -0.8
NC602 *e*SKS **SKSac 04 13 45.8 -4.6**
NB2 NORSAR Subarra 98.46 334 P **P 04 03 14.3 -1.1**
baz=65,slow=4.6
NB2 NORSAR Subarra 98.46 334 P **P 04 03 14.3 -1.1**
comp=Z,21nm,0.7s,baz=65,slow=4.6
NOA NORSAR Array B 98.46 334 P **P 04 03 14.4 -1.0**
NOA PP PP 04 07 03.1 -12
NOA NORSAR Array B 98.46 334 P **P 04 03 14.4 -1.0**
comp=Z,24nm,0.8s,baz=66,slow=4.6,SNR=29
NOA PP PP 04 07 03.1 -12
comp=Z,2.6nm,0.7s,baz=67,slow=7.9,SNR=4.2
VYHS Vyhne 98.61 320 *e*P **P 04 03 15.5 -0.9**
VYHS Vyhne 98.61 320 PDIF **P 04 03 15.4 -0.9**
PKS6 Bocsa 98.64 318⇓ *e*Pdiff **P 04 03 18.6 +2.1**
OKC Ostrava-Krasne 98.67 322 *e*P **P 04 03 16.3 -0.2**
OKC *e* 04 13 52.8
OKC MLR MLR
comp=Z,3μm,18.6s
OKC Ostrava-Krasne 98.67 322 *e*PDIFF **P 04 03 16.3 -0.2**
OKC *e*SKS **SKSac 04 13 52.8 +0.8**
OKC AMS AMS 04 54 00.0
comp=Z,3μm,18.6s
NAO01 NORSAR Array S 98.68 333 PFAKE 04 03 30.0 +14
NAO01 LR LR
comp=Z,8μm,20.0s
BIA Bitola 98.76 312 *e*P **P 04 03 16.8 -0.4**
BUD Budapest 98.76 319⇓ *e*Pdiff **P 04 03 18.8 +1.8**
BSD Bornholm Skovb 98.88 327 *e*P Pdif 04 03 18.4 +1.1
BSD *i*S **SKSac 04 13 54.4 +1.6**
BSD pmax pmax
comp=Z,60nm,1.0s
BSD MLR MLR
comp=Z,4μm,19.0s
BSD Bornholm Skovb 98.88 327 *i*P Pdif 04 03 18.4 +1.1
comp=Z,60nm,1.0s
LSZ Lusaka 99.03 255 *e*P **Pdif 04 03 17.2 -1.8**
comp=Z,36nm,1.0s
LSZ LR LR
comp=Z,6μm,22.0s
MORC Moravsky Berou 99.06 322⇑ P **Pdif 04 03 18.3 -0.1**
MORC Moravsky Berou 99.06 322⇑ *i*P **Pdif 04 03 18.3 -0.1**
PKSG 99.20 319⇓ *e*Pdiff P 04 03 20.8
MOL Molde 99.35 336 AMS AMS 04 52 29.7
comp=Z,12μm,24.3s
PKSM Moragy 99.36 318⇑ P **Pdif 04 03 19.5 -0.2**
PKSM Moragy 99.36 318⇑ *i*P **Pdif 04 03 19.5 -0.2**
PKSM Moragy 99.36 318⇓ *e*Pdiff **Pdif 04 03 20.3 +0.6**
YKA Yellowknife Ar 99.38 24 P **Pdif 04 03 19.8 +0.3**
YKA PP PKiKP 04 07 38.0 -11
YKA PKKPbc **PKKPbc 04 19 42.1 -3.2**
YKA Yellowknife Ar 99.38 24 P **Pdif 04 03 19.7 +0.3**
comp=Z,2.2nm,0.7s,baz=295,slow=4.5,SNR=28
YKA PP PKiKP 04 07 37.9 -11
comp=Z,2.5nm,1.0s,baz=308,slow=6.8,SNR=4.0
YKA PKKPbc **PKKPbc 04 19 42.1 -3.2**
comp=Z,0.2nm,0.5s,baz=118,slow=3.0,SNR=5.1
RKT Rikitea 99.41 113 *e*SKSac **SKSac 04 13 57.9 +1.2**
comp=Z,4μm,28.8s
RKT *e*SP **SP 04 16 18.6 +1.2**
comp=Z,2μm,29.2s
RKT *e*SS **SS 04 21 39.1 -2.0**
comp=Z,1μm,26.0s
RKT *e*LR LR 04 35 37.6
comp=Z,5μm,32.0s
PKST T''s 99.47 319⇓ *e*Pdiff **Pdif 04 03 21.9 +1.7**
KSP Ksiaz 99.50 323 *e*P **Pdif 04 03 22.2 +1.9**
KSP Ksiaz 99.50 323 *e*P **Pdif 04 03 22.2 +1.9**
KSP Ksiaz 99.50 323 *e*P **Pdif 04 03 19.6 -0.6**
KSP *e* 04 07 24.0
KSP *e* 04 13 55.5
KSP *e*SP SP 04 16 11.3 -5.5
KSP *e*SSS SSS 04 25 36.0
KSP MLR MLR
comp=Z,9μm,23.3s
PKS9 Tamasi 99.50 318⇓ *e*Pdiff **Pdif 04 03 22.0 +1.7**
SMOL Smolenice 99.50 320 *e*P **Pdif 04 03 22.7 +2.4**

SMOL Smolenice 99.50 320 PDIF **Pdif** **04 03 22.7 +2.4**
DPC Dobruska-Polom 99.63 322 *e*P **Pdif** **04 03 20.7 -0.2**
DPC *e* 04 07 22.8
DPC *e* 04 13 56.9
DPC MLR MLR
comp=Z,5µm,20.9s
DPC Dobruska-Polom 99.63 322 *e*Pdif **Pdif** **04 03 20.5 -0.4**
comp=Z,74nm,0.9s
DPC Dobruska-Polom 99.63 322 *e*PDIFF **Pdif** **04 03 20.7 -0.2**
DPC *ex* x 04 03 23.5
DPC *e*PP **PP** **04 07 22.8 -2.1**
DPC *e*SKS **SKSac** **04 13 56.9 0.0**
DPC AMS AMS 04 51 40.0
comp=Z,5µm,20.9s
RHK3 Tenkes 99.71 318 ⇓ePdiff **Pdif** **04 03 22.9 +1.6**
TIR Tirane 99.75 313 PFAKE 04 03 30.0 +8.4
TIR LR LR
comp=Z,3µm,21.0s
KONO Kongsberg 99.77 333 PFAKE 04 03 30.0 +8.8
KONO LR LR
comp=Z,5µm,20.0s
UPC Upice 99.77 323 *e*P **Pdif** **04 03 21.3 -0.2**
UPC Upice 99.77 323 *e*PDIFF **Pdif** **04 03 21.3 -0.2**
UPC *ex* x 04 03 24.0
VRAC Vranov 99.79 321 P **Pdif** **04 03 21.5 0.0**
VRAC Vranov 99.79 321 ⇑*i*P **Pdif** **04 03 21.6 0.0**
VRAC Vranov 99.79 321 P **Pdif** **04 03 21.5 0.0**
comp=Z,44nm,0.9s,baz=76,slow=4.0,SNR=22
NLWA Neilton Lookou 100.22 41 PFAKE 04 03 40.0 +16
NLWA LR LR
comp=Z,3µm,22.0s
SOP Sopron 100.31 320 ⇓ePdiff **Pdif** **04 03 25.6 +1.7**
RUE Ruedersdorf 100.42 325 *e*Pdiff **Pdif** **04 03 24.5 +0.2**
TREC Trest 100.48 322 *e*P **Pdif** **04 03 24.7 0.0**
TREC *e* 04 13 59.9
TREC MLR MLR
comp=Z,6µm,19.3s
TREC Trest 100.48 322 *e*PDIFF **Pdif** **04 03 24.7 0.0**
TREC *ex* x 04 03 27.2
TREC *e*SKS 04 13 59.9
TREC AMS AMS 04 54 50.0
comp=Z,6µm,19.3s
BEHE Becsehely 100.53 319 ⇓ePdiff **Pdif** **04 03 26.9 +2.0**
PVCC Panska Ves 100.64 323 *e*P **Pdif** **04 03 25.4 +0.1**
PVCC *e* 04 14 01.1
PVCC MLR MLR
comp=Z,5µm,18.5s
PVCC Panska Ves 100.64 323 *e*PDIFF **Pdif** **04 03 25.4 +0.1**
PVCC *e*SKS 04 14 01.1
PVCC AMS AMS 04 52 00.0
comp=Z,5µm,18.5s
CONA Conrad Observa 100.68 320 ⇑*i*P **Pdif** **04 03 26.8 +1.1**
comp=Z,20nm,1.1s
CONA Conrad Observa 100.68 320 ⇑*i*Pdiff **Pdif** **04 03 26.8 +1.1**
comp=Z,20nm,1.1s
PRU Pruhonice 100.83 322 *e*P **Pdif** **04 03 26.0 -0.2**
PRU *e* 04 07 32.6
PRU *e* 04 14 01.2
PRU *e* 04 15 04.7
PRU MLR MLR
comp=Z,5µm,19.9s
PRU Pruhonice 100.83 322 *e*PDIFF **Pdif** **04 03 26.0 -0.2**
PRU *ex* x 04 03 28.6
PRU *e*pP pP 04 03 40.0 +2.4
PRU *e*PP **PP** **04 07 32.6 -1.3**
PRU *e*SKS 04 14 01.2
PRU *e*SDIF **Sdif** **04 15 04.7 +3.1**
PRU AMS AMS 04 51 30.0
comp=Z,5µm,19.9s
FOO Floro 100.85 335 *e*PP PP 04 07 34.2 +0.7
FOO AMS AMS 04 53 16.5
comp=Z,13µm,18.8s
PRA Prague 100.87 323 PDIFF **Pdif** **04 03 28.0 +1.7**
PRA AMS AMS 04 52 00.0
BRG Berggiesshubel 100.89 323 *e*PDIF **Pdif** **04 03 26.5 0.0**
comp=Z,104nm,1.0s
BRG *i* 04 03 39.3
comp=Z,41nm,1.2s
BRG PP **PP** **04 07 36.0 +1.7**
BRG SKS 04 14 04.0
BRG SDIF **SKKSac** **04 14 43.0 +4.7**
BRG SS SS 04 22 10.0 +10
BRG
comp=N,2µm,18.0s
BRG
comp=E,5µm,19.7s
BRG
comp=Z,8µm,21.6s
BRG Berggiesshubel 100.89 323 *e*Pdiff **Pdif** **04 03 26.4 0.0**
BRG Berggiesshubel 100.89 323 *e*P **Pdif** **04 03 26.5 0.0**
BRG 04 07 36.0
BRG 04 14 04.0
BRG SS SS 04 22 10.0 +10
BRG pmax pmax
comp=Z,104nm,1.0s
BRG pmax pmax
comp=Z,41nm,1.2s
BRG MLR MLR
comp=N,2µm,18.0s
BRG MLR MLR
comp=E,5µm,19.7s
BRG MLR MLR
comp=Z,8µm,21.6s
ARSA Arzberg 101.11 320 ⇑*e*P **Pdif** **04 03 28.6 +1.1**
comp=Z,20nm,1.0s
ARSA Arzberg 101.11 320 ⇑*e*Pdiff **Pdif** **04 03 28.6 +1.1**
comp=Z,20nm,1.1s,SNR=9.7
FBE Freiberg 101.22 324 *e*Pdiff **Pdif** **04 03 28.1 +0.2**
CLL Collm 101.29 324 *e*Pdiff **Pdif** **04 03 27.9 -0.2**
CLL Collm 101.29 324 *e*P **Pdif** **04 03 28.0 -0.2**
CLL *e* 04 07 36.0
CLL *e* 04 14 08.0
CLL *e*S **Sdif** **04 15 09.0 +3.6**
CLL pmax pmax
comp=Z,65nm,1.1s
CLL MLR MLR
comp=Z,5µm,20.9s
BER Bergen 101.33 334 AMS AMS 04 54 14.1
comp=Z,11µm,17.9s
MUD Monsted U'grnd 101.35 330 *i*P **Pdif** **04 03 29.7 +1.4**
MUD *i*S **SKSac** **04 14 08.0 +3.2**
MUD pmax pmax
comp=Z,23nm,1.0s
MUD MLR MLR
comp=Z,3µm,21.0s
MUD Monsted U'grnd 101.35 330 *i*P **Pdif** **04 03 29.7 +1.4**
comp=Z,23nm,1.0s
MUD Monsted U'grnd 101.35 330 *i*S **SKSac** **04 14 08.0 +3.2**
MUD
comp=Z,3µm,21.0s
GROS Grobnik 101.37 319 *i*Pdiff **Pdif** **04 03 30.4 +1.7**
GROS *i*PP **PP** **04 07 38.7 +0.5**
LBTB Lobatse 101.53 245 PFAKE 04 03 40.0 +10
LBTB LR LR
comp=Z,2µm,20.0s
SOKA Soboth 101.61 319 ⇑*e*P **Pdif** **04 03 31.0 +1.2**
comp=Z,22nm,0.9s
SOKA Soboth 101.61 319 ⇑*e*Pdiff **Pdif** **04 03 31.0 +1.2**
comp=Z,22nm,0.9s
KHC Kasperske Hory 101.72 322 *e*P **Pdif** **04 03 29.9 -0.3**
KHC *e* 04 07 38.3
KHC *e* 04 14 07.1
KHC MLR MLR
comp=Z,4µm,19.9s
KHC Kasperske Hory 101.72 322 *e*PDIFF **Pdif** **04 03 29.9 -0.3**
KHC *ex* x 04 03 32.6
KHC *ex* x 04 06 47.0
KHC *e*PP **PP** **04 07 38.3 -2.3**
KHC *e*SKS 04 14 07.1
KHC AMS AMS 04 53 00.0
comp=Z,4µm,19.9s
MOA Molln 101.72 320 ⇑*i*P **Pdif** **04 03 31.8 +1.6**
comp=Z,59nm,0.9s
MOA Molln 101.72 320 ⇑*i*Pdiff **Pdif** **04 03 31.8 +1.6**
comp=Z,59nm,0.9s,SNR=15
GEC2 GERESS Array S 101.74 322 *e*Pdiff **Pdif** **04 03 30.2 -0.2**
GERES GERESS Array B 101.74 322 P **Pdif** **04 03 30.1 -0.3**
GERES PP **PP** **04 07 42.0 +1.2**
GERES GERESS Array B 101.74 322 P **Pdif** **04 03 30.1 -0.3**
comp=Z,21nm,0.9s,baz=72,slow=4.3,SNR=55
GERES PP **PP** **04 07 42.0 +1.2**
comp=Z,3.2nm,0.8s,baz=69,slow=7.3,SNR=4.2
BOSA Boshof 101.74 242 PFAKE 04 03 40.0 +9.1
BOSA LR LR
comp=Z,4µm,22.0s
BSEG Bad Segeberg 101.80 327 *e*Pdiff **Pdif** **04 03 30.4 +0.1**
BOJS Bojanci 101.83 318 *i* Pdiff **Pdif** **04 03 33.1 +2.4**
TANN Tannenbergstha 101.94 323 *e*Pdiff **Pdif** **04 03 31.1 -0.1**
NKC Novy Kostel 102.01 323 *e*P **Pdif** **04 03 29.8 -1.7**
NKC MLR MLR
comp=Z,7µm,21.2s
NKC Novy Kostel 102.01 323 *e*PDIFF **Pdif** **04 03 29.8 -1.7**
NKC *ex* x 04 03 33.1
NKC AMS AMS 04 52 40.0
comp=Z,7µm,21.2s
VISS Visnje 102.01 318 *i* Pdiff **Pdif** **04 03 32.2 +0.7**
WERD Werda 102.02 323 *e*Pdiff **Pdif** **04 03 31.4 -0.1**
GUNZ Gunzen 102.03 323 *e*Pdiff **Pdif** **04 03 31.6 0.0**
WERN Wernitzgruen 102.03 323 *e*Pdiff **Pdif** **04 03 31.7 +0.1**
NEUB Neuenburg 102.05 324 *e*Pdiff **Pdif** **04 03 31.5 0.0**
PLN Plauen 102.09 323 *e*Pdiff **Pdif** **04 03 31.9 +0.1**
WET Wettzell 102.14 322 *e*Pdiff **Pdif** **04 03 32.3 +0.2**
ROTZ Rotzenmuhle 102.33 323 *e*Pdiff **Pdif** **04 03 33.3 +0.5**
MOX Moxa 102.35 324 *e*Pdiff **Pdif** **04 03 33.0 +0.1**
JAVS Javornik 102.50 319 *i* Pdiff **Pdif** **04 03 34.0 +0.1**
NRDL Niedersach Rie 102.50 326 *e*Pdiff **Pdif** **04 03 34.0 +0.6**
VOY Vojsko 102.56 319 *e*Pdiff **Pdif** **04 03 34.2 +0.1**
VOY *e* 04 03 35.5
VOY *e* 04 03 44.8
KBA Koelnbreinsper 102.57 320 ⇓*i*P **Pdif** **04 03 35.1 +0.9**
KBA pmax pmax
comp=Z,20nm,0.9s
KBA Koelnbreinsper 102.57 320 ⇓*i*P **Pdif** **04 03 35.1 +0.9**
comp=Z,20nm,0.9s
KBA Koelnbreinsper 102.57 320 ⇓*i*Pdiff **Pdif** **04 03 35.1 +0.9**
comp=Z,20nm,0.9s,SNR=9.5
TIP Timpagrande 102.61 311 PFAKE 04 03 50.0 +16
TIP LR LR
comp=Z,3µm,20.0s
CLZ Clausthal 102.61 325 *e*Pdiff **Pdif** **04 03 34.6 +0.5**
RJOB Jochberg 102.69 321 *e*Pdiff **Pdif** **04 03 34.1 -0.5**
SCO Scoresbysund 102.75 350 *i* P **Pdif** **04 03 36.3 +2.0**
SCO pmax pmax
comp=Z,6.0nm,0.9s
SCO MLR MLR
comp=Z,4µm,19.0s
SCO Scoresbysund 102.75 350 *i* P **Pdif** **04 03 36.3 +2.0**
comp=Z,5.5nm,0.9s
SCO
comp=Z,4µm,19.0s
GRF Grafenberg Arr 102.95 323 *e*Pdiff **Pdif** **04 03 35.9 +0.3**
GRF *e*L L 04 53 48.8
comp=Z,5µm,19.8s
SUMG Summit 102.98 355 *i* P **Pdif** **04 03 37.5 +1.8**
SUMG pmax pmax
comp=Z,9.0nm,1.0s
SUMG Summit 102.98 355 *e*Pdif **Pdif** **04 03 37.3 +1.5**
SUMG Summit 102.98 355 *i* P **Pdif** **04 03 37.5 +1.8**
comp=Z,8.5nm,1.0s
CUC Castrocucco 103.08 312 PFAKE 04 03 50.0 +14
CUC LR LR
comp=Z,2µm,20.0s
ABTA Abfaltersbach 103.22 320 ⇓*i*P **Pdif** **04 03 37.0 0.0**
comp=Z,28nm,1.0s
ABTA Abfaltersbach 103.22 320 ⇓*i*Pdiff **Pdif** **04 03 37.0 0.0**
comp=Z,28nm,1.0s
UBBA Unterbreizbach 103.23 324 *e*Pdiff **Pdif** **04 03 37.8 +1.1**
HAWA Hanford 103.36 41 PFAKE 04 03 50.0 +12
HAWA LR LR
comp=Z,3µm,20.0s
WTTA Wattenberg 103.59 321 ⇓*i*P **Pdif** **04 03 38.5 -0.3**
WTTA pmax pmax
comp=Z,59nm,1.1s
WTTA Wattenberg 103.59 321 ⇓*i*P **Pdif** **04 03 38.5 -0.3**
comp=Z,59nm,1.1s
WTTA Wattenberg 103.59 321 ⇓*i*Pdiff **Pdif** **04 03 38.5 -0.3**
comp=Z,59nm,1.1s
WATA Walderalm 103.61 321 ⇑*i*P **Pdif** **04 03 40.2 +1.4**
WATA pmax pmax
comp=Z,24nm,0.9s
WATA Walderalm 103.61 321 ⇑*i*P **Pdif** **04 03 40.2 +1.4**
comp=Z,24nm,0.9s
WATA Walderalm 103.61 321 ⇑*i*Pdiff **Pdif** **04 03 40.2 +1.4**
comp=Z,24nm,0.9s
SQTA Sankt Quirin 103.88 321 ⇑*i*P **Pdif** **04 03 42.2 +2.2**
SQTA pmax pmax
comp=Z,26nm,0.9s
SQTA Sankt Quirin 103.88 321 ⇑*i*P **Pdif** **04 03 42.2 +2.2**
comp=Z,26nm,0.9s
SQTA Sankt Quirin 103.88 321 ⇑*i*Pdiff **Pdif** **04 03 42.2 +2.2**
comp=Z,26nm,0.9s
IBBN Ibbenburen 103.89 326 *e*Pdiff **Pdif** **04 03 40.0 +0.3**
MOTA Moosalm 103.90 321 ⇑P **Pdif** **04 03 40.1 0.0**
MOTA pmax pmax
comp=Z,33nm,0.9s
MOTA Moosalm 103.90 321 ⇑P **Pdif** **04 03 40.1 0.0**
comp=Z,33nm,0.9s
MOTA Moosalm 103.90 321 ⇑Pdiff **Pdif** **04 03 40.1 0.0**
comp=Z,33nm,0.9s
AQU L'Aquila 104.10 315 PFAKE 04 03 50.0 +9.0
AQU LR LR
comp=Z,5µm,20.0s
NEW Newport 104.19 38 *e*Pdif **Pdif** **04 03 42.9 +1.6**
NEW LR LR
comp=Z,3µm,21.0s
FETA Feichten 104.26 321 ⇑*i*P **Pdif** **04 03 41.2 -0.5**
comp=Z,38nm,1.1s
FETA Feichten 104.26 321 ⇑*i*Pdiff **Pdif** **04 03 41.2 -0.5**
comp=Z,38nm,1.1s
TNS Taunus Mts 104.38 324 *e*Pdiff **Pdif** **04 03 42.4 +0.4**
TOD Tromm 104.43 323 *e*P **Pdif** **04 03 44.4 +2.2**
TOD Tromm 104.43 323 *e*P **Pdif** **04 03 44.4 +2.2**
STU Stuttgart 104.53 323 *e*Pdiff **Pdif** **04 03 42.7 0.0**
STU Stuttgart 104.53 323 *e*P **Pdif** **04 03 45.0 +2.3**
STU Stuttgart 104.53 323 *e*Pdif **Pdif** **04 03 45.0 +2.3**
BUG Bochum--Univer 104.54 326 *e*Pdiff **Pdif** **04 03 42.8 +0.2**
WTSB Winterswijk 104.57 326 *e*P **Pdif** **04 03 44.7 +2.0**
comp=Z,54nm,1.1s
DAVA Damuels 104.69 321 ⇑*i*P **Pdif** **04 03 44.7 +1.1**
comp=Z,34nm,1.4s
DAVA Damuels 104.69 321 ⇑*i*Pdiff **Pdif** **04 03 44.7 +1.1**
comp=Z,34nm,1.4s
DAVOX Davos/Dischmat 104.89 321 Pdif **Pdif** **04 03 45.4 +0.8**
DAVOX PP **PP** **04 08 03.9 -0.7**
DAVOX Davos/Dischmat 104.89 321 Pdiff **Pdif** **04 03 45.4 +0.8**
comp=Z,19nm,0.9s,baz=107,slow=2.8,SNR=17
DAVOX PP **PP** **04 08 03.9 -0.7**
comp=Z,7.8nm,0.8s,baz=53,slow=7.7,SNR=5.5
SPAK Spaichingen-Ko 105.05 322 *e*P **Pdif** **04 03 47.3 +2.2**
ABH Alteburg 105.05 324 *e*P **Pdif** **04 03 47.9 +2.9**
BFO Black Forest 105.23 322 *e*Pdiff **Pdif** **04 03 45.6 -0.2**
BFO Black Forest 105.23 322 PFAKE 04 08 10.0
BFO LR LR
comp=Z,5µm,20.0s
WDD Wield Dalam 105.24 309 PFAKE 04 08 10.0
WDD LR LR
comp=Z,2µm,21.0s
LANF Langenberg 105.28 323 *e*P **Pdif** **04 03 48.5 +2.5**
LANF Langenberg 105.28 323 *e*P **Pdif** **04 03 48.5 +2.5**
LANF Langenberg 105.28 323 *e*P **Pdif** **04 03 48.5 +2.5**
WVOR Wild Horse Val 105.33 44 PFAKE 04 08 10.0
WVOR LR LR
comp=Z,3µm,19.0s
TUE Stuetta 105.35 320 PFAKE 04 08 10.0
TUE LR LR
comp=Z,4µm,20.0s
SUR Sutherland 105.35 238 PFAKE 04 08 10.0
SUR LR LR
comp=Z,4µm,20.0s
BMO Blue Mountains 105.37 41 PFAKE 04 08 10.0
BMO LR LR
comp=Z,2µm,22.0s
RUP Ruppelstein 105.41 324 *e*P **Pdif** **04 03 49.4 +2.8**
RUP Ruppelstein 105.41 324 *e*P **Pdif** **04 03 49.4 +2.8**
VLC Villacollemand 105.54 318 PFAKE 04 08 10.0
VLC LR LR
comp=Z,5µm,22.0s
A13A Flathead Natio 105.56 37 ⇑P **PKiKP** **04 08 02.2 +1.6**
baz=106
HGN Heimansgroeve 105.59 325 *e*P **Pdif** **04 03 49.1 +1.8**
comp=Z,41nm,1.3s
MEM Membach 105.62 325 P **Pdif** **04 03 49.3 +1.9**
comp=Z,20nm,1.3s
FELD Feldberg im Sc 105.62 322 *e*P **Pdif** **04 03 49.4 +1.7**
CDF Champ du Feu 105.84 323 *e*P **Pdif** **04 03 47.6 -1.0**
comp=Z,64nm,1.1s
CDF Champ du Feu 105.84 323 *e*P **Pdif** **04 03 47.6 -1.0**
CDF pmax pmax
comp=Z,64nm,1.1s
CDF Champ du Feu 105.84 323 *e*P **Pdif** **04 03 47.6 -1.0**
comp=Z,64nm,1.1s
WLF Walferdange 105.96 324 P **Pdif** **04 03 50.3 +1.3**
comp=Z,26nm,1.9s
WLF Walferdange 105.96 324 *e*Pdiff **Pdif** **04 03 49.9 +0.9**
WLF Walferdange 105.96 324 PFAKE 04 08 10.0
WLF LR LR
comp=Z,6µm,22.0s
ECH Echery 105.99 323 *e*P **Pdif** **04 03 47.3 -1.9**
ECH MLR MLR
comp=Z,3µm,19.0s
ECH Echery 105.99 323 *e*P **Pdif** **04 03 47.3 -1.9**
ECH LR LR
comp=Z,3µm,19.0s
ECH Echery 105.99 323 *e*P **Pdif** **04 03 47.3 -1.9**
BBS Basel-Blauen 106.10 322 *e*P **Pdif** **04 03 52.9 +3.2**
BBS Basel-Blauen 106.10 322 *e*P **Pdif** **04 03 52.9 +3.2**
MOF Molkenrain 106.16 322 *e*P **Pdif** **04 03 52.0 +1.9**
MOF Molkenrain 106.16 322 *e*P **Pdif** **04 03 52.0 +1.9**
MOF Molkenrain 106.16 322 *e*P **Pdif** **04 03 52.0 +1.9**
HINF Hinteralfeld 106.35 322 *e*P **Pdif** **04 03 49.5 -1.3**
comp=Z,52nm,1.5s
HINF Hinteralfeld 106.35 322 *e*P **Pdif** **04 03 49.5 -1.3**
HINF pmax pmax
comp=Z,52nm,1.5s
HINF Hinteralfeld 106.35 322 *e*P **Pdif** **04 03 49.5 -1.3**
comp=Z,52nm,1.5s
GIVF Givet 106.53 325 *e*P **Pdif** **04 03 51.2 -0.3**
comp=Z,118nm,1.6s
GIVF Givet 106.53 325 *e*P **Pdif** **04 03 51.2 -0.3**
GIVF pmax pmax
comp=Z,118nm,1.6s
GIVF Givet 106.53 325 *e*P **Pdif** **04 03 51.2 -0.3**
comp=Z,118nm,1.6s
LOMF Lomont 106.56 322 *e*P **Pdif** **04 03 56.4 +4.6**
LOMF Lomont 106.56 322 *e*P **Pdif** **04 03 56.4 +4.6**
LOMF Lomont 106.56 322 *e*P **Pdif** **04 03 56.4 +4.6**
HAU Haudompre 106.57 323 *e*P **Pdif** **04 03 50.7 -1.1**
comp=Z,34nm,1.3s
HAU *e*R
comp=Z,6µm,21.8s
HAU Haudompre 106.57 323 *e*P **Pdif** **04 03 50.7 -1.1**
HAU pmax pmax
comp=Z,34nm,1.3s
HAU Haudompre 106.57 323 *e*P **Pdif** **04 03 50.7 -1.1**
comp=Z,34nm,1.3s
SNF Seneffe 106.64 326 P **Pdif** **04 03 54.5 +2.5**
DOU Dourbes 106.66 325 P **Pdif** **04 03 53.6 +1.5**
comp=Z,18nm,2.0s
PAGF Fort de Pagny 106.70 323 *e*P **Pdif** **04 03 51.7 -0.6**
comp=Z,6.2nm,0.9s
PAGF Fort de Pagny 106.70 323 *e*P **Pdif** **04 03 51.7 -0.6**
comp=Z,6.2nm,0.9s
MSO Missoula 106.74 39 PFAKE 04 08 10.0
MSO LR LR
comp=Z,2µm,21.0s
E13A Victor 106.75 39 ⇑P **PKiKP** **04 08 05.3 +2.3**
baz=107
BAIF Baives 106.90 325 *e*P **Pdif** **04 03 52.8 -0.3**
comp=Z,99nm,1.7s
BAIF Baives 106.90 325 *e*P **Pdif** **04 03 52.8 -0.3**
BAIF pmax pmax
comp=Z,99nm,1.7s
BAIF Baives 106.90 325 *e*P **Pdif** **04 03 52.8 -0.3**
comp=Z,99nm,1.7s
NVAR Mina Array Bea 106.93 48 Pdif **Pdif** **04 03 56.0 +2.2**
NVAR PKiKP **PKiKP** **04 08 05.2 +1.5**
NVAR PKKPbc **PKKPbc** **04 19 25.1 +2.7**
NVAR Mina Array Bea 106.93 48 Pdiff **Pdif** **04 03 56.0 +2.2**
comp=Z,1.4nm,0.7s,baz=268,slow=5.6,SNR=6.4
NVAR PKiKP **PKiKP** **04 08 05.2 +1.5**
comp=Z,0.7nm,0.8s,baz=225,slow=0.9,SNR=2.1
NVAR PKKPbc **PKKPbc** **04 19 25.1 +2.7**
comp=Z,0.6nm,0.6s,baz=127,slow=4.2,SNR=3.6
BMN Battle Mountai 107.03 46 PFAKE 04 08 20.0
BMN LR LR
comp=Z,3µm,20.0s
MEZF Maizieres J'vi 107.13 324 *e*P **Pdif** **04 03 53.7 -0.5**
comp=Z,64nm,1.4s
MEZF Maizieres J'vi 107.13 324 *e*P **Pdif** **04 03 53.7 -0.5**
comp=Z,64nm,1.4s
E14A Clinton 107.20 39 ⇑P **PKiKP** **04 08 05.5 +1.7**
baz=107
I12A Atlanta 107.22 42 ⇑P **PKiKP** **04 08 05.9 +1.9**
baz=107
SFTF Sexfontaines 107.27 323 *e*P **Pdif** **04 03 54.0 -0.9**
comp=Z,45nm,1.2s
SFTF Sexfontaines 107.27 323 *e*P **Pdif** **04 03 54.0 -0.9**
comp=Z,45nm,1.2s
BSC Santa Cruz Isl 107.30 53 ⇑P **PKiKP** **04 08 06.6 +2.4**
baz=107
CABF La Chapelle 107.34 321 *e*P **Pdif** **04 03 54.2 -1.1**
comp=Z,76nm,1.6s
CABF La Chapelle 107.34 321 *e*P **Pdif** **04 03 54.2 -1.1**
CABF pmax pmax
comp=Z,77nm,1.6s
CABF La Chapelle 107.34 321 *e*P **Pdif** **04 03 54.2 -1.1**
comp=Z,76nm,1.6s
LPG La Plagne 107.40 320 *e*P **Pdif** **04 03 55.1 -0.8**
LPG La Plagne 107.40 320 *e*P **Pdif** **04 03 55.1 -0.8**
LPG La Plagne 107.40 320 *e*P **Pdif** **04 03 55.1 -0.8**
LPL La Plagne 107.40 320 *e*P **Pdif** **04 03 54.9 -0.9**
comp=Z,100nm,1.6s
LPL La Plagne 107.40 320 *e*P **Pdif** **04 03 54.9 -0.9**
LPL pmax pmax
comp=Z,100nm,1.6s
LPL La Plagne 107.40 320 *e*P **Pdif** **04 03 54.9 -0.9**
comp=Z,100nm,1.6s
BORG Borgarnes 107.45 346 PFAKE 04 08 20.0
BORG LR LR
comp=Z,7µm,20.0s
H13A Challis 107.48 41 ⇑P **PKiKP** **04 08 06.1 +1.7**
baz=108
F14A Wisdom 107.53 39 ⇓P **PKiKP** **04 08 05.4 +0.9**
baz=108
BNI Bardonecchia 107.63 320 PFAKE 04 08 20.0
BNI LR LR
comp=Z,6µm,21.0s
C16A Fuhringer Ranc 107.66 37 ⇑P **PKiKP** **04 08 07.7 +3.2**
baz=108
MBDF Montbardon 107.70 319 *e*P **Pdif** **04 03 55.4 -1.7**
comp=Z,24nm,1.1s
MBDF Montbardon 107.70 319 *e*P **Pdif** **04 03 55.4 -1.7**
MBDF pmax pmax
comp=Z,24nm,1.1s
MBDF Montbardon 107.70 319 *e*P **Pdif** **04 03 55.4 -1.7**
comp=Z,24nm,1.1s
E15A Deer Lodge 107.72 39 ⇑P **PKiKP** **04 08 06.5 +1.7**
baz=108
A17A Triple J Farms 107.74 36 ⇑P **PKiKP** **04 08 05.7 +1.1**
baz=108
HLID Hailey 107.79 42 *e*PKPdf **PKiKP** **04 08 08.1 +3.1**
HLID LR LR
comp=Z,2µm,21.0s
I13A Wildhorse Cree 107.84 41 ⇓P **PKiKP** **04 08 07.0 +1.8**
baz=108
TPH Tonopah 107.85 48 PFAKE 04 08 20.0
TPH LR LR
comp=Z,2µm,20.0s
ESK Eskdalemuir 107.92 332 PFAKE 04 08 20.0
ESK LR LR
comp=Z,6µm,20.0s
B17A L&G Farms, Che 107.99 36 ⇑P **PKiKP** **04 08 06.2 +1.1**
baz=108
F15A Butte 108.07 39 ⇑P **PKiKP** **04 08 07.7 +2.2**
baz=108
D16A Dana Ranch, Ca 108.13 38 ⇑P **PKiKP** **04 08 07.5 +2.0**
baz=108
DAC Darwin (Calif) 108.17 50 PFAKE 04 08 20.0
DAC LR LR
comp=Z,5µm,19.0s
ORIF Oris-en-Rattie 108.20 320 *e*P **Pdif** **04 03 58.1 -1.1**
ORIF *e*R
comp=Z,7µm,22.5s
ORIF Oris-en-Rattie 108.20 320 *e*P **Pdif** **04 03 58.1 -1.1**
ORIF Oris-en-Rattie 108.20 320 *e*P **Pdif** **04 03 58.1 -1.1**
A18A Metzger Ranch, 108.25 35 ⇑P **PKiKP** **04 08 06.1 +0.6**
baz=108
EDW2 Edwards Air Fo 108.32 51 ⇓P **PKiKP** **04 08 08.2 +2.1**
baz=108
MPMC Manual Prospec 108.32 50 ⇓P **PKiKP** **04 08 08.0 +1.7**
baz=108
G15A Dillon 108.37 40 ⇑P **PKiKP** **04 08 08.8 +2.7**
baz=108
LOR Lormes 108.41 323 *e*P **Pdif** **04 03 58.9 -1.1**
comp=Z,53nm,1.4s

LOR eR
comp=Z,5µm,21.0s
LOR Lormes 108.41 323 eP Pdif 04 03 58.9 -1.1
comp=Z,53nm,1.4s
H15A Lima 108.51 40 ⇓P PKiKP 04 08 08.3 +1.9
baz=108
B18A Beardsley Farm 108.54 36 ⇓P PKiKP 04 08 08.0 +1.9
baz=108
F16A Kennard Place, 108.64 39 ⇓P PKiKP 04 08 08.2 +1.7
baz=109
BOZ Bozeman (W) 108.70 39 PFAKE 04 08 20.0
BOZ LR LR
comp=Z,2µm,22.0s
SSF Saint Saulge 108.72 323 eP Pdif 04 04 01.0 -0.3
comp=Z,42nm,1.6s
SSF Saint Saulge 108.72 323 eP Pdif 04 04 01.0 -0.3
SSF pmax pmax
comp=Z,43nm,1.6s
SSF Saint Saulge 108.72 323 eP Pdif 04 04 01.0 -0.3
comp=Z,42nm,1.6s
EGMT Eagleton 108.73 36 ePKPdf PKiKP 04 08 08.8 +2.3
EGMT LR LR
comp=Z,2µm,20.0s
EGMT Eagleton 108.73 36 ⇑P PKiKP 04 08 08.8 +2.3
baz=109
G16A Moss Hill, Enn 108.78 39 ⇑P PKiKP 04 08 08.2 +1.4
baz=109
R11A Troy Canyon, C 108.96 47 ⇓P PKiKP 04 08 09.7 +2.3
baz=109
VIVF Saint-Julien-l 109.00 320 eP Pdif 04 04 01.8 -0.9
VIVF Saint-Julien-l 109.00 320 eP Pdif 04 04 01.8 -0.9
VIVF Saint-Julien-l 109.00 320 eP Pdif 04 04 01.8 -0.9
D18A Linhart Farms, 109.10 37 ⇑P PKiKP 04 08 09.4 +2.1
baz=109
FFC Flin Flon 109.13 27 PFAKE 04 08 20.0
FFC LR LR
comp=Z,2µm,19.0s
TSUM Tsumeb 109.14 251 PFAKE 04 08 20.0
TSUM LR LR
comp=Z,4µm,22.0s
SFJD Kangerlussuaq 109.16 359 PFAKE 04 08 20.0
SFJD LR LR
comp=Z,6µm,21.0s
F17A Fitzpatrick Pl 109.19 38 ⇑P PKiKP 04 08 09.8 +2.3
baz=109
BGF Bois d'Agland 109.36 322 eP Pdif 04 04 03.3 -0.9
BGF Bois d'Agland 109.36 322 eP Pdif 04 04 03.3 -0.9
BGF Bois d'Agland 109.36 322 eP Pdif 04 04 03.3 -0.9
G17A Pierce Place, 109.41 39 ⇓P PKiKP 04 08 09.7 +1.8
baz=109
B20A Solberg Farm, 109.54 35 ⇓P PKiKP 04 08 09.9 +1.9
baz=110
D19A Cripps Ranch, 109.67 37 ⇓P PKiKP 04 08 10.5 +2.1
baz=110
F18A Big Timber 109.77 38 ⇑P PKiKP 04 08 10.6 +2.0
baz=110
LASF Ste Croix 109.87 320 eP Pdif 04 04 05.2 -1.3
LASF Ste Croix 109.87 320 eP Pdif 04 04 05.2 -1.3
TCF Toulx Ste Croi 109.87 322 eP Pdif 04 04 05.8 -0.7
comp=Z,104nm,1.6s
TCF Toulx Ste Croi 109.87 322 eP Pdif 04 04 05.8 -0.7
TCF Toulx Ste Croi 109.87 322 eP Pdif 04 04 05.8 -0.7
A21A Bergtoll Ranch 109.87 34 ⇓P PKiKP 04 08 10.0 +1.4
baz=110
C20A Veseth Ranch, 109.91 36 ⇓P PKiKP 04 08 10.3 +1.6
baz=110
PFO Pinyon Flat Ob 109.93 52 PFAKE 04 08 20.0
PFO LR LR
comp=Z,3µm,22.0s
LKWY Lake 109.97 40 PFAKE 04 08 20.0
LKWY LR LR
comp=Z,3µm,21.0s
B21A Ellsworth Farm 110.11 35 ⇑P PKiKP 04 08 11.8 +2.7
baz=110
BELC Belle Mtn. Jos 110.16 52 ⇓P PKiKP 04 08 12.2 +2.5
baz=110
GMRC Granite Mounta 110.16 51 ⇑P PKiKP 04 08 11.7 +2.0
baz=110
N15A Stansbury Isla 110.16 44 ⇓P PKiKP 04 08 11.4 +1.9
baz=110
R13A O'Grain Ranch, 110.20 47 ⇓P PKiKP 04 08 11.2 +1.4
baz=110
DUG Dugway 110.24 45 PFAKE 04 08 20.0
DUG LR LR
comp=Z,2µm,19.0s
LOHW Long Hollow 110.27 41 ePKPdf 04 08 09.6
AHID Auburn Hatcher 110.32 42 PFAKE 04 08 20.0
AHID LR LR
comp=Z,2µm,22.0s
C21A Desert Coulee 110.38 35 ⇑P PKiKP 04 08 10.9 +1.3
baz=110
RLMT Red Lodge 110.42 39 PFAKE 04 08 20.0
RLMT LR LR
comp=Z,2µm,22.0s
RLMT Red Lodge 110.42 39 ⇑P PKiKP 04 08 09.1 -0.8
baz=110
A22A Carney Farms, 110.44 34 ⇑P PKiKP 04 08 11.3 +1.6
baz=110
HWUT Hardware Ranch 110.51 43 ePKPdf PKiKP 04 08 12.8 +2.6
HWUT LR LR
comp=Z,3µm,22.0s
GRR Gorron 110.61 326 eP Pdif 04 04 09.2 -0.5
GRR Gorron 110.61 326 eP Pdif 04 04 09.2 -0.5
GRR Gorron 110.61 326 eP Pdif 04 04 09.2 -0.5
CAF Calviac 110.61 321 eP Pdif 04 04 08.8 -1.1
CAF Calviac 110.61 321 eP Pdif 04 04 08.8 -1.1
CAF Calviac 110.61 321 eP Pdif 04 04 08.8 -1.1
L17A Cokeville 110.77 42 ⇑P PKiKP 04 08 12.0 +1.3
baz=111
RJF Les Rejaudoux 110.77 322 eP Pdif 04 04 09.5 -1.0
RJF eR
comp=Z,4µm,20.8s
RJF Les Rejaudoux 110.77 322 eP Pdif 04 04 09.5 -1.0
RJF Les Rejaudoux 110.77 322 eP Pdif 04 04 09.5 -1.0
D21A La Casta Ranch 110.83 36 ⇓P PKiKP 04 08 12.9 +2.4
baz=111
G20A Bridger 111.03 38 ⇓P PKiKP 04 08 12.4 +1.4
baz=111
E21A Keefer Ranch, 111.05 37 ⇓P PKiKP 04 08 12.5 +1.6
baz=111
K18A Toltan Ranch, 111.08 41 ⇓P PKiKP 04 08 12.6 +1.2
baz=111
I19A Meeteetse 111.11 40 ⇑P PKiKP 04 08 13.1 +1.8
baz=111
C22A Vida 111.12 35 ⇓P PKiKP 04 08 13.1 +2.1
baz=111
M17A Scullys Gap (B 111.18 43 ⇑P PKiKP 04 08 13.6 +2.0
baz=111
B23A Brockton 111.24 34 ⇓P PKiKP 04 08 13.3 +2.2
baz=111
D22A Cohagen 111.27 36 ⇑P PKiKP 04 08 13.4 +2.1
baz=111
N17A Moffit Pass 111.30 43 ⇑P PKiKP 04 08 12.7 +0.9
baz=111
PD01 Pinedale Array 111.31 41 ePKPdf PKiKP 04 08 14.3 +2.6
PD02 Pinedale Array 111.32 41 ePKPdf PKiKP 04 08 13.7 +1.9
BW06 Boulder Array 111.33 41 PFAKE 04 08 20.0
BW06 LR LR
comp=Z,3µm,20.0s
BW06 Boulder Array 111.33 41 ⇓P PKiKP 04 08 13.3 +1.5
baz=111
PDAR Pinedale Array 111.33 41 PKiKP PKiKP 04 08 13.1 +1.3
PDAR PKKPbc PKKPab 04 19 16.1 -1.8
PDAR Pinedale Array 111.33 41 PKiKP PKiKP 04 08 13.1 +1.3
comp=Z,1.0nm,0.8s,baz=318,slow=2.0,SNR=5.4
PDAR PKKPbc PKKPab 04 19 16.1 -1.8
comp=Z,5.7nm,0.8s,baz=126,slow=5.5,SNR=12
MVU Marysvale 111.35 46 PFAKE 04 08 20.0
MVU LR LR
comp=Z,4µm,21.0s
L18A Fontenelle, Gr 111.40 42 ⇑P PKiKP 04 08 13.4 +1.5
baz=111
W13A Hualapai Mount 111.41 50 ⇓P PKiKP 04 08 13.5 +1.4
baz=111
LFF La Frestale 111.43 322 eP Pdif 04 04 12.9 -0.5
LFF La Frestale 111.43 322 eP Pdif 04 04 12.9 -0.5
LFF La Frestale 111.43 322 eP Pdif 04 04 12.9 -0.5
J19A Crowheart 111.43 40 ⇑P PKiKP 04 08 14.0 +2.1
baz=111
C23A Lambert 111.49 35 ⇓P PKiKP 04 08 14.1 +2.4
baz=111
H20A Greybull 111.52 39 ⇑P PKiKP 04 08 14.2 +2.3
baz=112
A24A Westby 111.53 33 ⇓P PKiKP 04 08 13.4 +1.6
baz=112
SGMF Saint Gilles 111.63 326 eP Pdif 04 04 13.7 -0.5
comp=Z,209nm,1.7s
SGMF Saint Gilles 111.63 326 eP Pdif 04 04 13.7 -0.5
SGMF Saint Gilles 111.63 326 eP Pdif 04 04 13.7 -0.5
DGMT Dagmar 111.67 34 PFAKE 04 08 20.0
DGMT LR LR
comp=Z,2µm,22.0s
DGMT Dagmar 111.67 34 ⇓P PKiKP 04 08 13.6 +1.6
baz=112
O17A Robinson Place 111.68 44 ⇓P PKiKP 04 08 14.3 +1.7
baz=112
I20A Worland 111.70 39 ⇑P PKiKP 04 08 13.7 +1.4
baz=112,SNR=8.4
K19A Absolon Red Bu 111.77 41 ⇑P PKiKP 04 08 14.1 +1.5
baz=112
L19A Farson 111.77 42 ⇑P PKiKP 04 08 14.4 +1.8
baz=112
E22A Miles City 111.77 36 ⇑P PKiKP 04 08 14.4 +2.1
baz=112
D23A Lindsay 111.81 35 ⇑P PKiKP 04 08 14.7 +2.4
baz=112
R16A Teasdale 111.96 46 ⇓P PKiKP 04 08 14.8 +1.7
baz=112
ROSF Rostrenen 111.98 326 eP Pdif 04 04 15.7 -0.1
ROSF Rostrenen 111.98 326 eP Pdif 04 04 15.7 -0.1
ROSF Rostrenen 111.98 326 eP Pdif 04 04 15.7 -0.1
J20A Shoshoni 112.01 40 ⇓P PKiKP 04 08 14.4 +1.5
baz=112,SNR=6.6
H21A Big Horn, Sher 112.04 38 ⇑P PKiKP 04 08 14.9 +2.0
baz=112
C24A Savage 112.07 35 ⇓P PKiKP 04 08 14.4 +1.6
baz=112
S16A Weppner Ranch, 112.11 47 ⇑P PKiKP 04 08 15.1 +1.7
baz=112
U15A North Rim 112.11 48 ⇓P PKiKP 04 08 15.4 +1.8
baz=112
O18A Roosevelt 112.16 44 ⇓P PKiKP 04 08 14.9 +1.5
baz=112
K20A Yellowstone Ra 112.18 41 ⇓P PKiKP 04 08 14.6 +1.3
baz=112
I21A Big Trails, Te 112.29 39 ⇓P PKiKP 04 08 15.1 +1.6
baz=112
SRU San Rafael 112.30 45 ePKIKP PKiKP 04 08 15.5 +1.8
SRU San Rafael 112.30 45 ePKPdf PKiKP 04 08 15.5 +1.8
SRU San Rafael 112.30 45 ⇓P PKiKP 04 08 15.2 +1.5
baz=112
R17A Hanksville Air 112.46 46 ⇑P PKiKP 04 08 15.7 +1.8
baz=112
F23A Volborg 112.47 37 ⇓P PKiKP 04 08 15.0 +1.4
baz=112
L20A Wamsutter 112.49 41 ⇓P PKiKP 04 08 15.5 +1.5
baz=112
Q18A Rafter H Ranch 112.58 45 ⇓P PKiKP 04 08 16.5 +2.4
baz=112
G23A Biddle 112.75 37 ⇓P PKiKP 04 08 16.3 +2.0
baz=113
I22A 9 Mile Ranch, 112.76 39 ⇓P PKiKP 04 08 15.4 +1.1
baz=113
K21A Alcova 112.90 40 ⇑P PKiKP 04 08 15.8 +1.1
baz=113,SNR=7.0
F24A Ekalaka 112.97 36 ⇓P PKiKP 04 08 16.5 +1.8
baz=113
T17A Navajo Res., N 112.98 47 ⇑P PKiKP 04 08 17.6 +2.5
baz=113
J22A Midwest 113.00 39 ⇑P PKiKP 04 08 15.9 +1.1
baz=113,SNR=13
R18A Canyonlands Na 113.05 45 ⇑P PKiKP 04 08 16.9 +1.7
baz=113
N20A Spence Gulch, 113.09 42 ⇓P PKiKP 04 08 16.9 +1.7
baz=113
L21A Rawlins 113.14 41 ⇑P PKiKP 04 08 16.7 +1.5
baz=113
P19A Cripple Cowboy 113.14 44 ⇑P PKiKP 04 08 17.0 +1.7
baz=113
WUAZ Wupatki 113.15 49 ePKPdf PKiKP 04 08 18.2 +2.8
WUAZ LR LR
comp=Z,3µm,19.0s
WUAZ Wupatki 113.15 49 ⇑P PKiKP 04 08 17.1 +1.7
baz=113
Q19A Hogan Spring (113.25 45 ⇓P PKiKP 04 08 17.5 +2.1
baz=113
G24A Alzada 113.27 37 ⇑P PKiKP 04 08 17.0 +1.7
baz=113
S18A Hurst Farm, BI 113.28 46 ⇓P PKiKP 04 08 17.3 +1.6
baz=113
M21A Separation Pea 113.32 41 ⇑P PKiKP 04 08 16.5 +0.9
baz=113,SNR=9.6
K22A Casper 113.35 40 ⇓P PKiKP 04 08 17.4 +1.8
baz=113
RWWY Rawlins 113.38 41 ePKPdf PKiKP 04 08 17.1 +1.3
O20A White River Ci 113.42 43 ⇓P PKiKP 04 08 17.1 +1.3
baz=113
H24A Dirks Ranch, A 113.50 37 ⇓P PKiKP 04 08 17.0 +1.3
baz=113
X16A Lo Mia Camp, P 113.53 50 ⇓P PKiKP 04 08 18.1 +1.9
baz=114
R19A Curley Farm, L 113.54 45 ⇓P PKiKP 04 08 18.1 +2.0
baz=114
SJPF Ste Jean 113.57 321 eP Pdif 04 04 21.9 -1.1
comp=Z,65nm,1.3s
SJPF Ste Jean 113.57 321 eP Pdif 04 04 21.9 -1.1
SJPF Ste Jean 113.57 321 eP Pdif 04 04 21.9 -1.1
J23A Dilts Ranch, B 113.59 39 ⇑P PKiKP 04 08 18.1 +2.2
baz=114
T18A Mexican Hat 113.60 47 ⇓P PKiKP 04 08 17.7 +1.5
baz=114
P20A De Beque 113.61 44 ⇑P PKiKP 04 08 17.4 +1.2
baz=114
N21A Black Mountain 113.62 42 ⇑P PKiKP 04 08 17.2 +1.0
baz=114,SNR=9.6
L22A Ellis Ranch, M 113.72 40 ⇑P PKiKP 04 08 18.7 +2.3
baz=114
PV04 Paradox Valley 113.75 45 ePKPdf PKiKP 04 08 19.3 +2.8
S19A Harvey Farm, M 113.87 46 ⇑P PKiKP 04 08 19.0 +2.2
baz=114
K23A Bowen Ranch, D 113.88 39 ⇓P PKiKP 04 08 18.1 +1.6
baz=114
O21A Pagoda 113.91 43 ⇑P PKiKP 04 08 19.0 +2.2
baz=114
M22A Cedar Creek Ra 113.92 41 ⇑P PKiKP 04 08 19.6 +2.8
baz=114
Q20A Ridgley Place, 113.92 44 ⇓P PKiKP 04 08 19.1 +2.3
baz=114
I24A Kuemmerle Ranc 113.93 38 ⇓P PKiKP 04 08 18.2 +1.7
baz=114
X17A Forest Lakes 114.05 50 ⇑P PKiKP 04 08 19.3 +2.1
baz=114
PV01 Paradox Valley 114.10 45 ePKPdf PKPdf 04 08 19.2 +2.0
RSSD Black Hills 114.15 38 ePKIKP PKPdf 04 08 17.9 +0.8
RSSD Black Hills 114.15 38 ePKPdf PKPdf 04 08 17.9 +0.8
L23A Garrett 114.15 40 ⇑P PKPdf 04 08 18.7 +1.5
baz=114
J24A Dixon Ranch, L 114.18 39 ⇓P PKPdf 04 08 19.0 +1.9
baz=114
R20A Redvale 114.21 45 ⇑P PKPdf 04 08 19.9 +2.5
baz=114
P21A Newcastle 114.25 43 ⇑P PKPdf 04 08 19.4 +2.0
baz=114
N22A Wattenberg Ran 114.31 42 ⇓P PKPdf 04 08 19.5 +1.9
baz=114
T19A Beclabito 114.34 47 ⇓P PKPdf 04 08 19.4 +1.7
baz=114
S20A Disappointment 114.38 45 ⇓P PKPdf 04 08 19.1 +1.3
baz=114
U19A Dine College, 114.44 47 ⇓P PKPdf 04 08 19.5 +1.6
baz=114
MDND Maddock 114.53 32 ⇑P PKPdf 04 08 18.8 +1.3
baz=114
O22A Kremmling 114.56 42 ⇓P PKPdf 04 08 19.5 +1.3
baz=114
MVCO Mesa Verde 114.56 46 ePKPdf PKPdf 04 08 20.3 +2.2
MVCO LR LR
comp=Z,3µm,19.0s
MVCO Mesa Verde 114.56 46 ⇓P PKPdf 04 08 19.8 +1.7
baz=114
N23A Red Feather La 114.60 41 ⇓P PKPdf 04 08 20.1 +2.0
baz=115
P22A Eagle 114.68 43 ⇓P PKPdf 04 08 20.4 +2.1
baz=115
R21A Cimarron 114.71 44 ⇑P PKPdf 04 08 20.6 +2.2
baz=115
SMCO Snowmass 114.73 43 ePKPdf PKPdf 04 08 22.3 +3.7
TUC Tucson 114.85 52 ePKIKP PKPdf 04 08 21.7 +3.1
TUC MLR MLR
comp=Z,3µm,22.0s
TUC Tucson 114.85 52 ePKPdf PKPdf 04 08 21.7 +3.1
TUC LR LR
comp=Z,3µm,22.0s
S21A Coal Bank Pass 114.86 45 ⇓P PKPdf 04 08 20.6 +1.8
baz=115
ULM Lac du Bonnet 114.86 28 PKP PKPdf 04 08 19.5 +1.5
ULM PKKPbc **PKKPab 04 19 02.1 +0.2**
ULM Lac du Bonnet 114.86 28 PKP PKPdf 04 08 19.5 +1.5
comp=Z,3.1nm,0.8s,baz=117,slow=1.1,SNR=4.9
ULM PKKPbc **PKKPab 04 19 02.1 +0.2**
comp=Z,2.9nm,0.8s,baz=57,slow=3.5,SNR=4.3
Q22A Crested Butte, 114.93 44 ⇓P PKPdf 04 08 21.5 +2.6
baz=115
O23A Lake Granby, G 114.95 42 ⇑P **PKPdf 04 08 20.7 +1.8**
baz=115,SNR=10
M24A Cheyenne 115.04 40 ⇑P **PKPdf 04 08 20.9 +2.0**
baz=115
R22A Saguache, Gunn 115.33 44 ⇑P **PKPdf 04 08 22.6 +2.9**
baz=115
T21A Navajo Lake 115.35 46 ⇑P **PKPdf 04 08 21.8 +2.2**
baz=115
ISCO Idaho Springs 115.36 42 ePKIKP **PKPdf 04 08 21.6 +1.9**
ISCO MLR MLR
comp=Z,3µm,22.0s
ISCO Idaho Springs 115.36 42 ePKPdf **PKPdf 04 08 21.6 +1.9**
ISCO LR LR
comp=Z,3µm,22.0s
ISCO Idaho Springs 115.36 42 ⇓P **PKPdf 04 08 21.8 +2.1**
baz=115
Y19A Nutrioso 115.38 49 ⇓P **PKPdf 04 08 21.6 +1.8**
baz=115
P23A Jefferson 115.41 43 ⇑P **PKPdf 04 08 21.9 +2.1**
baz=115
K26A Motz Farm, Whi 115.44 38 ⇑P **PKPdf 04 08 20.9 +1.5**
baz=115
W20A Ramah 115.46 48 ⇓P **PKPdf 04 08 22.0 +2.1**
baz=115
S22A 4UR Ranch, Cre 115.50 45 ⇑P **PKPdf 04 08 22.2 +2.2**
baz=116
U21A Nageezi 115.51 46 ⇑P **PKPdf 04 08 22.2 +2.3**
baz=116
X20A Quemado 115.71 49 ⇑P **PKPdf 04 08 22.0 +1.6**
baz=116
T22A Edith 115.79 46 ⇓P **PKPdf 04 08 22.4 +1.9**
baz=116
L26A Underwood Farm 115.86 39 ⇓P **PKPdf 04 08 22.2 +1.9**
baz=116
R23A Moffat 115.99 44 ⇑P **PKPdf 04 08 22.8 +1.8**
baz=116
K27A Fluecklinger Fa 116.02 38 ⇑P **PKPdf 04 08 22.0 +1.4**
baz=116
Y20A Horse Springs, 116.06 49 ⇓P **PKPdf 04 08 23.2 +2.1**
baz=116
Q24A Divide 116.08 43 ⇓P **PKPdf 04 08 22.9 +1.8**
baz=116
W21A San Fidel 116.09 48 ⇑P **PKPdf 04 08 23.0 +1.9**
baz=116
U22A Llaves 116.11 46 ⇑P **PKPdf 04 08 23.1 +2.0**
baz=116
AGMN Agassiz Nation 116.17 30 PFAKE 04 08 30.0 +9.4
AGMN LR LR
comp=Z,2µm,21.0s
O25A Wiggins 116.19 41 ⇑P **PKPdf 04 08 22.6 +1.5**
baz=116
Z20A Nine Sixteen R 116.23 50 ⇓P **PKPdf 04 08 23.8 +2.4**
baz=116
X21A Alamocita Cree 116.28 48 ⇓P **PKPdf 04 08 23.5 +2.0**
baz=116
V22A San Miguel Ran 116.28 47 ⇓P **PKPdf 04 08 23.7 +2.2**
baz=116
319A Douglas 116.39 52 ⇓P **PKPdf 04 08 24.6 +3.0**
baz=116
T23A Casias Ranch, 116.39 45 ⇑P **PKPdf 04 08 23.2 +1.5**
baz=116,SNR=5.3
120A U Bar Ranch, L 116.43 51 ⇓P **PKPdf 04 08 23.6 +1.9**
baz=116
SDCO Great Sand Dun 116.43 44 ePKPdf **PKPdf 04 08 24.2 +2.4**
SDCO LR LR
comp=Z,3µm,20.0s
SDCO Great Sand Dun 116.43 44 ⇓P **PKPdf 04 08 23.6 +1.8**
baz=116
P25A Willow Gulch B 116.47 42 ⇑P **PKPdf 04 08 23.1 +1.4**
baz=116,SNR=15
Y21A Point of Rocks 116.55 49 ⇓P **PKPdf 04 08 24.4 +2.3**
baz=116
TAM Tamanrasset 116.55 298 PFAKE 04 08 30.0 +7.8
TAM LR LR
comp=Z,2µm,20.0s
S24A Houchin Ranch, 116.68 44 ⇓P **PKPdf 04 08 24.6 +2.3**
baz=117
Q25A Bedland, Calha 116.72 43 ⇓P **PKPdf 04 08 24.1 +1.9**
baz=117
220A Playas Peak, P 116.77 51 ⇓P **PKPdf 04 08 24.6 +2.2**
baz=117
LAZ Ladron 116.78 48 ePKPdf **PKPdf 04 08 25.4 +3.0**
X22A Bernardo 116.83 48 ⇓P **PKPdf 04 08 25.5 +3.0**
baz=117
Z21A St. Cloud Mine 116.85 50 ⇑P **PKPdf 04 08 25.0 +2.4**
baz=117
N27A Anderson Farm, 116.86 40 ⇓P **PKPdf 04 08 24.4 +2.1**
baz=117
V23A Ortiz Mt. (NFS 116.88 46 ⇓P **PKPdf 04 08 25.0 +2.4**
baz=117
P26A Davis Ranch, A 116.99 42 ⇑P **PKPdf 04 08 24.0 +1.4**
baz=117,SNR=9.6
320A Kipp Ranch, An 116.99 52 ⇓P **PKPdf 04 08 24.5 +1.6**
baz=117
ANMO Albuquerque 117.04 47 ePKPdf **PKPdf 04 08 24.9 +1.9**
ANMO LR LR
comp=Z,3µm,20.0s
T24A Torres, Weston 117.07 45 ⇓P **PKPdf 04 08 24.8 +1.8**
baz=117
R25A Fountain Ranch 117.08 43 ⇑P **PKPdf 04 08 25.1 +2.3**
baz=117
121A Cookes Peak, D 117.09 50 ⇓P **PKPdf 04 08 25.2 +2.1**
baz=117
ESDC Sonseca Array 117.11 319 PKP **PKPdf 04 08 24.6 +1.9**
ESDC PKKPbc PKKPab 04 18 58.5 +6.4
ESDC Sonseca Array 117.11 319 PKP **PKPdf 04 08 24.6 +1.9**
comp=Z,0.6nm,0.6s,baz=19,slow=3.4,SNR=4.3
ESDC PKKPbc PKKPab 04 18 58.5 +6.4
comp=Z,1.8nm,0.8s,baz=262,slow=5.2,SNR=6.0
ESLA Sonseca Array 117.11 319 PFAKE 04 08 30.0 +7.3
ESLA LR LR
comp=Z,11µm,19.0s
OGNE Ogallala 117.11 40 PFAKE 04 08 30.0 +7.3
OGNE LR LR
comp=Z,2µm,22.0s
Y22A Socorro 117.11 49 ⇓P **PKPdf 04 08 25.2 +2.1**
baz=117
W23A Werner Place, 117.17 47 ⇑P **PKPdf 04 08 25.8 +2.6**
baz=117
LPM Los Pinos Moun 117.20 48 ePKPdf **PKPdf 04 08 26.1 +2.9**
Q26A Hugo 117.20 42 ⇑P **PKPdf 04 08 25.1 +2.0**
baz=117
BNM Barren Site 117.27 48 ePKPdf **PKPdf 04 08 26.3 +2.8**
X23A Hourglass Bar 117.41 48 ⇑P **PKPdf 04 08 24.9 +1.3**
baz=117
Z22A Elephant Butte 117.41 49 ⇓P **PKPdf 04 08 25.3 +1.7**
baz=117
PAB San Pablo 117.43 319 PFAKE 04 08 40.0 +17
PAB LR LR
comp=Z,3µm,22.0s
T25A Trinidad 117.48 44 ⇑P **PKPdf 04 08 25.4 +1.6**
baz=117,SNR=5.5
V24A Rampart Ranch, 117.55 46 ⇓P **PKPdf 04 08 25.3 +1.3**
baz=118,SNR=10
R26A Arlington 117.57 43 ⇓P **PKPdf 04 08 26.0 +2.3**
baz=118
122A Conniff Cattle 117.62 50 ⇑P **PKPdf 04 08 26.2 +2.2**
baz=118
W24A Lazy 6 Ranch, 117.69 47 ⇑P **PKPdf 04 08 25.5 +1.4**
baz=118,SNR=12
KSCO Kaye Shedlock' 117.75 42 ⇑P **PKPdf 04 08 26.1 +2.0**
baz=118
222A Williams Famil 117.79 51 ⇓P **PKPdf 04 08 26.3 +1.9**
baz=118
Y23A Lovelace Mesa, 117.79 48 ⇑P **PKPdf 04 08 26.5 +2.1**
baz=118
U25A Circle Dot Ran 117.84 45 ⇓P **PKPdf 04 08 25.6 +1.2**
baz=118,SNR=7.4
S26A Kim 117.89 43 ⇓P **PKPdf 04 08 25.4 +1.0**
baz=118,SNR=5.5
Z23A Rita Site, Whi 117.96 49 ⇑P **PKPdf 04 08 27.1 +2.5**
baz=118
V25A Rancho No Teng 117.97 46 ⇓P **PKPdf 04 08 26.1 +1.4**
baz=118,SNR=12
R27A Eads 118.01 42 ⇑P **PKPdf 04 08 25.5 +0.9**
baz=118,SNR=5.4
T26A Comanche Natio 118.03 44 ⇑P **PKPdf 04 08 25.9 +1.2**
baz=118,SNR=14

MVO	**Moncorvo**	**118.25**	**322**	*e*PKPdf	**PKPdf**	**04 08 28.3**	**+3.4**
MVO				*e*LQ	LQ	04 40 55.2	
MVO				*e*LR	LR	04 48 31.2	
	comp=Z,4μm,22.0s						
S27A	**Las Animas**	**118.25**	**43**	⇓P	**PKPdf**	**04 08 27.3**	**+2.2**
	baz=118						
Y24A	**Capitan**	**118.26**	**48**	⇑P	**PKPdf**	**04 08 26.9**	**+1.6**
	baz=118,SNR=12						
U26A	**Atchley Ranch,**	**118.31**	**45**	⇓P	**PKPdf**	**04 08 27.1**	**+1.8**
	baz=118,SNR=7.1						
W25A	**X Bar L Ranch,**	**118.37**	**46**	⇓P	**PKPdf**	**04 08 27.0**	**+1.6**
	baz=118,SNR=8.7						
EYMN	**Ely**	**118.54**	**28**	*e*PKPdf	**PKPdf**	**04 08 24.8**	**-0.4**
EYMN				LR	LR		
	comp=Z,2μm,21.0s						
PGAV	**Gavieira, Arco**	**118.55**	**323**	*e*PKPdf	**PKPdf**	**04 08 27.1**	**+1.6**
PGAV				*e*LR	LR	04 50 20.7	
	comp=Z,3μm,20.0s						
X25A	**Clemmons Ranch**	**118.55**	**47**	⇓P	**PKPdf**	**04 08 27.7**	**+1.9**
	baz=118						
Z24A	**Sheeppen Canyo**	**118.58**	**49**	⇓P	**PKPdf**	**04 08 27.4**	**+1.5**
	baz=118,SNR=11						
POLO	**Lamas de Olo**	**118.61**	**322**	*e*PKPdf	**PKPdf**	**04 08 28.6**	**+3.0**
POLO	**Lamas de Olo**	**118.61**	**322**	*e*PP	PP	04 09 42.3	-0.4
PVRL	**Vila Real**	**118.61**	**322**	*e*PKPdf	**PKPdf**	**04 08 29.1**	**+3.5**
T27A	**Campo**	**118.69**	**44**	⇓P	**PKPdf**	**04 08 27.3**	**+1.4**
	baz=119,SNR=8.1						
ECSD	**EROS Data Cent**	**118.73**	**34**	*e*PKPdf	**PKPdf**	**04 08 26.0**	**+0.3**
ECSD				LR	LR		
	comp=Z,2μm,21.0s						
124A	**Stringfield Ra**	**118.79**	**49**	⇑P	**PKPdf**	**04 08 28.0**	**+1.7**
	baz=119,SNR=8.7						
Y25A	**Mesa, Roswell**	**118.81**	**48**	⇓P	**PKPdf**	**04 08 27.3**	**+1.1**
	baz=119,SNR=11						
PMSA	**Palmer Station**	**118.85**	**175**	PFAKE		04 08 40.0	+15
PMSA				LR	LR		
	comp=Z,1μm,21.0s						
W26A	**Owens Ranch, T**	**118.93**	**46**	⇓P	**PKPdf**	**04 08 28.1**	**+1.7**
	baz=119						
224A	**Cornudas Mount**	**119.01**	**50**	⇓P	**PKPdf**	**04 08 28.6**	**+1.8**
	baz=119						
MTE	**Manteigas**	**119.01**	**321**	PFAKE		04 08 40.0	+14
MTE				LR	LR		
	comp=Z,3μm,20.0s						
PVIS	**Viseu**	**119.05**	**322**	*e*PKPdf	**PKPdf**	**04 08 25.4**	**-1.0**
T28A	**Walsh**	**119.08**	**43**	⇑P	**PKPdf**	**04 08 27.7**	**+1.0**
	baz=119,SNR=12						
Z25A	**Roswell**	**119.08**	**48**	⇑P	**PKPdf**	**04 08 27.7**	**+0.9**
	baz=119,SNR=6.8						
X26A	**CR and CF Fran**	**119.16**	**47**	⇓P	**PKPdf**	**04 08 27.9**	**+0.9**
	baz=119,SNR=7.5						
BGNE	**Belgrade**	**119.25**	**37**	⇑P	**PKPdf**	**04 08 27.8**	**+1.1**
	baz=119						
MNTX	**Cornudas Mount**	**119.28**	**50**	*e*PKPdf	**PKPdf**	**04 08 26.9**	**-0.2**
MNTX				LR	LR		
	comp=Z,2μm,22.0s						
MNTX	**Cornudas Mount**	**119.28**	**50**	⇑P	**PKPdf**	**04 08 28.2**	**+1.2**
	baz=119,SNR=13						
PCBR	**Castelo Branco**	**119.29**	**321**	*e*PKPdf	**PKPdf**	**04 08 28.7**	**+1.9**
324A	**Moseley Ranch,**	**119.32**	**51**	⇑P	**PKPdf**	**04 08 28.4**	**+1.1**
	baz=119,SNR=12						
125A	**Gardner Draw,**	**119.41**	**49**	⇓P	**PKPdf**	**04 08 28.6**	**+1.2**
	baz=119,SNR=8.3						
Y26A	**Elida**	**119.44**	**47**	⇑P	**PKPdf**	**04 08 29.4**	**+1.9**
	baz=119						
PMRV	**Marv??o**	**119.47**	**320**	*e*PKPdf	**PKPdf**	**04 08 29.5**	**+2.3**
PMRV				*e*LQ	LQ	04 43 21.0	
PMRV				*e*LR	LR	04 49 40.5	
	comp=Z,3μm,20.0s						
225A	**Deer Hill, Car**	**119.53**	**50**	⇑P	**PKPdf**	**04 08 29.3**	**+1.5**
	baz=120						
X27A	**F and S Farms,**	**119.63**	**46**	⇓P	**PKPdf**	**04 08 29.7**	**+1.9**
	baz=120						
Z26A	**Caprock**	**119.64**	**48**	⇓P	**PKPdf**	**04 08 29.5**	**+1.6**
	baz=120						
325A	**Bean Ranch, Si**	**119.74**	**50**	⇑P	**PKPdf**	**04 08 29.3**	**+1.1**
	baz=120,SNR=8.0						
CBKS	**Cedar Bluff**	**119.75**	**41**	PFAKE		04 08 40.0	+12
CBKS				LR	LR		
	comp=Z,4μm,22.0s						
SPMN	**St. Paul**	**119.80**	**31**	⇑P	**PKPdf**	**04 08 29.4**	**+1.7**
	baz=120						
GDL2	**Guadalupe Moun**	**119.84**	**49**	*e*PKPdf	**PKPdf**	**04 08 29.4**	**+1.1**
126A	**Clayton Basin,**	**119.89**	**49**	⇓P	**PKPdf**	**04 08 30.2**	**+1.9**
	baz=120						
PBAR	**Barrancos**	**119.94**	**319**	*e*PKPdf	**PKPdf**	**04 08 28.9**	**+0.8**
Y27A	**Causey**	**119.95**	**47**	⇑P	**PKPdf**	**04 08 29.6**	**+1.2**
	baz=120,SNR=14						
W28A	**Vega**	**119.96**	**45**	⇑P	**PKPdf**	**04 08 30.1**	**+1.7**
	baz=120						
425A	**Indio Mountain**	**119.99**	**51**	⇓P	**PKPdf**	**04 08 29.8**	**+1.2**
	baz=120,SNR=10.0						
PTOM	**Tomar**	**120.00**	**321**	*e*PKPdf	**PKPdf**	**04 08 31.7**	**+3.5**
226A	**Malaga, Loving**	**120.10**	**49**	⇑P	**PKPdf**	**04 08 30.0**	**+1.3**
	baz=120,SNR=12						
V29A	**Stinnett**	**120.13**	**44**	⇑P	**PKPdf**	**04 08 30.4**	**+1.7**
	baz=120						
Z27A	**Tatum**	**120.18**	**48**	⇑P	**PKPdf**	**04 08 29.9**	**+1.0**
	baz=120,SNR=16						
MSTX	**Muleshoe**	**120.19**	**47**	⇑P	**PKPdf**	**04 08 30.1**	**+1.2**
	baz=120,SNR=11						
X28A	**Dimmitt**	**120.34**	**46**	⇑P	**PKPdf**	**04 08 30.2**	**+1.1**
	baz=120,SNR=5.8						
SCHQ	**Schefferville**	**120.36**	**9**	*e*PKPdf	**PKPdf**	**04 08 28.9**	**+0.5**
SCHQ				PKP	**PKPdf**	**04 08 29.1**	**+0.6**
SCHQ				*e*PP	**PP**	**04 09 50.8**	**-3.0**
SCHQ				LR	LR		
	comp=Z,3μm,21.0s						
SCHQ	**Schefferville**	**120.36**	**9**	PKP	**PKPdf**	**04 08 29.1**	**+0.6**
	comp=Z,6.7nm,0.5s,baz=16,slow=2.7,SNR=14						
EVO	**Evora**	**120.37**	**320**	*e*PKPdf	**PKPdf**	**04 08 32.1**	**+3.2**
EVO	**Evora**	**120.37**	**320**	*e*PP	PP	04 09 59.3	+4.5
EVO	**Evora**	**120.37**	**320**	*e*PKIKP	**PKPdf**	**04 08 27.6**	**-1.3**
	comp=Z,54nm,1.2s						
EVO				*e*R			
	comp=Z,6μm,21.0s						
127A	**Arkansas Junct**	**120.38**	**48**	⇓P	**PKPdf**	**04 08 30.9**	**+1.6**
	baz=120						
EVOP	**Sao Brissos**	**120.44**	**320**	*e*PKIKP	**PKPdf**	**04 08 27.6**	**-1.5**
EVOP	**Sao Brissos**	**120.44**	**320**	*e*PKPdf	**PKPdf**	**04 08 27.6**	**-1.5**
AMTX	**Amarillo**	**120.52**	**45**	*e*PKPdf	**PKPdf**	**04 08 30.9**	**+1.4**
AMTX				LR	LR		
	comp=Z,4μm,21.0s						
AMTX	**Amarillo**	**120.52**	**45**	⇓P	**PKPdf**	**04 08 30.9**	**+1.4**
	baz=120						
PBEJ	**Beja**	**120.56**	**319**	*e*PKPdf	**PKPdf**	**04 08 30.4**	**+1.1**
PBEJ	**Beja**	**120.56**	**319**	*e*PP	PP	04 09 55.1	-1.0
Y28A	**McKinney Farm,**	**120.60**	**47**	⇓P	**PKPdf**	**04 08 31.2**	**+1.6**
	baz=121,SNR=10.0						
X29A	**Tulia**	**120.73**	**46**	⇓P	**PKPdf**	**04 08 31.2**	**+1.3**
	baz=121,SNR=9.0						
426A	**McDonald Obser**	**120.78**	**51**	⇑P	**PKPdf**	**04 08 32.2**	**+2.0**
	baz=121						
Z28A	**Tucker Farm, M**	**120.80**	**47**	⇑P	**PKPdf**	**04 08 32.2**	**+2.2**
	baz=121						
PVAQ	**Vaqueiros**	**120.81**	**318**	*e*PKPdf	**PKPdf**	**04 08 30.7**	**+0.9**
PVAQ				*e*LQ	LQ	04 39 01.8	
PVAQ				*e*LR	LR	04 50 32.2	
	comp=Z,3μm,20.0s						
PCVE	**Castro Verde**	**120.89**	**319**	*e*PKPdf	**PKPdf**	**04 08 30.2**	**+0.2**
PCVE	**Castro Verde**	**120.89**	**319**	*e*PP	PP	04 09 58.8	+0.4
MESJ	**Messejana**	**120.90**	**319**	*e*P	**PKPdf**	**04 08 30.0**	**0.0**
MESJ				*e*PP	**PP**	**04 09 57.4**	**-1.0**
MESJ				*e*SS	SS	04 26 28.9	+1.5
MESJ				AMS	AMS	05 08 15.7	
	comp=Z,4μm,21.0s						
MESJ	**Messejana**	**120.90**	**319**	*e*PP	PP	04 09 57.4	-1.0
MESJ				*e*SS	SS	04 26 28.9	+1.5
MESJ				A	A	05 08 15.7	
	comp=Z,4μm,21.0s						
MESJ	**Messejana**	**120.90**	**319**	*e*PKIKP	**PKPdf**	**04 08 29.9**	**0.0**
MESJ				*e*		04 09 57.4	
MESJ				*e*SS	SS	04 26 28.9	+1.5
PNCL	**Nicolau / Gran**	**120.94**	**319**	*e*PKPdf	**PKPdf**	**04 08 31.9**	**+1.9**
PNCL	**Nicolau / Gran**	**120.94**	**319**	*e*PP	PP	04 09 59.4	+0.7
LIS	**Lisbon**	**121.00**	**320**	*e*P	**PKPdf**	**04 08 29.8**	**-0.3**
LIS				*e*PP	**PP**	**04 09 58.5**	**-0.5**
LIS				*e*SS	SS	04 26 30.0	+1.4
LIS				AMS	AMS	05 07 47.1	
	comp=E,3μm,22.4s						
LIS	**Lisbon**	**121.00**	**320**	*e*PP	PP	04 09 58.5	-0.5
LIS				*e*SS	SS	04 26 30.0	+1.4
LIS	**Lisbon**	**121.00**	**320**	*e*PKIKP	**PKPdf**	**04 08 29.8**	**-0.3**
LIS				*e*		04 09 58.4	
LIS				*e*SS	SS	04 26 29.9	+1.3
MDT	**Midelt**	**121.00**	**312**	PKP	**PKPdf**	**04 08 31.2**	**+0.7**
MDT	**Midelt**	**121.00**	**312**	PKP	**PKPdf**	**04 08 31.2**	**+0.7**
	comp=E,3.8nm,0.8s,baz=90,slow=2.3,SNR=5.8						
PBDV	**Barranco-do-Ve**	**121.04**	**318**	*e*PKPdf	**PKPdf**	**04 08 27.6**	**-2.7**
Y29A	**Porterfield Fa**	**121.04**	**46**	⇑P	**PKPdf**	**04 08 31.8**	**+1.3**
	baz=121,SNR=16						
427A	**Hayter Ranch,**	**121.18**	**50**	⇑P	**PKPdf**	**04 08 32.0**	**+1.1**
	baz=121,SNR=11						
626A	**Big Bend Ranch**	**121.18**	**52**	⇓P	**PKPdf**	**04 08 31.9**	**+1.0**
	baz=121,SNR=7.0						
Z29A	**Hungry Hill Ra**	**121.31**	**47**	⇑P	**PKPdf**	**04 08 32.0**	**+0.9**
	baz=121,SNR=12						
527A	**Woodward Ranch**	**121.33**	**51**	⇓P	**PKPdf**	**04 08 32.2**	**+0.9**
	baz=121						
328A	**Wristen Ranch,**	**121.39**	**49**	⇑P	**PKPdf**	**04 08 32.3**	**+1.1**
	baz=121						
MORF	**Marmelete**	**121.48**	**319**	*e*PKPdf	**PKPdf**	**04 08 32.5**	**+1.3**
MORF	**Marmelete**	**121.48**	**319**	*e*PP	PP	04 10 03.6	+1.1
129A	**Stewart Farms,**	**121.50**	**48**	⇑P	**PKPdf**	**04 08 32.5**	**+1.1**
	baz=122,SNR=8.6						
KSU1	**Kansas State U**	**121.58**	**39**	*e*PKPdf	**PKPdf**	**04 08 32.4**	**+1.1**
KSU1				LR	LR		
	comp=Z,2μm,21.0s						
TXAR	**Lajitas Array**	**121.65**	**52**	PKP	**PKPdf**	**04 08 32.3**	**+0.5**
TXAR				PKKPbc	**PKKPab**	**04 18 32.7**	**+0.3**
TXAR	**Lajitas Array**	**121.65**	**52**	PKP	**PKPdf**	**04 08 32.3**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=226,slow=1.2,SNR=14						
TXAR				PKKPbc	**PKKPab**	**04 18 32.7**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=114,slow=5.4,SNR=8.2						
428A	**Kincaid Ranch,**	**121.78**	**50**	⇑P	**PKPdf**	**04 08 33.6**	**+1.6**
	baz=122,SNR=15						
627A	**Terlingua Ranc**	**121.81**	**52**	⇑P	**PKPdf**	**04 08 33.3**	**+1.2**
	baz=122						
SCIA	**State Center**	**121.81**	**34**	PFAKE		04 08 40.0	+8.4
SCIA				LR	LR		
	comp=Z,2μm,21.0s						
528A	**Cox Ranch, San**	**121.96**	**51**	⇑P	**PKPdf**	**04 08 33.6**	**+1.2**
	baz=122,SNR=8.5						
RTC	**Rabat Centre**	**122.04**	**315**	PFAKE		04 08 40.0	+7.7
RTC				LR	LR		
	comp=Z,2μm,21.0s						
RPN	**Rapa Nui**	**122.06**	**120**	PFAKE		04 08 40.0	+7.5
RPN				LR	LR		
	comp=Z,3μm,22.0s						
628A	**Black Gap, Mar**	**122.19**	**51**	⇑P	**PKPdf**	**04 08 34.3**	**+1.5**
	baz=122,SNR=12						
TOA0	**Torodi Ar. Sit**	**122.60**	**288**	*e*PKPdf	**PKPdf**	**04 08 33.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**122.60**	**288**	PKP	**PKPdf**	**04 08 33.5**	**-0.3**
TORD				PP	PP	04 10 17.5	+6.3
TORD				PKKPbc	**PKKPab**	**04 18 28.4**	**+0.3**
TORD	**Torodi Ar. Bea**	**122.60**	**288**	PKP	**PKPdf**	**04 08 33.5**	**-0.3**
	comp=Z,11nm,0.8s,baz=78,slow=1.9,SNR=24						
TORD				PP	PP	04 10 17.5	+6.3
	comp=Z,12nm,1.1s,baz=61,slow=4.5,SNR=3.8						
TORD				PKKPbc	**PKKPab**	**04 18 28.4**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=256,slow=2.8,SNR=8.2						
WMOK	**Wichita Mounta**	**122.63**	**44**	*e*PKIKP	**PKPdf**	**04 08 35.1**	**+1.6**
WMOK				MLR	MLR		
	comp=Z,3μm,21.0s						
WMOK	**Wichita Mounta**	**122.63**	**44**	*e*PKPdf	**PKPdf**	**04 08 35.1**	**+1.6**
WMOK				LR	LR		
	comp=Z,3μm,21.0s						
TUL1	**Tulsa**	**123.99**	**41**	⇓P	**PKPdf**	**04 08 37.4**	**+1.4**
	baz=124						
GLMI	**Grayling**	**124.02**	**26**	PFAKE		04 08 50.0	+14
GLMI				LR	LR		
	comp=Z,2μm,19.0s						
JCT	**Junction City**	**124.09**	**49**	*e*PKIKP	**PKPdf**	**04 08 37.5**	**+1.1**
JCT				MLR	MLR		
	comp=Z,2μm,20.0s						
JCT	**Junction City**	**124.09**	**49**	*e*PKPdf	**PKPdf**	**04 08 37.5**	**+1.1**
JCT				LR	LR		
	comp=Z,2μm,20.0s						
JCT	**Junction City**	**124.09**	**49**	⇓P	**PKPdf**	**04 08 37.9**	**+1.5**
	baz=124						
FVM	**French Village**	**126.03**	**36**	*e*PKIKP	**PKPdf**	**04 08 40.5**	**+0.7**
FVM	**French Village**	**126.03**	**36**	*e*PKPdf	**PKPdf**	**04 08 40.5**	**+0.7**
MIAR	**Mount Ida**	**126.26**	**41**	*e*PKIKP	**PKPdf**	**04 08 42.8**	**+2.4**
MIAR				MLR	MLR		
	comp=Z,3μm,20.0s						
MIAR	**Mount Ida**	**126.26**	**41**	*e*PKPdf	**PKPdf**	**04 08 42.8**	**+2.4**
MIAR				LR	LR		
	comp=Z,3μm,20.0s						
AAM	**Ann Arbor**	**126.43**	**28**	PFAKE		04 08 50.0	+10
AAM				LR	LR		
	comp=Z,2μm,20.0s						
OLIL	**Olney**	**126.83**	**34**	*e*PKPdf	**PKPdf**	**04 08 42.7**	**+1.4**
SIUC	**Southern Illin**	**126.91**	**35**	*e*PKPdf	**PKPdf**	**04 08 42.9**	**+1.4**
KVTX	**Kingsville**	**126.98**	**51**	PFAKE		04 08 50.0	+8.1
KVTX				LR	LR		
	comp=Z,2μm,19.0s						
NATX	**Nacogdoches**	**127.15**	**45**	*e*PKPdf	**PKPdf**	**04 08 44.7**	**+2.6**
NATX				LR	LR		
	comp=Z,2μm,19.0s						
HKT	**Hockley**	**127.31**	**47**	*e*PKIKP	**PKPdf**	**04 08 45.0**	**+2.6**
HKT	**Hockley**	**127.31**	**47**	*e*PKPdf	**PKPdf**	**04 08 45.0**	**+2.6**
PARMO	**Parma**	**127.31**	**37**	PKPdf	**PKPdf**	**04 08 45.1**	**+2.8**
USIN	**University of**	**127.62**	**34**	*e*PKPdf	**PKPdf**	**04 08 45.1**	**+2.3**
MSNY	**Massena**	**127.64**	**19**	PKPdf	**PKPdf**	**04 08 41.7**	**-1.0**
LONY	**Lake Ozonia**	**128.07**	**19**	*e*PKPdf	**PKPdf**	**04 08 43.5**	**0.0**
LONY				LR	LR		
	comp=Z,2μm,20.0s						
WCI	**Wyandotte Cave**	**128.18**	**33**	*e*PKIKP	**PKPdf**	**04 08 46.8**	**+2.8**
WCI	**Wyandotte Cave**	**128.18**	**33**	*e*PKPdf	**PKPdf**	**04 08 46.8**	**+2.8**
FRNY	**Flat Rock**	**128.19**	**18**	*e*PKPdf	**PKPdf**	**04 08 43.7**	**0.0**
ERPA	**Erie**	**128.20**	**25**	*e*PKPdf	**PKPdf**	**04 08 45.2**	**+1.4**
ERPA				LR	LR		
	comp=Z,3μm,19.0s						
ACSO	**Alum Creek Sta**	**128.37**	**29**	PFAKE		04 09 00.0	+16
ACSO				LR	LR		
	comp=Z,2μm,20.0s						
NCB	**Newcomb**	**128.77**	**19**	*e*PKPdf	**PKPdf**	**04 08 46.6**	**+1.7**
NCB				LR	LR		
	comp=Z,2μm,20.0s						
WVT	**Waverly**	**128.81**	**36**	*e*PKIKP	**PKPdf**	**04 08 45.8**	**+0.6**
WVT	**Waverly**	**128.81**	**36**	*e*PKPdf	**PKPdf**	**04 08 45.8**	**+0.6**
OXF	**Oxford**	**128.94**	**38**	*e*PKIKP	**PKPdf**	**04 08 48.1**	**+2.6**
OXF				MLR	MLR		
	comp=Z,3μm,20.0s						
OXF	**Oxford**	**128.94**	**38**	*e*PKPdf	**PKPdf**	**04 08 48.1**	**+2.6**
OXF				LR	LR		
	comp=Z,3μm,20.0s						
MDV	**Middlebury**	**129.07**	**18**	*e*PKPdf	**PKPdf**	**04 08 47.1**	**+1.6**
LBNH	**Lisbon**	**129.23**	**17**	*e*PKIKP	**PKPdf**	**04 08 48.8**	**+3.0**
LBNH				MLR	MLR		
	comp=Z,3μm,22.0s						
LBNH	**Lisbon**	**129.23**	**17**	*e*PKPdf	**PKPdf**	**04 08 48.8**	**+3.0**
LBNH				LR	LR		
	comp=Z,3μm,22.0s						
PLAL	**Pickwick Lake**	**129.45**	**37**	*e*PKPdf	**PKPdf**	**04 08 46.2**	**-0.3**
PLAL				LR	LR		
	comp=Z,3μm,22.0s						
WVL	**Waterville**	**129.56**	**15**	*e*PKPdf	**PKPdf**	**04 08 48.6**	**+2.3**
HNH	**Hanover**	**129.61**	**18**	*e*PKPdf	**PKPdf**	**04 08 46.0**	**-0.4**
VBMS	**Vicksburg**	**129.70**	**42**	PFAKE		04 09 00.0	+13
VBMS				LR	LR		
	comp=Z,4μm,22.0s						
BINY	**Binghamton**	**129.71**	**22**	*e*PKPdf	**PKPdf**	**04 08 48.6**	**+1.8**
BINY				LR	LR		
	comp=Z,3μm,21.0s						
PMOZ	**Porto Moniz, M**	**129.76**	**320**	*e*LR	LR	04 56 19.7	
	comp=Z,1μm,22.0s						
FFD	**Franklin Falls**	**130.02**	**17**	*e*PKPdf	**PKPdf**	**04 08 49.3**	**+2.0**
TRY	**Troy**	**130.06**	**19**	*e*PKPdf	**PKPdf**	**04 08 48.5**	**+1.2**
DBIC	**Dimbokro**	**130.28**	**282**	*e*PKPdf	**PKPdf**	**04 08 48.0**	**-0.5**
DBIC				PKP	**PKPdf**	**04 08 49.0**	**+0.5**
DBIC				SKP		04 12 23.3	
DBIC				LR	LR		
	comp=Z,2μm,22.0s						
DBIC	**Dimbokro**	**130.28**	**282**	PKP	**PKPdf**	**04 08 49.0**	**+0.5**
	comp=Z,6.7nm,0.6s,baz=112,slow=4.0,SNR=10						
DBIC				SKP		04 12 23.3	
	comp=Z,12nm,0.9s,baz=113,slow=6.2,SNR=3.1						
LIC	**Lamto**	**130.53**	**282**	*e*PKIKP	**PKPdf**	**04 08 46.9**	**-2.1**
	comp=Z,82nm,1.2s						
LIC				*e*R			
	comp=Z,2μm,21.5s						
LIC	**Lamto**	**130.53**	**282**	*e*PKPdf	**PKPdf**	**04 08 46.9**	**-2.1**
SWET	**Sewanee**	**130.55**	**35**	*e*PKPdf	**PKPdf**	**04 08 49.3**	**+0.7**
CMLA	**Cha da Macela**	**131.00**	**330**	PFAKE		04 09 00.0	+11
CMLA				LR	LR		
	comp=Z,5μm,21.0s						
CPCT	**Cooper Cave**	**131.18**	**34**	*e*PKPdf	**PKPdf**	**04 08 50.6**	**+0.9**
LRAL	**Lakeview Retre**	**131.42**	**38**	*e*PKPdf	**PKPdf**	**04 08 52.0**	**+1.8**
LRAL				LR	LR		
TKL	**Tuckaleechee C**	**131.44**	**33**	*e*PKPdf	**PKPdf**	**04 08 52.5**	**+2.3**
SHEL	**Horse Pasture**	**131.59**	**252**	PFAKE		04 09 00.0	+9.0
SHEL				LR	LR		
	comp=Z,5μm,21.0s						
BLA	**Blacksburg**	**131.97**	**29**	*e*PKIKP	**PKPdf**	**04 08 53.4**	**+2.2**
BLA				MLR	MLR		
	comp=Z,2μm,22.0s						
BLA	**Blacksburg**	**131.97**	**29**	*e*PKPdf	**PKPdf**	**04 08 53.4**	**+2.2**
BLA				LR	LR		
	comp=Z,2μm,22.0s						
EFI	**East Falkland**	**132.31**	**176**	PFAKE		04 09 00.0	+8.7
EFI				LR	LR		
	comp=Z,2μm,22.0s						
CBN	**Corbin**	**132.56**	**26**	PFAKE		04 09 00.0	+7.8
CBN				LR	LR		
	comp=Z,3μm,20.0s						
BRAL	**Brewton**	**132.74**	**40**	PFAKE		04 09 00.0	+7.2
BRAL				LR	LR		
	comp=Z,2μm,21.0s						
GOGA	**Godfrey**	**133.26**	**35**	*e*PKIKP	**PKPdf**	**04 08 52.9**	**-0.8**
GOGA				MLR	MLR		
	comp=Z,2μm,19.0s						
GOGA	**Godfrey**	**133.26**	**35**	*e*PKPdf	**PKPdf**	**04 08 52.9**	**-0.8**
GOGA				LR	LR		
	comp=Z,2μm,19.0s						
CNNC	**Cliffs of the**	**134.77**	**28**	PFAKE		04 09 10.0	+14
CNNC				LR	LR		
	comp=Z,3μm,21.0s						
NHSC	**New Hope**	**135.31**	**32**	PFAKE		04 09 10.0	+12
NHSC				LR	LR		
	comp=Z,3μm,21.0s						
PLCA	**Paso Flores**	**140.32**	**160**	PKPpre	PKPpre	04 09 00.5	
PLCA				*e*PKPdf	**PKPdf**	**04 09 06.8**	**+0.1**
PLCA				LR	LR		
	comp=Z,2μm,21.0s						
PLCA	**Paso Flores**	**140.32**	**160**	PKhKP	PKPpre	04 09 00.5	
	comp=Z,1.7nm,0.6s,baz=336,slow=7.5,SNR=4.1						
TGUH	**Tegucigalpa,Un**	**142.03**	**61**	*e*PKPdf	**PKPdf**	**04 09 11.7**	**+1.4**
TGUH				LR	LR		
	comp=Z,1μm,21.0s						
BBSR	**BB Station**	**142.33**	**16**	PFAKE		04 09 20.0	+10
BBSR				LR	LR		
	comp=Z,2μm,21.0s						
PAYG	**Puerto Ayora**	**143.12**	**86**	PFAKE		04 09 20.0	+7.7
PAYG				LR	LR		
	comp=Z,3μm,19.0s						
SACV	**Santiago Islan**	**144.89**	**303**	*e*PKPdf	PKPbc	04 09 14.8	+0.3
SACV				LR	LR		
	comp=Z,2μm,22.0s						
TRQA	**Tornquist**	**145.21**	**168**	*e*PKPdf	**PKPbc**	**04 09 14.5**	**-0.4**
TRQA				LR	LR		
	comp=Z,2μm,20.0s						
JTS	**JuntasAbangare**	**145.64**	**65**	PKPbc	**PKPab**	**04 09 18.1**	**+0.8**
JTS	**JuntasAbangare**	**145.64**	**65**	PKPbc	**PKPab**	**04 09 18.1**	**+0.8**
	comp=Z,85nm,0.8s,baz=1.5,slow=2.5,SNR=28						
LMEL	**Las Melosas**	**146.46**	**154**	*e*P	**PKPab**	**04 09 19.7**	**-0.3**
IHA	**Instituto Hidr**	**146.50**	**152**	*e*P	**PKPdf**	**04 09 17.9**	**+0.4**
FCH	**Farellones**	**146.87**	**154**	*e*P	**PKPbc**	**04 09 20.2**	**-0.3**
CVJ	**Coleyville**	**147.64**	**46**	*i* P	**PKPab**	**04 09 26.1**	**+1.1**
MTDJ	**Mount Denham**	**147.64**	**46**	*e*PKPbc	**PKPab**	**04 09 23.9**	**-1.1**
MTDJ				*e*PKPab	**PKiKP**	**04 09 26.2**	**+1.4**
MTDJ				LR	LR		
	comp=Z,2μm,22.0s						
GTBY	**Guantanamo Bay**	**148.15**	**41**	*e*PKPdf	**PKPdf**	**04 09 20.7**	**0.0**
GTBY				*e*PKPbc	**PKPbc**	**04 09 23.6**	**-0.3**
GTBY				*e*PKPab	**PKPab**	**04 09 27.4**	**+0.6**
GTBY				LR	LR		
	comp=Z,2μm,22.0s						
STH	**Stony Hill**	**148.26**	**46**	*i* P	**PKPbc**	**04 09 25.7**	**+1.4**
GWJ	**Greenwich**	**148.32**	**46**	*i* P	**PKPbc**	**04 09 25.6**	**+1.0**
HOJ	**Hope**	**148.35**	**46**	*i* P	**PKPbc**	**04 09 25.7**	**+1.2**
CMJ	**Castle Mountai**	**148.53**	**45**	*i* P	**PKPbc**	**04 09 26.3**	**+1.3

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 8.3nm,0.8s	**24.73**	**162**	P	P	04 03 07.7	-1.4
ASAR	**Alice Springs** 1.9nm,0.8s,baz=342,slow=5.8,SNR=2.2	**28.14**	**165**	P	P	04 03 40.3	+0.5
STKA	**Stephens Creek** 9.2nm,0.7s,baz=292,slow=10,SNR=3.3	**38.20**	**159**	P	P	04 05 07.9	+0.6
MKAR	**Makanchi Array** 2.3nm,0.4s,baz=118,slow=6.4,SNR=12	**57.41**	**325**	P	P	04 07 37.0	+0.8
ZALV	**Zalesovo Beam** 1.0nm,0.3s,baz=139,slow=6.0,SNR=3.3	**60.48**	**333**	P	P	04 07 56.5	-0.8
KURBB	**Kurchatov Arra** 3.8nm,0.7s,baz=126,slow=6.1,SNR=7.3	**61.60**	**328**	P	P	04 08 05.8	+0.8
BVAR	**Borovoye Array** 5.4nm,0.9s,baz=133,slow=6.5,SNR=5.4	**67.18**	**327**	P	P	04 08 41.9	+0.3
ILAR	**Eielson Array** 1.6nm,1.1s,baz=278,slow=6.0,SNR=4.0	**85.31**	**25**	P	P	04 10 24.5	+0.1
BRTR	**Keskin Array B** 2.0nm,0.9s,baz=107,slow=4.5,SNR=4.9	**89.79**	**310**	P	P	04 10 45.4	-1.4
ARCES	**ARCESS Array B** 4.4nm,1.0s,baz=108,slow=7.8,SNR=4.8	**90.38**	**340**	P	P	04 10 47.5	-1.2
AKASG	**Malin Array Be** 1.2nm,0.5s,baz=69,slow=4.2,SNR=5.4	**91.72**	**321**	P	P	04 10 54.5	-0.7
FINES	**FINESS Array B** 1.8nm,0.8s,baz=29,slow=3.2,SNR=4.4	**91.72**	**332**	P	P	04 10 54.7	-0.3
MLR	**Muntele Rosu** 0.6nm,0.7s,baz=252,slow=20,SNR=3.6	**94.70**	**316**	P	P	04 11 10.2	+0.9
NOA	**NORSAR Array B** 2.3nm,0.9s,baz=65,slow=4.5,SNR=3.0	**98.68**	**334**	P	P	04 11 26.6	-0.3
CFAA	**Coronel Fontan** 0.3nm,0.7s,baz=74,slow=1.6,SNR=4.1	**149.00**	**155**	PKPbc	PKPbc	04 17 37.1	+0.6

IDC 12 04:01:19.0±0.9, 3.72N×126.68E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/21, mbtmp4.0/7, Error ellipse: s-maj=48.3km s-min=20.0km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.6nm,0.4s,baz=338,slow=10,SNR=4.1	**28.11**	**166**	P	P	04 07 13.5	+0.6
STKA	**Stephens Creek** 5.3nm,0.8s,baz=333,slow=9.0,SNR=4.7	**38.13**	**159**	P	P	04 08 39.6	-0.5
PETK	**Petropavlovsk-** 6.1nm,1.1s,baz=140,slow=7.0,SNR=5.5	**55.46**	**22**	P	P	04 10 56.7	+1.2
MKAR	**Makanchi Array** 1.2nm,0.5s,baz=121,slow=7.7,SNR=7.9	**57.54**	**325**	P	P	04 11 09.7	-0.8
KURBB	**Kurchatov Arra** 1.3nm,0.5s,baz=127,slow=6.5,SNR=6.8	**61.72**	**327**	P	P	04 11 39.9	+0.7
BVAR	**Borovoye Array** 0.6nm,0.6s,baz=107,slow=5.0,SNR=3.3	**67.30**	**327**	P	P	04 12 15.8	+0.1
ILAR	**Eielson Array** 0.3nm,0.7s,baz=249,slow=6.6,SNR=3.1	**85.14**	**25**	P	P	04 13 55.1	-1.7

IDC 12 04:04:12.8±2.0, 3.32N×125.57E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/19, mbtmp3.9/6, Error ellipse: s-maj=331.2km s-min=17.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.6nm,0.3s	**24.67**	**160**	P	P	04 09 35.4	-0.2
ASAR	**Alice Springs** 0.5nm,0.5s,baz=350,slow=8.1,SNR=3.7	**28.03**	**164**	P	P	04 10 06.0	0.0
STKA	**Stephens Creek** 3.1nm,0.6s,baz=321,slow=8.5,SNR=6.1	**38.18**	**158**	P	P	04 11 34.3	+0.1
MKAR	**Makanchi Array** 0.6nm,0.4s,baz=119,slow=7.4,SNR=8.1	**57.23**	**326**	P	P	04 14 01.7	-0.4
ZALV	**Zalesovo Beam** 0.5nm,0.6s,baz=142,slow=4.9,SNR=2.6	**60.43**	**334**	P	P	04 14 24.1	0.0
KURBB	**Kurchatov Arra** 1.7nm,0.8s,baz=122,slow=6.5,SNR=7.7	**61.46**	**328**	P	P	04 14 31.5	+0.3

SZGRF 12 04:04:52.4,20°.82S×176°.73W, h33km, Fiji Islands region
BJI 12 04:05:43.2,20°.40S×177°.70W, h448km, mB5.2/5, mb4.8/16
ISCJB 12 04:05:46.6±0.2,20°.59S±0°.06×177°.86W±0°.04, h500km, mb4.4/71, Error ellipse: s-maj=8.1km s-min=4.2km az=153.1
NEIC 12 04:05:47.2±0.6,20°.58S×177°.82W, h502km±7km, mb4.5/47, Error ellipse: s-maj=7.8km s-min=5.7km az=148.0
IDC 12 04:05:48.4±2.3,20°.52S×177°.82W, h515km±24km, mb3.9/19, mb1 4.1/20, mb1mx4.0/23, mbtmp3.9/20, Error ellipse: s-maj=14.9km s-min=11.2km az=149.0
ISC 12 04:05:46.9±0.3, 20°.60S±0°.07×177°.72W±0°.07, h500km, n498, σ0.97/504, mb4.4/71, 163C-148D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.91**	**305**	*eP*	**P**	**04 07 13.6**	**+0.5**
RAO	**Raoul Island**	**8.62**	**181**	*eP*	**P**	**04 07 48.7**	**-0.9**
AFI	**Afiamalu**	**8.74**	**41**	*eP*	P	04 07 46.5	-4.7
AFI				S	S	04 09 24.5	-8.7
AFI	**Afiamalu** 14nm,0.3s,baz=28,slow=4.0,SNR=6.8	**8.74**	**41**	P	P	04 07 45.8	-5.4
AFI	11nm,0.3s,baz=77,slow=19,SNR=5.4			S	S	04 09 24.5	-8.7
FUNA	**Funafuti** 296nm,1.1s	**12.36**	**346**	*eP*	**P**	**04 08 28.1**	**-1.3**
DZM	**Mont Dzumac** 9.3nm,0.8s	**14.83**	**261**	*eP*	**P**	**04 08 55.3**	**-0.1**
DZM	**Mont Dzumac** 0.6nm,0.3s,baz=77,slow=18,SNR=10	**14.83**	**261**	P	**P**	**04 08 55.5**	**+0.1**
RAR	**Rarotonga**	**16.79**	**95**	*eP*	**P**	**04 09 16.1**	**+0.4**
URZ	**Urewera** 24nm,0.8s	**18.16**	**193**	*eP*	**P**	**04 09 28.2**	**-0.3**
SNZO	**South Karori**	**21.63**	**196**	*eP*	**P**	**04 10 00.2**	**+0.2**
EIDS	**Eidsvold** 4.0nm,0.3s	**29.07**	**255**	*eP*	**P**	**04 11 07.1**	**+0.8**
CNB	**Canberra Magne** 59nm,0.6s	**32.39**	**236**	*eP*	**P**	**04 11 36.3**	**+1.5**
CTA	**Charters Tower**	**33.74**	**264**	P	**P**	**04 11 45.4**	**-1.0**
CTA	**Charters Tower** 4.4nm,0.4s,baz=99,slow=11,SNR=12	**33.74**	**264**	P	**P**	**04 11 45.4**	**-1.0**
CTAO	**Charters Tower** 27nm,1.6s	**33.74**	**264**	*eP*	**P**	**04 11 45.6**	**-0.8**
CMSA	**Cobar Meteorol** 52nm,0.8s	**34.48**	**244**	*eP*	**P**	**04 11 52.9**	**+0.5**
PMG	**Port Moresby**	**35.62**	**283**	*eP*	**P**	**04 12 01.7**	**-0.4**
PMG	**Port Moresby** 11nm,0.6s,baz=112,slow=9.4,SNR=5.6	**35.62**	**283**	P	**P**	**04 12 01.1**	**-1.1**
STKA	**Stephens Creek** 1.2nm,0.4s	**37.98**	**244**	*eP*	**P**	**04 12 22.0**	**+0.6**
STKA	**Stephens Creek** 4.4nm,0.5s	**37.98**	**244**	*eP*	**P**	**04 12 21.8**	**+0.3**
STKA	**Stephens Creek** 5.1nm,0.5s,baz=100,slow=11,SNR=12	**37.98**	**244**	P	**P**	**04 12 21.6**	**+0.1**
BBOO	**Buckleboo** 56nm,0.8s	**42.74**	**244**	*eP*	**P**	**04 12 59.3**	**-0.3**
AS31	**Alice Springs**	**44.75**	**257**	*eP*	**P**	**04 13 15.1**	**-0.3**
ASAR	**Alice Springs**	**44.75**	**257**	P	**P**	**04 13 15.2**	**-0.2**
ASAR				S	**S**	**04 19 14.7**	**-1.0**
ASAR	**Alice Springs** 16nm,0.6s,baz=99,slow=7.6,SNR=120	**44.75**	**257**	P	**P**	**04 13 15.2**	**-0.2**
ASAR	1.9nm,0.7s,baz=94,slow=16,SNR=11			S	**S**	**04 19 14.7**	**-1.0**
WRA	**Warramunga Arr**	**44.84**	**262**	P	**P**	**04 13 15.3**	**-0.9**
WRA	**Warramunga Arr** 10.0nm,0.5s	**44.84**	**262**	P	**P**	**04 13 15.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**53.27**	**262**	P	**P**	**04 14 18.8**	**+0.1**
FITZ	**Fitzroy Crossi** 11nm,0.6s	**53.27**	**262**	*eP*	**P**	**04 14 18.7**	**+0.1**
FITZ	**Fitzroy Crossi** 6.8nm,0.6s,baz=117,slow=4.2,SNR=16	**53.27**	**262**	P	**P**	**04 14 18.8**	**+0.1**
SBA	**Scott Base** 2.5nm,0.4s	**57.79**	**184**	*eP*	**P**	**04 14 50.1**	**+0.9**
VNDA	**Vanda** 1.2nm,0.5s	**57.84**	**185**	*eP*	**P**	**04 14 50.1**	**+0.6**
MBWA	**Marble Bar**	**58.09**	**257**	*eP*	**P**	**04 14 51.7**	**-0.4**
MBWA	**Marble Bar**	**58.09**	**257**	*eP*	**P**	**04 14 51.5**	**-0.7**
CASY	**Casey** 14nm,0.7s	**63.99**	**205**	*eP*	**P**	**04 15 30.6**	**+0.4**
QSPA	**South Pole Qui** 6.0nm,0.7s	**69.47**	**180**	*eP*	**P**	**04 16 05.5**	**+1.1**
QSPA	**South Pole Qui** 9.7nm,0.7s,baz=12,slow=0.9,SNR=19	**69.47**	**180**	P	**P**	**04 16 05.2**	**+0.9**
KKM	**Kota Kinabalu**	**70.03**	**285**	*eP*	**P**	**04 16 08.4**	**-0.1**
MJAR	**Matsushiro Arr**	**70.44**	**324**	P	**P**	**04 16 09.7**	**-0.7**
MJAR	**Matsushiro Arr** 6.9nm,0.7s,baz=166,slow=6.1,SNR=16	**70.44**	**324**	P	**P**	**04 16 09.7**	**-0.7**
MAJO	**Matsushiro**	**70.44**	**324**	*eP*	**P**	**04 16 09.9**	**-0.5**
KSM	**Kuching** 12nm,0.8s	**73.68**	**278**	*eP*	**P**	**04 16 30.1**	**+0.3**
ASAJ	**Asahikawa**	**73.94**	**331**	P	**P**	**04 16 30.3**	**-0.2**
ASAJ	**Asahikawa** 3.9nm,0.4s,baz=206,slow=8.2,SNR=7.5	**73.94**	**331**	P	**P**	**04 16 30.3**	**-0.2**
PETK	**Petropavlovsk-**	**76.43**	**345**	P	**P**	**04 16 43.5**	**-0.7**
PETK	**Petropavlovsk-** 5.2nm,0.7s,baz=139,slow=8.2,SNR=6.6	**76.43**	**345**	P	**P**	**04 16 43.5**	**-0.7**
KSRS	**Korea Array** 2.5nm,0.7s,baz=132,slow=6.0,SNR=6.1	**77.13**	**318**	P	**P**	**04 16 49.0**	**+0.5**
KSAR	**Wonju Array Be**	**77.15**	**318**	P	**P**	**04 16 49.0**	**+0.4**
PKM	**Peak Mountain** baz=78	**77.88**	**45**	⇓P	**P**	**04 16 54.1**	**+1.2**
CIS	**Catalina Islan** baz=78	**77.98**	**47**	⇑P	**P**	**04 16 54.2**	**+1.0**
SMMC	**Simmler** baz=78	**78.00**	**45**	⇑P	**P**	**04 16 54.7**	**+1.4**
ARVC	**Arvin** baz=79	**78.67**	**46**	⇓P	**P**	**04 16 57.6**	**+0.7**
MWC	**Mount Wilson** 12nm,0.9s	**78.68**	**47**	*eP*	**P**	**04 16 57.6**	**+0.4**
VES	**Vestal, Richgr** baz=79	**78.91**	**45**	⇓P	**P**	**04 16 58.9**	**+0.8**
MURC	**Murrieta** baz=79	**78.92**	**48**	⇑P	**P**	**04 16 59.2**	**+0.9**
BFSC	**Mount Baldy Ra** baz=79	**78.96**	**47**	⇑P	**P**	**04 16 59.3**	**+0.7**
MONP	**Monument Peak** baz=79	**79.08**	**49**	⇓P	**P**	**04 17 00.5**	**+1.1**
RCTC	**Rector, Farmer** baz=79	**79.08**	**45**	⇓P	**P**	**04 17 00.5**	**+1.5**
EDW2	**Edwards Air Fo** baz=79	**79.10**	**46**	⇓P	**P**	**04 17 00.3**	**+1.1**
DVTC	**Desert V Tower** baz=79	**79.18**	**49**	⇑P	**P**	**04 17 01.0**	**+1.3**
USRK	**Ussuriysk Arra** 7.9nm,0.7s,baz=107,slow=4.1,SNR=18	**79.18**	**326**	P	**P**	**04 16 59.5**	**+0.2**
ISA	**Isabella** baz=80	**79.22**	**45**	⇓P	**P**	**04 17 01.1**	**+1.2**
CMB	**Columbia Colle** 7.4nm,0.9s	**79.36**	**43**	*eP*	**P**	**04 17 01.0**	**+0.5**
PFO	**Pinyon Flat Ob** baz=80	**79.45**	**48**	⇑P	**P**	**04 17 02.2**	**+1.0**
SWSC	**Sam W. Stewart** baz=80	**79.55**	**49**	⇑P	**P**	**04 17 02.8**	**+1.2**
BELC	**Belle Mtn. Jos** baz=80	**79.98**	**48**	⇓P	**P**	**04 17 05.1**	**+1.1**
MPMC	**Manual Prospec** baz=80	**80.10**	**46**	⇑P	**P**	**04 17 05.6**	**+0.9**
GSC	**Goldstone** baz=80	**80.14**	**47**	⇑P	**P**	**04 17 05.7**	**+1.0**
NJ2	**Nanjing**	**80.14**	**310**	*eP*	P	04 17 09.8	+5.2
NJ2	comp=Z,10.0nm,0.6s			pmax	pmax		
BC3	**Big Chuckawall** baz=80	**80.17**	**49**	⇑P	**P**	**04 17 06.4**	**+1.4**
TIN	**Tinemaha** baz=80	**80.18**	**44**	⇑P	**P**	**04 17 06.4**	**+1.5**
HEC	**Hector,Ludlow** baz=80	**80.20**	**47**	⇑P	**P**	**04 17 06.1**	**+1.0**
GLA	**Glamis** baz=80	**80.29**	**49**	⇑P	**P**	**04 17 07.0**	**+1.5**
WCN	**Washoe City** comp=Z,13nm,1.1s	**80.51**	**42**	*eP*	**P**	**04 17 07.7**	**+1.1**
WCN	**Washoe City** baz=81	**80.51**	**42**	⇓P	**P**	**04 17 07.7**	**+1.1**
GMRC	**Granite Mounta** baz=81	**80.64**	**47**	⇑P	**P**	**04 17 08.4**	**+1.0**
IRM	**Iron Mountain** baz=81	**80.66**	**48**	⇑P	**P**	**04 17 08.7**	**+1.3**
GRAC	**Grapevine Rang** baz=81	**80.71**	**45**	⇑P	**P**	**04 17 08.7**	**+1.1**
MDJ	**Mudanjiang** comp=Z,14nm,1.0s	**80.75**	**325**	*eP*	**P**	**04 17 07.6**	**+0.1**
FURC	**Furnace Creek,** baz=81	**80.75**	**46**	⇑P	**P**	**04 17 08.6**	**+0.9**
TUQ	**Turquoise Moun** baz=81	**80.81**	**47**	⇑P	**P**	**04 17 09.2**	**+0.9**
SHOC	**Shoshone** baz=81	**80.83**	**46**	⇑P	**P**	**04 17 09.2**	**+1.0**
Y12C	**Blythe** baz=81	**80.88**	**49**	⇓P	**P**	**04 17 09.8**	**+1.3**
113A	**Mohawk Valley,** baz=81	**80.90**	**50**	⇑P	**P**	**04 17 09.8**	**+1.2**
NVAR	**Mina Array Bea**	**80.92**	**43**	P	**P**	**04 17 09.7**	**+0.8**
NVAR	**Mina Array Bea** comp=Z,6.7nm,0.9s,baz=226,slow=9.4,SNR=31	**80.92**	**43**	P	**P**	**04 17 09.7**	**+0.8**
214A	**Organ Pipe Nat** baz=81	**81.17**	**51**	⇑P	**P**	**04 17 11.4**	**+1.3**
LDFC	**Landfair** comp=Z,23nm,0.9s	**81.18**	**47**	*eP*	**P**	**04 17 11.6**	**+1.4**
PDMCI	**Parker Dam,Lak** baz=82	**81.44**	**49**	⇑P	**P**	**04 17 12.5**	**+1.2**
114A	**Black Gap (USA** baz=82,SNR=6.6	**81.53**	**50**	⇑P	**P**	**04 17 13.2**	**+1.3**
MAW	**Mawson**	**81.56**	**200**	P	**P**	**04 17 12.0**	**+0.6**
Z14A	**Wintersburg** baz=82,SNR=6.2	**81.80**	**50**	⇓P	**P**	**04 17 14.8**	**+1.6**
W13A	**Hualapai Mount** baz=82	**82.04**	**48**	⇑P	**P**	**04 17 15.8**	**+1.1**
Y14A	**Wickenburg** baz=82,SNR=9.3	**82.05**	**49**	⇓P	**P**	**04 17 15.7**	**+1.1**
R11A	**Troy Canyon, C** baz=83	**82.64**	**44**	⇓P	**P**	**04 17 18.1**	**+0.5**
BMN	**Battle Mountai** comp=Z,15nm,0.9s	**82.75**	**42**	*eP*	**P**	**04 17 18.5**	**+0.4**
TUC	**Tucson** comp=Z,11nm,0.9s	**82.83**	**52**	*eP*	**P**	**04 17 20.2**	**+1.6**
X16A	**Lo Mia Camp, P** baz=84,SNR=12	**83.41**	**50**	⇑P	**P**	**04 17 23.1**	**+1.5**
319A	**Douglas** baz=84	**83.50**	**53**	⇓P	**P**	**04 17 23.8**	**+1.8**
R13A	**O'Grain Ranch,** baz=84	**83.61**	**45**	⇓P	**P**	**04 17 23.7**	**+1.1**
CCUT	**Cedar City** comp=Z,9.8nm,1.0s	**83.69**	**46**	*eP*	**P**	**04 17 24.2**	**+1.3**
X17A	**Forest Lakes** baz=84	**83.82**	**50**	⇑P	**P**	**04 17 25.3**	**+1.6**
U15A	**North Rim** baz=84,SNR=16	**83.83**	**48**	⇑P	**P**	**04 17 25.3**	**+1.5**
WUAZ	**Wupatki** comp=Z,12nm,1.1s	**84.01**	**49**	*eP*	**P**	**04 17 25.7**	**+1.2**
WUAZ	**Wupatki** baz=84,SNR=5.2	**84.01**	**49**	⇑P	**P**	**04 17 25.6**	**+1.0**
320A	**Kipp Ranch, An** baz=84	**84.05**	**54**	⇑P	**P**	**04 17 26.8**	**+2.0**
220A	**Playas Peak, P** baz=84	**84.31**	**53**	⇑P	**P**	**04 17 27.7**	**+1.6**
X18A	**Snowflake** baz=85	**84.53**	**50**	⇑P	**P**	**04 17 28.4**	**+1.2**
120A	**U Bar Ranch, L** baz=85	**84.54**	**52**	⇑P	**P**	**04 17 28.8**	**+1.6**
PSI	**Prapat**	**84.76**	**275**	P	**P**	**04 17 28.6**	**-0.1**
PSI	**Prapat** comp=Z,5.4nm,0.7s,baz=194,slow=4.2,SNR=4.5	**84.76**	**275**	P	**P**	**04 17 28.6**	**-0.1**
Y19A	**Nutrioso** baz=85	**84.76**	**51**	⇓P	**P**	**04 17 30.0**	**+1.5**
R15A	**Junction** baz=85	**84.77**	**46**	⇑P	**P**	**04 17 29.9**	**+1.6**
Z20A	**Nine Sixteen R** baz=85	**84.84**	**52**	⇑P	**P**	**04 17 30.3**	**+1.6**
HAWA	**Hanford** comp=Z,20nm,1.3s	**84.87**	**36**	*eP*	**P**	**04 17 29.2**	**+1.0**
221A	**Mesquite Ranch** baz=85	**84.92**	**53**	⇑P	**P**	**04 17 30.9**	**+1.8**
MSU	**Marysvale**	**84.99**	**46**	*eP*	**P**	**04 17 30.6**	**+1.3**
T17A	**Navajo Res., N** baz=85,SNR=5.8	**85.15**	**48**	⇑P	**P**	**04 17 31.4**	**+1.2**
121A	**Cookes Peak, D** baz=85	**85.17**	**53**	⇓P	**P**	**04 17 31.8**	**+1.5**
BMO	**Blue Mountains** comp=Z,4.5nm,0.9s	**85.23**	**38**	*eP*	**P**	**04 17 30.2**	**0.0**
MFID	**Camas Ranch** comp=Z,22nm,1.9s	**85.29**	**40**	*eP*	**P**	**04 17 31.1**	**+0.5**
MFID	**Camas Ranch** baz=86	**85.29**	**40**	⇓P	**P**	**04 17 31.3**	**+0.7**
R16A	**Teasdale** baz=86,SNR=5.3	**85.34**	**46**	⇓P	**P**	**04 17 32.2**	**+1.1**
Y20A	**Horse Springs,** baz=86	**85.38**	**51**	⇑P	**P**	**04 17 32.9**	**+1.5**
S17A	**Black Ridge (B** baz=86	**85.47**	**47**	⇓P	**P**	**04 17 32.1**	**+0.5**
222A	**Williams Famil** baz=86	**85.48**	**53**	⇓P	**P**	**04 17 32.8**	**+1.1**
X20A	**Quemado** baz=86	**85.59**	**51**	⇓P	**P**	**04 17 33.6**	**+1.2**
Z21A	**St. Cloud Mine** baz=86	**85.61**	**52**	⇑P	**P**	**04 17 33.9**	**+1.4**
122A	**Conniff Cattle** baz=86	**85.83**	**53**	⇑P	**P**	**04 17 35.1**	**+1.6**
W20A	**Ramah** baz=86	**85.87**	**50**	⇑P	**P**	**04 17 34.8**	**+1.1**
T18A	**Mexican Hat** baz=86,SNR=16	**85.87**	**48**	⇑P	**P**	**04 17 34.5**	**+1.0**
Q16A	**Castle Valley** baz=86	**85.87**	**46**	⇓P	**P**	**04 17 35.4**	**+1.8**
I12A	**Atlanta** baz=86	**85.92**	**40**	⇑P	**P**	**04 17 34.6**	**+0.9**
U19A	**Dine' College,** baz=86	**85.92**	**49**	⇓P	**P**	**04 17 34.6**	**+0.7**
R17A	**Hanksville Air** baz=86,SNR=5.5	**85.93**	**46**	⇓P	**P**	**04 17 34.2**	**+0.5**
Y21A	**Point of Rocks** baz=86	**85.94**	**52**	⇑P	**P**	**04 17 35.6**	**+1.6**
TMUT	**Trail Mountain** comp=Z,10nm,1.0s	**86.04**	**46**	*eP*	**P**	**04 17 35.8**	**+1.3**
S18A	**Hurst Farm, Bl** baz=86	**86.06**	**47**	⇑P	**P**	**04 17 35.7**	**+1.1**
X21A	**Alamocita Cree** baz=86	**86.06**	**51**	⇓P	**P**	**04 17 35.8**	**+1.2**
Z22A	**Elephant Butte** baz=86	**86.11**	**52**	⇑P	**P**	**04 17 36.0**	**+1.2**
HLID	**Hailey** comp=Z,4.7nm,1.0s	**86.23**	**41**	*eP*	**P**	**04 17 36.0**	**+0.9**
HLID	**Hailey** baz=86,SNR=5.9	**86.23**	**41**	⇓P	**P**	**04 17 35.9**	**+0.7**
J13A	**Cove Ranch, Pi** baz=86,SNR=6.3	**86.29**	**41**	⇓P	**P**	**04 17 36.4**	**+1.0**
ENH	**Enshi** comp=Z,9.3nm,1.0s	**86.31**	**304**	*eP*	**P**	**04 17 36.0**	**+0.3**
M15A	**Larsen Ranch,** baz=87	**86.34**	**43**	⇑P	**P**	**04 17 36.1**	**+0.4**
SRU	**San Rafael** comp=Z,6.4nm,0.9s	**86.40**	**46**	*eP*	**P**	**04 17 36.8**	**+0.7**
SRU	**San Rafael** baz=87,SNR=5.2	**86.40**	**46**	⇓P	**P**	**04 17 36.7**	**+0.7**
324A	**Moseley Ranch,** baz=87,SNR=9.4	**86.41**	**55**	⇓P	**P**	**04 17 37.1**	**+0.9**
K14A	**Jones Ranch, D** baz=87	**86.45**	**42**	⇓P	**P**	**04 17 37.0**	**+0.8**
U20A	**Newcomb** baz=87	**86.45**	**49**	⇑P	**P**	**04 17 37.7**	**+1.4**
R18A	**Canyonlands Na** baz=87,SNR=5.4	**86.47**	**47**	⇑P	**P**	**04 17 36.7**	**+0.3**
TRF	**Thorofare Moun** comp=Z,9.7nm,0.8s	**86.49**	**12**	*eP*	**P**	**04 17 33.7**	**-2.1**
425A	**Indio Mountain** baz=87,SNR=8.6	**86.50**	**55**	⇓P	**P**	**04 17 37.8**	**+1.1**
H12A	**Diamond D Ranc** baz=87,SNR=11	**86.50**	**40**	⇑P	**P**	**04 17 36.9**	**+0.5**
G12A	**Big Creek, Yel** baz=87	**86.55**	**39**	⇓P	**P**	**04 17 37.1**	**+0.5**
MNTX	**Cornudas Mount** comp=Z,6.0nm,0.9s	**86.60**	**54**	*eP*	**P**	**04 17 37.8**	**+0.9**
MNTX	**Cornudas Mount** baz=87,SNR=11	**86.60**	**54**	⇓P	**P**	**04 17 38.1**	**+1.1**
I13A	**Wildhorse Cree** baz=87	**86.60**	**40**	⇓P	**P**	**04 17 37.8**	**+0.9**
626A	**Big Bend Ranch** baz=87,SNR=7.9	**86.62**	**57**	⇓P	**P**	**04 17 38.4**	**+1.2**
224A	**Cornudas Mount** baz=87,SNR=6.7	**86.66**	**54**	⇓P	**P**	**04 17 38.7**	**+1.3**
Z23A	**Rita Site, Whi** baz=87	**86.66**	**53**	⇑P	**P**	**04 17 38.5**	**+1.2**
L15A	**Malad City** baz=87	**86.66**	**43**	⇓P	**P**	**04 17 37.8**	**+0.6**
Q18A	**Rafter H Ranch** baz=87	**86.66**	**46**	⇓P	**P**	**04 17 37.8**	**+0.5**
S19A	**Harvey Farm, M** baz=87	**86.68**	**48**	⇓P	**P**	**04 17 38.1**	**+0.6**
325A	**Bean Ranch, Si** baz=87,SNR=8.2	**86.77**	**55**	⇓P	**P**	**04 17 38.8**	**+0.9**
O17A	**Robinson Place** baz=87,SNR=6.9	**86.81**	**45**	⇓P	**P**	**04 17 39.0**	**+1.0**
P18A	**Preston Nutter** baz=87	**86.85**	**46**	⇓P	**P**	**04 17 39.3**	**+1.0**
R19A	**Curley Farm, L** baz=87,SNR=6.9	**86.86**	**47**	⇑P	**P**	**04 17 38.7**	**+0.4**
H13A	**Challis** baz=87,SNR=5.6	**86.87**	**40**	⇑P	**P**	**04 17 39.0**	**+0.8**
TXAR	**Lajitas Array**	**86.89**	**57**	P	**P**	**04 17 39.5**	**+1.0**
TXAR	**Lajitas Array** comp=Z,4.5nm,0.7s,baz=218,slow=6.6,SNR=32	**86.89**	**57**	P	**P**	**04 17 39.5**	**+1.0**
GYA	**Guiyang**	**86.92**	**300**	*eP*	**P**	**04 17 40.0**	**+1.3**
GYA				pP	pP	04 19 23.3	-6.2
GYA				sP	sP	04 20 08.9	-12
GYA				PP	**PP**	**04 21 13.2**	**+2.2**
GYA				S	**ScS**	**04 27 39.2**	**-1.4**
GYA	comp=Z,10.0nm,1.0s			pmax	pmax		
K15A	**Arbon** baz=87	**86.93**	**42**	⇓P	**P**	**04 17 38.7**	**+0.3**
F12A	**Elk City** baz=87,SNR=18	**86.94**	**38**	⇓P	**P**	**04 17 38.8**	**+0.5**
124A	**Stringfield Ra** baz=87	**86.99**	**54**	⇑P	**P**	**04 17 40.2**	**+1.1**
I14A	**Mackay** baz=87,SNR=6.8	**87.02**	**41**	⇑P	**P**	**04 17 39.9**	**+1.1**
U21A	**Nageezi** baz=87	**87.09**	**49**	⇓P	**P**	**04 17 40.3**	**+0.8**
Y23A	**Lovelace Mesa,** baz=87	**87.09**	**52**	⇓P	**P**	**04 17 40.0**	**+0.5**
E12A	**Beaver Dam Sad** baz=87	**87.12**	**38**	⇑P	**P**	**04 17 39.0**	**-0.2**
627A	**Terlingua Ranc** baz=87	**87.16**	**57**	⇑P	**P**	**04 17 41.1**	**+1.3**
G13A	**Cobalt** baz=87,SNR=7.2	**87.17**	**39**	⇑P	**P**	**04 17 39.9**	**+0.4**
426A	**McDonald Obser** baz=87,SNR=9.4	**87.18**	**56**	⇓P	**P**	**04 17 41.0**	**+1.0**
225A	**Deer Hill, Car** baz=87,SNR=7.2	**87.20**	**54**	⇑P	**P**	**04 17 41.1**	**+1.1**
S20A	**Disappointment** baz=88	**87.26**	**48**	⇑P	**P**	**04 17 40.8**	**+0.6**
ANMO	**Albuquerque** comp=Z,11nm,1.4s	**87.26**	**51**	*eP*	**P**	**04 17 40.3**	**0.0**
L16A	**Fish Haven** baz=88	**87.28**	**43**	⇓P	**P**	**04 17 40.4**	**+0.2**
527A	**Woodward Ranch** baz=88	**87.28**	**57**	⇑P	**P**	**04 17 41.3**	**+0.9**
NEW	**Newport** baz=88	**87.30**	**36**	⇓P	**P**	**04 17 40.2**	**+0.3**
Z24A	**Sheeppen Canyo** baz=88	**87.34**	**53**	⇑P	**P**	**04 17 40.3**	**-0.3**
J15A	**Blackfoot** baz=88,SNR=5.5	**87.36**	**42**	⇑P	**P**	**04 17 41.5**	**+1.0**
R20A	**Redvale** baz=88	**87.42**	**48**	⇑P	**P**	**04 17 41.3**	**+0.4**
H14A	**Leadore** baz=88,SNR=5.7	**87.43**	**40**	⇑P	**P**	**04 17 41.7**	**+0.8**
T21A	**Navajo Lake** baz=88	**87.44**	**49**	⇓P	**P**	**04 17 41.7**	**+0.6**
F13A	**Darby** baz=88,SNR=12	**87.49**	**39**	⇓P	**P**	**04 17 41.3**	**+0.3**
C11A	**Tepee Creek (N** baz=88	**87.53**	**36**	⇓P	**P**	**04 17 41.7**	**+0.6**
Y24A	**Capitan** baz=88,SNR=13	**87.55**	**52**	⇓P	**P**	**04 17 42.5**	**+0.8**
628A	**Black Gap, Mar** baz=88	**87.57**	**

	baz=88										
Q20A	**Ridgley Place,**	87.84	47	⇑P		P		04 17 43.5	+0.7		
	baz=88										
MCMT	**McKenzie Canyo**	87.86	40	*e*P		P		04 17 43.6	+0.8		
	comp=Z,5.9nm,1.1s										
M18A	**Lyman**	87.86	44	⇓P		P		04 17 43.8	+0.8		
	baz=88										
H15A	**Lima**	87.87	40	⇑P		P		04 17 43.9	+1.0		
	baz=88,SNR=9.3										
C12B	**Naegeli Ranch,**	87.90	37	⇑P		P		04 17 43.3	+0.6		
	baz=88										
O19A	**Miners Draw (B**	87.93	45	⇑P		P		04 17 43.6	+0.4		
	baz=88										
528A	**Cox Ranch, San**	87.93	57	⇓P		P		04 17 44.4	+1.0		
	baz=88										
K17A	**Gardner Place,**	87.98	43	⇓P		P		04 17 44.1	+0.7		
	baz=88										
RRI2	**Red Ridge**	88.03	42	*e*P		P		04 17 44.7	+0.9		
	comp=Z,9.8nm,1.0s										
P20A	**De Beque**	88.03	46	⇓P		P		04 17 44.2	+0.4		
	baz=88										
126A	**Clayton Basin,**	88.05	54	⇑P		P		04 17 44.5	+0.6		
	baz=88										
F14A	**Wisdom**	88.07	39	⇓P		P		04 17 44.2	+0.4		
	baz=88										
R21A	**Cimarron**	88.08	48	⇓P		P		04 17 44.9	+0.9		
	baz=88,SNR=6.4										
U23A	**El Rito**	88.09	50	⇓P		P		04 17 44.5	+0.4		
	baz=88										
Y25A	**Mesa, Roswell**	88.10	53	⇓P		P		04 17 44.7	+0.5		
	baz=88,SNR=5.7										
D13A	**Huson**	88.13	38	⇓P		P		04 17 44.3	+0.5		
	baz=88										
W24A	**Lazy 6 Ranch,**	88.15	51	⇓P		P		04 17 44.7	+0.3		
	baz=88										
N19A	**John Jarvie Ra**	88.18	45	⇓P		P		04 17 44.8	+0.4		
	baz=88										
I16A	**Newdale**	88.20	41	⇑P		P		04 17 45.7	+1.3		
	baz=88										
COLA	**College**	88.25	12	*e*P		P		04 17 42.3	-1.5		
	comp=Z,11nm,0.8s										
428A	**Kincaid Ranch,**	88.25	56	⇑P		P		04 17 45.5	+0.6		
	baz=88										
G15A	**Dillon**	88.25	40	⇓P		P		04 17 45.5	+0.8		
	baz=88,SNR=15										
B12A	**Libby**	88.26	36	⇓P		P		04 17 45.2	+0.9		
	baz=88										
MSO	**Missoula**	88.28	38	⇑P		P		04 17 44.7	0.0		
	baz=88										
S22A	**4UR Ranch, Cre**	88.29	49	⇓P		P		04 17 45.9	+0.8		
	baz=88										
DLMT	**Dillon**	88.29	40	*e*P		P		04 17 45.2	+0.4		
	comp=Z,12nm,1.1s										
E14A	**Clinton**	88.32	39	⇑P		P		04 17 45.2	+0.3		
	baz=89,SNR=7.4										
REDW	**Red Top Meadow**	88.33	42	*e*P		P		04 17 45.8	+0.7		
	comp=Z,14nm,1.3s										
TPAW	**Teton Pass**	88.33	42	*e*P		P		04 17 46.7	+1.6		
	comp=Z,54nm,2.6s										
ILAR	**Eielson Array**	88.35	13	P		P		04 17 42.8	-1.6		
ILAR	**Eielson Array**	88.35	13	P		P		04 17 42.8	-1.6		
	comp=Z,2.5nm,0.6s,baz=219,slow=5.9,SNR=39										
Z26A	**Caprock**	88.35	54	⇑P		P		04 17 45.9	+0.6		
	baz=89,SNR=7.9										
BSMT	**Bassoo Peak**	88.36	37	*e*P		P		04 17 45.1	0.0		
X25A	**Clemmons Ranch**	88.39	52	⇑P		P		04 17 45.7	+0.2		
	baz=89,SNR=5.7										
XAN	**Xi'an**	88.40	307	P		P		04 17 45.8	+0.4		
XAN				pmax		pmax					
	comp=Z,3.0nm,0.7s										
J17A	**Brown Place, J**	88.42	42	⇓P		P		04 17 46.2	+0.7		
	baz=89,SNR=8.9										
328A	**Wristen Ranch,**	88.43	56	⇑P		P		04 17 46.0	+0.3		
	baz=89,SNR=5.3										
O20A	**White River Ci**	88.44	46	⇑P		P		04 17 46.5	+0.8		
	baz=89										
SNOW	**Snow King Moun**	88.44	42	*e*P		P		04 17 46.4	+0.8		
	comp=Z,14nm,1.1s										
V24A	**Rampart Ranch,**	88.48	51	⇓P		P		04 17 47.6	+1.6		
	baz=89										
A12A	**Yaak River Ran**	88.48	36	⇑P		P		04 17 46.2	+0.7		
	baz=89										
M19A	**Rock Springs**	88.50	44	⇑P		P		04 17 46.4	+0.5		
	baz=89										
T23A	**Casias Ranch,**	88.52	49	⇓P		P		04 17 46.6	+0.5		
	baz=89										
IMW	**Indian Meadow**	88.55	42	*e*P		P		04 17 47.1	+1.0		
	comp=Z,9.4nm,1.0s										
R22A	**Saguache, Gunn**	88.56	48	⇑P		P		04 17 47.0	+0.6		
	baz=89										
127A	**Arkansas Junct**	88.57	54	⇑P		P		04 17 46.8	+0.5		
	baz=89,SNR=7.5										
MOOW	**Moose Ponds**	88.59	42	*e*P		P		04 17 46.5	+0.2		
	comp=Z,48nm,2.8s										
F15A	**Butte**	88.61	39	⇓P		P		04 17 47.0	+0.7		
	baz=89										
LRM	**Limekiln Ridge**	88.62	39	*e*P		P		04 17 47.1	+0.7		
L19A	**Farson**	88.66	44	⇓P		P		04 17 47.1	+0.5		
	baz=89,SNR=5.2										
D14A	**Greenough**	88.67	38	⇓P		P		04 17 46.6	+0.1		
	baz=89										
G16A	**Moss Hill, Enn**	88.70	40	⇓P		P		04 17 47.4	+0.7		
	baz=89,SNR=6.8										
QLMT	**Earthquake Lak**	88.72	41	*e*P		P		04 17 48.3	+1.5		
Q22A	**Crested Butte,**	88.75	48	⇓P		P		04 17 47.8	+0.6		
	baz=89										
N20A	**Spence Gulch,**	88.76	45	⇑P		P		04 17 47.6	+0.4		
	baz=89,SNR=5.7										
H16A	**Russell Place,**	88.77	41	⇓P		P		04 17 48.4	+1.3		
	baz=89,SNR=14										
J18A	**Kendall Valley**	88.78	43	⇓P		P		04 17 47.9	+0.6		
	baz=89,SNR=16										
E15A	**Deer Lodge**	88.83	39	⇑P		P		04 17 47.7	+0.5		
	baz=89										
B13A	**Whitefish**	88.83	37	⇑P		P		04 17 47.1	0.0		
	baz=89										
W25A	**X Bar L Ranch,**	88.85	52	⇓P		P		04 17 47.7	+0.1		
	baz=89,SNR=7.3										
SMCO	**Snowmass**	88.85	47	*e*P		P		04 17 48.4	+0.6		
	comp=Z,4.0nm,1.0s										
BW06	**Boulder Array**	88.86	43	*e*P		P		04 17 47.7	+0.2		
	comp=Z,5.8nm,0.9s										
BW06	**Boulder Array**	88.86	43	⇑P		P		04 17 47.6	0.0		
	baz=89,SNR=5.0										
PDAR	**Pinedale Array**	88.86	43	P		P		04 17 47.6	0.0		
PDAR	**Pinedale Array**	88.86	43	P		P		04 17 47.6	0.0		
	comp=Z,4.3nm,0.8s,baz=216,slow=3.1,SNR=21										
C14A	**Swan Lake**	88.90	37	⇑P		P		04 17 47.2	-0.3		
	baz=89										
YMR	**Madison River**	88.92	41	*e*P		P		04 17 47.9	0.0		
	comp=Z,6.3nm,0.8s										
Z27A	**Tatum**	88.95	54	⇑P		P		04 17 48.1	0.0		
	baz=89										
V25A	**Rancho No Teng**	89.01	51	⇓P		P		04 17 48.9	+0.5		
	baz=89										
BOZ	**Bozeman (W)**	89.02	40	*e*P		P		04 17 48.9	+0.7		
	comp=Z,6.5nm,0.9s										
BOZ	**Bozeman (W)**	89.02	40	⇓P		P		04 17 48.8	+0.7		
	baz=89,SNR=7.6										
H17A	**Grant Village**	89.03	41	⇓P		P		04 17 49.8	+1.5		
	baz=89										
X26A	**CR and CF Fran**	89.03	52	⇓P		P		04 17 48.5	0.0		
	baz=89										
F16A	**Kennard Place,**	89.09	40	⇑P		P		04 17 49.1	+0.7		
	baz=89,SNR=6.0										
M20A	**Sweetwater, Wa**	89.13	45	⇑P		P		04 17 49.7	+0.8		
	baz=89										
A13A	**Flathead Natio**	89.16	36	⇑P		P		04 17 49.7	+1.0		
	baz=89										
LKWY	**Lake**	89.22	41	*e*P		P		04 17 51.4	+2.2		
	comp=Z,11nm,1.0s										
D15A	**Lincoln**	89.22	38	⇓P		P		04 17 49.1	+0.1		
	baz=90										
SDCO	**Great Sand Dun**	89.22	49	⇑P		P		04 17 49.7	+0.2		
	baz=89										
N21A	**Black Mountain**	89.22	46	⇓P		P		04 17 50.1	+0.8		
	baz=90,SNR=5.3										
Y27A	**Causey**	89.23	53	⇑P		P		04 17 49.6	+0.2		
	baz=89,SNR=5.1										
L20A	**Wamsutter**	89.27	44	⇑P		P		04 17 50.3	+0.8		
	baz=90,SNR=6.5										
K19A	**Absolon Red Bu**	89.34	43	⇓P		P		04 17 49.8	0.0		
	baz=90										
S24A	**Houchin Ranch,**	89.38	49	⇑P		P		04 17 50.8	+0.6		
	baz=90										
G17A	**Pierce Place,**	89.39	40	⇓P		P		04 17 51.2	+1.4		
	baz=90										
U25A	**Circle Dot Ran**	89.41	51	⇓P		P		04 17 50.8	+0.6		
	baz=90										
J19A	**Crowheart**	89.42	43	⇓P		P		04 17 50.3	+0.2		
	baz=90,SNR=5.7										
E16A	**East Helena**	89.45	39	⇓P		P		04 17 50.5	+0.4		
	baz=90										
HRY	**Holter Researc**	89.45	39	*e*P		P		04 17 50.7	+0.6		
HRY				*e*PKKPbc		PKKPbc		04 35 33.8	+10		
B14A	**Marquette Ranc**	89.49	37	⇑P		P		04 17 50.6	+0.3		
	baz=90										
C15A	**Salmond Ranch,**	89.56	38	⇑P		P		04 17 50.6	0.0		
	baz=90										
MSTX	**Muleshoe**	89.56	53	⇑P		P		04 17 51.1	+0.2		
	baz=90										
Z28A	**Tucker Farm, M**	89.56	54	⇑P		P		04 17 51.0	+0.1		
	baz=90										
K20A	**Yellowstone Ra**	89.58	44	⇑P		P		04 17 50.7	-0.2		
	baz=90,SNR=5.4										
O22A	**Kremmling**	89.60	47	⇑P		P		04 17 51.8	+0.6		
	baz=90										
HHC	**Hu-ho-hao-te**	89.61	314	*e*P		P		04 17 53.5	+2.6		
HHC				pP		pP		04 19 36.4	-6.0		
HHC				sP		sP		04 20 19.5	-14		
HHC				PP		**PP**		**04 21 35.4**	**+3.5**		
HHC				SKS		**SKSac**		**04 27 39.6**	**+6.3**		
HHC				S		**ScS**		**04 28 05.6**	**+3.3**		
HHC				sS		sS		04 31 04.2	-14		
HHC				pmax		pmax					
	comp=Z,9.0nm,0.6s										
X27A	**F and S Farms,**	89.61	53	⇓P		P		04 17 51.5	+0.4		
	baz=90										
EGAK	**Eagle**	89.63	15	*e*P		P		04 17 49.8	-0.5		
	comp=Z,9.0nm,0.9s										
129A	**Stewart Farms,**	89.69	55	⇑P		P		04 17 51.8	+0.3		
	baz=90										
R24A	**Sanders Place,**	89.72	49	⇓P		P		04 17 52.5	+0.9		
	baz=90										
P23A	**Jefferson**	89.72	47	⇓P		P		04 17 52.7	+0.9		
	baz=90										
M21A	**Separation Pea**	89.72	45	⇓P		P		04 17 51.9	+0.2		
	baz=90,SNR=6.1										
H18A	**Shoshone NF, C**	89.73	41	⇓P		P		04 17 52.6	+1.1		
	baz=90										
A14A	**Double T Ranch**	89.73	36	⇓P		P		04 17 51.6	+0.2		
	baz=90,SNR=8.1										
F17A	**Fitzpatrick Pl**	89.74	40	⇓P		P		04 17 52.6	+1.1		
	baz=90										
D16A	**Dana Ranch, Ca**	89.78	39	⇓P		P		04 17 52.0	+0.4		
	baz=90										
I19A	**Meeteetse**	89.83	42	⇑P		P		04 17 52.7	+0.6		
	baz=90,SNR=5.4										
B15A	**Bradely Ranch,**	89.87	37	⇑P		P		04 17 52.1	+0.1		
	baz=90										
U26A	**Atchley Ranch,**	89.89	51	⇓P		P		04 17 52.5	0.0		
	baz=90										
L21A	**Rawlins**	89.89	45	⇑P		P		04 17 52.7	+0.4		
	baz=90										
E17A	**Martinsdale**	89.90	39	⇓P		P		04 17 53.1	+0.8		
	baz=90										
COLD	**Coldfoot**	89.92	10	*e*P		P		04 17 51.9	+0.3		
	comp=Z,7.8nm,1.1s										
Y28A	**McKinney Farm,**	89.93	54	⇓P		P		04 17 53.1	+0.5		
	baz=90										
S25A	**Robets Cordova**	89.94	49	⇑P		P		04 17 53.0	+0.4		
	baz=90										
N22A	**Wattenberg Ran**	89.96	46	⇑P		P		04 17 53.6	+0.8		
	baz=90,SNR=6.3										
O23A	**Lake Granby, G**	90.05	47	⇓P		P		04 17 54.0	+0.7		
	baz=90										
C16A	**Fuhringer Ranc**	90.07	38	⇑P		P		04 17 53.0	+0.1		
	baz=90										
Z29A	**Hungry Hill Ra**	90.07	54	⇓P		P		04 17 54.0	+0.8		
	baz=90										
J20A	**Shoshoni**	90.08	43	⇓P		P		04 17 53.8	+0.7		
	baz=90,SNR=5.7										
G18A	**Lazy EL Ranch,**	90.11	41	⇑P		P		04 17 54.2	+0.9		
	baz=90										
A15A	**Johnson Ranch,**	90.12	37	⇑P		P		04 17 53.3	+0.2		
	baz=90										
M22A	**Cedar Creek Ra**	90.14	45	⇑P		P		04 17 53.9	+0.4		
	baz=90										
H19A	**Powell**	90.15	42	⇓P		P		04 17 54.3	+0.9		
	baz=90										
RLMT	**Red Lodge**	90.20	41	*e*P		P		04 17 54.7	+1.0		
	comp=Z,6.4nm,1.0s										
RLMT	**Red Lodge**	90.20	41	⇑P		P		04 17 54.7	+1.0		
	baz=90										
X28A	**Dimmitt**	90.22	53	⇓P		P		04 17 54.4	+0.5		
	baz=90										
R25A	**Fountain Ranch**	90.26	49	⇑P		P		04 17 54.2	+0.1		
	baz=90										
K21A	**Alcova**	90.28	44	⇑P		P		04 17 54.3	+0.1		
	baz=90,SNR=5.4										
F18A	**Big Timber**	90.31	40	⇑P		P		04 17 55.1	+1.0		
	baz=90										
T26A	**Comanche Natio**	90.33	50	⇓P		P		04 17 54.9	+0.4		
	baz=90										
I20A	**Worland**	90.34	43	⇑P		P		04 17 54.7	+0.4		
	baz=91										
N23A	**Red Feather La**	90.34	46	⇓P		P		04 17 55.3	+0.8		
	baz=91										
Y29A	**Porterfield Fa**	90.35	54	⇓P		P		04 17 55.0	+0.4		
	baz=91										
D17A	**Six Diamond Ra**	90.35	39	⇓P		P		04 17 55.1	+0.8		
	baz=91,SNR=6.1										
CMAR	**Chiang Mai Arr**	90.39	289	P		P		04 17 56.2	+1.3		
CMAR	**Chiang Mai Arr**	90.39	289	P		P		04 17 56.2	+1.3		
	comp=Z,2.3nm,0.4s,baz=118,slow=3.0,SNR=14										
B16A	**M & M Farms, S**	90.41	37	⇑P		P		04 17 54.5	0.0		
	baz=91										
JCT	**Junction City**	90.42	58	⇓P		P		04 17 54.7	-0.1		
	baz=91										
J21A	**Lysite**	90.49	43	⇑P		P		04 17 55.7	+0.6		
	baz=91,SNR=7.9										
E18A	**Harlowton**	90.52	40	⇓P		P		04 17 56.2	+1.2		
	baz=91										
CHTO	**Chiang Mai**	90.52	290	*e*P		P		04 17 56.0	+0.4		
	comp=Z,6.3nm,0.8s										
L22A	**Ellis Ranch, M**	90.54	45	⇓P		P		04 17 56.1	+0.7		
	baz=91										
C17A	**Wharram Farm,**	90.55	38	⇑P		P		04 17 55.5	+0.4		
	baz=91,SNR=8.7										
X29A	**Tulia**	90.57	53	⇑P		P		04 17 56.1	+0.6		
	baz=91										
S26A	**Kim**	90.61	50	⇓P		P		04 17 56.0	+0.3		
	baz=91,SNR=5.1										
Q25A	**Bedland, Calha**	90.62	48	⇑P		P		04 17 56.1	+0.2		
	baz=91										
H20A	**Greybull**	90.68	42	⇓P		P		04 17 56.4	+0.6		
	baz=91										
V28A	**Channing**	90.72	52	⇑P		P		04 17 56.6	+0.4		
	baz=91										
A16A	**West Butte Ran**	90.75	37	⇓P		P		04 17 56.3	+0.3		
	baz=91,SNR=9.4										
F19A	**Roth Farm, Mol**	90.75	41	⇓P		P		04 17 56.4	+0.3		
	baz=91										
AMTX	**Amarillo**	90.76	53	⇑P		P		04 17 56.8	+0.4		
	baz=91										
K22A	**Casper**	90.76	44	⇑P		P		04 17 56.4	+0.1		
	baz=91										
I21A	**Big Trails, Te**	90.81	43	⇓P		P		04 17 56.6	+0.1		
	baz=91,SNR=7.6										
B17A	**L&G Farms, Che**	90.86	38	⇓P		P		04 17 57.0	+0.5		
	baz=91										
G20A	**Bridger**	90.89	41	⇓P		P		04 17 57.3	+0.5		
	baz=91										
T27A	**Campo**	90.91	51	⇓P		P		04 17 57.3	+0.2		
	baz=91										
R26A	**Arlington**	90.92	49	⇑P		P		04 17 57.3	+0.2		
	baz=91										
CD2	**Chengdu**	91.06	303	P		P		04 17 58.7	+0.9		
CD2				pmax		pmax					
	comp=Z,10.0nm,0.5s										
L23A	**Garrett**	91.06	45	⇑P		P		04 17 58.0	+0.2		
	baz=91,SNR=5.2										
J22A	**Midwest**	91.14	44	⇑P		P		04 17 58.2	+0.2		
	baz=91,SNR=5.4										
H21A	**Big Horn, Sher**	91.35	42	⇓P		P		04 17 59.8	+0.9		
	baz=92										
I22A	**9 Mile Ranch,**	91.36	43	⇓P		P		04 17 59.5	+0.5		
	baz=92										
T28A	**Walsh**	91.38	51	⇓P		P		04 17 59.2	0.0		
	baz=92										
K23A	**Bowen Ranch, D**	91.40	45	⇓P		P		04 17 59.4	+0.2		
	baz=92										
D19A	**Cripps Ranch,**	91.43	40	⇑P		P		04 18 00.1	+0.9		
	baz=92										
B18A	**Beardsley Farm**	91.50	38	⇓P		P		04 18 00.0	+0.6		
	baz=92										
P26A	**Davis Ranch, A**	91.54	48	⇑P		P		04 18 00.7	+0.8		
	baz=92										
L24A	**Wheatland**	91.54	45	⇑P		P		04 18 00.8	+0.9		
	baz=92										
C19A	**Slack Wire Ran**	91.61	39	⇓P		P		04 18 01.0	+1.0		
	baz=92										
A18A	**Metzger Ranch,**	91.73	38	⇑P		P		04 18 01.1	+0.6		
	baz=92										
KSCO	**Kaye Shedlock'**	91.81	49	⇑P		P		04 18 02.0	+0.9		
	baz=92										
D20A	**Manuel Ranch,**	91.84	40	⇑P		P		04 18 02.0	+1.0		
	baz=92										
C20A	**Veseth Ranch,**	92.21	39	⇑P		P		04 18 03.5	+0.8		
	baz=92,SNR=5.0										
E21A	**Keefer Ranch,**	92.22	41	⇑P		P		04 18 04.1	+1.3		
	baz=92										
A19A	**Klindworth Far**	92.36	38	⇓P		P		04 18 03.7	+0.2		
	baz=93										
D21A	**La Casta Ranch**	92.52	40	⇓P		P		04 18 05.0	+0.9		
	baz=93										
C21A	**Desert Coulee**	92.81	40	⇑P		P		04 18 06.0	+0.6		
	baz=93										
A20A	**Cobblestone Ra**	92.81	38	⇑P		P		04 18 05.9	+0.4		
	baz=93,SNR=6.7										
H24A	**Dirks Ranch, A**	92.99	43	⇓P		P		04 18 06.7	+0.3		
	baz=93										
LZH	**Lanzhou**	93.03	307	*e*P		P		04 18 07.8	+0.9		
LZH				pP		**pP**		04 19 55.5	-3.2		
LZH				pmax		pmax					
	comp=Z,15nm,1.0s										
RSSD	**Black Hills**	93.04	44	*e*P		P		04 18 06.9	+0.1		
	comp=Z,7.2nm,1.1s										
B21A	**Ellsworth Farm**	93.14	39	⇓P		P		04 18 07.7	+0.8		
	baz=93										
A21A	**Bergtoll Ranch**	93.45	39	⇑P		P		04 18 09.2	+0.8		
	baz=94										
C23A	**Lambert**	93.94	40	⇑P		P		04 18 11.3	+0.6		
	baz=94										
A22A	**Carney Farms,**	94.04	39	⇓P		P		04 18 11.6	+0.6		
	baz=94										
B23A	**Brockton**	94.35	40	⇓P		P		04 18 13.5	+1.0		
	baz=95										
YKA	**Yellowknife Ar**	96.49	25	P		P		04 18 20.8	-1.0		
YKA	**Yellowknife Ar**	96.49	25	P		P		04 18 20.7	-1.0		
	comp=Z,0.3nm,0.7s,baz=243,slow=4.2,SNR=5.6										
LVC	**Limon Verde**	98.36	118	*e*PP		PP		04 22 48.4	+9.1		
ACSO	**Alum Creek Sta**	106.52	53	*e*Pdif		**Pdif**		**04 19 03.9**	**-3.0**		
ACSO				*e*PKKPbc		**PKKPbc**		**04 34 37.1**	**+0.8**		
LHS	**Liberty Hill**	106.87	59	*e*PKKPbc		PKKPbc		04 34 39.3	+4.3		
ZALV	**Zalesovo Beam**	110.73	321	PKiKP		**PKiKP**		**04 23 19.6**	**-2.5**		
ZALV	**Zalesovo Beam**	110.73	321	PKiKP		**PKiKP**		**04 23 19.6**	**-2.5**		
	comp=Z,1.1nm,0.6s,baz=288,slow=0.9,SNR=6.0										
MKAR	**Makanchi Array**	111.45	313	PKiKP		**PKiKP**		**04 23 22.1**	**-1.8**		
MKAR	**Makanchi Array**	111.45	313	PKiKP		**PKiKP**		**04 23 22.1**	**-1.8**		
	comp=Z,1.3nm,0.7s,baz=69,slow=1.3,SNR=12										
KURK	**Kurchatov**	114.24	317	*e*PP		PP		04 24 34.1	+0.2		
KSH	**Kashi**	115.16	305	*e*PKP		**PKPdf**		**04 23 28.0**	**-3.3**		
KSH				PP		**PP**		**04 24 42.0**	**+1.2**		
KSH				sPKP				04 26 08.2			
KSH				PKS		PKSdf		04 27 02.8	-5.2		
KSH				SS		SS		04 40 01.2	+1.4		
BVAR	**Borovoye Array**	119.32	320	PKP		**PKPdf**		**04 23 37.4**	**-1.3**		
BVAR	**Borovoye Array**	119.32	320	PKP		**PKPdf**		**04 23 37.4**	**-1.3**		
	comp=Z,2.8nm,0.6s,baz=46,slow=1.1,SNR=12										
ARU	**Arti**	125.43	325	*e*PKPdf		**PKPdf**		**04 23 49.3**	**-0.9**		
ARCES	**ARCESS Array B**	129.06	350	PKP		**PKPdf**		**04 23 56.0**	**-0.9**		
ARCES	**ARCESS Array B**	129.06	350	PKP		**PKPdf**		**04 23 56.0**	**-0.9**		
	comp=Z,3.5nm,0.8s,baz=59,slow=1.5,SNR=16										
FINES	**FINESS Array B**	135.94	344	PKP		**PKPdf**		**04 24 09.4**	**-0.6**		
FIN

DBIC	**Dimbokro**	**164.53 152**	PKP	**PKPdf**	**04 24 52.6**	**-1.2**
DBIC			PKPab	**PKPab**	**04 25 52.3**	**+0.4**
DBIC	**Dimbokro**	**164.53 152**	PKP	**PKPdf**	**04 24 52.6**	**-1.2**
	comp=Z,3.5nm,0.9s,baz=142,slow=1.5,SNR=3.2					
DBIC			PKPab	**PKPab**	**04 25 52.3**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=135,slow=4.9,SNR=3.1					
TOA0	**Torodi Ar. Sit**	**172.57 176**	*e*PKPdf	**PKPdf**	**04 24 57.7**	**-1.2**
TORD	**Torodi Ar. Bea**	**172.57 176**	PKP	**PKPdf**	**04 24 57.3**	**-1.6**
TORD			PKPab	**PKPab**	**04 26 27.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**172.57 176**	PKP	**PKPdf**	**04 24 57.3**	**-1.6**
	comp=Z,2.3nm,0.9s,baz=277,slow=0.3,SNR=9.3					
TORD			PKPab	**PKPab**	**04 26 27.4**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=189,slow=3.7,SNR=7.0					

IDC 12 04:06:31.8±1.2, 3.°94N×126.°89E, h0km, mb4.0/8, mb1 4.2/8, mb1mx3.9/21, mbtmp4.0/8, Error ellipse: s-maj=107.6km s-min=15.2km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.94 183**		P	P	04 11 27.7	+0.6
	2.4nm,0.6s,baz=12,slow=14,SNR=5.3						
WRA	**Warramunga Arr**	**24.84 163**		P	P	04 11 55.7	-0.3
	8.3nm,0.6s						
ASAR	**Alice Springs**	**28.28 166**		P	P	04 12 26.6	-0.5
	0.5nm,0.6s,baz=353,slow=7.0,SNR=3.6						
STKA	**Stephens Creek**	**38.27 160**		P	P	04 13 54.3	+0.3
	4.5nm,0.7s,baz=352,slow=5.9,SNR=5.9						
SONM	**Songino Array**	**47.15 341**		P	P	04 15 06.8	+0.8
	0.3nm,0.6s,baz=148,slow=8.5,SNR=3.6						
MKAR	**Makanchi Array**	**57.47 325**		P	P	04 16 22.6	-0.1
	0.6nm,0.3s,baz=122,slow=8.1,SNR=12						
ZALV	**Zalesovo Beam**	**60.47 333**		P	P	04 16 42.4	-0.9
	0.5nm,0.3s,baz=139,slow=6.8,SNR=3.8						
KURBB	**Kurchatov Arra**	**61.65 327**		P	P	04 16 51.5	+0.1
	1.6nm,0.6s,baz=125,slow=6.1,SNR=7.4						

IDC 12 04:14:15.1±0.9, 3.°87N×126.°44E, h0km, mb3.9/8, mb1 3.9/8, mb1mx3.8/20, mbtmp3.9/8, Error ellipse: s-maj=73.9km s-min=14.8km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.85 182**		P	P	04 19 08.8	-0.6
	7.1nm,1.2s,baz=8.3,slow=7.7,SNR=3.0						
WRA	**Warramunga Arr**	**24.90 162**		P	P	04 19 39.8	-0.2
	2µm,0.3s,baz=48,slow=0.0,SNR=11						
ASAR	**Alice Springs**	**28.32 165**		P	P	04 20 10.3	-0.5
	0.3nm,0.4s,baz=351,slow=15,SNR=2.8						
KSRS	**Korea Array**	**33.45**	**2**	P	P	04 20 55.3	-0.6
	1.6nm,0.8s,baz=182,slow=8.2,SNR=4.8						
STKA	**Stephens Creek**	**38.36 159**		P	P	04 21 38.9	+0.8
	2.8nm,0.6s,baz=281,slow=5.7,SNR=5.1						
SONM	**Songino Array**	**47.08 342**		P	P	04 22 48.3	-0.5
	0.5nm,0.6s,baz=165,slow=8.2,SNR=6.9						
MKAR	**Makanchi Array**	**57.28 325**		P	P	04 24 04.3	-0.3
	0.6nm,0.4s,baz=117,slow=8.0,SNR=14						
ZALV	**Zalesovo Beam**	**60.33 333**		P	P	04 24 26.0	+0.3
	0.4nm,0.3s,baz=130,slow=8.3,SNR=3.3						
BVAR	**Borovoye Array**	**67.05 327**		P	P	04 25 10.8	+0.7
	0.9nm,0.8s,baz=120,slow=8.8,SNR=4.3						

*IDC **12** 04:16:34.4±0.4, 3.°68N×126.°35E, h0km, mb4.9/26, mb1 4.9/26, mb1mx4.9/27, mbtmp4.9/26, MS4.4/1, Ms1 4.4/1, ms1mx3.5/34, Error ellipse: s-maj=17.6km s-min=10.2km az=77.0*

*ISCJB **12** 04:16:38.0±0.2, 3.°84N±0.°03×126.°72E±0.°04, h33km, mb5.1/114, MS4.8/8, Error ellipse: s-maj=5.3km s-min=3.5km az=169.4*

*MOS **12** 04:16:38.1±0.9, 3.°71N×126.°40E, h33km, mb5.4/33, Error ellipse: s-maj=13.0km s-min=5.5km az=118.4*

*BJI **12** 04:16:38.2, 3.°68N×126.°51E, h39km, mB5.7/16, mb5.1/49, Ms5.1/23, Ms7 4.8/21*

*NEIC **12** 04:16:39.6±0.2, 3.°75N×126.°50E, h35km, mb5.2/43, Error ellipse: s-maj=7.8km s-min=4.2km az=73.0*

*DJA **12** 04:16:50, 3.°14N×126.°67E, h20km, MLv5.2/6*

ISC 12 04:16:39.8±0.4, 3.°73N±0.°03×126.°52E±0.°06, h33km±1km, n335, σ1§48/362, mb5.2/112, MS4.9/8, 15C-21D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.81 326**		*e*P	**Pb**	**04 17 27.0**	**-2.5**
GSPH				*e*S	**Sb**	**04 18 00.5**	**-3.1**
MNI	**Manado**	**2.83 217**		P	**Pb**	**04 17 29.2**	**-0.5**
TNTI	**Ternate**	**3.06 164**		P	**Pn**	**04 17 28.8**	**+2.9**
MATI	**Mati**	**3.20 355**		*e*P	Pb	04 17 31.6	-4.5
DAV	**Davao City (W)**	**3.44 344**		*e*Pn	**Pn**	**04 17 31.3**	**+0.1**
DAV	**Davao City (W)**	**3.44 344**		P	Pb	04 17 51.3	+11
DAV	**Davao City (W)**	**3.44 344**		Pn	**Pn**	**04 17 33.9**	**+2.7**
	54nm,0.3s,baz=135,slow=14,SNR=3.2						
DAV				LR	LR	04 18 22.4	
	comp=Z,6µm,19.0s,baz=111,slow=31						
DMPH	**Davao City--Mi**	**3.48 343**↓		*e*P	Pn	04 17 35.1	+3.5
DMPH				*i* S	**Sb**	**04 18 27.9**	**+5.4**
KCP	**Kidapawan**	**3.55 336**↓		*i* P	**Pb**	**04 17 41.1**	**-0.9**
KCP				*i* S	**Sb**	**04 18 23.5**	**-1.3**
KMSI	**Cibinong**	**4.04 219**		P	**Pb**	**04 17 48.1**	**-2.1**
BUKP	**Musuan**	**4.37 341**		*e*P	Pn	04 17 47.5	+3.6
CGP	**Cagayan de Oro**	**5.03 339**↑		*e*P	Pn	04 17 57.5	+4.5
CGP				*e*S	Sn	04 18 57.4	+7.4
MRSI	**Marisa**	**5.61 235**		P	Pn	04 18 07.8	+6.9
	686nm,1.0s,7µm1.9nm						
IPIL	**Ipil**	**5.63 316**		*e*P	Pn	04 18 05.4	+4.2
LUWI	**Luwuk**	**6.05 218**		P	Pb	04 18 17.1	-7.4
	855nm,0.9s,8µm3.5nm						
MSLP	**Maasin**	**6.57 346**		*e*P	Pn	04 18 19.7	+5.6
SWI	**Sorong**	**6.58 134**		P	Pb	04 18 27.3	-6.2
NLAI	**Namlea**	**6.95 175**		P	**Pn**	**04 18 22.5**	**+3.2**
	144nm,0.7s,3µm0.9nm						
MSAI	**Masohi**	**7.43 161**		P	Pn	04 18 32.3	+6.3
	23nm,1.4s						
KDI	**Kendari**	**8.58 207**		P	Pn	04 18 47.3	+5.6
	84nm,0.8s,0.3nm						
TSM	**Tawau**	**8.65 274**		P	Pn	04 18 47.8	+5.1
FAKI	**Fak Fak**	**8.74 139**		P	**Pn**	**04 18 46.7**	**+2.7**
	170nm,0.9s,0.7nm						
SDKM	**Sandakan**	**9.49 282**		P	Pn	04 19 00.1	+5.8
TTSI	**Tana Toraja**	**9.50 225**		P	Pn	04 19 02.2	+7.9
	156nm,1.1s,4µm						
KDM	**Kudat**	**10.15 289**		P	Pn	04 19 09.8	+6.5
SPSI	**Sidrap Palu**	**10.20 222**		P	Pn	04 19 14.5	+11
	60nm,1.1s,1µm						
KKM	**Kota Kinabalu**	**10.52 283**		*e*Pn	Pn	04 19 16.0	+7.4
KKM	**Kota Kinabalu**	**10.52 283**		P	Pn	04 19 15.9	+7.4
KKM	**Kota Kinabalu**	**10.52 283**		P	Pn	04 19 16.1	+7.6
	69nm,1.0s						
BAKI	**Biak**	**10.76 117**		P	Pn	04 19 15.7	+4.1
	191nm,1.1s						
TLE	**Tual**	**11.19 146**		P	Pn	04 19 22.4	+4.9
	166nm,1.1s						
KBKI	**Kotabaru**	**12.49 236**		P	P	04 19 59.2	+13
MMRI	**Maumere**	**13.01 199**		P	P	04 20 02.4	+10
BTM	**Bintulu**	**13.43 268**		P	**P**	**04 19 55.8**	**-1.3**
BBKI	**Banjar Baru**	**13.69 239**		P	**P**	**04 20 01.3**	**+1.3**
	180nm,1.1s,4µm						
SBUM	**Sibu**	**14.34 265**		P	**P**	**04 20 07.2**	**0.0**
SBUM	**Sibu**	**14.34 265**		P	**P**	**04 20 07.3**	**+0.1**
	121nm,1.0s						
STKI	**Sintang**	**15.47 257**		P	**P**	**04 20 24.4**	**+4.6**
	129nm,0.8s,15µm						
KHKI	**Kahang-Kahang**	**16.22 222**		P	P	04 20 33.0	+4.9
	104nm,1.3s						
KSM	**Kuching**	**16.35 263**		*e*Pn	**P**	**04 20 33.0**	**+3.4**
	106nm,0.9s						
KSM	**Kuching**	**16.35 263**		P	**P**	**04 20 33.4**	**+3.8**
KSM	**Kuching**	**16.35 263**		P	**P**	**04 20 33.4**	**+3.8**
	130nm,1.0s						
BLJI	**Banyuglugur**	**17.22 229**		P	P	04 20 48.1	+8.9
JAGI	**Jajag, Banyuwa**	**17.30 225**		P	P	04 20 45.4	+5.3
	128nm,1.1s						
GMJI	**Gumukmas**	**17.68 228**		P	P	04 20 51.9	+7.7
	182nm,1.0s						
SJI	**Sawahan**	**18.62 232**		P	**Pn**	**04 20 58.6**	**+3.4**
	82nm,1.0s						
KNRA	**Kununurra**	**19.41 173**		*e*P	**P**	**04 21 03.5**	**+0.2**
	234nm,0.4s						
TWG	**Pinlang**	**19.70 345**		*e*P	**P**	**04 21 04.7**	**-1.7**
	38nm,0.5s						
YULB	**Yu-li**	**20.19 346**		*e*P	**P**	**04 21 09.9**	**-1.9**
	29nm,0.6s						
TPUB	**Ta-pu**	**20.27 344**		*e*P	**P**	**04 21 11.6**	**-1.1**
	131nm,0.8s						
SSLB	**Suanglung**	**20.65 345**		*e*P	**P**	**04 21 14.1**	**-2.7**
	79nm,0.9s						
PPBI	**Pangkal Pinang**	**21.20 254**		P	**P**	**04 21 26.2**	**+3.4**
YHNB	**Yeheng**	**21.40 347**		*e*P	**P**	**04 21 23.2**	**-1.7**
	43nm,0.7s						
LEM	**Lembang**	**21.59 241**		P	**P**	**04 21 30.8**	**+3.6**
	122nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.71 182**		*e*P	**P**	**04 21 28.4**	**+0.2**
	18nm,0.7s						
FITZ				*e*S	**S**	**04 25 22.8**	**-4.1**
FITZ	**Fitzroy Crossi**	**21.71 182**		*e*P	**P**	**04 21 28.8**	**+0.6**
	22nm,0.5s						
FITZ				*e*S	**S**	**04 25 23.0**	**-3.9**
FITZ	**Fitzroy Crossi**	**21.71 182**		P	**P**	**04 21 26.9**	**-1.3**
	14nm,0.6s,baz=15,slow=8.9,SNR=23						
CNJI	**Cibinong**	**22.25 240**		P	**P**	**04 21 35.9**	**+1.9**
	148nm,1.0s						
QZH	**Quanzhou**	**22.43 341**		P	**P**	**04 21 31.8**	**-4.0**
QZH				pmax	pmax		
	comp=Z,100nm,0.8s						
MYKOM	**Kota Tinggi**	**22.73 266**		P	**P**	**04 21 41.2**	**+2.0**
MYKOM	**Kota Tinggi**	**22.73 266**		P	**P**	**04 21 41.6**	**+2.4**
	comp=Z,47nm,1.1s						
JOW	**Kunigami**	**23.03**	**4**	*e*P	**P**	**04 21 43.0**	**+0.9**
JOW	**Kunigami**	**23.03**	**4**	P	**P**	**04 21 42.5**	**+0.4**
	comp=Z,32nm,0.7s,baz=182,slow=12,SNR=7.0						
CGJI	**Cibinong**	**23.20 244**		P	**P**	**04 21 44.6**	**+0.6**
	comp=Z,250nm,0.8s,comp=Z,13µm						
KGM	**Kluang**	**23.24 266**		P	**P**	**04 21 46.1**	**+1.7**
KTGM	**Kuala Trenggan**	**23.37 275**		P	**P**	**04 21 47.0**	**+1.3**
KASI	**Kota Agung**	**23.84 247**		P	**P**	**04 21 53.9**	**+3.7**
	comp=Z,131nm,0.9s						
LWLI	**Liwa**	**24.07 249**		P	**P**	**04 21 55.1**	**+2.7**
	comp=Z,213nm,0.8s						
COEN	**Coen**	**24.12 137**		*e*P	**P**	**04 21 51.2**	**-1.5**
	comp=Z,111nm,0.9s						
PMG	**Port Moresby**	**24.36 123**		*e*P	**P**	**04 21 53.7**	**-1.2**
	comp=Z,10nm,0.8s						
PMG	**Port Moresby**	**24.36 123**		P	**P**	**04 21 54.5**	**-0.5**
	comp=Z,4.3nm,0.5s,baz=275,slow=16,SNR=4.8						
WRAB	**Tennant Creek**	**24.75 162**		*e*P	**P**	**04 21 57.7**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,105nm,0.8s						
WRAB	**Tennant Creek**	**24.75 162**		*e*P	**P**	**04 21 57.7**	**-0.7**
	comp=Z,105nm,0.8s						
WRA	**Warramunga Arr**	**24.75 162**		P	**P**	**04 21 57.7**	**-0.8**
WRA	**Warramunga Arr**	**24.75 162**		P	**P**	**04 21 57.7**	**-0.8**
	comp=Z,1µm,0.3s,baz=217,slow=0.1,SNR=9.6						
FRIM	**Kepong**	**24.86 270**		P	**P**	**04 22 02.0**	**+2.5**
IPM	**Ipoh**	**25.44 273**		*e*P	**P**	**04 22 05.2**	**+0.3**
	comp=Z,35nm,0.9s						
IPM	**Ipoh**	**25.44 273**		P	**P**	**04 22 05.9**	**+1.0**
IPM	**Ipoh**	**25.44 273**		P	**P**	**04 22 08.8**	**+3.9**
	comp=Z,86nm,0.8s						
MBWA	**Marble Bar**	**25.62 195**		*e*P	**P**	**04 22 06.9**	**+0.6**
	comp=Z,32nm,0.9s						
MBWA	**Marble Bar**	**25.62 195**		*e*P	**P**	**04 22 07.3**	**+1.0**
BKNI	**Bangkinang**	**25.69 263**		P	**P**	**04 22 09.1**	**+2.0**
	comp=Z,102nm,0.9s						
PPI	**Padang Panjang**	**26.44 261**		P	P	04 22 19.2	+5.3
	comp=Z,39nm,0.8s						
MNSI	**Mandailing Nat**	**27.08 264**		P	**P**	**04 22 21.5**	**+1.9**
	comp=Z,40nm,0.8s						
PSI	**Prapat**	**27.57 269**		P	**P**	**04 22 22.4**	**-1.8**
PSI	**Prapat**	**27.57 269**		P	**P**	**04 22 25.6**	**+1.4**
	comp=Z,70nm,1.0s						
PSI	**Prapat**	**27.57 269**		P	**P**	**04 22 22.4**	**-1.8**
	comp=Z,28nm,0.8s,baz=107,slow=3.6,SNR=19						
AS31	**Alice Springs**	**28.17 166**		*e*P	**P**	**04 22 29.2**	**-0.1**
ASAR	**Alice Springs**	**28.17 166**		P	**P**	**04 22 28.9**	**-0.4**
ASAR				S	**S**	**04 27 13.2**	**+0.5**
ASAR	**Alice Springs**	**28.17 166**		P	**P**	**04 22 28.9**	**-0.4**
	comp=Z,4.0nm,0.6s,baz=342,slow=6.5,SNR=25						
ASAR				S	**S**	**04 27 13.2**	**+0.5**
	comp=Z,2.6nm,0.9s,baz=352,slow=24,SNR=4.3						
GSI	**Gunungsitoli**	**29.02 266**		P	**P**	**04 22 37.3**	**+0.3**
	comp=Z,55nm,0.8s						
WHN	**Wuhan**	**29.04 338**↓		*i* P	**P**	**04 22 37.5**	**+0.6**
NJ2	**Nanjing**	**29.08 347**		*e*P	**P**	**04 22 38.1**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,40nm,1.0s						
JNU	**Nakatsue**	**29.52**	**7**	*e*P	**P**	**04 22 41.1**	**-0.1**
JNU	**Nakatsue**	**29.52**	**7**	P	**P**	**04 22 39.9**	**-1.3**
	comp=Z,11nm,0.7s,baz=84,slow=6.3,SNR=7.2						
GYA	**Guiyang**	**29.54 322**		P	**P**	**04 22 44.0**	**+2.4**
GYA				pP	**pP**	**04 22 53.8**	**+2.5**
GYA				PP	**PnPn**	**04 23 41.0**	**+4.2**
GYA				PcP	**PcP**	**04 25 47.6**	**+1.2**
GYA				S	**S**	**04 27 35.4**	**+0.9**
GYA				sS	**sS**	**04 27 52.0**	**+1.6**
GYA				SS	**SnSn**	**04 29 11.3**	**+7.3**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=N,580nm,17.3s						
GYA				LR	LR		
	comp=E,520nm,16.8s						
GYA				LR	LR		
	comp=Z,570nm,17.0s						
CM31	**Chiang Mai Arr**	**30.69 301**		*e*P	**P**	**04 22 52.8**	**+1.0**
	comp=Z,8.9nm,0.3s						
CMAR	**Chiang Mai Arr**	**30.69 301**		P	**P**	**04 22 49.8**	**-2.0**
CMAR				PcP	**PcP**	**04 25 50.4**	**+1.0**
CMAR				ScP	**ScP**	**04 29 30.9**	**+1.2**
CMAR	**Chiang Mai Arr**	**30.69 301**		P	**P**	**04 22 49.8**	**-2.0**
	comp=Z,14nm,0.8s,baz=134,slow=10,SNR=9.6						
CMAR				PcP	**PcP**	**04 25 50.4**	**+1.0**
	comp=Z,1.3nm,0.4s,baz=139,slow=1.5,SNR=4.7						
CMAR				ScP	**ScP**	**04 29 30.9**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=149,slow=2.0,SNR=5.8						
CHTO	**Chiang Mai**	**30.84 301**		*e*P	**P**	**04 22 54.1**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,20nm,0.8s						
CHTO	**Chiang Mai**	**30.84 301**		*e*P	**P**	**04 22 54.1**	**+1.0**
	comp=Z,20nm,0.8s						
CHTO	**Chiang Mai**	**30.84 301**		P	**P**	**04 22 54.1**	**+1.0**
	comp=Z,32nm,0.9s						
ENH	**Enshi**	**30.92 330**		*e*P	**P**	**04 22 53.1**	**-0.6**
	comp=Z,38nm,0.8s						
MEEK	**Meekatharra**	**31.15 194**		*e*P	**P**	**04 22 55.8**	**+0.1**
	comp=Z,274nm,0.8s						
KMI	**Kunming**	**31.23 315**		P	**P**	**04 22 57.7**	**+1.0**
KMI				pmax	pmax		
	comp=Z,12nm,1.0s						
KSAR	**Wonju Array Be**	**33.57**	**2**	P	**P**	**04 23 17.8**	**+1.0**
KSAR				PcP	**PcP**	**04 25 57.8**	**+1.0**
KSRS	**Korea Array**	**33.58**	**2**	P	**P**	**04 23 17.8**	**+0.9**
	comp=Z,12nm,0.9s,baz=183,slow=10,SNR=28						
KSRS				PcP	**PcP**	**04 25 57.8**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=191,slow=5.3,SNR=4.0						
XAN	**Xi'an**	**34.32 334**		P	**P**	**04 23 22.2**	**-1.2**
XAN				pP	**pP**	**04 23 32.2**	**-0.9**
XAN				S	**S**	**04 28 43.5**	**-5.2**
XAN				pmax	pmax		
	comp=Z,18nm,0.8s						
XAN				LR	LR		
	comp=N,640nm,14.4s						
XAN				LR	LR		
	comp=E,340nm,13.2s						
XAN				LR	LR		
	comp=Z,480nm,14.8s						
FORT	**Forrest**	**34.35 178**		*e*P	**P**	**04 23 24.1**	**+0.6**
	comp=Z,49nm,0.8s						
FORT	**Forrest**	**34.35 178**		*e*P	**P**	**04 23 23.8**	**+0.2**
	comp=Z,34nm,0.8s						
MJAR	**Matsushiro Arr**	**34.38**	**17**	P	**P**	**04 23 24.2**	**+0.4**
MJAR	**Matsushiro Arr**	**34.38**	**17**	P	**P**	**04 23 24.2**	**+0.4**
	comp=Z,5.5nm,0.9s,baz=192,slow=9.5,SNR=8.0						
CD2	**Chengdu**	**34.52 324**		P	**P**	**04 23 26.2**	**+1.0**
CD2				pP	**pP**	**04 23 35.9**	**+1.0**
CD2				sP	**sP**	**04 23 39.8**	**+0.8**
CD2				PcP	**PcP**	**04 26 00.3**	**+0.5**
CD2				S	**S**	**04 28 52.6**	**+0.7**
CD2				sS	**sS**	**04 29 08.6**	**+0.6**
CD2				PcS	**PcS**	**04 29 45.6**	**-0.8**
CD2				SS	**SnSn**	**04 31 05.6**	**+0.8**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,230nm,7.8s						
CD2				LR	LR		
	comp=N,490nm,14.7s						
CD2				LR	LR		
	comp=E,470nm,17.6s						
CD2				LR	LR		
	comp=Z,500nm,19.6s						
KMBL	**Kambalda**	**35.18 187**		*e*P	**P**	**04 23 31.5**	**+0.7**
	comp=Z,135nm,0.6s						
DL2	**Dalian**	**35.29 353**		P	**P**	**04 23 33.3**	**+1.7**
DL2				pmax	pmax		
	comp=Z,70nm,0.9s						
KLBR	**Kellerberrin**	**36.11 193**		*e*P	**P**	**04 23 39.3**	**+0.6**
	comp=Z,29nm,0.9s						
BJT	**Baijiatuan**	**37.32 347**		*e*P	**P**	**04 23 48.7**	**-0.2**
	comp=Z,138nm,0.8s						
BJI	**Beijing**	**37.34 347**		P	**P**	**04 23 49.4**	**+0.3**
BJI				pmax	pmax		
	comp=Z,190nm,0.7s						
EIDS	**Eidsvold**	**37.48 142**		*e*P	**P**	**04 23 50.3**	**-0.2**
	comp=Z,30nm,1.0s						
NWAO	**Narrogin (SRO)**	**37.51 193**		P	**P**	**04 23 48.4**	**-2.2**
	comp=Z,40nm,1.1s,baz=30,slow=10.0,SNR=10						
SNY	**Shenyang**	**38.02 356**↑		P	**P**	**04 23 55.6**	**+0.8**
SNY				pmax	pmax		
	comp=Z,21nm,0.8s						
STKA	**Stephens Creek**	**38.21 159**		*e*P	**P**	**04 23 56.4**	**-0.1**
STKA	**Stephens Creek**	**38.21 159**		*e*P	**P**	**04 23 56.3**	**-0.3**
	comp=Z,21nm,0.8s						
STKA	**Stephens Creek**	**38.21 159**		P	**P**	**04 23 56.2**	**-0.3**
	comp=Z,28nm,0.7s,baz=333,slow=7.2,SNR=23						
LZH	**Lanzhou**	**38.40 330**		*e*P	**P**	**04 23 58.6**	**+0.3**
LZH				pP	**pP**	**04 24 09.0**	**+0.9**
LZH				sP	**sP**	**04 24 14.2**	**+2.0**
LZH				pmax	pmax		
	comp=Z,38nm,1.0s						
LZH				pmax	pmax		
	comp=Z,160nm,4.8s						
HHC	**Hu-ho-hao-te**	**39.33 342**		*e*P	**P**	**04 24 07.1**	**+1.1**
HHC				pP	**pP**	**04 24 16.9**	**+1.1**
HHC				sP	**sP**	**04 24 20.8**	**+0.9**
HHC				PP	**PnPn**	**04 25 42.0**	**+2.4**
HHC				S	**S**	**04 30 07.2**	**+2.1**
HHC				sS	**sS**	**04 30 21.5**	**+0.2**
HHC				ScS	**ScS**	**04 34 11.0**	**-1.4**
HHC				pmax	pmax		
	comp=Z,30nm,0.6s						
HHC				pmax	pmax		
	comp=Z,4µm,11.5s						
HHC				LR	LR		
	comp=N,1µm,15.1s						
HHC				LR	LR		
	comp=E,970nm,17.4s						
HHC				LR	LR		
	comp=Z,1µm,19.1s						
SHL	**Shillong**	**39.71 307**		*i* P	**P**	**04 24 07.0**	**-2.5**
SHL				*e*S	S	04 29 47.0	-24
CN2	**Changchun**	**39.91 359**		*e*P	**P**	**04 24 10.7**	**+0.1**
CN2				*e*pP	**pP**	**04 24 20.4**	**-0.1**
CN2				*e*S	**S**	**04 30 13.9**	**+0.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
USRK	**Ussuriysk Arra**	**40.59**	**6**	P	**P**	**04 24 16.4**	**+0.2**
	comp=Z,3.6nm,0.4s,baz=180,slow=7.5,SNR=12						
MDJ	**Mudanjiang**	**40.80**	**3**	P	**P**	**04 24 18.8**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,35nm,1.0s						
MDJ	**Mudanjiang**	**40.80**	**3**	*e*P	**P**	**04 24 18.2**	**+0.1**
	comp=Z,26nm,0.8s						
ARMA	**Armidale**	**41.58 146**		*e*P	**P**	**04 24 25.3**	**+0.5**
LSA	**Lhasa**	**42.28 312**		*e*P	**P**	**04 24 31.1**	**+0.1**
LSA	**Lhasa**	**42.28 312**		*e*P	**P**	**04 24 31.1**	**+0.1**
	comp=Z,24nm,0.6s						
ASAJ	**Asahikawa**	**42.65**	**17**	P	**P**	**04 24 33.3**	**+0.1**
ASAJ	**Asahikawa**	**42.65**	**17**	P	**P**	**04 24 33.3**	**+0.1**
	comp=Z,9.5nm,0.7s,baz=219,slow=15,SNR=4.7						
GTA	**Gaotai**	**42.99 329**		*e*P	**P**	**04 24 36.0**	**-0.1**
GTA				pP	**pP**	**04 24 43.0**	**-3.1**
GTA				sP	**sP**	**04 24 47.0**	**-3.1**
GTA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TAPN	**Taplejung**	**43.85 306**		*e*P	**P**	**04 24 43.5**	**0.0**
	comp=Z,67nm,0.8s						
ODAN	**Odare**	**43.90 306**		*e*P	**P**	**04 24 43.9**	**+0.1**
	comp=Z,79nm,0.7s						
CAN	**Canberra**	**44.21 153**		*e*P	**P**	**04 24 47.2**	**+1.3**
	comp=Z,7.6nm,0.6s						
RAMN	**Ramite**	**44.58 305**		*e*P	**P**	**04 24 49.5**	**+0.2**
	comp=Z,62nm,0.8s						
JIRN	**Jiri**	**45.20 306**		*e*P	**P**	**04 24 54.3**	**-0.1**
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**45.29**	**16**	*e*P	**P**	**04 24 53.2**	**-1.1**
YSS	**Yuzh-Sakhalins**	**45.29**	**16**	*e*P	**P**	**04 24 53.2**	**-1.1**
KLR	**Kul'dur**	**45.55**	**5**	*e*P	**P**	**04 24 53.3**	**-3.0**
KLR				pmax	pmax		
	comp=Z,32nm,1.2s						
GUN	**Gumba**	**45.56 306**		*e*P	**P**	**04 24 57.2**	**0.0**
	comp=Z,90nm,0.8s						
HIA	**Hailar**	**45.73 354**		*e*P	**P**	**04 24 58.0**	**+0.2**
	comp=Z,37nm,0.9s						
PKI	**Pulchoki**	**45

MKAR					ScP	**ScP**	**04 31 19.4**	**+2.9**
	comp=Z,0.8nm,0.7s,baz=116,slow=5.5,SNR=3.7									
KSH	**Kashi**	**57.90**	**315**		P	**P**	**04 26 29.9**	**+1.0**
KSH					pP	**pP**	**04 26 39.7**	**+0.6**
KSH					sP	**sP**	**04 26 43.9**	**+0.9**
KSH					PcP	**PcP**	**04 27 20.3**	**-0.7**
KSH					PP	**PP**	**04 28 39.7**	**+2.3**
KSH					ScP	**ScP**	**04 31 16.1**	**-2.7**
KSH					PcS	**PcS**	**04 31 20.3**	**-2.1**
KSH					S	**S**	**04 34 25.7**	**-1.0**
KSH					sS	**sS**	**04 34 42.6**	**-1.0**
KSH					ScS	**ScS**	**04 36 12.0**	**-4.3**
KSH					SS	**SS**	**04 38 18.7**	**+0.7**
KSH					LR	LR				
	comp=N,850nm,15.8s									
KSH					LR	LR				
	comp=E,730nm,15.2s									
KSH					LR	LR				
	comp=Z,2μm,16.4s									
YAK	**Yakutsk**	**58.21**	**2**	*eP*	**P**	**04 26 27.9**	**-2.5**
YAK					pmax	pmax				
	comp=Z,50nm,0.9s									
YAK					pmax	pmax				
	comp=E,5.0nm,1.1s									
YAK					pmax	pmax				
	comp=N,15nm,1.0s									
YAK	**Yakutsk**	**58.21**	**2**	*eP*	**P**	**04 26 30.1**	**-0.3**
	comp=N,48nm,0.8s									
KZA	**Kyzart**	**59.47**	**318**	P	**P**	**04 26 41.8**	**+1.6**
	SNR=15									
TKM2	**Tokmak 2**	**59.61**	**319**	*i* P	**P**	**04 26 41.8**	**+1.0**
TKM2	**Tokmak 2**	**59.61**	**319**	P	**P**	**04 26 41.9**	**+1.0**
	SNR=22									
KBK	**Karagaybulak**	**59.92**	**318**	P	**P**	**04 26 44.3**	**+1.4**
	SNR=11									
UCH	**Uchtor**	**60.03**	**317**	P	**P**	**04 26 45.6**	**+1.6**
	SNR=8.6									
CHMS	**Chumysh**	**60.20**	**318**	P	**P**	**04 26 45.4**	**+0.8**
	SNR=5.6									
AAK	**Ala-Archa**	**60.22**	**318**	*d iP*	**P**	**04 26 45.0**	**+0.1**
AAK					pmax	pmax				
	comp=Z,22nm,0.8s									
AAK	**Ala-Archa**	**60.22**	**318**	*eP*	**P**	**04 26 44.8**	**-0.1**
	comp=Z,36nm,0.8s									
AAK	**Ala-Archa**	**60.22**	**318**	P	**P**	**04 26 46.1**	**+1.2**
	SNR=12									
USP	**Ospenovka**	**60.48**	**319**	P	**P**	**04 26 47.6**	**+1.0**
	SNR=37									
ZALV	**Zalesovo Beam**	**60.49**	**333**	P	**P**	**04 26 45.1**	**-1.3**
ZALV	**Zalesovo Beam**	**60.49**	**333**	P	**P**	**04 26 45.0**	**-1.3**
ZALV	**Zalesovo Beam**	**60.49**	**333**	P	**P**	**04 26 45.0**	**-1.3**
	comp=Z,6.9nm,0.7s,baz=125,slow=6.5,SNR=28									
AML	**Almayashu**	**60.55**	**317**	P	**P**	**04 26 47.9**	**+0.4**
	SNR=40									
EKS2	**Erkin-Say**	**60.71**	**318**	*eP*	**P**	**04 26 48.4**	**+0.1**
EKS2				*e*		04 27 33.0				
EKS2					pmax	pmax				
	comp=Z,37nm,0.8s									
EKS2	**Erkin-Say**	**60.71**	**318**	*eP*	**P**	**04 26 48.4**	**+0.1**
	comp=Z,37nm,0.8s									
EKS2				*e*PcP	**PcP**	**04 27 33.0**	**+0.8**
EKS2	**Erkin-Say**	**60.71**	**318**	P	**P**	**04 26 48.7**	**+0.4**
	SNR=27									
KURK	**Kurchatov**	**61.63**	**328**	*ceP*	**P**	**04 26 53.4**	**-0.7**
KURK					pmax	pmax				
	comp=Z,58nm,0.8s									
KURK	**Kurchatov**	**61.63**	**328**	*eP*	**P**	**04 26 52.6**	**-1.5**
	comp=Z,54nm,0.8s									
NVS	**Novosibirsk**	**61.77**	**333**	*eP*	**P**	**04 26 53.1**	**-1.9**
NVS					pmax	pmax				
	comp=Z,15nm,1.0s									
NVS					pmax	pmax				
	comp=N,4.0nm,0.8s									
NVS					pmax	pmax				
	comp=E,6.0nm,0.8s									
SEY	**Seymchan**	**62.08**	**13**	*ceP*	**P**	**04 26 59.2**	**+2.3**
KK31	**Karatay Array**	**63.09**	**317**	*i* P	**P**	**04 27 04.2**	**+0.1**
KK31					pmax	pmax				
	comp=Z,21nm,0.6s									
KKAR	**Karatay Array**	**63.09**	**317**	*eP*	**P**	**04 27 03.4**	**-0.7**
KKAR					pmax	pmax				
	comp=Z,33nm,0.8s									
KKAR	**Karatay Array**	**63.09**	**317**	*eP*	**P**	**04 27 03.4**	**-0.7**
	comp=Z,33nm,0.8s									
BVA0	**Borovoye Array**	**67.20**	**327**	P	**P**	**04 27 30.5**	**-0.1**
BVA0					pmax	pmax				
	comp=Z,5.0nm,0.9s									
BVAR	**Borovoye Array**	**67.20**	**327**	P	**P**	**04 27 30.2**	**-0.4**
BVAR	**Borovoye Array**	**67.20**	**327**	P	**P**	**04 27 30.2**	**-0.4**
BVAR	**Borovoye Array**	**67.20**	**327**	P	**P**	**04 27 30.2**	**-0.4**
	comp=Z,37nm,0.9s,baz=122,slow=5.6,SNR=80									
BRVK	**Borovoye**	**67.28**	**327**	*deP*	**P**	**04 27 30.7**	**-0.4**
BRVK					pmax	pmax				
	comp=Z,73nm,1.0s									
BRVK	**Borovoye**	**67.28**	**327**	*eP*	**P**	**04 27 30.1**	**-0.9**
	comp=Z,60nm,0.9s									
BILL	**Bilibino**	**69.60**	**15**⇑	*eP*	**P**	**04 27 45.7**	**+0.4**
BILL				*e*		04 30 23.1				
BILL				*eS*	S	04 36 43.8	-7.2			
BILL					pmax	pmax				
	comp=Z,5.0nm,1.2s									
BILL					MLR	MLR				
	comp=Z,800nm,18.0s									
BILL	**Bilibino**	**69.60**	**15**	*eP*	**P**	**04 27 45.0**	**-0.3**
	comp=Z,1.6nm,0.6s									
AB31	**Akbulak array**	**72.02**	**321**	*i* P	**P**	**04 27 59.8**	**-0.6**
AB31					pmax	pmax				
	comp=Z,9.0nm,0.5s									
ABKAR	**Akbulak array**	**72.02**	**321**	*eP*	**P**	**04 27 59.4**	**-0.9**
	comp=Z,27nm,0.8s									
AKTO	**Aktyubinsk**	**73.53**	**322**	P	**P**	**04 28 08.7**	**-0.6**
AKTO					pmax	pmax				
	comp=Z,6.0nm,0.8s									
SVE	**Sverdlovsk**	**73.85**	**329**⇑	*eP*	**P**	**04 28 10.9**	**-0.2**
SVE					pmax	pmax				
	comp=Z,48nm,0.9s									
ARU	**Arti**	**74.82**	**328**	*d iP*	**P**	**04 28 15.9**	**-0.8**
ARU						04 31 00.4				
ARU				S	**S**	**04 37 50.1**	**-1.1**			
ARU				SS	**SS**	**04 42 39.6**	**+0.1**			
ARU					pmax	pmax				
	comp=Z,30nm,0.7s									
ARU	**Arti**	**74.82**	**328**	*eP*	**P**	**04 28 15.6**	**-1.2**
	comp=Z,50nm,1.0s									
SOKR	**Solikamsk**	**76.61**	**331**	*eP*	**P**	**04 28 28.0**	**+1.2**
SOKR					pmax	pmax				
	comp=Z,20nm,1.2s									
RDF	**Al-Radifah**	**78.55**	**299**	*eP*	**P**	**04 28 37.8**	**-0.6**
RDF					AMb	AMB	04 28 39.6			
	comp=Z,55nm,0.9s									
MIB	**Mutribah**	**78.77**	**299**	*eP*	**P**	**04 28 38.7**	**-0.9**
MIB					AMb	AMB	04 28 40.5			
	comp=Z,71nm,0.8s									
NAY	**Al-Naaiem**	**78.83**	**299**	*eP*	**P**	**04 28 38.9**	**-1.1**
NAY					AMb	AMB	04 28 40.3			
	comp=Z,31nm,0.8s									
ZEI	**Tsey**	**82.06**	**312**	*eP*	**P**	**04 28 57.3**	**0.0**
ZEI					pmax	pmax				
	comp=Z,12nm,0.9s									
KIV	**Kislovodsk**	**82.99**	**314**	*eP*	**P**	**04 28 58.8**	**-3.1**
KIV					pmax	pmax				
	comp=Z,9.0nm,0.9s									
VRHR	**Novokhopersk**	**83.91**	**321**	*eP*	**P**	**04 29 05.3**	**-1.0**
VRHR					pmax	pmax				
	comp=Z,50nm,1.0s									
VRHR					pmax	pmax				
	comp=N,20nm,1.1s									
VRHR					pmax	pmax				
	comp=E,10.0nm,0.5s									
COLD	**Coldfoot**	**83.97**	**23**	*eP*	**P**	**04 29 03.5**	**-2.8**
	comp=E,15nm,1.1s									
MCK	**McKinley**	**84.25**	**26**	*eP*	**P**	**04 29 08.4**	**+0.5**
MCK					pmax	pmax				
	comp=Z,28nm,1.2s									
MCK	**McKinley**	**84.25**	**26**	*eP*	**P**	**04 29 08.4**	**+0.5**
	comp=Z,28nm,1.2s									
ILAR	**Eielson Array**	**85.19**	**25**	P	**P**	**04 29 12.9**	**+0.4**
ILAR	**Eielson Array**	**85.19**	**25**	P	**P**	**04 29 12.9**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=249,slow=6.4,SNR=19									
KLMR	**Klimovskoe**	**85.30**	**331**	*eP*	**P**	**04 29 12.3**	**-0.9**
KLMR					pmax	pmax				
	comp=Z,86nm,0.8s									
VORD	**Divnogorie**	**85.38**	**321**	*eP*	**P**	**04 29 13.1**	**-0.7**
VSR	**Storozhevoye**	**85.46**	**321**	*eP*	**P**	**04 29 13.4**	**-0.8**
VSR					pmax	pmax				
	comp=Z,30nm,1.0s									
VSR					pmax	pmax				
	comp=N,9.0nm,1.2s									
VSR					pmax	pmax				
	comp=E,10.0nm,0.9s									
MOS	**Moscow**	**86.32**	**325**	*eP*	**P**	**04 29 16.3**	**-2.0**
MOS					pmax	pmax				
	comp=Z,82nm,1.2s									
ANN	**Anapa**	**86.75**	**315**	*eP*	**P**	**04 29 19.0**	**-1.7**
ANN					pmax	pmax				
	comp=Z,57nm,0.9s									
OBN	**Obninsk**	**86.94**	**325**⇓	*eP*	**P**	**04 29 21.2**	**-0.1**
OBN					pmax	pmax				
	comp=Z,37nm,1.1s									
OBN	**Obninsk**	**86.94**	**325**	*eP*	**P**	**04 29 20.9**	**-0.5**
	comp=Z,26nm,0.5s									
APA	**Apatity**	**87.77**	**337**⇑	*iP*	**P**	**04 29 26.0**	**+0.9**
APA					MLR	MLR				
	comp=Z,1μm,18.0s									
JOF	**Joensuu**	**89.08**	**333**	*eP*	**P**	**04 29 30.3**	**-1.1**
JOF					pmax	pmax				
	comp=Z,22nm,0.7s									
JOF	**Joensuu**	**89.08**	**333**	*ep*	**P**	**04 29 30.3**	**-1.1**
	comp=Z,22nm,0.7s									
KMBO	**Kilima Mbogo**	**89.34**	**269**	*eP*	**P**	**04 29 33.9**	**-0.1**
	comp=Z,15nm,1.0s									
KEV	**Kevo**	**89.82**	**340**	*eP*	**P**	**04 29 34.0**	**-0.7**
KEV	**Kevo**	**89.82**	**340**	*ep*	**P**	**04 29 34.0**	**-0.7**
BR131	**Keskin Array S**	**89.86**	**310**	*eP*	**P**	**04 29 35.0**	**-0.9**
	comp=Z,8.8nm,0.8s									
BRTR	**Keskin Array B**	**89.86**	**310**	P	**P**	**04 29 34.8**	**-1.0**
BRTR	**Keskin Array B**	**89.86**	**310**	P	**P**	**04 29 34.8**	**-1.0**
	comp=Z,12nm,0.9s,baz=115,slow=4.7,SNR=48									
INK	**Inuvik**	**90.23**	**21**	*eP*	**P**	**04 29 36.4**	**-0.3**
	comp=Z,5.0nm,1.0s									
ARCES	**ARCESS Array B**	**90.37**	**340**	P	**P**	**04 29 37.0**	**-0.3**
ARCES	**ARCESS Array B**	**90.37**	**340**	P	**P**	**04 29 37.0**	**-0.3**
	comp=Z,12nm,0.8s,baz=76,slow=4.6,SNR=27									
KAF	**Kangasniemi**	**91.50**	**332**	*eP*	**P**	**04 29 41.5**	**-1.2**
KAF					pmax	pmax				
	comp=Z,14nm,0.8s									
KAF	**Kangasniemi**	**91.50**	**332**	*ep*	**P**	**04 29 41.5**	**-1.2**
	comp=Z,14nm,0.8s									
FINES	**FINESS Array B**	**91.73**	**332**	P	**P**	**04 29 42.8**	**-1.0**
FINES	**FINESS Array B**	**91.73**	**332**	P	**P**	**04 29 42.8**	**-1.0**
	comp=Z,5.1nm,0.8s,baz=51,slow=5.4,SNR=18									
AKASG	**Malin Array Be**	**91.76**	**321**	P	**P**	**04 29 43.0**	**-1.2**
AKASG	**Malin Array Be**	**91.76**	**321**	P	**P**	**04 29 43.0**	**-1.2**
AKASG	**Malin Array Be**	**91.76**	**321**	P	**P**	**04 29 43.0**	**-1.2**
	comp=Z,9.5nm,0.7s,baz=70,slow=4.6,SNR=33									
AKBB	**Malin Array Si**	**91.76**	**321**	*eP*	**P**	**04 29 42.9**	**-1.3**
AKBB	**Malin Array Si**	**91.76**	**321**	*eP*	**P**	**04 29 42.9**	**-1.3**
KIEV	**Kiev**	**91.77**	**321**	*eP*	**P**	**04 29 42.9**	**-1.3**
KIEV					pmax	pmax				
	comp=Z,10.0nm,0.9s									
KIEV	**Kiev**	**91.77**	**321**	*eP*	**P**	**04 29 42.9**	**-1.3**
	comp=Z,10nm,0.9s									
NACGM	**Naroch**	**92.56**	**325**	*e*	**P**	**04 29 45.0**	**-2.8**
CFR	**Carcaliu**	**93.28**	**316**⇑	*iP*	**P**	**04 29 51.1**	**-0.2**
CFR	**Carcaliu**	**93.28**	**316**⇑	*iP*	**P**	**04 29 51.1**	**-0.2**
TESR		**94.09**	**317**⇓	*iP*	**P**	**04 29 54.8**	**-0.3**
VRI	**Vrincioaia**	**94.15**	**316**⇑	P	**P**	**04 29 55.0**	**-0.4**
VRI	**Vrincioaia**	**94.15**	**316**⇑	*iP*	**P**	**04 29 55.0**	**-0.4**
PLOR	**Plostina**	**94.20**	**316**⇓	*iP*	**P**	**04 29 55.6**	**-0.1**
PLOR	**Plostina**	**94.20**	**316**⇓	*iP*	**P**	**04 29 55.6**	**-0.1**
MLR	**Muntele Rosu**	**94.75**	**316**⇓	*iP*	**P**	**04 29 57.0**	**-1.3**
SUW	**Suwalki**	**94.80**	**325**	*eP*	**P**	**04 29 57.3**	**-0.8**
SUW	**Suwalki**	**94.80**	**325**	*eP*	**P**	**04 29 57.3**	**-0.8**
SUW	**Suwalki**	**94.80**	**325**	*eP*	**P**	**04 29 57.3**	**-0.8**
SUW	**Suwalki**	**94.80**	**325**	*eP*	**P**	**04 29 56.9**	**-1.2**
	comp=Z,49nm,0.9s									
BURAR	**Bucovina Array**	**94.86**	**318**⇓	*iP*	**P**	**04 29 58.8**	**+0.1**
BUR08	**Bucovina Ar. S**	**94.87**	**318**	*eP*	**P**	**04 29 58.3**	**-0.4**
KWP	**Kalwaria Pacla**	**96.07**	**321**	*eP*	**P**	**04 30 04.3**	**+0.2**
KWP	**Kalwaria Pacla**	**96.07**	**321**	*eP*	**P**	**04 30 04.3**	**+0.2**
KWP	**Kalwaria Pacla**	**96.07**	**321**	⇓P	**P**	**04 30 04.0**	**-0.1**
KWP	**Kalwaria Pacla**	**96.07**	**321**	*eP*	**P**	**04 30 03.7**	**-0.3**
	comp=Z,16nm,0.9s									
KWP	**Kalwaria Pacla**	**96.07**	**321**	⇓*iP*	**P**	**04 30 04.0**	**-0.1**
KOLS	**Kolonicke sedl**	**96.51**	**320**	*eP*	**P**	**04 30 05.8**	**-0.3**
KOLS	**Kolonicke sedl**	**96.51**	**320**	*eP*	**P**	**04 30 05.8**	**-0.3**
TRPA	**Tarpa**	**96.52**	**319**	⇓*iP*	**P**	**04 30 06.0**	**-0.1**
UZH	**Uzhgorod**	**96.56**	**320**⇑	*iP*	**P**	**04 30 06.1**	**-0.2**
UZH				*e*		04 30 13.7				
DRGR		**96.70**	**318**	⇓P	**P**	**04 30 06.9**	**-0.2**
DRGR		**96.70**	**318**	⇓*iP*	**P**	**04 30 06.9**	**-0.2**
CRVS	**Cervenica-Dubn**	**97.04**	**320**	*eP*	Pdif	04 30 08.9	+0.3			
CRVS	**Cervenica-Dubn**	**97.04**	**320**	*eP*	Pdif	04 30 08.9	+0.3			
VTS	**Vitosha**	**97.24**	**314**⇑	*iP*	**P**	**04 30 09.3**	**-0.4**
VTS	**Vitosha**	**97.24**	**314**⇑	*iP*	**P**	**04 30 09.3**	**-0.4**
NIE	**Niedzica**	**97.64**	**321**	*eP*	**P**	**04 30 11.1**	**-0.1**
NIE	**Niedzica**	**97.64**	**321**	*eP*	Pdif	04 30 11.6	+0.4			
BZS	**Buzias**	**97.71**	**317**	⇓P	**P**	**04 30 10.9**	**-0.6**
BZS	**Buzias**	**97.71**	**317**	⇓*iP*	**P**	**04 30 10.9**	**-0.6**
OJC	**Ojcow**	**97.75**	**322**	*eP*	**P**	**04 30 11.1**	**-0.6**
OJC	**Ojcow**	**97.75**	**322**	*eP*	**P**	**04 30 11.5**	**-0.1**
NB2	**NORSAR Subarra**	**98.69**	**334**	P	**P**	**04 30 13.9**	**-1.7**
	baz=66,slow=4.6									
NB2	**NORSAR Subarra**	**98.69**	**334**	P	**P**	**04 30 13.9**	**-1.7**
	comp=Z,5.0nm,0.7s,baz=66,slow=4.6									
NOA	**NORSAR Array B**	**98.69**	**334**	P	**P**	**04 30 13.3**	**-2.3**
NOA	**NORSAR Array B**	**98.69**	**334**	P	**P**	**04 30 13.3**	**-2.3**
	comp=Z,6.1nm,0.7s,baz=66,slow=4.6,SNR=21									
VYHS	**Vyhne**	**98.82**	**320**	*eP*	**P**	**04 30 16.3**	**-0.2**
VYHS	**Vyhne**	**98.82**	**320**	PDIF	**P**	**04 30 16.2**	**-0.2**
LSZ	**Lusaka**	**99.01**	**255**	*eP*	**Pdif**	**04 30 17.4**	**-0.8**
	comp=Z,4.9nm,0.8s									
PKSM	**Moragy**	**99.57**	**318**	⇓P	**Pdif**	**04 30 19.8**	**0.0**
PKSM	**Moragy**	**99.57**	**318**	⇓*iP*	**Pdif**	**04 30 19.8**	**0.0**
YKA	**Yellowknife Ar**	**99.58**	**24**	P	**Pdif**	**04 30 19.8**	**+0.2**
YKA	**Yellowknife Ar**	**99.58**	**24**	P	**Pdif**	**04 30 19.7**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=301,slow=4.4,SNR=12									
DPC	**Dobruska-Polom**	**99.85**	**322**	*eP*	**Pdif**	**04 30 21.2**	**+0.1**
DPC	**Dobruska-Polom**	**99.85**	**322**	*eP*DIFF	**Pdif**	**04 30 21.2**	**+0.1**
VRAC	**Vranov**	**100.00**	**321**⇑	*iP*	**Pdif**	**04 30 22.8**	**+1.1**
PRU	**Pruhonice**	**101.05**	**322**	*eP*	**Pdif**	**04 30 26.9**	**+0.5**
PRU	**Pruhonice**	**101.05**	**322**	*eP*DIFF	**Pdif**	**04 30 26.9**	**+0.5**
BRG	**Berggiesshubel**	**101.11**	**323**	*eP*	**Pdif**	**04 30 26.5**	**-0.1**
	comp=Z,9.7nm,1.2s									
BRG	**Berggiesshubel**	**101.11**	**323**	*eP*	**Pdif**	**04 30 26.5**	**-0.1**
BRG					pmax	pmax				
	comp=Z,10.0nm,1.2s									
KHC	**Kasperske Hory**	**101.93**	**322**	*eP*	**Pdif**	**04 30 30.8**	**+0.4**
KHC	**Kasperske Hory**	**101.93**	**322**	*eP*DIFF	**Pdif**	**04 30 30.8**	**+0.4**
GERES	**GERESS Array B**	**101.95**	**322**	P	**Pdif**	**04 30 29.9**	**-0.7**
GERES	**GERESS Array B**	**101.95**	**322**	P	**Pdif**	**04 30 29.9**	**-0.7**
	comp=Z,2.1nm,0.9s,baz=66,slow=3.6,SNR=9.9									
NVAR	**Mina Array Bea**	**107.06**	**48**	PKKPbc	**PKKPab**	**04 46 36.6**	**+0.6**
NVAR	**Mina Array Bea**	**107.06**	**48**	PKKPbc	**PKKPab**	**04 46 36.6**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=148,slow=4.9,SNR=6.4									
PDAR	**Pinedale Array**	**111.49**	**41**	PKKPbc	PKKPbc	04 46 15.5	+8.2			
PDAR	**Pinedale Array**	**111.49**	**41**	PKKPbc	PKKPbc	04 46 15.5	+8.2			
	comp=Z,2.1nm,0.9s,baz=119,slow=6.4,SNR=12									
TXAR	**Lajitas Array**	**121.76**	**52**	PKP	**PKPdf**	**04 35 31.6**	**+0.3**
TXAR	**Lajitas Array**	**121.76**	**52**	PKP	**PKPdf**	**04 35 31.6**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=209,slow=1.7,SNR=5.5									
TORD	**Torodi Ar. Bea**	**122.72**	**288**	PKP	**PKPdf**	**04 35 33.3**	**0.0**
TORD	**Torodi Ar. Bea**	**122.72**	**288**	PKP	**PKPdf**	**04 35 33.3**	**0.0**
	comp=Z,3.5nm,0.8s,baz=83,slow=1.7,SNR=25									
JCT	**Junction City**	**124.21**	**49**	*e*PKIKP	**PKPdf**	**04 35 35.7**	**-0.1**
JCT	**Junction City**	**124.21**	**49**	*e*PKPdf	**PKPdf**	**04 35 35.7**	**-0.1**
DBIC	**Dimbokro**	**130.38**	**282**	PKP	**PKPdf**	**04 35 47.5**	**-0.5**
DBIC	**Dimbokro**	**130.38**	**282**	PKP	**PKPdf**	**04 35 47.5**	**-0.5**
	comp=Z,4.1nm,1.1s,baz=44,slow=3.4,SNR=3.0									
PLCA	**Paso Flores**	**140.08**	**160**	PKP	**PKPdf**	**04 36 06.2**	**+0.8**
PLCA	**Paso Flores**	**140.08**	**160**	PKP	**PKPdf**	**04 36 06.2**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=302,slow=2.3,SNR=2.5									
CPUP	**Villa Florida**	**157.23**	**171**	PKPab	**PKPab**	**04 37 03.0**	**-0.7**
CPUP	**Villa Florida**	**157.23**	**171**	PKPab	**PKPab**	**04 37 03.0**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=129,slow=4.6,SNR=4.6									
RCBR	**Riachuelo**	**162.36**	**263**	PKPab	**PKPab**	**04 37 27.5**	**+0.7**
RCBR	**Riachuelo**	**162.36**	**263**	PKPab	**PKPab**	**04 37 27.5**	**+0.7**
	comp=Z,16nm,0.9s,baz=62,slow=5.8,SNR=6.7									

*IDC **12** 04:17:19.2±0.8, 3.62N×126.50E, h0km, mb4.7/12, mb1 4.8/12, mb1mx4.7/21, mbtmp4.7/12, MS4.4/1, Ms1 4.4/1, ms1mx3.5/35, Error ellipse: s-maj=41.1km s-min=16.3km az=68.0*
*ISCJB **12** 04:17:24.2±0.4, 3.64N±0.06×126.6E±0.1, h53km, mb4.8/21, Error ellipse: s-maj=19.9km s-min=7.6km az=163.8*
*NEIC **12** 04:17:24.2±0.3, 3.63N×126.54E, h35km, mb4.8/12, Error ellipse: s-maj=15.7km s-min=5.8km az=72.0*

ISC 12 04:17:26.1±0.5, 3.63N±0.08×126.6E±0.2, h53km, n41, σ0990/40, mb4.8/21, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**10.96**	**218**	LR	LR	04 24 06.6	
	comp=Z,2μm,20.4s,baz=105,slow=37						
YULB	**Yu-li**	**20.29**	**346**	P	**P**	**04 21 56.6**	**-1.1**
YHNB	**Yeheng**	**21.50**	**347**	P	**P**	**04 22 09.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**21.62**	**182**	*eP*	**P**	**04 22 10.9**	**-1.0**
	15nm,0.6s						
WRAB	**Tennant Creek**	**24.64**	**162**	*eP*	**P**	**04 22 41.3**	**-0.6**
	86nm,0.6s						
ASAR	**Alice Springs**	**28.06**	**166**	P	**P**	**04 23 13.7**	**+0.9**
ASAR	**Alice Springs**	**28.06**	**166**	P	**P**	**04 23 13.7**	**+0.9**
	8.7nm,0.7s,baz=348,slow=13,SNR=3.3						
ENH	**Enshi**	**31.03**	**330**	*eP*	**P**	**04 23 38.0**	**-1.0**
	15nm,0.7s						
KSAR	**Wonju Array Be**	**33.67**	**2**	P	**P**	**04 24 02.4**	**+0.4**
KSRS	**Korea Array**	**33.68**	**2**	P	**P**	**04 24 02.4**	**+0.3**
	2.8nm,0.4s,baz=177,slow=9.7,SNR=4.2						
NWAO	**Narrogin (SRO)**	**37.42**	**193**	*eP*	**P**	**04 24 33.6**	**-0.6**
	7.1nm,0.7s						
BJT	**Baijiatuao**	**37.42**	**347**	*eP*	**P**	**04 24 33.5**	**-0.7**
	43nm,0.5s						
STKA	**Stephens Creek**	**38.10**	**159**	*eP*	**P**	**04 24 39.3**	**-0.7**
	6.0nm,0.6s						
STKA	**Stephens Creek**	**38.10**	**159**	P	**P**	**04 24 39.0**	**-1.0**
	35nm,0.7s,baz=329,slow=7.3,SNR=6.0						
USRK	**Ussuriysk Arra**	**40.69**	**6**	P	**P**	**04 25 01.9**	**+0.5**
	2.8nm,0.4s,baz=187,slow=7.6,SNR=4.2						
ARMA	**Armidale**	**41.48**	**146**	*eP*	**P**	**04 25 08.4**	**+0.1**
LSA	**Lhasa**	**42.38**	**312**	*eP*	**P**	**04 25 15.8**	**-0.2**
	14nm,0.8s						
ASAJ	**Asahikawa**	**42.73**	**17**	*eP*	**P**	**04 25 17.7**	**-0.4**
	13nm,1.2s						
DZM	**Mont Dzumac**	**46.62**	**125**	*eP*	**P**	**04 25 49.6**	**+0.1**
	9.3nm,0.6s						
DZM	**Mont Dzumac**	**46.62**	**125**	P	**P**	**04 25 49.6**	**+0.1**
	8.6nm,0.5s,baz=289,slow=9.0,SNR=7.0						
ULN	**Ulaanbaatar**	**47.16**	**342**	P	**P**	**04 25 54.0**	**+0.6**
SONM	**Songino Array**	**47.34**	**342**	P	**P**	**04 25 55.1**	**+0.3**
SONM	**Songino Array**	**47.34**	**342**	P	**P**	**04 25 55.1**	**+0.3**
	4.8nm,0.7s,baz=150,slow=8.1,SNR=3.6						
PETK	**Petropavlovsk-**	**55.58**	**22**	P	**P**	**04 26 56.2**	**0.0**
PETK	**Petropavlovsk-**	**55.58**	**22**	P	**P**	**04 26 56.2**	**0.0**
	3.6nm,0.5s,baz=179,slow=4.2,SNR=5.5						
MK31	**Makanchi Array**	**57.54**	**325**	*eP*	**P**	**04 27 10.8**	**+0.6**
MKAR	**Makanchi Array**	**57.54**	**325**	P	**P**	**04 27 09.4**	**-0.9**
MKAR	**Makanchi Array**	**57.54**	**325**	P	**P**	**04 27 09.4**	**-0.9**
	4.9nm,0.4s,baz=119,slow=7.3,SNR=6.1						
ZALV	**Zalesovo Beam**	**60.60**	**333**	P	**P**	**04 27 30.3**	**-1.0**
ZALV	**Zalesovo Beam**	**60.60**	**333**	P	**P**	**04 27 30.3**	**-1.0**
	3.8nm,0.6s,baz=136,slow=8.8,SNR=4.1						
EKS2	**Erkin-Say**	**60.81**	**318**	*eP*	**

TWG	**Pinlang**	**19.42**	**344**	*e*P		**P**	**04 31 28.6**	**-1.5**	
	64nm,0.5s								
KNRA	**Kununurra**	**19.72**	**174**	*e*P		**P**	**04 31 32.1**	**-1.2**	
	386nm,0.8s								
YULB	**Yu-li**	**19.91**	**345**	*e*P		**P**	**04 31 33.6**	**-1.8**	
	35nm,0.6s								
TPUB	**Ta-pu**	**20.00**	**344**	*e*P		**P**	**04 31 35.4**	**-1.1**	
	97nm,0.6s								
GUMO	**Guam**	**20.33**	**61**	*e*P		**P**	**04 31 39.5**	**-0.6**	
GUMO	**Guam**	**20.33**	**61**	LR		LR	04 37 46.0		
	comp=Z,1μm,19.8s,baz=45,slow=32								
SSLB	**Suanglung**	**20.37**	**345**	*e*P		**P**	**04 31 39.7**	**-0.8**	
	169nm,1.4s								
TGJI	**Tegal**	**20.58**	**238**	P		Pn	04 31 44.8	-0.6	
	80nm,1.0s								
NACB	**Ninganchiao**	**20.59**	**347**	*e*P		**P**	**04 31 42.2**	**-0.6**	
YHNB	**Yeheng**	**21.12**	**347**	*e*P		**P**	**04 31 49.3**	**+0.8**	
	39nm,0.4s								
LEM	**Lembang**	**21.85**	**240**	P		**P**	**04 32 00.2**	**+3.5**	
	62nm,0.9s								
FITZ	**Fitzroy Crossi**	**22.04**	**183**	*e*P		**P**	**04 31 56.8**	**-1.5**	
	13nm,0.5s								
FITZ	**Fitzroy Crossi**	**22.04**	**183**	*e*P		**P**	**04 31 56.7**	**-1.7**	
	27nm,0.5s								
FITZ	**Fitzroy Crossi**	**22.04**	**183**	P		**P**	**04 31 56.5**	**-1.9**	
	14nm,0.6s,baz=359,slow=5.3,SNR=20								
QIZ	**Qiongzhong**	**22.16**	**314**	P		**P**	**04 31 60.0**	**+0.3**	
QZH	**Quanzhou**	**22.17**	**340**	⇑*i*P		**P**	**04 31 57.0**	**-2.7**	
QZH				pmax	pmax				
	comp=Z,60nm,0.7s								
JOW	**Kunigami**	**22.70**	**4**	*e*P		**P**	**04 32 06.2**	**+0.8**	
	comp=Z,24nm,0.6s								
JOW	**Kunigami**	**22.70**	**4**	P		**P**	**04 32 06.4**	**+0.9**	
	comp=Z,49nm,0.5s,baz=193,slow=12,SNR=17								
MYKOM	**Kota Tinggi**	**22.88**	**265**	P		**P**	**04 32 09.7**	**+2.3**	
MYKOM	**Kota Tinggi**	**22.88**	**265**	P		**P**	**04 32 11.6**	**+4.2**	
	comp=Z,42nm,0.9s								
KGM	**Kluang**	**23.38**	**266**	P		**P**	**04 32 14.1**	**+1.7**	
CGJI	**Cibinong**	**23.45**	**243**	P		**P**	**04 32 12.7**	**-0.4**	
	comp=Z,90nm,0.6s								
KASI	**Kota Agung**	**24.08**	**247**	P		P	04 32 26.9	+7.9	
	comp=Z,62nm,0.9s								
COEN	**Coen**	**24.27**	**138**	*e*P		**P**	**04 32 18.6**	**-2.1**	
	comp=Z,71nm,0.8s								
PMG	**Port Moresby**	**24.43**	**123**	*e*P		**P**	**04 32 20.9**	**-1.2**	
PMG	**Port Moresby**	**24.43**	**123**	P		**P**	**04 32 21.2**	**-1.0**	
	comp=Z,2.5nm,0.3s,baz=182,slow=7.6,SNR=2.2								
FRIM	**Kepong**	**24.98**	**269**	P		**P**	**04 32 28.6**	**+1.4**	
WRAB	**Tennant Creek**	**25.01**	**163**	*e*P		**P**	**04 32 26.1**	**-1.3**	
WRAB				pmax	pmax				
	comp=Z,44nm,0.8s								
WRAB	**Tennant Creek**	**25.01**	**163**	*e*P		**P**	**04 32 26.1**	**-1.3**	
	comp=Z,44nm,0.8s								
IPM	**Ipoh**	**25.55**	**272**	*e*P		**P**	**04 32 35.2**	**+2.8**	
	comp=Z,92nm,1.6s								
IPM	**Ipoh**	**25.55**	**272**	P		**P**	**04 32 36.0**	**+3.6**	
IPM	**Ipoh**	**25.55**	**272**	P		**P**	**04 32 36.2**	**+3.8**	
	comp=Z,33nm,1.4s								
BKNI	**Bangkinang**	**25.85**	**262**	P		pP	04 32 45.7	-1.2	
	comp=Z,110nm,1.3s								
MBWA	**Marble Bar**	**25.96**	**195**	*e*P		**P**	**04 32 35.3**	**-0.6**	
	comp=Z,312nm,2.4s								
MBWA	**Marble Bar**	**25.96**	**195**	*e*P		**P**	**04 32 35.1**	**-0.8**	
PPI	**Padang Panjang**	**26.61**	**261**	P		P	04 32 50.0	+8.1	
	comp=Z,28nm,1.1s								
MNSI	**Mandailing Nat**	**27.23**	**264**	P		P	04 32 54.4	+6.9	
	comp=Z,56nm,0.8s,comp=Z,5μm								
CBIJ	**Chichi jima**	**27.30**	**31**	LR		LR	04 41 51.2		
	comp=Z,1μm,19.9s,baz=225,slow=32								
PSI	**Prapat**	**27.70**	**268**	P		**P**	**04 32 50.4**	**-1.5**	
PSI	**Prapat**	**27.70**	**268**	P		**P**	**04 32 53.1**	**+1.2**	
	comp=Z,18nm,1.1s								
PSI	**Prapat**	**27.70**	**268**	P		**P**	**04 32 50.4**	**-1.5**	
	comp=Z,5.4nm,0.4s,baz=192,slow=4.0,SNR=6.4								
AS31	**Alice Springs**	**28.45**	**166**	*e*P		**P**	**04 32 57.2**	**-1.1**	
ASAR	**Alice Springs**	**28.45**	**166**	P		**P**	**04 32 58.0**	**-0.3**	
ASAR				PcP		**PcP**	**04 36 09.6**	**-0.2**	
ASAR	**Alice Springs**	**28.45**	**166**	P		**P**	**04 32 58.0**	**-0.3**	
	comp=Z,3.8nm,0.4s,baz=347,slow=7.0,SNR=16								
ASAR				PcP		**PcP**	**04 36 09.6**	**-0.2**	
	comp=Z,2.3nm,0.6s,baz=346,slow=2.9,SNR=4.4								
WHN	**Wuhan**	**28.79**	**338**	⇑P		**P**	**04 33 01.8**	**+0.6**	
WHN				pP		**pP**	**04 33 09.8**	**-3.4**	
WHN				pmax	pmax				
	comp=Z,63nm,0.9s								
NJ2	**Nanjing**	**28.80**	**346**	*e*P		**P**	**04 33 01.6**	**+0.4**	
NJ2				pmax	pmax				
	comp=Z,20nm,0.8s								
GSI	**Gunungsitoli**	**29.16**	**265**	P		P	04 33 11.2	+6.4	
	comp=Z,46nm,1.0s								
JNU	**Nakatsue**	**29.19**	**7**	*e*P		**P**	**04 33 04.9**	**+0.1**	
JNU	**Nakatsue**	**29.19**	**7**	P		**P**	**04 33 03.9**	**-0.9**	
	comp=Z,20nm,1.0s,baz=227,slow=5.5,SNR=7.7								
GYA	**Guiyang**	**29.36**	**321**	P		**P**	**04 33 09.2**	**+2.7**	
GYA				pP		**pP**	**04 33 18.8**	**+0.3**	
GYA				PP		**PnPn**	**04 34 05.6**	**+3.9**	
GYA				PcP		**PcP**	**04 36 13.2**	**+1.0**	
GYA				S		**S**	**04 38 01.9**	**+4.6**	
GYA				sS		**sS**	**04 38 17.3**	**-0.1**	
GYA				pmax	pmax				
	comp=Z,20nm,0.8s								
GYA				pmax	pmax				
	comp=Z,120nm,5.0s								
GYA				LR	LR				
	comp=N,560nm,17.8s								
GYA				LR	LR				
	comp=E,500nm,16.9s								
GYA				LR	LR				
	comp=Z,540nm,17.4s								
CM31	**Chiang Mai Arr**	**30.64**	**300**	*e*P		**P**	**04 33 17.6**	**-0.2**	
	comp=Z,14nm,0.4s								
CMAR	**Chiang Mai Arr**	**30.64**	**300**	P		**P**	**04 33 16.8**	**-1.0**	
CMAR	**Chiang Mai Arr**	**30.64**	**300**	P		**P**	**04 33 16.8**	**-1.0**	
	comp=Z,7.9nm,0.7s,baz=115,slow=7.2,SNR=30								
ENH	**Enshi**	**30.71**	**330**	*e*P		**P**	**04 33 18.0**	**-0.3**	
	comp=Z,48nm,1.0s								
CTA	**Charters Tower**	**30.77**	**142**	P		**P**	**04 33 19.3**	**+0.4**	
CTA	**Charters Tower**	**30.77**	**142**	P		**P**	**04 33 19.3**	**+0.4**	
	comp=Z,3.7nm,0.5s,baz=325,slow=10,SNR=5.2								
CTAO	**Charters Tower**	**30.77**	**142**	*e*P		**P**	**04 33 21.3**	**+2.4**	
CTAO				pmax	pmax				
	comp=Z,76nm,2.2s								
CTAO	**Charters Tower**	**30.77**	**142**	*e*P		**P**	**04 33 21.3**	**+2.4**	
	comp=Z,76nm,2.2s								
CHTO	**Chiang Mai**	**30.79**	**301**	*e*P		**P**	**04 33 19.1**	**0.0**	
CHTO				pmax	pmax				
	comp=Z,22nm,0.9s								
CHTO	**Chiang Mai**	**30.79**	**301**	*e*P		**P**	**04 33 19.1**	**0.0**	
	comp=Z,22nm,0.9s								
KMI	**Kunming**	**31.09**	**315**	P		P	04 33 25.3	+3.3	
KMI				pmax	pmax				
	comp=Z,15nm,0.6s								
JHJ	**Hachijo jima 2**	**31.41**	**21**	LR		LR	04 44 43.0		
	comp=Z,966nm,19.3s,baz=191,slow=34								
KSAR	**Wonju Array Be**	**33.25**	**2**	P		**P**	**04 33 40.2**	**-0.2**	
KSAR				PcP		**PcP**	**04 36 23.9**	**+1.8**	
KSRS	**Korea Array**	**33.26**	**2**	P		**P**	**04 33 40.2**	**-0.3**	
	comp=Z,9.5nm,0.5s,baz=180,slow=10,SNR=28								
KSRS				PcP		**PcP**	**04 36 23.9**	**+1.7**	
	comp=Z,5.7nm,0.8s,baz=187,slow=2.7,SNR=11								
MAJO	**Matsushiro**	**34.04**	**17**	*e*P		**P**	**04 33 47.3**	**-0.1**	
MAJO				pmax	pmax				
	comp=Z,10.0nm,0.8s								
MAJO	**Matsushiro**	**34.04**	**17**	*e*P		**P**	**04 33 47.3**	**-0.1**	
	comp=Z,10nm,0.8s								
MAT	**Matsushiro**	**34.04**	**17**	P		**P**	**04 33 45.2**	**-2.2**	
MJAR	**Matsushiro Arr**	**34.04**	**17**	P		**P**	**04 33 45.7**	**-1.7**	
MJAR				PcP		**PcP**	**04 36 26.1**	**+1.7**	
MJAR	**Matsushiro Arr**	**34.04**	**17**	P		**P**	**04 33 45.7**	**-1.7**	
	comp=Z,6.4nm,0.8s,baz=194,slow=10,SNR=11								
MJAR				PcP		**PcP**	**04 36 26.1**	**+1.7**	
	comp=Z,1.9nm,0.7s,baz=194,slow=3.6,SNR=4.0								
XAN	**Xi'an**	**34.09**	**333**	P		**P**	**04 33 47.2**	**-0.7**	
XAN				pP		**pP**	**04 33 57.2**	**-2.8**	
XAN				S		**S**	**04 39 07.8**	**-3.0**	
XAN				pmax	pmax				
	comp=Z,21nm,1.0s								
XAN				LR	LR				
	comp=N,940nm,16.1s								
XAN				LR	LR				
	comp=E,460nm,13.2s								
XAN				LR	LR				
	comp=Z,590nm,14.9s								
CD2	**Chengdu**	**34.33**	**324**	P		**P**	**04 33 50.7**	**+0.7**	
CD2				pP		**pP**	**04 34 00.4**	**-1.7**	
CD2				sP		**sP**	**04 34 04.3**	**-3.2**	
CD2				PcP		**PcP**	**04 36 25.7**	**+0.2**	
CD2				S		**S**	**04 39 16.0**	**+1.4**	
CD2				sS		**sS**	**04 39 32.0**	**-2.9**	
CD2				PcS		**PcS**	**04 40 11.0**	**-0.9**	
CD2				SS		**SnSn**	**04 41 27.8**	**+0.4**	
CD2				pmax	pmax				
	comp=Z,30nm,0.5s								
CD2				pmax	pmax				
	comp=Z,230nm,7.8s								
CD2				LR	LR				
	comp=N,490nm,14.7s								
CD2				LR	LR				
	comp=E,470nm,17.6s								
CD2				LR	LR				
	comp=Z,500nm,19.6s								
FORT	**Forrest**	**34.66**	**178**	*e*P		**P**	**04 33 51.2**	**-1.6**	
	comp=Z,25nm,0.6s								
QLP	**Quilpie**	**34.89**	**152**	*e*P		**P**	**04 33 54.1**	**-0.7**	
DL2	**Dalian**	**34.99**	**353**	*e*P		**P**	**04 33 56.3**	**+0.8**	
DL2				pmax	pmax				
	comp=Z,40nm,1.1s								
KMBL	**Kambalda**	**35.52**	**187**	*e*P		**P**	**04 33 59.3**	**-0.8**	
	comp=Z,95nm,0.7s								
KLBR	**Kellerberrin**	**36.45**	**193**	*e*P		**P**	**04 34 06.7**	**-1.4**	
	comp=Z,15nm,0.6s								
BJT	**Baijiatuan**	**37.03**	**347**	*e*P		**P**	**04 34 13.2**	**+0.2**	
	comp=Z,55nm,0.6s								
BJI	**Beijing**	**37.05**	**347**	P		**P**	**04 34 14.1**	**+1.0**	
BJI				pmax	pmax				
	comp=Z,66nm,0.5s								
EIDS	**Eidsvold**	**37.66**	**142**	*e*P		**P**	**04 34 18.5**	**0.0**	
	comp=Z,127nm,1.9s								
SNY	**Shenyang**	**37.71**	**356**	⇓P		**P**	**04 34 21.2**	**+2.5**	
SNY				pmax	pmax				
	comp=Z,42nm,0.5s								
BBOO	**Buckleboo**	**37.73**	**167**	*e*P		**P**	**04 34 18.9**	**-0.1**	
	comp=Z,578nm,1.3s								
BBOO	**Buckleboo**	**37.73**	**167**	*e*P		**P**	**04 34 17.8**	**-1.2**	
	comp=Z,73nm,0.6s								
NWAO	**Narrogin (SRO)**	**37.85**	**193**	P		**P**	**04 34 19.1**	**-0.9**	
	comp=Z,9.7nm,0.5s,baz=29,slow=7.9,SNR=16								
LZH	**Lanzhou**	**38.18**	**329**	⇑P		**P**	**04 34 23.5**	**+0.5**	
LZH				pP		**pP**	**04 34 34.0**	**-1.2**	
LZH				pmax	pmax				
	comp=Z,92nm,1.0s								
LZH				pmax	pmax				
	comp=Z,290nm,4.0s								
STKA	**Stephens Creek**	**38.46**	**159**	*e*P		**P**	**04 34 24.4**	**-0.8**	
	comp=Z,4.7nm,0.8s								
STKA				PcP		**PcP**	**04 36 38.7**	**+1.0**	
STKA	**Stephens Creek**	**38.46**	**159**	*e*P		**P**	**04 34 24.2**	**-0.9**	
	comp=Z,19nm,0.8s								
STKA	**Stephens Creek**	**38.46**	**159**	P		**P**	**04 34 24.3**	**-0.8**	
	comp=Z,15nm,0.4s,baz=338,slow=8.1,SNR=25								
STKA				PcP		**PcP**	**04 36 38.7**	**+1.0**	
	comp=Z,8.2nm,0.6s,baz=341,slow=6.8,SNR=3.6								
STKA				LR		LR	04 51 26.3		
	comp=Z,772nm,18.4s,baz=351,slow=38								
HHC	**Hu-ho-hao-te**	**39.07**	**342**	*e*P		**P**	**04 34 32.1**	**+1.8**	
HHC				pP		**pP**	**04 34 43.0**	**+0.5**	
HHC				sP		**sP**	**04 34 46.0**	**-1.8**	
HHC				PP		**PnPn**	**04 36 07.9**	**+4.6**	
HHC				S		S	04 40 32.5	+5.9	
HHC				sS		**sS**	**04 40 46.0**	**-1.1**	
HHC				SS		**SS**	**04 43 16.3**	**-4.1**	
HHC				ScS		**ScS**	**04 44 36.2**	**+0.3**	
HHC				pmax	pmax				
	comp=Z,32nm,0.9s								
HHC				pmax	pmax				
	comp=Z,1μm,9.0s								
HHC				LR	LR				
	comp=N,1μm,12.5s								
HHC				LR	LR				
	comp=E,830nm,15.7s								
HHC				LR	LR				
	comp=Z,2μm,16.4s								
CN2	**Changchun**	**39.60**	**359**	*e*P		**P**	**04 34 36.2**	**+1.7**	
CN2				*e*pP		**pP**	**04 34 46.1**	**-0.6**	
CN2				pmax	pmax				
	comp=Z,10.0nm,1.0s								
USRK	**Ussuriysk Arra**	**40.26**	**6**	P		**P**	**04 34 40.2**	**+0.3**	
	comp=Z,6.1nm,0.5s,baz=185,slow=8.1,SNR=19								
USRK				PcP		**PcP**	**04 36 43.9**	**+0.8**	
	comp=Z,3.1nm,0.5s,baz=174,slow=2.2,SNR=6.2								
MDJ	**Mudanjiang**	**40.48**	**3**	P		**P**	**04 34 42.5**	**+0.7**	
MDJ				pmax	pmax				
	comp=Z,31nm,1.1s								
MDJ				pmax	pmax				
	comp=Z,630nm,11.7s								
MDJ	**Mudanjiang**	**40.48**	**3**	*e*P		**P**	**04 34 42.3**	**+0.5**	
	comp=Z,38nm,1.1s								
ARMA	**Armidale**	**41.78**	**147**	*e*P		**P**	**04 34 52.2**	**-0.6**	
LSA	**Lhasa**	**42.16**	**311**	*e*P		**P**	**04 34 56.6**	**+0.1**	
LSA				pmax	pmax				
	comp=Z,24nm,0.6s								
LSA	**Lhasa**	**42.16**	**311**	*e*P		**P**	**04 34 56.6**	**+0.1**	
	comp=Z,24nm,0.6s								
GTA	**Gaotai**	**42.78**	**329**	*e*P		**P**	**04 35 00.9**	**0.0**	
GTA				pP		**pP**	**04 35 12.4**	**-0.8**	
GTA				sP		**sP**	**04 35 16.0**	**-2.5**	
GTA				PcP		**PcP**	**04 36 54.1**	**+2.4**	
GTA				S		**S**	**04 41 24.4**	**+2.5**	
GTA				pmax	pmax				
	comp=Z,7.0nm,0.7s								
GTA				LR	LR				
	comp=N,1μm,17.6s								
GTA				LR	LR				
	comp=E,1μm,23.3s								
GTA				LR	LR				
	comp=Z,1μm,21.8s								
TAPN	**Taplejung**	**43.76**	**306**	*e*P		**P**	**04 35 09.5**	**+0.3**	
	comp=Z,57nm,0.7s								
ODAN	**Odare**	**43.81**	**305**	*e*P		**P**	**04 35 09.0**	**-0.6**	
	comp=Z,42nm,0.6s								
RAMN	**Ramite**	**44.50**	**305**	*e*P		**P**	**04 35 14.7**	**-0.4**	
	comp=Z,39nm,0.7s								
YSS	**Yuzh-Sakhalins**	**44.95**	**16**	⇑*e*P		P	04 35 21.0	+3.0	
JIRN	**Jiri**	**45.12**	**306**	*e*P		**P**	**04 35 19.7**	**-0.4**	
	comp=Z,8.1nm,0.5s								
HIA	**Hailar**	**45.43**	**354**	*e*P		**P**	**04 35 23.4**	**+1.5**	
	comp=Z,64nm,0.9s								
GUN	**Gumba**	**45.47**	**306**	*e*P		**P**	**04 35 22.4**	**-0.5**	
	comp=Z,48nm,0.5s								
PKI	**Pulchoki**	**45.71**	**305**	*e*P		**P**	**04 35 23.8**	**-1.0**	
KKN	**Kakani**	**45.91**	**305**	*e*P		**P**	**04 35 26.5**	**+0.3**	
DMN	**Daman**	**45.98**	**305**	*e*P		**P**	**04 35 26.5**	**-0.3**	
GKN	**Gorkha**	**46.51**	**305**	*e*P		**P**	**04 35 30.7**	**-0.2**	
ULN	**Ulaanbaatar**	**46.79**	**342**	*e*P		**P**	**04 35 33.1**	**+0.4**	
	comp=Z,19nm,0.8s								
DZM	**Mont Dzumac**	**46.79**	**125**	P		**P**	**04 35 34.0**	**+1.0**	
DZM	**Mont Dzumac**	**46.79**	**125**	P		**P**	**04 35 34.0**	**+1.0**	
	comp=Z,9.1nm,0.7s,baz=14,slow=19,SNR=12								
SONM	**Songino Array**	**46.97**	**341**	P		**P**	**04 35 34.1**	**0.0**	
SONM				PcP		**PcP**	**04 37 06.4**	**+0.4**	
SONM	**Songino Array**	**46.97**	**341**	P		**P**	**04 35 34.1**	**0.0**	
	comp=Z,14nm,1.0s,baz=160,slow=5.9,SNR=45								
SONM				PcP		**PcP**	**04 37 06.4**	**+0.4**	
	comp=Z,4.9nm,0.6s,baz=168,slow=3.5,SNR=6.0								
KOLN	**Koldanda**	**47.27**	**305**	*e*P		**P**	**04 35 36.4**	**-0.5**	
	comp=Z,54nm,0.5s								
DANN	**Dangsing**	**47.36**	**305**	*e*P		**P**	**04 35 37.4**	**-0.3**	
	comp=Z,67nm,0.6s								
HYB	**Hyderabad**	**48.93**	**290**	*i* P		**P**	**04 35 48.5**	**-1.1**	
CIT	**Chita**	**49.03**	**349**	*e*P		**P**	**04 35 52.0**	**+2.1**	
CIT				*e*			04 36 01.7		
CIT				*e*			04 36 06.7		
ZAK	**Zakamensk**	**50.19**	**341**	*e*P		**P**	**04 35 58.4**	**-0.4**	
ZAK				*e*			04 37 16.2		
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.3s								
TLY	**Talaya**	**51.20**	**342**	*e*P		**P**	**04 36 06.6**	**+0.3**	
TLY				pmax	pmax				
	comp=Z,11nm,0.9s								
TLY	**Talaya**	**51.20**	**342**	*e*P		**P**	**04 36 07.7**	**+1.4**	
	comp=Z,11nm,0.7s								
IRK	**Irkutsk**	**51.50**	**343**	*e*P		**P**	**04 36 09.4**	**+0.9**	
IRK				pmax	pmax				
	comp=Z,42nm,1.9s								
MOY	**Mondy**	**52.05**	**340**	*e*P		**P**	**04 36 13.8**	**+1.1**	
MOY				pmax	pmax				
	comp=Z,57nm,2.5s								
WMQ	**Urumqi**	**52.41**	**325**	P		**P**	**04 36 16.0**	**+0.5**	
WMQ				pP		**pP**	**04 36 26.0**	**-2.1**	
WMQ				sP		**sP**	**04 36 30.0**	**-3.4**	
WMQ				PcP		**PcP**	**04 37 26.0**	**+0.1**	
WMQ				*e*S		**S**	**04 43 38.5**	**0.0**	
WMQ				pmax	pmax				
	comp=Z,16nm,0.7s								
WMQ				LR	LR				
	comp=N,1μm,18.0s								
WMQ				LR	LR				
	comp=E,710nm,14.0s								
WMQ				LR	LR				
	comp=Z,960nm,21.2s								
CLNS	**Chul'man**	**52.65**	**359**	*e*P		**P**	**04 36 18.3**	**+1.3**	
CLNS				pmax	pmax				
	comp=Z,11nm,1.0s								
CLNS				pmax	pmax				
	comp=N,19nm,0.9s								
CLNS				pmax	pmax				
	comp=E,6.0nm,0.9s								
POO	**Poona**	**53.53**	**290**	*e*PKP		**P**	**04 36 22.0**	**-2.1**	
BOD	**Bodaibo**	**54.53**	**352**	*e*P		**P**	**04 36 31.8**	**+1.1**	
BOD				pmax	pmax				
	comp=Z,27nm,1.1s								
PEA0B	**Petropavlovsk-**	**55.16**	**22**	*e*P		**P**	**04 36 36.2**	**+0.8**	
PETK	**Petropavlovsk-**	**55.16**	**22**	P		**P**	**04 36 36.5**	**+1.1**	
PETK	**Petropavlovsk-**	**55.16**	**22**	P		**P**	**04 36 36.5**	**+1.1**	
PETK	**Petropavlovsk-**	**55.16**	**22**	P		**P**	**04 36 36.5**	**+1.1**	
	comp=Z,14nm,0.5s,baz=188,slow=4.4,SNR=59								
MK31	**Makanchi Array**	**57.24**	**325**	P		**P**	**04 36 49.9**	**-0.5**	
MK31				pmax	pmax				
	comp=Z,25nm,0.7s								
MK31	**Makanchi Array**	**57.24**	**325**	*e*P		**P**	**04 36 49.9**	**-0.5**	
MKAR	**Makanchi Array**	**57.24**	**325**	P		**P**	**04 36 49.6**	**-0.8**	
MKAR							04 37 45.1		
MKAR	**Makanchi Array**	**57.24**	**325**	P		**P**	**04 36 49.6**	**-0.8**	
MKAR				PcP		**PcP**	**04 37 45.1**	**+0.8**	
MKAR	**Makanchi Array**	**57.24**	**325**	P		**P**	**04 36 49.6**	**-0.8**	
	comp=Z,14nm,0.4s,baz=120,slow=4.8,SNR=6.7								
MKAR				PcP		**PcP**	**04 37 45.1**	**+0.8**	
	comp=Z,8.5nm,0.7s,baz=124,slow=4.0,SNR=5.1								
KSH	**Kashi**	**57.76**	**315**	P		**P**	**04 36 54.5**	**+0.2**	
KSH				pP		**pP**	**04 37 04.1**	**-2.9**	
KSH				sP		**sP**	**04 37 08.3**	**-3.9**	
KSH				PcP		**PcP**	**04 37 44.9**	**-1.8**	
KSH				PP		**PP**	**04 39 04.1**	**+1.4**	
KSH				ScP		**ScP**	**04 41 42.1**	**-1.2**	
KSH				PcS		**PcS**	**04 41 44.9**	**-3.2**	
KSH				S		**S**	**04 44 50.4**	**+0.1**	
KSH				ScS		**ScS**	**04 46 37.6**	**-2.8**	
KSH				SS		**SS**	**04 48 43.4**	**+2.0**	
KSH				LR	LR				
	comp=N,780nm,18.8s								
KSH				LR	LR				
	comp=E,470nm,11.5s								
KSH				LR	LR				
	comp=Z,980nm,24.2s								
YAK	**Yakutsk**	**57.89**	**2**	*e*P		**P**	**04 36 54.9**	**+0.4**	
YAK				pmax	pmax				
	comp=Z,110nm,1.0s								
YAK				pmax	pmax				
	comp=E,6.0nm,1.1s								
YAK				pmax	pmax				
	comp=N,54nm,1.2s								
YAK	**Yakutsk**	**57.89**	**2**	*e*P		**P**	**04 36 54.7**	**+0.2**	
	comp=N,147nm,0.9s								
AAK	**Ala-Archa**	**60.06**	**318**	⇑*i*P		**P**	**04 37 11.2**	**+0.9**	
AAK				pmax	pmax				
	comp=Z,18nm,0.9s								
AAK	**Ala-Archa**	**60.06**	**318**	*e*P		**P**	**04 37 10.3**	**+0.1**	
	comp=Z,75nm,1.3s								
ZAA0	**Zalesovo Array**	**60.26**	**333**	*e*P		**P**	**04 37 09.7**	**-1.4**	
ZALV	**Zalesovo Beam**	**60.26**	**333**	P		**P**	**04 37 10.0**	**-1.1**	
ZALV	**Zalesovo Beam**	**60.26**	**333**	P		**P**	**04 37 10.0**	**-1.1**	
ZALV	**Zalesovo Beam**	**60.26**	**333**	P		**P**	**04 37 10.0**	**-1.1**	
	comp=Z,13nm,0.4s,baz=119,slow=6.3,SNR=49								
EKS2	**Erkin-Say**	**60.55**	**318**	*e*P		**P**	**04 37 13.7**	**+0.1**	
EKS2				pmax	pmax				
	comp=Z,12nm,0.8s								
EKS2	**Erkin-Say**	**60.55**	**318**	*e*P		**P**	**04 37 13.7**	**+0.1**	
	comp=Z,12nm,0.8s								
KURK	**Kurchatov**	**61.42**	**327**	P		**P**	**04 37 18.8**	**-0.3**	
KURK				pmax	pmax				
	comp=Z,36nm,0.7s								
KURK	**Kurchatov**	**61.42**	**327**	*e*P		**P**	**04 37 18.6**	**-0.6**	
	comp=Z,47nm,0.8s								
NVS	**Novosibirsk**	**61.55**	**333**	*e*P		**P**	**04 37 18.9**	**-0.9**	
NVS				pmax	pmax				
	comp=Z,47nm,0.7s								
NVS				pmax	pmax				
	comp=N,3.0nm,0.4s								
NVS				pmax	pmax				
	comp=E,12nm,0.4s								
SEY	**Seymchan**	**61.74**	**13**	⇑*i*P		**P**	**04 37 22.3**	**+1.3**	
KK31	**Karatay Array**	**62.94**	**317**	*i* P		**P**	**04 37 29.4**	**-0.1**	
KK31				pmax	pmax				
	comp=Z,7.0nm,0.6s								
KKAR	**Karatay Array**	**62.94**	**317**	*e*P		**P**	**04 37 29.2**	**-0.3**	
KKAR				pmax	pmax				
	comp=Z,26nm,1.0s								
KKAR	**Karatay Array**	**62.94**	**317**	*e*P		**P**	**04 37 29.2**	**-0.3**	
	comp=Z,26nm,1.0s		

VRHR					pmax	pmax			
	comp=N,9.0nm,0.6s								
VRHR					pmax	pmax			
	comp=Z,10.0nm,0.6s								
VRHR					pmax	pmax			
	comp=E,40nm,1.7s								
VNDA	**Vanda**	**83.76**	**173**	*eP*	**P**		**04 39 30.7**	**-0.6**	
	comp=E,10nm,0.7s								
MCK	**McKinley**	**83.91**	**26**	*eP*	**P**		**04 39 33.3**	**+0.8**	
MCK					pmax	pmax			
	comp=Z,38nm,1.0s								
MCK	**McKinley**	**83.91**	**26**	*eP*	**P**		**04 39 33.2**	**+0.8**	
	comp=Z,38nm,1.0s								
SML	**Sawmill**	**84.09**	**28**	*eP*	**P**		**04 39 33.7**	**+0.3**	
SML					pmax	pmax			
	comp=Z,16nm,1.0s								
SML	**Sawmill**	**84.09**	**28**	*eP*	**P**		**04 39 33.7**	**+0.3**	
	comp=Z,16nm,1.0s								
COLA	**College**	**84.44**	**25**	*eP*	**P**		**04 39 34.7**	**-0.3**	
COLA					pmax	pmax			
	comp=Z,5.0nm,0.8s								
COLA	**College**	**84.44**	**25**	*eP*	**P**		**04 39 34.6**	**-0.3**	
	comp=Z,5.3nm,0.8s								
ILAR	**Eielson Array**	**84.85**	**25**	P	**P**		**04 39 37.1**	**0.0**	
ILAR	**Eielson Array**	**84.85**	**25**	P	**P**		**04 39 37.1**	**0.0**	
	comp=Z,4.0nm,0.7s,baz=246,slow=5.4,SNR=39								
KLMR	**Klimovskoe**	**85.08**	**331**	*eP*	**P**		**04 39 37.8**	**-0.5**	
KLMR					pmax	pmax			
	comp=Z,96nm,0.8s								
VORD	**Divnogorie**	**85.21**	**321**	*eP*	**P**		**04 39 39.3**	**+0.1**	
VSR	**Storozhevoye**	**85.29**	**321**	*eP*	**P**		**04 39 39.3**	**-0.3**	
VSR					pmax	pmax			
	comp=Z,30nm,1.2s								
VSR					pmax	pmax			
	comp=N,10.0nm,1.1s								
VSR					pmax	pmax			
	comp=E,10.0nm,0.8s								
DIV	**Divide**	**85.31**	**29**	*eP*	**P**		**04 39 40.2**	**+0.6**	
	comp=E,96nm,1.2s								
PAX	**Paxson**	**85.45**	**27**	*eP*	**P**		**04 39 41.8**	**+1.5**	
PAX					pmax	pmax			
	comp=Z,38nm,1.4s								
PAX	**Paxson**	**85.45**	**27**	*eP*	**P**		**04 39 41.8**	**+1.5**	
	comp=Z,38nm,1.4s								
BMRM	**Bremner River**	**85.88**	**29**	*eP*	**P**		**04 39 43.2**	**+0.8**	
	comp=Z,43nm,1.1s								
MOS	**Moscow**	**86.13**	**325**	*eP*	**P**		**04 39 42.5**	**-1.1**	
MOS					pmax	pmax			
	comp=Z,112nm,1.1s								
MOS					pmax	pmax			
	comp=N,67nm,0.9s								
OBN	**Obninsk**	**86.75**	**325⇑**	*eP*	**P**		**04 39 46.3**	**-0.4**	
OBN				*eS*	**SKSac**		**04 50 09.2**	**-0.7**	
OBN					pmax	pmax			
	comp=Z,97nm,1.4s								
OBN	**Obninsk**	**86.75**	**325**	*eP*	**P**		**04 39 46.8**	**+0.1**	
	comp=Z,46nm,0.7s								
APA	**Apatity**	**87.52**	**337**	*⇓iP*	**P**		**04 39 50.2**	**0.0**	
APA				MLR	MLR				
	comp=Z,2μm,12.0s								
JOF	**Joensuu**	**88.85**	**333**	*eP*	**P**		**04 39 55.9**	**-0.7**	
JOF					pmax	pmax			
	comp=Z,21nm,0.5s								
JOF	**Joensuu**	**88.85**	**333**	*ep*	**P**		**04 39 55.9**	**-0.7**	
	comp=Z,21nm,0.5s								
KMBO	**Kilima Mbogo**	**89.47**	**269**	*eP*	**P**		**04 40 00.8**	**0.0**	
	comp=Z,7.9nm,1.0s								
KEV	**Kevo**	**89.56**	**340**	*eP*	**P**		**04 39 58.9**	**-0.9**	
KEV	**Kevo**	**89.56**	**340**	*ep*	**P**		**04 39 58.9**	**-0.9**	
BR131	**Keskin Array S**	**89.75**	**310**	*eP*	**P**		**04 40 00.1**	**-1.4**	
	comp=Z,3.0nm,0.6s								
BRTR	**Keskin Array B**	**89.75**	**310**	P	**P**		**04 40 00.5**	**-1.1**	
BRTR	**Keskin Array B**	**89.75**	**310**	P	**P**		**04 40 00.5**	**-1.1**	
	comp=Z,4.4nm,0.5s,baz=136,slow=4.2,SNR=35								
ARCES	**ARCESS Array B**	**90.12**	**340**	P	**P**		**04 40 01.5**	**-0.9**	
ARCES	**ARCESS Array B**	**90.12**	**340**	P	**P**		**04 40 01.5**	**-0.9**	
	comp=Z,8.0nm,0.5s,baz=90,slow=6.4,SNR=62								
KAF	**Kangasniemi**	**91.27**	**332**	*eP*	**P**		**04 40 07.3**	**-0.6**	
KAF					pmax	pmax			
	comp=Z,11nm,0.5s								
KAF	**Kangasniemi**	**91.27**	**332**	*ep*	**P**		**04 40 07.3**	**-0.6**	
	comp=Z,11nm,0.5s								
FINES	**FINESS Array B**	**91.51**	**332**	P	**P**		**04 40 09.1**	**+0.1**	
FINES	**FINESS Array B**	**91.51**	**332**	P	**P**		**04 40 09.1**	**+0.1**	
	comp=Z,5.8nm,0.5s,baz=61,slow=4.6,SNR=52								
AKASG	**Malin Array Be**	**91.59**	**321**	P	**P**		**04 40 08.4**	**-1.3**	
AKASG	**Malin Array Be**	**91.59**	**321**	P	**P**		**04 40 08.3**	**-1.3**	
AKASG	**Malin Array Be**	**91.59**	**321**	P	**P**		**04 40 08.3**	**-1.3**	
	comp=Z,5.1nm,0.5s,baz=73,slow=4.5,SNR=22								
AKBB	**Malin Array Si**	**91.59**	**321**	*eP*	**P**		**04 40 08.8**	**-0.8**	
AKBB	**Malin Array Si**	**91.59**	**321**	*eP*	**P**		**04 40 08.8**	**-0.8**	
NACGM	**Naroch**	**92.37**	**325**	*e*	**P**		**04 40 10.0**	**-3.2**	
IZAR	**Zarasai**	**92.52**	**326**	*eP*	**P**		**04 40 14.2**	**+0.4**	
IZAR				AMB	AMB		04 40 16.0		
	comp=Z,12nm,1.0s								
IZAR	**Zarasai**	**92.52**	**326**	*eP*	**P**		**04 40 14.2**	**+0.4**	
IZAR				AMB	AMB		04 40 16.0		
	comp=Z,12nm,1.0s								
IIGN	**Ignalina**	**92.60**	**326**	*eP*	**P**		**04 40 14.6**	**+0.4**	
IIGN				AMB	AMB		04 40 16.5		
	comp=Z,7.6nm,0.8s								
IIGN	**Ignalina**	**92.60**	**326**	*eP*	**P**		**04 40 14.6**	**+0.4**	
IIGN				AMB	AMB		04 40 16.5		
	comp=Z,7.6nm,0.8s								
ISAL	**Salakas**	**92.62**	**326**	*eP*	**P**		**04 40 14.7**	**+0.4**	
ISAL				AMB	AMB		04 40 17.3		
	comp=Z,10nm,1.1s								
ISAL	**Salakas**	**92.62**	**326**	*eP*	**P**		**04 40 14.7**	**+0.4**	
ISAL				AMB	AMB		04 40 17.3		
	comp=Z,10nm,1.1s								
SYO	**Syowa Base**	**92.70**	**201⇑**	*eP*	**P**		**04 40 14.4**	**+0.1**	
TESR		**93.94**	**317⇑**	*iP*	**P**		**04 40 20.1**	**-0.5**	
QSPA	**South Pole Qui**	**93.96**	**180**	*eP*	**P**		**04 40 20.6**	**+0.2**	
	comp=Z,11nm,1.0s								
VRI	**Vrincioaia**	**94.00**	**316⇑**	*iP*	**P**		**04 40 21.4**	**+0.5**	
PLOR	**Plostina**	**94.06**	**316⇑**	*iP*	**P**		**04 40 21.4**	**+0.2**	
MLR	**Muntele Rosu**	**94.61**	**316**	*⇓iP*	**P**		**04 40 23.8**	**-0.1**	
SUW	**Suwalki**	**94.61**	**325**	*eP*	**P**		**04 40 23.2**	**-0.3**	
SUW					pmax	pmax			
	comp=Z,82nm,0.9s								
SUW	**Suwalki**	**94.61**	**325**	*eP*	**P**		**04 40 23.2**	**-0.3**	
	comp=Z,82nm,0.9s								
BURAR	**Bucovina Array**	**94.70**	**318⇑**	*iP*	**P**		**04 40 24.9**	**+0.7**	
BUR08	**Bucovina Ar. S**	**94.71**	**318**	*eP*	**P**		**04 40 23.9**	**-0.4**	
VOIR		**95.24**	**316⇑**	*iP*	**P**		**04 40 27.5**	**+0.8**	
KWP	**Kalwaria Pacla**	**95.91**	**321**	*eP*	**P**		**04 40 29.7**	**+0.2**	
KWP					pmax	pmax			
	comp=Z,26nm,0.9s								
KWP	**Kalwaria Pacla**	**95.91**	**321**	*eP*	**P**		**04 40 29.7**	**+0.2**	
	comp=Z,26nm,0.9s								
KWP	**Kalwaria Pacla**	**95.91**	**321**	*⇓iP*	**P**		**04 40 29.9**	**+0.3**	
KOLS	**Kolonicke sedl**	**96.34**	**320**	*eP*	**P**		**04 40 31.4**	**-0.2**	
KOLS	**Kolonicke sedl**	**96.34**	**320**	*eP*	**P**		**04 40 31.4**	**-0.2**	
TRPA	**Tarpa**	**96.36**	**319**	*⇓iP*	**P**		**04 40 31.3**	**-0.3**	
UZH	**Uzhgorod**	**96.40**	**320**	*⇓iP*	**P**		**04 40 32.3**	**+0.5**	
UZH				*e*			04 40 39.7		
UZH				*e*			04 40 48.3		
DRGR		**96.55**	**318**	*⇓iP*	**P**		**04 40 32.5**	**-0.1**	
CRVS	**Cervenica-Dubn**	**96.87**	**320**	*eP*	**P**		**04 40 34.8**	**+0.8**	
CRVS	**Cervenica-Dubn**	**96.87**	**320**	*eP*	**P**		**04 40 34.8**	**+0.8**	
VTS	**Vitosha**	**97.11**	**314**	*⇓iP*	Pdif		04 40 35.3	-0.2	
BZS	**Buzias**	**97.56**	**317**	*⇓iP*	**P**		**04 40 36.6**	**-0.5**	
OJC	**Ojcow**	**97.58**	**322**	*eP*	**P**		**04 40 36.0**	**-1.1**	
OJC	**Ojcow**	**97.58**	**322**	*eP*	**P**		**04 40 36.2**	**-0.9**	
OJC	**Ojcow**	**97.58**	**322**	*eP*	Pdif		04 40 37.4	+0.3	
	comp=Z,12nm,1.0s								
PSZ	**Piszkesteto**	**98.13**	**319**	*⇓iP*	Pdif		04 40 39.9	+0.1	
NB2	**NORSAR Subarra**	**98.46**	**334**	P	**P**		**04 40 40.0**	**-0.8**	
	comp=Z,2.7nm,0.6s,baz=68,slow=4.6								
NOA	**NORSAR Array B**	**98.46**	**334**	P	**P**		**04 40 40.0**	**-0.8**	
NOA	**NORSAR Array B**	**98.46**	**334**	P	**P**		**04 40 40.0**	**-0.8**	
	comp=Z,2.6nm,0.7s,baz=66,slow=4.5,SNR=10								
VYHS	**Vyhne**	**98.66**	**320**	*eP*	Pdif		04 40 43.0	+1.0	
VYHS	**Vyhne**	**98.66**	**320**	PDIF	Pdif		04 40 43.0	+1.0	
OKC	**Ostrava-Krasne**	**98.71**	**322**	*eP*	Pdif		04 40 43.6	+1.4	
OKC	**Ostrava-Krasne**	**98.71**	**322**	*e*	PDIF	Pdif	04 40 43.6	+1.4	
MORC	**Moravsky Berou**	**99.10**	**322**	*⇓iP*	**Pdif**		**04 40 44.0**	**0.0**	
YKA	**Yellowknife Ar**	**99.24**	**24**	P	**Pdif**		**04 40 44.5**	**+0.3**	
YKA				PKiKP	**PKiKP**		**04 45 14.7**	**+0.8**	
YKA	**Yellowknife Ar**	**99.24**	**24**	P	**Pdif**		**04 40 44.5**	**+0.3**	
	comp=Z,0.6nm,0.5s,baz=298,slow=4.4,SNR=23								
YKA				PKiKP	**PKiKP**		**04 45 14.7**	**+0.8**	
	comp=Z,0.2nm,0.6s,baz=298,slow=1.7,SNR=6.0								
PKSM	**Moragy**	**99.41**	**318⇑**	*iP*	**Pdif**		**04 40 44.9**	**-0.5**	
KSP	**Ksiaz**	**99.53**	**323**	*eP*	**Pdif**		**04 40 46.2**	**+0.4**	
DPC	**Dobruska-Polom**	**99.67**	**322**	*eP*	**Pdif**		**04 40 47.2**	**+0.7**	
DPC	**Dobruska-Polom**	**99.67**	**322**	*ePdif*	**Pdif**		**04 40 47.3**	**+0.8**	
	comp=Z,8.1nm,0.9s								
DPC	**Dobruska-Polom**	**99.67**	**322**	*ePDIFF*	**Pdif**		**04 40 47.2**	**+0.7**	
UPC	**Upice**	**99.81**	**323**	*eP*	**Pdif**		**04 40 47.9**	**+0.8**	
UPC	**Upice**	**99.81**	**323**	*ePDIFF*	**Pdif**		**04 40 47.9**	**+0.8**	
VRAC	**Vranov**	**99.83**	**321**	*⇓iP*	**Pdif**		**04 40 47.3**	**+0.1**	
PVCC	**Panska Ves**	**100.67**	**323**	*eP*	**Pdif**		**04 40 51.6**	**+0.7**	
PVCC	**Panska Ves**	**100.67**	**323**	*ePDIFF*	**Pdif**		**04 40 51.6**	**+0.7**	
PRU	**Pruhonice**	**100.87**	**322**	*eP*	**Pdif**		**04 40 52.4**	**+0.6**	
PRU	**Pruhonice**	**100.87**	**322**	*ePDIFF*	**Pdif**		**04 40 52.4**	**+0.6**	
BRG	**Berggiesshubel**	**100.93**	**323**	*eP*	**Pdif**		**04 40 52.3**	**+0.3**	
	comp=Z,15nm,1.2s								
BRG	**Berggiesshubel**	**100.93**	**323**	*ePdiff*	**Pdif**		**04 40 52.7**	**+0.7**	
BRG	**Berggiesshubel**	**100.93**	**323**	*eP*	**Pdif**		**04 40 52.3**	**+0.3**	
BRG					pmax	pmax			
	comp=Z,15nm,1.2s								
CLL	**Collm**	**101.33**	**324**	*eP*	**Pdif**		**04 40 54.0**	**+0.2**	
CLL	**Collm**	**101.33**	**324**	*ePdif*	**Pdif**		**04 40 54.0**	**+0.2**	
KHC	**Kasperske Hory**	**101.76**	**322**	*eP*	**Pdif**		**04 40 57.1**	**+1.3**	
KHC	**Kasperske Hory**	**101.76**	**322**	*ePDIFF*	**Pdif**		**04 40 57.1**	**+1.3**	
GEC2	**GERESS Array S**	**101.78**	**322**	*ePdiff*	**Pdif**		**04 40 56.4**	**+0.4**	
GERES	**GERESS Array B**	**101.78**	**322**	P	**Pdif**		**04 40 55.2**	**-0.8**	
GERES	**GERESS Array B**	**101.78**	**322**	P	**Pdif**		**04 40 55.2**	**-0.8**	
	comp=Z,4.2nm,1.0s,baz=74,slow=5.7,SNR=15								
TANN	**Tannenbergstha**	**101.97**	**323**	*ePdiff*	**Pdif**		**04 40 57.2**	**+0.4**	
NKC	**Novy Kostel**	**102.05**	**323**	*eP*	**Pdif**		**04 40 58.6**	**+1.5**	
NKC	**Novy Kostel**	**102.05**	**323**	*ePDIFF*	**Pdif**		**04 40 58.6**	**+1.5**	
GUNZ	**Gunzen**	**102.07**	**323**	*ePdiff*	**Pdif**		**04 40 56.7**	**-0.5**	
WET	**Wettzell**	**102.18**	**322**	*ePdiff*	**Pdif**		**04 40 58.3**	**+0.6**	
ROTZ	**Rotzenmuhle**	**102.36**	**323**	*ePdiff*	**Pdif**		**04 40 59.7**	**+1.2**	
CLZ	**Clausthal**	**102.64**	**325**	*ePdiff*	**Pdif**		**04 41 00.9**	**+1.2**	
GRF	**Grafenberg Arr**	**102.99**	**323**	*ePdiff*	**Pdif**		**04 41 02.1**	**+0.8**	
MTUM	**Tungsten Hills**	**106.91**	**49**	*ePdif*	**Pdif**		**04 41 17.0**	**-2.2**	
PDAR	**Pinedale Array**	**111.17**	**41**	PKKPbc	PKKPbc		04 56 38.8	+4.2	
PDAR	**Pinedale Array**	**111.17**	**41**	PKKPbc	PKKPbc		04 56 38.8	+4.2	
	comp=Z,0.9nm,0.7s,baz=124,slow=6.9,SNR=8.2								
I20A	**Worland**	**111.53**	**39**	*⇑P*	**PKiKP**		**04 45 37.7**	**+0.3**	
	baz=112								
S21A	**Coal Bank Pass**	**114.69**	**45**	*⇑P*	PKPdf		04 45 46.0	+2.2	
	baz=115								
U22A	**Llaves**	**115.94**	**46**	*⇑P*	**PKPdf**		**04 45 47.0**	**+0.8**	
	baz=116								
X21A	**Alamocita Cree**	**116.10**	**48**	*⇓P*	**PKPdf**		**04 45 47.8**	**+1.2**	
	baz=116								
V24A	**Rampart Ranch,**	**117.38**	**46**	*⇓P*	**PKPdf**		**04 45 50.1**	**+1.1**	
	baz=117								
V25A	**Rancho No Teng**	**117.79**	**46**	*⇑P*	**PKPdf**		**04 45 50.7**	**+0.9**	
	baz=118								
T26A	**Comanche Natio**	**117.86**	**44**	*⇑P*	**PKPdf**		**04 45 50.6**	**+0.8**	
	baz=118								
U26A	**Atchley Ranch,**	**118.14**	**45**	*⇓P*	**PKPdf**		**04 45 51.3**	**+0.9**	
	baz=118								
Z24A	**Sheeppen Canyo**	**118.40**	**49**	*⇑P*	**PKPdf**		**04 45 52.0**	**+1.0**	
	baz=118								
Y25A	**Mesa, Roswell**	**118.63**	**48**	*⇓P*	**PKPdf**		**04 45 52.0**	**+0.6**	
	baz=119								
T28A	**Walsh**	**118.91**	**43**	*⇑P*	**PKPdf**		**04 45 52.5**	**+0.7**	
	baz=119								
BGNE	**Belgrade**	**119.09**	**37**	*⇑P*	**PKPdf**		**04 45 52.8**	**+1.0**	
	baz=119								
MNTX	**Cornudas Mount**	**119.11**	**50**	*⇓P*	**PKPdf**		**04 45 53.4**	**+1.2**	
	baz=119								
324A	**Moseley Ranch,**	**119.14**	**51**	*⇑P*	**PKPdf**		**04 45 53.3**	**+0.9**	
	baz=119								
Z27A	**Tatum**	**120.00**	**48**	*⇑P*	**PKPdf**		**04 45 54.4**	**+0.4**	
	baz=120								
SCHQ	**Schefferville**	**120.26**	**9**	PKP	**PKPdf**		**04 45 53.8**	**+0.1**	
SCHQ	**Schefferville**	**120.26**	**9**	PKP	**PKPdf**		**04 45 53.8**	**+0.1**	
	comp=Z,1.8nm,0.5s,baz=208,slow=4.3,SNR=15								
Y29A	**Porterfield Fa**	**120.87**	**46**	*⇑P*	**PKPdf**		**04 45 56.6**	**+1.0**	
	baz=121								
128A	**Castleberry Fa**	**120.87**	**48**	*⇑P*	**PKPdf**		**04 45 57.0**	**+1.4**	
	baz=121								
427A	**Hayter Ranch,**	**121.00**	**50**	*⇓P*	**PKPdf**		**04 45 56.7**	**+0.7**	
	baz=121								
527A	**Woodward Ranch**	**121.15**	**51**	*⇑P*	**PKPdf**		**04 45 57.4**	**+1.1**	
	baz=121								
TXAR	**Lajitas Array**	**121.47**	**52**	PKP	**PKPdf**		**04 45 57.2**	**+0.4**	
TXAR				PKKPbc	**PKKPab**		**04 55 58.6**	**0.0**	
TXAR	**Lajitas Array**	**121.47**	**52**	PKP	**PKPdf**		**04 45 57.2**	**+0.4**	
	comp=Z,0.5nm,0.5s,baz=146,slow=1.3,SNR=20								
TXAR				PKKPbc	**PKKPab**		**04 55 58.6**	**0.0**	
	comp=Z,0.2nm,0.6s,baz=119,slow=5.8,SNR=4.1								
428A	**Kincaid Ranch,**	**121.61**	**50**	*⇓P*	**PKPdf**		**04 45 57.8**	**+0.7**	
	baz=122								
627A	**Terlingua Ranc**	**121.63**	**52**	*⇓P*	**PKPdf**		**04 45 57.6**	**+0.4**	
	baz=122								
528A	**Cox Ranch, San**	**121.78**	**51**	*⇑P*	**PKPdf**		**04 45 58.2**	**+0.7**	
	baz=122								
329A	**Wagon Wheel Ra**	**121.79**	**49**	*⇓P*	**PKPdf**		**04 45 58.1**	**+0.7**	
	baz=122								
628A	**Black Gap, Mar**	**122.01**	**51**	*⇓P*	**PKPdf**		**04 45 58.8**	**+0.9**	
	baz=122								
TORD	**Torodi Ar. Bea**	**122.74**	**288**	PKP	**PKPdf**		**04 45 58.8**	**-0.7**	
TORD				PKKPbc	**PKKPab**		**04 55 53.2**	**+0.2**	
TORD	**Torodi Ar. Bea**	**122.74**	**288**	PKP	**PKPdf**		**04 45 58.8**	**-0.7**	
	comp=Z,1.6nm,0.5s,baz=53,slow=1.5,SNR=20								
TORD				PKKPbc	**PKKPab**		**04 55 53.2**	**+0.2**	
	comp=Z,0.4nm,0.6s,baz=280,slow=2.3,SNR=6.7								
TUL1	**Tulsa**	**123.82**	**41**	*⇓P*	**PKPdf**		**04 46 02.7**	**+1.6**	
	baz=124								
JCT	**Junction City**	**123.91**	**49**	*ePKIKP*	**PKPdf**		**04 46 01.2**	**-0.3**	
JCT	**Junction City**	**123.91**	**49**	*ePKPdf*	**PKPdf**		**04 46 01.2**	**-0.3**	
JCT	**Junction City**	**123.91**	**49**	*⇑P*	**PKPdf**		**04 46 02.1**	**+0.6**	
	baz=124								
PLCA	**Paso Flores**	**140.34**	**159**	PKP	**PKPdf**		**04 46 32.6**	**+0.6**	
PLCA	**Paso Flores**	**140.34**	**159**	PKP	**PKPdf**		**04 46 32.6**	**+0.6**	
	comp=Z,2.0nm,0.8s,baz=344,slow=12,SNR=3.3								
TRQA	**Tornquist**	**145.25**	**168**	*ePKP*	**PKPdf**		**04 46 40.3**	**-0.5**	
CPUP	**Villa Florida**	**157.52**	**171**	PKPab	**PKPab**		**04 47 31.2**	**0.0**	
CPUP	**Villa Florida**	**157.52**	**171**	PKPab	**PKPab**		**04 47 31.2**	**0.0**	
	comp=Z,6.6nm,0.6s,baz=163,slow=3.3,SNR=19								

*ISCJB **12** 04:29:54.4±0.7, 35°.53N±0°.06×69°.82E±0°.09, h87km, mb3.6/3, Error ellipse: s-maj=11.5km s-min=6.3km az=148.9*
*NNC **12** 04:30:05.0±1.8, 36°.74N×69°.33E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=15.9km s-min=13.3km az=110.0*
*IDC **12** 04:30:10.1±16.0, 35°.80N×69°.99E, h232km±160km, mb3.2/3, mb1 3.2/4, mb1mx2.9/26, mbtmp3.2/4, Error ellipse: s-maj=128.2km s-min=41.8km az=163.0*

ISC 12 04:29:56.6±0.9, 35°.67N±0°.07×69°.81E±0°.09, h87km, n26, σ2§17/29, mb3.8/3, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CEP	**Cherat**	**2.53**	**136**	*⇑P*		**Pn**	**04 30 37.8**	**+1.9**
CEP				S		**Sn**	**04 31 09.0**	**+3.0**
THN	**Thein Dam**	**5.87**	**122**	*ex*		**Pn**	**04 31 20.6**	**-0.5**
THN				*ex*		**Sn**	**04 32 26.2**	**-0.8**
AML	**Almayashu**	**7.12**	**24**	P		**Pn**	**04 31 40.6**	**+2.1**
	SNR=19							
KK31	**Karatay Array**	**7.44**	**4**	*⇑Pn*		**Pn**	**04 31 44.0**	**+1.6**
	1.1nm,0.3s,baz=193,slow=16,SNR=19							
KK31				*⇑Sn*		**Sn**	**04 33 01.4**	**-3.8**
	12nm,0.8s,baz=198,slow=25,SNR=6.5							
AAK	**Ala-Archa**	**7.84**	**26**	P		**Pn**	**04 31 50.6**	**+2.5**
	SNR=9.8							
CHMS	**Chumysh**	**8.26**	**26**	P		**Pn**	**04 31 56.0**	**+2.5**
	SNR=9.6							
USP	**Ospenovka**	**8.40**	**24**	P		**Pn**	**04 31 56.7**	**+1.1**
	SNR=6.6							
TKM2	**Tokmak 2**	**8.51**	**30**	*⇓Pn*		**Pn**	**04 31 59.0**	**+1.8**
	12nm,1.4s							
TKM2				*⇓Sn*		**Sn**	**04 33 31.4**	**-0.4**
	6.2nm,0.9s							
TKM2	**Tokmak 2**	**8.51**	**30**	P		**Pn**	**04 31 59.2**	**+2.0**
	SNR=6.0							
KHET	**Khetri**	**9.13**	**144**	*ex*		**Pn**	**04 32 03.1**	**-2.5**
KHET				*ex*		x	04 33 39.3	
KUDL	**Kundal**	**9.41**	**141**	*ex*		Pn	04 32 06.1	-3.2
KUDL				*ex*		x	04 33 36.1	
DANN	**Dangsing**	**13.90**	**118**	*eP*		**Pn**	**04 33 07.1**	**-2.9**
	8.9nm,0.4s							
KOLN	**Koldanda**	**14.13**	**120**	*eP*		**Pn**	**04 33 10.0**	**-2.9**
	7.8nm,0.4s							
MKAR	**Makanchi Array**	**14.53**	**36**	P		**P**	**04 33 22.9**	**+0.9**
	0.1nm,0.3s,baz=225,slow=12,SNR=8.5							
GKN	**Gorkha**	**14.73**	**117**	*eP*		**Pn**	**04 33 17.9**	**-2.8**
	8.1nm,0.3s							
KKN	**Kakani**	**15.32**	**117**	*eP*		**Pn**	**04 33 25.8**	**-2.4**
AB31	**Akbulak array**	**15.38**	**335**	Pn		**Pn**	**04 33 27.2**	**-1.4**
	2.6nm,0.6s,baz=148,slow=12,SNR=44							
AB31				*⇑Sn*		Sn	04 36 06.0	-12
	1.7nm,0.7s,baz=142,slow=21,SNR=3.5							
PKI	**Pulchoki**	**15.54**	**117**	*eP*		**Pn**	**04 33 28.6**	**-2.5**
GUN	**Gumba**	**15.69**	**115**	*eP*		**Pn**	**04 33 30.6**	**-2.4**
JIRN	**Jiri**	**16.06**	**115**	*eP*		**Pn**	**04 33 35.1**	**-2.6**
	4.1nm,0.4s							
RAMN	**Ramite**	**16.76**	**117**	*eP*		**Pn**	**04 33 44.7**	**-1.5**
AKTO	**Aktyubinsk**	**17.05**	**334**	*⇑Pn*		**Pn**	**04 33 50.2**	**+0.8**
	0.5nm,0.7s							
AKTO				*⇓Sn*		Sn	04 36 50.3	-8.2
	1.6nm,2.1s							
TAPN	**Taplejung**	**17.36**	**114**	*eP*		**Pn**	**04 33 52.0**	**-1.6**
	5.0nm,0.4s							
ZALV	**Zalesovo Beam**	**21.07**	**25**	P		**P**	**04 34 34.6**	**+1.0**
	2.6nm,0.5s,baz=220,slow=11,SNR=8.8							
BRTR	**Keskin Array B**	**28.78**	**289**	P		**P**	**04 35 47.5**	**+1.2**
	0.4nm,0.7s,baz=69,slow=7.9,SNR=3.2							
TORD	**Torodi Ar. Bea**	**64.73**	**268**	P		**P**	**04 40 25.0**	**-1.0**
	0.8nm,0.6s,baz=51,slow=5.8,SNR=12							

MEX 12 04:32:37.5±0.9, 14°.88N×92°.94W, h68km±14km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
THIG		**0.66**	**87**	*eP*		Pn	04 32 50.0	-1.8
THIG				*iS*		Sn	04 33 00.6	-1.8
PCIG		**0.86**	**342**	*iP*		Pn	04 32 53.2	-1.0
PCIG				*eS*		Sn	04 33 05.5	-1.0
CCIG	**Comitan**	**1.60**	**29**	*iP*		Pn	04 33 03.0	-1.0
CCIG				*eS*		Sn	04 33 21.2	-2.8
TGIG		**1.90**	**355**	*eP*		Pn	04 33 06.0	-1.8
TGIG				*eS*		Sn	04 33 28.3	-2.6
CMIG	**Matias Romero**	**2.88**	**320**	*eP*		Pn	04 33 21.0	-0.2
CMIG				*eS*		Sn	04 33 52.7	-2.0
HUIG	**Huatulco**	**3.18**	**287**	*eP*		Pn	04 33 23.8	-1.3
HUIG				*eS*		Sn	04 33 59.4	-2.5
VHO	**Vista Hermosa**	**4.25**	**301**	*iP*		Pn	04 33 41.4	+1.4
VHO				*iS*		Sn	04 34 27.6

az=164.8

ISC 12 04:33:29.9±0.6, 3°59N×0°09×126°6E±0°2, h53km, n58, σ0967/60, mb4.7/31, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPUB	**Ta-pu**	**20.43**	**344**	*e*P	**P**	**04 38 01.2**	**-1.7**
	64nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.57**	**183**	*e*P	**P**	**04 38 15.0**	**-0.2**
	10nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.57**	**183**	P	**P**	**04 38 14.4**	**-0.8**
	5.8nm,0.7s,baz=35,slow=12,SNR=2.5						
JOW	**Kunigami**	**23.17**	**4**	P	**P**	**04 38 30.4**	**-1.7**
JOW	**Kunigami**	**23.17**	**4**	P	**P**	**04 38 30.4**	**-1.7**
	10nm,0.3s,baz=36,slow=2.1,SNR=4.6						
WRAB	**Tennant Creek**	**24.58**	**162**	*e*P	**P**	**04 38 44.8**	**-0.4**
	25nm,0.7s						
WRA	**Warramunga Arr**	**24.59**	**162**	P	**P**	**04 38 45.1**	**-0.2**
WRA	**Warramunga Arr**	**24.59**	**162**	P	**P**	**04 38 45.1**	**-0.2**
	15nm,0.6s						
ASAR	**Alice Springs**	**28.01**	**166**	P	**P**	**04 39 15.2**	**-0.9**
ASAR	**Alice Springs**	**28.01**	**166**	P	**P**	**04 39 15.2**	**-0.9**
	1.8nm,0.7s,baz=347,slow=12,SNR=3.7						
JNU	**Nakatsue**	**29.65**	**7**	P	**P**	**04 39 29.5**	**-1.1**
JNU	**Nakatsue**	**29.65**	**7**	P	**P**	**04 39 29.5**	**-1.1**
	7.6nm,0.7s,baz=45,slow=8.6,SNR=4.1						
CMAR	**Chiang Mai Arr**	**30.84**	**301**	P	**P**	**04 39 41.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**30.84**	**301**	P	**P**	**04 39 41.6**	**+0.3**
	3.7nm,0.8s,baz=120,slow=7.7,SNR=6.5						
CHTO	**Chiang Mai**	**30.99**	**301**	*e*P	**P**	**04 39 42.8**	**+0.1**
	5.8nm,0.7s						
ENH	**Enshi**	**31.09**	**330**	*e*P	**P**	**04 39 42.8**	**-0.6**
	25nm,0.7s						
KSAR	**Wonju Array Be**	**33.71**	**2**	P	**P**	**04 40 06.5**	**+0.3**
KSRS	**Korea Array**	**33.73**	**2**	P	**P**	**04 40 06.5**	**+0.2**
	4.3nm,0.7s,baz=182,slow=9.9,SNR=7.1						
BJT	**Baijiatuau**	**37.48**	**347**	*e*P	**P**	**04 40 38.0**	**-0.4**
	134nm,0.8s						
STKA	**Stephens Creek**	**38.04**	**159**	*e*P	**P**	**04 40 42.6**	**-0.7**
	2.7nm,0.8s						
STKA	**Stephens Creek**	**38.04**	**159**	P	**P**	**04 40 43.7**	**+0.4**
	7.9nm,0.5s,baz=319,slow=9.2,SNR=7.5						
MDJ	**Mudanjiang**	**40.95**	**3**	*e*P	**P**	**04 41 07.2**	**-0.1**
	15nm,0.8s						
LSA	**Lhasa**	**42.44**	**312**	*e*P	**P**	**04 41 21.4**	**+1.1**
	9.4nm,0.6s						
ASAJ	**Asahikawa**	**42.76**	**17**	P	**P**	**04 41 23.2**	**+1.1**
	9.4nm,0.7s,baz=309,slow=31,SNR=4.3						
HIA	**Hailar**	**45.89**	**354**	*e*P	**P**	**04 41 47.1**	**0.0**
	35nm,0.9s						
ULN	**Ulaanbaatar**	**47.22**	**342**	*e*P	**P**	**04 41 57.7**	**0.0**
SONM	**Songino Array**	**47.39**	**342**	P	**P**	**04 41 59.0**	**-0.1**
SONM				PcP	**PcP**	**04 43 29.8**	**+0.8**
SONM	**Songino Array**	**47.39**	**342**	P	**P**	**04 41 59.0**	**-0.1**
	3.4nm,0.6s,baz=155,slow=8.7,SNR=7.1						
SONM				PcP	**PcP**	**04 43 29.8**	**+0.8**
	1.2nm,0.7s,baz=142,slow=3.1,SNR=3.9						
TLY	**Talaya**	**51.63**	**342**	*e*P	**P**	**04 42 31.1**	**0.0**
	8.3nm,0.9s						
MK31	**Makanchi Array**	**57.60**	**325**	*e*P	**P**	**04 43 14.1**	**-0.4**
MKAR	**Makanchi Array**	**57.60**	**325**	P	**P**	**04 43 14.3**	**-0.2**
MKAR	**Makanchi Array**	**57.60**	**325**	P	**P**	**04 43 14.3**	**-0.2**
	7.8nm,0.6s,baz=120,slow=8.2,SNR=12						
TKM2	**Tokmak 2**	**59.77**	**319**	*e*P	**P**	**04 43 30.3**	**+0.4**
	4.0nm,0.7s						
AAK	**Ala-Archa**	**60.38**	**318**	*e*P	**P**	**04 43 34.2**	**+0.1**
	13nm,0.9s						
ZALV	**Zalesovo Beam**	**60.66**	**333**	P	**P**	**04 43 35.3**	**-0.1**
ZALV	**Zalesovo Beam**	**60.66**	**333**	P	**P**	**04 43 35.3**	**-0.1**
	2.7nm,0.5s,baz=122,slow=6.9,SNR=6.2						
EKS2	**Erkin-Say**	**60.87**	**318**	*e*P	**P**	**04 43 37.6**	**+0.2**
	4.7nm,0.9s						
KURK	**Kurchatov**	**61.80**	**328**	*e*P	**P**	**04 43 43.0**	**-0.2**
	15nm,0.6s						
KKAR	**Karatay Array**	**63.25**	**317**	*e*P	**P**	**04 43 52.9**	**-0.2**
	6.6nm,0.8s						
BRVK	**Borovoye**	**67.44**	**327**	*e*P	**P**	**04 44 20.3**	**+0.2**
ABKAR	**Akbulak array**	**72.18**	**321**	*e*P	**P**	**04 44 48.6**	**-0.6**
	7.0nm,0.8s						
ARU	**Arti**	**74.99**	**328**	*e*P	**P**	**04 45 04.9**	**-0.7**
	14nm,0.8s						
ILAR	**Eielson Array**	**85.28**	**25**	P	**P**	**04 46 00.6**	**-0.3**
ILAR	**Eielson Array**	**85.28**	**25**	P	**P**	**04 46 00.6**	**-0.3**
	0.4nm,0.5s,baz=247,slow=5.8,SNR=5.9						
ARCES	**ARCESS Array B**	**90.54**	**340**	P	**P**	**04 46 25.6**	**-0.3**
ARCES	**ARCESS Array B**	**90.54**	**340**	P	**P**	**04 46 25.6**	**-0.3**
	6.0nm,0.8s,baz=87,slow=5.6,SNR=5.1						
FINES	**FINESS Array B**	**91.90**	**332**	P	**P**	**04 46 32.9**	**+0.5**
FINES	**FINESS Array B**	**91.90**	**332**	P	**P**	**04 46 32.9**	**+0.5**
	1.0nm,0.5s,baz=55,slow=3.3,SNR=5.8						
AKASG	**Malin Array Be**	**91.93**	**321**	P	**P**	**04 46 32.8**	**+0.1**
AKASG	**Malin Array Be**	**91.93**	**321**	P	**P**	**04 46 32.8**	**+0.1**
	0.5nm,0.5s,baz=76,slow=4.0,SNR=4.2						
YKA	**Yellowknife Ar**	**99.68**	**24**	P	**Pdif**	**04 47 07.7**	**0.0**
YKA	**Yellowknife Ar**	**99.68**	**24**	P	**Pdif**	**04 47 07.7**	**0.0**
	0.3nm,0.8s,baz=294,slow=4.3,SNR=3.7						
TXAR	**Lajitas Array**	**121.71**	**52**	PKP	**PKPdf**	**04 52 20.1**	**+1.1**
TXAR	**Lajitas Array**	**121.78**	**52**	PKP	**PKPdf**	**04 52 20.1**	**+1.1**
	0.3nm,0.7s,baz=21,slow=4.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**122.85**	**288**	PKP	**PKPdf**	**04 52 21.9**	**+0.8**
TORD	**Torodi Ar. Bea**	**122.85**	**288**	PKP	**PKPdf**	**04 52 21.9**	**+0.8**
	0.8nm,0.6s,baz=55,slow=2.8,SNR=3.7						
JTS	**JuntasAbangare**	**145.68**	**66**	PKPbc	**PKPab**	**04 53 05.1**	**+0.8**
JTS	**JuntasAbangare**	**145.68**	**66**	PKPbc	**PKPab**	**04 53 05.1**	**+0.8**
	9.3nm,0.9s,baz=223,slow=9.6,SNR=4.2						

IDC 12 04:36:48.4±0.8, 3°63N×126°72E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.0/20, mbtmp4.1/9, Error ellipse: s-maj=54.9km s-min=15.9km az=74.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.60**	**163**	P	P	04 42 10.4	-0.2
	2.3nm,0.4s						
ASAR	**Alice Springs**	**28.02**	**166**	P	P	04 42 41.5	-0.1
	0.4nm,0.3s,baz=344,slow=12,SNR=3.2						
KSRS	**Korea Array**	**33.68**	**2**	P	P	04 43 30.9	-0.2
	1.5nm,0.6s,baz=181,slow=9.4,SNR=4.3						
STKA	**Stephens Creek**	**38.05**	**159**	P	P	04 44 08.8	+0.1
	2.9nm,0.9s,baz=333,slow=14,SNR=2.3						
SONM	**Songino Array**	**47.38**	**341**	P	P	04 45 24.5	-0.1
	0.4nm,0.5s,baz=165,slow=7.4,SNR=2.2						
PETK	**Petropavlovsk-**	**55.52**	**22**	P	P	04 46 25.3	0.0
	4.6nm,0.8s,baz=184,slow=3.7,SNR=7.2						
MKAR	**Makanchi Array**	**57.63**	**325**	P	P	04 46 40.4	-0.1
	1.0nm,0.4s,baz=121,slow=6.5,SNR=8.7						
KURBB	**Kurchatov Arra**	**61.81**	**327**	P	P	04 47 09.2	+0.1
	1.8nm,0.6s,baz=130,slow=6.3,SNR=7.6						
ARCES	**ARCESS Array B**	**90.53**	**340**	P	P	04 49 51.8	-0.3
	4.3nm,0.9s,baz=84,slow=5.0,SNR=5.7						

IDC 12 04:38:00.9±1.1, 3°71N×126°82E, h0km, mb4.0/6, mb1 4.0/6, mb1mx3.8/20, mbtmp4.0/6, Error ellipse: s-maj=75.7km s-min=24.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.08**	**159**	P	P	04 45 21.4	-0.1
	2.1nm,0.7s,baz=327,slow=12,SNR=3.0						
SONM	**Songino Array**	**47.34**	**341**	P	P	04 46 36.8	0.0
	0.8nm,0.6s,baz=158,slow=8.9,SNR=4.6						
MKAR	**Makanchi Array**	**57.62**	**325**	P	P	04 47 52.9	0.0
	1.5nm,0.4s,baz=121,slow=5.9,SNR=8.4						
ZALV	**Zalesovo Beam**	**60.64**	**333**	P	P	04 48 13.6	0.0
	0.4nm,0.3s,baz=111,slow=7.9,SNR=3.3						
KURBB	**Kurchatov Arra**	**61.80**	**327**	P	P	04 48 21.4	-0.2
	2.4nm,0.6s,baz=130,slow=6.3,SNR=6.1						
ILAR	**Eielson Array**	**85.08**	**25**	P	P	04 50 38.4	-0.1
	0.4nm,0.9s,baz=238,slow=5.2,SNR=3.2						

IDC 12 04:38:19.6±0.8, 3°63N×126°80E, h0km, mb4.4/13, mb1 4.5/13, mb1mx4.3/20, mbtmp4.3/13, Error ellipse: s-maj=49.6km s-min=15.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.57**	**163**	P	P	04 43 41.3	-0.3
	11nm,0.9s						
ASAR	**Alice Springs**	**28.00**	**166**	P	P	04 44 13.6	+1.1
	1.1nm,0.7s,baz=337,slow=8.3,SNR=3.2						
CMAR	**Chiang Mai Arr**	**30.98**	**301**	P	P	04 44 39.0	0.0
	1.4nm,0.3s,baz=117,slow=7.2,SNR=7.5						
STKA	**Stephens Creek**	**38.01**	**159**	P	P	04 45 39.2	-0.4
	6.4nm,0.7s,baz=317,slow=12,SNR=5.0						
SONM	**Songino Array**	**47.41**	**341**	P	P	04 46 56.9	+0.9
	4.1nm,0.9s,baz=162,slow=8.8,SNR=10						
MKAR	**Makanchi Array**	**57.68**	**325**	P	P	04 48 12.4	+0.4
	1.5nm,0.4s,baz=115,slow=7.2,SNR=10						
ZALV	**Zalesovo Beam**	**60.71**	**333**	P	P	04 48 33.0	+0.1
	2.8nm,0.8s,baz=115,slow=7.0,SNR=6.4						
KURBB	**Kurchatov Arra**	**61.86**	**327**	P	P	04 48 40.7	0.0
	2.9nm,0.5s,baz=130,slow=6.5,SNR=7.7						
ILAR	**Eielson Array**	**85.16**	**25**	P	P	04 50 57.1	-0.5
	0.6nm,0.9s,baz=249,slow=7.9,SNR=3.7						
BRTR	**Keskin Array B**	**90.14**	**310**	P	P	04 51 20.8	-1.6
	1.8nm,0.9s,baz=102,slow=5.3,SNR=6.8						
ARCES	**ARCESS Array B**	**90.57**	**340**	P	P	04 51 23.2	-0.2
	7.5nm,0.8s,baz=30,slow=5.9,SNR=8.4						
FINES	**FINESS Array B**	**91.95**	**332**	P	P	04 51 30.1	+0.1
	1.6nm,0.8s,baz=82,slow=14,SNR=3.6						
AKASG	**Malin Array Be**	**92.01**	**321**	P	P	04 51 30.0	-0.5
	3.8nm,0.9s,baz=66,slow=4.9,SNR=6.8						

BJI ***12*** *04:39:56.8, 3°69N×126°78E, h30km, mB5.4/16, mb4.9/44, Ms4.9/19, Ms7 4.6/19*

IDC ***12*** *04:39:57.2±0.4, 4°06N×126°53E, h0km, mb4.6/27, mb1 4.7/27, mb1mx4.7/29, mbtmp4.6/27, MS4.2/2, Ms1 4.2/2, ms1mx3.6/32, Error ellipse: s-maj=19.4km s-min=10.5km az=74.0*

ISCJB ***12*** *04:40:00.5±0.2, 4°15N±0°03×126°77E±0°04, h33km, mb5.0/94, MS4.5/9, Error ellipse: s-maj=5.4km s-min=3.6km az=155.7*

MOS ***12*** *04:40:00.4±0.9, 4°07N×126°65E, h33km, mb5.3/31, Error ellipse: s-maj=13.0km s-min=5.7km az=116.8*

NEIC ***12*** *04:40:02.2±0.2, 4°12N×126°73E, h35km, mb5.0/34, Error ellipse: s-maj=6.8km s-min=3.9km az=68.0*

DJA ***12*** *04:40:07, 3°85N×126°73E, h67km, mb4.9/28*

ISC 12 04:40:02.3±0.4, 4°10N±0°03×126°74E±0°05, h34km±1km, n345, σ1°35/377, mb5.0/93, MS4.5/9, 33C-43D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.66**	**318**	*e*P	**Pb**	**04 40 47.5**	**-1.9**
MATI	**Mati**	**2.87**	**350**	*e*P	**Pb**	**04 40 52.5**	**-0.3**
MATI				*e*S	**Sb**	**04 41 27.1**	**-0.3**
DAV	**Davao City (W)**	**3.17**	**339**	Pn	**Pb**	**04 40 55.2**	**-2.7**
	57nm,0.3s,baz=276,slow=19,SNR=5.1						
DMPH	**Davao City--Mi**	**3.21**	**338**	*e*P	**Pb**	**04 40 57.8**	**-0.8**
DMPH				*i* S	Sb	04 41 58.3	+21
MNI	**Manado**	**3.25**	**216**	P	**Pb**	**04 40 56.6**	**-2.8**
KCP	**Kidapawan**	**3.32**	**330**	*e*P	**Pb**	**04 41 00.2**	**-0.4**
KCP				*i* S	**Sb**	**04 41 45.1**	**+4.4**
TNTI	**Ternate**	**3.37**	**169**	P	Pb	04 41 04.9	+3.5
BUKP	**Musuan**	**4.11**	**336**	*e*P	Pb	04 41 09.5	-4.5
BUKP				*e*S	**Sb**	**04 41 59.1**	**-4.1**
KMSI	**Cibinong**	**4.46**	**218**	P	**Pb**	**04 41 19.9**	**0.0**
CGP	**Cagayan de Oro**	**4.78**	**335**	*i*P	Pn	04 41 18.5	+6.5
CGP				*i* S	**Sb**	**04 42 25.6**	**+3.2**
ZMPH	**Zamboanga City**	**5.45**	**302**	*i*P	**Pn**	**04 41 22.4**	**+1.2**
ZMPH				*i* S	**Sn**	**04 42 21.8**	**-1.0**
MRSI	**Marisa**	**6.00**	**233**	P	**Pn**	**04 41 30.7**	**+2.0**
	400nm,1.2s,5μm1.4nm						
LUWI	**Luwuk**	**6.47**	**218**	P	Pn	04 41 40.6	+5.4
	885nm,1.1s,8μm2.8nm						
SWI	**Sorong**	**6.69**	**137**	P	**Pn**	**04 41 40.2**	**+2.0**
	92nm,0.8s,0.5nm						
PLP	**Palo**	**7.23**	**346**	*e*P	Pn	04 41 53.2	+7.5
NLAI	**Namlea**	**7.30**	**177**	P	Pn	04 41 49.9	+3.3
	101nm,1.0s,2μm0.5nm						
TSM	**Tawau**	**8.85**	**272**	P	Pn	04 42 11.3	+3.4
FAKI	**Fak Fak**	**8.88**	**142**	P	**Pn**	**04 42 11.1**	**+2.7**
	50nm,0.8s,0.2nm						
KDI	**Kendari**	**9.00**	**207**	P	**Pn**	**04 42 12.1**	**+2.1**
	76nm,1.1s,1μm						
SDKM	**Sandakan**	**9.63**	**280**	P	**Pn**	**04 42 21.5**	**+2.8**
TTSI	**Tana Toraja**	**9.91**	**224**	P	**Pn**	**04 42 25.2**	**+2.7**
	129nm,1.3s,2μm						
KDM	**Kudat**	**10.25**	**286**	P	**Pn**	**04 42 29.7**	**+2.5**
SPSI	**Sidrap Palu**	**10.62**	**221**	P	Pn	04 42 38.4	+6.2
	47nm,1.5s,2μm						
KKM	**Kota Kinabalu**	**10.66**	**281**	*e*Pn	**Pn**	**04 42 35.0**	**+2.1**
KKM	**Kota Kinabalu**	**10.66**	**281**	P	**Pn**	**04 42 35.6**	**+2.8**
KKM	**Kota Kinabalu**	**10.66**	**281**	P	Pn	04 42 39.1	+6.3
KKM	**Kota Kinabalu**	**10.66**	**281**	P	Pn	04 42 39.1	+6.3
	52nm,1.6s						
BAKI	**Biak**	**10.74**	**119**	P	Pn	04 42 39.1	+5.3
	125nm,1.1s						
TLE	**Tual**	**11.38**	**148**	P	Pn	04 42 53.5	+11
KAPI	**Kappang**	**11.44**	**218**	LR	LR	04 47 19.9	
	comp=Z,1μm,20.7s,baz=51,slow=39						
BKSI	**Bulukumba**	**11.46**	**215**	P	Pn	04 43 02.1	+18
KBKI	**Kotabaru**	**12.87**	**235**	P	**P**	**04 43 12.0**	**-1.4**
BTM	**Bintulu**	**13.66**	**267**	P	Pn	04 43 17.7	+3.9
BBKI	**Banjar Baru**	**14.07**	**238**	P	**P**	**04 43 26.3**	**-0.4**
	107nm,2.1s						
SBUM	**Sibu**	**14.59**	**264**	P	**P**	**04 43 30.1**	**-2.4**
SBUM	**Sibu**	**14.59**	**264**	P	**P**	**04 43 30.6**	**-1.9**
	88nm,1.4s,1μm0.3nm						
SBUM	**Sibu**	**14.59**	**264**	P	**P**	**04 43 30.6**	**-1.9**
	88nm,1.4s,1μm						
KSM	**Kuching**	**16.62**	**261**	*e*Pn	**P**	**04 43 54.1**	**-0.9**
	67nm,1.1s						
KSM	**Kuching**	**16.62**	**261**	P	**P**	**04 43 56.2**	**+1.2**
KSM	**Kuching**	**16.62**	**261**	P	**P**	**04 43 56.5**	**+1.5**
	75nm,1.1s,0.3nm						
KSM	**Kuching**	**16.62**	**261**	P	**P**	**04 43 56.5**	**+1.5**
	75nm,1.1s						
TPUB	**Ta-pu**	**19.98**	**343**	*e*Pn	**P**	**04 44 31.8**	**-0.2**
	51nm,0.7s						
SSLB	**Suanglung**	**20.35**	**345**	*e*P	**P**	**04 44 35.3**	**-0.8**
	33nm,1.0s						
YHNB	**Yeheng**	**21.09**	**346**	*e*P	**P**	**04 44 44.1**	**+0.1**
	32nm,0.8s						
PPBI	**Pangkal Pinang**	**21.51**	**254**	P	P	04 44 58.2	+10
FITZ	**Fitzroy Crossi**	**22.09**	**183**	*e*P	**P**	**04 44 54.2**	**-0.5**
	11nm,0.5s						
FITZ	**Fitzroy Crossi**	**22.09**	**183**	*e*P	**P**	**04 44 52.0**	**-2.7**
	19nm,0.7s						
FITZ	**Fitzroy Crossi**	**22.09**	**183**	P	**P**	**04 44 52.7**	**-2.0**
	12nm,0.5s,baz=14,slow=17,SNR=10.0						
QZH	**Quanzhou**	**22.15**	**340**	*i*P	**P**	**04 44 56.1**	**+0.7**
QZH				pmax	pmax		
	comp=Z,50nm,0.7s						
JOW	**Kunigami**	**22.65**	**4**	*e*P	**P**	**04 44 59.9**	**-0.8**
JOW	**Kunigami**	**22.65**	**4**	P	**P**	**04 45 01.9**	**+1.2**
	comp=Z,10.0nm,0.5s,baz=112,slow=22,SNR=4.3						
MYKOM	**Kota Tinggi**	**22.97**	**265**	P	**P**	**04 45 06.8**	**+2.6**
MYKOM	**Kota Tinggi**	**22.97**	**265**	P	P	04 45 09.0	+4.8
MYKOM	**Kota Tinggi**	**22.97**	**265**	P	P	04 45 09.0	+4.8
	comp=Z,32nm,1.2s						
KGM	**Kluang**	**23.48**	**266**	P	**P**	**04 45 11.7**	**+2.4**
CGJI	**Cibinong**	**23.55**	**243**	P	P	04 45 15.4	+5.5
	comp=Z,66nm,1.4s,comp=Z,2μm						
COEN	**Coen**	**24.25**	**138**	*e*P	**P**	**04 45 16.6**	**+0.2**
	comp=Z,69nm,0.6s						
PMG	**Port Moresby**	**24.38**	**123**	*e*P	**P**	**04 45 16.9**	**-0.7**
WRAB	**Tennant Creek**	**25.03**	**163**	*e*P	**P**	**04 45 22.1**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,45nm,0.8s						
WRAB	**Tennant Creek**	**25.03**	**163**	*e*P	**P**	**04 45 22.1**	**-1.4**
	comp=Z,45nm,0.8s						
FRIM	**Kepong**	**25.08**	**269**	P	**P**	**04 45 25.9**	**+1.9**
IPM	**Ipoh**	**25.65**	**272**	*e*P	**P**	**04 45 30.9**	**+1.7**
	comp=Z,29nm,1.0s						
IPM	**Ipoh**	**25.65**	**272**	P	**P**	**04 45 30.9**	**+1.7**
IPM	**Ipoh**	**25.65**	**272**	P	**P**	**04 45 33.6**	**+4.4**
IPM	**Ipoh**	**25.65**	**272**	P	**P**	**04 45 33.6**	**+4.4**
	comp=Z,32nm,1.1s						
MBWA	**Marble Bar**	**26.03**	**195**	*e*P	**P**	**04 45 31.6**	**-0.9**
	comp=Z,28nm,0.8s						
MNSI	**Mandailing Nat**	**27.33**	**264**	P	P	04 45 52.6	+8.2
	comp=Z,39nm,1.0s						
MNSI	**Mandailing Nat**	**27.33**	**264**	P	P	04 45 52.6	+8.2
PSI	**Prapat**	**27.80**	**268**	P	**P**	**04 45 47.8**	**-0.9**
PSI	**Prapat**	**27.80**	**268**	P	**P**	**04 45 52.7**	**+4.0**
	comp=Z,19nm,1.4s						
PSI	**Prapat**	**27.80**	**268**	P	**P**	**04 45 52.7**	**+4.0**
	comp=Z,19nm,1.4s						
PSI	**Prapat**	**27.80**	**268**	P	**P**	**04 45 47.8**	**-0.9**
	comp=Z,7.2nm,0.8s,baz=92,slow=4.0,SNR=4.5						
AS31	**Alice Springs**	**28.47**	**166**	*e*P	**P**	**04 45 53.4**	**-1.1**
ASAR	**Alice Springs**	**28.47**	**166**	P	**P**	**04 45 53.5**	**-0.9**
ASAR	**Alice Springs**	**28.47**	**166**	P	**P**	**04 45 53.5**	**-0.9**
	comp=Z,3.1nm,0.5s,baz=343,slow=7.1,SNR=14						
NJ2	**Nanjing**	**28.77**	**346**	*e*P	**P**	**04 45 57.1**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WHN	**Wuhan**	**28.78**	**337**	P	**P**	**04 45 57.4**	**+0.3**
JNU	**Nakatsue**	**29.13**	**7**	P	**P**	**04 46 00.4**	**+0.2**
JNU	**Nakatsue**	**29.13**	**7**	P	**P**	**04 46 00.4**	**+0.2**
	comp=Z,9.2nm,0.8s,baz=151,slow=11,SNR=4.3						
GYA	**Guiyang**	**29.39**	**321**	P	**P**	**04 46 05.3**	**+2.6**
GYA				pP	**pP**	**04 46 14.5**	**+2.0**
GYA				PP	**PnPn**	**04 47 01.9**	**+4.7**
GYA				PcP	**PcP**	**04 49 09.7**	**+1.2**
GYA				S	**S**	**04 50 55.5**	**+1.0**
GYA				sS	**sS**	**04 51 13.2**	**+2.5**
GYA				SS	**SnSn**	**04 52 29.0**	**+6.3**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=N,530nm,18.2s						
GYA				LR	LR		
	comp=E,510nm,17.9s						
GYA				LR	LR		
	comp=Z,550nm,16.4s						
TPTI		**29.51**	**269**	P	**P**	**04 46 04.0**	**+0.2**
TPTI		**29.51**	**269**	P	**P**	**04 46 04.0**	**+0.2**
	comp=Z,628nm,1.0s,comp=Z,85μm						
CMAR	**Chiang Mai Arr**	**30.70**	**300**	P	**P**	**04 46 13.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**30.70**	**300**	P	**P**	**04 46 13.2**	**-1.1**
	comp=Z,2.7nm,0.4s,baz=111,slow=7.0,SNR=16						
ENH	**Enshi**	**30.71**	**330**	*e*P	**P**	**04 46 13.9**	**-0.4**
	comp=Z,77nm,1.4s						
CTA	**Charters Tower**	**30.75**	**142**	P	**P**	**04 46 15.2**	**+0.5**
CTA	**Charters Tower**	**30.75**	**142**	*e*P	**P**	**04 46 15.8**	**+1.1**
	comp=Z,5.9nm,0.6s						
CTA	**Charters Tower**	**30.75**	**142**	P	**P**	**04 46 15.2**	**+0.5**
	comp=Z,7.7nm,0.8s,baz=326,slow=11,SNR=10.0						
CTAO	**Charters Tower**	**30.75**	**142**	*e*P	**P**	**04 46 15.6**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CTAO	**Charters Tower**	**30.75**	**142**	*e*P	**P**	**04 46 15.6**	**+0.9**
	comp=Z,7.2nm,0.7s						
CHTO	**Chiang Mai**	**30.84**	**300**	*e*P	**P**	**04 46 15.3**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,28nm,1.1s						
CHTO	**Chiang Mai**	**30.84**	**300**	*e*P	**P**	**04 46 15.3**	**-0.2**
	comp=Z,28nm,1.1s						
CHTO	**Chiang Mai**	**30.84**	**300**	P	**P**	**04 46 15.6**	**+0.1**
	comp=Z,30nm,1.1s						
CHTO	**Chiang Mai**	**30.84**	**300**	P	**P**	**04 46 15.6**	**+0.1**
	comp=Z,30nm,1.1s						
KMI	**Kunming**	**31.13**	**314**	P	**P**	**04 46 19.2**	**+1.0**
KMI				pmax	pmax		
	comp=Z,11nm,1.2s						
MEEK	**Meekatharra**	**31.55**	**194**	*e*P	**P**	**04 46 20.2**	**-1.5**
	comp=Z,173nm,0.6s						
KSAR	**Wonju Array Be**	**33.20**	**2**	P	**P**	**04 46 35.9**	**0.0**
KSAR				PcP	**PcP**	**04 49 19.9**	**+1.7**
KSRS	**Korea Array**	**33.21**	**2**	P	**P**	**04 46 35.9**	**-0.1**
	comp=Z,5.7nm,0.9s,baz=177,slow=9.6,SNR=10						
KSRS				PcP	**PcP**	**04 49 19.9**	**+1.6**
	comp=Z,5.3nm,0.8s,baz=179,slow=2.9,SNR=13						
MJAR	**Matsushiro Arr**	**33.96**	**17**	P	**P**	**04 46 41.6**	**-1.1**
MJAR				PcP	**PcP**	**04 49 22.0**	**+1.5**
MJAR	**Matsushiro Arr**	**33.96**	**17**	P	**P**	**04 46 41.6**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=194,slow=9.9,SNR=4.0						
MJAR				PcP	**PcP**	**04 49 22.0**	**+1.5**
	comp=Z,4.3nm,0.8s,baz=184,slow=3.6,SNR=5.6						
XAN	**Xi'an**	**34.09**	**333**	P	**P**	**04 46 43.1**	**-0.8**
XAN				pP	**pP**	**04 46 53.2**	**-0.5**
XAN				S	**S**	**04 52 03.7**	**-3.9**

MDJ pmax pmax
comp=Z,19nm,1.9s
MDJ Mudanjiang 40.43 3 *e*P **P** **04 47 36.0 -1.3**
comp=Z,22nm,1.1s
ARMA Armidale 41.77 147 *e*P **P** **04 47 49.9 +1.1**
comp=Z,35nm,0.7s
ARMA Armidale 41.77 147 *e*P **P** **04 47 49.7 +0.9**
LSA Lhasa 42.20 311 *e*P **P** **04 47 52.4 -0.4**
LSA pmax pmax
comp=Z,13nm,0.6s
LSA Lhasa 42.20 311 *e*P **P** **04 47 52.4 -0.4**
comp=Z,13nm,0.6s
GTA Gaotai 42.78 329 *e*P **P** **04 47 56.9 -0.1**
GTA pP **pP** **04 48 08.5 +1.5**
GTA sP **sP** **04 48 11.5 +0.5**
GTA PcP **PcP** **04 49 49.5 +1.5**
GTA S **S** **04 54 20.9 +1.9**
GTA pmax pmax
comp=Z,7.0nm,1.1s
GTA LR LR
comp=N,530nm,18.5s
GTA LR LR
comp=E,580nm,24.2s
GTA LR LR
comp=Z,640nm,20.9s
YNG Young 43.31 154 *e*P **P** **04 48 01.5 +0.4**
comp=Z,14nm,0.7s
TAPN Taplejung 43.81 306 *e*P **P** **04 48 04.5 -1.1**
comp=Z,41nm,1.0s
ODAN Odare 43.86 305 *e*P **P** **04 48 04.9 -1.1**
CAN Canberra 44.44 154 *e*P **P** **04 48 11.3 +1.1**
comp=Z,29nm,0.7s
RAMN Ramite 44.55 305 *e*P **P** **04 48 10.7 -0.8**
TOO Toolangi 44.98 159 *e*P **P** **04 48 15.6 +1.1**
comp=Z,55nm,0.8s
JIRN Jiri 45.16 306 *e*P **P** **04 48 15.2 -1.3**
KLR Kul'dur 45.17 5 *e*P P 04 48 12.2 -3.5
KLR pmax pmax
comp=Z,100nm,2.0s
HIA Hailar 45.39 354 *e*P **P** **04 48 17.9 +0.3**
comp=Z,34nm,1.1s
HIA *e*PcP **PcP** **04 49 56.7 +0.1**
GUN Gumba 45.52 306 *e*P **P** **04 48 17.9 -1.4**
PKI Pulchoki 45.76 305 *e*P **P** **04 48 20.0 -1.2**
KKN Kakani 45.95 305 *e*P **P** **04 48 21.8 -0.8**
DMN Daman 46.03 305 *e*P **P** **04 48 22.5 -0.7**
GKN Gorkha 46.56 305 *e*P **P** **04 48 26.3 -1.0**
DZM Mont Dzumac 46.74 126 P **P** **04 48 30.0 +1.3**
DZM Mont Dzumac 46.74 126 P **P** **04 48 30.0 +1.3**
comp=Z,9.3nm,0.8s,baz=1.6,slow=22,SNR=10
ULN Ulaanbaatar 46.77 342 *e*P **P** **04 48 28.0 -0.6**
comp=Z,18nm,1.1s
ULN *e*PcP **PcP** **04 50 01.5 -0.1**
ULN Ulaanbaatar 46.77 342 P **P** **04 48 29.2 +0.6**
comp=Z,16nm,1.2s
SONM Songino Array 46.95 341 P **P** **04 48 29.7 -0.3**
SONM PcP **PcP** **04 50 02.5 +0.3**
SONM Songino Array 46.95 341 P **P** **04 48 29.7 -0.3**
comp=Z,6.3nm,0.9s,baz=153,slow=4.8,SNR=17
SONM PcP **PcP** **04 50 02.5 +0.3**
comp=Z,3.3nm,0.7s,baz=166,slow=3.3,SNR=5.7
KOLN Koldanda 47.32 304 *e*P **P** **04 48 32.3 -1.0**
comp=Z,18nm,0.3s
DANN Dangsing 47.41 305 *e*P **P** **04 48 32.7 -1.4**
comp=Z,42nm,0.8s
HYB Hyderabad 49.00 289 *i*P **P** **04 48 44.5 -1.7**
CIT Chita 49.01 349 *e*P **P** **04 48 47.4 +1.7**
CIT *e* 04 48 54.8
CIT *e* 04 50 17.1
CIT *e* 04 50 35.5
CIT pmax pmax
comp=Z,164nm,1.7s
TLY Talaya 51.18 342 *e*P **P** **04 49 02.2 0.0**
TLY pmax pmax
comp=Z,8.0nm,0.7s
TLY Talaya 51.18 342 *e*P **P** **04 49 02.8 +0.6**
comp=Z,12nm,1.0s
IRK Irkutsk 51.48 343 *e*P **P** **04 49 06.0 +1.6**
IRK pmax pmax
comp=Z,49nm,1.9s
MOY Mondy 52.04 340 *e*P **P** **04 49 09.8 +1.1**
MOY pmax pmax
comp=Z,21nm,1.3s
WMQ Urumqi 52.43 325 *e*P **P** **04 49 11.9 +0.2**
WMQ pP **pP** **04 49 21.0 -0.9**
WMQ sP **sP** **04 49 24.1 -1.8**
WMQ PcP **PcP** **04 50 22.4 +0.2**
WMQ *e*S **S** **04 56 34.0 -1.7**
WMQ pmax pmax
comp=Z,16nm,1.2s
WMQ LR LR
comp=N,550nm,16.8s
WMQ LR LR
comp=E,400nm,17.7s
WMQ LR LR
comp=Z,480nm,20.0s
BOD Bodaibo 54.50 352 *e*P **P** **04 49 27.8 +1.3**
BOD pmax pmax
comp=Z,21nm,2.0s
PETK Petropavlovsk- 55.08 22 P **P** **04 49 31.7 +0.8**
PETK Petropavlovsk- 55.08 22 P **P** **04 49 31.6 +0.8**
PETK Petropavlovsk- 55.08 22 P **P** **04 49 31.6 +0.8**
comp=Z,4.1nm,0.7s,baz=190,slow=5.1,SNR=3.6
MK31 Makanchi Array 57.26 325 *e*P **P** **04 49 46.0 -0.6**
MK31 *e* 04 50 40.9
MK31 Makanchi Array 57.26 325 *e*P **P** **04 49 46.0 -0.6**
MK31 *e*PcP **PcP** **04 50 40.9 +0.3**
MKAR Makanchi Array 57.26 325 *ce*P **P** **04 49 46.0 -0.6**
MKAR pmax pmax
comp=Z,12nm,0.8s
MKAR Makanchi Array 57.26 325 *e*P **P** **04 49 46.1 -0.6**
MKAR PcP **PcP** **04 50 40.9 +0.2**
MKAR Makanchi Array 57.26 325 P **P** **04 49 46.0 -0.6**
comp=Z,12nm,0.8s,baz=126,slow=8.0,SNR=18
MKAR PcP **PcP** **04 50 40.9 +0.2**
comp=Z,4.9nm,0.6s,baz=125,slow=4.3,SNR=5.6
KSH Kashi 57.79 315 P **P** **04 49 50.8 +0.2**
KSH pP **pP** **04 50 01.4 +0.5**
KSH sP **sP** **04 50 05.5 +0.6**
KSH PcP **PcP** **04 50 42.2 -0.8**
KSH PP **PP** **04 52 01.4 +2.5**
KSH ScP **ScP** **04 54 38.1 -2.7**
KSH PcS **PcS** **04 54 42.2 -2.2**
KSH S **S** **04 57 46.6 -1.2**
KSH sS **sS** **04 58 04.2 -0.6**
KSH ScS **ScS** **04 59 33.9 -4.0**
KSH SS **SS** **05 01 39.6 +0.8**
KSH LR LR
comp=N,360nm,11.3s
KSH LR LR
comp=E,260nm,12.4s
KSH LR LR
comp=Z,500nm,20.6s
YAK Yakutsk 57.84 2 *e*P **P** **04 49 50.1 -0.2**
YAK pmax pmax
comp=Z,38nm,0.9s
YAK pmax pmax
comp=N,22nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.2s
KZA Kyzart 59.35 317 P **P** **04 50 02.1 +0.4**
SNR=6.3
TKM2 Tokmak 2 59.48 318 *i*P **P** **04 50 03.2 +0.8**
TKM2 Tokmak 2 59.48 318 P **P** **04 50 03.2 +0.8**
SNR=7.7
KBK Karagaybulak 59.80 318 P **P** **04 50 04.6 +0.1**
SNR=7.4
AAK Ala-Archa 60.09 318 *ce*P **P** **04 50 05.5 -1.0**
AAK pmax pmax
comp=Z,47nm,1.7s
AAK Ala-Archa 60.09 318 *e*P **P** **04 50 06.1 -0.4**
comp=Z,61nm,1.3s
AAK Ala-Archa 60.09 318 P **P** **04 50 05.9 -0.6**
comp=Z,1.3nm,0.4s,baz=170,slow=11,SNR=8.7
ZAA0 Zalesovo Array 60.26 333 *e*P **P** **04 50 05.9 -1.4**
ZALV Zalesovo Beam 60.26 333 P **P** **04 50 05.9 -1.3**
ZALV Zalesovo Beam 60.26 333 P **P** **04 50 05.9 -1.3**
ZALV Zalesovo Beam 60.26 333 P **P** **04 50 05.9 -1.3**
comp=Z,4.2nm,0.7s,baz=124,slow=6.8,SNR=12
USP Ospenovka 60.35 318 P **P** **04 50 07.3 -0.9**
SNR=14
AML Almayashu 60.43 317 P **P** **04 50 09.2 +0.1**
SNR=11
EKS2 Erkin-Say 60.58 317 *e*P **P** **04 50 09.9 0.0**
EKS2 pmax pmax
comp=Z,19nm,1.2s
EKS2 Erkin-Say 60.58 317 *e*P **P** **04 50 09.9 0.0**
comp=Z,19nm,1.2s
KURBB Kurchatov Arra 61.43 327 P **P** **04 50 14.6 -0.7**
comp=Z,25nm,0.8s,baz=123,slow=6.1,SNR=34
KURK Kurchatov 61.43 327 *ce*P **P** **04 50 14.7 -0.6**
KURK pmax pmax
comp=Z,42nm,1.0s
KURK Kurchatov 61.43 327 *e*P **P** **04 50 14.7 -0.6**
comp=Z,35nm,0.9s
NVS Novosibirsk 61.55 333 *e*P **P** **04 50 14.2 -1.7**
NVS pmax pmax
comp=N,9.0nm,0.8s
NVS pmax pmax
comp=E,7.0nm,0.8s
NVS pmax pmax
comp=Z,10.0nm,0.8s
SEY Seymchan 61.67 13 *ce*P **P** **04 50 17.0 +0.4**
KKAR Karatay Array 62.97 317 *e*P **P** **04 50 25.0 -0.8**
KKAR Karatay Array 62.97 317 *e*P **P** **04 50 25.0 -0.8**
BRVK Borovoye 67.09 327 *ce*P **P** **04 50 51.5 -0.8**
BRVK pmax pmax
comp=Z,14nm,1.0s
BRVK Borovoye 67.09 327 *e*P **P** **04 50 51.5 -0.8**
comp=Z,15nm,0.9s
BILL Bilibino 69.19 15 ⇓*e*P **P** **04 51 06.4 +1.2**
BILL *e* 04 53 39.9
BILL *e*S **S** **05 00 06.7 -1.9**
BILL pmax pmax
comp=Z,16nm,2.5s
BILL Bilibino 69.19 15 *e*P **P** **04 51 04.2 -1.0**
ABKAR Akbulak array 71.87 321 *e*P **P** **04 51 20.8 -1.1**
SVE Sverdlovsk 73.65 328 ⇓*e*P **P** **04 51 32.8 +0.5**
SVE pmax pmax
comp=Z,18nm,0.8s
ARU Arti 74.63 328 *di*P **P** **04 51 38.3 +0.2**
ARU 04 54 22.3
ARU S **S** **05 01 13.6 +2.2**
ARU SS **SS** **05 05 59.2 +0.3**
ARU pmax pmax
comp=Z,22nm,1.0s
ARU Arti 74.63 328 *e*P **P** **04 51 37.7 -0.4**
QRN Al-Qurain 78.24 298 *e*P **P** **04 51 57.0 -2.1**
QRN AMb AMB 04 51 58.5
comp=Z,47nm,0.8s
MIB Mutribah 78.78 299 *e*P **P** **04 52 00.3 -1.7**
MIB AMb AMB 04 52 01.6
comp=Z,38nm,0.8s
NAY Al-Naaiem 78.85 299 *e*P **P** **04 52 00.0 -2.5**
NAY AMb AMB 04 52 01.8
comp=Z,15nm,0.8s
GNI Garni 81.25 310 *e*P **P** **04 52 16.5 +1.1**
ZEI Tsey 81.97 312 *e*P **P** **04 52 18.4 -0.9**
ZEI pmax pmax
comp=Z,9.0nm,1.0s
TRF Thorofare Moun 83.20 27 *e*P **P** **04 52 24.9 -0.3**
comp=Z,13nm,1.0s
PMR Palmer 83.61 29 *e*P **P** **04 52 28.3 +1.2**
PMR Palmer 83.61 29 *e*P **P** **04 52 28.3 +1.2**
VNDA Vanda 83.79 173 *e*P **P** **04 52 27.3 -0.3**
comp=Z,2.9nm,0.6s
MCK McKinley 83.83 26 *e*P **P** **04 52 28.9 +0.7**
MCK pmax pmax
comp=Z,56nm,1.5s
MCK McKinley 83.83 26 *e*P **P** **04 52 28.9 +0.7**
comp=Z,56nm,1.5s
COLA College 84.36 25 *e*P **P** **04 52 29.7 -1.0**
COLA College 84.36 25 *e*P **P** **04 52 29.7 -1.0**
ILAR Eielson Array 84.76 25 P **P** **04 52 33.3 +0.4**
ILAR Eielson Array 84.76 25 P **P** **04 52 33.3 +0.4**
comp=Z,3.2nm,1.0s,baz=243,slow=5.6,SNR=16
KLMR Klimovskoe 85.09 331 *e*P **P** **04 52 32.6 -2.0**
KLMR pmax pmax
comp=Z,146nm,1.4s
MOS Moscow 86.14 325 *e*P **P** **04 52 38.3 -1.6**
MOS pmax pmax
comp=Z,73nm,1.0s
OBN Obninsk 86.76 325 ⇑*e*P **P** **04 52 42.2 -0.8**
OBN *e*S S 05 03 09.9 -8.3
OBN pmax pmax
comp=Z,88nm,2.1s
OBN Obninsk 86.76 325 *e*P **P** **04 52 42.1 -0.8**
comp=Z,63nm,1.0s
JOF Joensuu 88.85 333 *e*P **P** **04 52 51.0 -1.8**
JOF pmax pmax
comp=Z,25nm,0.8s
JOF Joensuu 88.85 333 *ep* **P** **04 52 51.0 -1.8**
comp=Z,24nm,0.8s
KEV Kevo 89.55 340 *e*P **P** **04 52 56.0 +0.1**
KEV Kevo 89.55 340 *ep* **P** **04 52 56.0 +0.1**
KMBO Kilima Mbogo 89.57 269 *e*P **P** **04 52 56.8 -0.7**
comp=Z,27nm,1.8s
BRTR Keskin Array B 89.79 310 P **P** **04 52 56.8 -1.2**
BRTR Keskin Array B 89.79 310 P **P** **04 52 56.8 -1.2**
comp=Z,2.8nm,0.8s,baz=117,slow=4.7,SNR=14
ARCES ARCESS Array B 90.10 340 P **P** **04 52 58.3 -0.2**
ARCES ARCESS Array B 90.10 340 P **P** **04 52 58.3 -0.2**
comp=Z,4.2nm,0.8s,baz=78,slow=6.3,SNR=8.6
KAF Kangasniemi 91.27 332 *e*P **P** **04 53 03.2 -0.9**
KAF pmax pmax
comp=Z,9.0nm,0.4s
KAF Kangasniemi 91.27 332 *ep* **P** **04 53 03.2 -0.9**
comp=Z,8.6nm,0.4s
FINES FINESS Array B 91.51 332 P **P** **04 53 04.8 -0.4**
FINES FINESS Array B 91.51 332 P **P** **04 53 04.8 -0.4**
comp=Z,9.6nm,0.8s,baz=89,slow=8.4,SNR=16
AKASG Malin Array Be 91.61 321 *ce*P **P** **04 53 04.6 -1.3**
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKASG Malin Array Be 91.61 321 P **P** **04 53 04.7 -1.2**
AKASG Malin Array Be 91.61 321 P **P** **04 53 04.7 -1.2**
comp=Z,8.6nm,0.8s,baz=71,slow=4.6,SNR=17
KIEV Kiev 91.62 321 *e*P **P** **04 53 04.6 -1.4**
KIEV pmax pmax
comp=Z,20nm,1.4s
KIEV Kiev 91.62 321 *e*P **P** **04 53 04.6 -1.4**
comp=Z,20nm,1.4s
NACGM Naroch 92.39 325 *e* **P** **04 53 07.0 -2.4**
TIRR Tirgusor 93.09 315 ⇑P **P** **04 53 12.3 -0.6**
TIRR Tirgusor 93.09 315 ⇑P **P** **04 53 12.3 -0.6**
CFR Carcaliu 93.17 316 ⇑P **P** **04 53 12.9 -0.4**
CFR Carcaliu 93.17 316 ⇑P **P** **04 53 12.9 -0.4**
TESR 93.97 317 ⇓*i*P **P** **04 53 16.9 -0.1**
QSPA South Pole Qui 94.01 180 P **P** **04 53 16.9 +0.1**
QSPA South Pole Qui 94.01 180 P **P** **04 53 16.9 +0.1**
comp=Z,2.0nm,0.7s,baz=33,slow=4.1,SNR=8.0
VRI Vrincioaia 94.03 316 ⇓P **P** **04 53 17.2 -0.1**
VRI Vrincioaia 94.03 316 ⇓*i*P **P** **04 53 17.2 -0.1**
PLOR Plostina 94.09 316 ⇑P **P** **04 53 17.8 +0.2**
PLOR Plostina 94.09 316 ⇑*i*P **P** **04 53 17.8 +0.2**
SUW Suwalki 94.63 325 *e*P **P** **04 53 18.9 -0.8**
SUW Suwalki 94.63 325 *e*P **P** **04 53 18.9 -0.8**
SUW Suwalki 94.63 325 *e*P **P** **04 53 18.9 -0.8**
SUW Suwalki 94.63 325 *e*P **P** **04 53 18.9 -0.8**
comp=Z,64nm,0.9s
MLR Muntele Rosu 94.64 316 ⇓*i*P **P** **04 53 19.6 -0.6**
BURAR Bucovina Array 94.73 318 ⇓*i*P **P** **04 53 20.6 0.0**
BUR08 Bucovina Ar. S 94.74 318 *e*P **P** **04 53 19.9 -0.7**
KWP Kalwaria Pacla 95.93 321 ⇓P **P** **04 53 26.1 +0.2**
KWP Kalwaria Pacla 95.93 321 ⇓*i*P **P** **04 53 26.1 +0.2**
KOLS Kolonicke sedl 96.37 320 *e*P **P** **04 53 27.1 -0.8**
KOLS Kolonicke sedl 96.37 320 *e*P **P** **04 53 27.1 -0.8**
TRPA Tarpa 96.38 319 ⇓*i*P **P** **04 53 27.3 -0.6**
UZH Uzhgorod 96.43 320 ⇑*i*P **P** **04 53 28.0 -0.1**
UZH *i* 04 53 36.3
UZH *e* 04 53 42.1
DRGR 96.58 318 ⇓P **P** **04 53 28.8 -0.1**
DRGR 96.58 318 ⇓*i*P **P** **04 53 28.8 -0.1**
CRVS Cervenica-Dubn 96.89 320 *e*P **P** **04 53 30.3 0.0**
CRVS Cervenica-Dubn 96.89 320 *e*P **P** **04 53 30.3 0.0**
NIE Niedzica 97.49 321 *e*P Pdif 04 53 33.0 0.0
NIE Niedzica 97.49 321 *e*P Pdif 04 53 33.4 +0.4
BZS Buzias 97.59 317 ⇓P **P** **04 53 32.7 -0.7**
BZS Buzias 97.59 317 ⇓*i*P **P** **04 53 32.7 -0.7**
OJC Ojcow 97.60 322 *e*P **P** **04 53 33.0 -0.4**
OJC Ojcow 97.60 322 *e*P Pdif 04 53 33.5 0.0
NB2 NORSAR Subarra 98.46 334 P **P** **04 53 36.2 -0.9**
baz=65,slow=4.6
NB2 NORSAR Subarra 98.46 334 P **P** **04 53 36.2 -0.9**
comp=Z,1.0nm,0.6s,baz=65,slow=4.6
NOA NORSAR Array B 98.46 334 P **P** **04 53 36.1 -1.0**
NOA NORSAR Array B 98.46 334 P **P** **04 53 36.1 -1.0**
comp=Z,1.2nm,0.6s,baz=68,slow=4.6,SNR=6.2
MORC Moravsky Berou 99.12 322 ⇓P **Pdif** **04 53 40.5 +0.2**
MORC Moravsky Berou 99.12 322 ⇓*i*P **Pdif** **04 53 40.5 +0.2**
YKA Yellowknife Ar 99.16 24 P **Pdif** **04 53 40.5 +0.5**
YKA PKiKP **PKiKP** **04 58 11.3 +1.3**
YKA Yellowknife Ar 99.16 24 P **Pdif** **04 53 40.5 +0.5**
comp=Z,0.4nm,0.8s,baz=300,slow=4.9,SNR=7.0
YKA PKiKP **PKiKP** **04 58 11.3 +1.3**
comp=Z,0.2nm,0.7s,baz=284,slow=1.6,SNR=3.8
DPC Dobruska-Polom 99.69 322 *e*P **Pdif** **04 53 43.2 +0.4**
DPC Dobruska-Polom 99.69 322 *e*PDIFF **Pdif** **04 53 43.2 +0.4**
UPC Upice 99.83 323 *e*P **Pdif** **04 53 43.7 +0.3**
UPC Upice 99.83 323 *e*PDIFF **Pdif** **04 53 43.7 +0.3**
PRU Pruhonice 100.89 323 *e*P **Pdif** **04 53 48.3 +0.2**
PRU Pruhonice 100.89 323 *e*PDIFF **Pdif** **04 53 48.3 +0.2**
BRG Berggiesshubel 100.95 323 *e*P **Pdif** **04 53 48.3 0.0**
comp=Z,6.6nm,0.8s
BRG Berggiesshubel 100.95 323 *e*P **Pdif** **04 53 48.3 0.0**
BRG pmax pmax
comp=Z,7.0nm,0.8s
KHC Kasperske Hory 101.78 322 *e*P **Pdif** **04 53 51.6 -0.5**
KHC Kasperske Hory 101.78 322 *e*PDIFF **Pdif** **04 53 51.6 -0.5**
GERES GERESS Array B 101.80 322 P **Pdif** **04 53 51.5 -0.8**
GERES GERESS Array B 101.80 322 P **Pdif** **04 53 51.5 -0.8**
comp=Z,1.5nm,0.9s,baz=69,slow=4.4,SNR=8.0
NKC Novy Kostel 102.07 323 *e*P **Pdif** **04 53 53.3 -0.1**
NKC Novy Kostel 102.07 323 *e*PDIFF **Pdif** **04 53 53.3 -0.1**
NVAR Mina Array Bea 106.65 48 PKKPbc PKKPbc 05 09 59.2 +14
comp=Z,0.5nm,0.7s,baz=144,slow=4.2,SNR=4.4
D22A Cohagen 111.01 36 ⇓P **PKiKP** **04 58 33.5 +1.0**
baz=111
PDAR Pinedale Array 111.07 41 PKKPbc PKKPbc 05 09 38.5 +7.4
PDAR Pinedale Array 111.07 41 PKKPbc PKKPbc 05 09 38.5 +7.4
comp=Z,1.0nm,0.9s,baz=121,slow=5.5,SNR=6.2
I20A Worland 111.43 39 ⇓P **PKiKP** **04 58 33.9 +0.4**
baz=111
R17A Hanksville Air 112.18 46 ⇓P **PKiKP** **04 58 35.8 +0.7**
baz=112
I22A 9 Mile Ranch, 112.50 39 ⇑P **PKiKP** **04 58 35.5 0.0**
baz=112
J22A Midwest 112.74 39 ⇓P **PKiKP** **04 58 35.3 -0.7**
baz=113
N20A Spence Gulch, 112.82 42 ⇑P **PKiKP** **04 58 35.9 -0.5**
baz=113
M21A Separation Pea 113.05 41 ⇑P **PKiKP** **04 58 37.2 +0.4**
baz=113
K22A Casper 113.09 40 ⇓P **PKiKP** **04 58 37.3 +0.6**
baz=113
O20A White River Ci 113.15 43 ⇑P **PKiKP** **04 58 36.8 -0.2**
baz=113
P22A Eagle 114.41 43 ⇑P PKPdf 04 58 39.2 -0.2
baz=114
O23A Lake Granby, G 114.69 42 ⇑P PKPdf 04 58 40.1 +0.1
baz=115
ISCO Idaho Springs 115.09 42 ⇓P **PKPdf** **04 58 40.7 -0.1**
baz=115
W24A Lazy 6 Ranch, 117.41 47 ⇓P **PKPdf** **04 58 45.5 +0.2**
baz=117
U25A Circle Dot Ran 117.57 45 ⇑P **PKPdf** **04 58 46.0 +0.4**
baz=118
V25A Rancho No Teng 117.69 46 ⇓P **PKPdf** **04 58 46.2 +0.4**
baz=118
R27A Eads 117.75 43 ⇓P **PKPdf** **04 58 46.4 +0.6**
baz=118
T26A Comanche Natio 117.76 44 ⇑P **PKPdf** **04 58 45.5 -0.4**
baz=118
W25A X Bar L Ranch, 118.09 46 ⇓P **PKPdf** **04 58 47.6 +1.0**
baz=118
124A Stringfield Ra 118.51 49 ⇓P **PKPdf** **04 58 47.6 +0.1**
baz=118
Y25A Mesa, Roswell 118.53 48 ⇑P **PKPdf** **04 58 47.9 +0.5**
baz=118
Z25A Roswell 118.80 48 ⇓P **PKPdf** **04 58 48.2 +0.3**
baz=119
X26A CR and CF Fran 118.88 47 ⇑P **PKPdf** **04 58 48.2 +0.2**
baz=119
BGNE Belgrade 119.00 37 ⇑P **PKPdf** **04 58 48.3 +0.4**
baz=119
MNTX Cornudas Mount 119.00 50 ⇑P **PKPdf** **04 58 48.4 +0.2**
baz=119
Y27A Causey 119.67 47 ⇓P **PKPdf** **04 58 49.4 -0.2**
baz=120
226A Malaga, Loving 119.82 49 ⇑P **PKPdf** **04 58 49.5 -0.4**
baz=120
Z27A Tatum 119.90 48 ⇓P **PKPdf** **04 58 49.6 -0.4**
baz=120
SCHQ Schefferville 120.20 9 PKP **PKPdf** **04 58 50.3 +0.5**
SCHQ Schefferville 120.20 9 PKP **PKPdf** **04 58 50.3 +0.5**
comp=Z,2.4nm,0.8s,baz=178,slow=6.2,SNR=7.4
Y29A Porterfield Fa 120.77 46 ⇓P **PKPdf** **04 58 52.5 +0.9**
baz=121
427A Hayter Ranch, 120.90 50 ⇓P **PKPdf** **04 58 52.4 +0.4**
baz=121
626A Big Bend Ranch 120.90 52 ⇓P **PKPdf** **04 58 52.2 +0.2**
baz=121
Z29A Hungry Hill Ra 121.04 47 ⇓P **PKPdf** **04 58 53.1 +0.9**
baz=121
527A Woodward Ranch 121.05 51 ⇓P **PKPdf** **04 58 53.3 +1.0**
baz=121
129A Stewart Farms, 121.22 48 ⇑P **PKPdf** **04 58 52.7 +0.2**
baz=121
TXAR Lajitas Array 121.36 52 PKP **PKPdf** **04 58 54.2 +1.3**
TXAR Lajitas Array 121.36 52 PKP **PKPdf** **04 58 54.2 +1.3**
comp=Z,1.3nm,0.9s,baz=298,slow=1.6,SNR=8.6
428A Kincaid Ranch, 121.50 50 ⇓P **PKPdf** **04 58 53.2 0.0**
baz=121
627A Terlingua Ranc 121.53 52 ⇑P **PKPdf** **04 58 53.7 +0.4**
baz=121
528A Cox Ranch, San 121.68 51 ⇓P **PKPdf** **04 58 53.7 +0.1**
baz=122
628A Black Gap, Mar 121.91 51 ⇓P **PKPdf** **04 58 54.1 +0.2**
baz=122
TORD Torodi Ar. Bea 122.81 288 PKP **PKPdf** **04 58 55.5 -0.4**
TORD Torodi Ar. Bea 122.81 288 PKP **PKPdf** **04 58 55.5 -0.4**
comp=Z,1.8nm,0.7s,baz=76,slow=1.6,SNR=15
JCT Junction City 123.81 49 ⇑P **PKPdf** **04 58 58.3 +0.8**
baz=124
DBIC Dimbokro 130.51 282 PKP **PKPdf** **04 59 10.5 -0.1**
DBIC Dimbokro 130.51 282 PKP **PKPdf** **04 59 10.5 -0.1**
comp=Z,1.7nm,0.6s,baz=130,slow=5.9,SNR=5.1
JTS JuntasAbangare 145.35 65 PKPbc **PKPab** **04 59 39.1 +1.3**
JTS JuntasAbangare 145.35 65 PKPbc **PKPab** **04 59 39.1 +1.3**
comp=Z,12nm,0.8s,baz=263,slow=6.3,SNR=6.9
CPUP Villa Florida 157.56 170 PKPab **PKPab** **05 00 27.3 -0.3**
CPUP Villa Florida 157.56 170 PKPab **PKPab** **05 00 27.3 -0.3**
comp=Z,2.3nm,0.7s,baz=96,slow=18,SNR=5.0

IDC 12 04:46:55.1±1.3, 3.55N×125.70E, h0km, mb 3.9/5, mb 1 4.0/5, mb 1mx 3.7/19, mbtmp 3.9/5, Error ellipse: s-maj=197.1km s-min=20.2km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.84**	**160**	P	P	04 52 18.5	-0.9
	1.7nm,0.5s						
STKA	**Stephens Creek**	**38.33**	**158**	P	P	04 54 18.7	+0.9
	0.6nm,0.3s,baz=328,slow=9.7,SNR=3.9						
SONM	**Songino Array**	**47.15**	**342**	P	P	04 55 29.1	-0.3
	0.4nm,0.5s,baz=158,slow=6.6,SNR=3.1						
MKAR	**Makanchi Array**	**57.13**	**326**	P	P	04 56 43.7	+0.1
	0.5nm,0.4s,baz=118,slow=7.4,SNR=12						
KURBB	**Kurchatov Arra**	**61.35**	**328**	P	P	04 57 12.6	-0.1
	0.7nm,0.5s,baz=128,slow=6.9,SNR=6.7						

IDC 12 04:47:07.8±1.1, 3.84N×126.37E, h0km, mb 4.1/8, mb 1 4.2/8, mb 1mx 4.0/20, mbtmp 4.1/8, Error ellipse: s-maj=169.6km s-min=15.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.90**	**162**	P	P	04 52 32.4	-0.3
	2.4nm,0.5s						
ASAR	**Alice Springs**	**28.31**	**165**	P	P	04 53 02.9	-0.5
	0.2nm,0.4s,baz=348,slow=8.5,SNR=3.2						
STKA	**Stephens Creek**	**38.36**	**159**	P	P	04 54 31.5	+0.7
	4.9nm,0.7s,baz=359,slow=6.8,SNR=7.7						
SONM	**Songino Array**	**47.08**	**342**	P	P	04 55 42.4	+0.9
	1.4nm,0.6s,baz=159,slow=8.0,SNR=9.0						
MKAR	**Makanchi Array**	**57.26**	**325**	P	P	04 56 58.3	+1.1
	0.8nm,0.4s,baz=119,slow=7.5,SNR=12						
ZALV	**Zalesovo Beam**	**60.33**	**333**	P	P	04 57 17.1	-1.3
	0.5nm,0.4s,baz=141,slow=7.4,SNR=3.4						
KURBB	**Kurchatov Arra**	**61.45**	**327**	P	P	04 57 25.8	-0.3
	2.6nm,0.8s,baz=124,slow=6.2,SNR=12						
ARCES	**ARCESS Array B**	**90.22**	**340**	P	P	05 00 09.0	-1.0
	3.1nm,1.0s,baz=82,slow=3.8,SNR=5.4						

IDC 12 04:50:04.5±3.2, 3°98N×126°59E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.8/4, MS4.2/1, Ms1 4.2/1, ms1mx2.7/35, Error ellipse: s-maj=448.6km s-min=25.6km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**22.79**	**4**	LR	LR	05 03 06.2	
	comp=Z,494nm,18.3s,baz=70,slow=34						
WRA	**Warramunga Arr**	**24.96**	**163**	P	P	04 55 29.9	0.0
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**57.28**	**325**	P	P	04 59 54.0	-0.1
	0.5nm,0.4s,baz=119,slow=7.8,SNR=5.3						
ZALV	**Zalesovo Beam**	**60.31**	**333**	P	P	05 00 14.9	0.0
	0.4nm,0.5s,baz=126,slow=7.3,SNR=2.3						
KURBB	**Kurchatov Arra**	**61.46**	**327**	P	P	05 00 22.9	0.0
	0.7nm,0.4s,baz=121,slow=6.5,SNR=6.1						

IDC 12 04:50:52.8±0.8, 3°93N×126°65E, h0km, mb4.1/13, mb1 4.3/13, mb1mx4.1/21, mbtmp4.1/13, Error ellipse: s-maj=61.0km s-min=14.4km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.91**	**183**	P	P	04 55 48.7	+0.9
	2.7nm,0.6s,baz=29,slow=5.2,SNR=6.0						
WRA	**Warramunga Arr**	**24.90**	**163**	P	P	04 56 17.3	-0.2
	16nm,0.7s						
ASAR	**Alice Springs**	**28.32**	**166**	P	P	04 56 48.3	-0.2
	0.6nm,0.4s,baz=342,slow=6.9,SNR=5.9						
CMAR	**Chiang Mai Arr**	**30.70**	**300**	P	P	04 57 10.2	+0.5
	0.7nm,0.6s,baz=95,slow=5.7,SNR=3.9						
STKA	**Stephens Creek**	**38.34**	**159**	P	P	04 58 15.7	+0.2
	5.7nm,0.6s,baz=333,slow=6.8,SNR=10						
SONM	**Songino Array**	**47.09**	**341**	P	P	04 59 27.8	+1.2
	0.9nm,0.8s,baz=161,slow=8.2,SNR=5.4						
SONM				PcP	PcP	05 00 59.1	+0.6
	0.5nm,0.6s,baz=161,slow=2.6,SNR=4.1						
MKAR	**Makanchi Array**	**57.35**	**325**	P	P	05 00 43.4	+0.6
	0.8nm,0.4s,baz=121,slow=8.1,SNR=8.9						
ZALV	**Zalesovo Beam**	**60.38**	**333**	P	P	05 01 03.4	-0.3
	0.4nm,0.5s,baz=140,slow=7.0,SNR=2.7						
KURBB	**Kurchatov Arra**	**61.53**	**327**	P	P	05 01 11.7	+0.1
	1.2nm,0.7s,baz=128,slow=6.5,SNR=5.7						
BRTR	**Keskin Array B**	**89.83**	**310**	P	P	05 03 52.1	-2.0
	0.6nm,0.8s,baz=88,slow=6.2,SNR=2.9						
ARCES	**ARCESS Array B**	**90.24**	**340**	P	P	05 03 54.0	-1.0
	2.4nm,0.8s,baz=105,slow=7.6,SNR=5.6						
FINES	**FINESS Array B**	**91.62**	**332**	P	P	05 04 01.6	0.0
	2.9nm,1.0s,baz=73,slow=4.8,SNR=2.9						
AKASG	**Malin Array Be**	**91.69**	**321**	P	P	05 04 01.4	-0.7
	0.9nm,0.6s,baz=69,slow=4.8,SNR=2.9						

IDC 12 04:52:35.1±1.3, 3°58N×126°17E, h0km, mb3.8/6, mb1 3.8/6, mb1mx3.7/20, mbtmp3.8/6, Error ellipse: s-maj=188.7km s-min=18.6km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**28.11**	**165**	P	P	04 58 29.2	+0.3
	0.3nm,0.5s,baz=350,slow=8.5,SNR=2.6						
STKA	**Stephens Creek**	**38.19**	**159**	P	P	04 59 56.2	-0.4
	2.3nm,0.8s,baz=330,slow=14,SNR=2.2						
SONM	**Songino Array**	**47.26**	**342**	P	P	05 01 10.3	0.0
	0.7nm,0.7s,baz=162,slow=6.0,SNR=3.6						
MKAR	**Makanchi Array**	**57.36**	**326**	P	P	05 02 25.3	+0.1
	0.5nm,0.5s,baz=124,slow=9.1,SNR=4.7						
ZALV	**Zalesovo Beam**	**60.47**	**333**	P	P	05 02 46.6	0.0
	0.5nm,0.4s,baz=142,slow=6.8,SNR=2.5						
KURBB	**Kurchatov Arra**	**61.56**	**328**	P	P	05 02 53.8	-0.3
	1.3nm,0.9s,baz=122,slow=6.8,SNR=5.0						

*IDC **12** 04:55:22.7±0.5, 3°76N×126°16E, h0km, mb4.3/19, mb1 4.4/19, mb1mx4.3/22, mbtmp4.3/19, MS4.0/2, Ms1 4.0/2, ms1mx3.3/35, Error ellipse: s-maj=29.0km s-min=11.5km az=69.0*

*BJI **12** 04:55:24.3, 3°44N×126°72E, h45km, mB5.0/12, mb4.6/25, Ms4.7/10, Ms7 4.5/10*

*ISCJB **12** 04:55:27.6±0.3, 3°78N±0°05×126°35E±0°07, h45km, mb4.5/37, MS4.5/4, Error ellipse: s-maj=10.9km s-min=5.6km az=159.6*

*NEIC **12** 04:55:28.2±0.3, 3°77N×126°39E, h35km, mb4.6/12, Error ellipse: s-maj=10.8km s-min=5.8km az=71.0*

*DJA **12** 04:55:29, 3°99N×126°68E, h44km, mb4.6/5*

ISC 12 04:55:29.1±0.4, 3°80N±0°06×126°39E±0°09, h45km, n85, σ1s59/98, mb4.6/36, MS4.5/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.35**	**346**	Pn	Pn	04 56 22.0	+3.0
DAV	**Davao City (W)**	**3.35**	**346**	Pn	Pn	04 56 22.0	+3.0
	24nm,0.3s,baz=53,slow=20,SNR=2.2						
DAV				LR	LR	04 57 42.5	
	comp=Z,913nm,21.5s,baz=184,slow=42						
DMPH	**Davao City--Mi**	**3.38**	**345**	*e*P	Pn	04 56 24.3	+4.9
KKM	**Kota Kinabalu**	**10.38**	**283**	*e*Pn	**Pn**	**04 57 55.5**	**0.0**
KSM	**Kuching**	**16.23**	**262**	Pn	**Pn**	**04 59 13.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**21.77**	**182**	P	**P**	**05 00 17.2**	**0.0**
FITZ	**Fitzroy Crossi**	**21.77**	**182**	*e*P	**P**	**05 00 18.2**	**+1.0**
	8.3nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.77**	**182**	P	**P**	**05 00 17.2**	**0.0**
	4.3nm,0.5s,baz=8.6,slow=6.2,SNR=14						
JOW	**Kunigami**	**22.98**	**4**	P	**P**	**05 00 29.6**	**-0.3**
JOW	**Kunigami**	**22.98**	**4**	P	**P**	**05 00 29.6**	**-0.3**
	8.6nm,0.3s,baz=133,slow=19,SNR=6.1						
WRAB	**Tennant Creek**	**24.85**	**162**	*e*P	**P**	**05 00 47.6**	**0.0**
	21nm,0.9s						
WRA	**Warramunga Arr**	**24.85**	**162**	P	**P**	**05 00 47.0**	**-0.7**
WRA	**Warramunga Arr**	**24.85**	**162**	P	**P**	**05 00 46.9**	**-0.7**
	2μm,0.3s,baz=48,slow=0.0,SNR=11						
MBWA	**Marble Bar**	**25.65**	**194**	*e*P	**P**	**05 00 55.5**	**+0.7**
	22nm,1.0s						
QIS	**Mount Isa**	**27.46**	**152**	*e*P	**P**	**05 01 12.5**	**+1.3**
ASAR	**Alice Springs**	**28.26**	**165**	P	**P**	**05 01 18.1**	**-0.2**
ASAR	**Alice Springs**	**28.26**	**165**	P	**P**	**05 01 18.1**	**-0.2**
	1.3nm,0.5s,baz=342,slow=6.9,SNR=9.8						
WHN	**Wuhan**	**28.93**	**338**	P	P	05 01 26.7	+2.6
NJ2	**Nanjing**	**28.98**	**347**	*e*P	**P**	**05 01 25.6**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GYA	**Guiyang**	**29.40**	**322**	P	**P**	**05 01 30.0**	**+1.4**
GYA				pP	**pP**	**05 01 40.5**	**0.0**
GYA				PP	**PnPn**	**05 02 27.4**	**+3.4**
GYA				PcP	**PcP**	**05 04 35.6**	**+1.7**
GYA				S	**S**	**05 06 22.0**	**+2.4**
GYA				sS	**sS**	**05 06 38.4**	**-1.3**
GYA				SS	SS	05 07 55.9	-30
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,5.0s						
GYA				LR	LR		
	comp=N,480nm,16.2s						
GYA				LR	LR		
	comp=E,410nm,17.9s						
GYA				LR	LR		
	comp=Z,450nm,17.4s						
CMAR	**Chiang Mai Arr**	**30.54**	**301**	P	**P**	**05 01 37.4**	**-1.3**
CMAR				ScP	**ScP**	**05 08 20.6**	**+4.6**
CMAR	**Chiang Mai Arr**	**30.54**	**301**	P	**P**	**05 01 37.4**	**-1.3**
	comp=Z,0.7nm,0.4s,baz=126,slow=7.7,SNR=7.0						
CMAR				ScP	**ScP**	**05 08 20.6**	**+4.6**
	comp=Z,0.6nm,0.3s,baz=171,slow=1.8,SNR=5.5						
CTA	**Charters Tower**	**30.73**	**141**	P	**P**	**05 01 41.8**	**+1.6**
CTA	**Charters Tower**	**30.73**	**141**	P	**P**	**05 01 41.8**	**+1.6**
	comp=Z,4.3nm,0.7s,baz=333,slow=9.8,SNR=5.4						
CTAO	**Charters Tower**	**30.73**	**141**	*e*P	**P**	**05 01 39.3**	**-0.9**
	comp=Z,7.0nm,1.0s						
ENH	**Enshi**	**30.80**	**331**	*e*P	**P**	**05 01 39.9**	**-0.9**
	comp=Z,5.0nm,0.5s						
KMI	**Kunming**	**31.09**	**315**	P	P	05 01 46.5	+2.9
KMI				pmax	pmax		
	comp=Z,14nm,0.9s						
KSAR	**Wonju Array Be**	**33.51**	**2**	P	**P**	**05 02 05.4**	**+1.0**
KSRS	**Korea Array**	**33.53**	**2**	P	**P**	**05 02 05.4**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=180,slow=10.0,SNR=4.4						
XAN	**Xi'an**	**34.20**	**334**	P	**P**	**05 02 09.6**	**-0.9**
XAN				pP	**pP**	**05 02 19.3**	**-3.3**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BJT	**Baijiatuan**	**37.22**	**347**	*e*P	**P**	**05 02 35.3**	**-1.0**
	comp=Z,18nm,0.7s						
BJI	**Beijing**	**37.24**	**347**	P	**P**	**05 02 36.5**	**+0.1**
BJI				pmax	pmax		
	comp=Z,21nm,0.7s						
NWAO	**Narogin (SRO)**	**37.54**	**193**	P	**P**	**05 02 38.9**	**-0.2**
LZH	**Lanzhou**	**38.27**	**330**	*e*P	P	05 02 48.0	+2.6
LZH				pP	pP	05 02 58.5	+0.9
LZH				sP	sP	05 03 02.3	-0.6
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
LZH				LR	LR		
	comp=N,420nm,14.9s						
LZH				LR	LR		
	comp=E,680nm,19.2s						
LZH				LR	LR		
	comp=Z,440nm,15.6s						
STKA	**Stephens Creek**	**38.31**	**159**	*e*P	**P**	**05 02 46.3**	**+0.7**
STKA	**Stephens Creek**	**38.31**	**159**	*e*P	**P**	**05 02 45.8**	**+0.2**
	comp=Z,8.6nm,0.6s						
STKA	**Stephens Creek**	**38.31**	**159**	P	**P**	**05 02 45.9**	**+0.2**
	comp=Z,11nm,0.6s,baz=343,slow=8.7,SNR=30						
CN2	**Changchun**	**39.85**	**359**	*e*P	P	05 02 53.8	-4.4
USRK	**Ussuriysk Arra**	**40.54**	**6**	P	**P**	**05 03 04.3**	**+0.4**
	comp=Z,2.5nm,0.7s,baz=169,slow=7.3,SNR=5.4						
MDJ	**Mudanjiang**	**40.75**	**4**	*e*P	**P**	**05 03 05.9**	**+0.2**
ARMA	**Armidale**	**41.71**	**146**	*e*P	**P**	**05 03 14.9**	**+0.9**
LSA	**Lhasa**	**42.14**	**312**	*e*P	**P**	**05 03 18.0**	**+0.1**
	comp=Z,4.6nm,0.6s						
YSS	**Yuzh-Sakhalins**	**45.27**	**16**	*e*P	**P**	**05 03 41.7**	**-0.5**
HIA	**Hailar**	**45.66**	**354**	*e*P	**P**	**05 03 46.2**	**+0.9**
	comp=Z,11nm,1.1s						
DZM	**Mont Dzumac**	**46.85**	**125**	*e*P	**P**	**05 03 54.6**	**-0.6**
	comp=Z,9.1nm,0.8s						
DZM	**Mont Dzumac**	**46.85**	**125**	P	**P**	**05 03 54.9**	**-0.4**
	baz=288,slow=3.2,SNR=1.0						
ULN	**Ulaanbaatar**	**46.95**	**342**	*e*P	**P**	**05 03 55.7**	**0.0**
	comp=Z,4.5nm,1.0s						
SONM	**Songino Array**	**47.12**	**342**	P	**P**	**05 03 57.0**	**0.0**
SONM				PcP	**PcP**	**05 05 28.8**	**+0.6**
SONM	**Songino Array**	**47.12**	**342**	P	**P**	**05 03 57.0**	**0.0**
	comp=Z,1.9nm,0.6s,baz=156,slow=8.6,SNR=15						
SONM				PcP	**PcP**	**05 05 28.8**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=145,slow=3.5,SNR=2.5						
TLY	**Talaya**	**51.36**	**342**	*e*P	**P**	**05 04 29.1**	**0.0**
WMQ	**Urumqi**	**52.47**	**325**	*e*P	**P**	**05 04 38.5**	**+0.9**
MK31	**Makanchi Array**	**57.30**	**325**	*e*P	**P**	**05 05 12.1**	**-0.4**
MKAR	**Makanchi Array**	**57.30**	**325**	*e*P	**P**	**05 05 12.7**	**+0.2**
MKAR				ScP	**ScP**	**05 10 07.7**	**+5.0**
MKAR	**Makanchi Array**	**57.30**	**325**	P	**P**	**05 05 11.9**	**-0.6**
	comp=Z,2.5nm,0.4s,baz=120,slow=8.3,SNR=49						
MKAR				ScP	**ScP**	**05 10 07.7**	**+5.0**
	comp=Z,0.7nm,0.9s,baz=121,slow=4.9,SNR=3.5						
KSH	**Kashi**	**57.75**	**315**	*e*P	**P**	**05 05 16.4**	**+0.5**
KSH				pP	**pP**	**05 05 26.3**	**-2.4**
KSH				sP	**sP**	**05 05 30.4**	**-3.5**
KSH				PcP	**PcP**	**05 06 06.8**	**-1.6**
KSH				PP	**PP**	**05 07 26.3**	**+2.0**
KSH				ScP	**ScP**	**05 10 03.9**	**-1.0**
KSH				PcS	**PcS**	**05 10 06.8**	**-2.9**
KSH				S	**S**	**05 13 12.2**	**+0.2**
KSH				ScS	**ScS**	**05 14 59.5**	**-2.6**
KSH				SS	**SS**	**05 17 05.2**	**+2.1**
KSH				LR	LR		
	comp=Z,450nm,18.2s						
KSH				LR	LR		
	comp=N,170nm,6.5s						
KSH				LR	LR		
	comp=E,190nm,5.8s						
AAK	**Ala-Archa**	**60.08**	**318**	P	**P**	**05 05 33.5**	**+1.5**
AAK	**Ala-Archa**	**60.08**	**318**	LR	LR	05 34 27.9	
	comp=E,328nm,18.5s,baz=153,slow=39						
ZALV	**Zalesovo Beam**	**60.37**	**333**	P	**P**	**05 05 32.6**	**-1.0**
ZALV	**Zalesovo Beam**	**60.37**	**333**	P	**P**	**05 05 32.6**	**-1.0**
	comp=E,1.3nm,0.6s,baz=107,slow=6.2,SNR=5.8						
EKS2	**Erkin-Say**	**60.57**	**318**	*e*P	**P**	**05 05 36.1**	**+0.8**
	comp=E,2.2nm,0.6s						
KURBB	**Kurchatov Arra**	**61.50**	**327**	P	**P**	**05 05 40.4**	**-0.9**
	comp=E,7.7nm,0.7s,baz=124,slow=6.3,SNR=42						
KURK	**Kurchatov**	**61.50**	**328**	*e*P	**P**	**05 05 41.3**	**0.0**
KKAR	**Karatay Array**	**62.95**	**317**	*e*P	**P**	**05 05 52.4**	**+1.2**
BRVK	**Borovoye**	**67.15**	**327**	*e*P	**P**	**05 06 19.8**	**+1.6**
	comp=E,5.9nm,0.9s						
ABKAR	**Akbulak array**	**71.88**	**321**	*e*P	**P**	**05 06 47.7**	**+0.1**
KIV	**Kislovodsk**	**82.84**	**314**	P	**P**	**05 07 49.8**	**+0.7**
VNDA	**Vanda**	**83.54**	**173**	*e*P	**P**	**05 07 50.7**	**-1.1**
	comp=E,23nm,0.6s						
ILAR	**Eielson Array**	**85.19**	**25**	P	**P**	**05 08 01.3**	**+0.8**
ILAR	**Eielson Array**	**85.19**	**25**	P	**P**	**05 08 01.3**	**+0.8**
	comp=E,0.4nm,0.7s,baz=239,slow=5.5,SNR=4.3						
BRTR	**Keskin Array B**	**89.71**	**310**	P	**P**	**05 08 22.4**	**-0.7**
BRTR	**Keskin Array B**	**89.71**	**310**	P	**P**	**05 08 22.4**	**-0.7**
	comp=E,0.5nm,0.5s,baz=140,slow=3.8,SNR=4.9						
ARCES	**ARCESS Array B**	**90.27**	**340**	P	**P**	**05 08 24.8**	**0.0**
ARCES	**ARCESS Array B**	**90.27**	**340**	P	**P**	**05 08 24.8**	**0.0**
	comp=E,2.8nm,0.9s,baz=77,slow=6.6,SNR=6.8						
FINES	**FINESS Array B**	**91.61**	**332**	P	**P**	**05 08 30.5**	**-0.7**
FINES	**FINESS Array B**	**91.61**	**332**	P	**P**	**05 08 30.5**	**-0.7**
	comp=E,2.0nm,0.9s,baz=76,slow=5.9,SNR=6.1						
AKASG	**Malin Array Be**	**91.62**	**321**	P	**P**	**05 08 30.4**	**-1.1**
AKASG	**Malin Array Be**	**91.62**	**321**	P	**P**	**05 08 30.4**	**-1.1**
	comp=E,0.3nm,0.4s,baz=66,slow=4.6,SNR=4.5						
NOA	**NORSAR Array B**	**98.57**	**334**	P	**P**	**05 09 02.0**	**-1.0**
NOA	**NORSAR Array B**	**98.57**	**334**	P	**P**	**05 09 02.0**	**-1.0**
	comp=E,0.7nm,0.7s,baz=67,slow=4.6,SNR=3.9						
YKA	**Yellowknife Ar**	**99.58**	**24**	P	**Pdif**	**05 09 09.3**	**+1.9**
YKA	**Yellowknife Ar**	**99.58**	**24**	P	**Pdif**	**05 09 09.3**	**+1.9**
	comp=E,0.1nm,0.6s,baz=296,slow=3.9,SNR=2.8						
GRFO	**Grafenberg**	**103.03**	**323**	*e*Pdif	**Pdif**	**05 09 20.4**	**-2.8**
MTUM	**Tungsten Hills**	**107.27**	**49**	*e*Pdif	**Pdif**	**05 09 42.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**122.57**	**288**	PKP	**PKPdf**	**05 14 18.7**	**-2.1**
TORD	**Torodi Ar. Bea**	**122.57**	**288**	PKP	**PKPdf**	**05 14 18.7**	**-2.1**
	comp=E,0.5nm,0.8s,baz=12,slow=1.4,SNR=4.1						

TAP 12 04:58:53.7, 24°05N×121°54E, h18km, ML4.0, 9C-5D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.06**	**55**	⇓*i*P	Pg	04 58 57.3	+0.3
	baz=58						
TWD				*i* S	Sg	04 58 59.6	+0.3
	baz=58						
HWA	**Hwalien**	**0.09**	**139**	⇓P	Pg	04 58 57.9	+0.6
	baz=137						
ESF	**Shoufeng Towns**	**0.18**	**190**	P	Pg	04 58 58.4	+0.1
	baz=197						
ESF				S	Sg	04 59 01.7	+0.3
	baz=197						
ESL	**Shilin**	**0.25**	**203**	⇓*i*P	Pg	04 58 59.3	-0.2
	baz=207						
ESL				*e*S	Sg	04 59 03.4	0.0
	baz=207						
WHF	**Hehuan Shan**	**0.27**	**292**	*i* P	Pg	04 59 00.1	-0.2
	baz=286						
EHP	**Heping Village**	**0.32**	**35**	*e*P	Pg	04 59 00.7	0.0
	baz=35						
EHP				*e*S	Sg	04 59 05.5	+0.2
	baz=35						
TEGC	**Jichi Village**	**0.33**	**180**	*e*P	Pb	04 59 01.7	+0.5
	baz=187						
TEGC				*e*S	Sn	04 59 08.3	-1.8
	baz=187						
TWT	**Tachien**	**0.39**	**302**	⇑*i*P	Pb	04 59 02.6	+0.1
	baz=307						
TWT				S	Sb	04 59 08.3	-0.1
	baz=307						
NNS	**Nan Shan**	**0.42**	**339**	⇑*i*P	Pg	04 59 02.7	+0.1
	baz=339						
NNS				*e*S	Sg	04 59 08.3	-0.3
	baz=339						
ENA	**Nanau**	**0.42**	**26**	⇓*i*P	Pg	04 59 02.3	-0.1
	baz=26						
ENA				*e*S	Sg	04 59 08.0	-0.3
	baz=26						
EHY	**Hungye**	**0.57**	**201**	*e*P	Pg	04 59 03.9	-1.2
	baz=190						
ENTT	**Nioudou**	**0.59**	**2**	⇑P	Pg	04 59 05.5	0.0
	baz=2.0						
ENTT				*e*S	Sg	04 59 13.1	-0.4
	baz=2.0						
SMLT	**Sun Moon Lake**	**0.61**	**255**	⇑P	Pg	04 59 06.0	0.0
	baz=254						
SMLT				*e*S	Sg	04 59 13.9	-0.3
	baz=254						
TWC	**Suao**	**0.63**	**27**	⇑*i*P	Pb	04 59 06.1	0.0
	baz=22						
TWC				S	Sg	04 59 14.3	-0.3
	baz=22						
TYC	**Yuchr**	**0.64**	**257**	⇑*i*P	Pg	04 59 06.4	0.0
	baz=257						
TYC				S	Sb	04 59 14.3	-0.6
	baz=257						
NSK	**Sanguang**	**0.65**	**345**	⇑*i*P	Pb	04 59 06.5	-0.2
	baz=345						
NSK				S	Sb	04 59 15.2	-0.2
	baz=345						
TWE	**Neicheng**	**0.68**	**10**	*e*P	Pb	04 59 06.8	-0.3
	baz=10.0						
TWE				S	Sb	04 59 16.1	-0.1
	baz=10.0						
TWF1	**Yuli**	**0.72**	**198**	*e*P	Pb	04 59 06.0	-1.8
	baz=198						
ILA	**Ilan**	**0.74**	**15**	*e*P	Pb	04 59 07.9	-0.2
	baz=15						
ILA				*e*S	Sg	04 59 19.1	+1.0
	baz=15						
TWQ1	**Liyutan**	**0.76**	**293**	⇑*i*P	Pn	04 59 09.5	-0.2
	baz=293						
TWQ1				*e*S	Sn	04 59 20.1	-0.6
	baz=293						
NSTT	**Nanjuang**	**0.76**	**320**	*e*P	Pb	04 59 08.6	+0.1
	baz=319						
TCU	**Taichung**	**0.80**	**278**	⇑*i*P	Pn	04 59 10.6	+0.5
	baz=273						
TCU				S	Sn	04 59 22.3	+0.8
	baz=273						
WNT	**Mingjian**	**0.80**	**258**	P	Pn	04 59 10.3	+0.2
	baz=256						
WNT				*e*S	Sn	04 59 22.0	+0.4
	baz=256						
NSY	**Sanyi**	**0.80**	**298**	P	Pn	04 59 10.6	+0.4
	baz=305						
NSY				*e*S	Sn	04 59 21.4	-0.3
	baz=305						
ALS	**Alishan**	**0.86**	**232**	⇓*i*P	Pg	04 59 10.7	-0.1
	baz=218						
CHN5	**Tsauling**	**0.91**	**241**	P	Pn	04 59 11.9	+0.2
	baz=241						
CHN5				S	Sn	04 59 25.5	+1.1
	baz=241						
HSN	**Hsinchu**	**0.92**	**325**	*e*P	Pn	04 59 12.6	+0.9
	baz=334						
HSN				*e*S	Sn	04 59 25.2	+0.8
	baz=334						
TWA	**Mucha**	**0.93**	**2**	*e*P	Pb	04 59 11.5	+0.1
	baz=355						
TWA				S	Sg	04 59 24.4	+0.1
	baz=355						
CHKT	**Chengkung**	**0.95**	**190**	*e*P	Pb	04 59 10.5	-1.2
	baz=190						
CHKT				*e*S	Sb	04 59 23.5	-0.6
	baz=190						
WGK	**Gukeng**	**0.96**	**248**	*e*P	Pg	04 59 13.1	+0.6
	baz=248						
WGK				*e*S	Sn	04 59 27.1	+1.5
	baz=248						
NCU	**National Centr**	**0.98**	**341**	*e*P	Pg	04 59 13.1	+0.4
	baz=340						
NCU				*e*S	Sn	04 59 27.5	+1.6
	baz=340						
ELDTW	**Lidau**	**0.98**	**210**	*e*P	Pb	04 59 10.5	-1.8
	baz=199						
TAP	**Taipei**	**0.99**	**358**	*e*P	Pg	04 59 13.0	0.0
	baz=357						
TAP1	**Taipei**	**0.99**	**359**	*e*P	Pn	04 59 12.8	+0.1
	baz=358						
TAP1				*e*S	Sb	04 59 25.2	+0.2
	baz=358						
TWB1	**Santiao Chiao**	**1.04**	**23**	*e*P	Pb	04 59 13.0	-0.2
	baz=12						
NWF	**Wu-fen Shan**	**1.04**	**12**	*e*P	Pb	04 59 13.3	-0.1
	baz=11						
NWF				*e*S	Sb	04 59 27.2	+0.4
	baz=11						
TWS1	**Kuangyinshan**	**1.06**	**354**	*e*P	Pg	04 59 14.1	-0.1
	baz=353						
TWS1				*e*S	Sg	04 59 29.7	+1.5
	baz=353						
CHN2	**Minshiung**	**1.10**	**243**	*e*P	Pg	04 59 15.1	+0.1
	baz=242						
STYT	**Tauyuan**	**1.14**	**219**	*e*P	Pb	04 59 14.9	0.0
	baz=210						
STYT				*e*S	Sb	04 59 29.4	0.0
	baz=210						
CHY	**Chiayi**	**1.16**	**242**	*e*P	Pb	04 59 15.6	+0.4
	baz=253						
CHY				*e*S	Sg	04 59 32.8	+1.4
	baz=253						
WTP	**Ta-pu**	**1.16**	**227**	*e*P	Pg	04 59 16.1	-0.3
	baz=217						
WTP				*e*S	Sg	04 59 32.0	+0.4
	baz=217						
WTCT	**Ta-ch'eng**	**1.17**	**261**	*e*P	Pb	04 59 15.3	0.0
	baz=261						
WTCT				*e*S	Sg	04 59 32.2	+0.6
	baz=261						
TWY	**Chenhua**	**1.23**	**2**	*e*P	Pb	04 59 16.6	+0.2
	baz=2.0						
TWK	**Hsinying**	**1.24**	**231**	*e*P	Pg	04 59 17.7	0.0
	baz=231						
TWK				*e*S	Sg	04 59 34.4	+0.3
	baz=231						
CHN1	**Nanshi**	**1.26**	**228**	*e*P	Pg	04 59 17.6	-0.5
	baz=218						
CHN1				*e*S	Sg	04 59 35.9	+1.1
	baz=218						
WSF	**Szhu**	**1.27**	**252**	*e*P	Pb	04 59 17.7	+0.6
	baz=251						
WSF				*e*S	Sg	04 59 35.3	+0.3
	baz=251						
TWG	**Pinlang**	**1.29**	**200**	*e*P	Pn	04 59 14.3	-2.5
	baz=188						
SGST	**Jiashian**	**1.30**	**223**	*e*P	Pg	04 59 18.4	-0.5
	baz=214						
SGST				*e*S	Sg	04

2.5nm,0.6s,baz=3.7,slow=9.9,SNR=6.1
WRA Warramunga Arr 24.80 163 P P 05 07 58.4 +0.3
9.3nm,0.8s
ASAR Alice Springs 28.23 166 P P 05 08 28.3 -0.8
0.2nm,0.3s,baz=343,slow=10,SNR=3.4
STKA Stephens Creek 38.24 159 P P 05 09 56.0 -0.1
4.6nm,0.7s,baz=330,slow=8.6,SNR=7.9
SONM Songino Array 47.18 341 P P 05 11 08.7 0.0
0.2nm,0.4s,baz=158,slow=5.8,SNR=3.0
MKAR Makanchi Array 57.47 325 P P 05 12 24.6 -0.5
0.6nm,0.4s,baz=117,slow=7.9,SNR=9.6
ZALV Zalesovo Beam 60.49 333 P P 05 12 46.5 +0.7
0.3nm,0.4s,baz=126,slow=7.3,SNR=2.2
KURBB Kurchatov Arra 61.65 327 P P 05 12 53.3 -0.5
0.7nm,0.7s,baz=126,slow=6.7,SNR=6.1

IDC 12 05:05:52.5±1.3, 3°83'N×126°20'E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/20, mbtmp3.7/6, MS3.4/1, Ms1 3.4/1, ms1mx3.2/31, Error ellipse: s-maj=186.3km s-min=17.1km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**10.89**	**216**	LR	LR			05 12 52.6	
	comp=Z,177nm,18.4s,baz=324,slow=39								
WRA	**Warramunga Ar**	**24.94**	**162**	P	P			05 11 17.8	+0.1
	1.5nm,0.5s								
ASAR	**Alice Springs**	**28.34**	**165**	P	P			05 11 49.0	+0.6
	0.3nm,0.4s,baz=348,slow=11,SNR=2.9								
STKA	**Stephens Creek**	**38.41**	**159**	P	P			05 13 15.1	-0.7
	0.9nm,0.4s,baz=323,slow=10,SNR=2.8								
SONM	**Songino Array**	**47.04**	**342**	P	P			05 14 26.2	+0.3
	0.5nm,0.9s,baz=152,slow=6.5,SNR=2.8								
MKAR	**Makanchi Array**	**57.17**	**325**	P	P			05 15 41.3	0.0
	0.4nm,0.4s,baz=124,slow=8.4,SNR=1.1								
KURBB	**Kurchatov Arra**	**61.37**	**328**	P	P			05 16 09.7	-0.5
	0.8nm,0.5s,baz=123,slow=6.5,SNR=8.1								

IDC 12 05:10:34.4±1.5, 3°76'N×126°81'E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.6/5, MS4.1/2, Ms1 4.1/2, ms1mx3.2/25, Error ellipse: s-maj=121.7km s-min=19.4km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.75**	**183**	P	P			05 15 28.1	+0.4
	2.9nm,1.0s,baz=19,slow=12,SNR=3.6								
WRA	**Warramunga Ar**	**24.68**	**163**	P	P			05 15 56.9	-0.5
	2.9nm,0.7s								
ASAR	**Alice Springs**	**28.12**	**166**	P	P			05 16 28.5	+0.1
	0.3nm,0.3s,baz=353,slow=15,SNR=4.1								
CTA	**Charters Tower**	**30.44**	**142**	LR	LR			05 29 01.4	
	comp=Z,256nm,21.4s,baz=225,slow=36								
SONM	**Songino Array**	**47.30**	**341**	P	P			05 19 10.2	+0.3
	0.2nm,0.5s,baz=142,slow=7.3,SNR=2.5								
MKAR	**Makanchi Array**	**57.58**	**325**	P	P			05 20 25.6	-0.5
	0.2nm,0.4s,baz=116,slow=7.9,SNR=7.7								
MKAR				LR	LR			05 45 48.2	
	comp=Z,189nm,18.0s,baz=14,slow=37								

IDC 12 05:12:26.1±1.3, 3°67'N×125°16'E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.7/5, MS3.1/1, Ms1 3.1/1, ms1mx2.9/32, Error ellipse: s-maj=126.9km s-min=19.2km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.41**	**7**	LR	LR			05 14 05.8	
	comp=Z,313nm,20.6s,baz=286,slow=29								
FITZ	**Fitzroy Crossi**	**21.64**	**179**	P	P			05 17 18.1	-0.1
	1.6nm,0.5s,baz=18,slow=6.4,SNR=3.4								
WRA	**Warramunga Arr**	**25.13**	**159**	P	P			05 17 52.2	-0.9
	2.7nm,0.5s								
ASAR	**Alice Springs**	**28.47**	**163**	P	P			05 18 24.1	+0.9
	0.5nm,0.5s,baz=339,slow=9.0,SNR=3.6								
SONM	**Songino Array**	**46.88**	**343**	P	P			05 20 58.3	0.0
	0.5nm,0.7s,baz=160,slow=7.2,SNR=3.1								
MKAR	**Makanchi Array**	**56.73**	**326**	P	P			05 22 11.5	-0.2
	0.2nm,0.4s,baz=116,slow=8.9,SNR=3.6								

*ISCJB **12** 05:20:49.5±0.7, 36°36'N×027°80'E×0°05, h63km±8km, Error ellipse: s-maj=7.2km s-min=4.7km az=25.8*
*ISK **12** 05:20:49.4, 36°36'N×27°80'E, h58km, MD2.9*
*ATH **12** 05:20:49.8, 36°37'N×27°73'E, h52km±3km, MD3.4/7*
*DDA **12** 05:20:50.6, 36°54'N×28°14'E, h8km, MD2.8*
*CSEM **12** 05:20:50.1±0.1, 36°36'N×27°82'E, h56km±2km, MD3.4, Error ellipse: s-maj=2.9km s-min=2.0km az=126.0*
ISC 12 05:20:50.0±1.3, 36°36'N±0°03×27°82'E±0°04, h60km±8km, n28, σ0965/51, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.28**	**121**	*e*P			**Pn**	**05 21 00.1**	**+0.1**
ARG				*e*S			**Sn**	**05 21 07.8**	**+0.6**
ARG	**Arkhangelos**	**0.28**	**121**	*e*P			**Pn**	**05 21 00.1**	**+0.1**
ARG				*e*S			**Sn**	**05 21 07.8**	**+0.6**
DAT	**Datca**	**0.41**	**332**	*e*PG			**Pn**	**05 21 01.2**	**0.0**
DAT				*e*SG			**Sn**	**05 21 08.9**	**-0.4**
DAT	**Datca**	**0.41**	**332**	*e*Pg			**Pn**	**05 21 01.2**	**0.0**
DAT				*e*Sg			**Sn**	**05 21 08.9**	**-0.4**
BDRM	**Kayabasi**	**0.76**	**337**	*i* Pg			**Pn**	**05 21 04.9**	**-0.1**
BDRM				*i* Sg			**Sn**	**05 21 16.3**	**+0.3**
TURN	**Turunc**	**0.81**	**51**	*i* Pg			**Pn**	**05 21 02.4**	**-3.1**
TURN				*i* Sg			Sn	05 21 09.9	-7.0
BODT	**Bodrum**	**0.81**	**330**	*e*PG			**Pn**	**05 21 05.4**	**-0.2**
BODT				*e*SG			**Sn**	**05 21 16.8**	**-0.3**
BODT	**Bodrum**	**0.81**	**330**	*e*Pg			**Pn**	**05 21 05.4**	**-0.2**
BODT				*e*Sg			**Sn**	**05 21 16.8**	**-0.3**
YER	**Yerkesik**	**0.85**	**25**	*e*PG			**Pn**	**05 21 06.5**	**+0.3**
YER				*e*SG			**Sn**	**05 21 19.0**	**+0.9**
YER	**Yerkesik**	**0.85**	**25**	*e*Pg			**Pn**	**05 21 06.5**	**+0.3**
YER				*e*Sg			**Sn**	**05 21 19.0**	**+0.9**
KARP	**Karpathos**	**0.98**	**214**	*e*P			**Pn**	**05 21 07.6**	**-0.2**
KARP				*e*S			**Sn**	**05 21 20.5**	**-0.4**
KARP	**Karpathos**	**0.98**	**214**	*e*P			**Pn**	**05 21 07.6**	**-0.2**
KARP				*e*S			**Sn**	**05 21 20.5**	**-0.4**
AYDN	**Tasoluk**	**1.29**	**2**	*e*P			**Pn**	**05 21 12.4**	**+0.4**
AYDN				*e*S			**Sn**	**05 21 28.3**	**-0.1**
AYDN	**Tasoluk**	**1.29**	**2**	*e*P			**Pn**	**05 21 12.4**	**+0.4**
AYDN				*e*S			**Sn**	**05 21 28.3**	**-0.1**
AKAS	**Kas**	**1.45**	**95**	*e*P			**Pn**	**05 21 13.9**	**-0.2**
AKAS	**Kas**	**1.45**	**95**	*e*P			**Pn**	**05 21 13.9**	**-0.2**
SMG	**Samos**	**1.56**	**330**	*e*P			**Pn**	**05 21 15.9**	**+0.4**
SMG				*e*S			**Sn**	**05 21 34.5**	**-0.2**
SMG	**Samos**	**1.56**	**330**	*e*P			**Pn**	**05 21 15.9**	**+0.4**
SMG				*e*S			**Sn**	**05 21 34.5**	**-0.2**
ELL	**Elmali**	**1.72**	**77**	*e*PN			**Pn**	**05 21 18.0**	**+0.2**
ELL	**Elmali**	**1.72**	**77**	*e*Pn			**Pn**	**05 21 18.0**	**+0.2**
ZKR	**Zakros**	**1.81**	**227**	*e*P			**Pn**	**05 21 19.5**	**+0.7**
ZKR				*e*S			**Sn**	**05 21 41.3**	**+0.6**
ZKR	**Zakros**	**1.81**	**227**	*e*P			**Pn**	**05 21 19.5**	**+0.7**
ZKR				*e*S			**Sn**	**05 21 41.3**	**+0.6**
NPS	**Neapolis**	**2.11**	**239**	*e*P			**Pn**	**05 21 22.4**	**-0.5**
NPS				*e*S			**Sn**	**05 21 46.8**	**-1.2**
NPS	**Neapolis**	**2.11**	**239**	*e*P			**Pn**	**05 21 22.4**	**-0.5**
NPS				*e*S			**Sn**	**05 21 46.8**	**-1.2**
LAST	**Lasithi**	**2.25**	**239**	*e*P			**Pn**	**05 21 25.3**	**+0.3**
LAST				*e*S			**Sn**	**05 21 51.3**	**-0.4**
LAST	**Lasithi**	**2.25**	**239**	*e*P			**Pn**	**05 21 25.3**	**+0.3**
LAST				*e*S			**Sn**	**05 21 51.3**	**-0.4**
IDI	**Anoyia**	**2.62**	**247**	*e*P			**Pn**	**05 21 30.2**	**+0.3**
IDI				*e*S			**Sn**	**05 22 00.5**	**0.0**
IDI	**Anoyia**	**2.62**	**247**	*e*P			**Pn**	**05 21 30.2**	**+0.3**
IDI				*e*S			**Sn**	**05 22 00.5**	**0.0**

IDC 12 05:29:24.8±1.2, 3°90'N×127°21'E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/22, mbtmp4.0/9, MS3.3/1, Ms1 3.3/1, ms1mx2.3/39, Error ellipse: s-maj=108.8km s-min=15.1km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.55**	**333**	LR	LR			05 31 55.1	
	comp=Z,435nm,18.1s,baz=338,slow=42								
FITZ	**Fitzroy Crossi**	**21.91**	**184**	P	P			05 34 20.2	+0.4
	3.2nm,0.9s,baz=349,slow=10,SNR=2.8								
WRA	**Warramunga Ar**	**24.70**	**164**	P	P			05 34 46.6	-1.3
	7.0nm,0.8s								
ASAR	**Alice Springs**	**28.16**	**167**	P	P			05 35 20.1	+1.1
	0.3nm,0.5s,baz=338,slow=9.7,SNR=3.4								
STKA	**Stephens Creek**	**38.12**	**160**	P	P			05 36 45.4	-0.3
	1.1nm,0.4s,baz=333,slow=8.8,SNR=3.4								
SONM	**Songino Array**	**47.30**	**341**	P	P			05 38 01.0	+0.7
	0.7nm,0.7s,baz=157,slow=8.1,SNR=5.7								
MKAR	**Makanchi Array**	**57.70**	**325**	P	P			05 39 16.2	-1.0
	1.2nm,0.5s,baz=117,slow=8.7,SNR=10								
ZALV	**Zalesovo Beam**	**60.66**	**333**	P	P			05 39 37.3	-0.3
	0.5nm,0.4s,baz=120,slow=7.8,SNR=3.2								
KURBB	**Kurchatov Arra**	**61.86**	**327**	P	P			05 39 46.6	+0.8
	2.0nm,0.5s,baz=130,slow=6.4,SNR=9.2								
BVAR	**Borovoye Array**	**67.44**	**327**	P	P			05 40 21.9	-0.4
	0.7nm,0.6s,baz=142,slow=5.6,SNR=4.8								

IDC 12 05:32:18.4±1.5, 4°01'N×127°06'E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/23, mbtmp3.8/8, Error ellipse: s-maj=121.4km s-min=16.0km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.01**	**184**	P	P			05 37 14.2	-0.2
	2.9nm,0.9s,baz=27,slow=9.0,SNR=2.5								
WRA	**Warramunga Arr**	**24.85**	**164**	P	P			05 37 41.3	-1.4
	4.6nm,0.9s								
ASAR	**Alice Springs**	**28.30**	**167**	P	P			05 38 15.8	+1.9
	0.3nm,0.5s,baz=337,slow=6.0,SNR=3.3								
STKA	**Stephens Creek**	**38.27**	**160**	P	P			05 39 40.0	-0.5
	1.6nm,0.6s,baz=343,slow=12,SNR=4.0								
MKAR	**Makanchi Array**	**57.52**	**325**	P	P			05 42 09.6	-0.1
	0.3nm,0.4s,baz=112,slow=7.4,SNR=5.0								
KURBB	**Kurchatov Arra**	**61.69**	**327**	P	P			05 42 37.9	-0.4
	0.6nm,0.6s,baz=128,slow=6.0,SNR=4.2								
BVAR	**Borovoye Array**	**67.27**	**327**	P	P			05 43 15.9	+1.1
	0.5nm,0.5s,baz=111,slow=8.9,SNR=2.7								
AKTO	**Aktyubinsk**	**73.65**	**322**	P	P			05 43 53.2	-0.7
	0.4nm,0.4s,baz=112,slow=5.4,SNR=3.3								

IDC 12 05:32:42.8±1.1, 3°89'N×126°26'E, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.1/22, mbtmp4.2/11, Error ellipse: s-maj=137.4km s-min=15.5km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.98**	**162**	P	P			05 38 09.3	+1.0
	4.9nm,0.7s								
ASAR	**Alice Springs**	**28.38**	**165**	P	P			05 38 38.4	-0.6
	0.5nm,0.6s,baz=343,slow=11,SNR=4.2								
STKA	**Stephens Creek**	**38.44**	**159**	P	P			05 40 06.1	-0.3
	4.1nm,0.8s,baz=0.4,slow=4.4,SNR=4.9								
SONM	**Songino Array**	**47.00**	**342**	P	P			05 41 15.9	0.0
	1.6nm,0.7s,baz=156,slow=6.6,SNR=9.9								
MKAR	**Makanchi Array**	**57.16**	**325**	P	P			05 42 31.8	+0.2
	2.4nm,0.5s,baz=123,slow=8.0,SNR=16								
ZALV	**Zalesovo Beam**	**60.24**	**333**	P	P			05 42 52.0	-0.7
	1.6nm,0.4s,baz=137,slow=7.1,SNR=8.6								
KURBB	**Kurchatov Arra**	**61.36**	**328**	P	P			05 43 00.7	+0.2
	4.9nm,0.8s,baz=124,slow=6.3,SNR=17								
BVAR	**Borovoye Array**	**66.94**	**327**	P	P			05 43 37.3	+0.2
	1.1nm,0.4s,baz=126,slow=7.5,SNR=5.4								
AKTO	**Aktyubinsk**	**73.25**	**322**	P	P			05 44 16.5	+0.6
	1.6nm,0.6s,baz=100,slow=6.7,SNR=8.9								
BRTR	**Keskin Array B**	**89.56**	**310**	P	P			05 45 42.0	-0.8
	0.5nm,0.8s,baz=108,slow=4.0,SNR=3.7								
FINES	**FINESS Array B**	**91.47**	**332**	P	P			05 45 50.5	-0.4
	1.8nm,0.9s,baz=28,slow=3.3,SNR=3.8								
TORD	**Torodi Ar. Bea**	**122.42**	**288**	PKP	PKPdf			05 51 40.7	-0.5
	0.3nm,0.6s,baz=65,slow=1.9,SNR=2.6								

*IDC **12** 05:34:46.7±0.5, 3°80'N×126°29'E, h0km, mb4.3/21, mb1 4.3/21, mb1mx4.3/24, mbtmp4.3/21, Error ellipse: s-maj=27.6km s-min=11.5km az=73.0*
*ISCJB **12** 05:34:49.4±1.5, 3°84'N±0°06×126°5'E±0°1, h33km±13km, mb4.4/37, MS4.4/3, Error ellipse: s-maj=19.0km s-min=6.9km az=158.7*
*BJI **12** 05:34:50.4, 3°94'N×126°71'E, h39km, mB5.1/15, mb4.6/24, Ms4.6/13, Ms7 4.2/13*
*NEIC **12** 05:34:51.8±0.3, 3°93'N×126°51'E, h35km, mb4.6/11, Error ellipse: s-maj=17.5km s-min=6.5km az=69.0*
*DJA **12** 05:34:52, 4°22'N×126°98'E, h27km, mb4.9/7*
ISC 12 05:34:52.4±0.4, 3°88'N±0°07×126°6'E±0°1, h39km±4km, n75, σ1824/94, mb4.5/36, MS4.2/3, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.71**	**324**	*e*P			Pn	05 35 38.0	+4.4
DAV	**Davao City (W)**	**3.32**	**343**	*e*Pn			**Pn**	**05 35 39.8**	**-2.1**
DAV				Sn			**Sn**	**05 36 21.9**	**+1.9**
DAV	**Davao City (W)**	**3.32**	**343**	Sn			**Sn**	**05 36 21.9**	**+1.9**
	123nm,0.3s,baz=270,slow=16,SNR=3.5								
DMPH	**Davao City--Mi**	**3.35**	**342**	*e*P			Pn	05 35 47.2	+4.9
TPUB	**Ta-pu**	**20.14**	**344**	*e*Pn			**P**	**05 39 22.8**	**-0.6**
	42nm,1.0s								
SSLB	**Suanglung**	**20.52**	**345**	*e*Pn			**P**	**05 39 26.0**	**-1.5**
	37nm,1.3s								
YHNB	**Yeheng**	**21.27**	**347**	P			**P**	**05 39 32.3**	**-3.3**
	16nm,0.8s								
FITZ	**Fitzroy Crossi**	**21.86**	**182**	P			**P**	**05 39 42.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**21.86**	**182**	P			**P**	**05 39 42.0**	**+0.1**
	3.7nm,0.7s,baz=9.7,slow=14,SNR=5.2								
COEN	**Coen**	**24.21**	**137**	*e*P			**P**	**05 40 05.2**	**-0.4**
WRAB	**Tennant Creek**	**24.87**	**162**	*e*P			**P**	**05 40 10.6**	**-1.1**
	40nm,1.0s								
WRA	**Warramunga Arr**	**24.88**	**162**	P			**P**	**05 40 10.0**	**-1.7**
WRA	**Warramunga Ar**	**24.88**	**162**	P			**P**	**05 40 10.0**	**-1.7**
	2um,0.3s,baz=0.0,slow=0.0,SNR=9.9								
AS31	**Alice Springs**	**28.30**	**166**	*e*P			**P**	**05 40 45.1**	**+2.6**
ASAR	**Alice Springs**	**28.30**	**166**	P			**P**	**05 40 42.2**	**-0.3**
ASAR	**Alice Springs**	**28.30**	**166**	P			**P**	**05 40 42.2**	**-0.3**
	0.9nm,0.5s,baz=348,slow=7.5,SNR=4.1								
NJ2	**Nanjing**	**28.95**	**346**	*e*P			**P**	**05 40 47.3**	**-0.8**
NJ2					pmax	pmax			
	comp=Z,20nm,0.6s								
GYA	**Guiyang**	**29.44**	**322**	P			**P**	**05 40 54.3**	**+1.5**
GYA					pP	**pP**		05 41 03.8	**+0.2**
GYA					PP	PP		05 41 51.2	-8.6
GYA					PcP	**PcP**		**05 43 58.7**	**+0.6**
GYA					S	**S**		**05 45 45.0**	**+0.4**
GYA					sS	**sS**		**05 46 02.1**	**-0.5**
GYA					SS	ScP		05 47 20.5	-17
GYA					pmax	pmax			
	comp=Z,10.0nm,0.8s								
GYA					pmax	pmax			
	comp=Z,90nm,4.8s								
GYA					LR	LR			
	comp=N,430nm,16.8s								
GYA					LR	LR			
	comp=E,400nm,17.4s								
GYA					LR	LR			
	comp=Z,420nm,17.0s								
CMAR	**Chiang Mai Arr**	**30.64**	**300**	P			**P**	**05 41 04.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**30.64**	**300**	P			**P**	**05 41 04.1**	**+0.7**
	comp=Z,1.5nm,0.4s,baz=112,slow=7.2,SNR=5.8								
CHTO	**Chiang Mai**	**30.80**	**301**	*e*P			**P**	**05 41 05.1**	**+0.4**
	comp=Z,3.1nm,0.8s								
ENH	**Enshi**	**30.81**	**330**	*e*P			**P**	**05 41 03.8**	**-1.0**
	comp=Z,4.6nm,0.4s								
KSAR	**Wonju Array Be**	**33.43**	**2**	P			**P**	**05 41 28.3**	**+0.8**
KSRS	**Korea Array**	**33.44**	**2**	P			**P**	**05 41 28.3**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=184,slow=10,SNR=6.4								
XAN	**Xi'an**	**34.21**	**333**	P			**P**	**05 41 33.3**	**-1.1**
XAN					pP	**pP**		**05 41 43.5**	**-1.8**
XAN					pmax	pmax			
	comp=Z,4.0nm,0.8s								
BJI	**Beijing**	**37.20**	**347**	P			**P**	**05 41 59.6**	**-0.4**
BJI					pmax	pmax			
	comp=Z,24nm,0.8s								
NWAO	**Narrogin (SRO)**	**37.65**	**193**	P			**P**	**05 42 03.1**	**-0.8**
NWAO	**Narrogin (SRO)**	**37.65**	**193**	P			**P**	**05 42 03.1**	**-0.8**
	comp=Z,9.7nm,0.8s,baz=23,slow=3.9,SNR=3.3								
LZH	**Lanzhou**	**38.29**	**330**	*e*P			**P**	**05 42 09.0**	**-0.4**
LZH					pP	**pP**		**05 42 19.5**	**-0.9**
LZH					sP	**sP**		**05 42 23.0**	**-2.1**
LZH					pmax	pmax			
	comp=Z,15nm,1.1s								
STKA	**Stephens Creek**	**38.33**	**159**	*e*P			**P**	**05 42 09.7**	**+0.1**
	comp=Z,2.4nm,0.8s								
STKA	**Stephens Creek**	**38.33**	**159**	P			**P**	**05 42 09.4**	**-0.2**
	comp=Z,13nm,0.8s,baz=328,slow=8.2,SNR=13								
USRK	**Ussuriysk Arra**	**40.44**	**6**	P			**P**	**05 42 29.5**	**+2.4**
	comp=Z,1.6nm,0.5s,baz=202,slow=4.9,SNR=5.5								
LSA	**Lhasa**	**42.21**	**311**	*e*P			**P**	**05 42 43.0**	**+0.6**
	comp=Z,4.8nm,0.5s								

DZM Mont Dzumac 46.76 125 P P **05 43 19.2 +0.7**
DZM Mont Dzumac 46.76 125 P P **05 43 19.2 +0.7**
comp=Z,5.1nm,0.9s,baz=0.0,slow=19,SNR=3.5
ULN Ulaanbaatar 46.92 342 *e*P **P** **05 43 19.6 +0.2**
comp=Z,6.9nm,1.0s
SONM Songino Array 47.10 342 P P **05 43 20.8 +0.1**
SONM PcP **PcP** **05 44 53.0 +0.8**
SONM Songino Array 47.10 342 P P **05 43 20.8 +0.1**
comp=Z,1.2nm,0.6s,baz=156,slow=8.7,SNR=5.9
SONM PcP **PcP** **05 44 53.0 +0.8**
comp=Z,1.1nm,0.7s,baz=160,slow=4.4,SNR=3.0
WMQ Urumqi 52.50 325 *e*P **P** **05 44 02.8 +1.0**
WMQ pP **pP** **05 44 12.3 -0.9**
WMQ pmax pmax
comp=Z,6.0nm,1.0s
WMQ pmax pmax
comp=Z,220nm,6.0s
WMQ LR LR
comp=N,500nm,13.2s
WMQ LR LR
comp=E,350nm,14.9s
WMQ LR LR
comp=Z,540nm,19.3s
PETK Petropavlovsk- 55.36 22 P P **05 44 22.9 +0.4**
PETK Petropavlovsk- 55.36 22 P P **05 44 22.9 +0.4**
comp=Z,1.7nm,0.7s,baz=206,slow=4.0,SNR=2.9
MK31 Makanchi Array 57.33 325 *e*P **P** **05 44 35.7 -0.9**
MKAR Makanchi Array 57.33 325 *e*P **P** **05 44 36.3 -0.3**
MKAR Makanchi Array 57.33 325 P P **05 44 35.7 -0.9**
comp=Z,1.3nm,0.4s,baz=119,slow=7.4,SNR=15
KSH Kashi 57.81 315 *e*P **P** **05 44 41.8 +1.5**
KSH pP **pP** **05 44 51.7 -0.1**
KSH sP **sP** **05 44 55.8 -0.5**
KSH PcP **PcP** **05 45 32.2 -0.4**
KSH PP **PP** **05 46 53.0 +4.2**
KSH ScP **ScP** **05 49 29.1 -0.7**
KSH PcS **PcS** **05 49 32.2 -1.8**
KSH S **S** **05 52 39.2 +2.0**
KSH sS **sS** **05 52 57.1 +0.9**
KSH ScS **ScS** **05 54 25.2 -1.9**
KSH SS **SS** **05 56 32.2 +3.8**
KSH LR LR
comp=N,120nm,4.8s
KSH LR LR
comp=E,120nm,6.1s
KSH LR LR
comp=Z,150nm,15.6s
AAK Ala-Archa 60.13 318 P P **05 44 55.7 -0.6**
AAK Ala-Archa 60.13 318 P P **05 44 55.7 -0.6**
comp=Z,1.2nm,0.7s,baz=158,slow=7.6,SNR=4.3
ZALV Zalesovo Beam 60.38 333 P P **05 44 56.6 -1.0**
ZALV Zalesovo Beam 60.38 333 P P **05 44 56.6 -1.0**
comp=Z,0.7nm,0.4s,baz=150,slow=9.8,SNR=4.3
EKS2 Erkin-Say 60.62 318 *e*P **P** **05 44 59.1 -0.5**
comp=Z,5.5nm,0.8s
KURBB Kurchatov Arra 61.52 327 P P **05 45 05.0 -0.4**
comp=Z,4.7nm,0.8s,baz=124,slow=6.2,SNR=13
KURK Kurchatov 61.52 328 P P **05 45 05.0 -0.4**
KKAR Karatay Array 63.00 317 *e*P **P** **05 45 15.3 -0.2**
BVAR Borovoye Array 67.10 327 P P **05 45 41.7 -0.3**
BVAR Borovoye Array 67.10 327 P P **05 45 41.7 -0.3**
comp=Z,3.5nm,0.8s,baz=130,slow=8.0,SNR=12
BRVK Borovoye 67.17 327 *e*P **P** **05 45 41.5 -0.8**
comp=Z,8.5nm,1.0s
ABKAR Akbulak array 71.92 321 *e*P **P** **05 46 10.4 -1.3**
AKTO Aktyubinsk 73.43 322 P P **05 46 20.4 -0.4**
AKTO Aktyubinsk 73.43 322 P P **05 46 20.4 -0.4**
comp=Z,3.5nm,0.7s,baz=102,slow=5.9,SNR=12
ILAR Eielson Array 85.05 25 P P **05 47 25.4 +1.6**
ILAR Eielson Array 85.05 25 P P **05 47 25.4 +1.6**
comp=Z,0.6nm,0.9s,baz=231,slow=5.7,SNR=4.4
BRTR Keskin Array B 89.79 310 P P **05 47 46.5 -1.0**
BRTR Keskin Array B 89.79 310 P P **05 47 46.5 -1.0**
comp=Z,1.7nm,0.9s,baz=108,slow=3.3,SNR=7.2
ARCES ARCESS Array B 90.25 340 P P **05 47 48.6 -0.2**
ARCES ARCESS Array B 90.25 340 P P **05 47 48.6 -0.2**
comp=Z,1.8nm,0.7s,baz=80,slow=5.8,SNR=6.4
FINES FINESS Array B 91.62 332 P P **05 47 54.9 -0.3**
FINES FINESS Array B 91.62 332 P P **05 47 54.9 -0.3**
comp=Z,0.9nm,0.6s,baz=48,slow=2.1,SNR=3.6
NOA NORSAR Array B 98.58 334 P P **05 48 26.4 -0.6**
NOA NORSAR Array B 98.58 334 P P **05 48 26.4 -0.6**
comp=Z,0.8nm,0.8s,baz=67,slow=4.5,SNR=2.8
YKA Yellowknife Ar 99.44 24 P **Pdif** **05 48 32.1 +1.3**
YKA Yellowknife Ar 99.44 24 P **Pdif** **05 48 32.1 +1.3**
comp=Z,0.2nm,0.9s,baz=303,slow=3.7,SNR=3.0
TXAR Lajitas Array 121.65 52 PKP **PKPdf** **05 53 44.2 +1.3**
TXAR Lajitas Array 121.65 52 PKP **PKPdf** **05 53 44.2 +1.3**
comp=Z,0.1nm,0.4s,baz=251,slow=2.5,SNR=3.4
TORD Torodi Ar. Bea 122.70 288 PKP **PKPdf** **05 53 44.7 -0.5**
TORD Torodi Ar. Bea 122.70 288 PKP **PKPdf** **05 53 44.7 -0.5**
comp=Z,0.5nm,0.8s,baz=37,slow=2.5,SNR=3.9

*DJA **12** 05:37:07, 7°12N×128°99E, h309km, mb5.1/7*
*IDC **12** 05:37:08.6±0.4, 3°87N×126°55E, h0km, mb4.4/24, mb1 4.5/24, mb1mx4.5/26, mbtmp4.4/24, MS4.2/3, Ms1 4.2/3, ms1mx3.5/43, Error ellipse: s-maj=24.0km s-min=10.3km az=70.0*
*ISCJB **12** 05:37:13.1±0.3, 3°85N±0°05×126°61E±0°07, h45km, mb4.

	3.8nm,0.6s,baz=161,slow=7.5,SNR=8.9							
KOLN	**Koldanda**	**47.38**	**305**	*e*P		**P**	**05 45 44.3**	**-1.1**
	26nm,0.5s							
DANN	**Dangsing**	**47.47**	**306**	*e*P		**P**	**05 45 45.2**	**-1.0**
	34nm,0.5s							
PETK	**Petropavlovsk-**	**55.41**	**22**	P		**P**	**05 46 44.1**	**-0.7**
	1.7nm,0.6s,baz=192,slow=3.2,SNR=5.8							
MKAR	**Makanchi Array**	**57.42**	**325**	P		**P**	**05 46 58.2**	**-1.1**
	3.0nm,0.5s,baz=117,slow=6.0,SNR=12							
MKAR				ScP		**ScP**	**05 51 54.1**	**+5.0**
	0.5nm,0.7s,baz=131,slow=4.0,SNR=3.6							
AAK	**Ala-Archa**	**60.22**	**318**	P		**P**	**05 47 19.8**	**+0.8**
	1.0nm,0.5s,baz=173,slow=8.2,SNR=4.6							
ZALV	**Zalesovo Beam**	**60.47**	**333**	P		**P**	**05 47 18.1**	**-2.1**
	2.6nm,0.4s,baz=135,slow=6.5,SNR=9.4							
ZALV				LR		LR	06 12 51.1	
	comp=Z,167nm,20.7s,baz=338,slow=36							
KURBB	**Kurchatov Arra**	**61.61**	**327**	P		**P**	**05 47 27.1**	**-0.9**
	4.7nm,0.4s,baz=128,slow=6.1,SNR=11							
BVAR	**Borovoye Array**	**67.19**	**327**	P		**P**	**05 48 04.1**	**-0.5**
	3.1nm,0.7s,baz=142,slow=7.5,SNR=6.3							
BVAR				LR		LR	06 19 24.1	
	comp=Z,224nm,21.7s,baz=124,slow=38							
AKTO	**Aktyubinsk**	**73.53**	**322**	P		**P**	**05 48 42.5**	**-0.8**
	3.5nm,0.7s,baz=108,slow=10,SNR=7.2							
ILAR	**Eielson Array**	**85.09**	**25**	P		**P**	**05 49 45.3**	**-0.7**
	1.0nm,0.7s,baz=248,slow=6.5,SNR=6.2							
BRTR	**Keskin Array B**	**89.88**	**310**	P		**P**	**05 50 09.2**	**-0.7**
	0.9nm,0.5s,baz=138,slow=5.4,SNR=6.6							
ARCES	**ARCESS Array B**	**90.34**	**340**	P		**P**	**05 50 10.2**	**-1.0**
	2.0nm,0.6s,baz=46,slow=5.2,SNR=8.4							
FINES	**FINESS Array B**	**91.71**	**332**	P		**P**	**05 50 17.0**	**-0.6**
	2.2nm,0.7s,baz=60,slow=3.5,SNR=7.1							
AKASG	**Malin Array Be**	**91.76**	**321**	P		**P**	**05 50 16.7**	**-1.4**
	1.1nm,0.6s,baz=80,slow=3.5,SNR=4.4							
NOA	**NORSAR Array B**	**98.67**	**334**	P		**P**	**05 50 49.0**	**-0.5**
	0.8nm,0.6s,baz=67,slow=4.6,SNR=3.4							
YKA	**Yellowknife Ar**	**99.48**	**24**	P		**Pdif**	**05 50 52.7**	**-0.3**
	0.3nm,0.7s,baz=297,slow=4.4,SNR=4.1							
YKA				PKiKP		**PKiKP**	**05 55 23.2**	**+1.1**
	0.1nm,0.5s,baz=292,slow=1.8,SNR=4.7							
YKA				PKKPbc		**PKKPbc**	**06 07 15.0**	**-3.1**
	0.1nm,0.5s,baz=124,slow=3.1,SNR=4.9							
GERES	**GERESS Array B**	**101.95**	**322**	P		**Pdif**	**05 51 03.9**	**-0.6**
	0.3nm,0.4s,baz=108,slow=6.3,SNR=2.9							
NVAR	**Mina Array Bea**	**106.95**	**48**	PKKPab		PKKPab	06 07 09.7	-0.8
	0.6nm,0.6s,baz=116,slow=4.1,SNR=4.5							
PDAR	**Pinedale Array**	**111.38**	**41**	PKKPab		PKKPab	06 06 49.8	-1.1
	0.5nm,0.6s,baz=126,slow=5.7,SNR=5.0							
SCHQ	**Schefferville**	**120.51**	**9**	PKP		**PKPdf**	**05 56 03.0**	**+1.2**
	0.5nm,0.4s,baz=284,slow=4.2,SNR=3.7							
TXAR	**Lajitas Array**	**121.65**	**52**	PKP		**PKPdf**	**05 56 05.7**	**+0.8**
	0.3nm,0.5s,baz=324,slow=0.2,SNR=5.6							
TXAR				PKKPbc		**PKKPab**	**06 06 05.6**	**+0.1**
	0.3nm,0.8s,baz=95,slow=6.4,SNR=4.3							
TORD	**Torodi Ar. Bea**	**122.78**	**288**	PKP		**PKPdf**	**05 56 07.3**	**+0.1**
	0.9nm,0.6s,baz=80,slow=1.7,SNR=12							
DBIC	**Dimbokro**	**130.44**	**282**	PKP		**PKPdf**	**05 56 22.8**	**+0.8**
	2.8nm,0.9s,baz=201,slow=16,SNR=5.1							
PLCA	**Paso Flores**	**140.12**	**160**	PKP		**PKPdf**	**05 56 39.5**	**+0.2**
	1.6nm,0.7s,baz=248,slow=1.9,SNR=6.1							
CPUP	**Villa Florida**	**157.29**	**171**	PKPab		**PKPab**	**05 57 39.2**	**+1.3**
	3.4nm,0.7s,baz=183,slow=2.9,SNR=8.0							

IDC 12 05:56:16.2±1.0, 3.87N×126.84E, *h*0^{km}, **mb3.7**/8, **mb1 3.9**/8, **mb1mx3.7**/21, **mbtmp3.7**/8, **Error ellipse: s-maj=101.7km s-min=15.2km az=71.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.86**	**183**	P		P	06 01 10.9	+0.1
	1.3nm,0.5s,baz=25,slow=14,SNR=2.8							
WRA	**Warramunga Arr**	**24.78**	**163**	P		P	06 01 39.9	-0.1
	6.0nm,0.8s							
ASAR	**Alice Springs**	**28.22**	**166**	P		P	06 02 11.2	+0.1
	0.2nm,0.5s,baz=341,slow=5.4,SNR=3.3							
STKA	**Stephens Creek**	**38.22**	**160**	P		P	06 03 37.3	-0.7
	3.3nm,0.7s,baz=339,slow=8.3,SNR=7.3							
SONM	**Songino Array**	**47.20**	**341**	P		P	06 04 50.7	-0.3
	0.2nm,0.6s,baz=141,slow=7.1,SNR=2.8							
SONM				PcP		PcP	06 06 22.5	0.0
	0.2nm,0.5s,baz=174,slow=2.9,SNR=2.3							
MKAR	**Makanchi Array**	**57.51**	**325**	P		P	06 06 06.2	-1.2
	0.5nm,0.4s,baz=120,slow=7.6,SNR=10							
ZALV	**Zalesovo Beam**	**60.52**	**333**	P		P	06 06 28.8	+0.7
	0.5nm,0.5s,baz=90,slow=8.6,SNR=2.6							
KURBB	**Kurchatov Arra**	**61.68**	**327**	P		P	06 06 35.9	-0.2
	0.5nm,0.5s,baz=126,slow=6.6,SNR=4.5							
TORD	**Torodi Ar. Bea**	**122.98**	**288**	PKP		PKPdf	06 15 16.5	+0.8
	0.5nm,1.1s,baz=59,slow=0.5,SNR=2.3							

IDC **12** *06:01:54.6±0.4, 4.12N×126.74E, h0^{km}, mb4.7/29, mb1 4.7/29, mb1mx4.7/30, mbtmp4.7/29, MS4.1/7, Ms1 4.2/7, ms1mx3.7/34, Error ellipse: s-maj=17.9km s-min=10.0km az=76.0*

BJI **12** *06:01:56.4, 3.84N×126.84E, h35^{km}, mB5.1/26, mb4.8/42, Ms4.6/32, Ms7 4.3/31*

MOS **12** *06:01:58.7±1.0, 4.08N×126.68E, h39^{km}, mb5.1/34, Error ellipse: s-maj=12.9km s-min=5.6km az=116.5*

NEIC **12** *06:01:60.0±0.2, 4.14N×126.88E, h35^{km}, mb5.0/43, Error ellipse: s-maj=7.2km s-min=4.4km az=75.0*

ISCJB **12** *06:02:01.2±0.5, 4.12N±0.03×126.88E±0.04, h63^{km}±5^{km}, mb5.0/107, Error ellipse: s-maj=6.2km s-min=4.0km az=162.0*

DJA **12** *06:02:05, 3.96N×126.92E, h84^{km}, mb5.0/32*

ISC 12 06:02:00.6±0.3, **4.09N**±0.04×**126.84E**±0.05, **h37**^{km}±3^{km}, **n326**, σ1^{s}**50**/363, **mb5.0**/106, **MS4.3**/21, **23C-21D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.73**	**317**	∥*e*P	**Pn**	**06 02 44.3**	**+2.3**
MATI	**Mati**	**2.89**	**349**	*e*P	Pn	06 02 49.2	+5.1
DAV	**Davao City (W)**	**3.21**	**337**	*e*Pn	**Pn**	**06 02 47.9**	**-0.6**
DAV				Sn	Sn	06 03 36.8	+11
DAV	**Davao City (W)**	**3.21**	**337**	P	Pn	06 03 00.0	+12
DAV	**Davao City (W)**	**3.21**	**337**	Pn	Pn	06 02 51.8	+3.4
	54nm,0.3s,baz=171,slow=7.2,SNR=2.8						
DAV				Sn	Sn	06 03 36.8	+11
	19nm,0.3s,baz=298,slow=21,SNR=5.6						
DMPH	**Davao City--Mi**	**3.25**	**336**	*e*P	**Pn**	**06 02 51.1**	**+2.1**
DMPH				*i* S	**Sn**	**06 03 24.1**	**-2.4**
MNI	**Manado**	**3.30**	**217**	P	Pn	06 02 52.8	+3.1
TNTI	**Ternate**	**3.34**	**171**	P	**Pn**	**06 02 52.5**	**+2.2**
KCP	**Kidapawan**	**3.38**	**329**	∥*i*P	Pn	06 03 00.1	+9.3
KCP				*i* S	Sn	06 03 42.9	+13
BUKP	**Musuan**	**4.15**	**335**	*e*P	Pn	06 03 04.9	+3.4
KMSI	**Cibinong**	**4.51**	**219**	P	Pn	06 03 12.2	+5.8
LBMI	**Labuha**	**4.75**	**172**	P	Pn	06 03 19.9	+10
CGP	**Cagayan de Oro**	**4.83**	**334**	∥*i*P	Pn	06 03 19.1	+8.4
CGP				*i* S	Sn	06 04 22.4	+17
PAGZ	**Pagadian**	**5.07**	**318**	*e*P	**Pn**	**06 03 16.4**	**+2.3**
ZMPH	**Zamboanga City**	**5.54**	**301**	∥*i*P	**Pn**	**06 03 20.4**	**0.0**
ZMPH				*i* S	**Sn**	**06 04 20.5**	**-2.4**
MRSI	**Marisa**	**6.07**	**234**	P	**Pn**	**06 03 30.5**	**+2.7**
	486nm,0.7s,6μm2.0nm						
MSLP	**Maasin**	**6.31**	**342**	*e*P	Pn	06 03 38.6	+7.5
LUWI	**Luwuk**	**6.52**	**219**	P	Pn	06 03 39.8	+5.8
	1μm,1.3s,9μm3.0nm						
SWI	**Sorong**	**6.62**	**138**	P	**Pn**	**06 03 35.8**	**+0.5**
	107nm,1.1s,1μm						
LLP	**Lapu-Lapu**	**6.81**	**335**	*e*P	Pn	06 03 44.5	+6.5
PLP	**Palo**	**7.26**	**345**	∥*e*P	Pn	06 03 50.3	+6.1
NLAI	**Namlea**	**7.29**	**178**	P	**Pn**	**06 03 45.7**	**+1.2**
	88nm,1.0s,2μm0.6nm						
FAKI	**Fak Fak**	**8.82**	**142**	P	**Pn**	**06 04 07.2**	**+1.6**
	55nm,1.1s,671nm0.2nm						
TSM	**Tawau**	**8.94**	**272**	P	**Pn**	**06 04 07.7**	**+0.5**
KDI	**Kendari**	**9.04**	**208**	P	Pn	06 04 12.6	+4.0
	84nm,1.2s,919nm0.3nm						
SDKM	**Sandakan**	**9.73**	**279**	P	Pn	06 04 21.3	+3.2
TTSI	**Tana Toraja**	**9.97**	**225**	P	Pn	06 04 25.3	+3.9
	142nm,1.1s,2μm						
KDM	**Kudat**	**10.34**	**286**	P	Pn	06 04 30.1	+3.7
BAKI	**Biak**	**10.65**	**119**	P	Pn	06 04 36.7	+6.0
	206nm,1.2s,2μm						
SPSI	**Sidrap Palu**	**10.67**	**222**	P	Pn	06 04 40.0	+9.0
KKM	**Kota Kinabalu**	**10.76**	**281**	*e*Pn	**Pn**	**06 04 34.8**	**+2.5**
KKM	**Kota Kinabalu**	**10.76**	**281**	P	Pn	06 04 36.5	+4.3
KKM	**Kota Kinabalu**	**10.76**	**281**	P	Pn	06 04 37.4	+5.2
	80nm,1.7s,1μm						
TLE	**Tual**	**11.32**	**149**	P	Pn	06 04 51.1	+11
KAPI	**Kappang**	**11.49**	**218**	*e*Pn	**Pn**	**06 04 44.5**	**+2.4**
KAPI	**Kappang**	**11.49**	**218**	LR	LR	06 09 51.9	
	comp=Z,1μm,18.1s,baz=75,slow=42						
BTM	**Bintulu**	**13.75**	**267**	P	P	06 05 17.1	-4.1
SBUM	**Sibu**	**14.68**	**264**	P	**P**	**06 05 28.9**	**-2.6**
SBUM	**Sibu**	**14.68**	**264**	P	**P**	**06 05 29.0**	**-2.5**
	114nm,1.2s,1μm						
STKI	**Sintang**	**15.86**	**256**	P	**P**	**06 05 48.1**	**+3.6**
	74nm,0.9s,24μm						
KSM	**Kuching**	**16.71**	**262**	*e*Pn	**P**	**06 05 55.0**	**+1.0**
	279nm,0.4s						
KSM	**Kuching**	**16.71**	**262**	P	**P**	**06 05 55.6**	**+1.6**
KSM	**Kuching**	**16.71**	**262**	P	**P**	**06 05 55.6**	**+1.6**
	84nm,1.0s,4μm						
MTN	**Manton Dam**	**17.36**	**166**	*e*P	**Pn**	**06 05 56.6**	**-3.5**
JAGI	**Jajag, Banyuwa**	**17.77**	**225**	P	P	06 06 16.0	+10
GMJI	**Gumukmas**	**18.15**	**227**	P	P	06 06 21.3	+11
SJI	**Sawahan**	**19.08**	**232**	P	**Pn**	**06 06 24.1**	**+2.9**
	86nm,1.0s						
PWJI	**Pagerwojo**	**19.23**	**231**	P	Pn	06 06 36.9	+14
YULB	**Yu-li**	**19.92**	**345**	*e*P	**P**	**06 06 26.8**	**-2.5**
	42nm,1.3s						
TPUB	**Ta-pu**	**20.02**	**343**	*e*P	**P**	**06 06 28.5**	**-1.8**
	70nm,0.9s						
GUMO	**Guam**	**20.14**	**61**	LR	LR	06 12 50.4	
	comp=Z,259nm,19.4s,baz=234,slow=32						
SSLB	**Suanglung**	**20.39**	**344**	*e*P	**P**	**06 06 33.5**	**-0.9**
	33nm,0.8s						
YHNB	**Yeheng**	**21.12**	**346**	*e*P	**P**	**06 06 41.5**	**-0.9**
	36nm,0.7s						
PPBI	**Pangal Pinang**	**21.60**	**254**	P	P	06 06 52.8	+5.3
	28nm,1.1s						
LEM	**Lembang**	**22.04**	**241**	P	**P**	**06 06 55.3**	**+2.9**
	79nm,0.8s						
FITZ	**Fitzroy Crossi**	**22.09**	**183**	*e*P	**P**	**06 06 52.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**22.09**	**183**	*e*P	**P**	**06 06 50.4**	**-2.2**
	24nm,0.4s						
FITZ				*e*S	**S**	**06 10 51.7**	**-2.5**
FITZ	**Fitzroy Crossi**	**22.09**	**183**	P	**P**	**06 06 50.5**	**-2.1**
	13nm,0.5s,baz=16,slow=11,SNR=21						
QZH	**Quanzhou**	**22.20**	**340**	*e*P	**P**	**06 06 57.3**	**+3.6**
QZH				S	**S**	**06 10 55.3**	**-0.8**
QZH				LR	LR		
	comp=N,1μm,20.1s						
QZH				LR	LR		
	comp=E,610nm,14.2s						
QZH				LR	LR		
	comp=Z,950nm,15.9s						
JOW	**Kunigami**	**22.65**	**3**	P	**P**	**06 06 59.8**	**+1.1**
	comp=Z,2.6nm,1.0s						
JOW	**Kunigami**	**22.65**	**3**	P	**P**	**06 06 59.8**	**+1.1**
	comp=Z,22nm,0.8s,baz=200,slow=7.9,SNR=5.5						
CNJI	**Cibinong**	**22.70**	**240**	P	**P**	**06 07 01.4**	**+2.2**
	comp=Z,71nm,1.3s,comp=Z,3μm						
MYKOM	**Kota Tinggi**	**23.07**	**265**	P	**P**	**06 07 03.0**	**-0.1**
MYKOM	**Kota Tinggi**	**23.07**	**265**	P	**P**	**06 07 04.2**	**+1.1**
	comp=Z,44nm,0.9s						
KGM	**Kluang**	**23.57**	**266**	P	**P**	**06 07 09.0**	**+0.9**
CGJI	**Cibinong**	**23.64**	**243**	P	**P**	**06 07 08.5**	**-0.1**
	comp=Z,78nm,1.1s,comp=Z,1μm						
COEN	**Coen**	**24.17**	**138**	*e*P	**P**	**06 07 12.5**	**-1.2**
	comp=Z,32nm,0.7s						
KASI	**Kota Agung**	**24.27**	**247**	P	**P**	**06 07 18.4**	**+3.8**
	comp=Z,66nm,1.0s						
WRAB	**Tennant Creek**	**24.99**	**163**	*e*P	**P**	**06 07 20.3**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,103nm,1.0s						
WRAB	**Tennant Creek**	**24.99**	**163**	*e*P	**P**	**06 07 20.3**	**-0.7**
	comp=Z,103nm,1.0s						
WRAB	**Tennant Creek**	**24.99**	**163**	P	**P**	**06 07 20.9**	**-0.1**
	comp=Z,665nm,1.0s,SNR=32						
WRA	**Warramunga Arr**	**25.00**	**163**	P	**P**	**06 07 20.3**	**-0.8**
WRA	**Warramunga Arr**	**25.00**	**163**	P	**P**	**06 07 20.3**	**-0.8**
	comp=Z,2μm,0.3s,baz=53,slow=0.0,SNR=9.5						
FRIM	**Kepong**	**25.17**	**269**	P	**P**	**06 07 24.3**	**+1.6**
IPM	**Ipoh**	**25.74**	**272**	*e*P	**P**	**06 07 29.0**	**+1.0**
	comp=Z,28nm,0.9s						
IPM	**Ipoh**	**25.74**	**272**	P	**P**	**06 07 30.0**	**+2.1**
IPM	**Ipoh**	**25.74**	**272**	P	P	06 07 32.8	+4.8
	comp=Z,32nm,1.2s						
BKNI	**Bangkinang**	**26.04**	**262**	P	P	06 07 38.8	+8.1
MBWA	**Maple Bar**	**26.05**	**195**	*e*P	**P**	**06 07 30.4**	**-0.2**
	comp=Z,43nm,0.8s						
PPI	**Padang Panjang**	**26.80**	**261**	P	P	06 07 45.2	+7.7
CBIJ	**Chichi jima**	**27.17**	**31**	LR	LR	06 17 30.7	
	comp=Z,295nm,18.2s,baz=210,slow=34						
MNSI	**Mandailing Nat**	**27.42**	**264**	P	P	06 07 53.1	+10
PSI	**Prapat**	**27.89**	**268**	P	**P**	**06 07 46.1**	**-1.3**
PSI	**Prapat**	**27.89**	**268**	P	**P**	**06 07 47.4**	**0.0**
	comp=Z,23nm,1.0s						
PSI	**Prapat**	**27.89**	**268**	P	**P**	**06 07 46.1**	**-1.3**
	comp=Z,12nm,0.9s,baz=100,slow=6.1,SNR=6.8						
AS31	**Alice Springs**	**28.44**	**166**	*e*P	**P**	**06 07 50.5**	**-1.5**
ASAR	**Alice Springs**	**28.44**	**166**	P	**P**	**06 07 51.1**	**-0.9**
ASAR				S	S	06 12 44.8	+7.7
ASAR	**Alice Springs**	**28.44**	**166**	P	**P**	**06 07 51.1**	**-0.9**
	comp=Z,3.9nm,0.6s,baz=341,slow=6.4,SNR=40						
ASAR				S	S	06 12 44.8	+7.7
	comp=Z,1.1nm,0.8s,baz=346,slow=21,SNR=4.4						
NJ2	**Nanjing**	**28.80**	**346**	*e*P	**P**	**06 07 57.7**	**+2.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WHN	**Wuhan**	**28.83**	**337**	P	**P**	**06 07 52.4**	**-3.0**
WHN				*e*S	S	06 12 36.1	-6.9
WHN				LR	LR		
	comp=Z,2μm,26.2s						
JNU	**Nakatsue**	**29.13**	**7**	P	**P**	**06 07 56.9**	**-1.2**
JNU	**Nakatsue**	**29.13**	**7**	P	**P**	**06 07 56.9**	**-1.2**
	comp=Z,7.9nm,0.8s,baz=53,slow=4.7,SNR=5.0						
GSI	**Gunungsitoli**	**29.36**	**265**	P	**P**	**06 07 59.3**	**-1.1**
	comp=Z,52nm,0.9s,comp=Z,3μm						
GYA	**Guiyang**	**29.45**	**321**	P	**P**	**06 08 02.3**	**+1.1**
GYA				pP	**pP**	**06 08 13.0**	**+1.3**
GYA				PP	**PnPn**	**06 09 01.2**	**+5.0**
GYA				PcP	**PcP**	**06 11 07.9**	**+1.4**
GYA				S	**S**	**06 12 53.4**	**+0.2**
GYA				sS	**sS**	**06 13 11.0**	**+0.4**
GYA				SS	**SnSn**	**06 14 28.5**	**+6.2**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=N,550nm,18.0s						
GYA				LR	LR		
	comp=E,540nm,17.8s						
GYA				LR	LR		
	comp=Z,560nm,16.9s						
CTA	**Charters Tower**	**30.68**	**142**	P	**P**	**06 08 12.6**	**+0.6**
CTA	**Charters Tower**	**30.68**	**142**	*e*P	**P**	**06 08 13.2**	**+1.2**
	comp=Z,4.3nm,0.8s						
CTA	**Charters Tower**	**30.68**	**142**	P	**P**	**06 08 12.6**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=290,slow=9.2,SNR=4.4						
CTAO	**Charters Tower**	**30.68**	**142**	*e*P	**P**	**06 08 11.5**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CTAO	**Charters Tower**	**30.68**	**142**	*e*P	**P**	**06 08 11.5**	**-0.5**
	comp=Z,5.7nm,0.8s						
ENH	**Enshi**	**30.77**	**330**	*e*P	**P**	**06 08 11.7**	**-0.9**
	comp=Z,33nm,1.0s						
CMAR	**Chiang Mai Arr**	**30.78**	**300**	P	**P**	**06 08 11.8**	**-1.1**
CMAR				PcP	**PcP**	**06 11 11.0**	**+1.0**
CMAR				ScP	**ScP**	**06 14 53.4**	**+3.4**
CMAR	**Chiang Mai Arr**	**30.78**	**300**	P	**P**	**06 08 11.8**	**-1.1**
	comp=Z,8.6nm,0.8s,baz=120,slow=7.2,SNR=36						
CMAR				PcP	**PcP**	**06 11 11.0**	**+1.0**
	comp=Z,1.4nm,0.3s,baz=108,slow=2.0,SNR=4.3						
CMAR				ScP	**ScP**	**06 14 53.4**	**+3.4**
	comp=Z,1.0nm,0.3s,baz=111,slow=2.0,SNR=3.5						
CMAR				LR	LR	06 20 36.1	
	comp=Z,235nm,20.8s,baz=105,slow=37						
CHTO	**Chiang Mai**	**30.93**	**300**	*e*P	**P**	**06 08 14.1**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,14nm,0.7s						
CHTO	**Chiang Mai**	**30.93**	**300**	*e*P	**P**	**06 08 14.1**	**-0.1**
	comp=Z,14nm,0.7s						
CHTO	**Chiang Mai**	**30.93**	**300**	P	**P**	**06 08 14.7**	**+0.5**
	comp=Z,21nm,0.7s						
KMI	**Kunming**	**31.20**	**314**	P	P	06 08 20.5	+3.7
KMI				pP	pP	06 08 28.6	+1.3
KMI				sP	sP	06 08 32.9	+1.2
KMI				S	**S**	**06 13 22.8**	**+1.9**
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
KMI				LR	LR		
	comp=N,240nm,17.8s						
KMI				LR	LR		
	comp=E,290nm,23.0s						
KMI				LR	LR		
	comp=Z,360nm,24.8s						
KSAR	**Wonju Array Be**	**33.20**	**2**	P	**P**	**06 08 33.9**	**-0.1**
KSAR				PcP	**PcP**	**06 11 17.7**	**+1.6**
KSRS	**Korea Array**	**33.22**	**2**	P	**P**	**06 08 33.9**	**-0.2**
	comp=Z,6.0nm,0.7s,baz=179,slow=9.9,SNR=18						
KSRS				PcP	**PcP**	**06 11 17.7**	**+1.6**
	comp=Z,2.4nm,0.6s,baz=188,slow=2.9,SNR=5.7						
MJAR	**Matsushiro Arr**	**33.95**	**17**	P	**P**	**06 08 38.0**	**-2.4**
MJAR	**Matsushiro Arr**	**33.95**	**17**	P	**P**	**06 08 38.0**	**-2.4**
	comp=Z,1.5nm,0.5s,baz=186,slow=10,SNR=5.1						
XAN	**Xi'an**	**34.14**	**333**	P	**P**	**06 08 40.7**	**-1.5**
XAN				pP	**pP**	**06 08 50.7**	**-2.1**
XAN				sP	**sP**	**06 08 54.9**	**-2.3**
XAN				PP	**PnPn**	**06 09 54.7**	**-2.0**
XAN				S	**S**	**06 14 02.3**	**-3.8**
XAN				pmax	pmax		
	comp=Z,13nm,0.7s						
XAN				pmax	pmax		
	comp=Z,19nm,5.4s						
XAN				LR	LR		
	comp=N,260nm,20.5s						
XAN				LR	LR		
	comp=E,130nm,17.5s						
XAN				LR	LR		
	comp=Z,210nm,18.6s						
CD2	**Chengdu**	**34.41**	**323**	⇑P	**P**	**06 08 44.0**	**-0.6**
CD2				pP	**pP**	**06 08 53.7**	**-1.5**
CD2				sP	**sP**	**06 08 57.6**	**-2.0**
CD2				PcP	**PcP**	**06 11 19.6**	**-0.2**
CD2				S	**S**	**06 14 08.6**	**-1.8**
CD2				PcS	**PcS**	**06 15 04.8**	**-1.5**
CD2				SS	**SnSn**	**06 16 19.7**	**-3.0**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,7.0s						
CD2				LR	LR		
	comp=N,390nm,22.0s						
CD2				LR	LR		
	comp=E,460nm,17.6s						
CD2				LR	LR		
	comp=Z,570nm,18.4s						
FORT	**Forrest**	**34.70**	**178**	*e*P	**P**	**06 08 46.1**	**-0.8**
	comp=Z,50nm,0.6s						
FORT	**Forrest**	**34.70**	**178**	*e*P	**P**	**06 08 46.5**	**-0.4**
	comp=Z,43nm,0.6s						
KLBR	**Kellerberrin**	**36.53**	**193**	*e*P	**P**	**06 09 02.0**	**-0.7**
	comp=Z,38nm,0.7s						
BJT	**Baijiatuau**	**37.04**	**346**	*e*P	**P**	**06 09 07.2**	**+0.3**
	comp=Z,28nm,0.6s						
BJI	**Beijing**	**37.06**	**346**	P	**P**	**06 09 07.0**	**-0.1**
BJI				S	**S**	**06 14 53.4**	**+2.9**
BJI				pmax	pmax		
	comp=Z,47nm,0.6s						
BJI				LR	LR		
	comp=N,240nm,18.8s						
BJI				LR	LR		
	comp=E,160nm,19.2s						
BJI				LR	LR		
	comp=Z,210nm,23.2s						
EIDS	**Eidsvold**	**37.57**	**142**	*e*P	**P**	**06 09 10.8**	**-0.8**
	comp=Z,30nm,0.8s						
EIDS				*e*PP	**PP**	**06 10 38.0**	**+0.1**
SNY	**Shenyang**	**37.68**	**356**	⇑P	**P**	**06 09 13.6**	**+1.3**
SNY				pmax	pmax		
	comp=Z,15nm,0.6s						
BBOO	**Buckleboo**	**37.73**	**167**	*e*P	**P**	**06 09 12.2**	**-0.7**
	comp=Z,494nm,0.8s						
NWAO	**Narrogin (SRO)**	**37.93**	**193**	P	**P**	**06 09 14.1**	**-0.4**
NWAO	**Narrogin (SRO)**	**37.93**	**193**	P	**P**	**06 09 14.1**	**-0.4**
	comp=Z,18nm,0.5s,baz=20,slow=8.7,SNR=13						
LZH	**Lanzhou**	**38.25**	**329**	*e*P	**P**	**06 09 17.4**	**0.0**
LZH				pP	**pP**	**06 09 27.7**	**-0.4**
LZH				sP	**sP**	**06 09 31.2**	**-1.3**
LZH				pmax	pmax		
	comp=Z,43nm,1.0s						
LZH				pmax	pmax		
	comp=Z,190nm,5.4s						
LZH				LR	LR		
	comp=N,270nm,14.6s						
LZH				LR	LR		
	comp=E,400nm,17.0s						

comp=Z,46nm,0.7s
CAN Canberra 44.39 154 *e*P **P 06 10 08.5 +0.8**
CAN pmax pmax
comp=Z,23nm,0.9s
CAN Canberra 44.39 154 *e*P **P 06 10 08.5 +0.8**
comp=Z,23nm,0.9s
CNB Canberra Magne 44.55 153 *e*P **P 06 10 10.9 +1.9**
comp=Z,85nm,1.1s
RAMN Ramite 44.63 305 *e*P **P 06 10 08.9 -1.1**
comp=Z,33nm,0.7s
YSS Yuzh-Sakhalins 44.87 15 P **P 06 10 12.6 +1.4**
TOO Toolangi 44.94 159 *e*P **P 06 10 14.1 +2.1**
comp=Z,55nm,0.8s
JIRN Jiri 45.25 306 *e*P **P 06 10 13.8 -1.3**
comp=Z,10nm,0.7s
HIA Hailar 45.41 353 *e*P **P 06 10 15.8 +0.2**
comp=Z,16nm,0.8s
HIA *e*PcP **PcP 06 11 56.0 +1.5**
GUN Gumba 45.60 306 *e*P **P 06 10 15.9 -1.9**
PKI Pulchoki 45.85 305 *e*P **P 06 10 18.3 -1.5**
KKN Kakani 46.04 305 *e*P **P 06 10 19.4 -1.8**
DMN Daman 46.11 305 *e*P **P 06 10 20.3 -1.5**
GKN Gorkha 46.65 305 *e*P **P 06 10 23.9 -2.0**
comp=Z,19nm,0.7s
DZM Mont Dzumac 46.66 126 P **P 06 10 26.0 0.0**
DZM Mont Dzumac 46.66 126 P **P 06 10 26.0 0.0**
comp=Z,3.4nm,0.6s,baz=132,slow=23,SNR=7.8
ULN Ulaanbaatar 46.81 342 P **P 06 10 27.3 +0.5**
comp=Z,20nm,0.9s
SONM Songino Array 46.99 341 P **P 06 10 27.9 -0.3**
SONM PcP **PcP 06 12 00.3 +0.2**
SONM Songino Array 46.99 341 P **P 06 10 27.9 -0.3**
comp=Z,3.6nm,0.7s,baz=155,slow=8.2,SNR=26
SONM PcP **PcP 06 12 00.3 +0.2**
comp=Z,3.0nm,0.7s,baz=169,slow=4.6,SNR=5.8
SONM LR LR 06 31 40.5
comp=Z,327nm,19.8s,baz=279,slow=38
KOLN Koldanda 47.41 304 *e*P **P 06 10 30.4 -1.5**
comp=Z,78nm,0.6s
DANN Dangsing 47.49 305 *e*P **P 06 10 30.5 -2.1**
comp=Z,74nm,0.6s
CIT Chita 49.03 349 *e*P **P 06 10 44.6 +0.8**
CIT *e* 06 10 54.3
CIT *e* 06 12 14.3
CIT pmax pmax
comp=Z,78nm,1.8s
HYB Hyderabad 49.09 289 *i*P **P 06 10 43.0 -1.8**
ZAK Zakamensk 50.22 341 *e*P **P 06 10 51.9 -1.0**
ZAK *e* 06 12 11.0
ZAK pmax pmax
comp=Z,4.0nm,1.3s
TLY Talaya 51.22 342 *e*P **P 06 10 59.8 -0.6**
TLY pmax pmax
comp=Z,10.0nm,1.1s
TLY Talaya 51.22 342 *e*P **P 06 11 00.5 +0.2**
comp=Z,7.0nm,0.8s
MOY Mondy 52.08 340 *e*P **P 06 11 07.3 +0.4**
MOY pmax pmax
comp=Z,38nm,2.9s
WMQ Urumqi 52.49 325 P **P 06 11 09.5 -0.5**
WMQ pP **pP 06 11 19.5 -1.5**
WMQ sP **sP 06 11 23.0 -2.4**
WMQ PcP **PcP 06 12 19.0 -1.3**
WMQ *e*S **S 06 18 32.0 -2.1**
WMQ pmax pmax
comp=Z,16nm,1.0s
WMQ pmax pmax
comp=Z,260nm,6.6s
WMQ LR LR
comp=N,540nm,18.2s
WMQ LR LR
comp=E,400nm,15.3s
WMQ LR LR
comp=Z,690nm,21.9s
BOD Bodaibo 54.52 352 *e*P **P 06 11 24.5 -0.1**
BOD pmax pmax
comp=Z,13nm,1.2s
PETK Petropavlovsk- 55.05 22 P **P 06 11 28.5 -0.1**
PETK Petropavlovsk- 55.05 22 P **P 06 11 28.4 -0.1**
PETK Petropavlovsk- 55.05 22 P **P 06 11 28.4 -0.1**
comp=Z,6.4nm,0.6s,baz=186,slow=5.0,SNR=11
MK31 Makanchi Array 57.32 325 *e*P **P 06 11 43.2 -1.7**
MK31 pmax pmax
comp=Z,8.0nm,0.5s
MKAR Makanchi Array 57.32 325 P **P 06 11 43.6 -1.3**
MKAR 06 12 39.6
MKAR Makanchi Array 57.32 325 P **P 06 11 43.6 -1.3**
MKAR PcP **PcP 06 12 39.6 +0.8**
MKAR Makanchi Array 57.32 325 P **P 06 11 43.6 -1.3**
comp=Z,12nm,0.6s,baz=121,slow=8.3,SNR=91
MKAR PcP **PcP 06 12 39.6 +0.8**
comp=Z,5.1nm,0.8s,baz=106,slow=4.0,SNR=3.6
YAK Yakutsk 57.84 2 *e*P **P 06 11 47.6 -0.6**
YAK pmax pmax
comp=Z,25nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK Yakutsk 57.84 2 *e*P **P 06 11 48.2 0.0**
comp=N,32nm,0.6s
KSH Kashi 57.86 315 *e*P **P 06 11 50.7 +1.7**
KSH pP **pP 06 12 00.3 +0.2**
KSH sP **sP 06 12 04.4 0.0**
KSH PcP **PcP 06 12 41.1 -0.1**
KSH PP **PP 06 14 01.6 +4.1**
KSH ScP **ScP 06 16 37.0 -1.6**
KSH PcS **PcS 06 16 41.1 -1.5**
KSH S **S 06 19 48.1 +1.8**
KSH sS **sS 06 20 05.7 +1.1**
KSH ScS **ScS 06 21 32.8 -3.2**
KSH SS **SS 06 23 41.1 +3.5**
KSH LR LR
comp=N,120nm,5.7s
KSH LR LR
comp=E,140nm,5.0s
KSH LR LR
comp=Z,200nm,18.8s
TKM2 Tokmak 2 59.55 318 *e*P **P 06 11 59.4 -1.3**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 59.55 318 *e*P **P 06 11 59.4 -1.3**
comp=Z,5.3nm,0.8s
AAK Ala-Archa 60.16 318⇑ *i*P **P 06 12 03.9 -1.0**
AAK pmax pmax
comp=Z,24nm,1.7s
AAK Ala-Archa 60.16 318 *e*P **P 06 12 04.3 -0.5**
comp=Z,17nm,0.9s
AAK Ala-Archa 60.16 318 P **P 06 12 04.4 -0.5**
comp=Z,2.0nm,0.6s,baz=157,slow=8.5,SNR=4.8
ZALV Zalesovo Beam 60.31 333 P **P 06 12 03.7 -1.8**
ZALV Zalesovo Beam 60.31 333 P **P 06 12 03.7 -1.8**
ZALV Zalesovo Beam 60.31 333 P **P 06 12 03.7 -1.8**
comp=Z,3.8nm,0.5s,baz=123,slow=6.5,SNR=18
ZALV LR LR 06 39 35.9
comp=Z,231nm,19.7s,baz=330,slow=38
EKS2 Erkin-Say 60.65 317 *e*P **P 06 12 07.7 -0.5**
EKS2 pmax pmax
comp=Z,7.0nm,0.8s
EKS2 Erkin-Say 60.65 317 *e*P **P 06 12 07.7 -0.5**
comp=Z,6.7nm,0.8s
KURBB Kurchatov Arra 61.49 327 P **P 06 12 12.2 -1.3**
comp=Z,15nm,0.5s,baz=126,slow=6.4,SNR=76
KURK Kurchatov 61.49 327 *e*P **P 06 12 12.2 -1.3**
KURK pmax pmax
comp=Z,23nm,0.6s
KURK Kurchatov 61.49 327 *e*P **P 06 12 12.2 -1.3**
comp=Z,24nm,0.6s
KURK Kurchatov 61.49 327 P **P 06 12 12.2 -1.3**
comp=Z,249nm,0.5s,SNR=29
NVS Novosibirsk 61.60 333 *e*P **P 06 12 13.2 -1.0**
SEY Seymchan 61.66 13 *e*P **P 06 12 15.1 +0.7**
KK31 Karatay Array 63.04 317 *i*P **P 06 12 22.9 -1.2**
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 63.04 317 *e*P **P 06 12 23.3 -0.8**
KKAR pmax pmax
comp=Z,11nm,1.0s
KKAR Karatay Array 63.04 317 *e*P **P 06 12 23.3 -0.8**
comp=Z,11nm,1.0s
BVA0 Borovoye Array 67.08 327 P **P 06 12 48.1 -2.0**
BVA0 pmax pmax
comp=Z,4.0nm,0.9s
BVAR Borovoye Array 67.08 327 P **P 06 12 49.2 -0.9**
BVAR Borovoye Array 67.08 327 P **P 06 12 49.2 -0.9**
comp=Z,14nm,0.7s,baz=137,slow=9.1,SNR=67
BRVK Borovoye 67.15 327*c i*P **P 06 12 49.2 -1.4**
BRVK pmax pmax
comp=Z,18nm,0.7s
BRVK Borovoye 67.15 327 *e*P **P 06 12 49.2 -1.4**
comp=Z,25nm,0.8s
BRVK Borovoye 67.15 327 P **P 06 12 50.4 -0.2**
comp=Z,184nm,0.6s,SNR=16
BILL Bilibino 69.18 15⇓ *e*P **P 06 13 03.7 +0.7**
BILL *e* 06 15 38.1
BILL *e*S S 06 22 11.7 +5.7
BILL pmax pmax
comp=Z,8.0nm,1.6s
AB31 Akbulak array 71.94 321 *i*P **P 06 13 18.4 -1.8**
AB31 pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 71.94 321 *e*P **P 06 13 18.5 -1.7**
comp=Z,5.7nm,0.7s
AKTO Aktyubinsk 73.44 322 P **P 06 13 28.4 -0.8**
AKTO pmax pmax
comp=Z,2.0nm,0.8s
AKTO Aktyubinsk 73.44 322 P **P 06 13 28.4 -0.8**
AKTO Aktyubinsk 73.44 322 P **P 06 13 28.4 -0.8**
comp=Z,10nm,0.7s,baz=104,slow=9.9,SNR=32
SVE Sverdlovsk 73.71 328 *e*P **P 06 13 30.2 -0.3**
SVE pmax pmax
comp=Z,18nm,0.8s
ARU Arti 74.69 328*c i*P **P 06 13 34.8 -1.5**
ARU S **S 06 23 09.8 +0.1**
ARU SS **SS 06 28 00.0 +2.5**
ARU pmax pmax
comp=Z,14nm,1.0s
ARU Arti 74.69 328 *e*P **P 06 13 35.1 -1.2**
comp=Z,11nm,0.6s
SOKR Solikamsk 76.45 331 *e*P **P 06 13 45.5 -0.7**
SOKR pmax pmax
comp=Z,10.0nm,1.0s
SDPT Sand Point 76.84 34 *e*P **P 06 13 49.1 +0.6**
comp=Z,22nm,0.6s
OPO Ambohidrampo 81.51 251 P **P 06 14 14.7 -0.4**
OPO Ambohidrampo 81.51 251 P **P 06 14 14.7 -0.4**
comp=Z,8.2nm,1.0s,baz=147,slow=3.5,SNR=4.0
ABPO Ambohimpanom 81.53 250 *e*P **P 06 14 14.5 -0.7**
ABPO pmax pmax
comp=Z,14nm,0.9s
ABPO Ambohimpanom 81.53 250 *e*P **P 06 14 14.5 -0.7**
comp=Z,14nm,0.9s
ZEI Tsey 82.05 312 *e*P **P 06 14 16.9 -0.7**
ZEI pmax pmax
comp=Z,14nm,1.0s
KIV Kislovodsk 82.97 314 *e*P **P 06 14 23.7 +1.6**
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,105nm,19.0s
TRF Thorofare Moun 83.17 27 *e*P **P 06 14 22.0 -0.8**
comp=Z,19nm,1.1s
COLD Coldfoot 83.52 23 *e*P **P 06 14 25.1 +0.7**
comp=Z,14nm,1.0s
PMR Palmer 83.58 29 *e*P **P 06 14 24.5 -0.2**
PMR pmax pmax
comp=Z,30nm,1.2s
PMR Palmer 83.58 29 *e*P **P 06 14 24.5 -0.2**
comp=Z,30nm,1.2s
MCK McKinley 83.79 26 *e*P **P 06 14 24.8 -1.1**
MCK pmax pmax
comp=Z,70nm,1.5s
MCK McKinley 83.79 26 *e*P **P 06 14 24.8 -1.1**
comp=Z,70nm,1.5s
SML Sawmill 83.97 28 *e*P **P 06 14 26.8 0.0**
SML pmax pmax
comp=Z,15nm,1.3s
SML Sawmill 83.97 28 *e*P **P 06 14 26.8 0.0**
comp=Z,15nm,1.3s
ILAR Eielson Array 84.73 25 P **P 06 14 30.0 -0.6**
ILAR Eielson Array 84.73 25 P **P 06 14 30.0 -0.6**
comp=Z,3.2nm,0.8s,baz=226,slow=6.3,SNR=29
KLMR Klimovskoe 85.14 331 *e*P **P 06 14 30.3 -2.4**
KLMR pmax pmax
comp=Z,74nm,1.1s
DIV Divide 85.18 29 *e*P **P 06 14 32.4 -0.6**
comp=Z,22nm,0.7s
MOS Moscow 86.20 325 *e*P **P 06 14 36.2 -1.8**
MOS pmax pmax
comp=Z,97nm,1.2s
ANN Anapa 86.72 315 *e*P P 06 14 31.0 -10
ANN pmax pmax
comp=Z,65nm,1.2s
OBN Obninsk 86.83 325⇓ *e*P **P 06 14 40.2 -0.9**
OBN *e*S SKSac 06 24 57.5 -7.7
OBN pmax pmax
comp=Z,70nm,1.7s
JOF Joensuu 88.91 333 *e*P **P 06 14 49.8 -1.1**
JOF pmax pmax
comp=Z,11nm,0.6s
JOF Joensuu 88.91 333 *ep* **P 06 14 49.8 -1.1**
comp=Z,11nm,0.6s
KEV Kevo 89.59 340 *e*P **P 06 14 52.5 -1.5**
KEV Kevo 89.59 340 *ep* **P 06 14 52.5 -1.5**
KMBO Kilima Mbogo 89.66 269 *e*P **P 06 14 55.1 -0.8**
comp=Z,8.5nm,1.1s
BR131 Keskin Array S 89.87 310 *e*P **P 06 14 55.7 -0.4**
comp=Z,3.1nm,0.9s
BRTR Keskin Array B 89.87 310 P **P 06 14 54.9 -1.3**
BRTR Keskin Array B 89.87 310 P **P 06 14 54.9 -1.3**
comp=Z,1.5nm,0.9s,baz=139,slow=4.1,SNR=6.9
ARCES ARCESS Array B 90.15 340 P **P 06 14 54.8 -1.8**
ARCES ARCESS Array B 90.15 340 P **P 06 14 54.8 -1.8**
comp=Z,3.5nm,0.6s,baz=85,slow=7.4,SNR=23
KAF Kangasniemi 91.33 332 *e*P **P 06 15 00.7 -1.5**
KAF pmax pmax
comp=Z,9.0nm,0.8s
KAF Kangasniemi 91.33 332 *ep* **P 06 15 00.7 -1.5**
comp=Z,9.3nm,0.8s
FINES FINESS Array B 91.56 332 P **P 06 15 01.9 -1.4**
FINES FINESS Array B 91.56 332 P **P 06 15 01.9 -1.4**
comp=Z,4.1nm,0.8s,baz=50,slow=3.0,SNR=8.8
AKASG Malin Array Be 91.68 321 P **P 06 15 02.9 -1.2**
AKASG Malin Array Be 91.68 321 P **P 06 15 02.9 -1.2**
AKASG Malin Array Be 91.68 321 P **P 06 15 02.9 -1.2**
comp=Z,4.4nm,0.7s,baz=71,slow=4.4,SNR=15
NACGM Naroch 92.45 325 *e* P 06 15 04.0 -3.6
SYO Syowa Base 92.80 201⇓ *e*P **P 06 15 09.0 +0.2**
QSPA South Pole Qui 94.00 180 *e*P **P 06 15 15.4 +0.8**
comp=Z,9.6nm,1.2s
TESR 94.05 317⇓ *i*P **P 06 15 15.4 +0.2**
VRI Vrincioaia 94.11 316⇑ P **P 06 15 15.5 0.0**
VRI Vrincioaia 94.11 316⇑ *i*P **P 06 15 15.5 0.0**
PLOR Plostina 94.16 316⇑ P **P 06 15 16.1 +0.3**
PLOR Plostina 94.16 316⇑ *i*P **P 06 15 16.1 +0.3**
SUW Suwalki 94.69 325 *e*P **P 06 15 16.7 -1.2**
SUW pmax pmax
comp=Z,32nm,0.9s
SUW Suwalki 94.69 325 *e*P **P 06 15 16.7 -1.2**
comp=Z,32nm,0.9s
MLR Muntele Rosu 94.71 316⇑ *i*P **P 06 15 18.0 -0.4**
BUR08 Bucovina Ar. S 94.81 318 *e*P **P 06 15 18.8 +0.1**
VOIR 95.34 316⇑ P **P 06 15 22.5 +1.3**
VOIR 95.34 316⇑ *i*P **P 06 15 22.5 +1.3**
KWP Kalwaria Pacla 96.00 321⇑ P **P 06 15 23.8 -0.2**
KWP Kalwaria Pacla 96.00 321⇑ *i*P **P 06 15 23.8 -0.2**
UZH Uzhgorod 96.50 320 *e*P **P 06 15 25.5 -0.8**
DRGR 96.65 318⇓ P **P 06 15 27.1 0.0**
DRGR 96.65 318⇓ *i*P **P 06 15 27.1 0.0**
VTS Vitosha 97.22 314⇑ P Pdif 06 15 35.8 +5.8
VTS Vitosha 97.22 314⇑ *i*P Pdif 06 15 35.8 +5.8
BZS Buzias 97.66 317⇓ P **P 06 15 31.4 -0.2**
BZS Buzias 97.66 317⇓ *i*P **P 06 15 31.4 -0.2**
NB2 NORSAR Subarra 98.51 334 P **P 06 15 33.5 -1.6**
comp=Z,2.2nm,0.8s,baz=66,slow=4.6
NOA NORSAR Array B 98.51 334 P P **06 15 33.3 -1.8**
NOA NORSAR Array B 98.51 334 P P **06 15 33.3 -1.8**
comp=Z,0.8nm,0.6s,baz=67,slow=4.8,SNR=3.5
NOA LR LR 07 05 43.7
comp=Z,114nm,18.1s,baz=60,slow=39
YKA Yellowknife Ar 99.13 24 P **Pdif 06 15 37.9 +0.1**
YKA PKiKP **PKiKP 06 20 08.7 +0.8**
YKA Yellowknife Ar 99.13 24 P **Pdif 06 15 37.8 +0.1**
comp=Z,0.4nm,0.7s,baz=300,slow=4.6,SNR=11
YKA PKiKP **PKiKP 06 20 08.7 +0.8**
comp=Z,0.2nm,0.6s,baz=297,slow=1.7,SNR=5.3
BRG Berggiesshubel 101.01 324 *e*P **Pdif 06 15 46.4 -0.1**
comp=Z,11nm,1.0s
BRG Berggiesshubel 101.01 324 *e*P **Pdif 06 15 46.4 -0.1**
BRG pmax pmax
comp=Z,11nm,1.0s
CLL Collm 101.41 324 *e*P **Pdif 06 15 45.0 -3.2**
CLL MLR MLR
comp=Z,100nm,20.5s
GERES GERESS Array B 101.87 322 P **Pdif 06 15 50.4 -0.1**
GERES GERESS Array B 101.87 322 P **Pdif 06 15 50.4 -0.1**
comp=Z,1.1nm,0.8s,baz=66,slow=3.3,SNR=6.4
NVAR Mina Array Bea 106.59 48 Pdif **Pdif 06 16 13.4 +1.6**
NVAR PKKPbc **PKKPdf 06 31 55.8 +0.9**
NVAR Mina Array Bea 106.59 48 Pdiff **Pdif 06 16 13.4 +1.6**
comp=Z,0.7nm,0.8s,baz=280,slow=5.3,SNR=4.0
NVAR PKKPbc **PKKPdf 06 31 55.8 +0.9**
comp=Z,0.6nm,0.7s,baz=140,slow=5.7,SNR=5.0
PDAR Pinedale Array 111.01 41 PKKPab PKKPab 06 31 36.5 -2.3
PDAR Pinedale Array 111.01 41 PKKPab PKKPab 06 31 36.5 -2.3
comp=Z,1.1nm,0.9s,baz=99,slow=5.6,SNR=6.9
V24A Rampart Ranch, baz=117 117.21 46⇓P **PKPdf 06 20 41.8 -1.0**
V25A Rancho No Teng baz=118 117.63 46⇓P **PKPdf 06 20 43.8 +0.3**
T26A Comanche Natio baz=118 117.70 44⇓P **PKPdf 06 20 43.9 +0.3**
U26A Atchley Ranch, baz=118 117.98 45⇓P **PKPdf 06 20 43.6 -0.6**
Y25A Mesa, Roswell baz=118 118.47 48⇑P **PKPdf 06 20 44.3 -0.8**
Z25A Roswell baz=119 118.74 48⇓P **PKPdf 06 20 45.4 -0.2**
Z27A Tatum baz=120 119.84 48⇑P **PKPdf 06 20 47.6 -0.2**
127A Arkansas Junct baz=120 120.03 48⇓P **PKPdf 06 20 47.5 -0.6**
SCHQ Schefferville 120.19 9 PKP **PKPdf 06 20 48.2 +0.6**
SCHQ Schefferville 120.19 9 PKP **PKPdf 06 20 48.2 +0.6**
comp=Z,4.4nm,0.7s,baz=58,slow=2.8,SNR=16
Y29A Porterfield Fa baz=120 120.70 46⇓P **PKPdf 06 20 49.2 -0.2**
Z29A Hungry Hill Ra baz=121 120.97 47⇓P **PKPdf 06 20 50.1 +0.2**
527A Woodward Ranch baz=121 120.98 51⇑P **PKPdf 06 20 49.9 -0.1**
TXAR Lajitas Array 121.29 52 PKP **PKPdf 06 20 51.3 +0.7**
TXAR Lajitas Array 121.29 52 PKP **PKPdf 06 20 51.3 +0.7**
comp=Z,0.5nm,0.6s,baz=270,slow=1.1,SNR=9.0
428A Kincaid Ranch, baz=121 121.44 50⇑P **PKPdf 06 20 50.7 -0.1**
627A Terlingua Ranc baz=121 121.46 52⇑P **PKPdf 06 20 50.6 -0.4**
628A Black Gap, Mar baz=122 121.84 52⇑P **PKPdf 06 20 51.3 -0.3**
TOA0 Torodi Ar. Sit 122.91 288 *e*PKPdf **PKPdf 06 20 54.1 +0.2**
TORD Torodi Ar. Bea 122.91 288 PKP **PKPdf 06 20 53.2 -0.7**
TORD Torodi Ar. Bea 122.91 288 PKP **PKPdf 06 20 53.2 -0.7**
comp=Z,1.9nm,0.8s,baz=58,slow=2.0,SNR=11
JCT Junction City 123.74 49 *e*PKIKP **PKPdf 06 20 56.3 +1.1**
JCT Junction City 123.74 49 *e*PKPdf **PKPdf 06 20 56.3 +1.1**
JCT Junction City baz=124 123.74 49⇑P **PKPdf 06 20 55.9 +0.6**
OLIL Olney 126.54 34 *e*PKPdf **PKPdf 06 21 01.6 +1.4**
BINY Binghamton 129.47 22 *e*PKPdf **PKPdf 06 21 05.7 -0.1**
DBIC Dimbokro 130.60 282 PKP **PKPdf 06 21 11.6 +2.9**
DBIC Dimbokro 130.60 282 PKP **PKPdf 06 21 11.6 +2.9**
comp=Z,1.6nm,0.6s,baz=348,slow=4.0,SNR=4.7
LCO Las Campanas 150.15 148 *e*PKPbc **PKPbc 06 21 49.4 +0.8**
OTAV Otavalo 154.37 81 *e*PKPdf **PKPdf 06 21 50.3 -0.2**
OTAV *e*PKPbc **PKPbc 06 21 58.7 -0.1**
ROSC El Rosal 157.06 67 PKPab **PKPab 06 22 27.5 +3.1**
ROSC El Rosal 157.06 67 PKPab **PKPab 06 22 27.5 +3.1**
comp=Z,3.4nm,0.6s,baz=256,slow=22,SNR=4.7
CPUP Villa Florida 157.53 170 PKPab **PKPab 06 22 26.3 +1.0**
CPUP Villa Florida 157.53 170 PKPab **PKPab 06 22 26.3 +1.0**
comp=Z,2.8nm,0.7s,baz=163,slow=3.6,SNR=7.0
SDV Santo Domingo 158.33 53 *e*PKPdf **PKPdf 06 21 56.2 +1.0**
SDV *e*PKPab **PKPab 06 22 30.3 +0.8**
SAML Samuel 168.94 116 *e*PKPdf **PKPdf 06 22 05.3 +0.4**
SAML *e*PKPab **PKPab 06 23 14.8 -1.2**

IDC 12 06:06:49.8±1.5, 3.°94N×126.°82E, h0km, mb4.1/6, mb1 4.2/6, mb1mx3.9/20, mbtmp4.1/6, Error ellipse: s-maj=186.8km s-min=24.7km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 4.7nm,0.9s	**24.86**	**163**	P	P	06 12 14.2	0.0
SONM	**Songino Array** 0.6nm,0.8s,baz=153,slow=0.9,SNR=3.8	**47.13**	**341**	P	P	06 15 24.1	+0.1
MKAR	**Makanchi Array** 1.9nm,0.8s,baz=121,slow=7.2,SNR=6.8	**57.44**	**325**	P	P	06 16 40.4	-0.1
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=122,slow=5.4,SNR=3.0	**60.44**	**333**	P	P	06 17 00.5	-0.6
KURBB	**Kurchatov Arra** 2.3nm,0.7s,baz=123,slow=6.9,SNR=8.3	**61.61**	**327**	P	P	06 17 09.4	+0.2
ARCES	**ARCESS Array B** 2.2nm,0.8s,baz=64,slow=4.1,SNR=6.8	**90.28**	**340**	P	P	06 19 52.2	0.0

IDC 12 06:09:58.1±0.9, 4.°04N×126.°68E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/22, mbtmp4.0/10, MS3.5/1, Ms1 3.5/1, ms1mx3.0/29, Error ellipse: s-maj=66.6km s-min=14.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)** comp=Z,668nm,18.8s,baz=182,slow=34	**3.21**	**340**	LR	LR	06 11 47.9	
FITZ	**Fitzroy Crossi** 3.2nm,0.6s,baz=110,slow=3.3,SNR=6.2	**22.02**	**183**	P	P	06 14 55.3	+1.0
WRA	**Warramunga Arr** 4.3nm,0.6s	**24.99**	**163**	P	P	06 15 23.7	-0.1
ASAR	**Alice Springs** 0.4nm,0.5s,baz=345,slow=7.9,SNR=4.1	**28.42**	**166**	P	P	06 15 53.9	-0.8
CMAR	**Chiang Mai Arr** 1.4nm,0.5s,baz=123,slow=6.5,SNR=5.3	**30.68**	**300**	P	P	06 16 14.6	-0.2
STKA	**Stephens Creek** 2.8nm,0.6s,baz=348,slow=11,SNR=5.4	**38.43**	**159**	P	P	06 17 21.6	-0.1
SONM	**Songino Array** 0.4nm,0.4s,baz=165,slow=8.5,SNR=4.7	**46.99**	**341**	P	P	06 18 31.6	+0.3
SONM				PcP	PcP	06 20 04.1	+0.5
MKAR	**Makanchi Array** 0.9nm,0.5s,baz=119,slow=7.8,SNR=10	**57.28**	**325**	P	P	06 19 47.5	-0.2
MKAR				PcP	PcP	06 20 42.0	-0.1
ZALV	**Zalesovo Beam** 0.6nm,0.7s,baz=116,slow=2.8,SNR=3.7	**60.30**	**333**	P	P	06 20 07.7	-0.8
KURBB	**Kurchatov Arra** 0.6nm,0.4s,baz=98,slow=6.0,SNR=3.5	**61.46**	**327**	P	P	06 20 16.3	-0.2
BVAR	**Borovoye Array** 1.0nm,0.6s,baz=130,slow=6.5,SNR=6.4	**67.04**	**327**	P	P	06 20 53.5	+0.4
TORD	**Torodi Ar. Bea** 0.6nm,0.9s,baz=54,slow=2.1,SNR=2.6	**122.78**	**288**	PKP	PKPdf	06 28 56.9	-0.3

*IDC **12** 06:13:00.5±0.7, 3.°95N×126.°83E, h0km, mb4.0/13, mb1 4.2/13, mb1mx4.0/22, mbtmp4.0/13, Error ellipse: s-maj=36.6km s-min=14.1km az=71.0*

*ISCJB **12** 06:13:03.9±0.5, 3.°94N±0.°09×126.°8E±0.°2, h36km, mb4.0/14, Error ellipse: s-maj=29.1km s-min=9.6km az=160.9*

*NEIC **12** 06:13:05.9±0.4, 3.°91N×126.°74E, h35km, mb4.6/1, Error ellipse: s-maj=25.0km s-min=8.8km az=72.0*

ISC 12 06:13:06.2±0.6, 3.°9N±0.°1×126.°8E±0.°2, h36km, n32, σ0.°94/34, mb4.0/14, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.92**	**183**	P	P	**06 17 56.7**	**+0.2**
FITZ	**Fitzroy Crossi** 1.9nm,0.4s,baz=22,slow=7.2,SNR=7.2	**21.92**	**183**	P	P	**06 17 56.7**	**+0.2**
WRAB	**Tennant Creek** 12nm,0.8s	**24.85**	**163**	*e*P	P	**06 18 24.8**	**-0.6**
WRA	**Warramunga Arr**	**24.85**	**163**	P	P	**06 18 24.7**	**-0.8**
WRA	**Warramunga Arr** 14nm,0.8s	**24.85**	**163**	P	P	**06 18 24.7**	**-0.8**
ASAR	**Alice Springs**	**28.29**	**166**	P	P	**06 18 56.0**	**-0.5**
ASAR	**Alice Springs** 0.4nm,0.5s,baz=343,slow=6.7,SNR=6.9	**28.29**	**166**	P	P	**06 18 56.0**	**-0.5**
CMAR	**Chiang Mai Arr**	**30.83**	**300**	P	P	**06 19 19.6**	**+0.6**
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=108,slow=5.9,SNR=3.6	**30.83**	**300**	P	P	**06 19 19.6**	**+0.6**
STKA	**Stephens Creek**	**38.29**	**159**	*e*P	P	**06 20 23.1**	**-0.2**
STKA	**Stephens Creek**	**38.29**	**159**	P	P	**06 20 22.9**	**-0.4**

5.8nm,0.7s,baz=328,slow=6.2,SNR=8.2
SONM Songino Array 47.13 341 P **P** **06 21 35.2 +0.2**
SONM PcP **PcP** **06 23 06.2 -0.2**
SONM Songino Array 47.13 341 P **P** **06 21 35.2 +0.2**
0.5nm,0.5s,baz=156,slow=7.5,SNR=5.0
SONM PcP **PcP** **06 23 06.2 -0.2**
0.7nm,0.6s,baz=134,slow=3.6,SNR=4.9
PETK Petropavlovsk- 55.23 22 P **P** **06 22 35.7 +0.2**
PETK Petropavlovsk- 55.23 22 P **P** **06 22 35.7 +0.2**
2.0nm,0.7s,baz=176,slow=5.8,SNR=2.3
MK31 Makanchi Array 57.43 325 *eP* **P** **06 22 50.8 -0.6**
MKAR Makanchi Array 57.43 325 P **P** **06 22 50.7 -0.6**
MKAR Makanchi Array 57.43 325 P **P** **06 22 50.7 -0.6**
0.9nm,0.5s,baz=118,slow=8.2,SNR=14
ZALV Zalesovo Beam 60.44 333 P **P** **06 23 12.1 0.0**
ZALV Zalesovo Beam 60.44 333 P **P** **06 23 12.1 0.0**
0.4nm,0.5s,baz=132,slow=6.4,SNR=3.1
KURBB Kurchatov Arra 61.61 327 P **P** **06 23 19.5 -0.5**
1.0nm,0.4s,baz=129,slow=5.8,SNR=15
KURK Kurchatov 61.61 327 P **P** **06 23 19.5 -0.5**
BVAR Borovoye Array 67.19 327 P **P** **06 23 55.7 -0.8**
BVAR Borovoye Array 67.19 327 P **P** **06 23 55.7 -0.8**
1.0nm,0.9s,baz=147,slow=8.8,SNR=3.7
ILAR Eielson Array 84.90 25 P **P** **06 25 36.9 -0.3**
ILAR Eielson Array 84.90 25 P **P** **06 25 36.9 -0.3**
0.6nm,0.8s,baz=241,slow=7.1,SNR=4.5
ARCES ARCESS Array B 90.29 340 P **P** **06 26 01.6 -1.5**
ARCES ARCESS Array B 90.29 340 P **P** **06 26 01.6 -1.5**
1.3nm,0.7s,baz=92,slow=7.3,SNR=4.2
TXAR Lajitas Array 121.43 52 PKP **PKPdf** **06 31 59.5 +2.9**
TXAR Lajitas Array 121.43 52 PKP **PKPdf** **06 31 59.5 +2.9**
0.5nm,0.9s,baz=292,slow=4.8,SNR=3.7
TORD Torodi Ar. Bea 122.92 288 PKP **PKPdf** **06 31 59.9 +0.3**
TORD Torodi Ar. Bea 122.92 288 PKP **PKPdf** **06 31 59.9 +0.3**
0.3nm,0.8s,baz=74,slow=2.8,SNR=2.8

PRE 12 06:16:16.5±0.9, 28°.05S×26°.76E, h2km, ML2.7, South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SEK	**Senekal**	**0.81**	**110**	*eP*		Pg	06 16 31.3	-1.0
SEK				*eS*		Sg	06 16 43.4	+0.3
SEK				AML		AML	06 16 47.6	
	comp=Z,71nm,0.2s							
MOAB	**Moab Khotsong**	**1.06**	**2**	*eP*		Pb	06 16 37.5	-0.3
MOAB				*eS*		Sb	06 16 51.8	-0.5
MOAB				AML		AML	06 16 57.9	
	comp=Z,156nm,0.2s							
BFSD	**Buffelsfontein**	**1.18**	**1**	*eP*		Pg	06 16 39.3	-0.1
BFSD				*eS*		Sg	06 16 55.3	+0.4
BFSD				AML		AML	06 16 59.7	
	comp=Z,283nm,0.1s							
PRYS	**Parys**	**1.24**	**26**	*eP*		Pg	06 16 40.1	-0.4
PRYS				*eS*		Sn	06 16 58.1	-0.4
PRYS				AML		AML	06 17 00.7	
	comp=Z,205nm,0.3s							
BOSA	**Boshof**	**1.44**	**247**	*eP*		Pb	06 16 44.2	-0.1
BOSA				*eS*		Sn	06 17 04.1	+0.7
BOSA				AML		AML	06 17 09.1	
	comp=Z,38nm,0.6s							
SWZ	**Schweizer**	**1.53**	**304**	*eP*		Pb	06 16 45.7	-0.1
SWZ				*eS*		Sg	06 17 06.8	+0.6
SWZ				AML		AML	06 17 11.3	
	comp=Z,64nm,0.2s							
ERPM	**east rand prop**	**2.15**	**38**	*eP*		Pb	06 16 55.4	-1.1
ERPM				*eS*		Sb	06 17 23.9	+0.1
ERPM				AML		AML	06 17 36.2	
	comp=Z,43nm,0.5s							
SLR	**Silverton**	**2.68**	**31**	*eP*		Pn	06 17 01.1	+0.3
SLR				*eS*		Sn	06 17 34.6	+0.6
SLR				AML		AML	06 17 49.4	
	comp=Z,44nm,0.7s							
HVD	**Gariep Dam**	**2.77**	**203**	*eP*		Pn	06 17 03.0	+0.8
HVD				*eS*		Sn	06 17 37.0	+0.6
HVD				AML		AML	06 17 52.2	
	comp=Z,16nm,0.7s							
LBTB	**Lobatse**	**3.20**	**341**	*eP*		Pn	06 17 08.1	+0.1
LBTB				*eS*		Sn	06 17 45.9	-0.9
LBTB				AML		AML	06 18 03.6	
	comp=Z,48nm,0.5s							
SUR	**Sutherland**	**6.72**	**229**	*eP*		Pn	06 17 57.7	+1.3
SUR				*eS*		Sn	06 19 11.3	-2.4
SUR				AML		AML	06 19 51.5	
	comp=Z,5.4nm,0.6s							

BJI **12** *06:17:19.0, 3°.01N×126°.98E, h35km, mB5.2/18, mb4.7/31, Ms4.6/13, Ms7 4.3/12*

IDC **12** *06:17:22.5±0.4, 3°.89N×126°.63E, h0km, mb4.5/27, mb1 4.6/27, mb1mx4.5/29, mbtmp4.5/27, MS3.1/1, Ms1 3.1/1, ms1mx2.5/29, Error ellipse: s-maj=22.0km s-min=9.7km az=73.0*

ISCJB **12** *06:17:26.1±0.2, 3°.86N±0°.04×126°.70E±0°.06, h36km, mb4.7/60, MS4.3/3, Error ellipse: s-maj=9.6km s-min=3.7km az=156.3*

NEIC **12** *06:17:27.7±0.2, 3°.90N×126°.72E, h35km, mb4.8/26, Error ellipse: s-maj=9.3km s-min=4.0km az=70.0*

DJA **12** *06:17:28, 3°.83N×127°.04E, h7km, mb5.1/5*

ISC 12 06:17:28.2±0.3, 3°.88N±0°.05×126°.78E±0°.07, h36km, n160, σ1°29/180, mb4.7/59, MS4.4/3, 3C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
GSPH	**General Santos**	**2.85**	**320**	*eP*		**Pn**	**06 18 08.2**	**-3.1**
MNI	**Manado**	**3.10**	**219**	P		Pn	06 18 21.4	+6.7
TNTI	**Ternate**	**3.15**	**169**	P		**Pn**	**06 18 17.4**	**+2.2**
DAV	**Davao City (W)**	**3.38**	**339**	*ePn*		**Pn**	**06 18 16.5**	**-2.0**
DAV				Sn		**Sn**	**06 18 59.6**	**+2.2**
DAV	**Davao City (W)**	**3.38**	**339**	Pn		Pn	06 18 26.2	+7.7
	94nm,0.3s,baz=115,slow=14,SNR=2.5							
DAV				Sn		**Sn**	**06 18 59.6**	**+2.2**
	72nm,0.3s,baz=272,slow=19,SNR=5.1							
DMPH	**Davao City--Mi**	**3.42**	**338**	*eP*		Pn	06 18 23.6	+4.5
KCP	**Kidapawan**	**3.53**	**332**	*ePn*		Pn	06 18 29.2	+8.6
KCP				*i*		Sn	06 19 18.9	+18
KMSI	**Cibinong**	**4.32**	**220**	P		Pn	06 18 42.9	+12
BUKP	**Musuan**	**4.32**	**337**	*eP*		Pn	06 18 36.0	+4.5
BUKP				*eS*		Sn	06 19 12.9	-7.7
CGP	**Cagayan de Oro**	**4.99**	**336**	*eP*		Pn	06 18 49.2	+8.6
PAGZ	**Pagadian**	**5.19**	**320**	*eP*		**Pn**	**06 18 45.0**	**+1.7**
PAGZ				*eS*		Px	06 19 01.6	
MRSI	**Marisa**	**5.90**	**235**	P		Pn	06 18 57.7	+4.6
	186nm,0.8s,2μm0.7nm							
LUWI	**Luwuk**	**6.32**	**219**	P		Pn	06 19 06.9	+8.0
	212nm,1.0s,3μm1.4nm							
SWI	**Sorong**	**6.50**	**136**	P		**Pn**	**06 19 02.0**	**+0.7**
	79nm,0.8s							
NLAI	**Namlea**	**7.08**	**177**	P		**Pn**	**06 19 11.4**	**+2.1**
	110nm,0.6s,3μm0.6nm							
FAKI	**Fak Fak**	**8.69**	**141**	P		**Pn**	**06 19 33.3**	**+1.9**
	35nm,0.9s,0.1nm							
TTSI	**Tana Toraja**	**9.79**	**225**	P		Pn	06 19 59.0	+13
BAKI	**Biak**	**10.60**	**118**	P		Pn	06 20 10.5	+13
	107nm,0.8s,2μm							
KKM	**Kota Kinabalu**	**10.74**	**282**	*ePn*		**Pn**	**06 20 00.5**	**+0.8**
KKM	**Kota Kinabalu**	**10.74**	**282**	P		Pn	06 20 12.4	+13
	22nm,1.4s							
KAPI	**Kappang**	**11.29**	**219**	LR		LR	06 23 24.4	
	comp=Z,111nm,20.9s,baz=197,slow=32							
SBUM	**Sibu**	**14.61**	**265**	P		**P**	**06 20 56.7**	**-1.6**
	18nm,1.2s,431nm							
KSM	**Kuching**	**16.63**	**262**	*ePn*		**P**	**06 21 22.2**	**+1.4**
	20nm,0.7s							
KSM	**Kuching**	**16.63**	**262**	P		**P**	**06 21 23.4**	**+2.6**
	35nm,0.9s							
MTN	**Manton Dam**	**17.17**	**165**	*eP*		**Pn**	**06 21 22.9**	**-2.5**
TWG	**Pinlang**	**19.62**	**344**	*eP*		**P**	**06 21 51.0**	**-2.7**
	33nm,0.5s							
YULB	**Yu-li**	**20.11**	**345**	*ePn*		Pn	06 22 01.1	+0.1
	45nm,1.6s							
TPUB	**Ta-pu**	**20.20**	**343**	*eP*		**P**	**06 21 57.9**	**-2.1**
	36nm,0.8s							
SSLB	**Suanglung**	**20.57**	**345**	*ePn*		**P**	**06 22 04.9**	**+0.9**
	24nm,0.6s							
FITZ	**Fitzroy Crossi**	**21.88**	**183**	*eP*		**P**	**06 22 17.5**	**-0.6**
FITZ	**Fitzroy Crossi**	**21.88**	**183**	*eP*		**P**	**06 22 16.5**	**-1.5**
	22nm,0.6s							
FITZ	**Fitzroy Crossi**	**21.88**	**183**	P		**P**	**06 22 16.4**	**-1.7**
	9.2nm,0.5s,baz=18,slow=9.1,SNR=27							
COEN	**Coen**	**24.05**	**138**	*eP*		**P**	**06 22 38.3**	**-1.9**
	32nm,0.8s							
WRAB	**Tennant Creek**	**24.81**	**163**	*eP*		**P**	**06 22 45.9**	**-1.2**
	125nm,0.7s							
WRA	**Warramunga Arr**	**24.81**	**163**	P		**P**	**06 22 46.0**	**-1.2**
WRA	**Warramunga Ar**	**24.81**	**163**	P		**P**	**06 22 46.0**	**-1.2**
	127nm,0.8s							
MBWA	**Marble Bar**	**25.83**	**195**	*eP*		**P**	**06 22 55.6**	**-0.7**
	5.7nm,0.5s							
AS31	**Alice Springs**	**28.25**	**166**	*eP*		**P**	**06 23 17.2**	**-0.9**
ASAR	**Alice Springs**	**28.25**	**166**	P		**P**	**06 23 16.9**	**-1.2**
ASAR				PcP		**PcP**	**06 23 16.9**	**+0.2**
ASAR				S		S	06 28 09.3	+7.4
ASAR	**Alice Springs**	**28.25**	**166**	P		**P**	**06 23 16.9**	**-1.2**
	3.3nm,0.6s,baz=346,slow=6.5,SNR=32							
ASAR				PcP		**PcP**	**06 26 31.3**	**+0.2**
	3.8nm,0.8s,baz=348,slow=2.7,SNR=7.7							
ASAR				S		S	06 28 09.3	+7.4
	0.2nm,0.3s,baz=347,slow=21,SNR=2.8							
NJ2	**Nanjing**	**28.99**	**346**	*eP*		**P**	**06 23 26.7**	**+2.1**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
JNU	**Nakatsue**	**29.34**	**7**	P		**P**	**06 23 26.7**	**-1.0**
JNU	**Nakatsue**	**29.34**	**7**	P		**P**	**06 23 26.7**	**-1.0**
	comp=Z,4.3nm,0.7s,baz=219,slow=6.5,SNR=2.6							
GYA	**Guiyang**	**29.58**	**321**	P		**P**	**06 23 32.1**	**+2.1**
GYA				pP		**pP**	**06 23 42.0**	**+1.7**
GYA				PP		**PnPn**	**06 24 28.9**	**+3.3**
GYA				S		**S**	**06 28 23.4**	**+0.4**
GYA				sS		**sS**	**06 28 41.0**	**+1.0**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
GYA				pmax		pmax		
	comp=Z,110nm,5.0s							
GYA				LR		LR		
	comp=N,480nm,18.2s							
GYA				LR		LR		
	comp=E,440nm,17.9s							
GYA				LR		LR		
	comp=Z,470nm,17.5s							
CTA	**Charters Tower**	**30.55**	**142**	P		**P**	**06 23 38.8**	**+0.2**
CTA	**Charters Tower**	**30.55**	**142**	P		**P**	**06 23 38.8**	**+0.2**
	comp=Z,3.2nm,0.6s,baz=341,slow=11,SNR=3.5							
CTAO	**Charters Tower**	**30.55**	**142**	*eP*		**P**	**06 23 39.6**	**+1.1**
	comp=Z,5.8nm,0.9s							
CMAR	**Chiang Mai Arr**	**30.84**	**300**	P		**P**	**06 23 41.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**30.84**	**300**	P		**P**	**06 23 41.0**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=102,slow=7.1,SNR=9.3							
ENH	**Enshi**	**30.92**	**330**	*eP*		**P**	**06 23 40.0**	**-1.8**
	comp=Z,11nm,0.8s							
CHTO	**Chiang Mai**	**30.99**	**301**	*eP*		**P**	**06 23 41.0**	**-1.4**
	comp=Z,5.6nm,1.0s							
KMI	**Kunming**	**31.31**	**315**	P		**P**	**06 23 46.0**	**+0.5**
KMI				pP		**pP**	**06 23 56.2**	**+0.4**
KMI				pmax		pmax		
	comp=Z,15nm,1.0s							
KSAR	**Wonju Array Be**	**33.41**	**2**	P		**P**	**06 24 03.5**	**+0.1**
KSAR				PcP		**PcP**	**06 26 45.1**	**+0.7**
KSRS	**Korea Array**	**33.43**	**2**	P		**P**	**06 24 03.5**	**0.0**
	comp=Z,2.1nm,0.6s,baz=185,slow=9.3,SNR=6.8							
KSRS				PcP		**PcP**	**06 26 45.1**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=177,slow=3.6,SNR=5.3							
XAN	**Xi'an**	**34.30**	**333**	P		**P**	**06 24 09.4**	**-1.9**
XAN				pP		**pP**	**06 24 20.8**	**-0.9**
XAN				pmax		pmax		
	comp=Z,5.0nm,0.8s							
FORT	**Forrest**	**34.49**	**178**	*eP*		**P**	**06 24 12.5**	**-0.3**
	comp=Z,61nm,1.2s							
FORT	**Forrest**	**34.49**	**178**	*eP*		**P**	**06 24 12.6**	**-0.3**
	comp=Z,19nm,0.6s							
KLBR	**Kellerberrin**	**36.31**	**193**	*eP*		**P**	**06 24 28.1**	**-0.4**
BJT	**Baijiatuan**	**37.23**	**346**	*eP*		**P**	**06 24 37.6**	**+1.4**
	comp=Z,23nm,0.7s							
BJI	**Beijing**	**37.25**	**346**	P		**P**	**06 24 37.6**	**+1.2**
BJI				pmax		pmax		
	comp=Z,31nm,0.7s							
EIDS	**Eidsvold**	**37.44**	**142**	*eP*		**P**	**06 24 38.2**	**0.0**
	comp=Z,13nm,1.0s							
BBOO	**Buckleboo**	**37.54**	**167**	*eP*		**P**	**06 24 38.7**	**-0.2**
	comp=Z,350nm,0.9s							
NWAO	**Narrogin (SRO)**	**37.71**	**193**	P		**P**	**06 24 40.5**	**+0.1**
NWAO	**Narrogin (SRO)**	**37.71**	**193**	P		**P**	**06 24 40.5**	**+0.1**
	comp=Z,9.5nm,0.8s,baz=350,slow=2.7,SNR=6.1							
SNY	**Shenyang**	**37.89**	**356**	↑P		**P**	**06 24 43.6**	**+1.8**
SNY				pmax		pmax		
	comp=Z,19nm,1.3s							
STKA	**Stephens Creek**	**38.25**	**159**	*eP*		**P**	**06 24 44.7**	**-0.4**
	comp=Z,10nm,0.8s							
STKA				PcP		**PcP**	**06 26 59.1**	**+0.3**
STKA	**Stephens Creek**	**38.25**	**159**	*eP*		**P**	**06 24 44.6**	**-0.4**
	comp=Z,40nm,0.6s							
STKA	**Stephens Creek**	**38.25**	**159**	P		**P**	**06 24 44.6**	**-0.4**
	comp=Z,54nm,0.7s,baz=334,slow=8.1,SNR=110							
STKA				PcP		**PcP**	**06 26 59.1**	**+0.3**
	comp=Z,6.9nm,0.6s,baz=316,slow=6.7,SNR=4.9							
LZH	**Lanzhou**	**38.40**	**329**	*eP*		**P**	**06 24 46.0**	**-0.4**
LZH				pP		**pP**	**06 24 56.2**	**-0.7**
LZH				sP		**sP**	**06 25 00.5**	**-0.7**
LZH				pmax		pmax		
	comp=Z,18nm,1.0s							
HHC	**Hu-ho-hao-te**	**39.27**	**342**	*eP*		**P**	**06 24 54.2**	**+0.6**
HHC				pP		**pP**	**06 25 04.1**	**0.0**
HHC				sP		**sP**	**06 25 07.9**	**-0.5**
HHC				PP		**PnPn**	**06 26 27.4**	**+0.4**
HHC				S		**S**	**06 30 50.6**	**-1.4**
HHC				pmax		pmax		
	comp=Z,14nm,0.6s							
HHC				pmax		pmax		
	comp=Z,250nm,4.7s							
HHC				LR		LR		
	comp=N,210nm,13.3s							
HHC				LR		LR		
	comp=E,250nm,12.0s							
USRK	**Ussuriysk Arra**	**40.41**	**6**	P		**P**	**06 25 02.8**	**-0.1**
	comp=E,2.3nm,0.6s,baz=178,slow=5.0,SNR=5.6							
ARMA	**Armidale**	**41.56**	**147**	*eP*		**P**	**06 25 13.7**	**+1.0**
	comp=E,16nm,0.8s							
ARMA	**Armidale**	**41.56**	**147**	*eP*		**P**	**06 25 13.4**	**+0.7**
LSA	**Lhasa**	**42.38**	**311**	*eP*		**P**	**06 25 19.1**	**-0.7**
	comp=E,13nm,0.7s							
ASAJ	**Asahikawa**	**42.43**	**17**	P		**P**	**06 25 19.7**	**+0.3**
ASAJ	**Asahikawa**	**42.43**	**17**	P		**P**	**06 25 19.7**	**+0.3**
	comp=E,15nm,1.1s,baz=156,slow=20,SNR=3.3							
GTA	**Gaotai**	**42.99**	**329**	*eP*		**P**	**06 25 23.5**	**-0.7**
GTA				pP		**pP**	**06 25 37.4**	**+2.6**
GTA				sP		**sP**	**06 25 42.5**	**+3.4**
GTA				pmax		pmax		
	comp=Z,4.0nm,0.6s							
TAPN	**Taplejung**	**43.97**	**306**	*eP*		**P**	**06 25 31.2**	**-1.3**
	comp=Z,20nm,0.6s							
ODAN	**Odare**	**44.02**	**305**	*eP*		**P**	**06 25 31.8**	**-1.1**
	comp=Z,34nm,0.6s							
CNB	**Canberra Magne**	**44.38**	**153**	*eP*		**P**	**06 25 37.4**	**+2.0**
	comp=Z,84nm,0.9s							
RAMN	**Ramite**	**44.70**	**305**	*eP*		**P**	**06 25 37.5**	**-0.8**
	comp=Z,17nm,0.6s							
TOO	**Toolangi**	**44.76**	**159**	*eP*		**P**	**06 25 39.6**	**+1.3**
	comp=Z,35nm,0.6s							
JIRN	**Jiri**	**45.33**	**306**	*eP*		**P**	**06 25 42.3**	**-1.1**
HIA	**Hailar**	**45.62**	**354**	*eP*		P	06 25 48.4	+3.4
	comp=Z,27nm,1.3s							
GUN	**Gumba**	**45.68**	**306**	*eP*		**P**	**06 25 44.8**	**-1.4**
	comp=Z,28nm,0.8s							
DZM	**Mont Dzumac**	**46.58**	**125**	P		**P**	**06 25 53.4**	**+0.4**
DZM	**Mont Dzumac**	**46.58**	**125**	P		**P**	**06 25 53.4**	**+0.4**
	comp=Z,7.4nm,1.0s,baz=296,slow=10.0,SNR=3.8							
GKN	**Gorkha**	**46.72**	**305**	*eP*		**P**	**06 25 53.1**	**-1.1**
ULN	**Ulaanbaatar**	**46.99**	**342**	*eP*		**P**	**06 25 55.6**	**-0.3**
	comp=Z,11nm,1.1s							
SONM	**Songino Array**	**47.17**	**341**	P		**P**	**06 25 56.7**	**-0.6**
SONM				PcP		**PcP**	**06 27 28.9**	**+0.4**
SONM	**Songino Array**	**47.17**	**341**	P		**P**	**06 25 56.7**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=158,slow=8.2,SNR=20							
SONM				PcP		**PcP**	**06 27 28.9**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=164,slow=3.0,SNR=3.6							
KOLN	**Koldanda**	**47.48**	**305**	*eP*		**P**	**06 25 58.8**	**-1.3**
	comp=Z,28nm,0.5s							
DANN	**Dangsing**	**47.57**	**305**	*eP*		**P**	**06 25 59.4**	**-1.5**
	comp=Z,33nm,0.5s							
WMQ	**Urumqi**	**52.63**	**325**	*eP*		**P**	**06 26 38.4**	**-0.4**
WMQ				pP		**pP**	**06 26 48.0**	**-1.6**
WMQ				sP		**sP**	**06 26 52.0**	**-1.8**
WMQ				pmax		pmax		
	comp=Z,7.0nm,0.8s							
WMQ				pmax		pmax		
	comp=Z,140nm,5.7s							
WMQ				LR		LR		
	comp=N,320nm,19.4s							
WMQ				LR		LR		
	comp=E,380nm,22.6s							
WMQ				LR		LR		
	comp=Z,300nm,21.0s							
PETK	**Petropavlovsk- 55.27 22**			P		**P**	**06 26 58.4**	**+0.6**
PETK	**Petropavlovsk- 55.27 22**			P		**P**	**06 26 58.4**	**+0.6**
	comp=Z,3.6nm,0.6s,baz=190,slow=7.7,SNR=4.2							
MK31	**Makanchi Array 57.46 325**			*eP*		**P**	**06 27 12.6**	**-1.0**
MKAR	**Makanchi Array 57.46 325**			*eP*		**P**	**06 27 12.8**	**-0.8**
MKAR				ScP		**ScP**	**06 32 07.4**	**+3.1**
MKAR	**Makanchi Array 57.46 325**			P		**P**	**06 27 12.4**	**-1.2**
	comp=Z,4.7nm,0.5s,baz=119,slow=8.4,SNR=46							
MKAR				ScP		**ScP**	**06 32 07.4**	**+3.1**
	comp=Z,1.1nm,0.8s,baz=104,slow=5.1,SNR=5.8							
KSH	**Kashi 57.97 315**			*eP*		**P**	**06 27 18.7**	**+1.2**
KSH				pP		**pP**	**06 27 28.6**	**+0.3**
KSH				sP		**sP**	**06 27 32.7**	**+0.1**
KSH				PcP		**PcP**	**06 28 09.1**	**-0.2**
KSH				PP		**PP**	**06 29 29.9**	**+3.7**
KSH				ScP		**ScP**	**06 32 05.9**	**-1.0**
KSH				PcS		**PcS**	**06 32 09.1**	**-1.7**
KSH				S		**S**	**06 35 16.1**	**+0.5**
KSH				sS		**sS**	**06 35 33.0**	**-0.5**
KSH				ScS		**ScS**	**06 37 01.8**	**-2.8**
KSH				SS		**SS**	**06 39 09.1**	**+2.0**
KSH				LR		LR		
	comp=N,140nm,5.8s							
KSH				LR		LR		
	comp=E,130nm,4.9s							
KSH				LR		LR		
	comp=Z,160nm,7.8s							
YAK	**Yakutsk 58.05 2**			*eP*		**P**	**06 27 17.1**	**-0.3**
	comp=Z,25nm,0.6s							
TKM2	**Tokmak 2 59.67 318**			*eP*		**P**	**06 27 28.8**	**-0.4**
	comp=Z,5.5nm,1.0s							
AAK	**Ala-Archa 60.28 318**			P		**P**	**06 27 31.8**	**-1.6**
AAK	**Ala-Archa 60.28 318**			P		**P**	**06 27 31.8**	**-1.6**
	comp=Z,1.3nm,0.7s,baz=163,slow=11,SNR=2.9							
ZAA0	**Zalesovo Array 60.48 333**			*eP*		**P**	**06 27 32.7**	**-1.6**
ZALV	**Zalesovo Beam 60.48 333**			P		**P**	**06 27 32.4**	**-1.9**
ZALV	**Zalesovo Beam 60.48 333**			P		**P**	**06 27 32.4**	**-1.9**
	comp=Z,3.8nm,0.5s,baz=134,slow=6.5,SNR=20							
EKS2	**Erkin-Say 60.77 318**			*eP*		**P**	**06 27 37.4**	**+0.6**
	comp=Z,5.3nm,1.0s							
KURBB	**Kurchatov Arra 61.64 327**			P		**P**	**06 27 41.0**	**-1.3**
	comp=Z,4.0nm,0.5s,baz=128,slow=6.5,SNR=30							
KURK	**Kurchatov 61.64 327**			*eP*		**P**	**06 27 41.1**	**-1.1**
BVAR	**Borovoye Array 67.22 327**			P		**P**	**06 28 18.6**	**-0.1**
BVAR	**Borovoye Array 67.22 327**			P		**P**	**06 28 18.6**	**-0.1**
	comp=Z,4.6nm,0.7s,baz=132,slow=8.7,SNR=22							
BRVK	**Borovoye 67.29 327**			*eP*		**P**	**06 28 18.6**	**-0.6**
	comp=Z,9.8nm,0.9s							
DRV	**Dumont d'Urvil 71.02 174**			R			06 28 00.0	
AKTO	**Aktyubinsk 73.57 322**			P		**P**	**06 28 56.8**	**-0.9**
AKTO	**Aktyubinsk 73.57 322**			P		**P**	**06 28 56.8**	**-0.9**
	comp=Z,4.4nm,0.8s,baz=104,slow=7.4,SNR=20							
ARU	**Arti 74.83 328**			*eP*		**P**	**06 29 03.4**	**-1.4**
	comp=Z,6.9nm,0.2s							
COLD	**Coldfoot 83.73 23**			*eP*		**P**	**06 29 54.3**	**+1.2**
	comp=Z,7.6nm,1.0s							
ILAR	**Eielson Array 84.94 25**			P		**P**	**06 29 58.8**	**-0.6**
ILAR	**Eielson Array 84.94 25**			P		**P**	**06 29 58.8**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=247,slow=6.0,SNR=14							
KMBO	**Kilima Mbogo 89.61 269**			*eP*		**P**	**06 30 22.9**	**-0.4**
	comp=Z,3.1nm,1.0s							
BRTR	**Keskin Array B 89.96 310**			P		**P**	**06 30 22.6**	**-1.7**
BRTR	**Keskin Array B 89.96 310**			P		**P**	**06 30 22.6**	**-1.7**
	comp=Z,1.0nm,0.8s,baz=131,slow=3.8,SNR=4.9							
ARCES	**ARCESS Array B 90.32 340**			P		**P**	**06 30 23.9**	**-1.2**
ARCES	**ARCESS Array B 90.32 340**			P		**P**	**06 30 23.9**	**-1.2**
	comp=Z,2.2nm,0.7s,baz=81,slow=4.5,SNR=9.6							
FINES	**FINESS Array B 91.72 332**			P		**P**	**06 30 31.5**	**-0.3**
FINES	**FINESS Array B 91.72 332**			P		**P**	**06 30 31.5**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=57,slow=7.0,SNR=6.3							
AKASG	**Malin Array Be 91.81 321**			P		**P**	**06 30 31.1**	**-1.3**
AKASG	**Malin Array Be 91.81 321**			P		**P**	**06 30 31.1**	**-1.3**
	comp=Z,5.5nm,0.6s,baz=64,slow=4.9,SNR=8.4							
SYO	**Syowa Base 92.59 201**			↑*eP*		**P**	**06 30 35.2**	**-0.4**
QSPA	**South Pole Qui 93.79 180**			P		**P**	**06 30 42.0**	**+0.6**
QSPA	**South Pole Qui 93.79 180**			P		**P**	**06 30 41.9**	**+0.6**
	comp=Z,6.8nm,1.0s,baz=298,slow=2.0,SNR=13							
BUR08	**Bucovina Ar. S 94.93 318**			*eP*		**P**	**06 30 46.3**	**-0.8**
NOA	**NORSAR Array B 98.67 334**			P		**P**	**06 31 02.5**	**-1.0**
NOA	**NORSAR Array B 98.67 334**			P		**P**	**06 31 02.5**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=68,slow=4.7,SNR=2.8							

NWAO	Narrogin (SRO)	37.79 193	P		P	06 36 56.8	+0.2
	4.4nm,0.4s,baz=61,slow=13,SNR=6.4						
STKA	Stephens Creek	38.42 159	*eP*		P	06 37 01.3	-0.7
	1.0nm,0.6s						
STKA	Stephens Creek	38.42 159	*eP*		P	06 37 01.8	-0.1
	3.7nm,0.5s						
STKA	Stephens Creek	38.42 159	P		P	06 37 01.8	-0.1
	3.4nm,0.4s,baz=338,slow=7.9,SNR=9.3						
ARMA	Armidale	41.75 147	*eP*		P	06 37 30.3	+0.6
LSA	Lhasa	42.18 311	*eP*		P	06 37 34.4	+0.7
	7.0nm,0.6s						
ULN	Ulaanbaatar	46.83 342	*eP*		P	06 38 11.0	+0.9
	3.3nm,1.0s						
SONM	Songino Array	47.01 341	P		P	06 38 12.1	+0.7
SONM			PcP		PcP	06 39 44.1	+0.9
SONM	Songino Array	47.01 341	P		P	06 38 12.1	+0.7
	1.4nm,0.7s,baz=156,slow=8.1,SNR=11						
SONM			PcP		PcP	06 39 44.1	+0.9
	0.9nm,0.6s,baz=159,slow=3.2,SNR=5.2						
MK31	Makanchi Array	57.27 325	*eP*		P	06 39 27.9	+0.2
MK31			*e*PcP		PcP	06 40 21.8	+0.2
MKAR	Makanchi Array	57.27 325	P		P	06 39 27.9	+0.2
MKAR			PcP		PcP	06 40 22.6	+1.0
MKAR	Makanchi Array	57.27 325	P		P	06 39 27.9	+0.2
	0.9nm,0.4s,baz=121,slow=8.1,SNR=8.0						
MKAR			PcP		PcP	06 40 22.6	+1.0
	1.3nm,0.7s,baz=111,slow=5.6,SNR=4.5						
ZALV	Zalesovo Beam	60.30 333	P		P	06 39 48.0	-0.5
ZALV	Zalesovo Beam	60.30 333	P		P	06 39 48.0	-0.5
	3.0nm,0.5s,baz=126,slow=5.9,SNR=13						
KURBB	Kurchatov Arra	61.45 327	P		P	06 39 56.4	0.0
	5.5nm,0.8s,baz=124,slow=6.3,SNR=33						
KURK	Kurchatov	61.45 327	*eP*		P	06 39 56.4	0.0
KKAR	Karatay Array	62.96 317	*eP*		P	06 40 06.8	0.0
	1.9nm,0.6s						
BVAR	Borovoye Array	67.03 327	P		P	06 40 33.3	+0.3
BVAR	Borovoye Array	67.03 327	P		P	06 40 33.3	+0.3
	1.3nm,0.6s,baz=120,slow=8.8,SNR=8.0						
ABKAR	Akbulak array	71.87 321	*eP*		P	06 41 02.8	-0.1
	1.4nm,0.6s						
ILAR	Eielson Array	84.91 25	P		P	06 42 15.3	+0.8
ILAR	Eielson Array	84.91 25	P		P	06 42 15.3	+0.8
	0.2nm,0.6s,baz=245,slow=4.9,SNR=4.4						
BRTR	Keskin Array B	89.76 310	P		P	06 42 38.4	-0.4
BRTR	Keskin Array B	89.76 310	P		P	06 42 38.4	-0.4
	0.6nm,0.5s,baz=132,slow=4.9,SNR=5.7						
ARCES	ARCESS Array B	90.16 340	P		P	06 42 39.7	0.0
ARCES	ARCESS Array B	90.16 340	P		P	06 42 39.7	0.0
	1.6nm,0.6s,baz=79,slow=5.3,SNR=10.0						
FINES	FINESS Array B	91.54 332	P		P	06 42 46.2	-0.1
FINES	FINESS Array B	91.54 332	P		P	06 42 46.2	-0.1
	2.0nm,0.8s,baz=54,slow=4.9,SNR=6.4						
AKASG	Malin Array Be	91.61 321	P		P	06 42 46.5	-0.3
AKASG	Malin Array Be	91.61 321	P		P	06 42 46.5	-0.3
	1.2nm,0.6s,baz=74,slow=4.5,SNR=5.6						
NOA	NORSAR Array B	98.50 334	P		Pdif	06 43 18.3	+0.2
NOA	NORSAR Array B	98.50 334	P		Pdif	06 43 18.3	+0.2
	0.8nm,0.6s,baz=67,slow=4.8,SNR=3.6						
YKA	Yellowknife Ar	99.30 24	P		Pdif	06 43 22.1	+0.5
YKA	Yellowknife Ar	99.30 24	P		Pdif	06 43 22.1	+0.5
	0.0nm,0.3s,baz=292,slow=4.0,SNR=3.2						
PDAR	Pinedale Array	111.22 41	PKKPab		PKKPab	06 59 18.9	-2.0
PDAR	Pinedale Array	111.22 41	PKKPab		PKKPab	06 59 18.9	-2.0
	0.6nm,0.9s,baz=140,slow=4.7,SNR=4.9						
TXAR	Lajitas Array	121.52 52	PKP		PKPdf	06 48 34.9	+0.9
TXAR	Lajitas Array	121.52 52	PKP		PKPdf	06 48 34.9	+0.9
	0.5nm,1.0s,baz=216,slow=4.5,SNR=3.3						
TORD	Torodi Ar. Bea	122.73 288	PKP		PKPdf	06 48 36.6	+0.1
TORD	Torodi Ar. Bea	122.73 288	PKP		PKPdf	06 48 36.6	+0.1
	0.6nm,0.8s,baz=62,slow=2.1,SNR=6.6						

IDC 12 06:34:34.0±1.6, 3.74N×126.74E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/19, mbtmp3.8/5, Error ellipse: s-maj=213.9km s-min=19.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.69	163	P	P	06 39 55.8	-1.1
	1.3nm,0.4s						
ASAR	Alice Springs	28.12	166	P	P	06 40 29.6	+1.7
	0.3nm,0.3s,baz=342,slow=10,SNR=3.7						
STKA	Stephens Creek	38.13	159	P	P	06 41 54.1	-0.9
	1.1nm,0.5s,baz=339,slow=9.2,SNR=3.9						
SONM	Songino Array	47.30	341	P	P	06 43 09.9	+0.5
	0.4nm,0.5s,baz=166,slow=6.9,SNR=3.6						
MKAR	Makanchi Array	57.55	325	P	P	06 44 25.0	-0.5
	0.6nm,0.5s,baz=117,slow=8.2,SNR=11						

IDC 12 06:39:13.8±4.3, 4.53N×127.89E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.8/4, Error ellipse: s-maj=415.8km s-min=26.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.13	166	P	P	06 44 39.8	-0.9
	3.6nm,0.7s						
ASAR	Alice Springs	28.63	168	P	P	06 45 12.9	+0.6
	0.2nm,0.3s,baz=345,slow=9.6,SNR=3.9						
STKA	Stephens Creek	38.48	161	P	P	06 46 38.0	+0.2
	2.3nm,0.9s,baz=352,slow=8.1,SNR=4.1						
MKAR	Makanchi Array	57.58	324	P	P	06 49 05.4	-0.1
	0.4nm,0.5s,baz=124,slow=8.3,SNR=4.0						

IDC 12 06:41:56.9±1.1, 4.16N×127.42E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/19, mbtmp3.5/5, Error ellipse: s-maj=66.8km s-min=21.0km az=79.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.19	184	P	P	06 46 54.1	-0.9
	0.9nm,0.6s,baz=0.0,slow=9.1,SNR=2.5						
WRA	Warramunga Arr	24.90	164	P	P	06 47 21.5	-0.3
	370nm,1.2s,baz=53,slow=0.0,SNR=5.2						
ASAR	Alice Springs	28.37	167	P	P	06 47 52.4	-0.7
	0.2nm,0.4s,baz=342,slow=7.6,SNR=4.8						
STKA	Stephens Creek	38.30	160	P	P	06 49 21.1	+1.8
	1.1nm,0.6s,baz=328,slow=7.6,SNR=4.0						
MKAR	Makanchi Array	57.60	325	P	P	06 51 49.1	+0.4
	0.1nm,0.3s,baz=119,slow=7.2,SNR=5.2						
ILAR	Eielson Array	84.42	25	P	P	06 54 30.5	-0.6
	0.2nm,0.3s,baz=257,slow=4.8,SNR=8.3						

IDC 12 06:50:22.0±1.4, 3.82N×127.28E, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.8/20, mbtmp4.1/6, MS3.1/1, Ms1 3.1/1, ms1mx2.4/44, Error ellipse: s-maj=112.5km s-min=19.8km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	11.55	221	LR	LR	06 57 57.9	
	comp=Z,90nm,20.3s,baz=299,slow=40						
FITZ	Fitzroy Crossi	21.84	184	P	P	06 55 16.3	+0.1
	1.8nm,0.6s,baz=27,slow=11,SNR=4.7						
WRA	Warramunga Arr	24.61	164	P	P	06 55 43.7	-0.6
	6.5nm,0.8s						
ASAR	Alice Springs	28.07	167	P	P	06 56 15.6	+0.1
	0.3nm,0.3s,baz=342,slow=9.1,SNR=4.1						
STKA	Stephens Creek	38.02	160	P	P	06 57 42.1	+0.1
	1.6nm,0.7s,baz=330,slow=15,SNR=3.9						
MKAR	Makanchi Array	57.80	325	P	P	07 00 14.9	-0.3
	0.5nm,0.5s,baz=117,slow=7.4,SNR=10						
ARCES	ARCESS Array B	90.56	340	P	P	07 03 26.0	+0.2
	6.8nm,1.1s,baz=61,slow=7.3,SNR=3.6						
TORD	Torodi Ar. Bea	123.41	288	PKP	PKPdf	07 09 22.3	0.0
	0.1nm,0.4s,baz=85,slow=1.7,SNR=2.7						

IDC 12 06:52:19.0±1.8, 4.08N×126.81E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/20, mbtmp3.8/5, MS3.0/1, Ms1 3.0/1, ms1mx2.4/42, Error ellipse: s-maj=123.0km s-min=23.1km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.21	338	LR	LR	06 54 28.9	
	comp=Z,195nm,18.2s,baz=336,slow=40						
FITZ	Fitzroy Crossi	22.07	183	P	P	06 57 15.6	-0.1
	3.2nm,1.0s,baz=9.5,slow=12,SNR=2.4						
WRA	Warramunga Arr	25.00	163	P	P	06 57 44.0	-0.7
	3.8nm,0.8s						
ASAR	Alice Springs	28.44	166	P	P	06 58 16.4	+0.6
	0.1nm,0.3s,baz=343,slow=10,SNR=2.7						
STKA	Stephens Creek	38.43	160	P	P	06 59 42.5	0.0
	2.6nm,0.6s,baz=331,slow=9.0,SNR=5.3						
MKAR	Makanchi Array	57.31	325	P	P	07 02 08.7	-0.1
	0.2nm,0.5s,baz=123,slow=5.3,SNR=3.7						

IDC 12 07:07:32.3±0.4, 3.99N×126.60E, h0km, mb5.1/29, mb1 5.1/29, mb1mx5.1/30, mbtmp5.1/29, MS4.4/13, Ms1 4.4/13, ms1mx4.1/41, Error ellipse: s-maj=16.1km s-min=9.5km az=82.0

ISCJB 12 07:07:36.2±0.1, 4.07N±0.02×126.75E±0.03, h34km, mb5.4/153, MS4.4/31, Error ellipse: s-maj=3.8km s-min=2.8km az=168.1

MOS 12 07:07:36.0±0.9, 4.00N×126.61E, h33km, mb5.6/61, MS4.4/9, Error ellipse: s-maj=9.6km s-min=4.6km az=115.4

NEIC 12 07:07:37.8±0.1, 4.02N×126.66E, h35km, mb5.5/69, Error ellipse: s-maj=5.7km s-min=3.5km az=72.0

BJI 12 07:07:37.0, 4.09N×126.59E, h35km, mB5.2/34, mb5.4/60, Ms4.8/54, Ms7 4.5/52

DJA 12 07:07:43, 3.82N×126.73E, h58km, mb5.2/40

ISC 12 07:07:37.6±0.3, 3.97N±0.03×126.67E±0.04, h33km±1km, h34km:pP-P, n618, σ1s22/694, mb5.5/152, MS4.4/32, 97C-78D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	2.71	321	*eP*	Pb	07 08 22.9	-2.6
MATI	Mati	2.98	352	*eP*	Pb	07 08 27.2	-2.9
MNI	Manado	3.10	216	P	Pn	07 08 27.0	+2.7
TNTI	Ternate	3.25	168	P	Pn	07 08 28.9	+2.6
DAV	Davao City (W)	3.27	341	*e*Pn	Pn	07 08 25.6	-0.9
DAV				Sn	Sb	07 09 23.0	+8.8
DAV	Davao City (W)	3.27	341	P	Pb	07 08 33.5	-1.4
DAV	Davao City (W)	3.27	341	Pn	Pn	07 08 29.9	+3.5
	61nm,0.3s,baz=196,slow=2.1,SNR=16						
DAV				Sn	Sb	07 09 23.0	+8.8
	355nm,0.3s,baz=235,slow=20,SNR=9.0						
DAV				LR	LR	07 09 57.8	
	comp=Z,7μm,18.0s,baz=268,slow=45						
DMPH	Davao City--Mi	3.30	340	*eP*	Pn	07 08 30.9	+3.9
DMPH				*i* S	Sb	07 09 21.5	+6.2
KCP	Kidapawan	3.40	333	*eP*	Pb	07 08 36.8	-0.4
KCP				*i* S	Sb	07 09 26.3	+8.0
BUKP	Musuan	4.20	338	*eP*	Pn	07 08 43.4	+4.0
BUKP				*e*S	Sn	07 09 25.4	-1.9
KMSI	Cibinong	4.31	219	P	Pn	07 08 46.6	+5.7
LBMI	Labuha	4.65	170	P	Pn	07 08 50.7	+5.2
CGP	Cagayan de Oro	4.87	336	*i*P	Pn	07 08 53.9	+5.4
CGP				*i* S	Sb	07 10 04.2	+3.8
ZMPH	Zamboanga City	5.46	303	*i*P	Pn	07 08 58.8	+2.2
ZMPH				*i* S	Sn	07 09 59.7	+1.4
MRSI	Marisa	5.86	234	P	Pn	07 09 05.3	+3.1
	828nm,0.6s,9μm3.0nm						
LUWI	Luwuk	6.32	218	P	Pn	07 09 14.4	+5.9
	1μm,1.1s,14μm5.3nm						
MSLP	Maasin	6.38	344	*eP*	Pn	07 09 15.6	+6.3
SWI	Sorong	6.64	136	P	Pn	07 09 13.7	+0.8
	190nm,0.8s,2μm0.8nm						
LLP	Lapu-Lapu	6.85	337	*eP*	Pn	07 09 20.0	+4.2
LLP				*e*S	Sn	07 10 44.1	+11
NLAI	Namlea	7.17	177	P	Pn	07 09 23.0	+2.8
	167nm,0.8s,3μm0.9nm						
PLP	Palo	7.34	347	*e*P	Pn	07 09 25.9	+3.4
MYLDM	Lahad Datu	8.23	279	P	Pn	07 09 41.5	+6.8
MYLDM	Lahad Datu	8.23	279	P	Pn	07 09 41.6	+6.9
	340nm,1.3s,4μm1.6nm						
TSM	Tawau	8.78	272	P	Pn	07 09 45.2	+2.9
FAKI	Fak Fak	8.83	141	P	Pn	07 09 44.8	+1.9
	38nm,0.9s,920nm0.3nm						
KDI	Kendari	8.85	207	P	Pn	07 09 46.2	+2.9
	81nm,1.6s,2μm0.5nm						
SDKM	Sandakan	9.59	280	P	Pn	07 09 57.5	+4.1
KDM	Kudat	10.22	287	P	Pn	07 10 08.5	+6.5
SPSI	Sidrap Palu	10.47	221	P	Pn	07 10 11.5	+6.0
	78nm,1.2s,1μm						
KKM	Kota Kinabalu	10.62	282	*e*Pn	Pn	07 10 13.7	+6.1
KKM				*e*Sn	Sn	07 12 05.7	+0.3
KKM	Kota Kinabalu	10.62	282	P	Pn	07 10 14.0	+6.5
KKM	Kota Kinabalu	10.62	282	P	Pn	07 10 14.1	+6.5
	121nm,1.8s,2μm						
BAKI	Biak	10.73	118	P	Pn	07 10 13.0	+3.9
	244nm,1.3s,3μm						
KAPI	Kappang	11.29	218	*e*Pn	Pn	07 10 21.2	+4.6
KAPI	Kappang	11.29	218	Pn	Pn	07 10 21.2	+4.6
	1.9nm,0.3s,baz=51,slow=12,SNR=3.7						
KAPI				LR	LR	07 15 25.2	
	comp=Z,4μm,18.6s,baz=5.8,slow=42						
TLE	Tual	11.30	148	P	Pn	07 10 26.8	+10
TGY	Tagaytay City	11.55	331	LR	LR	07 15 29.4	
	comp=Z,18nm,19.0s,baz=262,slow=42						
KBKI	Kotabaru	12.74	236	P	P	07 10 43.3	-3.9
	105nm,1.5s,2μm						
SMPI	Sarmi	13.41	116	P	P	07 10 51.2	-3.5
	190nm,0.7s,41μm						
BTM	Bintulu	13.58	267	P	P	07 10 55.5	-1.1
BBKI	Banjar Baru	13.94	238	P	P	07 10 59.6	-0.9
	268nm,2.1s,5μm						
SBUM	Sibu	14.51	264	P	P	07 11 05.9	-1.0
SBUM	Sibu	14.51	264	P	P	07 11 05.2	-1.6
	83nm,1.3s,2μm						
WSI	Waingapu	14.96	205	P	Pn	07 11 06.9	+0.1
	1μm,0.6s,21μm						
JAY	Jayapura	15.44	114	P	P	07 11 20.6	+3.4
STKI	Sintang	15.67	256	P	P	07 11 22.4	+2.6
	115nm,1.9s						
KHKI	Kahang-Kahang	16.49	222	P	P	07 11 30.7	+1.8
	207nm,1.5s						
KSM	Kuching	16.53	262	*eP*	P	07 11 29.6	+0.2
	107nm,0.9s						
KSM				*e*Sn	Sn	07 14 31.3	+1.7
KSM	Kuching	16.53	262	P	P	07 11 30.9	+1.6
KSM	Kuching	16.53	262	P	P	07 11 31.9	+2.6
	133nm,1.1s,1μm						
BYJI	Banyuwangi	17.24	225	P	P	07 11 45.0	+7.8
MTN	Manton Dam	17.28	165	*e*P	Pn	07 11 33.8	-2.7
GRJI	Gresik	17.82	233	P	P	07 11 46.5	+2.9
	205nm,0.5s,19μm						
GMJI	Gumukmas	17.94	227	P	P	07 11 52.0	+7.0
	130nm,0.9s						
SJI	Sawahan	18.88	232	P	Pn	07 11 57.8	+1.7
	114nm,1.0s						
PWJI	Pagerwojo	19.02	231	P	Pn	07 12 01.8	+4.0
	94nm,1.0s						
TWG	Pinlang	19.51	344	*eP*	P	07 12 00.1	-2.0
	76nm,0.6s						
YULB	Yu-li	20.00	345	*eP*	P	07 12 05.6	-1.8
	45nm,0.4s						
TPUB	Ta-pu	20.09	344	*eP*	P	07 12 07.5	-0.9
	141nm,0.8s						
GUMO	Guam	20.35	61	P	P	07 12 12.4	+1.0
GUMO	Guam	20.35	61	P	P	07 12 12.4	+1.0
	21nm,0.4s,baz=184,slow=18,SNR=2.2						
GUMO				LR	LR	07 18 09.6	
	comp=Z,1μm,21.7s,baz=232,slow=31						
SSLB	Suanglung	20.46	345	*eP*	P	07 12 11.1	-1.5
	94nm,0.6s						
YHNB	Yeheng	21.20	347	*eP*	P	07 12 19.4	-1.2
	67nm,0.7s						
PPBI	Pangkal Pinang	21.41	254	P	P	07 12 27.6	+4.8
	72nm,0.7s,16μm						
TATO	Taipei	21.47	347	*eP*	P	07 12 23.7	+0.3
	32nm,0.6s						
LEM	Lembang	21.83	241	P	P	07 12 30.3	+2.8
	131nm,0.9s,2μm						
FITZ	Fitzroy Crossi	21.96	183	*eP*	P	07 12 28.0	-0.6
FITZ				*e*		07 16 22.2	
FITZ	Fitzroy Crossi	21.96	183	*eP*	P	07 12 27.9	-0.6
	46nm,0.7s						
FITZ				*e*S	S	07 16 23.8	-5.5
FITZ	Fitzroy Crossi	21.96	183	P	P	07 12 27.6	-1.0
	24nm,0.6s,baz=19,slow=11,SNR=25						
QIZ	Qiongzhong	22.23	314	*eP*	P	07 12 31.6	0.0
	79nm,1.1s						
QZH	Quanzhou	22.25	340	*i*P	P	07 12 31.7	-0.1
QZH				S	S	07 16 26.1	-8.7
QZH				sS	Sn	07 16 38.0	-10
QZH				pmax	pmax		
	comp=Z,230nm,1.3s						
QZH				LR	LR		
	comp=N,6μm,25.2s						
QZH				LR	LR		
	comp=E,1μm,17.2s						
QZH				LR	LR		
	comp=Z,4μm,18.8s						
CNJI	Cibinong	22.49	240	P	P	07 12 34.8	+0.4
	comp=Z,113nm,1.2s						
JOW	Kunigami	22.79	4	P	P	07 12 36.2	-1.2
	comp=Z,4.4nm,1.1s						
JOW	Kunigami	22.79	4	P	P	07 12 36.2	-1.2
	comp=Z,33nm,0.7s,baz=178,slow=11,SNR=7.0						
MYKOM	Kota Tinggi	22.89	265	P	P	07 12 39.7	+1.0
MYKOM	Kota Tinggi	22.89	265	P	P	07 12 39.8	+1.1
	comp=Z,71nm,1.2s,comp=Z,911nm						
KGM	Kluang	23.40	266	P	P	07 12 45.4	+1.6
CGJI	Cibinong	23.43	243	P	P	07 12 43.6	-0.5
	comp=Z,99nm,0.7s,comp=Z,3μm						
KASI	Kota Agung	24.07	247	P	P	07 12 52.8	+2.7
	comp=Z,104nm,1.1s,comp=Z,1μm						
COEN	Coen	24.20	138	*eP*	P	07 12 52.1	+0.8
	comp=Z,127nm,0.9s						
LWLI	Liwa	24.29	249	P	P	07 12 57.1	+4.8
	comp=Z,151nm,0.8s						
PMG	Port Moresby	24.36	123	*eP*	P	07 12 52.1	-0.7
	comp=Z,44nm,1.3s						
PMG	Port Moresby	24.36	123	P	P	07 12 55.6	+2.8
	comp=Z,25nm,1.1s						
PMG	Port Moresby	24.36	123	P	P	07 12 52.1	-0.7
	comp=Z,4.0nm,0.4s,baz=273,slow=14,SNR=5.5						
WRAB	Tennant Creek	24.93	163	*eP*	P	07 12 57.3	-0.5
WRAB				*e*S	S	07 17 16.3	-2.9
WRAB				pmax	pmax		
	comp=Z,90nm,1.0s						
WRAB	Tennant Creek	24.93	163	*eP*	P	07 12 57.3	-0.5
	comp=Z,90nm,1.0s						
WRAB				*e*S	S	07 17 16.3	-2.9
WRAB	Tennant Creek	24.93	163	P	P	07 12 57.0	-0.8
	comp=Z,527nm,0.5s,SNR=29						
WRA	Warramunga Arr	24.93	163	P	P	07 12 57.4	-0.5
WRA	Warramunga Arr	24.93	163	P	P	07 12 57.4	-0.5
	comp=Z,2μm,0.3s,baz=0.0,slow=0.0,SNR=9.3						
FRIM	Kepong	25.00	269	P	P	07 12 59.6	+1.0
IPM	Ipoh	25.58	272	*eP*	P	07 13 04.3	+0.4
	comp=Z,72nm,1.2s						
IPM	Ipoh	25.58	272	P	P	07 13 04.5	+0.6
IPM	Ipoh	25.58	272	P	P	07 13 05.4	+1.5
	comp=Z,51nm,1.4s,comp=Z,732nm						
BKNI	Bangkinang	25.86	263	P	P	07 13 09.6	+3.1
	comp=Z,119nm,1.2s,comp=Z,2μm						
MBWA	Marble Bar	25.88	195	*eP*	P	07 13 06.5	0.0
	comp=Z,63nm,1.0s						
PPI	Padang Panjang	26.62	261	P	P	07 13 16.2	+2.9
	comp=Z,38nm,1.3s,comp=Z,751nm						
MNSI	Mandailing Nat	27.25	264	P	P	07 13 28.2	+9.3
	comp=Z,73nm,1.0s,comp=Z,2μm						
CBIJ	Chichi jima	27.36	31	LR	LR	07 22 34.0	
	comp=Z,832nm,18.4s,baz=218,slow=33						
PSI	Prapat	27.72	268	P	P	07 13 23.4	+0.1
PSI	Prapat	27.72	268	P	P	07 13 23.8	+0.5
	comp=Z,37nm,1.1s						
PSI	Prapat	27.72	268	P	P	07 13 23.4	+0.1
	comp=Z,22nm,0.9s,baz=47,slow=2.6,SNR=11						
AS31	Alice Springs	28.36	166	*eP*	P	07 13 28.9	+0.1
ASAR	Alice Springs	28.36	166	P	P	07 13 27.6	-1.2
ASAR				PcP	PcP	07 16 40.3	-0.8
ASAR				S	S	07 18 36.1	+23
ASAR	Alice Springs	28.36	166	P	P	07 13 27.6	-1.2
	comp=Z,5.4nm,0.8s,baz=344,slow=7.1,SNR=32						
ASAR				PcP	PcP	07 16 40.3	-0.8
	comp=Z,5.7nm,0.9s,baz=349,slow=2.9,SNR=5.9						
ASAR				S	S	07 18 36.1	+23
	comp=Z,6.7nm,1.0s,baz=349,slow=21,SNR=8.2						
WHN	Wuhan	28.88	338	*i*P	P	07 13 34.1	+0.8
WHN				S	S	07 18 18.8	-2.7
WHN				pmax	pmax		
	comp=Z,270nm,1.1s						
WHN				LR	LR		
	comp=N,2μm,14.6s						
WHN				LR	LR		
	comp=E,990nm,15.1s						
WHN				LR	LR		
	comp=Z,4μm,20.8s						
NJ2	Nanjing	28.88	346	*eP*	P	07 13 34.2	+0.9
NJ2				pP	pP	07 13 43.1	+0.1
NJ2				sP	sP	07 13 47.0	0.0
NJ2				pmax	pmax		
	comp=Z,50nm,1.0s						
GSI	Gunungsitoli	29.18	266	P	P	07 13 37.0	+0.8
	comp=Z,70nm,1.0s						
JNU	Nakatsue	29.27	7	*eP*	P	07 13 36.0	-0.8
	comp=Z,18nm,1.2s						
JNU	Nakatsue	29.27	7	P	P	07 13 36.0	-0.8
	comp=Z,14nm,0.8s,baz=181,slow=6.4,SNR=5.6						
GYA	Guiyang	29.44	321	*i*P	P	07 13 38.5	0.0
GYA				pP	pP	07 13 50.0	+1.8
GYA				PP	PnPn	07 14 36.7	+3.4
GYA				PcP	PcP	07 16 45.6	+1.6
GYA				S	S	07 18 30.9	+0.1
GYA				SS	SnSn	07 20 05.0	+5.5
GYA				ScS	ScS	07 24 16.7	-1.6
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,150nm,5.2s						
GYA				LR	LR		
	comp=N,750nm,18.0s						
GYA				LR	LR		
	comp=E,640nm,17.8s						
GYA				LR	LR		
	comp=Z,860nm,16.9s						
CTA	Charters Tower	30.69	142	P	P	07 13 50.1	+0.7
CTA	Charters Tower	30.69	142	*eP*	P	07 13 51.1	+1.6
	comp=Z,17nm,2.0s						
CTA	Charters Tower	30.69	142	P	P	07 13 50.1	+0.7
	comp=Z,15nm,1.0s,baz=329,slow=12,SNR=8.3						
CTAO	Charters Tower	30.69	142	*eP*	P	07 13 50.8	+1.3
CTAO				pmax	pmax		
	comp=Z,21nm,1.1s						
CTAO	Charters Tower	30.69	142	*eP*	P	07 13 50.8	+1.3
	comp=Z,21nm,1.1s						
CMAR	Chiang Mai Arr	30.70	300	P	P	07 13 49.

comp=N,640nm,16.2s
XAN LR LR
comp=E,280nm,19.9s
XAN LR LR
comp=Z,300nm,17.4s
CD2 Chengdu 34.41 324 ⇑P **P** **07 14 22.2 +0.1**
CD2 pP **pP** **07 14 31.9 +0.1**
CD2 sP **sP** **07 14 35.8 0.0**
CD2 PcP **PcP** **07 16 57.2 -0.1**
CD2 S **S** **07 19 47.5 -0.6**
CD2 sS **sS** **07 20 03.5 -0.6**
CD2 PcS **PcS** **07 20 42.5 -1.3**
CD2 SS **SnSn** **07 21 59.3 -0.8**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,140nm,7.0s
CD2 LR LR
comp=N,390nm,22.0s
CD2 LR LR
comp=E,460nm,17.6s
CD2 LR LR
comp=Z,570nm,18.4s
FORT Forrest 34.58 178 *e*P **P** **07 14 23.0 -0.3**
comp=Z,35nm,0.8s
HNR Honiara 35.74 112 LR LR 07 28 33.9
comp=Z,491nm,19.8s,baz=66,slow=35
KLBR Kellerberrin 36.37 193 *e*P **P** **07 14 38.3 -0.5**
comp=Z,42nm,0.8s
BJT Baijiatuau 37.12 347 *e*P **P** **07 14 45.3 +0.3**
comp=Z,81nm,0.8s
BJI Beijing 37.14 347 P P **07 14 45.4 +0.2**
BJI pP **pP** **07 14 55.4 +0.4**
BJI sP **sP** **07 14 59.8 +0.8**
BJI S **S** **07 20 31.1 +1.6**
BJI pmax pmax
comp=Z,120nm,1.0s
BJI pmax pmax
comp=Z,510nm,3.9s
BJI LR LR
comp=N,140nm,23.6s
BJI LR LR
comp=E,650nm,21.8s
BJI LR LR
comp=Z,190nm,26.0s
EIDS Eidsvold 37.58 142 *e*P **P** **07 14 48.5 -0.6**
comp=Z,36nm,1.0s
BBOO Buckleboo 37.65 167 *e*P **P** **07 14 49.6 0.0**
comp=Z,1μm,1.1s
NWAO Narrogin (SRO) 37.77 193 *e*P **P** **07 14 50.5 -0.1**
NWAO Narrogin (SRO) 37.77 193 P **P** **07 14 49.8 -0.9**
comp=Z,38nm,0.9s,baz=27,slow=10.0,SNR=17
SNY Shenyang 37.80 356 ⇑P **P** **07 14 51.6 +0.9**
SNY S **S** **07 20 43.7 +4.4**
SNY pmax pmax
comp=Z,39nm,1.0s
SNY LR LR
comp=N,370nm,21.6s
SNY LR LR
comp=E,490nm,19.2s
SNY LR LR
comp=Z,380nm,16.3s
LZH Lanzhou 38.27 330 P P **07 14 55.5 +0.5**
LZH pP **pP** **07 15 06.1 +1.3**
LZH sP **sP** **07 15 10.4 +1.6**
LZH pmax pmax
comp=Z,230nm,1.1s
LZH pmax pmax
comp=Z,360nm,4.0s
LZH LR LR
comp=N,1μm,17.0s
LZH LR LR
comp=E,1μm,19.2s
LZH LR LR
comp=Z,1μm,20.1s
STKA Stephens Creek 38.37 159 *e*P **P** **07 14 55.8 0.0**
STKA *e*PcP **PcP** **07 17 09.4 +0.4**
STKA Stephens Creek 38.37 159 *e*P **P** **07 14 56.2 +0.5**
comp=Z,58nm,1.0s
STKA Stephens Creek 38.37 159 P **P** **07 14 55.3 -0.4**
comp=Z,69nm,1.0s,baz=336,slow=8.2,SNR=59
STKA LR LR 07 32 00.6
comp=Z,305nm,21.0s,baz=346,slow=38
HHC Hu-ho-hao-te 39.15 342 *i* P **P** **07 15 03.0 +0.7**
HHC pP **pP** **07 15 12.8 +0.7**
HHC sP **sP** **07 15 17.0 +0.8**
HHC PP **PnPn** **07 16 37.7 +2.5**
HHC S **S** **07 21 01.0 +0.8**
HHC SS **SS** **07 23 46.3 -7.5**
HHC ScS **ScS** **07 25 07.2 -1.9**
HHC pmax pmax
comp=Z,52nm,1.0s
HHC pmax pmax
comp=Z,260nm,5.5s
HHC LR LR
comp=N,610nm,11.2s
HHC LR LR
comp=E,530nm,12.6s
VLA Vladivostok 39.26 6⇑ *i*P **P** **07 15 03.0 0.0**
VLA *i* 07 16 33.0
VLA *e* 07 17 10.6
VLA S **S** **07 21 02.2 +0.8**
VLA pmax pmax
comp=Z,83nm,1.5s
CN2 Changchun 39.68 359 *e*P **P** **07 15 06.2 -0.3**
CN2 *e*pP **pP** **07 15 16.0 -0.3**
CN2 *e*PP **PnPn** **07 16 42.7 +1.4**
CN2 PcP **PcP** **07 17 12.8 -0.1**
CN2 *e*S **S** **07 21 08.3 +0.5**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,21.0s
CN2 LR LR
comp=E,400nm,21.0s
CN2 LR LR
comp=Z,200nm,22.0s
USRK Ussuriysk Arra 40.34 6 P **P** **07 15 11.8 -0.2**
comp=Z,13nm,0.8s,baz=190,slow=7.5,SNR=21
MDJ Mudanjiang 40.56 3 P **P** **07 15 15.1 +1.3**
MDJ pP **pP** **07 15 24.4 +0.7**
MDJ sP **sP** **07 15 28.6 +0.9**
MDJ PP **PP** **07 16 49.1 +1.4**
MDJ PcP **PcP** **07 17 16.5 +0.8**
MDJ ScP **ScP** **07 21 03.8 +1.0**
MDJ PcS **PcS** **07 21 07.3 +1.1**
MDJ S **S** **07 21 22.6 +1.7**
MDJ ScS **ScS** **07 25 18.2 +1.2**
MDJ pmax pmax
comp=Z,68nm,1.0s
MDJ pmax pmax
comp=Z,140nm,6.0s
MDJ LR LR
comp=N,130nm,25.1s
MDJ LR LR
comp=E,270nm,25.5s
MDJ LR LR
comp=Z,180nm,23.0s
MDJ Mudanjiang 40.56 3 *e*P **P** **07 15 14.5 +0.7**
comp=Z,82nm,1.0s
ARMA Armidale 41.70 147 *e*P **P** **07 15 24.5 +0.9**
comp=Z,46nm,1.0s
ARMA Armidale 41.70 147 *e*P **P** **07 15 24.7 +1.2**
LSA Lhasa 42.24 311 *e*P **P** **07 15 28.4 0.0**
LSA pmax pmax
comp=Z,62nm,0.6s
LSA Lhasa 42.24 311 *e*P **P** **07 15 28.4 0.0**
comp=Z,62nm,0.6s
ASAJ Asahikawa 42.38 17 P **P** **07 15 28.5 -0.2**
ASAJ Asahikawa 42.38 17 P **P** **07 15 28.5 -0.2**
comp=Z,8.6nm,0.4s,baz=256,slow=16,SNR=8.6
ASAJ LR LR 07 34 20.6
comp=Z,601nm,18.7s,baz=138,slow=38
GTA Gaotai 42.86 329 ⇑P **P** **07 15 32.7 -0.2**
GTA pP **pP** **07 15 44.3 +1.5**
GTA sP **sP** **07 15 48.1 +1.3**
GTA PcP **PcP** **07 17 24.7 +1.1**
GTA S **S** **07 21 55.6 +0.2**
GTA sS **sS** **07 22 10.3 -1.4**
GTA SS SS 07 24 59.5 -8.1
GTA pmax pmax
comp=Z,33nm,0.8s
GTA pmax pmax
comp=Z,150nm,4.8s
GTA LR LR
comp=N,770nm,22.3s
GTA LR LR
comp=E,960nm,21.4s
GTA LR LR
comp=Z,1μm,20.7s
YUK Yuzh-Kuril'sk 43.35 20 P **P** **07 15 33.6 -3.0**
YUK *i* 07 17 14.6
YUK *e*S **S** **07 22 01.6 -0.5**
YUK MLR MLR
comp=N,275nm,22.0s
YUK MLR MLR
comp=E,128nm,18.0s
YUK MLR MLR
comp=Z,355nm,22.0s
TAPN Taplejung 43.83 306 *e*P **P** **07 15 40.6 -0.5**
comp=Z,115nm,0.7s
ODAN Odare 43.88 305 *e*P **P** **07 15 41.0 -0.5**
comp=Z,116nm,0.8s
CAN Canberra 44.35 154 *e*P **P** **07 15 44.8 0.0**
CAN pmax pmax
comp=Z,115nm,1.2s
CAN Canberra 44.35 154 *e*P **P** **07 15 44.8 0.0**
comp=Z,115nm,1.2s
CNB Canberra Magne 44.51 153 *e*P **P** **07 15 47.4 +1.3**
comp=Z,170nm,1.0s
RAMN Ramite 44.56 305 *e*P **P** **07 15 46.6 -0.3**
comp=Z,129nm,0.9s
TOO Toolangi 44.88 159 *e*P **P** **07 15 50.7 +1.7**
comp=Z,147nm,1.2s
HABR Khabarovsk 44.92 8 *e*P **P** **07 15 48.3 -0.8**
HABR *e**PP **pP** **07 15 57.3 -1.7**
HABR *e* 07 17 27.7
HABR *e*PPP PPP 07 18 11.6
HABR *e*S **S** **07 22 25.1 +0.3**
HABR *e**SS **sS** **07 22 41.0 -0.2**
HABR *e* 07 25 41.4
HABR pmax pmax
comp=Z,138nm,1.9s
HABR pmax pmax
comp=E,123nm,2.5s
HABR pmax pmax
comp=N,61nm,1.9s
HABR MLR MLR
comp=Z,276nm,18.0s
YSS Yuzh-Sakhalins 45.03 16⇑ *e*P **P** **07 15 51.0 +1.0**
YSS *e* 07 15 56.0
YSS *e* 07 16 07.0
JIRN Jiri 45.18 306 *e*P **P** **07 15 51.5 -0.5**
comp=Z,20nm,0.6s
KLR Kul'dur 45.30 5 *e*P P 07 15 48.8 -3.3
KLR pmax pmax
comp=Z,110nm,1.6s
HIA Hailar 45.52 354 *e*P **P** **07 15 54.6 +0.7**
comp=Z,149nm,1.0s
GUN Gumba 45.54 306 *e*P **P** **07 15 54.1 -0.7**
comp=Z,158nm,0.8s
PKI Pulchoki 45.78 305 *e*P **P** **07 15 55.6 -1.1**
KKN Kakani 45.97 305 *e*P **P** **07 15 57.2 -0.9**
DMN Daman 46.04 305 *e*P **P** **07 15 57.8 -0.9**
comp=Z,138nm,1.1s
GKN Gorkha 46.58 305 *e*P **P** **07 16 01.7 -1.1**
DZM Mont Dzumac 46.72 125 *e*P **P** **07 16 04.1 +0.3**
DZM Mont Dzumac 46.72 125 *e*P **P** **07 16 03.2 -0.7**
comp=Z,34nm,0.9s
ULN Ulaanbaatar 46.87 342 *e*P **P** **07 16 05.1 +0.4**
comp=Z,54nm,1.0s
ULN Ulaanbaatar 46.87 342 P **P** **07 16 04.7 0.0**
comp=Z,57nm,1.1s,comp=Z,601nm
SONM Songino Array 47.05 341 P **P** **07 16 05.8 -0.3**
SONM PcP **PcP** **07 17 37.6 -0.3**
SONM Songino Array 47.05 341 P **P** **07 16 05.8 -0.3**
comp=Z,24nm,0.9s,baz=157,slow=7.4,SNR=120
SONM PcP **PcP** **07 17 37.6 -0.3**
comp=Z,10.0nm,0.8s,baz=160,slow=5.0,SNR=6.4
SONM LR LR 07 37 33.8
comp=Z,375nm,19.5s,baz=268,slow=38
KOLN Koldanda 47.34 305 *e*P **P** **07 16 08.3 -0.5**
comp=Z,99nm,0.5s
DANN Dangsing 47.43 305 *e*P **P** **07 16 08.8 -0.8**
comp=Z,164nm,0.8s
HYB Hyderabad 48.98 290 *i* P **P** **07 16 19.5 -1.9**
CIT Chita 49.12 349 *e*P **P** **07 16 20.9 -1.0**
CIT *e* 07 16 32.1
CIT *e* 07 16 37.8
CIT pmax pmax
comp=Z,442nm,1.4s
TLY Talaya 51.28 342*c i*P **P** **07 16 38.9 +0.6**
TLY pmax pmax
comp=Z,29nm,0.8s
TLY Talaya 51.28 342 *e*P **P** **07 16 39.1 +0.9**
comp=Z,31nm,0.7s
TLY Talaya 51.28 342 P **P** **07 16 39.8 +1.5**
comp=Z,275nm,0.8s,SNR=14
IRK Irkutsk 51.58 343 *e*P **P** **07 16 40.4 -0.1**
IRK pmax pmax
comp=Z,108nm,2.0s
MOY Mondy 52.14 340 *e*P **P** **07 16 45.6 +0.8**
MOY pmax pmax
comp=Z,56nm,2.0s
WMQ Urumqi 52.49 325 P **P** **07 16 47.1 -0.4**
WMQ pP **pP** **07 16 57.0 -0.6**
WMQ sP **sP** **07 17 01.0 -0.6**
WMQ PcP **PcP** **07 17 57.0 -0.8**
WMQ *e*S **S** **07 24 10.0 -1.9**
WMQ pmax pmax
comp=Z,51nm,1.1s
WMQ pmax pmax
comp=Z,320nm,4.8s
WMQ LR LR
comp=N,1μm,18.2s
WMQ LR LR
comp=E,700nm,17.4s
WMQ LR LR
comp=Z,1μm,21.8s
CLNS Chul'man 52.74 359 *e*P **P** **07 16 50.0 +1.0**
CLNS *e* 07 17 56.1
CLNS *e* 07 18 50.9
CLNS *e*PPP PPP 07 19 54.8
CLNS *e*S **S** **07 24 17.4 +2.7**
CLNS pmax pmax
comp=Z,42nm,1.0s
CLNS pmax pmax
comp=N,27nm,1.1s
CLNS pmax pmax
comp=E,12nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,1.2s
CLNS pmax pmax
comp=N,7.0nm,1.3s
CLNS pmax pmax
comp=Z,10.0nm,1.3s
CLNS smax smax
comp=E,124nm,16.7s
CLNS smax smax
comp=N,163nm,17.9s
CLNS MLR MLR
comp=E,209nm,16.0s
CLNS MLR MLR
comp=N,131nm,16.0s
CLNS MLR MLR
comp=Z,90nm,20.0s
BOD Bodaibo 54.62 352 *e*P **P** **07 17 03.1 +0.4**
BOD pmax pmax
comp=Z,53nm,1.2s
MSVF Nonsavu 55.07 115 *e*P **P** **07 17 07.4 +0.6**
MSVF pmax pmax
comp=Z,41nm,1.1s
MSVF Nonsavu 55.07 115 *e*P **P** **07 17 07.4 +0.6**
comp=Z,41nm,1.1s
PETK Petropavlovsk- 55.23 22 P **P** **07 17 07.5 +0.3**
PETK pmax pmax
comp=Z,9.0nm,0.5s
PETK Petropavlovsk- 55.23 22 P **P** **07 17 07.5 +0.3**
PETK Petropavlovsk- 55.23 22 P **P** **07 17 07.5 +0.3**
comp=Z,9.1nm,0.5s,baz=190,slow=4.5,SNR=22
MK31 Makanchi Array 57.33 325 *e*P **P** **07 17 21.8 -0.6**
MK31 pmax pmax
comp=Z,40nm,0.7s
MK31 Makanchi Array 57.33 325 *e*P **P** **07 17 21.8 -0.6**
MK31 *e*PcP **PcP** **07 18 16.5 +0.3**
MKAR Makanchi Array 57.33 325 P **P** **07 17 21.9 -0.5**
MKAR 07 18 16.1
MKAR pmax pmax
comp=Z,26nm,0.5s
MKAR pmax pmax
comp=Z,16nm,0.7s
MKAR pmax pmax
comp=N,3.0nm,0.8s
MKAR MLR MLR
comp=Z,696nm,19.4s
MKAR Makanchi Array 57.33 325 P **P** **07 17 21.9 -0.5**
MKAR PcP **PcP** **07 18 16.1 -0.1**
MKAR ScP **ScP** **07 22 15.4 +1.6**
MKAR Makanchi Array 57.33 325 P **P** **07 17 21.9 -0.5**
comp=Z,26nm,0.5s,baz=119,slow=8.0,SNR=461
MKAR PcP **PcP** **07 18 16.1 -0.1**
comp=Z,16nm,0.7s,baz=128,slow=5.0,SNR=6.5
MKAR ScP **ScP** **07 22 15.4 +1.6**
comp=Z,2.8nm,0.8s,baz=129,slow=3.9,SNR=7.8
MKAR LR LR 07 44 00.1
comp=Z,696nm,19.4s,baz=249,slow=38
KSH Kashi 57.83 315 P **P** **07 17 26.7 +0.5**
KSH pP **pP** **07 17 36.6 +0.2**
KSH sP **sP** **07 17 40.7 +0.4**
KSH PcP **PcP** **07 18 18.1 -0.4**
KSH PP **PP** **07 19 36.6 +2.0**
KSH ScP **ScP** **07 22 15.2 -1.1**
KSH PcS **PcS** **07 22 18.1 -1.8**
KSH S **S** **07 25 22.5 -1.2**
KSH sS **sS** **07 25 39.4 -1.1**
KSH ScS **ScS** **07 27 09.8 -3.8**
KSH SS **SS** **07 29 15.5 +0.7**
KSH LR LR
comp=N,160nm,6.1s
KSH LR LR
comp=E,160nm,5.6s
KSH LR LR
comp=Z,460nm,21.6s
YAK Yakutsk 57.97 2*c i*P **P** **07 17 26.8 +0.3**
YAK *e**PP pP 07 17 43.1 +6.4
YAK *e* 07 18 18.6
YAK *e* 07 19 35.9
YAK *e*S **S** **07 25 22.1 -2.3**
YAK *e* 07 27 15.1
YAK pmax pmax
comp=Z,158nm,0.9s
YAK pmax pmax
comp=E,8.0nm,0.9s
YAK pmax pmax
comp=N,72nm,1.0s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.6s
YAK pmax pmax
comp=Z,13nm,0.8s
YAK smax smax
comp=N,118nm,13.0s
YAK smax smax
comp=E,27nm,6.9s
YAK Yakutsk 57.97 2 *e*P **P** **07 17 26.7 +0.1**
comp=E,98nm,0.6s
YAK *e*PcP **PcP** **07 18 19.1 +0.7**
ULHL Ulahol 58.80 318 P **P** **07 17 34.9 +1.8**
SNR=6.8
KZA Kyzart 59.40 317 P **P** **07 17 37.7 +0.2**
SNR=45
TKM2 Tokmak 2 59.53 318 *i* P **P** **07 17 37.6 -0.5**
TKM2 Tokmak 2 59.53 318 *e*P **P** **07 17 37.6 -0.5**
comp=E,51nm,1.0s
TKM2 Tokmak 2 59.53 318 P **P** **07 17 37.6 -0.5**
SNR=30
KBK Karagaybulak 59.84 318 P **P** **07 17 41.8 +1.6**
SNR=16
UCH Uchtor 59.96 317 P **P** **07 17 41.9 +0.6**
SNR=14
CHMS Chumysh 60.12 318 P **P** **07 17 41.2 -0.7**
SNR=9.9
AAK Ala-Archa 60.14 318 *i* P **P** **07 17 41.8 -0.4**
AAK Ala-Archa 60.14 318 *e*P **P** **07 17 41.8 -0.4**
comp=E,187nm,1.3s
AAK *e*PcP **PcP** **07 18 28.0 +0.3**
AAK Ala-Archa 60.14 318 P **P** **07 17 42.4 +0.2**
comp=E,111nm,1.1s,SNR=10
AAK Ala-Archa 60.14 318 P **P** **07 17 41.9 -0.3**
SNR=17
FRU Bishkek 60.14 318 *e*P **P** **07 17 40.0 -2.1**
ZAA0 Zalesovo Array 60.35 333 *e*P **P** **07 17 42.0 -1.2**
ZAA0 *e*PcP **PcP** **07 18 27.1 -0.9**
ZAA0 *e*PP **PP** **07 19 56.5 0.0**
ZALV Zalesovo Beam 60.35 333 P **P** **07 17 42.0 -1.2**
ZALV 07 18 27.0
ZALV 07 19 54.9
ZALV pmax pmax
comp=Z,20nm,0.4s
ZALV pmax pmax
comp=Z,15nm,1.0s
ZALV pmax pmax
comp=Z,8.0nm,1.0s
ZALV MLR MLR
comp=Z,266nm,19.8s
ZALV Zalesovo Beam 60.35 333 P **P** **07 17 42.0 -1.2**
ZALV PcP **PcP** **07 18 27.0 -1.1**
ZALV PP **PP** **07 19 54.9 -1.5**
ZALV ⇑*e* 07 47 13.4
ZALV Zalesovo Beam 60.35 333 P **P** **07 17 42.0 -1.2**
comp=Z,20nm,0.4s,baz=133,slow=6.5,SNR=99
ZALV PcP **PcP** **07 18 27.0 -1.1**
comp=Z,15nm,1.0s,baz=145,slow=3.6,SNR=4.8
ZALV PP **PP** **07 19 54.9 -1.5**
comp=Z,8.4nm,1.0s,baz=120,slow=8.8,SNR=4.6
ZALV LR LR 07 45 06.6
comp=Z,266nm,19.8s,baz=224,slow=37
ZALV PKP2bc 07 47 13.4
comp=Z,0.5nm,0.3s,baz=298,slow=3.1,SNR=4.3
USP Ospenovka 60.40 318 P **P** **07 17 43.2 -0.6**
SNR=59
AML Almayashu 60.47 317 P **P** **07 17 44.7 -0.1**
SNR=50
EKS2 Erkin-Say 60.63 318 *e*P **P** **07 17 45.3 -0.2**
EKS2 Erkin-Say 60.63 318 *e*P **P** **07 17 45.3 -0.2**
EKS2 Erkin-Say 60.63 318 P **P** **07 17 45.1 -0.4**
SNR=43
KURBB Kurchatov Arra 61.51 327 PKP2bc **P'P'bc** **07 47 08.7 -4.8**
comp=Z,0.4nm,0.2s,baz=303,slow=3.3,SNR=4.3
KURK Kurchatov 61.51 327*ce*P **P** **07 17 50.4 -0.7**
KURK pmax pmax
comp=Z,89nm,0.8s
KURK Kurchatov 61.51 327 *e*P **P** **07 17 50.4 -0.7**
comp=Z,62nm,0.7s
KURK ⇑*e* 07 47 08.7
NVS Novosibirsk 61.63 333 *e*P **P** **07 17 50.8 -1.1**
NVS pmax pmax
comp=Z,44nm,1.0s
NVS pmax pmax
comp=N,17nm,0.8s
NVS pmax pmax
comp=E,18nm,1.0s
SEY Seymchan 61.81 13*ce*P **P** **07 17 52.9 0.0**
FX1 Attu Island--F 61.91 30 P **P** **07 17 53.2 -0.5**
FX1 Attu Island--F 61.91 30 P **P** **07 17 53.2 -0.5**
comp=E,40nm,1.0s,baz=240,slow=20,SNR=2.8
RPZ Rata Peaks 61.99 145 *e*P **P** **07 17 53.9 -0.6**
comp=E,28nm,0.8s
URZ Urewera 62.76 137 *e*P **P** **07 17 59.9 +0.2**
comp=E,21nm,0.8s
KK31 Karatay Array 63.02 317 *i* P **P** **07 18 00.6 -0.8**
KK31 pmax pmax
comp=Z,48nm,0.8s
KKAR Karatay Array 63.02 317 *e*P **P** **07 18 00.8 -0.7**
KKAR Karatay Array 63.02 317 *e*P **P** **07 18 00.8 -0.7**
BVA0 Borovoye Array 67.09 327 *i* P **P** **07 18 26.7 -1.0**
BVA0 pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 67.16 327*ce*P **P** **07 18 27.3 -0.8**
BRVK pmax pmax
comp=Z,56nm,1.0s
BRVK Borovoye 67.16 327 *e*P **P** **07 18 27.4 -0.7**
comp=Z,48nm,0.9s
BRVK Borovoye 67.16 327 P **P** **07 18 27.7 -0.4**
comp=Z,308nm,1.3s,SNR=44
BILL Bilibino 69.34 15⇑ *e*P **P** **07 18 41.5 0.0**
BILL *e* 07 21 12.9
BILL *e*S **S** **07 27 46.9 +1.2**
BILL pmax pmax
comp=Z,21nm,1.7s
BILL MLR MLR
comp=Z,300nm,18.0s
BILL Bilibino 69.34 15 *e*P **P** **07 18 40.9 -0.5**
comp=Z,15nm,1.1s

ABKT Ailbek 70.70 309 P P 07 18 50.4 -0.1
comp=Z,236nm,1.1s,SNR=5.7
AB31 Akbulak array 71.93 321 *i* P P 07 18 56.6 -1.0
AB31 pmax pmax
comp=Z,9.0nm,0.5s
ABKAR Akbulak array 71.93 321 *e*P P 07 18 56.6 -1.0
comp=Z,51nm,1.0s
UNV Unalaska Valle 73.26 35 *e*P P 07 19 05.6 +0.2
comp=Z,57nm,1.1s
AKTO Aktyubinsk 73.44 322 P P 07 19 05.9 -0.7
AKTO pmax pmax
comp=Z,11nm,0.9s
SVE Sverdlovsk 73.73 328⇓ *e*P P 07 19 07.7 -0.4
SVE pmax pmax
comp=Z,58nm,1.0s
GAMB Gambell 74.20 24 *e*P P 07 19 10.9 +0.2
comp=Z,42nm,1.0s
ARU Arti 74.70 328 *c i*P P 07 19 12.7 -1.1
ARU 07 21 55.3
ARU S S 07 28 46.3 -1.3
ARU pmax pmax
comp=Z,43nm,0.8s
ARU Arti 74.70 328 *e*P P 07 19 13.0 -0.8
comp=Z,36nm,0.7s
ARU Arti 74.70 328 P P 07 19 13.1 -0.7
comp=Z,318nm,0.6s,SNR=7.2
SOKR Solikamsk 76.47 331⇓ *i*P P 07 19 23.7 -0.1
SOKR pmax pmax
comp=Z,40nm,1.5s
SDPT Sand Point 77.03 34 *e*P P 07 19 26.6 -0.5
comp=Z,68nm,0.8s
QRN Al-Qurain 78.24 298 *e*P P 07 19 33.6 -0.9
QRN AMb AMB 07 19 34.3
comp=Z,145nm,0.9s
MIB Mutribah 78.78 299 *e*P P 07 19 36.3 -1.1
MIB AMb AMB 07 19 37.7
comp=Z,125nm,0.9s
NAY Al-Naaiem 78.85 299 *e*P P 07 19 36.2 -1.6
NAY AMb AMB 07 19 38.0
comp=Z,52nm,1.0s
ABPO Ambohimpanom 81.33 250 *e*P P 07 19 51.0 -0.6
ABPO pmax pmax
comp=Z,18nm,0.9s
ABPO Ambohimpanom 81.33 250 *e*P P 07 19 51.0 -0.6
comp=Z,18nm,0.9s
BHD Baghdad 81.39 303 *ex* P 07 19 48.7 -2.7
BHD *ex* S 07 29 52.8 -7.8
KDAK Kodiak Island 81.72 32 P P 07 19 52.6 0.0
KDAK Kodiak Island 81.72 32 P P 07 19 52.6 0.0
comp=Z,42nm,1.0s,baz=270,slow=2.0,SNR=9.3
ZEI Tsey 82.01 312 *e*P P 07 19 54.2 -0.6
ZEI pmax pmax
comp=Z,38nm,1.0s
HAKT HAKKARI 82.02 307 *i* P P 07 19 55.0 0.0
KIV Kislovodsk 82.93 314 *e*P P 07 20 00.5 +1.1
KIV pmax pmax
comp=Z,17nm,0.9s
SLKM Skilak Lake 83.17 30 *e*P P 07 20 00.2 0.0
SLKM Skilak Lake 83.17 30 *e*P P 07 20 00.2 0.0
TRF Thorofare Moun 83.35 27 *e*P P 07 20 00.7 -0.6
comp=Z,62nm,1.1s
RC01 Rabbit Creek A 83.44 29 *e*P P 07 20 01.5 -0.1
comp=Z,55nm,0.9s
ARTV Artvin 83.45 311 *i* P P 07 20 03.4 +1.1
VNDA Vanda 83.67 173 *e*P P 07 20 02.9 +0.5
comp=Z,37nm,1.0s
COLD Coldfoot 83.70 23 *e*P P 07 20 04.3 +1.6
comp=Z,79nm,1.1s
PMR Palmer 83.76 29 *e*P P 07 20 03.2 0.0
PMR pmax pmax
comp=Z,83nm,1.1s
PMR Palmer 83.76 29 *e*P P 07 20 03.2 0.0
comp=Z,83nm,1.1s
VRHR Novokhopersk 83.82 321 *e*P P 07 20 02.2 -1.5
VRHR pmax pmax
comp=Z,40nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,0.9s
ERZM Erzurum 83.87 310 *i* P P 07 20 04.8 +0.2
MCK McKinley 83.98 26 *e*P P 07 20 04.5 +0.2
MCK pmax pmax
comp=Z,152nm,1.5s
MCK McKinley 83.98 26 *e*P P 07 20 04.5 +0.2
comp=Z,152nm,1.5s
SML Sawmill 84.16 28 *e*P P 07 20 05.8 +0.6
SML pmax pmax
comp=Z,36nm,1.3s
SML Sawmill 84.16 28 *e*P P 07 20 05.8 +0.6
comp=Z,36nm,1.3s
COLA College 84.50 25 *e*P P 07 20 06.6 -0.2
COLA pmax pmax
comp=Z,5.0nm,0.7s
COLA College 84.50 25 *e*P P 07 20 06.6 -0.2
comp=Z,5.1nm,0.7s
ILAR Eielson Array 84.91 25 P P 07 20 08.2 -0.7
ILAR Eielson Array 84.91 25 P P 07 20 08.2 -0.7
comp=Z,7.2nm,1.0s,baz=250,slow=2.9,SNR=43
KLMR Klimovskoe 85.17 331 *c i*P P 07 20 10.0 -0.3
KLMR pmax pmax
comp=Z,459nm,1.3s
VORD Divnogorie 85.29 321 *e*P P 07 20 10.1 -1.0
VSR Storozhevoye 85.36 321 *e*P P 07 20 10.1 -1.4
VSR pmax pmax
comp=Z,50nm,0.9s
VSR pmax pmax
comp=N,9.0nm,0.8s
VSR pmax pmax
comp=E,50nm,1.3s
DIV Divide 85.37 29 *e*P P 07 20 12.8 +1.4
comp=E,211nm,1.5s
KELT Kelkit 85.49 310 *i* P P 07 20 12.7 +0.1
PAX Paxson 85.52 27 *e*P P 07 20 12.4 +0.3
PAX pmax pmax
comp=Z,42nm,1.4s
PAX Paxson 85.52 27 *e*P P 07 20 12.4 +0.3
comp=Z,42nm,1.4s
BMRM Bremner River 85.94 29 *e*P P 07 20 15.2 +1.0
comp=Z,38nm,1.0s
KEMA Kemaliye 86.10 309 *i* P P 07 20 15.5 -0.1
DOT Dot Lake 86.14 27 *e*P P 07 20 16.3 +1.1
comp=Z,4.3nm,1.0s
MOS Moscow 86.21 325 *e*P P 07 20 14.4 -1.2
MOS pmax pmax
comp=Z,277nm,1.3s
MOS pmax pmax
comp=Z,500nm,1.6s
MENT Mentasta 86.32 27 *e*P P 07 20 16.6 +0.6
AKCD Akcadag 86.58 308 *i* P P 07 20 19.0 +0.9
ANN Anapa 86.69 315 *e*P P 07 20 16.9 -1.3
ANN pmax pmax
comp=Z,79nm,1.0s
OBN Obninsk 86.83 325⇑ *e*P P 07 20 18.1 -0.5
OBN pmax pmax
comp=Z,306nm,1.7s
OBN MLR MLR
comp=Z,400nm,17.0s
OBN Obninsk 86.83 325 *e*P P 07 20 18.1 -0.5
comp=Z,239nm,1.3s
OBN Obninsk 86.83 325 P P 07 20 18.7 +0.1
comp=Z,810nm,1.3s,SNR=6.0
GZT Gaziantep 86.91 307 *i* P P 07 20 19.5 -0.1
LVZ Lovozero 87.11 338 *e*P P 07 20 21.7 +1.9
LVZ pmax pmax
comp=Z,96nm,2.5s
LVZ Lovozero 87.11 338 *e*P P 07 20 19.9 +0.1
APA Apatity 87.61 337⇓ *i*P P 07 20 23.0 +0.8
APA pmax pmax
comp=Z,58nm,1.2s
APA MLR MLR
comp=Z,1μm,19.0s
ANDN Andirin 87.86 307 *i* P P 07 20 25.8 +1.6
JOF Joensuu 88.94 333 *e*P P 07 20 27.6 -0.9
JOF pmax pmax
comp=Z,74nm,0.9s
JOF Joensuu 88.94 333 *ep* P 07 20 27.6 -0.9
comp=Z,74nm,0.9s
KMBO Kilima Mbogo 89.50 269 *e*P P 07 20 32.7 +0.2
comp=Z,146nm,0.1s
KEV Kevo 89.65 340 *e*P P 07 20 30.3 -1.4
KEV Kevo 89.65 340 *ep* P 07 20 30.3 -1.4
BR131 Keskin Array S 89.82 310 *e*P P 07 20 32.0 -1.4
comp=Z,16nm,0.9s
BRTR Keskin Array B 89.82 310 P P 07 20 32.0 -1.4
BRTR PP PP 07 23 57.6 -8.4

BRTR Keskin Array B 89.82 310 P P 07 20 32.0 -1.4
comp=Z,14nm,0.8s,baz=118,slow=4.7,SNR=51
BRTR PP PP 07 23 57.6 -8.4
comp=Z,1.1nm,0.8s,baz=66,slow=4.9,SNR=3.6
BALT Daday 89.86 311 *i* P P 07 20 32.9 -0.7
INK Inuvik 89.96 21 *e*P P 07 20 33.0 -0.2
comp=Z,18nm,1.3s
ARCES ARCESS Array B 90.20 340 P P 07 20 33.7 -0.7
ARCES ARCESS Array B 90.20 340 P P 07 20 33.7 -0.7
comp=Z,17nm,0.8s,baz=83,slow=6.1,SNR=54
KAF Kangasniemi 91.36 332 *e*P P 07 20 37.8 -2.0
KAF pmax pmax
comp=Z,40nm,0.8s
KAF Kangasniemi 91.36 332 *ep* P 07 20 37.8 -2.0
comp=Z,40nm,0.8s
FINES FINESS Array B 91.59 332 P P 07 20 40.2 -0.7
FINES FINESS Array B 91.59 332 P P 07 20 40.2 -0.7
comp=Z,19nm,0.7s,baz=85,slow=6.3,SNR=39
AKASG Malin Array Be 91.67 321 *ce*P P 07 20 40.2 -1.3
AKASG pmax pmax
comp=Z,24nm,0.8s
AKASG Malin Array Be 91.67 321 P P 07 20 40.3 -1.2
AKASG Malin Array Be 91.67 321 P P 07 20 40.3 -1.2
comp=Z,24nm,0.8s,baz=72,slow=4.3,SNR=50
AKBB Malin Array Si 91.67 321 *e*P P 07 20 40.1 -1.5
AKBB Malin Array Si 91.67 321 *e*P P 07 20 40.0 -1.5
KIEV Kiev 91.68 321 *e*P P 07 20 40.1 -1.5
KIEV pmax pmax
comp=Z,48nm,1.3s
KIEV Kiev 91.68 321 *e*P P 07 20 40.0 -1.5
comp=Z,48nm,1.3s
HENT Hendek 91.80 311 *i* P P 07 20 41.2 -1.2
MICGM Minsk 91.89 325⇓ *i*P P 07 20 40.0 -2.5
MNK Minsk 91.92 325⇓ *i*P P 07 20 40.0 -2.6
MNK pmax pmax
comp=Z,300nm,0.9s
IDID Didziasalis 92.40 326 *e*P P 07 20 44.4 -0.4
IDID AMB AMB 07 20 46.1
comp=Z,24nm,0.9s
IDID Didziasalis 92.40 326 *e*P P 07 20 44.4 -0.4
IDID AMB AMB 07 20 46.1
comp=Z,24nm,0.9s
IZAR Zarasai 92.60 326 *e*P P 07 20 45.3 -0.4
IZAR AMB AMB 07 20 46.9
comp=Z,23nm,1.1s
IZAR Zarasai 92.60 326 *e*P P 07 20 45.3 -0.4
IZAR AMB AMB 07 20 46.9
comp=Z,23nm,1.1s
SYO Syowa Base 92.63 201⇑ *e*X P 07 20 43.4 -2.1
SYO Syowa Base 92.63 201⇓ *e*X pP 07 20 54.5 -1.7
IIGN Ignalina 92.69 326 *e*P P 07 20 45.7 -0.5
IIGN AMB AMB 07 20 47.4
comp=Z,18nm,0.9s
IIGN Ignalina 92.69 326 *e*P P 07 20 45.7 -0.5
IIGN AMB AMB 07 20 47.4
comp=Z,18nm,0.9s
ISAL Salakas 92.70 326 *e*P P 07 20 45.7 -0.5
ISAL AMB AMB 07 20 47.3
comp=Z,13nm,1.0s
ISAL Salakas 92.70 326 *e*P P 07 20 45.7 -0.5
ISAL AMB AMB 07 20 47.3
comp=Z,13nm,1.0s
QSPA South Pole Qui 93.88 180 *e*P P 07 20 52.0 +0.5
comp=Z,38nm,1.2s
QSPA South Pole Qui 93.88 180 P P 07 20 52.2 +0.7
comp=Z,19nm,1.0s,baz=328,slow=2.6,SNR=28
TESR 94.02 317⇓ *i*P P 07 20 52.3 -0.2
VRI Vrincioaia 94.08 316 ⇓P P 07 20 53.0 +0.2
VRI Vrincioaia 94.08 316 ⇓*i*P P 07 20 53.0 +0.2
PLOR Plostina 94.14 316 ⇓P P 07 20 53.1 0.0
PLOR Plostina 94.14 316 ⇓*i*P P 07 20 53.1 0.0
MLR Muntele Rosu 94.69 316 ⇓*i*P P 07 20 55.6 -0.2
MLR Muntele Rosu 94.69 316 LR LR 08 07 47.5
comp=Z,121nm,21.0s,baz=126,slow=38
SUW Suwalki 94.69 325 *e*P P 07 20 54.7 -0.7
SUW Suwalki 94.69 325 *e*P P 07 20 54.7 -0.7
SUW Suwalki 94.69 325 *e*P P 07 20 54.7 -0.7
SUW Suwalki 94.69 325 *e*P P 07 20 55.0 -0.4
comp=Z,221nm,1.0s
BURAR Bucovina Array 94.78 318⇑ *i*P P 07 20 56.3 +0.2
BUR08 Bucovina Ar. S 94.79 318 *e*P P 07 20 55.7 -0.4
LVV L'vov 95.11 321 *e*P P 07 20 55.9 -1.5
VOIR 95.32 316 ⇓P P 07 20 59.2 +0.6
VOIR 95.32 316 ⇓*i*P P 07 20 59.2 +0.6
BMR Baia Mare 95.91 319 P P 07 21 01.5 +0.4
KWP Kalwaria Pacla 95.98 321 *e*P P 07 21 01.6 +0.1
KWP Kalwaria Pacla 95.98 321 *e*P P 07 21 01.6 +0.1
KWP Kalwaria Pacla 95.98 321 ⇓P P 07 21 01.5 +0.1
KWP Kalwaria Pacla 95.98 321 *e*P P 07 21 01.3 -0.2
comp=Z,62nm,1.0s
KWP Kalwaria Pacla 95.98 321 ⇓*i*P P 07 21 01.5 +0.1
LOT Lotru 96.20 316⇑ *i*P P 07 21 02.9 +0.3
KOLS Kolonicke sedl 96.42 320 *e*P P 07 21 03.3 -0.2
KOLS pmax pmax
comp=Z,13nm,1.1s
KOLS Kolonicke sedl 96.42 320 *e*P P 07 21 03.3 -0.2
TRPA Tarpa 96.44 319⇑ *i*P P 07 21 03.4 -0.1
TRPA Tarpa 96.44 319 ⇑P P 07 21 03.2 -0.3
UZH Uzhgorod 96.48 320⇑ *i*P P 07 21 03.5 -0.2
UZH *e* 07 21 12.3
UZH *e* 07 21 17.1
DRGR 96.62 318 ⇑P P 07 21 04.2 -0.3
DRGR 96.62 318⇑ *i*P P 07 21 04.2 -0.3
BEL Belsk 96.63 323 *e*P P 07 21 04.5 +0.2
BEL Belsk 96.63 323 *e*P P 07 21 04.5 +0.2
BEL Belsk 96.63 323 *e*P P 07 21 04.5 +0.2
GZR Gura Zlata 96.89 316 ⇓P P 07 21 05.4 -0.3
GZR Gura Zlata 96.89 316 ⇓*i*P P 07 21 05.4 -0.3
CRVS Cervenica-Dubn 96.95 320 *e*P P 07 21 06.1 +0.3
CRVS pmax pmax
comp=Z,53nm,1.0s
CRVS Cervenica-Dubn 96.95 320 *e*P P 07 21 06.1 +0.3
DAG Danmarks Havn 97.01 352⇑ *i*P P 07 21 04.7 -0.8
DAG pmax pmax
comp=Z,17nm,0.9s
DAG Danmarks Havn 97.01 352⇑ *i*P P 07 21 04.7 -0.8
comp=Z,170nm,0.9s
VTS Vitosha 97.19 314 ⇓P P 07 21 06.6 -0.6
VTS Vitosha 97.19 314 ⇓*i*P P 07 21 06.6 -0.6
NIE Niedzica 97.55 321 *e*P P 07 21 08.1 -0.5
NIE Niedzica 97.55 321 *e*P Pdif 07 21 08.9 +0.3
BZS Buzias 97.64 317 ⇑P P 07 21 08.0 -1.0
BZS Buzias 97.64 317⇑ *i*P P 07 21 08.0 -1.0
OJC Ojcow 97.66 322 *e*P P 07 21 08.1 -0.9
OJC Ojcow 97.66 322 *e*P P 07 21 08.8 -0.2
PSZ Piszkesteto 98.21 319 ⇓P P 07 21 11.4 -0.2
PSZ Piszkesteto 98.21 319 *e*P P 07 21 10.9 -0.7
comp=Z,26nm,1.3s
PSZ Piszkesteto 98.21 319 ⇓*i*P P 07 21 11.4 -0.2
PSZ Piszkesteto 98.21 319 ⇑P P 07 21 11.2 -0.4
GKP Gorka Klasztor 98.30 325 *e*P Pdif 07 21 11.8 0.0
GKP Gorka Klasztor 98.30 325 *e*P Pdif 07 21 11.8 0.0
GKP Gorka Klasztor 98.30 325 *e*P Pdif 07 21 11.8 0.0
NB2 NORSAR Subarra 98.55 334 P P 07 21 11.2 -1.6
ba=68,slow=4.6
NB2 NORSAR Subarra 98.55 334 P P 07 21 11.2 -1.6
comp=Z,6.1nm,0.7s,baz=68,slow=4.6
NOA NORSAR Array B 98.55 334 P P 07 21 11.6 -1.2
NOA NORSAR Array B 98.55 334 P P 07 21 11.6 -1.2
comp=Z,5.1nm,0.7s,baz=67,slow=4.6,SNR=24
VYHS Vyhne 98.74 320 *e*P P 07 21 13.5 -0.4
VYHS pmax pmax
comp=Z,6.0nm,1.1s
VYHS Vyhne 98.74 320 PDIF P 07 21 13.5 -0.4
OKC Ostrava-Krasne 98.79 322 *e*P P 07 21 13.8 -0.3
OKC Ostrava-Krasne 98.79 322 *e*PDIFF P 07 21 13.8 -0.3
BUD Budapest 98.89 319 ⇑*e*Pdiff P 07 21 13.6 -1.0
MORC Moravsky Berou 99.18 322 *e*P Pdif 07 21 15.7 -0.2
MORC *e**PP pP 07 21 25.4 -1.2
MORC *e*SP sP 07 21 30.4 0.0
MORC pmax pmax
comp=Z,16nm,1.0s
MORC Moravsky Berou 99.18 322 *e*P Pdif 07 21 15.7 -0.2
comp=Z,16nm,1.0s
MORC *e*pP pP 07 21 25.4 -1.2
MORC *e*sP sP 07 21 30.4 0.0
MORC Moravsky Berou 99.18 322 ⇓*i*P Pdif 07 21 15.9 0.0
YKA Yellowknife Ar 99.31 24 P Pdif 07 21 15.3 -0.7
YKA Yellowknife Ar 99.31 24 P Pdif 07 21 15.3 -0.7
comp=Z,1.0nm,0.8s,baz=300,slow=4.5,SNR=20
PKSM Moragy 99.49 318 ⇑P Pdif 07 21 16.7 -0.6
PKSM Moragy 99.49 318⇑ *i*P Pdif 07 21 16.7 -0.6
PKSM Moragy 99.49 318 ⇑*e*Pdiff Pdif 07 21 16.6 -0.7

KSP Ksiaz 99.62 323 *e*P Pdif 07 21 17.6 -0.1
KSP Ksiaz 99.62 323 *e*P Pdif 07 21 17.6 -0.1
KSP Ksiaz 99.62 323 *e*P Pdif 07 21 17.8 +0.1
DPC Dobruska-Polom 99.75 322 *e*P Pdif 07 21 18.6 +0.2
DPC Dobruska-Polom 99.75 322 *e*PDIFF Pdif 07 21 18.6 +0.2
UPC Upice 99.89 323 *e*P Pdif 07 21 18.8 -0.2
UPC Upice 99.89 323 *e*PDIFF Pdif 07 21 18.8 -0.2
VRAC Vranov 99.91 321⇓ *i*P Pdif 07 21 19.4 +0.3
SOP Sopron 100.43 320⇓ *e*Pdiff Pdif 07 21 21.5 +0.1
RUE Ruedersdorf 100.54 325 *e*Pdiff Pdif 07 21 22.6 +0.8
RUE Ruedersdorf 100.54 325 *e*Pdif Pdif 07 21 22.4 +0.6
comp=Z,34nm,0.8s
TREC Trest 100.60 322 *e*P Pdif 07 21 22.3 +0.1
TREC Trest 100.60 322 *e*PDIFF Pdif 07 21 22.3 +0.1
BEHE Becsehely 100.66 319 ⇑e Pdif 07 21 12.3 -10
PVCC Panska Ves 100.75 323 *e*P Pdif 07 21 23.2 +0.4
PVCC Panska Ves 100.75 323 *e*PDIFF Pdif 07 21 23.2 +0.4
PRU Pruhonice 100.95 322 *e*P Pdif 07 21 24.2 +0.5
PRU Pruhonice 100.95 322 *e*PDIFF Pdif 07 21 24.2 +0.5
BRG Berggiesshubel 101.01 323 *i* P Pdif 07 21 24.1 +0.2
comp=Z,29nm,0.9s
BRG Berggiesshubel 101.01 323 *e*Pdiff Pdif 07 21 24.6 +0.7
BRG Berggiesshubel 101.01 323 *i* P Pdif 07 21 24.1 +0.2
BRG pmax pmax
comp=Z,29nm,1.0s
FBE Freiberg 101.34 324 *e*Pdiff Pdif 07 21 26.3 +0.9
CLL Collm 101.41 324 *e*Pdiff Pdif 07 21 26.0 +0.3
CLL Collm 101.41 324 *i* P Pdif 07 21 25.7 0.0
CLL pmax pmax
comp=Z,14nm,0.9s
CLL Collm 101.41 324 *i* Pdif Pdif 07 21 25.7 0.0
comp=Z,14nm,0.9s
CLL *e*pPdif pP 07 21 37.0 +0.4
KHC Kasperske Hory 101.84 322 *e*P Pdif 07 21 27.9 +0.2
KHC Kasperske Hory 101.84 322 *e*PDIFF Pdif 07 21 27.9 +0.2
KHC *e*pP pP 07 21 32.8 -5.9
MOA Moln 101.84 320⇓ *i*P Pdif 07 21 28.2 +0.4
comp=Z,22nm,1.2s
MOA Moln 101.84 320⇓ *i*Pdiff Pdif 07 21 28.2 +0.4
comp=Z,22nm,1.2s
GEC2 GERESS Array S 101.86 322 *e*Pdiff Pdif 07 21 28.3 +0.4
GERES GERESS Array B 101.86 322 P Pdif 07 21 27.9 0.0
GERES PP PP 07 25 40.0 +1.2
GERES GERESS Array B 101.86 322 P Pdif 07 21 27.9 0.0
comp=Z,7.4nm,0.9s,baz=59,slow=5.1,SNR=29
GERES PP PP 07 25 40.0 +1.2
comp=Z,1.1nm,0.8s,baz=54,slow=6.8,SNR=4.1
TANN Tannenbergstha 102.06 323 *e*Pdiff Pdif 07 21 29.2 +0.5
NKC Novy Kostel 102.13 323 *e*P Pdif 07 21 29.2 +0.2
NKC Novy Kostel 102.13 323 *e*PDIFF Pdif 07 21 29.2 +0.2
WERD Werda 102.14 323 *e*Pdiff Pdif 07 21 29.5 +0.5
GUNZ Gunzan 102.15 323 *e*Pdiff Pdif 07 21 29.8 +0.7
WERN Wernitzgruen 102.15 323 *e*Pdiff Pdif 07 21 29.8 +0.7
NEUB Neuenburg 102.16 324 *e*Pdiff Pdif 07 21 29.7 +0.7
PLN Plauen 102.21 324 *e*Pdiff Pdif 07 21 29.9 +0.6
WET Wettzell 102.26 322 *e*Pdiff Pdif 07 21 30.3 +0.7
ROTZ Rotzenmuhle 102.45 323 *e*Pdiff Pdif 07 21 31.5 +1.1
MOX Moxa 102.47 324 *e*Pdiff Pdif 07 21 31.0 +0.5
NRDL Niedersach Rie 102.61 326 *e*Pdiff Pdif 07 21 32.0 +1.1
CLZ Clausthal 102.72 325 *e*Pdiff Pdif 07 21 32.7 +1.1
GRF Grafenberg Arr 103.07 323 *e*Pdiff Pdif 07 21 33.9 +0.8
ABTA Abfaltersbach 103.34 320⇑ *i*P Pdif 07 21 34.0 -0.6
comp=Z,12nm,1.2s
ABTA Abfaltersbach 103.34 320⇑ *i*Pdiff Pdif 07 21 34.0 -0.6
comp=Z,12nm,1.2s
UBBA Unterbreizbach 103.35 324 *e*Pdiff Pdif 07 21 35.6 +1.4
WTTA Wattenberg 103.72 321⇑ *i*P Pdif 07 21 35.7 -0.7
WTTA pmax pmax
comp=Z,16nm,1.1s
WTTA Wattenberg 103.72 321⇑ *i*P Pdif 07 21 35.6 -0.7
comp=Z,16nm,1.1s
WTTA Wattenberg 103.72 321⇑ *i*Pdiff Pdif 07 21 35.6 -0.7
comp=Z,16nm,1.1s
MOTA Moosalm 104.03 321⇑ *i*P Pdif 07 21 37.5 -0.2
MOTA pmax pmax
comp=Z,14nm,1.0s
MOTA Moosalm 104.03 321⇑ *i*P Pdif 07 21 37.5 -0.2
comp=Z,14nm,1.0s
MOTA Moosalm 104.03 321⇑ *i*Pdiff Pdif 07 21 37.5 -0.2
comp=Z,14nm,1.0s
FETA Feichten 104.38 321⇑ *i*P Pdif 07 21 39.7 +0.5
comp=Z,12nm,1.1s
FETA Feichten 104.38 321⇑ *i*Pdiff Pdif 07 21 39.7 +0.5
comp=Z,12nm,1.1s
NVAR Mina Array Bea 106.79 48 PP PP 07 26 19.3 +3.3
NVAR PKKPbc **PKKPbc** 07 37 19.8 0.0
NVAR PKKPab **PKKPdf** 07 37 33.3 +1.3
NVAR Mina Array Bea 106.79 48 PP PP 07 26 19.3 +3.3
comp=Z,0.7nm,0.8s,baz=327,slow=1.5,SNR=2.7
NVAR PKKPbc **PKKPbc** 07 37 19.8 0.0
comp=Z,0.5nm,0.7s,baz=157,slow=4.8,SNR=4.2
NVAR PKKPab **PKKPdf** 07 37 33.3 +1.3
comp=Z,1.4nm,0.8s,baz=144,slow=4.7,SNR=7.9
B15A Bradely Ranch, 106.83 37 ⇑P PKiKP 07 26 00.0 0.0
baz=107
J13A Cove Ranch, Pi 107.89 42 ⇓P PKiKP 07 26 03.1 +0.9
baz=108
B19A Brinkman Farms 108.89 35 ⇑P PKiKP 07 26 04.7 +0.9
baz=109
C22A Vida 111.02 35 ⇑P PKiKP 07 26 08.2 +0.4
baz=111
D22A Cohagen 111.16 36 ⇑P PKiKP 07 26 08.9 +0.9
baz=111
PDAR Pinedale Array 111.22 41 PKiKP PKiKP 07 26 08.7 +0.1
PDAR PKKPbc **PKKPbc** 07 37 03.7 -2.2
PDAR PKKPab **PKKPab** 07 37 13.6 -1.8
PDAR Pinedale Array 111.22 41 PKiKP PKiKP 07 26 08.7 +0.1
comp=Z,0.8nm,0.9s,baz=132,slow=2.2,SNR=5.1
PDAR PKKPbc **PKKPbc** 07 37 03.7 -2.2
comp=Z,0.5nm,0.9s,baz=124,slow=4.8,SNR=3.4
PDAR PKKPab **PKKPab** 07 37 13.6 -1.8
comp=Z,2.7nm,0.9s,baz=125,slow=5.3,SNR=18
FRB Frobisher Bay 111.50 7 PKKPab PKKPab 07 37 10.6 -3.1
FRB Frobisher Bay 111.50 7 PKKPab PKKPab 07 37 10.6 -3.1
comp=Z,1.3nm,0.8s,baz=53,slow=1.1,SNR=3.4
I20A Worland 111.58 39 ⇓P PKiKP 07 26 10.0 +0.9
baz=111
K19A Absolon Red Bu 111.65 41 ⇓P PKiKP 07 26 09.8 +0.4
baz=112
J20A Shoshoni 111.89 40 ⇓P PKiKP 07 26 09.7 -0.1
baz=112
S16A Weppner Ranch, 111.97 47 ⇑P PKiKP 07 26 10.9 +0.8
baz=112
O18A Roosevelt 112.03 44 ⇑P PKiKP 07 26 11.0 +0.9
baz=112
I21A Big Trails, Te 112.18 39 ⇓P PKiKP 07 26 10.8 +0.6
baz=112
F23A Volborg 112.36 37 ⇑P PKiKP 07 26 11.2 +0.7
baz=112
K21A Alcova 112.78 40 ⇓P PKiKP 07 26 11.7 +0.2
baz=113
J22A Midwest 112.89 39 ⇓P PKiKP 07 26 11.6 0.0
baz=113
N20A Spence Gulch, 112.96 42 ⇓P PKiKP 07 26 12.3 +0.3
baz=113
L21A Rawlins 113.02 41 ⇓P PKiKP 07 26 12.2 +0.2
baz=113
Q19A Hogan Spring (113.12 45 ⇓P PKiKP 07 26 13.3 +1.1
baz=113
S18A Hurst Farm, Bl 113.14 46 ⇓P PKiKP 07 26 13.3 +0.9
baz=113
M21A Separation Pea 113.20 41 ⇓P PKiKP 07 26 13.1 +0.7
baz=113
H24A Dirks Ranch, A 113.39 37 ⇓P PKiKP 07 26 12.6 +0.1
baz=113
P20A De Beque 113.48 44 ⇑P PKiKP 07 26 14.0 +1.1
baz=113
N21A Black Mountain 113.50 42 ⇑P PKiKP 07 26 14.0 +1.0
baz=113
PV01 Paradox Valley 113.97 45 *e*PKPdf PKiKP 07 26 15.3 +1.3
R20A Redvale 114.08 45 ⇑P PKPdf 07 26 15.0 +0.9
baz=114
S20A Disappointment 114.25 45 ⇑P PKPdf 07 26 15.5 +0.9
baz=114
MVCO Mesa Verde 114.43 46 ⇑P PKPdf 07 26 16.7 +1.9
baz=114
P22A Eagle 114.56 43 ⇓P PKPdf 07 26 16.0 +0.9
baz=114
S21A Coal Bank Pass 114.73 45 ⇓P PKPdf 07 26 16.8 +1.3
baz=115
O23A Lake Granby, G 114.83 42 ⇓P PKPdf 07 26 16.2 +0.5
baz=115
W20A Ramah 115.32 48 ⇑P **PKPdf** 07 26 16.9 +0.2
baz=115
S22A 4UR Ranch, Cre 115.37 45 ⇓P **PKPdf** 07 26 18.3 +1.5

	baz=115							
U21A	Nageezi	115.38	46	⇓P		PKPdf	07 26 18.4	+1.7
	baz=115							
T22A	Edith	115.66	46	⇑P		PKPdf	07 26 18.7	+1.4
	baz=116							
Y20A	Horse Springs,	115.92	49	⇓P		PKPdf	07 26 19.2	+1.3
	baz=116							
U22A	Llaves	115.98	46	⇑P		PKPdf	07 26 19.7	+1.8
	baz=116							
O25A	Wiggins	116.07	41	⇑P		PKPdf	07 26 19.0	+1.1
	baz=116							
X21A	Alamocita Cree	116.14	49	⇑P		PKPdf	07 26 19.0	+0.7
	baz=116							
V22A	San Miguel Ran	116.15	47	⇑P		PKPdf	07 26 19.7	+1.4
	baz=116							
319A	Douglas	116.24	52	⇑P		PKPdf	07 26 19.5	+1.1
	baz=116							
SDCO	Great Sand Dun	116.30	44	⇓P		PKPdf	07 26 19.5	+1.0
	baz=116							
P25A	Willow Gulch B	116.35	42	⇓P		PKPdf	07 26 19.3	+0.9
	baz=116							
Y21A	Point of Rocks	116.41	49	⇑P		PKPdf	07 26 20.2	+1.5
	baz=116							
U23A	El Rito	116.48	46	⇓P		PKPdf	07 26 19.2	+0.3
	baz=116							
Q25A	Bedland, Calha	116.59	43	⇓P		PKPdf	07 26 19.8	+0.8
	baz=116							
320A	Kipp Ranch, An	116.85	52	⇓P		PKPdf	07 26 20.9	+1.3
	baz=117							
P26A	Davis Ranch, A	116.87	42	⇓P		PKPdf	07 26 20.4	+1.0
	baz=117							
R25A	Fountain Ranch	116.95	43	⇓P		PKPdf	07 26 20.5	+0.9
	baz=117							
Z22A	Elephant Butte	117.27	49	⇑P		PKPdf	07 26 21.4	+1.0
	baz=117							
X23A	Hourglass Bar	117.27	48	⇑P		PKPdf	07 26 21.8	+1.4
	baz=117							
V24A	Rampart Ranch,	117.42	46	⇓P		PKPdf	07 26 22.1	+1.5
	baz=117							
R26A	Arlington	117.44	43	⇑P		PKPdf	07 26 21.4	+0.9
	baz=117							
W24A	Lazy 6 Ranch,	117.56	47	⇓P		PKPdf	07 26 22.4	+1.4
	baz=117							
222A	Williams Famil	117.65	51	⇑P		PKPdf	07 26 22.6	+1.5
	baz=118							
Y23A	Lovelace Mesa,	117.66	48	⇓P		PKPdf	07 26 22.2	+1.1
	baz=118							
S26A	Kim	117.77	44	⇑P		PKPdf	07 26 22.0	+0.9
	baz=118							
V25A	Rancho No Teng	117.83	46	⇑P		PKPdf	07 26 22.7	+1.3
	baz=118							
R27A	Eads	117.89	43	⇑P		PKPdf	07 26 22.3	+0.9
	baz=118							
T26A	Comanche Natio	117.91	44	⇑P		PKPdf	07 26 22.6	+1.0
	baz=118							
Y24A	Capitan	118.12	48	⇓P		PKPdf	07 26 23.1	+1.1
	baz=118							
U26A	Atchley Ranch,	118.18	45	⇑P		PKPdf	07 26 23.5	+1.4
	baz=118							
W25A	X Bar L Ranch,	118.24	46	⇓P		PKPdf	07 26 23.2	+1.0
	baz=118							
Z24A	Sheeppen Canyo	118.44	49	⇑P		PKPdf	07 26 23.3	+0.6
	baz=118							
T27A	Campo	118.57	44	⇑P		PKPdf	07 26 23.8	+1.1
	baz=118							
ECSD	EROS Data Cent	118.62	34	ℯPKPdf		PKPdf	07 26 22.6	+0.1
ECSD				ℯSKPdf		SKPdf	07 29 54.7	-1.0
Y25A	Mesa, Roswell	118.67	48	⇑P		PKPdf	07 26 24.0	+1.0
	baz=118							
W26A	Owens Ranch, T	118.80	46	⇑P		PKPdf	07 26 24.2	+1.0
	baz=119							
T28A	Walsh	118.95	43	⇓P		PKPdf	07 26 24.1	+0.6
	baz=119							
MNTX	Cornudas Mount	119.14	50	⇓P		PKPdf	07 26 25.0	+1.2
	baz=119							
BGNE	Belgrade	119.14	37	⇑P		PKPdf	07 26 23.4	-0.2
	baz=119							
324A	Moseley Ranch,	119.17	51	⇓P		PKPdf	07 26 25.0	+1.0
	baz=119							
225A	Deer Hill, Car	119.39	50	⇓P		PKPdf	07 26 25.4	+0.9
	baz=119							
Z26A	Caprock	119.50	48	⇓P		PKPdf	07 26 24.6	0.0
	baz=119							
325A	Bean Ranch, Si	119.60	50	⇑P		PKPdf	07 26 25.0	+0.1
	baz=120							
Y27A	Causey	119.81	47	⇓P		PKPdf	07 26 25.7	+0.5
	baz=120							
425A	Indio Mountain	119.84	51	⇑P		PKPdf	07 26 25.8	+0.5
	baz=120							
226A	Malaga, Loving	119.96	49	⇑P		PKPdf	07 26 26.0	+0.6
	baz=120							
Z27A	Tatum	120.04	48	⇑P		PKPdf	07 26 26.0	+0.4
	baz=120							
MSTX	Muleshoe	120.06	47	⇑P		PKPdf	07 26 26.3	+0.6
	baz=120							
X28A	Dimmitt	120.20	46	⇓P		PKPdf	07 26 26.5	+0.6
	baz=120							
SCHQ	Schefferville	120.34	9	PKP		PKPdf	07 26 25.6	+0.2
SCHQ	Schefferville	120.34	9	PKP		PKPdf	07 26 25.6	+0.2
	comp=Z,3.6nm,0.8s,baz=275,slow=1.9,SNR=9.6							
326A	Caldwell Ranch	120.39	50	⇑P		PKPdf	07 26 26.9	+0.6
	baz=120							
Y28A	McKinney Farm,	120.47	47	⇓P		PKPdf	07 26 27.1	+0.7
	baz=120							
X29A	Tulia	120.60	46	⇓P		PKPdf	07 26 27.5	+0.8
	baz=120							
426A	McDonald Obser	120.63	51	⇓P		PKPdf	07 26 27.5	+0.5
	baz=120							
Y29A	Porterfield Fa	120.91	46	⇓P		PKPdf	07 26 28.2	+0.9
	baz=121							
128A	Castleberry Fa	120.91	48	⇑P		PKPdf	07 26 28.0	+0.7
	baz=121							
427A	Hayter Ranch,	121.04	50	⇑P		PKPdf	07 26 28.3	+0.8
	baz=121							
626A	Big Bend Ranch	121.04	52	⇓P		PKPdf	07 26 28.2	+0.6
	baz=121							
Z29A	Hungry Hill Ra	121.18	47	⇓P		PKPdf	07 26 28.5	+0.7
	baz=121							
527A	Woodward Ranch	121.19	51	⇓P		PKPdf	07 26 28.8	+0.8
	baz=121							
328A	Wristen Ranch,	121.25	50	⇑P		PKPdf	07 26 28.5	+0.6
	baz=121							
129A	Stewart Farms,	121.36	48	⇑P		PKPdf	07 26 28.7	+0.6
	baz=121							
TXAR	Lajitas Array	121.50	52	PKP		PKPdf	07 26 29.1	+0.6
TXAR	Lajitas Array	121.50	52	PKP		PKPdf	07 26 29.1	+0.6
	comp=Z,2.9nm,1.0s,baz=298,slow=0.9,SNR=16							
428A	Kincaid Ranch,	121.64	50	⇓P		PKPdf	07 26 29.9	+1.1
	baz=122							
627A	Terlingua Ranc	121.67	52	⇓P		PKPdf	07 26 29.7	+0.8
	baz=122							
528A	Cox Ranch, San	121.82	51	⇑P		PKPdf	07 26 30.3	+1.2
	baz=122							
628A	Black Gap, Mar	122.04	52	⇑P		PKPdf	07 26 30.1	+0.7
	baz=122							
TOA0	Torodi Ar. Sit	122.79	288	ℯPKPdf		PKPdf	07 26 30.6	-0.6
TORD	Torodi Ar. Bea	122.79	288	PKP		PKPdf	07 26 30.4	-0.8
TORD				PP		PP	07 28 05.7	-3.7
TORD	Torodi Ar. Bea	122.79	288	PKP		PKPdf	07 26 30.4	-0.8
	comp=Z,4.4nm,0.7s,baz=48,slow=2.0,SNR=31							
TORD				PP		PP	07 28 05.7	-3.7
	comp=Z,1.7nm,1.1s,baz=66,slow=4.1,SNR=2.3							
JCT	Junction City	123.95	49	ℯPKIKP		PKPdf	07 26 33.8	+0.7
JCT	Junction City	123.95	49	ℯPKPdf		PKPdf	07 26 33.8	+0.7
JCT	Junction City	123.95	49	⇓P		PKPdf	07 26 33.8	+0.7
	baz=124							
WHTX	Lake Whitney	124.91	46	⇑P		PKPdf	07 26 35.7	+0.9
	baz=125							
FVM	French Village	125.92	36	ℯPKIKP		PKPdf	07 26 37.0	+0.4
FVM	French Village	125.92	36	ℯPKPdf		PKPdf	07 26 37.0	+0.4
MIAR	Mount Ida	126.14	41	ℯPKIKP		PKPdf	07 26 38.3	+1.2
MIAR	Mount Ida	126.14	41	ℯPKPdf		PKPdf	07 26 38.3	+1.2
OLIL	Olney	126.73	34	ℯPKPdf		PKPdf	07 26 37.0	-1.1
OLIL				ℯSKPdf		SKPdf	07 30 09.9	-1.3
HKT	Hockley	127.17	47	ℯPKIKP		PKPdf	07 26 40.8	+1.7
HKT	Hockley	127.17	47	ℯPKPdf		PKPdf	07 26 40.8	+1.7
HKT				ℯPP		PP	07 28 31.4	-6.4
PLAL	Pickwick Lake	129.34	37	ℯPKPdf		PKPdf	07 26 43.1	-0.1
DBIC	Dimbokro	130.47	282	PKP		PKPdf	07 26 46.1	+0.2
DBIC	Dimbokro	130.47	282	PKP		PKPdf	07 26 46.1	+0.2
	comp=Z,2.8nm,0.7s,baz=133,slow=2.0,SNR=3.6							
CMIG	Matias Romero	133.94	62	PKP		PKPdf	07 26 54.0	+1.7
CMIG	Matias Romero	133.94	62	PKP		PKPdf	07 26 54.0	+1.7
	comp=Z,4.7nm,1.0s,baz=289,slow=2.6,SNR=4.1							
PLCA	Paso Flores	140.25	159	PKP		PKPdf	07 27 03.5	0.0
PLCA	Paso Flores	140.25	159	PKP		PKPdf	07 27 03.5	0.0
	comp=Z,5.8nm,1.0s,baz=154,slow=2.7,SNR=4.0							
TRQA	Tornquist	145.16	168	ℯPKPbc		PKPdf	07 27 12.3	+0.1
JTS	JuntasAbangare	145.47	66	PKPbc		PKPab	07 27 13.8	+0.2
JTS	JuntasAbangare	145.47	66	PKPbc		PKPab	07 27 13.8	+0.2
	comp=Z,27nm,1.0s,baz=304,slow=4.6,SNR=10							
CFAA	Coronel Fontan	149.14	155	PKP		PKPdf	07 27 17.4	-1.6
CFAA				PKPbc		PKPbc	07 27 23.6	+0.3
CFAA	Coronel Fontan	149.14	155	PKP		PKPdf	07 27 17.4	-1.6
	comp=Z,2.2nm,1.0s,baz=243,slow=4.9,SNR=5.6							
CFAA				PKPbc		PKPbc	07 27 23.6	+0.3
	comp=Z,1.6nm,0.8s,baz=226,slow=2.8,SNR=19							
LCO	Las Campanas	150.13	148	ℯPKPbc		PKPbc	07 27 27.0	+0.9
SDDR	Presa de Saban	151.14	37	ℯPKPbc		PKPbc	07 27 29.5	+1.1
ATAH	Atahualpa	154.86	98	PKP		PKPdf	07 27 30.4	+1.8
ATAH				PKPbc		PKiKP	07 27 39.2	+2.0
ATAH	Atahualpa	154.86	98	PKP		PKPdf	07 27 30.4	+1.8
	comp=Z,6.8nm,1.0s,baz=266,slow=23,SNR=4.9							
ATAH				PKPbc		PKiKP	07 27 39.2	+2.0
	comp=Z,9.8nm,0.8s,baz=278,slow=0.5,SNR=5.6							
ROSC	El Rosal	157.26	68	PKP		PKPdf	07 27 32.6	+0.9
ROSC	El Rosal	157.26	68	PKP		PKPdf	07 27 32.6	+0.9
	comp=Z,4.0nm,0.9s,baz=288,slow=9.6,SNR=4.2							
CPUP	Villa Florida	157.44	171	PKPab		PKPab	07 28 03.6	+1.3
CPUP	Villa Florida	157.44	171	PKPab		PKPab	07 28 03.6	+1.3
	comp=Z,14nm,0.7s,baz=160,slow=3.4,SNR=28							
SDV	Santo Domingo	158.54	53	ℯPKPdf		PKPdf	07 27 33.5	+0.5
SDV				ℯPKPab		PKPab	07 28 09.1	+1.2
BDFB	Brasilia	167.28	204	PKPab		PKPab	07 28 44.7	-1.2
BDFB	Brasilia	167.28	204	PKPab		PKPab	07 28 44.7	-1.2
	comp=Z,2.8nm,0.9s,baz=114,slow=8.0,SNR=5.1							

IDC 12 07:13:34.1±1.1, 3.96N×126.64E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/19, mbtmp3.8/5, Error ellipse: s-maj=81.1km s-min=20.6km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.93	163	P	P	07 19 00.2	+0.9
	2.8nm,0.6s						
STKA	Stephens Creek	38.38	159	P	P	07 20 56.2	-1.0
	2.3nm,0.7s,baz=338,slow=6.2,SNR=2.6						
SONM	Songino Array	47.05	341	P	P	07 22 07.4	-0.2
	0.4nm,0.7s,baz=141,slow=8.4,SNR=2.1						
MKAR	Makanchi Array	57.31	325	P	P	07 23 23.9	-0.1
	0.6nm,0.4s,baz=118,slow=7.5,SNR=7.2						
ILAR	Eielson Array	84.93	25	P	P	07 26 11.1	+0.2
	0.4nm,0.8s,baz=265,slow=5.0,SNR=3.4						

IDC 12 07:16:42.2±1.3, 3.86N×126.24E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.9/7, Error ellipse: s-maj=194.0km s-min=16.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.96	162	P	P	07 22 06.4	-1.2
	2.0nm,0.7s						
ASAR	Alice Springs	28.36	165	P	P	07 22 39.3	+1.0
	0.3nm,0.6s,baz=343,slow=8.6,SNR=2.3						
STKA	Stephens Creek	38.42	159	P	P	07 24 05.9	+0.1
	0.9nm,0.4s,baz=336,slow=10.0,SNR=2.8						
SONM	Songino Array	47.02	342	P	P	07 25 16.1	+0.6
	0.3nm,0.5s,baz=154,slow=6.0,SNR=2.8						
MKAR	Makanchi Array	57.17	325	P	P	07 26 31.2	+0.1
	0.9nm,0.5s,baz=122,slow=7.9,SNR=7.8						
ZALV	Zalesovo Beam	60.25	333	P	P	07 26 51.2	-1.1
	0.7nm,0.3s,baz=139,slow=6.0,SNR=2.7						
KURBB	Kurchatov Arra	61.37	328	P	P	07 27 00.1	+0.2
	0.7nm,0.3s,baz=121,slow=6.4,SNR=6.0						

IDC 12 07:18:41.9±1.0, 23.38S×114.44W, h0km, mb3.9/4, mb1 4.3/4, mb1mx4.0/14, mbtmp3.9/4, MS4.2/4, Ms1 4.1/4, ms1mx3.8/20, Error ellipse: s-maj=57.0km s-min=31.0km az=61.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBI	Tubuai	32.10	263	ℯLR	LR	07 32 58.6	
	419nm,26.2s,baz=89						
PPT2	Papeete2	33.36	273	ℯLR	LR	07 33 31.4	
	496nm,27.2s						
PLCA	Paso Flores	40.56	126	P	P	07 26 23.1	-0.2
	2.7nm,0.9s,baz=264,slow=12,SNR=4.8						
PLCA				LR	LR	07 39 06.1	
	comp=Z,402nm,18.2s,baz=80,slow=30						
RAR	Rarotonga	41.87	264	LR	LR	07 40 10.5	
	comp=Z,226nm,19.9s,baz=102,slow=31						
CPUP	Villa Florida	51.55	106	LR	LR	07 47 05.6	
	comp=Z,166nm,18.9s,baz=295,slow=33						
NVAR	Mina Array Bea	61.59	357	P	P	07 29 01.4	0.0
	2.1nm,0.9s,baz=208,slow=8.2,SNR=6.0						
BDFB	Brasilia	62.63	96	LR	LR	07 54 12.3	
	comp=Z,156nm,19.4s,baz=262,slow=34						
PDAR	Pinedale Array	65.97	4	P	P	07 29 30.4	+0.1
	1.0nm,0.9s,baz=143,slow=5.2,SNR=4.3						
YKA	Yellowknife Ar	85.58	360	P	P	07 31 21.4	-0.2
	3.0nm,1.0s,baz=175,slow=4.9,SNR=15						
ZALV	Zalesovo Beam	86.21	339	PKPbc	PKPdf	07 38 23.4	+0.4
	6.5nm,1.0s,baz=33,slow=3.5,SNR=13						
CMAR	Chiang Mai Arr	148.48	267	PKPbc	PKPbc	07 38 30.7	-0.7
	2.8nm,0.7s,baz=90,slow=2.2,SNR=15						
BRTR	Keskin Array B	148.51	51	PKPbc	PKPbc	07 38 30.6	-0.5
	4.0nm,1.0s,baz=300,slow=2.8,SNR=9.9						
BVAR	Borovoye Array	150.18	354	PKPbc	PKPbc	07 38 32.6	-2.0
	3.1nm,1.0s,baz=357,slow=2.9,SNR=5.7						
KURBB	Kurchatov Arra	150.99	343	PKP	PKPdf	07 38 31.5	+0.6
	0.8nm,0.3s,baz=26,slow=1.7,SNR=3.1						
KURBB				PKPbc	PKiKP	07 38 37.7	+0.6
	2.6nm,0.7s,baz=19,slow=2.1,SNR=9.3						
MKAR	Makanchi Array	153.04	334	PKPbc	PKPbc	07 38 40.0	-1.4
	0.7nm,0.9s,baz=46,slow=5.2,SNR=5.1						

IDC 12 07:23:51.6±1.2, 3.67N×126.42E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/20, mbtmp3.9/6, Error ellipse: s-maj=110.3km s-min=18.0km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	21.65	182	P	P	07 28 44.7	+0.9
	1.6nm,0.4s,baz=0.0,slow=11,SNR=4.3						
WRA	Warramunga Arr	24.72	162	P	P	07 29 14.1	-0.8
	102nm,1.3s,baz=0.0,slow=0.0,SNR=4.0						
ASAR	Alice Springs	28.13	165	P	P	07 29 45.8	+0.1
	0.2nm,0.3s,baz=350,slow=8.5,SNR=3.5						
STKA	Stephens Creek	38.19	159	P	P	07 31 13.0	-0.1
	5.4nm,0.6s,baz=333,slow=8.4,SNR=12						
SONM	Songino Array	47.26	342	P	P	07 32 27.6	+0.8
	0.2nm,0.4s,baz=160,slow=8.9,SNR=2.3						
MKAR	Makanchi Array	57.43	325	P	P	07 33 41.3	-0.9
	0.5nm,0.6s,baz=139,slow=7.9,SNR=2.8						

TEH 12 07:25:18.8, 31.76N×56.22E, h3km, ML3.5
CSEM 12 07:25:18.2±0.2, 31.76N×56.23E, h2km, ML3.5, Error ellipse: s-maj=6.1km s-min=3.8km az=168.0

ISC 12 07:25:18.4±1.4, 31.77N±0.06×56.20E±0.03, h4km±13km, n16, σ0s69/26, 2C, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBAF	Bafgh	0.57	251	ℯPg	Pg	07 25 29.1	-0.3
IBAF				ℯSg	Sg	07 25 36.9	0.0
IBAF				ℯ		07 25 37.3	
	comp=Z,50μm,0.1s						
IBAF	Bafgh	0.57	251	ℯPg	Pg	07 25 29.1	-0.3
IBAF				ℯSg	Sg	07 25 36.9	0.0
IMEH	Mehriz	1.41	255	ℯPn	Pb	07 25 45.7	+0.3
IMEH				ℯSg	Sn	07 26 03.4	-0.8
IMEH				ℯ		07 26 07.3	
	comp=Z,5μm,0.1s						
IMEH	Mehriz	1.41	255	ℯPn	Pb	07 25 45.7	+0.3
IMEH				ℯSg	Sn	07 26 03.4	-0.8
ICHK	Chekchek	1.60	288	ℯPn	Pb	07 25 48.2	-0.4
ICHK				ℯSg	Sb	07 26 09.1	-0.1
ICHK				ℯ		07 26 14.7	
	comp=Z,6μm,0.2s						
ICHK	Chekchek	1.60	288	ℯPn	Pb	07 25 48.2	-0.4
ICHK				ℯSg	Sb	07 26 09.1	-0.1
KRBR	Kerman	1.85	165	ℯPg	Pg	07 25 53.3	-0.6
KRBR				ℯSg	Sg	07 26 18.8	+0.9
TABS	Tabas	2.02	22	ℯPn	Pn	07 25 54.1	+0.7
TABS				ℯSg	Sb	07 26 21.0	-0.4
ISAD	Sadrabad	2.15	274	ℯPn	Pn	07 25 55.9	+0.6
ISAD				ℯ		07 26 30.5	
	comp=Z,7μm,0.1s						
ISAD	Sadrabad	2.15	274	ℯPn	Pn	07 25 55.9	+0.6
ITEG	Tejag	2.43	62	ℯPn	Pn	07 25 59.2	+0.1
ITEG				ℯSg	Sb	07 26 34.3	+1.2
ITEG				ℯ		07 26 43.3	
	comp=Z,2μm,0.2s						
ITEG	Tejag	2.43	62	ℯPn	Pn	07 25 59.2	+0.1
ITEG				ℯSg	Sb	07 26 34.3	+1.2
IKOO	Kooshah	2.46	74	ℯPn	Pn	07 25 59.6	0.0
IKOO				ℯ		07 26 40.9	
	comp=Z,3μm,0.2s						
IKOO	Kooshah	2.46	74	ℯPn	Pn	07 25 59.6	0.0
NASN	Na'in	3.05	290	ℯPn	Pn	07 26 09.2	+1.4
IDAH	Dahanechah	3.25	72	ℯ		07 26 23.2	
	comp=Z,915nm,0.2s						
IDAH				ℯPn	Pn	07 26 09.5	-0.9

IDC 12 07:26:56.8±1.7, 17.37S×178.26W, h602km±25km, mb3.2/8, mb1 3.4/11, mb1mx3.2/22, mbtmp3.3/11, Error ellipse: s-maj=44.1km s-min=13.7km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	7.13	62	P	P	07 28 47.0	-1.2
	2.7nm,0.3s,baz=248,slow=5.4,SNR=4.4						
DZM	Mont Dzumac	15.14	250	P	P	07 30 06.4	+0.1
	0.2nm,0.3s,baz=81,slow=17,SNR=3.9						
RAR	Rarotonga	17.86	105	P	P	07 30 32.2	+1.1
	2.7nm,0.3s,baz=233,slow=5.1,SNR=4.2						
CTA	Charters Tower	33.68	260	P	P	07 32 50.9	+1.1
	1.0nm,0.5s,baz=102,slow=7.4,SNR=6.9						
STKA	Stephens Creek	39.02	241	P	P	07 33 32.4	-1.0
	1.5nm,0.4s,baz=84,slow=12,SNR=4.6						
WRA	Warramunga Arr	44.88	259	P	P	07 34 19.5	+0.1
	4.7nm,0.3s						
ASAR	Alice Springs	45.08	254	P	P	07 34 20.8	-0.2
	6.3nm,0.5s,baz=92,slow=7.7,SNR=66						
ASAR				PcP	PcP	07 35 47.1	-1.4
	0.7nm,0.4s,baz=100,slow=3.7,SNR=4.9						
FITZ	Fitzroy Crossi	53.26	260	P	P	07 35 20.5	-0.5
	3.2nm,0.9s,baz=106,slow=7.4,SNR=4.9						
ILAR	Eielson Array	85.33	13	P	P	07 38 31.1	+0.2
	0.2nm,0.4s,baz=216,slow=5.1,SNR=6.6						
TXAR	Lajitas Array	85.59	58	P	P	07 38 33.1	0.0
	0.3nm,0.7s,baz=250,slow=5.4,SNR=3.7						
YKA	Yellowknife Ar	93.78	25	P	P	07 39 09.6	-0.5
	0.1nm,0.6s,baz=238,slow=4.2,SNR=2.7						
GERES	GERESS Array B	147.13	345	PKPbc	PKPbc	07 45 33.1	-0.3
	0.5nm,0.4s,baz=24,slow=1.9,SNR=5.3						

IDC 12 07:28:57.7±1.7, 18.04S×177.80W, h604km±21km, mb3.6/8, mb1 3.7/10, mb1mx3.4/22, mbtmp3.5/10, Error ellipse: s-maj=22.0km s-min=16.5km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	7.10	56	P	P	07 30 49.1	+0.2
	8.0nm,0.3s,baz=207,slow=4.5,SNR=13						
DZM	Mont Dzumac	15.34	252	P	P	07 32 09.7	+0.7
	0.2nm,0.3s,baz=80,slow=18,SNR=4.1						
CTA	Charters Tower	34.00	261	P	P	07 34 52.9	-0.3
	5.2nm,0.6s,baz=92,slow=11,SNR=7.3						
PMG	Port Moresby	35.05	279	P	P	07 35 02.0	0.0
	12nm,0.8s,baz=128,slow=5.6,SNR=6.6						
STKA	Stephens Creek	39.08	241	P	P	07 35 34.3	-0.3
	5.1nm,0.5s,baz=96,slow=8.4,SNR=10						
WRA	Warramunga Arr	45.18	260	P	P	07 36 22.0	-0.5
	5.8nm,0.3s						
ASAR	Alice Springs	45.32	254	P	P	07 36 23.6	0.0
	12nm,0.7s,baz=86,slow=8.4,SNR=71						
ASAR				PcP	PcP	07 37 49.8	-0.2
	1.6nm,0.7s,baz=94,slow=3.3,SNR=6.7						
QSPA	South Pole Qui	72.02	180	P	P	07 39 21.9	+0.5
	2.3nm,0.6s,baz=329,slow=0.4,SNR=14						
ILAR	Eielson Array	85.88	13	P	P	07 40 33.5	-0.7
	0.5nm,0.9s,baz=214,slow=4.4,SNR=5.6						
CMAR	Chiang Mai Arr	89.48	289	P	P	07 40 53.1	+1.1
	0.6nm,0.3s,baz=122,slow=3.0,SNR=4.0						
BRTR	Keskin Array B	145.29	315	PKPbc	PKPbc	07 47 28.9	-0.4
	2.0nm,0.9s,baz=136,slow=3.6,SNR=5.9						
CLL	Collm	145.71	348	*i* (P)	PKPbc	07 47 29.6	-0.4
	comp=Z,23nm,1.7s						
GERES	GERESS Array B	147.88	346	PKPbc	PKPbc	07 47 35.4	-0.6
	comp=Z,0.1nm,0.3s,baz=46,slow=3.3,SNR=7.9						
TORD	Torodi Ar. Bea	175.11	174	PKPab	PKPab	07 49 38.6	-1.3
	comp=Z,0.3nm,0.8s,baz=188,slow=2.9,SNR=2.5					

KSRS	**Korea Array**	**33.31**	**2**	P	**P**	**07 38 54.1**	**+0.7**
	2.4nm,0.7s,baz=186,slow=11,SNR=5.3						
XAN	**Xi'an**	**34.16**	**333**	P	**P**	**07 39 00.2**	**-0.8**
XAN				pP	**pP**	**07 39 10.0**	**-3.0**
XAN				pmax	pmax		
	comp=Z,17nm,0.8s						
BJT	**Baijiatuan**	**37.10**	**347**	*e*P	P	**07 39 27.0**	**+1.0**
	comp=Z,26nm,0.6s						
BJI	**Beijing**	**37.12**	**347**	P	**P**	**07 39 27.0**	**+0.9**
BJI				pmax	pmax		
	comp=Z,36nm,0.7s						
SNY	**Shenyang**	**37.76**	**356**	⇓P	**P**	**07 39 34.2**	**+2.6**
SNY				pmax	pmax		
	comp=Z,32nm,0.6s						
LZH	**Lanzhou**	**38.26**	**329**	*e*P	**P**	**07 39 36.6**	**+0.5**
LZH				pP	pP	07 39 40.6	-7.7
LZH				pmax	pmax		
	comp=Z,69nm,1.3s						
LZH				pmax	pmax		
	comp=Z,160nm,6.3s						
STKA	**Stephens Creek**	**38.39**	**159**	*e*P	**P**	**07 39 37.0**	**0.0**
	comp=Z,1.5nm,0.7s						
STKA				PcP	**PcP**	**07 41 49.6**	**-0.3**
STKA	**Stephens Creek**	**38.39**	**159**	*e*P	**P**	**07 39 37.2**	**+0.2**
	comp=Z,7.0nm,0.8s						
STKA	**Stephens Creek**	**38.39**	**159**	P	**P**	**07 39 37.2**	**+0.2**
	comp=Z,7.5nm,0.7s,baz=335,slow=7.2,SNR=12						
STKA				PcP	**PcP**	**07 41 49.6**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=334,slow=6.6,SNR=3.5						
USRK	**Ussuriysk Arra**	**40.30**	**6**	P	**P**	**07 39 54.2**	**+1.5**
	comp=Z,2.5nm,0.6s,baz=190,slow=8.5,SNR=5.1						
LSA	**Lhasa**	**42.24**	**311**	*e*P	**P**	**07 40 10.2**	**+0.7**
	comp=Z,20nm,0.6s						
GTA	**Gaotai**	**42.85**	**329**	⇑P	**P**	**07 40 14.0**	**+0.1**
GTA				pP	pP	07 40 17.5	-8.8
GTA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
TAPN	**Taplejung**	**43.84**	**306**	*e*P	**P**	**07 40 21.8**	**-0.5**
	comp=Z,17nm,0.7s						
ODAN	**Odare**	**43.89**	**305**	*e*P	**P**	**07 40 22.0**	**-0.7**
RAMN	**Ramite**	**44.57**	**305**	*e*P	**P**	**07 40 27.7**	**-0.4**
	comp=Z,27nm,0.7s						
JIRN	**Jiri**	**45.19**	**306**	*e*P	**P**	**07 40 32.9**	**-0.3**
	comp=Z,6.6nm,0.7s						
HIA	**Hailar**	**45.49**	**354**	*e*P	**P**	**07 40 36.4**	**+1.7**
	comp=Z,23nm,0.8s						
GUN	**Gumba**	**45.55**	**306**	*e*P	**P**	**07 40 35.5**	**-0.5**
	comp=Z,31nm,0.6s						
DMN	**Daman**	**46.05**	**305**	*e*P	**P**	**07 40 39.1**	**-0.8**
GKN	**Gorkha**	**46.59**	**305**	*e*P	**P**	**07 40 43.1**	**-0.9**
ULN	**Ulaanbaatar**	**46.85**	**342**	*e*P	**P**	**07 40 46.1**	**+0.4**
	comp=Z,8.5nm,0.9s						
ULN	**Ulaanbaatar**	**46.85**	**342**	P	**P**	**07 40 46.2**	**+0.5**
SONM	**Songino Array**	**47.03**	**341**	P	**P**	**07 40 47.6**	**+0.6**
SONM				PcP	**PcP**	**07 42 18.7**	**0.0**
SONM	**Songino Array**	**47.03**	**341**	P	**P**	**07 40 47.6**	**+0.6**
	comp=Z,5.0nm,0.7s,baz=156,slow=8.2,SNR=34						
SONM				PcP	**PcP**	**07 42 18.7**	**0.0**
	comp=Z,1.3nm,0.7s,baz=170,slow=7.4,SNR=3.9						
KOLN	**Koldanda**	**47.35**	**305**	*e*P	**P**	**07 40 49.4**	**-0.5**
	comp=Z,44nm,0.6s						
DANN	**Dangsing**	**47.44**	**305**	*e*P	**P**	**07 40 49.9**	**-0.8**
	comp=Z,52nm,0.6s						
TLY	**Talaya**	**51.26**	**342**	*e*P	**P**	**07 41 20.2**	**+1.0**
	comp=Z,7.4nm,0.6s						
MK31	**Makanchi Array**	**57.32**	**325**	*e*P	**P**	**07 42 03.1**	**-0.2**
MK31				*e*PcP	**PcP**	**07 42 57.5**	**+0.4**
MKAR	**Makanchi Array**	**57.32**	**325**	P	**P**	**07 42 03.0**	**-0.3**
MKAR				ScP	**ScP**	**07 46 59.0**	**+5.5**
MKAR	**Makanchi Array**	**57.32**	**325**	P	**P**	**07 42 03.0**	**-0.3**
	comp=Z,6.8nm,0.5s,baz=124,slow=8.1,SNR=68						
MKAR				ScP	**ScP**	**07 46 59.0**	**+5.5**
	comp=Z,0.3nm,0.6s,baz=107,slow=5.5,SNR=3.9						
AAK	**Ala-Archa**	**60.14**	**318**	P	**P**	**07 42 22.3**	**-0.9**
AAK				*e*PcP	**PcP**	**07 43 08.6**	**0.0**
AAK	**Ala-Archa**	**60.14**	**318**	P	**P**	**07 42 22.3**	**-0.9**
	comp=Z,2.3nm,0.7s,baz=176,slow=13,SNR=7.7						
ZAA0	**Zalesovo Array**	**60.34**	**333**	*e*P	**P**	**07 42 23.5**	**-0.6**
ZALV	**Zalesovo Beam**	**60.34**	**333**	P	**P**	**07 42 23.3**	**-0.8**
ZALV	**Zalesovo Beam**	**60.34**	**333**	P	**P**	**07 42 23.3**	**-0.8**
	comp=Z,6.2nm,0.5s,baz=131,slow=6.5,SNR=22						
EKS2	**Erkin-Say**	**60.63**	**318**	*e*P	**P**	**07 42 26.3**	**-0.2**
	comp=Z,8.0nm,0.8s						
KURBB	**Kurchatov Arra**	**61.50**	**327**	P	**P**	**07 42 31.9**	**-0.2**
	comp=Z,16nm,0.7s,baz=124,slow=6.3,SNR=59						
KURK	**Kurchatov**	**61.50**	**327**	*e*P	**P**	**07 42 31.6**	**-0.4**
	comp=Z,20nm,0.7s						
KKAR	**Karatay Array**	**63.02**	**317**	*e*P	**P**	**07 42 42.3**	**-0.2**
	comp=Z,7.4nm,0.8s						
BVAR	**Borovoye Array**	**67.08**	**327**	P	**P**	**07 43 08.1**	**-0.5**
BVAR	**Borovoye Array**	**67.08**	**327**	P	**P**	**07 43 08.1**	**-0.5**
	comp=Z,3.0nm,0.5s,baz=128,slow=9.6,SNR=18						
BRVK	**Borovoye**	**67.15**	**327**	P	**P**	**07 43 08.4**	**-0.6**
	comp=Z,9.4nm,0.9s						
ABKAR	**Akbulak array**	**71.92**	**321**	*e*P	**P**	**07 43 37.7**	**-0.8**
	comp=Z,6.9nm,0.8s						
AKTO	**Aktyubinsk**	**73.43**	**322**	P	**P**	**07 43 47.1**	**-0.4**
AKTO	**Aktyubinsk**	**73.43**	**322**	P	**P**	**07 43 47.1**	**-0.4**
	comp=Z,9.2nm,0.8s,baz=103,slow=7.3,SNR=34						
ARU	**Arti**	**74.69**	**328**	*e*P	**P**	**07 43 54.0**	**-0.8**
	comp=Z,7.9nm,0.7s						
ILAR	**Eielson Array**	**84.87**	**25**	P	**P**	**07 44 50.5**	**+0.8**
ILAR	**Eielson Array**	**84.87**	**25**	P	**P**	**07 44 50.5**	**+0.8**
	comp=Z,0.8nm,0.9s,baz=246,slow=5.3,SNR=9.0						
ASF	**Jabal al Asfar**	**87.73**	**302**	P	**P**	**07 45 04.4**	**-0.1**
ASF	**Jabal al Asfar**	**87.73**	**302**	P	**P**	**07 45 04.4**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=10,slow=4.2,SNR=5.0						
BRTR	**Keskin Array B**	**89.83**	**310**	P	**P**	**07 45 13.2**	**-1.1**
BRTR	**Keskin Array B**	**89.83**	**310**	P	**P**	**07 45 13.2**	**-1.1**
	comp=Z,1.8nm,0.8s,baz=104,slow=5.6,SNR=9.6						
ARCES	**ARCESS Array B**	**90.19**	**340**	P	**P**	**07 45 14.9**	**-0.3**
ARCES	**ARCESS Array B**	**90.19**	**340**	P	**P**	**07 45 14.9**	**-0.3**
	comp=Z,4.9nm,0.9s,baz=82,slow=6.8,SNR=13						
FINES	**FINESS Array B**	**91.58**	**332**	P	**P**	**07 45 21.7**	**-0.1**
FINES	**FINESS Array B**	**91.58**	**332**	P	**P**	**07 45 21.7**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=80,slow=4.3,SNR=9.1						
AKASG	**Malin Array Be**	**91.67**	**321**	P	**P**	**07 45 20.9**	**-1.6**
AKASG	**Malin Array Be**	**91.67**	**321**	P	**P**	**07 45 20.9**	**-1.6**
	comp=Z,1.9nm,0.7s,baz=65,slow=5.1,SNR=8.4						
QSPA	**South Pole Qui**	**93.91**	**180**	P	**P**	**07 45 32.9**	**+0.3**
QSPA	**South Pole Qui**	**93.91**	**180**	P	**P**	**07 45 32.9**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=285,slow=5.0,SNR=5.0						
BUR08	**Bucovina Ar. S**	**94.79**	**318**	*e*P	**P**	**07 45 37.2**	**+0.2**
NB2	**NORSAR Subarra**	**98.53**	**334**	P	**P**	**07 45 53.2**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=68,slow=4.6						
NOA	**NORSAR Array B**	**98.53**	**334**	P	**P**	**07 45 52.9**	**-0.8**
NOA	**NORSAR Array B**	**98.53**	**334**	P	**P**	**07 45 52.9**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=68,slow=4.6,SNR=4.9						
YKA	**Yellowknife Ar**	**99.26**	**24**	P	**Pdif**	**07 45 58.1**	**+1.3**
YKA	**Yellowknife Ar**	**99.26**	**24**	P	**Pdif**	**07 45 58.1**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=298,slow=4.4,SNR=3.7						
GERES	**GERESS Array B**	**101.86**	**322**	P	**Pdif**	**07 46 08.0**	**-0.8**
GERES	**GERESS Array B**	**101.86**	**322**	P	**Pdif**	**07 46 08.0**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=51,slow=7.0,SNR=4.4						
SCHO	**Schefferville**	**120.30**	**9**	PKP	**PKPdf**	**07 51 07.0**	**+0.8**
SCHO	**Schefferville**	**120.30**	**9**	PKP	**PKPdf**	**07 51 07.0**	**+0.8**
	comp=Z,1.6nm,0.9s,baz=38,slow=18,SNR=3.5						
TXAR	**Lajitas Array**	**121.45**	**52**	PKP	**PKPdf**	**07 51 09.8**	**+0.5**
TXAR	**Lajitas Array**	**121.45**	**52**	PKP	**PKPdf**	**07 51 09.8**	**+0.5**
	comp=Z,0.5nm,1.0s,baz=298,slow=2.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**122.81**	**288**	PKP	**PKPdf**	**07 51 11.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**122.81**	**288**	PKP	**PKPdf**	**07 51 11.8**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=56,slow=2.4,SNR=6.4						
DBIC	**Dimbokro**	**130.50**	**282**	PKP	**PKPdf**	**07 51 25.6**	**-1.2**
DBIC	**Dimbokro**	**130.50**	**282**	PKP	**PKPdf**	**07 51 25.6**	**-1.2**
	comp=Z,3.9nm,1.1s,baz=145,slow=16,SNR=2.9						
CPUP	**Villa Florida**	**157.46**	**171**	PKPab	**PKPab**	**07 52 44.1**	**+0.7**
CPUP	**Villa Florida**	**157.46**	**171**	PKPab	**PKPab**	**07 52 44.1**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=170,slow=5.3,SNR=6.4						

IDC ***12*** *07:38:01.3±0.3,3˚.72N×126˚.82E, h0km, mb5.2/37, mb1 5.2/37, mb1mx5.2/38, mbtmp5.2/37, MS5.2/22, Ms1 5.3/22, ms1mx5.0/36, Error ellipse: s-maj=14.3km s-min=8.9km az=74.0*

BJI ***12*** *07:38:02.7,3˚.39N×126˚.97E, h33km, mB5.6/44, mb5.3/62, Ms5.4/67, Ms7 5.2/62*

MOS ***12*** *07:38:05.0±1.1,3˚.71N×126˚.76E, h33km, mb5.7/66, MS5.2/21, Error ellipse: s-maj=9.7km s-min=4.5km az=113.8*

NEIC ***12*** *07:38:06.8±0.1,3˚.71N×126˚.79E, h35km, mb5.5/74, MW5.6, Error ellipse: s-maj=5.7km s-min=3.6km az=72.0, Moment Tensor Solution. s40 Moment tensor: Scale*

10^{17}Nm; M_{rr}1.47; $M_{\theta\theta}$-0.50; $M_{\phi\phi}$-0.98; $M_{r\theta}$0.99; $M_{r\phi}$0.82; $M_{\theta\phi}$2.17; Best double couple: M_o2.80000×10^{17} NP1: ϕ=130.00000°, δ25.00000°, λ34.00000°. NP2:ϕ=8.00000°, δ76.00000°, λ111.00000°. Principal axes: T 3.1700, Plg54.0000°, Azm303.0000°; N -0.9000, Plg20.0000°, Azm182.0000°; P -2.2700, Plg27.0000°, Azm80.0000°;

ISCJB ***12*** *07:38:06.7±0.5,3˚.73N×0.02×126˚.91E±0.03, h48km±4km, mb5.5/169, MS5.2/58 Error ellipse: s-maj=5.2km s-min=3.6km az=154.5*

DJA ***12*** *07:38:11,3˚.63N×126˚.96E, h77km, Mw5.2/38*

ISC 12 07:38:06.7±0.3, 3.76N±0.03×126.93E±0.04, h33km±1km, h33km:pP-P, n586, σ1ϟ77/684, mb5.5/166, MS5.2/59, 64C-34D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**3.00**	**172**	P	**Pn**	**07 38 53.0**	**+1.0**
GSPH	**General Santos**	**3.04**	**320**	⇓*e*P	**Pn**	**07 38 55.5**	**+2.7**
MNI	**Manado**	**3.11**	**222**	P	Pn	07 38 56.7	+3.2
MATI	**Mati**	**3.24**	**348**	*e*P	**Pb**	**07 39 00.8**	**-2.8**
DAV	**Davao City (W)**	**3.56**	**338**	Pn	**Pn**	**07 39 00.8**	**+1.1**
DAV				*e*Sn	Sb	07 40 04.6	+13
DAV	**Davao City (W)**	**3.56**	**338**	⇓*e*P	Pb	07 39 04.6	-4.5
DAV	**Davao City (W)**	**3.56**	**338**	P	**Pb**	**07 39 09.6**	**+0.6**
DAV	**Davao City (W)**	**3.56**	**338**	Pn	**Pn**	**07 39 00.8**	**+1.1**
	29nm,0.3s,baz=312,slow=4.3,SNR=2.6						
DMPH	**Davao City--Mi**	**3.60**	**337**	*e*P	Pb	07 39 05.1	-4.6
KCP	**Kidapawan**	**3.71**	**330**	⇓*i*P	**Pb**	**07 39 11.8**	**0.0**
KCP				*i* S	Sb	07 40 03.5	+7.1
KMSI	**Cibinong**	**4.33**	**223**	P	Pn	07 39 15.9	+5.7
LBMI	**Labuha**	**4.40**	**173**	P	**Pn**	**07 39 14.3**	**+3.0**
BUKP	**Musuan**	**4.50**	**336**	*e*P	**Pn**	**07 39 15.3**	**+2.6**
CGP	**Cagayan de Oro**	**5.17**	**335**	⇓*e*P	Pb	07 39 31.3	-5.2
CGP				*e*S	**Sb**	**07 40 42.1**	**+3.9**
PAGZ	**Pagadian**	**5.38**	**319**	*e*P	**Pn**	**07 39 27.4**	**+2.5**
ZMPH	**Zamboanga City**	**5.80**	**303**	⇑*i*P	**Pn**	**07 39 31.0**	**+0.5**
ZMPH				*i* S	**Sn**	**07 40 36.3**	**+0.4**
MRSI	**Marisa**	**5.96**	**237**	P	**Pn**	**07 39 35.3**	**+2.6**
	690nm,0.9s,11μm43μm3.6nm						
SWI	**Sorong**	**6.30**	**137**	P	**Pn**	**07 39 37.9**	**+0.4**
	471nm,1.0s,6μm104μm1.5nm						
LUWI	**Luwuk**	**6.33**	**221**	P	Pn	07 39 44.7	+6.9
	1μm,1.1s,15μm57μm7.0nm						
MSLP	**Maasin**	**6.66**	**342**	*e*P	Pn	07 39 48.3	+6.0
NLAI	**Namlea**	**6.95**	**179**	P	**Pn**	**07 39 48.4**	**+2.0**
	331nm,0.6s,4μm1.6nm						
MSAI	**Masohi**	**7.33**	**164**	P	Pn	07 39 57.5	+5.9
	105nm,0.8s,2μm0.3nm						
AAI	**Ambon**	**7.50**	**170**	P	Pn	07 40 01.9	+8.0
FAKI	**Fak Fak**	**8.50**	**141**	P	**Pn**	**07 40 09.2**	**+1.6**
	180nm,1.0s,3μm48μm0.8nm						
MYLDM	**Lahad Datu**	**8.53**	**280**	P	Pn	07 40 13.2	+5.2
MYLDM	**Lahad Datu**	**8.53**	**280**	P	Pn	07 40 13.4	+5.4
	229nm,1.0s,9μm127μm1.9nm						
KDI	**Kendari**	**8.79**	**209**	P	**Pn**	**07 40 13.2**	**+1.6**
	133nm,1.2s,3μm0.6nm						
TSM	**Tawau**	**9.05**	**274**	P	Pn	07 40 19.6	+4.3
SDKM	**Sandakan**	**9.88**	**281**	P	**Pn**	**07 40 28.8**	**+2.1**
BAKI	**Biak**	**10.40**	**118**	P	Pn	07 40 39.8	+6.1
	407nm,1.0s,6μm						
SPSI	**Sidrap Palu**	**10.49**	**223**	P	Pn	07 40 43.8	+8.9
KDM	**Kudat**	**10.54**	**288**	P	Pn	07 40 42.3	+6.8
KKM	**Kota Kinabalu**	**10.92**	**282**	Pn	**Pn**	**07 40 41.2**	**+0.3**
KKM				*e*Sn	Sn	07 43 01.6	+19
KKM	**Kota Kinabalu**	**10.92**	**282**	P	Pn	07 40 46.3	+5.4
KKM	**Kota Kinabalu**	**10.92**	**282**	P	Pn	07 40 46.1	+5.2
	139nm,1.7s,4μm40μm						
TLE	**Tual**	**10.99**	**148**	P	Pn	07 40 50.6	+8.9
KAPI	**Kappang**	**11.29**	**220**	*e*Pn	**Pn**	**07 40 45.2**	**-0.7**
KAPI	**Kappang**	**11.29**	**220**	Pn	**Pn**	**07 40 46.8**	**+1.0**
	2.4nm,0.3s,baz=32,slow=5.6,SNR=4.4						
KBKI	**Kotabaru**	**12.84**	**237**	P	**P**	**07 41 17.2**	**-0.3**
SMPI	**Sarmi**	**13.08**	**116**	P	**P**	**07 41 20.4**	**+0.2**
BTM	**Bintulu**	**13.84**	**268**	P	**P**	**07 41 26.2**	**-2.4**
BBKI	**Banjar Baru**	**14.05**	**239**	P	**P**	**07 41 31.9**	**+0.9**
	373nm,2.0s,9μm						
SBUM	**Sibu**	**14.75**	**265**	P	**Pn**	**07 41 32.9**	**-0.2**
SBUM	**Sibu**	**14.75**	**265**	P	**Pn**	**07 41 35.5**	**+2.4**
	230nm,1.6s,4μm25μm						
JAY	**Jayapura**	**15.11**	**114**	P	P	07 41 49.6	+6.8
STKI	**Sintang**	**15.88**	**257**	P	**P**	**07 41 52.4**	**+1.1**
	262nm,1.1s						
KHKI	**Kahang-Kahang**	**16.51**	**223**	P	P	07 42 04.7	+6.4
KSM	**Kuching**	**16.76**	**263**	*e*P	**P**	**07 42 01.2**	**+0.1**
	127nm,0.9s						
KSM	**Kuching**	**16.76**	**263**	P	**P**	**07 42 02.7**	**+1.6**
KSM	**Kuching**	**16.76**	**263**	P	**P**	**07 42 02.0**	**+0.9**
	197nm,1.1s,4μm						
MTN	**Manton Dam**	**17.01**	**166**	*e*P	**Pn**	**07 42 01.7**	**-0.6**
BYJI	**Banyuwangi**	**17.29**	**227**	P	P	07 42 16.7	+10
BLJI	**Banyuglugur**	**17.54**	**229**	P	P	07 42 17.6	+7.9
JAGI	**Jajag, Banyuwa**	**17.61**	**226**	P	**P**	**07 42 12.8**	**+2.3**
	300nm,1.6s,5μm						
GMJI	**Gumukmas**	**18.00**	**228**	P	P	07 42 19.8	+5.0
	195nm,1.1s						
SJI	**Sawahan**	**18.96**	**233**	P	**Pn**	**07 42 26.9**	**+0.6**
	157nm,1.3s,4μm						
PWJI	**Pagerwojo**	**19.10**	**232**	P	**Pn**	**07 42 32.2**	**+4.3**
	86nm,1.0s,2μm						
TWG	**Pinlang**	**19.78**	**344**	*e*P	**P**	**07 42 32.6**	**-1.7**
	96nm,0.6s						
GUMO	**Guam**	**20.22**	**60**	P	**P**	**07 42 38.1**	**-1.1**
	17nm,1.0s						
GUMO	**Guam**	**20.22**	**60**	P	**P**	**07 42 38.1**	**-1.1**
	255nm,1.0s,baz=159,slow=8.3,SNR=7.2						
GUMO				LR	LR	07 49 10.5	
	comp=Z,11μm,20.3s,baz=232,slow=33						
YULB	**Yu-li**	**20.27**	**345**	*e*P	**P**	**07 42 36.8**	**-2.8**
	61nm,0.8s						
TPUB	**Ta-pu**	**20.36**	**343**	*e*P	**P**	**07 42 38.8**	**-1.8**
	279nm,0.7s						
SSLB	**Suanglung**	**20.73**	**344**	*e*P	**P**	**07 42 42.8**	**-1.9**
	107nm,0.7s						
NACB	**Ninganchiao**	**20.94**	**346**	*e*P	**P**	**07 42 45.1**	**-1.8**
	62nm,1.0s						
YHNB	**Yeheng**	**21.47**	**346**	*e*P	**P**	**07 42 52.5**	**-0.1**
	59nm,0.4s						
YHNB				*e*S	**S**	**07 46 46.3**	**-2.9**
PPBI	**Pangkal Pinang**	**21.60**	**255**	P	**P**	**07 42 57.7**	**+3.6**
	77nm,1.0s,8μm						
TATO	**Taipei**	**21.74**	**347**	*e*P	**P**	**07 42 55.1**	**-0.3**
	55nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.76**	**183**	*e*P	**P**	**07 42 54.0**	**-1.7**
	70nm,0.8s						
FITZ				PcP	**PcP**	**07 46 53.1**	**-2.5**
FITZ	**Fitzroy Crossi**	**21.76**	**183**	*e*P	**P**	**07 42 53.6**	**-2.1**
	96nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.76**	**183**	P	**P**	**07 42 54.0**	**-1.7**
	31nm,0.7s,baz=20,slow=10,SNR=20						
FITZ				PcP	**PcP**	**07 46 53.1**	**-2.5**
	20nm,0.8s,baz=80,slow=11,SNR=3.4						
LEM	**Lembang**	**21.96**	**241**	P	**P**	**07 43 00.9**	**+2.8**
	158nm,1.1s,3μm						
HKC	**Hong Kong Obse**	**22.20**	**327**	⇑*i*P	**P**	**07 43 00.0**	**-0.4**
CBJI	**Citeko**	**22.46**	**243**	P	**P**	**07 43 05.3**	**+2.0**
	522nm,0.9s						
QZH	**Quanzhou**	**22.54**	**340**	⇑*i*P	**P**	**07 43 05.8**	**+1.8**
QZH				S	**S**	**07 47 07.0**	**-2.3**
QZH				pmax	pmax		
	comp=Z,130nm,1.0s						
QZH				pmax	pmax		
	comp=Z,3μm,11.9s						
QZH				LR	LR		
	comp=N,13μm,20.0s						
QZH				LR	LR		
	comp=E,11μm,17.0s						
QZH				LR	LR		
	comp=Z,23μm,18.9s						
QIZ	**Qiongzhong**	**22.57**	**314**	P	**P**	**07 43 01.9**	**-2.5**
QIZ				sS	Sn	07 47 27.6	+3.1
QIZ				LR	LR		
	comp=N,3μm,20.4s						
QIZ				LR	LR		
	comp=E,1μm,24.4s						
QIZ				LR	LR		
	comp=Z,8μm,20.2s						
QIZ	**Qiongzhong**	**22.57**	**314**	*e*P	**P**	**07 43 04.9**	**+0.5**
	comp=Z,76nm,1.0s						
JOW	**Kunigami**	**22.98**	**3**	*e*P	**P**	**07 43 09.2**	**+0.6**
JOW	**Kunigami**	**22.98**	**3**	P	**P**	**07 43 08.3**	**-0.3**
	comp=Z,44nm,0.6s,baz=178,slow=11,SNR=13						
MYKOM	**Kota Tinggi**	**23.14**	**266**	P	**P**	**07 43 10.3**	**-0.1**
MYKOM	**Kota Tinggi**	**23.14**	**266**	P	**P**	**07 43 11.0**	**+0.6**
	comp=Z,90nm,1.0s,comp=Z,2μm						
GZH	**Guangzhou**	**23.28**	**327**	P	**P**	**07 43 13.0**	**+1.3**
GZH				S	**S**	**07 47 27.8**	**+5.8**
GZH				LR	LR		
	comp=N,8μm,20.4s						
GZH				LR	LR		
	comp=E,10μm,20.9s						
CGJI	**Cibinong**	**23.58**	**244**	P	**P**	**07 43 13.9**	**-0.8**
	comp=E,245nm,0.7s,comp=E,4μm						
KGM	**Kluang**	**23.65**	**266**	P	**P**	**07 43 14.6**	**-0.8**
COEN	**Coen**	**23.86**	**138**	*e*P	**P**	**07 43 16.1**	**-1.2**
	comp=E,232nm,0.9s						
PMG	**Port Moresby**	**24.03**	**123**	*e*P	**P**	**07 43 19.3**	**+0.4**
PMG	**Port Moresby**	**24.03**	**123**	P	P	07 43 28.3	+9.4
PMG	**Port Moresby**	**24.03**	**123**	P	**P**	**07 43 17.8**	**-1.1**
	comp=E,4.9nm,0.5s,baz=304,slow=6.6,SNR=4.7						
KASI	**Kota Agung**	**24.23**	**248**	P	**P**	**07 43 24.8**	**+4.0**
	comp=E,259nm,1.1s,comp=E,3μm						
LWLI	**Liwa**	**24.46**	**249**	P	**P**	**07 43 26.7**	**+3.7**
	comp=E,274nm,0.9s,comp=E,17μm						
WRAB	**Tennant Creek**	**24.64**	**163**	*e*P	**P**	**07 43 23.2**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,438nm,0.9s						
WRAB	**Tennant Creek**	**24.64**	**163**	*e*P	**P**	**07 43 23.1**	**-1.4**
	comp=Z,438nm,0.9s						
WRAB	**Tennant Creek**	**24.64**	**163**	P	**P**	**07 43 22.0**	**-2.5**
	comp=Z,3μm,0.9s,SNR=73						
WRA	**Warramunga Arr**	**24.65**	**163**	P	**P**	**07 43 22.5**	**-2.1**
WRA	**Warramunga Arr**	**24.65**	**163**	P	**P**	**07 43 22.5**	**-2.1**
	comp=Z,206nm,0.8s						
RGRI	**Rengat**	**24.92**	**261**	P	P	07 43 37.5	+10
FRIM	**Kepong**	**25.27**	**270**	P	**P**	**07 43 29.2**	**-1.1**
KSI	**Kapahiang**	**25.41**	**253**	P	P	07 43 46.2	+15
MBWA	**Marble Bar**	**25.75**	**196**	*e*P	**P**	**07 43 33.9**	**-0.6**
	comp=Z,80nm,0.9s						
IPM	**Ipoh**	**25.85**	**273**	*e*P	**P**	**07 43 34.3**	**-1.3**
	comp=Z,63nm,1.0s						
IPM	**Ipoh**	**25.85**	**273**	P	**P**	**07 43 34.9**	**-0.7**
IPM	**Ipoh**	**25.85**	**273**	P	**P**	**07 43 35.4**	**-0.2**
	comp=Z,48nm,1.5s,comp=Z,2μm						
BKNI	**Bangkinang**	**26.10**	**263**	P	**P**	**07 43 42.1**	**+4.3**
	comp=Z,117nm,1.3s,comp=Z,2μm						
PPI	**Padang Panjang**	**26.85**	**262**	P	**P**	**07 43 49.2**	**+4.6**
	comp=Z,38nm,1.0s,comp=Z,1μm						
CBIJ	**Chichi jima**	**27.41**	**31**	LR	LR	07 53 45.6	
	comp=Z,5μm,19.8s,baz=342,slow=34						
MNSI	**Mandailing Nat**	**27.49**	**265**	P	**P**	**07 43 53.4**	**+3.1**
	comp=Z,57nm,1.0s						
SSE	**Sheshan**	**27.73**	**349**	P	**P**	**07 43 52.7**	**+0.5**
SSE				S	**S**	**07 48 34.5**	**+1.9**
SSE				sS	**sS**	**07 48 51.8**	**+3.4**
SSE				pmax	pmax		
	comp=Z,75nm,0.7s						
SSE				pmax	pmax		
	comp=Z,980nm,10.8s						
SSE				LR	LR		
	comp=N,2μm,23.4s						
SSE				LR	LR		
	comp=E,3μm,23.4s						
SSE				LR	LR		
	comp=Z,2μm,21.7s						
PSI	**Prapat**	**27.98**	**269**	P	**P**	**07 43 53.2**	**-1.7**
PSI	**Prapat**	**27.98**	**269**	P	**P**	**07 43 55.8**	**+0.9**
	comp=Z,51nm,0.9s,comp=Z,1μm						
PSI	**Prapat**	**27.98**	**269**	P	**P**	**07 43 53.2**	**-1.

BSI	**Banda Aceh**	**31.58**	**274**	P		**P**	**07 44 27.0**	**+0.3**	
	comp=Z,19nm,1.1s,comp=Z,674nm								
KSAR	**Wonju Array Be**	**33.53**	**1**	P		**P**	**07 44 43.0**	**-0.5**	
KSAR				PcP		**PcP**	**07 47 24.4**	**+0.6**	
KSRS	**Korea Array**	**33.55**	**1**	P		**P**	**07 44 43.0**	**-0.6**	
	comp=Z,20nm,1.0s,baz=180,slow=9.7,SNR=30								
KSRS				PcP		**PcP**	**07 47 24.4**	**+0.6**	
	comp=Z,7.1nm,1.0s,baz=198,slow=5.2,SNR=4.6								
KSRS				LR		LR	07 58 27.3		
	comp=Z,3μm,22.0s,baz=83,slow=36								
MJAR	**Matsushiro Arr**	**34.24**	**16**	P		**P**	**07 44 47.6**	**-2.0**	
MJAR				PcP		**PcP**	**07 47 27.0**	**+1.1**	
MJAR	**Matsushiro Arr**	**34.24**	**16**	P		**P**	**07 44 47.6**	**-2.0**	
	comp=Z,3.4nm,0.7s,baz=200,slow=9.3,SNR=7.6								
MJAR				PcP		**PcP**	**07 47 27.0**	**+1.1**	
	comp=Z,7.1nm,0.9s,baz=189,slow=3.0,SNR=4.9								
MJAR				LR		LR	07 58 37.0		
	comp=Z,6μm,20.1s,baz=200,slow=36								
MAJO	**Matsushiro**	**34.24**	**16**	*e*P		**P**	**07 44 51.0**	**+1.4**	
MAJO				pmax		pmax			
	comp=Z,19nm,0.8s								
MAJO	**Matsushiro**	**34.24**	**16**	*e*P		**P**	**07 44 51.0**	**+1.4**	
	comp=Z,19nm,0.8s								
MAT	**Matsushiro**	**34.24**	**16**	P		**P**	**07 44 47.3**	**-2.3**	
MAT				S		**S**	**07 50 11.0**	**-3.4**	
FORT	**Forrest**	**34.36**	**178**	*e*P		**P**	**07 44 49.3**	**-1.3**	
	comp=Z,136nm,0.8s								
FORT	**Forrest**	**34.36**	**178**	*e*P		**P**	**07 44 49.5**	**-1.2**	
	comp=Z,114nm,0.7s								
XAN	**Xi'an**	**34.48**	**333**	P		**P**	**07 44 50.0**	**-1.8**	
XAN				pP		**pP**	**07 45 00.1**	**-1.4**	
XAN				sP		**sP**	**07 45 04.3**	**-1.2**	
XAN				pmax		pmax			
	comp=Z,32nm,0.9s								
XAN				pmax		pmax			
	comp=Z,120nm,8.4s								
XAN				LR		LR			
	comp=N,3μm,22.3s								
XAN				LR		LR			
	comp=E,1μm,21.2s								
XAN				LR		LR			
	comp=Z,1μm,21.2s								
CD2	**Chengdu**	**34.74**	**324**	⇑P		**P**	**07 44 53.4**	**-0.7**	
CD2				pP		**pP**	**07 45 03.1**	**-0.6**	
CD2				sP		**sP**	**07 45 07.0**	**-0.8**	
CD2				PcP		**PcP**	**07 47 26.3**	**-1.1**	
CD2				S		**S**	**07 50 21.1**	**-1.3**	
CD2				sS		**sS**	**07 50 37.1**	**-1.2**	
CD2				PcS		**PcS**	**07 51 11.8**	**-2.4**	
CD2				SS		**SnSn**	**07 52 35.7**	**-1.6**	
CD2				pmax		pmax			
	comp=Z,30nm,0.5s								
CD2				pmax		pmax			
	comp=Z,140nm,7.0s								
CD2				LR		LR			
	comp=N,5μm,17.2s								
CD2				LR		LR			
	comp=E,4μm,18.6s								
CD2				LR		LR			
	comp=Z,7μm,18.1s								
DL2	**Dalian**	**35.32**	**353**	P		**P**	**07 45 00.0**	**+1.2**	
DL2				S		**S**	**07 50 31.3**	**+0.5**	
DL2				pmax		pmax			
	comp=Z,40nm,1.1s								
DL2				pmax		pmax			
	comp=Z,460nm,4.9s								
DL2				LR		LR			
	comp=E,2μm,18.6s								
DL2				LR		LR			
	comp=Z,2μm,22.0s								
HNR	**Honiara**	**35.41**	**112**	LR		LR	07 58 47.6		
	comp=Z,5μm,21.4s,baz=280,slow=35								
KLBR	**Kellerberrin**	**36.22**	**193**	*e*P		**P**	**07 45 05.7**	**-1.0**	
	comp=Z,49nm,0.9s								
EIDS	**Eidsvold**	**37.25**	**142**	*e*P		**P**	**07 45 14.5**	**-1.0**	
	comp=Z,45nm,1.1s								
BBOO	**Buckleboo**	**37.38**	**167**	*e*P		**P**	**07 45 16.3**	**-0.3**	
	comp=Z,986nm,1.1s								
BJT	**Baijiatuan**	**37.39**	**346**	*e*P		**P**	**07 45 17.0**	**+0.4**	
	comp=Z,256nm,0.7s								
BJI	**Beijing**	**37.41**	**346**	P		**P**	**07 45 17.0**	**+0.3**	
BJI				pP		**pP**	**07 45 27.5**	**+1.1**	
BJI				sP		**sP**	**07 45 31.5**	**+1.1**	
BJI				PcP		**PcP**	**07 47 36.6**	**+1.5**	
BJI				S		**S**	**07 51 03.8**	**+1.0**	
BJI				pmax		pmax			
	comp=Z,250nm,1.4s								
BJI				pmax		pmax			
	comp=Z,1μm,6.3s								
BJI				LR		LR			
	comp=N,1μm,18.3s								
BJI				LR		LR			
	comp=E,3μm,28.6s								
NWAO	**Narrogin (SRO)**	**37.62**	**193**	P		**P**	**07 45 17.6**	**-1.0**	
	comp=E,2.3nm,1.2s								
NWAO	**Narrogin (SRO)**	**37.62**	**193**	P		**P**	**07 45 17.6**	**-1.0**	
	comp=E,22nm,0.8s,baz=25,slow=8.4,SNR=16								
IMP	**Imphal**	**38.02**	**307**	*e*PKP		**P**	**07 45 19.0**	**-3.2**	
SNY	**Shenyang**	**38.02**	**356**	⇑P		**P**	**07 45 21.9**	**+0.1**	
SNY				S		**S**	**07 51 12.3**	**+0.3**	
SNY				SS		**SnSn**	**07 53 56.2**	**0.0**	
SNY				pmax		pmax			
	comp=Z,24nm,1.3s								
SNY				pmax		pmax			
	comp=Z,1μm,5.0s								
SNY				LR		LR			
	comp=N,3μm,21.9s								
SNY				LR		LR			
	comp=E,2μm,16.2s								
SNY				LR		LR			
	comp=Z,4μm,23.5s								
STKA	**Stephens Creek**	**38.08**	**160**	*e*P		**P**	**07 45 21.3**	**-1.2**	
STKA	**Stephens Creek**	**38.08**	**160**	*e*P		**P**	**07 45 21.1**	**-1.4**	
	comp=Z,101nm,1.1s								
STKA	**Stephens Creek**	**38.08**	**160**	P		**P**	**07 45 21.1**	**-1.4**	
	comp=Z,60nm,0.8s,baz=332,slow=8.4,SNR=52								
LZH	**Lanzhou**	**38.58**	**329**	*e*P		**P**	**07 45 27.1**	**+0.2**	
LZH				pP		**pP**	**07 45 37.2**	**+0.6**	
LZH				sP		**sP**	**07 45 41.6**	**+1.0**	
LZH				S		**S**	**07 51 19.4**	**-1.7**	
LZH				sS		**sS**	**07 51 35.5**	**-1.6**	
LZH				pmax		pmax			
	comp=Z,89nm,1.0s								
LZH				pmax		pmax			
	comp=Z,440nm,4.0s								
LZH				LR		LR			
	comp=N,9μm,18.8s								
LZH				LR		LR			
	comp=E,4μm,18.7s								
LZH				LR		LR			
	comp=Z,4μm,20.7s								
HHC	**Hu-ho-hao-te**	**39.44**	**342**	*e*P		**P**	**07 45 34.0**	**+0.1**	
HHC				pP		**pP**	**07 45 45.4**	**+1.8**	
HHC				sP		**sP**	**07 45 49.3**	**+1.7**	
HHC				PP		**PnPn**	**07 47 11.3**	**+3.5**	
HHC				S		**S**	**07 51 37.9**	**+4.2**	
HHC				sS		**sS**	**07 51 50.8**	**+1.1**	
HHC				SS		**SS**	**07 54 22.9**	**-5.8**	
HHC				ScS		**ScS**	**07 55 40.3**	**+0.3**	
HHC				pmax		pmax			
	comp=Z,92nm,1.2s								
HHC				pmax		pmax			
	comp=Z,980nm,10.8s								
HHC				LR		LR			
	comp=N,2μm,17.2s								
HHC				LR		LR			
	comp=E,3μm,18.6s								
HHC				LR		LR			
	comp=Z,2μm,14.1s								
VLA	**Vladivostok**	**39.44**	**6**	⇓*i*P		**P**	**07 45 33.8**	**+0.1**	
VLA				S		**S**	**07 51 34.4**	**+1.0**	
VLA				pmax		pmax			
	comp=Z,55nm,1.2s								
BTO	**Baotou**	**39.73**	**340**	*e*P		**P**	**07 45 36.6**	**+0.3**	
CN2	**Changchun**	**39.90**	**358**	*e*P		P	07 45 40.8	+3.3	
CN2				*e*pP		pP	07 45 51.1	+3.8	
CN2				*e*PP		**PnPn**	**07 47 17.8**	**+4.7**	
CN2				*e*S		**S**	**07 51 44.0**	**+3.7**	
CN2				*e*SS		**SS**	**07 54 35.6**	**-2.1**	
CN2				pmax		pmax			
	comp=Z,20nm,0.9s								
CN2				pmax		pmax			
	comp=Z,200nm,5.0s								
CN2				LR		LR			
	comp=N,2μm,16.0s								
CN2				LR		LR			
	comp=E,2μm,16.0s								
CN2				LR		LR			
	comp=Z,2μm,17.0s								
SHL	**Shillong**	**40.02**	**306**	*i* P		**P**	**07 45 38.0**	**-1.1**	
SHL				*ex*		x	07 51 35.0		
USRK	**Ussuriysk Arra**	**40.52**	**6**	P		**P**	**07 45 42.7**	**0.0**	
	comp=Z,18nm,0.9s,baz=190,slow=7.8,SNR=20								
USRK				LR		LR	08 01 14.7		
	comp=Z,3μm,21.6s,baz=356,slow=34								
MDJ	**Mudanjiang**	**40.76**	**3**	P		**P**	**07 45 46.0**	**+1.4**	
MDJ				pP		**pP**	**07 45 52.0**	**-2.4**	
MDJ				sP		**sP**	**07 45 59.9**	**+1.5**	
MDJ				PP		**PP**	**07 47 20.4**	**+1.4**	
MDJ				PcP		**PcP**	**07 47 48.8**	**+3.2**	
MDJ				ScP		**ScP**	**07 51 31.4**	**-1.5**	
MDJ				PcS		**PcS**	**07 51 36.1**	**-0.1**	
MDJ				S		**S**	**07 51 55.0**	**+1.9**	
MDJ				SS		**SnSn**	**07 54 59.7**	**-2.5**	
MDJ				ScS		**ScS**	**07 55 50.2**	**+2.7**	
MDJ				pmax		pmax			
	comp=Z,31nm,1.1s								
MDJ				pmax		pmax			
	comp=Z,490nm,6.6s								
MDJ				LR		LR			
	comp=N,2μm,22.0s								
MDJ				LR		LR			
	comp=E,3μm,22.9s								
MDJ				LR		LR			
	comp=Z,3μm,20.1s								
MDJ	**Mudanjiang**	**40.76**	**3**	*e*P		**P**	**07 45 45.0**	**+0.4**	
	comp=Z,88nm,1.1s								
ARMA	**Armidale**	**41.38**	**147**	*e*P		**P**	**07 45 51.0**	**+0.9**	
	comp=Z,60nm,1.0s								
ARMA	**Armidale**	**41.38**	**147**	*e*P		**P**	**07 45 51.1**	**+1.0**	
CAL	**Calcutta**	**41.77**	**300**	*e*PKP		**P**	**07 45 52.6**	**-0.7**	
CAL				*ex*		x	07 52 12.7		
ASAJ	**Asahikawa**	**42.51**	**17**	*e*P		**P**	**07 46 00.1**	**+1.1**	
	comp=Z,110nm,1.9s								
ASAJ	**Asahikawa**	**42.51**	**17**	P		**P**	**07 46 00.3**	**+1.4**	
	comp=Z,30nm,0.9s,baz=228,slow=13,SNR=9.3								
ASAJ				LR		LR	08 03 31.5		
	comp=Z,6μm,21.3s,baz=212,slow=36								
LSA	**Lhasa**	**42.57**	**311**	*e*P		**P**	**07 45 59.6**	**-0.7**	
LSA				pmax		pmax			
	comp=Z,78nm,0.6s								
LSA	**Lhasa**	**42.57**	**311**	*e*P		**P**	**07 45 59.6**	**-0.7**	
	comp=Z,78nm,0.6s								
GTA	**Gaotai**	**43.18**	**329**	⇑P		**P**	**07 46 04.1**	**-0.6**	
GTA				pP		**pP**	**07 46 15.5**	**+1.0**	
GTA				sP		**sP**	**07 46 19.0**	**+0.5**	
GTA				PP		**PP**	**07 47 48.7**	**+3.3**	
GTA				PcP		**PcP**	**07 47 57.3**	**+3.4**	
GTA				S		**S**	**07 52 26.6**	**-2.7**	
GTA				pmax		pmax			
	comp=Z,30nm,1.1s								
GTA				pmax		pmax			
	comp=Z,540nm,9.0s								
GTA				LR		LR			
	comp=N,4μm,25.2s								
GTA				LR		LR			
	comp=E,4μm,26.6s								
GTA				LR		LR			
	comp=Z,2μm,28.5s								
YUK	**Yuzh-Kuril'sk**	**43.46**	**20**	*d* iP		**P**	**07 46 05.6**	**-1.0**	
YUK				*e*			07 48 02.8		
YUK				*i* S		**S**	**07 52 32.7**	**-0.2**	
YUK				*e*SS		**SS**	**07 55 43.2**	**-4.8**	
YUK				*e*SSS		SSS	07 56 27.5		
YUK				MLR		MLR			
	comp=N,368nm,18.0s								
YUK				MLR		MLR			
	comp=E,365nm,18.0s								
YUK				MLR		MLR			
	comp=Z,2μm,18.0s								
CAN	**Canberra**	**44.05**	**154**	*e*P		**P**	**07 46 12.6**	**+1.0**	
CAN				pmax		pmax			
	comp=Z,41nm,0.9s								
CAN	**Canberra**	**44.05**	**154**	*e*P		**P**	**07 46 12.6**	**+1.0**	
	comp=Z,41nm,0.9s								
CNB	**Canberra Magne**	**44.20**	**153**	*e*P		P	07 46 16.5	+3.6	
	comp=Z,120nm,0.9s								
TOO	**Toolangi**	**44.59**	**159**	*e*P		**P**	**07 46 17.4**	**+1.5**	
	comp=Z,96nm,1.0s								
HABR	**Khabarovsk**	**45.09**	**8**	P		**P**	**07 46 19.8**	**+0.2**	
HABR				*e**SP		**sP**	**07 46 32.3**	**-1.2**	
HABR				*e*			07 47 57.5		
HABR				*e*			07 48 04.5		
HABR				*e*S		**S**	**07 52 56.7**	**+0.1**	
HABR				*e**SS		**sS**	**07 53 13.5**	**+0.7**	
HABR				*e*			07 56 12.2		
HABR				MLR		MLR			
	comp=Z,2μm,19.0s								
YSS	**Yuzh-Sakhalins**	**45.16**	**15**	⇑*e*P		P	07 46 24.0	+3.8	
YSS				*e*			07 46 30.0		
YSS				*e*			07 48 04.0		
YSS				*e*S		**S**	**07 53 03.0**	**+5.4**	
YSS				pmax		pmax			
	comp=Z,30nm,0.9s								
YSS				MLR		MLR			
	comp=Z,2μm,18.0s								
YSS				MLR		MLR			
	comp=N,2μm,17.0s								
YSS				MLR		MLR			
	comp=E,3μm,17.0s								
YSS	**Yuzh-Sakhalins**	**45.16**	**15**	*e*P		**P**	**07 46 21.5**	**+1.2**	
	comp=E,32nm,0.8s								
KLR	**Kul'dur**	**45.49**	**4**	*e*P		P	07 46 19.2	-3.7	
KLR				*e*S		**S**	**07 52 56.5**	**-5.9**	
KLR				*e*			07 56 09.5		
KLR				pmax		pmax			
	comp=Z,62nm,1.6s								
KLR				pmax		pmax			
	comp=Z,1μm,11.5s								
HIA	**Hailar**	**45.76**	**353**	*e*P		**P**	**07 46 25.0**	**0.0**	
	comp=Z,88nm,1.0s								
DZM	**Mont Dzumac**	**46.38**	**125**	*e*P		**P**	**07 46 31.2**	**+0.8**	
	comp=Z,124nm,1.1s								
DZM				*e*S		**S**	**07 53 14.6**	**-1.6**	
	comp=Z,5μm,26.7s								
DZM				*e*LR		LR	07 59 36.8		
	comp=Z,4μm,25.4s								
DZM	**Mont Dzumac**	**46.38**	**125**	*e*P		**P**	**07 46 29.7**	**-0.7**	
DZM	**Mont Dzumac**	**46.38**	**125**	P		**P**	**07 46 30.7**	**+0.2**	
DZM	**Mont Dzumac**	**46.38**	**125**	P		**P**	**07 46 30.7**	**+0.2**	
	comp=Z,46nm,1.1s,baz=232,slow=22,SNR=16								
ULN	**Ulaanbaatar**	**47.16**	**342**	*e*P		**P**	**07 46 35.9**	**-0.3**	
	comp=Z,249nm,1.3s								
ULN	**Ulaanbaatar**	**47.16**	**342**	P		**P**	**07 46 36.6**	**+0.4**	
	comp=Z,155nm,1.4s,comp=Z,μm								
SONM	**Songino Array**	**47.34**	**341**	P		**P**	**07 46 37.7**	**+0.1**	
SONM				PcP		**PcP**	**07 48 09.2**	**+1.1**	
SONM	**Songino Array**	**47.34**	**341**	P		**P**	**07 46 37.7**	**+0.1**	
	comp=Z,38nm,0.7s,baz=160,slow=7.2,SNR=119								
SONM				PcP		**PcP**	**07 48 09.2**	**+1.1**	
	comp=Z,25nm,1.0s,baz=160,slow=4.0,SNR=5.8								
SONM				LR		LR	08 08 23.4		
	comp=Z,2μm,20.6s,baz=155,slow=38								
HYB	**Hyderabad**	**49.30**	**290**	*i* P		**P**	**07 46 51.0**	**-2.0**	
HYB				*e*S		**S**	**07 53 59.0**	**+1.4**	
CIT	**Chita**	**49.38**	**349**	*e*P		**P**	**07 46 54.6**	**+1.5**	
CIT				*e*			07 48 17.3		
NGP	**Nagpur**	**49.61**	**295**	*e*PKP		**P**	**07 46 53.7**	**-1.6**	
NGP				*ex*		x	07 46 57.5		
	comp=Z,62nm,1.7s								
NGP				*ex*		x	07 53 08.4		
ZAK	**Zakamensk**	**50.57**	**341**	⇑*i*P		**P**	**07 47 02.1**	**-0.1**	
ZAK				*e*			07 48 20.3		
ZAK				pmax		pmax			
	comp=Z,26nm,1.3s								
TLY	**Talaya**	**51.57**	**342**	*c* iP		**P**	**07 47 10.3**	**+0.6**	
TLY				*e*			07 49 05.8		
TLY				*e*S		S	07 54 35.0	+6.9	
TLY				*e*PS		PS	07 54 43.4		
TLY				*e*			07 56 59.5		
TLY				pmax		pmax			
	comp=Z,77nm,1.0s								
TLY				MLR		MLR			
	comp=Z,2μm,18.0s								
TLY	**Talaya**	**51.57**	**342**	*e*P		**P**	**07 47 10.5**	**+0.9**	
	comp=Z,305nm,1.8s								
TLY	**Talaya**	**51.57**	**342**	P		**P**	**07 47 10.2**	**+0.6**	
	comp=Z,411nm,1.0s,SNR=34								
IRK	**Irkutsk**	**51.86**	**342**	⇑*i*P		**P**	**07 47 12.2**	**+0.4**	
IRK				*e*			07 54 46.0		
IRK				pmax		pmax			
	comp=Z,165nm,2.1s								
MOY	**Mondy**	**52.43**	**340**	*e*P		**P**	**07 47 16.8**	**+0.7**	
MOY				pmax		pmax			
	comp=Z,169nm,1.6s								
WMQ	**Urumqi**	**52.82**	**325**	P		**P**	**07 47 18.5**	**-0.6**	
WMQ				pP		**pP**	**07 47 28.0**	**-1.2**	
WMQ				sP		**sP**	**07 47 32.0**	**-1.1**	
WMQ				PcP		**PcP**	**07 48 29.7**	**+1.5**	
WMQ				PP		**PP**	**07 49 20.0**	**+1.2**	
WMQ				S		**S**	**07 54 43.0**	**-2.6**	
WMQ				sS		**sS**	**07 54 59.0**	**-3.1**	
WMQ				ScS		ScS	07 56 58.0	-8.6	
WMQ				pmax		pmax			
	comp=Z,73nm,1.2s								
WMQ				pmax		pmax			
	comp=Z,790nm,5.2s								
WMQ				LR		LR			
	comp=N,7μm,20.0s								
WMQ				LR		LR			
	comp=E,3μm,20.0s								
WMQ				LR		LR			
	comp=Z,3μm,22.0s								
CLNS	**Chul'man**	**52.95**	**359**	*e*P		**P**	**07 47 19.7**	**-0.1**	
CLNS				pmax		pmax			
	comp=Z,27nm,1.1s								
CLNS				pmax		pmax			
	comp=N,20nm,1.3s								
CLNS				pmax		pmax			
	comp=E,15nm,1.3s								
CLNS				MLR		MLR			
	comp=Z,606nm,19.0s								
CLNS				MLR		MLR			
	comp=E,1μm,20.0s								
CLNS				MLR		MLR			
	comp=N,1μm,20.0s								
DDI	**Dehra Dun**	**53.12**	**305**	*e*PKP		**P**	**07 47 19.0**	**-2.6**	
NDI	**New Delhi**	**53.27**	**303**	*ex*		P	07 47 18.0	-4.7	
POO	**Poona**	**53.90**	**290**	⇓*i*P		**P**	**07 47 25.0**	**-2.4**	
	comp=N,90nm,1.0s								
SMLA	**Simla**	**54.11**	**306**	*i* P		**P**	**07 47 27.8**	**-1.0**	
SMLA							07 47 33.5		
	comp=Z,399nm,0.3s								
SMLA				*i* x		x	07 55 05.9		
MSVF	**Nonsavu**	**54.74**	**115**	*e*P		**P**	**07 47 35.8**	**+2.2**	
MSVF				pmax		pmax			
	comp=Z,43nm,1.0s								
MSVF	**Nonsavu**	**54.74**	**115**	*e*P		**P**	**07 47 35.8**	**+2.2**	
	comp=Z,44nm,1.0s								
BOD	**Bodaibo**	**54.87**	**352**	*e*P		**P**	**07 47 33.9**	**+0.2**	
BOD				pmax		pmax			
	comp=Z,49nm,1.1s								
PEA0B	**Petropavlovsk-**	**55.33**	**22**	*e*P		**P**	**07 47 38.9**	**+1.8**	
PETK	**Petropavlovsk-**	**55.33**	**22**	P		**P**	**07 47 37.7**	**+0.5**	
PETK				pmax		pmax			
	comp=Z,33nm,0.8s								
PETK	**Petropavlovsk-**	**55.33**	**22**	P		**P**	**07 47 37.6**	**+0.5**	
PETK	**Petropavlovsk-**	**55.33**	**22**	P		**P**	**07 47 37.6**	**+0.5**	
	comp=Z,33nm,0.8s,baz=189,slow=5.4,SNR=18								
PETK				LR		LR	08 10 19.6		
	comp=Z,1μm,21.2s,baz=219,slow=35								
PET	**Petropavlovsk**	**55.62**	**23**	*e*P		**P**	**07 47 42.2**	**+2.9**	
PET				*e*S		S	07 55 16.5	-6.4	
PET				pmax		pmax			
	comp=Z,52nm,1.3s								
PET				pmax		pmax			
	comp=Z,2μm,4.9s								
PET				pmax		pmax			
	comp=Z,700nm,5.5s								
PET	**Petropavlovsk**	**55.62**	**23**	*e*P		**P**	**07 47 42.0**	**+2.8**	
	comp=Z,68nm,1.2s								
MK31	**Makanchi Array**	**57.65**	**325**	*e*P		**P**	**07 47 52.9**	**-1.0**	
MK31	**Makanchi Array**	**57.65**	**325**	*e*P		**P**	**07 47 52.9**	**-1.0**	
MKAR	**Makanchi Array**	**57.65**	**325**	*e*P		**P**	**07 47 53.2**	**-0.7**	
MKAR	**Makanchi Array**	**57.65**	**325**	*e*P		**P**	**07 47 53.1**	**-0.7**	
MKAR				⇑*e*			08 17 54.2		
MKAR	**Makanchi Array**	**57.65**	**325**	P		**P**	**07 47 53.0**	**-0.9**	
	comp=Z,32nm,0.6s,baz=117,slow=7.3,SNR=101								
MKAR				LR		LR	08 15 29.5		
	comp=Z,3μm,18.9s,baz=104,slow=39								
MKAR				PKP2bc			08 17 54.2		
	comp=Z,1.4nm,1.1s,baz=262,slow=2.9,SNR=4.2								
KSH	**Kashi**	**58.17**	**315**	P		**P**	**07 47 58.4**	**+0.6**	
KSH				pP		**pP**	**07 48 08.3**	**+0.4**	
KSH				sP		**sP**	**07 48 12.4**	**+0.6**	
KSH				PcP		**PcP**	**07 48 48.8**	**-0.3**	
KSH				PP		**PP**	**07 50 09.6**	**+2.8**	
KSH				ScP		**ScP**	**07 52 44.7**	**-2.4**	
KSH				PcS		**PcS**	**07 52 48.8**	**-1.9**	
KSH				S		**S**	**07 55 57.1**	**-0.2**	
KSH				sS		**sS**	**07 56 13.7**	**-0.3**	
KSH				ScS		**ScS**	**07 57 41.8**	**-3.5**	
KSH				SS		**SS**	**07 59 50.4**	**+1.0**	
KSH				LR		LR			
	comp=N,990nm,14.5s								
KSH				LR		LR			
	comp=E,3μm,20.8s								
KSH				LR		LR			
	comp=Z,3μm,18.6s								
YAK	**Yakutsk**	**58.17**	**2**	*e*P		**P**	**07 47 57.1**	**-0.1**	
YAK				*e**PP		**pP**	**07 48 07.4**	**+0.1**	
YAK				*e*			07 48 48.7		
YAK				*e*S		**S**	**07 55 58.6**	**+2.3**	
YAK				*e**SS		**sS**	**07 56 09.0**	**-4.0**	
YAK				*e*			07 57 44.0		
YAK				*e*SS		**SS**	**07 59 44.6**	**-3.7**	
YAK				pmax		pmax			
	comp=Z,252nm,1.0s								
YAK				pmax		pmax			
	comp=N,135nm,1.1s								
YAK				pmax		pmax			
	comp=E,41nm,1.0s								
YAK				pmax		pmax			
	comp=Z,86nm,1.5s								
YAK				pmax		pmax			
	comp=N,56nm,1.5s								
YAK				smax		smax			
	comp=N,129nm,3.5s								
YAK				smax		smax			
	comp=E,203nm,4.7s								
YAK	**Yakutsk**	**58.17**	**2**	*e*P		**P**	**07 47 57.5**	**+0.4**	
	comp=E,260nm,0.9s								
OUZ	**Omahuta**	**58.44**	**136**	*e*P		P	07 48 07.4	+7.8	
	comp=E,147nm,1.8s								
ULHL	**Ulahol**	**59.14**	**318**	P		**P**	**07 48 02.7**	**-1.9**	
	SNR=8.4								
KZA	**Kyzart**	**59.73**	**317**	P		**P**	**07 48 08.8**	**-0.1**	
	SNR=28								
TKM2	**Tokmak 2**	**59.86**	**318**	*i* P		**P**	**07 48 08.8**	**-0.7**	
TKM2	**Tokmak 2**	**59.86**	**318**	*e*P		**P**	**07 48 09.1**	**-0.5**	
	comp=E,50nm,1.3s								
TKM2	**Tokmak 2**	**59.86**	**318**	P		**P**	**07 48 08.9**	**-0.7**	
	SNR=22								
KBK	**Karagaybulak**	**60.18**	**318**	P		**P**	**07 48 12.9**	**+1.2**	
	SNR=6.0								
UCH	**Uchtor**	**60.29**	**317**	P		**P**	**07 48 14.3**	**+1.4**	
	SNR=9.9								
CHMS	**Chumysh**	**60.45**	**318**	P		**P**	**07 48 12.3**	**-1.1**	

USP Ospenovka 60.73 318 P P 07 48 14.5 -0.9
SNR=27
AML Almayashu 60.81 317 P P 07 48 16.2 0.0
SNR=43
EKS2 Erkin-Say 60.97 318 *e*P P 07 48 16.3 -0.7
EKS2 pmax pmax
comp=Z,26nm,0.7s
EKS2 Erkin-Say 60.97 318 *e*P P 07 48 16.2 -0.7
comp=Z,26nm,0.7s
EKS2 Erkin-Say 60.97 318 P P 07 48 16.5 -0.5
SNR=24
RPZ Rata Peaks 61.67 145 *e*P P 07 48 20.8 -0.8
comp=Z,82nm,1.1s
KURBB Kurchatov Arra 61.83 327 P P 07 48 21.3 -1.2
comp=Z,46nm,0.6s,baz=128,slow=6.7,SNR=72
KURK Kurchatov 61.83 327 *c i*P P 07 48 21.6 -0.9
KURK pmax pmax
comp=Z,108nm,1.2s
KURK Kurchatov 61.83 327 *e*P P 07 48 21.7 -0.8
NVS Novosibirsk 61.94 333⇑ *i*P P 07 48 22.0 -1.1
NVS *e*S S 07 56 49.8 +4.9
NVS *e* 07 58 14.9
NVS pmax pmax
comp=N,38nm,1.4s
NVS pmax pmax
comp=Z,98nm,1.4s
NVS pmax pmax
comp=E,41nm,1.1s
NVS smax smax
comp=N,3.0nm,0.5s
NVS smax smax
comp=E,4.0nm,0.5s
FX1 Attu Island--F 61.96 30 *e*P P 07 48 25.3 +2.0
SEY Seymchan 61.96 13⇑ *i*P P 07 48 24.2 +1.1
URZ Urewera 62.42 137 *e*P P 07 48 27.3 +0.6
comp=E,36nm,1.1s
AFI Afiamalu 63.26 108 LR LR 08 10 48.5
comp=E,2µm,21.5s,baz=287,slow=31
KK31 Karatay Array 63.35 317 *i* P P 07 48 31.5 -1.4
KK31 pmax pmax
comp=Z,20nm,0.7s
KKAR Karatay Array 63.35 317 *e*P P 07 48 32.0 -0.9
KKAR Karatay Array 63.35 317 *e*P P 07 48 32.0 -0.9
BVA0 Borovoye Array 67.41 327 *i* P P 07 48 58.2 -0.7
BVA0 pmax pmax
comp=Z,27nm,1.6s
BVAR Borovoye Array 67.41 327 P P 07 48 57.6 -1.3
BVAR pmax pmax
comp=Z,23nm,0.7s
BVAR MLR MLR
comp=Z,1µm,18.9s
BVAR Borovoye Array 67.41 327 P P 07 48 57.6 -1.3
BVAR Borovoye Array 67.41 327 P P 07 48 57.6 -1.3
comp=Z,23nm,0.7s,baz=129,slow=8.4,SNR=76
BVAR LR LR 08 22 40.7
comp=Z,1µm,18.9s,baz=263,slow=40
BRVK Borovoye 67.48 327 *c i*P P 07 48 58.7 -0.6
BRVK pmax pmax
comp=Z,82nm,1.2s
BRVK Borovoye 67.48 327 P P 07 48 58.1 -1.2
comp=Z,369nm,0.8s,SNR=37
BILL Bilibino 69.47 15⇑ *i*P P 07 49 11.6 +0.1
BILL *e* 07 51 45.0
BILL *i* S S 07 58 18.8 +2.3
BILL *e*SS SS 08 02 52.2 +7.9
BILL pmax pmax
comp=Z,14nm,1.2s
BILL MLR MLR
comp=Z,1µm,19.0s
BILL Bilibino 69.47 15 *e*P P 07 49 11.4 -0.1
comp=Z,20nm,0.9s
BILL *e*PP PP 07 51 43.4 -1.9
DRV Dumont d'Urvil 70.88 175 S S 07 58 06.0 -27
AB31 Akbulak array 72.26 321 *i* P P 07 49 27.8 -1.0
AB31 pmax pmax
comp=Z,11nm,0.5s
ABKAR Akbulak array 72.26 321 *e*P P 07 49 27.8 -1.0
UNV Unalaska Valle 73.28 35 *e*P P 07 49 34.3 -0.5
AKTO Aktyubinsk 73.76 322 P P 07 49 37.3 -0.4
AKTO pmax pmax
comp=Z,10.0nm,0.9s
AKTO Aktyubinsk 73.76 322 P P 07 49 37.1 -0.6
AKTO Aktyubinsk 73.76 322 P P 07 49 37.1 -0.6
comp=Z,26nm,0.7s,baz=100,slow=5.9,SNR=67
AKTO LR LR 08 27 02.7
comp=Z,4µm,19.8s,baz=287,slow=40
SVE Sverdlovsk 74.04 328⇓ *e*P P 07 49 38.8 -0.4
SVE *e* 07 52 19.6
SVE *e*S S 07 59 09.9 +0.4
SVE pmax pmax
comp=Z,142nm,1.4s
SVE MLR MLR
comp=Z,1µm,21.0s
GAMB Gambell 74.29 24 *e*P P 07 49 41.1 +0.7
comp=Z,74nm,1.2s
ARU Arti 75.02 328 *c i*P P 07 49 43.9 -1.0
ARU 07 52 32.3
ARU S S 07 59 19.5 -0.9
ARU pmax pmax
comp=Z,90nm,1.2s
ARU Arti 75.02 328 *e*P P 07 49 44.0 -0.9
comp=Z,143nm,1.5s
ARU Arti 75.02 328 P P 07 49 44.6 -0.3
comp=Z,469nm,0.6s,SNR=16
SOKR Solikamsk 76.79 331 *c i*P P 07 49 54.6 -0.2
SOKR S S 07 59 44.2 +4.5
SOKR pmax pmax
comp=Z,100nm,1.5s
SOKR MLR MLR
comp=Z,2µm,25.0s
SDPT Sand Point 77.06 34 *e*P P 07 49 56.5 0.0
comp=Z,130nm,0.9s
QRN Al-Qurain 78.57 298 *e*P P 07 50 03.0 -2.5
QRN AMb AMB 07 50 08.2
comp=Z,103nm,0.6s
MIB Mutribah 79.11 299 *e*P P 07 50 06.4 -2.1
MIB AMb AMB 07 50 14.0
comp=Z,75nm,1.0s
NAY Al-Naaiem 79.18 299 *e*P P 07 50 06.7 -2.2
NAY AMb AMB 07 50 13.9
comp=Z,35nm,0.7s
MAK Makhachkala 79.71 313 *e*P P 07 50 08.3 -3.1
MAK *e* 07 53 11.2
MAK *e*PPP PPP 07 55 04.8
MAK *e*S S 08 00 06.0 -5.8
MAK *i* 08 00 35.5
MAK *e*SS SS 08 05 14.4 -6.5
MAK *e*SSS SSS 08 08 42.9
MAK pmax pmax
comp=Z,229nm,1.5s
SVW2 Sparrevohn 80.68 29 *e*P P 07 50 18.8 +2.5
comp=Z,45nm,1.4s
DGRG David-gareji 81.20 311 P P 07 50 19.4 -0.1
OPO Ambohidratompo 81.50 251 P P 07 50 20.6 -1.1
OPO Ambohidratompo 81.50 251 P P 07 50 20.6 -1.1
comp=Z,21nm,0.9s,baz=90,slow=4.8,SNR=8.6
ABPO Ambohimpanom 81.51 250 *e*P P 07 50 20.7 -1.1
ABPO pmax pmax
comp=Z,30nm,0.8s
ABPO Ambohimpanom 81.51 250 *e*P P 07 50 20.7 -1.1
comp=Z,30nm,0.8s
GNI Garni 81.62 310 P P 07 50 21.3 -0.7
comp=Z,1.9nm,0.9s
GNI Garni 81.62 310 P P 07 50 21.3 -0.7
comp=Z,2.0nm,0.3s,baz=11,slow=11,SNR=4.5
TBLG Delisi 81.69 311 *e*P P 07 50 24.9 +2.8
TBLG Delisi 81.69 311 P P 07 50 24.9 +2.8
BHD Baghdad 81.73 303 *ex* P 07 50 17.6 -4.8
BHD *ex* x 08 00 21.0
KDAK Kodiak Island 81.76 32 *e*P P 07 50 23.3 +1.3
KDAK Kodiak Island 81.76 32 P P 07 50 23.0 +1.0
comp=Z,408nm,0.9s,SNR=6.6
RSO Redoubt South 81.97 30 *e*P P 07 50 23.9 +0.6
ZEI Tsey 82.35 312 *e*P P 07 50 24.8 -1.0
ZEI pmax pmax
comp=Z,59nm,1.3s
SPU Mount Spurr 82.39 29 *e*P P 07 50 27.2 +1.8
AKH Akhalkalaki 82.61 311 P P 07 50 27.3 +0.1
SLKM Skilak Lake 83.22 30 *e*P P 07 50 29.3 -0.4
SLKM Skilak Lake 83.22 30 *e*P P 07 50 29.3 -0.4
KIV Kislovodsk 83.27 314 *e*P P 07 50 30.2 -0.2
KIV *e*S S 08 00 46.6 -2.3
KIV pmax pmax
comp=Z,15nm,0.9s
KIV Kislovodsk 83.27 314 *e*P P 07 50 32.2 +1.8
comp=Z,12nm,0.8s
TRF Thorofare Moun 83.42 27 *e*P P 07 50 29.5 -1.4
comp=Z,95nm,1.2s
VNDA Vanda 83.43 173 *e*P P 07 50 30.0 -0.4
comp=Z,24nm,0.9s
ATD Arta Tunnel 83.47 281 P P 07 50 32.2 +0.3
ATD Arta Tunnel 83.47 281 P P 07 50 32.2 +0.3
comp=Z,12nm,0.5s,baz=90,slow=20,SNR=3.3
RC01 Rabbit Creek A 83.50 29 *e*P P 07 50 31.0 0.0
comp=Z,93nm,1.2s
SEW Seward 83.57 30 *e*P P 07 50 34.9 +3.5
comp=Z,175nm,1.4s
ARTV Artvin 83.78 311 *i* P P 07 50 33.7 +0.5
COLD Coldfoot 83.79 23 *e*P P 07 50 33.3 +0.9
comp=Z,143nm,1.5s
DAGI Agillar 83.79 311 *i* P P 07 50 33.3 +0.1
PMR Palmer 83.82 29 *e*P P 07 50 32.6 -0.1
PMR pmax pmax
comp=Z,90nm,1.1s
PMR Palmer 83.82 29 *e*P P 07 50 32.6 -0.1
comp=Z,90nm,1.1s
DDEM Demirkent 83.92 311 *i* P P 07 50 34.6 +0.8
MCK McKinley 84.05 26 *e*P P 07 50 33.7 -0.2
MCK pmax pmax
comp=Z,106nm,1.2s
MCK McKinley 84.05 26 *e*P P 07 50 33.7 -0.2
comp=Z,106nm,1.2s
VRHR Novokhopersk 84.15 321 *e*P P 07 50 33.4 -1.2
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=Z,110nm,0.7s
VRHR pmax pmax
comp=E,40nm,0.6s
ERZM Erzurum 84.21 310 *i* P P 07 50 34.6 -1.0
SML Sawmill 84.22 28 *e*P P 07 50 35.2 +0.4
SML pmax pmax
comp=Z,40nm,1.1s
SML Sawmill 84.22 28 *e*P P 07 50 35.2 +0.4
comp=Z,40nm,1.1s
BNGL BINGOL 84.38 309 *i* P P 07 50 36.9 +0.5
COLA College 84.58 25 *e*P P 07 50 36.8 +0.3
COLA pmax pmax
comp=Z,12nm,0.9s
COLA College 84.58 25 *e*P P 07 50 36.8 +0.3
comp=Z,12nm,0.9s
PPT2 Papeete2 84.93 108 *e*S S 08 01 03.5 -2.9
comp=Z,2µm,25.8s
PPT2 *e*SS SS 08 06 40.3 +0.5
comp=Z,790nm,27.0s
PPT2 *e*LQ LQ 08 13 54.1
comp=Z,3µm,35.2s
PPT2 *e*LR LR 08 17 22.5
comp=Z,4µm,30.0s
ILAR Eielson Array 84.99 25 P P 07 50 37.8 -0.8
ILAR Eielson Array 84.99 25 P P 07 50 37.8 -0.8
comp=Z,19nm,1.2s,baz=251,slow=3.8,SNR=28
SOC Sochi 85.42 313 *e*P P 07 50 38.9 -2.2
SOC *e**PP pP 07 50 48.0 -3.7
SOC *e*S S 08 01 00.7 -9.4
SOC pmax pmax
comp=Z,44nm,0.6s
SOC pmax pmax
comp=Z,266nm,2.7s
DIV Divide 85.42 29 *e*P P 07 50 42.2 +1.3
comp=Z,227nm,1.2s
KLMR Klimovskoe 85.48 331 *d i*P P 07 50 41.6 +0.5
KLMR S S 08 01 04.0 -6.1
KLMR pmax pmax
comp=Z,402nm,1.1s
KLMR pmax pmax
comp=Z,223nm,5.4s
PAX Paxson 85.58 27 *e*P P 07 50 42.9 +1.2
PAX pmax pmax
comp=Z,69nm,1.4s
PAX Paxson 85.58 27 *e*P P 07 50 42.9 +1.2
comp=Z,69nm,1.4s
TBUI Tubuai 85.61 114 *e*S S 08 01 12.0 -0.8
comp=Z,2µm,28.8s
TBUI *e*SS SS 08 06 46.9 -2.6
comp=Z,1µm,27.8s
TBUI *e*LQ LQ 08 14 05.4
comp=Z,928nm,36.5s
TBUI *e*LR LR 08 17 40.7
comp=Z,4µm,28.2s
VORD Divnogorie 85.62 321 *e*P P 07 50 40.7 -1.3
VOR Voronezh 85.67 321 P P 07 50 39.0 -3.2
VOR pmax pmax
comp=Z,500nm,1.5s
VSR Storozhevoye 85.69 321 *e*P P 07 50 41.2 -1.2
VSR pmax pmax
comp=Z,100nm,1.4s
VSR pmax pmax
comp=N,20nm,1.7s
VSR pmax pmax
comp=E,70nm,1.2s
KELT Kelkit 85.83 310 *i* P P 07 50 43.7 +0.2
BMRM Bremner River 85.99 29 *e*P P 07 50 44.8 +1.1
comp=E,118nm,1.2s
MENT Mentasta 86.38 27 *e*P P 07 50 46.2 +0.6
KEMA Kemaliye 86.44 309 *i* P P 07 50 46.1 -0.4
MOS Moscow 86.53 325 *e*P P 07 50 42.8 -3.6
MOS *e* 08 01 16.9
MOS pmax pmax
comp=Z,168nm,1.3s
MOS pmax pmax
comp=Z,300nm,1.6s
AKCD Akcadag 86.92 308 *i* P P 07 50 49.2 +0.3
ANN Anapa 87.03 315⇑ *i*P P 07 50 47.4 -1.6
ANN *e* 08 01 09.7
ANN pmax pmax
comp=Z,227nm,1.3s
OBN Obninsk 87.16 325⇑ *e*P P 07 50 48.7 -0.7
OBN *e* 07 54 13.1
OBN *e*S S 08 01 27.0 +0.4
OBN pmax pmax
comp=Z,174nm,1.2s
OBN Obninsk 87.16 325 *e*P P 07 50 49.3 -0.1
comp=Z,89nm,0.7s
OBN Obninsk 87.16 325 P P 07 50 49.0 -0.4
comp=Z,810nm,0.6s,SNR=6.0
GZT Gaziantep 87.24 307 *i* P P 07 50 50.2 -0.3
LVZ Lovozero 87.41 338 *e*P P 07 50 50.0 -0.5
LVZ pmax pmax
comp=Z,205nm,1.5s
LVZ Lovozero 87.41 338 *e*P P 07 50 50.0 -0.5
comp=Z,205nm,1.5s
EGAK Eagle 87.44 25 *e*P P 07 50 51.1 +0.4
comp=Z,103nm,2.5s
APA Apatity 87.91 337⇓ *i*P P 07 50 53.6 +0.8
APA pmax pmax
comp=Z,54nm,1.2s
ANDN Andirin 88.20 307 *i* P P 07 50 56.7 +1.7
HAVZ Havza 88.48 311 *i* P P 07 50 58.3 +2.1
JOF Joensuu 89.25 333 *e*P P 07 50 57.2 -2.0
JOF pmax pmax
comp=Z,44nm,0.6s
JOF Joensuu 89.25 333 *ep* P 07 50 57.2 -2.0
comp=Z,44nm,0.6s
KEV Kevo 89.93 340 *e*P P 07 51 01.5 -0.8
KEV pmax pmax
comp=Z,36nm,1.0s
KEV Kevo 89.93 340 *ep* P 07 51 01.5 -0.8
comp=Z,36nm,1.0s
INK Inuvik 90.06 22 *e*P P 07 51 03.2 +0.3
comp=Z,26nm,1.2s
BR131 Keskin Array S 90.16 310 *e*P P 07 51 03.1 -1.1
comp=Z,19nm,0.8s
BRTR Keskin Array B 90.16 310 P P 07 51 02.5 -1.7
BRTR Keskin Array B 90.16 310 P P 07 51 02.5 -1.7
comp=Z,1.9nm,0.8s,baz=112,slow=4.4,SNR=3.6
BRTR LR LR 08 40 32.8
comp=Z,748nm,21.2s,baz=57,slow=42
BALT Daday 90.19 311 *i* P P 07 51 04.1 -0.3
SPITS Spitsbergen Ar 90.49 349 P P 07 51 03.9 -0.9
SPITS Spitsbergen Ar 90.49 349 P P 07 51 03.9 -0.9
comp=Z,16nm,0.8s,baz=116,slow=11,SNR=7.5
ARCES ARCESS Array B 90.49 340 P P 07 51 04.0 -1.0
ARCES PKiKP **PKiKP** 07 55 59.2 -0.3
ARCES ARCESS Array B 90.49 340 P P 07 51 04.0 -1.0
comp=Z,77nm,0.9s,baz=73,slow=5.5,SNR=50
ARCES PKiKP **PKiKP** 07 55 59.2 -0.3
comp=Z,2.4nm,0.9s,baz=76,slow=3.8,SNR=2.4
ARCES LR LR 08 37 36.4
comp=Z,1µm,19.8s,baz=354,slow=40
ARE0 ARCESS Array S 90.49 340 *e*P P 07 51 03.9 -1.0
SPB4 Spitsbergen Ar 90.50 349 *e*P P 07 51 04.1 -0.7
SKAG Skagway 90.72 30 *e*P P 07 51 08.2 +2.1
CSS Prodhromos 90.82 305 *e*P P 07 51 07.2 -0.1
comp=Z,50nm,1.1s
KAF Kangasniemi 91.67 332 *e*P P 07 51 08.7 -1.8
KAF pmax pmax
comp=Z,19nm,0.7s
KAF Kangasniemi 91.67 332 *ep* P 07 51 08.7 -1.8
comp=Z,19nm,0.7s
FINES FINESS Array B 91.90 332 P P 07 51 10.9 -0.7
FINES FINESS Array B 91.90 332 P P 07 51 10.9 -0.7
comp=Z,15nm,0.7s,baz=67,slow=6.4,SNR=29
FINES LR LR 08 37 07.3
comp=Z,2µm,20.1s,baz=190,slow=39
AKASG Malin Array Be 92.00 321 *ce*P P 07 51 11.5 -0.8
AKASG pmax pmax
comp=Z,25nm,0.7s
AKASG Malin Array Be 92.00 321 P P 07 51 11.2 -1.1
AKASG Malin Array Be 92.00 321 P P 07 51 11.2 -1.1
comp=Z,25nm,0.7s,baz=73,slow=4.2,SNR=33
AKASG LR LR 08 37 58.2
comp=Z,944nm,18.2s,baz=75,slow=39
AKBB Malin Array Si 92.00 321 *e*P P 07 51 11.1 -1.2
AKBB Malin Array Si 92.00 321 *e*P P 07 51 11.1 -1.2
KIEV Kiev 92.01 321 *e*P P 07 51 11.4 -0.9
KIEV pmax pmax
comp=Z,33nm,0.9s
KIEV Kiev 92.01 321 *e*P P 07 51 11.4 -0.9
comp=Z,33nm,0.9s
VSU Vasula 92.15 329⇑ *i*P P 07 51 12.1 -0.7
VSU pmax pmax
comp=Z,64nm,1.3s
MICGM Minsk 92.22 325 *e* 07 50 11.0
SYO Syowa Base 92.53 201⇓ *e*P P 07 51 13.0 -1.3
SYO Syowa Base 92.53 201⇑ *es*P sP 07 51 33.0 +4.3
NACGM Naroch 92.78 325 *e* P 07 51 13.0 -2.8
KIS Kishinev 92.81 317 *e* P 07 51 28.0 +12
KIS LRM MLR 08 39 00.0
comp=Z,5µm,20.0s
WRAK Wrangell Islan 92.81 33 *e*P P 07 51 17.4 +1.5
comp=Z,29nm,0.9s
IZAR Zarasai 92.92 326 *e*P P 07 51 19.3 +2.9
IZAR AMB AMB 07 51 25.8
comp=Z,12nm,1.2s
IZAR Zarasai 92.92 326 *e*P P 07 51 19.3 +2.9
IZAR AMB AMB 07 51 25.8
comp=Z,12nm,1.2s
IIGN Ignalina 93.01 326 *e*P P 07 51 19.7 +2.9
IIGN AMB AMB 07 51 24.4
comp=Z,16nm,1.0s
IIGN Ignalina 93.01 326 *e*P P 07 51 19.7 +2.9
IIGN AMB AMB 07 51 24.4
comp=Z,16nm,1.0s
ISAL Salakas 93.02 326 *e*P P 07 51 19.7 +2.8
ISAL AMB AMB 07 51 23.4
comp=Z,6.3nm,0.9s
ISAL Salakas 93.02 326 *e*P P 07 51 19.7 +2.8
ISAL AMB AMB 07 51 23.4
comp=Z,6.3nm,0.9s
TIRR Tirgusor 93.47 315 ⇑P P 07 51 22.3 +3.1
TIRR Tirgusor 93.47 315⇑ *i*P P 07 51 22.3 +3.1
CFR Carcaliu 93.55 316 ⇓P P 07 51 22.5 +2.9
CFR Carcaliu 93.55 316⇓ *i*P P 07 51 22.5 +2.9
DLBC Dease Lake 93.61 31 *e*P P 07 51 20.5 +0.8
QSPA South Pole Qui 93.66 180 P P 07 51 19.0 -0.7
QSPA South Pole Qui 93.66 180 P P 07 51 19.0 -0.7
comp=Z,6.7nm,0.9s,baz=353,slow=3.3,SNR=8.8
TESR 94.36 317⇓ *i*P P 07 51 22.9 -0.4
VRI Vrincioaia 94.42 316 ⇑P P 07 51 24.1 +0.5
VRI Vrincioaia 94.42 316⇑ *i*P P 07 51 24.1 +0.5
PLOR Plostina 94.47 316 ⇑P P 07 51 24.1 +0.2
PLOR Plostina 94.47 316⇑ *i*P P 07 51 24.1 +0.2
SUW Suwalki 95.02 325 *e*P P 07 51 25.8 -0.3
SUW Suwalki 95.02 325 *e*P P 07 51 25.8 -0.3
SUW Suwalki 95.02 325 *e*P P 07 51 25.4 -0.7
SUW Suwalki 95.02 325 *e*P P 07 51 25.4 -0.7
MLR Muntele Rosu 95.02 316 P P 07 51 26.0 -0.5
MLR Muntele Rosu 95.02 316⇑ *i*P P 07 51 25.8 -0.7
MLR Muntele Rosu 95.02 316 P P 07 51 26.0 -0.5
comp=Z,10nm,0.9s,baz=356,slow=3.8,SNR=13
BURAR Bucovina Array 95.12 318⇓ *i*P P 07 51 27.2 +0.3
BUR08 Bucovina Ar. S 95.12 318 *e*P P 07 51 26.7 -0.2
LVV L'vov 95.44 321 *e*P P 07 51 27.4 -0.7
VOIR 95.65 316 ⇑P P 07 51 28.5 -0.8
VOIR 95.65 316⇑ *i*P P 07 51 28.5 -0.8
BMR Baia Mare 96.24 319 P P 07 51 32.6 +0.7
KWP Kalwaria Pacla 96.31 321 ⇓P P 07 51 32.4 +0.2
KWP Kalwaria Pacla 96.31 321 ⇓*i*P P 07 51 32.4 +0.2
LOT Lotru 96.53 316⇓ *i*P P 07 51 33.0 -0.4
KOLS Kolonicke sedl 96.75 320 *e*P P 07 51 34.8 +0.6
KOLS pmax pmax
comp=Z,19nm,1.4s
KOLS Kolonicke sedl 96.75 320 *e*P P 07 51 34.8 +0.6
TRPA Tarpa 96.77 319 *i*P P 07 51 34.8 +0.6
TRPA Tarpa 96.77 319 *e*P P 07 51 33.3 -0.9
UZH Uzhgorod 96.81 320 ⇑*i*P P 07 51 34.3 -0.1
UZH *e* 07 51 43.7
DRGR 96.96 318 ⇑P P 07 51 35.5 +0.3
DRGR 96.96 318⇑ *i*P P 07 51 35.5 +0.3
GZR Gura Zlata 97.23 316 ⇑P P 07 51 36.5 0.0
GZR Gura Zlata 97.23 316⇑ *i*P P 07 51 36.5 0.0
DAG Danmarks Havn 97.25 352 *i* P P 07 51 35.2 -0.6
DAG pmax pmax
comp=Z,18nm,0.9s
DAG Danmarks Havn 97.25 352 *i* P P 07 51 35.2 -0.6
comp=Z,175nm,0.9s
CRVS Cervenica-Dubn 97.28 320 *e*P Pdif 07 51 36.9 +0.3
CRVS pmax pmax
comp=Z,30nm,1.2s
CRVS Cervenica-Dubn 97.28 320 *e*P Pdif 07 51 36.9 +0.3
VTS Vitosha 97.52 314 ⇑P Pdif 07 51 39.5 +1.4
VTS Vitosha 97.52 314⇑ *i*P Pdif 07 51 39.5 +1.4
NIE Niedzica 97.88 321 *e*P P 07 51 39.1 -0.2
NIE Niedzica 97.88 321 *e*P Pdif 07 51 39.9 +0.6
BZS Buzias 97.97 317 ⇑P P 07 51 39.4 -0.3
BZS Buzias 97.97 317⇑ *i*P P 07 51 39.4 -0.3
OJC Ojcow 97.99 322 *e*P P 07 51 39.1 -0.6
OJC Ojcow 97.99 322 *e*P Pdif 07 51 39.9 +0.2
HFS Hagfors 98.09 332 P P 07 51 38.5 -1.4
HFS Hagfors 98.09 332 P P 07 51 38.5 -1.4
comp=Z,30nm,0.9s,baz=35,slow=3.6,SNR=21
PSZ Piszkesteto 98.54 319 ⇑P Pdif 07 51 42.4 0.0
PSZ Piszkesteto 98.54 319 *e*P P 07 51 42.1 -0.2
PSZ Piszkesteto 98.54 319⇑ *i*P Pdif 07 51 42.4 0.0
PSZ Piszkesteto 98.54 319 ⇓*e*Pdif P 07 51 42.2 -0.2
NB2 NORSAR Subarra 98.85 334 P P 07 51 42.0 -1.4
baz=66,slow=4.6
NB2 NORSAR Subarra 98.85 334 P P 07 51 42.0 -1.4
comp=Z,21nm,0.8s,baz=66,slow=4.6
NOA NORSAR Array B 98.85 334 P P 07 51 41.8 -1.6
NOA NORSAR Array B 98.85 334 P P 07 51 41.8 -1.6
comp=Z,25nm,1.0s,baz=66,slow=4.6,SNR=23
NOA LR LR 08 45 38.0
comp=Z,1µm,19.1s,baz=65,slow=41
RKT Rikitea 98.90 113 *e*SKSac **SKSac** 08 02 17.7 -3.0
comp=Z,816nm,29.2s
RKT *e*SP **SP** 08 04 37.5 -0.9
comp=Z,923nm,29.8s
RKT *e*SS **SS** 08 10 01.2 +0.7
comp=Z,952nm,28.8s
RKT *e*LR LR 08 23 51.5
comp=Z,2µm,33.2s
VYHS Vyhne 99.07 320 *e*P **Pdif** 07 51 44.4 -0.2
VYHS pmax pmax
comp=Z,4.0nm,1.4s
VYHS Vyhne 99.07 320 PDIF **Pdif** 07 51 44.4 -0.2
NAO01 NORSAR Array S 99.08 334 *e*P **Pdif** 07 51 43.5 -0.8
comp=Z,16nm,0.8s
OKC Ostrava-Krasne 99.12 322 *e*P **Pdif** 07 51 45.2 +0.4
OKC MLR MLR
comp=Z,1µm,20.2s
OKC Ostrava-Krasne 99.12 322 *e*PDIFF **Pdif** 07 51 45.2 +0.4
OKC AMS AMS 08 48 20.0
comp=Z,1µm,20.2s
YKA Yellowknife Ar 99.39 24 P **Pdif** 07 51 45.5 -0.1
YKA PKiKP **PKiKP** 07 56 16.3 +1.3
YKA PKKPbc **PKKPbc** 08 08 08.2 -3.3
YKA Yellowknife Ar 99.39 24 P **Pdif** 07 51 45.5 -0.1
comp=Z,1.2nm,0.7s,baz=298,slow=4.2,SNR=14
YKA PKiKP **PKiKP** 07 56 16.3 +1.3
comp=Z,0.6nm,0.6s,baz=301,slow=1.7,SNR=8.2
YKA PKKPbc **PKKPbc** 08 08 08.1 -3.3
comp=Z,0.3nm,0.5s,baz=116,slow=2.9,SNR=6.9
LSZ Lusaka 99.41 255 *e*P **Pdif** 07 51 45.8 -1.1

	comp=Z,5.5nm,0.9s								
MORC	**Moravsky Berou**	**99.51**	**322**	*e*P		**Pdif**	**07 51 47.0**	**+0.4**	
MORC				pmax		pmax			
	comp=Z,14nm,1.2s								
MORC	**Moravsky Berou**	**99.51**	**322**	*e*P		**Pdif**	**07 51 47.0**	**+0.4**	
	comp=Z,14nm,1.2s								
PKSM	**Moragy**	**99.83**	**318**	⇑P		**Pdif**	**07 51 47.6**	**-0.4**	
PKSM	**Moragy**	**99.83**	**318**	⇑*i*P		**Pdif**	**07 51 47.6**	**-0.4**	
PKSM	**Moragy**	**99.83**	**318**	⇓*e*Pdiff		**Pdif**	**07 51 47.8**	**-0.2**	
KSP	**Ksiaz**	**99.94**	**323**	*e*P		**Pdif**	**07 51 49.6**	**+1.2**	
KSP	**Ksiaz**	**99.94**	**323**	*e*P		**Pdif**	**07 51 49.6**	**+1.2**	
KSP	**Ksiaz**	**99.94**	**323**	*e*P		**Pdif**	**07 51 49.1**	**+0.7**	
DPC	**Dobruska-Polom**	**100.08**	**322**	*e*P		**Pdif**	**07 51 49.5**	**+0.4**	
DPC				*e*			07 51 58.6		
DPC				MLR		MLR			
	comp=Z,900nm,18.4s								
DPC	**Dobruska-Polom**	**100.08**	**322**	*e*PDIFF		**Pdif**	**07 51 49.5**	**+0.4**	
DPC				*e*pP		pP	07 51 58.6	-1.2	
DPC				AMS		AMS	08 46 30.0		
	comp=Z,900nm,18.4s								
UPC	**Upice**	**100.22**	**323**	*e*P		**Pdif**	**07 51 49.9**	**+0.2**	
UPC	**Upice**	**100.22**	**323**	*e*PDIFF		**Pdif**	**07 51 49.9**	**+0.2**	
TREC	**Trest**	**100.93**	**322**	*e*P		**Pdif**	**07 51 53.3**	**+0.4**	
TREC				MLR		MLR			
	comp=Z,1μm,21.0s								
TREC	**Trest**	**100.93**	**322**	*e*PDIFF		**Pdif**	**07 51 53.3**	**+0.4**	
TREC				AMS		AMS	08 42 50.0		
	comp=Z,1μm,21.0s								
PVCC	**Panska Ves**	**101.08**	**323**	AMS		AMS	08 38 40.0		
	comp=Z,1μm,20.9s								
PRU	**Pruhonice**	**101.28**	**323**	*e*P		**Pdif**	**07 51 54.8**	**+0.4**	
PRU				MLR		MLR			
	comp=Z,900nm,17.3s								
PRU	**Pruhonice**	**101.28**	**323**	*e*PDIFF		**Pdif**	**07 51 54.8**	**+0.4**	
PRU				AMS		AMS	08 43 00.0		
	comp=Z,900nm,17.3s								
BRG	**Berggiesshubel**	**101.34**	**323**	*e*PDIF		**Pdif**	**07 51 54.6**	**0.0**	
	comp=Z,18nm,1.4s								
BRG				PP		**PP**	**07 56 09.0**	**+5.2**	
BRG				SKS			08 02 38.0		
BRG				SDIF		**Sdif**	**08 03 40.0**	**+7.8**	
BRG				SS		**SS**	**08 10 31.0**	**-1.5**	
BRG									
	comp=N,1μm,20.3s								
BRG									
	comp=E,1μm,19.5s								
BRG									
	comp=Z,2μm,20.0s								
BRG	**Berggiesshubel**	**101.34**	**323**	*e*P		**Pdif**	**07 51 54.6**	**0.0**	
BRG							07 56 09.0		
BRG				SS		SS	08 10 31.0	-1.5	
BRG				pmax		pmax			
	comp=Z,18nm,1.4s								
BRG				MLR		MLR			
	comp=N,1μm,20.3s								
BRG				MLR		MLR			
	comp=E,1μm,19.5s								
BRG				MLR		MLR			
	comp=Z,2μm,20.0s								
CLL	**Collm**	**101.74**	**324**	*e*P		**Pdif**	**07 51 56.0**	**-0.4**	
CLL				*e*			07 56 05.0		
CLL				*e*			08 02 29.0		
CLL				MLR		MLR			
	comp=Z,1μm,21.7s								
CLL	**Collm**	**101.74**	**324**	*e*Pdif		**Pdif**	**07 51 56.0**	**-0.4**	
CLL				*e*PP		**PP**	**07 56 05.0**	**-1.8**	
CLL				*e*			08 01 12.0		
CLL				*e*SKSac		**SKSac**	**08 02 29.0**	**-4.4**	
CLL				*e*Sdif		**Sdif**	**08 03 30.0**	**-5.5**	
CLL				*e*			08 04 30.0		
CLL				*e*SS		**SS**	**08 10 36.0**	**-2.0**	
CLL				*e*(SSS)			08 15 18.0		
CLL				LmV			08 43 00.0		
	comp=Z,1μm,21.7s								
KHC	**Kasperske Hory**	**102.17**	**322**	*e*P		**Pdif**	**07 51 58.8**	**+0.4**	
KHC				MLR		MLR			
	comp=Z,1μm,19.7s								
KHC	**Kasperske Hory**	**102.17**	**322**	*e*PDIFF		**Pdif**	**07 51 58.8**	**+0.4**	
KHC				*e*pP			07 52 08.4		
KHC				AMS		AMS	08 44 20.0		
	comp=Z,1μm,19.7s								
GERES	**GERESS Array B**	**102.19**	**322**	P		**Pdif**	**07 51 58.3**	**-0.3**	
GERES	**GERESS Array B**	**102.19**	**322**	P		**Pdif**	**07 51 58.3**	**-0.3**	
	comp=Z,3.7nm,1.0s,baz=74,slow=5.7,SNR=14								
BOJS	**Bojanci**	**102.30**	**318**	*i* Pdiff		**Pdif**	**07 51 59.9**	**+0.9**	
NKC	**Novy Kostel**	**102.46**	**323**	AMS		AMS	08 42 50.0		
	comp=Z,1μm,17.4s								
VISS	**Visnje**	**102.48**	**318**	*i* Pdiff		**Pdif**	**07 52 00.1**	**+0.3**	
JAVS	**Javornik**	**102.96**	**319**	*e*Pdiff		**Pdif**	**07 52 01.4**	**-0.7**	
SCO	**Scoresbysund**	**103.05**	**350**	*i* P		**Pdif**	**07 52 02.9**	**+1.1**	
SCO				pmax		pmax			
	comp=Z,4.0nm,1.0s								
SCO	**Scoresbysund**	**103.05**	**350**	*i* P		**Pdif**	**07 52 02.9**	**+1.1**	
	comp=Z,3.7nm,1.0s								
SUMG	**Summit**	**103.23**	**356**	*e*P		**Pdif**	**07 52 11.5**	**+8.4**	
SUMG				pmax		pmax			
	comp=Z,4.0nm,1.0s								
SUMG	**Summit**	**103.23**	**356**	*i* P		**Pdif**	**07 52 11.5**	**+8.4**	
	comp=Z,4.2nm,1.0s								
BSMT	**Bassoo Peak**	**105.68**	**38**	*e*Pdif		**Pdif**	**07 52 15.2**	**+0.9**	
	comp=Z,1.3nm,0.9s								
SLMT	**Seeley Lake**	**106.73**	**38**	*e*PKPdf		**PKiKP**	**07 56 30.1**	**+1.0**	
NVAR	**Mina Array Bea**	**106.74**	**48**	Pdif		**Pdif**	**07 52 20.4**	**+1.2**	
NVAR				PKiKP		**PKiKP**	**07 56 29.3**	**-0.2**	
NVAR				PKKPbc		**PKKPbc**	**08 07 50.3**	**+1.1**	
NVAR	**Mina Array Bea**	**106.74**	**48**	Pdiff		**Pdif**	**07 52 20.4**	**+1.2**	
	comp=Z,3.4nm,1.0s,baz=267,slow=5.8,SNR=13								
NVAR				PKiKP		**PKiKP**	**07 56 29.3**	**-0.2**	
	comp=Z,0.9nm,1.0s,baz=282,slow=4.5,SNR=2.3								
NVAR				PKKPbc		**PKKPbc**	**08 07 50.3**	**+1.1**	
	comp=Z,0.6nm,0.7s,baz=127,slow=3.0,SNR=4.9								
ISA	**Isabella**	**107.48**	**51**	*e*PKPdf		**PKiKP**	**07 56 29.3**	**-1.4**	
PDAR	**Pinedale Array**	**111.20**	**41**	Pdif		**Pdif**	**07 52 41.5**	**+2.6**	
PDAR				PKiKP		**PKiKP**	**07 56 38.8**	**+1.1**	
PDAR				PKKPbc		**PKKPbc**	**08 07 33.4**	**-1.8**	
PDAR	**Pinedale Array**	**111.20**	**41**	Pdiff		**Pdif**	**07 52 41.5**	**+2.6**	
	comp=Z,0.4nm,1.0s,baz=267,slow=6.1,SNR=2.4								
PDAR				PKiKP		**PKiKP**	**07 56 38.8**	**+1.1**	
	comp=Z,0.6nm,0.8s,baz=211,slow=2.6,SNR=4.3								
PDAR				PKKPbc		**PKKPbc**	**08 07 33.4**	**-1.8**	
	comp=Z,1.6nm,1.0s,baz=119,slow=4.5,SNR=6.3								
PV01	**Paradox Valley**	**113.93**	**45**	*e*PKPdf		**PKiKP**	**07 56 44.0**	**+0.8**	
RSSD	**Black Hills**	**114.04**	**38**	*e*PKiKP		PKPdf	07 56 43.6	+0.5	
RSSD	**Black Hills**	**114.04**	**38**	*e*PKPdf		PKPdf	07 56 43.6	+0.5	
ULM	**Lac du Bonnet**	**114.84**	**29**	PKP		PKPdf	07 56 44.0	-0.1	
ULM	**Lac du Bonnet**	**114.84**	**29**	PKP		PKPdf	07 56 44.0	-0.1	
	comp=Z,2.0nm,0.6s,baz=252,slow=3.7,SNR=3.8								
W20A	**Ramah**	**115.26**	**48**	⇑P		**PKPdf**	**07 56 46.5**	**+0.7**	
	baz=115								
U23A	**El Rito**	**116.43**	**46**	⇑P		**PKPdf**	**07 56 49.6**	**+1.6**	
	baz=116								
Z22A	**Elephant Butte**	**117.20**	**50**	⇓P		**PKPdf**	**07 56 50.4**	**+0.9**	
	baz=117								
V24A	**Rampart Ranch,**	**117.37**	**46**	⇑P		**PKPdf**	**07 56 50.6**	**+0.8**	
	baz=117								
T26A	**Comanche Natio**	**117.87**	**44**	⇓P		**PKPdf**	**07 56 51.1**	**+0.4**	
	baz=118								
Y24A	**Capitan**	**118.06**	**48**	⇓P		**PKPdf**	**07 56 51.5**	**+0.4**	
	baz=118								
Z24A	**Sheeppen Canyo**	**118.38**	**49**	⇑P		**PKPdf**	**07 56 52.4**	**+0.6**	
	baz=118								
Y25A	**Mesa, Roswell**	**118.62**	**48**	⇑P		**PKPdf**	**07 56 52.8**	**+0.6**	
	baz=119								
ECSD	**EROS Data Cent**	**118.65**	**35**	*e*PKPdf		**PKPdf**	**07 56 51.9**	**+0.2**	
T28A	**Walsh**	**118.92**	**44**	⇑P		**PKPdf**	**07 56 53.2**	**+0.6**	
	baz=119								
MNTX	**Cornudas Mount**	**119.07**	**51**	*e*PKPdf		**PKPdf**	**07 56 54.1**	**+1.2**	
MNTX	**Cornudas Mount**	**119.07**	**51**	⇓P		**PKPdf**	**07 56 53.3**	**+0.4**	
	baz=119								
324A	**Moseley Ranch,**	**119.10**	**51**	⇑P		**PKPdf**	**07 56 53.5**	**+0.4**	
	baz=119								
BGNE	**Belgrade**	**119.15**	**38**	⇓P		**PKPdf**	**07 56 53.1**	**+0.3**	
	baz=119								
125A	**Gardner Draw,**	**119.21**	**49**	⇑P		**PKPdf**	**07 56 53.8**	**+0.5**	
	baz=119								
325A	**Bean Ranch, Si**	**119.53**	**51**	⇓P		**PKPdf**	**07 56 54.8**	**+0.8**	
	baz=120								
Y27A	**Causey**	**119.76**	**47**	⇓P		**PKPdf**	**07 56 54.7**	**+0.4**	
	baz=120								
425A	**Indio Mountain**	**119.77**	**51**	⇑P		**PKPdf**	**07 56 54.9**	**+0.5**	
	baz=120								
226A	**Malaga, Loving**	**119.89**	**50**	⇓P		**PKPdf**	**07 56 55.5**	**+1.0**	
	baz=120								
Z27A	**Tatum**	**119.99**	**48**	⇑P		**PKPdf**	**07 56 54.7**	**0.0**	
	baz=120								
MSTX	**Muleshoe**	**120.01**	**47**	⇓P		**PKPdf**	**07 56 55.5**	**+0.7**	
	baz=120								
SCHQ	**Schefferville**	**120.51**	**9**	*e*PKPdf		**PKPdf**	**07 56 55.3**	**+0.4**	
SCHQ	**Schefferville**	**120.51**	**9**	PKP		**PKPdf**	**07 56 55.4**	**+0.4**	
	comp=Z,8.1nm,0.9s,baz=345,slow=2.1,SNR=14								
X29A	**Tulia**	**120.55**	**46**	⇓P		**PKPdf**	**07 56 56.6**	**+0.8**	
	baz=121								
Y29A	**Porterfield Fa**	**120.86**	**47**	⇑P		**PKPdf**	**07 56 56.9**	**+0.5**	
	baz=121								
626A	**Big Bend Ranch**	**120.96**	**52**	⇑P		**PKPdf**	**07 56 57.0**	**+0.3**	
	baz=121								
527A	**Woodward Ranch**	**121.11**	**51**	⇓P		**PKPdf**	**07 56 57.6**	**+0.5**	
	baz=121								
328A	**Wristen Ranch,**	**121.18**	**50**	⇑P		**PKPdf**	**07 56 57.5**	**+0.4**	
	baz=121								
129A	**Stewart Farms,**	**121.31**	**48**	⇓P		**PKPdf**	**07 56 57.3**	**0.0**	
	baz=121								
TXAR	**Lajitas Array**	**121.42**	**52**	PKP		**PKPdf**	**07 56 58.0**	**+0.4**	
TXAR				PKKPbc		**PKKPbc**	**08 06 55.8**	**-3.0**	
TXAR	**Lajitas Array**	**121.42**	**52**	PKP		**PKPdf**	**07 56 58.0**	**+0.4**	
	comp=Z,4.2nm,1.0s,baz=153,slow=0.5,SNR=14								
TXAR				PKKPbc		**PKKPbc**	**08 06 55.8**	**-3.0**	
	comp=Z,0.2nm,0.8s,baz=108,slow=2.8,SNR=2.8								
627A	**Terlingua Ranc**	**121.59**	**52**	⇑P		**PKPdf**	**07 56 58.2**	**+0.3**	
	baz=122								
628A	**Black Gap, Mar**	**121.97**	**52**	⇓P		**PKPdf**	**07 56 59.2**	**+0.6**	
	baz=122								
TOA0	**Torodi Ar. Sit**	**123.10**	**288**	*e*PKPdf		**PKPdf**	**07 57 00.3**	**-0.7**	
TORD	**Torodi Ar. Bea**	**123.10**	**288**	PKP		**PKPdf**	**07 57 00.4**	**-0.6**	
TORD	**Torodi Ar. Bea**	**123.10**	**288**	PKP		**PKPdf**	**07 57 00.4**	**-0.6**	
	comp=Z,9.4nm,0.9s,baz=48,slow=2.0,SNR=24								
JCT	**Junction City**	**123.89**	**49**	⇑P		**PKPdf**	**07 57 02.6**	**+0.4**	
	baz=124								
FVM	**French Village**	**125.93**	**36**	*e*PKIKP		**PKPdf**	**07 57 05.6**	**-0.3**	
FVM	**French Village**	**125.93**	**36**	*e*PKPdf		**PKPdf**	**07 57 05.6**	**-0.3**	
MIAR	**Mount Ida**	**126.12**	**42**	*e*PKIKP		**PKPdf**	**07 57 07.3**	**+1.0**	
MIAR	**Mount Ida**	**126.12**	**42**	*e*PKPdf		**PKPdf**	**07 57 07.3**	**+1.0**	
OLIL	**Olney**	**126.76**	**34**	*e*PKPdf		**PKPdf**	**07 57 07.0**	**-0.4**	
HKT	**Hockley**	**127.12**	**48**	*e*PKIKP		**PKPdf**	**07 57 10.3**	**+2.0**	
HKT	**Hockley**	**127.12**	**48**	*e*PKPdf		**PKPdf**	**07 57 10.3**	**+2.0**	
POI	**Presque Isle**	**128.07**	**17**	*e*PKPdf		**PKPdf**	**07 57 10.4**	**+0.8**	
ACSO	**Alum Creek Sta**	**128.34**	**29**	*e*PKPdf		**PKPdf**	**07 57 10.0**	**-0.4**	
WVT	**Waverly**	**128.71**	**36**	*e*PKIKP		**PKPdf**	**07 57 10.8**	**-0.4**	
WVT	**Waverly**	**128.71**	**36**	*e*PKPdf		**PKPdf**	**07 57 10.8**	**-0.4**	
MDV	**Middlebury**	**129.13**	**19**	*e*PKPdf		**PKPdf**	**07 57 16.0**	**+4.2**	
PLAL	**Pickwick Lake**	**129.34**	**38**	*e*PKPdf		**PKPdf**	**07 57 12.0**	**-0.4**	
HNH	**Hanover**	**129.68**	**18**	PKPdf		**PKPdf**	**07 57 13.9**	**+1.1**	
BINY	**Binghamton**	**129.75**	**22**	*e*PKPdf		**PKPdf**	**07 57 17.0**	**+3.9**	
DBIC	**Dimbokro**	**130.77**	**282**	PKP		**PKPdf**	**07 57 16.8**	**+1.1**	
DBIC				SKPbc		**SKPab**	**08 00 40.3**	**+2.8**	
DBIC	**Dimbokro**	**130.77**	**282**	PKP		**PKPdf**	**07 57 16.8**	**+1.1**	
	comp=Z,7.7nm,1.1s,baz=91,slow=2.9,SNR=4.5								
DBIC				SKPbc		**SKPab**	**08 00 40.3**	**+2.8**	
	comp=Z,4.5nm,0.8s,baz=27,slow=16,SNR=3.1								
TKL	**Tuckaleechee C**	**131.37**	**34**	*e*PKPdf		**PKPdf**	**07 57 17.1**	**+0.8**	
PLCA	**Paso Flores**	**139.96**	**159**	PKPpre		PKPpre	07 57 28.4		
PLCA	**Paso Flores**	**139.96**	**159**	PKhKP		PKPpre	07 57 28.4		
	comp=Z,5.7nm,1.1s,baz=180,slow=14,SNR=3.1								
TRQA	**Tornquist**	**144.90**	**168**	*e*PKPdf		**PKPab**	**07 57 40.1**	**0.0**	
JTS	**JuntasAbangare**	**145.31**	**66**	PKPbc		**PKPdf**	**07 57 42.4**	**0.0**	
JTS	**JuntasAbangare**	**145.31**	**66**	PKPbc		**PKPdf**	**07 57 42.4**	**0.0**	
	comp=Z,43nm,1.0s,baz=312,slow=2.5,SNR=14								
FCH	**Farellones**	**146.47**	**153**	*e*P		**PKPdf**	**07 57 44.2**	**0.0**	
LRS	**Lares**	**154.22**	**31**	*e*PKPdf		**PKPdf**	**07 57 58.9**	**+2.6**	
ATAH	**Atahualpa**	**154.57**	**99**	PKP		**PKPdf**	**07 57 58.1**	**+0.8**	
ATAH	**Atahualpa**	**154.57**	**99**	PKP		**PKPdf**	**07 57 58.1**	**+0.8**	
	comp=Z,5.8nm,0.8s,baz=188,slow=4.5,SNR=2.1								
MTP	**Monte Pirata**	**155.04**	**29**	*e*PKPdf		**PKPdf**	**07 57 56.5**	**-0.8**	
MTP				*e*PKPab		**PKPab**	**07 58 22.7**	**+1.1**	
ROSC	**El Rosal**	**157.10**	**68**	PKP		**PKPdf**	**07 58 03.3**	**+2.5**	
ROSC				PKPab		**PKPab**	**07 58 33.3**	**+2.0**	
ROSC	**El Rosal**	**157.10**	**68**	PKP		**PKPdf**	**07 58 03.3**	**+2.5**	
	comp=Z,1.7nm,0.4s,baz=270,slow=17,SNR=3.1								
ROSC				PKPab		**PKPab**	**07 58 33.3**	**+2.0**	
	comp=Z,26nm,1.1s,baz=266,slow=19,SNR=7.4								
CPUP	**Villa Florida**	**157.19**	**170**	PKP		**PKPdf**	**07 58 01.5**	**+1.5**	
CPUP				PKPab		**PKPab**	**07 58 29.6**	**-0.9**	
CPUP	**Villa Florida**	**157.19**	**170**	PKP		**PKPdf**	**07 58 01.5**	**+1.5**	
	comp=Z,0.7nm,0.5s,baz=98,slow=8.6,SNR=4.0								
CPUP				PKPab		**PKPab**	**07 58 29.6**	**-0.9**	
	comp=Z,9.1nm,0.9s,baz=163,slow=3.8,SNR=7.4								
LPAZ	**La Paz**	**160.66**	**131**	*e*PKPdf		**PKPdf**	**07 58 06.0**	**+0.9**	
SIV	**San Ignacio**	**165.52**	**148**	PKP		**PKPdf**	**07 58 08.9**	**-0.1**	
SIV				PKPab		**PKPab**	**07 59 07.7**	**+0.5**	
SIV	**San Ignacio**	**165.52**	**148**	PKP		**PKPdf**	**07 58 08.9**	**-0.1**	
	comp=Z,7.5nm,1.1s,baz=210,slow=1.3								
SIV				PKPab		**PKPab**	**07 59 07.7**	**+0.5**	
	comp=Z,2.1nm,0.8s,baz=213,slow=3.6,SNR=2.8								
BDFB	**Brasilia**	**167.19**	**202**	PKP		**PKPdf**	**07 58 09.9**	**-0.6**	
BDFB				PKPab		**PKPab**	**07 59 14.9**	**+0.2**	
BDFB	**Brasilia**	**167.19**	**202**	PKP		**PKPdf**	**07 58 09.9**	**-0.6**	
	comp=Z,1.1nm,0.5s,baz=153,slow=16,SNR=2.1								
BDFB				PKPab		**PKPab**	**07 59 14.9**	**+0.2**	
	comp=Z,2.6nm,0.8s,baz=191,slow=5.2,SNR=2.6								
SAML	**Samuel**	**168.70**	**118**	*e*PKPdf		**PKPdf**	**07 58 11.6**	**+0.2**	

IDC 12 07:43:21.9±0.7, 3°51'N×126°70'E, h0km, mb4.5/17, mb1 4.6/17, mb1mx4.5/24, mbtmpg4.4/17, MS5.2/2, Ms1 5.2/2, ms1mx4.5/39, Error ellipse: s-maj=37.5km s-min=14.4km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.71**	**342**	LR	LR	07 46 09.5	
	comp=Z,17μm,19.7s,baz=127,slow=45						
FITZ	**Fitzroy Crossi**	**21.50**	**183**	P	P	07 48 12.7	+0.1
	9.5nm,0.8s,baz=0.0,slow=3.0,SNR=2.2						
WRA	**Warramunga Arr**	**24.49**	**162**	P	P	07 48 42.8	-0.3
	45nm,0.8s						
CMAR	**Chiang Mai Arr**	**30.96**	**301**	P	P	07 49 41.7	+0.6
	1.1nm,0.4s,baz=119,slow=7.0,SNR=5.5						
KSRS	**Korea Array**	**33.80**	**2**	P	P	07 50 06.5	+0.8
	1.4nm,0.6s,baz=178,slow=9.7,SNR=4.0						
STKA	**Stephens Creek**	**37.94**	**159**	P	P	07 50 41.6	+0.3
	12nm,0.7s,baz=307,slow=8.4,SNR=7.3						
DZM	**Mont Dzumac**	**46.43**	**125**	P	P	07 51 50.9	-0.1
	3.9nm,0.7s,baz=351,slow=24,SNR=6.5						
SONM	**Songino Array**	**47.49**	**342**	P	P	07 51 59.7	+0.8
	1.8nm,0.6s,baz=160,slow=7.5,SNR=8.3						
MKAR	**Makanchi Array**	**57.72**	**325**	P	P	07 53 14.4	-0.2
	4.1nm,0.6s,baz=119,slow=7.9,SNR=14						
ZALV	**Zalesovo Beam**	**60.77**	**333**	P	P	07 53 34.7	-0.8
	1.3nm,0.4s,baz=123,slow=6.7,SNR=5.6						
KURBB	**Kurchatov Arra**	**61.91**	**327**	P	P	07 53 43.3	0.0
	6.5nm,0.5s,baz=131,slow=6.4,SNR=21						
BVAR	**Borovoye Array**	**67.49**	**327**	P	P	07 54 19.7	0.0
	3.1nm,0.7s,baz=87,slow=2.9,SNR=4.8						
AKTO	**Aktyubinsk**	**73.81**	**322**	P	P	07 54 58.6	+0.2
	4.1nm,0.6s,baz=103,slow=8.4,SNR=8.7						
ILAR	**Eielson Array**	**85.31**	**25**	P	P	07 56 00.1	-0.5
	0.6nm,1.0s,baz=238,slow=2.4,SNR=4.1						
BRTR	**Keskin Array B**	**90.14**	**310**	P	P	07 56 23.3	-1.3
	0.8nm,0.9s,baz=123,slow=5.3,SNR=2.8						
ARCES	**ARCESS Array B**	**90.64**	**340**	P	P	07 56 25.0	-1.1
	3.3nm,0.8s,baz=60,slow=7.2,SNR=6.7						
AKASG	**Malin Array Be**	**92.04**	**321**	P	P	07 56 33.3	+0.4
	2.4nm,0.8s,baz=74,slow=4.2,SNR=3.4						
QSPA	**South Pole Qui**	**93.42**	**180**	LR	LR	08 36 50.2	
	comp=Z,2μm,18.7s,baz=22,slow=34						
NOA	**NORSAR Array B**	**98.97**	**334**	P	P	07 57 04.0	-0.4
	1.0nm,0.7s,baz=64,slow=4.4,SNR=2.6						
TORD	**Torodi Ar. Bea**	**122.96**	**288**	PKP	PKPdf	08 02 21.6	+0.2
	0.4nm,0.8s,baz=37,slow=1.3,SNR=3.8						

CSEM 12 07:45:41.2, 46.20N×7.50E, h2km, ML0.4/2, After ZUR
ZUR 12 07:45:41.2, 46°20'N×7°50'E, h2km±2km, ML0.4/2, 2C, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DIX	**Grande Dixence**	**0.13**	**210**	⇑*i*Pg	Pg	07 45 44.3	+0.1
	31nm,0.4s						
DIX				*i* Sg	Sg	07 45 46.1	-0.1
	31nm,0.4s						
DIX	**Grande Dixence**	**0.13**	**210**	⇑*i*Pg	Pg	07 45 44.3	+0.1
	31nm,0.4s						
DIX				*i* Sg	Sg	07 45 46.1	-0.1
	31nm,0.4s						
LKBD2	**Leukerbad 2**	**0.20**	**29**	*e*Pg	Pg	07 45 45.6	+0.1
LKBD2				*e*Sg	Sg	07 45 48.5	+0.1
LKBD2	**Leukerbad 2**	**0.20**	**29**	*e*Pg	Pg	07 45 45.6	+0.1
LKBD2				*e*Sg	Sg	07 45 48.5	+0.1
SENIN	**Lac Senin/Sane**	**0.22**	**320**	*e*Pg	Pg	07 45 45.8	0.0
	8.9nm,0.4s						
SENIN				*e*Sg	Sg	07 45 48.8	-0.1
	8.9nm,0.4s						
SENIN	**Lac Senin/Sane**	**0.22**	**320**	*e*Pg	Pg	07 45 45.8	0.0
	8.9nm,0.4s						
SENIN				*e*Sg	Sg	07 45 48.8	-0.1
	8.9nm,0.4s						
MMK	**Mattmark**	**0.35**	**114**	*e*Sg	Sg	07 45 52.7	-0.4
MMK	**Mattmark**	**0.35**	**114**	*e*Sg	Sg	07 45 52.7	-0.4

IDC 12 07:48:19.7±0.7, 3°99N×126°83E, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.0/23, mbtmpg4.1/13, Error ellipse: s-maj=42.5km s-min=13.0km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.98**	**183**	P	P	07 53 15.7	+0.2
	4.4nm,0.9s,baz=0.0,slow=8.1,SNR=2.7						
WRA	**Warramunga Arr**	**24.90**	**163**	P	P	07 53 45.6	+1.0
	2um,0.3s,baz=0.0,slow=0.0,SNR=5.5						
ASAR	**Alice Springs**	**28.34**	**166**	P	P	07 54 15.0	-0.6
	0.6nm,0.6s,baz=342,slow=6.5,SNR=4.9						
CMAR	**Chiang Mai Arr**	**30.83**	**300**	P	P	07 54 38.4	+0.7
	1.2nm,0.3s,baz=111,slow=6.7,SNR=4.4						
NWAO	**Narrogin (SRO)**	**37.83**	**193**	P	P	07 55 37.5	-0.6
	7.1nm,0.8s,baz=23,slow=13,SNR=4.6						
STKA	**Stephens Creek**	**38.34**	**160**	P	P	07 55 42.4	-0.1
	5.6nm,0.7s,baz=359,slow=6.1,SNR=7.9						
SONM	**Songino Array**	**47.08**	**341**	P	P	07 56 53.6	0.0
	0.2nm,0.4s,baz=168,slow=8.4,SNR=3.5						
MKAR	**Makanchi Array**	**57.40**	**325**	P	P	07 58 10.1	0.0
	1.7nm,0.5s,baz=119,slow=7.6,SNR=22						
ZALV	**Zalesovo Beam**	**60.40**	**333**	P	P	07 58 30.2	-0.7
	0.7nm,0.4s,baz=135,slow=6.7,SNR=3.8						
KURBB	**Kurchatov Arra**	**61.57**	**327**	P	P	07 58 38.8	-0.1
	2.1nm,0.5s,baz=128,slow=6.1,SNR=30						
BVAR	**Borovoye Array**	**67.16**	**327**	P	P	07 59 15.7	+0.2
	1.4nm,0.6s,baz=147,slow=9.0,SNR=8.5						
AKTO	**Aktyubinsk**	**73.52**	**322**	P	P	07 59 54.8	+0.3
	1.4nm,0.7s,baz=90,slow=5.7,SNR=4.4						
ILAR	**Eielson Array**	**84.83**	**25**	P	P	08 00 56.3	+0.3

SONM				PcP	PcP	08 04 40.9	-0.3
SONM	**Songino Array**	**47.08**	**342**	P	P	08 03 09.9	0.0
	comp=Z,2.7nm,0.7s,baz=155,slow=7.9,SNR=13						
SONM				PcP	PcP	08 04 40.9	-0.3
	comp=Z,2.0nm,0.8s,baz=165,slow=1.4,SNR=4.4						
MK31	**Makanchi Array**	**57.32**	**325**	*eP*	P	08 04 25.4	-0.4
MKAR	**Makanchi Array**	**57.32**	**325**	P	P	08 04 25.4	-0.4
MKAR	**Makanchi Array**	**57.32**	**325**	P	P	08 04 25.4	-0.4
	comp=Z,4.5nm,0.7s,baz=129,slow=8.1,SNR=24						
AAK	**Ala-Archa**	**60.12**	**318**	P	P	08 04 45.5	0.0
AAK	**Ala-Archa**	**60.12**	**318**	P	P	08 04 45.5	0.0
	comp=Z,2.2nm,0.8s,baz=166,slow=11,SNR=5.4						
ZALV	**Zalesovo Beam**	**60.36**	**333**	P	P	08 04 45.7	-1.0
ZALV	**Zalesovo Beam**	**60.36**	**333**	P	P	08 04 45.7	-1.0
	comp=Z,1.7nm,0.3s,baz=135,slow=6.6,SNR=8.1						
EKS2	**Erkin-Say**	**60.61**	**318**	*eP*	P	08 04 49.0	+0.2
	comp=Z,5.7nm,0.9s						
KURBB	**Kurchatov Arra**	**61.50**	**327**	P	P	08 04 54.2	-0.3
	comp=Z,12nm,0.8s,baz=123,slow=6.2,SNR=45						
KURK	**Kurchatov**	**61.51**	**328**	*eP*	P	08 04 53.8	-0.8
	comp=Z,14nm,0.8s						
KKAR	**Karatay Array**	**62.99**	**317**	*eP*	P	08 05 05.1	+0.4
	comp=Z,8.5nm,1.0s						
BVAR	**Borovoye Array**	**67.08**	**327**	P	P	08 05 30.6	-0.5
BVAR	**Borovoye Array**	**67.08**	**327**	P	P	08 05 30.6	-0.5
	comp=Z,2.6nm,0.6s,baz=130,slow=8.9,SNR=14						
BRVK	**Borovoye**	**67.16**	**327**	*eP*	P	08 05 30.8	-0.6
	comp=Z,6.9nm,0.8s						
ABKAR	**Akbulak array**	**71.91**	**321**	*eP*	P	08 06 00.1	-0.8
	comp=Z,1.8nm,0.6s						
AKTO	**Aktyubinsk**	**73.42**	**322**	P	P	08 06 09.4	-0.4
AKTO	**Aktyubinsk**	**73.42**	**322**	P	P	08 06 09.4	-0.4
	comp=Z,7.3nm,0.8s,baz=101,slow=8.0,SNR=20						
COLD	**Coldfoot**	**83.81**	**23**	*eP*	P	08 07 08.0	+1.4
	comp=Z,4.5nm,0.9s						
ILAR	**Eielson Array**	**85.03**	**25**	P	P	08 07 13.3	+0.4
ILAR	**Eielson Array**	**85.03**	**25**	P	P	08 07 13.3	+0.4
	comp=Z,1.1nm,0.9s,baz=246,slow=5.7,SNR=7.3						
BRTR	**Keskin Array B**	**89.78**	**310**	P	P	08 07 36.1	-0.5
BRTR	**Keskin Array B**	**89.78**	**310**	P	P	08 07 36.1	-0.5
	comp=Z,2.2nm,0.9s,baz=121,slow=6.0,SNR=7.8						
ARCES	**ARCESS Array B**	**90.23**	**340**	P	P	08 07 37.3	-0.5
ARCES	**ARCESS Array B**	**90.23**	**340**	P	P	08 07 37.3	-0.5
	comp=Z,1.7nm,0.6s,baz=78,slow=5.9,SNR=11						
FINES	**FINESS Array B**	**91.60**	**332**	P	P	08 07 43.8	-0.5
FINES	**FINESS Array B**	**91.60**	**332**	P	P	08 07 43.8	-0.5
	comp=Z,4.0nm,0.9s,baz=105,slow=6.7,SNR=6.2						
AKASG	**Malin Array Be**	**91.65**	**321**	P	P	08 07 43.4	-1.4
AKASG	**Malin Array Be**	**91.65**	**321**	P	P	08 07 43.4	-1.4
	comp=Z,2.7nm,0.7s,baz=67,slow=4.8,SNR=7.0						
QSPA	**South Pole Qui**	**93.80**	**180**	P	P	08 07 55.9	+1.4
QSPA	**South Pole Qui**	**93.80**	**180**	P	P	08 07 55.8	+1.4
	comp=Z,4.0nm,1.0s,baz=288,slow=2.1,SNR=6.5						
NOA	**NORSAR Array B**	**98.56**	**334**	P	P	08 08 15.3	-0.8
NOA	**NORSAR Array B**	**98.56**	**334**	P	P	08 08 15.3	-0.8
	comp=Z,0.8nm,0.7s,baz=76,slow=7.8,SNR=3.5						
GERES	**GERESS Array B**	**101.85**	**322**	P	**Pdif**	08 08 31.1	-0.1
GERES	**GERESS Array B**	**101.85**	**322**	P	**Pdif**	08 08 31.1	-0.1
	comp=Z,0.2nm,0.2s,baz=61,slow=6.3,SNR=3.9						
TXAR	**Lajitas Array**	**121.63**	**52**	PKP	**PKPdf**	08 13 32.2	+0.2
TXAR	**Lajitas Array**	**121.63**	**52**	PKP	**PKPdf**	08 13 32.2	+0.2
	comp=Z,0.9nm,1.1s,baz=184,slow=2.7,SNR=3.1						
TORD	**Torodi Ar. Bea**	**122.70**	**288**	PKP	**PKPdf**	08 13 34.2	0.0
TORD	**Torodi Ar. Bea**	**122.70**	**288**	PKP	**PKPdf**	08 13 34.2	0.0
	comp=Z,0.3nm,0.3s,baz=62,slow=1.8,SNR=6.6						
CPUP	**Villa Florida**	**157.39**	**171**	PKPab	**PKPab**	08 15 03.7	-1.8
CPUP	**Villa Florida**	**157.39**	**171**	PKPab	**PKPab**	08 15 03.7	-1.8
	comp=Z,2.4nm,0.8s,baz=188,slow=3.7,SNR=5.0						

IDC 12 07:57:02.0±0.9,**3°92N×126°48E**,**h0km**,**mb3.9**/7,
mb1 4.1/7,**mb1mx3.8**/20,**mbtmp3.9**/7,**Error ellipse:**
s-maj=74.3km s-min=19.8km az=70.0,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.94**	**162**	P	P	08 02 27.1	-0.2
	1.7nm,0.5s						
ASAR	**Alice Springs**	**28.36**	**166**	P	P	08 02 58.3	+0.2
	0.2nm,0.3s,baz=346,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**57.25**	**325**	P	P	08 06 52.1	+0.8
	0.9nm,0.5s,baz=121,slow=8.1,SNR=4.9						
ZALV	**Zalesovo Beam**	**60.30**	**333**	P	P	08 07 12.0	-0.4
	0.6nm,0.4s,baz=118,slow=5.2,SNR=3.7						
KURBB	**Kurchatov Arra**	**61.44**	**327**	P	P	08 07 20.4	+0.2
	0.7nm,0.6s,baz=122,slow=6.3,SNR=4.3						
ILAR	**Eielson Array**	**85.04**	**25**	P	P	08 09 39.7	+0.4
	0.3nm,1.0s,baz=275,slow=5.0,SNR=2.9						
ARCES	**ARCESS Array B**	**90.18**	**340**	P	P	08 10 02.9	-1.1
	3.3nm,1.0s,baz=66,slow=7.1,SNR=3.3						

IDC 12 07:57:26.6±0.7,**3°76N×127°05E**,**h0km**,**mb4.4**/17,
mb1 4.5/17,**mb1mx4.4**/23,**mbtmp4.4**/17,**Error ellipse:**
s-maj=45.5km s-min=14.1km az=69.0,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.77**	**184**	P	P	08 02 20.7	+0.6
	2.1nm,0.4s,baz=13,slow=13,SNR=5.4						
WRA	**Warramunga Arr**	**24.62**	**163**	P	P	08 02 49.1	+0.1
	12nm,0.7s						
ASAR	**Alice Springs**	**28.07**	**167**	P	P	08 03 19.8	-0.3
	1.2nm,0.8s,baz=350,slow=10,SNR=3.9						
CMAR	**Chiang Mai Arr**	**31.13**	**300**	P	P	08 03 47.4	+0.1
	2.2nm,0.6s,baz=114,slow=7.1,SNR=9.0						
STKA	**Stephens Creek**	**38.05**	**160**	P	P	08 04 47.2	+0.3
	3.9nm,0.7s,baz=335,slow=9.2,SNR=4.3						
SONM	**Songino Array**	**47.37**	**341**	P	P	08 06 03.8	+1.2
	3.2nm,0.6s,baz=161,slow=8.4,SNR=8.5						
SONM				PcP	PcP	08 07 34.5	+1.1
	1.2nm,0.7s,baz=130,slow=3.7,SNR=3.8						
MKAR	**Makanchi Array**	**57.71**	**325**	P	P	08 07 19.5	+0.3
	4.4nm,0.5s,baz=121,slow=8.0,SNR=24						
ZALV	**Zalesovo Beam**	**60.70**	**333**	P	P	08 07 39.9	+0.2
	1.3nm,0.4s,baz=126,slow=7.5,SNR=5.5						
KURBB	**Kurchatov Arra**	**61.88**	**327**	P	P	08 07 48.4	+0.6
	5.5nm,0.5s,baz=130,slow=6.3,SNR=22						
BVAR	**Borovoye Array**	**67.47**	**327**	P	P	08 08 24.3	+0.1
	3.6nm,0.8s,baz=140,slow=9.4,SNR=9.6						
AKTO	**Aktyubinsk**	**73.83**	**322**	P	P	08 09 02.8	-0.4
	6.1nm,0.7s,baz=103,slow=7.5,SNR=18						
ILAR	**Eielson Array**	**84.94**	**25**	P	P	08 10 03.4	-0.1
	0.6nm,0.9s,baz=252,slow=5.1,SNR=5.2						
BRTR	**Keskin Array B**	**90.25**	**310**	P	P	08 10 28.9	-0.9
	1.5nm,0.8s,baz=125,slow=6.2,SNR=6.5						
ARCES	**ARCESS Array B**	**90.53**	**340**	P	P	08 10 28.9	-1.4
	5.1nm,0.7s,baz=85,slow=7.2,SNR=14						
FINES	**FINESS Array B**	**91.95**	**332**	P	P	08 10 36.1	-0.9
	1.9nm,0.7s,baz=64,slow=4.4,SNR=6.4						
AKASG	**Malin Array Be**	**92.07**	**321**	P	P	08 10 37.3	-0.4
	1.9nm,0.6s,baz=69,slow=4.4,SNR=7.6						
NB2	**NORSAR Subarra**	**98.90**	**334**	P	P	08 11 07.9	-0.8
	baz=66,slow=4.6						
NB2	**NORSAR Subarra**	**98.90**	**334**	P	P	08 11 07.9	-0.8
	comp=Z,1.5nm,0.7s,baz=66,slow=4.6						
NOA	**NORSAR Array B**	**98.90**	**334**	P	P	08 11 07.6	-1.1
	comp=Z,1.6nm,0.7s,baz=66,slow=4.6,SNR=5.1						
TORD	**Torodi Ar. Bea**	**123.21**	**288**	PKP	PKPdf	08 16 26.1	-0.4
	comp=Z,0.7nm,0.7s,baz=38,slow=2.9,SNR=4.4						

*IDC **12** 08:10:37.1±0.7,3°97N×126°56E,h0km,mb4.2/12,*
mb1 4.3/12,mb1mx4.1/24,mbtmp4.2/12,Error ellipse:
s-maj=55.6km s-min=13.2km az=66.0
*NEIC **12** 08:10:42.3±0.4,3°90N×126°53E,h35km,mb4.6/5,Error*
ellipse: s-maj=30.9km s-min=7.8km az=66.0
ISC 12 08:10:43.6±0.6,**4°0N**±0°1×**126°7E**±0°2,**h45**km,**n32,**
σ1**9**11/32,**mb4.3**/17,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.98**	**183**	P	P	**08 15 32.4**	**-1.5**
FITZ	**Fitzroy Crossi**	**21.98**	**183**	P	P	**08 15 32.4**	**-1.5**
	1.8nm,0.7s,baz=29,slow=10,SNR=3.5						
COEN	**Coen**	**24.18**	**138**	*eP*	P	**08 15 55.8**	**-0.2**
	31nm,0.9s						
WRAB	**Tennant Creek**	**24.93**	**163**	*eP*	P	**08 16 01.6**	**-1.2**
	13nm,0.8s						
WRAB				*eS*	S	08 20 33.1	+10
WRA	**Warramunga Arr**	**24.94**	**163**	P	P	**08 16 01.1**	**-1.7**
WRA	**Warramunga Arr**	**24.94**	**163**	P	P	**08 16 01.1**	**-1.7**
	4.3nm,0.4s						
ASAR	**Alice Springs**	**28.37**	**166**	P	P	**08 16 35.3**	**+1.6**
ASAR	**Alice Springs**	**28.37**	**166**	P	P	**08 16 35.3**	**+1.6**
	1.0nm,0.6s,baz=343,slow=8.8,SNR=14						

BJT	**Baijiatuao**	**37.11**	**347**	*eP*	P	**08 17 50.9**	**+1.1**
	16nm,0.6s						
STKA	**Stephens Creek**	**38.38**	**159**	*eP*	P	**08 17 60.0**	**-0.6**
STKA	**Stephens Creek**	**38.38**	**159**	P	P	**08 17 60.0**	**-0.6**
	4.4nm,0.6s,baz=327,slow=8.4,SNR=17						
DZM	**Mont Dzumac**	**46.70**	**125**	P	P	**08 19 09.1**	**+0.6**
DZM	**Mont Dzumac**	**46.70**	**125**	P	P	**08 19 09.1**	**+0.6**
	2.6nm,0.6s,baz=291,slow=17,SNR=6.9						
SONM	**Songino Array**	**47.05**	**341**	P	P	**08 19 11.0**	**+0.2**
SONM	**Songino Array**	**47.05**	**341**	P	P	**08 19 11.0**	**+0.2**
	1.2nm,0.7s,baz=158,slow=7.2,SNR=7.3						
MK31	**Makanchi Array**	**57.33**	**325**	*eP*	P	**08 20 26.6**	**-0.5**
MKAR	**Makanchi Array**	**57.33**	**325**	P	P	**08 20 26.8**	**-0.4**
MKAR	**Makanchi Array**	**57.33**	**325**	P	P	**08 20 26.8**	**-0.4**
	1.5nm,0.5s,baz=117,slow=7.5,SNR=27						
ZALV	**Zalesovo Beam**	**60.35**	**333**	P	P	**08 20 45.5**	**-2.4**
ZALV	**Zalesovo Beam**	**60.35**	**333**	P	P	**08 20 45.5**	**-2.4**
	0.6nm,0.5s,baz=123,slow=5.5,SNR=3.7						
KURBB	**Kurchatov Arra**	**61.51**	**327**	P	P	**08 20 55.5**	**-0.3**
	4.2nm,0.8s,baz=124,slow=6.4,SNR=24						
KURK	**Kurchatov**	**61.51**	**327**	P	P	**08 20 55.5**	**-0.3**
BVAR	**Borovoye Array**	**67.09**	**327**	P	P	**08 21 31.5**	**-0.8**
BVAR	**Borovoye Array**	**67.09**	**327**	P	P	**08 21 31.5**	**-0.8**
	1.9nm,0.8s,baz=131,slow=7.9,SNR=6.7						
BRVK	**Borovoye**	**67.17**	**327**	*eP*	P	**08 21 33.1**	**+0.3**
	3.5nm,1.0s						
ABKAR	**Akbulak array**	**71.94**	**321**	*eP*	P	**08 22 01.9**	**-0.4**
	2.1nm,0.8s						
AKTO	**Aktyubinsk**	**73.44**	**322**	P	P	**08 22 11.6**	**+0.3**
AKTO	**Aktyubinsk**	**73.44**	**322**	P	P	**08 22 11.6**	**+0.3**
	2.9nm,0.8s,baz=90,slow=6.1,SNR=5.9						
ARCES	**ARCESS Array B**	**90.20**	**340**	P	P	**08 23 39.3**	**+0.3**
ARCES	**ARCESS Array B**	**90.20**	**340**	P	P	**08 23 39.3**	**+0.3**
	4.4nm,1.0s,baz=64,slow=8.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**122.82**	**288**	PKP	**PKPdf**	**08 29 34.9**	**-0.9**
TORD	**Torodi Ar. Bea**	**122.82**	**288**	PKP	**PKPdf**	**08 29 34.9**	**-0.9**
	0.3nm,0.8s,baz=37,slow=2.4,SNR=2.4						

IDC 12 08:15:16.4±2.0,**3°88N×126°64E**,**h0km**,**mb3.8**/4,
mb1 3.8/4,**mb1mx3.6**/20,**mbtmp3.8**/4,**Error ellipse:**
s-maj=209.4km s-min=25.9km az=70.0,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**28.28**	**166**	P	P	08 21 11.7	0.0
	0.6nm,0.6s,baz=340,slow=10,SNR=6.2						
SONM	**Songino Array**	**47.13**	**341**	P	P	08 23 50.3	-0.2
	0.4nm,0.5s,baz=156,slow=7.6,SNR=3.5						
MKAR	**Makanchi Array**	**57.38**	**325**	P	P	08 25 06.7	0.0
	0.7nm,0.5s,baz=117,slow=7.0,SNR=9.7						
KURBB	**Kurchatov Arra**	**61.57**	**327**	P	P	08 25 35.5	0.0
	0.8nm,0.5s,baz=128,slow=6.1,SNR=10.0						

*DJA **12** 08:16:19.4±1.0,5°N±8°×12°8E±°,h10km,M5.0/6,mB5.8/2,*
mb4.9/6,MLv5.1/3,Mw(mB)5.4/2
*BJI **12** 08:16:20.9,3°24N×126°68E,h60km,mB5.2/6,mb4.6/11*
*IDC **12** 08:16:20.1±0.5,3°92N×126°59E,h0km,mb4.4/19,*
mb1 4.5/19,mb1mx4.4/24,mbtmp4.4/19,Error ellipse:
s-maj=30.6km s-min=11.7km az=73.0
*ISCJB **12** 08:16:24.3±0.4,3°93N±0°06×126°8E±0°1,h45km,*
mb4.6/33,Error ellipse: s-maj=17.2km s-min=6.4km
az=160.5
*NEIC **12** 08:16:25.2±0.3,3°92N×126°77E,h35km,mb4.6/12,Error*
ellipse: s-maj=15.1km s-min=7.3km az=70.0
ISC 12 08:16:26.6±0.5,**3°88N**±0°07×**126°7E**±0°1,**h45**km,**n77,**
σ1**9**01/74,**mb4.6**/33,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**3.02**	**217**	P	Pn	08 17 25.7	+14
TNTI	**Ternate**	**3.17**	**167**	P	Pn	08 17 19.8	+5.8
LUWI	**Luwuk**	**6.24**	**219**	P	Pn	08 18 08.5	+12
	199nm,1.1s,2µm0.8nm						
SBUM	**Sibu**	**14.48**	**265**	P	P	**08 19 55.1**	**+0.4**
	17nm,1.0s						
KSM	**Kuching**	**16.50**	**262**	*eP*	P	**08 20 18.2**	**+1.1**
	19nm,0.8s						
KSM	**Kuching**	**16.50**	**262**	P	P	08 20 25.1	+7.9
	37nm,0.9s						
MTN	**Manton Dam**	**17.20**	**165**	*eP*	**Pn**	**08 20 21.8**	**-2.0**
FITZ	**Fitzroy Crossi**	**21.86**	**183**	P	P	**08 21 14.9**	**-0.7**
	8.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.86**	**183**	*eP*	P	**08 21 15.3**	**-0.4**
	16nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.86**	**183**	P	P	**08 21 14.9**	**-0.7**
	5.8nm,0.5s,baz=13,slow=10,SNR=15						
CGJI	**Cibinong**	**23.38**	**244**	P	P	08 21 39.8	+8.3
	44nm,1.3s,7µm						
WRAB	**Tennant Creek**	**24.84**	**163**	*eP*	P	**08 21 44.1**	**-0.9**
	82nm,0.8s						
WRA	**Warramunga Arr**	**24.85**	**163**	P	P	**08 21 44.0**	**-1.0**
WRA	**Warramunga Arr**	**24.85**	**163**	P	P	**08 21 44.0**	**-1.0**
	73nm,0.7s,baz=54,slow=0.0,SNR=2.7						
MNSI	**Mandailing Nat**	**27.22**	**264**	P	P	08 22 21.3	+15
AS31	**Alice Springs**	**28.27**	**166**	*eP*	P	**08 22 15.2**	**-0.7**
ASAR	**Alice Springs**	**28.27**	**166**	P	P	**08 22 15.2**	**-0.7**
ASAR	**Alice Springs**	**28.27**	**166**	P	P	**08 22 15.2**	**-0.7**
	3.4nm,0.3s,baz=345,slow=11,SNR=33						
WHN	**Wuhan**	**28.96**	**338**	P	P	08 22 27.2	+5.3
CMAR	**Chiang Mai Arr**	**30.73**	**300**	P	P	**08 22 38.4**	**+0.6**
CMAR	**Chiang Mai Arr**	**30.73**	**300**	P	P	**08 22 38.4**	**+0.6**
	5.3nm,0.9s,baz=110,slow=6.8,SNR=11						
CHTO	**Chiang Mai**	**30.88**	**301**	*eP*	P	**08 22 38.5**	**-0.6**
	6.7nm,0.8s						
CHTO	**Chiang Mai**	**30.88**	**301**	P	P	**08 22 41.2**	**+2.1**
XAN	**Xi'an**	**34.25**	**333**	P	P	**08 23 06.4**	**-2.1**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
FORT	**Forrest**	**34.49**	**178**	*eP*	P	**08 23 10.8**	**+0.4**
	comp=Z,25nm,0.8s						
KLBR	**Kellerberrin**	**36.27**	**193**	*eP*	P	**08 23 26.4**	**+0.6**
	comp=Z,31nm,1.2s						
BJT	**Baijiatuao**	**37.21**	**347**	*eP*	P	**08 23 34.7**	**+1.0**
	comp=Z,12nm,0.7s						
BJI	**Beijing**	**37.23**	**347**	P	P	**08 23 34.9**	**+1.1**
BJI				pmax	pmax		
	comp=Z,18nm,0.7s						
NWAO	**Narrogin (SRO)**	**37.67**	**193**	P	P	**08 23 38.1**	**+0.5**
NWAO	**Narrogin (SRO)**	**37.67**	**193**	P	P	**08 23 38.1**	**+0.5**
	comp=Z,32nm,1.3s,baz=350,slow=9.0,SNR=6.5						
STKA	**Stephens Creek**	**38.29**	**159**	P	P	**08 23 42.4**	**-0.5**
	comp=Z,44nm,0.6s						
STKA	**Stephens Creek**	**38.29**	**159**	*eP*	P	**08 23 42.8**	**-0.1**
	comp=Z,11nm,0.9s						
STKA	**Stephens Creek**	**38.29**	**159**	P	P	**08 23 42.4**	**-0.5**
	comp=Z,22nm,0.7s,baz=333,slow=8.2,SNR=38						
ARMA	**Armidale**	**41.63**	**147**	*eP*	P	**08 24 11.4**	**+0.6**
LSA	**Lhasa**	**42.28**	**311**	*eP*	P	**08 24 17.7**	**+1.1**
	comp=Z,8.6nm,0.6s						
SONM	**Songino Array**	**47.14**	**341**	P	P	**08 24 54.7**	**+0.1**
SONM				PcP	PcP	**08 26 26.6**	**+0.8**
SONM	**Songino Array**	**47.14**	**341**	P	P	**08 24 54.7**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=159,slow=8.9,SNR=8.6						
SONM				PcP	PcP	**08 26 26.6**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=163,slow=2.9,SNR=5.6						
PETK	**Petropavlovsk-**	**55.33**	**22**	P	P	**08 25 55.5**	**-0.2**
PETK	**Petropavlovsk-**	**55.33**	**22**	P	P	**08 25 55.5**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=232,slow=8.9,SNR=3.1						
MK31	**Makanchi Array**	**57.39**	**325**	*eP*	P	**08 26 09.9**	**-0.7**
MKAR	**Makanchi Array**	**57.39**	**325**	P	P	**08 26 09.8**	**-0.9**
MKAR				PcP	PcP	**08 27 05.7**	**+1.6**
MKAR	**Makanchi Array**	**57.39**	**325**	P	P	**08 26 09.8**	**-0.9**
	comp=Z,1.8nm,0.4s,baz=118,slow=8.1,SNR=15						
MKAR				PcP	PcP	**08 27 05.7**	**+1.6**
	comp=Z,2.3nm,0.7s,baz=145,slow=5.5,SNR=4.9						
AAK	**Ala-Archa**	**60.20**	**318**	*eP*	P	**08 26 30.4**	**0.0**
	comp=Z,28nm,1.3s						
ZALV	**Zalesovo Beam**	**60.42**	**333**	P	P	**08 26 29.9**	**-1.6**
ZALV	**Zalesovo Beam**	**60.42**	**333**	P	P	**08 26 29.9**	**-1.6**
	comp=Z,1.1nm,0.4s,baz=129,slow=8.1,SNR=5.7						
KURBB	**Kurchatov Arra**	**61.58**	**327**	P	P	**08 26 38.7**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=128,slow=6.7,SNR=11						
KURK	**Kurchatov**	**61.58**	**327**	P	P	**08 26 38.7**	**-0.7**
	comp=Z,1.3nm,0.7s						
KKAR	**Karatay Array**	**63.07**	**317**	*eP*	P	**08 26 49.8**	**+0.2**
	comp=Z,7.6nm,1.0s						
BVAR	**Borovoye Array**	**67.16**	**327**	P	P	**08 27 14.7**	**-1.2**
BVAR	**Borovoye Array**	**67.16**	**327**	P	P	**08 27 14.7**	**-1.2**
	comp=Z,3.2nm,0.7s,baz=132,slow=8.8,SNR=12						
BRVK	**Borovoye**	**67.23**	**327**	*eP*	P	**08 27 16.6**	**+0.4**
	comp=Z,5.6nm,0.8s						
ABKAR	**Akbulak array**	**71.99**	**321**	*eP*	P	**08 27 44.8**	**-0.9**
	comp=Z,2.2nm,0.7s						

AKTO	**Aktyubinsk**	**73.50**	**322**	P	P	**08 27 54.0**	**-0.7**
AKTO	**Aktyubinsk**	**73.50**	**322**	P	P	**08 27 54.0**	**-0.7**
	comp=Z,4.4nm,0.6s,baz=96,slow=9.1,SNR=7.3						
ILAR	**Eielson Array**	**85.01**	**25**	P	P	**08 28 57.7**	**+0.6**
ILAR	**Eielson Array**	**85.01**	**25**	P	P	**08 28 57.7**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=257,slow=6.0,SNR=5.8						
BRTR	**Keskin Array B**	**89.87**	**310**	P	P	**08 29 19.4**	**-1.9**
BRTR	**Keskin Array B**	**89.87**	**310**	P	P	**08 29 19.4**	**-1.9**
	comp=Z,1.6nm,0.8s,baz=104,slow=4.6,SNR=6.6						
ARCES	**ARCESS Array B**	**90.29**	**340**	P	P	**08 29 21.3**	**-1.1**
ARCES	**ARCESS Array B**	**90.29**	**340**	P	P	**08 29 21.3**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=79,slow=6.4,SNR=9.4						
FINES	**FINESS Array B**	**91.67**	**332**	P	P	**08 29 27.9**	**-1.0**
FINES	**FINESS Array B**	**91.67**	**332**	P	P	**08 29 27.9**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=84,slow=4.3,SNR=3.4						
AKASG	**Malin Array Be**	**91.73**	**321**	P	P	**08 29 28.6**	**-0.9**
AKASG	**Malin Array Be**	**91.73**	**321**	P	P	**08 29 28.6**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=65,slow=5.1,SNR=6.3						
QSPA	**South Pole Qui**	**93.78**	**180**	P	P	**08 29 39.9**	**+1.1**
QSPA	**South Pole Qui**	**93.78**	**180**	P	P	**08 29 39.9**	**+1.1**
	comp=Z,1.8nm,0.9s,baz=12,slow=3.3,SNR=6.6						
BUR08	**Bucovina Ar. S**	**94.85**	**318**	*eP*	P	**08 29 44.3**	**+0.2**
YKA	**Yellowknife Ar**	**99.40**	**24**	P	**Pdif**	**08 30 05.2**	**+1.0**
YKA	**Yellowknife Ar**	**99.40**	**24**	P	**Pdif**	**08 30 05.1**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=236,slow=6.6,SNR=3.2						
GERES	**GERESS Array B**	**101.92**	**322**	P	**Pdif**	**08 30 15.7**	**-0.1**
GERES	**GERESS Array B**	**101.92**	**322**	P	**Pdif**	**08 30 15.7**	**-0.1**
	comp=Z,0.2nm,0.2s,baz=37,slow=9.9,SNR=3.9						
TXAR	**Lajitas Array**	**121.57**	**52**	PKP	**PKPdf**	**08 35 17.1**	**+0.9**
TXAR	**Lajitas Array**	**121.57**	**52**	PKP	**PKPdf**	**08 35 17.1**	**+0.9**
	comp=Z,0.4nm,0.9s,baz=224,slow=7.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**122.80**	**288**	PKP	**PKPdf**	**08 35 18.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**122.80**	**288**	PKP	**PKPdf**	**08 35 18.6**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=52,slow=2.0,SNR=3.0						
CPUP	**Villa Florida**	**157.35**	**171**	PKPab	**PKPab**	**08 36 51.5**	**+1.8**
CPUP	**Villa Florida**	**157.35**	**171**	PKPab	**PKPab**	**08 36 51.5**	**+1.8**
	comp=Z,4.3nm,0.8s,baz=176,slow=3.9,SNR=9.2						

IDC 12 08:22:32.5±1.5,**3°91N×126°86E**,**h0km**,**mb4.0**/7,
mb1 4.2/7,**mb1mx3.8**/22,**mbtmp4.0**/7,**Error ellipse:**
s-maj=122.7km s-min=17.5km az=68.0,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.91**	**183**	P

CGP eS Sn 08 32 40.5 +16
PAGZ Pagadian 5.09 320 eP **Pn 08 31 34.4 +2.5**
BUTP Butuan 5.12 348 eP Pn 08 31 39.0 +6.8
ZMPH Zamboanga City 5.49 303⇓ *i*P **Pn 08 31 38.7 +1.3**
ZMPH *i* S **Sn 08 32 40.0 +0.7**
IPIL Ipil 5.60 313 eP **Pn 08 31 41.3 +2.4**
MRSI Marisa 5.85 234 P Pn 08 31 46.1 +3.8
4µm,1.0s,37µm160µm14nm
LUWI Luwuk 6.30 218 P Pn 08 31 54.1 +5.6
5µm,1.2s,72µm161µm30nm
TBP Tagbilaran 6.37 334 eP Pn 08 31 55.0 +5.5
MSLP Maasin 6.42 344 eP Pn 08 31 59.2 +9.0
SWI Sorong 6.60 136 P **Pn 08 31 51.3 -1.4**
906nm,0.8s,12µm3.3nm
LLP Lapu-Lapu 6.89 337 eP Pn 08 31 59.7 +3.1
LLP eS Sn 08 33 19.7 +5.8
NLAI Namlea 7.13 177 P **Pn 08 31 59.8 -0.2**
1µm,0.6s,12µm3.6nm
OCLP Ormoc 7.37 344 eP Pn 08 32 08.7 +5.6
PLP Palo 7.38 347⇓ eP Pn 08 32 06.0 +2.7
MSAI Masohi 7.57 163 P Pn 08 32 09.3 +3.4
184nm,0.7s,3µm0.8nm
AAI Ambon 7.72 169 P Pn 08 32 12.6 +4.6
629nm,1.0s,10µm2.2nm
GUIM Jordan 7.79 329 eP Pn 08 32 14.2 +5.2
MYLDM Lahad Datu 8.25 279 P Pn 08 32 21.7 +6.4
MYLDM Lahad Datu 8.25 279 P Pn 08 32 22.1 +6.8
3µm,1.4s,42µm437µm11nm
PCI Palu 8.36 235 P Pn 08 32 31.2 +14
RCP Roxas 8.52 333⇑ eP **Pn 08 32 21.4 +2.3**
CNP Catarman 8.76 347 eP Pn 08 32 28.4 +6.2
FAKI Fak Fak 8.79 141 P **Pn 08 32 22.5 -0.2**
433nm,1.2s,6µm147µm1.5nm
TSM Tawau 8.79 273 P Pn 08 32 26.3 +3.5
KDI Kendari 8.82 207 P **Pn 08 32 23.5 +0.3**
268nm,1.4s,11µm2.8nm
CUYO Cuyo Island 8.88 321 eP Pn 08 32 28.0 +4.2
BNDI Bandanaira 8.99 159 P Pn 08 32 34.9 +9.4
OTRP Odiongan 9.56 331 eP Pn 08 32 41.0 +7.7
SDKM Sandakan 9.61 281 P Pn 08 32 38.5 +4.5
TTSI Tana Toraja 9.75 225 P Pn 08 32 39.7 +3.9
1µm,1.4s,16µm
PVCP Virac 9.92 346 eP Pn 08 32 44.0 +5.8
BATP Bataraza 10.06 299 eP Pn 08 32 46.9 +6.8
AUQP San Andres 10.14 337 eP Pn 08 32 53.2 +12
ENPP El Nido 10.20 316 eP Pn 08 32 45.3 +3.4
KDM Kudat 10.24 287 P Pn 08 32 50.3 +7.7
SPSI Sidrap Palu 10.45 221 P Pn 08 32 50.9 +5.5
625nm,1.0s,8µm72µm
KKM Kota Kinabalu 10.64 282 ePn Pn 08 32 52.0 +3.9
KKM eSn Sn 08 35 01.5 +15
KKM Kota Kinabalu 10.64 282 P Pn 08 32 53.9 +5.8
KKM Kota Kinabalu 10.64 282 P Pn 08 32 53.7 +5.6
465nm,1.1s,16µm
BAKI Biak 10.71 118 P **Pn 08 32 50.9 +2.0**
873nm,1.4s,14µm
KAPI Kappang 11.26 218 Pn **Pn 08 32 57.1 +0.5**
KAPI eSn **Sn 08 34 57.6 -3.6**
KAPI Kappang 11.26 218 Pn **Pn 08 32 57.8 +1.2**
1µm,1.6s,SNR=5.4
KAPI Kappang 11.26 218 P Pn 08 33 03.5 +6.9
378nm,1.0s,6µm
KAPI Kappang 11.26 218 Pn **Pn 08 32 57.1 +0.5**
1.6nm,0.3s,baz=244,slow=20,SNR=7.9
KAPI LR LR 08 38 07.3
comp=Z,62µm,18.5s,baz=56,slow=42
TLE Tual 11.27 147 P **Pn 08 32 58.6 +2.0**
954nm,1.5s,21µm78µm
BKSI Bulukumba 11.29 216 P Pn 08 33 00.6 +3.7
292nm,1.1s,4µm52µm
LUBP Lubang 11.63 327 eP Pn 08 33 11.0 +9.4
KBKI Kotabaru 12.73 236 P P 08 33 22.7 -4.0
552nm,1.5s,9µm55µm
BALP Baler 12.77 337 eP **P 08 33 24.6 -2.5**
MMRI Maumere 13.25 200 P P 08 33 35.6 +3.2
SMPI Sarmi 13.38 116 P **Pn 08 33 26.7 +1.2**
634nm,1.1s,10µm98µm
SCZP Santa Cruz 13.52 331 eP **P 08 33 34.6 -0.8**
BTM Bintulu 13.59 267 P **P 08 33 34.3 -2.0**
CAUP Cauayan 13.78 340 eP P 08 33 34.4 -4.0
BBKI Banjar Baru 13.93 238 P **P 08 33 38.7 -1.3**
2µm,0.7s,36µm
BOLP Bolinao 14.05 332 eP **P 08 33 40.3 -1.0**
CVP Callao Caves 14.49 341 eP **P 08 33 45.6 -0.6**
CVP Callao Caves 14.49 341 eP **P 08 33 45.6 -0.6**
SBUM Sibu 14.51 265 P **P 08 33 46.2 -0.3**
SBUM Sibu 14.51 265 P **P 08 33 45.3 -1.2**
726nm,1.9s,17µm72µm
WSI Waingapu 14.93 205 P **P 08 33 49.3 -1.9**
2µm,1.1s,27µm
JAY Jayapura 15.41 114 P **P 08 33 56.2 -0.3**
457nm,1.1s,6µm
PIP Pasuquin 15.49 338⇑ eP **P 08 33 58.0 +0.7**
STKI Sintang 15.67 256 P **P 08 34 01.5 +2.1**
706nm,1.5s,22µm
KHKI Kahang-Kahang 16.47 222 P **P 08 34 10.0 +1.8**
1µm,1.0s,10µm
KSM Kuching 16.54 262 eP **P 08 34 09.6 +0.6**
1µm,1.2s
KSM Kuching 16.54 262 P **P 08 34 11.7 +2.7**
KSM Kuching 16.54 262 P **P 08 34 11.5 +2.5**
972nm,1.2s,17µm72µm
KMMI Kalianget 16.73 229 P **P 08 34 13.4 +2.2**
598nm,1.3s
IGBI Denpasar 17.11 222 P **P 08 34 17.9 +2.6**
526nm,1.1s
BYJI Banyuwangi 17.23 226 P **P 08 34 20.9 +4.3**
2µm,1.1s,23µm39µm
MTN Manton Dam 17.24 165 eP **Pn 08 34 12.1 -3.7**
BLJI Banyuglugur 17.46 228 P **P 08 34 21.2 +1.9**
861nm,0.9s,7µm
JAGI Jajag, Banyuwa 17.55 225 P **P 08 34 22.6 +2.4**
710nm,1.3s,12µm52µm
GRJI Gresik 17.81 233 P P 08 34 31.1 +8.0
206nm,0.5s,16µm
GMJI Gumukmas 17.93 227 P **P 08 34 27.1 +2.7**
765nm,1.0s,11µm32µm
KRKI Karangkates 18.59 230 P **Pn 08 34 33.1 +0.8**
1µm,1.0s
SJI Sawahan 18.86 232 P **P 08 34 34.8 0.0**
907nm,1.2s
PWJI Pagerwojo 19.01 231 P **P 08 34 36.1 -0.2**
584nm,1.3s,6µm
TWG Pinlang 19.55 344 eP **P 08 34 40.4 -1.7**
165nm,0.5s
TWG eS **Sn 08 38 28.1 +5.7**
UGM Wanagama 19.96 234 eP **Pn 08 34 47.6 -1.1**
2µm,1.8s
UGM Wanagama 19.96 234 P Pn 08 34 57.6 +8.9
YULB Yu-li 20.04 345 eP **P 08 34 44.7 -2.7**
146nm,0.9s
YOGI Yogyakarta 20.09 234 P Pn 08 34 50.0 -0.2
1µm,0.8s,13µm
TPUB Ta-pu 20.13 344 eP **P 08 34 47.0 -1.5**
466nm,0.7s
TPI Tanjungpandan 20.14 251 P Pn 08 34 59.1 +8.2
299nm,1.5s,4µm
GUMO Guam 20.36 61 P **P 08 34 48.3 -2.7**
266nm,1.0s
GUMO Guam 20.36 61 P **P 08 34 48.3 -2.7**
105nm,1.0s,baz=177,slow=19,SNR=2.9
GUMO LR LR 08 40 47.6
comp=Z,10µm,20.0s,baz=226,slow=31
SSLB Suanglung 20.50 345 eP **P 08 34 51.7 -0.8**
257nm,0.7s
SSLB eS **S 08 38 37.8 -1.8**
NACB Ninganchiao 20.71 347 eP **P 08 34 54.3 -0.5**
162nm,0.8s
NACB eS **S 08 38 41.2 -2.5**
CLJI Cilicap 21.09 237 P **P 08 34 58.6 -0.3**
290nm,1.4s
YHNB Yeheng 21.24 347 eP **P 08 34 59.8 -0.8**
230nm,0.7s
PPBI Pangkal Pinang 21.41 254 P **P 08 35 05.6 +3.3**
277nm,1.5s,5µm
TATO Taipei 21.51 347 P **P 08 35 01.7 -1.6**
125nm,0.8s
LEM Lembang 21.83 241 P **P 08 35 08.8 +1.8**
788nm,1.0s,10µm
FITZ Fitzroy Crossi 21.92 183 P **P 08 35 05.8 -1.9**
FITZ S **S 08 39 00.8 -6.6**
FITZ Fitzroy Crossi 21.92 183 eP **P 08 35 06.3 -1.4**
560nm,0.9s
FITZ eS **S 08 39 06.3 -1.1**
FITZ Fitzroy Crossi 21.92 183 P **P 08 35 05.8 -1.9**
113nm,0.5s,baz=14,slow=9.5,SNR=150
FITZ S **S 08 39 00.8 -6.6**
31nm,1.0s,baz=130,slow=17,SNR=1.7
HKC Hong Kong Obse 21.92 328⇑ *i*P **P 08 35 08.0 +0.3**
CISI Cisompet, Garu 22.01 239 P **P 08 35 10.0 +1.1**
400nm,1.1s,8µm
QIZ Qiongzhong 22.27 314 P **P 08 35 13.9 +2.4**
QIZ pP **pP 08 35 19.9 -2.5**
QIZ sP **sP 08 35 23.8 -4.3**
QIZ S **S 08 39 14.9 +0.9**
QIZ pmax pmax
comp=Z,68nm,1.3s
QIZ LR LR
comp=N,14µm,20.4s
QIZ LR LR
comp=E,5µm,22.3s
QIZ LR LR
comp=Z,23µm,22.6s
QIZ Qiongzhong 22.27 314 eP **P 08 35 07.7 -3.8**
comp=Z,186nm,1.1s
QIZ *e* 08 39 11.1
QZH Quanzhou 22.30 340⇑ *i*P **P 08 35 09.4 -2.3**
QZH S **S 08 39 09.0 -5.3**
QZH pmax pmax
comp=Z,260nm,0.8s
QZH pmax pmax
comp=Z,4µm,8.3s
QZH LR LR
comp=N,38µm,19.0s
QZH LR LR
comp=E,16µm,16.8s
QZH LR LR
comp=Z,39µm,21.3s
CBJI Citeko 22.31 243 P **P 08 35 14.3 +2.3**
comp=Z,2µm,1.0s,comp=Z,40µm
JOW Kunigami 22.82 4 P **P 08 35 16.1 -1.2**
comp=Z,17nm,0.9s
JOW S S 08 39 09.9 -14
JOW Kunigami 22.82 4 P **P 08 35 16.1 -1.2**
comp=Z,64nm,0.7s,baz=197,slow=9.1,SNR=16
JOW S S 08 39 09.9 -14
comp=Z,37nm,0.9s,baz=156,slow=20,SNR=4.0
SKJI Sukabumi 22.84 242 P P 08 35 23.7 +6.1
comp=Z,784nm,1.1s,comp=Z,13µm
MYKOM Kota Tinggi 22.90 265 P **P 08 35 19.4 +1.1**
MYKOM Kota Tinggi 22.90 265 P **P 08 35 20.5 +2.2**
comp=Z,440nm,1.4s,comp=Z,1µm
PMBI Palembang 22.93 253 P P 08 35 27.2 +8.6
comp=Z,2µm,1.0s,comp=Z,32µm
GZH Guangzhou 23.00 327 P **P 08 35 20.9 +1.7**
GZH S **S 08 39 28.5 +1.9**
GZH LR LR
comp=N,29µm,18.2s
GZH LR LR
comp=E,33µm,19.5s
GZH LR LR
comp=Z,35µm,19.5s
KGM Kluang 23.41 266 P **P 08 35 25.7 +2.3**
CGJI Cibinong 23.43 244 P **P 08 35 23.2 -0.3**
comp=Z,745nm,0.8s,comp=Z,8µm
KASI Kota Agung 24.07 247 P **P 08 35 31.7 +2.2**
comp=Z,594nm,1.2s,comp=Z,7µmcomp=Z,24µm
COEN Coen 24.16 138 eP **P 08 35 27.8 -2.5**
comp=Z,1µm,1.2s
COEN eS **S 08 39 46.6 +1.1**
PMG Port Moresby 24.33 123 P **P 08 35 29.9 -2.0**
comp=Z,10nm,1.1s
PMG eS S 08 39 55.0 +6.7
PMG Port Moresby 24.33 123 P **P 08 35 29.9 -2.0**
comp=Z,107nm,1.2s,comp=Z,2µm
PMG Port Moresby 24.33 123 P **P 08 35 29.9 -2.0**
comp=Z,23nm,1.0s,baz=329,slow=8.3,SNR=13
WRAB Tennant Creek 24.88 163 eP **P 08 35 35.2 -1.6**
WRAB pmax pmax
comp=Z,703nm,0.8s
WRAB Tennant Creek 24.88 163 eP **P 08 35 35.2 -1.6**
comp=Z,703nm,0.8s
WRAB Tennant Creek 24.88 163 P **P 08 35 35.0 -1.9**
comp=Z,6µm,0.8s
WRA Warramunga Arr 24.89 163 P **P 08 35 36.3 -0.6**
WRA S **S 08 39 53.4 -3.8**
WRA Warramunga Arr 24.89 163 P **P 08 35 36.3 -0.6**
comp=Z,2µm,0.3s,baz=261,slow=0.0,SNR=9.2
WRA S **S 08 39 53.4 -3.8**
FRIM Kepong 25.02 269 P **P 08 35 40.4 +2.2**
MNAI Manna 25.10 251 P P 08 35 49.8 +11
KSI Kapahiang 25.22 253 P P 08 35 44.6 +4.5
comp=Z,506nm,1.0s,comp=Z,17µm
IPM Ipoh 25.59 272 eP **P 08 35 44.8 +1.4**
comp=Z,373nm,1.0s
IPM eS S 08 39 58.9 -10
IPM Ipoh 25.59 272 P **P 08 35 45.8 +2.4**
IPM Ipoh 25.59 272 P **P 08 35 45.6 +2.2**
comp=Z,375nm,1.5s,comp=Z,5µm
MBWA Marble Bar 25.85 195 eP **P 08 35 45.5 -0.1**
comp=Z,509nm,1.2s
MBWA eS **S 08 40 11.3 -1.1**
BKNI Bangkinang 25.87 263 P **P 08 35 49.7 +3.8**
comp=Z,1µm,1.1s,comp=Z,10µm
PPI Padang Panjang 26.63 261 P **P 08 35 55.9 +3.2**
comp=Z,306nm,1.4s,comp=Z,4µm
MNSI Mandailing Nat 27.25 264 P **P 08 35 59.7 +1.3**
comp=Z,607nm,0.9s,comp=Z,8µm
CBIJ Chichi jima 27.39 31 P **P 08 35 59.0 -0.4**
CBIJ Chichi jima 27.39 31 P **P 08 35 59.0 -0.4**
comp=Z,306nm,0.8s,baz=296,slow=16,SNR=6.8
CBIJ LR LR 08 45 52.4
comp=Z,15µm,19.4s,baz=217,slow=34
SSE Sheshan 27.51 350 P **P 08 36 00.6 +0.1**
SSE S **S 08 40 40.2 +1.8**
SSE pmax pmax
comp=Z,73nm,0.8s
SSE pmax pmax
comp=Z,2µm,10.7s
SSE LR LR
comp=N,10µm,18.9s
SSE LR LR
comp=E,7µm,18.9s
SSE LR LR
comp=Z,14µm,20.4s
PSI Prapat 27.73 269 P **P 08 36 03.0 +0.2**
PSI S S 08 40 54.0 +11
PSI Prapat 27.73 269 P **P 08 36 05.0 +2.2**
comp=Z,199nm,1.3s,comp=Z,3µmcomp=Z,24µm
PSI Prapat 27.73 269 P **P 08 36 03.0 +0.2**
comp=Z,134nm,1.0s,baz=80,slow=5.5,SNR=26
PSI S S 08 40 54.0 +11
comp=Z,4.4nm,0.6s,baz=336,slow=22,SNR=3.7
AS31 Alice Springs 28.32 166 eP **P 08 36 06.9 -0.9**
AS31 eS S 08 41 03.8 +12
ASAR Alice Springs 28.32 166 P **P 08 36 06.3 -1.5**
ASAR PcP **PcP 08 39 21.8 +1.7**
ASAR S S 08 41 06.5 +15
ASAR *e* 09 08 27.1
ASAR Alice Springs 28.32 166 P **P 08 36 06.3 -1.5**
comp=Z,26nm,0.6s,baz=349,slow=7.2,SNR=299
ASAR PcP **PcP 08 39 21.8 +1.7**
comp=Z,18nm,0.6s,baz=23,slow=2.1,SNR=4.4
ASAR S S 08 41 06.5 +15
comp=Z,14nm,0.9s,baz=348,slow=19,SNR=4.7
ASAR P3KPbc 09 08 27.1
comp=Z,1.1nm,0.8s,baz=158,slow=4.3,SNR=6.2
WHN Wuhan 28.92 338⇓ *i*P **P 08 36 13.3 +0.3**
WHN PcP **PcP 08 39 23.9 +2.5**
WHN S **S 08 41 02.3 +1.7**
WHN LR LR
comp=N,45µm,22.4s
WHN LR LR
comp=E,46µm,18.6s
WHN LR LR
comp=Z,76µm,20.8s
NJ2 Nanjing 28.92 346 eP **P 08 36 13.9 +0.9**
NJ2 pP **pP 08 36 22.8 -2.2**
NJ2 sP **sP 08 36 27.7 -2.7**
NJ2 S **S 08 41 04.0 +3.4**
NJ2 pmax pmax
comp=Z,90nm,1.3s
NJ2 pmax pmax
comp=Z,2µm,10.7s
NJ2 LR LR
comp=N,11µm,19.2s
NJ2 LR LR
comp=E,11µm,17.1s
NJ2 LR LR
comp=Z,94µm,20.6s
GSI Gunungsitoli 29.19 266 P **P 08 36 16.4 +0.7**
comp=Z,316nm,0.8s,comp=Z,6µm
JNU Nakatsue 29.30 7 P **P 08 36 15.2 -1.3**
JNU ePP **PP 08 37 18.4 -4.9**
JNU Nakatsue 29.30 7 P **P 08 36 15.2 -1.3**
comp=Z,41nm,0.7s,baz=164,slow=5.1,SNR=16
TPTI 29.45 270 P P 08 36 23.2 +5.2
comp=Z,177nm,1.1s
GYA Guiyang 29.48 321⇑ *i*P **P 08 36 18.1 -0.1**
GYA pP **pP 08 36 30.2 0.0**
GYA PP **PnPn 08 37 17.5 +3.5**
GYA PcP **PcP 08 39 24.5 +1.4**
GYA S **S 08 41 11.9 +2.1**
GYA sS **sS 08 41 28.8 -1.1**
GYA ScP **ScP 08 43 03.2 +1.7**
GYA ScS **ScS 08 46 56.5 +0.1**
GYA pmax pmax
comp=Z,50nm,1.0s
GYA pmax pmax
comp=Z,180nm,5.2s
GYA LR LR
comp=N,9µm,20.8s
GYA LR LR
comp=E,9µm,20.2s
GYA LR LR
comp=Z,16µm,22.6s
LHMI Lhok Sumawe 29.67 274 P P 08 36 26.4 +6.5
comp=Z,180nm,1.1s,comp=Z,5µm
CTA Charters Tower 30.65 142 P **P 08 36 28.1 -0.4**
CTA *e* 09 08 20.6
CTA Charters Tower 30.65 142 eP **P 08 36 28.6 +0.1**
comp=Z,43nm,0.8s
CTA eS **S 08 41 26.9 -1.1**
CTA Charters Tower 30.65 142 P **P 08 36 28.1 -0.4**
comp=Z,45nm,0.9s,baz=325,slow=11,SNR=20
CTA P3KPbc 09 08 20.6
comp=Z,3.7nm,0.8s,baz=133,slow=1.0,SNR=4.1
CTAO Charters Tower 30.65 142 eP **P 08 36 28.7 +0.2**
CTAO pmax pmax
comp=Z,265nm,1.7s
CTAO Charters Tower 30.65 142 eP **P 08 36 28.7 +0.2**
comp=Z,265nm,1.7s
CM31 Chiang Mai Arr 30.73 300 eP **P 08 36 29.7 +0.5**
comp=Z,104nm,0.9s
CMAR Chiang Mai Arr 30.73 300 P **P 08 36 29.6 +0.3**
CMAR PcP **PcP 08 39 29.4 +3.1**
CMAR ScP **ScP 08 43 11.2 +5.6**
CMAR *e* 09 08 25.2
CMAR Chiang Mai Arr 30.73 300 P **P 08 36 29.6 +0.3**
comp=Z,42nm,0.8s,baz=119,slow=7.5,SNR=66
CMAR PcP **PcP 08 39 29.4 +3.1**
comp=Z,11nm,0.9s,baz=118,slow=2.0,SNR=4.3
CMAR ScP **ScP 08 43 11.2 +5.6**
comp=Z,9.3nm,0.9s,baz=133,slow=2.0,SNR=6.1
CMAR LR LR 08 48 25.2
comp=Z,9µm,19.3s,baz=204,slow=36
CMAR P3KPbc 09 08 25.2
comp=Z,0.6nm,0.3s,baz=289,slow=5.0,SNR=7.1
ENH Enshi 30.83 330 eP **P 08 36 29.4 -0.7**
comp=Z,227nm,0.8s
CHTO Chiang Mai 30.88 301 eP **P 08 36 30.5 0.0**
CHTO *e* 08 37 39.8
CHTO pmax pmax
comp=Z,189nm,0.8s
CHTO Chiang Mai 30.88 301 eP **P 08 36 30.5 0.0**
comp=Z,189nm,0.8s
CHTO ePP **PP 08 37 39.8 -1.0**
CHTO Chiang Mai 30.88 301 P **P 08 36 30.6 0.0**
comp=Z,286nm,0.9s,comp=Z,2µm
KMI Kunming 31.20 315 P **P 08 36 35.9 +2.3**
KMI pP **pP 08 36 46.3 +0.7**
KMI PP **PnPn 08 37 38.7 +2.0**
KMI S **S 08 41 37.2 +0.1**
KMI SS **SnSn 08 43 21.8 -0.6**
KMI pmax pmax
comp=Z,88nm,1.2s
KMI LR LR
comp=N,10µm,17.8s
KMI LR LR
comp=E,7µm,22.7s
KMI LR LR
comp=Z,17µm,20.6s
BSI Banda Aceh 31.32 274 P **P 08 36 36.8 +2.3**
comp=Z,61nm,1.3s,comp=Z,2µm
JHJ Hachijo jima 2 31.52 21 LR LR 08 49 01.6
comp=Z,16µm,19.4s,baz=203,slow=36
TIA Tai'an 33.31 346 P P 08 36 48.1 -3.6
TIA S **S 08 42 13.6 +4.4**
TIA pmax pmax
comp=Z,1µm,11.2s
TIA LR LR
comp=N,4µm,26.1s
TIA LR LR
comp=E,10µm,27.4s
TIA LR LR
comp=Z,6µm,19.6s
KSAR Wonju Array Be 33.37 2 P **P 08 36 52.0 -0.1**
KSAR PcP **PcP 08 39 34.4 +1.3**
KSAR ScP ScP 08 43 20.6 +6.4
KSRS Korea Array 33.38 2 P **P 08 36 52.0 -0.2**
comp=Z,18nm,0.8s,baz=178,slow=10,SNR=37
KSRS PcP **PcP 08 39 34.4 +1.3**
comp=Z,27nm,0.8s,baz=186,slow=2.6,SNR=14
KSRS ScP ScP 08 43 20.6 +6.4
comp=Z,2.4nm,0.8s,baz=194,slow=2.8,SNR=3.8
INCN Inchon 33.39 360 eP **P 08 36 52.2 -0.2**
comp=Z,59nm,0.9s
INCN ePcP **PcP 08 39 37.2 +3.9**
MAJO Matsushiro 34.14 17 eP **P 08 36 57.9 -1.0**
MAJO pmax pmax
comp=Z,47nm,0.9s
MAJO Matsushiro 34.14 17 eP **P 08 36 57.9 -1.0**
comp=Z,48nm,0.9s
MAT Matsushiro 34.14 17 P P 08 36 55.2 -3.7
MAT S **S 08 42 23.0 +0.9**
MJAR Matsushiro Arr 34.14 17 P P 08 36 54.7 -4.2
MJAR PcP **PcP 08 39 37.6 +2.2**
MJAR Matsushiro Arr 34.14 17 P P 08 36 54.7 -4.2
comp=Z,33nm,1.1s,baz=201,slow=10,SNR=32
MJAR PcP **PcP 08 39 37.6 +2.2**
comp=Z,15nm,0.7s,baz=202,slow=4.1,SNR=6.4
MJAR LR LR 08 49 50.4
comp=Z,6µm,20.1s,baz=190,slow=35
XAN Xi'an 34.22 333 P **P 08 36 58.4 -1.2**
XAN pP **pP 08 37 08.6 -3.1**
XAN sP **sP 08 37 12.4 -4.6**
XAN PP **PnPn 08 38 14.5 -0.3**
XAN S **S 08 42 22.3 -1.1**
XAN sS **sS 08 42 39.0 -4.6**
XAN SS **SnSn 08 44 34.5 -0.6**
XAN pmax pmax
comp=Z,78nm,0.8s
XAN pmax pmax
comp=Z,210nm,11.9s
XAN LR LR
comp=N,10µm,19.4s
XAN LR LR
comp=E,4µm,18.2s
XAN LR LR
comp=Z,6µm,17.6s
CD2 Chengdu 34.45 324⇑ P **P 08 37 01.4 -0.3**
CD2 pP **pP 08 37 11.1 -2.7**
CD2 sP **sP 08 37 15.0 -4.2**
CD2 PcP **PcP 08 39 36.3 -0.2**
CD2 S **S 08 42 26.8 -0.3**
CD2 sS **sS 08 42 42.8 -4.5**
CD2 PcS **PcS 08 43 21.6 -1.4**
CD2 SS **SnSn 08 44 38.7 -2.2**
CD2 pmax pmax
comp=Z,100nm,1.0s
CD2 pmax pmax
comp=Z,680nm,5.0s
CD2 LR LR
comp=N,14µm,19.6s
CD2 LR LR
comp=E,19µm,18.6s
CD2 LR LR
comp=Z,19µm,18.6s
FORT Forrest 34.54 178 eP **P 08 37 01.9 -0.5**
comp=Z,364nm,0.7s
FORT eS **S 08 42 28.8 +0.5**
FORT Forrest 34.54 178 eP **P 08 37 01.7 -0.7**
comp=Z,317nm,0.7s
DL2 Dalian 35.12 353 P **P 08 37 08.0 +0.8**
DL2 S **S 08 42 38.7 +1.8**
DL2 pmax pmax

comp=Z,100nm,0.9s
DL2 pmax pmax
comp=Z,800nm,10.8s
DL2 LR LR
comp=E,4μm,18.1s
DL2 LR LR
comp=Z,4μm,24.9s
HNR Honiara 35.71 112 LR LR 08 50 52.3
comp=Z,5μm,18.4s,baz=65,slow=35
TIY Taiyuan 36.06 341 *e*P **P** **08 37 15.1 -0.4**
TIY S S 08 42 44.1 -7.6
TIY LR LR
comp=N,8μm,16.2s
TIY LR LR
comp=E,3μm,15.7s
TIY LR LR
comp=Z,9μm,20.0s
KLBR Kellerberrin 36.33 193 *e*P **P** **08 37 17.2 -0.6**
comp=Z,328nm,0.9s
KLBR *e*S **S** **08 42 55.3 -0.5**
BJT Baijiatuau 37.16 347 *e*P **P** **08 37 24.4 -0.3**
comp=Z,332nm,0.7s
BJT *e*PcP **PcP** **08 39 46.1 +1.9**
BJI Beijing 37.18 347 P **P** **08 37 24.4 -0.5**
BJI sP **sP** **08 37 37.4 -5.0**
BJI S **S** **08 43 07.4 -1.1**
BJI sS **ScP** **08 43 23.8 -4.0**
BJI pmax pmax
comp=Z,160nm,0.9s
BJI pmax pmax
comp=Z,1μm,3.6s
BJI LR LR
comp=N,4μm,14.3s
BJI LR LR
comp=E,9μm,20.0s
BJI LR LR
comp=Z,6μm,23.0s
EIDS Eidsvold 37.54 142 *e*P **P** **08 37 26.6 -1.5**
comp=Z,117nm,0.8s
BBOO Buckleboo 37.61 167 *e*P **P** **08 37 27.7 -0.9**
comp=Z,26μm,2.3s
IMP Imphal 37.71 306 *e*PKP **P** **08 37 27.0 -2.7**
IMP *ex* x 08 39 49.0
NWAO Narrogin (SRO) 37.73 193 *e*P **P** **08 37 30.4 +0.8**
comp=Z,187nm,1.1s
NWAO Narrogin (SRO) 37.73 193 P **P** **08 37 30.6 +0.9**
comp=Z,120nm,0.6s,baz=25,slow=8.6,SNR=72
SNY Shenyang 37.83 356 ⇑P **P** **08 37 30.4 0.0**
SNY S **S** **08 43 18.7 +0.4**
SNY pmax pmax
comp=Z,42nm,1.1s
SNY pmax pmax
comp=Z,2μm,4.0s
SNY LR LR
comp=N,4μm,25.0s
SNY LR LR
comp=E,8μm,16.7s
SNY LR LR
comp=Z,7μm,18.6s
LZH Lanzhou 38.31 330 ⇑P **P** **08 37 35.2 +0.5**
LZH pP **pP** **08 37 45.5 -1.4**
LZH sP **sP** **08 37 50.0 -2.2**
LZH S **S** **08 43 27.5 +1.4**
LZH sS **sS** **08 43 44.0 -2.5**
LZH pmax pmax
comp=Z,300nm,1.0s
LZH pmax pmax
comp=Z,790nm,4.0s
LZH LR LR
comp=N,18μm,18.9s
LZH LR LR
comp=E,17μm,17.4s
LZH LR LR
comp=Z,24μm,20.4s
STKA Stephens Creek 38.33 159 *e*P **P** **08 37 34.0 -0.8**
comp=Z,70nm,0.8s
STKA *e*PP **PP** **08 39 01.8 -1.4**
STKA Stephens Creek 38.33 159 *e*P **P** **08 37 33.8 -0.9**
comp=Z,339nm,0.8s
STKA *e*S **S** **08 43 24.8 -1.4**
STKA Stephens Creek 38.33 159 P **P** **08 37 34.0 -0.8**
comp=Z,382nm,0.8s,baz=334,slow=8.3,SNR=456
STKA LR LR 08 55 22.2
comp=Z,3μm,19.2s,baz=90,slow=39
HHC Hu-ho-hao-te 39.19 342 *e*P **P** **08 37 42.0 0.0**
HHC pP **pP** **08 37 51.7 -2.5**
HHC sP **sP** **08 37 55.3 -4.2**
HHC PP **PnPn** **08 39 16.3 +0.9**
HHC S **S** **08 43 39.0 -0.2**
HHC sS **sS** **08 43 58.9 -0.7**
HHC SS **SS** **08 46 26.5 -7.1**
HHC ScS **ScS** **08 47 44.2 -3.1**
HHC pmax pmax
comp=Z,110nm,0.9s
HHC pmax pmax
comp=Z,1μm,6.7s
HHC LR LR
comp=N,11μm,19.4s
HHC LR LR
comp=E,7μm,21.8s
HHC LR LR
comp=Z,9μm,21.1s
VLA Vladivostok 39.30 6 ⇓P **P** **08 37 39.7 -2.9**
VLA *e* 08 39 10.1
VLA *e* 08 39 48.4
VLA *e*S **S** **08 43 38.3 -2.1**
VLA pmax pmax
comp=Z,28nm,0.6s
BTO Baotou 39.48 340 *e*P **P** **08 37 42.1 -2.2**
BTO S **S** **08 43 45.6 +2.1**
BTO LR LR
comp=N,4μm,18.1s
BTO LR LR
comp=E,3μm,17.2s
AGT Agartala 39.51 303 *e*PKP **P** **08 37 46.0 +1.3**
AGT *ex* x 08 38 31.0
CN2 Changchun 39.72 359 *e*P **P** **08 37 47.3 +1.2**
CN2 *e*pP **pP** **08 37 57.1 -1.3**
CN2 *e*PP **PnPn** **08 39 23.6 +2.1**
CN2 *e*S **S** **08 43 48.7 +2.0**
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,6μm,19.0s
CN2 LR LR
comp=E,4μm,19.0s
CN2 LR LR
comp=Z,6μm,19.0s
SHL Shillong 39.72 306 *i* P **P** **08 37 46.0 -0.7**
SHL *i* x x 08 43 41.0
USRK Ussuriysk Arra 40.38 6 P **P** **08 37 52.4 +0.8**
comp=Z,24nm,0.8s,baz=189,slow=8.0,SNR=34
MDJ Mudanjiang 40.60 3 P **P** **08 37 55.3 +1.9**
MDJ pP **pP** **08 38 03.4 -2.3**
MDJ sP **sP** **08 38 07.8 -3.2**
MDJ PP **PP** **08 39 28.8 +1.1**
MDJ PcP **PcP** **08 39 55.0 +0.1**
MDJ ScP **ScP** **08 43 43.5 +2.6**
MDJ PcS **PcS** **08 43 47.6 +2.1**
MDJ S **S** **08 44 01.9 +2.0**
MDJ ScS **ScS** **08 48 00.0 +4.8**
MDJ pmax pmax
comp=Z,61nm,1.3s
MDJ pmax pmax
comp=Z,930nm,8.6s
MDJ LR LR
comp=N,3μm,28.3s
MDJ LR LR
comp=E,5μm,24.1s
MDJ LR LR
comp=Z,5μm,21.3s
MDJ Mudanjiang 40.60 3 *e*P **P** **08 37 53.1 -0.3**
comp=Z,138nm,0.9s
CAL Calcutta 41.47 300 *e*PKP **P** **08 38 00.8 -0.1**
CAL AMb AMB 08 38 05.5
comp=Z,886nm,0.8s
CAL *ex* x 08 44 08.1
ARMA Armidale 41.66 147 *e*P **P** **08 38 02.6 +0.2**
comp=Z,1μm,1.9s
ARMA Armidale 41.66 147 *e*P **P** **08 38 02.9 +0.4**
ARMA *e*S **S** **08 44 16.1 -0.1**
LSA Lhasa 42.27 311 P **P** **08 38 10.3 +2.3**
LSA PP **PP** **08 39 48.0 +1.5**
LSA S S 08 44 15.5 -11
LSA pmax pmax
comp=Z,60nm,0.8s
LSA pmax pmax
comp=Z,1μm,10.0s
LSA LR LR
comp=N,2μm,20.0s
LSA LR LR
comp=E,5μm,26.0s
LSA LR LR
comp=Z,7μm,26.0s
LSA Lhasa 42.27 311 *e*P **P** **08 38 08.2 +0.2**
LSA pmax pmax
comp=Z,207nm,0.7s
LSA Lhasa 42.27 311 *e*P **P** **08 38 08.2 +0.2**
comp=Z,207nm,0.7s
ASAJ Asahikawa 42.41 17 *e*P **P** **08 38 08.1 -0.2**
comp=Z,34nm,0.8s
ASAJ Asahikawa 42.41 17 P **P** **08 38 07.8 -0.5**
comp=Z,14nm,0.4s,baz=233,slow=15,SNR=11
ASAJ LR LR 08 57 17.5
comp=Z,9μm,18.4s,baz=112,slow=38
GTA Gaotai 42.90 329 ⇑P **P** **08 38 12.2 -0.3**
GTA pP **pP** **08 38 22.6 -2.3**
GTA sP **sP** **08 38 26.9 -3.3**
GTA PcP **PcP** **08 40 04.6 +1.8**
GTA S **S** **08 44 32.7 -1.7**
GTA sS sS 08 44 46.2 -8.8
GTA SS SS 08 47 39.2 -8.0
GTA ScS **ScS** **08 48 12.6 +2.8**
GTA pmax pmax
comp=Z,36nm,0.8s
GTA pmax pmax
comp=Z,1μm,8.5s
GTA LR LR
comp=N,9μm,17.6s
GTA LR LR
comp=E,7μm,15.7s
GTA LR LR
comp=Z,7μm,16.2s
YUK Yuzh-Kuril'sk 43.38 20*c* *i*P P 08 38 08.7 -7.4
YUK *i* S S 08 44 31.6 -9.3
YUK *i* SS **SS** **08 47 50.7 -5.4**
YUK pmax pmax
comp=N,279nm,0.9s
YUK pmax pmax
comp=E,267nm,0.9s
YUK pmax pmax
comp=Z,439nm,0.8s
YUK pmax pmax
comp=Z,3μm,2.7s
YUK MLR MLR
comp=E,2μm,20.0s
YUK MLR MLR
comp=N,1μm,18.0s
YUK MLR MLR
comp=Z,5μm,18.0s
TAPN Taplejung 43.86 306 *e*P **P** **08 38 20.3 -0.4**
comp=Z,386nm,0.8s
ODAN Odare 43.91 305 *e*P **P** **08 38 20.6 -0.4**
comp=Z,377nm,0.7s
RIV Riverview 44.10 150 *e*P P 08 38 24.5 +2.5
CAN Canberra 44.31 154 *e*P **P** **08 38 24.5 +0.7**
CAN pmax pmax
comp=Z,360nm,1.1s
CAN Canberra 44.31 154 *e*P **P** **08 38 24.4 +0.7**
comp=Z,360nm,1.1s
CNB Canberra Magne 44.47 153 *e*P **P** **08 38 25.6 +0.5**
comp=Z,751nm,1.1s
CNB *e*S **S** **08 44 58.5 +1.3**
RAMN Ramite 44.60 305 *e*P **P** **08 38 26.3 -0.2**
comp=Z,634nm,1.2s
TOO Toolangi 44.84 159 *e*P **P** **08 38 28.6 +0.6**
comp=Z,487nm,1.0s
TOO *e*S **S** **08 45 06.5 +4.0**
HABR Khabarovsk 44.95 8 *e*P **P** **08 38 28.1 -0.5**
HABR *e**SP sP 08 38 39.3 -7.0
HABR *e*S **S** **08 45 03.9 +0.2**
HABR *e**SS sS 08 45 18.0 -6.4
HABR *e* 08 48 21.1
HABR *e*SSS SSS 08 49 09.3
HABR pmax pmax
comp=E,138nm,2.4s
HABR pmax pmax
comp=N,247nm,3.6s
HABR pmax pmax
comp=Z,329nm,2.4s
HABR MLR MLR
comp=Z,6μm,21.0s
YSS Yuzh-Sakhalins 45.06 16⇓*e*P **P** **08 38 30.0 +0.5**
YSS *i* 08 38 37.0
YSS *e**SP **sP** **08 38 46.0 -1.2**
YSS *e* 08 40 10.1
YSS *e* 08 40 16.3
YSS *i* S **S** **08 45 05.0 -0.3**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS MLR MLR
comp=N,5μm,18.0s
YSS MLR MLR
comp=Z,6μm,18.0s
YSS MLR MLR
comp=E,5μm,17.0s
YSS Yuzh-Sakhalins 45.06 16 *e*P **P** **08 38 28.8 -0.7**
comp=E,177nm,1.2s
JIRN Jiri 45.22 306 *e*P **P** **08 38 31.2 -0.4**
comp=E,164nm,1.1s
KLR Kul'dur 45.34 5 *e*P P 08 38 27.7 -4.0
KLR *e*S **S** **08 45 10.0 +0.7**
KLR pmax pmax
comp=Z,140nm,1.8s
KLR MLR MLR
comp=E,5μm,20.0s
HIA Hailar 45.56 354 *e*P **P** **08 38 33.6 +0.1**
comp=E,200nm,0.9s
GUN Gumba 45.57 306 *e*P **P** **08 38 33.8 -0.5**
comp=E,485nm,0.8s
PKI Pulchoki 45.81 305 *e*P **P** **08 38 35.4 -0.9**
comp=E,184nm,0.9s
KKN Kakani 46.01 305 *e*P **P** **08 38 37.1 -0.5**
comp=E,184nm,0.8s
DMN Daman 46.08 305 *e*P **P** **08 38 37.6 -0.6**
comp=E,289nm,0.9s
NOUC Port Laguerre 46.59 126 *e*P **P** **08 38 39.9 -2.1**
GKN Gorkha 46.61 305 *e*P **P** **08 38 41.5 -0.8**
comp=E,229nm,0.9s
DZM Mont Dzumac 46.69 125 *e*P **P** **08 38 42.5 -0.4**
comp=E,361nm,1.1s
DZM *e*S **S** **08 45 26.3 -3.4**
comp=E,9μm,28.0s
DZM *e*SS **SS** **08 48 55.8 -0.7**
comp=E,7μm,26.9s
DZM Mont Dzumac 46.69 125 *e*P **P** **08 38 41.2 -1.7**
DZM Mont Dzumac 46.69 125 P **P** **08 38 42.7 -0.2**
comp=E,7.6nm,1.0s
DZM *e*PP **PP** **08 40 30.8 -2.5**
DZM Mont Dzumac 46.69 125 P **P** **08 38 42.7 -0.2**
comp=E,17nm,0.7s,baz=309,slow=4.2,SNR=37
ULN Ulaanbaatar 46.91 342 *e*P **P** **08 38 44.3 -0.1**
comp=E,98nm,0.8s
ULN *e*PcP **PcP** **08 40 19.0 +2.5**
ULN Ulaanbaatar 46.91 342 P **P** **08 38 44.1 -0.2**
comp=E,143nm,0.9s,comp=E,2μm
SONM Songino Array 47.09 341 P **P** **08 38 45.9 +0.2**
SONM PcP **PcP** **08 40 18.4 +1.3**
SONM ScP ScP 08 44 15.7 +8.2
SONM Songino Array 47.09 341 P **P** **08 38 45.9 +0.2**
comp=E,44nm,0.8s,baz=154,slow=8.8,SNR=99
SONM PcP **PcP** **08 40 18.4 +1.3**
comp=E,44nm,0.8s,baz=158,slow=3.0,SNR=7.6
SONM ScP ScP 08 44 15.7 +8.2
comp=E,3.6nm,1.0s,baz=144,slow=5.2,SNR=3.2
KOLN Koldanda 47.37 305 *e*P **P** **08 38 47.9 -0.4**
comp=E,681nm,0.8s
DANN Dangsing 47.46 305 *e*P **P** **08 38 48.5 -0.6**
comp=E,594nm,0.7s
ALBI Allahabad 48.02 301 *ex* **P** **08 38 50.5 -2.6**
HYB Hyderabad 49.00 290 *i* P **P** **08 39 00.0 -0.8**
HYB *e*PP PP 08 41 02.0 +7.3
HYB *e*S **S** **08 46 01.0 -1.5**
HYB LR LR 08 59 00.0
comp=E,4.0nm,22.0s
CIT Chita 49.16 349 *e*P **P** **08 39 02.5 +1.0**
CIT *e* 08 39 19.1
CIT *e* 08 40 23.9
CIT *e* 08 40 55.9
CIT *e* 08 46 07.0
CIT pmax pmax
comp=Z,739nm,1.6s
NGP Nagpur 49.31 295 *e*PKP **P** **08 39 01.9 -1.2**
NGP AMb AMB 08 39 11.5
comp=Z,153nm,2.1s
NGP *ex* x 08 46 02.7
TAU Tasmania Unive 50.23 160 P **P** **08 39 11.5 +1.9**
comp=Z,914nm,1.1s,SNR=9.0
ZAK Zakamensk 50.32 341 *i* P **P** **08 39 09.8 -0.6**
ZAK *e* 08 40 29.0
ZAK pmax pmax
comp=Z,27nm,1.1s
LGTI Lohaghat 50.73 305 *e*PKP **P** **08 39 15.1 +1.4**
LGTI *ex* x 08 40 37.1
PTH Pithoragarh 50.79 305 *e*PKP **P** **08 39 13.0 -1.4**
PTH *ex* x 08 44 28.5
LATR Latur 51.05 290 *e*PKP **P** **08 39 17.0 +0.7**
AKL Akola 51.06 293 *e*PKP **P** **08 39 16.6 +0.2**
AKL AMb AMB 08 39 23.3
comp=Z,406nm,0.3s
AKL *i* x x 08 46 29.6
TLY Talaya 51.32 342 *i* P **P** **08 39 18.2 +0.4**
TLY *e*S **S** **08 46 32.4 -1.4**
TLY *e*PS PS 08 46 39.0
TLY pmax pmax
comp=Z,86μm,9.0s
TLY MLR MLR
comp=Z,7μm,20.0s
TLY Talaya 51.32 342 P **P** **08 39 18.8 +1.0**
comp=Z,480nm,0.8s,SNR=17
IRK Irkutsk 51.62 343 *e*P **P** **08 39 19.8 -0.3**
IRK *e*S **S** **08 46 33.5 -4.4**
IRK pmax pmax
comp=Z,213nm,2.7s
MOY Mondy 52.18 340 *e*P **P** **08 39 24.8 +0.5**
MOY pmax pmax
comp=Z,209nm,3.3s
WMQ Urumqi 52.53 325 P **P** **08 39 27.0 -0.1**
WMQ pP **pP** **08 39 37.0 -2.7**
WMQ sP **sP** **08 39 41.0 -3.9**
WMQ PcP **PcP** **08 40 37.0 0.0**
WMQ PP **PP** **08 41 28.0 +1.6**
WMQ PcS **PcS** **08 44 34.0 -1.5**
WMQ S **S** **08 46 50.0 -0.8**
WMQ sS **sS** **08 47 07.0 -4.8**
WMQ ScS **ScS** **08 49 11.0 -2.3**
WMQ pmax pmax
comp=Z,120nm,1.1s
WMQ pmax pmax
comp=Z,1μm,5.8s
WMQ LR LR
comp=N,19μm,18.0s
WMQ LR LR
comp=E,13μm,20.0s
WMQ LR LR
comp=Z,14μm,20.0s
CLNS Chul'man 52.77 359 *e*P **P** **08 39 28.3 -0.3**
CLNS *e* 08 40 38.6
CLNS *e*S **S** **08 46 52.0 -1.6**
CLNS pmax pmax
comp=Z,50nm,1.1s
CLNS pmax pmax
comp=E,25nm,1.0s
CLNS pmax pmax
comp=N,39nm,0.9s
CLNS pmax pmax
comp=E,24nm,1.1s
CLNS pmax pmax
comp=Z,35nm,1.4s
CLNS pmax pmax
comp=N,39nm,1.1s
CLNS smax smax
comp=N,2μm,16.3s
CLNS smax smax
comp=E,1μm,13.7s
CLNS MLR MLR
comp=N,1μm,16.0s
CLNS MLR MLR
comp=Z,1μm,17.0s
CLNS MLR MLR
comp=E,2μm,17.0s
DDI Dehra Dun 52.81 305 *e*PKP **P** **08 39 27.0 -2.4**
KAD Karad 53.11 289 *e*PKP **P** **08 39 30.8 -0.9**
GOA Goa 53.21 286⇑*e*PKP **P** **08 39 34.5 +2.1**
GOA *ex* x 08 46 54.6
HMDM Hanimaadhoo 53.32 275 P P 08 39 37.2 +3.9
comp=E,128nm,1.0s
POO Poona 53.60 290 *ex* x 08 39 48.7
POO AMb AMB 08 39 52.0
comp=Z,102nm,1.1s
BHK Bhakra 54.51 306 *e*PKP **P** **08 39 41.0 -0.7**
AJM Ajmer 54.53 300 *ex* P 08 39 38.0 -4.0
BOD Bodaibo 54.66 352 *e*P **P** **08 39 42.8 +0.5**
BOD pmax pmax
comp=Z,186nm,1.6s
DLH Dalhousie 55.25 307 *e*PKP **P** **08 39 46.0 -1.3**
DLH *ex* x 08 40 08.0
PEA0B Petropavlovsk- 55.26 22 *e*P **P** **08 39 46.9 +0.2**
PETK Petropavlovsk- 55.26 22 P **P** **08 39 46.5 -0.3**
PETK Petropavlovsk- 55.26 22 P **P** **08 39 46.5 -0.3**
PETK Petropavlovsk- 55.26 22 P **P** **08 39 46.5 -0.3**
PETK comp=Z,26nm,0.7s,baz=185,slow=4.9,SNR=35
LR LR 09 05 40.9
comp=Z,4μm,18.1s,baz=216,slow=39
PET Petropavlovsk 55.56 23 *e*P **P** **08 39 50.3 +1.5**
PET *e*S **S** **08 47 30.7 -0.4**
PET pmax pmax
comp=Z,49nm,2.5s
PET pmax pmax
comp=Z,1μm,3.6s
PET pmax pmax
comp=Z,900nm,7.4s
PET MLR MLR
comp=Z,6μm,20.0s
PET MLR MLR
comp=Z,5μm,19.0s
PET Petropavlovsk 55.56 23 *e*P **P** **08 39 48.4 -0.4**
comp=Z,114nm,1.2s
MK31 Makanchi Array 57.36 325 *e*P **P** **08 40 01.1 -0.8**
MK31 pmax pmax
comp=Z,27nm,0.4s
MK31 Makanchi Array 57.36 325 *e*P **P** **08 40 01.0 -0.9**
MKAR Makanchi Array 57.36 325*c*e*P **P** **08 40 01.2 -0.7**
MKAR pmax pmax
comp=Z,59nm,0.6s
MKAR Makanchi Array 57.36 325 P **P** **08 40 01.2 -0.7**
MKAR PcP **PcP** **08 40 58.2 +2.7**
MKAR P'P' 09 09 49.9
MKAR ⇑*e* 09 10 06.1
MKAR *e* 09 17 15.1
MKAR Makanchi Array 57.36 325 P **P** **08 40 01.2 -0.7**
comp=Z,59nm,0.6s,baz=122,slow=5.3,SNR=214
MKAR PcP **PcP** **08 40 58.2 +2.7**
comp=Z,55nm,0.8s,baz=142,slow=4.6,SNR=5.8
MKAR LR LR 09 06 58.2
comp=Z,13μm,18.2s,baz=121,slow=38
MKAR PKPPKP **P'P'df** **09 09 49.9 -0.6**
comp=Z,1.7nm,0.9s,baz=236,slow=1.3,SNR=7.9
MKAR PKP2bc 09 10 06.1
comp=Z,1.8nm,0.8s,baz=321,slow=1.7,SNR=5.6
MKAR P4KPbc 09 17 15.1
comp=Z,3.4nm,0.8s,baz=108,slow=4.4,SNR=11
KSH Kashi 57.87 315 P **P** **08 40 06.6 +0.9**
KSH pP **pP** **08 40 16.5 -2.0**
KSH sP **sP** **08 40 20.7 -3.0**
KSH PcP **PcP** **08 40 58.3 +0.5**
KSH PP **PP** **08 42 16.5 +2.2**
KSH ScP **ScP** **08 44 54.2 -0.2**
KSH PcS **PcS** **08 44 58.3 -0.9**
KSH S **S** **08 48 02.5 +0.1**
KSH sS **sS** **08 48 19.4 -4.3**
KSH ScS **ScS** **08 49 50.0 -1.9**
KSH SS **SS** **08 51 55.8 +1.9**
KSH pmax pmax
comp=Z,130nm,1.1s
KSH pmax pmax
comp=Z,630nm,4.8s
KSH LR LR
comp=N,7μm,18.5s
KSH LR LR
comp=E,7μm,16.2s
KSH LR LR
comp=Z,8μm,19.2s
YAK Yakutsk 58.01 2*c* *i*P **P** **08 40 05.7 -0.3**

YAK e*PP **pP** **08 40 20.1 +1.3**
YAK e 08 42 14.5
YAK eS **S** **08 48 02.9 -0.3**
YAK e*SS sS 08 48 29.0 +4.5
YAK e 08 49 54.1
YAK pmax pmax
comp=Z,258nm,0.9s
YAK pmax pmax
comp=N,96nm,1.1s
YAK pmax pmax
comp=E,37nm,1.0s
YAK pmax pmax
comp=Z,10.0nm,0.4s
YAK smax smax
comp=N,387nm,4.3s
YAK smax smax
comp=E,524nm,3.7s
YAK MLR MLR
comp=E,3μm,16.0s
YAK MLR MLR
comp=N,4μm,17.0s
YAK MLR MLR
comp=Z,5μm,18.0s
YAK Yakutsk 58.01 2 eP **P** **08 40 05.7 -0.3**
comp=Z,287nm,0.8s
OUZ Omahuta 58.74 136 P **P** **08 40 12.7 +1.1**
OUZ ePP **PP** **08 42 20.4 -1.6**
ULHL Ulahol 58.84 318 P P 08 40 15.1 +2.5
SNR=17
KZA Kyzart 59.44 317 P **P** **08 40 19.3 +2.4**
SNR=9.8
TKM2 Tokmak 2 59.56 318 *i* P **P** **08 40 17.2 -0.3**
TKM2 Tokmak 2 59.56 318 eP **P** **08 40 17.2 -0.3**
comp=Z,84nm,0.9s
TKM2 Tokmak 2 59.56 318 P **P** **08 40 17.2 -0.3**
SNR=48
KBK Karagaybulak 59.88 318 P **P** **08 40 22.0 +2.3**
SNR=24
UCH Uchtor 59.99 317 P **P** **08 40 22.6 +1.8**
SNR=15
CHMS Chumysh 60.16 318 P **P** **08 40 22.3 +0.9**
SNR=13
AAK Ala-Archa 60.18 318 P **P** **08 40 21.7 0.0**
AAK Ala-Archa 60.18 318 P **P** **08 40 21.7 0.0**
AAK P'P' 09 09 45.6
AAK e 09 17 30.3
AAK Ala-Archa 60.18 318 P **P** **08 40 22.0 +0.3**
comp=Z,412nm,1.5s,SNR=19
AAK Ala-Archa 60.18 318 P **P** **08 40 21.4 -0.3**
SNR=22
AAK Ala-Archa 60.18 318 P **P** **08 40 21.7 0.0**
comp=Z,6.6nm,0.5s,baz=116,slow=6.9,SNR=21
AAK LR LR 09 08 26.8
comp=Z,19μm,21.8s,baz=87,slow=38
AAK PKPPKP **P'P'df** **09 09 45.6 -1.2**
comp=Z,1.9nm,0.8s,baz=207,slow=8.4,SNR=4.0
AAK P4KPbc 09 17 30.3
comp=Z,2.3nm,0.9s,baz=108,slow=3.2,SNR=4.2
FRU Bishkek 60.18 318 eP **P** **08 40 20.0 -1.5**
FRU pmax pmax
comp=Z,160nm,2.0s
FRU MLR MLR
comp=E,12μm,21.0s
ZAA0 Zalesovo Array 60.39 333 eP **P** **08 40 21.6 -1.0**
ZALV Zalesovo Beam 60.39 333 P **P** **08 40 21.5 -1.2**
ZALV Zalesovo Beam 60.39 333 P **P** **08 40 21.4 -1.2**
ZALV P'P' 09 09 46.9
ZALV ⇑*e* 09 09 56.1
ZALV Zalesovo Beam 60.39 333 P **P** **08 40 21.4 -1.2**
comp=E,38nm,0.7s,baz=123,slow=6.4,SNR=36
ZALV PKPPKP **P'P'df** **09 09 46.9 +1.5**
comp=E,1.1nm,0.6s,baz=250,slow=3.0,SNR=4.6
ZALV PKP2bc 09 09 56.1
comp=E,3.4nm,0.8s,baz=288,slow=2.6,SNR=8.2
USP Ospenovka 60.44 318 P **P** **08 40 24.4 +1.1**
SNR=34
AML Almayashu 60.51 317 P **P** **08 40 24.2 -0.1**
SNR=56
EKS2 Erkin-Say 60.67 318 eP **P** **08 40 25.2 +0.2**
EKS2 pmax pmax
comp=Z,143nm,1.0s
EKS2 Erkin-Say 60.67 318 eP **P** **08 40 25.2 +0.2**
comp=Z,143nm,1.0s
EKS2 Erkin-Say 60.67 318 P **P** **08 40 25.1 +0.1**
SNR=43
JCZ Jackson Bay 60.89 146 PN **P** **08 40 26.7 +0.4**
JCZ SN **S** **08 48 41.4 +0.3**
QRZ Quartz Range 61.12 142 PN **P** **08 40 28.4 +0.5**
HIZ Hauiti 61.33 138 PN **P** **08 40 31.6 +2.2**
KURBB Kurchatov Arra 61.55 327 P **P** **08 40 29.9 -0.7**
KURBB comp=Z,23nm,0.4s,baz=125,slow=6.5,SNR=53
KURBB LR LR 09 09 02.9
comp=Z,4μm,19.3s,baz=105,slow=38
KURBB PKPPKP **P'P'df** **09 09 43.0 -0.8**
comp=Z,1.8nm,0.9s,baz=278,slow=3.4,SNR=8.8
KURBB P4KPbc 09 17 34.0
comp=Z,1.2nm,0.8s,baz=131,slow=3.7,SNR=8.9
KURK Kurchatov 61.55 327 *ce*P **P** **08 40 29.9 -0.7**
KURK pmax pmax
comp=Z,125nm,1.2s
KURK Kurchatov 61.55 327 P **P** **08 40 29.9 -0.7**
KURK P'P' 09 09 43.0
KURK e 09 17 34.0
NVS Novosibirsk 61.67 333 ⇑*i* P **P** **08 40 30.3 -1.0**
NVS eS S 08 48 41.7 -8.8
NVS e 08 50 17.2
NVS pmax pmax
comp=N,29nm,0.7s
NVS pmax pmax
comp=Z,63nm,0.7s
NVS pmax pmax
comp=E,46nm,0.8s
NVS smax smax
comp=N,13nm,1.0s
NVS smax smax
comp=E,38nm,1.2s
SEY Seymchan 61.85 13 *ce*P **P** **08 40 32.6 +0.2**
LBZ Lake Benmore 61.88 146 PN **P** **08 40 33.2 +0.2**
THZ Tophouse 61.89 142 PN **P** **08 40 33.7 +0.5**
FX1 Attu Island--F 61.93 30 P **P** **08 40 32.3 -0.8**
FX1 Attu Island--F 61.93 30 P **P** **08 40 32.3 -0.8**
comp=E,63nm,1.0s,baz=157,slow=2.9,SNR=4.0
FX1 LR LR 09 03 50.8
comp=E,3μm,21.6s,baz=57,slow=33
RPZ Rata Peaks 61.95 145 eP **P** **08 40 33.9 +0.5**
comp=E,144nm,0.8s
RPZ Rata Peaks 61.95 145 PN **P** **08 40 33.0 -0.4**
LTZ Lake Taylor 62.10 143 PN **P** **08 40 36.1 +1.6**
ODZ Otahua Downs 62.54 146 eP **P** **08 40 37.9 +0.5**
comp=E,675nm,1.6s
KHZ Kahutara 62.65 143 P **P** **08 40 37.5 -0.6**
comp=E,345nm,1.5s
URZ Urewera 62.72 137 eP **P** **08 40 39.2 +0.5**
comp=E,117nm,1.1s
KK31 Karatay Array 63.05 317 *i* P **P** **08 40 40.9 0.0**
KK31 pmax pmax
comp=Z,132nm,0.9s
KKAR Karatay Array 63.05 317 eP **P** **08 40 41.1 +0.2**
KKAR pmax pmax
comp=Z,162nm,0.9s
KKAR Karatay Array 63.05 317 eP **P** **08 40 41.1 +0.2**
comp=Z,162nm,0.9s
AFI Afiamalu 63.55 108 P **P** **08 40 45.8 +1.1**
AFI Afiamalu 63.55 108 P **P** **08 40 45.8 +1.1**
comp=Z,59nm,1.0s,baz=268,slow=21,SNR=9.1
MCQ Macquarie Isla 64.11 160 eP **P** **08 40 49.1 +1.6**
MCQ pmax pmax
comp=Z,10μm,1.4s
MCQ Macquarie Isla 64.11 160 eP **P** **08 40 49.1 +1.6**
comp=Z,48μm,1.4s
MCQ Macquarie Isla 64.11 160 eP **P** **08 40 49.0 +1.6**
comp=Z,14μm,1.3s
BVA0 Borovoye Array 67.13 327 *i* P **P** **08 41 07.5 +0.4**
BVA0 pmax pmax
comp=Z,30nm,1.0s
BVAR Borovoye Array 67.13 327 P **P** **08 41 06.9 -0.2**
BVAR Borovoye Array 67.13 327 P **P** **08 41 06.9 -0.2**
BVAR e 09 18 00.1
BVAR Borovoye Array 67.13 327 P **P** **08 41 06.9 -0.2**
comp=Z,89nm,0.9s,baz=118,slow=6.5,SNR=64
BVAR P4KPbc 09 18 00.1
comp=Z,2.0nm,1.0s,baz=127,slow=3.8,SNR=5.0
BRVK Borovoye 67.20 327 *ce*P **P** **08 41 06.8 -0.7**
BRVK pmax pmax
comp=Z,155nm,1.2s
BRVK Borovoye 67.20 327 P **P** **08 41 08.6 +1.1**
comp=Z,1μm,0.6s,SNR=24
BILL Bilibino 69.37 15 ⇓*i* P **P** **08 41 20.4 -0.5**
BILL *i* 08 43 55.7
BILL *i* S **S** **08 50 26.5 +2.2**
BILL pmax pmax
comp=Z,32nm,1.0s
BILL MLR MLR
comp=Z,4μm,21.0s
BILL Bilibino 69.37 15 eP **P** **08 41 20.0 -0.8**
comp=Z,89nm,1.4s
ABKT Ailbek 70.73 309 P **P** **08 41 30.1 +0.2**
comp=Z,769nm,1.0s,SNR=13
CASY Casey 71.01 187 eP **P** **08 41 32.0 +1.2**
comp=Z,85nm,0.9s
CASY Casey 71.01 187 eP **P** **08 41 32.7 +1.9**
DRV Dumont d'Urvil 71.08 174 S S 08 50 33.0 -11
DRV SS **SS** **08 55 19.0 +0.8**
DRV L L 08 58 00.0
DRV R 09 04 00.0
AB31 Akbulak array 71.97 321 *i* P **P** **08 41 36.3 -0.7**
AB31 pmax pmax
comp=Z,36nm,0.6s
ABKAR Akbulak array 71.97 321 eP **P** **08 41 36.5 -0.5**
comp=Z,0.8nm,0.9s
ABKAR ePP **PP** **08 44 14.7 -2.6**
UNV Unalaska Valle 73.29 35 eP **P** **08 41 44.6 -0.1**
comp=Z,133nm,0.9s
AKTO Aktyubinsk 73.47 322 P **P** **08 41 45.4 -0.6**
AKTO Aktyubinsk 73.47 322 P **P** **08 41 45.4 -0.6**
AKTO Aktyubinsk 73.47 322 P **P** **08 41 45.4 -0.6**
comp=Z,50nm,0.7s,baz=105,slow=6.5,SNR=57
RER Riviere de l'E 73.76 247 eP P 08 41 51.6 +3.4
comp=Z,80nm,0.8s
SVE Sverdlovsk 73.77 328 ⇓*e*P **P** **08 41 47.2 -0.3**
SVE eS **SKiKP** **08 51 11.3 -2.0**
SVE pmax pmax
comp=Z,220nm,1.3s
SVE MLR MLR
comp=Z,4μm,20.0s
AKUT Akutan 73.78 34 eP **P** **08 41 47.4 -0.3**
comp=Z,224nm,0.7s
GAMB Gambell 74.23 24 eP **P** **08 41 50.2 +0.1**
comp=Z,81nm,0.9s
MIR Mirnyy 74.34 193 eP **P** **08 41 51.0 +0.4**
MIR pmax pmax
comp=Z,217nm,1.6s
MIR pmax pmax
comp=Z,1μm,6.0s
MIR MLR MLR
comp=N,1μm,18.0s
MIR MLR MLR
comp=E,1μm,18.0s
MIR MLR MLR
comp=Z,2μm,18.0s
KIP Kipapa 74.90 69 eP **P** **08 41 54.1 -0.7**
KIP pmax pmax
comp=Z,67nm,1.0s
KIP Kipapa 74.90 69 eP **P** **08 41 54.1 -0.7**
comp=Z,67nm,1.0s
RAR Rarotonga 76.16 113 P P 08 42 04.5 +2.4
RAR Rarotonga 76.16 113 P P 08 42 04.5 +2.4
comp=Z,22nm,0.8s,baz=226,slow=5.9,SNR=3.1
TNA Tin City 76.42 23 eP **P** **08 42 03.6 +1.0**
comp=Z,52nm,1.4s
SOKR Solikamsk 76.51 331 *d* iP **P** **08 42 04.4 +1.2**
SOKR 08 44 52.6
SOKR S **S** **08 51 41.5 -4.1**
SOKR pmax pmax
comp=Z,70nm,1.1s
SOKR MLR MLR
comp=Z,6μm,23.0s
SDPT Sand Point 77.06 34 eP **P** **08 42 06.0 -0.4**
comp=Z,233nm,0.7s
MUKL Al Mukalla 77.08 284 eP **P** **08 42 06.3 -1.0**
QRN Al-Qurain 78.27 298 eP **P** **08 42 13.0 -0.8**
QRN AMb AMB 08 42 19.9
comp=Z,470nm,0.8s
KBD Kabd 78.48 299 eP **P** **08 42 13.5 -1.4**
KBD AMb AMB 08 42 21.2
comp=Z,128nm,0.7s
MIB Mutribah 78.81 299 eP **P** **08 42 16.2 -0.5**
MIB AMb AMB 08 42 23.3
comp=Z,343nm,0.8s
NAY Al-Naaiem 78.88 299 eP **P** **08 42 16.2 -0.9**
NAY AMb AMB 08 42 23.1
comp=Z,132nm,0.8s
MAK Makhachkala 79.41 313 eP P 08 42 15.9 -3.8
MAK 08 42 27.0
MAK e 08 45 18.9
MAK eS **S** **08 52 17.3 -0.2**
MAK e 08 52 36.6
MAK pmax pmax
comp=Z,27nm,0.4s
MAK MLR MLR
comp=Z,5μm,20.0s
GNI Garni 81.32 310 eP **P** **08 42 29.2 -1.0**
GNI Garni 81.32 310 eP **P** **08 42 30.0 -0.3**
comp=Z,56nm,0.9s
BHD Baghdad 81.42 303 *i* x P 08 42 27.6 -3.1
BHD *i* x S 08 52 33.7 -5.3
BHD *i* x **SKSac** **08 52 47.0 0.0**
KDAK Kodiak Island 81.75 32 P **P** **08 42 32.4 +0.5**
KDAK Kodiak Island 81.75 32 P **P** **08 42 32.0 +0.1**
comp=Z,788nm,0.7s,SNR=14
KDAK Kodiak Island 81.75 32 P **P** **08 42 32.4 +0.5**
comp=Z,90nm,0.7s,baz=265,slow=2.0,SNR=17
TRBA At Turbah 81.89 283 eP **P** **08 42 35.9 +2.1**
CLDR Caldiran 81.92 309 eP **P** **08 42 32.7 -0.9**
RSO Redoubt South 81.94 30 eP **P** **08 42 33.4 +0.2**
comp=Z,341nm,0.9s
ZEI Tsey 82.05 312 eP **P** **08 42 33.8 -0.3**
ZEI pmax pmax
comp=Z,78nm,0.9s
HAKT HAKKARI 82.05 307 *i* P **P** **08 42 33.7 -0.6**
DYDN Diyadin 82.11 309 *i* P **P** **08 42 34.9 +0.4**
CUKT Cukurca 82.12 307 eP **P** **08 42 34.5 -0.1**
KARS Kars 82.60 310 eP **P** **08 42 36.6 -0.4**
AGRB Hanur-Agry 82.65 309 eP **P** **08 42 37.0 -0.4**
TUTA Tutak 82.78 309 *i* P **P** **08 42 38.1 0.0**
KIV Kislovodsk 82.97 314 eP **P** **08 42 38.8 +0.1**
KIV *e* 08 45 44.3
KIV eS **S** **08 52 56.5 +1.8**
KIV pmax pmax
comp=Z,50nm,0.9s
KIV pmax pmax
comp=Z,426nm,5.3s
KIV Kislovodsk 82.97 314 P **P** **08 42 39.7 +1.0**
comp=Z,359nm,0.9s,SNR=7.2
SIRN S¯¯rnak 83.08 307 *i* P **P** **08 42 38.5 -1.0**
SLKM Skilak Lake 83.19 30 eP **P** **08 42 39.1 -0.4**
SLKM Skilak Lake 83.19 30 eP **P** **08 42 39.1 -0.4**
TRF Thorofare Moun 83.38 27 eP **P** **08 42 40.0 -0.6**
comp=Z,229nm,1.1s
RC01 Rabbit Creek A 83.47 29 eP **P** **08 42 40.2 -0.6**
comp=Z,116nm,0.9s
ARTV Artvin 83.48 311 *i* P **P** **08 42 42.2 +0.6**
DAGI Agillar 83.49 311 *i* P **P** **08 42 42.4 +0.9**
HOMI Horasan 83.49 310 *i* P **P** **08 42 42.1 +0.3**
SEW Seward 83.55 30 eP **P** **08 42 41.2 0.0**
comp=Z,134nm,1.0s
DDEM Demirkent 83.61 311 *i* P **P** **08 42 42.4 +0.2**
VNDA Vanda 83.63 173 eP **P** **08 42 41.9 +0.6**
comp=Z,65nm,0.9s
DBOC Borcka 83.68 311 *i* P **P** **08 42 41.9 -0.5**
BCA Borcka 83.71 311 eP **P** **08 42 39.8 -2.7**
COLD Coldfoot 83.73 23 eP **P** **08 42 43.1 +1.1**
comp=Z,107nm,0.9s
PMR Palmer 83.79 29 eP **P** **08 42 42.3 -0.1**
PMR *e* 08 45 53.9
PMR pmax pmax
comp=Z,175nm,1.0s
PMR Palmer 83.79 29 eP **P** **08 42 42.3 -0.1**
comp=Z,175nm,1.0s
PMR ePP **PP** **08 45 53.9 -1.9**
VRTB Varto-Mus 83.84 309 eP **P** **08 42 42.3 -1.1**
VRHR Novokhopersk 83.85 321 eP **P** **08 42 41.8 -1.2**
VRHR eS **S** **08 53 01.8 -1.3**
VRHR pmax pmax
comp=Z,30nm,0.8s
VRHR pmax pmax
comp=N,5.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR smax smax
comp=E,160nm,1.3s
VRHR smax smax
comp=Z,20nm,1.3s
VRHR smax smax
comp=N,50nm,0.9s
VRHR MLR MLR
comp=Z,3μm,20.0s
VRHR MLR MLR
comp=N,680nm,22.0s
VRHR MLR MLR
comp=E,3μm,19.0s
EZM Erzurum 83.91 310 eP **P** **08 42 44.5 +0.6**
MAW Mawson 83.93 200 LR LR 09 13 26.5
comp=E,2μm,20.6s,baz=68,slow=31
MCK McKinley 84.00 26 eP **P** **08 42 43.0 -0.6**
MCK pmax pmax
comp=Z,197nm,1.1s
MCK McKinley 84.00 26 eP **P** **08 42 43.0 -0.6**
comp=Z,197nm,1.1s
BNGL BINGOL 84.07 309 *i* P **P** **08 42 45.3 +0.6**
SML Sawmill 84.18 28 eP **P** **08 42 44.5 0.0**
SML *e* 08 45 57.1
SML pmax pmax
comp=Z,59nm,0.9s
SML Sawmill 84.18 28 eP **P** **08 42 44.5 0.0**
comp=Z,60nm,0.9s
SML ePP **PP** **08 45 57.0 -2.1**
MARD Mardin 84.38 307 *i* P **P** **08 42 45.3 -0.9**
BNGB Bing¶ll 84.44 309 eP **P** **08 42 45.5 -0.9**
COLA College 84.53 25 eP **P** **08 42 46.3 +0.2**
COLA pmax pmax
comp=Z,46nm,0.8s
COLA College 84.53 25 eP **P** **08 42 46.3 +0.2**
comp=Z,46nm,0.8s
SBA Scott Base 84.54 172 eP **P** **08 42 46.2 +0.3**
SBA pmax pmax
comp=Z,81nm,1.0s
SBA Scott Base 84.54 172 eP **P** **08 42 46.2 +0.3**
comp=Z,81nm,1.0s
KOPT Kop Dagi 84.57 310 *i* P **P** **08 42 47.4 +0.1**
BAYT Ayd¯¯ntepe-Bay 84.84 310 eP **P** **08 42 48.0 -0.4**
ILAR Eielson Array 84.94 25 P P **08 42 46.5 -1.8**
ILAR PKKPbc **PKKPbc** **09 00 57.4 -1.3**
ILAR P'P' 09 09 11.3
ILAR Eielson Array 84.94 25 P **P** **08 42 46.5 -1.8**
comp=Z,30nm,1.0s,baz=284,slow=3.1,SNR=85
ILAR PKKPbc **PKKPbc** **09 00 57.4 -1.3**
comp=Z,0.8nm,0.8s,baz=104,slow=1.4,SNR=6.3
ILAR PKPPKP P'P'df 09 09 11.3 +8.6
comp=Z,0.9nm,1.1s,baz=105,slow=1.2,SNR=4.2
ILAR LR LR 09 20 42.9
comp=Z,2μm,20.7s,baz=261,slow=36
SOC Sochi 85.11 313 *c* iP **P** **08 42 48.6 -0.9**
SOC *e*PP **pP** **08 42 59.0 -4.0**
SOC *e* 08 46 08.7
SOC eS S 08 53 09.7 -6.3
SOC eSSS SSS 09 02 14.3
SOC pmax pmax
comp=Z,65nm,0.8s
SOC pmax pmax
comp=Z,724nm,3.6s
KTUT Trabzon 85.12 311 eP **P** **08 42 48.4 -1.2**
ERZN Erzincan 85.17 309 eP **P** **08 42 49.5 -0.7**
KLMR Klimovskoe 85.21 331 *c* iP **P** **08 42 49.3 -0.3**
KLMR S **S** **08 53 13.5 -2.7**
KLMR pmax pmax
comp=Z,1μm,1.5s
KLMR pmax pmax
comp=Z,250nm,4.2s
KLMR MLR MLR
comp=Z,7μm,22.0s
PPT2 Papeete2 85.22 108 eP **P** **08 42 50.0 -0.7**
comp=Z,137nm,1.4s
PPT2 eS **S** **08 53 17.2 -0.9**
comp=Z,2μm,26.5s
PPT2 eSS **SS** **08 58 51.9 -1.3**
comp=Z,3μm,29.5s
PPT2 eLQ LQ 09 06 07.4
comp=Z,6μm,41.5s
PPT2 eLR LR 09 09 35.2
comp=Z,2μm,25.2s
PAE Paea 85.23 108 eP **P** **08 42 49.7 -0.9**
comp=Z,19nm,1.3s
VORD Divnogorie 85.33 321 eP **P** **08 42 51.0 +0.6**
VORD eS **S** **08 53 15.0 -2.7**
VOR Voronezh 85.38 321 P **P** **08 42 50.0 -0.7**
VOR pmax pmax
comp=Z,620nm,1.4s
DIV Divide 85.40 29 eP **P** **08 42 51.4 +0.7**
comp=Z,521nm,1.3s
VSR Storozhevoye 85.40 321 eP **P** **08 42 50.1 -0.7**
VSR eS **S** **08 53 14.0 -4.5**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,8.0nm,1.1s
VSR pmax pmax
comp=E,20nm,1.2s
VSR smax smax
comp=N,60nm,1.1s
VSR smax smax
comp=Z,10.0nm,2.4s
VSR smax smax
comp=E,40nm,1.0s
VSR MLR MLR
comp=Z,4μm,19.0s
VSR MLR MLR
comp=N,1μm,17.0s
VSR MLR MLR
comp=E,3μm,18.0s
TIAR Tiarei 85.44 108 eP **P** **08 42 51.0 -0.7**
comp=E,91nm,1.0s
PTK Pertek 85.45 309 eP **P** **08 42 50.9 -0.7**
EZC Erzincan 85.46 309 eP **P** **08 42 54.1 +2.5**
KELT Kelkit 85.52 310 *i* P **P** **08 42 52.4 +0.4**
SVRC Sivrice-ELAZID 85.53 308 eP P **08 42 54.5 +2.5**
PAX Paxson 85.54 27 eP **P** **08 42 51.8 +0.4**
PAX pmax pmax
comp=Z,122nm,1.1s
PAX Paxson 85.54 27 eP **P** **08 42 51.8 +0.4**
comp=Z,122nm,1.1s
TVO Taravao 85.55 108 eP **P** **08 42 51.6 -0.7**
comp=Z,147nm,1.3s
ELZG Elazig 85.78 308 *i* P **P** **08 42 54.0 +0.8**
ESPY Espiye-Giresun 85.91 311 eP P 08 42 46.6 -7.0
TBI Tubuai 85.91 114 eS **S** **08 53 19.7 -4.9**
comp=Z,3μm,29.5s
TBI eSS **SS** **08 59 01.7 -1.3**
comp=Z,2μm,31.2s
TBI eLQ LQ 09 06 23.1
comp=Z,3μm,37.0s
TBI eLR LR 09 10 00.8
comp=Z,3μm,23.5s,baz=288
URFA Urfa 85.94 307 eP **P** **08 42 51.6 -2.3**
BMRM Bremner River 85.97 29 eP **P** **08 42 54.3 +0.8**
comp=Z,175nm,1.0s
ILIC Ilic-Erzincan 86.07 309 eP **P** **08 42 53.0 -1.5**
KEMA Kemaliye 86.14 309 *i* P **P** **08 42 54.7 -0.2**
DOT Dot Lake 86.17 27 eP **P** **08 42 55.2 +0.8**
comp=Z,32nm,1.2s
MALT Malatya 86.22 308 eP **P** **08 42 57.2 +1.9**
MYA Malataya 86.22 308 eP **P** **08 42 57.8 +2.5**
MOS Moscow 86.25 325 eP **P** **08 42 53.0 -1.9**
MOS eS **SKSac** **08 53 16.4 -1.0**
MOS pmax pmax
comp=Z,529nm,1.2s
MOS pmax pmax
comp=Z,800nm,1.4s
MOS MLR MLR
comp=E,6μm,19.0s
MOS MLR MLR
comp=Z,7μm,19.0s
SUSE Susehri 86.33 310 *i* P **P** **08 42 55.8 -0.1**
MENT Mentasta 86.34 27 eP **P** **08 42 55.4 +0.1**
ATAB Bozova 86.35 307 *i* P **P** **08 42 55.5 -0.4**
PMOR Pomariorio Ree 86.59 105 eP **P** **08 42 56.8 -0.6**
comp=Z,315nm,1.4s
AKCD Akcadag 86.62 308 *i* P **P** **08 42 57.4 +0.1**
MEH Mehetia 86.68 108 eP **P** **08 42 56.9 -0.9**
comp=Z,138nm,1.3s
ANN Anapa 86.72 315 eP **P** **08 42 56.1 -1.4**
ANN *e*PP **pP** **08 43 06.8 -4.1**
ANN *e* 08 46 20.8
ANN *e* 08 53 28.5
ANN pmax pmax
comp=Z,155nm,1.0s

OBN	**Obninsk**	**86.87 325**	⇓*i*P		**P**		**08 42 57.7**	**-0.2**
OBN			*e*				08 46 22.8	
OBN			*i* S		**SKSac**		**08 53 22.5**	**+1.3**
OBN	comp=Z,320nm,1.7s		pmax		pmax			
OBN	comp=Z,5μm,19.0s		MLR		MLR			
OBN	**Obninsk**	**86.87 325**	P		**P**		**08 42 58.5**	**+0.6**
	comp=Z,2μm,1.4s,SNR=12							
GZT	**Gaziantep**	**86.94 307**	*i* P		**P**		**08 42 58.6**	**-0.3**
RSDY	**Resadiye-TOKAT**	**86.99 310**	*e*P		**P**		**08 42 59.9**	**+0.9**
LVZ	**Lovozero**	**87.15 338**	*ce*P		**P**		**08 42 58.9**	**-0.2**
LVZ	comp=Z,39nm,1.0s		pmax		pmax			
LVZ	**Lovozero**	**87.15 338**	*e*P		**P**		**08 42 58.7**	**-0.4**
	comp=Z,93nm,1.0s							
GAZ	**Gaziantep**	**87.23 307**	*e*P		**P**		**08 42 59.5**	**-0.7**
EGAK	**Eagle**	**87.40 25**	*e*P		**P**		**08 43 00.4**	**0.0**
	comp=Z,14nm,0.8s							
ERBA	**Erbaa**	**87.41 310**	*i* P		**P**		**08 43 00.7**	**-0.3**
KMRS	**Kahramanmaras**	**87.46 307**	*e*P		**P**		**08 42 58.8**	**-2.5**
APA	**Apatity**	**87.65 337**	⇓*i*P		**P**		**08 42 59.0**	**-2.5**
APA			*i* S		S		08 53 30.0	-10
APA	comp=Z,26nm,0.9s		pmax		pmax			
ANDN	**Andirin**	**87.90 307**	*i* P		**P**		**08 43 04.6**	**+1.2**
KVT	**Kavak**	**87.92 311**	*e*P		**P**		**08 43 01.6**	**-1.8**
HTY	**Hatay**	**88.15 306**	*e*P		P		08 43 07.6	+3.1
HAVZ	**Havza**	**88.17 311**	*i* P		**P**		**08 43 04.6**	**0.0**
YAYL	**Yayladag**	**88.18 306**	*i* P		**P**		**08 43 04.4**	**-0.5**
BNN	**Bunyan**	**88.21 309**	*e*P		**P**		**08 43 03.1**	**-1.9**
KOZT	**Kozan**	**88.31 307**	*e*P		**P**		**08 43 05.2**	**-0.1**
CEYT	**Ceyhan**	**88.41 307**	*e*P		**P**		**08 43 04.2**	**-1.6**
HWQ	**Hawqa**	**88.42 304**	*e*P		**P**		**08 43 05.0**	**-1.1**
PNL	**Peninsula**	**88.62 30**	*e*P		**P**		**08 43 07.9**	**+1.6**
	comp=Z,47nm,0.8s							
BHL	**Bhannes**	**88.69 304**	*e*P		**P**		**08 43 06.8**	**-0.5**
JOF	**Joensuu**	**88.98 333**	*e*P		**P**		**08 43 07.2**	**-0.6**
JOF	comp=Z,123nm,0.7s		pmax		pmax			
JOF	**Joensuu**	**88.98 333**	*e*p		**P**		**08 43 07.2**	**-0.6**
	comp=Z,123nm,0.7s							
AVNT	**Avonos**	**88.99 309**	*i* P		**P**		**08 43 08.4**	**-0.3**
CORM	**Corum**	**89.06 310**	*e*P		**P**		**08 43 05.9**	**-3.0**
BZK	**Bozkurt**	**89.39 312**	*e*P		**P**		**08 43 07.7**	**-2.5**
KMBO	**Kilima Mbogo**	**89.51 269**	*e*P		**P**		**08 43 12.2**	**+0.5**
	comp=Z,88nm,1.0s							
KEV	**Kevo**	**89.69 340**	*e*P		**P**		**08 43 12.9**	**+1.9**
KEV	comp=Z,592nm,2.2s		pmax		pmax			
KEV	**Kevo**	**89.69 340**	*e*P		**P**		**08 43 12.9**	**+1.9**
	comp=Z,592nm,2.2s							
KEV	**Kevo**	**89.69 340**	*e*p		**P**		**08 43 11.1**	**+0.1**
	comp=Z,17nm,0.5s							
PUL	**Pulkovo**	**89.84 330**	*e*P		**P**		**08 43 12.0**	**+0.1**
BR131	**Keskin Array S**	**89.86 310**	*e*P		**P**		**08 43 11.0**	**-1.7**
	comp=Z,33nm,0.8s							
BRTR	**Keskin Array B**	**89.86 310**	P		**P**		**08 43 11.9**	**-0.8**
BRTR	**Keskin Array B**	**89.86 310**	P		**P**		**08 43 11.9**	**-0.8**
	comp=Z,47nm,0.8s,baz=116,slow=5.6,SNR=34							
BALT	**Daday**	**89.89 311**	*i* P		**P**		**08 43 12.7**	**-0.2**
INK	**Inuvik**	**89.99 21**	*e*P		**P**		**08 43 11.8**	**-0.7**
	comp=Z,35nm,1.1s							
INK			PKKPbc		**PKKPbc**		**09 00 43.3**	**-3.1**
INK	**Inuvik**	**89.99 21**	P		**P**		**08 43 11.8**	**-0.7**
	comp=Z,25nm,1.1s,baz=277,slow=6.6,SNR=35							
INK			PKKPbc		**PKKPbc**		**09 00 43.3**	**-3.1**
	comp=Z,3.8nm,0.6s,baz=67,slow=2.2,SNR=18							
ARCES	**ARCESS Array B**	**90.24 340**	P		**P**		**08 43 13.2**	**-0.5**
ARCES	**ARCESS Array B**	**90.24 340**	P		**P**		**08 43 13.2**	**-0.5**
	comp=Z,28nm,0.8s,baz=81,slow=4.7,SNR=44							
ARE0	**ARCESS Array S**	**90.24 340**	*e*P		**P**		**08 43 13.1**	**-0.5**
ARE0			*e*SKS		**SKSac**		**08 53 42.8**	**+1.8**
ARE0	**ARCESS Array S**	**90.24 340**	*e*P		**P**		**08 43 13.0**	**-0.7**
SPA0	**Spitsbergen Ar**	**90.27 349**	*e*P		**P**		**08 43 14.7**	**+1.0**
SPA0			*e*SKS		**SKSac**		**08 53 40.8**	**-0.1**
SPB4	**Spitsbergen Ar**	**90.28 349**	*e*P		**P**		**08 43 13.2**	**-0.5**
SAFT	**Safranbolu**	**90.44 311**	*e*P		**P**		**08 43 16.3**	**+1.1**
CSS	**Prodhromos**	**90.52 305**	*e*P		**P**		**08 43 13.1**	**-2.6**
CSS	**Prodhromos**	**90.52 305**	*e*P		**P**		**08 43 15.9**	**+0.2**
	comp=Z,75nm,0.8s							
SKAG	**Skagway**	**90.70 30**	*e*P		**P**		**08 43 17.2**	**+1.2**
	comp=Z,27nm,0.9s							
KBS	**Kingsbay**	**90.80 350**	*e*SKS		**SKSac**		**08 53 42.6**	**-1.2**
KTK1	**Kautokeino**	**91.15 339**	*e*P		**P**		**08 43 17.7**	**-0.2**
KTK1			*e*SKS		**SKSac**		**08 53 46.6**	**+0.5**
KTK1	comp=Z,8μm,20.0s		AMS		AMS		09 27 07.1	
KAF	**Kangasniemi**	**91.40 332**	*e*P		**P**		**08 43 17.6**	**-1.5**
KAF	comp=Z,183nm,1.2s		pmax		pmax			
KAF	**Kangasniemi**	**91.40 332**	*e*p		**P**		**08 43 17.6**	**-1.5**
	comp=Z,183nm,1.2s							
FINES	**FINESS Array B**	**91.63 332**	P		**P**		**08 43 20.6**	**+0.4**
FINES	**FINESS Array B**	**91.63 332**	P		**P**		**08 43 20.6**	**+0.4**
	comp=Z,29nm,0.7s,baz=95,slow=4.0,SNR=34							
FINES			LR		LR		09 28 44.2	
AKASG	**Malin Array Be**	**91.71 321**	*ce*P		**P**		**08 43 19.7**	**-1.1**
AKASG	comp=Z,57nm,0.8s		pmax		pmax			
AKASG	**Malin Array Be**	**91.71 321**	P		**P**		**08 43 19.8**	**-1.0**
AKASG	**Malin Array Be**	**91.71 321**	P		**P**		**08 43 19.8**	**-1.0**
	comp=Z,57nm,0.8s,baz=71,slow=4.5,SNR=46							
AKBB	**Malin Array Si**	**91.71 321**	*e*P		**P**		**08 43 19.6**	**-1.2**
AKBB	**Malin Array Si**	**91.71 321**	*e*P		**P**		**08 43 19.6**	**-1.2**
KIEV	**Kiev**	**91.72 321**	*e*P		**P**		**08 43 19.6**	**-1.3**
KIEV	comp=Z,89nm,1.0s		pmax		pmax			
KIEV	**Kiev**	**91.72 321**	*e*P		**P**		**08 43 19.6**	**-1.3**
	comp=Z,89nm,1.0s							
HENT	**Hendek**	**91.83 311**	*i* P		**P**		**08 43 19.9**	**-1.8**
VSU	**Vasula**	**91.87 329**	*e*P		**P**		**08 43 20.9**	**-0.5**
VSU	comp=Z,78nm,1.0s		pmax		pmax			
MICGM	**Minsk**	**91.93 325**	⇓*e*P		**P**		**08 43 19.0**	**-2.8**
MNK	**Minsk**	**91.96 325**	⇓*e*P		**P**		**08 43 19.0**	**-2.9**
MNK			*e*				08 53 52.0	
MNK			*e*S		S		08 54 12.0	-8.2
MNK	comp=Z,170nm,1.0s		pmax		pmax			
MNK	comp=Z,15μm,18.0s		MLR		MLR			
MNK	comp=E,8μm,19.0s		MLR		MLR			
IDID	**Didziasalis**	**92.44 326**	*e*P		**P**		**08 43 24.9**	**+0.8**
IDID	comp=Z,58nm,0.8s		AMB		AMB		08 43 28.7	
IDID	**Didziasalis**	**92.44 326**	*e*P		**P**		**08 43 24.9**	**+0.8**
IDID	comp=Z,58nm,0.8s		AMB		AMB		08 43 28.7	
TRO	**Tromso**	**92.45 341**	*e*P		**P**		**08 43 24.2**	**+0.3**
TRO			*e*SKS		**SKSac**		**08 53 53.3**	**-0.1**
TRO	comp=Z,3μm,22.8s		AMS		AMS		09 28 10.9	
ISP	**Isparta**	**92.48 308**	*e*P		**P**		**08 43 24.6**	**-0.3**
ISP	comp=Z,28nm,0.8s		pmax		pmax			
ISP	**Isparta**	**92.48 308**	*e*P		**P**		**08 43 24.6**	**-0.3**
	comp=Z,28nm,0.8s							
NACGM	**Naroch**	**92.49 325**	*e*P		**P**		**08 43 22.0**	**-2.4**
KIS	**Kishinev**	**92.51 317**	*e*P		**P**		**08 43 24.0**	**-0.6**
KIS	comp=E,3μm,20.0s		MLR		MLR			
KIS	comp=Z,5μm,20.0s		MLR		MLR			
KIS	comp=Z,6μm,22.0s		MLR		MLR			
KIS	**Kishinev**	**92.51 317**	*e*P		**P**		**08 43 24.0**	**-0.6**
KIS	comp=Z,6μm,22.0s		LRM		MLR		09 27 30.0	
SYO	**Syowa Base**	**92.59 201**	⇓*e*P		**P**		**08 43 24.0**	**-0.5**
SYO	**Syowa Base**	**92.59 201**	⇓*i*PcP		**PcP**		**08 43 28.0**	**+2.9**
SYO	**Syowa Base**	**92.59 201**	⇓*e*PP		PP		08 47 08.0	+1.7
IZAR	**Zarasai**	**92.64 326**	*e*P		**P**		**08 43 25.7**	**+0.7**
IZAR	comp=Z,48nm,0.8s		AMB		AMB		08 43 32.0	
IZAR	**Zarasai**	**92.64 326**	*e*P		**P**		**08 43 25.7**	**+0.7**
IZAR	comp=Z,48nm,0.8s		AMB		AMB		08 43 32.0	
IIGN	**Ignalina**	**92.72 326**	*e*P		**P**		**08 43 26.1**	**+0.6**
IIGN	comp=Z,46nm,0.9s		AMB		AMB		08 43 32.6	
IIGN	**Ignalina**	**92.72 326**	*e*P		**P**		**08 43 26.1**	**+0.6**
IIGN	comp=Z,46nm,0.9s		AMB		AMB		08 43 32.6	
ISAL	**Salakas**	**92.74 326**	*e*P		**P**		**08 43 26.2**	**+0.7**
ISAL	comp=Z,25nm,0.9s		AMB		AMB		08 43 29.9	
ISAL	**Salakas**	**92.74 326**	*e*P		**P**		**08 43 26.2**	**+0.7**
ISAL	comp=Z,25nm,0.9s		AMB		AMB		08 43 29.9	
TLCR		**92.78 315**	⇑P		**P**		**08 43 27.8**	**+1.9**
TLCR		**92.78 315**	⇑*i*P		**P**		**08 43 27.8**	**+1.9**
WRAK	**Wrangell Islan**	**92.80 33**	*e*P		**P**		**08 43 26.0**	**+0.3**
	comp=Z,102nm,1.1s							
TIRR	**Tirgusor**	**93.17 315**	⇓P		**P**		**08 43 29.2**	**+1.5**
TIRR	**Tirgusor**	**93.17 315**	*e*P		**P**		**08 43 28.1**	**+0.4**
	comp=Z,51nm,1.1s							
TIRR	**Tirgusor**	**93.17 315**	⇓*i*P		**P**		**08 43 29.2**	**+1.5**
CFR	**Carcaliu**	**93.25 316**	⇑P		**P**		**08 43 28.1**	**0.0**
CFR	**Carcaliu**	**93.25 316**	⇑*i*P		**P**		**08 43 28.1**	**0.0**
PSN	**Preselentsi**	**93.45 314**	P		P		08 43 24.5	-4.5
DLBC	**Dease Lake**	**93.60 31**	*e*P		**P**		**08 43 29.4**	**-0.1**
DLBC	**Dease Lake**	**93.60 31**	P		**P**		**08 43 28.8**	**-0.7**
	comp=Z,16nm,0.9s,baz=253,slow=5.4,SNR=17							
GHRR		**93.62 316**	⇓*i*P		**P**		**08 43 31.3**	**+1.5**
QSPA	**South Pole Qui**	**93.84 180**	*e*P		**P**		**08 43 31.1**	**+0.6**
	comp=Z,101nm,1.3s							
QSPA			PKKPbc		**PKKPdf**		**09 00 34.8**	**-1.2**
QSPA	**South Pole Qui**	**93.84 180**	P		**P**		**08 43 31.4**	**+0.9**
	comp=Z,21nm,1.0s,baz=320,slow=3.1,SNR=50							
QSPA			PKKPbc		**PKKPdf**		**09 00 34.8**	**-1.2**
	comp=Z,7.8nm,1.0s,baz=189,slow=2.5,SNR=8.9							
GRER		**94.03 316**	⇓*i*P		**P**		**08 43 33.4**	**+1.7**
TESR		**94.06 317**	⇓*i*P		**P**		**08 43 31.9**	**+0.1**
PRD	**Provadia**	**94.08 314**	P		**P**		**08 43 33.6**	**+1.6**
VRI	**Vrincioaia**	**94.12 316**	⇓P		**P**		**08 43 32.6**	**+0.5**
VRI	**Vrincioaia**	**94.12 316**	⇓*i*P		**P**		**08 43 32.6**	**+0.5**
PLOR	**Plostina**	**94.17 316**	⇓P		**P**		**08 43 32.7**	**+0.3**
PLOR	**Plostina**	**94.17 316**	⇓*i*P		**P**		**08 43 32.7**	**+0.3**
SULR		**94.65 315**	⇓*i*P		**P**		**08 43 35.3**	**+0.8**
MLR	**Muntele Rosu**	**94.72 316**	⇑*i*P		**P**		**08 43 34.7**	**-0.3**
SUW	**Suwalki**	**94.73 325**	*e*P		**P**		**08 43 34.7**	**0.0**
SUW	**Suwalki**	**94.73 325**	*e*P		**P**		**08 43 34.7**	**0.0**
SUW	**Suwalki**	**94.73 325**	*e*P		**P**		**08 43 34.9**	**+0.2**
SUW	comp=Z,396nm,0.8s		pmax		pmax			
SUW	**Suwalki**	**94.73 325**	*e*P		**P**		**08 43 34.9**	**+0.2**
	comp=Z,396nm,0.8s							
JMB	**Yambol**	**94.80 313**	P		P		08 43 41.4	+6.1
BURAR	**Bucovina Array**	**94.82 318**	⇓*i*P		**P**		**08 43 35.8**	**+0.4**
BUR08	**Bucovina Ar. S**	**94.83 318**	*e*P		**P**		**08 43 35.4**	**0.0**
DOPR	**Dopca**	**95.02 317**	⇑*i*P		**P**		**08 43 37.6**	**+1.4**
LVV	**L'vov**	**95.14 321**	*e*P		**P**		**08 43 36.8**	**+0.1**
LVV			*e*				08 54 09.9	
LVV			*e*S		**S**		**08 54 47.4**	**-1.1**
LVV			*e*PS		**PS**		**08 56 19.8**	**+8.7**
MOR8	**Moi Rana**	**95.23 338**	*e*P		**P**		**08 43 36.6**	**-0.1**
VOIR		**95.35 316**	⇑P		**P**		**08 43 39.2**	**+1.3**
VOIR		**95.35 316**	⇑*i*P		**P**		**08 43 39.2**	**+1.3**
HUMR	**Humele**	**95.57 315**	⇑*i*P		**P**		**08 43 38.4**	**-0.4**
BMR	**Baia Mare**	**95.95 319**	⇓P		**P**		**08 43 40.1**	**-0.4**
BMR	**Baia Mare**	**95.95 319**	⇓*i*P		**P**		**08 43 40.0**	**-0.4**
KWP	**Kalwaria Pacla**	**96.02 321**	*e*P		**P**		**08 43 41.1**	**+0.4**
KWP	**Kalwaria Pacla**	**96.02 321**	*e*P		**P**		**08 43 41.1**	**+0.4**
KWP	**Kalwaria Pacla**	**96.02 321**	⇑P		**P**		**08 43 41.4**	**+0.7**
KWP	**Kalwaria Pacla**	**96.02 321**	*e*P		**P**		**08 43 41.0**	**+0.3**
	comp=Z,160nm,1.0s							
KWP	**Kalwaria Pacla**	**96.02 321**	⇑*i*P		**P**		**08 43 41.4**	**+0.7**
LOT	**Lotru**	**96.23 316**	⇑*i*P		**P**		**08 43 44.1**	**+2.2**
RZN	**Rozhen**	**96.30 313**	P		**P**		**08 43 43.8**	**+1.4**
KOLS	**Kolonicke sedl**	**96.46 320**	*e*P		**P**		**08 43 43.0**	**+0.3**
KOLS	comp=Z,10.0nm,1.1s		pmax		pmax			
KOLS	**Kolonicke sedl**	**96.46 320**	*e*P		**P**		**08 43 43.0**	**+0.3**
TRPA	**Tarpa**	**96.47 319**	⇑*i*P		**P**		**08 43 43.1**	**+0.3**
TRPA	**Tarpa**	**96.47 319**	*e*P		**P**		**08 43 43.3**	**+0.5**
UZH	**Uzhgorod**	**96.52 320**	*e*P		**P**		**08 43 43.0**	**0.0**
UZH			*e*				08 54 13.0	
UZH			*e*S		**S**		**08 54 55.0**	**-5.4**
UZH	comp=Z,800nm,18.0s		MLR		MLR			
DRGR		**96.66 318**	P		**P**		**08 43 43.7**	**-0.1**
DRGR		**96.66 318**	⇓*i*P		**P**		**08 43 43.9**	**+0.1**
BEL	**Belsk**	**96.67 323**	*e*P		**P**		**08 43 44.1**	**+0.6**
BEL	**Belsk**	**96.67 323**	*e*P		**P**		**08 43 44.1**	**+0.6**
BEL	**Belsk**	**96.67 323**	*e*P		**P**		**08 43 44.1**	**+0.6**
MPEP	**Malo Peshtene**	**96.68 314**	P		**P**		**08 43 44.5**	**+0.6**
DEV	**Deva**	**96.73 317**	⇓P		**P**		**08 43 45.3**	**+1.3**
DEV	**Deva**	**96.73 317**	⇓*i*P		**P**		**08 43 45.3**	**+1.3**
NSS	**Namsos**	**96.83 337**	*e*P		**P**		**08 43 44.1**	**+0.1**
GZR	**Gura Zlata**	**96.93 316**	⇑P		**P**		**08 43 45.3**	**+0.3**
GZR	**Gura Zlata**	**96.93 316**	⇑*i*P		**P**		**08 43 45.3**	**+0.3**
CRVS	**Cervenica-Dubn**	**96.99 320**	*e*P		**P**		**08 43 45.6**	**+0.5**
CRVS	comp=Z,28nm,0.9s		pmax		pmax			
CRVS	**Cervenica-Dubn**	**96.99 320**	*e*P		**P**		**08 43 45.6**	**+0.5**
DAG	**Danmarks Havn**	**97.05 352**	*i* P		**P**		**08 43 43.8**	**-1.0**
DAG	comp=Z,39nm,0.9s		pmax		pmax			
DAG	**Danmarks Havn**	**97.05 352**	*i* P		**P**		**08 43 43.8**	**-1.0**
	comp=Z,394nm,0.9s							
MMB	**Musomiste**	**97.05 313**	P		**P**		**08 43 44.8**	**-0.8**
VTS	**Vitosha**	**97.22 314**	⇓P	Pdif			08 43 46.0	-0.6
VTS	**Vitosha**	**97.22 314**	⇓*i*P	Pdif			08 43 46.0	-0.6
VTS	**Vitosha**	**97.22 314**	P	Pdif			08 43 46.5	-0.1
IDI	**Anoyia**	**97.33 306**	*e*P	Pdif			08 43 48.0	+0.8
	comp=Z,74nm,1.1s							
KKB	**Krupnik**	**97.47 313**	P	Pdif			08 43 48.8	+1.3
NIE	**Niedzica**	**97.59 321**	*e*P	Pdif			08 43 48.0	+0.1
NIE	**Niedzica**	**97.59 321**	*e*P	Pdif			08 43 48.5	+0.6
RES	**Resolute Bay**	**97.62 10**	*e*P	Pdif			08 43 47.2	-0.2
	comp=Z,8.5nm,0.8s							
BZS	**Buzias**	**97.67 317**	⇑P	Pdif			08 43 48.1	-0.2
BZS	**Buzias**	**97.67 317**	⇑*i*P	Pdif			08 43 48.1	-0.2
OJC	**Ojcow**	**97.70 322**	*e*P	Pdif			08 43 48.0	-0.3
OJC	**Ojcow**	**97.70 322**	*e*P	Pdif			08 43 48.3	0.0
VAY	**Valandovo**	**97.96 312**	*e*P	**P**			**08 43 48.1**	**-1.5**
PSZ	**Piszkesteto**	**98.25 319**	*e*P	Pdif			08 43 50.9	0.0
PSZ	comp=Z,42nm,1.0s		pmax		pmax			
PSZ	**Piszkesteto**	**98.25 319**	*e*P	Pdif			08 43 50.9	0.0
	comp=Z,42nm,1.0s							
PSZ	**Piszkesteto**	**98.25 319**	⇓*i*P	Pdif			08 43 51.2	+0.3
PSZ	**Piszkesteto**	**98.25 319**	*e*P	Pdif			08 43 52.5	+1.6
GKP	**Gorka Klasztor**	**98.34 325**	*e*P	Pdif			08 43 51.5	+0.4
GKP	**Gorka Klasztor**	**98.34 325**	*e*P	Pdif			08 43 51.5	+0.4
GKP	**Gorka Klasztor**	**98.34 325**	*e*P	Pdif			08 43 51.5	+0.4
NC602	**NORSAR Array S**	**98.57 333**	*e*P	**P**			**08 43 51.1**	**-0.8**
NB2	**NORSAR Subarra**	**98.59 334**	P	**P**			**08 43 50.8**	**-1.3**
	baz=67,slow=4.8							
NB2	**NORSAR Subarra**	**98.59 334**	P	**P**			**08 43 50.8**	**-1.3**
	comp=Z,34nm,1.0s,baz=67,slow=4.8							
NOA	**NORSAR Array B**	**98.59 334**	P	**P**			**08 43 51.0**	**-1.0**
NOA	**NORSAR Array B**	**98.59 334**	P	**P**			**08 43 51.0**	**-1.0**
	comp=Z,18nm,0.8s,baz=67,slow=4.6,SNR=24							
NOA			LR		LR		09 34 05.7	
	comp=Z,5μm,18.1s,baz=60,slow=39							
VYHS	**Vyhne**	**98.77 320**	*e*P	Pdif			08 43 53.7	+0.5
VYHS	comp=Z,24nm,2.0s		pmax		pmax			
VYHS	**Vyhne**	**98.77 320**	PDIF	Pdif			08 43 53.7	+0.5
PKS6	**Bocsa**	**98.81 318**	*e*Pdiff	Pdif			08 43 54.6	+1.3
NAO01	**NORSAR Array S**	**98.81 334**	*e*P	Pdif			08 43 53.2	+0.2
	comp=Z,16nm,0.6s							
OKC	**Ostrava-Krasne**	**98.83 322**	*e*P	Pdif			08 43 54.0	+0.7
OKC	**Ostrava-Krasne**	**98.83 322**	*e*PDIFF	Pdif			08 43 54.0	+0.7
OKC			AMS	AMS			09 32 10.0	
BUD	**Budapest**	**98.93 319**	*e*Pdiff	Pdif			08 43 58.2	+4.3
BSD	**Bornholm Skovb**	**99.02 327**	*e*P	**Pdif**			**08 43 54.4**	**+0.3**
BSD	comp=Z,54nm,1.0s		pmax		pmax			
BSD	**Bornholm Skovb**	**99.02 327**	*i* P	**Pdif**			**08 43 54.4**	**+0.3**
	comp=Z,54nm,1.0s							
PKS2	**Kecel**	**99.07 318**	*e*Pdiff	**Pdif**			**08 43 55.1**	**+0.6**
RKT	**Rikitea**	**99.20 113**	*e*SKSac	**SKSac**			**08 54 27.6**	**-3.2**
	comp=Z,1μm,28.8s							
RKT			*e*SP	**SP**			**08 56 47.0**	**-3.5**
	comp=Z,1μm,30.8s							
RKT			*e*SS	**SS**			**09 02 11.8**	**-2.0**
	comp=Z,1μm,28.2s							
RKT			*e*LR	LR			09 16 05.1	
	comp=Z,2μm,28.0s							
LSZ	**Lusaka**	**99.21 255**	*e*P	**Pdif**			**08 43 56.5**	**+0.6**
	comp=Z,30nm,0.8s							
MORC	**Moravsky Berou**	**99.22 322**	⇑P	**Pdif**			**08 43 55.1**	**-0.1**
MORC	**Moravsky Berou**	**99.22 322**	⇑*i*P	**Pdif**			**08 43 55.0**	**-0.1**
	comp=Z,43nm,1.0s							
YKA	**Yellowknife Ar**	**99.34 24**	P	**Pdif**			**08 43 54.9**	**-0.5**
YKA			PKiKP	**PKiKP**			**08 48 25.5**	**+0.7**
YKA	**Yellowknife Ar**	**99.34 24**	P	**Pdif**			**08 43 54.8**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=300,slow=4.5,SNR=25							
YKA			PKiKP	**PKiKP**			**08 48 25.5**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=301,slow=2.0,SNR=10							
PKSG		**99.37 319**	*e*Pdiff	**Pdif**			**08 43 56.1**	**+0.3**
MOL	**Molde**	**99.47 336**	AMS	AMS			09 33 05.0	
	comp=Z,8μm,21.2s							
PKSM	**Moragy**	**99.53 318**	⇓P	**Pdif**			**08 43 56.5**	**0.0**
PKSM	**Moragy**	**99.53 318**	⇓*i*P	**Pdif**			**08 43 56.5**	**0.0**
PKSM	**Moragy**	**99.53 318**	*e*Pdiff	**Pdif**			**08 43 57.7**	**+1.2**
PKST	**T''s**	**99.64 319**	*e*Pdiff	**Pdif**			**08 43 56.6**	**-0.5**
KSP	**Ksiaz**	**99.65 323**	*e*P	**Pdif**			**08 43 57.7**	**+0.7**
KSP	**Ksiaz**	**99.65 323**	*e*P	**Pdif**			**08 43 57.7**	**+0.7**
KSP	**Ksiaz**	**99.65 323**	*e*P	**Pdif**			**08 43 57.4**	**+0.4**
PKS9	**Tamasi**	**99.67 318**	*e*Pdiff	**Pdif**			**08 43 58.4**	**+1.2**
DPC	**Dobruska-Polom**	**99.79 322**	*e*P	**Pdif**			**08 43 58.7**	**+1.0**
DPC	comp=Z,4μm,19.8s		MLR	MLR				
DPC	**Dobruska-Polom**	**99.79 322**	*e*PDIFF	**Pdif**			**08 43 58.7**	**+1.0**
DPC	comp=Z,4μm,19.8s		AMS	AMS			09 31 30.0	
RHK3	**Tenkes**	**99.88 318**	*e*Pdiff	**Pdif**			**08 43 57.6**	**-0.6**
UPC	**Upice**	**99.93 323**	*e*P	**Pdif**			**08 43 59.0**	**+0.7**
UPC	**Upice**	**99.93 323**	*e*PDIFF	**Pdif**			**08 43 59.0**	**+0.7**
VRAC	**Vranov**	**99.95 321**	⇓*i*P	**Pdif**			**08 43 59.5**	**+1.1**
RUE	**Ruedersdorf**	**100.58 325**	*e*Pdiff	**Pdif**			**08 44 02.8**	**+1.8**
RUE	**Ruedersdorf**	**100.58 325**	*e*Pdif	**Pdif**			**08 44 01.6**	**+0.6**
	comp=Z,156nm,0.9s							
TREC	**Trest**	**100.64 322**	AMS	AMS			09 35 40.0	
	comp=Z,3μm,18.4s							
PVCC	**Panska Ves**	**100.79 323**	*e*P	**Pdif**			**08 44 02.9**	**+0.8**
PVCC	comp=Z,5μm,19.7s		MLR	MLR				
PVCC	**Panska Ves**	**100.79 323**	*e*PDIFF	**Pdif**			**08 44 02.9**	**+0.8**
PVCC	comp=Z,5μm,19.7s		AMS	AMS			09 32 50.0	
CONA	**Conrad Observa**	**100.84 320**	⇓*i*P	**Pdif**			**08 44 05.3**	**+2.8**
	comp=Z,36nm,1.9s							
CONA	**Conrad Observa**	**100.84 320**	⇓*i*Pdiff	**Pdif**			**08 44 05.3**	**+2.8**
	comp=Z,36nm,1.9s							
PRU	**Pruhonice**	**100.99 322**	*e*P	**Pdif**			**08 44 03.6**	**+0.6**
PRU	comp=Z,4μm,19.0s		MLR	MLR				
PRU	**Pruhonice**	**100.99 322**	*e*PDIFF	**Pdif**			**08 44 03.6**	**+0.6**
PRU	comp=Z,4μm,19.0s		AMS	AMS			09 32 10.0	
PRA	**Prague**	**101.03 323**	PDIFF	**Pdif**			**08 44 05.0**	**+1.9**
PRA			AMS	AMS			09 33 00.0	
BRG	**Berggiesshubel**	**101.05 323**	*i* P	**Pdif**			**08 44 03.7**	**+0.5**
	comp=Z,22nm,1.1s							
BRG			*i*				08 44 09.9	
	comp=Z,60nm,0.9s							
BRG			PP		**PKiKP**		**08 48 25.2**	**-3.0**
	comp=Z,20nm,1.5s							
BRG	comp=N,2μm,16.5s

KBA Koelnbreinsper 102.73 320 ⇑*i*Pdiff Pdif 08 44 10.1 -0.9
comp=Z,21nm,0.9s
CLZ Clausthal 102.76 325 *e*Pdiff Pdif 08 44 12.6 +1.7
SCO Scoresbysund 102.84 350 *i* P Pdif 08 44 10.5 -0.2
SCO pmax pmax
comp=Z,6.0nm,0.9s
SCO Scoresbysund 102.84 350 *i* P Pdif 08 44 10.5 -0.2
comp=Z,5.9nm,0.9s
SCO Scoresbysund 102.84 350 *i* P PKiKP 08 48 28.0 -2.9
comp=Z,5.1nm,0.9s
SCO Scoresbysund 102.84 350 *i* P PKKPdf 09 00 31.0 +13
comp=Z,4.0nm,1.0s
RJOB Jochberg 102.85 321 *e*Pdiff Pdif 08 44 12.2 +0.8
TRI Trieste 102.92 319 *e*P Pdif 08 44 13.1 +1.5
TRI pmax pmax
comp=Z,35nm,0.9s
TRI Trieste 102.92 319 *e*Pdif Pdif 08 44 13.1 +1.5
comp=Z,35nm,0.9s
SUMG Summit 103.04 355 *i* P Pdif 08 44 19.0 +6.9
SUMG pmax pmax
comp=Z,7.0nm,1.0s
SUMG Summit 103.04 355 *i* P Pdif 08 44 19.0 +6.9
comp=Z,6.7nm,1.0s
SUMG Summit 103.04 355 *i* P PKiKP 08 48 26.0 -5.8
comp=Z,9.9nm,1.0s
SUMG Summit 103.04 355 *i* P PKKPdf 09 00 12.8 -5.9
comp=Z,7.1nm,0.9s
GRF Grafenberg Arr 103.11 323 *e*Pdiff Pdif 08 44 13.9 +1.5
GRF *e*L L 09 34 43.1
comp=Z,5µm,20.1s
GRFO Grafenberg 103.11 323 *e*P Pdif 08 44 13.7 +1.3
GRFO pmax pmax
comp=Z,27nm,1.1s
GRFO Grafenberg 103.11 323 *e*Pdif Pdif 08 44 13.7 +1.3
comp=Z,27nm,1.1s
UBBA Unterbreizbach 103.39 324 *e*Pdiff Pdif 08 44 15.7 +2.2
WTTA Wattenberg 103.76 321 ⇓*i*P Pdif 08 44 15.6 0.0
WTTA pmax pmax
comp=Z,55nm,0.9s
WTTA Wattenberg 103.76 321 ⇓*i*P Pdif 08 44 15.6 0.0
comp=Z,55nm,0.9s
WTTA Wattenberg 103.76 321 ⇓*i*Pdiff Pdif 08 44 15.6 0.0
comp=Z,55nm,0.9s
IBBN Ibbenburen 104.04 326 *e*Pdiff Pdif 08 44 17.9 +1.5
MOTA Moosalm 104.06 321 *i* P Pdif 08 44 17.2 +0.3
MOTA pmax pmax
comp=Z,42nm,0.9s
MOTA Moosalm 104.06 321 *i* P Pdif 08 44 17.2 +0.3
comp=Z,42nm,0.9s
MOTA Moosalm 104.06 321 *i* Pdiff Pdif 08 44 17.2 +0.3
comp=Z,42nm,0.9s,SNR=12
NEW Newport 104.10 38 *e*Pdif Pdif 08 44 16.6 -0.3
comp=Z,7.6nm,1.0s
FETA Feichten 104.42 321 ⇓*i*P Pdif 08 44 18.6 +0.1
comp=Z,33nm,1.0s
FETA Feichten 104.42 321 ⇓*i*Pdiff Pdif 08 44 18.6 +0.1
comp=Z,33nm,1.0s
TNS Taunus Mts 104.54 324 *e*Pdiff Pdif 08 44 20.3 +1.5
BUG Bochum--Univer 104.69 326 *e*Pdiff Pdif 08 44 20.7 +1.4
WVOR Wild Horse Val 105.23 44 *e*PKPdf PKiKP 08 48 36.5 +0.2
A13A Flathead Natio 105.47 37 ⇑P PKiKP 08 48 38.2 +1.7
baz=105
BSMT Bassoo Peak 105.70 38 *e*Pdif Pdif 08 44 23.9 -0.4
comp=Z,11nm,1.3s
MEM Membach 105.77 325 P Pdif 08 44 25.7 +1.5
comp=Z,13nm,1.6s
CDF Champ du Feu 106.00 323 *e*P Pdif 08 44 25.3 -0.1
comp=Z,44nm,1.1s
CDF Champ du Feu 106.00 323 *e*P Pdif 08 44 25.3 -0.1
CDF pmax pmax
comp=Z,44nm,1.1s
CDF Champ du Feu 106.00 323 *e*P Pdif 08 44 25.3 -0.1
comp=Z,44nm,1.1s
A14A Double T Ranch 106.05 36 ⇑P PKiKP 08 48 39.1 +1.5
baz=106
JTMT Jette 106.05 38 *e*Pdif Pdif 08 44 25.9 +0.2
comp=Z,5.3nm,1.3s
D13A Huson 106.22 39 ⇓P PKiKP 08 48 40.4 +2.5
baz=106
SWMT Swartz Lake 106.33 38 *e*Pdif Pdif 08 44 27.3 +0.4
comp=Z,3.5nm,1.1s
HINF Hinteralfeld 106.51 322 *e*P Pdif 08 44 27.3 -0.3
comp=Z,28nm,1.1s
HINF Hinteralfeld 106.51 322 *e*P Pdif 08 44 27.3 -0.3
HINF pmax pmax
comp=Z,28nm,1.1s
HINF Hinteralfeld 106.51 322 *e*P Pdif 08 44 27.3 -0.3
comp=Z,28nm,1.1s
MSO Missoula 106.65 39 *e*P PKiKP 08 48 40.9 +2.1
MSO Missoula 106.65 39 ⇑P PKiKP 08 48 40.6 +1.9
baz=106
E13A Victor 106.66 39 ⇑P PKiKP 08 48 40.6 +1.8
baz=106
SLMT Seeley Lake 106.75 38 *e*Pdif Pdif 08 44 29.4 +0.5
comp=Z,8.7nm,1.3s
SNF Seneffe 106.79 326 P Pdif 08 44 29.2 +0.5
comp=Z,23nm,3.2s
NVAR Mina Array Bea 106.81 48 Pdif Pdif 08 44 30.8 +1.4
NVAR PKiKP PKiKP 08 48 42.0 +2.5
NVAR PKKPbc PKKPbc 09 00 00.6 +1.7
NVAR PKKP PKKPab 09 00 13.2 -0.8
NVAR P'P' 09 08 19.7
NVAR Mina Array Bea 106.81 48 Pdiff Pdif 08 44 30.8 +1.4
comp=Z,1.8nm,0.9s,baz=259,slow=5.4,SNR=6.9
NVAR PKiKP PKiKP 08 48 42.0 +2.5
comp=Z,1.4nm,0.7s,baz=270,slow=2.7,SNR=4.0
NVAR PKKPbc PKKPbc 09 00 00.6 +1.7
comp=Z,3.0nm,0.8s,baz=152,slow=4.1,SNR=10
NVAR PKKP PKKPab 09 00 13.2 -0.8
comp=Z,5.0nm,0.8s,baz=114,slow=4.4,SNR=5.8
NVAR PKPPKP P'P'df 09 08 19.7 -3.3
comp=Z,0.5nm,0.7s,baz=188,slow=4.5,SNR=3.6
CHMT Chamberlain Mo 107.04 38 *e*Pdif Pdif 08 44 29.9 -0.4
comp=Z,5.5nm,1.5s
C15A Salmond Ranch, 107.06 37 ⇑P PKiKP 08 48 40.8 +1.2
baz=107
PGF Pioggiola 107.25 317 *e*P Pdif 08 44 30.3 -0.9
comp=Z,111nm,1.4s
PGF Pioggiola 107.25 317 *e*P Pdif 08 44 30.3 -0.9
PGF pmax pmax
comp=Z,111nm,1.4s
PGF Pioggiola 107.25 317 *e*P Pdif 08 44 30.3 -0.9
comp=Z,111nm,1.4s
H13A Challis 107.39 41 ⇑P PKiKP 08 48 41.6 +1.4
baz=107
LPG La Plagne 107.56 320 *e*P Pdif 08 44 32.7 0.0
comp=Z,32nm,1.1s
LPG La Plagne 107.56 320 *e*P Pdif 08 44 32.7 0.0
LPG pmax pmax
comp=Z,32nm,1.1s
LPG La Plagne 107.56 320 *e*P Pdif 08 44 32.7 0.0
comp=Z,32nm,1.1s
LPL La Plagne 107.56 320 *e*P Pdif 08 44 32.7 +0.1
comp=Z,37nm,1.1s
LPL La Plagne 107.56 320 *e*P Pdif 08 44 32.7 +0.1
LPL pmax pmax
comp=Z,37nm,1.1s
LPL La Plagne 107.56 320 *e*P Pdif 08 44 32.7 +0.1
comp=Z,37nm,1.1s
A17A Triple J Farms 107.66 36 ⇓P PKiKP 08 48 41.8 +1.3
baz=108
HLID Hailey 107.68 42 *e*PKPdf PKiKP 08 48 42.7 +1.8
HLID Hailey 107.68 42 ⇓P PKiKP 08 48 43.1 +2.3
baz=108
J13A Cove Ranch, Pi 107.91 42 ⇓P PKiKP 08 48 43.6 +2.3
baz=108
HRY Holter Researc 108.01 38 *e*Pdif Pdif 08 44 35.0 +0.5
comp=Z,19nm,1.5s
MCMT McKenzie Canyo 108.19 40 *e*PKPdf PKiKP 08 48 42.4 +0.5
MPMC Manual Prospec 108.20 50 ⇓P PKiKP 08 48 44.7 +2.6
baz=108
C17A Wharram Farm, 108.24 37 ⇑P PKiKP 08 48 42.4 +0.7
baz=108
G15A Dillon 108.27 40 ⇓P PKiKP 08 48 43.0 +1.1
baz=108
ORIF Oris-en-Rattie 108.36 320 *e*P Pdif 08 44 35.9 -0.1
ORIF Oris-en-Rattie 108.36 320 *e*P Pdif 08 44 35.9 -0.1
ORIF Oris-en-Rattie 108.36 320 *e*P Pdif 08 44 35.9 -0.1
H15A Lima 108.41 40 ⇑P PKiKP 08 48 43.9 +1.7
baz=108
B18A Beardsley Farm 108.46 36 ⇑P PKiKP 08 48 44.0 +1.9
baz=108
F16A Kennard Place, 108.55 39 ⇓P PKiKP 08 48 43.6 +1.2
baz=108
BOZ Bozeman (W) 108.61 39 ⇓P PKiKP 08 48 43.7 +1.2
baz=108
EGMT Eagleton 108.65 36 *e*PKPdf PKiKP 08 48 43.2 +0.8
baz=108
EGMT Eagleton 108.65 36 ⇑P PKiKP 08 48 43.7 +1.3
baz=108
G16A Moss Hill, Enn 108.68 39 ⇓P PKiKP 08 48 43.2 +0.5
baz=108
I15A Monteview 108.78 41 ⇓P PKiKP 08 48 44.7 +1.8
baz=109
R11A Troy Canyon, C 108.84 47 ⇑P PKiKP 08 48 44.5 +1.3
baz=109
K14A Jones Ranch, D 108.93 43 ⇓P PKiKP 08 48 44.4 +1.2
baz=109
D18A Linhart Farms, 109.02 37 ⇑P PKiKP 08 48 44.8 +1.6
baz=109
L14A Malta 109.09 43 ⇑P PKiKP 08 48 45.1 +1.5
baz=109
F17A Fitzpatrick Pl 109.10 38 ⇑P PKiKP 08 48 45.8 +2.3
baz=109
C19A Slack Wire Ran 109.21 36 ⇑P PKiKP 08 48 45.7 +2.3
baz=109
SFJD Kangerlussuaq 109.21 359 *i* P PP 08 49 10.7 -0.6
comp=Z,9.6nm,1.0s
K15A Arbon 109.30 42 ⇓P PKiKP 08 48 44.8 +0.9
baz=109
B20A Solberg Farm, 109.45 35 ⇑P PKiKP 08 48 45.8 +1.9
baz=109
HVU Hansel Valley 109.51 43 *e*PKPdf PKiKP 08 48 48.0 +3.7
F18A Big Timber 109.68 38 ⇓P PKiKP 08 48 46.1 +1.7
baz=110
RRI2 Red Ridge 109.82 41 *e*PKPdf PKiKP 08 48 46.7 +1.6
C20A Veseth Ranch, 109.83 36 ⇓P PKiKP 08 48 46.5 +1.9
baz=110
E19A Rath Farm, Rou 109.98 37 ⇓P PKiKP 08 48 46.0 +1.0
baz=110
TPAW Teton Pass 110.00 41 *e*PKPdf PKiKP 08 48 46.5 +1.1
BELC Belle Mtn. Jos 110.03 52 ⇑P PKiKP 08 48 47.4 +1.9
baz=110
TCF Toulx Ste Croi 110.03 323 *e*P Pdif 08 44 43.6 +0.3
comp=Z,26nm,1.1s
TCF Toulx Ste Croi 110.03 323 *e*P Pdif 08 44 43.6 +0.3
TCF Toulx Ste Croi 110.03 323 *e*P Pdif 08 44 43.6 +0.3
N15A Stansbury Isla 110.05 44 ⇓P PKiKP 08 48 46.5 +1.1
baz=110
MONP Monument Peak 110.06 53 ⇑P PKiKP 08 48 47.4 +1.8
baz=110
D20A Manuel Ranch, 110.06 36 ⇓P PKiKP 08 48 46.7 +1.6
baz=110
REDW Red Top Meadow 110.12 41 *e*PKPdf PKiKP 08 48 46.7 +1.2
DUG Dugway 110.13 45 *e*PKPdf PKiKP 08 48 47.4 +1.9
DUG Dugway 110.13 45 ⇓P PKiKP 08 48 46.9 +1.4
baz=110
SNOW Snow King Moun 110.14 41 *e*PKPdf PKiKP 08 48 47.8 +2.2
LOHW Long Hollow 110.17 41 *e*PKPdf PKiKP 08 48 45.8 +0.2
F19A Roth Farm, Mol 110.18 38 ⇑P PKiKP 08 48 47.3 +1.9
baz=110
C21A Desert Coulee 110.30 35 ⇓P PKiKP 08 48 47.5 +2.0
baz=110
A22A Carney Farms, 110.36 34 ⇑P PKiKP 08 48 47.6 +2.0
baz=110
DVTC Desert V Tower 110.39 53 ⇑P PKiKP 08 48 47.3 +1.2
baz=110
HWUT Hardware Ranch 110.41 43 *e*PKPdf PKiKP 08 48 46.9 +0.8
BC3 Big Chuckawall 110.57 52 ⇓P PKiKP 08 48 47.8 +1.3
baz=110
J18A Kendall Valley 110.73 41 ⇑P PKiKP 08 48 48.1 +1.4
baz=111
G20A Bridger 110.94 38 ⇓P PKiKP 08 48 48.1 +1.2
baz=111
E21A Keefer Ranch, 110.97 37 ⇓P PKiKP 08 48 49.4 +2.6
baz=111
K18A Toltan Ranch, 110.98 41 ⇓P PKiKP 08 48 48.8 +1.6
baz=111
C22A Vida 111.04 35 ⇑P PKiKP 08 48 49.5 +2.6
baz=111
B23A Brockton 111.16 34 ⇓P PKiKP 08 48 49.1 +2.0
baz=111
D22A Cohagen 111.18 36 ⇓P PKiKP 08 48 48.8 +1.6
baz=111
PD02 Pinedale Array 111.22 41 *e*PKPdf PKiKP 08 48 46.2 -1.4
BW06 Boulder Array 111.23 41 ⇓P PKiKP 08 48 48.7 +1.0
baz=111
PDAR Pinedale Array 111.23 41 Pdif Pdif 08 44 55.1 +6.1
PDAR PKiKP PKiKP 08 48 48.5 +0.9
PDAR PKKPbc PKKPbc 08 59 43.9 -1.1
PDAR P'P' 09 08 06.0
PDAR Pinedale Array 111.23 41 Pdiff Pdif 08 44 55.1 +6.1
comp=Z,0.4nm,0.8s,baz=268,slow=5.2,SNR=3.8
PDAR PKiKP PKiKP 08 48 48.5 +0.9
comp=Z,1.5nm,0.7s,baz=318,slow=2.4,SNR=6.8
PDAR PKKPbc PKKPbc 08 59 43.9 -1.1
comp=Z,1.4nm,0.8s,baz=121,slow=5.6,SNR=6.1
PDAR PKPPKP P'P'df 09 08 06.0 -8.1
comp=Z,1.1nm,0.9s,baz=124,slow=7.9,SNR=5.6
MSU Marysvale 111.25 46 *e*P Pdif 08 44 49.9 +0.7
MSU Marysvale 111.25 46 *e*Pdif Pdif 08 44 49.9 +0.7
W13A Hualapai Mount 111.28 50 ⇓P PKiKP 08 48 48.6 +0.6
baz=111
L18A Fontenelle, Gr 111.30 42 ⇓P PKiKP 08 48 49.1 +1.3
baz=111
J19A Crowheart 111.33 40 ⇑P PKiKP 08 48 49.5 +1.7
baz=111
H20A Graybull 111.42 39 ⇓P PKiKP 08 48 49.0 +1.2
baz=111
A24A Westby 111.45 33 ⇑P PKiKP 08 48 48.8 +1.1
baz=111
M18A Lyman 111.50 43 ⇑P PKiKP 08 48 48.9 +0.7
baz=111
O17A Robinson Place 111.58 44 ⇑P PKiKP 08 48 49.7 +1.3
baz=111
DGMT Dagmar 111.60 34 *e*PKPdf PKiKP 08 48 49.4 +1.5
DGMT Dagmar 111.60 34 ⇓P PKiKP 08 48 49.6 +1.7
baz=111
I20A Worland 111.60 39 ⇓P PKiKP 08 48 49.3 +1.1
baz=111,SNR=8.2
L19A Farson 111.67 42 ⇑P PKiKP 08 48 49.8 +1.3
baz=112
K19A Absolon Red Bu 111.67 41 ⇑P PKiKP 08 48 50.1 +1.7
baz=112
E22A Miles City 111.69 36 ⇑P PKiKP 08 48 48.6 +0.5
baz=112
D23A Lindsay 111.73 35 ⇑P PKiKP 08 48 49.9 +1.6
baz=112
F22A Rosebud 111.85 37 ⇑P PKiKP 08 48 49.6 +1.1
baz=112
R16A Teasdale 111.85 46 ⇓P PKiKP 08 48 50.8 +1.8
baz=112
J20A Shoshoni 111.92 40 ⇑P PKiKP 08 48 49.4 +0.6
baz=112
C24A Savage 111.99 35 ⇑P PKiKP 08 48 49.8 +1.2
baz=112
U15A North Rim 111.99 48 ⇑P PKiKP 08 48 50.5 +1.1
baz=112
S16A Weppner Ranch, 111.99 47 ⇑P PKiKP 08 48 49.9 +0.7
baz=112
E23A Ismay 112.04 36 ⇑P PKiKP 08 48 50.4 +1.6
baz=112
O18A Roosevelt 112.05 44 ⇓P PKiKP 08 48 50.5 +1.3
baz=112,SNR=5.1
M19A Rock Springs 112.08 42 ⇓P PKiKP 08 48 50.6 +1.3
baz=112
K20A Yellowstone Ra 112.08 41 ⇓P PKiKP 08 48 50.3 +1.1
baz=112
G22A Birney 112.11 38 ⇑P PKiKP 08 48 50.0 +1.0
baz=112
P18A Preston Nutter 112.16 44 ⇑P PKiKP 08 48 49.6 0.0
baz=112
SRU San Rafael 112.19 45 ⇑P PKiKP 08 48 50.5 +1.0
I21A Big Trails, Te 112.20 39 ⇓P PKiKP 08 48 50.5 +1.2
baz=112
J21A Lysite 112.33 40 ⇑P PKiKP 08 48 50.5 +0.8
baz=112
N19A John Jarvie Ra 112.34 43 ⇓P PKiKP 08 48 51.7 +2.0
baz=112
R17A Hanksville Air 112.34 46 ⇑P PKiKP 08 48 50.2 +0.5
baz=112
Y14A Wickenburg 112.38 51 ⇑P PKiKP 08 48 51.2 +1.3
baz=112
L20A Wamsutter 112.39 41 ⇓P PKiKP 08 48 50.3 +0.4
baz=112
F23A Volborg 112.39 37 ⇑P PKiKP 08 48 50.6 +1.0
baz=112
H22A Clearmont 112.39 38 ⇑P PKiKP 08 48 51.0 +1.4
baz=112
Q18A Rafter H Ranch 112.47 45 ⇓P PKiKP 08 48 49.6 -0.4
baz=112
E24A Baker 112.58 35 ⇓P PKiKP 08 48 50.3 +0.4
baz=112
I22A 9 Mile Ranch, 112.67 39 ⇑P PKiKP 08 48 51.1 +0.9
baz=112
K21A Alcova 112.80 40 ⇑P PKiKP 08 48 50.8 +0.2
baz=113
T17A Navajo Res., N 112.86 47 ⇓P PKiKP 08 48 52.1 +1.2
baz=113
F24A Ekalaka 112.89 36 ⇑P PKiKP 08 48 51.3 +0.8
baz=113
114A Black Gap (USA 112.91 52 ⇑P PKiKP 08 48 51.4 +0.5
baz=113
J22A Midwest 112.91 39 ⇓P PKiKP 08 48 51.4 +0.7
baz=113,SNR=12
R18A Canyonlands Na 112.94 45 ⇓P PKiKP 08 48 51.7 +0.7
baz=113
N20A Spence Gulch, 112.98 42 ⇓P PKiKP 08 48 51.7 +0.7
baz=113
WUAZ Wupatki 113.03 49 *e*PKPdf PKiKP 08 48 52.7 +1.5
WUAZ Wupatki 113.03 49 ⇑P PKiKP 08 48 51.6 +0.4
baz=113
L21A Rawlins 113.04 41 ⇑P PKiKP 08 48 52.1 +1.0
baz=113
Q19A Hogan Spring (113.14 45 ⇑P PKiKP 08 48 52.3 +1.1
baz=113
S18A Hurst Farm, Bl 113.16 46 ⇓P PKiKP 08 48 52.4 +0.9
baz=113
G24A Alzada 113.19 37 ⇓P PKiKP 08 48 52.1 +1.0
baz=113
M21A Separation Pea 113.22 41 ⇑P PKiKP 08 48 52.5 +1.0
baz=113
214A Organ Pipe Nat 113.24 53 ⇑P PKiKP 08 48 52.3 +0.8
baz=113
K22A Casper 113.26 40 ⇑P PKiKP 08 48 51.9 +0.5
baz=113
RWWY Rawlins 113.28 41 *e*PKPdf PKiKP 08 48 51.8 +0.2
O20A White River Ci 113.32 43 ⇑P PKiKP 08 48 52.7 +1.0
baz=113
X16A Lo Mia Camp, P 113.41 50 ⇑P PKiKP 08 48 53.2 +1.2
baz=113
H24A Dirks Ranch, A 113.41 37 ⇑P PKiKP 08 48 52.5 +0.9
baz=113
R19A Curley Farm, L 113.43 45 ⇓P PKiKP 08 48 54.1 +2.1
baz=113
T18A Mexican Hat 113.48 47 ⇓P PKiKP 08 48 53.3 +1.3
baz=113
N21A Black Mountain 113.52 42 ⇑P PKiKP 08 48 53.0 +1.0
baz=113
PV04 Paradox Valley 113.64 45 *e*PKPdf PKiKP 08 48 53.3 +1.0
K23A Bowen Ranch, D 113.78 40 ⇑P PKiKP 08 48 54.7 +2.3
baz=114
O21A Pagoda 113.80 43 ⇑P PKiKP 08 48 54.2 +1.5
baz=114
Q20A Ridgley Place, 113.81 44 ⇓P PKiKP 08 48 53.9 +1.3
baz=114
M22A Cedar Creek Ra 113.82 41 ⇓P PKiKP 08 48 54.5 +1.9
baz=114
X17A Forest Lakes 113.92 50 ⇑P PKiKP 08 48 53.0 -0.1
baz=114
PV01 Paradox Valley 113.99 45 *e*PKPdf PKiKP 08 48 52.9 -0.2
L23A Garrett 114.05 40 ⇓P PKiKP 08 48 53.5 +0.4
baz=114
RSSD Black Hills 114.06 38 *e*PKIKP PKiKP 08 48 53.1 +0.1
RSSD Black Hills 114.06 38 *e*PKPdf PKPdf 08 48 53.0 +0.1
R20A Redvale 114.10 45 ⇓P PKiKP 08 48 53.9 +0.6
baz=114
N22A Wattenberg Ran 114.21 42 ⇑P PKPdf 08 48 54.7 +1.2
baz=114
S20A Disappointment 114.27 45 ⇑P PKPdf 08 48 55.4 +1.8
baz=114
U19A Dine' College, 114.32 47 ⇓P PKPdf 08 48 56.1 +2.4
baz=114
MVCO Mesa Verde 114.44 46 *e*PKPdf PKPdf 08 48 53.2 -0.7
MVCO Mesa Verde 114.44 46 ⇓P PKPdf 08 48 55.1 +1.2
baz=114
O22A Kremmling 114.45 42 ⇑P PKPdf 08 48 54.8 +0.9
baz=114
MDND Maddock 114.46 32 ⇑P PKPdf 08 48 54.5 +1.1
baz=114
X18A Snowflake 114.50 49 ⇑P PKPdf 08 48 56.5 +2.4
baz=114
P22A Eagle 114.58 43 ⇓P PKPdf 08 48 54.5 +0.3
baz=114
PHWY Pilot Hill 114.62 41 *e*PKPdf PKPdf 08 49 02.3 +8.0
SMCO Snowmass 114.63 44 *e*PKPdf PKPdf 08 49 00.2 +5.7
TUC Tucson 114.72 52 *e*PKIKP PKPdf 08 48 55.6 +1.2
TUC Tucson 114.72 52 *e*PKPdf PKPdf 08 48 55.6 +1.2
S21A Coal Bank Pass 114.75 45 ⇑P PKPdf 08 48 55.8 +1.2
baz=115,SNR=17
U20A Newcomb 114.79 47 ⇑P PKPdf 08 48 54.9 +0.4
baz=115
ULM Lac du Bonnet 114.81 29 PKP PKPdf 08 48 53.8 -0.1
ULM PKKPbc PKKPab 08 59 36.8 -1.4
ULM Lac du Bonnet 114.81 29 PKP PKPdf 08 48 53.8 -0.1
comp=Z,4.3nm,0.8s,baz=350,slow=1.9,SNR=5.6
ULM PKKPbc PKKPab 08 59 36.8 -1.4
comp=Z,4.1nm,0.8s,baz=171,slow=3.5,SNR=5.1
Q22A Crested Butte, 114.82 44 ⇓P PKPdf 08 48 56.1 +1.4
baz=115
O23A Lake Granby, G 114.85 42 ⇑P PKPdf 08 48 55.7 +1.0
baz=115
M24A Cheyenne 114.94 40 ⇓P PKPdf 08 48 55.8 +1.0
baz=115
K25A Mack Ranch, Ha 114.96 39 ⇑P PKPdf 08 48 56.1 +1.4
baz=115
R22A Saguache, Gunn 115.22 44 ⇑P PKPdf 08 48 56.3 +0.8
baz=115
T21A Navajo Lake 115.23 46 ⇑P PKPdf 08 48 56.6 +1.2
baz=115
Y19A Nutrioso 115.25 50 ⇓P PKPdf 08 48 57.0 +1.4
baz=115
ISCO Idaho Springs 115.25 42 *e*PKIKP PKPdf 08 48 56.1 +0.6
ISCO Idaho Springs 115.25 42 *e*PKPdf PKPdf 08 48 56.1 +0.6
ISCO Idaho Springs 115.25 42 ⇓P PKPdf 08 48 56.7 +1.1
baz=115
P23A Jefferson 115.31 43 ⇓P PKPdf 08 48 56.8 +1.1
baz=115
W20A Ramah 115.34 48 ⇓P PKPdf 08 48 56.9 +1.1
baz=115
K26A Motz Farm, Whi 115.35 39 ⇑P PKPdf 08 48 56.5 +1.2
baz=115
S22A 4UR Ranch, Cre 115.39 45 ⇑P PKPdf 08 48 56.6 +0.8
baz=115
U21A Nageezi 115.39 46 ⇑P PKPdf 08 48 57.3 +1.5
baz=115,SNR=13
T22A Edith 115.67 46 ⇑P PKPdf 08 48 57.5 +1.2
baz=116
K27A Fluckinger Fa 115.93 38 ⇑P PKPdf 08 48 57.0 +0.6
baz=116
Y20A Horse Springs, 115.94 49 ⇓P PKPdf 08 48 57.7 +0.8
baz=116
W21A San Fidel 115.97 48 ⇑P PKPdf 08 48 56.9 0.0
baz=116
Q24A Divide 115.98 43 ⇑P PKPdf 08 48 57.5 +0.5
baz=116
U22A Llaves 116.00 46 ⇓P PKPdf 08 48 58.4 +1.5
baz=116,SNR=5.8
Z20A Nine Sixteen R 116.10 50 ⇓P PKPdf 08 48 58.0 +0.9
baz=116
X21A Alamocita Cree 116.16 49 ⇑P PKPdf 08 48 58.4 +1.1
baz=116
V22A San Miguel Ran 116.16 47 ⇑P PKPdf 08 48 58.8 +1.5
baz=116,SNR=6.5
319A Douglas 116.25 52 ⇓P PKPdf 08 48 58.1 +0.6
baz=116
T23A Casias Ranch, 116.28 45 ⇓P PKPdf 08 48 57.7 +0.2
baz=116
120A U Bar Ranch, L 116.30 51 ⇓P PKPdf 08 48 58.1 +0.6
baz=116
SDCO Great Sand Dun 116.32 44 *e*PKPdf PKPdf 08 48 58.7 +1.1
SDCO Great Sand Dun 116.32 44 ⇑P PKPdf 08 48 58.7 +1.1
baz=116
P25A Willow Gulch B 116.37 42 ⇓P PKPdf 08 48 58.5 +1.0
baz=116,SNR=17
Y21A Point of Rocks 116.43 49 ⇓P PKPdf 08 48 59.0 +1.1
baz=116
S24A Houchin Ranch, 116.57 44 ⇑P PKPdf 08 48 58.9 +0.8
baz=116
Q25A Bedland, Calha 116.61 43 ⇓P PKPdf 08 48 59.0 +0.9
baz=116,SNR=8.1
220A Playas Peak, P 116.64 51 ⇓P PKPdf 08 48 58.5 +0.3
baz=116
LAZ Ladron 116.66 48 *e*PKPdf PKPdf 08 48 58.3 +0.1
Z21A St. Cloud Mine 116.72 50 ⇓P PKPdf 08 48 59.7 +1.3
baz=117
TAM Tamanrasset 116.75 298 PKIKP PKPdf 08 49 02.4 +3.8
TAM Tamanrasset 116.75 298 PKPdf PKPdf 08 49 02.4 +3.8
V23A Ortiz Mt. (NFS 116.77 47 ⇑P PKPdf 08 48 59.6 +1.1
baz=117
320A Kipp Ranch, An 116.86 52 ⇑P PKPdf 08 48 59.6 +1.0

baz=117
LENM Lemitar 116.88 48 ePKPdf PKPdf 08 49 01.1 +2.5
P26A Davis Ranch, A 116.89 42 ⇑P PKPdf 08 48 59.6 +1.1
baz=117,SNR=17
ANMO Albuquerque 116.92 47 ePKPdf PKPdf 08 48 58.5 -0.3
ANMO PKP PKPdf 08 49 00.3 +1.5
ANMO Albuquerque 116.92 47 PKP PKPdf 08 49 00.3 +1.5
comp=Z,6.5nm,1.0s,baz=284,slow=1.4,SNR=7.5
121A Cookes Peak, D 116.96 50 ⇓P PKPdf 08 48 59.7 +0.8
baz=117
R25A Fountain Ranch 116.97 43 ⇓P PKPdf 08 48 58.8 +0.1
baz=117
Y22A Socorro 116.99 49 ⇓P PKPdf 08 49 00.0 +1.2
baz=117
W23A Werner Place, 117.05 47 ⇑P PKPdf 08 49 00.4 +1.4
baz=117
S25A Robets Cordova 117.10 44 ⇓P PKPdf 08 49 00.2 +1.2
baz=117
BNM Barren Site 117.15 48 ePKPdf PKPdf 08 49 00.9 +1.6
ESDC Sonseca Array 117.27 319 PKP PKPdf 08 49 01.9 +2.8
ESDC Sonseca Array 117.27 319 PKP PKPdf 08 49 01.9 +2.8
comp=Z,2.3nm,0.7s,baz=25,slow=2,2,SNR=8.7
Z22A Elephant Butte 117.28 49 ⇑P PKPdf 08 49 00.8 +1.4
baz=117
X23A Hourglass Bar 117.28 48 ⇓P PKPdf 08 49 00.6 +1.1
baz=117
T25A Trinidad 117.37 44 ⇓P PKPdf 08 49 00.7 +1.2
baz=117
V24A Rampart Ranch, 117.43 46 ⇓P PKPdf 08 49 00.8 +1.1
baz=117,SNR=14
R26A Arlington 117.46 43 ⇑P PKPdf 08 48 60.0 +0.4
baz=117
W24A Lazy 6 Ranch, 117.57 47 ⇑P PKPdf 08 49 01.3 +1.3
baz=117,SNR=12
PAB San Pablo 117.59 319 ePKIKP PKPdf 08 49 00.9 +1.2
PAB San Pablo 117.59 319 ePKPdf PKPdf 08 49 00.9 +1.2
Y23A Lovelace Mesa, 117.67 48 ⇑P PKPdf 08 49 00.7 +0.5
baz=118
U25A Circle Dot Ran 117.73 45 ⇓P PKPdf 08 49 01.1 +0.9
baz=118
S26A Kim 117.79 44 ⇑P PKPdf 08 49 00.0 -0.2
baz=118
Z23A Rita Site, Whi 117.83 49 ⇑P PKPdf 08 49 01.3 +0.9
baz=118
V25A Rancho No Teng 117.85 46 ⇓P PKPdf 08 49 01.5 +1.0
baz=118,SNR=19
PBRG Braganca 117.87 322 ePKPdf PKPdf 08 49 03.7 +3.5
R27A Eads 117.91 43 ⇑P PKPdf 08 49 00.8 +0.4
baz=118
T26A Comanche Natio 117.92 44 ⇓P PKPdf 08 49 01.7 +1.1
baz=118,SNR=16
Y24A Capitan 118.14 48 ⇓P PKPdf 08 49 02.4 +1.3
baz=118,SNR=14
U26A Atchley Ranch, 118.20 45 ⇑P PKPdf 08 49 02.0 +0.9
baz=118
W25A X Bar L Ranch, 118.25 46 ⇑P PKPdf 08 49 01.8 +0.6
baz=118
MVO Moncorvo 118.42 322 ePKPdf PKPdf 08 49 05.3 +4.0
MVO eLQ LQ 09 25 11.5
MVO eLR LR 09 33 20.4
comp=Z,3µm,20.0s
Z24A Sheeppen Canyo 118.45 49 ⇓P PKPdf 08 49 03.0 +1.3
baz=118,SNR=13
EYMN Ely 118.48 28 ePKPdf PKPdf 08 49 01.2 +0.1
T27A Campo 118.58 44 ⇓P PKPdf 08 49 03.2 +1.5
baz=118,SNR=9.0
ECSD EROS Data Cent 118.65 35 ePKPdf PKPdf 08 49 01.6 +0.1
124A Stringfield Ra 118.67 49 ⇓P PKPdf 08 49 03.4 +1.2
baz=118,SNR=5.8
Y25A Mesa, Roswell 118.69 48 ⇑P PKPdf 08 49 03.2 +1.1
baz=118,SNR=20
PGAV Gavieira, Arco 118.71 323 ePKPdf PKPdf 08 49 04.9 +3.1
PGAV eLQ LQ 09 20 33.8
PGAV eLR LR 09 33 59.6
comp=Z,3µm,20.0s
POLO Lamas de Olo 118.77 322 ePKPdf PKPdf 08 49 04.3 +2.3
PVRL Vila Real 118.78 322 ePKPdf PKPdf 08 49 04.1 +2.2
W26A Owens Ranch, T 118.82 46 ⇑P PKPdf 08 49 02.3 0.0
baz=119
224A Cornudas Mount 118.89 50 ⇑P PKPdf 08 49 03.1 +0.5
baz=119
Z25A Roswell 118.96 48 ⇑P PKPdf 08 49 03.2 +0.6
baz=119
T28A Walsh 118.97 43 ⇓P PKPdf 08 49 03.6 +1.1
baz=119,SNR=16
X26A CR and CF Fran 119.04 47 ⇓P PKPdf 08 49 03.6 +0.9
baz=119
MNTX Cornudas Mount 119.16 50 ePKPdf PKPdf 08 49 03.9 +1.0
MNTX Cornudas Mount 119.16 50 ⇓P PKPdf 08 49 04.3 +1.4
baz=119,SNR=25
BGNE Belgrade 119.17 37 ⇓P PKPdf 08 49 03.5 +0.9
baz=119
324A Moseley Ranch, 119.19 51 ⇑P PKPdf 08 49 04.5 +1.3
baz=119
PVIS Viseu 119.21 322 ePKPdf PKPdf 08 49 06.6 +3.8
125A Gardner Draw, 119.29 49 ⇓P PKPdf 08 49 04.4 +1.1
baz=119,SNR=12
225A Deer Hill, Car 119.41 50 ⇑P PKPdf 08 49 04.7 +1.1
baz=119
PCBR Castelo Branco 119.45 321 ePKPdf PKPdf 08 49 07.1 +3.9
X27A F and S Farms, 119.51 46 ⇓P PKPdf 08 49 03.9 +0.3
baz=119
Z26A Caprock 119.51 48 ⇓P PKPdf 08 49 04.8 +1.2
baz=119
V28A Channing 119.59 45 ⇑P PKPdf 08 49 04.7 +0.9
baz=119
325A Bean Ranch, Si 119.61 51 ⇑P PKPdf 08 49 04.2 +0.2
baz=120
PMRV Marv??o 119.63 320 ePKPdf PKPdf 08 49 07.0 +3.4
PMRV eLQ LQ 09 27 06.0
PMRV eLR LR 09 36 15.8
comp=Z,2µm,22.1s
CBKS Cedar Bluff 119.66 41 ePKIKP PKPdf 08 49 04.6 +0.9
CBKS Cedar Bluff 119.66 41 ePKPdf PKPdf 08 49 04.6 +0.9
CBKS Cedar Bluff 119.66 41 ⇓P PKPdf 08 49 04.5 +0.8
baz=120
GDL2 Guadalupe Moun 119.71 49 ePKPdf PKPdf 08 49 03.4 -0.6
SPMN St. Paul 119.73 31 ⇑P PKPdf 08 49 04.2 +0.7
baz=120
126A Clayton Basin, 119.77 49 ⇑P PKPdf 08 49 04.7 +0.5
baz=120,SNR=5.2
Y27A Causey 119.83 47 ⇑P PKPdf 08 49 05.3 +1.0
baz=120,SNR=11
425A Indio Mountain 119.86 51 ⇑P PKPdf 08 49 05.2 +0.8
baz=120,SNR=16
226A Malaga, Loving 119.97 49 ⇑P PKPdf 08 49 05.3 +0.8
baz=120,SNR=13
V29A Stinnett 120.02 44 ⇓P PKPdf 08 49 05.8 +1.3
baz=120
CLNB Carlsbad 120.05 49 ePKPdf PKPdf 08 49 05.0 +0.3
Z27A Tatum 120.06 48 ⇓P PKPdf 08 49 05.6 +0.9
baz=120
MSTX Muleshoe 120.07 47 ⇑P PKPdf 08 49 05.2 +0.5
baz=120,SNR=12
PBAR Barrancos 120.10 319 ePKPdf PKPdf 08 49 08.0 +3.5
X28A Dimmitt 120.22 46 ⇓P PKPdf 08 49 06.2 +1.2
baz=120
127A Arkansas Junct 120.25 48 ⇓P PKPdf 08 49 06.0 +0.9
baz=120
SCHQ Schefferville 120.38 9 ePKPdf PKPdf 08 49 05.3 +0.8
SCHQ PKP PKPdf 08 49 05.5 +1.0
SCHQ PKKPbc PKKPab 08 59 13.2 -0.5
SCHQ Schefferville 120.38 9 PKP PKPdf 08 49 05.5 +1.0
comp=Z,14nm,0.7s,baz=17,slow=1.9,SNR=19
SCHQ PKKPbc PKKPab 08 59 13.2 -0.5
comp=Z,5.3nm,1.2s,baz=133,slow=9.2,SNR=3.6
326A Caldwell Ranch 120.40 50 ⇓P PKPdf 08 49 06.0 +0.6
baz=120,SNR=12
AMTX Amarillo 120.41 45 PKPdf PKPdf 08 49 05.5 +0.2
Y28A McKinney Farm, 120.48 47 ⇑P PKPdf 08 49 06.7 +1.2
baz=120
EVO Evora 120.54 320 ePKPdf PKPdf 08 49 06.8 +1.5
EVO Evora 120.54 320 ePKIKP PKPdf 08 49 05.5 +0.2
comp=Z,54nm,1.2s
EVOP Sao Brissos 120.61 320 ePKIKP PKPdf 08 49 05.5 +0.1
EVOP Sao Brissos 120.61 320 ePKPdf PKPdf 08 49 05.5 +0.1
426A McDonald Obser 120.65 51 ⇓P PKPdf 08 49 06.7 +0.7
baz=120
PBEJ Beja 120.73 319 ePKPdf PKPdf 08 49 07.0 +1.3
Y29A Porterfield Fa 120.92 46 ⇑P PKPdf 08 49 07.1 +0.8
baz=121,SNR=17
PVAQ Vaqueiros 120.98 318 ePKPdf PKPdf 08 49 08.4 +2.2
PVAQ eLQ LQ 09 26 37.2
PVAQ eLR LR 09 33 35.6
comp=Z,2µm,20.0s
626A Big Bend Ranch 121.05 52 ⇓P PKPdf 08 49 07.7 +1.0
baz=121,SNR=11
427A Hayter Ranch, 121.05 50 ⇓P PKPdf 08 49 07.3 +0.6
baz=121,SNR=21
PCVE Castro Verde 121.06 319 ePKPdf PKPdf 08 49 10.3 +4.0
PNCL Nicolau / Gran 121.11 320 ePKPdf PKPdf 08 49 08.4 +2.0
LIS Lisbon 121.16 320 ePP PP 08 50 34.8 -1.5
LIS AMS AMS 09 48 22.1
comp=E,3µm,19.2s
LIS Lisbon 121.16 320 ePP PP 08 50 34.8 -1.5
Z29A Hungry Hill Ra 121.19 47 ⇓P PKPdf 08 49 07.5 +0.7
baz=121,SNR=11
527A Woodward Ranch 121.20 51 ⇓P PKPdf 08 49 07.8 +0.8
baz=121,SNR=18
PBDV Barranco-do-Ve 121.21 318 ePKPdf PKPdf 08 49 10.8 +4.1
328A Wristen Ranch, 121.26 50 ⇓P PKPdf 08 49 07.9 +0.9
baz=121,SNR=21
129A Stewart Farms, 121.38 48 ⇑P PKPdf 08 49 07.8 +0.5
baz=121,SNR=9.6
KSU1 Kansas State U 121.48 39 ePKPdf PKPdf 08 49 07.6 +0.5
TXAR Lajitas Array 121.51 52 PKP PKPdf 08 49 08.2 +0.6
TXAR PKKPbc PKKPab 08 59 09.0 +0.8
TXAR Lajitas Array 121.51 52 PKP PKPdf 08 49 08.2 +0.6
comp=E,2.5nm,0.7s,baz=207,slow=0.3,SNR=26
TXAR PKKPbc PKKPab 08 59 09.9 +0.8
comp=E,1.2nm,0.7s,baz=117,slow=6.4,SNR=10.0
MORF Marmelete 121.65 319 ePKPdf PKPdf 08 49 11.7 +4.1
428A Kincaid Ranch, 121.66 50 ⇑P PKPdf 08 49 09.3 +1.5
baz=122,SNR=21
627A Terlingua Ranc 121.68 52 ⇑P PKPdf 08 49 09.0 +1.0
baz=122,SNR=33
528A Cox Ranch, San 121.83 51 ⇓P PKPdf 08 49 08.1 -0.1
baz=122
PFVI Vila Bisbo 121.86 319 ePKPdf PKPdf 08 49 11.9 +4.0
628A Black Gap, Mar 122.06 52 ⇑P PKPdf 08 49 09.6 +1.0
baz=122,SNR=19
WMOK Wichita Mounta 122.52 44 ePKIKP PKPdf 08 49 09.8 +0.5
WMOK Wichita Mounta 122.52 44 ePKPdf PKPdf 08 49 09.8 +0.5
TOA0 Torodi Ar. Sit 122.81 288 ePKPdf PKPdf 08 49 10.5 +0.2
TOA0 ePP PP 08 50 49.6 +0.8
TORD Torodi Ar. Bea 122.81 288 PKP PKPdf 08 49 10.7 +0.4
TORD PKKPbc PKKPab 08 59 07.5 +4.2
TORD Torodi Ar. Bea 122.81 288 PKP PKPdf 08 49 10.7 +0.4
comp=E,22nm,0.9s,baz=52,slow=1.9,SNR=48
TORD PKKPbc PKKPab 08 59 07.5 +4.2
comp=E,1.2nm,0.6s,baz=293,slow=2.6,SNR=7.0
TUL1 Tulsa 123.89 41 ⇑P PKPdf 08 49 13.2 +1.4
baz=124
JCT Junction City 123.96 49 ePKIKP PKPdf 08 49 11.9 -0.3
JCT Junction City 123.96 49 ePKPdf PKPdf 08 49 11.9 -0.3
JCT Junction City 123.96 49 ⇑P PKPdf 08 49 13.1 +0.9
baz=124
RFTA Plano 124.92 45 ePKPdf PKPdf 08 49 15.1 +1.3
FVM French Village 125.94 36 ePKIKP PKPdf 08 49 16.2 +0.5
FVM French Village 125.94 36 ePKPdf PKPdf 08 49 16.2 +0.5
MIAR Mount Ida 126.16 41 ePKIKP PKPdf 08 49 16.7 +0.5
MIAR Mount Ida 126.16 41 ePKPdf PKPdf 08 49 16.7 +0.5
OLIL Olney 126.76 34 ePKPdf PKPdf 08 49 18.0 +0.8
SIUC Southern Illin 126.83 36 ePKPdf PKPdf 08 49 17.7 +0.3
NATX Nacogdoches 127.04 45 ePKPdf PKPdf 08 49 19.6 +1.6
HKT Hockley 127.19 47 ePKIKP PKPdf 08 49 19.1 +0.9
HKT Hockley 127.19 47 ePKPdf PKPdf 08 49 19.1 +0.9
PARMO Parma 127.22 37 ePKPdf PKPdf 08 49 18.7 +0.5
BLO Bloomington 127.31 32 ePKIKP PKPdf 08 49 19.1 +0.8
BLO Bloomington 127.31 32 ePKPdf PKPdf 08 49 19.1 +0.8
USIN University of 127.54 34 ePKPdf PKPdf 08 49 19.6 +0.9
MSNY Massena 127.62 19 ePKPdf PKPdf 08 49 16.6 -2.1
GLAT Glass 127.76 37 ePKPdf PKPdf 08 49 18.0 -1.3
PQI Presque Isle 127.96 13 ePKPdf PKPdf 08 49 20.0 +0.7
HALT Halls 127.97 37 ePKPdf PKPdf 08 49 19.8 +0.1
LONY Lake Ozonia 128.05 19 ePKPdf PKPdf 08 49 19.6 +0.1
WCI Wyandotte Cave 128.11 33 ePKIKP PKPdf 08 49 20.9 +1.0
WCI Wyandotte Cave 128.11 33 ePKPdf PKPdf 08 49 20.9 +1.0
FRNY Flat Rock 128.17 18 ePKPdf PKPdf 08 49 19.8 +0.1
ACSO Alum Creek Sta 128.31 29 ePKPdf PKPdf 08 49 21.2 +1.0
WVT Waverly 128.72 36 ePKIKP PKPdf 08 49 22.0 +0.9
WVT Waverly 128.72 36 ePKPdf PKPdf 08 49 22.0 +0.9
NCB Newcomb 128.74 19 ePKPdf PKPdf 08 49 22.0 +1.1
OXF Oxford 128.85 39 ePKIKP PKPdf 08 49 21.8 +0.4
OXF Oxford 128.85 39 ePKPdf PKPdf 08 49 21.8 +0.4
MDV Middlebury 129.05 18 ePKPdf PKPdf 08 49 22.4 +1.0
PLAL Pickwick Lake 129.36 37 ePKPdf PKPdf 08 49 21.7 -0.6
WVL Waterville 129.55 15 ePKPdf PKPdf 08 49 23.6 +1.3
HNH Hanover 129.59 18 ePKPdf PKPdf 08 49 24.4 +1.9
BINY Binghamton 129.68 22 ePKPdf PKPdf 08 49 24.2 +1.5
TRY Troy 130.03 20 ePKPdf PKPdf 08 49 23.1 -0.3
SSPA Standing Stone 130.26 24 ePKPdf PKPdf 08 49 24.3 +0.4
SWET Sewanee 130.47 35 ePKPdf PKPdf 08 49 24.9 +0.5
DBIC Dimbokro 130.49 282 PKP PKPdf 08 49 25.3 +0.3
DBIC ePKPdf PKiKP 08 49 25.9 +0.1
DBIC SKPbc SKPbc 08 52 49.5 +4.4
DBIC Dimbokro 130.49 282 PKP PKPdf 08 49 25.3 +0.3
comp=E,16nm,1.0s,baz=103,slow=3.6,SNR=10
DBIC SKPbc SKPbc 08 52 49.5 +4.4
comp=E,10.0nm,0.8s,baz=62,slow=7.5,SNR=5.1
LIC Lamto 130.74 282 ePKIKP PKPdf 08 49 26.8 +1.3
comp=E,57nm,1.0s
LIC Lamto 130.74 282 ePKPdf PKPdf 08 49 26.8 +1.3
LRAL Lakeview Retre 131.33 38 ePKPdf PKPdf 08 49 26.6 +0.5
TKL Tuckaleechee C 131.36 33 ePKPdf PKPdf 08 49 26.3 +0.2
BLA Blacksburg 131.91 29 ePKIKP PKPdf 08 49 29.0 +1.9
BLA Blacksburg 131.91 29 ePKPdf PKPdf 08 49 29.0 +1.9
KMSC Kings Mountain 133.06 32 ⇓P PKPdf 08 49 29.2 -0.1
baz=133
GOGA Godfrey 133.18 35 ePKIKP PKPdf 08 49 29.1 -0.5
GOGA Godfrey 133.18 35 ePKPdf PKPdf 08 49 29.1 -0.5
CMIG Matias Romero 133.95 62 PKP PKPdf 08 49 33.5 +2.1
CMIG Matias Romero 133.95 62 PKP PKPdf 08 49 33.5 +2.1
comp=E,12nm,0.9s,baz=277,slow=1.6,SNR=4.2
PLCA Paso Flores 140.21 159 ePKPdf PKPpre 08 49 35.2
PLCA Paso Flores 140.21 159 PKhKP PKPpre 08 49 35.1
comp=E,4.7nm,0.8s,baz=222,slow=2.7,SNR=8.4
TGUH Tegucigalpa,Un 141.87 61 ePKPdf PKPdf 08 49 45.8 -0.2
PAYG Puerto Ayora 142.93 86 PKPdf PKPdf 08 49 49.0 +1.0
SACV Santiago Islan 145.09 303 ePKPdf PKPdf 08 49 52.8 +1.0
TRQA Tornquist 145.12 168 ePKPdf PKPdf 08 49 51.1 -0.1
JTS JuntasAbangare 145.47 66 PKPbc PKPdf 08 49 51.5 -1.0
JTS JuntasAbangare 145.47 66 PKPbc PKPdf 08 49 51.5 -1.0
comp=E,10nm,0.5s,baz=316,slow=6.0,SNR=9.9
LMEL Las Melosas 146.33 154 eP PKPab 08 49 55.6 +0.1
IHA Instituto Hidr 146.37 152 eP PKPab 08 49 55.6 +0.2
FCH Farellones 146.74 154 eP PKPab 08 49 58.0 +0.7
MTDJ Mount Denham 147.53 47 ePKPbc PKPab 08 50 00.1 -0.4
BBJ Bamboo Saint A 147.62 46 i P PKPab 08 50 00.3 -0.6
GTBY Guantanamo Bay 148.05 41 ePKPbc PKPab 08 50 00.9 -1.6
STH Stony Hill 148.15 46 i P PKPab 08 50 00.8 -2.1
GWJ Greenwich 148.21 46 i P PKPab 08 50 01.0 -2.3
HOJ Hope 148.24 46 i P PKPab 08 50 03.9 +0.6
GRTK Grand Turk 149.28 34 ePKPdf PKPdf 08 49 59.9 +1.3
GRTK ePKPbc PKiKP 08 50 04.2 +0.2
LCO Las Campanas 150.09 148 ePKPbc PKPbc 08 50 06.0 +1.0
LCO ePKPab PKPab 08 50 12.3 +1.4
BCIP Isla Barro Col 150.54 64 ePKPbc PKPbc 08 50 06.8 +0.6
SDDR Presa de Saban 151.17 37 ePKPbc PKPbc 08 50 07.6 +0.1
LRS Lares 154.21 31 ePKPdf PKPdf 08 50 06.3 +0.3
CRPR Cabo Rojo, PR 154.31 32 ePKPdf PKPdf 08 50 04.3 -1.9
OBIP Obispado Ponce 154.53 31 ePKPdf PKPdf 08 50 06.9 +0.4
OTAV Otavalo 154.55 81 ePKPdf PKPdf 08 50 08.2 +1.0
SJG San Juan 154.71 30 PKP PKPdf 08 50 05.8 -1.0
SJG ePKPdf PKPbc 08 50 07.5 -7.7
SJG San Juan 154.71 30 PKP PKPdf 08 50 05.7 -1.0
comp=E,17nm,0.8s,baz=270,slow=20,SNR=2.7
MTP Monte Pirata 155.01 28 ePKPbc 08 50 15.0
NNA Nana 155.38 110 ePKPdf PKPdf 08 50 09.7 +1.8
NNA PKP PKPdf 08 50 09.8 +2.0
NNA Nana 155.38 110 PKP PKPdf 08 50 09.8 +2.0
comp=E,18nm,0.9s,baz=227,slow=6.3,SNR=5.6
LVC Limon Verde 156.06 142 ePKPdf PKPdf 08 50 08.6 -0.2
LVC ePKPab PKPab 08 50 38.8 +2.6
ROSC El Rosal 157.27 68 ePKPdf PKPdf 08 50 11.5 +0.7
CPUP Villa Florida 157.40 171 PKPab PKPab 08 50 42.2 +0.9
CPUP Villa Florida 157.40 171 PKPab PKPab 08 50 42.2 +0.9
comp=E,17nm,0.6s,baz=170,slow=3.7,SNR=16
SDV Santo Domingo 158.55 54 ePKPdf PKPdf 08 50 12.9 +0.8
CAM4 Nova Friburgo 158.93 209 i P PKPab 08 50 49.3 +0.8
CAM4 i 08 50 53.1
CAM4 i 08 51 01.5
CAM4 i 08 51 13.5
CAM4 i 08 51 22.5
CAM4 i 08 51 36.0
LPAZ La Paz 160.96 131 ePKPdf PKPdf 08 50 16.2 +0.9
SIV San Ignacio 165.80 148 PKP PKPdf 08 50 19.4 +0.3
SIV PKPab PKPab 08 51 18.9 +0.6
comp=E,11nm,1.2s,baz=180,slow=1.8,SNR=10
SIV San Ignacio 165.80 148 PKP PKPdf 08 50 19.4 +0.3
comp=E,11nm,1.2s,baz=180,slow=1.8,SNR=10
SIV PKPab PKPab 08 51 18.9 +0.6
comp=E,5.6nm,0.9s,baz=229,slow=11,SNR=3.7
BDFB Brasilia 167.25 204 PKP PKPdf 08 50 22.9 +2.6
BDFB PKPab PKPab 08 51 26.6 +1.8
BDFB Brasilia 167.25 204 PKP PKPdf 08 50 22.9 +2.6
comp=E,2.7nm,0.5s,baz=52,slow=3.2,SNR=4.8
BDFB PKPab PKPab 08 51 26.6 +1.8
comp=E,23nm,1.1s,baz=116,slow=2.8,SNR=5.1
SAML Samuel 169.00 117 ePKPdf PKPdf 08 50 22.0 +0.6

IDC 12 08:35:17.1±1.0, 21.62N×146.25E, h0km, mb4.4/9, mb1 4.6/11, mb1mx4.3/28, mbtmp4.4/11, ML4.3/2, MS5.5/2, Ms1 5.5/2, ms1mx4.3/36, Error ellipse: s-maj=29.0km s-min=24.0km az=40.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	Guam	8.10	190	Pn		Pn	08 37 16.6	+0.6
	5.7nm,0.3s,baz=250,slow=18,SNR=3.5							
GUMO				Sn		Sn	08 38 50.4	+2.1
	11nm,0.3s,baz=352,slow=20,SNR=4.1							
JNU	Nakatsue	17.80	313	P		Pn	08 39 25.2	-1.2
	0.7nm,0.3s,baz=78,slow=2.9,SNR=6.3							
SONM	Songino Array	41.24	319	P		P	08 43 04.9	+0.9
	2.5nm,0.8s,baz=132,slow=7.5,SNR=4.7							
ZALV	Zalesovo Beam	56.05	321	P		P	08 44 57.1	-0.6
	3.8nm,0.6s,baz=105,slow=7.3,SNR=4.3							
KURBB	Kurchatov Arra	59.53	317	P		P	08 45 22.6	+0.4
	4.9nm,0.6s,baz=91,slow=7.3,SNR=8.3							
BVAR	Borovoye Array	64.58	320	P		P	08 45 56.3	+0.2
	8.2nm,0.8s,baz=90,slow=7.6,SNR=6.2							
BVAR				LR		LR	09 16 49.5	
	comp=Z,3µm,18.1s,baz=108,slow=39							
YKA	Yellowknife Ar	75.18	28	P		P	08 47 01.3	+0.2
	1.7nm,0.7s,baz=288,slow=5.6,SNR=8.3							
YBH	Yreka Blue Hor	76.68	50	P		P	08 47 10.9	+0.6
	3.2nm,1.0s,baz=74,slow=8.2,SNR=3.1							
NVAR	Mina Array Bea	80.94	52	P		P	08 47 34.6	+0.7
	2.8nm,0.8s,baz=264,slow=6.6,SNR=5.6							
FINES	FINESS Array B	84.46	335	P		P	08 47 50.3	-1.2
	2.9nm,0.7s,baz=76,slow=5.0,SNR=4.1							
PDAR	Pinedale Array	85.42	46	P		P	08 47 56.6	-0.4
	0.5nm,0.7s,baz=333,slow=0.4,SNR=3.4							
GERES	GERESS Array B	98.08	331	LR		LR	09 41 16.5	
	comp=Z,2µm,18.6s,baz=67,slow=40							
SIV	San Ignacio	153.56	82	PKPbc		PKPbc	08 55 16.9	-1.7
	4.0nm,1.0s,baz=260,slow=2.5,SNR=3.5							

IDC 12 08:37:15.5±0.8, 3.98N×126.62E, h0km, mb4.4/12, mb1 4.6/12, mb1mx4.4/22, mbtmp4.4/12, MS5.1/1, Ms1 5.1/1, ms1mx4.0/39, Error ellipse: s-maj=49.6km s-min=18.5km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GSPH	General Santos	2.68	322	eP		Pg	08 38 05.9	-1.2
DAV	Davao City (W)	3.24	341	LR		LR	08 38 56.2	
	comp=Z,25µm,18.8s,baz=135,slow=31							
WRA	Warramunga Arr	24.95	163	P		P	08 42 41.0	+0.2
	30nm,0.9s							
STKA	Stephens Creek	38.40	159	P		P	08 44 38.8	+0.1
	8.4nm,0.7s,baz=308,slow=5.1,SNR=5.0							
SONM	Songino Array	47.03	341	P		P	08 45 49.8	+0.9
	1.4nm,0.5s,baz=159,slow=8.1,SNR=5.8							
PETK	Petropavlovsk-	55.24	22	P		P	08 46 51.1	+0.8
	1.3nm,0.6s,baz=169,slow=4.3,SNR=4.0							
MKAR	Makanchi Array	57.29	325	P		P	08 47 05.1	0.0
	2.7nm,0.5s,baz=120,slow=7.6,SNR=8.2							
ZALV	Zalesovo Beam	60.32	333	P		P	08 47 25.1	-0.9
	1.1nm,0.3s,baz=134,slow=7.4,SNR=2.4							
KURBB	Kurchatov Arra	61.47	327	P		P	08 47 33.9	-0.1
	2.8nm,0.6s,baz=129,slow=6.0,SNR=5.9							
BVAR	Borovoye Array	67.06	327	P		P	08 48 11.5	+1.0
	4.0nm,0.7s,baz=142,slow=7.3,SNR=6.1							
AKTO	Aktyubinsk	73.40	322	P		P	08 48 49.7	+0.2
	2.4nm,0.6s,baz=139,slow=9.3,SNR=2.9							
ILAR	Eielson Array	84.93	25	P		P	08 49 51.4	-0.9
	1.7nm,1.0s,baz=243,slow=5.0,SNR=5.1							
ARCES	ARCESS Array B	90.18	340	P		P	08 50 16.4	-1.1
	6.4nm,1.1s,baz=64,slow=6.2,SNR=3.9							
FINES	FINESS Array B	91.56	332	P		P	08 50 23.2	-0.9
	1.4nm,0.7s,baz=72,slow=4.5,SNR=3.5							

IDC 12 08:38:25.2±0.5, 4.00N×126.40E, h0km, mb4.8/28, mb1 4.8/28, mb1mx4.8/30, mbtmp4.8/28, Error ellipse: s-maj=21.0km s-min=10.6km az=75.0
NEIC 12 08:38:30.3±0.2, 4.01N×126.51E, h35km, mb5.0/19, Error ellipse: s-maj=9.9km s-min=5.3km az=73.0
ISCJB 12 08:38:31.9±1.3, 3.99N±0.04×126.51E±0.07, h65km±11km, mb4.9/55, Error ellipse: s-maj=12.4km s-min=6.2km az=165.5

ISC 12 08:38:35.8±1.3, 4.01N±0.05×126.5E±0.1, h84km±12km, n120, n0 99/124, mb4.9/54, 3C-6D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KCP	Kidapawan	3.28	335	⇓eP		Pn	08 39 30.5	+5.3
BUKP	Musuan	4.09	340	eP		Pn	08 39 39.1	+2.9
BUKP				eS		Sn	08 40 21.1	-1.8
CGP	Cagayan de Oro	4.76	338	⇓iP		Pn	08 39 50.8	+5.7
CGP				iS		Sn	08 40 53.0	+14
PAGZ	Pagadian	4.90	321	eP		Pn	08 39 46.3	-0.8
PAGZ				eS		Px	08 40 14.4	
KAPI	Kappang	11.20	217	Pn		Pn	08 41 14.2	+1.1
KAPI	Kappang	11.20	217	Pn		Pn	08 41 14.2	+1.1
	1.5nm,0.3s,baz=251,slow=22,SNR=2.7							
FITZ	Fitzroy Crossi	21.99	182	P		P	08 43 21.1	-2.0
FITZ	Fitzroy Crossi	21.99	182	eP		P	08 43 24.5	+1.3
	34nm,0.8s							
FITZ	Fitzroy Crossi	21.99	182	P		P	08 43 21.1	-2.0
	21nm,0.8s,baz=29,slow=8.7,SNR=6.2							
JOW	Kunigami	22.76	4	P		P	08 43 29.6	-1.7
JOW	Kunigami	22.76	4	P		P	08 43 29.6	-1.7
	24nm,0.8s,baz=158,slow=19							
WRA	Warramunga Arr	25.02	162	P		P	08 43 50.2	-2.1
WRA	Warramunga Arr	25.02	162	P		P	08 43 50.2	-2.1
	24nm,0.8s							
MBWA	Marble Bar	25.87	195	eP		P	08 43 59.0	-0.9
	22nm,0.6s							
ASAR	Alice Springs	28.45	166	P		P	08 44 23.6	+0.6
ASAR	Alice Springs	28.45	166	P		P	08 44 23.6	+0.6
	3.6nm,0.6s,baz=341,slow=8.3,SNR=4.6							
JNU	Nakatsue	29.25	8	P		P	08 44 29.4	-0.7
JNU	Nakatsue	29.25	8	P		P	08 44 29.4	-0.7
	12nm,0.8s,baz=185,slow=6.1,SNR=4.3							
CMAR	Chiang Mai Arr	30.51	300	P		P	08 44 41.8	+0.4
CMAR	Chiang Mai Arr	30.51	300	P		P	08 44 41.8	+0.4
	7.6nm,0.8s,baz=109,slow=6.8,SNR=9.3							
CHTO	Chiang Mai	30.66	301	eP		P	08 44 43.3	+0.6
ENH	Enshi	30.66	330	eP		P	08 44 41.7	-0.9
	22nm,0.8s							
KSAR	Wonju Array Be	33.30	2	P		P	08 45 05.6	+0.1
KSRS	Korea Array	33.31	2	P		P	08 45 05.6	0.0
	6.4nm,0.8s,baz=177,slow=10.0,SNR=7.3							
MJAR	Matsushiro Arr	34.13	17	P		P	08 45 09.0	-3.8
MJAR				PcP		PcP	08 47 49.9	+1.5
MJAR	Matsushiro Arr	34.13	17	P		P	08 45 09.0	-3.8
	2.6nm,0.8s,baz=181,slow=10,SNR=6.5							
MJAR				PcP		PcP	08 47 49.9	+1.5
	3.7nm,0.8s,baz=177,slow=3.8,SNR=5.7							
FORT	Forrest	34.63	178	eP		P	08 45 15.1	-2.0
	33nm,0.8s							
KLBR	Kellerberrin	36.37	193	eP		P	08 45 30.7	-1.3
	11nm,0.5s							
BJT	Baijiatuau	37.04	347	eP		P	08 45 37.6	-0.1
	30nm,0.6s			

	16nm,0.7s							
ARMA	**Armidale**	**41.84**	**147**	*e*P	**P**	**08 46 18.2**	**+0.4**
LSA	**Lhasa**	**42.06**	**311**	*e*P	**P**	**08 46 21.2**	**+1.1**
	20nm,0.7s							
ASAJ	**Asahikawa**	**42.40**	**17**	P	**P**	**08 46 21.9**	**-0.1**
ASAJ	**Asahikawa**	**42.40**	**17**	P	**P**	**08 46 21.9**	**-0.1**
	6.8nm,0.8s,baz=212,slow=8.5,SNR=3.4							
CAN	**Canberra**	**44.47**	**153**	*e*P	**P**	**08 46 38.6**	**-0.4**
	20nm,0.8s							
CNB	**Canberra Magne**	**44.63**	**153**	*e*P	**P**	**08 46 39.7**	**-0.5**
	144nm,1.1s							
DZM	**Mont Dzumac**	**46.90**	**125**	P	**P**	**08 46 57.9**	**-0.5**
DZM	**Mont Dzumac**	**46.90**	**125**	P	**P**	**08 46 57.9**	**-0.5**
	5.4nm,0.7s,baz=119,slow=1.3,SNR=8.4							
SONM	**Songino Array**	**46.95**	**342**	P	**P**	**08 46 58.6**	**+0.2**
SONM				PcP	**PcP**	**08 48 29.7**	**0.0**
SONM	**Songino Array**	**46.95**	**342**	P	**P**	**08 46 58.6**	**+0.2**
	8.3nm,0.9s,baz=156,slow=9.7,SNR=8.6							
SONM				PcP	**PcP**	**08 48 29.7**	**0.0**
	3.4nm,0.7s,baz=161,slow=2.5,SNR=4.5							
HYB	**Hyderabad**	**48.78**	**290**	*i* P	**P**	**08 47 12.5**	**-0.4**
PETK	**Petropavlovsk-**	**55.27**	**22**	P	**P**	**08 48 00.1**	**-0.3**
PETK	**Petropavlovsk-**	**55.27**	**22**	P	**P**	**08 48 00.1**	**-0.3**
	4.3nm,0.6s,baz=164,slow=1.9,SNR=6.4							
MK31	**Makanchi Array**	**57.18**	**325**	*e*P	**P**	**08 48 14.0**	**-0.2**
MK31				*e*PcP	**PcP**	**08 49 08.7**	**+0.8**
MKAR	**Makanchi Array**	**57.18**	**325**	P	**P**	**08 48 14.1**	**-0.1**
MKAR				PcP	**PcP**	**08 49 08.7**	**+0.7**
MKAR				ScP	ScP	08 53 09.6	+9.3
MKAR	**Makanchi Array**	**57.18**	**325**	P	**P**	**08 48 14.1**	**-0.1**
	13nm,0.7s,baz=127,slow=7.8,SNR=12							
MKAR				PcP	**PcP**	**08 49 08.7**	**+0.7**
	7.0nm,0.7s,baz=118,slow=4.7,SNR=4.4							
MKAR				ScP	ScP	08 53 09.6	+9.3
	1.4nm,0.8s,baz=116,slow=5.1,SNR=3.9							
AAK	**Ala-Archa**	**59.98**	**318**	P	**P**	**08 48 33.7**	**-0.2**
AAK	**Ala-Archa**	**59.98**	**318**	P	**P**	**08 48 33.7**	**-0.2**
	7.7nm,1.1s,baz=141,slow=10,SNR=4.3							
ZALV	**Zalesovo Beam**	**60.23**	**333**	P	**P**	**08 48 33.9**	**-1.2**
ZALV	**Zalesovo Beam**	**60.23**	**333**	P	**P**	**08 48 33.9**	**-1.2**
	6.7nm,0.6s,baz=124,slow=7.1,SNR=7.8							
EKS2	**Erkin-Say**	**60.47**	**318**	*e*P	**P**	**08 48 36.5**	**-0.7**
KURBB	**Kurchatov Arra**	**61.37**	**327**	P	**P**	**08 48 42.5**	**-0.4**
	30nm,0.8s,baz=122,slow=6.1,SNR=26							
KURK	**Kurchatov**	**61.37**	**328**	P	**P**	**08 48 42.5**	**-0.4**
KKAR	**Karatay Array**	**62.85**	**317**	*e*P	**P**	**08 48 53.1**	**0.0**
	13nm,0.9s							
BVAR	**Borovoye Array**	**66.95**	**327**	P	**P**	**08 49 19.3**	**-0.1**
BVAR	**Borovoye Array**	**66.95**	**327**	P	**P**	**08 49 19.3**	**-0.1**
	16nm,1.0s,baz=120,slow=8.5,SNR=11							
BRVK	**Borovoye**	**67.02**	**327**	*e*P	**P**	**08 49 19.3**	**-0.6**
	12nm,0.8s							
ABKAR	**Akbulak array**	**71.77**	**321**	*e*P	**P**	**08 49 48.5**	**-0.8**
	7.2nm,0.8s							
AKTO	**Aktyubinsk**	**73.28**	**322**	P	**P**	**08 49 57.9**	**-0.3**
AKTO	**Aktyubinsk**	**73.28**	**322**	P	**P**	**08 49 57.9**	**-0.3**
	16nm,0.8s,baz=101,slow=8.2,SNR=13							
GAMB	**Gambell**	**74.25**	**24**	*e*P	**P**	**08 50 03.4**	**-0.1**
	7.7nm,0.8s							
QRN	**Al-Qurain**	**78.05**	**298**	*e*P	**P**	**08 50 25.5**	**-0.4**
QRN				AMb	AMB	08 50 26.3		
	comp=Z,76nm,0.9s							
MIB	**Mutribah**	**78.59**	**299**	*e*P	**P**	**08 50 28.7**	**-0.2**
MIB				AMb	AMB	08 50 29.8		
	comp=Z,51nm,0.8s							
NAY	**Al-Naaiem**	**78.66**	**299**	*e*P	**P**	**08 50 28.7**	**-0.5**
NAY				AMb	AMB	08 50 30.0		
	comp=Z,16nm,0.9s							
KDAK	**Kodiak Island**	**81.79**	**32**	P	**P**	**08 50 46.2**	**+0.8**
KDAK	**Kodiak Island**	**81.79**	**32**	P	**P**	**08 50 46.2**	**+0.8**
	comp=Z,16nm,1.0s,baz=169,slow=8.2,SNR=6.4							
TRF	**Thorofare Moun**	**83.41**	**27**	*e*P	**P**	**08 50 52.9**	**-1.1**
	comp=Z,16nm,1.0s							
COLD	**Coldfoot**	**83.73**	**23**	*e*P	**P**	**08 50 56.6**	**+1.2**
	comp=Z,17nm,1.0s							
MCK	**McKinley**	**84.03**	**26**	*e*P	**P**	**08 50 56.9**	**-0.1**
	comp=Z,72nm,1.7s							
SML	**Sawmill**	**84.21**	**28**	*e*P	**P**	**08 50 58.2**	**+0.2**
	comp=Z,5.4nm,0.9s							
ILAR	**Eielson Array**	**84.96**	**25**	P	**P**	**08 51 01.1**	**-0.5**
ILAR	**Eielson Array**	**84.96**	**25**	P	**P**	**08 51 01.1**	**-0.5**
	comp=Z,26nm,0.9s,baz=248,slow=4.1,SNR=12							
BMRM	**Bremner River**	**86.00**	**29**	*e*P	**P**	**08 51 07.1**	**+0.2**
	comp=Z,9.9nm,0.9s							
OBN	**Obninsk**	**86.69**	**325**	*e*P	**P**	**08 51 10.6**	**+0.3**
	comp=Z,55nm,1.1s							
KMBO	**Kilima Mbogo**	**89.30**	**269**	*e*P	**P**	**08 51 24.7**	**+0.7**
	comp=Z,11nm,1.1s							
BRTR	**Keskin Array B**	**89.65**	**310**	P	**P**	**08 51 23.6**	**-1.3**
BRTR	**Keskin Array B**	**89.65**	**310**	P	**P**	**08 51 23.6**	**-1.3**
	comp=Z,5.5nm,0.9s,baz=119,slow=4.3,SNR=12							
ARCES	**ARCESS Array B**	**90.10**	**340**	P	**P**	**08 51 26.0**	**-0.2**
ARCES	**ARCESS Array B**	**90.10**	**340**	P	**P**	**08 51 26.0**	**-0.2**
	comp=Z,5.2nm,0.8s,baz=79,slow=5.3,SNR=7.2							
FINES	**FINESS Array B**	**91.47**	**332**	P	**P**	**08 51 33.1**	**+0.4**
FINES	**FINESS Array B**	**91.47**	**332**	P	**P**	**08 51 33.1**	**+0.4**
	comp=Z,10nm,0.8s,baz=108,slow=6.2,SNR=11							
AKASG	**Malin Array Be**	**91.52**	**321**	P	**P**	**08 51 32.8**	**-0.4**
AKASG	**Malin Array Be**	**91.52**	**321**	P	**P**	**08 51 32.8**	**-0.4**
	comp=Z,7.9nm,0.8s,baz=72,slow=4.4,SNR=18							
KIEV	**Kiev**	**91.53**	**321**	*e*P	**P**	**08 51 31.9**	**-1.3**
	comp=Z,8.8nm,0.8s							
TESR		**93.86**	**317**	*i*P	**P**	**08 51 44.3**	**+0.2**
QSPA	**South Pole Qui**	**93.91**	**180**	P	**P**	**08 51 45.2**	**+1.2**
QSPA	**South Pole Qui**	**93.91**	**180**	P	**P**	**08 51 45.2**	**+1.2**
	comp=Z,9.2nm,1.1s,baz=304,slow=3.0,SNR=4.5							
VRI	**Vrincioaia**	**93.92**	**316**	*i*P	**P**	**08 51 45.2**	**+0.8**
PLOR	**Plostina**	**93.97**	**316**	*i*P	**P**	**08 51 45.0**	**+0.3**
MLR	**Muntele Rosu**	**94.52**	**316**	*i*P	**P**	**08 51 47.8**	**+0.5**
BURAR	**Bucovina Array**	**94.62**	**318**	*i*P	**P**	**08 51 48.3**	**+0.6**
KOLS	**Kolonicke sedl**	**96.27**	**320**	*e*P	**P**	**08 51 55.9**	**+0.8**
DRGR		**96.47**	**318**	*i*P	**P**	**08 51 56.5**	**+0.4**
GZR	**Gura Zlata**	**96.73**	**316**	*i*P	**P**	**08 51 57.9**	**+0.6**
CRVS	**Cervenica-Dubn**	**96.80**	**320**	*e*P	**P**	**08 51 58.2**	**+0.7**
NIE	**Niedzica**	**97.40**	**321**	*e*PX	**P**	**08 52 01.0**	**+0.8**
OJC	**Ojcow**	**97.51**	**322**	*e*PX	**P**	**08 52 01.0**	**+0.4**
NB2	**NORSAR Subarra**	**98.42**	**334**	P	**P**	**08 52 03.3**	**-1.2**
	comp=Z,2.5nm,0.7s,baz=68,slow=4.6							
YKA	**Yellowknife Ar**	**99.35**	**24**	P	**Pdif**	**08 52 10.1**	**+1.5**
YKA	**Yellowknife Ar**	**99.35**	**24**	P	**Pdif**	**08 52 10.1**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=290,slow=4.0,SNR=3.2							
BRG	**Berggiesshubel**	**100.86**	**323**	*e*P	**Pdif**	**08 52 16.3**	**+0.7**
	comp=Z,14nm,1.1s							
CLL	**Collm**	**101.27**	**324**	*i* P	**Pdif**	**08 52 16.8**	**-0.5**
	comp=Z,9.0nm,1.1s							
CLL				*i*		08 52 20.8		
GERES	**GERESS Array B**	**101.71**	**322**	P	**Pdif**	**08 52 19.9**	**+0.3**
GERES	**GERESS Array B**	**101.71**	**322**	P	**Pdif**	**08 52 19.9**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=49,slow=4.1,SNR=8.2							
TXAR	**Lajitas Array**	**121.63**	**52**	PKP	**PKPdf**	**08 57 22.2**	**+1.4**
TXAR	**Lajitas Array**	**121.63**	**52**	PKP	**PKPdf**	**08 57 22.2**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=298,slow=1.9,SNR=3.3							
TORD	**Torodi Ar. Bea**	**122.59**	**288**	PKP	**PKPdf**	**08 57 22.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**122.59**	**288**	PKP	**PKPdf**	**08 57 22.6**	**-0.2**
	comp=Z,2.3nm,1.1s,baz=83,slow=1.7,SNR=7.3							
JCT	**Junction City**	**124.07**	**49**	*e*PKPdf	**PKPdf**	**08 57 26.2**	**+0.8**
JTS	**JuntasAbangare**	**145.63**	**65**	PKPbc	**PKPab**	**08 58 07.8**	**+1.4**
JTS	**JuntasAbangare**	**145.63**	**65**	PKPbc	**PKPab**	**08 58 07.8**	**+1.4**
	comp=Z,8.5nm,0.7s,baz=250,slow=4.5,SNR=5.9							
CPUP	**Villa Florida**	**157.51**	**171**	PKPab	**PKPab**	**08 58 56.5**	**+1.6**
CPUP	**Villa Florida**	**157.51**	**171**	PKPab	**PKPab**	**08 58 56.5**	**+1.6**
	comp=Z,5.4nm,0.9s,baz=168,slow=3.0,SNR=5.5							

IDC **12** *08:45:16.3±0.6,3°.75N×126°.17E,h0km,mb4.2/17, mb1 4.4/17,mb1mx4.2/24,mbtmp4.2/17,MS4.2/2, Ms1 4.2/2,ms1mx3.7/38,Error ellipse: s-maj=31.3km s-min=12.9km az=67.0*

NEIC **12** *08:45:21.5±0.4,3°.71N×126°.16E,h35km,mb4.7/5,Error ellipse: s-maj=21.1km s-min=7.8km az=69.0*

ISCJB **12** *08:45:28.2±0.4,3°.69N±0°.08×126°.2E±0°.2,h116km, mb4.2/22,Error ellipse: s-maj=24.5km s-min=8.4km az=160.6*

ISC 12 08:45:29.7±0.6,3°.73N±0°.10×126°.2E±0°.2,h16km,n46, σ0s92/33,mb4.1/21,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
DAV	**Davao City (W)**	**3.37**	**350**	LR		LR	08 47 20.9	
	comp=Z,1μm,20.8s,baz=311,slow=37							
FITZ	**Fitzroy Crossi**	**21.70**	**181**	P		**P**	**08 50 10.2**	**-1.2**
FITZ	**Fitzroy Crossi**	**21.70**	**181**	P		**P**	**08 50 10.2**	**-1.2**
	1.8nm,0.6s,baz=28,slow=6.6,SNR=3.3							
JOW	**Kunigami**	**23.06**	**5**	LR		LR	08 59 02.4	
	comp=Z,2μm,21.8s,baz=1.7,slow=36							
WRAB	**Tennant Creek**	**24.85**	**161**	*e*P		**P**	**08 50 40.3**	**-1.2**
	11nm,0.7s							
WRA	**Warramunga Arr**	**24.86**	**161**	P		**P**	**08 50 39.7**	**-1.9**
WRA	**Warramunga Ar**	**24.86**	**161**	P		**P**	**08 50 39.7**	**-1.9**
	6.4nm,0.4s							
AS31	**Alice Springs**	**28.25**	**165**	*e*P		P	08 51 16.2	+4.1
ASAR	**Alice Springs**	**28.25**	**165**	P		**P**	**08 51 12.7**	**+0.6**
ASAR	**Alice Springs**	**28.25**	**165**	P		**P**	**08 51 12.7**	**+0.6**
	1.2nm,0.5s,baz=348,slow=7.3,SNR=5.0							
CMAR	**Chiang Mai Arr**	**30.39**	**301**	P		**P**	**08 51 29.4**	**-1.7**
CMAR	**Chiang Mai Arr**	**30.39**	**301**	P		**P**	**08 51 29.4**	**-1.7**
	1.0nm,0.3s,baz=151,slow=6.5,SNR=5.2							
KSAR	**Wonju Array Be**	**33.59**	**2**	P		**P**	**08 51 58.9**	**+0.1**
KSRS	**Korea Array**	**33.60**	**3**	P		**P**	**08 51 58.9**	**0.0**
	1.4nm,0.7s,baz=187,slow=8.9,SNR=4.3							
BJT	**Baijiatuao**	**37.24**	**347**	*e*P		P	08 52 31.4	+1.4
	9.1nm,0.6s							
STKA	**Stephens Creek**	**38.33**	**159**	P		**P**	**08 52 39.5**	**+0.2**
STKA	**Stephens Creek**	**38.33**	**159**	P		**P**	**08 52 39.5**	**+0.2**
	4.5nm,0.5s,baz=356,slow=9.4,SNR=8.3							
DZM	**Mont Dzumac**	**46.99**	**125**	P		**P**	**08 53 49.7**	**+0.1**
DZM	**Mont Dzumac**	**46.99**	**125**	P		**P**	**08 53 49.7**	**+0.1**
	3.2nm,0.8s,baz=344,slow=23,SNR=3.0							
SONM	**Songino Array**	**47.12**	**342**	P		**P**	**08 53 50.3**	**0.0**
SONM	**Songino Array**	**47.12**	**342**	P		**P**	**08 53 50.3**	**0.0**
	1.2nm,0.7s,baz=153,slow=8.2,SNR=6.5							
PETK	**Petropavlovsk-**	**55.64**	**22**	P		**P**	**08 54 52.9**	**-0.6**
PETK	**Petropavlovsk-**	**55.64**	**22**	P		**P**	**08 54 52.8**	**-0.6**
	2.4nm,0.8s,baz=169,slow=5.4,SNR=3.4							
MK31	**Makanchi Array**	**57.24**	**326**	*e*P		**P**	**08 55 05.9**	**+0.9**
MKAR	**Makanchi Array**	**57.24**	**326**	P		**P**	**08 55 05.7**	**+0.7**
MKAR	**Makanchi Array**	**57.24**	**326**	P		**P**	**08 55 05.7**	**+0.7**
	0.7nm,0.4s,baz=117,slow=7.6,SNR=13							
ZALV	**Zalesovo Beam**	**60.34**	**333**	P		**P**	**08 55 26.2**	**0.0**
ZALV	**Zalesovo Beam**	**60.34**	**333**	P		**P**	**08 55 26.2**	**0.0**
	0.7nm,0.4s,baz=127,slow=9.2,SNR=3.2							
KURBB	**Kurchatov Arra**	**61.44**	**328**	P		P	08 55 35.6	+1.9
	1.7nm,0.5s,baz=127,slow=6.3,SNR=7.8							
KURK	**Kurchatov**	**61.44**	**328**	*e*P		**P**	**08 55 34.5**	**+0.8**
	3.5nm,0.7s							
BVAR	**Borovoye Array**	**67.02**	**327**	P		P	08 56 12.0	+1.9
BVAR	**Borovoye Array**	**67.02**	**327**	P		P	08 56 12.0	+1.9
	2.4nm,0.9s,baz=138,slow=9.2,SNR=6.6							
BRVK	**Borovoye**	**67.09**	**327**	*e*P		P	08 56 12.8	+2.3
	4.5nm,0.8s							
ABKAR	**Akbulak array**	**71.80**	**321**	*e*P		P	08 56 41.2	+1.6
	7.7nm,0.6s							
AKTO	**Aktyubinsk**	**73.31**	**322**	P		**P**	**08 56 49.8**	**+1.2**
AKTO	**Aktyubinsk**	**73.31**	**322**	P		**P**	**08 56 49.8**	**+1.2**
	2.3nm,0.7s,baz=103,slow=9.6,SNR=8.6							
ILAR	**Eielson Array**	**85.34**	**25**	P		P	08 57 55.8	+2.2
ILAR	**Eielson Array**	**85.34**	**25**	P		P	08 57 55.8	+2.2
	0.2nm,0.6s,baz=266,slow=4.8,SNR=5.1							
ARCES	**ARCESS Array B**	**90.25**	**340**	P		**P**	**08 58 17.3**	**+0.3**
ARCES	**ARCESS Array B**	**90.25**	**340**	P		**P**	**08 58 17.3**	**+0.3**
	3.6nm,0.9s,baz=83,slow=4.7,SNR=5.3							
NOA	**NORSAR Array B**	**98.54**	**334**	P		Pdif	08 58 55.9	+0.8
NOA	**NORSAR Array B**	**98.54**	**334**	P		Pdif	08 58 55.9	+0.8
	0.6nm,0.6s,baz=68,slow=4.5,SNR=3.1							
PDAR	**Pinedale Array**	**111.72**	**41**	Pdif		**Pdif**	**08 59 53.7**	**-0.7**
PDAR	**Pinedale Array**	**111.72**	**41**	Pdiff		**Pdif**	**08 59 53.7**	**-0.7**
	8.4nm,0.9s,baz=125,slow=6.0,SNR=12							
TORD	**Torodi Ar. Bea**	**122.39**	**288**	PKP		**PKPdf**	**09 04 12.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**122.39**	**288**	PKP		**PKPdf**	**09 04 12.5**	**+0.2**
	0.5nm,0.7s,baz=48,slow=2.1,SNR=3.6							

JMA **12** *08:46:14.1±0.4,35°.56N×127°.50E,h0km,M3.7*
ISCJB **12** *08:46:16.5±0.5,35°.29N±0°.04×127°.40E±0°.04,h10km, Error ellipse: s-maj=5.6km s-min=4.5km az=179.5*
KMA **12** *08:46:16.3,35°.26N×127°.44E,ML3.2*

ISC 12 08:46:15.0±1.1,35°.31N±0°.06×127°.42E±0°.04,h10km,n15, σ0s77/20,South Korea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KSYSU	**YEOSU**	**0.25**	**146**	P		**Pb**	**08 46 22.0**	**+0.3**
KSJEU	**Jeongeup**	**0.44**	**294**	P		**Pn**	**08 46 25.9**	**-1.5**
KSKCH	**Geochang**	**0.51**	**53**	P		**Pn**	**08 46 27.1**	**-1.2**
KSJIN	**Jinju**	**0.52**	**107**	P		**Pb**	**08 46 26.2**	**0.0**
KSJIN				S		**Sb**	**08 46 33.4**	**-0.4**
KSJEO	**Jeonju**	**0.63**	**350**	P		**Pn**	**08 46 29.7**	**-0.3**
KSMOK	**Mokpo**	**0.78**	**226**	P		**Pb**	**08 46 30.6**	**0.0**
KSGUS	**GUNSAN**	**0.89**	**324**	P		**Pn**	**08 46 33.9**	**+0.4**
KSTOY	**TONGYEONG**	**0.95**	**119**	P		**Pg**	**08 46 33.5**	**+0.2**
KSCPR	**CHUPUNGNYEONG**	**1.01**	**26**	P		**Pn**	**08 46 36.0**	**+0.8**
KSHAN	**Haenam**	**1.02**	**224**	P		**Pb**	**08 46 34.9**	**+0.2**
KSWAN	**Wando**	**1.09**	**213**	P		**Pb**	**08 46 36.0**	**0.0**
KSWAN				S		**Sg**	**08 46 50.3**	**0.0**
KSJDO	**Jindo**	**1.24**	**228**	P		**Pn**	**08 46 38.1**	**-0.2**
JTU	**Tsushima**	**1.80**	**115**	P		**Pb**	**08 46 47.8**	**+0.1**
JTU				S		**Sb**	**08 47 11.8**	**+1.1**
JII	**Iki**	**2.43**	**128**	P		**Pb**	**08 46 58.2**	**-0.6**
JII				S		**Sb**	**08 47 29.8**	**+0.9**
JFU	**Fukue jima 2**	**2.87**	**157**	P		**Pb**	**08 47 05.0**	**-1.3**
JFU				*e*S		**Sb**	**08 47 42.5**	**+1.1**

IDC **12** *08:47:07.2±0.6,3°.84N×126°.44E,h0km,mb4.4/22, mb1 4.5/22,mb1mx4.5/24,mbtmp4.4/22,Error ellipse: s-maj=27.1km s-min=13.7km az=74.0*
ISCJB **12** *08:47:11.8±0.4,3°.84N±0°.06×126°.51E±0°.10,h45km, mb4.6/38,Error ellipse: s-maj=14.7km s-min=7.2km az=161.3*
NEIC **12** *08:47:12.4±0.3,3°.83N×126°.51E,h35km,mb4.7/18,Error ellipse: s-maj=11.5km s-min=5.6km az=73.0*
DJA **12** *08:47:53,2°.83N×124°.51E,h168km,MLv5.0/4*

ISC 12 08:47:13.8±0.5,3°.87N±0°.07×126°.6E±0°.1,h45km,n82, σ1s26/78,mb4.6/38,1C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
GSPH	**General Santos**	**2.75**	**323**	*e*P		Pn	08 47 59.4	+3.8
DMPH	**Davao City--Mi**	**3.37**	**341**	*e*P		Pn	08 48 08.4	+4.3
KCP	**Kidapawan**	**3.46**	**334**	*e*P		Pn	08 48 12.9	+7.6
KCP				*i* S		Sn	08 48 54.6	+9.4
BUKP	**Musuan**	**4.27**	**339**	*e*P		**Pn**	**08 48 18.7**	**+2.4**
BUKP				*e*S		Sn	08 48 40.6	-24
CGP	**Cagayan de Oro**	**4.94**	**338**	*e*P		Pn	08 48 35.9	+10
CGP				*e*S		Sn	08 49 40.0	+19
PAGZ	**Pagadian**	**5.09**	**321**	*e*P		**Pn**	**08 48 30.0**	**+2.5**
PAGZ				*e*S		Sn	08 48 48.3	-37
MYLDM	**Lahad Datu**	**8.18**	**279**	P		Pn	08 49 17.0	+7.0
	364nm,1.1s							
KKM	**Kota Kinabalu**	**10.57**	**282**	P		Pn	08 49 49.1	+6.2
SBUM	**Sibu**	**14.42**	**265**	P		**P**	**08 50 40.9**	**-0.4**
	171nm,1.5s							
KSM	**Kuching**	**16.44**	**262**	P		**P**	**08 51 07.1**	**+3.4**
	58nm,1.8s							
GRJI	**Gresik**	**17.70**	**233**	P		P	08 51 34.6	+17
	206nm,0.5s,19μm4μm							
YULB	**Yu-li**	**20.08**	**346**	*e*P		**P**	**08 51 41.0**	**-2.7**
	13nm,0.6s							
TPUB	**Ta-pu**	**20.16**	**344**	*e*P		**P**	**08 51 43.1**	**-1.5**
	24nm,0.6s							
SSLB	**Suanglung**	**20.54**	**345**	*e*P		**P**	**08 51 48.2**	**-0.5**
	30nm,0.7s							
FITZ	**Fitzroy Crossi**	**21.85**	**182**	P		**P**	**08 52 01.7**	**-1.1**
FITZ	**Fitzroy Crossi**	**21.85**	**182**	*e*P		**P**	**08 52 03.1**	**+0.4**
	12nm,0.5s							
FITZ	**Fitzroy Crossi**	**21.85**	**182**	P		**P**	**08 52 01.7**	**-1.1**
	2.3nm,0.3s,baz=12,slow=11,SNR=3.4							
DBJI	**Dramaga**	**22.36**	**242**	P		P	08 52 15.8	+7.5
	187nm,0.7s							
WRAB	**Tennant Creek**	**24.85**	**162**	*e*P		**P**	**08 52 31.0**	**-1.2**
	27nm,0.8s							
WRA	**Warramunga Arr**	**24.85**	**162**	P		**P**	**08 52 31.5**	**-0.8**
WRA	**Warramunga Arr**	**24.85**	**162**	P		**P**	**08 52 31.5**	**-0.8**
	24nm,1.0s							
IPM	**Ipoh**	**25.51**	**272**	*e*P		**P**	**08 52 37.0**	**-1.4**
	14nm,0.8s							
ASAR	**Alice Springs**	**28.28**	**166**	P		**P**	**08 53 03.0**	**-0.2**
ASAR	**Alice Springs**	**28.28**	**166**	P		**P**	**08 53 03.0**	**-0.2**
	1.3nm,0.5s,baz=343,slow=8.7,SNR=5.5							
CMAR	**Chiang Mai Arr**	**30.69**	**300**	P		**P**	**08 53 24.9**	**+0.3**
CMAR				ScP		**ScP**	**09 00 03.8**	**+2.6**
CMAR	**Chiang Mai Arr**	**30.69**	**300**	P		**P**	**08 53 24.9**	**+0.3**
	1.3nm,0.4s,baz=132,slow=8.1,SNR=8.1							
CMAR				ScP		**ScP**	**09 00 03.8**	**+2.6**
	1.5nm,0.8s,baz=129,slow=1.3,SNR=7.4							
CHTO	**Chiang Mai**	**30.84**	**301**	*e*P		**P**	**08 53 25.4**	**-0.5**
	7.1nm,0.9s							
ENH	**Enshi**	**30.84**	**330**	*e*P		**P**	**08 53 25.4**	**-0.5**
	13nm,0.9s							
KSAR	**Wonju Array Be**	**33.44**	**2**	P		**P**	**08 53 49.2**	**+0.8**
KSRS	**Korea Array**	**33.45**	**2**	P		**P**	**08 53 49.2**	**+0.7**
	2.9nm,0.6s,baz=184,slow=9.8,SNR=9.8							
MJAR	**Matsushiro Arr**	**34.23**	**17**	P		**P**	**08 53 54.8**	**-0.6**
MJAR	**Matsushiro Arr**	**34.23**	**17**	P		**P**	**08 53 54.8**	**-0.6**
	0.7nm,0.4s,baz=198,slow=11,SNR=4.6							
BJT	**Baijiatuao**	**37.20**	**347**	*e*P		**P**	**08 54 21.1**	**+0.3**
	37nm,0.8s							
STKA	**Stephens Creek**	**38.30**	**159**	*e*P		**P**	**08 54 29.8**	**-0.4**
	2.1nm,0.7s							
STKA	**Stephens Creek**	**38.30**	**159**	*e*P		**P**	**08 54 31.5**	**+1.3**
	9.1nm,0.6s							
STKA	**Stephens Creek**	**38.30**	**159**	P		**P**	**08 54 30.8**	**+0.6**
	9.7nm,0.6s,baz=341,slow=5.6,SNR=2.8							
USRK	**Ussuriysk Arra**	**40.45**	**6**	P		**P**	**08 54 48.4**	**+0.5**
	1.9nm,0.5s,baz=186,slow=7.9,SNR=4.9							
ARMA	**Armidale**	**41.65**	**147**	*e*P		**P**	**08 55 00.0**	**+1.8**
LSA	**Lhasa**	**42.25**	**311**	*e*P		**P**	**08 55 04.3**	**+0.8**
	7.2nm,0.8s							
HIA	**Hailar**	**45.61**	**354**	*e*P		**P**	**08 55 30.9**	**+1.2**
	15nm,1.0s							
ULN	**Ulaanbaatar**	**46.95**	**342**	*e*P		**P**	**08 55 40.0**	**-0.3**
	8.4nm,1.0s							
SONM	**Songino Array**	**47.13**	**341**	P		**P**	**08 55 40.6**	**-1.1**
SONM	**Songino Array**	**47.13**	**341**	P		**P**	**08 55 40.6**	**-1.1**
	1.9nm,0.6s,baz=152,slow=8.9,SNR=7.4							
PETK	**Petropavlovsk-**	**55.35**	**22**	P		**P**	**08 56 44.2**	**+1.1**
PETK	**Petropavlovsk-**	**55.35**	**22**	P		**P**	**08 56 44.2**	**+1.1**
	1.4nm,0.5s,baz=187,slow=4.8,SNR=9.2							
MK31	**Makanchi Array**	**57.37**	**325**	*e*P		**P**	**08 56 56.8**	**-0.8**
MKAR	**Makanchi Array**	**57.37**	**325**	P		**P**	**08 56 57.2**	**-0.5**
MKAR				ScP		**ScP**	**09 01 51.2**	**+3.5**
MKAR	**Makanchi Array**	**57.37**	**325**	P		**P**	**08 56 57.2**	**-0.5**
	4.4nm,0.4s,baz=118,slow=7.3,SNR=30							
MKAR				ScP		**ScP**	**09 01 51.2**	**+3.5**
	1.0nm,0.7s,baz=127,slow=4.5,SNR=6.5							
AAK	**Ala-Archa**	**60.17**	**318**	P		**

s-maj=213.9km s-min=19.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.94**	**163**	P	P	09 04 29.6	-1.7
	0.8nm,0.3s						
ASAR	**Alice Springs**	**28.37**	**166**	P	P	09 05 03.9	+1.7
	0.5nm,0.7s,baz=357,slow=9.3,SNR=3.0						
SONM	**Songino Array**	**47.04**	**341**	P	P	09 07 39.9	+0.4
	0.6nm,0.6s,baz=158,slow=9.4,SNR=4.0						
MKAR	**Makanchi Array**	**57.32**	**325**	P	P	09 08 55.0	-0.9
	0.9nm,0.4s,baz=120,slow=7.3,SNR=17						
KURBB	**Kurchatov Arra**	**61.50**	**327**	P	P	09 09 25.1	+0.4
	1.7nm,0.5s,baz=124,slow=6.6,SNR=14						

IDC ***12*** *09:12:26.4±0.6,3.97N×126.40E, h0km, mb4.3/24, mb1 4.4/24, mb1mx4.4/25, mbtmp4.3/24, MS3.8/1, Ms1 3.8/1, ms1mx3.4/38, Error ellipse: s-maj=26.3km s-min=12.3km az=78.0*

ISCJB ***12*** *09:12:31.2±0.3, 4.07N±0.04×126.69E±0.06, h45km, mb4.4/34, Error ellipse: s-maj=9.4km s-min=5.0km az=165.0*

NEIC ***12*** *09:12:31.6±0.3,3.97N×126.37E, h35km, mb4.6/14, Error ellipse: s-maj=9.4km s-min=6.2km az=73.0*

DJA ***12*** *09:12:35, 3.89N×126.79E, h52km, mb4.7/16*

ISC 12 09:12:32.9±0.4, 4.04N±0.05×126.52E±0.08, h45km, n92, σ1ŝ29/82, mb4.5/33, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.56**	**322**	*e*P	**Pn**	**09 13 14.8**	**+2.8**
MATI	**Mati**	**2.89**	**355**	*e*P	Pn	09 13 20.7	+4.2
MATI				*e*S	Sn	09 14 12.2	+22
DAV	**Davao City (W)**	**3.15**	**343**	LR	LR	09 14 41.0	
	comp=Z,1μm,20.4s,baz=198,slow=42						
DMPH	**Davao City--Mi**	**3.18**	**342**	*e*P	Pn	09 13 25.7	+5.2
KCP	**Kidapawan**	**3.27**	**334**	*i*P	Pn	09 13 28.6	+6.9
KCP				*i*S	Sn	09 14 11.4	+12
TNTI	**Ternate**	**3.36**	**165**	P	**Pn**	**09 13 24.1**	**+1.2**
BUKP	**Musuan**	**4.08**	**339**	*e*P	**Pn**	**09 13 35.2**	**+2.4**
PAGZ	**Pagadian**	**4.90**	**321**	*e*P	**Pn**	**09 13 46.3**	**+2.3**
MRSI	**Marisa**	**5.78**	**232**	P	**Pn**	**09 13 59.0**	**+2.8**
	202nm,0.6s,3μm0.9nm						
LUWI	**Luwuk**	**6.29**	**217**	P	Pn	09 14 08.5	+5.4
	375nm,1.3s,4μm1.8nm						
APSI	**Ampana**	**6.92**	**225**	P	Pn	09 14 28.3	+17
PCI	**Palu**	**8.29**	**234**	P	Pn	09 14 40.1	+9.5
KDI	**Kendari**	**8.85**	**206**	P	Pn	09 14 44.7	+6.4
	33nm,0.9s,0.1nm						
FAKI	**Fak Fak**	**8.98**	**140**	P	**Pn**	**09 14 40.8**	**+0.7**
	91nm,0.8s,0.4nm						
TTSI	**Tana Toraja**	**9.71**	**224**	P	Pn	09 14 54.5	+4.4
	71nm,1.0s,2μm						
KKM	**Kota Kinabalu**	**10.45**	**281**	*e*Pn	Pn	09 14 56.0	-4.4
	21nm,0.9s						
KKM	**Kota Kinabalu**	**10.45**	**281**	P	Pn	09 15 08.6	+8.3
	29nm,0.9s						
TLE	**Tual**	**11.45**	**147**	P	**Pn**	**09 15 16.2**	**+2.3**
	101nm,1.1s						
SBUM	**Sibu**	**14.36**	**264**	P	**P**	**09 15 58.9**	**-0.7**
	39nm,1.1s						
KSM	**Kuching**	**16.39**	**261**	*e*Pn	**Pn**	**09 16 18.0**	**-1.9**
	22nm,0.8s						
KSM	**Kuching**	**16.39**	**261**	P	**P**	**09 16 26.3**	**+4.1**
	31nm,0.8s						
MTN	**Manton Dam**	**17.39**	**165**	*e*P	**Pn**	**09 16 30.3**	**-2.1**
TPUB	**Ta-pu**	**19.97**	**344**	*e*P	**P**	**09 17 01.2**	**-0.3**
	19nm,0.3s						
SSLB	**Suanglung**	**20.35**	**345**	*e*P	**P**	**09 17 04.8**	**-0.8**
	5.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**22.02**	**182**	*e*P	**P**	**09 17 23.8**	**+0.2**
	14nm,0.9s						
FITZ	**Fitzroy Crossi**	**22.02**	**182**	*e*P	**P**	**09 17 23.8**	**+0.2**
	18nm,0.7s						
FITZ	**Fitzroy Crossi**	**22.02**	**182**	P	**P**	**09 17 22.8**	**-0.8**
	4.6nm,0.7s,baz=23,slow=13,SNR=11						
JOW	**Kunigami**	**22.72**	**4**	P	**P**	**09 17 31.4**	**+0.3**
JOW	**Kunigami**	**22.72**	**4**	P	**P**	**09 17 31.4**	**+0.3**
	19nm,0.8s,baz=196,slow=13,SNR=4.5						
WRAB	**Tennant Creek**	**25.04**	**162**	*e*P	**P**	**09 17 51.4**	**-1.6**
	18nm,0.8s						
WRA	**Warramunga Arr**	**25.05**	**162**	P	**P**	**09 17 51.3**	**-1.8**
WRA	**Warramunga Arr**	**25.05**	**162**	P	**P**	**09 17 51.3**	**-1.8**
	15nm,0.7s						
IPM	**Ipoh**	**25.42**	**272**	*e*P	**P**	**09 17 54.6**	**-2.0**
	19nm,0.8s						
IPM	**Ipoh**	**25.42**	**272**	P	P	09 18 03.5	+6.9
	23nm,0.9s						
MNSI	**Mandailing Nat**	**27.10**	**264**	P	P	09 18 20.9	+9.1
	32nm,1.0s						
AS31	**Alice Springs**	**28.47**	**166**	*e*P	**P**	**09 18 23.0**	**-0.9**
ASAR	**Alice Springs**	**28.47**	**166**	P	**P**	**09 18 23.1**	**-0.8**
ASAR	**Alice Springs**	**28.47**	**166**	P	**P**	**09 18 23.1**	**-0.8**
	1.2nm,0.6s,baz=350,slow=7.0,SNR=14						
JNU	**Nakatsue**	**29.21**	**8**	P	**P**	**09 18 32.5**	**+2.1**
JNU	**Nakatsue**	**29.21**	**8**	P	**P**	**09 18 32.5**	**+2.1**
	9.7nm,0.9s,baz=354,slow=2.2,SNR=4.2						
CMAR	**Chiang Mai Arr**	**30.53**	**300**	P	**P**	**09 18 42.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**30.53**	**300**	P	**P**	**09 18 42.7**	**+0.5**
	1.1nm,0.4s,baz=122,slow=8.5,SNR=6.2						
CHTO	**Chiang Mai**	**30.68**	**301**	*e*P	**P**	**09 18 42.0**	**-1.6**
	9.7nm,0.7s						
CHTO	**Chiang Mai**	**30.68**	**301**	P	P	09 18 49.6	+6.0
KSAR	**Wonju Array Be**	**33.26**	**2**	P	**P**	**09 19 07.0**	**+1.0**
KSRS	**Korea Array**	**33.28**	**2**	P	**P**	**09 19 07.0**	**+0.9**
	2.3nm,0.7s,baz=179,slow=9.6,SNR=6.4						
MJAR	**Matsushiro Arr**	**34.08**	**17**	P	**P**	**09 19 11.6**	**-1.6**
MJAR	**Matsushiro Arr**	**34.08**	**17**	P	**P**	**09 19 11.6**	**-1.6**
	1.0nm,0.6s,baz=201,slow=9.3,SNR=4.5						
BJT	**Baijiatuan**	**37.01**	**347**	*e*P	**P**	**09 19 38.8**	**+0.6**
	18nm,0.7s						
STKA	**Stephens Creek**	**38.50**	**159**	*e*P	**P**	**09 19 50.3**	**-0.6**
	2.8nm,0.7s						
STKA	**Stephens Creek**	**38.50**	**159**	*e*P	**P**	**09 19 50.5**	**-0.4**
	10nm,0.6s						
STKA	**Stephens Creek**	**38.50**	**159**	P	**P**	**09 19 50.2**	**-0.6**
	18nm,0.8s,baz=339,slow=8.1,SNR=14						
USRK	**Ussuriysk Arra**	**40.28**	**6**	P	**P**	**09 20 07.1**	**+1.6**
	2.0nm,0.5s,baz=195,slow=8.1,SNR=4.9						
MDJ	**Mudanjiang**	**40.50**	**3**	*e*P	**P**	**09 20 08.4**	**+1.1**
	9.5nm,0.8s						
ARMA	**Armidale**	**41.84**	**147**	*e*P	**P**	**09 20 19.2**	**+0.4**
LSA	**Lhasa**	**42.07**	**311**	*e*P	**P**	**09 20 22.2**	**+1.1**
	6.5nm,0.6s						
HIA	**Hailar**	**45.43**	**354**	*e*P	**P**	**09 20 47.7**	**+0.5**
	16nm,1.1s						
DZM	**Mont Dzumac**	**46.89**	**125**	*e*P	**P**	**09 20 59.7**	**+0.5**
	17nm,1.1s						
SONM	**Songino Array**	**46.93**	**342**	P	**P**	**09 20 59.4**	**+0.2**
SONM				PcP	**PcP**	09 22 32.2	+1.0
SONM	**Songino Array**	**46.93**	**342**	P	**P**	**09 20 59.4**	**+0.2**
	1.3nm,0.5s,baz=159,slow=8.6,SNR=10						
SONM				PcP	**PcP**	**09 22 32.2**	**+1.0**
	1.2nm,0.7s,baz=155,slow=4.9,SNR=3.6						
PETK	**Petropavlovsk-**	**55.22**	**22**	P	**P**	**09 22 01.4**	**+0.1**
PETK	**Petropavlovsk-**	**55.22**	**22**	P	**P**	**09 22 01.4**	**+0.1**
	3.2nm,0.8s,baz=201,slow=4.1,SNR=12						
MKAR	**Makanchi Array**	**57.18**	**325**	P	**P**	**09 22 15.3**	**0.0**
MKAR				PcP	**PcP**	**09 23 10.4**	**+0.8**
MKAR	**Makanchi Array**	**57.18**	**325**	P	**P**	**09 22 15.3**	**0.0**
	2.3nm,0.4s,baz=109,slow=10,SNR=20						
MKAR				PcP	**PcP**	**09 23 10.4**	**+0.8**
	1.3nm,0.5s,baz=117,slow=4.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**60.21**	**333**	P	**P**	**09 22 35.3**	**-1.0**
ZALV	**Zalesovo Beam**	**60.21**	**333**	P	**P**	**09 22 35.3**	**-1.0**
	2.1nm,0.6s,baz=119,slow=5.2,SNR=7.1						
KURBB	**Kurchatov Arra**	**61.36**	**327**	P	**P**	**09 22 43.7**	**-0.4**
	4.4nm,0.8s,baz=128,slow=6.2,SNR=9.9						
KURK	**Kurchatov**	**61.36**	**327**	P	**P**	**09 22 43.7**	**-0.4**
BVAR	**Borovoye Array**	**66.94**	**327**	P	**P**	**09 23 20.7**	**0.0**
BVAR	**Borovoye Array**	**66.94**	**327**	P	**P**	**09 23 20.7**	**0.0**
	0.8nm,0.5s,baz=145,slow=5.3,SNR=4.3						
ABKAR	**Akbulak array**	**71.77**	**321**	*e*P	**P**	**09 23 50.1**	**-0.5**
	2.1nm,0.6s						
AKTO	**Aktyubinsk**	**73.28**	**322**	P	**P**	**09 23 59.0**	**-0.5**
AKTO	**Aktyubinsk**	**73.28**	**322**	P	**P**	**09 23 59.0**	**-0.5**
	1.5nm,0.4s,baz=101,slow=11,SNR=6.6						
ILAR	**Eielson Array**	**84.91**	**25**	P	**P**	**09 25 03.4**	**+0.5**
ILAR	**Eielson Array**	**84.91**	**25**	P	**P**	**09 25 03.4**	**+0.5**
	0.7nm,0.7s,baz=246,slow=5.1,SNR=7.6						
BRTR	**Keskin Array B**	**89.66**	**310**	P	**P**	**09 25 25.9**	**-0.7**
BRTR	**Keskin Array B**	**89.66**	**310**	P	**P**	**09 25 25.9**	**-0.7**
	0.7nm,0.7s,baz=150,slow=3.2,SNR=3.5						
ARCES	**ARCESS Array B**	**90.08**	**340**	P	**P**	**09 25 27.0**	**-0.7**
ARCES	**ARCESS Array B**	**90.08**	**340**	P	**P**	**09 25 27.0**	**-0.7**
	2.9nm,0.7s,baz=76,slow=5.1,SNR=5.4						
FINES	**FINESS Array B**	**91.46**	**332**	P	**P**	**09 25 33.8**	**-0.4**
FINES	**FINESS Array B**	**91.46**	**332**	P	**P**	**09 25 33.8**	**-0.4**
	1.6nm,0.6s,baz=45,slow=5.7,SNR=6.3						
AKASG	**Malin Array Be**	**91.52**	**321**	P	**P**	**09 25 33.6**	**-1.1**
AKASG	**Malin Array Be**	**91.52**	**321**	P	**P**	**09 25 33.6**	**-1.1**
	1.2nm,0.5s,baz=68,slow=4.9,SNR=4.3						
NOA	**NORSAR Array B**	**98.41**	**334**	P	**P**	**09 26 04.3**	**-1.7**
NOA	**NORSAR Array B**	**98.41**	**334**	P	**P**	**09 26 04.3**	**-1.7**
	1.8nm,1.0s,baz=79,slow=4.5,SNR=2.6						
YKA	**Yellowknife Ar**	**99.30**	**24**	P	**Pdif**	**09 26 10.7**	**+0.8**
YKA	**Yellowknife Ar**	**99.30**	**24**	P	**Pdif**	**09 26 10.7**	**+0.8**
	0.2nm,0.7s,baz=304,slow=4.5,SNR=5.7						
TXAR	**Lajitas Array**	**121.57**	**52**	PKP	**PKPdf**	**09 31 24.4**	**+1.9**
TXAR	**Lajitas Array**	**121.57**	**52**	PKP	**PKPdf**	**09 31 24.4**	**+1.9**
	0.4nm,0.8s,baz=113,slow=1.6,SNR=4.7						
TORD	**Torodi Ar. Bea**	**122.62**	**288**	PKP	**PKPdf**	**09 31 24.7**	**0.0**
TORD	**Torodi Ar. Bea**	**122.62**	**288**	PKP	**PKPdf**	**09 31 24.7**	**0.0**
	0.4nm,0.6s,baz=82,slow=1.8,SNR=4.6						
JCT	**Junction City**	**124.02**	**49**	*e*PKPdf	**PKPdf**	**09 31 28.8**	**+1.8**

IDC 12 09:15:02.7±0.7, 3.99N×126.65E, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.1/22, mbtmp4.1/14, MS5.1/1, Ms1 5.1/1, ms1mx3.3/40, Error ellipse: s-maj=36.1km s-min=14.4km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.98**	**183**	P	P	09 19 57.9	-0.5
	2.0nm,0.5s,baz=21,slow=11,SNR=2.1						
JOW	**Kunigami**	**22.77**	**4**	LR	LR	09 27 32.1	
	comp=Z,4μm,20.0s,baz=101,slow=33						
WRA	**Warramunga Arr**	**24.95**	**163**	P	P	09 20 26.9	-1.2
	7.0nm,0.8s						
ASAR	**Alice Springs**	**28.38**	**166**	P	P	09 21 00.5	+1.5
	0.9nm,0.5s,baz=354,slow=7.5,SNR=2.1						
CMAR	**Chiang Mai Arr**	**30.67**	**300**	P	P	09 21 20.9	+1.6
	1.0nm,0.3s,baz=115,slow=7.3,SNR=5.0						
STKA	**Stephens Creek**	**38.40**	**159**	P	P	09 22 25.6	-0.4
	5.9nm,0.7s,baz=345,slow=7.6,SNR=3.5						
SONM	**Songino Array**	**47.03**	**341**	P	P	09 23 37.2	+1.2
	0.5nm,0.5s,baz=151,slow=7.2,SNR=3.3						
PETK	**Petropavlovsk-**	**55.22**	**22**	P	P	09 24 37.4	-0.1
	2.9nm,1.0s,baz=238,slow=8.3,SNR=2.6						
MKAR	**Makanchi Array**	**57.30**	**325**	P	P	09 24 51.5	-1.0
	1.7nm,0.5s,baz=121,slow=7.8,SNR=5.1						
ZALV	**Zalesovo Beam**	**60.32**	**333**	P	P	09 25 11.9	-1.3
	0.6nm,0.4s,baz=118,slow=6.2,SNR=2.5						
KURBB	**Kurchatov Arra**	**61.48**	**327**	P	P	09 25 20.2	-1.0
	4.2nm,0.7s,baz=125,slow=6.2,SNR=6.8						
BVAR	**Borovoye Array**	**67.06**	**327**	P	P	09 25 56.8	-1.0
	0.7nm,0.6s,baz=100,slow=7.5,SNR=3.0						
ILAR	**Eielson Array**	**84.90**	**25**	P	P	09 27 39.8	+0.4
	0.3nm,0.8s,baz=238,slow=5.2,SNR=2.9						
FINES	**FINESS Array B**	**91.57**	**332**	P	P	09 28 12.5	+1.2
	1.2nm,0.8s,baz=98,slow=7.9,SNR=4.5						
NOA	**NORSAR Array B**	**98.52**	**334**	P	Pdif	09 28 44.6	+1.4
	1.3nm,0.8s,baz=90,slow=7.1,SNR=3.3						
TORD	**Torodi Ar. Bea**	**122.76**	**288**	PKP	PKPdf	09 34 01.3	-0.4
	0.3nm,0.7s,baz=63,slow=0.6,SNR=3.2						

IDC 12 09:20:13.5±0.8, 3.64N×126.90E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.9/22, mbtmp3.9/10, Error ellipse: s-maj=63.3km s-min=14.5km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.64**	**183**	P	P	09 25 07.2	+1.6
	1.7nm,0.5s,baz=331,slow=9.3,SNR=5.6						
WRA	**Warramunga Arr**	**24.55**	**163**	P	P	09 25 34.2	-1.0
	63nm,1.2s,baz=106,slow=0.0,SNR=4.6						
ASAR	**Alice Springs**	**27.99**	**166**	P	P	09 26 05.7	-0.6
	0.6nm,0.5s,baz=349,slow=8.3,SNR=7.7						
STKA	**Stephens Creek**	**37.99**	**159**	P	P	09 27 33.5	+0.2
	2.4nm,0.6s,baz=332,slow=9.5,SNR=6.3						
SONM	**Songino Array**	**47.44**	**341**	P	P	09 28 50.9	+0.9
	0.6nm,0.7s,baz=153,slow=9.7,SNR=3.4						
MKAR	**Makanchi Array**	**57.73**	**325**	P	P	09 30 06.3	+0.1
	0.7nm,0.4s,baz=120,slow=7.9,SNR=11						
ZALV	**Zalesovo Beam**	**60.74**	**333**	P	P	09 30 25.1	-1.8
	0.6nm,0.3s,baz=50,slow=2.3,SNR=2.7						
KURBB	**Kurchatov Arra**	**61.91**	**327**	P	P	09 30 35.4	+0.5
	2.6nm,0.6s,baz=130,slow=6.3,SNR=18						
BVAR	**Borovoye Array**	**67.49**	**327**	P	P	09 31 11.2	-0.1
	0.4nm,0.3s,baz=123,slow=5.5,SNR=3.6						
AKTO	**Aktyubinsk**	**73.83**	**322**	P	P	09 31 49.8	-0.3
	1.1nm,0.7s,baz=95,slow=8.3,SNR=6.0						
ILAR	**Eielson Array**	**85.11**	**25**	P	P	09 32 51.8	+0.6
	0.2nm,0.6s,baz=255,slow=5.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**123.11**	**288**	PKP	PKPdf	09 39 13.2	0.0
	0.2nm,0.5s,baz=358,slow=2.3,SNR=2.5						

IDC 12 09:22:28.4±1.9, 3.82N×126.14E, h0km, mb3.8/5, mb1 3.8/5, mb1mx3.6/21, mbtmp3.8/5, Error ellipse: s-maj=191.0km s-min=25.1km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**28.35**	**165**	P	P	09 28 24.3	-0.1
	0.4nm,0.7s,baz=338,slow=8.4,SNR=3.3						
SONM	**Songino Array**	**47.02**	**342**	P	P	09 31 01.5	-0.2
	0.8nm,0.9s,baz=157,slow=7.3,SNR=2.8						
MKAR	**Makanchi Array**	**57.14**	**325**	P	P	09 32 16.4	-0.6
	0.4nm,0.4s,baz=119,slow=7.6,SNR=5.8						
KURBB	**Kurchatov Arra**	**61.34**	**328**	P	P	09 32 46.2	+0.3
	1.2nm,0.6s,baz=131,slow=6.4,SNR=7.0						
AKTO	**Aktyubinsk**	**73.22**	**322**	P	P	09 34 01.7	+0.3
	0.3nm,0.3s,baz=84,slow=10,SNR=3.7						

BJI ***12*** *09:22:45.5, 35.56N×99.26E, h17km, ML3.8/10*

ISCJB ***12*** *09:22:47.0±0.8, 35.97N±0.05×99.56E±0.06, h10km, mb3.5/3, Error ellipse: s-maj=8.2km s-min=6.4km az=37.7*

IDC ***12*** *09:22:48.0±1.2, 35.95N×99.27E, h0km, mb3.5/4, mb1 3.8/7, mb1mx3.6/29, mbtmp3.6/7, ML3.9/3, Error ellipse: s-maj=49.7km s-min=21.4km az=68.0*

ISC 12 09:22:51.4±1.3, 35.76N±0.07×99.62E±0.07, h10km, n10, σ1ŝ76/11, mb3.3/3, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**3.45**	**83**	Pn	**Pn**	**09 23 44.5**	**-0.8**
LZH				Pg	**Pb**	**09 23 54.1**	**+1.5**
LZH				Sn	**Sn**	**09 24 23.0**	**-3.2**
LZH				Sg	**Sg**	**09 24 42.5**	**+0.5**
LZH				smax	smax		
	comp=N,700nm,0.6s						
LZH				smax	smax		
	comp=E,760nm,1.0s						
GTA	**Gaotai**	**3.65**	**2**	Pn	**Pn**	**09 23 47.2**	**-0.8**
GTA				Pg	**Pb**	**09 23 54.4**	**-1.6**
GTA				Sn	**Sn**	**09 24 32.1**	**+0.9**
GTA				Sg	**Sb**	**09 24 43.0**	**+2.6**
GTA				smax	smax		
	comp=N,94nm,1.0s						
GTA				smax	smax		
	comp=E,84nm,1.0s						
XAN	**Xi'an**	**7.83**	**100**	Pg	Pb	09 25 14.8	+7.5
XAN				Sg	**Sg**	**09 27 02.6**	**-0.2**
XAN				smax	smax		
	comp=N,15nm,1.0s						
XAN				smax	smax		
	comp=E,7.0nm,0.9s						
SONM	**Songino Array**	**13.07**	**21**	Pn	Pn	09 25 54.3	-2.9
	comp=E,0.3nm,0.3s,baz=204,slow=15,SNR=7.2						
MKAR	**Makanchi Array**	**17.02**	**316**	Pn	Pn	09 26 40.5	-9.0
	comp=E,0.1nm,0.3s,baz=118,slow=13,SNR=3.5						
CMAR	**Chiang Mai Arr**	**17.25**	**182**	P	**Pn**	**09 26 53.0**	**+0.6**
	comp=E,0.5nm,0.3s,baz=352,slow=8.7,SNR=5.3						
ZALV	**Zalesovo Beam**	**20.92**	**335**	P	P	09 27 28.6	-5.3
	comp=E,1.9nm,0.6s,baz=138,slow=12,SNR=7.0						
KURBB	**Kurchatov Arra**	**21.27**	**321**	P	P	09 27 31.5	-6.2
	comp=E,0.7nm,0.5s,baz=125,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**67.42**	**146**	P	**P**	**09 33 47.4**	**+0.2**
	comp=E,0.7nm,0.4s,baz=343,slow=8.7,SNR=9.0						
YKA	**Yellowknife Ar**	**78.28**	**15**	P	P	09 34 48.9	-2.2
	comp=E,0.3nm,1.1s,baz=330,slow=4.4,SNR=3.5						

IDC 12 09:40:44.4±1.8, 3.91N×126.67E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/20, mbtmp3.8/5, Error ellipse: s-maj=123.5km s-min=23.4km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.90**	**183**	P	P	09 45 39.1	-0.1
	1.7nm,0.5s,baz=2.8,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**24.88**	**163**	P	P	09 46 08.4	-0.7
	1.4nm,0.4s						
ASAR	**Alice Springs**	**28.30**	**166**	P	P	09 46 40.5	+0.5
	0.2nm,0.3s,baz=343,slow=8.7,SNR=8.7						
STKA	**Stephens Creek**	**38.32**	**159**	P	P	09 48 07.0	0.0
	1.3nm,0.4s,baz=351,slow=9.6,SNR=6.4						
MKAR	**Makanchi Array**	**57.37**	**325**	P	P	09 50 34.5	-0.1
	0.2nm,0.3s,baz=121,slow=7.6,SNR=7.0						

IDC 12 09:42:11.2±1.8, 4.00N×126.77E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.9/5, MS3.2/1, Ms1 3.2/1, ms1mx2.2/37, Error ellipse: s-maj=119.1km s-min=23.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**11.38**	**218**	LR	LR	09 48 35.5	
	comp=Z,124nm,21.8s,baz=302,slow=34						
FITZ	**Fitzroy Crossi**	**21.99**	**183**	P	P	09 47 07.0	-0.1
	1.9nm,0.6s,baz=18,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**24.93**	**163**	P	P	09 47 36.0	-0.3
	3.4nm,0.5s						
ASAR	**Alice Springs**	**28.37**	**166**	P	P	09 48 07.2	-0.1
	0.3nm,0.4s,baz=347,slow=7.7,SNR=4.2						
STKA	**Stephens Creek**	**38.37**	**159**	P	P	09 49 34.4	+0.2
	1.8nm,0.5s,baz=339,slow=9.4,SNR=7.4						
MKAR	**Makanchi Array**	**57.36**	**325**	P	P	09 52 01.2	-0.1
	0.2nm,0.4s,baz=108,slow=7.7,SNR=2.5						

PRE 12 09:43:38.7±0.8, 26.17S×28.20E, h2km, ML1.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**0.44**	**10**	*e*P	Pg	09 43 46.8	-0.6
SLR				*e*S	Sg	09 43 53.6	+0.4
SLR				AML	AML	09 43 55.3	
	comp=Z,11nm,0.2s						
PRYS	**Parys**	**1.06**	**225**	*e*P	Pg	09 43 58.4	-0.9
PRYS				*e*S	Sb	09 44 14.1	-0.5
PRYS				AML	AML	09 44 26.1	
	comp=Z,8.5nm,0.3s						
LBTB	**Lobatse**	**2.62**	**296**	*e*P	Pn	09 44 22.6	+0.5
LBTB				*e*S	Sn	09 44 55.0	+0.3
LBTB				AML	AML	09 45 17.9	
	comp=Z,2.5nm,0.3s						
BOSA	**Boshof**	**3.57**	**226**	*e*P	Pn	09 44 36.6	+1.2
BOSA				*e*S	Sn	09 45 18.2	-0.1
BOSA				AML	AML	09 45 40.1	
	comp=Z,2.3nm,0.3s						

TIR ***12*** *09:45:18.0±5.0, 41.04N×20.23E, h0km±999km, ML3.0*

ATH ***12*** *09:45:18.7, 41.38N×20.07E, h5km±4km, MD3.4/8*

THE ***12*** *09:45:24.4, 41.08N×20.18E, h0km±7km, Error ellipse: s-maj=7.7km s-min=1.4km az=235.0*

PDG ***12*** *09:45:25.2±0.2, 41.11N×20.21E, h1km, ML2.9/9, Error ellipse: s-maj=0.8km s-min=0.8km az=90.0*

BEO ***12*** *09:45:25.0±0.8, 41.01N×20.18E, h0km±3km, ML2.6/8*

CSEM ***12*** *09:45:25.0±0.2, 41.04N×20.22E, h2km, ML2.6, Error ellipse: s-maj=6.6km s-min=3.6km az=60.0*

SKO ***12*** *09:45:26.2, 41.12N×20.22E, h5km, M2.2, ML2.8*

ISC 12 09:45:24.8±1.1, 41.10N±0.02×20.25E±0.02, h4km±10km, n82, σ1ŝ51/140, 10C-9D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.39**	**311**	*i*Pg	**Pg**	**09 45 31.3**	**-0.9**
TIR				*i*Sg	**Sb**	**09 45 38.8**	**-1.7**
TIR	**Tirane**	**0.39**	**311**	P	**Pg**	**09 45 31.1**	**-1.2**
TIR	**Tirane**	**0.39**	**311**	*e*Pg	**Pg**	**09 45 31.0**	**-1.2**
TIR				*e*Sg	**Sg**	**09 45 38.4**	**+1.2**
TIR	**Tirane**	**0.39**	**311**	*e*Pg	**Pg**	**09 45 31.0**	**-1.2**
TIR				*e*Sg	**Sg**	**09 45 38.4**	**+1.2**
PHP	**Peshkopia**	**0.60**	**13**	*i*Pg	**Pg**	**09 45 35.9**	**-0.4**

VAY			*e*Sg	**Sg**	09 46 22.7	**+1.3**
VAY			*e*Lg	Lg	09 46 24.5	
	comp=N,36nm,0.7s					
IVA	**Berane**	**1.79 352**	⇑*i*Pn	**Pb**	09 45 57.9	**-0.3**
IVA			*e*Sn	**Sg**	09 46 24.2	**+1.8**
BEY	**Berane**	**1.79 352**	⇑*i*Pn	**Pb**	09 45 57.9	**-0.4**
BEY			*e*Sn	**Sg**	09 46 24.2	**+1.8**
HCY	**Herceg Novi**	**1.89 316**	⇑*i*Pn	**Pb**	09 45 58.8	**-0.9**
HCY			*e*Sn	**Sg**	09 46 26.0	**+0.7**
HCY	**Herceg Novi**	**1.89 316**	⇑*i*Pn	**Pb**	09 45 58.8	**-0.9**
HCY			*e*Sn	**Sg**	09 46 26.0	**+0.7**
NKY	**Niksic**	**1.96 332**	⇓*i*Pn	**Pb**	09 45 59.8	**-1.2**
NKY			*e*Sn	**Sg**	09 46 27.8	**+0.2**
NKY	**Niksic**	**1.96 332**	⇓*i*Pn	**Pb**	09 45 59.8	**-1.2**
NKY			*e*Sn	**Sg**	09 46 27.8	**+0.2**
LIT	**Litokhoron**	**1.97 120**	*e*Pg	**Pb**	09 45 59.9	**-1.3**
LIT			*e*SN	**Sg**	09 46 28.9	**+0.8**
LIT	**Litokhoron**	**1.97 120**	*e*Pg	**Pb**	09 45 59.9	**-1.3**
LIT			*e*Sn	**Sg**	09 46 28.9	**+0.8**
THL	**Klokotos Trika**	**2.04 138**	*e*PN	**Pb**	09 46 00.8	**-1.5**
THL			*e*SN	**Sg**	09 46 32.0	**+1.8**
THL	**Klokotos Trika**	**2.04 138**	*e*Pn	**Pb**	09 46 00.8	**-1.5**
THL			*e*Sn	**Sg**	09 46 32.0	**+1.8**
BARS	**Barje**	**2.08 34**	*e*Pn	**Pb**	09 46 03.1	**+0.1**
BARS			*e*Sn	**Sb**	09 46 30.0	**+0.8**
BARS	**Barje**	**2.08 34**	*e*Pn	**Pb**	09 46 03.1	**+0.1**
BARS			*e*Sn	**Sb**	09 46 30.0	**+0.8**
BRY	**Bratogost**	**2.21 325**	⇓*i*Pn	**Pb**	09 46 03.8	**-1.6**
BRY			*e*Sn	**Sb**	09 46 33.5	**+0.3**
BRY	**Bratogost**	**2.21 325**	⇓*i*Pn	**Pb**	09 46 03.8	**-1.6**
BRY			*e*Sn	**Sb**	09 46 33.5	**+0.3**
SELS	**Selova**	**2.22 17**	*e*Pn	**Pb**	09 46 05.8	**+0.4**
SELS			*e*Sn	**Sb**	09 46 33.5	**+0.3**
PLE	**Pljevlja**	**2.32 344**	⇑*i*Pn	**Pb**	09 46 05.7	**-1.6**
PLE			*e*Sn	**Sb**	09 46 36.5	**+0.1**
PLE	**Pljevlja**	**2.32 344**	⇑*i*Pn	**Pb**	09 46 05.7	**-1.6**
PLE			*e*Sn	**Sb**	09 46 36.5	**+0.1**
UPM	**Unac-Piva**	**2.33 335**	⇓*i*Pn	**Pn**	09 46 05.1	**+1.0**
UPM			*e*Sn	**Sb**	09 46 36.7	**0.0**
UPM	**Unac-Piva**	**2.33 335**	⇓*i*Pn	**Pn**	09 46 05.1	**+1.0**
UPM			*e*Sn	**Sb**	09 46 36.7	**0.0**
IVAS	**Ivanjica**	**2.48 358**	*e*Pn	**Pb**	09 46 08.0	**-1.9**
IVAS			*e*Sn	**Sb**	09 46 39.0	**-1.8**
IVAS	**Ivanjica**	**2.48 358**	*e*Pn	**Pb**	09 46 08.0	**-1.9**
IVAS			*e*Sn	**Sb**	09 46 39.0	**-1.8**
EVR	**Evrytania**	**2.48 151**	*e*PN	**Pb**	09 46 07.8	**-2.2**
EVR			*e*SN	**Sb**	09 46 42.8	**+1.8**
EVR	**Evrytania**	**2.48 151**	*e*Pn	**Pb**	09 46 07.8	**-2.2**
EVR			*e*Sn	**Sb**	09 46 42.8	**+1.8**
PLG	**Polygyros**	**2.53 106**	*e*PN	**Pn**	09 46 06.7	**0.0**
PLG	**Polygyros**	**2.53 106**	*e*Pn	**Pn**	09 46 06.7	**0.0**
VTS	**Vitosha**	**2.67 55**	*e*Pn	**Pb**	09 46 11.5	**-1.6**
VTS			*e*Sn	**Sb**	09 46 44.4	**-1.9**
VTS	**Vitosha**	**2.67 55**	*e*Pn	**Pb**	09 46 11.5	**-1.6**
VTS			*e*Sn	**Sb**	09 46 44.4	**-1.9**
NVR	**Nevrokopi**	**2.73 84**	*e*PN	**Pn**	09 46 07.4	**-2.1**
NVR	**Nevrokopi**	**2.73 84**	*e*Pn	**Pn**	09 46 07.4	**-2.1**
ZAPS	**Zavoj**	**2.80 38**	*e*Pn	**Pb**	09 46 13.4	**-2.0**
ZAPS			*e*Sn	**Sb**	09 46 47.7	**-2.4**
ZAPS	**Zavoj**	**2.80 38**	*e*Pn	**Pb**	09 46 13.4	**-2.0**
ZAPS			*e*Sn	**Sb**	09 46 47.7	**-2.4**
VLS	**Valsamata**	**2.93 175**	*e*PB	**Pn**	09 46 11.9	**-0.2**
VLS	**Valsamata**	**2.93 175**	*e*Pb	**Pn**	09 46 11.9	**-0.2**
EFP	**Efpalio**	**2.96 154**	*e*PB	**Pn**	09 46 12.7	**+0.2**
EFP	**Efpalio**	**2.96 154**	*e*Pn	**Pn**	09 46 12.7	**+0.2**
DIVS	**Divibare**	**3.01 356**	*e*Pn	**Pn**	09 46 15.4	**+2.1**
DIVS			*e*Sn	**Sn**	09 46 52.0	**+2.2**
DIVS	**Divibare**	**3.01 356**	*e*Pn	**Pn**	09 46 15.4	**+2.1**
DIVS			*e*Sn	**Sn**	09 46 52.0	**+2.2**
LKR	**Lokris**	**3.23 138**	*e*PN	**Pn**	09 46 16.8	**+0.6**
LKR	**Lokris**	**3.23 138**	*e*Pn	**Pn**	09 46 16.8	**+0.6**
GUR	**Goura**	**3.55 152**	*e*PN	**Pn**	09 46 22.4	**+1.7**
GUR	**Goura**	**3.55 152**	*e*Pn	**Pn**	09 46 22.4	**+1.7**

IDC 12 09:48:38.7±1.8,3°23N×126°08E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.4/19,mbtmp3.5/4,MS3.6/1,Ms1 3.6/1, ms1mx2.7/33,Error ellipse: s-maj=206.3km s-min=25.2km az=69.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**27.80**	**164**	P	P	09 54 29.7	0.0
	0.3nm,0.7s,baz=336,slow=6.6,SNR=2.9						
KSRS	**Korea Array**	**34.11**	**3**	LR	LR	10 09 21.8	
	comp=Z,101nm,18.8s,baz=325,slow=36						
SONM	**Songino Array**	**47.57**	**342**	P	P	09 57 16.2	0.0
	0.5nm,0.7s,baz=154,slow=7.7,SNR=3.4						
MKAR	**Makanchi Array**	**57.60**	**326**	P	P	09 58 31.5	+1.0
	0.4nm,0.3s,baz=119,slow=7.2,SNR=9.0						
KURBB	**Kurchatov Arra**	**61.81**	**328**	P	P	09 58 58.0	-1.4
	0.4nm,0.5s,baz=132,slow=6.7,SNR=6.0						

IDC 12 09:54:15.2±0.8,20°70S×68°88W,h113km±5km,mb3.7/9, mb1 3.8/11,mb1mx3.8/17,mbtmp3.6/11,MS4.0/1, Ms1 4.0/1,ms1mx3.4/23,Error ellipse: s-maj=26.9km s-min=15.4km az=23.0,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	**San Ignacio**	**8.77**	**59**	P	Pn	09 56 18.9	-0.3
	4.3nm,0.3s,baz=260,slow=10.0,SNR=66						
CPUP	**Villa Florida**	**11.98**	**120**	P	Pn	09 57 01.8	-0.6
	0.7nm,0.3s,baz=296,slow=9.0,SNR=3.5						
CPUP				LR	LR	10 01 45.6	
	comp=Z,807nm,20.3s,baz=80,slow=38						
PLCA	**Paso Flores**	**20.02**	**184**	P	P	09 58 39.0	-0.1
	1.2nm,0.6s,baz=7.7,slow=15,SNR=5.1						
BDFB	**Brasilia**	**20.45**	**79**	P	P	09 58 45.1	+1.1
	9.1nm,0.3s,baz=246,slow=8.9,SNR=14						
TXAR	**Lajitas Array**	**59.99**	**325**	P	P	10 04 10.2	+0.1
	0.5nm,0.6s,baz=155,slow=8.9,SNR=12						
TXAR				pP	pP	10 04 37.0	-0.6
	0.7nm,1.0s,baz=149,slow=9.9,SNR=4.1						
DBIC	**Dimbokro**	**68.48**	**74**	P	P	10 05 05.3	-0.4
	1.7nm,0.6s,baz=154,slow=6.5,SNR=3.6						
PDAR	**Pinedale Array**	**73.44**	**330**	P	P	10 05 35.6	+0.2
	0.4nm,0.9s,baz=76,slow=7.5,SNR=3.3						
PDAR				pP	pP	10 06 03.3	-0.6
	0.8nm,1.0s,baz=200,slow=3.0,SNR=3.1						
ULM	**Lac du Bonnet**	**74.57**	**342**	P	P	10 05 40.1	-1.4
	1.4nm,0.5s,baz=141,slow=5.3,SNR=3.7						
NVAR	**Mina Array Bea**	**74.88**	**322**	P	P	10 05 45.1	+1.3
	0.8nm,0.8s,baz=154,slow=6.7,SNR=5.6						
NVAR				pP	pP	10 06 12.7	+0.3
	0.7nm,0.7s,baz=137,slow=5.6,SNR=3.8						
TORD	**Torodi Ar. Bea**	**77.06**	**70**	P	P	10 05 56.1	-0.3
	1.4nm,0.3s,baz=254,slow=5.5,SNR=30						
TORD				pP	pP	10 06 26.4	+1.2
	2.2nm,0.7s,baz=254,slow=5.0,SNR=4.6						
TORD				sP	sP	10 06 37.3	0.0
	3.8nm,0.8s,baz=251,slow=5.3,SNR=5.7						
YKA	**Yellowknife Ar**	**90.45**	**341**	P	P	10 07 03.5	0.0
	0.8nm,0.6s,baz=133,slow=4.5,SNR=38						
YKA				pP	pP	10 07 32.9	0.0
	0.9nm,0.6s,baz=136,slow=4.7,SNR=11						
SONM	**Songino Array**	**152.66**	**7**	PKPbc	PKPbc	10 13 58.8	+0.1
	0.3nm,0.4s,baz=306,slow=3.2,SNR=3.9						

IDC 12 10:01:35.3±1.6,3°52N×126°58E,h0km,mb3.6/5, mb1 3.6/5,mb1mx3.5/20,mbtmp3.6/5,Error ellipse: s-maj=186.6km s-min=19.3km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.53**	**162**	P	P	10 06 56.6	-0.3
	3µm,0.3s,baz=230,slow=0.0,SNR=9.6						
ASAR	**Alice Springs**	**27.94**	**166**	P	P	10 07 27.9	+0.2
	0.1nm,0.3s,baz=329,slow=9.9,SNR=2.7						
SONM	**Songino Array**	**47.45**	**342**	P	P	10 10 11.5	-0.5
	0.4nm,0.6s,baz=154,slow=5.1,SNR=2.9						
MKAR	**Makanchi Array**	**57.65**	**325**	P	P	10 11 27.5	0.0
	0.4nm,0.5s,baz=123,slow=7.6,SNR=7.4						
KURBB	**Kurchatov Arra**	**61.84**	**327**	P	P	10 11 56.7	+0.4
	0.4nm,0.5s,baz=127,slow=6.2,SNR=3.6						
AKTO	**Aktyubinsk**	**73.73**	**322**	P	P	10 13 11.0	-0.3
	1.0nm,0.7s,baz=117,slow=9.0,SNR=4.6						

IDC 12 10:03:10.9±3.1,3°91N×126°61E,h0km,mb3.7/5, mb1 3.7/5,mb1mx3.5/21,mbtmp3.7/5,Error ellipse: s-maj=415.0km s-min=19.8km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**28.32**	**166**	P	P	10 09 06.2	-0.4
	0.1nm,0.3s,baz=351,slow=9.1,SNR=3.1						
STKA	**Stephens Creek**	**38.34**	**159**	P	P	10 10 34.0	+0.2
	3.9nm,1.0s,baz=330,slow=8.1,SNR=2.7						
MKAR	**Makanchi Array**	**57.34**	**325**	P	P	10 13 01.4	+0.5
	0.3nm,0.5s,baz=119,slow=8.3,SNR=7.4						
KURBB	**Kurchatov Arra**	**61.52**	**327**	P	P	10 13 29.1	-0.6
	0.6nm,0.9s,baz=125,slow=6.6,SNR=3.6						
BVAR	**Borovoye Array**	**67.10**	**327**	P	P	10 14 06.2	0.0
	0.3nm,0.4s,baz=123,slow=9.2,SNR=3.4						

*ISCJB **12** 10:03:33.3±1.0,36°90N±0°07×28°29E±0°05,h4km±9km, Error ellipse: s-maj=11.6km s-min=5.9km az=13.1*
*DDA **12** 10:03:34.4,36°97N×28°25E,h7km, MD2.9*
*CSEM **12** 10:03:34.4,36°97N×28°25E,h7km, MD2.9,After DDA*
ISC 12 10:03:32.9±1.4,36°87N±0°06×28°24E±0°03,h2km±11km, n10,σ0°82/19,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.26**	**7**	PG	**Pg**	**10 03 38.1**	**+0.1**
YER				SG	**Sg**	**10 03 41.3**	**-0.2**
TURN	**Turunc**	**0.29**	**90**	*i* P	**Pg**	**10 03 38.3**	**-0.1**
TURN				*i* S	**Sg**	**10 03 42.0**	**-0.2**
TURN	**Turunc**	**0.29**	**90**	*i* P	**Pg**	**10 03 38.3**	**-0.1**
TURN				*i* S	**Sg**	**10 03 42.0**	**-0.2**
BDRM	**Kayabasi**	**0.67**	**287**	*i* P	**Pg**	**10 03 46.4**	**+0.7**
BDRM				*i* S	**Sb**	**10 03 57.2**	**+0.2**
BDRM	**Kayabasi**	**0.67**	**287**	*i* P	**Pg**	**10 03 46.4**	**+0.7**
BDRM				*i* S	**Sb**	**10 03 57.2**	**+0.2**
DNZL	**Cakiroluk**	**1.04**	**38**	*i* P	**Pg**	**10 03 52.8**	**0.0**
DNZL				*i* S	**Sn**	**10 04 11.2**	**+1.4**
DNZL	**Cakiroluk**	**1.04**	**38**	*i* P	**Pg**	**10 03 52.8**	**0.0**
DNZL				*i* S	**Sn**	**10 04 11.2**	**+1.4**
GCAM	**G?zelcaml?**	**1.15**	**316**	*i* P	**Pn**	**10 03 56.0**	**-0.1**
GCAM				*i* S	**Sn**	**10 04 10.8**	**-1.6**
GCAM	**G?zelcaml?**	**1.15**	**316**	*i* P	**Pn**	**10 03 56.0**	**-0.1**
GCAM				*i* S	**Sn**	**10 04 10.8**	**-1.6**
KULA	**Kula-Manisa**	**1.67**	**11**	*e*PN	**Pn**	**10 04 03.1**	**-0.1**

IDC 12 10:03:36.9±0.8,3°94N×126°78E,h0km,mb3.9/11, mb1 4.1/11,mb1mx3.9/22,mbtmp4.0/11,Error ellipse: s-maj=46.8km s-min=14.6km az=69.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.93**	**183**	P	P	10 08 33.0	+0.9
	2.3nm,0.7s,baz=74,slow=1.9,SNR=6.3						
WRA	**Warramunga Arr**	**24.86**	**163**	P	P	10 09 01.7	+0.3
	198nm,1.2s,baz=242,slow=0.0,SNR=27						
ASAR	**Alice Springs**	**28.30**	**166**	P	P	10 09 31.2	-1.2
	0.4nm,0.5s,baz=342,slow=7.2,SNR=5.5						
CMAR	**Chiang Mai Arr**	**30.81**	**300**	P	P	10 09 56.0	+1.3
	1.0nm,0.4s,baz=117,slow=7.7,SNR=5.9						
STKA	**Stephens Creek**	**38.30**	**159**	P	P	10 10 59.2	-0.1
	2.7nm,0.6s,baz=329,slow=9.0,SNR=7.1						
SONM	**Songino Array**	**47.12**	**341**	P	P	10 12 11.1	+0.1
	0.6nm,0.7s,baz=167,slow=7.2,SNR=4.5						
MKAR	**Makanchi Array**	**57.42**	**325**	P	P	10 13 27.2	-0.2
	0.8nm,0.4s,baz=121,slow=7.6,SNR=13						
KURBB	**Kurchatov Arra**	**61.59**	**327**	P	P	10 13 55.7	-0.4
	1.1nm,0.6s,baz=128,slow=6.6,SNR=7.6						
BVAR	**Borovoye Array**	**67.18**	**327**	P	P	10 14 33.3	+0.6
	1.2nm,0.7s,baz=142,slow=7.4,SNR=5.5						
AKTO	**Aktyubinsk**	**73.53**	**322**	P	P	10 15 09.9	-1.8
	1.1nm,0.6s,baz=112,slow=3.7,SNR=6.1						
ILAR	**Eielson Array**	**84.90**	**25**	P	P	10 16 14.3	+0.8
	0.4nm,0.9s,baz=250,slow=5.4,SNR=3.4						
ARCES	**ARCESS Array B**	**90.27**	**340**	P	P	10 16 39.2	-0.1
	2.5nm,0.8s,baz=77,slow=6.4,SNR=4.4						

*IDC **12** 10:06:25.3±0.7,3°58N×126°59E,h0km,mb4.4/17, mb1 4.5/17,mb1mx4.3/23,mbtmp4.3/17,Error ellipse: s-maj=47.1km s-min=13.6km az=67.0*
*ISCJB **12** 10:06:30.7±0.4,3°52N±0°08×126°5E±0°1,h53km, mb4.4/25,Error ellipse: s-maj=21.8km s-min=7.7km az=156.7*
*NEIC **12** 10:06:30.6±0.3,3°54N×126°51E,h35km,mb4.6/9,Error ellipse: s-maj=14.9km s-min=5.4km az=66.0*
ISC 12 10:06:32.4±0.6,3°5N±0°1×126°5E±0°2,h53km,n49, σ0°76/53,mb4.5/24,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.52**	**182**	*e*P	**P**	**10 11 17.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**21.52**	**182**	P	**P**	**10 11 18.0**	**+0.8**
	3.7nm,0.7s,baz=8.2,slow=9.6,SNR=6.6						
QIZ	**Qiongzhong**	**22.42**	**315**	*e*P	**P**	**10 11 24.5**	**-2.4**
	107nm,1.8s						
WRAB	**Tennant Creek**	**24.56**	**162**	*e*P	**P**	**10 11 47.0**	**-0.5**
	28nm,0.8s						
WRA	**Warramunga Arr**	**24.57**	**162**	P	**P**	**10 11 47.3**	**-0.3**
WRA	**Warramunga Arr**	**24.57**	**162**	P	**P**	**10 11 47.3**	**-0.3**
	26nm,0.7s						
KULM	**Kulim**	**25.85**	**275**	*e*P	**P**	**10 11 59.5**	**+0.2**
ASAR	**Alice Springs**	**27.98**	**165**	P	**P**	**10 12 18.2**	**-0.2**
ASAR	**Alice Springs**	**27.98**	**165**	P	**P**	**10 12 18.2**	**-0.2**
	2.1nm,0.7s,baz=353,slow=9.0,SNR=6.2						
CTAO	**Charters Tower**	**30.45**	**141**	*e*P	**P**	**10 12 39.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**30.79**	**301**	P	**P**	**10 12 44.0**	**+0.6**
CMAR	**Chiang Mai Arr**	**30.79**	**301**	P	**P**	**10 12 44.0**	**+0.6**
	1.7nm,0.7s,baz=114,slow=6.9,SNR=10						
NWAO	**Narrogin (SRO)**	**37.32**	**193**	*e*P	**P**	**10 13 39.2**	**-0.5**
BJT	**Baijiatuau**	**37.50**	**347**	*e*P	**P**	**10 13 40.2**	**-1.0**
	28nm,0.9s						
STKA	**Stephens Creek**	**38.03**	**159**	*e*P	**P**	**10 13 45.7**	**0.0**
	2.0nm,0.7s						
STKA	**Stephens Creek**	**38.03**	**159**	P	**P**	**10 13 44.9**	**-0.8**
	9.8nm,0.7s,baz=338,slow=8.9,SNR=22						
LSA	**Lhasa**	**42.41**	**312**	*e*P	**P**	**10 14 22.2**	**-0.4**
ULN	**Ulaanbaatar**	**47.23**	**342**	*e*P	**P**	**10 15 01.1**	**+0.8**
	3.5nm,0.6s						
SONM	**Songino Array**	**47.41**	**342**	P	**P**	**10 15 02.0**	**+0.3**
SONM				PcP	**PcP**	**10 16 33.0**	**+1.4**
SONM	**Songino Array**	**47.41**	**342**	P	**P**	**10 15 02.0**	**+0.3**
	1.1nm,0.5s,baz=159,slow=8.4,SNR=8.0						
SONM				PcP	**PcP**	**10 16 33.0**	**+1.4**
	2.2nm,0.8s,baz=152,slow=3.9,SNR=7.6						
MK31	**Makanchi Array**	**57.59**	**325**	*e*P	**P**	**10 16 17.8**	**+0.9**
MKAR	**Makanchi Array**	**57.59**	**325**	P	**P**	**10 16 17.8**	**+0.8**
MKAR				PcP	**PcP**	**10 17 09.2**	**-0.6**
MKAR	**Makanchi Array**	**57.59**	**325**	P	**P**	**10 16 17.8**	**+0.8**
	3.0nm,0.7s,baz=125,slow=8.4,SNR=24						
MKAR				PcP	**PcP**	**10 17 09.2**	**-0.6**
	1.9nm,0.6s,baz=111,slow=5.0,SNR=5.7						
ZALV	**Zalesovo Beam**	**60.66**	**333**	P	**P**	**10 16 37.8**	**-0.2**
ZALV	**Zalesovo Beam**	**60.66**	**333**	P	**P**	**10 16 37.8**	**-0.2**
	0.8nm,0.4s,baz=140,slow=5.9,SNR=5.5						
KURBB	**Kurchatov Arra**	**61.79**	**328**	P	**P**	**10 16 46.3**	**+0.6**
	4.2nm,0.7s,baz=125,slow=6.1,SNR=26						
KURK	**Kurchatov**	**61.79**	**328**	*e*P	**P**	**10 16 46.4**	**+0.7**
	3.6nm,0.6s						
KKAR	**Karatay Array**	**63.23**	**317**	*e*P	**P**	**10 16 56.3**	**+0.8**
	2.4nm,0.8s						
BVAR	**Borovoye Array**	**67.36**	**327**	P	**P**	**10 17 22.7**	**+0.7**
BVAR	**Borovoye Array**	**67.36**	**327**	P	**P**	**10 17 22.7**	**+0.7**
	1.3nm,0.6s,baz=128,slow=9.6,SNR=9.0						
BRVK	**Borovoye**	**67.44**	**327**	*e*P	**P**	**10 17 23.2**	**+0.7**
	2.6nm,0.6s						
ABKAR	**Akbulak array**	**72.17**	**321**	*e*P	**P**	**10 17 52.1**	**+0.5**
	1.4nm,0.6s						
AKTO	**Aktyubinsk**	**73.68**	**322**	P	**P**	**10 18 00.4**	**-0.2**
AKTO	**Aktyubinsk**	**73.68**	**322**	P	**P**	**10 18 00.4**	**-0.2**
	3.3nm,0.7s,baz=103,slow=6.1,SNR=17						
BRTR	**Keskin Array B**	**89.98**	**310**	P	**P**	**10 19 26.5**	**-0.2**
BRTR	**Keskin Array B**	**89.98**	**310**	P	**P**	**10 19 26.5**	**-0.2**
	1.5nm,0.8s,baz=106,slow=5.4,SNR=6.5						
ARCES	**ARCESS Array B**	**90.55**	**340**	P	**P**	**10 19 27.9**	**-0.6**
ARCES	**ARCESS Array B**	**90.55**	**340**	P	**P**	**10 19 27.9**	**-0.6**
	4.3nm,0.8s,baz=59,slow=7.2,SNR=6.0						
FINES	**FINESS Array B**	**91.90**	**332**	P	**P**	**10 19 34.5**	**-0.3**
FINES	**FINESS Array B**	**91.90**	**332**	P	**P**	**10 19 34.5**	**-0.3**
	0.8nm,0.5s,baz=38,slow=7.0,SNR=3.5						
AKASG	**Malin Array Be**	**91.91**	**321**	P	**P**	**10 19 35.2**	**+0.1**
AKASG	**Malin Array Be**	**91.91**	**321**	P	**P**	**10 19 35.2**	**+0.1**
	2.6nm,0.7s,baz=69,slow=4.6,SNR=8.6						
NB2	**NORSAR Subarra**	**98.86**	**334**	P	**P**	**10 20 05.7**	**-1.0**
	comp=Z,3.1nm,1.0s,baz=66,slow=4.6						
NOA	**NORSAR Array B**	**98.86**	**334**	P	**P**	**10 20 06.2**	**-0.5**
NOA	**NORSAR Array B**	**98.86**	**334**	P	**P**	**10 20 06.2**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=67,slow=4.6,SNR=4.3						
YKA	**Yellowknife Ar**	**99.76**	**24**	P	**Pdif**	**10 20 11.4**	**+0.8**
YKA	**Yellowknife Ar**	**99.76**	**24**	P	**Pdif**	**10 20 11.4**	**+0.8**
	comp=Z,0.1nm,0.6s,baz=305,slow=4.5,SNR=3.1						
TXAR	**Lajitas Array**	**121.88**	**52**	PKP	**PKPdf**	**10 25 23.1**	**+1.4**
TXAR	**Lajitas Array**	**121.88**	**52**	PKP	**PKPdf**	**10 25 23.1**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=7.4,slow=2.1,SNR=3.2						

*IDC **12** 10:08:02.1±0.8,3°93N×126°67E,h0km,mb4.0/11, mb1 4.2/11,mb1mx4.0/21,mbtmp4.0/11,Error ellipse: s-maj=47.8km s-min=14.7km az=68.0*
*ISCJB **12** 10:08:06.6±0.7,3°9N±0°1×126°6E±0°3,h45km,mb4.1/12, Error ellipse: s-maj=39.8km s-min=11.9km az=157.7*
ISC 12 10:08:08.7±0.8,3°8N±0°2×126°6E±0°3,h45km,n13, σ0°93/14,mb4.0/12,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.82**	**182**	P	**P**	**10 12 57.6**	**+0.3**
	2.9nm,0.6s,baz=14,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**24.82**	**162**	P	**P**	**10 13 26.9**	**0.0**
	21nm,0.6s						
ASAR	**Alice Springs**	**28.25**	**166**	P	**P**	**10 13 56.3**	**-1.5**
	1.1nm,0.5s,baz=346,slow=7.7,SNR=5.8						
CMAR	**Chiang Mai Arr**	**30.71**	**300**	P	**P**	**10 14 20.6**	**+0.9**
	1.5nm,0.7s,baz=112,slow=7.0,SNR=5.1						
STKA	**Stephens Creek**	**38.27**	**159**	P	**P**	**10 15 25.9**	**+1.0**
	6.9nm,0.7s,baz=339,slow=10,SNR=6.1						
SONM	**Songino Array**	**47.16**	**341**	PcP	**PcP**	**10 18 08.9**	**+1.0**
	1.8nm,0.8s,baz=167,slow=4.6,SNR=6.6						
MKAR	**Makanchi Array**	**57.40**	**325**	P	**P**	**10 17 52.5**	**-0.2**
	1.1nm,0.7s,baz=114,slow=9.6,SNR=2.6						
MKAR				PcP	**PcP**	**10 18 47.1**	**+0.9**
	1.4nm,0.8s,baz=117,slow=4.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**60.44**	**333**	P	**P**	**10 18 12.8**	**-0.8**
	0.7nm,0.5s,baz=120,slow=8.5,SNR=3.3						
KURBB	**Kurchatov Arra**	**61.58**	**327**	P	**P**	**10 18 20.7**	**-0.7**
	1.3nm,0.7s,baz=125,slow=5.8,SNR=3.1						
BVAR	**Borovoye Array**	**67.16**	**327**	P	**P**	**10 18 57.2**	**-0.8**
	1.7nm,0.8s,baz=126,slow=9.5,SNR=3.7						
AKTO	**Aktyubinsk**	**73.50**	**322**	P	**P**	**10 19 35.4**	**-1.3**
	1.4nm,0.7s,baz=68,slow=7.3,SNR=3.3						
ILAR	**Eielson Array**	**85.06**	**25**	P	**P**	**10 20 39.6**	**+0.2**
	0.7nm,0.9s,baz=258,slow=7.6,SNR=4.8						
BRTR	**Keskin Array B**	**89.86**	**310**	P	**P**	**10 21 03.0**	**-0.3**
	0.4nm,0.5s,baz=107,slow=13,SNR=3.5						

IDC 12 10:09:54.2±1.6,3°70N×126°49E,h0km,mb3.8/7, mb1 3.9/7,mb1mx3.7/22,mbtmp3.8/7,MS4.0/1,Ms1 4.0/1, ms1mx2.7/37,Error ellipse: s-maj=179.6km s-min=24.7km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.73**	**162**	P	P	10 15 17.6	0.0
	3.7nm,0.7s						
ASAJ	**Asahikawa**	**42.69**	**17**	LR	LR	10 35 07.0	
	comp=Z,156nm,18.3s,baz=173,slow=35						
SONM	**Songino Array**	**47.25**	**342**	P	P	10 18 29.1	-0.2
	0.3nm,0.5s,baz=139,slow=9.6,SNR=2.4

TLY	**Talaya**	**51.42**	**342**	*eP*	**P**	**10 28 44.6**	**+0.4**
	3.1nm,0.7s						
PETK	**Petropavlovsk-**	**55.44**	**22**	P	**P**	**10 29 12.7**	**-1.1**
PETK	**Petropavlovsk-**	**55.44**	**22**	P	**P**	**10 29 12.7**	**-1.1**
	2.5nm,0.6s,baz=200,slow=3.2,SNR=7.2						
MK31	**Makanchi Array**	**57.41**	**325**	*eP*	**P**	**10 29 27.2**	**-0.7**
MKAR	**Makanchi Array**	**57.41**	**325**	P	**P**	**10 29 27.4**	**-0.5**
MKAR				PcP	**PcP**	**10 30 21.1**	**-0.1**
MKAR				ScP	**ScP**	**10 34 21.4**	**+5.0**
MKAR	**Makanchi Array**	**57.41**	**325**	P	**P**	**10 29 27.4**	**-0.5**
	3.1nm,0.5s,baz=123,slow=8.3,SNR=53						
MKAR				PcP	**PcP**	**10 30 21.1**	**-0.1**
	1.9nm,0.6s,baz=118,slow=5.5,SNR=4.5						
MKAR				ScP	**ScP**	**10 34 21.4**	**+5.0**
	0.5nm,0.9s,baz=134,slow=3.5,SNR=3.8						
YAK	**Yakutsk**	**58.15**	**2**	*eP*	**P**	**10 29 32.5**	**-0.3**
	30nm,0.9s						
AAK	**Ala-Archa**	**60.19**	**318**	P	**P**	**10 29 46.4**	**-1.1**
AAK	**Ala-Archa**	**60.19**	**318**	P	**P**	**10 29 46.4**	**-1.1**
	0.4nm,0.3s,baz=170,slow=14,SNR=3.6						
ZAA0	**Zalesovo Array**	**60.45**	**333**	*eP*	**P**	**10 29 47.5**	**-1.3**
ZALV	**Zalesovo Beam**	**60.45**	**333**	P	**P**	**10 29 47.6**	**-1.2**
ZALV	**Zalesovo Beam**	**60.45**	**333**	P	**P**	**10 29 47.6**	**-1.2**
	2.5nm,0.5s,baz=132,slow=6.6,SNR=18						
EKS2	**Erkin-Say**	**60.69**	**318**	*eP*	**P**	**10 29 52.1**	**+1.3**
	1.5nm,0.6s						
KBL	**Kabul**	**61.34**	**307**	*eP*	**P**	**10 29 55.6**	**0.0**
	1.8nm,0.4s						
KURBB	**Kurchatov Arra**	**61.59**	**327**	P	**P**	**10 29 55.6**	**-1.0**
	3.8nm,0.6s,baz=124,slow=6.5,SNR=35						
KURK	**Kurchatov**	**61.59**	**328**	*eP*	**P**	**10 29 56.1**	**-0.5**
	7.8nm,0.8s						
KKAR	**Karatay Array**	**63.07**	**317**	*eP*	**P**	**10 30 07.0**	**+0.3**
	3.0nm,0.7s						
BVAR	**Borovoye Array**	**67.17**	**327**	P	**P**	**10 30 32.3**	**-0.7**
BVAR	**Borovoye Array**	**67.17**	**327**	P	**P**	**10 30 32.3**	**-0.7**
	4.1nm,0.8s,baz=126,slow=7.5,SNR=18						
BRVK	**Borovoye**	**67.25**	**327**	*eP*	**P**	**10 30 34.0**	**+0.6**
	4.4nm,0.7s						
ABKAR	**Akbulak array**	**71.99**	**321**	*eP*	**P**	**10 31 01.9**	**-0.9**
	2.9nm,0.7s						
AKTO	**Aktyubinsk**	**73.50**	**322**	P	**P**	**10 31 11.0**	**-0.8**
AKTO	**Aktyubinsk**	**73.50**	**322**	P	**P**	**10 31 11.0**	**-0.8**
	4.0nm,0.8s,baz=107,slow=5.7,SNR=21						
COLD	**Coldfoot**	**83.91**	**23**	*eP*	**P**	**10 32 09.5**	**+0.9**
	3.8nm,0.9s						
ILAR	**Eielson Array**	**85.13**	**25**	P	**P**	**10 32 14.1**	**-0.7**
ILAR	**Eielson Array**	**85.13**	**25**	P	**P**	**10 32 14.1**	**-0.7**
	0.9nm,0.9s,baz=245,slow=5.6,SNR=12						
BRTR	**Keskin Array B**	**89.85**	**310**	P	**P**	**10 32 37.5**	**-0.8**
BRTR	**Keskin Array B**	**89.85**	**310**	P	**P**	**10 32 37.5**	**-0.8**
	1.6nm,0.9s,baz=91,slow=5.2,SNR=6.7						
ARCES	**ARCESS Array B**	**90.33**	**340**	P	**P**	**10 32 38.5**	**-1.2**
ARCES	**ARCESS Array B**	**90.33**	**340**	P	**P**	**10 32 38.5**	**-1.2**
	1.6nm,0.6s,baz=64,slow=8.2,SNR=9.5						
FINES	**FINESS Array B**	**91.69**	**332**	P	**P**	**10 32 45.0**	**-1.1**
FINES	**FINESS Array B**	**91.69**	**332**	P	**P**	**10 32 45.0**	**-1.1**
	5.5nm,1.0s,baz=165,slow=7.9,SNR=3.7						
AKASG	**Malin Array Be**	**91.73**	**321**	P	**P**	**10 32 44.7**	**-1.8**
AKASG	**Malin Array Be**	**91.73**	**321**	P	**P**	**10 32 44.7**	**-1.8**
	1.7nm,0.6s,baz=70,slow=5.1,SNR=5.1						
BUR08	**Bucovina Ar. S**	**94.84**	**318**	*eP*	**P**	**10 33 01.4**	**+0.3**
NB2	**NORSAR Subarra**	**98.65**	**334**	P	**P**	**10 33 17.4**	**-0.6**
	comp=Z,2.9nm,1.0s,baz=68,slow=4.8						
NOA	**NORSAR Array B**	**98.65**	**334**	P	**P**	**10 33 17.0**	**-1.0**
NOA	**NORSAR Array B**	**98.65**	**334**	P	**P**	**10 33 17.0**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=114,slow=4.5,SNR=3.1						
YKA	**Yellowknife Ar**	**99.52**	**24**	P	**Pdif**	**10 33 21.2**	**-0.5**
YKA	**Yellowknife Ar**	**99.52**	**24**	P	**Pdif**	**10 33 21.2**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=295,slow=4.1,SNR=5.4						
NVAR	**Mina Array Bea**	**107.00**	**48**	PKKPbc	PKKPbc	10 49 39.1	+15
	comp=Z,0.4nm,0.7s,baz=104,slow=6.3,SNR=4.1						
PDAR	**Pinedale Array**	**111.43**	**41**	PKKPbc	PKKPbc	10 49 18.9	+9.0
PDAR	**Pinedale Array**	**111.43**	**41**	PKKPbc	PKKPbc	10 49 18.9	+9.0
	comp=Z,1.0nm,0.8s,baz=108,slow=4.8,SNR=7.4						
TXAR	**Lajitas Array**	**121.70**	**52**	PKP	**PKPdf**	**10 38 34.5**	**+1.0**
TXAR	**Lajitas Array**	**121.70**	**52**	PKP	**PKPdf**	**10 38 34.5**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=225,slow=1.1,SNR=8.2						
TORD	**Torodi Ar. Bea**	**122.73**	**288**	PKP	**PKPdf**	**10 38 35.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**122.73**	**288**	PKP	**PKPdf**	**10 38 35.7**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=47,slow=2.6,SNR=4.6						
JCT	**Junction City**	**124.11**	**49**	*e*PKPdf	**PKPdf**	**10 38 39.2**	**+1.1**
CPUP	**Villa Florida**	**157.28**	**171**	PKPab	**PKPab**	**10 40 08.7**	**+2.3**
CPUP	**Villa Florida**	**157.28**	**171**	PKPab	**PKPab**	**10 40 08.7**	**+2.3**
	comp=Z,4.2nm,0.6s,baz=168,slow=4.9,SNR=12						

IDC 12 10:29:08.6±0.7,3°64N×126°22E,h0km,mb3.9/14,
mb1 4.1/14,mb1mx4.0/21,mbtmp3.9/14,Error ellipse:
s-maj=33.8km s-min=13.9km az=74.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.74**	**333**	*eP*	Pg	10 30 01.2	-0.1
MATI	**Mati**	**3.28**	**1**	*eP*	Pn	10 30 03.4	+2.0
BUKP	**Musuan**	**4.36**	**345**	*eP*	Pb	10 30 21.7	-4.6
PAGZ	**Pagadian**	**5.04**	**326**	*eP*	Pb	10 30 33.1	-4.7
BUTP	**Butuan**	**5.33**	**354**	*eP*	Pb	10 30 42.3	-0.4
FITZ	**Fitzroy Crossi**	**21.61**	**181**	P	P	10 34 00.4	-0.1
	4.6nm,1.1s,baz=350,slow=6.1,SNR=3.5						
WRA	**Warramunga Arr**	**24.76**	**162**	P	P	10 34 32.8	+0.6
	6.3nm,0.8s						
ASAR	**Alice Springs**	**28.16**	**165**	P	P	10 35 03.1	+0.3
	0.3nm,0.3s,baz=346,slow=12,SNR=8.4						
CMAR	**Chiang Mai Arr**	**30.48**	**301**	P	P	10 35 24.4	+0.9
	1.1nm,0.6s,baz=111,slow=7.0,SNR=6.4						
KSRS	**Korea Array**	**33.69**	**2**	P	P	10 35 51.9	+0.5
	1.2nm,0.7s,baz=185,slow=12,SNR=3.5						
MJAR	**Matsushiro Arr**	**34.55**	**17**	P	P	10 35 59.7	+0.7
	0.3nm,0.4s,baz=203,slow=11,SNR=2.6						
STKA	**Stephens Creek**	**38.23**	**159**	P	P	10 36 29.8	-0.7
	2.1nm,0.7s,baz=352,slow=11,SNR=5.2						
SONM	**Songino Array**	**47.22**	**342**	P	P	10 37 43.7	+0.3
	0.6nm,0.6s,baz=150,slow=9.1,SNR=6.0						
MKAR	**Makanchi Array**	**57.34**	**326**	P	P	10 38 58.9	+0.3
	0.6nm,0.5s,baz=120,slow=8.0,SNR=10.0						
ZALV	**Zalesovo Beam**	**60.44**	**333**	P	P	10 39 18.8	-1.1
	0.5nm,0.5s,baz=106,slow=3.1,SNR=2.7						
KURBB	**Kurchatov Arra**	**61.54**	**328**	P	P	10 39 26.9	-0.6
	2.1nm,0.7s,baz=128,slow=6.1,SNR=17						
ILAR	**Eielson Array**	**85.40**	**25**	P	P	10 41 47.0	-0.8
	0.2nm,0.8s,baz=254,slow=6.5,SNR=2.3						
BRTR	**Keskin Array B**	**89.68**	**310**	P	P	10 42 09.0	-0.2
	1.2nm,0.8s,baz=110,slow=7.1,SNR=5.3						
YKA	**Yellowknife Ar**	**99.79**	**24**	P	Pdif	10 42 54.5	-0.1
	0.1nm,0.4s,baz=291,slow=5.1,SNR=3.1						

*IDC **12** 10:29:25.5±0.8,4.°01N×126.°64E,h0km,mb4.2/11,*
mb1 4.3/11,mb1mx4.2/20,mbtmp4.2/11,MS3.5/1,
Ms1 3.5/1,ms1mx2.5/49,Error ellipse: s-maj=39.0km
s-min=17.1km az=70.0
*ISCJB **12** 10:29:30.1±0.4,4.°06N±0.°07×126.°60E±0.°09,h45km,*
mb4.3/17,Error ellipse: s-maj=13.3km s-min=8.5km
az=156.7
*NEIC **12** 10:29:30.9±0.3,4.°07N×126.°67E,h35km,mb4.4/9,Error*
ellipse: s-maj=9.5km s-min=5.7km az=62.0

ISC 12 10:29:31.9±0.6,4°03N±0.°10×126°6E±0.°1,h45km,n34,
σ0s65/36,mb4.4/17,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**10.57**	**281**	*e*Pn	**Pn**	**10 32 00.3**	**-0.7**
KAPI	**Kappang**	**11.31**	**217**	LR	LR	10 37 21.9	
	comp=Z,211nm,18.6s,baz=282,slow=42						
KSM	**Kuching**	**16.50**	**262**	*e*Pn	**Pn**	**10 33 20.1**	**-0.3**
	24nm,1.0s						
FITZ	**Fitzroy Crossi**	**22.01**	**183**	*eP*	**P**	**10 34 23.1**	**+0.6**
	5.2nm,0.6s						
QIZ	**Qiongzhong**	**22.17**	**314**	*eP*	**P**	**10 34 24.6**	**+0.3**
	34nm,1.4s						
PMG	**Port Moresby**	**24.43**	**123**	*eP*	**P**	**10 34 46.3**	**-0.3**
WRAB	**Tennant Creek**	**24.99**	**163**	*eP*	**P**	**10 34 51.7**	**0.0**
	9.2nm,0.4s						
MBWA	**Marble Bar**	**25.93**	**195**	*eP*	**P**	**10 35 01.7**	**+1.5**
	11nm,0.8s						
ASAR	**Alice Springs**	**28.42**	**166**	P	**P**	**10 35 21.9**	**-0.7**
ASAR	**Alice Springs**	**28.42**	**166**	P	**P**	**10 35 21.9**	**-0.7**
	1.2nm,0.6s,baz=344,slow=7.6,SNR=8.0						
CMAR	**Chiang Mai Arr**	**30.64**	**300**	P	**P**	**10 35 42.0**	**-0.3**
CMAR				PcP	**PcP**	**10 38 41.4**	**+1.5**
CMAR	**Chiang Mai Arr**	**30.64**	**300**	P	**P**	**10 35 42.0**	**-0.3**
	2.3nm,0.8s,baz=112,slow=7.2,SNR=8.3						
CMAR				PcP	**PcP**	**10 38 41.4**	**+1.5**
	0.6nm,0.3s,baz=134,slow=4.1,SNR=4.1						

KSAR	**Wonju Array Be**	**33.28**	**2**	P	**P**	**10 36 04.8**	**-0.3**
KSRS	**Korea Array**	**33.29**	**2**	P	**P**	**10 36 04.8**	**-0.4**
	1.4nm,0.6s,baz=183,slow=10.0,SNR=4.3						
STKA	**Stephens Creek**	**38.44**	**159**	*eP*	**P**	**10 36 49.3**	**-0.1**
	2.1nm,0.8s						
STKA	**Stephens Creek**	**38.44**	**159**	P	**P**	**10 36 48.9**	**-0.6**
	6.5nm,0.5s,baz=353,slow=7.7,SNR=10						
USRK	**Ussuriysk Arra**	**40.29**	**6**	P	**P**	**10 37 04.9**	**+0.2**
	1.4nm,0.5s,baz=193,slow=8.0,SNR=3.3						
SONM	**Songino Array**	**46.99**	**341**	P	**P**	**10 37 59.4**	**+0.7**
SONM	**Songino Array**	**46.99**	**341**	P	**P**	**10 37 59.4**	**+0.7**
	0.9nm,0.6s,baz=155,slow=9.6,SNR=5.2						
MK31	**Makanchi Array**	**57.26**	**325**	*eP*	**P**	**10 39 15.0**	**0.0**
MKAR	**Makanchi Array**	**57.26**	**325**	P	**P**	**10 39 15.1**	**+0.1**
MKAR	**Makanchi Array**	**57.26**	**325**	P	**P**	**10 39 15.1**	**+0.1**
	3.8nm,0.6s,baz=124,slow=8.3,SNR=21						
ZALV	**Zalesovo Beam**	**60.28**	**333**	P	**P**	**10 39 34.7**	**-1.1**
ZALV	**Zalesovo Beam**	**60.28**	**333**	P	**P**	**10 39 34.7**	**-1.1**
	1.0nm,0.3s,baz=116,slow=6.8,SNR=5.7						
KURBB	**Kurchatov Arra**	**61.44**	**327**	P	**P**	**10 39 43.7**	**0.0**
	1.9nm,0.4s,baz=128,slow=6.4,SNR=18						
KURK	**Kurchatov**	**61.44**	**327**	*eP*	**P**	**10 39 43.6**	**-0.1**
	4.0nm,0.5s						
BRVK	**Borovoye**	**67.09**	**327**	*eP*	**P**	**10 40 20.8**	**+0.1**
	5.5nm,0.8s						
ABKAR	**Akbulak array**	**71.86**	**321**	*eP*	**P**	**10 40 49.9**	**-0.3**
ABKAR				*eP*	**P**	**10 40 50.6**	**+0.4**
ARU	**Arti**	**74.64**	**328**	*eP*	**P**	**10 41 05.8**	**-0.6**
ILAR	**Eielson Array**	**84.88**	**25**	P	**P**	**10 42 01.8**	**0.0**
ILAR	**Eielson Array**	**84.88**	**25**	P	**P**	**10 42 01.8**	**0.0**
	1.2nm,0.8s,baz=234,slow=6.3,SNR=7.8						
ARCES	**ARCESS Array B**	**90.14**	**340**	P	**P**	**10 42 26.7**	**-0.3**
ARCES	**ARCESS Array B**	**90.14**	**340**	P	**P**	**10 42 26.7**	**-0.3**
	1.0nm,0.6s,baz=76,slow=5.0,SNR=6.7						
SDCO	**Great Sand Dun**	**116.29**	**44**	*e*Pdif	**Pdif**	**10 44 26.1**	**+0.6**

IDC 12 10:32:35.2±1.6,3°79N×126°15E,h0km,mb3.7/4,
mb1 3.9/4,mb1mx3.6/19,mbtmp3.7/4,Error ellipse:
s-maj=237.2km s-min=25.3km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.92**	**161**	P	P	10 38 00.3	0.0
	1.6nm,0.7s						
SONM	**Songino Array**	**47.06**	**342**	P	P	10 41 09.1	+0.2
	0.4nm,0.8s,baz=159,slow=8.5,SNR=2.5						
MKAR	**Makanchi Array**	**57.18**	**325**	P	P	10 42 24.5	+0.4
	0.8nm,0.5s,baz=120,slow=8.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**60.27**	**330**	P	P	10 42 44.7	-0.8
	0.3nm,0.3s,baz=126,slow=7.3,SNR=2.3						

IDC 12 10:41:01.4±3.3,3°79N×126°59E,h0km,mb3.7/4,
mb1 3.9/4,mb1mx3.5/19,mbtmp3.7/4,Error ellipse:
s-maj=368.7km s-min=25.1km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.79**	**162**	P	P	10 46 23.2	-2.0
	2.5nm,0.7s						
ASAR	**Alice Springs**	**28.21**	**166**	P	P	10 46 57.6	+1.5
	0.2nm,0.7s,baz=338,slow=7.6,SNR=3.4						
STKA	**Stephens Creek**	**38.24**	**159**	P	P	10 48 23.5	+0.2
	2.4nm,0.9s,baz=326,slow=11,SNR=2.5						
MKAR	**Makanchi Array**	**57.42**	**325**	P	P	10 50 51.9	-0.1
	0.3nm,0.5s,baz=122,slow=7.0,SNR=5.6						

IDC 12 10:41:57.1±1.3,3°79N×126°81E,h0km,mb3.8/6,
mb1 4.0/6,mb1mx3.7/20,mbtmp3.8/6,Error ellipse:
s-maj=110.2km s-min=18.2km az=71.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.79**	**183**	P	P	10 46 50.8	+0.1
	2.6nm,0.7s,baz=12,slow=13,SNR=4.2						
WRA	**Warramunga Arr**	**24.72**	**163**	P	P	10 47 20.1	-0.2
	5.6nm,0.8s						
ASAR	**Alice Springs**	**28.15**	**166**	P	P	10 47 52.4	+1.0
	0.3nm,0.3s,baz=346,slow=12,SNR=4.1						
STKA	**Stephens Creek**	**38.16**	**159**	P	P	10 49 17.4	-1.0
	3.2nm,0.6s,baz=333,slow=8.0,SNR=6.3						
SONM	**Songino Array**	**47.27**	**341**	P	P	10 50 32.8	+0.4
	0.2nm,0.4s,baz=153,slow=9.7,SNR=2.6						
MKAR	**Makanchi Array**	**57.55**	**325**	P	P	10 51 48.0	-0.6
	0.4nm,0.6s,baz=134,slow=6.8,SNR=3.3						

*IDC **12** 10:45:19.6±0.8,3.°99N×126.°68E,h0km,mb4.0/9,*
mb1 4.2/9,mb1mx4.0/20,mbtmp4.0/9,Error ellipse:
s-maj=48.8km s-min=14.9km az=69.0
*ISCJB **12** 10:45:24.3±0.5,4.°01N±0.°08×126.°6E±0.°1,h45km,*
mb4.1/16,Error ellipse: s-maj=18.1km s-min=8.6km
az=153.9
*NEIC **12** 10:45:25.0±0.4,4.°01N×126.°63E,h35km,mb4.3/9,Error*
ellipse: s-maj=14.1km s-min=6.7km az=67.0

ISC 12 10:45:26.2±0.7,4°0N±0.°1×126°6E±0.°2,h45km,n33,
σ0s70/33,mb4.2/16,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSM	**Kuching**	**16.45**	**262**	*e*Pn	**Pn**	**10 49 13.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**21.95**	**182**	*eP*	**P**	**10 50 16.8**	**+0.6**
	2.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.95**	**182**	*eP*	**P**	**10 50 16.8**	**+0.6**
	9.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.95**	**182**	P	**P**	**10 50 15.1**	**-1.0**
	3.2nm,0.6s,baz=7.8,slow=5.9,SNR=8.7						
WRAB	**Tennant Creek**	**24.95**	**162**	*eP*	**P**	**10 50 45.4**	**-0.1**
	9.6nm,0.5s						
WRA	**Warramunga Arr**	**24.95**	**163**	P	**P**	**10 50 44.8**	**-0.8**
WRA	**Warramunga Arr**	**24.95**	**163**	P	**P**	**10 50 44.8**	**-0.8**
	10nm,0.5s						
MBWA	**Marble Bar**	**25.86**	**195**	*eP*	**P**	**10 50 55.1**	**+1.4**
	14nm,1.0s						
KULM	**Kulim**	**25.89**	**274**	*eP*	**P**	**10 50 53.8**	**-0.3**
	6.7nm,1.0s						
AS31	**Alice Springs**	**28.38**	**166**	*eP*	**P**	**10 51 17.6**	**+1.2**
ASAR	**Alice Springs**	**28.38**	**166**	P	**P**	**10 51 16.4**	**0.0**
ASAR	**Alice Springs**	**28.38**	**166**	P	**P**	**10 51 16.4**	**0.0**
	0.8nm,0.6s,baz=343,slow=7.6,SNR=16						
CMAR	**Chiang Mai Arr**	**30.63**	**300**	P	**P**	**10 51 37.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**30.63**	**300**	P	**P**	**10 51 37.2**	**+0.8**
	0.5nm,0.3s,baz=118,slow=7.4,SNR=5.7						
STKA	**Stephens Creek**	**38.40**	**159**	*eP*	**P**	**10 52 43.2**	**-0.2**
	1.8nm,1.0s						
STKA	**Stephens Creek**	**38.40**	**159**	*eP*	**P**	**10 52 43.3**	**-0.1**
	3.7nm,0.6s						
STKA	**Stephens Creek**	**38.40**	**159**	P	**P**	**10 52 42.3**	**-1.1**
	5.6nm,0.7s,baz=322,slow=10.0,SNR=13						
ARMA	**Armidale**	**41.74**	**147**	*eP*	**P**	**10 53 12.1**	**+0.9**
SONM	**Songino Array**	**47.03**	**341**	P	**P**	**10 53 53.2**	**-0.1**
SONM	**Songino Array**	**47.03**	**341**	P	**P**	**10 53 53.2**	**-0.1**
	0.6nm,0.7s,baz=160,slow=8.6,SNR=3.6						
MK31	**Makanchi Array**	**57.28**	**325**	*eP*	**P**	**10 55 08.8**	**-0.5**
MKAR	**Makanchi Array**	**57.28**	**325**	P	**P**	**10 55 09.3**	**0.0**
MKAR	**Makanchi Array**	**57.28**	**325**	P	**P**	**10 55 09.3**	**0.0**
	1.9nm,0.5s,baz=123,slow=8.4,SNR=33						
ZALV	**Zalesovo Beam**	**60.31**	**333**	P	**P**	**10 55 29.4**	**-0.9**
ZALV	**Zalesovo Beam**	**60.31**	**333**	P	**P**	**10 55 29.4**	**-0.9**
	0.7nm,0.4s,baz=112,slow=6.3,SNR=4.8						
KURK	**Kurchatov**	**61.47**	**327**	*eP*	**P**	**10 55 38.0**	**-0.1**
	3.7nm,0.5s						
BRVK	**Borovoye**	**67.12**	**327**	*eP*	**P**	**10 56 14.9**	**-0.2**
	2.8nm,0.9s						
ABKAR	**Akbulak array**	**71.88**	**321**	*eP*	**P**	**10 56 44.9**	**+0.3**
	0.2nm,0.4s						
ILAR	**Eielson Array**	**84.95**	**25**	P	**P**	**10 57 56.8**	**+0.4**
ILAR	**Eielson Array**	**84.95**	**25**	P	**P**	**10 57 56.8**	**+0.4**
	0.3nm,0.6s,baz=251,slow=5.5,SNR=5.4						
QSPA	**South Pole Qui**	**93.87**	**180**	*eP*	**P**	**10 58 37.2**	**-1.5**
	4.7nm,1.3s						
TORD	**Torodi Ar. Bea**	**122.71**	**288**	PKP	**PKPdf**	**11 04 17.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**122.71**	**288**	PKP	**PKPdf**	**11 04 17.8**	**-0.4**
	0.3nm,0.7s,baz=84,slow=2.1,SNR=2.9						

*IDC **12** 10:51:32.5±0.6,3.°62N×126.°57E,h0km,mb4.2/12,*
mb1 4.3/12,mb1mx4.2/21,mbtmp4.2/12,Error ellipse:
s-maj=38.7km s-min=14.0km az=72.0
*ISCJB **12** 10:51:37.9±0.4,3.°61N±0.°08×126.°6E±0.°2,h53km,*
mb4.3/18,Error ellipse: s-maj=26.1km s-min=8.5km
az=163.0

*NEIC **12** 10:51:38.0±0.4,3.°66N×126.°67E,h35km,mb4.5/7,Error*
ellipse: s-maj=26.4km s-min=8.7km az=72.0

ISC 12 10:51:40.0±0.6,3°63N±0.°10×126°6E±0.°2,h53km,n39,
σ1s01/41,mb4.4/17,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.62**	**183**	*eP*	**P**	**10 56 26.8**	**+1.1**
	10nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.62**	**183**	*eP*	**P**	**10 56 25.7**	**-0.1**
	17nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.62**	**183**	P	**P**	**10 56 25.1**	**-0.7**
	6.6nm,0.9s,baz=29,slow=13,SNR=5.8						
WRAB	**Tennant Creek**	**24.62**	**162**	*eP*	**P**	**10 56 54.5**	**-1.1**
	21nm,0.8s						
WRA	**Warramunga Arr**	**24.62**	**162**	P	**P**	**10 56 54.6**	**-1.1**
WRA	**Warramunga Arr**	**24.62**	**162**	P	**P**	**10 56 54.6**	**-1.1**
	92nm,1.1s,baz=41,slow=0.0,SNR=1.8						
AS31	**Alice Springs**	**28.05**	**166**	*eP*	**P**	**10 57 28.5**	**+2.0**
ASAR	**Alice Springs**	**28.05**	**166**	P	**P**	**10 57 25.4**	**-1.2**
ASAR	**Alice Springs**	**28.05**	**166**	P	**P**	**10 57 25.4**	**-1.2**
	2.2nm,0.6s,baz=345,slow=8.2,SNR=12						
CMAR	**Chiang Mai Arr**	**30.82**	**301**	P	**P**	**10 57 49.9**	**-1.3**
CMAR	**Chiang Mai Arr**	**30.82**	**301**	P	**P**	**10 57 49.9**	**-1.3**
	0.4nm,0.3s,baz=104,slow=7.5,SNR=4.2						
KSAR	**Wonju Array Be**	**33.67**	**2**	P	**P**	**10 58 15.8**	**-0.1**
KSRS	**Korea Array**	**33.68**	**2**	P	**P**	**10 58 15.8**	**-0.2**
	1.6nm,0.8s,baz=181,slow=9.2,SNR=3.0						
STKA	**Stephens Creek**	**38.08**	**159**	P	**P**	**10 58 52.8**	**-0.9**
STKA	**Stephens Creek**	**38.08**	**159**	*eP*	**P**	**10 58 52.7**	**-0.9**
	6.3nm,0.6s						
STKA	**Stephens Creek**	**38.08**	**159**	P	**P**	**10 58 52.8**	**-0.9**
	8.6nm,0.8s,baz=333,slow=9.2,SNR=16						
HIA	**Hailar**	**45.85**	**354**	*eP*	**P**	**10 59 57.8**	**+0.9**
	8.3nm,0.9s						
SONM	**Songino Array**	**47.35**	**342**	P	**P**	**11 00 08.6**	**-0.2**
SONM				PcP	**PcP**	**11 01 39.8**	**+0.8**
SONM	**Songino Array**	**47.35**	**342**	P	**P**	**11 00 08.6**	**-0.2**
	1.3nm,0.8s,baz=151,slow=6.9,SNR=7.4						
SONM				PcP	**PcP**	**11 01 39.8**	**+0.8**
	0.7nm,0.8s,baz=169,slow=2.9,SNR=2.8						
MK31	**Makanchi Array**	**57.57**	**325**	*eP*	**P**	**11 01 24.6**	**+0.3**
MKAR	**Makanchi Array**	**57.57**	**325**	P	**P**	**11 01 23.4**	**-1.0**
MKAR	**Makanchi Array**	**57.57**	**325**	P	**P**	**11 01 23.4**	**-1.0**
	1.1nm,0.4s,baz=118,slow=7.4,SNR=18						
KURBB	**Kurchatov Arra**	**61.76**	**327**	P	**P**	**11 01 52.8**	**-0.2**
	2.2nm,0.7s,baz=126,slow=6.4,SNR=11						
KURK	**Kurchatov**	**61.76**	**328**	*eP*	**P**	**11 01 52.5**	**-0.5**
	4.1nm,0.6s						
KKAR	**Karatay Array**	**63.23**	**317**	*eP*	**P**	**11 02 04.4**	**+1.4**
	2.6nm,0.8s						
BRVK	**Borovoye**	**67.41**	**327**	*eP*	**P**	**11 02 31.8**	**+1.9**
	5.8nm,1.0s						
ABKAR	**Akbulak array**	**72.15**	**321**	*eP*	**P**	**11 02 59.0**	**-0.1**
	0.6nm,0.5s						
ILAR	**Eielson Array**	**85.24**	**25**	P	**P**	**11

GUN	**Gumba**	**49.20**	**309**	*e*P	**P**	**11 04 02.0**	**+1.2**
	88nm,0.7s							
PKI	**Pulchoki**	**49.41**	**308**	*e*P	**P**	**11 04 03.0**	**+0.7**
KKN	**Kakani**	**49.62**	**308**	*e*P	**P**	**11 04 04.8**	**+1.1**
	43nm,0.7s							
DMN	**Daman**	**49.67**	**308**	*e*P	**P**	**11 04 05.5**	**+1.3**
GKN	**Gorkha**	**50.22**	**308**	*e*P	**P**	**11 04 09.2**	**+0.9**
	45nm,0.9s							
KOLN	**Koldanda**	**50.93**	**307**	*e*P	**P**	**11 04 15.0**	**+1.3**
	80nm,0.7s							
DANN	**Dangsing**	**51.07**	**308**	*e*P	**P**	**11 04 15.8**	**+1.0**
	67nm,0.7s							
SONM	**Songino Array**	**51.85**	**342**	P	**P**	**11 04 20.1**	**0.0**
SONM	**Songino Array**	**51.85**	**342**	P	**P**	**11 04 20.1**	**0.0**
	2.1nm,1.0s,baz=162,slow=8.9,SNR=8.2							
PETK	**Petropavlovsk-**	**59.27**	**21**	P	**P**	**11 05 14.2**	**+1.0**
PETK	**Petropavlovsk-**	**59.27**	**21**	P	**P**	**11 05 14.2**	**+1.0**
	5.7nm,0.9s,baz=207,slow=5.7,SNR=4.8							
MCQ	**Macquarie Isla**	**59.37**	**159**	*e*P	**P**	**11 05 12.6**	**-1.2**
	21um,1.4s							
MK31	**Makanchi Array**	**61.80**	**326**	*e*P	**P**	**11 05 30.8**	**+0.2**
MKAR	**Makanchi Array**	**61.80**	**326**	P	**P**	**11 05 30.7**	**+0.1**
MKAR	**Makanchi Array**	**61.80**	**326**	P	**P**	**11 05 30.7**	**+0.1**
	2.8nm,0.7s,baz=123,slow=8.5,SNR=18							
ZALV	**Zalesovo Beam**	**65.02**	**334**	P	**P**	**11 05 50.7**	**-1.1**
ZALV	**Zalesovo Beam**	**65.02**	**334**	P	**P**	**11 05 50.7**	**-1.1**
	0.5nm,0.3s,baz=101,slow=6.2,SNR=4.7							
KURBB	**Kurchatov Arra**	**66.04**	**328**	P	**P**	**11 05 57.3**	**-1.1**
	3.0nm,0.6s,baz=128,slow=6.1,SNR=12							
KURK	**Kurchatov**	**66.04**	**328**	*e*P	**P**	**11 05 58.0**	**-0.4**
	6.8nm,0.8s							
KKAR	**Karatay Array**	**67.18**	**318**	*e*P	**P**	**11 06 06.3**	**+0.4**
	4.1nm,1.0s							
BVAR	**Borovoye Array**	**71.61**	**328**	P	**P**	**11 06 32.0**	**-1.1**
BVAR	**Borovoye Array**	**71.61**	**328**	P	**P**	**11 06 32.0**	**-1.1**
	1.4nm,0.9s,baz=123,slow=7.1,SNR=7.6							
BRVK	**Borovoye**	**71.68**	**328**	*e*P	**P**	**11 06 33.1**	**-0.3**
	1.4nm,0.5s							
ABKAR	**Akbulak array**	**76.23**	**321**	*e*P	**P**	**11 06 59.3**	**-0.8**
	23nm,1.1s							
AKTO	**Aktyubinsk**	**77.77**	**322**	P	**P**	**11 07 08.5**	**-0.4**
AKTO	**Aktyubinsk**	**77.77**	**322**	P	**P**	**11 07 08.5**	**-0.4**
	1.5nm,0.8s,baz=102,slow=6.5,SNR=7.5							
ILAR	**Eielson Array**	**88.75**	**25**	P	**P**	**11 08 04.5**	**-0.6**
ILAR	**Eielson Array**	**88.75**	**25**	P	**P**	**11 08 04.5**	**-0.6**
	0.5nm,1.0s,baz=206,slow=6.5,SNR=4.2							
QSPA	**South Pole Qui**	**89.15**	**180**	*e*P	**P**	**11 08 08.0**	**+0.9**
	2.2nm,0.9s							
TORD	**Torodi Ar. Bea**	**125.12**	**285**	PKP	**PKPdf**	**11 14 12.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**125.12**	**285**	PKP	**PKPdf**	**11 14 12.5**	**-0.6**
	0.7nm,0.7s,baz=65,slow=2.1,SNR=4.2							

IDC 12 10:57:24.0±1.1, 0°70.5′S×133°83.6′E, h0km, mb4.1/6, mb1 4.2/8, mb1mx4.0/20, mbtmp4.1/8, ML4.1/1, Error ellipse: s-maj=55.1km s-min=18.1km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.08**	**204**	P	Pn	11 01 48.6	-0.3
	0.4nm,0.3s,baz=29,slow=13,SNR=3.9						
WRA	**Warramunga Arr**	**19.13**	**179**	P	P	11 01 47.9	-1.0
ASAR	**Alice Springs**	**22.83**	**180**	P	P	11 02 27.9	-1.0
	8.6nm,0.8s,baz=4.9,slow=12,SNR=13						
STKA	**Stephens Creek**	**31.87**	**167**	P	P	11 03 52.9	+1.8
	2.6nm,0.9s,baz=353,slow=8.1,SNR=3.1						
MKAR	**Makanchi Array**	**65.26**	**324**	P	P	11 08 08.1	+0.4
	0.7nm,0.5s,baz=111,slow=8.3,SNR=4.8						
KURBB	**Kurchatov Arra**	**69.31**	**326**	P	P	11 08 33.3	+0.1
	0.7nm,0.3s,baz=120,slow=6.2,SNR=4.0						
BVAR	**Borovoye Array**	**74.90**	**326**	P	P	11 09 06.5	-0.3
	0.6nm,0.5s,baz=116,slow=9.8,SNR=3.3						
ILAR	**Eielson Array**	**86.06**	**25**	P	P	11 10 06.2	-0.2
	0.5nm,0.6s,baz=255,slow=5.1,SNR=8.5						

ISCJB 12 11:01:23.0±0.9, 38°.54N±0°.08×43°.3E±0°.2, h6km±22km, Error ellipse: s-maj=25.8km s-min=7.7km az=28.4
ISK 12 11:01:22.4, 38°.54N×43°.26E, h2km, MD2.7
CSEM 12 11:01:22.8±0.3, 38°.53N×43°.25E, h2km, MD2.7, Error ellipse: s-maj=8.4km s-min=5.1km az=82.0

ISC 12 11:01:22.9±1.1, 38°.55N±0°.04×43°.27E±0°.06, h7km±13km, n12, σ0°41/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.11**	**62**	PG	**Pg**	**11 01 24.9**	**-0.4**
VANB				*e*SG	**Sg**	**11 01 27.3**	**+0.2**
VANB	**Van**	**0.11**	**62**	*i* Pg	**Pg**	**11 01 25.0**	**-0.4**
VANB				*e*Sg	**Sg**	**11 01 27.3**	**+0.2**
TVAN	**Van**	**0.11**	**98**	*i* P	**Pg**	**11 01 25.1**	**-0.3**
TVAN	**Van**	**0.11**	**98**	*i* P	**Pg**	**11 01 25.1**	**-0.3**
VANT	**Van**	**0.12**	**182**	PG	**Pg**	**11 01 25.1**	**-0.5**
VANT				*e*SG	**Sg**	**11 01 28.1**	**+0.6**
VANT	**Van**	**0.12**	**182**	*i* Pg	**Pg**	**11 01 25.1**	**-0.5**
VANT				*e*Sg	**Sg**	**11 01 28.1**	**+0.6**
CLDR	**Caldiran**	**0.78**	**40**	*e*PG	**Pb**	**11 01 39.2**	**+0.2**
CLDR	**Caldiran**	**0.78**	**40**	*e*Pg	**Pb**	**11 01 39.2**	**+0.2**
TUTA	**Tutak**	**0.93**	**338**	*i* P	**Pg**	**11 01 40.4**	**-0.3**
TUTA				*i* S	**Sb**	**11 01 53.9**	**-0.2**
TUTA	**Tutak**	**0.93**	**338**	*i* P	**Pg**	**11 01 40.4**	**-0.3**
TUTA				*i* S	**Sb**	**11 01 53.9**	**-0.2**
AGRB	**Hanur-Agry**	**1.05**	**348**	*e*PG	**Pb**	**11 01 43.9**	**+0.3**
AGRB	**Hanur-Agry**	**1.05**	**348**	*e*Pg	**Pb**	**11 01 43.9**	**+0.3**

PRE 12 11:02:49.3±1.3, 27°.76S×26°.88E, h2km, ML1.9, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.94**	**27**	*e*P	Pb	11 03 08.0	-0.5
PRYS				*e*S	Sg	11 03 19.3	-0.4
PRYS				AML	AML	11 03 20.6	
	comp=Z,29nm,0.2s						
BOSA	**Boshof**	**1.67**	**239**	*e*P	Pb	11 03 20.5	-0.4
BOSA				*e*S	Sb	11 03 42.5	-0.1
BOSA				AML	AML	11 03 53.3	
	comp=Z,7.7nm,0.5s						
LBTB	**Lobatse**	**2.97**	**337**	*e*P	Pn	11 03 39.2	+1.6
LBTB				*e*S	Sn	11 04 13.7	-0.2
LBTB				AML	AML	11 04 48.9	
	comp=Z,4.4nm,0.5s						
HVD	**Gariep Dam**	**3.08**	**203**	*e*P	Pn	11 03 39.7	+0.5
HVD				*e*S	Sn	11 04 16.7	-0.1
HVD				AML	AML	11 04 41.0	
	comp=Z,4.3nm,0.8s						

IDC 12 11:05:18.7±0.5, 3°.69N×126°.32E, h0km, mb4.3/25, mb1 4.4/25, mb1mx4.4/27, mbtmp4.3/25, MS3.1/1, Ms1 3.1/1, ms1mx2.5/34, Error ellipse: s-maj=24.7km s-min=12.0km az=70.0
BJI 12 11:05:21.9, 3°.72N×126°.04E, h29km, mB5.0/6, mb4.6/14, Ms4.4/3, Ms7 4.2/3
ISCJB 12 11:05:23.2±0.3, 3°.78N±0°.04×126°.55E±0°.07, h45km, mb4.5/44, MS2.9/1, Error ellipse: s-maj=10.1km s-min=4.9km az=160.1
NEIC 12 11:05:23.7±0.3, 3°.77N×126°.45E, h35km, mb4.7/15, Error ellipse: s-maj=11.5km s-min=6.2km az=73.0
DJA 12 11:05:27, 3°.78N×126°.84E, h64km, mb4.7/10

ISC 12 11:05:24.9±0.4, 3°.76N±0°.06×126°.50E±0°.08, h45km, n108, σ1§24/95, mb4.5/43, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.78**	**326**	*e*P	Pn	11 06 11.5	+4.4
MNI	**Manado**	**2.83**	**216**	P	Pn	11 06 19.6	+12
TNTI	**Ternate**	**3.09**	**164**	P	Pn	**11 06 13.1**	**+1.9**
MATI	**Mati**	**3.18**	**356**	*e*P	**Pn**	**11 06 13.8**	**+1.4**
MATI				*e*S	Sn	11 06 56.9	+7.8
DAV	**Davao City (W)**	**3.42**	**345**	Pn	Pn	11 06 22.6	+6.9
DAV	**Davao City (W)**	**3.42**	**345**	Pn	Pn	11 06 22.6	+6.9
	50nm,0.3s,baz=71,slow=16,SNR=4.1						
KMSI	**Cibinong**	**4.04**	**219**	P	Pn	11 06 33.1	+8.9
BUKP	**Musuan**	**4.33**	**341**	*e*P	**Pn**	**11 06 31.0**	**+2.6**
PAGZ	**Pagadian**	**5.11**	**323**	*e*P	**Pn**	**11 06 41.8**	**+2.9**
MRSI	**Marisa**	**5.60**	**235**	P	Pn	11 06 50.4	+4.7
	345nm,0.6s,3μm1.2nm						
LUWI	**Luwuk**	**6.05**	**218**	P	Pn	11 07 03.1	+11
	350nm,1.2s,3μm1.4nm						
SWI	**Sorong**	**6.61**	**134**	P	**Pn**	**11 06 59.7**	**+0.1**
	88nm,0.8s,0.3nm						
KDI	**Kendari**	**8.59**	**207**	P	Pn	11 07 38.1	+11
	36nm,0.8s						
FAKI	**Fak Fak**	**8.78**	**139**	P	**Pn**	**11 07 30.6**	**+1.3**
	31nm,0.9s,0.1nm						
TTSI	**Tana Toraja**	**9.50**	**225**	P	Pn	11 07 50.8	+12
	52nm,0.8s						
KKM	**Kota Kinabalu**	**10.49**	**283**	*e*Pn	Pn	11 07 59.4	+6.5
KKM	**Kota Kinabalu**	**10.49**	**283**	P	Pn	11 08 01.7	+8.8
	25nm,1.2s						
SBUM	**Sibu**	**14.31**	**265**	P	**P**	**11 08 53.0**	**+1.9**
	20nm,1.0s						
KSM	**Kuching**	**16.33**	**262**	*e*Pn	**Pn**	**11 09 10.5**	**-0.7**
	18nm,0.9s						
KSM	**Kuching**	**16.33**	**262**	P	**P**	**11 09 18.2**	**+4.7**
	20nm,1.0s						
MTN	**Manton Dam**	**17.12**	**164**	*e*P	**Pn**	**11 09 18.2**	**-2.9**
GRJI	**Gresik**	**17.55**	**233**	P	**P**	**11 09 27.6**	**+0.5**
GUMO	**Guam**	**20.60**	**61**	LR	LR	11 18 04.8	
	comp=Z,53nm,18.9s,baz=249,slow=37						
SSLB	**Suanglung**	**20.62**	**345**	*e*Pn	**P**	**11 09 59.8**	**-0.8**
	14nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.74**	**182**	P	**P**	**11 10 12.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**21.74**	**182**	*e*P	**P**	**11 10 13.9**	**+1.3**
	9.9nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.74**	**182**	P	**P**	**11 10 12.4**	**-0.2**
	3.9nm,0.5s,baz=23,slow=6.6,SNR=11						
RGRI	**Rengat**	**24.49**	**261**	P	P	11 10 56.8	+17
WRAB	**Tennant Creek**	**24.78**	**162**	*e*P	**P**	**11 10 41.5**	**-1.2**
	36nm,1.1s						
WRA	**Warramunga Arr**	**24.78**	**162**	P	**P**	**11 10 41.9**	**-0.9**
WRA	**Warramunga Arr**	**24.78**	**162**	P	**P**	**11 10 41.9**	**-0.9**
	13nm,0.5s						
IPM	**Ipoh**	**25.41**	**273**	P	P	11 11 06.9	+18
MBWA	**Marble Bar**	**25.64**	**195**	*e*P	**P**	**11 10 51.9**	**+1.4**
MNSI	**Mandailing Nat**	**27.05**	**264**	P	P	11 11 14.1	+11
	21nm,1.1s,2μm						
AS31	**Alice Springs**	**28.20**	**166**	*e*P	**P**	**11 11 13.0**	**-0.5**
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**	**11 11 12.9**	**-0.6**
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**	**11 11 12.9**	**-0.6**
	2.0nm,0.6s,baz=343,slow=6.8,SNR=23						
WHN	**Wuhan**	**29.01**	**338**	P	**P**	**11 11 20.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**30.66**	**301**	P	**P**	**11 11 33.8**	**-1.6**
CMAR	**Chiang Mai Arr**	**30.66**	**301**	P	**P**	**11 11 33.8**	**-1.6**
	2.2nm,0.8s,baz=119,slow=7.5,SNR=11						
CHTO	**Chiang Mai**	**30.81**	**301**	*e*P	**P**	**11 11 37.4**	**+0.7**
	3.5nm,0.7s						
CHTO	**Chiang Mai**	**30.81**	**301**	P	P	11 11 40.1	+3.4
ENH	**Enshi**	**30.89**	**330**	*e*P	**P**	**11 11 36.7**	**-0.6**
	6.6nm,0.5s						
KSAR	**Wonju Array Be**	**33.55**	**2**	P	**P**	**11 12 00.5**	**0.0**
KSRS	**Korea Array**	**33.56**	**2**	P	**P**	**11 12 00.5**	**-0.1**
	1.8nm,0.6s,baz=183,slow=9.4,SNR=6.5						
XAN	**Xi'an**	**34.29**	**334**	P	**P**	**11 12 05.8**	**-1.2**
XAN				pP	**pP**	**11 12 16.0**	**-3.1**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MJAR	**Matsushiro Arr**	**34.36**	**17**	P	**P**	**11 12 07.3**	**-0.3**
MJAR	**Matsushiro Arr**	**34.36**	**17**	P	**P**	**11 12 07.3**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=168,slow=8.4,SNR=3.3						
BJT	**Baijiatuau**	**37.29**	**347**	*e*P	**P**	**11 12 31.3**	**-1.3**
	comp=Z,20nm,0.5s						
BJI	**Beijing**	**37.31**	**347**	P	**P**	**11 12 32.3**	**-0.4**
BJI				pmax	pmax		
	comp=Z,18nm,0.8s						
STKA	**Stephens Creek**	**38.24**	**159**	*e*P	**P**	**11 12 40.3**	**-0.5**
	comp=Z,14nm,2.0s						
STKA	**Stephens Creek**	**38.24**	**159**	*e*P	**P**	**11 12 41.0**	**+0.3**
	comp=Z,6.6nm,0.6s						
STKA	**Stephens Creek**	**38.24**	**159**	P	**P**	**11 12 40.6**	**-0.1**
	comp=Z,7.3nm,0.5s,baz=342,slow=6.0,SNR=15						
LZH	**Lanzhou**	**38.36**	**330**	*e*P	**P**	**11 12 41.0**	**-0.9**
LZH				pP	pP	11 12 48.0	-6.1
LZH				sP	sP	11 12 50.5	-9.0
LZH				pmax	pmax		
	comp=Z,17nm,1.2s						
USRK	**Ussuriysk Arra**	**40.57**	**6**	P	**P**	**11 13 01.9**	**+2.0**
	comp=Z,2.0nm,0.7s,baz=152,slow=8.8,SNR=5.1						
MDJ	**Mudanjiang**	**40.78**	**3**	*e*P	**P**	**11 13 03.8**	**+2.0**
	comp=Z,11nm,1.0s						
ARMA	**Armidale**	**41.62**	**146**	*e*P	**P**	**11 13 09.1**	**+0.1**
LSA	**Lhasa**	**42.24**	**312**	*e*P	**P**	**11 13 15.1**	**+0.5**
	comp=Z,5.3nm,0.6s						
GTA	**Gaotai**	**42.95**	**329**	*e*P	**P**	**11 13 20.6**	**+0.8**
GTA				pP	**pP**	**11 13 31.0**	**-1.1**
GTA				sP	**sP**	**11 13 34.9**	**-2.5**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
HIA	**Hailar**	**45.71**	**354**	*e*P	**P**	**11 13 39.5**	**-2.0**
	comp=Z,6.7nm,0.8s						
DZM	**Mont Dzumac**	**46.74**	**125**	P	**P**	**11 13 50.6**	**+0.5**
DZM	**Mont Dzumac**	**46.74**	**125**	P	**P**	**11 13 50.6**	**+0.5**
	comp=Z,3.6nm,0.8s,baz=38,slow=16,SNR=6.4						
ULN	**Ulaanbaatar**	**47.02**	**342**	*e*P	**P**	**11 13 51.2**	**-0.8**
	comp=Z,39nm,2.5s						
ULN	**Ulaanbaatar**	**47.02**	**342**	P	P	11 14 01.9	+10
SONM	**Songino Array**	**47.20**	**342**	P	P	**11 13 53.1**	**-0.3**
SONM				PcP	**PcP**	**11 15 24.6**	**+0.3**
SONM	**Songino Array**	**47.20**	**342**	P	**P**	**11 13 53.1**	**-0.3**
	comp=Z,1.6nm,0.7s,baz=152,slow=9.7,SNR=14						
SONM				PcP	**PcP**	**11 15 24.6**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=138,slow=3.9,SNR=4.4						
PETK	**Petropavlovsk-**	**55.49**	**22**	P	**P**	**11 14 56.9**	**+1.7**
PETK	**Petropavlovsk-**	**55.49**	**22**	P	**P**	**11 14 56.9**	**+1.7**
	comp=Z,3.4nm,0.8s,baz=211,slow=2.7,SNR=4.4						
MK31	**Makanchi Array**	**57.40**	**325**	*e*P	**P**	**11 15 08.7**	**-0.3**
MKAR	**Makanchi Array**	**57.40**	**325**	*e*P	**P**	**11 15 08.1**	**-0.8**
MKAR	**Makanchi Array**	**57.40**	**325**	P	**P**	**11 15 08.0**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=120,slow=7.0,SNR=21						
ZALV	**Zalesovo Beam**	**60.46**	**333**	P	**P**	**11 15 28.6**	**-1.3**
ZALV	**Zalesovo Beam**	**60.46**	**333**	P	**P**	**11 15 28.6**	**-1.3**
	comp=Z,1.0nm,0.4s,baz=111,slow=8.1,SNR=4.0						
EKS2	**Erkin-Say**	**60.67**	**318**	P	**P**	**11 15 31.8**	**0.0**
	comp=Z,3.3nm,0.5s						
KURBB	**Kurchatov Arra**	**61.59**	**327**	P	**P**	**11 15 39.3**	**+1.6**
	comp=Z,5.8nm,0.7s,baz=124,slow=6.4,SNR=22						
KURK	**Kurchatov**	**61.59**	**328**	*e*P	**P**	**11 15 37.0**	**-0.7**
	comp=Z,9.6nm,0.7s						
KKAR	**Karatay Array**	**63.05**	**317**	*e*P	**P**	**11 15 46.8**	**-0.9**
BVAR	**Borovoye Array**	**67.17**	**327**	P	**P**	**11 16 14.7**	**+0.5**
BVAR	**Borovoye Array**	**67.17**	**327**	P	**P**	**11 16 14.7**	**+0.5**
	comp=Z,5.9nm,0.9s,baz=126,slow=7.5,SNR=20						
ABKAR	**Akbulak array**	**71.98**	**321**	*e*P	**P**	**11 16 43.8**	**-0.1**
AKTO	**Aktyubinsk**	**73.49**	**322**	P	**P**	**11 16 53.4**	**+0.5**
AKTO	**Aktyubinsk**	**73.49**	**322**	P	**P**	**11 16 53.4**	**+0.5**
	comp=Z,5.3nm,0.7s,baz=106,slow=7.6,SNR=24						
ARU	**Arti**	**74.79**	**328**	P	**P**	**11 17 00.4**	**+0.2**
	comp=Z,4.6nm,0.4s						
MIB	**Mutribah**	**78.73**	**299**	*e*P	**P**	**11 17 22.8**	**-0.3**
MIB				AMb	AMB	11 17 23.9	
	comp=Z,23nm,0.7s						
NAY	**Al-Naaiem**	**78.80**	**299**	*e*P	**P**	**11 17 23.0**	**-0.5**
NAY				AMb	AMB	11 17 23.8	
	comp=Z,9.1nm,0.8s						
COLD	**Coldfoot**	**83.96**	**23**	*e*P	P	11 17 53.8	+3.8
	comp=Z,18nm,1.7s						
ILAR	**Eielson Array**	**85.18**	**25**	P	**P**	**11 17 57.6**	**+1.4**
ILAR	**Eielson Array**	**85.18**	**25**	P	**P**	**11 17 57.6**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=232,slow=4.6,SNR=5.6						
ASF	**Jabal al Asfar**	**87.68**	**302**	P	**P**	**11 18 09.3**	**-0.1**
ASF	**Jabal al Asfar**	**87.68**	**302**	P	**P**	**11 18 09.3**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=340,slow=1.6,SNR=4.4						
BRTR	**Keskin Array B**	**89.82**	**310**	P	**P**	**11 18 18.8**	**-0.5**
BRTR	**Keskin Array B**	**89.82**	**310**	P	**P**	**11 18 18.8**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=115,slow=6.2,SNR=6.8						
ARCES	**ARCESS Array B**	**90.34**	**340**	P	**P**	**11 18 21.4**	**+0.5**
ARCES	**ARCESS Array B**	**90.34**	**340**	P	**P**	**11 18 21.4**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=53,slow=4.7,SNR=4.5						
AKASG	**Malin Array Be**	**91.72**	**321**	P	**P**	**11 18 26.6**	**-1.1**
AKASG	**Malin Array Be**	**91.72**	**321**	P	**P**	**11 18 26.6**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=70,slow=4.4,SNR=5.5						
MLR	**Muntele Rosu**	**94.72**	**316**	P	**P**	**11 18 41.3**	**-0.5**
MLR	**Muntele Rosu**	**94.72**	**316**	P	**P**	**11 18 41.3**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=223,slow=19,SNR=3.5						
RES	**Resolute Bay**	**97.83**	**10**	P	**P**	**11 18 55.1**	**0.0**
RES	**Resolute Bay**	**97.83**	**10**	P	**P**	**11 18 55.1**	**0.0**
	comp=Z,0.4nm,0.7s,baz=263,slow=8.1,SNR=3.6						
NB2	**NORSAR Subarra**	**98.66**	**334**	P	**P**	**11 18 58.2**	**-1.0**
	comp=Z,2.7nm,1.0s,baz=66,slow=4.8						
NOA	**NORSAR Array B**	**98.66**	**334**	P	P	**11 18 58.5**	**-0.7**
NOA	**NORSAR Array B**	**98.66**	**334**	P	P	**11 18 58.5**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=66,slow=4.7,SNR=4.1						
YKA	**Yellowknife Ar**	**99.57**	**24**	P	**Pdif**	**11 19 03.5**	**+0.4**
YKA	**Yellowknife Ar**	**99.57**	**24**	P	**Pdif**	**11 19 03.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=293,slow=5.2,SNR=3.3						
GRFO	**Grafenberg**	**103.13**	**323**	*e*Pdif	**Pdif**	**11 19 17.4**	**-1.9**
TXAR	**Lajitas Array**	**121.77**	**52**	PKP	**PKPdf**	**11 24 16.3**	**+1.4**
TXAR	**Lajitas Array**	**121.77**	**52**	PKP	**PKPdf**	**11 24 16.3**	**+1.4**
	comp=Z,0.2nm,0.9s,baz=48,slow=1.9,SNR=3.5						

CSEM 12 11:08:50.7±0.3, 27°.04N×56°.09E, h2km, ML3.6, Error ellipse: s-maj=11.5km s-min=2.3km az=52.0
ISCJB 12 11:08:53.5±1.5, 26°.7N±0°.3×55°.5E±0°.2, h10km, Error ellipse: s-maj=46.7km s-min=5.0km az=32.8
OMAN 12 11:08:53.2±0.1, 26°.92N×56°.17E, h8km±1km, Error ellipse: s-maj=33.2km s-min=10.5km az=264.0
KISR 12 11:08:56.2±0.7, 27°.51N×55°.45E, h13km±999km, ML3.6

ISC 12 11:08:53.9±1.9, 26.7N±0°.2×55.6E±0°.2, h10km, n13, σ1§46/18, 3C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**0.96**	**139**	⇓P	**Pg**	**11 09 12.4**	**0.0**
	SNR=722						
BANOM				⇑S	**Sb**	**11 09 26.4**	**+0.9**
BANOM	**Banah**	**0.96**	**139**	P	**Pg**	**11 09 12.4**	**0.0**
	SNR=722						
BANOM				S	**Sb**	**11 09 26.4**	**+0.9**
ASHO	**Ashiyiah**	**2.01**	**168**	⇑P	**Pb**	**11 09 30.5**	**0.0**
	SNR=69						
ASHO	**Ashiyiah**	**2.01**	**168**	P	**Pb**	**11 09 30.5**	**0.0**
	SNR=69						
WBK	**Wadi Bani Khal**	**5.06**	**142**	⇑P	**Pn**	**11 10 08.5**	**-1.4**
	SNR=8.2						
WBK	**Wadi Bani Khal**	**5.06**	**142**	P	**Pn**	**11 10 08.5**	**-1.4**
	SNR=8.2						
QRN	**Al-Qurain**	**7.12**	**289**	*e*P	**Pn**	**11 10 40.2**	**+2.0**
QRN				*e*S	**Sn**	**11 11 57.5**	**-1.7**
QRN				AML	AML	11 12 00.3	
	comp=Z,28nm,0.4s						
RDF	**Al-Radifah**	**7.48**	**289**	*e*P	**Pn**	**11 10 45.3**	**+2.2**
RDF				*e*S	**Sn**	**11 12 07.2**	**-0.8**
RDF				AML	AML	11 12 10.1	
	comp=Z,10nm,0.4s						
RDF	**Al-Radifah**	**7.48**	**289**	*e*P	**Pn**	**11 10 45.3**	**+2.2**
NAY	**Al-Naaiem**	**7.83**	**291**	*e*P	**Pn**	**11 10 49.4**	**+1.5**
NAY				*e*S	**Sn**	**11 12 14.8**	**-1.9**
NAY				AML	AML	11 12 17.7	
	comp=Z,3.4nm,0.5s						
NAY	**Al-Naaiem**	**7.83**	**291**	*e*P	**Pn**	**11 10 49.4**	**+1.5**
MIB	**Mutribah**	**7.94**	**295**	*e*P	**Pn**	**11 10 50.2**	**+0.9**
MIB	**Mutribah**	**7.94**	**295**	*e*P	**Pn**	**11 10 50.2**	**+0.9**

IDC 12 11:09:55.1±0.6, 3°.98N×126°.60E, h0km, mb4.2/17, mb1 4.3/17, mb1mx4.3/22, mbtmp4.2/17, MS3.5/2, Ms1 3.5/2, ms1mx2.8/33, Error ellipse: s-maj=29.8km s-min=13.4km az=74.0
NEIC 12 11:10:00.1±0.3, 3°.96N×126°.64E, h35km, mb4.3/7, Error ellipse: s-maj=9.9km s-min=5.6km az=75.0

ISC 12 11:09:59.0±2.1, 3°.95N±0°.08×126°.6E±0°.1, h26km±14km, n54, σ0°69/57, mb4.2/23, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.66**	**323**	*e*P	**Pb**	**11 10 44.4**	**-1.7**
MATI	**Mati**	**2.99**	**354**	*e*P	**Pb**	**11 10 52.4**	**+0.7**
MATI				*e*S	**Sb**	**11 11 28.9**	**+1.1**
DAV	**Davao City (W)**	**3.25**	**343**	LR	LR	11 11 39.0	
	comp=Z,550nm,21.9s,baz=80,slow=32						
BUKP	**Musuan**	**4.18**	**339**	*e*P	Pn	11 11 06.8	+5.6
PAGZ	**Pagadian**	**5.00**	**321**	*e*P	Pn	11 11 16.6	+4.2
KSM	**Kuching**	**16.41**	**262**	*e*P	**Pn**	**11 13

explosion.
*BER **12** 11:10:41.5±2.6, 59°30N×27°17E, h0km, ML2.2(NAO), Suspected explosion*
*IDC **12** 11:10:42.9±2.0, 59°39N×27°08E, h0km, mb1 3.2/4, mb1mx3.1/27, mbtmp3.2/4, ML2.7/4, Error ellipse: s-maj=17.7km s-min=10.3km az=122.0*
ISC 12 11:10:39.0±0.7, 59°33N±0'02×27°03E±0'04, h0km, n39, σ1s89/63, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.88**	**190**	Pg	**Pb**	**11 10 57.3**	**+0.2**
VSU				Lg	Lg	11 11 08.6	
VSU	**Vasula**	**0.88**	**190**	Pg	**Pb**	**11 10 57.3**	**+0.2**
VSU				Lg	Lg	11 11 08.6	
VSU	**Vasula**	**0.88**	**190**	*i* PG	**Pb**	**11 10 57.3**	**+0.2**
VSU				*i* SG	**Sb**	**11 11 08.6**	**-0.9**
VSU	**Vasula**	**0.88**	**190**	*e*P	**Pg**	**11 10 55.9**	**0.0**
	SNR=90						
VSU	**Vasula**	**0.88**	**190**	Pg	**Pb**	**11 10 57.3**	**+0.2**
VSU				Sg	**Sb**	**11 11 08.5**	**-0.9**
VSU				Lg	Lg	11 11 08.6	
	SNR=11						
VSU				*e*S	**Sg**	**11 11 08.9**	**+1.6**
	169nm,0.6s,SNR=90						
VJF	**Virojoki**	**1.24**	**12**	PG	**Pb**	**11 11 03.8**	**+0.5**
VJF				SG	**Sb**	**11 11 20.5**	**+0.7**
VJF				MSG		11 11 20.5	
	comp=Z,6.5nm,0.2s						
VJF				RG	Rg	11 11 25.7	
VJF	**Virojoki**	**1.24**	**12**	Pg	**Pb**	**11 11 03.7**	**+0.5**
VJF				Sg	**Sb**	**11 11 20.5**	**+0.7**
PVF	**Pernaja**	**1.35**	**335**	PG	**Pb**	**11 11 06.7**	**+1.5**
PVF				SG	**Sn**	**11 11 24.7**	**+1.0**
PVF				MSG		11 11 24.7	
	comp=Z,3.9nm,0.2s						
PVF	**Pernaja**	**1.35**	**335**	Pg	**Pb**	**11 11 06.6**	**+1.5**
PVF				Sg	**Sn**	**11 11 24.7**	**+1.0**
MEF	**Metsahovi**	**1.60**	**305**	PN	**Pg**	**11 11 11.7**	**+2.0**
MEF				SG	**Sg**	**11 11 33.1**	**+2.6**
MEF				MSG		11 11 33.1	
	comp=Z,11nm,0.2s						
MEF	**Metsahovi**	**1.60**	**305**	*e*P	**Pg**	**11 11 11.7**	**+2.0**
	SNR=50						
MEF				*e*S	**Sg**	**11 11 32.3**	**+1.9**
	SNR=50						
MEF				Sg	**Sg**	**11 11 33.0**	**+2.6**
MTSE	**Matsula**	**1.77**	**251**	PN	**Pg**	**11 11 14.1**	**+1.1**
MTSE				SG	**Sg**	**11 11 37.8**	**+1.9**
MTSE	**Matsula**	**1.77**	**251**	Pn	**Pg**	**11 11 14.0**	**+1.1**
MTSE				Sg	**Sg**	**11 11 37.8**	**+1.9**
FIA0	**FINESS Array S**	**2.17**	**348**	Pn	**Pb**	**11 11 18.8**	**-0.3**
	baz=164,slow=18						
FIA0				Pg	**Pb**	**11 11 20.2**	**+1.1**
	baz=165,slow=16						
FIA0				Sn	**Sb**	**11 11 46.8**	**+0.2**
	baz=159,slow=28						
FIA0				Lg	Lg	11 11 49.8	
	baz=166,slow=37						
FIA0	**FINESS Array S**	**2.17**	**348**	Pn	**Pb**	**11 11 18.8**	**-0.3**
	baz=164,slow=18						
FIA0				Pg	**Pb**	**11 11 20.2**	**+1.1**
	baz=165,slow=16						
FIA0				Sn	**Sb**	**11 11 46.8**	**+0.2**
	baz=159,slow=28						
FIA0				Lg	Lg	11 11 49.8	
	baz=166,slow=37						
FIA0	**FINESS Array S**	**2.17**	**348**	PN	**Pb**	**11 11 18.8**	**-0.3**
	baz=165						
FIA0				SG	**Sg**	**11 11 49.4**	**+0.7**
FIA0				MSG		11 11 49.4	
	comp=Z,6.9nm,0.3s						
FIA0	**FINESS Array S**	**2.17**	**348**	Pn	**Pb**	**11 11 18.8**	**-0.3**
	baz=164,slow=16,SNR=6.2						
FIA0	**FINESS Array S**	**2.17**	**348**	Pg	**Pb**	**11 11 20.2**	**+1.1**
	baz=165,slow=16						
FIA0				Sn	**Sb**	**11 11 46.8**	**+0.2**
	baz=159,slow=24						
FIA0				Sg	**Sg**	**11 11 49.4**	**+0.7**
FIA0				Lg	Lg	11 11 49.8	
	baz=166,slow=28,SNR=3.1						
FINES	**FINESS Array B**	**2.17**	**348**	Pn	**Pb**	**11 11 18.9**	**-0.2**
	comp=Z,2.4nm,0.3s,baz=165,slow=15,SNR=51						
FINES				Pg	**Pb**	**11 11 20.2**	**+1.1**
	comp=Z,2.4nm,0.3s,baz=164,slow=16,SNR=51						
FINES				Lg	Lg	11 11 49.7	
	comp=Z,5.4nm,0.3s,baz=168,slow=27,SNR=26						
KAF	**Kangasniemi**	**2.82**	**353**	PN	**Pb**	**11 11 28.4**	**-1.7**
KAF	**Kangasniemi**	**2.82**	**353**	Pn	**Pb**	**11 11 28.4**	**-1.7**
SLIT	**Siitere, Latvi**	**3.02**	**238**	*e*P	**Pb**	**11 11 33.9**	**+0.4**
	SNR=50						
KEF	**Keuruu**	**3.04**	**341**	PN	**Pb**	**11 11 32.3**	**-1.6**
KEF	**Keuruu**	**3.04**	**341**	Pn	**Pb**	**11 11 32.3**	**-1.6**
RAF	**Rauma**	**3.13**	**305**	PN	**Pb**	**11 11 34.0**	**-1.5**
RAF	**Rauma**	**3.13**	**305**	*e*P	**Pb**	**11 11 33.7**	**-1.7**
	SNR=50						
RAF				*e*S	**Sb**	**11 12 12.6**	**-1.5**
	comp=Z,7.5nm,0.3s,SNR=50						
SUF	**Sumiainen**	**3.43**	**353**	PN	Pn	11 11 37.1	+3.5
SUF	**Sumiainen**	**3.43**	**353**	Pn	Pn	11 11 37.1	+3.5
HFS	**Hagfors**	**6.79**	**283**	Sn	**Sn**	**11 13 34.8**	**-2.9**
	baz=102,slow=28						
HFS				Lg	Lg	11 14 13.5	
	baz=86,slow=28						
HFS	**Hagfors**	**6.79**	**283**	Sn	**Sn**	**11 13 34.8**	**-2.9**
	baz=102,slow=28						
HFS				Lg	Lg	11 14 13.5	
	baz=86,slow=28						
HFS	**Hagfors**	**6.79**	**283**	SN	**Sn**	**11 13 34.8**	**-2.9**
HFS				SG	**Sg**	**11 14 13.5**	**-3.4**
HFS	**Hagfors**	**6.79**	**283**	Pn	**Pn**	**11 12 21.9**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=96,slow=14,SNR=4.8						
HFS				Sn	**Sn**	**11 13 37.3**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=101,slow=30,SNR=5.8						
HFS				Lg	Lg	11 14 13.1	
	comp=Z,0.6nm,0.3s,baz=87,slow=30,SNR=5.6						
HFS	**Hagfors**	**6.79**	**283**	Lg	Lg	11 14 13.5	
	baz=86,slow=27						
NOA	**NORSAR Array B**	**8.07**	**289**	Pn	**Pn**	**11 12 38.3**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=100,slow=13,SNR=4.0						
ARA0	**ARCESS Array S**	**10.27**	**357**	Pn	**Pn**	**11 13 07.4**	**0.0**
	baz=174,slow=14						
ARA0				Sn	**Sn**	**11 14 57.9**	**-5.2**
	baz=171,slow=28						
ARA0	**ARCESS Array S**	**10.27**	**357**	Pn	**Pn**	**11 13 07.4**	**0.0**
	baz=174,slow=14						
ARA0				Sn	**Sn**	**11 14 57.9**	**-5.2**
	baz=171,slow=28						
ARA0	**ARCESS Array S**	**10.27**	**357**	PN	**Pn**	**11 13 07.4**	**0.0**
ARA0				SN	**Sn**	**11 14 57.9**	**-5.2**
ARA0	**ARCESS Array S**	**10.27**	**357**	Pn	**Pn**	**11 13 07.4**	**0.0**
	baz=174,slow=13,SNR=4.6						
ARCES	**ARCESS Array B**	**10.27**	**357**	Pn	**Pn**	**11 13 07.7**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=175,slow=14,SNR=9.0						
ARCES				Sn	**Sn**	**11 14 58.5**	**-4.6**
	comp=Z,0.2nm,0.3s,baz=173,slow=23,SNR=4.2						

*IDC **12** 11:14:55.7±0.8, 0°77S×133°90E, h0km, mb4.1/6, mb1 4.4/8, mb1mx4.0/20, mbtmp4.2/8, ML4.3/1, Error ellipse: s-maj=43.0km s-min=17.2km az=79.0*
*ISCJB **12** 11:14:57.8±0.7, 0°80S±0°06×133°86E±0°09, h27km, mb4.0/7, Error ellipse: s-maj=13.7km s-min=9.1km az=170.8*
*NEIC **12** 11:14:57.1±0.5, 0°77S×133°95E, h10km, mb4.1/2, Error ellipse: s-maj=18.4km s-min=7.4km az=73.0*
*DJA **12** 11:14:58, 0°70S×133°65E, h13km, MLv4.7/7*
ISC 12 11:14:59.5±0.6, 0°79S±0°08×133°89E±0°09, h27km, n34, σ0s98/32, mb4.1/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAKI	**Biak**	**2.25**	**100**	P	**Pb**	**11 15 39.1**	**-0.3**
SWI	**Sorong**	**2.63**	**268**	P	**Pn**	**11 15 37.5**	**-2.7**
FAKI	**Fak Fak**	**2.68**	**218**	P	**Pn**	**11 15 40.2**	**-0.7**
TLE	**Tual**	**4.95**	**193**	P	**Pn**	**11 16 14.1**	**+2.0**
	169nm,0.8s,0.7nm						
BNDI	**Bandanaira**	**5.44**	**227**	P	**Pn**	**11 16 21.2**	**+2.3**
	240nm,0.6s,3μm1.5nm						
AAI	**Ambon**	**6.38**	**243**	P	Pn	11 16 35.4	+3.6
	103nm,0.6s,3μm0.4nm						
MTN	**Manton Dam**	**12.28**	**193**	*e*P	**Pn**	**11 17 51.1**	**-1.7**
COEN	**Coen**	**15.98**	**145**	*e*Pn	**Pn**	**11 18 40.9**	**-1.7**
FITZ	**Fitzroy Crossi**	**19.02**	**205**	P	**P**	**11 19 19.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**19.02**	**205**	*e*P	**P**	**11 19 19.2**	**-0.2**
	8.5nm,0.4s						
FITZ				*e*S	Sn	11 22 37.0	-16
FITZ	**Fitzroy Crossi**	**19.02**	**205**	P	**P**	**11 19 19.1**	**-0.3**
	0.8nm,0.3s,baz=39,slow=14,SNR=12						
WRAB	**Tennant Creek**	**19.03**	**179**	*e*P	**P**	**11 19 19.8**	**+0.2**
	11nm,0.6s						
WRA	**Warramunga Arr**	**19.04**	**179**	P	**Pn**	**11 19 20.4**	**-0.2**
WRA	**Warramunga Arr**	**19.04**	**179**	P	**Pn**	**11 19 20.4**	**-0.2**
CTA	**Charters Tower**	**22.67**	**149**	P	**P**	**11 19 58.6**	**-0.4**
CTA	**Charters Tower**	**22.67**	**149**	*e*P	P	11 20 04.7	+5.7
	4.2nm,0.7s						
CTA	**Charters Tower**	**22.67**	**149**	P	**P**	**11 19 58.6**	**-0.4**
	3.8nm,1.0s,baz=311,slow=11,SNR=2.3						
CTAO	**Charters Tower**	**22.67**	**149**	*e*P	**P**	**11 19 59.4**	**+0.4**
AS31	**Alice Springs**	**22.74**	**180**	*e*P	**P**	**11 20 00.2**	**+0.5**
ASAR	**Alice Springs**	**22.74**	**180**	P	**P**	**11 20 00.2**	**+0.5**
ASAR	**Alice Springs**	**22.74**	**180**	P	**P**	**11 20 00.2**	**+0.5**
	16nm,0.8s,baz=5.3,slow=12,SNR=27						
SONM	**Songino Array**	**54.02**	**337**	P	**P**	**11 24 22.3**	**+0.7**
SONM	**Songino Array**	**54.02**	**337**	P	**P**	**11 24 22.3**	**+0.7**
	0.5nm,0.6s,baz=155,slow=8.2,SNR=4.2						
MKAR	**Makanchi Array**	**65.37**	**324**	P	**P**	**11 25 40.0**	**+0.3**
MKAR	**Makanchi Array**	**65.37**	**324**	P	**P**	**11 25 40.0**	**+0.3**
	1.6nm,0.5s,baz=112,slow=8.6,SNR=12						
BVAR	**Borovoye Array**	**75.02**	**326**	P	**P**	**11 26 38.8**	**+0.2**
BVAR	**Borovoye Array**	**75.02**	**326**	P	**P**	**11 26 38.8**	**+0.2**
	1.5nm,0.7s,baz=123,slow=7.3,SNR=8.4						
ABKAR	**Akbulak array**	**80.17**	**320**	*e*P	**P**	**11 27 06.8**	**-0.5**
	1.1nm,0.7s						
ILAR	**Eielson Array**	**86.11**	**25**	P	**P**	**11 27 38.2**	**+0.5**
ILAR	**Eielson Array**	**86.11**	**25**	P	**P**	**11 27 38.2**	**+0.5**
	0.9nm,0.6s,baz=258,slow=4.6,SNR=13						
YKA	**Yellowknife Ar**	**100.50**	**26**	P	**Pdif**	**11 28 44.9**	**+0.7**
YKA	**Yellowknife Ar**	**100.50**	**26**	P	**Pdif**	**11 28 44.9**	**+0.7**
	0.5nm,1.1s,baz=290,slow=4.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**131.10**	**287**	PKP	**PKPdf**	**11 34 10.0**	**+0.1**
TORD	**Torodi Ar. Bea**	**131.10**	**287**	PKP	**PKPdf**	**11 34 10.0**	**+0.1**
	0.3nm,0.7s,baz=65,slow=2.7,SNR=3.0						

NNC 12 11:19:18.3±4.1, 51°68N×74°40E, h0km, mb3.0, mpv2.7, 4C-5D, Error ellipse: s-maj=233.2km s-min=26.2km az=24.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VOSK	**Vostochnaya**	**2.35**	**298**	⇑Pn	Pn	11 19 53.6	-4.5
	4.3nm,0.8s						
VOSK				⇓Sn	Sn	11 20 27.8	0.0
	24nm,0.7s						
BVA0	**Borovoye Array**	**2.80**	**300**	⇑Pn	Pn	11 20 03.3	-1.1
	0.4nm,0.6s,baz=121,slow=16,SNR=15						
BVA0				⇑Sn	Sb	11 20 42.6	-1.6
	2.7nm,0.8s,baz=126,slow=27,SNR=14						
KURK	**Kurchatov**	**2.83**	**108**	⇑Pn	Pn	11 20 06.9	+2.1
	7.4nm,1.0s						
KURK	**Kurchatov**	**2.83**	**108**	P	Pn	11 20 06.9	+2.2
	2.1nm,0.6s						
BRVK	**Borovoye**	**2.88**	**300**	⇓Pn	Pn	11 20 03.6	-1.8
	3.5nm,0.6s						
BRVK				⇓Sn	Sn	11 20 43.1	+2.4
	31nm,0.7s						
ZRNK	**Zerenda**	**3.55**	**293**	⇓Pn	Pn	11 20 15.8	+1.1
	1.2nm,0.5s						
ZRNK				⇓Sn	Sb	11 21 02.3	-3.2
	12nm,0.7s						

IDC 12 11:28:38.5±1.4, 3°93N×126°48E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/19, mbtmp3.6/5, Error ellipse: s-maj=202.7km s-min=19.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**28.37**	**166**	P	P	11 34 36.1	+1.5
	0.2nm,0.3s,baz=341,slow=11,SNR=4.7						
STKA	**Stephens Creek**	**38.41**	**159**	P	P	11 36 00.6	-1.2
	0.5nm,0.3s,baz=322,slow=12,SNR=3.5						
SONM	**Songino Array**	**47.03**	**342**	P	P	11 37 12.5	+0.6
	0.1nm,0.4s,baz=160,slow=4.6,SNR=2.7						
MKAR	**Makanchi Array**	**57.25**	**325**	P	P	11 38 27.6	-0.2
	0.3nm,0.4s,baz=116,slow=7.6,SNR=7.7						
ZALV	**Zalesovo Beam**	**60.29**	**333**	P	P	11 38 48.3	-0.6
	0.4nm,0.4s,baz=119,slow=5.1,SNR=2.7						

IDC 12 11:33:30.8±1.4, 3°70N×126°82E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/20, mbtmp3.8/6, MS4.3/1, Ms1 4.3/1, ms1mx3.1/21, Error ellipse: s-maj=192.6km s-min=17.7km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.63**	**163**	P	P	11 38 52.9	-0.3
	4.7nm,0.8s						
ASAR	**Alice Springs**	**28.06**	**166**	P	P	11 39 25.0	+0.8
	0.5nm,0.7s,baz=337,slow=9.3,SNR=4.4						
JHJ	**Hachijima 2**	**31.68**	**21**	LR	LR	11 52 25.4	
	comp=Z,546nm,19.7s,baz=257,slow=36						
STKA	**Stephens Creek**	**38.07**	**159**	P	P	11 40 50.7	-0.6
	3.0nm,0.9s,baz=333,slow=12,SNR=5.1						
SONM	**Songino Array**	**47.36**	**341**	P	P	11 42 06.8	+0.1
	0.3nm,0.5s,baz=142,slow=7.3,SNR=3.6						
MKAR	**Makanchi Array**	**57.63**	**325**	P	P	11 43 22.9	0.0
	0.5nm,0.5s,baz=118,slow=7.6,SNR=8.7						
KURBB	**Kurchatov Arra**	**61.81**	**327**	P	P	11 43 51.2	-0.4
	0.6nm,0.5s,baz=130,slow=6.7,SNR=6.0						

*IDC **12** 11:35:08.5±0.4, 3°94N×126°52E, h0km, mb4.9/32, mb1 4.9/32, mb1mx4.9/33, mbtmp4.9/32, MS4.1/8, Ms1 4.1/8, ms1mx3.8/23, Error ellipse: s-maj=18.1km s-min=10.5km az=72.0*
*MOS **12** 11:35:11.8±1.1, 4°00N×126°61E, h33km, mb5.5/44, MS4.2/9, Error ellipse: s-maj=11.3km s-min=5.0km az=114.6*
*ISCJB **12** 11:35:12.0±0.2, 4°04N±0°02×126°80E±0°03, h36km, mb5.2/139, MS4.3/32, Error ellipse: s-maj=4.7km s-min=3.3km az=165.1*
*BJI **12** 11:35:11.9, 3°85N×126°67E, h44km, mB5.2/32, mb5.4/60, Ms4.6/50, Ms7 4.4/49*
*NEIC **12** 11:35:13.6±0.2, 3°99N×126°69E, h35km, mb5.3/53, Error ellipse: s-maj=6.5km s-min=4.1km az=70.0*
*DJA **12** 11:35:17, 3°85N×126°88E, h69km, mb5.0/30*
ISC 12 11:35:13.4±0.3, 3°92N±0°03×126°64E±0°05, h33km±1km, h33km:pP-P, n491, σ1s52/540, mb5.2/137, MS4.2/33, 70C-66D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.73**	**322**	*e*P	**Pb**	**11 35 59.8**	**-2.0**
MATI	**Mati**	**3.03**	**353**	*e*P	Pn	11 36 02.9	+3.7
MNI	**Manado**	**3.05**	**216**	P	**Pb**	**11 36 04.2**	**-2.8**
TNTI	**Ternate**	**3.21**	**167**	P	**Pn**	**11 36 03.5**	**+1.9**
DAV	**Davao City (W)**	**3.30**	**341**	*e*Pn	**Pn**	**11 36 03.6**	**+0.7**
DAV	**Davao City (W)**	**3.30**	**341**	P	**Pb**	**11 36 09.2**	**-2.2**
DAV	**Davao City (W)**	**3.30**	**341**	Pn	Pn	11 36 06.1	+3.2
	72nm,0.3s,baz=239,slow=1.9,SNR=13						
DMPH	**Davao City--Mi**	**3.34**	**340**	*e*P	**Pn**	**11 36 06.5**	**+3.1**
DMPH				*i* S	Sb	11 37 05.7	+13
BUKP	**Musuan**	**4.24**	**338**	*e*P	Pn	11 36 19.9	+4.2
KMSI	**Cibinong**	**4.26**	**219**	P	Pn	11 36 21.9	+5.9
LBMI	**Labuha**	**4.61**	**169**	P	Pn	11 36 25.7	+4.9
CGP	**Cagayan de Oro**	**4.90**	**337**	*i*P	Pn	11 36 31.0	+6.1
CGP				*i* S	Sb	11 37 46.3	+9.2
PAGZ	**Pagadian**	**5.07**	**320**	*e*P	Pn	11 36 31.1	+3.9
BUTP	**Butuan**	**5.12**	**349**	*e*P	Pn	11 36 33.2	+5.3
ZMPH	**Zamboanga City**	**5.46**	**304**	⇑*i*P	**Pn**	**11 36 35.1**	**+2.5**
ZMPH				*i* S	**Sn**	**11 37 34.1**	**-0.3**
IPIL	**Ipil**	**5.58**	**314**	*e*P	Pn	11 36 38.0	+3.8
MRSI	**Marisa**	**5.81**	**234**	P	Pn	11 36 41.2	+3.8
	441nm,1.0s,4μm1.8nm						
LUWI	**Luwuk**	**6.27**	**218**	P	Pn	11 36 50.8	+7.2
	888nm,1.4s,14μm4.2nm						
MSLP	**Maasin**	**6.42**	**344**	*e*P	Pn	11 36 51.8	+6.0
SWI	**Sorong**	**6.62**	**136**	P	**Pn**	**11 36 48.5**	**0.0**
	145nm,0.7s,0.5nm						
LLP	**Lapu-Lapu**	**6.89**	**337**	*e*P	**Pn**	**11 36 55.0**	**+2.9**
LLP				*e*S	Sn	11 38 17.5	+8.0
NLAI	**Namlea**	**7.13**	**176**	P	**Pb**	**11 37 13.8**	**-2.6**
PLP	**Palo**	**7.38**	**347**	⇓*e*P	Pn	11 37 03.1	+4.1
MYLDM	**Lahad Datu**	**8.21**	**279**	P	Pn	11 37 17.4	+7.0
MYLDM	**Lahad Datu**	**8.21**	**279**	*e*P	P	11 37 17.0	+6.6
	363nm,1.3s,4μm1.4nm						
TSM	**Tawau**	**8.76**	**273**	P	Pn	11 37 22.1	+4.3
KDI	**Kendari**	**8.80**	**207**	P	Pn	11 37 23.4	+5.0
	59nm,1.9s,1μm						
FAKI	**Fak Fak**	**8.81**	**140**	P	**Pn**	**11 37 19.9**	**+1.4**
	59nm,1.1s,917nm0.2nm						
SDKM	**Sandakan**	**9.57**	**281**	P	Pn	11 37 33.5	+4.5
TTSI	**Tana Toraja**	**9.71**	**225**	P	Pn	11 37 35.9	+4.9
	220nm,1.4s,3μm						
KDM	**Kudat**	**10.21**	**287**	P	Pn	11 37 45.2	+7.4
SPSI	**Sidrap Palu**	**10.42**	**221**	P	Pn	11 37 58.0	+17
KKM	**Kota Kinabalu**	**10.60**	**282**	*e*Pn	**Pn**	**11 37 44.6**	**+1.4**
KKM				*e*Sn	**Sn**	**11 39 41.5**	**+0.6**
KKM	**Kota Kinabalu**	**10.60**	**282**	P	Pn	11 37 50.4	+7.2
KKM	**Kota Kinabalu**	**10.60**	**282**	P	Pn	11 37 49.8	+6.6
	71nm,1.6s,1μm						
BAKI	**Biak**	**10.73**	**118**	P	Pn	11 37 49.2	+4.2
	136nm,1.6s,2μm						
TLE	**Tual**	**11.28**	**147**	P	Pn	11 37 57.5	+5.1
	80nm,0.9s						
KBKI	**Kotabaru**	**12.69**	**236**	P	**P**	**11 38 21.7**	**-0.8**
BTM	**Bintulu**	**13.55**	**267**	P	**P**	**11 38 30.9**	**-1.3**
BBKI	**Banjar Baru**	**13.89**	**238**	P	**P**	**11 38 36.5**	**+0.6**
	239nm,2.1s						
SBUM	**Sibu**	**14.47**	**265**	P	**P**	**11 38 41.9**	**-0.5**
SBUM	**Sibu**	**14.47**	**265**	P	**P**	**11 38 41.3**	**-1.1**
	76nm,1.7s,1μm						
JAY	**Jayapura**	**15.44**	**114**	P	P	11 38 58.3	+5.1
STKI	**Sintang**	**15.63**	**256**	P	**P**	**11 38 58.6**	**+3.3**
	101nm,1.2s,27μm						
KHKI	**Kahang-Kahang**	**16.43**	**222**	P	P	11 39 09.9	+5.7
	90nm,1.3s						
KSM	**Kuching**	**16.50**	**262**	*e*P	**P**	**11 39 06.1**	**+1.2**
	112nm,1.2s						
KSM	**Kuching**	**16.50**	**262**	P	**P**	**11 39 08.3**	**+3.4**
KSM	**Kuching**	**16.50**	**262**	P	**P**	**11 39 07.9**	**+3.0**
	90nm,1.3s,938nm						
MTN	**Manton Dam**	**17.24**	**165**	*e*P	**Pn**	**11 39 10.1**	**-1.8**
SJI	**Sawahan**	**18.82**	**232**	P	Pn	11 39 40.8	+9.4
TWG	**Pinlang**	**19.55**	**344**	*e*P	**P**	**11 39 35.8**	**-2.7**
	75nm,0.8s						
YULB	**Yu-li**	**20.04**	**346**	*e*P	**P**	**11 39 41.7**	**-2.1**
	48nm,0.8s						
TPUB	**Ta-pu**	**20.12**	**344**	*e*P	**P**	**11 39 43.9**	**-0.9**
	203nm,0.9s						
GUMO	**Guam**	**20.40**	**61**	LR	LR	11 45 47.1	
	comp=Z,573nm,21.9s,baz=240,slow=31						
SSLB	**Suanglung**	**20.50**	**345**	*e*P	**P**	**11 39 47.1**	**-1.7**
	103nm,0.8s						
TGJI	**Tegal**	**20.51**	**239**	P	Pn	11 39 58.3	+6.9
	78nm,1.4s						
YHNB	**Yeheng**	**21.24**	**347**	*e*P	**P**	**11 39 56.0**	**-0.9**
	69nm,0.6s						
PPBI	**Pangkal Pinang**	**21.37**	**254**	P	P	11 40 04.4	+6.1
	39nm,1.4s,5μm26μm						
TATO	**Taipei**	**21.51**	**347**	*e*P	**P**	**11 39 58.1**	**-1.6**
	259nm,1.7s						
LEM	**Lembang**	**21.79**	**241**	P	P	11 40 09.1	+6.2
	49nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.91**	**183**	*e*P	**P**	**11 40 04.4**	**+0.5**
FITZ	**Fitzroy Crossi**	**21.91**	**183**	*e*P	**P**	**11 40 04.9**	**+0.9**
	52nm,1.0s						
FITZ				*e*S	**S**	**11 43 58.9**	**-5.4**
FITZ	**Fitzroy Crossi**	**21.91**	**183**	P	**P**	**11 40 04.2**	**+0.3**
	11nm,0.7s,baz=52,slow=16,SNR=10						
QIZ	**Qiongzhong**	**22.25**	**314**	P	**P**	**11 40 09.7**	**+2.0**
QIZ				S	**S**	**11 44 14.0**	**+3.2**
QIZ				pmax	pmax		
	comp=Z,39nm,1.1s						
QIZ				LR	LR		
	comp=N,570nm,17.0s						
QIZ				LR	LR		
	comp=E,200nm,18.1s						
QIZ				LR	LR		
	comp=Z,930nm,20.1s						
CBJI	**Citeko**	**22.27**	**243**	P	**P**	**11 40 11.5**	**+3.5**
	comp=Z,272nm,1.1s						
QZH	**Quanzhou**	**22.29**	**340**	P	**P**	**11 40 07.1**	**-1.0**
QZH				S	**S**	**11 44 08.0**	**-3.5**
QZH				pmax	pmax		
	comp=Z,190nm,0.7s						
QZH				LR	LR		
	comp=N,2μm,15.9s						
QZH				LR	LR		
	comp=E,510nm,10.8s						
QZH				LR	LR		
	comp=Z,3μm,19.7s						
JOW	**Kunigami**	**22.84**	**4**	*e*P	**P**	**11 40 13.6**	**-0.3**
	comp=Z,19nm,0.7s						
JOW	**Kunigami**	**22.84**	**4**	P	**P**	**11 40 14.2**	**+0.4**
	comp=Z,37nm,0.7s,baz=198,slow=10,SNR=6.0						
MYKOM	**Kota Tinggi**	**22.86**	**265**	P	**P**	**11 40 17.3**	**+3.0**
MYKOM	**Kota Tinggi**	**22.86**	**265**	P	P	11 40 22.2	+7.9
	comp=Z,52nm,1.3s,comp=Z,718nm						
KGM	**Kluang**	**23.37**	**266**	P	**P**	**11 40 21.5**	**+2.1**
CGJI	**Cibinong**	**23.39**	**243**	P	**P**	**11 40 21.7**	**+2.2**
	comp=Z,81nm,1.1s,comp=Z,864nm						
KASI	**Kota Agung**	**24.03**	**247**	P	P	11 40 31.1	+5.5
	comp=Z,66nm,1.1s

comp=Z,170nm,4.6s
NJ2 LR LR
comp=N,400nm,15.1s
NJ2 LR LR
comp=E,400nm,14.0s
NJ2 LR LR
comp=Z,5μm,15.0s
JNU Nakatsue 29.32 7 P **P** **11 41 12.2 -0.9**
comp=Z,2.5nm,1.1s
JNU Nakatsue 29.32 7 P **P** **11 41 12.2 -0.9**
comp=Z,26nm,1.0s,baz=236,slow=4.5,SNR=7.2
JNU LR LR 11 52 57.4
comp=Z,334nm,21.0s,baz=9.0,slow=36
GYA Guiyang 29.47 321 ⇑*i*P **P** **11 41 14.6 -0.1**
GYA pP **pP** **11 41 28.0 +3.9**
GYA PP **PnPn** **11 42 14.6 +5.1**
GYA PcP **PcP** **11 44 22.0 +2.1**
GYA S **S** **11 46 09.8 +2.7**
GYA sS **sS** **11 46 27.5 +4.8**
GYA SS SS 11 47 43.8 -29
GYA ScS **ScS** **11 51 52.3 -2.1**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=N,550nm,17.8s
GYA LR LR
comp=E,480nm,17.5s
GYA LR LR
comp=Z,560nm,17.8s
CTA Charters Tower 30.67 142 P **P** **11 41 26.2 +1.0**
CTA Charters Tower 30.67 142 *e*P **P** **11 41 25.7 +0.5**
comp=Z,6.1nm,1.1s
CTA Charters Tower 30.67 142 P **P** **11 41 26.2 +1.0**
comp=Z,9.3nm,1.1s,baz=308,slow=12,SNR=3.6
CM31 Chiang Mai Arr 30.70 300 *e*P **P** **11 41 26.0 +0.4**
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 30.70 300 P **P** **11 41 26.1 +0.5**
CMAR ScP **ScP** **11 48 09.1 +5.5**
CMAR Chiang Mai Arr 30.70 300 P **P** **11 41 26.1 +0.5**
comp=Z,8.6nm,0.8s,baz=122,slow=7.7,SNR=59
CMAR ScP **ScP** **11 48 09.1 +5.5**
comp=Z,0.7nm,0.7s,baz=132,slow=1.3,SNR=4.0
ENH Enshi 30.82 330 *e*P **P** **11 41 25.9 -0.6**
comp=Z,126nm,0.8s
CHTO Chiang Mai 30.85 301 *e*P **P** **11 41 26.8 -0.1**
CHTO pmax pmax
comp=Z,22nm,0.9s
CHTO Chiang Mai 30.85 301 *e*P **P** **11 41 26.8 -0.1**
comp=Z,22nm,0.9s
CHTO Chiang Mai 30.85 301 P **P** **11 41 27.0 +0.1**
comp=Z,35nm,1.1s,comp=Z,421nm
KMI Kunming 31.18 315 P **P** **11 41 31.2 +1.2**
KMI pmax pmax
comp=Z,22nm,1.1s
KMI LR LR
comp=N,420nm,16.8s
KMI LR LR
comp=E,340nm,18.8s
KMI LR LR
comp=Z,590nm,18.0s
KSAR Wonju Array Be 33.38 2 P **P** **11 41 49.3 +0.5**
KSAR PcP **PcP** **11 44 31.4 +1.3**
KSRS Korea Array 33.40 2 P **P** **11 41 49.3 +0.4**
comp=Z,20nm,1.0s,baz=179,slow=10,SNR=27
KSRS PcP **PcP** **11 44 31.4 +1.3**
comp=Z,7.9nm,1.1s,baz=177,slow=2.5,SNR=7.8
MAJO Matsushiro 34.17 17 *e*P **P** **11 41 53.6 -2.1**
MAJO pmax pmax
comp=Z,14nm,0.9s
MAJO Matsushiro 34.17 17 *e*P **P** **11 41 53.6 -2.1**
comp=Z,14nm,0.9s
MAT Matsushiro 34.17 17 P **P** **11 41 53.2 -2.5**
MAT *e*S S 11 47 28.0 +8.0
MJAR Matsushiro Arr 34.17 17 P **P** **11 41 53.8 -1.9**
MJAR PcP **PcP** **11 44 33.7 +1.4**
MJAR Matsushiro Arr 34.17 17 P **P** **11 41 53.8 -1.9**
comp=Z,8.0nm,1.1s,baz=203,slow=8.2,SNR=16
MJAR PcP **PcP** **11 44 33.7 +1.4**
comp=Z,5.7nm,0.9s,baz=193,slow=3.2,SNR=7.9
MJAR LR LR 11 54 18.6
comp=Z,370nm,20.1s,baz=205,slow=34
XAN Xi'an 34.21 333 P **P** **11 41 55.2 -0.9**
XAN pP **pP** **11 42 05.2 -0.4**
XAN sP **sP** **11 42 09.3 -0.3**
XAN PP **PnPn** **11 43 09.5 -1.2**
XAN S **S** **11 47 15.8 -5.0**
XAN pmax pmax
comp=Z,65nm,0.8s
XAN LR LR
comp=N,390nm,18.0s
XAN LR LR
comp=E,250nm,18.6s
XAN LR LR
comp=Z,220nm,19.7s
CD2 Chengdu 34.44 324 ⇑P **P** **11 41 58.0 -0.2**
CD2 pP **pP** **11 42 07.7 0.0**
CD2 sP **sP** **11 42 11.6 -0.1**
CD2 PcP **PcP** **11 44 32.5 -0.8**
CD2 S **S** **11 47 23.9 -0.6**
CD2 sS **sS** **11 47 39.9 -0.3**
CD2 PcS **PcS** **11 48 17.8 -2.0**
CD2 SS **SnSn** **11 49 36.5 -0.1**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,140nm,7.0s
CD2 LR LR
comp=N,390nm,22.0s
CD2 LR LR
comp=E,460nm,17.6s
CD2 LR LR
comp=Z,570nm,18.4s
FORT Forrest 34.53 178 *e*P **P** **11 41 59.0 +0.2**
comp=Z,64nm,1.0s
FORT Forrest 34.53 178 *e*P **P** **11 41 59.5 +0.6**
comp=Z,40nm,0.9s
HNR Honiara 35.74 112 LR LR 11 56 09.4
comp=Z,184nm,20.1s,baz=91,slow=35
KLBR Kellerberrin 36.31 193 *e*P **P** **11 42 15.0 +0.8**
comp=Z,21nm,0.7s
BJT Baijiatuau 37.16 347 *e*P **P** **11 42 20.8 -0.5**
comp=Z,122nm,0.6s
BJI Beijing 37.18 347 P **P** **11 42 21.9 +0.4**
BJI sP **sP** **11 42 34.6 -0.4**
BJI S **S** **11 48 06.1 0.0**
BJI sS **ScP** **11 48 24.6 -1.4**
BJI pmax pmax
comp=Z,180nm,0.7s
BJI LR LR
comp=N,180nm,24.6s
BJI LR LR
comp=E,620nm,23.4s
BJI LR LR
comp=Z,140nm,24.3s
EIDS Eidsvold 37.55 142 *e*P **P** **11 42 24.0 -0.8**
comp=Z,101nm,1.8s
IMP Imphal 37.69 307 *e*PKP **P** **11 42 25.0 -1.1**
SNY Shenyang 37.84 356 ⇑P **P** **11 42 27.9 +0.9**
SNY pmax pmax
comp=Z,120nm,0.6s
SNY LR LR
comp=E,530nm,21.1s
SNY LR LR
comp=Z,390nm,27.4s
LZH Lanzhou 38.30 330 ⇑P **P** **11 42 31.7 +0.5**
LZH pP **pP** **11 42 41.5 +0.7**
LZH sP **sP** **11 42 45.0 +0.3**
LZH *e*S **S** **11 48 26.0 +2.5**
LZH sS **sS** **11 48 39.2 -0.1**
LZH SS **SnSn** **11 51 02.1 -7.9**
LZH pmax pmax
comp=Z,130nm,1.1s
LZH pmax pmax
comp=Z,270nm,5.3s
LZH LR LR
comp=N,1μm,19.1s
LZH LR LR
comp=E,950nm,19.1s
LZH LR LR
comp=Z,1μm,20.4s
STKA Stephens Creek 38.34 159 *e*P **P** **11 42 31.5 +0.2**
comp=Z,6.5nm,0.8s
STKA PcP **PcP** **11 44 44.8 0.0**
STKA Stephens Creek 38.34 159 *e*P **P** **11 42 31.5 +0.2**
comp=Z,24nm,0.8s
STKA Stephens Creek 38.34 159 P **P** **11 42 31.5 +0.2**
comp=Z,23nm,0.8s,baz=342,slow=8.0,SNR=24
STKA PcP **PcP** **11 44 44.8 0.0**
comp=Z,5.6nm,0.5s,baz=347,slow=4.3,SNR=4.7
STKA LR LR 11 58 58.9
comp=Z,187nm,18.7s,baz=183,slow=37
VLA Vladivostok 39.31 6⇓ *e*P **P** **11 42 36.2 -3.2**
VLA S **S** **11 48 34.3 -3.9**
VLA pmax pmax
comp=Z,25nm,0.7s
SHL Shillong 39.69 306 *e*PKP **P** **11 42 40.0 -3.1**
SHL *e*S **S** **11 48 40.0 -4.9**
CN2 Changchun 39.73 359 *e*P **P** **11 42 42.4 -0.4**
CN2 *e*pP **pP** **11 42 52.2 -0.3**
CN2 *e*PP **PnPn** **11 44 18.7 +0.9**
CN2 PcP **PcP** **11 44 49.7 +0.7**
CN2 *e*S **S** **11 48 44.3 -0.2**
CN2 *e*SS **SS** **11 51 34.5 -6.5**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,21.0s
CN2 LR LR
comp=E,300nm,21.0s
CN2 LR LR
comp=Z,200nm,23.0s
USRK Ussuriysk Arra 40.39 6 P **P** **11 42 49.4 +1.1**
comp=Z,19nm,0.8s,baz=192,slow=7.7,SNR=33
USRK LR LR 11 59 00.2
comp=Z,225nm,20.5s,baz=257,slow=36
MDJ Mudanjiang 40.61 3 P **P** **11 42 50.9 +0.7**
MDJ pP **pP** **11 43 00.0 +0.2**
MDJ sP **sP** **11 43 04.0 +0.3**
MDJ PP **PP** **11 44 24.8 +0.7**
MDJ PcP **PcP** **11 44 52.0 +0.2**
MDJ ScP **ScP** **11 48 39.3 +0.2**
MDJ PcS **PcS** **11 48 43.3 +0.9**
MDJ S **S** **11 48 59.4 +1.7**
MDJ pmax pmax
comp=Z,64nm,1.0s
MDJ pmax pmax
comp=Z,100nm,5.6s
MDJ LR LR
comp=N,200nm,25.3s
MDJ LR LR
comp=E,200nm,30.0s
MDJ LR LR
comp=Z,160nm,33.2s
MDJ Mudanjiang 40.61 3 *e*P **P** **11 42 50.4 +0.3**
comp=Z,76nm,1.1s
ARMA Armidale 41.67 147 *e*P **P** **11 43 00.1 +0.9**
LSA Lhasa 42.25 311 P **P** **11 43 05.6 +1.2**
LSA pmax pmax
comp=Z,50nm,0.8s
LSA Lhasa 42.25 311 *e*P **P** **11 43 04.9 +0.5**
LSA pmax pmax
comp=Z,36nm,0.7s
LSA Lhasa 42.25 311 *e*P **P** **11 43 04.9 +0.5**
comp=Z,36nm,0.7s
ASAJ Asahikawa 42.44 17 *e*P **P** **11 43 06.0 +0.9**
ASAJ Asahikawa 42.44 17 P **P** **11 43 05.3 +0.2**
comp=Z,12nm,0.7s,baz=241,slow=27,SNR=6.5
GTA Gaotai 42.89 329 ⇑P **P** **11 43 09.0 -0.1**
GTA pP **pP** **11 43 19.9 +1.1**
GTA sP **sP** **11 43 22.7 0.0**
GTA PcP **PcP** **11 45 01.1 +1.5**
GTA S **S** **11 49 31.8 -0.1**
GTA sS **sS** **11 49 46.5 -1.3**
GTA SS SS 11 52 35.2 -8.9
GTA pmax pmax
comp=Z,29nm,0.7s
GTA pmax pmax
comp=Z,160nm,5.7s
GTA LR LR
comp=N,560nm,23.8s
GTA LR LR
comp=E,890nm,20.4s
GTA LR LR
comp=Z,880nm,22.8s
YUK Yuzh-Kuril'sk 43.40 20*d i*P P 11 43 09.0 -3.9
YUK *i* 11 44 48.6
YUK *e*S S 11 49 31.1 -7.8
YUK MLR MLR
comp=N,151nm,22.0s
YUK MLR MLR
comp=Z,230nm,17.0s
YUK MLR MLR
comp=E,149nm,17.0s
TAPN Taplejung 43.83 306 *e*P **P** **11 43 16.6 -0.5**
comp=E,59nm,0.8s
ODAN Odare 43.89 305 *e*P **P** **11 43 17.0 -0.5**
comp=E,63nm,0.7s
CAN Canberra 44.32 154 *e*P **P** **11 43 21.5 +1.0**
comp=E,15nm,1.0s
RAMN Ramite 44.57 305 *e*P **P** **11 43 22.7 -0.2**
comp=E,78nm,0.8s
TOO Toolangi 44.85 159 *e*P **P** **11 43 24.0 -0.7**
comp=E,50nm,1.0s
HABR Khabarovsk 44.97 8*ce*P **P** **11 43 23.8 -1.6**
HABR *e**SP **sP** **11 43 35.6 -3.4**
HABR *e* 11 45 06.8
HABR *e*S **S** **11 49 59.3 -2.3**
HABR *e**SS **sS** **11 50 14.7 -2.9**
HABR *e* 11 53 16.1
HABR *e*SSS SSS 11 54 06.8
HABR pmax pmax
comp=E,44nm,1.7s
HABR pmax pmax
comp=Z,81nm,1.7s
HABR pmax pmax
comp=N,35nm,2.3s
HABR MLR MLR
comp=Z,195nm,17.0s
YSS Yuzh-Sakhalins 45.08 16⇑ *e*P **P** **11 43 28.0 +1.7**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 45.08 16 *e*P **P** **11 43 26.0 -0.3**
comp=Z,16nm,0.7s
JIRN Jiri 45.19 306 *e*P **P** **11 43 27.7 -0.3**
comp=Z,20nm,0.7s
KLR Kul'dur 45.35 5⇓ *i*P P 11 43 25.2 -3.3
KLR pmax pmax
comp=Z,120nm,1.8s
GUN Gumba 45.54 306 *e*P **P** **11 43 30.2 -0.6**
comp=Z,115nm,0.7s
HIA Hailar 45.56 354 *e*P **P** **11 43 30.8 +0.6**
comp=Z,118nm,0.9s
PKI Pulchoki 45.79 305 *e*P **P** **11 43 31.7 -1.0**
comp=Z,58nm,1.0s
KKN Kakani 45.98 305 *e*P **P** **11 43 33.2 -0.9**
comp=Z,43nm,0.9s
DMN Daman 46.05 305 *e*P **P** **11 43 34.0 -0.7**
comp=Z,51nm,0.9s
GKN Gorkha 46.59 305 *e*P **P** **11 43 37.8 -1.0**
comp=Z,48nm,0.8s
DZM Mont Dzumac 46.72 125 *e*P **P** **11 43 39.7 0.0**
comp=Z,16nm,0.9s
ULN Ulaanbaatar 46.91 342 *e*P **P** **11 43 40.5 -0.5**
comp=Z,38nm,0.9s
SONM Songino Array 47.09 341 P **P** **11 43 42.4 +0.1**
SONM PcP **PcP** **11 45 14.7 +0.8**
SONM Songino Array 47.09 341 P **P** **11 43 42.4 +0.1**
comp=Z,16nm,0.7s,baz=155,slow=8.4,SNR=96
SONM PcP **PcP** **11 45 14.7 +0.8**
comp=Z,4.1nm,0.8s,baz=143,slow=4.5,SNR=3.0
SONM LR LR 12 05 13.8
comp=Z,287nm,19.4s,baz=160,slow=38
KOLN Koldanda 47.34 305 *e*P **P** **11 43 44.5 -0.3**
comp=Z,124nm,0.6s
DANN Dangsing 47.44 305 *e*P **P** **11 43 44.8 -0.8**
comp=Z,143nm,0.6s
HYB Hyderabad 48.97 290 *i*P **P** **11 43 56.0 -1.2**
CIT Chita 49.16 349 *e*P **P** **11 43 59.8 +1.6**
CIT *e* 11 44 10.9
CIT *e* 11 45 17.1
CIT *e* 11 45 51.0
CIT pmax pmax
comp=Z,297nm,1.4s
ZAK Zakamensk 50.32 341 *e*P **P** **11 44 06.1 -1.0**
ZAK *e* 11 45 24.8
ZAK pmax pmax
comp=Z,7.0nm,1.2s
TLY Talaya 51.32 342 *e*P **P** **11 44 14.3 -0.2**
TLY *e*S **S** **11 51 35.9 +4.4**
TLY *e*SS **SS** **11 55 08.2 +0.7**
TLY pmax pmax
comp=Z,21nm,0.7s
TLY MLR MLR
comp=Z,278nm,20.0s
TLY Talaya 51.32 342 *e*P **P** **11 44 15.2 +0.7**
comp=Z,27nm,0.8s
TLY Talaya 51.32 342 P **P** **11 44 15.5 +1.0**
comp=Z,234nm,0.7s,SNR=25
IRK Irkutsk 51.62 343 *e*P **P** **11 44 16.1 -0.6**
IRK pmax pmax
comp=Z,80nm,2.0s
AGRA Agra 51.88 302 *e*PKP **P** **11 44 18.0 -1.1**
AGRA AMb AMB 11 44 19.4
comp=Z,71nm,0.1s
MOY Mondy 52.17 340 *e*P **P** **11 44 21.7 +0.7**
MOY pmax pmax
comp=Z,41nm,2.5s
WMQ Urumqi 52.52 325 P **P** **11 44 23.4 -0.2**
WMQ pP **pP** **11 44 33.3 -0.2**
WMQ sP **sP** **11 44 37.0 -0.4**
WMQ PcP **PcP** **11 45 33.0 -0.8**
WMQ PP **PP** **11 46 24.0 +1.2**
WMQ *e*S **S** **11 51 47.0 -1.3**
WMQ sS **sS** **11 52 04.0 -0.6**
WMQ pmax pmax
comp=Z,36nm,1.1s
WMQ pmax pmax
comp=Z,200nm,6.2s
WMQ LR LR
comp=N,630nm,21.2s
WMQ LR LR
comp=E,400nm,21.2s
WMQ LR LR
comp=Z,540nm,22.3s
CLNS Chul'man 52.78 359 *e*P **P** **11 44 26.1 +0.8**
CLNS *e* 11 45 36.0
CLNS *e* 11 46 26.4
CLNS *e*PPP PPP 11 47 31.7
CLNS *e*S **S** **11 51 55.7 +4.3**
CLNS pmax pmax
comp=Z,47nm,0.9s
CLNS pmax pmax
comp=N,28nm,0.9s
CLNS pmax pmax
comp=E,15nm,0.9s
CLNS pmax pmax
comp=Z,7.0nm,1.1s
CLNS pmax pmax
comp=N,7.0nm,1.1s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS smax smax
comp=N,298nm,16.4s
CLNS smax smax
comp=E,386nm,16.4s
CLNS MLR MLR
comp=E,257nm,17.0s
CLNS MLR MLR
comp=Z,111nm,19.0s
CLNS MLR MLR
comp=N,189nm,18.0s
DDI Dehra Dun 52.79 305 *e*PKP **P** **11 44 23.0 -2.9**
SONA Sohna 52.92 303 *e*PKP **P** **11 44 25.6 -1.2**
SONA AMb AMB 11 44 26.6
comp=Z,48nm,1.0s
AYAN Aya Nagar 52.96 303 *e*PKP **P** **11 44 25.2 -1.9**
AYAN AMb AMB 11 44 27.6
comp=Z,42nm,1.1s
KUDL Kundal 53.39 302 *e*PKP **P** **11 44 28.6 -1.6**
KUDL AMb AMB 11 44 29.9
comp=Z,56nm,0.9s
POO Poona 53.57 290 *e*PKP **P** **11 44 29.0 -2.8**
KHET Khetri 53.95 302 *e*PKP **P** **11 44 33.3 -1.0**
KHET AMb AMB 11 44 35.0
comp=Z,62nm,1.5s
BOD Bodaibo 54.66 352 *e*P **P** **11 44 39.4 +0.4**
BOD pmax pmax
comp=Z,39nm,1.1s
PETK Petropavlovsk- 55.29 22 P **P** **11 44 44.1 +0.5**
PETK Petropavlovsk- 55.29 22 P **P** **11 44 44.1 +0.5**
PETK Petropavlovsk- 55.29 22 P **P** **11 44 44.1 +0.5**
comp=Z,12nm,0.8s,baz=190,slow=4.5,SNR=24
MK31 Makanchi Array 57.35 325 *e*P **P** **11 44 57.7 -0.8**
MK31 pmax pmax
comp=Z,34nm,0.7s
MK31 Makanchi Array 57.35 325 *e*P **P** **11 44 57.8 -0.7**
MKAR Makanchi Array 57.35 325*ce*P **P** **11 44 58.0 -0.5**
MKAR pmax pmax
comp=Z,28nm,0.7s
MKAR Makanchi Array 57.35 325 P **P** **11 44 58.0 -0.5**
MKAR ScP **ScP** **11 49 52.2 +2.3**
MKAR Makanchi Array 57.35 325 P **P** **11 44 58.0 -0.5**
comp=Z,28nm,0.7s,baz=125,slow=7.9,SNR=123
MKAR ScP **ScP** **11 49 52.2 +2.3**
comp=Z,2.5nm,0.9s,baz=146,slow=4.8,SNR=3.7
KSH Kashi 57.85 315 P **P** **11 45 02.8 +0.6**
KSH pP **pP** **11 45 12.6 +0.4**
KSH sP **sP** **11 45 16.8 +0.7**
KSH PcP **PcP** **11 45 53.5 -1.0**
KSH PP **PP** **11 47 12.6 +1.9**
KSH ScP **ScP** **11 49 50.6 -1.8**
KSH PcS **PcS** **11 49 53.5 -2.5**
KSH S **S** **11 52 58.6 -1.3**
KSH sS **sS** **11 53 15.5 -0.9**
KSH ScS **ScS** **11 54 46.2 -3.5**
KSH SS **SS** **11 56 51.9 +0.8**
KSH LR LR
comp=N,160nm,5.5s
KSH LR LR
comp=E,140nm,5.6s
KSH LR LR
comp=Z,290nm,23.5s
YAK Yakutsk 58.02 2*c i*P **P** **11 45 03.1 +0.3**
YAK *e**PP **pP** **11 45 12.6 -0.2**
YAK *e* 11 45 54.8
YAK *e* 11 47 12.1
YAK *e*S **S** **11 53 01.0 -0.1**
YAK *e**SS **sS** **11 53 15.4 -2.1**
YAK *e* 11 54 47.9
YAK pmax pmax
comp=Z,158nm,0.9s
YAK pmax pmax
comp=N,59nm,1.1s
YAK pmax pmax
comp=E,17nm,1.1s
YAK pmax pmax
comp=Z,5.0nm,0.5s
YAK smax smax
comp=N,33nm,8.4s
YAK smax smax
comp=E,22nm,6.2s
YAK Yakutsk 58.02 2 *e*P **P** **11 45 03.0 +0.3**
comp=E,203nm,0.8s
ULHL Ulahol 58.82 318 P **P** **11 45 09.0 -0.1**
SNR=12
KZA Kyzart 59.42 317 P **P** **11 45 13.8 +0.3**
SNR=29
TKM2 Tokmak 2 59.55 318 *i*P **P** **11 45 13.4 -0.7**
TKM2 Tokmak 2 59.55 318 *e*P **P** **11 45 13.5 -0.7**
comp=E,23nm,0.9s
TKM2 Tokmak 2 59.55 318 P **P** **11 45 13.4 -0.7**
SNR=29
KBK Karagaybulak 59.86 318 P P 11 45 12.6 -3.6
SNR=11
UCH Uchtor 59.98 317 P **P** **11 45 19.6 +2.2**
SNR=5.8
CHMS Chumysh 60.14 318 P **P** **11 45 18.8 +0.8**
SNR=7.6
AAK Ala-Archa 60.16 318 *e*P **P** **11 45 17.8 -0.4**
AAK pmax pmax
comp=Z,60nm,0.9s
AAK Ala-Archa 60.16 318 *e*P **P** **11 45 17.8 -0.4**
comp=Z,60nm,0.9s
AAK Ala-Archa 60.16 318 P **P** **11 45 18.1 -0.2**
comp=Z,61nm,1.7s,SNR=9.4
AAK Ala-Archa 60.16 318 P **P** **11 45 19.5 +1.3**
SNR=10
AAK Ala-Archa 60.16 318 P **P** **11 45 17.9 -0.4**
comp=Z,6.2nm,0.9s,baz=174,slow=12,SNR=18
FRU Bishkek 60.16 318 *e*P **P** **11 45 16.0 -2.1**
ZAA0 Zalesovo Array 60.38 333 *e*P **P** **11 45 18.0 -1.3**
ZALV Zalesovo Beam 60.38 333 P **P** **11 45 18.2 -1.1**
ZALV 11 47 32.6

ZALV Zalesovo Beam 60.38 333 P P 11 45 18.2 -1.1
ZALV PP PP 11 47 32.6 -0.1
ZALV Zalesovo Beam 60.38 333 P P 11 45 18.2 -1.1
comp=Z,10nm,0.5s,baz=132,slow=6.7,SNR=51
ZALV PP PP 11 47 32.6 -0.1
comp=Z,6.0nm,0.9s,baz=127,slow=9.5,SNR=3.6
USP Ospenovka 60.42 318 P P 11 45 19.3 -0.6
SNR=33
AML Almayashu 60.49 317 P P 11 45 20.9 +0.1
SNR=43
EKS2 Erkin-Say 60.65 318 *e*P P 11 45 21.9 +0.3
EKS2 pmax pmax
comp=Z,27nm,0.8s
EKS2 Erkin-Say 60.65 318 *e*P P 11 45 21.9 +0.3
comp=Z,27nm,0.8s
EKS2 Erkin-Say 60.65 318 P P 11 45 23.2 +1.6
SNR=29
KURBB Kurchatov Arra 61.53 327 P P 11 45 26.5 -0.7
comp=Z,51nm,0.8s,baz=124,slow=6.4,SNR=121
KURK Kurchatov 61.53 327*ce*P P 11 45 26.6 -0.6
KURK pmax pmax
comp=Z,60nm,0.7s
KURK Kurchatov 61.53 327 *e*P P 11 45 26.3 -0.9
comp=Z,66nm,0.8s
KURK *ep*P pP 11 45 37.5 +0.3
KURK Kurchatov 61.53 327 P P 11 45 26.3 -0.9
comp=Z,535nm,0.7s,SNR=63
NVS Novosibirsk 61.66 333⇑*i*P P 11 45 26.9 -1.1
NVS *e* 11 53 48.3
NVS pmax pmax
comp=Z,18nm,0.8s
NVS pmax pmax
comp=E,10.0nm,0.7s
SEY Seymchan 61.87 13*ce*P P 11 45 28.6 -0.6
KK31 Karatay Array 63.03 317 *i* P P 11 45 37.1 -0.4
KK31 pmax pmax
comp=Z,31nm,0.9s
KKAR Karatay Array 63.03 317 *e*P P 11 45 36.9 -0.6
KKAR pmax pmax
comp=Z,19nm,0.7s
KKAR Karatay Array 63.03 317 *e*P P 11 45 36.9 -0.6
comp=Z,19nm,0.7s
AFI Afiamalu 63.59 108 LR LR 12 10 16.9
comp=Z,176nm,19.5s,baz=37,slow=33
BVA0 Borovoye Array 67.11 327 *i* P P 11 46 03.2 -0.6
BVA0 pmax pmax
comp=Z,10.0nm,1.2s
BVAR Borovoye Array 67.11 327 P P 11 46 03.4 -0.4
BVAR Borovoye Array 67.11 327 P P 11 46 03.4 -0.4
BVAR Borovoye Array 67.11 327 P P 11 46 03.4 -0.4
comp=Z,31nm,1.0s,baz=136,slow=8.6,SNR=58
BRVK Borovoye 67.19 327 *e*P P 11 46 03.5 -0.7
BRVK *e**PP pP 11 46 14.0 -0.3
BRVK pmax pmax
comp=Z,34nm,0.7s
BRVK Borovoye 67.19 327 *e*P P 11 46 03.5 -0.7
comp=Z,34nm,0.7s
BRVK *ep*P pP 11 46 14.0 -0.3
BRVK Borovoye 67.19 327 P P 11 46 04.7 +0.5
comp=Z,260nm,1.1s,SNR=29
BILL Bilibino 69.39 15⇑*i*P P 11 46 17.3 -0.4
BILL *e* 11 48 49.9
BILL pmax pmax
comp=Z,20nm,1.7s
BILL MLR MLR
comp=Z,200nm,18.0s
BILL Bilibino 69.39 15 *e*P P 11 46 16.8 -0.9
comp=Z,8.3nm,0.8s
AB31 Akbulak array 71.95 321 *i* P P 11 46 32.7 -1.0
AB31 pmax pmax
comp=Z,17nm,0.7s
ABKAR Akbulak array 71.95 321 *e*P P 11 46 32.8 -0.9
comp=Z,24nm,0.8s
UNV Unalaska Valle 73.32 35 *e*P P 11 46 40.8 -0.9
AKTO Aktyubinsk 73.46 322 P P 11 46 41.9 -0.7
AKTO pmax pmax
comp=Z,7.0nm,0.9s
SVE Sverdlovsk 73.75 328⇑*i*P P 11 46 44.1 -0.1
SVE pmax pmax
comp=Z,33nm,0.9s
GAMB Gambell 74.26 24 *e*P P 11 46 47.3 +0.3
comp=Z,38nm,1.0s
ARU Arti 74.73 328*d i*P P 11 46 49.6 -0.3
ARU 11 49 32.6
ARU S S 11 56 23.7 -0.2
ARU SS SS 12 01 10.8 -1.0
ARU pmax pmax
comp=Z,33nm,0.8s
ARU Arti 74.73 328 *e*P P 11 46 48.7 -1.2
ARU Arti 74.73 328 P P 11 46 49.0 -0.9
comp=Z,228nm,0.7s,SNR=9.6
SOKR Solikamsk 76.50 331 *e*P P 11 46 59.5 -0.4
SOKR pmax pmax
comp=Z,20nm,1.3s
SOKR MLR MLR
comp=Z,350nm,25.0s
QRN Al-Qurain 78.24 298 *e*P P 11 47 09.8 -0.6
QRN AMb AMB 11 47 12.4
comp=Z,66nm,1.2s
RDF Al-Radifah 78.57 299 *e*P P 11 47 11.9 -0.3
RDF AMb AMB 11 47 12.7
comp=Z,40nm,1.0s
MIB Mutribah 78.78 299 *e*P P 11 47 12.5 -0.9
MIB AMb AMB 11 47 13.7
comp=Z,62nm,0.9s
NAY Al-Naaiem 78.85 299 *e*P P 11 47 12.7 -1.0
NAY AMb AMB 11 47 14.0
comp=Z,26nm,0.9s
RSO Redoubt South 81.97 30 *e*P P 11 47 29.5 -0.6
KIV Kislovodsk 82.94 314 *e*P P 11 47 35.4 0.0
KIV pmax pmax
comp=Z,7.0nm,0.9s
KIV MLR MLR
comp=Z,151nm,19.0s
SLKM Skilak Lake 83.22 30 *e*P P 11 47 33.8 -2.6
SLKM Skilak Lake 83.22 30 *e*P P 11 47 33.8 -2.6
TRF Thorofare Moun 83.41 27 *e*P P 11 47 36.7 -0.8
comp=Z,60nm,1.3s
COLD Coldfoot 83.75 23 *e*P P 11 47 39.1 +0.1
comp=Z,40nm,1.1s
PMR Palmer 83.82 29 *e*P P 11 47 39.0 -0.4
PMR pmax pmax
comp=Z,59nm,1.2s
PMR Palmer 83.82 29 *e*P P 11 47 39.0 -0.4
comp=Z,59nm,1.2s
VRHR Novokhopersk 83.84 321 *e*P P 11 47 38.2 -1.5
VRHR pmax pmax
comp=Z,20nm,1.0s
VRHR pmax pmax
comp=N,7.0nm,0.6s
VRHR pmax pmax
comp=E,30nm,1.1s
MCK McKinley 84.03 26 *e*P P 11 47 40.5 0.0
MCK pmax pmax
comp=Z,106nm,1.5s
MCK McKinley 84.03 26 *e*P P 11 47 40.5 0.0
comp=Z,106nm,1.5s
SML Sawmill 84.21 28 *e*P P 11 47 41.7 +0.2
SML pmax pmax
comp=Z,25nm,1.3s
SML Sawmill 84.21 28 *e*P P 11 47 41.7 +0.2
comp=Z,25nm,1.3s
COLA College 84.56 25 *e*P P 11 47 42.9 -0.2
COLA pmax pmax
comp=Z,15nm,1.3s
COLA College 84.56 25 *e*P P 11 47 42.9 -0.2
comp=Z,15nm,1.3s
ILAR Eielson Array 84.97 25 P P 11 47 44.8 -0.4
ILAR Eielson Array 84.97 25 P P 11 47 44.8 -0.4
comp=Z,6.3nm,1.0s,baz=245,slow=5.1,SNR=27
KLMR Klimovskoe 85.20 331*d i*P P 11 47 46.5 +0.1
KLMR pmax pmax
comp=Z,184nm,1.3s
KLMR pmax pmax
comp=Z,192nm,7.3s
VORD Divnogorie 85.31 321 *e*P P 11 47 46.0 -1.1
VSR Storozhevoye 85.39 321 *e*P P 11 47 46.6 -0.9
VSR pmax pmax
comp=Z,30nm,1.1s
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,20nm,1.1s
DIV Divide 85.42 29 *e*P P 11 47 47.6 0.0
comp=E,98nm,1.2s
MOS Moscow 86.23 325 *e*P P 11 47 49.4 -2.2
MOS pmax pmax
comp=Z,132nm,1.3s
MENT Mentasta 86.37 27 *e*P P 11 47 50.8 -1.5
ANN Anapa 86.70 315 *e*P P 11 47 51.5 -2.7
ANN pmax pmax
comp=Z,84nm,1.2s
OBN Obninsk 86.86 325⇑*i*P P 11 47 54.0 -0.6
OBN *e* 11 51 14.6
OBN *e*S S 11 58 30.1 -0.3
OBN pmax pmax
comp=Z,146nm,1.7s
OBN MLR MLR
comp=Z,100nm,19.0s
OBN Obninsk 86.86 325 *e*P P 11 47 54.1 -0.6
comp=Z,151nm,1.3s
ASF Jabal al Asfar 87.72 302 P P 11 47 59.8 +0.3
ASF Jabal al Asfar 87.72 302 P P 11 47 59.8 +0.3
comp=Z,8.2nm,0.9s,baz=318,slow=4.5,SNR=9.1
JOF Joensuu 88.97 333 *e*P P 11 48 02.7 -1.9
JOF pmax pmax
comp=Z,24nm,0.8s
JOF Joensuu 88.97 333 *ep* P 11 48 02.7 -1.9
comp=Z,24nm,0.8s
KMBO Kilima Mbogo 89.47 269 *e*P P 11 48 08.1 -0.3
comp=Z,18nm,1.3s
EIL Elat 89.55 300 P P 11 48 07.9 -0.2
EIL Elat 89.55 300 P P 11 48 07.9 -0.2
comp=Z,9.6nm,0.9s,baz=13,slow=1.7,SNR=7.9
KEV Kevo 89.68 340 *e*P P 11 48 07.7 -0.1
KEV Kevo 89.68 340 *ep* P 11 48 07.7 -0.1
BRTR Keskin Array B 89.83 310 P P 11 48 08.3 -1.1
BRTR Keskin Array B 89.83 310 P P 11 48 08.3 -1.1
comp=Z,6.0nm,0.9s,baz=112,slow=4.7,SNR=20
INK Inuvik 90.02 21 *e*P P 11 48 08.8 -0.7
comp=Z,20nm,1.4s
INK *ep*P pP 11 48 20.3 +0.4
ARCES ARCESS Array B 90.24 340 P P 11 48 09.2 -1.2
ARCES ARCESS Array B 90.24 340 P P 11 48 09.2 -1.2
comp=Z,8.9nm,0.8s,baz=66,slow=5.2,SNR=12
SPB4 Spitsbergen Ar 90.28 349 *e*P P 11 48 09.8 -0.8
KAF Kangasniemi 91.39 332 *e*P P 11 48 13.7 -2.2
KAF pmax pmax
comp=Z,16nm,0.8s
KAF Kangasniemi 91.39 332 *ep* P 11 48 13.7 -2.2
comp=Z,16nm,0.8s
FINES FINESS Array B 91.62 332 P P 11 48 16.9 -0.2
FINES FINESS Array B 91.62 332 P P 11 48 16.9 -0.2
comp=Z,5.1nm,0.7s,baz=86,slow=8.0,SNR=11
AKASG Malin Array Be 91.69 321*ce*P P 11 48 16.7 -0.9
AKASG pmax pmax
comp=Z,9.0nm,0.8s
AKASG Malin Array Be 91.69 321 P P 11 48 16.7 -0.9
AKASG Malin Array Be 91.69 321 P P 11 48 16.7 -0.9
comp=Z,8.6nm,0.8s,baz=71,slow=4.3,SNR=24
AKBB Malin Array Si 91.69 321 *e*P P 11 48 16.5 -1.1
AKBB Malin Array Si 91.69 321 *e*P P 11 48 16.5 -1.1
KIEV Kiev 91.70 321 *e*P P 11 48 15.8 -1.8
KIEV pmax pmax
comp=Z,24nm,1.4s
KIEV Kiev 91.70 321 *e*P P 11 48 15.8 -1.8
comp=Z,24nm,1.4s
NACGM Naroch 92.48 325 *e* P 11 48 19.0 -2.1
SYO Syowa Base 92.57 201⇓*e*X P 11 48 20.5 -0.7
SYO Syowa Base 92.57 201⇓*ep*P pP 11 48 34.8 +3.2
QSPA South Pole Qui 93.83 180 *e*P P 11 48 27.8 +0.5
comp=Z,10.0nm,1.0s
TESR 94.04 317⇓*i*P P 11 48 27.8 -0.8
VRI Vrincioaia 94.10 316⇓P P 11 48 28.3 -0.5
VRI Vrincioaia 94.10 316⇓*i*P P 11 48 28.3 -0.5
PLOR Plostina 94.15 316⇓P P 11 48 29.1 0.0
PLOR Plostina 94.15 316⇓*i*P P 11 48 29.1 0.0
MLR Muntele Rosu 94.70 316 P P 11 48 30.5 -1.3
MLR Muntele Rosu 94.70 316⇓*i*P P 11 48 31.5 -0.3
MLR Muntele Rosu 94.70 316 P P 11 48 30.5 -1.3
comp=Z,2.4nm,0.8s,baz=347,slow=0.8,SNR=7.6
SUW Suwalki 94.72 325 *e*P P 11 48 31.2 -0.3
SUW Suwalki 94.72 325 *e*P P 11 48 31.2 -0.3
SUW Suwalki 94.72 325 *e*P P 11 48 31.2 -0.3
SUW Suwalki 94.72 325 *e*P P 11 48 30.7 -0.7
comp=Z,81nm,1.0s
BURAR Bucovina Array 94.80 318⇓*i*P P 11 48 31.8 -0.3
BUR08 Bucovina Ar. S 94.81 318 *e*P P 11 48 32.2 0.0
KWP Kalwaria Pacla 96.01 321 *e*P P 11 48 37.6 +0.2
KWP Kalwaria Pacla 96.01 321 *e*P P 11 48 37.6 +0.2
KWP Kalwaria Pacla 96.01 321⇓P P 11 48 37.5 0.0
KWP Kalwaria Pacla 96.01 321⇓*i*P P 11 48 37.5 0.0
LOT Lotru 96.21 316⇑*i*P P 11 48 38.5 -0.2
KOLS Kolonicke sedl 96.44 320 *e*P P 11 48 38.8 -0.7
KOLS pmax pmax
comp=Z,10.0nm,1.3s
KOLS Kolonicke sedl 96.44 320 *e*P P 11 48 38.8 -0.7
UZH Uzhgorod 96.50 320 *e*P P 11 48 39.3 -0.4
UZH *e* 11 48 52.9
DRGR 96.64 318⇑P P 11 48 40.1 -0.4
DRGR 96.64 318⇑*i*P P 11 48 40.1 -0.4
CRVS Cervenica-Dubn 96.97 320 *e*P P 11 48 41.9 0.0
CRVS pmax pmax
comp=Z,20nm,1.0s
CRVS Cervenica-Dubn 96.97 320 *e*P P 11 48 41.9 0.0
PSZ Piszkesteto 98.23 319⇓P P 11 48 47.5 -0.1
PSZ Piszkesteto 98.23 319⇓*i*P P 11 48 47.5 -0.1
NB2 NORSAR Subarra 98.58 334 P P 11 48 47.3 -1.6
baz=67,slow=4.6
NB2 NORSAR Subarra 98.58 334 P P 11 48 47.3 -1.6
comp=Z,3.7nm,0.8s,baz=67,slow=4.6
NOA NORSAR Array B 98.59 334 P P 11 48 47.1 -1.8
NOA NORSAR Array B 98.59 334 P P 11 48 47.1 -1.8
comp=Z,3.1nm,0.8s,baz=66,slow=4.6,SNR=12
VYHS Vyhne 98.76 320 *e*P P 11 48 49.4 -0.5
VYHS pmax pmax
comp=Z,10.0nm,1.8s
VYHS Vyhne 98.76 320 PDIF P 11 48 49.4 -0.5
OKC Ostrava-Krasne 98.81 322 *e*P Pdif 11 48 50.5 +0.4
OKC Ostrava-Krasne 98.81 322 *e*PDIFF Pdif 11 48 50.5 +0.4
MORC Moravsky Berou 99.20 322⇓P **Pdif** **11 48 52.5 +0.6**
MORC Moravsky Berou 99.20 322⇓*i*P **Pdif** **11 48 52.5 +0.6**
YKA Yellowknife Ar 99.36 24 P **Pdif** **11 48 52.3 0.0**
YKA Yellowknife Ar 99.36 24 P **Pdif** **11 48 52.3 0.0**
comp=Z,0.4nm,0.6s,baz=297,slow=4.2,SNR=13
PKSM Moragy 99.51 318⇓P **Pdif** **11 48 50.0 -3.3**
PKSM Moragy 99.51 318⇓*i*P **Pdif** **11 48 50.0 -3.3**
DPC Dobruska-Polom 99.78 322 *e*P **Pdif** **11 48 55.0 +0.5**
DPC Dobruska-Polom 99.78 322 *e*PDIFF **Pdif** **11 48 55.0 +0.5**
UPC Upice 99.92 323 *e*P **Pdif** **11 48 55.7 +0.7**
UPC Upice 99.92 323 *e*PDIFF **Pdif** **11 48 55.7 +0.7**
VRAC Vranov 99.93 321 P **Pdif** **11 48 55.2 0.0**
VRAC Vranov 99.93 321 P **Pdif** **11 48 55.2 0.0**
comp=Z,5.2nm,0.7s,baz=251,slow=18,SNR=5.5
PVCC Panska Ves 100.78 323 *e*P **Pdif** **11 48 59.6 +0.7**
PVCC Panska Ves 100.78 323 *e*PDIFF **Pdif** **11 48 59.6 +0.7**
PRU Pruhonice 100.98 322 *e*P **Pdif** **11 49 00.0 +0.3**
PRU Pruhonice 100.98 322 *e*PDIFF **Pdif** **11 49 00.0 +0.3**
CLL Collm 101.44 324 *e*P **Pdif** **11 49 02.0 +0.3**
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL MLR MLR
comp=Z,200nm,19.4s
CLL Collm 101.44 324 *e*Pdif **Pdif** **11 49 02.0 +0.3**
comp=Z,6.0nm,0.8s
CLL LmV 12 40 00.0
comp=Z,200nm,19.4s
KHC Kasperske Hory 101.86 322 *e*P **Pdif** **11 49 04.1 +0.3**
KHC Kasperske Hory 101.86 322 *e*PDIFF **Pdif** **11 49 04.1 +0.3**
GERES GERESS Array B 101.88 322 P **Pdif** **11 49 03.6 -0.3**
GERES GERESS Array B 101.88 322 P **Pdif** **11 49 03.6 -0.3**
comp=Z,2.4nm,0.9s,baz=54,slow=5.0,SNR=13
NKC Novy Kostel 102.15 323 *e*P **Pdif** **11 49 05.5 +0.5**
NKC Novy Kostel 102.15 323 *e*PDIFF **Pdif** **11 49 05.5 +0.5**
DAVOX Davos/Dischmat 105.03 321 Pdif **Pdif** **11 49 18.0 -0.1**
DAVOX Davos/Dischmat 105.03 321 Pdiff **Pdif** **11 49 18.0 -0.1**
comp=Z,0.8nm,0.3s,baz=300,slow=11,SNR=3.1
NVAR Mina Array Bea 106.84 48 Pdif **Pdif** **11 49 34.0 +7.6**
NVAR PKKPbc **PKKPbc** **12 04 57.1 +1.5**
NVAR Mina Array Bea 106.84 48 Pdiff **Pdif** **11 49 34.0 +7.6**
comp=Z,0.6nm,1.0s,baz=318,slow=2.0,SNR=3.7
NVAR PKKPbc **PKKPbc** **12 04 57.1 +1.5**
comp=Z,0.1nm,0.4s,baz=108,slow=4.8,SNR=3.7
D21A La Casta Ranch 110.78 36⇑P **PKiKP** **11 53 44.0 +0.7**
baz=111
E21A Keefer Ranch, 111.00 37⇑P **PKiKP** **11 53 43.1 -0.6**
baz=111
C22A Vida 111.07 35⇑P **PKiKP** **11 53 44.4 +0.5**
baz=111
D22A Cohagen 111.22 36⇓P **PKiKP** **11 53 45.4 +1.3**
baz=111
PDAR Pinedale Array 111.27 41 PKKPbc PKKPbc 12 04 47.1 +5.4
PDAR Pinedale Array 111.27 41 PKKPbc PKKPbc 12 04 47.1 +5.4
comp=Z,1.0nm,0.9s,baz=111,slow=8.1,SNR=6.4
J19A Crowheart 111.37 40⇑P **PKiKP** **11 53 45.6 +0.9**
baz=111
I20A Worland 111.64 39⇑P **PKiKP** **11 53 45.8 +0.6**
baz=111
J20A Shoshoni 111.95 40⇓P **PKiKP** **11 53 46.5 +0.8**
baz=112
S16A Weppner Ranch, 112.03 47⇓P **PKiKP** **11 53 47.4 +1.2**
baz=112
U15A North Rim 112.03 48⇓P **PKiKP** **11 53 48.2 +1.9**
baz=112
SRU San Rafael 112.22 45⇓P **PKiKP** **11 53 46.8 +0.3**
baz=112
K21A Alcova 112.83 40⇓P **PKiKP** **11 53 48.0 +0.5**
baz=113
T17A Navajo Res., N 112.90 47⇓P **PKiKP** **11 53 49.0 +1.1**
baz=113
J22A Midwest 112.94 39⇓P **PKiKP** **11 53 47.5 -0.2**
baz=113
M21A Separation Pea 113.25 41⇓P **PKiKP** **11 53 49.0 +0.5**
baz=113
O20A White River Ci 113.35 43⇑P **PKiKP** **11 53 49.1 +0.5**
baz=113
H24A Dirks Ranch, A 113.44 37⇑P **PKiKP** **11 53 49.3 +0.8**
baz=113
T18A Mexican Hat 113.52 47⇑P **PKiKP** **11 53 50.5 +1.5**
baz=113
N21A Black Mountain 113.55 42⇑P **PKiKP** **11 53 49.5 +0.4**
baz=113
N22A Wattenberg Ran 114.24 42⇑P PKPdf 11 53 51.2 +0.8
baz=114
S21A Coal Bank Pass 114.78 45⇑P PKPdf 11 53 53.5 +1.9
baz=115
Q22A Crested Butte, 114.85 44⇓P PKPdf 11 53 52.9 +1.3
baz=115
O23A Lake Granby, G 114.89 42⇓P PKPdf 11 53 52.0 +0.3
baz=115
Y19A Nutrioso 115.29 50⇓P **PKPdf** **11 53 52.7 0.0**
baz=115
W20A Ramah 115.37 48⇑P **PKPdf** **11 53 53.8 +1.1**
baz=115
K26A Motz Farm, Whi 115.38 39⇑P **PKPdf** **11 53 52.9 +0.6**
baz=115
U21A Nageezi 115.43 46⇓P **PKPdf** **11 53 54.6 +1.8**
baz=115
Z20A Nine Sixteen R 116.14 50⇑P **PKPdf** **11 53 55.9 +1.8**
baz=116
X21A Alamocita Cree 116.19 49⇓P **PKPdf** **11 53 56.4 +2.1**
baz=116
V22A San Miguel Ran 116.20 47⇑P **PKPdf** **11 53 56.5 +2.2**
baz=116
319A Douglas 116.29 52⇓P **PKPdf** **11 53 56.1 +1.7**
baz=116
T23A Casias Ranch, 116.31 45⇓P **PKPdf** **11 53 56.2 +1.7**
baz=116
120A U Bar Ranch, L 116.34 51⇑P **PKPdf** **11 53 56.1 +1.6**
baz=116
P25A Willow Gulch B 116.40 42⇑P **PKPdf** **11 53 55.5 +1.0**
baz=116
Q25A Bedland, Calha 116.65 43⇑P **PKPdf** **11 53 55.5 +0.5**
baz=116
V23A Ortiz Mt. (NFS 116.80 47⇓P **PKPdf** **11 53 57.2 +1.8**
baz=117
320A Kipp Ranch, An 116.90 52⇓P **PKPdf** **11 53 56.7 +1.1**
baz=117
P26A Davis Ranch, A 116.92 42⇑P **PKPdf** **11 53 56.5 +1.0**
baz=117
Y22A Socorro 117.03 49⇓P **PKPdf** **11 53 57.1 +1.2**
baz=117
Q26A Hugo 117.13 42⇑P **PKPdf** **11 53 57.0 +1.2**
baz=117
221A Mesquite Ranch 117.22 51⇑P **PKPdf** **11 53 57.4 +1.3**
baz=117
Z22A Elephant Butte 117.32 49⇑P **PKPdf** **11 53 57.6 +1.2**
baz=117
T25A Trinidad 117.41 44⇓P **PKPdf** **11 53 57.6 +1.0**
baz=117
P27A Ficken Ranch, 117.43 41⇑P **PKPdf** **11 53 57.1 +0.8**
baz=117
V24A Rampart Ranch, 117.47 46⇑P **PKPdf** **11 53 58.3 +1.6**
baz=117
R26A Arlington 117.50 43⇑P **PKPdf** **11 53 57.7 +1.2**
baz=117
W24A Lazy 6 Ranch, 117.61 47⇑P **PKPdf** **11 53 58.4 +1.5**
baz=117
U25A Circle Dot Ran 117.77 45⇓P **PKPdf** **11 53 57.8 +0.6**
baz=118
V25A Rancho No Teng 117.89 46⇑P **PKPdf** **11 53 58.7 +1.3**
baz=118
T26A Comanche Natio 117.96 44⇑P **PKPdf** **11 53 58.6 +1.1**
baz=118
Y24A Capitan 118.17 48⇑P **PKPdf** **11 53 59.1 +1.1**
baz=118
U26A Atchley Ranch, 118.24 45⇓P **PKPdf** **11 53 59.0 +0.8**
baz=118
W25A X Bar L Ranch, 118.29 46⇑P **PKPdf** **11 53 59.1 +0.9**
baz=118
Z24A Sheeppen Canyo 118.49 49⇑P **PKPdf** **11 54 00.0 +1.3**
baz=118
V26A Tequesquite Ra 118.50 45⇓P **PKPdf** **11 53 59.1 +0.5**
baz=118
T27A Campo 118.62 44⇑P **PKPdf** **11 53 59.7 +0.9**
baz=118
124A Stringfield Ra 118.70 49⇑P **PKPdf** **11 53 59.7 +0.5**
baz=118
Y25A Mesa, Roswell 118.72 48⇓P **PKPdf** **11 53 59.8 +0.8**
baz=118
W26A Owens Ranch, T 118.85 46⇑P **PKPdf** **11 54 00.3 +1.1**
baz=119
Z25A Roswell 119.00 48⇑P **PKPdf** **11 54 00.4 +0.9**
baz=119
T28A Walsh 119.01 43⇑P **PKPdf** **11 53 60.0 +0.5**
baz=119
X26A CR and CF Fran 119.08 47⇓P **PKPdf** **11 54 00.1 +0.4**
baz=119
MNTX Cornudas Mount 119.19 50 *e*PKPdf **PKPdf** **11 54 00.9 +1.0**
MNTX Cornudas Mount 119.19 50⇓P **PKPdf** **11 54 01.0 +1.2**
baz=119
BGNE Belgrade 119.20 37⇑P **PKPdf** **11 53 59.7 +0.1**
baz=119
324A Moseley Ranch, 119.23 51⇓P **PKPdf** **11 54 01.0 +0.9**
baz=119
125A Gardner Draw, 119.32 49⇓P **PKPdf** **11 54 01.2 +1.0**
baz=119
225A Deer Hill, Car 119.44 50⇓P **PKPdf** **11 54 01.6 +1.1**
baz=119
Z26A Caprock 119.55 48⇑P **PKPdf** **11 54 01.1 +0.5**
baz=119
V28A Channing 119.63 45⇓P **PKPdf** **11 54 01.7 +1.0**
baz=119
Y27A Causey 119.86 47⇑P **PKPdf** **11 54 02.0 +0.8**
baz=120
425A Indio Mountain 119.89 51⇑P **PKPdf** **11 54 02.3 +0.9**
baz=120
226A Malaga, Loving 120.01 49⇑P **PKPdf** **11 54 02.4 +0.9**
baz=120
Z27A Tatum 120.10 48⇓P **PKPdf** **11 54 02.3 +0.7**
baz=120
MSTX Muleshoe 120.11 47⇑P **PKPdf** **11 54 02.4 +0.7**
baz=120
X28A Dimmitt 120.26 46⇑P **PKPdf** **11 54 02.4 +0.4**
baz=120
SCHQ Schefferville 120.39 9 PKP **PKPdf** **11 54 02.1 +0.6**
SCHQ Schefferville 120.39 9 PKP **PKPdf** **11 54 02.1 +0.6**
comp=Z,3.4nm,1.0s,baz=10.0,slow=3.0,SNR=4.1
326A Caldwell Ranch 120.44 50⇑P **PKPdf** **11 54 02.6 +0.3**
baz=120
AMTX Amarillo 120.44 45⇓P **PKPdf** **11 54 03.2 +1.0**
baz=120
X29A Tulia 120.65 46⇓P **PKPdf** **11 54 03.6 +0.9**
baz=120
426A McDonald Obser 120.69 51⇓P **PKPdf** **11 54 03.6 +0.6**
baz=120
Y29A Porterfield Fa 120.96 46⇓P **PKPdf** **11 54 04.2 +0.9**
baz=121
128A Castleberry Fa 120.97 48⇑P **PKPdf** **11 54 03.5 +0.2**
baz=121
427A Hayter Ranch, 121.09 50⇑P **PKPdf** **11 54 04.6 +1.0**
baz=121
626A Big Bend Ranch 121.09 52⇓P **PKPdf** **11 54 04.3 +0.7**
baz=121
Z29A Hungry Hill Ra 121.23 47⇓P **PKPdf** **11 54 04.4 +0.6**
baz=121
527A Woodward Ranch 121.24 51⇓P **PKPdf** **11 54 04.8 +0.8**
baz=121

328A	**Wristen Ranch,** baz=121	**121.30**	**50**	⇑P		**PKPdf**	**11 54 04.6**	**+0.6**
129A	**Stewart Farms,** baz=121	**121.42**	**48**	⇑P		**PKPdf**	**11 54 04.9**	**+0.7**
TXAR	**Lajitas Array**	**121.55**	**52**	PKP		**PKPdf**	**11 54 05.6**	**+1.1**
TXAR	**Lajitas Array** comp=Z,2.0nm,0.8s,baz=251,slow=0.4,SNR=20	**121.55**	**52**	PKP		**PKPdf**	**11 54 05.6**	**+1.1**
428A	**Kincaid Ranch,** baz=122	**121.69**	**50**	⇓P		**PKPdf**	**11 54 06.0**	**+1.2**
627A	**Terlingua Ranc** baz=122	**121.72**	**52**	⇓P		**PKPdf**	**11 54 06.0**	**+1.1**
528A	**Cox Ranch, San** baz=122	**121.87**	**51**	⇑P		**PKPdf**	**11 54 06.1**	**+0.9**
628A	**Black Gap, Mar** baz=122	**122.09**	**52**	⇑P		**PKPdf**	**11 54 06.4**	**+0.9**
TORD	**Torodi Ar. Bea**	**122.78**	**288**	PKP		**PKPdf**	**11 54 07.0**	**-0.1**
TORD	**Torodi Ar. Bea** baz=54,slow=2.0	**122.78**	**288**	PKP		**PKPdf**	**11 54 07.0**	**-0.1**
JCT	**Junction City**	**124.00**	**49**	*e*PKIKP		**PKPdf**	**11 54 10.0**	**+0.8**
JCT	**Junction City**	**124.00**	**49**	*e*PKPdf		**PKPdf**	**11 54 10.0**	**+0.8**
JCT	**Junction City** baz=124	**124.00**	**49**	⇓P		**PKPdf**	**11 54 09.9**	**+0.7**
FVM	**French Village**	**125.97**	**36**	*e*PKIKP		**PKPdf**	**11 54 11.3**	**-1.4**
FVM	**French Village**	**125.97**	**36**	*e*PKPdf		**PKPdf**	**11 54 11.3**	**-1.4**
MIAR	**Mount Ida**	**126.19**	**41**	*e*PKIKP		**PKPdf**	**11 54 14.2**	**+1.0**
MIAR	**Mount Ida**	**126.19**	**41**	*e*PKPdf		**PKPdf**	**11 54 14.2**	**+1.0**
ACSO	**Alum Creek Sta**	**128.34**	**29**	*e*PKPdf		PKPdf	11 54 11.4	-5.7
WVT	**Waverly**	**128.75**	**36**	*e*PKIKP		**PKPdf**	**11 54 17.9**	**-0.1**
WVT	**Waverly**	**128.75**	**36**	*e*PKPdf		**PKPdf**	**11 54 17.9**	**-0.1**
PLCA	**Paso Flores**	**140.21**	**159**	PKP		**PKPdf**	**11 54 40.4**	**+1.0**
PLCA	**Paso Flores** comp=Z,1.4nm,0.6s,baz=212,slow=4.3,SNR=4.4	**140.21**	**159**	PKP		**PKPdf**	**11 54 40.4**	**+1.0**
TRQA	**Tornquist**	**145.12**	**168**	*e*PKPbc		**PKPbc**	**11 54 46.9**	**-0.6**
LCO	**Las Campanas**	**150.10**	**148**	*e*PKPdf		**PKPdf**	**11 54 57.5**	**+0.6**
LCO				*e*PKPbc		**PKPbc**	**11 55 01.4**	**-0.5**

***IDC* 12 11:40:38.5**±1.4,3°95′N×126°47′E,h0km,**mb4.0**/6,
mb1 4.1/6,**mb1mx3.8**/20,**mbtmp4.0**/6,**Error ellipse:**
s-maj=191.5km s-min=17.6km az=68.0,Taluad Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 3.5nm,0.6s	**24.97**	**162**	P	P	11 46 02.9	-1.1
ASAR	**Alice Springs** 0.6nm,0.4s,baz=345,slow=8.7,SNR=6.3	**28.39**	**166**	P	P	11 46 36.5	+1.7
STKA	**Stephens Creek** 1.4nm,0.4s,baz=334,slow=9.2,SNR=6.4	**38.43**	**159**	P	P	11 48 01.3	-0.7
SONM	**Songino Array** 0.5nm,0.5s,baz=152,slow=6.5,SNR=3.3	**47.01**	**342**	P	P	11 49 12.1	+0.4
MKAR	**Makanchi Array** 1.5nm,0.6s,baz=120,slow=7.0,SNR=9.0	**57.23**	**325**	P	P	11 50 27.3	-0.4
KURBB	**Kurchatov Arra** 1.0nm,0.5s,baz=128,slow=6.5,SNR=4.6	**61.41**	**327**	P	P	11 50 56.4	-0.2

***IDC* 12 11:44:35.3**±0.8,3°56′N×126°02′E,h0km,**mb3.7**/8,
mb1 3.9/8,**mb1mx3.7**/21,**mbtmp3.8**/8,**Error ellipse:**
s-maj=52.9km s-min=14.6km az=73.0,Taluad Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 1.7nm,0.5s,baz=4.4,slow=13,SNR=1.9	**21.53**	**181**	P	P	11 49 26.8	+0.6
WRA	**Warramunga Arr** 1μm,0.3s,baz=273,slow=0.5,SNR=9.2	**24.75**	**161**	P	P	11 49 58.4	-0.4
ASAR	**Alice Springs** 0.5nm,0.4s,baz=349,slow=7.3,SNR=8.7	**28.13**	**165**	P	P	11 50 29.4	0.0
MJAR	**Matsushiro Arr** 0.6nm,0.8s,baz=192,slow=5.8,SNR=2.7	**34.69**	**17**	P	P	11 51 27.0	0.0
STKA	**Stephens Creek** 3.0nm,0.5s,baz=325,slow=8.5,SNR=13	**38.23**	**158**	P	P	11 51 57.0	-0.1
SONM	**Songino Array** 0.3nm,0.6s,baz=152,slow=7.8,SNR=2.0	**47.23**	**342**	P	P	11 53 10.6	+0.2
MKAR	**Makanchi Array** 0.5nm,0.5s,baz=119,slow=7.4,SNR=7.9	**57.29**	**326**	P	P	11 54 25.2	+0.2
KURBB	**Kurchatov Arra** 0.4nm,0.4s,baz=129,slow=6.1,SNR=2.7	**61.50**	**328**	P	P	11 54 53.3	-0.6
BVAR	**Borovoye Array** 0.3nm,0.6s,baz=108,slow=4.7,SNR=2.4	**67.87**	**327**	P	P	11 55 30.5	0.0

***IDC* 12 11:50:28.9**±1.7,3°79′N×126°85′E,h0km,**mb3.5**/5,
mb1 3.6/5,**mb1mx3.5**/20,**mbtmp3.5**/5,**MS3.3**/1,**Ms1 3.3**/1,
ms1mx2.4/29,**Error ellipse: s-maj=205.8km**
s-min=20.0km az=69.0,Taluad Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang** comp=Z,150nm,19.2s,baz=293,slow=39	**11.26**	**219**	LR	LR	11 57 47.2	
WRA	**Warramunga Arr** 0.5nm,0.4s	**24.71**	**163**	P	P	11 55 52.0	0.0
ASAR	**Alice Springs** 0.3nm,0.7s,baz=346,slow=7.4,SNR=3.4	**28.14**	**166**	P	P	11 56 23.0	0.0
SONM	**Songino Array** 0.3nm,0.7s,baz=142,slow=7.3,SNR=2.4	**47.28**	**341**	P	P	11 59 04.1	0.0
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=125,slow=7.7,SNR=5.3	**57.57**	**325**	P	P	12 00 21.1	+0.6
KURBB	**Kurchatov Arra** 0.3nm,0.3s,baz=129,slow=5.6,SNR=5.9	**61.75**	**327**	P	P	12 00 48.4	-0.8

IDC **12** *11:56:33.9*±*0.8,3°85′N×126°67′E,h0km,mb4.0/9,*
mb1 4.1/9,mb1mx3.9/20,mbtmp4.0/9,Error ellipse:
s-maj=47.5km s-min=14.3km az=69.0
ISCJB **12** *11:56:38.1*±*0.6,3°77′N*±*0°08′×126°5′E*±*0°2,h45km,*
mb4.3/12,Error ellipse: s-maj=22.8km s-min=9.2km
az=163.8
NEIC **12** *11:56:38.9*±*0.5,3°82′N×126°63′E,h35km,mb4.2/3,Error*
ellipse: s-maj=19.0km s-min=8.0km az=74.0
ISC 12 11:56:40.2±0.8,**3°77′N**±0°09′×**126°6′E**±0°2′,**h45**km,**n25,**
σ0**90**/25,**mb4.1**/12,**Taluad Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**11.06**	**218**	*e*Pn	**Pn**	**11 59 15.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**21.75**	**182**	*e*P	**P**	**12 01 28.7**	**+0.7**
FITZ	**Fitzroy Crossi** 2.9nm,0.4s,baz=18,slow=7.2,SNR=13	**21.75**	**182**	P	**P**	**12 01 28.0**	**+0.1**
WRAB	**Tennant Creek** 30nm,0.8s	**24.76**	**162**	*e*P	**P**	**12 01 58.0**	**+0.1**
WRA	**Warramunga Arr**	**24.77**	**162**	P	**P**	**12 01 58.0**	**+0.2**
WRA	**Warramunga Arr** 3μm,0.3s,baz=233,slow=0.0,SNR=12	**24.77**	**162**	P	**P**	**12 01 58.0**	**+0.2**
AS31	**Alice Springs**	**28.19**	**166**	*e*P	**P**	**12 02 28.6**	**-0.1**
ASAR	**Alice Springs**	**28.19**	**166**	P	**P**	**12 02 27.4**	**-1.3**
ASAR	**Alice Springs** 0.7nm,0.3s,baz=342,slow=8.7,SNR=44	**28.19**	**166**	P	**P**	**12 02 27.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**30.71**	**300**	P	**P**	**12 02 52.5**	**+1.4**
CMAR	**Chiang Mai Arr** 0.5nm,0.4s,baz=98,slow=7.5,SNR=5.6	**30.71**	**300**	P	**P**	**12 02 52.5**	**+1.4**
STKA	**Stephens Creek** 2.1nm,0.6s	**38.22**	**159**	*e*P	**P**	**12 03 56.4**	**+0.5**
STKA	**Stephens Creek** 12nm,0.6s,baz=332,slow=7.8,SNR=35	**38.22**	**159**	P	**P**	**12 03 56.8**	**+1.0**
SONM	**Songino Array**	**47.21**	**342**	P	**P**	**12 05 07.5**	**-1.2**
SONM	**Songino Array** 0.6nm,0.6s,baz=159,slow=8.1,SNR=6.0	**47.21**	**342**	P	**P**	**12 05 07.5**	**-1.2**
MK31	**Makanchi Array**	**57.43**	**325**	*e*P	**P**	**12 06 22.5**	**-2.0**
MKAR	**Makanchi Array**	**57.43**	**325**	P	**P**	**12 06 23.8**	**-0.6**
MKAR	**Makanchi Array** 0.9nm,0.5s,baz=126,slow=7.3,SNR=8.3	**57.43**	**325**	P	**P**	**12 06 23.8**	**-0.6**
ZALV	**Zalesovo Beam**	**60.48**	**333**	P	**P**	**12 06 44.9**	**-0.4**
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=116,slow=6.6,SNR=4.0	**60.48**	**333**	P	**P**	**12 06 44.9**	**-0.4**
KURBB	**Kurchatov Arra** 0.6nm,0.4s,baz=125,slow=6.7,SNR=9.0	**61.62**	**327**	P	**P**	**12 06 53.1**	**-0.1**
KURK	**Kurchatov**	**61.62**	**328**	P	**P**	**12 06 53.1**	**-0.1**
ABKAR	**Akbulak array** 0.6nm,0.6s	**72.02**	**321**	*e*P	**P**	**12 07 59.7**	**+0.3**
ILAR	**Eielson Array**	**85.14**	**25**	P	**P**	**12 09 11.9**	**+0.6**
ILAR	**Eielson Array** 0.7nm,1.1s,baz=246,slow=6.7,SNR=3.7	**85.14**	**25**	P	**P**	**12 09 11.9**	**+0.6**

***IDC* 12 12:02:56.4**±3.2,**3°47′N×125°95′E,h0km,mb3.8/4,**
mb1 3.9/4,**mb1mx3.7**/18,**mbtmp3.8**/4,**Error ellipse:**
s-maj=396.7km s-min=25.1km az=64.0,Taluad Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.4nm,0.4s	**24.68**	**161**	P	P	12 08 19.3	0.0
ASAR	**Alice Springs** 0.4nm,0.5s,baz=340,slow=7.1,SNR=7.6	**28.06**	**164**	P	P	12 08 49.8	0.0
STKA	**Stephens Creek** 1.6nm,0.6s,baz=328,slow=10,SNR=4.9	**38.17**	**158**	P	P	12 10 17.6	-0.1
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=126,slow=8.0,SNR=5.7	**57.33**	**326**	P	P	12 12 46.2	-0.1

IDC **12** *12:03:03.3*±*0.6,3°98′N×126°79′E,h0km,mb4.3/15,*
mb1 4.5/15,mb1mx4.4/20,mbtmp4.3/15,Error ellipse:
s-maj=31.9km s-min=13.0km az=76.0
ISCJB **12** *12:03:06.7*±*0.3,3°94′N*±*0°05′×126°69′E*±*0°09′,h36km,*
mb4.5/31,Error ellipse: s-maj=13.1km s-min=6.3km
az=159.9
DJA **12** *12:03:07,4°29′N×127°06′E,h10km,MLv4.8/7*
BJI **12** *12:03:07.1,4°06′N×126°54′E,h29km,mB4.8/5,mb4.3/10,*
Ms4.1/1
NEIC **12** *12:03:08.4*±*0.2,3°95′N×126°75′E,h35km,mb4.6/10,Error*
ellipse: s-maj=8.0km s-min=4.5km az=70.0
ISC 12 12:03:08.6±0.5,**3°97′N**±0°08′×**126°7′E**±0°1′,**h36**km,**n58,**
σ0**80**/64,**mb4.6**/30,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**10.67**	**282**	*e*Pn	**Pn**	**12 05 38.3**	**-0.8**
KSM	**Kuching** 6.6nm,0.6s	**16.58**	**262**	*e*Pn	**Pn**	**12 06 59.2**	**+0.7**
FITZ	**Fitzroy Crossi** 34nm,1.3s	**21.95**	**183**	*e*P	**P**	**12 07 58.6**	**-0.7**
FITZ	**Fitzroy Crossi** 19nm,1.1s	**21.95**	**183**	*e*P	**P**	**12 07 59.1**	**-0.2**
FITZ	**Fitzroy Crossi** 4.4nm,0.5s,baz=16,slow=8.5,SNR=17	**21.95**	**183**	P	**P**	**12 07 59.2**	**-0.2**
WRAB	**Tennant Creek** 34nm,0.6s	**24.91**	**163**	*e*P	**P**	**12 08 27.6**	**-0.8**
WRA	**Warramunga Arr**	**24.91**	**163**	P	**P**	**12 08 27.9**	**-0.6**
WRA	**Warramunga Arr** 52nm,0.7s	**24.91**	**163**	P	**P**	**12 08 27.9**	**-0.6**
MBWA	**Marble Bar**	**25.89**	**195**	*e*P	**P**	**12 08 38.0**	**+0.7**
AS31	**Alice Springs**	**28.34**	**166**	*e*P	**P**	**12 08 58.8**	**-0.6**
ASAR	**Alice Springs**	**28.34**	**166**	P	**P**	**12 08 58.9**	**-0.5**
ASAR	**Alice Springs** 1.7nm,0.6s,baz=341,slow=6.5,SNR=26	**28.34**	**166**	P	**P**	**12 08 58.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**30.75**	**300**	P	**P**	**12 09 21.6**	**+0.9**
CMAR	**Chiang Mai Arr** 2.5nm,0.7s,baz=115,slow=7.0,SNR=9.6	**30.75**	**300**	P	**P**	**12 09 21.6**	**+0.9**
ENH	**Enshi**	**30.82**	**330**	*e*P	**P**	**12 09 20.8**	**-0.5**
CHTO	**Chiang Mai** 3.7nm,0.6s	**30.89**	**301**	*e*P	**P**	**12 09 22.7**	**+0.7**
MEEK	**Meekatharra** 47nm,0.6s	**31.42**	**194**	*e*P	**P**	**12 09 26.4**	**-0.1**
XAN	**Xi'an**	**34.20**	**333**	P	**P**	**12 09 50.2**	**-0.7**
XAN				pP	**pP**	**12 09 59.3**	**-2.0**
XAN				sP	**sP**	**12 10 03.0**	**-2.6**
XAN	comp=Z,3.0nm,0.8s			pmax	pmax		
XAN	comp=Z,13nm,5.1s			pmax	pmax		
QLP	**Quilpie**	**34.78**	**152**	*e*P	**P**	**12 09 54.6**	**-1.2**
BJI	**Beijing**	**37.16**	**347**	P	**P**	**12 10 17.5**	**+1.5**
BJI	comp=Z,18nm,1.0s			pmax	pmax		
BBOO	**Buckleboo** comp=Z,67nm,1.4s	**37.63**	**167**	*e*P	**P**	**12 10 20.3**	**+0.1**
NWAO	**Narrogin (SRO)**	**37.78**	**193**	P	**P**	**12 10 21.8**	**+0.4**
NWAO	**Narrogin (SRO)** comp=Z,13nm,0.9s,baz=6.5,slow=9.8,SNR=5.8	**37.78**	**193**	P	**P**	**12 10 21.8**	**+0.4**
LZH	**Lanzhou**	**38.30**	**329**	*e*P	**P**	**12 10 23.5**	**-2.5**
LZH	comp=Z,15nm,1.5s			pmax	pmax		
STKA	**Stephens Creek**	**38.35**	**159**	P	**P**	**12 10 26.2**	**-0.1**
STKA	**Stephens Creek** comp=Z,24nm,0.7s	**38.35**	**159**	*e*P	**P**	**12 10 25.8**	**-0.5**
STKA	**Stephens Creek** comp=Z,24nm,0.7s,baz=333,slow=8.7,SNR=39	**38.35**	**159**	P	**P**	**12 10 26.2**	**-0.1**
CMSA	**Cobar Meteorol** comp=Z,23nm,0.6s	**39.66**	**154**	*e*P	**P**	**12 10 37.7**	**+0.5**
GTA	**Gaotai**	**42.89**	**329**	*e*P	**P**	**12 11 04.3**	**+0.4**
GTA	comp=Z,3.0nm,0.8s			pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,3.2nm,0.9s	**46.89**	**342**	*e*P	**P**	**12 11 36.3**	**+0.7**
SONM	**Songino Array**	**47.07**	**341**	P	**P**	**12 11 38.0**	**+1.0**
SONM				PcP	**PcP**	**12 13 09.9**	**+1.3**
SONM	**Songino Array** comp=Z,0.5nm,0.5s,baz=158,slow=9.0,SNR=7.6	**47.07**	**341**	P	**P**	**12 11 38.0**	**+1.0**
SONM	comp=Z,2.2nm,0.8s,baz=157,slow=3.1,SNR=9.6			PcP	**PcP**	**12 13 09.9**	**+1.3**
PETK	**Petropavlovsk-**	**55.22**	**22**	P	**P**	**12 12 37.2**	**-0.6**
PETK	**Petropavlovsk-** comp=Z,3.9nm,0.9s,baz=202,slow=7.7,SNR=8.3	**55.22**	**22**	P	**P**	**12 12 37.2**	**-0.6**
MK31	**Makanchi Array**	**57.36**	**325**	*e*P	**P**	**12 12 53.4**	**+0.1**
MKAR	**Makanchi Array**	**57.36**	**325**	P	**P**	**12 12 53.3**	**0.0**
MKAR				PcP	**PcP**	**12 13 47.8**	**+0.8**
MKAR	**Makanchi Array** comp=Z,2.5nm,0.7s,baz=121,slow=8.0,SNR=22	**57.36**	**325**	P	**P**	**12 12 53.3**	**0.0**
MKAR	comp=Z,2.1nm,0.8s,baz=134,slow=3.5,SNR=4.4			PcP	**PcP**	**12 13 47.8**	**+0.8**
TKM2	**Tokmak 2**	**59.56**	**318**	*e*P	**P**	**12 13 09.0**	**0.0**
ZALV	**Zalesovo Beam**	**60.38**	**333**	P	**P**	**12 13 13.9**	**-0.1**
ZALV	**Zalesovo Beam** comp=Z,0.8nm,0.4s,baz=124,slow=7.9,SNR=5.3	**60.38**	**333**	P	**P**	**12 13 13.9**	**-0.1**
KURK	**Kurchatov** comp=Z,6.1nm,0.7s	**61.54**	**327**	*e*P	**P**	**12 13 22.1**	**+0.1**
BRVK	**Borovoye** comp=Z,4.8nm,0.8s	**67.19**	**327**	*e*P	**P**	**12 13 59.3**	**+0.3**
ABKAR	**Akbulak array** comp=Z,2.1nm,0.7s	**71.96**	**321**	*e*P	**P**	**12 14 28.8**	**+0.2**
ARU	**Arti** comp=Z,9.8nm,1.1s	**74.73**	**328**	*e*P	**P**	**12 14 45.0**	**+0.3**
COLD	**Coldfoot** comp=Z,9.3nm,1.0s	**83.68**	**23**	*e*P	**P**	**12 15 33.8**	**+0.4**
ILAR	**Eielson Array**	**84.90**	**25**	P	**P**	**12 15 39.9**	**+0.3**
ILAR	**Eielson Array** comp=Z,1.3nm,0.8s,baz=248,slow=6.7,SNR=13	**84.90**	**25**	P	**P**	**12 15 39.9**	**+0.3**
BRTR	**Keskin Array B**	**89.86**	**310**	P	**P**	**12 16 03.5**	**-0.8**
BRTR	**Keskin Array B** comp=Z,1.6nm,0.9s,baz=133,slow=5.3,SNR=5.2	**89.86**	**310**	P	**P**	**12 16 03.5**	**-0.8**
ARCES	**ARCESS Array B**	**90.23**	**340**	P	**P**	**12 16 04.8**	**-0.3**
ARCES	**ARCESS Array B** comp=Z,3.0nm,0.7s,baz=64,slow=5.5,SNR=7.8	**90.23**	**340**	P	**P**	**12 16 04.8**	**-0.3**
FINES	**FINESS Array B**	**91.62**	**332**	P	**P**	**12 16 11.9**	**+0.2**
FINES	**FINESS Array B** comp=Z,2.1nm,0.8s,baz=90,slow=1.4,SNR=3.6	**91.62**	**332**	P	**P**	**12 16 11.9**	**+0.2**
AKASG	**Malin Array Be**	**91.70**	**321**	P	**P**	**12 16 11.8**	**-0.5**
AKASG	**Malin Array Be**	**91.70**	**321**	P	**P**	**12 16 11.8**	**-0.5**
BUR08	**Bucovina Ar. S** comp=Z,1.2nm,0.6s,baz=68,slow=5.0,SNR=5.0	**94.83**	**314**	*e*P	**P**	**12 16 26.5**	**-0.5**
YKA	**Yellowknife Ar**	**99.29**	**24**	P	**Pdif**	**12 16 47.0**	**+0.3**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.8s,baz=302,slow=5.2,SNR=5.0	**99.29**	**24**	P	**Pdif**	**12 16 46.9**	**+0.3**

***IDC* 12 12:04:42.4**±1.6,**4°21′N×127°32′E,h0km,mb4.2/6,**
mb1 4.4/6,mb1mx4.0/19,mbtmp4.2/6,Error ellipse:
s-maj=226.0km s-min=18.8km az=68.0,Taluad Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 3.8nm,0.5s	**24.97**	**164**	P	P	12 10 06.8	-1.1
ASAR	**Alice Springs** 0.6nm,0.5s,baz=347,slow=10.0,SNR=2.7	**28.44**	**167**	P	P	12 10 40.3	+1.1
STKA	**Stephens Creek** 3.2nm,0.6s,baz=322,slow=12,SNR=3.6	**38.37**	**160**	P	P	12 12 05.2	-0.3
MKAR	**Makanchi Array** 0.9nm,0.4s,baz=117,slow=7.8,SNR=6.2	**57.50**	**325**	P	P	12 14 33.2	-0.2
ZALV	**Zalesovo Beam** 1.4nm,0.4s,baz=133,slow=7.5,SNR=4.8	**60.43**	**333**	P	P	12 14 53.4	-0.3
ARCES	**ARCESS Array B** 2.9nm,1.0s,baz=92,slow=6.3,SNR=2.5	**90.20**	**340**	P	P	12 17 44.9	+0.4

***IDC* 12 12:10:10.1**±1.2,**3°88′N×127°60′E,h0km,mb3.7/7,**
mb1 3.8/7,mb1mx3.7/19,mbtmp3.8/7,Error ellipse:
s-maj=66.7km s-min=16.0km az=69.0,Taluad Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 1.4nm,0.7s,baz=14,slow=10,SNR=2.6	**21.93**	**185**	P	P	12 15 05.5	+0.2
WRA	**Warramunga Arr** 966nm,1.3s,baz=234,slow=0.0,SNR=6.2	**24.58**	**165**	P	P	12 15 31.5	-0.6
ASAR	**Alice Springs** 0.4nm,0.6s,baz=339,slow=6.1,SNR=4.9	**28.06**	**168**	P	P	12 16 03.6	+0.2
CMAR	**Chiang Mai Arr** 0.3nm,0.5s,baz=142,slow=10,SNR=2.7	**31.55**	**300**	P	P	12 16 34.7	+0.2
STKA	**Stephens Creek** 3.1nm,0.9s,baz=278,slow=9.7,SNR=3.2	**37.97**	**160**	P	P	12 17 30.1	+0.3
SONM	**Songino Array** 0.9nm,0.6s,baz=157,slow=7.6,SNR=6.7	**47.44**	**341**	P	P	12 18 47.6	+0.9
MKAR	**Makanchi Array** 1.0nm,0.6s,baz=122,slow=8.3,SNR=10	**57.93**	**325**	P	P	12 20 03.8	-0.4
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=113,slow=9.6,SNR=2.8	**60.85**	**333**	P	P	12 20 23.5	-0.8

IDC **12** *12:10:29.4*±*1.1,4°43′N×127°40′E,h0km,mb4.1/7,*
mb1 4.2/7,mb1mx4.0/19,mbtmp4.1/7,Error ellipse:
s-maj=71.3km s-min=18.5km az=65.0
ISCJB **12** *12:10:32.8*±*0.8,4°3′N*±*0°1′×127°1′E*±*0°1′,h36km,mb4.2/9,*
Error ellipse: s-maj=20.4km s-min=11.4km az=146.8
NEIC **12** *12:10:34.6*±*0.7,4°24′N×127°16′E,h35km,mb4.5/2,Error*
ellipse: s-maj=19.3km s-min=10.9km az=58.0
ISC 12 12:10:34.8±0.9,**4°3′N**±0°1′×**127°2′E**±0°2′,**h36**km,**n18,**
σ0**98**/18,**mb4.3**/9,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.07**	**280**	*e*Pn	**Pn**	**12 13 11.6**	**+0.8**
KSM	**Kuching**	**17.08**	**261**	Pn	**Pn**	**12 14 28.9**	**-2.1**
FITZ	**Fitzroy Crossi** 35nm,2.1s	**22.27**	**184**	*e*P	**P**	**12 15 28.0**	**-0.9**
WRAB	**Tennant Creek** 14nm,1.0s	**25.05**	**164**	*e*P	**P**	**12 15 55.2**	**-0.7**
ASAR	**Alice Springs**	**28.52**	**167**	P	**P**	**12 16 28.1**	**+0.9**
ASAR	**Alice Springs** 0.4nm,0.5s,baz=344,slow=11,SNR=6.5	**28.52**	**167**	P	**P**	**12 16 28.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**31.01**	**299**	P	**P**	**12 16 50.2**	**+1.0**
CMAR	**Chiang Mai Arr** 1.7nm,0.8s,baz=109,slow=6.8,SNR=9.8	**31.01**	**299**	P	**P**	**12 16 50.2**	**+1.0**
STKA	**Stephens Creek**	**38.46**	**160**	P	**P**	**12 17 53.7**	**+0.3**
STKA	**Stephens Creek** 7.7nm,0.7s,baz=354,slow=7.1,SNR=12	**38.46**	**160**	P	**P**	**12 17 53.7**	**+0.3**
SONM	**Songino Array**	**46.95**	**341**	P	**P**	**12 19 02.6**	**+0.4**
SONM	**Songino Array** 0.7nm,0.5s,baz=158,slow=9.0,SNR=6.1	**46.95**	**341**	P	**P**	**12 19 02.6**	**+0.4**
MKAR	**Makanchi Array**	**57.39**	**325**	P	**P**	**12 20 18.8**	**-0.9**
MKAR	**Makanchi Array** 1.5nm,0.5s,baz=118,slow=7.0,SNR=8.8	**57.39**	**325**	P	**P**	**12 20 18.8**	**-0.9**
ZALV	**Zalesovo Beam**	**60.33**	**333**	P	**P**	**12 20 39.1**	**-0.9**
ZALV	**Zalesovo Beam** 0.8nm,0.4s,baz=124,slow=8.8,SNR=4.5	**60.33**	**333**	P	**P**	**12 20 39.1**	**-0.9**
ARCES	**ARCESS Array B**	**90.11**	**340**	P	**P**	**12 23 30.3**	**-0.5**
ARCES	**ARCESS Array B** 2.6nm,0.8s,baz=46,slow=7.7,SNR=4.2	**90.11**	**340**	P	**P**	**12 23 30.3**	**-0.5**

CSEM **12** *12:13:02.4,37°71′N×13°80′E,h9km,MD2.6/8,After ROM*
ROM 12 12:13:02.4±0.4,**37°71′N×13°80′E,h9km,Md2.6**/8,**Ml3.1**/4,
Error ellipse: s-maj=5.2km s-min=4.1km az=58.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSLB	**Castelbuono**	**0.30**	**42**	Pg	Pg	12 13 08.1	-0.4
CSLB	716nm,0.2s			Sg	Sb	12 13 15.2	-0.1
CSLB	**Castelbuono**	**0.30**	**42**	Pg	Pg	12 13 08.1	-0.4
CSLB	716nm,0.2s			Sg	Sb	12 13 15.2	-0.1
GIB	**Gibilmanna**	**0.33**	**33**	Pg	Pg	12 13 09.2	+0.1
GIB	3μm,0.5s			Sg	Sb	12 13 16.2	0.0
GIB	**Gibilmanna**	**0.33**	**33**	Pg	Pg	12 13 09.2	+0.1
GIB	3μm,0.5s			Sg	Sb	12 13 16.2	0.0
CORL	**Corleone** 906nm,0.9s	**0.43**	**295**	Pg	Pb	12 13 12.0	-0.4
CORL	**Corleone** 906nm,0.9s	**0.43**	**295**	Pg	Pb	12 13 12.0	-0.4
GALF	**Gagliano Caste**	**0.61**	**90**	Pg	Pb	12 13 14.8	-0.5
GALF	**Gagliano Caste**	**0.61**	**90**	Pg	Pb	12 13 14.8	-0.5
HVZN	**Vizzini**	**0.90**	**126**	Pg	Pg	12 13 19.7	-0.1
HVZN	1μm,1.1s			Sg	Sb	12 13 32.5	0.0
HVZN	**Vizzini**	**0.90**	**126**	Pg	Pg	12 13 19.7	-0.1
HVZN	1μm,1.1s			Sg	Sb	12 13 32.5	0.0
IFIL	**Filicudi I Eol** 453nm,0.5s	**1.04**	**35**	Pg	Pg	12 13 20.6	-1.9
IFIL	**Filicudi I Eol** 453nm,0.5s	**1.04**	**35**	Pg	Pg	12 13 20.6	-1.9
MMME	**Mongiuffi-Meli**	**1.17**	**79**	Pn	Pb	12 13 24.8	-0.2
MMME	**Mongiuffi-Meli**	**1.17**	**79**	Pn	Pb	12 13 24.8	-0.2
HAVL	**Avola**	**1.29**	**125**	Pn	Pg	12 13 25.5	-1.2
HAVL	**Avola**	**1.29**	**125**	Pn	Pn	12 13 25.5	-1.2
SOI	**Samo**	**1.82**	**78**	Pn	Pb	12 13 35.3	-0.6
SOI	**Samo**	**1.82**	**78**	Pn	Pb	12 13 35.3	-0.6

***IDC* 12 12:16:15.3**±1.6,**3°94′N×126°52′E,h0km,mb3.4/4,**
mb1 3.6/4,**mb1mx3.4**/19,**mbtmp3.4**/4,**Error ell

KURK	**Kurchatov**	**61.43**	**328**	P		**P**	**12 26 46.1**	**-0.1**
BVAR	**Borovoye Array**	**67.01**	**327**	P		**P**	**12 27 23.2**	**+0.5**
BVAR	**Borovoye Array**	**67.01**	**327**	P		**P**	**12 27 23.2**	**+0.5**
	1.1nm,0.6s,baz=132,slow=8.2,SNR=7.3							
ABKAR	**Akbulak array**	**71.82**	**321**	*e*P		**P**	**12 27 52.3**	**-0.2**
	1.2nm,0.7s							
ILAR	**Eielson Array**	**85.07**	**25**	P		**P**	**12 29 04.8**	**-0.6**
ILAR	**Eielson Array**	**85.07**	**25**	P		**P**	**12 29 04.8**	**-0.6**
	0.3nm,0.7s,baz=268,slow=5.9,SNR=4.2							
ARCES	**ARCESS Array B**	**90.17**	**340**	P		**P**	**12 29 29.8**	**0.0**
ARCES	**ARCESS Array B**	**90.17**	**340**	P		**P**	**12 29 29.8**	**0.0**
	6.0nm,1.0s,baz=98,slow=6.2,SNR=5.4							
FINES	**FINESS Array B**	**91.53**	**332**	P		**P**	**12 29 36.6**	**+0.4**
FINES	**FINESS Array B**	**91.53**	**332**	P		**P**	**12 29 36.6**	**+0.4**
	2.8nm,1.0s,baz=103,slow=6.0,SNR=3.3							
AKASG	**Malin Array Be**	**91.56**	**321**	P		**P**	**12 29 36.4**	**-0.2**
AKASG	**Malin Array Be**	**91.56**	**321**	P		**P**	**12 29 36.4**	**-0.2**
	0.7nm,0.4s,baz=64,slow=4.3,SNR=3.4							
NOA	**NORSAR Array B**	**98.49**	**334**	P		**P**	**12 30 07.6**	**-0.5**
NOA	**NORSAR Array B**	**98.49**	**334**	P		**P**	**12 30 07.6**	**-0.5**
	0.8nm,0.8s,baz=68,slow=9.6,SNR=2.8							

IDC **12** *12:24:00.0±0.5, 3.°77N×126.°58E, h0km, mb4.3/20, mb1 4.4/20, mb1mx4.4/23, mbtmp4.3/20, MS3.5/3, Ms1 3.5/3, ms1mx2.9/30, Error ellipse: s-maj=24.8km s-min=11.7km az=73.0*

ISCJB **12** *12:24:04.0±0.3, 3.°83N±0.°04×126.°88E±0.°07, h36km, mb4.5/37, MS3.3/2, Error ellipse: s-maj=10.1km s-min=4.7km az=163.5*

NEIC **12** *12:24:05.0±0.2, 3.°80N×126.°63E, h35km, mb4.8/16, Error ellipse: s-maj=9.1km s-min=4.3km az=69.0*

DJA **12** *12:24:10, 3.°53N×126.°78E, h29km, mb4.6/8*

ISC 12 12:24:05.6±0.4, 3.°84N±0.°05×126.°90E±0.°08, h36km, n96, σ1§44/89, mb4.5/36, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**3.09**	**171**	P		**Pn**	**12 24 53.5**	**+1.7**
MATI	**Mati**	**3.15**	**348**	*e*P		Pn	12 24 56.3	+3.7
DAV	**Davao City (W)**	**3.46**	**338**	Pn		**Pn**	**12 24 55.4**	**-1.5**
DAV				Sn		Sn	12 25 49.0	+12
DAV	**Davao City (W)**	**3.46**	**338**	P		Pn	12 25 19.6	+23
DAV	**Davao City (W)**	**3.46**	**338**	Pn		**Pn**	**12 24 60.0**	**+3.0**
	18nm,0.3s,baz=196,slow=7.9,SNR=3.4							
DAV				Sn		Sn	12 25 49.0	+12
	71nm,0.3s,baz=117,slow=20,SNR=6.5							
DAV				LR		LR	12 26 42.3	
	comp=Z,1μm,18.8s,baz=45,slow=47							
DMPH	**Davao City--Mi**	**3.50**	**337**	*e*P		**Pn**	**12 25 00.7**	**+3.2**
KCP	**Kidapawan**	**3.62**	**330**	⇓*i*P		Pn	12 25 05.5	+6.2
KMSI	**Cibinong**	**4.37**	**222**	P		Pn	12 25 16.5	+7.1
BUKP	**Musuan**	**4.41**	**336**	*e*P		**Pn**	**12 25 11.0**	**+1.1**
LBMI	**Labuha**	**4.49**	**172**	P		**Pn**	**12 25 13.6**	**+2.5**
PAGZ	**Pagadian**	**5.30**	**319**	*e*P		**Pn**	**12 25 24.9**	**+2.7**
MRSI	**Marisa**	**5.98**	**236**	P		**Pn**	**12 25 34.0**	**+2.4**
	102nm,0.7s,1μm0.5nm							
LUWI	**Luwuk**	**6.37**	**220**	P		Pn	12 25 43.2	+6.3
	173nm,0.8s,2μm0.8nm							
MSLP	**Maasin**	**6.57**	**342**	*e*P		Pn	12 25 44.7	+5.0
MYLDM	**Lahad Datu**	**8.48**	**279**	P		Pn	12 26 14.2	+8.3
	56nm,0.9s,0.3nm							
FAKI	**Fak Fak**	**8.59**	**141**	P		Pn	12 26 11.3	+3.9
	23nm,1.1s,0.1nm							
KDI	**Kendari**	**8.85**	**209**	P		Pn	12 26 20.2	+9.2
KKM	**Kota Kinabalu**	**10.87**	**282**	Pn		Pn	12 26 34.6	-4.2
	8.1nm,0.4s							
KKM	**Kota Kinabalu**	**10.87**	**282**	P		Pn	12 26 44.9	+6.1
	17nm,1.1s							
SBUM	**Sibu**	**14.72**	**265**	P		**P**	**12 27 38.5**	**+1.5**
	15nm,1.0s							
PIP	**Pasuquin**	**15.65**	**337**	⇑*i*P		**P**	**12 27 47.5**	**+0.3**
KSM	**Kuching**	**16.74**	**262**	*e*Pn		**P**	**12 27 60.0**	**+0.6**
	13nm,0.9s							
KNRA	**Kununurra**	**19.48**	**175**	*e*P		**P**	**12 28 29.5**	**-0.1**
	92nm,0.6s							
TPUB	**Ta-pu**	**20.27**	**343**	*e*P		**P**	**12 28 36.0**	**-2.1**
	35nm,0.7s							
SSLB	**Suanglung**	**20.64**	**344**	*e*P		**P**	**12 28 40.4**	**-1.8**
	35nm,1.2s							
FITZ	**Fitzroy Crossi**	**21.84**	**183**	*e*P		**P**	**12 28 54.0**	**-1.1**
FITZ	**Fitzroy Crossi**	**21.84**	**183**	*e*P		**P**	**12 28 52.4**	**-2.7**
	19nm,1.1s							
FITZ	**Fitzroy Crossi**	**21.84**	**183**	P		**P**	**12 28 53.8**	**-1.3**
	11nm,1.0s,baz=36,slow=8.0,SNR=9.1							
COEN	**Coen**	**23.95**	**138**	*e*P		**P**	**12 29 15.9**	**-0.8**
	85nm,1.2s							
COEN				*e*pP		**pP**	**12 29 25.6**	**-1.2**
WRAB	**Tennant Creek**	**24.74**	**163**	*e*P		**P**	**12 29 23.1**	**-0.7**
	48nm,0.9s							
WRAB				*e*pP		**pP**	**12 29 31.6**	**-2.5**
WRA	**Warramunga Arr**	**24.74**	**163**	P		**P**	**12 29 23.7**	**-0.2**
WRA	**Warramunga Arr**	**24.74**	**163**	P		**P**	**12 29 23.7**	**-0.2**
	50nm,0.9s,baz=283,slow=8.5,SNR=0.5							
MBWA	**Marble Bar**	**25.82**	**196**	*e*P		**P**	**12 29 33.0**	**-0.7**
QIS	**Mount Isa**	**27.27**	**153**	*e*P		**P**	**12 29 47.4**	**+0.7**
AS31	**Alice Springs**	**28.18**	**166**	*e*P		**P**	**12 29 54.8**	**0.0**
ASAR	**Alice Springs**	**28.18**	**166**	P		**P**	**12 29 54.5**	**-0.4**
ASAR				PcP		**PcP**	**12 33 08.3**	**0.0**
ASAR	**Alice Springs**	**28.18**	**166**	P		**P**	**12 29 54.5**	**-0.4**
	0.9nm,0.4s,baz=342,slow=6.9,SNR=24							
ASAR				PcP		**PcP**	**12 33 08.3**	**0.0**
	1.0nm,0.6s,baz=310,slow=1.2,SNR=5.0							
CTA	**Charters Tower**	**30.45**	**142**	LR		LR	12 42 24.6	
	comp=Z,70nm,21.0s,baz=48,slow=36							
CTAO	**Charters Tower**	**30.45**	**142**	*e*P		**P**	**12 30 15.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**30.96**	**300**	P		**P**	**12 30 18.5**	**-1.1**
CMAR	**Chiang Mai Arr**	**30.96**	**300**	P		**P**	**12 30 18.5**	**-1.1**
	1.9nm,0.9s,baz=117,slow=8.1,SNR=9.2							
ENH	**Enshi**	**31.02**	**330**	*e*P		**P**	**12 30 18.3**	**-1.6**
	4.4nm,0.7s							
CHTO	**Chiang Mai**	**31.11**	**301**	*e*P		**P**	**12 30 19.4**	**-1.5**
	5.9nm,1.0s							
MEEK	**Meekatharra**	**31.34**	**194**	*e*P		**P**	**12 30 21.6**	**-1.3**
	90nm,0.9s							
KSAR	**Wonju Array Be**	**33.45**	**1**	P		**P**	**12 30 44.3**	**+3.2**
KSRS	**Korea Array**	**33.46**	**1**	P		**P**	**12 30 44.3**	**+3.1**
	2.3nm,0.9s,baz=182,slow=9.6,SNR=6.8							
MJAR	**Matsushiro Arr**	**34.16**	**16**	P		**P**	**12 30 48.0**	**+0.6**
MJAR	**Matsushiro Arr**	**34.16**	**16**	P		**P**	**12 30 48.0**	**+0.6**
	0.9nm,0.6s,baz=189,slow=9.8,SNR=5.0							
BJT	**Baijiatuan**	**37.30**	**346**	*e*P		**P**	**12 31 13.6**	**-0.6**
	26nm,0.6s							
BBOO	**Buckleboo**	**37.47**	**167**	*e*P		**P**	**12 31 15.5**	**-0.3**
	44nm,1.2s							
STKA	**Stephens Creek**	**38.18**	**160**	P		**P**	**12 31 21.9**	**+0.1**
STKA	**Stephens Creek**	**38.18**	**160**	*e*P		**P**	**12 31 21.6**	**-0.1**
	11nm,0.8s							
STKA	**Stephens Creek**	**38.18**	**160**	P		**P**	**12 31 21.9**	**+0.1**
	15nm,0.8s,baz=323,slow=8.5,SNR=23							
STKA				LR		LR	12 46 00.3	
	comp=Z,50nm,18.9s,baz=207,slow=34							
USRK	**Ussuriysk Arra**	**40.44**	**6**	P		**P**	**12 31 41.8**	**+1.4**
	3.5nm,0.8s,baz=192,slow=11,SNR=5.4							
ARMA	**Armidale**	**41.47**	**147**	*e*P		**P**	**12 31 51.2**	**+1.9**
ASAJ	**Asahikawa**	**42.43**	**17**	*e*P		**P**	**12 31 54.3**	**-2.5**
LSA	**Lhasa**	**42.49**	**311**	*e*P		**P**	**12 32 00.6**	**+2.5**
	3.8nm,0.7s							
HIA	**Hailar**	**45.67**	**353**	*e*P		**P**	**12 32 23.3**	**+0.6**
	25nm,1.6s							
DZM	**Mont Dzumac**	**46.46**	**125**	P		**P**	**12 32 30.6**	**+1.1**
DZM	**Mont Dzumac**	**46.46**	**125**	P		**P**	**12 32 30.6**	**+1.1**
	11nm,0.9s,baz=9.5,slow=17,SNR=14							
ULN	**Ulaanbaatar**	**47.06**	**342**	*e*P		**P**	**12 32 33.0**	**-0.9**
	4.6nm,0.8s							
SONM	**Songino Array**	**47.24**	**341**	P		**P**	**12 32 34.8**	**-0.5**
SONM				PcP		**PcP**	**12 34 06.8**	**+0.7**
SONM	**Songino Array**	**47.24**	**341**	P		**P**	**12 32 34.8**	**-0.5**
	1.3nm,0.8s,baz=154,slow=8.8,SNR=11							
SONM				PcP		**PcP**	**12 34 06.8**	**+0.7**
	0.6nm,0.6s,baz=176,slow=2.2,SNR=2.2							
PETK	**Petropavlovsk-**	**55.26**	**22**	P		**P**	**12 33 35.6**	**+0.5**
PETK	**Petropavlovsk-**	**55.26**	**22**	P		**P**	**12 33 35.6**	**+0.5**
	2.4nm,0.7s,baz=213,slow=6.9,SNR=3.1							
MK31	**Makanchi Array**	**57.56**	**325**	*e*P		**P**	**12 33 50.2**	**-1.4**
MKAR	**Makanchi Array**	**57.56**	**325**	P		**P**	**12 33 50.4**	**-1.3**
MKAR	**Makanchi Array**	**57.56**	**325**	P		**P**	**12 33 50.4**	**-1.3**
	1.2nm,0.4s,baz=117,slow=7.8,SNR=21							
YAK	**Yakutsk**	**58.09**	**2**	*e*P		**P**	**12 33 54.7**	**-0.3**
	16nm,0.7s							
ZALV	**Zalesovo Beam**	**60.56**	**333**	P		**P**	**12 34 10.2**	**-2.1**
ZALV	**Zalesovo Beam**	**60.56**	**333**	P		**P**	**12 34 10.2**	**-2.1**
	0.6nm,0.3s,baz=117,slow=5.5,SNR=5.0							
KURBB	**Kurchatov Arra**	**61.73**	**327**	P		**P**	**12 34 19.4**	**-0.9**
	1.9nm,0.5s,baz=130,slow=6.7,SNR=15							
KURK	**Kurchatov**	**61.74**	**327**	*e*P		**P**	**12 34 19.0**	**-1.3**
	14nm,1.4s							
BVAR	**Borovoye Array**	**67.32**	**327**	P		**P**	**12 34 55.8**	**-0.9**
BVAR	**Borovoye Array**	**67.32**	**327**	P		**P**	**12 34 55.8**	**-0.9**
	3.0nm,0.8s,baz=134,slow=8.5,SNR=15							
BRVK	**Borovoye**	**67.39**	**327**	*e*P		**P**	**12 34 55.8**	**-1.4**
	6.4nm,1.0s							
ARU	**Arti**	**74.93**	**328**	*e*P		**P**	**12 35 42.3**	**-0.5**
	9.5nm,1.3s							
KDAK	**Kodiak Island**	**81.70**	**32**	P		**P**	**12 36 22.0**	**+1.9**
KDAK	**Kodiak Island**	**81.70**	**32**	P		**P**	**12 36 22.0**	**+1.9**
	15nm,1.0s,baz=138,slow=14,SNR=4.5							
COLD	**Coldfoot**	**83.72**	**23**	*e*P		P	12 36 34.0	+3.5
	72nm,2.6s							
MAW	**Mawson**	**83.92**	**200**	P		**P**	**12 36 29.3**	**-2.1**
MAW	**Mawson**	**83.92**	**200**	P		**P**	**12 36 29.3**	**-2.1**
	36nm,0.8s,baz=76,slow=8.3,SNR=2.7							
ILAR	**Eielson Array**	**84.93**	**25**	P		**P**	**12 36 37.9**	**+1.2**
ILAR	**Eielson Array**	**84.93**	**25**	P		**P**	**12 36 37.9**	**+1.2**
	0.5nm,0.8s,baz=246,slow=4.3,SNR=6.8							
INK	**Inuvik**	**90.00**	**22**	P		**P**	**12 37 02.0**	**+1.1**
INK	**Inuvik**	**90.00**	**22**	P		**P**	**12 37 02.0**	**+1.1**
	1.8nm,1.1s,baz=274,slow=9.0,SNR=3.6							
ARCES	**ARCESS Array B**	**90.40**	**340**	P		**P**	**12 37 02.9**	**0.0**
ARCES	**ARCESS Array B**	**90.40**	**340**	P		**P**	**12 37 02.9**	**0.0**
	1.7nm,0.6s,baz=46,slow=3.5,SNR=7.3							
FINES	**FINESS Array B**	**91.81**	**332**	P		**P**	**12 37 08.9**	**-0.7**
FINES	**FINESS Array B**	**91.81**	**332**	P		**P**	**12 37 08.9**	**-0.7**
	1.0nm,0.6s,baz=79,slow=4.1,SNR=4.0							
YKA	**Yellowknife Ar**	**99.32**	**24**	P		**Pdif**	**12 37 44.5**	**+0.7**
YKA	**Yellowknife Ar**	**99.32**	**24**	P		**Pdif**	**12 37 44.4**	**+0.7**
	0.2nm,0.7s,baz=304,slow=5.0,SNR=5.2							
GRFO	**Grafenberg**	**103.31**	**323**	*e*Pdif		**Pdif**	**12 38 00.4**	**-1.4**
TXAR	**Lajitas Array**	**121.39**	**52**	PKP		**PKPdf**	**12 42 57.5**	**+1.6**
TXAR	**Lajitas Array**	**121.39**	**52**	PKP		**PKPdf**	**12 42 57.5**	**+1.6**
	0.3nm,0.7s,baz=239,slow=1.5,SNR=5.4							
JCT	**Junction City**	**123.86**	**49**	*e*PKPdf		**PKPdf**	**12 43 00.3**	**-0.3**

IDC **12** *12:29:27.3±0.9, 3.°63N×126.°90E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.0/21, mbtmp4.1/11, Error ellipse: s-maj=66.3km s-min=14.6km az=69.0*

ISCJB **12** *12:29:32.4±0.6, 3.°50N±0.°08×126.°6E±0.°2, h48km, mb4.1/12, Error ellipse: s-maj=24.5km s-min=9.8km az=163.9*

NEIC **12** *12:29:32.7±0.5, 3.°57N×126.°76E, h35km, mb4.4/1, Error ellipse: s-maj=18.6km s-min=7.8km az=75.0*

ISC 12 12:29:34.0±0.8, 3.°53N±0.°10×126.°7E±0.°2, h48km, n24, σ0§67/24, mb4.2/12, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAPI	**Kappang**	**10.97**	**219**	*e*Pn		**Pn**	**12 32 07.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**21.52**	**183**	P		**P**	**12 34 20.1**	**+1.0**
FITZ	**Fitzroy Crossi**	**21.52**	**183**	P		**P**	**12 34 20.1**	**+1.0**
	1.2nm,0.3s,baz=22,slow=5.4,SNR=5.6							
WRAB	**Tennant Creek**	**24.49**	**162**	*e*P		**P**	**12 34 48.7**	**-0.2**
	6.5nm,0.5s							
WRA	**Warramunga Arr**	**24.50**	**162**	P		**P**	**12 34 49.1**	**+0.2**
WRA	**Warramunga Arr**	**24.50**	**162**	P		**P**	**12 34 49.1**	**+0.2**
	9.4nm,0.7s							
ASAR	**Alice Springs**	**27.92**	**166**	P		**P**	**12 35 20.1**	**+0.3**
ASAR	**Alice Springs**	**27.92**	**166**	P		**P**	**12 35 20.1**	**+0.3**
	0.2nm,0.3s,baz=345,slow=10.0,SNR=5.6							
CMAR	**Chiang Mai Arr**	**30.95**	**301**	P		**P**	**12 35 47.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**30.95**	**301**	P		**P**	**12 35 47.0**	**+0.2**
	0.4nm,0.3s,baz=87,slow=6.6,SNR=4.9							
STKA	**Stephens Creek**	**37.95**	**159**	*e*P		**P**	**12 36 47.1**	**0.0**
STKA	**Stephens Creek**	**37.95**	**159**	P		**P**	**12 36 46.3**	**-0.8**
	4.1nm,0.6s,baz=316,slow=8.1,SNR=6.5							
SONM	**Songino Array**	**47.48**	**342**	P		**P**	**12 38 04.9**	**+0.6**
SONM	**Songino Array**	**47.48**	**342**	P		**P**	**12 38 04.9**	**+0.6**
	0.6nm,0.4s,baz=157,slow=9.2,SNR=3.0							
MKAR	**Makanchi Array**	**57.71**	**325**	P		**P**	**12 39 19.6**	**-0.2**
MKAR	**Makanchi Array**	**57.71**	**325**	P		**P**	**12 39 19.6**	**-0.2**
	0.9nm,0.4s,baz=121,slow=8.1,SNR=8.6							
ZALV	**Zalesovo Beam**	**60.76**	**333**	P		**P**	**12 39 41.4**	**+0.7**
ZALV	**Zalesovo Beam**	**60.76**	**333**	P		**P**	**12 39 41.4**	**+0.7**
	0.6nm,0.4s,baz=101,slow=2.9,SNR=3.0							
KURBB	**Kurchatov Arra**	**61.90**	**327**	P		**P**	**12 39 49.3**	**+0.8**
	2.3nm,0.5s,baz=131,slow=6.8,SNR=8.6							
KURK	**Kurchatov**	**61.90**	**328**	P		**P**	**12 39 49.3**	**+0.8**
ARCES	**ARCESS Array B**	**90.63**	**340**	P		**P**	**12 42 29.9**	**-1.1**
ARCES	**ARCESS Array B**	**90.63**	**340**	P		**P**	**12 42 29.9**	**-1.1**
	1.7nm,0.6s,baz=90,slow=8.5,SNR=8.3							
AKASG	**Malin Array Be**	**92.03**	**321**	P		**P**	**12 42 37.4**	**-0.4**
AKASG	**Malin Array Be**	**92.03**	**321**	P		**P**	**12 42 37.4**	**-0.4**
	0.4nm,0.4s,baz=68,slow=4.4,SNR=4.5							

NIED **12** *12:29:00, 30.°80N×142.°20E, h5km, Mw4.4 Best double couple: M0 4.29000×10^15 NP1:φs 174.00000°, δ58.00000°, λ91.00000°. NP2:φs 353.00000°, δ32.00000°, λ89.00000°.*

IDC **12** *12:29:46.3±0.6, 30.°74N×142.°09E, h0km, mb4.1/20, mb1 4.3/25, mb1mx4.2/31, mbtmp4.2/25, ML3.9/5, MS3.5/5, Ms1 3.5/5, ms1mx3.1/36, Error ellipse: s-maj=16.2km s-min=14.4km az=77.0*

NEIC **12** *12:29:47.8±0.3, 30.°78N×142.°09E, h10km, mb4.8/9, MW4.4(NIED), Error ellipse: s-maj=8.3km s-min=5.9km az=70.0*

JMA **12** *12:29:48.8±0.1, 30.°81N×142.°16E, h46km, M4.3*

ISCJB **12** *12:29:48.1±0.3, 30.°82N±0.°03×142.°05E±0.°07, h24km, mb4.4/34, MS4.0/4, Error ellipse: s-maj=8.9km s-min=4.1km az=161.7*

MOS **12** *12:29:49.9±1.1, 30.°84N×142.°06E, h39km, mb4.5/24, Error ellipse: s-maj=14.5km s-min=6.7km az=116.1*

ISC 12 12:29:49.9±0.4, 30.°79N±0.°04×142.°00E±0.°08, h24km, n100, σ1§24/112, mb4.3/34, MS3.9/4, 6C-1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ2	**Mitsune**	**2.97**	**322**	P		**Pn**	**12 30 35.6**	**+0.1**
JHJ	**Hachijo jima 2**	**2.99**	**322**	Pn		**Pn**	**12 30 36.8**	**+0.9**
	21nm,0.3s,baz=281,slow=22,SNR=5.6							
JHJ				Sn		**Sn**	**12 31 10.8**	**-0.2**
	24nm,0.3s,baz=258,slow=22,SNR=3.7							
JHJ				LR		LR	12 31 13.5	
	comp=Z,664nm,20.8s,baz=169,slow=29							
CBIJ	**Chichi jima**	**3.68**	**177**	Pn		**Pn**	**12 30 45.1**	**-0.2**
CBIJ				Sn		**Sn**	**12 31 26.6**	**-1.3**
CBIJ	**Chichi jima**	**3.68**	**177**	*e*S		**Sn**	**12 31 27.4**	**-0.6**
CBIJ	**Chichi jima**	**3.68**	**177**	Pn		**Pn**	**12 30 45.1**	**-0.2**
	20nm,0.3s,baz=277,slow=20,SNR=5.2							
CBIJ				Sn		**Sn**	**12 31 26.6**	**-1.3**
	43nm,0.3s,baz=292,slow=23,SNR=9.3							
CBIJ				LR		LR	12 31 28.9	
	comp=Z,603nm,21.1s,baz=104,slow=28							
BSO1	**Boso 1**	**3.95**	**348**	P		**Pn**	**12 30 48.1**	**-0.4**
BSO1				*e*S		**Sn**	**12 31 32.7**	**-1.1**
BSO3	**Boso 3**	**4.20**	**343**	P		**Pn**	**12 30 53.0**	**+0.9**
BSO4	**Boso 4**	**4.42**	**342**	P		**Pn**	**12 30 56.6**	**+1.3**
JOD2	**Odawara 2**	**5.09**	**332**	P		**Pn**	**12 31 04.9**	**+0.2**
JHU	**Hanno**	**5.54**	**336**	P		**Pn**	**12 31 11.6**	**+0.8**
JHU				*e*S		**Sn**	**12 32 14.3**	**+0.5**
JYT	**Yasato**	**5.63**	**345**	P		**Pn**	**12 31 12.6**	**+0.5**
JIE	**Ise**	**5.73**	**310**	P		**Pn**	**12 31 14.9**	**+1.4**
JRY	**Ryogami san**	**5.82**	**334**	P		**Pn**	**12 31 15.6**	**+0.8**
JHO	**Hitachi**	**5.93**	**349**	P		**Pn**	**12 31 14.9**	**-1.3**
JAG	**Ashikaga**	**6.01**	**340**	P		**Pn**	**12 31 17.1**	**-0.2**
JAG				*e*S		**Sn**	**12 32 24.7**	**-0.7**
MJAR	**Matsushiro Arr**	**6.55**	**332**	Pn		**Pn**	**12 31 25.6**	**+0.8**
MJAR	**Matsushiro Arr**	**6.55**	**332**	Pn		**Pn**	**12 31 25.6**	**+0.8**
	5.3nm,0.3s,baz=152,slow=10,SNR=90							
MAJO	**Matsushiro**	**6.55**	**332**	*e*P		**Pn**	**12 31 25.0**	**+0.2**
MAJO				pmax		pmax		
	comp=Z,52nm,0.7s							
MAJO	**Matsushiro**	**6.55**	**332**	*e*Pn		**Pn**	**12 31 25.0**	**+0.2**
	comp=Z,52nm,0.7s							
MAT	**Matsushiro**	**6.55**	**332**	P		**Pn**	**12 31 25.4**	**+0.6**
MAT				S		**Sn**	**12 32 37.6**	**-1.1**
MAT	**Matsushiro**	**6.55**	**332**	P		**Pn**	**12 31 25.6**	**+0.8**
JNU	**Nakatsue**	**9.73**	**287**	LR		LR	12 35 48.9	
	comp=Z,200nm,18.4s,baz=61,slow=37							
ASAJ	**Asahikawa**	**13.31**	**2**	Pn		**Pn**	**12 32 55.5**	**-1.8**
ASAJ	**Asahikawa**	**13.31**	**2**	Pn		**Pn**	**12 32 55.5**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=106,slow=5.8,SNR=5.7							
ASAJ				LR		LR	12 39 05.8	
	comp=Z,253nm,18.4s,baz=162,slow=42							
KSRS	**Korea Array**	**13.42**	**303**	Pn		**Pn**	**12 33 00.9**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=110,slow=13,SNR=5.4							
KSRS				LR		LR	12 38 14.1	
	comp=Z,184nm,18.6s,baz=272,slow=38							
KSAR	**Wonju Array Be**	**13.44**	**303**	Pn		**Pn**	**12 33 00.9**	**+1.8**
YSS	**Yuzh-Sakhalins**	**16.15**	**2**	⇑*e*P		**Pn**	**12 33 32.9**	**-2.3**
KLR	**Kul'dur**	**19.99**	**340**	*e*P		P	12 34 15.7	-4.8
HIA	**Hailar**	**24.97**	**324**	*e*P		**P**	**12 35 10.2**	**-1.2**
	comp=Z,7.2nm,0.8s							
ULN	**Ulaanbaatar**	**31.62**	**313**	*e*P		**P**	**12 36 11.5**	**+0.5**
	comp=Z,7.1nm,0.8s							
SONM	**Songino Array**	**32.03**	**312**	P		**P**	**12 36 16.5**	**+1.9**
SONM	**Songino Array**	**32.03**	**312**	P		**P**	**12 36 16.5**	**+1.9**
	comp=Z,3.6nm,0.9s,baz=113,slow=8.5,SNR=16							
BOD	**Bodaibo**	**33.19**	**333**	*e*P		**P**	**12 36 24.6**	**+0.2**
BOD				pmax		pmax		
	comp=Z,4.0nm,0.9s							
TLY	**Talaya**	**35.04**	**318**	*e*P		**P**	**12 36 40.6**	**-0.1**
TLY				*e*			12 36 53.2	
TLY				pmax		pmax		
	comp=Z,12nm,0.9s							
TLY				MLR		MLR		
	comp=Z,127nm,18.0s							
TLY	**Talaya**	**35.04**	**318**	*e*P		**P**	**12 36 41.3**	**+0.7**
	comp=Z,15nm,1.0s							
BILL	**Bilibino**	**39.91**	**14**	⇓*e*P		**P**	**12 37 21.9**	**+0.2**
BILL				*e*S		**S**	**12 43 27.9**	**+2.9**
BILL				*e*SS		SS	12 46 06.9	-15
BILL				pmax		pmax		
	comp=Z,7.0nm,1.7s							
BILL				MLR		MLR		
	comp=Z,100nm,23.0s							
CMAR	**Chiang Mai Arr**	**40.79**	**263**	P		**P**	**12 37 28.1**	**-1.4**
CMAR				PcP		**PcP**	**12 39 30.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**40.79**	**263**	P		**P**	**12 37 28.1**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=50,slow=7.3,SNR=5.2							
CMAR				PcP		**PcP**	**12 39 30.9**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=31,slow=2.1,SNR=3.1							
ZAA0	**Zalesovo Array**	**46.65**	**317**	*e*P		**P**	**12 38 15.9**	**-0.3**
ZALV	**Zalesovo Beam**	**46.65**	**317**	P		**P**	**12 38 16.6**	**+0.4**
ZALV							12 39 49.6	
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.6s							
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**46.65**	**317**	P		**P**	**12 38 16.6**	**+0.4**
ZALV				PcP		**PcP**	**12 39 49.6**	**-0.1**
ZALV	**Zalesovo Beam**	**46.65**	**317**	P		**P**	**12 38 16.6**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=96,slow=7.7,SNR=8.9							
ZALV				PcP		**PcP**	**12 39 49.6**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=108,slow=4.8,SNR=3.9							
NVS	**Novosibirsk**	**47.66**	**318**	*e*P		**P**	**12 38 22.9**	**-1.1**
MK31	**Makanchi Array**	**48.06**	**307**	*e*P		**P**	**12 38 27.9**	**+0.5**
MK31	**Makanchi Array**	**48.06**	**307**	*e*P		**P**	**12 38 27.9**	**+0.5**
MKAR	**Makanchi Array**	**48.06**	**307**	P		**P**	**12 38 28.1**	**+0.7**
MKAR				pmax		pmax		
	comp=Z,5.0nm,0.8s							
MKAR	**Makanchi Array**	**48.06**	**307**	P		**P**	**12 38 28.1**	**+0.7**
MKAR	**Makanchi Array**	**48.06**	**307**	P		**P**	**12

mb1 4.3/7, mb1mx3.9/20, mbtmp4.1/7, Error ellipse: s-maj=67.8km s-min=16.6km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.96**	**183**	P	P	12 38 22.4	+0.2
	1.8nm,0.4s,baz=9.0,slow=11,SNR=10						
WRA	**Warramunga Arr**	**24.83**	**163**	P	P	12 38 49.8	-1.2
	14nm,0.7s						
CMAR	**Chiang Mai Arr**	**30.95**	**300**	P	P	12 39 45.9	+0.1
	0.4nm,0.3s,baz=116,slow=6.2,SNR=5.0						
STKA	**Stephens Creek**	**38.26**	**160**	P	P	12 40 49.5	+0.7
	9.7nm,0.7s,baz=322,slow=7.8,SNR=13						
SONM	**Songino Array**	**47.16**	**341**	P	P	12 42 01.5	+0.4
	0.2nm,0.4s,baz=151,slow=5.5,SNR=3.6						
MKAR	**Makanchi Array**	**57.50**	**325**	P	P	12 43 17.8	0.0
	1.3nm,0.7s,baz=124,slow=7.6,SNR=8.9						
ZALV	**Zalesovo Beam**	**60.49**	**333**	P	P	12 43 37.7	-0.7
	0.4nm,0.5s,baz=96,slow=4.3,SNR=2.7						

IDC 12 12:35:19.6±2.7, 30.45S×60.44E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/23, mbtmp4.0/4, Error ellipse: s-maj=89.0km s-min=43.2km az=48.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**61.13**	**42**	P	P	12 45 35.9	0.0
	0.6nm,0.3s,baz=230,slow=7.5,SNR=5.1						
ASAR	**Alice Springs**	**64.75**	**104**	P	P	12 46 00.2	0.0
	0.7nm,0.6s,baz=236,slow=6.5,SNR=9.2						
MKAR	**Makanchi Array**	**79.38**	**15**	P	P	12 47 27.4	+0.3
	0.5nm,0.7s,baz=193,slow=5.0,SNR=3.9						
ZALV	**Zalesovo Beam**	**86.66**	**14**	P	P	12 48 03.9	-0.7
	0.3nm,0.3s,baz=192,slow=7.1,SNR=3.7						
YKA	**Yellowknife Ar**	**147.78**	**356**	PKPbc	PKPbc	12 55 05.1	-0.5
	0.7nm,0.5s,baz=355,slow=3.0,SNR=24						

IDC 12 12:40:39.0±2.4, 4.15N×127.91E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.7/4, MS2.8/1, Ms1 2.8/1, ms1mx2.1/47, Error ellipse: s-maj=140.5km s-min=25.0km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.72**	**322**	LR	LR	12 43 03.2	
	comp=Z,131nm,20.6s,baz=35,slow=39						
FITZ	**Fitzroy Crossi**	**22.22**	**186**	P	P	12 45 37.1	-0.2
	2.8nm,1.0s,baz=14,slow=8.3,SNR=2.2						
WRA	**Warramunga Arr**	**24.76**	**165**	P	P	12 46 01.5	-1.0
	3.9nm,1.1s						
ASAR	**Alice Springs**	**28.25**	**168**	P	P	12 46 35.5	+1.5
	0.2nm,0.4s,baz=346,slow=8.5,SNR=2.5						
MKAR	**Makanchi Array**	**57.89**	**325**	P	P	12 50 32.8	-0.1
	0.6nm,0.6s,baz=121,slow=7.5,SNR=6.6						

*IDC **12** 12:42:40.8±2.2, 31.15N×50.31E, h0km, mb3.8/6, mb1 3.8/6, mb1mx3.5/25, mbtmp3.8/6, Error ellipse: s-maj=57.1km s-min=26.6km az=155.0*
*THR **12** 12:42:40.6±0.6, 30.66N×50.52E, h15km, ML3.6*
*ISCJB **12** 12:42:41.4±0.4, 30.76N±0.04×50.48E±0.05, h10km, mb3.7/6, Error ellipse: s-maj=6.1km s-min=4.8km az=24.5*
*CSEM **12** 12:42:41.5±0.1, 30.72N×50.50E, h2km, ML3.7, Error ellipse: s-maj=3.7km s-min=3.1km az=122.0*
*TEH **12** 12:42:43.5, 30.76N×50.56E, h9km, ML3.7*

ISC 12 12:42:40.9±0.8, 30.73N±0.04×50.51E±0.04, h10km, n54, σ1s60/57, mb3.7/6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIR	**Pirpir**	**1.98**	**9**	*e*Pn	**Pb**	**12 43 16.9**	**-0.3**
IPIR				*e*Sg	**Sg**	**12 43 45.0**	**+0.4**
IPIR				*e*		12 43 48.5	
	comp=Z,8μm,0.2s						
IPIR	**Pirpir**	**1.98**	**9**	*e*Pn	**Pb**	**12 43 16.9**	**-0.3**
IPIR				*e*Sg	**Sg**	**12 43 45.0**	**+0.4**
SHGR	**Shooshtar-Gavs**	**2.00**	**314**	*e*Pn	**Pn**	**12 43 16.5**	**+1.7**
SHGR				AML	AML	12 43 54.6	
	comp=E,432nm,0.4s						
SHGR				AML	AML	12 44 03.7	
	comp=N,483nm,0.6s						
SHGR	**Shooshtar-Gavs**	**2.00**	**314**	*e*Pn	**Pn**	**12 43 16.5**	**+1.7**
SHI	**Shiraz**	**2.05**	**121**	*e*Pn	**Pn**	**12 43 18.4**	**+2.8**
SHI				*e*		12 43 55.8	
	comp=E,4μm,0.2s						
IGAR	**Gharneh**	**2.12**	**38**	*e*Pn	**Pn**	**12 43 18.7**	**+2.0**
IGAR				*e*		12 43 21.7	
	comp=Z,6μm,0.1s						
IPAR	**Pars**	**2.37**	**111**	*e*Pn	**Pn**	**12 43 21.9**	**+1.7**
IPAR				*e*		12 44 09.2	
	comp=Z,2μm,0.3s						
IPAR	**Pars**	**2.37**	**111**	*e*Pn	**Pn**	**12 43 21.9**	**+1.7**
ISRV	**Sarvestan**	**2.63**	**120**	*e*Pn	**Pn**	**12 43 25.4**	**+1.7**
ISRV				*e*		12 44 27.6	
	comp=Z,4μm,0.5s						
ISRV	**Sarvestan**	**2.63**	**120**	*e*Pn	**Pn**	**12 43 25.4**	**+1.7**
IZEF	**Zefreh**	**2.66**	**35**	*e*Pn	**Pn**	**12 43 26.2**	**+2.0**
IZEF				*e*		12 43 27.8	
	comp=Z,1μm,0.1s						
IZEF	**Zefreh**	**2.66**	**35**	*e*Pn	**Pn**	**12 43 26.2**	**+2.0**
UMR	**Umm Al-Rimmam**	**2.69**	**245**	*e*P	**Pn**	**12 43 25.9**	**+1.7**
UMR				AML	AML	12 44 01.6	
	comp=Z,168nm,0.3s						
UMR	**Umm Al-Rimmam**	**2.69**	**245**	*e*P	**Pn**	**12 43 25.9**	**+1.7**
IKLH	**Kolahrood**	**2.74**	**19**	*e*Pn	**Pn**	**12 43 27.6**	**+2.4**
IKLH				*e*		12 43 28.2	
	comp=Z,2μm,0.1s						
IKLH				*e*Sg	**Sg**	**12 44 06.8**	**-2.2**
IKLH	**Kolahrood**	**2.74**	**19**	*e*Pn	**Pn**	**12 43 27.6**	**+2.4**
NASN	**Na'in**	**2.85**	**43**	*e*Pn	**Pn**	**12 43 28.3**	**+1.5**
NASN	**Na'in**	**2.85**	**43**	*e*Pn	**Pn**	**12 43 28.3**	**+1.5**
KBD	**Kabd**	**2.89**	**238**	*e*P	**Pn**	**12 43 28.1**	**+1.1**
KBD	**Kabd**	**2.89**	**238**	*e*P	**Pn**	**12 43 28.1**	**+1.1**
ISAD	**Sadrabad**	**2.97**	**66**	*e*Pn	**Pn**	**12 43 30.3**	**+1.9**
ISAD				*e*		12 44 18.7	
	comp=Z,3μm,0.3s						
ISAD	**Sadrabad**	**2.97**	**66**	*e*Pn	**Pn**	**12 43 30.3**	**+1.9**
QRN	**Al-Qurain**	**2.99**	**229**	*e*P	**Pn**	**12 43 29.7**	**+1.2**
QRN				AML	AML	12 44 07.2	
	comp=Z,90nm,0.2s						
NAY	**Al-Naaiem**	**3.19**	**243**	*e*P	**Pn**	**12 43 33.2**	**+2.0**
NAY				AML	AML	12 44 08.7	
	comp=Z,19nm,0.5s						
NAY	**Al-Naaiem**	**3.19**	**243**	*e*P	**Pn**	**12 43 33.2**	**+2.0**
GHIR	**Ghir-Karzin**	**3.25**	**138**	*e*Pn	**Pn**	**12 43 32.5**	**+0.3**
GHIR				AML	AML	12 44 42.4	
	comp=E,111nm,0.5s						
GHIR	**Ghir-Karzin**	**3.25**	**138**	*e*Pn	**Pn**	**12 43 32.5**	**+0.3**
IMEH	**Mehriz**	**3.59**	**78**	*e*Pn	**Pn**	**12 43 38.2**	**+1.4**
IMEH				*e*		12 44 22.4	
	comp=Z,768nm,0.2s						
IMEH	**Mehriz**	**3.59**	**78**	*e*Pn	**Pn**	**12 43 38.2**	**+1.4**
ICHK	**Chekchek**	**3.66**	**65**	*e*Pn	**Pn**	**12 43 39.5**	**+1.7**
ICHK				*e*		12 44 25.9	
	comp=Z,2μm,0.1s						
ICHK	**Chekchek**	**3.66**	**65**	*e*Pn	**Pn**	**12 43 39.5**	**+1.7**
GHVR	**GHOM**	**3.80**	**10**	*e*Pn	**Pn**	**12 43 41.9**	**+2.3**
GHVR	**GHOM**	**3.80**	**10**	*e*Pn	**Pn**	**12 43 41.9**	**+2.3**
ASAO	**Ashtian**	**3.83**	**354**	*e*Pn	**Pn**	**12 43 42.0**	**+1.8**
ASAO	**Ashtian**	**3.83**	**354**	*e*Pn	**Pn**	**12 43 42.0**	**+1.8**
IVRN	**Varamin**	**4.38**	**13**	*e*Pn	**Pn**	**12 43 48.9**	**+1.4**
IVRN				*e*Pn	**Pn**	**12 43 49.0**	**+1.4**
IVRN	**Varamin**	**4.38**	**13**	*e*Pn	**Pn**	**12 43 49.0**	**+1.4**
IBAF	**Bafgh**	**4.42**	**77**	*e*Pn	**Pn**	**12 43 49.8**	**+1.5**
IBAF				*e*		12 44 44.0	
	comp=Z,246nm,0.2s						
IBAF	**Bafgh**	**4.42**	**77**	*e*Pn	**Pn**	**12 43 49.8**	**+1.5**
IR5	**Iran Long-Peri**	**4.47**	**1**	*e*Pn	**Pn**	**12 43 49.7**	**+0.8**
IRAZ	**Razeghan**	**4.69**	**354**	*e*Pn	**Pn**	**12 43 53.3**	**+1.3**
IRAZ				*e*		12 45 23.6	
	comp=Z,429nm,0.4s						
IRAZ	**Razeghan**	**4.69**	**354**	*e*Pn	**Pn**	**12 43 53.3**	**+1.3**
IDMV	**Damavand**	**5.00**	**14**	*e*Pn	**Pn**	**12 43 57.7**	**+1.3**
IDMV				*e*		12 43 58.0	
	comp=Z,1μm,0.2s						
IDMV	**Damavand**	**5.00**	**14**	*e*Pn	**Pn**	**12 43 57.7**	**+1.3**
ILAS	**Lasjerd**	**5.08**	**23**	*e*Pn	**Pn**	**12 43 58.4**	**+1.0**
ILAS				*e*		12 43 59.5	
	comp=Z,414nm,0.1s						
ILAS	**Lasjerd**	**5.08**	**23**	*e*Pn	**Pn**	**12 43 58.4**	**+1.0**
IFIR	**Firoozkooh**	**5.25**	**20**	*e*		12 44 02.4	
	comp=Z,912nm,0.1s						
IFIR				*e*Pn	**Pn**	**12 44 01.2**	**+1.5**
IANJ	**Anjilo**	**5.53**	**30**	*e*		12 44 05.0	
	comp=Z,390nm,0.1s						
IANJ				*e*Pn	**Pn**	**12 44 04.6**	**+1.1**
MKAR	**Makanchi Array**	**29.27**	**48**	P	**P**	**12 48 43.2**	**0.0**
	comp=Z,0.3nm,0.5s,baz=241,slow=10,SNR=4.3						
ZALV	**Zalesovo Beam**	**33.85**	**37**	P	**P**	**12 49 23.0**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=246,slow=11,SNR=3.6						
FINES	**FINESS Array B**	**34.65**	**340**	P	**P**	**12 49 29.1**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=133,slow=8.0,SNR=2.1						
NOA	**NORSAR Array B**	**39.78**	**331**	P	P	12 50 11.0	-2.8
	comp=Z,0.5nm,0.7s,baz=110,slow=9.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**48.14**	**260**	P	**P**	**12 51 22.6**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=56,slow=8.1,SNR=3.8						
SCHQ	**Schefferville**	**79.29**	**328**	P	**P**	**12 54 44.8**	**-1.7**
	comp=Z,1.7nm,0.8s,baz=59,slow=12,SNR=4.0						

*IDC **12** 12:45:53.5±0.6, 4.17N×126.86E, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.2/20, mbtmp4.2/12, MS3.4/5, Ms1 3.5/5, ms1mx3.0/47, Error ellipse: s-maj=33.7km s-min=13.4km az=75.0*
*NEIC **12** 12:45:58.6±0.2, 4.11N×126.78E, h35km, mb4.5/13, Error ellipse: s-maj=7.8km s-min=4.7km az=73.0*
*DJA **12** 12:46:03, 3.98N×126.99E, h66km, mb4.5/6*

ISC 12 12:46:00.8±0.9, 4.07N±0.07×126.69E±0.08, h51km±8km, n81, σ1s24/72, mb4.4/24, MS3.3/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.89**	**352**	*e*P	**Pn**	**12 46 46.3**	**+2.0**
DMPH	**Davao City--Mi**	**3.21**	**339**	*e*P	Pn	12 46 55.6	+6.8
TNTI	**Ternate**	**3.35**	**168**	P	Pn	12 46 54.9	+4.3
BUKP	**Musuan**	**4.11**	**337**	*e*P	Pn	12 47 05.0	+3.7
KMSI	**Cibinong**	**4.40**	**218**	P	Pn	12 47 30.0	+25
LBMI	**Labuha**	**4.75**	**170**	P	Pn	12 47 13.7	+3.8
PAGZ	**Pagadian**	**4.99**	**319**	*e*P	**Pn**	**12 47 14.7**	**+1.6**
MRSI	**Marisa**	**5.93**	**233**	P	Pn	12 47 30.7	+4.6
	148nm,0.5s,1μm0.6nm						
MSLP	**Maasin**	**6.29**	**343**	*e*P	Pn	12 47 37.7	+6.6
LUWI	**Luwuk**	**6.41**	**218**	P	Pn	12 47 39.6	+6.9
	192nm,1.2s,2μm0.7nm						
MYLDM	**Lahad Datu**	**8.23**	**278**	P	Pn	12 48 08.7	+11
	56nm,1.3s,0.2nm						
PCI	**Palu**	**8.44**	**234**	P	Pn	12 48 09.7	+9.1
	2μm,1.3s,27μm7.8nm						
FAKI	**Fak Fak**	**8.89**	**141**	P	**Pn**	**12 48 07.1**	**+0.3**
	20nm,1.1s,0.1nm						
KDI	**Kendari**	**8.95**	**207**	P	Pn	12 48 24.8	+17
KKM	**Kota Kinabalu**	**10.61**	**281**	*e*Pn	**Pn**	**12 48 29.4**	**-1.0**
	15nm,1.0s						
KAPI	**Kappang**	**11.38**	**218**	Pn	Pn	12 48 39.4	-1.3
SBUM	**Sibu**	**14.53**	**264**	P	**P**	**12 49 28.3**	**-0.7**
	22nm,1.8s						
KSM	**Kuching**	**16.56**	**261**	*e*Pn	**Pn**	**12 49 50.1**	**+0.5**
	16nm,0.9s						
KSM	**Kuching**	**16.56**	**261**	P	**P**	**12 49 54.3**	**+2.8**
	24nm,1.1s						
KNRA	**Kununurra**	**19.73**	**174**	*e*P	**P**	**12 50 26.3**	**0.0**
	57nm,0.5s						
GUMO	**Guam**	**20.29**	**61**	LR	LR	12 56 27.0	
	comp=Z,105nm,21.7s,baz=84,slow=32						
FITZ	**Fitzroy Crossi**	**22.06**	**183**	P	**P**	**12 50 50.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**22.06**	**183**	*e*P	**P**	**12 50 50.4**	**-1.0**
	21nm,1.8s						
FITZ	**Fitzroy Crossi**	**22.06**	**183**	P	**P**	**12 50 50.6**	**-0.9**
	2.7nm,0.4s,baz=23,slow=9.7,SNR=8.2						
WRAB	**Tennant Creek**	**25.02**	**163**	*e*P	**P**	**12 51 19.3**	**-0.9**
	18nm,0.8s						
WRA	**Warramunga Arr**	**25.02**	**163**	P	**P**	**12 51 19.6**	**-0.7**
WRA	**Warramunga Arr**	**25.02**	**163**	P	**P**	**12 51 19.6**	**-0.7**
	7.2nm,0.6s						
MBWA	**Marble Bar**	**25.98**	**195**	*e*P	**P**	**12 51 29.6**	**+0.7**
PSI	**Prapat**	**27.74**	**268**	LR	LR	13 02 57.8	
	comp=Z,93nm,19.0s,baz=191,slow=37						
AS31	**Alice Springs**	**28.45**	**166**	*e*P	**P**	**12 51 50.9**	**-0.2**
ASAR	**Alice Springs**	**28.45**	**166**	P	**P**	**12 51 51.0**	**-0.1**
ASAR	**Alice Springs**	**28.45**	**166**	P	**P**	**12 51 51.0**	**-0.1**
	0.8nm,0.5s,baz=344,slow=7.3,SNR=17						
CMAR	**Chiang Mai Arr**	**30.66**	**300**	P	**P**	**12 52 11.6**	**+0.8**
CMAR	**Chiang Mai Arr**	**30.66**	**300**	P	**P**	**12 52 11.6**	**+0.8**
	2.6nm,0.6s,baz=118,slow=7.4,SNR=18						
CMAR				LR	LR	13 05 17.9	
	comp=Z,53nm,19.1s,baz=95,slow=38						
ENH	**Enshi**	**30.71**	**330**	*e*P	**P**	**12 52 10.0**	**-1.1**
	4.7nm,0.5s						
CHTO	**Chiang Mai**	**30.81**	**301**	*e*P	**P**	**12 52 12.2**	**+0.1**
	5.0nm,0.8s						
CHTO	**Chiang Mai**	**30.81**	**301**	P	**P**	**12 52 13.8**	**+1.7**
MEEK	**Meekatharra**	**31.51**	**194**	*e*P	**P**	**12 52 17.9**	**-0.2**
	50nm,1.0s						
KSAR	**Wonju Array Be**	**33.23**	**2**	P	**P**	**12 52 32.2**	**-0.8**
KSRS	**Korea Array**	**33.24**	**2**	P	**P**	**12 52 32.2**	**-0.9**
	2.6nm,0.8s,baz=178,slow=9.0,SNR=6.4						
KSRS				LR	LR	13 06 19.5	
	comp=Z,64nm,19.8s,baz=190,slow=37						
MJAR	**Matsushiro Arr**	**34.01**	**17**	P	**P**	**12 52 37.3**	**-2.6**
MJAR	**Matsushiro Ar**	**34.01**	**17**	P	**P**	**12 52 37.3**	**-2.6**
	1.2nm,0.9s,baz=168,slow=8.5,SNR=4.1						
HNR	**Honiara**	**35.76**	**112**	LR	LR	13 06 03.8	
	comp=Z,105nm,19.3s,baz=74,slow=34						
BJT	**Baijiatuau**	**37.03**	**347**	*e*P	**P**	**12 53 06.0**	**+0.2**
	13nm,0.8s						
STKA	**Stephens Creek**	**38.46**	**159**	*e*P	**P**	**12 53 17.1**	**-0.8**
	1.2nm,0.6s						
STKA	**Stephens Creek**	**38.46**	**159**	*e*P	**P**	**12 53 17.7**	**-0.2**
	4.4nm,0.5s						
STKA	**Stephens Creek**	**38.46**	**159**	P	**P**	**12 53 17.9**	**0.0**
	9.3nm,0.9s,baz=343,slow=6.2,SNR=12						
ARMA	**Armidale**	**41.77**	**147**	*e*P	**P**	**12 53 46.1**	**+0.6**
ARMA	**Armidale**	**41.77**	**147**	*e*P	**P**	**12 53 48.1**	**+2.6**
LSA	**Lhasa**	**42.18**	**311**	*e*P	**P**	**12 53 49.6**	**+0.3**
	3.5nm,0.6s						
TAPN	**Taplejung**	**43.78**	**306**	*e*P	**P**	**12 54 00.8**	**-1.3**
	12nm,0.8s						
ODAN	**Odare**	**43.84**	**305**	*e*P	**P**	**12 54 02.0**	**-0.5**
	12nm,0.6s						
RAMN	**Ramite**	**44.52**	**305**	*e*P	**P**	**12 54 07.3**	**-0.7**
	6.2nm,0.4s						
JIRN	**Jiri**	**45.14**	**306**	*e*P	**P**	**12 54 12.6**	**-0.4**
HIA	**Hailar**	**45.42**	**354**	*e*P	**P**	**12 54 14.4**	**-0.1**
	5.4nm,0.7s						
GUN	**Gumba**	**45.49**	**306**	*e*P	**P**	**12 54 15.1**	**-0.7**
	12nm,0.5s						
ULN	**Ulaanbaatar**	**46.78**	**342**	*e*P	**P**	**12 54 25.0**	**-0.4**
	3.3nm,0.8s						
SONM	**Songino Array**	**46.96**	**341**	P	**P**	**12 54 26.6**	**-0.2**
SONM				PcP	**PcP**	**12 55 58.4**	**-0.2**
SONM	**Songino Array**	**46.96**	**341**	P	**P**	**12 54 26.6**	**-0.2**
	1.7nm,0.7s,baz=152,slow=9.4,SNR=14						
SONM				PcP	**PcP**	**12 55 58.4**	**-0.2**
	1.2nm,0.8s,baz=159,slow=3.9,SNR=4.4						
KOLN	**Koldanda**	**47.30**	**305**	*e*P	**P**	**12 54 29.3**	**-0.5**
	12nm,0.4s						
DANN	**Dangsing**	**47.38**	**305**	*e*P	**P**	**12 54 29.7**	**-0.9**
	17nm,0.5s						
MK31	**Makanchi Array**	**57.25**	**325**	*e*P	**P**	**12 55 42.3**	**-0.9**
MKAR	**Makanchi Array**	**57.25**	**325**	P	**P**	**12 55 42.6**	**-0.6**
MKAR				PcP	**PcP**	**12 56 38.0**	**+0.9**
MKAR				ScP	**ScP**	**13 00 37.1**	**+4.4**
MKAR	**Makanchi Array**	**57.25**	**325**	P	**P**	**12 55 42.6**	**-0.6**
	4.4nm,0.6s,baz=124,slow=8.2,SNR=68						
MKAR				PcP	**PcP**	**12 56 38.0**	**+0.9**
	1.7nm,0.8s,baz=120,slow=5.7,SNR=2.5						
MKAR				ScP	**ScP**	**13 00 37.1**	**+4.4**
	0.5nm,1.0s,baz=152,slow=5.5,SNR=3.7						
ZALV	**Zalesovo Beam**	**60.27**	**333**	P	**P**	**12 56 02.8**	**-1.1**
ZALV	**Zalesovo Beam**	**60.27**	**333**	P	**P**	**12 56 02.8**	**-1.1**
	1.6nm,0.4s,baz=128,slow=6.7,SNR=9.5						
KURK	**Kurchatov**	**61.43**	**327**	*e*P	**P**	**12 56 11.3**	**-0.5**
	8.9nm,0.6s						
BRVK	**Borovoye**	**67.08**	**327**	*e*P	**P**	**12 56 48.6**	**-0.2**
	8.4nm,0.8s						
ABKAR	**Akbulak array**	**71.86**	**321**	*e*P	**P**	**12 57 17.7**	**-0.7**
	2.6nm,0.8s						
ARU	**Arti**	**74.63**	**328**	*e*P	**P**	**12 57 34.2**	**-0.4**
	4.1nm,0.8s						
ILAR	**Eielson Array**	**84.82**	**25**	P	**P**	**12 58 28.5**	**-1.1**
ILAR	**Eielson Array**	**84.82**	**25**	P	**P**	**12 58 28.5**	**-1.1**
	0.7nm,0.8s,baz=245,slow=6.1,SNR=7.4						
ARCES	**ARCESS Array B**	**90.12**	**340**	P	**P**	**12 58 53.9**	**-1.2**
ARCES	**ARCESS Array B**	**90.12**	**340**	P	**P**	**12 58 53.9**	**-1.2**
	2.7nm,0.9s,baz=76,slow=10,SNR=6.7						
QSPA	**South Pole Qui**	**93.97**	**180**	P	**P**	**12 59 12.5**	**-0.6**
SCHQ	**Schefferville**	**120.24**	**9**	PKP	**PKPdf**	**13 04 46.8**	**+0.6**
SCHQ	**Schefferville**	**120.24**	**9**	PKP	**PKPdf**	**13 04 46.8**	**+0.6**
	2.8nm,1.0s,baz=144,slow=16,SNR=4.3						
TXAR	**Lajitas Array**	**121.43**	**52**	PKP	**PKPdf**	**13 04 49.8**	**+0.4**
TXAR	**Lajitas Array**	**121.43**	**52**	PKP	**PKPdf**	**13 04 49.8**	**+0.4**
	0.4nm,0.9s,baz=236,slow=0.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**122.77**	**288**	PKP	**PKPdf**	**13 04 51.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**122.77**	**288**	PKP	**PKPdf**	**13 04 51.9**	**-0.2**
	0.7nm,0.8s,baz=44,slow=1.3,SNR=4.3						

IDC 12 12:53:19.6±2.4, 3.81N×126.15E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=323.3km s-min=20.9km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.94**	**161**	P	P	12 58 45.1	+0.4
	1.0nm,0.4s						
ASAR	**Alice Springs**	**28.34**	**165**	P	P	12 59 15.0	-0.4
	0.2nm,0.3s,baz=336,slow=7.3,SNR=7.6						
MKAR	**Makanchi Array**	**57.16**	**325**	P	P	13 03 08.8	+0.5
	0.5nm,0.4s,baz=123,slow=7.4,SNR=18						
ZALV	**Zalesovo Beam**	**60.26**	**333**	P	P	13 03 28.9	-0.7
	0.4nm,0.3s,baz=108,slow=3.2,SNR=3.3						

IDC 12 12:54:53.1±1.1, 3.00N×125.00E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/19, mbtmp3.9/5, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.57**	**158**	P	P	13 00 14.9	-0.1
	2.2nm,0.8s						
ASAR	**Alice Springs**	**27.89**	**162**	P	P	13 00 45.8	+0.8
	0.2nm,0.6s,baz=347,slow=8.0,SNR=3.2						
MKAR	**Makanchi Array**	**57.18**	**326**	P	P	13 04 43.7	+1.7
	0.6nm,0.5s,baz=121,slow=7.5,SNR=6.7						
ZALV	**Zalesovo Beam**	**60.47**	**334**	P	P	13 05 03.9	-0.8
	0.3nm,0.3s,baz=148,slow=8.5,SNR=2.6						
ARCES	**ARCESS Array B**	**90.53**	**340**	P	P	13 07 54.8	-2.0
	4.1nm,1.1s,baz=70,slow=4.3,SNR=4.6						

IDC 12 13:05:14.3±1.2, 4.03N×126.96E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, Error ellipse: s-maj=86.3km s-min=17.2km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.90**	**163**	P	P	13 10 39.3	+0.1
	3μm,0.4s,baz=128,slow=23,SNR=95						
ASAR	**Alice Springs**	**28.34**	**166**	P	P	13 11 10.7	+0.4
	0.3nm,0.5s,baz=342,slow=7.4,SNR=9.8						
CMAR	**Chiang Mai Arr**	**30.92**	**300**	P	P	13 11 33.0	-0.2
	0.6nm,0.6s,baz=117,slow=7.7,SNR=4.9						
STKA	**Stephens Creek**	**38.33**	**160**	P	P	13 12 36.4	-0.6
	3.9nm,0.8s,baz=340,slow=10,SNR=5.7						
MKAR	**Makanchi Array**	**57.44**	**325**	P	P	13 15 04.6	-0.5
	1.1nm,0.6s,baz=120,slow=7.9,SNR=21						
ZALV	**Zalesovo Beam**	**60.43**	**333**	P	P	13 15 26.8	+1.2
	0.3nm,0.3s,baz=121,slow=5.6,SNR=2.8						
ARCES	**ARCESS Array B**	**90.25**	**340**	P	P	13 18 15.5	-1.1
	2.1nm,1.0s,baz=86,slow=7.5,SNR=5.1						

IDC 12 13:12:40.3±1.5, 3.53N×126.02E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/20, mbtmp3.5/5, Error ellipse: s-maj=201.3km s-min=20.1km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.72**	**161**	P	P	13 18 03.1	-0.4
	2.2nm,0.7s						
ASAR	**Alice Springs**	**28.10**	**165**	P	P	13 18 34.5	+0.4
	0.3nm,0.4s,baz=344,slow=9.6,SNR=5.9						
SONM	**Songino Array**	**47.26**	**342**	P	P	13 21 15.4	-0.1
	0.2nm,0.6s,baz=161,slow=9.2,SNR=2.5						
MKAR	**Makanchi Array**	**57.32**	**326**	P	P	13 22 30.0	-0.1
	0.2nm,0.4s,baz=121,slow=7.6,SNR

	comp=Z,2.0nm,0.6s						
AAK	**Ala-Archa**	**59.97 318**	P	**P**		**13 24 35.6**	**+0.9**
AAK	**Ala-Archa**	**59.97 318**	P	**P**		**13 24 35.6**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=327,slow=23,SNR=4.3						
ZALV	**Zalesovo Beam**	**60.22 333**	P	**P**		**13 24 35.6**	**-0.3**
ZALV	**Zalesovo Beam**	**60.22 333**	P	**P**		**13 24 35.6**	**-0.3**
	comp=Z,1.7nm,0.4s,baz=116,slow=6.9,SNR=10						
EKS2	**Erkin-Say**	**60.46 318**	*e*P	**P**		**13 24 37.5**	**-0.6**
	comp=Z,3.5nm,1.1s						
KURBB	**Kurchatov Array**	**61.36 327**	P	**P**		**13 24 43.6**	**-0.2**
	comp=Z,6.9nm,0.7s,baz=124,slow=6.5,SNR=4.9						
KURK	**Kurchatov**	**61.36 328**	P	**P**		**13 24 43.6**	**-0.2**
BVAR	**Borovoye Array**	**66.94 327**	P	**P**		**13 25 20.3**	**-0.2**
BVAR	**Borovoye Array**	**66.94 327**	P	**P**		**13 25 20.3**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=52,slow=3.8,SNR=15						
BRVK	**Borovoye**	**67.01 327**	*e*P	**P**		**13 25 19.9**	**-0.9**
	comp=Z,7.5nm,1.0s						
ABKAR	**Akbulak array**	**71.76 321**	*e*P	**P**		**13 25 50.2**	**-0.1**
	comp=Z,2.0nm,0.6s						
AKTO	**Aktyubinsk**	**73.27 322**	P	**P**		**13 25 59.8**	**+0.5**
AKTO	**Aktyubinsk**	**73.27 322**	P	**P**		**13 25 59.8**	**+0.5**
	comp=Z,1.8nm,0.3s,baz=99,slow=8.2,SNR=11						
ARU	**Arti**	**74.56 328**	*e*P	**P**		**13 26 05.5**	**-1.1**
	comp=Z,3.8nm,0.6s						
COLD	**Coldfoot**	**83.74 23**	*e*P	**P**		**13 26 56.3**	**-0.4**
	comp=Z,6.5nm,1.0s						
ILAR	**Eielson Array**	**84.97 25**	P	**P**		**13 27 02.5**	**-0.4**
ILAR	**Eielson Array**	**84.97 25**	P	**P**		**13 27 02.5**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=240,slow=5.6,SNR=6.2						
HTY	**Hatay**	**87.92 306**	*e*P	P		13 27 24.8	+6.9
BRTR	**Keskin Array B**	**89.63 310**	P	**P**		**13 27 26.4**	**+0.2**
BRTR	**Keskin Array B**	**89.63 310**	P	**P**		**13 27 26.4**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=99,slow=6.4,SNR=7.8						
INK	**Inuvik**	**90.00 21**	P	**P**		**13 27 26.6**	**-0.4**
INK	**Inuvik**	**90.00 21**	P	**P**		**13 27 26.6**	**-0.4**
	comp=Z,1.6nm,1.0s,baz=241,slow=4.8,SNR=4.0						
ARCES	**ARCESS Array B**	**90.09 340**	P	**P**		**13 27 27.5**	**0.0**
ARCES	**ARCESS Array B**	**90.09 340**	P	**P**		**13 27 27.5**	**0.0**
	comp=Z,1.2nm,0.5s,baz=84,slow=5.6,SNR=15						
FINES	**FINESS Array B**	**91.46 332**	P	**P**		**13 27 34.3**	**+0.4**
FINES	**FINESS Array B**	**91.46 332**	P	**P**		**13 27 34.3**	**+0.4**
	comp=Z,1.8nm,0.4s,baz=65,slow=4.3,SNR=9.6						
AKASG	**Malin Array Be**	**91.50 321**	P	**P**		**13 27 34.0**	**-0.4**
AKASG	**Malin Array Be**	**91.50 321**	P	**P**		**13 27 34.0**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=69,slow=4.6,SNR=6.4						
NOA	**NORSAR Array B**	**98.42 334**	P	**P**		**13 28 05.1**	**-0.7**
NOA	**NORSAR Array B**	**98.42 334**	P	**P**		**13 28 05.1**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=237,slow=18,SNR=4.4						
YKA	**Yellowknife Ar**	**99.36 24**	P	**Pdif**		**13 28 09.5**	**-0.4**
YKA	**Yellowknife Ar**	**99.36 24**	P	**Pdif**		**13 28 09.5**	**-0.4**
	comp=Z,0.1nm,0.5s,baz=303,slow=5.0,SNR=4.6						
GERES	**GERESS Array B**	**101.70 322**	P	**Pdif**		**13 28 21.9**	**+1.1**
GERES	**GERESS Array B**	**101.70 322**	P	**Pdif**		**13 28 21.9**	**+1.1**
	comp=Z,0.1nm,0.2s,baz=16,slow=6.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**122.57 288**	PKP	**PKPdf**		**13 33 24.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**122.57 288**	PKP	**PKPdf**		**13 33 24.5**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=84,slow=1.9,SNR=7.1						

IDC ***12*** *13:15:02.2±0.3, 4.°03N×126.°54E, h0km, mb5.7/41, mb1 5.7/41, mb1mx5.7/44, mbtmp5.7/41, MS6.0/22, Ms1 6.0/22, ms1mx5.8/35, Error ellipse: s-maj=12.7km s-min=9.1km az=73.0*

BJI ***12*** *13:15:03.1, 3.°73N×126.°66E, h37km, mB6.4/48, mb5.9/68, Ms6.1/82, Ms7 6.1/74*

ISCJB ***12*** *13:15:05.8±0.1, 4.°07N±0.°02×126.°63E±0.°03, h35km, mb6.0/234, MS6.0/214, Error ellipse: s-maj=3.0km s-min=2.3km az=156.0*

MOS ***12*** *13:15:05.4±1.0, 4.°03N×126.°60E, h33km, mb6.2/83, Error ellipse: s-maj=8.0km s-min=4.2km az=116.8*

NEIC ***12*** *13:15:06.3±0.1, 4.°04N×126.°55E, h27km, mb6.1/130, ME6.0, MS6.1/140, MW6.3, MW6.2, Error ellipse: s-maj=3.9km s-min=2.9km az=57.0 Broadband fault plane solution: P waves. NP1:φs10.00000°, δ70.00000°, λ100.00000°. NP2:φs163.00000°, δ22.00000°, λ64.00000°. Principal axes: T Plg64.0000°, Azm296.0000°; N Plg0.0000°, Azm0.0000°; P Plg24.0000°, Azm92.0000°; Moment Tensor Solution. s65 Moment tensor: Scale 1018 Nm; Mrr1.56; Mθθ0.19; Mφφ-1.75; Mrθ0.53; Mθφ 1.18; Mφr0.77; Best double couple: Mo2.20000×1018 NP1: φs1.00000°, δ59.00000°, λ126.00000°. NP2:φs127.00000°, δ46.00000°, λ46.00000°. Principal axes: T 2.0900, Plg58.0000°, Azm324.0000°; N 0.2800, Plg30.0000°, Azm160.0000°; P -2.3700, Plg7.0000°, Azm66.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Melonguanne and [III] at Sangihe and in the Kepulauan Talaud. Also felt at Davao, Philippines.

TEH ***12*** *13:15:08.0, 4.°06N×126.°56E, h35km, ML6.4*

DJA ***12*** *13:15:12, 3.°91N×126.°74E, h66km, Mw6.2/80*

NEIC ***12*** *13:15:25.8±0.0, 4.°33N×127.°14E, h33km, Moment Tensor Solution. s186 Moment tensor: Scale 1018Nm; Mrr2.64; Mθθ0.10; Mφφ-2.75; Mrθ-0.19; Mθφ0.51; Mφr1.34; Best double couple: Mo3.10000×1018 NP1:φs351.00000°, δ58.00000°, λ91.00000°. NP2:φs169.00000°, δ32.00000°, λ89.00000°. Principal axes: T 2.9600, Plg76.0000°, Azm263.0000°; N 0.1900, Plg0.0000°, Azm170.0000°; P -3.1500, Plg13.0000°, Azm80.0000°;*

ISC 12 13:15:07.3±0.2, 4.°07N±0.°02×126.°59E±0.°03, h33km±1km, h33km:pP-P, n1407, σ1936/1425, mb6.1/230, MS6.1/217, 144C-128D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MNI	**Manadao**	**3.14**	**214**	P		Pb		13 15 57.2	-5.2
DAV	**Davao City (W)**	**3.15**	**341**	Pn		Pn		13 15 57.5	+2.9
DAV	**Davao City (W)**	**3.15**	**341**	⇑*e*P		Pb		13 15 59.2	-3.4
DAV	**Davao City (W)**	**3.15**	**341**	P		**Pb**		**13 16 00.2**	**-2.4**
	SNR=60								
DAV	**Davao City (W)**	**3.15**	**341**	P		**Pb**		**13 16 00.9**	**-1.7**
DAV	**Davao City (W)**	**3.15**	**341**	Pn		Pn		13 15 57.5	+2.9
	25nm,0.3s,baz=183,slow=16,SNR=4.2								
DAV				LR		LR		13 17 28.9	
	comp=Z,322µm,18.4s,baz=136,slow=46								
DMPH	**Davao City--Mi**	**3.19**	**340**	⇓*e*P		**Pb**		**13 16 03.9**	**+0.7**
DMPH				*i* S		Sb		13 17 16.8	+35
KCP	**Kidapawan**	**3.28**	**333**	⇑*i*P		**Pb**		**13 16 07.0**	**+2.1**
KCP				*i* S		Sb		13 16 52.2	+7.7
TNTI	**Ternate**	**3.36**	**167**	P		**Pn**		**13 15 58.0**	**+0.4**
KMSI	**Cibinong**	**4.34**	**217**	P		Pn		13 16 14.4	+3.4
CGP	**Cagayan de Oro**	**4.75**	**337**	⇓*e*P		Pb		13 16 26.0	-3.9
CGP				*e*S		Sb		13 17 34.4	+7.8
BUTP	**Butuan**	**4.96**	**349**	*e*P		Pb		13 16 27.9	-5.6
ZMPH	**Zamboanga City**	**5.34**	**303**	⇓*i*P		Pn		13 16 27.4	+2.6
ZMPH				*i* S		**Sn**		**13 17 26.8**	**+1.6**
IPIL	**Ipil**	**5.45**	**313**	*e*P		Pn		13 16 30.6	+4.4
MRSI	**Marisa**	**5.86**	**233**	P		Pn		13 16 35.4	+3.5
	5µm,0.8s,103µm446µm29nm								
TBP	**Tagbilaran**	**6.21**	**334**	*e*P		Pn		13 16 44.1	+7.4
MSLP	**Maasin**	**6.27**	**344**	*e*P		Pb		13 16 46.7	-9.0
LLP	**Lapu-Lapu**	**6.73**	**337**	*e*P		Pn		13 16 47.6	+3.7
LLP				*e*S		Sb		13 18 12.3	-11
SWI	**Sorong**	**6.76**	**136**	P		**Pn**		**13 16 43.2**	**-1.1**
	2µm,1.0s,6.7nm								
OCLP	**Ormoc**	**7.21**	**344**	*e*P		Pn		13 17 00.1	+10
PLP	**Palo**	**7.23**	**347**	⇓*e*P		Pn		13 16 57.1	+6.3
GUIM	**Jordan**	**7.63**	**329**	*e*P		Pn		13 17 04.2	+8.0
AAI	**Ambon**	**7.87**	**168**	P		**Pn**		**13 17 00.9**	**+1.4**
	2µm,1.2s,27µm174µm6.8nm								
MYLDM	**Lahad Datu**	**8.14**	**278**	P		Pn		13 17 11.2	+7.9
MYLDM	**Lahad Datu**	**8.14**	**278**	P		Pn		13 17 11.0	+7.7
	4µm,1.2s,83µm13nm								
RCP	**Roxas**	**8.36**	**333**	⇑*e*P		Pn		13 17 13.5	+7.2
CNP	**Catarman**	**8.60**	**347**	*e*P		Pn		13 17 21.2	+12
TSM	**Tawau**	**8.70**	**272**	P		Pn		13 17 16.2	+5.3
CUYO	**Cuyo Island**	**8.71**	**321**	*e*P		Pn		13 17 16.8	+5.7
KDI	**Kendari**	**8.90**	**207**	P		**Pn**		**13 17 14.9**	**+1.2**
	785nm,1.5s,21µm167µm6.1nm								
FAKI	**Fak Fak**	**8.95**	**141**	P		**Pn**		**13 17 13.8**	**-0.6**
	1µm,0.9s,16µm261µm3.3nm								
BNDI	**Bandanaira**	**9.15**	**159**	P		Pn		13 17 21.7	+4.6
	2µm,1.7s,46µm141µm								
OTRP	**Odiongan**	**9.40**	**332**	*e*P		Pn		13 17 30.1	+10
SDKM	**Sandakan**	**9.49**	**280**	P		Pn		13 17 27.5	+5.6
TTSI	**Tana Toraja**	**9.78**	**224**	P		Pn		13 17 30.3	+4.5
	2µm,1.6s,33µm198µm								
BATP	**Bataraza**	**9.92**	**299**	*e*P		Pn		13 17 33.5	+5.9
AUQP	**San Andres**	**9.98**	**337**	*e*P		Pn		13 17 42.6	+14
BBSI	**Bau Bau**	**10.31**	**203**	P		Pn		13 17 48.4	+15
SPSI	**Sidrap Palu**	**10.49**	**221**	P		Pn		13 17 41.9	+6.4
	916nm,1.3s,15µm178µm								
KKM	**Kota Kinabalu**	**10.52**	**281**	*e*Pn		**Pn**		**13 17 34.6**	**-1.4**
KKM	**Kota Kinabalu**	**10.52**	**281**	P		Pn		13 17 42.7	+6.7
	1µm,2.0s,28µm332µm								
BAKI	**Biak**	**10.85**	**119**	P		**Pn**		**13 17 42.4**	**+2.0**
	3µm,1.5s,62µm270µm								
KAPI	**Kappang**	**11.32**	**217**	*e*Pn		**Pn**		**13 17 48.0**	**+1.2**
KAPI	**Kappang**	**11.32**	**217**	P		Pn		13 17 52.0	+5.2
	SNR=13								
KAPI	**Kappang**	**11.32**	**217**	P		Pn		13 17 52.4	+5.6
	496nm,1.5s,13µm112µm								
KAPI	**Kappang**	**11.32**	**217**	Pn		Pn		13 17 51.0	+4.2
	9.7nm,0.3s,baz=43,slow=9.9,SNR=13								
KAPI				LR		LR		13 22 56.8	
	comp=Z,147µm,18.6s,baz=198,slow=42								
BKSI	**Bulukumba**	**11.35**	**215**	P		Pn		13 17 51.3	+4.1
	398nm,1.4s,7µm								
TGY	**Tagaytay City**	**11.43**	**331**	Pn		Pn		13 17 54.5	+6.2
TGY	**Tagaytay City**	**11.43**	**331**	Pn		Pn		13 17 54.5	+6.2
	53nm,0.3s,baz=176,slow=6.0,SNR=8.7								
TGY				LR		LR		13 23 00.3	
	comp=Z,782nm,19.2s,baz=149,slow=42								
TLE	**Tual**	**11.43**	**147**	P		**Pn**		**13 17 50.0**	**+1.7**
	2µm,1.4s,54µm192µm								
LUBP	**Lubang**	**11.47**	**327**	*e*P		Pn		13 17 57.5	+8.6
BALP	**Baler**	**12.61**	**337**	*e*P		P		13 18 12.5	-3.0
PCPH	**Palayan**	**12.64**	**335**	⇑*e*P		**P**		**13 18 13.9**	**-1.9**
KBKI	**Kotabaru**	**12.73**	**235**	P		P		13 18 12.1	-4.8
	819nm,1.0s,12µm120µm								
MMRI	**Maumere**	**13.35**	**199**	P		P		13 18 19.7	-4.0
	958nm,1.5s,23µm								
SCZP	**Santa Cruz**	**13.36**	**331**	*e*P		**P**		**13 18 23.5**	**-0.4**
BTM	**Bintulu**	**13.51**	**267**	P		**P**		**13 18 25.0**	**-0.6**
SMPI	**Sarmi**	**13.52**	**116**	P		**Pn**		**13 18 17.5**	**+0.5**
	2µm,1.1s,28µm180µm								
BCPH	**Baguio City Da**	**13.59**	**335**	⇑*i*P		**P**		**13 18 28.7**	**+2.1**
CAUP	**Cauayan**	**13.63**	**340**	*e*P		P		13 18 23.5	-3.3
BOLP	**Bolinao**	**13.88**	**332**	*e*P		**P**		**13 18 26.8**	**-2.9**
CVP	**Callao Caves**	**14.34**	**341**	*e*P		**P**		**13 18 31.8**	**-2.9**
SBUM	**Sibu**	**14.44**	**264**	P		**P**		**13 18 35.4**	**-0.5**
SBUM	**Sibu**	**14.44**	**264**	P		**P**		**13 18 34.8**	**-1.1**
	1µm,1.2s,26µm160µm								
ABRA	**Dolores**	**14.68**	**337**	*e*P		**P**		**13 18 36.5**	**-2.0**
WSI	**Waingapu**	**15.02**	**205**	P		**P**		**13 18 39.9**	**-2.4**
	3µm,1.5s,52µm93µm								
PIP	**Pasuquin**	**15.33**	**338**	⇓*e*P		**P**		**13 18 43.8**	**-2.0**
JAY	**Jayapura**	**15.54**	**115**	P		**Pn**		**13 18 44.5**	**+0.2**
	838nm,1.4s,16µm								
STKI	**Sintang**	**15.62**	**256**	P		**P**		**13 18 50.4**	**+1.4**
	970nm,2.0s,36µm108µm								
KSM	**Kuching**	**16.47**	**261**	*e*P		**P**		**13 18 58.6**	**+0.2**
	2µm,1.5s								
KSM	**Kuching**	**16.47**	**261**	P		**P**		**13 19 00.6**	**+2.2**
KSM	**Kuching**	**16.47**	**261**	P		**P**		**13 19 00.4**	**+2.0**
	894nm,1.2s,19µm173µm								
KHKI	**Kahang-Kahang**	**16.51**	**222**	P		**P**		**13 19 00.2**	**+1.3**
	1µm,1.6s,16µm102µm								
KMMI	**Kalianget**	**16.76**	**229**	P		**P**		**13 19 02.8**	**+1.2**
	477nm,1.0s,17µm								
IGBI	**Denpasar**	**17.15**	**222**	P		**P**		**13 19 07.5**	**+1.5**
	456nm,1.3s,67µm								
BYJI	**Banyuwangi**	**17.26**	**225**	P		P		13 19 12.5	+5.3
	2µm,1.5s,36µm93µm								
BLJI	**Banyuglugur**	**17.49**	**228**	P		**P**		**13 19 11.0**	**+1.3**
	846nm,1.2s,15µm80µm								
JAGI	**Jajag, Banyuwa**	**17.58**	**225**	P		**P**		**13 19 12.9**	**+2.1**
	1µm,1.3s,20µm94µm								
GMJI	**Gumukmas**	**17.95**	**227**	P		**P**		**13 19 17.3**	**+2.5**
	537nm,1.0s,14µm99µm								
KRKI	**Karangkates**	**18.61**	**229**	P		**Pn**		**13 19 23.3**	**+0.7**
	1µm,0.9s,33µm								
SJI	**Sawahan**	**18.87**	**232**	P		**Pn**		**13 19 24.5**	**-1.4**
	680nm,1.4s,12µm76µm								
PWJI	**Pagerwojo**	**19.02**	**231**	P		**P**		**13 19 25.7**	**-0.9**
	427nm,1.0s,10µm								
TWG	**Pinlang**	**19.39**	**344**	*e*P		**P**		**13 19 29.1**	**-1.6**
	324nm,0.7s								
SMRI	**Semarang**	**19.54**	**236**	P		**Pn**		**13 19 34.8**	**+1.0**
	453nm,1.3s,21µm								
YULB	**Yu-li**	**19.88**	**346**	*e*P		**P**		**13 19 34.0**	**-2.0**
	210nm,0.6s								
UGM	**Wanagama**	**19.96**	**233**	*e*Pn		**Pn**		**13 19 40.1**	**+1.2**
	3µm,1.8s								
UGM	**Wanagama**	**19.96**	**233**	P		Pn		13 19 49.4	+11
TPUB	**Ta-pu**	**19.97**	**344**	*e*P		**P**		**13 19 35.9**	**-1.1**
	642nm,0.6s								
YOGI	**Yogyakarta**	**20.09**	**234**	P		Pn		13 19 40.3	0.0
	1µm,0.9s,20µm84µm								
TPI	**Tanjungpandan**	**20.10**	**251**	P		Pn		13 19 48.4	+7.9
SSLB	**Suanglung**	**20.35**	**345**	*e*P		**P**		**13 19 39.5**	**-1.6**
	409nm,0.8s								
GUMO	**Guam**	**20.37**	**61**	*e*P		**P**		**13 19 42.4**	**+1.0**
	2µm,1.6s								
GUMO				LR		LR			
	comp=Z,25µm,20.0s								
GUMO	**Guam**	**20.37**	**61**	P		Pn		13 19 43.7	+0.2
	comp=Z,388nm,1.0s,baz=191,slow=3.6,SNR=8.2								
TGJI	**Tegal**	**20.55**	**238**	P		Pn		13 19 44.1	-1.5
	comp=Z,524nm,1.4s,comp=Z,19µm								
NACB	**Ninganchiao**	**20.56**	**347**	*e*P		**P**		**13 19 44.1**	**+0.8**
	comp=Z,129nm,0.7s								
YHNB	**Yeheng**	**21.09**	**347**	*e*P		**P**		**13 19 48.7**	**-0.5**
	comp=Z,377nm,0.6s								
PPBI	**Pangkal Pinang**	**21.36**	**254**	P		**P**		**13 19 54.3**	**+2.2**
	comp=Z,381nm,1.7s,comp=Z,11µmcomp=Z,70µm								
TATO	**Taipei**	**21.36**	**347**	*e*P		**P**		**13 19 51.5**	**-0.4**
	comp=Z,208nm,0.8s								
HKC	**Hong Kong Obse**	**21.76**	**328**	⇑*i*P		**P**		**13 19 56.0**	**-0.2**
LEM	**Lembang**	**21.81**	**240**	P		**P**		**13 19 58.2**	**+1.1**
	comp=Z,992nm,1.0s,comp=Z,17µmcomp=Z,122µm								
CISI	**Cisompet, Garu**	**22.01**	**238**	P		**P**		**13 19 59.7**	**+0.6**
	comp=Z,733nm,1.0s,comp=Z,14µmcomp=Z,90µm								
FITZ	**Fitzroy Crossi**	**22.05**	**182**	*e*P		**P**		**13 19 56.7**	**-2.7**
	comp=Z,25nm,0.4s								
FITZ				S		S		**13 23 56.0**	**-4.9**
FITZ	**Fitzroy Crossi**	**22.05**	**182**	*e*P		**P**		**13 19 56.5**	**-2.9**
	comp=Z,445nm,0.9s								
FITZ				*e*S		S		13 23 49.4	-12
FITZ	**Fitzroy Crossi**	**22.05**	**182**	P		**P**		**13 19 58.3**	**-1.1**
	comp=Z,108nm,0.5s,baz=8.7,slow=10,SNR=47								
FITZ				S		**S**		**13 23 56.0**	**-4.9**
	comp=Z,121nm,0.9s,baz=142,slow=21,SNR=6.5								
QIZ	**Qiongzhong**	**22.11**	**314**	P		**P**		**13 20 01.1**	**+1.0**
QIZ				S		**S**		**13 24 06.4**	**+4.2**
QIZ				pmax		pmax			
	comp=Z,7µm,14.5s								
QIZ				LR		LR			
	comp=N,18µm,24.6s								
QIZ				LR		LR			
	comp=E,14µm,24.4s								
QIZ				LR		LR			
	comp=Z,50µm,28.1s								
QIZ	**Qiongzhong**	**22.11**	**314**	*e*P		**P**		**13 20 00.4**	**+0.3**
	comp=Z,343nm,1.1s								
QZH	**Quanzhou**	**22.14**	**340**	⇑*i*P		**P**		**13 20 01.3**	**+1.0**
QZH				S		**S**		**13 24 00.4**	**-2.1**
QZH				pmax		pmax			
	comp=Z,970nm,1.1s								
QZH				pmax		pmax			
	comp=Z,14µm,9.5s								
QZH				LR		LR			
	comp=N,125µm,21.0s								
QZH				LR		LR			
	comp=E,34µm,15.0s								
QZH				LR		LR			
	comp=Z,139µm,19.6s								
CBJI	**Citeko**	**22.29**	**242**	P		**P**		**13 20 03.3**	**+1.2**
	comp=Z,2µm,1.3s,comp=Z,36µm								
TNG	**Tangerang**	**22.36**	**243**	P		**P**		**13 20 05.3**	**+2.5**
	comp=Z,1µm,1.7s								
DBJI	**Dramaga**	**22.44**	**242**	P		**P**		**13 20 04.7**	**+1.0**
	comp=Z,625nm,1.4s,comp=Z,22µmcomp=Z,81µm								
JOW	**Kunigami**	**22.70**	**4**	*e*P		**P**		**13 20 06.8**	**+0.6**
	comp=Z,143nm,0.8s								
JOW	**Kunigami**	**22.70**	**4**	P		**P**		**13 20 06.8**	**+0.6**
	comp=Z,147nm,0.7s,baz=194,slow=9.3,SNR=25								
JOW				LR		LR		13 29 03.5	
	comp=Z,24µm,20.2s,baz=190,slow=37								
SBJI	**Serang**	**22.80**	**244**	P		**P**		**13 20 09.5**	**+2.0**
	comp=Z,1µm,1.8s,comp=Z,19µm								
MYKOM	**Kota Tinggi**	**22.82**	**265**	P		**P**		**13 20 09.8**	**+2.0**
MYKOM	**Kota Tinggi**	**22.82**	**265**	P		**P**		**13 20 09.1**	**+1.4**
	comp=Z,577nm,1.3s,comp=Z,16µmcomp=Z,120µm								
SKJI	**Sukabumi**	**22.82**	**241**	P		**P**		**13 20 10.4**	**+2.7**
	comp=Z,968nm,1.3s,comp=Z,16µm								
GZH	**Guangzhou**	**22.84**	**327**	P		**P**		**13 20 09.6**	**+1.8**
GZH				S		**S**		**13 24 17.8**	**+2.6**
GZH				LR		LR			
	comp=N,48µm,19.0s								
GZH				LR		LR			
	comp=E,58µm,19.1s								
PMBI	**Palembang**	**22.89**	**253**	P		P		13 20 12.6	+4.2
	comp=E,1µm,1.2s,comp=E,22µmcomp=E,104µm								
KGM	**Kluang**	**23.33**	**266**	P		**P**		**13 20 14.7**	**+1.8**
CGJI	**Cibinong**	**23.41**	**243**	P		**P**		**13 20 12.2**	**-1.4**
	comp=E,856nm,1.1s,comp=E,11µmcomp=E,60µm								
KASI	**Kota Agung**	**24.04**	**247**	P		**P**		**13 20 20.3**	**+0.7**
	comp=E,727nm,1.1s,comp=E,9µmcomp=E,57µm								
LWLI	**Liwa**	**24.25**	**248**	P		**P**		**13 20 23.1**	**+1.4**
	comp=E,678nm,1.3s,comp=E,14µm								
COEN	**Coen**	**24.32**	**138**	*e*P		**P**		**13 20 19.6**	**-2.6**
	comp=E,3µm,1.4s								
PMG	**Port Moresby**	**24.48**	**123**	*e*P		**P**		**13 20 20.1**	**-3.6**
	comp=E,603nm,1.4s								
PMG	**Port Moresby**	**24.48**	**123**	P		**P**		**13 20 20.8**	**-2.9**
	comp=E,253nm,1.5s,comp=E,10µm								
PMG	**Port Moresby**	**24.48**	**123**	P		**P**		**13 20 20.8**	**-2.9**
	comp=E,75nm,1.0s,baz=331,slow=8.2,SNR=38								
PMG				LR		LR		13 30 39.2	
	comp=E,27µm,19.9s,baz=167,slow=38								
RGRI	**Rengat**	**24.63**	**260**	P		P		13 20 32.7	+7.6
	comp=E,363nm,1.2s,comp=E,122µm								
FRIM	**Kepong**	**24.93**	**269**	P		**P**		**13 20 29.4**	**+1.6**
WRAB	**Tennant Creek**	**25.04**	**163**	*e*P		**P**		**13 20 26.5**	**-2.2**
WRAB				pmax		pmax			
	comp=Z,1µm,1.0s								
WRAB	**Tennant Creek**	**25.04**	**163**	*e*P		**P**		**13 20 26.5**	**-2.2**
	comp=Z,1µm,1.0s								
KSI	**Kapahiang**	**25.18**	**253**	P		**P**		**13 20 33.1**	**+3.0**
	comp=Z,581nm,1.8s,comp=Z,19µmcomp=Z,89µm								
XMIS	**Christmas Isla**	**25.37**	**235**	*e*P		**P**		**13 20 29.3**	**-2.5**
	comp=Z,1µm,0.6s								
IPM	**Ipoh**	**25.50**	**272**	*e*P		**P**		**13 20 32.9**	**-0.1**
	comp=Z,489nm,1.1s								
IPM	**Ipoh**	**25.50**	**272**	P		**P**		**13 20 34.2**	**+1.2**
IPM	**Ipoh**	**25.50**	**272**	P		**P**		**13 20 33.3**	**+0.3**
	comp=Z,454nm,1.8s,comp=Z,9µmcomp=Z,85µm								
BKNI	**Bangkinang**	**25.80**	**262**	P		**P**		**13 20 36.9**	**+1.2**
	comp=Z,880nm,1.2s,comp=Z,18µmcomp=Z,66µm								
KRJI	**Kerinci**	**25.85**	**257**	P		**P**		**13 20 38.5**	**+2.3**
	comp=Z,1µm,1.3s,comp=Z,25µm								
KULM	**Kulim**	**25.88**	**274**	*e*P		**P**		**13 20 35.9**	**-0.6**
	comp=Z,11nm,1.1s								
KULM				*ep*P		**pP**		**13 20 45.6**	**-0.2**
KULM				*es*P		**sP**		**13 20 49.1**	**-0.7**
KULM	**Kulim**	**25.88**	**274**	P		**P**		**13 20 37.7**	**+1.2**
KULM	**Kulim**	**25.88**	**274**	P		**P**		**13 20 36.9**	**+0.5**
	comp=Z,352nm,1.5s,comp=Z,7µm								
MBWA	**Marble Bar**	**25.96**	**195**	*e*P		**P**		**13 20 35.9**	**-1.0**
	comp=Z,657nm,1.2s								
MBWA	**Marble Bar**	**25.96**	**195**	*e*P		**P**		**13 20 35.6**	**-1.4**
MBWA	**Marble Bar**	**25.96**	**195**	P		**P**		**13 20 37.2**

comp=Z,307nm,1.7s,comp=Z,6µmcomp=Z,27µm
CTA Charters Tower 30.81 142 P P 13 21 19.3 -1.1
CTA Charters Tower 30.81 142 *e*P **P 13 21 19.3 -1.1**
comp=Z,124nm,1.2s
CTA Charters Tower 30.81 142 P **P 13 21 19.3 -1.1**
comp=Z,53nm,0.7s,baz=325,slow=11,SNR=30
CTAO Charters Tower 30.81 142 *e*P **P 13 21 19.2 -1.1**
CTAO pmax pmax
comp=Z,371nm,1.3s
CTAO MLR MLR
comp=Z,9µm,22.0s
CTAO Charters Tower 30.81 142 *e*P **P 13 21 19.2 -1.1**
comp=Z,370nm,1.3s
CTAO LR LR
comp=Z,9µm,22.0s
KMI Kunming 31.05 315 P **P 13 21 22.6 0.0**
KMI pP **pP 13 21 31.1 -1.0**
KMI sP **sP 13 21 34.6 -1.5**
KMI PP **PnPn 13 22 25.9 +1.4**
KMI S **S 13 26 23.4 -2.6**
KMI SS SS 13 28 08.4 -31
KMI pmax pmax
comp=Z,110nm,1.2s
KMI LR LR
comp=N,17µm,16.5s
KMI LR LR
comp=E,21µm,22.3s
KMI LR LR
comp=Z,40µm,20.6s
BSI Banda Aceh 31.22 274 P **P 13 21 23.1 -1.0**
comp=Z,181nm,0.8s,comp=Z,3µmcomp=Z,67µm
JHJ Hachijo jima 2 31.42 22 LR LR 13 32 46.5
comp=Z,24µm,20.0s,baz=207,slow=34
MEEK Meekatharra 31.48 194 *e*P **P 13 21 24.6 -1.6**
comp=Z,2µm,0.8s
TIA Tai'an 33.16 346 P **P 13 21 40.8 0.0**
TIA S **S 13 26 54.8 -3.5**
TIA pmax pmax
comp=Z,290nm,1.2s
TIA pmax pmax
comp=Z,5µm,6.5s
TIA LR LR
comp=N,10µm,32.1s
TIA LR LR
comp=E,26µm,32.1s
TIA LR LR
comp=Z,11µm,22.6s
KSAR Wonju Array Be 33.24 2 P **P 13 21 42.1 +0.7**
KSAR PcP **PcP 13 24 24.9 +1.4**
KSRS Korea Array 33.25 2 P **P 13 21 42.1 +0.6**
comp=Z,79nm,0.9s,baz=179,slow=10.0,SNR=68
KSRS PcP **PcP 13 24 24.9 +1.4**
comp=Z,48nm,0.8s,baz=193,slow=2.4,SNR=15
INCN Inchon 33.26 0 *e*P **P 13 21 42.9 +1.3**
comp=Z,106nm,0.7s
COCO West Island 33.70 241 PFAKE 13 22 00.0 +14
COCO LR LR
comp=Z,17µm,22.0s
MAJO Matsushiro 34.04 17 *e*P **P 13 21 46.8 -1.7**
MAJO pmax pmax
comp=Z,78nm,1.0s
MAJO MLR MLR
comp=Z,24µm,22.0s
MAJO Matsushiro 34.04 17 *e*P **P 13 21 46.8 -1.7**
comp=Z,78nm,1.0s
MAJO LR LR
comp=Z,24µm,22.0s
MAT Matsushiro 34.04 17 P **P 13 21 46.0 -2.5**
MAT S **S 13 27 16.0 +4.0**
MJAR Matsushiro Arr 34.04 17 P **P 13 21 46.6 -1.8**
MJAR PcP **PcP 13 24 27.2 +1.4**
MJAR Matsushiro Arr 34.04 17 P **P 13 21 46.6 -1.8**
comp=Z,33nm,1.1s,baz=189,slow=10,SNR=37
MJAR PcP **PcP 13 24 27.2 +1.4**
comp=Z,35nm,0.8s,baz=192,slow=3.8,SNR=7.7
XAN Xi'an 34.06 333 P **P 13 21 47.7 -1.0**
XAN sP **sP 13 22 03.0 +0.9**
XAN PP **PP 13 23 07.3 +1.1**
XAN S **S 13 27 14.7 +2.4**
XAN pmax pmax
comp=Z,230nm,1.2s
XAN LR LR
comp=N,26µm,17.9s
XAN LR LR
comp=E,6µm,25.9s
XAN LR LR
comp=Z,13µm,18.9s
CD2 Chengdu 34.29 324 ⇑P **P 13 21 50.9 +0.1**
CD2 pP **pP 13 22 00.6 +0.3**
CD2 sP **sP 13 22 04.5 +0.3**
CD2 PcP **PcP 13 24 26.0 -0.7**
CD2 S **S 13 27 16.0 -0.1**
CD2 sS **sS 13 27 32.0 +0.3**
CD2 PcS **PcS 13 28 11.3 -1.9**
CD2 SS **SnSn 13 29 27.7 +0.8**
CD2 pmax pmax
comp=Z,130nm,1.1s
CD2 pmax pmax
comp=Z,3µm,5.5s
CD2 LR LR
comp=N,18µm,19.6s
CD2 LR LR
comp=E,39µm,20.2s
CD2 LR LR
comp=Z,34µm,20.1s
FORT Forrest 34.68 178 *e*P **P 13 21 52.4 -1.6**
comp=Z,653nm,1.0s
FORT Forrest 34.68 178 *e*P **P 13 21 52.4 -1.6**
comp=Z,356nm,0.6s
DL2 Dalian 34.97 353 ⇑*i*P **P 13 21 58.1 +1.7**
DL2 S **S 13 27 29.2 +3.0**
DL2 pmax pmax
comp=Z,480nm,1.1s
DL2 pmax pmax
comp=Z,4µm,7.1s
DL2 LR LR
comp=E,12µm,18.4s
DL2 LR LR
comp=Z,11µm,20.6s
HNR Honiara 35.84 112 *e*P **P 13 22 04.8 +0.5**
comp=Z,239nm,1.0s
HNR Honiara 35.84 112 P **P 13 22 01.4 -2.8**
comp=Z,58nm,0.8s,baz=184,slow=13,SNR=5.0
HNR LR LR 13 35 55.0
comp=Z,18µm,20.4s,baz=287,slow=35
TIY Taiyuan 35.91 341 *e*P **P 13 22 04.7 +0.1**
TIY S **S 13 27 39.1 -1.7**
TIY LR LR
comp=N,16µm,17.5s
TIY LR LR
comp=E,13µm,17.8s
TIY LR LR
comp=Z,27µm,23.3s
KLBR Kellerberrin 36.45 193 *e*P **P 13 22 07.8 -1.4**
comp=Z,592nm,1.3s
BJT Baijiatuan 37.01 347 *e*P **P 13 22 14.1 +0.2**
comp=Z,430nm,0.6s
BJT LR LR
comp=Z,16µm,19.0s
BJI Beijing 37.03 347 P **P 13 22 14.3 +0.3**
BJI pP **pP 13 22 25.0 +1.4**
BJI sP **sP 13 22 26.7 -0.8**
BJI S **S 13 27 57.9 +0.3**
BJI sS **sS 13 28 13.3 -0.1**
BJI pmax pmax
comp=Z,150nm,0.7s
BJI pmax pmax
comp=Z,6µm,3.9s
BJI LR LR
comp=N,8µm,19.4s
BJI LR LR
comp=E,22µm,25.6s
BJI LR LR
comp=Z,10µm,22.1s
IMP Imphal 37.56 306 *e*PKP **P 13 22 17.0 -1.9**
IMP *ex* x 13 28 27.0
SNY Shenyang 37.69 356 ⇑P **P 13 22 20.5 +0.9**
SNY S **S 13 28 09.2 +1.5**
SNY pmax pmax
comp=Z,610nm,2.0s
SNY pmax pmax
comp=Z,10µm,6.2s
SNY LR LR
comp=N,11µm,19.6s
SNY LR LR
comp=E,7µm,17.2s
SNY LR LR
comp=Z,12µm,19.6s
EIDS Eidsvold 37.70 142 *e*P **P 13 22 18.3 -1.7**
comp=Z,404nm,0.8s
BBOO Buckleboo 37.76 167 *e*P **P 13 22 18.9 -1.4**
comp=Z,4µm,0.8s
NWAO Narrogin (SRO) 37.85 193 *e*P **P 13 22 20.3 -0.7**
comp=Z,353nm,1.2s
NWAO LR LR
comp=Z,9µm,21.0s
NWAO Narrogin (SRO) 37.85 193 P **P 13 22 21.3 +0.2**
SNR=14
NWAO Narrogin (SRO) 37.85 193 P **P 13 22 20.4 -0.7**
comp=Z,196nm,0.8s,baz=19,slow=8.8,SNR=44
LZH Lanzhou 38.15 330 ⇑P **P 13 22 24.0 +0.2**
LZH pP **pP 13 22 34.5 +1.1**
LZH sP **sP 13 22 39.0 +1.7**
LZH S **S 13 28 16.5 +1.4**
LZH sS **sS 13 28 32.0 +1.1**
LZH SS **SnSn 13 30 54.2 -6.0**
LZH pmax pmax
comp=Z,1µm,1.2s
LZH pmax pmax
comp=Z,4µm,4.0s
LZH LR LR
comp=N,65µm,20.0s
LZH LR LR
comp=E,34µm,19.6s
LZH LR LR
comp=Z,51µm,20.3s
STKA Stephens Creek 38.49 159 *e*P **P 13 22 25.3 -1.3**
comp=Z,67nm,0.8s
STKA Stephens Creek 38.49 159 *e*P **P 13 22 25.1 -1.4**
STKA *e*S **S 13 28 15.4 -4.6**
STKA Stephens Creek 38.49 159 P **P 13 22 25.6 -0.9**
comp=Z,193nm,0.7s,baz=335,slow=8.0,SNR=69
STKA LR LR 13 39 32.4
comp=Z,12µm,22.0s,baz=332,slow=38
HHC Hu-ho-hao-te 39.04 342 *i*P **P 13 22 31.3 +0.2**
HHC pP **pP 13 22 41.3 +0.6**
HHC sP **sP 13 22 45.1 +0.4**
HHC PP **PnPn 13 24 06.3 +2.7**
HHC S **ScP 13 28 27.7 +0.6**
HHC sS **sS 13 28 44.8 +0.7**
HHC SS **SS 13 31 15.4 -6.0**
HHC ScS **ScS 13 32 35.9 -2.5**
HHC pmax pmax
comp=Z,280nm,1.2s
HHC pmax pmax
comp=Z,4µm,7.8s
HHC LR LR
comp=N,19µm,21.4s
HHC LR LR
comp=E,20µm,17.8s
HHC LR LR
comp=Z,30µm,21.4s
VLA Vladivostok 39.17 6 ⇑*i*P **P 13 22 33.0 +0.9**
VLA *e*S **S 13 28 30.6 +0.6**
VLA pmax pmax
comp=Z,254nm,1.3s
BTO Baotou 39.32 340 *e*P **P 13 22 32.9 -0.6**
AGT Agartala 39.36 303 *e*PKP **P 13 22 34.0 +0.1**
AGT *ex* x 13 23 33.0
SHL Shillong 39.57 306 *i*P **P 13 22 35.0 -0.9**
SHL AMb AMB 13 22 49.1
comp=Z,749nm,1.8s
SHL *i*x x 13 28 30.0
SHL *i*SCS 13 32 40.0
CN2 Changchun 39.58 359 *e*P **P 13 22 35.4 -0.1**
CN2 *e*pP **pP 13 22 45.3 +0.2**
CN2 *e*PP **PnPn 13 24 11.4 +1.5**
CN2 PcP **PcP 13 24 42.8 +0.4**
CN2 *e*S **S 13 28 36.6 +0.4**
CN2 *e*SS **SS 13 31 26.4 -5.6**
CN2 LR LR
comp=N,9µm,21.0s
CN2 LR LR
comp=E,11µm,21.0s
CN2 LR LR
comp=Z,7µm,24.0s
USRK Ussuriysk Arra 40.25 6 P **P 13 22 42.2 +1.2**
comp=Z,61nm,0.7s,baz=192,slow=7.6,SNR=50
USRK PcP **PcP 13 24 47.3 +2.9**
comp=Z,16nm,0.6s,baz=219,slow=2.5,SNR=4.0
MDJ Mudanjiang 40.47 3 P **P 13 22 44.2 +1.3**
MDJ PP **PP 13 24 18.0 +1.5**
MDJ PcP **PcP 13 24 46.2 +1.0**
MDJ ScP **ScP 13 28 31.6 -0.8**
MDJ PcS **PcS 13 28 37.6 +1.9**
MDJ S **S 13 28 51.1 +1.6**
MDJ pmax pmax
comp=Z,280nm,1.0s
MDJ pmax pmax
comp=Z,4µm,7.0s
MDJ LR LR
comp=N,9µm,24.3s
MDJ LR LR
comp=E,11µm,27.8s
MDJ LR LR
comp=Z,10µm,22.2s
MDJ Mudanjiang 40.47 3 *e*P **P 13 22 43.6 +0.7**
comp=Z,269nm,0.9s
MDJ LR LR
comp=Z,13µm,19.0s
ERM Erimo 40.58 19 *e*P **P 13 22 44.6 +0.8**
ERM pmax pmax
comp=Z,100nm,0.9s
ERM MLR MLR
comp=Z,19µm,21.0s
ERM Erimo 40.58 19 *e*P **P 13 22 44.6 +0.8**
comp=Z,100nm,0.9s
ERM LR LR
comp=Z,19µm,21.0s
CAL Calcutta 41.33 300 *e*PKP **P 13 22 49.0 -1.2**
CAL AMb AMB 13 22 52.5
comp=Z,1µm,0.3s
CAL *ex* x 13 24 42.4
ARMA Armidale 41.82 147 *e*P **P 13 22 54.2 -0.1**
comp=Z,277nm,0.8s
ARMA Armidale 41.82 147 *e*P **P 13 22 53.8 -0.5**
ARMA *e*S **S 13 29 08.2 -1.9**
LSA Lhasa 42.12 311 P **P 13 22 58.3 +1.1**
LSA PP PcP 13 24 42.8 -8.7
LSA S S 13 29 05.3 -10
LSA sS sS 13 29 35.0 +3.9
LSA pmax pmax
comp=Z,100nm,0.8s
LSA pmax pmax
comp=Z,4µm,10.0s
LSA LR LR
comp=N,5µm,25.0s
LSA LR LR
comp=E,10µm,23.0s
LSA LR LR
comp=Z,17µm,25.0s
LSA Lhasa 42.12 311 *e*P **P 13 22 57.9 +0.7**
LSA pmax pmax
comp=Z,164nm,0.8s
LSA MLR MLR
comp=Z,19µm,22.0s
LSA Lhasa 42.12 311 *e*P **P 13 22 57.9 +0.7**
comp=Z,164nm,0.8s
LSA LR LR
comp=Z,19µm,22.0s
ASAJ Asahikawa 42.31 17 *e*P **P 13 22 58.4 +0.4**
comp=Z,81nm,0.9s
ASAJ Asahikawa 42.31 17 P **P 13 22 58.9 +0.9**
comp=Z,70nm,0.7s,baz=227,slow=14,SNR=42
ASAJ LR LR 13 42 01.4
comp=Z,21µm,18.8s,baz=213,slow=38
GTA Gaotai 42.74 329 ⇑P **P 13 23 01.5 -0.2**
GTA pP **pP 13 23 11.6 +0.2**
GTA sP **sP 13 23 15.0 -0.3**
GTA PP PcP 13 24 46.7 -6.3
GTA PcP PP 13 24 56.0 +15
GTA ScP **ScP 13 28 42.9 +1.2**
GTA S **S 13 29 23.6 +0.1**
GTA SS SS 13 32 28.5 -6.5
GTA ScS **ScS 13 32 59.8 -1.0**
GTA pmax pmax
comp=Z,130nm,1.5s
GTA pmax pmax
comp=Z,3µm,7.6s
GTA LR LR
comp=N,28µm,20.0s
GTA LR LR
comp=E,39µm,20.0s
GTA LR LR
comp=Z,52µm,21.4s
BWNR Bhubaneshwar 42.84 296 *e*PKP **P 13 23 01.0 -1.6**
YUK Yuzh-Kuril'sk 43.29 20 *c i*P P 13 23 01.2 -4.6
YUK *i*S S 13 29 25.1 -5.9
YUK *i*SS **SS 13 32 41.1 -4.2**
YUK pmax pmax
comp=Z,926nm,8.0s
YUK MLR MLR
comp=E,3µm,22.0s
YUK MLR MLR
comp=Z,13µm,22.0s
YUK MLR MLR
comp=N,3µm,22.0s
TAPN Taplejung 43.71 306 *e*P **P 13 23 09.8 -0.1**
TAPN Taplejung 43.71 306 *e*P **P 13 23 09.8 -0.1**
ODAN Odare 43.76 305 *e*P **P 13 23 10.3 0.0**
ODAN Odare 43.76 305 *e*P **P 13 23 10.3 0.0**
RAMN Ramite 44.45 305 *e*P **P 13 23 15.9 +0.1**
comp=N,2µm,1.6s
RAMN Ramite 44.45 305 *e*P **P 13 23 15.9 +0.1**
comp=N,2µm,1.6s
CAN Canberra 44.47 154 *e*P **P 13 23 16.0 +0.4**
CAN pmax pmax
comp=Z,481nm,1.0s
CAN MLR MLR
comp=Z,18µm,20.0s
CAN Canberra 44.47 154 *e*P **P 13 23 15.9 +0.4**
comp=Z,481nm,1.0s
CAN LR LR
comp=Z,18µm,20.0s
CAN Canberra 44.47 154 *e*P **P 13 23 15.7 +0.1**
comp=Z,203nm,0.8s
CAN *e*S S 13 29 40.8 -7.9
HABR Khabarovsk 44.83 8 *cε*P **P 13 23 18.7 +0.5**
HABR *e**PP **pP 13 23 28.0 +0.1**
HABR *e**SP **sP 13 23 31.9 +0.1**
HABR *e* 13 24 59.3
HABR *e* 13 25 01.9
HABR PPP PPP 13 25 39.9
HABR *e*S **S 13 29 54.1 +0.6**
HABR *e**SS **sS 13 30 08.7 -0.7**
HABR *e* 13 33 12.5
HABR *e*SSS SSS 13 33 58.6
HABR pmax pmax
comp=E,168nm,2.3s
HABR pmax pmax
comp=Z,668nm,2.3s
HABR pmax pmax
comp=N,295nm,2.3s
HABR pmax pmax
comp=Z,3µm,3.7s
HABR MLR MLR
comp=Z,9µm,18.0s
YSS Yuzh-Sakhalins 44.96 16 *αε*P **P 13 23 20.0 +0.8**
YSS *e* 13 23 32.0
YSS *e**SP sP 13 23 37.0 +4.2
YSS *e* 13 25 10.0
YSS *i*S **S 13 29 56.0 +0.7**
YSS pmax pmax
comp=N,90nm,1.2s
YSS pmax pmax
comp=Z,180nm,1.2s
YSS pmax pmax
comp=E,120nm,1.5s
YSS pmax pmax
comp=Z,3µm,7.0s
YSS smax smax
comp=N,2µm,14.0s
YSS smax smax
comp=E,2µm,13.0s
YSS MLR MLR
comp=Z,12µm,18.0s
YSS MLR MLR
comp=N,8µm,17.0s
YSS MLR MLR
comp=E,7µm,17.0s
YSS Yuzh-Sakhalins 44.96 16 *e*P **P 13 23 19.0 -0.2**
comp=E,186nm,0.8s
YSS LR LR
comp=Z,5µm,20.0s
TOO Toolangi 45.00 159 *e*P **P 13 23 19.3 -0.5**
comp=Z,1µm,1.4s
TOO *e*S **S 13 29 52.9 -3.4**
JIRN Jiri 45.06 306 *e*P **P 13 23 20.7 -0.2**
JIRN Jiri 45.06 306 *e*P **P 13 23 20.7 -0.2**
KLR Kul'dur 45.21 5 ||*i*P P 13 23 18.0 -3.2
KLR *e*S **S 13 29 54.5 -4.5**
KLR *e* 13 33 14.0
KLR pmax pmax
comp=N,80nm,1.6s
KLR pmax pmax
comp=Z,570nm,1.6s
KLR pmax pmax
comp=N,3µm,8.5s
KLR pmax pmax
comp=Z,6µm,8.5s
KLR MLR MLR
comp=E,12µm,19.5s
HIA Hailar 45.41 354 *e*P **P 13 23 23.5 +0.6**
comp=E,811nm,1.3s
HIA LR LR
comp=Z,19µm,20.0s
GUN Gumba 45.42 306 *e*P **P 13 23 23.6 -0.1**
comp=Z,855nm,0.7s
GUN Gumba 45.42 306 *e*P **P 13 23 23.6 -0.1**
comp=Z,855nm,0.7s
PKI Pulchoki 45.66 305 *e*P **P 13 23 24.7 -0.9**
PKI Pulchoki 45.66 305 *e*P **P 13 23 24.7 -0.9**
KKN Kakani 45.85 305 *e*P **P 13 23 26.3 -0.7**
KKN Kakani 45.85 305 *e*P **P 13 23 26.3 -0.7**
DMN Daman 45.93 305 *e*P **P 13 23 26.9 -0.7**
comp=Z,706nm,1.2s
DMN Daman 45.93 305 *e*P **P 13 23 26.9 -0.7**
comp=Z,706nm,1.2s
TARA Tarawa 46.35 92 *e*P **P 13 23 28.1 -2.7**
comp=Z,52nm,0.6s
GKN Gorkha 46.46 305 *e*P **P 13 23 30.8 -0.9**
GKN Gorkha 46.46 305 *e*P **P 13 23 30.8 -0.9**
NOUC Port Laguerre 46.74 126 *e*P **P 13 23 32.0 -1.7**
ULN Ulaanbaatar 46.76 342 *e*P **P 13 23 33.9 +0.2**
comp=Z,326nm,1.2s
ULN LR LR
comp=Z,23µm,21.0s
ULN Ulaanbaatar 46.76 342 P **P 13 23 34.2 +0.5**
SNR=82
DZM Mont Dzumac 46.84 125 *e*P **P 13 23 34.4 -0.2**
comp=Z,711nm,1.3s
DZM *e*S **S 13 30 26.0 +2.6**
comp=Z,22µm,29.5s
DZM *e*SS **SS 13 33 50.2 -0.2**
comp=Z,16µm,27.8s
DZM Mont Dzumac 46.84 125 *e*P **P 13 23 33.5 -1.1**
DZM Mont Dzumac 46.84 125 *e*P **P 13 23 34.4 -0.2**
comp=Z,248nm,0.8s
DZM Mont Dzumac 46.84 125 P **P 13 23 34.3 -0.2**
comp=Z,161nm,0.7s,baz=277,slow=3.7,SNR=58
SONM Songino Array 46.94 341 P **P 13 23 35.1 +0.1**
SONM PcP **PcP 13 25 09.9 +2.7**
SONM Songino Array 46.94 341 P **P 13 23 35.1 +0.1**
comp=Z,92nm,1.0s,baz=159,slow=6.9,SNR=93
SONM PcP **PcP 13 25 09.9 +2.7**
comp=Z,49nm,0.9s,baz=170,slow=3.8,SNR=4.5
SONM LR LR 13 44 22.7
comp=Z,20µm,21.7s,baz=154,slow=38
KOLN Koldanda 47.22 305 *e*P **P 13 23 37.3 -0.4**
comp=Z,581nm,0.7s
KOLN Koldanda 47.22 305 *e*P **P 13 23 37.3 -0.4**
comp=Z,581nm,0.7s
DANN Dangsing 47.31 305 *e*P **P 13 23 37.8 -0.7**
comp=Z,661nm,0.7s
DANN Dangsing 47.31 305 *e*P **P 13 23 37.8 -0.7**
comp=Z,661nm,0.7s
ALBI Allahabad 47.87 301 *ex* P 13 23 39.0 -3.5
HYB Hyderabad 48.87 290 ⇑*i*P **P 13 23 49.0 -1.4**
comp=Z,205nm,1.0s
HYB *ε*pP **pP 13 23 59.5 -0.7**
HYB *e* 13 25 15.0
HYB *e*PP **PP 13 25 44.0 +0.1**
HYB *e*S **S 13 30 50.0 -2.3**
HYB *e*ScS **ScS 13 33 39.0 -2.0**
HYB *e*SS SS 13 34 40.0 +17
HYB LR LR 13 38 02.0

comp=Z,18nm,22.0s
CIT Chita 49.01 349 *e*P **P** **13 23 52.2 +1.3**
CIT *e* 13 25 09.3
CIT pmax pmax
comp=Z,2μm,1.8s
NGP Nagpur 49.17 294 *e*PKP **P** **13 23 50.2 -2.4**
NGP AMb AMB 13 23 54.4
comp=Z,306nm,1.5s
MOO Moorlands 49.92 160 *e*P **P** **13 23 58.3 +0.4**
comp=Z,585nm,0.9s
ZAK Zakamensk 50.16 341 *e*P **P** **13 23 59.4 -0.4**
ZAK pmax pmax
comp=Z,46nm,1.4s
TAU Tasmania Unive 50.38 160 *e*P **P** **13 24 01.8 +0.4**
TAU pmax pmax
comp=Z,184nm,1.1s
TAU Tasmania Unive 50.38 160 *e*P **P** **13 24 01.8 +0.4**
comp=Z,184nm,1.1s
LGTI Lohaghat 50.58 305 *ex* P 13 24 05.9 +2.8
LGTI *ex* x 13 25 27.9
PTH Pithoragarh 50.64 305 *e*PKP **P** **13 24 02.5 -1.3**
PTH *ex* x 13 29 19.0
AKL Akola 50.93 293⇓ *i*P **P** **13 24 04.2 -1.7**
AKL AMb AMB 13 24 08.8
comp=Z,550nm,0.8s
AKL *i* S **S** **13 31 17.7 -3.1**
TLY Talaya 51.17 342 *c i*P **P** **13 24 07.7 +0.5**
TLY *e* 13 25 24.9
TLY *e* 13 26 01.5
TLY *e*S S 13 31 30.6 +7.4
TLY pmax pmax
comp=Z,188nm,0.9s
TLY MLR MLR
comp=Z,14μm,20.0s
TLY Talaya 51.17 342 *e*P **P** **13 24 08.1 +0.8**
comp=Z,212nm,1.0s
TLY Talaya 51.17 342 P **P** **13 24 08.2 +1.0**
SNR=84
IRK Irkutsk 51.47 343 *e*P **P** **13 24 10.3 +0.9**
IRK pmax pmax
comp=Z,755nm,2.1s
MNGI Mangalore 51.87 283 *ex* **ScP** **13 29 18.7 -1.6**
MNGI AMb AMB 13 29 22.6
comp=Z,273nm,0.7s
MNGI *ex* x 13 36 36.7
MOY Mondy 52.02 340 *e*P **P** **13 24 14.5 +0.8**
MOY pmax pmax
comp=Z,717nm,2.5s
WMQ Urumqi 52.37 325 P **P** **13 24 16.0 -0.4**
WMQ pP **pP** **13 24 26.0 -0.3**
WMQ sP **sP** **13 24 30.0 -0.1**
WMQ PcP **PcP** **13 25 26.0 -1.1**
WMQ PP **PP** **13 26 15.0 -0.3**
WMQ PcS **PcS** **13 29 22.0 -3.5**
WMQ S **S** **13 31 38.0 -2.1**
WMQ sS **sS** **13 31 59.0 +2.6**
WMQ ScS **ScS** **13 34 00.0 -4.1**
WMQ pmax pmax
comp=Z,130nm,2.0s
WMQ pmax pmax
comp=Z,3μm,4.4s
WMQ LR LR
comp=N,34μm,18.2s
WMQ LR LR
comp=E,21μm,20.4s
WMQ LR LR
comp=Z,29μm,21.5s
CLNS Chul'man 52.64 359 *e*P **P** **13 24 18.7 +0.6**
CLNS *e* 13 25 29.3
CLNS *e* 13 26 20.5
CLNS *e*S **S** **13 31 46.4 +3.1**
CLNS *e*SS **SS** **13 35 26.6 +4.6**
CLNS pmax pmax
comp=Z,133nm,1.1s
CLNS pmax pmax
comp=N,174nm,1.0s
CLNS pmax pmax
comp=E,78nm,1.0s
CLNS pmax pmax
comp=E,49nm,1.1s
CLNS pmax pmax
comp=N,73nm,1.1s
CLNS pmax pmax
comp=Z,44nm,1.3s
CLNS smax smax
comp=N,2μm,18.7s
CLNS smax smax
comp=E,2μm,15.4s
CLNS MLR MLR
comp=E,2μm,19.0s
CLNS MLR MLR
comp=N,2μm,23.0s
CLNS MLR MLR
comp=Z,3μm,20.0s
NDI New Delhi 52.82 303 *e*PKP P 13 24 16.0 -3.9
NDI *e*S **S** **13 31 43.0 -3.6**
KAD Karad 52.98 289 *e*PKP **P** **13 24 20.6 -0.7**
GOA Goa 53.09 286⇓ *i*P **P** **13 24 20.2 -1.8**
GOA *i* x 13 31 46.6
HMDM Hanimaadhoo 53.22 275 P **P** **13 24 24.3 +1.2**
comp=Z,260nm,0.8s,comp=Z,4μm
SMLA Simla 53.66 306 *i* P **P** **13 24 26.3 +0.3**
SMLA AMb AMB 13 24 30.1
comp=Z,3μm,0.4s
SMLA *i* S **S** **13 31 57.1 -0.8**
KAAM Kaadhehdhoo 53.66 268 P **P** **13 24 27.4 +1.1**
comp=Z,164nm,1.1s
FUNA Funafuti 53.93 104 *e*P **P** **13 24 25.8 -2.5**
comp=Z,387nm,1.3s
SDNR Sundarnagar 53.94 306 *e*PKP **P** **13 24 29.0 +0.9**
BHK Bhakra 54.36 306 *e*PKP **P** **13 24 31.2 0.0**
AJM Ajmer 54.39 300 *ex* **P** **13 24 29.0 -2.5**
PONG Pong 54.91 307 *e*PKP **P** **13 24 35.5 +0.4**
DLH Dalhousie 55.10 307 *e*PKP **P** **13 24 34.0 -2.8**
DLH *ex* x 13 24 56.0
PEA0B Petropavlovsk- 55.17 22 *e*P **P** **13 24 36.9 +0.3**
MSVF Nonsavu 55.18 115 *e*P **P** **13 24 37.0 -0.3**
MSVF pmax pmax
comp=Z,438nm,1.1s
MSVF MLR MLR
comp=Z,8μm,20.0s
MSVF Nonsavu 55.18 115 *e*P **P** **13 24 37.0 -0.3**
comp=Z,438nm,1.1s
MSVF LR LR
comp=Z,8μm,20.0s
DGAR Diego Garcia 55.21 258 *e*P **P** **13 24 35.0 -2.6**
DGAR pmax pmax
comp=Z,659nm,1.6s
DGAR MLR MLR
comp=Z,8μm,22.0s
DGAR Diego Garcia 55.21 258 *e*P **P** **13 24 35.0 -2.6**
comp=Z,659nm,1.6s
DGAR LR LR
comp=Z,8μm,22.0s
DGAR Diego Garcia 55.21 258 P **P** **13 24 36.2 -1.4**
SNR=7.1
THN Thein Dam 55.26 307 *e*PKP **P** **13 24 35.8 -1.8**
PET Petropavlovsk 55.47 23 *e*P **P** **13 24 38.4 -0.4**
PET *e*S **S** **13 32 21.5 0.0**
PET pmax pmax
comp=Z,3μm,5.3s
PET pmax pmax
comp=Z,140nm,1.4s
PET pmax pmax
comp=Z,2μm,10.7s
PET MLR MLR
comp=Z,9μm,19.0s
PET MLR MLR
comp=Z,8μm,19.0s
PET Petropavlovsk 55.47 23 *e*PN **pP** **13 24 47.9 -0.8**
PET pmax pmax
comp=Z,211nm,1.2s
PET MLR MLR
comp=Z,2μm,19.0s
PET MLR MLR
comp=Z,2μm,19.0s
MK31 Makanchi Array 57.20 325 *e*P **P** **13 24 50.9 -0.4**
MK31 pmax pmax
comp=Z,47nm,0.4s
MKAR Makanchi Array 57.20 325 P **P** **13 24 50.9 -0.4**
MKAR 13 25 45.9
MKAR pmax pmax
comp=Z,55nm,0.4s
MKAR pmax pmax
comp=Z,77nm,0.8s
MKAR pmax pmax
comp=N,9.0nm,0.7s
MKAR Makanchi Array 57.20 325 P **P** **13 24 50.9 -0.4**
MKAR PcP **PcP** **13 25 45.9 +0.3**
MKAR ScP **ScP** **13 29 46.2 +3.0**
MKAR *e* 14 02 04.7
MKAR Makanchi Array 57.20 325 P **P** **13 24 50.9 -0.4**
comp=N,55nm,0.4s,baz=121,slow=8.6,SNR=88
MKAR PcP **PcP** **13 25 45.9 +0.3**
comp=N,77nm,0.8s,baz=123,slow=3.8,SNR=4.1
MKAR ScP **ScP** **13 29 46.2 +3.0**
comp=N,8.8nm,0.7s,baz=119,slow=5.5,SNR=4.2
MKAR P4KPbc 14 02 04.7
comp=N,6.1nm,0.8s,baz=112,slow=4.8,SNR=17
KSH Kashi 57.71 315⇑ P **P** **13 24 56.0 +0.8**
KSH pP **pP** **13 25 06.8 +1.7**
KSH sP **sP** **13 25 09.7 +0.8**
KSH PcP **PcP** **13 25 48.9 +1.0**
KSH PP **PP** **13 27 06.5 +3.1**
KSH ScP **ScP** **13 29 44.8 -0.9**
KSH PcS **PcS** **13 29 47.6 -1.6**
KSH S **S** **13 32 51.8 -0.2**
KSH sS **sS** **13 33 08.1 -0.3**
KSH ScS **ScS** **13 34 40.3 -2.3**
KSH SS **SS** **13 36 44.5 +1.7**
KSH pmax pmax
comp=Z,260nm,1.2s
KSH LR LR
comp=N,10μm,16.5s
KSH LR LR
comp=E,14μm,16.9s
KSH LR LR
comp=Z,16μm,18.1s
YAK Yakutsk 57.88 2 *c i*P **P** **13 24 55.9 +0.2**
YAK *e**PP pP 13 25 09.9 +4.3
YAK *e* 13 25 47.2
YAK *e*S **S** **13 32 49.9 -3.2**
YAK *e**SS **sS** **13 33 08.3 -1.2**
YAK *e* 13 34 41.6
YAK *e*SS **SS** **13 36 42.0 -2.2**
YAK pmax pmax
comp=Z,425nm,0.9s
YAK pmax pmax
comp=N,300nm,1.3s
YAK pmax pmax
comp=E,92nm,1.2s
YAK pmax pmax
comp=Z,478nm,0.9s
YAK pmax pmax
comp=N,350nm,1.1s
YAK pmax pmax
comp=E,256nm,1.5s
YAK smax smax
comp=N,944nm,3.7s
YAK smax smax
comp=E,798nm,2.4s
YAK MLR MLR
comp=Z,10μm,19.0s
YAK MLR MLR
comp=E,4μm,17.0s
YAK MLR MLR
comp=N,9μm,18.0s
YAK Yakutsk 57.88 2 *e*P **P** **13 24 55.8 +0.1**
comp=N,578nm,0.8s
YAK LR LR
comp=Z,10μm,20.0s
MIDW Midway 58.34 59 PFAKE 13 25 10.0 +10
MIDW LR LR
comp=Z,7μm,21.0s
AAA Alma-Ata 58.67 319 *i* P **P** **13 25 03.7 +2.0**
AAA *i* S **S** **13 33 06.9 +2.6**
AAA pmax pmax
comp=Z,2μm,6.4s
AAA smax smax
comp=E,3μm,8.9s
AAA MLR MLR
comp=Z,17μm,19.0s
ULHL Ulahol 58.68 318 P **P** **13 25 01.7 -0.3**
SNR=59
OUZ Omahuta 58.90 136 *e*P **P** **13 25 05.6 +2.3**
comp=Z,191nm,1.2s
OUZ Omahuta 58.90 136 PN **P** **13 25 04.3 +0.9**
KZA Kyzart 59.27 317 P **P** **13 25 06.4 +0.1**
SNR=90
TKM2 Tokmak 2 59.41 318 *e*P **P** **13 25 06.4 -0.6**
TKM2 pmax pmax
comp=Z,328nm,1.2s
TKM2 MLR MLR
comp=Z,28μm,22.0s
TKM2 Tokmak 2 59.41 318 *e*P **P** **13 25 06.4 -0.6**
comp=Z,328nm,1.2s
TKM2 LR LR
comp=Z,28μm,22.0s
TKM2 Tokmak 2 59.41 318 P **P** **13 25 06.5 -0.5**
SNR=80
KBK Karagaybulak 59.72 318 P **P** **13 25 09.5 +0.3**
SNR=73
UCH Uchtor 59.84 317 P **P** **13 25 10.6 +0.3**
SNR=46
CHMS Chumysh 60.00 318 P **P** **13 25 10.6 -0.3**
SNR=39
AAK Ala-Archa 60.02 318 *e*P **P** **13 25 10.9 -0.3**
AAK pmax pmax
comp=Z,1μm,1.4s
AAK MLR MLR
comp=Z,18μm,21.0s
AAK Ala-Archa 60.02 318 *e*P **P** **13 25 10.9 -0.3**
comp=Z,308nm,1.4s
AAK ⇑*e* 13 54 46.4
AAK *e* 14 02 18.0
AAK LR LR
comp=Z,16μm,21.0s
AAK Ala-Archa 60.02 318 P **P** **13 25 11.4 +0.2**
SNR=96
AAK Ala-Archa 60.02 318 P **P** **13 25 11.6 +0.4**
SNR=64
AAK Ala-Archa 60.02 318 P **P** **13 25 10.8 -0.3**
comp=Z,51nm,0.9s,baz=102,slow=6.7,SNR=66
AAK PKP2bc 13 54 46.4
comp=Z,4.1nm,1.0s,baz=222,slow=8.7,SNR=4.7
AAK P4KPbc 14 02 18.0
comp=Z,3.5nm,1.0s,baz=103,slow=4.1,SNR=6.6
FRU Bishkek 60.02 318 *e*P **P** **13 25 10.0 -1.0**
FRU pmax pmax
comp=Z,970nm,2.5s
FRU MLR MLR
comp=E,22μm,22.0s
ZAA0 Zalesovo Array 60.23 333 *e*P **P** **13 25 10.9 -1.3**
ZALV Zalesovo Beam 60.23 333 P **P** **13 25 10.9 -1.2**
ZALV pmax pmax
comp=Z,41nm,0.4s
ZALV MLR MLR
comp=Z,11μm,18.5s
ZALV Zalesovo Beam 60.23 333 P **P** **13 25 10.9 -1.2**
ZALV ⇑*e* 13 54 45.1
ZALV Zalesovo Beam 60.23 333 P **P** **13 25 10.9 -1.2**
comp=Z,41nm,0.4s,baz=132,slow=6.6,SNR=82
ZALV LR LR 13 53 03.1
comp=Z,11μm,18.5s,baz=132,slow=38
ZALV PKP2bc 13 54 45.1
comp=Z,9.2nm,1.1s,baz=293,slow=4.5,SNR=5.5
USP Ospenovka 60.28 318 P **P** **13 25 12.8 0.0**
SNR=81
AML Almayashu 60.35 317 P **P** **13 25 14.4 +0.6**
SNR=100
EKS2 Erkin-Say 60.51 318 *e*P **P** **13 25 14.3 -0.2**
EKS2 pmax pmax
comp=Z,339nm,1.3s
EKS2 MLR MLR
comp=Z,39μm,22.0s
EKS2 Erkin-Say 60.51 318 *e*P **P** **13 25 14.3 -0.2**
comp=Z,339nm,1.3s
EKS2 LR LR
comp=Z,39μm,22.0s
EKS2 Erkin-Say 60.51 318 P **P** **13 25 14.4 -0.1**
SNR=114
MSZ Milford Sound 60.98 147 PN **P** **13 25 17.5 0.0**
JCZ Jackson Bay 61.05 146 PN **P** **13 25 17.8 -0.3**
FOZ Fox Glacier 61.24 145 *e*PN **P** **13 25 21.1 +1.9**
KURBB Kurchatov Arra 61.38 327 P **P** **13 25 19.4 -0.7**
comp=Z,150nm,0.9s,baz=124,slow=6.1,SNR=86
KURBB PKP2bc 13 54 43.4
comp=Z,3.7nm,0.9s,baz=288,slow=3.5,SNR=5.9
KURBB P4KPbc 14 02 22.7
comp=Z,1.8nm,0.8s,baz=122,slow=3.5,SNR=6.8
KURK Kurchatov 61.38 327 P **P** **13 25 19.4 -0.7**
KURK pmax pmax
comp=Z,150nm,0.9s
KURK Kurchatov 61.38 327 P **P** **13 25 19.4 -0.7**
KURK ⇑*e* 13 54 43.4
KURK *e* 14 02 22.7
KURK LR LR
comp=Z,7μm,19.0s
KURK Kurchatov 61.38 327 P **P** **13 25 19.8 -0.3**
SNR=83
NVS Novosibirsk 61.51 333 *e*P **P** **13 25 19.5 -1.3**
NVS *e*S **S** **13 33 35.6 -4.5**
NVS *e* 13 35 04.8
NVS pmax pmax
comp=Z,583nm,2.0s
NVS pmax pmax
comp=N,239nm,1.9s
NVS pmax pmax
comp=E,233nm,1.9s
NVS pmax pmax
comp=Z,166nm,2.1s
NVS pmax pmax
comp=N,104nm,2.2s
NVS smax smax
comp=N,88nm,2.0s
NVS smax smax
comp=E,200nm,2.0s
WVZ Waitaha Valley 61.54 145 PN **P** **13 25 22.1 +0.9**
WKZ Wanaka 61.68 147 PN **P** **13 25 21.7 -0.5**
SEY Seymchan 61.74 13 *ce*P **P** **13 25 23.4 +1.2**
WHZ Wether Hill Ro 61.80 148 *e*P **P** **13 25 22.6 -0.4**
FX1 Attu Island--F 61.86 30 *e*P **P** **13 25 23.6 +0.4**
FX1 Attu Island--F 61.86 30 P **P** **13 25 23.6 +0.4**
comp=E,65nm,0.7s,baz=348,slow=1.5,SNR=15
NNZ Nelson 62.03 141 PN **P** **13 25 25.0 +0.5**
LBZ Lake Benmore 62.04 146 PN **P** **13 25 23.6 -1.0**
RPZ Rata Peaks 62.11 145 *e*P **P** **13 25 25.0 -0.1**
comp=E,2μm,2.2s
RPZ Rata Peaks 62.11 145 PN **P** **13 25 24.5 -0.7**
LTZ Lake Taylor 62.26 143 PN **P** **13 25 26.1 -0.1**
HLRZ Highlands Stat 62.36 137 PN **P** 13 25 30.1 +3.2
ODZ Otahua Downs 62.71 146 *e*P **P** **13 25 30.4 +1.4**
comp=E,275nm,1.6s
TUZ Tuapeka 62.73 148 PN **P** **13 25 29.3 +0.1**
KHZ Kahutara 62.81 143 *e*P **P** **13 25 29.8 0.0**
comp=E,124nm,0.9s
URZ Urewera 62.88 137 *e*P **P** **13 25 30.0 -0.3**
comp=E,186nm,1.0s
URZ Urewera 62.88 137 PN **P** **13 25 29.1 -1.2**
KK31 Karatay Array 62.89 317 *i* P **P** **13 25 29.1 -1.3**
KK31 pmax pmax
comp=Z,260nm,1.0s
KKAR Karatay Array 62.89 317 *e*P **P** **13 25 30.1 -0.3**
KKAR Karatay Array 62.89 317 *e*P **P** **13 25 30.1 -0.3**
SNZO South Karori 62.91 141 *e*P **P** **13 25 30.7 +0.3**
comp=Z,563nm,1.6s
BKZ Black Stump Fm 62.92 138 PN **P** **13 25 29.5 -1.2**
RAHZ Arahi 63.19 138 PN **P** **13 25 32.1 -0.4**
AFI Afiamalu 63.68 108 P **P** **13 25 35.8 -0.3**
AFI Afiamalu 63.68 108 P **P** **13 25 35.8 -0.3**
comp=Z,166nm,1.1s,baz=224,slow=0.5,SNR=30
AFI LR LR 13 50 02.8
comp=Z,7μm,20.3s,baz=276,slow=33
CNGZ Carnagh Statio 63.74 137 PN **P** **13 25 35.3 -0.7**
MCQ Macquarie Isla 64.26 160 *e*P **P** **13 25 40.7 +1.6**
MCQ Macquarie Isla 64.26 160 *e*P **P** **13 25 40.7 +1.6**
MCQ Macquarie Isla 64.26 160 *e*P **P** **13 25 40.2 +1.1**
comp=Z,18μm,1.0s
BVA0 Borovoye Array 66.97 327 *i* P **P** **13 25 55.5 -1.2**
BVA0 pmax pmax
comp=Z,52nm,1.1s
BVAR Borovoye Array 66.97 327 P **P** **13 25 56.5 -0.2**
BVAR pmax pmax
comp=Z,190nm,0.9s
BVAR MLR MLR
comp=Z,11μm,19.5s
BVAR Borovoye Array 66.97 327 P **P** **13 25 56.5 -0.2**
BVAR *e* 14 02 47.3
BVAR Borovoye Array 66.97 327 P **P** **13 25 56.5 -0.2**
comp=Z,190nm,0.9s,baz=135,slow=10.0,SNR=53
BVAR LR LR 13 56 58.5
comp=Z,11μm,19.4s,baz=122,slow=38
BVAR P4KPbc 14 02 47.3
comp=Z,3.4nm,0.9s,baz=122,slow=5.4,SNR=7.8
BRVK Borovoye 67.04 327 *ce*P **P** **13 25 56.3 -0.8**
BRVK pmax pmax
comp=Z,344nm,1.0s
BRVK Borovoye 67.04 327 *e*P **P** **13 25 56.4 -0.7**
comp=Z,319nm,1.0s
BRVK LR LR
comp=Z,14μm,21.0s
BRVK Borovoye 67.04 327 P **P** **13 25 56.8 -0.3**
SNR=78
WBK Wadi Bani Khal 67.80 293⇓ P **P** **13 26 00.8 -1.8**
SNR=8.0
IDAH Dahanechah 68.28 304 *e*P **P** **13 26 05.8 +0.1**
JMDO Jabal Madar 68.58 292⇓ P **P** **13 26 06.0 -1.4**
SNR=17
SMDO Samad 68.68 293⇑ P **P** **13 26 06.1 -2.1**
SNR=6.9
IMYA Miami 68.73 307 *e*P **P** **13 26 07.8 -0.5**
IKOO Kooshah 68.95 303 *e*P **P** **13 26 09.8 -0.1**
ISRO Mashad 69.22 307 *e*P **P** **13 26 10.7 -0.6**
ITEG Tejag 69.23 304 *e*P **P** **13 26 11.1 -0.5**
BILL Bilibino 69.27 15⇑ *e*P **P** **13 26 10.2 -0.6**
BILL *e* 13 28 45.0
BILL *i* S S 13 35 06.7 -8.0
BILL pmax pmax
comp=Z,134nm,2.5s
BILL MLR MLR
comp=Z,9μm,21.0s
BILL Bilibino 69.27 15 *e*P **P** **13 26 10.2 -0.6**
comp=Z,74nm,1.1s
BILL LR LR
comp=Z,9μm,21.0s
IMOG Moghan 69.29 307 *e*P **P** **13 26 11.4 -0.6**
HOQ Hoqain 69.40 294⇑ P **P** **13 26 11.2 -1.3**
SNR=9.6
BSY Bisya 69.44 293 P **P** **13 26 11.9 -0.9**
SNR=14
IPAY Payeh 69.62 307 *e*P **P** **13 26 14.1 +0.1**
IKRD Kardeh 70.06 308 *e*P **P** 13 26 11.5 -5.2
ARQ Araqi 70.11 293 P **P** **13 26 18.3 +1.4**
SNR=8.1
IBND Bandar-abas 70.44 298 *e*P **P** **13 26 19.6 +0.7**
HATD Hatta, Dubai 70.58 295 P **P** **13 26 19.8 +0.1**
SNR=5.6
ABKT Ailbek 70.58 309 P **P** **13 26 20.7 +1.1**
comp=Z,926nm,1.1s,SNR=26
ASHO Ashiyiah 70.63 295 P **P** **13 26 19.7 -0.4**
SNR=6.1
CASY Casey 71.13 187 *e*P **P** **13 26 22.6 +0.4**
comp=Z,1μm,2.5s
CASY LR LR
comp=Z,4μm,20.0s
CASY Casey 71.13 187 *e*P **P** **13 26 22.4 +0.2**
MSEY Mahe Island 71.57 264 *e*P **P** **13 26 25.4 -0.6**
comp=Z,96nm,1.4s
MSEY LR LR
comp=Z,11μm,22.0s
MSEY Mahe Island 71.57 264 P **P** **13 26 26.0 0.0**
SNR=6.4
IBAF Bafgh 71.73 302 *e*P **P** **13 26 25.9 -0.9**
AB31 Akbulak array 71.80 321 *i* P **P** **13 26 25.7 -1.0**
AB31 pmax pmax
comp=Z,25nm,0.4s
ABKAR Akbulak array 71.80 321 *e*P **P** **13 26 25.7 -1.0**
comp=Z,48nm,0.8s
MRIV Mauritius Mete 71.95 247 *e*P **P** **13 26 28.6 +0.5**
RBK Rabkut 72.00 287 P **P** **13 26 27.2 -1.3**
SNR=18
PAF Port-aux-Franc 72.07 215 PFAKE 13 26 40.0 +12
PAF LR LR
comp=Z,7μm,20.0s
IMEH Mehriz 72.52 302 *e*P **P** **13 26 29.1 -2.5**
ICHK Chekchek 72.78 302 *e*P **P** **13 26 32.4 -0.8**
ABTO Aybut 72.86 287 P **P** **13 26 32.4 -1.3**
SNR=27
UNV Unalaska Valle 73.23 35 *e*P **P** **13 26 37.8 +2.8**
comp=Z,228nm,1.0s
AKTO Aktyubinsk 73.31 322 P **P** **13 26 34.9 -0.7**
AKTO pmax pmax
comp=Z,74nm,1.2s
AKTO Aktyubinsk 73.31 322 P **P** **13 26 35.2 -0.4**
AKTO Aktyubinsk 73.31 322 P **P** **13 26 35.2 -0.4**
comp=Z,160nm,0.9s,baz=103,slow=8.6,SNR=69

IANJ	Anjilo	73.55	306	*e*P		P	13 26 37.0	-0.7	
SVE	Sverdlovsk	73.60	328⇑	*i*P		P	13 26 37.3	+0.1	
SVE				*e*S		S	13 36 05.6	+0.4	
SVE				*e*SS		SS	13 40 44.3	-4.3	
SVE				pmax	pmax				
	comp=Z,222nm,0.9s								
SVE				MLR	MLR				
	comp=Z,10µm,20.0s								
ISRV	Sarvestan	73.62	299	*e*P		P	13 26 37.5	-0.8	
IPAR	Pars	73.72	300	*e*P		P	13 26 37.9	-0.9	
AKUT	Akutan	73.72	35	*e*P		P	13 26 40.3	+2.4	
	comp=Z,578nm,1.2s								
GAMB	Gambell	74.15	24	*e*P		P	13 26 41.1	+0.9	
	comp=Z,164nm,1.0s								
ILAS	Lasjerd	74.32	305	*e*P		P	13 26 41.2	-1.0	
MIR	Mirnyy	74.45	193⇑	*i*P		P	13 26 42.0	+0.1	
MIR				*e*			13 26 53.0		
MIR				*e*S		S	13 36 12.0	-2.2	
MIR				*e*PS		PnS	13 36 50.0	-1.5	
MIR				pmax	pmax				
	comp=Z,354nm,1.6s								
MIR				pmax	pmax				
	comp=Z,2µm,6.0s								
MIR				smax	smax				
	comp=N,2µm,6.0s								
MIR				smax	smax				
	comp=E,2µm,8.0s								
MIR				MLR	MLR				
	comp=N,2µm,21.0s								
MIR				MLR	MLR				
	comp=E,3µm,21.0s								
MIR				MLR	MLR				
	comp=Z,5µm,21.0s								
IFIR	Firoozkooh	74.51	306	*e*P		P	13 26 42.8	-0.5	
ARU	Arti	74.58	328*c*	*i*P		P	13 26 41.5	-1.4	
ARU							13 29 26.4		
ARU				PPP	PPP		13 31 15.0		
ARU				S	S		13 36 14.9	-1.3	
ARU				pmax	pmax				
	comp=Z,369nm,2.5s								
ARU				MLR	MLR				
	comp=Z,11µm,23.0s								
ARU	Arti	74.58	328	*e*P		P	13 26 41.7	-1.2	
	comp=Z,159nm,0.8s								
ARU				LR	LR				
	comp=Z,10µm,22.0s								
ARU	Arti	74.58	328	P		P	13 26 42.5	-0.4	
	comp=Z,1µm,0.7s,SNR=52								
IZEF	Zefreh	74.59	303	*e*P		P	13 26 43.0	-0.8	
IGAR	Gharneh	74.79	302	*e*P		P	13 26 43.9	-1.1	
KIP	Kipapa	74.93	69	*e*P		P	13 26 46.5	+0.8	
KIP				pmax	pmax				
	comp=Z,122nm,1.0s								
KIP				MLR	MLR				
	comp=Z,8µm,20.0s								
KIP	Kipapa	74.93	69	*e*P		P	13 26 46.5	+0.8	
	comp=Z,122nm,1.0s								
KIP				LR	LR				
	comp=Z,8µm,20.0s								
HON	Honolulu	74.94	69	*e*P		P	13 26 47.3	+1.6	
HON	Honolulu	74.94	69	*e*P		P	13 26 47.3	+1.6	
OPA	Opana	74.94	69	*e*P		P	13 26 55.5	+10	
OPA	Opana	74.94	69	*e*pP		P	13 26 55.5	+10	
IDMV	Damavand	75.09	306	*e*P		P	13 26 45.8	-0.9	
IKLH	Kolahrood	75.26	303	*e*P		P	13 26 47.6	-0.1	
IPIR	Pirpir	75.78	303	*e*P		P	13 26 50.3	-0.4	
XMAS	Kiritimati	75.86	89	PFAKE			13 27 00.0	+8.9	
XMAS				LR	LR				
	comp=Z,10µm,21.0s								
RAR	Rarotonga	76.30	113	P		P	13 26 52.6	-0.9	
	comp=Z,119nm,1.1s								
RAR	Rarotonga	76.30	113	LR	LR		13 57 10.1		
	comp=Z,3µm,20.9s,baz=280,slow=33								
TNA	Tin City	76.33	23	*e*P		P	13 26 53.3	+0.5	
	comp=Z,36nm,0.9s								
SOKR	Solikamsk	76.35	331*c*	*i*P		P	13 26 52.9	-0.1	
SOKR				S		S	13 36 34.6	-1.0	
SOKR				pmax	pmax				
	comp=Z,240nm,1.5s								
SOKR				MLR	MLR				
	comp=Z,6µm,13.0s								
IRAZ	Razeghan	76.78	305	*e*P		P	13 26 55.2	-1.1	
MUKL	Al Mukalla	76.96	284	*e*P		P	13 26 56.8	-0.5	
SDPT	Sand Point	76.99	34	*e*P		P	13 26 56.6	-0.1	
	comp=Z,407nm,0.7s								
POHA	Pohakuloa	77.23	71	*e*P		P	13 27 02.5	+3.5	
	comp=Z,306nm,1.4s								
PUH	Pauahi	77.53	71	*e*P		P	13 27 00.9	+0.3	
QRN	Al-Qurain	78.13	298	*e*P		P	13 27 02.4	-1.2	
QRN				AMb	AMB		13 27 06.0		
	comp=Z,439nm,0.6s								
UMR	Umm Al-Rimmam	78.33	299	*e*P		P	13 27 02.9	-1.9	
UMR				AMb	AMB		13 27 07.2		
	comp=Z,420nm,1.2s								
KBD	Kabd	78.34	299	*e*P		P	13 27 03.1	-1.7	
KBD				AMb	AMB		13 27 07.2		
	comp=Z,216nm,0.9s								
RDF	Al-Radifah	78.46	299	*e*P		P	13 27 03.7	-1.7	
RDF				AMb	AMB		13 27 08.5		
	comp=Z,415nm,1.0s								
MIB	Mutribah	78.67	299	*e*P		P	13 27 04.6	-2.0	
MIB				AMb	AMB		13 27 09.0		
	comp=Z,566nm,0.8s								
NAY	Al-Naaiem	78.73	299	*e*P		P	13 27 04.6	-2.4	
NAY				AMb	AMB		13 27 09.3		
	comp=Z,254nm,1.0s								
MAK	Makhachkala	79.25	313	*e*P		P	13 27 10.1	+0.6	
MAK				*i*			13 27 20.6		
MAK				*e*			13 30 05.9		
MAK				*e*PPP	PPP		13 32 06.0		
MAK				*e*S	S		13 36 59.2	-8.4	
MAK				*e*			13 37 24.5		
MAK				*e*SS	SS		13 42 09.0	-5.6	
MAK				*e*SSS	SSS		13 45 38.9		
MAK				pmax	pmax				
	comp=Z,108nm,0.8s								
IDHR	Dehrash	79.65	304	*e*P		P	13 27 11.0	-1.1	
BDHA	Al Bayda'	80.33	283	*e*P		P	13 27 15.7	-0.5	
SVW2	Sparrevohn	80.58	29	*e*P		P	13 27 17.1	+0.8	
	comp=Z,61nm,1.0s								
LBOS		80.64	283	*e*P		P	13 27 17.5	-0.4	
LBOS				AMb	AMB		13 27 18.4		
	comp=Z,375nm,1.3s								
DGRG	David-gareji	80.74	311	P		P	13 27 19.2	+1.5	
GNI	Garni	81.16	310	*e*P		P	13 27 14.0	-6.1	
GNI	Garni	81.16	310	*e*P		P	13 27 20.6	+0.4	
	comp=Z,154nm,1.1s								
GNI	Garni	81.16	310	P		P	13 27 19.2	-0.9	
	comp=Z,5.7nm,0.6s,baz=216,slow=17,SNR=14								
TBLG	Delisi	81.23	311	P		P	13 27 19.8	-0.5	
TBLG	Delisi	81.23	311	P		P	13 27 19.8	-0.5	
BHD	Baghdad	81.27	303	*i* x		P	13 27 17.5	-3.1	
BHD				*i* x		S	13 37 22.0	-7.2	
OPO	Ambohidratompo	81.28	251	P		P	13 27 20.5	-0.6	
OPO	Ambohidratompo	81.28	251	P		P	13 27 20.5	-0.6	
	comp=Z,32nm,0.7s,baz=63,slow=3.9,SNR=24								
ABPO	Ambohimpanom	81.30	250	*e*P		P	13 27 20.3	-0.9	
ABPO				pmax	pmax				
	comp=Z,105nm,1.0s								
ABPO				MLR	MLR				
	comp=Z,3µm,21.0s								
ABPO	Ambohimpanom	81.30	250	*e*P		P	13 27 20.3	-0.9	
	comp=Z,105nm,1.0s								
ABPO				LR	LR				
	comp=Z,3µm,21.0s								
DHBB	Dhamar BB	81.45	284	*e*P		P	13 27 21.8	-0.5	
DHBB				AMb	AMB		13 27 24.6		
	comp=Z,730nm,1.3s								
KDAK	Kodiak Island	81.68	32	*e*P		P	13 27 23.1	+0.9	
	comp=Z,493nm,1.5s								
KDAK	Kodiak Island	81.68	32	P		P	13 27 22.9	+0.7	
	comp=Z,72nm,0.7s,baz=266,slow=2.8,SNR=30								
KDAK				LR	LR		14 00 19.5		
	comp=Z,6µm,21.7s,baz=256,slow=33								
GOR	Gori	81.71	312	P		P	13 27 23.6	+0.7	
TRBA	At Turbah	81.77	283	*e*P		P	13 27 23.4	-0.5	
CLDR	Caldiran	81.77	309	*e*P		P	13 27 13.0	-10	
RSO	Redoubt South	81.87	30	*e*P		P	13 27 25.1	+1.7	
ZEI	Tsey	81.89	312	*e*P		P	13 27 23.6	-0.4	
ZEI				pmax	pmax				
	comp=Z,126nm,1.0s								
HAKT	HAKKARI	81.90	307	*i* P		P	13 27 23.4	-0.8	
DYDN	Diyadin	81.95	309	*i* P		P	13 27 24.3	-0.1	
CUKT	Cukurca	81.97	307	*e*P		P	13 27 13.0	-11	
VANB	Van	82.17	308	*e*P		P	13 27 23.3	-2.1	
SPU	Mount Spurr	82.28	29	*e*P		P	13 27 25.5	+0.1	
KARS	Kars	82.45	310	*e*P		P	13 27 23.3	-3.6	
AGRB	Hanur-Agry	82.49	309	*e*P		P	13 27 27.8	+0.6	
TUTA	Tutak	82.63	309	*i* P		P	13 27 28.1	+0.1	
KIV	Kislovodsk	82.81	314*c*	*i*P		P	13 27 29.0	+0.4	
KIV				*e*			13 30 40.6		
KIV				*e*PPP	PPP		13 32 31.6		
KIV				*e*S		S	13 37 45.7	+0.8	
KIV				*e*SS		SS	13 43 05.7	-2.1	
KIV				pmax	pmax				
	comp=Z,83nm,0.9s								
KIV				pmax	pmax				
	comp=Z,2µm,5.2s								
KIV				MLR	MLR				
	comp=Z,7µm,19.0s								
KIV	Kislovodsk	82.81	314	*e*P		P	13 27 28.4	-0.2	
KIV				LR	LR				
	comp=Z,7µm,21.0s								
KIV	Kislovodsk	82.81	314	P		P	13 27 28.9	+0.3	
	SNR=18								
SIRN	S¯¯rnak	82.93	307	*i* P		P	13 27 29.4	0.0	
TATV	Tatvan	83.05	308	*i* P		P	13 27 29.8	-0.3	
ATD	Arta Tunnel	83.08	281	P		P	13 27 30.8	+0.3	
ATD	Arta Tunnel	83.08	281	P		P	13 27 30.8	+0.3	
	comp=Z,47nm,0.9s,baz=92,slow=2.6,SNR=18								
SLKM	Skilak Lake	83.12	30	*e*P		P	13 27 29.7	-0.1	
SLKM	Skilak Lake	83.12	30	*e*P		P	13 27 29.7	-0.1	
TRF	Thorofare Moun	83.30	27	*e*P		P	13 27 30.7	-0.1	
ARTV	Artvin	83.33	311	*i* P		P	13 27 30.8	-0.7	
DAGI	Agillar	83.33	311	*i* P		P	13 27 28.8	-2.6	
HOMI	Horasan	83.34	310	*i* P		P	13 27 31.2	-0.4	
RC01	Rabbit Creek A	83.40	29	*e*P		P	13 27 30.8	-0.3	
DDEM	Demirkent	83.46	311	*i* P		P	13 27 31.2	-0.9	
SEW	Seward	83.48	30	*e*P		P	13 27 32.2	+0.6	
DBOC	Borcka	83.52	311	*i* P		P	13 27 31.0	-1.3	
BCA	Borcka	83.56	311	*e*P		P	13 27 29.0	-3.4	
COLD	Coldfoot	83.64	23	*e*P		P	13 27 33.6	+1.3	
VRTB	Varto-Mus	83.68	309	*e*P		P	13 27 23.3	-10	
VRHR	Novokhopersk	83.69	321	*e*P		P	13 27 31.1	-1.7	
VRHR				*e*S		S	13 37 43.9	-9.4	
VRHR				pmax	pmax				
	comp=N,40nm,0.8s								
VRHR				pmax	pmax				
	comp=Z,130nm,0.8s								
VRHR				pmax	pmax				
	comp=E,180nm,1.7s								
VRHR				smax	smax				
	comp=N,2µm,7.0s								
VRHR				smax	smax				
	comp=Z,450nm,4.6s								
VRHR				smax	smax				
	comp=E,640nm,2.0s								
VRHR				MLR	MLR				
	comp=Z,6µm,20.0s								
VRHR				MLR	MLR				
	comp=N,210nm,10.0s								
VRHR				MLR	MLR				
	comp=E,4µm,20.0s								
PMR	Palmer	83.72	29	*e*P		P	13 27 32.4	-0.3	
PMR	Palmer	83.72	29	*e*P		P	13 27 32.4	-0.3	
ERZM	Erzurum	83.75	310	*i* P		P	13 27 34.4	+0.6	
EZM	Erzurum	83.75	310	*e*P		P	13 27 35.4	+1.6	
VNDA	Vanda	83.78	173	PFAKE			13 27 40.0	+7.3	
VNDA				LR	LR				
	comp=Z,5µm,19.0s								
BNGL	BINGOL	83.92	309	*i* P		P	13 27 34.6	0.0	
MCK	McKinley	83.92	26	*e*P		P	13 27 34.2	+0.3	
MCK	McKinley	83.92	26	*e*P		P	13 27 34.1	+0.3	
MAW	Mawson	84.02	200	PFAKE			13 27 40.0	+5.9	
MAW				LR	LR				
	comp=Z,7µm,21.0s								
SML	Sawmill	84.11	28	*e*P		P	13 27 35.4	+0.6	
SML				pmax	pmax				
	comp=Z,175nm,1.3s								
SML	Sawmill	84.11	28	*e*P		P	13 27 35.4	+0.6	
	comp=Z,175nm,1.3s								
MARD	Mardin	84.23	307	*i* P		P	13 27 35.2	-0.9	
BNGB	Bing¯¶l	84.29	309	*e*P		P	13 27 33.6	-2.8	
KOPT	Kop Dagi	84.42	310	*i* P		P	13 27 35.1	-2.1	
COLA	College	84.45	25	*e*P		P	13 27 35.0	-1.4	
COLA				pmax	pmax				
	comp=Z,40nm,0.8s								
COLA	College	84.45	25	*e*P		P	13 27 35.0	-1.4	
	comp=Z,40nm,0.8s								
BAYT	Ayd¯¯ntepe-Bay	84.69	310	*e*P		P	13 27 39.0	+0.6	
SBA	Scott Base	84.69	172	*e*P		P	13 27 38.5	+1.2	
SBA				pmax	pmax				
	comp=Z,133nm,1.2s								
SBA				MLR	MLR				
	comp=Z,6µm,19.0s								
SBA	Scott Base	84.69	172	*e*P		P	13 27 38.5	+1.2	
	comp=Z,133nm,1.2s								
SBA				LR	LR				
	comp=Z,6µm,19.0s								
DIYA	Diyarbakir	84.74	308	*i* P		P	13 27 39.0	+0.4	
ILAR	Eielson Array	84.86	25	P		P	13 27 37.5	-1.0	
ILAR				PKKPbc	PKKPbc		13 45 50.7	+1.1	
ILAR	Eielson Array	84.86	25	P		P	13 27 37.5	-1.0	
	comp=Z,14nm,0.9s,baz=269,slow=3.9,SNR=69								
ILAR				PKKPbc	PKKPbc		13 45 50.7	+1.1	
	comp=Z,1.0nm,0.8s,baz=44,slow=1.1,SNR=6.6								
ILAR				LR	LR		14 04 33.0		
	comp=Z,3µm,21.4s,baz=130,slow=35								
SOC	Sochi	84.96	313*c*	*i*P		P	13 27 38.3	-1.1	
SOC				*e*pP		pP	13 27 47.1	-2.7	
SOC				*e*			13 30 51.4		
SOC				*e*S		S	13 37 59.0	-7.3	
SOC				pmax	pmax				
	comp=Z,84nm,0.6s								
SOC				pmax	pmax				
	comp=Z,2µm,3.4s								
SOC				MLR	MLR				
	comp=Z,12µm,22.0s								
KTUT	Trabzon	84.96	311	P		P	13 27 37.4	-2.2	
MACK	Trabzon	84.96	311	*i* P		P	13 27 40.0	+0.4	
ERZN	Erzincan	85.02	309	*e*P		P	13 27 31.1	-9.0	
KLMR	Klimovskoe	85.05	331*c*	*i*P		P	13 27 39.2	-0.3	
KLMR				*i* *pP		pP	13 27 49.5	-0.4	
KLMR				*e*S		S	13 37 58.7	-7.7	
KLMR				pmax	pmax				
	comp=Z,2µm,1.5s								
KLMR				pmax	pmax				
	comp=Z,1µm,5.8s								
KLMR				MLR	MLR				
	comp=Z,6µm,16.0s								
VORD	Divnogorie	85.17	321	*e*P		P	13 27 40.1	-0.2	
VORD				*e*S		S	13 38 04.0	-4.0	
VOR	Voronezh	85.22	321⇑	*i*P		P	13 27 39.0	-1.5	
VOR				pmax	pmax				
	comp=Z,1µm,1.2s								
VSR	Storozhevoye	85.24	321	*e*P		P	13 27 39.0	-1.7	
VSR				*e*S		S	13 37 52.5	-16	
VSR				pmax	pmax				
	comp=Z,260nm,1.1s								
VSR				pmax	pmax				
	comp=N,9.0nm,0.6s								
VSR				pmax	pmax				
	comp=E,190nm,0.9s								
VSR				smax	smax				
	comp=E,620nm,5.4s								
VSR				smax	smax				
	comp=Z,490nm,7.6s								
VSR				smax	smax				
	comp=N,390nm,4.7s								
PTK	Pertek	85.29	309	*e*P		P	13 27 42.1	+0.6	
DIV	Divide	85.32	29	*e*P		P	13 27 42.0	+1.0	
PPT2	Papeete2	85.35	108	*e*P		P	13 27 42.9	+0.9	
	comp=N,96nm,1.5s								
PPT2	Papeete2	85.35	108	*e*PP	PP		13 30 54.8	-5.6	
	comp=N,426nm,23.2s								
PPT2				*e*S		S	13 38 10.9	-0.3	
	comp=N,15µm,29.0s								
PPT2				*e*SS		SS	13 43 46.2	-0.4	
	comp=N,7µm,29.0s								
PPT2				*e*LQ	LQ		13 51 07.8		
	comp=N,22µm,40.2s								
PPT2				*e*LR	LR		13 54 47.6		
	comp=N,10µm,26.2s,baz=275								
PAE	Paea	85.35	108	*e*P		P	13 27 42.6	+0.7	
	comp=N,26nm,1.4s								
KELT	Kelkit	85.37	310	*i* P		P	13 27 41.5	-0.4	
SVRC	Sivrice-ELAZID	85.37	308	*e*P		P	13 27 42.2	+0.3	
PAX	Paxson	85.47	27	*e*P		P	13 27 42.4	+0.7	
PAX	Paxson	85.47	27	*e*P		P	13 27 42.4	+0.7	
TIAR	Tiarei	85.56	108	*e*P		P	13 27 43.9	+0.9	
	comp=N,78nm,1.0s								
ELZG	Elazig	85.62	308	*i* P		P	13 27 45.1	+2.0	
TVO	Taravao	85.68	108	*e*P		P	13 27 44.4	+0.8	
	comp=N,65nm,0.9s								
BMRM	Bremner River	85.89	29	*e*P		P	13 27 45.1	+1.3	
ILIC	ilic-Erzincan	85.92	309	*e*P		P	13 27 35.3	-9.2	
KEMA	Kemaliye	85.98	309	*i* P		P	13 27 44.6	-0.2	
TBI	Tubuai	86.05	114	*e*P		P	13 27 45.8	+0.5	
	comp=N,413nm,1.3s								
TBI				*e*S		S	13 38 17.3	-0.4	
	comp=N,12µm,27.2s								
TBI				*e*SS		SS	13 43 55.0	-1.5	
	comp=N,2µm,32.8s								
TBI				*e*LQ	LQ		13 51 16.7		
	comp=N,7µm,38.0s								
TBI				*e*LR	LR		13 54 55.1		
	comp=N,13µm,27.0s,baz=287								
MALT	Malatya	86.06	308	*e*P		P	13 27 41.5	-3.7	
MYA	Malataya	86.07	308	*e*P		P	13 27 48.0	+2.7	
MOS	Moscow	86.09	325	*e*P		P	13 27 41.5	-3.3	
MOS				*i*			13 27 54.6		
MOS				*e*S		S	13 38 04.5	-12	
MOS				*e*			13 38 17.6		
MOS				pmax	pmax				
	comp=Z,1µm,1.3s								
MOS				pmax	pmax				
	comp=Z,4µm,2.3s								
MOS				MLR	MLR				
	comp=N,10µm,23.0s								
MOS				MLR	MLR				
	comp=Z,12µm,20.0s								
MOS				MLR	MLR				
	comp=E,11µm,19.0s								
DOT	Dot Lake	86.09	27	*e*P		P	13 27 45.1	+0.4	
GRSN	GIRESUNGRSN	86.10	311	*i* P		P	13 27 43.5	-1.7	
SUSE	Susehri	86.17	310	*i* P		P	13 27 45.6	-0.2	
ATAB	Bozova	86.20	307	*i* P		P	13 27 45.7	-0.1	
MENT	Mentasta	86.27	27	*e*P		P	13 27 45.3	-0.3	
MENT				*e*PcP		PcP	13 27 48.3	+0.2	
AKCD	Akcadag	86.46	308	*i* P		P	13 27 47.6	+0.3	
ANN	Anapa	86.57	315*c*	*i*P		P	13 27 45.6	-1.8	
ANN				*i* *PP		pP	13 27 56.2	-1.6	
ANN				*e*S		S	13 38 08.0	-14	
ANN				*e*			13 38 15.5		
ANN				pmax	pmax				
	comp=Z,381nm,1.0s								
OBN	Obninsk	86.71	325⇑	*e*P		P	13 27 47.2	-0.6	
OBN				*e*			13 31 07.4		
OBN				pmax	pmax				
	comp=Z,2µm,1.7s								
OBN				MLR	MLR				
	comp=Z,13µm,20.0s								
OBN	Obninsk	86.71	325	*e*P		P	13 27 47.4	-0.4	
OBN				LR	LR				
	comp=Z,13µm,20.0s								
PMOR	Pomariorio Ree	86.72	105	*e*P		P	13 27 49.7	+1.0	
	comp=Z,215nm,1.2s								
GZT	Gaziantep	86.79	307	*i* P		P	13 27 48.7	-0.1	
MEH	Mehetia	86.81	108	*e*P		P	13 27 49.6	+0.5	
	comp=Z,188nm,1.3s								
RSDY	Resadiye-TOKAT	86.83	310	*e*P		P	13 27 47.2	-1.6	
LVZ	Lovozero	87.00	338	*e*P		P	13 27 48.1	-1.0	
LVZ				*e**PP		pP	13 28 00.6	+1.1	
LVZ				pmax	pmax				
	comp=Z,171nm,1.0s								
LVZ				MLR	MLR				
	comp=Z,21µm,20.0s								
LVZ	Lovozero	87.00	338	*e*P		P	13 27 48.1	-1.0	
	comp=Z,171nm,1.0s								
LVZ				*e*pP		pP	13 28 00.6	+1.1	
LVZ				*e*sP		sP	13 28 03.7	+0.5	
LVZ				LR	LR				
	comp=Z,21µm,20.0s								
SCER	sogukcermik	87.01	310	*i* P		P	13 27 50.7	+0.8	
GAZ	Gaziantep	87.08	307	*e*P		P	13 27 50.4	+0.2	
KUZU	Kuzuini	87.21	306	*i* P		P	13 27 50.2	-0.6	
ERBA	Erbaa	87.25	310	*i* P		P	13 27 50.1	-0.8	
KMRS	Kahramanmaras	87.31	307	*e*P		P	13 27 41.5	-10	
EGAK	Eagle	87.31	25	*e*P		P	13 27 51.0	+0.3	
EGAK				LR	LR				
	comp=Z,4µm,22.0s								
FURI	Furi	87.32	279	*e*P		P	13 27 55.7	+3.5	
TOKA	Tokat	87.48	310	*i* P		P	13 27 51.6	-0.4	
APA	Apatity	87.49	337⇓	*i*P		P	13 27 51.2	-0.2	
APA				*i*			13 38 18.0		
APA				pmax	pmax				
	comp=Z,114nm,1.0s								
APA				MLR	MLR				
	comp=Z,25µm,19.0s								
ASF	Jabal al Asfar	87.60	302	P		P	13 27 53.7	+0.8	
ASF	Jabal al Asfar	87.60	302	P		P	13 27 53.7	+0.8	
	comp=Z,46nm,0.9s,baz=316,slow=1.8,SNR=44								
PINB	Pinarbasi	87.64	308	*i* P		P	13 27 52.2	-0.9	
ANDN	Andirin	87.74	307	*i* P		P	13 27 54.6	+1.2	
KVT	Kavak	87.77	311	*e*P		P	13 27 45.7	-7.7	
COBT	Iskenderun	87.88	306	*i* P		P	13 27 53.9	-0.3	
FKH	Fakeheh	87.89	304	*e*P		P	13 27 53.9	-0.3	
YAYL	Yayladag	88.03	306	*i* P		P	13 27 54.0	-0.8	
BNN	Bunyan	88.06	309	*e*P		P	13 27 54.0	-0.9	
KOZT	Kozan	88.16	307	*e*P		P	13 27 49.9	-5.4	
CEYT	Ceyhan	88.25	307	*e*P		P	13 27 49.9	-5.8	
HWQ	Hawqa	88.27	304	*e*P		P	13 27 55.1	-0.9	
DIKM	Dikmen	88.33	311	*e*P		P	13 27 43.9	-12	
RCY	Rachaya	88.41	303	*e*P		P	13 27 56.9	+0.1	
BHL	Bhannes	88.54	304	*e*P		P	13 27 56.6	-0.7	
PNL	Peninsula	88.55	30	*e*P		P	13 27 55.4	-1.2	
HOPEN	Hopen	88.77	347	*e*P		P	13 27 55.9	-1.4	
HOPEN				AMS	AMS		14 14 37.0		
	comp=Z,12µm,21.1s								
MMAI	Mount Meron Ar	88.81	303	P		P	13 27 59.4	+0.8	
MMAI	Mount Meron Ar	88.81	303	P		P	13 27 59.4	+0.8	
	comp=Z,69nm,1.1s,baz=74,slow=7.1,SNR=21								
JOF	Joensuu	88.82	333	*e*P		P	13 27 56.1	-1.7	
JOF				pmax	pmax				
	comp=Z,258nm,0.9s								
JOF	Joensuu	88.82	333	*e*p		P	13 27 56.1	-1.7	
	comp=Z,258nm,0.9s								
GULE	Gulek	89.01	307	*i* P		P	13 27 57.1	-2.4	
CDAG	Cicekdag	89.15

comp=Z,3µm,19.0s
SKAG Skagway 90.63 30 *e*P **P** **13 28 09.2 +2.8**
KBS Kingsbay 90.65 350 *e*P **P** **13 28 07.7 +1.6**
KBS *e*PP **PP** **13 31 42.0 +0.9**
KBS *e*SKS **SKSac** **13 38 35.3 +0.4**
KBS AMS AMS 14 11 49.8
comp=Z,9µm,24.0s
KBS Kingsbay 90.65 350 *e*P **P** **13 28 06.2 +0.1**
KBS MLR MLR
comp=Z,11µm,22.0s
KBS Kingsbay 90.65 350 *e*P **P** **13 28 06.2 +0.1**
KBS LR LR
comp=Z,11µm,22.0s
KTK1 Kautokeino 90.99 339 *e*P **P** **13 28 05.7 -2.1**
KTK1 *e*SKS **SKSac** **13 38 36.9 -0.3**
KTK1 AMS AMS 14 09 37.3
comp=Z,16µm,21.6s
KAF Kangasniemi 91.24 332 *e*P **P** **13 28 07.9 -1.2**
KAF pmax pmax
comp=Z,91nm,0.4s
KAF Kangasniemi 91.24 332 *e*p **P** **13 28 07.9 -1.2**
comp=Z,91nm,0.4s
FINES FINESS Array B 91.47 332 P **P** **13 28 09.8 -0.4**
FINES FINESS Array B 91.47 332 P **P** **13 28 09.8 -0.4**
comp=Z,93nm,0.9s,baz=73,slow=6.4,SNR=79
FINES LR LR 14 13 26.8
comp=Z,10µm,19.8s,baz=343,slow=38
AKASG Malin Array Be 91.55 321*c**e*P **P** **13 28 09.8 -1.0**
AKASG pmax pmax
comp=Z,82nm,0.7s
AKASG Malin Array Be 91.55 321 P **P** **13 28 09.9 -0.8**
AKASG Malin Array Be 91.55 321 P **P** **13 28 09.9 -0.8**
comp=Z,82nm,0.8s,baz=71,slow=4.6,SNR=82
AKASG LR LR 14 14 52.3
comp=Z,9µm,20.4s,baz=105,slow=39
AKBB Malin Array Si 91.55 321 *e*P **P** **13 28 10.0 -0.8**
AKBB Malin Array Si 91.55 321 *e*P **P** **13 28 10.0 -0.8**
KIEV Kiev 91.56 321 *e*P **P** **13 28 08.6 -2.2**
KIEV MLR MLR
comp=Z,10µm,21.0s
KIEV Kiev 91.56 321 *e*P **P** **13 28 08.6 -2.2**
KIEV LR LR
comp=Z,10µm,21.0s
HENT Hendek 91.67 311 *i* P **P** **13 28 10.3 -1.3**
MICGM Minsk 91.77 325 ⇓*i*P **P** **13 28 10.0 -1.7**
MNK Minsk 91.80 325 *e*P **P** **13 28 10.0 -1.9**
MNK *e* 13 31 48.0
MNK *e*PPP PPP 13 33 48.0
MNK *e* 13 38 43.0
MNK *e*S **S** **13 39 06.0 -4.6**
MNK *e*PS **PS** **13 40 20.0 -4.1**
MNK *e*SS **SS** **13 45 24.0 +5.7**
MNK *e*SSS SSS 13 49 02.0
MNK pmax pmax
comp=E,290nm,1.4s
MNK pmax pmax
comp=Z,2µm,0.5s
MNK pmax pmax
comp=Z,6µm,6.0s
MNK smax smax
comp=E,7µm,14.0s
MNK MLR MLR
comp=Z,28µm,18.0s
MNK MLR MLR
comp=E,21µm,20.0s
MNK MLR MLR
comp=N,13µm,22.0s
IDID Didziasalis 92.28 326 *e*P **P** **13 28 13.9 -0.1**
IDID AMB AMB 13 28 17.3
comp=Z,98nm,1.0s
IDID Didziasalis 92.28 326 *e*P **P** **13 28 13.9 -0.1**
IDID AMB AMB 13 28 17.3
comp=Z,98nm,1.0s
TRO Tromso 92.29 340 *e*P **P** **13 28 15.4 +1.6**
TRO *e*SKS **SKSac** **13 38 45.8 +1.3**
ISP Isparta 92.32 308 *e*P **P** **13 28 14.6 -0.3**
ISP pmax pmax
comp=Z,51nm,1.0s
ISP Isparta 92.32 308 *e*P **P** **13 28 14.6 -0.3**
comp=Z,51nm,1.0s
NACGM Naroch 92.33 325 *e*P **P** **13 28 12.0 -2.3**
KIS Kishinev 92.35 317 *e*P **P** **13 28 14.0 -0.6**
KIS *e* 13 31 52.0
KIS *e* 13 38 44.0
KIS Kishinev 92.35 317 *e*P **P** **13 28 14.0 -0.6**
KIS LRM MLR 14 14 56.0
comp=Z,10µm,20.0s
IZAR Zarasai 92.47 326 *e*P **P** **13 28 14.8 -0.2**
IZAR AMB AMB 13 28 18.1
comp=Z,85nm,1.1s
IZAR Zarasai 92.47 326 *e*P **P** **13 28 14.8 -0.2**
IZAR AMB AMB 13 28 18.1
comp=Z,85nm,1.1s
IIGN Ignalina 92.56 326 *e*P **P** **13 28 15.2 -0.2**
IIGN AMB AMB 13 28 18.6
comp=Z,78nm,1.0s
IIGN Ignalina 92.56 326 *e*P **P** **13 28 15.2 -0.2**
IIGN AMB AMB 13 28 18.6
comp=Z,78nm,1.0s
ISAL Salakas 92.58 326 *e*P **P** **13 28 15.3 -0.2**
ISAL AMB AMB 13 28 18.6
comp=Z,54nm,1.0s
ISAL Salakas 92.58 326 *e*P **P** **13 28 15.3 -0.2**
ISAL AMB AMB 13 28 18.6
comp=Z,54nm,1.0s
TLCR 92.62 315 ⇓P **P** **13 28 16.1 +0.3**
TLCR 92.62 315 ⇓*i*P **P** **13 28 16.1 +0.3**
SYO Syowa Base 92.69 201⇑*e*P **P** **13 28 13.2 -2.4**
WRAK Wrangell Islan 92.74 33 *e*P **P** **13 28 16.6 +0.5**
comp=Z,75nm,0.8s
WRAK LR LR
comp=Z,3µm,20.0s
TIRR Tirgusor 93.01 315 ⇑P **P** **13 28 17.5 -0.2**
TIRR Tirgusor 93.01 315 ⇑*i*P **P** **13 28 17.5 -0.2**
KHAL Karahalli 93.06 309 *i* P P 13 28 12.9 -5.3
CFR Carcaliu 93.09 316 ⇑P **P** **13 28 18.2 +0.2**
CFR Carcaliu 93.09 316 ⇑*i*P **P** **13 28 18.2 +0.2**
IAS Iasi 93.17 318 P **P** **13 28 18.3 -0.1**
PSN Preselentsi 93.29 314 P **P** **13 28 20.3 +1.3**
DIB Dawson Inlet, 93.30 36 T T 15 12 25.0
SNR=13
DLBC Dease Lake 93.53 31 *e*P **P** **13 28 20.1 +0.3**
DLBC Dease Lake 93.53 31 LR LR 14 05 33.5
comp=Z,7µm,21.9s,baz=282,slow=32
PETR 93.64 316 ⇓*i*P **P** **13 28 19.9 -0.6**
GRER 93.87 316 ⇑*i*P **P** **13 28 22.3 +0.6**
TESR 93.90 317 ⇑*i*P **P** **13 28 21.0 -0.8**
VRI Vrincioaia 93.96 316 ⇓P **P** **13 28 22.1 0.0**
VRI Vrincioaia 93.96 316 ⇓*i*P **P** **13 28 22.1 0.0**
QSPA South Pole Qui 93.97 180 *e*P **P** **13 28 22.0 +0.2**
comp=Z,162nm,1.3s
QSPA PP **PP** **13 32 06.5 -1.2**
QSPA LR LR
comp=Z,7µm,20.0s
QSPA South Pole Qui 93.97 180 P **P** **13 28 21.2 -0.5**
comp=Z,46nm,1.0s,baz=332,slow=2.2,SNR=29
QSPA PP **PP** **13 32 06.5 -1.2**
comp=Z,7.4nm,1.0s,baz=54,slow=8.5,SNR=3.5
PLOR Plostina 94.01 316 ⇓P **P** **13 28 22.0 -0.4**
PLOR Plostina 94.01 316 ⇓*i*P **P** **13 28 22.0 -0.4**
STEI Steigen 94.13 339 *e*P **P** **13 28 21.4 -0.9**
ISR Istrita 94.21 316 ⇓P **P** **13 28 23.9 +0.6**
ISR Istrita 94.21 316 ⇓*i*P **P** **13 28 23.9 +0.6**
SULR 94.49 315 ⇑*i*P **P** **13 28 23.6 -0.9**
SECR 94.56 316 ⇑*i*P **P** **13 28 25.5 +0.6**
MLR Muntele Rosu 94.56 316 P **P** **13 28 25.0 0.0**
MLR PP **PP** **13 32 13.0 +0.1**
MLR Muntele Rosu 94.56 316 ⇑*i*P **P** **13 28 24.4 -0.6**
MLR Muntele Rosu 94.56 316 P **P** **13 28 25.0 0.0**
comp=Z,41nm,0.9s,baz=346,slow=1.5,SNR=58
MLR PP **PP** **13 32 13.0 +0.1**
comp=Z,5.2nm,1.0s,baz=69,slow=11,SNR=3.4
SUW Suwalki 94.57 325 *e*P **P** **13 28 23.8 -0.9**
SUW Suwalki 94.57 325 *e*P **P** **13 28 23.8 -0.9**
SUW Suwalki 94.57 325 *e*P **P** **13 28 23.8 -0.9**
SUW Suwalki 94.57 325 *e*P **P** **13 28 23.8 -0.9**
BURAR Bucovina Array 94.66 318 ⇓*i*P **P** **13 28 25.1 -0.3**
BUR08 Bucovina Ar. S 94.67 318 *e*P **P** **13 28 25.0 -0.4**
DOPR Dopca 94.86 317 ⇑*i*P **P** **13 28 27.9 +1.7**
LVV L'vov 94.98 321 *e*P **P** **13 28 25.2 -1.5**
LVV *e* 13 32 12.8
LVV *e*PPP PPP 13 34 21.9
LVV *e* 13 38 57.2
LVV *e*S S 13 39 33.2 -5.7
LVV *e*PS **PS** **13 41 01.6 +2.1**
LVV *e*SS SS 13 46 12.6 +8.5
MOR8 Moi Rana 95.07 338 *e*P **P** **13 28 24.5 -2.2**
MOR8 AMB AMB 13 28 28.2
comp=Z,63nm,1.5s
VOIR 95.19 316 ⇑P **P** **13 28 27.5 -0.3**
VOIR 95.19 316 ⇑*i*P **P** **13 28 27.5 -0.3**
FLOS Flostrand 95.41 338 *e*P **P** **13 28 27.1 -1.1**
HUMR Humele 95.42 315 ⇑*i*P **P** **13 28 28.6 -0.2**
DIM Dimitrovgrad 95.48 313 P **P** **13 28 28.4 -0.7**
MDB Medias 95.51 317 P **P** **13 28 30.2 +1.0**
KDZ Kurdzhali 95.64 312 P **P** **13 28 27.2 -2.1**
BMR Baia Mare 95.79 319 ⇓P **P** **13 28 29.9 -0.5**
BMR Baia Mare 95.79 319 ⇓*i*P **P** **13 28 29.9 -0.5**
KWP Kalwaria Pacla 95.86 321 PFAKE 13 28 40.0 +9.3
KWP LR LR
comp=Z,8µm,22.0s
KWP Kalwaria Pacla 95.86 321 ⇓*i*P P 13 28 26.3 -4.4
LOT Lotru 96.07 316 ⇓*i*P **P** **13 28 31.4 -0.5**
RZN Rozhen 96.15 313 P **P** **13 28 31.0 -1.4**
KOLS Kolonicke sedl 96.30 320 *e*P **P** **13 28 32.8 +0.1**
KOLS pmax pmax
comp=Z,41nm,1.5s
KOLS Kolonicke sedl 96.30 320 *e*P **P** **13 28 32.8 +0.1**
TRPA Tarpa 96.31 319 ⇓*i*P **P** **13 28 32.0 -0.7**
TRPA Tarpa 96.31 319 ⇑*e* **P** **13 28 32.5 -0.2**
UZH Uzhgorod 96.36 320 ⇑P **P** **13 28 33.1 +0.2**
UZH *e* 13 28 47.5
UZH *e* 13 39 00.1
UZH *e*S **S** **13 39 46.7 -4.2**
UZH *e* 13 46 31.5
UZH MLR MLR
comp=N,2µm,20.0s
UZH MLR MLR
comp=E,4µm,20.0s
UZH MLR MLR
comp=Z,2µm,20.0s
DRGR 96.50 318 ⇑P **P** **13 28 33.2 -0.6**
DRGR 96.50 318 ⇑*i*P **P** **13 28 33.2 -0.6**
BEL Belsk 96.50 323 *e*P **P** **13 28 33.5 0.0**
BEL Belsk 96.50 323 *e*P **P** **13 28 33.5 0.0**
BEL Belsk 96.50 323 *e*P **P** **13 28 33.5 0.0**
MPEP Malo Peshtene 96.53 314 P **P** **13 28 35.5 +1.7**
DEV Deva 96.57 317 ⇑P **P** **13 28 34.8 +0.8**
DEV Deva 96.57 317 ⇑*i*P **P** **13 28 34.8 +0.8**
NSS Namsos 96.67 337 *e*P **P** **13 28 32.0 -1.9**
CRVS Cervenica-Dubn 96.83 320 *e*P **P** **13 28 35.6 +0.4**
CRVS pmax pmax
comp=Z,96nm,1.0s
CRVS Cervenica-Dubn 96.83 320 *e*P **P** **13 28 35.5 +0.4**
MMB Musomiste 96.89 313 P **P** **13 28 35.7 +0.1**
DAG Danmarks Havn 96.90 352 *i* P **P** **13 28 34.2 -0.6**
DAG *i* 13 32 34.5
DAG *i* S **SKSac** **13 39 14.6 +5.5**
DAG pmax pmax
comp=Z,65nm,1.0s
DAG MLR MLR
comp=Z,8µm,22.0s
DAG Danmarks Havn 96.90 352 *i* P **P** **13 28 34.2 -0.6**
comp=Z,650nm,1.0s
DAG *i* 13 32 34.5
DAG *i* S **SKSac** **13 39 14.6 +5.5**
DAG
comp=Z,10µm,22.0s
VTS Vitosha 97.07 314 ⇑*i*P **P** **13 28 35.3 -1.2**
VTS Vitosha 97.07 314 P Pdif 13 28 36.8 +0.2
IDI Anoyia 97.18 306 *e*P **P** **13 28 36.4 -0.7**
comp=Z,74nm,1.0s
KKB Krupnik 97.31 313 P Pdif 13 28 38.6 +1.1
NIE Niedzica 97.43 321 *e*P Pdif 13 28 38.0 +0.1
NIE Niedzica 97.43 321 *e*P Pdif 13 28 38.3 +0.4
RES Resolute Bay 97.51 10 *e*P Pdif 13 28 37.6 -0.1
comp=Z,1.3nm,1.6s
BZS Buzias 97.51 317 ⇓P Pdif 13 28 38.0 -0.3
BZS Buzias 97.51 317 ⇓*i*P Pdif 13 28 38.0 -0.3
OJC Ojcow 97.54 322 *e*P **P** **13 28 37.1 -1.2**
OJC *e*pP **pP** **13 28 48.1 -0.7**
OJC *e*PP **PP** **13 32 34.1 -1.5**
OJC *e*SKSac **SKSac** **13 39 13.0 -0.4**
OJC *e*S **S** **13 40 01.1 +0.1**
OJC L L 14 16 15.1
comp=Z,7µm,21.9s
OJC Ojcow 97.54 322 *e*P **P** **13 28 37.8 -0.5**
OJC *e**PP **pP** **13 28 48.6 -0.1**
OJC *e* 13 32 34.8
OJC *e* 13 39 13.1
OJC *e*S **S** **13 40 01.8 +0.8**
OJC MLR MLR
comp=Z,7µm,21.9s
OJC Ojcow 97.54 322 *e*P **P** **13 28 37.8 -0.5**
VAY Valandovo 97.80 312 *e*P **P** **13 28 37.7 -1.9**
PSZ Piszkesteto 98.09 319 ⇓P Pdif 13 28 40.8 -0.1
PSZ Piszkesteto 98.09 319 *e*P **P** **13 28 40.3 -0.6**
comp=Z,154nm,1.4s
PSZ Piszkesteto 98.09 319 ⇓*i*P Pdif 13 28 40.8 -0.1
PSZ Piszkesteto 98.09 319 ⇑*e* **P** **13 28 40.0 -0.9**
GKP Gorka Klasztor 98.18 325 *e*P Pdif 13 28 42.0 +0.9
GKP Gorka Klasztor 98.18 325 *e*P Pdif 13 28 42.0 +0.9
GKP Gorka Klasztor 98.18 325 *e*P Pdif 13 28 42.0 +0.9
PKSN Nyarlorinc 98.37 318 ⇓*e* Pdif 13 28 42.5 +0.4
NC602 NORSAR Array S 98.41 333 *e*P **P** **13 28 41.0 -0.9**
NB2 NORSAR Subarra 98.43 334 P **P** **13 28 40.8 -1.3**
baz=68,slow=4.6
NB2 NORSAR Subarra 98.43 334 P **P** **13 28 40.8 -1.3**
comp=Z,60nm,1.0s,baz=68,slow=4.6
NOA NORSAR Array B 98.43 334 P **P** **13 28 40.9 -1.2**
NOA PP **PP** **13 32 43.1 +1.0**
NOA PKKPbc **PKKPbc** **13 45 15.2 +0.4**
NOA NORSAR Array B 98.43 334 P **P** **13 28 40.9 -1.2**
comp=Z,21nm,0.7s,baz=68,slow=4.6,SNR=47
NOA PP **PP** **13 32 43.1 +1.0**
comp=Z,4.5nm,0.8s,baz=53,slow=4.6,SNR=3.6
NOA PKKPbc **PKKPbc** **13 45 15.2 +0.4**
comp=Z,1.1nm,0.9s,baz=248,slow=5.9,SNR=3.6
NOA LR LR 14 18 10.2
comp=Z,11µm,20.1s,baz=65,slow=38
SKO Skopje 98.48 313 *e*P **P** **13 28 41.0 -1.7**
VYHS Vyhne 98.61 320 *e*P Pdif 13 28 42.9 -0.3
VYHS pmax pmax
comp=Z,51nm,0.1s
VYHS Vyhne 98.61 320 PDIF Pdif 13 28 42.8 -0.4
PKS6 Bocsa 98.65 318 ⇓*e* Pdif 13 28 43.6 +0.3
NAO01 NORSAR Array S 98.65 333 *e*P **P** **13 28 41.0 -2.0**
comp=Z,19nm,0.7s
OKC Ostrava-Krasne 98.67 322 *e*P Pdif 13 28 43.8 +0.5
OKC *e* 13 32 47.0
OKC *e* 13 39 22.6
OKC *e*PS PS 13 42 22.8 +43
OKC MLR MLR
comp=Z,4µm,18.2s
OKC Ostrava-Krasne 98.67 322 *e*PDIFF Pdif 13 28 43.8 +0.5
OKC *e*PP **PP** **13 32 47.0 +2.8**
OKC *e*SKS **SKSac** **13 39 22.6 +3.5**
OKC *ex* x 13 42 22.8
OKC *ex* x 13 47 20.3
OKC AMS AMS 14 19 30.0
comp=Z,4µm,18.2s
BUD Budapest 98.77 319 ⇑*e* Pdif 13 28 43.7 -0.1
BSD Bornholm Skovb 98.86 327 *i* P Pdif 13 28 44.4 +0.4
BSD *i* 13 32 48.0
BSD *i* S **SKSac** **13 39 25.4 +5.6**
BSD pmax pmax
comp=Z,83nm,1.0s
BSD MLR MLR
comp=Z,7µm,18.0s
BSD Bornholm Skovb 98.86 327 *i* P Pdif 13 28 44.4 +0.4
comp=Z,83nm,1.0s
BSD *i* 13 32 48.0
BSD *i* S **SKSac** **13 39 25.4 +5.6**
BSD
comp=Z,7µm,18.0s
PKS2 Kecel 98.91 318 ⇓*e* Pdif 13 28 45.1 +0.6
MORC Moravsky Berou 99.06 322 ⇓P **Pdif** **13 28 45.4 +0.2**
MORC Moravsky Berou 99.06 322 *e*P **Pdif** **13 28 43.7 -1.4**
comp=Z,94nm,1.2s
MORC Moravsky Berou 99.06 322 ⇓*i*P **Pdif** **13 28 45.4 +0.2**
LSZ Lusaka 99.16 255 *e*P **Pdif** **13 28 44.3 -2.1**
comp=Z,68nm,1.1s
PKSG 99.21 319 ⇓*e* **Pdif** **13 28 46.2 +0.4**
YKA Yellowknife Ar 99.25 24 P **Pdif** **13 28 45.7 +0.1**
YKA PKiKP **PKiKP** **13 33 17.2 +1.8**
YKA PKKPbc **PKKPbc** **13 45 10.6 -1.8**
YKA Yellowknife Ar 99.25 24 P **Pdif** **13 28 45.7 +0.1**
comp=Z,3.4nm,0.7s,baz=298,slow=4.4,SNR=52
YKA PKiKP **PKiKP** **13 33 17.2 +1.8**
comp=Z,1.7nm,0.6s,baz=286,slow=1.9,SNR=6.4
YKA PKKPbc **PKKPbc** **13 45 10.6 -1.8**
comp=Z,0.8nm,0.7s,baz=113,slow=2.7,SNR=6.7
RKT Rikitea 99.33 113 *e*PP PP 13 32 39.7 -11
comp=Z,517nm,27.8s
RKT *e*SKSac **SKSac** **13 39 19.4 -4.1**
comp=Z,5µm,27.2s
RKT Rikitea 99.33 113 *e*PS PS 13 41 48.8 +0.8
comp=Z,4µm,29.8s
RKT *e*SS SS 13 47 08.3 +1.1
comp=Z,2µm,28.8s
RKT *e*LR LR 14 01 12.5
comp=Z,8µm,27.0s,baz=278
PKSM Moragy 99.37 318 ⇑P **Pdif** **13 28 47.0 +0.5**
PKSM Moragy 99.37 318 ⇑*i*P **Pdif** **13 28 47.0 +0.5**
PKSM Moragy 99.37 318 ⇑*e* **Pdif** **13 28 46.4 -0.1**
PKST T"s 99.48 319 ⇓*e* **Pdif** **13 28 47.0 0.0**
KSP Ksiaz 99.49 323 *e*P **Pdif** **13 28 47.5 +0.5**
KSP Ksiaz 99.49 323 *e*P **Pdif** **13 28 47.5 +0.5**
KSP Ksiaz 99.49 323⇑*e*P **Pdif** **13 28 47.2 +0.2**
KSP *e**PP **pP** **13 28 58.3 +0.8**
KSP *e* 13 32 50.0
KSP *e* 13 39 24.0
KSP *e*SP SP 13 41 38.0 -5.9
KSP *e*SS **SS** **13 47 02.0 -5.5**
PKS9 Tamasi 99.51 318 ⇓*e* **Pdif** **13 28 47.1 -0.1**
DPC Dobruska-Polom 99.63 322 *e*P **Pdif** **13 28 48.4 +0.7**
DPC *e* 13 32 56.3
DPC *e*SS SS 13 47 04.5 -5.1
DPC MLR MLR
comp=Z,9µm,19.8s
DPC Dobruska-Polom 99.63 322 *e*PDIFF **Pdif** **13 28 48.4 +0.7**
DPC *e*PP **PP** **13 32 56.3 +4.7**
DPC *e*XSKS 13 39 36.5
DPC *e*PS PS 13 41 59.9 +10
DPC *e*SS SS 13 47 04.5 -5.1
DPC AMS AMS 14 17 00.0
comp=Z,9µm,19.8s
RHK3 Tenkes 99.72 318 ⇓*e* **Pdif** **13 28 48.1 0.0**
KONO Kongsberg 99.74 333 *e*P **Pdif** **13 28 47.2 -0.7**
KONO pmax pmax
comp=Z,69nm,1.5s
KONO Kongsberg 99.74 333 *e*Pdif **Pdif** **13 28 47.2 -0.7**
comp=Z,69nm,1.5s
UPC Upice 99.77 323 *e*P **Pdif** **13 28 48.8 +0.5**
UPC Upice 99.77 323 *e*PDIFF **Pdif** **13 28 48.8 +0.5**
VRAC Vranov 99.79 321 ⇑*i*P **Pdif** **13 28 49.4 +1.0**
COP Copenhagen 99.97 328 *e*P **Pdif** **13 28 49.3 +0.3**
COP *i* *PP PP 13 32 59.1 +5.2
COP MLR MLR
comp=Z,4µm,22.0s
COP Copenhagen 99.97 328 *i* P **Pdif** **13 28 49.3 +0.3**
COP *i* PP PP 13 32 59.1 +5.2
COP
comp=Z,4µm,22.0s
SOP Sopron 100.31 320 ⇑*e* **Pdif** **13 28 52.0 +1.3**
RUE Ruedersdorf 100.42 325 *e*Pdiff **Pdif** **13 28 52.0 +1.0**
RUE Ruedersdorf 100.42 325 *e*Pdif **Pdif** **13 28 51.0 -0.1**
comp=Z,336nm,1.1s
TREC Trest 100.48 322 *e*P **Pdif** **13 28 52.1 +0.6**
TREC *e* 13 32 59.1
TREC MLR MLR
comp=Z,9µm,19.4s
TREC Trest 100.48 322 *e*PDIFF **Pdif** **13 28 52.1 +0.6**
TREC *e*PP **PP** **13 32 59.1 +1.0**
TREC AMS AMS 14 20 20.0
comp=Z,9µm,19.4s
BEHE Becsehely 100.53 319 ⇑*e* **Pdif** **13 28 51.9 +0.2**
PVCC Panska Ves 100.63 323 *e*P **Pdif** **13 28 52.8 +0.7**
PVCC *e* 13 33 00.0
PVCC MLR MLR
comp=Z,9µm,18.8s
PVCC Panska Ves 100.63 323 *e*PDIFF **Pdif** **13 28 52.8 +0.7**
PVCC *e*PP **PP** **13 33 00.0 +0.9**
PVCC AMS AMS 14 17 30.0
comp=Z,9µm,18.8s
CONA Conrad Observa 100.68 320 ⇓*i*P **Pdif** **13 28 52.6 +0.1**
comp=Z,47nm,1.4s
CONA Conrad Observa 100.68 320 ⇓*i*Pdiff **Pdif** **13 28 52.6 +0.1**
comp=Z,47nm,1.4s,SNR=16
PRU Pruhonice 100.83 322 *e*P **Pdif** **13 28 53.4 +0.4**
PRU *e* 13 33 01.0
PRU *e* 13 39 29.9
PRU MLR MLR
comp=Z,9µm,18.9s
PRU Pruhonice 100.83 322 *e*PDIFF **Pdif** **13 28 53.4 +0.4**
PRU *e*PP **PP** **13 33 01.0 +0.4**
PRU *e*SKS 13 39 29.9
PRU *ex* x 13 42 35.2
PRU *ex* x 13 47 54.3
PRU AMS AMS 14 17 50.0
comp=Z,9µm,18.9s
PRA Prague 100.87 323 PDIFF **Pdif** **13 28 54.0 +0.9**
PRA AMS AMS 14 18 30.0
BRG Berggiesshubel 100.89 323 *i* PDIF **Pdif** **13 28 53.8 +0.6**
comp=Z,63nm,0.9s
BRG *e*PP PP 13 32 51.4 -10
comp=Z,31nm,1.7s
BRG SKS 13 39 34.0
BRG SDIF **Sdif** **13 40 30.0 +0.9**
BRG SS **SS** **13 47 28.0 +1.1**
BRG *e*PKPPKP P'P'df 13 53 40.6 +16
comp=Z,33nm,2.1s
BRG
comp=N,4µm,21.0s
BRG
comp=E,8µm,19.1s
BRG
comp=Z,12µm,20.4s
BRG Berggiesshubel 100.89 323 *e*Pdiff **Pdif** **13 28 53.9 +0.7**
BRG Berggiesshubel 100.89 323 *i* P **Pdif** **13 28 53.8 +0.6**
BRG 13 39 34.0
BRG S **Sdif** **13 40 30.0 +0.9**
BRG SS **SS** **13 47 28.0 +1.1**
BRG pmax pmax
comp=Z,63nm,0.9s
BRG pmax pmax
comp=Z,31nm,1.7s
BRG pmax pmax
comp=Z,33nm,2.2s
BRG MLR MLR
comp=N,4µm,21.0s
BRG MLR MLR
comp=E,8µm,19.1s
BRG MLR MLR
comp=Z,12µm,20.4s
ARSA Arzberg 101.11 320 ⇓*i*P **Pdif** **13 28 54.4 0.0**
comp=Z,29nm,1.1s
ARSA Arzberg 101.11 320 ⇓*i*Pdiff **Pdif** **13 28 54.4 0.0**
comp=Z,29nm,1.1s,SNR=12
FBE Freiberg 101.22 324 *e*Pdiff **Pdif** **13 28 55.6 +0.9**
CLL Collm 101.29 324 *e*Pdiff **Pdif** **13 28 55.4 +0.4**
CLL Collm 101.29 324 ⇓*i*P **Pdif** **13 28 55.2 +0.2**
CLL *e* 13 39 37.0
CLL pmax pmax
comp=Z,29nm,0.9s
CLL MLR MLR
comp=Z,7µm,20.4s
CLL Collm 101.29 324 *i* Pdif **Pdif** **13 28 55.2 +0.2**
comp=Z,29nm,0.9s
CLL ⇓*i*Pdiffmax 13 28 57.0
comp=Z,105nm,1.2s
CLL *e*sPdif sPdif 13 29 05.0 -4.1
CLL *e* 13 31 54.0
CLL *e*PP **PKiKP** **13 33 17.0 -2.4**
CLL *e*PPP PPP 13 35 12.0
CLL *e*SKSac **SKSac** **13 39 37.0 +5.1**
CLL *e*Sdif Sdif 13 40 45.0 +13
CLL *e*PS **PS** **13 42 08.0 +0.4**
CLL *e*PPS PPS 13 43 00.0
CLL *e*SS SS 13 47 54.0 +22
CLL *e*(SSS) 13 52 06.0
CLL Lm MLR 14 17 00.0
comp=Z,7µm,20.4s
MUD Monsted U'grnd 101.33 330 *i* P **Pdif** **13 28 54.4 -0.6**
MUD *i* 13 33 07.7
MUD pmax pmax
comp=Z,17nm,1.1s
MUD MLR MLR
comp=Z,8µm,18.0s
MUD Monsted U'grnd 101.33 330 *i* P **Pdif** **13 28 54.4 -0.6**
comp=Z,17nm,1.1s

MUD *i* 13 33 07.7
MUD
comp=Z,8µm,18.0s
GROS Grobnik 101.38 319 *i* Pdiff **Pdif 13 28 54.8 -0.8**
SOKA Soboth 101.61 319⇓*i*P **Pdif 13 28 56.5 -0.1**
comp=Z,31nm,1.2s
SOKA Soboth 101.61 319⇓*i*Pdiff **Pdif 13 28 56.5 -0.1**
comp=Z,31nm,1.2s
LBTB Lobatse 101.67 245 *e*Pdif **Pdif 13 28 57.4 0.0**
comp=Z,25nm,1.2s
LBTB Lobatse 101.67 245 P **Pdif 13 28 57.8 +0.4**
comp=Z,4.3nm,0.9s,baz=133,slow=10,SNR=2.3
KHC Kasperske Hory 101.72 322 *e*P **Pdif 13 28 57.4 +0.4**
KHC *e* 13 33 05.0
KHC *e* 13 39 36.9
KHC *e*PS **PS 13 42 17.7 +5.3**
KHC MLR MLR
comp=Z,6µm,17.1s
KHC Kasperske Hory 101.72 322 *e*Pdif **Pdif 13 28 56.8 -0.1**
comp=Z,52nm,1.3s
KHC Kasperske Hory 101.72 322 *e*PDIFF **Pdif 13 28 57.4 +0.4**
KHC *e*PP **PP 13 33 05.0 -2.4**
KHC *e*SKS 13 39 36.9
KHC *e*PS **PS 13 42 17.7 +5.3**
KHC *ex* x 13 48 03.5
KHC AMS AMS 14 24 00.0
comp=Z,6µm,17.1s
MOA Molln 101.72 320⇓*i*P **Pdif 13 28 57.6 +0.6**
comp=Z,76nm,0.9s
MOA Molln 101.72 320⇓*i*Pdiff **Pdif 13 28 57.6 +0.6**
comp=Z,76nm,0.9s,SNR=25
GEC2 GERESS Array S 101.74 322 *e*Pdif **Pdif 13 28 57.7 +0.5**
GERES GERESS Array B 101.74 322 P **Pdif 13 28 57.5 +0.3**
GERES PP **PP 13 33 11.1 +3.5**
GERES PKKPbc **PKKPdf 13 45 12.9 +1.7**
GERES GERESS Array B 101.74 322 P **Pdif 13 28 57.5 +0.3**
comp=Z,24nm,0.9s,baz=70,slow=4.7,SNR=54
GERES PP **PP 13 33 11.1 +3.5**
comp=Z,2.4nm,0.8s,baz=52,slow=7.3,SNR=4.3
GERES PKKPbc **PKKPdf 13 45 12.9 +1.7**
comp=Z,0.4nm,0.7s,baz=260,slow=3.7,SNR=4.0
BSEG Bad Segeberg 101.79 327 *e*Pdiff **Pdif 13 28 57.9 +0.8**
PDKS Podkum 101.83 319 *e*Pdif **Pdif 13 28 58.7 +1.3**
BOJS Bojanci 101.84 318 *i* Pdiff **Pdif 13 28 57.7 +0.1**
BOSA Boshof 101.89 242 PFAKE 13 29 10.0 +12
BOSA LR LR
comp=Z,6µm,21.0s
TANN Tannenbergstha 101.93 323 *e*Pdiff **Pdif 13 28 58.6 +0.7**
OBKA Obir 101.98 319⇓*i*P **Pdif 13 28 58.5 +0.2**
comp=Z,39nm,1.1s
OBKA Obir 101.98 319⇓*i*Pdiff **Pdif 13 28 58.5 +0.2**
comp=Z,39nm,1.1s,SNR=10
NKC Novy Kostel 102.01 323 *e*P **Pdif 13 28 58.9 +0.7**
NKC *e* 13 33 08.6
NKC MLR MLR
comp=Z,11µm,19.6s
NKC Novy Kostel 102.01 323 *e*PDIFF **Pdif 13 28 58.9 +0.7**
NKC *e*PP **PP 13 33 08.6 -0.9**
NKC AMS AMS 14 18 20.0
comp=Z,11µm,19.6s
WERD Werda 102.01 323 *e*Pdiff **Pdif 13 28 58.9 +0.6**
GUNZ Gunzen 102.03 323 *e*Pdiff **Pdif 13 28 59.1 +0.7**
WERN Wernitzgruen 102.03 323 *e*Pdiff **Pdif 13 28 59.2 +0.8**
NEUB Neuenburg 102.04 324 *e*Pdiff **Pdif 13 28 59.0 +0.7**
PLN Plauen 102.09 324 *e*Pdiff **Pdif 13 28 59.4 +0.8**
WET Wettzell 102.14 322 *e*Pdiff **Pdif 13 28 59.8 +0.9**
LJU Ljubljana 102.15 319 *e*Pdiff **Pdif 13 28 59.5 +0.5**
CEY Cerknica 102.31 318 *i* Pdiff **Pdif 13 28 59.6 -0.1**
ROTZ Rotzenmuhle 102.32 323 *e*Pdiff **Pdif 13 29 00.8 +1.2**
MOX Moxa 102.35 324 *e*Pdiff **Pdif 13 29 00.5 +0.8**
GORS Gorjuse 102.41 319 *e*Pdiff **Pdif 13 28 59.9 -0.3**
NRDL Niedersach Rie 102.49 326 *e*Pdiff **Pdif 13 29 01.5 +1.3**
JAVS Javornik 102.50 319 *i* Pdiff **Pdif 13 29 00.3 -0.3**
MYKA Terra Mystica 102.53 319⇓*i*P **Pdif 13 29 00.1 -0.6**
comp=Z,14nm,0.9s
MYKA Terra Mystica 102.53 319⇓*i*Pdiff **Pdif 13 29 00.1 -0.6**
comp=Z,14nm,0.9s
VOY Vojsko 102.57 319 *e*Pdiff **Pdif 13 29 00.3 -0.6**
VOY *e* 13 29 10.7
KBA Koelnbreinsper 102.57 320⇓*i*P **Pdif 13 29 00.3 -0.7**
KBA pmax pmax
comp=Z,27nm,0.9s
KBA Koelnbreinsper 102.57 320⇓*i*P **Pdif 13 29 00.3 -0.7**
comp=Z,27nm,0.9s
KBA Koelnbreinsper 102.57 320⇓*i*Pdiff **Pdif 13 29 00.3 -0.7**
comp=Z,27nm,0.9s
CLZ Clausthal 102.60 325 *e*Pdiff **Pdif 13 29 02.1 +1.2**
SKDS Skadanscina 102.65 318 *e*Pdiff **Pdif 13 29 00.2 -1.0**
SCO Scoresbysund 102.69 350 *i* P **Pdif 13 29 01.6 +0.8**
SCO pmax pmax
comp=Z,5.0nm,1.0s
SCO MLR MLR
comp=Z,6µm,20.0s
SCO Scoresbysund 102.69 350 *i* P **Pdif 13 29 01.6 +0.8**
comp=Z,4.7nm,1.0s
SCO
comp=Z,6µm,20.0s
SCO Scoresbysund 102.69 350 *i* P PKKPdf 13 45 17.4 +7.9
RJOB Jochberg 102.69 321 *e*Pdiff **Pdif 13 29 01.6 +0.2**
SUMG Summit 102.90 355 *i* P **Pdif 13 29 02.9 +0.7**
SUMG pmax pmax
comp=Z,11nm,0.9s
SUMG Summit 102.90 355 *i* P **Pdif 13 29 02.9 +0.7**
comp=Z,11nm,0.9s
SUMG Summit 102.90 355 *i* P PKKPdf 13 45 18.6 +8.9
GRF Grafenberg Arr 102.94 323 *e*Pdiff **Pdif 13 29 03.5 +1.1**
GRF *e*L L 14 19 23.8
comp=Z,10µm,20.2s
GRFO Grafenberg 102.94 323 *e*P **Pdif 13 28 59.9 -2.5**
GRFO pmax pmax
comp=Z,191nm,1.8s
GRFO Grafenberg 102.94 323 *e*Pdif **Pdif 13 28 59.9 -2.5**
comp=Z,191nm,1.8s
CUC Castrocucco 103.11 312 PFAKE 13 29 10.0 +6.6
CUC LR LR
comp=Z,5µm,21.0s
ABTA Abfaltersbach 103.22 320⇓*i*P **Pdif 13 29 03.0 -0.8**
comp=Z,37nm,1.1s
ABTA Abfaltersbach 103.22 320⇓*i*Pdiff **Pdif 13 29 03.0 -0.8**
comp=Z,37nm,1.1s
UBBA Unterbreizbach 103.22 324 *e*Pdiff **Pdif 13 29 05.2 +1.7**
FUR Furstenfeldbru 103.49 322 *e*Pdiff **Pdif 13 29 05.5 +0.6**
WTTA Wattenberg 103.60 321⇓*i*P **Pdif 13 29 05.5 -0.1**
WTTA pmax pmax
comp=Z,72nm,1.1s
WTTA Wattenberg 103.60 321⇓*i*P **Pdif 13 29 05.5 -0.1**
comp=Z,72nm,1.1s
WTTA Wattenberg 103.60 321⇓*i*Pdiff **Pdif 13 29 05.5 -0.1**
comp=Z,72nm,1.1s,SNR=11
WATA Walderalm 103.61 321⇓*i*P **Pdif 13 29 05.2 -0.4**
WATA pmax pmax
comp=Z,38nm,1.1s
WATA Walderalm 103.61 321⇓*i*P **Pdif 13 29 05.2 -0.4**
comp=Z,38nm,1.1s
WATA Walderalm 103.61 321⇓*i*Pdiff **Pdif 13 29 05.2 -0.4**
comp=Z,38nm,1.1s
IBBN Ibbenburen 103.87 326 *e*Pdiff **Pdif 13 29 07.5 +1.1**
SQTA Sankt Quirin 103.88 321⇑*i*P **Pdif 13 29 07.1 +0.3**
SQTA pmax pmax
comp=Z,22nm,0.8s
SQTA Sankt Quirin 103.88 321⇑*i*P **Pdif 13 29 07.1 +0.3**
comp=Z,22nm,0.8s
SQTA Sankt Quirin 103.88 321⇑*i*Pdiff **Pdif 13 29 07.1 +0.3**
comp=Z,22nm,0.8s
MOTA Moosalm 103.90 321 *i* P **Pdif 13 29 06.8 -0.1**
MOTA pmax pmax
comp=Z,39nm,1.1s
MOTA Moosalm 103.90 321 *i* P **Pdif 13 29 06.8 -0.1**
comp=Z,39nm,1.1s
MOTA Moosalm 103.90 321 *i* Pdiff **Pdif 13 29 06.8 -0.1**
comp=Z,39nm,1.1s,SNR=10.0
NEW Newport 104.05 38 *e*Pdif **Pdif 13 29 07.2 -0.2**
comp=Z,30nm,1.5s
RETA Reutte 104.06 321⇓*i*P **Pdif 13 29 09.3 +1.8**
comp=Z,24nm,1.5s
RETA Reutte 104.06 321⇓*i*Pdiff **Pdif 13 29 09.3 +1.8**
comp=Z,24nm,1.5s,SNR=5.3
AQU L'Aquila 104.12 315 PFAKE 13 29 20.0 +12
AQU LR LR
comp=Z,9µm,20.0s
FETA Feichten 104.26 321⇑*i*P **Pdif 13 29 07.9 -0.7**
comp=Z,40nm,1.1s
FETA Feichten 104.26 321⇑*i*Pdiff **Pdif 13 29 07.9 -0.7**
comp=Z,40nm,1.1s,SNR=17
TNS Taunus Mts 104.37 324 *e*Pdiff **Pdif 13 29 09.9 +1.1**
TOD Tromm 104.42 324 *e*P **Pdif 13 29 08.7 -0.3**
TOD Tromm 104.42 324 *e*P **Pdif 13 29 08.7 -0.3**
BUG Bochum--Univer 104.53 326 *e*Pdiff **Pdif 13 29 10.3 +1.0**
STU Stuttgart 104.53 323 *e*Pdiff **Pdif 13 29 10.2 +0.7**
STU Stuttgart 104.53 323 *e*P **Pdif 13 29 08.0 -1.4**
STU Stuttgart 104.53 323 *e*Pdif **Pdif 13 29 08.0 -1.4**
DAVA Damuels 104.69 321⇓*i*P **Pdif 13 29 10.7 +0.2**
comp=Z,46nm,1.6s
DAVA Damuels 104.69 321⇓*i*Pdiff **Pdif 13 29 10.7 +0.2**
comp=Z,46nm,1.6s
KTD Kalmit 104.97 323 *e*P **Pdif 13 29 12.4 +1.0**
KTD Kalmit 104.97 323 *e*P **Pdif 13 29 12.4 +1.0**
ABH Alteburg 105.04 324 *e*P **Pdif 13 29 12.0 +0.2**
WVOR Wild Horse Val 105.19 44 PFAKE 13 33 40.0
WVOR LR LR
comp=Z,6µm,19.0s
BMO Blue Mountains 105.23 41 PFAKE 13 33 40.0
BMO LR LR
comp=Z,5µm,22.0s
BFO Black Forest 105.23 322 *e*Pdiff **Pdif 13 29 12.9 +0.3**
BFO Black Forest 105.23 322 *e*P **Pdif 13 29 10.1 -2.6**
BFO pmax pmax
comp=Z,28nm,1.4s
BFO MLR MLR
comp=Z,8µm,20.0s
BFO Black Forest 105.23 322 *e*Pdif **Pdif 13 29 10.1 -2.6**
comp=Z,28nm,1.4s
BFO LR LR
comp=Z,8µm,20.0s
WDD Wield Dalam 105.27 309 PFAKE 13 33 40.0
WDD LR LR
comp=Z,2µm,21.0s
LANF Langenberg 105.28 323 *e*P **Pdif 13 29 13.1 +0.3**
LANF Langenberg 105.28 323 *e*P **Pdif 13 29 13.1 +0.3**
LANF Langenberg 105.28 323 *e*P **Pdif 13 29 13.1 +0.3**
TUE Stuetta 105.35 320 *e*Pdif **Pdif 13 29 12.9 -0.5**
comp=Z,30nm,1.3s
TUE LR LR
comp=Z,7µm,21.0s
RUP Ruppelstein 105.41 324 *e*P **Pdif 13 29 13.5 +0.1**
RUP Ruppelstein 105.41 324 *e*P **Pdif 13 29 13.5 +0.1**
A13A Flathead Natio 105.42 37⇑PKiKP **PKiKP 13 33 28.3 +1.1**
baz=105
SUR Sutherland 105.49 238 PFAKE 13 33 40.0
SUR LR LR
comp=Z,6µm,22.0s
VLC Villacollemand 105.55 318 PFAKE 13 33 40.0
VLC LR LR
comp=Z,9µm,20.0s
MEM Membach 105.61 325 P **Pdif 13 29 14.5 +0.3**
comp=Z,35nm,2.0s
FELD Feldberg im Sc 105.62 322 *e*P **Pdif 13 29 13.3 -1.2**
BSMT Bassoo Peak 105.65 38 *e*Pdif **Pdif 13 29 14.8 +0.1**
comp=Z,13nm,1.3s
CDF Champ du Feu 105.84 323 *e*P **Pdif 13 29 15.4 0.0**
comp=Z,142nm,1.4s
CDF Champ du Feu 105.84 323 *e*P **Pdif 13 29 15.4 0.0**
CDF pmax pmax
comp=Z,142nm,1.4s
CDF Champ du Feu 105.84 323 *e*P **Pdif 13 29 15.4 0.0**
comp=Z,142nm,1.4s
WLF Walferdange 105.95 324 *e*Pdiff **Pdif 13 29 17.4 +1.6**
WLF Walferdange 105.95 324 PFAKE 13 33 40.0
WLF LR LR
comp=Z,9µm,20.0s
ECH Echery 105.99 323 *e*P **Pdif 13 29 15.0 -1.0**
ECH MLR MLR
comp=Z,7µm,19.0s
ECH Echery 105.99 323 *e*P **Pdif 13 29 15.0 -1.0**
ECH LR LR
comp=Z,7µm,19.0s
ECH Echery 105.99 323 *e*P **Pdif 13 29 15.0 -1.0**
BCLA Clavier 106.10 325 P **Pdif 13 29 17.6 +1.2**
comp=Z,43nm,2.0s
MOF Molkenrain 106.16 322 *e*P **Pdif 13 29 16.3 -0.6**
MOF Molkenrain 106.16 322 *e*P **Pdif 13 29 16.3 -0.6**
MOF Molkenrain 106.16 322 *e*P **Pdif 13 29 16.3 -0.6**
HINF Hinteralfeld 106.35 322 *e*P **Pdif 13 29 17.4 -0.2**
comp=Z,78nm,1.5s
HINF Hinteralfeld 106.35 322 *e*P **Pdif 13 29 17.4 -0.2**
HINF pmax pmax
comp=Z,78nm,1.5s
HINF Hinteralfeld 106.35 322 *e*P **Pdif 13 29 17.4 -0.2**
comp=Z,78nm,1.5s
GIVF Givet 106.52 325 *e*P **Pdif 13 29 19.0 +0.7**
comp=Z,147nm,1.4s
GIVF Givet 106.52 325 *e*P **Pdif 13 29 19.0 +0.7**
GIVF pmax pmax
comp=Z,147nm,1.4s
GIVF Givet 106.52 325 *e*P **Pdif 13 29 19.0 +0.7**
comp=Z,147nm,1.4s
LOMF Lomont 106.56 322 *e*P **Pdif 13 29 18.2 -0.4**
LOMF Lomont 106.56 322 *e*P **Pdif 13 29 18.2 -0.4**
LOMF Lomont 106.56 322 *e*P **Pdif 13 29 18.2 -0.4**
HAU Haudompre 106.57 323 *e*P **Pdif 13 29 18.4 -0.2**
HAU Haudompre 106.57 323 *e*P **Pdif 13 29 18.4 -0.2**
HAU Haudompre 106.57 323 *e*P **Pdif 13 29 18.4 -0.2**
MSO Missoula 106.60 39 PFAKE 13 33 40.0
MSO LR LR
comp=Z,3µm,21.0s
SNF Seneffe 106.63 326 P **Pdif 13 29 21.5 +2.8**
DOU Dourbes 106.65 325 P **Pdif 13 29 19.2 +0.4**
PAGF Fort de Pagny 106.70 323 *e*P **Pdif 13 29 19.5 +0.4**
comp=Z,13nm,0.9s
PAGF Fort de Pagny 106.70 323 *e*P **Pdif 13 29 19.5 +0.4**
comp=Z,13nm,0.9s
MFID Camas Ranch 106.76 42 *e*Pdif **Pdif 13 29 20.9 +1.3**
NVAR Mina Array Bea 106.78 48 Pdif **Pdif 13 29 21.6 +1.5**
NVAR PKKPbc **PKKPbc 13 44 52.3 +2.6**
NVAR Mina Array Bea 106.78 48 Pdiff **Pdif 13 29 21.6 +1.5**
comp=Z,2.0nm,0.9s,baz=275,slow=5.8,SNR=8.5
NVAR PKKPbc **PKKPbc 13 44 52.3 +2.6**
comp=Z,1.8nm,0.7s,baz=146,slow=4.5,SNR=8.9
BAIF Baives 106.89 325 *e*P **Pdif 13 29 20.7 +0.8**
comp=Z,76nm,1.4s
BAIF Baives 106.89 325 *e*P **Pdif 13 29 20.7 +0.8**
BAIF pmax pmax
comp=Z,76nm,1.4s
BAIF Baives 106.89 325 *e*P **Pdif 13 29 20.7 +0.8**
comp=Z,76nm,1.4s
BMN Battle Mountai 106.89 46 PFAKE 13 33 40.0
BMN LR LR
comp=Z,5µm,21.0s
PGF Pioggiola 107.10 317 *e*P **Pdif 13 29 21.0 -0.2**
comp=Z,79nm,1.1s
PGF Pioggiola 107.10 317 *e*P **Pdif 13 29 21.0 -0.2**
PGF pmax pmax
comp=Z,79nm,1.1s
PGF Pioggiola 107.10 317 *e*P **Pdif 13 29 21.0 -0.2**
comp=Z,79nm,1.1s
SFTF Sexfontaines 107.27 323 *e*P **Pdif 13 29 21.8 +0.1**
SFTF Sexfontaines 107.27 323 *e*P **Pdif 13 29 21.8 +0.1**
CABF La Chapelle 107.34 322 *e*P **Pdif 13 29 22.2 +0.1**
comp=Z,147nm,1.7s
CABF La Chapelle 107.34 322 *e*P **Pdif 13 29 22.2 +0.1**
CABF pmax pmax
comp=Z,147nm,1.7s
CABF La Chapelle 107.34 322 *e*P **Pdif 13 29 22.2 +0.1**
comp=Z,147nm,1.7s
BORG Borgarnes 107.39 346 PFAKE 13 33 40.0
BORG LR LR
comp=Z,9µm,20.0s
LPG La Plagne 107.40 320 *e*P **Pdif 13 29 22.9 +0.2**
comp=Z,72nm,1.4s
LPG La Plagne 107.40 320 *e*P **Pdif 13 29 22.9 +0.2**
LPG pmax pmax
comp=Z,72nm,1.4s
LPG La Plagne 107.40 320 *e*P **Pdif 13 29 22.9 +0.2**
comp=Z,72nm,1.4s
LPL La Plagne 107.40 320 *e*P **Pdif 13 29 22.7 +0.1**
comp=Z,62nm,1.2s
LPL La Plagne 107.40 320 *e*P **Pdif 13 29 22.7 +0.1**
LPL pmax pmax
comp=Z,62nm,1.2s
LPL La Plagne 107.40 320 *e*P **Pdif 13 29 22.7 +0.1**
comp=Z,62nm,1.2s
A17A Triple J Farms 107.60 36⇑PKiKP **PKiKP 13 33 31.7 +0.5**
baz=108
SBF Sospel 107.63 318 *e*P **Pdif 13 29 23.7 +0.2**
SBF Sospel 107.63 318 *e*P **Pdif 13 29 23.7 +0.2**
SBF Sospel 107.63 318 *e*P **Pdif 13 29 23.7 +0.2**
BNI Bardonecchia 107.63 320 PFAKE 13 33 40.0
BNI LR LR
comp=Z,8µm,21.0s
HLID Hailey 107.64 42 PFAKE 13 33 40.0
HLID LR LR
comp=Z,3µm,20.0s
HLID Hailey 107.64 42⇓PKiKP **PKiKP 13 33 31.4 -0.2**
baz=108
I13A Wildhorse Cree 107.70 41⇑PKiKP **PKiKP 13 33 31.0 -0.7**
baz=108
TPH Tonopah 107.71 48 PFAKE 13 33 40.0
TPH LR LR
comp=Z,4µm,21.0s
ESK Eskdalemuir 107.89 333 PFAKE 13 33 40.0
ESK LR LR
comp=Z,9µm,20.0s
F15A Butte 107.93 39⇑PKiKP **PKiKP 13 33 32.4 +0.3**
baz=108
DAC Darwin (Calif) 108.03 50 PFAKE 13 33 40.0
DAC LR LR
comp=Z,9µm,19.0s
A18A Metzger Ranch, 108.11 35⇓PKiKP **PKiKP 13 33 32.5 +0.4**
baz=108
MCMT McKenzie Canyo 108.14 40 *e*Pdif **Pdif 13 29 28.4 +2.4**
ELK Elko 108.18 45 *e*PcP 13 33 34.8
ORIF Oris-en-Rattie 108.20 320 *e*P **Pdif 13 29 26.0 0.0**
comp=Z,60nm,1.3s
ORIF Oris-en-Rattie 108.20 320 *e*P **Pdif 13 29 26.0 0.0**
ORIF pmax pmax
comp=Z,60nm,1.3s
ORIF Oris-en-Rattie 108.20 320 *e*P **Pdif 13 29 26.0 0.0**
comp=Z,60nm,1.3s
LOR Lormes 108.41 323 *e*P **Pdif 13 29 26.7 -0.1**
comp=Z,61nm,1.2s
LOR Lormes 108.41 323 *e*P **Pdif 13 29 26.7 -0.1**
comp=Z,61nm,1.2s
LMR La Mourre 108.46 318 *e*P **Pdif 13 29 26.6 -0.5**
LMR La Mourre 108.46 318 *e*P **Pdif 13 29 26.6 -0.5**
LMR La Mourre 108.46 318 *e*P **Pdif 13 29 26.6 -0.5**
F16A Kennard Place, 108.50 39⇑PKiKP **PKiKP 13 33 34.0 +0.9**
baz=108
BOZ Bozeman (W) 108.56 39 PFAKE 13 33 40.0
BOZ LR LR
comp=Z,3µm,20.0s
EGMT Eagleton 108.59 36 PFAKE 13 33 40.0
EGMT LR LR
comp=Z,4µm,20.0s
EGMT Eagleton 108.59 36⇓PKiKP **PKiKP 13 33 34.3 +1.2**
baz=108
SSF Saint Saulge 108.72 323 *e*P **Pdif 13 29 28.1 0.0**
comp=Z,66nm,1.6s
SSF Saint Saulge 108.72 323 *e*P **Pdif 13 29 28.1 0.0**
SSF pmax pmax
comp=Z,66nm,1.6s
SSF Saint Saulge 108.72 323 *e*P **Pdif 13 29 28.1 0.0**
comp=Z,66nm,1.6s
FFC Flin Flon 109.00 27 PFAKE 13 33 40.0
FFC LR LR
comp=Z,5µm,21.0s
VIVF Saint-Julien-l 109.00 320 *e*P **Pdif 13 29 29.3 -0.2**
VIVF Saint-Julien-l 109.00 320 *e*P **Pdif 13 29 29.3 -0.2**
VIVF Saint-Julien-l 109.00 320 *e*P **Pdif 13 29 29.3 -0.2**
SFJD Kangerlussuaq 109.08 359 PFAKE 13 33 40.0
SFJD LR LR
comp=Z,6µm,21.0s
PLDF La Plantade 109.16 322 *e*P **Pdif 13 29 31.4 +1.2**
PLDF La Plantade 109.16 322 *e*P **Pdif 13 29 31.4 +1.2**
PLDF La Plantade 109.16 322 *e*P **Pdif 13 29 31.4 +1.2**
TSUM Tsumeb 109.27 251 PFAKE 13 33 40.0
TSUM LR LR
comp=Z,6µm,20.0s
L15A Malad City 109.64 43⇑PKiKP **PKiKP 13 33 36.2 +0.9**
baz=110
LBL Lubilhac 109.73 321 *e*P **Pdif 13 29 33.1 +0.3**
LBL Lubilhac 109.73 321 *e*P **Pdif 13 29 33.1 +0.3**
LBL Lubilhac 109.73 321 *e*P **Pdif 13 29 33.1 +0.3**
PFO Pinyon Flat Ob 109.79 52 PFAKE 13 33 50.0
PFO LR LR
comp=Z,4µm,22.0s
LKWY Lake 109.83 40 PFAKE 13 33 50.0
LKWY LR LR
comp=Z,5µm,20.0s
TCF Toulx Ste Croi 109.87 323 *e*P **Pdif 13 29 33.7 +0.4**
comp=Z,42nm,1.2s
TCF Toulx Ste Croi 109.87 323 *e*P **Pdif 13 29 33.7 +0.4**
TCF Toulx Ste Croi 109.87 323 *e*P **Pdif 13 29 33.7 +0.4**
LDF La Druitiere 110.07 325 *e*P **Pdif 13 29 34.7 +0.6**
LDF La Druitiere 110.07 325 *e*P **Pdif 13 29 34.7 +0.6**
LDF La Druitiere 110.07 325 *e*P **Pdif 13 29 34.7 +0.6**
SNOW Snow King Moun 110.10 41 *e*PKPdf **PKiKP 13 33 36.9 +0.6**
DUG Dugway 110.10 45 PFAKE 13 33 50.0
DUG LR LR
comp=Z,4µm,20.0s
AHID Auburn Hatcher 110.18 42 PFAKE 13 33 50.0
AHID LR LR
comp=Z,4µm,22.0s
FLN La Foliniere 110.19 326 *e*P **Pdif 13 29 35.1 +0.5**
FLN La Foliniere 110.19 326 *e*P **Pdif 13 29 35.1 +0.5**
FLN La Foliniere 110.19 326 *e*P **Pdif 13 29 35.1 +0.5**
RLMT Red Lodge 110.28 39 PFAKE 13 33 50.0
RLMT LR LR
comp=Z,4µm,22.0s
RLMT Red Lodge 110.28 39⇑PKiKP **PKiKP 13 33 36.7 +0.2**
baz=110
HWUT Hardware Ranch 110.37 43 PFAKE 13 33 50.0
HWUT LR LR
comp=Z,6µm,22.0s
GRR Gorron 110.60 326 *e*P **Pdif 13 29 37.0 +0.6**
GRR Gorron 110.60 326 *e*P **Pdif 13 29 37.0 +0.6**
GRR Gorron 110.60 326 *e*P **Pdif 13 29 37.0 +0.6**
RJF Les Rejaudoux 110.77 322 *e*P **Pdif 13 29 38.3 +1.0**
comp=Z,32nm,1.1s
RJF Les Rejaudoux 110.77 322 *e*P **Pdif 13 29 38.3 +1.0**
RJF Les Rejaudoux 110.77 322 *e*P **Pdif 13 29 38.3 +1.0**
G20A Bridger 110.89 38⇓PKiKP **PKiKP 13 33 38.2 +0.6**
PKKPbc **PKKPbc 13 44 52.3 +2.6**
K18A Toltan Ranch, 110.93 41⇓PKiKP **PKiKP 13 33 37.7 -0.1**
baz=111
MFF Saint Martin d 111.12 324 *e*P **Pdif 13 29 39.3 +0.5**
MFF Saint Martin d 111.12 324 *e*P **Pdif 13 29 39.3 +0.5**
MFF Saint Martin d 111.12 324 *e*P **Pdif 13 29 39.3 +0.5**
D22A Cohagen 111.13 36⇓PKiKP **PKiKP 13 33 38.5 +0.7**
baz=111
BW06 Boulder Array 111.19 41 PFAKE 13 33 50.0
BW06 LR LR
comp=Z,7µm,22.0s
BW06 Boulder Array 111.19 41⇓PKiKP **PKiKP 13 33 38.5 +0.1**
baz=111
PDAR Pinedale Array 111.19 41 Pdiff Pdif 13 29 52.7 +13
comp=Z,0.7nm,0.8s,baz=207,slow=3.0,SNR=3.7
L18A Fontenelle, Gr 111.26 42⇑PKiKP **PKiKP 13 33 39.3 +0.8**
baz=111
C23A Lambert 111.35 35⇑PKiKP **PKiKP 13 33 38.7 +0.5**
baz=111
H20A Greybull 111.38 39⇑PKiKP **PKiKP 13 33 38.9 +0.5**
baz=111
A24A Westby 111.39 33⇑PKiKP **PKiKP 13 33 38.2 -0.1**
baz=111
G21A Lodge Grass 111.50 38⇑PKiKP **PKiKP 13 33 38.9 +0.2**
baz=111
DGMT Dagmar 111.54 34 PFAKE 13 33 50.0
DGMT LR LR
comp=Z,3µm,22.0s
O17A Robinson Place 111.54 44⇓PKiKP **PKiKP 13 33 40.0 +0.9**
baz=112
I20A Worland 111.56 39⇑PKiKP **PKiKP 13 33 39.3 +0.5**
baz=112
TMUT Trail Mountain 111.59 45 *e*PKPdf **PKiKP 13 33 39.3 0.0**
SGMF Saint Gilles 111.62 326 *e*P **Pdif 13 29 41.6 +0.6**
comp=Z,110nm,1.7s
SGMF Saint Gilles 111.62 326 *e*P **Pdif 13 29 41.6 +0.6**
SGMF Saint Gilles 111.62 326 *e*P **Pdif 13 29 41.6 +0.6**
L19A Farson 111.63 42⇑PKiKP **PKiKP 13 33 39.6 +0.4**
baz=112
K19A Absolon Red Bu 111.63 41⇓PKiKP **PKiKP 13 33 39.7 +0.6**
baz=112
E22A Miles City 111.63 36⇑PKiKP **PKiKP 13 33 39.9 +1.0**
baz=112
D23A Lindsay 111.68 35⇓PKiKP **PKiKP 13 33 40.2 +1.3**
baz=112
Q16A Castle Valley 111.78 45⇑PKiKP **PKiKP 13 33 39.4 -0.2**
baz=112
J20A Shoshoni 111.87 40⇓PKiKP **PKiKP 13 33 38.6 -0.9**
baz=112
F23A Volborg 112.33 37⇓PKiKP **PKiKP 13 33 40.7 +0.5**
baz=112
L20A Wamsutter 112.34 41⇓PKiKP **PKiKP 13 33 40.7 +0.2**
baz=112
E24A Baker 112.53 35⇑PKiKP **PKiKP 13 33 40.7 +0.1**

baz=112
I22A 9 Mile Ranch, 112.62 39 ⇓PKiKP **PKiKP 13 33 41.2 +0.3**
baz=112
K21A Alcova 112.75 40 ⇓PKiKP **PKiKP 13 33 41.5 +0.2**
baz=113
F24A Ekalaka 112.83 36 ⇓PKiKP **PKiKP 13 33 41.4 +0.2**
baz=113
J22A Midwest 112.86 39 ⇓PKiKP **PKiKP 13 33 41.5 +0.1**
baz=113
WUAZ Wupatki 113.01 49 PFAKE 13 33 50.0
WUAZ LR LR
comp=Z,5μm,19.0s
MVCO Mesa Verde 114.42 46 PFAKE 13 33 50.0 +5.3
MVCO LR LR
comp=Z,5μm,19.0s
TUC Tucson 114.70 52 *e*PKPdf PKPdf 13 33 45.3 +0.2
TUC LR LR
comp=Z,4μm,22.0s
ULM Lac du Bonnet 114.73 29 PKKPbc PKKPbc 13 44 27.1 +3.2
ULM Lac du Bonnet 114.73 29 PKKPbc PKKPbc 13 44 27.1 +3.2
comp=Z,4.6nm,0.9s,baz=134,slow=2.5,SNR=5.8
ISCO Idaho Springs 115.22 42 PFAKE 13 34 00.0 +14
ISCO LR LR
comp=Z,4μm,20.0s
AGMN Agassiz Nation 116.04 30 PFAKE 13 34 00.0 +13
AGMN LR LR
comp=Z,5μm,21.0s
Z20A Nine Sixteen R 116.08 50 ⇓PKiKP **PKiKP 13 33 49.6 +1.7**
baz=116
X21A Alamocita Cree 116.14 48 ⇑PKiKP **PKiKP 13 33 49.8 +1.8**
baz=116
V22A San Miguel Ran 116.14 47 ⇑PKiKP **PKiKP 13 33 49.8 +1.8**
baz=116
120A U Bar Ranch, L 116.28 51 ⇓PKiKP **PKiKP 13 33 49.6 +1.3**
baz=116
SDCO Great Sand Dun 116.29 44 *e*PKPdf **PKPdf 13 33 49.1 +0.8**
SDCO LR LR
comp=Z,6μm,22.0s
Y21A Point of Rocks 116.41 49 ⇓PKiKP **PKiKP 13 33 50.1 +1.5**
baz=116
TAM Tamanrasset 116.61 298 *e*PKiKP **PKPdf 13 33 49.1 -0.1**
TAM MLR MLR
comp=Z,3μm,20.0s
TAM Tamanrasset 116.61 298 *e*PKPdf **PKPdf 13 33 49.1 -0.1**
TAM LR LR
comp=Z,3μm,20.0s
220A Playas Peak, P 116.62 51 ⇓PKiKP **PKiKP 13 33 49.9 +0.9**
baz=117
LAZ Ladron 116.64 48 *e*PKPdf **PKPdf 13 33 50.2 +1.2**
X22A Bernardo 116.69 48 ⇓PKiKP **PKiKP 13 33 50.0 +1.0**
baz=117
Z21A St. Cloud Mine 116.70 50 ⇑PKiKP **PKiKP 13 33 50.4 +1.2**
baz=117
V23A Ortiz Mt. (NFS 116.74 46 ⇑PKiKP **PKiKP 13 33 50.5 +1.3**
baz=117
320A Kipp Ranch, An 116.85 52 ⇓PKiKP **PKiKP 13 33 50.5 +1.0**
baz=117
LENM Lemitar 116.86 48 *e*PKPdf **PKPdf 13 33 51.1 +1.7**
ANMO Albuquerque 116.90 47 *e*PKPdf **PKPdf 13 33 48.5 -0.9**
ANMO PKP **PKPdf 13 33 50.2 +0.7**
ANMO LR LR
comp=Z,5μm,20.0s
ANMO Albuquerque 116.90 47 PKP **PKPdf 13 33 50.2 +0.7**
comp=Z,10nm,0.9s,baz=194,slow=2.4,SNR=17
T24A Torres, Weston 116.92 45 ⇓PKiKP **PKiKP 13 33 50.4 +0.9**
baz=117
R25A Fountain Ranch 116.93 43 ⇑PKiKP **PKiKP 13 33 50.3 +0.9**
baz=117
121A Cookes Peak, D 116.94 50 ⇑PKiKP **PKiKP 13 33 50.5 +0.9**
baz=117
OGNE Ogallala 116.97 40 *e*PKPdf **PKPdf 13 33 46.8 -2.5**
OGNE LR LR
comp=Z,4μm,22.0s
Y22A Socorro 116.97 49 ⇑PKiKP **PKiKP 13 33 50.5 +0.9**
baz=117
W23A Werner Place, 117.03 47 ⇑PKiKP **PKiKP 13 33 50.8 +1.0**
baz=117
LPM Los Pinos Moun 117.05 48 *e*PKPdf **PKPdf 13 33 50.9 +1.1**
Q26A Hugo 117.06 42 ⇓PKiKP **PKiKP 13 33 50.8 +1.2**
baz=117
S25A Robets Cordova 117.07 44 ⇓PKiKP **PKiKP 13 33 50.8 +1.1**
baz=117
ESDC Sonseca Array 117.11 319 PKP **PKPdf 13 33 49.5 -0.1**
ESDC PP **PP 13 35 03.5 +4.4**
ESDC PKKPbc **PKKPab 13 44 18.1 -0.7**
ESDC Sonseca Array 117.11 319 PKP **PKPdf 13 33 49.5 -0.1**
comp=Z,3.9nm,0.9s,baz=25,slow=2.8,SNR=8.7
ESDC PP **PP 13 35 03.5 +4.4**
comp=Z,9.4nm,1.0s,baz=63,slow=6.2,SNR=7.5
ESDC PKKPbc **PKKPab 13 44 18.1 -0.7**
comp=Z,0.7nm,0.5s,baz=250,slow=4.1,SNR=4.8
ESLA Sonseca Array 117.11 319 PFAKE 13 34 00.0 +10
ESLA LR LR
comp=Z,24μm,21.0s
221A Mesquite Ranch 117.16 51 ⇑PKiKP **PKiKP 13 33 51.2 +1.2**
baz=117
X23A Hourglass Bar 117.26 48 ⇑PKiKP **PKiKP 13 33 51.3 +1.1**
baz=117
Z22A Elephant Butte 117.26 49 ⇑PKiKP **PKiKP 13 33 51.5 +1.3**
baz=117
T25A Trinidad 117.34 44 ⇓PKiKP **PKiKP 13 33 51.6 +1.3**
baz=117
V24A Rampart Ranch, 117.41 46 ⇓PKiKP **PKiKP 13 33 51.5 +1.0**
baz=117
R26A Arlington 117.42 43 ⇑PKiKP **PKiKP 13 33 51.4 +1.1**
baz=117
PAB San Pablo 117.44 319 PFAKE 13 34 00.0 +10
PAB LR LR
comp=Z,5μm,21.0s
122A Conniff Cattle 117.47 50 ⇓PKiKP **PKiKP 13 33 51.8 +1.2**
baz=117
W24A Lazy 6 Ranch, 117.55 47 ⇑PKiKP **PKiKP 13 33 51.6 +0.9**
baz=118
KSCO Kaye Shedlock' 117.61 42 ⇓PKiKP **PKiKP 13 33 51.5 +0.8**
baz=118
222A Williams Famil 117.64 51 ⇓PKiKP **PKiKP 13 33 51.7 +0.8**
baz=118
Y23A Lovelace Mesa, 117.65 48 ⇑PKiKP **PKiKP 13 33 51.7 +0.8**
baz=118
U25A Circle Dot Ran 117.70 45 ⇓PKiKP **PKiKP 13 33 51.5 +0.6**
baz=118
PBRG Braganca 117.71 322 *e*PKPdf **PKPdf 13 33 50.9 +0.3**
PBRG Braganca 117.71 322 *e*PP PP 13 35 04.2 +1.0
S26A Kim 117.75 43 ⇑PKiKP **PKiKP 13 33 51.6 +0.7**
baz=118
Z23A Rita Site, Whi 117.81 49 ⇑PKiKP **PKiKP 13 33 51.8 +0.6**
baz=118
V25A Rancho No Teng 117.82 46 ⇑PKiKP **PKiKP 13 33 52.1 +0.9**
baz=118
X24A Lazy VL Ranch, 117.82 47 ⇓PKiKP **PKiKP 13 33 51.9 +0.6**
baz=118
R27A Eads 117.87 43 ⇓PKiKP **PKiKP 13 33 51.8 +0.7**
baz=118
T26A Comanche Natio 117.89 44 ⇑PKiKP **PKiKP 13 33 52.1 +0.8**
baz=118
123A Bell Site, Whi 118.06 50 ⇑PKiKP **PKiKP 13 33 52.6 +0.9**
baz=118
Y24A Capitan 118.11 48 ⇓PKiKP **PKiKP 13 33 52.5 +0.6**
baz=118
S27A Las Animas 118.11 43 ⇑PKiKP **PKiKP 13 33 52.3 +0.6**
baz=118
U26A Atchley Ranch, 118.17 45 ⇓PKiKP **PKiKP 13 33 52.8 +0.9**
baz=118
W25A X Bar L Ranch, 118.23 46 ⇑PKiKP **PKiKP 13 33 52.7 +0.7**
baz=118
MVO Moncorvo 118.25 322 *e*Pdif **Pdif 13 30 12.2 +1.4**
MVO Moncorvo 118.25 322 *e*PKPdf **PKPdf 13 33 52.0 +0.3**
MVO Moncorvo 118.25 322 *e*PP PP 13 35 07.3 +0.3
MVO Moncorvo 118.25 322 *e*PP PP 13 35 07.4 +0.4
MVO eLQ LQ 14 05 38.5
MVO eLR LR 14 13 16.6
comp=Z,6μm,20.0s
MVO Moncorvo 118.25 322 *i* P PKKPdf 13 45 07.5 +27
EYMN Ely 118.40 28 PFAKE 13 34 00.0 +8.3
EYMN LR LR
comp=Z,4μm,22.0s
X25A Clemmons Ranch 118.41 47 ⇑PKiKP **PKiKP 13 33 52.9 +0.5**
baz=118
Z24A Sheeppen Canyo 118.43 49 ⇓PKiKP **PKiKP 13 33 53.1 +0.6**
baz=118
PGAV Gavieira, Arco 118.54 323 *e*Pdif **Pdif 13 30 14.6 +2.5**
PGAV Gavieira, Arco 118.54 323 *e*PKPdf **PKPdf 13 33 52.2 -0.1**
PGAV Gavieira, Arco 118.54 323 *e*PP PP 13 35 07.8 -1.2
PGAV Gavieira, Arco 118.54 323 *e*PP PP 13 35 07.9 -1.1
PGAV *i* P PKKPdf 13 45 25.1 +45
PGAV eLQ LQ 14 04 37.2
PGAV eLR LR 14 12 41.8
comp=Z,5μm,20.0s
PGAV Gavieira, Arco 118.54 323 *e*SKSac SKSac 13 39 57.0 -48
PCAB Cabril 118.55 323 *e*PP PP 13 35 10.6 +1.6
T27A Campo 118.55 44 ⇑PKiKP **PKiKP 13 33 53.3 +0.7**
baz=118
ECSD EROS Data Cent 118.59 34 *e*PKPdf **PKPdf 13 33 52.1 -0.1**
ECSD *e*PKKPbc **PKKPbc 13 44 08.7 -1.5**
ECSD LR LR
comp=Z,3μm,20.0s
POLO Lamas de Olo 118.60 322 *e*PKPdf **PKPdf 13 33 53.1 +0.7**
POLO Lamas de Olo 118.60 322 *e*PP PP 13 35 09.0 -0.4
POLO Lamas de Olo 118.60 322 *i* P PKKPdf 13 45 23.9 +44
PVRL Vila Real 118.61 322 *e*PKPdf **PKPdf 13 33 52.5 +0.1**
PVRL Vila Real 118.61 322 *e*PP PP 13 35 08.7 -0.8
124A Stringfield Ra 118.65 49 ⇑PKiKP **PKiKP 13 33 53.5 +0.5**
baz=119
Y25A Mesa, Roswell 118.66 48 ⇓PKiKP **PKiKP 13 33 53.8 +0.9**
baz=119
W26A Owens Ranch, T 118.79 46 ⇑PKiKP **PKiKP 13 33 53.6 +0.6**
baz=119
224A Cornudas Mount 118.87 50 ⇑PKiKP **PKiKP 13 33 53.6 +0.2**
baz=119
PMSA Palmer Station 118.93 175 PFAKE 13 34 00.0 +7.9
PMSA LR LR
comp=Z,2μm,20.0s
T28A Walsh 118.94 43 ⇑PKiKP **PKiKP 13 33 53.5 +0.3**
baz=119
Z25A Roswell 118.94 48 ⇑PKiKP **PKiKP 13 33 53.8 +0.4**
baz=119
MTE Manteigas 119.01 321 *e*Pdif **Pdif 13 30 14.2 0.0**
MTE Manteigas 119.01 321 *e*PP PP 13 35 15.0 +2.7
MTE eLQ LQ 14 04 49.9
MTE eLR LR 14 13 05.8
comp=Z,6μm,20.0s
MTE Manteigas 119.01 321 *e*PKPdf **PKPdf 13 33 51.5 -1.7**
MTE LR LR
comp=Z,6μm,20.0s
MTE Manteigas 119.01 321 *i* P PKKPdf 13 45 14.5 +36
X26A CR and CF Fran 119.01 47 ⇓PKiKP **PKiKP 13 33 53.8 +0.3**
baz=119
PVIS Viseu 119.05 322 *e*PKPdf **PKPdf 13 33 52.0 -1.2**
PVIS Viseu 119.05 322 *e*PP PP 13 35 12.4 -0.1
BGNE Belgrade 119.11 37 ⇑PKiKP **PKiKP 13 33 53.4 +0.1**
baz=119
MNTX Cornudas Mount 119.14 50 *e*PKPdf **PKPdf 13 33 54.3 +0.7**
MNTX LR LR
comp=Z,4μm,21.0s
MNTX Cornudas Mount 119.14 50 ⇑PKiKP **PKPdf 13 33 54.3 +0.7**
baz=119
324A Moseley Ranch, 119.17 51 ⇑PKiKP **PKiKP 13 33 54.3 +0.3**
baz=119
125A Gardner Draw, 119.27 49 ⇓PKiKP **PKiKP 13 33 54.2 +0.1**
baz=119
PCBR Castelo Branco 119.29 321 *e*PKPdf **PKPdf 13 33 54.1 +0.5**
PCBR Castelo Branco 119.29 321 *e*PP PP 13 35 14.4 +0.3
Y26A Elida 119.30 47 ⇓PKiKP **PKiKP 13 33 54.4 +0.3**
baz=119
225A Deer Hill, Car 119.39 50 ⇑PKiKP **PKiKP 13 33 55.0 +0.7**
baz=119
PMRV Marv??o 119.47 320 *e*Pdif **Pdif 13 30 17.8 +1.6**
PMRV Marv??o 119.47 320 *e*PKPdf **PKPdf 13 33 53.9 -0.1**
PMRV Marv??o 119.47 320 *e*PP PP 13 35 13.8 -1.6
PMRV Marv??o 119.47 320 *e*PP PP 13 35 15.3 -0.1
PMRV eLQ LQ 14 05 54.0
PMRV eLR LR 14 12 55.7
comp=Z,5μm,20.0s
PMRV Marv??o 119.47 320 *i* P PKKPdf 13 45 15.7 +38
X27A F and S Farms, 119.48 46 ⇓PKiKP **PKiKP 13 33 54.8 +0.4**
baz=119
Z26A Caprock 119.49 48 ⇓PKiKP **PKiKP 13 33 55.0 +0.5**
baz=119
V28A Channing 119.56 45 ⇓PKiKP **PKiKP 13 33 55.3 +0.8**
baz=120
325A Bean Ranch, Si 119.60 50 ⇑PKiKP **PKiKP 13 33 55.0 +0.2**
baz=120
CBKS Cedar Bluff 119.61 41 *e*PKPdf **PKPdf 13 33 53.9 -0.5**
CBKS LR LR
comp=Z,7μm,22.0s
CBKS Cedar Bluff 119.61 41 ⇑PKiKP **PKiKP 13 33 55.2 +0.7**
baz=120
SPMN St. Paul 119.67 31 ⇑PKiKP **PKiKP 13 33 54.8 +0.5**
baz=120
126A Clayton Basin, 119.75 49 ⇓PKiKP **PKiKP 13 33 55.6 +0.7**
baz=120
Y27A Causey 119.80 47 ⇑PKiKP **PKiKP 13 33 56.1 +1.0**
baz=120
W28A Vega 119.82 45 ⇓PKiKP **PKiKP 13 33 55.8 +0.8**
baz=120
425A Indio Mountain 119.84 51 ⇑PKiKP **PKiKP 13 33 55.8 +0.6**
baz=120
PESTR Estremoz 119.91 320 *e*PKPdf **PKPdf 13 33 56.4 +1.5**
PESTR Estremoz 119.91 320 *e*PP PP 13 35 18.5 0.0
PESTR Estremoz 119.91 320 *i* P PKKPdf 13 45 25.1 +48
PBAR Barrancos 119.94 319 *e*PKPdf **PKPdf 13 33 54.9 0.0**
PBAR Barrancos 119.94 319 *e*PP PP 13 35 18.5 -0.2
PBAR Barrancos 119.94 319 *i* P PKKPdf 13 45 16.9 +40
226A Malaga, Loving 119.95 49 ⇓PKiKP **PKiKP 13 33 56.1 +0.8**
baz=120
V29A Stinnett 119.99 44 ⇓PKiKP **PKiKP 13 33 55.9 +0.6**
baz=120
Z27A Tatum 120.04 48 ⇓PKiKP **PKiKP 13 33 56.0 +0.5**
baz=120
MSTX Muleshoe 120.05 47 ⇓PKiKP **PKiKP 13 33 55.9 +0.4**
baz=120
X28A Dimmitt 120.19 46 ⇑PKiKP **PKiKP 13 33 56.3 +0.5**
baz=120
PMTG Montargil 120.21 320 *e*PKPdf **PKPdf 13 33 54.6 -0.8**
PMTG Montargil 120.21 320 *e*PP PP 13 35 20.1 -0.3
127A Arkansas Junct 120.23 48 ⇓PKiKP **PKiKP 13 33 56.6 +0.7**
baz=120
SCHQ Schefferville 120.26 9 *e*PKPdf **PKPdf 13 33 54.0 -1.1**
SCHQ PKP **PKPdf 13 33 55.4 +0.3**
SCHQ PKKPbc **PKKPab 13 44 04.3 -0.7**
SCHQ LR LR
comp=Z,5μm,21.0s
SCHQ Schefferville 120.26 9 PKP **PKPdf 13 33 55.4 +0.3**
comp=Z,18nm,0.8s,baz=16,slow=2.7,SNR=24
SCHQ PKKPbc **PKKPab 13 44 04.3 -0.7**
comp=Z,3.0nm,1.0s,baz=90,slow=3.8,SNR=3.8
EVO Evora 120.38 320 *e*PKPdf **PKPdf 13 33 56.4 +0.6**
EVO Evora 120.38 320 *e*PP PP 13 35 20.4 -1.2
EVO Evora 120.38 320 *e*PKiKP **PKPdf 13 33 55.8 0.0**
comp=Z,65nm,1.3s
AMTX Amarillo 120.38 45 *e*PKPdf **PKPdf 13 33 56.0 0.0**
AMTX LR LR
comp=Z,7μm,22.0s
AMTX Amarillo 120.38 45 ⇑PKiKP **PKiKP 13 33 56.7 +0.5**
EVOP Sao Brissos 120.45 320 *e*PKiKP **PKPdf 13 33 55.8 -0.1**
EVOP Sao Brissos 120.45 320 *e*PKPdf **PKPdf 13 33 55.8 -0.1**
PBEJ Beja 120.57 319 *e*PKPdf **PKPdf 13 33 56.9 +0.7**
X29A Tulia 120.58 46 ⇓PKiKP **PKiKP 13 33 57.1 +0.5**
baz=120
227A Bennet, Jal 120.59 49 ⇑PKiKP **PKiKP 13 33 56.8 +0.2**
baz=120
426A McDonald Obser 120.63 51 ⇓PKiKP **PKiKP 13 33 56.9 0.0**
baz=121
Z28A Tucker Farm, M 120.66 47 ⇓PKiKP **PKiKP 13 33 57.1 +0.4**
baz=121
PVAQ Vaqueiros 120.82 318 *e*Pdif **Pdif 13 30 29.1 +7.0**
PVAQ Vaqueiros 120.82 318 *e*PKPdf **PKPdf 13 33 57.9 +1.3**
PVAQ Vaqueiros 120.82 318 *e*PP PP 13 35 25.3 +0.6
PVAQ Vaqueiros 120.82 318 *e*PP PP 13 35 28.4 +3.7
PVAQ eLQ LQ 14 05 40.4
PVAQ eLR LR 14 10 57.3
comp=Z,4μm,20.0s
Y29A Porterfield Fa 120.90 46 ⇓PKiKP **PKiKP 13 33 57.8 +0.6**
baz=121
PCVE Castro Verde 120.90 319 *e*PKPdf **PKPdf 13 33 57.4 +0.6**
PCVE Castro Verde 120.90 319 *e*PP PP 13 35 25.1 -0.1
PCVE Castro Verde 120.90 319 *i* P PKKPdf 13 45 29.7 +55
MESJ Messejana 120.90 319 *e*P **PKPdf 13 33 56.4 -0.5**
MESJ *e*PP **PP 13 35 25.1 -0.2**
MESJ *e*SS SS 13 51 55.6 +1.1
MESJ *e*SS **SS 13 51 56.6 +2.0**
MESJ AMS AMS 14 33 40.3
comp=Z,6μm,21.8s
MESJ Messejana 120.90 319 *e*PP PP 13 35 25.1 -0.1
MESJ *e*SS SS 13 51 55.6 +1.1
MESJ *e*SS **SS 13 51 56.6 +2.0**
MESJ A A 14 33 40.3
comp=Z,6μm,21.8s
MESJ Messejana 120.90 319 *e*PKiKP **PKPdf 13 33 56.3 -0.5**
MESJ *e* 13 35 25.0
MESJ *e*SS SS 13 51 55.6 +1.1
PMAFR Mafra 120.94 321 *e*PP PP 13 35 24.9 -0.6
PMAFR Mafra 120.94 321 *i* P PKKPdf 13 45 23.9 +49
PNCL Nicolau / Gran 120.95 320 *e*PKPdf **PKPdf 13 33 57.4 +0.5**
PNCL Nicolau / Gran 120.95 320 *e*PP PP 13 35 25.4 -0.1
PNCL Nicolau / Gran 120.95 320 *i* P PKKPdf 13 45 30.2 +55
LIS Lisbon 121.00 320 *e*P **PKPdf 13 33 57.0 0.0**
LIS *e*PP **PP 13 35 25.9 +0.1**
LIS AMS AMS 14 34 36.6
comp=E,6μm,20.1s
LIS Lisbon 121.00 320 *e*PKiKP **PKPdf 13 33 56.9 0.0**
LIS *e* 13 35 25.9
MDT Midelt 121.02 312 PKKPbc PKKPbc 13 44 04.6 +3.6
MDT Midelt 121.02 312 PKKPbc PKKPbc 13 44 04.6 +3.6
comp=E,2.9nm,0.9s,baz=299,slow=4.6,SNR=5.3
427A Hayter Ranch, 121.03 50 ⇑PKiKP **PKiKP 13 33 58.2 +0.7**
baz=121
626A Big Bend Ranch 121.04 52 ⇑PKiKP **PKiKP 13 33 58.0 +0.4**
baz=121
PBDV Barranco-do-Ve 121.05 318 *e*PKPdf **PKPdf 13 33 58.4 +1.3**
PBDV Barranco-do-Ve 121.05 318 *e*PP PP 13 35 26.0 -0.3
PBDV *i* P PKKPdf 13 45 25.1 +50
Z29A Hungry Hill Ra 121.17 47 ⇑PKiKP **PKiKP 13 33 58.1 +0.4**
baz=121
527A Woodward Ranch 121.19 51 ⇑PKiKP **PKiKP 13 33 58.1 +0.2**
baz=121
328A Wristen Ranch, 121.24 49 ⇑PKiKP **PKiKP 13 33 58.2 +0.3**
baz=121
129A Stewart Farms, 121.36 48 ⇑PKiKP **PKiKP 13 33 58.7 +0.6**
baz=121
PTEO Sao Teotonio 121.40 319 *e*PKPdf **PKPdf 13 33 58.2 +0.5**
KSU1 Kansas State U 121.44 39 *e*PKPdf **PKPdf 13 33 57.6 -0.2**
KSU1 LR LR
comp=Z,4μm,22.0s
MORF Marmelete 121.49 319 *e*PKPdf **PKPdf 13 33 57.6 -0.5**
MORF Marmelete 121.49 319 *e*PP PP 13 35 28.4 -0.9
MORF *i* P PKKPdf 13 45 42.6 +69
MORF Marmelete 121.49 319 *e*PKiKP **PKPdf 13 33 57.5 -0.5**
MORF *e* 13 35 29.7
TXAR Lajitas Array 121.50 52 PKP **PKPdf 13 33 59.1 +0.7**
TXAR PKKPbc **PKKPab 13 44 02.4 +2.6**
TXAR Lajitas Array 121.50 52 PKP **PKPdf 13 33 59.1 +0.7**
comp=Z,9.0nm,0.9s,baz=252,slow=1.2,SNR=21
TXAR PKKPbc **PKKPab 13 44 02.4 +2.6**
comp=Z,3.1nm,1.1s,baz=118,slow=4.6,SNR=4.2
428A Kincaid Ranch, 121.64 50 ⇑PKiKP **PKiKP 13 33 59.1 +0.4**
baz=122
627A Terlingua Ranc 121.67 52 ⇓PKiKP **PKiKP 13 33 59.2 +0.3**
baz=122
SCIA State Center 121.68 34 *e*PKPdf **PKPdf 13 33 58.7 +0.6**
SCIA LR LR
comp=Z,3μm,22.0s
PFVI Vila Bisbo 121.70 319 *e*PKPdf **PKPdf 13 33 58.7 +0.3**
PFVI Vila Bisbo 121.70 319 *e*PP PP 13 35 30.7 0.0
528A Cox Ranch, San 121.82 51 ⇓PKiKP **PKiKP 13 33 59.4 +0.3**
baz=122
RPN Rapa Nui 122.01 119 PFAKE 13 34 10.0 +11
RPN LR LR
comp=Z,4μm,19.0s
RTC Rabat Centre 122.06 315 PFAKE 13 34 10.0 +11
RTC LR LR
comp=Z,3μm,20.0s
WMOK Wichita Mounta 122.49 44 *e*PKiKP **PKPdf 13 33 59.8 -0.2**
WMOK MLR MLR
comp=Z,6μm,21.0s
WMOK Wichita Mounta 122.49 44 *e*PKPdf **PKPdf 13 33 59.8 -0.2**
WMOK LR LR
comp=Z,6μm,21.0s
TORD Torodi Ar. Bea 122.68 288 PKP **PKPdf 13 34 00.1 -0.7**
TORD PP **PP 13 35 42.1 +3.6**
TORD PKKPbc PKKPab 13 44 01.6 +7.0
TORD Torodi Ar. Bea 122.68 288 PKP **PKPdf 13 34 00.1 -0.7**
comp=Z,20nm,0.7s,baz=51,slow=1.9,SNR=52
TORD PP **PP 13 35 42.1 +3.6**
comp=Z,14nm,1.0s,baz=66,slow=5.6,SNR=4.9
TORD PKKPbc PKKPab 13 44 01.6 +7.0
comp=Z,3.7nm,0.9s,baz=272,slow=2.7,SNR=4.4
TUL1 Tulsa 123.85 41 ⇓PKiKP **PKiKP 13 34 03.4 +0.6**
baz=124
GLMI Grayling 123.89 26 PFAKE 13 34 10.0 +7.6
GLMI LR LR
comp=Z,4μm,22.0s
JCT Junction City 123.94 49 *e*PKiKP **PKPdf 13 34 02.3 -0.6**
JCT MLR MLR
comp=Z,5μm,19.0s
JCT Junction City 123.94 49 *e*PKPdf **PKPdf 13 34 02.3 -0.6**
JCT LR LR
comp=Z,5μm,19.0s
JCT Junction City 123.94 49 ⇓PKiKP **PKiKP 13 34 03.6 +0.4**
baz=124
RFTA Plano 124.89 45 *e*PKPdf **PKPdf 13 34 05.0 +0.4**
FVM French Village 125.89 36 *e*PKiKP **PKPdf 13 34 06.4 0.0**
FVM French Village 125.89 36 *e*PKPdf **PKPdf 13 34 06.4 0.0**
SFIN Scholer Farm 126.06 32 ⇑PKiKP **PKiKP 13 34 07.4 +0.3**
baz=126
MIAR Mount Ida 126.12 41 *e*PKiKP **PKPdf 13 34 06.8 -0.1**
MIAR MLR MLR
comp=Z,6μm,20.0s
MIAR Mount Ida 126.12 41 *e*PKPdf **PKPdf 13 34 06.8 -0.1**
MIAR LR LR
comp=Z,6μm,20.0s
AAM Ann Arbor 126.30 28 PFAKE 13 34 20.0 +13
AAM LR LR
comp=Z,3μm,22.0s
OLIL Olney 126.70 34 *e*PKPdf **PKPdf 13 34 08.4 +0.5**
SIUC Southern Illin 126.77 35 *e*PKPdf **PKPdf 13 34 08.1 +0.1**
KVTX Kingsville 126.83 51 *e*PKPdf **PKPdf 13 34 08.8 +0.4**
KVTX LR LR
comp=Z,4μm,19.0s
NATX Nacogdoches 127.01 45 *e*PKPdf **PKPdf 13 34 09.0 +0.3**
NATX LR LR
comp=Z,6μm,21.0s
HKT Hockley 127.16 47 *e*PKiKP **PKPdf 13 34 09.0 +0.1**
HKT Hockley 127.16 47 *e*PKPdf **PKPdf 13 34 09.0 +0.1**
PARMO Parma 127.17 37 *e*PKPdf **PKPdf 13 34 09.7 +0.8**
BLO Bloomington 127.24 32 *e*PKiKP **PKPdf 13 34 08.2 -0.7**
BLO Bloomington 127.24 32 *e*PKPdf **PKPdf 13 34 08.2 -0.7**
HBAR Harrisburg 127.35 38 *e*PKPdf **PKPdf 13 34 09.0 -0.2**
USIN University of 127.48 34 *e*PKPdf **PKPdf 13 34 09.1 -0.3**
MSNY Massena 127.52 19 *e*PKPdf **PKPdf 13 34 10.1 +0.8**
GLAT Glass 127.71 37 *e*PKPdf **PKPdf 13 34 10.5 +0.6**
PQI Presque Isle 127.85 13 *e*PKPdf **PKPdf 13 34 08.3 -1.6**
LONY Lake Ozonia 127.95 19 *e*PKPdf **PKPdf 13 34 09.2 -1.0**
LONY LR LR
comp=Z,4μm,21.0s
WCI Wyandotte Cave 128.05 33 *e*PKiKP **PKPdf 13 34 10.2 -0.3**
WCI Wyandotte Cave 128.05 33 *e*PKPdf **PKPdf 13 34 10.2 -0.3**
ERPA Erie 128.07 25 *e*PKPdf **PKPdf 13 34 10.6 +0.2**
ERPA LR LR
comp=Z,4μm,20.0s
FRNY Flat Rock 128.07 18 *e*PKPdf **PKPdf 13 34 08.7 -1.6**
ACSO Alum Creek Sta 128.23 29 *e*PKPdf **PKPdf 13 34 11.0 +0.3**
ACSO LR LR
comp=Z,4μm,20.0s
NCB Newcomb 128.64 19 *e*PKPdf **PKPdf 13 34 11.4 -0.1**
NCB LR LR
comp=Z,4μm,22.0s
WVT Waverly 128.67 36 *e*PKiKP **PKPdf 13 34 11.0 -0.7**
WVT Waverly 128.67 36 *e*PKPdf **PKPdf 13 34 11.0 -0.7**
OXF Oxford 128.81 39 *e*PKiKP **PKPdf 13 34 11.9 -0.1**
OXF MLR MLR
comp=Z,5μm,20.0s
OXF Oxford 128.81 39 *e*PKPdf **PKPdf 13 34 11.9 -0.1**
OXF LR LR
comp=Z,5μm,20.0s
LBNH Lisbon 129.12 17 PFAKE 13 34 20.0 +7.6
LBNH LR LR
comp=Z,4μm,20.0s
PLAL Pickwick Lake 129.31 37 *e*PKPdf **PKPdf 13 34 12.6 -0.3**
PLAL LR LR
comp=Z,4μm,20.0s
WVL Waterville 129.44 15 *e*PKPdf **PKPdf 13 34 13.7 +0.7**
HNH Hanover 129.49 18 *e*PKPdf **PKPdf 13 34 12.7 -0.4**
VBMS Vicksburg 129.56 42 PFAKE 13 34 20.0 +6.5
VBMS LR LR
comp=Z,8μm,22.0s
BINY Binghamton 129.59 22 *e*PKPdf **PKPdf 13 34 13.8 +0.4**
BINY LR LR
comp=Z,3μm,19.0s
PMOZ Porto Moniz, M 129.77 320 *e*Pdif **Pdif 13 31 05.5 +3.3**
PMOZ Porto Moniz, M 129.77 320 *e*PP PP 13 36 27.0 +2.5
PMOZ eLQ LQ 13 59 28.1
TRY Troy 129.93 19 *e*PKPdf **PKPdf 13 34 15.1 +1.2**
TRIS Tristan da Cun 130.06 223 PFAKE 13 34 20.0 +5.7

TRIS					LR	LR				
	comp=Z,2μm,20.0s									
SSPA	**Standing Stone**	**130.18**	**24**	*e*PKPdf	**PKPdf**	**13 34 15.2**	**+0.8**			
DBIC	**Dimbokro**	**130.37**	**282**	PFAKE		13 34 30.0	+14			
DBIC				LR	LR					
	comp=Z,3μm,22.0s									
SWET	**Sewanee**	**130.41**	**35**	*e*PKPpre	PKPpre	13 34 11.1				
SWET				*e*PKPdf	**PKPdf**	**13 34 14.7**	**-0.4**			
TZTN	**Tazewell**	**130.76**	**32**	*e*PKPdf	**PKPdf**	**13 34 15.8**	**+0.1**			
CMLA	**Cha da Macela**	**130.98**	**331**	PFAKE		13 34 30.0	+14			
CMLA				LR	LR					
	comp=Z,6μm,21.0s									
CPCT	**Cooper Cave**	**131.04**	**34**	*e*PKPpre	PKPpre	13 34 11.9				
CPCT				*e*PKPdf	**PKPdf**	**13 34 15.4**	**-0.9**			
LRAL	**Lakeview Retre**	**131.28**	**38**	*e*PKPdf	**PKPdf**	**13 34 17.1**	**+0.4**			
LRAL				LR	LR					
	comp=Z,4μm,19.0s									
TKL	**Tuckaleechee C**	**131.30**	**33**	*e*PKPdf	**PKPdf**	**13 34 16.7**	**0.0**			
TKL				PKP	**PKPdf**	**13 34 18.4**	**+1.7**			
TKL	**Tuckaleechee C**	**131.30**	**33**	PKP	**PKPdf**	**13 34 18.4**	**+1.7**			
	comp=Z,47nm,0.8s,baz=135,slow=1.7,SNR=18									
SHEL	**Horse Pasture**	**131.72**	**252**	PFAKE		13 34 30.0	+12			
SHEL				LR	LR					
	comp=Z,6μm,21.0s									
BLA	**Blacksburg**	**131.84**	**29**	*e*PKHKP	PKPpre	13 34 06.0				
BLA				*e*		13 34 17.6				
BLA				MLR	MLR					
	comp=Z,5μm,21.0s									
BLA	**Blacksburg**	**131.84**	**29**	*e*PKPpre	PKPpre	13 34 06.0				
BLA				*e*PKPdf	**PKPdf**	**13 34 17.6**	**-0.2**			
BLA				LR	LR					
	comp=Z,5μm,21.0s									
EFI	**East Falkland**	**132.39**	**176**	PFAKE		13 34 30.0	+12			
EFI				LR	LR					
	comp=Z,2μm,19.0s									
CBN	**Corbin**	**132.43**	**26**	PFAKE		13 34 30.0	+11			
CBN				LR	LR					
	comp=Z,7μm,22.0s									
BRAL	**Brewton**	**132.60**	**40**	PFAKE		13 34 30.0	+11			
BRAL				LR	LR					
	comp=Z,4μm,20.0s									
GOGA	**Godfrey**	**133.12**	**35**	*e*PKHKP	PKPpre	13 34 07.8				
GOGA				*e*		13 34 21.3				
GOGA				MLR	MLR					
	comp=Z,4μm,22.0s									
GOGA	**Godfrey**	**133.12**	**35**	*e*PKPpre	PKPpre	13 34 07.8				
GOGA				*e*PKPdf	**PKiKP**	**13 34 21.2**	**-0.2**			
GOGA				LR	LR					
	comp=Z,4μm,22.0s									
CMIG	**Matias Romero**	**133.96**	**62**	PKP	**PKPdf**	**13 34 23.1**	**+0.9**			
CMIG	**Matias Romero**	**133.96**	**62**	PKP	**PKPdf**	**13 34 23.1**	**+0.9**			
	comp=Z,26nm,0.8s,baz=305,slow=2.8,SNR=18									
CNNC	**Cliffs of the**	**134.64**	**28**	PFAKE		13 34 30.0	+7.0			
CNNC				LR	LR					
	comp=Z,5μm,19.0s									
NHSC	**New Hope**	**135.17**	**32**	PFAKE		13 34 30.0	+5.9			
NHSC				LR	LR					
	comp=Z,4μm,20.0s									
TEIG	**Tepich**	**138.10**	**54**	PKP	**PKPdf**	**13 34 32.2**	**+2.4**			
TEIG	**Tepich**	**138.10**	**54**	PKP	**PKPdf**	**13 34 32.2**	**+2.4**			
	comp=Z,18nm,0.9s,baz=302,slow=3.5,SNR=6.1									
PLCA	**Paso Flores**	**140.37**	**159**	*e*PKPpre	PKPpre	13 34 25.9				
PLCA				*e*PKPdf	**PKPdf**	**13 34 33.7**	**+0.2**			
PLCA	**Paso Flores**	**140.37**	**159**	PKhKP	PKPpre	13 34 27.1				
	comp=Z,7.1nm,1.0s,baz=180,slow=3.6,SNR=11									
TGUH	**Tegucigalpa,Un**	**141.89**	**61**	*e*PKPpre	PKPpre	13 34 34.8				
TGUH				*e*PKPdf	**PKPdf**	**13 34 37.8**	**+1.0**			
TGUH				LR	LR					
	comp=Z,4μm,22.0s									
BBSR	**BB Station**	**142.21**	**16**	PFAKE		13 34 50.0	+13			
BBSR				LR	LR					
	comp=Z,3μm,20.0s									
PAYG	**Puerto Ayora**	**143.01**	**86**	*e*PKPdf	**PKPdf**	**13 34 38.3**	**-0.6**			
PAYG				LR	LR					
	comp=Z,6μm,20.0s									
SACV	**Santiago Islan**	**144.94**	**303**	*e*PKPdf	**PKPdf**	**13 34 41.4**	**-0.8**			
TRQA	**Tornquist**	**145.28**	**168**	*e*PKPdf	**PKPbc**	**13 34 41.2**	**-0.7**			
TRQA				LR	LR					
	comp=Z,4μm,20.0s									
JTS	**JuntasAbangare**	**145.50**	**65**	PKPbc	**PKPab**	**13 34 43.8**	**+0.3**			
JTS	**JuntasAbangare**	**145.50**	**65**	PKPbc	**PKPab**	**13 34 43.8**	**+0.3**			
	comp=Z,52nm,0.7s,baz=266,slow=3.4,SNR=36									
LMEL	**Las Melosas**	**146.49**	**154**	*e*P	**PKPbc**	**13 34 46.0**	**-0.1**			
ROCH	**El Roble**	**146.87**	**152**	*e*P	**PKPbc**	**13 34 47.3**	**+0.1**			
PEL	**Peldehue**	**146.87**	**153**	*e*P	**PKPbc**	**13 34 46.5**	**-0.5**			
FCH	**Farellones**	**146.90**	**154**	*e*P	PKPdf	13 34 38.3	-7.2			
NEJ	**Negril**	**146.90**	**47**	*i* P	**PKPab**	**13 34 50.9**	**+2.1**			
MTDJ	**Mount Denham**	**147.50**	**46**	*e*PKPdf	**PKPdf**	**13 34 46.7**	**+0.1**			
MTDJ				LR	LR					
	comp=Z,3μm,22.0s									
GTBY	**Guantanamo Bay**	**148.01**	**41**	*e*PKPdf	**PKPdf**	**13 34 47.8**	**+0.5**			
GTBY				*e*PKPab	**PKPab**	**13 34 53.8**	**+0.8**			
GTBY				LR	LR					
	comp=Z,3μm,20.0s									
STH	**Stony Hill**	**148.12**	**46**	*i* P	**PKPbc**	**13 34 50.9**	**+0.2**			
GWJ	**Greenwich**	**148.18**	**46**	*i* P	**PKPbc**	**13 34 51.9**	**+0.9**			
HOJ	**Hope**	**148.21**	**46**	*i* P	**PKPbc**	**13 34 50.9**	**-0.1**			
CMJ	**Castle Mountai**	**148.39**	**45**	*i* P	**PKPab**	**13 34 53.0**	**-1.6**			
LPA	**La Plata**	**149.03**	**173**	*ce*PKP	**PKPab**	**13 34 57.0**	**+0.4**			
GRTK	**Grand Turk**	**149.22**	**34**	*e*PKPdf	**PKPdf**	**13 34 49.8**	**+0.6**			
GRTK				*e*PKPbc	**PKiKP**	**13 34 54.3**	**-0.4**			
GRTK				LR	LR					
	comp=Z,5μm,21.0s									
CFAA	**Coronel Fontan**	**149.26**	**155**	PKPbc	**PKPbc**	**13 34 52.7**	**-0.7**			
CFAA	**Coronel Fontan**	**149.26**	**155**	PKPbc	**PKPbc**	**13 34 52.7**	**-0.7**			
	comp=Z,5.2nm,0.8s,baz=218,slow=3.8,SNR=14									
LCO	**Las Campanas**	**150.25**	**148**	*e*P	**PKPdf**	**13 34 51.8**	**+0.7**			
BCIP	**Isla Barro Col**	**150.56**	**63**	*e*PKPbc	**PKPbc**	**13 34 57.4**	**+0.5**			
SDDR	**Presa de Saban**	**151.11**	**37**	*e*PKPdf	**PKPdf**	**13 34 52.3**	**0.0**			
SDDR				*e*PKPbc	**PKiKP**	**13 34 58.3**	**-0.4**			
LRS	**Lares**	**154.13**	**30**	*e*PKPdf	**PKPdf**	**13 34 56.5**	**-0.3**			
LRS				*e*PKPbc	**PKiKP**	**13 35 05.1**	**+0.1**			
CELP	**Cerrillos**	**154.45**	**30**	*e*PKPdf	**PKPdf**	**13 34 58.0**	**+0.8**			
OBIP	**Obispado Ponce**	**154.46**	**30**	*e*PKPdf	**PKPdf**	**13 34 57.7**	**+0.6**			
OTAV	**Otavalo**	**154.61**	**81**	*e*PKPdf	**PKPdf**	**13 34 58.0**	**-0.1**			
SJG	**San Juan**	**154.63**	**29**	*e*PKPdf	**PKPdf**	**13 34 56.8**	**-0.6**			
SJG				PKP	**PKPdf**	**13 34 57.2**	**-0.1**			
SJG	**San Juan**	**154.63**	**29**	PKP	**PKPdf**	**13 34 57.2**	**-0.1**			
	comp=Z,15nm,0.7s,baz=270,slow=20,SNR=6.2									
ATAH	**Atahualpa**	**154.95**	**98**	PKP	**PKPdf**	**13 34 59.7**	**+1.2**			
ATAH				PKPbc	**PKiKP**	**13 35 09.1**	**+1.8**			
ATAH	**Atahualpa**	**154.95**	**98**	PKP	**PKPdf**	**13 34 59.7**	**+1.2**			
	comp=Z,14nm,1.0s,baz=168,slow=3.3,SNR=21									
ATAH				PKPbc	**PKiKP**	**13 35 09.1**	**+1.8**			
	comp=Z,35nm,0.8s,baz=188,slow=0.8,SNR=17									
NNA	**Nana**	**155.51**	**110**	PKPbc	PKPdf	13 35 09.2	+10			
NNA	**Nana**	**155.51**	**110**	PKPbc	PKPdf	13 35 09.2	+10			
	comp=Z,37nm,1.2s,baz=258,slow=8.5,SNR=4.9									
ANWB	**Willy Bob**	**156.87**	**21**	PFAKE		13 35 10.0	+10			
ANWB				LR	LR					
	comp=Z,3μm,22.0s									
ROSC	**El Rosal**	**157.30**	**67**	PKP	**PKPdf**	**13 35 01.6**	**0.0**			
ROSC				*e*PKPdf	**PKPdf**	**13 35 02.7**	**+1.1**			
ROSC	**El Rosal**	**157.30**	**67**	PKP	**PKPdf**	**13 35 01.6**	**0.0**			
	comp=Z,5.7nm,0.4s,baz=104,slow=21,SNR=13									
FDF	**Fort de France**	**159.81**	**22**	*e*PKIKP	**PKPdf**	**13 35 03.8**	**-0.3**			
FDF				MLR	MLR					
	comp=Z,3μm,21.0s									
FDF	**Fort de France**	**159.81**	**22**	*e*PKPdf	**PKPdf**	**13 35 03.8**	**-0.3**			
FDF				LR	LR					
	comp=Z,3μm,21.0s									
LPAZ	**La Paz**	**161.11**	**131**	*e*P	**PKPdf**	**13 35 07.0**	**+0.8**			
BBGH	**Gun Hill**	**161.84**	**20**	PFAKE		13 35 20.0	+14			
BBGH				LR	LR					
	comp=Z,11μm,22.0s									
GRGR	**Grenville**	**161.94**	**27**	PFAKE		13 35 20.0	+14			
GRGR				LR	LR					
	comp=Z,3μm,21.0s									
RCBR	**Riachuelo**	**162.47**	**264**	PKPab	**PKPab**	**13 35 54.1**	**-0.8**			
RCBR	**Riachuelo**	**162.47**	**264**	PKPab	**PKPab**	**13 35 54.1**	**-0.8**			
	comp=Z,99nm,1.0s,baz=86,slow=4.7,SNR=15									
SIV	**San Ignacio**	**165.96**	**148**	PKP	**PKPdf**	**13 35 09.8**	**-0.2**			
SIV				PKPab	**PKPab**	**13 36 11.2**	**+1.4**			
SIV				PP	PP	13 40 05.4	+9.4			
SIV	**San Ignacio**	**165.96**	**148**	PKP	**PKPdf**	**13 35 09.8**	**-0.2**			
	comp=Z,17nm,1.2s,baz=230,slow=2.5,SNR=27									
SIV				PKPab	**PKPab**	**13 36 11.2**	**+1.4**			
	comp=Z,13nm,1.0s,baz=240,slow=4.8,SNR=7.9									
SIV				PP	PP	13 40 05.4	+9.4			
	comp=Z,7.0nm,1.1s,baz=195,slow=7.2,SNR=3.1									
BDFB	**Brasilia**	**167.33**	**204**	PKP	**PKPdf**	**13 35 10.4**	**-0.7**			
BDFB				PKPab	**PKPab**	**13 36 16.4**	**+0.5**			
BDFB				PP	**PP**	**13 40 06.8**	**+3.9**			
BDFB				LR	LR					
	comp=Z,8μm,21.0s									
BDFB	**Brasilia**	**167.33**	**204**	PKP	**PKPdf**	**13 35 10.4**	**-0.7**			
	comp=Z,7.9nm,1.0s,baz=185,slow=0.3,SNR=6.1									
BDFB				PKPab	**PKPab**	**13 36 16.4**	**+0.5**			
	comp=Z,25nm,1.2s,baz=205,slow=3.7,SNR=5.8									
BDFB				PP	**PP**	**13 40 06.8**	**+3.9**			
	comp=Z,8.9nm,0.9s,baz=242,slow=9.1,SNR=3.7									
SAML	**Samuel**	**169.15**	**117**	*e*P	**PKPdf**	**13 35 11.7**	**-0.6**			

PRE 12 13:18:58.0±0.7, 26°33S×28°50E, h2km, ML1.8, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**1.19**	**240**	*e*P	Pg	13 19 20.8	-0.2
PRYS				*e*S	Sb	13 19 37.5	+0.1
PRYS				AML	AML	13 19 46.4	
	comp=Z,12nm,0.3s						
LBTB	**Lobatse**	**2.93**	**296**	*e*P	Pn	13 19 46.8	+1.0
LBTB				*e*S	Sn	13 20 21.6	-0.1
LBTB				AML	AML	13 20 32.7	
	comp=Z,3.5nm,0.4s						
BOSA	**Boshof**	**3.68**	**231**	*e*P	Pn	13 19 56.8	+0.7
BOSA				*e*S	Sn	13 20 39.1	-1.0
BOSA				AML	AML	13 21 00.4	
	comp=Z,1.9nm,0.3s						

NIED **12** *13:22:00, 45.50N×151.00E, h50km, Mw5.0 Best double couple: M○3.79000×10^16 NP1:φ○s346.00000°, δ58.00000°, λ50.00000°. NP2:φ○s223.00000°, δ49.00000°, λ136.00000°.*
IDC **12** *13:22:21.6±0.5, 45.51N×150.74E, h0km, mb4.8/25, mb1 5.0/27, mb1mx4.9/33, mbtmp4.8/27, ML4.2/2, Error ellipse: s-maj=17.3km s-min=12.3km az=160.0*
JMA **12** *13:22:25.1±0.8, 45.47N×150.99E, h30km, M5.5*
SKHL **12** *13:22:25.0±1.6, 45.28N×151.06E, h42km±12km, mb5.5/3, Ms5.0/1, msh5.3/1*
MOS **12** *13:22:25.3±1.3, 45.35N×150.90E, h47km, mb5.4/53, MS5.0/8, Error ellipse: s-maj=15.1km s-min=10.7km az=145.0*
ISCJB **12** *13:22:26.2±0.5, 45.43N±0.04×150.72E±0.03, h42km±4km, mb5.2/163, MS4.9/7, Error ellipse: s-maj=7.4km s-min=2.7km az=166.6*
BJI **12** *13:22:26.6, 45.37N×150.95E, h63km, mB5.4/19, mb5.1/35, Ms5.4/17, Ms7 5.1/16*
NEIC **12** *13:22:30.0±0.1, 45.53N×150.66E, mb5.2/92, Error ellipse: s-maj=5.2km s-min=2.3km az=162.0*
SZGRF **12** *13:22:33.3, 46.55N×150.75E, h33km, mb5.4, Kuril Islands, Russia*

ISC 12 13:22:29.5±0.4, 45°40N±0°06×150°75E±0°04, h60km±2km, h59km:pP-P,n708,σ○s89/770, mb5.2/163, MS4.8/7, 228C-161D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.04**	**266**	*i* PN	**Pn**	**13 22 59.0**	**-2.5**
KUR	**Kuril'sk**	**2.04**	**266**	⇓*i* P	**Pn**	**13 22 59.0**	**-2.5**
KUR				⇓*i* P	**Pn**	**13 22 59.0**	**-2.5**
KUR				A	A	13 23 25.8	
	48μm,1.0s						
KUR				A	A	13 23 25.8	
	5μm,1.0s						
KUR				A	A	13 23 27.0	
	20μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**3.75**	**250**	*i* PN	**Pn**	**13 23 24.0**	**-0.7**
YUK				*i* S	**Sn**	**13 24 07.1**	**-0.5**
YUK				pmax	pmax		
	comp=N,646nm,0.2s						
YUK				pmax	pmax		
	comp=Z,1μm,0.2s						
YUK				pmax	pmax		
	comp=E,257nm,0.1s						
YUK				smax	smax		
	comp=N,2μm,0.3s						
YUK				smax	smax		
	comp=E,7μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**3.75**	**250**	⇓*i* P	**Pn**	**13 23 24.1**	**-0.7**
YUK				AMB	AMB	13 23 30.1	
	comp=E,650nm,0.2s						
YUK				AMB	AMB	13 23 30.1	
	comp=E,260nm,0.2s						
YUK				AMB	AMB	13 23 30.1	
	comp=E,2μm,0.2s						
YUK				*i* S	**Sn**	**13 24 07.2**	**-0.4**
YUK				A	A	13 24 23.4	
	comp=E,2μm,0.3s						
YUK				A	A	13 24 23.4	
	comp=E,6μm,0.3s						
NEM2	**Nemuro 2**	**4.13**	**242**	P	**Pn**	**13 23 28.1**	**-1.9**
NEM2				*e*S	**Sn**	**13 24 14.8**	**-2.2**
JRA	**Rausu**	**4.28**	**252**	P	**Pn**	**13 23 31.7**	**-0.3**
JNK	**Nakash**	**4.68**	**249**	P	**Pn**	**13 23 37.1**	**-0.5**
JNK				*e*S	**Sn**	**13 24 29.7**	**-1.0**
JAK	**Akkeshi**	**4.97**	**243**	P	**Pn**	**13 23 39.4**	**-2.2**
JAK				*e*S	**Sn**	**13 24 34.2**	**-3.6**
JTKR	**Abashiri--Toko**	**5.09**	**256**	P	**Pn**	**13 23 43.6**	**+0.5**
JAR	**Ashorobuto**	**5.43**	**250**	P	**Pn**	**13 23 47.9**	**0.0**
JMP	**Maruseppu**	**5.45**	**258**	P	**Pn**	**13 23 48.9**	**+0.7**
JOB	**Onbets**	**5.57**	**246**	P	**Pn**	**13 23 48.7**	**-1.0**
JOB				*e*S	**Sn**	**13 24 49.8**	**-2.6**
YSS	**Yuzh-Sakhalins**	**5.77**	**288**	*ce*PN	**Pn**	**13 23 53.7**	**+1.3**
YSS				pmax	pmax		
	comp=Z,110nm,0.8s						
YSS				MLR	MLR		
	comp=Z,4μm,16.0s						
YSS				MLR	MLR		
	comp=E,4μm,17.0s						
YSS	**Yuzh-Sakhalins**	**5.77**	**288**	*e*Pn	**Pn**	**13 23 52.5**	**+0.1**
YSS	**Yuzh-Sakhalins**	**5.77**	**288**	*e*P	**Pn**	**13 23 53.7**	**+1.3**
YSS				AMB	AMB	13 23 54.2	
	comp=E,110nm,0.8s						
YSS				AMS	AMS	13 26 07.0	
	comp=E,4μm,16.0s						
YSS				AMS	AMS	13 26 07.0	
	comp=E,4μm,17.0s						
JKK2	**Kamakawa 2**	**5.91**	**258**	P	**Pn**	**13 23 55.5**	**+1.0**
ASAJ	**Asahikawa**	**5.95**	**260**	*e*Pn	**Pn**	**13 23 56.1**	**+1.2**
ASAJ				Pn	Pn	13 23 56.6	+1.6
ASAJ	**Asahikawa**	**5.95**	**260**	Pn	**Pn**	**13 23 56.6**	**+1.6**
	comp=E,16nm,0.3s,baz=78,slow=9.2,SNR=14						
JCH	**Churui**	**6.01**	**245**	P	**Pn**	**13 23 54.3**	**-1.5**
JCH				*e*S	**Sn**	**13 24 59.8**	**-3.5**
JWK2	**Keihoku**	**6.24**	**272**	P	**Pn**	**13 24 01.7**	**+2.8**
JFR	**Furan**	**6.27**	**252**	P	**Pn**	**13 23 59.9**	**+0.5**
SKR	**Severo-Kuril's**	**6.39**	**32**	*e*PN	**Pn**	**13 23 58.0**	**-2.9**
SKR				pmax	pmax		
	comp=N,150nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR				MLR	MLR		
	comp=Z,5μm,14.0s						
SKR				MLR	MLR		
	comp=N,2μm,6.0s						
SKR				MLR	MLR		
	comp=E,2μm,6.0s						
SKR	**Severo-Kuril's**	**6.39**	**32**	*e*P	**Pn**	**13 23 58.0**	**-2.9**
SKR				AMB	AMB	13 24 03.5	
	comp=E,150nm,0.5s						
SKR				AMB	AMB	13 24 03.5	
	comp=E,80nm,0.5s						
SKR				AMB	AMB	13 24 03.5	
	comp=E,230nm,0.5s						
SKR				*e*S	**Sn**	**13 25 09.0**	**-3.4**
SKR				A	A	13 25 44.0	
	comp=E,560nm,0.6s						
SKR				A	A	13 25 44.0	
	comp=E,140nm,0.6s						
SKR				A	A	13 25 44.0	
	comp=E,150nm,0.5s						
SKR				A	A	13 25 44.0	
	comp=E,4μm,6.0s						
SKR				AMS	AMS	13 26 46.0	
	comp=E,5μm,14.0s						
SKR				AMS	AMS	13 26 46.0	
	comp=E,2μm,6.0s						
JEM	**Erimo**	**6.46**	**241**	P	**Pn**	**13 24 01.5**	**-0.5**
ERM	**Erimo**	**6.46**	**241**	*c i*PN	**Pn**	**13 24 02.2**	**+0.2**
ERM	**Erimo**	**6.46**	**241**	*e*Pn	**Pn**	**13 24 02.6**	**+0.6**
ERM	**Erimo**	**6.46**	**241**	*e*P	**Pn**	**13 24 02.2**	**+0.2**
ERM	**Erimo**	**6.46**	**241**	Pn	**Pn**	**13 24 02.1**	**+0.1**
	comp=E,2μm,0.8s,SNR=24						
JNBK	**Urakawa-nobuka**	**6.57**	**244**	P	**Pn**	**13 24 01.4**	**-2.1**
JBT2	**Biratori 2**	**6.59**	**249**	P	**Pn**	**13 24 02.8**	**-0.9**
JNB	**Noboribetsu**	**7.60**	**251**	P	**Pn**	**13 24 16.6**	**-1.0**
JKB	**Kayabe**	**7.88**	**247**	P	**Pn**	**13 24 19.1**	**-2.2**
JKB				*e*S	Sn	13 25 42.3	-6.6
JYM2	**Yakumo 2**	**8.20**	**250**	P	**Pn**	**13 24 24.2**	**-1.6**
JANG	**Nango**	**8.44**	**237**	P	Pn	13 24 24.6	-4.5
JANG				*e*S	Sn	13 25 52.0	-11
JSR	**Shiriuchi**	**8.45**	**246**	P	**Pn**	**13 24 27.2**	**-2.0**
JTM	**Tenmabayashi**	**8.45**	**240**	P	**Pn**	**13 24 26.6**	**-2.6**
JTH	**Tanohata**	**8.52**	**233**	P	Pn	13 24 25.7	-4.5
JTH				*e*S	Sn	13 25 53.2	-12
JOSM	**Okushiri--Mats**	**8.81**	**252**	P	**Pn**	**13 24 32.2**	**-1.9**
PETK	**Petropavlovsk-**	**8.95**	**28**	PN	**Pn**	**13 24 34.7**	**-1.2**
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK	**Petropavlovsk-**	**8.95**	**28**	Pn	**Pn**	**13 24 34.7**	**-1.2**
PETK	**Petropavlovsk-**	**8.95**	**28**	Pn	Pn	**13 24 34.7**	**-1.2**
	comp=E,2.5nm,0.3s,baz=182,slow=14,SNR=45						
PET	**Petropavlovsk**	**9.21**	**31**	*e*P	**Pn**	**13 24 38.9**	**-0.5**
	comp=Z,263nm,1.2s						
PET				LR	LR		
	comp=Z,8μm,20.0s						
PET	**Petropavlovsk**	**9.21**	**31**	*e*Pn	**Pn**	**13 24 39.0**	**-0.4**
OFUJ	**Ofunato**	**9.23**	**230**	P	Pn	13 24 35.8	-4.1
JIO	**Ouri**	**9.86**	**229**	*e*S	Sn	13 26 23.9	-14
HABR	**Khabarovsk**	**11.17**	**292**	*e*PN	**Pn**	**13 25 03.9**	**-2.3**
HABR				pmax	pmax		
	comp=Z,197nm,1.2s						
HABR				pmax	pmax		
	comp=N,125nm,1.8s						
HABR				pmax	pmax		
	comp=E,101nm,1.8s						
HABR				MLR	MLR		
	comp=Z,3μm,19.0s						
MAT	**Matsushiro**	**12.96**	**231**	P	Pn	13 25 26.3	-4.5
MAT				*e*S	**Sn**	**13 27 49.6**	**-3.6**
MJAR	**Matsushiro Arr**	**12.96**	**231**	Pn	Pn	13 25 27.0	-3.8
MJAR	**Matsushiro Arr**	**12.96**	**231**	Pn	Pn	13 25 27.0	-3.8
	comp=Z,1.1nm,0.3s,baz=28,slow=13,SNR=7.4						
USRK	**Ussuriysk Arra**	**13.38**	**272**	Pn	**Pn**	**13 25 36.7**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=86,slow=12,SNR=7.3						
MDJ	**Mudanjiang**	**14.99**	**275**	P	**Pn**	**13 25 58.0**	**+0.3**
MDJ				pmax	pmax		
	comp=Z,19nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,600nm,8.8s						
CN2	**Changchun**	**18.07**	**274**	*e*P	**P**	**13 26 34.5**	**-1.5**
CN2				pmax	pmax		
	comp=Z,40nm,0.8s						
KSRS	**Korea Array**	**18.83**	**253**	P	**Pn**	**13 26 45.0**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=64,slow=11,SNR=17						
KSRS				PcP	**PcP**	**13 31 09.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=344,slow=1.3,SNR=4.1						
KSAR	**Wonju Array Be**	**18.86**	**253**	P	**P**	**13 26 45.0**	**+0.3**
KSAR				PcP	**PcP**	**13 31 09.2**	**+0.2**
JNU	**Nakatsue**	**19.62**	**238**	*e*P	**P**	**13 26 52.4**	**-0.6**
JNU				P	**Pn**	**13 26 55.7**	**+0.9**
JNU	**Nakatsue**	**19.62**	**238**	P	**Pn**	**13 26 55.7**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=57,slow=9.5,SNR=5.5						
INCN	**Inchon**	**19.69**	**255**	*e*P	**P**	**13 26 53.4**	**-0.4**
	comp=Z,58nm,0.9s						
SNY	**Shenyang**	**19.96**	**269**	⇓P	**P**	**13 26 56.7**	**+0.1**
SNY				pmax	pmax		
	comp=Z,39nm,1.2s						
YAK	**Yakutsk**	**20.64**	**331**	*e*P	**P**	**13 27 03.5**	**-0.3**
YAK				pmax	pmax		
	comp=E,414nm,0.9s						
YAK				pmax	pmax		
	comp=E,150nm,1.1s						
YAK				pmax	pmax		
	comp=N,222nm,1.1s						
YAK	**Yakutsk**	**20.64**	**331**	*e*PP	Pn	13 27 07.2	+0.6
YAK	**Yakutsk**	**20.64**	**331**	*e*	Pn	13 27 07.4	+0.8
BILL	**Bilibino**	**24.09**	**14**	⇓*e*P	**P**	**13 27 38.6**	**-0.4**
BILL				*e*		13 28 08.3	
BILL				pmax	pmax		
	comp=Z,15nm,0.6s						
BILL				MLR	MLR		
	comp=Z,2μm,19.0s						
BJI	**Beijing**	**25.83**	**270**	P	**P**	**13 27 56.2**	**+1.1**
BJI				pmax	pmax		
	comp=Z,49nm,1.1s						
BJT	**Baijiatuan**	**25.84**	**270**	*e*P	**P**	**13 27 55.3**	**+0.1**
BJT				*e*pP	**pP**	**13 28 09.5**	**-0.3**
BJT				*e*sP	**sP**	**13 28 16.3**	**-0.7**
NJ2	**Nanjing**	**28.03**	**253**	*e*P	**P**	**13 28 15.5**	**+0.6**

GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=N,550nm,17.9s
GYA LR LR
comp=E,490nm,17.6s
GYA LR LR
comp=Z,530nm,17.7s
ZALV Zalesovo Beam 42.08 306 PcP **PcP** **13 32 08.9 +0.1**
ZALV Zalesovo Beam 42.08 306 PcP **PcP** **13 32 08.9 +0.1**
comp=Z,13nm,0.8s,baz=59,slow=3.2,SNR=9.7
KMI Kunming 43.38 259 P **P** **13 30 26.3 0.0**
KMI pP **pP** **13 30 44.4 +2.8**
KMI sP **sP** **13 30 50.5 +2.0**
KMI pmax pmax
comp=Z,30nm,1.1s
INK Inuvik 43.66 31 P **P** **13 30 28.1 +0.4**
INK Inuvik 43.66 31 P **P** **13 30 28.1 +0.4**
comp=Z,27nm,0.9s,baz=284,slow=8.4,SNR=18
WMQ Urumqi 43.89 291 *e*P **P** **13 30 31.6 +1.6**
WMQ pP **pP** **13 30 47.0 +1.7**
WMQ sP **sP** **13 30 54.0 +1.8**
WMQ *e*S **S** **13 36 57.0 +0.2**
WMQ pmax pmax
comp=Z,16nm,1.8s
WMQ pmax pmax
comp=Z,410nm,7.5s
WMQ LR LR
comp=N,1μm,16.5s
WMQ LR LR
comp=E,870nm,15.0s
WMQ LR LR
comp=Z,630nm,16.5s
MKAR Makanchi Array 46.10 298 P **P** **13 30 47.4 -0.1**
MKAR 13 32 22.4
MKAR pmax pmax
comp=Z,10.0nm,0.7s
MKAR Makanchi Array 46.10 298 P **P** **13 30 47.4 -0.1**
MKAR PcP **PcP** **13 32 22.4 -0.3**
MKAR Makanchi Array 46.10 298 P **P** **13 30 47.4 -0.1**
comp=Z,10nm,0.7s,baz=68,slow=7.9,SNR=3.9
MKAR PcP **PcP** **13 32 22.4 -0.3**
comp=Z,5.2nm,0.6s,baz=68,slow=3.4,SNR=6.2
KURK Kurchatov 46.75 304 P **P** **13 30 52.5 +0.1**
KURK pmax pmax
comp=Z,9.0nm,0.6s
KURK Kurchatov 46.75 304 P **P** **13 30 52.5 +0.1**
KURBB Kurchatov Arra 46.84 304 P **P** **13 30 52.5 -0.6**
comp=Z,8.5nm,0.6s,baz=72,slow=8.3,SNR=8.4
LSA Lhasa 48.70 273 *e*P **P** **13 31 09.3 +0.9**
LSA pmax pmax
comp=Z,27nm,0.8s
LSA Lhasa 48.70 273 *e*P **P** **13 31 09.3 +0.9**
comp=Z,28nm,0.8s
CHTO Chiang Mai 50.20 256 *e*P **P** **13 31 19.9 +0.5**
CHTO pmax pmax
comp=Z,20nm,1.0s
CHTO Chiang Mai 50.20 256 *e*P **P** **13 31 19.9 +0.5**
comp=Z,20nm,1.0s
BVAR Borovoye Array 50.45 309 P **P** **13 31 19.7 -1.1**
BVAR 13 32 38.3
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BVAR Borovoye Array 50.45 309 P **P** **13 31 19.7 -1.1**
BVAR PcP **PcP** **13 32 38.3 0.0**
BVAR Borovoye Array 50.45 309 P **P** **13 31 19.7 -1.1**
comp=Z,1.7nm,0.5s,baz=28,slow=9.9,SNR=4.1
BVAR PcP **PcP** **13 32 38.3 0.0**
comp=Z,6.4nm,0.4s,baz=92,slow=3.6,SNR=8.8
CM31 Chiang Mai Arr 50.45 255 *e*P **P** **13 31 21.8 +0.6**
comp=Z,6.3nm,0.7s
CMAR Chiang Mai Arr 50.45 255 P **P** **13 31 21.7 +0.5**
CMAR PcP **PcP** **13 32 40.0 +1.2**
CMAR Chiang Mai Arr 50.45 255 P **P** **13 31 21.7 +0.5**
comp=Z,5.1nm,0.9s,baz=36,slow=7.9,SNR=12
CMAR PcP **PcP** **13 32 40.0 +1.2**
comp=Z,3.4nm,0.8s,baz=7.7,slow=2.3,SNR=4.8
BRVK Borovoye 50.49 310 *i*P **P** **13 31 20.8 -0.3**
BRVK pmax pmax
comp=Z,13nm,1.0s
TAPN Taplejung 52.53 273 *e*P **P** **13 31 37.5 +0.4**
comp=Z,149nm,1.1s
AAK Ala-Archa 52.96 296 *i*P **P** **13 31 40.2 +0.3**
AAK pmax pmax
comp=Z,22nm,0.7s
AAK Ala-Archa 52.96 296 P **P** **13 31 39.5 -0.4**
AAK Ala-Archa 52.96 296 P **P** **13 31 39.5 -0.4**
comp=Z,7.3nm,0.9s,baz=359,slow=1.3,SNR=3.9
YKA Yellowknife Ar 52.98 35 P **P** **13 31 39.2 -0.3**
YKA Yellowknife Ar 52.98 35 P **P** **13 31 39.2 -0.3**
comp=Z,7.8nm,0.8s,baz=299,slow=7.2,SNR=11
ODAN Odare 53.05 272 *e*P **P** **13 31 41.4 +0.5**
comp=Z,88nm,1.0s
JIRN Jiri 53.41 274 *e*P **P** **13 31 44.2 +0.6**
comp=Z,39nm,1.0s
GUN Gumba 53.47 274 *e*P **P** **13 31 44.2 +0.1**
comp=Z,138nm,1.0s
RAMN Ramite 53.55 273 *e*P **P** **13 31 44.8 +0.3**
comp=Z,183nm,1.0s
KBS Kingsbay 53.57 351 *e*P **P** **13 31 44.7 +1.0**
KSH Kashi 53.64 292 *e*P P 13 31 48.2 +3.3
KSH pP pP 13 32 03.3 +2.6
KSH sP sP 13 32 10.3 +2.8
KSH PcP **PcP** **13 32 53.7 +3.1**
KSH PP PP 13 33 52.1 +6.2
KSH ScP **ScP** **13 36 45.1 +2.0**
KSH PcS **PcS** **13 36 50.8 +0.9**
KSH S **S** **13 39 17.0 +2.9**
KSH sS sS 13 39 43.8 +3.1
KSH ScS **ScS** **13 41 28.5 -0.4**
KSH SS **SS** **13 42 57.8 +2.9**
KSH LR LR
comp=N,450nm,7.7s
KSH LR LR
comp=E,350nm,11.5s
KSH LR LR
comp=Z,900nm,14.5s
KKN Kakani 53.97 275 *e*P **P** **13 31 48.0 +0.5**
comp=Z,128nm,1.0s
PKI Pulchoki 54.01 274 *e*P **P** **13 31 48.2 +0.2**
comp=Z,109nm,1.2s
DMN Daman 54.20 275 *e*P **P** **13 31 49.8 +0.5**
comp=Z,150nm,1.0s
GKN Gorkha 54.29 275 *e*P **P** **13 31 50.1 +0.3**
comp=Z,193nm,1.0s
DANN Dangsing 54.70 276 *e*P **P** **13 31 53.6 +0.7**
comp=Z,138nm,0.7s
ARU Arti 54.89 317 P **P** **13 31 54.7 +1.2**
KOLN Koldanda 55.16 276 *e*P **P** **13 31 56.6 +0.4**
comp=Z,95nm,0.9s
KKAR Karatay Array 55.20 298 *e*P **P** **13 31 55.6 -0.4**
KKAR Karatay Array 55.20 298 *e*P **P** **13 31 55.6 -0.4**
APA Apatity 57.92 336 ⇑*i*P **P** **13 32 15.0 +0.1**
APA MLR MLR
comp=Z,5μm,29.0s
KULM Kulim 59.01 243 *e*P **P** **13 32 24.2 +1.0**
HAWA Hanford 59.02 54 *e*P **P** **13 32 23.3 +0.4**
comp=Z,19nm,1.3s
NEW Newport 59.30 51 *e*P **P** **13 32 25.0 +0.1**
comp=Z,12nm,0.9s
NEW Newport 59.30 51 ⇑P **P** **13 32 24.9 +0.1**
baz=59,SNR=8.2
A12A Yaak River Ran 59.71 50 ⇑P **P** **13 32 28.2 +0.5**
baz=59,SNR=7.5
B12A Libby 60.01 50 ⇑P **P** **13 32 30.1 +0.3**
baz=60
C11A Tepee Creek (N 60.02 51 ⇑P **P** **13 32 30.0 +0.2**
baz=60
A13A Flathead Natio 60.37 49 ⇓P **P** **13 32 32.2 0.0**
baz=60
WALA Waterton Lakes 60.56 49 *e*P **P** **13 32 34.0 +0.3**
comp=Z,0.6nm,0.9s
B13A Whitefish 60.67 50 ⇓P **P** **13 32 34.8 +0.5**
baz=60,SNR=19
BSMT Bassoo Peak 60.81 50 *e*P **P** **13 32 36.0 +0.6**
A14A Double T Ranch 60.87 49 ⇓P **P** **13 32 35.7 -0.1**
baz=61,SNR=7.4
BLMT Blacktail Moun 60.95 50 *e*P **P** **13 32 37.1 +0.8**
D12A Red Ives Fores 60.98 51 ⇑P **P** **13 32 36.8 +0.4**
baz=61
C13A Hot Springs 61.03 50 ⇑P **P** **13 32 36.9 +0.2**
baz=61,SNR=6.7
JTMT Jette 61.15 50 *e*P **P** **13 32 38.3 +0.7**
BMO Blue Mountains 61.19 54 *e*P **P** **13 32 36.8 -1.1**
BMO pmax pmax
comp=Z,25nm,1.8s
BMO Blue Mountains 61.19 54 *e*P **P** **13 32 36.8 -1.1**
comp=Z,25nm,1.8s
BMO *epP* pP 13 33 03.7 +10
A15A Johnson Ranch, 61.23 48 ⇑P **P** **13 32 37.8 -0.3**
baz=61,SNR=7.7
B14A Marquette Ranc 61.32 49 ⇓P **P** **13 32 38.8 0.0**
baz=61,SNR=11
D13A Huson 61.44 51 ⇑P **P** **13 32 39.6 0.0**
baz=61,SNR=9.6
SWMT Swartz Lake 61.44 50 *e*P **P** **13 32 40.1 +0.5**
B15A Bradely Ranch, 61.73 49 ⇑P **P** **13 32 41.6 +0.1**
baz=61,SNR=6.9
A16A West Butte Ran 61.85 48 ⇓P **P** **13 32 42.1 -0.2**
baz=62
SLMT Seeley Lake 61.88 50 *e*P **P** **13 32 43.0 +0.5**
MSO Missoula 61.88 51 *e*P **P** **13 32 43.0 +0.4**
comp=Z,14nm,0.9s
MSO Missoula 61.88 51 ⇓P **P** **13 32 42.8 +0.3**
baz=62,SNR=17
D14A Greenough 61.97 50 ⇑P **P** **13 32 43.2 +0.1**
baz=62,SNR=14
E13A Victor 61.98 51 ⇓P **P** **13 32 43.4 +0.1**
baz=62,SNR=7.5
OHCM Honcut 62.01 61 *e*P **P** **13 32 43.9 +0.5**
C15A Salmond Ranch, 62.03 49 ⇑P **P** **13 32 44.1 +0.5**
baz=62,SNR=18
B16A M & M Farms, S 62.12 48 ⇓P **P** **13 32 44.2 +0.1**
baz=62,SNR=12
SUMG Summit 62.15 3 ⇑*i*P **P** **13 32 44.0 -0.2**
SUMG pmax pmax
comp=Z,92nm,0.9s
SUMG Summit 62.15 3 *e*P **P** **13 32 44.0 -0.2**
comp=Z,95nm,0.8s
SUMG Summit 62.15 3 ⇑*i*P **P** **13 32 44.0 -0.2**
comp=Z,92nm,0.9s
CHMT Chamberlain Mo 62.21 50 *e*P **P** **13 32 44.9 0.0**
F13A Darby 62.30 52 ⇑P **P** **13 32 45.4 0.0**
baz=62,SNR=8.0
A17A Triple J Farms 62.32 47 ⇓P **P** **13 32 45.2 -0.2**
baz=62,SNR=12
E14A Clinton 62.38 51 ⇓P **P** **13 32 46.2 +0.2**
baz=62,SNR=8.2
C16A Fuhringer Ranc 62.47 49 ⇑P **P** **13 32 46.9 +0.5**
baz=62,SNR=26
D15A Lincoln 62.53 50 ⇓P **P** **13 32 46.8 -0.1**
baz=62,SNR=5.8
B17A L&G Farms, Che 62.67 48 ⇑P **P** **13 32 48.0 +0.2**
baz=62,SNR=12
H12A Diamond D Ranc 62.77 53 ⇓P **P** **13 32 49.0 +0.4**
baz=62,SNR=6.8
A18A Metzger Ranch, 62.77 47 ⇑P **P** **13 32 48.4 0.0**
baz=62,SNR=8.0
G13A Cobalt 62.78 53 ⇑P **P** **13 32 48.8 +0.1**
baz=62,SNR=13
F14A Wisdom 62.82 51 ⇑P **P** **13 32 49.1 +0.2**
baz=63,SNR=7.2
FFC Flin Flon 62.82 39 *e*P **P** **13 32 48.8 +0.2**
FFC pmax pmax
comp=Z,28nm,0.9s
FFC Flin Flon 62.82 39 *e*P **P** **13 32 48.8 +0.2**
comp=Z,28nm,0.9s
FFC Flin Flon 62.82 39 P **P** **13 32 48.9 +0.4**
comp=Z,194nm,0.8s,SNR=14
E15A Deer Lodge 62.84 51 ⇓P **P** **13 32 49.3 +0.3**
baz=63,SNR=9.8
MFID Camas Ranch 62.91 55 *e*P **P** **13 32 50.2 +0.7**
comp=Z,13nm,1.0s
MFID Camas Ranch 62.91 55 ⇓P **P** **13 32 49.8 +0.4**
baz=63
D16A Dana Ranch, Ca 63.05 50 ⇑P **P** **13 32 51.0 +0.6**
baz=63,SNR=13
WCN Washoe City 63.09 60 *e*P **P** **13 32 51.6 +0.8**
WCN pmax pmax
comp=Z,12nm,1.1s
WCN Washoe City 63.09 60 *e*P **P** **13 32 51.6 +0.8**
comp=Z,12nm,1.1s
WCN Washoe City 63.09 60 ⇓P **P** **13 32 51.6 +0.8**
baz=63
H13A Challis 63.10 53 ⇑P **P** **13 32 51.1 +0.4**
baz=63,SNR=10
C17A Wharram Farm, 63.10 49 ⇓P **P** **13 32 50.7 +0.1**
baz=63,SNR=19
HRY Holter Researc 63.10 50 *e*P **P** **13 32 51.4 +0.7**
G14A Jason 63.12 52 ⇑P **P** **13 32 50.8 -0.2**
baz=63
B18A Beardsley Farm 63.14 47 ⇑P **P** **13 32 51.3 +0.5**
baz=63,SNR=14
F15A Butte 63.28 51 ⇑P **P** **13 32 52.3 +0.3**
baz=63,SNR=17
E16A East Helena 63.30 50 ⇓P **P** **13 32 52.5 +0.5**
baz=63,SNR=9.3
LRM Limekiln Ridge 63.32 51 *e*P **P** **13 32 52.7 +0.3**
A19A Klindworth Far 63.33 47 ⇑P **P** **13 32 52.6 +0.4**
baz=63,SNR=14
EGMT Eagleton 63.38 48 *e*P **P** **13 32 52.8 +0.3**
comp=Z,27nm,0.9s
EGMT Eagleton 63.38 48 ⇑P **P** **13 32 53.0 +0.5**
baz=63,SNR=15
D17A Six Diamond Ra 63.44 49 ⇓P **P** **13 32 53.3 +0.3**
baz=63,SNR=8.9
CMB Columbia Colle 63.48 62 *e*P **P** **13 32 53.7 +0.5**
CMB pmax pmax
comp=Z,63nm,2.0s
CMB Columbia Colle 63.48 62 *e*P **P** **13 32 53.7 +0.5**
comp=Z,63nm,2.0s
DLMT Dillon 63.52 51 *e*P **P** **13 32 54.2 +0.7**
comp=Z,18nm,1.3s
B19A Brinkman Farms 63.53 47 ⇑P **P** **13 32 53.7 +0.2**
baz=63,SNR=9.8
H14A Leadore 63.56 53 ⇑P **P** **13 32 54.1 +0.2**
baz=63
I13A Wildhorse Cree 63.58 53 ⇑P **P** **13 32 54.7 +0.7**
baz=63,SNR=5.8
HLID Hailey 63.63 54 *e*P **P** **13 32 54.8 +0.5**
comp=Z,9.0nm,0.8s
HLID Hailey 63.63 54 ⇓P **P** **13 32 55.0 +0.7**
baz=63,SNR=8.6
G15A Dillon 63.71 52 ⇑P **P** **13 32 55.5 +0.7**
baz=63,SNR=15
A20A Cobblestone Ra 63.78 46 ⇓P **P** **13 32 55.7 +0.6**
baz=64,SNR=15
E17A Martindale 63.78 50 ⇓P **P** **13 32 56.2 +0.9**
baz=64,SNR=16
F16A Kennard Place, 63.79 51 ⇓P **P** **13 32 55.7 +0.4**
baz=64,SNR=9.2
J13A Cove Ranch, Pi 63.87 54 ⇓P **P** **13 32 56.7 +0.8**
baz=64,SNR=10
BOZ Bozeman (W) 63.88 51 *e*P **P** **13 32 56.8 +0.9**
BOZ pmax pmax
comp=Z,50nm,1.8s
BOZ Bozeman (W) 63.88 51 *e*P **P** **13 32 56.8 +0.9**
comp=Z,50nm,1.8s
BOZ Bozeman (W) 63.88 51 ⇓P **P** **13 32 56.6 +0.7**
baz=64,SNR=19
D18A Linhart Farms, 63.88 49 ⇓P **P** **13 32 56.5 +0.7**
baz=64,SNR=6.6
BMN Battle Mountai 63.93 58 *e*P **P** **13 32 57.2 +0.9**
BMN pmax pmax
comp=Z,15nm,1.0s
BMN Battle Mountai 63.93 58 *e*P **P** **13 32 57.2 +0.9**
comp=Z,15nm,1.0s
C19A Slack Wire Ran 63.93 48 ⇓P **P** **13 32 56.8 +0.7**
baz=64,SNR=11
I14A Mackay 63.94 53 ⇓P **P** **13 32 57.4 +1.0**
baz=64,SNR=14
H15A Lima 63.97 52 ⇑P **P** **13 32 56.7 +0.2**
baz=64
B20A Solberg Farm, 64.02 47 ⇑P **P** **13 32 56.8 +0.2**
baz=64
G16A Moss Hill, Enn 64.05 51 ⇑P **P** **13 32 57.7 +0.7**
baz=64,SNR=20
A21A Bergtoll Ranch 64.22 46 ⇑P **P** **13 32 58.6 +0.7**
baz=64,SNR=22
F17A Fitzpatrick Pl 64.24 50 ⇓P **P** **13 32 59.0 +0.7**
baz=64,SNR=7.6
SCO Scoresbysund 64.31 357 *i*P **P** **13 32 57.3 -0.7**
SCO pmax pmax
comp=Z,9.0nm,0.9s
SCO Scoresbysund 64.31 357 *i*P **P** **13 32 57.3 -0.7**
comp=Z,8.8nm,0.9s
I15A Monteview 64.44 53 ⇑P **P** **13 33 00.1 +0.5**
baz=64
C20A Veseth Ranch, 64.49 47 ⇑P **P** **13 33 00.5 +0.8**
baz=64,SNR=17
QLMT Earthquake Lak 64.50 51 *e*P **P** **13 33 00.6 +0.5**
NVAR Mina Array Bea 64.52 60 P **P** **13 33 01.2 +0.9**
comp=Z,6.8nm,0.8s,baz=288,slow=6.8,SNR=17
B21A Ellsworth Farm 64.53 46 ⇑P **P** **13 33 00.5 +0.5**
baz=64
FINES FINESS Array B 64.55 334 P **P** **13 32 58.4 -1.3**
FINES FINESS Array B 64.55 334 P **P** **13 32 58.4 -1.3**
comp=Z,8.6nm,0.8s,baz=25,slow=8.2,SNR=7.9
G17A Pierce Place, 64.57 51 ⇓P **P** **13 33 01.2 +0.8**
baz=64,SNR=10
H16A Russell Place, 64.68 51 ⇑P **P** **13 33 01.9 +0.7**
baz=64,SNR=14
MLAC Mammoth Lakes 64.69 61 ⇑P **P** **13 33 02.2 +0.7**
baz=64
A22A Carney Farms, 64.72 45 ⇑P **P** **13 33 01.7 +0.4**
baz=64,SNR=25
F18A Big Timber 64.75 50 ⇓P **P** **13 33 02.3 +0.7**
baz=64,SNR=19
D20A Manuel Ranch, 64.82 48 ⇓P **P** **13 33 02.8 +0.9**
baz=64,SNR=19
GCMT Greycliff 64.85 50 *e*P **P** **13 33 02.7 +0.5**
comp=Z,12nm,0.8s
YMR Madison River 64.86 51 *e*P **P** **13 33 02.3 -0.1**
comp=Z,4.2nm,0.6s
YMR *epP* **pP** **13 33 18.8 +0.2**
YMR *es*P **sP** **13 33 25.6 +0.3**
C21A Desert Coulee 64.88 47 ⇓P **P** **13 33 02.8 +0.5**
baz=65,SNR=9.9
E19A Rath Farm, Rou 64.89 49 ⇓P **P** **13 33 03.1 +0.8**
baz=65,SNR=9.8
ELK Elko 64.91 57 *e*P **P** **13 33 03.6 +0.8**
K14A Jones Ranch, D 64.97 54 ⇑P **P** **13 33 03.8 +0.7**
baz=65,SNR=7.6
I16A Newdale 65.08 52 ⇓P **P** **13 33 04.6 +0.9**
baz=65,SNR=7.6
B22A Reddig Ranch S 65.13 46 ⇓P **P** **13 33 04.2 +0.3**
baz=65
F19A Roth Farm, Mol 65.19 49 ⇓P **P** **13 33 04.8 +0.4**
baz=65,SNR=14
E20A Meyer Farm, Mu 65.20 48 ⇓P **P** **13 33 05.4 +1.0**
baz=65,SNR=6.8
LKWY Lake 65.24 51 *e*P **P** **13 33 06.7 +1.8**
LKWY pmax pmax
comp=Z,12nm,0.9s
LKWY Lake 65.24 51 *e*P **P** **13 33 06.7 +1.8**
comp=Z,12nm,0.9s
H17A Grant Village 65.25 51 ⇓P **P** **13 33 06.6 +1.6**
baz=65,SNR=12
K15A Arbon 65.25 54 ⇑P **P** **13 33 06.1 +1.2**
baz=65,SNR=13
A23A Redstone 65.26 45 ⇑P **P** **13 33 05.3 +0.6**
baz=65
HYB Hyderabad 65.37 270 *i*P **P** **13 33 04.5 -1.3**
FLWY Flagg Ranch 65.38 52 *e*P **P** **13 33 07.0 +1.2**
comp=Z,83nm,2.2s
J16A Bone 65.39 53 ⇑P **P** **13 33 07.0 +1.1**
baz=65,SNR=13
DCID1 Drake Creek 65.43 52 *e*P **P** **13 33 07.2 +1.2**
comp=Z,37nm,1.2s
D21A La Casta Ranch 65.43 47 ⇑P **P** **13 33 06.6 +0.7**
baz=65,SNR=14
OBN Obninsk 65.48 325 ⇑*i*P **P** **13 33 06.0 +0.1**
OBN *e* 13 35 27.4
OBN *es*S **S** **13 41 47.1 +1.4**
OBN pmax pmax
comp=Z,37nm,1.1s
RLMT Red Lodge 65.49 50 *e*P **P** **13 33 07.3 +0.8**
comp=Z,15nm,0.9s
RLMT Red Lodge 65.49 50 ⇓P **P** **13 33 07.4 +0.8**
baz=65,SNR=15
RRI2 Red Ridge 65.51 53 *e*P **P** **13 33 07.9 +1.2**
comp=Z,31nm,0.8s
B23A Brockton 65.53 45 ⇓P **P** **13 33 06.9 +0.5**
baz=65,SNR=14
C22A Vida 65.56 46 ⇑P **P** **13 33 06.7 +0.1**
baz=65
I17A Pilgrim Ck. 65.56 52 ⇓P **P** **13 33 08.5 +1.5**
baz=65,SNR=14
H18A Shoshone NF, C 65.57 51 ⇓P **P** **13 33 07.7 +0.7**
baz=65,SNR=9.7
MOOW Moose Ponds 65.57 52 *e*P **P** **13 33 08.0 +1.0**
comp=Z,22nm,1.3s
TPAW Teton Pass 65.62 52 *e*P **P** **13 33 09.5 +2.1**
comp=Z,27nm,0.9s
HVU Hansel Valley 65.69 55 *e*P **P** **13 33 08.8 +1.1**
HVU pmax pmax
comp=Z,11nm,0.9s
HVU Hansel Valley 65.69 55 *e*P **P** **13 33 08.8 +1.1**
comp=Z,11nm,0.9s
K16A Soda Springs 65.69 53 ⇑P **P** **13 33 08.9 +1.1**
baz=65,SNR=9.9
A24A Westby 65.72 44 ⇓P **P** **13 33 08.0 +0.3**
baz=65,SNR=6.9
E21A Keefer Ranch, 65.73 48 ⇑P **P** **13 33 08.7 +0.9**
baz=65,SNR=6.5
LOHW Long Hollow 65.74 52 *e*P **P** **13 33 08.1 0.0**
comp=Z,32nm,1.4s
SNOW Snow King Moun 65.75 52 *e*P **P** **13 33 09.5 +1.3**
comp=Z,18nm,0.8s
REDW Red Top Meadow 65.76 52 *e*P **P** **13 33 09.3 +1.1**
comp=Z,33nm,1.2s
L15A Malad City 65.77 54 ⇓P **P** **13 33 08.7 +0.5**
baz=66,SNR=5.5
D22A Cohagen 65.80 47 ⇓P **P** **13 33 08.6 +0.4**
baz=66,SNR=6.0
J17A Brown Place, J 65.84 52 ⇓P **P** **13 33 09.6 +0.8**
baz=66,SNR=14
C23A Lambert 65.87 46 ⇑P **P** **13 33 08.8 +0.1**
baz=66
CWC Cottonwood Cre 65.91 62 ⇓P **P** **13 33 09.9 +0.6**
baz=66
DGMT Dagmar 65.92 45 *e*P **P** **13 33 09.2 +0.2**
comp=Z,29nm,0.9s
DGMT Dagmar 65.92 45 ⇑P **P** **13 33 09.1 +0.1**
baz=66,SNR=9.5
H19A Powell 65.94 50 ⇓P **P** **13 33 10.0 +0.7**
baz=66,SNR=6.1
GRAC Grapevine Rang 66.00 61 ⇑P **P** **13 33 10.5 +0.9**
baz=66
G20A Bridger 66.00 49 ⇑P **P** **13 33 09.8 +0.2**
baz=66,SNR=10
M15A Larsen Ranch, 66.08 55 ⇑P **P** **13 33 10.7 +0.5**
baz=66,SNR=20
I18A Diamond G Ranc 66.11 51 ⇓P **P** **13 33 10.8 +0.3**
baz=66
ISA Isabella 66.16 63 ⇓P **P** **13 33 10.3 -0.5**
baz=66
R11A Troy Canyon, C 66.22 59 ⇑P **P** **13 33 11.6 +0.4**
baz=66,SNR=12
D23A Lindsay 66.28 46 ⇑P **P** **13 33 11.7 +0.4**
baz=66,SNR=7.3
J18A Kendall Valley 66.32 52 ⇓P **P** **13 33 12.3 +0.4**
baz=66,SNR=6.4
I19A Meeteetse 66.35 51 ⇑P **P** **13 33 12.7 +0.7**
baz=66,SNR=11
E22A Miles City 66.39 47 ⇓P **P** **13 33 12.1 +0.1**
baz=66
HWUT Hardware Ranch 66.49 54 *e*P **P** **13 33 13.8 +0.8**
comp=Z,66nm,1.9s
MPMC Manual Prospec 66.52 62 ⇑P **P** **13 33 13.8 +0.6**
baz=66,SNR=7.4
L17A Cokeville 66.57 53 ⇑P **P** **13 33 13.9 +0.5**
baz=66,SNR=9.4
FURC Furnace Creek, 66.65 61 ⇓P **P** **13 33 14.4 +0.7**
baz=66,SNR=10
F22A Rosebud 66.66 48 ⇓P **P** **13 33 14.1 +0.3**
baz=66,SNR=14
E23A Ismay 66.68 47 ⇓P **P** **13 33 14.4 +0.5**
baz=66,SNR=13
K18A Toltan Ranch, 66.68 52 ⇓P **P** **13 33 14.9 +0.7**
baz=66,SNR=9.6
DUG Dugway 66.69 56 *e*P **P** **13 33 14.8 +0.7**
DUG pmax pmax
comp=Z,22nm,1.0s
DUG Dugway 66.69 56 *e*P **P** **13 33 14.8 +0.7**
comp=Z,22nm,1.0s
DUG Dugway 66.69 56 ⇑P **P** **13 33 14.9 +0.8**
baz=66,SNR=13
SFJD Kangerlussuaq 66.75 9 *i*P **P** **13 33 12.2 -1.6**
comp=Z,14nm,0.9s
D24A Glendive 66.76 46 ⇑P **P** **13 33 14.9 +0.5**
baz=66,SNR=19
J19A Crowheart 66.82 51 ⇓P **P** **13 33 16.0 +1.0**
baz=66,SNR=14
O15A The Old Anders 66.83 56 ⇑P **P** **13 33 15.8 +0.8**
baz=67
PD01 Pinedale Array 66.85 52 *e*P **P** **13 33 15.3 +0.1**
BW06 Boulder Array 66.87 52 *e*P **P** **13 33 15.6 +0.2**
comp=Z,16nm,0.9s

BW06 **Boulder Array** 66.87 52 ⇑P P 13 33 15.9 +0.6
baz=67,SNR=23
PDAR **Pinedale Array** 66.87 52 P P 13 33 15.4 +0.1
PDAR **Pinedale Array** 66.87 52 P P 13 33 15.4 +0.1
comp=Z,14nm,0.9s,baz=299,slow=1.6,SNR=48
I20A **Worland** 66.88 50 ⇓P P 13 33 15.9 +0.6
baz=67,SNR=7.6
EDW2 **Edwards Air Fo** 66.96 63 ⇑P P 13 33 16.5 +0.7
baz=67,SNR=5.7
H21A **Big Horn, Sher** 67.01 49 ⇑P P 13 33 16.5 +0.4
baz=67,SNR=16
G22A **Birney** 67.02 48 ⇓P P 13 33 16.2 +0.1
baz=67,SNR=7.4
N16A **Rees Ranch, Co** 67.03 55 ⇓P P 13 33 16.8 +0.4
baz=67
M17A **Scullys Gap (B** 67.09 54 ⇓P P 13 33 17.3 +0.5
baz=67
F23A **Volborg** 67.15 48 ⇓P P 13 33 17.1 +0.3
baz=67,SNR=19
E24A **Baker** 67.15 46 ⇓P P 13 33 17.0 +0.1
baz=67
L18A **Fontenelle, Gr** 67.15 53 ⇓P P 13 33 17.5 +0.4
baz=67,SNR=9.8
FITZ **Fitzroy Crossi** 67.20 206 P P 13 33 17.1 -0.2
FITZ **Fitzroy Crossi** 67.20 206 P P 13 33 17.1 -0.2
comp=Z,5.3nm,0.7s,baz=15,slow=16,SNR=4.1
JLU **Jordanelle** 67.21 55 *eP* P 13 33 17.9 +0.3
comp=Z,14nm,1.1s
K19A **Absolon Red Bu** 67.22 52 ⇑P P 13 33 17.3 -0.3
baz=67,SNR=10.0
J20A **Shoshoni** 67.30 51 ⇑P P 13 33 18.4 +0.5
baz=67,SNR=18
R13A **O'Grain Ranch,** 67.31 58 ⇓P P 13 33 18.9 +0.7
baz=67,SNR=5.1
N17A **Moffit Pass** 67.34 54 ⇑P P 13 33 18.8 +0.3
baz=67,SNR=20
P15A **Leamington** 67.40 56 ⇑P P 13 33 19.2 +0.6
baz=67,SNR=9.5
L19A **Farson** 67.42 53 ⇓P P 13 33 19.1 +0.2
baz=67,SNR=6.4
I21A **Big Trails, Te** 67.42 50 ⇑P P 13 33 19.2 +0.5
baz=67,SNR=21
GSC **Goldstone** 67.43 62 *eP* P 13 33 19.5 +0.6
GSC pmax pmax
comp=Z,101nm,2.3s
GSC **Goldstone** 67.43 62 *eP* P 13 33 19.5 +0.6
comp=Z,101nm,2.3s
GSC **Goldstone** 67.43 62 ⇑P P 13 33 19.5 +0.6
baz=67
O16A **Springville** 67.44 55 ⇓P P 13 33 19.3 +0.4
baz=67
DAU **Daniels Canyon** 67.45 55 *eP* P 13 33 19.7 +0.5
DAU **Daniels Canyon** 67.45 55 *eP* P 13 33 19.7 +0.5
M18A **Lyman** 67.46 53 ⇑P P 13 33 19.4 +0.3
baz=67,SNR=5.6
MPU **Maple Canyon** 67.49 55 *eP* P 13 33 19.5 +0.2
comp=Z,14nm,0.9s
G23A **Biddle** 67.50 48 ⇓P P 13 33 19.2 0.0
baz=67,SNR=10
F24A **Ekalaka** 67.56 47 ⇑P P 13 33 19.7 +0.2
baz=67,SNR=6.9
BFSC **Mount Baldy Ra** 67.58 64 ⇑P P 13 33 20.3 +0.4
baz=67
K20A **Yellowstone Ra** 67.61 52 ⇓P P 13 33 19.9 -0.1
baz=67,SNR=11
J21A **Lysite** 67.65 51 ⇑P P 13 33 20.2 -0.1
baz=67,SNR=9.2
I22A **9 Mile Ranch,** 67.80 50 ⇓P P 13 33 21.6 +0.5
baz=68,SNR=8.5
ARUT **Antelope Range** 67.88 58 *eP* P 13 33 22.3 +0.6
comp=Z,15nm,1.1s
O17A **Robinson Place** 67.89 55 ⇑P P 13 33 22.8 +0.9
baz=68,SNR=5.2
TUQ **Turquoise Moun** 67.89 62 ⇑P P 13 33 22.2 +0.4
baz=68
G24A **Alzada** 67.92 47 ⇓P P 13 33 21.7 -0.1
baz=68
HEC **Hector,Ludlow** 68.04 62 ⇓P P 13 33 23.4 +0.7
baz=68,SNR=8.4
L20A **Wamsutter** 68.05 52 ⇓P P 13 33 23.1 +0.3
baz=68,SNR=6.5
CCUT **Cedar City** 68.08 58 *eP* P 13 33 23.9 +0.8
comp=Z,37nm,1.6s
J22A **Midwest** 68.13 50 ⇓P P 13 33 23.4 +0.2
baz=68,SNR=12
MVU **Marysvale** 68.14 57 *eP* P 13 33 24.2 +0.7
comp=Z,10nm,1.0s
TMUT **Trail Mountain** 68.21 56 *eP* P 13 33 24.2 +0.2
comp=Z,11nm,1.0s
K21A **Alcova** 68.23 51 ⇑P P 13 33 24.2 +0.3
baz=68,SNR=17
H24A **Dirks Ranch, A** 68.25 48 ⇑P P 13 33 23.7 -0.1
baz=68,SNR=10
O18A **Roosevelt** 68.26 54 ⇓P P 13 33 24.7 +0.6
baz=68,SNR=7.3
MURC **Murrieta** 68.29 64 ⇑P P 13 33 24.5 +0.3
baz=68
R15A **Junction** 68.30 57 ⇓P P 13 33 25.0 +0.7
baz=68,SNR=6.6
N19A **John Jarvie Ra** 68.32 53 ⇓P P 13 33 24.6 +0.2
baz=68,SNR=6.6
P17A **Butcher Ranch,** 68.36 55 ⇑P P 13 33 25.5 +0.8
baz=68,SNR=12
M20A **Sweetwater, Wa** 68.48 52 ⇓P P 13 33 26.1 +0.6
baz=68,SNR=6.3
Q16A **Castle Valley** 68.48 56 ⇓P P 13 33 26.2 +0.6
baz=68,SNR=6.5
GMRC **Granite Mounta** 68.49 62 ⇓P P 13 33 26.1 +0.5
baz=68,SNR=6.3
P18A **Preston Nutter** 68.55 55 ⇓P P 13 33 26.4 +0.3
baz=68,SNR=7.6
MDND **Maddock** 68.59 43 ⇑P P 13 33 26.0 +0.2
baz=68
ULM **Lac du Bonnet** 68.61 39 P P 13 33 25.2 -0.7
ULM **Lac du Bonnet** 68.61 39 P P 13 33 25.2 -0.7
comp=Z,7.8nm,0.8s,baz=311,slow=7.9,SNR=15
L21A **Rawlins** 68.61 52 ⇑P P 13 33 26.2 -0.2
baz=68,SNR=7.9
K22A **Casper** 68.61 51 ⇑P P 13 33 26.5 +0.2
baz=68,SNR=9.0
J23A **Dilts Ranch, B** 68.63 49 ⇓P P 13 33 26.2 -0.1
baz=68
R16A **Teasdale** 68.72 57 ⇑P P 13 33 27.2 +0.1
baz=68,SNR=16
SRU **San Rafael** 68.73 56 *eP* P 13 33 27.5 +0.4
comp=Z,24nm,0.9s
SRU **San Rafael** 68.73 56 ⇓P P 13 33 27.4 +0.4
baz=68,SNR=21
O19A **Miners Draw (B** 68.75 54 ⇓P P 13 33 27.3 +0.2
baz=68,SNR=6.7
PFO **Pinyon Flat Ob** 68.75 63 ⇓P P 13 33 27.4 +0.2
baz=68
BELC **Belle Mtn. Jos** 68.78 63 ⇑P P 13 33 27.5 +0.1
baz=69
109C **Camp Elliot, M** 68.81 64 ⇓P P 13 33 27.8 +0.4
baz=69
I24A **Kuemmerle Ranc** 68.81 49 ⇑P P 13 33 27.3 -0.1
baz=68
M21A **Separation Pea** 68.86 52 ⇓P P 13 33 27.9 +0.1
baz=69,SNR=8.0
N20A **Spence Gulch,** 68.87 53 ⇓P P 13 33 28.4 +0.4
baz=69,SNR=14
RWWY **Rawlins** 68.89 52 *eP* P 13 33 28.3 +0.2
comp=Z,30nm,0.9s
RSSD **Black Hills** 68.95 48 *eP* P 13 33 28.0 -0.3
comp=Z,27nm,0.8s
NB2 **NORSAR Subarra** 68.96 340 P P 13 33 26.7 -1.2
comp=Z,3.2nm,0.5s,baz=28,slow=6.5
NOA **NORSAR Array B** 68.96 340 P P 13 33 26.3 -1.6
NOA **NORSAR Array B** 68.96 340 P P 13 33 26.3 -1.6
comp=Z,3.9nm,0.5s,baz=28,slow=6.4,SNR=17
Q18A **Rafter H Ranch** 68.96 55 ⇓P P 13 33 28.5 +0.1
baz=69
S16A **Weppner Ranch,** 69.02 57 ⇑P P 13 33 29.5 +0.6
baz=69
K23A **Bowen Ranch, D** 69.03 50 ⇓P P 13 33 28.8 0.0
baz=69
R17A **Hanksville Air** 69.08 56 ⇓P P 13 33 29.4 +0.2
baz=69,SNR=11
L22A **Ellis Ranch, M** 69.08 51 ⇑P P 13 33 29.7 +0.5
baz=69,SNR=18
J24A **Dixon Ranch, L** 69.16 49 ⇑P P 13 33 29.3 -0.2
baz=69
IRM **Iron Mountain** 69.21 62 ⇑P P 13 33 30.5 +0.6
baz=69,SNR=8.6
MONP **Monument Peak** 69.25 64 ⇑P P 13 33 31.0 +0.7
baz=69
P19A **Cripple Cowboy** 69.27 54 ⇓P P 13 33 30.9 +0.4
baz=69,SNR=12
N21A **Black Mountain** 69.34 53 ⇓P P 13 33 31.2 +0.3
baz=69,SNR=8.7
BC3 **Big Chuckawall** 69.35 63 ⇓P P 13 33 31.3 +0.4
baz=69
O20A **White River Ci** 69.36 54 ⇑P P 13 33 31.2 +0.3
baz=69,SNR=8.1
W13A **Hualapai Mount** 69.37 61 ⇑P P 13 33 31.6 +0.4
baz=69,SNR=8.5
M22A **Cedar Creek Ra** 69.42 52 ⇑P P 13 33 31.7 +0.3
baz=69,SNR=16
L23A **Garrett** 69.43 51 ⇑P P 13 33 31.2 -0.2
baz=69,SNR=5.8
U15A **North Rim** 69.46 59 ⇑P P 13 33 32.2 +0.4
baz=69,SNR=16
S17A **Black Ridge (B** 69.55 57 ⇓P P 13 33 32.6 +0.5
baz=69,SNR=20
Q19A **Hogan Spring (** 69.56 55 ⇑P P 13 33 32.0 -0.2
baz=69,SNR=19
R18A **Canyonlands Na** 69.58 56 ⇓P P 13 33 32.0 -0.3
baz=69,SNR=9.5
DVTC **Desert V Tower** 69.60 64 ⇓P P 13 33 32.9 +0.5
baz=69
O21A **Pagoda** 69.74 53 ⇓P P 13 33 33.1 -0.3
baz=70,SNR=5.1
PDMCI **Parker Dam,Lak** 69.75 62 ⇑P P 13 33 33.5 +0.4
baz=72,SNR=5.7
Y12C **Blythe** 69.87 62 ⇓P P 13 33 34.2 +0.3
baz=70,SNR=7.5
N22A **Wattenberg Ran** 69.91 52 ⇑P P 13 33 34.6 +0.2
baz=70,SNR=5.6
S18A **Hurst Farm, Bl** 69.99 56 ⇑P P 13 33 34.8 -0.2
baz=70,SNR=16
R19A **Curley Farm, L** 70.01 56 ⇑P P 13 33 35.1 +0.1
baz=70,SNR=9.6
AGMN **Agassiz Nation** 70.03 41 *eP* P 13 33 34.0 -0.6
comp=Z,24nm,1.0s
PHWY **Pilot Hill** 70.11 51 *eP* P 13 33 36.0 +0.3
comp=Z,6.7nm,0.9s
Q20A **Ridgley Place,** 70.12 54 ⇓P P 13 33 35.8 +0.1
baz=70,SNR=5.7
N23A **Red Feather La** 70.13 52 ⇓P P 13 33 35.8 0.0
baz=70,SNR=14
PV04 **Paradox Valley** 70.15 55 *eP* P 13 33 36.6 +0.7
P21A **Newcastle** 70.22 54 ⇓P P 13 33 36.4 +0.2
baz=70,SNR=9.4
O22A **Kremmling** 70.29 53 ⇑P P 13 33 37.0 +0.1
baz=70,SNR=5.8
M24A **Cheyenne** 70.35 51 ⇓P P 13 33 37.3 +0.4
baz=70,SNR=7.4
K26A **Motz Farm, Whi** 70.38 49 ⇓P P 13 33 37.1 +0.1
baz=70
ASAR **Alice Springs** 70.43 196 P P 13 33 38.2 +0.9
ASAR **Alice Springs** 70.43 196 P P 13 33 38.2 +0.9
comp=Z,9.9nm,0.9s,baz=14,slow=6.0,SNR=15
T18A **Mexican Hat** 70.43 57 ⇑P P 13 33 37.4 -0.1
baz=70,SNR=12
S19A **Harvey Farm, M** 70.45 56 ⇑P P 13 33 38.1 +0.4
baz=70,SNR=25
PV01 **Paradox Valley** 70.52 55 *eP* P 13 33 38.0 -0.1
comp=Z,2µm,0.9s
KIV **Kislovodsk** 70.54 313 *eP* P 13 33 38.2 +0.2
KIV pmax pmax
comp=Z,37nm,0.9s
KIV **Kislovodsk** 70.54 313 *eP* P 13 33 39.6 +1.6
comp=Z,32nm,0.8s
P22A **Eagle** 70.56 53 ⇑P P 13 33 38.8 +0.4
baz=70,SNR=8.2
R20A **Redvale** 70.59 55 ⇓P P 13 33 38.9 +0.4
baz=70
O23A **Lake Granby, G** 70.61 52 ⇑P P 13 33 39.3 +0.5
baz=70,SNR=17
Q21A **Lamborn Mesa,** 70.62 54 ⇓P P 13 33 38.9 +0.2
baz=70,SNR=12
WUAZ **Wupatki** 70.62 59 *eP* P 13 33 39.3 +0.6
comp=Z,17nm,1.0s
WUAZ **Wupatki** 70.62 59 ⇑P P 13 33 39.4 +0.6
baz=70,SNR=7.8
Y14A **Wickenburg** 70.69 61 ⇑P P 13 33 39.2 +0.2
baz=70,SNR=12
SMCO **Snowmass** 70.72 54 *eP* P 13 33 39.8 +0.2
comp=Z,14nm,0.8s
M25A **Pah-Egli Farm** 70.79 50 ⇓P P 13 33 39.9 +0.3
baz=70
S20A **Disappointment** 70.85 55 ⇓P P 13 33 40.1 -0.1
baz=71,SNR=10
R21A **Cimarron** 70.95 55 ⇑P P 13 33 41.1 +0.3
baz=71,SNR=14
Q22A **Crested Butte,** 70.97 54 ⇓P P 13 33 41.3 +0.3
baz=71,SNR=16
ISCO **Idaho Springs** 71.06 52 ⇑P P 13 33 42.0 +0.5
baz=71,SNR=16
Z14A **Wintersburg** 71.11 62 ⇑P P 13 33 42.1 +0.6
baz=71
T19A **Beclabito** 71.14 57 ⇓P P 13 33 42.2 +0.3
baz=71,SNR=5.2
MVCO **Mesa Verde** 71.19 56 *eP* P 13 33 42.4 +0.2
comp=Z,58nm,1.4s
MVCO **Mesa Verde** 71.19 56 ⇓P P 13 33 42.7 +0.5
baz=71,SNR=11
N25A **Grover** 71.20 51 ⇑P P 13 33 42.9 +0.8
baz=71,SNR=9.1
P23A **Jefferson** 71.23 53 ⇑P P 13 33 43.2 +0.6
baz=71,SNR=5.4
M26A **McRoberts Ranc** 71.26 50 ⇑P P 13 33 43.0 +0.5
baz=71,SNR=5.2
S21A **Coal Bank Pass** 71.29 55 ⇓P P 13 33 43.5 +0.6
baz=71,SNR=22
X16A **Lo Mia Camp, P** 71.32 60 ⇑P P 13 33 43.7 +0.7
baz=71,SNR=19
U19A **Dine' College,** 71.40 57 ⇓P P 13 33 43.8 +0.3
baz=71
R22A **Saguache, Gunn** 71.50 54 ⇑P P 13 33 44.6 +0.5
baz=71,SNR=16
114A **Black Gap (USA** 71.56 62 ⇑P P 13 33 44.8 +0.5
baz=71,SNR=12
M27A **Reverse DX Ran** 71.62 49 ⇑P P 13 33 44.8 +0.2
baz=71
P24A **Kohler Place,** 71.65 52 ⇓P P 13 33 45.3 +0.4
baz=71
N26A **Koester Ranch,** 71.66 50 ⇑P P 13 33 45.2 +0.3
baz=71,SNR=5.3
AKASG **Malin Array Be** 71.73 325 P P 13 33 43.6 -1.3
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG **Malin Array Be** 71.73 325 P P 13 33 43.6 -1.3
AKASG **Malin Array Be** 71.73 325 P P 13 33 43.6 -1.3
comp=Z,6.3nm,0.5s,baz=37,slow=6.4,SNR=12
U20A **Newcomb** 71.74 57 ⇓P P 13 33 45.7 +0.2
baz=72
X17A **Forest Lakes** 71.77 60 ⇑P P 13 33 46.1 +0.4
baz=72,SNR=6.8
S22A **4UR Ranch, Cre** 71.79 55 ⇑P P 13 33 46.5 +0.6
baz=72,SNR=19
W18A **Petrified Fore** 71.88 58 ⇓P P 13 33 46.5 +0.1
baz=72
V19A **Window Rock** 71.89 57 ⇑P P 13 33 47.1 +0.7
baz=72,SNR=7.1
Q24A **Divide** 71.90 53 ⇑P P 13 33 46.4 -0.2
baz=72,SNR=7.9
T21A **Navajo Lake** 71.90 56 ⇑P P 13 33 47.1 +0.6
baz=72,SNR=11
O26A **Horse Wrangler** 72.02 51 ⇑P P 13 33 47.0 0.0
baz=72
R23A **Moffat** 72.05 54 ⇓P P 13 33 47.8 +0.4
baz=72,SNR=14
P25A **Willow Gulch B** 72.06 52 ⇓P P 13 33 48.1 +0.7
baz=72,SNR=21
GNI **Garni** 72.13 309 *eP* P 13 33 47.0 -0.7
GNI P P 13 33 49.1 +1.3
GNI **Garni** 72.13 309 P P 13 33 49.1 +1.3
comp=Z,6.3nm,0.5s,baz=162,slow=21,SNR=4.4
X18A **Snowflake** 72.15 59 ⇑P P 13 33 47.8 -0.2
baz=72,SNR=5.3
V20A **Brimhall** 72.17 57 ⇓P P 13 33 48.3 +0.2
baz=72,SNR=5.9
U21A **Nageezi** 72.21 56 ⇓P P 13 33 48.4 0.0
baz=72,SNR=26
OGNE **Ogallala** 72.22 49 ⇑P P 13 33 48.0 -0.1
baz=72,SNR=28
T22A **Edith** 72.25 55 ⇓P P 13 33 49.1 +0.5
baz=72,SNR=14
EYMN **Ely** 72.25 39 *eP* P 13 33 47.5 -0.6
S23A **Nye Farm, Mont** 72.29 54 ⇓P P 13 33 49.4 +0.5
baz=72,SNR=8.4
R24A **Sanders Place,** 72.43 53 ⇓P P 13 33 49.7 +0.1
baz=72,SNR=14
Q25A **Bedland, Calha** 72.44 52 ⇓P P 13 33 49.8 +0.2
baz=72,SNR=20
P26A **Davis Ranch, A** 72.48 51 ⇑P P 13 33 50.3 +0.4
baz=72,SNR=26
O27A **Beecher Island** 72.51 50 ⇓P P 13 33 50.1 +0.1
baz=72
SDCO **Great Sand Dun** 72.55 54 ⇓P P 13 33 50.5 +0.1
baz=72
T23A **Casias Ranch,** 72.73 55 ⇑P P 13 33 51.2 -0.3
baz=72,SNR=20
S24A **Houchin Ranch,** 72.78 54 ⇑P P 13 33 51.7 -0.1
baz=72,SNR=7.6
KWP **Kalwaria Pacla** 75.12 328 *eP* P 13 34 04.6 -0.3
KWP **Kalwaria Pacla** 75.12 328 *eP* P 13 34 04.6 -0.3
BUR08 **Bucovina Ar. S** 75.77 325 *eP* P 13 34 07.5 -1.2
BURAR **Bucovina Array** 75.79 325 ⇓*iP* P 13 34 08.7 -0.2
KOLS **Kolonicke sedl** 75.85 328 *eP* P 13 34 08.9 -0.2
KOLS pmax pmax
comp=Z,14nm,1.1s
KOLS **Kolonicke sedl** 75.85 328 *eP* P 13 34 08.9 -0.2
TESR 76.09 324 ⇓*iP* P 13 34 10.3 -0.2
CRVS **Cervenica-Dubn** 76.18 328 *eP* P 13 34 10.4 -0.6
CRVS pmax pmax
comp=Z,10.0nm,0.9s
CRVS **Cervenica-Dubn** 76.18 328 *eP* P 13 34 10.4 -0.6
TLCR 76.22 322 ⇑*iP* P 13 34 10.2 -1.0
TLCR 76.22 322 ⇑*iP* P 13 34 10.2 -1.0
KSP **Ksiaz** 76.35 332 *eP* P 13 34 10.7 -1.2
TRPA **Tarpa** 76.41 327 ⇓*iP* P 13 34 12.7 +0.5
CFR **Carcaliu** 76.52 322 ⇓P P 13 34 12.4 -0.5
CFR **Carcaliu** 76.52 322 ⇓*iP* P 13 34 12.4 -0.5
OKC **Ostrava-Krasne** 76.58 331 *eP* P 13 34 13.7 +0.5
OKC **Ostrava-Krasne** 76.58 331 *eP* P 13 34 13.7 +0.5
UPC **Upice** 76.73 332 *eP* P 13 34 14.1 +0.1
UPC **Upice** 76.73 332 *eP* P 13 34 14.1 +0.1
DPC **Dobruska-Polom** 76.76 332 *eP* P 13 34 14.2 -0.1
DPC **Dobruska-Polom** 76.76 332 *eP* P 13 34 14.2 -0.1
MORC **Moravsky Berou** 76.84 331 ⇓P P 13 34 14.9 +0.2
MORC **Moravsky Berou** 76.84 331 *eP* P 13 34 13.3 -1.4
comp=Z,34nm,1.0s
MORC **Moravsky Berou** 76.84 331 ⇓*iP* P 13 34 14.9 +0.2
GRER 76.86 323 ⇓*iP* P 13 34 14.4 -0.4
CLL **Collm** 76.99 334 *eP* P 13 34 14.6 -0.9
comp=Z,36nm,0.9s
CLL **Collm** 76.99 334 ⇑*iP* P 13 34 14.3 -1.2
CLL *i* 13 34 23.1
CLL *e**PP **pP** 13 34 30.0 -2.0
CLL pmax pmax
comp=Z,38nm,0.9s
CLL **Collm** 76.99 334 ⇑*iP* P 13 34 14.3 -1.2
comp=Z,38nm,0.9s
CLL *i* PcP **PcP** 13 34 23.1 -3.2
CLL *e*pP **pP** 13 34 30.0 -2.0
CLL *es*P **sP** 13 34 38.0 -0.7
DOPR **Dopca** 77.05 324 ⇑*iP* P 13 34 18.9 +3.0
EFOR **EFORIE** 77.17 321 ⇓*iP* P 13 34 17.4 +0.8
PVCC **Panska Ves** 77.18 333 *eP* P 13 34 16.5 -0.1
PVCC **Panska Ves** 77.18 333 *eP* P 13 34 16.5 -0.1
MLR **Muntele Rosu** 77.20 324 P P 13 34 17.1 +0.2
MLR **Muntele Rosu** 77.20 324 ⇑*iP* P 13 34 17.2 +0.2
MLR **Muntele Rosu** 77.20 324 P P 13 34 17.1 +0.2
comp=Z,3.5nm,0.9s,baz=52,slow=14,SNR=4.6
FBE **Freiberg** 77.22 334 *eP* P 13 34 16.3 -0.5
comp=Z,37nm,1.1s
ISR **Istrita** 77.25 323 ⇓P P 13 34 17.7 +0.6
ISR **Istrita** 77.25 323 ⇓*iP* P 13 34 17.7 +0.6
CLZ **Clausthal** 77.30 336 *eP* P 13 34 17.1 -0.1
comp=Z,40nm,1.1s
DRGR 77.45 326 ⇑P P 13 34 17.9 -0.3
DRGR 77.45 326 ⇑*iP* P 13 34 17.9 -0.3
NEUB **Neuenburg** 77.45 335 *eP* P 13 34 17.4 -0.6
comp=Z,30nm,0.9s
VYHS **Vyhne** 77.48 330 *eP* P 13 34 17.5 -0.8
VYHS pmax pmax
comp=Z,14nm,1.0s
VYHS **Vyhne** 77.48 330 *eP* P 13 34 17.5 -0.8
VRAC **Vranov** 77.56 331 ⇓*iP* P 13 34 19.1 +0.3
PSZ **Piszkesteto** 77.58 329 ⇓P P 13 34 19.4 +0.5
PSZ **Piszkesteto** 77.58 329 ⇓*iP* P 13 34 19.4 +0.5
IBBN **Ibbenburen** 77.60 338 *eP* P 13 34 18.3 -0.5
comp=Z,28nm,0.7s
VOIR 77.61 324 ⇓P P 13 34 19.5 +0.3
VOIR 77.61 324 ⇓*iP* P 13 34 19.5 +0.3
PRU **Pruhonice** 77.66 333 *eP* P 13 34 19.2 0.0
PRU **Pruhonice** 77.66 333 *eP* P 13 34 19.2 0.0
UMR **Umm Al-Rimmam** 77.89 300 *eP* P 13 34 20.4 -0.4
UMR AMb AMB 13 34 21.5
comp=Z,142nm,0.7s
MIB **Mutribah** 77.94 300 *eP* P 13 34 21.0 -0.1
MIB AMb AMB 13 34 22.3
comp=Z,159nm,0.8s
TREC **Trest** 77.95 332 *eP* P 13 34 20.9 0.0
TREC **Trest** 77.95 332 *eP* P 13 34 20.9 0.0
WERD **Werda** 77.96 334 *eP* P 13 34 20.5 -0.4
comp=Z,19nm,1.0s
PLN **Plauen** 77.97 334 *eP* P 13 34 20.6 -0.4
comp=Z,124nm,1.1s
MOX **Moxa** 77.99 335 *eP* P 13 34 20.6 -0.5
comp=Z,28nm,1.1s
GUNZ **Gunzen** 78.02 334 *eP* P 13 34 20.9 -0.4
comp=Z,18nm,0.9s
WERN **Wernitzgruen** 78.08 334 *eP* P 13 34 21.2 -0.4
comp=Z,23nm,0.8s
NKC **Novy Kostel** 78.10 334 *eP* P 13 34 21.7 0.0
NKC **Novy Kostel** 78.10 334 *eP* P 13 34 21.7 0.0
KBD **Kabd** 78.17 299 *eP* P 13 34 22.2 -0.2
KBD AMb AMB 13 34 23.3
comp=Z,63nm,0.7s
BR131 **Keskin Array S** 78.22 315 *eP* P 13 34 22.6 -0.1
comp=Z,16nm,1.1s
BRTR **Keskin Array B** 78.22 315 P P 13 34 22.7 -0.1
BRTR **Keskin Array B** 78.22 315 P P 13 34 22.7 -0.1
comp=Z,10nm,0.8s,baz=82,slow=4.6,SNR=9.3
QRN **Al-Qurain** 78.34 299 *eP* P 13 34 23.3 -0.1
QRN AMb AMB 13 34 24.1
comp=Z,167nm,0.7s
NAY **Al-Naaiem** 78.40 300 *eP* P 13 34 23.2 -0.5
NAY AMb AMB 13 34 24.7
comp=Z,60nm,1.2s
RDF **Al-Radifah** 78.44 299 *eP* P 13 34 24.4 +0.5
RDF AMb AMB 13 34 25.8
comp=Z,158nm,1.3s
BUG **Bochum--Univer** 78.52 338 *eP* P 13 34 23.5 -0.4
comp=Z,42nm,1.0s
ROTZ **Rotzenmuhle** 78.59 334 *eP* P 13 34 24.4 0.0
comp=Z,26nm,1.0s
KHC **Kasperske Hory** 78.71 333 *eP* P 13 34 24.4 -0.8
KHC pmax pmax
comp=Z,42nm,0.9s
KHC **Kasperske Hory** 78.71 333 *eP* P 13 34 24.4 -0.8
comp=Z,42nm,0.9s
KHC **Kasperske Hory** 78.71 333 *eP* P 13 34 25.0 -0.1
KHC *ex* x 13 35 00.0
BZS **Buzias** 78.85 326 ⇓P P 13 34 25.6 -0.3
BZS **Buzias** 78.85 326 ⇓*iP* P 13 34 25.6 -0.3
GEC2 **GERESS Array S** 78.92 333 *eP* P 13 34 25.8 -0.6
comp=Z,17nm,1.0s
GERES **GERESS Array B** 78.92 333 P P 13 34 25.7 -0.6
GERES **GERESS Array B** 78.92 333 P P 13 34 25.7 -0.6
comp=Z,10nm,0.8s,baz=31,slow=5.4,SNR=11
WET **Wettzell** 78.92 333 *eP* P 13 34 26.3 0.0
comp=Z,40nm,1.0s
GRF **Grafenberg Arr** 78.95 335 *eP* P 13 34 26.4 0.0
comp=Z,65nm,1.0s
CONA **Conrad Observa** 79.00 331 ⇑*iP* P 13 34 27.1 +0.3
comp=Z,30nm,0.8s
CONA **Conrad Observa** 79.00 331 ⇑*iP* P 13 34 27.1 +0.3
comp=Z,30nm,0.8s
TNS **Taunus Mts** 79.29 336 *eP* P 13 34 27.9 -0.4
comp=Z,31nm,1.1s
PKSM **Moragy** 79.48 328 ⇓P P 13 34 28.3 -1.0
PKSM **Moragy** 79.48 328 ⇓*iP* P 13 34 28.3 -1.0
BEBN **Eben Emael** 79.52 338 P P 13 34 29.3 -0.1
comp=Z,18nm,0.9s
TXAR **Lajitas Array** 79.59 59 P P 13 34 30.2 -0.1
TXAR **Lajitas Array** 79.59 59 P P 13 34 30.2 -0.1
comp=Z,19nm,0.8s,baz=298,slow=4.0,SNR=19
MEM **Membach** 79.61 338 P P 13 34 29.7 -0.2
comp=Z,34nm,1.1s
DLF **Lyons Farm** 79.77 346 *eP* P 13 34 30.6 -0.2
MPEP **Malo Peshtene** 79.86 324 P P 13 34 31.2 -0.2
BCLA **Clavier** 79.96 338 P P 13 34 31.4 -0.4
comp=Z,18nm,1.2s
SNF **Seneffe** 80.14 339 P P 13 34 32.6 -0.2
RJOB **Jochberg** 80.19 333 *eP* P 13 34 33.2 0.0

comp=Z,22nm,0.9s
FUR Furstenfeldbru 80.29 334 *e*P P 13 34 33.5 -0.2
comp=Z,62nm,1.1s
SOKA Soboth 80.36 331 ⇓*i*P P 13 34 33.6 -0.6
comp=Z,44nm,1.2s
SOKA Soboth 80.36 331 ⇓*i*P P 13 34 33.7 -0.6
comp=Z,44nm,1.2s
GIVF Givet 80.38 339 ⇑*i*P P 13 34 33.5 -0.6
comp=Z,32nm,0.9s
GIVF Givet 80.38 339 ⇑*i*P P 13 34 33.5 -0.6
GIVF pmax pmax
comp=Z,32nm,0.9s
GIVF Givet 80.38 339 ⇑*i*P P 13 34 33.5 -0.6
comp=Z,32nm,0.9s
STU Stuttgart 80.38 335 *e*P P 13 34 33.7 -0.4
comp=Z,43nm,1.2s
WLF Walferdange 80.43 338 P P 13 34 35.6 +1.2
comp=Z,23nm,1.9s
DOU Dourbes 80.44 339 P P 13 34 33.9 -0.5
BAIF Baives 80.57 339 ⇑*i*P P 13 34 34.7 -0.4
comp=Z,67nm,1.1s
BAIF Baives 80.57 339 ⇑*i*P P 13 34 34.7 -0.4
BAIF pmax pmax
comp=Z,67nm,1.1s
BAIF Baives 80.57 339 ⇑*i*P P 13 34 34.7 -0.4
comp=Z,67nm,1.1s
KBA Koelnbreinsper 80.58 332 ⇑*i*P P 13 34 35.4 -0.1
KBA pmax pmax
comp=Z,42nm,0.8s
KBA Koelnbreinsper 80.58 332 ⇑*i*P P 13 34 35.4 -0.1
comp=Z,42nm,0.8s
KBA Koelnbreinsper 80.58 332 ⇑*i*P P 13 34 35.3 -0.1
comp=Z,42nm,0.8s
VTS Vitosha 80.70 324 ⇓*i*P P 13 34 36.5 +0.3
VTS Vitosha 80.70 324 P P 13 34 35.9 -0.3
WATA Walderalm 80.93 333 ⇓*i*P P 13 34 37.0 -0.3
WATA pmax pmax
comp=Z,25nm,0.7s
WATA Walderalm 80.93 333 ⇓*i*P P 13 34 37.0 -0.3
comp=Z,25nm,0.7s
WATA Walderalm 80.93 333 ⇓*i*P P 13 34 36.9 -0.3
comp=Z,25nm,0.7s
WTTA Wattenberg 80.97 333 ⇓*i*P P 13 34 37.6 0.0
WTTA pmax pmax
comp=Z,62nm,1.1s
WTTA Wattenberg 80.97 333 ⇓*i*P P 13 34 37.6 0.0
comp=Z,62nm,1.1s
WTTA Wattenberg 80.97 333 ⇓*i*P P 13 34 37.6 0.0
comp=Z,62nm,1.1s
BFO Black Forest 81.03 336 *e*P P 13 34 37.2 -0.5
comp=Z,27nm,1.0s
BFO Black Forest 81.03 336 *e*P P 13 34 37.1 -0.6
BFO pmax pmax
comp=Z,27nm,1.0s
BFO Black Forest 81.03 336 *e*P P 13 34 37.1 -0.6
comp=Z,26nm,1.0s
RETA Reutte 81.05 334 ⇑*i*P P 13 34 37.4 -0.4
comp=Z,24nm,1.0s
RETA Reutte 81.05 334 ⇑*i*P P 13 34 37.4 -0.4
comp=Z,24nm,1.0s
MOTA Moosalm 81.07 334 ⇑*i*P P 13 34 37.8 -0.3
MOTA pmax pmax
comp=Z,35nm,0.8s
MOTA Moosalm 81.07 334 ⇑*i*P P 13 34 37.8 -0.3
comp=Z,35nm,0.8s
MOTA Moosalm 81.07 334 ⇑*i*P P 13 34 37.8 -0.3
comp=Z,35nm,0.8s
CDF Champ du Feu 81.26 336 ⇑*i*P P 13 34 38.4 -0.5
comp=Z,57nm,1.0s
CDF Champ du Feu 81.26 336 ⇑*i*P P 13 34 38.4 -0.5
CDF pmax pmax
comp=Z,57nm,1.0s
CDF Champ du Feu 81.26 336 ⇑*i*P P 13 34 38.4 -0.5
comp=Z,57nm,1.0s
MMB Musomiste 81.31 323 P P 13 34 39.4 +0.1
ECH Echery 81.47 336 *e*P P 13 34 38.8 -1.2
ECH pmax pmax
comp=Z,25nm,0.9s
ECH Echery 81.47 336 *e*P P 13 34 38.8 -1.2
comp=Z,25nm,0.9s
PAGF Fort de Pagny 81.56 337 ⇑*i*P P 13 34 40.4 0.0
comp=Z,39nm,0.9s
PAGF Fort de Pagny 81.56 337 ⇑*i*P P 13 34 40.4 0.0
comp=Z,39nm,0.9s
MEZF Maizieres J'vi 81.78 338 ⇑*i*P P 13 34 41.5 -0.1
comp=Z,113nm,0.9s
MEZF Maizieres J'vi 81.78 338 ⇑*i*P P 13 34 41.5 -0.1
comp=Z,113nm,0.9s
HAU Haudompre 81.89 337 ⇑*i*P P 13 34 41.6 -0.6
comp=Z,32nm,0.9s
HAU Haudompre 81.89 337 ⇑*i*P P 13 34 41.6 -0.6
HAU pmax pmax
comp=Z,32nm,0.9s
HAU Haudompre 81.89 337 ⇑*i*P P 13 34 41.6 -0.6
comp=Z,32nm,0.9s
HINF Hinteralfeld 81.92 336 ⇑*i*P P 13 34 41.6 -0.8
HINF Hinteralfeld 81.92 336 ⇑*i*P P 13 34 41.6 -0.8
HINF Hinteralfeld 81.92 336 ⇑*i*P P 13 34 41.6 -0.8
SFTF Sexfontaines 82.06 338 ⇑*i*P P 13 34 42.7 -0.4
comp=Z,97nm,0.8s
SFTF Sexfontaines 82.06 338 ⇑*i*P P 13 34 42.7 -0.4
comp=Z,97nm,0.8s
ASF Jabal al Asfar 82.28 308 P P 13 34 45.1 +0.5
ASF Jabal al Asfar 82.28 308 P P 13 34 45.1 +0.5
comp=Z,8.5nm,0.8s,baz=91,slow=1.5,SNR=5.7
MMAI Mount Meron Ar 82.45 310 P P 13 34 46.4 +0.9
MMAI Mount Meron Ar 82.45 310 P P 13 34 46.4 +0.9
comp=Z,12nm,0.6s,baz=40,slow=6.6,SNR=11
FLN La Foliniere 82.91 341 ⇑*i*P P 13 34 47.0 -0.4
comp=Z,94nm,1.0s
FLN La Foliniere 82.91 341 ⇑*i*P P 13 34 47.0 -0.4
FLN pmax pmax
comp=Z,94nm,1.0s
FLN La Foliniere 82.91 341 ⇑*i*P P 13 34 47.0 -0.4
comp=Z,94nm,1.0s
LDF La Druitiere 82.98 341 ⇑*i*P P 13 34 47.3 -0.6
comp=Z,95nm,1.1s
LDF La Druitiere 82.98 341 ⇑*i*P P 13 34 47.3 -0.6
LDF pmax pmax
comp=Z,95nm,1.1s
LDF La Druitiere 82.98 341 ⇑*i*P P 13 34 47.3 -0.6
comp=Z,95nm,1.1s
CABF La Chapelle 83.23 336 ⇑*i*P P 13 34 50.1 +0.8
comp=Z,51nm,1.1s
CABF La Chapelle 83.23 336 ⇑*i*P P 13 34 50.1 +0.8
CABF pmax pmax
comp=Z,51nm,1.1s
CABF La Chapelle 83.23 336 ⇑*i*P P 13 34 50.1 +0.8
comp=Z,51nm,1.1s
LOR Lormes 83.24 338 ⇑*i*P P 13 34 48.7 -0.5
comp=Z,66nm,0.9s
LOR Lormes 83.24 338 ⇑*i*P P 13 34 48.7 -0.5
comp=Z,66nm,0.9s
GRR Gorron 83.34 341 ⇑*i*P P 13 34 49.5 -0.2
comp=Z,118nm,1.0s
GRR Gorron 83.34 341 ⇑*i*P P 13 34 49.5 -0.2
GRR pmax pmax
comp=Z,118nm,1.0s
GRR Gorron 83.34 341 ⇑*i*P P 13 34 49.5 -0.2
comp=Z,118nm,1.0s
SSF Saint Saulge 83.52 338 ⇑*i*P P 13 34 50.3 -0.4
comp=Z,42nm,0.8s
SSF Saint Saulge 83.52 338 ⇑*i*P P 13 34 50.3 -0.4
SSF pmax pmax
comp=Z,42nm,0.8s
SSF Saint Saulge 83.52 338 ⇑*i*P P 13 34 50.3 -0.4
comp=Z,42nm,0.8s
SGMF Saint Gilles 83.84 342 ⇑*i*P P 13 34 52.1 -0.2
comp=Z,132nm,1.0s
SGMF Saint Gilles 83.84 342 ⇑*i*P P 13 34 52.1 -0.2
SGMF pmax pmax
comp=Z,132nm,1.0s
SGMF Saint Gilles 83.84 342 ⇑*i*P P 13 34 52.1 -0.2
comp=Z,132nm,1.0s
ROSF Rostrenen 83.92 343 ⇑*i*P P 13 34 52.5 -0.1
comp=Z,132nm,1.1s
ROSF Rostrenen 83.92 343 ⇑*i*P P 13 34 52.5 -0.1
ROSF pmax pmax
comp=Z,133nm,1.1s
ROSF Rostrenen 83.92 343 ⇑*i*P P 13 34 52.5 -0.1
comp=Z,132nm,1.1s
LPL La Plagne 84.04 335 ⇑*i*P P 13 34 53.7 +0.1
comp=Z,58nm,0.9s
LPL La Plagne 84.04 335 ⇑*i*P P 13 34 53.7 +0.1
LPL pmax pmax
comp=Z,58nm,0.9s
LPL La Plagne 84.04 335 ⇑*i*P P 13 34 53.7 +0.1
comp=Z,58nm,0.9s
LPG La Plagne 84.05 335 ⇑*i*P P 13 34 53.9 +0.1
comp=Z,69nm,1.0s
LPG La Plagne 84.05 335 ⇑*i*P P 13 34 53.9 +0.1
LPG pmax pmax
comp=Z,69nm,1.0s
LPG La Plagne 84.05 335 ⇑*i*P P 13 34 53.9 +0.1
comp=Z,69nm,1.0s
QUIF Quistinic 84.29 343 ⇑*i*P P 13 34 54.2 -0.3
comp=Z,87nm,1.1s
QUIF Quistinic 84.29 343 ⇑*i*P P 13 34 54.2 -0.3
QUIF pmax pmax
comp=Z,87nm,1.1s
QUIF Quistinic 84.29 343 ⇑*i*P P 13 34 54.2 -0.3
comp=Z,87nm,1.1s
TCF Toulx Ste Croi 84.57 339 ⇑*i*P P 13 34 56.1 0.0
comp=Z,69nm,1.0s
TCF Toulx Ste Croi 84.57 339 ⇑*i*P P 13 34 56.1 0.0
TCF pmax pmax
comp=Z,69nm,1.0s
TCF Toulx Ste Croi 84.57 339 ⇑*i*P P 13 34 56.1 0.0
comp=Z,69nm,1.0s
ORIF Oris-en-Rattie 84.83 336 ⇑*i*P P 13 34 57.7 +0.2
comp=Z,60nm,0.9s
ORIF Oris-en-Rattie 84.83 336 ⇑*i*P P 13 34 57.7 +0.2
ORIF pmax pmax
comp=Z,60nm,0.9s
ORIF Oris-en-Rattie 84.83 336 ⇑*i*P P 13 34 57.7 +0.2
comp=Z,60nm,0.9s
MFF Saint Martin d 84.86 340 *e*P P 13 34 56.9 -0.6
comp=Z,44nm,0.9s
MFF Saint Martin d 84.86 340 *e*P P 13 34 56.9 -0.6
MFF pmax pmax
comp=Z,45nm,0.9s
MFF Saint Martin d 84.86 340 *e*P P 13 34 56.9 -0.6
comp=Z,44nm,0.9s
VIVF Saint-Julien-l 85.23 337 ⇑*i*P P 13 34 59.6 +0.2
VIVF Saint-Julien-l 85.23 337 ⇑*i*P P 13 34 59.6 +0.2
VIVF Saint-Julien-l 85.23 337 ⇑*i*P P 13 34 59.6 +0.2
EIL Elat 85.26 308 P P 13 34 59.9 +0.1
EIL Elat 85.26 308 P P 13 34 59.9 +0.1
comp=Z,13nm,0.9s,baz=41,slow=3.1,SNR=6.2
RJF Les Rejaudoux 85.67 339 *e*P P 13 35 01.1 -0.4
comp=Z,76nm,1.1s
RJF Les Rejaudoux 85.67 339 *e*P P 13 35 01.1 -0.4
RJF pmax pmax
comp=Z,76nm,1.1s
RJF Les Rejaudoux 85.67 339 *e*P P 13 35 01.1 -0.4
comp=Z,76nm,1.1s
CAF Calviac 85.88 338 ⇑*i*P P 13 35 03.3 +0.7
comp=Z,91nm,1.0s
CAF Calviac 85.88 338 ⇑*i*P P 13 35 03.3 +0.7
CAF pmax pmax
comp=Z,91nm,1.0s
CAF Calviac 85.88 338 ⇑*i*P P 13 35 03.3 +0.7
comp=Z,91nm,1.0s
LMR La Mourre 86.09 335 ⇑*i*P P 13 35 03.4 -0.2
comp=Z,124nm,1.1s
LMR La Mourre 86.09 335 ⇑*i*P P 13 35 03.4 -0.2
LMR pmax pmax
comp=Z,124nm,1.1s
LMR La Mourre 86.09 335 ⇑*i*P P 13 35 03.4 -0.2
comp=Z,124nm,1.1s
LASF Ste Croix 86.18 337 ⇑*i*P P 13 35 04.7 +0.6
comp=Z,27nm,0.9s
LASF Ste Croix 86.18 337 ⇑*i*P P 13 35 04.7 +0.6
comp=Z,27nm,0.9s
LFF La Frestale 86.20 339 ⇑*i*P P 13 35 04.7 +0.6
comp=Z,120nm,1.1s
LFF La Frestale 86.20 339 ⇑*i*P P 13 35 04.7 +0.6
LFF pmax pmax
comp=Z,120nm,1.1s
LFF La Frestale 86.20 339 ⇑*i*P P 13 35 04.7 +0.6
comp=Z,120nm,1.1s
TIP Timpagrande 86.20 326 *e*P P 13 35 03.4 -1.0
comp=Z,98nm,1.3s
TORD Torodi Ar. Bea 115.35 326 PKP PKPdf 13 41 04.0 -0.6
TORD Torodi Ar. Bea 115.35 326 PKP PKPdf 13 41 04.0 -0.6
comp=Z,0.7nm,0.4s,baz=23,slow=2.4,SNR=11
DBIC Dimbokro 123.74 330 PKP PKPdf 13 41 20.3 -0.5
DBIC Dimbokro 123.74 330 PKP PKPdf 13 41 20.3 -0.5
comp=Z,6.6nm,0.8s,baz=18,slow=7.2,SNR=4.4
LBTB Lobatse 131.80 276 PKP PKPdf 13 41 36.1 +0.2
LBTB Lobatse 131.80 276 PKP PKPdf 13 41 36.1 +0.2
comp=Z,3.7nm,0.7s,baz=94,slow=1.6,SNR=4.7
BOSA Boshof 134.25 272 PKP PKPdf 13 41 42.0 +1.5
BOSA Boshof 134.25 272 PKP PKPdf 13 41 42.0 +1.5
comp=Z,2.3nm,0.8s,baz=121,slow=3.4,SNR=3.1
QSPA South Pole Qui 135.14 180 *e*Pdif Pdif 13 38 44.5 +1.1
QSPA *e*PKPdf **PKPdf 13 41 41.8 +1.0**
QSPA South Pole Qui 135.14 180 PKP PKPdf 13 41 41.8 +1.0
comp=Z,5.9nm,1.0s,baz=312,slow=3.2,SNR=7.9
BDFB Brasilia 146.39 34 PKPbc PKPdf 13 42 03.3 +0.6
BDFB Brasilia 146.39 34 PKPbc PKPdf 13 42 03.3 +0.6
comp=Z,15nm,0.8s,baz=351,slow=2.6,SNR=8.2
CFAA Coronel Fontan 146.86 79 PKPbc PKPbc 13 42 04.6 -0.3
CFAA Coronel Fontan 146.86 79 PKPbc PKPbc 13 42 04.6 -0.3
comp=Z,1.6nm,0.7s,baz=302,slow=5.0,SNR=10
MAIT Maitri 147.76 204 *i* PG **PKPab 13 42 07.7 -1.0**
PLCA Paso Flores 149.71 96 PKP PKPdf 13 42 07.7 +0.3
PLCA PKPbc **PKPbc 13 42 12.6 +0.5**
PLCA Paso Flores 149.71 96 PKP PKPdf 13 42 07.7 +0.3
comp=Z,6.8nm,0.9s,baz=338,slow=5.3,SNR=3.2
PLCA PKPbc **PKPbc 13 42 12.6 +0.5**
comp=Z,17nm,1.0s,baz=276,slow=3.6,SNR=24

*IDC **12** 13:22:40.4±0.7,3.89N×126.73E, h0km, mb4.5/15, mb1 4.6/15, mb1mx4.6/20, mbtmp4.6/15, Error ellipse: s-maj=42.2km s-min=14.0km az=72.0*
*ISCJB **12** 13:22:43.4±0.5,3.98N±0.08×127.1E±0.1, h36km, mb4.6/18, Error ellipse: s-maj=20.3km s-min=9.6km az=162.7*
*NEIC **12** 13:22:45.0±0.4,3.99N×127.15E, h35km, mb5.0/1, Error ellipse: s-maj=17.5km s-min=8.3km az=72.0*
ISC 12 13:22:46.0±0.6,3.86N±0.09×126.9E±0.2, h36km, n37, σ1°22/40, mb4.7/18, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**16.69**	**262**	*e*Pn		**P**		**13 26 41.1**	**+1.9**
FITZ	**Fitzroy Crossi**	**21.85**	**183**	P		**P**		**13 27 36.7**	**+1.2**
FITZ	**Fitzroy Crossi**	**21.85**	**183**	P		**P**		**13 27 36.7**	**+1.2**
	13nm,0.5s,baz=20,slow=12,SNR=4.6								
COEN	**Coen**	**23.99**	**138**	*e*P		P		13 27 51.3	-6.1
WRAB	**Tennant Creek**	**24.76**	**163**	*e*P		**P**		**13 28 03.0**	**-1.4**
	44nm,0.9s								
WRA	**Warramunga Arr**	**24.77**	**163**	P		**P**		**13 28 04.8**	**+0.3**
WRA	**Warramunga Arr**	**24.77**	**163**	P		**P**		**13 28 04.8**	**+0.3**
	57nm,0.7s								
ASAR	**Alice Springs**	**28.21**	**166**	P		**P**		**13 28 34.0**	**-1.5**
ASAR	**Alice Springs**	**28.21**	**166**	P		**P**		**13 28 34.0**	**-1.5**
	5.7nm,0.8s,baz=344,slow=6.0,SNR=2.6								
KSAR	**Wonju Array Be**	**33.44**	**1**	P		**P**		**13 29 23.7**	**+2.2**
KSAR				PcP		**PcP**		**13 32 03.4**	**+1.1**
KSRS	**Korea Array**	**33.45**	**2**	P		**P**		**13 29 23.7**	**+2.2**
	2.0nm,0.6s,baz=181,slow=10,SNR=3.8								
KSRS				PcP		**PcP**		**13 32 03.4**	**+1.1**
	1.8nm,0.7s,baz=181,slow=3.4,SNR=4.3								
STKA	**Stephens Creek**	**38.20**	**160**	P		**P**		**13 30 02.7**	**+0.3**
STKA	**Stephens Creek**	**38.20**	**160**	P		**P**		**13 30 02.7**	**+0.3**
	40nm,0.7s,baz=333,slow=7.4,SNR=9.1								
SONM	**Songino Array**	**47.22**	**341**	P		**P**		**13 31 15.8**	**+0.3**
SONM				PcP		**PcP**		**13 32 47.4**	**+1.0**
SONM	**Songino Array**	**47.22**	**341**	P		**P**		**13 31 15.8**	**+0.3**
	2.1nm,0.7s,baz=161,slow=9.1,SNR=5.0								
SONM				PcP		**PcP**		**13 32 47.4**	**+1.0**
	3.7nm,0.8s,baz=158,slow=2.4,SNR=4.0								
PETK	**Petropavlovsk-**	**55.27**	**22**	P		**P**		**13 32 13.9**	**-1.6**
PETK	**Petropavlovsk-**	**55.27**	**22**	P		**P**		**13 32 13.9**	**-1.6**
	7.3nm,0.9s,baz=192,slow=5.0,SNR=4.6								
MKAR	**Makanchi Array**	**57.52**	**325**	P		**P**		**13 32 30.1**	**-1.7**
MKAR	**Makanchi Array**	**57.52**	**325**	P		**P**		**13 32 30.1**	**-1.7**
	1.0nm,0.5s,baz=116,slow=8.0,SNR=7.6								
ZALV	**Zalesovo Beam**	**60.53**	**333**	P		**P**		**13 32 51.7**	**-0.7**
ZALV	**Zalesovo Beam**	**60.53**	**333**	P		**P**		**13 32 51.7**	**-0.7**
	1.3nm,0.4s,baz=112,slow=6.7,SNR=3.7								
KURBB	**Kurchatov Arra**	**61.70**	**327**	P		**P**		**13 32 59.8**	**-0.6**
	6.7nm,0.7s,baz=128,slow=6.3,SNR=6.1								
KURK	**Kurchatov**	**61.70**	**327**	P		**P**		**13 32 59.8**	**-0.6**
BVAR	**Borovoye Array**	**67.28**	**327**	P		**P**		**13 33 36.6**	**-0.3**
BVAR	**Borovoye Array**	**67.28**	**327**	P		**P**		**13 33 36.6**	**-0.3**
	6.4nm,0.8s,baz=126,slow=7.5,SNR=4.4								
AKTO	**Aktyubinsk**	**73.64**	**322**	P		**P**		**13 34 14.9**	**-0.9**
AKTO	**Aktyubinsk**	**73.64**	**322**	P		**P**		**13 34 14.9**	**-0.9**
	5.2nm,0.8s,baz=111,slow=12,SNR=3.0								
ILAR	**Eielson Array**	**84.94**	**25**	P		**P**		**13 35 18.9**	**+1.8**
ILAR	**Eielson Array**	**84.94**	**25**	P		**P**		**13 35 18.9**	**+1.8**
	1.1nm,0.9s,baz=266,slow=5.3,SNR=3.3								
BRTR	**Keskin Array B**	**90.03**	**310**	P		**P**		**13 35 42.0**	**-0.5**
BRTR	**Keskin Array B**	**90.03**	**310**	P		**P**		**13 35 42.0**	**-0.5**
	2.5nm,0.8s,baz=125,slow=2.9,SNR=3.1								
ARCES	**ARCESS Array B**	**90.37**	**340**	P		**P**		**13 35 42.1**	**-1.0**
ARCES	**ARCESS Array B**	**90.37**	**340**	P		**P**		**13 35 42.2**	**-1.0**
	2.6nm,0.6s,baz=94,slow=7.5,SNR=5.7								
FINES	**FINESS Array B**	**91.78**	**332**	P		**P**		**13 35 49.4**	**-0.4**
FINES	**FINESS Array B**	**91.78**	**332**	P		**P**		**13 35 49.4**	**-0.4**
	2.2nm,0.7s,baz=69,slow=4.7,SNR=3.3								
AKASG	**Malin Array Be**	**91.87**	**321**	P		**P**		**13 35 49.2**	**-1.3**
AKASG	**Malin Array Be**	**91.87**	**321**	P		**P**		**13 35 49.2**	**-1.3**
	3.1nm,0.7s,baz=72,slow=4.7,SNR=4.2								

IDC 12 13:28:51.4±4.2, 13.80S×167.14E, h240km±40km, mb3.6/7, mb1 3.7/8, mb1mx3.5/19, mbtmp3.6/8, Error ellipse: s-maj=29.5km s-min=28.2km az=106.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.25**	**184**	P		P	Pn	13 30 48.4	+0.3
	0.6nm,0.3s,baz=160,slow=18,SNR=10								
DZM				S		S		13 32 23.2	+1.3
	baz=228,slow=23,SNR=1.6								
STKA	**Stephens Creek**	**29.50**	**228**	P		P		13 34 32.6	-1.0
	4.8nm,0.5s,baz=53,slow=7.3,SNR=3.6								
ASAR	**Alice Springs**	**32.89**	**248**	P		P		13 35 02.6	-0.8
	2.5nm,0.5s,baz=75,slow=9.4,SNR=26								
CMAR	**Chiang Mai Arr**	**74.46**	**294**	P		P		13 40 04.8	+0.9
	1.3nm,0.7s,baz=130,slow=4.2,SNR=5.3								
QSPA	**South Pole Qui**	**76.22**	**180**	P		P		13 40 13.7	+0.3
	7.4nm,1.1s,baz=78,slow=3.2,SNR=5.9								
SONM	**Songino Array**	**81.68**	**324**	P		P		13 40 43.8	+0.7
	0.3nm,0.5s,baz=142,slow=6.2,SNR=4.5								
ILAR	**Eielson Array**	**85.69**	**18**	P		P		13 41 01.5	-1.4
	0.3nm,0.6s,baz=235,slow=6.3,SNR=3.6								
MKAR	**Makanchi Array**	**96.44**	**316**	P		P		13 41 53.7	+0.3
	0.6nm,0.6s,baz=91,slow=6.2,SNR=5.4								
ARCES	**ARCESS Array B**	**119.32**	**345**	PKP		PKPdf		13 47 11.3	-0.3
	2.1nm,0.8s,baz=24,slow=2.1,SNR=6.9								
TORD	**Torodi Ar. Bea**	**165.82**	**269**	PKPab		PKPab		13 49 29.9	+0.4
	0.3nm,0.4s,baz=76,slow=3.3,SNR=4.1								

IDC 12 13:32:53.7±1.1, 3.87N×126.26E, h0km, mb4.0/7, mb1 4.0/7, mb1mx3.8/20, mbtmp4.0/7, MS5.1/1, Ms1 5.1/1, ms1mx4.4/40, Error ellipse: s-maj=152.4km s-min=18.6km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**20.75**	**61**	LR		LR	LR	13 44 47.6	
	comp=Z,4μm,18.5s,baz=32,slow=34								
ASAR	**Alice Springs**	**28.36**	**165**	P		P		13 38 50.5	+0.8
	0.3nm,0.5s,baz=344,slow=7.4,SNR=5.6								
STKA	**Stephens Creek**	**38.42**	**159**	P		P		13 40 16.4	-0.8
	1.0nm,0.4s,baz=328,slow=19,SNR=2.9								
SONM	**Songino Array**	**47.02**	**342**	P		P		13 41 27.6	+0.6
	0.4nm,0.5s,baz=156,slow=6.6,SNR=3.6								
MKAR	**Makanchi Array**	**57.18**	**325**	P		P		13 42 42.5	0.0
	0.9nm,0.5s,baz=121,slow=8.2,SNR=18								
ZALV	**Zalesovo Beam**	**60.26**	**333**	P		P		13 43 03.1	-0.7
	0.8nm,0.4s,baz=128,slow=7.2,SNR=2.7								
AKTO	**Aktyubinsk**	**73.26**	**322**	P		P		13 44 26.9	0.0
	0.6nm,0.5s,baz=119,slow=10,SNR=3.6								
ARCES	**ARCESS Array B**	**90.16**	**340**	P		P		13 45 55.5	-0.2
	8.2nm,1.2s,baz=80,slow=5.0,SNR=3.8								

IDC 12 13:36:26.0±0.9, 4.04N×126.75E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.9/23, mbtmp3.9/10, MS3.7/1, Ms1 3.7/1, ms1mx3.2/40, Error ellipse: s-maj=48.8km s-min=14.6km az=63.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.23**	**339**	LR		LR	LR	13 38 28.9	
	comp=Z,1μm,19.5s,baz=45,slow=38								
FITZ	**Fitzroy Crossi**	**22.03**	**183**	P		P		13 41 21.9	-0.4
	0.9nm,0.4s,baz=18,slow=9.6,SNR=3.7								
WRA	**Warramunga Arr**	**24.97**	**163**	P		P		13 41 51.5	0.0
	1.4nm,0.3s								
ASAR	**Alice Springs**	**28.41**	**166**	P		P		13 42 21.9	-0.7
	0.4nm,0.5s,baz=345,slow=7.2,SNR=5.8								
CMAR	**Chiang Mai Arr**	**30.73**	**300**	P		P		13 42 44.6	+1.4
	0.4nm,0.4s,baz=116,slow=8.1,SNR=3.1								
STKA	**Stephens Creek**	**38.41**	**159**	P		P		13 43 49.2	-0.2
	4.5nm,0.6s,baz=326,slow=12,SNR=6.2								
DZM	**Mont Dzumac**	**46.70**	**126**	P		P		13 44 58.0	+0.8
	4.3nm,0.9s,baz=333,slow=12,SNR=5.4								
SONM	**Songino Array**	**47.01**	**341**	P		P		13 44 59.2	-0.1
	0.4nm,0.5s,baz=156,slow=6.6,SNR=4.6								
MKAR	**Makanchi Array**	**57.32**	**325**	P		P		13 46 15.2	-0.6
	0.9nm,0.6s,baz=122,slow=7.6,SNR=8.7								
KURBB	**Kurchatov Arra**	**61.49**	**327**	P		P		13 46 43.4	-1.2
	2.2nm,0.9s,baz=124,slow=6.3,SNR=7.6								
AKTO	**Aktyubinsk**	**73.43**	**322**	P		P		13 48 01.1	+0.8
	0.8nm,0.6s,baz=138,slow=6.3,SNR=3.9								

*DJA **12** 13:39:50,5.10N×127.35E, h10km, mb5.3/3*
*IDC **12** 13:40:01.2±0.5,3.98N×126.59E, h0km, mb4.6/27, mb1 4.7/27, mb1mx4.6/31, mbtmp4.6/27, Error ellipse: s-maj=22.6km s-min=10.8km az=70.0*
*NEIC **12** 13:40:06.1±0.3,4.03N×126.74E, h35km, mb5.0/24, Error ellipse: s-maj=9.8km s-min=5.4km az=73.0*
*ISCJB **12** 13:40:10.2±0.8,3.97N±0.04×126.63E±0.07, h87km±6km, mb4.7/49, Error ellipse: s-maj=11.0km s-min=7.1km az=167.1*
ISC 12 13:40:11.6±1.4, 3.93N±0.06×126.62E±0.10, h84km±12km, n127, σ1°08/135, mb4.8/49, 3C-5D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.71**	**322**	‖*e*P		**Pn**		**13 40 51.9**	**-1.4**
MATI	**Mati**	**3.01**	**353**	*e*P		**Pn**		**13 40 54.9**	**-2.4**
DAV	**Davao City (W)**	**3.28**	**342**	Pn		**Pn**		**13 41 01.1**	**+0.2**
DAV	**Davao City (W)**	**3.28**	**342**	Pn		**Pn**		**13 41 01.1**	**+0.2**
	58nm,0.3s,baz=40,slow=8.2,SNR=3.6								
DMPH	**Davao City--Mi**	**3.32**	**341**	*e*P		**Pn**		**13 41 01.9**	**+0.5**
KCP	**Kidapawan**	**3.41**	**334**	‖*e*P		**Pn**		**13 41 03.0**	**+0.2**
KCP				*i* S		**Sn**		**13 41 47.1**	**+4.9**
BUKP	**Musuan**	**4.21**	**339**	*e*P		**Pn**		**13 41 12.3**	**-1.3**
CGP	**Cagayan de Oro**	**4.88**	**337**	‖*e*P		**Pn**		**13 41 24.7**	**+2.0**
PAGZ	**Pagasian**	**5.05**	**321**	*e*P		**Pn**		**13 41 23.5**	**-1.5**
BUTP	**Butuan**	**5.10**	**349**	*e*P		**Pn**		**13 41 26.5**	**+0.8**
KKM	**Kota Kinabalu**	**10.57**	**282**	*e*Pn		**Pn**		**13 42 41.6**	**+1.2**
	12nm,0.7s								
KSM	**Kuching**	**16.47**	**262**	*e*Pn		**P**		**13 43 58.9**	**-0.1**
	23nm,0.7s								
YULB	**Yu-li**	**20.02**	**346**	*e*P		**P**		**13 44 34.2**	**-3.6**
	10.0nm,0.6s								
TPUB	**Ta-pu**	**20.11**	**344**	*e*P		**P**		**13 44 36.6**	**-2.2**
	34nm,0.6s								
SSLB	**Suanglung**	**20.48**	**345**	*e*P		**P**		**13 44 39.9**	**-3.0**
	18nm,0.7s								
YHNB	**Yeheng**	**21.23**	**347**	*e*P		**P**		**13 44 48.8**	**-2.0**
	22nm,0.7s								
FITZ	**Fitzroy Crossi**	**21.92**	**182**

ENH	**Enshi**	**30.80**	**330**	*e*P		**P**	**13 46 18.5**	**-1.0**
	35nm,0.8s								
CHTO	**Chiang Mai**	**30.82**	**301**	*e*P		**P**	**13 46 18.9**	**-0.9**
	8.5nm,0.8s								
MEEK	**Meekatharra**	**31.36**	**194**	*e*P		**P**	**13 46 24.2**	**-0.3**
	92nm,0.9s								
KSAR	**Wonju Array Be**	**33.37**	**2**	P		**P**	**13 46 42.5**	**+0.7**
KSRS	**Korea Array**	**33.38**	**2**	P		**P**	**13 46 42.5**	**+0.6**
	3.7nm,0.7s,baz=181,slow=10,SNR=8.9								
BJT	**Baijiatuan**	**37.15**	**347**	*e*P		**P**	**13 47 13.3**	**-0.9**
	27nm,0.6s								
NWAO	**Narrogin (SRO)**	**37.72**	**193**	P		**P**	**13 47 19.2**	**-0.1**
NWAO	**Narrogin (SRO)**	**37.72**	**193**	P		**P**	**13 47 19.2**	**-0.1**
	13nm,1.0s,baz=18,slow=9.0,SNR=7.0								
STKA	**Stephens Creek**	**38.36**	**159**	P		**P**	**13 47 24.5**	**-0.1**
STKA					PcP	**PcP**	**13 49 37.5**	**+0.7**
STKA	**Stephens Creek**	**38.36**	**159**	*e*P		**P**	**13 47 25.0**	**+0.4**
	7.4nm,0.9s								
STKA	**Stephens Creek**	**38.36**	**159**	P		**P**	**13 47 24.5**	**-0.1**
	6.4nm,0.5s,baz=340,slow=9.6,SNR=10								
STKA					PcP	**PcP**	**13 49 37.5**	**+0.7**
	2.8nm,0.6s,baz=23,slow=8.2,SNR=3.6								
USRK	**Ussuriysk Arra**	**40.38**	**6**	P		**P**	**13 47 41.6**	**+0.4**
	3.2nm,0.8s,baz=160,slow=6.7,SNR=4.9								
LSA	**Lhasa**	**42.22**	**311**	*e*P		**P**	**13 47 57.4**	**+0.2**
	28nm,0.6s								
TAPN	**Taplejung**	**43.81**	**306**	*e*P		**P**	**13 48 09.3**	**-0.5**
	19nm,0.7s								
ODAN	**Odare**	**43.86**	**305**	*e*P		**P**	**13 48 09.7**	**-0.5**
	24nm,0.6s								
RAMN	**Ramite**	**44.54**	**305**	*e*P		**P**	**13 48 15.3**	**-0.3**
	28nm,0.6s								
JIRN	**Jiri**	**45.16**	**306**	*e*P		**P**	**13 48 20.2**	**-0.5**
	7.9nm,0.6s								
GUN	**Gumba**	**45.52**	**306**	*e*P		**P**	**13 48 23.0**	**-0.4**
	39nm,0.6s								
HIA	**Hailar**	**45.55**	**354**	*e*P		**P**	**13 48 21.9**	**-1.1**
	32nm,0.9s								
PKI	**Pulchoki**	**45.76**	**305**	*e*P		**P**	**13 48 24.5**	**-0.9**
KKN	**Kakani**	**45.95**	**305**	*e*P		**P**	**13 48 25.8**	**-0.9**
DMN	**Daman**	**46.02**	**305**	*e*P		**P**	**13 48 26.4**	**-0.9**
GKN	**Gorkha**	**46.56**	**305**	*e*P		**P**	**13 48 30.5**	**-0.9**
DZM	**Mont Dzumac**	**46.74**	**125**	P		**P**	**13 48 33.7**	**+0.9**
DZM	**Mont Dzumac**	**46.74**	**125**	P		**P**	**13 48 33.7**	**+0.9**
	3.4nm,0.6s,baz=116,slow=17,SNR=6.7								
ULN	**Ulaanbaatar**	**46.89**	**342**	*e*P		**P**	**13 48 32.1**	**-1.5**
	8.4nm,0.8s								
SONM	**Songino Array**	**47.07**	**341**	P		**P**	**13 48 35.0**	**0.0**
SONM					PcP	**PcP**	**13 50 06.6**	**+0.8**
SONM	**Songino Array**	**47.07**	**341**	P		**P**	**13 48 35.0**	**0.0**
	6.1nm,0.7s,baz=156,slow=7.9,SNR=38								
SONM					PcP	**PcP**	**13 50 06.6**	**+0.8**
	2.5nm,1.0s,baz=164,slow=6.3,SNR=3.8								
KOLN	**Koldanda**	**47.32**	**305**	*e*P		**P**	**13 48 37.0**	**-0.4**
	53nm,0.6s								
DANN	**Dangsing**	**47.41**	**305**	*e*P		**P**	**13 48 37.5**	**-0.7**
	56nm,0.6s								
HYB	**Hyderabad**	**48.94**	**290**	*i* P		**P**	**13 48 49.0**	**-0.8**
TLY	**Talaya**	**51.30**	**342**	*e*P		**P**	**13 49 05.4**	**-1.7**
	7.4nm,0.6s								
MK31	**Makanchi Array**	**57.33**	**325**	*e*P		**P**	**13 49 50.6**	**-0.4**
MKAR	**Makanchi Array**	**57.33**	**325**	P		**P**	**13 49 50.6**	**-0.3**
MKAR					PcP	**PcP**	**13 50 45.0**	**+0.8**
MKAR	**Makanchi Array**	**57.33**	**325**	P		**P**	**13 49 50.6**	**-0.3**
	9.5nm,0.5s,baz=124,slow=8.1,SNR=84								
MKAR					PcP	**PcP**	**13 50 45.0**	**+0.8**
	3.1nm,0.7s,baz=121,slow=4.4,SNR=4.4								
YAK	**Yakutsk**	**58.01**	**2**	*e*P		**P**	**13 49 55.3**	**-0.1**
	31nm,0.8s								
KZA	**Kyzart**	**59.39**	**317**	P		**P**	**13 50 07.9**	**+2.0**
	SNR=13								
TKM2	**Tokmak 2**	**59.52**	**319**	P		**P**	**13 50 06.7**	**+0.2**
	SNR=12								
KBK	**Karagaybulak**	**59.84**	**318**	P		**P**	**13 50 10.5**	**+1.8**
	SNR=5.5								
AAK	**Ala-Archa**	**60.13**	**318**	*e*P		**P**	**13 50 10.4**	**-0.3**
	19nm,1.1s								
AAK					PcP	**PcP**	**13 50 56.9**	**+1.3**
AAK	**Ala-Archa**	**60.13**	**318**	P		**P**	**13 50 11.2**	**+0.5**
	2.3nm,0.7s,baz=152,slow=9.4,SNR=12								
AAK					PcP	**PcP**	**13 50 56.9**	**+1.3**
	1.0nm,0.5s,baz=89,slow=4.9,SNR=4.4								
ZAA0	**Zalesovo Array**	**60.36**	**333**	*e*P		**P**	**13 50 10.6**	**-1.1**
ZALV	**Zalesovo Beam**	**60.36**	**333**	P		**P**	**13 50 11.1**	**-0.7**
ZALV	**Zalesovo Beam**	**60.36**	**333**	P		**P**	**13 50 11.1**	**-0.7**
	8.4nm,0.5s,baz=133,slow=6.6,SNR=40								
USP	**Ospenovka**	**60.40**	**318**	P		**P**	**13 50 13.7**	**+1.4**
	SNR=10								
AML	**Almayashu**	**60.47**	**317**	P		**P**	**13 50 13.4**	**+0.2**
	SNR=19								
EKS2	**Erkin-Say**	**60.62**	**318**	*e*P		**P**	**13 50 14.0**	**+0.1**
	10.0nm,0.8s								
EKS2	**Erkin-Say**	**60.62**	**318**	P		**P**	**13 50 14.6**	**+0.6**
	SNR=8.9								
KURBB	**Kurchatov Arra**	**61.51**	**327**	P		**P**	**13 50 19.5**	**-0.1**
	18nm,0.7s,baz=123,slow=6.4,SNR=100								
KURK	**Kurchatov**	**61.51**	**327**	*e*P		**P**	**13 50 19.1**	**-0.5**
	23nm,0.6s								
KKAR	**Karatay Array**	**63.01**	**317**	*e*P		**P**	**13 50 29.0**	**-0.8**
	11nm,0.8s								
BVAR	**Borovoye Array**	**67.09**	**327**	P		**P**	**13 50 55.9**	**-0.1**
BVAR	**Borovoye Array**	**67.09**	**327**	P		**P**	**13 50 55.9**	**-0.1**
	4.8nm,0.6s,baz=123,slow=7.1,SNR=23								
BRVK	**Borovoye**	**67.16**	**327**	*e*P		**P**	**13 50 56.3**	**-0.2**
	15nm,1.0s								
ABKAR	**Akbulak array**	**71.92**	**321**	*e*P		**P**	**13 51 25.4**	**-0.5**
	5.6nm,0.8s								
ABKAR				*e*			13 51 45.0		
AKTO	**Aktyubinsk**	**73.43**	**322**	P		**P**	**13 51 34.6**	**-0.2**
AKTO	**Aktyubinsk**	**73.43**	**322**	P		**P**	**13 51 34.6**	**-0.2**
	11nm,0.8s,baz=102,slow=8.0,SNR=42								
ARU	**Arti**	**74.70**	**328**	*e*P		**P**	**13 51 40.9**	**-1.1**
	10nm,0.6s								
KDAK	**Kodiak Island**	**81.78**	**32**	P		**P**	**13 52 21.2**	**+0.1**
KDAK	**Kodiak Island**	**81.78**	**32**	P		**P**	**13 52 21.2**	**+0.1**
	24nm,0.9s,baz=297,slow=4.5,SNR=9.5								
TRF	**Thorofare Moun**	**83.41**	**27**	*e*P		**P**	**13 52 29.3**	**-0.4**
	27nm,0.9s								
PMR	**Palmer**	**83.82**	**29**	*e*P		**P**	**13 52 31.1**	**-0.5**
	47nm,0.8s								
PMR				*e*			13 52 52.7		
ILAR	**Eielson Array**	**84.97**	**25**	P		**P**	**13 52 37.9**	**+0.5**
ILAR	**Eielson Array**	**84.97**	**25**	P		**P**	**13 52 37.9**	**+0.5**
	0.6nm,0.6s,baz=243,slow=5.1,SNR=12								
ASF	**Jabal al Asfar**	**87.69**	**302**	P		**P**	**13 52 52.8**	**+1.3**
ASF	**Jabal al Asfar**	**87.69**	**302**	P		**P**	**13 52 52.8**	**+1.3**
	1.8nm,0.4s,baz=180,slow=2.0,SNR=6.3								
JOF	**Joensuu**	**88.95**	**333**	*ep*		**P**	**13 52 56.6**	**0.0**
	12nm,0.7s								
KEV	**Kevo**	**89.66**	**340**	*ep*		**P**	**13 53 00.4**	**+0.6**
BRTR	**Keskin Array B**	**89.81**	**310**	P		**P**	**13 53 00.9**	**-0.5**
BRTR	**Keskin Array B**	**89.81**	**310**	P		**P**	**13 53 00.9**	**-0.5**
	4.0nm,0.9s,baz=112,slow=4.1,SNR=12								
ARCES	**ARCESS Array B**	**90.22**	**340**	P		**P**	**13 53 02.5**	**0.0**
ARCES	**ARCESS Array B**	**90.22**	**340**	P		**P**	**13 53 02.5**	**0.0**
	3.7nm,0.6s,baz=81,slow=7.3,SNR=22								
KAF	**Kangasniemi**	**91.37**	**332**	*ep*		**P**	**13 53 07.7**	**-0.2**
	7.3nm,0.8s								
FINES	**FINESS Array B**	**91.60**	**332**	P		**P**	**13 53 09.1**	**+0.1**
FINES	**FINESS Array B**	**91.60**	**332**	P		**P**	**13 53 09.1**	**+0.1**
	3.9nm,0.7s,baz=62,slow=4.5,SNR=13								
AKASG	**Malin Array Be**	**91.67**	**321**	P		**P**	**13 53 08.7**	**-0.9**
AKASG	**Malin Array Be**	**91.67**	**321**	P		**P**	**13 53 08.7**	**-0.9**
	3.5nm,0.6s,baz=68,slow=4.9,SNR=11								
QSPA	**South Pole Qui**	**93.84**	**180**	P		**P**	**13 53 21.3**	**+2.0**
QSPA	**South Pole Qui**	**93.84**	**180**	P		**P**	**13 53 21.3**	**+2.0**
	3.5nm,0.9s,baz=289,slow=2.2,SNR=14								
TESR		**94.01**	**317**	⫴ *i* P		**P**	**13 53 21.1**	**+0.6**
MLR	**Muntele Rosu**	**94.68**	**316**	P		**P**	**13 53 23.7**	**0.0**
MLR	**Muntele Rosu**	**94.68**	**316**	⇑ *i* P		**P**	**13 53 23.9**	**+0.2**
MLR	**Muntele Rosu**	**94.68**	**316**	P		**P**	**13 53 23.7**	**0.0**
	1.3nm,0.8s,baz=108,slow=19,SNR=6.1								
BURAR	**Bucovina Array**	**94.78**	**318**	⫴ *i* P		**P**	**13 53 25.0**	**+0.9**
BUR08	**Bucovina Ar. S**	**94.78**	**318**	*e*P		**P**	**13 53 24.7**	**+0.5**
BUR08				*e*			13 53 42.4		
TRPA	**Tarpa**	**96.43**	**319**	⫴ *i* P		P	13 53 25.7	-5.8
DRGR		**96.62**	**318**	⇑ *i* P		**P**	**13 53 32.7**	**+0.2**
NB2	**NORSAR Subarra**	**98.56**	**334**	P		**P**	**13 53 40.8**	**0.0**
	baz=65,slow=4.4								
NB2	**NORSAR Subarra**	**98.56**	**334**	P		**P**	**13 53 40.8**	**0.0**
	comp=Z,1.4nm,0.7s,baz=65,slow=4.4								
NOA	**NORSAR Array B**	**98.56**	**334**	P		**P**	**13 53 40.0**	**-0.8**
NOA	**NORSAR Array B**	**98.56**	**334**	P		**P**	**13 53 40.0**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=68,slow=4.6,SNR=7.8								
GERES	**GERESS Array B**	**101.86**	**322**	P		**Pdif**	**13 53 56.4**	**+0.5**
GERES	**GERESS Array B**	**101.86**	**322**	P		**Pdif**	**13 53 56.4**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=97,slow=4.2,SNR=5.9								
DUG	**Dugway**	**110.17**	**45**	PKPdf		**PKiKP**	**13 58 35.7**	**+1.4**
TORD	**Torodi Ar. Bea**	**122.75**	**288**	PKP		**PKPdf**	**13 58 59.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**122.75**	**288**	PKP		**PKPdf**	**13 58 59.6**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=62,slow=1.5,SNR=5.7								

IDC ***12*** *13:41:37.4±0.4, 12°.18N×143°.91E, h0km, mb5.2/39, mb1 5.2/39, mb1mx5.2/40, mbtmp5.2/39, MS5.3/2, Ms1 5.3/2, ms1mx4.3/44, Error ellipse: s-maj=12.9km s-min=8.9km az=90.0*

BJI ***12*** *13:41:40.6, 12°.20N×143°.94E, h36km, mB5.6/13, mb5.3/45, Ms5.5/22, Ms7 5.2/21*

MOS ***12*** *13:41:40.9±1.1, 12°.20N×143°.77E, h33km, mb5.5/83, Error ellipse: s-maj=7.8km s-min=4.9km az=104.8*

ISCJB ***12*** *13:41:40.4±1.3, 12°.27N±0°.03×143°.76E±0°.02, h23km±9km, mb5.5/232, MS5.2/10, Error ellipse: s-maj=4.9km s-min=3.1km az=169.3*

TEH ***12*** *13:41:43.0, 12°.15N×143°.80E, h35km, ML5.5*

NEIC ***12*** *13:41:43.5±0.1, 12°.15N×143°.77E, mb5.5/111, Error ellipse: s-maj=4.4km s-min=3.9km az=130.0*

NEIC Felt at Barrigada, Hagatna, Santa Rita and Tamuning.

DJA ***12*** *13:41:56, 12°.06N×143°.98E, h164km, mb5.6/46*

ISC 12 13:41:42.8±0.3, 12°.23N±0°.04×143°.89E±0°.04, h35km±1km, h35km:pP-P, n803, σ1°15/846, mb5.5/230, MS5.2/10, 151C-149D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.65**	**35**	*e*Pn		**Pn**	**13 42 08.5**	**-0.9**
GUMO				*e*Sn		**Sb**	**13 42 30.1**	**-3.0**
GUMO	**Guam**	**1.65**	**35**	Pn		**Pn**	**13 42 08.8**	**-0.6**
	2μm,0.3s,baz=219,slow=4.2,SNR=306							
GUMO				Sn		**Sn**	**13 42 29.7**	**+0.3**
	3μm,0.3s,baz=40,slow=21,SNR=40							
BAKI	**Biak**	**15.42**	**211**	P		**P**	**13 45 24.8**	**+2.7**
DAV	**Davao City (W)**	**18.77**	**256**	P		**Pn**	**13 46 01.0**	**+1.2**
DAV	**Davao City (W)**	**18.77**	**256**	P		**Pn**	**13 46 03.3**	**+3.5**
	SNR=8.5							
DAV	**Davao City (W)**	**18.77**	**256**	P		**Pn**	**13 46 01.0**	**+1.2**
	16nm,0.3s,baz=68,slow=6.5,SNR=7.9							
MSLP	**Maasin**	**18.79**	**266**	*e*P		**Pn**	**13 46 00.3**	**+0.2**
OCLP	**Ormoc**	**18.93**	**268**	*e*P		**Pn**	**13 46 03.4**	**+1.7**
BUKP	**Musuan**	**19.04**	**259**	*e*P		**Pn**	**13 46 03.1**	**0.0**
LLP	**Lapu-Lapu**	**19.64**	**266**	*e*P		**P**	**13 46 08.4**	**-0.3**
GSPH	**General Santos**	**19.67**	**254**	*e*P		**Pn**	**13 46 09.8**	**-0.9**
TNTI	**Ternate**	**19.96**	**236**	P		**Pn**	**13 46 12.6**	**-1.5**
	412nm,1.3s							
JOW	**Kunigami**	**20.64**	**317**	P		Pn	13 46 20.9	-1.2
JOW				*e*Pn		**P**	**13 46 21.8**	**+2.3**
JOW	**Kunigami**	**20.64**	**317**	P		Pn	13 46 20.9	-1.1
	30nm,0.5s,baz=154,slow=13,SNR=5.7							
PAGZ	**Pagadian**	**20.66**	**260**	*e*P		Pn	13 46 21.4	-0.9
LBMI	**Labuha**	**20.70**	**233**	P		Pn	13 46 24.6	+1.9
	367nm,1.1s,7μm							
AUQP	**San Andres**	**20.72**	**275**	*e*P		Pn	13 46 22.3	-0.7
TLE	**Tual**	**20.93**	**213**	P		Pn	13 46 28.1	+2.6
OTRP	**Odiongan**	**21.37**	**273**	*e*P		**P**	**13 46 28.6**	**+1.1**
BOAC	**Boac**	**21.53**	**276**	*e*P		**P**	**13 46 30.0**	**+0.8**
PMG	**Port Moresby**	**21.74**	**171**	*e*P		**P**	**13 46 29.3**	**-2.1**
PMG	**Port Moresby**	**21.74**	**171**	P		**P**	**13 46 29.6**	**-1.8**
	60nm,1.0s							
PMG	**Port Moresby**	**21.74**	**171**	P		**P**	**13 46 29.0**	**-2.4**
	62nm,1.1s,baz=3.9,slow=11,SNR=18							
CAUP	**Cauayan**	**21.86**	**285**	*e*P		**P**	**13 46 34.2**	**+1.5**
BALP	**Baler**	**21.93**	**282**	*e*P		**P**	**13 46 32.9**	**-0.6**
AAI	**Ambon**	**22.22**	**226**	P		**P**	**13 46 36.8**	**+0.2**
	771nm,0.9s,6μm							
TGY	**Tagaytay City**	**22.43**	**277**	P		**P**	**13 46 39.5**	**+0.6**
TGY	**Tagaytay City**	**22.43**	**277**	P		**P**	**13 46 39.5**	**+0.6**
	617nm,0.7s,baz=94,slow=17,SNR=14							
CUYO	**Cuyo Island**	**22.45**	**269**	*e*P		**P**	**13 46 37.9**	**-1.2**
KMSI	**Cibinong**	**22.90**	**241**	P		**P**	**13 46 44.9**	**+1.1**
	2μm,1.2s,22μm							
LUBP	**Lubang**	**23.09**	**276**	*e*P		**P**	**13 46 45.9**	**+0.1**
SCZP	**Santa Cruz**	**23.53**	**281**	*e*P		**P**	**13 46 48.4**	**-1.7**
BOLP	**Bolinao**	**23.59**	**283**	*e*P		**P**	**13 46 49.4**	**-1.4**
JNU	**Nakatsue**	**23.96**	**332**	*e*P		**P**	**13 46 54.9**	**+0.8**
JNU	**Nakatsue**	**23.96**	**332**	P		**P**	**13 46 53.9**	**-0.2**
	36nm,0.7s,baz=94,slow=2.1,SNR=11							
TWG	**Pinlang**	**24.14**	**299**	*e*P		**P**	**13 46 54.9**	**-0.9**
	23nm,0.6s							
TWG				*e*			13 47 06.6	
YULB	**Yu-li**	**24.17**	**300**	*e*P		**P**	**13 46 53.6**	**-2.5**
	37nm,0.7s							
SSLB	**Suanglung**	**24.61**	**301**	*e*P		**P**	**13 46 59.5**	**-0.7**
	110nm,0.7s							
YHNB	**Yeheng**	**24.64**	**303**	*e*P		**P**	**13 46 59.3**	**-1.1**
	68nm,0.9s							
TPUB	**Ta-pu**	**24.70**	**300**	*e*P		**P**	**13 46 59.5**	**-1.4**
	315nm,1.6s							
MRSI	**Marisa**	**24.71**	**243**	P		**P**	**13 47 01.4**	**+0.3**
	985nm,1.1s,8μm							
MJAR	**Matsushiro Arr**	**24.74**	**349**	P		**P**	**13 47 00.0**	**-1.1**
MJAR				PcP		**PcP**	**13 50 38.6**	**+1.2**
MJAR				ScP		**ScP**	**13 54 15.4**	**+1.5**
MJAR	**Matsushiro Arr**	**24.74**	**349**	P		**P**	**13 47 00.0**	**-1.1**
	37nm,1.1s,baz=178,slow=10,SNR=33							
MJAR				PcP		**PcP**	**13 50 38.6**	**+1.2**
	4.4nm,0.7s,baz=179,slow=4.1,SNR=6.9							
MJAR				ScP		**ScP**	**13 54 15.4**	**+1.5**
	4.4nm,0.9s,baz=179,slow=4.8,SNR=6.5							
MAJO	**Matsushiro**	**24.74**	**349**	*e*P		**P**	**13 46 59.6**	**-1.5**
MAJO				pmax		pmax		
	comp=Z,50nm,1.1s							
MAJO	**Matsushiro**	**24.74**	**349**	*e*P		**P**	**13 46 59.6**	**-1.5**
	comp=Z,50nm,1.1s							
MAT	**Matsushiro**	**24.74**	**349**	P		**P**	**13 46 59.4**	**-1.7**
LUWI	**Luwuk**	**24.77**	**239**	P		**P**	**13 47 01.2**	**-0.4**
	comp=Z,976nm,1.0s,comp=Z,8μm							
BATP	**Bataraza**	**25.87**	**265**	*e*P		**P**	**13 47 12.4**	**+0.8**
COEN	**Coen**	**26.03**	**182**	*e*P		**P**	**13 47 11.6**	**-1.4**
	comp=Z,556nm,1.1s							
COEN				*ep*P		**pP**	**13 47 21.9**	**-1.0**
COEN				*es*P		**sP**	**13 47 26.2**	**-0.9**
COEN	**Coen**	**26.03**	**182**	*e*P		**P**	**13 47 11.5**	**-1.5**
	comp=Z,325nm,1.2s							
MYLDM	**Lahad Datu**	**26.04**	**257**	P		**P**	**13 47 13.9**	**+0.7**
MYLDM	**Lahad Datu**	**26.04**	**257**	P		**P**	**13 47 15.4**	**+2.2**
MYLDM	**Lahad Datu**	**26.04**	**257**	P		**P**	**13 47 15.4**	**+2.2**
	comp=Z,702nm,1.1s							
KDI	**Kendari**	**26.57**	**234**	P		**P**	**13 47 21.2**	**+3.3**
	comp=Z,66nm,1.5s							
HNR	**Honiara**	**26.79**	**143**	P		**P**	**13 47 18.8**	**-1.1**
	comp=Z,6.2nm,0.9s							
HNR	**Honiara**	**26.79**	**143**	P		**P**	**13 47 18.7**	**-1.1**
	comp=Z,100nm,0.9s,baz=192,slow=3.5,SNR=6.4							
TSM	**Tawau**	**26.91**	**255**	P		**P**	**13 47 21.7**	**+0.7**
SDKM	**Sandakan**	**27.16**	**258**	P		**P**	**13 47 24.0**	**+0.7**
KDM	**Kudat**	**27.19**	**261**	P		**P**	**13 47 24.6**	**+1.1**
KKM	**Kota Kinabalu**	**27.99**	**260**	*e*P		**P**	**13 47 29.6**	**-1.2**
	comp=Z,148nm,1.5s							
KKM	**Kota Kinabalu**	**27.99**	**260**	P		**P**	**13 47 31.6**	**+0.8**
KKM	**Kota Kinabalu**	**27.99**	**260**	P		**P**	**13 47 30.2**	**-0.6**
	comp=Z,103nm,1.0s							
TTSI	**Tana Toraja**	**28.33**	**239**	P		P	13 47 42.7	+9.0
KSRS	**Korea Array**	**28.90**	**333**	P		**P**	**13 47 40.0**	**+1.5**
	comp=Z,5.2nm,0.7s,baz=144,slow=9.4,SNR=12							
KSAR	**Wonju Array Be**	**28.91**	**333**	P		**P**	**13 47 40.0**	**+1.4**
KAPI	**Kappang**	**29.49**	**236**	P		**P**	**13 47 42.8**	**-1.2**
KAPI	**Kappang**	**29.49**	**236**	P		**P**	**13 47 42.8**	**-1.2**
	comp=Z,29nm,0.7s,baz=153,slow=2.4,SNR=6.4							
NJ2	**Nanjing**	**30.31**	**315**	*e*P		**P**	**13 47 52.2**	**+1.1**
NJ2				pmax		pmax		
	comp=Z,60nm,1.2s							
BTM	**Bintulu**	**31.79**	**256**	P		**P**	**13 48 05.0**	**+0.6**
ASAJ	**Asahikawa**	**31.79**	**358**	*e*P		**P**	**13 48 04.5**	**+0.5**
ASAJ				PcP		**PcP**	**13 50 56.1**	**+1.4**
ASAJ	**Asahikawa**	**31.79**	**358**	P		**P**	**13 48 02.5**	**-1.5**
	comp=Z,8.8nm,0.8s,baz=166,slow=9.1,SNR=4.6							
ASAJ				PcP		**PcP**	**13 50 56.1**	**+1.4**
	comp=Z,8.8nm,0.8s,baz=247,slow=8.9,SNR=5.8							
CTA	**Charters Tower**	**32.20**	**176**	P		**P**	**13 48 06.8**	**-1.0**
CTA	**Charters Tower**	**32.20**	**176**	*e*P		**P**	**13 48 06.7**	**-1.1**
	comp=Z,24nm,1.0s							
CTA	**Charters Tower**	**32.20**	**176**	P		**P**	**13 48 06.8**	**-1.0**
	comp=Z,27nm,0.9s,baz=353,slow=10,SNR=19							
CTAO	**Charters Tower**	**32.20**	**176**	*e*P		**P**	**13 48 06.7**	**-1.1**
CTAO				pmax		pmax		
	comp=Z,55nm,1.1s							
CTAO	**Charters Tower**	**32.20**	**176**	*e*P		**P**	**13 48 06.7**	**-1.1**
	comp=Z,54nm,1.1s							
VLA	**Vladivostok**	**32.48**	**344**	⇑ *i*P		**P**	**13 48 08.7**	**-1.4**
VLA				*e*			13 49 16.5	
VLA				*e*			13 50 54.6	
VLA				*eS*		**S**	**13 53 22.5**	**-0.2**
VLA				pmax		pmax		
	comp=Z,50nm,1.7s							
WHN	**Wuhan**	**32.84**	**308**	⫴ *i*P		**P**	**13 48 13.8**	**+0.4**
WHN				pP		**pP**	**13 48 21.4**	**-2.0**
WHN				pmax		pmax		
	comp=Z,150nm,1.5s							
SBUM	**Sibu**	**32.84**	**255**	P		**P**	**13 48 14.3**	**+0.7**
SBUM	**Sibu**	**32.84**	**255**	P		**P**	**13 48 14.0**	**+0.4**
	comp=Z,207nm,1.1s							
WRAB	**Tennant Creek**	**33.32**	**196**	*e*P		**P**	**13 48 16.4**	**-1.2**
WRAB				pmax		pmax		
	comp=Z,27nm,0.7s							
WRAB	**Tennant Creek**	**33.32**	**196**	*e*P		**P**	**13 48 16.4**	**-1.2**
	comp=Z,27nm,0.7s							
WRA	**Warramunga Arr**	**33.33**	**197**	P		**P**	**13 48 16.8**	**-0.9**
WRA	**Warramunga Arr**	**33.33**	**197**	P		**P**	**13 48 16.8**	**-0.9**
	comp=Z,44nm,0.4s,baz=52,slow=0.0,SNR=0.6							
USRK	**Ussuriysk Arra**	**33.46**	**344**	P		**P**	**13 48 19.7**	**+1.2**
	comp=Z,11nm,0.9s,baz=163,slow=13,SNR=9.3							
STKI	**Sintang**	**34.36**	**252**	P		**P**	**13 48 27.6**	**+0.8**
	comp=Z,98nm,0.9s,comp=Z,12μm							
MDJ	**Mudanjiang**	**34.52**	**342**	P		**P**	**13 48 28.6**	**+0.8**
MDJ				pmax		pmax		
	comp=Z,14nm,1.0s							
MDJ				pmax		pmax		
	comp=Z,4μm,14.1s							
YSS	**Yuzh-Sakhalins**	**34.62**	**359**	*e*P		**P**	**13 48 28.8**	**+0.2**
YSS				pmax		pmax		
	comp=Z,20nm,0.8s							
KSM	**Kuching**	**34.97**	**255**	*e*P		**P**	**13 48 31.6**	**-0.4**
	comp=Z,259nm,0.9s							
KSM	**Kuching**	**34.97**	**255**	P		**P**	**13 48 31.9**	**-0.2**
KSM	**Kuching**	**34.97**	**255**	P		**P**	**13 48 31.6**	**-0.4**
	comp=Z,346nm,1.0s,comp=Z,4μm							
FITZ	**Fitzroy Crossi**	**35.12**	**211**	P		**P**	**13 48 32.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**35.12**	**211**	P		**P**	**13 48 32.4**	**-0.8**
	comp=Z,7.4nm,0.7s,baz=19,slow=12,SNR=5.7							
ENH	**Enshi**	**36.55**	**305**	*e*P		**P**	**13 48 45.5**	**0.0**
	comp=Z,63nm,0.9s							
HABR	**Khabarovsk**	**36.87**	**350**	*e*P		**P**	**13 48 45.6**	**-2.3**
HABR				*e**PP		**pP**	**13 48 55.0**	**-3.0**
HABR							13 50 09.9	
HABR				*e*			13 51 06.2	
HABR				*eS*		**S**	**13 54 28.5**

PETK Petropavlovsk- 42.24 12 P **P** **13 49 32.8 +0.2**
comp=Z,5.8nm,1.0s,baz=170,slow=7.6,SNR=6.7
PETK PcP **PcP** **13 51 27.1 +1.0**
comp=Z,7.5nm,0.8s,baz=165,slow=6.2,SNR=4.6
CGJI Cibinong 42.34 246 P **P** **13 49 32.2 -1.7**
comp=Z,242nm,0.9s
FRIM Kepong 42.77 261 P **P** **13 49 37.7 +0.2**
KASI Kota Agung 42.96 248 P **P** **13 49 39.1 +0.2**
comp=Z,180nm,0.8s
ARMA Armidale 43.05 170 *e*P **P** **13 49 38.5 -1.1**
comp=Z,131nm,1.4s
ARMA Armidale 43.05 170 *e*P **P** **13 49 38.1 -1.5**
IPM Ipoh 43.06 263 *e*P **P** **13 49 40.2 +0.4**
comp=Z,62nm,1.0s
IPM Ipoh 43.06 263 P **P** **13 49 40.2 +0.4**
IPM Ipoh 43.06 263 P **P** **13 49 40.0 +0.2**
comp=Z,62nm,1.1s
RGRI Rengat 43.10 256 P **P** **13 49 41.7 +1.6**
comp=Z,811nm,0.8s
LZH Lanzhou 43.15 310 *e*P **P** **13 49 41.0 +0.6**
LZH pP **pP** **13 49 52.3 +1.7**
LZH sP sP 13 49 57.8 +3.0
LZH pmax pmax
comp=Z,66nm,1.1s
LZH pmax pmax
comp=Z,430nm,7.8s
LZH LR LR
comp=N,2μm,12.7s
LZH LR LR
comp=E,4μm,16.4s
LZH LR LR
comp=Z,3μm,18.2s
KULM Kulim 43.25 265 *e*P **P** **13 49 41.2 -0.1**
comp=Z,105nm,1.0s
KULM Kulim 43.25 265 P **P** **13 49 41.7 +0.4**
KULM Kulim 43.25 265 P **P** **13 49 42.1 +0.8**
comp=Z,187nm,1.1s
CM31 Chiang Mai Arr 43.70 284 *e*P **P** **13 49 44.0 -0.9**
comp=Z,37nm,0.9s
CMAR Chiang Mai Arr 43.70 284 P **P** **13 49 45.7 +0.8**
CMAR PcP **PcP** **13 51 33.5 +1.8**
CMAR Chiang Mai Arr 43.70 284 P **P** **13 49 45.7 +0.8**
comp=Z,26nm,0.9s,baz=85,slow=6.2,SNR=82
CMAR PcP **PcP** **13 51 33.5 +1.8**
comp=Z,11nm,0.9s,baz=83,slow=2.5,SNR=8.2
CHTO Chiang Mai 43.71 284 *e*P **P** **13 49 44.7 -0.3**
CHTO pmax pmax
comp=Z,12nm,1.1s
CHTO Chiang Mai 43.71 284 *e*P **P** **13 49 44.7 -0.3**
comp=Z,12nm,1.1s
CHTO Chiang Mai 43.71 284 P **P** **13 49 46.2 +1.2**
comp=Z,125nm,1.4s
MNAI Manna 43.91 250 P **P** **13 49 46.4 -0.2**
comp=Z,831nm,1.0s
STKA Stephens Creek 43.91 183 P **P** **13 49 44.4 -2.0**
STKA Stephens Creek 43.91 183 *e*P **P** **13 49 44.0 -2.3**
comp=Z,18nm,0.6s
STKA Stephens Creek 43.91 183 P **P** **13 49 44.4 -2.0**
comp=Z,27nm,0.7s,baz=350,slow=7.5,SNR=18
KSI Kapahiang 43.98 252 P **P** **13 49 46.6 -0.6**
comp=Z,514nm,0.8s,comp=Z,5μm
BKNI Bangkinang 44.12 258 P **P** **13 49 48.5 +0.1**
comp=Z,172nm,0.9s
PPI Padang Panjang 44.97 257 P **P** **13 49 54.4 -0.7**
MSVF Nonsavu 44.99 131 *e*P **P** **13 49 55.2 0.0**
MSVF pmax pmax
comp=Z,134nm,1.1s
MSVF Nonsavu 44.99 131 *e*P **P** **13 49 55.2 0.0**
comp=Z,134nm,1.1s
MSVF Nonsavu 44.99 131 P **P** **13 49 55.0 -0.2**
comp=Z,683nm,1.2s,SNR=8.2
MNSI Mandailing Nat 45.39 259 P **P** **13 49 58.2 -0.2**
comp=Z,117nm,0.7s
FORT Forrest 45.39 199 *e*P **P** **13 49 57.3 -0.9**
comp=Z,58nm,0.7s
BBOO Buckleboo 45.41 189 *e*P **P** **13 49 56.8 -1.5**
comp=Z,2μm,0.6s
PSI Prapat 45.49 262 P **P** **13 49 59.6 +0.2**
PSI Prapat 45.49 262 P **P** **13 49 59.4 0.0**
comp=Z,145nm,1.0s
PSI Prapat 45.49 262 P **P** **13 49 59.6 +0.2**
comp=Z,112nm,1.0s,baz=103,slow=2.6,SNR=43
TSI Tuntungan 45.67 263 P **P** **13 50 02.7 +2.0**
comp=Z,270nm,1.7s
MEEK Meekatharra 45.79 212 *e*P **P** **13 50 00.5 -0.9**
comp=Z,46nm,0.6s
LHMI Lhok Sumawe 46.87 266 P **P** **13 50 12.4 +2.3**
comp=Z,285nm,1.0s
ULN Ulaanbaatar 46.96 326 P **P** **13 50 11.6 +1.1**
SNR=7.3
ULN Ulaanbaatar 46.96 326 P **P** **13 50 11.2 +0.6**
comp=Z,20nm,1.0s
TPTI 47.07 263 P **P** **13 50 11.7 0.0**
comp=Z,33nm,1.2s
GSI Gunungsitoli 47.17 260 P **P** **13 50 11.7 -0.8**
comp=Z,234nm,1.1s
SONM Songino Array 47.30 326 P **P** **13 50 13.5 +0.3**
SONM PcP **PcP** **13 51 44.4 +0.6**
SONM Songino Array 47.30 326 P **P** **13 50 13.5 +0.3**
comp=Z,12nm,0.8s,baz=147,slow=7.0,SNR=17
SONM PcP **PcP** **13 51 44.4 +0.6**
comp=Z,12nm,0.9s,baz=133,slow=3.6,SNR=7.6
GTA Gaotai 47.38 313 P **P** **13 50 14.6 +0.7**
GTA pP **pP** **13 50 25.2 +1.0**
GTA sP **sP** **13 50 28.6 +0.3**
GTA PcP **PcP** **13 51 45.7 +1.4**
GTA ScP **ScP** **13 55 31.2 -4.7**
GTA S **S** **13 57 04.2 -1.6**
GTA pmax pmax
comp=Z,40nm,0.8s
GTA LR LR
comp=N,1μm,18.5s
GTA LR LR
comp=E,1μm,14.7s
GTA LR LR
comp=Z,2μm,15.7s
BSI Banda Aceh 48.42 267 P **P** **13 50 21.9 -0.3**
comp=Z,248nm,1.0s
IMP Imphal 48.74 292 *e*PKP **P** **13 50 23.0 -1.6**
IMP *ex* x 13 51 04.9
MORW Morawa 49.09 213 *e*P **P** **13 50 26.3 -0.7**
comp=Z,180nm,0.5s
TOO Toolangi 49.56 178 *e*P **P** **13 50 30.2 -0.3**
comp=Z,117nm,0.6s
KLBR Kellerberrin 50.27 209 *e*P **P** **13 50 34.7 -1.3**
comp=Z,28nm,0.6s
BOD Bodaibo 50.84 340 *e*P **P** **13 50 39.6 -0.3**
BOD pmax pmax
comp=Z,8.0nm,1.4s
SEY Seymchan 50.98 5 *ce*P **P** **13 50 41.3 +0.4**
TLY Talaya 51.00 329 *e*P **P** **13 50 40.1 -1.2**
TLY *e* 13 51 57.4
TLY pmax pmax
comp=Z,20nm,1.0s
TLY Talaya 51.00 329 P **P** **13 50 42.3 +1.0**
SNR=8.8
TLY Talaya 51.00 329 P **P** **13 50 42.7 +1.4**
comp=Z,116nm,0.9s,SNR=6.3
IRK Irkutsk 51.02 330 *e*P **P** **13 50 41.0 -0.4**
IRK *e* 13 51 57.6
IRK pmax pmax
comp=Z,32nm,1.1s
NWAO Narrogin (SRO) 51.62 209 P **P** **13 50 45.2 -0.9**
NWAO Narrogin (SRO) 51.62 209 P **P** **13 50 45.2 -0.9**
comp=Z,18nm,0.6s,baz=48,slow=3.6,SNR=11
LSA Lhasa 51.78 298 *e*P **P** **13 50 48.7 +0.7**
LSA *e* 13 52 01.2
LSA pmax pmax
comp=Z,48nm,0.7s
LSA Lhasa 51.78 298 *e*P **P** **13 50 48.7 +0.7**
comp=Z,48nm,0.7s
LSA *e*PcP **PcP** **13 52 01.2 +0.2**
MOY Mondy 52.36 328 *e*P **P** **13 50 52.3 +0.8**
COCO West Island 52.63 244 *i*P **P** **13 50 56.0 +2.2**
COCO West Island 52.63 244 *e*P **P** **13 50 54.1 +0.2**
comp=Z,111nm,1.0s
COCO West Island 52.63 244 P **P** **13 50 56.1 +2.2**
comp=Z,109nm,1.1s
TAPN Taplejung 54.54 295 *e*P **P** **13 51 08.2 0.0**
comp=Z,71nm,0.8s
ODAN Odare 54.79 294 *e*P **P** **13 51 09.7 -0.2**
comp=Z,59nm,0.7s
RAMN Ramite 55.50 294 *e*P **P** **13 51 15.1 0.0**
comp=Z,103nm,0.8s
JIRN Jiri 55.91 295 *e*P **P** **13 51 18.2 +0.1**
comp=Z,32nm,0.5s
GUN Gumba 56.20 295 *e*P **P** **13 51 20.3 +0.1**
comp=Z,260nm,0.8s
PKI Pulchoki 56.59 295 *e*P **P** **13 51 22.6 -0.4**
comp=Z,56nm,0.6s
KKN Kakani 56.72 295 *e*P **P** **13 51 23.4 -0.4**
comp=Z,84nm,0.8s
DMN Daman 56.87 295 *e*P **P** **13 51 24.6 -0.2**
comp=Z,115nm,0.8s
GKN Gorkha 57.30 295 *e*P **P** **13 51 27.5 -0.3**
comp=Z,82nm,0.6s
WMQ Urumqi 57.39 314 P **P** **13 51 28.6 +0.6**
WMQ pP **pP** **13 51 38.5 -0.1**
WMQ sP **sP** **13 51 42.2 -0.4**
WMQ PcP **PcP** **13 52 22.6 +0.9**
WMQ PP **PP** **13 53 35.6 0.0**
WMQ *e*S **S** **13 59 21.0 -1.6**
WMQ pmax pmax
comp=Z,40nm,0.9s
WMQ LR LR
comp=N,1μm,16.0s
WMQ LR LR
comp=E,1μm,15.0s
WMQ LR LR
comp=Z,1μm,20.0s
BILL Bilibino 57.65 10⇑ *e*P **P** **13 51 29.2 -0.1**
BILL pmax pmax
comp=Z,41nm,1.0s
BILL Bilibino 57.65 10 *e*P **P** **13 51 28.4 -0.9**
comp=Z,40nm,1.0s
BILL *ep*P **pP** **13 51 40.9 +1.1**
DANN Dangsing 58.09 296 *e*P **P** **13 51 33.4 -0.1**
comp=Z,164nm,0.5s
KOLN Koldanda 58.21 295 *e*P **P** **13 51 34.0 -0.2**
comp=Z,73nm,0.7s
VIS Vishakhapatnam 58.56 283 *ex* **PcP** **13 52 27.8 +1.1**
GAMB Gambell 60.07 21 *e*P **P** **13 51 46.1 0.0**
comp=Z,8.1nm,0.8s
GAMB *ep*P **pP** **13 51 57.7 +0.9**
GAMB *es*P **sP** **13 52 01.0 +0.2**
RPZ Rata Peaks 60.94 158 *e*P **P** **13 51 51.5 -0.9**
MK31 Makanchi Array 61.81 317 *i*P **P** **13 51 58.3 -0.1**
MK31 pmax pmax
comp=Z,30nm,0.8s
MKAR Makanchi Array 61.81 317 *ce*P **P** **13 51 58.7 +0.4**
MKAR pmax pmax
comp=Z,22nm,0.7s
MKAR Makanchi Array 61.81 317 P **P** **13 51 58.8 +0.4**
MKAR Makanchi Array 61.81 317 P **P** **13 51 58.8 +0.4**
comp=Z,22nm,0.7s,baz=94,slow=8.8,SNR=35
MDRS Chennai 61.95 278 *e*PKP **P** **13 51 58.9 -1.0**
MDRS AMb AMB 13 52 00.9
comp=Z,55nm,0.2s
ZAA0 Zalesovo Array 62.17 325 *e*P **P** **13 52 00.6 0.0**
ZAA0 *e*PcP **PcP** **13 52 40.2 -0.3**
ZALV Zalesovo Beam 62.17 325 P **P** **13 52 00.4 -0.2**
ZALV 13 52 40.0
ZALV pmax pmax
comp=Z,18nm,0.6s
ZALV pmax pmax
comp=Z,16nm,0.7s
ZALV Zalesovo Beam 62.17 325 P **P** **13 52 00.4 -0.2**
ZALV PcP **PcP** **13 52 40.0 -0.5**
ZALV Zalesovo Beam 62.17 325 P **P** **13 52 00.4 -0.2**
comp=Z,18nm,0.6s,baz=104,slow=6.8,SNR=34
ZALV PcP **PcP** **13 52 40.0 -0.5**
comp=Z,16nm,0.7s,baz=108,slow=3.0,SNR=8.3
HYB Hyderabad 63.12 283 *i*P **P** **13 52 07.0 -0.7**
NVS Novosibirsk 63.33 326 *e*P **P** **13 52 08.0 -0.3**
NVS *e* 13 54 25.5
NVS pmax pmax
comp=Z,46nm,1.0s
NVS pmax pmax
comp=N,5.0nm,0.6s
KURK Kurchatov 65.01 320 *ce*P **P** **13 52 19.4 0.0**
KURK pmax pmax
comp=Z,154nm,1.0s
KURK Kurchatov 65.01 320 *e*P **P** **13 52 19.3 0.0**
comp=Z,122nm,0.9s
KURK *e* 13 52 47.2
KURK Kurchatov 65.01 320 P **P** **13 52 19.8 +0.4**
SNR=38
KURK Kurchatov 65.01 320 P **P** **13 52 19.8 +0.4**
comp=Z,811nm,0.9s,SNR=39
KURBB Kurchatov Arra 65.05 320 P **P** **13 52 19.6 0.0**
comp=Z,87nm,0.8s,baz=102,slow=6.6,SNR=115
SVW2 Sparrevohn 65.31 28 *e*P **P** **13 52 22.0 +0.8**
comp=Z,15nm,0.9s
KSH Kashi 65.31 308 P **P** **13 52 24.5 +2.7**
KSH pP **pP** **13 52 34.4 +1.9**
KSH sP sP 13 52 38.6 +2.1
KSH PcP **PcP** **13 52 55.5 +1.6**
KSH PP PP 13 54 51.0 +5.3
KSH ScP 13 56 54.2
KSH PcS 13 56 59.0
KSH S **S** **14 01 06.0 +2.5**
KSH sS **sS** **14 01 22.9 +1.8**
KSH ScS **SKSac** **14 02 13.3 -1.4**
KSH SS **SS** **14 05 21.7 +4.9**
KSH LR LR
comp=N,930nm,14.8s
KSH LR LR
comp=E,850nm,13.7s
KSH LR LR
comp=Z,1μm,18.0s
ULHL Ulahol 65.35 311 P **P** **13 52 22.5 +0.4**
SNR=5.8
TKM2 Tokmak 2 65.89 312 *i*P **P** **13 52 25.9 +0.3**
TKM2 Tokmak 2 65.89 312 P **P** **13 52 25.9 +0.3**
SNR=13
KZA Kyzart 66.07 311 P **P** **13 52 28.2 +1.2**
SNR=15
AJM Ajmer 66.18 294 *e*PKP **P** **13 52 27.0 -0.5**
KBK Karagaybulak 66.34 311 P **P** **13 52 28.8 +0.3**
SNR=15
RSO Redoubt South 66.41 29 *e*P **P** **13 52 28.6 0.0**
RSO *ep*P **pP** **13 52 40.9 +1.7**
CHMS Chumysh 66.52 312 P **P** **13 52 29.5 +0.1**
SNR=9.4
FRU Bishkek 66.60 311 *e*P **P** **13 52 30.0 +0.1**
AAK Ala-Archa 66.68 311 P **P** **13 52 31.0 +0.4**
AAK pmax pmax
comp=Z,6.0nm,0.7s
AAK Ala-Archa 66.68 311 *e*P **P** **13 52 30.1 -0.4**
comp=Z,42nm,0.9s
AAK Ala-Archa 66.68 311 P **P** **13 52 30.5 -0.1**
comp=Z,60nm,0.7s,SNR=7.6
AAK Ala-Archa 66.68 311 P **P** **13 52 31.0 +0.4**
SNR=5.2
AAK Ala-Archa 66.68 311 P **P** **13 52 30.8 +0.2**
SNR=10
AAK Ala-Archa 66.68 311 P **P** **13 52 31.0 +0.4**
comp=Z,5.9nm,0.7s,baz=128,slow=5.7,SNR=13
USP Ospenovka 66.73 312 P **P** **13 52 31.2 +0.5**
SNR=10.0
EKS2 Erkin-Say 67.21 311 *e*P **P** **13 52 33.7 -0.2**
EKS2 *e* 13 53 02.2
EKS2 pmax pmax
comp=Z,14nm,1.0s
EKS2 Erkin-Say 67.21 311 *e*P **P** **13 52 33.7 -0.2**
comp=Z,14nm,1.0s
EKS2 *e*PcP **PcP** **13 53 02.2 +0.5**
EKS2 Erkin-Say 67.21 311 P **P** **13 52 34.6 +0.7**
SNR=6.9
AML Almayashu 67.23 311 P **P** **13 52 34.8 +0.4**
SNR=18
POO Poona 67.48 285 *e*PKP **P** **13 52 34.0 -1.9**
SLKM Skilak Lake 67.63 29 *e*P **P** **13 52 35.8 -0.3**
SLKM Skilak Lake 67.63 29 *e*P **P** **13 52 35.8 -0.3**
SEW Seward 67.90 30 *e*P **P** **13 52 37.5 -0.2**
comp=Z,662nm,2.4s
SEW *ep*P **pP** **13 52 49.1 +0.7**
SEW *es*P **sP** **13 52 53.0 +0.5**
RC01 Rabbit Creek A 68.01 29 *e*P **P** **13 52 37.7 -0.7**
comp=Z,81nm,0.9s
SML Sawmill 68.84 28 *e*P **P** **13 52 43.6 -0.1**
SML pmax pmax
comp=Z,21nm,0.9s
SML Sawmill 68.84 28 *e*P **P** **13 52 43.6 -0.1**
comp=Z,21nm,0.9s
MCK McKinley 69.06 26 *e*P **P** **13 52 44.5 -0.5**
MCK pmax pmax
comp=Z,23nm,0.9s
MCK McKinley 69.06 26 *e*P **P** **13 52 44.5 -0.5**
comp=Z,23nm,0.9s
COLD Coldfoot 69.56 22 *e*P **P** **13 52 46.5 -1.5**
comp=Z,33nm,0.9s
KK31 Karatay Array 69.63 312 *i*P **P** **13 52 48.8 -0.1**
KK31 pmax pmax
comp=Z,20nm,0.7s
KKAR Karatay Array 69.63 312 *e*P **P** **13 52 49.3 +0.4**
KKAR Karatay Array 69.63 312 *e*P **P** **13 52 49.2 +0.4**
COLA College 69.82 25 *e*P **P** **13 52 47.9 -1.6**
COLA pmax pmax
comp=Z,19nm,0.8s
COLA College 69.82 25 *e*P **P** **13 52 47.9 -1.6**
comp=Z,19nm,0.8s
DIV Divide 69.89 29 *e*P **P** **13 52 50.6 +0.4**
comp=Z,64nm,1.0s
ILAR Eielson Array 70.19 25 P **P** **13 52 50.7 -1.2**
ILAR Eielson Array 70.19 25 P **P** **13 52 50.7 -1.2**
comp=Z,20nm,0.7s,baz=252,slow=5.6,SNR=149
BVA0 Borovoye Array 70.40 322 P **P** **13 52 53.3 -0.1**
BVA0 pmax pmax
comp=Z,11nm,0.7s
BVAR Borovoye Array 70.40 322 P **P** **13 52 53.5 +0.1**
BVAR pmax pmax
comp=Z,57nm,0.6s
BVAR Borovoye Array 70.40 322 P **P** **13 52 53.5 +0.1**
BVAR Borovoye Array 70.40 322 P **P** **13 52 53.5 +0.1**
comp=Z,57nm,0.6s,baz=107,slow=7.5,SNR=112
PAX Paxson 70.41 27 *e*P **P** **13 52 53.3 0.0**
PAX pmax pmax
comp=Z,31nm,0.8s
PAX Paxson 70.41 27 *e*P **P** **13 52 53.3 0.0**
comp=Z,31nm,0.8s
BMRM Bremner River 70.42 29 *e*P **P** **13 52 54.0 +0.6**
comp=Z,98nm,1.1s
BRVK Borovoye 70.47 322 *ce*P **P** **13 52 53.9 +0.1**
BRVK pmax pmax
comp=Z,52nm,0.6s
BRVK Borovoye 70.47 322 *e*P **P** **13 52 54.0 +0.1**
comp=Z,60nm,0.7s
BRVK Borovoye 70.47 322 P **P** **13 52 54.1 +0.3**
comp=Z,614nm,0.6s,SNR=33
BRVK Borovoye 70.47 322 P **P** **13 52 54.6 +0.8**
SNR=16
DOT Dot Lake 71.16 27 *e*P **P** **13 52 57.7 -0.2**
comp=Z,51nm,0.8s
MENT Mentasta 71.19 27 *e*P **P** **13 52 57.0 -1.1**
PPT2 Papeete2 72.05 113 *e*P **P** **13 53 06.3 +2.2**
comp=Z,66nm,1.2s
PAE Paea 72.08 113 *e*P **P** **13 53 06.1 +2.0**
comp=Z,11nm,1.1s
TIAR Tiarei 72.25 113 *e*P **P** **13 53 07.5 +2.3**
comp=Z,106nm,0.9s
TVO Taravao 72.41 113 *e*P **P** **13 53 08.4 +2.2**
comp=Z,89nm,1.1s
EGAK Eagle 72.60 26 *e*P **P** **13 53 06.4 0.0**
comp=Z,45nm,1.3s
PMOR Pomariorio Ree 72.75 110 *e*P **P** **13 53 10.4 +2.2**
comp=Z,151nm,1.0s
MEH Mehetia 73.51 113 *e*P P 13 53 15.0 +2.4
comp=Z,142nm,1.4s
SKAG Skagway 74.87 31 *e*P **P** **13 53 21.0 +1.2**
comp=Z,53nm,1.3s
INK Inuvik 75.97 22 *e*P **P** **13 53 25.7 -0.2**
comp=Z,104nm,0.9s
SVE Sverdlovsk 76.17 326 *ce*P **P** **13 53 27.9 +0.6**
SVE pmax pmax
comp=Z,98nm,1.0s
WRAK Wrangell Islan 76.46 35 *e*P **P** **13 53 29.4 +0.4**
comp=Z,123nm,1.3s
WRAK *ep*P **PcP** **13 53 41.0 +0.4**
AB31 Akbulak array 76.91 318 P **P** **13 53 31.0 -0.6**
AB31 pmax pmax
comp=Z,40nm,0.7s
ABKAR Akbulak array 76.91 318 *e*P **P** **13 53 31.4 -0.2**
ARU Arti 77.33 325 *c i*P **P** **13 53 33.6 -0.3**
ARU S **S** **14 03 23.1 +1.5**
ARU SS **SS** **14 08 16.3 -3.7**
ARU pmax pmax
comp=Z,102nm,1.0s
ARU Arti 77.33 325 *e*P **P** **13 53 34.1 +0.2**
comp=Z,77nm,0.8s
ARU Arti 77.33 325 P **P** **13 53 34.0 +0.1**
comp=Z,621nm,0.7s,SNR=25
DLBC Dease Lake 77.63 32 *e*P **P** **13 53 36.9 +1.2**
DLBC Dease Lake 77.63 32 P **P** **13 53 36.5 +0.8**
comp=Z,35nm,0.9s,baz=279,slow=6.2,SNR=20
AKTO Aktyubinsk 78.06 319 P **P** **13 53 37.4 -0.7**
AKTO pmax pmax
comp=Z,4.0nm,0.8s
SOKR Solikamsk 78.09 329 *d i*P **P** **13 53 38.7 +0.7**
SOKR pmax pmax
comp=Z,80nm,1.0s
IDAH Dahanechah 78.52 301 *e*P **P** **13 53 42.3 +1.0**
IEMG Emamgholi 78.93 306 *e*P **P** **13 53 44.8 +1.2**
BBB Bella Bella 79.22 39 LR LR 14 20 44.2
comp=Z,2μm,21.2s,baz=332,slow=30
ABKT Ailbek 79.29 307 P **P** **13 53 46.3 +1.1**
comp=Z,403nm,1.0s,SNR=14
ITEG Tejag 79.43 301 *e*P **P** **13 53 47.3 +1.1**
HOQ Hoqain 82.11 292 ⇓P **P** **13 54 01.0 +0.4**
SNR=13
IBAF Bafgh 82.29 301 *e*P **P** **13 54 01.7 +0.2**
BSY Bisya 82.36 292 ⇑P **P** **13 54 02.1 +0.2**
SNR=6.1
NLWA Neilton Lookou 82.61 43 *e*P **P** **13 54 04.4 +1.6**
comp=Z,45nm,1.3s
PGC Sidney 82.67 42 *e*P **P** **13 54 03.2 +0.4**
comp=Z,1.6nm,1.0s
ARQ Araqi 82.87 292 ⇑P **P** **13 54 05.0 +0.5**
SNR=7.1
JCW Jim Creek 83.75 42 P **P** **13 54 09.8 +1.2**
KHMM Horse Mountain 83.89 50 *e*P **P** **13 54 11.6 +2.0**
comp=Z,164nm,1.7s
IFIR Firoozkooh 83.90 305 *e*P **P** **13 54 10.7 +0.8**
TDL Tradedollar La 83.92 44 P **P** **13 54 10.9 +1.3**
LON Longmire 84.12 44 *e*P **P** **13 54 11.1 +0.6**
LON pmax pmax
comp=Z,10.0nm,1.0s
LON Longmire 84.12 44 *e*P **P** **13 54 11.1 +0.6**
comp=Z,9.8nm,1.0s
HUMO Hull Mountain 84.13 48 *e*P **P** **13 54 12.5 +1.9**
comp=Z,22nm,0.8s
KCPM Cahto Peak 84.22 51 *e*P **P** **13 54 11.8 +0.5**
VLL Laurance Lake 84.47 45 P **P** **13 54 13.5 +1.1**
YBH Yreka Blue Hor 84.48 49 *e*P **P** **13 54 13.4 +0.9**
comp=Z,67nm,1.3s
YBH *e*PcP **PcP** **13 54 16.6 +0.6**
YBH Yreka Blue Hor 84.48 49 P **P** **13 54 13.9 +1.5**
comp=Z,26nm,0.7s,baz=313,slow=2.5,SNR=47
IDMV Damavand 84.49 305 *e*P **P** **13 54 12.9 0.0**
YKA Yellowknife Ar 84.49 27 P **P** **13 54 11.9 -0.1**
YKA Yellowknife Ar 84.49 27 P **P** **13 54 11.9 -0.1**
comp=Z,22nm,0.7s,baz=286,slow=5.0,SNR=258
ALE Alert 84.63 3 P **P** **13 54 13.6 +1.2**
comp=Z,363nm,1.0s,SNR=22
IPAR Pars 84.74 299 *e*P **P** **13 54 14.9 +0.6**
IZEF Zefreh 84.76 302 *e*P **P** **13 54 15.6 +1.3**
ISRV Sarvestan 84.77 299 *e*P **P** **13 54 14.9 +0.4**
WDC Whiskeytown Da 84.83 50 *e*P **P** **13 54 15.4 +1.2**
WDC pmax pmax
comp=Z,115nm,1.9s
WDC Whiskeytown Da 84.83 50 *e*P **P** **13 54 15.4 +1.2**
comp=Z,116nm,1.9s
EBG Ellensburg 84.92 43 P **P** **13 54 15.7 +1.2**
IGAR Gharneh 85.09 302 *e*P **P** **13 54 16.3 +0.4**
IR3 Iran Long-Peri 85.31 305 *e*P **P** **13 54 15.4 -1.4**
LBCM Butte Creek Ri 85.66 49 P **P** **13 54 19.5 +1.0**
HAWA Hanford 85.73 44 *e*P **P** **13 54 19.3 +0.8**
comp=Z,83nm,1.8s
LVZ Lovozero 85.82 339 *e*P **P** **13 54 18.4 -0.1**
LVZ pmax pmax
comp=Z,80nm,2.5s
OHCM Honcut 85.88 51 *e*P **P** **13 54 20.6 +1.2**
RES Resolute Bay 86.08 13 *e*P **P** **13 54 20.3 +0.7**
comp=Z,94nm,0.8s
RBK Rabkut 86.10 287 P **P** **13 54 21.3 +0.3**
SNR=8.8
KLMR Klimovskoe 86.29 332 *e*P **P** **13 54 19.3 -1.6**
KLMR pmax pmax
comp=Z,31nm,0.8s
APA Apatity 86.38 339 ⇑*i*P **P** **13 54 21.0 -0.3**
APA pmax pmax
comp=Z,31nm,0.9s
NEW Newport 86.87 41 *e*P **P** **13 54 24.9 +0.7**
comp=Z,55nm,1.0s
NEW Newport 86.87 41 ⇓P **P** **13 54 24.9 +0.7**
baz=87,SNR=50
ABTO Aybut 86.98 287 P **P** **13 54 25.7 +0.4**

SNR=19
CMB Columbia Colle 87.01 52 eP P 13 54 25.5 +0.4
CMB pmax pmax
comp=Z,15nm,0.8s
CMB Columbia Colle 87.01 52 eP P 13 54 25.5 +0.4
comp=Z,15nm,0.8s
WCN Washoe City 87.20 51 eP P 13 54 26.8 +0.7
WCN pmax pmax
comp=Z,13nm,1.0s
WCN Washoe City 87.20 51 eP P 13 54 26.8 +0.7
comp=Z,13nm,1.0s
WCN Washoe City 87.20 51 ⇑P P 13 54 26.8 +0.7
baz=87
WVOR Wild Horse Val 87.28 47 eP P 13 54 27.2 +0.8
WVOR pmax pmax
comp=Z,20nm,0.9s
WVOR Wild Horse Val 87.28 47 eP P 13 54 27.2 +0.8
comp=Z,20nm,0.9s
KEV Kevo 87.51 342 eP P 13 54 25.7 -1.0
KEV pmax pmax
comp=Z,8.0nm,0.6s
KEV Kevo 87.51 342 ep P 13 54 25.7 -1.0
comp=Z,8.2nm,0.6s
C11A Tepee Creek (N 87.54 42 ⇑P P 13 54 28.1 +0.7
baz=88
BMO Blue Mountains 87.62 45 eP P 13 54 28.8 +0.9
BMO pmax pmax
comp=Z,21nm,0.8s
BMO Blue Mountains 87.62 45 eP P 13 54 28.8 +0.9
comp=Z,22nm,0.8s
A12A Yaak River Ran 87.63 40 ⇑P P 13 54 29.2 +1.3
baz=88,SNR=21
PTRM Twissleman Ran 87.69 54 eP P 13 54 30.0 +1.7
B12A Libby 87.80 41 ⇓P P 13 54 30.0 +1.3
baz=88,SNR=5.2
IHRS Heris 87.81 309 eP P 13 54 28.2 -0.9
SMMC Simmler 87.93 54 ⇓P P 13 54 31.0 +1.4
baz=88
ARCES ARCESS Array B 88.07 342 P P 13 54 29.2 -0.2
ARCES ARCESS Array B 88.07 342 P P 13 54 29.2 -0.2
comp=Z,9.4nm,0.6s,baz=79,slow=7.4,SNR=26
VRHR Novokhopersk 88.14 322 eP P 13 54 28.1 -2.0
VRHR pmax pmax
comp=Z,120nm,0.9s
VRHR pmax pmax
comp=N,5.0nm,0.4s
VRHR pmax pmax
comp=E,20nm,0.9s
PKM Peak Mountain 88.17 55 ⇑P P 13 54 32.4 +1.5
baz=88,SNR=7.6
D12A Red Ives Fores 88.34 42 ⇓P P 13 54 32.3 +1.0
baz=88
A13A Flathead Natio 88.42 40 ⇓P P 13 54 32.9 +1.2
baz=88
BSMT Bassoo Peak 88.49 41 eP P 13 54 33.1 +1.0
NVAR Mina Array Bea 88.51 51 P P 13 54 33.8 +1.4
NVAR Mina Array Bea 88.51 51 P P 13 54 33.8 +1.4
comp=E,30nm,0.7s,baz=264,slow=5.7,SNR=227
VES Vestal, Richgr 88.53 54 ⇑P P 13 54 32.9 +0.6
baz=89,SNR=8.1
B13A Whitefish 88.54 41 ⇓P P 13 54 33.9 +1.7
baz=89,SNR=26
MTUM Tungsten Hills 88.57 52 eP P 13 54 33.4 +0.7
MTUM ePP PP 13 58 00.9 -0.2
C13A Hot Springs 88.67 41 ⇑P P 13 54 33.7 +0.9
baz=89,SNR=11
WALA Waterton Lakes 88.70 40 eP P 13 54 35.0 +2.0
comp=E,1.2nm,1.4s
BLMT Blacktail Moun 88.72 41 eP P 13 54 34.7 +1.4
BMN Battle Mountai 88.81 49 eP P 13 54 35.2 +1.4
BMN pmax pmax
comp=Z,81nm,1.8s
BMN Battle Mountai 88.81 49 eP P 13 54 35.2 +1.4
comp=Z,81nm,1.8s
JTMT Jette 88.84 41 eP P 13 54 34.6 +0.9
TIN Tinemaha 88.91 52 ⇓P P 13 54 35.4 +1.2
baz=89
ARVC Arvin 88.91 54 ⇓P P 13 54 35.3 +1.2
baz=89
D13A Huson 88.92 42 ⇑P P 13 54 34.3 +0.2
baz=89,SNR=6.0
MOS Moscow 88.92 327 eP P 13 54 31.0 -2.7
MOS e 13 54 47.4
MOS pmax pmax
comp=Z,133nm,0.9s
MOS pmax pmax
comp=Z,100nm,0.9s
YBMT Yellow Bay 88.98 41 eP P 13 54 35.1 +0.8
comp=Z,9.7nm,0.8s
ZEI Tsey 89.00 314 eP P 13 54 33.0 -1.7
ZEI pmax pmax
comp=Z,26nm,1.0s
MFID Camas Ranch 89.02 46 eP P 13 54 35.6 +0.9
comp=Z,31nm,0.9s
MFID Camas Ranch 89.02 46 ⇓P P 13 54 35.5 +0.9
baz=89,SNR=35
A14A Double T Ranch 89.03 40 ⇓P P 13 54 36.0 +1.4
baz=89,SNR=21
ISA Isabella 89.06 54 eP P 13 54 35.7 +0.8
ISA pmax pmax
comp=Z,13nm,1.0s
ISA Isabella 89.06 54 eP P 13 54 35.7 +0.8
comp=Z,13nm,1.0s
ISA Isabella 89.06 54 ⇓P P 13 54 35.5 +0.6
baz=89,SNR=7.2
SWMT Swartz Lake 89.10 42 eP P 13 54 35.6 +0.7
JOF Joensuu 89.12 335 eP P 13 54 32.1 -2.4
JOF pmax pmax
comp=Z,25nm,0.7s
JOF Joensuu 89.12 335 ep P 13 54 32.1 -2.4
comp=Z,25nm,0.7s
CWC Cottonwood Cre 89.17 53 ⇓P P 13 54 36.4 +0.9
baz=89,SNR=8.6
E13A Victor 89.28 43 ⇓P P 13 54 36.2 +0.4
baz=89,SNR=8.9
B14A Marquette Ranc 89.31 41 ⇑P P 13 54 36.7 +0.8
baz=89,SNR=15
MSO Missoula 89.33 42 eP P 13 54 36.6 +0.6
comp=Z,8.3nm,1.4s
MSO Missoula 89.33 42 ⇓P P 13 54 36.2 +0.2
baz=89
QRN Al-Qurain 89.35 299 eP P 13 54 35.1 -1.2
QRN AMb AMB 13 54 37.5
comp=Z,51nm,0.9s
F13A Darby 89.38 43 ⇓P P 13 54 36.7 +0.4
baz=89,SNR=20
H12A Diamond D Ranc 89.38 45 ⇑P P 13 54 36.8 +0.4
baz=89,SNR=18
SLMT Seeley Lake 89.50 42 eP P 13 54 37.3 +0.4
KIV Kislovodsk 89.52 315 eP P 13 54 36.2 -0.7
KIV e*PP pP 13 54 48.2 +0.3
KIV e*SP sP 13 54 51.7 -0.2
KIV pmax pmax
comp=Z,5.0nm,0.4s
KIV Kislovodsk 89.52 315 eP P 13 54 36.1 -0.7
comp=Z,4.7nm,0.4s
KIV epP pP 13 54 48.2 +0.3
KIV esP sP 13 54 51.6 -0.2
D14A Greenough 89.54 42 ⇑P P 13 54 36.9 -0.1
baz=90
VSR Storozhevoye 89.58 323 eP P 13 54 35.5 -1.4
VSR pmax pmax
comp=N,9.0nm,0.8s
VSR pmax pmax
comp=E,20nm,0.8s
VSR pmax pmax
comp=Z,70nm,0.8s
GRAC Grapevine Rang 89.58 52 ⇑P P 13 54 38.1 +0.8
baz=90
VORD Divnogorie 89.58 322 eP P 13 54 35.3 -1.6
MIB Mutribah 89.59 300 eP P 13 54 36.2 -1.2
MIB AMb AMB 13 54 39.2
comp=Z,75nm,0.6s
RDF Al-Radifah 89.62 299 eP P 13 54 36.9 -0.6
EDW2 Edwards Air Fo 89.64 54 ⇑P P 13 54 38.1 +0.5
baz=90,SNR=8.8
G13A Cobalt 89.65 44 ⇓P P 13 54 37.9 +0.4
baz=90,SNR=67
CIS Catalina Islan 89.67 56 ⇑P P 13 54 39.4 +1.6
baz=90
OBN Obninsk 89.71 327 ⇑eP P 13 54 36.2 -1.2
OBN eS SKSac 14 05 01.7 -3.6
OBN pmax pmax
comp=Z,131nm,1.2s
OBN Obninsk 89.71 327 eP P 13 54 36.9 -0.5
comp=Z,99nm,1.0s
OBN Obninsk 89.71 327 P P 13 54 36.7 -0.7
comp=Z,558nm,1.1s,SNR=5.4
LRMC Laurel Mountai 89.72 54 ⇓P P 13 54 39.4 +1.3
baz=90,SNR=5.9
MPMC Manual Prospec 89.73 53 ⇓P P 13 54 39.5 +1.3
baz=90,SNR=28
MWC Mount Wilson 89.75 55 eP P 13 54 39.6 +1.3
MWC pmax pmax
comp=Z,60nm,1.4s
MWC Mount Wilson 89.75 55 eP P 13 54 39.6 +1.3
comp=Z,60nm,1.4s
E14A Clinton 89.75 42 ⇑P P 13 54 38.8 +0.7
baz=90
CHMT Chamberlain Mo 89.76 42 eP P 13 54 38.6 +0.5
B15A Bradely Ranch, 89.78 40 ⇓P P 13 54 38.2 +0.2
baz=90,SNR=13
H13A Challis 89.79 44 ⇑P P 13 54 38.6 +0.3
baz=90,SNR=21
NAY Al-Naaiem 89.81 300 eP P 13 54 37.1 -1.3
NAY AMb AMB 13 54 39.8
comp=Z,37nm,0.7s
C15A Salmond Ranch, 89.91 41 ⇑P P 13 54 39.4 +0.6
baz=90,SNR=10
HLID Hailey 89.97 45 eP P 13 54 40.3 +1.2
comp=Z,65nm,1.8s
HLID ePP PP 13 58 11.7 -0.3
HLID Hailey 89.97 45 ⇓P P 13 54 39.9 +0.8
baz=90,SNR=29
F14A Wisdom 90.02 43 ⇑P P 13 54 39.8 +0.4
baz=90
BFSC Mount Baldy Ra 90.06 55 ⇓P P 13 54 40.1 +0.4
baz=90
I13A Wildhorse Cree 90.07 45 ⇓P P 13 54 40.3 +0.6
baz=90,SNR=24
FURC Furnace Creek, 90.12 53 ⇑P P 13 54 40.8 +1.1
baz=90,SNR=30
G14A Jackson 90.13 44 ⇑P P 13 54 40.4 +0.5
baz=90,SNR=11
A16A West Butte Ran 90.18 40 ⇑P P 13 54 40.4 +0.4
baz=90
ELK Elko 90.18 48 eP P 13 54 41.6 +1.4
J13A Cove Ranch, Pi 90.18 45 ⇑P P 13 54 41.1 +0.9
baz=90,SNR=25
B16A M & M Farms, S 90.28 40 ⇑P P 13 54 41.1 +0.7
baz=90
E15A Deer Lodge 90.31 42 ⇑P P 13 54 41.4 +0.7
baz=90,SNR=22
H14A Leadore 90.38 44 ⇓P P 13 54 41.7 +0.6
baz=90,SNR=23
C16A Fuhringer Ranc 90.46 41 ⇑P P 13 54 41.8 +0.6
baz=90
GSC Goldstone 90.47 54 eP P 13 54 42.9 +1.4
GSC pmax pmax
comp=Z,31nm,0.9s
GSC Goldstone 90.47 54 eP P 13 54 42.9 +1.4
comp=Z,31nm,0.9s
GSC Goldstone 90.47 54 ⇑P P 13 54 42.8 +1.4
baz=90,SNR=17
I14A Mackay 90.53 45 ⇓P P 13 54 42.8 +1.0
baz=91,SNR=14
DAG Danmarks Havn 90.57 356 i P P 13 54 39.9 -1.1
DAG pmax pmax
comp=Z,8.0nm,0.9s
DAG Danmarks Havn 90.57 356 i P P 13 54 39.9 -1.1
comp=Z,78nm,0.9s
R11A Troy Canyon, C 90.59 51 ⇑P P 13 54 43.0 +0.8
baz=91,SNR=19
F15A Butte 90.59 43 ⇓P P 13 54 42.7 +0.6
baz=91,SNR=37
MURC Murrieta 90.59 56 ⇑P P 13 54 42.9 +0.9
baz=91
LRM Limekiln Ridge 90.62 43 eP P 13 54 42.8 +0.6
DLMT Dillon 90.67 43 eP P 13 54 43.1 +0.8
comp=Z,30nm,1.4s
SHOC Shoshone 90.72 53 ⇑P P 13 54 43.9 +1.3
baz=91,SNR=5.2
A17A Triple J Farms 90.74 39 ⇑P P 13 54 43.2 +0.7
baz=91,SNR=7.5
HRY Holter Researc 90.75 42 eP P 13 54 43.5 +0.9
HRY ePP PP 13 58 18.8 +0.7
G15A Dillon 90.80 43 ⇓P P 13 54 43.8 +0.8
baz=91,SNR=17
D16A Dana Ranch, Ca 90.83 41 ⇑P P 13 54 43.9 +0.9
baz=91,SNR=15
109C Camp Elliot, M 90.85 56 ⇓P P 13 54 44.0 +0.8
baz=91
H15A Lima 90.87 44 ⇓P P 13 54 44.1 +0.7
baz=91,SNR=15
B17A L&G Farms, Che 90.90 40 ⇑P P 13 54 43.9 +0.7
baz=91,SNR=17
E16A East Helena 90.91 42 ⇓P P 13 54 44.1 +0.7
baz=91,SNR=19
HEC Hector,Ludlow 90.97 54 ⇓P P 13 54 44.6 +0.8
baz=91,SNR=13
TUQ Turquoise Moun 91.12 54 ⇓P P 13 54 45.9 +1.2
baz=91,SNR=7.9
K14A Jones Ranch, D 91.14 46 ⇑P P 13 54 45.5 +0.9
baz=91,SNR=11
C17A Wharram Farm, 91.14 41 ⇓P P 13 54 44.9 +0.6
baz=91,SNR=12
BHD Baghdad 91.17 304 ex P 13 54 38.0 -6.7
BHD ex SKSac 14 05 10.0 -4.6
BHD ex x 14 05 28.0
I15A Monteview 91.17 45 ⇑P P 13 54 46.1 +1.4
baz=91,SNR=5.9
F16A Kennard Place, 91.18 43 ⇓P P 13 54 45.4 +0.7
baz=91,SNR=18
PFO Pinyon Flat Ob 91.19 55 eP P 13 54 45.3 +0.3
comp=Z,19nm,1.1s
PFO Pinyon Flat Ob 91.19 55 ⇓P P 13 54 45.8 +0.8
baz=91,SNR=6.8
BOZ Bozeman (W) 91.22 43 eP P 13 54 44.9 0.0
BOZ pmax pmax
comp=Z,9.0nm,1.0s
BOZ Bozeman (W) 91.22 43 eP P 13 54 44.9 0.0
comp=Z,9.0nm,1.0s
BOZ Bozeman (W) 91.22 43 ⇓P P 13 54 45.7 +0.8
baz=91,SNR=7.4
G16A Moss Hill, Enn 91.24 43 ⇓P P 13 54 45.8 +0.8
baz=91,SNR=34
BAR Barrett 91.26 56 eP P 13 54 46.6 +1.5
comp=Z,19nm,1.1s
A18A Metzger Ranch, 91.28 39 ⇑P P 13 54 45.6 +0.6
baz=91,SNR=15
D17A Six Diamond Ra 91.35 41 ⇑P P 13 54 46.4 +1.0
baz=91,SNR=23
MONP Monument Peak 91.41 56 ⇓P P 13 54 47.3 +1.2
baz=92,SNR=5.3
BELC Belle Mtn. Jos 91.45 55 ⇓P P 13 54 47.3 +1.1
baz=92,SNR=9.1
E17A Martinsdale 91.47 42 ⇓P P 13 54 47.0 +0.9
baz=92,SNR=13
B18A Beardsley Farm 91.50 40 ⇑P P 13 54 46.6 +0.6
baz=92,SNR=9.4
GMRC Granite Mounta 91.51 54 ⇓P P 13 54 47.6 +1.2
baz=92,SNR=19
K15A Arbon 91.55 46 ⇑P P 13 54 47.6 +1.1
baz=92,SNR=11
KAF Kangasniemi 91.55 335 eP P 13 54 42.9 -2.9
KAF pmax pmax
comp=Z,27nm,0.8s
KAF Kangasniemi 91.55 335 ep P 13 54 42.9 -2.9
comp=Z,27nm,0.8s
QLMT Earthquake Lak 91.62 44 eP P 13 54 48.5 +1.6
EGMT Eagleton 91.64 40 eP P 13 54 47.5 +0.8
comp=Z,20nm,1.1s
EGMT Eagleton 91.64 40 ⇑P P 13 54 47.4 +0.7
baz=92,SNR=7.2
HVU Hansel Valley 91.65 47 eP P 13 54 48.3 +1.3
HVU pmax pmax
comp=Z,25nm,1.4s
HVU Hansel Valley 91.65 47 eP P 13 54 48.3 +1.3
comp=Z,25nm,1.4s
F17A Fitzpatrick Pl 91.78 42 ⇑P P 13 54 48.4 +0.9
baz=92,SNR=10.0
H16A Russell Place, 91.79 44 ⇓P P 13 54 48.8 +1.2
baz=92,SNR=24
R13A O'Grain Ranch, 91.86 50 ⇑P P 13 54 49.3 +1.3
baz=92,SNR=7.7
L15A Malad City 91.86 46 ⇓P P 13 54 48.9 +1.0
baz=92,SNR=8.5
LDFC Landfair 91.86 54 eP P 13 54 48.8 +0.7
comp=Z,38nm,0.9s
I16A Newdale 91.89 44 ⇑P P 13 54 49.4 +1.4
baz=92,SNR=18
D18A Linhart Farms, 91.90 41 ⇑P P 13 54 48.6 +0.6
baz=92
SWSC Sam W. Stewart 91.90 56 ⇓P P 13 54 49.1 +1.0
baz=92
G17A Pierce Place, 91.92 43 ⇓P P 13 54 49.3 +1.2
baz=92,SNR=7.7
A19A Klindworth Far 91.96 39 ⇑P P 13 54 49.1 +0.9
baz=92,SNR=15
FINES FINESS Array B 91.98 335 P P 13 54 46.5 -1.3
FINES FINESS Array B 91.98 335 P P 13 54 46.5 -1.3
comp=Z,27nm,0.7s,baz=64,slow=5.3,SNR=49
BC3 Big Chuckawall 91.98 55 ⇑P P 13 54 49.8 +1.2
baz=92,SNR=12
M15A Larsen Ranch, 91.98 47 ⇓P P 13 54 49.4 +0.9
baz=92,SNR=7.9
YMR Madison River 91.99 44 eP P 13 54 49.4 +0.9
comp=Z,41nm,1.0s
J16A Bone 92.00 45 ⇑P P 13 54 49.8 +1.2
baz=92,SNR=26
B19A Brinkman Farms 92.00 40 ⇓P P 13 54 49.4 +1.1
baz=92,SNR=9.2
IRM Iron Mountain 92.09 55 ⇑P P 13 54 50.5 +1.5
baz=92,SNR=19
DUG Dugway 92.11 48 eP P 13 54 50.2 +1.0
DUG pmax pmax
comp=Z,15nm,1.0s
DUG Dugway 92.11 48 eP P 13 54 50.2 +1.0
comp=Z,15nm,1.0s
DUG Dugway 92.11 48 ⇓P P 13 54 50.1 +1.0
baz=92,SNR=13
YFT Old Faithful 92.15 44 eP P 13 54 50.5 +1.2
comp=Z,29nm,1.0s
K16A Soda Springs 92.16 45 ⇑P P 13 54 51.0 +1.7
baz=92,SNR=15
YNR Norris Junctio 92.17 43 eP P 13 54 50.0 +0.6
comp=Z,64nm,1.2s
RRI2 Red Ridge 92.18 45 eP P 13 54 50.9 +1.3
comp=Z,71nm,1.8s
DCID1 Drake Creek 92.19 45 eP P 13 54 51.3 +1.8
comp=Z,11nm,0.8s
C19A Slack Wire Ran 92.19 40 ⇓P P 13 54 50.4 +1.2
baz=92,SNR=14
H17A Grant Village 92.34 44 ⇓P P 13 54 52.5 +2.2
baz=92,SNR=14
FLWY Flagg Ranch 92.36 44 eP P 13 54 52.0 +1.7
comp=Z,25nm,0.9s
ARUT Antelope Range 92.37 51 eP P 13 54 51.9 +1.5
ARUT pmax pmax
comp=Z,12nm,0.8s
ARUT Antelope Range 92.37 51 eP P 13 54 51.9 +1.5
comp=Z,12nm,0.8s
TPAW Teton Pass 92.39 45 eP P 13 54 52.7 +2.2
comp=Z,6.4nm,0.6s
F18A Big Timber 92.40 42 ⇑P P 13 54 51.3 +1.0
baz=92,SNR=21
LKWY Lake 92.40 44 eP P 13 54 53.4 +2.9
LKWY pmax pmax
comp=Z,35nm,1.3s
LKWY Lake 92.40 44 eP P 13 54 53.4 +2.9
comp=Z,35nm,1.3s
MOOW Moose Ponds 92.44 44 eP P 13 54 51.8 +1.2
comp=Z,40nm,1.8s
GCMT Greycliff 92.47 42 eP P 13 54 51.7 +1.0
comp=Z,13nm,1.0s
GCMT ePP PP 13 58 30.9 -0.8
A20A Cobblestone Ra 92.48 39 ⇓P P 13 54 50.9 +0.4
baz=92,SNR=12
REDW Red Top Meadow 92.50 45 eP P 13 54 51.9 +0.9
comp=Z,7.4nm,0.9s
REDW ePP PP 13 58 33.6 +1.6
CCUT Cedar City 92.50 51 eP P 13 54 53.1 +2.0
comp=Z,6.8nm,0.9s
I17A Pilgrim Ck. 92.50 44 ⇑P P 13 54 52.4 +1.4
baz=92,SNR=13
AHID Auburn Hatcher 92.52 45 eP P 13 54 52.5 +1.4
comp=Z,72nm,1.8s
AHID ePP PP 13 58 27.8 -4.4
SNOW Snow King Moun 92.53 45 eP P 13 54 53.8 +2.7
comp=Z,74nm,2.3s
L16A Fish Haven 92.53 46 ⇑P P 13 54 52.0 +0.9
baz=93,SNR=11
HWUT Hardware Ranch 92.57 47 eP P 13 54 52.1 +0.8
comp=Z,13nm,1.0s
B20A Solberg Farm, 92.58 39 ⇑P P 13 54 51.7 +0.7
baz=93,SNR=6.3
LOHW Long Hollow 92.58 44 eP P 13 54 52.4 +1.1
comp=Z,25nm,1.6s
J17A Brown Place, J 92.59 45 ⇑P P 13 54 52.3 +0.9
baz=93,SNR=9.4
GLA Glamis 92.65 56 eP P 13 54 53.7 +2.0
GLA pmax pmax
comp=Z,22nm,0.8s
GLA Glamis 92.65 56 eP P 13 54 53.7 +2.0
comp=Z,22nm,0.8s
GLA Glamis 92.65 56 ⇑P P 13 54 53.3 +1.6
baz=93,SNR=11
P15A Leamington 92.69 49 ⇓P P 13 54 52.8 +0.9
baz=93,SNR=6.4
Y12C Blythe 92.70 55 ⇓P P 13 54 53.3 +1.5
baz=93,SNR=10
G18A Lazy EL Ranch, 92.71 43 ⇓P P 13 54 52.9 +1.1
baz=93,SNR=12
E19A Rath Farm, Rou 92.81 41 ⇓P P 13 54 52.9 +0.7
baz=93,SNR=10
W13A Hualapai Mount 92.82 53 ⇓P P 13 54 54.3 +1.7
baz=93,SNR=17
PDMCI Parker Dam,Lak 92.85 54 ⇓P P 13 54 53.7 +1.2
baz=93,SNR=7.8
C20A Veseth Ranch, 92.86 40 ⇑P P 13 54 53.2 +0.9
baz=93,SNR=44
H18A Shoshone NF, C 92.86 43 ⇓P P 13 54 54.0 +1.4
baz=93,SNR=12
N16A Rees Ranch, Co 92.89 47 ⇑P P 13 54 53.3 +0.5
baz=93
L17A Cokeville 92.90 46 ⇓P P 13 54 53.6 +0.8
baz=93,SNR=6.7
F19A Roth Farm, Mol 92.92 42 ⇓P P 13 54 53.8 +1.1
baz=93,SNR=14
RLMT Red Lodge 92.97 43 eP P 13 54 54.5 +1.4
comp=Z,66nm,1.6s
RLMT Red Lodge 92.97 43 ⇑P P 13 54 54.4 +1.3
baz=93,SNR=23
JLU Jordanelle 92.97 48 eP P 13 54 54.5 +1.2
comp=Z,7.0nm,0.8s
JLU ePP PP 13 58 30.5 -5.4
D20A Manuel Ranch, 93.00 41 ⇓P P 13 54 53.9 +0.9
baz=93,SNR=18
MPU Maple Canyon 93.03 48 eP P 13 54 54.7 +1.2
comp=Z,21nm,1.6s
A21A Bergtoll Ranch 93.05 39 ⇓P P 13 54 53.8 +0.7
baz=93,SNR=15
O16A Springville 93.06 48 ⇑P P 13 54 54.1 +0.5
baz=93
MVU Marysvale 93.08 50 eP P 13 54 55.1 +1.4
comp=Z,5.8nm,0.8s
I18A Diamond G Ranc 93.09 44 ⇑P P 13 54 54.6 +0.9
baz=93,SNR=8.2
R15A Junction 93.12 50 ⇑P P 13 54 54.9 +1.0
baz=93
J18A Kendall Valley 93.12 45 ⇑P P 13 54 54.5 +0.6
baz=93,SNR=22
DAU Daniels Canyon 93.17 48 eP P 13 54 55.5 +1.3
DAU Daniels Canyon 93.17 48 eP P 13 54 55.5 +1.3
VSU Vasula 93.18 332 eP P 13 54 52.3 -1.1
VSU pmax pmax
comp=Z,46nm,0.9s
B21A Ellsworth Farm 93.20 39 ⇓P P 13 54 54.9 +1.1
baz=93
E20A Meyer Farm, Mu 93.22 41 ⇓P P 13 54 54.4 +0.4
baz=93,SNR=5.5
M17A Scullys Gap (B 93.25 47 ⇑P P 13 54 54.6 +0.1
baz=93
K18A Toltan Ranch, 93.30 45 ⇓P P 13 54 55.2 +0.5
baz=93,SNR=7.2
N17A Moffit Pass 93.31 47 ⇑P P 13 54 55.3 +0.5
baz=93
H19A Powell 93.32 43 ⇓P P 13 54 55.8 +1.2
baz=93,SNR=20
C21A Desert Coulee 93.38 40 ⇓P P 13 54 55.1 +0.4
baz=93,SNR=13
FFC Flin Flon 93.46 32 eP P 13 54 54.6 -0.2
FFC pmax pmax
comp=Z,17nm,0.9s
FFC Flin Flon 93.46 32 eP P 13 54 54.6 -0.2
comp=Z,16nm,0.9s
FFC Flin Flon 93.46 32 P P 13 54 55.5 +0.7
comp=Z,114nm,0.8s,SNR=9.8
F20A Billings 93.46 42 ⇓P P 13 54 55.7 +0.6
baz=94,SNR=5.8
I19A Meeteetse 93.53 44 ⇓P P 13 54 57.1 +1.4

baz=94,SNR=11
L18A **Fontenelle, Gr** 93.54 46 ⇓P P 13 54 56.7 +0.9
baz=94,SNR=10.0
BW06 **Boulder Array** 93.59 45 *e*P P 13 54 56.6 +0.6
comp=Z,16nm,1.8s
BW06 *e*PP PP 13 58 39.8 -0.9
BW06 **Boulder Array** 93.59 45 ⇓P P 13 54 56.2 +0.2
baz=94
113A **Mohawk Valley,** 93.59 56 ⇑P P 13 54 57.0 +1.1
baz=94
PDAR **Pinedale Array** 93.59 45 P P 13 54 56.1 +0.1
PDAR **Pinedale Array** 93.59 45 P P 13 54 56.1 +0.1
comp=Z,2.1nm,0.6s,baz=237,slow=3.0,SNR=18
O17A **Robinson Place** 93.62 48 ⇑P P 13 54 56.8 +0.6
baz=94
G20A **Bridger** 93.63 42 ⇑P P 13 54 57.1 +1.1
baz=94,SNR=17
U15A **North Rim** 93.66 52 ⇓P P 13 54 58.0 +1.5
baz=94,SNR=9.8
A22A **Carney Farms,** 93.66 38 ⇑P P 13 54 56.2 +0.3
baz=94,SNR=15
M18A **Lyman** 93.69 46 ⇓P P 13 54 56.5 0.0
baz=94
R16A **Teasdale** 93.69 50 ⇑P P 13 54 57.6 +1.0
baz=94,SNR=15
Q16A **Castle Valley** 93.72 49 ⇑P P 13 54 57.6 +1.0
baz=94
D21A **La Casta Ranch** 93.74 40 ⇑P P 13 54 57.2 +0.9
baz=94,SNR=15
J19A **Crowheart** 93.76 44 ⇑P P 13 54 57.9 +1.2
baz=94,SNR=28
S16A **Weppner Ranch,** 93.78 50 ⇑P P 13 54 57.9 +1.0
baz=94,SNR=9.9
P17A **Butcher Ranch,** 93.85 48 ⇓P P 13 54 57.6 +0.4
baz=94
Y14A **Wickenburg** 93.86 54 ⇓P P 13 54 58.7 +1.5
baz=94,SNR=22
B22A **Reddig Ranch S** 93.88 39 ⇓P P 13 54 57.6 +0.6
baz=94,SNR=10
E21A **Keefer Ranch,** 93.88 41 ⇓P P 13 54 57.8 +0.7
baz=94,SNR=11
L19A **Farson** 93.96 46 ⇓P P 13 54 58.8 +1.1
baz=94,SNR=10
H20A **Greybull** 94.04 43 ⇑P P 13 54 59.0 +1.1
baz=94,SNR=5.2
K19A **Absolon Red Bu** 94.06 45 ⇑P P 13 54 58.6 +0.5
baz=94,SNR=15
Z14A **Wintersburg** 94.07 55 ⇓P P 13 54 59.4 +1.3
baz=94,SNR=6.0
F21A **Absaloka Mine,** 94.12 42 ⇑P P 13 54 58.9 +0.7
baz=94
O18A **Roosevelt** 94.12 47 ⇑P P 13 54 59.1 +0.7
baz=94
SRU **San Rafael** 94.13 49 *e*P P 13 54 59.5 +1.0
SRU pmax pmax
comp=Z,7.0nm,0.7s
SRU **San Rafael** 94.13 49 *e*P P 13 54 59.5 +1.0
comp=Z,7.3nm,0.7s
SRU **San Rafael** 94.13 49 ⇓P P 13 54 59.0 +0.5
baz=94,SNR=11
I20A **Worland** 94.15 44 ⇓P P 13 54 59.5 +1.1
baz=94
P18A **Preston Nutter** 94.16 48 ⇓P P 13 54 59.1 +0.3
baz=94
C22A **Vida** 94.17 39 ⇓P P 13 54 58.9 +0.6
baz=94,SNR=6.4
D22A **Cohagen** 94.22 40 ⇓P P 13 54 59.9 +1.4
baz=94,SNR=19
R17A **Hanksville Air** 94.22 49 ⇑P P 13 54 59.8 +0.9
baz=94,SNR=17
G21A **Lodge Grass** 94.29 42 ⇑P P 13 55 00.0 +1.0
baz=94,SNR=6.4
M19A **Rock Springs** 94.31 46 ⇑P P 13 55 00.1 +0.8
baz=94
114A **Black Gap (USA** 94.31 55 ⇑P P 13 55 00.6 +1.4
baz=94,SNR=5.2
J20A **Shoshoni** 94.39 44 ⇑P P 13 55 00.5 +0.9
baz=94,SNR=6.6
S17A **Black Ridge (B** 94.41 50 ⇓P P 13 55 00.3 +0.5
baz=94,SNR=8.6
Q18A **Rafter H Ranch** 94.42 49 ⇓P P 13 55 00.1 +0.3
baz=94
B23A **Brockton** 94.43 39 ⇓P P 13 55 00.3 +0.8
baz=94,SNR=10
K20A **Yellowstone Ra** 94.47 45 ⇓P P 13 55 00.9 +0.9
baz=94,SNR=18
N19A **John Jarvie Ra** 94.50 47 ⇓P P 13 55 00.4 +0.3
baz=94
C23A **Lambert** 94.58 39 ⇓P P 13 55 01.4 +1.2
baz=95,SNR=20
214A **Organ Pipe Nat** 94.60 56 ⇓P P 13 55 02.0 +1.3
baz=95,SNR=6.1
T17A **Navajo Res., N** 94.61 51 ⇓P P 13 55 01.7 +0.9
baz=95,SNR=7.4
H21A **Big Horn, Sher** 94.62 43 ⇓P P 13 55 02.0 +1.5
baz=95,SNR=24
E22A **Miles City** 94.64 41 ⇑P P 13 55 01.1 +0.6
baz=95,SNR=11
WUAZ **Wupatki** 94.65 52 *e*P P 13 55 02.6 +1.7
WUAZ *e*PP PP 13 58 50.0 +0.9
comp=Z,11nm,0.9s
WUAZ **Wupatki** 94.65 52 ⇓P P 13 55 02.0 +1.1
baz=95,SNR=9.1
F22A **Rosebud** 94.70 41 ⇑P P 13 55 01.2 +0.4
baz=95,SNR=6.8
L20A **Wamsutter** 94.70 45 ⇓P P 13 55 01.9 +0.8
baz=95
O19A **Miners Draw (B** 94.75 47 ⇓P P 13 55 01.7 +0.4
baz=95
I21A **Big Trails, Te** 94.76 43 ⇑P P 13 55 01.7 +0.4
baz=95,SNR=14
D23A **Lindsay** 94.82 40 ⇑P P 13 55 02.3 +0.9
baz=95,SNR=17
J21A **Lysite** 94.83 44 ⇑P P 13 55 02.0 +0.4
baz=95,SNR=15
R18A **Canyonlands Na** 94.84 49 ⇓P P 13 55 01.8 +0.1
baz=95
A24A **Westby** 94.84 38 ⇑P P 13 55 01.6 +0.3
baz=95
G22A **Birney** 94.89 42 ⇓P P 13 55 02.1 +0.4
baz=95,SNR=6.8
NACGM **Naroch** 94.90 329 *e* P 13 55 00.0 -1.4
DGMT **Dagmar** 94.91 38 *e*P P 13 55 02.1 +0.4
comp=Z,20nm,1.1s
DGMT **Dagmar** 94.91 38 ⇓P P 13 55 02.2 +0.5
baz=95,SNR=6.2
X16A **Lo Mia Camp, P** 94.94 53 ⇑P P 13 55 03.5 +1.1
baz=95,SNR=8.9
M20A **Sweetwater, Wa** 94.99 46 ⇑P P 13 55 03.0 +0.5
baz=95,SNR=7.4
S18A **Hurst Farm, Bl** 94.99 50 ⇓P P 13 55 02.8 +0.2
baz=95,SNR=5.6
E23A **Ismay** 95.03 40 ⇑P P 13 55 03.1 +0.8
baz=95,SNR=6.2
P19A **Cripple Cowboy** 95.08 48 ⇓P P 13 55 03.3 +0.4
baz=95,SNR=7.5
H22A **Clearmont** 95.09 42 ⇑P P 13 55 03.5 +0.8
baz=95
Q19A **Hogan Spring (** 95.11 49 ⇓P P 13 55 03.3 +0.4
baz=95
C24A **Savage** 95.16 39 ⇑P P 13 55 03.9 +1.1
baz=95
N20A **Spence Gulch,** 95.17 46 ⇓P P 13 55 03.7 +0.4
baz=95
K21A **Alcova** 95.23 45 ⇓P P 13 55 03.6 +0.1
baz=95,SNR=8.3
T18A **Mexican Hat** 95.27 50 ⇓P P 13 55 04.2 +0.5
baz=95,SNR=5.4
F23A **Volborg** 95.27 41 ⇓P P 13 55 03.7 +0.3
baz=95,SNR=9.3
I22A **9 Mile Ranch,** 95.27 43 ⇑P P 13 55 03.7 +0.2
baz=95
R19A **Curley Farm, L** 95.34 49 ⇓P P 13 55 04.6 +0.5
baz=95,SNR=7.0
SUMG **Summit** 95.37 1 *i* P P 13 55 03.2 -0.5
SUMG pmax pmax
comp=Z,5.0nm,0.9s
SUMG **Summit** 95.37 1 *i* P P 13 55 03.2 -0.5
comp=Z,5.4nm,0.9s
D24A **Glendive** 95.39 40 ⇓P P 13 55 04.6 +0.7
baz=95,SNR=5.4
L21A **Rawlins** 95.39 45 ⇑P P 13 55 04.7 +0.4
baz=95
O20A **White River Ci** 95.44 47 ⇓P P 13 55 04.8 +0.3
baz=96
J22A **Midwest** 95.46 44 ⇑P P 13 55 04.8 +0.4
baz=96,SNR=7.6
G23A **Biddle** 95.48 42 ⇑P P 13 55 04.9 +0.5
baz=96,SNR=11
M21A **Separation Pea** 95.53 46 ⇑P P 13 55 05.5 +0.6
baz=96
PV04 **Paradox Valley** 95.56 49 *e*P P 13 55 06.2 +1.1
AKASG **Malin Array Be** 95.56 325 P P 13 55 02.9 -1.7
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG **Malin Array Be** 95.56 325 P P 13 55 02.9 -1.7
AKASG **Malin Array Be** 95.56 325 P P 13 55 02.9 -1.7
comp=Z,3.7nm,0.7s,baz=54,slow=5.0,SNR=9.2
S19A **Harvey Farm, M** 95.61 50 ⇓P P 13 55 05.7 +0.4
baz=96
E24A **Baker** 95.63 40 ⇑P P 13 55 05.8 +0.8
baz=96
Q20A **Ridgley Place,** 95.82 48 ⇑P P 13 55 06.8 +0.5
baz=96,SNR=16
F24A **Ekalaka** 95.84 41 ⇓P P 13 55 06.8 +0.7
baz=96
PV01 **Paradox Valley** 95.90 49 *e*P P 13 55 07.2 +0.5
comp=Z,403nm,0.7s
T19A **Beclabito** 96.01 50 ⇑P P 13 55 07.7 +0.5
baz=96,SNR=8.8
R20A **Redvale** 96.02 49 ⇑P P 13 55 07.6 +0.4
baz=96,SNR=6.8
U19A **Dine' College,** 96.06 51 ⇑P P 13 55 08.1 +0.7
baz=96
X18A **Snowflake** 96.07 53 ⇑P P 13 55 08.6 +1.1
baz=96
M22A **Cedar Creek Ra** 96.14 45 ⇓P P 13 55 08.8 +1.1
baz=96
S20A **Disappointment** 96.16 49 ⇑P P 13 55 08.2 +0.3
baz=96
H24A **Dirks Ranch, A** 96.21 42 ⇓P P 13 55 08.3 +0.6
baz=96,SNR=6.8
MVCO **Mesa Verde** 96.28 50 *e*P P 13 55 10.2 +1.7
comp=Z,27nm,1.8s
MVCO **Mesa Verde** 96.28 50 ⇑P P 13 55 08.9 +0.4
baz=96
K23A **Bowen Ranch, D** 96.29 44 ⇑P P 13 55 09.1 +0.8
baz=96
Q21A **Lamborn Mesa,** 96.38 48 ⇓P P 13 55 09.8 +1.0
baz=96,SNR=7.2
L23A **Garrett** 96.48 45 ⇑P P 13 55 09.9 +0.6
baz=96
I24A **Kuemmerle Ranc** 96.52 43 ⇓P P 13 55 09.7 +0.5
baz=96
U20A **Newcomb** 96.55 51 ⇓P P 13 55 10.1 +0.5
baz=97
R21A **Cimarron** 96.57 49 ⇑P P 13 55 10.5 +0.8
baz=97,SNR=15
O22A **Kremmling** 96.64 47 ⇓P P 13 55 10.2 +0.1
baz=97
S21A **Coal Bank Pass** 96.64 49 ⇑P P 13 55 10.6 +0.4
baz=97
SMCO **Snowmass** 96.69 48 *e*P P 13 55 11.3 +0.8
comp=Z,32nm,1.8s
P22A **Eagle** 96.70 47 ⇑P P 13 55 11.1 +0.8
baz=97
M23A **Laramie** 96.72 45 ⇑P P 13 55 11.2 +0.8
baz=97
N23A **Red Feather La** 96.78 46 ⇑P P 13 55 11.3 +0.6
baz=97
V20A **Brimhall** 96.79 51 ⇓P P 13 55 11.5 +0.8
baz=97,SNR=6.9
Y19A **Nutrioso** 96.81 53 ⇑P P 13 55 12.1 +1.2
baz=97,SNR=6.2
Q22A **Crested Butte,** 96.86 48 ⇓P P 13 55 11.6 +0.4
baz=97,SNR=6.7
SCO **Scoresbysund** 96.91 355 *i* P P 13 55 10.0 -0.2
SCO pmax pmax
comp=Z,3.0nm,0.9s
SCO **Scoresbysund** 96.91 355 *i* P P 13 55 10.0 -0.2
comp=Z,3.1nm,0.9s
W20A **Rarah** 97.00 52 ⇑P P 13 55 12.6 +0.9
baz=97
U21A **Nageezi** 97.18 50 ⇑P Pdif 13 55 13.2 +0.5
baz=97
X20A **Quemado** 97.20 52 ⇓P Pdif 13 55 14.0 +1.3
baz=97,SNR=7.3
R22A **Saguache, Gunn** 97.20 49 ⇑P Pdif 13 55 13.9 +1.1
baz=97
BR131 **Keskin Array S** 97.30 313 *e*P P 13 55 10.9 -1.9
comp=Z,6.6nm,0.8s
BRTR **Keskin Array B** 97.30 313 P P 13 55 12.2 -0.7
BRTR **Keskin Array B** 97.30 313 P P 13 55 12.2 -0.7
comp=Z,6.8nm,0.9s,baz=73,slow=3.1,SNR=14
S22A **4UR Ranch, Cre** 97.33 49 ⇑P Pdif 13 55 14.0 +0.7
baz=97
M24A **Cheyenne** 97.34 45 ⇓P Pdif 13 55 14.2 +1.0
baz=97
V21A **Milan** 97.42 51 ⇓P Pdif 13 55 14.4 +0.7
baz=98
P23A **Jefferson** 97.44 47 ⇑P Pdif 13 55 15.0 +1.2
baz=98
Y20A **Horse Springs,** 97.51 53 ⇑P Pdif 13 55 15.7 +1.5
baz=98,SNR=7.0
ASF **Jabal al Asfar** 97.51 305 P P 13 55 12.2 -1.7
ASF **Jabal al Asfar** 97.51 305 P P 13 55 12.2 -1.7
comp=Z,5.3nm,0.9s,baz=13,slow=2.4,SNR=5.9
K25A **Mack Ranch, Ha** 97.53 44 ⇓P Pdif 13 55 15.0 +1.1
baz=98
T22A **Edith** 97.54 50 ⇑P Pdif 13 55 15.0 +0.8
baz=98
Z20A **Nine Sixteen R** 97.61 54 ⇓P Pdif 13 55 16.0 +1.5
baz=98,SNR=10
319A **Douglas** 97.64 56 ⇓P Pdif 13 55 16.3 +1.6
baz=98
120A **U Bar Ranch, L** 97.77 54 ⇑P Pdif 13 55 16.7 +1.5
baz=98,SNR=7.1
X21A **Alamocita Cree** 97.78 52 ⇑P Pdif 13 55 16.1 +0.8
baz=98
U22A **Llaves** 97.81 50 ⇓P Pdif 13 55 16.6 +1.2
baz=98
R23A **Moffat** 97.90 48 ⇓P Pdif 13 55 17.3 +1.5
baz=98
NB2 **NORSAR Subarra** 97.97 339 P P 13 55 13.4 -1.9
comp=Z,3.6nm,0.7s,baz=46,slow=5.1
NOA **NORSAR Array B** 97.97 339 P P 13 55 13.6 -1.7
NOA **NORSAR Array B** 97.97 339 P P 13 55 13.6 -1.7
comp=Z,3.3nm,0.8s,baz=50,slow=5.3,SNR=7.4
Y21A **Point of Rocks** 98.02 53 ⇑P Pdif 13 55 18.1 +1.6
baz=98
320A **Kipp Ranch, An** 98.26 56 ⇑P Pdif 13 55 19.2 +1.7
baz=98
Z21A **St. Cloud Mine** 98.27 53 ⇓P Pdif 13 55 19.2 +1.6
baz=98
LAZ **Ladron** 98.30 52 *e*P Pdif 13 55 19.2 +1.6
comp=Z,2.9nm,1.1s
SDCO **Great Sand Dun** 98.30 49 ⇓P Pdif 13 55 18.3 +0.6
baz=98
R24A **Sanders Place,** 98.40 48 ⇓Pdiff Pdif 13 55 19.1 +1.1
baz=98
MMAI **Mount Meron Ar** 98.41 306 P P 13 55 17.3 -0.6
MMAI **Mount Meron Ar** 98.41 306 P P 13 55 17.3 -0.6
comp=Z,5.3nm,0.8s,baz=22,slow=14,SNR=4.4
121A **Cookes Peak, D** 98.45 54 ⇑Pdiff Pdif 13 55 19.7 +1.4
baz=98
Y22A **Socorro** 98.60 53 ⇑Pdiff Pdif 13 55 20.1 +1.2
baz=99
Q25A **Bedland, Calha** 98.76 47 ⇓Pdiff Pdif 13 55 20.1 +0.6
baz=99
W23A **Werner Place,** 98.78 51 ⇑Pdiff Pdif 13 55 20.5 +0.8
baz=99
Z22A **Elephant Butte** 98.84 53 ⇑Pdiff Pdif 13 55 21.6 +1.6
baz=99
T24A **Torres, Weston** 98.89 49 ⇑Pdiff Pdif 13 55 21.6 +1.3
baz=99
ULM **Lac du Bonnet** 98.89 34 P Pdif 13 55 19.2 -0.4
ULM **Lac du Bonnet** 98.89 34 P Pdif 13 55 19.2 -0.4
comp=Z,7.1nm,0.7s,baz=313,slow=4.8,SNR=18
222A **Williams Famil** 99.14 54 ⇑Pdiff **Pdif** 13 55 22.9 +1.6
baz=99
V24A **Rampart Ranch,** 99.24 50 ⇓Pdiff **Pdif** 13 55 22.7 +0.9
baz=99
Y23A **Lovelace Mesa,** 99.31 52 ⇓Pdiff **Pdif** 13 55 23.4 +1.3
baz=99
W24A **Lazy 6 Ranch,** 99.33 51 ⇓Pdiff **Pdif** 13 55 23.5 +1.3
baz=99
R26A **Arlington** 99.58 47 ⇓Pdiff **Pdif** 13 55 23.9 +0.8
baz=100
U25A **Circle Dot Ran** 99.63 49 ⇑Pdiff **Pdif** 13 55 24.5 +1.1
baz=100
S26A **Kim** 99.83 48 ⇑Pdiff **Pdif** 13 55 25.0 +0.8
baz=100
T26A **Comanche Natio** 99.92 49 ⇓Pdiff **Pdif** 13 55 25.2 +0.4
baz=100
Z24A **Sheeppen Canyo** 100.06 53 ⇑Pdiff **Pdif** 13 55 26.7 +1.3
baz=100
S27A **Las Animas** 100.22 48 ⇓Pdiff **Pdif** 13 55 26.6 +0.6
baz=100
124A **Stringfield Ra** 100.22 53 ⇑Pdiff **Pdif** 13 55 27.3 +1.1
baz=100
KOLS **Kolonicke sedl** 100.35 325 *e*P **Pdif** 13 55 26.1 -0.1
KOLS **Kolonicke sedl** 100.35 325 PDIF **Pdif** 13 55 26.1 -0.1
Y25A **Mesa, Roswell** 100.36 52 ⇓Pdiff **Pdif** 13 55 27.3 +0.6
baz=100
224A **Cornudas Mount** 100.40 54 ⇑Pdiff **Pdif** 13 55 28.1 +1.2
baz=100
MNTX **Cornudas Mount** 100.65 54 ⇓Pdiff **Pdif** 13 55 28.9 +1.0
baz=101
324A **Moseley Ranch,** 100.66 54 ⇑Pdiff **Pdif** 13 55 29.2 +1.1
baz=101
X26A **CR and CF Fran** 100.79 51 ⇓Pdiff **Pdif** 13 55 29.1 +0.5
baz=101
CRVS **Cervenica-Dubn** 100.82 325 *e*P **Pdif** 13 55 28.3 +0.1
CRVS **Cervenica-Dubn** 100.82 325 PDIF **Pdif** 13 55 28.3 +0.1
125A **Gardner Draw,** 100.86 53 ⇓Pdiff **Pdif** 13 55 29.8 +0.9
baz=101
OJC **Ojcow** 100.99 327 *e*P **Pdif** 13 55 28.1 -0.9
OJC **Ojcow** 100.99 327 *e*P **Pdif** 13 55 28.8 -0.1
OJC **Ojcow** 100.99 327 *e*Pdif **Pdif** 13 55 28.8 -0.1
T28A **Walsh** 101.02 48 ⇓Pdiff **Pdif** 13 55 30.6 +1.0
baz=101
325A **Bean Ranch, Si** 101.10 54 ⇓Pdiff **Pdif** 13 55 31.0 +0.9
baz=101
Z26A **Caprock** 101.16 52 ⇓Pdiff **Pdif** 13 55 30.6 +0.4
baz=101
NIE **Niedzica** 101.17 326 *e*P **Pdif** 13 55 30.0 +0.2
NIE **Niedzica** 101.17 326 *e*P **Pdif** 13 55 30.0 +0.2
425A **Indio Mountain** 101.30 55 ⇓Pdiff **Pdif** 13 55 32.2 +1.3
baz=101
OKC **Ostrava-Krasne** 102.08 327 *e*P **Pdif** 13 55 33.8 0.0
OKC **Ostrava-Krasne** 102.08 327 *e*PDIFF **Pdif** 13 55 33.8 0.0
426A **McDonald Obser** 102.11 55 ⇓Pdiff **Pdif** 13 55 35.1 +0.5
baz=102
VYHS **Vyhne** 102.49 326 *e*P **Pdif** 13 55 35.6 -0.1
VYHS **Vyhne** 102.49 326 PDIF **Pdif** 13 55 35.6 -0.1
427A **Hayter Ranch,** 102.54 54 ⇑Pdiff **Pdif** 13 55 37.7 +1.3
baz=103
527A **Woodward Ranch** 102.64 55 ⇑Pdiff **Pdif** 13 55 38.4 +1.5
baz=103
DPC **Dobruska-Polom** 102.72 329 *e*P **Pdif** 13 55 36.6 -0.1
DPC **Dobruska-Polom** 102.72 329 *e*PDIFF **Pdif** 13 55 36.6 -0.1
TXAR **Lajitas Array** 102.90 56 P **Pdif** 13 55 39.3 +1.3
TXAR **Lajitas Array** 102.90 56 P **Pdif** 13 55 39.3 +1.3
comp=Z,0.5nm,0.8s,baz=283,slow=7.4,SNR=4.1
428A **Kincaid Ranch,** 103.16 54 ⇓Pdiff **Pdif** 13 55 40.2 +1.1
baz=103
PVCC **Panska Ves** 103.49 329 *e*P **Pdif** 13 55 38.9 -1.2
PVCC **Panska Ves** 103.49 329 *e*PDIFF **Pdif** 13 55 38.9 -1.2
CLL **Collm** 103.76 331 *e*P **Pdif** 13 55 41.0 -0.2
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL **Collm** 103.76 331 *e*Pdif **Pdif** 13 55 41.0 -0.2
comp=Z,7.0nm,0.8s
NKC **Novy Kostel** 104.72 330 *e*P **Pdif** 13 55 45.3 -0.3
NKC **Novy Kostel** 104.72 330 *e*PDIFF **Pdif** 13 55 45.3 -0.3
KHC **Kasperske Hory** 104.87 329 *e*P **Pdif** 13 55 38.7 -7.6
GERES **GERESS Array B** 104.99 329 Pdif **Pdif** 13 55 46.4 -0.5
GERES **GERESS Array B** 104.99 329 Pdif **Pdif** 13 55 46.4 -0.5
comp=Z,1.9nm,0.8s,baz=56,slow=5.0,SNR=8.8
BOSA **Boshof** 120.81 244 PKP **PKPdf** 14 00 33.4 +1.2
BOSA **Boshof** 120.81 244 PKP **PKPdf** 14 00 33.4 +1.2
comp=Z,4.9nm,0.9s,baz=134,slow=6.3,SNR=5.5
TAM **Tamanrasset** 126.39 310 *e*PKIKP **PKPdf** 14 00 43.2 0.0
TAM **Tamanrasset** 126.39 310 *e*PKPdf **PKPdf** 14 00 43.2 0.0
TORD **Torodi Ar. Bea** 134.82 303 PKP **PKPdf** 14 01 00.8 +1.7
TORD **Torodi Ar. Bea** 134.82 303 PKhKP PKPpre 14 00 50.5
TORD PKP **PKPdf** 14 01 00.8 +1.7
comp=Z,1.1nm,0.7s,baz=47,slow=2.0,SNR=5.3
comp=Z,3.4nm,0.7s,baz=32,slow=2.7,SNR=7.5
PLCA **Paso Flores** 138.55 140 *e*PKPdf **PKPdf** 14 01 05.7 +0.3
PLCA PKP **PKPdf** 14 01 06.8 +1.4
PLCA **Paso Flores** 138.55 140 PKP **PKPdf** 14 01 06.8 +1.4
comp=Z,12nm,1.1s,baz=211,slow=2.7,SNR=12
DBIC **Dimbokro** 143.69 300 PKP PKPbc 14 01 12.8 +0.1
DBIC **Dimbokro** 143.69 300 PKP PKPbc 14 01 12.8 +0.1
comp=Z,53nm,0.9s,baz=45,slow=3.8,SNR=64
LCO **Las Campanas** 143.75 123 *e*PKPdf PKPbc 14 01 13.0 +0.1
TRQA **Tornquist** 145.45 143 *e*PKPdf **PKPbc** **14 01 17.0 -0.7**
LPAZ **La Paz** 148.72 101 *e*PKPdf **PKPdf** **14 01 24.9 +0.5**
SAML **Samuel** 153.19 86 *e*PKPdf **PKPdf** **14 01 30.0 -0.6**
SAML *e*PKPbc **PKiKP** **14 01 38.2 0.0**
BDFB **Brasilia** 167.96 108 PKP **PKPdf** **14 01 48.2 +1.5**
BDFB **Brasilia** 167.96 108 PKP **PKPdf** **14 01 48.2 +1.5**
comp=Z,5.8nm,1.1s,baz=51,slow=10,SNR=4.5

IDC ***12*** *13:43:20.9±2.6,0.˚49S×131.˚58E,h0km,mb4.3/2, mb1 4.4/4,mb1mx4.0/18,mbtmp4.2/4,Error ellipse: s-maj=128.0km s-min=24.3km az=76.0*
DJA ***12*** *13:43:26,0.˚56S×132.˚20E,h17km,MLv4.8/3*
ISC 12 13:43:24.9±1.7,0.˚3S±0.˚2×132.˚0E±0.˚2,h35km,n9,σ1§55/8,
Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.93**	**235**	P		**Pn**	**13 43 41.1**	**-0.4**
FAKI	**Fak Fak**	**2.58**	**175**	P		**Pn**	**13 44 03.8**	**-0.4**
MSAI	**Masohi**	**4.31**	**226**	P		Pn	13 44 32.7	+4.7
	68nm,0.8s,1µm0.3nm							
BNDI	**Bandanaira**	**4.67**	**207**	P		**Pn**	**13 44 35.3**	**+2.3**
	578nm,1.4s,6µm2.2nm							
TLE	**Tual**	**5.32**	**172**	P		**Pn**	**13 44 43.2**	**+1.3**
	131nm,0.9s,1.2nm							
FITZ	**Fitzroy Crossi**	**18.74**	**199**	P		**P**	**13 47 39.4**	**-1.5**
	0.3nm,0.3s,baz=12,slow=15,SNR=3.8							
WRA	**Warramunga Arr**	**19.62**	**174**	P		**P**	**13 47 50.5**	**-0.1**
	469nm,0.3s,baz=0.0,slow=0.0,SNR=26							
ASAR	**Alice Springs**	**23.27**	**176**	P		**P**	**13 48 28.1**	**-1.4**
	12nm,0.8s,baz=353,slow=9.3,SNR=19							
MKAR	**Makanchi Array**	**63.90**	**324**	P		**P**	**13 53 54.9**	**+0.6**
	2.1nm,0.8s,baz=120,slow=8.5,SNR=1.9							

DJA ***12*** *13:46:24.0±0.5,4˚N±8˚×11˚6E±˚,h238km±15km,M4.9/12, mB5.9/2,mb5.1/12,MLv4.8/2,Mw(mB)5.5/2*
IDC 12 13:46:23.0±3.1,3.˚20N×124.˚91E,h0km,mb4.0/4,
mb1 4.1/4,mb1mx3.7/20,mbtmp4.0/4,Error ellipse:
s-maj=459.0km s-min=22.2km az=65.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**6.51**	**231**	P		Pn	13 47 56.7	-3.4
PCI	**Palu**	**6.51**	**231**	P		Pn	13 48 06.1	+6.0
SPSI	**Sidrap Palu**	**8.78**	**216**	P		Pn	13 48 25.5	-5.7
	76nm,1.3s,0.3nm							
WRA	**Warramunga Arr**	**24.79**	**158**	P		**P**	13 51 46.9	+0.1
	6.4nm,0.9s							
ASAR	**Alice Springs**	**28.10**	**162**	P		**P**	13 52 16.6	-0.1
	0.5nm,0.5s,baz=338,slow=7.7,SNR=2.4							
MKAR	**Makanchi Array**	**56.97**	**326**	P		**P**	13 56 10.1	-0.3
	0.9nm,0.5s,baz=120,slow=7.8,SNR=5.7							
KURBB	**Kurchatov Arra**	**61.22**	**328**	P		**P**	13 56 39.9	+0.2
	0.8nm,0.5s,baz=126,slow=7.7,SNR=4.3							

IDC 12 13:46:45.0±1.7,14.˚58S×175.˚94W,h269km±16km,
mb3.9/9,mb1 4.1/10,mb1mx3.8/20,mbtmp3.9/10,Error
ellipse: s-maj=29.8km s-min=12.8km az=141.0,Samoa
Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.09**	**81**	P		Pn	13 47 52.5	+1.7
	18nm,0.3s,baz=55,slow=2.6,SNR=41							
AFI				S		S	13 48 42.6	-0.7
	baz=330,slow=20,SNR=3.9							
STKA	**Stephens Creek**	**42.35**	**239**	P		**P**	13 54 12.6	-0.5
	8.5nm,0.8s,baz=26,slow=7.7,SNR=7.2							
ASAR	**Alice Springs**	**48.04**	**251**	P		**P**	13 54 58.1	+0.3
	23nm,0.7s,baz=86,slow=8.4,SNR=32							
YBH	**Yreka Blue Hor**	**74.46**	**38**	P		**P**	13 57 55.2	+1.2
	4.7nm,0.8s,baz=26,slow=1.7,SNR=5.7							
NVAR	**Mina Array Bea**	**75.39**	**43**	P		**P**	13 57 59.9	+0.3
	3.1nm,0.7s,baz=227,slow=9.2,SNR=8.2							
QSPA	**South Pole Qui**	**75.46**	**180**	P		**P**	13 57 59.5	0.0
	12nm,0.8s,baz=28,slow=1.8,SNR=22							
ILAR	**Eielson Array**	**82.14**	**12**	P		**P**	13 58 34.7	-0.6
	1.4nm,0.5s,baz=224,slow=5.0,SNR=11							
ANMO	**Albuquerque**	**82.17**	**51**	P		**P**	13 58 36.4	-0.1
	3.7nm,1.1s,baz=221,slow=6.1,SNR=5.3							
TXAR	**Lajitas Array**	**82.21**	**57**	P		**P**	13 58 37.6	+1.0

	1.3nm,0.8s,baz=231,slow=7.9,SNR=9.4							
PDAR	**Pinedale Array**	**83.31**	**43**	P	P	13 58 40.4	-1.8	
	2.9nm,0.8s,baz=215,slow=3.0,SNR=12							
YKA	**Yellowknife Ar**	**90.33**	**24**	P	P	13 59 15.6	+0.4	
	0.7nm,0.7s,baz=233,slow=4.4,SNR=4.4							
ARCES	**ARCESS Array B**	**123.44**	**351**	PKP	PKPdf	14 05 08.7	-0.9	
	1.5nm,0.6s,baz=60,slow=2.9,SNR=5.7							
BRTR	**Keskin Array B**	**143.96**	**320**	PKP	PKPbc	14 05 47.5	0.0	
	11nm,0.8s,baz=71,slow=2.7,SNR=42							
GERES	**GERESS Array B**	**144.92**	**349**	PKP	PKPbc	14 05 49.8	-0.2	
	1.8nm,0.6s,baz=25,slow=3.5,SNR=11							

IDC ***12*** *13:47:31.1±0.5,3˙84N×126˙41E,h0km,mb4.5/23, mb1 4.6/23,mb1mx4.5/26,mbtmp4.5/23,Error ellipse: s-maj=22.5km s-min=10.5km az=71.0*
ISCJB ***12*** *13:47:35.1±0.3,3˙86N±0˙04×126˙57E±0˙06,h45km, mb4.8/50,Error ellipse: s-maj=9.3km s-min=5.0km az=156.6*
NEIC ***12*** *13:47:36.6±0.3,3˙84N×126˙58E,mb4.8/20,Error ellipse: s-maj=10.4km s-min=6.0km az=61.0*
DJA ***12*** *13:47:41,3˙72N×126˙65E,h84km,mb4.8/11*

ISC 12 13:47:37.4±0.3,3˙83N±0˙05×126˙52E±0˙08,h45km,n99, σ1§41/98,mb4.8/50,2D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.74**	**325**	*e*P	P	Pn	**13 48 21.4**	**+2.5**
MNI	**Manado**	**2.90**	**215**	P	P	Pn	13 48 30.0	+8.9
	2μm,0.8s,33μm							
TNTI	**Ternate**	**3.15**	**164**	P	P	Sn	**13 49 05.7**	**+4.8**
	1μm,0.9s							
DAV	**Davao City (W)**	**3.35**	**344**	Pn	Pn		13 48 33.5	+6.2
DAV	**Davao City (W)**	**3.35**	**344**	Pn	Pn		13 48 33.5	+6.2
	47nm,0.3s,baz=33,slow=9.7,SNR=2.8							
KCP	**Kidapawan**	**3.47**	**336**	*e*P	P		**13 48 31.6**	**+2.6**
KCP				*i* S	Sn		13 49 17.7	+8.9
KKM	**Kota Kinabalu**	**10.50**	**283**	*e*Pn	P	Pn	**13 50 06.9**	**+1.5**
KSM	**Kuching**	**16.36**	**262**	*e*Pn	P	Pn	**13 51 24.9**	**+0.9**
	44nm,1.1s							
KNRA	**Kununurra**	**19.50**	**174**	*e*P	P		**13 52 00.4**	**-0.5**
	352nm,0.6s							
FITZ	**Fitzroy Crossi**	**21.81**	**182**	*e*P	P		**13 52 25.9**	**+0.2**
	21nm,0.8s							
FITZ	**Fitzroy Crossi**	**21.81**	**182**	*e*P	P		**13 52 25.7**	**-0.1**
	36nm,0.8s							
FITZ	**Fitzroy Crossi**	**21.81**	**182**	P	P		**13 52 25.8**	**-0.1**
	9.6nm,0.4s,baz=25,slow=9.4,SNR=18							
JOW	**Kunigami**	**22.94**	**4**	P	P		**13 52 41.1**	**+3.3**
JOW	**Kunigami**	**22.94**	**4**	P	P		**13 52 41.1**	**+3.3**
	19nm,0.7s,baz=60,slow=16,SNR=4.2							
COEN	**Coen**	**24.19**	**137**	*e*P	P		**13 52 46.9**	**-3.0**
COEN				*ep*P	pP		**13 52 58.0**	**-3.8**
PMG	**Port Moresby**	**24.41**	**123**	*e*P	P		**13 52 49.2**	**-2.7**
	12nm,0.9s							
PMG	**Port Moresby**	**24.41**	**123**	P	P		**13 52 49.9**	**-2.0**
	14nm,1.0s,baz=294,slow=7.5,SNR=3.7							
WRAB	**Tennant Creek**	**24.83**	**162**	*e*P	P		**13 52 54.4**	**-1.2**
	73nm,0.9s							
WRA	**Warramunga Arr**	**24.84**	**162**	P	P		**13 52 54.8**	**-1.0**
WRA	**Warramunga Arr**	**24.84**	**162**	P	P		**13 52 54.8**	**-1.0**
	48nm,0.7s							
MBWA	**Marble Bar**	**25.71**	**195**	*e*P	P		**13 53 04.2**	**+0.6**
	26nm,0.8s							
MBWA	**Marble Bar**	**25.71**	**195**	*e*P	P		**13 53 04.0**	**+0.5**
KULM	**Kulim**	**25.82**	**274**	*e*P	P		**13 53 05.7**	**+0.9**
AS31	**Alice Springs**	**28.26**	**166**	*e*P	P		**13 53 25.5**	**-1.0**
AS31				*ep*P	pP		**13 53 36.2**	**-2.3**
ASAR	**Alice Springs**	**28.26**	**166**	P	P		**13 53 25.8**	**-0.8**
ASAR	**Alice Springs**	**28.26**	**166**	P	P		**13 53 25.8**	**-0.8**
	2.9nm,0.5s,baz=340,slow=8.4,SNR=19							
CMAR	**Chiang Mai Arr**	**30.64**	**300**	P	P		**13 53 47.8**	**0.0**
CMAR	**Chiang Mai Arr**	**30.64**	**300**	P	P		**13 53 47.8**	**0.0**
	2.0nm,0.8s,baz=114,slow=5.9,SNR=5.9							
CTA	**Charters Tower**	**30.67**	**142**	P	P		**13 53 47.5**	**-0.5**
CTA	**Charters Tower**	**30.67**	**142**	P	P		**13 53 47.5**	**-0.5**
	11nm,1.1s,baz=358,slow=6.0,SNR=3.8							
CHTO	**Chiang Mai**	**30.79**	**301**	*e*P	P		**13 53 49.3**	**+0.3**
	3.5nm,0.6s							
ENH	**Enshi**	**30.84**	**330**	*e*P	P		**13 53 49.0**	**-0.4**
	14nm,1.0s							
MEEK	**Meekatharra**	**31.23**	**194**	*e*P	P		**13 53 53.5**	**+0.6**
	258nm,0.8s							
KSAR	**Wonju Array Be**	**33.48**	**2**	P	P		**13 54 10.6**	**-1.8**
KSRS	**Korea Array**	**33.49**	**2**	P	P		**13 54 10.6**	**-1.9**
	1.4nm,0.7s,baz=184,slow=9.2,SNR=3.9							
FORT	**Forrest**	**34.44**	**178**	*e*P	P		**13 54 20.2**	**-0.5**
	42nm,0.8s							
FORT	**Forrest**	**34.44**	**178**	*e*P	P		**13 54 20.1**	**-0.7**
	32nm,0.7s							
KMBL	**Kambalda**	**35.27**	**187**	*e*P	P		**13 54 28.4**	**+0.4**
	126nm,1.0s							
BLDU	**Ballidu**	**35.51**	**195**	*e*P	P		**13 54 30.1**	**+0.1**
KLBR	**Kellerberrin**	**36.20**	**193**	*e*P	P		**13 54 36.4**	**+0.5**
	19nm,0.6s							
BJT	**Baijiatuau**	**37.23**	**347**	*e*P	P		**13 54 44.3**	**-0.2**
	26nm,0.9s							
NWAO	**Narrogin (SRO)**	**37.60**	**193**	P	P		**13 54 48.9**	**+1.1**
NWAO	**Narrogin (SRO)**	**37.60**	**193**	P	P		**13 54 48.9**	**+1.1**
	10nm,0.5s,baz=22,slow=12,SNR=12							
STKA	**Stephens Creek**	**38.29**	**159**	*e*P	P		**13 54 53.2**	**-0.5**
	6.2nm,0.6s							
STKA	**Stephens Creek**	**38.29**	**159**	*e*P	P		**13 54 53.3**	**-0.4**
	25nm,0.6s							
STKA	**Stephens Creek**	**38.29**	**159**	P	P		**13 54 53.5**	**-0.2**
	30nm,0.6s,baz=334,slow=8.5,SNR=29							
USRK	**Ussuriysk Arra**	**40.50**	**6**	P	P		**13 55 12.1**	**+0.2**
	4.1nm,0.7s,baz=191,slow=7.7,SNR=7.1							
ARMA	**Armidale**	**41.66**	**147**	*e*P	P		**13 55 22.8**	**+1.0**
LSA	**Lhasa**	**42.22**	**311**	*e*P	P		**13 55 27.2**	**+0.4**
	8.1nm,0.8s							
ASAJ	**Asahikawa**	**42.56**	**17**	P	P		**13 55 30.6**	**+1.7**
ASAJ	**Asahikawa**	**42.56**	**17**	P	P		**13 55 30.6**	**+1.7**
	4.8nm,0.9s,baz=240,slow=23,SNR=5.7							
ARPS	**Mount Arapiles**	**42.84**	**162**	*e*P	P		**13 55 31.6**	**+0.4**
	28nm,0.6s							
HIA	**Hailar**	**45.64**	**354**	*e*P	P		**13 55 53.0**	**-0.4**
	39nm,1.2s							
DZM	**Mont Dzumac**	**46.76**	**125**	P	P		**13 56 03.7**	**+0.9**
DZM	**Mont Dzumac**	**46.76**	**125**	P	P		**13 56 03.7**	**+0.9**
	11nm,0.7s,baz=303,slow=4.7,SNR=25							
SONM	**Songino Array**	**47.14**	**342**	P	P		**13 56 05.7**	**+0.4**
SONM	**Songino Array**	**47.14**	**342**	P	P		**13 56 05.7**	**+0.4**
	3.5nm,0.9s,baz=153,slow=9.3,SNR=7.5							
MSVF	**Nonsavu**	**55.15**	**115**	*e*P	P		**13 57 06.3**	**+0.5**
	34nm,1.1s							
PETK	**Petropavlovsk-**	**55.42**	**22**	P	P		**13 57 07.6**	**+0.5**
PETK	**Petropavlovsk-**	**55.42**	**22**	P	P		**13 57 07.6**	**+0.5**
	4.3nm,0.8s,baz=158,slow=4.3,SNR=6.0							
MK31	**Makanchi Array**	**57.36**	**325**	*e*P	P		**13 57 20.4**	**-0.7**
MK31				*ep*P	pP		**13 57 31.7**	**-2.1**
MKAR	**Makanchi Array**	**57.36**	**325**	P	P		**13 57 20.4**	**-0.7**
MKAR	**Makanchi Array**	**57.36**	**325**	P	P		**13 57 20.4**	**-0.7**
	2.5nm,0.5s,baz=119,slow=7.0,SNR=19							
YAK	**Yakutsk**	**58.12**	**2**	*e*P	P		**13 57 25.1**	**-0.9**
	21nm,0.8s							
TKM2	**Tokmak 2**	**59.53**	**319**	*e*P	P		**13 57 35.6**	**-1.0**
	6.0nm,0.9s							
ZALV	**Zalesovo Beam**	**60.41**	**333**	P	P		**13 57 40.8**	**-1.3**
ZALV	**Zalesovo Beam**	**60.41**	**333**	P	P		**13 57 40.8**	**-1.3**
	1.9nm,0.6s,baz=123,slow=7.2,SNR=5.1							
EKS2	**Erkin-Say**	**60.64**	**318**	*e*P	P		**13 57 44.7**	**+0.6**
	9.8nm,1.0s							
KURBB	**Kurchatov Arra**	**61.54**	**327**	P	P		**13 57 48.9**	**-1.0**
	9.6nm,0.7s,baz=124,slow=6.3,SNR=23							
KURK	**Kurchatov**	**61.55**	**328**	*e*P	P		**13 57 49.7**	**-0.2**
	15nm,0.7s							
RAO	**Raoul Island**	**62.56**	**126**	*e*P	P		13 57 51.6	-5.5
KKAR	**Karatay Array**	**63.02**	**317**	*e*P	P		**13 58 00.0**	**+0.1**
AFI	**Afiamalu**	**63.68**	**107**	P	P		**13 58 05.8**	**+1.0**
AFI	**Afiamalu**	**63.68**	**107**	P	P		**13 58 05.8**	**+1.0**
	25nm,1.0s,baz=96,slow=10,SNR=3.6							
BVAR	**Borovoye Array**	**67.12**	**327**	P	P		**13 58 27.3**	**+0.9**
BVAR	**Borovoye Array**	**67.12**	**327**	P	P		**13 58 27.3**	**+0.9**
	6.2nm,0.9s,baz=132,slow=8.6,SNR=9.4							
BRVK	**Borovoye**	**67.20**	**327**	*e*P	P		**13 58 26.3**	**-0.5**
	8.1nm,0.9s							
ABKAR	**Akbulak array**	**71.94**	**321**	*e*P	P		**13 58 55.2**	**-0.9**
ARU	**Arti**	**74.74**	**328**	*e*P	P		**13 59 11.3**	**-1.2**
	7.2nm,0.7s							
QRN	**Al-Qurain**	**78.18**	**298**	*e*P	P		**13 59 32.0**	**-0.5**
RDF	**Al-Radifah**	**78.50**	**299**	*e*P	P		**13 59 34.3**	**0.0**
RDF				AMb	AMB		13 59 37.8	
	comp=Z,28nm,1.7s							
MIB	**Mutribah**	**78.72**	**299**	*e*P	P		**13 59 34.6**	**-0.9**
MIB				AMb	AMB		13 59 36.8	
	comp=Z,25nm,0.7s							
NAY	**Al-Naaiem**	**78.78**	**299**	*e*P	P		**13 59 34.8**	**-1.1**
NAY				AMb	AMB		13 59 38.2	
	comp=Z,9.6nm,0.8s							
COLD	**Coldfoot**	**83.89**	**23**	*e*P	P		**14 00 04.3**	**+2.2**
	comp=Z,7.5nm,1.0s							
ILAR	**Eielson Array**	**85.11**	**25**	P	P		**14 00 09.6**	**+1.2**
ILAR	**Eielson Array**	**85.11**	**25**	P	P		**14 00 09.5**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=255,slow=5.4,SNR=4.8							
BRTR	**Keskin Array B**	**89.80**	**310**	P	P		**14 00 30.3**	**-1.4**
BRTR	**Keskin Array B**	**89.80**	**310**	P	P		**14 00 30.3**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=112,slow=5.5,SNR=4.3							
ARCES	**ARCESS Array B**	**90.28**	**340**	P	P		**14 00 31.6**	**-1.5**
ARCES	**ARCESS Array B**	**90.28**	**340**	P	P		**14 00 31.6**	**-1.5**
	comp=Z,4.0nm,0.8s,baz=70,slow=7.0,SNR=4.7							
FINES	**FINESS Array B**	**91.65**	**332**	P	P		**14 00 37.4**	**-2.2**
FINES	**FINESS Array B**	**91.65**	**332**	P	P		**14 00 37.4**	**-2.2**
	comp=Z,3.0nm,0.8s,baz=35,slow=7.0,SNR=5.2							
AKASG	**Malin Array Be**	**91.68**	**321**	P	P		**14 00 39.0**	**-1.0**
AKASG	**Malin Array Be**	**91.68**	**321**	P	P		**14 00 39.0**	**-1.0**
	comp=Z,3.8nm,0.7s,baz=66,slow=4.9,SNR=7.8							
QSPA	**South Pole Qui**	**93.73**	**180**	P	P		**14 00 51.1**	**+1.8**
QSPA	**South Pole Qui**	**93.73**	**180**	P	P		**14 00 51.1**	**+1.8**
	comp=Z,3.4nm,1.1s,baz=242,slow=4.1,SNR=4.7							
NB2	**NORSAR Subarra**	**98.61**	**334**	P	P		**14 01 10.4**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=66,slow=4.6							
NOA	**NORSAR Array B**	**98.61**	**334**	P	P		**14 01 10.5**	**-1.0**
NOA	**NORSAR Array B**	**98.61**	**334**	P	P		**14 01 10.5**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=67,slow=4.6,SNR=11							

IDC 12 13:52:44.1±4.7,6˙03N×131˙82E,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.7/19,mbtmp3.9/4,MS4.9/1,Ms1 4.9/1, ms1mx3.6/34,Error ellipse: s-maj=317.5km s-min=26.3km az=70.0,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**20.96**	**351**	LR	LR		14 03 38.3	
	comp=Z,3μm,21.4s,baz=263,slow=31							
WRA	**Warramunga Arr**	**25.93**	**175**	P	P		13 58 19.5	+1.1
	2.7nm,0.8s							
ASAR	**Alice Springs**	**29.59**	**176**	P	P		13 58 50.4	-0.7
	1.1nm,1.0s,baz=348,slow=6.7,SNR=3.9							
STKA	**Stephens Creek**	**38.83**	**167**	P	P		14 00 10.3	-0.8
	2.8nm,0.9s,baz=310,slow=7.9,SNR=3.0							
MKAR	**Makanchi Array**	**58.71**	**322**	P	P		14 02 43.8	0.0
	0.4nm,0.3s,baz=118,slow=7.0,SNR=5.1							

IDC ***12*** *13:53:11.1±1.1,51˙01N×170˙59W,h0km,mb4.0/13, mb1 4.2/14,mb1mx4.0/30,mbtmp4.0/14,ML4.2/1,Error ellipse: s-maj=31.8km s-min=17.2km az=174.0*
ISCJB ***12*** *13:53:13.2±0.7,51˙2N±0˙1×170˙4W±0˙1,h23km,mb4.0/13, Error ellipse: s-maj=19.4km s-min=8.2km az=149.9*
NEIC ***12*** *13:53:14.7,51˙28N×170˙71W,h26km,mb4.2/2,After AEIC.*

ISC 12 13:53:14.9±0.8,51˙1N±0˙1×170˙44W±0˙10,h23km,n36, σ1§11/37,mb4.1/13,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**3.62**	**40**	*e*Pn	P	Pn	**13 54 09.2**	**-0.3**
UNV				*e*Sn	P	Sn	**13 54 50.4**	**-1.1**
KDAK	**Kodiak Island**	**12.31**	**50**	Pn	P	Pn	**13 56 06.9**	**-1.6**
KDAK	**Kodiak Island**	**12.31**	**50**	Pn	P	Pn	**13 56 06.9**	**-1.6**
	1.6nm,0.3s,baz=241,slow=10,SNR=20							
PMR	**Palmer**	**15.69**	**40**	*e*Pn	P	Pn	**13 56 53.6**	**-0.6**
PAX	**Paxson**	**17.87**	**39**	*e*Pn	P	Pn	**13 57 21.3**	**-0.5**
ILAR	**Eielson Array**	**18.34**	**33**	P	P	Pn	**13 57 26.4**	**-1.1**
ILAR	**Eielson Array**	**18.34**	**33**	P	P	Pn	**13 57 26.4**	**-1.1**
	0.3nm,0.3s,baz=224,slow=10,SNR=15							
PNL	**Peninsula**	**19.42**	**52**	*e*P	P		**13 57 37.7**	**-1.5**
	9.5nm,0.6s							
EGAK	**Eagle**	**20.42**	**37**	*e*P	P		**13 57 50.1**	**+0.1**
	5.1nm,0.5s							
INK	**Inuvik**	**24.74**	**32**	*e*P	P		**13 58 31.0**	**-3.2**
INK	**Inuvik**	**24.74**	**32**	P	P		**13 58 35.2**	**+1.1**
	3.4nm,0.6s,baz=260,slow=7.1,SNR=17							
YKA	**Yellowknife Ar**	**31.56**	**47**	P	P		**13 59 37.0**	**+2.0**
YKA	**Yellowknife Ar**	**31.56**	**47**	P	P		**13 59 37.0**	**+2.0**
	1.3nm,0.5s,baz=272,slow=7.5,SNR=21							
PDAR	**Pinedale Array**	**41.30**	**77**	P	P		**14 00 59.1**	**+0.5**
PDAR	**Pinedale Array**	**41.30**	**77**	P	P		**14 00 59.1**	**+0.5**
	1.8nm,0.9s,baz=306,slow=6.4,SNR=6.0							
ULM	**Lac du Bonnet**	**45.32**	**60**	P	P		**14 01 30.7**	**0.0**
ULM	**Lac du Bonnet**	**45.32**	**60**	P	P		**14 01 30.7**	**0.0**
	2.1nm,0.9s,baz=312,slow=7.9,SNR=3.8							
SONM	**Songino Array**	**51.36**	**301**	P	P		**14 02 16.6**	**-0.8**
SONM	**Songino Array**	**51.36**	**301**	P	P		**14 02 16.6**	**-0.8**
	0.9nm,0.8s,baz=43,slow=7.1,SNR=4.1							
TXAR	**Lajitas Array**	**53.45**	**87**	P	P		**14 02 33.9**	**+0.7**
TXAR	**Lajitas Array**	**53.45**	**87**	P	P		**14 02 33.9**	**+0.7**
	1.1nm,0.5s,baz=297,slow=5.5,SNR=7.3							
KURK	**Kurchatov**	**62.85**	**318**	P	P		**14 03 39.2**	**+0.8**
KURBB	**Kurchatov Arra**	**62.96**	**318**	P	P		**14 03 39.2**	**+0.1**
	3.1nm,0.9s,baz=44,slow=6.9,SNR=7.8							
BVAR	**Borovoye Array**	**64.31**	**324**	P	P		**14 03 48.2**	**+0.1**
BVAR	**Borovoye Array**	**64.31**	**324**	P	P		**14 03 48.2**	**+0.1**
	1.9nm,0.7s,baz=37,slow=7.6,SNR=5.9							
NB2	**NORSAR Subarra**	**68.16**	**359**	P	P		**14 04 13.9**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=0.4,slow=6.2							
NOA	**NORSAR Array B**	**68.16**	**359**	P	P		**14 04 13.9**	**+1.2**
NOA	**NORSAR Array B**	**68.16**	**359**	P	P		**14 04 13.9**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=360,slow=6.2,SNR=5.9							
AAK	**Ala-Archa**	**70.91**	**315**	P	P		**14 04 30.4**	**+0.3**
AAK	**Ala-Archa**	**70.91**	**315**	P	P		**14 04 30.4**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=131,slow=2.3,SNR=4.1							
CMAR	**Chiang Mai Arr**	**76.24**	**282**	P	P		**14 05 01.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**76.24**	**282**	P	P		**14 05 01.1**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=39,slow=6.3,SNR=3.6							
AKASG	**Malin Array Be**	**77.17**	**347**	P	P		**14 05 06.6**	**+0.3**
AKASG	**Malin Array Be**	**77.17**	**347**	P	P		**14 05 06.6**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=12,slow=5.1,SNR=3.5							
ASAR	**Alice Springs**	**89.09**	**229**	P	P		**14 06 07.0**	**-1.1**
ASAR	**Alice Springs**	**89.09**	**229**	P	P		**14 06 07.0**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=34,slow=4.4,SNR=5.7							

IDC 12 13:53:15.7±1.8,4˙14N×127˙13E,h0km,mb4.2/5, mb1 4.4/5,mb1mx3.8/20,mbtmp4.2/5,MS3.9/1,Ms1 3.9/1, ms1mx3.7/34,Error ellipse: s-maj=121.1km s-min=23.1km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.30**	**332**	LR	LR		13 55 11.9	
	comp=Z,2μm,19.8s,baz=322,slow=35							
FITZ	**Fitzroy Crossi**	**22.15**	**184**	P	P		13 58 12.8	-0.5
	2.1nm,0.4s,baz=16,slow=7.0,SNR=6.2							
WRA	**Warramunga Arr**	**24.95**	**164**	P	P		13 58 40.3	-0.7
	12nm,0.8s							
ASAR	**Alice Springs**	**28.41**	**167**	P	P		13 59 13.8	+1.6
	0.5nm,0.4s,baz=347,slow=9.3,SNR=4.8							
STKA	**Stephens Creek**	**38.37**	**160**	P	P		14 00 38.2	-0.5
	5.5nm,0.7s,baz=342,slow=10,SNR=9.3							
MKAR	**Makanchi Array**	**57.45**	**325**	P	P		14 03 06.4	-0.1
	0.7nm,0.4s,baz=121,slow=7.8,SNR=6.1							

IDC 12 13:54:38.8±0.7,3˙97N×126˙57E,h0km,mb4.2/13, mb1 4.3/13,mb1mx4.1/21,mbtmp4.2/13,Error ellipse: s-maj=38.7km s-min=13.7km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.95**	**182**	P	P		13 59 34.9	+0.7
	1.8nm,0.4s,baz=39,slow=13,SNR=2.3							
WRA	**Warramunga Arr**	**24.96**	**162**	P	P		14 00 03.1	-1.0
	4.6nm,0.6s							
ASAR	**Alice Springs**	**28.38**	**166**	P	P		14 00 35.0	0.0
	0.4nm,0.4s,baz=348,slow=8.6,SNR=3.2							
CMAR	**Chiang Mai Arr**	**30.61**	**300**	P	P		14 00 55.6	+0.7
	1.1nm,0.8s,baz=97,slow=7.1,SNR=5.5							
STKA	**Stephens Creek**	**38.41**	**159**	P	P		14 02 02.7	+0.6
	3.0nm,0.6s,baz=346,slow=7.3,SNR=5.7							
DZM	**Mont Dzumac**	**46.80**	**125**	P	P		14 03 10.6	-0.2
	2.0nm,0.7s,baz=105,slow=17,SNR=3.2							
SONM	**Songino Array**	**47.02**	**341**	P	P		14 03 12.4	+0.2
	1.3nm,0.8s,baz=159,slow=8.5,SNR=6.2							
PETK	**Petropavlovsk-**	**55.27**	**22**	P	P		14 04 14.8	+0.9
	1.2nm,0.7s,baz=164,slow=2.2,SNR=4.4							
MKAR	**Makanchi Array**	**57.27**	**325**	P	P		14 04 28.1	-0.2
	2.0nm,0.5s,baz=120,slow=7.6,SNR=16							
ZALV	**Zalesovo Beam**	**60.30**	**333**	P	P		14 04 48.1	-1.1
	2.1nm,0.5s,baz=126,slow=6.3,SNR=9.2							
BVAR	**Borovoye Array**	**67.03**	**327**	P	P		14 05 34.7	+0.9
	baz=144,slow=7.7							
ARCES	**ARCESS Array B**	**90.17**	**340**	P	P		14 07 39.4	-1.4
	3.3nm,0.9s,baz=79,slow=7.5,SNR=5.9							
FINES	**FINESS Array B**	**91.55**	**332**	P	P		14 07 47.1	-0.2
	1.1nm,0.6s,baz=62,slow=4.5,SNR=5.3							
NOA	**NORSAR Array B**	**98.50**	**334**	P	P		14 08 18.5	-0.7
	0.7nm,0.8s,baz=355,slow=14,SNR=3.3							

IDC ***12*** *13:55:54.3±0.6,3˙96N×126˙58E,h0km,mb4.3/17, mb1 4.3/17,mb1mx4.2/23,mbtmp4.3/17,Error ellipse: s-maj=31.1km s-min=13.8km az=70.0*
ISCJB ***12*** *13:55:59.2±0.3,4˙04N±0˙05×126˙62E±0˙08,h45km, mb4.5/29,Error ellipse: s-maj=11.4km s-min=6.5km az=156.4*
NEIC ***12*** *13:55:59.9±0.4,4˙08N×126˙72E,h35km,mb4.8/13,Error ellipse: s-maj=13.4km s-min=7.2km az=72.0*

ISC 12 13:56:00.8±0.5,4˙05N±0˙07×126˙72E±0˙09,h45km,n69, σ1§13/67,mb4.6/36,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.68**	**319**	*e*P	P	Pn	13 56 46.3	+4.7
KKM	**Kota Kinabalu**	**10.64**	**281**	*e*P	P	Pn	**13 58 31.7**	**+0.8**
	11nm,0.8s							
KAPI	**Kappang**	**11.38**	**218**	*e*Pn	P	Pn	**13 58 41.8**	**+0.8**
KSM	**Kuching**	**16.59**	**262**	*e*Pn	P	Pn	**13 59 56.2**	**+3.8**
	23nm,1.2s							
FITZ	**Fitzroy Crossi**	**22.04**	**183**	*e*P	P		**14 00 52.1**	**+0.3**
	2.3nm,0.5s							
FITZ	**Fitzroy Crossi**	**22.04**	**183**	P	P		**14 00 49.7**	**-2.1**
	2.2nm,0.5s,baz=360,slow=8.0,SNR=4.9							
COEN	**Coen**	**24.23**	**138**	*e*P	P		**14 01 15.3**	**+1.6**
MBWA	**Marble Bar**	**25.98**	**195**	*e*P	P		**14 01 29.6**	**+0.2**
ASAR	**Alice Springs**	**28.43**	**166**	P	P		**14 01 50.5**	**-1.0**
ASAR	**Alice Springs**	**28.43**	**166**	P	P		**14 01 50.5**	**-1.0**
	0.6nm,0.8s,baz=339,slow=7.9,SNR=5.2							
CMAR	**Chiang Mai Arr**	**30.70**	**300**	P	P		**14 02 11.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**30.70**	**300**	P	P		**14 02 11.8**	**+0.1**
	1.8nm,0.8s,baz=120,slow=7.0,SNR=6.6							
ENH	**Enshi**	**30.74**	**330**	*e*P	P		**14 02 09.3**	**-2.7**
	17nm,0.7s							
KSAR	**Wonju Array Be**	**33.25**	**2**	P	P		**14 02 35.5**	**+1.6**
KSRS	**Korea Array**	**33.26**	**2**	P	P		**14 02 35.5**	**+1.6**
	1.3nm,0.7s,baz=184,slow=9.9,SNR=3.7							
BJT	**Baijiatuau**	**37.05**	**347**	*e*P	P		**14 03 07.7**	**+1.2**
	20nm,0.6s							
NWAO	**Narrogin (SRO)**	**37.86**	**193**	*e*P	P		**14 03 13.1**	**-0.4**
STKA	**Stephens Creek**	**38.44**	**159**	*e*P	P		**14 03 17.3**	**-1.0**
STKA	**Stephens Creek**	**38.44**	**159**	P	P		**14 03 17.7**	**-0.6**
	3.6nm,0.4s,baz=325,slow=7.5,SNR=9.1							
ARMA	**Armidale**	**41.74**	**147**	*e*P	P		**14 03 46.4**	**+0.4**
LSA	**Lhasa**	**42.22**	**311**	*e*P	P		**14 03 51.1**	**+0.8**
	14nm,0.6s							
ASAJ	**Asahikawa**	**42.29**	**17**	P	P		**14 03 51.0**	**+1.0**
ASAJ	**Asahikawa**	**42.29**	**17**	P	P		**14 03 51.0**	**+1.0**
	4.9nm,0.9s,baz=270,slow=7.1,SNR=3.9							
TAPN	**Taplejung**	**43.81**	**306**	*e*P	P		**14 04 01.9**	**-1.1**
	19nm,1.1s							
ODAN	**Odare**	**43.87**	**305**	*e*P	P		**14 04 02.9**	**-0.5**
	16nm,0.7s							
CAN	**Canberra**	**44.41**	**154**	*e*P	P		**14 04 09.0**	**+1.7**

s-maj=56.4km s-min=14.1km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.86**	**183**	P	P	14 07 03.0	-0.1
	3.5nm,0.5s,baz=26,slow=7.0,SNR=11						
WRA	**Warramunga Arr**	**24.84**	**163**	P	P	14 07 32.6	-0.4
	22nm,0.7s						
ASAR	**Alice Springs**	**28.27**	**166**	P	P	14 08 03.9	-0.1
	0.8nm,0.3s,baz=340,slow=8.2,SNR=26						
CMAR	**Chiang Mai Arr**	**30.73**	**300**	P	P	14 08 25.8	-0.1
	1.4nm,0.8s,baz=115,slow=7.0,SNR=4.1						
NWAO	**Narrogin (SRO)**	**37.67**	**193**	P	P	14 09 26.1	+0.3
	6.5nm,0.9s,baz=18,slow=14,SNR=3.7						
STKA	**Stephens Creek**	**38.29**	**159**	P	P	14 09 31.4	+0.3
	8.2nm,0.6s,baz=338,slow=8.5,SNR=27						
SONM	**Songino Array**	**47.14**	**341**	P	P	14 10 43.8	+0.8
	1.2nm,0.8s,baz=157,slow=8.8,SNR=6.5						
MKAR	**Makanchi Array**	**57.40**	**325**	P	P	14 11 59.2	+0.1
	1.8nm,0.5s,baz=117,slow=8.0,SNR=23						
ZALV	**Zalesovo Beam**	**60.43**	**333**	P	P	14 12 19.6	-0.4
	1.1nm,0.4s,baz=131,slow=8.2,SNR=3.1						
ARCES	**ARCESS Array B**	**90.29**	**340**	P	P	14 15 10.7	-0.6
	3.7nm,1.0s,baz=74,slow=6.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	**122.80**	**288**	PKP	PKPdf	14 21 07.2	-0.7
	0.2nm,0.4s,baz=92,slow=1.1,SNR=2.7						

IDC 12 14:04:22.1±1.0, 3.56N×126.48E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/20, mbtmp3.9/8, Error ellipse: s-maj=49.7km s-min=17.4km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.59**	**162**	P	P	14 09 43.5	-0.7
	3.6nm,0.4s						
ASAR	**Alice Springs**	**28.01**	**165**	P	P	14 10 15.1	+0.1
	0.7nm,0.4s,baz=340,slow=11,SNR=4.3						
STKA	**Stephens Creek**	**38.05**	**159**	P	P	14 11 42.8	+0.3
	4.7nm,0.9s,baz=320,slow=10,SNR=3.7						
DZM	**Mont Dzumac**	**46.64**	**125**	P	P	14 12 52.8	+0.1
	1.5nm,0.6s,baz=246,slow=18,SNR=4.8						
SONM	**Songino Array**	**47.38**	**342**	P	P	14 12 58.4	+0.1
	0.2nm,0.4s,baz=146,slow=7.1,SNR=2.1						
PETK	**Petropavlovsk-**	**55.68**	**22**	P	P	14 13 59.6	-0.6
	3.0nm,1.0s,baz=204,slow=7.7,SNR=3.2						
MKAR	**Makanchi Array**	**57.56**	**325**	P	P	14 14 13.5	-0.2
	0.3nm,0.3s,baz=118,slow=7.1,SNR=5.5						
ILAR	**Eielson Array**	**85.37**	**25**	P	P	14 17 01.4	+0.3
	0.1nm,0.6s,baz=264,slow=4.4,SNR=3.0						

*IDC **12** 14:05:01.2±0.6, 3.98N×126.41E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.1/23, mbtmp4.1/16, Error ellipse: s-maj=29.2km s-min=12.7km az=74.0*
*ISCJB **12** 14:05:05.3±0.4, 3.92N±0.06×126.3E±0.1, h45km, mb4.1/20, Error ellipse: s-maj=19.1km s-min=8.0km az=164.2*
*NEIC **12** 14:05:06.0±0.3, 3.93N×126.36E, h35km, mb4.4/4, Error ellipse: s-maj=15.7km s-min=6.5km az=73.0*

ISC 12 14:05:07.3±0.5, 3.95N±0.09×126.4E±0.2, h45km, n39, σ0s68/42, mb4.2/20, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.92**	**182**	P	P	14 09 57.4	+0.5
FITZ	**Fitzroy Crossi**	**21.92**	**182**	P	P	14 09 57.4	+0.5
	1.6nm,0.3s,baz=5.4,slow=5.1,SNR=2.6						
WRAB	**Tennant Creek**	**24.99**	**162**	*e*P	P	14 10 25.9	-1.1
WRA	**Warramunga Arr**	**24.99**	**162**	P	P	14 10 26.6	-0.5
WRA	**Warramunga Arr**	**24.99**	**162**	P	P	14 10 26.6	-0.5
	4.1nm,0.4s						
MBWA	**Marble Bar**	**25.79**	**194**	*e*P	P	14 10 32.9	-1.3
ASAR	**Alice Springs**	**28.41**	**165**	P	P	14 10 58.2	+0.4
ASAR	**Alice Springs**	**28.41**	**165**	P	P	14 10 58.2	+0.4
	0.3nm,0.3s,baz=344,slow=10,SNR=3.4						
CMAR	**Chiang Mai Arr**	**30.46**	**300**	P	P	14 11 16.4	+0.3
CMAR	**Chiang Mai Arr**	**30.46**	**300**	P	P	14 11 16.4	+0.3
	0.5nm,0.5s,baz=120,slow=7.4,SNR=3.4						
KSAR	**Wonju Array Be**	**33.37**	**2**	P	P	14 11 42.1	+0.8
KSRS	**Korea Array**	**33.38**	**2**	P	P	14 11 42.1	+0.7
	0.9nm,0.7s,baz=181,slow=9.3,SNR=2.6						
NWAO	**Narrogin (SRO)**	**37.68**	**193**	P	P	14 12 19.1	+0.7
NWAO	**Narrogin (SRO)**	**37.68**	**193**	P	P	14 12 19.1	+0.7
	6.4nm,0.7s,baz=22,slow=5.4,SNR=3.4						
STKA	**Stephens Creek**	**38.45**	**159**	P	P	14 12 24.4	-0.5
STKA				*e*P	P	14 12 24.7	-0.2
STKA	**Stephens Creek**	**38.45**	**159**	P	P	14 12 24.4	-0.5
	2.5nm,0.6s,baz=335,slow=9.0,SNR=5.5						
ARMA	**Armidale**	**41.84**	**146**	*e*P	P	14 12 51.8	-1.3
	16nm,1.2s						
LSA	**Lhasa**	**42.04**	**311**	*e*P	P	14 12 54.9	-0.3
	2.3nm,0.6s						
DZM	**Mont Dzumac**	**46.94**	**125**	P	P	14 13 34.1	+0.1
DZM	**Mont Dzumac**	**46.94**	**125**	P	P	14 13 34.1	+0.1
	2.9nm,0.9s,baz=263,slow=16,SNR=2.8						
SONM	**Songino Array**	**46.98**	**342**	P	P	14 13 34.7	+0.6
SONM	**Songino Array**	**46.98**	**342**	P	P	14 13 34.7	+0.6
	0.4nm,0.4s,baz=155,slow=8.5,SNR=3.5						
PETK	**Petropavlovsk-**	**55.36**	**22**	P	P	14 14 37.5	+0.9
PETK	**Petropavlovsk-**	**55.36**	**22**	P	P	14 14 37.5	+0.9
	2.9nm,0.8s,baz=182,slow=6.6,SNR=4.3						
MKAR	**Makanchi Array**	**57.18**	**325**	P	P	14 14 49.8	+0.1
MKAR				PcP	PcP	14 15 44.5	+0.6
MKAR	**Makanchi Array**	**57.18**	**325**	P	P	14 14 49.8	+0.1
	1.6nm,0.4s,baz=119,slow=7.8,SNR=15						
MKAR				PcP	PcP	14 15 44.5	+0.6
	0.9nm,0.6s,baz=121,slow=4.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**60.24**	**333**	P	P	14 15 10.0	-0.8
ZALV	**Zalesovo Beam**	**60.24**	**333**	P	P	14 15 10.0	-0.8
	1.1nm,0.3s,baz=128,slow=7.5,SNR=4.5						
KURK	**Kurchatov**	**61.37**	**328**	*e*P	P	14 15 17.9	-0.6
	4.4nm,0.6s						
ABKAR	**Akbulak array**	**71.76**	**321**	*e*P	P	14 16 23.0	-2.0
	0.5nm,0.4s						
ILAR	**Eielson Array**	**85.06**	**25**	P	P	14 17 38.0	-0.1
ILAR	**Eielson Array**	**85.06**	**25**	P	P	14 17 38.0	-0.1
	0.1nm,0.5s,baz=282,slow=6.3,SNR=4.2						
INK	**Inuvik**	**90.09**	**21**	P	P	14 18 01.6	-0.5
INK	**Inuvik**	**90.09**	**21**	P	P	14 18 01.6	-0.5
	0.4nm,0.6s,baz=296,slow=2.9,SNR=3.7						
ARCES	**ARCESS Array B**	**90.13**	**340**	P	P	14 18 02.0	-0.3
ARCES	**ARCESS Array B**	**90.13**	**340**	P	P	14 18 02.0	-0.3
	3.5nm,0.8s,baz=82,slow=4.2,SNR=6.5						
FINES	**FINESS Array B**	**91.48**	**332**	P	P	14 18 08.8	+0.1
FINES	**FINESS Array B**	**91.48**	**332**	P	P	14 18 08.8	+0.1
	2.0nm,0.7s,baz=48,slow=2.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**122.52**	**288**	PKP	PKPdf	14 23 59.3	+0.4
	0.1nm,0.3s,baz=65,slow=2.2,SNR=3.1						

JMA 12 14:05:25.0, 34.09N×135.21E, h6km±1km, M1.3, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.27**	**153**	P	Pg	14 05 30.4	+0.1
JWM				S	Sg	14 05 34.1	+0.3
JWY	**Kouya**	**0.34**	**68**	P	Pg	14 05 31.7	-0.1
JWY				S	Sg	14 05 36.9	+0.5
JAJ2	**Tsuna**	**0.42**	**321**	P	Pg	14 05 33.4	+0.2
JAJ2				eS	Sg	14 05 39.0	+0.2
JHE	**Heguri**	**0.69**	**35**	S	Sg	14 05 47.8	+0.6
JAI	**Aioi**	**0.70**	**245**	P	Pg	14 05 38.1	-0.3
JAI				S	Sg	14 05 47.2	-0.3
JWZ	**Kozaga**	**0.70**	**143**	P	Pg	14 05 38.4	-0.1
JWZ				S	Sg	14 05 47.7	+0.1

*IDC **12** 14:07:13.9±0.4, 4.00N×126.49E, h0km, mb4.7/30, mb1 4.8/30, mb1mx4.8/31, mbtmp4.7/30, MS4.4/1, Ms1 4.4/1, ms1mx3.8/29, Error ellipse: s-maj=18.9km s-min=10.5km az=72.0*
*BJI **12** 14:07:14.6, 3.59N×126.89E, h43km, mB5.4/23, mb4.8/47, Ms5.0/22, Ms7 4.7/21*
*ISCJB **12** 14:07:18.5±0.2, 4.09N±0.03×126.80E±0.04, h45km, mb4.9/83, MS4.7/7, Error ellipse: s-maj=5.3km s-min=3.4km az=158.8*
*NEIC **12** 14:07:18.9±0.2, 4.00N×126.57E, h35km, mb5.0/31, Error ellipse: s-maj=8.2km s-min=4.4km az=69.0*
NEIC Felt [IV] at Melonguanne and [III] at Tahuna.
*DJA **12** 14:07:26, 3.75N×126.75E, h60km, mb5.0/16*

ISC 12 14:07:20.2±0.3, 4.08N±0.04×126.73E±0.05, h45km, n251, σ1s60/276, mb4.9/81, MS4.8/8, 6C-12D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.26**	**252**	P	Pn	14 07 57.8	+16
MATI	**Mati**	**2.88**	**351**	*e*P	Pn	14 08 09.3	+5.6
DAV	**Davao City (W)**	**3.18**	**339**	*e*Pn	Pn	14 08 11.4	+3.6
DAV	**Davao City (W)**	**3.18**	**339**	P	Pn	14 08 24.6	+17
DAV	**Davao City (W)**	**3.18**	**339**	Pn	Pn	14 08 12.6	+4.8
	75nm,0.3s,baz=242,slow=11,SNR=5.0						
DAV				Sn	Sn	14 08 49.9	+5.4
	147nm,0.3s,baz=66,slow=20,SNR=3.5						
DMPH	**Davao City--Mi**	**3.22**	**338**	*e*P	Pn	14 08 13.5	+5.2
DMPH				*i* S	Sn	14 09 12.0	+27
MNI	**Manado**	**3.23**	**216**	P	Pn	14 08 14.5	+6.1
KCP	**Kidapawan**	**3.33**	**331**	↓*i*P	Pn	14 08 14.4	+4.5
KCP				*i* S	Sn	14 09 01.7	+13
TNTI	**Ternate**	**3.35**	**169**	P	**Pn**	**14 08 11.0**	**+0.9**
BUKP	**Musuan**	**4.12**	**336**	*e*P	Pn	14 08 24.0	+3.3
LBMI	**Labuha**	**4.75**	**171**	P	Pn	14 08 42.4	+13
CGP	**Cagayan de Oro**	**4.79**	**335**	↓*e*P	Pn	14 08 39.0	+9.0
BUTP	**Butuan**	**4.98**	**347**	*e*P	Pn	14 08 37.9	+5.4
PAGZ	**Pagadian**	**5.01**	**319**	*e*P	**Pn**	**14 08 35.3**	**+2.4**
ZMPH	**Zamboanga City**	**5.45**	**302**	↓*i*P	**Pn**	**14 08 39.7**	**+0.7**
ZMPH				*i* S	**Sn**	**14 09 39.7**	**-0.7**
MRSI	**Marisa**	**5.97**	**233**	P	**Pn**	**14 08 47.7**	**+1.6**
	514nm,0.8s,9μm3.1nm						
MSLP	**Maasin**	**6.29**	**343**	*e*P	Pn	14 08 57.3	+6.8
LUWI	**Luwuk**	**6.45**	**218**	P	Pn	14 08 58.0	+5.4
	593nm,1.3s,9μm3.9nm						
SWI	**Sorong**	**6.68**	**137**	P	**Pn**	**14 08 55.9**	**+0.1**
	171nm,1.1s,0.5nm						
GUIM	**Jordan**	**7.69**	**328**	*e*P	Pn	14 09 15.5	+5.8
MYLDM	**Lahad Datu**	**8.27**	**278**	P	Pn	14 09 22.8	+5.1
MYLDM	**Lahad Datu**	**8.27**	**278**	P	Pn	14 09 23.4	+5.7
	320nm,1.4s,1.1nm						
CUYO	**Cuyo Island**	**8.79**	**320**	*e*P	**Pn**	**14 09 27.7**	**+2.9**
TSM	**Tawau**	**8.84**	**272**	P	**Pn**	**14 09 28.3**	**+2.9**
FAKI	**Fak Fak**	**8.88**	**141**	P	**Pn**	**14 09 26.6**	**+0.6**
	74nm,1.0s,0.3nm						
KDI	**Kendari**	**8.98**	**207**	P	**Pn**	**14 09 28.9**	**+1.5**
	77nm,1.0s						
SDKM	**Sandakan**	**9.62**	**280**	P	Pn	14 09 42.0	+5.7
TTSI	**Tana Toraja**	**9.89**	**224**	P	**Pn**	**14 09 42.5**	**+2.7**
	164nm,1.1s						
KKM	**Kota Kinabalu**	**10.65**	**281**	*e*Pn	Pn	14 09 54.1	+3.7
KKM	**Kota Kinabalu**	**10.65**	**281**	P	Pn	14 09 55.7	+5.3
	84nm,1.3s						
BAKI	**Biak**	**10.74**	**119**	P	Pn	14 09 55.3	+3.9
	170nm,1.4s						
TLE	**Tual**	**11.37**	**148**	P	**Pn**	**14 10 02.5**	**+2.4**
	137nm,1.4s						
KAPI	**Kappang**	**11.41**	**218**	LR	LR	14 14 58.6	
	comp=Z,2μm,19.1s,baz=85,slow=42						
KBKI	**Kotabaru**	**12.85**	**235**	P	**P**	**14 10 30.4**	**+0.3**
BTM	**Bintulu**	**13.65**	**267**	P	**Pn**	**14 10 33.8**	**+2.6**
SBUM	**Sibu**	**14.57**	**264**	P	**P**	**14 10 47.1**	**-2.2**
SBUM	**Sibu**	**14.57**	**264**	P	**P**	**14 10 47.1**	**-2.2**
	98nm,1.5s						
STKI	**Sintang**	**15.75**	**256**	P	**P**	**14 11 04.5**	**+2.1**
	105nm,0.9s,10μm						
PBKI	**Pangkalan Bun**	**16.49**	**246**	P	**P**	**14 11 11.7**	**+1.1**
	138nm,1.2s,2μm						
KSM	**Kuching**	**16.60**	**261**	*e*Pn	**P**	**14 11 12.2**	**+0.3**
	227nm,1.9s						
KSM	**Kuching**	**16.60**	**261**	P	**P**	**14 11 13.4**	**+1.5**
KSM	**Kuching**	**16.60**	**261**	P	**P**	**14 11 13.4**	**+1.5**
	50nm,1.1s,1μm						
KRKI	**Karangkates**	**18.73**	**230**	P	**Pn**	**14 11 37.0**	**+1.0**
	374nm,0.8s,21μm						
TWG	**Pinlang**	**19.42**	**344**	*e*P	**P**	**14 11 41.2**	**-1.6**
	27nm,0.8s						
YULB	**Yu-li**	**19.90**	**345**	*e*P	**P**	**14 11 46.6**	**-1.5**
	28nm,0.5s						
TPUB	**Ta-pu**	**20.00**	**343**	*e*P	**P**	**14 11 47.9**	**-1.2**
	65nm,0.8s						
SSLB	**Suanglung**	**20.37**	**345**	*e*P	**P**	**14 11 51.9**	**-1.2**
	36nm,0.7s						
TGJI	**Tegal**	**20.67**	**238**	P	Pn	14 11 59.7	+0.5
	38nm,1.6s,2μm						
YHNB	**Yeheng**	**21.11**	**346**	*e*P	**P**	**14 12 02.0**	**+0.8**
	31nm,0.6s						
PPBI	**Pangkal Pinang**	**21.49**	**254**	P	P	14 12 11.8	+6.4
	29nm,0.9s,1μm						
LEM	**Lembang**	**21.94**	**240**	P	**P**	**14 12 13.4**	**+3.1**
	51nm,1.0s						
FITZ	**Fitzroy Crossi**	**22.07**	**183**	P	**P**	**14 12 10.1**	**-1.4**
FITZ	**Fitzroy Crossi**	**22.07**	**183**	*e*P	**P**	**14 12 10.1**	**-1.4**
	23nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.07**	**183**	P	**P**	**14 12 10.1**	**-1.4**
	5.9nm,0.5s,baz=8.7,slow=12,SNR=12						
QZH	**Quanzhou**	**22.17**	**340**	↓*i*P	**P**	**14 12 14.5**	**+2.0**
QZH				pmax	pmax		
	comp=Z,40nm,0.7s						
CBJI	**Citeko**	**22.42**	**242**	P	P	14 12 20.1	+4.8
	comp=Z,203nm,0.8s						
JOW	**Kunigami**	**22.67**	**4**	P	**P**	**14 12 18.9**	**+1.0**
JOW	**Kunigami**	**22.67**	**4**	P	**P**	**14 12 18.9**	**+1.0**
	comp=Z,27nm,0.7s,baz=217,slow=9.0,SNR=4.3						
MYKOM	**Kota Tinggi**	**22.96**	**265**	P	P	14 12 28.2	+7.2
MYKOM	**Kota Tinggi**	**22.96**	**265**	P	**P**	**14 12 23.2**	**+2.2**
	comp=Z,41nm,0.8s						
COEN	**Coen**	**24.24**	**138**	*e*P	**P**	**14 12 32.8**	**-0.3**
PMG	**Port Moresby**	**24.37**	**123**	P	**P**	**14 12 35.7**	**+1.3**
PMG	**Port Moresby**	**24.37**	**123**	P	**P**	**14 12 35.7**	**+1.3**
	comp=Z,10nm,0.9s,baz=325,slow=10,SNR=2.9						
WRAB	**Tennant Creek**	**25.01**	**163**	*e*P	**P**	**14 12 39.3**	**-0.8**
	comp=Z,66nm,0.9s						
WRA	**Warramunga Arr**	**25.02**	**163**	P	**P**	**14 12 39.4**	**-0.8**
WRA	**Warramunga Arr**	**25.02**	**163**	P	**P**	**14 12 39.4**	**-0.8**
	comp=Z,21nm,0.5s						
FRIM	**Kepong**	**25.07**	**269**	P	P	14 12 46.1	+5.3
IPM	**Ipoh**	**25.63**	**272**	*e*P	**P**	**14 12 45.8**	**-0.1**
IPM	**Ipoh**	**25.63**	**272**	P	**P**	**14 12 50.0**	**+4.1**
IPM	**Ipoh**	**25.63**	**272**	P	**P**	**14 12 49.7**	**+3.8**
	comp=Z,70nm,1.2s						
BKNI	**Bangkinang**	**25.93**	**262**	P	P	14 12 57.4	+8.8
MBWA	**Marble Bar**	**26.00**	**195**	*e*P	**P**	**14 12 47.3**	**-1.8**
MBWA	**Marble Bar**	**26.00**	**195**	*e*P	**P**	**14 12 48.5**	**-0.6**
KULM	**Kulim**	**26.02**	**274**	*e*P	**P**	**14 12 48.2**	**-1.1**
	comp=Z,81nm,1.5s						
KULM	**Kulim**	**26.02**	**274**	P	**P**	**14 12 51.7**	**+2.4**
KULM	**Kulim**	**26.02**	**274**	P	P	14 12 55.4	+6.1
	comp=Z,31nm,1.5s						
PPI	**Padang Panjang**	**26.70**	**261**	P	P	14 13 01.3	+5.8
	comp=Z,30nm,1.1s						
MNSI	**Mandailing Nat**	**27.32**	**264**	P	P	14 13 08.9	+7.9
QIS	**Mount Isa**	**27.56**	**153**	*e*P	**P**	**14 13 02.9**	**-0.2**
PSI	**Prapat**	**27.78**	**268**	P	**P**	**14 13 03.6**	**-1.8**
PSI	**Prapat**	**27.78**	**268**	P	**P**	**14 13 05.7**	**+0.3**
	comp=Z,30nm,1.2s						
PSI	**Prapat**	**27.78**	**268**	P	**P**	**14 13 03.6**	**-1.8**
	comp=Z,4.7nm,0.4s,baz=82,slow=5.3,SNR=6.5						
AS31	**Alice Springs**	**28.45**	**166**	*e*P	**P**	**14 13 10.5**	**-0.6**
ASAR	**Alice Springs**	**28.45**	**166**	P	**P**	**14 13 10.1**	**-1.0**
ASAR				S	**S**	**14 17 55.8**	**+0.3**
ASAR	**Alice Springs**	**28.45**	**166**	P	**P**	**14 13 10.1**	**-1.0**
	comp=Z,5.5nm,0.6s,baz=341,slow=7.4,SNR=13						
ASAR				S	**S**	**14 17 55.8**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=352,slow=19,SNR=4.4						
NJ2	**Nanjing**	**28.79**	**346**	*e*P	**P**	**14 13 14.4**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WHN	**Wuhan**	**28.80**	**337**	↓P	**P**	**14 13 14.8**	**+0.8**
JNU	**Nakatsue**	**29.15**	**7**	P	**P**	**14 13 17.5**	**+0.3**
JNU	**Nakatsue**	**29.15**	**7**	P	**P**	**14 13 17.5**	**+0.3**
	comp=Z,8.9nm,0.7s,baz=121,slow=1.2,SNR=4.5						
GSI	**Gunungsitoli**	**29.25**	**265**	P	P	14 13 28.6	+10
GYA	**Guiyang**	**29.39**	**321**	↑*i*P	**P**	**14 13 21.8**	**+2.2**
GYA				pP	**pP**	**14 13 32.0**	**+0.5**
GYA				PP	**PnPn**	**14 14 18.8**	**+3.9**
GYA				PcP	**PcP**	**14 16 27.4**	**+2.4**
GYA				S	**S**	**14 18 12.4**	**+1.8**
GYA				sS	**sS**	**14 18 30.0**	**-0.6**
GYA				SS	**SnSn**	**14 19 47.5**	**+7.2**
GYA				ScP	**ScP**	**14 20 04.3**	**+1.0**
GYA				ScS	**ScS**	**14 23 57.7**	**-0.4**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=N,550nm,17.9s						
GYA				LR	LR		
	comp=E,480nm,17.7s						
GYA				LR	LR		
	comp=Z,560nm,17.5s						
CM31	**Chiang Mai Arr**	**30.70**	**300**	*e*P	**P**	**14 13 30.1**	**-0.9**
	comp=Z,5.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.70**	**300**	P	**P**	**14 13 30.9**	**-0.1**
CMAR				ScP	**ScP**	**14 20 10.5**	**+3.0**
CMAR	**Chiang Mai Arr**	**30.70**	**300**	P	**P**	**14 13 30.9**	**-0.1**
	comp=Z,5.2nm,0.7s,baz=114,slow=7.1,SNR=26						
CMAR				ScP	**ScP**	**14 20 10.5**	**+3.0**
	comp=Z,1.2nm,0.8s,baz=151,slow=2.1,SNR=7.7						
ENH	**Enshi**	**30.73**	**330**	*e*P	**P**	**14 13 30.9**	**-0.3**
	comp=Z,77nm,1.4s						
CHTO	**Chiang Mai**	**30.84**	**301**	*e*P	**P**	**14 13 32.1**	**-0.2**
	comp=Z,15nm,1.0s						
CHTO	**Chiang Mai**	**30.84**	**301**	P	**P**	**14 13 32.8**	**+0.5**
	SNR=9.2						
CHTO	**Chiang Mai**	**30.84**	**301**	P	**P**	**14 13 32.2**	**-0.2**
	comp=Z,25nm,1.2s						
KMI	**Kunming**	**31.13**	**315**	P	**P**	**14 13 38.2**	**+3.1**
KMI				pmax	pmax		
	comp=Z,13nm,1.2s						
MEEK	**Meekatharra**	**31.53**	**194**	*e*P	**P**	**14 13 37.2**	**-1.1**
	comp=Z,161nm,0.9s						
KSAR	**Wonju Array Be**	**33.22**	**2**	P	**P**	**14 13 54.1**	**+1.2**
KSAR				PcP	**PcP**	**14 16 36.6**	**+1.8**
KSRS	**Korea Array**	**33.23**	**2**	P	**P**	**14 13 54.1**	**+1.1**
	comp=Z,3.8nm,0.7s,baz=179,slow=10.0,SNR=9.6						
KSRS				PcP	**PcP**	**14 16 36.6**	**+1.8**
	comp=Z,2.8nm,0.7s,baz=183,slow=2.3,SNR=7.3						
MJAR	**Matsushiro Arr**	**33.99**	**17**	P	**P**	**14 13 58.2**	**-1.4**
MJAR				PcP	**PcP**	**14 16 38.4**	**+1.4**
MJAR	**Matsushiro Arr**	**33.99**	**17**	P	**P**	**14 13 58.2**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=188,slow=10,SNR=8.1						
MJAR				PcP	**PcP**	**14 16 38.4**	**+1.4**
	comp=Z,2.3nm,0.7s,baz=192,slow=3.7,SNR=5.4						
XAN	**Xi'an**	**34.10**	**333**	P	**P**	**14 13 59.7**	**-1.0**
XAN				pP	**pP**	**14 14 08.3**	**-4.5**
XAN				pmax	pmax		
	comp=Z,14nm,1.1s						
XAN				pmax	pmax		
	comp=Z,63nm,8.6s						
CD2	**Chengdu**	**34.36**	**324**	↑P	**P**	**14 14 02.9**	**-0.1**
CD2				pP	**pP**	**14 14 13.0**	**-2.1**
CD2				sP	**sP**	**14 14 17.2**	**-3.3**
CD2				PcP	**PcP**	**14 16 37.7**	**-0.6**
CD2				S	**S**	**14 19 28.2**	**+0.4**
CD2				PcS	**PcS**	**14 20 23.0**	**-1.8**
CD2				SS	**SnSn**	**14 21 40.4**	**-0.4**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,7.0s						
CD2				LR	LR		
	comp=N,390nm,22.0s						
CD2				LR	LR		
	comp=E,460nm,17.6s						
CD2				LR	LR		
	comp=Z,570nm,18.4s						
KMBL	**Kambalda**	**35.55**	**187**	*e*P	**P**	**14 14 12.3**	**-0.9**
	comp=Z,77nm,0.6s						
BJT	**Baijiatuao**	**37.03**	**346**	*e*P	**P**	**14 14 26.3**	**+0.7**
	comp=Z,44nm,0.8s						
BJI	**Beijing**	**37.05**	**347**	P	**P**	**14 14 26.2**	**+0.4**
BJI				sP	**sP**	**14 14 38.6**	**-4.7**
BJI				pmax	pmax		
	comp=Z,19nm,0.8s						
EIDS	**Eidsvold**	**37.63**	**142**	*e*P	**P**	**14 14 31.8**	**+0.8**
	comp=Z,27nm,1.0s						
EIDS	**Eidsvold**	**37.63**	**142**	*e*P	**P**	**14 14 31.3**	**+0.3**
	comp=Z,91nm,0.8s						
SNY	**Shenyang**	**37.69**	**356**	↓P	**P**	**14 14 33.2**	**+2.0**
SNY				pmax	pmax		
	comp=Z,11nm,0.5s						
NWAO	**Narrogin (SRO)**	**37.89**	**193**	*e*P	**P**	**14 14 31.8**	**-1.3**
NWAO	**Narrogin (SRO)**	**37.89**	**193**	P	**P**	**14 14 32.3**	**-0.8**
	comp=Z,8.4nm,0.7s,baz=37,slow=8.3,SNR=9.0						
LZH	**Lanzhou**	**38.20**	**329**	↑P	**P**	**14 14 36.7**	**+0.8**
LZH				pP	**pP**	**14 14 46.8**	**-1.3**
LZH				sP	**sP**	**14 14 51.5**	**-1.9**
LZH				pmax	pmax		
	comp=Z,56nm,1.0s						
LZH				pmax	pmax		
	comp=Z,410nm,7.0s						
LZH				LR	LR		
	comp=N,1μm,18.2s						
LZH				LR	LR		
	comp=E,1μm,14.1s						
LZH				LR

comp=Z,9.9nm,0.4s
DMN Daman 46.03 305 *e*P P **14 15 38.9 -1.1**
comp=Z,31nm,0.9s
GKN Gorkha 46.56 305 *e*P P **14 15 43.0 -1.1**
comp=Z,7.6nm,0.3s
DZM Mont Dzumac 46.74 126 P P **14 15 46.3 +0.9**
DZM Mont Dzumac 46.74 126 P P **14 15 46.3 +0.9**
comp=Z,12nm,1.0s,baz=272,slow=21,SNR=13
ULN Ulaanbaatar 46.79 342 *e*P P **14 15 45.9 +0.5**
comp=Z,16nm,1.1s
ULN Ulaanbaatar 46.79 342 P P **14 15 46.9 +1.4**
SNR=7.0
ULN Ulaanbaatar 46.79 342 P P **14 15 46.1 +0.7**
comp=Z,15nm,1.2s
SONM Songino Array 46.97 341 P P **14 15 47.3 +0.5**
SONM PcP **PcP** **14 17 19.7 +1.0**
SONM Songino Array 46.97 341 P P **14 15 47.3 +0.5**
comp=Z,3.4nm,0.6s,baz=160,slow=7.9,SNR=21
SONM PcP **PcP** **14 17 19.7 +1.0**
comp=Z,2.7nm,0.8s,baz=160,slow=2.9,SNR=4.1
KOLN Koldanda 47.32 305 *e*P P **14 15 49.3 -0.7**
comp=Z,23nm,0.3s
DANN Dangsing 47.41 305 *e*P P **14 15 49.8 -1.0**
HYB Hyderabad 49.00 289 *i* P P **14 16 01.5 -1.4**
TLY Talaya 51.20 342 *e*P P **14 16 20.0 +1.0**
comp=Z,9.3nm,0.8s
TLY Talaya 51.20 342 P P **14 16 20.5 +1.5**
SNR=8.2
WMQ Urumqi 52.44 325 *e*P P **14 16 28.5 0.0**
WMQ pP **pP** **14 16 38.0 -3.1**
WMQ sP **sP** **14 16 42.0 -4.3**
WMQ PcP **PcP** **14 17 38.0 -0.8**
WMQ *e*S **S** **14 23 51.0 -0.6**
WMQ pmax pmax
comp=Z,11nm,2.0s
WMQ LR LR
comp=N,1μm,19.0s
WMQ LR LR
comp=E,870nm,19.0s
WMQ LR LR
comp=Z,1μm,20.4s
PETK Petropavlovsk- 55.11 22 P P **14 16 48.9 +1.2**
PETK Petropavlovsk- 55.11 22 P P **14 16 48.9 +1.2**
comp=Z,6.4nm,0.6s,baz=177,slow=3.8,SNR=10
MK31 Makanchi Array 57.27 325 *e*P P **14 17 02.7 -0.6**
MKAR Makanchi Array 57.27 325 *e*P P **14 17 03.0 -0.4**
MKAR PcP **PcP** **14 17 56.6 -0.6**
MKAR ScP **ScP** **14 21 56.1 +2.6**
MKAR Makanchi Array 57.27 325 P P **14 17 02.9 -0.4**
comp=Z,5.9nm,0.4s,baz=120,slow=7.7,SNR=59
MKAR PcP **PcP** **14 17 56.6 -0.6**
comp=Z,4.8nm,0.6s,baz=112,slow=5.1,SNR=5.0
MKAR ScP **ScP** **14 21 56.1 +2.6**
comp=Z,1.1nm,0.7s,baz=121,slow=4.7,SNR=3.2
KSH Kashi 57.80 315 P P **14 17 08.2 +0.9**
KSH pP **pP** **14 17 18.1 -2.0**
KSH sP **sP** **14 17 22.2 -3.0**
KSH PcP **PcP** **14 17 58.6 -1.0**
KSH PP **PP** **14 19 18.1 +2.3**
KSH ScP **ScP** **14 21 56.0 -0.2**
KSH PcS **PcS** **14 21 58.6 -2.4**
KSH S **S** **14 25 04.0 +0.4**
KSH ScS **ScS** **14 26 50.6 -2.8**
KSH SS **SS** **14 28 57.3 +2.5**
KSH LR LR
comp=N,180nm,9.3s
KSH LR LR
comp=E,430nm,14.1s
KSH LR LR
comp=Z,860nm,19.6s
YAK Yakutsk 57.86 2 *e*P P **14 17 06.9 -0.2**
comp=Z,34nm,0.8s
KZA Kyzart 59.36 317 P P **14 17 19.1 +0.7**
SNR=18
TKM2 Tokmak 2 59.48 318 *e*P P **14 17 18.6 -0.4**
comp=Z,11nm,1.0s
TKM2 Tokmak 2 59.48 318 P P **14 17 18.7 -0.4**
SNR=14
KBK Karagaybulak 59.80 318 P P **14 17 18.1 -3.1**
SNR=8.4
AAK Ala-Archa 60.10 318 P P **14 17 23.3 +0.1**
AAK Ala-Archa 60.10 318 P P **14 17 24.3 +1.0**
SNR=6.2
AAK Ala-Archa 60.10 318 P P 14 17 27.5 +4.2
SNR=6.0
AAK Ala-Archa 60.10 318 P P **14 17 23.3 +0.1**
comp=Z,1.7nm,0.5s,baz=175,slow=8.1,SNR=10
ZAA0 Zalesovo Array 60.28 333 *e*P P **14 17 22.1 -1.9**
ZALV Zalesovo Beam 60.28 333 P P **14 17 23.1 -0.9**
ZALV Zalesovo Beam 60.28 333 P P **14 17 23.1 -0.9**
comp=Z,6.3nm,0.5s,baz=130,slow=7.2,SNR=18
USP Ospenovka 60.36 318 P P **14 17 24.8 -0.1**
SNR=7.2
AML Almayashu 60.43 317 P P **14 17 25.7 -0.1**
SNR=20
EKS2 Erkin-Say 60.59 317 *e*P P **14 17 26.9 +0.3**
comp=Z,12nm,1.0s
EKS2 Erkin-Say 60.59 317 P P **14 17 26.6 +0.1**
SNR=16
KURK Kurchatov 61.45 327 *e*P P **14 17 31.5 -0.5**
comp=Z,24nm,0.7s
KURK Kurchatov 61.45 327 P P **14 17 32.0 0.0**
SNR=11
RAO Raoul Island 62.53 126 *e*P P 14 17 36.3 -3.5
KKAR Karatay Array 62.98 317 *e*P P **14 17 40.4 -2.0**
BRVK Borovoye 67.10 327 *e*P P **14 18 08.9 -0.1**
comp=Z,28nm,1.3s
BRVK Borovoye 67.10 327 P P **14 18 10.3 +1.3**
SNR=6.0
ABKAR Akbulak array 71.88 321 *e*P P **14 18 37.7 -0.9**
ARU Arti 74.64 328 *e*P P **14 18 54.2 -0.5**
comp=Z,11nm,0.7s
RDF Al-Radifah 78.57 299 *e*P P **14 19 16.3 -1.2**
RDF AMb AMB 14 19 21.1
comp=Z,18nm,1.1s
MIB Mutribah 78.78 299 *e*P P **14 19 17.4 -1.2**
MIB AMb AMB 14 19 18.9
comp=Z,44nm,0.8s
NAY Al-Naaiem 78.85 299 *e*P P **14 19 17.8 -1.3**
NAY AMb AMB 14 19 21.3
comp=Z,24nm,1.8s
COLD Coldfoot 83.57 23 *e*P P **14 19 46.1 +2.8**
comp=Z,11nm,1.0s
PMR Palmer 83.64 29 *e*P P **14 19 45.0 +1.2**
comp=Z,191nm,2.2s
MCK McKinley 83.85 26 *e*P P **14 19 46.6 +1.7**
comp=Z,39nm,1.4s
SML Sawmill 84.03 28 *e*P P **14 19 44.4 -1.5**
comp=Z,6.4nm,1.0s
ILAR Eielson Array 84.79 25 P P **14 19 50.5 +1.0**
ILAR Eielson Array 84.79 25 P P **14 19 50.5 +1.0**
comp=Z,1.9nm,0.9s,baz=244,slow=5.8,SNR=21
OBN Obninsk 86.78 325 *e*P P **14 19 59.2 -0.4**
comp=Z,78nm,1.0s
JOF Joensuu 88.87 333 *e*p P **14 20 09.3 -0.1**
comp=Z,25nm,0.7s
KMBO Kilima Mbogo 89.56 269 *e*P P **14 20 11.3 -2.7**
comp=Z,12nm,1.2s
KMBO Kilima Mbogo 89.56 269 P P **14 20 14.4 +0.4**
SNR=5.7
KEV Kevo 89.56 340 *e*p P **14 20 11.1 -1.4**
BR131 Keskin Array S 89.80 310 *e*P P **14 20 13.2 -1.3**
comp=Z,3.9nm,0.9s
BRTR Keskin Array B 89.80 310 P P **14 20 13.0 -1.5**
BRTR Keskin Array B 89.80 310 P P **14 20 13.0 -1.5**
comp=Z,3.7nm,0.8s,baz=114,slow=5.1,SNR=11
INK Inuvik 89.84 21 P P **14 20 14.2 +0.3**
INK Inuvik 89.84 21 P P **14 20 14.2 +0.3**
comp=Z,1.6nm,0.8s,baz=261,slow=10,SNR=5.2
ARCES ARCESS Array B 90.12 340 P P **14 20 15.0 -0.2**
ARCES ARCESS Array B 90.12 340 P P **14 20 15.0 -0.2**
comp=Z,5.2nm,0.8s,baz=87,slow=6.2,SNR=20
SPITS Spitsbergen Ar 90.14 349 P P **14 20 16.0 +0.9**
SPITS Spitsbergen Ar 90.14 349 P P **14 20 16.0 +0.9**
comp=Z,25nm,1.2s,baz=132,slow=13,SNR=7.3
KAF Kangasniemi 91.29 332 *e*p P **14 20 20.3 -0.4**
comp=Z,11nm,0.6s
FINES FINESS Array B 91.52 332 P P **14 20 21.9 0.0**
FINES FINESS Array B 91.52 332 P P **14 20 21.9 0.0**
comp=Z,7.2nm,0.6s,baz=56,slow=4.9,SNR=18
AKASG Malin Array Be 91.62 321 P P **14 20 21.1 -1.4**
AKASG Malin Array Be 91.62 321 P P **14 20 21.1 -1.4**
comp=Z,6.1nm,0.7s,baz=70,slow=4.4,SNR=16
NACGM Naroch 92.40 325 *e* P **14 20 23.0 -3.0**
TESR 93.98 317 ‖ *i*P P **14 20 33.7 +0.1**
VRI Vrincioaia 94.04 316 ‖ *i*P P **14 20 34.1 +0.2**

PLOR Plostina 94.10 316 ⇑ *i*P P **14 20 34.5 +0.3**
SUW Suwalki 94.64 325 *e*P P **14 20 36.4 0.0**
SUW Suwalki 94.64 325 *e*P P **14 20 36.4 0.0**
MLR Muntele Rosu 94.65 316 P P **14 20 36.3 -0.5**
MLR Muntele Rosu 94.65 316 ⇑ *i*P P **14 20 37.1 +0.3**
MLR Muntele Rosu 94.65 316 P P **14 20 36.3 -0.5**
comp=Z,2.4nm,0.8s,baz=314,slow=1.2,SNR=11
BURAR Bucovina Array 94.74 318 ⇑ *i*P P **14 20 36.3 -0.8**
BUR08 Bucovina Ar. S 94.75 318 *e*P P **14 20 36.2 -0.9**
VOIR 95.28 316 ‖ *i*P P 14 20 47.0 +7.4
KOLS Kolonicke sedl 96.38 320 *e*P P **14 20 44.6 +0.1**
TRPA Tarpa 96.39 319 ‖ *i*P P **14 20 44.0 -0.5**
DRGR 96.58 318 ‖ *i*P P **14 20 45.8 +0.3**
CRVS Cervenica-Dubn 96.90 320 *e*P P **14 20 47.2 +0.4**
BZS Buzias 97.59 317 ‖ *i*P P 14 20 46.7 -3.3
HFS Hagfors 97.71 332 P P **14 20 49.0 -1.2**
HFS Hagfors 97.71 332 P P **14 20 49.0 -1.2**
comp=Z,5.1nm,1.0s,baz=15,slow=6.1,SNR=4.9
NB2 NORSAR Subarra 98.47 334 P P **14 20 52.6 -1.1**
comp=Z,6.0nm,1.2s,baz=66,slow=4.4
NOA NORSAR Array B 98.47 334 P P **14 20 53.3 -0.3**
NOA NORSAR Array B 98.47 334 P P **14 20 53.3 -0.3**
comp=Z,1.6nm,0.7s,baz=69,slow=4.6,SNR=5.8
YKA Yellowknife Ar 99.18 24 P Pdif **14 20 57.9 +1.2**
YKA Yellowknife Ar 99.18 24 P Pdif **14 20 57.9 +1.2**
comp=Z,0.4nm,0.7s,baz=297,slow=4.5,SNR=9.8
DPC Dobruska-Polom 99.70 322 *e*PDIFF Pdif **14 21 00.2 +0.8**
UPC Upice 99.84 323 *e*PDIFF Pdif **14 21 00.5 +0.5**
VRAC Vranov 99.86 321 P Pdif **14 21 00.7 +0.6**
VRAC Vranov 99.86 321 P Pdif **14 21 00.7 +0.6**
comp=Z,2.9nm,0.5s,baz=215,slow=2.0,SNR=4.7
PVCC Panska Ves 100.70 323 *e*PDIFF Pdif **14 21 04.5 +0.7**
PRU Pruhonice 100.90 323 *e*PDIFF Pdif **14 21 05.3 +0.6**
BRG Berggiesshubel 100.96 323 *e*P Pdif **14 21 05.4 +0.5**
comp=Z,10nm,1.0s
CLL Collm 101.36 324 *e*Pdif Pdif **14 21 03.0 -3.7**
CLL *e*Pdiff(2) 14 21 07.0
KHC Kasperske Hory 101.79 322 *e*PDIFF Pdif **14 21 09.6 +0.9**
GERES GERESS Array B 101.81 322 P Pdif **14 21 09.3 +0.4**
GERES GERESS Array B 101.81 322 P Pdif **14 21 09.3 +0.4**
comp=Z,2.4nm,1.0s,baz=69,slow=4.6,SNR=12
NKC Novy Kostel 102.08 323 *e*PDIFF Pdif **14 21 09.7 -0.2**
SCHQ Schefferville 120.22 9 PKP PKPdf **14 26 07.9 +1.6**
SCHQ Schefferville 120.22 9 PKP PKPdf **14 26 07.9 +1.6**
comp=Z,1.8nm,0.7s,baz=256,slow=4.2,SNR=4.6
TXAR Lajitas Array 121.39 52 PKP PKPdf **14 26 11.2 +1.8**
TXAR Lajitas Array 121.39 52 PKP PKPdf **14 26 11.2 +1.8**
comp=Z,0.4nm,0.7s,baz=247,slow=1.9,SNR=2.7
TORD Torodi Ar. Bea 122.81 288 PKP PKPdf **14 26 12.1 -0.3**
TORD Torodi Ar. Bea 122.81 288 PKP PKPdf **14 26 12.1 -0.3**
comp=Z,1.3nm,0.6s,baz=47,slow=2.2,SNR=7.0

IDC 12 14:14:16.0±1.0, 4°**.07N**×**126°.52E**, **h0**km, **mb4.0**/12, **mb1 4.1**/12, **mb1mx4.0**/23, **mbtmp4.0**/12, **Error ellipse: s-maj=97.0km s-min=14.1km az=70.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
FITZ	**Fitzroy Crossi**	**22.05**	**182**	P		P	14 19 14.1	+1.6
	2.0nm,0.8s,baz=8.1,slow=7.1,SNR=3.3							
WRA	**Warramunga Arr**	**25.07**	**162**	P		P	14 19 41.4	-1.0
	2.5nm,0.6s							
ASAR	**Alice Springs**	**28.50**	**166**	P		P	14 20 12.6	-0.6
	0.3nm,0.5s,baz=333,slow=6.2,SNR=3.5							
STKA	**Stephens Creek**	**38.52**	**159**	P		P	14 21 40.2	-0.1
	5.1nm,0.7s,baz=338,slow=10,SNR=8.5							
SONM	**Songino Array**	**46.98**	**341**	P		P	14 22 49.1	+0.7
	0.6nm,0.5s,baz=158,slow=7.9,SNR=4.5							
MKAR	**Makanchi Array**	**57.16**	**325**	P		P	14 24 04.6	-0.1
	1.3nm,0.5s,baz=120,slow=8.4,SNR=15							
ZALV	**Zalesovo Beam**	**60.19**	**333**	P		P	14 24 24.9	-0.7
	0.7nm,0.5s,baz=116,slow=10,SNR=4.2							
KURBB	**Kurchatov Arra**	**61.34**	**327**	P		P	14 24 33.4	-0.1
	1.6nm,0.6s,baz=126,slow=6.2,SNR=16							
BVAR	**Borovoye Array**	**66.92**	**327**	P		P	14 25 09.3	-0.9
	1.1nm,0.9s,baz=147,slow=8.3,SNR=4.3							
AKTO	**Aktyubinsk**	**73.26**	**322**	P		P	14 25 48.5	-0.7
	0.7nm,0.6s,baz=95,slow=11,SNR=2.9							
ARCES	**ARCESS Array B**	**90.06**	**340**	P		P	14 27 19.2	+1.8
	5.2nm,1.1s,baz=70,slow=7.8,SNR=3.1							
FINES	**FINESS Array B**	**91.43**	**332**	P		P	14 27 23.7	-0.3
	2.0nm,0.8s,baz=120,slow=9.8,SNR=2.8							
TORD	**Torodi Ar. Bea**	**122.62**	**288**	PKP		PKPdf	14 33 15.2	+0.4
	0.2nm,0.8s,baz=84,slow=0.4,SNR=2.3							

*BJI **12** 14:16:16.0, 3°.47N× 126°.48E, h36km, mB5.4/24, mb5.2/53, Ms4.9/27, Ms7 4.7/27*
*ISCJB **12** 14:16:17.3±0.2, 3°.75N±0°.02× 126°.65E±0°.03, h34km, mb5.3/147, MS4.5/16, Error ellipse: s-maj=4.1km s-min=3.0km az=159.8*
*MOS **12** 14:16:17.0±1.0, 3°.67N× 126°.47E, h33km, mb5.5/46, Error ellipse: s-maj=11.2km s-min=5.3km az=114.1*
*NEIC **12** 14:16:18.9±0.2, 3°.69N× 126°.51E, h35km, mb5.3/59, Error ellipse: s-maj=7.0km s-min=4.0km az=72.0*
NEIC Felt [IV] at Melonguanne and [III] at Tahuna.
*IDC **12** 14:16:18.4±1.8, 3°.68N× 126°.47E, h29km±12km, mb4.9/32, mb1 4.9/32, mb1mx4.9/33, mbtmp4.9/32, MS4.5/8, Ms1 4.5/8, ms1mx4.2/31, Error ellipse: s-maj=16.8km s-min=8.8km az=76.0*
*DJA **12** 14:16:24, 3°.65N× 126°.74E, h88km, mb5.2/56*
ISC 12 14:16:19.7±0.3, **3°.72N**±0°.03×**126°.56E**±0°.05, **h41**km±2km, **h40**km:**pP-P, n422**, σ1§**47**/453, **mb5.3**/144, **MS4.5**/17, **34C-31D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MNI	**Manado**	**2.84**	**217**	P		Pn	14 17 06.5	+3.9
GSPH	**General Santos**	**2.85**	**326**	‖ *e*P		Pn	14 17 06.8	+3.9
TNTI	**Ternate**	**3.04**	**165**	P		**Pn**	**14 17 06.2**	**+0.9**
MATI	**Mati**	**3.22**	**355**	*e*P		**Pn**	**14 17 10.2**	**+2.3**
DAV	**Davao City (W)**	**3.47**	**344**	*e*Pn		**Pn**	**14 17 09.3**	**-1.9**
DAV				Pn		Pn	14 17 15.5	+4.2
DAV				Sn		**Sn**	**14 17 54.8**	**+3.6**
DAV	**Davao City (W)**	**3.47**	**344**	P		Pn	14 17 20.3	+9.0
DAV	**Davao City (W)**	**3.47**	**344**	Pn		Pn	14 17 15.5	+4.2
	97nm,0.3s,baz=90,slow=13,SNR=3.1							
DAV				Sn		**Sn**	**14 17 54.8**	**+3.6**
	204nm,0.3s,baz=118,slow=22,SNR=4.6							
DMPH	**Davao City--Mi**	**3.50**	**343**	*e*P		Pn	14 17 15.2	+3.5
DMPH				*i* S		Sn	14 18 00.7	+8.7
KCP	**Kidapawan**	**3.58**	**336**	‖ *i*P		Pn	14 17 17.9	+5.0
KCP				*i* S		Sn	14 18 03.3	+9.3
KMSI	**Cibinong**	**4.05**	**220**	P		Pn	14 17 25.3	+6.0
BUKP	**Musuan**	**4.39**	**340**	*e*P		Pn	14 17 27.3	+3.2
LBMI	**Labuha**	**4.43**	**168**	P		Pn	14 17 28.4	+3.9
CGP	**Cagayan de Oro**	**5.06**	**339**	‖ *e*P		Pn	14 17 38.1	+5.0
PAGZ	**Pagadian**	**5.18**	**322**	*e*P		**Pn**	**14 17 37.8**	**+3.1**
BUTP	**Butuan**	**5.30**	**350**	*e*P		Pn	14 17 40.3	+3.9
ZMPH	**Zamboanga City**	**5.51**	**306**	⇑ *i*P		**Pn**	**14 17 41.4**	**+2.1**
ZMPH				*i* S		**Sn**	**14 18 43.4**	**+1.9**
MRSI	**Marisa**	**5.63**	**235**	P		Pn	14 17 44.9	+3.9
	1μm,0.7s,11μm3.9nm							
IPIL	**Ipil**	**5.67**	**316**	*e*P		**Pn**	**14 17 44.2**	**+2.7**
LUWI	**Luwuk**	**6.06**	**219**	P		Pn	14 17 53.7	+6.8
	2μm,0.9s,18μm7.5nm							
SWI	**Sorong**	**6.54**	**134**	P		**Pn**	**14 17 53.8**	**+0.3**
	873nm,0.8s,7μm3.2nm							
MSLP	**Maasin**	**6.59**	**345**	*e*P		Pn	14 17 59.4	+5.2
LLP	**Lapu-Lapu**	**7.04**	**339**	*e*P		**Pn**	**14 18 03.2**	**+2.9**
LLP				*e*S		Sn	14 19 26.9	+7.6
AAI	**Ambon**	**7.54**	**167**	P		Pn	14 18 11.3	+4.2
	174nm,0.8s,2μm0.6nm							
GUIM	**Jordan**	**7.91**	**330**	*e*P		Pn	14 18 16.6	+4.3
MYLDM	**Lahad Datu**	**8.17**	**281**	P		Pn	14 18 20.8	+5.0
MYLDM	**Lahad Datu**	**8.17**	**281**	P		Pn	14 18 23.7	+7.9
	319nm,0.9s,1.4nm							
KDI	**Kendari**	**8.58**	**207**	P		**Pn**	**14 18 23.1**	**+1.6**
	36nm,0.6s,2μm0.5nm							
TSM	**Tawau**	**8.69**	**274**	P		Pn	14 18 26.8	+3.9
FAKI	**Fak Fak**	**8.71**	**139**	P		**Pn**	**14 18 24.2**	**+1.0**
	254nm,0.7s,3μm1.0nm							
CUYO	**Cuyo Island**	**8.97**	**322**	*e*P		Pn	14 18 30.1	+3.3
TTSI	**Tana Toraja**	**9.52**	**225**	P		Pn	14 18 39.5	+5.2
	281nm,0.9s,2μm							
SDKM	**Sandakan**	**9.53**	**282**	P		Pn	14 18 38.6	+4.0
SPSI	**Sidrap Palu**	**10.21**	**222**	P		Pn	14 19 02.9	+.19
KKM	**Kota Kinabalu**	**10.56**	**283**	*e*Pn		Pn	14 18 53.2	+4.5
KKM	**Kota Kinabalu**	**10.56**	**283**	P		Pn	14 18 52.6	+3.8
KKM	**Kota Kinabalu**	**10.56**	**283**	P		Pn	14 18 54.0	+5.2
	82nm,0.6s,2μm							

BAKI Biak 10.71 117 P **Pn** **14 18 53.9 +3.2**
346nm,1.1s,5μm
KAPI Kappang 11.03 218 *e*Pn **Pn** **14 18 57.9 +2.9**
KAPI Kappang 11.03 218 Pn Pn 14 18 58.3 +3.4
3.2nm,0.3s,baz=239,slow=2.3,SNR=9.0
KAPI LR LR 14 23 52.7
comp=Z,4μm,18.7s,baz=318,slow=42
TLE Tual 11.15 146 P **Pn** **14 18 59.1 +2.3**
141nm,0.8s
KBKI Kotabaru 12.51 236 P **P** **14 19 26.9 +0.7**
MMRI Maumere 13.01 199 P P 14 19 39.2 +7.4
SMPI Sarmi 13.40 115 P **Pn** **14 19 29.9 +2.4**
117nm,0.8s
BTM Bintulu 13.46 268 P **P** **14 19 35.0 -1.8**
SBUM Sibu 14.38 265 P **P** **14 19 46.3 -0.7**
SBUM Sibu 14.38 265 P **P** **14 19 46.0 -1.0**
65nm,1.7s,2μm
WSI Waingapu 14.69 205 P **P** **14 19 52.7 +2.2**
JAY Jayapura 15.43 113 P **P** **14 19 58.5 -0.3**
252nm,0.8s
STKI Sintang 15.51 257 P **P** **14 20 02.8 +3.3**
101nm,1.0s
KHKI Kahang-Kahang 16.23 222 P P 14 20 15.0 +7.4
KSM Kuching 16.39 263 *e*P **P** **14 20 11.5 +2.1**
94nm,0.9s
KSM Kuching 16.39 263 P **P** **14 20 12.7 +3.4**
KSM Kuching 16.39 263 P **P** **14 20 12.3 +2.9**
122nm,1.0s,1μm
MTN Manton Dam 17.07 165 *e*P **Pn** **14 20 12.2 -3.3**
BLJI Banyuglugur 17.24 229 P P 14 20 26.7 +8.0
JAGI Jajag, Banyuwa 17.31 226 P P **14 20 23.8 +4.2**
163nm,1.0s,2μm
GMJI Gumukmas 17.70 228 P P 14 20 32.1 +8.3
109nm,1.0s
KRKI Karangkates 18.36 230 P Pn 14 20 38.8 +7.3
327nm,0.6s
SJI Sawahan 18.64 232 P **Pn** **14 20 37.6 +2.7**
114nm,0.8s,2μm
PWJI Pagerwojo 18.78 232 P **Pn** **14 20 38.7 +2.2**
97nm,0.7s
TWG Pinlang 19.72 345 *e*P **P** **14 20 44.5 -1.5**
73nm,0.5s
YULB Yu-li 20.21 346 *e*P **P** **14 20 49.7 -1.6**
39nm,0.8s
TPUB Ta-pu 20.30 344 *e*P **P** **14 20 50.8 -1.5**
133nm,0.8s
TGJI Tegal 20.34 239 P Pn 14 20 55.9 +0.8
66nm,0.8s
GUMO Guam 20.56 60 LR LR 14 27 29.2
comp=Z,2μm,19.6s,baz=231,slow=32
SSLB Suanglung 20.67 345 *e*P **P** **14 20 54.6 -1.7**
77nm,0.7s
NACB Ninganchiao 20.89 347 *e*P **P** **14 20 56.7 -2.0**
31nm,0.8s
PPBI Pangkal Pinang 21.23 254 P P 14 21 06.7 +4.2
41nm,0.8s,2μm
YHNB Yeheng 21.42 347 *e*P **P** **14 21 03.0 -1.5**
52nm,0.8s
LEM Lembang 21.62 241 P P **14 21 09.2 +2.4**
126nm,0.7s
FITZ Fitzroy Crossi 21.70 182 *e*P **P** **14 21 06.6 -0.8**
97nm,1.4s
FITZ Fitzroy Crossi 21.70 182 *e*P **P** **14 21 06.8 -0.6**
66nm,0.8s
FITZ Fitzroy Crossi 21.70 182 P **P** **14 21 06.7 -0.6**
24nm,0.6s,baz=18,slow=8.3,SNR=46
CISI Cisompet, Garu 21.80 239 P P 14 21 21.8 +13
CBJI Citeko 22.11 243 P **P** **14 21 15.2 +3.4**
405nm,0.9s
DBJI Dramaga 22.26 243 P P 14 21 17.9 +4.4
78nm,0.8s,3μm
QZH Quanzhou 22.45 341 ⇑ *i*P **P** **14 21 16.4 +1.0**
QZH S **S** **14 25 18.1 -1.3**
QZH pmax pmax
comp=Z,110nm,0.6s
QZH LR LR
comp=N,2μm,14.5s
QZH LR LR
comp=E,1μm,11.3s
QZH LR LR
comp=Z,4μm,17.7s
MYKOM Kota Tinggi 22.77 266 P **P** **14 21 20.7 +1.9**
MYKOM Kota Tinggi 22.77 266 P **P** **14 21 21.0 +2.1**
comp=Z,96nm,0.7s,comp=Z,932nm
JOW Kunigami 23.04 4 *e*P **P** **14 21 23.1 +1.6**
JOW Kunigami 23.04 4 P **P** **14 21 22.9 +1.3**
comp=Z,30nm,0.6s,baz=194,slow=7.2,SNR=7.1
CGJI Cibinong 23.23 244 P **P** **14 21 23.5 0.0**
comp=Z,227nm,0.7s,comp=Z,3μm
KGM Kluang 23.27 266 P **P** **14 21 25.5 +1.4**
KASI Kota Agung 23.88 248 P **P** **14 21 31.8 +2.1**
comp=Z,104nm,1.1s
COEN Coen 24.08 137 *e*P **P** **14 21 28.9 -2.7**
comp=Z,151nm,0.6s
COEN *e*P **P** **14 21 29.2 -2.4**
LWLI Liwa 24.10 249 P **P** **14 21 33.7 +1.7**
comp=Z,191nm,0.8s
PMG Port Moresby 24.32 123 P **P** **14 21 31.2 -2.6**
comp=Z,1.8nm,0.9s
PMG Port Moresby 24.32 123 P **P** **14 21 32.6 -1.2**
comp=Z,33nm,0.9s
PMG Port Moresby 24.32 123 P **P** **14 21 31.2 -2.6**
comp=Z,7.4nm,0.5s,baz=310,slow=4.8,SNR=8.2
WRAB Tennant Creek 24.72 162 *e*P **P** **14 21 36.2 -1.2**
WRAB pmax pmax
comp=Z,107nm,0.7s
WRAB Tennant Creek 24.72 162 *e*P **P** **14 21 36.2 -1.2**
comp=Z,107nm,0.7s
WRAB Tennant Creek 24.72 162 P **P** **14 21 36.0 -1.4**
comp=Z,944nm,0.6s,SNR=88
WRA Warramunga Arr 24.73 162 P **P** **14 21 36.2 -1.3**
WRA Warramunga Arr 24.73 162 P **P** **14 21 36.2 -1.3**
comp=Z,126nm,0.8s
FRIM Kepong 24.90 270 P **P** **14 21 40.7 +1.6**
KSI Kapahiang 25.05 253 P P 14 21 45.5 +5.0
comp=Z,112nm,0.8s
XMIS Christmas Isla 25.15 236 *e*P **P** **14 21 39.1 -2.3**
comp=Z,303nm,0.5s
IPM Ipoh 25.48 273 *e*P **P** **14 21 44.5 +0.1**
comp=Z,76nm,1.2s
IPM Ipoh 25.48 273 P **P** **14 21 45.8 +1.3**
IPM Ipoh 25.48 273 P **P** **14 21 45.5 +1.0**
comp=Z,58nm,1.1s
MBWA Marble Bar 25.61 195 *e*P **P** **14 21 44.9 -0.6**
comp=Z,80nm,1.1s
MBWA *e*P **P** **14 21 45.6 +0.1**
MBWA Marble Bar 25.61 195 *e*P **P** **14 21 45.3 -0.2**
BKNI Bangkinang 25.73 263 P **P** **14 21 48.0 +1.4**
comp=Z,163nm,0.9s
KULM Kulim 25.88 274 *e*P **P** **14 21 47.0 -1.0**
comp=Z,37nm,0.9s
KULM Kulim 25.88 274 P **P** **14 21 49.0 +1.0**
KULM Kulim 25.88 274 P **P** **14 21 51.5 +3.5**
comp=Z,34nm,0.9s,comp=Z,1μm
PPI Padang Panjang 26.48 262 P **P** **14 21 54.0 +0.6**
comp=Z,41nm,0.6s
MNSI Mandailing Nat 27.11 265 P **P** **14 21 59.1 -0.1**
comp=Z,91nm,0.9s
PSI Prapat 27.61 269 P **P** **14 22 04.1 +0.4**
PSI Prapat 27.61 269 P **P** **14 22 04.3 +0.5**
comp=Z,39nm,1.0s
PSI Prapat 27.61 269 P **P** **14 22 04.1 +0.4**
comp=Z,22nm,0.6s,baz=96,slow=3.6,SNR=18
PSI LR LR 14 33 17.0
comp=Z,1μm,21.5s,baz=14,slow=37
CBIJ Chichi jima 27.63 31 LR LR 14 33 40.2
comp=Z,564nm,18.0s,baz=132,slow=38
ASAR Alice Springs 28.14 166 P **P** **14 22 07.5 -0.8**
ASAR PcP **PcP** **14 25 22.4 +0.6**
ASAR S **S** **14 26 53.6 +2.6**
ASAR ScP **ScP** **14 28 59.8 0.0**
ASAR Alice Springs 28.14 166 P **P** **14 22 07.5 -0.8**
comp=Z,8.0nm,0.6s,baz=346,slow=6.9,SNR=56
ASAR PcP **PcP** **14 25 22.4 +0.6**
comp=Z,4.4nm,0.5s,baz=360,slow=2.3,SNR=7.4
ASAR S **S** **14 26 53.6 +2.6**
comp=Z,2.2nm,0.8s,baz=350,slow=20,SNR=3.7
ASAR ScP **ScP** **14 28 59.8 0.0**
comp=Z,2.2nm,0.6s,baz=346,slow=3.5,SNR=4.2
GSI Gunungsitoli 29.06 266 P **P** **14 22 15.6 -0.9**
comp=Z,92nm,0.7s,comp=Z,3μm
WHN Wuhan 29.07 338 ‖ *i*P **P** **14 22 17.1 +0.7**
NJ2 Nanjing 29.10 346 *e*P **P** **14 22 17.2 +0.6**
NJ2 pmax pmax
comp=Z,30nm,0.6s
TPTI 29.33 270 P **P** **14 22 19.5 +0.5**
comp=Z,35nm,1.0s,comp=Z,4μm

JNU	**Nakatsue**	**29.53**	**7**	*e*P		**P**	**14 22 21.0**	**+0.5**		
JNU	**Nakatsue**	**29.53**	**7**	P		**P**	**14 22 20.5**	**0.0**		
	comp=Z,10.0nm,0.6s,baz=213,slow=2.4,SNR=16									
GYA	**Guiyang**	**29.57**	**322**	⇑*i* P		**P**	**14 22 21.1**	**0.0**		
GYA				pP		**pP**	**14 22 32.3**	**+0.1**		
GYA				PP		**PnPn**	**14 23 20.8**	**+3.8**		
GYA				PcP		**PcP**	**14 25 26.7**	**+1.2**		
GYA				S		**S**	**14 27 15.6**	**+1.9**		
GYA				sS		**sS**	**14 27 32.3**	**+0.1**		
GYA				SS		SS	14 28 50.0	-30		
GYA				ScP		**ScP**	**14 29 05.7**	**+1.3**		
GYA				ScS		**ScS**	**14 32 58.4**	**-1.0**		
GYA				pmax		pmax				
	comp=Z,20nm,0.8s									
GYA				pmax		pmax				
	comp=Z,130nm,5.2s									
GYA				LR		LR				
	comp=N,570nm,17.8s									
GYA				LR		LR				
	comp=E,520nm,17.8s									
GYA				LR		LR				
	comp=Z,590nm,17.9s									
CTA	**Charters Tower**	**30.56**	**141**	ScP		**ScP**	**14 29 09.1**	**+1.5**		
CTA	**Charters Tower**	**30.56**	**141**	ScP		**ScP**	**14 29 09.1**	**+1.5**		
	comp=Z,14nm,1.0s,baz=280,slow=4.2,SNR=5.9									
CTAO	**Charters Tower**	**30.56**	**141**	*e*P		**P**	**14 22 29.1**	**-0.7**		
CTAO				pmax		pmax				
	comp=Z,10.0nm,0.7s									
CTAO	**Charters Tower**	**30.56**	**141**	*e*P		**P**	**14 22 29.1**	**-0.7**		
	comp=Z,9.9nm,0.7s									
CM31	**Chiang Mai Arr**	**30.73**	**301**	*e*P		**P**	**14 22 32.0**	**+0.7**		
	comp=Z,14nm,0.7s									
CMAR	**Chiang Mai Arr**	**30.73**	**301**	P		**P**	**14 22 32.1**	**+0.8**		
CMAR				PcP		**PcP**	**14 25 29.4**	**+0.9**		
CMAR				ScP		**ScP**	**14 29 09.9**	**+1.7**		
CMAR	**Chiang Mai Arr**	**30.73**	**301**	P		**P**	**14 22 32.1**	**+0.8**		
	comp=Z,14nm,0.8s,baz=113,slow=7.0,SNR=76									
CMAR				PcP		**PcP**	**14 25 29.4**	**+0.9**		
	comp=Z,2.6nm,0.8s,baz=103,slow=1.9,SNR=3.3									
CMAR				ScP		**ScP**	**14 29 09.9**	**+1.7**		
	comp=Z,3.7nm,1.1s,baz=146,slow=2.0,SNR=9.2									
CMAR				LR		LR	14 34 09.6			
	comp=Z,636nm,18.8s,baz=332,slow=35									
CHTO	**Chiang Mai**	**30.88**	**301**	*e*P		**P**	**14 22 32.5**	**-0.1**		
CHTO				pmax		pmax				
	comp=Z,21nm,0.9s									
CHTO	**Chiang Mai**	**30.88**	**301**	*e*P		**P**	**14 22 32.5**	**-0.1**		
	comp=Z,21nm,0.9s									
CHTO	**Chiang Mai**	**30.88**	**301**	P		**P**	**14 22 33.4**	**+0.7**		
	comp=Z,31nm,1.0s									
ENH	**Enshi**	**30.95**	**330**	*e*P		**P**	**14 22 32.6**	**-0.6**		
	comp=Z,43nm,0.9s									
MEEK	**Meekatharra**	**31.14**	**194**	*e*P		**P**	**14 22 34.3**	**-0.5**		
	comp=Z,316nm,0.9s									
BSI	**Banda Aceh**	**31.21**	**274**	P		**P**	**14 22 35.6**	**0.0**		
	comp=Z,17nm,0.8s									
KMI	**Kunming**	**31.27**	**315**	P		**P**	**14 22 37.1**	**+0.9**		
KMI				pP		**pP**	**14 22 47.8**	**+0.4**		
KMI				sP		**sP**	**14 22 51.8**	**-0.5**		
KMI				pmax		pmax				
	comp=Z,16nm,1.2s									
KSAR	**Wonju Array Be**	**33.58**	**2**	P		**P**	**14 22 57.3**	**+1.2**		
KSAR				PcP		**PcP**	**14 25 37.1**	**+1.2**		
KSRS	**Korea Array**	**33.60**	**2**	P		**P**	**14 22 57.3**	**+1.1**		
	comp=Z,9.6nm,0.5s,baz=181,slow=10,SNR=46									
KSRS				PcP		**PcP**	**14 25 37.1**	**+1.2**		
	comp=Z,2.2nm,0.8s,baz=190,slow=2.4,SNR=4.3									
KSRS				LR		LR	14 35 25.6			
	comp=Z,564nm,19.6s,baz=185,slow=34									
FORT	**Forrest**	**34.33**	**178**	*e*P		**P**	**14 23 02.4**	**-0.3**		
	comp=Z,70nm,0.7s									
FORT	**Forrest**	**34.33**	**178**	*e*P		**P**	**14 23 02.3**	**-0.3**		
	comp=Z,72nm,0.7s									
XAN	**Xi'an**	**34.35**	**334**	P		**P**	**14 23 01.6**	**-1.3**		
XAN				pP		**pP**	**14 23 11.2**	**-2.9**		
XAN				sP		sP	14 23 15.3	-3.6		
XAN				pmax		pmax				
	comp=Z,13nm,0.7s									
MJAR	**Matsushiro Arr**	**34.38**	**17**	P		**P**	**14 23 04.5**	**+1.5**		
MJAR	**Matsushiro Arr**	**34.38**	**17**	P		**P**	**14 23 04.5**	**+1.5**		
	comp=Z,2.0nm,0.8s,baz=212,slow=9.3,SNR=5.7									
MJAR				LR		LR	14 34 43.3			
	comp=Z,777nm,21.4s,baz=200,slow=32									
MAT	**Matsushiro**	**34.38**	**17**	P		**P**	**14 23 01.2**	**-1.8**		
CD2	**Chengdu**	**34.55**	**324**	⇑P		**P**	**14 23 04.3**	**-0.4**		
CD2				pP		**pP**	**14 23 14.4**	**-1.5**		
CD2				sP		sP	14 23 18.6	-2.1		
CD2				PcP		**PcP**	**14 25 38.1**	**-0.8**		
CD2				S		**S**	**14 28 30.8**	**-0.3**		
CD2				sS		**sS**	**14 28 47.5**	**-2.3**		
CD2				PcS		**PcS**	**14 29 23.5**	**-2.0**		
CD2				SS		**SnSn**	**14 30 44.3**	**-0.9**		
CD2				pmax		pmax				
	comp=Z,30nm,0.5s									
CD2				pmax		pmax				
	comp=Z,140nm,7.0s									
CD2				LR		LR				
	comp=N,390nm,22.0s									
CD2				LR		LR				
	comp=E,460nm,17.6s									
CD2				LR		LR				
	comp=Z,570nm,18.4s									
DL2	**Dalian**	**35.31**	**353**	P		**P**	**14 23 12.8**	**+1.8**		
DL2				pmax		pmax				
	comp=Z,100nm,0.7s									
BLDU	**Ballidu**	**35.41**	**195**	*e*P		**P**	**14 23 11.6**	**-0.4**		
HNR	**Honiara**	**35.74**	**112**	LR		LR	14 36 35.7			
	comp=Z,1μm,19.5s,baz=115,slow=34									
KLBR	**Kellerberrin**	**36.10**	**193**	*e*P		**P**	**14 23 17.9**	**0.0**		
	comp=Z,35nm,0.8s									
BJT	**Baijiatuau**	**37.34**	**347**	*e*P		**P**	**14 23 28.3**	**0.0**		
	comp=Z,64nm,0.6s									
BJI	**Beijing**	**37.36**	**347**	P		**P**	**14 23 28.7**	**+0.3**		
BJI				pmax		pmax				
	comp=Z,82nm,0.8s									
BBOO	**Buckleboo**	**37.43**	**167**	*e*P		**P**	**14 23 28.8**	**-0.3**		
	comp=Z,2μm,1.8s									
EIDS	**Eidsvold**	**37.45**	**142**	*e*P		**P**	**14 23 28.5**	**-0.9**		
	comp=Z,21nm,0.7s									
EIDS	**Eidsvold**	**37.45**	**142**	*e*P		**P**	**14 23 28.3**	**-1.1**		
	comp=Z,108nm,0.7s									
NWAO	**Narrogin (SRO)**	**37.50**	**193**	*e*P		**P**	**14 23 29.9**	**+0.1**		
	comp=Z,180nm,2.2s									
NWAO	**Narrogin (SRO)**	**37.50**	**193**	P		**P**	**14 23 30.1**	**+0.3**		
	comp=Z,8.5nm,0.4s,baz=25,slow=6.5,SNR=24									
IMP	**Imphal**	**37.74**	**307**	*e*PKP		**P**	**14 23 30.0**	**-2.0**		
SNY	**Shenyang**	**38.04**	**356**	⇓P		P	14 23 36.4	+2.3		
SNY				pmax		pmax				
	comp=Z,70nm,0.5s									
STKA	**Stephens Creek**	**38.18**	**159**	*e*P		**P**	**14 23 34.9**	**-0.6**		
	comp=Z,9.7nm,0.6s									
STKA				PcP		**PcP**	**14 25 49.9**	**+0.2**		
STKA	**Stephens Creek**	**38.18**	**159**	*e*P		**P**	**14 23 34.8**	**-0.7**		
	comp=Z,32nm,0.4s									
STKA	**Stephens Creek**	**38.18**	**159**	P		**P**	**14 23 34.9**	**-0.7**		
	comp=Z,46nm,0.5s,baz=336,slow=7.8,SNR=62									
STKA				PcP		**PcP**	**14 25 49.9**	**+0.2**		
	comp=Z,16nm,0.7s,baz=347,slow=6.0,SNR=4.3									
LZH	**Lanzhou**	**38.43**	**330**	*e*P		**P**	**14 23 38.2**	**+0.4**		
LZH				pP		**pP**	**14 23 48.5**	**-0.6**		
LZH				sP		sP	14 23 51.8	-2.1		
LZH				S		**ScP**	**14 29 31.0**	**-4.5**		
LZH				sS		sS	14 29 46.5	-2.7		
LZH				SS		**SnSn**	**14 32 09.2**	**-10**		
LZH				pmax		pmax				
	comp=Z,36nm,1.0s									
LZH				pmax		pmax				
	comp=Z,220nm,5.7s									
LZH				LR		LR				
	comp=N,580nm,11.5s									
LZH				LR		LR				
	comp=E,530nm,8.6s									
LZH				LR		LR				
	comp=Z,990nm,20.2s									
HHC	**Hu-ho-hao-te**	**39.36**	**342**	*e*P		**P**	**14 23 45.7**	**+0.3**		
HHC				pP		**pP**	**14 23 55.0**	**-1.8**		
HHC				sP		sP	14 23 59.4	-2.2		
HHC				PP		**PnPn**	**14 25 21.4**	**+2.1**		
HHC				S		**S**	**14 29 45.2**	**+1.1**		
HHC				sS		**sS**	**14 30 02.4**	**-0.5**		
HHC				SS		**SS**	**14 32 32.3**	**-6.9**		
HHC				ScS		**ScS**	**14 33 50.8**	**-0.1**		
HHC				pmax		pmax				
	comp=Z,21nm,0.8s									
HHC				LR		LR				
	comp=N,840nm,12.3s									
HHC				LR		LR				
	comp=E,650nm,13.2s									
HHC				LR		LR				
	comp=Z,750nm,14.9s									
CMSA	**Cobar Meteorol**	**39.51**	**154**	*e*P		**P**	**14 23 46.5**	**-0.2**		
	comp=Z,81nm,0.7s									
SHL	**Shillong**	**39.75**	**307**	*i* P		**P**	**14 23 47.0**	**-2.0**		
SHL				*ex*		x	14 29 48.0			
CN2	**Changchun**	**39.93**	**359**	*e*P		**P**	**14 23 51.1**	**+1.1**		
CN2				*e*pP		**pP**	**14 24 01.0**	**-0.3**		
CN2				*e*PP		**PnPn**	**14 25 28.0**	**+2.1**		
CN2				*e*S		**S**	**14 29 54.4**	**+2.1**		
CN2				*e*SS		**SS**	**14 32 46.0**	**-4.2**		
CN2				pmax		pmax				
	comp=Z,20nm,0.7s									
CN2				pmax		pmax				
	comp=Z,200nm,5.0s									
CN2				LR		LR				
	comp=N,1μm,19.0s									
CN2				LR		LR				
	comp=E,500nm,19.0s									
CN2				LR		LR				
	comp=Z,900nm,20.0s									
USRK	**Ussuriysk Arra**	**40.60**	**6**	P		**P**	**14 23 56.6**	**+1.1**		
	comp=Z,13nm,0.5s,baz=189,slow=7.6,SNR=32									
MDJ	**Mudanjiang**	**40.82**	**3**	P		**P**	**14 23 58.0**	**+0.7**		
MDJ				pmax		pmax				
	comp=Z,21nm,0.7s									
MDJ				pmax		pmax				
	comp=Z,430nm,9.8s									
MDJ	**Mudanjiang**	**40.82**	**3**	*e*P		**P**	**14 23 57.2**	**-0.1**		
	comp=Z,37nm,0.9s									
CAL	**Calcutta**	**41.47**	**300**	*e*PKP		**P**	**14 24 01.7**	**-1.3**		
ARMA	**Armidale**	**41.55**	**147**	*e*P		**P**	**14 24 03.3**	**-0.4**		
	comp=Z,27nm,0.8s									
ARMA				*e*P		**P**	**14 24 03.7**	**0.0**		
ARMA	**Armidale**	**41.55**	**147**	*e*P		**P**	**14 24 03.9**	**+0.2**		
LSA	**Lhasa**	**42.32**	**312**	*e*P		**P**	**14 24 11.0**	**+0.5**		
LSA				pmax		pmax				
	comp=Z,34nm,0.6s									
LSA	**Lhasa**	**42.32**	**312**	*e*P		**P**	**14 24 11.0**	**+0.5**		
	comp=Z,34nm,0.6s									
ASAJ	**Asahikawa**	**42.65**	**17**	*e*P		**P**	**14 24 13.6**	**+1.3**		
	comp=Z,9.4nm,0.7s									
ASAJ	**Asahikawa**	**42.65**	**17**	P		**P**	**14 24 13.6**	**+1.3**		
	comp=Z,12nm,0.7s,baz=224,slow=15,SNR=14									
GTA	**Gaotai**	**43.02**	**329**	*e*P		**P**	**14 24 15.5**	**-0.1**		
GTA				pP		**pP**	**14 24 26.8**	**-0.2**		
GTA				sP		sP	14 24 30.0	-1.8		
GTA				PcP		**PcP**	**14 26 08.1**	**+2.7**		
GTA				S		**S**	**14 30 38.5**	**-0.1**		
GTA				SS		SS	14 33 41.8	-10		
GTA				ScS		**ScS**	**14 34 12.6**	**-0.5**		
GTA				pmax		pmax				
	comp=Z,10.0nm,0.4s									
GTA				LR		LR				
	comp=N,800nm,17.6s									
GTA				LR		LR				
	comp=E,1μm,20.9s									
GTA				LR		LR				
	comp=Z,1μm,20.0s									
TAPN	**Taplejung**	**43.89**	**306**	*e*P		**P**	**14 24 23.1**	**+0.1**		
	comp=Z,65nm,0.6s									
ODAN	**Odare**	**43.94**	**306**	*e*P		**P**	**14 24 23.4**	**+0.1**		
	comp=Z,78nm,0.5s									
CAN	**Canberra**	**44.18**	**153**	*e*P		**P**	**14 24 25.1**	**+0.3**		
CAN				pmax		pmax				
	comp=Z,24nm,0.7s									
CAN	**Canberra**	**44.18**	**153**	*e*P		**P**	**14 24 25.1**	**+0.3**		
	comp=Z,24nm,0.7s									
CAN	**Canberra**	**44.18**	**153**	*e*P		**P**	**14 24 26.0**	**+1.2**		
	comp=Z,20nm,0.7s									
RAMN	**Ramite**	**44.62**	**305**	*e*P		**P**	**14 24 29.1**	**+0.3**		
	comp=Z,49nm,0.5s									
TOO	**Toolangi**	**44.69**	**158**	*e*P		**P**	**14 24 30.9**	**+2.0**		
	comp=Z,55nm,0.7s									
HABR	**Khabarovsk**	**45.18**	**8**	*e*P		**P**	**14 24 30.9**	**-1.6**		
HABR				*e**PP		pP	14 24 40.8	-3.2		
HABR				*e*			14 26 17.1			
HABR				*e*S		**S**	**14 31 09.5**	**+0.1**		
HABR				*e**SS		sS	14 31 26.2	-2.3		
HABR				*e*			14 34 24.9			
HABR				pmax		pmax				
	comp=N,72nm,3.5s									
HABR				pmax		pmax				
	comp=E,87nm,3.5s									
HABR				pmax		pmax				
	comp=Z,49nm,1.7s									
HABR				MLR		MLR				
	comp=Z,434nm,15.0s									
JIRN	**Jiri**	**45.24**	**306**	*e*P		**P**	**14 24 33.8**	**-0.1**		
	comp=Z,16nm,0.5s									
YSS	**Yuzh-Sakhalins**	**45.30**	**16**	*e*P		**P**	**14 24 35.0**	**+1.5**		
YSS				*e*			14 24 46.3			
KLR	**Kul'dur**	**45.56**	**5**	*e*P		**P**	**14 24 32.6**	**-3.0**		
GUN	**Gumba**	**45.60**	**306**	*e*P		**P**	**14 24 36.6**	**0.0**		
	comp=Z,74nm,0.5s									
HIA	**Hailar**	**45.75**	**354**	*e*P		**P**	**14 24 37.0**	**-0.2**		
	comp=Z,38nm,0.9s									
PKI	**Pulchoki**	**45.84**	**305**	*e*P		**P**	**14 24 37.9**	**-0.6**		
	comp=Z,18nm,0.5s									
KKN	**Kakani**	**46.03**	**306**	*e*P		**P**	**14 24 39.5**	**-0.4**		
	comp=Z,30nm,0.5s									
DMN	**Daman**	**46.10**	**305**	*e*P		**P**	**14 24 40.3**	**-0.2**		
	comp=Z,33nm,0.8s									
GKN	**Gorkha**	**46.64**	**306**	*e*P		**P**	**14 24 44.2**	**-0.4**		
	comp=Z,32nm,0.5s									
DZM	**Mont Dzumac**	**46.67**	**125**	*e*P		**P**	**14 24 44.1**	**-0.7**		
DZM	**Mont Dzumac**	**46.67**	**125**	P		**P**	**14 24 44.8**	**0.0**		
DZM	**Mont Dzumac**	**46.67**	**125**	P		**P**	**14 24 44.8**	**0.0**		
	comp=Z,27nm,0.6s,baz=289,slow=6.8,SNR=36									
MDRS	**Chennai**	**46.68**	**284**	*e*PKP		**P**	**14 24 44.1**	**-0.8**		
ULN	**Ulaanbaatar**	**47.08**	**342**	*e*P		**P**	**14 24 48.0**	**+0.2**		
	comp=Z,19nm,0.9s									
ULN	**Ulaanbaatar**	**47.08**	**342**	P		**P**	**14 24 47.9**	**+0.2**		
	comp=Z,38nm,0.8s									
SONM	**Songino Array**	**47.26**	**342**	P		**P**	**14 24 49.1**	**0.0**		
SONM				PcP		**PcP**	**14 26 20.1**	**+0.3**		
SONM	**Songino Array**	**47.26**	**342**	P		**P**	**14 24 49.1**	**0.0**		
	comp=Z,9.8nm,0.6s,baz=158,slow=8.5,SNR=62									
SONM				PcP		**PcP**	**14 26 20.1**	**+0.3**		
	comp=Z,4.0nm,0.6s,baz=169,slow=3.6,SNR=4.2									
KOLN	**Koldanda**	**47.39**	**305**	*e*P		**P**	**14 24 50.2**	**-0.4**		
	comp=Z,118nm,0.5s									
DANN	**Dangsing**	**47.49**	**306**	*e*P		**P**	**14 24 51.1**	**-0.3**		
	comp=Z,168nm,0.5s									
HYB	**Hyderabad**	**48.96**	**290**	*i* P		**P**	**14 25 02.5**	**-0.1**		
NGP	**Nagpur**	**49.29**	**295**	*e*PKP		**P**	**14 25 02.8**	**-2.2**		
NGP				AMb		AMB	14 25 03.3			
	comp=Z,23nm,1.2s									
TRD	**Trivandrum**	**49.52**	**278**	*ex*		x	14 27 03.3			
ZAK	**Zakamensk**	**50.48**	**341**	*e*P		**P**	**14 25 13.4**	**-0.3**		
LATR	**Latur**	**51.01**	**291**	*e*PKP		**P**	**14 25 17.6**	**-0.5**		
AKL	**Akola**	**51.04**	**294**	*e*PKP		**P**	**14 25 18.5**	**+0.2**		
AKL				AMb		AMB	14 25 19.1			
	comp=Z,108nm,0.1s									
TLY	**Talaya**	**51.49**	**342**	*e*P		**P**	**14 25 20.3**	**-0.9**		
TLY				pmax		pmax				
	comp=Z,7.0nm,0.6s									
TLY	**Talaya**	**51.49**	**342**	*e*P		**P**	**14 25 20.9**	**-0.3**		
	comp=Z,17nm,0.9s									
TLY	**Talaya**	**51.49**	**342**	P		**P**	**14 25 22.0**	**+0.8**		
	comp=Z,107nm,0.5s,SNR=5.3									
IRK	**Irkutsk**	**51.79**	**343**	*e*P		P	14 25 25.6	+2.2		
IRK				pmax		pmax				
	comp=Z,30nm,1.6s									
MOY	**Mondy**	**52.34**	**340**	*e*P		**P**	**14 25 28.5**	**+0.9**		
MOY				pmax		pmax				
	comp=Z,26nm,2.5s									
WMQ	**Urumqi**	**52.64**	**325**	*e*P		**P**	**14 25 30.4**	**+0.5**		
WMQ				pP		**pP**	**14 25 40.0**	**-1.6**		
WMQ				sP		sP	14 25 44.0	-2.4		
WMQ				pmax		pmax				
	comp=Z,15nm,1.0s									
WMQ				LR		LR				
	comp=N,940nm,18.4s									
WMQ				LR		LR				
	comp=E,850nm,20.3s									
WMQ				LR		LR				
	comp=Z,1μm,20.3s									
CLNS	**Chul'man**	**52.98**	**359**	*e*P		P	14 25 34.5	+2.3		
CLNS				pmax		pmax				
	comp=Z,17nm,0.8s									
CLNS				pmax		pmax				
	comp=N,10.0nm,1.0s									
CLNS				pmax		pmax				
	comp=E,6.0nm,0.9s									
POO	**Poona**	**53.56**	**290**	*e*PKP		**P**	**14 25 36.3**	**-0.8**		
POO				AMb		AMB	14 25 37.1			
	comp=Z,59nm,0.5s									
BOD	**Bodaibo**	**54.85**	**352**	*e*P		**P**	**14 25 46.6**	**+0.8**		
BOD				pmax		pmax				
	comp=Z,18nm,1.3s									
MSVF	**Nonsavu**	**55.06**	**115**	*e*P		**P**	**14 25 49.6**	**+1.5**		
MSVF				pmax		pmax				
	comp=Z,69nm,1.2s									
MSVF	**Nonsavu**	**55.06**	**115**	*e*P		**P**	**14 25 49.6**	**+1.5**		
	comp=Z,69nm,1.2s									
MSVF	**Nonsavu**	**55.06**	**115**	P		**P**	**14 25 49.0**	**+0.9**		
	comp=Z,241nm,1.2s,SNR=6.4									
PEA0B	**Petropavlovsk-**	**55.50**	**22**	*e*P		**P**	**14 25 51.9**	**+1.4**		
PETK	**Petropavlovsk-**	**55.50**	**22**	P		**P**	**14 25 51.3**	**+0.7**		
PETK	**Petropavlovsk-**	**55.50**	**22**	P		**P**	**14 25 51.3**	**+0.7**		
PETK	**Petropavlovsk-**	**55.50**	**22**	P		**P**	**14 25 51.3**	**+0.7**		
	comp=Z,22nm,0.6s,baz=178,slow=3.6,SNR=80									
PET	**Petropavlovsk**	**55.80**	**23**	*e*P		**P**	**14 25 52.3**	**-0.4**		
PET				pmax		pmax				
	comp=Z,50nm,1.1s									
PET	**Petropavlovsk**	**55.80**	**23**	*e*P		**P**	**14 25 52.3**	**-0.4**		
	comp=Z,50nm,1.1s									
MK31	**Makanchi Array**	**57.47**	**325**	P		**P**	**14 26 04.4**	**-0.3**		
MK31				pmax		pmax				
	comp=Z,13nm,0.4s									
MK31	**Makanchi Array**	**57.47**	**325**	*e*P		**P**	**14 26 04.3**	**-0.5**		
MKAR	**Makanchi Array**	**57.47**	**325**	*e*P		**P**	**14 26 04.4**	**-0.3**		
MKAR	**Makanchi Array**	**57.47**	**325**	*e*P		**P**	**14 26 04.4**	**-0.3**		
MKAR	**Makanchi Array**	**57.47**	**325**	P		**P**	**14 26 04.3**	**-0.4**		
	comp=Z,24nm,0.5s,baz=121,slow=7.8,SNR=107									
KSH	**Kashi**	**57.93**	**315**	P		**P**	**14 26 09.3**	**+1.0**		
KSH				pP		**pP**	**14 26 19.2**	**-0.9**		
KSH				sP		**sP**	**14 26 23.3**	**-1.5**		
KSH				PcP		**PcP**	**14 27 00.7**	**+0.5**		
KSH				PP		**PP**	**14 28 20.5**	**+3.5**		
KSH				ScP		**ScP**	**14 30 56.8**	**-0.5**		
KSH				PcS		**PcS**	**14 31 00.7**	**-1.0**		
KSH				S		**S**	**14 34 07.7**	**+1.9**		
KSH				sS		**sS**	**14 34 24.6**	**-0.8**		
KSH				ScS		**ScS**	**14 35 54.0**	**-0.9**		
KSH				SS		**SS**	**14 38 00.7**	**+3.4**		
KSH				LR		LR				
	comp=N,720nm,18.2s									
KSH				LR		LR				
	comp=E,570nm,17.0s									
KSH				LR		LR				
	comp=Z,620nm,15.9s									
YAK	**Yakutsk**	**58.22**	**2**	*e*P		**P**	**14 26 09.5**	**-0.1**		
YAK				*e**PP		pP	14 26 18.3	-3.2		
YAK				*e*			14 27 01.5			
YAK				*e*			14 28 17.7			
YAK				*e*S		**S**	**14 34 11.5**	**+3.1**		
YAK				*e**SS		**sS**	**14 34 30.3**	**+2.2**		
YAK				*e*			14 35 54.7			
YAK				*e*SS		**SS**	**14 38 03.9**	**+3.2**		
YAK				pmax		pmax				
	comp=E,7.0nm,1.1s									
YAK				pmax		pmax				
	comp=Z,55nm,0.9s									
YAK				pmax		pmax				
	comp=N,31nm,1.2s									
YAK				pmax		pmax				
	comp=Z,6.0nm,0.8s									
YAK				smax		smax				
	comp=N,158nm,2.1s									
YAK				smax		smax				
	comp=E,86nm,1.8s									
YAK	**Yakutsk**	**58.22**	**2**	*e*P		**P**	**14 26 09.6**	**0.0**		
	comp=E,67nm,0.8s									
BHJ	**Bhuj**	**58.24**	**295**	*ex*		x	14 27 07.1			
BHJ				AMb		AMB	14 27 11.3			
	comp=Z,63nm,0.8s									
ULHL	**Ulahol**	**58.92**	**318**	P		**P**	**14 26 16.4**	**+1.3**		
	SNR=15									
KZA	**Kyzart**	**59.51**	**318**	P		**P**	**14 26 19.8**	**+0.3**		
	SNR=38									
TKM2	**Tokmak 2**	**59.64**	**319**	*i* P		**P**	**14 26 21.4**	**+1.2**		
TKM2	**Tokmak 2**	**59.64**	**319**	*e*P		**P**	**14 26 20.2**	**0.0**		
	comp=Z,26nm,0.6s									
TKM2	**Tokmak 2**	**59.64**	**319**	P		**P**	**14 26 21.4**	**+1.2**		
	SNR=50									
KBK	**Karagaybulak**	**59.96**	**318**	P		**P**	**14 26 23.8**	**+1.5**		
	SNR=18									
UCH	**Uchtor**	**60.07**	**317**	P		**P**	**14 26 25.1**	**+1.7**		
	SNR=7.3									
CHMS	**Chumysh**	**60.24**	**318**	P		**P**	**14 26 24.9**	**+0.9**		
	SNR=11									
AAK	**Ala-Archa**	**60.25**	**318**	*de*P		**P**	**14 26 24.1**	**-0.2**		
AAK				pmax		pmax				
	comp=Z,56nm,1.7s									
AAK	**Ala-Archa**	**60.25**	**318**	*e*P		**P**	**14 26 23.9**	**-0.4**		
	comp=Z,33nm,0.6s									
AAK				P		**P**	**14 26 24.6**	**+0.3**		
AAK	**Ala-Archa**	**60.25**	**318**	P		**P**	**14 26 25.5**	**+1.2**		
	comp=Z,84nm,0.6s,SNR=9.2									
AAK	**Ala-Archa**	**60.25**	**318**	P		**P**	**14 26 25.7**	**+1.4**		
	SNR=14									
AAK	**Ala-Archa**	**60.25**	**318**	P

comp=Z,25nm,0.6s
ABKAR Akbulak array 72.05 321 *e*P **P 14 27 38.9 -0.8**
AKTO Aktyubinsk 73.56 322 P **P 14 27 48.0 -0.6**
AKTO pmax pmax
comp=Z,3.0nm,0.7s
AKTO Aktyubinsk 73.56 322 P **P 14 27 48.0 -0.6**
AKTO Aktyubinsk 73.56 322 P **P 14 27 48.0 -0.6**
comp=Z,17nm,0.6s,baz=105,slow=8.2,SNR=60
SVE Sverdlovsk 73.88 329‖ *i*P **P 14 27 50.3 0.0**
SVE pmax pmax
comp=Z,47nm,1.0s
GAMB Gambell 74.47 24 *e*P **P 14 27 52.7 -0.9**
comp=Z,24nm,0.9s
ARU Arti 74.86 328 *c i*P **P 14 27 55.1 -0.9**
ARU 14 30 38.5
ARU PPP PPP 14 32 25.4
ARU S **S 14 37 29.4 -0.6**
ARU SS **SS 14 42 16.3 -2.3**
ARU pmax pmax
comp=Z,26nm,0.8s
ARU Arti 74.86 328 *e*P **P 14 27 54.8 -1.2**
comp=Z,29nm,0.9s
ARU Arti 74.86 328 P **P 14 27 55.7 -0.3**
comp=Z,216nm,1.1s,SNR=21
KIP Kipapa 75.08 69 *ce*P **P 14 27 55.5 -2.5**
KIP pmax pmax
comp=Z,51nm,1.2s
SOKR Solikamsk 76.64 331 *e*P **P 14 28 06.1 0.0**
SOKR pmax pmax
comp=Z,10.0nm,1.4s
SDPT Sand Point 77.30 34 *e*P **P 14 28 08.6 -1.2**
comp=Z,146nm,0.6s
QRN Al-Qurain 78.27 298 *e*P **P 14 28 14.8 -1.1**
QRN AMb AMB 14 28 16.4
comp=Z,89nm,0.6s
KBD Kabd 78.48 299 *e*P **P 14 28 16.7 -0.3**
KBD AMb AMB 14 28 17.4
comp=Z,33nm,0.6s
RDF Al-Radifah 78.59 299 *e*P **P 14 28 16.8 -0.9**
RDF AMb AMB 14 28 18.9
comp=Z,57nm,0.6s
MIB Mutribah 78.81 299 *e*P **P 14 28 18.0 -0.9**
MIB AMb AMB 14 28 19.4
comp=Z,80nm,0.6s
NAY Al-Naaiem 78.88 299 *e*P **P 14 28 18.1 -1.1**
NAY AMb AMB 14 28 19.6
comp=Z,35nm,0.7s
ABPO Ambohimpanom 81.15 250 *e*P **P 14 28 31.6 -0.3**
ABPO pmax pmax
comp=Z,21nm,0.6s
ABPO Ambohimpanom 81.15 250 *e*P **P 14 28 31.6 -0.3**
comp=Z,21nm,0.6s
KDAK Kodiak Island 81.99 32 P **P 14 28 36.0 +0.7**
comp=Z,282nm,0.8s,SNR=8.3
ZEI Tsey 82.10 312 *e*P **P 14 28 35.8 -0.8**
ZEI pmax pmax
comp=Z,14nm,0.8s
KIV Kislovodsk 83.02 314 *e*P **P 14 28 39.9 -1.3**
KIV pmax pmax
comp=Z,6.0nm,0.7s
VNDA Vanda 83.44 173 *e*P **P 14 28 42.5 +0.1**
comp=Z,51nm,1.8s
TRF Thorofare Mount 83.62 27 *e*P **P 14 28 44.2 +0.2**
comp=Z,38nm,1.0s
RC01 Rabbit Creek A 83.71 29 *e*P **P 14 28 44.8 +0.6**
comp=Z,36nm,0.9s
VRHR Novokhopersk 83.94 321 *e*P **P 14 28 44.3 -1.3**
VRHR pmax pmax
comp=N,1.0nm,0.6s
VRHR pmax pmax
comp=E,6.0nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s
COLD Coldfoot 83.97 23 *e*P P 14 28 47.7 +2.3
comp=Z,32nm,1.0s
PMR Palmer 84.03 29 *e*P **P 14 28 46.4 +0.6**
PMR pmax pmax
comp=Z,47nm,1.0s
PMR Palmer 84.03 29 *e*P **P 14 28 46.4 +0.6**
comp=Z,47nm,1.0s
MCK McKinley 84.25 26 *e*P **P 14 28 48.0 +1.1**
MCK pmax pmax
comp=Z,175nm,1.9s
MCK McKinley 84.25 26 *e*P **P 14 28 48.0 +1.1**
comp=Z,175nm,1.9s
SML Sawmill 84.42 28 *e*P **P 14 28 48.7 +0.8**
SML pmax pmax
comp=Z,29nm,1.3s
SML Sawmill 84.42 28 *e*P **P 14 28 48.7 +0.8**
comp=Z,29nm,1.3s
COLA College 84.78 25 *e*P **P 14 28 50.5 +1.0**
COLA pmax pmax
comp=Z,10.0nm,0.9s
COLA College 84.78 25 *e*P **P 14 28 50.5 +1.0**
comp=Z,9.9nm,0.9s
ILAR Eielson Array 85.19 25 P **P 14 28 51.1 -0.5**
ILAR Eielson Array 85.19 25 P **P 14 28 51.1 -0.5**
comp=Z,4.3nm,0.7s,baz=246,slow=5.0,SNR=47
KLMR Klimovskoe 85.33 331 *c i*P **P 14 28 52.5 +0.1**
KLMR pmax pmax
comp=Z,46nm,0.6s
VORD Divnogorie 85.41 321 *e*P **P 14 28 52.2 -0.8**
VSR Storozhevoye 85.49 321 *e*P **P 14 28 52.4 -1.0**
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,30nm,0.9s
DIV Divide 85.64 29 *e*P **P 14 28 53.9 -0.2**
comp=Z,47nm,0.8s
PAX Paxson 85.79 27 *e*P **P 14 28 56.4 +1.6**
PAX pmax pmax
comp=Z,29nm,1.3s
PAX Paxson 85.79 27 *e*P **P 14 28 56.4 +1.6**
comp=Z,29nm,1.3s
BMRM Bremner River 86.21 29 *e*P P 14 28 59.9 +3.0
comp=Z,33nm,1.0s
ANN Anapa 86.79 315 *e*P **P 14 28 58.5 -1.4**
ANN *e* 14 39 30.9
ANN pmax pmax
comp=Z,83nm,0.8s
OBN Obninsk 86.97 325‖ *e*P **P 14 29 00.4 -0.1**
OBN *e*S **S 14 39 39.7 +3.5**
OBN pmax pmax
comp=Z,77nm,1.7s
OBN Obninsk 86.97 325 *e*P **P 14 29 00.5 -0.1**
comp=Z,42nm,1.0s
JOF Joensuu 89.11 333 *e*P **P 14 29 09.4 -1.2**
JOF pmax pmax
comp=Z,15nm,0.5s
JOF Joensuu 89.11 333 *ep* **P 14 29 09.4 -1.2**
comp=Z,15nm,0.5s
KMBO Kilima Mbogo 89.38 269 *e*P **P 14 29 13.8 +0.6**
comp=Z,12nm,0.8s
KEV Kevo 89.84 340 *e*P **P 14 29 13.7 -0.2**
KEV Kevo 89.84 340 *ep* **P 14 29 13.7 -0.2**
BR131 Keskin Array S 89.90 310 *e*P **P 14 29 14.0 -1.0**
comp=Z,6.8nm,0.7s
BRTR Keskin Array B 89.90 310 P **P 14 29 13.8 -1.3**
BRTR Keskin Array B 89.90 310 P **P 14 29 13.8 -1.3**
comp=Z,11nm,0.8s,baz=113,slow=5.1,SNR=32
ARCES ARCESS Array B 90.40 340 P **P 14 29 16.0 -0.5**
ARCES ARCESS Array B 90.40 340 P **P 14 29 16.0 -0.5**
comp=Z,7.2nm,0.6s,baz=84,slow=6.4,SNR=43
SPITS Spitsbergen Ar 90.46 349 P **P 14 29 16.9 +0.2**
SPITS Spitsbergen Ar 90.46 349 P **P 14 29 16.9 +0.2**
comp=Z,3.9nm,0.5s,baz=357,slow=3.9,SNR=11
KAF Kangasniemi 91.53 332 *e*P **P 14 29 20.5 -1.4**
KAF pmax pmax
comp=Z,6.0nm,0.5s
KAF Kangasniemi 91.53 332 *ep* **P 14 29 20.5 -1.4**
comp=Z,6.4nm,0.5s
FINES FINESS Array B 91.76 332 P **P 14 29 22.5 -0.5**
FINES FINESS Array B 91.76 332 P **P 14 29 22.5 -0.5**
comp=Z,4.3nm,0.6s,baz=54,slow=4.8,SNR=33
AKASG Malin Array Be 91.80 321 *ce*P **P 14 29 22.2 -1.2**
AKASG pmax pmax
comp=Z,10.0nm,0.6s
AKASG Malin Array Be 91.80 321 P **P 14 29 22.1 -1.3**
AKASG Malin Array Be 91.80 321 P **P 14 29 22.1 -1.3**
comp=Z,9.7nm,0.7s,baz=69,slow=4.8,SNR=25
KIEV Kiev 91.81 321 *e*P **P 14 29 22.4 -1.0**
KIEV pmax pmax
comp=Z,7.0nm,0.6s
KIEV Kiev 91.81 321 *e*P **P 14 29 22.4 -1.0**
comp=Z,6.8nm,0.6s
SYO Syowa Base 92.36 201‖ *e*P **P 14 29 25.0 -0.5**
SYO Syowa Base 92.36 201‖ *ep*P pP 14 29 37.8 -0.2
SYO Syowa Base 92.36 201‖ *es*P sP 14 29 43.8 +1.2
SYO Syowa Base 92.36 201‖ *e*PKiKP **PKiKP 14 34 12.5 -2.0**
NACGM Naroch 92.60 325 *e* **P 14 29 24.0 -3.0**
QSPA South Pole Qui 93.62 180 *eP* **P 14 29 31.2 -0.5**
comp=Z,11nm,1.1s
TESR 94.13 317‖ *iP* **P 14 29 34.2 -0.1**
VRI Vrincioaia 94.19 316‖ *P* **P 14 29 34.7 +0.1**
VRI Vrincioaia 94.19 316‖ *iP* **P 14 29 34.7 +0.1**
PLOR Plostina 94.24 316‖ *P* **P 14 29 34.8 -0.1**
PLOR Plostina 94.24 316‖ *iP* **P 14 29 34.8 -0.1**
MLR Muntele Rosu 94.79 316 *P* **P 14 29 37.2 -0.4**
MLR Muntele Rosu 94.79 316‖ *iP* **P 14 29 37.5 0.0**
MLR Muntele Rosu 94.79 316 *P* **P 14 29 37.2 -0.4**
comp=Z,2.5nm,0.7s,baz=231,slow=1.1,SNR=14
BURAR Bucovina Array 94.90 318‖ *iP* **P 14 29 38.2 +0.3**
BUR08 Bucovina Ar. S 94.90 318 *eP* **P 14 29 37.9 -0.1**
VOIR 95.42 316⇑ *P* **P 14 29 39.0 -1.3**
VOIR 95.42 316⇑ *iP* **P 14 29 39.0 -1.3**
LOT Lotru 96.30 316‖ *iP* **P 14 29 44.5 +0.1**
UZH Uzhgorod 96.60 320⇑ *iP* **P 14 29 45.5 0.0**
UZH *e* 14 30 03.9
DRGR 96.74 318‖ *P* **P 14 29 46.2 -0.1**
DRGR 96.74 318‖ *iP* **P 14 29 46.2 -0.1**
VTS Vitosha 97.28 314⇑ *P* P 14 29 45.5 -3.4
VTS Vitosha 97.28 314⇑ *iP* P 14 29 45.5 -3.4
BZS Buzias 97.74 317‖ *P* Pdif 14 29 50.3 -0.5
BZS Buzias 97.74 317‖ *iP* Pdif 14 29 50.3 -0.5
HFS Hagfors 97.95 332 P Pdif 14 29 50.5 -0.8
HFS Hagfors 97.95 332 P Pdif 14 29 50.5 -0.8
comp=Z,1.5nm,0.4s,baz=116,slow=6.8,SNR=8.6
NB2 NORSAR Subarra 98.72 334 P **P 14 29 53.0 -1.8**
baz=67,slow=4.6
NB2 NORSAR Subarra 98.72 334 P **P 14 29 53.0 -1.8**
comp=Z,4.9nm,0.8s,baz=67,slow=4.6
NOA NORSAR Array B 98.72 334 P **P 14 29 53.0 -1.8**
NOA NORSAR Array B 98.72 334 P **P 14 29 53.0 -1.8**
comp=Z,3.8nm,0.7s,baz=67,slow=4.6,SNR=17
LSZ Lusaka 99.04 255 *eP* **Pdif 14 29 55.8 -1.6**
comp=Z,7.5nm,0.8s
YKA Yellowknife Ar 99.58 24 P **Pdif 14 29 59.0 +0.5**
YKA PKKPbc **PKKPbc 14 46 19.6 -3.3**
YKA Yellowknife Ar 99.58 24 P **Pdif 14 29 59.0 +0.5**
comp=Z,0.7nm,0.5s,baz=296,slow=4.2,SNR=13
YKA PKKPbc **PKKPbc 14 46 19.6 -3.3**
comp=Z,0.3nm,0.5s,baz=115,slow=2.4,SNR=6.1
BRG Berggiesshubel 101.15 323 *eP* Pdif 14 30 20.6 +15
comp=Z,5.1nm,1.0s
BRG Berggiesshubel 101.15 323 *eP* Pdif 14 30 20.6 +15
BRG pmax pmax
comp=Z,5.0nm,1.0s
GERES GERESS Array B 101.99 322 P **Pdif 14 30 09.7 -0.1**
GERES GERESS Array B 101.99 322 P **Pdif 14 30 09.7 -0.1**
comp=Z,0.8nm,0.7s,baz=74,slow=4.9,SNR=6.9
NVAR Mina Array Bea 107.04 48 Pdif **Pdif 14 30 35.8 +3.2**
NVAR PKKPbc **PKKPbc 14 46 01.0 +0.7**
NVAR PKKPab **PKKPab 14 46 13.6 -1.6**
NVAR Mina Array Bea 107.04 48 Pdiff **Pdif 14 30 35.8 +3.2**
comp=Z,0.3nm,0.6s,baz=264,slow=6.3,SNR=2.6
NVAR PKKPbc **PKKPbc 14 46 01.0 +0.7**
comp=Z,0.5nm,0.7s,baz=169,slow=3.7,SNR=4.4
NVAR PKKPab **PKKPab 14 46 13.6 -1.6**
comp=Z,0.8nm,0.6s,baz=127,slow=4.2,SNR=7.5
J22A Midwest 113.15 39‖ *P* **PKiKP 14 34 53.2 -0.2**
baz=113
V22A San Miguel Ran 116.39 47‖ *P* **PKPdf 14 35 00.1 +0.2**
baz=116
Y21A Point of Rocks 116.66 49⇑ *P* **PKPdf 14 35 00.7 +0.2**
baz=117
Z22A Elephant Butte 117.51 49⇑ *P* **PKPdf 14 35 02.7 +0.7**
baz=118
V24A Rampart Ranch, 117.67 46‖ *P* **PKPdf 14 35 03.1 +0.7**
baz=118
W24A Lazy 6 Ranch, 117.80 47‖ *P* **PKPdf 14 35 02.6 0.0**
baz=118
V25A Rancho No Teng 118.08 46‖ *P* **PKPdf 14 35 03.9 +0.8**
baz=118
T26A Comanche Natio 118.16 44‖ *P* **PKPdf 14 35 03.9 +0.7**
baz=118
S27A Las Animas 118.38 43⇑ *P* **PKPdf 14 35 03.9 +0.3**
baz=118
Y25A Mesa, Roswell 118.92 48⇑ *P* **PKPdf 14 35 05.3 +0.6**
baz=119
X26A CR and CF Fran 119.27 47‖ *P* **PKPdf 14 35 05.8 +0.4**
baz=119
MNTX Cornudas Mount 119.38 50⇑ *P* **PKPdf 14 35 06.4 +0.9**
baz=119
125A Gardner Draw, 119.51 49‖ *P* **PKPdf 14 35 06.5 +0.6**
baz=120
425A Indio Mountain 120.08 51⇑ *P* **PKPdf 14 35 07.3 +0.2**
baz=120
Z27A Tatum 120.29 48⇑ *P* **PKPdf 14 35 07.3 0.0**
baz=120
SCHQ Schefferville 120.60 9 PKP **PKPdf 14 35 07.6 +0.4**
SCHQ Schefferville 120.60 9 PKP **PKPdf 14 35 07.6 +0.4**
comp=Z,1.3nm,0.7s,baz=0.0,slow=4.0,SNR=3.3
426A McDonald Obser 120.88 51⇑ *P* **PKPdf 14 35 09.0 +0.3**
baz=121
Y29A Porterfield Fa 121.16 46‖ *P* **PKPdf 14 35 09.5 +0.6**
baz=121
626A Big Bend Ranch 121.28 52⇑ *P* **PKPdf 14 35 09.3 0.0**
baz=121
427A Hayter Ranch, 121.28 50⇑ *P* **PKPdf 14 35 09.8 +0.5**
baz=121
527A Woodward Ranch 121.43 51⇑ *P* **PKPdf 14 35 09.6 0.0**
baz=121
328A Wristen Ranch, 121.49 50⇑ *P* **PKPdf 14 35 10.1 +0.5**
baz=122
TXAR Lajitas Array 121.74 52 PKP **PKPdf 14 35 10.9 +0.7**
TXAR Lajitas Array 121.74 52 PKP **PKPdf 14 35 10.9 +0.7**
comp=Z,0.8nm,0.7s,baz=333,slow=0.7,SNR=7.1
428A Kincaid Ranch, 121.89 50‖ *P* **PKPdf 14 35 11.2 +0.8**
baz=122
627A Terlingua Ranc 121.91 52⇑ *P* **PKPdf 14 35 11.3 +0.7**
baz=122
628A Black Gap, Mar 122.28 52‖ *P* **PKPdf 14 35 11.5 +0.3**
baz=122
TORD Torodi Ar. Bea 122.76 288 PKP **PKPdf 14 35 12.2 -0.2**
TORD PKKPbc **PKKPab 14 45 06.0 +0.3**
TORD Torodi Ar. Bea 122.76 288 PKP **PKPdf 14 35 12.2 -0.2**
comp=Z,1.7nm,0.4s,baz=55,slow=1.9,SNR=18
TORD PKKPbc **PKKPab 14 45 06.0 +0.3**
comp=Z,0.3nm,0.5s,baz=274,slow=3.3,SNR=5.5
DBIC Dimbokro 130.42 282 PKP **PKPdf 14 35 27.4 +0.4**
DBIC SKPbc **SKPbc 14 38 47.3 -0.1**
DBIC Dimbokro 130.42 282 PKP **PKPdf 14 35 27.4 +0.4**
comp=Z,1.8nm,0.6s,baz=74,slow=5.4,SNR=4.5
DBIC SKPbc **SKPbc 14 38 47.3 -0.1**
comp=Z,7.2nm,0.8s,baz=36,slow=4.3,SNR=8.3
PLCA Paso Flores 140.05 160 PKP **PKPdf 14 35 45.9 +1.5**
PLCA SKPbc **SKiKP 14 39 18.1 -1.9**
PLCA Paso Flores 140.05 160 PKP **PKPdf 14 35 45.9 +1.5**
comp=Z,3.0nm,0.7s,baz=51,slow=1.1,SNR=8.1
PLCA SKPbc **SKiKP 14 39 18.1 -1.9**
comp=Z,2.8nm,1.1s,baz=202,slow=13,SNR=3.3
TRQA Tornquist 144.94 168 *e*PKPdf **PKPdf 14 35 52.8 -0.3**

JMA 12 14:20:25.7±0.5, 31.18N×142.43E, h83km, M3.5,
Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**3.67**	**341**	P		Pn	14 21 21.5	+2.0
BSO3	**Boso 3**	**3.96**	**336**	P		Pn	14 21 26.0	+2.3
JOD2	**Odawara 2**	**4.94**	**326**	P		Pn	14 21 39.4	+1.9
JHU	**Hanno**	**5.35**	**331**	P		Pn	14 21 44.4	+1.4
JHU				*e*S		Sn	14 22 42.6	-0.7
JYT	**Yasato**	**5.37**	**340**	*e*S		Sn	14 22 48.0	+4.3
JHO	**Hitachi**	**5.63**	**345**	P		Pn	14 21 47.6	+0.7
JHO				*e*S		Sn	14 22 52.2	+2.0
JRY	**Ryogami san**	**5.65**	**330**	P		Pn	14 21 48.9	+1.7
JRY				*e*S		Sn	14 22 54.1	+3.4
JAG	**Ashikaga**	**5.79**	**335**	P		Pn	14 21 49.9	+0.9
JAG				*e*S		Sn	14 22 56.0	+2.0
JFK	**Kawauchi**	**6.30**	**349**	*e*S		Sn	14 23 07.4	+0.7
JNG	**Nsakai**	**6.34**	**327**	P		Pn	14 21 58.6	+2.0
MAT	**Matsushiro**	**6.40**	**328**	P		Pn	14 21 58.6	+1.3
MAT				S		Sn	14 23 08.9	0.0
MAT	**Matsushiro**	**6.40**	**328**	P		Pn	14 21 59.0	+1.7

*IDC **12** 14:20:27.4±0.7, 3.43N×126.21E, h0km, mb4.4/18,*
mb1 4.5/18, mb1mx4.4/23, mbtmp4.4/18, MS4.4/1,
Ms1 4.4/1, ms1mx3.5/32, Error ellipse: s-maj=33.1km
s-min=14.5km az=65.0
*NEIC **12** 14:20:32.5±0.4, 3.40N×126.22E, h35km, mb4.7/4, Error*
ellipse: s-maj=21.8km s-min=8.7km az=66.0
*ISCJB **12** 14:20:38.7±0.5, 3.39N±0.08×126.2E±0.1, h116km,*
mb4.3/21, Error ellipse: s-maj=21.8km s-min=9.0km
az=158.9

ISC 12 14:20:41.0±0.6, 3.4N±0.1×126.2E±0.2, h116km, n41,
σ19 39/42, mb4.3/21, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.50**	**161**	*e*P		**P**	**14 25 48.6**	**-1.0**
	22nm,0.8s							
WRA	**Warramunga Arr**	**24.51**	**161**	P		**P**	**14 25 48.8**	**-0.9**
WRA	**Warramunga Arr**	**24.51**	**161**	P		**P**	**14 25 48.8**	**-0.9**
	22nm,0.8s							
ASAR	**Alice Springs**	**27.90**	**165**	P		**P**	**14 26 19.3**	**-1.0**
ASAR	**Alice Springs**	**27.90**	**165**	P		**P**	**14 26 19.3**	**-1.0**
	2.6nm,0.8s,baz=344,slow=9.9,SNR=2.1							
CTA	**Charters Tower**	**30.51**	**141**	LR		LR	14 39 50.3	
	comp=Z,690nm,19.0s,baz=108,slow=38							
CMAR	**Chiang Mai Arr**	**30.62**	**301**	P		**P**	**14 26 43.0**	**-1.4**
CMAR	**Chiang Mai Arr**	**30.62**	**301**	P		**P**	**14 26 43.0**	**-1.4**
	1.3nm,0.7s,baz=107,slow=6.8,SNR=3.7							
KSAR	**Wonju Array Be**	**33.94**	**2**	P		**P**	**14 27 12.0**	**-1.1**
KSRS	**Korea Array**	**33.95**	**2**	P		**P**	**14 27 12.0**	**-1.2**
	1.9nm,0.8s,baz=180,slow=9.6,SNR=4.4							
STKA	**Stephens Creek**	**37.98**	**158**	*e*P		**P**	**14 27 45.7**	**-2.0**
	2.4nm,0.7s							
STKA				P		**P**	**14 27 46.7**	**-1.0**
STKA	**Stephens Creek**	**37.98**	**158**	P		**P**	**14 27 46.7**	**-1.0**
	11nm,0.7s,baz=346,slow=6.8,SNR=4.9							
USRK	**Ussuriysk Arra**	**40.97**	**6**	P		**P**	**14 28 10.8**	**-1.5**
	2.0nm,0.5s,baz=211,slow=5.0,SNR=3.5							
LSA	**Lhasa**	**42.29**	**312**	*e*P		**P**	**14 28 23.3**	**-0.6**
	8.0nm,0.6s							
HIA	**Hailar**	**46.06**	**354**	*e*P		**P**	**14 28 52.4**	**-0.6**
DZM	**Mont Dzumac**	**46.75**	**125**	P		**P**	**14 29 00.7**	**+1.7**
DZM	**Mont Dzumac**	**46.75**	**125**	P		**P**	**14 29 00.7**	**+1.7**
	2.4nm,0.7s,baz=341,slow=18,SNR=4.8							
SONM	**Songino Array**	**47.47**	**342**	P		**P**	**14 29 03.9**	**-0.3**
SONM	**Songino Array**	**47.47**	**342**	P		**P**	**14 29 03.9**	**-0.3**
	1.1nm,0.6s,baz=159,slow=8.4,SNR=5.4							
PETK	**Petropavlovsk-**	**55.95**	**22**	P		**P**	**14 30 06.2**	**-0.7**
PETK	**Petropavlovsk-**	**55.95**	**22**	P		**P**	**14 30 06.2**	**-0.7**
	1.3nm,0.5s,baz=190,slow=3.5,SNR=6.1							
MK31	**Makanchi Array**	**57.56**	**326**	*e*P		**P**	**14 30 18.6**	**+0.1**
MKAR	**Makanchi Array**	**57.56**	**326**	P		**P**	**14 30 17.4**	**-1.1**
MKAR	**Makanchi Array**	**57.56**	**326**	P		**P**	**14 30 17.4**	**-1.1**
	3.1nm,0.5s,baz=118,slow=7.8,SNR=11							
YAK	**Yakutsk**	**58.58**	**2**	*e*P		**P**	**14 30 24.1**	**-1.1**
	18nm,1.0s							
ZALV	**Zalesovo Beam**	**60.67**	**333**	P		**P**	**14 30 38.8**	**-1.0**
ZALV	**Zalesovo Beam**	**60.67**	**333**	P		**P**	**14 30 38.8**	**-1.0**
	3.1nm,0.4s,baz=131,slow=6.7,SNR=8.2							
KURBB	**Kurchatov Arra**	**61.76**	**328**	P		**P**	**14 30 46.8**	**-0.4**
	6.2nm,0.7s,baz=123,slow=6.5,SNR=6.5							
KURK	**Kurchatov**	**61.77**	**328**	*e*P		**P**	**14 30 46.5**	**-0.7**
KURK				P		**P**	**14 30 46.8**	**-0.4**
BVAR	**Borovoye Array**	**67.34**	**327**	P		**P**	**14 31 25.2**	**+1.7**
BVAR	**Borovoye Array**	**67.34**	**327**	P		**P**	**14 31 25.2**	**+1.7**
	2.4nm,0.6s,baz=100,slow=5.1,SNR=5.0							
AKTO	**Aktyubinsk**	**73.62**	**322**	P		**P**	**14 32 03.0**	**+1.3**
AKTO	**Aktyubinsk**	**73.62**	**322**	P		**P**	**14 32 03.0**	**+1.3**
	3.6nm,0.7s,baz=93,slow=9.2,SNR=5.0							
ILAR	**Eielson Array**	**85.64**	**25**	P		**P**	**14 33 06.9**	**+0.5**
ILAR	**Eielson Array**	**85.64**	**25**	P		**P**	**14 33 06.9**	**+0.5**
	0.6nm,0.9s,baz=257,slow=4.5,SNR=4.9							
ARCES	**ARCESS Array B**	**90.60**	**340**	P		**P**	**14 33 31.8**	**+1.9**
ARCES	**ARCESS Array B**	**90.60**	**340**	P		**P**	**14 33 31.8**	**+1.9**
	2.7nm,0.7s,baz=80,slow=6.7,SNR=6.4							
AKASG	**Malin Array Be**	**91.84**	**321**	P		**P**	**14 33 38.5**	**+2.4**
AKASG	**Malin Array Be**	**91.84**	**321**	P		**P**	**14 33 38.5**	**+2.4**
	1.2nm,0.6s,baz=68,slow=5.1,SNR=4.1							
FINES	**FINESS Array B**	**91.90**	**332**	P		**P**	**14 33 38.5**	**+2.4**
FINES	**FINESS Array B**	**91.90**	**332**	P		**P**	**14 33 38.5**	**+2.4**
	2.3nm,0.7s,baz=107,slow=9.5,SNR=3.6							

IDC 12 14:26:34.5±1.6, 4.02N×126.30E, h0km, mb3.6/6,
mb1 3.7/6, mb1mx3.6/21, mbtmp3.6/6, Error ellipse:
s-maj=130.5km s-min=19.0km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.99**	**182**	P		P	14 31 31.4	+1.1
	1.7nm,0.8s,baz=11,slow=16,SNR=2.6							
WRA	**Warramunga Arr**	**25.09**	**162**	P		P	14 32 00.3	-0.7
	0.5nm,0.3s							
ASAR	**Alice Springs**	**28.50**	**165**	P		P	14 32 31.8	+0.1
	0.2nm,0.6s,baz=336,slow=6.9,SNR=2.4							
SONM	**Songino Array**	**46.89**	**342**	P		P	14 35 07.6	+0.9
	0.3nm,0.4s,baz=160,slow=8.9,SNR=2.9							
MKAR	**Makanchi Array**	**57.08**	**325**	P		P	14 36 22.4	-0.2
	0.3nm,0.4s,baz=119,slow=7.7,SNR=8.9							
KURBB	**Kurchatov Arra**	**61.27**	**327**	P		P	14 36 51.0	-0.6
	0.7nm,0.6s,baz=121,slow=5.9,SNR=5.2							

*IDC **12** 14:28:13.9±0.6, 3.66N×126.60E, h0km, mb4.0/15,*
mb1 4.1/15, mb1mx4.0/24, mbtmp4.0/15, MS3.8/1,
Ms1 3.8/1, ms1mx2.9/34, Error ellipse: s-maj=31.3km
s-min=13.2km az=68.0
*ISCJB **12** 14:28:18.9±0.4, 3.61N±0.08×126.6E±0.2, h53km,*
mb4.1/18, Error ellipse: s-maj=23.0km s-min=8.3km
az=160.7
*NEIC **12** 14:28:18.9±0.3, 3.63N×126.59E, h35km, mb4.4/3, Error*
ellipse: s-maj=19.6km s-min=7.1km az=70.0

ISC 12 14:28:21.1±0.6, 3.63N±0.10×126.7E±0.2, h53km, n36,
σ0 87/35, mb4.2/18, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.99**	**325**	*e*P		**Pn**	**14 29 08.1**	**+1.9**
GSPH				*e*S		Sn	14 29 47.8	+6.9
KAPI	**Kappang**	**11.03**	**219**	LR		LR	14 35 01.3	
	comp=Z,479nm,18.8s,baz=197,slow=37							
FITZ	**Fitzroy Crossi**	**21.62**	**183**	P		**P**	**14 33 06.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**21.62**	**183**	P		**P**	**14 33 06.7**	**-0.2**
	1.5nm,0.5s,baz=359,slow=13,SNR=2.2							
WRAB	**Tennant Creek**	**24.60**	**162**	*e*P		**P**	**14 33 35.7**	**-0.8**
	3.6nm,0.4s							
WRA	**Warramunga Arr**	**24.60**	**162**	P		**P**	**14 33 35.4**	**-1.1**
WRA	**Warramunga Arr**	**24.60**	**162**	P		**P**	**14 33 35.4**	**-1.1**
	4.1nm,0.4s							
AS31	**Alice Springs**	**28.03**	**166**	*e*P		**P**	**14 34 07.0**	**-0.5**
ASAR	**Alice Springs**	**28.03**	**166**	P		**P**	**14 34 07.9**	**+0.5**
ASAR	**Alice Springs**	**28.03**	**166**	P		**P**	**14 34 07.9**	**+0.5**
	0.6nm,0.3s,baz=346,slow=11,SNR=10							
CMAR	**Chiang Mai Arr**	**30.88**	**301**	P		**P**	**14 34 33.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**30.88**	**301**	P		**P**	**14 34 33.0**	**+0.2**
	0.3nm,0.3s,baz=138,slow=8.2,SNR=3.8							
KSAR	**Wonju Array Be**	**33.67**	**2**	P		**P**	**14 34 57.4**	**+0.5**
KSRS	**Korea Array**	**33.68**	**2**	P		**P**	**14 34 57.4**	**+0.4**
	1.4nm,0.7s,baz=179,slow=10,SNR=4.4							
STKA	**Stephens Creek**	**38.05**	**159**	P		**P**	**14 35 34.8**	**+0.2**
STKA	**Stephens Creek**	**38.05**	**159**	P		**P**	**14 35 34.8**	**+0.2**
	2.5nm,0.6s,baz=328,slow=9.5,SNR=4.6							
DZM	**Mont Dzumac**	**46.52**	**125**	P		**P**	**14 36 44.1**	**+0.4**
DZM	**Mont Dzumac**	**46.52**	**125**	P		**P**	**14 36 44.1**	**+0.4**
	1.3nm,0.7s,baz=254,slow=18,SNR=3.9							
SONM	**Songino Array**	**47.38**	**341**	P		**P**	**14 36 49.3**	**-0.8**
SONM	**Songino Array**	**47.38**	**341**	P		**P**	**14 36 49.3**	**-0.8**
	0.7nm,0.6s,baz=156,slow=8.0,SNR=5.4							
PETK	**Petropavlovsk-**	**55.54**	**22**	P		**P**	**14 37 51.7**	**+0.8**
PETK	**Petropavlovsk-**	**55.54**	**22**	P		**P**	**14 37 51.7**	**+0.8**
	2.6nm,0.8s,baz=203,slow=7.6,SNR=2.9							
MK31	**Makanchi Array**	**57.61**	**325**	*e*P		**P**	**14 38 03.3**	**-2.5**
MKAR	**Makanchi Array**	**57.61**	**325**	P		**P**	**14 38 05.0**	**-0.8**
MKAR	**Makanchi Array**	**57.61**	**325**	P		**P**

	0.5nm,0.3s,baz=89,slow=12,SNR=3.8							
ILAR	**Eielson Array**	**85.21**	**25**	P	**P**	**14 40 51.5**	**-0.1**
ILAR	**Eielson Array**	**85.21**	**25**	P	**P**	**14 40 51.5**	**-0.1**
	0.2nm,0.9s,baz=250,slow=5.3,SNR=4.6							
ARCES	**ARCESS Array B**	**90.53**	**340**	P	**P**	**14 41 16.2**	**-0.8**
ARCES	**ARCESS Array B**	**90.53**	**340**	P	**P**	**14 41 16.2**	**-0.8**
	1.9nm,0.8s,baz=86,slow=4.7,SNR=7.2							

IDC ***12*** *14:30:01.2±0.5, 3°.69N×126°.53E, h0km, mb4.3/21, mb1 4.4/21, mb1mx4.3/26, mbtmp4.3/21, Error ellipse: s-maj=26.2km s-min=11.6km az=72.0*
ISCJB ***12*** *14:30:06.2±0.4, 3°.64N±0°.06×126°.5E±0°.1, h53km, mb4.3/25, Error ellipse: s-maj=19.6km s-min=6.8km az=163.9*
NEIC ***12*** *14:30:06.2±0.3, 3°.61N×126°.54E, h35km, mb4.7/4, Error ellipse: s-maj=18.6km s-min=6.1km az=73.0*

ISC 12 14:30:08.4±0.5, 3°.64N±0°.07×126°.6E±0°.2, h53km, n49, σ0s76/54, mb4.3/24, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DAV	**Davao City (W)**	**3.54**	**344**	Sn		**Sn**	**14 31 42.9**	**+1.2**
DAV	**Davao City (W)**	**3.54**	**344**	Sn		**Sn**	**14 31 42.8**	**+1.2**
	baz=216,slow=19,SNR=2.6							
FITZ	**Fitzroy Crossi**	**21.63**	**182**	P		**P**	**14 34 53.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**21.63**	**182**	P		**P**	**14 34 53.7**	**-0.5**
	3.2nm,0.7s,baz=2.8,slow=11,SNR=3.7							
WRAB	**Tennant Creek**	**24.65**	**162**	*e*P		**P**	**14 35 23.5**	**-0.7**
	24nm,0.8s							
WRA	**Warramunga Arr**	**24.65**	**162**	P		**P**	**14 35 23.6**	**-0.7**
WRA	**Warramunga Arr**	**24.65**	**162**	P		**P**	**14 35 23.6**	**-0.7**
	24nm,0.7s							
ASAR	**Alice Springs**	**28.07**	**166**	P		**P**	**14 35 55.5**	**+0.4**
ASAR				PcP		**PcP**	**14 39 09.2**	**+0.5**
ASAR	**Alice Springs**	**28.07**	**166**	P		**P**	**14 35 55.5**	**+0.4**
	0.9nm,0.3s,baz=348,slow=13,SNR=7.2							
ASAR				PcP		**PcP**	**14 39 09.2**	**+0.5**
	0.3nm,0.4s,baz=349,slow=2.5,SNR=4.9							
CMAR	**Chiang Mai Arr**	**30.77**	**301**	P		**P**	**14 36 20.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**30.77**	**301**	P		**P**	**14 36 20.0**	**+0.9**
	1.1nm,0.8s,baz=118,slow=7.7,SNR=6.8							
KSAR	**Wonju Array Be**	**33.66**	**2**	P		**P**	**14 36 42.5**	**-1.7**
KSRS	**Korea Array**	**33.67**	**2**	P		**P**	**14 36 42.5**	**-1.8**
	1.3nm,0.6s,baz=175,slow=9.2,SNR=5.4							
NWAO	**Narrogin (SRO)**	**37.43**	**193**	P		**P**	**14 37 16.1**	**-0.4**
NWAO	**Narrogin (SRO)**	**37.43**	**193**	P		**P**	**14 37 16.1**	**-0.4**
	9.6nm,0.9s,baz=355,slow=11,SNR=3.5							
STKA	**Stephens Creek**	**38.11**	**159**	P		**P**	**14 37 22.6**	**+0.3**
STKA	**Stephens Creek**	**38.11**	**159**	P		**P**	**14 37 22.6**	**+0.3**
	7.8nm,0.7s,baz=285,slow=4.5,SNR=8.0							
USRK	**Ussuriysk Arra**	**40.67**	**6**	P		**P**	**14 37 43.7**	**+0.2**
	4.6nm,0.9s,baz=189,slow=10,SNR=4.9							
DZM	**Mont Dzumac**	**46.62**	**125**	P		**P**	**14 38 32.6**	**+0.7**
DZM	**Mont Dzumac**	**46.62**	**125**	P		**P**	**14 38 32.6**	**+0.7**
	4.1nm,0.9s,baz=218,slow=5.1,SNR=6.9							
SONM	**Songino Array**	**47.33**	**342**	P		**P**	**14 38 36.7**	**-0.3**
SONM				PcP		**PcP**	**14 40 08.0**	**+0.8**
SONM	**Songino Array**	**47.33**	**342**	P		**P**	**14 38 36.7**	**-0.3**
	0.8nm,0.6s,baz=161,slow=7.3,SNR=6.0							
SONM				PcP		**PcP**	**14 40 08.0**	**+0.8**
	0.5nm,0.7s,baz=147,slow=3.1,SNR=2.5							
PETK	**Petropavlovsk-**	**55.57**	**22**	P		**P**	**14 39 39.0**	**+0.6**
PETK	**Petropavlovsk-**	**55.57**	**22**	P		**P**	**14 39 39.0**	**+0.6**
	6.8nm,0.9s,baz=186,slow=5.2,SNR=7.6							
MK31	**Makanchi Array**	**57.53**	**325**	*e*P		**P**	**14 39 51.5**	**-1.0**
MKAR	**Makanchi Array**	**57.53**	**325**	P		**P**	**14 39 51.5**	**-1.0**
MKAR	**Makanchi Array**	**57.53**	**325**	P		**P**	**14 39 51.5**	**-1.0**
	1.7nm,0.5s,baz=119,slow=7.8,SNR=12							
AAK	**Ala-Archa**	**60.31**	**318**	P		**P**	**14 40 12.2**	**+0.2**
AAK	**Ala-Archa**	**60.31**	**318**	P		**P**	**14 40 12.2**	**+0.2**
	0.9nm,0.7s,baz=161,slow=9.6,SNR=3.9							
ZALV	**Zalesovo Beam**	**60.59**	**333**	P		**P**	**14 40 12.5**	**-1.0**
ZALV	**Zalesovo Beam**	**60.59**	**333**	P		**P**	**14 40 12.5**	**-1.0**
	0.9nm,0.6s,baz=105,slow=9.1,SNR=3.9							
KURBB	**Kurchatov Arra**	**61.72**	**327**	P		**P**	**14 40 20.2**	**-0.9**
	3.2nm,0.5s,baz=130,slow=6.5,SNR=24							
KURK	**Kurchatov**	**61.73**	**328**	*e*P		**P**	**14 40 20.1**	**-1.1**
	5.5nm,0.6s							
KURK				P		**P**	**14 40 20.2**	**-0.9**
BVAR	**Borovoye Array**	**67.30**	**327**	P		**P**	**14 40 57.8**	**+0.2**
BVAR	**Borovoye Array**	**67.30**	**327**	P		**P**	**14 40 57.8**	**+0.2**
	1.8nm,0.7s,baz=144,slow=8.7,SNR=9.6							
BRVK	**Borovoye**	**67.37**	**327**	*e*P		**P**	**14 40 56.6**	**-1.5**
	4.4nm,0.9s							
ABKAR	**Akbulak array**	**72.11**	**321**	*e*P		**P**	**14 41 27.1**	**-0.2**
	2.1nm,0.6s							
AKTO	**Aktyubinsk**	**73.62**	**322**	P		**P**	**14 41 35.9**	**-0.4**
AKTO	**Aktyubinsk**	**73.62**	**322**	P		**P**	**14 41 35.9**	**-0.4**
	1.6nm,0.6s,baz=132,slow=3.5,SNR=7.7							
ILAR	**Eielson Array**	**85.25**	**25**	P		**P**	**14 42 38.8**	**-0.4**
ILAR	**Eielson Array**	**85.25**	**25**	P		**P**	**14 42 38.8**	**-0.4**
	1.1nm,1.0s,baz=258,slow=4.0,SNR=7.0							
ARCES	**ARCESS Array B**	**90.47**	**340**	P		**P**	**14 43 03.6**	**-0.5**
ARCES	**ARCESS Array B**	**90.47**	**340**	P		**P**	**14 43 03.6**	**-0.5**
	5.6nm,1.1s,baz=67,slow=6.7,SNR=5.1							
FINES	**FINESS Array B**	**91.83**	**332**	P		**P**	**14 43 10.2**	**-0.3**
FINES	**FINESS Array B**	**91.83**	**332**	P		**P**	**14 43 10.2**	**-0.3**
	2.4nm,0.9s,baz=29,slow=3.2,SNR=3.1							
YKA	**Yellowknife Ar**	**99.64**	**24**	P		**Pdif**	**14 43 45.8**	**-0.3**
YKA	**Yellowknife Ar**	**99.64**	**24**	P		**Pdif**	**14 43 45.8**	**-0.3**
	0.1nm,0.5s,baz=295,slow=4.6,SNR=2.8							
TORD	**Torodi Ar. Bea**	**122.79**	**288**	PKP		**PKPdf**	**14 48 59.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**122.79**	**288**	PKP		**PKPdf**	**14 48 59.8**	**+0.2**
	0.6nm,0.9s,baz=24,slow=1.3,SNR=2.1							

IDC 12 14:34:23.1±1.1, 3°.91N×126°.24E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.9/21, mbtmp3.9/9, Error ellipse: s-maj=74.9km s-min=15.7km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**21.88**	**182**	P		P	14 39 17.3	-0.5
	3.9nm,1.0s,baz=14,slow=11,SNR=1.9							
WRA	**Warramunga Arr**	**25.00**	**162**	P		P	14 39 47.4	-1.5
	7.2nm,0.7s							
ASAR	**Alice Springs**	**28.41**	**165**	P		P	14 40 19.2	-0.4
	0.3nm,0.4s,baz=342,slow=7.5,SNR=2.7							
CMAR	**Chiang Mai Arr**	**30.36**	**301**	P		P	14 40 37.7	+0.7
	0.3nm,0.6s,baz=105,slow=6.7,SNR=3.5							
STKA	**Stephens Creek**	**38.47**	**159**	P		P	14 41 48.5	+1.4
	3.9nm,0.6s,baz=304,slow=8.7,SNR=5.7							
SONM	**Songino Array**	**46.97**	**342**	P		P	14 42 56.1	0.0
	0.7nm,1.0s,baz=134,slow=4.2,SNR=3.6							
MKAR	**Makanchi Array**	**57.13**	**325**	P		P	14 44 10.9	-0.7
	0.8nm,0.5s,baz=117,slow=7.4,SNR=11							
MKAR				PcP		PcP	14 45 08.0	+1.6
	0.6nm,0.6s,baz=125,slow=4.2,SNR=4.2							
ZALV	**Zalesovo Beam**	**60.21**	**333**	P		P	14 44 32.3	-0.5
	0.3nm,0.3s,baz=128,slow=11,SNR=2.8							
KURBB	**Kurchatov Arra**	**61.33**	**328**	P		P	14 44 39.6	-0.9
	1.3nm,0.8s,baz=131,slow=6.0,SNR=6.3							
TORD	**Torodi Ar. Bea**	**122.40**	**288**	PKP		PKPdf	14 53 22.3	+0.8
	0.3nm,0.7s,baz=72,slow=4.7,SNR=2.8							

IDC 12 14:37:33.6±6.7, 4°.44N×127°.44E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, Error ellipse: s-maj=698.8km s-min=21.4km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**25.16**	**165**	P		P	14 43 00.7	-0.1
	0.8nm,0.5s,baz=198,slow=21,SNR=0.5							
ASAR	**Alice Springs**	**28.64**	**168**	P		P	14 43 32.3	+0.1
	0.1nm,0.6s,baz=342,slow=11,SNR=2.9							
MKAR	**Makanchi Array**	**57.38**	**325**	P		P	14 47 24.2	+0.2
	0.2nm,0.4s,baz=113,slow=7.1,SNR=2.1							
KURBB	**Kurchatov Arra**	**61.53**	**327**	P		P	14 47 52.1	-0.3
	0.3nm,0.5s,baz=130,slow=6.6,SNR=3.6							

IDC 12 14:38:04.2±1.7, 3°.73N×126°.57E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.6/4, Error ellipse: s-maj=214.5km s-min=25.0km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**24.73**	**162**	P		P	14 43 27.5	0.0
	19nm,0.5s,baz=232,slow=0.0,SNR=12							
SONM	**Songino Array**	**47.25**	**342**	P		P	14 46 39.6	+0.3
	0.3nm,0.6s,baz=141,slow=9.3,SNR=2.6							
MKAR	**Makanchi Array**	**57.47**	**325**	P		P	14 47 55.4	+0.3
	0.4nm,0.4s,baz=117,slow=7.8,SNR=6.1							
ZALV	**Zalesovo Beam**	**60.52**	**333**	P		P	14 48 15.3	-0.8
	0.5nm,0.4s,baz=120,slow=5.2,SNR=2.9							
KURBB	**Kurchatov Arra**	**61.66**	**327**	P		P	14 48 23.9	0.0
	0.3nm,0.3s,baz=123,slow=5.2,SNR=4.4							

IDC ***12*** *14:43:28.9±0.5, 3°.94N×126°.50E, h0km, mb4.3/22, mb1 4.4/22, mb1mx4.4/23, mbtmp4.3/22, Error ellipse: s-maj=22.5km s-min=11.3km az=80.0*
ISCJB ***12*** *14:43:33.1±0.3, 3°.94N±0°.04×126°.63E±0°.06, h45km, mb4.6/45, Error ellipse: s-maj=9.0km s-min=5.3km az=161.9*
NEIC ***12*** *14:43:33.8±0.3, 3°.97N×126°.66E, h35km, mb4.8/22, Error ellipse: s-maj=9.6km s-min=6.1km az=74.0*
DJA ***12*** *14:43:34, 4°.05N×126°.99E, h32km, mb4.4/10*

ISC 12 14:43:35.0±0.4, 3°.99N±0°.06×126°.60E±0°.09, h45km, n112, σ1s26/105, mb4.6/44, 1C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GSPH	**General Santos**	**2.65**	**322**	*e*P		Pn	14 44 19.4	+3.9
MATI	**Mati**	**2.95**	**353**	*e*P		Pn	14 44 23.7	+4.3
DAV	**Davao City (W)**	**3.22**	**342**	Pn		Pn	14 44 27.5	+4.3
DAV	**Davao City (W)**	**3.22**	**342**	P		Sn	14 45 35.6	+35
DAV	**Davao City (W)**	**3.22**	**342**	Pn		Pn	14 44 27.5	+4.3
	43nm,0.3s,baz=107,slow=19,SNR=2.4							
KCP	**Kidapawan**	**3.35**	**333**	*e*P		Pn	14 44 30.1	+5.1
BUKP	**Musuan**	**4.15**	**338**	*e*P		Pn	14 44 41.0	+5.1
CGP	**Cagayan de Oro**	**4.82**	**337**	*e*P		Pn	14 44 55.1	+10
PAGZ	**Pagadian**	**4.99**	**320**	*e*P		Pn	14 44 51.9	+4.4
MSLP	**Maasin**	**6.34**	**344**	*e*P		Pn	14 45 11.5	+5.5
KKM	**Kota Kinabalu**	**10.55**	**282**	*e*Pn		**Pn**	**14 46 05.0**	**+1.2**
KAPI	**Kappang**	**11.27**	**217**	Pn		Pn	14 46 18.7	+5.2
KAPI	**Kappang**	**11.27**	**217**	Pn		Pn	14 46 18.7	+5.2
	0.7nm,0.3s,baz=18,slow=13,SNR=2.5							
KSM	**Kuching**	**16.47**	**262**	*e*Pn		**P**	**14 47 24.6**	**-0.6**
	7.6nm,0.8s							
KNRA	**Kununurra**	**19.66**	**174**	*e*P		**P**	**14 48 00.3**	**0.0**
	99nm,0.5s							
YULB	**Yu-li**	**19.96**	**346**	*e*P		**P**	**14 47 59.4**	**-4.1**
	9.7nm,0.4s							
TPUB	**Ta-pu**	**20.05**	**344**	*e*P		**P**	**14 48 03.1**	**-1.3**
	40nm,0.7s							
SSLB	**Suanglung**	**20.42**	**345**	*e*P		**P**	**14 48 06.5**	**-2.0**
	61nm,1.4s							
FITZ	**Fitzroy Crossi**	**21.98**	**182**	*e*P		**P**	**14 48 23.1**	**-2.1**
	33nm,1.5s							
FITZ	**Fitzroy Crossi**	**21.98**	**182**	*e*P		**P**	**14 48 24.6**	**-0.6**
	12nm,0.8s							
FITZ	**Fitzroy Crossi**	**21.98**	**182**	P		**P**	**14 48 24.7**	**-0.5**
	2.9nm,0.5s,baz=13,slow=6.4,SNR=13							
COEN	**Coen**	**24.26**	**138**	*e*P		**P**	**14 48 46.0**	**-2.1**
WRAB	**Tennant Creek**	**24.97**	**163**	*e*P		**P**	**14 48 50.7**	**-3.8**
	22nm,0.7s							
WRA	**Warramunga Arr**	**24.97**	**163**	P		**P**	**14 48 53.6**	**-1.0**
WRA	**Warramunga Arr**	**24.97**	**163**	P		**P**	**14 48 53.6**	**-1.0**
	3.9nm,0.3s							
MBWA	**Marble Bar**	**25.89**	**195**	*e*P		**P**	**14 49 02.5**	**-0.3**
MBWA	**Marble Bar**	**25.89**	**195**	*e*P		**P**	**14 49 03.2**	**+0.4**
CBIJ	**Chichi jima**	**27.38**	**31**	P		**P**	**14 49 16.2**	**0.0**
CBIJ	**Chichi jima**	**27.38**	**31**	P		**P**	**14 49 16.2**	**0.0**
	118nm,0.8s,baz=180,slow=20,SNR=3.5							
QIS	**Mount Isa**	**27.53**	**153**	*e*P		**P**	**14 49 17.8**	**+0.1**
AS31	**Alice Springs**	**28.40**	**166**	*e*P		**P**	**14 49 24.9**	**-0.5**
ASAR	**Alice Springs**	**28.40**	**166**	P		**P**	**14 49 24.7**	**-0.7**
ASAR	**Alice Springs**	**28.40**	**166**	P		**P**	**14 49 24.7**	**-0.7**
	1.1nm,0.5s,baz=352,slow=7.7,SNR=17							
WHN	**Wuhan**	**28.83**	**338**	↑P		**P**	**14 49 31.0**	**+1.9**
CMAR	**Chiang Mai Arr**	**30.63**	**300**	P		**P**	**14 49 46.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**30.63**	**300**	P		**P**	**14 49 46.2**	**+1.0**
	1.2nm,0.7s,baz=123,slow=7.9,SNR=11							
ENH	**Enshi**	**30.74**	**330**	*e*P		**P**	**14 49 45.6**	**-0.5**
	20nm,0.9s							
CHTO	**Chiang Mai**	**30.78**	**301**	*e*P		**P**	**14 49 46.4**	**-0.2**
	7.7nm,1.0s							
MEEK	**Meekatharra**	**31.42**	**194**	*e*P		**P**	**14 49 51.9**	**-0.2**
	34nm,0.6s							
KSAR	**Wonju Array Be**	**33.31**	**2**	P		**P**	**14 50 10.1**	**+1.5**
KSRS	**Korea Array**	**33.32**	**2**	P		**P**	**14 50 10.1**	**+1.4**
	1.4nm,0.4s,baz=180,slow=9.7,SNR=10							
MJAR	**Matsushiro Arr**	**34.11**	**17**	P		**P**	**14 50 15.7**	**+0.2**
MJAR	**Matsushiro Arr**	**34.11**	**17**	P		**P**	**14 50 15.7**	**+0.2**
	1.6nm,0.7s,baz=182,slow=9.4,SNR=5.2							
XAN	**Xi'an**	**34.13**	**333**	P		**P**	**14 50 15.8**	**+0.1**
XAN				pP		**pP**	**14 50 24.9**	**-2.9**
XAN				sP		**sP**	**14 50 30.1**	**-3.1**
XAN				pmax		pmax		
	comp=Z,10.0nm,0.7s							
XAN				pmax		pmax		
	comp=Z,93nm,17.9s							
KLBR	**Kellerberrin**	**36.38**	**193**	*e*P		**P**	**14 50 34.9**	**-0.1**
	comp=Z,29nm,1.2s							
BJT	**Baijiatuan**	**37.08**	**347**	*e*P		**P**	**14 50 41.9**	**+0.9**
	comp=Z,41nm,0.6s							
BJI	**Beijing**	**37.10**	**347**	P		**P**	**14 50 42.3**	**+1.2**
BJI				pmax		pmax		
	comp=Z,54nm,0.7s							
NWAO	**Narrogin (SRO)**	**37.78**	**193**	P		**P**	**14 50 47.0**	**+0.1**
NWAO	**Narrogin (SRO)**	**37.78**	**193**	P		**P**	**14 50 47.0**	**+0.1**
	comp=Z,3.0nm,0.4s,baz=16,slow=9.3,SNR=7.1							
STKA	**Stephens Creek**	**38.42**	**159**	*e*P		**P**	**14 50 52.7**	**+0.4**
	comp=Z,3.3nm,0.8s							
STKA	**Stephens Creek**	**38.42**	**159**	*e*P		**P**	**14 50 52.3**	**0.0**
	comp=Z,4.2nm,0.7s							
STKA	**Stephens Creek**	**38.42**	**159**	P		**P**	**14 50 52.6**	**+0.2**
	comp=Z,4.3nm,0.5s,baz=316,slow=7.5,SNR=7.7							
USRK	**Ussuriysk Arra**	**40.32**	**6**	P		**P**	**14 51 09.4**	**+1.4**
	comp=Z,4.8nm,0.6s,baz=182,slow=8.8,SNR=11							
MDJ	**Mudanjiang**	**40.54**	**3**	*e*P		**P**	**14 51 11.5**	**+1.6**
	comp=Z,12nm,0.7s							
LSA	**Lhasa**	**42.17**	**311**	*e*P		**P**	**14 51 25.4**	**+1.4**
	comp=Z,12nm,0.8s							
ASAJ	**Asahikawa**	**42.38**	**17**	P		**P**	**14 51 26.6**	**+1.6**
ASAJ	**Asahikawa**	**42.38**	**17**	P		**P**	**14 51 26.6**	**+1.6**
	comp=Z,4.4nm,0.8s,baz=248,slow=33,SNR=5.2							
GTA	**Gaotai**	**42.81**	**329**	*e*P		**P**	**14 51 29.4**	**+0.7**
GTA				pP		**pP**	**14 51 40.5**	**-0.5**
GTA				sP		**sP**	**14 51 44.2**	**-2.1**
GTA				PcP		PcP	14 53 28.0	+8.6
GTA				pmax		pmax		
	comp=Z,6.0nm,0.6s							
TAPN	**Taplejung**	**43.76**	**306**	*e*P		**P**	**14 51 37.0**	**+0.2**
	comp=Z,7.9nm,0.4s							
ODAN	**Odare**	**43.81**	**305**	*e*P		**P**	**14 51 37.5**	**+0.4**
	comp=Z,11nm,0.5s							
RAMN	**Ramite**	**44.50**	**305**	*e*P		**P**	**14 51 43.0**	**+0.4**
JIRN	**Jiri**	**45.12**	**306**	*e*P		**P**	**14 51 47.8**	**+0.1**
	comp=Z,2.9nm,0.4s							
GUN	**Gumba**	**45.47**	**306**	*e*P		**P**	**14 51 50.7**	**+0.3**
	comp=Z,20nm,0.3s							
HIA	**Hailar**	**45.49**	**354**	*e*P		**P**	**14 51 49.1**	**-0.7**
	comp=Z,13nm,0.7s							
KKN	**Kakani**	**45.91**	**305**	*e*P		**P**	**14 51 53.6**	**-0.1**
	comp=Z,4.3nm,0.3s							
DMN	**Daman**	**45.98**	**305**	*e*P		**P**	**14 51 54.4**	**0.0**
GKN	**Gorkha**	**46.51**	**305**	*e*P		**P**	**14 51 58.9**	**+0.5**
	comp=Z,6.2nm,0.4s							
DZM	**Mont Dzumac**	**46.79**	**125**	P		**P**	**14 52 01.3**	**+0.7**
DZM	**Mont Dzumac**	**46.79**	**125**	P		**P**	**14 52 01.3**	**+0.7**
	comp=Z,4.4nm,0.7s,baz=287,slow=9.3,SNR=13							
ULN	**Ulaanbaatar**	**46.83**	**342**	*e*P		**P**	**14 51 59.5**	**-1.1**
	comp=Z,6.8nm,0.9s							
SONM	**Songino Array**	**47.01**	**341**	P		**P**	**14 52 02.7**	**+0.8**
SONM	**Songino Array**	**47.01**	**341**	P		**P**	**14 52 02.7**	**+0.8**
	comp=Z,3.6nm,0.5s,baz=158,slow=8.0,SNR=31							
KOLN	**Koldanda**	**47.27**	**305**	*e*P		**P**	**14 52 04.8**	**+0.4**
	comp=Z,21nm,0.4s							
DANN	**Dangsing**	**47.36**	**305**	*e*P		**P**	**14 52 05.4**	**+0.2**
	comp=Z,24nm,0.5s							
TLY	**Talaya**	**51.24**	**342**	*e*P		**P**	**14 52 35.6**	**+1.5**
	comp=Z,5.6nm,0.8s							
PETK	**Petropavlovsk-**	**55.24**	**22**	P		**P**	**14 53 04.5**	**+1.1**
PETK	**Petropavlovsk-**	**55.24**	**22**	P		**P**	**14 53 04.5**	**+1.1**
	comp=Z,2.5nm,0.5s,baz=181,slow=4.9,SNR=20							
MK31	**Makanchi Array**	**57.27**	**325**	*e*P		**P**	**14 53 18.2**	**+0.1**
MKAR	**Makanchi Array**	**57.27**	**325**	*e*P		**P**	**14 53 18.4**	**+0.3**
MKAR	**Makanchi Array**	**57.27**	**325**	P		**P**	**14 53 18.1**	**0.0**
	comp=Z,4.0nm,0.4s,baz=118,slow=7.7,SNR=109							
MKAR				ScP		**ScP**	**14 58 13.9**	**+5.6**
	comp=Z,0.8nm,0.8s,baz=122,slow=4.3,SNR=3.4							
YAK	**Yakutsk**	**57.95**	**2**	*e*P		**P**	**14 53 22.2**	**-0.3**
	comp=Z,30nm,0.8s							
TKM2	**Tokmak 2**	**59.47**	**318**	*e*P		**P**	**14 53 33.2**	**-0.6**
	comp=Z,7.3nm,0.9s							
AAK	**Ala-Archa**	**60.08**	**318**	P		**P**	**14 53 40.3**	**+2.4**
AAK	**Ala-Archa**	**60.08**	**318**	P		**P**	**14 53 40.3**	**+2.4**
	comp=Z,0.6nm,0.4s,baz=154,slow=8.5,SNR=4.3							
ZAA0	**Zalesovo Array**	**60.30**	**333**	*e*P		**P**	**14 53 37.5**	**-1.4**
ZALV	**Zalesovo Beam**	**60.30**	**333**	P		**P**	**14 53 38.5**	**-0.5**
ZALV	**Zalesovo Beam**	**60.30**	**333**	P		**P**	**14 53 38.5**	**-0.5**
	comp=Z,3.3nm,0.4s,baz=129,slow=6.4,SNR=18							
EKS2	**Erkin-Say**	**60.57**	**318**	*e*P		**P**	**14 53 41.2**	**0.0**
	comp=Z,7.5nm,0.8s							
KURK	**Kurchatov**	**61.45**	**327**	*e*P		**P**	**14 53 45.5**	**-1.4**
	comp=Z,18nm,0.9s							
KKAR	**Karatay Array**	**62.95**	**317**	*e*P		**P**	**14 53 57.4**	**+0.2**
BRVK	**Borovoye**	**67.10**	**327**	*e*P		**P**	**14 54 23.4**	**-0.5**
	comp=Z,8.5nm,0.9s							
ABKAR	**Akbulak array**	**71.87**	**321**	*e*P		**P**	**14 54 53.2**	**-0.1**
ARU	**Arti**	**74.65**	**328**	*e*P		**P**	**14 55 08.8**	**-0.8**
	comp=Z,6.9nm,0.7s							
COLD	**Coldfoot**	**83.70**	**23**	*e*P		**P**	**14 55 58.5**	**-0.3**
	comp=Z,11nm,1.1s							
ILAR	**Eielson Array**	**84.92**	**25**	P		**P**	**14 56 05.2**	**+0.2**
ILAR	**Eielson Array**	**84.92**	**25**	P		**P**	**14 56 05.2**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=246,slow=5.6,SNR=16							
BRTR	**Keskin Array B**	**89.76**	**310**	P		**P**	**14 56 28.4**	**-0.7**
BRTR	**Keskin Array B**	**89.76**	**310**	P		**P**	**14 56 28.4**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=135,slow=4.3,SNR=5.2							
ARCES	**ARCESS Array B**	**90.16**	**340**	P		**P**	**14 56 30.3**	**+0.1**
ARCES	**ARCESS Array B**	**90.16**	**340**	P		**P**	**14 56 30.3**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=77,slow=5.4,SNR=20							
FINES	**FINESS Array B**	**91.54**	**332**	P		**P**	**14 56 36.4**	**-0.3**
FINES	**FINESS Array B**	**91.54**	**332**	P		**P**	**14 56 36.4**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=93,slow=3.8,SNR=8.8							
AKASG	**Malin Array Be**	**91.61**	**321**	P		**P**	**14 56 36.6**	**-0.7**
AKASG	**Malin Array Be**	**91.61**	**321**	P		**P**	**14 56 36.6**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=72,slow=4.6,SNR=5.0							
NB2	**NORSAR Subarra**	**98.50**	**334**	P		**P**	**14 57 08.4**	**-0.2**
	baz=66,slow=4.4							
NB2	**NORSAR Subarra**	**98.50**	**334**	P		**P**	**14 57 08.4**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=66,slow=4.4							
NOA	**NORSAR Array B**	**98.50**	**334**	P		**P**	**14 57 08.3**	**-0.3**
NOA	**NORSAR Array B**	**98.50**	**334**	P		**P**	**14 57 08.3**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=66,slow=4.5,SNR=4.0							
YKA	**Yellowknife Ar**	**99.31**	**24**	P		**Pdif**	**14 57 13.2**	**+1.0**
YKA	**Yellowknife Ar**	**99.31**

MKAR Makanchi Array 57.27 325 P **P** 14 54 00.1 +0.2
comp=Z,6.2nm,0.7s,baz=128,slow=7.7,SNR=10.0
MKAR PcP **PcP** 14 54 54.5 +0.6
comp=Z,3.1nm,0.7s,baz=122,slow=4.3,SNR=4.1
MKAR ScP **ScP** 14 58 55.4 +5.3
comp=Z,0.6nm,0.7s,baz=122,slow=5.2,SNR=3.0
AAK Ala-Archa 60.07 318 P **P** 14 54 20.9 +1.2
AAK Ala-Archa 60.07 318 P **P** 14 54 20.9 +1.2
comp=Z,1.7nm,0.7s,baz=155,slow=9.3,SNR=6.0
ZALV Zalesovo Beam 60.31 333 P **P** 14 54 20.1 -0.8
ZALV Zalesovo Beam 60.31 333 P **P** 14 54 20.1 -0.8
comp=Z,2.2nm,0.3s,baz=131,slow=6.6,SNR=6.5
KKAR Karatay Array 62.95 317 *eP* **P** 14 54 38.8 -0.1
comp=Z,9.2nm,0.9s
BRVK Borovoye 67.11 327 *eP* **P** 14 55 04.8 -0.9
comp=Z,8.3nm,0.8s
ILAR Eielson Array 84.97 25 P **P** 14 56 46.9 -0.2
ILAR Eielson Array 84.97 25 P **P** 14 56 46.9 -0.2
comp=Z,0.5nm,0.5s,baz=245,slow=5.2,SNR=6.0
KMBO Kilima Mbogo 89.39 269 *ep*P **P** 14 57 11.1 +1.2
BRTR Keskin Array B 89.75 310 P **P** 14 57 10.3 -0.6
BRTR Keskin Array B 89.75 310 P **P** 14 57 10.3 -0.6
comp=Z,2.6nm,0.8s,baz=109,slow=5.0,SNR=8.9
ARCES ARCESS Array B 90.17 340 P **P** 14 57 12.2 +0.2
ARCES ARCESS Array B 90.17 340 P **P** 14 57 12.2 +0.2
comp=Z,2.6nm,0.6s,baz=78,slow=5.6,SNR=5.4
FINES FINESS Array B 91.55 332 P **P** 14 57 18.7 +0.1
FINES FINESS Array B 91.55 332 P **P** 14 57 18.7 +0.1
comp=Z,3.9nm,0.7s,baz=83,slow=6.0,SNR=6.6
AKASG Malin Array Be 91.61 321 P **P** 14 57 18.3 -0.8
AKASG Malin Array Be 91.61 321 P **P** 14 57 18.3 -0.8
comp=Z,2.6nm,0.6s,baz=76,slow=4.0,SNR=12
NB2 NORSAR Subarra 98.51 334 P **P** 14 57 49.3 -1.1
comp=Z,2.2nm,0.9s,baz=67,slow=4.8
NOA NORSAR Array B 98.51 334 P **P** 14 57 49.7 -0.7
NOA NORSAR Array B 98.51 334 P **P** 14 57 49.7 -0.7
comp=Z,1.5nm,0.8s,baz=67,slow=4.6,SNR=5.0
YKA Yellowknife Ar 99.36 24 P **Pdif** 14 57 55.1 +1.0
YKA Yellowknife Ar 99.36 24 P **Pdif** 14 57 55.1 +1.0
comp=Z,0.1nm,0.5s,baz=292,slow=4.8,SNR=2.8
GERES GERESS Array B 101.80 322 P **Pdif** 14 58 05.4 -0.1
GERES GERESS Array B 101.80 322 P **Pdif** 14 58 05.4 -0.1
comp=Z,0.2nm,0.4s,baz=66,slow=4.7,SNR=7.4
TORD Torodi Ar. Bea 122.69 288 PKP **PKPdf** 15 03 08.8 +0.1
TORD Torodi Ar. Bea 122.69 288 PKP **PKPdf** 15 03 08.8 +0.1
comp=Z,0.7nm,0.5s,baz=47,slow=1.7,SNR=4.6

*IDC **12** 14:45:28.8±0.5, 3.99N×126.48E, h0km, mb4.4/24, mb1 4.5/24, mb1mx4.5/25, mbtmp4.4/24, MS4.2/1, Ms1 4.2/1, ms1mx3.1/33, Error ellipse: s-maj=20.3km s-min=11.3km az=76.0*
*ISCJB **12** 14:45:31.7±0.4, 3.98N±0.06×126.45E±0.09, h33km, mb4.4/31, Error ellipse: s-maj=12.8km s-min=8.0km az=160.6*
*NEIC **12** 14:45:33.7±0.3, 3.99N×126.48E, h35km, mb4.5/6, Error ellipse: s-maj=11.4km s-min=6.7km az=69.0*
ISC 12 14:45:30.4±3.4, 4.01N±0.08×126.5E±0.1, h11km±21km, n66, σ0.90/76, mb4.5/30, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KAPI	**Kappang**	**11.20**	**217**	LR		LR	14 52 03.7	
	comp=Z,1µm,19.9s,baz=300,slow=35							
FITZ	**Fitzroy Crossi**	**21.99**	**182**	P		**P**	**14 50 25.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**21.99**	**182**	P		**P**	**14 50 25.2**	**+0.6**
	8.8nm,0.8s,baz=8.9,slow=9.8,SNR=3.9							
WRA	**Warramunga Arr**	**25.03**	**162**	P		**P**	**14 50 53.8**	**-0.9**
WRA	**Warramunga Arr**	**25.03**	**162**	P		**P**	**14 50 53.8**	**-0.9**
	17nm,0.6s							
PSI	**Prapat**	**27.51**	**268**	P		**P**	**14 51 18.9**	**+1.5**
PSI	**Prapat**	**27.51**	**268**	P		**P**	**14 51 18.9**	**+1.5**
	4.6nm,0.7s,baz=103,slow=14,SNR=2.4							
ASAR	**Alice Springs**	**28.45**	**166**	P		**P**	**14 51 24.2**	**-1.3**
ASAR	**Alice Springs**	**28.45**	**166**	P		**P**	**14 51 24.2**	**-1.3**
	3.5nm,0.7s,baz=348,slow=8.1,SNR=4.0							
CM31	**Chiang Mai Arr**	**30.50**	**300**	*eP*		**P**	**14 51 44.4**	**+0.6**
	1.5nm,0.5s							
CMAR	**Chiang Mai Arr**	**30.50**	**300**	P		**P**	**14 51 45.5**	**+1.8**
CMAR	**Chiang Mai Arr**	**30.50**	**300**	P		**P**	**14 51 45.5**	**+1.8**
	4.0nm,0.9s,baz=108,slow=6.7,SNR=6.1							
CHTO	**Chiang Mai**	**30.65**	**301**	*eP*		**P**	**14 51 45.6**	**+0.6**
	5.9nm,0.8s							
CTA	**Charters Tower**	**30.85**	**142**	P		**P**	**14 51 47.2**	**+0.4**
CTA	**Charters Tower**	**30.85**	**142**	P		**P**	**14 51 47.2**	**+0.4**
	8.6nm,0.9s,baz=312,slow=9.7,SNR=3.1							
KSAR	**Wonju Array Be**	**33.30**	**2**	P		**P**	**14 52 09.8**	**+1.8**
KSAR					PcP	**PcP**	**14 54 51.6**	**+1.5**
KSRS	**Korea Array**	**33.31**	**2**	P		**P**	**14 52 09.8**	**+1.7**
	1.3nm,0.7s,baz=178,slow=10,SNR=2.6							
KSRS					PcP	**PcP**	**14 54 51.6**	**+1.5**
	2.2nm,0.7s,baz=176,slow=2.6,SNR=4.8							
MJAR	**Matsushiro Arr**	**34.13**	**17**	P		**P**	**14 52 15.7**	**+0.4**
MJAR					PcP	**PcP**	**14 54 53.5**	**+0.9**
MJAR	**Matsushiro Arr**	**34.13**	**17**	P		**P**	**14 52 15.7**	**+0.4**
	1.2nm,0.9s,baz=205,slow=6.3,SNR=2.9							
MJAR					PcP	**PcP**	**14 54 53.5**	**+0.9**
	1.4nm,0.8s,baz=202,slow=4.5,SNR=4.8							
NWAO	**Narrogin (SRO)**	**37.77**	**193**	P		**P**	**14 52 47.3**	**+0.8**
NWAO	**Narrogin (SRO)**	**37.77**	**193**	P		**P**	**14 52 47.3**	**+0.8**
	8.2nm,0.8s,baz=345,slow=12,SNR=2.2							
STKA	**Stephens Creek**	**38.49**	**159**	*eP*		**P**	**14 52 51.6**	**-1.1**
	5.6nm,1.1s							
STKA					P	**P**	**14 52 52.5**	**-0.2**
STKA	**Stephens Creek**	**38.49**	**159**	P		**P**	**14 52 52.5**	**-0.2**
	25nm,0.8s,baz=337,slow=8.5,SNR=8.6							
USRK	**Ussuriysk Arra**	**40.32**	**6**	P		**P**	**14 53 09.2**	**+1.4**
	1.8nm,0.7s,baz=193,slow=7.1,SNR=2.8							
LSA	**Lhasa**	**42.05**	**311**	*eP*		**P**	**14 53 20.7**	**-2.2**
	9.1nm,0.7s							
ASAJ	**Asahikawa**	**42.40**	**17**	P		**P**	**14 53 25.6**	**+0.7**
ASAJ	**Asahikawa**	**42.40**	**17**	P		**P**	**14 53 25.6**	**+0.7**
	6.2nm,0.9s,baz=210,slow=8.1,SNR=2.5							
DZM	**Mont Dzumac**	**46.92**	**125**	P		**P**	**14 54 01.3**	**-0.1**
DZM	**Mont Dzumac**	**46.92**	**125**	P		**P**	**14 54 01.3**	**-0.1**
	4.1nm,0.8s,baz=326,slow=17,SNR=3.6							
SONM	**Songino Array**	**46.95**	**342**	P		**P**	**14 54 01.6**	**+0.3**
SONM					PcP	**PcP**	**14 55 34.7**	**+0.9**
SONM	**Songino Array**	**46.95**	**342**	P		**P**	**14 54 01.6**	**+0.3**
	2.4nm,0.8s,baz=162,slow=8.2,SNR=3.5							
SONM					PcP	**PcP**	**14 55 34.7**	**+0.9**
	1.5nm,0.7s,baz=180,slow=3.1,SNR=3.9							
PETK	**Petropavlovsk-**	**55.27**	**22**	P		**P**	**14 55 03.9**	**+0.2**
PETK	**Petropavlovsk-**	**55.27**	**22**	P		**P**	**14 55 03.8**	**+0.2**
	2.7nm,0.7s,baz=169,slow=2.9,SNR=3.1							
MKAR	**Makanchi Array**	**57.17**	**325**	P		**P**	**14 55 17.3**	**-0.1**
MKAR					PcP	**PcP**	**14 56 12.4**	**+0.5**
MKAR					ScP	**ScP**	**15 00 12.3**	**+0.5**
MKAR	**Makanchi Array**	**57.17**	**325**	P		**P**	**14 55 17.3**	**-0.1**
	3.2nm,0.5s,baz=117,slow=7.5,SNR=6.4							
MKAR					PcP	**PcP**	**14 56 12.4**	**+0.5**
	2.7nm,0.6s,baz=112,slow=4.4,SNR=3.7							
MKAR					ScP	**ScP**	**15 00 12.3**	**+0.5**
	0.7nm,0.6s,baz=121,slow=4.7,SNR=4.5							
YAK	**Yakutsk**	**57.94**	**2**	*eP*		**P**	**14 55 21.5**	**-0.9**
	18nm,0.8s							
ZALV	**Zalesovo Beam**	**60.22**	**333**	P		**P**	**14 55 37.9**	**-0.5**
ZALV	**Zalesovo Beam**	**60.22**	**333**	P		**P**	**14 55 37.8**	**-0.5**
	1.9nm,0.5s,baz=125,slow=7.3,SNR=2.9							
EKS2	**Erkin-Say**	**60.46**	**318**	*eP*		**P**	**14 55 40.3**	**-0.1**
	4.6nm,1.1s							
ABKAR	**Akbulak array**	**71.76**	**321**	*eP*		**P**	**14 56 51.9**	**-0.9**
QRN	**Al-Qurain**	**78.04**	**298**	*eP*		**P**	**14 57 29.1**	**-0.4**
KBD	**Kabd**	**78.25**	**299**	*eP*		**P**	**14 57 29.8**	**-0.9**
MIB	**Mutribah**	**78.58**	**299**	*eP*		**P**	**14 57 31.8**	**-0.7**
MIB					AMb	AMB	14 57 33.4	
	comp=Z,26nm,0.8s							
NAY	**Al-Naaiem**	**78.65**	**299**	*eP*		**P**	**14 57 31.8**	**-1.1**
NAY					AMb	AMB	14 57 33.3	
	comp=Z,9.6nm,0.8s							
ILAR	**Eielson Array**	**84.96**	**25**	P		**P**	**14 58 05.4**	**-0.1**
ILAR	**Eielson Array**	**84.96**	**25**	P		**P**	**14 58 05.4**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=243,slow=5.7,SNR=3.2							
BRTR	**Keskin Array B**	**89.63**	**310**	P		**P**	**14 58 28.6**	**-0.2**
BRTR	**Keskin Array B**	**89.63**	**310**	P		**P**	**14 58 28.6**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=126,slow=4.5,SNR=4.1							
ARCES	**ARCESS Array B**	**90.09**	**340**	P		**P**	**14 58 29.8**	**-0.3**
ARCES	**ARCESS Array B**	**90.09**	**340**	P		**P**	**14 58 29.8**	**-0.3**
	comp=Z,4.3nm,0.9s,baz=74,slow=6.7,SNR=3.1							
FINES	**FINESS Array B**	**91.46**	**332**	P		**P**	**14 58 35.8**	**-0.8**
FINES	**FINESS Array B**	**91.46**	**332**	P		**P**	**14 58 35.8**	**-0.8**
	comp=Z,5.0nm,0.8s,baz=71,slow=8.3,SNR=7.7							
AKASG	**Malin Array Be**	**91.50**	**321**	P		**P**	**14 58 36.0**	**-1.0**
AKASG	**Malin Array Be**	**91.50**	**321**	P		**P**	**14 58 36.0**	**-1.0**
	comp=Z,3.6nm,0.7s,baz=69,slow=4.8,SNR=9.6							
NB2	**NORSAR Subarra**	**98.42**	**334**	P		**P**	**14 59 07.1**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=66,slow=4.6							
NOA	**NORSAR Array B**	**98.42**	**334**	P		**P**	**14 59 07.1**	**-1.3**
NOA	**NORSAR Array B**	**98.42**	**334**	P		**P**	**14 59 07.1**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=68,slow=4.6,SNR=4.7							
YKA	**Yellowknife Ar**	**99.35**	**24**	P		**Pdif**	**14 59 12.9**	**+0.3**
YKA	**Yellowknife Ar**	**99.35**	**24**	P		**Pdif**	**14 59 12.9**	**+0.3**
	comp=Z,0.2nm,0.8s,baz=302,slow=4.7,SNR=2.5							
BRG	**Berggiesshuel**	**100.85**	**323**	*eP*		**Pdif**	**14 59 20.0**	**+0.5**
	comp=Z,6.6nm,0.9s							
GERES	**GERESS Array B**	**101.70**	**322**	P		**Pdif**	**14 59 23.9**	**+0.5**
GERES	**GERESS Array B**	**101.70**	**322**	P		**Pdif**	**14 59 23.9**	**+0.5**
	comp=Z,0.9nm,0.9s,baz=71,slow=5.8,SNR=5.2							
TXAR	**Lajitas Array**	**121.64**	**52**	PKP		**PKPdf**	**15 04 25.7**	**+0.5**
TXAR	**Lajitas Array**	**121.64**	**52**	PKP		**PKPdf**	**15 04 25.7**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=315,slow=0.5,SNR=4.1							
TORD	**Torodi Ar. Bea**	**122.58**	**288**	PKP		**PKPdf**	**15 04 26.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**122.58**	**288**	PKP		**PKPdf**	**15 04 26.9**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=54,slow=2.1,SNR=7.4							

*ISCJB **12** 14:52:56.7±0.9, 38.81N±0.03×26.62E±0.08, h2km±9km, Error ellipse: s-maj=10.3km s-min=5.8km az=1.1*
*DDA **12** 14:52:57.4, 38.79N×26.67E, h7km, MD2.8*
*CSEM **12** 14:52:57.4, 38.79N×26.67E, h7km, MD2.8, After DDA*
ISC 12 14:52:56.2±1.6, 38.82N±0.03×26.60E±0.05, h2km±13km, n16, σ0.29/26, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
URLA	**Izmir**	**0.46**	**180**	*i* P		**Pg**	**14 53 05.3**	**+0.3**
URLA				*i* S		**Sb**	**14 53 13.7**	**-0.6**
URLA	**Izmir**	**0.46**	**180**	*i* P		**Pg**	**14 53 05.3**	**+0.3**
URLA				*i* S		**Sb**	**14 53 13.7**	**-0.6**
AYVA	**Ayvalik**	**0.49**	**9**	*i* P		**Pg**	**14 53 05.5**	**-0.1**
AYVA				*i* S		**Sb**	**14 53 15.1**	**-0.1**
AYVA	**Ayvalik**	**0.49**	**9**	*i* P		**Pg**	**14 53 05.5**	**-0.1**
AYVA				*i* S		**Sb**	**14 53 15.1**	**-0.1**
BLCB	**Balcova**	**0.56**	**141**	*e*PG		**Pg**	**14 53 06.4**	**-0.4**
BLCB	**Balcova**	**0.56**	**141**	*e*PG		**Pg**	**14 53 06.4**	**-0.4**
AKS	**Akhisar**	**0.95**	**86**	*e*PG		**Pg**	**14 53 14.6**	**+0.1**
AKS	**Akhisar**	**0.95**	**86**	*e*PG		**Pg**	**14 53 14.6**	**+0.1**
AKHS	**Akhisar**	**0.95**	**86**	*i* P		**Pg**	**14 53 14.6**	**+0.2**
AKHS				*i* S		**Sb**	**14 53 28.5**	**0.0**
AKHS	**Akhisar**	**0.95**	**86**	*i* P		**Pg**	**14 53 14.6**	**+0.2**
AKHS				*i* S		**Sb**	**14 53 28.5**	**0.0**
BALY	**Balya**	**1.21**	**41**	*i* P		**Pb**	**14 53 19.9**	**0.0**
BALY				*i* S		**Sn**	**14 53 37.2**	**0.0**
BALY	**Balya**	**1.21**	**41**	*i* P		**Pb**	**14 53 19.9**	**0.0**
BALY				*i* S		**Sn**	**14 53 37.2**	**0.0**
BALB	**Balikesir**	**1.29**	**50**	*e*PN		**Pg**	**14 53 20.6**	**-0.3**
BALB	**Balikesir**	**1.29**	**50**	*e*PG		**Pg**	**14 53 20.6**	**-0.3**
MANT	**Manisa**	**1.57**	**101**	*i* P		**Pn**	**14 53 25.6**	**+0.4**
MANT				*i* S		**Sn**	**14 53 46.2**	**-0.1**
MANT	**Manisa**	**1.57**	**101**	*i* P		**Pn**	**14 53 25.6**	**+0.4**
MANT				*i* S		**Sn**	**14 53 46.2**	**-0.1**

IDC 12 14:53:27.1±0.7, 14.15N×145.74E, h88km±5km, mb3.6/14, mb1 3.8/14, mb1mx3.7/22, mbtmp3.6/14, Error ellipse: s-maj=17.0km s-min=8.9km az=131.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GUMO	**Guam**	**1.01**	**236**	P		Pn	14 53 47.3	+0.5
	3µm,0.3s,baz=74,slow=2.1,SNR=1795							
GUMO				S		Sn	14 54 01.8	+0.2
	3µm,0.3s,baz=3.1,slow=22,SNR=47							
JNU	**Nakatsue**	**23.23**	**327**	P		P	14 58 27.0	+0.3
	7.3nm,0.7s,baz=60,slow=1.5,SNR=7.2							
MJAR	**Matsushiro Arr**	**23.29**	**345**	P		P	14 58 25.9	-1.3
	1.3nm,0.7s,baz=176,slow=7.5,SNR=5.9							
KSRS	**Korea Array**	**28.11**	**329**	P		P	14 59 10.7	+0.1
	3.3nm,0.7s,baz=143,slow=8.8,SNR=9.8							
WRA	**Warramunga Arr**	**35.69**	**199**	P		P	15 00 17.2	0.0
	1.1nm,0.7s							
ASAR	**Alice Springs**	**39.33**	**197**	P		P	15 00 47.9	0.0
	0.4nm,1.0s,baz=22,slow=7.3,SNR=6.6							
CMAR	**Chiang Mai Arr**	**45.02**	**282**	P		P	15 01 35.5	+1.2
	0.9nm,0.7s,baz=76,slow=5.9,SNR=5.2							
STKA	**Stephens Creek**	**45.94**	**185**	P		P	15 01 41.0	-0.2
	9.2nm,0.9s,baz=8.2,slow=10,SNR=4.9							
SONM	**Songino Array**	**46.76**	**324**	P		P	15 01 47.3	-0.4
	1.1nm,0.6s,baz=135,slow=7.4,SNR=9.8							
ZALV	**Zalesovo Beam**	**61.66**	**324**	P		P	15 03 36.2	+0.6
	0.7nm,0.6s,baz=77,slow=7.8,SNR=3.4							
MKAR	**Makanchi Array**	**61.67**	**316**	P		P	15 03 36.7	+0.8
	0.7nm,0.4s,baz=90,slow=9.1,SNR=14							
ILAR	**Eielson Array**	**67.70**	**25**	P		P	15 04 13.6	-1.1
	0.6nm,0.4s,baz=250,slow=6.1,SNR=20							
ILAR					pP	pP	15 04 37.5	+0.3
	0.9nm,0.6s,baz=248,slow=6.2,SNR=5.4							
YKA	**Yellowknife Ar**	**81.97**	**28**	P		P	15 05 37.1	+0.1
	0.6nm,0.6s,baz=286,slow=5.3,SNR=14							
YKA					pP	pP	15 06 01.1	+0.8
	1.1nm,0.7s,baz=287,slow=5.4,SNR=6.5							
NVAR	**Mina Array Bea**	**85.91**	**52**	P		P	15 05 59.0	+1.1
	0.4nm,0.8s,baz=308,slow=4.4,SNR=2.2							
NVAR					pP	pP	15 06 20.9	-0.4
	0.5nm,0.6s,baz=254,slow=8.2,SNR=2.0							
FINES	**FINESS Array B**	**91.01**	**335**	P		P	15 06 19.6	-1.6
	1.9nm,0.6s,baz=70,slow=4.4,SNR=15							

IDC 12 15:04:13.6±1.4, 3.78N×127.11E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.9/7, Error ellipse: s-maj=167.0km s-min=19.6km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ASAR	**Alice Springs**	**28.07**	**167**	P		P	15 10 07.5	+0.5
	0.1nm,0.3s,baz=344,slow=12,SNR=6.9							
STKA	**Stephens Creek**	**38.04**	**160**	P		P	15 11 33.3	-0.6
	3.5nm,0.8s,baz=354,slow=6.1,SNR=4.0							
SONM	**Songino Array**	**47.38**	**341**	P		P	15 12 50.2	+0.5
	0.3nm,0.6s,baz=160,slow=8.8,SNR=4.2							
MKAR	**Makanchi Array**	**57.73**	**325**	P		P	15 14 06.4	0.0
	0.9nm,0.5s,baz=119,slow=7.4,SNR=17							
KURBB	**Kurchatov Arra**	**61.91**	**327**	P		P	15 14 34.7	-0.3
	1.2nm,0.5s,baz=128,slow=6.5,SNR=14							
BVAR	**Borovoye Array**	**67.49**	**327**	P		P	15 15 11.5	0.0
	0.3nm,0.4s,baz=134,slow=4.2,SNR=4.6							
ARCES	**ARCESS Array B**	**90.54**	**340**	P		P	15 17 16.9	-0.4
	6.3nm,1.1s,baz=66,slow=4.4,SNR=3.1							

IDC 12 15:07:30.7±1.1, 4.00N×126.62E, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.7/21, mbtmp3.7/9, Error ellipse: s-maj=68.8km s-min=16.2km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
FITZ	**Fitzroy Crossi**	**21.98**	**182**	P		P	15 12 25.3	-1.1
	0.9nm,0.4s,baz=1.2,slow=9.2,SNR=1.9							
ASAR	**Alice Springs**	**28.40**	**166**	P		P	15 13 27.4	+0.3
	0.3nm,0.6s,baz=348,slow=7.3,SNR=4.8							
CMAR	**Chiang Mai Arr**	**30.64**	**300**	P		P	15 13 48.0	+0.9
	0.7nm,0.7s,baz=116,slow=7.6,SNR=5.6							
STKA	**Stephens Creek**	**38.42**	**159**	P		P	15 14 54.5	+0.4
	2.7nm,0.7s,baz=347,slow=18,SNR=6.6							
SONM	**Songino Array**	**47.01**	**341**	P		P	15 16 04.2	+0.3
	0.2nm,0.6s,baz=150,slow=7.9,SNR=2.1							
MKAR	**Makanchi Array**	**57.27**	**325**	P		P	15 17 19.9	-0.3
	0.9nm,0.6s,baz=128,slow=8.1,SNR=14							
ZALV	**Zalesovo Beam**	**60.30**	**333**	P		P	15 17 40.7	-0.3
	0.4nm,0.4s,baz=133,slow=10,SNR=3.3							
KURBB	**Kurchatov Arra**	**61.46**	**327**	P		P	15 17 48.6	-0.4
	1.2nm,0.6s,baz=127,slow=6.4,SNR=9.8							
BVAR	**Borovoye Array**	**67.04**	**327**	P		P	15 18 25.5	-0.1
	1.4nm,0.8s,baz=123,slow=11,SNR=8.7							

IDC 12 15:11:25.7±1.1, 3.97N×126.50E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.7/20, mbtmp3.7/8, MS3.7/2, Ms1 3.7/2, ms1mx3.0/36, Error ellipse: s-maj=79.8km s-min=18.2km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DAV	**Davao City (W)**	**3.21**	**343**	LR		LR	15 13 24.8	
	comp=Z,202nm,19.8s,baz=180,slow=37							
ASAR	**Alice Springs**	**28.41**	**166**	P		P	15 17 22.1	0.0
	0.4nm,0.4s,baz=347,slow=12,SNR=5.5							
CMAR	**Chiang Mai Arr**	**30.55**	**300**	P		P	15 17 41.4	+0.2
	0.2nm,0.3s,baz=110,slow=6.4,SNR=3.6							
STKA	**Stephens Creek**	**38.44**	**159**	P		P	15 18 49.1	-0.1
	3.2nm,0.5s,baz=347,slow=7.9,SNR=11							
SONM	**Songino Array**	**46.99**	**342**	P		P	15 19 58.2	-0.6
	0.3nm,0.5s,baz=150,slow=6.1,SNR=2.6							
MKAR	**Makanchi Array**	**57.22**	**325**	P		P	15 21 14.2	-0.6
	0.7nm,0.5s,baz=120,slow=7.4,SNR=4.7							
ZALV	**Zalesovo Beam**	**60.27**	**333**	P		P	15 21 37.1	+1.3
	0.4nm,0.5s,baz=138,slow=11,SNR=2.6							
KURBB	**Kurchatov Arra**	**61.41**	**327**	P		P	15 21 43.4	-0.3
	0.8nm,0.7s,baz=126,slow=6.4,SNR=6.6							
BVAR	**Borovoye Array**	**66.99**	**327**	P		P	15 22 19.6	-0.7
	0.2nm,0.4s,baz=113,slow=5.9,SNR=3.5							
BBB	**Bella Bella**	**96.24**	**37**	LR		LR	15 59 53.1	
	comp=Z,195nm,21.3s,slow=30							

*IDC **12** 15:14:16.0±1.2, 3.74N×126.66E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/22, mbtmp3.9/8, MS3.6/1, Ms1 3.8/1, ms1mx2.8/35, Error ellipse: s-maj=104.8km s-min=16.4km az=70.0*
*ISCJB **12** 15:14:20.9±0.9, 3.7N±0.2×126.5E±0.4, h53km, mb4.0/11, MS3.5/1, Error ellipse: s-maj=64.8km s-min=10.2km az=158.6*
*NEIC **12** 15:14:21.1±0.8, 3.69N×126.50E, h35km, mb4.7/3, Error ellipse: s-maj=62.5km s-min=10.2km az=69.0*
ISC 12 15:14:22.9±1.0, 3.7N±0.2×126.5E±0.4, h53km, n23, σ1.26/22, mb3.9/11, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
FITZ	**Fitzroy Crossi**	**21.66**	**182**	P		**P**	**15 19 09.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**21.66**	**182**	P		**P**	**15 19 09.1**	**-0.1**
	2.1nm,0.4s,baz=17,slow=12,SNR=3.7							
WRAB	**Tennant Creek**	**24.71**	**162**	*eP*		**P**	**15 19 38.7**	**-0.6**
	15nm,0.8s							
ASAR	**Alice Springs**	**28.13**	**165**	P		**P**	**15 20 10.1**	**0.0**
ASAR	**Alice Springs**	**28.13**	**165**	P		**P**	**15 20 10.1**	**0.0**
	0.5nm,0.3s,baz=338,slow=7.2,SNR=8.7							
CMAR	**Chiang Mai Arr**	**30.68**	**301**	LR		LR	15 33 35.7	
	comp=Z,108nm,20.4s,baz=105,slow=38							
ENH	**Enshi**	**30.94**	**331**	P		**P**	**15 20 34.6**	**-0.4**
STKA	**Stephens Creek**	**38.18**	**159**	P		**P**	**15 21 37.0**	**-0.4**
	22nm,0.6s							
STKA	**Stephens Creek**	**38.18**	**159**	P		**P**	**15 21 37.0**	**-0.4**
	8.6nm,0.7s,baz=330,slow=9.7,SNR=21							
LSA	**Lhasa**	**42.28**	**312**	P		**P**	**15 22 11.2**	**-0.8**
SONM	**Songino Array**	**47.26**	**342**	P		**P**	**15 22 50.8**	**-0.2**
SONM	**Songino Array**	**47.26**	**342**	P		**P**	**15 22 50.8**	**-0.2**
	0.3nm,0.5s,baz=165,slow=6.0,SNR=3.1							
MK31	**Makanchi Array**	**57.45**	**325**	*eP*		**P**	**15 24 05.2**	**-1.2**
MKAR	**Makanchi Array**	**57.45**	**325**	P		**P**	**15 24 05.2**	**-1.2**
MKAR	**Makanchi Array**	**57.45**	**325**	P		**P**	**15 24 05.2**	**-1.2**
	0.6nm,0.6s,baz=120,slow=7.7,SNR=5.6							
KURBB	**Kurchatov Arra**	**61.64**	**327**	P		**P**	**15 24 35.3**	**+0.2**
	1.0nm,0.8s,baz=129,slow=6.6,SNR=5.0							
KURK	**Kurchatov**	**61.64**	**328**	P		**P**	**15 24 35.3**	**+0.2**
BVAR	**Borovoye Array**	**67.22**	**327**	P		**P**	**15 25 14.1**	**+2.5**
BVAR	**Bor

WRAB	**Tennant Creek**	**24.63 163**	*e*P		**P**		**15 32 45.2**	**-1.0**
	30nm,1.0s							
WRA	**Warramunga Arr**	**24.64 163**	P		**P**		**15 32 46.0**	**-0.4**
WRA	**Warramunga Arr**	**24.64 163**	P		**P**		**15 32 45.9**	**-0.4**
	18nm,0.8s							
ASAR	**Alice Springs**	**28.08 166**	P		**P**		**15 33 16.7**	**-0.7**
ASAR	**Alice Springs**	**28.08 166**	P		**P**		**15 33 16.7**	**-0.7**
	0.8nm,0.7s,baz=343,slow=11,SNR=3.5							
CTAO	**Charters Tower**	**30.36 142**	P		P		15 33 42.9	+5.3
	17nm,1.3s							
CMAR	**Chiang Mai Arr**	**31.02 300**	P		**P**		**15 33 43.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**31.02 300**	P		**P**		**15 33 43.9**	**+0.3**
	1.1nm,0.8s,baz=114,slow=7.5,SNR=9.8							
ENH	**Enshi**	**31.11 330**	P		**P**		**15 33 43.2**	**-1.0**
CHTO	**Chiang Mai**	**31.17 301**	*e*P		**P**		**15 33 44.3**	**-0.6**
	6.3nm,1.1s							
BJT	**Baijiatuau**	**37.40 346**	*e*P		**P**		**15 34 39.5**	**+1.0**
	23nm,0.8s							
STKA	**Stephens Creek**	**38.07 160**	P		**P**		**15 34 43.5**	**-0.8**
STKA	**Stephens Creek**	**38.07 160**	P		**P**		**15 34 43.5**	**-0.8**
	6.1nm,0.6s,baz=334,slow=8.7,SNR=16							
HIA	**Hailar**	**45.78 353**	P		**P**		**15 35 46.8**	**-0.2**
	3.0nm,0.7s							
DZM	**Mont Dzumac**	**46.40 125**	P		**P**		**15 35 52.2**	**-0.1**
DZM	**Mont Dzumac**	**46.40 125**	P		**P**		**15 35 52.2**	**-0.1**
	3.6nm,1.0s,baz=304,slow=7.3,SNR=3.0							
ULN	**Ulaanbaatar**	**47.17 342**	*e*P		**P**		**15 35 58.9**	**+0.8**
	11nm,1.2s							
SONM	**Songino Array**	**47.35 341**	P		**P**		**15 36 00.2**	**+0.8**
SONM				PcP	**PcP**		**15 37 31.0**	**+1.3**
SONM	**Songino Array**	**47.35 341**	P		**P**		**15 36 00.2**	**+0.8**
	1.8nm,0.6s,baz=156,slow=8.6,SNR=13							
SONM				PcP	**PcP**		**15 37 31.0**	**+1.3**
	1.5nm,0.9s,baz=165,slow=3.6,SNR=7.0							
TAU	**Tasmania Unive**	**49.97 160**	*e*P		**P**		**15 36 22.1**	**+2.7**
	5.5nm,0.8s							
TLY	**Talaya**	**51.58 342**	*e*P		**P**		**15 36 32.2**	**+0.7**
	4.9nm,0.9s							
MKAR	**Makanchi Array**	**57.65 325**	P		**P**		**15 37 15.2**	**-0.4**
MKAR	**Makanchi Array**	**57.65 325**	P		**P**		**15 37 15.2**	**-0.4**
	2.1nm,0.5s,baz=112,slow=6.5,SNR=5.5							
YAK	**Yakutsk**	**58.20 2**	*e*P		**P**		**15 37 18.9**	**-0.1**
	8.3nm,0.8s							
AAK	**Ala-Archa**	**60.47 318**	P		P		15 37 39.0	+3.6
AAK	**Ala-Archa**	**60.47 318**	P		P		15 37 39.0	+3.6
	1.7nm,0.3s,baz=299,slow=19,SNR=8.9							
ZALV	**Zalesovo Beam**	**60.66 333**	P		**P**		**15 37 36.1**	**-0.1**
ZALV	**Zalesovo Beam**	**60.66 333**	P		**P**		**15 37 36.1**	**-0.1**
	1.4nm,0.7s,baz=125,slow=7.4,SNR=6.8							
KURBB	**Kurchatov Arra**	**61.83 327**	P		**P**		**15 37 44.5**	**+0.3**
	2.8nm,0.9s,baz=129,slow=6.3,SNR=12							
KURK	**Kurchatov**	**61.83 327**	P		**P**		**15 37 44.5**	**+0.3**
BRVK	**Borovoye**	**67.48 327**	*e*P		**P**		**15 38 21.0**	**0.0**
	2.7nm,0.6s							
ABKAR	**Akbulak array**	**72.26 321**	*e*P		**P**		**15 38 50.2**	**-0.2**
	0.7nm,0.6s							
BRTR	**Keskin Array B**	**90.15 310**	P		**P**		**15 40 25.4**	**-0.4**
BRTR	**Keskin Array B**	**90.15 310**	P		**P**		**15 40 25.4**	**-0.4**
	1.6nm,0.9s,baz=106,slow=4.4,SNR=5.5							
ARCES	**ARCESS Array B**	**90.50 340**	P		**P**		**15 40 25.5**	**-1.0**
ARCES	**ARCESS Array B**	**90.50 340**	P		**P**		**15 40 25.5**	**-1.0**
	3.3nm,0.7s,baz=92,slow=7.4,SNR=11							
FINES	**FINESS Array B**	**91.91 332**	P		**P**		**15 40 33.1**	**0.0**
FINES	**FINESS Array B**	**91.91 332**	P		**P**		**15 40 33.1**	**0.0**
	1.9nm,0.8s,baz=37,slow=4.8,SNR=4.7							
AKASG	**Malin Array Be**	**92.00 321**	P		**P**		**15 40 33.6**	**-0.2**
AKASG	**Malin Array Be**	**92.00 321**	P		**P**		**15 40 33.6**	**-0.2**
	0.3nm,0.3s,baz=74,slow=4.5,SNR=5.0							
NOA	**NORSAR Array B**	**98.86 334**	P		**P**		**15 41 04.2**	**-0.7**
NOA	**NORSAR Array B**	**98.86 334**	P		**P**		**15 41 04.2**	**-0.7**
	0.9nm,0.8s,baz=70,slow=4.5,SNR=3.5							
TORD	**Torodi Ar. Bea**	**123.08 288**	PKP		**PKPdf**		**15 46 23.2**	**+0.8**
TORD	**Torodi Ar. Bea**	**123.08 288**	PKP		**PKPdf**		**15 46 23.2**	**+0.8**
	1.0nm,0.9s,baz=33,slow=2.6,SNR=5.9							

KRSC 12 15:31:29.5±1.1, 52°.63N×159°.68E, h33^{km}±32^{km}, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.51**	**24**	*e*P	Pb	15 31 40.3	0.0
SPN				*i* S	Sn	15 31 48.2	+0.1
NLC	**Nalytchevo**	**0.58**	**340**	*i* P	Pn	15 31 41.5	+0.1
NLC				*i* S	Sn	15 31 50.3	+0.6
PET	**Petropavlovsk**	**0.74**	**303**	*i* P	Pn	15 31 43.4	-0.2
PET				*i* S	Sn	15 31 53.4	-0.2
RUS	**Russkaya**	**0.74**	**255**	*i* P	Pn	15 31 43.4	-0.2
RUS				*i* S	Sn	15 31 53.4	-0.3
UGLR	**Uglovaya**	**0.78**	**319**	*i* P	Pb	15 31 44.7	-0.1
UGLR				*i* S	Sb	15 31 55.4	+0.2
SDLR	**Sedlovina**	**0.81**	**324**	*i* P	Pn	15 31 44.7	0.0
SDLR				*e*S	Sn	15 31 55.4	-0.3
SMAR	**Somma**	**0.83**	**320**	*i* P	Pn	15 31 45.0	-0.1
AVH	**Avacha**	**0.85**	**319**	*i* P	Pb	15 31 45.8	-0.2
AVH				*i* S	Sb	15 31 57.4	+0.1
KOK	**Koryaka**	**0.92**	**317**	*i* P	Pn	15 31 46.6	+0.4
KOK				*e*S	Sb	15 31 58.7	-0.4
MTVR	**Mutnovka**	**0.93**	**261**	*i* P	Pn	15 31 46.4	0.0
MTVR				*i* S	Sn	15 31 58.4	-0.3
ASAK	**Asacha**	**1.12**	**258**	*i* P	Pn	15 31 49.5	+0.6
ASAK				*i* S	Sn	15 32 03.9	+0.7
MKZ	**Mys Kozlova**	**2.28**	**32**	P	Pn	15 32 05.7	+0.9
MKZ				*i* S	Sn	15 32 32.3	+0.5
KBTR	**Krutoberegovo**	**4.03**	**26**	P	Pn	15 32 30.7	+1.9

*IDC **12** 15:32:02.8±0.4, 3°.96N×126°.56E, h0^{km}, mb4.7/28, mb1 4.8/28, mb1mx4.8/29, mbtmp4.7/28, Error ellipse: s-maj=20.1km s-min=10.5km az=78.0*
*BJI **12** 15:32:06.4, 3°.91N×126°.56E, h39^{km}, mB5.0/18, mb4.8/46, Ms4.5/21, Ms7 4.3/20*
*ISCJB **12** 15:32:07.4±0.2, 4°.01N±0°.03×126°.73E±0°.04, h45^{km}, mb4.9/80, MS4.3/8, Error ellipse: s-maj=5.8km s-min=3.7km az=155.7*
*NEIC **12** 15:32:07.9±0.3, 4°.02N×126°.76E, h35^{km}, mb4.9/37, Error ellipse: s-maj=8.9km s-min=5.6km az=77.0*
*DJA **12** 15:32:14, 3°.78N×126°.83E, h62^{km}, mb4.8/20*
ISC 12 15:32:09.1±0.3, 3°.99N±0°.05×126°.62E±0°.06, h45^{km}, h45^{km}:pP-P, n223, σ1§45/238, mb4.9/78, MS4.3/8, 8C-8D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.67**	**321**	‖*e*P	Pn	15 32 53.4	+3.6
GSPH				*e*S	Sn	15 33 28.0	+6.9
MATI	**Mati**	**2.96**	**353**	*e*P	Pn	15 32 57.0	+3.2
MNI	**Manado**	**3.09**	**215**	P	Pn	15 33 04.4	+9.0
DAV	**Davao City (W)**	**3.24**	**341**	Pn	Pn	15 33 03.4	+5.9
DAV	**Davao City (W)**	**3.24**	**341**	P	Pn	15 33 14.6	+17
DAV	**Davao City (W)**	**3.24**	**341**	Pn	Pn	15 33 03.4	+5.9
	26nm,0.3s,baz=255,slow=17,SNR=4.4						
DMPH	**Davao City--Mi**	**3.27**	**340**	*e*P	Pn	15 33 02.4	+4.5
DMPH				*i* S	Sn	15 33 50.8	+15
TNTI	**Ternate**	**3.28**	**167**	P	Pn	15 33 04.0	+6.0
KCP	**Kidapawan**	**3.37**	**333**	‖*e*P	Pn	15 33 04.2	+4.8
KCP				*i* S	Sn	15 33 50.6	+12
BUKP	**Musuan**	**4.17**	**338**	*e*P	Pn	15 33 14.9	+4.6
KMSI	**Cibinong**	**4.29**	**218**	P	Pn	15 33 18.0	+6.0
LBMI	**Labuha**	**4.67**	**169**	P	Pn	15 33 30.3	+13
CGP	**Cagayan de Oro**	**4.84**	**337**	‖*i*P	Pn	15 33 24.8	+5.3
CGP				*i* S	Sn	15 34 37.7	+23
PAGZ	**Pagadian**	**5.01**	**320**	*e*P	Pn	15 33 25.0	+3.1
BUTP	**Butuan**	**5.05**	**349**	*e*P	Pn	15 33 27.1	+4.7
ZMPH	**Zamboanga City**	**5.41**	**303**	‖*i*P	**Pn**	**15 33 29.1**	**+1.8**
ZMPH				*i* S	**Sn**	**15 34 28.7**	**+0.3**
IPIL	**Ipil**	**5.53**	**313**	*e*P	**Pn**	**15 33 31.6**	**+2.7**
MRSI	**Marisa**	**5.83**	**233**	P	Pn	15 33 36.7	+3.6
	345nm,0.7s,4μm1.3nm						
LUWI	**Luwuk**	**6.30**	**218**	P	Pn	15 33 47.0	+7.4
	375nm,1.2s,4μm1.8nm						
MSLP	**Maasin**	**6.36**	**344**	*e*P	Pn	15 33 44.8	+4.5
SWI	**Sorong**	**6.68**	**136**	P	**Pn**	**15 33 45.4**	**+0.6**
	69nm,1.1s,0.3nm						
AAI	**Ambon**	**7.78**	**168**	P	Pn	15 34 14.3	+14
MYLDM	**Lahad Datu**	**8.18**	**279**	P	Pn	15 34 12.0	+6.6
MYLDM	**Lahad Datu**	**8.18**	**279**	P	Pn	15 34 14.6	+9.2
	118nm,1.2s,0.7nm						
TSM	**Tawau**	**8.73**	**272**	P	Pn	15 34 16.7	+3.8
KDI	**Kendari**	**8.85**	**207**	P	Pn	15 34 20.9	+6.4
	71nm,0.8s,818nm0.2nm						
FAKI	**Fak Fak**	**8.87**	**141**	P	Pn	15 34 17.5	+2.7
	33nm,1.1s,0.1nm						

SDKM	**Sandakan**	**9.54**	**280**	P		Pn	15 34 28.4	+4.4
TTSI	**Tana Toraja**	**9.75**	**224**	P		Pn	15 34 32.5	+5.7
	72nm,1.1s,1μm91μm							
KDM	**Kudat**	**10.17**	**287**	P		Pn	15 34 38.6	+5.9
KKM	**Kota Kinabalu**	**10.57**	**282**	*e*Pn		Pn	15 34 42.2	+4.0
	26nm,0.9s							
KKM				*e*Sn		**Sn**	**15 36 36.8**	**+1.4**
KKM	**Kota Kinabalu**	**10.57**	**282**	P		Pn	15 34 44.7	+6.5
KKM	**Kota Kinabalu**	**10.57**	**282**	P		Pn	15 34 44.5	+6.3
	29nm,1.2s,536nm							
BAKI	**Biak**	**10.78**	**118**	P		Pn	15 34 48.1	+7.1
KAPI	**Kappang**	**11.27**	**218**	Pn		Pn	15 34 51.5	+3.8
KAPI	**Kappang**	**11.27**	**218**	Pn		Pn	15 34 51.5	+3.8
	0.7nm,0.3s,baz=29,slow=13,SNR=2.2							
TLE	**Tual**	**11.34**	**147**	P		Pn	15 34 51.5	+2.8
	70nm,1.2s							
SBUM	**Sibu**	**14.46**	**264**	P		**P**	**15 35 36.7**	**-0.3**
SBUM	**Sibu**	**14.46**	**264**	P		**P**	**15 35 36.4**	**-0.6**
	34nm,1.1s							
STKI	**Sintang**	**15.63**	**256**	P		**P**	**15 35 53.5**	**+3.5**
	37nm,1.4s							
KSM	**Kuching**	**16.48**	**262**	*e*Pn		**P**	**15 36 02.0**	**+2.5**
	33nm,0.9s							
KSM	**Kuching**	**16.48**	**262**	P		**P**	**15 36 02.8**	**+3.3**
KSM	**Kuching**	**16.48**	**262**	P		**P**	**15 36 02.8**	**+3.3**
	31nm,1.2s							
KNRA	**Kununurra**	**19.65**	**174**	*e*P		**Pn**	**15 36 34.7**	**-1.3**
	278nm,0.9s							
YULB	**Yu-li**	**19.97**	**346**	*e*P		**P**	**15 36 35.7**	**-2.1**
	12nm,0.4s							
TPUB	**Ta-pu**	**20.06**	**344**	*e*P		**P**	**15 36 37.3**	**-1.5**
	62nm,0.8s							
SSLB	**Suanglung**	**20.43**	**345**	*e*P		**P**	**15 36 41.6**	**-1.2**
	19nm,0.6s							
YHNB	**Yeheng**	**21.18**	**347**	*e*P		**P**	**15 36 50.1**	**-0.8**
	32nm,0.6s							
FITZ	**Fitzroy Crossi**	**21.97**	**183**	P		**P**	**15 36 57.8**	**-1.5**
FITZ	**Fitzroy Crossi**	**21.97**	**183**	*e*P		**P**	**15 36 58.1**	**-1.2**
	18nm,0.5s							
FITZ	**Fitzroy Crossi**	**21.97**	**183**	P		**P**	**15 36 57.8**	**-1.5**
	10nm,0.5s,baz=27,slow=11,SNR=20							
JOW	**Kunigami**	**22.77**	**4**	P		**P**	**15 37 07.5**	**-0.4**
JOW	**Kunigami**	**22.77**	**4**	P		**P**	**15 37 07.5**	**-0.4**
	26nm,0.7s,baz=225,slow=14,SNR=2.6							
MYKOM	**Kota Tinggi**	**22.85**	**265**	P		**P**	**15 37 13.0**	**+4.2**
KGM	**Kluang**	**23.35**	**266**	P		**P**	**15 37 16.8**	**+3.0**
WRAB	**Tennant Creek**	**24.95**	**163**	*e*P		**P**	**15 37 27.0**	**-1.5**
	72nm,1.1s							
WRA	**Warramunga Arr**	**24.96**	**163**	P		**P**	**15 37 27.3**	**-1.3**
WRA	**Warramunga Arr**	**24.96**	**163**	P		**P**	**15 37 27.3**	**-1.3**
	36nm,0.9s							
FRIM	**Kepong**	**24.96**	**269**	P		**P**	**15 37 32.1**	**+3.4**
IPM	**Ipoh**	**25.53**	**272**	*e*P		**P**	**15 37 32.7**	**-1.2**
	12nm,0.9s							
IPM	**Ipoh**	**25.53**	**272**	P		**P**	**15 37 35.4**	**+1.5**
IPM	**Ipoh**	**25.53**	**272**	P		P	15 37 41.4	+7.5
	18nm,1.0s							
MBWA	**Marble Bar**	**25.89**	**195**	*e*P		**P**	**15 37 36.7**	**-0.2**
	28nm,0.8s							
MBWA	**Marble Bar**	**25.89**	**195**	*e*P		**P**	**15 37 36.7**	**-0.2**
MNSI	**Mandailing Nat**	**27.20**	**264**	P		P	15 37 58.4	+9.4
AS31	**Alice Springs**	**28.38**	**166**	*e*P		**P**	**15 37 57.5**	**-1.9**
ASAR	**Alice Springs**	**28.39**	**166**	P		**P**	**15 37 58.6**	**-0.8**
ASAR	**Alice Springs**	**28.39**	**166**	P		**P**	**15 37 58.6**	**-0.8**
	2.1nm,0.5s,baz=338,slow=7.3,SNR=23							
WHN	**Wuhan**	**28.85**	**338**	‖P		P	15 37 59.9	-3.5
WHN				*e*S		**S**	**15 42 51.0**	**+0.5**
NJ2	**Nanjing**	**28.86**	**346**	*e*P		P	15 38 06.9	+3.4
NJ2				pmax		pmax		
	comp=Z,20nm,0.8s							
GSI	**Gunungsitoli**	**29.14**	**266**	P		P	15 38 09.2	+3.0
	comp=Z,57nm,1.1s,comp=Z,5μm							
JNU	**Nakatsue**	**29.26**	**7**	P		**P**	**15 38 06.8**	**-0.3**
JNU	**Nakatsue**	**29.26**	**7**	P		**P**	**15 38 06.8**	**-0.3**
	comp=Z,8nm,0.8s,baz=169,slow=4.0,SNR=5.1							
GYA	**Guiyang**	**29.40**	**321**	⇑*i*P		**P**	**15 38 11.0**	**+2.4**
GYA				pP		**pP**	**15 38 19.8**	**-0.8**
GYA				PP		**PnPn**	**15 39 06.9**	**+2.9**
GYA				PcP		**PcP**	**15 41 15.6**	**+1.7**
GYA				S		**S**	**15 43 02.4**	**+2.8**
GYA				sS		**sS**	**15 43 18.3**	**-1.4**
GYA				SS		SS	15 44 35.5	-30
GYA				ScP		**ScP**	**15 44 52.1**	**-0.2**
GYA				ScS		**ScS**	**15 48 47.2**	**+0.1**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,5.0s							
GYA				LR		LR		
	comp=N,520nm,18.0s							
GYA				LR		LR		
	comp=E,490nm,18.8s							
GYA				LR		LR		
	comp=Z,510nm,19.9s							
CM31	**Chiang Mai Arr**	**30.65**	**300**	*e*P		**P**	**15 38 20.6**	**+1.0**
	comp=Z,3.1nm,0.6s							
CMAR	**Chiang Mai Arr**	**30.65**	**300**	P		**P**	**15 38 20.4**	**+0.8**
CMAR				ScP		**ScP**	**15 44 59.4**	**+3.1**
CMAR	**Chiang Mai Arr**	**30.65**	**300**	P		**P**	**15 38 20.4**	**+0.8**
	comp=Z,3.5nm,0.7s,baz=105,slow=6.7,SNR=27							
CMAR				ScP		**ScP**	**15 44 59.4**	**+3.1**
	comp=Z,0.5nm,0.6s,baz=153,slow=1.0,SNR=3.4							
CTAO	**Charters Tower**	**30.73**	**142**	*e*P		**P**	**15 38 19.0**	**-1.2**
	comp=Z,12nm,0.9s							
ENH	**Enshi**	**30.76**	**330**	*e*P		**P**	**15 38 19.8**	**-0.6**
	comp=Z,24nm,0.8s							
CHTO	**Chiang Mai**	**30.80**	**301**	*e*P		**P**	**15 38 20.7**	**-0.2**
	comp=Z,11nm,0.8s							
CHTO	**Chiang Mai**	**30.80**	**301**	P		**P**	**15 38 21.7**	**+0.8**
	comp=Z,21nm,0.8s							
KMI	**Kunming**	**31.13**	**315**	P		P	**15 38 25.2**	**+1.3**
KMI				pP		**pP**	**15 38 35.0**	**-0.9**
KMI				sP		**sP**	**15 38 41.1**	**-0.2**
KMI				pmax		pmax		
	comp=Z,9.0nm,1.2s							
MEEK	**Meekatharra**	**31.41**	**194**	*e*P		**P**	**15 38 25.8**	**-0.4**
	comp=Z,292nm,0.7s							
KSAR	**Wonju Array Be**	**33.32**	**2**	P		**P**	**15 38 43.0**	**+0.3**
KSAR				PcP		**PcP**	**15 41 25.6**	**+1.5**
KSRS	**Korea Array**	**33.33**	**2**	P		**P**	**15 38 43.0**	**+0.2**
	comp=Z,4.3nm,0.7s,baz=181,slow=10.0,SNR=9.4							
KSRS				PcP		**PcP**	**15 41 25.6**	**+1.5**
	comp=Z,4.2nm,0.8s,baz=179,slow=2.7,SNR=8.5							
MJAR	**Matsushiro Arr**	**34.11**	**17**	P		**P**	**15 38 48.1**	**-1.6**
MJAR				PcP		**PcP**	**15 41 27.7**	**+1.4**
MJAR	**Matsushiro Arr**	**34.11**	**17**	P		**P**	**15 38 48.1**	**-1.6**
	comp=Z,2.4nm,0.7s,baz=186,slow=11,SNR=9.0							
MJAR				PcP		**PcP**	**15 41 27.7**	**+1.4**
	comp=Z,2.9nm,0.7s,baz=189,slow=3.8,SNR=8.6							
MAT	**Matsushiro**	**34.11**	**17**	P		**P**	**15 38 48.1**	**-1.6**
XAN	**Xi'an**	**34.14**	**333**	P		**P**	**15 38 49.2**	**-0.8**
XAN				pP		**pP**	**15 38 59.2**	**-2.9**
XAN				pmax		pmax		
	comp=Z,13nm,0.8s							
XAN				pmax		pmax		
	comp=Z,30nm,10.7s							
CD2	**Chengdu**	**34.38**	**324**	⇑P		**P**	**15 38 52.2**	**+0.1**
CD2				pP		**pP**	**15 39 01.9**	**-2.3**
CD2				sP		**sP**	**15 39 05.8**	**-3.7**
CD2				PcP		**PcP**	**15 41 27.5**	**+0.2**
CD2				S		**S**	**15 44 17.1**	**+0.1**
CD2				sS		**sS**	**15 44 33.1**	**-4.1**
CD2				PcS		**PcS**	**15 45 12.8**	**-1.0**
CD2				SS		**SnSn**	**15 46 28.5**	**-1.6**
CD2				pmax		pmax		
	comp=Z,30nm,0.5s							
CD2				pmax		pmax		
	comp=Z,140nm,7.0s							
CD2				LR		LR		
	comp=N,390nm,22.0s							
CD2				LR		LR		
	comp=E,460nm,17.6s							
CD2				LR		LR		
	comp=Z,570nm,18.4s							
MORW	**Morawa**	**34.40**	**197**	*e*P		**P**	**15 38 51.9**	**-0.3**
	comp=Z,43nm,0.4s							
BLDU	**Ballidu**	**35.69**	**195**	*e*P		**P**	**15 39 03.1**	**-0.2**
KLBR	**Kellerberrin**	**36.37**	**193**	*e*P		**P**	**15 39 09.1**	**-0.1**
	comp=Z,26nm,0.5s							
BJT	**Baijiatuau**	**37.10**	**347**	*e*P		**P**	**15 39 15.5**	**+0.3**
	comp=Z,20nm,0.6s							
BJI	**Beijing**	**37.12**	**347**	P		**P**	**15 39 16.0**	**+0.7**
BJI				pmax		pmax		
	comp=Z,27nm,0.6s							
EIDS	**Eidsvold**	**37.62**	**142**	*e*P		**P**	**15 39 19.7**	**-0.1**

	comp=Z,38nm,0.9s							
NWAO	**Narrogin (SRO)**	**37.77**	**193**	P		**P**	**15 39 21.2**	**+0.1**
NWAO	**Narrogin (SRO)**	**37.77**	**193**	P		**P**	**15 39 21.2**	**+0.1**
	comp=Z,17nm,0.5s,baz=19,slow=7.7,SNR=30							
LZH	**Lanzhou**	**38.23**	**330**	*e*P		**P**	**15 39 25.8**	**+0.7**
LZH				pP		**pP**	**15 39 34.5**	**-2.8**
LZH				sP		**sP**	**15 39 38.5**	**-4.1**
LZH				PcP		**PcP**	**15 41 41.0**	**+2.2**
LZH				pmax		pmax		
	comp=Z,33nm,1.0s							
LZH				pmax		pmax		
	comp=Z,140nm,4.0s							
LZH				LR		LR		
	comp=N,380nm,17.6s							
LZH				LR		LR		
	comp=E,310nm,17.0s							
LZH				LR		LR		
	comp=Z,300nm,16.6s							
STKA	**Stephens Creek**	**38.40**	**159**	*e*P		**P**	**15 39 25.9**	**-0.5**
	comp=Z,13nm,1.0s							
STKA	**Stephens Creek**	**38.40**	**159**	*e*P		**P**	**15 39 25.8**	**-0.5**
	comp=Z,30nm,0.9s							
STKA	**Stephens Creek**	**38.40**	**159**	P		**P**	**15 39 26.1**	**-0.3**
	comp=Z,47nm,1.0s,baz=333,slow=8.0,SNR=38							
HHC	**Hu-ho-hao-te**	**39.12**	**342**	*e*P		**P**	**15 39 33.9**	**+1.5**
HHC				pP		**pP**	**15 39 43.6**	**-1.0**
HHC				sP		**sP**	**15 39 47.5**	**-2.5**
HHC				PP		**PnPn**	**15 41 09.0**	**+3.3**
HHC				S		**S**	**15 45 30.6**	**+1.4**
HHC				pmax		pmax		
	comp=Z,12nm,0.9s							
HHC				pmax		pmax		
	comp=Z,300nm,12.8s							
HHC				LR		LR		
	comp=N,220nm,14.3s							
HHC				LR		LR		
	comp=E,270nm,16.6s							
HHC				LR		LR		
	comp=Z,270nm,15.1s							
CN2	**Changchun**	**39.66**	**359**	*e*P		**P**	**15 39 38.1**	**+1.4**
CN2				*e*pP		**pP**	**15 39 47.8**	**-1.2**
CN2				PcP		**PcP**	**15 41 44.5**	**+1.6**
CN2				*e*S		**S**	**15 45 40.0**	**+3.0**
CN2				*e*SS		**SS**	**15 48 30.2**	**-3.6**
CN2				pmax		pmax		
	comp=Z,10.0nm,1.3s							
CN2				LR		LR		
	comp=N,300nm,21.0s							
CN2				LR		LR		
	comp=E,400nm,21.0s							
CN2				LR		LR		
	comp=Z,300nm,22.0s							
USRK	**Ussuriysk Arra**	**40.33**	**6**	P		**P**	**15 39 43.2**	**+1.0**
	comp=Z,2.9nm,0.6s,baz=184,slow=7.6,SNR=6.6							
ARMA	**Armidale**	**41.74**	**147**	*e*P		**P**	**15 39 54.4**	**+0.2**
	comp=Z,30nm,1.1s							
ARMA	**Armidale**	**41.74**	**147**	*e*P		**P**	**15 39 54.4**	**+0.2**
LSA	**Lhasa**	**42.19**	**311**	*e*Pn		**P**	**15 39 59.0**	**+0.7**
	comp=Z,25nm,0.6s							
LSA				*e*PcP		PcP	15 41 45.3	-6.8
ASAJ	**Asahikawa**	**42.38**	**17**	P		**P**	**15 40 00.0**	**+0.9**
ASAJ	**Asahikawa**	**42.38**	**17**	P		**P**	**15 40 00.0**	**+0.9**
	comp=Z,5.0nm,0.8s,baz=229,slow=10.0,SNR=7.0							
GTA	**Gaotai**	**42.83**	**329**	⇑P		**P**	**15 40 03.2**	**+0.2**
GTA				pP		**pP**	**15 40 14.7**	**-0.6**
GTA				sP		**sP**	**15 40 18.0**	**-2.6**
GTA				PcP		**PcP**	**15 41 55.6**	**+2.0**
GTA				S		**S**	**15 46 24.3**	**0.0**
GTA				pmax		pmax		
	comp=Z,8.0nm,0.6s							
GTA				LR		LR		
	comp=N,190nm,19.9s							
GTA				LR		LR		
	comp=E,300nm,20.9s							
GTA				LR		LR		
	comp=Z,430nm,19.5s							
ARPS	**Mount Arapiles**	**42.96**	**162**	*e*P		**P**	**15 40 03.9**	**0.0**
	comp=Z,164nm,1.0s							
TAPN	**Taplejung**	**43.78**	**306**	*e*P		**P**	**15 40 11.0**	**-0.1**
	comp=Z,

	comp=E,200nm,5.6s								
KSH					LR		LR		
	comp=Z,350nm,17.8s								
YAK	**Yakutsk**	**57.96**		**2**	*e*P		**P**	**15 41 57.0**	**+0.3**
	comp=Z,68nm,1.1s								
KZA	**Kyzart**	**59.36**	**317**		P		**P**	**15 42 08.3**	**+1.0**
	SNR=7.4								
TKM2	**Tokmak 2**	**59.49**	**318**		*e*P		**P**	**15 42 07.4**	**-0.6**
	comp=Z,6.5nm,0.7s								
TKM2	**Tokmak 2**	**59.49**	**318**		P		**P**	**15 42 07.9**	**-0.1**
	SNR=14								
KBK	**Karagaybulak**	**59.80**	**318**		P		**P**	**15 42 10.8**	**+0.6**
	SNR=6.0								
AAK	**Ala-Archa**	**60.10**	**318**		*e*P		**P**	**15 42 11.6**	**-0.6**
AAK	**Ala-Archa**	**60.10**	**318**		P		**P**	**15 42 12.2**	**0.0**
	comp=Z,1.5nm,0.4s,baz=157,slow=8.6,SNR=9.9								
ZAA0	**Zalesovo Array**	**60.31**	**333**		*e*P		**P**	**15 42 12.0**	**-1.2**
ZALV	**Zalesovo Beam**	**60.31**	**333**		P		**P**	**15 42 12.5**	**-0.7**
ZALV	**Zalesovo Beam**	**60.31**	**333**		P		**P**	**15 42 12.5**	**-0.7**
	comp=Z,9.0nm,0.5s,baz=130,slow=6.3,SNR=51								
USP	**Ospenovka**	**60.36**	**318**		P		**P**	**15 42 13.8**	**0.0**
	SNR=12								
AML	**Almayashu**	**60.43**	**317**		P		**P**	**15 42 15.2**	**+0.5**
	SNR=14								
EKS2	**Erkin-Say**	**60.59**	**318**		*e*P		**P**	**15 42 15.1**	**-0.5**
	comp=Z,5.8nm,0.7s								
EKS2	**Erkin-Say**	**60.59**	**318**		P		**P**	**15 42 15.3**	**-0.2**
	SNR=8.2								
KURBB	**Kurchatov Arra**	**61.47**	**327**		P		**P**	**15 42 20.8**	**-0.3**
	comp=Z,20nm,0.8s,baz=122,slow=6.6,SNR=96								
KURK	**Kurchatov**	**61.47**	**327**		*e*P		**P**	**15 42 20.6**	**-0.5**
	comp=Z,28nm,0.7s								
KKAR	**Karatay Array**	**62.97**	**317**		*e*P		**P**	**15 42 30.5**	**-0.9**
	comp=Z,11nm,0.8s								
KKAR					*e*pP		**pP**	**15 42 42.6**	**-1.7**
BRVK	**Borovoye**	**67.12**	**327**		*e*P		**P**	**15 42 57.2**	**-0.8**
	comp=Z,14nm,0.8s								
ABKAR	**Akbulak array**	**71.89**	**321**		*e*P		**P**	**15 43 26.8**	**-0.8**
	comp=Z,5.3nm,0.6s								
ARU	**Arti**	**74.67**	**328**		*e*P		**P**	**15 43 42.7**	**-1.1**
	comp=Z,13nm,0.6s								
QRN	**Al-Qurain**	**78.19**	**298**		*e*P		**P**	**15 44 03.6**	**-0.8**
QRN					AMb		AMB	15 44 04.9	
	comp=Z,54nm,0.9s								
RDF	**Al-Radifah**	**78.52**	**299**		*e*P		**P**	**15 44 05.2**	**-1.0**
MIB	**Mutribah**	**78.73**	**299**		*e*P		**P**	**15 44 06.0**	**-1.3**
MIB					AMb		AMB	15 44 08.0	
	comp=Z,31nm,0.8s								
NAY	**Al-Naaiem**	**78.80**	**299**		*e*P		**P**	**15 44 06.7**	**-1.0**
NAY					AMb		AMB	15 44 09.8	
	comp=Z,14nm,1.1s								
KDAK	**Kodiak Island**	**81.73**	**32**		P		**P**	**15 44 23.5**	**+0.6**
KDAK	**Kodiak Island**	**81.73**	**32**		P		**P**	**15 44 23.5**	**+0.6**
	comp=Z,12nm,0.8s,baz=198,slow=10.0,SNR=5.8								
RC01	**Rabbit Creek A**	**83.45**	**29**		*e*P		**P**	**15 44 31.9**	**+0.2**
	comp=Z,22nm,1.0s								
COLD	**Coldfoot**	**83.70**	**23**		*e*P		**P**	**15 44 34.4**	**+1.5**
	comp=Z,16nm,1.0s								
MCK	**McKinley**	**83.98**	**26**		*e*P		**P**	**15 44 34.6**	**+0.1**
	comp=Z,46nm,1.5s								
SML	**Sawmill**	**84.16**	**28**		*e*P		**P**	**15 44 36.0**	**+0.5**
	comp=Z,3.3nm,0.8s								
ILAR	**Eielson Array**	**84.92**	**25**		P		**P**	**15 44 39.0**	**-0.2**
ILAR	**Eielson Array**	**84.92**	**25**		P		**P**	**15 44 39.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=249,slow=5.4,SNR=4.5								
JOF	**Joensuu**	**88.91**	**333**		*e*p		**P**	**15 44 57.9**	**-0.6**
	comp=Z,7.4nm,0.4s								
KMBO	**Kilima Mbogo**	**89.45**	**269**		*e*P		**P**	**15 45 03.0**	**+0.5**
	comp=Z,6.4nm,1.1s								
KEV	**Kevo**	**89.62**	**340**		*e*p		**P**	**15 45 01.7**	**0.0**
BR131	**Keskin Array S**	**89.78**	**310**		*e*P		**P**	**15 45 03.0**	**-0.3**
	comp=Z,3.6nm,0.8s								
BRTR	**Keskin Array B**	**89.78**	**310**		P		**P**	**15 45 03.0**	**-0.3**
BRTR	**Keskin Array B**	**89.78**	**310**		P		**P**	**15 45 03.0**	**-0.3**
	comp=Z,3.9nm,0.8s,baz=118,slow=5.2,SNR=17								
INK	**Inuvik**	**89.97**	**21**		P		**P**	**15 45 03.1**	**-0.3**
INK	**Inuvik**	**89.97**	**21**		P		**P**	**15 45 03.1**	**-0.3**
	comp=Z,3.9nm,1.1s,baz=259,slow=3.6,SNR=6.8								
ARCES	**ARCESS Array B**	**90.17**	**340**		P		**P**	**15 45 04.0**	**-0.4**
ARCES	**ARCESS Array B**	**90.17**	**340**		P		**P**	**15 45 04.0**	**-0.4**
	comp=Z,6.6nm,0.7s,baz=82,slow=6.5,SNR=34								
KAF	**Kangasniemi**	**91.32**	**332**		*e*p		**P**	**15 45 09.4**	**-0.4**
	comp=Z,6.9nm,0.4s								
FINES	**FINESS Array B**	**91.56**	**332**		P		**P**	**15 45 11.1**	**+0.1**
FINES	**FINESS Array B**	**91.56**	**332**		P		**P**	**15 45 11.1**	**+0.1**
	comp=Z,5.0nm,0.6s,baz=64,slow=4.7,SNR=19								
AKASG	**Malin Array Be**	**91.63**	**321**		P		**P**	**15 45 10.6**	**-0.9**
AKASG	**Malin Array Be**	**91.63**	**321**		P		**P**	**15 45 10.6**	**-0.9**
	comp=Z,6.8nm,0.7s,baz=70,slow=4.5,SNR=21								
NACGM	**Naroch**	**92.42**	**325**		*e*		**P**	**15 45 12.0**	**-3.0**
SYO	**Syowa Base**	**92.62**	**201**		*e*P		**P**	**15 45 15.4**	**-0.2**
SYO	**Syowa Base**	**92.62**	**201**		*e*sP		sP	15 45 33.0	-1.2
QSPA	**South Pole Qui**	**93.89**	**180**		*e*P		**P**	**15 45 22.4**	**+0.6**
	comp=Z,33nm,1.8s								
TESR		**93.98**	**317**		*i*P		**P**	**15 45 22.8**	**+0.3**
VRI	**Vrincioaia**	**94.04**	**316**		*i*P		**P**	**15 45 23.2**	**+0.4**
PLOR	**Plostina**	**94.09**	**316**		*i*P		**P**	**15 45 23.9**	**+0.8**
MLR	**Muntele Rosu**	**94.64**	**316**		*i*P		**P**	**15 45 25.6**	**-0.1**
SUW	**Suwalki**	**94.66**	**325**		*e*P		**P**	**15 45 24.6**	**-0.8**
	comp=Z,35nm,0.7s								
BURAR	**Bucovina Array**	**94.74**	**318**		*i*P		**P**	**15 45 26.7**	**+0.6**
BUR08	**Bucovina Ar. S**	**94.75**	**318**		*e*P		**P**	**15 45 26.0**	**-0.1**
KOLS	**Kolonicke sedl**	**96.38**	**320**		*e*P		**P**	**15 45 34.8**	**+1.4**
DRGR		**96.58**	**318**		*i*P		**P**	**15 45 34.8**	**+0.3**
CRVS	**Cervenica-Dubn**	**96.91**	**320**		*e*P		**P**	**15 45 35.7**	**-0.1**
NIE	**Niedzica**	**97.51**	**321**		*e*P		Pdif	15 45 39.0	+0.4
OJC	**Ojcow**	**97.62**	**322**		*e*P		Pdif	15 45 39.0	0.0
NB2	**NORSAR Subarra**	**98.51**	**334**		P		Pdif	15 45 42.5	-0.3
	baz=65,slow=4.6								
NB2	**NORSAR Subarra**	**98.51**	**334**		P		Pdif	15 45 42.5	-0.3
	comp=Z,2.2nm,0.7s,baz=65,slow=4.6								
NOA	**NORSAR Array B**	**98.51**	**334**		P		Pdif	15 45 42.1	-0.7
NOA	**NORSAR Array B**	**98.51**	**334**		P		Pdif	15 45 42.1	-0.7
	comp=Z,2.2nm,0.6s,baz=67,slow=4.6,SNR=11								
YKA	**Yellowknife Ar**	**99.31**	**24**		P		**Pdif**	**15 45 46.5**	**+0.2**
YKA	**Yellowknife Ar**	**99.31**	**24**		P		**Pdif**	**15 45 46.4**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=296,slow=4.3,SNR=8.2								
BRG	**Berggiesshubel**	**100.97**	**323**		*e*P		**Pdif**	**15 45 54.9**	**+1.0**
	comp=Z,8.7nm,0.9s								
CLL	**Collm**	**101.37**	**324**		*e*Pdif		**Pdif**	**15 45 56.0**	**+0.3**
	comp=Z,14nm,1.4s								
GERES	**GERESS Array B**	**101.82**	**322**		P		**Pdif**	**15 45 57.4**	**-0.5**
GERES	**GERESS Array B**	**101.82**	**322**		P		**Pdif**	**15 45 57.4**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=46,slow=4.2,SNR=9.2								
PDAR	**Pinedale Array**	**111.23**	**41**		PKKPab		PKKPab	16 01 43.8	-1.7
PDAR	**Pinedale Array**	**111.23**	**41**		PKKPab		PKKPab	16 01 43.8	-1.7
	comp=Z,0.7nm,0.7s,baz=118,slow=6.1,SNR=5.3								
SCHQ	**Schefferville**	**120.33**	**9**		PKP		**PKPdf**	**15 50 56.5**	**+1.1**
SCHQ	**Schefferville**	**120.33**	**9**		PKP		**PKPdf**	**15 50 56.5**	**+1.1**
	comp=Z,2.3nm,0.9s,baz=337,slow=7.7,SNR=3.8								
TXAR	**Lajitas Array**	**121.53**	**52**		PKP		**PKPdf**	**15 50 59.7**	**+1.0**
TXAR	**Lajitas Array**	**121.53**	**52**		PKP		**PKPdf**	**15 50 59.7**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=10,slow=5.7,SNR=3.8								
TORD	**Torodi Ar. Bea**	**122.74**	**288**		PKP		**PKPdf**	**15 51 01.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**122.74**	**288**		PKP		**PKPdf**	**15 51 01.4**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=54,slow=2.0,SNR=13								
TRQA	**Tornquist**	**145.19**	**168**		*e*PKPdf		**PKPdf**	**15 51 42.0**	**-0.4**

IDC 12 15:41:36.9±1.7, 3°58′N×126°37′E, **h0**km, **mb3.5**/4, **mb1 3.6**/4, **mb1mx3.4**/19, **mbtmp3.5**/4, **Error ellipse: s-maj=216.5km s-min=19.8km az=68.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.66**	**162**	P		P	P	15 46 59.7	+0.1
	1µm,0.3s,baz=50,slow=0.0,SNR=13								
ASAR	**Alice Springs**	**28.07**	**165**	P		P	P	15 47 30.2	-0.1
	0.3nm,0.7s,baz=346,slow=8.0,SNR=6.1								
SONM	**Songino Array**	**47.32**	**342**	P		P	P	15 50 12.4	-0.2
	0.2nm,0.4s,baz=160,slow=8.3,SNR=2.7								
MKAR	**Makanchi Array**	**57.47**	**325**	P		P	P	15 51 27.4	-0.5
	0.3nm,0.4s,baz=119,slow=7.7,SNR=11								
KURBB	**Kurchatov Arra**	**61.66**	**328**	P		P	P	15 51 57.1	+0.4
	0.8nm,0.5s,baz=132,slow=6.6,SNR=6.1								

*BJI **12** 15:44:16.0, 3°64′N×126°50′E, h36km, mB5.0/14, mb4.8/33, Ms4.6/6, Ms7 4.5/7*
*MOS **12** 15:44:17.7±0.9, 3°98′N×126°55′E, h33km, mb5.1/30, MS4.2/4, Error ellipse: s-maj=13.2km s-min=5.6km az=115.5*
*ISCJB **12** 15:44:18.1±0.2, 4°00′N±0°03′×126°62′E±0°04′, h33km, mb4.9/93, MS4.2/13, Error ellipse: s-maj=6.5km s-min=3.7km az=153.0*

*NEIC **12** 15:44:19.8±0.2, 3°93′N×126°47′E, h35km, mb5.0/39, Error ellipse: s-maj=8.2km s-min=4.5km az=67.0*
*IDC **12** 15:44:20.0±2.7, 3°94′N×126°52′E, h33km±20km, mb4.4/29, mb1 4.5/29, mb1mx4.5/30, mbtmp4.4/29, MS4.1/9, Ms1 4.1/9, ms1mx3.8/31, Error ellipse: s-maj=17.8km s-min=10.2km az=68.0*
*DJA **12** 15:44:24, 4°00′N×126°91′E, h67km, mb4.9/27*
ISC 12 15:44:20.9±0.4, **3°95′N**±0°03′×**126°60′E**±0°05, **h40**km±3km, **h40**km:**pP-P, n261**, σ1°**35**/249, **mb4.9**/100, **MS4.3**/13, **8C-9D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.69**	**322**			*e*P	Pn	15 45 04.7	+2.9
MATI	**Mati**	**3.00**	**353**			*e*P	**Pn**	**15 45 07.8**	**+1.8**
MNI	**Manado**	**3.05**	**215**			P	Pn	15 45 14.7	+8.1
TNTI	**Ternate**	**3.25**	**166**			P	**Pn**	**15 45 10.8**	**+1.5**
DAV	**Davao City (W)**	**3.27**	**342**			Pn	**Pn**	**15 45 11.4**	**+1.8**
DAV						Sn	Sn	15 45 54.5	+7.2
DAV	**Davao City (W)**	**3.27**	**342**			P	Pn	15 45 25.0	+15
DAV	**Davao City (W)**	**3.27**	**342**			Pn	Pn	15 45 13.2	+3.6
	110nm,0.3s,baz=286,slow=4.5,SNR=4.5								
DAV						Sn	Sn	15 45 54.5	+7.2
	81nm,0.3s,baz=87,slow=19,SNR=4.8								
DAV						LR	LR	15 46 41.4	
	comp=Z,3µm,18.1s,baz=64,slow=44								
DMPH	**Davao City--Mi**	**3.30**	**341**			*e*P	Pn	15 45 12.8	+2.7
KCP	**Kidapawan**	**3.39**	**334**			*e*P	Pn	15 45 14.4	+3.0
KCP						*i* S	Sn	15 45 58.5	+8.0
BUKP	**Musuan**	**4.20**	**339**			*e*P	**Pn**	**15 45 24.8**	**+2.3**
CGP	**Cagayan de Oro**	**4.86**	**337**			*e*P	Pn	15 45 35.2	+3.6
CGP						*e*S	Sn	15 46 42.6	+16
PAGZ	**Pagadian**	**5.03**	**321**			*e*P	**Pn**	**15 45 36.0**	**+2.2**
BUTP	**Butuan**	**5.08**	**349**			*e*P	Pn	15 45 38.5	+3.9
ZMPH	**Zamboanga City**	**5.42**	**304**			*i*P	**Pn**	**15 45 40.1**	**+0.9**
ZMPH						*i* S	**Sn**	**15 46 41.4**	**+1.1**
IPIL	**Ipil**	**5.54**	**314**			*e*P	**Pn**	**15 45 42.6**	**+1.8**
LUWI	**Luwuk**	**6.26**	**218**			P	Pn	15 45 57.9	+7.1
	639nm,1.2s,6µm2.1nm								
MSLP	**Maasin**	**6.38**	**344**			*e*P	Pn	15 45 57.8	+5.3
PLP	**Palo**	**7.35**	**347**			*e*P	**Pn**	**15 46 05.5**	**-0.3**
MYLDM	**Lahad Datu**	**8.17**	**279**			P	Pn	15 46 23.6	+6.6
MYLDM	**Lahad Datu**	**8.17**	**279**			P	Pn	15 46 24.7	+7.7
	185nm,1.4s,2µm0.9nm								
TSM	**Tawau**	**8.72**	**273**			P	Pn	15 46 28.6	+4.1
FAKI	**Fak Fak**	**8.85**	**140**			P	**Pn**	**15 46 27.9**	**+1.5**
	95nm,1.1s,903nm0.4nm								
SDKM	**Sandakan**	**9.53**	**281**			P	Pn	15 46 40.2	+4.6
KDM	**Kudat**	**10.16**	**287**			P	Pn	15 46 51.3	+6.9
KKM	**Kota Kinabalu**	**10.56**	**282**			*e*Pn	Pn	15 46 54.3	+4.5
	52nm,1.1s								
KKM	**Kota Kinabalu**	**10.56**	**282**			P	Pn	15 46 56.1	+6.3
KKM	**Kota Kinabalu**	**10.56**	**282**			P	Pn	15 46 56.8	+7.0
	41nm,1.2s,879nm								
KAPI	**Kappang**	**11.23**	**218**			Pn	Pn	15 47 02.8	+3.9
KAPI	**Kappang**	**11.23**	**218**			Pn	Pn	15 47 02.8	+3.9
	0.1nm,0.3s,baz=24,slow=18,SNR=2.5								
KAPI						LR	LR	15 52 08.8	
	comp=Z,989nm,18.8s,baz=189,slow=42								
TLE	**Tual**	**11.32**	**147**			P	Pn	15 47 03.7	+3.5
	238nm,1.0s								
BTM	**Bintulu**	**13.52**	**267**			P	Pn	15 47 35.9	+5.7
SBUM	**Sibu**	**14.44**	**265**			P	**P**	**15 47 48.5**	**-0.3**
SBUM	**Sibu**	**14.44**	**265**			P	**P**	**15 47 48.7**	**-0.1**
	69nm,1.4s,804nm								
KSM	**Kuching**	**16.46**	**262**			*e*Pn	**P**	**15 48 13.6**	**+2.3**
	50nm,0.9s								
KSM	**Kuching**	**16.46**	**262**			P	**P**	**15 48 14.3**	**+2.9**
KSM	**Kuching**	**16.46**	**262**			P	**P**	**15 48 14.0**	**+2.7**
	49nm,1.0s,533nm								
KNRA	**Kununurra**	**19.62**	**174**			*e*P	**Pn**	**15 48 47.1**	**-0.5**
	256nm,0.6s								
YULB	**Yu-li**	**20.00**	**346**			*e*P	**P**	**15 48 47.0**	**-3.2**
	12nm,0.5s								
TPUB	**Ta-pu**	**20.09**	**344**			*e*P	**P**	**15 48 49.3**	**-1.8**
	36nm,0.6s								
GUMO	**Guam**	**20.42**	**61**			LR	LR	15 55 26.0	
	comp=Z,332nm,21.6s,baz=219,slow=32								
SSLB	**Suanglung**	**20.46**	**345**			*e*P	**P**	**15 48 53.8**	**-1.5**
	28nm,0.7s								
NACB	**Ninganchiao**	**20.68**	**347**			P	P	15 48 52.3	-5.3
YHNB	**Yeheng**	**21.21**	**347**			*e*P	**P**	**15 49 02.4**	**-1.0**
	31nm,0.9s								
FITZ	**Fitzroy Crossi**	**21.93**	**182**			P	**P**	**15 49 11.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**21.93**	**182**			*e*P	**P**	**15 49 10.5**	**-0.5**
	24nm,0.8s								
FITZ	**Fitzroy Crossi**	**21.93**	**182**			P	**P**	**15 49 11.2**	**+0.2**
	7.3nm,0.5s,baz=7.3,slow=7.1,SNR=14								
QIZ	**Qiongzhong**	**22.20**	**314**			*e*P	**P**	**15 49 13.5**	**-0.4**
MYKOM	**Kota Tinggi**	**22.82**	**265**			P	**P**	**15 49 22.8**	**+2.1**
MYKOM	**Kota Tinggi**	**22.82**	**265**			P	P	15 49 27.7	+7.0
	26nm,1.2s,563nm								
KGM	**Kluang**	**23.33**	**266**			P	**P**	**15 49 27.9**	**+2.1**
COEN	**Coen**	**24.22**	**138**			*e*P	**P**	**15 49 32.0**	**-2.1**
	110nm,0.9s								
PMG	**Port Moresby**	**24.41**	**123**			*e*P	**P**	**15 49 34.4**	**-1.4**
	22nm,1.0s								
PMG	**Port Moresby**	**24.41**	**123**			P	**P**	**15 49 35.3**	**-0.5**
	22nm,1.1s								
PMG	**Port Moresby**	**24.41**	**123**			P	**P**	**15 49 34.9**	**-0.9**
	11nm,0.9s,baz=305,slow=12,SNR=6.0								
WRAB	**Tennant Creek**	**24.92**	**162**			*e*P	**P**	**15 49 39.4**	**-1.0**
WRAB						*e*S	**S**	**15 54 03.6**	**+2.3**
WRAB						pmax	pmax		
	comp=Z,53nm,0.9s								
WRAB	**Tennant Creek**	**24.92**	**162**			*e*P	**P**	**15 49 39.4**	**-1.0**
	comp=Z,53nm,0.9s								
WRAB						*e*S	**S**	**15 54 03.6**	**+2.3**
WRA	**Warramunga Arr**	**24.93**	**163**			P	**P**	**15 49 39.6**	**-0.9**
WRA	**Warramunga Arr**	**24.93**	**163**			P	**P**	**15 49 39.6**	**-0.9**
	comp=Z,14nm,0.4s								
FRIM	**Kepong**	**24.94**	**269**			P	**P**	**15 49 45.0**	**+4.3**
IPM	**Ipoh**	**25.51**	**272**			*e*P	**P**	**15 49 42.5**	**-3.5**
	comp=Z,82nm,1.5s								
IPM	**Ipoh**	**25.51**	**272**			P	P	15 49 52.7	+6.8
IPM	**Ipoh**	**25.51**	**272**			P	P	15 49 50.4	+4.5
	comp=Z,33nm,1.5s								
BKNI	**Bangkinang**	**25.79**	**263**			P	P	15 49 56.2	+7.7
	comp=Z,104nm,1.1s								
MBWA	**Marble Bar**	**25.84**	**195**			*e*P	**P**	**15 49 47.6**	**-1.2**
	comp=Z,20nm,0.9s								
MBWA	**Marble Bar**	**25.84**	**195**			*e*P	**P**	**15 49 48.7**	**-0.1**
KULM	**Kulim**	**25.90**	**274**			*e*P	**P**	**15 49 48.1**	**-1.3**
	comp=Z,54nm,1.3s								
KULM	**Kulim**	**25.90**	**274**			P	P	15 49 53.9	+4.5
KULM	**Kulim**	**25.90**	**274**			P	P	15 49 55.4	+6.0
	comp=Z,33nm,1.4s								
CBIJ	**Chichi jima**	**27.41**	**31**			LR	LR	15 58 55.6	
	comp=Z,312nm,19.7s,baz=138,slow=32								
PSI	**Prapat**	**27.66**	**269**			P	**P**	**15 50 05.5**	**+0.1**
PSI	**Prapat**	**27.66**	**269**			P	**P**	**15 50 06.9**	**+1.5**
	comp=Z,19nm,1.0s								
PSI	**Prapat**	**27.66**	**269**			P	**P**	**15 50 05.5**	**+0.1**
	comp=Z,3.4nm,0.3s,baz=150,slow=2.8,SNR=5.4								
AS31	**Alice Springs**	**28.35**	**166**			*e*P	**P**	**15 50 10.9**	**-0.5**
ASAR	**Alice Springs**	**28.36**	**166**			P	**P**	**15 50 11.2**	**-0.2**
ASAR	**Alice Springs**	**28.36**	**166**			P	**P**	**15 50 11.2**	**-0.2**
	comp=Z,1.7nm,0.4s,baz=342,slow=7.0,SNR=32								
WHN	**Wuhan**	**28.87**	**338**			‖P	**P**	**15 50 15.8**	**0.0**
WHN						*e*S	S	15 55 08.6	+5.1
WHN						pmax	pmax		
	comp=Z,55nm,1.0s								
WHN						LR	LR		
	comp=Z,2µm,18.3s								
GSI	**Gunungsitoli**	**29.11**	**266**			P	**P**	**15 50 19.7**	**+1.5**
	comp=Z,36nm,1.0s,comp=Z,4µmcomp=Z,489µm								
JNU	**Nakatsue**	**29.30**	**7**			P	**P**	**15 50 20.9**	**+1.2**
JNU	**Nakatsue**	**29.30**	**7**			P	**P**	**15 50 20.9**	**+1.2**
	comp=Z,14nm,0.9s,baz=118,slow=13,SNR=3.8								
JNU						LR	LR	16 01 03.9	
	comp=Z,235nm,18.4s,baz=110,slow=34								
CM31	**Chiang Mai Arr**	**30.65**	**300**			*e*P	P	15 50 28.9	-3.0
	comp=Z,7.5nm,0.8s								
CMAR	**Chiang Mai Arr**	**30.65**	**300**			P	**P**	**15 50 32.1**	**+0.3**
CMAR						ScP	**ScP**	**15 57 10.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**30.65**	**300**			P	**P**	**15 50 32.1**	**+0.3**
	comp=Z,3.8nm,0.9s,baz=119,slow=7.3,SNR=28								
CMAR						ScP	**ScP**	**15 57 10.3**	**+1.1**
	comp=Z,2.0nm,1.0s,baz=101,slow=1.7,SNR=8.9								
CTA	**Charters Tower**	**30.71**	**142**			P	**P**	**15 50 33.0**	**+0.7**
CTA	**Charters Tower**	**30.71**	**142**			P	**P**	**15 50 33.0**	**+0.7**
	comp=Z,14nm,1.0s,baz=345,slow=8.4,SNR=3.3								
CTAO	**Charters Tower**	**30.71**	**142**			*e*P	**P**	**15 50 31.4**	**-0.9**
CTAO						pmax	pmax		
	comp=Z,12nm,0.9s								
CTAO	**Charters Tower**	**30.71**	**142**			*e*P	**P**	**15 50 31.4**	**-0.9**
	comp=Z,12nm,0.9s								
ENH	**Enshi**	**30.78**	**330**			*e*P	**P**	**15 50 31.4**	**-1.4**
	comp=Z,61nm,1.4s								
CHTO	**Chiang Mai**	**30.80**	**301**			*e*P	**P**	**15 50 32.6**	**-0.5**
CHTO						pmax	pmax		
	comp=Z,16nm,0.8s								
CHTO	**Chiang Mai**	**30.80**	**301**			*e*P	**P**	**15 50 32.6**	**-0.5**
	comp=Z,16nm,0.8s								
CHTO	**Chiang Mai**	**30.80**	**301**			P	**P**	**15 50 33.7**	**+0.6**
	SNR=8.7								
CHTO	**Chiang Mai**	**30.80**	**301**			P	P	**15 50 33.2**	**+0.1**
	comp=Z,24nm,0.9s								
BSI	**Banda Aceh**	**31.24**	**274**			P	P	15 50 46.1	+9.1
MEEK	**Meekatharra**	**31.37**	**194**			*e*P	**P**	**15 50 38.1**	**+0.1**
	comp=Z,100nm,0.8s								
KSAR	**Wonju Array Be**	**33.35**	**2**			P	**P**	**15 50 56.0**	**+0.8**
KSRS	**Korea Array**	**33.37**	**2**			P	**P**	**15 50 56.0**	**+0.7**
	comp=Z,6.0nm,0.8s,baz=181,slow=9.9,SNR=12								
MJAR	**Matsushiro Arr**	**34.15**	**17**			P	**P**	**15 51 00.9**	**-1.4**
MJAR	**Matsushiro Arr**	**34.15**	**17**			P	**P**	**15 51 00.9**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=224,slow=12,SNR=4.9								
XAN	**Xi'an**	**34.17**	**333**			P	**P**	**15 51 00.7**	**-1.7**
XAN						pmax	pmax		
	comp=Z,12nm,1.1s								
KMBL	**Kambalda**	**35.41**	**187**			*e*P	**P**	**15 51 13.5**	**+0.4**
	comp=Z,63nm,0.8s								
HNR	**Honiara**	**35.79**	**112**			LR	LR	16 05 06.0	
	comp=Z,455nm,20.8s,baz=359,slow=35								
BJT	**Baijiatuan**	**37.13**	**347**			*e*P	**P**	**15 51 27.1**	**-0.6**
	comp=Z,25nm,0.6s								
BJI	**Beijing**	**37.15**	**347**			P	**P**	**15 51 27.7**	**-0.1**
BJI						pmax	pmax		
	comp=Z,39nm,0.9s								
EIDS	**Eidsvold**	**37.60**	**142**			*e*P	**P**	**15 51 32.0**	**+0.1**
	comp=Z,49nm,1.0s								
EIDS	**Eidsvold**	**37.60**	**142**			*e*P	**P**	**15 51 32.2**	**+0.3**
	comp=Z,105nm,0.6s								
NWAO	**Narrogin (SRO)**	**37.73**	**193**			*e*P	**P**	**15 51 32.8**	**-0.1**
	comp=Z

MSVF	**Nonsavu**	55.12	115	*e*P		P	15 53 51.1	+1.5
	comp=Z,43nm,1.0s							
PETK	**Petropavlovsk-**	55.28	22	P		P	15 53 51.0	+0.8
PETK	**Petropavlovsk-**	55.28	22	P		P	15 53 51.0	+0.8
PETK	**Petropavlovsk-**	55.28	22	P		P	15 53 51.0	+0.8
	comp=Z,4.1nm,0.7s,baz=192,slow=4.6,SNR=8.5							
MK31	**Makanchi Array**	57.31	325	*e*P		P	15 54 03.6	-1.2
MK31				*e*			15 54 57.2	
MK31	**Makanchi Array**	57.31	325	*e*P		P	15 54 03.6	-1.2
MK31				*e*PcP		PcP	15 54 57.2	-1.4
MKAR	**Makanchi Array**	57.31	325	P		P	15 54 03.5	-1.3
MKAR							15 55 00.5	
MKAR	**Makanchi Array**	57.31	325	P		P	15 54 03.5	-1.3
MKAR				PcP		PcP	15 55 00.5	+1.8
MKAR				ScP		ScP	15 58 55.4	-0.1
MKAR	**Makanchi Array**	57.31	325	P		P	15 54 03.5	-1.3
	comp=Z,3.7nm,0.4s,baz=126,slow=7.7,SNR=86							
MKAR				PcP		PcP	15 55 00.5	+1.8
	comp=Z,3.6nm,0.7s,baz=138,slow=5.1,SNR=4.6							
MKAR				ScP		ScP	15 58 55.4	-0.1
	comp=Z,1.3nm,0.9s,baz=130,slow=4.9,SNR=5.0							
MKAR				LR		LR	16 20 32.5	
	comp=Z,238nm,18.4s,baz=8.2,slow=38							
YAK	**Yakutsk**	57.99	2	*c i*P		P	15 54 09.3	+0.1
YAK				*e*			16 02 04.4	
YAK				pmax	pmax			
	comp=Z,20nm,0.9s							
YAK				pmax	pmax			
	comp=N,11nm,1.1s							
YAK				pmax	pmax			
	comp=E,6.0nm,1.1s							
YAK	**Yakutsk**	57.99	2	*e*P		P	15 54 09.1	-0.1
	comp=E,36nm,0.8s							
KZA	**Kyzart**	59.37	317	P		P	15 54 21.0	+1.3
	SNR=12							
TKM2	**Tokmak 2**	59.50	319	*i* P		P	15 54 19.2	-1.2
TKM2	**Tokmak 2**	59.50	319	*e*P		P	15 54 19.1	-1.3
	comp=E,18nm,1.3s							
TKM2	**Tokmak 2**	59.50	319	P		P	15 54 19.3	-1.2
	SNR=12							
KBK	**Karagaybulak**	59.82	318	P		P	15 54 23.6	+1.1
	SNR=7.9							
AAK	**Ala-Archa**	60.11	318	*c*eP		P	15 54 23.0	-1.5
AAK				pmax	pmax			
	comp=Z,30nm,1.7s							
AAK	**Ala-Archa**	60.11	318	*e*P		P	15 54 24.4	-0.2
	comp=Z,57nm,1.3s							
AAK				PcP		PcP	15 55 10.4	+0.4
AAK	**Ala-Archa**	60.11	318	P		P	15 54 25.1	+0.5
	SNR=5.8							
AAK	**Ala-Archa**	60.11	318	P		P	15 54 24.8	+0.3
	SNR=6.0							
AAK	**Ala-Archa**	60.11	318	P		P	15 54 25.0	+0.4
	comp=Z,2.2nm,0.7s,baz=152,slow=7.2,SNR=10.0							
AAK				PcP		PcP	15 55 10.4	+0.4
	comp=Z,1.4nm,0.4s,baz=94,slow=6.6,SNR=5.0							
FRU	**Bishkek**	60.11	318	*e*P		P	15 54 26.0	+1.6
ZAA0	**Zalesovo Array**	60.34	333	*e*P		P	15 54 22.8	-2.8
ZALV	**Zalesovo Beam**	60.34	333	P		P	15 54 24.0	-1.6
ZALV	**Zalesovo Beam**	60.34	333	P		P	15 54 24.0	-1.6
ZALV	**Zalesovo Beam**	60.34	333	P		P	15 54 24.0	-1.6
	comp=Z,3.4nm,0.5s,baz=119,slow=6.7,SNR=16							
USP	**Ospenovka**	60.38	318	P		P	15 54 26.8	+0.6
	SNR=14							
AML	**Almayashu**	60.45	317	P		P	15 54 28.2	+1.0
	SNR=17							
EKS2	**Erkin-Say**	60.60	318	*e*P		P	15 54 27.1	-0.8
EKS2				pmax	pmax			
	comp=Z,13nm,1.1s							
EKS2	**Erkin-Say**	60.60	318	*e*P		P	15 54 27.1	-0.8
	comp=Z,13nm,1.1s							
EKS2	**Erkin-Say**	60.60	318	P		P	15 54 27.6	-0.3
	SNR=12							
KURBB	**Kurchatov Arra**	61.49	327	P		P	15 54 32.3	-1.2
	comp=Z,20nm,0.9s,baz=124,slow=6.1,SNR=86							
KURK	**Kurchatov**	61.49	327	*c*eP		P	15 54 32.4	-1.1
KURK				pmax	pmax			
	comp=Z,23nm,0.8s							
KURK	**Kurchatov**	61.49	327	*e*P		P	15 54 32.2	-1.3
	comp=Z,25nm,0.8s							
KURK	**Kurchatov**	61.49	327	P		P	15 54 32.8	-0.7
	SNR=11							
NVS	**Novosibirsk**	61.62	333	*e*P		P	15 54 31.9	-2.4
SEY	**Seymchan**	61.85	13	*c*eP		P	15 54 35.8	+0.1
KK31	**Karatay Array**	62.99	317	*i* P		P	15 54 42.7	-1.1
KK31				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KKAR	**Karatay Array**	62.99	317	*e*P		P	15 54 42.8	-1.0
KKAR				pmax	pmax			
	comp=Z,14nm,1.1s							
KKAR	**Karatay Array**	62.99	317	*e*P		P	15 54 42.8	-1.0
	comp=Z,14nm,1.1s							
BVA0	**Borovoye Array**	67.07	327	*i* P		P	15 55 08.4	-1.7
BVA0				pmax	pmax			
	comp=Z,6.0nm,1.4s							
BRVK	**Borovoye**	67.14	327	*c*eP		P	15 55 09.8	-0.7
BRVK				pmax	pmax			
	comp=Z,25nm,1.2s							
BRVK	**Borovoye**	67.14	327	*e*P		P	15 55 09.0	-1.5
	comp=Z,19nm,0.9s							
BRVK	**Borovoye**	67.14	327	P		P	15 55 09.8	-0.7
	SNR=7.6							
BILL	**Bilibino**	69.38	15⇑	*e*P		P	15 55 26.6	+2.4
BILL				pmax	pmax			
	comp=Z,6.0nm,1.7s							
BILL				MLR	MLR			
	comp=Z,100nm,18.0s							
AB31	**Akbulak array**	71.90	321	P		P	15 55 38.5	-1.5
AB31				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ABKAR	**Akbulak array**	71.90	321	*e*P		P	15 55 38.3	-1.7
	comp=Z,2.0nm,0.6s							
AKTO	**Aktyubinsk**	73.41	322	P		P	15 55 47.5	-1.4
AKTO				pmax	pmax			
	comp=Z,4.0nm,1.3s							
SVE	**Sverdlovsk**	73.71	328⇓	*i* P		P	15 55 50.3	-0.2
SVE				pmax	pmax			
	comp=Z,14nm,1.2s							
ARU	**Arti**	74.69	328	*d i*P		P	15 55 55.5	-0.7
ARU				S		S	16 05 29.8	+0.4
ARU				SS		SS	16 10 14.2	-3.0
ARU				pmax	pmax			
	comp=Z,7.0nm,0.8s							
ARU	**Arti**	74.69	328	*e*P		P	15 55 54.5	-1.7
	comp=Z,8.3nm,0.8s							
SOKR	**Solikamsk**	76.46	331	*e*P		P	15 56 05.0	-1.3
SOKR				pmax	pmax			
	comp=Z,6.0nm,0.6s							
QRN	**Al-Qurain**	78.19	298	*e*P		P	15 56 15.4	-1.3
QRN				AMb	AMB		15 56 16.4	
	comp=Z,34nm,0.5s							
MIB	**Mutribah**	78.74	299	*e*P		P	15 56 17.8	-1.8
MIB				AMb	AMB		15 56 19.2	
	comp=Z,26nm,1.0s							
NAY	**Al-Naaiem**	78.80	299	*e*P		P	15 56 18.3	-1.8
NAY				AMb	AMB		15 56 19.4	
	comp=Z,14nm,1.0s							
KDAK	**Kodiak Island**	81.77	32	P		P	15 56 35.1	-0.2
KDAK	**Kodiak Island**	81.77	32	P		P	15 56 35.1	-0.2
	comp=Z,7.3nm,0.6s,baz=30,slow=8.8,SNR=5.6							
ZEI	**Tsey**	81.98	312	*e*P		P	15 56 35.3	-1.8
ZEI				pmax	pmax			
	comp=Z,5.0nm,0.9s							
VNDA	**Vanda**	83.66	173	P		P	15 56 44.5	-0.3
VRHR	**Novokhopersk**	83.79	321	*e*P		P	15 56 44.7	-1.3
VRHR				pmax	pmax			
	comp=N,4.0nm,0.6s							
VRHR				pmax	pmax			
	comp=E,7.0nm,0.6s							
VRHR				pmax	pmax			
	comp=Z,9.0nm,0.6s							
PMR	**Palmer**	83.81	29	P		P	15 56 48.1	+2.2
PMR				pmax	pmax			
	comp=Z,14nm,0.9s							
PMR	**Palmer**	83.81	29	P		P	15 56 48.1	+2.2
	comp=Z,14nm,0.9s							
MCK	**McKinley**	84.03	26	*e*P		P	15 56 45.8	-1.2
MCK				pmax	pmax			
	comp=Z,24nm,1.2s							
MCK	**McKinley**	84.03	26	*e*P		P	15 56 45.8	-1.2
	comp=Z,24nm,1.2s							
COLA	**College**	84.55	25	P		P	15 56 51.3	+1.7
COLA	**College**	84.55	25	P		P	15 56 51.3	+1.7
ILAR	**Eielson Array**	84.96	25	P		P	15 56 51.5	-0.1
ILAR	**Eielson Array**	84.96	25	P		P	15 56 51.5	-0.1
	comp=Z,2.8nm,1.1s,baz=245,slow=5.4,SNR=11							
KLMR	**Klimovskoe**	85.15	331	*e*P		P	15 56 49.8	-2.9
KLMR				pmax	pmax			
	comp=Z,99nm,1.4s							
VORD	**Divnogorie**	85.26	321	*e*P		P	15 56 51.7	-1.7
VSR	**Storozhevoye**	85.34	321	*e*P		P	15 56 51.8	-2.0
VSR				pmax	pmax			
	comp=Z,6.0nm,0.5s							
VSR				pmax	pmax			
	comp=N,1.0nm,0.3s							
VSR				pmax	pmax			
	comp=E,2.0nm,0.5s							
MOS	**Moscow**	86.19	325	*e*P		P	15 56 56.3	-1.6
MOS				pmax	pmax			
	comp=Z,50nm,1.2s							
ANN	**Anapa**	86.66	315	*e*P		P	15 56 55.4	-5.1
ANN				*e*			16 07 18.7	
ANN				pmax	pmax			
	comp=Z,141nm,1.4s							
OBN	**Obninsk**	86.81	325⇓	*e*P		P	15 57 00.3	-0.7
OBN				pmax	pmax			
	comp=Z,83nm,1.7s							
OBN				MLR	MLR			
	comp=Z,200nm,20.0s							
OBN	**Obninsk**	86.81	325	*e*P		P	15 57 00.1	-0.9
	comp=Z,44nm,1.1s							
KMBO	**Kilima Mbogo**	89.43	269	*e*P		P	15 57 14.5	-0.2
	comp=Z,9.4nm,1.1s							
BR131	**Keskin Array S**	89.79	310	*e*P		P	15 57 14.3	-1.4
	comp=Z,2.6nm,0.8s							
BRTR	**Keskin Array B**	89.79	310	P		P	15 57 14.4	-1.3
BRTR	**Keskin Array B**	89.79	310	P		P	15 57 14.4	-1.3
	comp=Z,2.1nm,0.8s,baz=118,slow=4.6,SNR=7.6							
INK	**Inuvik**	90.01	21	P		P	15 57 16.6	+0.7
INK	**Inuvik**	90.01	21	P		P	15 57 16.6	+0.7
	comp=Z,2.4nm,1.0s,baz=258,slow=4.8,SNR=4.4							
ARCES	**ARCESS Array B**	90.20	340	P		P	15 57 16.4	-0.4
ARCES	**ARCESS Array B**	90.20	340	P		P	15 57 16.4	-0.4
	comp=Z,2.4nm,0.6s,baz=73,slow=5.7,SNR=16							
FINES	**FINESS Array B**	91.58	332	P		P	15 57 22.0	-1.3
FINES	**FINESS Array B**	91.58	332	P		P	15 57 22.0	-1.3
	comp=Z,5.8nm,0.9s,baz=64,slow=4.2,SNR=18							
AKASG	**Malin Array Be**	91.64	321	P		P	15 57 22.6	-1.3
AKASG	**Malin Array Be**	91.64	321	P		P	15 57 22.6	-1.3
AKASG	**Malin Array Be**	91.64	321	P		P	15 57 22.6	-1.3
	comp=Z,2.3nm,0.5s,baz=73,slow=4.6,SNR=8.0							
AKASG				LR	LR		16 44 02.9	
	comp=Z,114nm,20.6s,baz=5.0,slow=39							
SUW	**Suwalki**	94.67	325	*e*P		P	15 57 36.6	-1.2
SUW				pmax	pmax			
	comp=Z,41nm,0.9s							
SUW	**Suwalki**	94.67	325	*e*P		P	15 57 36.6	-1.2
	comp=Z,41nm,0.9s							
BUR08	**Bucovina Ar. S**	94.76	318	*e*P		P	15 57 37.7	-0.8
UZH	**Uzhgorod**	96.45	320⇑	*i*P		P	15 57 45.8	-0.2
UZH				*e*			15 57 54.6	
NB2	**NORSAR Subarra**	98.54	334	P		P	15 57 53.9	-1.3
	comp=Z,0.7nm,0.5s,baz=65,slow=4.6							
NOA	**NORSAR Array B**	98.54	334	P		P	15 57 54.0	-1.3
NOA	**NORSAR Array B**	98.54	334	P		P	15 57 54.0	-1.3
	comp=Z,1.2nm,0.8s,baz=68,slow=4.5,SNR=5.3							
NOA				LR	LR		16 47 22.8	
	comp=Z,107nm,20.3s,baz=75,slow=38							
YKA	**Yellowknife Ar**	99.35	24	P		Pdif	15 57 58.9	+0.2
YKA	**Yellowknife Ar**	99.35	24	P		Pdif	15 57 58.9	+0.2
	comp=Z,0.3nm,0.8s,baz=293,slow=4.0,SNR=4.0							
BRG	**Berggiesshubel**	100.99	323	*e*P		Pdif	15 58 06.2	-0.1
	comp=Z,11nm,1.4s							
BRG	**Berggiesshubel**	100.99	323	*e*P		Pdif	15 58 06.2	-0.1
BRG				pmax	pmax			
	comp=Z,11nm,1.4s							
CLL	**Collm**	101.39	324	*e*P		Pdif	15 58 01.0	-7.1
CLL	**Collm**	101.39	324	*e*Pdif		Pdif	15 58 07.0	-1.1
GERES	**GERESS Array B**	101.84	322	P		Pdif	15 58 09.6	-0.7
GERES	**GERESS Array B**	101.84	322	P		Pdif	15 58 09.6	-0.7
	comp=Z,1.0nm,0.9s,baz=74,slow=5.7,SNR=7.3							
PDAR	**Pinedale Array**	111.27	41	PKKPab		PKKPab	16 13 55.5	-2.1
PDAR	**Pinedale Array**	111.27	41	PKKPab		PKKPab	16 13 55.5	-2.1
	comp=Z,0.8nm,0.9s,baz=121,slow=5.7,SNR=5.1							
SCHQ	**Schefferville**	120.37	9	PKP		PKPdf	16 03 08.8	+0.9
SCHQ	**Schefferville**	120.37	9	PKP		PKPdf	16 03 08.8	+0.9
	comp=Z,0.7nm,0.6s,baz=267,slow=17,SNR=2.5							
TORD	**Torodi Ar. Bea**	122.73	288	PKP		PKPdf	16 03 12.6	-0.9
TORD	**Torodi Ar. Bea**	122.73	288	PKP		PKPdf	16 03 12.6	-0.9
	comp=Z,1.0nm,0.8s,baz=112,slow=1.6,SNR=5.6							

IDC 12 15:59:45.4±1.8, 3°.80N×127°.12E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.8/5, MS4.0/1, Ms1 4.0/1, ms1mx2.9/28, Error ellipse: s-maj=121.2km s-min=22.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.81**	**184**	P	P	16 04 39.3	0.0
	1.4nm,0.6s,baz=353,slow=16,SNR=3.6						
WRA	**Warramunga Arr**	**24.64**	**164**	P	P	16 05 06.1	-1.8
	2.0nm,0.6s						
ASAR	**Alice Springs**	**28.09**	**167**	P	P	16 05 40.5	+1.5
	0.3nm,0.6s,baz=341,slow=6.4,SNR=8.8						
KSRS	**Korea Array**	**33.50**	**1**	LR	LR	16 19 00.8	
	comp=Z,288nm,21.1s,baz=10,slow=34						
STKA	**Stephens Creek**	**38.06**	**160**	P	P	16 07 05.8	0.0
	3.3nm,0.7s,baz=331,slow=6.1,SNR=4.4						
MKAR	**Makanchi Array**	**57.72**	**325**	P	P	16 09 38.0	-0.1
	0.4nm,0.5s,baz=118,slow=7.6,SNR=8.9						

*ISCJB **12** 16:00:10.1±0.7, 38°.79N±0°.03×141°.66E±0°.08, h77km±5km, mb3.9/2, Error ellipse: s-maj=10.7km s-min=4.9km az=15.2*

*IDC **12** 16:00:11.7±3.6, 39°.42N×140°.33E, h0km, mb4.0/2, mb1 3.6/4, mb1mx3.3/24, mbtmp3.6/4, ML3.0/2, MS3.5/2, Ms1 3.5/2, ms1mx3.0/31, Error ellipse: s-maj=73.5km s-min=31.0km az=110.0*

*JMA **12** 16:00:11.1, 38°.79N×141°.58E, h75km±1km, M3.4 Broadband fault plane solution: P waves. NP1: ϕs202.00000°, δ73.00000°, λ82.00000°. NP2:ϕs49.00000°, δ19.00000°, λ116.00000°. Principal axes: T Plg61.0000°, Azm100.0000°; N Plg8.0000°, Azm205.0000°; P Plg28.0000°, Azm299.0000°;*

JMA Felt I J1.

ISC 12 16:00:10.0±1.2, 38°.80N±0°.04×141°.74E±0°.08, h77km±7km, n20, σ1s26/34, 9C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.29**	**349**	⇑P	Pn	**16 00 22.8**	**+0.8**
OFUJ				S	Sn	**16 00 31.2**	**+0.5**
JMK	**Ichinoseki**	**0.43**	**291**	⇑P	Pn	**16 00 22.8**	**-0.2**
JMK				S	Sn	**16 00 31.7**	**-0.8**
JIO	**Ouri**	**0.46**	**222**	⇑P	Pn	**16 00 23.4**	**+0.2**
JIO				*i* S	Sn	**16 00 32.1**	**-0.7**
JOM	**Ohasama**	**0.76**	**333**	⇑P	Pn	**16 00 26.5**	**+0.4**
JOM				S	Sn	**16 00 38.0**	**-0.1**
JOU	**Okura**	**0.95**	**243**	⇑P	Pn	**16 00 28.1**	**-0.2**
JOU				S	Sn	**16 00 41.0**	**-0.9**
JRG	**Rokugo**	**1.05**	**305**	⇑P	Pn	**16 00 29.5**	**0.0**
JRG				S	Sn	**16 00 43.6**	**-0.5**
JYK	**Kaneyama**	**1.09**	**277**	⇑P	Pn	**16 00 29.6**	**-0.4**
JYK				*e*S	Sn	**16 00 43.7**	**-1.2**
JMM	**Marumori**	**1.19**	**219**	⇑P	Pn	**16 00 30.8**	**-0.5**
JMM				S	Sn	**16 00 45.6**	**-1.6**
JYS	**Shirataka**	**1.44**	**247**	P	Pn	**16 00 34.4**	**0.0**
JYS				S	Sn	**16 00 52.0**	**-0.8**
JANG	**Nango**	**1.58**	**354**	P	Pn	**16 00 37.0**	**+0.7**
JANG				*e*S	Sn	**16 00 56.5**	**+0.3**
JFK	**Kawauchi**	**1.58**	**206**	P	Pn	**16 00 36.6**	**+0.2**
JFK				*e*S	Sn	**16 00 55.2**	**-1.1**
JYA	**Atsumi**	**1.60**	**263**	P	Pn	**16 00 36.3**	**-0.2**
JYA				S	Sn	**16 00 55.2**	**-1.4**
JAH	**Hinai**	**1.63**	**329**	P	Pn	**16 00 38.0**	**+1.0**
JAH				*e*S	Sn	**16 00 57.8**	**+0.5**
JFT	**Otama**	**1.69**	**221**	⇑P	Pn	**16 00 38.5**	**+0.7**
JFT				*e*S	Sn	**16 00 58.9**	**+0.1**
MJAR	**Matsushiro Arr**	**3.59**	**232**	Pn	Pn	**16 01 05.1**	**+1.6**
	1.0nm,0.3s,baz=39,slow=11,SNR=20						
MJAR				LR	LR	16 02 37.1	
	comp=Z,163nm,19.2s,baz=195,slow=44						
MAT	**Matsushiro**	**3.60**	**232**	P	Pn	**16 01 04.6**	**+1.1**
ASAJ	**Asahikawa**	**5.35**	**7**	Pn	Pn	**16 01 27.7**	**+0.4**
	0.5nm,0.3s,baz=314,slow=18,SNR=11						
ASAJ				Sn	Sn	**16 02 22.2**	**-5.4**
	0.3nm,0.3s,baz=17,slow=20,SNR=1.8						

ZALV	**Zalesovo Beam**	40.94	311	P		P	16 07 45.5	+0.9
	1.5nm,0.6s,baz=86,slow=8.1,SNR=7.1							
MKAR	**Makanchi Array**	43.42	301	P		P	16 08 05.5	+0.4
	1.5nm,0.8s,baz=86,slow=9.5,SNR=16							
FINES	**FINESS Array B**	67.38	332	LR		LR	16 41 40.8	
	comp=Z,127nm,20.2s,baz=314,slow=38							

IDC 12 16:05:11.6±2.0, 3°.82N×126°.72E, h0km, mb3.5/3, mb1 3.5/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=220.6km s-min=26.3km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**28.20**	**166**	P	P	16 11 06.2	0.0
	0.2nm,0.6s,baz=342,slow=6.7,SNR=4.5						
SONM	**Songino Array**	**47.21**	**341**	P	P	16 13 46.1	-0.3
	0.3nm,0.5s,baz=157,slow=7.7,SNR=3.2						
MKAR	**Makanchi Array**	**57.48**	**325**	P	P	16 15 02.6	0.0
	0.4nm,0.4s,baz=118,slow=7.2,SNR=9.1						

IDC 12 16:10:15.2±1.8, 3°.83N×126°.18E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/20, mbtmp3.7/5, Error ellipse: s-maj=129.7km s-min=22.8km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.80**	**181**	P	P	16 15 09.0	-0.1
	0.5nm,0.4s,baz=23,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	**24.95**	**162**	P	P	16 15 40.2	-0.3
	1.6nm,0.6s						
ASAR	**Alice Springs**	**28.35**	**165**	P	P	16 16 11.4	+0.2
	0.3nm,0.5s,baz=341,slow=8.2,SNR=7.0						
STKA	**Stephens Creek**	**38.42**	**159**	P	P	16 17 38.8	+0.1
	1.7nm,0.8s,baz=328,slow=8.7,SNR=3.1						
MKAR	**Makanchi Array**	**57.16**	**325**	P	P	16 20 03.9	-0.1
	0.3nm,0.4s,baz=114,slow=8.1,SNR=9.3						

IDC 12 16:17:27.5±3.8, 4°.12N×126°.19E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/37, Error ellipse: s-maj=455.2km s-min=24.0km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.99**	**348**	LR	LR	16 19 48.1	
	comp=Z,463nm,19.1s,baz=197,slow=47						
WRA	**Warramunga Arr**	**25.22**	**162**	P	P	16 22 53.3	-1.9
	1.7nm,0.7s						
ASAR	**Alice Springs**	**28.62**	**165**	P	P	16 23 27.1	+1.1
	0.2nm,0.3s,baz=344,slow=11,SNR=5.7						
STKA	**Stephens Creek**	**38.69**	**159**	P	P	16 24 53.9	+0.7
	1.9nm,0.8s,baz=333,slow=5.1,SNR=2.4						
MKAR	**Makanchi Array**	**56.93**	**325**	P	P	16 27 14.5	-0.1
	0.1nm,0.4s,baz=123,slow=7.4,SNR=3.4						

IDC 12 16:19:51.5±3.8, 4°.40N×127°.15E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.7/3, MS4.0/1, Ms1 4.0/1, ms1mx2.8/37, Error ellipse: s-maj=405.9km s-min=25.7km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**28.66**	**167**	P	P	16 25 50.5	+0.2
	0.1nm,0.3s,baz=342,slow=11,SNR=5.3						
STKA	**Stephens Creek**	**38.61**	**160**	P	P	16 27 16.3	-0.3
	3.5nm,0.7s,baz=334,slow=6.9,SNR=8.7						
PETK	**Petropavlovsk-**	**54.66**	**22**	LR	LR	16 51 24.9	
	comp=Z,116nm,18.4s,baz=194,slow=35						
MKAR	**Makanchi Array**	**57.25**	**325**	P	P	16 29 40.8	-0.1
	0.3nm,0.4s,baz=117,slow=7.6,SNR=7.9						

IDC 12 16:20:16.6±1.9, 3°.81N×126°.94E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/20, mbtmp4.0/4, Error ellipse: s-maj=122.2km s-min=24.1km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.81**	**183**	P	P	16 25 10.5	-0.1
	2.3nm,0.5s,baz=20,slow=8.9,SNR=8.7						
ASAR	**Alice Springs**	**28.14**	**166**	P	P	16 26 11.6	+0.9
	0.7nm,0.5s,baz=351,slow=16,SNR=10						
STKA	**Stephens Creek**	**38.13**	**160**	P	P	16 27 36.6	-1.1
	2.9nm,0.8s,baz=349,slow=7.2,SNR=5.4						
MKAR	**Makanchi Array**	**57.61**	**325**	P	P	16 30 08.5	-0.1
	0.5nm,0.4s,baz=116,slow=7.4,SNR=7.8						

IDC 12 16:24:13.7±1.1, 3°.64N×126°.92E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/20, mbtmp3.9/6, Error ellipse: s-maj=104.7km s-min=16.9km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.64**	**183**	P	P	16 29 06.1	+0.2
	2.0nm,0.6s,baz=15,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**24.55**	**163**	P	P	16 29 34.7	-0.6
	8.8nm,0.8s						
ASAR	**Alice Springs**	**27.98**	**166**	P	P	16 30 06.3	-0.1
	1.1nm,1.2s,baz=347,slow=7.2,SNR=6.0						
STKA	**Stephens Creek**	**37.98**	**160**	P	P	16 31 33.7	+0.2
	3.5nm,0.6s,baz=329,slow=10,SNR=12						
SONM	**Songino Array**	**47.44**	**341**	P	P	16 32 50.1	-0.1
	0.4nm,0.7s,baz=152,slow=8.8,SNR=3.1						
SONM				PcP	PcP	16 34 20.9	+0.1
	0.4nm,0.6s,baz=149,slow=3.0,SNR=4.1						
MKAR	**Makanch

IDC 12 16:37:35.0±1.5,3°57N×126°03E,h0km,mb3.7/5, mb1 3.7/5,mb1mx3.6/20,mbtmp3.7/5,Error ellipse: s-maj=202.8km s-min=19.6km az=67.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**28.14**	**165**	P	P	16 43 28.9	-0.2
	0.4nm,1.0s,baz=346,slow=8.0,SNR=2.5						
STKA	**Stephens Creek**	**38.24**	**158**	P	P	16 44 56.9	0.0
	2.8nm,1.0s,baz=333,slow=6.8,SNR=2.6						
SONM	**Songino Array**	**47.23**	**342**	P	P	16 46 09.7	-0.2
	0.5nm,0.6s,baz=159,slow=7.5,SNR=3.6						
MKAR	**Makanchi Array**	**57.29**	**326**	P	P	16 47 24.5	-0.1
	0.4nm,0.4s,baz=117,slow=7.9,SNR=12						
KURBB	**Kurchatov Arra**	**61.49**	**328**	P	P	16 47 53.6	0.0
	0.7nm,0.5s,baz=126,slow=6.3,SNR=8.5						

IDC 12 16:39:01.1±1.8,0°90N×123°13E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.6/20,mbtmp3.8/5,MS3.0/1,Ms1 3.0/1, ms1mx2.7/36,Error ellipse: s-maj=503.3km s-min=19.1km az=62.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**6.78**	**210**	LR	LR	16 43 56.0	
	comp=Z,119nm,18.6s,baz=148,slow=44						
WRA	**Warramunga Arr**	**23.45**	**153**	P	P	16 44 13.5	+1.1
	3.2nm,0.3s						
ASAR	**Alice Springs**	**26.57**	**157**	P	P	16 44 41.1	0.0
	0.4nm,0.4s,baz=337,slow=12,SNR=9.2						
STKA	**Stephens Creek**	**37.00**	**153**	P	P	16 46 11.3	-1.2
	0.8nm,0.3s,baz=342,slow=8.0,SNR=3.9						
MKAR	**Makanchi Array**	**57.92**	**328**	P	P	16 48 54.9	-0.3
	0.2nm,0.3s,baz=130,slow=7.9,SNR=8.2						
KURBB	**Kurchatov Arra**	**62.25**	**330**	P	P	16 49 25.1	+0.2
	0.1nm,0.2s,baz=126,slow=6.9,SNR=3.9						

IDC 12 16:46:22.8±5.3,3°94N×126°59E,h0km,mb3.7/2, mb1 3.7/2,mb1mx3.4/18,mbtmp3.7/2,Error ellipse: s-maj=621.0km s-min=21.7km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.92**	**162**	P	P	16 51 48.5	+0.6
	2µm,0.3s,baz=233,slow=0.0,SNR=8.4						
ASAR	**Alice Springs**	**28.35**	**166**	P	P	16 52 17.9	-0.8
	0.3nm,0.9s,baz=354,slow=8.4,SNR=4.2						
MKAR	**Makanchi Array**	**57.31**	**325**	P	P	16 56 12.5	0.0
	0.5nm,0.5s,baz=120,slow=7.5,SNR=13						
KURBB	**Kurchatov Arra**	**61.49**	**327**	P	P	16 56 41.2	-0.1
	0.6nm,0.6s,baz=121,slow=6.7,SNR=7.4						

IDC 12 16:54:04.9±2.8,3°35N×125°70E,h0km,mb3.6/5, mb1 3.7/5,mb1mx3.5/19,mbtmp3.6/5,Error ellipse: s-maj=398.7km s-min=19.7km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.65**	**160**	P	P	16 59 27.9	+0.4
	1.1nm,0.5s						
ASAR	**Alice Springs**	**28.01**	**164**	P	P	16 59 57.7	-0.2
	0.2nm,0.8s,baz=339,slow=6.9,SNR=3.1						
STKA	**Stephens Creek**	**38.15**	**158**	P	P	17 01 25.8	-0.3
	3.5nm,1.0s,baz=324,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**57.29**	**326**	P	P	17 03 54.5	-0.1
	0.2nm,0.4s,baz=119,slow=7.0,SNR=8.0						
KURBB	**Kurchatov Arra**	**61.51**	**328**	P	P	17 04 23.6	0.0
	0.2nm,0.4s,baz=129,slow=7.3,SNR=4.9						

PRE 12 16:54:55.5±0.8,26°48S×27°46E,h2km,ML1.7,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLR	**Silverton**	**1.04**	**45**	*eP*	Pg	16 55 15.5	-0.3
SLR				*eS*	Sb	16 55 30.5	-0.3
SLR				AML	AML	16 55 34.3	
	comp=Z,14nm,0.3s						
SEK	**Senekal**	**1.85**	**176**	*eP*	Pn	16 55 28.9	+0.4
SEK				*eS*	Sn	16 55 53.2	+0.6
SEK				AML	AML	16 55 57.9	
	comp=Z,9.9nm,0.2s						
LBTB	**Lobatse**	**2.22**	**310**	*eP*	Pn	16 55 33.5	-0.1
LBTB				*eS*	Sn	16 56 02.6	+0.9
LBTB				AML	AML	16 56 07.1	
	comp=Z,5.1nm,0.3s						
BOSA	**Boshof**	**2.89**	**222**	*eP*	Pn	16 55 43.9	+1.1
BOSA				*eS*	Sn	16 56 18.9	+0.6
BOSA				AML	AML	16 56 40.1	
	comp=Z,1.2nm,0.3s						

IDC 12 16:56:46.4±1.2,4°33N×127°22E,h0km,mb3.6/7, mb1 3.7/7,mb1mx3.6/20,mbtmp3.6/7,MS4.0/2,Ms1 4.0/2, ms1mx3.1/27,Error ellipse: s-maj=79.4km s-min=16.8km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.11**	**164**	P	P	17 02 13.3	+0.2
	0.6nm,0.5s						
ASAR	**Alice Springs**	**28.58**	**167**	P	P	17 02 44.2	-0.2
	0.3nm,0.9s,baz=342,slow=8.0,SNR=2.9						
JHJ	**Hachijo jima 2**	**30.95**	**21**	LR	LR	17 14 19.6	
	comp=Z,228nm,19.0s,baz=64,slow=34						
CMAR	**Chiang Mai Arr**	**31.00**	**299**	P	P	17 03 06.8	+0.9
	0.4nm,0.8s,baz=93,slow=7.2,SNR=4.2						
STKA	**Stephens Creek**	**38.52**	**160**	P	P	17 04 10.6	0.0
	2.3nm,0.6s,baz=349,slow=12,SNR=4.8						
SONM	**Songino Array**	**46.89**	**341**	P	P	17 05 20.3	+1.6
	0.2nm,0.4s,baz=146,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**57.35**	**325**	P	P	17 06 35.3	-1.2
	0.3nm,0.4s,baz=122,slow=7.6,SNR=11						
AAK	**Ala-Archa**	**60.25**	**317**	LR	LR	17 35 20.0	
	comp=Z,154nm,20.7s,baz=144,slow=38						
KURBB	**Kurchatov Arra**	**61.51**	**327**	P	P	17 07 03.7	-1.3
	0.4nm,0.5s,baz=127,slow=6.3,SNR=5.0						

BJI ***12*** *16:57:48.9,3°58N×126°68E,h24km,mB5.1/33,mb5.1/55, Ms4.5/33,Ms7 4.3/31*

IDC ***12*** *16:57:50.7±0.3,4°03N×126°57E,h0km,mb4.9/32, mb1 4.9/33,mb1mx4.9/36,mbtmp4.8/33,ML3.6/1,MS4.0/6, Ms1 4.0/6,ms1mx3.5/33,Error ellipse: s-maj=16.2km s-min=8.6km az=75.0*

NEIC ***12*** *16:57:52.4±2.6,4°03N×126°65E,h14km±16km,mb5.1/48, Error ellipse: s-maj=6.8km s-min=3.8km az=72.0*

NEIC Felt [II] at Tahuna.

MOS ***12*** *16:57:53.8±0.9,4°02N×126°58E,h33km,mb5.4/40,Error ellipse: s-maj=12.5km s-min=5.2km az=115.9*

ISCJB ***12*** *16:57:53.7±0.2,4°08N±0°03×126°74E±0°03,h33km, mb5.1/119,MS4.2/18,Error ellipse: s-maj=4.9km s-min=3.4km az=153.6*

DJA ***12*** *16:58:01,3°86N×126°80E,h69km,mb5.0/30*

ISC 12 16:57:54.7±0.3,4°06N±0°03×126°70E±0°05,h27km±1km, n401,σ1s30/459,mb5.1/118,MS4.2/20,20C-31D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.67**	**319**	*eP*	**Pb**	**16 58 41.0**	**-0.9**
MATI	**Mati**	**2.91**	**351**	*eP*	**Pb**	**16 58 44.4**	**-1.5**
MNI	**Manado**	**3.19**	**216**	P	**Pb**	**16 58 51.6**	**+0.8**
DAV	**Davao City (W)**	**3.20**	**340**	*eP*	**Pn**	**16 58 42.9**	**-0.2**
DAV				Pn	Pb	16 58 47.0	-3.8
DAV				Sn	Sb	16 59 39.8	+10
DAV	**Davao City (W)**	**3.20**	**340**	P	Pb	16 58 54.2	+3.4
	SNR=10						
DAV	**Davao City (W)**	**3.20**	**340**	P	**Pb**	**16 58 52.6**	**+1.8**
DAV	**Davao City (W)**	**3.20**	**340**	Pn	Pb	16 58 47.0	-3.8
	16nm,0.3s,baz=256,slow=17,SNR=7.3						
DAV				Sn	Sb	16 59 39.8	+10
	103nm,0.3s,baz=85,slow=22,SNR=4.7						
DAV				LR	LR	17 00 14.8	
	comp=Z,3µm,18.4s,baz=208,slow=45						
DMPH	**Davao City--Mi**	**3.23**	**338**	*eP*	**Pb**	**16 58 50.4**	**-1.1**
TNTI	**Ternate**	**3.33**	**169**	P	**Pn**	**16 58 46.7**	**+1.7**
KCP	**Kidapawan**	**3.34**	**331⇑**	*eP*	**Pb**	**16 58 51.1**	**-2.3**
KCP				*i*	**Sb**	**16 59 35.4**	**+1.7**
BUKP	**Musuan**	**4.13**	**337**	*eP*	Pb	16 59 01.6	-5.3
KMSI	**Cibinong**	**4.40**	**218**	P	Pn	16 59 04.7	+5.0
LBMI	**Labuha**	**4.73**	**170**	P	**Pn**	**16 59 06.5**	**+2.2**
CGP	**Cagayan de Oro**	**4.80**	**336⇓**	*iP*	Pn	16 59 11.2	+5.9
CGP				*i*	**Sb**	**17 00 18.0**	**+2.4**
BUTP	**Butuan**	**5.00**	**348**	*eP*	Pn	16 59 14.6	+6.6
PAGZ	**Pagadian**	**5.01**	**319**	*eP*	Pn	16 59 12.5	+4.4
ZMPH	**Zamboanga City**	**5.44**	**302⇓**	*iP*	**Pn**	**16 59 16.7**	**+2.7**
ZMPH				*i*	**Sn**	**17 00 15.8**	**0.0**
IPIL	**Ipil**	**5.54**	**312**	*eP*	Pn	16 59 19.2	+3.8
MRSI	**Marisa**	**5.94**	**233**	P	Pn	16 59 24.3	+3.4
	481nm,0.6s,5µm1.9nm						
MSLP	**Maasin**	**6.31**	**343**	*eP*	Pn	16 59 33.5	+7.5
LUWI	**Luwuk**	**6.41**	**218**	P	Pn	16 59 33.8	+6.5
	384nm,1.1s,6µm2.7nm						
SWI	**Sorong**	**6.68**	**137**	P	Pb	16 59 40.7	-9.4
OCLP	**Ormoc**	**7.25**	**343**	*eP*	Pn	16 59 46.4	+7.4
MYLDM	**Lahad Datu**	**8.25**	**278**	P	Pn	16 59 58.0	+5.3
MYLDM	**Lahad Datu**	**8.25**	**278**	P	Pn	17 00 00.1	+7.4
	146nm,1.2s,2µm0.8nm						
TSM	**Tawau**	**8.81**	**272**	P	**Pn**	**17 00 02.5**	**+2.2**
FAKI	**Fak Fak**	**8.87**	**141**	P	**Pn**	**17 00 02.6**	**+1.4**
	86nm,0.9s,0.3nm						
SDKM	**Sandakan**	**9.61**	**280**	P	Pn	17 00 15.0	+3.8
TTSI	**Tana Toraja**	**9.85**	**224**	P	Pn	17 00 19.1	+4.5
	79nm,0.9s						
KDM	**Kudat**	**10.23**	**287**	P	Pn	17 00 26.7	+6.9
SMKI	**Samarinda**	**10.49**	**245**	P	Pn	17 00 31.1	+7.7
	96nm,0.8s						
KKM	**Kota Kinabalu**	**10.63**	**281**	*ePn*	Pn	17 00 30.0	+4.6
	38nm,0.9s						
KKM				*eSn*	**Sn**	**17 02 25.0**	**+1.3**
KKM	**Kota Kinabalu**	**10.63**	**281**	P	Pn	17 00 30.4	+4.9
KKM	**Kota Kinabalu**	**10.63**	**281**	P	Pn	17 00 31.7	+6.3
	42nm,0.9s,527nm						
BAKI	**Biak**	**10.75**	**119**	P	Pn	17 00 31.4	+4.5
	167nm,1.3s,2µm						
TLE	**Tual**	**11.36**	**148**	P	**Pn**	**17 00 38.4**	**+3.1**
	117nm,0.9s						
KAPI	**Kappang**	**11.38**	**218**	Pn	**Pn**	**17 00 34.6**	**-0.8**
KAPI	**Kappang**	**11.38**	**218**	Pn	**Pn**	**17 00 34.6**	**-0.8**
	0.4nm,0.3s,baz=70,slow=18,SNR=2.3						
BTM	**Bintulu**	**13.62**	**267**	P	**P**	**17 01 13.2**	**-1.6**
SBUM	**Sibu**	**14.55**	**264**	P	**P**	**17 01 23.0**	**-2.1**
SBUM	**Sibu**	**14.55**	**264**	P	**P**	**17 01 23.3**	**-1.8**
	51nm,0.9s,535nm						
KSM	**Kuching**	**16.57**	**262**	*ePn*	**P**	**17 01 49.5**	**+1.8**
	41nm,0.9s						
KSM	**Kuching**	**16.57**	**262**	P	**P**	**17 01 50.2**	**+2.5**
KSM	**Kuching**	**16.57**	**262**	P	**P**	**17 01 49.9**	**+2.2**
	52nm,0.9s						
TWG	**Pinlang**	**19.43**	**344**	*eP*	**P**	**17 02 17.5**	**-1.6**
	44nm,0.6s						
YULB	**Yu-li**	**19.92**	**345**	*eP*	**P**	**17 02 23.0**	**-1.4**
	17nm,0.5s						
TPUB	**Ta-pu**	**20.01**	**343**	*eP*	**P**	**17 02 24.8**	**-0.7**
	52nm,0.6s						
GUMO	**Guam**	**20.28**	**61**	LR	LR	17 09 01.0	
	comp=Z,289nm,19.8s,baz=269,slow=33						
SSLB	**Suanglung**	**20.39**	**345**	*eP*	**P**	**17 02 28.7**	**-0.9**
	49nm,0.7s						
NACB	**Ninganchiao**	**20.60**	**347**	*eP*	**P**	**17 02 31.2**	**-0.5**
TGJI	**Tegal**	**20.63**	**238**	P	Pn	17 02 37.9	+3.2
	51nm,1.0s						
YHNB	**Yeheng**	**21.13**	**346**	*eP*	**P**	**17 02 37.6**	**+0.1**
	36nm,0.8s						
PPBI	**Pangkal Pinang**	**21.46**	**254**	P	P	17 02 54.1	+13
LEM	**Lembang**	**21.91**	**240**	P	**P**	**17 02 49.0**	**+2.9**
	56nm,0.9s						
FITZ	**Fitzroy Crossi**	**22.04**	**183**	*eP*	**P**	**17 02 45.4**	**-1.9**
	19nm,0.9s						
FITZ	**Fitzroy Crossi**	**22.04**	**183**	*eP*	**P**	**17 02 46.0**	**-1.3**
	43nm,1.0s						
FITZ	**Fitzroy Crossi**	**22.04**	**183**	P	**P**	**17 02 45.7**	**-1.6**
	11nm,0.5s,baz=23,slow=11,SNR=22						
QZH	**Quanzhou**	**22.19**	**340⇓**	*iP*	**P**	**17 02 50.2**	**+1.4**
QZH				S	**S**	**17 06 50.3**	**-1.5**
QZH				pmax	pmax		
	comp=Z,80nm,0.8s						
QZH				LR	LR		
	comp=Z,1µm,18.3s						
QIZ	**Qiongzhong**	**22.20**	**313**	P	**P**	**17 02 49.3**	**+0.2**
QIZ				S	**S**	**17 06 53.1**	**+0.9**
QIZ	**Qiongzhong**	**22.20**	**313**	*eP*	**P**	**17 02 47.8**	**-1.3**
	comp=Z,27nm,0.9s						
CBJI	**Citeko**	**22.39**	**242**	P	**P**	**17 02 51.8**	**+0.7**
	comp=Z,184nm,1.1s						
MYKOM	**Kota Tinggi**	**22.93**	**265**	P	**P**	**17 02 59.3**	**+2.3**
MYKOM	**Kota Tinggi**	**22.93**	**265**	P	**P**	**17 02 59.8**	**+2.9**
	comp=Z,22nm,1.2s						
KGM	**Kluang**	**23.44**	**266**	P	**P**	**17 03 02.9**	**+0.9**
COEN	**Coen**	**24.23**	**138**	*eP*	**P**	**17 03 08.3**	**-1.2**
	comp=Z,79nm,0.6s						
PMG	**Port Moresby**	**24.38**	**123**	*eP*	**P**	**17 03 07.5**	**-3.4**
PMG	**Port Moresby**	**24.38**	**123**	P	**P**	**17 03 08.1**	**-2.7**
	comp=Z,3.7nm,0.7s,baz=270,slow=10,SNR=2.2						
WRAB	**Tennant Creek**	**25.00**	**163**	*eP*	**P**	**17 03 14.9**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,35nm,0.8s						
WRAB	**Tennant Creek**	**25.00**	**163**	*eP*	**P**	**17 03 14.9**	**-1.5**
	comp=Z,35nm,0.8s						
WRAB	**Tennant Creek**	**25.00**	**163**	P	**P**	**17 03 15.7**	**-0.7**
	comp=Z,308nm,1.0s,SNR=9.6						
FRIM	**Kepong**	**25.04**	**269**	P	**P**	**17 03 17.5**	**+0.6**
IPM	**Ipoh**	**25.61**	**272**	*eP*	**P**	**17 03 21.7**	**-0.4**
	comp=Z,38nm,1.0s						
IPM	**Ipoh**	**25.61**	**272**	P	**P**	**17 03 21.9**	**-0.2**
IPM	**Ipoh**	**25.61**	**272**	P	**P**	**17 03 24.3**	**+2.2**
	comp=Z,36nm,1.1s						
MBWA	**Marble Bar**	**25.97**	**195**	*eP*	**P**	**17 03 24.3**	**-0.9**
	comp=Z,37nm,0.8s						
MBWA	**Marble Bar**	**25.97**	**195**	*eP*	**P**	**17 03 24.8**	**-0.4**
KULM	**Kulim**	**26.00**	**274**	*eP*	**P**	**17 03 23.9**	**-1.6**
	comp=Z,9.0nm,0.8s						
KULM	**Kulim**	**26.00**	**274**	P	**P**	**17 03 25.4**	**-0.1**
KULM	**Kulim**	**26.00**	**274**	P	P	17 03 31.1	+5.6
	comp=Z,26nm,1.4s						
KULM	**Kulim**	**26.00**	**274**	P	P	17 03 39.4	+14
	comp=Z,26nm,1.4s						
PPI	**Padang Panjang**	**26.67**	**261**	P	**P**	**17 03 36.0**	**+4.4**
	comp=Z,23nm,1.1s						
MNSI	**Mandailing Nat**	**27.29**	**264**	P	P	17 03 44.1	+6.9
QIS	**Mount Isa**	**27.54**	**153**	*eP*	**P**	**17 03 39.4**	**0.0**
PSI	**Prapat**	**27.76**	**268**	P	**P**	**17 03 40.4**	**-1.1**
PSI	**Prapat**	**27.76**	**268**	P	**P**	**17 03 41.8**	**+0.2**
	comp=Z,14nm,1.1s						
PSI	**Prapat**	**27.76**	**268**	P	**P**	**17 03 40.4**	**-1.1**
	comp=Z,11nm,1.0s,baz=270,slow=0.8,SNR=7.2						
AS31	**Alice Springs**	**28.43**	**166**	*eP*	**P**	**17 03 46.3**	**-1.1**
ASAR	**Alice Springs**	**28.43**	**166**	P	**P**	**17 03 46.3**	**-1.1**
ASAR				S	**S**	**17 08 36.5**	**+3.4**
ASAR	**Alice Springs**	**28.43**	**166**	P	**P**	**17 03 46.3**	**-1.1**
	comp=Z,3.5nm,0.5s,baz=343,slow=7.2,SNR=47						
ASAR				S	**S**	**17 08 36.5**	**+3.4**
	comp=Z,1.4nm,0.9s,baz=352,slow=24,SNR=4.0						
NJ2	**Nanjing**	**28.81**	**346**	*eP*	**P**	**17 03 52.2**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,20nm,1.2s						
WHN	**Wuhan**	**28.81**	**337⇓**	*iP*	**P**	**17 03 51.6**	**+1.0**
WHN				sP	**sP**	**17 04 03.2**	**+1.2**
WHN				pmax	pmax		
	comp=Z,110nm,1.1s						
WHN				LR	LR		
	comp=Z,1µm,20.5s						
JNU	**Nakatsue**	**29.18**	**7**	P	**P**	**17 03 54.0**	**+0.1**
JNU	**Nakatsue**	**29.18**	**7**	P	**P**	**17 03 54.0**	**+0.1**
	comp=Z,5.6nm,0.6s,baz=226,slow=8.5,SNR=5.8						
GSI	**Gunungsitoli**	**29.22**	**265**	P	**P**	**17 03 54.8**	**+0.3**
	comp=Z,29nm,1.0s						
GYA	**Guiyang**	**29.40**	**321⇓**	*iP*	**P**	**17 03 56.7**	**+0.7**
GYA				pP	**pP**	**17 04 03.9**	**-0.2**
GYA				PP	**PnPn**	**17 04 53.2**	**+2.8**
GYA				PcP	**PcP**	**17 07 02.0**	**+0.1**
GYA				S	**S**	**17 08 49.8**	**+1.3**
GYA				ScS	**ScS**	**17 14 35.0**	**-1.7**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=N,520nm,17.0s						
GYA				LR	LR		
	comp=E,490nm,16.8s						
GYA				LR	LR		
	comp=Z,510nm,17.9s						
CM31	**Chiang Mai Arr**	**30.69**	**300**	*eP*	**P**	**17 04 07.4**	**0.0**
	comp=Z,8.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**30.69**	**300**	P	**P**	**17 04 07.3**	**-0.1**
CMAR				PcP	**PcP**	**17 07 06.6**	**+1.4**
CMAR	**Chiang Mai Arr**	**30.69**	**300**	P	**P**	**17 04 07.3**	**-0.1**
	comp=Z,7.6nm,0.8s,baz=110,slow=6.7,SNR=66						
CMAR				PcP	**PcP**	**17 07 06.6**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=134,slow=1.7,SNR=4.1						
CTA	**Charters Tower**	**30.73**	**142**	P	**P**	**17 04 09.4**	**+1.7**
CTA	**Charters Tower**	**30.73**	**142**	P	**P**	**17 04 09.4**	**+1.7**
	comp=Z,12nm,1.0s,baz=340,slow=8.1						
CTAO	**Charters Tower**	**30.73**	**142**	*eP*	**P**	**17 04 08.1**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,28nm,1.3s						
CTAO	**Charters Tower**	**30.73**	**142**	*eP*	**P**	**17 04 08.1**	**+0.3**
	comp=Z,28nm,1.3s						
ENH	**Enshi**	**30.73**	**330**	*eP*	**P**	**17 04 07.2**	**-0.5**
	comp=Z,65nm,0.8s						
CHTO	**Chiang Mai**	**30.83**	**301**	*eP*	**P**	**17 04 08.4**	**-0.3**
CHTO				*e*		17 07 05.8	
CHTO				pmax	pmax		
	comp=Z,27nm,0.8s						
CHTO	**Chiang Mai**	**30.83**	**301**	*eP*	**P**	**17 04 08.4**	**-0.3**
	comp=Z,27nm,0.8s						
CHTO				*e*PcP	**PcP**	**17 07 05.8**	**+0.3**
CHTO	**Chiang Mai**	**30.83**	**301**	P	**P**	**17 04 09.1**	**+0.4**
	SNR=13						
CHTO	**Chiang Mai**	**30.83**	**301**	P	**P**	**17 04 08.7**	**0.0**
	comp=Z,42nm,0.8s						
KMI	**Kunming**	**31.13**	**315**	P	**P**	**17 04 09.5**	**-2.0**
KMI				pP	**pP**	**17 04 18.4**	**-1.2**
KMI				sP	**sP**	**17 04 21.5**	**-1.5**
KMI				S	**S**	**17 09 17.5**	**+1.6**
KMI				sS	**sS**	**17 09 27.6**	**-1.7**
KMI				pmax	pmax		
	comp=Z,12nm,1.2s						
KMI				LR	LR		
	comp=N,120nm,24.6s						
KMI				LR	LR		
	comp=E,280nm,21.4s						
KMI				LR	LR		
	comp=Z,410nm,25.6s						
KSAR	**Wonju Array Be**	**33.25**	**2**	P	**P**	**17 04 30.6**	**+1.0**
KSAR				PcP	**PcP**	**17 07 13.4**	**+1.7**
KSRS	**Korea Array**	**33.26**	**2**	P	**P**	**17 04 30.6**	**+0.9**
	comp=Z,3.4nm,0.5s,baz=181,slow=10.0,SNR=17						
KSRS				PcP	**PcP**	**17 07 13.4**	**+1.7**
	comp=Z,6.5nm,0.7s,baz=194,slow=2.9,SNR=12						
MAJO	**Matsushiro**	**34.02**	**17**	*eP*	**P**	**17 04 34.6**	**-1.8**
MAJO				*e*		17 07 15.0	
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.9s						
MAJO	**Matsushiro**	**34.02**	**17**	*eP*	**P**	**17 04 34.6**	**-1.8**
	comp=Z,9.5nm,0.9s						
MAJO				*e*PcP	**PcP**	**17 07 15.0**	**+1.0**
MAT	**Matsushiro**	**34.02**	**17**	P	**P**	**17 04 34.7**	**-1.7**
MJAR	**Matsushiro Arr**	**34.02**	**17**	P	**P**	**17 04 35.1**	**-1.3**
MJAR				PcP	**PcP**	**17 07 15.5**	**+1.5**
MJAR	**Matsushiro Arr**	**34.02**	**17**	P	**P**	**17 04 35.1**	**-1.3**
	comp=Z,3.3nm,0.9s,baz=186,slow=10,SNR=12						
MJAR				PcP	**PcP**	**17 07 15.5**	**+1.5**
	comp=Z,5.6nm,0.8s,baz=191,slow=3.3,SNR=12						
XAN	**Xi'an**	**34.12**	**333**	P	**P**	**17 04 36.6**	**-0.7**
XAN				pP	**pP**	**17 04 45.7**	**+0.3**
XAN				sP	**sP**	**17 04 50.0**	**+1.2**
XAN				pmax	pmax		
	comp=Z,32nm,0.8s						
XAN				pmax	pmax		
	comp=Z,22nm,6.4s						
XAN				LR	LR		
	comp=N,160nm,17.3s						
XAN				LR	LR		
	comp=E,94nm,19.5s						
CD2	**Chengdu**	**34.37**	**324**	**⇑**P	**P**	**17 04 39.5**	**0.0**
CD2				pP	**pP**	**17 04 49.2**	**+1.5**
CD2				sP	**sP**	**17 04 53.1**	**+2.1**
CD2				PcP	**PcP**	**17 07 15.1**	**-0.1**
CD2				S	**S**	**17 10 04.1**	**-1.7**
CD2				sS	**sS**	**17 10 20.1**	**+0.9**
CD2				PcS	**PcS**	**17 11 00.3**	**-1.3**
CD2				SS	**SnSn**	**17 12 15.2**	**-1.7**
CD2				pmax	pmax		
	comp=Z,30nm,0.5s						
CD2				pmax	pmax		
	comp=Z,140nm,7.0s						
CD2				LR	LR		
	comp=N,390nm,22.0s						
CD2				LR	LR		
	comp=E,460nm,17.6s						
CD2				LR	LR		
	comp=Z,570nm,18.4s						
MORW	**Morawa**	**34.49**	**197**	*eP*	**P**	**17 04 39.8**	**-0.7**
	comp=Z,136nm,1.5s						
HNR	**Honiara**	**35.74**	**112**	LR	LR	17 18 54.3	
	comp=Z,163nm,21.8s,baz=255,slow=35						
BJT	**Baijiatuan**	**37.05**	**347**	*eP*	**P**	**17 05 03.0**	**+0.7**
	comp=Z,36nm,0.6s						
BJI	**Beijing**	**37.07**	**347**	P	**P**	**17 05 03.3**	**+0.8**
BJI				pmax	pmax		
	comp=Z,50nm,0.6s						
BJI				LR	LR		
	comp=N,140nm,15.8s						
BJI				LR	LR		
	comp=E,180nm,21.0s						
SNY	**Shenyang**	**37.71**	**356**	**⇑**P	**P**	**17 05 09.3**	**+1.4**
SNY				pmax	pmax		
	comp=Z,22nm,0.8s						
BBOO	**Buckleboo**	**37.72**	**167**	*eP*	**P**	**17 05 07.6**	**-0.5**
	comp=Z,425nm,0.8s						
NWAO	**Narrogin (SRO)**	**37.86**	**193**	*eP*	**P**	**17 05 08.7**	**-0.6**
	comp=Z,35nm,1.0s						
NWAO	**Narrogin (SRO)**	**37.86**	**193**	P	**P**	**17 05 09.1**	**-0.2**
	comp=Z

MDJ	**Mudanjiang**	**40.48**	**3**	P	**P**	**17 05 31.7**	**+0.7**
MDJ				pP	**pP**	**17 05 37.8**	**-1.4**
MDJ				sP	**sP**	**17 05 41.0**	**-1.6**
MDJ				PP	**PnPn**	**17 07 06.9**	**-1.6**
MDJ				PcP	**PcP**	**17 07 31.6**	**-1.8**
MDJ				ScP	**ScP**	**17 11 19.2**	**-1.9**
MDJ				PcS	**PcS**	**17 11 23.3**	**-0.6**
MDJ				S	**S**	**17 11 41.1**	**+3.0**
MDJ				SS	**SS**	**17 14 40.4**	**+2.2**
MDJ				ScS	**ScS**	**17 15 37.5**	**+2.3**
MDJ				pmax	pmax		
	comp=Z,31nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,81nm,4.8s						
MDJ	**Mudanjiang**	**40.48**	**3**	*e*P	**P**	**17 05 32.5**	**+1.5**
	comp=Z,19nm,0.9s						
ARMA	**Armidale**	**41.75**	**147**	*e*P	**P**	**17 05 42.2**	**+0.3**
	comp=Z,17nm,0.7s						
ARMA	**Armidale**	**41.75**	**147**	*e*P	**P**	**17 05 42.5**	**+0.7**
LSA	**Lhasa**	**42.21**	**311**	*e*P	**P**	**17 05 46.3**	**+0.2**
LSA				*e*		17 07 38.2	
LSA				pmax	pmax		
	comp=Z,57nm,0.7s						
LSA	**Lhasa**	**42.21**	**311**	*e*P	**P**	**17 05 46.3**	**+0.2**
	comp=Z,58nm,0.7s						
LSA				*e*PcP	**PcP**	**17 07 38.1**	**-1.9**
ASAJ	**Asahikawa**	**42.29**	**17**	P	**P**	**17 05 46.7**	**+0.8**
ASAJ	**Asahikawa**	**42.29**	**17**	P	**P**	**17 05 46.7**	**+0.8**
	comp=Z,6.1nm,0.6s,baz=250,slow=18,SNR=13						
ASAJ				LR	LR	17 24 48.2	
	comp=Z,180nm,18.2s,baz=14,slow=38						
GTA	**Gaotai**	**42.81**	**329**	⇑P	**P**	**17 05 50.6**	**+0.2**
GTA				pP	**pP**	**17 05 56.9**	**-1.7**
GTA				sP	**sP**	**17 05 59.7**	**-2.3**
GTA				PcP	**PcP**	**17 07 42.9**	**+1.5**
GTA				S	**S**	**17 12 16.5**	**+3.4**
GTA				sS	**sS**	**17 12 30.3**	**+3.6**
GTA				pmax	pmax		
	comp=Z,19nm,0.7s						
GTA				pmax	pmax		
	comp=Z,170nm,5.2s						
GTA				LR	LR		
	comp=N,270nm,22.3s						
GTA				LR	LR		
	comp=E,300nm,19.0s						
GTA				LR	LR		
	comp=Z,410nm,21.8s						
TAPN	**Taplejung**	**43.80**	**306**	*e*P	**P**	**17 05 58.4**	**-0.4**
	comp=Z,68nm,0.6s						
ODAN	**Odare**	**43.86**	**305**	*e*P	**P**	**17 05 58.7**	**-0.5**
	comp=Z,66nm,0.7s						
CAN	**Canberra**	**44.41**	**154**	*e*P	**P**	**17 06 04.5**	**+1.3**
	comp=Z,25nm,0.8s						
RAMN	**Ramite**	**44.54**	**305**	*e*P	**P**	**17 06 04.4**	**-0.3**
	comp=Z,38nm,0.6s						
YSS	**Yuzh-Sakhalins**	**44.94**	**16**	*e*P	**P**	**17 06 08.0**	**+0.8**
YSS				*e*		17 07 50.0	
YSS	**Yuzh-Sakhalins**	**44.94**	**16**	*e*P	**P**	**17 06 07.4**	**+0.3**
	comp=Z,8.1nm,0.6s						
JIRN	**Jiri**	**45.16**	**306**	*e*P	**P**	**17 06 09.4**	**-0.4**
	comp=Z,16nm,0.7s						
KLR	**Kul'dur**	**45.22**	**5**	*e*P	**P**	**17 06 06.6**	**-2.8**
KLR				pmax	pmax		
	comp=Z,48nm,1.4s						
HIA	**Hailar**	**45.44**	**354**	*e*P	**P**	**17 06 12.2**	**+1.0**
	comp=Z,52nm,0.9s						
HIA				*e*PcP	**PcP**	**17 07 51.1**	**+1.1**
GUN	**Gumba**	**45.51**	**306**	*e*P	**P**	**17 06 12.0**	**-0.5**
	comp=Z,78nm,0.7s						
PKI	**Pulchoki**	**45.76**	**305**	*e*P	**P**	**17 06 13.4**	**-1.1**
KKN	**Kakani**	**45.95**	**305**	*e*P	**P**	**17 06 14.9**	**-0.9**
	comp=Z,18nm,0.4s						
DMN	**Daman**	**46.02**	**305**	*e*P	**P**	**17 06 15.8**	**-0.7**
	comp=Z,52nm,1.0s						
GKN	**Gorkha**	**46.56**	**305**	*e*P	**P**	**17 06 19.6**	**-0.9**
	comp=Z,21nm,0.5s						
DZM	**Mont Dzumac**	**46.74**	**125**	P	**P**	**17 06 23.2**	**+1.2**
DZM	**Mont Dzumac**	**46.74**	**125**	P	**P**	**17 06 23.2**	**+1.2**
	comp=Z,8.1nm,0.8s,baz=327,slow=19,SNR=15						
ULN	**Ulaanbaatar**	**46.80**	**342**	*e*P	**P**	**17 06 22.4**	**+0.3**
	comp=Z,20nm,0.9s						
ULN				*e*PcP	**PcP**	**17 07 55.0**	**0.0**
ULN	**Ulaanbaatar**	**46.80**	**342**	P	**P**	**17 06 23.0**	**+0.9**
	SNR=9.6						
ULN	**Ulaanbaatar**	**46.80**	**342**	P	**P**	**17 06 22.7**	**+0.6**
	comp=Z,22nm,0.9s						
SONM	**Songino Array**	**46.98**	**341**	P	**P**	**17 06 23.7**	**+0.2**
SONM				PcP	**PcP**	**17 07 56.0**	**+0.4**
SONM	**Songino Array**	**46.98**	**341**	P	**P**	**17 06 23.7**	**+0.2**
	comp=Z,10nm,0.8s,baz=155,slow=8.5,SNR=75						
SONM				PcP	**PcP**	**17 07 56.0**	**+0.4**
	comp=Z,6.9nm,0.8s,baz=163,slow=3.8,SNR=8.9						
KOLN	**Koldanda**	**47.32**	**305**	*e*P	**P**	**17 06 26.0**	**-0.5**
	comp=Z,85nm,0.8s						
DANN	**Dangsing**	**47.41**	**305**	*e*P	**P**	**17 06 26.6**	**-0.7**
	comp=Z,106nm,0.8s						
HYB	**Hyderabad**	**48.98**	**290**	*i*P	**P**	**17 06 38.0**	**-1.3**
CIT	**Chita**	**49.04**	**349**	*e*P	**P**	**17 06 40.9**	**+1.6**
CIT				*e*		17 08 04.1	
CIT				pmax	pmax		
	comp=Z,139nm,1.4s						
ZAK	**Zakamensk**	**50.21**	**341**	*e*P	**P**	**17 06 47.8**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
TAU	**Tasmania Unive**	**50.34**	**160**	*e*P	**P**	**17 06 48.9**	**-0.2**
TAU				pmax	pmax		
	comp=Z,34nm,1.2s						
TAU	**Tasmania Unive**	**50.34**	**160**	*e*P	**P**	**17 06 48.9**	**-0.2**
	comp=Z,34nm,1.2s						
TLY	**Talaya**	**51.21**	**342**	*e*P	**P**	**17 06 55.8**	**+0.1**
TLY				pmax	pmax		
	comp=Z,15nm,0.7s						
TLY				MLR	MLR		
	comp=Z,119nm,21.0s						
TLY	**Talaya**	**51.21**	**342**	*e*P	**P**	**17 06 56.6**	**+0.9**
	comp=Z,14nm,0.6s						
TLY	**Talaya**	**51.21**	**342**	P	**P**	**17 06 57.2**	**+1.5**
	SNR=6.9						
IRK	**Irkutsk**	**51.51**	**343**	*e*P	**P**	**17 06 58.0**	**+0.1**
IRK				pmax	pmax		
	comp=Z,36nm,2.0s						
MOY	**Mondy**	**52.07**	**340**	*e*P	**P**	**17 07 03.3**	**+1.1**
MOY				pmax	pmax		
	comp=Z,23nm,1.5s						
WMQ	**Urumqi**	**52.44**	**325**	P	**P**	**17 07 05.6**	**+0.5**
WMQ				pP	**pP**	**17 07 12.0**	**-1.5**
WMQ				sP	**sP**	**17 07 14.5**	**-2.3**
WMQ				PcP	**PcP**	**17 08 16.5**	**+0.9**
WMQ				*e*S	**S**	**17 14 29.5**	**-0.2**
WMQ				pmax	pmax		
	comp=Z,21nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,190nm,4.6s						
WMQ				LR	LR		
	comp=N,670nm,15.1s						
WMQ				LR	LR		
	comp=E,480nm,12.4s						
WMQ				LR	LR		
	comp=Z,460nm,21.6s						
CLNS	**Chul'man**	**52.65**	**359**	*e*P	**P**	**17 07 07.7**	**+1.4**
CLNS				pmax	pmax		
	comp=Z,21nm,1.0s						
CLNS				pmax	pmax		
	comp=N,12nm,1.0s						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.0s						
DDI	**Dehra Dun**	**52.76**	**305**	*ex*	**P**	**17 07 05.0**	**-2.6**
POO	**Poona**	**53.58**	**290**	*e*PKP	**P**	**17 07 11.0**	**-2.8**
BOD	**Bodaibo**	**54.54**	**352**	*e*P	**P**	**17 07 20.9**	**+0.8**
BOD				pmax	pmax		
	comp=Z,23nm,1.2s						
PEA0B	**Petropavlovsk-**	**55.14**	**22**	*e*P	**P**	**17 07 25.4**	**+0.9**
PETK	**Petropavlovsk-**	**55.14**	**22**	P	**P**	**17 07 25.6**	**+1.0**
PETK	**Petropavlovsk-**	**55.14**	**22**	P	**P**	**17 07 25.6**	**+1.0**
PETK	**Petropavlovsk-**	**55.14**	**22**	P	**P**	**17 07 25.6**	**+1.0**
	comp=Z,9.3nm,0.5s,baz=192,slow=4.8,SNR=46						
MK31	**Makanchi Array**	**57.27**	**325**	*e*P	**P**	**17 07 39.3**	**-0.7**
MK31				*e*		17 08 34.2	
MK31	**Makanchi Array**	**57.27**	**325**	*e*P	**P**	**17 07 39.3**	**-0.7**
MK31				*e*PcP	**PcP**	**17 08 34.2**	**+0.1**
MK31				*e*ScP	**ScP**	**17 12 30.4**	**-1.8**
MKAR	**Makanchi Array**	**57.27**	**325**	*ce*P	**P**	**17 07 39.7**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,27nm,0.7s						
MKAR	**Makanchi Array**	**57.27**	**325**	P	**P**	**17 07 39.6**	**-0.3**
MKAR				PcP	**PcP**	**17 08 34.5**	**+0.5**
MKAR				ScP	**ScP**	**17 12 34.3**	**+2.1**
MKAR	**Makanchi Array**	**57.27**	**325**	P	**P**	**17 07 39.6**	**-0.3**
	comp=Z,27nm,0.7s,baz=124,slow=8.2,SNR=163						
MKAR				PcP	**PcP**	**17 08 34.5**	**+0.5**
	comp=Z,11nm,0.7s,baz=118,slow=4.8,SNR=7.6						
MKAR				ScP	**ScP**	**17 12 34.3**	**+2.1**
	comp=Z,2.3nm,0.8s,baz=125,slow=4.6,SNR=7.1						
KSH	**Kashi**	**57.80**	**315**	P	**P**	**17 07 44.5**	**+0.6**
KSH				pP	**pP**	**17 07 52.8**	**+0.4**
KSH				sP	**sP**	**17 07 55.7**	**0.0**
KSH				PcP	**PcP**	**17 08 37.2**	**+0.8**
KSH				PP	**PP**	**17 09 54.4**	**+2.2**
KSH				ScP	**ScP**	**17 12 33.3**	**-1.5**
KSH				PcS	**PcS**	**17 12 37.2**	**-0.6**
KSH				S	**S**	**17 15 41.6**	**-0.1**
KSH				sS	**sS**	**17 15 54.4**	**-1.3**
KSH				ScS	**ScS**	**17 17 28.9**	**-3.1**
KSH				SS	**SS**	**17 19 34.6**	**+1.9**
KSH				LR	LR		
	comp=N,210nm,5.6s						
KSH				LR	LR		
	comp=E,170nm,6.0s						
KSH				LR	LR		
	comp=Z,220nm,6.9s						
YAK	**Yakutsk**	**57.89**	**2***c*	*i*P	**P**	**17 07 44.6**	**+0.7**
YAK				pmax	pmax		
	comp=Z,89nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,35nm,1.1s						
YAK	**Yakutsk**	**57.89**	**2**	*e*P	**P**	**17 07 44.4**	**+0.5**
	comp=N,136nm,1.0s						
KZA	**Kyzart**	**59.36**	**317**	P	**P**	**17 07 55.3**	**+0.2**
	SNR=18						
TKM2	**Tokmak 2**	**59.49**	**318**	*e*P	**P**	**17 07 54.9**	**-0.8**
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TKM2	**Tokmak 2**	**59.49**	**318**	*e*P	**P**	**17 07 54.9**	**-0.8**
	comp=Z,9.7nm,0.7s						
TKM2	**Tokmak 2**	**59.49**	**318**	P	**P**	**17 07 55.5**	**-0.3**
	SNR=19						
KBK	**Karagaybulak**	**59.80**	**318**	P	**P**	**17 07 57.9**	**0.0**
	SNR=11						
AAK	**Ala-Archa**	**60.10**	**318**	*e*P	**P**	**17 07 59.0**	**-0.9**
AAK				pmax	pmax		
	comp=Z,62nm,1.2s						
AAK	**Ala-Archa**	**60.10**	**318**	*e*P	**P**	**17 07 59.0**	**-0.9**
	comp=Z,62nm,1.2s						
AAK	**Ala-Archa**	**60.10**	**318**	P	**P**	**17 08 00.6**	**+0.7**
	SNR=7.1						
AAK	**Ala-Archa**	**60.10**	**318**	P	**P**	**17 07 59.8**	**-0.1**
	SNR=8.1						
AAK	**Ala-Archa**	**60.10**	**318**	P	**P**	**17 07 59.8**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=116,slow=4.8,SNR=19						
ZAA0	**Zalesovo Array**	**60.29**	**333**	*e*P	**P**	**17 07 59.5**	**-1.2**
ZALV	**Zalesovo Beam**	**60.29**	**333**	P	**P**	**17 07 59.9**	**-0.8**
ZALV	**Zalesovo Beam**	**60.29**	**333**	P	**P**	**17 07 59.9**	**-0.8**
ZALV	**Zalesovo Beam**	**60.29**	**333**	P	**P**	**17 07 59.9**	**-0.8**
	comp=Z,15nm,0.5s,baz=131,slow=6.4,SNR=110						
USP	**Ospenovka**	**60.36**	**318**	P	**P**	**17 08 01.1**	**-0.4**
	SNR=23						
AML	**Almayashu**	**60.44**	**317**	P	**P**	**17 08 02.5**	**+0.1**
	SNR=33						
EKS2	**Erkin-Say**	**60.59**	**318**	*e*P	**P**	**17 08 02.6**	**-0.6**
EKS2				pmax	pmax		
	comp=Z,17nm,0.8s						
EKS2	**Erkin-Say**	**60.59**	**318**	*e*P	**P**	**17 08 02.6**	**-0.6**
	comp=Z,17nm,0.8s						
EKS2	**Erkin-Say**	**60.59**	**318**	P	**P**	**17 08 03.1**	**-0.1**
	SNR=24						
KURBB	**Kurchatov Arra**	**61.45**	**327**	P	**P**	**17 08 08.2**	**-0.5**
	comp=Z,34nm,0.7s,baz=123,slow=6.5,SNR=162						
KURK	**Kurchatov**	**61.45**	**327***ce*	P	**P**	**17 08 08.3**	**-0.4**
KURK				pmax	pmax		
	comp=Z,54nm,0.8s						
KURK	**Kurchatov**	**61.45**	**327**	*e*P	**P**	**17 08 08.1**	**-0.6**
	comp=Z,51nm,0.8s						
KURK	**Kurchatov**	**61.45**	**327**	P	**P**	**17 08 08.6**	**-0.1**
	SNR=13						
KURK	**Kurchatov**	**61.45**	**327**	P	**P**	**17 08 08.4**	**-0.3**
	comp=Z,402nm,0.6s,SNR=46						
NVS	**Novosibirsk**	**61.57**	**333**⇑	*i*P	**P**	**17 08 08.5**	**-0.9**
NVS				*e*		17 08 49.2	
NVS				*e*S	**S**	**17 16 24.6**	**-4.9**
NVS				pmax	pmax		
	comp=Z,19nm,0.6s						
NVS				pmax	pmax		
	comp=N,9.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,14nm,0.7s						
NVS				smax	smax		
	comp=E,6.0nm,1.3s						
SEY	**Seymchan**	**61.72**	**13**	*e*P	**P**	**17 08 11.5**	**+1.2**
RPZ	**Rata Peaks**	**62.04**	**145**	*e*P	**P**	**17 08 12.2**	**-0.6**
	comp=E,32nm,0.8s						
KK31	**Karatay Array**	**62.98**	**317**	*i*P	**P**	**17 08 18.4**	**-0.7**
KK31				pmax	pmax		
	comp=Z,18nm,0.8s						
KKAR	**Karatay Array**	**62.98**	**317**	*e*P	**P**	**17 08 17.9**	**-1.2**
KKAR				pmax	pmax		
	comp=Z,20nm,0.8s						
KKAR	**Karatay Array**	**62.98**	**317**	*e*P	**P**	**17 08 17.9**	**-1.2**
	comp=Z,20nm,0.8s						
BVA0	**Borovoye Array**	**67.03**	**327**	*i*P	**P**	**17 08 44.7**	**-0.6**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**67.03**	**327**	P	**P**	**17 08 44.7**	**-0.6**
BVAR	**Borovoye Array**	**67.03**	**327**	P	**P**	**17 08 44.7**	**-0.6**
BVAR	**Borovoye Array**	**67.03**	**327**	P	**P**	**17 08 44.7**	**-0.6**
	comp=Z,11nm,0.6s,baz=135,slow=10,SNR=40						
BRVK	**Borovoye**	**67.11**	**327**	*e*P	**P**	**17 08 44.9**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,23nm,0.7s						
BRVK	**Borovoye**	**67.11**	**327**	*e*P	**P**	**17 08 44.9**	**-0.8**
	comp=Z,23nm,0.7s						
BRVK	**Borovoye**	**67.11**	**327**	P	**P**	**17 08 45.8**	**0.0**
	comp=Z,200nm,0.6s,SNR=14						
BRVK	**Borovoye**	**67.11**	**327**	P	**P**	**17 08 45.7**	**0.0**
	SNR=8.1						
BILL	**Bilibino**	**69.25**	**15**⇓	*e*P	**P**	**17 08 59.5**	**+0.6**
BILL				*e*		17 11 30.0	
BILL				*e*S	**S**	**17 18 03.0**	**-0.1**
BILL				pmax	pmax		
	comp=Z,12nm,1.7s						
BILL				MLR	MLR		
	comp=Z,100nm,20.0s						
BILL	**Bilibino**	**69.25**	**15**	*e*P	**P**	**17 08 57.6**	**-1.3**
	comp=Z,8.6nm,1.0s						
ABKT	**Ailbek**	**70.67**	**309**	P	**P**	**17 09 09.2**	**+0.9**
	comp=Z,98nm,0.9s,SNR=6.7						
AB31	**Akbulak array**	**71.88**	**321**	*i*P	**P**	**17 09 14.1**	**-1.2**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ABKAR	**Akbulak array**	**71.88**	**321**	*e*P	**P**	**17 09 14.3**	**-1.0**
	comp=Z,8.4nm,0.7s						
AKTO	**Aktyubinsk**	**73.39**	**322**	P	**P**	**17 09 23.8**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKTO	**Aktyubinsk**	**73.39**	**322**	P	**P**	**17 09 23.9**	**-0.3**
AKTO	**Aktyubinsk**	**73.39**	**322**	P	**P**	**17 09 23.9**	**-0.3**
	comp=Z,20nm,0.7s,baz=100,slow=7.9,SNR=78						
SVE	**Sverdlovsk**	**73.67**	**328**⇓	*e*P	**P**	**17 09 25.4**	**-0.4**
SVE				pmax	pmax		
	comp=Z,21nm,0.8s						
ARU	**Arti**	**74.65**	**328***d*	*i*P	**P**	**17 09 30.9**	**-0.6**
ARU				S	**S**	**17 19 04.7**	**-0.9**
ARU				pmax	pmax		
	comp=Z,34nm,1.0s						
ARU	**Arti**	**74.65**	**328**	*e*P	**P**	**17 09 30.0**	**-1.5**
	comp=Z,25nm,0.6s						
ARU	**Arti**	**74.65**	**328**	P	**P**	**17 09 30.9**	**-0.6**
	comp=Z,258nm,0.5s,SNR=14						
SOKR	**Solikamsk**	**76.42**	**331**	*e*P	**P**	**17 09 41.6**	**+0.1**
SOKR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
QRN	**Al-Qurain**	**78.23**	**298**	*e*P	**P**	**17 09 50.5**	**-1.8**
QRN				AMb	AMB	17 09 52.4	
	comp=Z,43nm,0.8s						
KBD	**Kabd**	**78.44**	**299**	*e*P	**P**	**17 09 52.1**	**-1.5**
MIB	**Mutribah**	**78.77**	**299**	*e*P	**P**	**17 09 53.9**	**-1.4**
MIB				AMb	AMB	17 09 55.4	
	comp=Z,56nm,0.9s						
NAY	**Al-Naaiem**	**78.84**	**299**	*e*P	**P**	**17 09 53.9**	**-1.8**
NAY				AMb	AMB	17 09 55.7	
	comp=Z,22nm,1.0s						
GNI	**Garni**	**81.25**	**310**	*e*P	**P**	**17 10 06.3**	**-2.5**
	comp=Z,11nm,0.9s						
GNI	**Garni**	**81.25**	**310**	P	**P**	**17 10 09.5**	**+0.7**
	comp=Z,2.0nm,0.5s,baz=190,slow=17,SNR=2.8						
ZEI	**Tsey**	**81.98**	**312**	*e*P	**P**		
ZEI				pmax	pmax		
	comp=Z,17nm,0.8s						
KIV	**Kislovodsk**	**82.90**	**314**	*e*P	P	17 10 11.1	-6.1
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s						
KIV	**Kislovodsk**	**82.90**	**314**	*e*P	**P**	**17 10 17.0**	**-0.2**
SLKM	**Skilak Lake**	**83.08**	**30**	*e*P	**P**	**17 10 18.1**	**+0.4**
SLKM	**Skilak Lake**	**83.08**	**30**	*e*P	**P**	**17 10 18.1**	**+0.4**
PMR	**Palmer**	**83.67**	**29**	*e*P	**P**	**17 10 21.0**	**+0.3**
PMR	**Palmer**	**83.67**	**29**	*e*P	**P**	**17 10 21.0**	**+0.3**
VNDA	**Vanda**	**83.75**	**173**	*e*P	**P**	**17 10 20.8**	**0.0**
	comp=Z,14nm,1.0s						
VRHR	**Novokhopersk**	**83.77**	**321**	*e*P	**P**	**17 10 20.2**	**-1.2**
VRHR				pmax	pmax		
	comp=Z,20nm,0.8s						
VRHR				pmax	pmax		
	comp=N,2.0nm,0.4s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.8s						
COLA	**College**	**84.41**	**25**	P	**P**	**17 10 23.1**	**-1.3**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
COLA	**College**	**84.41**	**25**	P	**P**	**17 10 23.1**	**-1.3**
	comp=Z,7.1nm,0.8s						
ILAR	**Eielson Array**	**84.82**	**25**	P	**P**	**17 10 26.2**	**-0.3**
ILAR	**Eielson Array**	**84.82**	**25**	P	**P**	**17 10 26.2**	**-0.3**
	comp=Z,4.0nm,0.9s,baz=256,slow=4.8,SNR=28						
KLMR	**Klimovskoe**	**85.11**	**331***c*	*i*P	**P**	**17 10 27.9**	**-0.1**
KLMR				pmax	pmax		
	comp=Z,167nm,1.0s						
VORD	**Divnogorie**	**85.24**	**321**	*e*P	**P**	**17 10 28.1**	**-0.8**
VSR	**Storozhevoye**	**85.32**	**321**	*e*P	**P**	**17 10 28.1**	**-1.2**
VSR				pmax	pmax		
	comp=Z,20nm,0.9s						
VSR				pmax	pmax		
	comp=N,2.0nm,0.4s						
VSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
MOS	**Moscow**	**86.16**	**325**	*e*P	**P**	**17 10 32.2**	**-1.1**
MOS				pmax	pmax		
	comp=Z,84nm,1.3s						
MOS				pmax	pmax		
	comp=Z,100nm,1.3s						
OBN	**Obninsk**	**86.78**	**325**⇑	*e*P	**P**	**17 10 35.9**	**-0.4**
OBN				*e*S	SKSac	17 20 53.7	-7.7
OBN				pmax	pmax		
	comp=Z,116nm,1.7s						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s						
OBN	**Obninsk**	**86.78**	**325**	*e*P	**P**	**17 10 36.0**	**-0.4**
	comp=Z,89nm,1.1s						
ASF	**Jabal al Asfar**	**87.70**	**302**	P	**P**	**17 10 42.3**	**+0.8**
ASF	**Jabal al Asfar**	**87.70**	**302**	P	**P**	**17 10 42.3**	**+0.8**
	comp=Z,8.4nm,0.7s,baz=331,slow=4.5,SNR=14						
JOF	**Joensuu**	**88.88**	**333**	*e*P	**P**	**17 10 44.7**	**-1.5**
JOF				pmax	pmax		
	comp=Z,30nm,0.6s						
JOF	**Joensuu**	**88.88**	**333**	*e*p	**P**	**17 10 44.7**	**-1.5**
	comp=Z,30nm,0.6s						
MMAI	**Mount Meron Ar**	**88.91**	**303**	P	**P**	**17 10 47.7**	**+0.6**
MMAI	**Mount Meron Ar**	**88.91**	**303**	P	**P**	**17 10 47.7**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=84,slow=7.8,SNR=5.1						
KMBO	**Kilima Mbogo**	**89.53**	**269**	*e*P	**P**	**17 10 50.2**	**-0.5**
	comp=Z,11nm,1.1s						
EIL	**Elat**	**89.54**	**300**	P	**P**	**17 10 49.8**	**-0.3**
EIL	**Elat**	**89.54**	**300**	P	**P**	**17 10 49.8**	**-0.3**
	comp=Z,8.0nm,0.9s,baz=350,slow=3.0,SNR=10						
KEV	**Kevo**	**89.58**	**340**	*e*P	**P**	**17 10 47.7**	**-1.7**
KEV	**Kevo**	**89.58**	**340**	*e*p	**P**	**17 10 47.7**	**-1.7**
BR131	**Keskin Array S**	**89.79**	**310**	*e*P	**P**	**17 10 49.8**	**-1.5**
	comp=Z,6.7nm,0.8s						
ARCES	**ARCESS Array B**	**90.14**	**340**	P	**P**	**17 10 51.6**	**-0.4**
ARCES	**ARCESS Array B**	**90.14**	**340**	P	**P**	**17 10 51.6**	**-0.4**
	comp=Z,9.1nm,0.7s,baz=87,slow=7.0,SNR=51						
SPB4	**Spitsbergen Ar**	**90.16**	**349**	P	**P**	**17 10 50.6**	**-1.4**
KAF	**Kangasniemi**	**91.30**	**332**	*e*P	**P**	**17 10 56.8**	**-0.8**
KAF				pmax	pmax		
	comp=Z,10.0nm,0.4s						
KAF	**Kangasniemi**	**91.30**	**332**	*e*p	**P**	**17 10 56.8**	**-0.8**
	comp=Z,9.9nm,0.4s						
FINES	**FINESS Array B**	**91.53**	**332**	P	**P**	**17 10 58.5**	**-0.2**
FINES	**FINESS Array B**	**91.53**	**332**	P	**P**	**17 10 58.5**	**-0.2**
	comp=Z,9.3nm,0.7s,baz=56,slow=4.4,SNR=28						
AKASG	**Malin Array Be**	**91.62**	**321***ce*	P	**P**	**17 10 58.2**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,15nm,0.8s						
AKASG	**Malin Array Be**	**91.62**	**321**	P	**P**	**17 10 58.2**	**-1.1**
AKASG	**Malin Array Be**	**91.62**	**321**	P	**P**	**17 10 58.2**	**-1.1**
	comp=Z,15nm,0.8s,baz=69,slow=4.6,SNR=33						
NACGM	**Naroch**	**92.40**	**325**	*e*	**P**	**17 11 00.0**	**-2.8**
SYO	**Syowa Base**	**92.72**	**201**⇓	*e*P	**P**	**17 11 02.6**	**-1.3**
CFR	**Carcaliu**	**93.18**	**316**⇓	P	**P**	**17 11 05.4**	**-1.2**
CFR	**Carcaliu**	**93.18**	**316**⇓	*i*P	**P**	**17 11 05.4**	**-1.2**
QSPA	**South Pole Qui**	**93.96**	**180**	*e*P	**P**	**17 11 09.5**	**-0.4**
	comp=Z,8.8nm,1.1s						
QSPA	**South Pole Qui**	**93.96**	**180**	P	**P**	**17 11 09.7**	**-0.2**
	comp=Z,5.8nm,1.0s,baz=351,slow=2.8,SNR=10.0						
TESR		**93.98**	**317**⇓	*i*P	**P**	**17 11 10.2**	**-0.1**
VRI	**Vrincioaia**	**94.04**	**316**⇓	P	**P**	**17 11 10.9**	**+0.3**
VRI	**Vrincioaia**	**94.04**	**316**⇓	*i*P	**P**	**17 11 10.9**	**+0.3**
PLOR	**Plostina**	**94.10**	**316**⇓	P	**P**	**17 11 10.9**	**0.0**
PLOR	**Plost

UPC	**Upice**	**99.84**	**323**	*e*P	**Pdif**	**17**	**11**	**37.2 +0.4**
UPC	**Upice**	**99.84**	**323**	*e*PDIFF	**Pdif**	**17**	**11**	**37.2 +0.4**
TREC	**Trest**	**100.56**	**322**	*e*P	**Pdif**	**17**	**11**	**40.6 +0.6**
TREC	**Trest**	**100.56**	**322**	*e*PDIFF	**Pdif**	**17**	**11**	**40.6 +0.6**
PVCC	**Panska Ves**	**100.71**	**323**	*e*P	**Pdif**	**17**	**11**	**41.3 +0.7**
PVCC	**Panska Ves**	**100.71**	**323**	*e*PDIFF	**Pdif**	**17**	**11**	**41.3 +0.7**
PRU	**Pruhonice**	**100.91**	**322**	*e*P	**Pdif**	**17**	**11**	**41.5 0.0**
PRU	**Pruhonice**	**100.91**	**322**	*e*PDIFF	**Pdif**	**17**	**11**	**41.5 0.0**
BRG	**Berggiesshubel** comp=Z,15nm,0.9s	**100.96**	**323**	*e*P	**Pdif**	**17**	**11**	**42.2 +0.5**
BRG	**Berggiesshubel**	**100.96**	**323**	*e*Pdiff	**Pdif**	**17**	**11**	**42.3 +0.5**
BRG	**Berggiesshubel**	**100.96**	**323**	*e*P	**Pdif**	**17**	**11**	**42.2 +0.5**
BRG	comp=Z,15nm,0.9s			pmax	pmax			
CLL	**Collm**	**101.36**	**324**	*e*Pdiff	**Pdif**	**17**	**11**	**43.8 +0.3**
CLL	**Collm**	**101.36**	**324**	*i* P	**Pdif**	**17**	**11**	**43.5 0.0**
CLL	comp=Z,6.0nm,1.0s			pmax	pmax			
CLL	**Collm** comp=Z,6.0nm,1.0s	**101.36**	**324**	*i* Pdif	**Pdif**	**17**	**11**	**43.5 0.0**
KHC	**Kasperske Hory**	**101.79**	**322**	*e*P	**Pdif**	**17**	**11**	**45.3 -0.2**
KHC	**Kasperske Hory**	**101.79**	**322**	*e*PDIFF	**Pdif**	**17**	**11**	**45.3 -0.2**
GEC2	**GERESS Array S**	**101.81**	**322**	*e*Pdiff	**Pdif**	**17**	**11**	**46.1 +0.4**
GERES	**GERESS Array B**	**101.81**	**322**	P	**Pdif**	**17**	**11**	**45.8 +0.1**
GERES	**GERESS Array B** comp=Z,3.4nm,0.9s,baz=69,slow=4.9,SNR=19	**101.81**	**322**	P	**Pdif**	**17**	**11**	**45.8 +0.1**
TANN	**Tannenbergstha**	**102.01**	**323**	*e*Pdiff	**Pdif**	**17**	**11**	**47.0 +0.5**
NKC	**Novy Kostel**	**102.08**	**323**	*e*P	**Pdif**	**17**	**11**	**47.1 +0.3**
NKC	**Novy Kostel**	**102.08**	**323**	*e*PDIFF	**Pdif**	**17**	**11**	**47.1 +0.3**
WERD	**Werda**	**102.09**	**323**	*e*Pdiff	**Pdif**	**17**	**11**	**47.3 +0.5**
GUNZ	**Gunzen**	**102.10**	**323**	*e*Pdiff	**Pdif**	**17**	**11**	**47.6 +0.7**
WERN	**Wernitzgruen**	**102.11**	**323**	*e*Pdiff	**Pdif**	**17**	**11**	**47.6 +0.7**
PLN	**Plauen**	**102.16**	**324**	*e*Pdiff	**Pdif**	**17**	**11**	**47.7 +0.6**
ROTZ	**Rotzenmuhle**	**102.40**	**323**	*e*Pdiff	**Pdif**	**17**	**11**	**49.2 +1.0**
GRF	**Grafenberg Arr**	**103.02**	**323**	*e*Pdiff	**Pdif**	**17**	**11**	**51.8 +0.9**
NVAR	**Mina Array Bea**	**106.71**	**48**	PKKP	**PKKPdf**	**17**	**27**	**49.4 -0.8**
NVAR	**Mina Array Bea** comp=Z,0.7nm,0.6s,baz=202,slow=2.4,SNR=4.2	**106.71**	**48**	PKKP	**PKKPdf**	**17**	**27**	**49.4 -0.8**
TPAW	**Teton Pass**	**109.89**	**41**	*e*P	**Pdif**	**17**	**12**	**20.6 -1.4**
PDAR	**Pinedale Array**	**111.13**	**41**	PKKPbc	PKKPbc	17	27	22.1 -2.2
PDAR				PKKPab	**PKKPab**	**17**	**27**	**31.6 -2.2**
PDAR	**Pinedale Array** comp=Z,0.8nm,0.9s,baz=145,slow=5.4,SNR=5.0	**111.13**	**41**	PKKPbc	PKKPbc	17	27	22.1 -2.2
PDAR	comp=Z,1.1nm,0.9s,baz=122,slow=5.6,SNR=7.1			PKKPab	**PKKPab**	**17**	**27**	**31.6 -2.2**
S22A	**4UR Ranch, Cre** baz=115	**115.29**	**45**	⇓P	**PKPdf**	**17**	**16**	**33.9 -0.7**
Y20A	**Horse Springs,** baz=116	**115.84**	**49**	⇓P	**PKPdf**	**17**	**16**	**34.5 -1.3**
P26A	**Davis Ranch, A** baz=117	**116.78**	**42**	⇑P	**PKPdf**	**17**	**16**	**37.7 +0.5**
ANMO	**Albuquerque**	**116.82**	**47**	PKP	**PKPdf**	**17**	**16**	**39.6 +2.1**
ANMO	**Albuquerque** comp=Z,1.1nm,0.4s,baz=203,slow=1.4,SNR=3.1	**116.82**	**47**	PKP	**PKPdf**	**17**	**16**	**39.6 +2.1**
R26A	**Arlington** baz=117	**117.36**	**43**	⇑P	**PKPdf**	**17**	**16**	**37.4 -1.0**
MNTX	**Cornudas Mount** baz=119	**119.06**	**50**	⇑P	**PKPdf**	**17**	**16**	**42.5 +0.8**
425A	**Indio Mountain** baz=120	**119.76**	**51**	⇓P	**PKPdf**	**17**	**16**	**43.6 +0.3**
SCHQ	**Schefferville**	**120.25**	**9**	PKP	**PKPdf**	**17**	**16**	**44.0 +0.7**
SCHQ	**Schefferville** comp=Z,1.9nm,0.5s,baz=17,slow=3.0,SNR=9.4	**120.25**	**9**	PKP	**PKPdf**	**17**	**16**	**44.0 +0.7**
527A	**Woodward Ranch** comp=Z,1.0nm,0.8s,baz=48,slow=1.8,SNR=4.5	**121.11**	**51**	⇓P	**PKPdf**	**17**	**16**	**46.4 +0.6**
428A	**Kincaid Ranch,** baz=122	**121.56**	**50**	⇓P	**PKPdf**	**17**	**16**	**46.4 -0.2**
627A	**Terlingua Ranc** baz=122	**121.59**	**52**	⇓P	**PKPdf**	**17**	**16**	**47.4 +0.7**
TORD	**Torodi Ar. Bea**	**122.79**	**288**	PKP	**PKPdf**	**17**	**16**	**48.7 -0.5**
TORD	**Torodi Ar. Bea** comp=Z,2.7nm,0.6s,baz=51,slow=2.0,SNR=20	**122.79**	**288**	PKP	**PKPdf**	**17**	**16**	**48.7 -0.5**
JCT	**Junction City** baz=124	**123.87**	**49**	⇓P	**PKPdf**	**17**	**16**	**51.4 +0.5**
DBIC	**Dimbokro**	**130.48**	**282**	PKP	**PKPdf**	**17**	**17**	**04.5 +0.5**
DBIC	**Dimbokro** comp=Z,2.4nm,0.6s,baz=148,slow=18,SNR=5.6	**130.48**	**282**	PKP	**PKPdf**	**17**	**17**	**04.5 +0.5**
JTS	**JuntasAbangare**	**145.40**	**65**	PKPbc	**PKPab**	**17**	**17**	**31.9 +0.5**
JTS	**JuntasAbangare** comp=Z,10nm,0.9s,baz=204,slow=10.0,SNR=4.0	**145.40**	**65**	PKPbc	**PKPab**	**17**	**17**	**31.9 +0.5**
CFAA	**Coronel Fontan**	**149.21**	**155**	PKP	**PKPdf**	**17**	**17**	**37.4 +0.2**
CFAA				PKPbc	**PKPbc**	**17**	**17**	**41.2 -0.2**
CFAA	**Coronel Fontan** comp=Z,0.6nm,0.7s,baz=252,slow=3.2,SNR=3.2	**149.21**	**155**	PKP	**PKPdf**	**17**	**17**	**37.4 +0.2**
CFAA	comp=Z,0.4nm,0.6s,baz=248,slow=2.3,SNR=5.3			PKPbc	**PKPbc**	**17**	**17**	**41.2 -0.2**
CPUP	**Villa Florida**	**157.52**	**171**	PKPab	**PKPab**	**17**	**18**	**21.6 +0.9**
CPUP	**Villa Florida** comp=Z,5.1nm,0.9s,baz=198,slow=3.4,SNR=6.5	**157.52**	**171**	PKPab	**PKPab**	**17**	**18**	**21.6 +0.9**
SIV	**San Ignacio**	**165.89**	**148**	PKPab	**PKPab**	**17**	**18**	**58.1 +0.5**
SIV	**San Ignacio** comp=Z,0.4nm,0.5s,baz=225,slow=6.2,SNR=3.2	**165.89**	**148**	PKPab	**PKPab**	**17**	**18**	**58.1 +0.5**

IDC ***12*** *17:03:27.9±1.4,3.79N×126.03E,h0km,mb3.8/5,*
mb1 3.8*/5,****mb1mx3.6****/19,****mbtmp3.8****/5,****Error ellipse:***
s-maj=188.0km s-min=20.3km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
ASAR	**Alice Springs** 0.3nm,0.4s,baz=338,slow=6.8,SNR=2.7	**28.35**	**165**	P	P	17	09	25.2 +1.4
STKA	**Stephens Creek** 3.2nm,0.6s,baz=344,slow=7.2,SNR=4.4	**38.44**	**158**	P	P	17	10	49.9 -1.6
SONM	**Songino Array** 0.7nm,0.9s,baz=152,slow=6.6,SNR=2.7	**47.02**	**342**	P	P	17	12	01.6 +0.5
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=114,slow=7.5,SNR=4.1	**57.11**	**326**	P	P	17	13	15.9 -0.3
KURBB	**Kurchatov Arra** 0.8nm,0.6s,baz=128,slow=6.9,SNR=4.5	**61.31**	**328**	P	P	17	13	45.0 -0.3

IDC ***12*** *17:04:54.7±1.1,3.98N×126.54E,h0km,****mb3.9****/8,*
mb1 4.0*/8,****mb1mx3.8****/20,****mbtmp3.9****/8,****Error ellipse:***
s-maj=107.5km s-min=16.8km az=72.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
FITZ	**Fitzroy Crossi** 1.6nm,0.4s,baz=0.2,slow=8.2,SNR=7.4	**21.96**	**182**	P	P	17	09	50.5 +0.3
ASAR	**Alice Springs** 0.5nm,0.3s,baz=342,slow=7.1,SNR=5.3	**28.40**	**166**	P	P	17	10	50.8 -0.3
STKA	**Stephens Creek** 1.4nm,0.3s,baz=333,slow=11,SNR=8.6	**38.43**	**159**	P	P	17	12	18.3 +0.1
SONM	**Songino Array** 0.3nm,0.6s,baz=153,slow=8.1,SNR=2.4	**47.00**	**341**	P	P	17	13	29.0 +1.2
MKAR	**Makanchi Array** 0.6nm,0.4s,baz=119,slow=7.5,SNR=11	**57.24**	**325**	P	P	17	14	44.1 +0.1
MKAR	0.8nm,0.8s,baz=107,slow=4.1,SNR=4.2			PcP	PcP	17	15	38.6 +0.2
ZALV	**Zalesovo Beam** 0.7nm,0.4s,baz=118,slow=6.5,SNR=4.1	**60.28**	**333**	P	P	17	15	04.0 -0.9
KURBB	**Kurchatov Arra** 1.0nm,0.6s,baz=123,slow=6.5,SNR=5.8	**61.43**	**327**	P	P	17	15	12.5 -0.3
ARCES	**ARCESS Array B** 1.4nm,0.8s,baz=76,slow=7.5,SNR=3.7	**90.15**	**340**	P	P	17	17	55.2 -1.4

IDC ***12*** *17:06:39.3±1.4,3.57N×126.29E,h0km,****mb3.7****/7,*
mb1 3.8*/7,****mb1mx3.6****/21,****mbtmp3.7****/7,****Error ellipse:***
s-maj=170.0km s-min=19.6km az=67.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
ASAR	**Alice Springs** 0.4nm,0.3s,baz=339,slow=12,SNR=5.6	**28.07**	**165**	P	P	17	12	32.8 +0.1
STKA	**Stephens Creek** 2.7nm,0.7s,baz=322,slow=5.2,SNR=4.3	**38.14**	**159**	P	P	17	14	00.1 -0.3
SONM	**Songino Array** 0.3nm,0.6s,baz=160,slow=6.8,SNR=2.8	**47.31**	**342**	P	P	17	15	14.3 -0.6
MKAR	**Makanchi Array** 0.5nm,0.4s,baz=120,slow=7.8,SNR=6.9	**57.44**	**326**	P	P	17	16	29.0 -1.0
MKAR	0.2nm,0.7s,baz=132,slow=5.2,SNR=2.4			PcP	PcP	17	17	23.6 -0.2
KURBB	**Kurchatov Arra** 0.9nm,0.5s,baz=131,slow=6.4,SNR=7.6	**61.64**	**328**	P	P	17	16	59.4 +0.6
BVAR	**Borovoye Array** 0.3nm,0.4s,baz=134,slow=8.3,SNR=3.1	**67.22**	**327**	P	P	17	17	36.3 +1.0
AKTO	**Aktyubinsk** 0.6nm,0.6s,baz=135,slow=7.1,SNR=3.3	**73.51**	**322**	P	P	17	18	13.6 -0.3

CASC ***12*** *17:09:46.3±2.3, 15.08N×93.39W,h172km±39km,MD4.8*
ISCJB ***12*** *17:09:47.1±1.4, 14.23N±0.05×93.52W±0.03,h11km±10km,*
mb4.0/8,MS3.7/4, Error ellipse: s-maj=7.8km s-min=4.0km
az=14.0
MEX ***12*** *17:09:51.0±1.1, 14.16N×93.48W,h16km±18km,MD4.0*
IDC ***12*** *17:09:52.4±5.3, 14.36N×93.11W,h33km±39km,mb3.8/7,*
mb1 4.2/11,mb1mx3.9/25,mbtmp3.9/11,ML4.0/3,MS3.8/5,
Ms1 3.8/5,ms1mx3.3/33, Error ellipse: s-maj=41.0km
s-min=18.7km az=48.0
ISC 12 17:09:47.3±1.9, 14.31N±0.06×93.44W±0.04, h2km±11km,
n36,σ1.953/48, mb4.1/8, MS3.6/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
THIG		**1.28**	**62**	*i* P	**Pg**	**17**	**10**	**11.6 -0.3**
THIG				*i* S	**Sg**	**17**	**10**	**28.9 +0.3**
PCIG		**1.41**	**9**	*e*P	**Pn**	**17**	**10**	**13.5 -0.5**
PCIG				*i* S	**Sg**	**17**	**10**	**32.3 -0.3**
CCIG	**Comitan**	**2.33**	**32**	*e*P	**Pn**	**17**	**10**	**28.4 +1.6**
CCIG				*i* S	**Sn**	**17**	**10**	**56.2 +0.1**
TP2	**Tecpan 2**	**2.39**	**78**	*e*P	**Pn**	**17**	**10**	**28.9 +1.1**
TP2				*e*S	**Sb**	**17**	**11**	**00.6 -0.7**
TGIG		**2.48**	**7**	*e*P	**Pn**	**17**	**10**	**30.4 +1.7**
TGIG				*i* S	**Sn**	**17**	**11**	**00.8 +1.2**
FUG	**Fuego 3**	**2.52**	**86**	*e*P	**Pn**	**17**	**10**	**29.4 0.0**
FUG				*e*S	**Sb**	**17**	**11**	**04.0 -0.9**
SCX	**San Cristobal**	**2.54**	**18**	*i* P	**Pb**	**17**	**10**	**32.5 -1.1**
SCX				*i* S	**Sb**	**17**	**11**	**04.2 -1.0**
PCG	**Pacaya**	**2.74**	**88**	*e*P	**Pn**	**17**	**10**	**34.0 +1.4**
PCG				*e*S	**Sn**	**17**	**11**	**08.4 +1.9**
IXG	**Ixpaco**	**2.89**	**92**	*e*P	**Pn**	**17**	**10**	**35.3 +0.7**
IXG				*e*S	**Sb**	**17**	**11**	**16.9 +1.2**
HUIG	**Huatulco**	**2.96**	**300**	*i* P	**Pn**	**17**	**10**	**35.2 -0.2**
HUIG				*i* S	**Sn**	**17**	**11**	**09.0 -2.5**
CMIG	**Matias Romero**	**3.10**	**333**	*i* P	**Pn**	**17**	**10**	**38.5 +1.3**
CMIG				*i* S	**Sn**	**17**	**11**	**15.6 +0.7**
CMIG	**Matias Romero** 8.7nm,0.3s,baz=83,slow=8.1,SNR=4.8	**3.10**	**333**	Pn	**Pn**	**17**	**10**	**38.6 +1.4**
CMIG	42nm,0.3s,baz=107,slow=11,SNR=4.8			Sn	**Sn**	**17**	**11**	**11.9 -3.0**
RBDL	**Robledal**	**3.64**	**93**	*e*P	**Pn**	**17**	**10**	**44.7 -0.1**
RTR	**El Retiro**	**3.70**	**96**	*e*P	**Pn**	**17**	**10**	**45.3 -0.4**
MRL	**Marmol**	**3.70**	**78**	*e*P	Pn	17	10	42.5 -3.2
MRL				*e*S	**Sn**	**17**	**11**	**26.6 -3.4**
SNJE	**San Jose**	**3.74**	**96**	*e*P	**Pn**	**17**	**10**	**45.8 -0.5**
MTO2	**Montecristo 2**	**3.95**	**88**	*e*P	**Pn**	**17**	**10**	**49.7 +0.6**
VHO	**Vista Hermosa**	**4.20**	**311**	*i* P	**Pn**	**17**	**10**	**52.5 -0.1**
VHO				*i* S	**Sn**	**17**	**11**	**42.2 -0.1**
PNIG	**Pinotepa**	**4.98**	**295**	*i* P	**Pn**	**17**	**11**	**04.0 +0.9**
PNIG				*i* S	**Sn**	**17**	**12**	**00.1 -1.2**
UTMO	**Huajuapan**	**5.47**	**310**	*i* P	**Pn**	**17**	**11**	**11.0 +1.0**
UTMO				*i* S	**Sn**	**17**	**12**	**12.8 -0.9**
TEIG	**Tepich** 12nm,0.3s,baz=359,slow=23,SNR=12	**7.68**	**39**	Pn	**Pn**	**17**	**11**	**40.4 +0.2**
TEIG	4.8nm,0.3s,baz=17,slow=19,SNR=2.9			Sn	**Sn**	**17**	**13**	**03.3 -4.4**
TEIG	comp=Z,686nm,21.6s,baz=141,slow=41			LR	LR	17	14	59.5
JTS	**JuntasAbangare** baz=292,slow=19,SNR=2.0	**9.20**	**115**	Pn	**Pn**	**17**	**12**	**00.2 -1.0**
JTS	baz=100,slow=20,SNR=6.3			Lg	Lg	17	14	25.1
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=155,slow=9.2,SNR=13	**17.70**	**329**	P	**P**	**17**	**13**	**58.8 +2.7**
ROSC	**El Rosal** 6.2nm,0.5s,baz=94,slow=24,SNR=3.6	**21.03**	**115**	P	**P**	**17**	**14**	**36.0 +3.0**
TKL	**Tuckaleechee C** comp=Z,175nm,18.2s,baz=15,slow=42	**22.96**	**21**	LR	LR	17	25	41.0
ANMO	**Albuquerque** 1.8nm,0.8s,baz=144,slow=8.7,SNR=3.3	**23.67**	**333**	P	**P**	**17**	**15**	**01.7 +1.2**
PDAR	**Pinedale Array** 1.0nm,0.9s,baz=151,slow=6.8,SNR=6.4	**31.58**	**337**	P	**P**	**17**	**16**	**13.0 +1.4**
NVAR	**Mina Array Bea** 2.2nm,0.8s,baz=135,slow=7.8,SNR=12	**32.57**	**322**	P	P	17	16	23.4 +3.2
SADO	**Sadowa** comp=Z,135nm,20.1s,baz=230,slow=38	**32.70**	**19**	LR	LR	17	30	42.1
ULM	**Lac du Bonnet** 0.9nm,0.3s,baz=171,slow=10,SNR=4.1	**35.90**	**357**	P	**P**	**17**	**16**	**47.0 -1.8**
LPAZ	**La Paz** comp=Z,87nm,21.9s,baz=296,slow=33	**39.36**	**140**	LR	LR	17	31	20.2
SIV	**San Ignacio** 1.0nm,0.7s,baz=336,slow=12,SNR=4.4	**43.92**	**132**	P	**P**	**17**	**17**	**54.0 -1.9**
SCHQ	**Schefferville** comp=Z,197nm,20.5s,baz=248,slow=37	**45.43**	**21**	LR	LR	17	37	59.5
YKA	**Yellowknife Ar** 4.9nm,0.7s,baz=152,slow=7.4,SNR=61	**50.42**	**347**	P	**P**	**17**	**18**	**46.1 +0.2**
YKA	0.3nm,0.7s,baz=159,slow=3.0,SNR=2.8			PcP	**PcP**	**17**	**20**	**04.0 -0.3**
ILAR	**Eielson Array** 1.5nm,0.9s,baz=132,slow=4.3,SNR=12	**62.01**	**337**	P	**P**	**17**	**20**	**09.8 +1.0**
CMAR	**Chiang Mai Arr** 2.2nm,0.8s,baz=337,slow=3.6,SNR=16	**145.23**	**339**	PKPbc	**PKPbc**	**17**	**29**	**27.2 +0.1**

IDC ***12*** *17:10:36.8±0.9, 3.91N×126.47E,h0km,****mb3.7****/6,*
mb1 3.8*/6,****mb1mx3.5****/20,****mbtmp3.7****/6,****Error ellipse:***
s-maj=53.8km s-min=18.2km az=76.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
FITZ	**Fitzroy Crossi** 2.6nm,0.7s,baz=5.2,slow=11,SNR=6.6	**21.89**	**182**	P	P	17	15	32.5 +0.9
ASAR	**Alice Springs** 0.4nm,0.3s,baz=352,slow=7.8,SNR=13	**28.35**	**166**	P	P	17	16	32.8 0.0
ASAR	0.3nm,0.4s,baz=350,slow=2.1,SNR=6.4			PcP	PcP	17	19	47.1 +1.2
STKA	**Stephens Creek** 1.7nm,0.6s,baz=335,slow=11,SNR=5.8	**38.39**	**159**	P	P	17	17	58.4 -1.7
PETK	**Petropavlovsk-** 9.9nm,1.1s,baz=181,slow=8.1,SNR=3.2	**55.36**	**22**	P	P	17	20	12.8 +0.2
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=132,slow=7.8,SNR=3.3	**57.26**	**325**	P	P	17	20	25.8 -0.5
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=125,slow=8.0,SNR=4.0	**61.45**	**327**	P	P	17	20	54.8 -0.3

IDC ***12*** *17:17:45.4±0.6, 3.63N×126.74E,h0km,mb4.4/24,*
mb1 4.4/24,mb1mx4.4/26,mbtmp4.4/24,MS3.7/6,
Ms1 3.8/6,ms1mx3.3/44, Error ellipse: s-maj=23.3km
s-min=12.7km az=71.0
BJI ***12*** *17:17:46.5, 3.45N×126.70E,h29km,mB5.1/14,mb4.7/32,*
Ms4.5/10,Ms7 4.4/10
ISCJB ***12*** *17:17:50.7±0.3, 3.61N±0.04×126.82E±0.07,h53km,*
mb4.6/45,MS3.9/10, Error ellipse: s-maj=11.1km
s-min=4.4km az=155.3
NEIC ***12*** *17:17:50.4±0.2, 3.60N×126.75E,h35km,mb4.8/20, Error*
ellipse: s-maj=9.2km s-min=5.3km az=76.0
DJA ***12*** *17:17:57, 3.46N×126.95E,h46km,mb4.7/12*
ISC 12 17:17:52.3±0.4, 3.63N±0.06×126.75E±0.09, h53km, n113,
σ1.335/102, mb4.6/43, MS3.9/10, 1C-3D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
TNTI	**Ternate**	**2.91**	**168**	P	**Pn**	**17**	**18**	**38.2 +2.0**
GSPH	**General Santos**	**3.03**	**324**⇑	*e*P	**Pn**	**17**	**18**	**39.9 +2.0**
MATI	**Mati**	**3.33**	**352**	*e*P	**Pn**	**17**	**18**	**43.6 +1.6**
DAV	**Davao City (W)**	**3.61**	**341**	Pn	**Pn**	**17**	**18**	**47.6 +1.8**
DAV				Sn	Sn	17	19	38.7 +11
DAV	**Davao City (W)** 42nm,0.3s,baz=153,slow=6.4,SNR=6.4	**3.61**	**341**	Pn	**Pn**	**17**	**18**	**47.6 +1.8**
DAV	33nm,0.3s,baz=53,slow=16,SNR=4.0			Sn	Sn	17	19	38.7 +11
DMPH	**Davao City--Mi**	**3.65**	**340**	*e*P	**Pn**	**17**	**18**	**48.1 +1.8**
KCP	**Kidapawan**	**3.74**	**334**⇓	*e*P	Pn	17	18	36.5 -11
KCP				*i* S	Sn	17	19	42.7 +12
LBMI	**Labuha**	**4.31**	**170**	P	Pn	17	19	03.2 +7.8
BUKP	**Musuan**	**4.54**	**338**	*e*P	**Pn**	**17**	**18**	**60.0 +1.3**
CGP	**Cagayan de Oro**	**5.21**	**337**⇓	*e*P	Pn	17	19	11.0 +3.2
PAGZ	**Pagadian**	**5.37**	**321**	*e*P	**Pn**	**17**	**19**	**12.1 +2.2**
BUTP	**Butuan**	**5.42**	**348**	*e*P	Pn	17	19	14.2 +3.5
MRSI	**Marisa** 164nm,1.0s,2μm0.6nm	**5.74**	**237**	P	Pn	17	19	21.3 +6.3
LUWI	**Luwuk**	**6.11**	**221**	P	Pn	17	19	33.5 +13
SWI	**Sorong** 116nm,1.0s,1μm0.4nm	**6.34**	**135**	P	**Pn**	**17**	**19**	**22.7 -0.6**
MSLP	**Maasin**	**6.73**	**344**	*e*P	Pn	17	19	34.5 +5.9
MYLDM	**Lahad Datu** 74nm,1.2s,0.3nm	**8.37**	**281**	P	Pn	17	20	01.2 +10
FAKI	**Fak Fak** 64nm,0.8s,596nm0.2nm	**8.52**	**140**	P	**Pn**	**17**	**19**	**54.2 +1.1**
TTSI	**Tana Toraja**	**9.59**	**226**	P	Pn	17	20	32.9 +25
KKM	**Kota Kinabalu** 15nm,0.6s	**10.77**	**283**	*e*P	Pn	17	20	27.5 +3.4
KKM	**Kota Kinabalu** 29nm,1.1s,472nm	**10.77**	**283**	P	Pn	17	20	30.6 +6.5
TLE	**Tual** 71nm,1.6s	**10.98**	**147**	P	Pn	17	20	29.7 +2.9
SBUM	**Sibu** 16nm,1.7s	**14.56**	**266**	P	**P**	**17**	**21**	**22.4 +1.7**
STKI	**Sintang**	**15.67**	**257**	P	P	17	21	44.7 +12
KSM	**Kuching** 18nm,0.9s	**16.57**	**263**	*e*P	**Pn**	**17**	**21**	**40.1 -1.1**
KSM	**Kuching** 19nm,1.2s	**16.57**	**263**	P	P	17	21	49.8 +6.8
GRJI	**Gresik**	**17.68**	**234**	P	P	17	22	05.0 +10
KNRA	**Kununurra** 265nm,0.6s	**19.29**	**174**	*e*P	**Pn**	**17**	**22**	**13.8 -0.6**
TPUB	**Ta-pu** 49nm,0.8s	**20.43**	**344**	*e*P	**P**	**17**	**22**	**23.1 -2.3**
GUMO	**Guam** comp=Z,82nm,19.5s,baz=123,slow=33	**20.44**	**60**	LR	LR	17	28	56.1
FITZ	**Fitzroy Crossi** 9.5nm,0.7s	**21.62**	**183**	*e*P	**P**	**17**	**22**	**37.4 -0.8**
FITZ	**Fitzroy Crossi** 22nm,0.8s	**21.62**	**183**	*e*P	**P**	**17**	**22**	**37.8 -0.4**
FITZ	**Fitzroy Crossi** 3.3nm,0.5s,baz=21,slow=9.0,SNR=6.8	**21.62**	**183**	P	**P**	**17**	**22**	**36.1 -2.0**
WRAB	**Tennant Creek** 46nm,1.0s	**24.58**	**163**	*e*P	**P**	**17**	**23**	**06.6 -1.0**
MBWA	**Marble Bar**	**25.58**	**195**	*e*P	**P**	**17**	**23**	**14.4 -2.3**
QIS	**Mount Isa**	**27.15**	**153**	*e*P	**P**	**17**	**23**	**30.4 -0.4**
PSI	**Prapat** comp=Z,148nm,19.1s,baz=270,slow=41	**27.80**	**269**	LR	LR	17	36	34.3
AS31	**Alice Springs**	**28.01**	**166**	*e*P	**P**	**17**	**23**	**38.1 -0.4**
ASAR	**Alice Springs**	**28.01**	**166**	P	**P**	**17**	**23**	**38.1 -0.4**
ASAR	**Alice Springs** 2.1nm,0.7s,baz=351,slow=7.8,SNR=27	**28.01**	**166**	P	**P**	**17**	**23**	**38.1 -0.4**
WHN	**Wuhan**	**29.22**	**338**	⇓P	**P**	**17**	**23**	**49.7 +0.5**
WHN	comp=Z,960nm,20.6s			LR	LR			
JNU	**Nakatsue**	**29.59**	**7**	P	**P**	**17**	**23**	**50.8 -1.7**
JNU	**Nakatsue** comp=Z,9.4nm,0.9s,baz=146,slow=2.3,SNR=4.2	**29.59**	**7**	P	**P**	**17**	**23**	**50.8 -1.7**
CMAR	**Chiang Mai Arr**	**30.94**	**301**	P	**P**	**17**	**24**	**05.0 +0.5**
CMAR	**Chiang Mai Arr** comp=Z,4.1nm,1.0s,baz=120,slow=7.6,SNR=20	**30.94**	**301**	P	**P**	**17**	**24**	**05.0 +0.5**
CMAR	comp=Z,175nm,18.7s,baz=236,slow=41			LR	LR	17	38	51.0
CHTO	**Chiang Mai** comp=Z,6.6nm,0.9s	**31.09**	**301**	*e*P	**P**	**17**	**24**	**06.6 +0.7**
ENH	**Enshi** comp=Z,42nm,1.3s	**31.12**	**330**	*e*P	**P**	**17**	**24**	**05.2 -0.8**
KSAR	**Wonju Array Be**	**33.67**	**2**	P	**P**	**17**	**24**	**27.8 -0.4**
KSRS	**Korea Array** comp=Z,2.4nm,0.7s,baz=184,slow=12,SNR=5.7	**33.68**	**2**	P	**P**	**17**	**24**	**27.8 -0.5**
MJAR	**Matsushiro Arr**	**34.41**	**16**	P	**P**	**17**	**24**	**34.4 -0.3**
MJAR	**Matsushiro Arr** comp=Z,0.9nm,0.5s,baz=200,slow=10,SNR=5.1	**34.41**	**16**	P	**P**	**17**	**24**	**34.4 -0.3**
MJAR	comp=Z,181nm,19.9s,baz=195,slow=36			LR	LR	17	38	20.6
XAN	**Xi'an**	**34.51**	**333**		**P**	**17**	**24**	**34.2 -1.5**
XAN				pP	**pP**	**17**	**24**	**45.4 -3.9**
XAN	comp=Z,7.0nm,1.1s			pmax	pmax			
XAN	comp=Z,26nm,7.2s			pmax	pmax			
HNR	**Honiara** comp=Z,134nm,20.9s,baz=72,slow=33	**35.53**	**112**	LR	LR	17	37	19.4
EIDS	**Eidsvold** comp=Z,42nm,0.8s	**37.26**	**142**	*e*P	**P**	**17**	**24**	**58.8 -0.4**
BJT	**Baijiatu

comp=Z,7.5nm,1.1s
KURBB **Kurchatov Arra** 61.83 327 P P 17 28 06.1 +0.2
comp=Z,7.6nm,0.7s,baz=125,slow=6.1,SNR=43
KURK **Kurchatov** 61.84 328 P P 17 28 06.1 +0.2
KKAR **Karatay Array** 63.32 317 *eP* P 17 28 17.4 +1.4
comp=Z,2.7nm,0.7s
BVAR **Borovoye Array** 67.41 327 P P 17 28 42.3 0.0
BVAR **Borovoye Array** 67.41 327 P P 17 28 42.3 0.0
comp=Z,6.3nm,0.8s,baz=130,slow=6.5,SNR=27
BRVK **Borovoye** 67.49 327 *eP* P 17 28 43.0 +0.3
comp=Z,18nm,1.0s
ABKAR **Akbulak array** 72.24 321 *eP* P 17 29 12.1 +0.1
comp=Z,6.8nm,0.8s
AKTO **Aktyubinsk** 73.75 322 P P 17 29 22.1 +1.2
AKTO **Aktyubinsk** 73.75 322 P P 17 29 22.1 +1.2
comp=Z,6.3nm,0.9s,baz=99,slow=7.9,SNR=14
ARU **Arti** 75.03 328 *eP* P 17 29 28.7 +0.4
comp=Z,9.5nm,0.9s
ILAR **Eielson Array** 85.18 25 P P 17 30 22.9 +0.1
ILAR **Eielson Array** 85.18 25 P P 17 30 22.9 +0.1
comp=Z,2.2nm,1.1s,baz=229,slow=7.5,SNR=5.8
ARCES **ARCESS Array B** 90.55 340 P P 17 30 48.4 0.0
ARCES **ARCESS Array B** 90.55 340 P P 17 30 48.4 0.0
comp=Z,2.3nm,0.5s,baz=82,slow=7.0,SNR=21
FINES **FINESS Array B** 91.93 332 P P 17 30 54.5 -0.4
FINES **FINESS Array B** 91.93 332 P P 17 30 54.5 -0.4
comp=Z,4.5nm,1.1s,baz=114,slow=1.7,SNR=3.3
AKASG **Malin Array Be** 91.98 321 P P 17 30 54.6 -0.8
AKASG **Malin Array Be** 91.98 321 P P 17 30 54.6 -0.8
comp=Z,1.7nm,0.7s,baz=84,slow=3.1,SNR=4.6
NOA **NORSAR Array B** 98.88 334 P Pdif 17 31 26.7 0.0
NOA **NORSAR Array B** 98.88 334 P Pdif 17 31 26.7 0.0
comp=Z,1.3nm,0.9s,baz=65,slow=4.6,SNR=3.6
RKT **Rikitea** 99.02 113 *e*LR LR 17 35 46.1
comp=Z,426nm,30.0s
YKA **Yellowknife Ar** 99.58 24 P Pdif 17 31 31.2 +1.5
YKA **Yellowknife Ar** 99.58 24 P Pdif 17 31 31.2 +1.5
comp=Z,0.2nm,0.8s,baz=297,slow=3.7,SNR=3.9
TXAR **Lajitas Array** 121.64 52 PKP PKPdf 17 36 42.7 +1.6
TXAR **Lajitas Array** 121.64 52 PKP PKPdf 17 36 42.7 +1.6
comp=Z,0.2nm,0.6s,baz=348,slow=4.0,SNR=2.8
TORD **Torodi Ar. Bea** 122.97 288 PKP PKPdf 17 36 45.1 +1.3
TORD **Torodi Ar. Bea** 122.97 288 PKP PKPdf 17 36 45.1 +1.3
comp=Z,0.5nm,0.8s,baz=80,slow=1.8,SNR=3.0

IDC 12 17:21:00.9±3.3, 3.74N×126.77E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/19, mbtmp4.0/4, Error ellipse: s-maj=403.4km s-min=22.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	28.11	166	P	P	17 26 54.8	+0.1
	0.4nm,0.4s,baz=348,slow=12,SNR=4.3						
STKA	**Stephens Creek**	38.12	159	P	P	17 28 21.6	-0.2
	3.0nm,0.7s,baz=350,slow=9.6,SNR=3.3						
MKAR	**Makanchi Array**	57.57	325	P	P	17 30 51.7	-0.8
	0.4nm,0.4s,baz=117,slow=7.1,SNR=5.5						
KURBB	**Kurchatov Arra**	61.77	327	P	P	17 31 22.0	+0.8
	0.9nm,0.5s,baz=131,slow=6.5,SNR=4.1						

IDC 12 17:29:45.0±1.3, 3.95N×126.60E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/20, mbtmp3.9/6, Error ellipse: s-maj=111.3km s-min=17.5km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	21.93	182	P	P	17 34 40.8	+0.5
	1.3nm,0.5s,baz=16,slow=10.0,SNR=6.3						
ASAR	**Alice Springs**	28.36	166	P	P	17 35 41.5	+0.4
	0.3nm,0.3s,baz=339,slow=7.5,SNR=16						
STKA	**Stephens Creek**	38.38	159	P	P	17 37 07.2	-1.0
	2.5nm,0.6s,baz=336,slow=6.5,SNR=5.2						
SONM	**Songino Array**	47.05	341	P	P	17 38 19.0	+0.5
	0.3nm,0.6s,baz=142,slow=7.3,SNR=3.1						
MKAR	**Makanchi Array**	57.30	325	P	P	17 39 34.5	-0.3
	0.6nm,0.5s,baz=118,slow=7.4,SNR=11						
KURBB	**Kurchatov Arra**	61.48	327	P	P	17 40 03.2	-0.3
	1.1nm,0.3s,baz=142,slow=6.8,SNR=3.0						

*BJI **12** 17:34:09.7, 7.81S×130.17E, h33km, mB5.2/6, mb4.8/14*
*NEIC **12** 17:34:25.2±1.1, 7.00S×129.64E, h90km±11km, mb4.7/17, Error ellipse: s-maj=9.8km s-min=6.1km az=57.0*
*ISCJB **12** 17:34:27.7±0.7, 7.06S±0.04×129.74E±0.06, h137km±8km, mb4.6/40, Error ellipse: s-maj=9.6km s-min=6.4km az=175.7*
*IDC **12** 17:34:28.1±2.6, 6.92S×129.67E, h114km±23km, mb4.3/19, mb1 4.3/20, mb1mx4.3/22, mbtmp4.3/20, Error ellipse: s-maj=17.0km s-min=10.5km az=73.0*
*DJA **12** 17:34:29, 7.14S×129.71E, h97km, mb4.9/11*
ISC 12 17:34:28.3±0.9, 7.01S±0.05×129.69E±0.07, h121km±8km, n138, σ1°07/137, mb4.7/39, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	2.48	5	P	Pn	17 35 09.7	+1.7
TLE	**Tual**	3.32	66	P	Pn	17 35 20.3	+1.4
FAKI	**Fak Fak**	4.80	32	P	Pn	17 35 37.1	-1.6
BAKI	**Biak**	8.63	48	P	Pn	17 36 31.6	+1.3
	231nm,0.8s,2µm0.8nm						
KNRA	**Kununurra**	8.66	186	*eP*	Pn	17 36 29.1	-1.6
	823nm,0.4s						
KNRA				*eS*	Sn	17 37 58.7	-8.0
FITZ	**Fitzroy Crossi**	11.71	199	P	Pn	17 37 08.1	-3.6
FITZ				S	Sn	17 39 08.9	-12
FITZ	**Fitzroy Crossi**	11.71	199	*eP*	Pn	17 37 08.1	-3.6
	66nm,0.6s						
FITZ				*eS*	Sn	17 39 08.2	-12
FITZ	**Fitzroy Crossi**	11.71	199	P	Pn	17 37 08.1	-3.6
	0.2nm,0.3s,baz=35,slow=11,SNR=5.1						
FITZ				S	Sn	17 39 08.9	-12
	9.2nm,0.3s,baz=65,slow=23,SNR=6.1						
WRAB	**Tennant Creek**	13.62	161	*eP*	Pn	17 37 32.7	-3.9
	99nm,0.9s						
COEN	**Coen**	14.94	119	*eP*	Pn	17 37 52.5	-1.1
	108nm,0.5s						
COEN				*eS*	Sn	17 40 24.9	-14
TSM	**Tawau**	16.29	313	P	P	17 38 13.2	+2.2
MYLDM	**Lahad Datu**	16.47	317	P	P	17 38 28.2	+15
AS31	**Alice Springs**	17.05	167	*eP*	P	17 38 17.3	-2.0
MBWA	**Marble Bar**	17.05	213	*eP*	P	17 38 18.2	-1.1
	51nm,1.0s						
MBWA	**Marble Bar**	17.05	213	*eP*	Pn	17 38 20.5	+1.1
MBWA				*eS*	Sn	17 41 16.9	-13
ASAR	**Alice Springs**	17.05	167	P	P	17 38 17.9	-1.5
ASAR				ScP	ScP	17 46 20.1	-1.8
ASAR	**Alice Springs**	17.05	167	P	P	17 38 17.9	-1.5
	7.9nm,0.3s,baz=346,slow=10,SNR=207						
ASAR				ScP	ScP	17 46 20.1	-1.8
	0.6nm,0.3s,baz=330,slow=1.8,SNR=7.9						
PMG	**Port Moresby**	17.45	99	P	Pn	17 38 25.8	+1.3
PMG	**Port Moresby**	17.45	99	P	Pn	17 38 25.8	+1.3
	0.4nm,0.3s,baz=270,slow=2.0,SNR=7.1						
KKM	**Kota Kinabalu**	18.68	314	*eP*	Pn	17 38 38.4	-0.8
	39nm,0.8s						
KKM	**Kota Kinabalu**	18.68	314	P	Pn	17 38 39.7	+0.5
KKM	**Kota Kinabalu**	18.68	314	P	Pn	17 38 41.4	+2.2
	53nm,0.9s						
BTM	**Bintulu**	19.43	301	P	Pn	17 38 48.3	+0.4
SBUM	**Sibu**	19.81	298	P	Pn	17 38 52.1	-0.1
SBUM	**Sibu**	19.81	298	P	Pn	17 38 52.0	-0.2
	44nm,0.9s						
CTA	**Charters Tower**	20.67	131	P	Pn	17 39 00.7	-1.6
CTA	**Charters Tower**	20.67	131	*eP*	Pn	17 39 00.5	-1.8
	8.5nm,0.6s						
CTA	**Charters Tower**	20.67	131	P	Pn	17 39 00.7	-1.6
	9.9nm,0.6s,baz=303,slow=9.3,SNR=8.1						
KSM	**Kuching**	21.10	293	*eP*	P	17 39 02.4	-1.0
	19nm,0.8s						
KSM	**Kuching**	21.10	293	P	P	17 39 07.0	+3.6
	23nm,0.9s						
MEEK	**Meekatharra**	22.18	207	*eP*	P	17 39 15.1	+0.3
	27nm,0.3s						
MEEK				*eS*	S	17 43 13.7	+2.7
TGY	**Tagaytay City**	22.70	338	P	P	17 39 21.0	+0.9
TGY	**Tagaytay City**	22.70	338	P	P	17 39 21.0	+0.9
	223nm,0.5s,baz=190,slow=2.3,SNR=15						
FORT	**Forrest**	23.69	183	*eP*	P	17 39 29.5	+0.4
	41nm,0.4s						
STKA	**Stephens Creek**	27.12	157	*eP*	P	17 40 00.4	+0.3
STKA	**Stephens Creek**	27.12	157	*eP*	P	17 40 00.5	+0.4
	10nm,0.4s						
STKA	**Stephens Creek**	27.12	157	P	P	17 40 00.7	+0.6
	12nm,0.4s,baz=330,slow=8.6,SNR=34						
NWAO	**Narrogin (SRO)**	28.26	203	*eP*	P	17 40 10.8	+0.5
	13nm,1.0s						
NWAO	**Narrogin (SRO)**	28.26	203	P	P	17 40 10.4	+0.2
	9.5nm,0.6s,baz=36,slow=9.0,SNR=10						
PSI	**Prapat**	32.22	287	P	P	17 40 44.6	-0.9
PSI	**Prapat**	32.22	287	P	P	17 40 44.6	-0.9
	22nm,0.8s,baz=131,slow=3.8,SNR=16						
CMAR	**Chiang Mai Arr**	39.50	310	P	P	17 41 47.2	-0.2
CMAR				PcP	PcP	17 43 53.5	+0.6
CMAR				ScP	ScP	17 47 30.4	-0.2
CMAR	**Chiang Mai Arr**	39.50	310	P	P	17 41 47.2	-0.2
	9.1nm,0.7s,baz=140,slow=7.3,SNR=78						
CMAR				PcP	PcP	17 43 53.5	+0.6
	1.5nm,0.9s,baz=161,slow=2.6,SNR=4.1						
CMAR				ScP	ScP	17 47 30.4	-0.2
	0.9nm,0.9s,baz=178,slow=3.7,SNR=6.1						
CM31	**Chiang Mai Arr**	39.50	310	*eP*	P	17 41 47.5	0.0
	4.4nm,0.5s						
CHTO	**Chiang Mai**	39.72	311	*eP*	P	17 41 49.1	-0.1
	14nm,0.8s						
JNU	**Nakatsue**	39.93	2	P	P	17 41 49.8	-1.0
JNU	**Nakatsue**	39.93	2	P	P	17 41 49.8	-1.0
	4.8nm,0.7s,baz=248,slow=1.7,SNR=4.4						
ENH	**Enshi**	41.84	333	*eP*	P	17 42 05.5	-1.0
MAT	**Matsushiro**	44.06	10	P	P	17 42 22.7	-1.5
MJAR	**Matsushiro Arr**	44.06	10	P	P	17 42 22.2	-2.0
MJAR	**Matsushiro Arr**	44.06	10	P	P	17 42 22.2	-2.0
	7.5nm,0.8s,baz=190,slow=10,SNR=28						
KSAR	**Wonju Array Be**	44.26	328	P	P	17 42 24.9	-0.8
KSRS	**Korea Array**	44.27	358	P	P	17 42 24.9	-0.9
	1.8nm,0.8s,baz=176,slow=9.2,SNR=6.8						
BJT	**Baijiatuan**	48.44	346	*eP*	P	17 42 57.7	-0.7
	32nm,0.7s						
BJI	**Beijing**	48.45	346	P	P	17 42 57.9	-0.6
BJI				pmax	pmax		
	comp=Z,39nm,0.7s						
USRK	**Ussuriysk Arra**	51.02	2	P	P	17 43 17.7	-0.1
	comp=Z,4.2nm,0.4s,baz=189,slow=7.2,SNR=15						
MDJ	**Mudanjiang**	51.39	360	*eP*	P	17 43 20.4	-0.2
	comp=Z,6.0nm,0.7s						
LSA	**Lhasa**	51.99	317	*eP*	P	17 43 26.0	0.0
	comp=Z,5.0nm,0.8s						
ASAJ	**Asahikawa**	52.21	12	P	P	17 43 26.7	0.0
ASAJ	**Asahikawa**	52.21	12	P	P	17 43 26.7	0.0
	comp=Z,4.3nm,0.6s,baz=344,slow=18,SNR=14						
ODAN	**Odare**	53.03	311	*eP*	P	17 43 33.1	-0.4
	comp=Z,18nm,0.4s						
TAPN	**Taplejung**	53.06	312	*eP*	P	17 43 33.4	-0.4
	comp=Z,15nm,0.4s						
RAMN	**Ramite**	53.67	311	*eP*	P	17 43 38.1	-0.1
	comp=Z,48nm,0.5s						
GTA	**Gaotai**	53.84	331	*eP*	P	17 43 39.1	+0.1
GTA				pP	pP	17 43 50.7	-17
GTA				sP	sP	17 43 53.7	-27
GTA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
JIRN	**Jiri**	54.36	311	*eP*	P	17 43 42.9	-0.4
	comp=Z,5.1nm,0.5s						
GUN	**Gumba**	54.73	311	*eP*	P	17 43 45.5	-0.4
	comp=Z,42nm,0.4s						
PKI	**Pulchoki**	54.90	311	*eP*	P	17 43 46.3	-0.8
	comp=Z,12nm,0.5s						
KKN	**Kakani**	55.11	311	*eP*	P	17 43 47.9	-0.6
	comp=Z,10nm,0.4s						
DMN	**Daman**	55.15	311	*eP*	P	17 43 48.4	-0.4
	comp=Z,10nm,0.4s						
GKN	**Gorkha**	55.71	311	*eP*	P	17 43 52.3	-0.4
	comp=Z,32nm,0.3s						
KOLN	**Koldanda**	56.37	310	*eP*	P	17 43 57.2	-0.3
	comp=Z,18nm,0.5s						
DANN	**Dangsing**	56.55	311	*eP*	P	17 43 58.3	-0.6
ULN	**Ulaanbaatar**	58.18	342	*eP*	P	17 44 10.2	+0.4
	comp=Z,15nm,0.7s						
SONM	**Songino Array**	58.36	342	P	P	17 44 11.4	+0.4
SONM	**Songino Array**	58.36	342	P	P	17 44 11.4	+0.4
	comp=Z,4.2nm,0.6s,baz=160,slow=6.9,SNR=36						
WMQ	**Urumqi**	63.24	327	*eP*	P	17 44 44.2	+0.2
WMQ				pP	pP	17 44 54.0	-19
WMQ				pmax	pmax		
	comp=Z,12nm,0.8s						
WMQ	**Urumqi**	63.24	327	*eP*	P	17 44 44.3	+0.2
WMQ				pP	pP	17 44 58.0	-15
WMQ				pmax	pmax		
	comp=Z,12nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,150nm,5.2s						
PETK	**Petropavlovsk-**	64.43	18	P	P	17 44 51.7	+0.1
PETK	**Petropavlovsk-**	64.43	18	P	P	17 44 51.7	+0.1
	comp=Z,4.2nm,0.6s,baz=182,slow=5.6,SNR=19						
MKAR	**Makanchi Array**	68.07	327	P	P	17 45 15.1	+0.1
MKAR	**Makanchi Array**	68.07	327	P	P	17 45 15.1	+0.1
	comp=Z,9.9nm,0.4s,baz=117,slow=7.9,SNR=310						
KZA	**Kyzart**	69.59	320	P	P	17 45 26.9	+2.0
	SNR=6.8						
TKM2	**Tokmak 2**	69.80	321	*eP*	P	17 45 26.0	0.0
	comp=Z,6.8nm,0.6s						
TKM2	**Tokmak 2**	69.80	321	P	P	17 45 26.3	+0.3
	SNR=13						
KBK	**Karagaybulak**	70.07	320	P	P	17 45 25.7	-2.0
	SNR=6.8						
AAK	**Ala-Archa**	70.35	320	P	P	17 45 30.5	+1.2
AAK	**Ala-Archa**	70.35	320	P	P	17 45 26.5	-2.8
	SNR=6.2						
AAK	**Ala-Archa**	70.35	320	P	P	17 45 30.5	+1.2
	comp=Z,3.1nm,0.4s,baz=131,slow=5.6,SNR=26						
AML	**Almayashu**	70.62	319	P	P	17 45 32.0	+0.7
	SNR=8.9						
USP	**Ospenovka**	70.67	321	P	P	17 45 31.7	+0.7
	SNR=10.0						
EKS2	**Erkin-Say**	70.82	320	*eP*	P	17 45 32.7	+0.5
	comp=Z,7.1nm,0.7s						
EKS2	**Erkin-Say**	70.82	320	P	P	17 45 32.9	+0.8
	SNR=12						
ZAA0	**Zalesovo Array**	71.46	334	*eP*	P	17 45 34.6	-0.9
ZALV	**Zalesovo Beam**	71.46	334	P	P	17 45 34.7	-0.8
ZALV	**Zalesovo Beam**	71.46	334	P	P	17 45 34.7	-0.8
	comp=Z,10nm,0.8s,baz=116,slow=4.8,SNR=45						
KURBB	**Kurchatov Arra**	72.36	329	P	P	17 45 41.0	0.0
	comp=Z,6.1nm,0.3s,baz=130,slow=4.9,SNR=36						
KURK	**Kurchatov**	72.37	329	P	P	17 45 41.0	0.0
KKAR	**Karatay Array**	73.15	319	*eP*	P	17 45 45.6	-0.3
	comp=Z,2.1nm,0.4s						
BRVK	**Borovoye**	77.98	328	*eP*	P	17 46 12.5	-0.6
	comp=Z,11nm,1.1s						
ABKAR	**Akbulak array**	82.33	322	*eP*	P	17 46 35.8	-0.7
	comp=Z,5.6nm,0.5s						
QSPA	**South Pole Qui**	82.96	180	*eP*	P	17 46 40.2	+0.4
	comp=Z,2.2nm,0.7s						
QSPA	**South Pole Qui**	82.96	180	P	P	17 46 40.2	+0.4
	comp=Z,2.0nm,0.7s,baz=270,slow=1.0,SNR=6.4						
ARU	**Arti**	85.55	328	*eP*	P	17 46 51.8	-1.0
	comp=Z,9.9nm,0.8s						
RDF	**Al-Radifah**	86.52	300	*eP*	P	17 46 57.8	-0.4
RDF				AMb	AMB	17 46 60.0	
	comp=Z,17nm,1.1s						
NAY	**Al-Naaiem**	86.84	300	*eP*	P	17 46 59.1	-0.6
NAY				AMb	AMB	17 47 02.5	
	comp=Z,12nm,1.0s						
MIB	**Mutribah**	86.85	300	*eP*	P	17 46 59.2	-0.5
MIB				AMb	AMB	17 47 00.1	
	comp=Z,12nm,0.8s						
ILAR	**Eielson Array**	93.49	25	P	P	17 47 28.4	-1.6
ILAR	**Eielson Array**	93.49	25	P	P	17 47 28.4	-1.6
	comp=Z,1.6nm,1.0s,baz=261,slow=4.3,SNR=10						
BRTR	**Keskin Array B**	99.08	309	P	Pdif	17 47 55.2	-1.0
BRTR	**Keskin Array B**	99.08	309	P	Pdif	17 47 55.2	-1.0
	comp=Z,0.5nm,0.7s,baz=116,slow=9.8,SNR=3.1						
ARCES	**ARCESS Array B**	101.48	340	P	Pdif	17 48 04.6	-1.4
ARCES	**ARCESS Array B**	101.48	340	P	Pdif	17 48 04.6	-1.4
	comp=Z,2.8nm,0.9s,baz=87,slow=6.4,SNR=3.2						
YKA	**Yellowknife Ar**	107.90	26	PKiKP	PKiKP	17 52 41.0	-0.3
YKA	**Yellowknife Ar**	107.90	26	PKiKP	PKiKP	17 52 40.9	-0.3
	comp=Z,0.5nm,0.6s,baz=291,slow=1.6,SNR=12						
CLL	**Collm**	111.98	323	*e*PKiKP	PKiKP	17 52 48.0	-1.3
	comp=Z,4.0nm,1.1s						
GERES	**GERESS Array B**	112.23	320	PKiKP	PKiKP	17 52 50.1	+0.1
GERES	**GERESS Array B**	112.23	320	PKiKP	PKiKP	17 52 50.1	+0.1
	comp=Z,0.7nm,0.6s,baz=37,slow=0.7,SNR=7.3						
PDAR	**Pinedale Array**	117.12	45	PKP	PKPdf	17 53 00.1	+0.4
PDAR	**Pinedale Array**	117.12	45	PKP	PKPdf	17 53 00.1	+0.4
	comp=Z,1.1nm,0.6s,baz=147,slow=0.5,SNR=9.3						
ANMO	**Albuquerque**	121.56	53	PKP	PKPdf	17 53 09.4	+0.9
ANMO	**Albuquerque**	121.56	53	PKP	PKPdf	17 53 09.4	+0.9
	comp=Z,0.7nm,0.4s,baz=265,slow=11,SNR=4.2						
ULM	**Lac du Bonnet**	122.62	33	PKP	PKPdf	17 53 09.1	-0.7
	comp=Z,2.9nm,0.5s,baz=303,slow=2.4,SNR=11						
TXAR	**Lajitas Array**	125.20	59	PKP	PKPdf	17 53 16.3	+0.8
TXAR	**Lajitas Array**	125.20	59	PKP	PKPdf	17 53 16.3	+0.8
	comp=Z,0.3nm,0.3s,baz=193,slow=3.5,SNR=6.2						
JCT	**Junction City**	128.16	57	*e*PKPdf	PKPdf	17 53 21.6	+0.6
TORD	**Torodi Ar. Bea**	128.51	281	PKP	PKPdf	17 53 22.3	+0.3
TORD	**Torodi Ar. Bea**	128.51	281	PKP	PKPdf	17 53 22.3	+0.3
	comp=Z,1.6nm,0.7s,baz=75,slow=2.1,SNR=12						
PLCA	**Paso Flores**	128.97	160	PKP	PKPdf	17 53 24.2	+1.8
PLCA	**Paso Flores**	128.97	160	PKP	PKPdf	17 53 24.2	+1.8
	comp=Z,1.3nm,0.7s,baz=276,slow=5.1,SNR=4.1						
DBIC	**Dimbokro**	134.88	272	PKP	PKPdf	17 53 35.4	+1.3
DBIC	**Dimbokro**	134.88	272	PKP	PKPdf	17 53 35.4	+1.3
	comp=Z,2.6nm,0.5s,baz=128,slow=5.5,SNR=5.7						
TKL	**Tuckaleechee C**	138.14	42	PKP	PKPdf	17 53 41.0	+1.5
TKL	**Tuckaleechee C**	138.14	42	PKP	PKPdf	17 53 41.0	+1.5
	comp=Z,6.1nm,0.7s,baz=297,slow=3.8,SNR=4.9						
LVC	**Limon Verde**	145.38	149	*e*PKPdf	PKPab	17 53 55.6	+2.1
CPUP	**Villa Florida**	146.16	169	PKPbc	PKPab	17 53 56.4	+0.4
CPUP	**Villa Florida**	146.16	169	PKPbc	PKPab	17 53 56.4	+0.4
	comp=Z,5.8nm,0.5s,baz=158,slow=1.8,SNR=19						
LPAZ	**La Paz**	150.90	143	*e*PKPbc	PKPbc	17 54 09.7	+1.2

IDC 12 17:37:01.8±1.1, 4.20N×126.62E, h0km, mb4.2/9, mb1 4.3/9, mb1mx4.1/19, mbtmp4.2/9, Error ellipse: s-maj=51.9km s-min=26.1km az=60.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DMPH	**Davao City--Mi**	3.07	339	*eP*	Pb	17 37 59.0	+1.6
CMAR	**Chiang Mai Arr**	30.55	300	P	P	17 43 18.1	+0.8
	1.7nm,0.8s,baz=115,slow=7.1,SNR=7.0						
STKA	**Stephens Creek**	38.60	159	P	P	17 44 26.8	0.0
	7.1nm,0.9s,baz=322,slow=10.0,SNR=3.2						
SONM	**Songino Array**	46.82	341	P	P	17 45 33.5	0.0
	0.8nm,0.6s,baz=157,slow=7.0,SNR=4.4						
MKAR	**Makanchi Array**	57.11	325	P	P	17 46 49.9	-0.2
	1.2nm,0.5s,baz=123,slow=8.1,SNR=3.5						
MKAR				PcP	PcP	17 47 44.9	-0.1
	0.7nm,0.6s,baz=113,slow=4.3,SNR=2.5						
ZALV	**Zalesovo Beam**	60.12	333	P	P	17 47 09.7	-1.3
	0.9nm,0.4s,baz=98,slow=6.0,SNR=3.9						
KURBB	**Kurchatov Arra**	61.29	327	P	P	17 47 18.6	-0.3
	1.2nm,0.3s,baz=128,slow=6.3,SNR=5.0						
ILAR	**Eielson Array**	84.73	25	P	P	17 49 37.8	+0.2
	0.6nm,0.9s,baz=224,slow=6.3,SNR=4.0						
ARCES	**ARCESS Array B**	89.97	340	P	P	17 50 04.5	+1.7
	2.3nm,0.5s,baz=92,slow=6.8,SNR=4.3						
FINES	**FINESS Array B**	91.37	332	P	P	17 50 09.7	+0.3
	1.1nm,0.7s,baz=102,slow=8.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	122.67	288	PKP	PKPdf	17 55 59.4	-1.3
	0.7nm,0.9s,baz=46,slow=4.3,SNR=3.4						

*CSEM **12** 17:37:20.0±0.3, 34.37N×35.53E, h0km±1km, ML3.1, Error ellipse: s-maj=4.7km s-min=2.8km az=126.0*
*GRAL **12** 17:37:22.4±0.3, 34.30N×35.66E, h1km±29km, MD3.1*
ISC 12 17:37:20.1±1.3, 34.36N±0.03×35.56E±0.04, h4km±10km, n37, σ0°75/54, 3C-3D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWQ	**Hawqa**	0.33	104	*eP*	Pg	17 37 26.6	+0.1
HWQ				*eS*	Sg	17 37 30.0	-0.9
HWQ	**Hawqa**	0.33	104	*eP*	Pg	17 37 26.6	+0.1
HWQ				*eS*	Sg	17 37 30.0	-0.9
BHL	**Bhannes**	0.46	170	*eP*	Pg	17 37 29.3	+0.3
BHL				*eS*	Sg	17 37 34.5	-0.5
BHL	**Bhannes**	0.46	170	*eP*	Pg	17 37 29.3	+0.3
BHL				*eS*	Sg	17 37 34.5	-0.5
BEYL	**Beirut**	0.49	187	*eP*	Pg	17 37 30.4	+0.9
BEYL				*eS*	Sg	17 37 36.2	+0.3
BEYL	**Beirut**	0.49	187	*eP*	Pg	17 37 30.4	+0.9
BEYL				*eS*	Sg	17 37 36.2	+0.3
FKH	**Fakeheh**	0.71	99	*eP*	Pg	17 37 33.6	-0.2
FKH	**Fakeheh**	0.71	99	*eP*	Pg	17 37 33.6	-0.2
HAWK	**Haweek**	0.72	77⇑	*iP*	Pb	17 37 34.7	-0.5
	SNR=75						
MATL	**Matarih**	0.89	193	*eP*	Pg	17 37 37.7	+0.5
MATL	**Matarih**	0.89	193	*eP*	Pg	17 37 37.7	+0.5
RCY	**Rachaya**	0.89	165	*eP*	Pg	17 37 37.0	-0.2
RCY	**Rachaya**	0.89	165	*eP*	Pg	17 37 37.0	-0.2
QASN	**Qassioun**

KURK	Kurchatov	61.51	327	P	P	17 48 52.5	-0.5	
BRVK	Borovoye	67.16	327	*e*P	P	17 49 29.0	-1.0	
	4.2nm,0.9s							
COLD	Coldfoot	83.56	23	*e*P	P	17 51 05.1	+1.2	
	2.8nm,0.9s							
ILAR	Eielson Array	84.77	25	P	P	17 51 10.2	+0.1	
ILAR	Eielson Array	84.77	25	P	P	17 51 10.2	+0.1	
	1.3nm,0.8s,baz=237,slow=6.4,SNR=9.6							
ARCES	ARCESS Array B	90.17	340	P	P	17 51 35.6	-0.4	
ARCES	ARCESS Array B	90.17	340	P	P	17 51 35.7	-0.4	
	3.9nm,0.9s,baz=79,slow=4.7,SNR=2.8							
TORD	Torodi Ar. Bea	122.89	288	PKP	PKPdf	17 57 33.1	-0.2	
TORD	Torodi Ar. Bea	122.89	288	PKP	PKPdf	17 57 33.1	-0.2	
	0.5nm,0.8s,baz=55,slow=0.9,SNR=3.3							

PRE 12 17:40:30.6±1.0, 26.42S×27.31E, h2km, ML1.5, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
PRYS	Parys	0.51	174	*e*P			Pg	17 40 40.4	-0.2
PRYS				*e*S			Sg	17 40 47.4	0.0
PRYS					AML		AML	17 40 53.5	
	comp=Z,7.5nm,0.3s								
SLR	Silverton	1.11	53	*e*P			Pb	17 40 52.8	0.0
SLR				*e*S			Sg	17 41 06.9	+0.2
SLR					AML		AML	17 41 15.4	
	comp=Z,11nm,0.2s								
LBTB	Lobatse	2.08	312	*e*P			Pn	17 41 07.2	+0.5
LBTB				*e*S			Sn	17 41 33.8	+0.5
LBTB					AML		AML	17 41 44.1	
	comp=Z,7.5nm,0.3s								
BOSA	Boshof	2.85	219	*e*P			Pn	17 41 18.4	+1.2
BOSA				*e*S			Sn	17 41 52.4	+0.2
BOSA					AML		AML	17 42 02.9	
	comp=Z,1.1nm,1.0s								

IDC 12 17:42:06.9±1.5, 3.84N×126.41E, h0km, mb4.0/5, mb1 4.0/5, mb1mx3.7/20, mbtmp4.0/5, Error ellipse: s-maj=212.0km s-min=24.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
STKA	Stephens Creek	38.35	159	P		P	P	17 49 29.6	-0.2
	2.6nm,0.6s,baz=11,slow=7.6,SNR=2.4								
SONM	Songino Array	47.09	342	P		P	P	17 50 40.5	-0.3
	0.8nm,0.6s,baz=159,slow=8.4,SNR=4.6								
MKAR	Makanchi Array	57.28	325	P		P	P	17 51 56.0	-0.5
	0.7nm,0.4s,baz=119,slow=8.0,SNR=11								
KURBB	Kurchatov Arra	61.47	327	P		P	P	17 52 25.5	+0.2
	1.2nm,0.3s,baz=124,slow=6.5,SNR=5.1								
BVAR	Borovoye Array	67.05	327	P		P	P	17 53 02.3	+0.3
	0.6nm,0.6s,baz=132,slow=6.0,SNR=2.5								

IDC 12 17:44:47.1±0.8, 4.09N×126.60E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.2/23, mbtmp4.2/18, Error ellipse: s-maj=34.0km s-min=16.9km az=68.0
ISCJB 12 17:44:51.6±0.5, 4.06N±0.08×126.6E±0.1, h45km, mb4.3/27, Error ellipse: s-maj=16.4km s-min=9.7km az=154.2
NEIC 12 17:44:52.2±0.4, 4.02N×126.57E, h35km, mb4.5/9, Error ellipse: s-maj=16.3km s-min=7.7km az=69.0

ISC 12 17:44:53.4±0.6, 4.0N±0.1×126.6E±0.2, h45km, n56, σ0 69/56, mb4.5/34, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
WRAB	Tennant Creek	25.01	162	*e*P		P	P	17 50 12.8	-0.5
ASAR	Alice Springs	28.44	166	P		P	P	17 50 46.0	+1.9
ASAR	Alice Springs	28.44	166	P		P	P	17 50 46.0	+1.9
	0.7nm,0.7s,baz=340,slow=7.9,SNR=4.3								
CMAR	Chiang Mai Arr	30.58	300	P		P	P	17 51 03.5	+0.3
CMAR	Chiang Mai Arr	30.58	300	P		P	P	17 51 03.5	+0.3
	1.0nm,0.8s,baz=99,slow=6.7,SNR=8.7								
ENH	Enshi	30.69	330	*e*P		P	P	17 51 03.6	-0.4
	6.2nm,0.8s								
CHTO	Chiang Mai	30.73	301	*e*P		P	P	17 51 04.5	0.0
	3.9nm,1.0s								
KSAR	Wonju Array Be	33.28	2	P		P	P	17 51 26.9	+0.2
KSRS	Korea Array	33.29	2	P		P	P	17 51 26.9	+0.1
	0.9nm,0.6s,baz=184,slow=9.6,SNR=4.2								
BJT	Baijiatuan	37.04	347	*e*P		P	P	17 51 59.8	+0.8
STKA	Stephens Creek	38.46	159	*e*P		P	P	17 52 09.6	-1.5
STKA	Stephens Creek	38.46	159	P		P	P	17 52 10.0	-1.1
	3.1nm,0.7s,baz=316,slow=11,SNR=3.8								
LSA	Lhasa	42.12	311	*e*P		P	P	17 52 42.9	+0.9
	7.3nm,0.6s								
TAPN	Taplejung	43.71	306	*e*P		P	P	17 52 54.6	-0.1
	7.8nm,0.6s								
ODAN	Odare	43.77	305	*e*P		P	P	17 52 55.0	-0.1
	8.9nm,0.7s								
RAMN	Ramite	44.45	305	*e*P		P	P	17 52 59.8	-0.8
	8.2nm,0.7s								
JIRN	Jiri	45.07	306	*e*P		P	P	17 53 05.5	-0.2
	2.3nm,0.5s								
GUN	Gumba	45.42	306	*e*P		P	P	17 53 08.3	-0.1
	16nm,0.7s								
HIA	Hailar	45.45	354	*e*P		P	P	17 53 09.2	+1.3
	10nm,1.0s								
DMN	Daman	45.93	305	*e*P		P	P	17 53 12.1	-0.2
ULN	Ulaanbaatar	46.79	342	*e*P		P	P	17 53 19.4	+0.7
	1.9nm,0.7s								
SONM	Songino Array	46.97	341	P		P	P	17 53 20.6	+0.6
SONM	Songino Array	46.97	341	P		P	P	17 53 20.6	+0.6
	1.1nm,0.6s,baz=158,slow=8.6,SNR=11								
KOLN	Koldanda	47.22	305	*e*P		P	P	17 53 22.3	-0.1
	9.9nm,0.5s								
DANN	Dangsing	47.31	305	*e*P		P	P	17 53 22.8	-0.4
	12nm,0.6s								
PETK	Petropavlovsk-	55.22	22	P		P	P	17 54 21.4	-0.3
PETK	Petropavlovsk-	55.22	22	P		P	P	17 54 21.4	-0.3
	2.3nm,0.6s,baz=194,slow=5.1,SNR=7.0								
MK31	Makanchi Array	57.22	325	*e*P		P	P	17 54 35.9	-0.2
MKAR	Makanchi Array	57.22	325	P		P	P	17 54 36.0	-0.1
MKAR	Makanchi Array	57.22	325	P		P	P	17 54 36.0	-0.1
	2.5nm,0.5s,baz=119,slow=7.9,SNR=30								
YAK	Yakutsk	57.92	2	*e*P		P	P	17 54 40.5	-0.2
	15nm,0.8s								
TKM2	Tokmak 2	59.42	318	*e*P		P	P	17 54 50.9	-0.9
AAK	Ala-Archa	60.03	318	P		P	P	17 54 56.7	+0.8
AAK	Ala-Archa	60.03	318	P		P	P	17 54 56.7	+0.8
	0.9nm,0.8s,baz=198,slow=6.4,SNR=4.3								
ZALV	Zalesovo Beam	60.25	333	P		P	P	17 54 56.2	-0.8
ZALV	Zalesovo Beam	60.25	333	P		P	P	17 54 56.2	-0.8
	2.4nm,0.5s,baz=128,slow=6.1,SNR=15								
KURBB	Kurchatov Arra	61.40	327	P		P	P	17 55 04.9	0.0
	3.9nm,0.6s,baz=122,slow=6.5,SNR=18								
KURK	Kurchatov	61.40	327	*e*P		P	P	17 55 04.6	-0.3
	6.6nm,0.7s								
BVAR	Borovoye Array	66.98	327	P		P	P	17 55 41.2	-0.2
BVAR	Borovoye Array	66.98	327	P		P	P	17 55 41.2	-0.2
	1.5nm,0.6s,baz=128,slow=9.4,SNR=10								
BRVK	Borovoye	67.06	327	*e*P		P	P	17 55 41.7	-0.2
	3.9nm,0.8s								
ABKAR	Akbulak array	71.82	321	*e*P		P	P	17 56 10.2	-1.2
	2.3nm,0.8s								
AKTO	Aktyubinsk	73.33	322	P		P	P	17 56 20.3	-0.1
AKTO	Aktyubinsk	73.33	322	P		P	P	17 56 20.3	-0.1
	2.7nm,0.7s,baz=102,slow=8.9,SNR=10								
ILAR	Eielson Array	84.91	25	P		P	P	17 57 23.1	-0.2
ILAR	Eielson Array	84.91	25	P		P	P	17 57 23.1	-0.2
	0.7nm,0.9s,baz=244,slow=6.3,SNR=6.2								
BRTR	Keskin Array B	89.71	310	P		P	P	17 57 47.1	-0.1
BRTR	Keskin Array B	89.71	310	P		P	P	17 57 47.1	-0.1
	0.3nm,0.5s,baz=104,slow=5.2,SNR=3.9								
ARCES	ARCESS Array B	90.11	340	P		P	P	17 57 47.9	-0.4
ARCES	ARCESS Array B	90.11	340	P		P	P	17 57 47.9	-0.4
	3.8nm,1.0s,baz=46,slow=5.2,SNR=7.3								
FINES	FINESS Array B	91.50	332	P		P	P	17 57 53.9	-0.9
FINES	FINESS Array B	91.50	332	P		P	P	17 57 53.9	-0.9
	3.3nm,1.1s,baz=46,slow=6.0,SNR=3.9								
QSPA	South Pole Qui	93.93	180	P		P	P	17 58 06.5	+0.3
QSPA	South Pole Qui	93.93	180	P		P	P	17 58 06.5	+0.3
	2.3nm,1.1s,baz=306,slow=1.6,SNR=3.6								
NOA	NORSAR Array B	98.45	334	P		P	P	17 58 26.3	-0.5
NOA	NORSAR Array B	98.45	334	P		P	P	17 58 26.3	-0.5
	0.7nm,0.8s,baz=67,slow=4.5,SNR=2.8								

BJI 12 17:45:59.7, 3.70N×126.60E, h32km, mB5.6/42, mb5.6/71, Ms5.3/75, Ms7 5.2/69
MOS 12 17:46:02.4±1.1, 3.98N×126.49E, h33km, mb5.8/75, MS5.1/48, Error ellipse: s-maj=9.0km s-min=4.3km az=114.9
IDC 12 17:46:03.5±1.7, 3.98N×126.48E, h30km±11km, mb5.2/40, mb1 5.2/40, mb1mx5.2/40, mbtmp5.2/40, MS5.0/11, Ms1 5.0/11, ms1mx4.8/23, Error ellipse: s-maj=12.5km s-min=8.1km az=69.0
NEIC 12 17:46:05.3±0.8, 3.98N×126.48E, h44km±7km, mb5.7/106, MS5.3/159, MW5.5, MW5.5, Error ellipse: s-maj=5.8km s-min=3.6km az=74.0, Moment Tensor Solution. s61 Moment tensor: Scale 10^17 Nm; Mrr 1.31; Mθθ 0.14; Mφφ -1.45; Mrθ 0.68; Mrφ 1.09; Mθφ 1.11; Best double couple: M=2.20000×10^17 NP1:φs 4.00000°, δ 66.00000°, λ 128.00000°. NP2:φs 123.00000°, δ 44.00000°, λ 37.00000°. Principal axes: T 2.2200, Plg53.0000°, Azm320.0000°; N -0.0700, Plg33.0000°, Azm166.0000°; P -2.1600, Plg12.0000°, Azm68.0000°;
NEIC Felt [III] at Tahuna.
ISCJB 12 17:46:06.3±0.4, 3.94N±0.02×126.60E±0.03, h69km±3km, mb5.5/187 Error ellipse: s-maj=4.9km s-min=3.1km az=161.7
DJA 12 17:46:08, 4.00N×126.73E, h67km, Mw5.3/33
NEIC 12 17:46:16.8±0.0, 4.08N×126.54E, h10km, Moment Tensor Solution. s174 Moment tensor: Scale 10^17 Nm; Mrr 1.55; Mθθ 0.13; Mφφ -1.68; Mrθ -0.82; Mrφ 0.45; Mθφ 1.87; Best double couple: M=2.60000×10^17 NP1:φs 338.00000°, δ 71.00000°, λ 83.00000°. NP2:φs 177.00000°, δ 20.00000°, λ 108.00000°. Principal axes: T 2.5400, Plg63.0000°, Azm237.0000°; N 0.2000, Plg6.0000°, Azm340.0000°; P -2.7400, Plg25.0000°, Azm73.0000°;

ISC 12 17:46:04.6±0.3, 3.96N±0.03×126.53E±0.04, h40km±1km, h40km:pP-P, n897, σ1 54/885, mb5.7/183, MS5.2/207, 109C-102D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
GSPH	General Santos	2.64	323	*e*P			Pn	17 46 48.7	+3.9
GSPH				*e*S			**Sn**	**17 47 20.2**	**+4.6**
MNI	Manado	3.02	214	P			Pn	17 46 54.4	+4.5
DAV	Davao City (W)	3.23	343	Pn			Pn	17 46 56.0	+3.2
DAV					Sn		Sn	17 47 40.7	+11
DAV	Davao City (W)	3.23	343	P			Pn	17 46 56.6	+3.8
DAV	Davao City (W)	3.23	343	P			Pn	17 46 57.3	+4.4
	SNR=17								
DAV	Davao City (W)	3.23	343	P			Pn	17 46 57.3	+4.4
DAV	Davao City (W)	3.23	343	Pn			Pn	17 46 56.0	+3.2
	86nm,0.3s,baz=295,slow=23,SNR=16								
DAV					Sn		Sn	17 47 40.7	+11
	449nm,0.3s,baz=62,slow=24,SNR=5.0								
DAV					LR		LR	17 48 25.3	
	comp=Z,39μm,18.5s,baz=245,slow=44								
DMPH	Davao City--Mi	3.27	342	*e*P			Pn	17 46 57.9	+4.5
DMPH				*i* S			Sn	17 47 54.8	+24
TNTI	Ternate	3.27	165	P			**Pn**	**17 46 54.9**	**+1.4**
KCP	Kidapawan	3.35	335	*e*P			Pn	17 46 57.7	+3.2
KCP				*i* S			Sn	17 47 53.2	+20
BUKP	Musuan	4.16	339	*e*P			Pn	17 47 11.1	+5.5
CGP	Cagayan de Oro	4.82	338	*e*P			Pn	17 47 25.0	+10
CGP				*e*S			Sn	17 48 26.0	+17
PAGZ	Pagadian	4.97	321	*e*P			Pn	17 47 20.6	+3.8
BUTP	Butuan	5.06	350	*e*P			Pn	17 47 22.8	+4.8
IPIL	Ipil	5.47	314	*e*P			Pn	17 47 27.5	+3.8
LUWI	Luwuk	6.23	217	P			Pn	17 47 42.1	+8.0
	3μm,0.9s,29μm43μm11nm								
TBP	Tagbilaran	6.28	335	*e*P			Pn	17 47 40.3	+5.5
MSLP	Maasin	6.35	345	*e*P			Pn	17 47 41.6	+5.8
LLP	Lapu-Lapu	6.81	338	*e*P			Pn	17 47 45.5	+3.5
LLP				*e*S			Sn	17 49 09.5	+11
LLP	Lapu-Lapu	6.81	338	*e*P			Pn	17 47 53.5	+11
OCLP	Ormoc	7.30	345	*e*P			Pn	17 47 54.6	+5.9
PLP	Palo	7.32	348	*e*P			Pn	17 47 53.6	+4.5
GUIM	Jordan	7.69	330	*e*P			Pn	17 47 59.0	+4.9
MYLDM	Lahad Datu	8.10	279	P			Pn	17 48 07.5	+7.8
MYLDM	Lahad Datu	8.10	279	P			Pn	17 48 07.6	+7.9
	829nm,1.5s,12μm108μm3.0nm								
RCP	Roxas	8.43	334	*e*P			Pn	17 48 08.6	+4.3
TSM	Tawau	8.64	273	P			Pn	17 48 10.9	+3.7
CNP	Catarman	8.69	348	*e*P			Pn	17 48 18.2	+10
CUYO	Cuyo Island	8.76	322	*e*P			Pn	17 48 12.9	+4.1
KDI	Kendari	8.78	206	P			Pn	17 48 13.4	+4.3
	245nm,0.9s,3μm0.8nm								
FAKI	Fak Fak	8.91	140	P			**Pn**	**17 48 11.7**	**+0.8**
	278nm,0.9s,3μm0.8nm								
BNDI	Bandanaira	9.07	158	P			Pn	17 48 22.3	+9.2
SDKM	Sandakan	9.45	281	P			Pn	17 48 23.6	+5.3
BATP	Bataraza	9.92	299	*e*P			Pn	17 48 30.7	+6.1
AUQP	San Andres	10.05	338	*e*P			Pn	17 48 39.9	+13
ENPP	El Nido	10.07	316	*e*P			Pn	17 48 32.0	+5.2
KDM	Kudat	10.09	287	P			Pn	17 48 35.1	+8.1
KKM	Kota Kinabalu	10.48	282	*e*P			Pn	17 48 38.9	+6.3
	294nm,1.3s								
KKM	Kota Kinabalu	10.48	282	P			Pn	17 48 40.5	+8.0
KKM	Kota Kinabalu	10.48	282	P			Pn	17 48 40.4	+7.9
	291nm,2.1s,5μm35μm								
BOAC	Boac	10.51	334	*e*P			Pn	17 48 39.7	+6.9
GQP	Guinayangan	10.67	338	*e*P			Pn	17 48 41.3	+6.3
GQP	Guinayangan	10.67	338	*e*P			Pn	17 48 41.3	+6.3
BAKI	Biak	10.85	118	P			**Pn**	**17 48 40.6**	**+3.1**
	1μm,1.3s,16μm								
KAPI	Kappang	11.20	217	*e*P			**Pn**	**17 48 44.8**	**+2.6**
	148nm,1.2s								
KAPI	Kappang	11.20	217	Pn			**Pn**	**17 48 44.6**	**+2.4**
	0.5nm,0.3s,baz=73,slow=17,SNR=2.5								
KAPI					LR		LR	17 53 43.3	
	comp=Z,15μm,19.6s,baz=199,slow=41								
TLE	Tual	11.37	147	P			**Pn**	**17 48 47.4**	**+2.8**
	620nm,1.1s,8μm								
TGY	Tagaytay City	11.49	332	Pn			**Pn**	**17 48 47.9**	**+1.6**
TGY	Tagaytay City	11.49	332	Pn			**Pn**	**17 48 47.9**	**+1.6**
	10nm,0.3s,baz=135,slow=19,SNR=2.5								
TGY					LR		LR	17 53 56.0	
	comp=Z,97nm,18.4s,baz=144,slow=41								
BALP	Baler	12.68	338	*e*P			**P**	**17 49 11.2**	**-1.8**
SCZP	Santa Cruz	13.43	331	*e*P			**P**	**17 49 21.7**	**+0.4**
BTM	Bintulu	13.44	267	P			**P**	**17 49 19.4**	**-2.1**
CAUP	Cauayan	13.71	341	*e*P			Pn	17 49 20.0	+3.5
BOLP	Bolinao	13.95	333	*e*P			**P**	**17 49 26.4**	**-0.7**
ABRA	Dolores	14.75	338	*e*P			**P**	**17 49 34.5**	**-1.5**
WSI	Waingapu	14.90	205	P			P	17 49 43.6	+6.0
PIP	Pasuquin	15.40	338	*e*P			**Pn**	**17 49 41.0**	**+1.7**
KHKI	Kahang-Kahang	16.39	222	P			**P**	**17 49 57.3**	**+3.1**
	202nm,1.3s,3μm								
KSM	Kuching	16.39	262	*e*P			**P**	**17 49 55.6**	**+1.3**
	162nm,0.8s								
KSM	Kuching	16.39	262	P			**P**	**17 49 57.1**	**+2.8**
KSM	Kuching	16.39	262	P			**P**	**17 49 57.3**	**+3.0**
	250nm,0.8s,4μm								
TWG	Pinlang	19.48	345	*e*P			**P**	**17 50 26.3**	**-1.9**
	111nm,0.6s								
YULB	Yu-li	19.97	346	*e*P			**P**	**17 50 31.1**	**-2.5**
	167nm,0.9s								
YOGI	Yogyakarta	19.98	234	P			Pn	17 50 38.8	+3.0
	685nm,0.8s								
TPUB	Ta-pu	20.06	344	*e*P			**P**	**17 50 33.8**	**-0.8**
	336nm,0.8s								
SSLB	Suanglung	20.43	345	*e*P			**P**	**17 50 37.2**	**-1.5**
	137nm,0.6s								
GUMO	Guam	20.47	61	LR			LR	17 57 21.6	
	comp=Z,4μm,20.5s,baz=228,slow=33								
NACB	Ninganchiao	20.65	347	*e*P			**P**	**17 50 40.0**	**-1.0**
	87nm,0.8s								
YHNB	Yeheng	21.18	347	*e*P			**P**	**17 50 45.8**	**-1.0**
	196nm,0.8s								
YHNB					LR		LR		
	comp=Z,7μm,21.0s								
TATO	Taipei	21.45	347	*e*P			**P**	**17 50 49.5**	**0.0**
	comp=Z,152nm,1.0s								
TATO					LR		LR		
	comp=Z,6μm,22.0s								
LEM	Lembang	21.71	240	P			**P**	**17 50 55.8**	**+3.2**
	comp=Z,228nm,0.8s,comp=Z,3μm								
HKC	Hong Kong Obse	21.82	328	*i*P			**P**	**17 50 52.0**	**-1.5**
CISI	Cisompet, Garu	21.90	239	P			**P**	**17 50 57.0**	**+2.4**
	comp=Z,156nm,0.8s,comp=Z,3μm								
FITZ	Fitzroy Crossi	21.94	182	P			**P**	**17 50 55.6**	**+0.8**
FITZ				*e*S			**S**	**17 54 50.5**	**-4.5**
FITZ	Fitzroy Crossi	21.94	182	*e*P			**P**	**17 50 55.4**	**+0.5**
	comp=Z,108nm,0.9s								
FITZ				*e*S			**S**	**17 54 49.1**	**-6.0**
FITZ	Fitzroy Crossi	21.94	182	P			**P**	**17 50 55.6**	**+0.8**
	comp=Z,26nm,0.6s,baz=16,slow=8.9,SNR=20								
FITZ						S	**S**	**17 54 50.5**	**-4.5**
	comp=Z,73nm,1.4s,baz=163,slow=19,SNR=7.9								
QIZ	Qiongzhong	22.14	314	P		P	**P**	**17 51 00.3**	**+3.3**
QIZ						S	**S**	**17 55 01.0**	**+2.1**
QIZ						pmax	pmax		
	comp=Z,110nm,1.2s								
QIZ						LR	LR		
	comp=N,2μm,23.7s								
QIZ						LR	LR		
	comp=E,2μm,22.5s								
QIZ						LR	LR		
	comp=Z,6μm,26.9s								
QIZ	Qiongzhong	22.14	314	*e*P		P	**P**	**17 50 57.2**	**+0.2**
	comp=Z,153nm,1.1s								
QIZ						LR	LR		
	comp=E,5μm,21.0s								
QZH	Quanzhou	22.22	341	*i*P		P	P	17 50 52.9	-4.9
QZH						S	**S**	**17 54 59.0**	**-1.1**
QZH						pmax	pmax		
	comp=Z,390nm,0.9s								
QZH						LR	LR		
	comp=N,12μm,19.4s								
QZH						LR	LR		
	comp=E,4μm,15.8s								
QZH						LR	LR		
	comp=Z,16μm,19.9s								
MYKOM	Kota Tinggi	22.75	265	P		P	**P**	**17 51 05.9**	**+2.2**
MYKOM	Kota Tinggi	22.75	265	P		P	**P**	**17 51 06.1**	**+2.4**
	comp=Z,99nm,1.3s,comp=Z,3μm								
PMBI	Palembang	22.80	253	P		P	P	17 51 12.3	+8.2
	comp=Z,352nm,1.1s,comp=Z,6μm								
JOW	Kunigami	22.80	4	*e*P		P	**P**	**17 51 04.2**	**+0.1**
	comp=Z,69nm,0.9s								
JOW	Kunigami	22.80	4	P		P	**P**	**17 51 03.1**	**-0.9**
	comp=Z,130nm,0.8s,baz=182,slow=10,SNR=9.9								
JOW						LR	LR	17 59 26.6	
	comp=Z,3μm,18.8s,baz=152,slow=35								
GZH	Guangzhou	22.90	327	P		P	**P**	**17 51 07.4**	**+2.4**
GZH						S	**S**	**17 55 17.5**	**+5.4**
GZH						LR	LR		
	comp=N,5μm,16.9s								
GZH						LR	LR		
	comp=E,5μm,17.8s								
KGM	Kluang	23.26	266	P		P	**P**	**17 51 11.2**	**+2.4**
COEN	Coen	24.28	137	*e*P		P	**P**	**17 51 16.6**	**-1.8**
	comp=E,426nm,0.8s								
PMG	Port Moresby	24.47	123	*e*P		P	P	17 51 15.8	-4.4
	comp=E,81nm,1.0s								
PMG	Port Moresby	24.47	123	P		P	**P**	**17 51 18.1**	**-2.1**
	comp=E,46nm,1.5s,comp=E,1μm								
PMG	Port Moresby	24.47	123	P		P	**P**	**17 51 17.7**	**-2.4**
	comp=E,38nm,1.1s,baz=336,slow=7.3,SNR=13								
PMG						LR	LR	18 01 35.5	
	comp=E,3μm,19.9s,baz=339,slow=38								
FRIM	Kepong	24.87	269	P		P	**P**	**17 51 26.2**	**+2.4**
WRAB	Tennant Creek	24.96	162	*e*P		P	**P**	**17 51 23.6**	**-0.9**
WRAB						pmax	pmax		
	comp=Z,70nm,1.7s								
WRAB						MLR	MLR		
	comp=Z,3μm,20.0s								
WRAB	Tennant Creek	24.96	162	*e*P		P	**P**	**17 51 23.6**	**-0.9**
	comp=Z,70nm,1.7s								
WRAB						LR	LR		
	comp=Z,3μm,20.0s								
KSI	Kapahiang	25.09	253	P		P	**P**	**17 51 29.7**	**+3.9**
	comp=Z,134nm,0.8s,comp=Z,3μm								
IPM	Ipoh	25.44	272	*e*P		P	**P**	**17 51 29.6**	**+0.6**
	comp=Z,139nm,1.0s								
IPM	Ipoh	25.44	272	P		P	**P**	**17 51 30.5**	**+1.5**
IPM	Ipoh	25.44	272	P		P	**P**	**17 51 30.7**	**+1.7**
	comp=Z,146nm,1.3s,comp=Z,2μm								
BKNI	Bangkinang	25.72	263	P		P	**P**	**17 51 35.5**	**+4.0**
	comp=Z,220nm,1.0s,comp=Z,3μm								
KULM	Kulim	25.83	274	*e*P		P	**P**	**17 51 32.0**	**-0.5**
	comp=Z,474nm,1.1s								
KULM						LR	LR		
	comp=Z,5μm,22.0s								
KULM	Kulim	25.83	274	P		P	**P**	**17 51 34.2**	**+1.6**
KULM	Kulim	25.83	274	P		P	**P**	**17 51 34.1**	**+1.6**
	comp=Z,93nm,1.4s,comp=Z,1μm								
MBWA	Marble Bar	25.84	195	*e*P		P	**P**	**17 51 32.6**	**+0.1**
	comp=Z,65nm,0.7s								
MBWA						LR	LR		
	comp=Z,1μm,19.0s								
MBWA	Marble Bar	25.84	195	*e*P		P	**P**	**17 51 32.5**	**+0.1**
PPI	Padang Panjang	26.48	261	P		P	**P**	**17 51 40.5**	**+2.1**
	comp=Z,106nm,1.6s,comp=Z,1μm								
CBIJ	Chichi jima	27.44	31	P		P	**P**	**17 51 45.1**	**-1.7**
CBIJ	Chichi jima	27.44	31	P		P	**P**	**17 51 45.1**	**-1.7**
	comp=Z,174nm,0.7s,baz=288,slow=8.2,SNR=4.8								
CBIJ						LR	LR	18 01 12.5	
	comp=Z,3μm,20.8s,baz=218,slow=33								
SSE	Sheshan	27.46	350	P		P	**P**	**17 51 47.8**	**+0.9**
SSE						S	**S**	**17 56 27.9**	**+

GYA LR LR
comp=E,580nm,17.5s
GYA LR LR
comp=Z,790nm,18.0s
CM31 Chiang Mai Arr 30.59 300 *e*P **P 17 52 16.3 +1.4**
comp=Z,28nm,0.8s
CM31 LR LR
comp=Z,2μm,20.0s
CMAR Chiang Mai Arr 30.59 300 P **P 17 52 15.6 +0.6**
CMAR PcP **PcP 17 55 14.5 +1.4**
CMAR ScP **ScP 17 58 55.2 +2.5**
CMAR Chiang Mai Arr 30.59 300 P **P 17 52 15.6 +0.6**
comp=Z,28nm,1.0s,baz=119,slow=7.5,SNR=75
CMAR PcP **PcP 17 55 14.5 +1.4**
comp=Z,3.9nm,0.8s,baz=77,slow=3.3,SNR=2.9
CMAR ScP **ScP 17 58 55.2 +2.5**
comp=Z,9.4nm,0.9s,baz=136,slow=1.7,SNR=17
ENH Enshi 30.73 330 *e*P **P 17 52 15.8 -0.3**
comp=Z,269nm,0.8s
ENH LR LR
comp=Z,8μm,21.0s
CHTO Chiang Mai 30.73 301 *e*P **P 17 52 16.8 +0.6**
CHTO pmax pmax
comp=Z,79nm,1.0s
CHTO MLR MLR
comp=Z,3μm,20.0s
CHTO Chiang Mai 30.73 301 *e*P **P 17 52 16.8 +0.6**
comp=Z,79nm,1.0s
CHTO LR LR
comp=Z,3μm,20.0s
CHTO Chiang Mai 30.73 301 P **P 17 52 17.2 +0.9**
SNR=44
CHTO Chiang Mai 30.73 301 P **P 17 52 16.9 +0.6**
comp=Z,97nm,1.4s,comp=Z,1μm
CTA Charters Tower 30.77 142 P **P 17 52 15.2 -1.3**
CTA Charters Tower 30.77 142 *e*P **P 17 52 17.8 +1.3**
comp=Z,18nm,0.8s
CTA *e*S **S 17 57 12.0 -5.2**
CTA Charters Tower 30.77 142 P **P 17 52 15.2 -1.3**
comp=Z,11nm,0.7s,baz=326,slow=12,SNR=13
CTAO Charters Tower 30.77 142 *e*P **P 17 52 17.4 +0.9**
CTAO pmax pmax
comp=Z,23nm,0.8s
CTAO MLR MLR
comp=Z,1μm,19.0s
CTAO Charters Tower 30.77 142 *e*P **P 17 52 17.4 +0.9**
comp=Z,23nm,0.8s
CTAO LR LR
comp=Z,1μm,19.0s
KMI Kunming 31.08 315 P **P 17 52 21.4 +1.9**
KMI sP **sP 17 52 35.8 +0.5**
KMI PP **PnPn 17 53 22.4 +0.6**
KMI S **S 17 57 24.2 +1.7**
KMI sS **sS 17 57 41.8 +1.0**
KMI pmax pmax
comp=Z,44nm,1.1s
KMI pmax pmax
comp=Z,290nm,5.6s
KMI LR LR
comp=N,2μm,16.6s
KMI LR LR
comp=E,2μm,21.6s
KMI LR LR
comp=Z,4μm,20.5s
KSAR Wonju Array Be 33.35 2 P **P 17 52 38.8 -0.2**
KSAR PcP **PcP 17 55 21.0 +0.8**
KSRS Korea Array 33.36 2 P **P 17 52 38.8 -0.2**
comp=Z,20nm,0.9s,baz=177,slow=10.0,SNR=33
KSRS PcP **PcP 17 55 21.0 +0.8**
comp=Z,20nm,0.9s,baz=188,slow=3.6,SNR=13
KSRS LR LR 18 05 20.5
comp=Z,1μm,19.7s,baz=194,slow=35
INCN Inchon 33.36 0 *e*P **P 17 52 40.9 +1.8**
comp=Z,146nm,1.5s
INCN LR LR
comp=Z,2μm,22.0s
COCO West Island 33.60 241 PFAKE 17 52 50.0 +8.6
COCO LR LR
comp=Z,2μm,22.0s
XAN Xi'an 34.12 333 P **P 17 52 44.6 -1.2**
XAN pP **pP 17 52 54.6 -2.3**
XAN sP **sP 17 52 59.0 -2.7**
XAN PP **PnPn 17 53 59.8 -0.6**
XAN S **S 17 58 09.3 0.0**
XAN LR LR
comp=N,1μm,18.4s
XAN LR LR
comp=Z,3μm,16.9s
MAJO Matsushiro 34.16 17 *e*P **P 17 52 44.1 -1.9**
MAJO pmax pmax
comp=Z,145nm,1.5s
MAJO MLR MLR
comp=Z,2μm,19.0s
MAJO Matsushiro 34.16 17 *e*P **P 17 52 44.1 -1.9**
comp=Z,145nm,1.5s
MAJO LR LR
comp=Z,2μm,19.0s
MAT Matsushiro 34.16 17 P **P 17 52 43.8 -2.2**
MAT S **S 17 58 09.0 -0.7**
MJAR Matsushiro Arr 34.16 17 P **P 17 52 44.1 -2.0**
MJAR PcP **PcP 17 55 23.0 +0.5**
MJAR Matsushiro Arr 34.16 17 P **P 17 52 44.1 -2.0**
comp=Z,14nm,0.9s,baz=200,slow=10,SNR=22
MJAR PcP **PcP 17 55 23.0 +0.5**
comp=Z,15nm,0.9s,baz=197,slow=3.2,SNR=8.6
CD2 Chengdu 34.34 324 ⇑P **P 17 52 48.1 +0.4**
CD2 pP **pP 17 52 57.8 -1.0**
CD2 sP **sP 17 53 01.7 -1.9**
CD2 PcP **PcP 17 55 23.2 0.0**
CD2 S **S 17 58 13.2 +0.4**
CD2 sS **sS 17 58 29.2 -2.0**
CD2 PcS **PcS 17 59 08.5 -1.2**
CD2 SS **SnSn 18 00 24.9 0.0**
CD2 pmax pmax
comp=Z,80nm,0.8s
CD2 pmax pmax
comp=Z,140nm,7.0s
CD2 LR LR
comp=N,4μm,17.6s
CD2 LR LR
comp=E,4μm,20.1s
CD2 LR LR
comp=Z,4μm,19.6s
FORT Forrest 34.58 178 *e*P **P 17 52 49.2 -0.5**
comp=Z,115nm,0.7s
FORT Forrest 34.58 178 *e*P **P 17 52 48.7 -0.9**
comp=Z,62nm,0.6s
QLP Quilpie 34.86 152 *e*P **P 17 52 51.7 -0.5**
DL2 Dalian 35.07 353 P **P 17 52 55.8 +2.0**
DL2 S **S 17 58 23.9 +0.3**
DL2 pmax pmax
comp=Z,300nm,1.2s
DL2 pmax pmax
comp=Z,1μm,3.5s
DL2 LR LR
comp=E,2μm,17.6s
DL2 LR LR
comp=Z,1μm,21.7s
HNR Honiara 35.86 112 LR LR 18 06 51.7
comp=Z,2μm,20.3s,baz=106,slow=35
TIY Taiyuan 35.99 341 *e*P **P 17 53 02.0 +0.2**
TIY S **S 17 58 42.0 +4.1**
TIY LR LR
comp=N,1μm,14.1s
TIY LR LR
comp=E,940nm,15.9s
TIY LR LR
comp=Z,4μm,22.8s
KLBR Kellerberrin 36.33 193 *e*P **P 17 53 05.0 +0.3**
comp=Z,34nm,0.6s
BJT Baijiatuau 37.10 347 *e*P **P 17 53 11.5 +0.4**
comp=Z,288nm,0.9s
BJT LR LR
comp=Z,2μm,22.0s
BJI Beijing 37.12 347 P **P 17 53 11.7 +0.4**
BJI sP **sP 17 53 26.0 -1.3**
BJI S **S 17 58 56.3 +1.4**
BJI sS **sS 17 59 10.7 -2.8**
BJI SS **SnSn 18 01 29.6 -2.2**
BJI pmax pmax
comp=Z,330nm,0.9s
BJI LR LR
comp=N,970nm,15.6s
BJI LR LR
comp=E,2μm,24.7s
BJI LR LR
comp=Z,1μm,23.0s

IMP Imphal 37.57 307 *e*PKP **P 17 53 15.0 -0.5**
IMP *ex* x 17 55 34.0
EIDS Eidsvold 37.65 142 *e*P **P 17 53 15.8 -0.3**
comp=Z,113nm,0.9s
BBOO Buckleboo 37.67 167 *e*P **P 17 53 15.8 -0.3**
comp=Z,2μm,1.1s
BBOO Buckleboo 37.67 167 *e*P **P 17 53 16.3 +0.2**
comp=Z,323nm,0.8s
NWAO Narrogin (SRO) 37.73 193 *e*P **P 17 53 16.1 -0.5**
comp=Z,82nm,1.3s
NWAO LR LR
comp=Z,1μm,20.0s
NWAO Narrogin (SRO) 37.73 193 P **P 17 53 16.2 -0.5**
comp=Z,25nm,0.8s,baz=16,slow=11,SNR=15
SNY Shenyang 37.80 356 ⇑P **P 17 53 18.3 +1.3**
SNY S **S 17 59 01.8 -3.4**
SNY pmax pmax
comp=Z,160nm,1.5s
SNY LR LR
comp=N,590nm,22.5s
SNY LR LR
comp=E,3μm,22.5s
SNY LR LR
comp=Z,1μm,29.9s
LZH Lanzhou 38.20 330 ⇑P **P 17 53 21.3 +0.5**
LZH pP **pP 17 53 31.9 -0.1**
LZH sP **sP 17 53 36.6 -0.2**
LZH S **S 17 59 11.5 -0.4**
LZH sS **sS 17 59 29.8 -0.7**
LZH SS **SnSn 18 01 52.0 -6.4**
LZH pmax pmax
comp=Z,310nm,1.1s
LZH pmax pmax
comp=Z,750nm,4.0s
LZH LR LR
comp=N,4μm,16.9s
LZH LR LR
comp=E,3μm,15.9s
LZH LR LR
comp=Z,7μm,20.0s
STKA Stephens Creek 38.41 159 *e*P **P 17 53 22.7 +0.3**
comp=Z,19nm,0.8s
STKA S **S 17 59 12.5 -2.3**
STKA Stephens Creek 38.41 159 *e*P **P 17 53 22.2 -0.2**
comp=Z,75nm,0.8s
STKA *e*S S 17 59 08.9 -5.9
STKA Stephens Creek 38.41 159 P **P 17 53 22.6 +0.3**
comp=Z,78nm,0.7s,baz=333,slow=8.0,SNR=49
STKA S **S 17 59 12.5 -2.3**
comp=Z,8.3nm,1.0s,baz=144,slow=15,SNR=5.5
HHC Hu-ho-hao-te 39.12 342 *i* P **P 17 53 28.7 +0.4**
HHC pP **pP 17 53 38.8 -0.8**
HHC sP **sP 17 53 42.6 -1.7**
HHC PP **PnPn 17 55 03.6 +2.2**
HHC S **S 17 59 28.5 +3.0**
HHC sS sS 17 59 39.5 -4.6
HHC SS **SS 18 02 15.5 -3.8**
HHC pmax pmax
comp=Z,99nm,1.1s
HHC pmax pmax
comp=Z,490nm,5.2s
HHC LR LR
comp=N,3μm,19.0s
HHC LR LR
comp=E,2μm,19.0s
HHC LR LR
comp=Z,4μm,22.6s
VLA Vladivostok 39.28 6 ⇑*i* P **P 17 53 30.6 +1.1**
VLA *i* 17 55 38.5
VLA S **S 17 59 27.8 +0.2**
VLA pmax pmax
comp=Z,178nm,1.5s
AGT Agartala 39.37 304 *e*PKP **P 17 53 31.0 +0.5**
AGT *ex* x 17 54 19.0
BTO Baotou 39.40 340 *e*P **P 17 53 29.8 -0.9**
SHL Shillong 39.58 306 *i* P **P 17 53 34.0 +1.5**
SHL *i* S **S 17 59 36.0 +3.0**
CN2 Changchun 39.69 359 *e*P **P 17 53 33.3 +0.4**
CN2 PP **PnPn 17 55 09.7 +1.8**
CN2 PcP **PcP 17 55 40.7 +1.6**
CN2 *e*S **S 17 59 35.3 +1.6**
CN2 *e*SS **SS 18 02 25.5 -4.9**
CN2 pmax pmax
comp=Z,50nm,1.5s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,1μm,19.0s
CN2 LR LR
comp=E,600nm,19.0s
CN2 LR LR
comp=Z,1μm,20.0s
USRK Ussuriysk Arra 40.36 6 P **P 17 53 39.6 +1.2**
comp=Z,59nm,1.0s,baz=190,slow=7.9,SNR=44
USRK PcP **PcP 17 55 41.9 +0.7**
comp=Z,17nm,1.1s,baz=206,slow=4.7,SNR=4.1
MDJ Mudanjiang 40.58 3 P **P 17 53 40.9 +0.6**
MDJ pP **pP 17 53 49.8 -1.7**
MDJ sP **sP 17 53 53.8 -2.5**
MDJ PP **PP 17 55 13.8 -0.5**
MDJ PcP **PcP 17 55 42.7 +0.8**
MDJ ScP **ScP 17 59 27.4 -1.0**
MDJ PcS **PcS 17 59 34.9 +2.4**
MDJ S **S 17 59 51.4 +4.4**
MDJ SS **SS 18 02 45.8 -2.3**
MDJ ScS **ScS 18 03 44.5 +1.8**
MDJ pmax pmax
comp=Z,170nm,1.1s
MDJ pmax pmax
comp=Z,550nm,6.0s
MDJ LR LR
comp=N,1μm,24.3s
MDJ LR LR
comp=E,1μm,26.4s
MDJ LR LR
comp=Z,1μm,22.3s
MDJ Mudanjiang 40.58 3 *e*P **P 17 53 41.2 +0.9**
comp=Z,331nm,1.4s
MDJ LR LR
comp=Z,2μm,21.0s
ERM Erimo 40.70 19 PFAKE 17 53 50.0 +8.7
ERM LR LR
comp=Z,2μm,21.0s
CAL Calcutta 41.33 300 *e*PKP **P 17 53 48.2 +1.5**
CAL *ex* x 17 59 52.7
ARMA Armidale 41.77 147 *e*P **P 17 53 51.2 +0.8**
comp=Z,123nm,1.1s
ARMA Armidale 41.77 147 *e*P **P 17 53 51.4 +1.0**
LSA Lhasa 42.14 311 P **P 17 53 55.0 +1.1**
LSA S S 18 00 04.9 -6.6
LSA pmax pmax
comp=Z,40nm,1.0s
LSA pmax pmax
comp=Z,470nm,6.0s
LSA LR LR
comp=N,680nm,23.0s
LSA LR LR
comp=E,1μm,23.0s
LSA LR LR
comp=Z,2μm,23.0s
LSA Lhasa 42.14 311 *e*P **P 17 53 54.4 +0.5**
LSA pmax pmax
comp=Z,82nm,0.8s
LSA MLR MLR
comp=Z,2μm,22.0s
LSA Lhasa 42.14 311 *e*P **P 17 53 54.4 +0.5**
comp=Z,82nm,0.8s
LSA LR LR
comp=Z,2μm,22.0s
ASAJ Asahikawa 42.43 17 *e*P **P 17 53 55.8 +0.4**
comp=Z,51nm,1.2s
ASAJ Asahikawa 42.43 17 P **P 17 53 55.9 +0.4**
comp=Z,48nm,0.9s,baz=239,slow=15,SNR=22
ASAJ LR LR 18 12 57.3
comp=Z,2μm,18.8s,baz=325,slow=38
GTA Gaotai 42.80 329 ⇑P **P 17 53 58.9 +0.2**
GTA pP **pP 17 54 10.3 +0.3**
GTA sP **sP 17 54 13.7 -1.1**
GTA PP PP 17 55 43.5 +4.9
GTA PcP **PcP 17 55 51.6 +2.0**
GTA ScP **ScP 17 59 39.4 +1.8**
GTA S **S 18 00 20.9 +0.6**
GTA sS **sS 18 00 35.6 -3.5**
GTA SS **SS 18 03 27.6 -4.8**
GTA ScS **ScS 18 03 56.3 -0.5**

GTA pmax pmax
comp=Z,45nm,1.2s
GTA pmax pmax
comp=Z,390nm,6.6s
GTA LR LR
comp=N,3μm,20.9s
GTA LR LR
comp=E,4μm,20.9s
GTA LR LR
comp=Z,6μm,21.4s
YUK Yuzh-Kuril'sk 43.41 20*d* *i*P **P 17 54 02.9 -0.4**
YUK *i* 17 55 47.0
YUK *i* S **S 18 00 28.4 -0.3**
YUK pmax pmax
comp=Z,112nm,4.3s
CAN Canberra 44.41 153 *e*P **P 17 54 12.8 +1.2**
CAN pmax pmax
comp=Z,107nm,1.0s
CAN MLR MLR
comp=Z,2μm,20.0s
CAN Canberra 44.41 153 *e*P **P 17 54 12.8 +1.2**
comp=Z,107nm,1.0s
CAN LR LR
comp=Z,2μm,20.0s
CAN Canberra 44.41 153 *e*P **P 17 54 13.3 +1.7**
comp=Z,46nm,0.8s
VIS Vishakhapatnam 44.45 291 *ex* x 17 54 01.1
TOO Toolangi 44.92 159 *e*P **P 17 54 16.5 +0.8**
comp=Z,143nm,1.3s
HABR Khabarovsk 44.95 8 *i* P **P 17 54 15.8 +0.2**
HABR *e**SP sP 17 54 27.0 -4.7
HABR *e* 17 55 58.2
HABR *e*PPP PPP 17 56 37.2
HABR *e*S **S 18 00 52.1 +1.1**
HABR *e**SS sS 18 01 05.7 -4.2
HABR *e* 18 04 07.5
HABR *e*SSS SSS 18 04 57.1
HABR pmax pmax
comp=E,88nm,1.5s
HABR pmax pmax
comp=Z,313nm,2.1s
HABR pmax pmax
comp=N,164nm,2.1s
HABR MLR MLR
comp=Z,794nm,17.0s
YSS Yuzh-Sakhalins 45.08 16⇑ *e*P **P 17 54 17.2 +0.6**
YSS *e**PP **pP 17 54 28.2 +0.2**
YSS *e**SP **sP 17 54 34.2 +1.5**
YSS *e* 17 55 54.3
YSS *e*S **S 18 00 52.0 -0.9**
YSS *e*SS **ScS 18 04 11.0 +0.6**
YSS pmax pmax
comp=Z,100nm,1.2s
YSS pmax pmax
comp=N,70nm,1.1s
YSS MLR MLR
comp=N,900nm,17.0s
YSS MLR MLR
comp=E,800nm,17.0s
YSS MLR MLR
comp=Z,1μm,17.0s
YSS Yuzh-Sakhalins 45.08 16 *e*P **P 17 54 16.4 -0.2**
comp=Z,135nm,1.3s
YSS LR LR
comp=Z,634nm,20.0s
KLR Kul'dur 45.33 5⇓ *i*P **P 17 54 15.8 -2.8**
KLR *e*S **S 18 00 52.0 -4.5**
KLR *e* 18 04 07.5
KLR pmax pmax
comp=Z,300nm,1.4s
KLR pmax pmax
comp=Z,1μm,9.0s
KLR MLR MLR
comp=E,1μm,20.0s
HIA Hailar 45.51 354 *e*P **P 17 54 21.4 +1.3**
comp=E,177nm,0.8s
HIA LR LR
comp=Z,2μm,20.0s
TARA Tarawa 46.41 92 PFAKE 17 54 40.0 +12
TARA LR LR
comp=Z,4μm,22.0s
NOUC Port Laguerre 46.73 125 *e*P **P 17 54 30.4 +0.3**
DZM Mont Dzumac 46.83 125 *e*P **P 17 54 31.2 +0.2**
comp=Z,249nm,1.1s
DZM *e*S **S 18 01 22.7 +3.6**
comp=Z,2μm,30.5s
DZM *e*SS **SS 18 04 48.3 +2.1**
comp=Z,2μm,27.8s
DZM *e*LR LR 18 07 50.4
comp=Z,2μm,24.1s
DZM Mont Dzumac 46.83 125 *e*P **P 17 54 30.6 -0.4**
DZM Mont Dzumac 46.83 125 *e*P **P 17 54 32.1 +1.1**
comp=Z,97nm,0.9s
DZM S **S 18 01 20.6 +1.5**
DZM Mont Dzumac 46.83 125 P **P 17 54 32.3 +1.3**
comp=Z,87nm,1.0s,baz=326,slow=6.5,SNR=68
DZM S **S 18 01 20.6 +1.5**
comp=Z,3.2nm,1.1s,baz=104,slow=20,SNR=6.1
ULN Ulaanbaatar 46.84 342 *e*P **P 17 54 31.0 +0.2**
comp=Z,81nm,0.9s
ULN LR LR
comp=Z,3μm,22.0s
ULN Ulaanbaatar 46.84 342 P **P 17 54 31.6 +0.8**
SNR=54
ULN Ulaanbaatar 46.84 342 P **P 17 54 30.9 +0.1**
comp=Z,97nm,1.1s,comp=Z,1μm
SONM Songino Array 47.02 342 P **P 17 54 32.3 +0.1**
SONM PcP **PcP 17 56 04.8 +0.9**
SONM ScP **ScP 17 59 56.4 +1.6**
SONM Songino Array 47.02 342 P **P 17 54 32.3 +0.1**
comp=Z,27nm,0.8s,baz=160,slow=8.2,SNR=87
SONM PcP **PcP 17 56 04.8 +0.9**
comp=Z,13nm,0.8s,baz=168,slow=6.9,SNR=4.1
SONM ScP **ScP 17 59 56.4 +1.6**
comp=Z,2.1nm,1.0s,baz=165,slow=6.0,SNR=3.2
HYB Hyderabad 48.85 290 *i* P **P 17 54 46.0 -0.7**
HYB *e* 17 56 11.0
HYB *e*PP **PP 17 56 43.0 +2.7**
HYB *e*S **S 18 01 46.0 -1.8**
HYB *e*ScS **ScS 18 04 33.0 -3.5**
HYB *e* 18 05 20.0
CIT Chita 49.10 349 *e*P **P 17 54 50.0 +1.9**
CIT *e* 17 54 59.7
CIT *e* 17 56 06.5
CIT *e* 17 56 37.6
CIT pmax pmax
comp=Z,890nm,1.6s
TRD Trivandrum 49.46 278 *ex* x 17 56 52.0
TRD AMb AMB 17 56 53.8
comp=Z,100nm,0.8s
ZAK Zakamensk 50.24 341 *e*P **P 17 54 56.2 -0.7**
ZAK *e* 17 56 13.1
ZAK pmax pmax
comp=Z,20nm,1.2s
TAU Tasmania Unive 50.30 160 *e*P **P 17 54 59.1 +1.9**
TAU pmax pmax
comp=Z,37nm,1.3s
TAU MLR MLR
comp=Z,2μm,19.0s
TAU Tasmania Unive 50.30 160 *e*P **P 17 54 59.1 +1.9**
comp=Z,37nm,1.3s
TAU LR LR
comp=Z,2μm,19.0s
TLY Talaya 51.25 342 *e*P **P 17 55 02.8 -1.5**
TLY pmax pmax
comp=Z,56nm,0.9s
TLY MLR MLR
comp=Z,2μm,20.0s
TLY Talaya 51.25 342 *e*P **P 17 55 05.1 +0.8**
comp=Z,63nm,0.9s
TLY LR LR
comp=Z,2μm,21.0s
TLY Talaya 51.25 342 P **P 17 55 05.6 +1.2**
SNR=45
IRK Irkutsk 51.55 343 *e*P **P 17 55 07.0 +0.5**
IRK pmax pmax
comp=Z,229nm,2.1s
MOY Mondy 52.10 340 *e*P **P 17 55 11.7 +0.9**
MOY pmax pmax
comp=Z,172nm,2.7s
WMQ Urumqi 52.42 325 P **P 17 55 13.4 +0.1**
WMQ pP **pP 17 55 23.0 -1.8**
WMQ sP **sP 17 55 27.0 -2.5**
WMQ PcP **PcP 17 56 22.0 -1.7**
WMQ PP **PP 17 57 13.0 +0.6**

WMQ				PcS	**PcS**	**18 00 20.0**	**-2.1**		
WMQ				S	**S**	**18 02 37.0**	**+0.3**		
WMQ				sS	**sS**	**18 02 58.0**	**+2.1**		
WMQ				ScS	**ScS**	**18 04 57.0**	**-3.1**		
WMQ				pmax	pmax				
	comp=Z,62nm,1.0s								
WMQ				pmax	pmax				
	comp=Z,370nm,3.6s								
WMQ				LR	LR				
	comp=N,4μm,17.7s								
WMQ				LR	LR				
	comp=E,3μm,20.0s								
WMQ				LR	LR				
	comp=Z,4μm,21.5s								
CLNS	**Chul'man**	**52.74**	**359**	*e*P	**P**	**17 55 16.4**	**+1.0**		
CLNS				*e*		17 56 25.6			
CLNS				*e*		17 57 18.0			
CLNS				*e*PPP	PPP	17 58 26.9			
CLNS				*e*S	S	18 02 46.1	+5.5		
CLNS				*e*SS	**SS**	**18 06 16.1**	**-3.5**		
CLNS				pmax	pmax				
	comp=Z,118nm,1.3s								
CLNS				pmax	pmax				
	comp=N,95nm,1.5s								
CLNS				pmax	pmax				
	comp=E,50nm,1.2s								
CLNS				pmax	pmax				
	comp=N,20nm,1.2s								
CLNS				pmax	pmax				
	comp=Z,25nm,1.2s								
CLNS				pmax	pmax				
	comp=E,15nm,1.2s								
CLNS				smax	smax				
	comp=N,347nm,13.3s								
CLNS				smax	smax				
	comp=E,299nm,15.1s								
CLNS				MLR	MLR				
	comp=N,373nm,17.0s								
CLNS				MLR	MLR				
	comp=E,168nm,16.0s								
CLNS				MLR	MLR				
	comp=Z,373nm,16.0s								
NDI	**New Delhi**	**52.83**	**303**	*ex*	P	17 55 13.0	-3.5		
KAD	**Karad**	**52.95**	**289**	*e*PKP	**P**	**17 55 16.7**	**-0.9**		
POO	**Poona**	**53.45**	**290**	*e*PKP	**P**	**17 55 21.7**	**+0.5**		
POO				AMb	AMB	17 55 22.9			
	comp=Z,109nm,0.8s								
FUNA	**Funafuti**	**53.96**	**103**	PFAKE		17 55 40.0	+15		
FUNA				LR	LR				
	comp=Z,6μm,21.0s								
BHK	**Bhakra**	**54.37**	**306**	*e*PKP	**P**	**17 55 27.4**	**-0.3**		
AJM	**Ajmer**	**54.39**	**300**	*e*PKP	**P**	**17 55 26.0**	**-2.0**		
BOD	**Bodaibo**	**54.61**	**352**	*e*P	**P**	**17 55 29.7**	**+0.8**		
BOD				pmax	pmax				
	comp=Z,148nm,1.6s								
DGAR	**Diego Garcia**	**55.13**	**258**	PFAKE		17 55 50.0	+17		
DGAR				LR	LR				
	comp=Z,1μm,21.0s								
MSVF	**Nonsavu**	**55.19**	**115**	*e*P	**P**	**17 55 35.8**	**+1.9**		
MSVF				pmax	pmax				
	comp=Z,172nm,1.0s								
MSVF				MLR	MLR				
	comp=Z,2μm,19.0s								
MSVF	**Nonsavu**	**55.19**	**115**	*e*P	**P**	**17 55 35.8**	**+1.9**		
	comp=Z,172nm,1.0s								
MSVF				LR	LR				
	comp=Z,2μm,19.0s								
PEA0B	**Petropavlovsk-**	**55.29**	**22**	*e*P	**P**	**17 55 34.7**	**+0.7**		
PETK	**Petropavlovsk-**	**55.29**	**22**	P	**P**	**17 55 35.0**	**+1.0**		
PETK				pmax	pmax				
	comp=Z,38nm,1.0s								
PETK	**Petropavlovsk-**	**55.29**	**22**	P	**P**	**17 55 35.0**	**+1.0**		
PETK	**Petropavlovsk-**	**55.29**	**22**	P	**P**	**17 55 35.0**	**+1.0**		
	comp=Z,38nm,1.0s,baz=200,slow=4.0,SNR=18								
PET	**Petropavlovsk**	**55.59**	**23**	*e*P	**P**	**17 55 36.7**	**+0.6**		
PET				*e*S	**S**	**18 03 18.0**	**-1.0**		
PET				pmax	pmax				
	comp=Z,88nm,1.4s								
PET				MLR	MLR				
	comp=Z,900nm,19.0s								
PET				MLR	MLR				
	comp=Z,1μm,18.0s								
PET	**Petropavlovsk**	**55.59**	**23**	*e*P	**P**	**17 55 37.2**	**+1.1**		
	comp=Z,96nm,1.2s								
PET				LR	LR				
	comp=Z,871nm,19.0s								
MK31	**Makanchi Array**	**57.25**	**325**	*i* P	**P**	**17 55 48.2**	**+0.1**		
MK31				pmax	pmax				
	comp=Z,87nm,0.8s								
MK31	**Makanchi Array**	**57.25**	**325**	*e*P	**P**	**17 55 47.9**	**-0.2**		
MKAR	**Makanchi Array**	**57.25**	**325**	P	**P**	**17 55 47.9**	**-0.2**		
MKAR				S	**S**	**18 03 41.3**	**-0.1**		
MKAR				pmax	pmax				
	comp=Z,65nm,0.8s								
MKAR				pmax	pmax				
	comp=N,2.0nm,0.7s								
MKAR				smax	smax				
	comp=N,2.0nm,1.0s								
MKAR	**Makanchi Array**	**57.25**	**325**	P	**P**	**17 55 47.9**	**-0.2**		
MKAR				ScP	**ScP**	**18 00 38.5**	**-0.5**		
MKAR				S	**S**	**18 03 41.2**	**-0.1**		
MKAR	**Makanchi Array**	**57.25**	**325**	P	**P**	**17 55 47.9**	**-0.2**		
	comp=N,65nm,0.8s,baz=123,slow=7.1,SNR=70								
MKAR				ScP	**ScP**	**18 00 38.5**	**-0.5**		
	comp=N,1.8nm,0.7s,baz=111,slow=6.0,SNR=3.7								
MKAR				S	**S**	**18 03 41.2**	**-0.1**		
	comp=N,1.9nm,0.9s,baz=133,slow=12,SNR=3.9								
KSH	**Kashi**	**57.74**	**315**	P	**P**	**17 55 52.9**	**+1.1**		
KSH				pP	**pP**	**17 56 02.5**	**-1.0**		
KSH				sP	**sP**	**17 56 06.6**	**-1.6**		
KSH				PcP	**PcP**	**17 56 45.9**	**+1.5**		
KSH				PP	**PP**	**17 58 02.5**	**+2.3**		
KSH				ScP	**ScP**	**18 00 41.7**	**+0.2**		
KSH				PcS	**PcS**	**18 00 44.6**	**-1.1**		
KSH				S	**S**	**18 03 48.7**	**+0.5**		
KSH				sS	**sS**	**18 04 05.0**	**-2.6**		
KSH				ScS	**ScS**	**18 05 37.3**	**-1.2**		
KSH				SS	**SS**	**18 07 40.4**	**+1.2**		
KSH				LR	LR				
	comp=N,740nm,16.7s								
KSH				LR	LR				
	comp=E,2μm,19.6s								
KSH				LR	LR				
	comp=Z,2μm,21.9s								
YAK	**Yakutsk**	**57.99**	**2**	*c i* P	**P**	**17 55 53.5**	**+0.6**		
YAK				*e*		17 56 44.4			
YAK				*e*		17 58 05.5			
YAK				*e*S	**S**	**18 03 48.7**	**-1.6**		
YAK				*e**SS	**sS**	**18 04 13.4**	**+3.7**		
YAK				*i*		18 05 36.9			
YAK				*e*SS	**SS**	**18 07 42.3**	**+0.4**		
YAK				pmax	pmax				
	comp=Z,239nm,0.9s								
YAK				pmax	pmax				
	comp=N,166nm,1.2s								
YAK				pmax	pmax				
	comp=E,55nm,1.3s								
YAK				pmax	pmax				
	comp=N,105nm,1.9s								
YAK				pmax	pmax				
	comp=Z,147nm,2.4s								
YAK				pmax	pmax				
	comp=E,58nm,1.6s								
YAK				smax	smax				
	comp=E,131nm,2.0s								
YAK				smax	smax				
	comp=N,219nm,2.8s								
YAK				MLR	MLR				
	comp=Z,993nm,20.0s								
YAK				MLR	MLR				
	comp=N,829nm,19.0s								
YAK				MLR	MLR				
	comp=E,300nm,16.0s								
YAK	**Yakutsk**	**57.99**	**2**	*e*P	**P**	**17 55 53.5**	**+0.6**		
	comp=E,799nm,1.4s								
YAK				LR	LR				
	comp=Z,894nm,20.0s								
BHJ	**Bhuj**	**58.11**	**295**	*ex*	x	17 56 55.3			
BHJ				AMb	AMB	17 56 56.2			
	comp=Z,160nm,1.0s								
ULHL	**Ulaho**l	**58.72**	**318**	P	**P**	**17 55 59.0**	**+0.3**		
	SNR=6.8								
KZA	**Kyzart**	**59.31**	**318**	P	**P**	**17 56 03.4**	**+0.3**		
	SNR=53								
TKM2	**Tokmak 2**	**59.44**	**319**	*i* P	**P**	**17 56 03.7**	**0.0**		
TKM2	**Tokmak 2**	**59.44**	**319**	PFAKE		17 56 20.0	+16		
TKM2				LR	LR				
	comp=Z,3μm,22.0s								
TKM2	**Tokmak 2**	**59.44**	**319**	P	**P**	**17 56 03.8**	**0.0**		
	SNR=58								
KBK	**Karagaybulak**	**59.76**	**318**	P	**P**	**17 56 06.9**	**+1.0**		
	SNR=38								
UCH	**Uchtor**	**59.87**	**317**	P	**P**	**17 56 08.2**	**+1.2**		
	SNR=14								
CHMS	**Chumysh**	**60.04**	**318**	P	**P**	**17 56 08.0**	**+0.4**		
	SNR=17								
AAK	**Ala-Archa**	**60.05**	**318**	*ce*P	**P**	**17 56 08.5**	**+0.6**		
AAK				pmax	pmax				
	comp=Z,220nm,1.7s								
AAK	**Ala-Archa**	**60.05**	**318**	*e*P	**P**	**17 56 07.6**	**-0.3**		
	comp=Z,599nm,1.7s								
AAK				LR	LR				
	comp=Z,2μm,22.0s								
AAK	**Ala-Archa**	**60.05**	**318**	P	**P**	**17 56 08.2**	**+0.3**		
	SNR=43								
AAK	**Ala-Archa**	**60.05**	**318**	P	**P**	**17 56 07.8**	**-0.1**		
	SNR=31								
AAK	**Ala-Archa**	**60.05**	**318**	P	**P**	**17 56 07.9**	**+0.1**		
	comp=Z,10nm,0.7s,baz=103,slow=6.3,SNR=48								
FRU	**Bishkek**	**60.06**	**318**	*e*P	**P**	**17 56 07.0**	**-0.7**		
FRU				*e*		17 58 21.0			
FRU				pmax	pmax				
	comp=Z,130nm,2.0s								
ZAA0	**Zalesovo Array**	**60.29**	**333**	*e*P	**P**	**17 56 07.9**	**-1.1**		
ZALV	**Zalesovo Beam**	**60.29**	**333**	P	**P**	**17 56 08.1**	**-1.0**		
ZALV				S	**S**	**18 04 16.8**	**-3.7**		
ZALV				pmax	pmax				
	comp=Z,25nm,0.7s								
ZALV				smax	smax				
	comp=N,2.0nm,1.0s								
ZALV	**Zalesovo Beam**	**60.29**	**333**	P	**P**	**17 56 08.1**	**-1.0**		
ZALV				S	**S**	**18 04 16.8**	**-3.7**		
ZALV	**Zalesovo Beam**	**60.29**	**333**	P	**P**	**17 56 08.1**	**-1.0**		
	comp=N,25nm,0.7s,baz=122,slow=6.4,SNR=48								
ZALV				S	**S**	**18 04 16.8**	**-3.7**		
	comp=N,2.1nm,1.0s,baz=135,slow=15,SNR=4.0								
USP	**Ospenovka**	**60.32**	**318**	P	**P**	**17 56 09.4**	**-0.1**		
	SNR=57								
AML	**Almayashu**	**60.39**	**317**	P	**P**	**17 56 10.9**	**+0.4**		
	SNR=67								
EKS2	**Erkin-Say**	**60.55**	**318**	*e*P	**P**	**17 56 11.1**	**-0.1**		
EKS2				pmax	pmax				
	comp=Z,79nm,1.1s								
EKS2				MLR	MLR				
	comp=Z,1μm,20.0s								
EKS2	**Erkin-Say**	**60.55**	**318**	*e*P	**P**	**17 56 11.1**	**-0.1**		
	comp=Z,79nm,1.1s								
EKS2				LR	LR				
	comp=Z,1μm,20.0s								
EKS2	**Erkin-Say**	**60.55**	**318**	P	**P**	**17 56 11.4**	**+0.2**		
	SNR=57								
KURBB	**Kurchatov Arra**	**61.44**	**327**	P	**P**	**17 56 16.5**	**-0.4**		
	comp=Z,136nm,0.8s,baz=124,slow=6.3,SNR=128								
KURBB				S	S	18 04 45.6	+10		
	comp=Z,0.5nm,0.4s,baz=122,slow=12,SNR=6.2								
KURK	**Kurchatov**	**61.44**	**328**	P	**P**	**17 56 16.5**	**-0.4**		
KURK				S	S	18 04 45.7	+10		
KURK				pmax	pmax				
	comp=Z,136nm,0.8s								
KURK				smax	smax				
	comp=N,1.0nm,0.4s								
KURK	**Kurchatov**	**61.44**	**328**	*e*P	**P**	**17 56 16.1**	**-0.8**		
	comp=N,161nm,0.8s								
KURK				S	S	18 04 45.6	+10		
KURK				LR	LR				
	comp=Z,833nm,19.0s								
KURK	**Kurchatov**	**61.44**	**328**	P	**P**	**17 56 16.8**	**-0.1**		
	SNR=68								
NVS	**Novosibirsk**	**61.58**	**333**	⇑*i* P	**P**	**17 56 16.6**	**-1.2**		
NVS				*e*S	**S**	**18 04 32.5**	**-4.3**		
NVS				*e*		18 06 00.8			
NVS				pmax	pmax				
	comp=Z,71nm,1.0s								
NVS				pmax	pmax				
	comp=N,27nm,0.8s								
NVS				pmax	pmax				
	comp=E,29nm,0.8s								
NVS				smax	smax				
	comp=N,19nm,1.8s								
NVS				smax	smax				
	comp=E,51nm,2.1s								
SEY	**Seymchan**	**61.85**	**13**	*ce*P	**P**	**17 56 18.6**	**-0.9**		
RPZ	**Rata Peaks**	**62.06**	**145**	*e*P	**P**	**17 56 22.3**	**+1.0**		
	comp=E,52nm,0.8s								
SNZO	**South Karori**	**62.87**	**141**	P	**P**	**17 56 25.8**	**-0.8**		
SNZO				LR	LR				
	comp=Z,2μm,19.0s								
KK31	**Karatay Array**	**62.93**	**317**	*i* P	**P**	**17 56 26.2**	**-0.9**		
KK31				pmax	pmax				
	comp=Z,164nm,1.4s								
KKAR	**Karatay Array**	**62.93**	**317**	*e*P	**P**	**17 56 26.4**	**-0.7**		
KKAR				pmax	pmax				
	comp=Z,42nm,0.8s								
KKAR	**Karatay Array**	**62.93**	**317**	*e*P	**P**	**17 56 26.4**	**-0.7**		
	comp=Z,42nm,0.8s								
AFI	**Afiamalu**	**63.70**	**108**	*e*P	**P**	**17 56 34.0**	**+1.2**		
	comp=Z,130nm,1.4s								
AFI				LR	LR				
	comp=Z,2μm,19.0s								
AFI	**Afiamalu**	**63.70**	**108**	P	**P**	**17 56 34.0**	**+1.2**		
	comp=Z,52nm,1.1s,baz=180,slow=23,SNR=8.7								
BVA0	**Borovoye Array**	**67.02**	**327**	*i* P	**P**	**17 56 52.9**	**-0.6**		
BVA0				pmax	pmax				
	comp=Z,29nm,1.2s								
BVAR	**Borovoye Array**	**67.02**	**327**	P	**P**	**17 56 53.0**	**-0.5**		
BVAR				S	**S**	**18 05 43.0**	**-1.2**		
BVAR				pmax	pmax				
	comp=Z,80nm,1.0s								
BVAR				smax	smax				
	comp=N,2.0nm,1.0s								
BVAR	**Borovoye Array**	**67.02**	**327**	P	**P**	**17 56 53.0**	**-0.5**		
BVAR				S	**S**	**18 05 43.0**	**-1.2**		
BVAR	**Borovoye Array**	**67.02**	**327**	P	**P**	**17 56 53.0**	**-0.5**		
	comp=N,80nm,1.0s,baz=128,slow=9.7,SNR=64								
BVAR				S	**S**	**18 05 43.0**	**-1.2**		
	comp=N,1.6nm,1.0s,baz=139,slow=9.2,SNR=3.7								
BRVK	**Borovoye**	**67.09**	**327**	*ce*P	**P**	**17 56 53.6**	**-0.3**		
BRVK				pmax	pmax				
	comp=Z,185nm,1.2s								
BRVK	**Borovoye**	**67.09**	**327**	*e*P	**P**	**17 56 53.4**	**-0.5**		
	comp=Z,148nm,1.1s								
BRVK				LR	LR				
	comp=Z,2μm,20.0s								
BRVK	**Borovoye**	**67.09**	**327**	P	**P**	**17 56 54.0**	**+0.1**		
	SNR=51								
BILL	**Bilibino**	**69.38**	**15**	⇑*e*P	**P**	**17 57 08.5**	**+0.5**		
BILL				*e*		17 59 42.0			
BILL				*e*S	S	18 06 20.1	+8.2		
BILL				pmax	pmax				
	comp=Z,52nm,1.7s								
BILL				MLR	MLR				
	comp=Z,900nm,21.0s								
BILL	**Bilibino**	**69.38**	**15**	*e*P	**P**	**17 57 08.0**	**0.0**		
	comp=Z,24nm,0.9s								
BILL				LR	LR				
	comp=Z,998nm,22.0s								
ABKT	**Ailbek**	**70.59**	**309**	P	**P**	**17 57 16.2**	**+0.1**		
	comp=Z,345nm,1.2s,SNR=24								
DRV	**Dumont d'Urvil**	**71.12**	**174**	P	P	17 57 06.0	-13		
DRV	**Dumont d'Urvil**	**71.12**	**174**	PP	PP	17 59 55.0	-1.7		
DRV				S	S	18 06 00.0	-32		
DRV				SS	SS	18 10 48.0	-18		
DRV				L	L	18 14 00.0			
DRV				R		18 20 00.0			
MSEY	**Mahe Island**	**71.50**	**264**	PFAKE		17 57 30.0	+8.0		
MSEY				LR	LR				
	comp=Z,1μm,21.0s								
AB31	**Akbulak array**	**71.85**	**321**	*i* P	**P**	**17 57 22.7**	**-0.7**		
AB31				pmax	pmax				
	comp=Z,13nm,0.6s								
ABKAR	**Akbulak array**	**71.85**	**321**	*e*P	**P**	**17 57 22.5**	**-0.8**		
	comp=Z,38nm,0.9s								
RBK	**Rabkut**	**71.97**	**287**	⇑P	**P**	**17 57 23.3**	**-1.4**		
	SNR=6.2								
ABTO	**Aybut**	**72.83**	**287**	⇑P	**P**	**17 57 28.3**	**-1.7**		
	SNR=10								
UNV	**Unalaska Valle**	**73.35**	**35**	*e*P	**P**	**17 57 32.6**	**+0.4**		
	comp=Z,199nm,1.2s								
AKTO	**Aktyubinsk**	**73.36**	**322**	P	**P**	**17 57 32.4**	**+0.1**		
AKTO				pmax	pmax				
	comp=Z,19nm,1.1s								
AKTO	**Aktyubinsk**	**73.36**	**322**	P	**P**	**17 57 31.9**	**-0.4**		
AKTO	**Aktyubinsk**	**73.36**	**322**	P	**P**	**17 57 31.9**	**-0.4**		
	comp=Z,53nm,0.8s,baz=99,slow=8.1,SNR=64								
SVE	**Sverdlovsk**	**73.66**	**328**	*de*P	**P**	**17 57 33.9**	**-0.1**		
SVE				*e*S	**S**	**18 07 04.7**	**+3.1**		
SVE				*e*SS	**SS**	**18 11 47.5**	**+2.1**		
SVE				pmax	pmax				
	comp=Z,119nm,1.4s								
SVE				MLR	MLR				
	comp=Z,1μm,20.0s								
GAMB	**Gambell**	**74.27**	**24**	*e*P	**P**	**17 57 38.3**	**+0.9**		
	comp=Z,160nm,1.3s								
ARU	**Arti**	**74.64**	**328**	*c i*P	**P**	**17 57 39.4**	**-0.3**		
ARU						18 00 25.2			
ARU				S	**S**	**18 07 12.6**	**0.0**		
ARU				SS	**SS**	**18 11 56.9**	**-3.3**		
ARU				pmax	pmax				
	comp=Z,47nm,0.7s								
ARU	**Arti**	**74.64**	**328**	*e*P	**P**	**17 57 38.5**	**-1.1**		
	comp=Z,59nm,0.8s								
ARU				LR	LR				
	comp=Z,1μm,22.0s								
KIP	**Kipapa**	**75.03**	**69**	*ce*P	**P**	**17 57 45.5**	**+2.9**		
KIP				pmax	pmax				
	comp=Z,239nm,2.5s								
SOKR	**Solikamsk**	**76.41**	**331**	*c i*P	**P**	**17 57 50.0**	**+0.3**		
SOKR				pmax	pmax				
	comp=Z,60nm,1.0s								
TNA	**Tin City**	**76.45**	**23**	*e*P	**P**	**17 57 51.6**	**+1.7**		
	comp=Z,113nm,2.0s								
SDPT	**Sand Point**	**77.12**	**34**	*e*P	**P**	**17 57 54.5**	**+0.7**		
	comp=Z,154nm,0.8s								
QRN	**Al-Qurain**	**78.12**	**298**	*e*P	**P**	**17 57 59.1**	**-0.9**		
QRN				AMb	AMB	17 58 03.6			
	comp=Z,196nm,1.0s								
UMR	**Umm Al-Rimmam**	**78.33**	**299**	*e*P	**P**	**17 57 59.9**	**-1.2**		
UMR				AMb	AMB	17 58 02.5			
	comp=Z,126nm,1.1s								
KBD	**Kabd**	**78.34**	**299**	*e*P	**P**	**17 57 59.8**	**-1.4**		
KBD				AMb	AMB	17 58 02.6			
	comp=Z,61nm,1.1s								
RDF	**Al-Radifah**	**78.45**	**299**	*e*P	**P**	**17 58 01.1**	**-0.8**		
RDF				AMb	AMB	17 58 03.8			
	comp=Z,117nm,1.0s								
MIB	**Mutribah**	**78.67**	**299**	*e*P	**P**	**17 58 01.9**	**-1.1**		
MIB				AMb	AMB	17 58 04.3			
	comp=Z,136nm,0.9s								
NAY	**Al-Naaiem**	**78.73**	**299**	*e*P	**P**	**17 58 01.9**	**-1.6**		
NAY				AMb	AMB	17 58 04.5			
	comp=Z,71nm,1.0s								
MAK	**Makhachkala**	**79.28**	**313**	P	**P**	**17 58 04.5**	**-1.6**		
MAK				*e*		18 01 13.7			
MAK				*e*S	**S**	**18 08 05.2**	**+1.5**		
MAK				*e*		18 08 26.1			
MAK				*e*SSS	SSS	18 16 29.2			
MAK				pmax	pmax				
	comp=Z,108nm,1.1s								
DGRG	**David-gareji**	**80.76**	**311**	P	**P**	**17 58 14.9**	**+0.7**		
OPO	**Ambohidratompo**	**81.18**	**251**	P	**P**	**17 58 15.4**	**-1.6**		
OPO	**Ambohidratompo**	**81.18**	**251**	P	**P**	**17 58 15.4**	**-1.6**		
	comp=Z,6.3nm,0.7s,baz=61,slow=3.4,SNR=8.0								
GNI	**Garni**	**81.18**	**310**	*e*P	**P**	**17 58 18.4**	**+1.7**		
	comp=Z,66nm,1.3s								
GNI				LR	LR				
	comp=Z,570nm,21.0s								
ABPO	**Ambohimpanom**	**81.20**	**250**	*e*P	**P**	**17 58 17.1**	**0.0**		
ABPO				pmax	pmax				
	comp=Z,22nm,0.9s								
ABPO	**Ambohimpanom**	**81.20**	**250**	*e*P	**P**	**17 58 17.1**	**0.0**		
	comp=Z,22nm,0.9s								
TBLG	**Delisi**	**81.25**	**311**	P	**P**	**17 58 16.9**	**+0.1**		
TBLG	**Delisi**	**81.25**	**311**	P	**P**	**17 58 16.9**	**+0.1**		
BHD	**Baghdad**	**81.28**	**303**	*i* x	**P**	**17 58 14.8**	**-2.3**		
BHD				*i* x	x	18 08 17.0			
KDAK	**Kodiak Island**	**81.80**	**32**	*e*P	**P**	**17 58 20.4**	**+1.1**		
	comp=Z,143nm,1.3s								
KDAK	**Kodiak Island**	**81.80**	**32**	P	**P**	**17 58 20.6**	**+1.3**		
	comp=Z,80nm,1.1s,baz=265,slow=2.9,SNR=13								
KDAK				LR	LR	18 31 04.2			
	comp=Z,878nm,21.1s,baz=250,slow=33								
ZEI	**Tsey**	**81.92**	**312**	*e*P	**P**	**17 58 19.4**	**-1.1**		
ZEI				pmax	pmax				
	comp=Z,42nm,1.3s								
AKH	**Akhalkalaki**	**82.17**	**311**	P	**P**	**17 58 22.3**	**+0.4**		
KIV	**Kislovodsk**	**82.84**	**314**	*c i*P	**P**	**17 58 24.9**	**-0.3**		
KIV				*e*S	**S**	**18 08 41.5**	**+0.6**		
KIV				*e*SS	**SS**	**18 14 04.0**	**-0.2**		
KIV				pmax	pmax				
	comp=Z,18nm,0.7s								
KIV				MLR	MLR				
	comp=Z,601nm,19.0s								
KIV	**Kislovodsk**	**82.84**	**314**	*e*P	**P**	**17 58 25.5**	**+0.3**		
	comp=Z,17nm,0.8s								
KIV				LR	LR				
	comp=Z,712nm,21.0s								
KIV	**Kislovodsk**	**82.84**	**314**	P	**P**	**17 58 26.0**	**+0.8**		
	SNR=5.1								
SLKM	**Skilak Lake**	**83.24**	**30**	*e*P	**P**	**17 58 26.2**	**-0.6**		
SLKM	**Skilak Lake**	**83.24**	**30**	*e*P	**P**	**17 58 26.2**	**-0.6**		
TRF	**Thorofare Moun**	**83.42**	**27**	*e*P	**P**	**17 58 27.2**	**-0.7**		
	comp=Z,374nm,1.7s								
RC01	**Rabbit Creek A**	**83.52**	**29**	*e*P	**P**	**17 58 28.6**	**+0.4**		
	comp=Z,124nm,1.1s								
SEW	**Seward**	**83.60**	**30**	*e*P	**P**	**17 58 27.2**	**-1.4**		
	comp=Z,155nm,1.3s								
VNDA	**Vanda**	**83.68**	**173**	*e*P	**P**	**17 58 29.2**	**+0.6**		
	comp=Z,12nm,0.7s								
VNDA				LR	LR				
	comp=Z,670nm,20.0s								
VRHR	**Novokhopersk**	**83.74**	**321**	*e*P	**P**	**17 58 28.6**	**-0.9**		
VRHR				*e*S	**S**	**18 08 44.2**	**-5.2**		
VRHR				pmax	pmax				
	comp=N,20nm,0.8s								
VRHR				pmax	pmax				
	comp=E,20nm,0.8s								
VRHR				pmax	pmax				
	comp=Z,80nm,0.8s								
VRHR				smax	smax				
	comp=N,160nm,1.6s								
VRHR				smax	smax				
	comp=Z,10.0nm,1.6s								
VRHR				smax	smax				
	comp=E,30nm,0.8s								
VRHR				MLR	MLR				
	comp=N,200nm,21.0s								
VRHR				MLR	MLR				
	comp=E,370nm,21.0s								
VRHR				MLR	MLR				
	comp=Z,750nm,21.0s								
COLD	**Coldfoot**	**83.76**	**23**	*e*P	**P**	**17 58 31.1**	**+1.8**		
	comp=Z,138nm,1.2s								
PMR	**Palmer**	**83.84**	**29**	*e*P	**P**	**17 58 29.8**	**0.0**		
PMR				pmax	pmax				
	comp=Z,169nm,1.3s								
PMR	**Palmer**	**83.84**	**29**	*e*P	**P**	**17 58 29.8**	**0.0**		
	comp=Z,169nm,1.3s								
MAW	**Mawson**	**83.90**	**200**	P	**P**	**17 58 29.1**	**-0.8**		
MAW	**Mawson**	**83.90**	**200**	P	**P**	**17 58 29

SOC pmax pmax
comp=Z,32nm,0.6s
SOC MLR MLR
comp=Z,1μm,22.0s
KLMR Klimovskoe 85.11 331 *c iP* **P 17 58 36.2 0.0**
KLMR *eS* **S 18 08 57.6 -5.2**
KLMR pmax pmax
comp=Z,794nm,1.4s
KLMR pmax pmax
comp=Z,264nm,4.5s
KLMR MLR MLR
comp=Z,1μm,21.0s
VOR Voronezh 85.26 321 P **P 17 58 36.0 -1.2**
VOR pmax pmax
comp=Z,350nm,1.2s
VSR Storozhevoye 85.29 321 *eP* **P 17 58 36.5 -0.8**
VSR *eS* **S 18 09 03.0 -1.9**
VSR pmax pmax
comp=Z,100nm,1.3s
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,50nm,1.3s
VSR smax smax
comp=N,140nm,2.5s
VSR smax smax
comp=E,60nm,2.5s
VSR smax smax
comp=Z,80nm,2.5s
VSR MLR MLR
comp=N,470nm,19.0s
VSR MLR MLR
comp=E,380nm,19.0s
VSR MLR MLR
comp=Z,580nm,19.0s
PPT2 Papeete2 85.38 108 *eS* **S 18 09 08.7 +1.5**
comp=Z,2μm,27.2s
PPT2 *eSS* **SS 18 14 43.8 +0.9**
comp=Z,698nm,29.8s
PPT2 *eLQ* LQ 18 22 07.9
comp=Z,2μm,40.0s
PPT2 *eLR* LR 18 25 43.3
comp=Z,2μm,26.2s,baz=275
DIV Divide 85.44 29 *eP* **P 17 58 39.7 +1.7**
comp=Z,296nm,1.4s
PAX Paxson 85.59 27 *eP* **P 17 58 39.6 +0.9**
PAX pmax pmax
comp=Z,159nm,1.6s
PAX Paxson 85.59 27 *eP* **P 17 58 39.6 +0.9**
comp=Z,159nm,1.6s
BMRM Bremner River 86.01 29 *eP* **P 17 58 42.4 +1.6**
comp=Z,127nm,1.3s
TBI Tubuai 86.06 114 *eS* **S 18 09 14.7 +1.1**
comp=Z,1μm,27.8s
TBI *eSS* **SS 18 14 53.9 +1.3**
comp=Z,482nm,30.2s
TBI *eLQ* LQ 18 22 22.6
comp=Z,522nm,38.5s
TBI *eLR* LR 18 25 54.4
comp=Z,2μm,28.2s
MOS Moscow 86.14 325 *eP* **P 17 58 39.3 -2.1**
MOS *eS* S 18 09 02.4 -11
MOS pmax pmax
comp=Z,456nm,1.3s
MOS pmax pmax
comp=Z,1μm,1.9s
MOS MLR MLR
comp=Z,2μm,19.0s
DOT Dot Lake 86.22 27 *eP* **P 17 58 42.0 +0.3**
comp=Z,11nm,1.2s
MENT Mentasta 86.39 27 *eP* **P 17 58 43.4 +0.7**
ANN Anapa 86.60 315 *eP* **P 17 58 42.7 -1.2**
ANN *e* 18 09 05.4
ANN *eSS* SS 18 14 55.3 -4.0
ANN pmax pmax
comp=Z,152nm,1.3s
OBN Obninsk 86.76 325⇑ *eP* **P 17 58 44.3 -0.2**
OBN *e* 18 02 07.5
OBN *eS* **S 18 09 21.0 +1.9**
OBN pmax pmax
comp=Z,613nm,1.7s
OBN MLR MLR
comp=Z,2μm,20.0s
OBN Obninsk 86.76 325 *eP* **P 17 58 44.2 -0.3**
comp=Z,557nm,1.4s
OBN LR LR
comp=Z,2μm,20.0s
LVZ Lovozero 87.07 338 *eP* **P 17 58 45.6 -0.2**
LVZ pmax pmax
comp=Z,150nm,2.5s
LVZ Lovozero 87.07 338 *eP* **P 17 58 46.0 +0.2**
comp=Z,60nm,1.2s
LVZ LR LR
comp=Z,3μm,20.0s
EGAK Eagle 87.44 25 *eP* **P 17 58 47.9 +0.3**
comp=Z,11nm,0.9s
EGAK LR LR
comp=Z,541nm,20.0s
APA Apatity 87.57 337⇑ *iP* **P 17 58 48.0 -0.2**
APA pmax pmax
comp=Z,72nm,1.2s
APA MLR MLR
comp=Z,3μm,18.0s
ASF Jabal al Asfar 87.61 302 P **P 17 58 50.1 +0.8**
ASF Jabal al Asfar 87.61 302 P **P 17 58 50.1 +0.8**
comp=Z,16nm,0.8s,baz=296,slow=1.3,SNR=24
MMAI Mount Meron Ar 88.81 303 P **P 17 58 55.6 +0.6**
MMAI Mount Meron Ar 88.81 303 P **P 17 58 55.6 +0.6**
comp=Z,30nm,1.1s,baz=68,slow=7.6,SNR=14
JOF Joensuu 88.89 333 *eP* **P 17 58 53.0 -1.5**
JOF pmax pmax
comp=Z,118nm,1.1s
JOF Joensuu 88.89 333 *ep* **P 17 58 53.0 -1.5**
comp=Z,118nm,1.1s
KMBO Kilima Mbogo 89.36 269 *eP* **P 17 58 58.6 +0.5**
comp=Z,83nm,1.5s
KMBO LR LR
comp=Z,763nm,22.0s
KMBO Kilima Mbogo 89.36 269 P **P 17 58 59.1 +1.0**
SNR=23
EIL Elat 89.44 300 P **P 17 58 57.5 -0.3**
EIL Elat 89.44 300 P **P 17 58 57.5 -0.3**
comp=Z,18nm,0.8s,baz=78,slow=3.5,SNR=21
KEV Kevo 89.61 340 *eP* **P 17 58 57.8 +0.1**
KEV Kevo 89.61 340 PFAKE 17 59 10.0 +12
KEV LR LR
comp=Z,2μm,22.0s
KEV Kevo 89.61 340 *ep* **P 17 58 57.8 +0.1**
BR131 Keskin Array S 89.72 310 *eP* **P 17 58 58.6 -0.6**
comp=Z,11nm,0.9s
BR131 LR LR
comp=Z,406nm,21.0s
BRTR Keskin Array B 89.72 310 P **P 17 58 57.8 -1.4**
BRTR Keskin Array B 89.72 310 P **P 17 58 57.8 -1.4**
comp=Z,9.8nm,0.8s,baz=120,slow=4.1,SNR=32
PUL Pulkovo 89.74 330 *ceP* **P 17 58 59.4 +0.9**
PUL pmax pmax
comp=Z,130nm,0.6s
INK Inuvik 90.02 21 *eP* **P 17 58 59.6 -0.1**
comp=Z,65nm,1.3s
INK PKKP **PKKPdf 18 16 30.3 +1.6**
INK Inuvik 90.02 21 P **P 17 59 00.1 +0.4**
comp=Z,31nm,1.1s,baz=284,slow=6.5,SNR=42
INK PKKP **PKKPdf 18 16 30.3 +1.6**
comp=Z,6.3nm,1.4s,baz=149,slow=5.4,SNR=4.4
ARCES ARCESS Array B 90.17 340 P **P 17 59 00.5 +0.1**
ARCES ARCESS Array B 90.17 340 P **P 17 59 00.5 +0.1**
comp=Z,36nm,1.0s,baz=84,slow=6.5,SNR=23
ARE0 ARCESS Array S 90.17 340 *eP* **P 17 58 59.9 -0.5**
SPB4 Spitsbergen Ar 90.22 349 *eP* **P 17 59 00.9 +0.3**
CSS Prodhromos 90.38 305 PFAKE 17 59 10.0 +7.8
CSS LR LR
comp=Z,396nm,19.0s
KBS Kingsbay 90.74 350 PFAKE 17 59 10.0 +7.1
KBS LR LR
comp=Z,1μm,20.0s
KAF Kangasniemi 91.30 332 *eP* **P 17 59 05.1 -0.7**
KAF pmax pmax
comp=Z,56nm,0.8s
KAF Kangasniemi 91.30 332 *ep* **P 17 59 05.1 -0.7**
comp=Z,56nm,0.8s
FINES FINESS Array B 91.54 332 P **P 17 59 06.1 -0.8**
FINES FINESS Array B 91.54 332 P **P 17 59 06.1 -0.8**
comp=Z,46nm,1.0s,baz=90,slow=6.1,SNR=44
AKASG Malin Array Be 91.59 321 P **P 17 59 06.6 -0.8**
AKASG pmax pmax
comp=Z,22nm,0.8s
AKASG Malin Array Be 91.59 321 P **P 17 59 06.6 -0.8**
AKASG Malin Array Be 91.59 321 P **P 17 59 06.6 -0.8**
comp=Z,22nm,0.8s,baz=72,slow=4.1,SNR=62
AKBB Malin Array Si 91.59 321 *eP* **P 17 59 06.1 -1.3**
AKBB Malin Array Si 91.59 321 *eP* **P 17 59 06.0 -1.3**
KIEV Kiev 91.60 321 *eP* **P 17 59 06.1 -1.3**
KIEV pmax pmax
comp=Z,96nm,1.4s
KIEV MLR MLR
comp=Z,992nm,21.0s
KIEV Kiev 91.60 321 *eP* **P 17 59 06.1 -1.3**
comp=Z,96nm,1.4s
KIEV LR LR
comp=Z,992nm,21.0s
VSU Vasula 91.77 329 *d iP* **P 17 59 07.8 -0.2**
VSU pmax pmax
comp=Z,110nm,1.0s
MICGM Minsk 91.82 325 *eP* **P 17 59 07.0 -1.4**
MNK Minsk 91.85 325 *eP* **P 17 59 07.0 -1.5**
MNK pmax pmax
comp=Z,500nm,1.0s
MNK pmax pmax
comp=E,190nm,1.2s
IDID Didziasalis 92.33 326 *eP* **P 17 59 10.5 -0.2**
IDID AMB AMB 17 59 12.7
comp=Z,30nm,1.0s
IDID Didziasalis 92.33 326 *eP* **P 17 59 10.5 -0.2**
IDID AMB AMB 17 59 12.7
comp=Z,30nm,1.0s
ISP Isparta 92.34 308 PFAKE 17 59 20.0 +8.7
ISP LR LR
comp=Z,570nm,20.0s
NACGM Naroch 92.38 325 *e* **P 17 59 08.0 -3.0**
IZAR Zarasai 92.53 326 *eP* **P 17 59 11.3 -0.3**
IZAR AMB AMB 17 59 13.5
comp=Z,22nm,1.1s
IZAR Zarasai 92.53 326 *eP* **P 17 59 11.3 -0.3**
IZAR AMB AMB 17 59 13.5
comp=Z,22nm,1.1s
IIGN Ignalina 92.62 326 *eP* **P 17 59 11.8 -0.2**
IIGN AMB AMB 17 59 14.0
comp=Z,24nm,1.1s
IIGN Ignalina 92.62 326 *eP* **P 17 59 11.8 -0.2**
IIGN AMB AMB 17 59 14.0
comp=Z,24nm,1.1s
ISAL Salakas 92.63 326 *eP* **P 17 59 11.8 -0.3**
ISAL AMB AMB 17 59 12.7
comp=Z,21nm,1.4s
ISAL Salakas 92.63 326 *eP* **P 17 59 11.8 -0.3**
ISAL AMB AMB 17 59 12.7
comp=Z,21nm,1.4s
WRAK Wrangell Islan 92.86 33 *eP* **P 17 59 14.4 +1.3**
WRAK comp=Z,37nm,1.4s
WRAK LR LR
comp=Z,723nm,20.0s
CFR Carcaliu 93.12 316⇑ P **P 17 59 15.1 +0.5**
CFR Carcaliu 93.12 316⇑ *iP* **P 17 59 15.1 +0.5**
IAS Iasi 93.20 318 P **P 17 59 15.3 +0.4**
DLBC Dease Lake 93.65 31 *eP* **P 17 59 17.9 +1.0**
PETR 93.67 316⇑ *iP* **P 17 59 18.0 +0.9**
QSPA South Pole Qui 93.86 180 *eP* **P 17 59 18.7 +1.1**
comp=Z,351nm,2.2s
QSPA South Pole Qui 93.86 180 P **P 17 59 18.6 +0.9**
comp=Z,12nm,1.0s,baz=302,slow=2.3,SNR=17
QSPA LR LR 18 44 54.9
comp=Z,879nm,18.8s,baz=353,slow=38
GRER 93.90 316⇑ *iP* **P 17 59 20.0 +1.8**
TESR 93.94 317⇓ *iP* **P 17 59 18.5 +0.2**
VRI Vrincioaia 93.99 316 ⇓P **P 17 59 19.2 +0.6**
VRI Vrincioaia 93.99 316 ⇓*iP* **P 17 59 19.2 +0.6**
PLOR Plostina 94.05 316⇑P **P 17 59 19.2 +0.3**
PLOR Plostina 94.05 316⇑ *iP* **P 17 59 19.2 +0.3**
MLR Muntele Rosu 94.60 316 ⇓*iP* **P 17 59 21.9 +0.3**
SUW Suwalki 94.62 325 *eP* **P 17 59 20.8 -0.5**
SUW Suwalki 94.62 325 *eP* **P 17 59 20.8 -0.5**
SUW Suwalki 94.62 325 *eP* **P 17 59 20.8 -0.5**
SUW Suwalki 94.62 325 *eP* **P 17 59 20.7 -0.6**
comp=Z,302nm,1.1s
BURAR Bucovina Array 94.70 318⇑ *iP* **P 17 59 22.3 +0.4**
BUR08 Bucovina Ar. S 94.70 318 *eP* **P 17 59 22.0 0.0**
DOPR Dopca 94.89 317 ⇓*iP* **P 17 59 24.8 +2.0**
VOIR 95.23 316 ⇓P **P 17 59 24.5 +0.1**
VOIR 95.23 316 ⇓*iP* **P 17 59 24.5 +0.1**
BMR Baia Mare 95.83 319⇑P **P 17 59 27.5 +0.6**
BMR Baia Mare 95.83 319⇑ *iP* **P 17 59 27.5 +0.6**
KWP Kalwaria Pacla 95.91 321 *eP* **P 17 59 28.1 +0.8**
KWP Kalwaria Pacla 95.91 321 *eP* **P 17 59 28.1 +0.8**
KWP Kalwaria Pacla 95.91 321 ⇓P **P 17 59 27.1 -0.2**
KWP Kalwaria Pacla 95.91 321 *eP* **P 17 59 27.0 -0.2**
comp=Z,84nm,1.0s
KWP LR LR
comp=Z,986nm,20.0s
KWP Kalwaria Pacla 95.91 321 ⇓*iP* **P 17 59 27.1 -0.2**
LOT Lotru 96.11 316⇑ *iP* **P 17 59 29.3 +0.9**
KOLS Kolonicke sedl 96.34 320 *eP* **P 17 59 29.9 +0.6**
KOLS pmax pmax
comp=Z,18nm,1.1s
KOLS Kolonicke sedl 96.34 320 *eP* **P 17 59 29.9 +0.6**
TRPA Tarpa 96.35 319 ⇓*iP* **P 17 59 28.6 -0.7**
TRPA Tarpa 96.35 319 ⇓*e* **P 17 59 29.9 +0.6**
UZH Uzhgorod 96.40 320 *eP* **P 17 59 29.2 -0.3**
UZH *e* 17 59 36.6
UZH *e* 17 59 42.0
BEL Belsk 96.55 323 *eP* **P 17 59 30.9 +0.7**
BEL Belsk 96.55 323 *eP* **P 17 59 30.9 +0.7**
BEL Belsk 96.55 323 *eP* **P 17 59 30.9 +0.7**
MPEP Malo Peshtene 96.56 314 P P 17 59 33.5 +3.1
CRVS Cervenica-Dubn 96.87 320 *eP* **P 17 59 32.4 +0.7**
CRVS pmax pmax
comp=Z,82nm,1.2s
CRVS Cervenica-Dubn 96.87 320 *eP* **P 17 59 32.4 +0.7**
MMB Musomiste 96.92 313 P **P 17 59 31.0 -1.1**
DAG Danmarks Havn 97.00 352 *i* P **P 17 59 30.6 -1.1**
DAG pmax pmax
comp=Z,19nm,0.9s
DAG Danmarks Havn 97.00 352 *i* P **P 17 59 30.6 -1.1**
comp=Z,185nm,0.9s
VTS Vitosha 97.09 314 ⇓P Pdif 17 59 33.5 +0.4
VTS Vitosha 97.09 314 ⇓*iP* Pdif 17 59 33.5 +0.4
VTS Vitosha 97.09 314 P Pdif 17 59 33.0 -0.1
NIE Niedzica 97.47 321 *eP* Pdif 17 59 35.1 +0.6
NIE Niedzica 97.47 321 *eP* Pdif 17 59 35.6 +1.1
BZS Buzias 97.55 317⇑P Pdif 17 59 34.6 -0.3
BZS Buzias 97.55 317⇑ *iP* Pdif 17 59 34.6 -0.3
OJC Ojcow 97.58 322 *eP* Pdif 17 59 35.0 +0.1
OJC Ojcow 97.58 322 *eP* Pdif 17 59 35.0 +0.1
RES Resolute Bay 97.62 10 *eP* Pdif 17 59 35.0 +0.4
comp=Z,30nm,1.4s
HFS Hagfors 97.72 332 P **P 17 59 34.7 -0.6**
HFS Hagfors 97.72 332 P **P 17 59 34.7 -0.6**
comp=Z,30nm,1.1s,baz=98,slow=6.1,SNR=16
VAY Valandovo 97.83 312 *eP* **P 17 59 35.0 -1.1**
VAY Valandovo 97.83 312 *eP* **P 17 59 35.0 -1.1**
PSZ Piszkesteto 98.13 319 ⇓P Pdif 17 59 37.6 +0.1
PSZ Piszkesteto 98.13 319 *eP* **P 17 59 37.0 -0.5**
comp=Z,16nm,0.9s
PSZ LR LR
comp=Z,843nm,20.0s
PSZ Piszkesteto 98.13 319 ⇓*iP* Pdif 17 59 37.6 +0.1
PSZ Piszkesteto 98.13 319 ⇓*e* **P 17 59 37.9 +0.4**
GKP Gorka Klasztor 98.23 325 *eP* Pdif 17 59 38.5 +0.8
GKP Gorka Klasztor 98.23 325 *eP* Pdif 17 59 38.5 +0.8
GKP Gorka Klasztor 98.23 325 *eP* Pdif 17 59 38.5 +0.8
NB2 NORSAR Subarra 98.49 334 P **P 17 59 37.8 -1.0**
baz=66,slow=4.6
NB2 NORSAR Subarra 98.49 334 P **P 17 59 37.8 -1.0**
comp=Z,27nm,1.1s,baz=66,slow=4.6
NOA NORSAR Array B 98.49 334 P **P 17 59 37.5 -1.2**
NOA NORSAR Array B 98.49 334 P **P 17 59 37.5 -1.2**
comp=Z,9.6nm,0.7s,baz=67,slow=4.6,SNR=26
SKO Skopje 98.51 313 *eP* P 17 59 35.4 -3.9
VYHS Vyhne 98.66 320 *eP* Pdif 17 59 39.5 -0.3
VYHS pmax pmax
comp=Z,20nm,1.6s
VYHS Vyhne 98.66 320 PDIF Pdif 17 59 39.5 -0.3
OKC Ostrava-Krasne 98.71 322 *eP* Pdif 17 59 41.0 +1.1
OKC MLR MLR
comp=Z,500nm,15.4s
OKC Ostrava-Krasne 98.71 322 *e*PDIFF Pdif 17 59 41.0 +1.1
OKC AMS AMS 18 50 20.0
comp=Z,500nm,15.4s
NAO01 NORSAR Array S 98.72 333 *eP* **P 17 59 38.9 -0.8**
comp=Z,10nm,0.8s
BUD Budapest 98.81 319 ⇓*e* **P 17 59 41.0 +0.6**
LSZ Lusaka 99.07 255 *eP* **Pdif 17 59 41.7 -0.7**
comp=Z,16nm,0.9s
LSZ LR LR
comp=Z,1μm,22.0s
MORC Moravsky Berou 99.10 322 ⇓P **Pdif 17 59 42.6 +0.8**
MORC Moravsky Berou 99.10 322 *eP* **Pdif 17 59 42.0 +0.3**
comp=Z,41nm,1.4s
MORC Moravsky Berou 99.10 322 ⇓*iP* **Pdif 17 59 42.6 +0.8**
RKT Rikitea 99.35 113 *e*SKSac **SKSac 18 10 20.2 +1.0**
comp=Z,658nm,27.2s
RKT *e*LR LR 18 32 11.8
comp=Z,1μm,27.2s
YKA Yellowknife Ar 99.37 24 P **Pdif 17 59 42.8 +0.2**
YKA PKKP **PKKPdf 18 16 12.7 +0.8**
YKA Yellowknife Ar 99.37 24 P **Pdif 17 59 42.8 +0.2**
comp=Z,4.3nm,1.0s,baz=298,slow=4.7,SNR=35
YKA PKKP **PKKPdf 18 16 12.7 +0.8**
comp=Z,0.3nm,0.6s,baz=116,slow=2.5,SNR=5.5
PKSM Moragy 99.41 318 ⇓P **Pdif 17 59 43.2 +0.1**
PKSM Moragy 99.41 318 ⇓*iP* **Pdif 17 59 43.2 +0.1**
PKSM Moragy 99.41 318 ⇓*e* **Pdif 17 59 43.6 +0.5**
KSP Ksiaz 99.54 323 *eP* **Pdif 17 59 44.8 +1.2**
KSP Ksiaz 99.54 323 *eP* **Pdif 17 59 44.8 +1.2**
KSP Ksiaz 99.54 323⇑ *eP* **Pdif 17 59 43.8 +0.2**
KSP MLR MLR
comp=Z,2μm,19.7s
DPC Dobruska-Polom 99.68 322 *eP* **Pdif 17 59 45.0 +0.7**
DPC MLR MLR
comp=Z,1μm,21.2s
DPC Dobruska-Polom 99.68 322 *e*PDIFF **Pdif 17 59 45.0 +0.7**
DPC AMS AMS 18 48 00.0
comp=Z,1μm,21.2s
TIR Tirane 99.80 313 PFAKE 18 00 00.0 +15
TIR LR LR
comp=Z,562nm,20.0s
KONO Kongsberg 99.81 333 PFAKE 18 00 00.0 +15
KONO LR LR
comp=Z,1μm,20.0s
UPC Upice 99.82 323 *eP* **Pdif 17 59 45.8 +0.9**
UPC Upice 99.82 323 *e*PDIFF **Pdif 17 59 45.8 +0.9**
VRAC Vranov 99.83 321 ⇓*iP* **Pdif 17 59 45.9 +0.9**
NLWA Neilton Lookou 100.20 41 PFAKE 18 00 00.0 +13
NLWA LR LR
comp=Z,1μm,20.0s
RUE Ruedersdorf 100.47 325 *e*Pdiff **Pdif 17 59 48.5 +0.9**
RUE Ruedersdorf 100.47 325 *eP* **Pdif 17 59 48.2 +0.5**
comp=Z,40nm,0.8s
TREC Trest 100.53 322 *eP* **Pdif 17 59 49.0 +0.9**
TREC MLR MLR
comp=Z,1μm,18.0s
TREC Trest 100.53 322 *e*PDIFF **Pdif 17 59 49.0 +0.9**
TREC AMS AMS 18 51 30.0
comp=Z,1μm,18.0s
PVCC Panska Ves 100.68 323 *eP* **Pdif 17 59 50.0 +1.3**
PVCC MLR MLR
comp=Z,900nm,21.0s
PVCC Panska Ves 100.68 323 *e*PDIFF **Pdif 17 59 50.0 +1.3**
PVCC AMS AMS 18 47 10.0
comp=Z,900nm,21.0s
CSNA Conrad Observa 100.72 320⇑ *iP* **Pdif 17 59 47.9 -1.1**
comp=Z,15nm,1.6s
CSNA Conrad Observa 100.72 320⇑ *i*Pdiff **Pdif 17 59 47.9 -1.1**
comp=Z,15nm,1.6s
PRU Pruhonice 100.88 322 *eP* **Pdif 17 59 50.2 +0.6**
PRU MLR MLR
comp=Z,1μm,21.4s
PRU Pruhonice 100.88 322 *e*PDIFF **Pdif 17 59 50.2 +0.6**
PRU AMS AMS 18 51 10.0
comp=Z,1μm,21.4s
PRA Prague 100.92 323 PDIFF **Pdif 17 59 51.0 +1.3**
BRG Berggiesshubel 100.94 323 *eP* **Pdif 17 59 50.4 +0.6**
comp=Z,53nm,1.1s
BRG *e*PP PP 18 03 51.4 -6.4
comp=Z,18nm,1.7s
BRG
comp=N,684nm,17.5s
BRG
comp=E,939nm,15.7s
BRG
comp=Z,1μm,17.1s
BRG Berggiesshubel 100.94 323 *e*Pdiff **Pdif 17 59 50.4 +0.6**
BRG Berggiesshubel 100.94 323 *eP* **Pdif 17 59 50.4 +0.6**
BRG pmax pmax
comp=Z,53nm,1.1s
BRG pmax pmax
comp=Z,18nm,1.7s
BRG MLR MLR
comp=N,684nm,17.5s
BRG MLR MLR
comp=E,939nm,15.7s
BRG MLR MLR
comp=Z,1μm,17.1s
FBE Freiberg 101.27 324 *e*Pdiff **Pdif 17 59 52.2 +0.9**
CLL Collm 101.34 324 *e*Pdiff **Pdif 17 59 51.8 +0.2**
CLL Collm 101.34 324 *i* P **Pdif 17 59 51.8 +0.2**
CLL pmax pmax
comp=Z,38nm,1.3s
CLL MLR MLR
comp=Z,900nm,19.8s
CLL Collm 101.34 324 *i* Pdif **Pdif 17 59 51.8 +0.2**
comp=Z,38nm,1.3s
CLL *e*PPP PPP 18 06 06.0
CLL *e*SKSac SKSac 18 10 35.0 +7.2
CLL *e*Sdif **Sdif 18 11 36.0 +7.5**
CLL *e*PS **PS 18 12 59.0 -5.8**
CLL *e*SPS 18 13 21.0
CLL *e*PPS PPS 18 13 55.0
CLL *e*SS SS 18 18 36.0 +7.0
CLL *e* 18 19 06.0
CLL *e*(SSS) 18 22 48.0
CLL LmV 18 48 00.0
comp=Z,900nm,19.8s
LBTB Lobatse 101.57 245 PFAKE 18 00 00.0 +6.7
LBTB LR LR
comp=Z,759nm,21.0s
KHC Kasperske Hory 101.76 322 *eP* **Pdif 17 59 54.3 +0.7**
KHC MLR MLR
comp=Z,900nm,19.3s
KHC Kasperske Hory 101.76 322 *eP* **Pdif 17 59 53.8 +0.2**
comp=Z,7.9nm,1.0s
KHC Kasperske Hory 101.76 322 *e*PDIFF **Pdif 17 59 54.3 +0.7**
KHC AMS AMS 18 49 30.0
comp=Z,900nm,19.3s
MOA Molln 101.77 320 ⇓*iP* **Pdif 17 59 54.4 +0.7**
comp=Z,44nm,1.6s
MOA Molln 101.77 320 ⇓*i*Pdiff **Pdif 17 59 54.4 +0.7**
comp=Z,44nm,1.6s,SNR=13
GEC2 GERESS Array S 101.78 322 *e*Pdiff **Pdif 17 59 54.2 +0.4**
GERES GERESS Array B 101.78 322 P **Pdif 17 59 53.6 -0.1**
GERES GERESS Array B 101.78 322 P **Pdif 17 59 53.6 -0.1**
comp=Z,9.8nm,1.0s,baz=69,slow=4.4,SNR=44
BSEG Bad Segeberg 101.84 327 *e*Pdiff **Pdif 17 59 54.4 +0.7**
TANN Tannenbergstha 101.98 323 *e*Pdiff **Pdif 17 59 55.1 +0.5**
NKC Novy Kostel 102.06 323 *eP* **Pdif 17 59 55.8 +1.0**
NKC MLR MLR
comp=Z,2μm,18.5s
NKC Novy Kostel 102.06 323 *e*PDIFF **Pdif 17 59 55.8 +1.0**
NKC AMS AMS 18 49 00.0
comp=Z,2μm,18.5s
WERD Werda 102.06 323 *e*Pdiff **Pdif 17 59 55.4 +0.5**
GUNZ Gunzen 102.08 323 *e*Pdiff **Pdif 17 59 55.6 +0.6**
WERN Wernitzgruen 102.08 323 *e*Pdiff **Pdif 17 59 55.7 +0.7**
NEUB Neuenburg 102.09 324 *e*Pdiff **Pdif 17 59 55.5 +0.6**
PLN Plauen 102.14 323 *e*Pdiff **Pdif 17 59 55.9 +0.7**
WET Wettzell 102.19 322 *e*Pdiff **Pdif 17 59 56.2 +0.7**
ROTZ Rotzenmuhle 102.37 323 *e*Pdiff **Pdif 17 59 57.3 +1.1**
MOX Moxa 102.40 324 *e*Pdiff **Pdif 17 59 57.0 +0.7**
NRDL Niedersach Rie 102.54 326 *e*Pdiff **Pdif 17 59 58.0 +1.2**
KBA Koelnbreinsper 102.61 320 *i* P **Pdif 17 59 57.4 -0.2**
KBA pmax pmax
comp=Z,13nm,1.1s
KBA Koelnbreinsper 102.61 320 *i* P **Pdif 17 59 57.4 -0.2**
comp=Z,13nm,1.1s
KBA Koelnbreinsper 102.61 320 *i* Pdiff **Pdif 17 59 57.4 -0.2**
comp=Z,13nm,1.1s,SNR=5.8
CLZ Clausthal 102.65 325 *e*Pdiff **Pdif 17 59 58.6 +1.1**
TIP Timpagrande 102.66 311 PFAKE 18 00 10.0 +12
TIP LR LR
comp=Z,706nm,22.0s
RJOB Jochberg 102.73 321 *e*Pdiff **Pdif 17 59 58.0 0.0**
GRF Grafenberg Arr 102.99 323 *e*Pdiff **Pdif 18 00 00.0 +1.0**
GRF *e*L L 18 50 09.7
comp=Z,1μm,20.3s
HLG Helgoland 103.04 328 *e*Pdiff **Pdif 17 59 59.7 +0.7**

CUC Castrocucco 103.13 312 PFAKE 18 00 10.0 +10
CUC LR LR
comp=Z,454nm,21.0s
UBBA Unterbreizbach 103.28 324 *e*Pdiff **Pdif** **18 00 01.8 +1.7**
HAWA Hanford 103.33 41 PFAKE 18 00 10.0 +9.4
HAWA LR LR
comp=Z,990nm,19.0s
WTTA Wattenberg 103.64 321 ⇑*i*P **Pdif** **18 00 01.9 -0.3**
WTTA pmax pmax
comp=Z,35nm,1.6s
WTTA Wattenberg 103.64 321 ⇑*i*P **Pdif** **18 00 01.9 -0.3**
comp=Z,35nm,1.6s
WTTA Wattenberg 103.64 321 ⇑*i*Pdiff **Pdif** **18 00 01.8 -0.3**
comp=Z,35nm,1.6s
WATA Walderalm 103.65 321 ⇓*i*P **Pdif** **18 00 01.5 -0.6**
WATA pmax pmax
comp=Z,20nm,1.3s
WATA Walderalm 103.65 321 ⇓*i*P **Pdif** **18 00 01.5 -0.6**
comp=Z,20nm,1.3s
WATA Walderalm 103.65 321 ⇓*i*Pdiff **Pdif** **18 00 01.5 -0.6**
comp=Z,20nm,1.3s
MOTA Moosalm 103.95 321 ⇑*i*P **Pdif** **18 00 02.9 -0.6**
MOTA pmax pmax
comp=Z,15nm,1.1s
MOTA Moosalm 103.95 321 ⇑*i*P **Pdif** **18 00 02.9 -0.6**
comp=Z,15nm,1.1s
MOTA Moosalm 103.95 321 ⇑*i*Pdiff **Pdif** **18 00 02.9 -0.6**
comp=Z,15nm,1.1s
AQU L'Aquila 104.15 315 PFAKE 18 00 20.0 +16
AQU LR LR
comp=Z,912nm,19.0s
NEW Newport 104.17 38 PFAKE 18 00 20.0 +16
NEW LR LR
comp=Z,745nm,19.0s
NEW Newport 104.17 38 ⇑P **Pdif** **18 00 04.7 +0.4**
baz=104
FETA Feichten 104.30 321 ⇓*i*P **Pdif** **18 00 05.1 0.0**
comp=Z,19nm,1.2s
FETA Feichten 104.30 321 ⇓*i*Pdiff **Pdif** **18 00 05.1 0.0**
comp=Z,19nm,1.2s,SNR=7.0
TNS Taunus Mts 104.42 324 *e*Pdiff **Pdif** **18 00 06.4 +1.0**
STU Stuttgart 104.57 323 *e*Pdiff **Pdif** **18 00 06.7 +0.6**
BFO Black Forest 105.28 322 PFAKE 18 04 30.0
BFO LR LR
comp=Z,931nm,20.0s
WVOR Wild Horse Val 105.31 44 PFAKE 18 04 40.0
WVOR LR LR
comp=Z,749nm,20.0s
BMO Blue Mountains 105.35 41 PFAKE 18 04 40.0
BMO LR LR
comp=Z,621nm,21.0s
SUR Sutherland 105.38 238 PFAKE 18 04 40.0
SUR LR LR
comp=Z,1μm,20.0s
TUE Stuetta 105.39 320 PFAKE 18 04 40.0
TUE LR LR
comp=Z,924nm,19.0s
VLC Villacollemand 105.59 318 PFAKE 18 04 40.0
VLC LR LR
comp=Z,1μm,20.0s
BSMT Bassoo Peak 105.77 38 *e*P **Pdif** **18 00 13.4 +1.7**
comp=Z,3nm,1.1s
CDF Champ du Feu 105.88 323 *e*P **Pdif** **18 00 12.3 +0.3**
comp=Z,55nm,1.4s
CDF Champ du Feu 105.88 323 *e*P **Pdif** **18 00 12.3 +0.3**
CDF pmax pmax
comp=Z,55nm,1.4s
CDF Champ du Feu 105.88 323 *e*P **Pdif** **18 00 12.3 +0.3**
comp=Z,55nm,1.4s
WLF Walferdange 106.00 324 PFAKE 18 04 40.0
WLF LR LR
comp=Z,1μm,20.0s
ECH Echery 106.04 323 PFAKE 18 04 40.0
ECH LR LR
comp=Z,806nm,19.0s
HINF Hinteralfeld 106.39 322 *e*P **Pdif** **18 00 14.0 -0.2**
HINF Hinteralfeld 106.39 322 *e*P **Pdif** **18 00 14.0 -0.2**
HINF Hinteralfeld 106.39 322 *e*P **Pdif** **18 00 14.0 -0.2**
GIVF Givet 106.57 325 *e*P **Pdif** **18 00 15.6 +0.7**
GIVF Givet 106.57 325 *e*P **Pdif** **18 00 15.6 +0.7**
GIVF Givet 106.57 325 *e*P **Pdif** **18 00 15.6 +0.7**
HAU Haudompre 106.62 323 *e*P **Pdif** **18 00 15.3 +0.1**
HAU Haudompre 106.62 323 *e*P **Pdif** **18 00 15.3 +0.1**
HAU Haudompre 106.62 323 *e*P **Pdif** **18 00 15.3 +0.1**
MSO Missoula 106.72 39 PFAKE 18 04 40.0
MSO LR LR
comp=Z,543nm,20.0s
PAGF Fort de Pagny 106.75 323 *e*P **Pdif** **18 00 16.3 +0.6**
comp=Z,11nm,1.4s
PAGF Fort de Pagny 106.75 323 *e*P **Pdif** **18 00 16.3 +0.6**
comp=Z,11nm,1.4s
NVAR Mina Array Bea 106.90 48 Pdif **Pdif** **18 00 19.3 +2.3**
NVAR PKiKP **PKiKP** **18 04 24.9 -1.9**
NVAR PKKPbc **PKKPbc** **18 15 46.1 +0.4**
NVAR PKKPab **PKKPab** **18 16 01.4 +0.6**
NVAR Mina Array Bea 106.90 48 Pdiff **Pdif** **18 00 19.3 +2.3**
comp=Z,1.2nm,0.9s,baz=261,slow=4.1,SNR=4.5
NVAR PKiKP **PKiKP** **18 04 24.9 -1.9**
comp=Z,0.2nm,0.3s,baz=255,slow=2.7,SNR=3.1
NVAR PKKPbc **PKKPbc** **18 15 46.1 +0.4**
comp=Z,0.6nm,0.7s,baz=152,slow=6.0,SNR=3.9
NVAR PKKPab **PKKPab** **18 16 01.4 +0.6**
comp=Z,1.2nm,0.7s,baz=128,slow=4.9,SNR=6.5
BAIF Baives 106.94 325 *e*P **Pdif** **18 00 16.2 -0.3**
comp=Z,35nm,1.3s
BAIF Baives 106.94 325 *e*P **Pdif** **18 00 16.2 -0.3**
BAIF pmax pmax
comp=Z,35nm,1.3s
BAIF Baives 106.94 325 *e*P **Pdif** **18 00 16.2 -0.3**
comp=Z,35nm,1.3s
BMN Battle Mountai 107.01 46 PFAKE 18 04 40.0
BMN LR LR
comp=Z,1μm,20.0s
H12A Diamond D Ranc 107.08 41 ⇓P **PKiKP** **18 04 28.7 +1.9**
baz=107
MEZF Maizieres J'vi 107.17 324 *e*P **Pdif** **18 00 18.1 +0.5**
comp=Z,89nm,1.5s
MEZF Maizieres J'vi 107.17 324 *e*P **Pdif** **18 00 18.1 +0.5**
comp=Z,89nm,1.5s
SFTF Sexfontaines 107.32 323 *e*P **Pdif** **18 00 18.5 +0.2**
comp=Z,28nm,1.2s
SFTF Sexfontaines 107.32 323 *e*P **Pdif** **18 00 18.5 +0.2**
comp=Z,28nm,1.2s
CABF La Chapelle 107.38 321 *e*P **Pdif** **18 00 18.9 +0.2**
comp=Z,112nm,1.8s
CABF La Chapelle 107.38 321 *e*P **Pdif** **18 00 18.9 +0.2**
CABF pmax pmax
comp=Z,112nm,1.8s
CABF La Chapelle 107.38 321 *e*P **Pdif** **18 00 18.9 +0.2**
comp=Z,112nm,1.8s
LPG La Plagne 107.44 320 *e*P **Pdif** **18 00 19.5 +0.2**
LPG La Plagne 107.44 320 *e*P **Pdif** **18 00 19.5 +0.2**
LPG La Plagne 107.44 320 *e*P **Pdif** **18 00 19.5 +0.2**
LPL La Plagne 107.44 320 *e*P **Pdif** **18 00 19.5 +0.3**
LPL La Plagne 107.44 320 *e*P **Pdif** **18 00 19.5 +0.3**
LPL La Plagne 107.44 320 *e*P **Pdif** **18 00 19.5 +0.3**
BNI Bardonecchia 107.67 320 PFAKE 18 04 40.0
BNI LR LR
comp=Z,1μm,22.0s
MBDF Montbardon 107.75 319 *e*P **Pdif** **18 00 19.7 -0.8**
MBDF Montbardon 107.75 319 *e*P **Pdif** **18 00 19.7 -0.8**
MBDF Montbardon 107.75 319 *e*P **Pdif** **18 00 19.7 -0.8**
HLID Hailey 107.76 42 PFAKE 18 04 40.0
HLID LR LR
comp=Z,632nm,21.0s
HLID Hailey 107.76 42 ⇑P **PKiKP** **18 04 30.5 +2.4**
baz=108
TPH Tonopah 107.82 48 PFAKE 18 04 40.0
TPH LR LR
comp=Z,580nm,21.0s
ESK Eskdalemuir 107.95 332 PFAKE 18 04 40.0
ESK LR LR
comp=Z,1μm,19.0s
DAC Darwin (Calif) 108.14 50 PFAKE 18 04 40.0
DAC LR LR
comp=Z,2μm,22.0s
ORIF Oris-en-Rattie 108.25 320 *e*P **Pdif** **18 00 22.8 +0.2**
comp=Z,31nm,1.2s
ORIF Oris-en-Rattie 108.25 320 *e*P **Pdif** **18 00 22.8 +0.2**
ORIF pmax pmax
comp=Z,31nm,1.3s
ORIF Oris-en-Rattie 108.25 320 *e*P **Pdif** **18 00 22.8 +0.2**
comp=Z,31nm,1.3s
LOR Lormes 108.45 323 *e*P **Pdif** **18 00 23.4 0.0**
LOR Lormes 108.45 323 *e*P **Pdif** **18 00 23.4 0.0**

BOZ Bozeman (W) 108.68 39 PFAKE 18 04 40.0
BOZ LR LR
comp=Z,545nm,20.0s
EGMT Eagleton 108.72 36 PFAKE 18 04 40.0
EGMT LR LR
comp=Z,531nm,20.0s
R11A Troy Canyon, C 108.93 47 ⇑P **PKiKP** **18 04 31.9 +1.4**
baz=109
FFC Flin Flon 109.12 27 PFAKE 18 04 40.0
FFC LR LR
comp=Z,922nm,22.0s
TSUM Tsumeb 109.18 251 PFAKE 18 04 40.0
TSUM LR LR
comp=Z,817nm,21.0s
F18A Big Timber 109.75 38 ⇓P **PKiKP** **18 04 33.9 +2.1**
baz=110
C20A Veseth Ranch, 109.89 36 ⇓P **PKiKP** **18 04 33.8 +1.9**
baz=110
PFO Pinyon Flat Ob 109.90 52 PFAKE 18 04 40.0
PFO LR LR
comp=Z,747nm,19.0s
LKWY Lake 109.95 40 PFAKE 18 04 40.0
LKWY LR LR
comp=Z,832nm,20.0s
LDF La Druitiere 110.13 325 *e*P **Pdif** **18 00 31.4 +0.7**
LDF La Druitiere 110.13 325 *e*P **Pdif** **18 00 31.4 +0.7**
LDF La Druitiere 110.13 325 *e*P **Pdif** **18 00 31.4 +0.7**
DUG Dugway 110.22 45 PFAKE 18 04 40.0
DUG LR LR
comp=Z,678nm,19.0s
DUG Dugway 110.22 45 ⇓P **PKiKP** **18 04 34.7 +1.9**
baz=110
FLN La Foliniere 110.24 326 *e*P **Pdif** **18 00 32.1 +0.9**
comp=Z,92nm,1.6s
FLN La Foliniere 110.24 326 *e*P **Pdif** **18 00 32.1 +0.9**
FLN La Foliniere 110.24 326 *e*P **Pdif** **18 00 32.1 +0.9**
AHID Auburn Hatcher 110.30 42 PFAKE 18 04 40.0
AHID LR LR
comp=Z,642nm,22.0s
RLMT Red Lodge 110.40 39 PFAKE 18 04 40.0
RLMT LR LR
comp=Z,429nm,19.0s
RLMT Red Lodge 110.40 39 P **PKiKP** **18 04 34.8 +1.7**
baz=110
L16A Fish Haven 110.40 42 ⇑P **PKiKP** **18 04 34.8 +1.6**
baz=110
HWUT Hardware Ranch 110.49 43 PFAKE 18 04 50.0
HWUT LR LR
comp=Z,879nm,20.0s
SWSC Sam W. Stewart 110.64 53 ⇓P **PKiKP** **18 04 35.2 +1.6**
baz=111
CAF Calviac 110.66 321 *e*P **Pdif** **18 00 34.4 +1.1**
CAF Calviac 110.66 321 *e*P **Pdif** **18 00 34.4 +1.1**
CAF Calviac 110.66 321 *e*P **Pdif** **18 00 34.4 +1.1**
D21A La Casta Ranch 110.81 36 ⇑P **PKiKP** **18 04 35.9 +2.2**
baz=111
RJF Les Rejaudoux 110.82 322 *e*P **Pdif** **18 00 34.9 +1.0**
comp=Z,26nm,1.2s
RJF Les Rejaudoux 110.82 322 *e*P **Pdif** **18 00 34.9 +1.0**
RJF Les Rejaudoux 110.82 322 *e*P **Pdif** **18 00 34.9 +1.0**
G20A Bridger 111.01 38 ⇓P **PKiKP** **18 04 36.4 +2.2**
baz=111
D22A Cohagen 111.25 36 ⇓P **PKiKP** **18 04 36.7 +2.3**
baz=111
BW06 Boulder Array 111.31 41 PFAKE 18 04 50.0
BW06 LR LR
comp=Z,1μm,21.0s
PDAR Pinedale Array 111.31 41 PKiKP **PKiKP** **18 04 33.5 -1.5**
PDAR PKKPab **PKKPab** **18 15 39.8 -1.4**
PDAR Pinedale Array 111.31 41 PKiKP **PKiKP** **18 04 33.5 -1.5**
comp=Z,1.1nm,1.1s,baz=253,slow=2.7,SNR=3.0
PDAR PKKPab **PKKPab** **18 15 39.8 -1.4**
comp=Z,2.9nm,0.8s,baz=124,slow=4.5,SNR=7.3
L18A Fontenelle, Gr 111.38 42 ⇓P **PKiKP** **18 04 36.9 +1.9**
baz=111
W13A Hualapai Mount 111.38 50 ⇓P **PKiKP** **18 04 37.2 +1.9**
baz=111
J19A Crowheart 111.41 40 ⇑P **PKiKP** **18 04 37.1 +2.1**
baz=111
DGMT Dagmar 111.66 34 PFAKE 18 04 50.0
DGMT LR LR
comp=Z,729nm,22.0s
J20A Shoshoni 111.99 40 ⇑P **PKiKP** **18 04 37.7 +1.6**
baz=112
S16A Wappner Ranch, 112.08 47 ⇓P **PKiKP** **18 04 38.0 +1.5**
baz=112
U15A North Rim 112.08 48 ⇓P **PKiKP** **18 04 38.1 +1.5**
baz=112
K20A Yellowstone Ra 112.16 41 ⇑P **PKiKP** **18 04 37.4 +0.9**
baz=112
SRU San Rafael 112.27 45 ⇑P **PKiKP** **18 04 38.6 +1.8**
baz=112
K21A Alcova 112.87 40 ⇓P **PKiKP** **18 04 38.8 +0.9**
baz=113
T17A Navajo Res., N 112.95 47 ⇑P **PKiKP** **18 04 38.9 +0.7**
baz=113
J22A Midwest 112.98 39 ⇓P **PKiKP** **18 04 38.4 +0.4**
baz=113
R18A Canyonlands Na 113.03 45 ⇓P **PKiKP** **18 04 39.2 +0.9**
baz=113
N20A Spence Gulch, 113.06 42 ⇓P **PKiKP** **18 04 39.2 +0.9**
baz=113
WUAZ Wupatki 113.13 49 PFAKE 18 04 50.0
WUAZ LR LR
comp=Z,567nm,20.0s
Q19A Hogan Spring (113.22 45 ⇑P **PKiKP** **18 04 40.5 +2.0**
baz=113
S18A Hurst Farm, BI 113.25 46 ⇑P **PKiKP** **18 04 40.8 +2.0**
baz=113
M21A Separation Pea 113.30 41 ⇑P **PKiKP** **18 04 40.8 +2.1**
baz=113
T18A Mexican Hat 113.57 47 ⇓P **PKiKP** **18 04 41.6 +2.3**
baz=114
N21A Black Mountain 113.60 42 ⇑P **PKiKP** **18 04 41.4 +2.0**
baz=114
SJPF Ste Jean 113.62 321 *e*P **Pdif** **18 00 46.8 +0.4**
SJPF Ste Jean 113.62 321 *e*P **Pdif** **18 00 46.8 +0.4**
SJPF Ste Jean 113.62 321 *e*P **Pdif** **18 00 46.8 +0.4**
L22A Ellis Ranch, M 113.70 41 ⇓P **PKiKP** **18 04 41.7 +2.2**
baz=114
RSSD Black Hills 114.13 38 *e*PKiKP PKPdf 18 04 40.7 +0.5
RSSD Black Hills 114.13 38 *e*PKiKP **PKiKP** **18 04 40.7 +0.4**
N22A Mattenberg Ran 114.28 42 ⇓P PKPdf 18 04 42.2 +1.5
baz=114
S20A Disappointment 114.36 45 ⇓P PKPdf 18 04 42.8 +1.9
baz=114
M23A Laramie 114.44 41 ⇓P PKPdf 18 04 42.1 +1.2
baz=114
MVCO Mesa Verde 114.53 46 PFAKE 18 04 50.0 +8.8
MVCO LR LR
comp=Z,966nm,20.0s
MVCO Mesa Verde 114.53 46 ⇑P PKPdf 18 04 42.7 +1.4
baz=114
O22A Kremmling 114.53 42 ⇓P PKPdf 18 04 42.6 +1.3
baz=114
N23A Red Feather La 114.58 41 ⇑P PKPdf 18 04 43.0 +1.7
baz=114
P22A Eagle 114.66 43 ⇓P PKPdf 18 04 43.4 +2.0
baz=115
TUC Tucson 114.82 52 PFAKE 18 04 50.0 +8.3
TUC LR LR
comp=Z,823nm,21.0s
S21A Coal Bank Pass 114.84 45 ⇑P PKPdf 18 04 44.0 +2.1
baz=115,SNR=9.8
ULM Lac du Bonnet 114.85 28 PKP PKPdf 18 04 42.1 +0.9
ULM Lac du Bonnet 114.85 28 PKP PKPdf 18 04 42.1 +0.9
comp=Z,1.0nm,0.3s,baz=27,slow=2.3,SNR=3.3
U20A Newcomb 114.88 47 ⇑P PKPdf 18 04 44.2 +2.3
baz=115
O23A Lake Granby, G 114.93 42 ⇓P PKPdf 18 04 44.3 +2.3
baz=115
ISCO Idaho Springs 115.34 42 PFAKE 18 04 50.0 +7.2
ISCO LR LR
comp=Z,601nm,22.0s
ISCO Idaho Springs 115.34 42 ⇓P **PKPdf** **18 04 44.7 +1.9**
baz=115
P23A Jefferson 115.39 43 ⇑P **PKPdf** **18 04 44.8 +1.8**
baz=115
W20A Ramah 115.43 48 ⇓P **PKPdf** **18 04 45.5 +2.5**
baz=115
S22A 4UR Ranch, Cre 115.48 45 ⇑P **PKPdf** **18 04 45.7 +2.6**
baz=115
U21A Nageezi 115.48 46 ⇓P **PKPdf** **18 04 45.1 +2.0**
baz=115
X20A Quemado 115.68 49 ⇑P **PKPdf** **18 04 45.2 +1.7**
baz=116

R23A Moffat 115.97 44 ⇑P **PKPdf** **18 04 45.7 +1.6**
baz=116
Y20A Horse Springs, 116.03 49 ⇑P **PKPdf** **18 04 46.0 +1.8**
baz=116
U22A Llaves 116.08 46 ⇓P **PKPdf** **18 04 47.0 +2.7**
baz=116
AGMN Agassiz Nation 116.16 30 PFAKE 18 05 00.0 +16
AGMN LR LR
comp=Z,568nm,21.0s
Z20A Nine Sixteen R 116.20 50 ⇑P **PKPdf** **18 04 46.7 +2.2**
baz=116
X21A Alamocita Cree 116.25 48 ⇑P **PKPdf** **18 04 46.9 +2.3**
baz=116
V22A San Miguel Ran 116.25 47 ⇓P **PKPdf** **18 04 47.4 +2.8**
baz=116,SNR=5.7
319A Douglas 116.36 52 ⇑P **PKPdf** **18 04 46.9 +2.1**
baz=116
T23A Casias Ranch, 116.36 45 ⇓P **PKPdf** **18 04 46.9 +2.1**
baz=116
120A U Bar Ranch, L 116.40 51 ⇓P **PKPdf** **18 04 46.7 +1.9**
baz=116
SDCO Great Sand Dun 116.41 44 PFAKE 18 05 00.0 +15
SDCO LR LR
comp=Z,812nm,21.0s
SDCO Great Sand Dun 116.41 44 ⇓P **PKPdf** **18 04 46.8 +1.8**
baz=116
R24A Sanders Place, 116.44 44 ⇓P **PKPdf** **18 04 46.7 +1.8**
baz=116
P25A Willow Gulch B 116.45 42 ⇓P **PKPdf** **18 04 46.8 +2.0**
baz=116
TAM Tamanrasset 116.61 298 PFAKE 18 05 00.0 +15
TAM LR LR
comp=Z,379nm,19.0s
320A Kipp Ranch, An 116.96 52 ⇓P **PKPdf** **18 04 48.2 +2.2**
baz=117
P26A Davis Ranch, A 116.97 42 ⇑P **PKPdf** **18 04 47.7 +1.9**
baz=117
ANMO Albuquerque 117.02 47 *e*PKPdf **PKPdf** **18 04 47.7 +1.7**
ANMO LR LR
comp=Z,584nm,19.0s
R25A Fountain Ranch 117.05 43 ⇑P **PKPdf** **18 04 47.7 +1.8**
baz=117
121A Cookes Peak, D 117.06 50 ⇑P **PKPdf** **18 04 47.7 +1.6**
baz=117
OGNE Ogallala 117.09 40 PFAKE 18 05 00.0 +14
OGNE LR LR
comp=Z,659nm,21.0s
ESDC Sonseca Array 117.15 319 PP PP 18 05 54.6 -1.3
comp=Z,0.4nm,0.4s,baz=59,slow=6.6,SNR=4.2
ESLA Sonseca Array 117.15 319 PFAKE 18 05 00.0 +14
ESLA LR LR
comp=Z,3μm,19.0s
Q26A Hugo 117.18 42 ⇓P **PKPdf** **18 04 47.5 +1.3**
baz=117
S25A Robets Cordova 117.19 44 ⇓P **PKPdf** **18 04 47.9 +1.6**
baz=117
BNM Barren Site 117.24 48 *e*PKPdf **PKPdf** **18 04 48.4 +1.8**
Z22A Elephant Butte 117.38 49 ⇓P **PKPdf** **18 04 48.8 +2.0**
baz=117
T25A Trinidad 117.46 44 ⇓P **PKPdf** **18 04 48.9 +2.0**
baz=117
PAB San Pablo 117.47 319 PFAKE 18 05 00.0 +13
PAB LR LR
comp=Z,734nm,19.0s
V24A Rampart Ranch, 117.52 46 ⇑P **PKPdf** **18 04 49.9 +2.8**
baz=117,SNR=6.5
R26A Arlington 117.54 43 ⇑P **PKPdf** **18 04 48.6 +1.7**
baz=117
W24A Lazy 6 Ranch, 117.66 47 ⇑P **PKPdf** **18 04 49.2 +1.9**
baz=118,SNR=6.7
PBRG Braganca 117.76 322 *e*PKPdf PKPdf 18 04 54.6 +7.5
222A Williams Famil 117.76 51 ⇓P **PKPdf** **18 04 49.6 +2.1**
baz=118
Y23A Lovelace Mesa, 117.77 48 ⇑P **PKPdf** **18 04 49.2 +1.7**
baz=118
U25A Circle Dot Ran 117.82 45 ⇑P **PKPdf** **18 04 49.3 +1.8**
baz=118
S26A Kim 117.87 43 ⇑P **PKPdf** **18 04 49.4 +1.9**
baz=118
Z23A Rita Site, Whi 117.93 49 ⇓P **PKPdf** **18 04 50.0 +2.3**
baz=118
V25A Rancho No Teng 117.94 46 ⇓P **PKPdf** **18 04 50.1 +2.3**
baz=118
R27A Eads 117.99 43 ⇑P **PKPdf** **18 04 49.4 +1.7**
baz=118
T26A Comanche Natio 118.01 44 ⇓P **PKPdf** **18 04 48.6 +0.7**
baz=118
Y24A Capitan 118.23 48 ⇓P **PKPdf** **18 04 50.4 +2.0**
baz=118,SNR=7.9
S27A Las Animas 118.23 43 ⇓P **PKPdf** **18 04 50.0 +1.8**
baz=118
U26A Atchley Ranch, 118.29 45 ⇑P **PKPdf** **18 04 50.0 +1.5**
baz=118
W25A X Bar L Ranch, 118.34 46 ⇑P **PKPdf** **18 04 50.7 +2.1**
baz=118,SNR=5.1
EYMN Ely 118.53 28 PFAKE 18 05 00.0 +12
EYMN LR LR
comp=Z,701nm,21.0s
Z24A Sheeppen Canyo 118.55 49 ⇑P **PKPdf** **18 04 50.5 +1.4**
baz=118
PGAV Gavieira, Arco 118.59 323 *e*PKPdf **PKPdf** **18 04 52.5 +3.8**
POLO Lamas de Olo 118.65 322 *e*PKPdf **PKPdf** **18 04 50.8 +1.9**
PVRL Vila Real 118.66 322 *e*PKPdf **PKPdf** **18 04 51.0 +2.2**
T27A Campo 118.67 44 ⇓P **PKPdf** **18 04 50.7 +1.6**
baz=119
ECSD EROS Data Cent 118.71 34 PFAKE 18 05 00.0 +11
ECSD LR LR
comp=Z,498nm,20.0s
124A Stringfield Ra 118.76 49 ⇑P **PKPdf** **18 04 50.8 +1.3**
baz=119
Y25A Mesa, Roswell 118.78 48 ⇑P **PKPdf** **18 04 50.7 +1.3**
baz=119,SNR=8.4
W26A Owens Ranch, T 118.91 46 ⇓P **PKPdf** **18 04 51.2 +1.6**
baz=119
224A Cornudas Mount 118.98 50 ⇓P **PKPdf** **18 04 51.3 +1.4**
baz=119
Z25A Roswell 119.06 48 ⇑P **PKPdf** **18 04 51.3 +1.4**
baz=119
T28A Walsh 119.06 43 ⇑P **PKPdf** **18 04 51.0 +1.2**
baz=119
MTE Manteigas 119.06 321 PFAKE 18 05 00.0 +10
MTE LR LR
comp=Z,879nm,19.0s
X26A CR and CF Fran 119.13 47 ⇑P **PKPdf** **18 04 51.6 +1.5**
baz=119
BGNE Belgrade 119.23 37 ⇑P **PKPdf** **18 04 51.4 +1.5**
baz=119
MNTX Cornudas Mount 119.25 50 PFAKE 18 05 00.0 +10
MNTX LR LR
comp=Z,543nm,19.0s
MNTX Cornudas Mount 119.25 50 ⇑P **PKPdf** **18 04 52.8 +2.6**
baz=119
324A Moseley Ranch, 119.29 51 ⇓P **PKPdf** **18 04 52.2 +1.7**
baz=119
PCBR Castelo Branco 119.33 321 *e*PKPdf **PKPdf** **18 04 51.5 +1.4**
125A Gardner Draw, 119.38 49 ⇓P **PKPdf** **18 04 52.1 +1.5**
baz=119,SNR=5.2
Y26A Elida 119.42 47 ⇓P **PKPdf** **18 04 52.0 +1.4**
baz=119
225A Deer Hill, Car 119.50 50 ⇓P **PKPdf** **18 04 52.5 +1.6**
baz=119
PMRV Marv??o 119.51 320 *e*PKPdf **PKPdf** **18 04 53.3 +2.8**
Z26A Caprock 119.61 48 ⇑P **PKPdf** **18 04 52.2 +1.3**
baz=120
325A Bean Ranch, Si 119.71 50 ⇓P **PKPdf** **18 04 52.4 +1.1**
baz=120
CBKS Cedar Bluff 119.73 41 PFAKE 18 05 00.0 +9.0
CBKS LR LR
comp=Z,1μm,22.0s
GDL2 Guadalupe Moun 119.81 49 *e*PKPdf **PKPdf** **18 04 53.5 +2.1**
425A Indio Mountain 119.96 51 ⇑P **PKPdf** **18 04 53.0 +1.3**
baz=120
PBAR Barrancos 119.98 319 *e*PKPdf **PKPdf** **18 04 52.9 +1.5**
226A Malaga, Loving 120.07 49 ⇓P **PKPdf** **18 04 53.2 +1.4**
baz=120,SNR=5.3
Z27A Tatum 120.15 48 ⇓P **PKPdf** **18 04 53.2 +1.2**
baz=120,SNR=14
MSTX Muleshoe 120.16 47 ⇑P **PKPdf** **18 04 53.3 +1.3**
baz=120
X28A Dimmitt 120.31 46 ⇓P **PKPdf** **18 04 53.3 +1.1**
baz=120
SCHQ Schefferville 120.37 9 *e*PKPdf **PKPdf** **18 04 52.4 +0.7**
SCHQ PKP **PKPdf** **18 04 52.7 +1.0**
SCHQ PP **PP** **18 06 13.4 -3.7**
SCHQ LR LR
comp=Z,880nm,21.0s
SCHQ Schefferville 120.37 9 PKP **PKPdf** **18 04 52.7 +1.0**

comp=Z,3.9nm,0.8s,baz=38,slow=6.9,SNR=7.7
SCHQ PP **PP** 18 06 13.4 -3.7
comp=Z,4.0nm,1.1s,baz=66,slow=19,SNR=2.1
EVO Evora 120.42 320 *e*PKIKP **PKPdf** 18 04 52.7 +0.5
comp=Z,38nm,1.3s
EVOP Sao Brissos 120.49 320 *e*PKIKP **PKPdf** 18 04 52.7 +0.4
EVOP Sao Brissos 120.49 320 *e*PKPdf **PKPdf** 18 04 52.7 +0.4
AMTX Amarillo 120.50 45 PFAKE 18 05 00.0 +7.4
AMTX LR LR
comp=Z,976nm,20.0s
AMTX Amarillo 120.50 45 ⇓P **PKPdf** 18 04 53.7 +1.1
baz=120
326A Caldwell Ranch 120.50 50 ⇑P **PKPdf** 18 04 54.1 +1.4
baz=120
Y28A McKinney Farm, 120.57 47 ⇓P **PKPdf** 18 04 54.2 +1.4
baz=120
X29A Tulia 120.70 46 ⇑P **PKPdf** 18 04 54.1 +1.1
baz=121
426A McDonald Obser 120.75 51 ⇑P **PKPdf** 18 04 54.7 +1.3
baz=121
PCVE Castro Verde 120.94 319 *e*PKPdf **PKPdf** 18 04 55.1 +1.9
PNCL Nicolau / Gran 120.99 319 *e*PKPdf **PKPdf** 18 04 55.2 +1.9
Y29A Porterfield Fa 121.02 46 ⇓P **PKPdf** 18 04 55.3 +1.7
baz=121
427A Hayter Ranch, 121.15 50 ⇑P **PKPdf** 18 04 55.6 +1.6
baz=121,SNR=7.7
626A Big Bend Ranch 121.15 52 ⇓P **PKPdf** 18 04 55.3 +1.3
baz=121
Z29A Hungry Hill Ra 121.29 47 ⇓P **PKPdf** 18 04 55.6 +1.4
baz=121
328A Wristen Ranch, 121.36 49 ⇑P **PKPdf** 18 04 55.5 +1.2
baz=121,SNR=6.7
129A Stewart Farms, 121.47 48 ⇑P **PKPdf** 18 04 56.1 +1.5
baz=121
MORF Marmelete 121.53 319 *e*PKPdf **PKPdf** 18 04 54.9 +0.5
KSU1 Kansas State U 121.56 39 PFAKE 18 05 10.0 +16
KSU1 LR LR
comp=Z,641nm,21.0s
TXAR Lajitas Array 121.61 52 PKP **PKPdf** 18 04 56.0 +1.1
TXAR PKKPbc **PKKPab** 18 14 55.6 -0.1
TXAR Lajitas Array 121.61 52 PKP **PKPdf** 18 04 56.0 +1.1
comp=Z,3.5nm,1.0s,baz=270,slow=1.3,SNR=15
TXAR PKKPbc **PKKPab** 18 14 55.6 -0.1
comp=Z,0.3nm,0.7s,baz=113,slow=6.0,SNR=3.3
428A Kincaid Ranch, 121.75 50 ⇑P **PKPdf** 18 04 57.3 +2.2
baz=122,SNR=9.6
627A Terlingua Ranc 121.78 52 ⇑P **PKPdf** 18 04 56.7 +1.5
baz=122,SNR=9.2
SCIA State Center 121.80 34 PFAKE 18 05 10.0 +15
SCIA LR LR
comp=Z,471nm,19.0s
528A Cox Ranch, San 121.93 51 ⇓P **PKPdf** 18 04 57.1 +1.6
baz=122,SNR=6.3
RTC Rabat Centre 122.09 315 PFAKE 18 05 10.0 +14
RTC LR LR
comp=Z,445nm,21.0s
WMOK Wichita Mounta 122.61 44 PFAKE 18 05 10.0 +13
WMOK LR LR
comp=Z,991nm,22.0s
TOA0 Torodi Ar. Sit 122.66 288 *e*PKPdf **PKPdf** 18 04 57.0 -0.1
TORD Torodi Ar. Bea 122.66 288 PKP **PKPdf** 18 04 57.1 0.0
TORD PP **PP** 18 06 36.8 +2.0
TORD Torodi Ar. Bea 122.66 288 PKP **PKPdf** 18 04 57.1 0.0
comp=Z,5.1nm,0.7s,baz=49,slow=2.0,SNR=33
TORD PP **PP** 18 06 36.8 +2.0
comp=Z,4.3nm,1.0s,baz=62,slow=4.5,SNR=3.9
TUL1 Tulsa 123.97 41 ⇑P **PKPdf** 18 05 00.4 +1.3
baz=124
GLMI Grayling 124.02 26 PFAKE 18 05 10.0 +11
GLMI LR LR
comp=Z,776nm,20.0s
JCT Junction City 124.06 49 *e*PKIKP **PKPdf** 18 05 00.5 +1.0
JCT MLR MLR
comp=Z,529nm,19.0s
JCT Junction City 124.06 49 *e*PKPdf **PKPdf** 18 05 00.5 +1.0
JCT LR LR
comp=Z,529nm,19.0s
JCT Junction City 124.06 49 ⇑P **PKPdf** 18 05 01.0 +1.5
baz=124
HDIL Hopedale 124.88 33 PFAKE 18 05 10.0 +9.3
HDIL LR LR
comp=Z,645nm,20.0s
SFIN Scholer Farm 126.18 32 ⇓P **PKPdf** 18 05 04.5 +1.4
baz=126
MIAR Mount Ida 126.24 41 *e*PKIKP **PKPdf** 18 05 05.0 +1.5
MIAR MLR MLR
comp=Z,898nm,21.0s
MIAR Mount Ida 126.24 41 *e*PKPdf **PKPdf** 18 05 05.0 +1.5
MIAR LR LR
comp=Z,898nm,21.0s
AAM Ann Arbor 126.42 28 PFAKE 18 05 20.0 +16
AAM LR LR
comp=Z,591nm,19.0s
KVTX Kingsville 126.95 51 PFAKE 18 05 20.0 +15
KVTX LR LR
comp=Z,563nm,21.0s
NATX Nacogdoches 127.13 45 PFAKE 18 05 20.0 +15
NATX LR LR
comp=Z,663nm,21.0s
HKT Hockley 127.28 47 *e*PKIKP **PKPdf** 18 05 07.6 +2.1
HKT Hockley 127.28 47 *e*PKPdf **PKPdf** 18 05 07.5 +2.1
LONY Lake Ozonia 128.07 19 PFAKE 18 05 20.0 +13
LONY LR LR
comp=Z,610nm,19.0s
ERPA Erie 128.19 25 PFAKE 18 05 20.0 +13
ERPA LR LR
comp=Z,604nm,20.0s
ACSO Alum Creek Sta 128.35 29 PFAKE 18 05 20.0 +13
ACSO LR LR
comp=Z,749nm,20.0s
NCB Newcomb 128.76 19 PFAKE 18 05 20.0 +12
NCB LR LR
comp=Z,689nm,20.0s
OXF Oxford 128.93 39 PFAKE 18 05 20.0 +11
OXF LR LR
comp=Z,671nm,19.0s
LBNH Lisbon 129.23 17 PFAKE 18 05 20.0 +11
LBNH LR LR
comp=Z,868nm,21.0s
PLAL Pickwick Lake 129.43 37 *e*PKPdf **PKPdf** 18 05 10.5 +0.9
PLAL LR LR
comp=Z,633nm,21.0s
VBMS Vicksburg 129.68 42 PFAKE 18 05 20.0 +10
VBMS LR LR
comp=Z,1μm,20.0s
BINY Binghamton 129.71 22 PFAKE 18 05 20.0 +10
BINY LR LR
comp=Z,777nm,20.0s
DBIC Dimbokro 130.34 282 PKP **PKPdf** 18 05 12.8 +1.0
DBIC LR LR
comp=Z,372nm,21.0s
DBIC Dimbokro 130.34 282 PKP **PKPdf** 18 05 12.8 +1.0
comp=Z,4.3nm,0.7s,baz=45,slow=3.5,SNR=6.3
LRAL Lakeview Retre 131.40 38 *e*PKPdf **PKPdf** 18 05 15.1 +1.8
LRAL LR LR
comp=Z,624nm,21.0s
TKL Tuckaleechee C 131.42 33 *e*PKPdf **PKPdf** 18 05 15.9 +2.5
SHEL Horse Pasture 131.63 252 PFAKE 18 05 30.0 +16
SHEL LR LR
comp=Z,1μm,22.0s
BLA Blacksburg 131.96 29 PFAKE 18 05 30.0 +16
BLA LR LR
comp=Z,713nm,20.0s
CBN Corbin 132.56 26 PFAKE 18 05 30.0 +15
CBN LR LR
comp=Z,2μm,21.0s
BRAL Brewton 132.72 40 PFAKE 18 05 30.0 +14
BRAL LR LR
comp=Z,946nm,22.0s
GOGA Godfrey 133.24 35 PFAKE 18 05 30.0 +13
GOGA LR LR
comp=Z,1μm,19.0s
CNNC Cliffs of the 134.76 28 PFAKE 18 05 30.0 +10
CNNC LR LR
comp=Z,1μm,21.0s
NHSC New Hope 135.29 32 PFAKE 18 05 30.0 +9.3
NHSC LR LR
comp=Z,1μm,22.0s
PLCA Paso Flores 140.29 160 PKPpre PKPpre 18 05 26.8
PLCA *e*PKPdf **PKiKP** **18 05 31.3 -1.0**
PLCA LR LR
comp=Z,3μm,21.0s
PLCA Paso Flores 140.29 160 PKhKP PKPpre 18 05 26.8
comp=Z,1.4nm,0.8s,baz=97,slow=4.6,SNR=3.1
BBSR BB Station 142.33 16 PFAKE 18 05 50.0 +16
BBSR LR LR
comp=Z,1μm,20.0s
PAYG Puerto Ayora 143.07 86 PFAKE 18 05 50.0 +15
PAYG LR LR
comp=Z,2μm,20.0s
SACV Santiago Islan 144.94 303 PFAKE 18 05 50.0 +11
SACV LR LR
comp=Z,583nm,19.0s
TRQA Tornquist 145.18 168 *e*PKPdf **PKPdf** **18 05 38.5 +0.1**
TRQA LR LR
comp=Z,1μm,21.0s
GTBY Guantanamo Bay 148.13 41 *e*PKPbc **PKPdf** **18 05 41.0 -2.8**
GTBY LR LR
comp=Z,700nm,19.0s
GRTK Grand Turk 149.34 34 PFAKE 18 06 00.0 +5.3
GRTK LR LR
comp=Z,1μm,20.0s
LCO Las Campanas 150.19 149 PFAKE 18 06 00.0 +1.6
LCO LR LR
comp=Z,3μm,21.0s
BCIP Isla Barro Col 150.66 64 PFAKE 18 06 00.0 -0.4
BCIP LR LR
comp=Z,518nm,19.0s
SDDR Presa de Saban 151.23 37 PFAKE 18 06 00.0 -2.6
SDDR LR LR
comp=Z,726nm,20.0s
OTAV Otavalo 154.69 81 *e*PKPdf **PKPdf** **18 05 54.0 -0.6**
OTAV LR LR
comp=Z,1μm,22.0s
SJG San Juan 154.75 29 PFAKE 18 06 10.0 -7.3
SJG LR LR
comp=Z,768nm,20.0s
NNA Nana 155.54 110 PFAKE 18 06 10.0 -11
NNA LR LR
comp=Z,2μm,21.0s
LVC Limon Verde 156.18 142 PFAKE 18 06 10.0 -14
LVC LR LR
comp=Z,108nm,22.0s
ANWB Willy Bob 157.00 21 PFAKE 18 06 10.0 +13
ANWB LR LR
comp=Z,811nm,20.0s
CPUP Villa Florida 157.45 171 PKPab **PKPab** **18 06 30.1 +1.5**
CPUP Villa Florida 157.45 171 PKPab **PKPab** **18 06 30.1 +1.5**
comp=Z,4.7nm,0.7s,baz=149,slow=2.7,SNR=6.7
SDV Santo Domingo 158.65 53 *e*PKPdf **PKPdf** **18 06 00.4 +1.0**
SDV LR LR
comp=Z,318nm,20.0s
SPB Sao Paulo 159.63 196 PFAKE 18 06 10.0 +10
SPB LR LR
comp=Z,852nm,20.0s
FDF Fort de France 159.93 22 PFAKE 18 06 10.0 +9.4
FDF LR LR
comp=Z,786nm,19.0s
LPAZ La Paz 161.09 131 *e*PKPdf **PKPdf** **18 06 03.9 +1.3**
LPAZ LR LR
comp=Z,932nm,20.0s
RCBR Riachuelo 162.40 263 PFAKE 18 06 10.0 +6.7
RCBR LR LR
comp=Z,877nm,21.0s
BDFB Brasilia 167.21 204 PKPab **PKPab** **18 07 12.9 +1.2**
BDFB LR LR
comp=Z,3μm,22.0s
BDFB Brasilia 167.21 204 PKPab **PKPab** **18 07 12.9 +1.2**
comp=Z,1.3nm,0.3s,baz=87,slow=5.7,SNR=3.5
SAML Samuel 169.15 118 *e*PKPdf **PKPdf** **18 06 09.0 +0.4**
SAML LR LR
comp=Z,2μm,22.0s

IDC 12 17:54:00.9±5.1, 5.63S×150.08E, h100km±44km, mb3.7/4, mb1 3.9/5, mb1mx3.5/17, mbtmp3.8/5, Error ellipse: s-maj=41.1km s-min=29.0km az=173.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.74**	**217**	P	Pn	17 55 10.3	+0.2
	8.7nm,0.3s,baz=62,slow=6.5,SNR=34						
PMG				S	Sn	17 55 59.4	-4.5
	7.8nm,0.3s,baz=47,slow=5.0,SNR=6.9						
CTA	**Charters Tower**	**14.84**	**194**	P	P	17 57 29.6	+0.6
	0.3nm,0.3s,baz=12,slow=6.8,SNR=5.5						
DZM	**Mont Dzumac**	**22.75**	**137**	P	P	17 58 54.9	-0.1
	2.8nm,0.6s,baz=325,slow=16,SNR=5.9						
ASAR	**Alice Springs**	**23.75**	**219**	P	P	17 59 04.2	0.0
	6.3nm,0.8s,baz=52,slow=8.2,SNR=9.8						
FITZ	**Fitzroy Crossi**	**26.89**	**240**	P	P	17 59 32.4	-0.3
	2.8nm,0.4s,baz=60,slow=9.4,SNR=7.1						
ILAR	**Eielson Array**	**83.95**	**23**	P	P	18 06 19.4	-0.2
	0.2nm,0.6s,baz=249,slow=5.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**147.95**	**286**	PKPbc	PKPbc	18 13 35.3	-0.3
	0.3nm,0.6s,baz=59,slow=3.4,SNR=2.9						

IDC 12 17:55:18.6±5.8, 3.97N×126.62E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/21, mbtmp3.9/6, Error ellipse: s-maj=162.7km s-min=59.4km az=9.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**47.04**	**341**	P	P	18 03 52.0	0.0
	0.8nm,0.7s,baz=152,slow=7.9,SNR=3.6						
MKAR	**Makanchi Array**	**57.30**	**325**	P	P	18 05 07.5	-0.8
	0.8nm,0.5s,baz=120,slow=7.4,SNR=14						
KURBB	**Kurchatov Arra**	**61.48**	**327**	P	P	18 05 37.2	+0.2
	0.9nm,0.3s,baz=133,slow=5.9,SNR=5.0						
BVAR	**Borovoye Array**	**67.06**	**327**	P	P	18 06 14.5	+0.8
	0.3nm,0.4s,baz=106,slow=5.1,SNR=4.3						
AKTO	**Aktyubinsk**	**73.40**	**322**	P	P	18 06 52.5	-0.1
	1.5nm,0.9s,baz=92,slow=11,SNR=3.5						
ILAR	**Eielson Array**	**84.94**	**25**	P	P	18 07 55.3	-0.1
	0.6nm,0.9s,baz=246,slow=6.8,SNR=4.1						

*IDC **12** 17:55:27.1±0.6, 3.25N×127.07E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.2/23, mbtmp4.2/18, MS4.5/1, Ms1 4.5/1, ms1mx3.5/44, Error ellipse: s-maj=31.1km s-min=14.0km az=66.0*
*ISCJB **12** 17:55:31.5±0.4, 3.22N±0.07×127.0E±0.1, h48km, mb4.3/22, MS4.3/1, Error ellipse: s-maj=21.0km s-min=8.7km az=164.6*
*NEIC **12** 17:55:32.2±0.4, 3.19N×126.97E, h35km, mb4.7/5, Error ellipse: s-maj=20.9km s-min=9.1km az=74.0*

ISC 12 17:55:33.9±0.6, 3.26N±0.09×126.9E±0.2, h48km, n44, σ1§43/43, mb4.3/21, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**3.40**	**326**	*i* P	**Sn**	**17 57 00.7**	**-3.0**
GUMO	**Guam**	**20.52**	**59**	LR	LR	18 06 30.1	
	comp=Z,1μm,19.2s,baz=37,slow=33						
TPUB	**Ta-pu**	**20.82**	**344**	*e*P	**P**	**18 00 07.9**	**-3.6**
FITZ	**Fitzroy Crossi**	**21.26**	**183**	P	**P**	**18 00 17.0**	**+0.8**
FITZ	**Fitzroy Crossi**	**21.26**	**183**	P	**P**	**18 00 17.0**	**+0.8**
	3.7nm,0.8s,baz=25,slow=12,SNR=2.8						
WRAB	**Tennant Creek**	**24.19**	**163**	*e*P	**P**	**18 00 44.2**	**-1.9**
	32nm,1.0s						
MBWA	**Marble Bar**	**25.26**	**196**	*e*P	**P**	**18 00 53.4**	**-2.3**
	11nm,0.9s						
ASAR	**Alice Springs**	**27.63**	**166**	P	**P**	**18 01 15.8**	**-1.3**
ASAR	**Alice Springs**	**27.63**	**166**	P	**P**	**18 01 15.8**	**-1.3**
	0.6nm,0.6s,baz=340,slow=6.1,SNR=4.9						
CMAR	**Chiang Mai Arr**	**31.23**	**301**	P	**P**	**18 01 50.4**	**+1.2**
CMAR	**Chiang Mai Arr**	**31.23**	**301**	P	**P**	**18 01 50.4**	**+1.2**
	2.5nm,0.7s,baz=111,slow=6.8,SNR=10.0						
ENH	**Enshi**	**31.50**	**330**	*e*P	**P**	**18 01 49.5**	**-1.9**
KSAR	**Wonju Array Be**	**34.03**	**1**	P	**P**	**18 02 12.7**	**-0.6**
KSRS	**Korea Array**	**34.04**	**1**	P	**P**	**18 02 12.7**	**-0.7**
	2.1nm,0.8s,baz=187,slow=11,SNR=4.8						
STKA	**Stephens Creek**	**37.64**	**159**	*e*P	**P**	**18 02 42.1**	**-2.3**
	1.5nm,0.8s						
STKA	**Stephens Creek**	**37.64**	**159**	P	**P**	**18 02 42.4**	**-2.0**
	7.0nm,0.7s,baz=348,slow=7.3,SNR=9.4						
DZM	**Mont Dzumac**	**46.15**	**125**	P	P	18 03 51.6	-2.6
DZM	**Mont Dzumac**	**46.15**	**125**	P	P	18 03 51.6	-2.6
	8.1nm,1.0s,baz=296,slow=6.9,SNR=8.6						
SONM	**Songino Array**	**47.78**	**341**	P	**P**	**18 04 07.1**	**+0.5**
SONM	**Songino Array**	**47.78**	**341**	P	**P**	**18 04 07.1**	**+0.5**
	1.2nm,0.6s,baz=161,slow=8.5,SNR=7.4						
PETK	**Petropavlovsk-**	**55.81**	**22**	P	**P**	**18 05 05.9**	**-0.2**
PETK	**Petropavlovsk-**	**55.81**	**22**	P	**P**	**18 05 05.9**	**-0.2**
	1.7nm,0.5s,baz=197,slow=4.6,SNR=4.8						
MKAR	**Makanchi Array**	**58.02**	**325**	P	**P**		
MKAR				PcP	**PcP**	**18 06 15.2**	**+1.7**
MKAR	**Makanchi Array**	**58.02**	**325**	P	**P**	**18 05 22.1**	**+0.2**
	1.6nm,0.6s,baz=118,slow=7.4,SNR=7.5						
MKAR				PcP	**PcP**	**18 06 15.2**	**+1.7**
	1.9nm,0.7s,baz=114,slow=5.3,SNR=4.6						
YAK	**Yakutsk**	**58.67**	**2**	*e*P	**P**	**18 05 26.7**	**+0.6**
	6.3nm,0.6s						
ZALV	**Zalesovo Beam**	**61.07**	**333**	P	**P**	**18 05 41.9**	**-0.8**
ZALV	**Zalesovo Beam**	**61.07**	**333**	P	**P**	**18 05 41.9**	**-0.8**
	0.9nm,0.5s,baz=108,slow=6.3,SNR=3.6						
KURBB	**Kurchatov Arra**	**62.21**	**327**	P	**P**	**18 05 50.7**	**+0.2**
	2.2nm,0.5s,baz=128,slow=6.7,SNR=5.2						
KURK	**Kurchatov**	**62.21**	**328**	P	**P**	**18 05 50.7**	**+0.2**
BVAR	**Borovoye Array**	**67.79**	**327**	P	**P**	**18 06 27.7**	**+1.0**
BVAR	**Borovoye Array**	**67.79**	**327**	P	**P**	**18 06 27.7**	**+1.0**
	2.1nm,0.8s,baz=120,slow=8.5,SNR=5.7						
AKTO	**Aktyubinsk**	**74.11**	**322**	P	**P**	**18 07 05.8**	**+0.7**
AKTO	**Aktyubinsk**	**74.11**	**322**	P	**P**	**18 07 05.8**	**+0.7**
	2.2nm,0.7s,baz=88,slow=10,SNR=4.3						
MCK	**McKinley**	**84.52**	**26**	*e*P	**P**	**18 08 03.1**	**+1.5**
	7.4nm,1.0s						
ILAR	**Eielson Array**	**85.46**	**25**	P	**P**	**18 08 08.1**	**+1.8**
ILAR	**Eielson Array**	**85.46**	**25**	P	**P**	**18 08 08.1**	**+1.8**
	0.5nm,0.7s,baz=270,slow=5.6,SNR=5.3						
BRTR	**Keskin Array B**	**90.43**	**310**	P	**P**	**18 08 32.5**	**+1.7**
BRTR	**Keskin Array B**	**90.43**	**310**	P	**P**	**18 08 32.5**	**+1.7**
	1.1nm,0.8s,baz=101,slow=6.4,SNR=4.0						
FINES	**FINESS Array B**	**92.31**	**332**	P	**P**	**18 08 39.7**	**+0.9**
FINES	**FINESS Array B**	**92.31**	**332**	P	**P**	**18 08 39.7**	**+0.9**
	2.0nm,0.7s,baz=58,slow=5.0,SNR=5.7						
AKASG	**Malin Array Be**	**92.34**	**321**	P	**P**	**18 08 40.2**	**+1.0**
AKASG	**Malin Array Be**	**92.34**	**321**	P	**P**	**18 08 40.2**	**+1.0**
	1.9nm,0.7s,baz=69,slow=5.1,SNR=5.7						
NOA	**NORSAR Array B**	**99.27**	**334**	P	**Pdif**	**18 09 10.1**	**-0.4**
NOA	**NORSAR Array B**	**99.27**	**334**	P	**Pdif**	**18 09 10.1**	**-0.4**
	0.6nm,0.7s,baz=66,slow=4.5,SNR=2.5						

IDC 12 18:00:14.4±1.5, 4.17N×126.55E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/20, mbtmp3.8/6, Error ellipse: s-maj=187.4km s-min=19.8km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**28.58**	**166**	P	P	18 06 13.2	+0.8
	0.6nm,0.8s,baz=344,slow=11,SNR=3.6						
STKA	**Stephens Creek**	**38.60**	**159**	P	P	18 07 38.3	-1.1
	2.4nm,0.7s,baz=325,slow=8.9,SNR=3.7						
SONM	**Songino Array**	**46.82**	**341**	P	P	18 08 46.2	+0.1
	0.4nm,0.6s,baz=153,slow=7.3,SNR=3.7						
MKAR	**Makanchi Array**	**57.09**	**325**	P	P	18 10 02.0	-0.6
	0.6nm,0.6s,baz=123,slow=7.7,SNR=7.0						
KURBB	**Kurchatov Arra**	**61.27**	**327**	P	P	18 10 30.6	-0.9
	1.5nm,0.7s,baz=122,slow=6.2,SNR=7.8						
BVAR	**Borovoye Array**	**66.85**	**327**	P	P	18 11 09.6	+1.4
	0.3nm,0.7s,baz=133,slow=8.7,SNR=4.5						

IDC 12 18:05:35.0±1.6, 3.62N×126.02E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/20, mbtmp3.5/6, Error ellipse: s-maj=204.2km s-min=21.4km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**28.18**	**165**	P	P	18 11 30.1	+0.7
	0.1nm,0.3s,baz=340,slow=7.8,SNR=3.6						
STKA	**Stephens Creek**	**38.28**	**158**	P	P	18 12 56.5	-0.8
	0.8nm,0.4s,baz=350,slow=12,SNR=3.3						
SONM	**Songino Array**	**47.18**	**342**	P	P	18 14 09.8	+0.3
	0.2nm,0.7s,baz=147,slow=8.1,SNR=2.3						
MKAR	**Makanchi Array**	**57.25**	**326**	P	P	18 15 24.1	-0.2
	0.3nm,0.5s,baz=119,slow=8.0,SNR=9.3						
KURBB	**Kurchatov Arra**	**61.45**	**328**	P	P	18 15 53.0	-0.3
	0.6nm,0.3s,baz=114,slow=6.8,SNR=4.7						
BVAR	**Borovoye Array**	**67.03**	**327**	P	P	18 16 30.0	+0.1
	0.2nm,0.5s,baz=116,slow=6.6,SNR=3.2						

IDC 12 18:06:41.0±1.6, 4.03N×126.68E, h0km, mb3.6/6, mb1 3.6/6, mb1mx3.5/20, mbtmp3.6/6, Error ellipse: s-maj=203.5km s-min=20.7km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**28.41**	**166**	P	P	18 12 37.0	-0.6
	0.1nm,0.4s,baz=348,slow=7.6,SNR=2.8						
STKA	**Stephens Creek**	**38.43**	**159**	P	P	18 14 05.0	+0.5
	1.7nm,0.7s,baz=334,slow=8.3,SNR=3.4						
SONM	**Songino Array**	**47.00**	**341**	P	P	18 15 13.8	-0.4
	0.2nm,0.4s,baz=133,slow=8.5,SNR=3.0						
MKAR	**Makanchi Array**	**57.28**	**325**	P	P	18 16 29.8	-0.8
	0.2nm,0.4s,baz=121,slow=7.0,SNR=5.1						
KURBB	**Kurchatov Arra**	**61.46**	**327**	P	P	18 16 59.8	+0.5
	0.6nm,0.3s,baz=122,slow=7.0,SNR=4.1						
BVAR	**Borovoye Array**	**67.04**	**327**	P	P	18 17 36.5	+0.5
	0.2nm,0.5s,baz=106,slow=5.2,SNR=2.8						

IDC 12 18:08:27.1±1.9, 4.09N×126.59E, h0km, mb3.6/6, mb1 3.6/6, mb1mx3.5/20, mbtmp3.6/6, Error ellipse: s-maj=194.9km s-min=24.5km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**28.49**	**166**	P	P	18 14 24.4	0.0
	0.2nm,0.6s,baz=359,slow=9.9,SNR=2.5						
SONM	**Songino Array**	**46.92**	**341**	P	P	18 17 00.3	+0.6
	0.2nm,0.5s,baz=142,slow=7.3,SNR=2.2						
MKAR	**Makanchi Array**	**57.18**	**325**	P	P	18 18 15.7	-0.4
	0.3nm,0.3s,baz=117,slow=7.7,SNR=10						
ZALV	**Zalesovo Beam**	**60.21**	**333**	P	P	18 18 36.3	-0.6
	0.3nm,0.4s,baz=132,slow=4.3,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.36**	**327**	P	P	18 18 44.9	0.0
	0.4nm,0.3s,baz=125,slow=6.2,SNR=2.9						
BVAR	**Borovoye Array**	**66.94**	**327**	P	P	18 19 21.6	+0.1
	0.2nm,0.4s,baz=108,slow=3.2,SNR=4.3						

*IDC **12** 18:09:28.3±0.5, 3.97N×126.51E, h0km, mb4.5/27, mb1 4.5/27, mb1mx4.5/28, mbtmp4.5/27, MS4.0/5, Ms1 4.0/5, ms1mx3.6/45, Error ellipse: s-maj=19.2km s-min=9.6km az=74.0*
*ISCJB **12** 18:09:32.9±0.3, 4.00N±0.04×126.57E±0.06, h45km, mb4.6/57, MS4.0/3, Error ellipse: s-maj=8.3km s-min=4.7km az=161.8*
*BJI **12** 18:09:32.3, 3.89N×126.15E, h29km, mB5.2/7, mb4.6/24, Ms4.7/3, Ms7 4.4/3*
*NEIC **12** 18:09:33.5±0.3, 3.99N×126.66E, h35km, mb4.7/23, Error ellipse: s-maj=9.5km s-min=5.4km az=80.0*
*DJA **12** 18:09:42, 3.57N×126.56E, h88km, mb4.7/18*

ISC 12 18:09:34.6±0.3, 4.05N±0.04×126.69E±0.07, h45km, n154, σ1§43/142, mb4.7/64, MS4.0/3, 2C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.67**	**319**	*e*P	Pn	18 10 19.2	+4.0
MNI	**Manado**	**3.18**	**216**	P	Pn	18 10 25.5	+3.4
DAV	**Davao City (W)**	**3.20**	**340**	Pn	**Pn**	**18 10 23.8**	**+1.3**
DAV				Sn	**Sn**	**18 10 56.7**	**-2.7**
DAV	**Davao City (W)**	**3.20**	**340**	Pn	**Pn**	**18 10 23.7**	**+1.3**
	baz=117,slow=18,SNR=2.5						
DAV				Sn	**Sn**	**18 10 56.7**	**-2.7**
	15nm,0.3s,baz=218,slow=21,SNR=3.8						
DAV				LR	LR	18 11 56.6	
	comp=Z,1μm,19.7s,baz=13,slow=46						
TNTI	**Ternate**	**3.32**	**168**	P	**Pn**	**18 10 24.0**	**-0.1**
BUKP	**Musuan**	**4.14**	**337**	*e*P	Pn	18 10 39.2	+3.8
CGP	**Cagayan de Oro**	**4.81**	**336**	*i* P	Pn	18 10 56.6	+12
CGP				*i* S	Sn	18 11 53.5	+14
BUTP	**Butuan**	**5.01**	**348**	*e*P	Pn	18 10 54.4	+7.2
PAGZ	**Pagadian**	**5.01**	**319**	*e*P	Pn	18 10 52.5	+5.2
MSLP	**Maasin**	**6.32**	**343**	*e*P	Pn	18 11 10.9	+5.7
LUWI	**Luwuk**	**6.39**	**218**	P	Pn	18 11 10.9	+4.6
	398nm,1.2s,4μm2.1nm						
MYLDM	**Lahad Datu**	**8.24**	**278**	P	Pn	18 11 36.6	+5.0
MYLDM	**Lahad Datu**	**8.24**	**278**	P	Pn	18 11 38.1	+6.4
	107nm,0.8s,0.7nm						
TSM	**Tawau**	**8.80**	**272**	P	**Pn**	**18 11 39.4**	**+0.1**
FAKI	**Fak Fak**	**8.87**	**141**	P	Pn	18 11 43.7	+3.4
	42nm,1.0s,0.1nm						
KDI	**Kendari**	**8.93**	**207**	P	Pn	18 11 54.9	+14
KKM	**Kota Kinabalu**	**10.62**	**281**	*e*P	Pn	18 12 07.6	+3.2
	22nm,0.9s						
KKM	**Kota Kinabalu**	**10.62**	**281**	P	Pn	18 12 09.8	+5.4
KKM	**Kota Kinabalu**	**10.62**	**281**	P	Pn	18 12 09.6	+5.2
	49nm,0.9s						
BAKI	**Biak**	**10.75**	**119**	P	Pn	18 12 11.6	+5.6
	124nm,1.0s						

KAPI	Kappang	11.36 218	Pn	Pn	18 12 14.9	+0.6
KAPI	Kappang	11.36 218	Pn	Pn	18 12 14.9	+0.6
	0.4nm,0.3s,baz=73,slow=20,SNR=1.8					
KAPI			LR	LR	18 17 03.0	
	comp=Z,978nm,18.3s,baz=241,slow=41					
KSM	Kuching	16.56 262	*eP*	P	18 13 26.5	+0.7
	45nm,1.0s					
KSM	Kuching	16.56 262	P	P	18 13 27.6	+1.8
KSM	Kuching	16.56 262	P	P	18 13 27.5	+1.8
	44nm,1.1s					
MTN	Manton Dam	17.35 165	*eP*	Pn	18 13 29.1	-4.5
TPUB	Ta-pu	20.02 344	*eP*	P	18 14 03.5	-0.3
	26nm,0.6s					
GUMO	Guam	20.29 61	LR	LR	18 21 16.8	
	comp=Z,335nm,22.0s,baz=236,slow=35					
SSLB	Suanglung	20.39 345	*eP*	P	18 14 08.3	+0.5
	15nm,0.6s					
LEM	Lembang	21.89 241	P	P	18 14 28.0	+3.8
	38nm,1.2s					
FITZ	Fitzroy Crossi	22.03 183	P	P	18 14 23.7	-1.7
FITZ	Fitzroy Crossi	22.03 183	*eP*	P	18 14 23.9	-1.5
	17nm,0.7s					
FITZ	Fitzroy Crossi	22.03 183	P	P	18 14 23.7	-1.7
	4.7nm,0.5s,baz=354,slow=10,SNR=19					
MYKOM	Kota Tinggi	22.92 265	P	P	18 14 40.7	+5.7
	18nm,1.2s					
KGM	Kluang	23.43 266	P	P	18 14 41.6	+1.6
WRAB	Tennant Creek	24.99 163	*eP*	P	18 14 52.8	-1.5
	23nm,0.8s					
FRIM	Kepong	25.03 269	P	P	18 14 58.2	+3.4
IPM	Ipoh	25.60 272	*eP*	P	18 15 01.5	+1.5
	38nm,1.2s					
IPM	Ipoh	25.60 272	P	P	18 15 05.0	+5.0
IPM	Ipoh	25.60 272	P	P	18 15 05.4	+5.4
	27nm,1.2s					
BKNI	Bangkinang	25.89 262	P	P	18 15 09.4	+6.8
	53nm,1.3s					
MBWA	Marble Bar	25.96 195	*eP*	P	18 15 01.5	-1.6
	15nm,0.6s					
KULM	Kulim	25.98 274	*eP*	P	18 15 05.4	+2.0
	31nm,1.3s					
KULM	Kulim	25.98 274	P	P	18 15 05.9	+2.5
KULM	Kulim	25.98 274	P	P	18 15 09.9	+6.5
	21nm,1.4s					
PPI	Padang Panjang	26.65 261	P	P	18 15 15.0	+5.5
PSI	Prapat	27.75 268	P	P	18 15 18.7	-0.7
PSI	Prapat	27.75 268	P	P	18 15 18.7	-0.7
	3.0nm,0.6s,baz=182,slow=13,SNR=4.6					
AS31	Alice Springs	28.43 166	*eP*	P	18 15 23.9	-1.4
ASAR	Alice Springs	28.43 166	P	P	18 15 24.4	-0.8
ASAR			S	S	18 20 12.7	+3.1
ASAR	Alice Springs	28.43 166	P	P	18 15 24.4	-0.8
	2.3nm,0.7s,baz=340,slow=6.1,SNR=17					
ASAR			S	S	18 20 12.7	+3.1
	1.0nm,0.9s,baz=343,slow=19,SNR=4.1					
WHN	Wuhan	28.82 338	⇑P	P	18 15 30.2	+1.6
JNU	Nakatsue	29.19 7	P	P	18 15 32.1	+0.2
JNU	Nakatsue	29.19 7	P	P	18 15 32.1	+0.2
	4.8nm,0.8s,baz=165,slow=11,SNR=2.4					
CM31	Chiang Mai Arr	30.68 300	*eP*	P	18 15 45.9	+0.6
	2.3nm,0.7s					
CMAR	Chiang Mai Arr	30.68 300	P	P	18 15 45.5	+0.2
CMAR			ScP	ScP	18 22 23.7	+1.8
CMAR	Chiang Mai Arr	30.68 300	P	P	18 15 45.5	+0.2
	2.8nm,0.8s,baz=118,slow=7.4,SNR=19					
CMAR			ScP	ScP	18 22 23.7	+1.8
	1.2nm,0.9s,baz=164,slow=1.6,SNR=7.1					
CTA	Charters Tower	30.73 142	P	P	18 15 46.8	+1.0
CTA	Charters Tower	30.73 142	P	P	18 15 46.8	+1.0
	6.0nm,1.0s,baz=316,slow=11,SNR=2.4					
ENH	Enshi	30.74 330	*eP*	P	18 15 45.8	+0.1
	10.0nm,0.8s					
CHTO	Chiang Mai	30.83 301	*eP*	P	18 15 46.2	-0.4
	6.2nm,0.8s					
CHTO	Chiang Mai	30.83 301	P	P	18 15 46.7	+0.1
JHJ	Hachijo jima 2	31.41 21	LR	LR	18 27 55.2	
	comp=Z,317nm,18.9s,baz=75,slow=35					
KSAR	Wonju Array Be	33.26 2	P	P	18 16 09.2	+1.5
KSRS	Korea Array	33.27 2	P	P	18 16 09.2	+1.4
	1.1nm,0.4s,baz=181,slow=9.9,SNR=5.4					
MJAR	Matsushiro Arr	34.03 17	P	P	18 16 14.4	0.0
MJAR	Matsushiro Arr	34.03 17	P	P	18 16 14.4	0.0
	3.3nm,1.0s,baz=198,slow=9.8,SNR=6.4					
XAN	Xi'an	34.12 333	P	P	18 16 14.8	-0.5
XAN			pP	pP	18 16 24.9	-2.4
XAN			sP	sP	18 16 30.1	-2.6
XAN			pmax	pmax		
	comp=Z,230nm,11.9s					
KLBR	Kellerberrin	36.45 193	*eP*	P	18 16 34.1	-1.1
	comp=Z,8.6nm,0.5s					
BJT	Baijiatuan	37.05 347	*eP*	P	18 16 40.7	+0.4
	comp=Z,23nm,0.8s					
BJI	Beijing	37.07 347	P	P	18 16 41.4	+1.0
BJI			pmax	pmax		
	comp=Z,28nm,1.0s					
NWAO	Narrogin (SRO)	37.85 193	P	P	18 16 46.2	-0.8
NWAO	Narrogin (SRO)	37.85 193	P	P	18 16 46.2	-0.8
	comp=Z,6.7nm,0.5s,baz=23,slow=8.6,SNR=9.5					
LZH	Lanzhou	38.21 329	*eP*	P	18 16 51.4	+1.0
LZH			pP	pP	18 16 56.2	-6.4
LZH			sP	sP	18 16 58.7	-9.2
LZH			pmax	pmax		
	comp=Z,18nm,1.0s					
STKA	Stephens Creek	38.44 159	P	P	18 16 52.2	+0.2
STKA	Stephens Creek	38.44 159	*eP*	P	18 16 52.1	0.0
	comp=Z,16nm,0.8s					
STKA	Stephens Creek	38.44 159	P	P	18 16 52.2	+0.2
	comp=Z,20nm,0.7s,baz=337,slow=7.9,SNR=30					
USRK	Ussuriysk Arra	40.26 6	P	P	18 17 08.7	+1.6
	comp=Z,3.3nm,0.8s,baz=186,slow=7.8,SNR=7.3					
ARMA	Armidale	41.75 147	*eP*	P	18 17 21.5	+1.8
LSA	Lhasa	42.20 311	*eP*	P	18 17 24.3	+0.4
	comp=Z,5.3nm,0.6s					
ASAJ	Asahikawa	42.30 17	P	P	18 17 25.1	+1.3
ASAJ	Asahikawa	42.30 17	P	P	18 17 25.1	+1.3
	comp=Z,8.8nm,1.0s,baz=225,slow=10.0,SNR=4.4					
ASAJ			LR	LR	18 36 22.8	
	comp=Z,321nm,18.2s,baz=55,slow=38					
GTA	Gaotai	42.81 329	*eP*	P	18 17 28.4	+0.1
GTA			pP	pP	18 17 38.7	-1.9
GTA			sP	sP	18 17 42.2	-3.7
GTA			PcP	PcP	18 19 25.2	+6.2
GTA			pmax	pmax		
	comp=Z,3.0nm,1.0s					
TAPN	Taplejung	43.80 306	*eP*	P	18 17 36.0	-0.7
	comp=Z,14nm,0.9s					
ODAN	Odare	43.86 305	*eP*	P	18 17 36.3	-0.8
	comp=Z,14nm,0.8s					
RAMN	Ramite	44.54 305	*eP*	P	18 17 41.9	-0.6
	comp=Z,12nm,0.6s					
JIRN	Jiri	45.16 306	*eP*	P	18 17 46.8	-0.8
	comp=Z,2.1nm,0.4s					
HIA	Hailar	45.45 354	*eP*	P	18 17 51.1	+2.1
	comp=Z,11nm,0.6s					
GUN	Gumba	45.51 306	*eP*	P	18 17 49.5	-0.9
	comp=Z,14nm,0.4s					
PKI	Pulchoki	45.76 305	*eP*	P	18 17 51.2	-1.1
KKN	Kakani	45.95 305	*eP*	P	18 17 52.5	-1.2
	comp=Z,6.4nm,0.6s					
DMN	Daman	46.02 305	*eP*	P	18 17 53.0	-1.3
GKN	Gorkha	46.56 305	*eP*	P	18 17 57.2	-1.2
DZM	Mont Dzumac	46.75 125	*eP*	P	18 17 57.7	-2.2
DZM	Mont Dzumac	46.75 125	P	P	18 18 00.6	+0.8
DZM	Mont Dzumac	46.75 125	P	P	18 18 00.6	+0.8
	comp=Z,24nm,0.8s,baz=319,slow=11,SNR=33					
ULN	Ulaanbaatar	46.81 342	*eP*	P	18 18 00.6	+0.6
	comp=Z,5.8nm,1.0s					
SONM	Songino Array	46.99 341	P	P	18 18 01.6	+0.2
SONM			PcP	PcP	18 19 33.7	+0.5
SONM	Songino Array	46.99 341	P	P	18 18 01.6	+0.2
	comp=Z,2.9nm,0.8s,baz=157,slow=8.7,SNR=21					
SONM			PcP	PcP	18 19 33.7	+0.5
	comp=Z,1.4nm,0.8s,baz=160,slow=3.3,SNR=3.9					
KOLN	Koldanda	47.31 305	*eP*	P	18 18 03.6	-0.8
	comp=Z,21nm,0.6s					
DANN	Dangsing	47.40 305	*eP*	P	18 18 04.1	-1.0
	comp=Z,26nm,0.6s					
HYB	Hyderabad	48.98 290	*i* P	P	18 18 15.5	-1.6
POO	Poona	53.57 290	*ex*	x	18 18 49.0	
PETK	Petropavlovsk-	55.15 22	P	P	18 19 04.0	+1.6
PETK	Petropavlovsk-	55.15 22	P	P	18 19 04.0	+1.6
	comp=Z,8.3nm,0.7s,baz=175,slow=4.5,SNR=9.0					
MKAR	Makanchi Array	57.28 325	P	P	18 19 17.5	-0.2
MKAR			ScP	ScP	18 24 12.1	+4.1
MKAR	Makanchi Array	57.28 325	P	P	18 19 17.5	-0.2
	comp=Z,4.1nm,0.5s,baz=120,slow=7.6,SNR=52					
MKAR			ScP	ScP	18 24 12.1	+4.1
	comp=Z,1.2nm,0.8s,baz=129,slow=5.3,SNR=7.8					
YAK	Yakutsk	57.90 2	*eP*	P	18 19 23.1	+1.4
	comp=Z,23nm,0.8s					
KZA	Kyzart	59.36 317	P	P	18 19 33.0	+0.1
	SNR=8.7					
TKM2	Tokmak 2	59.49 318	*eP*	P	18 19 34.2	+0.7
	comp=Z,3.7nm,0.8s					
TKM2	Tokmak 2	59.49 318	P	P	18 19 34.5	+1.1
	SNR=7.0					
AAK	Ala-Archa	60.10 318	P	P	18 19 36.7	-1.0
AAK	Ala-Archa	60.10 318	P	P	18 19 36.7	-1.0
	comp=Z,2.4nm,0.9s,baz=169,slow=9.2,SNR=5.2					
ZAA0	Zalesovo Array	60.29 333	*eP*	P	18 19 37.6	-0.9
ZALV	Zalesovo Beam	60.29 333	P	P	18 19 37.3	-1.2
ZALV	Zalesovo Beam	60.29 333	P	P	18 19 37.3	-1.2
	comp=Z,2.2nm,0.7s,baz=114,slow=6.5,SNR=10					
USP	Ospenovka	60.36 318	P	P	18 19 40.2	+1.0
	SNR=12					
AML	Almayashu	60.44 317	P	P	18 19 41.6	+1.3
	SNR=16					
EKS2	Erkin-Say	60.59 318	*eP*	P	18 19 40.7	-0.2
	comp=Z,6.7nm,0.9s					
EKS2	Erkin-Say	60.59 318	P	P	18 19 42.3	+1.3
	SNR=9.9					
KURBB	Kurchatov Arra	61.45 327	P	P	18 19 46.1	-0.3
	comp=Z,10nm,0.7s,baz=124,slow=6.4,SNR=36					
KURK	Kurchatov	61.46 327	P	P	18 19 46.1	-0.3
KKAR	Karaty Array	62.98 317	*eP*	P	18 19 55.8	-1.1
	comp=Z,8.0nm,0.9s					
BVAR	Borovoye Array	67.04 327	P	P	18 20 22.9	-0.1
BVAR	Borovoye Array	67.04 327	P	P	18 20 22.9	-0.1
	comp=Z,7.2nm,1.0s,baz=126,slow=7.4,SNR=26					
BRVK	Borovoye	67.11 327	*eP*	P	18 20 22.8	-0.7
	comp=Z,9.8nm,0.9s					
ABKAR	Akbulak array	71.88 321	*eP*	P	18 20 51.6	-1.4
	comp=Z,2.4nm,0.6s					
ARU	Arti	74.65 328	*eP*	P	18 21 07.8	-1.3
	comp=Z,5.3nm,0.6s					
QRN	Al-Qurain	78.23 298	*eP*	P	18 21 28.6	-1.4
QRN			AMb	AMB	18 21 31.1	
	comp=Z,50nm,1.2s					
RDF	Al-Radifah	78.56 299	AMb	AMB	18 21 38.2	
	comp=Z,36nm,1.5s					
MIB	Mutribah	78.77 299	*eP*	P	18 21 31.0	-2.0
MIB			AMb	AMB	18 21 33.0	
	comp=Z,28nm,0.7s					
NAY	Al-Naaiem	78.83 299	*eP*	P	18 21 31.7	-1.7
NAY			AMb	AMB	18 21 33.2	
	comp=Z,11nm,0.7s					
ILAR	Eielson Array	84.84 25	P	P	18 22 05.2	+1.0
ILAR	Eielson Array	84.84 25	P	P	18 22 05.2	+1.0
	comp=Z,1.3nm,1.0s,baz=254,slow=5.2,SNR=7.5					
KMBO	Kilima Mbogo	89.52 269	*eP*	P	18 22 27.6	-0.7
	comp=Z,4.3nm,1.0s					
BR131	Keskin Array S	89.79 310	*eP*	P	18 22 27.7	-1.1
	comp=Z,5.5nm,1.0s					
BRTR	Keskin Array B	89.79 310	P	P	18 22 27.9	-1.0
BRTR	Keskin Array B	89.79 310	P	P	18 22 27.9	-1.0
	comp=Z,2.2nm,0.8s,baz=93,slow=5.3,SNR=9.6					
ARCES	ARCESS Array B	90.14 340	P	P	18 22 29.8	+0.1
ARCES	ARCESS Array B	90.14 340	P	P	18 22 29.8	+0.1
	comp=Z,3.2nm,0.8s,baz=35,slow=4.4,SNR=8.2					
FINES	FINESS Array B	91.54 332	P	P	18 22 36.2	-0.1
FINES	FINESS Array B	91.54 332	P	P	18 22 36.2	-0.1
	comp=Z,4.2nm,0.9s,baz=73,slow=4.8,SNR=10					
AKASG	Malin Array Be	91.63 321	P	P	18 22 36.8	-0.2
AKASG	Malin Array Be	91.63 321	P	P	18 22 36.8	-0.2
	comp=Z,0.7nm,0.4s,baz=72,slow=4.3,SNR=7.6					
BUR08	Buovina Ar. S	94.75 318	*eP*	P	18 22 51.2	-0.4
NB2	NORSAR Subarra	98.49 334	P	P	18 23 07.5	-0.6
	comp=Z,0.6nm,0.6s,baz=66,slow=4.6					
NOA	NORSAR Array B	98.49 334	P	P	18 23 07.9	-0.2
NOA	NORSAR Array B	98.49 334	P	P	18 23 07.9	-0.2
	comp=Z,1.6nm,0.8s,baz=66,slow=4.5,SNR=4.3					
YKA	Yellowknife Ar	99.23 24	P	Pdif	18 23 12.3	+1.0
YKA	Yellowknife Ar	99.23 24	P	Pdif	18 23 12.3	+1.0
	comp=Z,0.3nm,0.7s,baz=299,slow=4.7,SNR=5.0					
GERES	GERESS Array B	101.82 322	P	Pdif	18 23 23.4	+0.1
GERES	GERESS Array B	101.82 322	P	Pdif	18 23 23.4	+0.1
	comp=Z,0.2nm,0.5s,baz=57,slow=4.9,SNR=5.0					
TORD	Torodi Ar. Bea	122.78 288	PKP	PKPdf	18 28 26.7	0.0
TORD	Torodi Ar. Bea	122.78 288	PKP	PKPdf	18 28 26.7	0.0
	comp=Z,1.0nm,0.8s,baz=65,slow=2.2,SNR=6.4					

IDC ***12*** *18:16:15.8±0.7,0.°73S×127.°81E, h0km, mb4.1/14, mb1 4.1/16, mb1mx4.1/23, mbtmp4.1/16, ML3.8/2, Error ellipse: s-maj=23.1km s-min=15.0km az=82.0*
ISCJB ***12*** *18:16:17.3±0.4,0.°76S±0.°05×127.°75E±0.°07, h19km, mb4.2/17, Error ellipse: s-maj=9.4km s-min=7.1km az=177.1*
DJA ***12*** *18:16:19,0.°80S×127.°62E, h133km, MLv4.1/5*
NEIC ***12*** *18:16:20.7±4.7,0.°77S×127.°79E, h32km±34km, mb4.9/3, Error ellipse: s-maj=15.6km s-min=7.8km az=61.0*

ISC 12 18:16:18.8±0.5, 0.°77S±0.°07×127.°81E±0.°08, h19km, n52, σ0s70/61, mb4.2/17, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KAPI	Kappang	9.09	242	Pn	Pn	Pn	18 18 28.7	-0.3
KAPI				Sn	Sn	Sn	18 20 10.8	0.0
KAPI	Kappang	9.09	242	Pn	Pn	Pn	18 18 28.7	-0.3
	2.0nm,0.3s,baz=211,slow=3.8,SNR=8.1							
KAPI				Sn	Sn	Sn	18 20 10.8	0.0
	0.5nm,0.3s,baz=18,slow=20,SNR=2.7							
FITZ	Fitzroy Crossi	17.35	187	P	Pn	Pn	18 20 20.6	+0.5
FITZ	Fitzroy Crossi	17.35	187	P	Pn	Pn	18 20 20.6	+0.5
	0.2nm,0.3s,baz=353,slow=11,SNR=4.1							
WRAB	Tennant Creek	20.09	162	*eP*	P	P	18 20 51.1	-0.3
AS31	Alice Springs	23.51	166	*eP*	P	P	18 21 28.4	+0.5
ASAR	Alice Springs	23.51	166	P	P	P	18 21 28.1	+0.2
ASAR				PcP	PcP	PcP	18 25 13.5	0.0
ASAR				S	S	S	18 25 39.4	-1.6
ASAR	Alice Springs	23.51	166	P	P	P	18 21 28.1	+0.2
	4.4nm,0.4s,baz=344,slow=12,SNR=47							
ASAR				PcP	PcP	PcP	18 25 13.5	0.0
	0.4nm,0.6s,baz=341,slow=2.1,SNR=4.1							
ASAR				S	S	S	18 25 39.4	-1.6
	1.4nm,0.9s,baz=343,slow=11,SNR=6.0							
PSI	Prapat	29.10	277	P	P	P	18 22 18.9	+0.2
PSI	Prapat	29.10	277	P	P	P	18 22 18.9	+0.2
	7.6nm,0.8s,baz=116,slow=7.4,SNR=7.4							
STKA	Stephens Creek	33.57	158	*eP*	P	P	18 22 59.6	+1.8
STKA	Stephens Creek	33.57	158	P	P	P	18 22 58.7	+0.9
	2.5nm,0.7s,baz=340,slow=9.9,SNR=4.2							
CMAR	Chiang Mai Arr	34.22	305	P	P	P	18 23 04.4	+0.8
CMAR				PcP	PcP	PcP	18 25 40.3	0.0
CMAR	Chiang Mai Arr	34.22	305	P	P	P	18 23 04.4	+0.8
	1.5nm,1.1s,baz=128,slow=4.8,SNR=6.1							
CMAR				PcP	PcP	PcP	18 25 40.3	0.0
	0.9nm,0.8s,baz=134,slow=2.6,SNR=6.1							
MJAR	Matsushiro Arr	38.36	14	P	P	P	18 23 38.1	-0.7
MJAR	Matsushiro Arr	38.36	14	P	P	P	18 23 38.1	-0.7
	1.6nm,0.8s,baz=191,slow=9.7,SNR=5.9							
USRK	Usuriysk Arra	44.93	4	P	P	P	18 24 31.9	-0.5
	1.0nm,0.5s,baz=165,slow=8.1,SNR=3.1							
LSA	Lhasa	46.27	314	*eP*	P	P	18 24 45.6	+1.8
	13nm,0.6s							
TAPN	Taplejung	47.61	309	*eP*	P	P	18 24 54.9	+0.7
	34nm,0.8s							
ODAN	Odare	47.62	308	*eP*	P	P	18 24 55.0	+0.7
	42nm,0.7s							
RAMN	Ramite	48.29	308	*eP*	P	P	18 25 00.5	+1.1
	78nm,0.6s							
JIRN	Jiri	48.94	309	*eP*	P	P	18 25 05.3	+0.7
	11nm,0.6s							
GUN	Gumba	49.30	309	*eP*	P	P	18 25 08.0	+0.7
	56nm,0.6s							
PKI	Pulchoki	49.51	308	*eP*	P	P	18 25 09.3	+0.4
	16nm,0.6s							
KKN	Kakani	49.72	308	*eP*	P	P	18 25 10.8	+0.5
	23nm,0.7s							
DMN	Daman	49.77	308	*eP*	P	P	18 25 11.3	+0.5
GKN	Gorkha	50.32	308	*eP*	P	P	18 25 15.1	+0.3
	26nm,0.8s							
KOLN	Koldanda	51.03	307	*eP*	P	P	18 25 21.0	+0.7
	53nm,0.7s							
DANN	Dangsing	51.17	308	*eP*	P	P	18 25 21.8	+0.4
	42nm,0.7s							
ULN	Ulaanbaatar	51.71	342	*eP*	P	P	18 25 25.5	+0.5
	1.2nm,0.8s							
HYB	Hyderabad	51.75	293	*i* P	P	P	18 25 24.5	-1.1
SONM	Songino Array	51.88	342	P	P	P	18 25 26.2	0.0
SONM	Songino Array	51.88	342	P	P	P	18 25 26.2	0.0
	0.9nm,0.8s,baz=140,slow=7.0,SNR=5.7							
PETK	Petropavlovsk-	59.20	20	P	P	P	18 26 19.2	+0.7
PETK	Petropavlovsk-	59.20	20	P	P	P	18 26 19.2	+0.7
	2.6nm,0.7s,baz=190,slow=7.5,SNR=4.6							
MK31	Makanchi Array	61.86	326	*eP*	P	P	18 26 36.1	-0.8
MKAR	Makanchi Array	61.86	326	P	P	P	18 26 36.6	-0.3
MKAR	Makanchi Array	61.86	326	P	P	P	18 26 36.6	-0.3
	1.5nm,0.5s,baz=120,slow=7.5,SNR=19							
YAK	Yakutsk	62.66	1	*eP*	P	P	18 26 42.6	+0.8
	17nm,0.8s							
KURBB	Kurchatov Arra	66.10	328	P	P	P	18 27 04.1	-0.5
	2.1nm,0.7s,baz=127,slow=6.1,SNR=17							
KURK	Kurchatov	66.10	328	P	P	P	18 27 04.1	-0.6
KURK				*eP*	P	P	18 27 04.3	-0.4
BVAR	Borovoye Array	71.67	328	P	P	P	18 27 38.7	-0.6
BVAR	Borovoye Array	71.67	328	P	P	P	18 27 38.7	-0.6
	0.4nm,0.3s,baz=133,slow=6.1,SNR=7.5							
BRVK	Borovoye	71.74	328	*eP*	P	P	18 27 39.2	-0.5
AKTO	Aktyubinsk	77.85	322	P	P	P	18 28 14.6	-0.5
AKTO	Aktyubinsk	77.85	322	P	P	P	18 28 14.6	-0.5
	0.5nm,0.4s,baz=117,slow=6.8,SNR=5.5							
ILAR	Eielson Array	88.68	25	P	P	P	18 29 10.1	-0.6
ILAR	Eielson Array	88.68	25	P	P	P	18 29 10.1	-0.6
	0.3nm,1.0s,baz=221,slow=6.8,SNR=3.2							
QSPA	South Pole Qui	89.16	180	P	P	P	18 29 12.8	-0.2
QSPA	South Pole Qui	89.16	180	P	P	P	18 29 12.8	-0.2
	1.7nm,0.7s,baz=313,slow=2.4,SNR=10							
TORD	Torodi Ar. Bea	125.25	286	PKP	PKPdf	PKPdf	18 35 18.9	-0.4
TORD	Torodi Ar. Bea	125.25	286	PKP	PKPdf	PKPdf	18 35 18.9	-0.4
	0.6nm,0.8s,baz=83,slow=2.4,SNR=4.2							

IDC 12 18:19:23.6±1.4, 4.°22N×126.°88E, h0km, mb3.5/8, mb1 3.6/8, mb1mx3.5/21, mbtmp3.5/8, Error ellipse: s-maj=112.1km s-min=16.8km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.21	183	P	P	P	18 24 21.7	-0.1
	3.5nm,1.0s,baz=6.8,slow=13,SNR=2.3							
ASAR	Alice Springs	28.55	166	P	P		18 25 21.3	0.0
	0.2nm,0.6s,baz=339,slow=7.3,SNR=2.7							
STKA	Stephens Creek	38.53	160	P	P	P	18 26 47.9	-0.1
	1.3nm,0.7s,baz=340,slow=6.0,SNR=3.2							
SONM	Songino Array	46.89	341	P	P	P	18 27 55.7	-0.2
	0.1nm,0.4s,baz=134,slow=8.3,SNR=2.5							
MKAR	Makanchi Array	57.25	325	P	P	P	18 29 12.7	-0.3
	0.3nm,0.4s,baz=123,slow=8.0,SNR=5.6							
ZALV	Zalesovo Beam	60.23	333	P	P	P	18 29 32.8	-0.7
	0.4nm,0.5s,baz=114,slow=6.6,SNR=2.2							
KURBB	Kurchatov Arra	61.41	327	P	P	P	18 29 42.0	+0.4
	0.6nm,0.5s,baz=131,slow=6.5,SNR=8.9							
BVAR	Borovoye Array	67.00	327	P	P	P	18 30 18.8	+0.4
	0.1nm,0.3s,baz=107,slow=9.2,SNR=3.2							

IDC 12 18:20:10.9±3.4, 4.°48N×127.°68E, h0km, mb3.6/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.6/4, Error ellipse: s-maj=375.7km s-min=19.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.14	165	P	P	P	18 25 37.0	-0.9
ASAR	Alice Springs	28.63	168	P	P	P	18 26 10.0	+0.7
	0.2nm,0.5s,baz=349,slow=11,SNR=2.5							
STKA	Stephens Creek	38.51	161	P	P	P	18 27 35.1	0.0
	0.7nm,0.4s,baz=323,slow=5.1,SNR=3.2							
MKAR	Makanchi Array	57.49	325	P	P	P	18 30 01.1	-0.8
	0.4nm,0.5s,baz=114,slow=8.2,SNR=6.1							
BVAR	Borovoye Array	67.21	327	P	P	P	18 31 07.6	+0.6
	0.2nm,0.4s,baz=132,slow=6.4,SNR=3.1							

IDC ***12*** *18:21:42.5±0.7,3.°91N×126.°42E, h0km, mb3.9/13, mb1 4.0/13, mb1mx3.9/23, mbtmp3.9/13, Error ellipse: s-maj=34.5km s-min=14.9km az=65.0*
ISCJB ***12*** *18:21:46.9±0.6,3.°86N±0.°07×126.°4E±0.°2, h45km, mb3.9/13, Error ellipse: s-maj=22.9km s-min=8.5km az=169.4*

ISC 12 18:21:48.8±0.7, 3.°87N±0.°09×126.°4E±0.°2, h45km, n19, σ0s35/15, mb4.1/13, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GSPH	General Santos	2.64	327	*eP*	Pn	Pn	18 22 33.5	+4.4
MATI	Mati	3.06	357	*eP*	Pn	Pn	18 22 39.2	+4.5
MATI				*eS*	Sn	Sn	18 23 10.1	-0.1
DAV	Davao City (W)	3.29	345	Sn	Sn	Sn	18 23 31.6	+16
	54nm,0.3s,baz=302,slow=20,SNR=4.5							
BUKP	Musuan	4.20	341	*eP*	Pn	Pn	18 22 56.8	+6.3
PAGZ	Pagadian	4.97	323	*eP*	Pn	Pn	18 23 06.3	+5.3
FITZ	Fitzroy Crossi	21.85	182	P	P	P	18 26 37.4	-0.3
	1.0nm,0.4s,baz=356,slow=12,

mb4.2/21, Error ellipse: s-maj=22.9km s-min=9.2km az=167.0

ISC 12 18:31:35.6±0.6, **3°89.N**±0.09×**126°.5E**±0.2, **h45**km, **n26**, σ0.86/27, **mb4.2**/21, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**3.05**	**355**	*eP*	**Pn**	**18 32 22.6**	**+1.2**
DMPH	**Davao City--Mi**	**3.34**	**342**	*eP*	Pn	18 32 30.1	+4.7
BUKP	**Musuan**	**4.23**	**340**	*eP*	**Pn**	**18 32 40.0**	**+2.3**
FITZ	**Fitzroy Crossi**	**21.87**	**182**	P	**P**	**18 36 25.7**	**+0.9**
	1.5nm,0.5s,baz=359,slow=12,SNR=5.9						
WRA	**Warramunga Arr**	**24.89**	**162**	P	**P**	**18 36 53.9**	**-0.5**
ASAR	**Alice Springs**	**28.31**	**166**	P	**P**	**18 37 25.2**	**0.0**
	0.4nm,0.4s,baz=342,slow=7.4,SNR=13						
CMAR	**Chiang Mai Arr**	**30.63**	**300**	P	**P**	**18 37 45.0**	**-1.0**
	1.6nm,0.8s,baz=118,slow=7.3,SNR=4.5						
KSRS	**Korea Array**	**33.43**	**2**	P	**P**	**18 38 09.6**	**-0.6**
	1.5nm,0.8s,baz=178,slow=10,SNR=4.5						
STKA	**Stephens Creek**	**38.34**	**159**	P	**P**	**18 38 52.6**	**+0.2**
	4.0nm,0.6s,baz=333,slow=6.1,SNR=10.0						
ASAJ	**Asahikawa**	**42.50**	**17**	P	**P**	**18 39 25.6**	**-0.9**
	7.4nm,1.2s,baz=216,slow=14,SNR=3.0						
SONM	**Songino Array**	**47.09**	**342**	P	**P**	**18 40 03.4**	**+0.2**
	0.6nm,0.5s,baz=160,slow=8.6,SNR=8.3						
SONM				PcP	**PcP**	**18 41 35.5**	**+0.9**
	0.3nm,0.5s,baz=161,slow=2.7,SNR=3.3						
PETK	**Petropavlovsk-**	**55.36**	**22**	P	**P**	**18 41 05.3**	**+0.4**
	1.7nm,0.8s,baz=189,slow=8.0,SNR=3.6						
MKAR	**Makanchi Array**	**57.32**	**325**	P	**P**	**18 41 18.9**	**-0.2**
	0.8nm,0.4s,baz=120,slow=7.4,SNR=25						
MKAR				PcP	**PcP**	**18 42 13.3**	**+0.4**
	1.3nm,0.7s,baz=119,slow=4.7,SNR=7.3						
ZALV	**Zalesovo Beam**	**60.37**	**333**	P	**P**	**18 41 38.2**	**-1.8**
	0.8nm,0.4s,baz=128,slow=6.8,SNR=5.4						
KURBB	**Kurchatov Arra**	**61.51**	**327**	P	**P**	**18 41 47.4**	**-0.5**
	1.3nm,0.4s,baz=128,slow=6.7,SNR=22						
BVAR	**Borovoye Array**	**67.09**	**327**	P	**P**	**18 42 24.4**	**0.0**
	0.7nm,0.5s,baz=139,slow=7.5,SNR=8.7						
AKTO	**Aktyubinsk**	**73.42**	**322**	P	**P**	**18 43 02.7**	**-0.5**
	1.4nm,0.7s,baz=98,slow=10,SNR=7.1						
KDAK	**Kodiak Island**	**81.86**	**32**	P	**P**	**18 43 50.5**	**+0.5**
	2.1nm,0.3s,baz=250,slow=12,SNR=2.7						
BRTR	**Keskin Array B**	**89.78**	**310**	P	**P**	**18 44 29.5**	**-0.4**
	0.9nm,0.8s,baz=122,slow=6.0,SNR=4.6						
ARCES	**ARCESS Array B**	**90.24**	**340**	P	**P**	**18 44 30.5**	**-0.7**
	5.2nm,1.1s,baz=74,slow=6.7,SNR=6.0						
SPITS	**Spitsbergen Ar**	**90.29**	**349**	P	**P**	**18 44 31.2**	**-0.1**
	7.5nm,1.0s,baz=20,slow=6.2,SNR=2.1						
FINES	**FINESS Array B**	**91.61**	**332**	P	**P**	**18 44 37.6**	**-0.1**
	2.0nm,0.8s,baz=60,slow=4.6,SNR=6.4						
AKASG	**Malin Array Be**	**91.66**	**321**	P	**P**	**18 44 37.5**	**-0.6**
	0.9nm,0.5s,baz=70,slow=4.6,SNR=3.8						
MLR	**Muntele Rosu**	**94.66**	**316**	P	**P**	**18 44 52.5**	**+0.2**
	0.4nm,0.7s,baz=117,slow=4.5,SNR=3.6						
NOA	**NORSAR Array B**	**98.56**	**334**	P	**P**	**18 45 08.5**	**-1.0**
	0.5nm,0.7s,baz=45,slow=2.4,SNR=2.6						
TORD	**Torodi Ar. Bea**	**122.69**	**288**	PKP	**PKPdf**	**18 50 28.2**	**+0.6**
	0.1nm,0.4s,baz=58,slow=1.9,SNR=2.5						

*IDC **12** 18:33:36.1±0.5, 3°.99N×126°.43E, h0km, mb4.3/22, mb1 4.3/22, mb1mx4.3/26, mbtmp4.2/22, MS3.6/1, Ms1 3.6/1, ms1mx2.7/46, Error ellipse: s-maj=26.7km s-min=12.6km az=69.0*

*ISCJB **12** 18:33:39.4±0.3, 3°.98N±0°.05×126°.52E±0°.08, h33km, mb4.3/33, MS3.5/1, Error ellipse: s-maj=12.5km s-min=6.4km az=159.0*

*NEIC **12** 18:33:41.3±0.2, 3°.98N×126°.49E, h35km, mb4.5/12, Error ellipse: s-maj=11.7km s-min=5.5km az=68.0*

*DJA **12** 18:34:14, 1°.48N×126°.30E, h40km, MLv3.9/3*

ISC 12 18:33:42.6±1.6, **3°.96N**±0°.07×**126°.5E**±0°.1, **h45**km±13km, **n80**, σ0.98/83, **mb4.5**/39, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.61**	**324**	*eP*	Pn	18 34 26.3	+3.9
MATI	**Mati**	**2.98**	**356**	*eP*	**Pn**	**18 34 30.0**	**+2.6**
MATI				*eS*	**Sn**	**18 35 01.5**	**-0.3**
BUKP	**Musuan**	**4.14**	**340**	*eP*	Pn	18 34 47.6	+4.2
PAGZ	**Pagadian**	**4.95**	**322**	*eP*	Pn	18 34 58.9	+4.6
KKM	**Kota Kinabalu**	**10.44**	**282**	P	Pn	18 36 00.1	-10
	26nm,1.3s						
FITZ	**Fitzroy Crossi**	**21.93**	**182**	P	**P**	**18 38 33.1**	**+0.7**
FITZ	**Fitzroy Crossi**	**21.93**	**182**	*eP*	**P**	**18 38 34.1**	**+1.7**
	15nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.93**	**182**	P	**P**	**18 38 33.1**	**+0.7**
	2.9nm,0.5s,baz=10,slow=12,SNR=5.8						
WRAB	**Tennant Creek**	**24.97**	**162**	*eP*	**P**	**18 39 01.6**	**-0.6**
	5.4nm,0.8s						
WRA	**Warramunga Arr**	**24.97**	**162**	P	**P**	**18 39 02.0**	**-0.2**
WRA	**Warramunga Arr**	**24.97**	**162**	P	**P**	**18 39 02.0**	**-0.2**
ASAR	**Alice Springs**	**28.39**	**166**	P	**P**	**18 39 32.6**	**-0.4**
ASAR	**Alice Springs**	**28.39**	**166**	P	**P**	**18 39 32.6**	**-0.4**
	0.5nm,0.4s,baz=348,slow=7.0,SNR=5.4						
CMAR	**Chiang Mai Arr**	**30.55**	**300**	P	**P**	**18 39 50.8**	**-1.4**
CMAR	**Chiang Mai Arr**	**30.55**	**300**	P	**P**	**18 39 50.8**	**-1.4**
	2.4nm,0.9s,baz=111,slow=6.5,SNR=9.2						
CHTO	**Chiang Mai**	**30.69**	**301**	*eP*	**P**	**18 39 53.8**	**+0.4**
	6.3nm,0.9s						
ENH	**Enshi**	**30.71**	**330**	*eP*	**P**	**18 39 52.6**	**-0.9**
	23nm,1.4s						
KSAR	**Wonju Array Be**	**33.35**	**2**	P	**P**	**18 40 17.1**	**+0.6**
KSRS	**Korea Array**	**33.36**	**2**	P	**P**	**18 40 17.1**	**+0.5**
	1.5nm,0.7s,baz=181,slow=9.5,SNR=5.4						
KSRS				LR	LR	18 53 32.1	
	comp=Z,100nm,20.4s,baz=341,slow=36						
STKA	**Stephens Creek**	**38.43**	**159**	*eP*	**P**	**18 40 59.9**	**-0.1**
	2.1nm,0.8s						
STKA	**Stephens Creek**	**38.43**	**159**	*eP*	**P**	**18 41 00.2**	**+0.2**
	8.5nm,0.8s						
STKA	**Stephens Creek**	**38.43**	**159**	P	**P**	**18 40 60.0**	**-0.1**
	5.7nm,0.7s,baz=338,slow=11,SNR=14						
ARMA	**Armidale**	**41.79**	**147**	*eP*	**P**	**18 41 28.5**	**+0.4**
LSA	**Lhasa**	**42.10**	**311**	*eP*	**P**	**18 41 32.2**	**+1.0**
	3.1nm,0.6s						
ASAJ	**Asahikawa**	**42.45**	**17**	P	**P**	**18 41 32.2**	**-0.9**
ASAJ	**Asahikawa**	**42.45**	**17**	P	**P**	**18 41 32.2**	**-0.9**
	4.4nm,0.9s,baz=197,slow=11,SNR=3.3						
TAPN	**Taplejung**	**43.68**	**306**	*eP*	**P**	**18 41 44.1**	**+0.3**
	11nm,0.6s						
ODAN	**Odare**	**43.74**	**305**	*eP*	**P**	**18 41 44.5**	**+0.4**
	14nm,0.7s						
RAMN	**Ramite**	**44.42**	**305**	*eP*	**P**	**18 41 49.6**	**0.0**
	23nm,1.1s						
JIRN	**Jiri**	**45.04**	**306**	*eP*	**P**	**18 41 55.3**	**+0.6**
GUN	**Gumba**	**45.39**	**306**	*eP*	**P**	**18 41 57.6**	**+0.1**
	6.8nm,0.4s						
PKI	**Pulchoki**	**45.64**	**305**	*eP*	**P**	**18 41 59.3**	**-0.1**
KKN	**Kakani**	**45.83**	**306**	*eP*	**P**	**18 42 01.0**	**+0.2**
	5.0nm,0.4s						
DMN	**Daman**	**45.90**	**305**	*eP*	**P**	**18 42 01.6**	**+0.2**
GKN	**Gorkha**	**46.44**	**306**	*eP*	**P**	**18 42 05.6**	**+0.1**
ULN	**Ulaanbaatar**	**46.83**	**342**	*eP*	**P**	**18 42 07.4**	**-0.7**
	2.8nm,0.8s						
DZM	**Mont Dzumac**	**46.87**	**125**	P	**P**	**18 42 08.6**	**-0.2**
DZM	**Mont Dzumac**	**46.87**	**125**	P	**P**	**18 42 08.6**	**-0.2**
	1.4nm,0.6s,baz=299,slow=19,SNR=4.0						
SONM	**Songino Array**	**47.01**	**342**	P	**P**	**18 42 09.6**	**+0.1**
SONM				PcP	**PcP**	**18 43 40.6**	**-0.7**
SONM	**Songino Array**	**47.01**	**342**	P	**P**	**18 42 09.6**	**+0.1**
	1.5nm,0.9s,baz=160,slow=8.6,SNR=8.6						
SONM				PcP	**PcP**	**18 43 40.6**	**-0.7**
	0.5nm,0.5s,baz=169,slow=3.1,SNR=3.3						
KOLN	**Koldanda**	**47.19**	**305**	*eP*	**P**	**18 42 11.4**	**0.0**
	12nm,0.4s						
DANN	**Dangsing**	**47.28**	**306**	*eP*	**P**	**18 42 12.5**	**+0.3**
PETK	**Petropavlovsk-**	**55.31**	**22**	P	**P**	**18 43 11.9**	**+0.2**
PETK	**Petropavlovsk-**	**55.31**	**22**	P	**P**	**18 43 11.9**	**+0.2**
	7.4nm,1.2s,baz=171,slow=2.3,SNR=6.5						
MK31	**Makanchi Array**	**57.23**	**325**	*eP*	**P**	**18 43 24.9**	**-0.5**
MKAR	**Makanchi Array**	**57.23**	**325**	P	**P**	**18 43 25.4**	**-0.1**
MKAR				PcP	**PcP**	**18 44 19.5**	**0.0**
MKAR				ScP	**ScP**	**18 48 20.3**	**+4.5**
MKAR	**Makanchi Array**	**57.23**	**325**	P	**P**	**18 43 25.4**	**-0.1**
	3.4nm,0.5s,baz=118,slow=7.6,SNR=33						
MKAR				PcP	**PcP**	**18 44 19.5**	**0.0**
	2.0nm,0.8s,baz=119,slow=4.2,SNR=4.0						
MKAR				ScP	**ScP**	**18 48 20.3**	**+4.5**
	0.7nm,0.6s,baz=144,slow=5.3,SNR=2.5						
YAK	**Yakutsk**	**57.99**	**2**	*eP*	**P**	**18 43 30.0**	**-0.4**
	36nm,1.3s						
ZALV	**Zalesovo Beam**	**60.27**	**333**	P	**P**	**18 43 45.5**	**-0.9**
ZALV	**Zalesovo Beam**	**60.27**	**333**	P	**P**	**18 43 45.5**	**-0.9**
	1.5nm,0.4s,baz=121,slow=6.3,SNR=11						
KURBB	**Kurchatov Arra**	**61.42**	**327**	P	**P**	**18 43 53.9**	**-0.3**
	2.5nm,0.4s,baz=127,slow=6.1,SNR=26						
KURK	**Kurchatov**	**61.42**	**328**	*eP*	**P**	**18 43 53.7**	**-0.6**
	4.2nm,0.6s						
KKAR	**Karatay Array**	**62.90**	**317**	*eP*	**P**	**18 44 05.4**	**+1.0**
	6.2nm,1.0s						
BVAR	**Borovoye Array**	**67.00**	**327**	P	**P**	**18 44 30.4**	**-0.4**
BVAR	**Borovoye Array**	**67.00**	**327**	P	**P**	**18 44 30.4**	**-0.4**
	1.0nm,0.4s,baz=57,slow=5.3,SNR=9.1						
BRVK	**Borovoye**	**67.07**	**327**	*eP*	**P**	**18 44 31.0**	**-0.3**
	3.1nm,0.6s						
ABKAR	**Akbulak array**	**71.82**	**321**	*eP*	**P**	**18 44 58.7**	**-1.9**
	1.0nm,0.4s						
AKTO	**Aktyubinsk**	**73.33**	**322**	P	**P**	**18 45 09.4**	**-0.2**
AKTO	**Aktyubinsk**	**73.33**	**322**	P	**P**	**18 45 09.4**	**-0.2**
	1.8nm,0.6s,baz=106,slow=8.8,SNR=8.4						
ARU	**Arti**	**74.61**	**328**	*eP*	**P**	**18 45 15.9**	**-1.1**
	3.5nm,0.4s						
KDAK	**Kodiak Island**	**81.83**	**32**	P	**P**	**18 45 56.7**	**-0.2**
KDAK	**Kodiak Island**	**81.83**	**32**	P	**P**	**18 45 56.7**	**-0.2**
	4.3nm,0.7s,baz=242,slow=9.5,SNR=2.9						
ILAR	**Eielson Array**	**85.00**	**25**	P	**P**	**18 46 12.9**	**-0.2**
ILAR	**Eielson Array**	**85.00**	**25**	P	**P**	**18 46 12.9**	**-0.2**
	0.7nm,0.8s,baz=232,slow=6.7,SNR=4.6						
BRTR	**Keskin Array B**	**89.69**	**310**	P	**P**	**18 46 36.2**	**-0.2**
BRTR	**Keskin Array B**	**89.69**	**310**	P	**P**	**18 46 36.2**	**-0.2**
	2.1nm,0.9s,baz=132,slow=5.7,SNR=6.0						
ARCES	**ARCESS Array B**	**90.15**	**340**	P	**P**	**18 46 37.1**	**-0.7**
ARCES	**ARCESS Array B**	**90.15**	**340**	P	**P**	**18 46 37.1**	**-0.7**
	1.6nm,0.7s,baz=74,slow=4.9,SNR=11						
FINES	**FINESS Array B**	**91.52**	**332**	P	**P**	**18 46 43.6**	**-0.6**
FINES	**FINESS Array B**	**91.52**	**332**	P	**P**	**18 46 43.6**	**-0.6**
	1.3nm,0.4s,baz=80,slow=4.8,SNR=11						
AKASG	**Malin Array Be**	**91.56**	**321**	P	**P**	**18 46 43.9**	**-0.7**
AKASG	**Malin Array Be**	**91.56**	**321**	P	**P**	**18 46 43.9**	**-0.7**
	1.8nm,0.6s,baz=74,slow=4.2,SNR=5.7						
MLR	**Muntele Rosu**	**94.57**	**316**	P	**P**	**18 46 59.0**	**+0.1**
MLR	**Muntele Rosu**	**94.57**	**316**	P	**P**	**18 46 59.0**	**+0.1**
	0.9nm,0.9s,baz=42,slow=12,SNR=3.8						
NOA	**NORSAR Array B**	**98.47**	**334**	P	**P**	**18 47 15.2**	**-0.9**
NOA	**NORSAR Array B**	**98.47**	**334**	P	**P**	**18 47 15.2**	**-0.9**
	0.9nm,0.8s,baz=66,slow=4.5,SNR=4.0						
GERES	**GERESS Array B**	**101.75**	**322**	P	**Pdif**	**18 47 30.3**	**-0.7**
GERES	**GERESS Array B**	**101.75**	**322**	P	**Pdif**	**18 47 30.3**	**-0.7**
	0.9nm,0.9s,baz=25,slow=3.5,SNR=5.1						
TORD	**Torodi Ar. Bea**	**122.61**	**288**	PKP	**PKPdf**	**18 52 34.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**122.61**	**288**	PKP	**PKPdf**	**18 52 34.7**	**+0.3**
	0.3nm,0.6s,baz=71,slow=1.4,SNR=4.8						

*ISCJB **12** 18:35:60.0±0.7, 17°.07N±0°.09×94°.12W±0°.04, h165km±7km, mb3.4/2, Error ellipse: s-maj=14.3km s-min=5.9km az=10.7*

*IDC **12** 18:36:00.4±2.8, 17°.25N×93°.92W, h150km±19km, mb3.1/2, mb1 3.5/4, mb1mx3.2/21, mbtmp3.1/4, Error ellipse: s-maj=77.3km s-min=25.9km az=175.0*

*MEX **12** 18:36:01.7±1.3, 17°.08N×94°.10W, h168km±10km, MD3.9*

ISC 12 18:36:00.5±0.9, **17°.06N**±0°.09×**94°.10W**±0°.04, **h164**km±8km, **n14**, σ1.9/10/24, **Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.75**	**272**	*eP*	**Pn**	**18 36 25.2**	**+0.4**
CMIG				*i* S	**Sn**	**18 36 43.1**	**-0.3**
CMIG	**Matias Romero**	**0.75**	**272**	P	**Pn**	**18 36 25.3**	**+0.5**
	183nm,0.3s,baz=90,slow=6.7,SNR=2719						
CMIG				S	**Sn**	**18 36 43.4**	**-0.1**
	92nm,0.3s,baz=336,slow=20,SNR=36						
TGIG		**0.97**	**107**	*eP*	**Pn**	**18 36 26.3**	**-0.1**
TGIG				*i* S	**Sn**	**18 36 45.9**	**-0.4**
PCIG		**1.59**	**148**	*eP*	**Pn**	**18 36 32.7**	**+0.7**
PCIG				*i* S	**Sn**	**18 36 57.1**	**+0.7**
CCIG	**Comitan**	**2.03**	**112**	*i* P	**Pn**	**18 36 36.9**	**-0.1**
CCIG				*i* S	**Sn**	**18 37 05.8**	**+0.6**
HUIG	**Huatulco**	**2.32**	**237**	*i* P	**Pn**	**18 36 38.9**	**-1.3**
HUIG				*i* S	**Sn**	**18 37 11.0**	**+0.2**
VHO	**Vista Hermosa**	**2.52**	**271**	*eP*	**Pn**	**18 36 43.6**	**+0.8**
VHO				*i* S	**Sn**	**18 37 14.7**	**-0.7**
TPIG	**Tehuac#an**	**3.39**	**294**	*eP*	**Pn**	**18 36 54.5**	**+1.0**
TPIG				*i* S	**Sn**	**18 37 33.6**	**-1.1**
UTMO	**Huajuapan**	**3.62**	**283**	*i* P	**Pn**	**18 36 57.2**	**+0.8**
UTMO				*i* S	**Sn**	**18 37 39.2**	**-0.7**
PNIG	**Pinotepa**	**3.92**	**261**	*eP*	**Pn**	**18 36 58.9**	**-1.1**
PNIG				*i* S	**Sn**	**18 37 46.4**	**-0.2**
TEIG	**Tepich**	**6.35**	**59**	P	**Pn**	**18 37 28.9**	**-3.0**
	1.5nm,0.3s,baz=259,slow=16,SNR=7.0						
TXAR	**Lajitas Array**	**15.04**	**326**	P	**P**	**18 39 25.9**	**-0.3**
	0.2nm,0.3s,baz=153,slow=14,SNR=8.9						
NVAR	**Mina Array Bea**	**30.04**	**320**	P	**P**	**18 41 56.4**	**+2.1**
	0.7nm,0.7s,baz=126,slow=9.1,SNR=4.4						
YKA	**Yellowknife Ar**	**47.60**	**347**	P	**P**	**18 44 18.3**	**-1.1**
	0.5nm,0.6s,baz=151,slow=7.4,SNR=6.0						

IDC 12 18:36:39.2±0.6, **3°.80N**×**126°.48E**, **h0km**, **mb4.1**/22, **mb1 4.2**/22, **mb1mx4.2**/26, **mbtmp4.1**/22, **Error ellipse: s-maj=24.7km s-min=13.0km az=70.0**, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.37**	**345**	Pn	Pn	18 37 35.7	+2.6
	41nm,0.3s,baz=202,slow=17,SNR=2.1						
KNRA	**Kununurra**	**19.48**	**173**	*eP*	Pn	18 41 09.9	+0.9
	32nm,0.3s						
FITZ	**Fitzroy Crossi**	**21.78**	**182**	P	P	18 41 34.0	+1.3
	1.2nm,0.3s,baz=2.6,slow=11,SNR=4.9						
WRA	**Warramunga Arr**	**24.82**	**162**	P	P	18 42 02.1	-1.2
PSI	**Prapat**	**27.53**	**269**	P	P	18 42 28.5	+0.5
	2.6nm,0.3s,baz=125,slow=6.3,SNR=2.2						
ASAR	**Alice Springs**	**28.24**	**166**	P	P	18 42 35.6	+1.5
	0.9nm,0.3s,baz=348,slow=13,SNR=3.6						
CMAR	**Chiang Mai Arr**	**30.62**	**301**	P	P	18 42 55.7	+0.3
	0.5nm,0.6s,baz=125,slow=6.7,SNR=4.6						
KSRS	**Korea Array**	**33.52**	**2**	P	P	18 43 21.6	+1.1
	1.2nm,0.5s,baz=176,slow=9.4,SNR=5.2						
MJAR	**Matsushiro Arr**	**34.33**	**17**	P	P	18 43 26.8	-0.9
	0.4nm,0.4s,baz=188,slow=8.9,SNR=2.8						
STKA	**Stephens Creek**	**38.28**	**159**	*eP*	P	18 44 01.6	+0.1
	2.1nm,0.6s						
STKA	**Stephens Creek**	**38.28**	**159**	P	P	18 44 00.9	-0.5
	1.8nm,0.4s,baz=345,slow=10,SNR=6.4						
ASAJ	**Asahikawa**	**42.60**	**17**	P	P	18 44 37.5	+0.4
	4.8nm,1.0s,baz=217,slow=10,SNR=3.0						
DZM	**Mont Dzumac**	**46.78**	**125**	P	P	18 45 10.6	-0.3
	1.9nm,0.7s,baz=240,slow=16,SNR=5.8						
SONM	**Songino Array**	**47.16**	**342**	P	P	18 45 13.5	0.0
	0.9nm,0.6s,baz=156,slow=7.4,SNR=5.1						
SONM				PcP	PcP	18 46 45.9	+0.6
	0.6nm,0.6s,baz=173,slow=3.2,SNR=2.6						
PETK	**Petropavlovsk-**	**55.46**	**22**	P	P	18 46 16.0	+0.4
	4.3nm,0.9s,baz=208,slow=9.0,SNR=3.7						
MKAR	**Makanchi Array**	**57.36**	**325**	P	P	18 46 29.7	+0.4
	1.5nm,0.4s,baz=176,slow=6.8,SNR=17						
ZALV	**Zalesovo Beam**	**60.41**	**333**	P	P	18 46 49.2	-1.2
	0.5nm,0.5s,baz=123,slow=5.3,SNR=2.9						
KURBB	**Kurchatov Arra**	**61.55**	**327**	P	P	18 46 57.9	-0.2
	2.4nm,0.5s,baz=131,slow=7.5,SNR=15						
BVAR	**Borovoye Array**	**67.13**	**327**	P	P	18 47 35.5	+0.8
	1.7nm,0.6s,baz=124,slow=7.8,SNR=6.7						
AKTO	**Aktyubinsk**	**73.45**	**322**	P	P	18 48 12.7	-0.8
	2.0nm,0.7s,baz=111,slow=6.7,SNR=7.8						
BRTR	**Keskin Array B**	**89.79**	**310**	P	P	18 49 39.4	-0.8
	0.6nm,0.8s,baz=117,slow=5.0,SNR=3.6						
ARCES	**ARCESS Array B**	**90.30**	**340**	P	P	18 49 41.6	-0.2
	1.5nm,0.7s,baz=78,slow=5.0,SNR=6.5						
FINES	**FINESS Array B**	**91.66**	**332**	P	P	18 49 47.7	-0.5
	2.6nm,1.0s,baz=72,slow=4.5,SNR=4.5						
MLR	**Muntele Rosu**	**94.68**	**316**	P	P	18 50 02.4	-0.3
	0.6nm,0.8s,baz=59,slow=5.9,SNR=3.5						
NOA	**NORSAR Array B**	**98.61**	**334**	P	P	18 50 18.6	-1.4
	0.6nm,0.7s,baz=59,slow=4.5,SNR=2.7						
YKA	**Yellowknife Ar**	**99.54**	**24**	P	Pdif	18 50 24.1	+0.1
	0.1nm,0.6s,baz=300,slow=4.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**122.66**	**288**	PKP	PKPdf	18 55 37.4	-0.6
	0.3nm,0.8s,baz=44,slow=1.6,SNR=3.1						

IDC 12 18:36:58.9±1.1, **3°.79N**×**126°.27E**, **h0km**, **mb4.3**/5, **mb1 4.4**/5, **mb1mx3.9**/20, **mbtmp4.3**/5, **MS4.2**/1, **Ms1 4.2**/1, **ms1mx2.9**/50, **Error ellipse: s-maj=91.8km s-min=20.5km az=57.0**, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**24.61**	**122**	LR	LR	18 51 42.7	
	comp=Z,527nm,18.8s,baz=39,slow=36						
STKA	**Stephens Creek**	**38.35**	**159**	P	P	18 44 21.6	-0.2
	9.5nm,0.7s,baz=340,slow=11,SNR=8.0						
DZM	**Mont Dzumac**	**46.95**	**125**	P	P	18 45 31.9	-0.1
	5.7nm,0.7s,baz=282,slow=9.3,SNR=7.8						
SONM	**Songino Array**	**47.09**	**342**	P	P	18 45 32.5	-0.3
	0.9nm,0.6s,baz=154,slow=8.0,SNR=4.6						
MKAR	**Makanchi Array**	**57.24**	**325**	P	P	18 46 48.4	+0.2
	0.8nm,0.4s,baz=120,slow=7.5,SNR=3.8						
KURBB	**Kurchatov Arra**	**61.44**	**328**	P	P	18 47 16.9	-0.2
	3.3nm,0.7s,baz=126,slow=6.1,SNR=7.1						

*ISCJB **12** 18:40:12.5±0.7, 51°.57N±0°.03×16°.03E±0°.04, h0km, Error ellipse: s-maj=5.0km s-min=3.1km az=19.1*

*CSEM **12** 18:40:13.6±0.3, 51°.60N×16°.01E, h2km, ML3.1/6, Error ellipse: s-maj=6.1km s-min=4.9km az=16.0*

*WAR **12** 18:40:14.7, 51°.59N×16°.04E*

*PRU **12** 18:40:15.3, 51°.55N×16°.02E, h0km*

*VIE **12** 18:40:17.1±0.4, 51°.26N×16°.12E, h0km, mb2.3/4, ML2.5/4, Error ellipse: s-maj=2.3km s-min=2.1km az=173.0 65 km WNW of Wroclaw Suspected Mining induced.*

ISC 12 18:40:13.0±0.9, **51°.66N**±0°.03×**16°.03E**±0°.03, **h0**km, **n32**, σ1.9/08/60, **3C-2D**, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.83**	**168**	*ePg*	**Pg**	**18 40 29.0**	**+0.1**
KSP				*eSg*	**Sg**	**18 40 39.2**	**-0.5**
KSP	**Ksiaz**	**0.83**	**168**	*ePg*	**Pg**	**18 40 29.0**	**+0.1**
KSP				*eSg*	**Sg**	**18 40 39.2**	**-0.5**
KSP	**Ksiaz**	**0.83**	**168**	⇓*iPg*	**Pg**	**18 40 29.0**	**+0.1**
KSP				*i* Sg	**Sg**	**18 40 39.2**	**-0.5**
UPC	**Upice**	**1.15**	**181**	*ePG*	**Pg**	**18 40 35.0**	**-0.1**
UPC	**Upice**	**1.15**	**181**	Pg	**Pg**	**18 40 35.0**	**-0.1**
DPC	**Dobruska-Polom**	**1.32**	**172**	*ePG*	**Pg**	**18 40 37.8**	**-0.5**
DPC				*eSG*	**Sg**	**18 40 54.0**	**-1.5**
	comp=Z,35nm,0.6s						
DPC	**Dobruska-Polom**	**1.32**	**172**	Pg	**Pg**	**18 40 37.8**	**-0.5**
DPC				Sg	**Sg**	**18 40 54.0**	**-1.5**
	35nm,0.6s						
PVCC	**Panska Ves**	**1.46**	**220**	*ePG*	**Pn**	**18 40 41.0**	**+0.4**
PVCC	**Panska Ves**	**1.46**	**220**	Pg	**Pn**	**18 40 41.0**	**+0.4**
BRG	**Berggiesshubel**	**1.53**	**240**	Pg	**Pn**	**18 40 42.4**	**+0.9**
BRG				SG	**Sn**	**18 41 02.4**	**+0.3**
	58nm,0.4s						
PRA	**Prague**	**1.89**	**213**	PG	**Pn**	**18 40 47.0**	**+0.6**
PRA				SG	**Sg**	**18 41 13.0**	**-0.5**
PRU	**Pruhonice**	**1.92**	**210**	*ePN*	**Pn**	**18 40 47.5**	**+0.6**
PRU				*ePG*	**Pb**	**18 40 48.5**	**-0.3**
PRU				*eSG*	**Sb**	**18 41 13.4**	**+0.1**
	comp

ATAB				*i* S	**Sg**	**18 42 34.5**	**+0.6**
ATAB	**Bozova**	**1.59**	**78**	*i* P	**Pg**	**18 42 14.2**	**+0.9**
ATAB				*i* S	**Sg**	**18 42 34.5**	**+0.6**
AKCD	**Akcadag**	**1.69**	**47**	*i* P	**Pg**	**18 42 14.9**	**-0.4**
AKCD				*i* S	**Sg**	**18 42 37.1**	**-0.2**
AKCD	**Akcadag**	**1.69**	**47**	*i* P	**Pg**	**18 42 14.9**	**-0.4**
AKCD				*i* S	**Sg**	**18 42 37.1**	**-0.2**
URFA	**Urfa**	**2.00**	**81**	*e*PN	**Pn**	**18 42 16.0**	**-0.4**
URFA	**Urfa**	**2.00**	**81**	*e*Pn	**Pn**	**18 42 16.0**	**-0.4**

ISCJB ***12*** *18:43:09.3±0.6,22°.26N±0°.07×143°.7E±0°.2, h118km, mb4.0/17, Error ellipse: s-maj=21.4km s-min=9.2km az=169.9*

IDC ***12*** *18:43:10.1±2.7,22°.27N×143°.69E, h108km±22km, mb3.6/17, mb1 3.7/19, mb1mx3.6/28, mbtmp3.6/19, MS3.7/1, Ms1 3.7/1, ms1mx2.7/54, Error ellipse: s-maj=21.0km s-min=14.6km az=86.0*

ISC 12 18:43:11.0±0.7, 22°.32N±0°.08×143°.7E±0°.2, h118km, n23, σ0s97/25, mb3.8/17, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.96**	**344**	P	**Pn**	**18 44 23.5**	**+0.2**
	6.9nm,0.3s,baz=168,slow=18,SNR=3.6						
CBIJ				S	**Sn**	**18 45 18.6**	**-1.0**
	17nm,0.3s,baz=78,slow=23,SNR=9.0						
JOW	**Kunigami**	**14.76**	**291**	LR	LR	18 52 07.6	
	comp=Z,291nm,18.1s,baz=197,slow=36						
MJAR	**Matsushiro Arr**	**14.96**	**343**	P	**P**	**18 46 37.8**	**-1.2**
	0.4nm,0.3s,baz=155,slow=15,SNR=5.1						
KSRS	**Korea Array**	**20.33**	**321**	P	**P**	**18 47 38.9**	**+1.1**
	1.5nm,0.5s,baz=147,slow=8.3,SNR=6.6						
DAV	**Davao City (W)**	**23.15**	**232**	P	**P**	**18 48 09.4**	**+2.1**
	170nm,0.5s,baz=73,slow=11,SNR=4.4						
SONM	**Songino Array**	**39.19**	**320**	P	**P**	**18 50 28.5**	**+1.0**
	0.6nm,0.5s,baz=130,slow=7.3,SNR=10						
ASAR	**Alice Springs**	**46.70**	**192**	P	**P**	**18 51 27.4**	**-0.8**
	0.2nm,0.5s,baz=11,slow=10,SNR=5.7						
STKA	**Stephens Creek**	**53.33**	**182**	P	**P**	**18 52 21.3**	**-1.1**
	1.9nm,0.9s,baz=352,slow=7.1,SNR=4.0						
ZALV	**Zalesovo Beam**	**54.04**	**321**	P	**P**	**18 52 23.1**	**+0.1**
	0.9nm,0.6s,baz=91,slow=7.5,SNR=6.2						
ZALV				PcP	**PcP**	**18 53 26.0**	**-0.5**
	0.6nm,0.6s,baz=103,slow=3.1,SNR=3.3						
MKAR	**Makanchi Array**	**54.65**	**312**	P	**P**	**18 52 28.7**	**+1.1**
	0.4nm,0.5s,baz=85,slow=8.7,SNR=7.9						
MKAR				PcP	**PcP**	**18 53 29.1**	**0.0**
	0.9nm,0.6s,baz=86,slow=2.9,SNR=12						
KURBB	**Kurchatov Arra**	**57.42**	**317**	P	**P**	**18 52 47.8**	**+0.6**
	4.5nm,0.7s,baz=94,slow=7.7,SNR=56						
NWAO	**Narrogin (SRO)**	**60.48**	**206**	P	**P**	**18 53 08.4**	**-0.1**
	7.9nm,1.0s,baz=3.5,slow=9.3,SNR=1.6						
ILAR	**Eielson Array**	**61.26**	**27**	P	**P**	**18 53 13.3**	**0.0**
	0.5nm,0.6s,baz=262,slow=5.2,SNR=8.4						
INK	**Inuvik**	**66.80**	**24**	P	**P**	**18 53 50.2**	**+0.8**
	1.3nm,0.8s,baz=260,slow=2.6,SNR=5.0						
AKTO	**Aktyubinsk**	**70.45**	**317**	P	**P**	**18 54 12.0**	**-0.5**
	0.5nm,0.8s,baz=70,slow=8.1,SNR=2.7						
YKA	**Yellowknife Ar**	**75.67**	**28**	P	**P**	**18 54 43.5**	**+0.6**
	0.6nm,0.4s,baz=293,slow=5.8,SNR=13						
ARCES	**ARCESS Array B**	**78.49**	**342**	P	**P**	**18 54 59.5**	**+0.8**
	1.9nm,0.7s,baz=63,slow=4.2,SNR=9.0						
NVAR	**Mina Array Bea**	**82.36**	**52**	P	**P**	**18 55 21.9**	**+1.7**
	1.1nm,0.6s,baz=282,slow=5.6,SNR=7.6						
FINES	**FINESS Array B**	**82.84**	**335**	P	**P**	**18 55 21.3**	**-0.7**
	1.5nm,0.5s,baz=60,slow=8.8,SNR=8						
AKASG	**Malin Array Be**	**87.29**	**325**	P	**P**	**18 55 43.4**	**-1.0**
	0.2nm,0.3s,baz=51,slow=5.0,SNR=3.5						
BRTR	**Keskin Array B**	**90.28**	**314**	P	**P**	**18 55 57.9**	**-1.1**
	0.5nm,0.7s,baz=56,slow=8.9,SNR=2.6						
TORD	**Torodi Ar. Bea**	**128.74**	**310**	PKP	**PKPdf**	**19 02 04.5**	**-0.8**
	0.2nm,0.4s,baz=29,slow=2.3,SNR=3.9						
PLCA	**Paso Flores**	**145.78**	**130**	PKPbc	**PKPab**	**19 02 36.8**	**-0.3**
	2.0nm,0.5s,baz=248,slow=3.9,SNR=8.4						

ISCJB ***12*** *18:43:28.8±0.6,37°.15N±0°.04×36°.37E±0°.04, h1km±7km, Error ellipse: s-maj=6.2km s-min=4.9km az=27.0*

DDA ***12*** *18:43:28.6,37°.13N×36°.27E, h20km, MD2.9*

ISK ***12*** *18:43:28.7,37°.18N×36°.37E, h5km, MD2.7*

CSEM ***12*** *18:43:29.2±0.2,37°.16N×36°.37E, h3km±2km, MD2.9, Error ellipse: s-maj=3.9km s-min=3.5km az=30.0*

ISC 12 18:43:29.4±1.1, 37°.16N±0°.03×36°.38E±0°.03, h7km±12km, n25, σ0s49/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.42**	**357**	*i* P	**Pg**	**18 43 37.4**	**-0.2**
ANDN				*i* S	**Sg**	**18 43 43.8**	**+0.7**
ANDN	**Andirin**	**0.42**	**357**	*i* P	**Pg**	**18 43 37.4**	**-0.2**
ANDN				*i* S	**Sg**	**18 43 43.8**	**+0.7**
CEYT	**Ceyhan**	**0.52**	**254**	*e*PG	**Pg**	**18 43 39.5**	**0.0**
CEYT	**Ceyhan**	**0.52**	**254**	*e*Pg	**Pg**	**18 43 39.5**	**0.0**
KMRS	**Kahramanmaras**	**0.54**	**50**	*e*PG	**Pg**	**18 43 40.1**	**+0.3**
KMRS				*e*SG	**Sg**	**18 43 46.5**	**-0.5**
KMRS	**Kahramanmaras**	**0.54**	**50**	*e*Pg	**Pg**	**18 43 40.1**	**+0.3**
KMRS				*e*Sg	**Sg**	**18 43 46.5**	**-0.5**
KOZT	**Kozan**	**0.54**	**306**	*e*PG	**Pg**	**18 43 39.6**	**-0.3**
KOZT				*e*SG	**Sg**	**18 43 46.8**	**-0.2**
KOZT	**Kozan**	**0.54**	**306**	*e*Pg	**Pg**	**18 43 39.6**	**-0.3**
KOZT				*e*Sg	**Sg**	**18 43 46.8**	**-0.2**
GAZ	**Gaziantep**	**0.67**	**89**	*e*PG	**Pg**	**18 43 42.2**	**0.0**
GAZ	**Gaziantep**	**0.67**	**89**	*e*Pg	**Pg**	**18 43 42.2**	**0.0**
KUZU	**Kuzuini**	**0.68**	**124**	*i* P	**Pg**	**18 43 51.8**	**-0.3**
KUZU				*i* S	**Sg**	**18 43 51.8**	**+0.5**
KUZU	**Kuzuini**	**0.68**	**124**	*i* P	**Pg**	**18 43 42.2**	**-0.3**
KUZU				*i* S	**Sg**	**18 43 51.8**	**+0.5**
GZT	**Gaziantep**	**0.97**	**78**	*i* P	**Pg**	**18 43 47.6**	**-0.4**
GZT				*i* S	**Sb**	**18 44 01.3**	**-0.3**
HTY	**Hatay**	**1.05**	**191**	*e*PG	**Pg**	**18 43 49.2**	**-0.4**
HTY	**Hatay**	**1.05**	**191**	*e*Pg	**Pg**	**18 43 49.2**	**-0.4**
ATAB	**Bozova**	**1.56**	**78**	*i* P	**Pg**	**18 43 58.8**	**-0.5**
ATAB				*i* S	**Sg**	**18 44 19.4**	**-0.2**
ATAB	**Bozova**	**1.56**	**78**	*i* P	**Pg**	**18 43 58.8**	**-0.5**
ATAB				*i* S	**Sg**	**18 44 19.4**	**-0.2**
AKCD	**Akcadag**	**1.67**	**47**	*i* P	**Pn**	**18 43 58.1**	**-1.1**
AKCD				*i* S	**Sb**	**18 44 21.9**	**+0.1**
AKCD	**Akcadag**	**1.67**	**47**	*i* P	**Pn**	**18 43 58.1**	**-1.1**
AKCD				*i* S	**Sb**	**18 44 21.9**	**+0.1**
URFA	**Urfa**	**1.97**	**81**	*e*PN	**Pn**	**18 44 03.9**	**+0.7**
URFA	**Urfa**	**1.97**	**81**	*e*Pn	**Pn**	**18 44 03.9**	**+0.7**
MALT	**Malatya**	**1.99**	**54**	*e*PN	**Pn**	**18 44 04.3**	**+0.7**
MALT	**Malatya**	**1.99**	**54**	*e*Pn	**Pn**	**18 44 04.3**	**+0.7**
SVRC	**Sivrice-ELAZID**	**2.62**	**61**	*e*PN	**Pn**	**18 44 12.7**	**+0.4**
SVRC	**Sivrice-ELAZID**	**2.62**	**61**	*e*Pn	**Pn**	**18 44 12.7**	**+0.4**

IDC 12 18:45:58.4±0.9, 4°.12N×126°.81E, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.7/20, mbtmp3.7/9, Error ellipse: s-maj=52.9km s-min=15.7km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.11**	**183**	P	P	18 50 55.0	-0.6
	2.4nm,1.0s,baz=348,slow=14,SNR=2.2						
WRA	**Warramunga Arr**	**25.03**	**163**	P	P	18 51 25.1	+0.6
ASAR	**Alice Springs**	**28.47**	**166**	P	P	18 51 55.1	-0.4
	0.4nm,0.5s,baz=342,slow=7.0,SNR=7.0						
CMAR	**Chiang Mai Arr**	**30.75**	**300**	P	P	18 52 16.6	+0.8
	0.3nm,0.7s,baz=126,slow=6.4,SNR=4.4						
STKA	**Stephens Creek**	**38.46**	**160**	P	P	18 53 22.1	-0.2
	2.7nm,0.8s,baz=346,slow=8.2,SNR=4.8						
SONM	**Songino Array**	**46.96**	**341**	P	P	18 54 30.9	-0.4
	0.2nm,0.4s,baz=148,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**57.28**	**325**	P	P	18 55 47.9	-0.2
	0.8nm,0.5s,baz=121,slow=8.3,SNR=12						
ZALV	**Zalesovo Beam**	**60.28**	**333**	P	P	18 56 08.1	-0.6
	0.4nm,0.4s,baz=125,slow=9.0,SNR=3.0						
AKTO	**Aktyubinsk**	**73.41**	**322**	P	P	18 57 32.4	-0.1
	0.6nm,0.7s,baz=97,slow=9.7,SNR=3.9						
ILAR	**Eielson Array**	**84.72**	**25**	P	P	18 58 34.7	+0.5
	0.3nm,0.9s,baz=239,slow=6.2,SNR=2.7						

IDC 12 18:46:14.1±4.0, 4°.34N×127°.28E, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.6/18, mbtmp4.0/3, Error ellipse: s-maj=421.7km s-min=24.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.11**	**164**	P	P	18 51 41.2	+0.4
ASAR	**Alice Springs**	**28.57**	**167**	P	P	18 52 11.8	-0.3
	0.6nm,0.5s,baz=346,slow=10,SNR=4.7						
STKA	**Stephens Creek**	**38.51**	**160**	P	P	18 53 38.0	-0.3
	3.4nm,0.8s,baz=344,slow=8.4,SNR=5.3						
MKAR	**Makanchi Array**	**57.38**	**325**	P	P	18 56 04.3	-0.1
	0.8nm,0.5s,baz=122,slow=8.3,SNR=7.0						

PRE 12 18:48:02.7±1.0, 26°.44S×27°.56E, h2km, ML1.9, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.52**	**200**	*e*P	Pg	18 48 13.1	+0.2
PRYS				*e*S	Sg	18 48 20.4	+0.6
PRYS				AML	AML	18 48 24.5	
	comp=Z,24nm,0.3s						
ERPM	**east rand prop**	**0.62**	**81**	*e*P	Pg	18 48 15.1	+0.3
ERPM				*e*S	Sg	18 48 23.4	+0.3
ERPM				AML	AML	18 48 24.7	
	comp=Z,16nm,0.2s						
BFSD	**Buffelsfontein**	**0.81**	**238**	*e*P	Pg	18 48 17.9	-0.6
BFSD				*e*S	Sg	18 48 29.5	+0.3
BFSD				AML	AML	18 48 32.1	
	comp=Z,24nm,0.4s						
SLR	**Silverton**	**0.95**	**43**	*e*P	Pg	18 48 20.3	-0.9
SLR				*e*S	Sb	18 48 35.3	-0.1
SLR				AML	AML	18 48 41.2	
	comp=Z,20nm,0.2s						
SEK	**Senekal**	**1.88**	**178**	*e*P	Pn	18 48 36.7	+0.6
SEK				*e*S	Sb	18 49 01.5	-0.7
SEK				AML	AML	18 49 03.3	
	comp=Z,12nm,0.3s						
SWZ	**Schweizer**	**2.12**	**249**	*e*P	Pn	18 48 39.6	+0.2
SWZ				*e*S	Sn	18 49 06.9	+0.3
SWZ				AML	AML	18 49 13.0	
	comp=Z,19nm,0.2s						
LBTB	**Lobatse**	**2.27**	**308**	*e*P	Pn	18 48 42.0	+0.7
LBTB				*e*S	Sn	18 49 11.1	+1.0
LBTB				AML	AML	18 49 16.4	
	comp=Z,4.9nm,0.2s						
BOSA	**Boshof**	**2.98**	**223**	*e*P	Pn	18 48 51.6	+0.4
BOSA				*e*S	Sn	18 49 27.8	+0.1
BOSA				AML	AML	18 49 38.6	
	comp=Z,3.1nm,0.6s						

IDC 12 18:52:36.0±1.5, 3°.97N×127°.26E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=119.8km s-min=17.5km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.99**	**184**	P	P	18 57 31.9	+0.1
	1.8nm,0.8s,baz=355,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**24.76**	**164**	P	P	18 57 57.9	-1.6
ASAR	**Alice Springs**	**28.22**	**167**	P	P	18 58 32.1	+1.4
	0.3nm,0.4s,baz=340,slow=8.7,SNR=12						
SONM	**Songino Array**	**47.24**	**341**	P	P	19 01 11.3	+0.3
	0.3nm,0.7s,baz=146,slow=8.4,SNR=3.9						
MKAR	**Makanchi Array**	**57.66**	**325**	P	P	19 02 27.9	-0.3
	5.7nm,0.5s,baz=129,slow=8.2,SNR=20						
KURBB	**Kurchatov Arra**	**61.82**	**327**	P	P	19 02 56.6	-0.2
	0.4nm,0.7s,baz=129,slow=6.2,SNR=4.5						

JMA 12 18:53:12.9±0.6, 31°.18N×141°.30E, h0km, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**3.47**	**356**	P	Pn	18 54 09.6	+2.1
BSO1				*e*S	Sn	18 54 52.5	+3.6
JHU	**Hanno**	**4.96**	**341**	*e*S	Sn	18 55 30.2	+3.6
JRY	**Ryogami san**	**5.22**	**338**	P	Pn	18 54 36.9	+4.6
JRY				*e*S	Sn	18 55 38.2	+4.9
JHO	**Hitachi**	**5.45**	**354**	P	Pn	18 54 36.4	+1.0
JHO				*e*S	Sn	18 55 37.2	-1.7
JAG	**Ashikaga**	**5.45**	**344**	P	Pn	18 54 38.5	+3.1
JAG				*e*S	Sn	18 55 40.6	+1.7

IDC ***12*** *18:54:24.4±0.3,31°.04S×177°.91W, h0km, mb5.5/30, mb1 5.5/31, mb1mx5.5/31, mbtmp5.5/31, ML5.4/1, MS5.4/30, Ms1 5.4/30, ms1mx5.4/36, Error ellipse: s-maj=12.4km s-min=7.8km az=172.0*

ISCJB ***12*** *18:54:27.5±0.1,31°.62S±0°.02×178°.11W±0°.03, h33km, mb5.6/138, MS5.6/227, Error ellipse: s-maj=4.8km s-min=1.7km az=34.5*

BJI ***12*** *18:54:27.2,30°.72S×177°.57W, h29km, mB6.0/40, mb5.5/36, Ms5.6/49, Ms7 5.4/47*

BGS ***12*** *18:54:28.1,31°.23S×178°.11W, h24km, mb5.6(NEIC)*

NEIC ***12*** *18:54:28.2±1.6,31°.23S×178°.11W, h24km±10km, mb5.6/91, MS5.6/169, MW5.8, Error ellipse: s-maj=6.0km s-min=4.4km az=135.0*

DJA ***12*** *18:54:29,30°.95S×178°.19W, h10km, mb5.7/13*

MOS ***12*** *18:54:29.3±1.0,31°.00S×178°.16W, h33km, mb5.8/58, MS5.5/66, Error ellipse: s-maj=9.4km s-min=7.5km az=87.4*

NEIC ***12*** *18:54:48.5±0.0,30°.47S×177°.21W, h33km, Moment Tensor Solution. s148 Moment tensor: Scale 10^17 Nm; Mrr=5.73; Mθθ=0.06; Mφφ=5.67; Mrθ=0.85; Mθφ=1.21; Mφr=3.44; Best double couple: Mo=6.80000×10^17 NP1:θs359.00000°, δ61.00000°, λ77.00000°. NP2:θs204.00000°, δ32.00000°, λ112.00000°. Principal axes: T 6.8800, Plg71.0000°, Azm239.0000°; N -0.1200, Plg11.0000°, Azm5.0000°; P -6.7600, Plg14.0000°, Azm98.0000°;*

ISC 12 18:54:28.9±0.3, 31°.21S±0°.03×177°.84W±0°.03, h31km±1km, h31km:pP-P, n1203, σ1s64/1125, mb5.6/137, MS5.6/228, 160C-158D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.95**	**358**	*e*Pn	**Pn**	**18 54 58.0**	**-1.9**
MXZ	**Matakaoa Point**	**7.10**	**206**	PN	Pn	18 56 04.6	-6.0
MXZ				SN	**Sn**	**18 57 25.7**	**-4.5**
MXZ				T	T	19 03 27.8	
PUZ	**Puketiti**	**7.57**	**204**	*e*PN	Pn	18 56 11.8	-5.3
PUZ				SN	**Sn**	**18 57 39.4**	**-2.4**
KUZ	**Kuaotunu**	**7.69**	**222**	PN	**Pn**	**18 56 20.5**	**+1.8**
CNGZ	**Carnagh Statio**	**7.96**	**203**	PN	Pn	18 56 17.6	-4.8
CNGZ				SN	**Sn**	**18 57 50.3**	**-1.0**
WCZ	**Waipu Caves**	**8.05**	**232**	*e*PN	Pn	18 56 27.0	+3.2
MWZ	**Matawai**	**8.07**	**207**	PN	Pn	18 56 19.3	-4.7
MWZ				SN	**Sn**	**18 57 51.5**	**-2.7**
OPRZ	**Ohinepanea**	**8.08**	**213**	PN	**Pn**	**18 56 22.0**	**-2.1**
ABAZ	**Army Bay**	**8.13**	**227**	PN	Pn	18 56 30.7	+5.9
URZ	**Urewera**	**8.17**	**209**	*e*Pn	Pn	18 56 21.4	-4.0
URZ	**Urewera**	**8.17**	**209**	*e*PN	Pn	18 56 20.8	-4.5
URZ				SN	**Sn**	**18 57 53.8**	**-2.8**
OUZ	**Omahuta**	**8.22**	**239**	*e*Pn	Pn	18 56 30.4	+4.4
OUZ	**Omahuta**	**8.22**	**239**	PN	Pn	18 56 30.1	+4.1
MKAZ	**Moumakai**	**8.26**	**223**	PN	**Pn**	**18 56 29.3**	**+2.7**
KARZ	**Kaharoa**	**8.37**	**214**	SN	**Sn**	**18 58 02.5**	**+1.0**
TARZ	**Mount Tarawera**	**8.42**	**212**	*e*PN	**Pn**	**18 56 27.1**	**-1.7**
PRGZ	**Paritu Road**	**8.46**	**203**	*e*PN	Pn	18 56 23.8	-5.5
PRGZ				SN	**Sn**	**18 57 59.3**	**-4.5**
KNZ	**Kokohu**	**8.62**	**204**	PN	Pn	18 56 25.9	-5.5
MHGZ	**Mahia Peninsul**	**8.66**	**203**	*e*PN	Pn	18 56 26.1	-5.9
MHGZ				SN	**Sn**	**18 58 04.0**	**-4.6**
RAHZ	**Arahi**	**8.75**	**207**	*e*PN	Pn	18 56 29.1	-4.2
ALRZ	**Allen Road**	**8.76**	**211**	*e*PN	Pn	18 56 29.7	-3.7
NMHZ	**Naumai**	**9.01**	**208**	*e*PN	Pn	18 56 31.5	-5.4
NMHZ				SN	**Sn**	**18 58 14.1**	**-3.3**
BKZ	**Black Stump Fm**	**9.20**	**209**	PN	Pn	18 56 33.5	-6.0
MCHZ	**McNeill Hill**	**9.35**	**207**	*e*PN	Pn	18 56 36.4	-5.1
MCHZ				SN	**Sn**	**18 58 20.7**	**-4.9**
CKHZ	**Cape Kidnapper**	**9.40**	**205**	*e*PN	Pn	18 56 35.8	-6.4
HIZ	**Hauiti**	**9.44**	**217**	*e*PN	**Pn**	**18 56 43.1**	**+0.3**
KAHZ	**Kahuranaki**	**9.59**	**205**	*e*PN	Pn	18 56 38.2	-6.7
KAHZ				SN	**Sn**	**18 58 26.7**	**-4.8**
BHHZ	**Black Hill Sta**	**9.65**	**209**	*e*PN	Pn	18 56 40.9	-4.8
BHHZ				SN	**Sn**	**18 58 28.1**	**-4.9**
MOVZ	**Moawhango**	**9.71**	**211**	*e*PN	Pn	18 56 40.3	-6.2
MOVZ				SN	Sn	18 58 27.6	-7.0
PNHZ	**Pukenui**	**9.95**	**208**	*e*PN	Pn	18 56 43.4	-6.4
PNHZ				SN	Sn	18 58 32.6	-7.8
WPHZ	**Waipukurau**	**9.99**	**206**	PN	Pn	18 56 43.1	-7.2
WPHZ				SN	Sn	18 58 34.4	-6.9
PRHZ	**Porangahau**	**10.09**	**205**	*e*PN	Pn	18 56 44.4	-7.3
PRHZ				SN	Sn	18 58 35.4	-8.4
TSZ	**Takapari Road**	**10.17**	**208**	*e*PN	Pn	18 56 46.0	-6.8
DVHZ	**Dannevirke**	**10.30**	**207**	*e*PN	Pn	18 56 47.2	-7.3
DVHZ				SN	Sn	18 58 40.8	-8.1
ANWZ	**Angora Road**	**10.32**	**205**	*e*PN	Pn	18 56 46.9	-7.9
ANWZ				SN	Sn	18 58 39.6	-10
WAZ	**Wanganui**	**10.34**	**212**	*e*PN	Pn	18 56 51.1	-4.0
POWZ	**Post Office Ro**	**10.53**	**208**	*e*PN	Pn	18 56 52.9	-4.8
POWZ				SN	Sn	18 58 46.5	-8.1
PRWZ	**Pori Road**	**10.59**	**207**	SN	Sn	18 58 48.1	-8.0
BFZ	**Birch Farm**	**10.60**	**205**	*e*PN	Pn	18 56 51.1	-7.5
TIWZ	**Tintock**	**10.82**	**206**	*e*PN	Pn	18 56 53.9	-7.7
MRZ	**Mangatainoka R**	**10.84**	**208**	*e*PN	Pn	18 56 53.3	-8.6
HOWZ	**Holdsworth Sta**	**11.06**	**207**	*e*PN	Pn	18 56 55.9	-9.1
HOWZ				SN	Sn	18 58 56.7	-11
TMWZ	**Te Maipa**	**11.10**	**205**	*e*PN	Pn	18 56 56.6	-8.9
TMWZ				SN	Sn	18 58 57.8	-11
OGWZ	**Otaki Gorge**	**11.13**	**209**	*e*PN	Pn	18 56 57.5	-8.4
KIW	**Kapiti Island**	**11.28**	**209**	*e*PN	Pn	18 56 59.2	-8.7
KIW				SN	Sn	18 59 02.6	-10
MTW	**Mount Morrison**	**11.29**	**207**	*e*PN	Pn	18 56 59.6	-8.5
MTW				SN	Sn	18 59 03.3	-10
CAW	**Cannon Point**	**11.42**	**208**	PN	Pn	18 57 01.7	-8.2
CAW				SN	Sn	18 59 04.6	-12
PAWZ	**Paruwai Farm**	**11.51**	**206**	*e*PN	Pn	18 57 02.6	-8.5
PAWZ				SN	Sn	18 59 07.9	-11
MSWZ	**Moikau Station**	**11.61**	**207**	*e*PN	Pn	18 57 04.9	-7.6
MSWZ				SN	Sn	18 59 09.0	-12
DUWZ	**D'Urville Isla**	**11.67**	**213**	PN	Pn	18 57 06.9	-6.4
DUWZ				SN	Sn	18 59 12.7	-10
SNZO	**South Karori**	**11.74**	**209**	*e*Pn	**Pn**	**18 57 13.6**	**-0.6**
SNZO	**South Karori**	**11.74**	**209**	SN	Sn	18 59 12.8	-11
PLWZ	**Palliser**	**11.74**	**206**	*e*PN	Pn	18 57 05.1	-9.2
PLWZ				SN	Sn	18 59 12.8	-12
BHW	**Baring Head**	**11.75**	**208**	PN	Pn	18 57 07.0	-7.4
TCW	**Tory Channel**	**11.84**	**210**	*e*PN	Pn	18 57 07.4	-8.2
TCW				SN	Sn	18 59 15.4	-11
TUWZ	**Tuamarina**	**12.16**	**211**	*e*PN	Pn	18 57 12.6	-7.3
TUWZ				SN	Sn	18 59 23.5	-11
NNZ	**Nelson**	**12.25**	**213**	*e*PN	Pn	18 57 12.1	-9.0
CMWZ	**Cape Campbell**	**12.31**	**209**	SN	Sn	18 59 26.4	-12
QRZ	**Quartz Range**	**12.36**	**216**	SN	Sn	18 59 29.8	-10
BSWZ	**Blackbirch Sta**	**12.42**	**210**	PN	Pn	18 57 15.6	-8.0
BSWZ				SN	Sn	18 59 29.3	-12
CTZ	**Chatham Island**	**12.54**	**176**	*e*PN	Pn	18 57 20.7	-4.5
CTZ				SN	Sn	18 59 28.6	-15
THZ	**Tophouse**	**12.89**	**213**	PN	Pn	18 57 21.5	-8.6
THZ				SN	Sn	18 59 41.9	-11
KHZ	**Kahutara**	**13.14**	**209**	*e*Pn	**Pn**	**18 57 30.4**	**-2.9**
KHZ	**Kahutara**	**13.14**	**209**	*e*PN	Pn	18 57 25.6	-7.7
KHZ				SN	Sn	18 59 47.3	-11
DSZ	**Denniston Nort**	**13.41**	**215**	*e*PN	Pn	18 57 30.7	-6.4
DSZ				SN	Sn	18 59 53.6	-11
MSVF	**Nonsavu**	**13.92**	**343**	*e*P	**Pn**	**18 57 44.7**	**+0.5**
MSVF	**Nonsavu**	**13.92**	**343**	*e*Pn	**Pn**	**18 57 44.7**	**+0.5**
LTZ	**Lake Taylor**	**13.99**	**212**	PN	Pn	18 57 37.4	-7.6
LTZ				SN	Sn	19 00 04.8	-14
MQZ	**McQueen's Vall**	**14.57**	**208**	PN	Pn	18 57 44.4	-8.4
MQZ				SN	Sn	19 00 15.9	-17
WVZ	**Waitaha Valley**	**14.93**	**214**	*e*PN	Pn	18 57 52.8	-4.9
RPZ	**Rata Peaks**	**15.27**	**212**	*e*Pn	**Pn**	**18 57 58.2**	**-4.0**
	139nm,0.9s						
RPZ	**Rata Peaks**	**15.27**	**212**	PN	Pn	18 57 52.6	-10
RPZ				SN	Sn	19 00 30.8	-20
FOZ	**Fox Glacier**	**15.80**	**215**	*e*PN	Pn	18 58 00.6	-8.5
FOZ				SN	Sn	19 00 43.1	-20
LBZ	**Lake Benmore**	**16.19**	**212**	PN	Pn	18 58 08.1	-5.6
ODZ	**Otahua Downs**	**16.50**	**210**	*e*Pn	**Pn**	**18 58 15.5**	**-2.5**
	2µm,1.3s						
ODZ	**Otahua Downs**	**16.50**	**210**	PN	Pn	18 58 08.6	-9.3
ODZ				SN	Sn	19 01 03.0	-17
JCZ	**Jackson Bay**	**16.64**	**216**	PN	Pn	18 58 13.4	-6.4
**

comp=Z,10μm,20.1s,baz=353,slow=33
TAU Tasmania Unive 29.95 237 *e*P **P 19 00 34.6 +0.3**
TAU pmax pmax
comp=Z,710nm,1.7s
TAU MLR MLR
comp=Z,14μm,21.0s
TAU Tasmania Unive 29.95 237 *e*P **P 19 00 34.6 +0.3**
comp=Z,710nm,1.7s
TAU LR LR
comp=Z,14μm,21.0s
MOO Moorlands 29.96 238 *e*P **P 19 00 34.7 +0.3**
comp=Z,502nm,0.9s
MOO *e* 19 00 46.8
MOO *e*SCP **ScP 19 07 18.6 +2.4**
MOO Moorlands 29.96 238 *e*P **PcP 19 03 37.7 +1.4**
comp=Z,313nm,0.8s
MEH Mehetia 30.05 71 *e*P **P 19 00 35.9 +0.5**
comp=Z,126nm,1.1s
TOO Toolangi 30.78 248 *e*P **P 19 00 43.0 +1.2**
comp=Z,1μm,1.3s
TOO *e* 19 00 55.2
TOO *e*S **S 19 05 44.9 +1.8**
TOO *e*SCP **ScP 19 07 19.1 +0.1**
TOO Toolangi 30.78 248 *e*P **PcP 19 03 38.9 +0.3**
comp=Z,114nm,0.6s
PMOR Pomariorio Ree 31.77 66 *e*P **P 19 00 50.8 +0.2**
comp=Z,201nm,1.3s
TARA Tarawa 33.55 343 PFAKE 19 01 20.0 +14
TARA LR LR
comp=Z,3μm,21.0s
CTA Charters Tower 34.07 280 P **P 19 01 10.9 +0.2**
CTA Charters Tower 34.07 280 *e*P **P 19 01 12.2 +1.5**
comp=Z,357nm,0.8s
CTA *e* 19 01 24.0
CTA *e*S **S 19 06 37.0 +2.4**
CTA *e*SCP **ScP 19 07 32.8 +2.2**
CTA Charters Tower 34.07 280 P **P 19 01 10.9 +0.2**
comp=Z,313nm,0.7s,baz=105,slow=10.0,SNR=263
CTA LR LR 19 14 04.8
comp=Z,19μm,18.3s,baz=162,slow=35
CTAO Charters Tower 34.07 280 *e*P **P 19 01 12.2 +1.5**
CTAO pmax pmax
comp=Z,1μm,1.4s
CTAO MLR MLR
comp=Z,17μm,19.0s
CTAO Charters Tower 34.07 280 *e*P **P 19 01 12.2 +1.5**
comp=Z,1μm,1.4s
CTAO LR LR
comp=Z,17μm,19.0s
STKA Stephens Creek 34.44 258 *e*P **P 19 01 14.3 +0.5**
comp=Z,602nm,2.1s
STKA S **S 19 06 39.0 -1.1**
STKA Stephens Creek 34.44 258 *e*P **P 19 01 14.7 +0.9**
comp=Z,168nm,0.9s
STKA *e* 19 01 26.9
STKA *e*S **S 19 06 38.8 -1.3**
STKA Stephens Creek 34.44 258 P **P 19 01 14.7 +0.9**
comp=Z,263nm,1.0s,baz=99,slow=9.6,SNR=168
STKA S **S 19 06 39.0 -1.1**
comp=Z,5.6nm,0.9s,baz=90,slow=20,SNR=2.2
STKA LR LR 19 13 40.3
comp=Z,15μm,20.1s,baz=86,slow=34
XMAS Kiritimati 38.34 34 PFAKE 19 02 00.0 +13
XMAS LR LR
comp=Z,7μm,22.0s
RKT Rikitea 38.78 89 *e*P **P 19 01 51.1 +0.3**
comp=Z,120nm,1.3s
RKT *e*S **S 19 07 44.8 -1.6**
comp=Z,3μm,27.0s
RKT *e*LR LR 19 12 25.4
comp=Z,20μm,28.5s,baz=250
BBOO Buckleboo 38.89 255 *e*P **P 19 01 51.1 -0.6**
BBOO *e*ScP **S 19 07 47.6 -0.4**
PMG Port Moresby 39.08 296 *e*P **P 19 01 52.7 -0.7**
comp=Z,439nm,2.0s
PMG PcP **PcP 19 04 03.2 +0.2**
PMG S **S 19 07 52.3 +1.2**
PMG *e*ScP **ScP 19 07 53.0 +3.9**
PMG LR LR
comp=Z,5μm,19.0s
PMG Port Moresby 39.08 296 P **P 19 01 54.4 +1.0**
comp=Z,63nm,1.0s,comp=Z,3μm
PMG Port Moresby 39.08 296 P **P 19 01 52.9 -0.5**
comp=Z,37nm,0.7s,baz=98,slow=5.1,SNR=27
PMG PcP **PcP 19 04 03.2 +0.2**
comp=Z,63nm,1.1s,baz=105,slow=3.8,SNR=3.7
PMG S **S 19 07 52.3 +1.2**
comp=Z,14nm,1.0s,baz=78,slow=14,SNR=6.3
PMG LR LR 19 15 38.1
comp=Z,5μm,19.2s,baz=146,slow=33
COEN Coen 39.63 287 *e*P **P 19 01 58.5 +0.5**
comp=Z,12μm,2.4s
AS31 Alice Springs 43.21 268 *e*P **P 19 02 26.7 -0.7**
ASAR Alice Springs 43.21 268 P **P 19 02 27.1 -0.3**
ASAR ScP **ScP 19 08 08.4 +2.9**
ASAR S **S 19 08 52.7 +0.3**
ASAR Alice Springs 43.21 268 P **P 19 02 27.1 -0.3**
comp=Z,192nm,0.7s,baz=106,slow=7.3,SNR=373
ASAR ScP **ScP 19 08 08.4 +2.9**
comp=Z,14nm,0.7s,baz=118,slow=3.9,SNR=11
ASAR S **S 19 08 52.7 +0.3**
comp=Z,14nm,1.1s,baz=109,slow=16,SNR=5.5
DRV Dumont d'Urvil 43.45 203 PP PP 19 04 09.0 -0.8
DRV S S 19 08 43.0 -12
DRV L L 19 12 00.0
DRV SS **SS 19 12 11.0 +1.8**
DRV R 19 15 00.0
WRAB Tennant Creek 44.27 273 *e*P **P 19 02 35.2 -0.7**
WRAB pmax pmax
comp=Z,406nm,0.7s
WRAB MLR MLR
comp=Z,16μm,19.0s
WRAB Tennant Creek 44.27 273 *e*P **P 19 02 35.2 -0.7**
comp=Z,406nm,0.7s
WRAB LR LR
comp=Z,16μm,19.0s
WRA Warramunga Arr 44.27 273 P **P 19 02 35.9 0.0**
WRA Warramunga Arr 44.27 273 P **P 19 02 35.9 0.0**
FORT Forrest 45.98 256 *e*P **P 19 02 47.9 -1.4**
comp=Z,3μm,2.2s
FORT Forrest 45.98 256 *e*P **P 19 02 48.4 -1.0**
comp=Z,175nm,0.7s
FORT *e*S **S 19 09 30.9 -1.5**
FORT *e*SCS **ScS 19 12 38.9 -4.1**
SBA Scott Base 47.25 184 *e*P P 19 03 03.2 +4.6
SBA pmax pmax
comp=Z,660nm,1.6s
SBA MLR MLR
comp=Z,4μm,19.0s
SBA Scott Base 47.25 184 *e*P P 19 03 03.2 +4.6
comp=Z,660nm,1.6s
SBA LR LR
comp=Z,4μm,19.0s
VNDA Vanda 47.31 186 *e*P P 19 03 02.3 +3.2
comp=Z,237nm,1.8s
VNDA LR LR
comp=Z,2μm,20.0s
MTN Manton Dam 50.25 280 *e*P **P 19 03 21.3 -1.2**
WAKE Wake Island 52.36 341 *e*P **P 19 03 37.1 -1.0**
comp=Z,285nm,0.9s
WAKE LR LR
comp=Z,8μm,20.0s
FITZ Fitzroy Crossi 52.50 270 P **P 19 03 38.5 -0.9**
FITZ S **S 19 11 08.4 +4.3**
FITZ Fitzroy Crossi 52.50 270 *e*P **P 19 03 38.4 -0.9**
comp=Z,551nm,1.8s
FITZ *e*SCP **ScP 19 08 47.3 +2.7**
FITZ *e*S **S 19 11 02.9 -1.2**
FITZ Fitzroy Crossi 52.50 270 P **P 19 03 38.5 -0.9**
comp=Z,78nm,0.9s,baz=135,slow=6.7,SNR=45
FITZ S **S 19 11 08.4 +4.3**
comp=Z,3.5nm,0.8s,baz=126,slow=14,SNR=3.5
FITZ LR LR 19 25 18.2
comp=Z,11μm,18.8s,baz=103,slow=35
KLBR Kellerberrin 54.23 252 *e*P **P 19 03 50.2 -1.7**
comp=Z,138nm,1.2s
KLBR *e* 19 04 02.0
NWAO Narrogin (SRO) 54.25 250 *e*P **P 19 03 51.4 -0.6**
comp=Z,127nm,1.3s
NWAO S S 19 11 35.1 +7.5
NWAO LR LR
comp=Z,4μm,22.0s
NWAO Narrogin (SRO) 54.25 250 P **P 19 03 51.8 -0.2**
comp=Z,11nm,0.6s,baz=143,slow=11,SNR=12
NWAO S S 19 11 35.1 +7.5
comp=Z,14nm,1.0s,baz=115,slow=19,SNR=2.6

NWAO LR LR 19 23 24.1
comp=Z,5μm,21.6s,baz=100,slow=32
CASY Casey 54.50 208 *e*P **P 19 03 52.6 -0.7**
comp=Z,217nm,0.7s
CASY LR LR
comp=Z,3μm,19.0s
CASY Casey 54.50 208 *e*P **P 19 03 53.3 0.0**
KIP Kipapa 55.68 22 *ce*P **P 19 04 04.4 +2.1**
KIP pmax pmax
comp=Z,132nm,1.0s
KIP Kipapa 55.68 22 *e*P **P 19 04 03.9 +1.6**
comp=Z,150nm,1.0s
MBWA Marble Bar 56.28 264 *e*P **P 19 04 05.0 -1.8**
comp=Z,485nm,2.0s
MBWA LR LR
comp=Z,9μm,19.0s
GUMO Guam 57.15 315 PFAKE 19 04 20.0 +7.1
GUMO LR LR
comp=Z,5μm,22.0s
GUMO Guam 57.15 315 LR LR 19 27 09.8
comp=Z,2μm,18.3s,baz=128,slow=34
QSPA South Pole Qui 58.91 180 *e*P **P 19 04 26.7 +1.9**
comp=Z,417nm,0.8s
QSPA P'P' 19 33 52.4
QSPA LR LR
comp=Z,4μm,20.0s
QSPA South Pole Qui 58.91 180 P **P 19 04 26.8 +1.9**
comp=Z,144nm,1.1s,baz=28,slow=4.6,SNR=184
QSPA PKPPKP P'P'df 19 33 52.4 -13
comp=Z,5.9nm,1.0s,baz=211,slow=2.7,SNR=6.1
RPN Rapa Nui 59.09 105 PFAKE 19 04 40.0 +14
RPN LR LR
comp=Z,5μm,21.0s
MIDW Midway 59.09 0 PFAKE 19 04 40.0 +14
MIDW LR LR
comp=Z,4μm,20.0s
MIR Mirnyy 61.47 207 ⇑*i*P **P 19 04 42.0 -0.1**
MIR *i* 19 04 59.0
MIR pmax pmax
comp=Z,176nm,1.2s
MIR pmax pmax
comp=Z,1μm,5.0s
MIR MLR MLR
comp=N,2μm,18.0s
MIR MLR MLR
comp=E,2μm,18.0s
MIR MLR MLR
comp=Z,5μm,18.0s
KAPI Kappang 63.89 280 P **P 19 04 57.8 -1.2**
KAPI LR LR
comp=Z,5μm,19.0s
KAPI Kappang 63.89 280 P **P 19 04 57.8 -1.2**
comp=Z,22nm,0.7s,baz=165,slow=7.8,SNR=7.8
KAPI LR LR 19 32 31.1
comp=Z,5μm,19.8s,baz=152,slow=36
DAV Davao City (W) 66.09 295 P **P 19 05 11.7 -1.7**
DAV LR LR
comp=Z,2μm,20.0s
DAV Davao City (W) 66.09 295 P **P 19 05 11.7 -1.7**
comp=Z,98nm,0.4s,baz=90,slow=1.0,SNR=3.0
CBIJ Chichi jima 69.41 322 LR LR 19 30 11.5
comp=Z,2μm,21.1s,baz=331,slow=31
MYLDM Lahad Datu 70.59 289 P **P 19 05 42.0 +0.5**
TSM Tawau 70.59 288 P **P 19 05 40.6 -0.9**
PMSA Palmer Station 71.47 156 P **P 19 05 47.3 +1.2**
PMSA LR LR
comp=Z,2μm,19.0s
PMSA Palmer Station 71.47 156 P **P 19 05 47.3 +1.2**
comp=Z,16nm,0.9s,baz=251,slow=6.2,SNR=5.3
PMSA LR LR 19 34 00.1
comp=Z,2μm,18.4s,baz=241,slow=33
MAW Mawson 71.61 201 P **P 19 05 47.7 +0.9**
MAW Mawson 71.61 201 P **P 19 05 47.7 +0.9**
comp=Z,106nm,1.0s,baz=158,slow=6.6,SNR=4.3
MAW LR LR 19 36 52.6
comp=Z,5μm,18.4s,baz=117,slow=36
SDKM Sandakan 71.91 288 P **P 19 05 48.4 -1.2**
KDM Kudat 72.94 289 P **P 19 05 54.6 -1.1**
KKM Kota Kinabalu 72.94 288 *e*P **P 19 05 54.2 -1.5**
comp=Z,49nm,0.7s
KKM LR LR
comp=Z,2μm,20.0s
KKM Kota Kinabalu 72.94 288 P **P 19 05 54.8 -1.0**
KKM Kota Kinabalu 72.94 288 P **P 19 05 54.5 -1.3**
comp=Z,74nm,0.8s,comp=Z,2μm
BTM Bintulu 73.93 284 P **P 19 06 00.1 -1.4**
TGY Tagaytay City 74.02 298 P **P 19 06 00.7 -1.3**
TGY Tagaytay City 74.02 298 P **P 19 06 00.7 -1.3**
comp=Z,85nm,0.4s,baz=113,slow=2.4,SNR=4.9
TGY LR LR 19 35 24.8
comp=Z,4.1nm,19.8s,baz=140,slow=33
USHA Ushuaia 75.18 146 LR LR 19 32 44.3
comp=Z,857nm,18.0s,baz=215,slow=30
KSM Kuching 75.31 281 *e*P **P 19 06 08.4 -1.1**
comp=Z,38nm,0.8s
KSM LR LR
comp=Z,2μm,19.0s
KSM Kuching 75.31 281 P **P 19 06 08.5 -1.0**
KSM Kuching 75.31 281 P **P 19 06 08.8 -0.7**
comp=Z,56nm,0.9s,comp=Z,1μm
JHJ Hachijo jima 2 75.47 324 P **P 19 06 08.6 -1.3**
comp=Z,109nm,0.7s,baz=142,slow=12,SNR=3.9
SYO Syowa Base 76.36 193 ⇓*i*P **P 19 06 13.6 -1.0**
JOW Kunigami 77.31 312 P **P 19 06 20.0 -0.5**
JOW Kunigami 77.31 312 P **P 19 06 20.0 -0.5**
comp=Z,26nm,0.5s,baz=46,slow=15,SNR=3.3
JOW LR LR 19 35 15.8
comp=Z,3μm,19.8s,baz=121,slow=32
SNAA Sanae 77.35 178 *e*P P 19 06 13.1 -7.2
comp=Z,836nm,1.5s
MAIT Maitri 78.08 183 *e*P **P 19 06 26.3 +2.1**
MAIT *e* 19 06 35.8
NVL N'lazarevskaya 78.08 183 ⇓*i*P **P 19 06 27.0 +2.8**
NVL *i*S **S 19 16 17.2 +1.4**
NVL *e*SS SS 19 21 24.8 +8.4
NVL pmax pmax
comp=Z,77nm,0.9s
NVL MLR MLR
comp=Z,2μm,18.0s
MJAR Matsushiro Arr 78.98 325 P **P 19 06 27.8 -1.8**
MJAR S **S 19 16 31.3 +5.1**
MJAR Matsushiro Arr 78.98 325 P **P 19 06 27.8 -1.8**
comp=Z,9.6nm,0.7s,baz=165,slow=5.3,SNR=27
MJAR S **S 19 16 31.3 +5.1**
comp=Z,0.2nm,0.3s,baz=176,slow=7.3,SNR=2.7
MJAR LR LR 19 39 32.1
comp=Z,1μm,18.6s,baz=135,slow=34
MAJO Matsushiro 78.98 325 *e*P **P 19 06 27.3 -2.3**
MAJO pmax pmax
comp=Z,25nm,0.8s
MAJO MLR MLR
comp=Z,2μm,21.0s
MAJO Matsushiro 78.98 325 *e*P **P 19 06 27.3 -2.3**
comp=Z,25nm,0.8s
MAJO LR LR
comp=Z,2μm,21.0s
MAT Matsushiro 78.98 325 P **P 19 06 27.7 -1.9**
MAT S **S 19 16 25.0 -1.2**
PAF Port-aux-Franc 79.60 218 PFAKE 19 06 40.0 +7.1
PAF LR LR
comp=Z,3μm,19.0s
COCO West Island 79.84 262 PFAKE 19 06 50.0 +15
COCO LR LR
comp=Z,8μm,19.0s
TPUB Ta-pu 80.06 305 *e*P **P 19 06 33.4 -2.4**
comp=Z,78nm,1.0s
SSLB Suanglung 80.14 305 *e*P **P 19 06 33.7 -2.5**
comp=Z,46nm,0.8s
JNU Nakatsue 80.25 318 *e*P **P 19 06 35.5 -1.1**
comp=Z,20nm,0.9s
JNU Nakatsue 80.25 318 P **P 19 06 35.7 -0.9**
comp=Z,30nm,0.8s,baz=100,slow=5.3,SNR=12
JNU LR LR 19 36 31.8
comp=Z,2μm,21.9s,baz=150,slow=32
YHNB Yeheng 80.42 306 PFAKE 19 06 50.0 +12
YHNB LR LR
comp=Z,1μm,20.0s
TATO Taipei 80.54 307 PFAKE 19 06 50.0 +12
TATO LR LR
comp=Z,2μm,21.0s
MYKOM Kota Tinggi 80.94 278 P **P 19 06 39.5 -1.2**
MYKOM Kota Tinggi 80.94 278 P **P 19 06 40.6 -0.1**
comp=Z,54nm,0.8s,comp=Z,2μm
ERM Erimo 81.23 332 *e*P **P 19 06 40.7 -0.9**
ERM Erimo 81.23 332 *e*P **P 19 06 42.2 +0.7**
comp=Z,40nm,0.7s

ERM LR LR
comp=Z,3μm,20.0s
KGM Kluang 81.51 278 P **P 19 06 42.9 -0.9**
PLCA Paso Flores 81.86 133 P **P 19 06 46.5 +1.2**
PLCA LR LR
comp=Z,3μm,22.0s
PLCA Paso Flores 81.86 133 P **P 19 06 46.5 +1.2**
comp=Z,12nm,1.0s,baz=234,slow=5.2,SNR=9.4
PLCA LR LR 19 34 26.0
comp=Z,3μm,21.3s,baz=243,slow=29
YUK Yuzh-Kuril'sk 81.90 334 *d*i*i*P **P 19 06 44.3 -0.7**
YUK *i* 19 09 56.8
YUK *i* PPP PPP 19 11 45.7
YUK *i* S **S 19 16 57.3 +0.9**
YUK SS **SS 19 22 15.5 -0.6**
YUK pmax pmax
comp=Z,277nm,7.7s
EFI East Falkland 82.04 147 PFAKE 19 07 00.0 +14
EFI LR LR
comp=Z,1μm,19.0s
QZH Quanzhou 82.53 305 ⇑*i*P **P 19 06 49.0 +0.2**
QZH S **S 19 17 02.5 -1.2**
QZH SS **SS 19 22 27.4 +1.3**
QZH pmax pmax
comp=Z,980nm,5.1s
QZH LR LR
comp=N,1μm,16.7s
QZH LR LR
comp=E,2μm,15.1s
QZH LR LR
comp=Z,2μm,20.7s
ASAJ Asahikawa 83.22 332 *e*P **P 19 06 52.7 +0.8**
comp=Z,25nm,0.8s
ASAJ Asahikawa 83.22 332 P **P 19 06 52.6 +0.7**
comp=Z,41nm,0.7s,baz=225,slow=6.6,SNR=34
ASAJ LR LR 19 39 35.2
comp=Z,2μm,21.4s,baz=183,slow=33
FRIM Kepong 83.59 278 P **P 19 06 53.7 -0.9**
SKR Severo-Kuril's 84.72 344 *e*P **P 19 06 58.0 -1.4**
SSE Sheshan 84.74 311 P **P 19 06 59.6 -0.4**
SSE S **S 19 17 26.7 +1.0**
SSE SS **SS 19 22 58.9 +0.2**
SSE pmax pmax
comp=Z,59nm,0.6s
SSE pmax pmax
comp=Z,470nm,9.2s
SSE LR LR
comp=N,890nm,22.5s
SSE LR LR
comp=E,870nm,22.5s
SSE LR LR
comp=Z,1μm,23.5s
IPM Ipoh 84.75 278 *e*P P 19 07 04.3 +3.8
comp=Z,46nm,1.1s
IPM Ipoh 84.75 278 P **P 19 06 59.2 -1.3**
BSC Santa Cruz Isl 84.94 45 ⇑P **P 19 07 03.0 +2.0**
baz=85
KSRS Korea Array 85.05 320 P **P 19 07 01.4 0.0**
comp=Z,8.4nm,0.8s,baz=142,slow=5.3,SNR=14
KSRS LR LR 19 41 01.3
comp=Z,1μm,20.9s,baz=140,slow=33
KSAR Wonju Array Be 85.06 320 P **P 19 07 01.4 -0.1**
GZH Guangzhou 85.18 300 P **P 19 07 03.1 +0.7**
GZH S **S 19 17 26.4 -4.0**
GZH LR LR
comp=Z,1μm,21.0s
CIS Catalina Island 85.30 46 ⇓P **P 19 07 04.3 +1.5**
baz=86
BLG Laguna Peak 85.37 45 ⇑P **P 19 07 04.7 +1.6**
baz=86
PKM Peak Mountain 85.44 44 ⇓P **P 19 07 06.1 +2.4**
baz=86
QIZ Qiongzhong 85.47 295 P **P 19 07 03.1 -0.8**
QIZ S **S 19 17 29.0 -4.4**
QIZ pmax pmax
comp=Z,18nm,1.3s
QIZ pmax pmax
comp=Z,590nm,11.9s
QIZ LR LR
comp=N,480nm,21.7s
QIZ LR LR
comp=Z,1μm,36.6s
QIZ Qiongzhong 85.47 295 *e*P **P 19 07 02.3 -1.7**
QIZ LR LR
comp=Z,1μm,19.0s
KULM Kulim 85.49 279 *e*P **P 19 07 03.5 -0.7**
comp=Z,118nm,1.8s
KULM LR LR
comp=Z,3μm,21.0s
KULM Kulim 85.49 279 P **P 19 07 03.3 -0.9**
KULM Kulim 85.49 279 P **P 19 07 04.4 +0.2**
comp=Z,43nm,1.2s,comp=Z,1μm
YSS Yuzh-Sakhalins 85.53 334 *α*i*i*P **P 19 07 05.0 +1.4**
YSS *e* 19 07 11.3
YSS *e**SP sP 19 07 23.0 +5.9
YSS *e*S **S 19 17 32.0 -0.8**
YSS pmax pmax
comp=Z,50nm,0.8s
YSS smax smax
comp=N,900nm,13.0s
YSS MLR MLR
comp=N,2μm,19.0s
YSS MLR MLR
comp=E,800nm,19.0s
YSS MLR MLR
comp=Z,2μm,19.0s
YSS Yuzh-Sakhalins 85.53 334 *e*P **P 19 07 03.7 +0.1**
comp=Z,84nm,0.9s
YSS LR LR
comp=Z,960nm,20.0s
FMP Fort Macarthur 85.57 46 ⇓P **P 19 07 06.0 +1.9**
baz=86
SMMC Simmler 85.62 44 ⇑P **P 19 07 06.7 +2.4**
baz=86
PSI Prapat 85.66 276 P **P 19 07 03.5 -1.7**
PSI PP **PP 19 10 21.9 -2.6**
PSI Prapat 85.66 276 P **P 19 07 03.5 -1.7**
comp=Z,4.7nm,0.4s,baz=174,slow=6.5,SNR=2.9
PSI PP **PP 19 10 21.9 -2.6**
comp=Z,18nm,0.8s,baz=158,slow=8.0,SNR=7.0
PSI LR LR 19 45 30.3
comp=Z,5μm,21.2s,baz=121,slow=36
109C Camp Elliot, M 85.77 47 ⇓P **P 19 07 06.8 +1.7**
baz=86
INCN Inchon 85.79 319 PFAKE 19 07 20.0 +15
INCN LR LR
comp=Z,971nm,21.0s
DECC Green Verdugo 85.91 46 ⇓P **P 19 07 08.0 +2.2**
baz=86
OSI Osito Adit 85.91 45 ⇓P **P 19 07 08.0 +2.2**
baz=86
PASC Pasadena Art C 85.94 46 *e*P **P 19 07 08.3 +2.3**
comp=Z,45nm,1.2s
MWC Mount Wilson 86.06 46 *e*P **P 19 07 08.8 +2.0**
MWC pmax pmax
comp=Z,64nm,1.3s
MWC Mount Wilson 86.06 46 *e*P **P 19 07 08.8 +2.0**
comp=Z,64nm,1.3s
MURC Murrieta 86.18 47 ⇓P **P 19 07 09.1 +1.9**
baz=87
ARVC Arvin 86.19 45 ⇑P **P 19 07 09.3 +2.1**
baz=87
MONP Monument Peak 86.20 48 ⇓P **P 19 07 09.5 +2.0**
baz=87
DVTC Desert V Tower 86.25 48 ⇑P **P 19 07 09.8 +2.1**
baz=87
BFSC Mount Baldy Ra 86.31 46 ⇓P **P 19 07 09.7 +1.7**
baz=87,SNR=12
PET Petropavlovsk 86.34 346 *e*P **P 19 07 06.5 -0.9**
PET *e*S **S 19 17 40.0 -0.5**
PET *e*SS **SS 19 23 22.4 +0.9**
PET pmax pmax
comp=Z,126nm,0.7s
PET pmax pmax
comp=Z,1μm,3.9s
PET pmax pmax
comp=Z,700nm,8.6s
PET MLR MLR
comp=Z,1μm,19.0s
PET MLR MLR
comp=Z,1μm,19.0s
PET Petropavlovsk 86.34 346 PFAKE 19 07 20.0 +13
PET LR LR
comp=Z,2μm,21.0s
VES Vestal, Richgr 86.53 44 ⇓P **P 19 07 10.4 +1.6**
baz=87,SNR=10

EDW2	**Edwards Air Fo**	**86.54**	**45**	⇓P		**P**		**19 07 11.0**	**+2.1**
	baz=87,SNR=13								
PEA0B	**Petropavlovsk-**	**86.63**	**346**	*e*P		**P**		**19 07 08.7**	**-0.2**
PETK	**Petropavlovsk-**	**86.63**	**346**	P		**P**		**19 07 08.8**	**-0.1**
PETK				pmax		pmax			
	comp=Z,125nm,0.7s								
PETK				MLR		MLR			
	comp=Z,2μm,21.9s								
PETK	**Petropavlovsk-**	**86.63**	**346**	P		**P**		**19 07 08.8**	**-0.1**
PETK	**Petropavlovsk-**	**86.63**	**346**	P		**P**		**19 07 08.8**	**-0.1**
	comp=Z,126nm,0.7s,baz=140,slow=7.8,SNR=100								
PETK				LR		LR		19 39 38.9	
	comp=Z,2μm,21.9s,baz=170,slow=31								
SWSC	**Sam W. Stewart**	**86.63**	**48**	⇓P		**P**		**19 07 11.5**	**+2.1**
	baz=87								
PFO	**Pinyon Flat Ob**	**86.65**	**47**	*e*P		**P**		**19 07 10.7**	**+1.0**
	comp=Z,357nm,2.5s								
PFO				LR		LR			
	comp=Z,3μm,19.0s								
PFO	**Pinyon Flat Ob**	**86.65**	**47**	⇑P		**P**		**19 07 11.8**	**+2.2**
	baz=87								
RCTC	**Rector, Farmer**	**86.75**	**44**	⇓P		**P**		**19 07 12.2**	**+2.3**
	baz=87								
ISA	**Isabella**	**86.77**	**45**	*e*P		**P**		**19 07 12.3**	**+2.2**
ISA				pmax		pmax			
	comp=Z,69nm,1.1s								
ISA	**Isabella**	**86.77**	**45**	*e*P		**P**		**19 07 12.3**	**+2.2**
	comp=Z,70nm,1.1s								
ISA	**Isabella**	**86.77**	**45**	⇓P		**P**		**19 07 12.2**	**+2.1**
	baz=87,SNR=18								
BBRC	**Big Bear Solar**	**86.79**	**46**	⇑P		**P**		**19 07 12.4**	**+2.0**
	baz=87								
NJ2	**Nanjing**	**86.87**	**311**	*e*P		**P**		**19 07 11.4**	**+0.8**
NJ2				pP		**pP**		**19 07 21.0**	**+0.5**
NJ2				sP		**sP**		**19 07 25.0**	**+0.9**
NJ2				PP		**PP**		**19 10 35.0**	**+1.0**
NJ2				S		**S**		**19 17 48.0**	**+1.4**
NJ2				sS		**sS**		**19 18 05.0**	**+1.9**
NJ2				pmax		pmax			
	comp=Z,40nm,1.1s								
NJ2				pmax		pmax			
	comp=Z,760nm,8.9s								
NJ2				LR		LR			
	comp=N,1μm,21.1s								
NJ2				LR		LR			
	comp=E,1μm,21.1s								
NJ2				LR		LR			
	comp=Z,6μm,24.7s								
LRMC	**Laurel Mountai**	**87.12**	**45**	⇓P		**P**		**19 07 14.0**	**+2.1**
	baz=88,SNR=11								
VLA	**Vladivostok**	**87.14**	**326**	⇑*e*P		**P**		**19 07 10.9**	**-0.7**
VLA				*e*S		**SKSac**		**19 17 34.7**	**-1.7**
VLA				pmax		pmax			
	comp=Z,32nm,1.1s								
RRX	**Edison Barstow**	**87.15**	**46**	⇑P		**P**		**19 07 13.9**	**+2.0**
	baz=88								
BELC	**Belle Mtn. Jos**	**87.19**	**47**	⇓P		**P**		**19 07 14.6**	**+2.3**
	baz=88,SNR=18								
CMB	**Columbia Colle**	**87.27**	**42**	*e*P		**P**		**19 07 14.1**	**+1.7**
CMB				pmax		pmax			
	comp=Z,25nm,0.8s								
CMB	**Columbia Colle**	**87.27**	**42**	*e*P		**P**		**19 07 14.1**	**+1.7**
	comp=Z,25nm,0.8s								
BC3	**Big Chuckawall**	**87.31**	**48**	⇓P		**P**		**19 07 15.3**	**+2.5**
	baz=88								
GLA	**Glamis**	**87.32**	**49**	*e*P		**P**		**19 07 15.8**	**+3.0**
GLA				pmax		pmax			
	comp=Z,351nm,2.1s								
GLA	**Glamis**	**87.32**	**49**	*e*P		**P**		**19 07 15.8**	**+3.0**
	comp=Z,351nm,2.1s								
GLA	**Glamis**	**87.32**	**49**	⇑P		**P**		**19 07 15.3**	**+2.5**
	baz=88								
HEC	**Hector,Ludlow**	**87.53**	**46**	⇑P		**P**		**19 07 15.7**	**+1.9**
	baz=88,SNR=5.7								
CWC	**Cottonwood Cre**	**87.53**	**44**	⇑P		**P**		**19 07 15.3**	**+1.4**
	baz=88								
GSC	**Goldstone**	**87.54**	**46**	*e*P		**P**		**19 07 16.0**	**+2.1**
GSC				pmax		pmax			
	comp=Z,73nm,1.3s								
GSC	**Goldstone**	**87.54**	**46**	*e*P		**P**		**19 07 16.0**	**+2.1**
	comp=Z,73nm,1.3s								
GSC	**Goldstone**	**87.54**	**46**	⇓P		**P**		**19 07 15.8**	**+1.9**
	baz=88,SNR=19								
OHCM	**Honcut**	**87.55**	**40**	*e*P		**P**		**19 07 15.1**	**+1.5**
PAYG	**Puerto Ayora**	**87.56**	**89**	*e*P		**P**		**19 07 14.2**	**-0.2**
	comp=Z,62nm,1.4s								
PAYG				LR		LR			
	comp=Z,2μm,20.0s								
MPMC	**Manual Prospec**	**87.63**	**45**	⇑P		**P**		**19 07 16.4**	**+2.0**
	baz=88,SNR=26								
DAC	**Darwin (Calif)**	**87.71**	**45**	PFAKE				19 07 30.0	+15
DAC				LR		LR			
	comp=Z,3μm,22.0s								
113A	**Mohawk Valley,**	**87.83**	**49**	⇑P		**P**		**19 07 17.3**	**+2.1**
	baz=88								
IRM	**Iron Mountain**	**87.83**	**48**	⇑P		**P**		**19 07 17.6**	**+2.4**
	baz=88,SNR=56								
WDC	**Whiskeytown Da**	**87.85**	**39**	*e*P		**P**		**19 07 16.9**	**+1.8**
WDC				pmax		pmax			
	comp=Z,29nm,1.0s								
WDC	**Whiskeytown Da**	**87.85**	**39**	*e*P		**P**		**19 07 16.9**	**+1.8**
	comp=Z,29nm,1.0s								
TIN	**Tinemaha**	**87.85**	**44**	⇓P		**P**		**19 07 17.2**	**+1.9**
	baz=88								
MTUM	**Tungsten Hills**	**87.86**	**43**	*e*P		**P**		**19 07 17.4**	**+2.0**
MLAC	**Mammoth Lakes**	**87.88**	**43**	⇓P		**P**		**19 07 17.5**	**+1.9**
	baz=88								
USRK	**Ussuriysk Arra**	**87.90**	**326**	P		**P**		**19 07 15.3**	**+0.1**
	comp=Z,32nm,0.8s,baz=135,slow=3.8,SNR=50								
USRK				LR		LR		19 44 23.2	
	comp=Z,2μm,19.9s,baz=318,slow=34								
GMRC	**Granite Mounta**	**87.91**	**47**	⇓P		**P**		**19 07 17.8**	**+2.1**
	baz=88,SNR=18								
214A	**Organ Pipe Nat**	**87.94**	**50**	⇓P		**P**		**19 07 18.0**	**+2.2**
	baz=88								
Y12C	**Blythe**	**87.96**	**48**	⇓P		**P**		**19 07 18.2**	**+2.4**
	baz=88,SNR=8.7								
TUQ	**Turquoise Moun**	**88.17**	**46**	⇑P		**P**		**19 07 19.0**	**+2.1**
	baz=89,SNR=18								
SHOC	**Shoshone**	**88.26**	**46**	⇓P		**P**		**19 07 19.0**	**+1.8**
	baz=89,SNR=7.7								
FURC	**Furnace Creek,**	**88.28**	**45**	⇑P		**P**		**19 07 19.1**	**+1.9**
	baz=89,SNR=8.2								
GRAC	**Grapevine Rang**	**88.33**	**44**	⇑P		**P**		**19 07 19.7**	**+2.2**
	baz=89,SNR=11								
114A	**Black Gap (USA**	**88.39**	**50**	⇑P		**P**		**19 07 20.1**	**+2.2**
	baz=89								
LCO	**Las Campanas**	**88.42**	**123**	*e*P		**P**		**19 07 19.7**	**+1.1**
	comp=Z,306nm,2.2s								
LCO				LR		LR			
	comp=Z,3μm,21.0s								
WCN	**Washoe City**	**88.49**	**41**	*e*P		**P**		**19 07 20.3**	**+1.9**
WCN				pmax		pmax			
	comp=Z,22nm,0.9s								
WCN	**Washoe City**	**88.49**	**41**	*e*P		**P**		**19 07 20.3**	**+1.9**
	comp=Z,22nm,0.9s								
WCN	**Washoe City**	**88.49**	**41**	⇓P		**P**		**19 07 20.3**	**+1.9**
	baz=89								
PDMCI	**Parker Dam,Lak**	**88.56**	**48**	⇓P		**P**		**19 07 21.0**	**+2.4**
	baz=89,SNR=17								
YBH	**Yreka Blue Hor**	**88.58**	**38**	*e*P		**P**		**19 07 19.7**	**+1.1**
	comp=Z,9.6nm,0.8s								
NVAR	**Mina Array Bea**	**88.73**	**43**	P		**P**		**19 07 20.8**	**+1.2**
NVAR				PKKPbc		**PKKPdf**		**19 24 58.2**	**+1.8**
NVAR				P'P'				19 33 06.6	
NVAR	**Mina Array Bea**	**88.73**	**43**	P		**P**		**19 07 20.8**	**+1.2**
	comp=Z,17nm,0.8s,baz=222,slow=8.5,SNR=81								
NVAR				PKKPbc		**PKKPdf**		**19 24 58.2**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=54,slow=4.6,SNR=2.8								
NVAR				PKPPKP		**P'P'df**		**19 33 06.6**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=40,slow=2.9,SNR=1.5								
NVAR				LR		LR		19 42 44.3	
	comp=Z,4μm,18.6s,baz=131,slow=33								
Z14A	**Wintersburg**	**88.73**	**49**	⇑P		**P**		**19 07 21.9**	**+2.4**
	baz=89,SNR=14								
TRQA	**Tornquist**	**88.77**	**135**	*e*P		**P**		**19 07 21.3**	**+1.5**
	comp=Z,172nm,2.0s								
TRQA				LR		LR			
	comp=Z,2μm,21.0s								
WHN	**Wuhan**	**88.94**	**307**	⇑P		**P**		**19 07 20.4**	**-0.1**
WHN				pP		**pP**		**19 07 32.5**	**+2.0**
WHN				SKS		**SKSac**		**19 17 46.2**	**-1.7**
WHN				S		**S**		**19 18 05.9**	**-0.5**
WHN				pmax		pmax			
	comp=Z,1μm,11.2s								
WHN				LR		LR			
	comp=N,1μm,15.8s								
WHN				LR		LR			
	comp=E,2μm,18.9s								
WHN				LR		LR			
	comp=Z,2μm,17.4s								
Y14A	**Wickenburg**	**89.06**	**49**	⇑P		**P**		**19 07 23.4**	**+2.4**
	baz=90,SNR=22								
HUMO	**Hull Mountain**	**89.07**	**37**	*e*P		**P**		**19 07 22.9**	**+2.1**
	comp=Z,135nm,1.9s								
TPH	**Tonopah**	**89.13**	**43**	PFAKE				19 07 30.0	+8.5
TPH				LR		LR			
	comp=Z,2μm,20.0s								
W13A	**Hualapai Mount**	**89.23**	**47**	⇑P		**P**		**19 07 24.4**	**+2.4**
	baz=90,SNR=12								
MDJ	**Mudanjiang**	**89.37**	**325**	P		**P**		**19 07 22.2**	**0.0**
MDJ				PP		**PP**		**19 10 54.1**	**+0.3**
MDJ				SS		SS		19 24 05.7	-0.3
MDJ				pmax		pmax			
	comp=Z,19nm,0.8s								
MDJ				pmax		pmax			
	comp=Z,420nm,5.4s								
MDJ				LR		LR			
	comp=N,1μm,26.4s								
MDJ				LR		LR			
	comp=E,1μm,26.4s								
MDJ				LR		LR			
	comp=Z,2μm,27.6s								
MDJ	**Mudanjiang**	**89.37**	**325**	*e*P		**P**		**19 07 22.1**	**0.0**
	comp=Z,23nm,0.9s								
MDJ				LR		LR			
	comp=Z,1μm,21.0s								
TUC	**Tucson**	**89.50**	**51**	*e*P		**P**		**19 07 25.3**	**+2.1**
TUC				pmax		pmax			
	comp=Z,45nm,1.1s								
TUC				MLR		MLR			
	comp=Z,2μm,19.0s								
TUC	**Tucson**	**89.50**	**51**	*e*P		**P**		**19 07 25.3**	**+2.1**
	comp=Z,45nm,1.1s								
TUC				LR		LR			
	comp=Z,2μm,19.0s								
DL2	**Dalian**	**89.64**	**317**	*e*P		P		19 07 27.0	+3.5
DL2				S		**S**		**19 18 17.9**	**+5.4**
DL2				LR		LR			
	comp=N,700nm,23.4s								
DL2				LR		LR			
	comp=E,600nm,24.1s								
DL2				LR		LR			
	comp=Z,1μm,21.8s								
HABR	**Khabarovsk**	**89.82**	**331**	*c*eP		**P**		**19 07 23.2**	**-0.9**
HABR				*e**PP		**pP**		**19 07 32.4**	**-1.7**
HABR				*e**SP		**sP**		**19 07 36.5**	**-1.2**
HABR								19 10 54.6	
HABR				PPP		PPP		19 12 51.1	
HABR				*e*S		**SKSac**		**19 17 49.1**	**-3.0**
HABR				*e*				19 18 15.4	
HABR				*e*SS		**SS**		**19 24 09.7**	**-2.6**
HABR				*e*SSS		SSS		19 27 45.9	
HABR				MLR		MLR			
	comp=Z,2μm,20.0s								
319A	**Douglas**	**89.95**	**53**	⇑P		**P**		**19 07 27.7**	**+2.3**
	baz=90								
R11A	**Troy Canyon, C**	**90.28**	**44**	⇑P		**P**		**19 07 28.4**	**+1.6**
	baz=91								
X16A	**Lo Mia Camp, P**	**90.37**	**49**	⇑P		**P**		**19 07 30.0**	**+2.6**
	baz=91,SNR=37								
320A	**Kipp Ranch, An**	**90.44**	**53**	⇓P		**P**		**19 07 30.1**	**+2.4**
	baz=91,SNR=12								
BMN	**Battle Mountai**	**90.69**	**42**	*e*P		**P**		**19 07 30.5**	**+1.8**
BMN				pmax		pmax			
	comp=Z,41nm,1.3s								
BMN				MLR		MLR			
	comp=Z,4μm,19.0s								
BMN	**Battle Mountai**	**90.69**	**42**	*e*P		**P**		**19 07 30.5**	**+1.8**
	comp=Z,41nm,1.3s								
BMN				LR		LR			
	comp=Z,4μm,19.0s								
X17A	**Forest Lakes**	**90.73**	**50**	⇑P		**P**		**19 07 31.7**	**+2.6**
	baz=91,SNR=7.1								
220A	**Playas Peak, P**	**90.78**	**53**	⇓P		**P**		**19 07 31.6**	**+2.3**
	baz=91,SNR=14								
CN2	**Changchun**	**90.87**	**323**	*e*P		**P**		**19 07 28.7**	**-0.5**
CN2				epP		**pP**		**19 07 39.2**	**+0.1**
CN2				esP		**sP**		**19 07 43.3**	**+0.6**
CN2				*e*SS		**SS**		**19 24 28.6**	**+0.9**
CN2				pmax		pmax			
	comp=Z,40nm,0.9s								
CN2				pmax		pmax			
	comp=Z,200nm,4.0s								
CN2				LR		LR			
	comp=N,700nm,25.0s								
CN2				LR		LR			
	comp=E,1μm,25.0s								
CN2				LR		LR			
	comp=Z,1μm,26.0s								
U15A	**North Rim**	**91.07**	**47**	⇑P		**P**		**19 07 33.2**	**+2.5**
	baz=92,SNR=41								
WUAZ	**Wupatki**	**91.09**	**48**	*e*P		**P**		**19 07 33.0**	**+2.4**
WUAZ	comp=Z,45nm,1.1s			LR		LR			
	comp=Z,3μm,19.0s								
WUAZ	**Wupatki**	**91.09**	**48**	⇓P		**P**		**19 07 33.0**	**+2.4**
	baz=92,SNR=16								
120A	**U Bar Ranch, L**	**91.09**	**52**	⇑P		**P**		**19 07 33.1**	**+2.3**
	baz=92,SNR=16								
CCUT	**Cedar City**	**91.11**	**46**	*e*P		**P**		**19 07 32.7**	**+1.9**
	comp=Z,21nm,1.1s								
R13A	**O'Grain Ranch,**	**91.14**	**45**	⇓P		**P**		**19 07 33.0**	**+2.2**
	baz=92								
KDAK	**Kodiak Island**	**91.16**	**13**	PFAKE				19 07 40.0	+10
KDAK				LR		LR			
	comp=Z,3μm,19.0s								
ARUT	**Antelope Range**	**91.22**	**46**	*e*P		**P**		**19 07 32.4**	**+1.2**
ARUT				pmax		pmax			
	comp=Z,24nm,1.2s								
ARUT	**Antelope Range**	**91.22**	**46**	*e*P		**P**		**19 07 32.4**	**+1.2**
	comp=Z,24nm,1.2s								
WVOR	**Wild Horse Val**	**91.25**	**39**	*e*P		**P**		**19 07 32.6**	**+1.4**
WVOR				pmax		pmax			
	comp=Z,29nm,1.3s								
WVOR				MLR		MLR			
	comp=Z,5μm,19.0s								
WVOR	**Wild Horse Val**	**91.25**	**39**	*e*P		**P**		**19 07 32.6**	**+1.4**
	comp=Z,29nm,1.3s								
WVOR				LR		LR			
	comp=Z,5μm,19.0s								
221A	**Mesquite Ranch**	**91.36**	**53**	⇑P		**P**		**19 07 34.2**	**+2.3**
	baz=92								
X18A	**Snowflake**	**91.41**	**50**	⇑P		**P**		**19 07 34.3**	**+2.1**
	baz=92,SNR=7.5								
Z20A	**Nine Sixteen R**	**91.46**	**52**	⇑P		**P**		**19 07 34.8**	**+2.4**
	baz=92								
Y19A	**Nutrioso**	**91.52**	**51**	⇓P		**P**		**19 07 35.3**	**+2.5**
	baz=92,SNR=12								
VIPM	**Ingram Point**	**91.62**	**37**	P		**P**		**19 07 34.1**	**+1.2**
VIPM	**Ingram Point**	**91.62**	**37**	P		**P**		**19 07 34.1**	**+1.2**
121A	**Cookes Peak, D**	**91.66**	**53**	⇑P		**P**		**19 07 35.6**	**+2.2**
	baz=92,SNR=8.0								
VFP	**Flag Point**	**91.75**	**36**	P		**P**		**19 07 34.8**	**+1.4**
KLR	**Kul'dur**	**91.80**	**330**	*e*P		**P**		**19 07 30.2**	**-3.1**
LVP	**Lakeview Peak**	**91.81**	**35**	P		**P**		**19 07 35.0**	**+1.4**
222A	**Williams Famil**	**91.88**	**53**	⇓P		**P**		**19 07 36.2**	**+1.9**
	baz=92								
W18A	**Petrified Fore**	**91.91**	**50**	⇓P		**P**		**19 07 36.6**	**+2.1**
	baz=92,SNR=5.7								
FL2	**Flat Top 2**	**91.93**	**35**	P		**P**		**19 07 36.0**	**+1.8**
ELK	**Elko**	**92.04**	**42**	*e*P		**P**		**19 07 36.5**	**+1.5**
NLWA	**Neilton Lookou**	**92.05**	**33**	PFAKE				19 07 50.0	+15
NLWA				LR		LR			
	comp=Z,2μm,20.0s								
GYA	**Guiyang**	**92.07**	**300**	⇑*i*P		**P**		**19 07 34.9**	**-0.4**
GYA				PP		**PP**		**19 11 18.0**	**+2.2**
GYA				S		**S**		**19 18 37.5**	**+1.8**
GYA				SS		**SS**		**19 24 49.0**	**+3.1**
GYA				pmax		pmax			
	comp=Z,30nm,1.0s								
GYA				pmax		pmax			
	comp=Z,140nm,6.0s								
GYA				LR		LR			
	comp=N,650nm,20.6s								
GYA				LR		LR			
	comp=E,570nm,21.5s								
GYA				LR		LR			
	comp=Z,610nm,20.0s								
Y20A	**Horse Springs,**	**92.08**	**51**	⇑P		**P**		**19 07 37.8**	**+2.4**
	baz=92,SNR=18								
ENH	**Enshi**	**92.17**	**304**	*e*P		**P**		**19 07 34.6**	**-1.0**
	comp=Z,42nm,0.9s								
ENH				LR		LR			
	comp=Z,1μm,20.0s								
R15A	**Junction**	**92.19**	**46**	⇑P		**P**		**19 07 38.3**	**+2.6**
	baz=93								
Z21A	**St. Cloud Mine**	**92.20**	**52**	⇑P		**P**		**19 07 38.3**	**+2.4**
	baz=93								
223A	**Chaparral, Ant**	**92.28**	**54**	⇑P		**P**		**19 07 38.1**	**+1.9**
	baz=93								
122A	**Conniff Cattle**	**92.29**	**53**	⇓P		**P**		**19 07 38.5**	**+2.3**
	baz=93								
S16A	**Weppner Ranch,**	**92.31**	**47**	⇓P		**P**		**19 07 37.9**	**+1.6**
	baz=93								
T17A	**Navajo Res., N**	**92.36**	**48**	⇑P		**P**		**19 07 38.9**	**+2.3**
	baz=93,SNR=13								
X20A	**Quemado**	**92.37**	**51**	⇑P		**P**		**19 07 39.0**	**+2.3**
	baz=93,SNR=6.0								
MVU	**Marysvale**	**92.42**	**46**	*e*P		**P**		**19 07 39.2**	**+2.4**
	comp=Z,18nm,1.2s								
MVU				LR		LR			
	comp=Z,2μm,19.0s								
626A	**Big Bend Ranch**	**92.49**	**57**	⇓P		**P**		**19 07 38.8**	**+1.6**
	baz=93,SNR=10								
GL2	**New Goldendale**	**92.52**	**36**	P		**P**		**19 07 38.6**	**+1.7**
LON	**Longmire**	**92.58**	**35**	*e*P		**P**		**19 07 38.2**	**+1.1**
LON				pmax		pmax			
	comp=Z,76nm,2.1s								
LON	**Longmire**	**92.58**	**35**	*e*P		**P**		**19 07 38.2**	**+1.1**
	comp=Z,76nm,2.1s								
425A	**Indio Mountain**	**92.59**	**55**	⇑P		**P**		**19 07 39.1**	**+1.5**
	baz=93,SNR=7.2								
Y21A	**Point of Rocks**	**92.61**	**51**	⇓P		**P**		**19 07 40.2**	**+2.4**
	baz=93,SNR=6.7								
324A	**Moseley Ranch,**	**92.61**	**55**	⇑P		**P**		**19 07 39.1**	**+1.3**
	baz=93,SNR=6.3								
Z22A	**Elephant Butte**	**92.64**	**52**	⇑P		**P**		**19 07 39.7**	**+1.8**
	baz=93,SNR=11								
TXAR	**Lajitas Array**	**92.70**	**57**	P		**P**		**19 07 39.1**	**+1.0**
TXAR				PKKPbc		**PKKPbc**		**19 24 49.6**	**-0.3**
TXAR	**Lajitas Array**	**92.70**	**57**	P		**P**		**19 07 39.1**	**+1.0**
	comp=Z,6.3nm,1.1s,baz=214,slow=6.0,SNR=27								
TXAR				PKKPbc		**PKKPbc**		**19 24 49.6**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=87,slow=4.2,SNR=8.6								
TXAR				LR		LR		19 43 33.9	
	comp=Z,2μm,18.0s,baz=10.0,slow=32								
V19A	**Window Rock**	**92.72**	**49**	⇓P		**P**		**19 07 40.0**	**+1.7**
	baz=93								
W20A	**Ramah**	**92.72**	**50**	⇓P		**P**		**19 07 40.7**	**+2.4**
	baz=93								
R16A	**Teasdale**	**92.73**	**46**	⇓P		**P**		**19 07 40.3**	**+2.1**
	baz=93,SNR=5.6								
S17A	**Black Ridge (B**	**92.76**	**47**	⇓P		**P**		**19 07 39.6**	**+1.3**
	baz=93,SNR=10								
123A	**Bell Site, Whi**	**92.76**	**53**	⇓P		**P**		**19 07 40.0**	**+1.6**
	baz=93								
X21A	**Alamocita Cree**	**92.79**	**51**	⇓P		**P**		**19 07 40.8**	**+2.1**
	baz=93,SNR=9.8								
MNTX	**Cornudas Mount**	**92.83**	**54**	*e*P		**P**		**19 07 39.6**	**+1.0**
	comp=Z,21nm,1.6s								
MNTX	**Cornudas Mount**	**92.83**	**54**	⇓P		**P**		**19 07 40.0**	**+1.4**
	baz=93,SNR=6.6								
CMIG	**Matias Romero**	**92.87**	**72**	P		**P**		**19 07 41.1**	**+2.0**
CMIG	**Matias Romero**	**92.87**	**72**	P		**P**		**19 07 41.1**	**+2.0**
	comp=Z,14nm,1.1s,baz=242,slow=4.7,SNR=5.1								
CMIG				LR		LR		19 43 23.0	
	comp=Z,1μm,18.8s,baz=245,slow=32								
325A	**Bean Ranch, Si**	**92.93**	**55**	⇑P		**P**		**19 07 40.4**	**+1.1**
	baz=93,SNR=5.5								
224A	**Cornudas Mount**	**92.95**	**54**	⇑P		**P**		**19 07 41.0**	**+1.6**
	baz=93,SNR=7.0								
U19A	**Dine' College,**	**92.96**	**49**	⇑P		**P**		**19 07 41.2**	**+1.9**
	baz=93								
627A	**Terlingua Ranc**	**92.97**	**57**	⇓P		**P**		**19 07 40.9**	**+1.5**
	baz=93,SNR=16								
T18A	**Mexican Hat**	**93.04**	**48**	⇑P		**P**		**19 07 41.5**	**+1.9**
	baz=94,SNR=24								
Y22A	**Socorro**	**93.04**	**52**	⇑P		**P**		**19 07 41.3**	**+1.6**
	baz=94								
P15A	**Leamington**	**93.04**	**45**	⇓P		**P**		**19 07 41.5**	**+2.0**
	baz=94								
NNA	**Nana**	**93.07**	**106**	PFAKE				19 07 50.0	+10
NNA				LR		LR			
	comp=Z,2μm,21.0s								
DUG	**Dugway**	**93.11**	**44**	*e*P		**P**		**19 07 41.6**	**+1.7**
DUG				pmax		pmax			
	comp=Z,16nm,1.4s								
DUG				MLR		MLR			
	comp=Z,2μm,19.0s								
DUG	**Dugway**	**93.11**	**44**	*e*P		**P**		**19 07 41.6**	**+1.7**
	comp=Z,16nm,1.4s								
DUG				LR		LR			
	comp=Z,2μm,19.0s								
DUG	**Dugway**	**93.11**	**44**	⇓P		**P**		**19 07 41.2**	**+1.4**
	baz=94								
V20A	**Brimhall**	**93.14**	**50**	⇓P		**P**		**19 07 41.7**	**+1.5**
	baz=94								
Z23A	**Rita Site, Whi**	**93.15**	**53**	⇑P		**P**		**19 07 42.0**	**+1.9**
	baz=94								
LENM	**Lemitar**	**93.17**	**52**	*e*P		**P**		**19 07 42.2**	**+1.9**
LAZ	**Ladron**	**93.20**	**51**	*e*P		**P**		**19 07 42.4**	**+1.9**
	comp=Z,6.0nm,1.1s								
426A	**McDonald Obser**	**93.20**	**56**	⇓P		**P**		**19 07 41.9**	**+1.3**
	baz=94,SNR=7.8								
W21A	**San Fidel**	**93.28**	**51**	⇑P		**P**		**19 07 43.0**	**+2.2**
	baz=94								
R17A	**Hanksville Air**	**93.29**	**46**	⇓P		**P**		**19 07 42.3**	**+1.6**
	baz=94								
S18A	**Hurst Farm, Bl**	**93.30**	**47**	⇑P		**P**		**19 07 42.0**	**+1.1**
	baz=94								
Q16A	**Castle Valley**	**93.31**	**46**	⇓P		**P**		**19 07 42.6**	**+1.7**
	baz=94								
X22A	**Bernardo**	**93.34**	**51**	⇓P		**P**		**19 07 43.5**	**+2.4**
	baz=94								
124A	**Stringfield Ra**	**93.36**	**54**	⇓P		**P**		**19 07 42.8**	**+1.5**
	baz=94								
O15A	**The Old Anders**	**93.37**	**44**	⇓P		**P**		**19 07 42.7**	**+1.6**
	baz=94							

baz=94,SNR=5.3
V21A Milan 93.69 50 ⇑P P 19 07 44.3 +1.6
baz=94
N15A Stansbury Isla 93.72 44 ⇑P P 19 07 44.1 +1.5
baz=94
BBB Bella Bella 93.74 28 LR LR 19 41 25.2
comp=Z,1µm,21.6s,baz=232,slow=30
427A Hayter Ranch, 93.75 56 ⇓P P 19 07 44.4 +1.4
baz=94,SNR=11
W22A Albuquerque 93.77 51 ⇑P P 19 07 45.3 +2.2
baz=94
R18A Canyonlands Na 93.78 47 ⇓P P 19 07 44.4 +1.4
baz=94,SNR=14
CM31 Chiang Mai Arr 93.80 289 *e*P P 19 07 44.8 +1.4
comp=Z,4.0nm,0.6s
CM31 LR LR
comp=Z,2µm,21.0s
CMAR Chiang Mai Arr 93.80 289 P P 19 07 43.5 +0.2
CMAR PP PP 19 11 21.3 -8.0
CMAR PKKPbc **PKKPbc** 19 24 47.0 +0.5
CMAR Chiang Mai Arr 93.80 289 P P 19 07 43.5 +0.2
comp=Z,4.7nm,0.7s,baz=135,slow=3.9,SNR=39
CMAR PP PP 19 11 21.3 -8.0
comp=Z,3.9nm,1.1s,baz=140,slow=5.0,SNR=4.1
CMAR PKKPbc **PKKPbc** 19 24 47.0 +0.5
comp=Z,0.8nm,0.7s,baz=291,slow=3.6,SNR=4.9
528A Cox Ranch, San 93.80 57 ⇑P P 19 07 44.5 +1.2
baz=94,SNR=11
GDL2 Guadalupe Moun 93.83 55 *e*P P 19 07 44.6 +1.3
SRU San Rafael 93.83 46 *e*P P 19 07 44.8 +1.5
SRU pmax pmax
comp=Z,19nm,1.1s
SRU San Rafael 93.83 46 *e*P P 19 07 44.8 +1.5
comp=Z,19nm,1.1s
SRU San Rafael 93.83 46 ⇓P P 19 07 44.6 +1.3
baz=94,SNR=11
S19A Harvey Farm, M 93.87 48 ⇑P P 19 07 45.1 +1.5
baz=94,SNR=6.8
125A Gardner Draw, 93.88 54 ⇓P P 19 07 45.3 +1.7
baz=94
P17A Butcher Ranch, 93.92 46 ⇓P P 19 07 45.2 +1.6
baz=94,SNR=5.8
226A Malaga, Loving 93.93 55 ⇑P P 19 07 44.5 +0.7
baz=94
MVCO Mesa Verde 93.96 48 PFAKE 19 08 00.0 +16
MVCO LR LR
comp=Z,3µm,19.0s
MVCO Mesa Verde 93.96 48 ⇑P P 19 07 45.6 +1.6
baz=94
ANMO Albuquerque 93.97 51 *e*P P 19 07 44.9 +0.9
comp=Z,11nm,1.1s
ANMO LR LR
comp=Z,2µm,20.0s
CHTO Chiang Mai 93.98 289 *e*P P 19 07 44.4 +0.2
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO MLR MLR
comp=Z,2µm,21.0s
CHTO Chiang Mai 93.98 289 *e*P P 19 07 44.4 +0.2
comp=Z,8.6nm,0.8s
CHTO LR LR
comp=Z,2µm,21.0s
CHTO Chiang Mai 93.98 289 P P 19 07 45.2 +1.0
L14A Malta 94.02 42 ⇑P P 19 07 46.0 +2.0
baz=94
U21A Nageezi 94.04 50 ⇓P P 19 07 46.2 +1.9
baz=94,SNR=17
Q18A Rafter H Ranch 94.07 46 ⇓P P 19 07 45.4 +1.2
baz=94
Y24A Capitan 94.07 53 ⇓P P 19 07 45.9 +1.4
baz=94,SNR=8.4
R19A Curley Farm, L 94.12 47 ⇑P P 19 07 45.8 +1.2
baz=94
M15A Larsen Ranch, 94.12 43 ⇓P P 19 07 45.8 +1.4
baz=94,SNR=11
HVU Hansel Valley 94.13 43 *e*P P 19 07 46.1 +1.6
HVU pmax pmax
comp=Z,17nm,0.9s
HVU Hansel Valley 94.13 43 *e*P P 19 07 46.1 +1.6
comp=Z,17nm,0.9s
DAU Daniels Canyon 94.18 45 *e*P P 19 07 47.0 +2.0
DAU Daniels Canyon 94.18 45 *e*P P 19 07 47.0 +2.0
JLU Jordanelle 94.18 44 *e*P P 19 07 47.4 +2.5
comp=Z,104nm,2.5s
428A Kincaid Ranch, 94.19 57 ⇑P P 19 07 46.0 +1.0
baz=95
Z25A Roswell 94.19 53 ⇑P P 19 07 46.4 +1.4
baz=95,SNR=5.2
V22A San Miguel Ran 94.23 50 ⇑P P 19 07 46.5 +1.3
baz=95
W23A Werner Place, 94.30 51 ⇓P P 19 07 46.8 +1.3
baz=95
KMI Kunming 94.31 297 P P 19 07 45.1 -0.7
KMI pP **pP** 19 07 57.4 +1.6
KMI PP **PP** 19 11 34.8 +1.3
KMI SKS **SKSac** 19 18 19.5 +0.4
KMI S **S** 19 18 53.4 -2.3
KMI sS **sS** 19 19 10.4 -2.0
KMI pmax pmax
comp=Z,11nm,1.2s
KMI pmax pmax
comp=Z,300nm,4.1s
KMI LR LR
comp=N,1µm,19.2s
KMI LR LR
comp=E,1µm,19.2s
KMI LR LR
comp=Z,1µm,18.4s
P18A Preston Nutter 94.31 46 ⇑P P 19 07 46.8 +1.2
baz=95,SNR=6.0
126A Clayton Basin, 94.32 54 ⇑P P 19 07 47.0 +1.5
baz=95
HLID Hailey 94.32 41 *e*P P 19 07 46.4 +1.0
comp=Z,11nm,0.9s
HLID LR LR
comp=Z,2µm,19.0s
HLID Hailey 94.32 41 ⇓P P 19 07 47.1 +1.7
baz=95,SNR=16
J13A Cove Ranch, Pi 94.35 41 ⇓P P 19 07 47.1 +1.7
baz=95,SNR=22
O17A Robinson Place 94.36 45 ⇑P P 19 07 47.3 +1.6
baz=95,SNR=9.2
N16A Rees Ranch, Co 94.36 44 ⇑P P 19 07 47.0 +1.4
baz=95
K14A Jones Ranch, D 94.38 42 ⇑P P 19 07 47.0 +1.4
baz=95,SNR=7.7
PV04 Paradox Valley 94.41 47 *e*P P 19 07 47.7 +1.8
S20A Disappointment 94.42 48 ⇑P P 19 07 47.5 +1.4
baz=95
328A Wristen Ranch, 94.46 56 ⇑P P 19 07 47.1 +1.0
baz=95
PV01 Paradox Valley 94.46 48 *e*P P 19 07 47.6 +1.4
comp=Z,438nm,0.8s
L15A Malad City 94.50 43 ⇑P P 19 07 47.4 +1.2
baz=95,SNR=10
Q19A Hogan Spring (94.52 47 ⇑P P 19 07 48.0 +1.7
baz=95
Y25A Mesa, Roswell 94.58 53 ⇓P P 19 07 47.8 +1.1
baz=95,SNR=7.7
V23A Ortiz Mt. (NFS 94.61 51 ⇑P P 19 07 48.6 +1.7
baz=95
R20A Redvale 94.62 48 ⇓P P 19 07 48.3 +1.4
baz=95
S21A Coal Bank Pass 94.68 48 ⇓P P 19 07 48.8 +1.5
baz=95,SNR=5.1
Z26A Caprock 94.70 54 ⇑P P 19 07 48.2 +1.0
baz=95
H12A Diamond D Ranc 94.71 40 ⇑P P 19 07 48.4 +1.2
baz=95,SNR=18
I13A Wildhorse Cree 94.71 41 ⇓P P 19 07 48.6 +1.4
baz=95,SNR=7.0
HWUT Hardware Ranch 94.73 44 *e*P P 19 07 48.2 +0.9
comp=Z,30nm,1.7s
HWUT LR LR
comp=Z,3µm,20.0s
N17A Moffit Pass 94.76 44 ⇑P P 19 07 49.3 +1.8
baz=95
W24A Lazy 6 Ranch, 94.83 52 ⇓P P 19 07 49.1 +1.2
baz=95
K15A Arbon 94.84 42 ⇑P P 19 07 48.9 +1.2
baz=95,SNR=8.3
U23A El Rito 94.94 50 ⇑P P 19 07 49.6 +1.1
baz=95
H13A Challis 95.05 40 ⇑P P 19 07 50.2 +1.6
baz=96,SNR=11
L16A Fish Haven 95.06 43 ⇑P P 19 07 50.0 +1.2
baz=96,SNR=8.6

I14A Mackay 95.09 41 ⇑P P 19 07 50.5 +1.5
baz=96,SNR=10
Q20A Ridgley Place, 95.12 47 ⇓P P 19 07 51.0 +1.8
baz=96
Y26A Elida 95.17 53 ⇑P P 19 07 50.5 +1.0
baz=96
M17A Scullys Gap (B 95.18 44 ⇑P P 19 07 50.6 +1.2
baz=96
R21A Cimarron 95.25 48 ⇓P P 19 07 51.3 +1.4
baz=96,SNR=10.0
Z27A Tatum 95.25 54 ⇑P P 19 07 51.0 +1.2
baz=96
F12A Elk City 95.27 39 ⇑P P 19 07 50.5 +0.8
baz=96,SNR=16
S22A 4UR Ranch, Cre 95.35 49 ⇓P P 19 07 51.8 +1.4
baz=96,SNR=5.8
128A Castleberry Fa 95.38 55 ⇓P P 19 07 51.4 +1.0
baz=96
P20A De Beque 95.39 47 ⇓P P 19 07 51.5 +1.2
baz=96
G13A Cobalt 95.40 40 ⇓P P 19 07 51.4 +1.2
baz=96,SNR=14
O19A Miners Draw (B 95.41 46 ⇓P P 19 07 51.5 +1.1
baz=96
WRAK Wrangell Islan 95.44 23 PFAKE 19 08 00.0 +10
WRAK LR LR
comp=Z,2µm,20.0s
W25A X Bar L Ranch, 95.47 52 ⇓P P 19 07 51.8 +1.0
baz=96
K16A Soda Springs 95.47 43 ⇓P P 19 07 52.0 +1.3
baz=96,SNR=10
E12A Beaver Dam Sad 95.53 38 ⇑P P 19 07 51.7 +0.9
baz=96
X26A CR and CF Fran 95.53 53 ⇓P P 19 07 52.4 +1.3
baz=96
H14A Leadore 95.57 40 ⇓P P 19 07 52.6 +1.5
baz=96,SNR=13
R22A Saguache, Gunn 95.68 48 ⇓P P 19 07 53.2 +1.3
baz=96
V25A Rancho No Teng 95.71 51 ⇓P P 19 07 53.3 +1.4
baz=96
AHID Auburn Hatcher 95.72 43 *e*P P 19 07 53.7 +1.9
comp=Z,22nm,1.1s
AHID LR LR
comp=Z,3µm,20.0s
N19A John Jarvie Ra 95.73 45 ⇑P P 19 07 53.4 +1.5
baz=96
J16A Bone 95.73 42 ⇑P P 19 07 53.4 +1.5
baz=96,SNR=7.1
F13A Darby 95.79 39 ⇓P P 19 07 53.1 +1.1
baz=96
K17A Gardner Place, 95.81 43 ⇑P P 19 07 53.6 +1.4
baz=96
L18A Fontenelle, Gr 95.83 44 ⇓P P 19 07 53.8 +1.4
baz=96
W26A Owens Ranch, T 95.86 52 ⇓P P 19 07 53.9 +1.3
baz=96
MSTX Muleshoe 95.92 54 ⇑P P 19 07 53.6 +0.8
baz=96
NEW Newport 95.94 36 *e*PP PP 19 11 45.0 -0.5
NEW LR LR
comp=Z,3µm,20.0s
RRI2 Red Ridge 95.94 42 *e*P P 19 07 54.1 +1.2
comp=Z,72nm,2.0s
Q22A Crested Butte, 95.94 48 ⇑P P 19 07 54.1 +1.0
baz=96
H15A Lima 95.98 41 ⇓P P 19 07 54.5 +1.5
baz=96,SNR=6.5
KVTX Kingsville 95.99 62 PFAKE 19 08 10.0 +17
KVTX LR LR
comp=Z,2µm,19.0s
MCMT McKenzie Canyo 95.99 40 *e*P P 19 07 54.4 +1.3
comp=Z,2.5nm,0.9s
SMCO Smowmass 96.09 48 *e*P P 19 07 55.6 +1.7
comp=Z,12nm,1.3s
JCT Junction City 96.13 58 PFAKE 19 08 10.0 +16
JCT LR LR
comp=Z,3µm,19.0s
JCT Junction City 96.13 58 ⇑P P 19 07 54.7 +0.8
baz=96
U25A Circle Dot Ran 96.17 51 ⇓P P 19 07 55.0 +1.0
baz=97
I16A Newdale 96.17 42 ⇓P P 19 07 55.5 +1.6
baz=97,SNR=6.6
SDCO Great Sand Dun 96.21 49 PFAKE 19 08 10.0 +16
SDCO LR LR
comp=Z,1µm,19.0s
REDW Red Top Meadow 96.22 42 *e*P P 19 07 55.8 +1.7
comp=Z,14nm,1.0s
N20A Spence Gulch, 96.25 46 ⇓P P 19 07 55.4 +1.0
baz=97,SNR=5.5
R23A Moffat 96.25 49 ⇑P P 19 07 55.9 +1.4
baz=97
K18A Toltan Ranch, 96.26 43 ⇑P P 19 07 55.7 +1.4
baz=97,SNR=5.7
Z29A Hungry Hill Ra 96.28 55 ⇑P P 19 07 55.6 +1.1
baz=97
E13A Victor 96.28 39 ⇑P P 19 07 56.0 +1.8
baz=97
J17A Brown Place, J 96.30 43 ⇑P P 19 07 55.8 +1.3
baz=97
F14A Wisdom 96.33 39 ⇑P P 19 07 55.2 +0.7
baz=97,SNR=5.8
L19A Farson 96.34 44 ⇓P P 19 07 56.0 +1.3
baz=97
G15A Dillon 96.41 40 ⇓P P 19 07 56.0 +1.1
baz=97,SNR=9.5
DLMT Dillon 96.47 40 *e*P P 19 07 57.2 +2.1
comp=Z,11nm,1.1s
LOHW Long Hollow 96.52 42 *e*P P 19 07 56.5 +1.0
comp=Z,27nm,1.6s
MOOW Moose Ponds 96.52 42 *e*P P 19 07 56.7 +1.2
comp=Z,18nm,1.7s
D13A Huson 96.55 38 ⇑P P 19 07 56.7 +1.4
baz=97
T25A Trinidad 96.58 50 ⇓P P 19 07 57.3 +1.3
baz=97
U26A Atchley Ranch, 96.61 51 ⇑P P 19 07 56.9 +0.8
baz=97
PD01 Pinedale Array 96.61 44 *e*P P 19 07 56.0 +0.1
J18A Kendall Valley 96.61 43 ⇓P P 19 07 57.0 +1.1
baz=97,SNR=15
BW06 Boulder Array 96.62 44 *e*P P 19 07 56.9 +0.9
comp=Z,6.0nm,0.9s
BW06 *e*PP PP 19 11 50.4 -0.7
BW06 LR LR
comp=Z,3µm,19.0s
BW06 Boulder Array 96.62 44 ⇓P P 19 07 57.1 +1.1
baz=97
PDAR Pinedale Array 96.62 44 P P 19 07 56.2 +0.2
PDAR PP PP 19 11 50.0 -1.2
PDAR PKKPbc **PKKPbc** 19 24 39.9 -0.4
PDAR Pinedale Array 96.62 44 P P 19 07 56.2 +0.2
comp=Z,2.4nm,0.9s,baz=204,slow=3.9,SNR=16
PDAR PP PP 19 11 50.0 -1.2
comp=Z,3.6nm,1.1s,baz=254,slow=6.4,SNR=6.0
PDAR PKKPbc **PKKPbc** 19 24 39.9 -0.4
comp=Z,2.4nm,0.7s,baz=78,slow=4.7,SNR=5.3
PDAR LR LR 19 49 35.5
comp=Z,3µm,18.1s,baz=237,slow=34
PD02 Pinedale Array 96.62 44 *e*P P 19 07 56.5 +0.5
CD2 Chengdu 96.63 302 ⇑P P 19 07 54.8 -1.3
CD2 pP **pP** 19 08 05.4 -0.7
CD2 sP **sP** 19 08 09.3 -0.4
CD2 SKS **SKSac** 19 18 27.7 -3.1
CD2 S **S** 19 19 10.1 -5.2
CD2 sS **sS** 19 19 27.9 -4.1
CD2 SS **SS** 19 25 48.7 -2.1
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,160nm,5.8s
CD2 LR LR
comp=N,770nm,18.1s
CD2 LR LR
comp=E,790nm,18.6s
CD2 LR LR
comp=Z,940nm,21.6s
E14A Clinton 96.64 39 ⇓P P 19 07 57.0 +1.1
baz=97
MSO Missoula 96.66 38 PFAKE 19 08 10.0 +14
MSO LR LR
comp=Z,3µm,19.0s
N21A Black Mountain 96.67 46 ⇑P P 19 07 57.7 +1.4
baz=97
M20A Sweetwater, Wa 96.69 45 ⇑P P 19 07 57.8 +1.5
baz=97

I17A Pilgrim Ck. 96.72 42 ⇑P P 19 07 58.3 +1.9
baz=97
FLWY Flagg Ranch 96.75 42 *e*P P 19 07 58.4 +1.9
comp=Z,118nm,2.3s
TNA Tin City 96.76 4 *e*P P 19 07 57.6 +2.0
comp=Z,27nm,0.9s
QLMT Earthquake Lak 96.79 41 *e*P P 19 07 59.1 +2.4
SEY Seymchan 96.79 347 *e*P P 19 07 54.5 -1.4
H16A Russell Place, 96.81 41 ⇑P P 19 07 58.5 +1.7
baz=97,SNR=6.5
F15A Butte 96.82 40 ⇑P P 19 07 58.5 +1.8
baz=97
G16A Moss Hill, Enn 96.82 41 ⇑P P 19 07 58.3 +1.5
baz=97
LRM Limekiln Ridge 96.83 40 *e*P P 19 07 58.7 +1.8
TRF Thorofare Moun 96.85 12 *e*P P 19 07 56.1 -0.3
comp=Z,17nm,0.9s
S25A Robets Cordova 96.86 50 ⇑P P 19 07 58.4 +1.3
baz=97
HHC Hu-ho-hao-te 96.89 314 *e*P P 19 07 58.7 +1.6
HHC pP **pP** 19 08 08.8 +1.7
HHC sP **sP** 19 08 13.6 +2.9
HHC PP **PP** 19 11 58.3 +5.2
HHC SKS **SKSac** 19 18 32.0 +0.2
HHC S **S** 19 19 14.8 -2.4
HHC sS **sS** 19 19 34.1 +0.2
HHC SS **SS** 19 25 56.2 +2.0
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,490nm,5.0s
HHC LR LR
comp=N,730nm,23.8s
HHC LR LR
comp=E,850nm,20.2s
HHC LR LR
comp=Z,2µm,23.8s
O22A Kremmling 96.92 47 ⇓P P 19 07 59.1 +1.6
baz=97
H17A Grant Village 97.01 42 ⇑P Pdif 19 07 59.8 +2.0
baz=97
SWMT Swartz Lake 97.06 38 *e*P P 19 07 56.6 -1.0
E15A Deer Lodge 97.10 39 ⇓P Pdif 19 07 59.5 +1.5
baz=98
AMTX Amarillo 97.18 54 PFAKE 19 08 10.0 +11
AMTX LR LR
comp=Z,4µm,19.0s
BOZ Bozeman (W) 97.18 40 *e*P Pdif 19 07 59.5 +1.1
BOZ pmax pmax
comp=Z,14nm,1.4s
BOZ MLR MLR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 97.18 40 *e*P Pdif 19 07 59.5 +1.1
comp=Z,14nm,1.4s
BOZ LR LR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 97.18 40 ⇑P Pdif 19 07 59.7 +1.3
baz=98,SNR=9.1
LKWY Lake 97.21 42 PFAKE 19 08 10.0 +11
LKWY LR LR
comp=Z,5µm,19.0s
J19A Crowheart 97.21 43 ⇓P Pdif 19 07 59.5 +0.8
baz=98
M21A Separation Pea 97.25 45 ⇓P Pdif 19 07 59.9 +0.9
baz=98
F16A Kennard Place, 97.26 40 ⇑P Pdif 19 08 00.3 +1.5
baz=98
K20A Yellowstone Ra 97.28 44 ⇑P Pdif 19 07 59.9 +1.0
baz=98
ISCO Idaho Springs 97.31 48 PFAKE 19 08 10.0 +11
ISCO LR LR
comp=Z,2µm,19.0s
O23A Lake Granby, G 97.35 47 ⇑P Pdif 19 08 01.1 +1.6
baz=98
MCK McKinley 97.35 13 *e*P Pdif 19 07 58.6 +0.1
MCK pmax pmax
comp=Z,13nm,0.9s
MCK McKinley 97.35 13 *e*P Pdif 19 07 58.6 +0.1
comp=Z,13nm,0.9s
C14A Swan Lake 97.35 38 ⇑P Pdif 19 08 00.6 +1.6
baz=98
HIA Hailar 97.45 324 PFAKE 19 08 10.0 +11
HIA LR LR
comp=Z,1µm,20.0s
D15A Lincoln 97.55 39 ⇓P Pdif 19 08 01.7 +1.7
baz=98
LPAZ La Paz 97.69 114 *e*P Pdif 19 08 03.5 +1.4
comp=Z,52nm,1.9s
LPAZ LR LR
comp=Z,657nm,19.0s
JTS JuntasAbangare 97.70 83 P Pdif 19 08 02.0 +0.7
JTS JuntasAbangare 97.70 83 P Pdif 19 08 02.0 +0.7
comp=Z,2.1nm,0.3s,baz=254,slow=7.4,SNR=2.5
H18A Shoshone NF, C 97.70 42 ⇑P Pdif 19 08 02.4 +1.6
baz=98
MENT Mentasta 97.70 15 *e*P Pdif 19 08 00.7 +0.6
I19A Meeteetse 97.70 43 ⇑P Pdif 19 08 02.3 +1.4
baz=98
N23A Red Feather La 97.72 47 ⇑P Pdif 19 08 02.4 +1.3
baz=98
DLBC Dease Lake 97.81 23 LR LR 19 42 43.3
comp=Z,698nm,21.7s,baz=214,slow=30
J20A Shoshoni 97.84 44 ⇓Pdiff Pdif 19 08 03.3 +1.9
baz=98
F17A Fitzpatrick Pl 97.87 41 ⇓Pdiff Pdif 19 08 03.3 +1.8
baz=98
K21A Alcova 97.92 45 ⇑Pdiff Pdif 19 08 03.0 +1.2
baz=98
C15A Salmond Ranch, 97.96 38 ⇑Pdiff Pdif 19 08 02.8 +1.0
baz=98
B14A Marquette Ranc 97.97 37 ⇑Pdiff Pdif 19 08 02.6 +0.8
baz=98
L22A Ellis Ranch, M 98.07 45 ⇓Pdiff Pdif 19 08 04.0 +1.5
baz=98
D16A Dana Ranch, Ca 98.07 39 ⇓Pdiff Pdif 19 08 03.3 +1.0
baz=98
H19A Powell 98.08 42 ⇑Pdiff Pdif 19 08 03.6 +1.2
baz=98
T28A Walsh 98.10 51 ⇑Pdiff Pdif 19 08 03.8 +1.1
baz=98
G18A Lazy EL Ranch, 98.14 41 ⇓Pdiff Pdif 19 08 04.1 +1.4
baz=99
OTAV Otavalo 98.16 95 PFAKE 19 08 20.0 +16
OTAV LR LR
comp=Z,1µm,22.0s
I20A Worland 98.16 43 ⇓Pdiff Pdif 19 08 03.7 +0.9
baz=99
RLMT Red Lodge 98.19 42 PFAKE 19 08 10.0 +7.0
RLMT LR LR
comp=Z,2µm,20.0s
RLMT Red Lodge 98.19 42 ⇑Pdiff Pdif 19 08 04.3 +1.3
baz=99
J21A Lysite 98.21 44 ⇑Pdiff Pdif 19 08 04.3 +1.2
baz=99
PHWY Pilot Hill 98.25 47 *e*PP PP 19 12 05.8 +2.0
A14A Double T Ranch 98.28 37 ⇓Pdiff Pdif 19 08 04.4 +1.2
baz=99
K22A Casper 98.37 45 ⇓Pdiff Pdif 19 08 05.0 +1.2
baz=99
F18A Big Timber 98.40 41 ⇓Pdiff Pdif 19 08 05.4 +1.6
baz=99
C16A Fuhringer Ranc 98.43 39 ⇑Pdiff Pdif 19 08 05.2 +1.3
baz=99
I21A Big Trails, Te 98.57 44 ⇑Pdiff Pdif 19 08 05.5 +0.9
baz=99
COLA College 98.59 12 *e*P P 19 08 03.9 0.0
COLA pmax pmax
comp=Z,11nm,0.9s
COLA MLR MLR
comp=Z,2µm,20.0s
COLA College 98.59 12 *e*P P 19 08 03.9 0.0
comp=Z,11nm,0.9s
COLA LR LR
comp=Z,2µm,20.0s
D17A Six Diamond Ra 98.61 40 ⇓Pdiff Pdif 19 08 05.8 +1.1
baz=99
A15A Johnson Ranch, 98.64 37 ⇑Pdiff Pdif 19 08 05.8 +1.1
baz=99
ILAR Eielson Array 98.68 13 P P 19 08 04.0 -0.4
ILAR PP PP 19 11 50.4 -16
ILAR PKiKP **PKiKP** 19 12 37.2 +1.5
ILAR PKKPbc **PKKPbc** 19 24 33.4 -1.7
ILAR Eielson Array 98.68 13 P P 19 08 04.0 -0.4
comp=Z,2.5nm,0.7s,baz=220,slow=5.3,SNR=35
ILAR PP PP 19 11 50.4 -16
comp=Z,2.2nm,1.0s,baz=207,slow=7.3,SNR=5.1
ILAR PKiKP **PKiKP** 19 12 37.2 +1.5

comp=Z,0.5nm,0.7s,baz=222,slow=1.2,SNR=3.8
ILAR PKKPbc **PKKPbc** **19 24 33.4 -1.7**
comp=Z,0.8nm,1.0s,baz=14,slow=2.7,SNR=4.5
ILAR LR LR 19 46 26.1
comp=Z,1μm,21.2s,baz=352,slow=32
F19A Roth Farm, Mol 98.81 41 ⇑Pdiff Pdiff 19 08 06.8 +1.2
baz=99
J22A Midwest 98.83 44 ⇓Pdiff Pdiff 19 08 06.7 +0.8
baz=99
I22A 9 Mile Ranch, 99.10 44 ⇓Pdiff **Pdif** **19 08 08.5 +1.5**
baz=100
WMOK Wichita Mounta 99.12 55 PFAKE 19 08 20.0 +13
WMOK LR LR
comp=Z,2μm,19.0s
B17A L&G Farms, Che 99.24 39 ⇓Pdiff **Pdif** **19 08 08.9 +1.5**
baz=100
LZH Lanzhou 99.31 307 *e*P **Pdif** **19 08 07.5 -0.7**
LZH pP **pP** **19 08 17.4 -0.8**
LZH sP **sP** **19 08 21.5 -0.3**
LZH SKS **SKSac** **19 18 41.2 -3.2**
LZH S **ScS** **19 19 32.0 -6.1**
LZH sS **sS** **19 19 51.0 -3.8**
LZH SS **SS** **19 26 31.0 +2.5**
LZH pmax pmax
comp=Z,13nm,1.0s
LZH pmax pmax
comp=Z,60nm,4.5s
LZH LR LR
comp=N,430nm,13.7s
LZH LR LR
comp=E,1μm,19.7s
LZH LR LR
comp=Z,1μm,19.4s
CPUP Villa Florida 99.38 128 PFAKE 19 08 20.0 +11
CPUP LR LR
comp=Z,295nm,22.0s
EGMT Eagleton 99.64 39 *e*PP PP 19 12 14.5 +0.5
EGMT LR LR
comp=Z,5μm,19.0s
BILL Bilibino 99.66 354⇑ *e*P **Pdif** **19 08 08.4 -0.3**
BILL *e* 19 12 16.6
BILL *i* S **SKSac** **19 18 39.2 -5.0**
BILL *e*SS **SS** **19 26 32.5 +0.9**
BILL pmax pmax
comp=Z,7.0nm,0.7s
BILL MLR MLR
comp=Z,3μm,19.0s
BILL Bilibino 99.66 354 *e*P **Pdif** **19 08 08.4 -0.3**
comp=Z,5.9nm,0.7s
BILL LR LR
comp=Z,3μm,20.0s
B18A Beardsley Farm 99.84 39 ⇑Pdiff **Pdif** **19 08 11.7 +1.6**
baz=100
TEIG Tepich 99.85 72 PKKPbc PKKPbc 19 24 28.9 -1.1
TEIG Tepich 99.85 72 PKKPbc PKKPbc 19 24 28.9 -1.1
comp=Z,5.1nm,0.7s,baz=35,slow=3.5,SNR=4.0
TEIG LR LR 19 47 43.5
comp=Z,899nm,19.4s,baz=49,slow=32
EGAK Eagle 99.87 15 PFAKE 19 08 20.0 +10
EGAK LR LR
comp=Z,2μm,19.0s
OGNE Ogallala 100.22 48 PFAKE 19 08 20.0 +8.0
OGNE LR LR
comp=Z,3μm,19.0s
NATX Nacogdoches 100.56 59 PFAKE 19 08 30.0 +16
NATX LR LR
comp=Z,3μm,19.0s
CBKS Cedar Bluff 100.59 51 PFAKE 19 08 30.0 +16
CBKS LR LR
comp=Z,3μm,19.0s
RSSD Black Hills 100.69 45 *e*P **Pdif** **19 08 15.7 +1.5**
RSSD Black Hills 100.69 45 *e*Pdif **Pdif** **19 08 15.7 +1.5**
H24A Dirks Ranch, A 100.72 44 ⇑Pdiff **Pdif** **19 08 15.2 +1.1**
baz=101
A20A Cobblestone Ra 101.13 39 ⇑Pdiff **Pdif** **19 08 17.1 +1.3**
baz=102
BCIP Isla Barro Col 101.50 86 PFAKE 19 08 30.0 +12
BCIP LR LR
comp=Z,2μm,21.0s
YAK Yakutsk 102.04 338 *e*P **Pdif** **19 08 17.7 -1.7**
YAK *e*S **SKSac** **19 18 54.1 -1.9**
YAK *e*SS **SS** **19 26 59.1 -5.9**
YAK pmax pmax
comp=Z,7.0nm,0.9s
YAK pmax pmax
comp=Z,161nm,3.9s
YAK smax smax
comp=E,129nm,1.9s
YAK smax smax
comp=N,369nm,2.8s
YAK Yakutsk 102.04 338 P **Pdif** **19 08 18.2 -1.2**
comp=N,13nm,0.8s
YAK LR LR
comp=Z,2μm,22.0s
MIAR Mount Ida 102.73 57 PFAKE 19 08 40.0 +17
MIAR LR LR
comp=Z,2μm,19.0s
DGAR Diego Garcia 102.74 253 PFAKE 19 08 30.0 +6.2
DGAR LR LR
comp=Z,3μm,19.0s
KSU1 Kansas State U 102.83 52 PFAKE 19 08 40.0 +16
KSU1 LR LR
comp=Z,3μm,19.0s
DGMT Dagmar 102.96 41 PFAKE 19 08 40.0 +16
DGMT LR LR
comp=Z,2μm,20.0s
ULN Ulaanbaatar 103.47 318 *e*Pdif **Pdif** **19 08 27.9 +1.6**
ULN LR LR
comp=Z,1μm,19.0s
SONM Songino Array 103.83 318 Pdif **Pdif** **19 08 26.9 -1.0**
SONM PP PKiKP 19 12 27.6 -18
SONM PKiKP **PP** **19 12 45.5 -0.1**
SONM PKKPbc **PKKPbc** **19 24 18.2 -1.3**
SONM Songino Array 103.83 318 Pdiff **Pdif** **19 08 26.9 -1.0**
comp=Z,0.4nm,0.7s,baz=125,slow=7.2,SNR=2.7
SONM PP PKiKP 19 12 27.6 -18
comp=Z,1.5nm,0.9s,baz=137,slow=5.5,SNR=4.2
SONM PKiKP **PP** **19 12 45.5 -0.1**
comp=Z,2.0nm,0.9s,baz=145,slow=3.2,SNR=4.5
SONM PKKPbc **PKKPbc** **19 24 18.2 -1.3**
comp=Z,0.5nm,0.7s,baz=298,slow=4.0,SNR=3.7
VBMS Vicksburg 103.86 61 PFAKE 19 08 40.0 +12
VBMS LR LR
comp=Z,1μm,19.0s
INK Inuvik 104.52 16 PKKPbc PKKPbc 19 24 17.6 -0.3
INK Inuvik 104.52 16 PKKPbc PKKPbc 19 24 17.6 -0.3
comp=Z,0.6nm,0.6s,baz=22,slow=5.4,SNR=3.4
ECSD EROS Data Cent 105.09 48 *e*PP PP 19 12 59.8 +4.8
ECSD LR LR
comp=Z,3μm,19.0s
LSA Lhasa 105.51 295 *e*PKiKP **PKiKP** **19 12 50.4 +0.7**
LSA LR LR
comp=Z,1μm,20.0s
OXF Oxford 105.74 59 PFAKE 19 13 00.0
OXF LR LR
comp=Z,3μm,19.0s
SAML Samuel 105.87 111 PFAKE 19 13 00.0
SAML LR LR
comp=Z,2μm,22.0s
BRAL Brewton 105.92 63 PFAKE 19 13 00.0
BRAL LR LR
comp=Z,1μm,19.0s
YKA Yellowknife Ar 106.11 26 Pdif **Pdif** **19 08 37.9 +0.5**
YKA PKiKP **PKiKP** **19 12 49.1 0.0**
YKA PKKPbc PKKPbc 19 24 06.9 -5.9
YKA P'P' 19 32 41.0
YKA Yellowknife Ar 106.11 26 Pdiff **Pdif** **19 08 37.9 +0.5**
comp=Z,0.4nm,0.8s,baz=235,slow=4.1,SNR=5.8
YKA PKiKP **PKiKP** **19 12 49.1 0.0**
comp=Z,0.8nm,0.6s,baz=261,slow=1.7,SNR=23
YKA PKKPbc PKKPbc 19 24 06.9 -5.9
comp=Z,0.8nm,0.6s,baz=37,slow=2.6,SNR=8.8
YKA PKPPKP P'P'df 19 32 41.0 +10
comp=Z,0.5nm,0.7s,baz=43,slow=1.9,SNR=5.7
SCIA State Center 106.45 51 PFAKE 19 13 00.0
SCIA LR LR
comp=Z,2μm,19.0s
LRAL Lakeview Retre 106.87 61 PFAKE 19 13 00.0
LRAL LR LR
comp=Z,1μm,19.0s
PLAL Pickwick Lake 106.94 59 PFAKE 19 13 00.0
PLAL LR LR
comp=Z,3μm,20.0s
TAPN Taplejung 107.15 292 *e*P **PKiKP** **19 12 52.6 0.0**
ODAN Odare 107.18 291 *e*P **PKiKP** **19 12 52.8 +0.2**
TLY Talaya 107.29 320 *e*P **Pdif** **19 08 51.9 +8.8**
TLY *e*SS SS 19 28 35.0 +17
TLY *e*SSS SSS 19 32 21.2
TLY pmax pmax
comp=Z,2.0nm,0.8s
TLY MLR MLR
comp=Z,870nm,20.0s
TLY Talaya 107.29 320 PFAKE 19 13 00.0
TLY LR LR
comp=Z,1μm,21.0s
FFC Flin Flon 107.37 36 PFAKE 19 13 00.0
FFC LR LR
comp=Z,2μm,20.0s
AGMN Agassiz Nation 107.69 44 PFAKE 19 13 00.0
AGMN LR LR
comp=Z,3μm,20.0s
SPB Sao Paulo 107.72 133 PFAKE 19 13 10.0
SPB LR LR
comp=Z,2μm,21.0s
MTDJ Mount Denham 107.81 79 PFAKE 19 13 10.0
MTDJ LR LR
comp=Z,3μm,21.0s
RAMN Ramite 107.85 291 *e*P **PKiKP** **19 12 53.8 -0.1**
comp=Z,19nm,0.7s
JIRN Jiri 108.49 292 *e*P **PKiKP** **19 12 54.7 -0.5**
comp=Z,8.0nm,0.7s
HDIL Hopedale 108.50 53 PFAKE 19 13 10.0
HDIL LR LR
comp=Z,2μm,19.0s
ULM Lac du Bonnet 108.56 42 PKiKP **PKiKP** **19 12 54.2 +0.1**
ULM PKKPbc **PKKPbc** **19 24 04.0 -0.7**
ULM Lac du Bonnet 108.56 42 PKiKP **PKiKP** **19 12 54.2 +0.1**
comp=Z,1.8nm,0.6s,baz=153,slow=2.3,SNR=2.6
ULM PKKPbc **PKKPbc** **19 24 04.0 -0.7**
comp=Z,3.3nm,0.7s,baz=90,slow=7.0,SNR=4.0
GUN Gumba 108.85 292 *e*P **PKiKP** **19 12 55.2 -0.6**
comp=Z,40nm,1.0s
PKI Pulchoki 109.08 291 *e*P **PKiKP** **19 12 55.4 -0.8**
comp=Z,30nm,0.8s
SDV Santo Domingo 109.24 91 PFAKE 19 13 10.0
SDV LR LR
comp=Z,628nm,22.0s
KKN Kakani 109.28 291 *e*P **PKiKP** **19 12 56.0 -0.5**
comp=Z,35nm,0.8s
DMN Daman 109.34 291 *e*P **PKiKP** **19 12 56.2 -0.4**
comp=Z,26nm,0.9s
GOGA Godfrey 109.70 62 PFAKE 19 13 10.0
GOGA LR LR
comp=Z,1μm,20.0s
GKN Gorkha 109.88 291 *e*P **PKiKP** **19 12 56.3 -1.2**
comp=Z,22nm,1.0s
EYMN Ely 110.17 46 PFAKE 19 13 10.0
EYMN LR LR
comp=Z,2μm,20.0s
HYB Hyderabad 110.24 279 *i* PKP **PKiKP** **19 12 59.0 +0.7**
HYB *e*PP **PP** **19 13 33.0 0.0**
HYB *e* 19 15 52.0
HYB *e*SKS **SKSac** **19 19 35.0 +0.4**
KOLN Koldanda 110.61 291 *e*P **PKiKP** **19 12 58.0 -1.0**
comp=Z,14nm,0.6s
GTBY Guantanamo Bay 110.62 79 PFAKE 19 13 10.0
GTBY LR LR
comp=Z,1μm,20.0s
DANN Dangsing 110.73 291 *e*P **PKiKP** **19 12 57.9 -1.4**
NHSC New Hope 112.09 64 PFAKE 19 13 10.0
NHSC LR LR
comp=Z,1μm,20.0s
ACSO Alum Creek Sta 112.78 56 PFAKE 19 13 10.0
ACSO LR LR
comp=Z,4μm,19.0s
BDFB Brasilia 112.99 127 PFAKE 19 13 20.0
BDFB LR LR
comp=Z,4μm,21.0s
AAM Ann Arbor 113.08 54 PFAKE 19 13 20.0
AAM LR LR
comp=Z,3μm,19.0s
GLMI Grayling 113.36 51 PFAKE 19 13 20.0
GLMI LR LR
comp=Z,2μm,19.0s
SDDR Presa de Saban 113.43 81 PFAKE 19 13 20.0
SDDR LR LR
comp=Z,911nm,19.0s
BLA Blacksburg 113.50 60 PFAKE 19 13 20.0
BLA LR LR
comp=Z,3μm,19.0s
WMQ Urumqi 113.83 308 PKP **PKiKP** **19 13 04.2 -0.2**
WMQ sPKP 19 13 18.5
WMQ PP **PP** **19 14 01.6 +3.2**
WMQ PKS **PKSdf** **19 16 40.0 -1.0**
WMQ SKS **SKSdf** **19 20 12.0 -2.2**
WMQ AMB AMB
comp=Z,400nm,4.5s
WMQ LR LR
comp=N,750nm,17.9s
WMQ LR LR
comp=E,770nm,18.6s
WMQ LR LR
comp=Z,800nm,22.5s
ABPO Ambohimpanom 113.93 227 PFAKE 19 13 20.0
ABPO LR LR
comp=Z,2μm,20.0s
OPO Ambohidratompo 114.28 227 PKP PKPdf 19 13 06.3 +0.1
OPO Ambohidratompo 114.28 227 PKP PKPdf 19 13 06.3 +0.1
comp=Z,2.3nm,0.7s,baz=326,slow=8.3,SNR=1.8
SUR Sutherland 114.34 197 PKP PKPdf 19 13 06.3 +0.2
SUR LR LR
comp=Z,2μm,19.0s
SUR Sutherland 114.34 197 PKP PKPdf 19 13 06.3 +0.2
comp=Z,5.9nm,0.8s,baz=201,slow=12,SNR=5.5
CNNC Cliffs of the 114.66 63 PFAKE 19 13 20.0 +14
CNNC LR LR
comp=Z,2μm,22.0s
GRTK Grand Turk 114.66 79 PFAKE 19 13 20.0 +13
GRTK LR LR
comp=Z,1μm,20.0s
POO Poona 114.73 277 *e*PKP PKPdf 19 13 06.0 -0.8
ERPA Erie 115.56 55 PFAKE 19 13 20.0 +12
ERPA LR LR
comp=Z,2μm,19.0s
DDI Dehra Dun 116.08 291 *ex* **PKPdf** **19 13 07.0 -2.1**
CBN Corbin 116.11 60 PFAKE 19 13 20.0 +11
CBN LR LR
comp=Z,2μm,19.0s
SSPA Standing Stone 116.56 57 *e*PKPdf **PKPdf** **19 13 05.8 -3.9**
BOSA Boshof 116.58 203 PKP **PKPdf** **19 13 10.9 +0.6**
BOSA *e*PKPdf **PKiKP** **19 13 11.3 +0.9**
BOSA PKKPbc **PKKPbc** **19 23 36.8 -0.9**
BOSA LR LR
comp=Z,1μm,19.0s
BOSA Boshof 116.58 203 PKP **PKPdf** **19 13 10.9 +0.6**
comp=Z,2.8nm,0.5s,baz=332,slow=9.3,SNR=9.9
BOSA PKKPbc **PKKPbc** **19 23 36.8 -0.9**
comp=Z,1.9nm,0.7s,baz=358,slow=6.4,SNR=3.9
SJG San Juan 117.42 85 PFAKE 19 13 20.0 +8.1
SJG LR LR
comp=Z,1μm,22.0s
MSEY Mahe Island 117.94 245 PFAKE 19 13 20.0 +6.8
MSEY LR LR
comp=Z,3μm,19.0s
RES Resolute Bay 117.97 17 *e*PKPdf **PKPdf** **19 13 10.2 -1.1**
RES PKKPbc **PKKPbc** **19 23 33.0 -0.3**
RES Resolute Bay 117.97 17 PKKPbc PKKPbc 19 23 33.0 -0.3
comp=Z,0.8nm,0.5s,baz=85,slow=3.9,SNR=4.9
MKAR Makanchi Array 118.40 310 *c i*PKIKP **PKPdf** **19 13 12.1 -0.9**
MKAR pmax pmax
comp=Z,17nm,0.6s
MKAR Makanchi Array 118.40 310 PKP **PKPdf** **19 13 12.2 -0.9**
MKAR PKKPbc **PKKPab** **19 23 31.9 +0.1**
MKAR SKKP 19 27 33.6
MKAR Makanchi Array 118.40 310 PKP **PKPdf** **19 13 12.2 -0.9**
comp=Z,17nm,0.6s,baz=80,slow=0.6,SNR=92
MKAR PKKPbc **PKKPab** **19 23 31.9 +0.1**
comp=Z,1.0nm,0.8s,baz=290,slow=4.3,SNR=5.1
MKAR SKKP 19 27 33.6
comp=Z,0.3nm,0.4s,baz=294,slow=2.9,SNR=7.7
BINY Binghamton 118.41 56 PFAKE 19 13 30.0 +17
BINY LR LR
comp=Z,3μm,19.0s
GRGR Grenville 118.52 93 PFAKE 19 13 30.0 +16
GRGR LR LR
comp=Z,2μm,22.0s
ZAA0 Zalesovo Array 118.72 318 *e*PKPdf **PKPdf** **19 13 11.8 -1.6**
ZALV Zalesovo Beam 118.72 318 PKIKP **PKPdf** **19 13 12.4 -1.0**
ZALV pmax pmax
comp=Z,10.0nm,0.7s
ZALV Zalesovo Beam 118.72 318 PKP **PKPdf** **19 13 12.4 -1.0**
ZALV Zalesovo Beam 118.72 318 PKP **PKPdf** **19 13 12.4 -1.0**
comp=Z,9.5nm,0.7s,baz=144,slow=1.2,SNR=45
LBTB Lobatse 119.77 205 PKP **PKPdf** **19 13 17.2 +0.6**
LBTB LR LR
comp=Z,2μm,19.0s
LBTB Lobatse 119.77 205 PKP **PKPdf** **19 13 17.2 +0.6**
comp=Z,2.2nm,0.6s,baz=166,slow=6.2,SNR=6.7
NVS Novosibirsk 119.83 319 ⇑ *i*PKIKP **PKPdf** **19 13 13.0 -2.5**
NVS *e* 19 14 40.9
NVS *e* 19 20 06.8
NVS pmax pmax
comp=E,26nm,1.5s
LONY Lake Ozonia 120.08 53 PFAKE 19 13 30.0 +14
LONY LR LR
comp=Z,2μm,19.0s
NCB Newcomb 120.15 54 PFAKE 19 13 30.0 +14
NCB LR LR
comp=Z,2μm,19.0s
FDF Fort de France 120.17 90 PFAKE 19 13 30.0 +13
FDF LR LR
comp=Z,1μm,21.0s
KSH Kashi 120.77 300 PKP **PKPdf** **19 13 18.8 +0.8**
KSH sPKP 19 13 34.1
KSH PP PP 19 14 53.6 +6.7
KSH PKS **PKSdf** **19 16 55.2 +0.5**
KSH SKS **SKSdf** **19 20 25.8 -2.0**
KSH SKKS **SKKSac** **19 21 41.2 -2.7**
KSH SS **SS** **19 31 20.1 +3.9**
KSH LR LR
comp=N,280nm,7.5s
KSH LR LR
comp=E,210nm,5.9s
KSH LR LR
comp=Z,990nm,22.3s
BBGH Gun Hill 120.79 93 PFAKE 19 13 30.0 +11
BBGH LR LR
comp=Z,3μm,20.0s
ANWB Willy Bob 120.95 87 PFAKE 19 13 30.0 +11
ANWB LR LR
comp=Z,1μm,21.0s
NIL Nilore 121.07 293 PFAKE 19 13 30.0 +11
NIL LR LR
comp=Z,35nm,21.0s
ULHL Ulahol 121.33 303 P **PKPdf** **19 13 19.4 +0.3**
SNR=16
KURK Kurchatov 121.70 313 *c i*PKIKP **PKPdf** **19 13 18.4 -0.8**
KURK pmax pmax
comp=Z,64nm,0.7s
KURK Kurchatov 121.70 313 *e*PKPdf **PKPdf** **19 13 18.5 -0.8**
KURK LR LR
comp=Z,1μm,21.0s
KURK Kurchatov 121.70 313 PKPdf **PKPdf** **19 13 18.7 -0.5**
SNR=19
KURBB Kurchatov Arra 121.74 313 PKP **PKPdf** **19 13 18.5 -0.8**
comp=Z,60nm,0.7s,baz=106,slow=1.9,SNR=338
LBNH Lisbon 121.82 54 PFAKE 19 13 30.0 +10
LBNH LR LR
comp=Z,2μm,19.0s
TKM2 Tokmak 2 121.96 304 PFAKE 19 13 30.0 +10
TKM2 LR LR
comp=Z,1μm,21.0s
TKM2 Tokmak 2 121.96 304 P **PKPdf** **19 13 19.8 -0.5**
SNR=73
KZA Kyzart 121.99 303 P **PKPdf** **19 13 20.8 +0.2**
SNR=57
KBK Karagaybulak 122.36 303 P **PKPdf** **19 13 20.8 -0.2**
SNR=68
UCH Uchtor 122.56 303 P **PKPdf** **19 13 22.2 +0.5**
SNR=13
CHMS Chumysh 122.58 304 P **PKPdf** **19 13 20.9 -0.3**
SNR=86
FRU Bishkek 122.64 304 *e*PKIKP **PKPdf** **19 13 20.0 -1.3**
FRU pmax pmax
comp=Z,80nm,2.0s
AAK Ala-Archa 122.67 303 *c i*PKIKP **PKPdf** **19 13 21.1 -0.5**
AAK pmax pmax
comp=Z,75nm,0.6s
AAK Ala-Archa 122.67 303 *e*PKPdf **PKPdf** **19 13 21.1 -0.5**
AAK PKP **PKPdf** **19 13 21.4 -0.2**
AAK PKKPbc **PKKPbc** **19 23 17.1 +1.8**
AAK LR LR
comp=Z,1μm,21.0s
AAK Ala-Archa 122.67 303 PKPdf **PKPdf** **19 13 21.7 +0.1**
SNR=15
AAK Ala-Archa 122.67 303 P **PKPdf** **19 13 21.4 -0.2**
SNR=56
AAK Ala-Archa 122.67 303 PKP **PKPdf** **19 13 21.4 -0.2**
comp=Z,33nm,0.7s,baz=136,slow=3.3,SNR=134
AAK PKKPbc **PKKPbc** **19 23 17.1 +1.8**
comp=Z,2.0nm,0.8s,baz=270,slow=5.0,SNR=6.0
USP Ospenovka 122.82 304 P **PKPdf** **19 13 21.4 -0.3**
SNR=38
AML Almayashu 123.13 303 P **PKPdf** **19 13 22.9 +0.1**
SNR=6.9
EKS2 Erkin-Say 123.19 303 *e*PKIKP **PKPdf** **19 13 22.5 0.0**
EKS2 MLR MLR
comp=Z,1μm,20.0s
EKS2 Erkin-Say 123.19 303 *e*PKPdf **PKPdf** **19 13 22.5 0.0**
EKS2 LR LR
comp=Z,1μm,20.0s
EKS2 Erkin-Say 123.19 303 P **PKPdf** **19 13 22.6 0.0**
SNR=74
BBSR BB Station 124.03 70 PFAKE 19 13 40.0 +16
BBSR LR LR
comp=Z,1μm,20.0s
KKAR Karatay Array 125.63 303 *e*PKIKP **PKPdf** **19 13 26.3 -0.7**
KKAR Karatay Array 125.63 303 *e*PKPdf **PKPdf** **19 13 26.3 -0.7**
SCHQ Schefferville 126.74 42 *e*PKPdf **PKPdf** **19 13 28.3 -0.5**
SCHQ LR LR
comp=Z,4μm,20.0s
SCHQ Schefferville 126.74 42 PKP **PKPdf** **19 13 28.3 -0.5**
comp=Z,13nm,0.9s,baz=305,slow=2.2,SNR=21
BVAR Borovoye Array 127.08 315 PKHKP PKPpre 19 13 18.4
BVAR 19 13 29.4
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR pmax pmax
comp=Z,46nm,0.7s
BVAR Borovoye Array 127.08 315 PKPpre PKPpre 19 13 18.4
BVAR PKP **PKPdf** **19 13 29.4 0.0**
BVAR Borovoye Array 127.08 315 PKhKP PKPpre 19 13 18.4
comp=Z,1.2nm,0.7s,baz=98,slow=6.1,SNR=4.4
BVAR PKP **PKPdf** **19 13 29.4 0.0**
comp=Z,46nm,0.7s,baz=130,slow=2.3,SNR=6.4
BRVK Borovoye 127.14 315 *c i*PKIKP **PKPdf** **19 13 28.9 -0.7**
BRVK pmax pmax
comp=Z,68nm,1.0s
BRVK Borovoye 127.14 315 *e*PKPdf **PKPdf** **19 13 28.6 -1.0**
BRVK LR LR
comp=Z,1μm,21.0s
BRVK Borovoye 127.14 315 PKPdf **PKPdf** **19 13 29.4 -0.2**
SNR=21
LSZ Lusaka 127.45 212 *e*PKPdf **PKPdf** **19 13 33.5 +2.0**
LSZ LR LR
comp=Z,2μm,19.0s
TSUM Tsumeb 127.74 199 *e*PKPdf **PKPdf** **19 13 32.9 +0.8**
TSUM PKP **PKPdf** **19 13 33.0 +0.9**
TSUM PP **PP** **19 15 33.4 +1.2**
TSUM LR LR
comp=Z,1μm,19.0s
TSUM Tsumeb 127.74 199 PKP **PKPdf** **19 13 33.0 +0.9**
comp=Z,4.4nm,0.8s,baz=94,slow=15,SNR=11
TSUM PP **PP** **19 15 33.4 +1.2**
comp=Z,18nm,1.1s,baz=176,slow=7.0,SNR=3.9
RCBR Riachuelo 128.25 129 PFAKE 19 13 50.0 +17
RCBR LR LR
comp=Z,1μm,19.0s
SMDO Samad 130.05 275 ⇑PKPdf **PKPdf** **19 13 35.6 -0.6**
SNR=5.8
BSY Bisya 130.66 274 ⇓P **PKPdf** **19 13 36.7 -0.5**
RBK Rabkut 131.08 266 ⇑PKPdf **PKPdf** **19 13 37.5 -0.7**
SNR=8.7
ABTO Aybut 131.79 266 ⇓PKPdf **PKPdf** **19 13 40.8 +1.2**
SNR=13
KBS Kingsbay 132.00 357 PFAKE 19 13 50.0 +12
KBS LR LR
comp=Z,1μm,20.0s
SHEL Horse Pasture 132.50 170 PFAKE 19 13 50.0 +9.0
SHEL LR LR
comp=Z,1μm,19.0s
SPA0 Spitsbergen Ar 132.51 356 *e*P **PKPdf** **19 13 39.6 +0.4**
SPB4 Spitsbergen Ar 132.51 356 *e*PKPdf **PKPdf** **19 13 39.7 +0.6**
SVE Sverdlovsk 132.61 320 *i* PKIKP **PKPdf** **19 13 39.9 +0.1**
SVE pmax pmax
comp=Z,52nm,1.0s
SVE MLR MLR

comp=Z,2µm,21.0s
DAG Danmarks Havn 133.33 6 *e*PKIKP **PKPdf** 19 13 39.1 -1.6
DAG pmax pmax
comp=Z,12nm,0.9s
DAG Danmarks Havn 133.33 6 *i* P **PKPdf** 19 13 39.1 -1.6
comp=Z,118nm,0.9s
SUMG Summit 133.44 16 *e*PKIKP **PKPdf** 19 13 43.7 +2.2
SUMG Summit 133.44 16 *e*PKPdf **PKPdf** 19 13 43.7 +2.2
SUMG Summit 133.44 16 *i* P **PKPdf** 19 13 43.6 +2.1
comp=Z,14nm,1.0s
ABKAR Akbulak array 133.54 310 *e*PKPdf **PKPdf** 19 13 42.2 +0.3
KMBO Kilima Mbogo 133.70 233 *e*PKPdf **PKPdf** 19 13 41.6 -2.0
KMBO LR LR
comp=Z,1µm,19.0s
KMBO Kilima Mbogo 133.70 233 PKPdf **PKPdf** 19 13 44.7 +1.1
SNR=15
ARU Arti 133.80 320 *i* PKIKP **PKPdf** 19 13 42.2 +0.1
ARU 19 16 07.7
ARU SS SS 19 33 48.2 -8.8
ARU MLR MLR
comp=Z,2µm,23.0s
ARU Arti 133.80 320 *e*PKPdf **PKPdf** 19 13 42.3 +0.3
ARU LR LR
comp=Z,1µm,22.0s
SOKR Solikamsk 134.13 325*d* *i*PKIKP **PKPdf** 19 13 43.5 +1.0
SOKR pmax pmax
comp=Z,50nm,0.9s
SOKR MLR MLR
comp=Z,1µm,18.0s
AKTO Aktyubinsk 134.75 312 PKHKP PKPpre 19 13 30.6
AKTO 19 13 44.2
AKTO pmax pmax
comp=Z,3.0nm,0.7s
AKTO pmax pmax
comp=Z,43nm,0.7s
AKTO pmax pmax
comp=N,18nm,1.2s
AKTO Aktyubinsk 134.75 312 PKPpre PKPpre 19 13 30.6
AKTO PKP **PKPdf** 19 13 44.2 +0.1
AKTO SKPbc **SKPab** 19 17 14.5 -1.1
AKTO Aktyubinsk 134.75 312 PKhKP PKPpre 19 13 30.6
comp=N,2.7nm,0.7s,baz=120,slow=2.1,SNR=9.3
AKTO PKP **PKPdf** 19 13 44.2 +0.1
comp=N,43nm,0.7s,baz=91,slow=2.8,SNR=52
AKTO SKPbc **SKPab** 19 17 14.5 -1.1
comp=N,18nm,1.1s,baz=31,slow=4.7,SNR=14
ATD Arta Tunnel 137.66 252 PKP **PKPdf** 19 13 52.4 +1.8
ATD Arta Tunnel 137.66 252 PKP **PKPdf** 19 13 52.4 +1.8
comp=N,15nm,0.8s,baz=60,slow=1.1,SNR=5.5
MBAR Mbarara 138.34 226 PFAKE 19 14 00.0 +7.9
MBAR LR LR
comp=Z,645nm,21.0s
SCO Scoresbysund 138.45 12 *i* PKIKP **PKPdf** 19 13 52.9 +2.6
SCO pmax pmax
comp=Z,9.0nm,0.8s
SCO Scoresbysund 138.45 12 *i* P **PKPdf** 19 13 52.9 +2.6
comp=Z,9.1nm,0.8s
LVZ Lovozero 138.66 342 PFAKE 19 14 00.0 +9.2
LVZ LR LR
comp=Z,2µm,20.0s
KEV Kevo 138.94 347 *e*PKHKP PKPpre 19 13 44.7
KEV MLR MLR
comp=Z,2µm,20.0s
KEV Kevo 138.94 347 *e*PKPpre PKPpre 19 13 44.7
KEV LR LR
comp=Z,2µm,20.0s
KEV Kevo 138.94 347 *e*p PKPpre 19 13 43.9
APA Apatity 139.22 342↑ *e*PKHKP PKPpre 19 13 37.0
APA MLR MLR
comp=Z,2µm,23.0s
ARCES ARCESS Array B 139.41 348 PKPpre PKPpre 19 13 43.2
ARCES SKPbc **SKiKP** 19 17 27.6 -0.7
ARCES ARCESS Array B 139.41 348 PKhKP PKPpre 19 13 43.2
comp=Z,20nm,0.7s,baz=4.8,slow=2.7,SNR=31
ARCES SKPbc **SKiKP** 19 17 27.6 -0.7
comp=Z,12nm,0.9s,baz=3.8,slow=3.6,SNR=5.9
ARE0 ARCESS Array S 139.41 348 *e*P PKPpre 19 13 43.6
ARE0 *e*SS SS 19 35 05.6 +3.0
ARE0 ARCESS Array S 139.41 348 *e*PKPdf PKPpre 19 13 43.3
KTK1 Kautokeino 140.26 348 *e*P PKPdf 19 13 46.7 -7.0
KTK1 *e*SS SS 19 35 12.5 -0.1
QRN Al-Qurain 140.50 279 *e*P PKPdf 19 13 49.5 -5.9
QRN AMb AMB 19 13 59.7
comp=Z,263nm,0.9s
KBD Kabd 140.80 279 *e*P PKPdf 19 13 49.5 -6.4
KBD AMb AMB 19 14 02.1
comp=Z,65nm,1.7s
RDF Al-Radifah 140.86 279 *e*P PKPdf 19 13 49.9 -6.1
RDF AMb AMB 19 14 01.1
comp=Z,235nm,0.9s
UMR Umm Al-Rimmam 140.88 280 *e*P PKPdf 19 13 49.2 -6.8
UMR AMb AMB 19 14 00.6
comp=Z,163nm,0.8s
NAY Al-Naaiem 141.20 279 *e*P PKPdf 19 13 50.1 -6.5
NAY AMb AMB 19 14 02.7
comp=Z,50nm,1.4s
KLMR Klimovskoe 141.54 331 *e*PKHKP PKPpre 19 13 48.6
KLMR pmax pmax
comp=Z,58nm,0.9s
KLMR MLR MLR
comp=Z,2µm,22.0s
MAK Makhachkala 142.39 301 *e*PKIKP **PKPdf** 19 14 00.2 +1.9
MAK *i* 19 20 59.4
MAK pmax pmax
comp=Z,369nm,1.5s
JOF Joensuu 143.22 338 *e*p PKPab 19 13 54.4 -0.5
comp=Z,41nm,0.8s
DGRG David-gareji 144.04 299 P **PKPab** 19 13 58.6 -0.2
MOR8 Moi Rana 144.22 352 *e*P **PKPab** 19 13 58.3 -0.4
MOR8 AMB AMB 19 13 59.9
comp=Z,79nm,1.6s
STOK Stokkvaagen 144.23 353 *e*P **PKPab** 19 13 53.7 -5.0
BHD Baghdad 144.41 285 *i* x **PKPdf** 19 13 58.0 -4.1
TBLG Delisi 144.51 299 PKIKP **PKPab** 19 14 00.1 -0.4
TBLG Delisi 144.51 299 P **PKPab** 19 14 00.1 -0.4
TBLG S **SKiKP** 19 17 43.3 +3.6
GNI Garni 144.56 297 *e*PKPdf **PKPab** 19 14 00.9 -0.1
GNI PKP PKPbc 19 14 01.4 +0.2
GNI LR LR
comp=Z,942nm,20.0s
GNI Garni 144.56 297 PKPdf PKPbc 19 14 01.3 +0.1
SNR=18
GNI Garni 144.56 297 PKP PKPbc 19 14 01.4 +0.2
comp=Z,23nm,0.7s,baz=298,slow=2.4,SNR=27
VRHR Novokhopersk 144.81 316 *e*PKIKP **PKPab** 19 14 00.0 -1.3
VRHR pmax pmax
comp=Z,100nm,0.6s
VRHR pmax pmax
comp=N,4.0nm,0.3s
VRHR pmax pmax
comp=E,10.0nm,0.6s
GOR Gori 144.96 300 P **PKPab** 19 14 02.1 -0.1
ZEI Tsey 145.05 301 *i* PKIKP **PKPbc** 19 14 02.4 -0.4
ZEI pmax pmax
comp=Z,112nm,0.9s
MOS Moscow 145.07 325 *e*PKHKP PKPpre 19 13 59.3
MOS pmax pmax
comp=Z,348nm,1.1s
MOS pmax pmax
comp=Z,1µm,2.5s
HAKT HAKKARI 145.35 292 *i* P **PKPbc** 19 14 03.4 -0.5
KAF Kangasniemi 145.35 340 *e*PKP2 **PKPbc** 19 14 00.9 -1.9
KAF pmax pmax
comp=Z,386nm,0.6s
KAF Kangasniemi 145.35 340 *e*p **PKPbc** 19 14 00.9 -1.9
comp=Z,386nm,0.6s
AKH Akhalkalaki 145.46 299 P **PKPdf** 19 14 03.9 -0.1
TVAN Van 145.61 294 *i* P **PKPdf** 19 14 03.7 -0.7
KIV Kislovodsk 145.79 303*c* *i*PKP2 **PKPdf** 19 14 03.6 -0.7
KIV pmax pmax
comp=Z,94nm,1.1s
KIV Kislovodsk 145.79 303 *e*PKPdf **PKPdf** 19 14 04.3 0.0
KIV LR LR
comp=Z,1µm,21.0s
KIV Kislovodsk 145.79 303 PKPdf **PKPab** 19 14 05.3 -0.1
SNR=16
OBN Obninsk 145.91 325↑ *e*PKP2 **PKPdf** 19 14 04.2 +0.2
OBN *e* 19 17 26.9
OBN *e*PS 19 30 05.0
OBN *e*SS SS 19 36 08.3 -10
OBN pmax pmax
comp=Z,433nm,0.9s
OBN MLR MLR
comp=Z,1µm,21.0s
OBN Obninsk 145.91 325 *e*PKPdf **PKPdf** 19 14 04.1 +0.2
OBN LR LR
comp=Z,1µm,20.0s
FINES FINESS Array B 145.95 340 PKPbc **PKPdf** 19 14 04.0 +0.1
FINES SKPbc **SKiKP** 19 17 44.0 +2.1
FINES FINESS Array B 145.95 340 PKPbc **PKPdf** 19 14 04.0 +0.1
comp=Z,548nm,0.7s,baz=64,slow=4.4,SNR=864
FINES SKPbc **SKiKP** 19 17 44.0 +2.1
comp=Z,12nm,0.7s,baz=67,slow=3.6,SNR=5.1
VOR Voronezh 146.01 318 *e*PKIKP **PKPdf** 19 14 02.0 -2.3
VOR pmax pmax
comp=Z,620nm,1.2s
TUTA Tutak 146.06 295 *i* P **PKPdf** 19 14 04.8 -0.4
NSS Namsos 146.10 352 *e*P **PKPdf** 19 14 03.9 -0.2
VSR Storozhevoye 146.22 317*c* *i*PKP2 **PKPbc** 19 14 05.3 -0.5
VSR pmax pmax
comp=N,20nm,0.6s
VSR pmax pmax
comp=E,40nm,0.6s
VSR pmax pmax
comp=Z,190nm,0.6s
VSR MLR MLR
comp=N,600nm,17.0s
VSR MLR MLR
comp=E,210nm,17.0s
VSR MLR MLR
comp=Z,1µm,17.0s
VORD Divnogorie 146.24 317 *e*PKP2 **PKPbc** 19 14 05.4 -0.5
TATV Tatvan 146.50 294 *i* P **PKPbc** 19 14 07.4 +0.1
ARTV Artvin 146.65 299 *i* P **PKPdf** 19 14 05.1 -1.0
DAGI Agillar 146.67 298 *i* P **PKPdf** 19 14 04.7 -1.2
DDEM Demirkent 146.81 298 *i* P **PKPdf** 19 14 04.1 -2.0
DBAD Bademkaya 146.84 298 *i* P **PKPdf** 19 14 06.3 0.0
BEST Besiri 147.28 293 *i* P **PKPbc** 19 14 09.3 -0.1
KOPT Kop Dagi 147.82 297 *i* P **PKPdf** 19 14 07.9 -0.2
SOC Sochi 147.98 303 *e*PKHKP **PKPdf** 19 14 06.0 -1.9
SOC *i* 19 14 10.9
SOC *e* 19 17 35.2
SOC *e* 19 21 10.3
SOC pmax pmax
comp=Z,34nm,0.8s
SOC pmax pmax
comp=Z,87nm,0.8s
SOC MLR MLR
comp=Z,2µm,22.0s
DIYA Diyarbakir 148.19 293 *i* P **PKPbc** 19 14 11.8 -0.1
MOL Molde 148.43 355 *e*P **PKPbc** 19 14 11.0 -0.5
MOL AMB AMB 19 14 20.2
comp=Z,178nm,1.4s
KELT Kelkit 148.76 297 *i* P **PKPdf** 19 14 08.8 -0.8
ELZG Elazig 149.07 294 *i* P **PKPdf** 19 14 10.5 +0.5
ANN Anapa 149.33 306 *i* PKP2 **PKPbc** 19 14 13.6 -0.8
ANN *e* 19 21 11.7
ANN pmax pmax
comp=Z,188nm,1.0s
ANN MLR MLR
comp=Z,2µm,23.0s
KEMA Kemaliye 149.41 295 *i* P **PKPbc** 19 14 13.3 -1.7
FOO Floro 149.54 357 *e*P **PKPbc** 19 14 13.0 -1.3
FOO AMB AMB 19 14 21.4
comp=Z,248nm,3.0s
NB2 NORSAR Subarra1 149.57 351 PKP **PKPbc** 19 14 14.2 -0.3
baz=13,slow=2.6
NB2 NORSAR Subarra1 149.57 351 PKP **PKPbc** 19 14 14.2 -0.3
comp=Z,780nm,2.0s,baz=13,slow=2.6
NOA NORSAR Array B 149.57 351 PKPbc **PKPbc** 19 14 14.2 -0.3
NOA NORSAR Array B 149.57 351 PKPbc **PKPbc** 19 14 14.2 -0.3
comp=Z,41nm,0.8s,baz=14,slow=4.2,SNR=56
ATAB Bozova 149.65 292 *i* P **PKPdf** 19 14 12.9 +2.1
NAO01 NORSAR Array S 149.80 352 *e*PKPbc **PKPbc** 19 14 14.7 -0.4
NC602 NORSAR Array S 149.82 351 *e*P **PKPdf** 19 14 10.3 0.0
HYA Hoyanger 149.91 356 *e*P **PKPbc** 19 14 14.0 -1.3
AKCD Akcadag 149.92 293 *i* P **PKPbc** 19 14 16.8 +0.6
HFS Hagfors 150.06 348 PKPbc **PKPbc** 19 14 15.1 -0.6
HFS PKPab **PKPab** 19 14 21.0 -0.6
HFS Hagfors 150.06 348 PKPbc **PKPbc** 19 14 15.1 -0.6
comp=Z,90nm,0.8s,baz=90,slow=1.5,SNR=68
HFS PKPab **PKPab** 19 14 21.0 -0.6
comp=Z,110nm,0.7s,baz=95,slow=3.0,SNR=34
IZAR Zarasai 150.17 332 *e*P **PKPbc** 19 14 16.5 +0.4
IZAR AMB AMB 19 14 18.7
comp=Z,92nm,1.0s
IZAR Zarasai 150.17 332 *e*P **PKPbc** 19 14 16.5 +0.4
IZAR AMB AMB 19 14 18.7
comp=Z,92nm,1.0s
GZT Gaziantep 150.23 292 *i* P **PKPdf** 19 14 11.9 0.0
ISAL Salakas 150.35 332 *e*P **PKPbc** 19 14 16.8 +0.3
ISAL AMB AMB 19 14 19.1
comp=Z,74nm,1.0s
ISAL Salakas 150.35 332 *e*P **PKPbc** 19 14 16.8 +0.3
ISAL AMB AMB 19 14 19.1
comp=Z,74nm,1.0s
MICGM Minsk 150.35 329↑ *i*PKP **PKPbc** 19 14 15.0 -1.6
MNK Minsk 150.37 329*c* *i*PKIKP **PKPbc** 19 14 15.0 -1.6
MNK pmax pmax
comp=Z,610nm,0.8s
MNK pmax pmax
comp=N,200nm,1.4s
MNK pmax pmax
comp=E,150nm,1.4s
IIGN Ignalina 150.47 332 *e*P **PKPbc** 19 14 17.2 +0.4
IIGN AMB AMB 19 14 19.4
comp=Z,94nm,1.1s
IIGN Ignalina 150.47 332 *e*P **PKPbc** 19 14 17.2 +0.4
IIGN AMB AMB 19 14 19.4
comp=Z,94nm,1.1s
NACGM Naroch 150.55 331 *e*P **PKPbc** 19 14 15.0 -2.0
ERBA Erbaa 150.60 298 *i* P **PKPbc** 19 14 16.7 -1.0
KUZU Kuzuini 150.63 290 *i* P **PKPbc** 19 14 17.0 -0.9
ASK Askoy 150.65 357 *e*P **PKPbc** 19 14 16.2 -0.9
ASK AMB AMB 19 14 27.2
comp=Z,225nm,1.8s
BER Bergen 150.74 357 *e*P **PKPbc** 19 14 16.6 -0.7
FKH Fakeheh 151.11 285 *e*P **PKPbc** 19 14 19.9 +0.7
KONO Kongsberg 151.12 352 *e*P **PKPbc** 19 14 17.5 -0.7
KONO AMB AMB 19 14 33.0
comp=Z,160nm,2.4s
KONO *e*SS SS 19 37 16.4 +0.4
KONO Kongsberg 151.12 352 *e*PKIKP **PKPbc** 19 14 17.8 -0.4
KONO MLR MLR
comp=Z,2µm,21.0s
KONO Kongsberg 151.12 352 *e*PKPbc **PKPbc** 19 14 17.8 -0.4
KONO LR LR
comp=Z,2µm,21.0s
ODD1 Odda 151.13 355 *e*P **PKPbc** 19 14 18.4 0.0
ANDN Andirin 151.19 292 *i* P **PKPbc** 19 14 18.1 -1.2
COBT Iskenderun 151.29 290 *i* P **PKPbc** 19 14 20.1 +0.4
SACV Santiago Islan 151.41 119 PFAKE 19 14 30.0 +1.5
SACV LR LR
comp=Z,995nm,19.0s
HWQ Hawqa 151.50 285 *e*P **PKPbc** 19 14 20.3 +0.2
RCY Rachaya 151.53 284 *e*P **PKPbc** 19 14 21.1 +0.9
BHL Bhannes 151.71 284 *e*P **PKPbc** 19 14 21.1 +0.5
AKASG Malin Array Be 152.02 322 PKIKP **PKPdf** 19 14 13.3 -0.7
AKASG 19 14 20.7
AKASG 19 14 29.5
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG pmax pmax
comp=Z,185nm,0.7s
AKASG pmax pmax
comp=Z,113nm,0.7s
AKASG Malin Array Be 152.02 322 PKP **PKPdf** 19 14 13.3 -0.7
AKASG PKPbc **PKPbc** 19 14 20.7 +0.1
AKASG PKPab **PKPab** 19 14 29.5 -0.5
AKASG Malin Array Be 152.02 322 PKP **PKPdf** 19 14 13.3 -0.7
comp=Z,2.5nm,0.6s,baz=61,slow=2.5,SNR=9.2
AKASG PKPbc **PKPbc** 19 14 20.7 +0.1
comp=Z,185nm,0.7s,baz=50,slow=2.7,SNR=245
AKASG PKPab **PKPab** 19 14 29.5 -0.5
comp=Z,113nm,0.7s,baz=45,slow=3.5,SNR=15
KIEV Kiev 152.03 322 PFAKE 19 14 30.0 -0.1
KIEV LR LR
comp=Z,2µm,22.0s
AVNT Avonos 152.28 295 *i* P **PKPbc** 19 14 21.4 -0.4
CDAG Cicekdag 152.55 297 *i* P **PKPbc** 19 14 21.6 -0.7
HOMB Homborsund 152.59 353 *e*P **PKPbc** 19 14 21.3 -0.3
SNART Snartemo 152.65 354 *e*P **PKPbc** 19 14 21.5 -0.3
SUW Suwalki 152.66 333 *e*PKP **PKPbc** 19 14 22.0 +0.1
SUW Suwalki 152.66 333 *e*PKP **PKPbc** 19 14 22.0 +0.1
SUW Suwalki 152.66 333 *e*PKIKP **PKPbc** 19 14 22.0 +0.1
BALT Daday 152.96 301 *i* P **PKPbc** 19 14 22.6 -0.7
BR131 Keskin Array S 153.10 297 *e*PKPbc **PKPbc** 19 14 23.1 -0.5
BR131 LR LR
comp=Z,898nm,19.0s
BRTR Keskin Array B 153.10 297 PKP **PKPdf** 19 14 15.7 -0.5
BRTR PKPbc **PKPbc** 19 14 23.3 -0.3
BRTR Keskin Array B 153.10 297 PKP **PKPdf** 19 14 15.7 -0.5
comp=Z,16nm,0.8s,baz=104,slow=1.2,SNR=10
BRTR PKPbc **PKPbc** 19 14 23.3 -0.3
comp=Z,40nm,0.6s,baz=129,slow=3.6,SNR=58
PHNC Paralimni 153.10 287 P **PKPbc** 19 14 24.1 +0.6
comp=Z,3.3nm,0.8s
CSS Prodhromos 153.68 287 P **PKPbc** 19 14 24.5 -0.3
CSS Prodhromos 153.68 287 *e*PKPbc **PKPbc** 19 14 24.6 -0.3
CSS LR LR
comp=Z,3µm,21.0s
MAMC Mammari 153.77 287 P **PKPbc** 19 14 24.6 -0.4
SZAC Souni-Zanaja 154.04 286 P **PKPbc** 19 14 25.2 -0.4
KIS Kishinev 154.16 315 *e*PKIKP **PKPbc** 19 14 24.0 -1.4
KIS *e* 19 18 16.0
KIS MLR MLR
comp=Z,1µm,20.0s
KIS MLR MLR
comp=Z,1µm,22.0s
KIS Kishinev 154.16 315↓ *i*P **PKPbc** 19 14 23.5 -1.9
KIS Kishinev 154.16 315 *e*PKP **PKPbc** 19 14 24.0 -1.4
KIS Kishinev 154.16 315 *e*PP PP 19 18 16.0 +1.7
KIS LRM MLR 20 28 30.0
comp=Z,1µm,22.0s
ALFC Alevga 154.28 287 P **PKPbc** 19 14 25.4 -0.7
comp=Z,1.7nm,0.6s
MUD Monsted U'grnd 154.28 351 *e*PKIKP **PKPbc** 19 14 26.8 +1.5
MUD pmax pmax
comp=Z,34nm,1.0s
MUD Monsted U'grnd 154.28 351 *i* P **PKPbc** 19 14 26.8 +1.5
comp=Z,34nm,1.0s
BSD Bornholm Skovb 154.44 343 *e*PKIKP **PKPbc** 19 14 21.7 -4.0
BSD Bornholm Skovb 154.44 343 *i* P **PKPbc** 19 14 21.7 -4.0
COP Copenhagen 154.48 346 *e*PKIKP **PKPab** 19 14 35.7 -4.5
COP pmax pmax
comp=Z,62nm,0.7s
COP Copenhagen 154.48 346 *i* P **PKPab** 19 14 35.7 -4.5
comp=Z,62nm,0.7s
DBIC Dimbokro 154.72 163 *e*PKPdf **PKPdf** 19 14 18.9 -0.1
DBIC PKP **PKPdf** 19 14 19.7 +0.7
DBIC PKPbc **PKiKP** 19 14 28.7 +1.1
DBIC LR LR
comp=Z,1µm,19.0s
DBIC Dimbokro 154.72 163 PKP **PKPdf** 19 14 19.7 +0.7
comp=Z,4.0nm,0.6s,baz=329,slow=4.6,SNR=4.4
DBIC PKPbc **PKiKP** 19 14 28.7 +1.1
comp=Z,9.3nm,0.5s,baz=172,slow=2.8,SNR=11
LLD Lille Linde 154.85 346 *e*PKIKP PKPab 19 14 35.8 -6.0
LLD pmax pmax
comp=Z,140nm,0.8s
LLD Lille Linde 154.85 346 *i* P PKPab 19 14 35.8 -6.0
comp=Z,144nm,0.8s
TLCR 154.97 311↓↓ PKIKP **PKPbc** 19 14 27.5 +0.3
TLCR 154.97 311↓ *i*P **PKPbc** 19 14 27.5 +0.3
LVV L'vov 155.21 325 *e*PKIKP **PKPdf** 19 14 16.8 -1.8
LVV MLR MLR
comp=N,900nm,20.0s
LVV MLR MLR
comp=E,900nm,20.0s
LVV MLR MLR
comp=Z,1µm,21.0s
BEL Belsk 155.25 332 *e*PKP pPKPdf 19 14 28.2 -0.7
BEL Belsk 155.25 332 *e*PKP pPKPdf 19 14 28.2 -0.7
BEL Belsk 155.25 332 *e*PKIKP pPKPdf 19 14 28.2 -0.7
GKP Gorka Klasztor 155.39 338 *e*PKP pPKPdf 19 14 28.7 -0.3
GKP Gorka Klasztor 155.39 338 *e*PKP pPKPdf 19 14 28.7 -0.3
GKP Gorka Klasztor 155.39 338 *e*PKIKP pPKPdf 19 14 28.7 -0.3
CFR Carcaliu 155.41 312↓↓ PKIKP pPKPdf 19 14 28.0 -1.3
CFR Carcaliu 155.41 312↓ *i*P pPKPdf 19 14 28.0 -1.3
TIRR Tirgusor 155.53 310 PKIKP **PKPdf** 19 14 19.7 +0.5
TIRR Tirgusor 155.53 310 PKPdf **PKPdf** 19 14 19.7 +0.5
ESK Eskdalemuir 155.60 7 PFAKE 19 14 30.0 +11
ESK LR LR
comp=Z,2µm,21.0s
TESR 155.70 316↓↓ *i*P pPKPdf 19 14 28.9 -0.8
ISP Isparta 155.78 294 PFAKE 19 14 30.0 +10
ISP LR LR
comp=Z,1µm,20.0s
BURAR Bucovina Array 155.94 319↓↓ *i*P pPKPdf 19 14 30.0 -0.1
VRI Vrincioaia 155.97 314↓↓ PKIKP pPKPdf 19 14 28.2 -1.9
VRI Vrincioaia 155.97 314↓↓ *i*P pPKPdf 19 14 28.2 -1.9
KWP Kalwaria Pacla 155.98 326↓↓ PKIKP pPKPdf 19 14 29.9 -0.1
KWP Kalwaria Pacla 155.98 326 PFAKE 19 14 30.0 +10
KWP LR LR
comp=Z,2µm,22.0s
KWP Kalwaria Pacla 155.98 326↓↓ *i*P pPKPdf 19 14 29.9 -0.1
BSEG Bad Segeberg 156.53 348 *e*PKPdf **PKPdf** 19 14 20.9 +0.7
MLR Muntele Rosu 156.64 314 PKP **PKPdf** 19 14 20.7 -0.2
MLR PKPbc PKPab 19 14 31.2 -19
MLR Muntele Rosu 156.64 314↓↓ *i*P PKPdf 19 14 28.7 +7.9
MLR Muntele Rosu 156.64 314 PKP **PKPdf** 19 14 20.7 -0.2
comp=Z,1.2nm,1.1s,baz=175,slow=5.0,SNR=4.2
MLR PKPbc PKPab 19 14 31.2 -19
comp=Z,2.2nm,0.7s,baz=307,slow=2.7,SNR=13
KOLS Kolonicke sedl 156.66 325 *e*PKIKP **PKPdf** 19 14 21.0 +0.4
KOLS Kolonicke sedl 156.66 325 *e*PKP **PKPdf** 19 14 21.0 +0.4
DOPR Dopca 156.73 316↓↓ *i*P pPKPdf 19 14 33.4 +2.3
SECR 156.78 313↓↓ *i*P pPKPdf 19 14 31.0 -0.2
SULR 156.83 312↓↓ *i*P **PKPab** 19 14 49.2 -1.5
UZH Uzhgorod 156.85 324 *e*PKIKP **PKPdf** 19 14 20.2 -0.6
UZH *e* 19 14 44.2
UZH *e* 19 18 32.6
UZH MLR MLR
comp=N,500nm,20.0s
UZH MLR MLR
comp=E,950nm,20.0s
UZH MLR MLR
comp=Z,550nm,20.0s
OJC Ojcow 156.88 330 *e*PKPdf **PKPdf** 19 14 19.1 -1.7
OJC Ojcow 156.88 330 *e*PKIKP **PKPdf** 19 14 19.9 -0.9
DLF Lyons Farm 157.04 13 *e*P **PKPab** 19 14 50.1 -1.2
TRPA Tarpa 157.06 323↓↓ *e*PKPdf **PKPdf** 19 14 17.1 -4.0
CRVS Cervenica-Dubn 157.08 326 *e*PKIKP pPKPdf 19 14 32.3 +0.9
CRVS Cervenica-Dubn 157.08 326 *e* pPKPdf 19 14 32.3 +0.9
RUE Ruedersdorf 157.10 342 *e*PKPab **PKPab** 19 14 51.6 0.0
VOIR 157.21 315↓↓ PKIKP pPKPdf 19 14 31.9 +0.1
VOIR 157.21 315↓ *i*P pPKPdf 19 14 31.9 +0.1
NIE Niedzica 157.25 328 *e*PKPdf **PKPdf** 19 14 21.1 -0.3
NIE Niedzica 157.25 328 *e*PKIKP **PKPdf** 19 14 21.9 +0.5
HUMR Humele 157.70 313↓ *i*P pPKPdf 19 14 32.1 -0.2
KSP Ksiaz 157.75 336 *e*PKIKP **PKPdf** 19 14 22.0 +0.1
DRGR 157.80 320↓↓ PKIKP PKPdf 19 14 27.8 +5.6
DRGR 157.80 320↓ *i*P PKPdf 19 14 27.8 +5.6
OKC Ostrava-Krasne 157.86 332 *e*PKIKP **PKPdf** 19 14 22.3 +0.3
OKC MLR MLR
comp=Z,1µm,17.1s
OKC Ostrava-Krasne 157.86 332 *e*PKPDF **PKPdf** 19 14 22.3 +0.3
OKC *e*PKPAB **PKPab** 19 14 54.2 -0.8
OKC *ex* x 19 38 00.4
OKC AMS AMS 20 20 10.0
comp=Z,1µm,17.1s
NRDL Niedersach Rie 157.95 347 *e*PKPdf **PKPdf** 19 14 22.4 +0.4
NRDL *e*PKPab **PKPab** 19 14 55.0 -0.1
UPC Upice 158.12 336 *e*PKIKP **PKPdf** 19 14 23.0 +0.6
UPC *e* 19 14 56.2
UPC Upice 158.12 336 *e*PKPDF **PKPdf** 19 14 23.0 +0.6
UPC *e*PKPAB **PKPab** 19 14 56.2 +0.1
DPC Dobruska-Polom 158.15 335 *e*PKIKP **PKPdf** 19 14 22.5 0.0
DPC *e* 19 14 56.1
DPC *e*SS SS 19 38 30.2 -2.7
DPC MLR MLR
comp=Z,1µm,23.0s
DPC Dobruska-Polom 158.15 335 *e*PKPDF **PKPdf** 19 14 22.5 0.0
DPC *e*PKPAB **PKPab** 19 14 56.1 -0.2
DPC *e*SS SS 19 38 30.2 -2.7
DPC AMS AMS 20 25 00.0
comp=Z,1µm,23.0s
MORC Moravsky Berou 158.15 332↓↓ PKIKP **PKPdf** 19 14 22.9 +0.4
MORC Moravsky Berou 158.15 332 *e*PKPdf **PKPdf** 19 14 22.4 0.0
MORC Moravsky Berou 158.15 332↓ *i*P **PKPdf** 19 14 22.9 +0.4
CLL Collm 158.37 341 *e*PKPdf **PKPdf** 19 14 23.0 +0.4
CLL *e*PKPab **PKPab** 19 14 56.8 -0.3
CLL Collm 158.37 341 *e*PKIKP **PKPdf** 19 14 23.0 +0.4
CLL *i* 19 14 56.5
CLL pmax pmax
comp=Z,19nm,1.5s
CLL pmax pmax
comp=Z,65nm,0.8s
CLL MLR MLR
comp=Z,1µm,19.5s
CLL Collm 158.37 341 *e*PKPdf **PKPdf** 19 14 23.0 +0.4
comp=Z,19nm,1.5s

CLL				*i*			19 14 26.8	
CLL				*e*PKPdiff	PKPab		19 14 34.0	-23
CLL				*i* PKPab	PKPab		19 14 56.5	-0.6
	comp=Z,65nm,0.8s							
CLL				*ep*PKPab	**pPKPab**		**19 15 05.0**	**-2.1**
CLL				*e*PP	PP		19 18 29.0	-7.9
CLL				*e*			19 22 40.0	
CLL				*e*PPPP			19 24 42.0	
CLL				*e*SKKSac	SKKSac		19 25 32.0	+8.2
CLL				*e*(PPPrev)			19 27 36.0	
CLL				*e*PSKS			19 28 57.0	
CLL				*e*			19 30 04.0	
CLL				*e*PPS	PPS		19 31 56.0	
CLL				*e*SS	**SS**		**19 38 32.0**	**-2.9**
CLL				*e*SSS	SSS		19 44 37.0	
CLL				*e*			19 46 58.0	
CLL				*e*SSSS			19 49 42.0	
CLL				LmV			20 35 00.0	
	comp=Z,1μm,19.5s							
BRG	**Berggiesshubel**	**158.49**	**339**	*e*PKP	**PKPdf**		**19 14 22.0**	**-0.8**
	comp=Z,57nm,2.1s							
BRG				*i*			19 14 57.4	
	comp=Z,39nm,0.8s							
BRG				PP	**PP**		**19 18 37.0**	**-0.6**
BRG				SS	SS		19 38 37.0	+0.7
BRG								
	comp=N,944nm,19.6s							
BRG								
	comp=E,646nm,20.1s							
BRG								
	comp=Z,1μm,19.4s							
BRG	**Berggiesshubel**	**158.49**	**339**	*e*PKPdf	**PKPdf**		**19 14 23.2**	**+0.4**
BRG				*e*PKPab	**PKPab**		**19 14 57.6**	**0.0**
BRG	**Berggiesshubel**	**158.49**	**339**	*e*PKIKP	**PKPdf**		**19 14 22.0**	**-0.8**
BRG				*i*			19 14 57.4	
BRG							19 18 37.0	
BRG				SS	SS		19 38 37.0	+0.7
BRG				pmax	pmax			
	comp=Z,57nm,2.1s							
BRG				pmax	pmax			
	comp=Z,39nm,0.8s							
BRG				MLR	MLR			
	comp=N,944nm,19.6s							
BRG				MLR	MLR			
	comp=E,646nm,20.1s							
BRG				MLR	MLR			
	comp=Z,1μm,19.4s							
PSZ	**Piszkesteto**	**158.51**	**326**	PFAKE			19 14 30.0	+7.0
PSZ				LR	LR			
	comp=Z,1μm,20.0s							
PSZ	**Piszkesteto**	**158.51**	**326**	⇓*e*PKPdf	**PKPdf**		**19 14 21.1**	**-1.9**
CLZ	**Clausthal**	**158.51**	**346**	*e*PKPdf	**PKPdf**		**19 14 23.3**	**+0.5**
CLZ				*e*PKPab	**PKPab**		**19 14 57.9**	**+0.1**
IBBN	**Ibbenburen**	**158.52**	**351**	*e*PKPab	**PKPab**		**19 14 57.8**	**+0.1**
VYHS	**Vyhne**	**158.59**	**328**	*e*PKIKP	**PKPdf**		**19 14 21.3**	**-1.8**
VYHS	**Vyhne**	**158.59**	**328**	*e*PKP	**PKPdf**		**19 14 21.2**	**-1.8**
PVCC	**Panska Ves**	**158.59**	**338**	*e*PKIKP	**PKPdf**		**19 14 23.8**	**+0.9**
PVCC				*e*			19 14 58.3	
PVCC				MLR	MLR			
	comp=Z,2μm,19.2s							
PVCC	**Panska Ves**	**158.59**	**338**	*e*PKPDF	**PKPdf**		**19 14 23.8**	**+0.9**
PVCC				*e*PKPAB	**PKPab**		**19 14 58.3**	**+0.2**
PVCC				AMS	AMS		20 29 40.0	
	comp=Z,2μm,19.2s							
FBE	**Freiberg**	**158.62**	**340**	*e*PKPab	**PKPab**		**19 14 58.5**	**+0.3**
NEUB	**Neuenburg**	**158.78**	**343**	*e*PKPdf	**PKPdf**		**19 14 23.8**	**+0.7**
NEUB				*e*PKPab	**PKPab**		**19 14 58.7**	**-0.2**
VRAC	**Vranov**	**158.90**	**333**	PKP	**PKPdf**		**19 14 23.2**	**-0.2**
VRAC				PKPab	**PKPab**		**19 14 59.4**	**-0.1**
VRAC	**Vranov**	**158.90**	**333**	⇓*i*P	pPKPdf		19 14 32.4	-1.3
VRAC	**Vranov**	**158.90**	**333**	PKP	**PKPdf**		**19 14 23.2**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=83,slow=2.7,SNR=6.4							
VRAC				PKPab	**PKPab**		**19 14 59.4**	**-0.1**
	comp=Z,7.5nm,0.7s,baz=359,slow=5.0,SNR=7.0							
WTSB	**Winterswijk**	**158.98**	**352**	*e*PKP	**PKPab**		**19 14 58.8**	**-0.9**
	comp=Z,53nm,0.7s							
PRA	**Prague**	**159.03**	**338**	PKPDF	**PKPdf**		**19 14 24.0**	**+0.6**
PRA				PKPAB	**PKPab**		**19 15 00.0**	**0.0**
PRU	**Pruhonice**	**159.07**	**337**	*e*PKIKP	**PKPdf**		**19 14 25.7**	**+2.2**
PRU				*e*SS	SS		19 38 38.8	-3.7
PRU				MLR	MLR			
	comp=Z,1μm,22.1s							
PRU	**Pruhonice**	**159.07**	**337**	*e*PKPDF	**PKPdf**		**19 14 25.7**	**+2.2**
PRU				*e*PKPAB	**PKPab**		**19 15 01.1**	**+0.9**
PRU				*e*SS	SS		19 38 38.8	-3.7
PRU				AMS	AMS		20 22 30.0	
	comp=Z,1μm,22.1s							
BZS	**Buzias**	**159.12**	**319**	⇓PKIKP	**PKPdf**		**19 14 22.4**	**-1.3**
BZS	**Buzias**	**159.12**	**319**	⇓*i*P	**PKPdf**		**19 14 22.4**	**-1.3**
TREC	**Trest**	**159.32**	**335**	*e*PKIKP	**PKPdf**		**19 14 23.8**	**-0.1**
TREC				*e*			19 15 01.0	
TREC				MLR	MLR			
	comp=Z,2μm,20.9s							
TREC	**Trest**	**159.32**	**335**	*e*PKPDF	**PKPdf**		**19 14 23.8**	**-0.1**
TREC				*e*PKPAB	**PKPab**		**19 15 01.0**	**-0.4**
TREC				*e*SS	SS		19 38 57.7	+12
TREC				AMS	AMS		20 29 50.0	
	comp=Z,2μm,20.9s							
TANN	**Tannenbergstha**	**159.33**	**341**	*e*PKPdf	**PKPdf**		**19 14 24.2**	**+0.3**
TANN				*e*PKPab	**PKPab**		**19 15 01.4**	**0.0**
WERD	**Werda**	**159.34**	**341**	*e*PKPdf	**PKPdf**		**19 14 24.3**	**+0.5**
WERD				*e*PKPab	**PKPab**		**19 15 01.5**	**+0.1**
MOX	**Moxa**	**159.34**	**343**	*e*PKPdf	**PKPdf**		**19 14 24.0**	**+0.2**
MOX				*e*PKPab	**PKPab**		**19 15 01.1**	**-0.3**
MOX				*ep*PKPab	**pPKPab**		**19 15 08.6**	**-2.8**
PLN	**Plauen**	**159.34**	**342**	*e*PKPab	**PKPab**		**19 15 01.3**	**-0.1**
GUNZ	**Gunzen**	**159.41**	**341**	*e*PKPab	**PKPab**		**19 15 01.9**	**+0.2**
BUG	**Bochum--Univer**	**159.43**	**351**	*e*PKPab	**PKPab**		**19 15 01.2**	**-0.5**
WERN	**Wernitzgruen**	**159.47**	**341**	*e*PKPdf	**PKPdf**		**19 14 24.4**	**+0.4**
WERN				*e*PKPab	**PKPab**		**19 15 02.2**	**+0.3**
NKC	**Novy Kostel**	**159.49**	**341**	*e*PKIKP	**PKPdf**		**19 14 24.3**	**+0.3**
NKC				*e*			19 15 01.6	
NKC				MLR	MLR			
	comp=Z,2μm,19.4s							
NKC	**Novy Kostel**	**159.49**	**341**	*e*PKPDF	**PKPdf**		**19 14 24.3**	**+0.3**
NKC				*e*PKPAB	**PKPab**		**19 15 01.6**	**-0.5**
NKC				AMS	AMS		20 31 00.0	
	comp=Z,2μm,19.4s							
UBBA	**Unterbreizbach**	**159.56**	**346**	*e*PKPdf	**PKPdf**		**19 14 24.7**	**+0.8**
UBBA				*e*PKPab	**PKPab**		**19 15 02.1**	**0.0**
VTS	**Vitosha**	**159.75**	**310**	⇓PKIKP	pPKPdf		19 14 33.0	-2.0
VTS	**Vitosha**	**159.75**	**310**	⇓*i*P	pPKPdf		19 14 33.0	-2.0
KHC	**Kasperske Hory**	**160.12**	**338**	*e*PKIKP	**PKPdf**		**19 14 24.0**	**-0.8**
KHC				*e*			19 15 04.0	
KHC				MLR	MLR			
	comp=Z,2μm,18.9s							
KHC	**Kasperske Hory**	**160.12**	**338**	*e*PKPDF	**PKPdf**		**19 14 24.0**	**-0.8**
KHC				*ex*	x		19 14 49.5	
KHC				*e*PKPAB	**PKPab**		**19 15 04.0**	**-0.9**
KHC				*ep*PKP	pPKPdf		19 15 10.0	+35
KHC				AMS	AMS		20 29 10.0	
	comp=Z,2μm,18.9s							
SOP	**Sopron**	**160.20**	**330**	⇓*e*PKPdf	**PKPdf**		**19 14 25.1**	**+0.2**
BEBN	**Eben Emael**	**160.25**	**353**	PKPab	**PKPab**		**19 15 05.0**	**-0.3**
HGN	**Heimansgroeve**	**160.26**	**353**	*e*PKP	**PKPab**		**19 15 04.8**	**-0.5**
	comp=Z,86nm,1.0s							
PKSM	**Moragy**	**160.32**	**324**	⇑*e*PKPdf	**PKPdf**		**19 14 24.0**	**-1.0**
GRF	**Grafenberg Arr**	**160.32**	**342**	*e*PKPab	**PKPab**		**19 15 06.0**	**+0.4**
GRF				*e*L	L		20 36 24.8	
	comp=Z,1μm,19.9s							
GEC2	**GERESS Array S**	**160.33**	**337**	*e*PKPdf	**PKPdf**		**19 14 25.3**	**+0.2**
GERES	**GERESS Array B**	**160.33**	**337**	PKP	**PKPdf**		**19 14 25.0**	**-0.1**
GERES				PKPab	**PKPab**		**19 15 04.5**	**-1.4**
GERES	**GERESS Array B**	**160.33**	**337**	PKP	**PKPdf**		**19 14 25.0**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=356,slow=1.9,SNR=9.8							
GERES				PKPab	**PKPab**		**19 15 04.5**	**-1.4**
	comp=Z,6.8nm,0.7s,baz=46,slow=3.9,SNR=10							
WET	**Wettzell**	**160.34**	**339**	*e*PKPdf	**PKPdf**		**19 14 25.3**	**+0.3**
WET				*e*PKPab	**PKPab**		**19 15 06.2**	**+0.4**
MEM	**Membach**	**160.40**	**353**	PKPab	**PKPab**		**19 15 05.9**	**0.0**
TNS	**Taunus Mts**	**160.43**	**348**	*e*PKPab	**PKPab**		**19 15 05.9**	**-0.3**
SNF	**Seneffe**	**160.65**	**356**	PKPab	**PKPab**		**19 15 06.8**	**-0.2**
BCLA	**Clavier**	**160.66**	**354**	PKPab	**PKPab**		**19 15 06.7**	**-0.4**
VAY	**Valandovo**	**160.74**	**307**	*e*PKP	**PKPab**		**19 15 07.1**	**-0.7**
ABH	**Alteburg**	**160.91**	**349**	PKP	**PKPdf**		**19 14 24.8**	**-0.8**
TOD	**Tromm**	**160.95**	**347**	PKIKP	**PKPdf**		**19 14 23.9**	**-1.8**
TOD	**Tromm**	**160.95**	**347**	PKP	**PKPdf**		**19 14 23.9**	**-1.8**
ARSA	**Arzberg**	**160.97**	**331**	⇑*i*P	**PKPdf**		**19 14 24.0**	**-1.8**
ARSA	**Arzberg**	**160.97**	**331**	⇑*i*PKPdf	**PKPdf**		**19 14 24.0**	**-1.8**
	comp=Z,16nm,1.9s							
GIVF	**Givet**	**161.02**	**355**	*e*PKIKP	**PKPdf**		**19 14 25.5**	**-0.2**
GIVF	**Givet**	**161.02**	**355**	*e*PKIKP	**PKPdf**		**19 14 25.5**	**-0.2**
GIVF	**Givet**	**161.02**	**355**	*e*PKPdf	**PKPdf**		**19 14 25.5**	**-0.2**
DOU	**Dourbes**	**161.04**	**355**	PKPab	**PKPab**		**19 15 08.3**	**-0.4**
BAIF	**Baives**	**161.10**	**356**	*e*PKIKP	**PKPdf**		**19 14 25.6**	**-0.2**
BAIF	**Baives**	**161.10**	**356**	*e*PKIKP	**PKPdf**		**19 14 25.6**	**-0.2**
BAIF	**Baives**	**161.10**	**356**	*e*PKPdf	**PKPdf**		**19 14 25.6**	**-0.2**
RUP	**Ruppelstein**	**161.16**	**350**	PKIKP	**PKPdf**		**19 14 25.0**	**-0.9**
RUP	**Ruppelstein**	**161.16**	**350**	PKP	**PKPdf**		**19 14 25.0**	**-0.9**
SKO	**Skopje**	**161.20**	**310**	*e*PKP	**PKPdf**		**19 14 27.3**	**+1.2**
WLF	**Walferdange**	**161.32**	**352**	PKPab	**PKPab**		**19 15 10.6**	**+0.6**
WLF	**Walferdange**	**161.32**	**352**	*e*PKPab	**PKPab**		**19 15 10.3**	**+0.3**
WLF	**Walferdange**	**161.32**	**352**	PFAKE			19 14 40.0	+14
WLF				LR	LR			
	comp=Z,2μm,20.0s							
STU	**Stuttgart**	**161.66**	**345**	*e*PKPab	**PKPab**		**19 15 11.4**	**-0.1**
FUR	**Furstenfeldbru**	**161.69**	**340**	*e*PKPab	**PKPab**		**19 15 12.0**	**+0.3**
BIA	**Bitola**	**161.72**	**308**	*e*PKP	**PKPdf**		**19 14 26.3**	**-0.5**
LANF	**Langenberg**	**161.74**	**348**	PKIKP	**PKPdf**		**19 14 23.1**	**-3.4**
LANF	**Langenberg**	**161.74**	**348**	PKP	**PKPdf**		**19 14 23.1**	**-3.4**
LANF	**Langenberg**	**161.74**	**348**	PKP	**PKPdf**		**19 14 23.1**	**-3.4**
TOA0	**Torodi Ar. Sit**	**162.02**	**179**	*e*PKPdf	**PKPdf**		**19 14 27.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**162.02**	**179**	PKP	**PKPdf**		**19 14 27.9**	**+0.1**
TORD				PKPab	**PKPab**		**19 15 14.7**	**+0.8**
TORD				PP	**PP**		**19 18 57.8**	**+1.4**
TORD				PKKP			19 22 41.1	
TORD	**Torodi Ar. Bea**	**162.02**	**179**	PKP	**PKPdf**		**19 14 27.9**	**+0.1**
	comp=Z,6.1nm,0.9s,baz=306,slow=1.2,SNR=13							
TORD				PKPab	**PKPab**		**19 15 14.7**	**+0.8**
	comp=Z,18nm,0.6s,baz=184,slow=3.0,SNR=18							
TORD				PP	**PP**		**19 18 57.8**	**+1.4**
	comp=Z,5.9nm,1.0s,baz=170,slow=4.2,SNR=4.8							
TORD				PKKP			19 22 41.1	
	comp=Z,1.8nm,0.7s,baz=20,slow=7.2,SNR=4.1							
BFO	**Black Forest**	**162.26**	**346**	*e*PKPab	**PKPab**		**19 15 13.8**	**-0.4**
BFO	**Black Forest**	**162.26**	**346**	PFAKE			19 14 40.0	+13
BFO				LR	LR			
	comp=Z,1μm,20.0s							
FLN	**La Foliniere**	**162.35**	**6**	*e*PKIKP	**PKPdf**		**19 14 27.1**	**0.0**
FLN				*e*R				
	comp=Z,3μm,22.2s							
FLN	**La Foliniere**	**162.35**	**6**	*e*PKIKP	**PKPdf**		**19 14 27.1**	**0.0**
FLN	**La Foliniere**	**162.35**	**6**	*e*PKPdf	**PKPdf**		**19 14 27.1**	**0.0**
CDF	**Champ du Feu**	**162.38**	**349**	*e*PKIKP	**PKPdf**		**19 14 26.4**	**-0.9**
CDF	**Champ du Feu**	**162.38**	**349**	*e*PKIKP	**PKPdf**		**19 14 26.4**	**-0.9**
CDF	**Champ du Feu**	**162.38**	**349**	*e*PKPdf	**PKPdf**		**19 14 26.4**	**-0.9**
SPAK	**Spaichingen-Ko**	**162.38**	**345**	PKP	**PKPdf**		**19 14 30.0**	**+2.7**
PAGF	**Fort de Pagny**	**162.46**	**352**	*e*PKIKP	**PKPdf**		**19 14 27.2**	**0.0**
	comp=Z,14nm,1.3s							
PAGF	**Fort de Pagny**	**162.46**	**352**	*e*PKPdf	**PKPdf**		**19 14 27.2**	**0.0**
MOTA	**Moosalm**	**162.48**	**339**	⇓*i*PKIKP	**PKPdf**		**19 14 27.3**	**-0.2**
MOTA	**Moosalm**	**162.48**	**339**	⇓*i*P	**PKPdf**		**19 14 27.3**	**-0.2**
MOTA	**Moosalm**	**162.48**	**339**	⇓*i*PKPdf	**PKPdf**		**19 14 27.3**	**-0.2**
	comp=Z,8.6nm,0.9s							
TIR	**Tirane**	**162.53**	**310**	PFAKE			19 14 40.0	+12
TIR				LR	LR			
	comp=Z,1μm,20.0s							
LDF	**La Druitiere**	**162.55**	**5**	*e*PKIKP	**PKPdf**		**19 14 27.3**	**0.0**
LDF	**La Druitiere**	**162.55**	**5**	*e*PKIKP	**PKPdf**		**19 14 27.3**	**0.0**
LDF	**La Druitiere**	**162.55**	**5**	*e*PKPdf	**PKPdf**		**19 14 27.3**	**0.0**
MEZF	**Maizieres J'vi**	**162.59**	**354**	*e*PKIKP	**PKPdf**		**19 14 27.4**	**+0.1**
MEZF	**Maizieres J'vi**	**162.59**	**354**	*e*PKPdf	**PKPdf**		**19 14 27.4**	**+0.1**
ECH	**Echery**	**162.59**	**349**	PKIKP	**PKPdf**		**19 14 26.5**	**-0.9**
ECH				MLR	MLR			
	comp=Z,2μm,20.0s							
ECH	**Echery**	**162.59**	**349**	PKP	**PKPdf**		**19 14 26.5**	**-0.9**
ECH				LR	LR			
	comp=Z,2μm,20.0s							
ECH	**Echery**	**162.59**	**349**	PKP	**PKPdf**		**19 14 26.5**	**-0.9**
GRR	**Gorron**	**162.69**	**7**	*e*PKIKP	**PKPdf**		**19 14 28.0**	**+0.6**
	comp=Z,98nm,1.6s							
GRR	**Gorron**	**162.69**	**7**	*e*PKIKP	**PKPdf**		**19 14 28.0**	**+0.6**
GRR	**Gorron**	**162.69**	**7**	*e*PKPdf	**PKPdf**		**19 14 28.0**	**+0.6**
THEF	**They Montfort**	**162.75**	**351**	PKIKP	**PKPdf**		**19 14 26.8**	**-0.8**
THEF	**They Montfort**	**162.75**	**351**	PKP	**PKPdf**		**19 14 26.8**	**-0.8**
THEF	**They Montfort**	**162.75**	**351**	PKP	**PKPdf**		**19 14 26.8**	**-0.8**
FELD	**Feldberg im Sc**	**162.76**	**347**	PKP	**PKPdf**		**19 14 27.2**	**-0.5**
SFTF	**Sexfontaines**	**162.88**	**353**	*e*PKIKP	**PKPdf**		**19 14 27.5**	**-0.2**
	comp=Z,205nm,1.6s							
SFTF	**Sexfontaines**	**162.88**	**353**	*e*PKPdf	**PKPdf**		**19 14 27.5**	**-0.2**
FETA	**Feichten**	**162.88**	**340**	⇑*i*P	**PKPdf**		**19 14 28.4**	**+0.5**
FETA	**Feichten**	**162.88**	**340**	⇑*i*PKPdf	**PKPdf**		**19 14 28.4**	**+0.5**
	comp=Z,14nm,1.1s							
HAU	**Haudompre**	**162.92**	**350**	*e*PKIKP	**PKPdf**		**19 14 27.3**	**-0.4**
HAU				*e*R				
	comp=Z,2μm,20.2s							
HAU	**Haudompre**	**162.92**	**350**	*e*PKIKP	**PKPdf**		**19 14 27.3**	**-0.4**
HAU	**Haudompre**	**162.92**	**350**	*e*PKPdf	**PKPdf**		**19 14 27.3**	**-0.4**
HINF	**Hinteralfeld**	**163.03**	**349**	*e*PKIKP	**PKPdf**		**19 14 27.3**	**-0.6**
HINF	**Hinteralfeld**	**163.03**	**349**	*e*PKIKP	**PKPdf**		**19 14 27.3**	**-0.6**
HINF	**Hinteralfeld**	**163.03**	**349**	*e*PKPdf	**PKPdf**		**19 14 27.3**	**-0.6**
DAVOX	**Davos/Dischmat**	**163.35**	**341**	PKP	**PKPdf**		**19 14 28.5**	**+0.1**
DAVOX				PKPab	**PKPab**		**19 15 19.1**	**-0.1**
DAVOX	**Davos/Dischmat**	**163.35**	**341**	PKP	**PKPdf**		**19 14 28.5**	**+0.1**
	comp=Z,3.9nm,0.7s,baz=27,slow=10,SNR=5.1							
DAVOX				PKPab	**PKPab**		**19 15 19.1**	**-0.1**
	comp=Z,55nm,0.7s,baz=18,slow=3.2,SNR=26							
LOMF	**Lomont**	**163.48**	**349**	PKIKP	**PKPdf**		**19 14 31.7**	**+3.3**
LOMF	**Lomont**	**163.48**	**349**	PKP	**PKPdf**		**19 14 31.7**	**+3.3**
LOMF	**Lomont**	**163.48**	**349**	PKP	**PKPdf**		**19 14 31.7**	**+3.3**
TUE	**Stuetta**	**163.77**	**342**	*e*PKPdf	**PKPdf**		**19 14 29.0**	**+0.2**
TUE				LR	LR			
	comp=Z,3μm,22.0s							
LOR	**Lormes**	**163.91**	**356**	*e*PKIKP	**PKPdf**		**19 14 28.7**	**0.0**
	comp=Z,28nm,1.1s							
LOR				*e*R				
	comp=Z,3μm,21.5s							
LOR	**Lormes**	**163.91**	**356**	*e*PKPdf	**PKPdf**		**19 14 28.7**	**0.0**
SSF	**Saint Saulge**	**164.13**	**357**	*e*PKIKP	**PKPdf**		**19 14 28.7**	**-0.2**
	comp=Z,21nm,1.0s							
SSF	**Saint Saulge**	**164.13**	**357**	*e*PKIKP	**PKPdf**		**19 14 28.7**	**-0.2**
SSF	**Saint Saulge**	**164.13**	**357**	*e*PKPdf	**PKPdf**		**19 14 28.7**	**-0.2**
CABF	**La Chapelle**	**164.32**	**350**	*e*PKIKP	**PKPdf**		**19 14 29.3**	**+0.1**
CABF	**La Chapelle**	**164.32**	**350**	*e*PKIKP	**PKPdf**		**19 14 29.3**	**+0.1**
CABF	**La Chapelle**	**164.32**	**350**	*e*PKPdf	**PKPdf**		**19 14 29.3**	**+0.1**
MFF	**Saint Martin d**	**164.52**	**6**	*e*PKIKP	**PKPdf**		**19 14 29.1**	**-0.1**
MFF	**Saint Martin d**	**164.52**	**6**	*e*PKIKP	**PKPdf**		**19 14 29.1**	**-0.1**
MFF	**Saint Martin d**	**164.52**	**6**	*e*PKPdf	**PKPdf**		**19 14 29.1**	**-0.1**
BGF	**Bois d'Agland**	**164.66**	**358**	*e*PKIKP	**PKPdf**		**19 14 29.3**	**-0.1**
BGF	**Bois d'Agland**	**164.66**	**358**	*e*PKIKP	**PKPdf**		**19 14 29.3**	**-0.1**
BGF	**Bois d'Agland**	**164.66**	**358**	*e*PKPdf	**PKPdf**		**19 14 29.3**	**-0.1**
TCF	**Toulx Ste Croi**	**164.94**	**360**	*e*PKIKP	**PKPdf**		**19 14 29.3**	**-0.3**
TCF	**Toulx Ste Croi**	**164.94**	**360**	*e*PKIKP	**PKPdf**		**19 14 29.3**	**-0.3**
TCF	**Toulx Ste Croi**	**164.94**	**360**	*e*PKPdf	**PKPdf**		**19 14 29.3**	**-0.3**
VLC	**Villacollemand**	**165.53**	**336**	PFAKE			19 14 40.0	+10
VLC				LR	LR			
	comp=Z,2μm,20.0s							
TIP	**Timpagrande**	**165.67**	**308**	PFAKE			19 14 40.0	+9.5
TIP				LR	LR			
	comp=Z,2μm,22.0s							
AQU	**L'Aquila**	**165.70**	**324**	PFAKE			19 14 40.0	+10
AQU				LR	LR			
	comp=Z,3μm,22.0s							
BNI	**Bardonecchia**	**165.73**	**347**	PFAKE			19 14 40.0	+10
BNI				LR	LR			
	comp=Z,2μm,22.0s							
CUC	**Castrocucco**	**165.86**	**312**	PFAKE			19 14 40.0	+9.4
CUC				LR	LR			
	comp=Z,1μm,21.0s							
PGAV	**Gavieira, Arco**	**166.39**	**35**	*e*PKPdf	**PKPdf**		**19 14 33.0**	**+1.9**
PGAV				*e*SS	SS		19 40 04.0	+4.7
PGAV				*e*LR	LR		20 13 31.0	
	comp=Z,2μm,20.0s							
POLO	**Lamas de Olo**	**167.07**	**36**	*e*PKPdf	**PKPdf**		**19 14 33.9**	**+2.3**
POLO				*i* SS	SS		19 40 26.7	+21
POLO				A	A		20 28 56.1	
	comp=Z,654nm,20.0s							
PVRL	**Vila Real**	**167.18**	**36**	*e*PKPdf	PKPdf		19 14 37.7	+6.1
PBRG	**Braganca**	**167.24**	**32**	A	A		20 35 23.9	
	comp=Z,2μm,18.0s							
PVIS	**Viseu**	**167.50**	**38**	*e*PKPdf	**PKPdf**		**19 14 33.4**	**+1.5**
MVO	**Moncorvo**	**167.60**	**34**	*e*PKPdf	**PKPdf**		**19 14 33.6**	**+1.6**
MVO				*i* SS	SS		19 40 31.0	+20
MVO				*e*LR	LR		20 14 07.5	
	comp=Z,1μm,20.0s							
PMAFR	**Mafra**	**167.85**	**47**	*e*PKPdf	**PKPdf**		**19 14 35.7**	**+3.6**
PMAFR				*i* SS	SS		19 40 36.2	+22
PMAFR				A	A		20 37 15.1	
	comp=Z,1μm,18.0s							
MTE	**Manteigas**	**167.91**	**38**	*e*PKPdf	**PKPdf**		**19 14 34.3**	**+2.1**
MTE				*i* SS	SS		19 40 32.8	+18
MTE				*e*LR	LR		20 17 13.5	
	comp=Z,2μm,20.0s							
MTE	**Manteigas**	**167.91**	**38**	PFAKE			19 14 40.0	+7.8
MTE				LR	LR			
	comp=Z,2μm,20.0s							
PTOM	**Tomar**	**167.97**	**43**	*e*PKPdf	**PKPdf**		**19 14 34.2**	**+2.0**
LIS	**Lisbon**	**168.08**	**48**	*e*P	**PKPdf**		**19 14 31.7**	**-0.6**
LIS				*e*PP	**PP**		**19 19 30.2**	**+1.2**
LIS				AMS	AMS		20 39 18.0	
	comp=Z,2μm,18.4s							
LIS	**Lisbon**	**168.08**	**48**	*e*PP	PP		19 19 30.2	+1.2
LIS				A	A		20 39 18.0	
	comp=Z,2μm,18.4s							
LIS	**Lisbon**	**168.08**	**48**	*e*PKIKP	**PKPdf**		**19 14 31.6**	**-0.6**
LIS				*e*			19 19 30.1	
PCBR	**Castelo Branco**	**168.35**	**40**	*e*PKPdf	**PKPdf**		**19 14 33.8**	**+1.4**
PMTG	**Montargil**	**168.44**	**44**	*i* SS	SS		19 40 16.3	-3.9
PMTG				A	A		20 27 25.8	
	comp=Z,1μm,20.0s							
PMRV	**Marv??o**	**168.68**	**41**	*e*PKPdf	**PKPdf**		**19 14 34.1**	**+1.4**
PMRV				*e*SS	SS		19 40 30.7	+8.1
PMRV				*e*LR	LR		20 14 13.2	
	comp=Z,2μm,18.0s							
WDD	**Wield Dalam**	**168.69**	**298**	PFAKE			19 14 40.0	+7.3
WDD				LR	LR			
	comp=Z,2μm,20.0s							
PNCL	**Nicolau / Gran**	**168.83**	**49**	*e*PKPdf	**PKPdf**		**19 14 34.3**	**+1.5**
PNCL				*i* SS	SS		19 40 37.9	+14
PNCL				A	A		20 30 20.6	
	comp=Z,2μm,18.0s							
EVOP	**Sao Brissos**	**168.84**	**46**	*e*PKIKP	**PKPdf**		**19 14 33.5**	**+0.7**
EVOP	**Sao Brissos**	**168.84**	**46**	*e*PKPdf	**PKPdf**		**19 14 33.5**	**+0.7**
EVO	**Evora**	**168.90**	**46**	*e*PKPdf	**PKPdf**		**19 14 34.3**	**+1.5**
EVO	**Evora**	**168.90**	**46**	*e*PKIKP	**PKPdf**		**19 14 33.5**	**+0.7**
	comp=Z,39nm,1.1s							
EVO				*e*R				
	comp=Z,3μm,21.2s							
PESTR	**Estremoz**	**168.94**	**44**	*e*PKPdf	**PKPdf**		**19 14 36.7**	**+3.8**
PESTR				*i* SS	SS		19 40 37.1	+12
PESTR				A	A		20 37 48.4	
	comp=Z,2μm,18.0s							
PTEO	**Sao Teotonio**	**169.01**	**52**	*e*PKPdf	**PKPdf**		**19 14 37.9**	**+5.0**
PFVI	**Vila Bisbo**	**169.15**	**54**	*e*PKPdf	**PKPdf**		**19 14 34.3**	**+1.3**
PF

0.6nm,0.4s,baz=126,slow=6.7,SNR=4.0
AKTO Aktyubinsk 74.06 322 P P 19 09 59.6 +0.2
0.8nm,0.5s,baz=95,slow=12,SNR=3.6

KRSC 12 19:05:33.5±0.3,55°23'N×162°29'E,h61km±59km,ML3.8,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.75 206**	*i* P	Pn	19 05 49.3	+1.0
MKZ			*i* S	Sn	19 06 01.3	+2.1
KBTR	**Krutoberegovo**	**1.02 17**	*i* P	Pn	19 05 52.0	+0.1
KBTR			*i* S	Sn	19 06 05.8	+0.3
BZGR	**Bezymyannyi-Gr**	**1.15 309**	*eP*	Pn	19 05 55.0	+1.3
BZGR			*i* S	Sn	19 06 11.2	+2.5
ZLN	**Zelenaya**	**1.15 314**	*i* P	Pn	19 05 55.2	+1.5
ZLN			*i* S	Sn	19 06 11.4	+2.6
BZMR	**Bezymyannaya**	**1.24 305**	*eP*	Pn	19 05 56.0	+1.1
BZMR			*i* S	Sn	19 06 12.6	+1.6
CIRR	**Tsirk**	**1.25 316**	*eP*	Pn	19 05 56.4	+1.4
CIRR			*i* S	Sn	19 06 14.0	+3.0
BZWR	**Bezymyannyi-We**	**1.26 307**	*eP*	Pn	19 05 56.4	+1.2
BZWR			*i* S	Sn	19 06 13.1	+1.8
KMNR	**Kamenistaya**	**1.28 295**	*i* P	Pn	19 05 57.0	+1.6
KMNR			*i* S	Sn	19 06 14.7	+2.9
KPT	**Kopyto**	**1.39 303**	*i* P	Pn	19 05 58.1	+1.3
KPT			*eS*	Sn	19 06 16.4	+2.1
KRSR	**Krestovskiy**	**1.39 316**	*i* P	Pn	19 05 57.7	+0.9
KRSR			*i* S	Sn	19 06 16.3	+1.9
KLY	**Klyuchi**	**1.43 320**	*i* P	Pn	19 05 57.1	-0.1
KLY			*i* S	Sn	19 06 15.2	+0.2
SMKR	**Semkarok**	**1.43 341**	*i* P	Pn	19 05 58.0	+0.6
BDR	**Baidarnaya**	**1.47 336**	*i* P	Pn	19 05 59.0	+1.1
KOZ	**Kozyrevsk**	**1.60 302**	*eP*	Pn	19 06 01.5	+1.9
KOZ			*i* S	Sn	19 06 22.0	+2.7
SRDR	**Sredinnyy**	**1.82 308**	*eP*	Pn	19 06 03.7	+1.2
SRDR			*eS*	Sn	19 06 26.1	+1.5
BKI	**Bering**	**2.11 89**	*eP*	Pn	19 06 05.7	-0.7
BKI			*i* S	Sn	19 06 29.0	-2.5
ESO	**Esso**	**2.15 290**	*eP*	Pn	19 06 08.0	+0.9
ESO			*i* S	Sn	19 06 33.5	+0.8
SPN	**Mys Shipunski**	**2.52 213**	*eP*	Pn	19 06 12.0	0.0
SPN			*i* S	Sn	19 06 39.4	-2.1
SDLR	**Sedlovina**	**2.80 227**	*eP*	Pn	19 06 17.6	+1.7
SDLR			*i* S	Sn	19 06 50.1	+1.5
SMAR	**Somma**	**2.84 228**	*eP*	Pn	19 06 18.5	+1.8
SMAR			*eS*	Sn	19 06 50.2	+0.3
AVH	**Avacha**	**2.87 228**	*eP*	Pn	19 06 19.1	+2.2
AVH			*i* S	Sn	19 06 51.6	+1.4
UGLR	**Uglovaya**	**2.87 227**	*eP*	Pn	19 06 18.8	+1.8
KOK	**Koryaka**	**2.89 229**	*eP*	Pn	19 06 19.1	+1.9
KOK			*eS*	Sn	19 06 52.3	+1.4
PET	**Petropavlovsk**	**3.08 226**	*eP*	Pn	19 06 21.5	+1.9
PET			*i* S	Sn	19 06 56.5	+1.4
RUS	**Russkaya**	**3.59 220**	P	Pn	19 06 28.0	+1.5
MTVR	**Mutnovka**	**3.67 223**	*eP*	Pn	19 06 30.1	+2.1
ASAK	**Asacha**	**3.86 224**	*eP*	Pn	19 06 33.3	+2.9

IDC 12 19:07:52.7±0.8,3°66'N×125°60'E,h0km,mb3.9/9,
mb1 4.0/9,mb1mx3.8/20,mbtmp3.9/9,Error ellipse:
s-maj=71.7km s-min=15.6km az=67.0,Talaud Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.98 160**	P	P	19 13 17.4	-0.9
	2.6nm,0.6s,baz=334,slow=12,SNR=7.0					
ASAR	**Alice Springs**	**28.34 164**	P	P	19 13 49.7	+1.1
	0.2nm,0.3s,baz=344,slow=11,SNR=4.6					
STKA	**Stephens Creek**	**38.48 158**	P	P	19 15 16.0	-0.6
	2.3nm,0.5s,baz=347,slow=7.7,SNR=9.1					
SONM	**Songino Array**	**47.01 342**	P	P	19 16 26.0	+0.1
	0.7nm,0.7s,baz=149,slow=6.4,SNR=3.7					
MKAR	**Makanchi Array**	**56.97 326**	P	P	19 17 40.8	+0.7
	1.3nm,0.6s,baz=120,slow=8.0,SNR=8.5					
MKAR			PcP	PcP	19 18 36.4	+1.0
	0.7nm,0.7s,baz=135,slow=4.9,SNR=2.4					
ZALV	**Zalesovo Beam**	**60.14 334**	P	P	19 18 00.4	-1.6
	0.8nm,0.4s,baz=130,slow=4.6,SNR=3.6					
KURBB	**Kurchatov Arra**	**61.19 328**	P	P	19 18 08.3	-0.9
	2.6nm,0.8s,baz=123,slow=6.2,SNR=4.6					
BVAR	**Borovoye Array**	**66.76 327**	P	P	19 18 46.2	+0.3
	1.0nm,0.6s,baz=130,slow=5.8,SNR=3.8					
ILAR	**Eielson Array**	**85.65 25**	P	P	19 20 33.4	+0.3
	0.5nm,1.0s,baz=230,slow=3.3,SNR=3.9					

IDC 12 19:09:57.1±1.5,30°96'S×177°85'W,h0km,mb4.2/3,
mb1 4.5/3,mb1mx4.0/14,mbtmp4.1/3,Error ellipse:
s-maj=56.1km s-min=39.9km az=173.0,Kermadec Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.21 267**	P	P	19 18 00.1	-0.2
	1.7nm,0.9s,baz=114,slow=7.7,SNR=8.6					
WRA	**Warramunga Arr**	**44.25 273**	P	P	19 18 08.5	-0.1
	2.1nm,0.7s,baz=114,slow=8.0,SNR=8.2					
ILAR	**Eielson Array**	**98.44 13**	P	P	19 23 35.8	-0.8
	2.4nm,1.2s,baz=215,slow=5.0,SNR=4.1					
FINES	**FINESS Array B**	**145.72 340**	PKPbc	PKPdf	19 29 36.7	-0.2
	1.6nm,0.5s,baz=39,slow=3.0,SNR=9.8					
TORD	**Torodi Ar. Bea**	**162.27 179**	PKPab	PKPab	19 30 47.8	-0.3
	0.2nm,0.7s,baz=152,slow=3.4,SNR=2.6					

IDC 12 19:11:08.8±1.3,3°89'N×127°02'E,h0km,mb3.6/8,
mb1 3.8/8,mb1mx3.6/22,mbtmp3.7/8,Error ellipse:
s-maj=100.4km s-min=17.0km az=71.0,Talaud Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.89 184**	P	P	19 16 05.2	+1.6
	1.9nm,0.8s,baz=26,slow=13,SNR=3.1					
WRA	**Warramunga Arr**	**24.75 163**	P	P	19 16 31.3	-0.9
	3.8nm,0.8s,baz=342,slow=11,SNR=8.6					
ASAR	**Alice Springs**	**28.20 167**	P	P	19 17 02.7	-0.7
	0.2nm,0.3s,baz=337,slow=7.4,SNR=4.8					
STKA	**Stephens Creek**	**38.17 160**	P	P	19 18 30.5	+0.3
	1.2nm,0.4s,baz=332,slow=14,SNR=3.0					
SONM	**Songino Array**	**47.24 341**	P	P	19 19 44.8	+0.9
	0.3nm,0.7s,baz=150,slow=12,SNR=2.3					
MKAR	**Makanchi Array**	**57.60 325**	P	P	19 20 59.0	-1.6
	0.2nm,0.4s,baz=122,slow=6.8,SNR=4.8					
KURBB	**Kurchatov Arra**	**61.77 327**	P	P	19 21 29.5	+0.3
	0.4nm,0.5s,baz=127,slow=6.9,SNR=3.4					
BVAR	**Borovoye Array**	**67.35 327**	P	P	19 22 06.2	+0.5
	0.3nm,0.5s,baz=172,slow=2.9,SNR=2.6					

IDC 12 19:14:05.9±0.8,4°07'N×126°69'E,h0km,mb3.7/8,
mb1 3.9/8,mb1mx3.7/21,mbtmp3.7/8,MS3.6/1,Ms1 3.6/1,
ms1mx3.3/39,Error ellipse: s-maj=70.1km
s-min=16.5km az=69.0,Talaud Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.18 340**	LR	LR	19 15 47.6	
	comp=Z,994nm,21.7s,baz=100,slow=32					
WRA	**Warramunga Arr**	**25.02 163**	P	P	19 19 31.4	-0.4
	1.4nm,0.5s,baz=341,slow=11,SNR=6.5					
ASAR	**Alice Springs**	**28.45 166**	P	P	19 20 03.7	+1.0
	0.2nm,0.5s,baz=341,slow=7.5,SNR=2.5					
STKA	**Stephens Creek**	**38.46 159**	P	P	19 21 28.9	-0.7
	0.7nm,0.4s,baz=339,slow=14,SNR=3.2					
SONM	**Songino Array**	**46.97 341**	P	P	19 22 38.5	-0.2
	0.2nm,0.3s,baz=166,slow=7.0,SNR=5.7					
MKAR	**Makanchi Array**	**57.26 325**	P	P	19 23 55.5	+0.2
	0.6nm,0.4s,baz=118,slow=6.8,SNR=13					
KURBB	**Kurchatov Arra**	**61.43 327**	P	P	19 24 23.8	-0.3
	0.6nm,0.4s,baz=128,slow=6.2,SNR=5.2					
BVAR	**Borovoye Array**	**67.02 327**	P	P	19 25 00.5	-0.2
	0.5nm,0.5s,baz=102,slow=5.6,SNR=4.5					
ILAR	**Eielson Array**	**84.82 25**	P	P	19 26 42.3	+0.2
	0.4nm,0.8s,baz=280,slow=5.2,SNR=3.2					

IDC 12 19:16:55.5±1.8,3°43'N×126°23'E,h0km,mb3.7/5,
mb1 3.9/5,mb1mx3.6/20,mbtmp3.8/5,Error ellipse:
s-maj=194.6km s-min=20.6km az=65.0,Talaud Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.55 161**	P	P	19 22 16.8	-0.4
	2.5nm,0.7s,baz=339,slow=11,SNR=7.8					
ASAR	**Alice Springs**	**27.95 165**	P	P	19 22 49.8	+1.9
	0.2nm,0.3s,baz=340,slow=11,SNR=3.3					
STKA	**Stephens Creek**	**38.03 159**	P	P	19 24 14.2	-1.5
	3.6nm,1.0s,baz=317,slow=10,SNR=4.5					
MKAR	**Makanchi Array**	**57.52 326**	P	P	19 26 46.4	-0.4
	0.4nm,0.6s,baz=122,slow=7.2,SNR=4.9					
KURBB	**Kurchatov Arra**	**61.73 328**	P	P	19 27 15.8	+0.1
	0.6nm,0.8s,baz=128,slow=6.4,SNR=4.4					

IDC 12 19:22:16.0±0.7,3°92'N×126°73'E,h0km,mb4.1/12,
mb1 4.3/12,mb1mx4.1/20,mbtmp4.1/12,MS4.6/5,
Ms1 4.6/5,ms1mx4.0/33,Error ellipse: s-maj=37.1km
s-min=14.1km az=72.0,Talaud Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.33 340**	LR	LR	19 24 40.6	
	comp=Z,356nm,20.2s,baz=131,slow=43					
FITZ	**Fitzroy Crossi**	**21.91 183**	*eP*	P	19 27 12.3	+1.3
	5.0nm,0.7s					
FITZ	**Fitzroy Crossi**	**21.91 183**	P	P	19 27 11.4	+0.4
	1.9nm,0.6s,baz=5.6,slow=7.7,SNR=6.6					
WRA	**Warramunga Arr**	**24.87 163**	P	P	19 27 40.0	-0.5
	20nm,0.7s,baz=337,slow=11,SNR=91					
ASAR	**Alice Springs**	**28.30 166**	P	P	19 28 11.3	-0.2
	0.8nm,0.6s,baz=346,slow=6.9,SNR=16					
CMAR	**Chiang Mai Arr**	**30.78 300**	P	P	19 28 34.6	+1.1
	1.1nm,0.7s,baz=114,slow=6.9,SNR=8.1					
STKA	**Stephens Creek**	**38.31 159**	*eP*	P	19 29 38.8	+0.3
	4.7nm,0.6s					
STKA	**Stephens Creek**	**38.31 159**	P	P	19 29 38.8	+0.3
	5.1nm,0.6s,baz=328,slow=8.5,SNR=22					
STKA			LR	LR	19 44 13.2	
	comp=Z,828nm,18.9s,baz=234,slow=34					
SONM	**Songino Array**	**47.12 341**	P	P	19 30 51.4	+1.4
	0.5nm,0.5s,baz=158,slow=9.0,SNR=6.0					
SONM			PcP	PcP	19 32 21.9	0.0
	0.9nm,0.8s,baz=158,slow=3.5,SNR=6.1					
SONM			LR	LR	19 51 35.3	
	comp=Z,1μm,21.7s,baz=124,slow=37					
PETK	**Petropavlovsk-**	**55.25 22**	P	P	19 31 51.1	+0.2
	1.2nm,0.6s,baz=241,slow=4.8,SNR=3.7					
MKAR	**Makanchi Array**	**57.40 325**	P	P	19 32 05.8	-0.6
	1.0nm,0.4s,baz=121,slow=7.8,SNR=26					
MKAR			PcP	PcP	19 33 00.5	+0.1
	0.7nm,0.7s,baz=120,slow=4.8,SNR=3.6					
ZALV	**Zalesovo Beam**	**60.42 333**	P	P	19 32 26.1	-1.1
	0.6nm,0.4s,baz=131,slow=6.5,SNR=4.8					
ZALV			LR	LR	20 02 59.1	
	comp=Z,624nm,20.6s,baz=104,slow=40					
KURBB	**Kurchatov Arra**	**61.58 327**	LR	LR	20 03 56.8	
	comp=Z,314nm,19.4s,baz=95,slow=41					
AKTO	**Aktyubinsk**	**73.51 322**	LR	LR	20 07 51.9	
	comp=Z,356nm,20.4s,baz=256,slow=37					
ILAR	**Eielson Array**	**84.93 25**	P	P	19 34 53.2	+0.5
	0.5nm,0.9s,baz=264,slow=8.4,SNR=4.7					
ARCES	**ARCESS Array B**	**90.27 340**	P	P	19 35 17.4	-1.0
	2.8nm,1.0s,baz=15,slow=5.0,SNR=5.8					
FINES	**FINESS Array B**	**91.67 332**	P	P	19 35 24.4	-0.6
	2.7nm,0.8s,baz=25,slow=6.9,SNR=4.0					
TORD	**Torodi Ar. Bea**	**122.86 288**	PKP	PKPdf	19 41 14.7	-0.5
	0.1nm,0.4s,baz=93,slow=0.9,SNR=5.4					

IDC 12 19:22:44.0±1.3,15°98'S×176°02'W,h342km±17km,
mb3.5/6,mb1 3.7/8,mb1mx3.4/20,mbtmp3.5/8,Error
ellipse: s-maj=80.0km s-min=12.2km az=149.0,Fiji
Islands region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.59 64**	P	Pn	19 24 00.2	+1.3
	33nm,0.3s,baz=64,slow=2.4,SNR=19					
AFI			S	S	19 24 58.7	-0.6
	1.5nm,0.3s,baz=237,slow=23,SNR=0.8					
DZM	**Mont Dzumac**	**17.65 247**	P	P	19 26 28.1	+0.3
	0.3nm,0.3s,baz=82,slow=18,SNR=7.5					
CTA	**Charters Tower**	**36.05 258**	P	P	19 29 13.8	-0.5
	5.3nm,1.0s,baz=79,slow=16,SNR=2.8					
STKA	**Stephens Creek**	**41.57 240**	P	P	19 29 59.2	-0.3
	2.7nm,0.6s,baz=110,slow=13,SNR=5.4					
WRA	**Warramunga Arr**	**47.26 257**	P	P	19 30 43.9	-0.4
	1.1nm,0.7s,baz=93,slow=7.6,SNR=53					
ASAR	**Alice Springs**	**47.33 252**	P	P	19 30 46.2	-0.2
	24nm,0.4s,baz=89,slow=7.7,SNR=437					
ASAR			PcP	PcP	19 32 10.0	-0.4
	0.7nm,0.6s,baz=92,slow=3.6,SNR=3.4					
FITZ	**Fitzroy Crossi**	**55.62 259**	P	P	19 31 45.9	+0.1
	1.4nm,0.4s,baz=108,slow=0.7,SNR=5.8					
ILAR	**Eielson Array**	**83.52 12**	P	P	19 34 33.2	-0.5
	0.5nm,0.5s,baz=224,slow=5.6,SNR=14					
PDAR	**Pinedale Array**	**84.39 43**	P	P	19 34 38.7	-0.2
	0.3nm,0.6s,baz=229,slow=6.8,SNR=2.5					
BVAR	**Borovoye Array**	**116.78 322**	PKP	PKPdf	19 40 47.0	-0.9
	0.4nm,0.5s,baz=354,slow=1.5,SNR=4.6					
ARCES	**ARCESS Array B**	**124.80 351**	PKP	PKPdf	19 41 02.2	-0.6
	3.4nm,1.0s,baz=52,slow=2.0,SNR=4.0					
BRTR	**Keskin Array B**	**144.96 318**	PKP	PKPdf	19 41 41.2	0.0
	2.1nm,0.7s,baz=92,slow=2.5,SNR=7.3					
MLR	**Muntele Rosu**	**145.28 332**	PKPbc	PKPdf	19 41 41.7	+0.2
	0.3nm,0.5s,baz=268,slow=23,SNR=4.6					
GERES	**GERESS Array B**	**146.27 348**	PKPbc	PKPbc	19 41 44.6	-0.2
	0.5nm,0.7s,baz=325,slow=1.2,SNR=3.2					
MMAI	**Mount Meron Ar**	**146.93 307**	PKPbc	PKPbc	19 41 46.3	-0.9
	1.6nm,0.4s,baz=73,slow=6.5,SNR=2.7					

PRE 12 19:29:53.7±0.9,28°07'S×26°65'E,h2km,ML1.5,South
Africa

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**1.30 29**	*eP*	Pg	19 30 17.9	-1.0
PRYS			*eS*	Sn	19 30 36.9	-0.3
PRYS			AML	AML	19 30 39.6	
	comp=Z,7.7nm,0.4s					
BOSA	**Boshof**	**1.35 246**	*eP*	Pb	19 30 20.3	+0.4
BOSA			*eS*	Sb	19 30 37.8	+0.1
BOSA			AML	AML	19 30 45.0	
	comp=Z,3.1nm,0.3s					
SWZ	**Schweizer**	**1.47 307**	*eP*	Pb	19 30 21.8	-0.1
SWZ			*eS*	Sn	19 30 42.2	+0.9
SWZ			AML	AML	19 30 49.1	
	comp=Z,4.7nm,0.4s					
LBTB	**Lobatse**	**3.18 342**	*eP*	Pn	19 30 45.8	+0.8
LBTB			*eS*	Sn	19 31 23.6	+0.1
LBTB			AML	AML	19 31 41.9	
	comp=Z,2.2nm,0.3s					

IDC 12 19:36:55.0±0.8,4°11'N×126°61'E,h0km,mb3.9/13,
mb1 4.1/13,mb1mx3.9/22,mbtmp3.9/13,Error ellipse:
s-maj=47.3km s-min=15.8km az=71.0,Talaud Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.10 182**	P	P	19 41 52.8	+0.8
	1.7nm,0.7s,baz=30,slow=8.1,SNR=3.9					
WRA	**Warramunga Arr**	**25.09 163**	P	P	19 42 20.9	-0.6
	1.8nm,0.5s,baz=341,slow=11,SNR=11					
ASAR	**Alice Springs**	**28.51 166**	P	P	19 42 52.3	-0.1
	0.4nm,0.7s,baz=342,slow=7.4,SNR=5.1					
CMAR	**Chiang Mai Arr**	**30.57 300**	P	P	19 43 12.1	+1.3
	0.9nm,0.8s,baz=106,slow=7.0,SNR=4.5					
SONM	**Songino Array**	**46.90 341**	P	P	19 45 28.2	+0.9
	0.4nm,0.5s,baz=162,slow=8.2,SNR=8.4					
MKAR	**Makanchi Array**	**57.17 325**	P	P	19 46 43.4	-0.4
	0.7nm,0.4s,baz=120,slow=7.6,SNR=31					
MKAR			PcP	PcP	19 47 38.0	-0.5
	0.6nm,0.6s,baz=144,slow=2.2,SNR=5.3					
ZALV	**Zalesovo Beam**	**60.19 333**	P	P	19 47 02.8	-1.8
	0.5nm,0.4s,baz=119,slow=5.3,SNR=4.0					
KURBB	**Kurchatov Arra**	**61.35 327**	P	P	19 47 12.1	-0.5
	1.4nm,0.8s,baz=126,slow=6.4,SNR=8.7					
BVAR	**Borovoye Array**	**66.93 327**	P	P	19 47 49.4	+0.1
	0.3nm,0.4s,baz=144,slow=10,SNR=5.8					
AKTO	**Aktyubinsk**	**73.28 322**	P	P	19 48 28.3	0.0
	0.7nm,0.6s,baz=111,slow=12,SNR=2.8					
ILAR	**Eielson Array**	**84.81 25**	P	P	19 49 32.2	+1.0
	0.2nm,0.5s,baz=260,slow=5.3,SNR=3.7					
ARCES	**ARCESS Array B**	**90.05 340**	P	P	19 49 56.2	-0.2
	3.0nm,0.7s,baz=75,slow=6.8,SNR=5.2					
FINES	**FINESS Array B**	**91.44 332**	P	P	19 50 02.6	-0.3
	2.3nm,0.9s,baz=211,slow=10,SNR=3.1					
TORD	**Torodi Ar. Bea**	**122.68 288**	PKP	PKPdf	19 55 53.5	-0.4
	0.4nm,0.8s,baz=14,slow=2.2,SNR=2.6					

DDA ***12*** *19:38:22.8,37.44N×38.61E,h4km,ML3.7*
ISK ***12*** *19:38:22.2,37.46N×38.60E,h5km,MD3.3*
CSEM ***12*** *19:38:23.4±0.2,37.45N×38.58E,h2km,MD3.3,Error ellipse: s-maj=6.3km s-min=4.0km az=161.0*

ISC 12 19:38:23.5±1.2,37.45N±0.03°×38.61E±0.02,h2km±13km,
n60,σ0.85/72,Turkey

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.17 92**	PG	Pg	19 38 25.9	-0.9
URFA			SG	Sg	19 38 29.5	+0.4
URFA	**Urfa**	**0.17 92**	*i* Pg	Pg	19 38 25.9	-0.9
URFA			*i* Sg	Sg	19 38 29.5	+0.4
ATAB	**Bozova**	**0.25 276**	*i* P	Pg	19 38 28.2	0.0
ATAB			*i* S	Sg	19 38 32.5	+1.0
ATAB	**Bozova**	**0.25 276**	*i* P	Pg	19 38 28.2	0.0
ATAB			*i* S	Sg	19 38 32.5	+1.0
GZT	**Gaziantep**	**0.83 264**	*i* P	Pg	19 38 39.3	-0.2
MALT	**Malatya**	**0.88 351**	*ePG*	Pg	19 38 39.5	-0.8
MALT	**Malatya**	**0.88 351**	*ePg*	Pg	19 38 39.5	-0.8
MYA	**Malatya**	**0.89 351**	*ePG*	Pg	19 38 40.0	-0.6
MYA	**Malatya**	**0.89 351**	*ePg*	Pg	19 38 40.0	-0.6
AKCD	**Akcadag**	**1.01 328**	*i* P	Pg	19 38 42.7	-0.1
AKCD			*i* S	Sb	19 38 56.5	-1.0
AKCD	**Akcadag**	**1.01 328**	*i* P	Pg	19 38 42.7	-0.1
AKCD			*i* S	Sb	19 38 56.5	-1.0
SVRC	**Sivrice-ELAZID**	**1.08 31**	*ePG*	Pg	19 38 44.3	0.0
SVRC			*eSG*	Sb	19 38 59.5	-0.1
SVRC	**Sivrice-ELAZID**	**1.08 31**	*ePg*	Pg	19 38 44.3	0.0
SVRC			*eSg*	Sb	19 38 59.6	-0.1
ELZG	**Elazig**	**1.09 16**	*i* P	Pg	19 38 43.6	-0.8
ELZG			*i* S	Sb	19 38 59.5	-0.4
ELZG	**Elazig**	**1.09 16**	*i* P	Pg	19 38 43.6	-0.8
ELZG			*i* S	Sb	19 38 59.5	-0.4
GAZ	**Gaziantep**	**1.15 257**	*ePN*	Pg	19 38 44.8	-0.6
GAZ	**Gaziantep**	**1.15 257**	*ePn*	Pg	19 38 44.8	-0.6
DIYA	**Diyarbakir**	**1.29 68**	*i* P	Pg	19 38 48.1	-0.1
DIYA			*i* S	Sg	19 39 05.4	+0.4
DIYA	**Diyarbakir**	**1.29 68**	*i* P	Pg	19 38 48.1	-0.1
DIYA			*i* S	Sg	19 39 05.4	+0.4
KMRS	**Kahramanmaras**	**1.36 273**	*ePN*	Pg	19 38 47.3	-2.2
KMRS	**Kahramanmaras**	**1.36 273**	*ePn*	Pg	19 38 47.3	-2.2
DIY	**Diyarbakir**	**1.36 70**	*ePN*	Pn	19 38 49.3	-0.3
DIY	**Diyarbakir**	**1.36 70**	*ePn*	Pn	19 38 49.3	-0.3
KUZU	**Kuzuini**	**1.40 242**	*i* P	Pn	19 38 49.7	-0.3
KUZU	**Kuzuini**	**1.40 242**	*i* P	Pn	19 38 49.7	-0.3
PTK	**Pertek**	**1.57 23**	*ePN*	Pn	19 38 52.4	-0.1
PTK	**Pertek**	**1.57 23**	*ePn*	Pn	19 38 52.4	-0.1
MARD	**Mardin**	**1.73 94**	*i* P	Pn	19 38 53.1	-1.7
ANDN	**Andirin**	**1.80 275**	*i* P	Pn	19 38 55.4	-0.3
ANDN	**Andirin**	**1.80 275**	*i* P	Pn	19 38 55.4	-0.3
ILIC	**ilic-Erzincan**	**2.00 359**	*ePN*	Pn	19 38 58.2	-0.2
ILIC	**ilic-Erzincan**	**2.00 359**	*ePn*	Pn	19 38 58.2	-0.2
COBT	**Iskenderun**	**2.10 245**	*i* P	Pg	19 39 03.8	+0.1
COBT	**Iskenderun**	**2.10 245**	*i* P	Pg	19 39 03.8	+0.1
BEST	**Besiri**	**2.16 77**	*i* P	Pb	19 39 03.3	0.0
KOZT	**Kozan**	**2.21 272**	*ePN*	Pn	19 39 01.0	-0.2
KOZT	**Kozan**	**2.21 272**	*ePn*	Pn	19 39 01.0	-0.2
BNGB	**Bing¶ll**	**2.25 46**	*ePN*	Pn	19 39 02.3	+0.6
ERZN	**Erzincan**	**2.31 22**	*ePN*	Pn	19 39 02.8	+0.2
CEYT	**Ceyhan**	**2.32 260**	*ePN*	Pn	19 39 03.1	+0.4
CEYT	**Ceyhan**	**2.32 260**	*ePn*	Pn	19 39 03.1	+0.4
EZC	**Erzincan**	**2.38 14**	*ePN*	Pn	19 39 04.4	+0.8
EZC	**Erzincan**	**2.38 14**	*ePn*	Pn	19 39 02.8	+0.8
HTY	**Hatay**	**2.38 237**	*ePN*	Pn	19 39 04.1	+0.6
HTY	**Hatay**	**2.38 237**	*ePn*	Pn	19 39 04.1	+0.6
BTMT	**Batman**	**2.40 71**	*ePN*	Pn	19 39 02.1	-1.8
BTMT	**Batman**	**2.40 71**	*ePn*	Pn	19 39 02.1	-1.8
BNN	**Bunyan**	**2.59 304**	*ePN*	Pn	19 39 06.5	0.0
BNN	**Bunyan**	**2.59 304**	*ePn*	Pn	19 39 06.5	0.0
VRTB	**Varto-Mus**	**2.82 52**	*ePN*	Pn	19 39 10.3	+0.6
VRTB	**Varto-Mus**	**2.82 52**	*ePn*	Pn	19 39 10.3	+0.6
BAYT	**Ayd¯–ntepe-Bay**	**3.18 22**	*ePN*	Pn	19 39 15.5	+0.9
BAYT	**Ayd¯–ntepe-Bay**	**3.18 22**	*ePn*	Pn	19 39 15.5	+0.9
EZM	**Erzurum**	**3.27 40**	*ePN*	Pn	19 39 16.8	+0.8
CUKT	**Cukurca**	**3.99 91**	*ePN*	Pn	19 39 27.4	+1.6
CUKT	**Cukurca**	**3.99 91**	*ePn*	Pn	19 39 27.4	+1.6
AGRB	**Hanur-Agry**	**4.04 57**	*ePN*	Pn	19 39 28.4	+1.9
AGRB	**Hanur-Agry**	**4.04 57**	*ePn*	Pn	19 39 28

IDC 12 19:55:01.4±1.2,3°64'N×127°02'E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/22, mbtmp3.9/8, Error ellipse: s-maj=105.0km s-min=15.9km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.65**	**184**	P	P	19 59 54.6	+1.0
	2.4nm,0.5s,baz=2.8,slow=8.5,SNR=7.0						
WRA	**Warramunga Arr**	**24.51**	**163**	P	P	20 00 22.4	-0.4
	2.0nm,0.8s,baz=49,slow=0.1,SNR=0.3						
ASAR	**Alice Springs**	**27.96**	**166**	P	P	20 00 53.7	-0.2
	0.8nm,0.5s,baz=339,slow=7.9,SNR=8.0						
STKA	**Stephens Creek**	**37.94**	**160**	P	P	20 02 20.7	-0.2
	2.8nm,0.6s,baz=329,slow=10.0,SNR=9.1						
SONM	**Songino Array**	**47.48**	**341**	P	P	20 03 39.0	+0.7
	0.5nm,0.6s,baz=152,slow=7.3,SNR=3.9						
MKAR	**Makanchi Array**	**57.80**	**325**	P	P	20 04 54.0	-0.6
	1.0nm,0.4s,baz=118,slow=7.7,SNR=22						
BVAR	**Borovoye Array**	**67.55**	**327**	P	P	20 05 59.8	+0.2
	0.3nm,0.4s,baz=111,slow=4.6,SNR=5.6						
AKTO	**Aktyubinsk**	**73.91**	**322**	P	P	20 06 38.4	-0.1
	0.9nm,0.6s,baz=97,slow=8.1,SNR=3.9						

IDC 12 19:56:29.1±0.9, 30°72'N×142°11'E, h0km, mb3.6/5, mb1 3.9/8, mb1mx3.6/24, mbtmp3.7/8, ML3.6/3, Error ellipse: s-maj=32.3km s-min=18.5km az=84.0
JMA 12 19:56:29.6±0.2, 30°87'N×142°65'E, h83km, M3.7
ISCJB 12 19:56:31.3±0.6, 30°83'N±0°05×142°1'E±0°1, h37km, mb3.7/5, Error ellipse: s-maj=17.3km s-min=4.8km az=163.0

ISC 12 19:56:33.8±0.9, 30°79'N±0°06×142°1'E±0°1, h37km, n18, σ1s41/28, mb3.6/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.03**	**321**	P	**Pn**	19 57 19.5	**+0.4**
JHJ	**Hachijo jima 2**	**3.05**	**320**	Pn	**Pn**	19 57 18.1	**-1.3**
	6.3nm,0.3s,baz=253,slow=19,SNR=4.4						
JHJ				Sn	**Sn**	19 57 53.4	**-1.3**
	19nm,0.3s,baz=267,slow=23,SNR=1.8						
CBIJ	**Chichi jima**	**3.68**	**179**	P	**Pn**	19 57 26.4	**-1.7**
CBIJ				eS	**Sn**	19 58 09.5	**-0.7**
CBIJ	**Chichi jima**	**3.68**	**179**	Pn	**Pn**	19 57 25.6	**-2.5**
	9.6nm,0.3s,baz=270,slow=20,SNR=5.6						
CBIJ				Sn	**Sn**	19 58 07.3	**-2.9**
	7.9nm,0.3s,baz=262,slow=21,SNR=0.9						
BSO1	**Boso 1**	**3.97**	**346**	P	**Pn**	19 57 29.9	**-1.7**
BSO1				eS	**Sn**	19 58 16.5	**-0.1**
BSO3	**Boso 3**	**4.22**	**342**	P	**Pn**	19 57 34.9	**-0.4**
JOD2	**Odawara 2**	**5.13**	**331**	P	**Pn**	19 57 47.0	**-1.1**
JOD2				eS	**Sn**	19 58 46.2	**+0.2**
JHU	**Hanno**	**5.58**	**336**	P	**Pn**	19 57 54.1	**0.0**
JHU				eS	**Sn**	19 58 56.0	**-0.9**
JRY	**Ryogami san**	**5.86**	**334**	P	**Pn**	19 57 58.4	**+0.3**
JRY				eS	**Sn**	19 59 03.5	**-0.6**
JHO	**Hitachi**	**5.95**	**348**	P	**Pn**	19 57 57.0	**-2.2**
JHO				eS	**Sn**	19 59 03.3	**-2.8**
JAG	**Ashikaga**	**6.04**	**339**	P	**Pn**	19 57 59.4	**-1.1**
JAG				eS	**Sn**	19 59 07.3	**-1.1**
MJAR	**Matsushiro Arr**	**6.59**	**332**	Pn	**Pn**	19 58 07.8	**-0.3**
	1.9nm,0.3s,baz=160,slow=11,SNR=22						
MAT	**Matsushiro**	**6.60**	**332**	P	**Pn**	19 58 08.0	**-0.2**
MAT				S	**Sn**	19 59 20.8	**-1.3**
SONM	**Songino Array**	**32.10**	**312**	P	**P**	20 02 58.9	**+1.5**
	0.6nm,0.8s,baz=115,slow=9.2,SNR=3.5						
WRA	**Warramunga Arr**	**50.99**	**189**	P	**P**	20 05 31.8	**-0.2**
	1.1nm,0.3s,baz=5.7,slow=7.6,SNR=14						
ILAR	**Eielson Array**	**54.53**	**30**	P	**P**	20 05 58.4	**+0.7**
	1.3nm,1.2s,baz=255,slow=6.1,SNR=5.4						
ASAR	**Alice Springs**	**54.71**	**189**	P	**P**	20 05 60.0	**+0.6**
	0.3nm,0.4s,baz=6.4,slow=7.5,SNR=7.5						
NVAR	**Mina Array Bea**	**78.31**	**52**	P	**P**	20 08 32.0	**+1.6**
	0.1nm,0.3s,baz=293,slow=7.6,SNR=2.4						

ISCJB 12 20:02:44.7±0.2, 45°85N±0°01×106°66W±0°02, h0km, Error ellipse: s-maj=2.1km s-min=1.8km az=163.2
IDC 12 20:02:44.3±1.5, 45°99N×107°13W, h0km, mb1 3.3/3, mb1mx3.2/25, mbtmp3.0/3, ML2.6/2, Error ellipse: s-maj=46.4km s-min=9.6km az=128.0
NEIC 12 20:02:44.9±0.6, 45°94N×106°63W, h0km, ML2.8, Error ellipse: s-maj=8.9km s-min=7.2km az=143.0, Suspected Mining explosion.
NEIC NEAR Colstrip.

ISC 12 20:02:44.4±0.7, 45°87N±0°02×106°69W±0°02, h0km, n72, σ1s05/102, 32C-37D, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F21A	**Absaloka Mine,**	**0.30**	**262**	⇓P	**Pb**	20 02 51.2	**-1.6**
	baz=0.4,SNR=28						
F21A				⇓S	**Sb**	20 02 56.6	**-1.8**
	baz=0.4						
F22A	**Rosebud**	**0.32**	**106**	⇑P	**Pg**	20 02 50.5	**0.0**
	baz=0.3,SNR=47						
F22A				⇓S	**Sg**	20 02 54.9	**+0.3**
	baz=0.3						
G22A	**Birney**	**0.71**	**156**	⇑P	**Pg**	20 02 58.0	**+0.1**
	baz=0.8,SNR=76						
G22A				⇓S	**Sg**	20 03 07.0	**-0.1**
	baz=0.8						
E21A	**Keefer Ranch,**	**0.73**	**339**	⇑P	**Pb**	20 02 59.1	**-0.9**
	baz=0.7,SNR=26						
G21A	**Lodge Grass**	**0.73**	**210**	P	**Pg**	20 02 58.9	**+0.4**
	baz=0.8,SNR=53						
G21A				⇓S	**Sg**	20 03 08.6	**+0.6**
	baz=0.8						
E22A	**Miles City**	**0.77**	**42**	⇓P	**Pg**	20 02 59.4	**+0.2**
	baz=0.7						
E22A				⇓S	**Sb**	20 03 10.5	**-1.4**
	baz=0.7						
F23A	**Volborg**	**0.91**	**99**	⇓P	**Pg**	20 03 01.7	**-0.2**
	baz=0.9,SNR=49						
F23A				⇑S	**Sg**	20 03 14.6	**+0.9**
	baz=0.9						
F20A	**Billings**	**1.02**	**267**	⇓P	**Pb**	20 03 04.1	**-0.9**
	baz=1.1,SNR=34						
F20A				⇑S	**Sb**	20 03 19.2	**+0.2**
	baz=1.1						
G23A	**Biddle**	**1.13**	**125**	⇓P	**Pg**	20 03 05.4	**-0.7**
	baz=1.1,SNR=46						
G23A				⇑S	**Sg**	20 03 20.7	**0.0**
	baz=1.1						
E23A	**Ismay**	**1.15**	**56**	⇑P	**Pg**	20 03 06.5	**-0.1**
	baz=1.1,SNR=36						
E23A				⇑S	**Sb**	20 03 22.6	**-0.1**
	baz=1.1						
E20A	**Meyer Farm, Mu**	**1.19**	**303**	⇓P	**Pb**	20 03 07.3	**-0.5**
	baz=1.2,SNR=66						
D21A	**La Casta Ranch**	**1.22**	**350**	⇑P	**Pb**	20 03 07.8	**-0.6**
	baz=1.1,SNR=48						
D21A				⇑S	**Sn**	20 03 26.1	**+0.1**
	baz=1.1						
G20A	**Bridger**	**1.25**	**239**	⇓P	**Pg**	20 03 07.8	**-0.5**
	baz=1.3						
G20A				⇑Sb	**Sn**	20 03 27.4	**+0.5**
	baz=1.3						
H21A	**Big Horn, Sher**	**1.26**	**191**	⇑P	**Pg**	20 03 08.2	**-0.4**
	baz=1.3,SNR=8.6						
H21A				⇓S	**Sb**	20 03 25.4	**-0.6**
	baz=1.3						
H22A	**Clearmont**	**1.29**	**169**	⇑P	**Pg**	20 03 08.7	**-0.5**
	baz=1.4,SNR=56						
H22A				⇓S	**Sb**	20 03 26.8	**-0.1**
	baz=1.4						
D22A	**Cohagen**	**1.33**	**15**	⇑P	**Pg**	20 03 09.8	**-0.1**
	baz=1.2						
D22A				⇑S	**Sn**	20 03 29.6	**+0.7**
	baz=1.2						
E19A	**Rath Farm, Rou**	**1.57**	**293**	⇓P	**Pb**	20 03 13.8	**-0.7**
	baz=1.6,SNR=12						
E19A				⇑S	**Sg**	20 03 35.8	**+0.9**
	baz=1.6						
F19A	**Roth Farm, Mol**	**1.57**	**270**	⇓P	**Pb**	20 03 13.9	**-0.6**
	baz=1.6,SNR=179						
F19A				⇓S	**Sg**	20 03 35.7	**+0.8**
	baz=1.6						
F24A	**Ekalaka**	**1.57**	**90**	⇑P	**Pn**	20 03 13.4	**-0.2**
	baz=1.5,SNR=23						
F24A				⇑S	**Sn**	20 03 34.7	**0.0**
	baz=1.5						
D20A	**Manuel Ranch,**	**1.58**	**321**	⇓P	**Pg**	20 03 14.2	**-0.5**
	baz=1.5,SNR=53						
D20A				⇓S	**Sg**	20 03 36.6	**+1.4**
	baz=1.5						
H23A	**Clabaugh Cattl**	**1.59**	**145**	⇓P	**Pn**	20 03 13.4	**-0.5**
	baz=1.6,SNR=36						
H23A				⇓S	**Sn**	20 03 34.9	**-0.4**
	baz=1.6						
H20A	**Greybull**	**1.66**	**214**	P	**Pb**	20 03 15.2	**-0.7**
	baz=1.7,SNR=26						
H20A				⇑S	**Sb**	20 03 37.0	**-0.4**
	baz=1.7						
D23A	**Lindsay**	**1.66**	**38**	⇓P	**Pn**	20 03 15.2	**+0.3**
	baz=1.6						
G24A	**Alzada**	**1.69**	**108**	⇓P	**Pn**	20 03 14.8	**-0.4**
	baz=1.7,SNR=16						
G24A				⇑S	**Sn**	20 03 37.5	**-0.1**
	baz=1.7						
E24A	**Baker**	**1.80**	**66**	⇓P	**Pn**	20 03 17.0	**+0.2**
	baz=1.7						
E24A				⇓S	**Sb**	20 03 41.3	**0.0**
	baz=1.7						
H24A	**Dirks Ranch, A**	**1.88**	**126**	⇑P	**Pn**	20 03 17.5	**-0.4**
	baz=1.9,SNR=79						
H24A				⇓S	**Sn**	20 03 42.7	**+0.3**
	baz=1.9						
RLMT	**Red Lodge**	**1.96**	**249**	eP	**Pb**	20 03 20.2	**-0.8**
RLMT	**Red Lodge**	**1.96**	**249**	⇓P	**Pb**	20 03 20.0	**-1.0**
	baz=2.0						
RLMT				⇓Sb	**Sg**	20 03 47.6	**+0.3**
	baz=2.0						
RLMT				⇓Sb	**Sg**	20 03 47.6	**+0.3**
	baz=2.0						
C22A	**Vida**	**1.96**	**16**	⇑P	**Pb**	20 03 20.2	**-0.8**
	baz=1.9						
I22A	**9 Mile Ranch,**	**1.98**	**176**	⇓P	**Pn**	20 03 18.9	**-0.4**
	baz=2.1,SNR=61						
I22A				⇑Sb	**Sb**	20 03 47.3	**+0.7**
	baz=2.1						
C21A	**Desert Coulee**	**1.98**	**352**	⇑P	**Pb**	20 03 20.7	**-0.7**
	baz=1.9						
H19A	**Powell**	**2.01**	**234**	⇑P	**Pb**	20 03 20.6	**-1.3**
	baz=2.1,SNR=28						
H19A				⇑Sb	**Sg**	20 03 49.0	**0.0**
	baz=2.1						
C20A	**Veseth Ranch,**	**2.06**	**335**	⇓P	**Pb**	20 03 21.8	**-0.8**
	baz=2.0						
D24A	**Glendive**	**2.06**	**52**	⇓P	**Pn**	20 03 21.3	**+1.0**
	baz=2.0						
GCMT	**Greycliff**	**2.08**	**269**	eP	**Pn**	20 03 21.0	**+0.3**
G18A	**Lazy EL Ranch,**	**2.09**	**256**	P	**Pb**	20 03 22.1	**-1.2**
	baz=2.1,SNR=50						
I21A	**Big Trails, Te**	**2.10**	**192**	⇑P	**Pn**	20 03 21.0	**+0.1**
	baz=2.2,SNR=35						
F18A	**Big Timber**	**2.11**	**272**	⇑P	**Pb**	20 03 22.0	**-1.6**
	baz=2.1,SNR=40						
I20A	**Worland**	**2.17**	**209**	⇓P	**Pn**	20 03 22.7	**+0.8**
	baz=2.3,SNR=41						
I20A				⇑Sb	**Sg**	20 03 53.0	**-1.1**
	baz=2.3						
C23A	**Lambert**	**2.20**	**28**	⇓P	**Pb**	20 03 23.5	**-1.6**
	baz=2.1						
C24A	**Savage**	**2.28**	**42**	⇑P	**Pn**	20 03 24.5	**+1.1**
	baz=2.2						
C24A				⇑Sb	**Sb**	20 03 56.3	**+1.0**
	baz=2.2						
H18A	**Shoshone NF, C**	**2.41**	**242**	⇑P	**Pn**	20 03 25.9	**+0.6**
	baz=2.5						
J22A	**Midwest**	**2.46**	**176**	⇓P	**Pn**	20 03 26.2	**+0.3**
	baz=2.5,SNR=26						
I24A	**Kuemmerle Ranc**	**2.49**	**143**	⇓P	**Pn**	20 03 26.5	**+0.2**
	baz=2.5,SNR=12						
RSSD	**Black Hills**	**2.57**	**132**	eP	**Pn**	20 03 28.4	**+0.9**
J21A	**Lysite**	**2.58**	**192**	⇓P	**Pn**	20 03 28.3	**+0.7**
	baz=2.7,SNR=7.4						
LKWY	**Lake**	**2.92**	**245**	eP	**Pb**	20 03 34.8	**-2.7**
EGMT	**Eagleton**	**3.01**	**317**	eP	**Pn**	20 03 35.5	**+2.0**
YNR	**Norris Junctio**	**3.04**	**249**	ePn	**Pn**	20 03 33.9	**-0.1**
DGMT	**Dagmar**	**3.11**	**32**	eP	**Pn**	20 03 32.5	**-2.3**
YMR	**Madison River**	**3.25**	**250**	Pn	**Pn**	20 03 39.2	**+2.4**
FLWY	**Flagg Ranch**	**3.35**	**239**	ePn	**Pn**	20 03 37.6	**-0.6**
BOZ	**Bozeman (W)**	**3.46**	**268**	ePn	**Pn**	20 03 41.7	**+2.0**
QLMT	**Earthquake Lak**	**3.50**	**254**	ePn	**Pn**	20 03 42.7	**+2.5**
MOOW	**Moose Ponds**	**3.58**	**235**	ePg	**Pb**	20 03 49.4	**+0.7**
HRY	**Holter Researc**	**3.66**	**285**	ePn	**Pn**	20 03 43.6	**+1.2**
PDAR	**Pinedale Array**	**3.72**	**215**	Pn	**Pn**	20 03 45.0	**+1.7**
PDAR				Pg	**Pb**	20 03 52.6	**+1.5**
PDAR				Lg	Lg	20 04 38.9	
	2.7nm,0.3s,baz=44,slow=36,SNR=14						
PD01	**Pinedale Array**	**3.72**	**215**	ePn	**Pn**	20 03 45.2	**+1.9**
TPAW	**Teton Pass**	**3.85**	**233**	ePn	**Pn**	20 03 46.5	**+1.3**
TPAW				ePg	**Pg**	20 03 56.4	**-1.9**
LRM	**Limekiln Ridge**	**4.02**	**271**	ePn	**Pn**	20 03 47.9	**+0.4**
RRI2	**Red Ridge**	**4.15**	**234**	ePg	**Pb**	20 03 58.9	**+0.3**
DLMT	**Dillon**	**4.17**	**265**	ePn	**Pn**	20 03 48.9	**-0.5**
RWWY	**Rawlins**	**4.19**	**185**	ePn	**Pn**	20 03 51.0	**+1.2**
MCMT	**McKenzie Canyo**	**4.46**	**259**	ePg	**Pg**	20 04 07.7	**-2.2**
CHMT	**Chamberlain Mo**	**4.66**	**285**	ePn	**Pn**	20 03 56.4	**+0.2**
SLMT	**Seeley Lake**	**4.89**	**289**	eP	Pn	20 03 54.2	-5.1
BSMT	**Bassoo Peak**	**5.89**	**293**	ePg	Pg	20 04 33.1	-4.2
	6.7nm,0.9s						
ULM	**Lac du Bonnet**	**8.47**	**55**	Pn	**Pn**	20 04 48.8	**+0.5**
ULM				Pg	Pb	20 05 18.4	+6.7
ULM				Lg	Lg	20 07 11.8	
ULM	**Lac du Bonnet**	**8.47**	**55**	Pn	**Pn**	20 04 48.8	**+0.5**
	0.3nm,0.3s,baz=239,slow=12,SNR=3.1						
ULM				Pg	Pb	20 05 18.4	+6.7
	0.3nm,0.3s,baz=245,slow=15,SNR=2.4						
ULM				Lg	Lg	20 07 11.8	
	0.5nm,0.3s,baz=350,slow=19,SNR=3.1						
YKA	**Yellowknife Ar**	**17.27**	**348**	P	**Pn**	20 06 44.9	**-1.8**
YKA	**Yellowknife Ar**	**17.27**	**348**	P	**Pn**	20 06 44.9	**-1.8**
	0.1nm,0.3s,baz=171,slow=12,SNR=4.3						

IDC 12 20:03:35.8±3.9, 29°94N×50°73E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.2/28, mbtmp3.4/4, Error ellipse: s-maj=157.0km s-min=27.8km az=148.0
ISCJB 12 20:03:40.4±0.7, 30°17N±0°09×50°71E±0°07, h22km, mb3.2/4, Error ellipse: s-maj=14.9km s-min=5.9km az=149.6
KISR 12 20:03:41.0±0.9, 29°97N×50°30E, h34km±106km, ML2.9
CSEM 12 20:03:43.5±0.5, 29°96N×50°66E, h20km, ML2.9, Error ellipse: s-maj=15.7km s-min=12.6km az=155.0

ISC 12 20:03:42.2±1.2, 30°11N±0°07×50°70E±0°06, h22km, n17, σ0s74/19, mb3.2/4, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**2.57**	**321**	ePn	**Pb**	20 04 27.8	**+0.1**
GHIR	**Ghir-Karzin**	**2.70**	**132**	ePn	**Pn**	20 04 25.6	**+1.1**
KBD	**Kabd**	**2.78**	**251**	eP	**Pn**	20 04 25.6	**+0.2**
KBD				AML	AML	20 05 02.3	
	comp=Z,43nm,0.3s						
KBD	**Kabd**	**2.78**	**251**	eP	**Pn**	20 04 25.6	**+0.2**
QRN	**Al-Qurain**	**2.78**	**241**	eP	**Pn**	20 04 24.9	**-0.6**
QRN				eS	**Sn**	20 04 59.0	**+0.7**
QRN				AML	AML	20 05 01.3	
	comp=Z,92nm,0.3s						
MIB	**Mutribah**	**2.93**	**265**	eP	**Pn**	20 04 28.0	**+0.5**
MIB	**Mutribah**	**2.93**	**265**	eP	**Pn**	20 04 28.0	**+0.5**
RDF	**Al-Radifah**	**2.99**	**248**	eP	**Pn**	20 04 28.3	**0.0**
RDF				eS	**Sn**	20 05 03.4	**0.0**
RDF				AML	AML	20 05 07.0	
	comp=Z,67nm,0.2s						
RDF	**Al-Radifah**	**2.99**	**248**	eP	**Pn**	20 04 28.3	**0.0**
RDF				eS	**Sn**	20 05 03.4	**0.0**
NAY	**Al-Naaiem**	**3.13**	**255**	eP	**Pn**	20 04 30.1	**-0.1**
NAY				eS	**Sn**	20 05 07.1	**+0.2**
NAY				AML	AML	20 05 10.2	
	comp=Z,31nm,0.4s						
NAY	**Al-Naaiem**	**3.13**	**255**	eP	**Pn**	20 04 30.1	**-0.1**
NAY				eS	**Sn**	20 05 07.1	**+0.2**
NASN	**Na'in**	**3.23**	**33**	ePn	**Pn**	20 04 30.9	**-1.1**
ASAO	**Ashtian**	**4.46**	**353**	ePn	**Pn**	20 04 50.7	**+1.9**
BVAR	**Borovoye Array**	**27.05**	**27**	P	**P**	20 09 21.6	**-1.3**
	comp=Z,0.2nm,0.5s,baz=218,slow=9.1,SNR=3.2						
MKAR	**Makanchi Array**	**29.57**	**47**	P	P	20 09 43.0	-2.4
	comp=Z,0.2nm,0.7s,baz=255,slow=8.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**48.20**	**260**	P	P	20 12 18.5	-2.9
	comp=Z,0.3nm,0.4s,baz=58,slow=8.4,SNR=9.0						
YKA	**Yellowknife Ar**	**86.97**	**353**	P	P	20 16 22.7	-2.6
	comp=Z,0.2nm,0.7s,baz=5.6,slow=5.3,SNR=4.4						

IDC 12 20:04:07.9±0.6, 3°63N×126°24E, h0km, mb4.1/16, mb1 4.3/16, mb1mx4.2/23, mbtmp4.2/16, 2D, Error ellipse: s-maj=28.3km s-min=12.3km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.76**	**332**	⇓iP	Pb	20 04 58.5	+0.1
MATI	**Mati**	**3.30**	**0**	eP	Pn	20 05 01.8	+0.9
MATI				eS	Sn	20 05 23.6	-17
KCP	**Kidapawan**	**3.55**	**341**	⇓eP	Pn	20 05 08.0	+3.5
BUKP	**Musuan**	**4.38**	**345**	eP	Pn	20 05 18.9	+3.0
PAGZ	**Pagadian**	**5.07**	**326**	eP	Pn	20 05 30.3	+5.1
MTN	**Manton Dam**	**17.07**	**164**	eP	Pn	20 08 07.2	-0.9
FITZ	**Fitzroy Crossi**	**21.60**	**182**	eP	P	20 09 02.0	+2.5
	9.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.60**	**182**	P	P	20 08 59.6	0.0
	5.9nm,0.9s,baz=2.4,slow=10,SNR=12						
WRA	**Warramunga Arr**	**24.74**	**162**	P	P	20 09 30.5	-0.8
	6.2nm,0.4s,baz=333,slow=11,SNR=61						
CBIJ	**Chichi jima**	**27.88**	**32**	P	P	20 10 00.9	+1.3
	79nm,0.5s,baz=162,slow=19,SNR=6.9						
ASAR	**Alice Springs**	**28.14**	**165**	P	P	20 10 01.5	-0.5
	0.8nm,0.3s,baz=343,slow=7.7,SNR=12						
CMAR	**Chiang Mai Arr**	**30.50**	**301**	P	P	20 10 24.5	+1.4
	0.5nm,0.5s,baz=124,slow=7.4,SNR=5.7						
KSRS	**Korea Array**	**33.70**	**2**	P	P	20 10 50.2	-0.6
	1.3nm,0.8s,baz=174,slow=10.0,SNR=4.2						
NWAO	**Narrogin (SRO)**	**37.34**	**193**	P	P	20 11 23.0	+0.8
	6.5nm,0.8s,baz=32,slow=9.5,SNR=6.3						
STKA	**Stephens Creek**	**38.21**	**159**	eP	P	20 11 29.8	+0.2
	2.9nm,0.6s						
STKA	**Stephens Creek**	**38.21**	**159**	P	P	20 11 29.7	+0.1
	3.2nm,0.5s,baz=339,slow=11,SNR=14						
DZM	**Mont Dzumac**	**46.88**	**125**	P	P	20 12 40.2	-0.2
	2.1nm,0.6s,baz=290,slow=15,SNR=2.1						
SONM	**Songino Array**	**47.24**	**342**	P	P	20 12 42.8	-0.1
	0.6nm,0.5s,baz=156,slow=7.2,SNR=6.4						
SONM				PcP	PcP	20 14 14.0	-0.2
	0.4nm,0.6s,baz=171,slow=2.8,SNR=2.8						
MKAR	**Makanchi Array**	**57.36**	**326**	P	P	20 13 58.1	0.0
	1.6nm,0.3s,baz=120,slow=7.4,SNR=62						
ZALV	**Zalesovo Beam**	**60.46**	**333**	P	P	20 14 18.0	-1.4
	0.7nm,0.3s,baz=126,slow=7.4,SNR=7.5						
AKTO	**Aktyubinsk**	**73.44**	**322**	P	P	20 15 41.9	-0.2
	0.8nm,0.3s,baz=112,slow=5.2,SNR=9.6						
ILAR	**Eielson Array**	**85.41**	**25**	P	P	20 16 47.5	+0.4
	0.2nm,0.5s,baz=260,slow=5.4,SNR=4.2						
BRTR	**Keskin Array B**	**89.71**	**310**	P	P	20 17 08.5	-0.1
	0.9nm,0.9s,baz=134,slow=7.1,SNR=4.5						
ARCES	**ARCESS Array B**	**90.38**	**340**	P	P	20 17 10.3	-0.5
	3.1nm,1.0s,baz=73,slow=5.4,SNR=12						
FINES	**FINESS Array B**	**91.69**	**332**	P	P	20 17 16.9	-0.1
	1.3nm,0.8s,baz=64,slow=4.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**122.49**	**288**	PKP	PKPdf	20 23 06.3	-0.1
	0.3nm,0.6s,baz=59,slow=1.5,SNR=2.4						

ISCJB 12 20:07:05.8±0.9, 31°76S±0°04×177°9W±0°1, h33km, mb4.7/11, Error ellipse: s-maj=16.9km s-min=4.9km az=13.1
IDC 12 20:07:07.2±0.6, 31°01S×177°94W, h25km±3km, mb4.4/9, mb1 4.5/10, mb1mx4.3/19, mbtmp4.4/10, ML2.9/1, Error ellipse: s-maj=20.4km s-min=17.7km az=159.0
NEIC 12 20:07:08.3±0.5, 30°99S×177°81W, h35km, mb4.9/4, Error ellipse: s-maj=15.6km s-min=10.2km az=132.0

ISC 12 20:07:06.9±0.6, 31°20S±0°07×177°9W±0°1, h27km±3km, h27km:pP-P, n70, σ1s38/73, mb4.8/11, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.94**	**358**	eP	**Pn**	20 07 35.7	**-2.4**
CNGZ	**Carnagh Statio**	**7.95**	**203**	ePN	Pn	20 08 56.4	-4.3
CNGZ				SN	**Sn**	20 10 28.4	**-1.4**
MWZ	**Matawai**	**8.07**	**207**	PN	Pn	20 08 57.0	-5.3
MWZ				SN	**Sn**	20 10 28.9	**-3.7**
OUZ	**Omahuta**	**8.21**	**238**	eP	Pn	20 09 09.1	+4.9
	32nm,0.6s						
RAHZ	**Arahi**	**8.74**	**207**	SN	**Sn**	20 10 45.4	**-3.8**
MCHZ	**McNeill Hill**	**9.35**	**207**	ePN	Pn	20 09 15.3	-4.6
KAHZ	**Kahuranaki**	**9.59**	**205**	ePN	Pn	20 09 16.2	-7.0
DVHZ	**Dannevirke**	**10.29**	**206**	SN	Sn	20 11 19.0	-8.2
BFZ	**Birch Farm**	**10.60**	**205**	SN	Sn	20 11 26.3	-8.3
TIWZ	**Tintock**	**10.81**	**206**	SN	Sn	20 11 30.9	-9.1
MRZ	**Mangatainoka R**	**10.83**	**208**	SN	Sn	20 11 30.1	-10
HOWZ	**Holdsworth Sta**	**11.06**	**207**	SN	Sn	20 11 35.4	-11
OGWZ	**Otaki Gorge**	**11.13**	**209**	SN	Sn	20 11 38.0	-10
KIW	**Kapiti Island**	**11.27**	**209**	SN	Sn	20 11 41.5	-10
TCW	**Tory Channel**	**11.83**	**210**	SN	Sn	20 11 53.5	-11
TUWZ	**Tuamarina**	**12.16**	**211**	SN	Sn	20 12 02.4	-10
KHZ	**Kahutara**	**13.14**	**209**	SN	Sn

0.6nm,0.6s,baz=184,slow=1.2,SNR=11
ARCES **ARCESS Array B 139.40 348** PKPpre PKPpre 20 26 23.2
ARCES PKP **PKPdf 20 26 31.1 +0.4**
ARCES **ARCESS Array B 139.40 348** PKhKP PKPpre 20 26 23.2
2.8nm,0.9s,baz=80,slow=1.4,SNR=5.2
ARCES PKP **PKPdf 20 26 31.1 +0.4**
3.3nm,1.0s,baz=48,slow=1.3,SNR=6.8
KAF Kangasniemi 145.34 340 *ep* **PKPbc 20 26 39.2 -2.1**
13nm,0.5s
FINES FINESS Array B 145.94 340 PKPbc **PKPdf 20 26 42.3 -0.1**
FINES pPKPbc pPKPbc 20 26 50.2 -2.0
FINES FINESS Array B 145.94 340 PKPbc **PKPdf 20 26 42.3 -0.1**
11nm,0.4s,baz=47,slow=3.9,SNR=131
FINES pPKPbc pPKPbc 20 26 50.2 -2.0
19nm,0.6s,baz=46,slow=4.0,SNR=14
NB2 NORSAR Subarra149.56 351 PKP **PKPbc 20 26 53.0 -0.1**
comp=Z,4.0nm,0.8s,baz=17,slow=2.6
NOA NORSAR Array B 149.56 351 PKPbc **PKPbc 20 26 52.8 -0.3**
NOA pPKPbc **pPKPbc 20 27 01.7 -0.5**
NOA NORSAR Array B 149.56 351 PKPbc **PKPbc 20 26 52.8 -0.3**
comp=Z,0.9nm,0.5s,baz=14,slow=4.1,SNR=5.3
NOA pPKPbc **pPKPbc 20 27 01.7 -0.5**
comp=Z,3.5nm,0.6s,baz=16,slow=4.2,SNR=8.8
AKASG Malin Array Be 152.00 322 PKPbc **PKPbc 20 26 58.7 -0.4**
AKASG pPKPbc **pPKPbc 20 27 07.5 -0.7**
AKASG Malin Array Be 152.00 322 PKPbc **PKPbc 20 26 58.7 -0.4**
comp=Z,1.4nm,0.5s,baz=208,slow=17,SNR=7.1
AKASG pPKPbc **pPKPbc 20 27 07.5 -0.7**
comp=Z,1.9nm,0.5s,baz=54,slow=2.5,SNR=8.0
BR131 Keskin Array S 153.08 297 ePKPbc **PKPbc 20 27 00.8 -1.3**
BRTR Keskin Array B 153.08 297 PKPbc **PKPbc 20 27 01.1 -1.0**
BRTR Keskin Array B 153.08 297 PKPbc **PKPbc 20 27 01.1 -1.0**
comp=Z,0.8nm,0.4s,baz=141,slow=4.2,SNR=13
DBIC Dimbokro 154.73 164 PKPbc **PKPbc 20 27 08.8 +2.6**
DBIC Dimbokro 154.73 164 PKPbc **PKPbc 20 27 08.8 +2.6**
comp=Z,1.3nm,0.7s,baz=262,slow=7.1,SNR=1.9
CLL Collm 158.36 341 *i* PKPab **PKPab 20 27 35.7 +0.1**
CLL *ep*PKPab **pPKPab 20 27 46.0 +1.5**
TORD Torodi Ar. Bea 162.03 179 PKPab **PKPab 20 27 52.8 +0.3**
TORD pPKPab **pPKPab 20 28 02.2 +0.9**
TORD Torodi Ar. Bea 162.03 179 PKPab **PKPab 20 27 52.8 +0.3**
comp=Z,1.2nm,0.9s,baz=176,slow=3.9,SNR=6.0
TORD pPKPab **pPKPab 20 28 02.2 +0.9**
comp=Z,2.3nm,0.6s,baz=177,slow=3.2,SNR=7.9

IDC 12 20:12:18.2±0.7,**3.83N**×**126.55E**,**h0**km,**mb4.0**/11,
mb1 4.2/11,**mb1mx4.1**/20,**mbtmp4.1**/11,**Error ellipse:**
s-maj=38.3km s-min=15.0km az=73.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.81**	**182**	P		P 20 17 13.3	+1.1
	2.7nm,0.5s,baz=15,slow=6.4,SNR=3.2						
WRA	**Warramunga Arr**	**24.84**	**162**	P		P 20 17 41.8	-0.7
	14nm,0.6s						
ASAR	**Alice Springs**	**28.26**	**166**	P		P 20 18 13.0	-0.4
	0.7nm,0.4s,baz=350,slow=7.6,SNR=4.3						
CMAR	**Chiang Mai Arr**	**30.66**	**300**	P		P 20 18 36.5	+1.7
	1.4nm,1.0s,baz=118,slow=8.6,SNR=5.9						
MJAR	**Matsushiro Arr**	**34.28**	**17**	P		P 20 19 06.5	+0.2
	0.8nm,0.8s,baz=191,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**38.29**	**159**	*e*P		P 20 19 40.5	-0.1
	5.3nm,0.8s						
STKA	**Stephens Creek**	**38.29**	**159**	P		P 20 19 40.6	0.0
	5.5nm,0.7s,baz=342,slow=6.9,SNR=8.2						
ARMA	**Armidale**	**41.65**	**147**	*e*P		P 20 20 09.4	+0.7
SONM	**Songino Array**	**47.14**	**342**	P		P 20 20 53.1	+0.6
	0.6nm,0.7s,baz=156,slow=8.6,SNR=5.7						
SONM				PcP		PcP 20 22 25.3	+1.1
	0.8nm,0.9s,baz=126,slow=2.6,SNR=3.7						
PETK	**Petropavlovsk-**	**55.40**	**22**	P		P 20 21 54.6	+0.3
	2.8nm,0.8s,baz=220,slow=13,SNR=2.9						
MKAR	**Makanchi Array**	**57.37**	**325**	P		P 20 22 06.8	-1.7
	1.2nm,0.6s,baz=122,slow=8.5,SNR=15						
MKAR				PcP		PcP 20 23 03.6	+1.1
	0.8nm,0.7s,baz=134,slow=4.4,SNR=4.1						
ZALV	**Zalesovo Beam**	**60.42**	**333**	P		P 20 22 28.4	-1.0
	0.9nm,0.6s,baz=139,slow=7.1,SNR=5.9						
BRTR	**Keskin Array B**	**89.82**	**310**	P		P 20 25 17.8	-1.7
	0.6nm,0.8s,baz=79,slow=7.5,SNR=3.5						
TORD	**Torodi Ar. Bea**	**122.72**	**288**	PKP		PKPdf 20 31 17.2	-0.1
	0.8nm,0.6s,baz=45,slow=2.4,SNR=5.0						

IDC ***12*** *20:16:09.6*±*0.6,4.02N*×*126.42E,h0*km*,mb4.1/17,*
mb1 4.3/17,mb1mx4.2/21,mbtmp4.1/17,MS4.5/1,
Ms1 4.5/1,ms1mx3.4/44,Error ellipse: s-maj=29.1km
s-min=13.1km az=73.0
ISCJB ***12*** *20:16:14.2*±*0.5,3.98N*±*0.07*×*126.5E*±*0.1,h45*km*,*
mb4.2/17,MS4.5/1,Error ellipse: s-maj=15.6km
s-min=8.0km az=153.1

ISC 12 20:16:15.9±0.6,**3.90N**±0.08×**126.4E**±0.1,**h45**km,**n37,**
σ1822/36,mb4.3/24,2D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.63**	**326**	*e*P	**Pn**	**20 16 57.8**	**+1.8**
MATI	**Mati**	**3.04**	**357**	*e*P	Pn	20 17 04.3	+2.8
MATI				*e*S	**Sn**	**20 17 40.8**	**+4.2**
KCP	**Kidapawan**	**3.37**	**337**	*e*P	**Pn**	**20 17 04.7**	**-1.4**
BUKP	**Musuan**	**4.18**	**341**	*e*P	**Pn**	**20 17 19.2**	**+1.9**
FITZ	**Fitzroy Crossi**	**21.87**	**182**	*e*P	**P**	**20 21 06.8**	**+1.8**
	11nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.87**	**182**	P	**P**	**20 21 05.5**	**+0.5**
	3.4nm,0.5s,baz=106,slow=6.9,SNR=7.9						
WRA	**Warramunga Arr**	**24.93**	**162**	P	**P**	**20 21 36.3**	**+1.2**
	5.8nm,0.5s						
ASAR	**Alice Springs**	**28.35**	**165**	P	**P**	**20 22 06.4**	**+0.5**
	1.2nm,0.7s,baz=344,slow=7.3,SNR=5.6						
CMAR	**Chiang Mai Arr**	**30.53**	**300**	P	**P**	**20 22 25.8**	**+0.5**
	2.0nm,0.8s,baz=116,slow=6.9,SNR=13						
KSRS	**Korea Array**	**33.43**	**2**	P	**P**	**20 22 49.8**	**-0.7**
	1.3nm,0.4s,baz=185,slow=10.0,SNR=5.4						
MJAR	**Matsushiro Arr**	**34.25**	**17**	P	**P**	**20 22 55.2**	**-2.5**
	0.5nm,0.5s,baz=196,slow=8.1,SNR=3.2						
NWAO	**Narrogin (SRO)**	**37.64**	**193**	LR	LR	20 39 20.0	
	comp=Z,798nm,20.7s,baz=191,slow=37						
STKA	**Stephens Creek**	**38.39**	**159**	*e*P	**P**	**20 23 33.6**	**+0.5**
	6.5nm,0.6s						
STKA	**Stephens Creek**	**38.39**	**159**	P	**P**	**20 23 33.5**	**+0.5**
	6.2nm,0.8s,baz=330,slow=10,SNR=8.0						
SHL	**Shillong**	**39.54**	**306**	*e*PKP		20 32 50.0	
USRK	**Ussuriysk Arra**	**40.44**	**6**	P	**P**	**20 23 50.2**	**+0.3**
	1.0nm,0.5s,baz=189,slow=7.6,SNR=3.6						
TAPN	**Taplejung**	**43.68**	**306**	*e*P	**P**	**20 24 16.7**	**-0.3**
	12nm,0.8s						
ODAN	**Odare**	**43.73**	**306**	*e*P	**P**	**20 24 17.4**	**+0.1**
	14nm,0.8s						
RAMN	**Ramite**	**44.41**	**305**	*e*P	**P**	**20 24 23.2**	**+0.4**
	4.0nm,0.6s						
JIRN	**Jiri**	**45.03**	**306**	*e*P	**P**	**20 24 28.0**	**+0.1**
	1.8nm,0.5s						
GUN	**Gumba**	**45.39**	**306**	*e*P	**P**	**20 24 30.7**	**0.0**
PKI	**Pulchoki**	**45.63**	**305**	*e*P	**P**	**20 24 32.1**	**-0.5**
KKN	**Kakani**	**45.82**	**306**	*e*P	**P**	**20 24 33.3**	**-0.7**
DMN	**Daman**	**45.89**	**305**	*e*P	**P**	**20 24 34.1**	**-0.5**
GKN	**Gorkha**	**46.43**	**306**	*e*P	**P**	**20 24 38.2**	**-0.5**
	4.4nm,0.4s						
DZM	**Mont Dzumac**	**46.88**	**125**	P	**P**	**20 24 43.0**	**+0.8**
	2.2nm,0.7s,baz=248,slow=19,SNR=3.2						
SONM	**Songino Array**	**47.05**	**342**	P	**P**	**20 24 42.2**	**-0.9**
	0.8nm,0.4s,baz=159,slow=8.9,SNR=8.5						
KOLN	**Koldanda**	**47.18**	**305**	*e*P	**P**	**20 24 44.6**	**-0.1**
	14nm,0.6s						
DANN	**Dangsing**	**47.28**	**306**	*e*P	**P**	**20 24 45.3**	**-0.2**
	17nm,0.5s						
PETK	**Petropavlovsk-**	**55.39**	**22**	P	**P**	**20 25 44.5**	**-1.0**
	2.8nm,0.8s,baz=178,slow=7.2,SNR=2.4						
MKAR	**Makanchi Array**	**57.25**	**325**	P	**P**	**20 25 57.9**	**-0.9**
	1.9nm,0.4s,baz=122,slow=7.6,SNR=28						
MKAR				PcP	**PcP**	**20 26 53.0**	**+0.2**
	1.5nm,0.6s,baz=123,slow=4.0,SNR=4.7						
ZALV	**Zalesovo Beam**	**60.30**	**333**	P	**P**	**20 26 18.0**	**-1.9**
	0.9nm,0.3s,baz=129,slow=6.5,SNR=8.8						
ILAR	**Eielson Array**	**85.08**	**25**	P	**P**	**20 28 47.0**	**+0.2**
	0.4nm,0.6s,baz=245,slow=5.4,SNR=5.3						
BRTR	**Keskin Array B**	**89.69**	**310**	P	**P**	**20 29 08.9**	**-0.8**
	0.9nm,0.9s,baz=130,slow=6.6,SNR=3.4						
ARCES	**ARCESS Array B**	**90.19**	**340**	P	**P**	**20 29 10.4**	**-0.8**
	0.7nm,0.4s,baz=75,slow=5.3,SNR=7.4						
FINES	**FINESS Array B**	**91.55**	**332**	P	**P**	**20 29 17.4**	**-0.3**
	2.8nm,0.8s,baz=86,slow=7.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**122.58**	**288**	PKP	PKPdf	**20 35 07.5**	**-0.2**
	0.7nm,0.6s,baz=81,slow=2.0,SNR=8.7						

IDC 12 20:20:33.6±1.7,**3.75N**×**126.92E**,**h0**km,**mb3.5**/4,
mb1 3.7/4,**mb1mx3.5**/19,**mbtmp3.6**/4,**MS4.2**/3,**Ms1 4.2**/3,
ms1mx3.3/46,**Error ellipse: s-maj=134.5km**
s-min=20.8km az=72.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**11.27**	**219**	LR	LR	20 28 33.7	
	comp=Z,1μm,18.1s,baz=200,slow=43						
FITZ	**Fitzroy Crossi**	**21.75**	**183**	P	P	20 25 27.4	+0.5
	2.6nm,0.9s,baz=352,slow=14,SNR=2.3						
WRA	**Warramunga Arr**	**24.65**	**163**	P	P	20 25 55.8	-0.4
	263nm,0.5s,baz=230,slow=0.0,SNR=8.9						
ASAR	**Alice Springs**	**28.09**	**166**	P	P	20 26 27.4	+0.1
	0.3nm,0.8s,baz=344,slow=11,SNR=2.6						
STKA	**Stephens Creek**	**38.08**	**160**	LR	LR	20 43 45.4	
	comp=Z,532nm,18.1s,baz=117,slow=36						
DZM	**Mont Dzumac**	**46.39**	**125**	LR	LR	20 45 17.5	
	comp=Z,185nm,19.7s,baz=33,slow=32						
SONM	**Songino Array**	**47.34**	**341**	P	P	20 29 09.9	+0.5
	0.2nm,0.5s,baz=153,slow=13,SNR=2.7						
MKAR	**Makanchi Array**	**57.65**	**325**	P	P	20 30 25.4	-0.4
	0.7nm,0.5s,baz=120,slow=7.0,SNR=11						

IDC 12 20:22:43.8±3.7,**4.02N**×**126.17E**,**h0**km,**mb3.7**/2,
mb1 3.7/2,**mb1mx3.4**/17,**mbtmp3.7**/2,**Error ellipse:**
s-maj=448.5km s-min=25.5km az=64.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.13**	**162**	P	P	20 28 08.9	-1.8
	152nm,0.3s,baz=0.0,slow=0.0,SNR=11						
ASAR	**Alice Springs**	**28.53**	**165**	P	P	20 28 42.1	+0.8
	0.3nm,0.5s,baz=354,slow=7.6,SNR=3.2						
STKA	**Stephens Creek**	**38.60**	**159**	P	P	20 30 09.7	+1.0
	0.9nm,0.5s,baz=313,slow=11,SNR=2.3						
MKAR	**Makanchi Array**	**57.00**	**325**	P	P	20 32 31.2	-0.1
	0.2nm,0.4s,baz=119,slow=8.0,SNR=5.3						

BJI ***12*** *20:24:54.9,9.28S*×*121.57E,h214*km*,mB5.0/25,mb4.7/45*
MOS ***12*** *20:25:00.9*±*1.1,8.11S*×*121.44E,h196*km*,mb4.9/25,Error*
ellipse: s-maj=11.7km s-min=6.4km az=124.1
ISCJB ***12*** *20:25:02.5*±*0.4,8.30S*±*0.03*×*121.38E*±*0.03,h213*km*±3*km*,*
mb4.8/95,Error ellipse: s-maj=5.9km s-min=3.9km
az=136.3
DJA ***12*** *20:25:03,8.45S*×*121.34E,h188*km*,Mw5.1/32*
IDC ***12*** *20:25:04.8*±*0.5,8.25S*×*121.43E,h217*km*±4*km*,mb4.5/23,*
mb1 4.5/25,mb1mx4.5/27,mbtmp4.5/25,Error ellipse:
s-maj=10.5km s-min=5.8km az=56.0
NEIC ***12*** *20:25:05.1*±*0.2,8.24S*×*121.37E,mb5.0/33,Error ellipse:*
s-maj=8.2km s-min=4.0km az=52.0

ISC 12 20:25:04.5±0.3,**8.33S**±0.04×**121.35E**±0.04,**h217**km±2km,
h217km**pP-P,n269,σ142/344,mb4.8/93,12C-2D,Flores**
region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**0.93**	**109**	P	Pn	20 25 32.2	-3.4
WSI	**Waingapu**	**1.69**	**218**	P	Pn	20 25 37.0	-4.4
KAPI	**Kappang**	**3.66**	**334**	*e*P	**Pn**	**20 26 02.4**	**-0.4**
KAPI				S	**S**	**20 26 47.6**	**-0.9**
KAPI	**Kappang**	**3.66**	**334**	Pn	**Pn**	**20 26 02.2**	**-0.6**
	25μm,0.8s						
KAPI	**Kappang**	**3.66**	**334**	P	**Pn**	**20 26 02.3**	**-0.6**
KAPI	**Kappang**	**3.66**	**334**	P	**Pn**	**20 26 02.6**	**-0.2**
	130nm,0.3s,baz=178,slow=9.3,SNR=265						
KAPI				S	**S**	**20 26 47.6**	**-0.9**
	5.7nm,0.3s,baz=259,slow=22,SNR=0.9						
KDI	**Kendari**	**4.52**	**16**	P	**Pn**	**20 26 13.0**	**-0.4**
KHKI	**Kahang-Kahang**	**5.68**	**269**	P	Pn	20 26 25.3	-2.7
	1μm,1.1s,18μm11nm						
IGBI	**Denpasar**	**6.16**	**265**	P	Pn	20 26 31.3	-2.8
	2μm,1.0s,137μm10nm						
BNDI	**Bandanaira**	**9.30**	**67**	P	**P**	**20 27 23.7**	**+0.7**
FITZ	**Fitzroy Crossi**	**10.57**	**157**	*e*P	Pn	20 27 27.1	-3.7
	0.3nm,0.2s						
FITZ				S	S	20 29 21.7	-7.6
FITZ	**Fitzroy Crossi**	**10.57**	**157**	*e*P	Pn	20 27 27.4	-3.4
	959nm,0.9s						
FITZ				*e*S	S	20 29 19.9	-9.4
FITZ	**Fitzroy Crossi**	**10.57**	**157**	P	Pn	20 27 27.6	-3.2
	13nm,0.3s,baz=356,slow=7.8,SNR=152						
FITZ				S	S	20 29 21.7	-7.6
	24nm,0.3s,baz=111,slow=15,SNR=6.7						
MTN	**Manton Dam**	**10.61**	**116**	*e*P	**Pn**	**20 27 28.8**	**-2.6**
MTN				*e*S	S	20 29 17.4	-13
UGM	**Wanagama**	**10.73**	**271**	P	**P**	**20 27 36.5**	**-2.6**
	554nm,0.9s						
TNTI	**Ternate**	**10.85**	**34**	P	**Pn**	**20 27 34.9**	**+0.4**
	393nm,1.3s,4μm						
SMRI	**Semarang**	**10.89**	**276**	P	**Pn**	**20 27 35.0**	**0.0**
	2μm,0.9s,15μm						
TLE	**Tual**	**11.61**	**77**	P	**Pn**	**20 27 41.7**	**-2.5**
	331nm,0.8s,5μm						
FAKI	**Fak Fak**	**12.10**	**64**	P	**Pn**	**20 27 48.0**	**-2.3**
	552nm,0.7s,6μm						
MBWA	**Marble Bar**	**12.85**	**187**	*e*P	Pn	20 27 56.9	-2.8
	158nm,0.6s						
MBWA	**Marble Bar**	**12.85**	**187**	Pn	**Pn**	**20 27 57.5**	**-2.1**
	SNR=14						
TSM	**Tawau**	**13.01**	**344**	P	**P**	**20 28 05.2**	**+0.8**
CISI	**Tisompet, Garu**	**13.43**	**272**	P	Pn	20 28 03.7	-3.3
	431nm,0.6s,8μm						
LEM	**Lembang**	**13.70**	**275**	P	**Pn**	**20 28 09.4**	**-1.0**
	249nm,0.7s,3μm						
MYLDM	**Lahad Datu**	**13.72**	**348**	P	P	20 28 15.2	+3.0
MYLDM	**Lahad Datu**	**13.72**	**348**	P	**P**	**20 28 14.5**	**+2.3**
	493nm,1.4s,12μm						
BTM	**Bintulu**	**14.11**	**324**	P	**P**	**20 28 18.0**	**+1.4**
SDKM	**Sandakan**	**14.48**	**343**	P	**P**	**20 28 22.9**	**+2.1**
KSM	**Kuching**	**14.70**	**311**	*e*P	**P**	**20 28 23.6**	**+0.4**
	483nm,1.3s						
KSM	**Kuching**	**14.70**	**311**	P	**P**	**20 28 24.5**	**+1.4**
KSM	**Kuching**	**14.70**	**311**	P	**P**	**20 28 23.5**	**+0.4**
	287nm,1.4s,4μm						
KKM	**Kota Kinabalu**	**15.17**	**340**	*e*P	**P**	**20 28 29.0**	**+0.6**
	212nm,0.7s						
KKM	**Kota Kinabalu**	**15.17**	**340**	P	**P**	**20 28 30.4**	**+2.0**
KKM	**Kota Kinabalu**	**15.17**	**340**	P	**P**	**20 28 29.5**	**+1.1**
	490nm,1.3s,8μm						
KDM	**Kudat**	**15.80**	**343**	P	**Pn**	**20 28 37.7**	**+1.9**
BAKI	**Biak**	**16.32**	**65**	P	**Pn**	**20 28 41.9**	**-0.1**
	1μm,0.9s,13μm112μm						
WRA	**Warramunga Arr**	**17.07**	**134**	P	**P**	**20 28 49.0**	**-0.2**
WRA				S	S	20 31 45.3	-11
WRA	**Warramunga Arr**	**17.07**	**134**	P	**P**	**20 28 49.0**	**-0.2**
	748nm,0.3s,baz=234,slow=0.0,SNR=9.6						
WRA				S	S	20 31 45.3	-11
WRAB	**Tennant Creek**	**17.07**	**134**	*e*P	**P**	**20 28 49.1**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,149nm,0.8s						
WRAB	**Tennant Creek**	**17.07**	**134**	*e*P	**P**	**20 28 49.1**	**-0.2**
	comp=Z,149nm,0.8s						
WRAB	**Tennant Creek**	**17.07**	**134**	P	**P**	**20 28 49.0**	**-0.2**
	comp=Z,986nm,0.6s,SNR=82						
PMBI	**Palembang**	**17.34**	**287**	P	**Pn**	**20 28 57.5**	**+3.4**
	comp=Z,250nm,1.1s,comp=Z,13μm						
WAMI	**Wamena**	**17.81**	**77**	P	**Pn**	**20 29 00.7**	**+1.1**
	comp=Z,270nm,0.7s,comp=Z,3μm						
KSI	**Kapahiang**	**19.22**	**283**	P	**P**	**20 29 13.5**	**+0.9**
	comp=Z,253nm,0.9s,comp=Z,4μm						
AS31	**Alice Springs**	**19.42**	**143**	*e*P	**P**	**20 29 14.5**	**-0.1**
ASAR	**Alice Springs**	**19.42**	**143**	P	**P**	**20 29 14.7**	**0.0**
ASAR				S	**S**	**20 32 39.9**	**-2.7**
ASAR				ScP	**ScP**	**20 36 41.6**	**-0.3**
ASAR	**Alice Springs**	**19.42**	**143**	P	**P**	**20 29 14.7**	**0.0**
	comp=Z,23nm,0.3s,baz=328,slow=12,SNR=778						
ASAR				S	**S**	**20 32 39.9**	**-2.7**
	baz=324,slow=22,SNR=10.0						
ASAR				ScP	**ScP**	**20 36 41.6**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=327,slow=2.1,SNR=5.5						
MYKOM	**Kota Tinggi**	**20.14**	**299**	P	**P**	**20 29 24.0**	**+1.6**
MYKOM	**Kota Tinggi**	**20.14**	**299**	P	**P**	**20 29 23.5**	**+1.1**
	comp=Z,77nm,1.3s,comp=Z,1μm						
KGM	**Kluang**	**20.71**	**299**	P	**P**	**20 29 30.1**	**+1.6**
KRJI	**Kerinci**	**20.75**	**286**	P	**P**	**20 29 29.3**	**+0.3**
	comp=Z,246nm,0.8s						
BKNI	**Bangkinang**	**21.99**	**292**	P	**P**	**20 29 42.2**	**+0.8**
	comp=Z,380nm,1.2s,comp=Z,4μm						
COEN	**Coen**	**22.12**	**107**	*e*P	**P**	**20 29 42.1**	**-0.5**
	comp=Z,2μm,0.8s						
TGY	**Tagaytay City**	**22.29**	**359**	P	**P**	**20 29 45.3**	**+1.1**
TGY	**Tagaytay City**	**22.29**	**359**	P	**P**	**20 29 45.3**	**+1.1**
	comp=Z,459nm,0.4s,baz=156,slow=4.3,SNR=20						
PPI	**Padang Panjang**	**22.29**	**289**	P	**P**	**20 29 43.2**	**-1.0**
	comp=Z,64nm,1.1s,comp=Z,821nm						
FRIM	**Kepong**	**22.78**	**300**	P	**P**	**20 29 50.2**	**+1.5**
FORT	**Forrest**	**23.20**	**165**	*e*P	**P**	**20 29 51.9**	**-0.3**
	comp=Z,261nm,0.8s						
IPM	**Ipoh**	**23.93**	**301**	*e*P	**P**	**20 29 59.0**	**-0.1**
	comp=Z,162nm,1.3s						
IPM	**Ipoh**	**23.93**	**301**	P	**P**	**20 29 59.7**	**+0.5**
IPM	**Ipoh**	**23.93**	**301**	P	**P**	**20 29 59.6**	**+0.5**
	comp=Z,119nm,1.0s,comp=Z,1μm						
COCO	**West Island**	**24.42**	**259**	*i* P	**P**	**20 30 05.9**	**+2.4**
KULM	**Kulim**	**24.68**	**303**	*e*P	**P**	**20 30 05.4**	**-0.5**
	comp=Z,227nm,1.3s						
KULM	**Kulim**	**24.68**	**303**	P	**P**	**20 30 07.2**	**+1.3**
KULM	**Kulim**	**24.68**	**303**	P	**P**	**20 30 06.2**	**+0.3**
	comp=Z,98nm,1.6s,comp=Z,2μm						
NWAO	**Narrogin (SRO)**	**24.77**	**188**	*e*P	**P**	**20 30 06.3**	**-0.2**
	comp=Z,66nm,0.6s						
NWAO	**Narrogin (SRO)**	**24.77**	**188**	P	**P**	**20 30 06.8**	**+0.3**
	comp=Z,40nm,0.6s,baz=6.6,slow=9.0,SNR=51						
PSI	**Prapat**	**24.95**	**295**	P	**P**	**20 30 08.2**	**-0.3**
PSI				pP	**pP**	**20 30 51.5**	**+1.0**
PSI				ScP	**ScP**	**20 36 56.2**	**-0.3**
PSI	**Prapat**	**24.95**	**295**	P	**P**	**20 30 08.1**	**-0.3**
	comp=Z,43nm,1.3s,comp=Z,3μm						
PSI	**Prapat**	**24.95**	**295**	P	**P**	**20 30 08.2**	**-0.3**
	comp=Z,13nm,0.6s,baz=130,slow=5.7,SNR=14						
PSI				pP	**pP**	**20 30 51.5**	**+1.0**
	comp=Z,102nm,1.0s,baz=166,slow=7.0,SNR=3.1						
PSI				ScP	**ScP**	**20 36 56.2**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=281,slow=20,SNR=4.0						
PMG	**Port Moresby**	**25.52**	**94**	*e*P	**P**	**20 30 12.5**	**-1.0**
	comp=Z,61nm,0.8s						
PMG				ScP	**ScP**	**20 36 58.0**	**+0.1**
PMG	**Port Moresby**	**25.52**	**94**	P	**P**	**20 30 12.9**	**-0.6**
	comp=Z,69nm,0.7s,comp=Z,1μm						
PMG	**Port Moresby**	**25.52**	**94**	P	**P**	**20 30 12.4**	**-1.0**
	comp=Z,35nm,0.7s,baz=272,slow=6.9,SNR=19						
PMG				ScP	**ScP**	**20 36 58.0**	**+0.1**
	comp=Z,16nm,0.9s,baz=187,slow=9.7,SNR=3.6						
GSI	**Gunungsitoli**	**25.56**	**291**	P	**P**	**20 30 12.3**	**-1.5**
	comp=Z,50nm,0.8s,comp=Z,4μm						
TSI	**Tuntungan**	**25.59**	**296**	P	**P**	**20 30 14.5**	**+0.5**
	comp=Z,103nm,1.1s,comp=Z,4μm						
CTA	**Charters Tower**	**26.77**	**119**	P	**P**	**20 30 25.2**	**+0.6**
CTA	**Charters Tower**	**26.77**	**119**	*e*P	**P**	**20 30 25.4**	**+0.7**
	comp=Z,55nm,1.3s						
CTA	**Charters Tower**	**26.77**	**119**	P	**P**	**20 30 25.2**	**+0.6**
	comp=Z,29nm,0.5s,baz=287,slow=11,SNR=44						
CTAO	**Charters Tower**	**26.77**	**119**	*e*P	**P**	**20 30 25.8**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,257nm,1.5s						
CTAO	**Charters Tower**	**26.77**	**119**	*e*P	**P**	**20 30 25.8**	**+1.1**
	comp=Z,257nm,1.5s						
BBOO	**Buckleboo**	**27.91**	**153**	*e*P	**P**	**20 30 34.7**	**+0.1**
	comp=Z,2μm,0.8s						
BSI	**Banda Aceh**	**29.39**	**297**	P	**P**	**20 30 47.5**	**-0.4**
	comp=Z,33nm,1.1s						
QIZ	**Qiongzhong**	**29.46**	**337**	P	**P**	**20 30 49.1**	**+0.7**
QIZ				S	**S**	**20 35 29.7**	**+3.1**
QIZ				pmax	pmax		
	comp=Z,21nm,2.3s						
QIZ				LR	LR		
	comp=Z,360nm,18.3s						
STKA	**Stephens Creek**	**30.05**	**144**	P	**P**	**20 30 54.2**	**+0.7**
STKA				pP	**pP**	**20 31 38.5**	**+1.1**
STKA				ScP	**ScP**	**20 37 14.1**	**+2.5**
STKA	**Stephens Creek**	**30.05**	**144**	*e*P	**P**	**20 30 54.2**	**+0.7**
	comp=Z,100nm,0.5s						
STKA	**Stephens Creek**	**30.05**	**144**	P	**P**	**20 30 54.2**	**+0.7**
	comp=Z,130nm,0.5s,baz=323,slow=8.2,SNR=256						
STKA				pP	**pP**	**20 31 38.5**	**+1.1**
	comp=Z,37nm,0.8s,baz=337,slow=12,SNR=2

CD2 pP **pP** **20 33 21.4 -3.4**
CD2 sP sP 20 33 43.9 -5.4
CD2 ScP **ScP** **20 37 57.7 +0.3**
CD2 PcS **PcS** **20 38 18.4 -1.4**
CD2 S **S** **20 38 45.4 +0.9**
CD2 ScS **ScS** **20 42 15.4 -1.4**
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,160nm,5.8s
CD2 LR LR
comp=N,390nm,22.0s
CD2 LR LR
comp=E,460nm,17.6s
CD2 LR LR
comp=Z,570nm,18.4s
XAN Xi'an 43.76 345 P **P** **20 32 47.6 -1.1**
XAN pmax pmax
comp=Z,6.0nm,0.8s
XAN pmax pmax
comp=Z,43nm,9.2s
DZM Mont Dzumac 45.43 113 *e*P **P** **20 33 02.2 0.0**
DZM Mont Dzumac 45.43 113 *e*P **P** **20 33 02.7 +0.4**
comp=Z,52nm,1.1s
DZM Mont Dzumac 45.43 113 P **P** **20 33 03.3 +1.0**
comp=Z,25nm,0.9s,baz=276,slow=7.9,SNR=25
KSAR Wonju Array Be 45.94 7 P **P** **20 33 06.6 +0.8**
KSRS Korea Array 45.96 7 P **P** **20 33 06.6 +0.7**
comp=Z,0.8nm,0.5s,baz=178,slow=8.3,SNR=4.5
LZH Lanzhou 47.15 341 *e*P **P** **20 33 15.3 -0.1**
LZH pP **pP** **20 34 01.0 -1.4**
LZH sP **sP** **20 34 22.0 -4.7**
LZH S **S** **20 39 54.2 +2.8**
LZH pmax pmax
comp=Z,15nm,1.0s
LZH pmax pmax
comp=Z,240nm,4.4s
LZH LR LR
comp=N,300nm,14.4s
LZH LR LR
comp=E,190nm,13.0s
LZH LR LR
comp=Z,290nm,17.4s
MJAR Matsushiro Arr 47.36 19 P **P** **20 33 15.1 -1.8**
MJAR pP **pP** **20 34 03.7 -0.2**
MJAR ScP **ScP** **20 38 17.9 +0.6**
MJAR Matsushiro Arr 47.36 19 P **P** **20 33 15.1 -1.8**
comp=Z,4.5nm,0.7s,baz=196,slow=9.3,SNR=17
MJAR pP **pP** **20 34 03.7 -0.2**
comp=Z,3.5nm,0.8s,baz=194,slow=9.5,SNR=2.1
MJAR ScP **ScP** **20 38 17.9 +0.6**
comp=Z,4.1nm,0.6s,baz=194,slow=5.6,SNR=10
MAT Matsushiro 47.36 19 P **P** **20 33 14.6 -2.3**
MAT *e*S **S** **20 39 59.0 +5.0**
LSA Lhasa 47.69 324 *e*P **P** **20 33 20.0 0.0**
LSA pmax pmax
comp=Z,25nm,0.6s
LSA Lhasa 47.69 324 *e*P **P** **20 33 20.0 0.0**
comp=Z,25nm,0.6s
ODAN Odare 48.05 318 *e*P **P** **20 33 21.9 -0.7**
comp=Z,55nm,0.5s
TAPN Taplejung 48.16 319 *e*P **P** **20 33 23.1 -0.4**
comp=Z,81nm,0.6s
BJT Baijiatuau 48.34 355 *e*P **P** **20 33 23.1 -1.2**
comp=Z,31nm,0.5s
BJI Beijing 48.36 355 P **P** **20 33 23.4 -1.0**
BJI pmax pmax
comp=Z,17nm,0.6s
RAMN Ramite 48.63 317 *e*P **P** **20 33 26.7 -0.3**
comp=Z,169nm,0.5s
KAAM Kaadhehdhoo 48.98 278 P **P** **20 33 30.8 +1.2**
comp=Z,189nm,1.1s
JIRN Jiri 49.37 318 *e*P **P** **20 33 32.2 -0.6**
comp=Z,32nm,0.5s
HYB Hyderabad 49.43 301 *i* P **P** **20 33 30.5 -2.5**
comp=Z,60nm,1.0s
HYB *e*pP **pP** **20 34 20.0 -0.4**
GUN Gumba 49.74 318 *e*P **P** **20 33 35.0 -0.6**
comp=Z,164nm,0.6s
HHC Hu-ho-hao-te 49.76 350 *e*P **P** **20 33 37.6 +2.5**
HHC pP **pP** **20 34 27.2 +4.6**
HHC sP **sP** **20 34 50.4 +3.7**
HHC S **S** **20 40 28.5 +0.9**
HHC sS **sS** **20 41 54.8 +3.8**
HHC ScS **ScS** **20 43 03.2 -0.7**
HHC SS **SS** **20 44 04.3 +1.0**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,170nm,5.4s
HHC LR LR
comp=N,200nm,17.8s
HHC LR LR
comp=E,250nm,14.3s
HHC LR LR
comp=Z,200nm,19.0s
PKI Pulchoki 49.84 317 *e*P **P** **20 33 35.3 -1.0**
comp=Z,75nm,0.5s
DMN Daman 50.07 317 *e*P **P** **20 33 36.9 -1.0**
comp=Z,46nm,0.6s
KKN Kakani 50.07 317 *e*P **P** **20 33 36.9 -0.9**
comp=Z,50nm,0.7s
GKN Gorkha 50.64 317 *e*P **P** **20 33 41.0 -1.0**
comp=Z,56nm,0.5s
KOLN Koldanda 51.20 316 *e*P **P** **20 33 45.2 -1.1**
comp=Z,51nm,0.7s
DANN Dangsing 51.45 317 *e*P **P** **20 33 47.3 -1.0**
comp=Z,153nm,0.6s
GTA Gaotai 51.53 339 ⇑P **P** **20 33 48.7 +0.3**
GTA pP **pP** **20 34 36.6 +0.4**
GTA sP **sP** **20 34 58.3 -2.0**
GTA S **S** **20 40 51.3 -0.7**
GTA ScS **ScS** **20 43 14.2 -2.0**
GTA pmax pmax
comp=Z,12nm,0.6s
GTA pmax pmax
comp=Z,320nm,7.6s
GTA LR LR
comp=N,290nm,19.0s
GTA LR LR
comp=E,230nm,16.6s
GTA LR LR
comp=Z,220nm,16.6s
CN2 Changchun 52.02 4 *e*P P 20 33 57.9 +6.1
CN2 PcP PcP 20 35 06.1 +5.2
USRK Ussuriysk Arra 53.17 10 P **P** **20 33 58.7 -1.4**
comp=Z,5.5nm,0.5s,baz=187,slow=6.8,SNR=23
USRK PcP **PcP** **20 35 05.6 +0.4**
comp=Z,6.9nm,0.6s,baz=192,slow=6.6,SNR=5.4
MDJ Mudanjiang 53.22 7 P **P** **20 34 01.3 +0.7**
MDJ pmax pmax
comp=Z,8.0nm,1.1s
MDJ pmax pmax
comp=Z,190nm,4.6s
ERM Erimo 53.94 20 *e*P **P** **20 34 04.7 -1.1**
ASAJ Asahikawa 55.63 18 P **P** **20 34 17.5 -0.4**
ASAJ Asahikawa 55.63 18 P **P** **20 34 17.5 -0.4**
comp=Z,2.6nm,0.6s,baz=243,slow=6.8,SNR=3.6
MSVF Nonsavu 55.85 106 *e*P **P** **20 34 22.0 +1.9**
MSVF pmax pmax
comp=Z,36nm,0.7s
MSVF Nonsavu 55.85 106 *e*P **P** **20 34 22.0 +1.9**
comp=Z,36nm,0.7s
MSVF Nonsavu 55.85 106 P **P** **20 34 22.0 +1.9**
comp=Z,352nm,0.6s,SNR=11
ULN Ulaanbaatar 57.37 349 *e*P **P** **20 34 29.7 -0.5**
comp=Z,4.7nm,0.4s
ULN Ulaanbaatar 57.37 349 P **P** **20 34 29.5 -0.8**
SNR=6.6
SONM Songino Array 57.47 348 P **P** **20 34 30.3 -0.7**
SONM pP **PcP** **20 35 21.1 -1.0**
SONM ScP **ScP** **20 39 02.2 +1.1**
SONM Songino Array 57.47 348 P **P** **20 34 30.3 -0.7**
comp=Z,8.3nm,0.5s,baz=166,slow=8.3,SNR=83
SONM pP **PcP** **20 35 21.1 -1.0**
comp=Z,3.3nm,0.6s,baz=158,slow=8.3,SNR=2.1
SONM ScP **ScP** **20 39 02.2 +1.1**
comp=Z,0.7nm,0.7s,baz=169,slow=5.3,SNR=2.3
HABR Khabarovsk 57.84 11 *e*P P 20 34 29.2 -4.1
HABR *e* 20 35 19.7
HABR *e**SP sP 20 35 36.7 -9.2
HABR *e* 20 36 39.7
HABR S **S** **20 42 12.2 -3.1**
HABR *e* 20 43 55.8
HABR *e*SS **SS** **20 46 07.5 -2.6**
HABR pmax pmax
comp=E,52nm,2.1s
HABR pmax pmax
comp=N,13nm,1.4s
HABR pmax pmax
comp=Z,24nm,0.9s
HABR MLR MLR
comp=Z,473nm,21.0s
URZ Urewera 58.19 130 *e*P **P** **20 34 36.7 +0.6**
WMQ Urumqi 60.20 332 ⇑*i*P **P** **20 34 49.8 0.0**
WMQ pP **PcP** **20 35 33.0 0.0**
WMQ sP **sP** **20 35 59.0 -3.7**
WMQ PP **PP** **20 37 07.0 +1.6**
WMQ ScP **ScP** **20 39 12.5 -0.7**
WMQ S **S** **20 42 48.0 +1.8**
WMQ sS **sS** **20 44 13.0 +0.5**
WMQ pmax pmax
comp=Z,34nm,0.8s
WMQ pmax pmax
comp=Z,300nm,5.1s
ZAK Zakamensk 60.55 347 *e*P **P** **20 34 50.4 -1.6**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
TLY Talaya 61.69 348 *e*P **P** **20 34 57.9 -1.6**
TLY pmax pmax
comp=Z,11nm,1.8s
TLY MLR MLR
comp=Z,342nm,20.0s
IRK Irkutsk 62.09 348 *e*P P 20 34 55.7 -6.4
IRK pmax pmax
comp=Z,26nm,2.0s
MOY Mondy 62.28 346 *e*P **P** **20 35 03.2 -0.3**
KSH Kashi 63.48 322 P **P** **20 35 11.4 -0.4**
KSH PcP **PcP** **20 35 45.2 -1.3**
KSH pP **pP** **20 36 00.0 -1.6**
KSH sP **sP** **20 36 21.3 -3.8**
KSH PP **PP** **20 37 35.4 +1.0**
KSH ScP 20 39 26.8
KSH PcS 20 39 49.1
KSH S **S** **20 43 28.1 +0.5**
KSH ScS **SKSac** **20 44 40.8 -3.0**
KSH SS **SS** **20 47 40.8 +1.6**
KSH LR LR
comp=N,180nm,5.9s
KSH LR LR
comp=E,200nm,5.1s
KSH LR LR
comp=Z,280nm,20.8s
MK31 Makanchi Array 64.95 331 *e*P **P** **20 35 20.6 -0.4**
MK31 Makanchi Array 64.95 331 *e*P **P** **20 35 20.6 -0.4**
MKAR Makanchi Array 64.95 331 *ce*P **P** **20 35 20.7 -0.4**
MKAR pmax pmax
comp=Z,22nm,0.5s
MKAR Makanchi Array 64.95 331 P **P** **20 35 20.7 -0.4**
MKAR pP **pP** **20 36 10.6 -0.5**
MKAR Makanchi Array 64.95 331 P **P** **20 35 20.7 -0.4**
comp=Z,22nm,0.5s,baz=142,slow=7.5,SNR=407
MKAR pP **pP** **20 36 10.6 -0.5**
comp=Z,7.6nm,0.7s,baz=139,slow=7.8,SNR=2.5
KZA Kyzart 65.50 324 P **P** **20 35 25.1 0.0**
SNR=7.3
AFI Afiamalu 65.68 101 P **P** **20 35 27.3 +0.9**
AFI Afiamalu 65.68 101 P **P** **20 35 27.3 +0.9**
comp=Z,15nm,0.5s,baz=30,slow=6.7,SNR=6.5
TKM2 Tokmak 2 65.82 325 *e*P **P** **20 35 26.2 -0.8**
TKM2 Tokmak 2 65.82 325 *e*P **P** **20 35 26.2 -0.8**
TKM2 Tokmak 2 65.82 325 P **P** **20 35 26.0 -0.9**
SNR=9.8
BOD Bodaibo 66.19 356 *e*P **P** **20 35 26.4 -2.3**
BOD pmax pmax
comp=Z,8.0nm,1.1s
AAK Ala-Archa 66.28 324 *e*P **P** **20 35 29.0 -0.8**
AAK pmax pmax
comp=Z,16nm,0.5s
AAK Ala-Archa 66.28 324 *e*P **P** **20 35 29.0 -0.8**
comp=Z,16nm,0.5s
AAK Ala-Archa 66.28 324 P **P** **20 35 29.9 +0.1**
comp=Z,43nm,0.6s,SNR=6.9
AAK Ala-Archa 66.28 324 P **P** **20 35 29.3 -0.5**
SNR=8.2
FRU Bishkek 66.33 324 *e*P **P** **20 35 28.0 -2.0**
AML Almayashu 66.44 323 P **P** **20 35 30.2 -1.0**
SNR=14
EKS2 Erkin-Say 66.72 324 *e*P **P** **20 35 31.8 -0.7**
EKS2 pmax pmax
comp=Z,10.0nm,1.0s
EKS2 Erkin-Say 66.72 324 *e*P **P** **20 35 31.8 -0.7**
comp=Z,9.6nm,1.0s
EKS2 Erkin-Say 66.72 324 P **P** **20 35 32.0 -0.5**
SNR=5.3
PETK Petropavlovsk- 68.55 23 P **P** **20 35 44.1 +0.5**
PETK *PP **pP** **20 36 32.5 -1.7**
PETK Petropavlovsk- 68.55 23 P **P** **20 35 44.1 +0.5**
PETK pP **pP** **20 36 32.5 -1.7**
PETK Petropavlovsk- 68.55 23 P **P** **20 35 44.1 +0.5**
comp=Z,2.6nm,0.5s,baz=75,slow=3.4,SNR=6.3
PETK pP **pP** **20 36 32.5 -1.7**
comp=Z,4.1nm,0.7s,baz=209,slow=8.3,SNR=2.2
KKAR Karatay Array 68.92 323 *e*P **P** **20 35 45.2 -0.9**
KKAR pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 68.92 323 *e*P **P** **20 35 45.2 -0.9**
comp=Z,1.6nm,0.6s
ZAA0 Zalesovo Array 69.27 338 *e*P **P** **20 35 46.4 -1.6**
ZALV Zalesovo Beam 69.27 338 P **P** **20 35 46.4 -1.6**
ZALV S **S** **20 44 33.8 -2.5**
ZALV Zalesovo Beam 69.27 338 P **P** **20 35 46.4 -1.6**
ZALV S **S** **20 44 33.8 -2.5**
ZALV Zalesovo Beam 69.27 338 P **P** **20 35 46.4 -1.6**
comp=Z,20nm,0.6s,baz=132,slow=4.9,SNR=129
ZALV S **S** **20 44 33.8 -2.5**
comp=Z,1.5nm,0.8s,baz=150,slow=10,SNR=5.9
KURK Kurchatov 69.45 333 *ce*P **P** **20 35 48.3 -0.8**
KURK pmax pmax
comp=Z,32nm,2.0s
KURK Kurchatov 69.45 333 *e*P **P** **20 35 48.4 -0.8**
comp=Z,42nm,1.3s
KURK Kurchatov 69.45 333 P **P** **20 35 48.3 -0.8**
SNR=11
KURK Kurchatov 69.45 333 P **P** **20 35 48.1 -1.0**
comp=Z,123nm,0.7s,SNR=20
YAK Yakutsk 70.45 4 *e*P **P** **20 35 52.5 -2.4**
YAK *e**PP pP 20 36 40.2 -5.6
YAK *e*S **S** **20 44 45.5 -4.1**
YAK *e* 20 45 34.0
YAK pmax pmax
comp=Z,2.0nm,0.4s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK smax smax
comp=E,86nm,2.0s
YAK smax smax
comp=N,92nm,2.1s
NVS Novosibirsk 70.55 338 ⇑*i*P **P** **20 35 53.7 -2.0**
NVS *e*S **S** **20 44 47.8 -3.3**
NVS pmax pmax
comp=Z,29nm,1.5s
NVS pmax pmax
comp=N,13nm,1.6s
NVS pmax pmax
comp=E,10.0nm,1.4s
NVS smax smax
comp=N,110nm,3.0s
NVS smax smax
comp=E,110nm,2.4s
VNDA Vanda 72.29 171 *e*P **P** **20 36 07.5 +1.7**
comp=E,18nm,1.0s
OPO Ambohidratompo 72.44 253 P **P** **20 36 09.1 +1.1**
OPO Ambohidratompo 72.44 253 P **P** **20 36 09.1 +1.1**
comp=E,3.8nm,0.6s,baz=114,slow=5.6,SNR=5.2
ABKT Ailbek 74.67 313 P **P** **20 36 20.9 +0.4**
comp=E,99nm,0.8s,SNR=8.4
BRVK Borovoye 74.89 331 *ce*P **P** **20 36 20.0 -1.3**
BRVK pmax pmax
comp=Z,14nm,2.1s
BRVK Borovoye 74.89 331 *e*P **P** **20 36 20.2 -1.1**
comp=Z,8.8nm,1.0s
BRVK Borovoye 74.89 331 P **P** **20 36 21.1 -0.2**
SNR=6.0
SEY Seymchan 74.93 14 *ce*P **P** **20 36 20.4 -0.9**
ABKAR Akbulak array 78.37 324 *e*P **P** **20 36 40.0 -0.8**
comp=Z,7.7nm,0.5s
RADA Ahram - Rada'a 79.15 286 *e*P P 20 36 42.6 -3.6
SYO Syowa Base 79.32 201 ⇑*e*P **P** **20 36 46.0 +0.3**
QRN Al-Qurain 79.69 301 *e*P **P** **20 36 47.8 -0.7**
QRN AMb AMB 20 36 49.8
comp=Z,76nm,1.1s
RDF Al-Radifah 80.05 301 *e*P **P** **20 36 50.2 -0.3**
RDF AMb AMB 20 36 52.5
comp=Z,91nm,1.3s
NAY Al-Naaiem 80.40 302 *e*P **P** **20 36 51.3 -0.9**
NAY AMb AMB 20 36 53.5
comp=Z,32nm,1.1s
MIB Mutribah 80.46 302 *e*P **P** **20 36 51.6 -1.0**
MIB AMb AMB 20 36 53.9
comp=Z,52nm,1.2s
ATD Arta Tunnel 80.52 283 P **P** **20 36 54.6 +1.3**
ATD Arta Tunnel 80.52 283 P **P** **20 36 54.6 +1.3**
comp=Z,26nm,1.0s,baz=4.4,slow=5.2,SNR=5.8
QSPA South Pole Qui 81.66 180 *e*P **P** **20 36 59.5 +1.2**
comp=Z,5.9nm,0.6s
QSPA South Pole Qui 81.66 180 P **P** **20 36 59.8 +1.5**
comp=Z,12nm,0.8s,baz=317,slow=1.9,SNR=28
ARU Arti 82.43 330 *d**i*P **P** **20 37 01.6 -0.7**
ARU 20 40 11.3
ARU S **S** **20 47 00.3 +0.3**
ARU pmax pmax
comp=Z,13nm,1.7s
KMBO Kilima Mbogo 84.00 270 *e*P **P** **20 37 12.1 +0.5**
comp=Z,36nm,1.5s
KMBO Kilima Mbogo 84.00 270 P **P** **20 37 12.8 +1.2**
SNR=9.4
ZEI Tsey 86.51 314 *e*P **P** **20 37 22.1 -1.3**
ZEI pmax pmax
comp=Z,20nm,1.4s
KIV Kislovodsk 87.66 315 *e*P **P** **20 37 27.0 -1.7**
KIV pmax pmax
comp=Z,10.0nm,1.1s
VRHR Novokhopersk 90.02 322 *e*P **P** **20 37 37.9 -1.5**
VRHR *e* 20 47 47.0
VRHR pmax pmax
comp=N,8.0nm,0.9s
VRHR pmax pmax
comp=E,6.0nm,0.9s
VRHR pmax pmax
comp=Z,5.0nm,0.9s
LSZ Lusaka 90.86 255 *e*P **P** **20 37 44.7 +0.4**
comp=Z,9.4nm,1.0s
BOSA Boshof 91.36 241 P **P** **20 37 47.5 +1.1**
BOSA Boshof 91.36 241 P **P** **20 37 47.5 +1.1**
comp=Z,4.3nm,0.4s,baz=107,slow=4.4,SNR=38
VSR Storozhevoye 91.56 321 *e*P **P** **20 37 45.2 -1.4**
VSR *e* 20 47 54.8
VSR pmax pmax
comp=N,2.0nm,0.8s
VSR pmax pmax
comp=E,2.0nm,0.8s
VSR pmax pmax
comp=Z,6.0nm,0.8s
LBTB Lobatse 91.69 245 P **P** **20 37 49.0 +1.0**
LBTB Lobatse 91.69 245 P **P** **20 37 49.0 +1.0**
comp=Z,4.9nm,1.0s,baz=194,slow=4.0,SNR=4.1
BRTR Keskin Array B 93.51 309 P **P** **20 37 54.4 -1.6**
BRTR Keskin Array B 93.51 309 P **P** **20 37 54.4 -1.6**
comp=Z,4.5nm,1.2s,baz=139,slow=2.6,SNR=10
OBN Obninsk 93.79 325 ⇑*e*P **P** **20 37 55.2 -1.5**
OBN *e**PP pP 20 39 08.2 +18
OBN *e* 20 41 41.7
OBN *e*PS **PS** **20 50 33.6 +3.4**
OBN pmax pmax
comp=Z,7.0nm,1.2s
ILAR Eielson Array 98.23 26 P **P** **20 38 15.2 -1.5**
ILAR Eielson Array 98.23 26 P **P** **20 38 15.2 -1.5**
comp=Z,0.4nm,0.6s,baz=243,slow=5.1,SNR=9.0
FINES FINESS Array B 99.78 331 P **Pdif** **20 38 23.4 -0.2**
FINES FINESS Array B 99.78 331 P **Pdif** **20 38 23.4 -0.2**
comp=Z,0.9nm,0.6s,baz=357,slow=7.8,SNR=3.9
ARCES ARCESS Array B 99.80 339 P **Pdif** **20 38 23.0 -0.6**
ARCES ARCESS Array B 99.80 339 P **Pdif** **20 38 23.0 -0.6**
comp=Z,5.1nm,1.1s,baz=4.1,slow=5.1,SNR=3.7
UZH Uzhgorod 102.18 318 *e*P **Pdif** **20 38 36.0 +1.4**
GERES GERESS Array B 107.83 319 PKiKP **PKiKP** **20 43 06.0 -0.3**
GERES GERESS Array B 107.83 319 PKiKP **PKiKP** **20 43 06.0 -0.3**
comp=Z,0.3nm,0.5s,baz=35,slow=2.4,SNR=3.3
YKA Yellowknife Ar 112.62 25 PKiKP **PKiKP** **20 43 14.1 -0.6**
YKA Yellowknife Ar 112.62 25 PKiKP **PKiKP** **20 43 14.1 -0.6**
comp=Z,0.7nm,0.6s,baz=307,slow=1.7,SNR=16
NVAR Mina Array Bea 118.80 51 PKP **PKPdf** **20 43 29.0 +1.4**
NVAR Mina Array Bea 118.80 51 PKP **PKPdf** **20 43 29.0 +1.4**
comp=Z,0.7nm,0.6s,baz=245,slow=2.3,SNR=4.2
TORD Torodi Ar. Bea 120.63 280 PKP **PKPdf** **20 43 31.1 -0.4**
TORD pPKP **pPKPdf** **20 44 28.9 +1.5**
TORD Torodi Ar. Bea 120.63 280 PKP **PKPdf** **20 43 31.1 -0.4**
comp=Z,2.9nm,0.5s,baz=63,slow=1.6,SNR=32
TORD pPKP **pPKPdf** **20 44 28.9 +1.5**
comp=Z,1.7nm,0.5s,baz=63,slow=1.7,SNR=3.9
ESDC Sonseca Array 122.21 312 PKP **PKPdf** **20 43 33.9 0.0**
ESDC Sonseca Array 122.21 312 PKP **PKPdf** **20 43 33.9 0.0**
comp=Z,0.4nm,0.5s,baz=21,slow=2.4,SNR=3.6
PDAR Pinedale Array 123.84 43 PKKPbc PKKPbc 20 53 25.4 -0.5
PDAR Pinedale Array 123.84 43 PKKPbc PKKPbc 20 53 25.4 -0.5
comp=Z,0.6nm,0.5s,baz=108,slow=4.3,SNR=4.1
DBIC Dimbokro 126.67 272 PKP **PKPdf** **20 43 43.6 +0.5**
DBIC Dimbokro 126.67 272 PKP **PKPdf** **20 43 43.6 +0.5**
comp=Z,2.0nm,0.5s,baz=111,slow=2.4,SNR=7.9
ULM Lac du Bonnet 128.04 30 SKPbc SKiKP 20 46 42.6 -18
comp=Z,2.1nm,0.5s,baz=322,slow=6.1,SNR=3.4
PLCA Paso Flores 129.96 168 SKPbc SKPab 20 46 52.8 +1.9
comp=Z,15nm,1.2s,baz=173,slow=5.4,SNR=5.7
TXAR Lajitas Array 132.92 57 PKP **PKPdf** **20 43 55.6 +0.9**
TXAR SKPbc **SKPbc** **20 47 01.7 -0.3**
TXAR Lajitas Array 132.92 57 PKP **PKPdf** **20 43 55.7 +0.9**
comp=Z,0.3nm,0.4s,baz=24,slow=6.9,SNR=2.6
TXAR SKPbc **SKPbc** **20 47 01.7 -0.3**
comp=Z,1.2nm,0.6s,baz=225,slow=1.6,SNR=13
SCHQ Schefferville 133.16 6 PKP **PKPdf** **20 43 55.1 +0.8**
SCHQ SKPbc **SKPbc** **20 47 01.4 -0.5**
SCHQ Schefferville 133.16 6 PKP **PKPdf** **20 43 55.1 +0.8**
comp=Z,1.8nm,0.3s,baz=46,slow=1.7,SNR=16
SCHQ SKPbc **SKPbc** **20 47 01.4 -0.5**
comp=Z,6.7nm,0.8s,baz=358,slow=3.9,SNR=9.4
JCT Junction City 135.72 54 *e*PKiKP **PKPdf** **20 44 02.0 +2.2**
JCT Junction City 135.72 54 *e*PKiKP **PKPdf** **20 44 02.0 +2.2**
BLA Blacksburg 145.12 31 *e*PKiKP **PKPbc** **20 44 16.4 -0.2**
BLA Blacksburg 145.12 31 *e*PKPdf **PKPbc** **20 44 16.4 -0.2**
GOGA Godfrey 146.12 39 *e*PKP2 **PKPbc** **20 44 19.6 0.0**
GOGA Godfrey 146.12 39 *e*PKPdf **PKPbc** **20 44 19.6 0.0**
LVC Limon Verde 147.65 162 *e*PKPbc **PKPab** **20 44 26.7 -0.5**

IDC ***12*** *20:46:55.0±0.5, 3.˚80N×126.˚67E, h0km, mb4.2/18, mb1 4.4/18, mb1mx4.3/20, mbtmp4.2/18, Error ellipse: s-maj=27.2km s-min=10.0km az=78.0*
ISCJB ***12*** *20:46:58.2±1.9, 3.˚77N±0.˚05×126.˚67E±0.˚09, h35km±17km, mb4.4/33, Error ellipse: s-maj=16.0km s-min=6.4km az=163.8*
NEIC ***12*** *20:46:60.0±0.2, 3.˚77N×126.˚66E, h35km, mb4.5/14, Error ellipse: s-maj=11.8km s-min=4.9km az=76.0*
DJA ***12*** *20:47:04, 3.˚65N×126.˚97E, h68km, mb4.5/4*
ISC 12 20:46:55.0±2.3, 3.˚80N±0.˚06×126.˚7E±0.˚1, h1km±14km, n74, σ0°72/84, mb4.5/32, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.43**	**341**	Pn	**Pb**			**20 47 56.9**	**+0.2**
DAV				Sn	**Sn**			**20 48 31.9**	**+0.7**
DAV	**Davao City (W)**	**3.43**	**341**	Pn	**Pb**			**20 47 56.9**	**+0.2**
	22nm,0.3s,baz=225,slow=16,SNR=2.0								
DAV				Sn	**Sn**			**20 48 31.9**	**+0.7**
	9.4nm,0.3s,baz=339,slow=17,SNR=4.1								
KKM	**Kota Kinabalu**	**10.67**	**282**	*e*P		Pn		20 49 36.2	+6.9
	5.0nm,0.6s								
MTN	**Manton Dam**	**17.11**	**165**	*e*P	**Pn**			**20 50 54.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**21.79**	**183**	*e*P	**P**			**20 51 48.9**	**+0.3**
	7.4nm,0.4s								
FITZ	**Fitzroy Crossi**	**21.79**	**183**	*e*P	**P**			**20 51 49.5**	**+0.9**
	15nm,0.8s								
FITZ	**Fitzroy Crossi**	**21.79**	**183**	P	**P**			**20 51 49.6**	**+1.0**
	8.0nm,0.4s,baz=13,slow=9.5,SNR=30								
WRAB	**Tennant Creek**	**24.76**	**163**	*e*P	**P**			**20 52 17.8**	**-0.7**
	32nm,0.8s								
WRA	**Warramunga Arr**	**24.76**	**163**	P	**P**			**20 52 17.8**	**-0.7**
WRA				S	**S**			**20 56 42.2**	**+0.3**
WRA	**Warramunga Arr**	**24.76**	**163**	P	**P**			**20 52 17.8**	**-0.7**
	502nm,0.3s,baz=252,slow=0.0,SNR=20								
WRA				S	**S**			**20 56 42.2**	**+0.3**
	0.9nm,0.9s,baz=236,slow=29,SNR=2.5								
MBWA	**Marble Bar**	**25.72**	**195**	*e*P	**P**			**20 52 26.9**	**-0.3**
AS31	**Alice Springs**	**28.19**	**166**	*e*P	**P**			**20 52 49.3**	**-0.1**
ASAR	**Alice Springs**	**28.19**	**166**	P	**P**			**20 52 49.2**	**-0.2**

ASAR				PcP	PcP	20 56 04.0	+0.4
ASAR	**Alice Springs**	**28.19**	**166**	P	P	20 52 49.2	-0.2
	1.0nm,0.4s,baz=341,slow=7.3,SNR=20						
ASAR				PcP	PcP	20 56 04.0	+0.4
	1.0nm,0.7s,baz=339,slow=1.9,SNR=4.7						
CMAR	**Chiang Mai Arr**	**30.80**	**300**	P	P	20 53 13.5	+0.8
CMAR				ScP	ScP	20 59 54.6	+0.2
CMAR	**Chiang Mai Arr**	**30.80**	**300**	P	P	20 53 13.5	+0.8
	1.3nm,0.7s,baz=108,slow=7.0,SNR=9.6						
CMAR				ScP	ScP	20 59 54.6	+0.2
	0.8nm,0.9s,baz=191,slow=0.7,SNR=4.4						
ENH	**Enshi**	**30.95**	**330**	*e*P	P	20 53 13.0	-0.9
	9.1nm,0.7s						
CHTO	**Chiang Mai**	**30.95**	**301**	*e*P	P	20 53 13.3	-0.7
	2.1nm,0.6s						
KSAR	**Wonju Array Be**	**33.50**	**2**	P	P	20 53 37.3	+1.2
KSRS	**Korea Array**	**33.52**	**2**	P	P	20 53 37.3	+1.1
	2.0nm,0.9s,baz=170,slow=9.3,SNR=3.1						
MJAR	**Matsushiro Arr**	**34.27**	**17**	P	P	20 53 43.9	+1.0
MJAR	**Matsushiro Arr**	**34.27**	**17**	P	P	20 53 43.9	+1.0
	0.6nm,0.6s,baz=225,slow=11,SNR=4.1						
FORT	**Forrest**	**34.41**	**178**	*e*P	P	20 53 44.7	+0.6
	16nm,0.5s						
KLBR	**Kellerberrin**	**36.21**	**193**	*e*P	P	20 54 00.6	+1.0
	6.4nm,0.4s						
BJT	**Baijiatuau**	**37.29**	**347**	*e*P	P	20 54 10.2	+1.4
	20nm,0.8s						
NWAO	**Narrogin (SRO)**	**37.61**	**193**	P	P	20 54 12.5	+1.0
NWAO	**Narrogin (SRO)**	**37.61**	**193**	P	P	20 54 12.5	+1.0
	7.6nm,0.6s,baz=23,slow=8.5,SNR=15						
STKA	**Stephens Creek**	**38.21**	**159**	*e*P	P	20 54 16.6	0.0
	3.6nm,0.6s						
STKA	**Stephens Creek**	**38.21**	**159**	*e*P	P	20 54 17.0	+0.4
	15nm,0.6s						
STKA	**Stephens Creek**	**38.21**	**159**	P	P	20 54 17.0	+0.4
	18nm,0.6s,baz=335,slow=7.7,SNR=48						
USRK	**Ussuriysk Arra**	**40.51**	**6**	P	P	20 54 36.1	+0.5
	1.3nm,0.6s,baz=187,slow=14,SNR=3.9						
ARMA	**Armidale**	**41.55**	**147**	*e*P	P	20 54 39.4	-5.2
LSA	**Lhasa**	**42.36**	**311**	*e*P	P	20 54 52.4	+0.7
	10.0nm,0.6s						
TAPN	**Taplejung**	**43.94**	**306**	*e*P	P	20 55 04.0	-0.3
	10.0nm,0.6s						
ODAN	**Odare**	**43.99**	**305**	*e*P	P	20 55 04.5	-0.2
	12nm,0.6s						
RAMN	**Ramite**	**44.67**	**305**	*e*P	P	20 55 10.0	-0.2
	9.9nm,0.5s						
JIRN	**Jiri**	**45.30**	**306**	*e*P	P	20 55 15.0	-0.2
	2.7nm,0.5s						
GUN	**Gumba**	**45.65**	**306**	*e*P	P	20 55 17.8	-0.2
	8.6nm,0.4s						
KKN	**Kakani**	**46.09**	**306**	*e*P	P	20 55 20.7	-0.6
DMN	**Daman**	**46.16**	**305**	*e*P	P	20 55 21.5	-0.4
ULN	**Ulaanbaatar**	**47.04**	**342**	*e*P	P	20 55 28.2	-0.2
	6.6nm,1.0s						
SONM	**Songino Array**	**47.22**	**341**	P	P	20 55 29.9	+0.2
SONM				PcP	PcP	20 57 01.9	+0.6
SONM	**Songino Array**	**47.22**	**341**	P	P	20 55 29.9	+0.2
	1.9nm,0.7s,baz=153,slow=9.7,SNR=16						
SONM				PcP	PcP	20 57 01.8	+0.6
	0.7nm,0.6s,baz=179,slow=3.4,SNR=3.6						
KOLN	**Koldanda**	**47.45**	**305**	*e*P	P	20 55 31.8	-0.2
	16nm,0.6s						
DANN	**Dangsing**	**47.54**	**306**	*e*P	P	20 55 32.4	-0.4
	21nm,0.6s						
PETK	**Petropavlovsk-**	**55.38**	**22**	P	P	20 56 30.5	-0.3
PETK	**Petropavlovsk-**	**55.38**	**22**	P	P	20 56 30.5	-0.3
	1.5nm,0.6s,baz=179,slow=5.8,SNR=2.6						
MK31	**Makanchi Array**	**57.48**	**325**	*e*P	P	20 56 45.2	-0.7
MKAR	**Makanchi Array**	**57.48**	**325**	P	P	20 56 45.3	-0.6
MKAR				PcP	PcP	20 57 40.5	+0.9
MKAR	**Makanchi Array**	**57.48**	**325**	P	P	20 56 45.3	-0.6
	3.0nm,0.6s,baz=120,slow=8.5,SNR=42						
MKAR				PcP	PcP	20 57 40.5	+0.9
	1.6nm,0.7s,baz=121,slow=4.9,SNR=4.4						
ZAA0	**Zalesovo Array**	**60.51**	**333**	*e*P	P	20 57 05.1	-1.6
ZALV	**Zalesovo Beam**	**60.51**	**333**	P	P	20 57 05.4	-1.4
ZALV	**Zalesovo Beam**	**60.51**	**333**	P	P	20 57 05.4	-1.4
	2.4nm,0.5s,baz=131,slow=6.4,SNR=18						
KURK	**Kurchatov**	**61.66**	**327**	*e*P	P	20 57 14.0	-0.7
	7.3nm,0.8s						
KKAR	**Karatay Array**	**63.15**	**317**	*e*P	P	20 57 24.9	+0.1
	2.6nm,0.8s						
BRVK	**Borovoye**	**67.31**	**327**	*e*P	P	20 57 51.9	+0.3
	1.3nm,0.6s						
ABKAR	**Akbulak array**	**72.07**	**321**	*e*P	P	20 58 21.1	+0.1
	1.4nm,0.5s						
ARU	**Arti**	**74.86**	**328**	*e*P	P	20 58 36.3	-1.0
	2.5nm,0.6s						
COLD	**Coldfoot**	**83.85**	**23**	*e*P	P	20 59 25.5	-0.7
	5.4nm,0.9s						
ILAR	**Eielson Array**	**85.06**	**25**	P	P	20 59 32.2	-0.1
ILAR	**Eielson Array**	**85.06**	**25**	P	P	20 59 32.2	-0.1
	0.8nm,0.7s,baz=250,slow=7.1,SNR=8.3						
BRTR	**Keskin Array B**	**89.94**	**310**	P	P	20 59 55.5	-1.1
BRTR	**Keskin Array B**	**89.94**	**310**	P	P	20 59 55.5	-1.1
	0.7nm,0.8s,baz=352,slow=2.9,SNR=3.0						
ARCES	**ARCESS Array B**	**90.37**	**340**	P	P	20 59 56.9	-0.9
ARCES	**ARCESS Array B**	**90.37**	**340**	P	P	20 59 56.9	-0.9
	2.8nm,0.7s,baz=61,slow=7.7,SNR=9.5						
FINES	**FINESS Array B**	**91.75**	**332**	P	P	21 00 03.7	-0.6
FINES	**FINESS Array B**	**91.75**	**332**	P	P	21 00 03.7	-0.6
	1.8nm,0.9s,baz=31,slow=8.3,SNR=4.9						
AKASG	**Malin Array Be**	**91.81**	**321**	P	P	21 00 04.0	-0.9
AKASG	**Malin Array Be**	**91.81**	**321**	P	P	21 00 04.0	-0.9
	0.7nm,0.5s,baz=69,slow=4.7,SNR=3.2						
BUR08	**Bucovina Ar. S**	**94.93**	**318**	*e*P	P	21 00 18.7	-0.8
YKA	**Yellowknife Ar**	**99.45**	**24**	P	Pdif	21 00 39.2	-0.2
YKA	**Yellowknife Ar**	**99.45**	**24**	P	Pdif	21 00 39.2	-0.2
	0.1nm,0.5s,baz=292,slow=3.3,SNR=2.3						
TORD	**Torodi Ar. Bea**	**122.86**	**288**	PKP	PKPdf	21 05 54.2	+0.1
TORD	**Torodi Ar. Bea**	**122.86**	**288**	PKP	PKPdf	21 05 54.3	+0.1
	1.0nm,0.7s,baz=54,slow=2.2,SNR=7.7						

*ISCJB **12** 20:47:30.6±1.2,54.52N±0.08×163.42W±0.07,h3km±7km, mb3.5/2,Error ellipse: s-maj=14.1km s-min=3.6km az=154.1*
*NEIC **12** 20:47:31.5,54.65N×163.52W,h5km, ML3.6(AEIC),After AEIC.*
*IDC **12** 20:47:33.3±4.7,53.95N×162.41W,h0km, mb3.4/2, mb1 3.7/5,mb1mx3.4/29,mbtmp3.4/5,ML3.4/3,Error ellipse: s-maj=77.5km s-min=35.6km az=88.0*

ISC 12 20:47:31.1±1.6,54.51N±0.08×163.42W±0.04,h4km±11km, n24,σ1s03/31,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRPK	**Brown Peak**	**0.23**	**306**	P	Pg	20 47 35.1	-0.5
FALS	**False Pass**	**0.35**	**0**	P	Pg	20 47 37.4	-0.4
FALS				S	Sg	20 47 41.6	-0.7
SSLS	**Shishaldin Sou**	**0.39**	**301**	P	Pg	20 47 38.6	-0.1
WESN	**West Dahl Nort**	**0.68**	**275**	P	Pg	20 47 44.2	+0.1
WESE	**West Dahl East**	**0.68**	**267**	P	Pg	20 47 44.4	+0.2
DRIA	**Deer Island**	**0.81**	**55**	P	Pg	20 47 46.9	+0.3
DT1	**Dutton Round H**	**0.89**	**47**	P	Pg	20 47 48.0	-0.1
DTNA	**Dutton South F**	**0.93**	**46**	P	Pg	20 47 48.8	-0.1
DOL	**Dolgoi Island**	**1.10**	**54**	P	Pg	20 47 51.9	-0.4
DOL				S	Sg	20 48 06.8	+0.2
HAG	**Hague Volcano**	**1.19**	**47**	P	Pg	20 47 53.9	0.0
PS4A	**Pavlof South-4**	**1.23**	**46**	P	Pg	20 47 54.4	-0.2
PVV	**Pavlof Volcano**	**1.28**	**47**	P	Pg	20 47 55.2	-0.4
AKSA	**Akutan Strait**	**1.39**	**255**	P	Pn	20 47 56.3	-0.8
AKSA				S	Sb	20 48 15.2	-0.3
AKLV	**Akutan Long Va**	**1.53**	**258**	P	Pn	20 47 59.1	0.0
AKLV				S	Sn	20 48 18.2	-1.1
ZRO	**Akutan Zero**	**1.56**	**255**	P	Pn	20 47 59.2	-0.3
AKRB	**Akutan Reef Bi**	**1.60**	**257**	P	Pn	20 47 58.8	-1.2
AKRB				S	Sg	20 48 22.9	+0.6
UNV	**Unalaska Valle**	**1.93**	**251**	P	Pn	20 48 05.3	+0.7
UNV				S	Sn	20 48 29.7	+0.5
MCIR	**Makushin Cirqu**	**2.11**	**256**	P	Pn	20 48 07.8	+0.6
MSOM	**Makushin Julie**	**2.19**	**253**	P	Pn	20 48 08.4	+0.3
KDAK	**Kodiak Island**	**6.88**	**57**	Pn	Pn	20 49 13.2	+0.6
	0.8nm,0.3s,baz=198,slow=19,SNR=6.0						
KDAK				Sn	Sn	20 50 30.9	-0.4
	0.7nm,0.3s,baz=27,slow=16,SNR=1.4						
ILAR	**Eielson Array**	**13.20**	**32**	Pn	Pn	20 50 40.9	+1.9
	0.1nm,0.3s,baz=218,slow=13,SNR=4.6						
INK	**Inuvik**	**19.59**	**34**	P	Pn	20 52 02.4	+1.3
	0.1nm,0.3s,baz=241,slow=9.9,SNR=4.9						
YKA	**Yellowknife Ar**	**26.13**	**53**	P	P	20 53 08.3	+2.6
	0.5nm,0.5s,baz=271,slow=9.4,SNR=9.3						
NVAR	**Mina Array Bea**	**34.30**	**99**	P	P	20 54 15.5	-3.1
	0.5nm,0.6s,baz=305,slow=15,SNR=3.3						

*ISCJB **12** 20:54:01.5±0.5,38.45N±0.03×39.07E±0.04,h0km,Error ellipse: s-maj=4.7km s-min=3.9km az=171.0*
*DDA **12** 20:54:01.6,38.41N×39.07E,h7km,MD2.4*
*ISK **12** 20:54:01.4,38.44N×39.07E,h6km,MD2.6*
*CSEM **12** 20:54:01.8±0.2,38.46N×39.09E,h10km,MD2.6,Error ellipse: s-maj=3.9km s-min=3.6km az=152.0*

ISC 12 20:54:01.9±0.9,38.45N±0.03×39.06E±0.02,h0km,n26, σ0s43/36,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.21**	**110**	Pg	Pg	20 54 05.8	0.0
SVRC				SG	Sg	20 54 09.1	+0.6
SVRC	**Sivrice-ELAZID**	**0.21**	**110**	*i* Pg	Pg	20 54 05.8	0.0
SVRC				*i* Sg	Sg	20 54 09.1	+0.6
PTK	**Pertek**	**0.51**	**30**	*e*PG	Pg	20 54 12.0	+0.3
PTK	**Pertek**	**0.51**	**30**	*e*Pg	Pg	20 54 12.0	+0.3
MYA	**Malataya**	**0.51**	**256**	*e*PG	Pg	20 54 11.9	+0.2
MYA	**Malataya**	**0.51**	**256**	*e*Pg	Pg	20 54 11.9	+0.2
MALT	**Malatya**	**0.52**	**255**	*e*PG	Pg	20 54 12.0	+0.2
MALT				*e*SG	Sg	20 54 19.4	+1.0
MALT	**Malatya**	**0.52**	**255**	*e*Pg	Pg	20 54 12.0	+0.2
MALT				*e*Sg	Sg	20 54 19.4	+1.0
AKCD	**Akcadag**	**0.91**	**261**	*i* P	Pg	20 54 18.9	-0.3
AKCD				*i* S	Sb	20 54 32.9	-0.3
AKCD	**Akcadag**	**0.91**	**261**	*i* P	Pg	20 54 18.9	-0.3
AKCD				*i* S	Sb	20 54 32.9	-0.3
KEMA	**Kemaliye**	**0.93**	**332**	*i* P	Pg	20 54 20.0	+0.3
KEMA				*i* S	Sb	20 54 33.6	-0.3
KEMA	**Kemaliye**	**0.93**	**332**	*i* P	Pg	20 54 20.0	+0.3
KEMA				*i* S	Sb	20 54 33.6	-0.3
URFA	**Urfa**	**1.02**	**191**	*e*PG	Pg	20 54 21.4	-0.1
URFA	**Urfa**	**1.02**	**191**	*e*Pg	Pg	20 54 21.4	-0.1
ILIC	**ilic-Erzincan**	**1.07**	**339**	*e*PN	Pg	20 54 22.5	+0.1
ILIC	**ilic-Erzincan**	**1.07**	**339**	*e*Pn	Pg	20 54 22.5	+0.1
DIY	**Diyarbakir**	**1.07**	**121**	*e*PG	Pg	20 54 22.5	+0.1
DIY	**Diyarbakir**	**1.07**	**121**	*e*Pg	Pg	20 54 22.5	+0.1
ATAB	**Bozova**	**1.15**	**212**	*i* P	Pb	20 54 24.4	-0.3
ATAB				*i* S	Sg	20 54 38.8	0.0
ATAB	**Bozova**	**1.15**	**212**	*i* P	Pb	20 54 24.4	-0.3
ATAB				*i* S	Sg	20 54 38.8	0.0
ERZN	**Erzincan**	**1.25**	**24**	*e*PN	Pg	20 54 25.8	0.0
EZC	**Erzincan**	**1.32**	**10**	*e*Pn	Pg	20 54 25.8	-1.4
GAZ	**Gaziantep**	**1.94**	**230**	*e*PN	Pn	20 54 36.4	+0.2
GAZ	**Gaziantep**	**1.94**	**230**	*e*Pn	Pn	20 54 36.4	+0.2
KMRS	**Kahramanmaras**	**1.95**	**242**	*e*PN	Pn	20 54 36.1	-0.1
KMRS	**Kahramanmaras**	**1.95**	**242**	*e*Pn	Pn	20 54 36.1	-0.1

IDC 12 20:56:41.0±4.2,3.61N×126.23E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.5/19,mbtmp3.7/4,Error ellipse: s-maj=506.6km s-min=28.3km az=64.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.72**	**162**	P	P	21 02 04.1	-0.2
	2.5nm,0.8s,baz=355,slow=9.4,SNR=8.8						
ASAR	**Alice Springs**	**28.12**	**165**	P	P	21 02 34.9	0.0
	0.2nm,0.6s,baz=346,slow=11,SNR=2.6						
STKA	**Stephens Creek**	**38.20**	**159**	P	P	21 04 02.7	+0.1
	1.5nm,0.6s,baz=323,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**57.37**	**326**	P	P	21 06 31.1	-0.1
	0.4nm,0.5s,baz=120,slow=8.1,SNR=2.1						

IDC 12 21:15:54.2±8.5,30.39S×178.21W,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.7/14,mbtmp3.7/2,Error ellipse: s-maj=361.1km s-min=61.4km az=155.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.92**	**267**	P	P	21 23 55.5	+0.5
	0.2nm,0.3s,baz=106,slow=7.3,SNR=3.6						
WRA	**Warramunga Arr**	**43.91**	**272**	P	P	21 24 02.1	-0.8
	0.9nm,0.5s,baz=112,slow=9.1,SNR=0.7						
FINES	**FINESS Array B**	**145.08**	**340**	PKPbc	PKPbc	21 35 31.4	-0.9
	1.7nm,0.8s,baz=64,slow=6.3,SNR=5.5						

IDC 12 21:16:09.0±1.4,3.96N×126.79E,h0km,mb3.6/7, mb1 3.8/7,mb1mx3.6/21,mbtmp3.7/7,MS3.5/2,Ms1 3.5/2, ms1mx2.8/37,Error ellipse: s-maj=124.8km s-min=17.4km az=69.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.32**	**339**	LR	LR	21 18 50.3	
	comp=Z,200nm,18.2s,baz=96,slow=49						
FITZ	**Fitzroy Crossi**	**21.95**	**183**	P	P	21 21 04.3	-0.1
	1.1nm,0.5s,baz=7.7,slow=7.3,SNR=3.9						
WRA	**Warramunga Arr**	**24.89**	**163**	P	P	21 21 32.8	-0.9
	1.1nm,0.8s,baz=289,slow=0.1,SNR=0.3						
ASAR	**Alice Springs**	**28.32**	**166**	P	P	21 22 06.5	+1.9
	0.3nm,0.4s,baz=341,slow=10,SNR=3.6						
STKA	**Stephens Creek**	**38.32**	**159**	P	P	21 23 31.0	-0.6
	3.9nm,0.7s,baz=338,slow=9.2,SNR=11						
MKAR	**Makanchi Array**	**57.40**	**325**	P	P	21 25 58.7	-0.7
	0.2nm,0.5s,baz=118,slow=8.3,SNR=7.0						
ZALV	**Zalesovo Beam**	**60.41**	**333**	P	P	21 26 21.0	+0.9
	0.4nm,0.4s,baz=124,slow=12,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.58**	**327**	P	P	21 26 28.0	-0.1
	0.3nm,0.4s,baz=128,slow=6.4,SNR=5.5						
AFI	**Afiamalu**	**63.46**	**108**	LR	LR	21 50 29.5	
	comp=Z,95nm,18.6s,baz=47,slow=32						

*IDC **12** 21:20:22.5±0.8,3.99N×126.66E,h0km,mb4.1/12, mb1 4.2/12,mb1mx4.0/22,mbtmp4.1/12,Error ellipse: s-maj=53.2km s-min=15.6km az=69.0*
*ISCJB **12** 21:20:26.8±0.5,4.0N±0.1×126.7E±0.3,h45km,mb4.2/18, Error ellipse: s-maj=38.8km s-min=9.9km az=157.7*
*NEIC **12** 21:20:27.7±0.4,3.99N×126.66E,h35km,mb4.2/6,Error ellipse: s-maj=28.3km s-min=7.3km az=68.0*

ISC 12 21:20:28.8±0.7,4.0N±0.1×126.7E±0.3,h45km,n30, σ0s60/30,mb4.2/18,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**24.94**	**163**	*e*P	P	21 25 48.3	+0.3
	2.8nm,0.4s						
WRA	**Warramunga Arr**	**24.94**	**163**	P	P	21 25 47.3	-0.8
WRA	**Warramunga Arr**	**24.94**	**163**	P	P	21 25 47.3	-0.8
	3.9nm,0.7s,baz=339,slow=11,SNR=13						
ASAR	**Alice Springs**	**28.38**	**166**	P	P	21 26 19.0	0.0
ASAR	**Alice Springs**	**28.38**	**166**	P	P	21 26 19.0	0.0
	0.2nm,0.3s,baz=348,slow=7.3,SNR=2.7						
ENH	**Enshi**	**30.78**	**330**	*e*P	P	21 26 39.1	-1.2
	3.3nm,0.6s						
STKA	**Stephens Creek**	**38.39**	**159**	*e*P	P	21 27 46.0	+0.1
STKA	**Stephens Creek**	**38.39**	**159**	P	P	21 27 46.0	+0.1
	2.3nm,0.7s,baz=72,slow=3.4,SNR=3.8						
LSA	**Lhasa**	**42.23**	**311**	*e*P	P	21 28 18.9	+0.5
	4.7nm,0.6s						
ULN	**Ulaanbaatar**	**46.86**	**342**	*e*P	P	21 28 55.3	+0.7
	0.8nm,0.5s						
SONM	**Songino Array**	**47.04**	**341**	P	P	21 28 56.5	+0.6
SONM	**Songino Array**	**47.04**	**341**	P	P	21 28 56.5	+0.6
	0.9nm,0.7s,baz=159,slow=9.1,SNR=7.0						
PETK	**Petropavlovsk-**	**55.21**	**22**	P	P	21 29 57.1	+0.1
PETK	**Petropavlovsk-**	**55.21**	**22**	P	P	21 29 57.1	+0.1
	1.5nm,0.5s,baz=200,slow=7.7,SNR=2.4						
MK31	**Makanchi Array**	**57.32**	**325**	*e*P	P	21 30 11.8	-0.4
MKAR	**Makanchi Array**	**57.32**	**325**	P	P	21 30 12.2	-0.1
MKAR	**Makanchi Array**	**57.32**	**325**	P	P	21 30 12.1	-0.1
	1.7nm,0.5s,baz=118,slow=7.8,SNR=36						
ZALV	**Zalesovo Beam**	**60.34**	**333**	P	P	21 30 32.1	-0.8
ZALV	**Zalesovo Beam**	**60.34**	**333**	P	P	21 30 32.1	-0.8
	1.5nm,0.4s,baz=128,slow=6.8,SNR=9.9						
KURBB	**Kurchatov Arra**	**61.50**	**327**	P	P	21 30 40.8	-0.1
	1.3nm,0.5s,baz=124,slow=6.3,SNR=25						
KURK	**Kurchatov**	**61.50**	**327**	*e*P	P	21 30 40.0	-0.9
	3.1nm,0.6s						
BVAR	**Borovoye Array**	**67.08**	**327**	P	P	21 31 17.9	+0.4
BVAR	**Borovoye Array**	**67.08**	**327**	P	P	21 31 17.9	+0.4
	0.6nm,0.4s,baz=66,slow=4.0,SNR=13						
ABKAR	**Akbulak array**	**71.92**	**321**	*e*P	P	21 31 46.7	-0.8
	0.9nm,0.6s						
AKTO	**Aktyubinsk**	**73.43**	**322**	P	P	21 31 57.4	+1.0
AKTO	**Aktyubinsk**	**73.43**	**322**	P	P	21 31 57.4	+1.0
	1.9nm,0.8s,baz=90,slow=10,SNR=4.9						
ARCES	**ARCESS Array B**	**90.19**	**340**	P	P	21 33 24.0	-0.1
ARCES	**ARCESS Array B**	**90.19**	**340**	P	P	21 33 24.0	-0.1
	2.4nm,0.8s,baz=70,slow=1.4,SNR=5.0						
FINES	**FINESS Array B**	**91.58**	**332**	P	P	21 33 30.5	-0.1
FINES	**FINESS Array B**	**91.58**	**332**	P	P	21 33 30.5	-0.1
	1.9nm,0.9s,baz=82,slow=4.0,SNR=6.2						

IDC 12 21:21:56.3±1.7,3.92N×126.67E,h0km,mb3.7/6, mb1 3.8/6,mb1mx3.6/21,mbtmp3.7/6,Error ellipse: s-maj=174.1km s-min=26.9km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.88**	**163**	P	P	21 27 20.9	-0.1
	1.8nm,0.8s,baz=341,slow=10,SNR=4.4						
SONM	**Songino Array**	**47.10**	**341**	P	P	21 30 30.6	+0.3
	0.4nm,0.6s,baz=152,slow=6.5,SNR=2.3						
MKAR	**Makanchi Array**	**57.37**	**325**	P	P	21 31 46.4	-0.1
	0.6nm,0.4s,baz=119,slow=7.9,SNR=5.7						
ZALV	**Zalesovo Beam**	**60.40**	**333**	P	P	21 32 06.1	-1.3
	0.5nm,0.5s,baz=112,slow=6.9,SNR=2.8						
KURBB	**Kurchatov Arra**	**61.55**	**327**	P	P	21 32 15.0	-0.3
	1.0nm,0.6s,baz=125,slow=6.0,SNR=5.4						
BVAR	**Borovoye Array**	**67.13**	**327**	P	P	21 32 53.1	+1.2
	0.5nm,0.7s,baz=103,slow=4.6,SNR=3.0						

IDC 12 21:24:13.9±9.2,4.43N×124.18E,h546km±120km,mb2.8/6, mb1 3.0/6,mb1mx2.7/23,mbtmp2.8/6,Error ellipse: s-maj=264.5km s-min=27.0km az=62.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.20**	**158**	P	P	21 29 05.2	-0.3
	2.5nm,0.3s,baz=339,slow=9.0,SNR=36						
ASAR	**Alice Springs**	**29.49**	**162**	P	P	21 29 33.9	-0.5
	0.9nm,0.5s,baz=342,slow=6.9,SNR=8.5						
STKA	**Stephens Creek**	**39.73**	**157**	P	P	21 31 00.6	+1.0
	1.4nm,0.7s,baz=325,slow=9.4,SNR=2.4						
MKAR	**Makanchi Array**	**55.55**	**326**	P	P	21 32 57.6	-0.3
	0.5nm,0.5s,baz=127,slow=7.4,SNR=5.2						
MKAR				PcP	PcP	21 33 48.5	-1.0
	0.4nm,0.6s,baz=132,slow=3.6,SNR=3.9						
KURBB	**Kurchatov Arra**	**59.80**	**328**	P	P	21 33 26.3	-0.3
	0.3nm,0.5s,baz=126,slow=7.0,SNR=3.6						
BVAR	**Borovoye Array**	**65.36**	**328**	P	P	21 34 03.6	+1.1
	0.1nm,0.5s,baz=122,slow=1.9,SNR=2.4						

*ISCJB **12** 21:29:01.1±0.4,27.77N±0.04×139.61E±0.07,h478km, mb3.9/18,Error ellipse: s-maj=8.3km s-min=5.4km az=5.7*
*IDC **12** 21:29:01.8±0.6,27.83N×139.92E,h492km±8km,mb3.5/16, mb1 3.5/21,mb1mx3.3/31,mbtmp3.4/21,Error ellipse: s-maj=23.7km s-min=12.4km az=66.0*
*JMA **12** 21:29:03.2±0.1,28.03N×140.35E,h502km,M3.7*

ISC 12 21:29:01.7±0.7,27.85N±0.07×139.7E±0.1,h478km,n48, σ1s29/54,mb4.2/26,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.31**	**108**	P	P	21 30 08.2	+1.6
CBIJ				*e*S	S	21 30 59.0	-0.2
CBIJ	**Chichi jima**	**2.31**	**108**	P	P	21 30 08.2	+1.6
	80nm,0.3s,baz=77,slow=4.2,SNR=54						
CBIJ				S	S	21 30 59.6	+0.4
	51nm,0.3s,baz=282,slow=23,SNR=8.6						
JHHJ	**Haha-jima-NKT**	**2.50**	**118**	P	P	21 30 09.7	+2.0
JHHJ				S	S	21 31 02.8	+1.6
BSO1	**Boso 1**	**6.87**	**9**	P	P	21 30 48.0	+2.9
BSO1				*e*S	S	21 32 11.3	+1.3
BSO3	**Boso 3**	**6.96**	**5**	*e*S	S	21 32 12.2	-0.1
JIE	**Ise**	**7.01**	**339**	P	P	21 30 51.5	+4.3
JKN2	**Miekihoku**	**7.02**	**336**	P	P	21 30 51.2	+3.9
BSO4	**Boso 4**	**7.14**	**4**	P	P	21 30 52.7	+4.4
BSO4				*e*S	S	21 32 17.3	+1.4
JOD2	**Odawara

comp=Z,310nm,20.9s,baz=140,slow=32
WRA Warramunga Arr 24.97 163 P P 21 36 43.3 -0.1
0.8nm,0.6s,baz=294,slow=30,SNR=3.2
ASAR Alice Springs 28.39 166 P P 21 37 13.8 -0.6
0.2nm,0.4s,baz=346,slow=7.0,SNR=3.9
STKA Stephens Creek 38.41 159 P P 21 38 41.9 +0.5
0.5nm,0.3s,baz=335,slow=11,SNR=2.8
SONM Songino Array 47.02 341 P P 21 39 51.6 +0.4
0.2nm,0.4s,baz=157,slow=7.8,SNR=2.8
MKAR Makanchi Array 57.27 325 P P 21 41 07.8 +0.2
0.5nm,0.3s,baz=119,slow=7.6,SNR=19
ZALV Zalesovo Beam 60.30 333 P P 21 41 27.5 -0.9
0.4nm,0.4s,baz=141,slow=5.4,SNR=4.1
KURBB Kurchatov Arra 61.45 327 P P 21 41 36.5 +0.2
0.6nm,0.4s,baz=126,slow=6.6,SNR=10
BVAR Borovoye Array 67.04 327 P P 21 42 12.6 -0.4
0.3nm,0.6s,baz=68,slow=5.3,SNR=3.8

IDC 12 21:38:24.7±1.2, 3.86N×126.39E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.8/5, MS2.9/1, Ms1 2.9/1, ms1mx2.4/30, Error ellipse: s-maj=163.9km s-min=19.9km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.29**	**346**	LR	LR	21 40 11.8	
	comp=Z,180nm,19.0s,baz=321,slow=33						
WRA	**Warramunga Arr**	**24.91**	**162**	P	P	21 43 50.1	+0.4
	1.6nm,0.7s,baz=342,slow=11,SNR=5.9						
STKA	**Stephens Creek**	**38.38**	**159**	P	P	21 45 47.2	-0.5
	1.2nm,0.6s,baz=318,slow=11,SNR=3.3						
SONM	**Songino Array**	**47.06**	**342**	P	P	21 46 59.3	+1.0
	0.2nm,0.4s,baz=167,slow=8.9,SNR=3.7						
MKAR	**Makanchi Array**	**57.25**	**325**	P	P	21 48 14.1	0.0
	0.7nm,0.5s,baz=119,slow=7.8,SNR=18						
ZALV	**Zalesovo Beam**	**60.81**	**333**	P	P	21 48 34.2	-1.0
	0.8nm,0.4s,baz=121,slow=7.1,SNR=5.1						

IDC 12 21:45:50.3±1.1, 3.66N×126.30E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/21, mbtmp3.7/7, Error ellipse: s-maj=98.7km s-min=16.2km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.63**	**182**	P	P	21 50 42.9	+0.5
	1.6nm,0.8s,baz=11,slow=16,SNR=2.9						
WRA	**Warramunga Arr**	**24.75**	**162**	P	P	21 51 13.6	-0.2
	1.5nm,0.4s,baz=340,slow=10,SNR=0.2						
ASAR	**Alice Springs**	**28.15**	**165**	P	P	21 51 45.5	+1.0
	0.3nm,0.3s,baz=352,slow=15,SNR=5.4						
STKA	**Stephens Creek**	**38.22**	**159**	P	P	21 53 11.0	-1.1
	1.7nm,0.7s,baz=338,slow=9.1,SNR=6.4						
SONM	**Songino Array**	**47.23**	**342**	P	P	21 54 25.8	+0.5
	0.2nm,0.5s,baz=168,slow=7.4,SNR=2.5						
MKAR	**Makanchi Array**	**57.37**	**325**	P	P	21 55 40.1	-0.5
	0.4nm,0.3s,baz=119,slow=7.6,SNR=15						
KURBB	**Kurchatov Arra**	**61.57**	**328**	P	P	21 56 09.3	-0.1
	0.3nm,0.3s,baz=129,slow=7.7,SNR=8.6						

*ISCJB **12** 21:50:02.9±0.5, 5.05N±0.1×104.79E±0.10, h150km, mb4.0/10, Error ellipse: s-maj=20.5km s-min=7.6km az=38.1*
*IDC **12** 21:50:02.6±3.5, 4.66N×104.79E, h148km±31km, mb4.0/8, mb1 4.1/8, mb1mx3.6/22, mbtmp4.0/8, MS2.8/1, Ms1 2.8/1, ms1mx2.3/30, Error ellipse: s-maj=31.2km s-min=15.7km az=37.0*
*DJA **12** 21:50:03, 5.26S×104.41E, h188km, MLv4.5/7*
ISC 12 21:50:03.5±0.7, 4.39S±0.1×104.69E±0.09, h150km, n20, σ1s62/21, mb4.0/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**1.82**	**288**	P	**Pn**	**21 50 39.1**	**+2.5**
PMBI	**Palembang**	**2.00**	**2**	P	**Pn**	**21 50 40.5**	**+1.8**
KSI	**Kapahiang**	**2.45**	**301**	P	**Pn**	**21 50 46.3**	**+2.2**
LEM	**Lembang**	**3.46**	**123**	P	**Pn**	**21 50 59.1**	**+2.1**
CISI	**Cisompet, Garu**	**4.05**	**130**	P	**Pn**	**21 51 04.5**	**0.0**
PPI	**Padang Panjang**	**6.18**	**316**	P	**Pn**	**21 51 33.1**	**+0.4**
	40nm,0.9s,0.1nm						
BKNI	**Bangkinang**	**6.38**	**325**	P	**Pn**	**21 51 36.7**	**+1.4**
	140nm,0.8s,1μm,0.5nm						
GSI	**Gunungsitoli**	**9.43**	**311**	P	**Pn**	**21 52 13.7**	**-2.4**
PSI	**Prapat**	**9.61**	**323**	LR	LR	21 56 33.6	
	comp=Z,58nm,18.1s,baz=13,slow=42						
CMAR	**Chiang Mai Arr**	**23.93**	**346**	pP	**pP**	**21 55 36.1**	**+2.5**
	1.0nm,0.8s,baz=176,slow=9.2,SNR=4.1						
CMAR				ScP	**ScP**	**22 02 04.8**	**-2.3**
	0.4nm,0.6s,baz=193,slow=3.7,SNR=5.7						
FITZ	**Fitzroy Crossi**	**24.30**	**124**	P	**P**	**21 55 06.8**	**-0.4**
	1.7nm,0.3s,baz=300,slow=8.1,SNR=13						
WRA	**Warramunga Arr**	**32.48**	**120**	P	**P**	**21 56 19.1**	**-0.9**
	1.6nm,0.4s,baz=293,slow=9.5,SNR=29						
ASAR	**Alice Springs**	**33.75**	**126**	P	**P**	**21 56 31.0**	**-0.1**
	7.9nm,0.3s,baz=299,slow=8.2,SNR=58						
ASAR				PcP	**PcP**	**21 59 07.2**	**-0.1**
	0.2nm,0.3s,baz=323,slow=2.9,SNR=2.8						
ASAR				ScP	**ScP**	**22 02 36.8**	**-1.3**
	0.5nm,0.5s,baz=311,slow=3.5,SNR=6.6						
PMG	**Port Moresby**	**42.34**	**98**	P	**P**	**21 57 42.6**	**-0.5**
	5.8nm,0.8s,baz=278,slow=7.1,SNR=3.8						
CTA	**Charters Tower**	**43.12**	**114**	P	**P**	**21 57 49.8**	**+0.4**
	2.1nm,0.6s,baz=292,slow=12,SNR=3.8						
STKA	**Stephens Creek**	**43.72**	**132**	P	**P**	**21 57 53.7**	**-0.2**
	4.5nm,0.5s,baz=312,slow=6.7,SNR=15						
MKAR	**Makanchi Array**	**55.20**	**341**	P	**P**	**21 59 18.5**	**-2.2**
	0.2nm,0.4s,baz=157,slow=8.1,SNR=4.1						
KURBB	**Kurchatov Arra**	**59.75**	**341**	P	P	21 59 49.1	-3.4
	0.2nm,0.5s,baz=136,slow=6.2,SNR=2.4						
LBTB	**Lobatse**	**78.06**	**246**	P	**P**	**22 01 47.1**	**+0.8**
	1.1nm,0.6s,baz=135,slow=1.4,SNR=4.0						
BOSA	**Boshof**	**78.39**	**242**	P	**P**	**22 01 48.7**	**+0.6**
	2.6nm,0.8s,baz=117,slow=6.8,SNR=3.7						

*NNC **12** 21:55:01.2±4.5, 40.02N×71.68E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=44.3km s-min=26.4km az=15.0*
ISC 12 21:55:07.0±8.5, 40.2N±0.7×71.8E±0.2, h10km, n10, σ0s40/9, 2C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**2.38**	**36**	P	**Pn**	**21 55 45.9**	**-0.5**
	SNR=25						
EKS2	**Erkin-Say**	**2.85**	**31**	P	**Pn**	**21 55 53.0**	**+0.3**
	SNR=11						
KK31	**Karatay Array**	**3.04**	**342**	Pn	**Pn**	**21 55 55.1**	**0.0**
	1.1nm,0.3s,baz=148,slow=11,SNR=179						
KK31				⇓Pg	Pb	21 55 59.7	-1.5
	3.3nm,0.3s,baz=162,slow=16,SNR=11						
KK31				Lg	Lg	21 56 44.0	
	20nm,0.5s,baz=158,slow=29,SNR=8.3						
AAK	**Ala-Archa**	**3.15**	**39**	P	**Pn**	**21 55 57.0**	**+0.2**
	SNR=8.7						
KZA	**Kyzart**	**3.20**	**53**	P	**Pn**	**21 55 57.8**	**+0.2**
	SNR=9.0						
KBK	**Karagaybulak**	**3.39**	**43**	P	**Pn**	**21 56 00.6**	**+0.5**
	SNR=7.3						
USP	**Ospenovka**	**3.65**	**33**	P	**Pn**	**21 56 03.7**	**+0.1**
	SNR=7.6						
TKM2	**Tokmak 2**	**3.92**	**45**	⇑Pn	**Pn**	**21 56 07.0**	**-0.5**
	6.4nm,0.7s						
TKM2				⇓Lg	Lg	21 57 09.1	
	7.8nm,0.5s						
TKM2	**Tokmak 2**	**3.92**	**45**	P	**Pn**	**21 56 07.2**	**-0.2**
	SNR=6.5						
AB31	**Akbulak array**	**12.34**	**321**	⇑Pn	Pn	21 57 57.6	-5.0
	0.4nm,0.4s,baz=130,slow=14,SNR=12						

IDC 12 21:55:44.0±1.4, 3.58N×126.63E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=206.4km s-min=19.7km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.57**	**162**	P	P	22 01 05.9	0.0
	10.0nm,0.3s,baz=52,slow=0.0,SNR=0.1						
STKA	**Stephens Creek**	**38.03**	**159**	P	P	22 03 04.0	-0.1
	2.3nm,0.9s,baz=349,slow=10,SNR=2.7						
SONM	**Songino Array**	**47.41**	**342**	P	P	22 04 20.2	-0.2
	0.1nm,0.3s,baz=163,slow=6.0,SNR=2.2						
MKAR	**Makanchi Array**	**57.62**	**325**	P	P	22 05 35.7	-0.3
	0.2nm,0.4s,baz=116,slow=8.0,SNR=6.1						
KURBB	**Kurchatov Arra**	**61.81**	**327**	P	P	22 06 05.0	+0.2
	0.3nm,0.5s,baz=127,slow=6.5,SNR=4.3						

IDC 12 21:56:31.1±1.6, 3.36N×126.63E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=214.8km s-min=18.9km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.37**	**162**	P	P	22 01 51.3	+0.2
ASAR	**Alice Springs**	**27.78**	**166**	P	P	22 02 21.0	-1.0
	0.3nm,0.5s,baz=349,slow=9.4,SNR=2.6						
STKA	**Stephens Creek**	**37.82**	**159**	P	P	22 03 50.0	+0.5
	2.2nm,0.8s,baz=326,slow=9.9,SNR=2.6						
SONM	**Songino Array**	**47.61**	**342**	P	P	22 05 08.5	-0.5
	0.2nm,0.3s,baz=162,slow=9.6,SNR=2.8						
MKAR	**Makanchi Array**	**57.80**	**325**	P	P	22 06 24.5	+0.2
	0.5nm,0.4s,baz=123,slow=7.8,SNR=12						
KURBB	**Kurchatov Arra**	**61.99**	**328**	P	P	22 06 52.9	-0.1
	0.6nm,0.5s,baz=132,slow=6.4,SNR=5.0						

IDC 12 21:57:31.8±1.0, 4.17N×127.04E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/20, mbtmp4.0/11, MS3.2/1, Ms1 3.2/1, ms1mx2.4/26, Error ellipse: s-maj=64.3km s-min=14.7km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**11.67**	**219**	LR	LR	22 05 15.7	
	comp=Z,105nm,18.7s,baz=168,slow=40						
FITZ	**Fitzroy Crossi**	**22.17**	**184**	P	P	22 02 29.3	-0.3
	2.5nm,0.6s,baz=20,slow=8.4,SNR=7.2						
WRA	**Warramunga Arr**	**25.01**	**164**	P	P	22 02 57.1	-0.5
	423nm,0.3s,baz=94,slow=0.0,SNR=14						
ASAR	**Alice Springs**	**28.46**	**167**	P	P	22 03 29.1	+0.4
	0.8nm,0.6s,baz=346,slow=7.5,SNR=5.6						
CMAR	**Chiang Mai Arr**	**30.92**	**300**	P	P	22 03 51.3	+0.7
	1.0nm,0.8s,baz=104,slow=7.5,SNR=6.9						
STKA	**Stephens Creek**	**38.43**	**160**	P	P	22 04 55.8	+0.5
	2.5nm,0.6s,baz=334,slow=10,SNR=5.8						
SONM	**Songino Array**	**46.99**	**341**	P	P	22 06 06.4	+1.5
	0.3nm,0.6s,baz=163,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**57.38**	**325**	P	P	22 07 21.4	-0.6
	0.6nm,0.4s,baz=118,slow=7.8,SNR=11						
ZALV	**Zalesovo Beam**	**60.34**	**333**	P	P	22 07 41.8	-0.7
	0.5nm,0.3s,baz=132,slow=6.0,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.54**	**327**	P	P	22 07 50.4	-0.3
	1.2nm,0.5s,baz=154,slow=2.9,SNR=8.4						
BRTR	**Keskin Array B**	**89.98**	**310**	P	P	22 10 33.8	+0.1
	1.1nm,1.0s,baz=106,slow=4.5,SNR=4.5						
ARCES	**ARCESS Array B**	**90.15**	**340**	P	P	22 10 33.9	+0.2
	2.3nm,0.8s,baz=88,slow=8.2,SNR=3.2						
FINES	**FINESS Array B**	**91.59**	**332**	P	P	22 10 39.7	-0.8
	1.1nm,0.8s,baz=354,slow=5.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**123.07**	**289**	PKP	PKPdf	22 16 30.9	-0.6
	0.2nm,0.6s,baz=71,slow=1.9,SNR=4.4						

*ISCJB **12** 22:05:36.4±0.4, 38.41N±0.03×21.93E±0.03, h8km±3km, Error ellipse: s-maj=4.3km s-min=4.0km az=164.7*
*THE **12** 22:05:36.6, 38.41N×21.95E, h9km±1km, ML1.9/4, Error ellipse: s-maj=1.0km s-min=0.4km az=214.0*
*ATH **12** 22:05:36.9, 38.41N×21.91E, h7km±1km, MD2.6/8*
*CSEM **12** 22:05:36.3±0.1, 38.40N×21.94E, h7km±1km, MD2.6, Error ellipse: s-maj=2.8km s-min=2.1km az=149.0*
ISC 12 22:05:36.7±0.9, 38.41N±0.02×21.94E±0.02, h9km±4km, n31, σ0s46/53, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.03**	**306**	P	**Pg**	**22 05 38.2**	**-0.2**
EFP				S	**Sg**	**22 05 39.5**	**-0.1**
EFP	**Efpalio**	**0.03**	**306**	*e*PG	**Pg**	**22 05 38.2**	**-0.2**
EFP				*e*SG	**Sg**	**22 05 39.5**	**-0.1**
EFP	**Efpalio**	**0.03**	**306**	P	**Pg**	**22 05 38.2**	**-0.2**
EFP				S	**Sg**	**22 05 39.5**	**-0.1**
TRIZ	**Trizonia**	**0.11**	**112**	P	**Pg**	**22 05 39.2**	**-0.1**
TRIZ				S	**Sg**	**22 05 41.3**	**+0.1**
TRIZ	**Trizonia**	**0.11**	**112**	P	**Pg**	**22 05 39.2**	**-0.1**
TRIZ				S	**Sg**	**22 05 41.3**	**+0.1**
KALE	**Kalithea**	**0.16**	**96**	P	**Pg**	**22 05 39.9**	**-0.2**
KALE				S	**Sg**	**22 05 42.6**	**+0.1**
KALE	**Kalithea**	**0.16**	**96**	P	**Pg**	**22 05 39.9**	**-0.2**
KALE				S	**Sg**	**22 05 42.6**	**+0.1**
LAKA	**Lakka**	**0.17**	**169**	P	**Pg**	**22 05 40.2**	**-0.1**
LAKA				S	**Sg**	**22 05 43.0**	**+0.2**
LAKA	**Lakka**	**0.17**	**169**	P	**Pg**	**22 05 40.2**	**-0.1**
LAKA				S	**Sg**	**22 05 43.0**	**+0.2**
UPR	**University Cam**	**0.17**	**224**	*e*PG	**Pg**	**22 05 39.5**	**-0.8**
UPR	**University Cam**	**0.17**	**224**	*e*Pg	**Pg**	**22 05 39.5**	**-0.8**
DSF	**Desfina**	**0.46**	**89**	P	**Pg**	**22 05 44.9**	**-0.8**
DSF				S	**Sg**	**22 05 52.0**	**+0.2**
DSF	**Desfina**	**0.46**	**89**	P	**Pg**	**22 05 44.9**	**-0.8**
DSF				S	**Sg**	**22 05 52.0**	**+0.2**
RLS	**Riolos of Patr**	**0.51**	**227**	P	**Pg**	**22 05 46.7**	**+0.1**
RLS	**Riolos of Patr**	**0.51**	**227**	*e*PB	**Pg**	**22 05 46.8**	**+0.1**
RLS	**Riolos of Patr**	**0.51**	**227**	P	**Pg**	**22 05 46.7**	**+0.1**
EVR	**Evrytania**	**0.52**	**349**	P	**Pg**	**22 05 46.5**	**-0.3**
EVR				S	**Sg**	**22 05 54.1**	**+0.5**
EVR	**Evrytania**	**0.52**	**349**	*e*PG	**Pg**	**22 05 46.7**	**-0.1**
EVR				*e*SB	**Sg**	**22 05 54.2**	**+0.6**
EVR	**Evrytania**	**0.52**	**349**	*e*Pg	**Pg**	**22 05 46.7**	**-0.1**
EVR				S	**Sg**	**22 05 54.1**	**+0.5**
MAKR	**Makrakomi, Fth**	**0.62**	**14**	P	**Pg**	**22 05 48.7**	**-0.1**
MAKR				S	**Sg**	**22 05 57.3**	**+0.3**
MAKR	**Makrakomi, Fth**	**0.62**	**14**	P	**Pg**	**22 05 48.7**	**-0.1**
MAKR				S	**Sg**	**22 05 57.3**	**+0.3**
AXAR	**Agios Charalam**	**0.67**	**57**	P	**Pg**	**22 05 48.7**	**-0.9**
AXAR				S	**Sg**	**22 05 58.6**	**+0.2**
AXAR	**Agios Charalam**	**0.67**	**57**	P	**Pg**	**22 05 48.7**	**-0.9**
AXAR				S	**Sg**	**22 05 58.6**	**+0.2**
LKR	**Lokris**	**0.87**	**73**	*e*PB	**Pb**	**22 05 53.9**	**0.0**
LKR				*e*SB	**Sb**	**22 06 05.5**	**-0.2**
LKR	**Lokris**	**0.87**	**73**	*e*Pb	**Pb**	**22 05 53.9**	**0.0**
LKR				*e*Sb	**Sb**	**22 06 05.5**	**-0.2**
LTK	**Loutraki**	**0.90**	**115**	*e*PN	**Pb**	**22 05 54.8**	**+0.3**
LTK	**Loutraki**	**0.90**	**115**	*e*Pn	**Pb**	**22 05 54.8**	**+0.3**
VLS	**Valsamata**	**1.09**	**258**	*e*PG	**Pg**	**22 05 56.3**	**-1.3**
VLS				*e*SB	**Sb**	**22 06 12.5**	**+0.5**
VLS	**Valsamata**	**1.09**	**258**	*e*Pg	**Pg**	**22 05 56.3**	**-1.3**
VLS				*e*Sb	**Sb**	**22 06 12.5**	**+0.5**
DID	**Didima**	**1.36**	**131**	*e*PB	**Pg**	**22 06 02.8**	**-0.1**
DID	**Didima**	**1.36**	**131**	*e*Pb	**Pg**	**22 06 02.8**	**-0.1**

IDC 12 22:38:49.1±3.0, 3.69N×126.34E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=335.8km s-min=27.2km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.77**	**162**	P	P	22 44 11.1	-1.6
	0.6nm,0.3s,baz=341,slow=12,SNR=1.8						
ASAR	**Alice Springs**	**28.17**	**165**	P	P	22 44 45.3	+1.9
	0.2nm,0.3s,baz=344,slow=9.6,SNR=3.9						
STKA	**Stephens Creek**	**38.23**	**159**	P	P	22 46 10.4	-0.5
	1.4nm,0.5s,baz=325,slow=9.4,SNR=5.0						
MKAR	**Makanchi Array**	**57.37**	**325**	P	P	22 48 39.2	-0.1
	0.2nm,0.5s,baz=120,slow=8.2,SNR=4.0						

IDC 12 22:39:47.0±2.2, 3.80N×126.26E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=229.1km s-min=23.7km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.89**	**162**	P	P	22 45 10.0	-1.8
	0.8nm,0.4s,baz=342,slow=8.9,SNR=3.2						
ASAR	**Alice Springs**	**28.30**	**165**	P	P	22 45 43.0	+0.5
	0.2nm,0.6s,baz=349,slow=7.6,SNR=2.9						
STKA	**Stephens Creek**	**38.36**	**159**	P	P	22 47 11.1	+1.2
	4.1nm,0.7s,baz=339,slow=8.6,SNR=7.1						
MKAR	**Makanchi Array**	**57.23**	**325**	P	P	22 49 36.1	-0.2
	0.3nm,0.4s,baz=118,slow=7.7,SNR=8.4						

IDC 12 22:43:47.9±1.2, 3.85N×126.62E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/20, mbtmp3.8/6, Error ellipse: s-maj=133.7km s-min=17.2km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.83**	**162**	P	P	22 49 12.2	+0.1
	6.5nm,0.7s,baz=343,slow=10,SNR=20						
ASAR	**Alice Springs**	**28.25**	**166**	P	P	22 49 43.0	0.0
	0.1nm,0.3s,baz=357,slow=15,SNR=3.1						
STKA	**Stephens Creek**	**38.27**	**159**	P	P	22 51 09.9	-0.2
	3.9nm,0.7s,baz=342,slow=6.5,SNR=9.3						
SONM	**Songino Array**	**47.15**	**341**	P	P	22 52 23.3	+1.1
	0.4nm,0.8s,baz=161,slow=9.2,SNR=2.8						
MKAR	**Makanchi Array**	**57.40**	**325**	P	P	22 53 38.0	-0.3
	0.6nm,0.6s,baz=120,slow=8.0,SNR=9.0						
KURBB	**Kurchatov Arra**	**61.58**	**327**	P	P	22 54 06.5	-0.5
	1.0nm,0.8s,baz=126,slow=5.7,SNR=11						

*THE **12** 22:47:06.9, 38.41N×21.95E, h10km, ML1.7/4, Error ellipse: s-maj=0.9km s-min=0.4km az=224.0*
*ISCJB **12** 22:47:07.3±0.6, 38.42N±0.04×21.97E±0.04, h7km±5km, Error ellipse: s-maj=6.4km s-min=4.5km az=29.6*
*ATH **12** 22:47:07.5, 38.44N×22.00E, h5km, MD2.5/5*
*CSEM **12** 22:47:07.3±0.2, 38.43N×21.99E, h5km, ML1.7/4, Error ellipse: s-maj=3.9km s-min=3.6km az=137.0*
ISC 12 22:47:07.2±0.9, 38.43N±0.03×21.98E±0.03, h8km±6km, n22, σ0s53/43, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.06**	**266**	P	**Pg**	**22 47 08.7**	**-0.2**
EFP				S	**Sg**	**22 47 10.2**	**-0.1**
EFP	**Efpalio**	**0.06**	**266**	*e*PG	**Pg**	**22 47 08.8**	**-0.2**
EFP				*e*SG	**Sg**	**22 47 10.1**	**-0.2**
EFP	**Efpalio**	**0.06**	**266**	P	**Pg**	**22 47 08.7**	**-0.2**
EFP				S	**Sg**	**22 47 10.2**	**-0.1**
TRIZ	**Trizonia**	**0.10**	**132**	P	**Pg**	**22 47 09.7**	**+0.2**
TRIZ				S	**Sg**	**22 47 11.8**	**+0.7**
TRIZ	**Trizonia**	**0.10**	**132**	P	**Pg**	**22 47 09.7**	**+0.2**
TRIZ				S	**Sg**	**22 47 11.8**	**+0.7**
KALE	**Kalithea**	**0.13**	**108**	P	**Pg**	**22 47 10.4**	**+0.3**
KALE				S	**Sg**	**22 47 13.1**	**+1.0**
KALE	**Kalithea**	**0.13**	**108**	P	**Pg**	**22 47 10.4**	**+0.3**
KALE				S	**Sg**	**22 47 13.1**	**+1.0**
LAKA	**Lakka**	**0.19**	**180**	P	**Pg**	**22 47 10.8**	**-0.3**
LAKA				S	**Sg**	**22 47 13.5**	**-0.2**
LAKA	**Lakka**	**0.19**	**180**	P	**Pg**	**22 47 10.8**	**-0.3**
LAKA				S	**Sg**	**22 47 13.5**	**-0.2**
UPR	**University Cam**	**0.21**	**226**	*e*PG	**Pg**	**22 47 12.5**	**+1.1**
UPR	**University Cam**	**0.21**	**226**	*e*Pg	**Pg**	**22 47 12.5**	**+1.1**
DSF	**Desfina**	**0.43**	**93**	P	**Pg**	**22 47 15.4**	**-0.1**
DSF				S	**Sb**	**22 47 22.6**	**-1.1**
DSF	**Desfina**	**0.43**	**93**	P	**Pg**	**22 47 15.4**	**-0.1**
DSF				S	**Sb**	**22 47 22.6**	**-1.1**
EVR	**Evrytania**	**0.50**	**345**	P	**Pg**	**22 47 17.1**	**+0.2**
EVR				S	**Sg**	**22 47 24.3**	**+0.7**
EVR	**Evrytania**	**0.50**	**345**	*e*PG	**Pg**	**22 47 17.1**	**+0.2**
EVR				*e*SB	**Sb**	**22 47 25.1**	**-0.7**
EVR	**Evrytania**	**0.50**	**345**	P	**Pg**	**22 47 17.1**	**+0.2**
EVR				S	**Sg**	**22 47 24.3**	**+0.7**
EVR				*e*Sb	**Sb**	**22 47 25.1**	**-0.7**
AXAR	**Agios Charalam**	**0.63**	**58**	P	**Pg**	**22 47 19.4**	**+0.1**
AXAR				S	**Sb**	**22 47 29.2**	**-0.1**
AXAR	**Agios Charalam**	**0.63**	**58**	P	**Pg**	**22 47 19.4**	**+0.1**
AXAR				S	**Sb**	**22 47 29.2**	**-0.1**
LKR	**Lokris**	**0.83**	**74**	*e*PG	**Pg**	**22 47 22.6**	**-0.5**
LKR				*e*SB	**Sb**	**22 47 35.1**	**0.0**
LKR	**Lokris**	**0.83**	**74**	*e*Pg	**Pg**	**22 47 22.6**	**-0.5**
LKR				*e*Sb	**Sb**	**22 47 35.1**	**0.0**
THL	**Klokotos Trika**	**1.13**	**1**	*e*PB	**Pb**	**22 47 29.0**	**0.0**
THL				*e*SB	**Sn**	**22 47 45.0**	**0.0**
THL	**Klokotos Trika**	**1.13**	**1**	*e*Pb	**Pb**	**22 47 29.0**	**0.0**
THL				*e*Sb	**Sn**	**22 47 45.0**	**0.0**

IDC 12 22:53:56.0±1.2, 3.52N×126.90E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/23, mbtmp3.9/10, Error ellipse: s-maj=106.2km s-min=14.8km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.52**	**183**	P	P	22 58 47.4	+0.6
	1.7nm,0.8s,baz=1.3,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**24.43**	**163**	P	P	22 59 16.1	-0.6
	2.7nm,0.6s,baz=342,slow=10.0,SNR=9.4						
ASAR	**Alice Springs**	**27.87**	**166**	P	P	22 59 47.4	-0.3
	0.4nm,0.3s,baz=351,slow=7.2,SNR=5.2						
STKA	**Stephens Creek**	**37.87**	**159**	P	P	23 01 15.1	+0.2
	5.2nm,0.8s,baz=343,slow=9.1,SNR=7.3						
SONM	**Songino Array**	**47.55**	**341**	P	P	23 02 34.1	+0.7
	0.3nm,0.5s,baz=151,slow=7.2,SNR=4.3						
MKAR	**Makanchi Array**	**57.82**	**325**	P	P	23 03 49.8	+0.3
	0.5nm,0.3s,baz=119

BOSA AML AML 22 58 47.9
comp=Z,0.9nm,0.8s

IDC 12 22:57:28.6±1.8,3°18N×126°49E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.7/19,mbtmp3.8/5,Error ellipse: s-maj=194.8km s-min=20.0km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.24**	**162**	P	P	23 02 47.5	0.0
	3.5nm,0.8s,baz=341,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**27.65**	**165**	P	P	23 03 18.9	+0.5
	0.4nm,0.6s,baz=347,slow=7.6,SNR=4.8						
STKA	**Stephens Creek**	**37.71**	**159**	P	P	23 04 45.8	-0.3
	3.6nm,0.7s,baz=345,slow=6.5,SNR=4.8						
MKAR	**Makanchi Array**	**57.87**	**326**	P	P	23 07 21.7	-0.6
	0.2nm,0.4s,baz=122,slow=5.4,SNR=3.3						
KURBB	**Kurchatov Arra**	**62.07**	**328**	P	P	23 07 51.5	+0.4
	0.8nm,0.6s,baz=129,slow=6.3,SNR=4.9						

IDC 12 22:59:38.4±1.0,3°89N×126°31E,h0km,mb3.9/10, mb1 4.0/10,mb1mx3.8/22,mbtmp3.9/10,Error ellipse: s-maj=105.8km s-min=14.3km az=70.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.86**	**182**	P	P	23 04 33.0	+0.1
	0.5nm,0.3s,baz=5.1,slow=9.0,SNR=2.4						
WRA	**Warramunga Arr**	**24.96**	**162**	P	P	23 05 03.9	+0.1
	3.7nm,0.5s,baz=341,slow=11,SNR=17						
ASAR	**Alice Springs**	**28.37**	**165**	P	P	23 05 34.2	-0.4
	0.2nm,0.3s,baz=344,slow=8.1,SNR=3.6						
STKA	**Stephens Creek**	**38.43**	**159**	P	P	23 07 02.0	+0.1
	2.5nm,0.4s,baz=339,slow=9.6,SNR=12						
SONM	**Songino Array**	**47.02**	**342**	P	P	23 08 12.2	+0.5
	0.4nm,0.5s,baz=160,slow=6.9,SNR=3.4						
MKAR	**Makanchi Array**	**57.19**	**325**	P	P	23 09 27.7	+0.4
	1.0nm,0.4s,baz=121,slow=7.8,SNR=19						
ZALV	**Zalesovo Beam**	**60.26**	**333**	P	P	23 09 47.7	-0.8
	0.8nm,0.3s,baz=122,slow=7.4,SNR=7.1						
KURBB	**Kurchatov Arra**	**61.38**	**327**	P	P	23 09 56.2	0.0
	1.1nm,0.5s,baz=121,slow=6.5,SNR=14						
BVAR	**Borovoye Array**	**66.96**	**327**	P	P	23 10 32.8	0.0
	0.2nm,0.4s,baz=111,slow=6.3,SNR=4.9						
FINES	**FINESS Array B**	**91.49**	**332**	P	P	23 12 46.0	-0.7
	0.6nm,0.7s,baz=90,slow=2.8,SNR=4.5						

*IDC **12** 23:01:23.1±0.5,3°78N×126°45E,h0km,mb4.2/20, mb1 4.3/20,mb1mx4.3/23,mbtmp4.2/20,MS3.9/1, Ms1 4.0/1,ms1mx2.7/30,Error ellipse: s-maj=26.9km s-min=11.6km az=72.0*
*NEIC **12** 23:01:27.9±0.2,3°71N×126°48E,h35km,mb4.3/10,Error ellipse: s-maj=13.5km s-min=5.2km az=72.0*
*ISCJB **12** 23:01:28.1±0.4,3°73N±0°07×126°4E±0°1,h53km, mb4.3/29,MS4.0/1,Error ellipse: s-maj=18.4km s-min=7.7km az=161.0*

ISC 12 23:01:30.2±0.5,3°74N±0°08×126°5E±0°2,h53km,n53, σ0s81/55,mb4.3/28,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.72**	**182**	*eP*	**P**	**23 06 15.3**	**-1.7**
	5.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.72**	**182**	P	**P**	**23 06 17.4**	**+0.4**
	4.7nm,0.5s,baz=10,slow=11,SNR=14						
WRAB	**Tennant Creek**	**24.77**	**162**	*eP*	**P**	**23 06 45.8**	**-1.3**
	30nm,0.8s						
WRA	**Warramunga Arr**	**24.78**	**162**	P	**P**	**23 06 45.9**	**-1.3**
WRA	**Warramunga Arr**	**24.78**	**162**	P	**P**	**23 06 45.9**	**-1.3**
	186nm,0.3s,baz=338,slow=11,SNR=41						
ASAR	**Alice Springs**	**28.19**	**165**	P	**P**	**23 07 17.5**	**-0.5**
ASAR	**Alice Springs**	**28.19**	**165**	P	**P**	**23 07 17.5**	**-0.5**
	1.0nm,0.5s,baz=352,slow=16,SNR=6.8						
CMAR	**Chiang Mai Arr**	**30.63**	**301**	P	**P**	**23 07 39.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**30.63**	**301**	P	**P**	**23 07 39.8**	**+0.1**
	0.4nm,0.3s,baz=116,slow=5.1,SNR=4.5						
CHTO	**Chiang Mai**	**30.78**	**301**	*eP*	**P**	**23 07 40.9**	**-0.1**
	2.5nm,0.8s						
ENH	**Enshi**	**30.88**	**331**	*eP*	**P**	**23 07 41.9**	**+0.1**
	4.4nm,0.7s						
KSAR	**Wonju Array Be**	**33.57**	**2**	P	**P**	**23 08 05.2**	**+0.1**
KSRS	**Korea Array**	**33.58**	**2**	P	**P**	**23 08 05.2**	**0.0**
	1.0nm,0.6s,baz=179,slow=11,SNR=3.1						
NWAO	**Narrogin (SRO)**	**37.50**	**193**	*eP*	**P**	**23 08 38.8**	**-0.2**
NWAO	**Narrogin (SRO)**	**37.50**	**193**	P	**P**	**23 08 39.3**	**+0.4**
	3.8nm,0.5s,baz=7.1,slow=8.1,SNR=5.6						
STKA	**Stephens Creek**	**38.24**	**159**	*eP*	**P**	**23 08 44.5**	**-0.7**
	1.7nm,0.6s						
STKA	**Stephens Creek**	**38.24**	**159**	P	**P**	**23 08 45.0**	**-0.2**
	10nm,0.6s,baz=339,slow=8.3,SNR=18						
USRK	**Ussuriysk Arra**	**40.59**	**6**	P	**P**	**23 09 04.0**	**-0.6**
	1.7nm,0.6s,baz=184,slow=6.2,SNR=5.1						
DZM	**Mont Dzumac**	**46.77**	**125**	P	**P**	**23 09 55.4**	**+0.6**
	2.1nm,0.6s,baz=62,slow=17,SNR=3.0						
ULN	**Ulaanbaatar**	**47.02**	**342**	*eP*	**P**	**23 09 55.8**	**-0.6**
	2.5nm,0.9s						
SONM	**Songino Array**	**47.20**	**342**	P	**P**	**23 09 56.9**	**-0.9**
SONM				PcP	**PcP**	**23 11 30.2**	**+1.7**
SONM	**Songino Array**	**47.20**	**342**	P	**P**	**23 09 56.9**	**-0.9**
	1.0nm,0.5s,baz=151,slow=6.7,SNR=11						
SONM				PcP	**PcP**	**23 11 30.2**	**+1.7**
	1.5nm,0.8s,baz=156,slow=4.0,SNR=5.6						
PETK	**Petropavlovsk-**	**55.53**	**22**	P	**P**	**23 10 59.2**	**-0.6**
PETK	**Petropavlovsk-**	**55.53**	**22**	P	**P**	**23 10 59.2**	**-0.6**
	2.0nm,0.7s,baz=200,slow=7.7,SNR=4.0						
MK31	**Makanchi Array**	**57.39**	**325**	*eP*	**P**	**23 11 13.3**	**+0.1**
MKAR	**Makanchi Array**	**57.39**	**325**	P	**P**	**23 11 13.7**	**+0.4**
MKAR				PcP	**PcP**	**23 12 08.1**	**+1.4**
MKAR	**Makanchi Array**	**57.39**	**325**	P	**P**	**23 11 13.7**	**+0.4**
	1.7nm,0.4s,baz=118,slow=7.1,SNR=17						
MKAR				PcP	**PcP**	**23 12 08.1**	**+1.4**
	1.5nm,0.7s,baz=120,slow=4.4,SNR=4.4						
AAK	**Ala-Archa**	**60.16**	**318**	P	**P**	**23 11 32.4**	**-0.4**
	0.4nm,0.3s,baz=148,slow=9.5,SNR=3.3						
ZALV	**Zalesovo Beam**	**60.45**	**333**	P	**P**	**23 11 33.9**	**-0.4**
ZALV	**Zalesovo Beam**	**60.45**	**333**	P	**P**	**23 11 33.9**	**-0.4**
	1.4nm,0.4s,baz=124,slow=7.0,SNR=8.8						
KURBB	**Kurchatov Arra**	**61.58**	**327**	P	**P**	**23 11 42.5**	**+0.5**
	1.9nm,0.6s,baz=130,slow=6.3,SNR=15						
KURK	**Kurchatov**	**61.58**	**328**	*eP*	**P**	**23 11 42.2**	**+0.1**
	4.0nm,0.6s						
KKAR	**Karatay Array**	**63.04**	**317**	*eP*	**P**	**23 11 51.4**	**-0.6**
	1.9nm,0.7s						
BRVK	**Borovoye**	**67.23**	**327**	*eP*	**P**	**23 12 19.3**	**+0.3**
	4.3nm,0.8s						
ABKAR	**Akbulak array**	**71.97**	**321**	*eP*	**P**	**23 12 49.0**	**+0.8**
	0.7nm,0.3s						
ILAR	**Eielson Array**	**85.21**	**25**	P	**P**	**23 14 01.1**	**+0.3**
ILAR	**Eielson Array**	**85.21**	**25**	P	**P**	**23 14 01.1**	**+0.3**
	0.6nm,0.9s,baz=240,slow=5.8,SNR=3.5						
BRTR	**Keskin Array B**	**89.80**	**310**	P	**P**	**23 14 23.1**	**-0.5**
BRTR	**Keskin Array B**	**89.80**	**310**	P	**P**	**23 14 23.1**	**-0.5**
	0.9nm,0.7s,baz=108,slow=3.7,SNR=5.0						
ARCES	**ARCESS Array B**	**90.34**	**340**	P	**P**	**23 14 25.0**	**-0.3**
ARCES	**ARCESS Array B**	**90.34**	**340**	P	**P**	**23 14 25.0**	**-0.3**
	0.9nm,0.5s,baz=88,slow=6.5,SNR=11						
ARCES				LR	LR	00 02 57.8	
	comp=Z,57nm,18.1s,baz=131,slow=41						
FINES	**FINESS Array B**	**91.69**	**332**	P	**P**	**23 14 31.4**	**-0.3**
FINES	**FINESS Array B**	**91.69**	**332**	P	**P**	**23 14 31.4**	**-0.3**
	0.9nm,0.5s,baz=86,slow=5.9,SNR=7.6						
AKASG	**Malin Array Be**	**91.71**	**321**	P	**P**	**23 14 30.7**	**-1.2**
AKASG	**Malin Array Be**	**91.71**	**321**	P	**P**	**23 14 30.7**	**-1.2**
	1.3nm,0.7s,baz=69,slow=5.5,SNR=4.0						
NOA	**NORSAR Array B**	**98.66**	**334**	P	Pdif	23 15 03.5	0.0
NOA	**NORSAR Array B**	**98.66**	**334**	P	Pdif	23 15 03.5	0.0
	1.1nm,0.7s,baz=68,slow=4.6,SNR=3.7						
TXAR	**Lajitas Array**	**121.81**	**52**	PKP	**PKPdf**	**23 20 20.4**	**+1.2**
TXAR	**Lajitas Array**	**121.81**	**52**	PKP	**PKPdf**	**23 20 20.4**	**+1.2**
	0.4nm,0.7s,baz=276,slow=3.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**122.65**	**288**	PKP	**PKPdf**	**23 20 22.2**	**+1.2**
TORD	**Torodi Ar. Bea**	**122.65**	**288**	PKP	**PKPdf**	**23 20 22.2**	**+1.2**
	1.1nm,0.7s,baz=71,slow=1.5,SNR=8.8						
DBIC	**Dimbokro**	**130.30**	**282**	PKP	**PKPdf**	**23 20 35.9**	**+0.1**
DBIC	**Dimbokro**	**130.30**	**282**	PKP	**PKPdf**	**23 20 35.9**	**+0.1**
	4.2nm,1.0s,baz=63,slow=4.5,SNR=3.1						

*BJI **12** 23:03:52.3,3°35N×127°06E,h37km,mB5.0/19,mb4.6/38, Ms4.5/16,Ms7 4.3/19*
*IDC **12** 23:03:53.7±0.5,3°90N×126°61E,h0km,mb4.5/23, mb1 4.6/23,mb1mx4.6/25,mbtmp4.5/23,MS3.7/8,*

Ms1 3.7/8,ms1mx3.3/30,Error ellipse: s-maj=22.6km s-min=11.1km az=73.0
*ISCJB **12** 23:03:57.2±0.2,4°03N±0°03×126°91E±0°05,h36km, mb4.7/64,MS3.9/15,Error ellipse: s-maj=7.2km s-min=3.9km az=160.2*
*NEIC **12** 23:03:58.9±0.3,3°91N×126°76E,h35km,mb4.7/26,Error ellipse: s-maj=11.8km s-min=5.6km az=69.0*
*DJA **12** 23:04:12,3°10N×126°64E,h62km,mb4.9/14*

ISC 12 23:03:59.0±0.3,4°00N±0°05×126°94E±0°06,h36km,n164, σ1s43/196,mb4.7/63,MS3.8/15,2C-7D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.24**	**172**	P	**Pn**	**23 04 50.1**	**+2.8**
MNI	**Manado**	**3.29**	**220**	P	Pn	23 04 55.4	+7.3
DAV	**Davao City (W)**	**3.33**	**336**	Pn	Pn	23 04 52.1	+3.4
DAV	**Davao City (W)**	**3.33**	**336**	Pn	Pn	23 04 52.1	+3.4
	24nm,0.3s,baz=82,slow=22,SNR=2.1						
MRSI	**Marisa**	**6.10**	**235**	P	**Pn**	**23 05 29.5**	**+2.9**
SWI	**Sorong**	**6.48**	**138**	P	**Pn**	**23 05 34.5**	**+2.5**
	90nm,0.8s,2μm0.5nm						
NLAI	**Namlea**	**7.19**	**179**	P	**Pn**	**23 05 43.6**	**+1.9**
	92nm,0.7s,2μm0.5nm						
MYLDM	**Lahad Datu**	**8.49**	**278**	P	Pn	23 06 16.0	+16
	90nm,1.0s,0.4nm						
KDI	**Kendari**	**9.01**	**209**	P	Pn	23 06 13.1	+6.5
	28nm,1.0s,689nm0.1nm						
TTSI	**Tana Toraja**	**9.98**	**226**	P	Pn	23 06 25.6	+5.7
	73nm,1.1s,2μm						
SMKI	**Samarinda**	**10.68**	**246**	P	Pn	23 06 40.1	+11
	94nm,0.8s,7μm						
KKM	**Kota Kinabalu**	**10.87**	**281**	*e*Pn	**Pn**	**23 06 32.7**	**+0.4**
KKM				*e*Sn	**Sn**	**23 08 37.5**	**+4.7**
KKM	**Kota Kinabalu**	**10.87**	**281**	P	Pn	23 06 43.1	+11
	18nm,0.6s						
TLE	**Tual**	**11.19**	**149**	P	Pn	23 06 41.7	+5.1
	52nm,1.5s						
STKI	**Sintang**	**15.93**	**256**	P	P	23 07 54.3	+10
PBKI	**Pangkalan Bun**	**16.65**	**247**	P	**P**	**23 07 52.4**	**+0.6**
	135nm,0.9s						
KHKI	**Kahang-Kahang**	**16.69**	**223**	P	**P**	**23 07 52.5**	**+0.2**
	135nm,0.8s						
KSM	**Kuching**	**16.80**	**262**	*eP*	**P**	**23 07 54.2**	**+0.8**
	19nm,0.8s						
KSM	**Kuching**	**16.80**	**262**	P	**P**	**23 07 56.7**	**+3.2**
	25nm,0.8s						
GMJI	**Gumukmas**	**18.16**	**228**	P	**P**	**23 08 12.7**	**+4.2**
	112nm,1.1s						
SJI	**Sawahan**	**19.10**	**232**	P	**Pn**	**23 08 20.5**	**+0.5**
	76nm,1.1s						
SSLB	**Suanglung**	**20.50**	**344**	*e*Pn	**P**	**23 08 34.1**	**0.0**
	102nm,1.6s						
TGJI	**Tegal**	**20.80**	**239**	P	**P**	**23 08 38.0**	**+0.6**
	36nm,0.7s						
FITZ	**Fitzroy Crossi**	**22.00**	**183**	*eP*	**P**	**23 08 48.2**	**-2.0**
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.00**	**183**	*eP*	**P**	**23 08 48.3**	**-2.0**
	22nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.00**	**183**	P	**P**	**23 08 48.7**	**-1.5**
	18nm,0.8s,baz=6.3,slow=8.7,SNR=14						
LEM	**Lembang**	**22.08**	**241**	P	P	23 08 56.2	+4.8
	51nm,0.8s						
QIZ	**Qiongzhong**	**22.40**	**313**	P	**P**	**23 08 54.9**	**+0.3**
QIZ				S	**S**	**23 13 00.8**	**+2.1**
QIZ				LR	LR		
	comp=Z,300nm,19.1s						
WRAB	**Tennant Creek**	**24.88**	**163**	*eP*	**P**	**23 09 17.8**	**-0.8**
	comp=Z,120nm,0.7s						
WRAB				*e*S	**S**	**23 13 37.1**	**-2.3**
WRA	**Warramunga Arr**	**24.88**	**163**	P	**P**	**23 09 17.9**	**-0.7**
WRA	**Warramunga Arr**	**24.88**	**163**	P	**P**	**23 09 18.0**	**-0.7**
	comp=Z,320nm,0.6s,baz=337,slow=11,SNR=12						
MBWA	**Marble Bar**	**25.98**	**195**	*eP*	**P**	**23 09 28.4**	**-0.2**
	comp=Z,39nm,1.1s						
MBWA	**Marble Bar**	**25.98**	**195**	*eP*	**P**	**23 09 28.2**	**-0.3**
CBIJ	**Chichi jima**	**27.20**	**31**	LR	LR	23 18 31.0	
	comp=Z,191nm,19.0s,baz=123,slow=32						
PSI	**Prapat**	**27.99**	**268**	P	**P**	**23 09 43.8**	**-3.1**
PSI	**Prapat**	**27.99**	**268**	P	**P**	**23 09 43.8**	**-3.1**
	comp=Z,1.6nm,0.4s,baz=130,slow=7.9,SNR=3.5						
AS31	**Alice Springs**	**28.33**	**166**	*eP*	**P**	**23 09 49.3**	**-0.4**
ASAR	**Alice Springs**	**28.33**	**166**	P	**P**	**23 09 48.8**	**-0.8**
ASAR	**Alice Springs**	**28.33**	**166**	P	**P**	**23 09 48.8**	**-0.8**
	comp=Z,4.5nm,0.5s,baz=346,slow=7.2,SNR=25						
NJ2	**Nanjing**	**28.92**	**346**	*eP*	**P**	**23 09 56.8**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,60nm,1.2s						
WHN	**Wuhan**	**28.95**	**337**	P	**P**	**23 09 55.6**	**+0.5**
WHN				LR	LR		
	comp=Z,770nm,18.2s						
GYA	**Guiyang**	**29.59**	**321**	P	**P**	**23 10 02.8**	**+1.9**
GYA				pP	**pP**	**23 10 11.6**	**+0.4**
GYA				PP	**PnPn**	**23 11 01.4**	**+4.9**
GYA				S	**S**	**23 14 55.0**	**+1.1**
GYA				sS	**sS**	**23 15 11.4**	**+0.4**
GYA				ScP	**ScP**	**23 16 43.2**	**-1.5**
GYA				ScS	**ScS**	**23 20 37.8**	**-2.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
ENH	**Enshi**	**30.90**	**330**	*eP*	**P**	**23 10 11.4**	**-1.0**
	comp=Z,5.4nm,0.7s						
CM31	**Chiang Mai Arr**	**30.91**	**300**	*eP*	**P**	**23 10 11.8**	**-0.9**
	comp=Z,2.9nm,0.4s						
CMAR	**Chiang Mai Arr**	**30.91**	**300**	P	**P**	**23 10 12.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**30.91**	**300**	P	**P**	**23 10 12.2**	**-0.5**
	comp=Z,5.1nm,0.8s,baz=117,slow=6.9,SNR=19						
CHTO	**Chiang Mai**	**31.06**	**300**	*eP*	**P**	**23 10 12.4**	**-1.6**
	comp=Z,10.0nm,0.8s						
KMI	**Kunming**	**31.34**	**314**	P	**P**	**23 10 18.7**	**+2.2**
KMI				pmax	pmax		
	comp=Z,11nm,1.2s						
KMI				LR	LR		
	comp=N,150nm,19.2s						
KMI				LR	LR		
	comp=E,120nm,19.2s						
KMI				LR	LR		
	comp=Z,260nm,23.8s						
MEEK	**Meekatharra**	**31.50**	**194**	*eP*	**P**	**23 10 17.1**	**-0.6**
	comp=Z,218nm,0.9s						
KSAR	**Wonju Array Be**	**33.29**	**1**	P	**P**	**23 10 33.9**	**+0.6**
KSRS	**Korea Array**	**33.31**	**1**	P	**P**	**23 10 33.9**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=186,slow=8.6,SNR=4.1						
MJAR	**Matsushiro Arr**	**34.01**	**16**	LR	LR	23 23 42.2	
	comp=Z,76nm,19.9s,baz=175,slow=35						
XAN	**Xi'an**	**34.27**	**333**	P	**P**	**23 10 40.4**	**-1.5**
XAN				pP	**pP**	**23 10 50.1**	**-2.1**
XAN				sP	**sP**	**23 10 55.4**	**-1.2**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CD2	**Chengdu**	**34.55**	**323**	P	**P**	**23 10 44.3**	**0.0**
CD2				pP	**pP**	**23 10 54.0**	**-0.7**
CD2				sP	**sP**	**23 10 57.9**	**-1.2**
CD2				PcP	**PcP**	**23 13 18.5**	**-0.2**
CD2				S	**S**	**23 16 10.5**	**-0.6**
CD2				PcS	**PcS**	**23 17 03.8**	**-1.5**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,160nm,5.8s						
CD2				LR	LR		
	comp=N,390nm,22.0s						
CD2				LR	LR		
	comp=E,460nm,17.6s						
CD2				LR	LR		
	comp=Z,570nm,18.4s						
FORT	**Forrest**	**34.60**	**178**	*eP*	**P**	**23 10 44.5**	**-0.2**
	comp=Z,37nm,0.7s						
FORT	**Forrest**	**34.60**	**178**	*eP*	**P**	**23 10 44.3**	**-0.4**
	comp=Z,25nm,0.6s						
KLBR	**Kellerberrin**	**36.46**	**193**	*eP*	**P**	**23 10 59.9**	**-0.8**
	comp=Z,23nm,0.8s						
BJT	**Baijiatuan**	**37.15**	**346**	*eP*	**P**	**23 11 08.2**	**+1.8**
	comp=Z,16nm,0.6s						
BJI	**Beijing**	**37.17**	**346**	P	**P**	**23 11 07.5**	**+0.9**
BJI				pmax	pmax		
	comp=Z,28nm,1.1s						
EIDS	**Eidsvold**	**37.44**	**142**	*eP*	**P**	**23 11 08.0**	**-1.1**
	comp=Z,17nm,0.9s						
EIDS	**Eidsvold**	**37.44**	**142**	*eP*	**P**	**23 11 09.7**	**+0.6**
	comp=Z,71nm,0.9s						
BBOO	**Buckleboo**	**37.62**	**167**	*eP*	**P**	**23 11 10.1**	**-0.4**
	comp=Z,557nm,1.3s						
BBOO	**Buckleboo**	**37.62**	**167**	*eP*	**P**	**23 11 10.0**	**-0.5**
	comp=Z,88nm,0.3s						
SNY	**Shenyang**	**37.78**	**356**	||P	P	23 11 16.4	+4.7
NWAO	**Narrogin (SRO)**	**37.86**	**193**	P	**P**	**23 11 11.1**	**-1.4**
NWAO	**Narrogin (SRO)**	**37.86**	**193**	P	**P**	**23 11 11.1**	**-1.4**
	comp=Z,14nm,0.9s,baz=21,slow=8.6,SNR=8.1						
STKA	**Stephens Creek**	**38.31**	**160**	*eP*	**P**	**23 11 16.4**	**+0.1**
	comp=Z,5.6nm,0.8s						
STKA				*e*PP	**PP**	**23 12 42.3**	**-2.2**
STKA	**Stephens Creek**	**38.31**	**160**	*eP*	**P**	**23 11 15.9**	**-0.4**
	comp=Z,15nm,0.4s						
STKA	**Stephens Creek**	**38.31**	**160**	P	**P**	**23 11 16.5**	**+0.1**
	comp=Z,34nm,0.7s,baz=337,slow=8.0,SNR=35						
LZH	**Lanzhou**	**38.38**	**329**	*eP*	**P**	**23 11 17.2**	**+0.1**
LZH				pP	**pP**	**23 11 28.7**	**+1.2**
LZH				sP	**sP**	**23 11 32.8**	**+1.0**
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
HHC	**Hu-ho-hao-te**	**39.21**	**341**	*eP*	**P**	**23 11 25.0**	**+1.1**
HHC				pP	**pP**	**23 11 34.8**	**+0.4**
HHC				sP	**sP**	**23 11 38.5**	**-0.2**
HHC				PP	**PnPn**	**23 12 59.8**	**+2.7**
HHC				S	**S**	**23 17 22.8**	**+0.9**
HHC				sS	**sS**	**23 17 39.6**	**+0.4**
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,120nm,4.1s						
HHC				LR	LR		
	comp=N,180nm,13.8s						
HHC				LR	LR		
	comp=E,150nm,15.5s						
HHC				LR	LR		
	comp=Z,120nm,15.5s						
CN2	**Changchun**	**39.66**	**358**	*eP*	**P**	**23 11 26.9**	**-0.5**
CN2				*e*pP	**pP**	**23 11 36.7**	**-1.2**
SHL	**Shillong**	**39.88**	**306**	*e*PKP	**P**	**23 11 27.0**	**-2.8**
USRK	**Ussuriysk Arra**	**40.28**	**6**	P	**P**	**23 11 34.9**	**+2.3**
	comp=Z,2.9nm,0.8s,baz=191,slow=6.6,SNR=4.9						
MDJ	**Mudanjiang**	**40.52**	**3**	P	**P**	**23 11 34.2**	**-0.4**
MDJ				pmax	pmax		
	comp=Z,11nm,2.1s						
MDJ				pmax	pmax		
	comp=Z,160nm,4.9s						
ASAJ	**Asahikawa**	**42.27**	**17**	LR	LR	23 30 02.0	
	comp=Z,103nm,19.5s,baz=190,slow=37						
LSA	**Lhasa**	**42.41**	**311**	*eP*	**P**	**23 11 50.9**	**-0.1**
LSA	**Lhasa**	**42.41**	**311**	*eP*	**P**	**23 11 50.7**	**-0.3**
	comp=Z,18nm,0.6s						
ARPS	**Mount Arapiles**	**42.88**	**162**	*eP*	**P**	**23 11 55.3**	**+1.3**
	comp=Z,59nm,0.5s						
GTA	**Gaotai**	**42.97**	**329**	*eP*	**P**	**23 11 54.7**	**-0.2**
GTA				pP	**pP**	**23 12 06.7**	**+1.2**
GTA				sP	**sP**	**23 12 09.6**	**-0.2**
GTA				PcP	**PcP**	**23 13 46.8**	**+1.8**
GTA				S	**S**	**23 18 16.7**	**-1.3**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,140nm,5.2s						
GTA				LR	LR		
	comp=N,270nm,20.0s						
GTA				LR	LR		
	comp=E,120nm,19.0s						
GTA				LR	LR		
	comp=Z,310nm,19.5s						
TAPN	**Taplejung**	**44.02**	**306**	*eP*	**P**	**23 12 02.4**	**-1.4**
ODAN	**Odare**	**44.08**	**305**	*eP*	**P**	**23 12 02.7**	**-1.5**
CAN	**Canberra**	**44.26**	**154**	*eP*	**P**	**23 12 07.0**	**+1.8**
	comp=Z,16nm,0.8s						
RAMN	**Ramite**	**44.76**	**305**	*eP*	**P**	**23 12 08.4**	**-1.3**
	comp=Z,25nm,0.8s						
JIRN	**Jiri**	**45.38**	**306**	*eP*	**P**	**23 12 13.4**	**-1.3**
	comp=Z,5.1nm,0.6s						
GUN	**Gumba**	**45.73**	**306**	*eP*	**P**	**23 12 16.0**	**-1.5**
	comp=Z,38nm,0.8s						
PKI	**Pulchoki**	**45.98**	**305**	*eP*	**P**	**23 12 17.5**	**-1.9**
	comp=Z,8.1nm,0.6s						
KKN	**Kakani**	**46.17**	**305**	*eP*	**P**	**23 12 19.1**	**-1.7**
	comp=Z,15nm,0.7s						
DMN	**Daman**	**46.24**	**305**	*eP*	**P**	**23 12 19.7**	**-1.7**
DZM	**Mont Dzumac**	**46.52**	**126**	P	**P**	**23 12 25.0**	**+1.6**
DZM	**Mont Dzumac**	**46.52**	**126**	P	**P**	**23 12 25.0**	**+1.6**
	comp=Z,3.3nm,0.7s,baz=291,slow=14,SNR=4.4						
GKN	**Gorkha**	**46.78**	**305**	*eP*	**P**	**23 12 23.6**	**-1.9**
	comp=Z,16nm,0.8s						
ULN	**Ulaanbaatar**	**46.93**	**342**	*eP*	**P**	**23 12 27.1**	**+0.8**
	comp=Z,8.1nm,1.0s						
ULN				*e*PcP	**PcP**	**23 13 59.3**	**+0.7**
SONM	**Songino Array**	**47.11**	**341**	P	**P**	**23 12 28.5**	**+0.8**
SONM				PcP	**PcP**	**23 14 00.3**	**+1.1**
SONM	**Songino Array**	**47.11**	**341**	P	**P**	**23 12 28.5**	**+0.8**
	comp=Z,3.4nm,0.7s,baz=157,slow=8.3,SNR=12						
SONM				PcP	**PcP

	comp=Z,9.2nm,0.7s							
KKAR	**Karatay Array**	**63.17**	**317**	*e*P		**P**	**23 14 23.4**	**-0.2**
	comp=Z,3.5nm,0.7s							
BRVK	**Borovoye**	**67.28**	**327**	*e*P		**P**	**23 14 49.5**	**-0.4**
	comp=Z,7.8nm,0.8s							
ABKAR	**Akbulak array**	**72.07**	**321**	*e*P		**P**	**23 15 18.6**	**-0.9**
	comp=Z,2.5nm,0.5s							
ARU	**Arti**	**74.82**	**328**	*e*P		**P**	**23 15 34.8**	**-0.8**
	comp=Z,8.1nm,0.6s							
RDF	**Al-Radifah**	**78.79**	**299**	*e*P		**P**	**23 15 57.4**	**-1.2**
RDF					AMb	AMB	23 16 03.7	
	comp=Z,26nm,1.3s							
MIB	**Mutribah**	**79.00**	**299**	*e*P		**P**	**23 15 58.8**	**-0.9**
MIB					AMb	AMB	23 15 59.9	
	comp=Z,18nm,0.8s							
NAY	**Al-Naaiem**	**79.07**	**299**	*e*P		**P**	**23 15 58.7**	**-1.4**
NAY					AMb	AMB	23 16 02.2	
	comp=Z,8.9nm,1.0s							
GNI	**Garni**	**81.47**	**310**	LR		LR	00 00 27.0	
	comp=Z,29nm,19.1s,baz=109,slow=42							
COLD	**Coldfoot**	**83.56**	**23**	*e*P		**P**	**23 16 25.8**	**+2.6**
	comp=Z,13nm,1.2s							
ILAR	**Eielson Array**	**84.77**	**25**	P		**P**	**23 16 30.0**	**+0.7**
ILAR	**Eielson Array**	**84.77**	**25**	P		**P**	**23 16 30.0**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=267,slow=5.1,SNR=9.6							
OBN	**Obninsk**	**86.96**	**325**	*e*P		**P**	**23 16 40.1**	**-0.2**
KMBO	**Kilima Mbogo**	**89.76**	**269**	*e*P		**P**	**23 16 54.9**	**0.0**
	comp=Z,4.0nm,1.2s							
BR131	**Keskin Array S**	**90.01**	**310**	*e*P		**P**	**23 16 54.1**	**-1.3**
	comp=Z,2.9nm,0.8s							
BRTR	**Keskin Array B**	**90.01**	**310**	P		**P**	**23 16 53.4**	**-2.0**
BRTR	**Keskin Array B**	**90.01**	**310**	P		**P**	**23 16 53.4**	**-2.0**
	comp=Z,2.5nm,0.8s,baz=96,slow=4.3,SNR=12							
ARCES	**ARCESS Array B**	**90.27**	**340**	P		**P**	**23 16 55.0**	**-0.8**
ARCES	**ARCESS Array B**	**90.27**	**340**	P		**P**	**23 16 55.0**	**-0.8**
	comp=Z,3.0nm,0.7s,baz=89,slow=7.6,SNR=14							
FINES	**FINESS Array B**	**91.69**	**332**	P		**P**	**23 17 01.9**	**-0.6**
FINES	**FINESS Array B**	**91.69**	**332**	P		**P**	**23 17 01.9**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=69,slow=7.6,SNR=9.5							
AKASG	**Malin Array Be**	**91.81**	**321**	P		**P**	**23 17 02.2**	**-1.1**
AKASG	**Malin Array Be**	**91.81**	**321**	P		**P**	**23 17 02.2**	**-1.1**
	comp=Z,4.2nm,0.6s,baz=72,slow=4.0,SNR=19							
SYO	**Syowa Base**	**92.75**	**201**⇑	*e*P		**P**	**23 17 06.8**	**-0.4**
SYO	**Syowa Base**	**92.75**	**201**⇑	*e*X		pP	23 17 15.8	-2.8
QSPA	**South Pole Qui**	**93.91**	**180**	*e*P		**P**	**23 17 13.4**	**+0.6**
	comp=Z,9.8nm,1.0s							
QSPA	**South Pole Qui**	**93.91**	**180**	P		**P**	**23 17 13.4**	**+0.6**
	comp=Z,9.3nm,1.0s,baz=318,slow=1.5,SNR=14							
TESR		**94.18**	**317**	⇓*i*P		**P**	**23 17 14.0**	**-0.3**
VRI	**Vrincioaia**	**94.24**	**316**	⇓*i*P		**P**	**23 17 14.2**	**-0.5**
SUW	**Suwalki**	**94.82**	**325**	*e*P		**P**	**23 17 16.8**	**-0.2**
SUW	**Suwalki**	**94.82**	**325**	*e*P		**P**	**23 17 16.8**	**-0.2**
SUW	**Suwalki**	**94.82**	**325**	*e*P		**P**	**23 17 16.7**	**-0.4**
MLR	**Muntele Rosu**	**94.85**	**316**	⇓*i*P		**P**	**23 17 15.8**	**-1.8**
BURAR	**Bucovina Array**	**94.94**	**318**	⇓*i*P		**P**	**23 17 17.1**	**-0.8**
BUR08	**Bucovina Ar. S**	**94.94**	**318**	*e*P		**P**	**23 17 17.7**	**-0.2**
BMR	**Baia Mare**	**96.06**	**319**	⇓*i*P		**P**	**23 17 23.0**	**+0.1**
DRGR		**96.78**	**318**	⇓*i*P		**P**	**23 17 26.1**	**-0.2**
NB2	**NORSAR Subarra**	**98.64**	**334**	P		**P**	**23 17 32.7**	**-1.6**
	comp=Z,9.8nm,1.7s,baz=64,slow=4.8							
NOA	**NORSAR Array B**	**98.64**	**334**	P		**P**	**23 17 33.2**	**-1.1**
NOA	**NORSAR Array B**	**98.64**	**334**	P		**P**	**23 17 33.2**	**-1.1**
	comp=Z,1.6nm,0.9s,baz=68,slow=4.7,SNR=5.2							
YKA	**Yellowknife Ar**	**99.17**	**24**	P		**Pdif**	**23 17 37.5**	**+1.0**
YKA	**Yellowknife Ar**	**99.17**	**24**	P		**Pdif**	**23 17 37.5**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=289,slow=3.8,SNR=3.5							
BRG	**Berggiesshubel**	**101.14**	**324**	*e*P		**Pdif**	**23 17 46.5**	**+0.9**
	comp=Z,6.1nm,0.9s							
GERES	**GERESS Array B**	**102.00**	**322**	P		**Pdif**	**23 17 49.7**	**+0.1**
GERES	**GERESS Array B**	**102.00**	**322**	P		**Pdif**	**23 17 49.7**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=102,slow=2.3,SNR=6.1							
SCHQ	**Schefferville**	**120.27**	**9**	PKP		**PKPdf**	**23 22 47.0**	**+0.6**
SCHQ	**Schefferville**	**120.27**	**9**	PKP		**PKPdf**	**23 22 47.0**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=315,slow=5.7,SNR=3.8							
TXAR	**Lajitas Array**	**121.27**	**52**	PKP		**PKPdf**	**23 22 50.9**	**+1.8**
TXAR	**Lajitas Array**	**121.27**	**52**	PKP		**PKPdf**	**23 22 50.9**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=335,slow=4.0,SNR=3.5							
TORD	**Torodi Ar. Bea**	**123.03**	**288**	PKP		**PKPdf**	**23 22 52.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**123.03**	**288**	PKP		**PKPdf**	**23 22 52.6**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=78,slow=1.4,SNR=6.8							

NEIC ***12*** *23:11:44.4±0.7,32.64°×178.76°W,h35km,mb4.8/3,Error ellipse: s-maj=20.5km s-min=12.5km az=129.0*

ISCJB ***12*** *23:11:46.8±0.9,33.23°±0.05°×179.5°W±0.2°,h33km, mb4.7/7,MS3.5/5,Error ellipse: s-maj=19.0km s-min=6.6km az=7.1*

IDC ***12*** *23:12:03.4±8.0,32.85°×179.43°W,h184km±69km,mb4.0/5, mb1 4.1/6,mb1mx3.8/17,mbtmpg3.9/6,MS3.6/6,Ms1 3.6/6, ms1mx3.3/30,Error ellipse: s-maj=32.4km s-min=20.4km az=66.0*

ISC 12 23:11:45.5±0.7,33°09S±0°08×178°9W±0°1,h45km,n74, σ2°03/74,mb4.6/7,MS3.6/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.03**	**206**	*e*PN	**Pn**	**23 12 59.6**	**+1.3**
MXZ				SN	**Sn**	**23 13 59.6**	**+4.6**
PUZ	**Puketiti**	**5.50**	**204**	PN	**Pn**	**23 13 05.2**	**+0.4**
PUZ				SN	**Sn**	**23 14 07.6**	**+1.0**
CNGZ	**Carnagh Statio**	**5.88**	**203**	*e*PN	**Pn**	**23 13 11.2**	**+1.1**
MWZ	**Matawai**	**6.00**	**208**	*e*PN	**Pn**	**23 13 11.9**	**+0.2**
MWZ				*e*SN	**Sn**	**23 14 22.9**	**+3.8**
URZ	**Urewera**	**6.11**	**211**	*e*Pn	**Pn**	**23 13 16.1**	**+3.0**
URZ				*e*Sn	**Sn**	**23 14 26.7**	**+5.0**
URZ	**Urewera**	**6.11**	**211**	PN	**Pn**	**23 13 14.0**	**+0.9**
URZ				SN	**Sn**	**23 14 23.3**	**+1.6**
PRGZ	**Paritu Road**	**6.39**	**203**	PN	**Pn**	**23 13 16.6**	**-0.4**
KNZ	**Kokohu**	**6.55**	**204**	PN	**Pn**	**23 13 19.0**	**-0.1**
OUZ	**Omahuta**	**6.59**	**249**	*e*Pn	Pn	23 13 24.4	+4.7
OUZ	**Omahuta**	**6.59**	**249**	Pn	Pn	23 13 24.5	+4.7
RAHZ	**Arahi**	**6.67**	**208**	*e*PN	**Pn**	**23 13 22.6**	**+1.7**
NMHZ	**Naumai**	**6.94**	**209**	*e*PN	**Pn**	**23 13 24.8**	**+0.2**
BKZ	**Black Stump Fm**	**7.13**	**210**	PN	**Pn**	**23 13 27.5**	**+0.3**
MCHZ	**McNeill Hill**	**7.28**	**208**	PN	**Pn**	**23 13 29.9**	**+0.6**
CKHZ	**Cape Kidnapper**	**7.33**	**205**	*e*PN	**Pn**	**23 13 30.1**	**+0.3**
KAHZ	**Kahuranaki**	**7.52**	**206**	*e*PN	**Pn**	**23 13 30.6**	**-2.0**
PXZ	**Pawanui**	**7.73**	**205**	PN	**Pn**	**23 13 34.4**	**-1.0**
PXZ				SN	**Sn**	**23 14 57.6**	**-4.0**
PNHZ	**Pukenui**	**7.88**	**209**	*e*PN	**Pn**	**23 13 37.3**	**-0.2**
TSZ	**Takapari Road**	**8.10**	**209**	*e*PN	**Pn**	**23 13 41.2**	**+0.7**
DVHZ	**Dannevirke**	**8.22**	**207**	*e*PN	**Pn**	**23 13 41.0**	**-1.2**
ANWZ	**Angora Road**	**8.25**	**205**	*e*PN	**Pn**	**23 13 41.2**	**-1.3**
PRWZ	**Pori Road**	**8.52**	**207**	SN	**Sn**	**23 15 19.6**	**-1.4**
BFZ	**Birch Farm**	**8.53**	**206**	PN	**Pn**	**23 13 45.2**	**-1.1**
MRZ	**Mangatainoka R**	**8.77**	**209**	PN	**Pn**	**23 13 46.8**	**-2.8**
MRZ				SN	**Sn**	**23 15 23.5**	**-3.6**
HOWZ	**Holdsworth Sta**	**8.99**	**208**	PN	**Pn**	**23 13 50.2**	**-2.5**
OGWZ	**Otaki Gorge**	**9.07**	**210**	PN	**Pn**	**23 13 51.6**	**-2.1**
KIW	**Kapiti Island**	**9.21**	**211**	*e*PN	**Pn**	**23 13 52.9**	**-2.8**
MTW	**Mount Morrison**	**9.22**	**207**	*e*PN	Pn	23 13 52.6	-3.2
PAWZ	**Paruwai Farm**	**9.44**	**207**	SN	**Sn**	**23 15 39.0**	**-4.5**
DUWZ	**D'Urville Isla**	**9.62**	**215**	*e*PN	**Pn**	**23 14 01.0**	**-0.3**
TCW	**Tory Channel**	**9.78**	**212**	PN	**Pn**	**23 14 00.6**	**-2.8**
NNZ	**Nelson**	**10.20**	**215**	SN	**Sn**	**23 15 57.1**	**-5.0**
THZ	**Tophouse**	**10.84**	**215**	PN	**Pn**	**23 14 15.2**	**-2.9**
KHZ	**Kahutara**	**11.07**	**211**	PN	**Pn**	**23 14 18.5**	**-2.6**
LTZ	**Lake Taylor**	**11.93**	**213**	SN	Sn	23 16 35.5	-9.1
MQZ	**McQueen's Vall**	**12.50**	**210**	SN	Sn	23 16 47.8	-11
ODZ	**Otahua Downs**	**14.43**	**211**	SN	Sn	23 17 34.7	-11
DZM	**Mont Dzumac**	**17.00**	**307**	P	**P**	**23 15 43.3**	**+1.9**
	0.2nm,0.3s,baz=130,slow=12,SNR=4.9						
DZM				LR	LR	23 20 51.6	
	comp=Z,308nm,18.9s,baz=220,slow=32						
AFI	**Afiamalu**	**20.16**	**20**	*e*Pn	**P**	**23 16 12.2**	**-3.9**
	77nm,0.3s						
STKA	**Stephens Creek**	**33.23**	**261**	LR	LR	23 29 44.3	
	comp=Z,139nm,20.9s,baz=25,slow=32						
CTA	**Charters Tower**	**33.60**	**284**	P	**P**	**23 18 22.8**	**+1.2**
CTA	**Charters Tower**	**33.60**	**284**	P	**P**	**23 18 22.8**	**+1.2**
	7.4nm,0.6s,baz=127,slow=13,SNR=10						
CTA				LR	LR	23 29 29.3	
	comp=Z,82nm,18.7s,baz=49,slow=32						
AS31	**Alice Springs**	**42.29**	**270**	*e*P	**P**	**23 19 35.2**	**+0.3**
ASAR	**Alice Springs**	**42.29**	**270**	P	**P**	**23 19 35.0**	**+0.1**
ASAR	**Alice Springs**	**42.29**	**270**	P	**P**	**23 19 35.0**	**+0.1**
	6.4nm,0.7s,baz=110,slow=7.4,SNR=55						
WRAB	**Tennant Creek**	**43.52**	**275**	*e*P	**P**	**23 19 44.4**	**-0.5**
	6.4nm,0.8s						
WRA	**Warramunga Arr**	**43.52**	**275**	P	**P**	**23 19 44.5**	**-0.4**
WRA	**Warramunga Arr**	**43.52**	**275**	P	**P**	**23 19 44.5**	**-0.4**
	118nm,0.3s,baz=116,slow=8.0,SNR=2.6						
FITZ	**Fitzroy Crossi**	**51.66**	**272**	P	**P**	**23 20 48.3**	**+0.3**
	3.3nm,0.8s,baz=106,slow=9.8,SNR=4.0						
FITZ				LR	LR	23 42 24.4	
	comp=Z,64nm,20.2s,baz=289,slow=36						
QSPA	**South Pole Qui**	**57.03**	**180**	*e*P	P	23 21 31.1	+4.5
	6.7nm,0.9s						
QSPA	**South Pole Qui**	**57.03**	**180**	P	P	23 21 31.4	+4.8
	4.0nm,0.7s,baz=22,slow=2.3,SNR=11						
CFAA	**Coronel Fontan**	**88.24**	**127**	LR	LR	23 55 14.0	
	comp=Z,5.8nm,19.6s,baz=190,slow=29						
NVAR	**Mina Array Bea**	**90.71**	**43**	P	**P**	**23 24 46.0**	**+2.4**
NVAR	**Mina Array Bea**	**90.71**	**43**	P	**P**	**23 24 46.0**	**+2.4**
	2.6nm,0.9s,baz=215,slow=7.6,SNR=7.7						
LPAZ	**La Paz**	**97.71**	**115**	LR	LR	23 57 29.9	
	comp=Z,51nm,21.7s,baz=222,slow=28						
ILAR	**Eielson Array**	**100.70**	**13**	P	**Pdif**	**23 25 29.7**	**+1.5**
ILAR	**Eielson Array**	**100.70**	**13**	P	**Pdif**	**23 25 29.7**	**+1.5**
	0.3nm,0.6s,baz=222,slow=6.6,SNR=4.1						
MKAR	**Makanchi Array**	**118.90**	**309**	PKP	**PKPdf**	**23 30 27.6**	**-1.1**
MKAR	**Makanchi Array**	**118.90**	**309**	PKP	**PKPdf**	**23 30 27.6**	**-1.1**
	0.4nm,0.6s,baz=90,slow=2.4,SNR=4.1						
ARCES	**ARCESS Array B**	**141.03**	**347**	PKPpre	PKPpre	23 31 04.2	
ARCES				PKP	**PKPdf**	**23 31 07.2**	**-2.5**
ARCES	**ARCESS Array B**	**141.03**	**347**	PKhKP	PKPpre	23 31 04.2	
	1.6nm,0.7s,baz=38,slow=3.6,SNR=8.4						
ARCES				PKP	**PKPdf**	**23 31 07.2**	**-2.5**
	1.8nm,0.7s,baz=114,slow=3.0,SNR=6.7						
JOF	**Joensuu**	**144.60**	**337**	*ep*	**PKPab**	**23 31 13.0**	**-1.9**
	2.6nm,0.4s						
KAF	**Kangasniemi**	**146.79**	**339**	*ep*	**PKPdf**	**23 31 20.5**	**+0.5**
	5.1nm,0.5s						
FINES	**FINESS Array B**	**147.37**	**338**	PKPbc	**PKPbc**	**23 31 23.1**	**-0.4**
FINES	**FINESS Array B**	**147.37**	**338**	PKPbc	**PKPbc**	**23 31 23.1**	**-0.4**
	6.4nm,0.6s,baz=39,slow=4.3,SNR=81						
NB2	**NORSAR Subarra**	**151.27**	**350**	PKP	**PKPbc**	**23 31 32.2**	**-1.1**
	comp=Z,2.1nm,0.6s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**151.27**	**350**	PKPbc	**PKPbc**	**23 31 33.0**	**-0.3**
NOA				PKPab	**PKPab**	**23 31 41.3**	**-0.1**
NOA	**NORSAR Array B**	**151.27**	**350**	PKPbc	**PKPbc**	**23 31 33.0**	**-0.3**
	comp=Z,3.5nm,0.7s,baz=21,slow=4.8,SNR=17						
NOA				PKPab	**PKPab**	**23 31 41.3**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=20,slow=3.2,SNR=6.1						
AKASG	**Malin Array Be**	**152.90**	**319**	PKPbc	**PKPbc**	**23 31 36.9**	**-0.3**
AKASG	**Malin Array Be**	**152.90**	**319**	PKPbc	**PKPbc**	**23 31 36.9**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=64,slow=2.6,SNR=6.0						
BRTR	**Keskin Array B**	**153.10**	**294**	PKPbc	**PKPbc**	**23 31 37.8**	**-0.4**
BRTR	**Keskin Array B**	**153.10**	**294**	PKPbc	**PKPbc**	**23 31 37.8**	**-0.4**
	comp=Z,0.8nm,0.5s,baz=129,slow=3.9,SNR=6.4						
TORD	**Torodi Ar. Bea**	**160.15**	**182**	PKP	**PKPdf**	**23 31 42.3**	**+1.9**
TORD				PKPab	**PKPab**	**23 32 22.6**	**+2.3**
TORD	**Torodi Ar. Bea**	**160.15**	**182**	PKP	**PKPdf**	**23 31 42.3**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=199,slow=0.6,SNR=3.5						
TORD				PKPab	**PKPab**	**23 32 22.6**	**+2.3**
	comp=Z,1.9nm,0.9s,baz=180,slow=2.6,SNR=7.2						

IDC 12 23:18:25.2±1.6,5.60S×147.81E,h148km±18km,mb3.6/6, mb1 3.8/7,mb1mx3.6/16,mbtmpg3.6/7,MS3.2/1,Ms1 3.2/1, ms1mx2.5/27,Error ellipse: s-maj=46.2km s-min=12.2km az=109.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.84**	**190**	P	Pn	23 19 25.3	+1.9
	19nm,0.3s,baz=29,slow=10,SNR=48						
PMG				S	Sn	23 20 07.9	-0.6
	28nm,0.3s,baz=232,slow=20,SNR=16						
GUMO	**Guam**	**19.28**	**351**	LR	LR	23 28 35.3	
	comp=Z,87nm,21.9s,baz=90,slow=32						
WRA	**Warramunga Arr**	**19.36**	**221**	P	P	23 22 40.0	+0.4
	95.4nm,0.3s,baz=46,slow=11,SNR=15						
ASAR	**Alice Springs**	**22.41**	**215**	P	P	23 23 12.7	+0.9
	4.7nm,0.6s,baz=56,slow=8.6,SNR=30						
ASAR				S	S	23 27 07.8	+0.7
	2.9nm,0.9s,baz=36,slow=21,SNR=14						
FITZ	**Fitzroy Crossi**	**24.96**	**238**	P	P	23 23 35.3	+0.2
	5.9nm,0.5s,baz=63,slow=7.9,SNR=18						
SONM	**Songino Array**	**64.45**	**330**	P	P	23 28 45.9	0.0
	0.7nm,0.6s,baz=130,slow=7.3,SNR=5.3						
MKAR	**Makanchi Array**	**77.70**	**320**	P	P	23 30 05.7	0.0
	0.4nm,0.3s,baz=102,slow=6.6,SNR=7.1						
ZALV	**Zalesovo Beam**	**79.10**	**328**	P	P	23 30 12.3	-0.8
	1.5nm,0.6s,baz=120,slow=5.5,SNR=8.7						
ILAR	**Eielson Array**	**84.80**	**23**	P	P	23 30 43.0	+0.4
	0.4nm,0.8s,baz=238,slow=5.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**145.77**	**285**	PKPbc	PKPdf	23 37 46.8	-0.5
	1.1nm,0.5s,baz=78,slow=3.0,SNR=20						

IDC 12 23:24:15.3±1.0,3.83N×126.64E,h0km,mb3.7/8, mb1 3.9/8,mb1mx3.8/20,mbtmpg3.8/8,Error ellipse: s-maj=66.7km s-min=15.7km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.82**	**183**	P	P	23 29 10.3	+1.0
	2.2nm,0.8s,baz=23,slow=14,SNR=4.5						
WRA	**Warramunga Arr**	**24.81**	**163**	P	P	23 29 38.6	-0.8
	5.0nm,0.7s,baz=344,slow=11,SNR=17						
ASAR	**Alice Springs**	**28.23**	**166**	P	P	23 30 11.0	+0.8
	0.2nm,0.3s,baz=346,slow=11,SNR=3.2						
CMAR	**Chiang Mai Arr**	**30.74**	**300**	P	P	23 30 32.5	-0.1
	0.3nm,0.3s,baz=126,slow=7.5,SNR=5.2						
STKA	**Stephens Creek**	**38.26**	**159**	P	P	23 31 36.9	-0.5
	4.1nm,0.7s,baz=326,slow=8.3,SNR=9.5						
SONM	**Songino Array**	**47.17**	**341**	P	P	23 32 50.5	+0.7
	0.3nm,0.7s,baz=134,slow=6.2,SNR=3.6						
SONM				PcP	PcP	23 34 21.7	+0.3
	0.6nm,0.8s,baz=132,slow=4.9,SNR=3.3						
MKAR	**Makanchi Array**	**57.42**	**325**	P	P	23 34 05.3	-0.6
	0.3nm,0.4s,baz=123,slow=8.1,SNR=10						
ZALV	**Zalesovo Beam**	**60.46**	**333**	P	P	23 34 26.2	-0.6
	0.3nm,0.4s,baz=138,slow=5.0,SNR=2.9						

IDC 12 23:28:14.2±2.2,3.74N×126.20E,h0km,mb3.7/2, mb1 3.8/2,mb1mx3.4/17,mbtmpg3.7/2,Error ellipse: s-maj=216.7km s-min=26.3km az=64.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.86**	**162**	P	P	23 33 38.0	-0.6
	98nm,0.3s,baz=339,slow=11,SNR=11						
ASAR	**Alice Springs**	**28.25**	**165**	P	P	23 34 11.2	+2.0
	0.2nm,0.4s,baz=340,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**38.33**	**159**	P	P	23 35 35.6	-1.2
	0.7nm,0.3s,baz=338,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	**57.25**	**325**	P	P	23 38 03.5	0.0
	0.3nm,0.6s,baz=121,slow=7.7,SNR=4.6						

IDC 12 23:29:40.4±1.4,3.76N×126.68E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/18,mbtmpg3.7/4,Error ellipse: s-maj=106.9km s-min=20.5km az=72.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.75**	**183**	P	P	23 34 34.9	+1.2
	2.3nm,0.7s,baz=9.5,slow=6.1,SNR=3.0						
WRA	**Warramunga Arr**	**24.73**	**163**	P	P	23 35 03.1	-0.7
	563nm,0.3s,baz=337,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**28.15**	**166**	P	P	23 35 35.9	+1.2
	0.2nm,0.4s,baz=342,slow=9.7,SNR=2.8						
STKA	**Stephens Creek**	**38.17**	**159**	P	P	23 37 00.1	-1.7
	0.7nm,0.5s,baz=316,slow=4.3,SNR=2.8						
SONM	**Songino Array**	**47.26**	**341**	P	P	23 38 15.8	+0.2
	0.2nm,0.5s,baz=165,slow=6.0,SNR=2.4						
MKAR	**Makanchi Array**	**57.51**	**325**	P	P	23 39 31.2	-0.4
	0.2nm,0.4s,baz=121,slow=7.2,SNR=4.9						

NIED ***12*** *23:40:00,45.80N×142.60E,h340km,Mw4.1 Best double couple: M0 1.63000×10^15 NP1:φ181.00000°, δ61.00000°,λ60.00000°. NP2:φ50.00000°,δ41.00000°, λ132.00000°.*

MOS ***12*** *23:40:43.7±0.9,46.05N×142.41E,h328km,mb3.9/11, Error ellipse: s-maj=15.1km s-min=8.3km az=93.9*

ISCJB ***12*** *23:40:44.5±0.2,45.91N±0.03×142.46E±0.06, h342km±2km,mb3.7/22,Error ellipse: s-maj=6.5km s-min=4.7km az=167.4*

JMA ***12*** *23:40:45.2±0.3,45.83N×142.64E,h341km±3km,M4.3*

IDC ***12*** *23:40:45.3±0.6,46.03N×142.43E,h328km±8km,mb3.5/19, mb1 3.7/22,mb1mx3.6/26,mbtmpg3.5/22,Error ellipse: s-maj=15.6km s-min=10.2km az=176.0*

SKHL ***12*** *23:40:46.1±1.0,45.90N×142.58E,h325km±3km,mb4.4/8, msh4.8/4*

ISC 12 23:40:45.0±0.5,45.92N±0.04×142.44E±0.05,h335km±4km, n80,σ1°53/101,mb3.8/22,3C,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWK2	**Keihoku**	**0.71**	**213**	P	**Pn**	**23 41 29.3**	**+1.2**
JWK2				*e*S	**S**	**23 42 03.0**	**+0.4**
JSE	**Soyaes**	**0.96**	**174**	P	**Pn**	**23 41 29.5**	**+0.5**
JSE				*e*S	**S**	**23 42 04.5**	**+0.3**
YSS	**Yuzh-Sakhalins**	**1.06**	**12**⇑	*i*PN	**Pn**	**23 41 31.2**	**+2.0**
YSS				*e*S	**S**	**23 42 05.0**	**+0.3**
YSS				pmax	pmax		
	comp=N,120nm,0.6s						
YSS				pmax	pmax		
	comp=Z,250nm,0.6s						
YSS				smax	smax		
	comp=N,120nm,0.9s						
YSS	**Yuzh-Sakhalins**	**1.06**	**12**⇑	*i*P	**Pn**	**23 41 31.0**	**+1.8**
YSS				AMB	AMB	23 41 32.0	
	comp=N,250nm,0.6s						
YSS				AMB	AMB	23 41 32.0	
	comp=N,120nm,0.6s						
YSS				*e*S	**S**	**23 42 05.0**	**+0.3**
YSS				A	A	23 42 06.0	
	comp=N,410nm,0.9s						
JRR	**Rishiri**	**1.11**	**226**	P	**Pn**	**23 41 30.9**	**+1.3**
JRR				*e*S	**S**	**23 42 06.7**	**+1.4**
JSS	**Shosan**	**1.57**	**196**	P	**Pn**	**23 41 33.1**	**+1.0**
JYG	**Yagishiri**	**1.65**	**206**	P	**Pn**	**23 41 33.4**	**+0.8**
ASAJ	**Asahikawa**	**1.80**	**176**	P	**Pn**	**23 41 34.3**	**+0.7**
ASAJ				*e*S	**S**	**23 42 13.2**	**+0.7**
ASAJ	**Asahikawa**	**1.80**	**176**	P	**Pn**	**23 41 34.4**	**+0.8**
	comp=N,31nm,0.3s,baz=356,slow=5.8,SNR=170						
ASAJ				S	**S**	**23 42 13.3**	**+0.7**
	comp=N,2.5nm,0.3s,baz=264,slow=19,SNR=8.8						
JKK2	**Kamakawa 2**	**2.05**	**174**	P	**Pn**	**23 41 36.0**	**+0.6**
JTKR	**Abashiri--Toko**	**2.21**	**151**	P	**Pn**	**23 41 36.9**	**+0.4**
JTKR				*e*S	**S**	**23 42 17.1**	**-0.6**
JHR	**Hokuryu**	**2.23**	**193**	P	**Pn**	**23 41 37.5**	**+0.8**
JRA	**Rausu**	**2.75**	**135**	P	**Pn**	**23 41 41.3**	**+0.4**
JFR	**Furan**	**2.75**	**178**	P	**Pn**	**23 41 41.4**	**+0.3**
JFR				*e*S	**S**	**23 42 26.0**	**-0.1**
JAR	**Ashorobuto**	**2.79**	**160**	P	**Pn**	**23 41 41.8**	**+0.5**
JAR				*e*S	**S**	**23 42 25.6**	**-0.9**
JSK	**Shakotan**	**2.92**	**209**	P	**Pn**	**23 41 43.7**	**+1.2**
YUK	**Yuzh-Kuril'sk**	**3.07**	**127**	*e*PN	**Pn**	**23 41 44.3**	**+0.4**
YUK				*e*S	**S**	**23 42 31.0**	**-0.2**
YUK				pmax	pmax		
	comp=N,25nm,0.1s						
YUK				pmax	pmax		
	comp=E,26nm,0.2s						
YUK				pmax	pmax		
	comp=Z,80nm,0.3s						
YUK				smax	smax		
	comp=N,73nm,0.3s						
YUK				smax	smax		
	comp=E,348nm,0.6s						
JEW	**Eniwo**	**3.15**	**193**	P	**Pn**	**23 41 45.7**	**+1.0**
JEW				*e*S	**S**	**23 42 31.8**	**-0.9**
UGL	**Uglegorsk**	**3.17**	**356**	*e*P	**Pn**	**23 41 46.0**	**+1.3**
UGL				AMB	AMB	23 41 47.0	
	comp=E,120nm,0.5s						

MKAR	**Makanchi Array**	**40.63**	**294**	P	**P**	**23 47 54.0**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=68,slow=5.7,SNR=21						
KURK	**Kurchatov**	**41.54**	**301**	*eP*	**P**	**23 48 00.8**	**+0.4**
ILAR	**Eielson Array**	**41.76**	**37**	P	**P**	**23 48 01.4**	**-0.6**
	comp=Z,3.4nm,0.7s,baz=279,slow=7.5,SNR=43						
ILAR				PcP	**PcP**	**23 49 50.8**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=286,slow=4.0,SNR=4.4						
YKA	**Yellowknife Ar**	**55.84**	**33**	P	**P**	**23 49 48.2**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=305,slow=5.6,SNR=67						
YKA				PcP	**PcP**	**23 50 43.4**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=309,slow=3.8,SNR=5.7						
ARCES	**ARCESS Array B**	**56.01**	**338**	P	**P**	**23 49 49.0**	**-0.1**
	comp=Z,3.0nm,1.0s,baz=42,slow=7.3,SNR=3.6						
JOF	**Joensuu**	**58.57**	**330**	*eP*	**P**	**23 50 05.7**	**-1.1**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JOF	**Joensuu**	**58.57**	**330**	*ep*	**P**	**23 50 05.7**	**-1.1**
	comp=Z,1.4nm,0.3s						
KAF	**Kangasniemi**	**60.84**	**331**	*eP*	**P**	**23 50 21.0**	**-1.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KAF	**Kangasniemi**	**60.84**	**331**	*ep*	**P**	**23 50 21.0**	**-1.1**
	comp=Z,2.1nm,0.4s						
FINES	**FINESS Array B**	**61.38**	**331**	P	**P**	**23 50 25.6**	**-0.1**
	comp=Z,3.7nm,0.7s,baz=46,slow=7.5,SNR=25						
FFC	**Flin Flon**	**65.90**	**35**	*ceP*	**P**	**23 50 56.3**	**+1.1**
NB2	**NORSAR Subarra**	**66.33**	**336**	P	**P**	**23 50 57.6**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**66.33**	**336**	P	**P**	**23 50 57.9**	**0.0**
	comp=Z,3.3nm,0.8s,baz=36,slow=6.4,SNR=13						
AKASG	**Malin Array Be**	**67.82**	**321**	P	**P**	**23 51 06.7**	**-0.5**
AKASG	**Malin Array Be**	**67.82**	**321**	P	**P**	**23 51 06.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=38,slow=5.8,SNR=3.4						
NVAR	**Mina Array Bea**	**69.21**	**56**	P	**P**	**23 51 18.2**	**+1.9**
	comp=Z,2.9nm,0.7s,baz=294,slow=5.9,SNR=17						
ASAR	**Alice Springs**	**69.68**	**188**	P	**P**	**23 51 20.5**	**+1.6**
	comp=Z,1.1nm,0.9s,baz=7.8,slow=7.5,SNR=8.2						
PDAR	**Pinedale Array**	**71.00**	**48**	P	**P**	**23 51 28.5**	**+1.4**
	comp=Z,2.1nm,0.6s,baz=304,slow=0.6,SNR=13						
ULM	**Lac du Bonnet**	**71.73**	**35**	P	**P**	**23 51 31.1**	**+0.2**
	comp=Z,3.9nm,0.5s,baz=324,slow=7.1,SNR=8.4						
BRTR	**Keskin Array B**	**73.61**	**310**	P	**P**	**23 51 43.0**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=69,slow=5.9,SNR=5.7						
GERES	**GERESS Array B**	**75.59**	**328**	P	**P**	**23 51 53.9**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=45,slow=5.1,SNR=5.3						
SCHQ	**Schefferville**	**76.61**	**17**	P	**P**	**23 51 59.2**	**+0.5**
	comp=Z,3.5nm,0.5s,baz=355,slow=6.4,SNR=22						
TXAR	**Lajitas Array**	**84.14**	**53**	P	**P**	**23 52 40.7**	**+1.6**
	comp=Z,1.8nm,0.8s,baz=289,slow=3.8,SNR=11						
ESDC	**Sonseca Array**	**89.63**	**335**	P	**P**	**23 53 05.9**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=15,slow=3.8,SNR=5.2						
SIV	**San Ignacio**	**144.27**	**41**	PKP	**PKPdf**	**23 59 41.5**	**0.0**
	comp=Z,3.9nm,0.6s,baz=332,slow=2.5,SNR=19						
BDFB	**Brasilia**	**148.57**	**20**	PKPbc	**PKPbc**	**23 59 51.9**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=323,slow=5.1,SNR=2.8						
CFAA	**Coronel Fontan**	**152.34**	**70**	PKPbc	**PKPbc**	**00 00 01.3**	**0.0**
	comp=Z,0.3nm,0.4s,baz=270,slow=1.0,SNR=4.4						

IDC 12 23:41:03.8±4.0, 30.70S×177.81W, h0km, mb4.2/1, mb1 4.4/1, mb1mx3.8/14, mbtmp4.2/1, Error ellipse: s-maj=179.0km s-min=43.7km az=158.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.26**	**267**	P	P	23 49 07.3	+0.1
	3.5nm,0.9s,baz=104,slow=6.9,SNR=23						
WRA	**Warramunga Arr**	**44.28**	**272**	P	P	23 49 15.2	-0.2
	2µm,0.4s,baz=114,slow=7.7,SNR=9.9						
KURBB	**Kurchatov Arra**	**121.41**	**314**	PKP	PKPdf	23 59 57.9	-0.7
	0.3nm,0.5s,baz=122,slow=2.1,SNR=5.0						
FINES	**FINESS Array B**	**145.48**	**340**	PKPbc	PKPbc	00 00 43.2	+0.1
	1.7nm,0.4s,baz=46,slow=4.2,SNR=28						
AKASG	**Malin Array Be**	**151.64**	**323**	PKPab	PKPab	00 01 06.9	-1.4
	2.1nm,0.9s,baz=48,slow=3.2,SNR=4.4						

PRE 12 23:46:29.8±0.9, 26.39S×27.40E, h2km, ML1.8, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.19**	**79**	*eP*	Pg	23 46 32.8	-1.0
KLOF				*eS*	Sg	23 46 36.0	-0.5
KLOF				AML	AML	23 46 40.1	
	comp=Z,305nm,0.2s						
PRYS	**Parys**	**0.54**	**184**	*eP*	Pg	23 46 39.8	-0.6
PRYS				*eS*	Sg	23 46 48.0	+0.5
PRYS				AML	AML	23 46 48.9	
	comp=Z,18nm,0.3s						
ERPM	**east rand prop**	**0.76**	**87**	*eP*	Pg	23 46 45.0	+0.4
ERPM				*eS*	Sg	23 46 55.5	+1.0
ERPM				AML	AML	23 46 57.0	
	comp=Z,13nm,0.4s						
SLR	**Silverton**	**1.02**	**51**	*eP*	Pg	23 46 49.6	0.0
SLR				*eS*	Sb	23 47 03.9	-0.6
SLR				AML	AML	23 47 12.5	
	comp=Z,11nm,0.6s						
SEK	**Senekal**	**1.94**	**174**	*eP*	Pn	23 47 04.1	+0.1
SEK				*eS*	Sb	23 47 30.1	-0.9
SEK				AML	AML	23 47 32.5	
	comp=Z,9.5nm,0.4s						
SWZ	**Schweizer**	**2.01**	**246**	*eP*	Pn	23 47 06.0	+1.0
SWZ				*eS*	Sn	23 47 31.8	+0.9
SWZ				AML	AML	23 47 37.0	
	comp=Z,7.2nm,0.1s						
LBTB	**Lobatse**	**2.12**	**310**	*eP*	Pn	23 47 06.9	+0.4
LBTB				*eS*	Sn	23 47 34.2	+0.6
LBTB				AML	AML	23 47 41.2	
	comp=Z,10nm,0.6s						
BOSA	**Boshof**	**2.92**	**220**	*eP*	Pn	23 47 17.6	0.0
BOSA				*eS*	Sn	23 47 54.0	+0.6
BOSA				AML	AML	23 48 00.7	
	comp=Z,3.4nm,0.3s						

IDC 12 23:48:57.3±1.7, 10.25S×80.13W, h0km, mb3.7/4, mb1 3.9/7, mb1mx3.7/19, mbtmp3.7/7, ML3.4/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/27, Error ellipse: s-maj=42.9km s-min=23.9km az=43.0, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**3.54**	**29**	Pn	Pn	23 49 54.9	+0.8
	4.2nm,0.3s,baz=211,slow=12,SNR=25						
ATAH				Sn	Sn	23 50 36.0	-1.0
	3.7nm,0.3s,baz=247,slow=3.0,SNR=4.7						
ATAH				LR	LR	23 51 27.1	
	comp=Z,393nm,19.8s,baz=128,slow=42						
NNA	**Nana**	**3.66**	**119**	Pn	Pn	23 49 55.1	-0.3
	8.5nm,0.3s,baz=302,slow=15,SNR=13						
NNA				Sn	Sn	23 50 36.6	-2.6
	75nm,0.3s,baz=129,slow=14,SNR=17						
SIV	**San Ignacio**	**19.41**	**109**	P	P	23 53 24.1	-1.3
	0.0nm,0.3s,baz=310,slow=14,SNR=2.8						
SIV				LR	LR	00 02 10.6	
	comp=Z,70nm,20.3s,slow=41						
PDAR	**Pinedale Array**	**59.22**	**335**	P	P	23 59 01.1	+0.3
	0.8nm,0.9s,baz=139,slow=5.9,SNR=5.2						
ULM	**Lac du Bonnet**	**61.79**	**349**	P	P	23 59 17.3	-0.6
	2.3nm,0.7s,baz=157,slow=6.8,SNR=4.3						
YKA	**Yellowknife Ar**	**77.28**	**344**	P	P	00 00 52.6	-0.6
	0.1nm,0.6s,baz=142,slow=6.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**84.47**	**76**	P	P	00 01 33.8	+1.1
	0.6nm,0.8s,baz=271,slow=5.1,SNR=3.2						

IDC 12 23:52:31.7±2.0, 3.91N×126.51E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, MS2.6/1, Ms1 2.6/1, ms1mx2.3/32, Error ellipse: s-maj=199.9km s-min=22.7km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**11.14**	**217**	LR	LR	23 59 00.3	
	comp=Z,34nm,21.4s,baz=75,slow=35						
WRA	**Warramunga Arr**	**24.92**	**162**	P	P	23 57 56.3	-0.4
	1.8nm,0.6s,baz=341,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.34**	**166**	P	P	23 58 27.5	0.0
	0.4nm,0.2s,baz=345,slow=11,SNR=4.0						
STKA	**Stephens Creek**	**38.37**	**159**	P	P	23 59 55.0	+0.3
	1.3nm,0.4s,baz=342,slow=8.1,SNR=5.8						
MKAR	**Makanchi Array**	**57.29**	**325**	P	P	00 02 21.3	-0.1
	0.5nm,0.4s,baz=122,slow=7.8,SNR=22						

MEX 12 23:55:16.9±1.0, 16.95N×100.07W, h30km±10km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.21**	**296**	*eP*	Pb	23 55 21.9	-1.4
CAIG				*i* S	Sb	23 55 26.0	-1.6
ACX	**Acapulco**	**0.22**	**112**	*eP*	Pb	23 55 21.4	-2.0
ACX				*i* S	Sb	23 55 25.3	-2.4
MEIG	**Mezcala**	**1.06**	**24**	*i* P	Pn	23 55 32.7	-3.1
MEIG				*i* S	Sn	23 55 45.9	-3.8
ZIIG	**Zihuatanejo**	**1.48**	**296**	*i* P	Pn	23 55 40.1	-1.4
ZIIG				*i* S	Sn	23 55 57.1	-2.9
PLIG	**Platanillo**	**1.53**	**21**	*eP*	Pn	23 55 41.0	-1.3
PLIG				*i* S	Sn	23 55 58.8	-2.5
PNIG	**Pinotepa**	**1.94**	**106**	*i* P	Pn	23 55 45.4	-2.6
PNIG				*i* S	Sn	23 56 09.1	-2.3
YAIG	**Yautepec**	**2.12**	**27**	*i* P	Pn	23 55 48.0	-2.6
YAIG				*i* S	Sn	23 56 13.5	-2.6
UTMO	**Huajuapan**	**2.33**	**68**	*i* P	Pn	23 55 52.3	-1.2
PPM	**Popocatepetl**	**2.51**	**33**	*i* P	Pn	23 55 56.1	-0.3
PPM				*i* S	Sn	23 56 24.5	-1.9

IDC 12 23:55:58.4±1.2, 3.66N×126.12E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=146.6km s-min=18.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.80**	**161**	P	P	00 01 22.1	-0.3
	26nm,0.3s,baz=339,slow=11,SNR=16						
ASAR	**Alice Springs**	**28.20**	**165**	P	P	00 01 53.8	+0.7
	0.3nm,0.6s,baz=342,slow=11,SNR=3.7						
STKA	**Stephens Creek**	**38.28**	**159**	P	P	00 03 20.2	-0.5
	4.5nm,0.7s,baz=325,slow=6.1,SNR=8.3						
SONM	**Songino Array**	**47.17**	**342**	P	P	00 04 32.4	-0.5
	0.2nm,0.5s,baz=167,slow=6.6,SNR=2.4						
MKAR	**Makanchi Array**	**57.27**	**326**	P	P	00 05 48.2	+0.3
	0.4nm,0.5s,baz=119,slow=7.9,SNR=8.4						

MEX 13 00:00:56.5±0.5, 16.66N×99.77W, h5km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.23**	**339**	*i* P	Pg	00 01 00.8	-0.3
ACX				*eS*	Sg	00 01 04.8	+0.7
CAIG	**El Cayaco**	**0.61**	**309**	*i* P	Pg	00 01 07.7	-0.6
CAIG				*i* S	Sg	00 01 16.9	+0.5
MEIG	**Mezcala**	**1.27**	**7**	*i* P	Pg	00 01 16.7	-4.4
MEIG				*i* S	Sg	00 01 33.7	-4.0
PNIG	**Pinotepa**	**1.60**	**99**	*i* P	Pn	00 01 22.0	-3.5
PNIG				*i* S	Sn	00 01 42.2	-4.4
PLIG	**Platanillo**	**1.75**	**8**	*i* P	Pn	00 01 24.4	-3.3
PLIG				*i* S	Sn	00 01 45.6	-4.8
UTMO	**Huajuapan**	**2.21**	**58**	*eP*	Pn	00 01 30.0	-4.3
UTMO				*i* S	Sn	00 01 57.0	-5.2
YAIG	**Yautepec**	**2.29**	**17**	*i* P	Pn	00 01 36.8	+1.6
YAIG				*i* S	Sn	00 02 03.5	-0.5

*IDC **13** 00:01:50.5±0.6, 3.89N×126.75E, h0km, mb4.2/13, mb1 4.4/13, mb1mx4.2/21, mbtmp4.2/13, MS3.1/1, Ms1 3.1/1, ms1mx2.3/33, Error ellipse: s-maj=38.6km s-min=13.5km az=74.0*

*ISCJB **13** 00:01:54.9±0.5, 3.84N±0.08×126.76E±0.1, h45km, mb4.2/17, Error ellipse: s-maj=22.4km s-min=8.0km az=155.4*

*NEIC **13** 00:01:55.7±0.3, 3.85N×126.74E, h35km, mb4.2/6, Error ellipse: s-maj=21.6km s-min=6.9km az=72.0*

ISC 13 00:01:57.0±0.6, 3.9N±0.1×126.7E±0.2, h45km, n49, σ0s84/49, mb4.3/16, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.16**	**324**	*iP*	Pn	00 03 03.0	+5.0
KAPI	**Kappang**	**11.22**	**218**	LR	LR	00 09 50.8	
	comp=Z,89nm,18.1s,baz=45,slow=43						
FITZ	**Fitzroy Crossi**	**21.84**	**183**	*eP*	**P**	**00 06 45.5**	**-0.3**
	4.7nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.84**	**183**	P	**P**	**00 06 45.3**	**-0.4**
	5.8nm,0.4s,baz=10,slow=12,SNR=23						
WRAB	**Tennant Creek**	**24.79**	**163**	*eP*	**P**	**00 07 14.1**	**-0.8**
	19nm,0.8s						
WRA	**Warramunga Arr**	**24.80**	**163**	P	**P**	**00 07 14.0**	**-0.9**
WRA	**Warramunga Arr**	**24.80**	**163**	P	**P**	**00 07 14.0**	**-0.9**
	18nm,0.8s,baz=343,slow=10,SNR=43						
AS31	**Alice Springs**	**28.23**	**166**	*eP*	**P**	**00 07 47.0**	**+1.1**
ASAR	**Alice Springs**	**28.23**	**166**	P	**P**	**00 07 44.4**	**-1.5**
ASAR	**Alice Springs**	**28.23**	**166**	P	**P**	**00 07 44.4**	**-1.5**
	0.9nm,0.6s,baz=345,slow=7.8,SNR=9.7						
CMAR	**Chiang Mai Arr**	**30.81**	**300**	P	**P**	**00 08 09.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**30.81**	**300**	P	**P**	**00 08 09.2**	**+0.4**
	0.5nm,0.3s,baz=108,slow=6.6,SNR=4.6						
NWAO	**Narrogin (SRO)**	**37.66**	**193**	*eP*	**P**	**00 09 07.8**	**-0.1**
NWAO	**Narrogin (SRO)**	**37.66**	**193**	P	**P**	**00 09 08.4**	**+0.4**
	12nm,1.0s,baz=18,slow=11,SNR=6.3						
STKA	**Stephens Creek**	**38.24**	**159**	*eP*	**P**	**00 09 11.6**	**-1.2**
	1.9nm,0.7s						
STKA	**Stephens Creek**	**38.24**	**159**	P	**P**	**00 09 12.8**	**0.0**
	9.8nm,0.6s,baz=330,slow=8.7,SNR=26						
TAPN	**Taplejung**	**43.94**	**306**	*ePn*	**P**	**00 09 59.4**	**-0.8**
	6.3nm,0.6s						
ODAN	**Odare**	**44.00**	**305**	*ePn*	**P**	**00 10 00.9**	**+0.3**
	7.6nm,0.4s						
RAMN	**Ramite**	**44.68**	**305**	*ePn*	**P**	**00 10 05.9**	**-0.1**
	4.1nm,0.6s						
JIRN	**Jiri**	**45.30**	**306**	*ePn*	**P**	**00 10 11.0**	**-0.1**
	1.3nm,0.5s						
GUN	**Gumba**	**45.65**	**306**	*eP*	**P**	**00 10 13.3**	**-0.6**
	4.6nm,0.3s						
ULN	**Ulaanbaatar**	**47.01**	**342**	*eP*	**P**	**00 10 23.3**	**-0.7**
	5.7nm,1.1s						
SONM	**Songino Array**	**47.19**	**341**	P	**P**	**00 10 25.3**	**0.0**
SONM				PcP	**PcP**	**00 11 57.4**	**+1.1**
SONM	**Songino Array**	**47.19**	**341**	P	**P**	**00 10 25.3**	**0.0**
	1.1nm,0.6s,baz=158,slow=8.0,SNR=8.6						
SONM				PcP	**PcP**	**00 11 57.4**	**+1.1**
	1.0nm,0.9s,baz=156,slow=4.5,SNR=4.5						
KOLN	**Koldanda**	**47.45**	**305**	*eP*	**P**	**00 10 27.4**	**-0.4**
	9.0nm,0.4s						
DANN	**Dangsing**	**47.54**	**305**	*eP*	**P**	**00 10 28.0**	**-0.6**
	6.3nm,0.3s						
MK31	**Makanchi Array**	**57.46**	**325**	*eP*	**P**	**00 11 40.8**	**-0.6**
MKAR	**Makanchi Array**	**57.46**	**325**	P	**P**	**00 11 41.0**	**-0.4**
MKAR	**Makanchi Array**	**57.46**	**325**	P	**P**	**00 11 41.0**	**-0.4**
	1.3nm,0.5s,baz=116,slow=7.6,SNR=31						
ZALV	**Zalesovo Beam**	**60.48**	**333**	P	**P**	**00 12 00.1**	**-2.0**
ZALV	**Zalesovo Beam**	**60.48**	**333**	P	**P**	**00 12 00.1**	**-2.0**
	1.0nm,0.4s,baz=135,slow=7.3,SNR=5.4						
KKAR	**Karatay Array**	**63.14**	**317**	*eP*	**P**	**00 12 20.6**	**+0.2**
	1.1nm,0.7s						
ABKAR	**Akbulak array**	**72.06**	**321**	*eP*	**P**	**00 13 16.7**	**+0.3**
	0.7nm,0.5s						
ILAR	**Eielson Array**	**85.00**	**25**	P	**P**	**00 14 27.5**	**+0.1**
ILAR	**Eielson Array**	**85.00**	**25**	P	**P**	**00 14 27.5**	**+0.1**
	0.7nm,0.8s,baz=250,slow=5.9,SNR=5.5						
ARCES	**ARCESS Array B**	**90.34**	**340**	P	**P**	**00 14 52.2**	**-0.7**
ARCES	**ARCESS Array B**	**90.34**	**340**	P	**P**	**00 14 52.2**	**-0.7**
	1.1nm,0.8s,baz=79,slow=5.5,SNR=7.5						
FINES	**FINESS Array B**	**91.73**	**332**	P	**P**	**00 14 59.2**	**-0.3**
FINES	**FINESS Array B**	**91.73**	**332**	P	**P**	**00 14 59.2**	**-0.3**
	1.0nm,0.8s,baz=88,slow=4.7,SNR=3.8						
YKA	**Yellowknife Ar**	**99.39**	**24**	P	**Pdif**	**00 15 34.5**	**+0.1**
YKA	**Yellowknife Ar**	**99.39**	**24**	P	**Pdif**	**00 15 34.5**	**+0.1**
	0.1nm,0.5s,baz=301,slow=4.8,SNR=2.6						
TXAR	**Lajitas Array**	**121.53**	**52**	PKP	**PKPdf**	**00 20 47.8**	**+1.3**
TXAR	**Lajitas Array**	**121.53**	**52**	PKP	**PKPdf**	**00 20 47.8**	**+1.3**
	0.4nm,1.0s,baz=60,slow=2.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**122.88**	**288**	PKP	**PKPdf**	**00 20 49.8**	**+0.5**
TORD	**Torodi Ar. Bea**	**122.88**	**288**	PKP	**PKPdf**	**00 20 49.8**	**+0.5**
	0.4nm,0.7s,baz=56,slow=2.0,SNR=5.4						
PLCA	**Paso Flores**	**140.12**	**159**	PKP	**PKPdf**	**00 21 22.0**	**+0.8**
PLCA	**Paso Flores**	**140.12**	**159**	PKP	**PKPdf**	**00 21 22.0**	**+0.8**
	2.7nm,0.9s,baz=225,slow=2.9,SNR=3.3						
CFAA	**Coronel Fontan**	**149.01**	**155**	PKPbc	**PKPbc**	**00 21 41.8**	**+0.9**
CFAA	**Coronel Fontan**	**149.01**	**155**	PKPbc	**PKPbc**	**00 21 41.8**	**+0.9**
	0.3nm,0.6s,baz=243,slow=7.5,SNR=4.0						

IDC 13 00:04:07.4±1.8, 3.99N×126.92E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/20, mbtmp4.0/4, Error ellipse: s-maj=102.8km s-min=24.3km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.98**	**183**	P	P	00 09 03.1	0.0
	2.7nm,0.8s,baz=5.7,slow=10,SNR=4.5						
WRA	**Warramunga Arr**	**24.87**	**163**	P	P	00 09 31.7	-0.3
	5.0nm,0.8s,baz=343,slow=10,SNR=11						
STKA	**Stephens Creek**	**38.30**	**160**	P	P	00 11 30.0	+0.2
	3.1nm,0.7s,baz=346,slow=8.8,SNR=4.0						
MKAR	**Makanchi Array**	**57.45**	**325**	P	P	00 13 58.1	-0.1
	0.2nm,0.4s,baz=123,slow=7.7,SNR=5.7						

IDC 13 00:15:38.4±2.8, 3.78N×126.52E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=294.8km s-min=26.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.80**	**162**	P	P	00 21 01.3	-1.0
	0.8nm,0.4s,baz=340,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**28.21**	**166**	P	P	00 21 34.2	+1.1
	0.2nm,0.3s,baz=338,slow=7.3,SNR=2.9						
STKA	**Stephens Creek**	**38.25**	**159**	P	P	00 23 00.1	-0.4
	1.3nm,0.7s,baz=343,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**57.39**	**325**	P	P	00 25 28.7	-0.1
	0.1nm,0.4s,baz=117,slow=7.7,SNR=4.4						

*IDC **13** 00:16:25.1±0.6, 3.63N×126.59E, h0km, mb4.3/19, mb1 4.4/19, mb1mx4.4/21, mbtmp4.3/19, MS3.6/5, Ms1 3.5/5, ms1mx3.0/40, Error ellipse: s-maj=27.7km s-min=13.3km az=75.0*

*ISCJB **13** 00:16:30.4±0.4, 3.59N±0.05×126.61E±0.09, h53km, mb4.4/29, MS3.5/5, Error ellipse: s-maj=12.9km s-min=6.6km az=160.0*

*NEIC **13** 00:16:30.4±0.4, 3.69N×126.60E, h35km, mb4.7/13, Error ellipse: s-maj=15.9km s-min=7.2km az=71.0*

ISC 13 00:16:32.3±0.6, 3.70N±0.07×126.6E±0.1, h53km, n74, σ1s07/71, mb4.5/27, MS3.5/5, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.91**	**325**	*eP*	**Pn**	**00 17 17.1**	**+0.8**
MATI	**Mati**	**3.25**	**353**	*eP*	**Pn**	**00 17 22.0**	**+1.2**
MATI				*eS*	**Sn**	**00 17 54.8**	**-3.4**
DAV	**Davao City (W)**	**3.51**	**342**	Pn	**Pn**	**00 17 25.9**	**+1.5**
	61nm,0.3s,baz=232,slow=4.2,SNR=3.3						
DAV				Sn	Sn	00 18 16.2	+11
	66nm,0.3s,baz=94,slow=16,SNR=3.6						
CTBH	**Cotabato--PC H**	**4.24**	**326**	*eP*	**Pn**	**00 17 36.0**	**+1.7**
BUKP	**Musuan**	**4.44**	**339**	*eP*	**Pn**	**00 17 39.4**	**+2.1**
PAGZ	**Pagadian**	**5.25**	**322**	*eP*	**Pn**	**00 17 50.8**	**+2.6**
YULB	**Yu-li**	**20.25**	**346**	*eP*	**P**	**00 21 01.2**	**-2.2**
TPUB	**Ta-pu**	**20.34**	**344**	*eP*	**P**	**00 21 02.6**	**-1.7**
	82nm,1.1s						
SSLB	**Suanglung**	**20.71**	**345**	*eP*	**P**	**00 21 06.4**	**-2.0**
	33nm,1.0s						
FITZ	**Fitzroy Crossi**	**21.69**	**183**	P	**P**	**00 21 17.6**	**-1.2**
	2.5nm,0.5s,baz=353,slow=6.4,SNR=4.6						
WRAB	**Tennant Creek**	**24.68**	**162**	*eP*	**P**	**00 21 47.1**	**-1.3**
	22nm,0.9s						
WRA	**Warramunga Arr**	**24.68**	**162**	P	**P**	**00 21 46.8**	**-1.7**
WRA	**Warramunga Arr**	**24.68**	**162**	P	**P**	**00 21 46.8**	**-1.7**
	14nm,0.8s,baz=345,slow=11,SNR=30						
PSI	**Prapat**	**27.69**	**269**	P	**P**	**00 22 15.9**	**0.0**
PSI	**Prapat**	**27.69**	**269**	P	**P**	**00 22 15.9**	**0.0**
	1.5nm,0.4s,baz=89,slow=5.0,SNR=2.3						
AS31	**Alice Springs**	**28.11**	**166**	*eP*	**P**	**00 22 21.7**	**+2.4**
ASAR	**Alice Springs**	**28.11**	**166**	P	**P**	**00 22 18.4**	**-0.9**
ASAR	**Alice Springs**	**28.11**	**166**	P	**P**	**00 22 18.4**	**-0.9**
	1.1nm,0.7s,baz=340,slow=8.9,SNR=11						
JNU	**Nakatsue**	**29.54**	**7**	LR	LR	00 33 06.4	
	comp=Z,62nm,20.5s,baz=195,slow=34						
CMAR	**Chiang Mai Arr**	**30.81**	**301**	P	**P**	**00 22 43.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**30.81**	**301**	P	**P**	**00 22 43.8**	**+0.3**
	1.2nm,0.4s,baz=118,slow=7.4,SNR=9.4						
CHTO	**Chiang Mai**	**30.96**	**301**	*eP*	**P**	**00 22 43.0**	**-1.7**
KSAR	**Wonju Array Be**	**33.60**	**2**	P	**P**	**00 23 08.4**	**+0.9**
KSRS	**Korea Array**	**33.61**	**2**	P	**P**	**00 23 08.4**	**+0.8**
	3.2nm,0.8s,baz=186,slow=10.0,SNR=6.9						
MJAR	**Matsushiro Arr**	**34.38**	**17**	LR	LR	00 37 45.7	
	comp=Z,92nm,18.5s,baz=70,slow=37						
BJT	**Baijiatuan**	**37.38**	**347**	*eP*	**P**	**00 23 40.7**	**+0.8**
	50nm,0.6s						
STKA	**Stephens Creek**	**38.13**	**159**	*eP*	**P**	**00 23 45.7**	**-0.7**

0.1nm,0.5s,baz=287,slow=4.0,SNR=2.7
TORD Torodi Ar. Bea 122.85 288 PKP **PKPdf 00 35 24.3 +0.7**
TORD Torodi Ar. Bea 122.85 288 PKP **PKPdf** 00 35 24.3 +0.7
0.2nm,0.3s,baz=64,slow=1.6,SNR=7.1

IDC 13 00:37:23.0±1.2, 3.66N×126.17E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.8/5, MS3.7/1, Ms1 3.7/1, ms1mx2.4/39, Error ellipse: s-maj=102.7km s-min=18.1km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.63 181**		P	P	00 42 16.1	+1.2
	1.4nm,0.5s,baz=6.4,slow=13,SNR=3.9						
WRA	**Warramunga Arr**	**24.79 161**		P	P	00 42 46.2	-0.6
	96nm,0.3s,baz=336,slow=12,SNR=8.4						
ASAR	**Alice Springs**	**28.18 165**		P	P	00 43 18.2	+0.8
	0.3nm,0.3s,baz=344,slow=11,SNR=8.1						
STKA	**Stephens Creek**	**38.26 159**		P	P	00 44 44.1	-1.0
	3.2nm,1.1s,baz=346,slow=14,SNR=2.3						
DZM	**Mont Dzumac**	**46.95 125**		LR	LR	01 03 16.5	
	comp=Z,89nm,19.7s,baz=194,slow=33						
SONM	**Songino Array**	**47.19 342**		P	P	00 45 57.5	-0.1
	0.3nm,0.4s,baz=164,slow=8.5,SNR=4.6						
MKAR	**Makanchi Array**	**57.30 326**		P	P	00 47 12.7	0.0
	0.7nm,0.5s,baz=118,slow=7.9,SNR=16						

IDC 13 00:39:56.0±0.7, 3.97N×126.84E, h0km, mb3.9/10, mb1 4.1/10, mb1mx4.0/20, mbtmp3.9/10, Error ellipse: s-maj=46.2km s-min=14.7km az=70.0
ISCJB 13 00:39:59.3±0.6, 3.9N±0.1×126.7E±0.2, h36km, mb3.9/12, Error ellipse: s-maj=37.0km s-min=10.2km az=159.2
NEIC 13 00:40:00.9±0.5, 3.88N×126.75E, h35km, mb4.3/3, Error ellipse: s-maj=28.2km s-min=7.9km az=70.0

ISC 13 00:40:01.4±0.7, 3.9N±0.1×126.8E±0.2, h36km, n24, σ0§84/27, mb4.0/12, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.89 183**		*e*P	**P**	**00 44 50.0**	**-1.4**
FITZ	**Fitzroy Crossi**	**21.89 183**		P	**P**	**00 44 51.6**	**+0.1**
	1.5nm,0.4s,baz=19,slow=12,SNR=7.1						
WRAB	**Tennant Creek**	**24.82 163**		*e*P	**P**	**00 45 20.4**	**0.0**
	6.3nm,0.5s						
WRA	**Warramunga Arr**	**24.83 163**		P	**P**	**00 45 19.9**	**-0.6**
WRA	**Warramunga Arr**	**24.83 163**		P	**P**	**00 45 19.9**	**-0.6**
	9.9nm,0.8s,baz=343,slow=11,SNR=27						
ASAR	**Alice Springs**	**28.27 166**		P	**P**	**00 45 51.2**	**-0.2**
ASAR	**Alice Springs**	**28.27 166**		P	**P**	**00 45 51.2**	**-0.2**
	0.3nm,0.4s,baz=344,slow=12,SNR=3.8						
CMAR	**Chiang Mai Arr**	**30.83 300**		P	**P**	**00 46 14.2**	**0.0**
CMAR	**Chiang Mai Arr**	**30.83 300**		P	**P**	**00 46 14.2**	**0.0**
	0.5nm,0.4s,baz=125,slow=7.8,SNR=3.2						
STKA	**Stephens Creek**	**38.27 159**		*e*P	**P**	**00 47 18.8**	**+0.4**
	1.1nm,0.7s						
STKA	**Stephens Creek**	**38.27 159**		P	**P**	**00 47 19.4**	**+1.1**
	5.9nm,0.6s,baz=336,slow=8.9,SNR=12						
SONM	**Songino Array**	**47.15 341**		P	**P**	**00 48 31.0**	**+0.7**
SONM				PcP	**PcP**	**00 50 02.9**	**+1.2**
SONM	**Songino Array**	**47.15 341**		P	**P**	**00 48 31.0**	**+0.7**
	0.2nm,0.5s,baz=153,slow=9.5,SNR=3.3						
SONM				PcP	**PcP**	**00 50 02.9**	**+1.2**
	0.7nm,0.7s,baz=149,slow=1.9,SNR=5.4						
MK31	**Makanchi Array**	**57.45 325**		*e*P	**P**	**00 49 46.5**	**-0.2**
MKAR	**Makanchi Array**	**57.45 325**		P	**P**	**00 49 46.5**	**-0.2**
MKAR				PcP	**PcP**	**00 50 41.0**	**+0.9**
MKAR	**Makanchi Array**	**57.45 325**		P	**P**	**00 49 46.5**	**-0.2**
	0.9nm,0.5s,baz=119,slow=7.5,SNR=12						
MKAR				PcP	**PcP**	**00 50 41.0**	**+0.9**
	0.5nm,0.7s,baz=134,slow=3.5,SNR=3.7						
ZALV	**Zalesovo Beam**	**60.46 333**		P	**P**	**00 50 05.7**	**-1.7**
ZALV	**Zalesovo Beam**	**60.46 333**		P	**P**	**00 50 05.7**	**-1.7**
	0.5nm,0.6s,baz=140,slow=5.4,SNR=2.2						
KURK	**Kurchatov**	**61.63 327**		*e*P	**P**	**00 50 15.0**	**-0.4**
	1.4nm,0.5s						
ILAR	**Eielsen Array**	**84.93 25**		P	**P**	**00 52 31.9**	**-0.6**
ILAR	**Eielsen Array**	**84.93 25**		P	**P**	**00 52 31.9**	**-0.6**
	0.3nm,0.8s,baz=258,slow=5.3,SNR=3.8						
ARCES	**ARCESS Array B**	**90.31 340**		P	**P**	**00 52 57.8**	**-0.5**
ARCES	**ARCESS Array B**	**90.31 340**		P	**P**	**00 52 57.8**	**-0.5**
	1.2nm,0.7s,baz=90,slow=5.4,SNR=4.7						
SYO	**Syowa Base**	**92.60 201**⇑		*e*P	P	00 53 02.0	-6.8

IDC 13 00:43:50.5±0.5, 3.97N×126.56E, h0km, mb4.6/25, mb1 4.6/25, mb1mx4.6/27, mbtmp4.6/25, MS3.9/13, Ms1 3.9/13, ms1mx3.6/37, Error ellipse: s-maj=25.4km s-min=11.5km az=81.0
MOS 13 00:43:53.8±0.8, 4.00N×126.62E, h33km, mb5.2/22, Error ellipse: s-maj=16.2km s-min=6.4km az=112.6
NEIC 13 00:43:55.7±0.2, 3.97N×126.60E, h35km, mb4.9/23, Error ellipse: s-maj=9.6km s-min=4.5km az=75.0
BJI 13 00:43:57.8, 3.65N×126.66E, h93km, mB5.1/25, mb4.8/43
DJA 13 00:43:59, 3.83N×127.00E, h148km, mb4.5/10
ISCJB 13 00:43:59.2±0.6, 3.95N±0.03×126.63E±0.06, h83km±4km, mb4.7/72, Error ellipse: s-maj=10.0km s-min=5.3km az=166.8

ISC 13 00:44:01.6±0.5, 3.98N±0.04×126.65E±0.07, h90km±2km, n203, σ1§41/251, mb4.7/71, 10C-9D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.69 321**⇑		*e*P	**Pn**	**00 44 41.2**	**-2.0**
MATI	**Mati**	**2.97 352**		*e*P	**Pn**	**00 44 45.9**	**-1.0**
MATI				eS	**Sn**	**00 45 21.9**	**+0.3**
MNI	**Manado**	**3.10 216**		P	Pn	00 45 00.6	+12
DAV	**Davao City (W)**	**3.25 341**		*e*Pn	**Pn**	**00 44 49.5**	**-1.1**
DAV				eSn	**Sn**	**00 45 30.8**	**+2.5**
DAV	**Davao City (W)**	**3.25 341**		P	Pn	00 44 57.6	+7.0
DAV	**Davao City (W)**	**3.25 341**		Pn	**Pn**	**00 44 49.7**	**-0.8**
	86nm,0.3s,baz=181,slow=0.8,SNR=4.4						
DAV				Sn	Sn	00 45 35.0	+6.7
	52nm,0.3s,baz=252,slow=20,SNR=3.0						
TNTI	**Ternate**	**3.27 167**		P	Pn	00 45 00.7	+10
KCP	**Kidapawan**	**3.38 333**⇓		*e*P	**Pn**	**00 44 52.2**	**-0.3**
KCP				*i* S	Sn	00 45 38.5	+6.8
CTBH	**Cotabato--PC H**	**4.01 323**⇓		*i*P	**Pn**	**00 44 59.1**	**-1.8**
BUKP	**Musuan**	**4.18 338**		*e*P	**Pn**	**00 45 02.2**	**-1.0**
KMSI	**Cibinong**	**4.31 218**		P	Pn	00 45 18.6	+14
LBMI	**Labuha**	**4.67 170**		P	Pn	00 45 20.3	+10
CGP	**Cagayan de Oro**	**4.85 336**⇓		*e*P	**Pn**	**00 45 13.1**	**+0.8**
CGP				eS	Sn	00 46 15.4	+8.2
PAGZ	**Pagadian**	**5.03 320**		*e*P	**Pn**	**00 45 13.3**	**-1.4**
MYLDM	**Lahad Datu**	**8.21 279**		P	Pn	00 46 02.2	+4.1
	64nm,1.1s,0.3nm						
KDI	**Kendari**	**8.86 207**		P	**Pn**	**00 46 06.9**	**0.0**
KKM	**Kota Kinabalu**	**10.60 282**		*e*Pn	**Pn**	**00 46 32.0**	**+1.2**
KKM	**Kota Kinabalu**	**10.60 282**		P	**Pn**	**00 46 33.6**	**+2.9**
	18nm,2.0s,675nm						
KAPI	**Kappang**	**11.29 218**		LR	LR	00 51 43.5	
	comp=Z,829nm,18.4s,baz=52,slow=42						
KSM	**Kuching**	**16.51 262**		*e*Pn	**P**	**00 47 50.2**	**+1.3**
	16nm,0.9s						
KSM	**Kuching**	**16.51 262**		P	**P**	**00 47 50.7**	**+1.7**
	21nm,0.8s						
YULB	**Yu-li**	**19.98 345**		*e*P	**P**	**00 48 24.0**	**-2.9**
TPUB	**Ta-pu**	**20.07 344**		*e*P	**P**	**00 48 26.7**	**-1.2**
	58nm,0.8s						
GUMO	**Guam**	**20.36 61**		LR	LR	00 56 08.7	
	comp=Z,231nm,18.3s,baz=68,slow=36						
SSLB	**Suanglung**	**20.44 345**		*e*P	**P**	**00 48 30.3**	**-1.7**
	393nm,2.6s						
YHNB	**Yeheng**	**21.19 347**		*e*P	**P**	**00 48 39.2**	**-0.8**
	26nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.97 183**		*e*P	**P**	**00 48 47.1**	**-1.1**
	11nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.97 183**		*e*P	**P**	**00 48 46.4**	**-1.9**
	6.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.97 183**		P	**P**	**00 48 46.3**	**-1.9**
	5.0nm,0.6s,baz=18,slow=6.9,SNR=8.5						
QIZ	**Qiongzhong**	**22.21 314**		P	**P**	**00 48 51.7**	**+0.8**
QIZ				sP	**sP**	**00 49 17.8**	**-2.3**
QIZ				S	**S**	**00 52 52.6**	**+2.7**
QIZ				pmax	pmax		
	comp=Z,14nm,1.2s						
QIZ				LR	LR		
	comp=Z,330nm,25.1s						
QZH	**Quanzhou**	**22.24 340**⇑		*i*P	**P**	**00 48 49.2**	**-1.9**
QZH				S	S	00 52 42.6	-7.5
QZH				LR	LR		
	comp=Z,1μm,17.2s						

WRAB	**Tennant Creek**	**24.94 163**		*e*P	**P**	**00 49 15.5**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,15nm,0.7s						
WRAB	**Tennant Creek**	**24.94 163**		*e*P	**P**	**00 49 15.5**	**-1.2**
	comp=Z,16nm,0.7s						
WRA	**Warramunga Arr**	**24.95 163**		P	**P**	**00 49 15.0**	**-1.8**
WRA	**Warramunga Arr**	**24.95 163**		P	**P**	**00 49 15.0**	**-1.8**
	comp=Z,13nm,0.6s,baz=337,slow=11,SNR=31						
MBWA	**Marble Bar**	**25.89 195**		*e*P	**P**	**00 49 23.3**	**-1.9**
CBIJ	**Chichi jima**	**27.36 31**		LR	LR	00 59 42.4	
	comp=Z,232nm,18.9s,baz=118,slow=35						
AS31	**Alice Springs**	**28.38 166**		*e*P	**P**	**00 49 50.1**	**+2.6**
ASAR	**Alice Springs**	**28.38 166**		P	**P**	**00 49 47.2**	**-0.3**
ASAR	**Alice Springs**	**28.38 166**		P	**P**	**00 49 47.2**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=343,slow=7.3,SNR=13						
NJ2	**Nanjing**	**28.87 346**		*e*P	P	00 49 57.5	+5.8
NJ2				pmax	pmax		
	comp=Z,30nm,1.2s						
JNU	**Nakatsue**	**29.26 7**		P	**P**	**00 49 55.6**	**+0.4**
JNU	**Nakatsue**	**29.26 7**		P	**P**	**00 49 55.6**	**+0.4**
	comp=Z,7.1nm,0.8s,baz=204,slow=11,SNR=5.0						
GYA	**Guiyang**	**29.42 321**		P	**P**	**00 49 57.0**	**+0.1**
GYA				pP	**pP**	**00 50 18.2**	**+0.7**
GYA				sP	**sP**	**00 50 28.0**	**-0.1**
GYA				PP	**PnPn**	**00 50 57.6**	**+2.4**
GYA				PcP	**PcP**	**00 53 02.4**	**+1.5**
GYA				S	**S**	**00 54 45.8**	**+1.1**
GYA				sS	**sS**	**00 55 20.8**	**+0.5**
GYA				ScP	**ScP**	**00 56 35.0**	**+0.2**
GYA				ScS	**ScS**	**01 00 27.5**	**-2.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
CMAR	**Chiang Mai Arr**	**30.68 300**		P	**P**	**00 50 08.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**30.68 300**		P	**P**	**00 50 08.0**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=107,slow=6.7,SNR=11						
ENH	**Enshi**	**30.77 330**		*e*P	**P**	**00 50 07.6**	**-1.1**
	comp=Z,18nm,0.7s						
CHTO	**Chiang Mai**	**30.83 301**		*e*P	**P**	**00 50 09.3**	**0.0**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CHTO	**Chiang Mai**	**30.83 301**		*e*P	**P**	**00 50 09.3**	**0.0**
	comp=Z,8.4nm,0.8s						
CHTO	**Chiang Mai**	**30.83 301**		P	**P**	**00 50 09.4**	**+0.1**
	comp=Z,13nm,1.1s						
KMI	**Kunming**	**31.15 315**		P	**P**	**00 50 14.6**	**+2.3**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MEEK	**Meekatharra**	**31.42 194**		*e*P	**P**	**00 50 13.7**	**-0.7**
	comp=Z,91nm,0.8s						
KSAR	**Wonju Array Be**	**33.32 2**		P	**P**	**00 50 31.2**	**+0.3**
KSRS	**Korea Array**	**33.33 2**		P	**P**	**00 50 31.2**	**+0.2**
	comp=Z,3.2nm,0.6s,baz=179,slow=9.4,SNR=9.2						
MJAR	**Matsushiro Arr**	**34.10 17**		LR	LR	01 02 35.8	
	comp=Z,110nm,19.9s,baz=195,slow=33						
XAN	**Xi'an**	**34.16 333**		P	**P**	**00 50 36.9**	**-1.4**
XAN				pP	**pP**	**00 50 58.1**	**-1.0**
XAN				sP	**sP**	**00 51 09.8**	**+0.2**
XAN				PP	**PnPn**	**00 51 52.5**	**-2.7**
XAN				S	**S**	**00 55 53.3**	**-4.8**
XAN				sS	**sS**	**00 56 32.0**	**-2.1**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,30nm,4.8s						
XAN				LR	LR		
	comp=N,170nm,16.7s						
XAN				LR	LR		
	comp=E,76nm,19.3s						
XAN				LR	LR		
	comp=Z,82nm,18.9s						
CD2	**Chengdu**	**34.40 324**	⇑	P	**P**	**00 50 39.6**	**-0.8**
CD2				pP	**pP**	**00 51 00.3**	**-0.9**
CD2				sP	**sP**	**00 51 11.0**	**-0.7**
CD2				PcP	**PcP**	**00 53 12.9**	**-1.4**
CD2				S	**S**	**00 56 00.9**	**-1.0**
CD2				sS	**sS**	**00 56 36.8**	**-1.1**
CD2				PcS	**PcS**	**00 56 58.4**	**-2.5**
CD2				SS	**SnSn**	**00 58 17.6**	**-3.8**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,160nm,5.8s						
HNR	**Honiara**	**35.76 112**		LR	LR	01 03 57.1	
	comp=Z,131nm,19.9s,baz=278,slow=34						
BJT	**Baijiatuau**	**37.11 347**		*e*P	**P**	**00 51 03.0**	**-0.3**
	comp=Z,20nm,0.4s						
BJI	**Beijing**	**37.12 347**		P	**P**	**00 51 04.2**	**+0.7**
BJI				pmax	pmax		
	comp=Z,21nm,0.5s						
EIDS	**Eidsvold**	**37.60 142**		*e*P	**P**	**00 51 06.9**	**-0.8**
	comp=Z,30nm,0.7s						
NWAO	**Narrogin (SRO)**	**37.78 193**		P	**P**	**00 51 08.8**	**-0.3**
NWAO	**Narrogin (SRO)**	**37.78 193**		P	**P**	**00 51 08.8**	**-0.3**
	comp=Z,9.7nm,0.9s,baz=58,slow=8.3,SNR=5.7						
LZH	**Lanzhou**	**38.25 330**		*e*P	**P**	**00 51 13.8**	**+0.5**
LZH				pP	**pP**	**00 51 32.3**	**-2.1**
LZH				sP	**sP**	**00 51 42.1**	**-2.7**
LZH				PP	**PnPn**	**00 52 47.4**	**+2.3**
LZH				PcP	**PcP**	**00 53 24.8**	**-1.1**
LZH				eS	**S**	**00 57 01.4**	**+0.7**
LZH				SS	**SS**	**00 59 47.0**	**-5.7**
LZH				pmax	pmax		
	comp=Z,34nm,1.0s						
LZH				pmax	pmax		
	comp=Z,140nm,5.7s						
STKA	**Stephens Creek**	**38.39 159**		*e*P	**P**	**00 51 14.3**	**0.0**
	comp=Z,2.9nm,0.6s						
STKA	**Stephens Creek**	**38.39 159**		*e*P	**P**	**00 51 14.2**	**-0.1**
	comp=Z,5.6nm,0.5s						
STKA	**Stephens Creek**	**38.39 159**		P	**P**	**00 51 14.2**	**-0.1**
	comp=Z,14nm,0.6s,baz=326,slow=8.3,SNR=16						
HHC	**Hu-ho-hao-te**	**39.14 342**		*e*P	**P**	**00 51 21.2**	**+0.7**
HHC				pP	**pP**	**00 51 43.1**	**+1.4**
HHC				sP	**sP**	**00 51 54.5**	**+2.4**
HHC				PP	**PnPn**	**00 52 56.2**	**+0.7**
HHC				PcP	**PcP**	**00 53 29.8**	**+1.3**
HHC				ScP	**ScP**	**00 57 05.6**	**-3.4**
HHC				S	**S**	**00 57 14.0**	**+0.2**
HHC				sS	**sS**	**00 57 53.5**	**+3.2**
HHC				ScS	**ScS**	**01 01 17.3**	**-3.4**
HHC				pmax	pmax		
	comp=Z,14nm,1.2s						
HHC				pmax	pmax		
	comp=Z,99nm,8.4s						
HHC				LR	LR		
	comp=N,210nm,21.6s						
HHC				LR	LR		
	comp=E,270nm,20.4s						
HHC				LR	LR		
	comp=Z,180nm,21.6s						
CN2	**Changchun**	**39.67 359**		*e*P	**P**	**00 51 27.2**	**+2.4**
CN2				PcP	**PcP**	**00 53 33.7**	**+3.8**
CN2				eS	**S**	**00 57 25.7**	**+4.2**
CN2				SS	**SS**	**01 00 19.1**	**-1.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,1μm,10.0s						
CN2				LR	LR		
	comp=E,500nm,10.0s						
CN2				LR	LR		
	comp=Z,200nm,10.0s						
USRK	**Ussuriysk Arra**	**40.33 6**		P	**P**	**00 51 30.2**	**0.0**
	comp=Z,3.0nm,0.7s,baz=180,slow=6.8,SNR=6.0						
MDJ	**Mudanjiang**	**40.55 3**		P	**P**	**00 51 32.6**	**+0.5**
MDJ				pP	**pP**	**00 51 51.9**	**-1.4**
MDJ				sP	**sP**	**00 52 00.9**	**-2.8**
MDJ				ScP	**ScP**	**00 57 15.2**	**+1.0**
MDJ				PcS	**PcS**	**00 57 24.0**	**+0.6**
MDJ				S	**S**	**00 57 36.4**	**+1.8**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,210nm,3.7s						
LSA	**Lhasa**	**42.22 311**		P	**P**	**00 51 47.3**	**+0.8**
LSA				pmax	pmax		
	comp=Z,20nm,0.8s						
LSA	**Lhasa**	**42.22 311**		*e*P	**P**	**00 51 47.0**	**+0.5**
LSA				pmax	pmax		
	comp=Z,21nm,0.6s						
LSA	**Lhasa**	**42.22 311**		*e*P	**P**	**00 51 47.0**	**+0.5**

	comp=Z,21nm,0.6s						
GTA	**Gaotai**	**42.84 329**		*e*P	**P**	**00 51 50.7**	**-0.3**
GTA				pP	**pP**	**00 52 09.1**	**-3.4**
GTA				sP	**sP**	**00 52 18.9**	**-3.9**
GTA				S	**S**	**00 58 09.2**	**+0.3**
GTA				SS	SS	01 01 14.5	-9.0
GTA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,150nm,5.2s						
GTA				LR	LR		
	comp=N,240nm,15.7s						
GTA				LR	LR		
	comp=E,230nm,15.4s						
GTA				LR	LR		
	comp=Z,300nm,18.3s						
TAPN	**Taplejung**	**43.81 306**		*e*P	**P**	**00 51 58.5**	**-0.7**
	comp=Z,27nm,0.7s						
ODAN	**Odare**	**43.86 305**		*e*P	**P**	**00 51 58.8**	**-0.8**
	comp=Z,26nm,0.6s						
RAMN	**Ramite**	**44.54 305**		*e*P	**P**	**00 52 04.6**	**-0.4**
	comp=Z,20nm,0.6s						
HABR	**Khabarovsk**	**44.91 8**		*e*P	**P**	**00 52 05.3**	**-1.9**
HABR				*e**SP	sP	00 52 18.9	-20
HABR				*e*		00 53 46.1	
HABR				*e*		00 53 50.1	
HABR				*e*PPP	PPP	00 54 28.4	
HABR				*e**SS	*SS	00 58 56.1	
HABR				*e*		01 01 59.6	
HABR				*e*SSS	SSS	01 02 48.9	
HABR				pmax	pmax		
	comp=Z,84nm,2.3s						
HABR				pmax	pmax		
	comp=E,94nm,2.3s						
HABR				pmax	pmax		
	comp=N,83nm,3.5s						
JIRN	**Jiri**	**45.16 306**		*e*P	**P**	**00 52 09.4**	**-0.7**
	comp=N,4.1nm,0.5s						
GUN	**Gumba**	**45.52 306**		*e*P	**P**	**00 52 12.1**	**-0.7**
	comp=N,16nm,0.4s						
PKI	**Pulchoki**	**45.76 305**		*e*P	**P**	**00 52 13.7**	**-1.1**
KKN	**Kakani**	**45.95 305**		*e*P	**P**	**00 52 15.2**	**-0.9**
DMN	**Daman**	**46.02 305**		*e*P	**P**	**00 52 16.3**	**-0.4**
	comp=N,7.4nm,0.4s						
GKN	**Gorkha**	**46.56 305**		*e*P	**P**	**00 52 19.6**	**-1.2**
	comp=N,5.0nm,0.3s						
ULN	**Ulaanbaatar**	**46.86 342**		*e*P	**P**	**00 52 22.7**	**-0.1**
	comp=N,135nm,3.0s						
ULN				*e*PcP	**PcP**	**00 53 55.4**	**+1.0**
ULN	**Ulaanbaatar**	**46.86 342**		P	**P**	**00 52 23.1**	**+0.3**
SONM	**Songino Array**	**47.04 341**		P	**P**	**00 52 24.5**	**+0.3**
SONM				PcP	**PcP**	**00 53 56.7**	**+1.7**
SONM	**Songino Array**	**47.04 341**		P	**P**	**00 52 24.5**	**+0.3**
	comp=N,1.9nm,0.5s,baz=153,slow=9.5,SNR=22						
SONM				PcP	**PcP**	**00 53 56.7**	**+1.7**
	comp=N,1.7nm,0.6s,baz=163,slow=3.7,SNR=4.7						
SONM				LR	LR	01 13 09.3	
	comp=N,84nm,19.9s,baz=143,slow=37						
KOLN	**Koldanda**	**47.32 305**		*e*P	**P**	**00 52 26.2**	**-0.6**
	comp=N,31nm,0.6s						
DANN	**Dangsing**	**47.41 305**		*e*P	**P**	**00 52 26.8**	**-0.8**
	comp=N,28nm,0.5s						
ZAK	**Zakamensk**	**50.26 341**		*e*P	**P**	**00 52 48.5**	**-0.3**
ZAK				*e*		00 54 08.0	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s						
TLY	**Talaya**	**51.27 342**		*e*P	**P**	**00 52 56.0**	**-0.2**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,83nm,20.0s						
TLY	**Talaya**	**51.27 342**		*e*P	**P**	**00 52 56.7**	**+0.5**
	comp=Z,5.0nm,0.7s						
MOY	**Mondy**	**52.12 340**		*e*P	**P**	**00 53 04.0**	**+1.3**
WMQ	**Urumqi**	**52.48 325**		*e*P	**P**	**00 53 05.7**	**+0.3**
WMQ				PcP	**PcP**	**00 54 16.0**	**+1.1**
WMQ				*e*S	**S**	**01 00 25.0**	**-0.1**
WMQ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,180nm,5.0s						
WMQ				LR	LR		
	comp=N,300nm,25.0s						
WMQ				LR	LR		
	comp=E,280nm,23.8s						
WMQ				LR	LR		
	comp=Z,280nm,21.8s						
BOD	**Bodaibo**	**54.60 352**		*e*P	**P**	**00 53 20.5**	**-0.1**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.2s						
PETK	**Petropavlovsk-**	**55.23 22**		P	**P**	**00 53 25.7**	**+0.5**
PETK	**Petropavlovsk-**	**55.23 22**		P	**P**	**00 53 25.6**	**+0.5**
PETK	**Petropavlovsk-**	**55.23 22**		P	**P**	**00 53 25.6**	**+0.5**
	comp=Z,4.9nm,0.5s,baz=191,slow=4.4,SNR=23						
MK31	**Makanchi Array**	**57.30 325**		*e*P	**P**	**00 53 39.7**	**-0.4**
MK31	**Makanchi Array**	**57.30 325**		*e*P	**P**	**00 53 39.7**	**-0.4**
MKAR	**Makanchi Array**	**57.30 325**		*e*P	**P**	**00 53 39.9**	**-0.2**
MKAR						00 54 34.4	
MKAR	**Makanchi Array**	**57.30 325**		*e*P	**P**	**00 53 39.9**	**-0.2**
MKAR				PcP	**PcP**	**00 54 34.4**	**+1.0**
MKAR	**Makanchi Array**	**57.30 325**		P	**P**	**00 53 39.9**	**-0.2**
	comp=Z,6.0nm,0.5s,baz=120,slow=7.5,SNR=92						
MKAR				PcP	**PcP**	**00 54 34.4**	**+1.0**
	comp=Z,2.8nm,0.6s,baz=105,slow=4.9,SNR=3.9						
MKAR				LR	LR	01 20 18.5	
	comp=Z,153nm,19.2s,baz=233,slow=38						
KSH	**Kashi**	**57.81 315**		P	**P**	**00 53 44.7**	**+0.7**
KSH				pP	**pP**	**00 54 09.3**	**+2.8**
KSH				sP	**sP**	**00 54 19.5**	**+3.0**
KSH				PcP	**PcP**	**00 54 36.1**	**+0.4**
KSH				PP	**PP**	**00 55 55.9**	**+2.8**
KSH				ScP	**ScP**	**00 58 24.9**	**-2.8**
KSH				PcS	**PcS**	**00 58 36.1**	**-1.0**
KSH				S	**S**	**01 01 36.1**	**-0.5**
KSH				sS	**sS**	**01 02 16.6**	**+1.5**
KSH				ScS	**ScS**	**01 03 20.8**	**-4.5**
KSH				SS	**SS**	**

SVE	**Sverdlovsk**	**73.71**	**328**	*eP*	**P**		**00 55 26.3**	**+0.7**
ARU	**Arti**	**74.68**	**328**	*eP*	**P**		**00 55 31.4**	**+0.1**
ARU				pmax	pmax			
	comp=Z,10.0nm,0.5s							
ARU	**Arti**	**74.68**	**328**	*eP*	**P**		**00 55 31.4**	**+0.1**
	comp=Z,9.8nm,0.5s							
QRN	**Al-Qurain**	**78.22**	**298**	*eP*	**P**		**00 55 51.5**	**-0.3**
QRN				AMb	AMB		00 55 55.8	
	comp=Z,55nm,1.8s							
MIB	**Mutribah**	**78.76**	**299**	*eP*	**P**		**00 55 54.6**	**-0.2**
MIB				AMb	AMB		00 55 55.7	
	comp=Z,14nm,0.9s							
NAY	**Al-Naaiem**	**78.83**	**299**	*eP*	**P**		**00 55 54.3**	**-0.9**
NAY				AMb	AMB		00 55 55.9	
	comp=Z,8.6nm,1.1s							
GNI	**Garni**	**81.26**	**310**	LR	LR		01 36 20.8	
	comp=Z,44nm,18.1s,baz=177,slow=39							
KDAK	**Kodiak Island**	**81.72**	**32**	P	**P**		**00 56 11.3**	**+1.3**
KDAK	**Kodiak Island**	**81.72**	**32**	P	**P**		**00 56 11.3**	**+1.3**
	comp=Z,5.9nm,0.8s,baz=277,slow=8.1,SNR=4.8							
ZEI	**Tsey**	**81.99**	**312**	*eP*	**P**		**00 56 12.3**	**+0.1**
ZEI				pmax	pmax			
	comp=Z,5.0nm,0.9s							
SLKM	**Skilak Lake**	**83.16**	**30**	*eP*	**P**		**00 56 17.7**	**+0.1**
SLKM	**Skilak Lake**	**83.16**	**30**	*eP*	**P**		**00 56 17.7**	**+0.1**
COLD	**Coldfoot**	**83.69**	**23**	*eP*	**P**		**00 56 22.3**	**+2.1**
	comp=Z,16nm,1.2s							
VRHR	**Novokhopersk**	**83.80**	**321**	*eP*	**P**		**00 56 20.9**	**-0.1**
VRHR				pmax	pmax			
	comp=N,4.0nm,0.6s							
VRHR				pmax	pmax			
	comp=E,5.0nm,0.6s							
VRHR				pmax	pmax			
	comp=Z,7.0nm,0.6s							
MCK	**McKinley**	**83.97**	**26**	*eP*	**P**		**00 56 21.5**	**-0.2**
MCK				pmax	pmax			
	comp=Z,5.0nm,0.7s							
MCK	**McKinley**	**83.97**	**26**	*eP*	**P**		**00 56 21.5**	**-0.2**
	comp=Z,5.1nm,0.7s							
ILAR	**Eielson Array**	**84.91**	**25**	P	**P**		**00 56 27.0**	**+0.6**
ILAR	**Eielson Array**	**84.91**	**25**	P	**P**		**00 56 27.0**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=246,slow=6.1,SNR=17							
KLMR	**Klimovskoe**	**85.15**	**331**	*eP*	**P**		**00 56 26.4**	**-1.2**
KLMR				pmax	pmax			
	comp=Z,71nm,1.5s							
VORD	**Divnogorie**	**85.27**	**321**	*eP*	**P**		**00 56 28.7**	**+0.3**
VSR	**Storozhevoye**	**85.34**	**321**	*eP*	**P**		**00 56 29.0**	**+0.2**
VSR				pmax	pmax			
	comp=N,9.0nm,0.9s							
VSR				pmax	pmax			
	comp=E,2.0nm,0.9s							
VSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
MOS	**Moscow**	**86.19**	**325**	*eP*	**P**		**00 56 32.3**	**-0.5**
MOS				pmax	pmax			
	comp=Z,30nm,0.9s							
OBN	**Obninsk**	**86.81**	**325**	*iP*	**P**		**00 56 36.3**	**+0.4**
OBN				pmax	pmax			
	comp=Z,55nm,1.6s							
OBN				MLR	MLR			
	comp=Z,100nm,16.0s							
OBN	**Obninsk**	**86.81**	**325**	*eP*	**P**		**00 56 36.5**	**+0.6**
	comp=Z,64nm,1.5s							
JOF	**Joensuu**	**88.92**	**333**	*eP*	**P**		**00 56 46.6**	**+0.8**
JOF				pmax	pmax			
	comp=Z,8.0nm,0.6s							
JOF	**Joensuu**	**88.92**	**333**	*ep*	**P**		**00 56 46.6**	**+0.8**
	comp=Z,7.8nm,0.6s							
KEV	**Kevo**	**89.63**	**340**	*eP*	P		00 56 55.2	+6.2
KEV				pmax	pmax			
	comp=Z,4.0nm,0.7s							
KEV	**Kevo**	**89.63**	**340**	*ep*	P		00 56 55.2	+6.2
	comp=Z,3.8nm,0.7s							
BR131	**Keskin Array S**	**89.80**	**310**	*eP*	**P**		**00 56 50.6**	**-0.1**
	comp=Z,0.8nm,0.6s							
BRTR	**Keskin Array B**	**89.80**	**310**	P	**P**		**00 56 50.8**	**+0.1**
BRTR	**Keskin Array B**	**89.80**	**310**	P	**P**		**00 56 50.8**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=104,slow=6.1,SNR=12							
INK	**Inuvik**	**89.96**	**21**	P	**P**		**00 56 51.1**	**+0.6**
INK	**Inuvik**	**89.96**	**21**	P	**P**		**00 56 51.1**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=270,slow=10,SNR=4.8							
ARCES	**ARCESS Array B**	**90.19**	**340**	P	**P**		**00 56 51.6**	**0.0**
ARCES	**ARCESS Array B**	**90.19**	**340**	P	**P**		**00 56 51.6**	**0.0**
	comp=Z,3.3nm,0.6s,baz=89,slow=7.0,SNR=26							
ARCES				LR	LR		01 40 02.4	
	comp=Z,95nm,18.9s,baz=178,slow=37							
SPITS	**Spitsbergen Ar**	**90.22**	**349**	P	**P**		**00 56 52.0**	**+0.3**
SPITS	**Spitsbergen Ar**	**90.22**	**349**	P	**P**		**00 56 52.0**	**+0.3**
	comp=Z,7.6nm,0.9s,baz=79,slow=10,SNR=4.7							
KAF	**Kangasniemi**	**91.34**	**332**	*eP*	**P**		**00 56 57.3**	**+0.2**
KAF				pmax	pmax			
	comp=Z,4.0nm,0.6s							
KAF	**Kangasniemi**	**91.34**	**332**	*ep*	**P**		**00 56 57.3**	**+0.2**
	comp=Z,3.9nm,0.6s							
FINES	**FINESS Array B**	**91.58**	**332**	P	**P**		**00 56 58.7**	**+0.5**
FINES	**FINESS Array B**	**91.58**	**332**	P	**P**		**00 56 58.7**	**+0.5**
	comp=Z,3.1nm,0.6s,baz=72,slow=6.0,SNR=9.0							
AKASG	**Malin Array Be**	**91.65**	**321**	*ceP*	**P**		**00 56 59.0**	**+0.2**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**91.65**	**321**	P	**P**		**00 56 58.2**	**-0.5**
AKASG	**Malin Array Be**	**91.65**	**321**	P	**P**		**00 56 58.2**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=70,slow=4.6,SNR=8.8							
AKASG				LR	LR		01 43 38.3	
	comp=Z,56nm,18.1s,baz=55,slow=39							
QSPA	**South Pole Qui**	**93.89**	**180**	P	**P**		**00 57 10.1**	**+1.2**
QSPA	**South Pole Qui**	**93.89**	**180**	P	**P**		**00 57 10.0**	**+1.2**
	comp=Z,3.3nm,0.9s,baz=12,slow=3.1,SNR=5.9							
TESR		**94.00**	**317**	*iP*	**P**		**00 57 10.2**	**+0.4**
VRI	**Vrincioaia**	**94.06**	**316**	*iP*	**P**		**00 57 10.8**	**+0.7**
VRI	**Vrincioaia**	**94.06**	**316**	*iP*	**P**		**00 57 10.8**	**+0.7**
MLR	**Muntele Rosu**	**94.67**	**316**	*iP*	**P**		**00 57 11.6**	**-1.4**
SUW	**Suwalki**	**94.67**	**325**	*eP*	**P**		**00 57 12.8**	**+0.2**
SUW	**Suwalki**	**94.67**	**325**	*eP*	**P**		**00 57 12.8**	**+0.2**
SUW	**Suwalki**	**94.67**	**325**	*eP*	**P**		**00 57 12.8**	**+0.2**
SUW	**Suwalki**	**94.67**	**325**	*eP*	**P**		**00 57 12.6**	**-0.1**
	comp=Z,14nm,0.8s							
BURAR	**Bucovina Array**	**94.76**	**318**	*iP*	**P**		**00 57 14.4**	**+1.1**
BUR08	**Bucovina Ar. S**	**94.77**	**318**	*eP*	**P**		**00 57 13.4**	**0.0**
KWP	**Kalwaria Pacla**	**95.97**	**321**	*iP*	**P**		**00 57 19.2**	**+0.5**
KWP	**Kalwaria Pacla**	**95.97**	**321**	*iP*	**P**		**00 57 19.2**	**+0.5**
UZH	**Uzhgorod**	**96.46**	**320**	*iP*	**P**		**00 57 21.8**	**+0.9**
UZH				*e*			00 57 33.2	
RES	**Resolute Bay**	**97.58**	**10**	P		Pdif	00 57 26.0	+0.5
RES	**Resolute Bay**	**97.58**	**10**	P		Pdif	00 57 26.0	+0.5
	comp=Z,0.8nm,0.8s,baz=299,slow=6.5,SNR=3.7							
NB2	**NORSAR Subarra**	**98.53**	**334**	P	**P**		**00 57 29.5**	**-0.5**
	baz=67,slow=4.6							
NB2	**NORSAR Subarra**	**98.53**	**334**	P	**P**		**00 57 29.5**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=67,slow=4.6							
NOA	**NORSAR Array B**	**98.53**	**334**	P	**P**		**00 57 29.6**	**-0.5**
NOA	**NORSAR Array B**	**98.53**	**334**	P	**P**		**00 57 29.6**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=67,slow=4.5,SNR=5.4							
NOA				LR	LR		01 46 02.5	
	comp=Z,68nm,18.2s,baz=270,slow=38							
YKA	**Yellowknife Ar**	**99.30**	**24**	P		**Pdif**	**00 57 34.6**	**+1.3**
YKA	**Yellowknife Ar**	**99.30**	**24**	P		**Pdif**	**00 57 34.6**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=298,slow=4.3,SNR=10.0							
BRG	**Berggiesshubel**	**100.99**	**323**	*eP*		**Pdif**	**00 57 42.4**	**+1.2**
	comp=Z,6.2nm,1.1s							
BRG	**Berggiesshubel**	**100.99**	**323**	*eP*		**Pdif**	**00 57 42.4**	**+1.2**
BRG				pmax	pmax			
	comp=Z,6.0nm,1.1s							
GERES	**GERESS Array B**	**101.84**	**322**	P		**Pdif**	**00 57 45.0**	**-0.1**
GERES	**GERESS Array B**	**101.84**	**322**	P		**Pdif**	**00 57 45.0**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=54,slow=6.8,SNR=6.8							
SCHQ	**Schefferville**	**120.33**	**9**	PKP		**PKPdf**	**01 02 43.9**	**+1.5**
SCHQ	**Schefferville**	**120.33**	**9**	PKP		**PKPdf**	**01 02 43.9**	**+1.5**
	comp=Z,1.4nm,0.7s,baz=290,slow=2.2,SNR=5.4							
TXAR	**Lajitas Array**	**121.50**	**52**	PKP		**PKPdf**	**01 02 46.7**	**+1.2**
TXAR	**Lajitas Array**	**121.50**	**52**	PKP		**PKPdf**	**01 02 46.7**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=242,slow=3.6,SNR=3.5							
TORD	**Torodi Ar. Bea**	**122.77**	**288**	PKP		**PKPdf**	**01 02 48.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**122.77**	**288**	PKP		**PKPdf**	**01 02 48.5**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=78,slow=1.5,SNR=7.4							

PRE 13 00:50:42.2±0.6, 25.64S×27.25E, h2km, ML1.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERPM	**east rand prop**	**1.14**	**128**	*eP*	Pg	00 51 03.3	-1.0
ERPM				*eS*	Sg	00 51 17.9	-1.5
ERPM				AML	AML	00 51 25.5	
	comp=Z,6.6nm,0.8s						
PRYS	**Parys**	**1.29**	**175**	*eP*	Pg	00 51 07.2	+0.1
PRYS				*eS*	Sn	00 51 25.2	-0.3
PRYS				AML	AML	00 51 29.0	
	comp=Z,7.5nm,0.2s						
LBTB	**Lobatse**	**1.61**	**292**	*eP*	Pb	00 51 12.7	-0.2
LBTB				*eS*	Sg	00 51 34.3	-0.1
LBTB				AML	AML	00 51 46.5	
	comp=Z,4.9nm,0.6s						

IDC 13 00:51:43.9±2.9, 18.62S×169.08E, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.9/18, mbtmp4.1/6, ML3.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/29, Error ellipse: s-maj=50.9km s-min=40.4km az=45.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.24**	**215**	Pn	Pn	00 52 50.0	+0.2
	2.3nm,0.3s,baz=47,slow=18,SNR=18						
DZM				LR	LR	00 53 33.2	
	comp=Z,136nm,18.2s,baz=143,slow=26						
DZM				Sn	Sn	00 53 39.7	-0.3
	1.4nm,0.3s,baz=131,slow=20,SNR=2.4						
CTA	**Charters Tower**	**21.59**	**262**	LR	LR	01 02 45.4	
	comp=Z,112nm,20.2s,baz=276,slow=31						
STKA	**Stephens Creek**	**28.06**	**237**	P	P	00 57 35.7	-1.4
	2.1nm,0.8s,baz=90,slow=7.1,SNR=3.5						
WRA	**Warramunga Arr**	**32.79**	**262**	P	P	00 58 18.8	-0.3
	0.4nm,0.5s,baz=88,slow=8.3,SNR=3.1						
ASAR	**Alice Springs**	**33.14**	**255**	P	P	00 58 22.6	+0.5
	1.4nm,0.4s,baz=84,slow=8.6,SNR=17						
FITZ	**Fitzroy Crossi**	**41.16**	**264**	P	P	00 59 30.8	+0.4
	3.4nm,0.7s,baz=92,slow=8.2,SNR=6.0						
QSPA	**South Pole Qui**	**71.43**	**180**	P	P	01 03 06.1	+0.1
	1.7nm,0.8s,baz=65,slow=2.6,SNR=4.2						

*ISCJB **13** 00:54:12.3±0.5, 17.75S±0.1×178.9W±0.1, h539km, mb4.4/23, Error ellipse: s-maj=19.2km s-min=8.6km az=147.4*

*IDC **13** 00:54:15.3±2.3, 17.67S×178.96W, h556km±25km, mb3.7/17, mb1 3.9/18, mb1mx3.8/24, mbtmp3.7/18, Error ellipse: s-maj=17.4km s-min=11.0km az=143.0*

ISC 13 00:54:13.4±0.6, 17.7S±0.1×178.9W±0.1, h539km, n39, σ0s86/39, mb4.3/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.78**	**62**	P	**P**	**00 56 06.8**	**-2.0**
	13nm,0.3s,baz=253,slow=11,SNR=15						
DZM	**Mont Dzumac**	**14.49**	**250**	P	**P**	**00 57 17.5**	**-0.4**
	1.4nm,0.3s,baz=69,slow=19,SNR=12						
HNR	**Honiara**	**22.15**	**289**	P	**P**	**00 58 29.1**	**-0.5**
	38nm,0.3s,baz=168,slow=9.1,SNR=6.4						
ARMA	**Armidale**	**29.68**	**239**	*eP*	**P**	**00 59 36.9**	**+1.0**
CTA	**Charters Tower**	**33.06**	**260**	*eP*	**P**	**01 00 04.6**	**-0.1**
	11nm,0.8s						
CTA	**Charters Tower**	**33.06**	**260**	P	**P**	**01 00 05.0**	**+0.3**
	15nm,0.7s,baz=91,slow=11,SNR=19						
PMG	**Port Moresby**	**33.99**	**279**	P	**P**	**01 00 13.6**	**+0.9**
	16nm,0.8s,baz=14,slow=2.5,SNR=5.4						
QLP	**Quilpie**	**35.21**	**249**	*eP*	**P**	**01 00 22.7**	**0.0**
COEN	**Coen**	**36.67**	**270**	*eP*	**P**	**01 00 35.4**	**+0.5**
	38nm,0.6s						
TOO	**Toolangi**	**36.98**	**230**	*eP*	**P**	**01 00 38.0**	**+0.8**
	161nm,0.8s						
STKA	**Stephens Creek**	**38.36**	**241**	*eP*	**P**	**01 00 49.1**	**+0.6**
	16nm,0.5s						
STKA	**Stephens Creek**	**38.36**	**241**	P	**P**	**01 00 49.2**	**+0.7**
	19nm,0.5s,baz=88,slow=9.5,SNR=62						
BBOO	**Buckleboo**	**43.14**	**241**	*eP*	**P**	**01 01 26.7**	**+0.1**
	328nm,0.9s						
WRA	**Warramunga Arr**	**44.25**	**259**	P	**P**	**01 01 34.5**	**-0.9**
	8.5nm,0.7s,baz=92,slow=7.4,SNR=37						
ASAR	**Alice Springs**	**44.44**	**254**	P	**P**	**01 01 36.7**	**-0.1**
	90nm,0.7s,baz=89,slow=8.1,SNR=770						
ASAR				S	**S**	**01 07 30.2**	**-2.5**
	1.6nm,0.9s,baz=92,slow=16,SNR=8.6						
FORT	**Forrest**	**49.72**	**244**	*eP*	**P**	**01 02 15.7**	**-0.7**
	54nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.64**	**260**	*eP*	**P**	**01 02 37.9**	**+0.2**
	5.3nm,0.3s						
FITZ	**Fitzroy Crossi**	**52.64**	**260**	P	**P**	**01 02 38.2**	**+0.4**
	3.5nm,0.3s,baz=83,slow=6.5,SNR=24						
MBWA	**Marble Bar**	**57.71**	**256**	*eP*	**P**	**01 03 12.5**	**-0.6**
KLBR	**Kellerberrin**	**58.54**	**243**	*eP*	**P**	**01 03 17.7**	**-0.9**
	20nm,0.7s						
NWAO	**Narrogin (SRO)**	**58.94**	**242**	P	**P**	**01 03 20.8**	**-0.4**
	6.8nm,0.6s,baz=108,slow=6.4,SNR=5.0						
MJAR	**Matsushiro Arr**	**67.46**	**324**	P	**P**	**01 04 15.5**	**-0.2**
	3.6nm,0.5s,baz=166,slow=6.5,SNR=7.8						
QSPA	**South Pole Qui**	**72.38**	**180**	P	**P**	**01 04 44.7**	**+0.1**
	7.1nm,0.7s,baz=44,slow=1.0,SNR=16						
PETK	**Petpavlovsk-**	**73.34**	**346**	P	**P**	**01 04 49.6**	**-0.5**
	5.2nm,0.7s,baz=134,slow=8.5,SNR=5.6						
USRK	**Ussuriysk Arra**	**76.17**	**326**	P	**P**	**01 05 07.9**	**+1.8**
	1.6nm,0.7s,baz=135,slow=5.2,SNR=3.7						
KDAK	**Kodiak Island**	**78.28**	**14**	P	**P**	**01 05 16.8**	**-0.5**
	3.4nm,0.7s,baz=173,slow=9.1,SNR=4.6						
NVAR	**Mina Array Bea**	**79.56**	**44**	P	**P**	**01 05 25.6**	**+0.8**
	1.8nm,0.7s,baz=226,slow=8.8,SNR=14						
ILAR	**Eielson Array**	**85.76**	**13**	P	**P**	**01 05 54.0**	**-1.2**
	1.2nm,0.4s,baz=225,slow=5.2,SNR=25						
TXAR	**Lajitas Array**	**86.24**	**58**	P	**P**	**01 06 00.1**	**+1.7**
	1.2nm,0.8s,baz=216,slow=6.1,SNR=12						
PDAR	**Pinedale Array**	**87.48**	**44**	P	**P**	**01 06 04.3**	**+0.2**
	1.1nm,0.6s,baz=216,slow=3.6,SNR=9.7						
YKA	**Yellowknife Ar**	**94.30**	**25**	P	**P**	**01 06 34.3**	**-0.4**
	0.4nm,0.7s,baz=245,slow=4.4,SNR=9.6						
FINES	**FINESS Array B**	**132.84**	**344**	SKPbc	**SKPbc**	**01 15 04.9**	**+0.8**
	2.2nm,0.7s,baz=62,slow=4.5,SNR=5.1						
BRTR	**Keskin Array B**	**144.31**	**315**	PKP	PKPbc	01 12 48.0	-0.4
	1.3nm,0.8s,baz=35,slow=2.0,SNR=5.6						
BRG	**Berggiesshubel**	**145.33**	**346**	*eP*	**PKPbc**	**01 12 51.0**	**+0.1**
	3.5nm,0.9s						
MLR	**Muntele Rosu**	**145.41**	**329**	PKPbc	**PKPbc**	**01 12 51.3**	**-0.1**
	0.5nm,0.9s,baz=16,slow=4.3,SNR=5.9						
MMAI	**Mount Meron Ar**	**145.65**	**303**	PKPbc	**PKPbc**	**01 12 53.2**	**+0.7**
	0.9nm,0.5s,baz=95,slow=3.3,SNR=3.8						
GERES	**GERESS Array B**	**147.27**	**345**	PKPbc	**PKPbc**	**01 12 56.6**	**+0.2**
	1.2nm,0.5s,baz=25,slow=2.7,SNR=16						
DAVOX	**Davos/Dischmat**	**150.09**	**348**	PKPbc	**PKPbc**	**01 13 03.7**	**+0.1**
	2.5nm,0.4s,baz=246,slow=5.3,SNR=7.7						
TORD	**Torodi Ar. Bea**	**175.47**	**187**	PKPab	**PKPab**	**01 15 03.3**	**+0.2**
	0.3nm,0.7s,baz=181,slow=4.0,SNR=2.6						

PRE 13 00:57:35.5±1.4, 27.91S×26.65E, h2km, ML1.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SEK	**Senekal**	**0.95**	**116**	*eP*	Pg	00 57 54.4	+0.3
SEK				*eS*	Sg	00 58 06.3	-0.2
SEK				AML	AML	00 58 09.4	
	comp=Z,10nm,0.3s						
PRYS	**Parys**	**1.17**	**33**	*eP*	Pg	00 57 58.2	+0.1
PRYS				*eS*	Sg	00 58 13.8	+0.4
PRYS				AML	AML	00 58 16.0	
	comp=Z,6.4nm,0.4s						
SWZ	**Schweizer**	**1.38**	**301**	*eP*	Pb	00 58 02.9	+0.6
SWZ				*eS*	Sb	00 58 20.4	0.0
SWZ				AML	AML	00 58 22.2	
	comp=Z,5.5nm,0.7s						
BOSA	**Boshof**	**1.42**	**240**	*eP*	Pg	00 58 03.3	+0.4
BOSA				*eS*	Sn	00 58 21.9	+0.1
BOSA				AML	AML	00 58 23.7	
	comp=Z,4.2nm,0.8s						

*IDC **13** 00:59:53.0±0.6, 3.98N×126.46E, h0km, mb4.4/18, mb1 4.4/18, mb1mx4.3/23, mbtmp4.3/18, MS3.6/3, Ms1 3.7/3, ms1mx3.0/38, Error ellipse: s-maj=32.0km s-min=12.9km az=77.0*

*ISCJB **13** 00:59:57.6±0.4, 3.98N±0.06×126.55E±0.10, h45km, mb4.3/23, MS3.6/3, Error ellipse: s-maj=14.6km s-min=8.0km az=158.7*

*NEIC **13** 00:59:58.2±0.3, 3.99N×126.53E, h35km, mb4.3/5, Error ellipse: s-maj=14.1km s-min=7.7km az=68.0*

ISC 13 00:59:59.2±0.6, 3.93N±0.09×126.6E±0.1, h45km, n57, σ0s93/55, mb4.3/21, MS3.4/3, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.71**	**322**	*eP*	**Pn**	**01 00 42.5**	**+2.1**
DAV	**Davao City (W)**	**3.28**	**342**	Pn	Pn	01 00 52.9	+4.7
	baz=28,slow=10,SNR=2.9						
DAV				Sn	Sn	01 01 40.6	+15
	63nm,0.3s,baz=266,slow=19,SNR=2.9						
CTBH	**Cotabato--PC H**	**4.03**	**324**	*iP*	Pn	01 01 04.2	+5.7
BUKP	**Musuan**	**4.21**	**339**	*eP*	Pn	01 01 06.2	+5.2
BUKP				*eS*	Px	01 01 17.1	
PAGZ	**Pagadian**	**5.05**	**321**	*eP*	**Pn**	**01 01 15.2**	**+2.8**
PAGZ				*eS*	Px	01 01 18.3	
FITZ	**Fitzroy Crossi**	**21.91**	**182**	P	**P**	**01 04 49.3**	**+0.4**
	3.5nm,0.5s,baz=355,slow=6.0,SNR=6.4						
WRAB	**Tennant Creek**	**24.91**	**162**	*eP*	**P**	**01 05 19.3**	**+1.1**
	16nm,0.8s						
WRA	**Warramunga Arr**	**24.91**	**163**	P	**P**	**01 05 19.2**	**+1.0**
WRA	**Warramunga Arr**	**24.91**	**163**	P	**P**	**01 05 19.2**	**+1.0**
	8.2nm,0.7s,baz=344,slow=10,SNR=14						
PSI	**Prapat**	**27.66**	**269**	P	**P**	**01 05 44.7**	**+1.4**
PSI	**Prapat**	**27.66**	**269**	P	**P**	**01 05 44.7**	**+1.4**
	2.9nm,0.5s,baz=83,slow=6.0,SNR=3.3						
ASAR	**Alice Springs**	**28.34**	**166**	P	**P**	**01 05 49.0**	**-0.1**
ASAR	**Alice Springs**	**28.34**	**166**	P	**P**	**01 05 49.0**	**-0.1**
	0.8nm,0.5s,baz=351,slow=7.5,SNR=7.1						
CMAR	**Chiang Mai Arr**	**30.67**	**300**	P	**P**	**01 06 08.2**	**-1.7**
CMAR	**Chiang Mai Arr**	**30.67**	**300**	P	**P**	**01 06 08.2**	**-1.7**
	0.9nm,0.3s,baz=121,slow=5.9,SNR=5.4						
CMAR				LR	LR	01 18 25.1	
	comp=Z,83nm,20.3s,baz=242,slow=36						
CHTO	**Chiang Mai**	**30.82**	**301**	*eP*	**P**	**01 06 09.6**	**-1.5**
KSAR	**Wonju Array Be**	**33.37**	**2**	P	**P**	**01 06 33.4**	**+0.1**
KSRS	**Korea Array**	**33.38**	**2**	P	**P**	**01 06 33.4**	**0.0**
	1.4nm,0.5s,baz=182,slow=9.4,SNR=6.2						
HNR	**Honiara**	**35.77**	**112**	LR	LR	01 20 23.7	
	comp=Z,63nm,19.2s,baz=262,slow=34						
NWAO	**Narrogin (SRO)**	**37.72**	**193**	P	**P**	**01 07 10.8**	**+0.1**
	19nm,1.1s,baz=19,slow=8.7,SNR=3.4						
STKA	**Stephens Creek**	**38.36**	**159**	*eP*	**P**	**01 07 16.2**	**+0.2**
	1.7nm,0.7s						
STKA	**Stephens Creek**	**38.36**	**159**	P	**P**	**01 07 16.6**	**+0.5**
	5.0nm,0.7s,baz=330,slow=8.7,SNR=13						
TAPN	**Taplejung**	**43.80**	**306**	*eP*	**P**	**01 08 00.7**	**-0.6**
	5.8nm,0.4s						
ODAN	**Odare**	**43.86**	**305**	*eP*	**P**	**01 08 01.1**	**-0.6**
	13nm,0.6s						
RAMN	**Ramite**	**44.54**	**305**	*eP*	**P**	**01 08 06.4**	**-0.8**
	5.9nm,0.6s						
JIRN	**Jiri**	**45.16**	**306**	*eP*	**P**	**01 08 12.0**	**-0.3**
	2.1nm,0.5s						
GUN	**Gumba**	**45.51**	**306**	*eP*	**P**	**01 08 14.8**	**-0.2**
	14nm,0.6s						
ULN	**Ulaanbaatar**	**46.89**	**342**	*eP*	**P**	**01 08 24.7**	**-0.6**
	2.7nm,0.8s						
SONM	**Songino Array**	**47.07**	**341**	P	**P**	**01 08 26.1**	**-0.5**
SONM				PcP	**PcP**	**01 09 58.1**	**-0.1**
SONM	**Songino Array**	**47.07**	**341**	P	**P**	**01 08 26.1**	**-0.5**
	1.6nm,0.6s,baz=158,slow=8.6,SNR=15						
SONM				PcP	**PcP**	**01 09 58.1**	**-0.1**
	0.5nm,0.6s,baz=170,slow=3.6,SNR=3.1						
KOLN	**Koldanda**	**47.31**	**305**	*eP*	**P**	**01 08 28.7**	**-0.3**
	24nm,0.5s						
DANN	**Dangsing**	**47.41**	**305**	*eP*	**P**	**01 08 29.5**	**-0.3**
	19nm,0.5s						
PETK	**Petropavlovsk-**	**55.29**	**22**	P	**P**	**01 09 28.8**	**+0.7**
PETK	**Petropavlovsk-**	**55.29**	**22**	P	**P**	**01 09 28.8**	**+0.7**
	2.5nm,0.7s,baz=198,slow=6.5,SNR=3.1						
MK31	**Makanchi Array**	**57.33**	**325**	*eP*	**P**	**01 09 41.8**	**-0.9**
MKAR	**Makanchi Array**	**57.33**	**325**	P	**P**	**01 09 42.1**	**-0.6**
MKAR				PcP	**PcP**	**01 10 37.2**	**+0.8**
MKAR	**Makanchi Array**	**57.33**	**325**	P	**P**	**01 09 42.1**	**-0.6**
	4.4nm,0.5s,baz=117,slow=8.0,SNR=116						
MK

MK31	**Makanchi Array**	**57.48**	**325**	*eP*	**P**	**01**	**17**	**33.9 -0.4**
MKAR	**Makanchi Array**	**57.48**	**325**	P	**P**	**01**	**17**	**34.2 0.0**
MKAR	**Makanchi Array**	**57.48**	**325**	P	**P**	**01**	**17**	**34.2 0.0**
	0.4nm,0.5s,baz=120,slow=8.7,SNR=8.3							
TKM2	**Tokmak 2**	**59.68**	**318**	*eP*	**P**	**01**	**17**	**51.9 +2.0**
	2.0nm,1.0s							
ZALV	**Zalesovo Beam**	**60.49**	**333**	P	**P**	**01**	**17**	**57.0 +2.1**
ZALV	**Zalesovo Beam**	**60.49**	**333**	P	**P**	**01**	**17**	**57.0 +2.1**
	0.2nm,0.3s,baz=124,slow=4.2,SNR=2.2							
EKS2	**Erkin-Say**	**60.79**	**318**	*eP*	**P**	**01**	**17**	**57.7 +0.4**
	1.9nm,1.1s							
KURBB	**Kurchatov Arra**	**61.65**	**327**	P	**P**	**01**	**18**	**02.7 -0.2**
	0.4nm,0.5s,baz=125,slow=6.1,SNR=5.9							
KURK	**Kurchatov**	**61.66**	**327**	*eP*	**P**	**01**	**18**	**03.0 +0.2**
	1.6nm,0.8s							
ABKAR	**Akbulak array**	**72.08**	**321**	*eP*	**P**	**01**	**19**	**09.2 -0.1**
	0.7nm,0.8s							
AKTO	**Aktyubinsk**	**73.59**	**322**	P	**P**	**01**	**19**	**18.7 +0.5**
AKTO	**Aktyubinsk**	**73.59**	**322**	P	**P**	**01**	**19**	**18.7 +0.5**
	0.8nm,0.8s,baz=84,slow=3.2,SNR=3.9							
COLD	**Coldfoot**	**83.73**	**23**	*eP*	**P**	**01**	**20**	**13.7 0.0**
	3.5nm,1.0s							

IDC ***13*** *01:13:21.5±0.8,64˚.04N×40˚.32W,h0km,mb3.8/12, mb1 4.0/14,mb1mx3.8/30,mbtmp3.8/14,ML3.7/2,MS3.4/4, Ms1 3.4/4,ms1mx2.9/47, Error ellipse: s-maj=26.7km s-min=14.8km az=178.0*

OTT ***13*** *01:13:24.6±3.1,64˚.33N×39˚.67W,h18km,MN4.9/1, Offshore eastern Greenland. 1158km east from Qikiqtarjuaq, Nu*

NEIC ***13*** *01:13:24.4±0.7,64˚.25N×40˚.12W,h10km,mb3.9/8, Error ellipse: s-maj=15.3km s-min=9.3km az=173.0*

ISC 13 01:13:23.8±0.6,64˚.19N±0˚.07×40˚.21W±0˚.05,h10km,n54, σ1s75/61,mb3.9/18,MS3.1/3,Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
SFJD	**Kangerlussuaq**	**5.15**	**308**	*eP*n		**Pn**	**01 14 41.6**	**+0.8**
SFJD				*eP*g		**Pb**	**01 14 54.3**	**+0.4**
SFJD				*eS*n		**Sn**	**01 15 41.5**	**+1.2**
SFJD				*eS*g		**Sb**	**01 15 57.3**	**+1.6**
SFJD	**Kangerlussuaq**	**5.15**	**308**	PN		**Pn**	**01 14 42.4**	**+1.5**
SFJD				PG		**Pb**	**01 14 53.1**	**-0.8**
SFJD				SN		**Sn**	**01 15 39.0**	**-1.3**
SFJD				LG		Lg	01 15 56.2	
SFJD				Trac			01 16 01.3	
	comp=Z,1μm,0.6s							
SFJD	**Kangerlussuaq**	**5.15**	**308**	*i* P		**Pn**	**01 14 42.3**	**+1.5**
SFJD				*e*S		**Sn**	**01 15 40.6**	**+0.3**
SFJD	**Kangerlussuaq**	**5.15**	**308**	Pn		**Pn**	**01 14 42.4**	**+1.5**
	9.5nm,0.3s,baz=124,slow=8.8,SNR=32							
SFJD				Pg		**Pb**	**01 14 53.9**	**+0.1**
	25nm,0.3s,baz=123,slow=16,SNR=25							
SFJD				Sn		**Sn**	**01 15 39.7**	**-0.6**
	15nm,0.3s,baz=187,slow=21,SNR=7.3							
SFJD				Lg		Lg	01 15 57.1	
	79nm,0.3s,baz=195,slow=20,SNR=15							
SFJD				LR		LR	01 16 45.7	
	comp=Z,347nm,19.7s,baz=103,slow=39							
BORG	**Borgarnes**	**8.17**	**78**	Pn		**Pn**	**01 15 22.6**	**+0.4**
BORG	**Borgarnes**	**8.17**	**78**	Pn		**Pn**	**01 15 22.6**	**+0.4**
	0.2nm,0.3s,baz=259,slow=10,SNR=1.8							
SUMG	**Summit**	**8.45**	**4**	*e*Pn		**Pn**	**01 15 24.2**	**-2.3**
SUMG				*e*Sn		**Sn**	**01 16 57.1**	**-4.8**
SUMG	**Summit**	**8.45**	**4**	*i* P		**Pn**	**01 15 24.4**	**-2.0**
SUMG				*i* S		Sn	01 16 54.2	-7.7
FRB	**Frobisher Bay**	**12.41**	**281**	Pn		**Pn**	**01 16 22.1**	**+1.9**
FRB	**Frobisher Bay**	**12.41**	**281**	Pn		**Pn**	**01 16 22.1**	**+1.9**
	0.1nm,0.3s,baz=92,slow=12,SNR=4.6							
DAG	**Danmarks Havn**	**14.38**	**20**	*i* P		Pn	01 16 39.4	-7.6
DAG				*i* S		Sn	01 19 16.1	-10
SCHQ	**Schefferville**	**16.31**	**247**	*e*Pn		**Pn**	**01 17 14.2**	**+1.6**
	5.7nm,0.8s							
SCHQ				Sn		**Sn**	**01 20 08.1**	**-5.3**
SCHQ	**Schefferville**	**16.31**	**247**	Pn		**Pn**	**01 17 14.0**	**+1.4**
	0.3nm,0.3s,baz=36,slow=9.3,SNR=9.8							
SCHQ				Sn		**Sn**	**01 20 08.1**	**-5.3**
	0.1nm,0.3s,baz=48,slow=16,SNR=3.6							
ILON	**Igloolik, Nuna**	**16.92**	**306**	Pn		Pn	01 17 14.1	-6.1
ILON				Sn		Sn	01 20 13.6	-14
ILON	**Igloolik, Nuna**	**16.92**	**306**	PN		Pn	01 17 14.1	-6.1
ILON				SN		Sn	01 20 13.6	-14
SRLN	**Sarcpa Lake, N**	**17.52**	**303**	Pn		**P**	**01 17 28.6**	**-0.2**
SRLN				Sn		Sn	01 20 29.6	-13
SRLN	**Sarcpa Lake, N**	**17.52**	**303**	PN		**P**	**01 17 28.6**	**-0.2**
SRLN				SN		Sn	01 20 29.6	-13
EUNU	**Eureka**	**20.27**	**339**	Pn		**P**	**01 17 59.1**	**+0.1**
EUNU				S		S	01 21 30.3	-16
EUNU	**Eureka**	**20.27**	**339**	PN		**P**	**01 17 59.1**	**+0.1**
EUNU				mb			01 18 00.8	
	comp=Z,5.2nm,0.7s							
EUNU				SN		S	01 21 30.3	-16
RES	**Resolute Bay**	**20.93**	**323**	*e*P		Pn	01 18 08.4	-0.2
	4.1nm,0.9s							
RES	**Resolute Bay**	**20.93**	**323**	P		Pn	01 18 09.6	+0.9
	3.0nm,0.9s,baz=98,slow=9.4,SNR=14							
NOA	**NORSAR Array B**	**23.33**	**74**	LR		LR	01 26 27.1	
	comp=Z,15nm,18.8s,baz=110,slow=34							
ARCES	**ARCESS Array B**	**25.18**	**49**	P		**P**	**01 18 48.7**	**-0.1**
ARCES	**ARCESS Array B**	**25.18**	**49**	P		**P**	**01 18 48.7**	**-0.1**
	4.7nm,0.9s,baz=281,slow=7.1,SNR=6.2							
YKA	**Yellowknife Ar**	**31.68**	**302**	P		**P**	**01 19 45.3**	**-1.5**
YKA				PcP		**PcP**	**01 22 38.2**	**+0.1**
YKA	**Yellowknife Ar**	**31.68**	**302**	P		**P**	**01 19 45.3**	**-1.5**
	1.2nm,0.7s,baz=53,slow=9.4,SNR=24							
YKA				PcP		**PcP**	**01 22 38.2**	**+0.1**
	0.3nm,0.6s,baz=40,slow=2.5,SNR=5.0							
ULM	**Lac du Bonnet**	**32.02**	**271**	P		**P**	**01 19 49.3**	**-0.6**
ULM	**Lac du Bonnet**	**32.02**	**271**	P		**P**	**01 19 49.3**	**-0.6**
	1.7nm,0.6s,baz=44,slow=8.8,SNR=4.3							
WCI	**Wyandotte Cave**	**37.52**	**249**	*e*P		**P**	**01 20 40.4**	**+2.9**
	5.1nm,0.8s							
MDT	**Midelt**	**38.31**	**128**	LR		LR	01 34 07.8	
	comp=Z,28nm,19.6s,baz=130,slow=33							
ILAR	**Eielson Array**	**40.67**	**321**	P		**P**	**01 21 04.5**	**+0.9**
ILAR				PcP		**PcP**	**01 23 04.2**	**-0.7**
ILAR	**Eielson Array**	**40.67**	**321**	P		**P**	**01 21 04.5**	**+0.9**
	0.7nm,0.7s,baz=29,slow=8.5,SNR=12							
ILAR				PcP		**PcP**	**01 23 04.2**	**-0.7**
	1.3nm,0.6s,baz=5.3,slow=2.7,SNR=14							
COLA	**College**	**40.85**	**322**	*e*P		**P**	**01 21 07.2**	**+2.2**
	3.4nm,0.8s							
NEW	**Newport**	**42.68**	**286**	*e*P		**P**	**01 21 22.2**	**+1.9**
	2.0nm,0.8s							
PDAR	**Pinedale Array**	**43.78**	**275**	P		**P**	**01 21 26.8**	**-2.7**
PDAR	**Pinedale Array**	**43.78**	**275**	P		**P**	**01 21 26.8**	**-2.7**
	0.4nm,0.9s,baz=70,slow=7.8,SNR=2.7							
BW06	**Boulder Array**	**43.78**	**275**	*e*P		**P**	**01 21 31.6**	**+2.1**
	1.0nm,0.8s							
ARU	**Arti**	**44.73**	**51**	*e*P		**P**	**01 21 38.8**	**+2.3**
	2.0nm,0.7s							
HLID	**Hailey**	**45.25**	**280**	*e*P		**P**	**01 21 42.3**	**+1.2**
	1.1nm,0.9s							
BRTR	**Keskin Array B**	**48.22**	**83**	P		**P**	**01 22 05.0**	**+0.6**
BRTR	**Keskin Array B**	**48.22**	**83**	P		**P**	**01 22 05.0**	**+0.6**
	0.7nm,0.9s,baz=336,slow=6.3,SNR=3.1							
NVAR	**Mina Array Bea**	**51.14**	**279**	P		**P**	**01 22 25.7**	**-1.0**
NVAR	**Mina Array Bea**	**51.14**	**279**	P		**P**	**01 22 25.7**	**-1.0**
	0.4nm,0.7s,baz=53,slow=8.0,SNR=3.2							
TXAR	**Lajitas Array**	**52.48**	**260**	P		**P**	**01 22 35.5**	**-1.2**
TXAR	**Lajitas Array**	**52.48**	**260**	P		**P**	**01 22 35.5**	**-1.2**
	0.6nm,0.8s,baz=59,slow=8.3,SNR=5.4							
ZALV	**Zalesovo Beam**	**54.78**	**36**	P		**P**	**01 22 53.2**	**+0.1**
ZALV	**Zalesovo Beam**	**54.78**	**36**	P		**P**	**01 22 53.2**	**+0.1**
	1.0nm,0.8s,baz=324,slow=9.2,SNR=4.6							
KURK	**Kurchatov**	**55.96**	**42**	P		**P**	**01 23 01.1**	**-0.5**
KURBB	**Kurchatov Arra**	**56.01**	**42**	P		**P**	**01 23 01.1**	**-0.9**
	0.7nm,0.7s,baz=332,slow=6.7,SNR=8.2							
TORD	**Torodi Ar. Bea**	**58.63**	**130**	P		**P**	**01 23 19.8**	**-1.0**
TORD	**Torodi Ar. Bea**	**58.63**	**130**	P		**P**	**01 23 19.8**	**-1.0**
	1.6nm,0.8s,baz=339,slow=5.9,SNR=9.4							
SONM	**Songino Array**	**65.28**	**24**	P		**P**	**01 24 06.5**	**+1.1**
SONM	**Songino Array**	**65.28**	**24**	P		**P**	**01 24 06.5**	**+1.1**
	0.9nm,0.7s,baz=330,slow=8.3,SNR=6.2							
KSRS	**Korea Array**	**78.26**	**10**	LR		LR	02 00 43.8	
	comp=Z,175nm,18.6s,baz=334,slow=36							

IDC ***13*** *01:13:34.0±0.6,3˚.99N×126˚.51E,h0km,mb4.1/17, mb1 4.2/17,mb1mx4.1/23,mbtmp4.1/17, Error ellipse: s-maj=34.5km s-min=13.2km az=74.0*

ISCJB ***13*** *01:13:38.6±0.5,3˚.96N±0˚.08×126˚.6E±0˚.2,h45km, mb4.2/24, Error ellipse: s-maj=26.2km s-min=8.7km az=161.3*

NEIC ***13*** *01:13:39.3±0.4,3˚.96N×126˚.55E,h35km,mb4.5/7, Error ellipse: s-maj=19.9km s-min=7.0km az=71.0*

ISC 13 01:13:40.4±0.6,3˚.94N±0˚.09×126˚.5E±0˚.2,h45km,n44, σ0s79/45,mb4.3/24,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**21.92**	**182**	P		**P**	**01 18 30.1**	**0.0**
FITZ	**Fitzroy Crossi**	**21.92**	**182**	P		**P**	**01 18 30.1**	**0.0**
	1.7nm,0.7s,baz=11,slow=8.8,SNR=3.1							
WRAB	**Tennant Creek**	**24.94**	**162**	*e*P		**P**	**01 18 59.8**	**+0.1**
	3.4nm,0.7s							
WRA	**Warramunga Arr**	**24.95**	**162**	P		**P**	**01 18 59.6**	**-0.1**
WRA	**Warramunga Arr**	**24.95**	**162**	P		**P**	**01 18 59.6**	**-0.1**
	5.4nm,0.4s,baz=333,slow=12,SNR=0.9							
ASAR	**Alice Springs**	**28.37**	**166**	P		**P**	**01 19 30.1**	**-0.5**
ASAR	**Alice Springs**	**28.37**	**166**	P		**P**	**01 19 30.1**	**-0.5**
	0.2nm,0.5s,baz=350,slow=8.9,SNR=3.4							
CMAR	**Chiang Mai Arr**	**30.58**	**300**	P		**P**	**01 19 48.3**	**-2.0**
CMAR	**Chiang Mai Arr**	**30.58**	**300**	P		**P**	**01 19 48.3**	**-2.0**
	0.7nm,0.4s,baz=140,slow=7.1,SNR=2.5							
NWAO	**Narrogin (SRO)**	**37.70**	**193**	P		**P**	**01 20 52.1**	**+0.3**
NWAO	**Narrogin (SRO)**	**37.70**	**193**	P		**P**	**01 20 52.1**	**+0.3**
	10nm,1.0s,baz=14,slow=4.2,SNR=3.0							
STKA	**Stephens Creek**	**38.40**	**159**	P		**P**	**01 20 57.9**	**+0.3**
STKA	**Stephens Creek**	**38.40**	**159**	P		**P**	**01 20 57.9**	**+0.3**
	1.8nm,0.6s,baz=350,slow=11,SNR=2.8							
LSA	**Lhasa**	**42.14**	**311**	*e*P		**P**	**01 21 30.7**	**+1.5**
	5.2nm,0.6s							
SONM	**Songino Array**	**47.03**	**342**	P		**P**	**01 22 08.6**	**+1.0**
SONM	**Songino Array**	**47.03**	**342**	P		**P**	**01 22 08.5**	**+1.0**
	0.8nm,0.8s,baz=146,slow=6.6,SNR=5.6							
PETK	**Petropavlovsk-**	**55.32**	**22**	P		**P**	**01 23 10.1**	**+0.6**
PETK	**Petropavlovsk-**	**55.32**	**22**	P		**P**	**01 23 10.1**	**+0.6**
	0.8nm,0.5s,baz=173,slow=4.2,SNR=4.1							
MK31	**Makanchi Array**	**57.26**	**325**	*e*P		**P**	**01 23 23.5**	**0.0**
MKAR	**Makanchi Array**	**57.26**	**325**	P		**P**	**01 23 23.9**	**+0.4**
MKAR				PcP		**PcP**	**01 24 18.2**	**+0.8**
MKAR	**Makanchi Array**	**57.26**	**325**	P		**P**	**01 23 23.9**	**+0.4**
	1.6nm,0.4s,baz=118,slow=7.8,SNR=54							
MKAR				PcP		**PcP**	**01 24 18.3**	**+0.8**
	0.8nm,0.7s,baz=109,slow=5.3,SNR=2.6							
AAK	**Ala-Archa**	**60.06**	**318**	*e*P		**P**	**01 23 44.6**	**+1.3**
	8.9nm,0.9s							
ZALV	**Zalesovo Beam**	**60.31**	**333**	P		**P**	**01 23 44.0**	**-0.4**
ZALV	**Zalesovo Beam**	**60.31**	**333**	P		**P**	**01 23 44.0**	**-0.4**
	1.6nm,0.4s,baz=126,slow=6.3,SNR=8.4							
EKS2	**Erkin-Say**	**60.55**	**318**	*e*P		P	01 23 42.9	-3.6
	0.9nm,0.6s							
KURBB	**Kurchatov Arra**	**61.45**	**327**	P		**P**	**01 23 52.0**	**-0.3**
	2.2nm,0.6s,baz=122,slow=6.6,SNR=26							
KURK	**Kurchatov**	**61.45**	**328**	*e*P		**P**	**01 23 52.0**	**-0.2**
	3.4nm,0.6s							
BRVK	**Borovoye**	**67.10**	**327**	*e*P		**P**	**01 24 29.0**	**-0.3**
	2.2nm,0.7s							
AKTO	**Aktyubinsk**	**73.36**	**322**	P		**P**	**01 25 07.2**	**-0.5**
AKTO	**Aktyubinsk**	**73.36**	**322**	P		**P**	**01 25 07.2**	**-0.5**
	1.4nm,0.6s,baz=103,slow=8.4,SNR=6.8							
ILAR	**Eielson Array**	**85.01**	**25**	P		**P**	**01 26 09.3**	**-1.6**
ILAR	**Eielson Array**	**85.01**	**25**	P		**P**	**01 26 09.3**	**-1.6**
	0.4nm,0.9s,baz=246,slow=6.8,SNR=3.4							
BRTR	**Keskin Array B**	**89.72**	**310**	P		**P**	**01 26 34.7**	**+0.3**
BRTR	**Keskin Array B**	**89.72**	**310**	P		**P**	**01 26 34.7**	**+0.3**
	0.8nm,0.9s,baz=90,slow=4.3,SNR=3.6							
ARCES	**ARCESS Array B**	**90.18**	**340**	P		**P**	**01 26 35.2**	**-0.5**
ARCES	**ARCESS Array B**	**90.18**	**340**	P		**P**	**01 26 35.2**	**-0.5**
	3.6nm,1.0s,baz=85,slow=5.2,SNR=7.4							
FINES	**FINESS Array B**	**91.55**	**332**	P		**P**	**01 26 42.0**	**-0.2**
FINES	**FINESS Array B**	**91.55**	**332**	P		**P**	**01 26 42.0**	**-0.2**
	0.8nm,0.5s,baz=85,slow=4.7,SNR=6.6							
SUW	**Suwalki**	**94.63**	**325**	*e*P		**P**	**01 26 57.2**	**+0.7**
	12nm,0.9s							
BUR08	**Bucovina Ar. S**	**94.71**	**318**	*e*P		**P**	**01 26 57.7**	**+0.4**
NOA	**NORSAR Array B**	**98.51**	**334**	P		**P**	**01 27 13.4**	**-0.6**
NOA	**NORSAR Array B**	**98.51**	**334**	P		**P**	**01 27 13.4**	**-0.6**
	0.9nm,0.7s,baz=61,slow=4.3,SNR=3.4							
TORD	**Torodi Ar. Bea**	**122.65**	**288**	PKP		**PKPdf**	**01 32 32.8**	**+0.5**
TORD	**Torodi Ar. Bea**	**122.65**	**288**	PKP		**PKPdf**	**01 32 32.8**	**+0.5**
	0.2nm,0.7s,baz=49,slow=1.6,SNR=2.6							

IDC 13 01:14:01.9±1.5,4˚.10N×126˚.87E,h0km,mb4.1/6, mb1 4.2/6,mb1mx3.8/20,mbtmp4.1/6,MS4.4/1,Ms1 4.4/1, ms1mx2.6/31,Error ellipse: s-maj=258.2km s-min=25.3km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**35.60**	**112**	LR		LR	01 33 13.4	
	comp=Z,531nm,19.5s,baz=145,slow=32							
STKA	**Stephens Creek**	**38.43**	**160**	P		P	01 21 25.2	-0.2
	1.1nm,0.5s,baz=344,slow=12,SNR=2.3							
MKAR	**Makanchi Array**	**57.33**	**325**	P		P	01 23 51.6	-0.2
	0.9nm,0.5s,baz=120,slow=7.4,SNR=6.5							
ZALV	**Zalesovo Beam**	**60.32**	**333**	P		P	01 24 11.8	-0.6
	1.1nm,0.5s,baz=132,slow=8.2,SNR=4.0							
KURBB	**Kurchatov Arra**	**61.50**	**327**	P		P	01 24 20.7	+0.2
	0.9nm,0.5s,baz=124,slow=6.7,SNR=5.0							
ARCES	**ARCESS Array B**	**90.15**	**340**	P		P	01 27 03.8	+0.1
	2.2nm,0.9s,baz=83,slow=7.4,SNR=3.8							
FINES	**FINESS Array B**	**91.57**	**332**	P		P	01 27 10.8	+0.3
	1.4nm,0.8s,baz=54,slow=3.3,SNR=3.3							

IDC ***13*** *01:15:06.8±0.6,3˚.97N×126˚.42E,h0km,mb4.2/17, mb1 4.3/17,mb1mx4.2/23,mbtmp4.2/17, Error ellipse: s-maj=33.0km s-min=12.7km az=76.0*

ISCJB ***13*** *01:15:11.4±0.3,3˚.94N±0˚.06×126˚.51E±0˚.09,h45km, mb4.3/35, Error ellipse: s-maj=14.5km s-min=6.7km az=156.1*

NEIC ***13*** *01:15:12.0±0.2,3˚.91N×126˚.47E,h35km,mb4.5/20, Error ellipse: s-maj=11.4km s-min=4.6km az=70.0*

ISC 13 01:15:13.2±0.5,3˚.94N±0˚.08×126˚.5E±0˚.1,h45km,n66, σ1s01/67,mb4.4/40,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
TPUB	**Ta-pu**	**20.07**	**344**	*e*P		**P**	**01 19 41.8**	**-1.1**
	25nm,0.7s							
FITZ	**Fitzroy Crossi**	**21.92**	**182**	*e*P		**P**	**01 20 02.1**	**-0.7**
	3.2nm,0.6s							
FITZ	**Fitzroy Crossi**	**21.92**	**182**	P		**P**	**01 20 03.5**	**+0.7**
	2.0nm,0.6s,baz=14,slow=8.3,SNR=4.4							
COEN	**Coen**	**24.28**	**137**	*e*P		**P**	**01 20 25.2**	**-1.2**
WRAB	**Tennant Creek**	**24.94**	**162**	*e*P		**P**	**01 20 32.1**	**-0.3**
	9.6nm,0.9s							
WRA	**Warramunga Arr**	**24.95**	**162**	P		**P**	**01 20 31.5**	**-1.1**
WRA	**Warramunga Arr**	**24.95**	**162**	P		**P**	**01 20 31.5**	**-1.1**
	1.3nm,0.2s,baz=334,slow=12,SNR=0.2							
ASAR	**Alice Springs**	**28.37**	**166**	P		**P**	**01 21 04.0**	**+0.6**
ASAR	**Alice Springs**	**28.37**	**166**	P		**P**	**01 21 04.0**	**+0.6**
	0.4nm,0.5s,baz=343,slow=8.1,SNR=3.3							
CMAR	**Chiang Mai Arr**	**30.58**	**300**	P		**P**	**01 21 22.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**30.58**	**300**	P		**P**	**01 21 22.1**	**-0.9**
	0.8nm,0.4s,baz=132,slow=7.8,SNR=3.8							
ENH	**Enshi**	**30.74**	**330**	*e*P		**P**	**01 21 24.2**	**-0.1**
	8.7nm,0.7s							
KSAR	**Wonju Array Be**	**33.37**	**2**	P		**P**	**01 21 47.4**	**+0.2**
KSRS	**Korea Array**	**33.38**	**2**	P		**P**	**01 21 47.4**	**+0.1**
	0.7nm,0.4s,baz=182,slow=9.9,SNR=4.4							
BJT	**Baijiatuan**	**37.12**	**347**	*e*P		**P**	**01 22 19.7**	**+0.3**
	16nm,0.6s							
NWAO	**Narrogin (SRO)**	**37.70**	**193**	P		**P**	**01 22 24.4**	**-0.1**
NWAO	**Narrogin (SRO)**	**37.70**	**193**	P		**P**	**01 22 24.4**	**-0.1**
	7.9nm,0.9s,baz=45,slow=5.7,SNR=3.0							
STKA	**Stephens Creek**	**38.40**	**159**	P		**P**	**01 22 30.3**	**-0.1**
STKA	**Stephens Creek**	**38.40**	**159**	P		**P**	**01 22 30.3**	**-0.1**
	4.2nm,0.8s,baz=344,slow=6.9,SNR=5.3							
LSA	**Lhasa**	**42.14**	**311**	*e*P		**P**	**01 23 03.1**	**+1.1**
	5.3nm,0.6s							
TAPN	**Taplejung**	**43.72**	**306**	*e*P		**P**	**01 23 14.5**	**-0.1**
ODAN	**Odare**	**43.77**	**305**	*e*P		**P**	**01 23 14.5**	**-0.5**
	4.8nm,0.4s							
RAMN	**Ramite**	**44.45**	**305**	*e*P		**P**	**01 23 20.8**	**+0.4**
	9.6nm,0.7s							
JIRN	**Jiri**	**45.07**	**306**	*e*P		**P**	**01 23 25.7**	**+0.2**
	1.9nm,0.5s							
GUN	**Gumba**	**45.43**	**306**	*e*P		**P**	**01 23 28.3**	**0.0**
	16nm,0.7s							
HIA	**Hailar**	**45.53**	**354**	*e*P		**P**	**01 23 29.4**	**+1.0**
	4.1nm,0.6s							
DZM	**Mont Dzumac**	**46.83**	**125**	*e*P		**P**	**01 23 38.8**	**-0.3**
	4.8nm,0.9s							
ULN	**Ulaanbaatar**	**46.85**	**342**	*e*P		**P**	**01 23 39.1**	**+0.2**
	2.7nm,0.8s							
SONM	**Songino Array**	**47.03**	**342**	P		**P**	**01 23 39.8**	**-0.5**
SONM	**Songino Array**	**47.03**	**342**	P		**P**	**01 23 39.8**	**-0.5**
	1.9nm,0.7s,baz=158,slow=7.5,SNR=12							
KOLN	**Koldanda**	**47.23**	**305**	*e*P		**P**	**01 23 41.8**	**-0.5**
	15nm,0.6s							
DANN	**Dangsing**	**47.32**	**306**	*e*P		**P**	**01 23 43.0**	**-0.1**
	22nm,0.5s							
TLY	**Talaya**	**51.26**	**342**	*e*P		**P**	**01 24 13.2**	**+0.7**
	3.8nm,0.7s							
PETK	**Petropavlovsk-**	**55.32**	**22**	P		**P**	**01 24 42.0**	**-0.3**
PETK	**Petropavlovsk-**	**55.32**	**22**	P		**P**	**01 24 42.0**	**-0.3**
	1.7nm,0.7s,baz=192,slow=3.9,SNR=4.6							
MK31	**Makanchi Array**	**57.26**	**325**	*e*P		**P**	**01 24 55.5**	**-0.7**
MKAR	**Makanchi Array**	**57.26**	**325**	P		**P**	**01 24 55.8**	**-0.4**
MKAR				ScP		**ScP**	**01 29 50.9**	**+4.4**
MKAR	**Makanchi Array**	**57.26**	**325**	P		**P**	**01 24 55.8**	**-0.4**
	2.4nm,0.4s,baz=116,slow=7.7,SNR=13							
MKAR				ScP		**ScP**	**01 29 50.9**	**+4.4**
	0.7nm,1.1s,baz=114,slow=4.4,SNR=4.7							
TKM2	**Tokmak 2**	**59.45**	**319**	*e*P		**P**	**01 25 12.8**	**+1.0**
	2.1nm,0.9s							
ZALV	**Zalesovo Beam**	**60.30**	**333**	P		**P**	**01 25 16.2**	**-1.0**
ZALV	**Zalesovo Beam**	**60.30**	**333**	P		**P**	**01 25 16.2**	**-1.0**
	2.4nm,0.6s,baz=131,slow=6.8,SNR=9.8							
EKS2	**Erkin-Say**	**60.55**	**318**	*e*P		**P**	**01 25 19.0**	**-0.2**
	2.2nm,0.8s							
KURBB	**Kurchatov Arra**	**61.45**	**327**	P		**P**	**01 25 25.1**	**+0.1**
	6.7nm,0.8s,baz=127,slow=7.2,SNR=16							
KURK	**Kurchatov**	**61.45**	**328**	*e*P		**P**	**01 25 24.6**	**-0.4**
	6.6nm,0.6s							
KKAR	**Karatay Array**	**62.93**	**317**	*e*P		**P**	**01 25 35.9**	**+0.7**
	0.7nm,0.6s							
BRVK	**Borovoye**	**67.10**	**327**	*e*P		**P**	**01 26 02.1**	**+0.1**
	2.6nm,0.7s							
ABKAR	**Akbulak array**	**71.85**	**321**	*e*P		**P**	**01 26 31.3**	**-0.1**
	2.5nm,0.9s							
AKTO	**Aktyubinsk**	**73.36**	**322**	P		**P**	**01 26 39.9**	**-0.5**
AKTO	**Aktyubinsk**	**73.36**	**322**	P		**P**	**01 26 39.9**	**-0.5**
	2.4nm,0.8s,baz=107,slow=9.0,SNR=7.2							
COLD	**Coldfoot**	**83.79**	**23**	*e*P		**P**	**01 27 38.1**	**+0.7**
	2.2nm,0.8s							
ILAR	**Eielson Array**	**85.01**	**25**	P		**P**	**01 27 45.0**	**+1.3**
ILAR	**Eielson Array**	**85.01**	**25**	P		**P**	**01 27 45.0**	**+1.3**
	0.3nm,0.5s,baz=243,slow=6.9,SNR=2.9							
ARCES	**ARCESS Array B**	**90.18**	**340**	P		**P**	**01 28 07.8**	**-0.7**
ARCES	**

ISCJB ***13*** *01:39:21.6±0.2,3.92N±0.03×126.62E±0.05,h33km, mb4.8/87,MS3.9/22,Error ellipse: s-maj=7.7km s-min=3.7km az=155.6*
NEIC ***13*** *01:39:23.4±0.2,3.92N×126.67E,h35km,mb4.9/35,Error ellipse: s-maj=9.2km s-min=4.4km az=67.0*
DJA ***13*** *01:39:30,3.58N×126.66E,h62km,mb4.8/18*
ISC 13 01:39:23.5±0.4,3.96N±0.04×126.75E±0.06,h35km±2km, n212,σ1º46/252,mb4.8/86,MS4.0/23,6C-5D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.77**	**320**	*eP*		**Pn**		**01 40 07.5**	**+1.9**
MNI	**Manado**	**3.15**	**217**	P		Pn		01 40 14.2	+3.5
TNTI	**Ternate**	**3.23**	**169**	P		**Pn**		**01 40 13.3**	**+1.5**
DAV	**Davao City (W)**	**3.30**	**339**	*e*Pn		**Pn**		**01 40 11.7**	**-1.1**
DAV						Pn		01 40 18.9	+6.1
DAV						Sn		01 41 04.3	+14
DAV	**Davao City (W)**	**3.30**	**339**	P		Pn		01 40 29.8	+17
DAV	**Davao City (W)**	**3.30**	**339**	Pn		Pn		01 40 18.9	+6.1
	39nm,0.3s,baz=102,slow=13,SNR=6.5								
DAV						Sn		01 41 04.3	+14
	77nm,0.3s,baz=296,slow=21,SNR=5.9								
KCP	**Kidapawan**	**3.45**	**331**	*e*P		**Pn**		**01 40 15.6**	**+0.7**
KCP				*i* S		Sn		01 41 04.8	+10
CTBH	**Cotabato--PC H**	**4.09**	**322**	*e*P		**Pn**		**01 40 23.9**	**+0.4**
KMSI	**Cibinong**	**4.36**	**220**	P		Pn		01 40 35.8	+8.5
CGP	**Cagayan de Oro**	**4.91**	**335**	*i*P		Pn		01 40 42.7	+7.8
CGP				*i* S		Sn		01 41 50.5	+20
PAGZ	**Pagadian**	**5.11**	**319**	*e*P		**Pn**		**01 40 35.0**	**-2.7**
PAGZ				*e*S		Px		01 40 45.8	
MRSI	**Marisa**	**5.93**	**234**	P		**Pn**		**01 40 51.4**	**+2.5**
	262nm,0.9s,4µm1.3nm								
SWI	**Sorong**	**6.58**	**137**	P		Pn		01 41 01.9	+4.1
	116nm,1.0s,1µm0.4nm								
MSAI	**Masohi**	**7.58**	**163**	P		Pn		01 41 17.5	+5.9
	19nm,0.7s,575nm0.1nm								
MYLDM	**Lahad Datu**	**8.32**	**279**	P		Pn		01 41 29.1	+7.4
	118nm,0.8s,2µm0.8nm								
FAKI	**Fak Fak**	**8.77**	**141**	P		Pn		01 41 32.6	+4.7
	53nm,1.0s,0.2nm								
KDI	**Kendari**	**8.89**	**208**	P		**Pn**		**01 41 31.2**	**+1.7**
	29nm,0.9s,598nm0.2nm								
KKM	**Kota Kinabalu**	**10.70**	**282**	*e*Pn		Pn		01 41 57.8	+3.3
KKM	**Kota Kinabalu**	**10.70**	**282**	P		Pn		01 42 01.3	+6.8
	44nm,0.9s,637nm								
TLE	**Tual**	**11.25**	**148**	P		Pn		01 42 05.6	+3.6
	81nm,1.3s								
SMPI	**Sarmi**	**13.33**	**116**	P		P		01 42 45.4	+5.9
BBKI	**Banjar Baru**	**14.01**	**238**	P		**P**		**01 42 47.9**	**+0.9**
	107nm,1.1s								
JAY	**Jayapura**	**15.36**	**115**	P		**P**		**01 43 03.6**	**+1.5**
	62nm,0.8s								
KSM	**Kuching**	**16.61**	**262**	*e*Pn		**P**		**01 43 17.1**	**+1.0**
	31nm,0.9s								
KSM	**Kuching**	**16.61**	**262**	P		**P**		**01 43 17.9**	**+1.9**
	38nm,1.0s,536nm								
TPUB	**Ta-pu**	**20.11**	**343**	*e*P		**P**		**01 43 53.1**	**-1.4**
	52nm,0.7s								
GUMO	**Guam**	**20.28**	**61**	LR		LR		01 51 04.6	
	comp=Z,137nm,18.9s,baz=13,slow=34								
SSLB	**Suanglung**	**20.49**	**345**	*e*P		**P**		**01 43 57.4**	**-1.2**
	49nm,1.2s								
FITZ	**Fitzroy Crossi**	**21.95**	**183**	*e*P		**P**		**01 44 13.5**	**-0.8**
	17nm,0.9s								
FITZ	**Fitzroy Crossi**	**21.95**	**183**	*e*P		**P**		**01 44 13.3**	**-1.0**
	13nm,0.4s								
FITZ	**Fitzroy Crossi**	**21.95**	**183**	P		**P**		**01 44 13.6**	**-0.7**
	9.3nm,0.6s,baz=14,slow=10,SNR=19								
QIZ	**Qiongzhong**	**22.30**	**314**	P		**P**		**01 44 18.5**	**+0.4**
QIZ				pP		**pP**		**01 44 27.7**	**+0.3**
QIZ				sP		**sP**		**01 44 30.0**	**-1.8**
QIZ				S		**S**		**01 48 23.8**	**+2.4**
QIZ				pmax		pmax			
	comp=Z,24nm,1.9s								
QIZ				LR		LR			
	comp=N,210nm,18.9s								
QIZ				LR		LR			
	comp=Z,320nm,19.7s								
COEN	**Coen**	**24.13**	**138**	*e*P		**P**		**01 44 34.8**	**-1.6**
	comp=Z,76nm,0.8s								
PMG	**Port Moresby**	**24.29**	**123**	*e*P		**P**		**01 44 36.5**	**-1.3**
	comp=Z,18nm,1.0s								
WRAB	**Tennant Creek**	**24.89**	**163**	*e*P		**P**		**01 44 41.8**	**-1.5**
WRAB				pmax		pmax			
	comp=Z,38nm,0.8s								
WRAB	**Tennant Creek**	**24.89**	**163**	*e*P		**P**		**01 44 41.8**	**-1.5**
	comp=Z,38nm,0.8s								
WRA	**Warramunga Arr**	**24.90**	**163**	P		**P**		**01 44 41.7**	**-1.6**
WRA	**Warramunga Arr**	**24.90**	**163**	P		**P**		**01 44 41.7**	**-1.6**
	comp=Z,22nm,0.5s,baz=344,slow=9.7,SNR=51								
IPM	**Ipoh**	**25.66**	**272**	*e*P		**P**		**01 44 51.2**	**+0.8**
MBWA	**Marble Bar**	**25.90**	**195**	*e*P		**P**		**01 44 51.9**	**-0.5**
	comp=Z,43nm,1.2s								
CBIJ	**Chichi jima**	**27.32**	**31**	LR		LR		01 54 56.5	
	comp=Z,272nm,18.6s,baz=110,slow=34								
PSI	**Prapat**	**27.80**	**268**	P		**P**		**01 45 09.4**	**-0.4**
PSI	**Prapat**	**27.80**	**268**	P		**P**		**01 45 09.4**	**-0.4**
	comp=Z,8.6nm,0.9s,baz=88,slow=2.0,SNR=4.7								
AS31	**Alice Springs**	**28.33**	**166**	*e*P		**P**		**01 45 15.0**	**+0.7**
ASAR	**Alice Springs**	**28.33**	**166**	P		**P**		**01 45 13.8**	**-0.6**
ASAR	**Alice Springs**	**28.33**	**166**	P		**P**		**01 45 13.8**	**-0.6**
	comp=Z,4.3nm,0.6s,baz=349,slow=7.8,SNR=21								
NJ2	**Nanjing**	**28.91**	**346**	*e*P		P		01 45 21.7	+2.4
NJ2				pP		pP		01 45 31.2	+1.9
NJ2				sP		sP		01 45 33.0	-0.6
NJ2				S		**S**		**01 50 11.0**	**+3.5**
NJ2				sS		sS		01 50 24.0	-0.2
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
NJ2				pmax		pmax			
	comp=Z,340nm,5.1s								
NJ2				LR		LR			
	comp=N,250nm,20.2s								
NJ2				LR		LR			
	comp=E,270nm,25.4s								
NJ2				LR		LR			
	comp=Z,210nm,20.6s								
WHN	**Wuhan**	**28.92**	**337**	*e*P		**P**		**01 45 20.0**	**+0.6**
JNU	**Nakatsue**	**29.26**	**7**	LR		LR		01 55 43.9	
	comp=Z,136nm,20.3s,baz=198,slow=34								
GYA	**Guiyang**	**29.50**	**321**	P		**P**		**01 45 25.8**	**+1.0**
GYA				pP		**pP**		**01 45 37.0**	**+2.1**
GYA				PP		**PnPn**		**01 46 22.6**	**+2.7**
GYA				PcP		**PcP**		**01 48 30.4**	**+0.6**
GYA				S		**S**		**01 50 17.9**	**+0.6**
GYA				sS		**sS**		**01 50 35.2**	**+1.3**
GYA				SS		SS		01 51 52.4	-31
GYA				ScP		**ScP**		**01 52 07.9**	**-1.3**
GYA				ScS		**ScS**		**01 56 01.0**	**-3.1**
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
GYA				pmax		pmax			
	comp=Z,120nm,5.1s								
GYA				LR		LR			
	comp=N,570nm,17.8s								
GYA				LR		LR			
	comp=E,480nm,17.9s								
GYA				LR		LR			
	comp=Z,590nm,18.2s								
CTA	**Charters Tower**	**30.63**	**142**	*e*P		**P**		**01 45 37.0**	**+2.3**
	comp=Z,4.7nm,0.9s								
CTAO	**Charters Tower**	**30.63**	**142**	*e*P		**P**		**01 45 33.6**	**-1.1**
CTAO				pmax		pmax			
	comp=Z,32nm,1.5s								
CTAO	**Charters Tower**	**30.63**	**142**	*e*P		**P**		**01 45 33.5**	**-1.1**
	comp=Z,32nm,1.5s								
CMAR	**Chiang Mai Arr**	**30.78**	**300**	P		**P**		**01 45 35.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**30.78**	**300**	P		**P**		**01 45 35.8**	**-0.2**
	comp=Z,7.9nm,0.9s,baz=120,slow=7.8,SNR=16								
CMAR				LR		LR		01 57 42.4	
	comp=Z,139nm,21.7s,baz=115,slow=36								
ENH	**Enshi**	**30.84**	**330**	*e*P		**P**		**01 45 35.6**	**-0.8**
	comp=Z,28nm,0.8s								
CHTO	**Chiang Mai**	**30.92**	**301**	*e*P		**P**		**01 45 36.9**	**-0.4**
CHTO				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CHTO	**Chiang Mai**	**30.92**	**301**	*e*P		**P**		**01 45 36.9**	**-0.4**
	comp=Z,9.9nm,0.8s								
KMI	**Kunming**	**31.23**	**315**	P		**P**		**01 45 41.8**	**+1.6**
KMI				pmax		pmax			
	comp=Z,11nm,0.7s								
MEEK	**Meekatharra**	**31.42**	**194**	*e*P		**P**		**01 45 40.9**	**-0.7**
	comp=Z,98nm,0.7s								
KSAR	**Wonju Array Be**	**33.34**	**2**	P		**P**		**01 45 59.9**	**+1.6**
KSRS	**Korea Array**	**33.35**	**2**	P		**P**		**01 45 59.9**	**+1.6**
	comp=Z,1.9nm,0.7s,baz=183,slow=8.9,SNR=4.8								
MJAR	**Matsushiro Arr**	**34.09**	**17**	P		**P**		**01 46 06.6**	**+1.8**
MJAR	**Matsushiro Arr**	**34.09**	**17**	P		**P**		**01 46 06.6**	**+1.8**
	comp=Z,1.3nm,0.3s,baz=186,slow=9.7,SNR=4.3								
XAN	**Xi'an**	**34.22**	**333**	P		**P**		**01 46 04.6**	**-1.4**
XAN				pP		**pP**		**01 46 15.6**	**-0.6**
XAN				S		**S**		**01 51 25.3**	**-5.3**
XAN				sS		**sS**		**01 51 46.0**	**-1.3**
XAN				pmax		pmax			
	comp=Z,11nm,0.8s								
XAN				LR		LR			
	comp=N,120nm,15.1s								
XAN				LR		LR			
	comp=E,63nm,19.6s								
XAN				LR		LR			
	comp=Z,74nm,19.6s								
CD2	**Chengdu**	**34.47**	**324**	⇑P		**P**		**01 46 08.1**	**-0.2**
CD2				pP		**pP**		**01 46 17.8**	**-0.6**
CD2				sP		**sP**		**01 46 21.7**	**-0.9**
CD2				PcP		**PcP**		**01 48 42.8**	**-0.3**
CD2				S		**S**		**01 51 33.8**	**-0.8**
CD2				sS		**sS**		**01 51 49.8**	**-1.5**
CD2				PcS		**PcS**		**01 52 28.1**	**-1.6**
CD2				SS		**SnSn**		**01 53 46.1**	**-1.1**
CD2				pmax		pmax			
	comp=Z,20nm,0.5s								
CD2				pmax		pmax			
	comp=Z,160nm,5.8s								
FORT	**Forrest**	**34.57**	**178**	*e*P		**P**		**01 46 08.2**	**-0.8**
	comp=Z,34nm,0.7s								
FORT	**Forrest**	**34.57**	**178**	*e*P		**P**		**01 46 08.2**	**-0.8**
	comp=Z,28nm,0.7s								
BJT	**Baijiatuan**	**37.15**	**346**	*e*P		**P**		**01 46 31.6**	**+0.6**
	comp=Z,29nm,0.7s								
BJI	**Beijing**	**37.17**	**347**	P		**P**		**01 46 31.9**	**+0.8**
BJI				pmax		pmax			
	comp=Z,27nm,0.9s								
BJI				LR		LR			
	comp=Z,43nm,21.9s								
EIDS	**Eidsvold**	**37.52**	**142**	*e*P		**P**		**01 46 32.4**	**-1.9**
	comp=Z,39nm,0.8s								
EIDS	**Eidsvold**	**37.52**	**142**	*e*P		**P**		**01 46 34.0**	**-0.4**
	comp=Z,142nm,0.7s								
BBOO	**Buckleboo**	**37.62**	**167**	*e*P		**P**		**01 46 34.7**	**-0.4**
	comp=Z,34nm,0.5s								
NWAO	**Narrogin (SRO)**	**37.78**	**193**	P		**P**		**01 46 35.1**	**-1.3**
NWAO	**Narrogin (SRO)**	**37.78**	**193**	P		**P**		**01 46 35.1**	**-1.3**
	comp=Z,3.5nm,0.4s,baz=39,slow=2.4,SNR=5.6								
LZH	**Lanzhou**	**38.31**	**329**	*e*P		**P**		**01 46 41.9**	**+0.7**
LZH				pP		**pP**		**01 46 51.3**	**-0.1**
LZH				sP		**sP**		**01 46 55.6**	**0.0**
LZH				PP		**PnPn**		**01 48 12.1**	**+1.0**
LZH				*e*S		**S**		**01 52 29.6**	**-3.8**
LZH				SS		**SnSn**		**01 55 15.0**	**-5.3**
LZH				pmax		pmax			
	comp=Z,37nm,1.5s								
LZH				pmax		pmax			
	comp=Z,150nm,4.7s								
LZH				LR		LR			
	comp=N,120nm,10.4s								
LZH				LR		LR			
	comp=E,280nm,15.5s								
LZH				LR		LR			
	comp=Z,250nm,17.8s								
STKA	**Stephens Creek**	**38.34**	**159**	*e*P		**P**		**01 46 41.2**	**0.0**
	comp=Z,5.1nm,0.7s								
STKA	**Stephens Creek**	**38.34**	**159**	*e*P		**P**		**01 46 40.7**	**-0.5**
	comp=Z,22nm,0.6s								
STKA	**Stephens Creek**	**38.34**	**159**	P		**P**		**01 46 41.6**	**+0.5**
	comp=Z,28nm,0.7s,baz=334,slow=8.5,SNR=42								
HHC	**Hu-ho-hao-te**	**39.19**	**342**	*e*P		**P**		**01 46 49.5**	**+1.2**
HHC				pP		**pP**		**01 46 59.5**	**+0.9**
HHC				sP		**sP**		**01 47 04.3**	**+1.5**
HHC				PP		**PnPn**		**01 48 19.8**	**-1.6**
HHC				PcP		**PcP**		**01 48 58.2**	**+0.9**
HHC				ScP		**S**		**01 52 43.6**	**-2.7**
HHC				S		ScP		01 52 49.6	+6.3
HHC				sS		**sS**		**01 53 04.0**	**+0.8**
HHC				pmax		pmax			
	comp=Z,15nm,1.3s								
HHC				pmax		pmax			
	comp=Z,81nm,6.0s								
HHC				LR		LR			
	comp=N,250nm,18.0s								
HHC				LR		LR			
	comp=E,280nm,16.8s								
HHC				LR		LR			
	comp=Z,250nm,24.0s								
CN2	**Changchun**	**39.69**	**359**	*e*P		P		01 46 58.3	+6.0
CN2				*e*S		S		01 53 04.7	+11
CN2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
CN2				pmax		pmax			
	comp=Z,200nm,4.0s								
CN2				LR		LR			
	comp=N,300nm,14.0s								
CN2				LR		LR			
	comp=E,500nm,14.0s								
CN2				LR		LR			
	comp=Z,500nm,16.0s								
USRK	**Ussuriysk Arra**	**40.34**	**6**	P		**P**		**01 46 59.4**	**+1.7**
	comp=Z,2.3nm,0.6s,baz=197,slow=6.6,SNR=6.0								
MDJ	**Mudanjiang**	**40.56**	**3**	P		**P**		**01 46 59.7**	**+0.1**
MDJ				pP		**pP**		**01 47 08.5**	**-1.3**
MDJ				sP		**sP**		**01 47 12.4**	**-1.6**
MDJ				ScP		**ScP**		**01 52 48.4**	**0.0**
MDJ				PcS		**PcS**		**01 52 52.1**	**+0.2**
MDJ				S		**S**		**01 53 06.6**	**0.0**
MDJ				pmax		pmax			
	comp=Z,11nm,2.0s								
MDJ				LR		LR			
	comp=N,66nm,25.8s								
MDJ				LR		LR			
	comp=E,56nm,32.5s								
MDJ				LR		LR			
	comp=Z,95nm,24.3s								
ARMA	**Armidale**	**41.65**	**147**	*e*P		**P**		**01 47 09.8**	**+0.9**
	comp=Z,40nm,0.8s								
ARMA	**Armidale**	**41.65**	**147**	*e*P		**P**		**01 47 09.7**	**+0.9**
LSA	**Lhasa**	**42.30**	**311**	*e*P		**P**		**01 47 15.1**	**+0.4**
LSA	**Lhasa**	**42.30**	**311**	*e*P		**P**		**01 47 15.0**	**+0.4**
LSA				pmax		pmax			
	comp=Z,10.0nm,0.6s								
LSA	**Lhasa**	**42.30**	**311**	*e*P		**P**		**01 47 15.0**	**+0.4**
	comp=Z,10nm,0.6s								
ARPS	**Mount Arapiles**	**42.90**	**162**	*e*P		**P**		**01 47 19.4**	**+0.6**
	comp=Z,13nm,0.3s								
GTA	**Gaotai**	**42.91**	**329**	*e*P		**P**		**01 47 19.9**	**+0.9**
GTA				pP		**pP**		**01 47 29.3**	**-0.1**
GTA				sP		**sP**		**01 47 33.1**	**-0.4**
GTA				S		**S**		**01 53 40.0**	**-1.8**
GTA				sS		**sS**		**01 53 56.6**	**-2.2**
GTA				SS		**SS**		**01 56 47.2**	**-7.0**
GTA				pmax		pmax			
	comp=Z,7.0nm,0.8s								
GTA				pmax		pmax			
	comp=Z,89nm,5.7s								
GTA				LR		LR			
	comp=N,160nm,15.7s								
GTA				LR		LR			
	comp=E,220nm,20.2s								
GTA				LR		LR			
	comp=Z,300nm,16.2s								
TAPN	**Taplejung**	**43.90**	**306**	*e*P		**P**		**01 47 25.6**	**-1.8**
	comp=Z,37nm,1.0s								
ODAN	**Odare**	**43.95**	**305**	*e*P		**P**		**01 47 27.0**	**-0.8**
CAN	**Canberra**	**44.31**	**154**	*e*P		**P**		**01 47 31.2**	**+1.0**
CAN				pmax		pmax			
	comp=Z,13nm,0.8s								
CAN	**Canberra**	**44.31**	**154**	*e*P		**P**		**01 47 31.2**	**+1.0**
	comp=Z,13nm,0.8s								
RAMN	**Ramite**	**44.64**	**305**	*e*P		**P**		**01 47 32.4**	**-0.9**
	comp=Z,23nm,0.8s								
JIRN	**Jiri**	**45.26**	**306**	*e*P		**P**		**01 47 37.2**	**-1.1**
	comp=Z,5.2nm,0.7s								
KLR	**Kul'dur**	**45.30**	**5**	*e*P		**P**		**01 47 35.7**	**-2.2**
HIA	**Hailar**	**45.53**	**354**	*e*P		**P**		**01 47 40.5**	**+0.8**
	comp=Z,25nm,0.9s								
GUN	**Gumba**	**45.61**	**306**	*e*P		**P**		**01 47 39.7**	**-1.4**
	comp=Z,46nm,0.8s								
PKI	**Pulchoki**	**45.85**	**305**	*e*P		**P**		**01 47 42.2**	**-0.8**
KKN	**Kakani**	**46.05**	**305**	*e*P		**P**		**01 47 43.5**	**-0.9**
DMN	**Daman**	**46.12**	**305**	*e*P		**P**		**01 47 44.4**	**-0.6**
DZM	**Mont Dzumac**	**46.65**	**125**	*e*P		**P**		**01 47 49.6**	**+0.6**
	comp=Z,30nm,1.0s								
GKN	**Gorkha**	**46.65**	**305**	*e*P		**P**		**01 47 47.9**	**-1.2**
ULN	**Ulaanbaatar**	**46.91**	**342**	*e*P		**P**		**01 47 50.9**	**+0.2**
	comp=Z,7.2nm,0.9s								
SONM	**Songino Array**	**47.09**	**341**	P		**P**		**01 47 52.0**	**-0.1**
SONM				PcP		**PcP**		**01 49 24.2**	**+0.6**
SONM	**Songino Array**	**47.09**	**341**	P		**P**		**01 47 52.0**	**-0.1**
	comp=Z,4.0nm,0.7s,baz=155,slow=8.0,SNR=21								
SONM				PcP		**PcP**		**01 49 24.2**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=164,slow=2.9,SNR=3.1								
KOLN	**Koldanda**	**47.41**	**305**	*e*P		**P**		**01 47 53.6**	**-1.5**
	comp=Z,33nm,0.6s								
DANN	**Dangsing**	**47.50**	**305**	*e*P		**P**		**01 47 54.2**	**-1.7**
	comp=Z,51nm,0.7s								
HYB	**Hyderabad**	**49.06**	**290**	*i* P		**P**		**01 48 06.5**	**-1.2**
ZAK	**Zakamensk**	**50.31**	**341**	*e*P		**P**		**01 48 17.7**	**+0.9**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.5s								
TLY	**Talaya**	**51.32**	**342**	*e*P		**P**		**01 48 25.4**	**+1.1**
TLY				pmax		pmax			
	comp=Z,7.0nm,0.7s								
TLY				MLR		MLR			
	comp=Z,101nm,19.0s								
MOY	**Mondy**	**52.17**	**340**	*e*P		**P**		**01 48 32.9**	**+2.1**
WMQ	**Urumqi**	**52.55**	**325**	*e*P		**P**		**01 48 33.5**	**-0.1**
WMQ				pP		**pP**		**01 48 45.0**	**+0.8**
WMQ				sP		**sP**		**01 48 48.5**	**+0.2**
WMQ				PcP		**PcP**		**01 49 41.0**	**-2.7**
WMQ				*e*S		**S**		**01 55 57.0**	**-1.3**
WMQ				pmax		pmax			
	comp=Z,9.0nm,0.6s								
WMQ				pmax		pmax			
	comp=Z,190nm,6.4s								
WMQ				LR		LR			
	comp=N,660nm,23.2s								
WMQ				LR		LR			
	comp=E,280nm,24.2s								
WMQ				LR		LR			
	comp=Z,310nm,25.6s								
CLNS	**Chul'man**	**52.74**	**359**	*e*P		**P**		**01 48 35.6**	**+0.8**
CLNS				*e*				01 49 43.3	
CLNS				*e*				01 50 33.7	
CLNS				*e*PPP		PPP		01 51 39.5	
CLNS				*e*S		**S**		**01 55 56.2**	**-4.2**
CLNS				pmax		pmax			
	comp=Z,8.0nm,1.0s								
CLNS				pmax		pmax			
	comp=E,3.0nm,1.0s								
CLNS				pmax		pmax			
	comp=N,7.0nm,1.0s								
CLNS				pmax		pmax			
	comp=E,4.0nm,0.7s								
CLNS				pmax		pmax			
	comp=Z,6.0nm,0.8s								
CLNS				pmax		pmax			
	comp=N,5.0nm,0.8s								
CLNS				smax		smax			
	comp=N,131nm,15.1s								
CLNS				smax		smax			
	comp=E,303nm,16.8s								
BOD	**Bodaibo**	**54.64**	**352**	*e*P		**P**		**01 48 49.2**	**+0.6**
BOD				pmax		pmax			
	comp=Z,12nm,1.1s								
PETK	**Petropavlovsk-**	**55.21**	**22**	P		**P**		**01 48 53.6**	**+0.8**
PETK	**Petropavlovsk-**	**55.21**	**22**	P		**P**		**01 48 53.6**	**+0.8**
PETK	**Petropavlovsk-**	**55.21**	**22**	P		**P**		**01 48 53.6**	**+0.8**
	comp=Z,4.3nm,0.7s,baz=201,slow=6.3,SNR=4.7								
PETK				LR		LR		02 13 38.0	
	comp=Z,43nm,18.6s,baz=333,slow=37								
MK31	**Makanchi Array**	**57.38**	**325**	*e*P		**P**		**01 49 07.5**	**-1.0**
MK31	**Makanchi Array**	**57.38**	**325**	*e*P		**P**		**01 49 07.5**	**-1.0**
MKAR	**Makanchi Array**	**57.38**	**325**	*ce*P		**P**		**01 49 07.5**	**-1.0**
MKAR				pmax		pmax			
	comp=Z,6.0nm,0.6s								
MKAR	**Makanchi Array**	**57.38**	**325**	*e*P		**P**		**01 49 07.8**	**-0.7**
MKAR				ScP		**ScP**		**01 54 02.4**	**+2.8**
MKAR	**Makanchi Array**	**57.38**	**325**	P		**P**		**01 49 07.5**	**-1.0**
	comp=Z,5.5nm,0.6s,baz=120,slow=7.7,SNR=46								
MKAR				ScP		**ScP**		**01 54 02.4**	**+2.8**
	comp=Z,1.6nm,0.8s,baz=112,slow=4.6,SNR=5.9								
MKAR				LR		LR		02 15 30.4	
	comp=Z,151nm,19.3s,baz=114,slow=38								
KSH	**Kashi**	**57.90**	**315**	P		**P**		**01 49 13.6**	**+1.2**
KSH				pP		**pP**		**01 49 23.5**	**+0.5**
KSH				sP		**sP**		**01 49 27.7**	**+0.6**
KSH				PcP		**PcP**		**01 50 05.0**	**+0.5**
KSH				PP		**PP**		**01 51 24.8**	**+3.8**
KSH				ScP		**ScP**		**01 54 00.9**	**-1.3**
KSH				PcS		**PcS**		**01 54 05.0**	**-0.9**
KSH				S		**S**		**01 57 12.1**	**+2.0**
KSH				sS		**sS**		**01 57 29.0**	**+1.4**
KSH				ScS		**ScS**		**01 58 58.3**	**-1.3**
KSH				SS		**SS**		**02 01 05.0**	**+3.6**
KSH				LR		LR			
	comp=N,210nm,5.1s								
KSH				LR		LR			
	comp=E,120nm,7.1s								
KSH				LR		LR			
	comp=Z,290nm,6.0s								
YAK	**Yakutsk**	**57.98**	**2**	*e*P		**P**		**01 49 14.5**	**+2.2**
YAK				pmax		pmax			
	comp=Z,25nm,1.0s								
YAK				pmax		pmax			
	comp=N,11nm,1.5s								
YAK				pmax		pmax			
	comp=E,4.0nm,1.4s								
TKM2	**Tokmak 2**	**59.59**	**318**	*e*P		**P**		**01 49 24.5**	**+0.3**
TKM2				pmax		pmax			
	comp=Z,4.0nm,0.6s								
TKM2	**Tokmak 2**	**59.59**	**318**	*e*P		**P**		**01 49 24.5**	**+0.3**
	comp=Z,3.5nm,0.6s								
AAK	**Ala-Archa**	**60.20**	**318**	*e*P		**P**		**01 49 27.0**	**-1.4

RDF					AMb	AMB	01 51 30.3	
	comp=Z,41nm,1.6s							
MIB	**Mutribah**	**78.86**	**299**	*eP*	P		01 51 20.4	-3.1
MIB					AMb	AMB	01 51 25.2	
	comp=Z,25nm,0.7s							
NAY	**Al-Naaiem**	**78.93**	**299**	*eP*	**P**		**01 51 21.4**	**-2.6**
NAY					AMb	AMB	01 51 27.0	
	comp=Z,14nm,1.0s							
KDAK	**Kodiak Island**	**81.68**	**32**	P	**P**		**01 51 39.2**	**+1.1**
KDAK	**Kodiak Island**	**81.68**	**32**	P	**P**		**01 51 39.2**	**+1.1**
	comp=Z,6.0nm,0.7s,baz=270,slow=6.5,SNR=5.1							
ZEI	**Tsey**	**82.08**	**312**	*eP*	P		01 51 44.2	+3.3
ZEI					pmax	pmax		
	comp=Z,5.0nm,1.0s							
TRF	**Thorofare Moun**	**83.32**	**27**	*eP*	**P**		**01 51 47.1**	**+0.2**
	comp=Z,15nm,1.1s							
VNDA	**Vanda**	**83.65**	**173**	*eP*	**P**		**01 51 48.8**	**+0.8**
	comp=Z,51nm,1.6s							
COLD	**Coldfoot**	**83.67**	**23**	*eP*	**P**		**01 51 49.8**	**+1.5**
	comp=Z,10.0nm,1.0s							
PMR	**Palmer**	**83.73**	**29**	*eP*	**P**		**01 51 49.3**	**+0.6**
PMR					pmax	pmax		
	comp=Z,17nm,1.1s							
PMR	**Palmer**	**83.73**	**29**	*eP*	**P**		**01 51 49.3**	**+0.6**
	comp=Z,17nm,1.1s							
VRHR	**Novokhopersk**	**83.88**	**321**	*eP*	**P**		**01 51 49.8**	**+0.1**
VRHR					pmax	pmax		
	comp=N,10.0nm,0.8s							
VRHR					pmax	pmax		
	comp=E,4.0nm,0.8s							
VRHR					pmax	pmax		
	comp=Z,8.0nm,0.8s							
MCK	**McKinley**	**83.94**	**26**	*eP*	**P**		**01 51 50.9**	**+1.0**
MCK					pmax	pmax		
	comp=Z,13nm,1.1s							
MCK	**McKinley**	**83.94**	**26**	*eP*	**P**		**01 51 50.9**	**+1.0**
	comp=Z,12nm,1.1s							
ILAR	**Eielson Array**	**84.88**	**25**	P	**P**		**01 51 55.1**	**+0.6**
ILAR	**Eielson Array**	**84.88**	**25**	P	**P**		**01 51 55.1**	**+0.6**
	comp=Z,2.0nm,0.9s,baz=246,slow=5.2,SNR=14							
KLMR	**Klimovskoe**	**85.22**	**331**	*eP*	**P**		**01 51 54.6**	**-1.6**
KLMR					pmax	pmax		
	comp=Z,47nm,1.1s							
VORD	**Divnogorie**	**85.35**	**321**	*eP*	**P**		**01 51 56.0**	**-1.1**
VSR	**Storozhevoye**	**85.42**	**321**	*eP*	**P**		**01 51 56.0**	**-1.5**
VSR					pmax	pmax		
	comp=N,2.0nm,0.7s							
VSR					pmax	pmax		
	comp=E,5.0nm,0.7s							
VSR					pmax	pmax		
	comp=Z,6.0nm,0.7s							
OBN	**Obninsk**	**86.89**	**325**	*eP*	**P**		**01 52 04.2**	**-0.4**
OBN					pmax	pmax		
	comp=Z,27nm,1.2s							
OBN					MLR	MLR		
	comp=Z,100nm,18.0s							
JOF	**Joensuu**	**88.98**	**333**	*eP*	**P**		**01 52 14.0**	**-0.5**
JOF					pmax	pmax		
	comp=Z,6.0nm,0.7s							
JOF	**Joensuu**	**88.98**	**333**	*ep*	**P**		**01 52 14.0**	**-0.5**
	comp=Z,5.8nm,0.7s							
KMBO	**Kilima Mbogo**	**89.58**	**269**	*eP*	**P**		**01 52 18.7**	**+0.1**
	comp=Z,5.0nm,1.2s							
BRTR	**Keskin Array B**	**89.89**	**310**	P	**P**		**01 52 17.7**	**-1.7**
BRTR	**Keskin Array B**	**89.89**	**310**	P	**P**		**01 52 17.7**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=95,slow=4.0,SNR=5.7							
INK	**Inuvik**	**89.94**	**21**	*eP*	**P**		**01 52 19.0**	**+0.2**
	comp=Z,3.5nm,0.7s							
ARCES	**ARCESS Array B**	**90.24**	**340**	P	**P**		**01 52 19.7**	**-0.5**
ARCES	**ARCESS Array B**	**90.24**	**340**	P	**P**		**01 52 19.7**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=72,slow=5.9,SNR=9.3							
ARCES					LR	LR	02 35 47.2	
	comp=Z,93nm,20.6s,baz=61,slow=38							
KAF	**Kangasniemi**	**91.40**	**332**	*eP*	**P**		**01 52 24.5**	**-1.3**
KAF					pmax	pmax		
	comp=Z,3.0nm,0.6s							
KAF	**Kangasniemi**	**91.40**	**332**	*ep*	**P**		**01 52 24.5**	**-1.3**
	comp=Z,2.6nm,0.6s							
FINES	**FINESS Array B**	**91.64**	**332**	P	**P**		**01 52 26.4**	**-0.4**
FINES	**FINESS Array B**	**91.64**	**332**	P	**P**		**01 52 26.4**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=86,slow=2.7,SNR=12							
AKASG	**Malin Array Be**	**91.73**	**321**	*ceP*	**P**		**01 52 26.7**	**-0.8**
AKASG					pmax	pmax		
	comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**91.73**	**321**	P	**P**		**01 52 26.8**	**-0.8**
AKASG	**Malin Array Be**	**91.73**	**321**	P	**P**		**01 52 26.8**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=66,slow=4.4,SNR=5.3							
AKASG					LR	LR	02 39 29.7	
	comp=Z,68nm,19.8s,baz=265,slow=39							
SUW	**Suwalki**	**94.75**	**325**	*eP*	**P**		**01 52 40.7**	**-0.7**
SUW					pmax	pmax		
	comp=Z,32nm,1.1s							
SUW	**Suwalki**	**94.75**	**325**	*eP*	**P**		**01 52 40.7**	**-0.7**
	comp=Z,32nm,1.1s							
BUR08	**Bucovina Ar. S**	**94.85**	**318**	*eP*	**P**		**01 52 42.2**	**+0.1**
UZH	**Uzhgorod**	**96.54**	**320**	*eP*	**P**		**01 52 48.4**	**-1.3**
UZH				*i*			01 52 56.6	
UZH				*i*			01 56 38.2	
NB2	**NORSAR Subarra**	**98.59**	**334**	P	**P**		**01 52 57.5**	**-1.2**
	comp=Z,2.4nm,0.8s,baz=67,slow=4.8							
NOA	**NORSAR Array B**	**98.59**	**334**	P		Pdif	01 52 57.7	-1.0
NOA	**NORSAR Array B**	**98.59**	**334**	P		Pdif	01 52 57.7	-1.0
	comp=Z,0.9nm,0.7s,baz=68,slow=4.6,SNR=5.4							
NOA					LR	LR	02 42 26.9	
	comp=Z,88nm,18.2s,baz=170,slow=38							
YKA	**Yellowknife Ar**	**99.28**	**24**	P		**Pdif**	**01 53 02.4**	**+0.7**
YKA	**Yellowknife Ar**	**99.28**	**24**	P		**Pdif**	**01 53 02.3**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=298,slow=4.2,SNR=5.9							
GERES	**GERESS Array B**	**101.92**	**322**	P		**Pdif**	**01 53 12.2**	**-1.7**
GERES	**GERESS Array B**	**101.92**	**322**	P		**Pdif**	**01 53 12.2**	**-1.7**
	comp=Z,0.8nm,0.9s,baz=49,slow=4.3,SNR=5.6							
TXAR	**Lajitas Array**	**121.44**	**52**	PKP		**PKPdf**	**01 58 15.5**	**+1.4**
TXAR	**Lajitas Array**	**121.44**	**52**	PKP		**PKPdf**	**01 58 15.5**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=242,slow=1.1,SNR=4.5							
TORD	**Torodi Ar. Bea**	**122.87**	**288**	PKP		**PKPdf**	**01 58 17.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**122.87**	**288**	PKP		**PKPdf**	**01 58 17.6**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=53,slow=2.4,SNR=6.3							
JCT	**Junction City**	**123.89**	**49**	*ePKIKP*		**PKPdf**	**01 58 20.4**	**+1.7**
JCT	**Junction City**	**123.89**	**49**	*ePKPdf*		**PKPdf**	**01 58 20.4**	**+1.7**
DBIC	**Dimbokro**	**130.55**	**282**	SKPbc		**SKPbc**	**02 01 53.5**	**+0.5**
DBIC	**Dimbokro**	**130.55**	**282**	SKPbc		**SKPbc**	**02 01 53.5**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=123,slow=5.3,SNR=3.8							
TRQA	**Tornquist**	**145.14**	**168**	*ePKPbc*		**PKPdf**	**01 58 57.6**	**-0.3**
LCO	**Las Campanas**	**150.08**	**148**	*ePKPbc*		**PKPbc**	**01 59 12.6**	**+1.0**

*ISCJB **13** 01:42:13.5±0.6, 12°.99N±0°.08×88°.72W±0°.05, h71km±3km, mb3.9/18, Error ellipse: s-maj=14.7km s-min=4.4km az=30.8*
*NEIC **13** 01:42:14.9, 13°.03N×88°.83W, h50km, mb4.1/7, MD4.4(SNET), After SNET.*
NEIC Felt [III] at Zacatecoluca.
*IDC **13** 01:42:14.8±1.7, 13°.13N×88°.57W, h67km±15km, mb3.6/11, mb1 3.8/14, mb1mx3.7/25, mbtmp3.7/14, MS2.9/2, Ms1 2.9/2, ms1mx2.6/31, Error ellipse: s-maj=26.3km s-min=9.7km az=47.0*
*CASC **13** 01:42:15.4±2.5, 13°.00N×88°.81W, h44km±31km, MD4.0, ML4.4, mb4.1(NEIC)*

ISC 13 01:42:14.0±1.0, 13°.03N±0°.08×88°.73W±0°.05, h61km±7km, n76, σ1§29/97, mb4.0/18, 6D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AIES	**Las Flores**	**0.53**	**324**	*eP*			**Pn**	**01 42 26.1**	**-0.2**
AIES				*eS*			**Sn**	**01 42 35.0**	**-0.3**
AIES				AML		AML		01 42 41.4	
	comp=Z,14μm,0.3s								
SNVI	**San Vicente**	**0.59**	**350**	*eP*			**Pn**	**01 42 27.6**	**+0.5**
SNVI	**San Vicente**	**0.59**	**350**	*eP*			**Pn**	**01 42 27.6**	**+0.5**
VSM	**San Miguel**	**0.60**	**48**	*i/P*			**Pn**	**01 42 28.8**	**+1.5**
VSM	**San Miguel**	**0.60**	**48**	*i/P*			**Pn**	**01 42 28.8**	**+1.5**
BLLM	**Bellamira**	**0.63**	**49**	*eP*			**Pn**	**01 42 29.0**	**+1.5**
BLLM	**Bellamira**	**0.63**	**49**	*eP*			**Pn**	**01 42 29.0**	**+1.5**
LFRS	**El Faro**	**0.67**	**331**	*i/P*			**Pn**	**01 42 28.1**	**0.0**
LFRS	**El Faro**	**0.67**	**331**	*i/P*			**Pn**	**01 42 28.1**	**0.0**
LBRS	**Las Brisas**	**0.77**	**337**	*eP*			**Pn**	**01 42 29.7**	**+0.5**
LBRS	**Las Brisas**	**0.77**	**337**	*eP*			**Pn**	**01 42 29.7**	**+0.5**
SNET	**Serv Nac Est T**	**0.82**	**323**	*eP*			**Pn**	**01 42 29.5**	**-0.2**
SNET	**Serv Nac Est T**	**0.82**	**323**	*eP*			**Pn**	**01 42 29.6**	**-0.2**
SNET				AML		AML		01 42 42.8	
	comp=Z,12μm,0.3s								
BOQS	**Boqueron**	**0.88**	**323**	*eP*			**Pn**	**01 42 30.9**	**+0.1**
BOQS				*eS*			**Sn**	**01 42 43.5**	**+0.4**
BOQS	**Boqueron**	**0.88**	**323**	*eP*			**Pn**	**01 42 30.9**	**+0.1**
BOQS				*eS*			**Sn**	**01 42 43.5**	**+0.4**
CAHU	**Cacauatique**	**0.90**	**34**	*eP*			**Pn**	**01 42 32.5**	**+1.6**
CAHU	**Cacauatique**	**0.90**	**34**	*eP*			**Pn**	**01 42 32.5**	**+1.6**
CNCH	**Conchagua**	**0.91**	**74**	*eP*			**Pn**	**01 42 32.5**	**+1.5**
CNCH	**Conchagua**	**0.91**	**74**	*eP*			**Pn**	**01 42 32.5**	**+1.5**
SBLS	**San Blas**	**1.19**	**313**	*eP*			**Pn**	**01 42 35.0**	**+0.3**
SBLS	**San Blas**	**1.19**	**313**	*eP*			**Pn**	**01 42 35.0**	**+0.3**
SNJE	**San Jose**	**1.19**	**315**	*eP*			**Pn**	**01 42 34.8**	**+0.1**
SNJE				*eS*			**Sn**	**01 42 50.3**	**+0.1**
SNJE	**San Jose**	**1.19**	**315**	*eP*			**Pn**	**01 42 34.8**	**+0.1**
SNJE				*eS*			**Sn**	**01 42 50.3**	**+0.1**
RTR	**El Retiro**	**1.24**	**314**	*eP*			**Pn**	**01 42 35.7**	**+0.3**
RTR				*eS*			**Sn**	**01 42 52.6**	**+1.3**
RBDL	**Robledal**	**1.42**	**319**	*eP*			**Pn**	**01 42 38.1**	**+0.3**
RBDL	**Robledal**	**1.42**	**319**	*eP*			**Pn**	**01 42 38.1**	**+0.3**
MTO2	**Montecristo 2**	**1.50**	**336**	*i/P*			**Pn**	**01 42 39.5**	**+0.7**
MTO2	**Montecristo 2**	**1.50**	**336**	*i/P*			**Pn**	**01 42 39.5**	**+0.7**
IXG	**Ixpaco**	**2.03**	**304**	*eP*			Pn	01 42 51.0	+5.1
IXG				*eS*			**Sn**	**01 43 12.9**	**+2.6**
CNGN	**Cerro Negro**	**2.05**	**105**	*eP*			**Pn**	**01 42 48.8**	**+2.6**
CNGN	**Cerro Negro**	**2.05**	**105**	*eP*			**Pn**	**01 42 48.8**	**+2.6**
NBG	**Las Nubes**	**2.21**	**315**	*eP*			**Pn**	**01 42 50.0**	**+1.5**
NBG				*eS*			**Sn**	**01 43 14.5**	**-0.3**
MRL	**Marmol**	**2.23**	**335**	*eP*			**Pn**	**01 42 51.1**	**+2.3**
PCG	**Pacaya**	**2.27**	**307**	*eP*			Pn	01 42 53.7	+4.2
PCG				*eS*			**Sn**	**01 43 19.1**	**+2.6**
FUG	**Fuego 3**	**2.49**	**305**	*eP*			**Pn**	**01 42 55.1**	**+2.8**
FUG				*eS*			**Sn**	**01 43 23.4**	**+1.8**
TP2	**Tecpan 2**	**2.83**	**308**	*eP*			**Pn**	**01 43 00.0**	**+2.9**
TP2				*eS*			**Sn**	**01 43 31.9**	**+1.7**
JTS	**JuntasAbangare**	**4.59**	**126**	P			**Pn**	**01 43 22.8**	**+1.9**
JTS				S			**Sn**	**01 44 11.9**	**-1.2**
JTS	**JuntasAbangare**	**4.59**	**126**	P			**Pn**	**01 43 22.8**	**+1.9**
	comp=Z,5.0nm,0.3s,baz=305,slow=23,SNR=27								
JTS				S			**Sn**	**01 44 11.9**	**-1.2**
	baz=300,slow=20,SNR=2.6								
TEIG	**Tepich**	**7.17**	**3**	P			**Pn**	**01 43 57.4**	**+1.1**
TEIG	**Tepich**	**7.17**	**3**	P			**Pn**	**01 43 57.4**	**+1.1**
	comp=Z,4.4nm,0.3s,baz=205,slow=5.7,SNR=30								
TEIG				LR			LR	01 47 10.4	
	comp=Z,85nm,19.8s,baz=264,slow=42								
CMIG	**Matias Romero**	**7.18**	**305**	P			**Pn**	**01 43 57.5**	**+1.1**
CMIG				S			**Sn**	**01 45 18.5**	**+1.8**
CMIG	**Matias Romero**	**7.18**	**305**	P			**Pn**	**01 43 57.5**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=106,slow=12,SNR=7.5								
CMIG				S			**Sn**	**01 45 18.5**	**+1.8**
	comp=Z,1.8nm,0.3s,baz=106,slow=19,SNR=4.3								
CMIG				LR			LR	01 47 19.8	
	comp=Z,94nm,18.3s,baz=268,slow=42								
TXAR	**Lajitas Array**	**21.34**	**322**	P			**P**	**01 46 57.6**	**+1.3**
TXAR	**Lajitas Array**	**21.34**	**322**	P			**P**	**01 46 57.6**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=144,slow=11,SNR=18								
TKL	**Tuckaleechee C**	**22.97**	**10**	P			**P**	**01 47 13.6**	**+0.1**
TKL	**Tuckaleechee C**	**22.97**	**10**	P			**P**	**01 47 13.6**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=201,slow=13,SNR=4.2								
AMTX	**Amarillo**	**24.72**	**334**	*eP*			**P**	**01 47 30.4**	**+0.6**
SDCO	**Great Sand Dun**	**28.80**	**332**	*eP*			**P**	**01 48 08.5**	**+1.9**
	comp=Z,0.7nm,0.7s								
SAML	**Samuel**	**33.48**	**129**	*eP*			**P**	**01 48 46.9**	**-0.8**
	comp=Z,2.7nm,0.8s								
RSSD	**Black Hills**	**33.65**	**340**	*eP*			**P**	**01 48 50.8**	**+1.6**
	comp=Z,1.9nm,0.7s								
PDAR	**Pinedale Array**	**34.68**	**333**	P			**P**	**01 48 58.0**	**-0.1**
PDAR					PcP		**PcP**	**01 51 30.1**	**-1.0**
PDAR	**Pinedale Array**	**34.68**	**333**	P			**P**	**01 48 58.0**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=130,slow=12,SNR=6.6								
PDAR					PcP		**PcP**	**01 51 30.1**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=138,slow=6.2,SNR=4.4								
REDW	**Red Top Meadow**	**35.73**	**332**	*eP*			**P**	**01 49 07.6**	**+0.5**
	comp=Z,2.5nm,0.6s								
TPAW	**Teton Pass**	**35.88**	**332**	*eP*			**P**	**01 49 10.2**	**+1.8**
	comp=Z,1.9nm,0.7s								
MOOW	**Moose Ponds**	**35.99**	**332**	*eP*			**P**	**01 49 09.6**	**+0.3**
	comp=Z,0.7nm,0.6s								
NVAR	**Mina Array Bea**	**36.45**	**319**	P			**P**	**01 49 14.9**	**+1.6**
NVAR					PcP		**PcP**	**01 51 37.0**	**+0.6**
NVAR	**Mina Array Bea**	**36.45**	**319**	P			**P**	**01 49 14.9**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=131,slow=7.5,SNR=5.2								
NVAR					PcP		**PcP**	**01 51 37.0**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=114,slow=4.4,SNR=5.9								
ULM	**Lac du Bonnet**	**37.58**	**352**	P			**P**	**01 49 21.0**	**-1.4**
ULM	**Lac du Bonnet**	**37.58**	**352**	P			**P**	**01 49 21.0**	**-1.4**
	comp=Z,2.2nm,0.6s,baz=172,slow=8.6,SNR=4.8								
BOZ	**Bozeman (W)**	**37.87**	**334**	*eP*			**P**	**01 49 25.8**	**+0.7**
	comp=Z,0.9nm,0.5s								
SIV	**San Ignacio**	**39.74**	**136**	P			**P**	**01 49 40.6**	**-0.5**
SIV					PcP		**PcP**	**01 51 48.1**	**+1.5**
SIV	**San Ignacio**	**39.74**	**136**	P			**P**	**01 49 40.6**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=316,slow=8.2,SNR=11								
SIV					PcP		**PcP**	**01 51 48.1**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=254,slow=4.4,SNR=6.5								
SCHQ	**Schefferville**	**45.10**	**18**	P			**P**	**01 50 22.6**	**-1.4**
SCHQ					PcP		**PcP**	**01 52 01.6**	**-2.1**
SCHQ	**Schefferville**	**45.10**	**18**	P			**P**	**01 50 22.6**	**-1.4**
	comp=Z,2.1nm,0.7s,baz=220,slow=4.1,SNR=7.7								
SCHQ					PcP		**PcP**	**01 52 01.6**	**-2.1**
	comp=Z,1.1nm,0.7s,baz=259,slow=5.2,SNR=4.0								
BDFB	**Brasilia**	**49.33**	**124**	P			**P**	**01 50 56.4**	**-1.2**
BDFB	**Brasilia**	**49.33**	**124**	P			**P**	**01 50 56.4**	**-1.2**
	comp=Z,1.8nm,0.5s,baz=27,slow=16,SNR=3.8								
YKA	**Yellowknife Ar**	**52.73**	**345**	P			**P**	**01 51 21.3**	**-1.0**
YKA	**Yellowknife Ar**	**52.73**	**345**	P			**P**	**01 51 21.3**	**-1.0**
	comp=Z,1.3nm,0.4s,baz=142,slow=7.5,SNR=45								
ILAR	**Eielson Array**	**64.99**	**336**	P			**P**	**01 52 46.1**	**-1.2**
ILAR	**Eielson Array**	**64.99**	**336**	P			**P**	**01 52 46.1**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=164,slow=4.6,SNR=6.3								
NOA	**NORSAR Array B**	**83.47**	**29**	P			**P**	**01 54 35.8**	**+0.8**
NOA	**NORSAR Array B**	**83.47**	**29**	P			**P**	**01 54 35.8**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=334,slow=4.5,SNR=3.2								
WRA	**Warramunga Arr**	**138.22**	**255**	PKP			**PKPdf**	**02 01 33.9**	**+0.7**
WRA	**Warramunga Arr**	**138.22**	**255**	PKP			**PKPdf**	**02 01 33.9**	**+0.7**
	comp=Z,14nm,1.3s,baz=110,slow=1.1,SNR=8.8								
FITZ	**Fitzroy Crossi**	**146.54**	**257**	PKPbc			**PKPbc**	**02 01 49.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**146.54**	**257**	PKPbc			**PKPbc**	**02 01 49.6**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=149,slow=5.9,SNR=2.4								

PRE 13 01:43:43.0±0.9, 27°.89S×26°.71E, h2km, ML1.8, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SEK	**Senekal**	**0.92**	**118**	*eP*		Pg		01 44 01.3	+0.5
SEK				*eS*		Sg		01 44 13.0	+0.1
SEK				AML		AML		01 44 18.2	
	comp=Z,14nm,0.2s								
PRYS	**Parys**	**1.12**	**31**	*eP*		Pb		01 44 05.0	-0.3
PRYS				*eS*		Sb		01 44 20.0	-0.5
PRYS				AML		AML		01 44 24.4	
	comp=Z,37nm,0.3s								
SWZ	**Schweizer**	**1.41**	**300**	*eP*		Pb		01 44 10.3	0.0
SWZ				*eS*		Sn		01 44 29.7	+0.4
SWZ				AML		AML		01 44 32.6	
	comp=Z,22nm,0.3s								
BOSA	**Boshof**	**1.47**	**240**	*eP*		Pb		01 44 11.4	0.0
BOSA				*eS*		Sn		01 44 31.6	+0.9
BOSA				AML		AML		01 44 33.0	
	comp=Z,5.2nm,0.2s								
ERPM	**east rand prop**	**2.06**	**42**	*eP*		Pb		01 44 20.4	-0.9
ERPM				*eS*		Sb		01 44 47.2	-0.4
ERPM				AML		AML		01 45 00.5	
	comp=Z,3.9nm,0.2s								
LBTB	**Lobatse**	**3.03**	**341**	*eP*		Pn		01 44 33.5	+1.3
LBTB				*eS*		Sn		01 45 09.3	+0.1
LBTB				AML		AML		01 45 20.8	
	comp=Z,2.6nm,0.2s								

*CSEM **13** 01:43:44.6, 43°.34N×12°.61E, h9km, MD1.6/4, After ROM*

ROM 13 01:43:44.6±0.0, 43°.34N×12°.61E, h9km, Md1.6/4, Ml1.4/2, 2C-2D, Error ellipse: s-maj=0.5km s-min=0.4km az=51.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MURB	**Monte Urbino**	**0.10**	**218**	*i/P*		Pg		01 43 47.5	+0.3
MURB						Sg		01 43 49.7	+0.6
	277nm,0.3s								
MURB	**Monte Urbino**	**0.10**	**218**	*i/P*		Pg		01 43 47.5	+0.3
MURB						Sg		01 43 49.7	+0.6
	277nm,0.3s								
PIEI	**Pieia**	**0.20**	**344**	*i/P*		Pg		01 43 49.4	+0.5
PIEI						Sg		01 43 53.0	+1.3
	25nm,0.2s								
SNTG	**Esanatoglia**	**0.26**	**110**	Pg		Pg		01 43 50.6	+0.7
SNTG						Sg		01 43 55.0	-1.1
	7.0nm,0.3s								
SNTG	**Esanatoglia**	**0.26**	**110**	Pg		Pg		01 43 50.6	+0.7
SNTG						Sg		01 43 55.0	-1.1
	7.0nm,0.3s								
BADI	**Badiali**	**0.31**	**302**	Pg		Pg		01 43 51.5	+0.6
BADI						Sg		01 43 56.9	-0.8
BADI	**Badiali**	**0.31**	**302**	Pg		Pg		01 43 51.5	+0.6
BADI						Sg		01 43 56.9	-0.8

*BEO **13** 01:46:08.5±0.6, 45°.89N×21°.31E, h4km±3km, ML2.4/1*
*CSEM **13** 01:46:08.3±0.3, 45°.88N×21°.25E, h2km, ML2.4, Error ellipse: s-maj=6.5km s-min=3.8km az=37.0*

ISC 13 01:46:08.0±1.3, 45°.92N±0°.04×21°.28E±0°.03, h9km±8km, n32, σ1§14/51, 5C-3D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TIM	**Timisoara**	**0.19**	**192**	*i/P*			**Pg**	**01 46 12.0**	**+0.1**
TIM	**Timisoara**	**0.19**	**192**	S			**Sg**	**01 46 16.4**	**+1.8**
BZS	**Buzias**	**0.39**	**142**	*i/P*			**Pg**	**01 46 14.9**	**-0.7**
BZS	**Buzias**	**0.39**	**142**	S			**Sg**	**01 46 20.6**	**-0.1**
BZS	**Buzias**	**0.39**	**142**	*i/Pg*			**Pg**	**01 46 14.9**	**-0.7**
BZS				*eSg*			**Sg**	**01 46 20.5**	**-0.2**
BZS	**Buzias**	**0.39**	**142**	*i/Pg*			**Pg**	**01 46 14.9**	**-0.7**
BZS				*eSg*			**Sg**	**01 46 20.5**	**-0.2**
BEO	**Beograd**	**1.25**	**207**	*eSg*			**Sn**	**01 46 48.9**	**+0.3**
BEO	**Beograd**	**1.25**	**207**	*eSg*			**Sn**	**01 46 48.9**	**+0.3**
FGSL	**Fruska Gora**	**1.28**	**234**	*ePg*			**Pg**	**01 46 30.6**	**-2.1**
FGSL				*eSg*			**Sg**	**01 46 48.3**	**-1.0**
FRGS	**Fruska Gora**	**1.28**	**234**	*ePg*			**Pg**	**01 46 30.6**	**-2.0**
FRGS				*eSg*			**Sg**	**01 46 48.3**	**-1.0**
PKS6	**Bocsa**	**1.37**	**300**	*ePg*			**Sn**	**01 46 48.8**	**-2.7**
PKS6				*eSg*			**Sg**	**01 46 51.7**	**-0.3**
TRUS	**Trudelj**	**1.81**	**200**	*ePn*			**Pn**	**01 46 40.1**	**+0.8**
TRUS				*eSg*			**Sb**	**01 47 04.0**	**0.0**
TRUS	**Trudelj**	**1.81**	**200**	*ePn*			**Pn**	**01 46 40.1**	**+0.8**
TRUS				*eSg*			**Sb**	**01 47 04.0**	**0.0**
PKSM	**Moragy**	**1.86**	**280**	*ePn*			**Pn**	**01 46 40.8**	**+0.8**
PKSM				*eSn*			**Sn**	**01 47 05.8**	**+2.2**
PKSM	**Moragy**	**1.86**	**280**	*ePn*				01 46 37.4	
PKSM				*eSn*			**Sn**	**01 47 02.5**	**-1.1**
PKSM	**Moragy**	**1.86**	**280**	*ePn*			**Pn**	**01 46 40.8**	**+0.8**
PKSM				*eSn*			**Sn**	**01 47 05.8**	**+2.2**
DIVS	**Divibare**	**2.04**	**207**	*ePn*			**Pn**	**01 46 42.6**	**0.0**
DIVS				*eSg*			**Sb**	**01 47 11.4**	**+0.6**
DIVS	**Divibare**	**2.04**	**207**	*ePn*			**Pn**	**01 46 42.6**	**0.0**
DIVS				*eSg*			**Sb**	**01 47 11.4**	**+0.6**
GRUS	**Gruza**	**2.07**	**191**	*ePn*			**Pn

MEX 13 02:01:42.8±0.9, 15°91N×96°45W, h25km±23km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.35**	**114**	*eP*	Pb	02 01 48.9	-1.8
HUIG				*i* S	Sb	02 01 55.0	-1.1
VHO	**Vista Hermosa**	**1.19**	**347**	*eP*	Pn	02 02 00.4	-3.7
VHO				*eS*	Sn	02 02 15.4	-4.2
OXX	**Oaxaca**	**1.19**	**347**	*i* P	Pn	02 02 00.1	-4.1
OXX				*i* S	Sn	02 02 16.2	-3.5
PNIG	**Pinotepa**	**1.69**	**287**	*eP*	Pn	02 02 07.7	-3.1
PNIG				*i* S	Sn	02 02 28.5	-3.1
PNIG				*eS*	Sb	02 02 29.1	-4.9
CMIG	**Matias Romero**	**1.90**	**52**	*eP*	Pn	02 02 11.5	-2.2
CMIG				*eS*	Sn	02 02 34.5	-2.3
UTMO	**Huajuapan**	**2.31**	**326**	*i* P	Pn	02 02 17.7	-1.8
UTMO				*i* S	Sn	02 02 45.0	-2.4
PCIG		**3.11**	**93**	*i* P	Pn	02 02 28.1	-2.2
PCIG				*i* S	Sn	02 03 03.7	-3.0
YAIG	**Yautepec**	**3.85**	**320**	*i* P	Pb	02 02 48.0	-2.3
YAIG				*i* S	Sb	02 03 41.9	+5.2

IDC ***13*** *02:03:37.6±0.8, 4.°06N×126.°74E, h0km, mb3.9/11, mb1 4.1/11, mb1mx3.9/20, mbtmp3.9/11, Error ellipse: s-maj=38.8km s-min=14.9km az=73.0*

ISCJB ***13*** *02:03:40.8±0.5, 4.°03N±0.°09×126.°7E±0.°2, h36km, mb4.0/18, Error ellipse: s-maj=26.5km s-min=8.8km az=159.3*

NEIC ***13*** *02:03:42.6±0.3, 4.°03N×126.°72E, h35km, mb4.2/6, Error ellipse: s-maj=18.4km s-min=6.2km az=71.0*

ISC 13 02:03:42.8±0.7, 4.°0N±0.°1×126.°8E±0.°2, h36km, n32, σ0s78/32, mb4.2/18, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.07**	**322**	*ǁiP*	**Pn**	**02 04 44.3**	**+1.8**
TATO	**Taipei**	**21.46**	**347**	*eP*	**P**	**02 08 27.9**	**-0.2**
	309nm,1.5s						
FITZ	**Fitzroy Crossi**	**22.00**	**183**	P	**P**	**02 08 34.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**22.00**	**183**	P	**P**	**02 08 34.5**	**+0.5**
	1.3nm,0.6s,baz=4.2,slow=13,SNR=3.7						
WRAB	**Tennant Creek**	**24.93**	**163**	*eP*	**P**	**02 09 02.2**	**-0.6**
	6.8nm,0.7s						
WRA	**Warramunga Arr**	**24.93**	**163**	P	**P**	**02 09 03.9**	**+1.1**
WRA	**Warramunga Arr**	**24.93**	**163**	P	**P**	**02 09 03.9**	**+1.1**
	1.3nm,0.4s,baz=342,slow=10,SNR=13						
ASAR	**Alice Springs**	**28.37**	**166**	P	**P**	**02 09 34.4**	**+0.6**
ASAR	**Alice Springs**	**28.37**	**166**	P	**P**	**02 09 34.4**	**+0.6**
	0.4nm,0.5s,baz=345,slow=7.8,SNR=6.0						
CMAR	**Chiang Mai Arr**	**30.79**	**300**	P	**P**	**02 09 55.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**30.79**	**300**	P	**P**	**02 09 55.0**	**-0.2**
	0.9nm,0.4s,baz=104,slow=7.6,SNR=3.4						
STKA	**Stephens Creek**	**38.37**	**160**	P	**P**	**02 11 00.2**	**-0.3**
STKA	**Stephens Creek**	**38.37**	**160**	P	**P**	**02 11 00.2**	**-0.3**
	1.0nm,0.3s,baz=341,slow=9.3,SNR=4.8						
SONM	**Songino Array**	**47.05**	**341**	P	**P**	**02 12 10.9**	**0.0**
SONM	**Songino Array**	**47.05**	**341**	P	**P**	**02 12 10.9**	**0.0**
	0.4nm,0.7s,baz=172,slow=13,SNR=3.1						
PETK	**Petropavlovsk-**	**55.14**	**22**	P	**P**	**02 13 12.8**	**+1.4**
PETK	**Petropavlovsk-**	**55.14**	**22**	P	**P**	**02 13 12.8**	**+1.4**
	3.1nm,0.9s,baz=204,slow=3.3,SNR=4.6						
MK31	**Makanchi Array**	**57.36**	**325**	*eP*	**P**	**02 13 27.0**	**-0.4**
MKAR	**Makanchi Array**	**57.36**	**325**	P	**P**	**02 13 27.2**	**-0.2**
MKAR	**Makanchi Array**	**57.36**	**325**	P	**P**	**02 13 27.2**	**-0.2**
	1.1nm,0.5s,baz=119,slow=8.1,SNR=37						
ZALV	**Zalesovo Beam**	**60.37**	**333**	P	**P**	**02 13 47.4**	**-0.7**
ZALV	**Zalesovo Beam**	**60.37**	**333**	P	**P**	**02 13 47.4**	**-0.7**
	0.9nm,0.5s,baz=141,slow=7.4,SNR=7.2						
EKS2	**Erkin-Say**	**60.69**	**317**	*eP*	**P**	**02 13 50.2**	**-0.5**
	2.1nm,0.9s						
KURK	**Kurchatov**	**61.54**	**327**	*eP*	**P**	**02 13 55.5**	**-0.7**
	2.8nm,0.7s						
KKAR	**Karatay Array**	**63.07**	**317**	*eP*	**P**	**02 14 06.6**	**0.0**
	1.4nm,0.8s						
BRVK	**Borovoye**	**67.19**	**327**	*eP*	**P**	**02 14 32.9**	**-0.2**
	1.4nm,0.7s						
ABKAR	**Akbulak array**	**71.97**	**321**	*eP*	**P**	**02 15 01.9**	**-0.8**
	0.8nm,0.7s						
ILAR	**Eielson Array**	**84.82**	**25**	P	**P**	**02 16 12.9**	**-0.4**
ILAR	**Eielson Array**	**84.82**	**25**	P	**P**	**02 16 12.9**	**-0.4**
	0.2nm,0.6s,baz=268,slow=5.8,SNR=4.6						
ARCES	**ARCESS Array B**	**90.21**	**340**	P	**P**	**02 16 38.0**	**-1.2**
ARCES	**ARCESS Array B**	**90.21**	**340**	P	**P**	**02 16 38.0**	**-1.2**
	1.9nm,0.8s,baz=73,slow=5.3,SNR=4.5						
BUR08	**Bucovina Ar. S**	**94.84**	**318**	*eP*	**P**	**02 17 00.7**	**-0.5**

MOS ***13*** *02:17:46.5±0.8, 30.°63S×178.°21W, h33km, mb5.6/48, Error ellipse: s-maj=10.5km s-min=8.4km az=60.5*

BJI ***13*** *02:17:47.8, 30.°44S×177.°41W, h55km, mB5.8/18, mb5.4/25, Ms5.5/15, Ms7 5.1/16*

ISCJB ***13*** *02:17:48.3±0.1, 31.°1N±0.°03×178.°21W±0.°04, h58km, mb5.3/93, MS4.7/20, Error ellipse: s-maj=5.8km s-min=2.3km az=33.2*

IDC ***13*** *02:17:50.5±0.8, 30.°57S×178.°16W, h62km±6km, mb5.0/18, mb1 5.0/21, mb1mx5.0/22, mbtmp4.9/21, MS4.6/14, Ms1 4.6/14, ms1mx4.4/25, Error ellipse: s-maj=15.9km s-min=12.3km az=4.0*

NEIC ***13*** *02:17:50.0±0.1, 30.°71S×178.°20W, mb5.3/67, MW5.2, Error ellipse: s-maj=6.8km s-min=4.6km az=157.0, Moment Tensor Solution. s15 Moment tensor: Scale 10^{16}Nm; M_{rr}8.00; $M_{\theta\theta}$-1.41; $M_{\phi\phi}$-6.60; $M_{r\theta}$0.11; $M_{\theta\phi}$-2.86; $M_{\phi r}$-0.36; Best double couple: $M_0$7.90000×10^{16} NP1: ϕ_s26.00000°, δ44.00000°, λ93.00000°. NP2:ϕ_s202.00000°, δ46.00000°, λ88.00000°. Principal axes: T 8.0100, Plg87.0000°, Azm54.0000°; N -0.1500, Plg1.0000°, Azm203.0000°; P -7.8700, Plg1.0000°, Azm293.0000°;*

BGS ***13*** *02:17:50.0, 30.°71S×178.°20W, h60km, mb5.3(NEIC)*

ISC 13 02:17:49.9±0.3, 30.°94S±0.°04×178.°17W±0.°05, h59km±2km, h59km:pP-P, n830, σ1s21/898, mb5.4/92, MS4.7/21, 124C-144D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.70**	**7**	*ePn*	Pn	02 18 11.3	-5.9
RAO				*eSn*	Sn	02 18 27.7	-10
MXZ	**Matakaoa Point**	**7.22**	**203**	*ePN*	Pn	02 19 30.1	-2.7
MXZ				SN	**Sn**	**02 20 54.2**	**+1.0**
PUZ	**Puketiti**	**7.70**	**202**	PN	Pn	02 19 35.9	-3.4
PUZ				SN	**Sn**	**02 21 01.0**	**-4.1**
WCZ	**Waipu Caves**	**8.00**	**229**	PN	Pn	02 19 50.0	+6.6
CNGZ	**Carnagh Statio**	**8.09**	**201**	*ePN*	Pn	02 19 41.5	-3.2
OUZ	**Omahuta**	**8.12**	**236**	*ePn*	Pn	02 19 51.6	+6.5
MWZ	**Matawai**	**8.18**	**204**	PN	Pn	02 19 42.7	-3.3
URZ	**Urewera**	**8.27**	**207**	*ePn*	Pn	02 19 44.0	-3.1
URZ				*eSn*	**Sn**	**02 21 19.6**	**+0.5**
URZ	**Urewera**	**8.27**	**207**	PN	Pn	02 19 44.2	-3.0
PRGZ	**Paritu Road**	**8.60**	**201**	PN	Pn	02 19 48.0	-3.6
KNZ	**Kokohu**	**8.75**	**202**	PN	Pn	02 19 49.3	-4.3
MHGZ	**Mahia Peninsul**	**8.80**	**200**	*ePN*	Pn	02 19 50.0	-4.4
RAHZ	**Arahi**	**8.86**	**205**	SN	**Sn**	**02 21 31.8**	**-1.7**
NMHZ	**Naumai**	**9.12**	**205**	*ePN*	Pn	02 19 55.3	-3.5
NMHZ				SN	**Sn**	**02 21 38.8**	**-1.2**
BKZ	**Black Stump Fm**	**9.30**	**207**	*ePN*	Pn	02 19 56.5	-4.8
BKZ				SN	**Sn**	**02 21 42.4**	**-1.9**
MCHZ	**McNeill Hill**	**9.46**	**205**	PN	Pn	02 19 59.1	-4.4
MCHZ				SN	**Sn**	**02 21 48.5**	**+0.2**
CKHZ	**Cape Kidnapper**	**9.52**	**203**	SN	**Sn**	**02 21 48.7**	**-1.0**
KAHZ	**Kahuranaki**	**9.71**	**203**	*ePN*	Pn	02 20 01.1	-5.8
KAHZ				SN	**Sn**	**02 21 52.8**	**-1.6**
BHHZ	**Black Hill Sta**	**9.74**	**207**	*ePN*	Pn	02 20 02.1	-5.3
PXZ	**Pawanui**	**9.93**	**203**	SN	**Sn**	**02 21 56.4**	**-3.3**
WPHZ	**Waipukurau**	**10.11**	**204**	SN	**Sn**	**02 22 01.7**	**-2.2**
PRHZ	**Porangahau**	**10.22**	**203**	PN	Pn	02 20 07.1	-6.7
PRHZ				SN	**Sn**	**02 22 02.9**	**-3.8**
ANWZ	**Angora Road**	**10.45**	**203**	SN	**Sn**	**02 22 09.1**	**-3.2**
MRZ	**Mangatainoka R**	**10.94**	**206**	*ePN*	Pn	02 20 15.6	-8.1
HOWZ	**Holdsworth Sta**	**11.17**	**205**	PN	Pn	02 20 19.2	-7.6
PAWZ	**Paruwai Farm**	**11.63**	**205**	SN	Sn	02 22 34.4	-6.8
SNZO	**South Karori**	**11.84**	**207**	*ePn*	**Pn**	**02 20 33.9**	**-1.9**
SNZO				*eSn*	Sn	02 22 39.0	-7.1
TCW	**Tory Channel**	**11.93**	**209**	SN	Sn	02 22 40.6	-7.8
NNZ	**Nelson**	**12.32**	**211**	*ePN*	Pn	02 20 34.7	-7.7
NNZ				SN	Sn	02 22 51.8	-6.1
THZ	**Tophouse**	**12.97**	**211**	*ePN*	Pn	02 20 43.5	-7.8
KHZ	**Kahutara**	**13.24**	**208**	*eSn*	**Pn**	**02 20 53.8**	**-1.1**
KHZ	**Kahutara**	**13.24**	**208**	*ePN*	Pn	02 20 46.9	-7.9
KHZ				SN	Sn	02 23 09.8	-10
MSVF	**Nonsavu**	**13.59**	**344**	*eP*	**Pn**	**02 20 58.6**	**-1.4**
MSVF	**Nonsavu**	**13.59**	**344**	*ePn*	**Pn**	**02 20 58.6**	**-1.4**
MSVF	**Nonsavu**	**13.59**	**344**	Pn	**Pn**	**02 20 58.0**	**-1.9**
	686nm,1.0s,SNR=14						
LTZ	**Lake Taylor**	**14.07**	**210**	*ePN*	Pn	02 20 59.6	-6.5
MQZ	**McQueen's Vall**	**14.67**	**207**	SN	Sn	02 23 43.6	-12
RPZ	**Rata Peaks**	**15.35**	**211**	*ePn*	**P**	**02 21 25.8**	**-0.6**
	104nm,1.4s						
RPZ				*eSn*	Sn	02 24 00.3	-11
DZM	**Mont Dzumac**	**16.35**	**299**	*ePn*	**P**	**02 21 38.6**	**+0.9**
	733nm,1.5s						
DZM				*eLR*	LR	02 25 23.0	
	9μm,25.4s						
DZM	**Mont Dzumac**	**16.35**	**299**	*eP*	**P**	**02 21 37.9**	**+0.2**
DZM	**Mont Dzumac**	**16.35**	**299**	*ePn*	**P**	**02 21 38.2**	**+0.6**
	570nm,1.5s						
DZM	**Mont Dzumac**	**16.35**	**299**	P	**Pn**	**02 21 35.5**	**-0.1**
	0.6nm,0.3s,baz=114,slow=13,SNR=38						
DZM				LR	LR	02 26 47.9	
	comp=Z,5μm,18.2s,baz=59,slow=33						
NOUC	**Port Laguerre**	**16.43**	**299**	*eP*	**P**	**02 21 38.7**	**+0.2**
ODZ	**Otahua Downs**	**16.59**	**209**	*ePN*	Pn	02 21 31.2	-7.3
JCZ	**Jackson Bay**	**16.69**	**215**	*ePN*	**Pn**	**02 21 36.2**	**-3.6**
AFI	**Afiamalu**	**17.94**	**21**	*ePn*	**P**	**02 21 50.7**	**-4.6**
	160nm,1.2s						
AFI	**Afiamalu**	**17.94**	**21**	P	**P**	**02 21 51.6**	**-3.7**
	6.5nm,0.3s,baz=345,slow=3.7,SNR=13						
RAR	**Rarotonga**	**19.13**	**64**	*eP*	**P**	**02 22 06.1**	**-2.2**
	82nm,1.0s						
RAR	**Rarotonga**	**19.13**	**64**	P	**P**	**02 22 06.3**	**-1.9**
	3.8nm,0.3s,baz=276,slow=4.6,SNR=4.2						
RAR				LR	LR	02 27 54.2	
	comp=Z,757nm,21.3s,baz=250,slow=32						
ARMA	**Armidale**	**25.94**	**263**	*eP*	**P**	**02 23 21.5**	**+4.6**
	126nm,1.3s						
ARMA	**Armidale**	**25.94**	**263**	*eP*	**P**	**02 23 21.3**	**+4.4**
TBI	**Tubuai**	**26.59**	**81**	*eLR*	LR	02 30 11.3	
	3μm,26.2s						
EIDS	**Eidsvold**	**27.62**	**274**	*eP*	**P**	**02 23 33.7**	**+1.8**
	45nm,0.9s						
CAN	**Canberra**	**27.76**	**252**	*eP*	**P**	**02 23 35.3**	**+2.1**
CAN				pmax	pmax		
	comp=Z,68nm,1.0s						
CAN	**Canberra**	**27.76**	**252**	*eP*	**P**	**02 23 35.3**	**+2.1**
	comp=Z,68nm,1.0s						
CAN	**Canberra**	**27.76**	**252**	*eP*	**P**	**02 23 35.6**	**+2.4**
	comp=Z,29nm,0.8s						
PPT2	**Papeete2**	**29.16**	**70**	*eS*	S	02 28 24.7	-9.3
	comp=Z,511nm,29.0s						
PPT2				*eLQ*	LQ	02 29 34.8	
	comp=Z,1μm,23.8s						
PPT2				*eLR*	LR	02 31 05.6	
	comp=Z,3μm,27.8s,baz=234						
HNR	**Honiara**	**29.55**	**312**	P	**P**	**02 23 46.5**	**-2.6**
HNR	**Honiara**	**29.55**	**312**	P	**P**	**02 23 46.5**	**-2.6**
	comp=Z,80nm,0.4s,baz=222,slow=13,SNR=4.6						
MOO	**Moorlands**	**29.86**	**238**	*eP*	**P**	**02 23 53.5**	**+1.9**
	comp=Z,129nm,1.0s						
TAU	**Tasmania Unive**	**29.86**	**237**	*eP*	**P**	**02 23 53.6**	**+2.0**
TAU				pmax	pmax		
	comp=Z,36nm,1.1s						
TAU	**Tasmania Unive**	**29.86**	**237**	*eP*	**P**	**02 23 53.5**	**+2.0**
	comp=Z,36nm,1.1s						
TOO	**Toolangi**	**30.62**	**248**	*eP*	**P**	**02 24 01.1**	**+2.7**
	comp=Z,79nm,0.5s						
QLP	**Quilpie**	**33.14**	**268**	*eP*	**P**	**02 24 22.2**	**+1.6**
CTA	**Charters Tower**	**33.74**	**280**	P	**P**	**02 24 27.7**	**+1.7**
CTA	**Charters Tower**	**33.74**	**280**	*eP*	**P**	**02 24 27.5**	**+1.5**
	comp=Z,63nm,0.6s						
CTA	**Charters Tower**	**33.74**	**280**	P	**P**	**02 24 27.7**	**+1.7**
	comp=Z,88nm,0.6s,baz=106,slow=9.7,SNR=88						
CTA				LR	LR	02 36 22.3	
	comp=Z,2μm,20.1s,baz=125,slow=33						
CTAO	**Charters Tower**	**33.74**	**280**	*eP*	**P**	**02 24 27.7**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,104nm,0.8s						
CTAO	**Charters Tower**	**33.74**	**280**	*eP*	**P**	**02 24 27.7**	**+1.7**
	comp=Z,104nm,0.8s						
STKA	**Stephens Creek**	**34.22**	**258**	*eP*	**P**	**02 24 32.1**	**+2.2**
	comp=Z,61nm,1.0s						
STKA	**Stephens Creek**	**34.22**	**258**	*eP*	**P**	**02 24 32.0**	**+2.1**
	comp=Z,219nm,1.1s						
STKA	**Stephens Creek**	**34.22**	**258**	P	**P**	**02 24 32.1**	**+2.2**
	comp=Z,263nm,0.9s,baz=100,slow=9.6,SNR=157						
STKA				LR	LR	02 37 19.6	
	comp=Z,1μm,19.0s,baz=46,slow=34						
BBOO	**Buckleboo**	**38.68**	**255**	*eP*	**P**	**02 25 08.6**	**+0.6**
	comp=Z,2μm,0.6s						
PMG	**Port Moresby**	**38.71**	**296**	*eP*	**P**	**02 25 08.6**	**+0.3**
	comp=Z,48nm,1.0s						
PMG	**Port Moresby**	**38.71**	**296**	P	**P**	**02 25 08.0**	**-0.3**
	comp=Z,43nm,1.0s,baz=110,slow=3.0,SNR=9.5						
RKT	**Rikitea**	**39.07**	**89**	*eS*	**S**	**02 31 01.8**	**-4.8**
	comp=Z,515nm,31.5s						
RKT				*eLQ*	LQ	02 34 08.5	
	comp=Z,551nm,25.0s						
RKT				*eLR*	LR	02 36 01.2	
	comp=Z,2μm,26.5s,baz=255						
COEN	**Coen**	**39.28**	**287**	*eP*	**P**	**02 25 14.4**	**+1.2**
	comp=Z,676nm,1.0s						
COEN	**Coen**	**39.28**	**287**	*eP*	**P**	**02 25 13.7**	**+0.6**
	comp=Z,712nm,1.2s						
AS31	**Alice Springs**	**42.93**	**268**	*eP*	**P**	**02 25 43.2**	**0.0**
ASAR	**Alice Springs**	**42.94**	**268**	P	**P**	**02 25 43.1**	**-0.1**
ASAR	**Alice Springs**	**42.94**	**268**	P	**P**	**02 25 43.1**	**-0.1**
	comp=Z,46nm,0.6s,baz=110,slow=7.6,SNR=200						
WRAB	**Tennant Creek**	**43.97**	**273**	*eP*	**P**	**02 25 51.3**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,165nm,1.1s						
WRAB	**Tennant Creek**	**43.97**	**273**	*eP*	**P**	**02 25 51.3**	**-0.2**
	comp=Z,165nm,1.1s						
WRAB	**Tennant Creek**	**43.97**	**273**	P	**P**	**02 25 51.2**	**-0.2**
	comp=Z,794nm,1.0s,SNR=36						
WRA	**Warramunga Arr**	**43.97**	**273**	P	**P**	**02 25 51.5**	**0.0**
WRA	**Warramunga Arr**	**43.97**	**273**	P	**P**	**02 25 51.5**	**0.0**
	comp=Z,76nm,0.4s,baz=0.0,slow=0.0,SNR=14						
FORT	**Forrest**	**45.77**	**256**	*eP*	**P**	**02 26 05.7**	**+0.1**
	comp=Z,107nm,0.5s						
FORT	**Forrest**	**45.77**	**256**	*eP*	**P**	**02 26 05.3**	**-0.3**
	comp=Z,108nm,0.5s						
FITZ	**Fitzroy Crossi**	**52.21**	**270**	*eP*	**P**	**02 26 55.0**	**-0.1**
	comp=Z,74nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.21**	**270**	*eP*	**P**	**02 26 55.0**	**-0.1**
	comp=Z,50nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.21**	**270**	P	**P**	**02 26 55.1**	**0.0**
	comp=Z,36nm,0.9s,baz=144,slow=7.9,SNR=52						
FITZ				LR	LR	02 48 16.7	
	comp=Z,785nm,19.6s,baz=96,slow=35						
KLBR	**Kellerberrin**	**54.03**	**251**	*eP*	**P**	**02 27 07.2**	**-1.2**
	comp=Z,54nm,1.1s						
MEEK	**Meekatharra**	**54.92**	**258**	*eP*	**P**	**02 27 13.7**	**-1.2**
	comp=Z,135nm,1.0s						
KIP	**Kipapa**	**55.55**	**23**	*eP*	**P**	**02 27 18.9**	**-0.3**
KIP				pmax	pmax		
	comp=Z,216nm,1.2s						
KIP	**Kipapa**	**55.55**	**23**	*eP*	**P**	**02 27 18.9**	**-0.3**
	comp=Z,216nm,1.2s						
MBWA	**Marble Bar**	**56.02**	**264**	*eP*	**P**	**02 27 23.0**	**+0.1**
	comp=Z,20nm,0.9s						
QSPA	**South Pole Qui**	**59.17**	**180**	*eP*	**P**	**02 27 47.5**	**+3.0**
	comp=Z,158nm,1.0s						
QSPA	**South Pole Qui**	**59.17**	**180**	P	**P**	**02 27 47.5**	**+3.0**
	comp=Z,41nm,0.8s,baz=38,slow=1.7,SNR=104						
MAW	**Mawson**	**71.75**	**201**	LR	LR	02 59 39.5	
	comp=Z,486nm,20.7s,baz=120,slow=35						
PMSA	**Palmer Station**	**71.83**	**156**	LR	LR	02 53 43.3	
	comp=Z,215nm,20.6s,baz=116,slow=30						
TGY	**Tagaytay City**	**73.64**	**298**	P	**P**	**02 29 17.0**	**-0.5**
TGY	**Tagaytay City**	**73.64**	**298**	P	**P**	**02 29 17.0**	**-0.5**
	comp=Z,107nm,0.3s,baz=107,slow=12,SNR=5.7						
SYO	**Syowa Base**	**76.56**	**193**	*ǁeP*	P	**02 29 33.0**	**-0.4**
SYO	**Syowa Base**	**76.56**	**193**	*ǁiP*	pP	02 29 49.4	-0.4
SYO	**Syowa Base**	**76.56**	**193**	*ǁiS*	sP	02 29 56.0	-0.3
SNAA	**Sanae**	**77.62**	**178**	*eP*	P	02 29 33.3	-6.1
	comp=Z,30nm,1.0s						
MAIT	**Maitri**	**78.32**	**183**	*eP*	**P**	**02 29 46.2**	**+2.9**
NVL	**N'lazarevskaya**	**78.33**	**183**	*eP*	**P**	**02 29 44.8**	**+1.6**
NVL				pmax	pmax		
	comp=Z,31nm,1.0s						
MJAR	**Matsushiro Arr**	**78.60**	**325**	P	**P**	**02 29 42.5**	**-2.6**
MJAR	**Matsushiro Arr**	**78.60**	**325**	P	**P**	**02 29 42.5**	**-2.6**
	comp=Z,6.6nm,0.8s,baz=165,slow=6.2,SNR=12						
MAJO	**Matsushiro**	**78.60**	**325**	*eP*	**P**	**02 29 45.4**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MAJO	**Matsushiro**	**78.60**	**325**	*eP*	**P**	**02 29 45.4**	**+0.2**
	comp=Z,5.9nm,0.6s						
MAT	**Matsushiro**	**78.60**	**325**	P	**P**	**02 29 43.3**	**-1.9**
MAT				*eS*	S	02 39 09.4	-28
JNU	**Nakatsue**	**79.86**	**319**	*eP*	**P**	**02 29 51.7**	**-0.5**
PLCA	**Paso Flores**	**82.25**	**133**	P	**P**	**02 30 06.6**	**+1.6**
PLCA	**Paso Flores**	**82.25**	**133**	P	**P**	**02 30 06.6**	**+1.6**
	comp=Z,32nm,1.1s,baz=232,slow=5.7,SNR=25						
PLCA				LR	LR	02 57 54.8	
	comp=Z,368nm,21.4s,baz=66,slow=29						
EFI	**East Falkland**	**82.42**	**147**	*eP*	**P**	**02 30 06.9**	**+1.4**
EFI				*e*PP	**pP**	**02 30 23.3**	**+1.2**
EFI				pmax	pmax		
	comp=Z,69nm,1.0s						
EFI	**East Falkland**	**82.42**	**147**	*eP*	**P**	**02 30 06.9**	**+1.4**
	comp=Z,69nm,1.0s						
EFI				*ep*P	**pP**	**02 30 23.3**	**+1.2**
ASAJ	**Asahikawa**	**82.85**	**333**	P	**P**	**02 30 07.1**	**-0.5**
ASAJ	**Asahikawa**	**82.85**	**333**	P	**P**	**02 30 07.1**	**-0.5**
	comp=Z,9.4nm,0.4s,baz=218,slow=13,SNR=5.5						
KSRS	**Korea Array**	**84.66**	**320**	P	**P**	**02 30 16.2**	**-0.8**
	comp=Z,5.5nm,0.8s,baz=147,slow=5.4,SNR=7.8						
KSRS				LR	LR	03 04 25.1	
	comp=Z,134nm,19.9s,baz=130,slow=33						
KSAR	**Wonju Array Be**	**84.68**	**320**	P	**P**	**02 30 16.2**	**-0.9**
YSS	**Yuzh-Sakhalins**	**85.17**	**334**	*ǁeP*	**P**	**02 30 20.2**	**+0.9**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**85.17**	**334**	*eP*	**P**	**02 30 19.5**	**+0.1**
	comp=Z,65nm,1.0s						
CIS	**Catalina Islan**	**85.33**	**46**	*ǁ*P	**P**	**02 30 20.9**	**+0.4**
	baz=85						
PSI	**Prapat**	**85.34**	**276**	LR	LR	03 08 54.0	
	comp=Z,487nm,21.0s,baz=137,slow=36						
PKM	**Peak Mountain**	**85.46**	**45**	*ǁ*P	**P**	**02 30 22.0**	**+0.6**
	baz=86						
PTRM	**Twissleman Ran**	**85.74**	**44**	*eP*	**P**	**02 30 23.8**	**+1.2**
109C	**Camp Elliot, M**	**85.80**	**48**	*ǁ*P	**P**	**02 30 23.2**	**+0.3**
	baz=86						
OSI	**Osito Adit**	**85.93**	**45**	*ǁ*P	**P**	**02 30 24.4**	**+0.8**
	baz=86						
PET	**Petropavlovsk**	**86.02**	**346**	*eP*	**P**	**02 30 25.8**	**+2.4**
PET				*eS*	S	02 41 01.1	+8.7
PET				pmax	pmax		
	comp=Z,26nm,0.6s						
PET				pmax	pmax		
	comp=Z,100nm,10.6s						
PET				MLR	MLR		
	comp=Z,200nm,21.0s						
MWC	**Mount Wilson**	**86.08**	**46**	*eP*	**P**	**02 30 24.2**	**-0.3**
MWC				*e*PP	**pP**	**02 30 41.7**	**+0.5**
MWC				pmax	pmax		
	comp=Z,35nm,1.2s						
MWC	**Mount Wilson**	**86.08**	**46**	*eP*	**P**	**02 30 24.2**	**-0.3**
	comp=Z,35nm,1.2s						
MWC				*ep*P	**pP**	**02 30 41.7**	**+0.5**
MURC	**Murrieta**	**86.21**	**47**	*ǁ*P	**P**	**02 30 25.4**	**+0.5**
	baz=86,SNR=6.4						
ARVC	**Arvin**	**86.21**	**45**	*ǁ*P	**P**	**02 30 25.2**	**+0.3**
	baz=86,SNR=5.5						
MONP	**Monument Peak**	**86.24**	**48**	*ǁ*P	**P**	**02 30 25.8**	**+0.5**
	baz=86,SNR=5.7						
PEA0B	**Petropavlovsk-**	**86.30**	**346**	*eP*	**P**	**02 30 24.2**	**-0.6**
PETK	**Petropavlovsk-**	**86.30**	**346**	P	**P**	**02 30 23.9**	**-1.0**
PETK				pmax	pmax		
	comp=Z,48nm,0.8s						
PETK	**Petropavlovsk-**	**86.30**	**346**	P	**P**	**02 30 23.9**	**-1.0**
PETK	**Petropavlovsk-**	**86.30**	**346**	P	**P**	**02 30 23.9**	**-1.0**
	comp=Z,48nm,0.8s,baz=141,slow=4.6,SNR=22						
BFSC	**Mount Baldy Ra**	**86.34**	**46**	*ǁ*P	**P**	**02 30 26.0**	**+0.3**
	baz=86,

baz=88,SNR=11
SHOC Shoshone 88.28 46 ⇓P P 02 30 35.2 +0.4
baz=88,SNR=8.6
FURC Furnace Creek, 88.30 45 ⇓P P 02 30 35.4 +0.5
baz=88
GRAC Grapevine Rang 88.34 44 ⇓P P 02 30 35.7 +0.5
baz=88,SNR=9.0
114A Black Gap (USA 88.44 50 ⇑P P 02 30 36.3 +0.6
baz=88
LDFC Landfair 88.48 47 *e*P P 02 30 37.4 +1.4
comp=Z,63nm,0.9s
LDFC *ep*P **pP** 02 30 54.0 +1.3
WCN Washoe City 88.49 41 *e*P P 02 30 36.2 +0.3
WCN *e**PP **pP** 02 30 53.1 +0.4
WCN pmax pmax
comp=Z,14nm,0.9s
WCN Washoe City 88.49 41 *e*P P 02 30 36.2 +0.3
comp=Z,14nm,0.9s
WCN *ep*P **pP** 02 30 53.1 +0.4
WCN Washoe City 88.49 41 ⇑P P 02 30 36.1 +0.1
baz=89,SNR=5.2
PDMCI Parker Dam,Lak 88.60 48 ⇓P P 02 30 37.4 +1.0
baz=89,SNR=8.5
NVAR Mina Array Bea 88.73 43 P P 02 30 37.3 +0.1
NVAR pP **pP** 02 30 53.4 -0.5
NVAR PKKPbc **PKKPbc** 02 48 20.0 +1.8
NVAR P'P' 02 56 26.6
NVAR Mina Array Bea 88.73 43 P P 02 30 37.3 +0.1
comp=Z,12nm,0.8s,baz=222,slow=8.8,SNR=77
NVAR pP **pP** 02 30 53.4 -0.5
comp=Z,15nm,0.8s,baz=223,slow=6.7,SNR=18
NVAR PKKPbc **PKKPbc** 02 48 20.0 +1.8
comp=Z,0.6nm,0.5s,baz=58,slow=5.2,SNR=9.2
NVAR PKPPKP **P'P'df** 02 56 26.6 +3.3
comp=Z,1.0nm,0.9s,baz=117,slow=1.7,SNR=4.7
Z14A Wintersburg 88.78 49 ⇑P P 02 30 38.4 +1.1
baz=89,SNR=8.7
LCO Las Campanas 88.80 123 *e*P P 02 30 38.9 +0.9
comp=Z,29nm,1.0s
MDJ Mudanjiang 88.99 326 P P 02 30 41.0 +3.1
MDJ pmax pmax
comp=Z,13nm,0.9s
MDJ pmax pmax
comp=Z,97nm,3.4s
MDJ Mudanjiang 88.99 326 *e*P P 02 30 37.6 -0.3
comp=Z,7.7nm,0.8s
Y14A Wickenburg 89.10 49 ⇑P P 02 30 39.7 +0.9
baz=89,SNR=33
TRQA Tornquist 89.16 135 *e*P P 02 30 40.5 +1.2
comp=Z,66nm,1.6s
TRQA *ep*P **pP** 02 30 56.8 +0.9
W13A Hualapai Mount 89.27 48 ⇓P P 02 30 40.6 +0.8
baz=89,SNR=31
TUC Tucson 89.56 51 *e*P P 02 30 41.9 +0.8
TUC pmax pmax
comp=Z,36nm,1.1s
TUC Tucson 89.56 51 *e*P P 02 30 41.9 +0.8
comp=Z,36nm,1.1s
319A Douglas 90.02 53 ⇓P P 02 30 44.4 +1.1
baz=90,SNR=14
R11A Troy Canyon, C 90.29 44 ⇓P P 02 30 44.4 -0.1
baz=90,SNR=6.4
X16A Lo Mia Camp, P 90.42 49 ⇑P P 02 30 46.5 +1.3
baz=90,SNR=46
CN2 Changchun 90.48 323 ⇓P P 02 30 44.3 -0.6
CN2 *es*P **sP** 02 31 08.1 -0.1
CN2 *e*S **S** 02 41 32.6 -2.6
CN2 pmax pmax
comp=Z,40nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,18.0s
CN2 LR LR
comp=E,900nm,18.0s
CN2 LR LR
comp=Z,1μm,20.0s
320A Kipp Ranch, An 90.52 53 ⇑P P 02 30 46.9 +1.2
baz=91,SNR=16
BMN Battle Mountai 90.69 42 *e*P P 02 30 46.7 +0.5
BMN pmax pmax
comp=Z,33nm,1.4s
BMN Battle Mountai 90.69 42 *e*P P 02 30 46.7 +0.5
comp=Z,33nm,1.4s
X17A Forest Lakes 90.78 50 ⇓P P 02 30 48.2 +1.2
baz=91,SNR=14
220A Playas Peak, P 90.85 53 ⇓P P 02 30 48.3 +1.1
baz=91,SNR=20
U15A North Rim 91.11 47 ⇓P P 02 30 49.4 +1.0
baz=91,SNR=29
WUAZ Wupatki 91.13 49 *e*P P 02 30 49.4 +0.9
comp=Z,33nm,1.1s
WUAZ *ep*P **pP** 02 31 06.1 +0.9
WUAZ Wupatki 91.13 49 ⇓P P 02 30 49.3 +0.9
baz=91,SNR=12
CCUT Cedar City 91.14 46 *e*P P 02 30 49.0 +0.5
comp=Z,11nm,1.1s
CCUT *ep*P **pP** 02 31 06.0 +0.7
120A U Bar Ranch, L 91.16 52 ⇓P P 02 30 49.7 +1.1
baz=91,SNR=25
R13A O'Grain Ranch, 91.16 45 ⇑P P 02 30 49.3 +0.8
baz=91,SNR=7.6
WVOR Wild Horse Val 91.23 40 *e*P P 02 30 48.1 -0.5
WVOR *e**PP **pP** 02 31 05.3 -0.1
WVOR pmax pmax
comp=Z,22nm,1.4s
WVOR Wild Horse Val 91.23 40 *e*P P 02 30 48.1 -0.5
comp=Z,22nm,1.4s
WVOR *ep*P **pP** 02 31 05.3 -0.1
KLR Kul'dur 91.43 330 *e*P P 02 30 45.0 -4.2
221A Mesquite Ranch 91.43 53 ⇑P P 02 30 50.6 +0.8
baz=92
X18A Snowflake 91.46 50 ⇓P P 02 30 51.0 +1.0
baz=92,SNR=16
Z20A Nine Sixteen R 91.52 52 ⇓P P 02 30 51.5 +1.2
baz=92,SNR=23
Y19A Nutrioso 91.58 51 ⇓P P 02 30 51.8 +1.1
baz=92
GYA Guiyang 91.69 300 P P 02 30 53.0 +1.8
GYA pP **pP** 02 31 10.8 +2.9
GYA sP **sP** 02 31 17.0 +2.6
GYA PP **PP** 02 34 34.3 +3.6
GYA SKS **SKSac** 02 41 19.5 +0.5
GYA S **S** 02 41 46.0 -1.3
GYA sS **sS** 02 42 14.5 -1.3
GYA SS **SS** 02 47 58.4 +2.2
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.6s
GYA LR LR
comp=N,590nm,19.8s
GYA LR LR
comp=E,520nm,20.9s
GYA LR LR
comp=Z,560nm,21.2s
121A Cookes Peak, D 91.73 53 ⇓P P 02 30 52.1 +0.8
baz=92,SNR=7.8
W18A Petrified Fore 91.95 50 ⇑P P 02 30 52.9 +0.7
baz=92,SNR=5.9
ELK Elko 92.04 43 *e*P P 02 30 52.4 -0.2
ELK *ep*P **pP** 02 31 09.2 -0.2
ELK *ep*P **pP** 02 31 09.4 +0.1
Y20A Horse Springs, 92.14 51 ⇑P P 02 30 54.4 +1.2
baz=92,SNR=12
R15A Junction 92.22 46 ⇓P P 02 30 54.3 +0.8
baz=92
Z21A St. Cloud Mine 92.26 52 ⇑P P 02 30 54.8 +1.1
baz=92,SNR=14
S16A Weppner Ranch, 92.34 47 ⇓P P 02 30 54.3 +0.3
baz=92
122A Conniff Cattle 92.36 53 ⇑P P 02 30 55.2 +1.0
baz=92
T17A Navajo Res., N 92.40 48 ⇓P P 02 30 55.5 +1.2
baz=92
X20A Quemado 92.43 51 ⇑P P 02 30 55.5 +1.0
baz=92,SNR=19
MVU Marysvale 92.44 46 *e*P P 02 30 55.4 +0.9
comp=Z,17nm,1.4s
MSU Marysvale 92.47 46 *e*P P 02 30 55.0 +0.4
MSU Marysvale 92.47 46 *e*P P 02 30 55.0 +0.4
626A Big Bend Ranch 92.59 57 ⇓P P 02 30 55.5 +0.3
baz=93,SNR=7.2
Y21A Point of Rocks 92.67 52 ⇓P P 02 30 56.9 +1.2
baz=93,SNR=11
425A Indio Mountain 92.67 56 ⇓P P 02 30 55.9 +0.3
baz=93,SNR=5.2
324A Moseley Ranch, 92.70 55 ⇓P P 02 30 55.6 -0.1
baz=93
Z22A Elephant Butte 92.71 53 ⇑P P 02 30 56.4 +0.6
baz=93,SNR=14
R16A Teasdale 92.76 46 ⇑P P 02 30 56.5 +0.6
baz=93
W20A Ramah 92.77 50 ⇓P P 02 30 57.0 +0.9
baz=93,SNR=23
TXAR Lajitas Array 92.80 57 P P 02 30 56.8 +0.6
TXAR pP **pP** 02 31 13.5 +0.5
TXAR PP **PP** 02 34 39.5 0.0
TXAR PKKPbc **PKKPbc** 02 48 10.2 +3.1
TXAR Lajitas Array 92.80 57 P P 02 30 56.8 +0.6
comp=Z,4.0nm,1.0s,baz=205,slow=5.5,SNR=23
TXAR pP **pP** 02 31 13.5 +0.5
comp=Z,4.4nm,1.1s,baz=225,slow=1.6,SNR=7.6
TXAR PP **PP** 02 34 39.5 0.0
comp=Z,0.7nm,1.1s,baz=189,slow=7.2,SNR=3.9
TXAR PKKPbc **PKKPbc** 02 48 10.2 +3.1
comp=Z,0.2nm,0.4s,baz=101,slow=4.1,SNR=5.6
TXAR LR LR 03 03 08.7
comp=Z,165nm,20.1s,baz=185,slow=29
X21A Alamocita Cree 92.85 51 ⇑P P 02 30 57.3 +0.8
baz=93,SNR=11
MNTX Cornudas Mount 92.91 55 ⇑P P 02 30 56.8 +0.2
baz=93,SNR=9.2
U19A Dine' College, 93.00 49 ⇑P P 02 30 57.6 +0.5
baz=93,SNR=9.1
325A Bean Ranch, Si 93.02 55 ⇑P P 02 30 57.4 +0.2
baz=93
224A Cornudas Mount 93.03 54 ⇓P P 02 30 57.5 +0.3
baz=93,SNR=5.2
T18A Mexican Hat 93.08 48 ⇑P P 02 30 57.8 +0.5
baz=93
Y22A Socorro 93.11 52 ⇑P P 02 30 58.1 +0.5
baz=93,SNR=8.2
DUG Dugway 93.12 44 *e*P P 02 30 57.3 -0.2
DUG *e**PP **pP** 02 31 14.8 +0.5
DUG pmax pmax
comp=Z,7.0nm,1.3s
DUG Dugway 93.12 44 *e*P P 02 30 57.2 -0.2
comp=Z,6.6nm,1.3s
DUG *ep*P **pP** 02 31 14.8 +0.5
DUG Dugway 93.12 44 ⇓P P 02 30 57.7 +0.2
baz=93
V20A Brimhall 93.19 50 ⇑P P 02 30 58.5 +0.5
baz=93
Z23A Rita Site, Whi 93.22 53 ⇓P P 02 30 58.7 +0.7
baz=93
LENM Lemitar 93.23 52 *e*P P 02 30 59.2 +1.1
LENM *ep*P **pP** 02 31 15.2 +0.2
LAZ Ladron 93.26 52 *e*P P 02 30 57.5 -0.8
comp=Z,4.3nm,1.0s
LAZ *ep*P **pP** 02 31 15.6 +0.5
426A McDonald Obser 93.29 56 ⇓P P 02 30 58.7 +0.1
baz=93,SNR=6.6
527A Woodward Ranch 93.30 57 ⇑P P 02 30 58.4 -0.1
baz=93
R17A Hanksville Air 93.32 47 ⇓P P 02 30 58.4 0.0
baz=93,SNR=5.5
W21A San Fidel 93.33 51 ⇓P P 02 30 59.1 +0.5
baz=93
Q16A Castle Valley 93.34 46 ⇓P P 02 30 59.4 +0.8
baz=93
O15A The Old Anders 93.38 44 ⇑P P 02 30 59.5 +0.8
baz=94
MFID Camas Ranch 93.43 40 *e*P P 02 30 58.6 -0.2
comp=Z,12nm,0.9s
MFID *ep*P **pP** 02 31 15.2 -0.4
MFID *e*PKKPbc **PKKPbc** 02 48 07.7 +1.4
MFID Camas Ranch 93.43 40 ⇑P P 02 30 58.6 -0.2
baz=94,SNR=12
HAWA Hanford 93.43 36 *e*P P 02 30 58.4 -0.1
comp=Z,11nm,0.9s
HAWA *ep*P **pP** 02 31 15.5 +0.2
124A Stringfield Ra 93.43 54 ⇓P P 02 30 59.5 +0.3
baz=94,SNR=5.2
CMAR Chiang Mai Arr 93.44 289 PP PP 02 34 44.9 +0.4
CMAR PKKPbc **PKKPdf** 02 48 03.8 -0.2
CMAR Chiang Mai Arr 93.44 289 PP PP 02 34 44.9 +0.4
comp=Z,0.9nm,0.3s,baz=146,slow=5.6,SNR=4.3
CMAR PKKPbc **PKKPdf** 02 48 03.8 -0.2
comp=Z,1.0nm,0.3s,baz=304,slow=2.8,SNR=4.4
CMAR LR LR 03 11 47.7
comp=Z,186nm,21.5s,baz=331,slow=35
628A Black Gap, Mar 93.45 58 ⇓P P 02 30 59.3 +0.1
baz=94
U20A Newcomb 93.50 49 ⇓P P 02 31 00.1 +0.8
baz=94
225A Deer Hill, Car 93.54 55 ⇓P P 02 30 59.9 +0.3
baz=94
TMUT Trail Mountain 93.55 46 *e*P P 02 31 00.0 +0.3
comp=Z,18nm,1.1s
LPM Los Pinos Moun 93.55 52 *e*P P 02 31 00.1 +0.5
LPM *ep*P **pP** 02 31 16.5 +0.1
BMO Blue Mountains 93.56 38 *e*P P 02 30 58.1 -1.2
BMO *e**PP **pP** 02 31 15.3 -0.8
BMO pmax pmax
comp=Z,15nm,1.5s
BMO Blue Mountains 93.56 38 *e*P P 02 30 58.1 -1.2
comp=Z,15nm,1.5s
BMO *ep*P **pP** 02 31 15.3 -0.8
326A Caldwell Ranch 93.69 56 ⇓P P 02 30 59.8 -0.5
baz=94
Y23A Lovelace Mesa, 93.72 52 ⇓P P 02 31 00.6 +0.2
baz=94,SNR=5.3
N15A Stansbury Isla 93.73 44 ⇑P P 02 31 00.4 +0.2
baz=94
LVC Limon Verde 93.80 119 *e*P P 02 31 02.8 +1.5
comp=Z,1.5nm,1.3s
LVC *ep*P **pP** 02 31 20.5 +2.4
R18A Canyonlands Na 93.81 47 ⇑P P 02 31 00.8 +0.1
baz=94,SNR=8.2
427A Hayter Ranch, 93.84 56 ⇑P P 02 31 01.2 +0.3
baz=94,SNR=11
Z24A Sheeppen Canyo 93.85 53 ⇑P P 02 31 01.4 +0.3
baz=94
SRU San Rafael 93.85 46 *e*P P 02 31 01.3 +0.4
SRU pmax pmax
comp=Z,9.0nm,1.0s
SRU San Rafael 93.85 46 *e*P P 02 31 01.3 +0.4
comp=Z,8.5nm,1.0s
SRU San Rafael 93.85 46 ⇑P P 02 31 01.0 0.0
baz=94,SNR=6.1
S19A Harvey Farm, M 93.91 48 ⇑P P 02 31 01.3 0.0
baz=94
GDL2 Guadalupe Moun 93.91 55 *e*P P 02 31 01.7 +0.5
GDL2 *ep*P **pP** 02 31 18.4 +0.4
KMI Kunming 93.93 297 P P 02 31 04.0 +2.3
KMI pP **pP** 02 31 20.8 +2.3
KMI S **S** 02 42 06.4 -1.0
KMI SS **SS** 02 48 30.9 +2.3
KMI pmax pmax
comp=Z,200nm,4.0s
KMI LR LR
comp=N,190nm,17.5s
KMI LR LR
comp=E,190nm,15.7s
KMI LR LR
comp=Z,140nm,15.2s
P17A Butcher Ranch, 93.94 46 ⇓P P 02 31 01.7 +0.4
baz=94
125A Gardner Draw, 93.96 54 ⇓P P 02 31 01.9 +0.4
baz=94
MVCO Mesa Verde 94.00 49 ⇓P P 02 31 01.8 +0.1
baz=94
226A Malaga, Loving 94.02 55 ⇑P P 02 31 01.5 -0.2
baz=94
L14A Malta 94.02 43 ⇑P P 02 31 01.6 0.0
baz=94,SNR=5.3
ANMO Albuquerque 94.03 51 *e*P P 02 31 02.5 +0.6
comp=Z,7.0nm,1.0s
ANMO *ep*P **pP** 02 31 17.6 -1.1
I12A Atlanta 94.06 40 ⇑P P 02 31 01.8 0.0
baz=94,SNR=15
U21A Nageezi 94.09 50 ⇓P P 02 31 02.4 +0.2
baz=94,SNR=19
Q18A Rafter H Ranch 94.09 46 ⇓P P 02 31 02.4 +0.4
baz=94
M15A Larsen Ranch, 94.13 43 ⇓P P 02 31 01.9 -0.1
baz=94,SNR=10.0
HVU Hansel Valley 94.13 43 *e*P P 02 31 02.0 -0.1
HVU *e**PP **pP** 02 31 19.1 +0.2
HVU pmax pmax
comp=Z,16nm,1.0s
HVU Hansel Valley 94.13 43 *e*P P 02 31 02.0 -0.1
comp=Z,16nm,1.0s
HVU *ep*P **pP** 02 31 19.1 +0.2
Y24A Capitan 94.14 53 ⇓P P 02 31 02.5 +0.1
baz=94,SNR=13
R19A Curley Farm, L 94.16 47 ⇓P P 02 31 02.2 -0.2
baz=94,SNR=5.1
JLU Jordanelle 94.19 45 *e*P P 02 31 02.7 +0.1
comp=Z,5.7nm,1.0s
JLU *ep*P **pP** 02 31 18.5 -0.9
Z25A Roswell 94.27 54 ⇑P P 02 31 03.1 +0.2
baz=94,SNR=7.6
428A Kincaid Ranch, 94.28 57 ⇑P P 02 31 03.5 +0.5
baz=94
V22A San Miguel Ran 94.28 50 ⇑P P 02 31 03.5 +0.4
baz=94
HLID Hailey 94.31 41 *e*P P 02 31 03.1 +0.2
comp=Z,7.7nm,0.8s
HLID *ep*P **pP** 02 31 19.7 0.0
HLID Hailey 94.31 41 ⇑P P 02 31 02.9 0.0
baz=94,SNR=10
XAN Xi'an 94.32 307 P P 02 31 04.5 +1.5
XAN pP **pP** 02 31 22.0 +2.2
XAN pmax pmax
comp=Z,6.0nm,0.7s
XAN pmax pmax
comp=Z,28nm,5.8s
XAN LR LR
comp=N,270nm,18.1s
XAN LR LR
comp=E,78nm,19.6s
XAN LR LR
comp=Z,230nm,16.5s
P18A Preston Nutter 94.34 46 ⇑P P 02 31 03.6 +0.3
baz=94
J13A Cove Ranch, Pi 94.34 41 ⇑P P 02 31 03.3 +0.3
baz=94,SNR=15
K14A Jones Ranch, D 94.38 42 ⇓P P 02 31 03.2 0.0
baz=94,SNR=6.9
N16A Rees Ranch, Co 94.38 44 ⇓P P 02 31 03.8 +0.5
baz=94
O17A Robinson Place 94.38 45 ⇑P P 02 31 03.6 +0.2
baz=94,SNR=7.9
PV04 Paradox Valley 94.44 47 *e*P P 02 31 03.1 -0.5
S20A Disappointment 94.45 48 ⇓P P 02 31 04.1 +0.3
baz=94
L15A Malad City 94.50 43 ⇑P P 02 31 03.6 -0.2
baz=95,SNR=12
T21A Navajo Lake 94.50 49 ⇓P P 02 31 04.3 +0.3
baz=95
Q19A Hogan Spring (94.55 47 ⇓P P 02 31 04.4 +0.4
baz=95
Y25A Mesa, Roswell 94.65 53 ⇓P P 02 31 04.4 -0.2
baz=95,SNR=9.3
R20A Redvale 94.65 48 ⇓P P 02 31 04.5 -0.1
baz=95
J14A Carey 94.67 41 ⇑P P 02 31 04.9 +0.4
baz=95
H12A Diamond D Ranc 94.69 40 ⇓P P 02 31 04.3 -0.3
baz=95,SNR=10
I13A Wildhorse Cree 94.70 41 ⇑P P 02 31 05.0 +0.3
baz=95
S21A Coal Bank Pass 94.72 49 ⇑P P 02 31 05.2 +0.1
baz=95
HWUT Hardware Ranch 94.74 44 *e*P P 02 31 04.7 -0.2
comp=Z,44nm,2.4s
HWUT *e*PKKPbc **PKKPdf** 02 48 03.0 -0.1
N17A Moffit Pass 94.77 45 ⇓P P 02 31 05.4 +0.2
baz=95
Z26A Caprock 94.78 54 ⇑P P 02 31 04.8 -0.4
baz=95,SNR=5.7
G12A Big Creek, Yel 94.81 39 ⇑P P 02 31 04.9 -0.2
baz=95
K15A Arbon 94.84 42 ⇓P P 02 31 05.1 -0.2
baz=95,SNR=12
W24A Lazy 6 Ranch, 94.89 52 ⇑P P 02 31 06.1 +0.3
baz=95
T22A Edith 94.92 50 ⇓P P 02 31 06.1 +0.2
baz=95
U23A El Rito 95.00 50 ⇑P P 02 31 06.6 +0.3
baz=95
X25A Clemmons Ranch 95.01 53 ⇓P P 02 31 06.0 -0.3
baz=95
H13A Challis 95.03 40 ⇑P P 02 31 06.1 0.0
baz=95,SNR=6.8
L16A Fish Haven 95.07 43 ⇓P P 02 31 06.1 -0.4
baz=95,SNR=8.3
I14A Mackay 95.08 41 ⇑P P 02 31 06.9 +0.4
baz=95,SNR=7.9
228A UT Block 9, Go 95.11 56 ⇑P P 02 31 06.9 +0.1
baz=95
P19A Cripple Cowboy 95.12 46 ⇑P P 02 31 06.8 0.0
baz=95
Q20A Ridgley Place, 95.16 47 ⇓P P 02 31 06.5 -0.4
baz=95
M17A Scullys Gap (B 95.19 44 ⇓P P 02 31 07.0 -0.1
baz=95
Y26A Elida 95.25 54 ⇓P P 02 31 07.2 -0.1
baz=95
F12A Elk City 95.25 39 ⇓P P 02 31 06.5 -0.5
baz=95,SNR=9.9
V24A Rampart Ranch, 95.27 51 ⇑P P 02 31 08.0 +0.4
baz=95
R21A Cimarron 95.29 48 ⇑P P 02 31 07.8 +0.2
baz=95,SNR=7.0
J15A Blackfoot 95.33 42 ⇓P P 02 31 08.1 +0.5
baz=95
Z27A Tatum 95.33 54 ⇓P P 02 31 07.6 -0.1
baz=95
G13A Cobalt 95.38 40 ⇑P P 02 31 07.6 -0.1
baz=96,SNR=6.4
S22A 4UR Ranch, Cre 95.39 49 ⇓P P 02 31 08.4 +0.2
baz=96
P20A De Beque 95.42 47 ⇑P P 02 31 08.5 +0.4
baz=96
O19A Miners Draw (B 95.43 46 ⇑P P 02 31 08.2 +0.1
baz=96
128A Castleberry Fa 95.47 55 ⇓P P 02 31 08.4 0.0
baz=96
K16A Soda Springs 95.47 43 ⇑P P 02 31 08.4 +0.1
baz=96,SNR=10
T23A Casias Ranch, 95.50 50 ⇓P P 02 31 09.0 +0.4
baz=96
M18A Lyman 95.53 45 ⇓P P 02 31 08.9 +0.3
baz=96
W25A X Bar L Ranch, 95.53 52 ⇑P P 02 31 08.4 -0.3
baz=96,SNR=9.3
H14A Leadore 95.56 40 ⇓P P 02 31 08.7 0.0
baz=96,SNR=8.3
229A Bryant Ranch, 95.59 56 ⇑P P 02 31 08.9 0.0
baz=96
Y27A Causey 95.68 54 ⇑P P 02 31 08.7 -0.7
baz=96,SNR=6.5
R22A Saguache, Gunn 95.72 49 ⇓P P 02 31 10.0 +0.3
baz=96
J16A Bone 95.73 42 ⇓P P 02 31 09.5 0.0
baz=96,SNR=6.8
N19A John Jarvie Ra 95.75 45 ⇓P P 02 31 09.5 -0.1
baz=96
F13A Darby 95.77 39 ⇑P P 02 31 08.9 -0.5
baz=96,SNR=5.5
V25A Rancho No Teng 95.77 52 ⇑P P 02 31 09.7 -0.1
baz=96
K17A Gardner Place, 95.81 43 ⇓P P 02 31 09.8 0.0
baz=96,SNR=7.4
L18A Fontenelle, Gr 95.84 44 ⇑P P 02 31 09.9 -0.1
baz=96
O20A White River Ci 95.88 46 ⇑P P 02 31 10.0 -0.2
baz=96
NEW Newport 95.90 36 ⇑P P 02 31 10.3 +0.4
baz=96
Z28A Tucker Farm, M 95.90 55 ⇓P P 02 31 09.9 -0.4
baz=96
G14A Jackson 95.90 40 ⇑P P 02 31 10.5 +0.4
baz=96
W26A Owens Ranch, T 95.93 53 ⇑P P 02 31 10.7 +0.2
baz=96
RRI2 Red Ridge 95.94 42 *e*P P 02 31 10.8 +0.3
comp=Z,5.9nm,0.9s
H15A Lima 95.97 41 ⇓P P 02 31 11.1 +0.6
baz=96
MCMT McKenzie Canyo 95.98 41 *e*P P 02 31 10.7 +0.1
comp=Z,1.8nm,1.1s
Q22A Crested Butte, 95.98 48 ⇑P P 02 31 11.1 +0.2
baz=96
D12A Red Ives Fores 96.03 38 ⇓P P 02 31 10.9 +0.3
baz=96
C11A Tepee Creek (N 96.06 37 ⇓P P 02 31 10.7 0.0
baz=96
SMCO Snowmass 96.12 48 *e*P P 02 31 11.4 -0.2

SMCO ePPKKPbc **PKKPdf** **02 48 00.5 -0.1**
X27A F and S Farms, 96.15 53 ⇑P **P** **02 31 11.6 +0.1**
baz=96
I16A Newdale 96.17 42 ⇓P **P** **02 31 11.8 +0.4**
baz=96
T24A Torres, Weston 96.17 50 ⇓P **P** **02 31 12.0 +0.3**
baz=96
REDW Red Top Meadow 96.22 43 *e*P **P** **02 31 11.5 -0.2**
comp=Z,18nm,1.4s
REDW *e*pP **pP** **02 31 27.0 -1.5**
U25A Circle Dot Ran 96.23 51 ⇑P **P** **02 31 11.8 -0.1**
baz=96
TPAW Teton Pass 96.24 42 *e*P **P** **02 31 12.8 +0.9**
comp=Z,17nm,1.5s
CD2 Chengdu 96.25 302 P **P** **02 31 10.3 -1.6**
CD2 pP **pP** **02 31 27.2 -1.5**
CD2 sP **sP** **02 31 33.7 -1.5**
CD2 SKS **SKSac** **02 41 40.5 -3.0**
CD2 S **S** **02 42 22.0 -5.0**
CD2 sS **sS** **02 42 50.9 -4.7**
CD2 SS **SS** **02 48 59.6 -1.4**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,250nm,5.5s
CD2 LR LR
comp=N,900nm,20.2s
CD2 LR LR
comp=E,800nm,21.2s
CD2 LR LR
comp=Z,980nm,16.6s
E13A Victor 96.26 39 ⇓P **P** **02 31 12.0 +0.4**
baz=96
K18A Toltan Ranch, 96.26 44 ⇓P **P** **02 31 12.3 +0.4**
baz=96
N20A Spence Gulch, 96.28 46 ⇓P **P** **02 31 12.0 0.0**
baz=96,SNR=5.2
R23A Moffat 96.30 49 ⇓P **P** **02 31 12.6 +0.3**
baz=96
F14A Wisdom 96.30 40 ⇑P **P** **02 31 12.0 0.0**
baz=96
J17A Brown Place, J 96.31 43 ⇑P **P** **02 31 12.0 0.0**
baz=96,SNR=6.9
SNOW Snow King Moun 96.34 43 *e*P **P** **02 31 12.2 -0.1**
comp=Z,7.5nm,0.9s
SNOW *e*PP PP 02 35 15.5 +8.5
L19A Farson 96.35 44 ⇓P **P** **02 31 12.1 -0.2**
baz=96
Z29A Hungry Hill Ra 96.36 55 ⇓P **P** **02 31 12.1 -0.3**
baz=96
C12B Naegeli Ranch, 96.38 37 ⇑P **P** **02 31 12.1 0.0**
baz=96
S24A Houchin Ranch, 96.39 50 ⇓P **P** **02 31 12.9 +0.2**
baz=96
G15A Dillon 96.39 40 ⇓P **P** **02 31 12.4 +0.1**
baz=96,SNR=8.6
DLMT Dillon 96.45 40 *e*P **P** **02 31 13.3 +0.7**
comp=Z,7.3nm,1.3s
HHC Hu-ho-hao-te 96.50 314 *e*P **P** **02 31 14.0 +1.1**
HHC pP **pP** **02 31 31.8 +2.1**
HHC sP **sP** **02 31 39.0 +2.9**
HHC SKS **SKSac** **02 41 43.2 -1.3**
HHC S **S** **02 42 27.5 -1.3**
HHC sS **sS** **02 42 56.3 -1.2**
HHC pmax pmax
comp=Z,11nm,1.1s
HHC pmax pmax
comp=Z,250nm,4.6s
HHC LR LR
comp=N,440nm,20.4s
HHC LR LR
comp=E,430nm,19.2s
HHC LR LR
comp=Z,510nm,22.8s
TNA Tin City 96.52 4 *e*P **P** **02 31 12.4 +0.3**
comp=Z,25nm,1.0s
LOHW Long Hollow 96.52 43 *e*P **P** **02 31 12.4 -0.6**
comp=Z,8.9nm,1.5s
MOOW Moose Ponds 96.52 42 *e*P **P** **02 31 12.4 -0.6**
comp=Z,7.7nm,1.4s
J18A Kendall Valley 96.62 43 ⇑P **P** **02 31 13.2 -0.3**
baz=97,SNR=8.8
BW06 Boulder Array 96.63 44 *e*P **P** **02 31 12.5 -1.1**
comp=Z,4.8nm,1.2s
BW06 *e*pP **pP** **02 31 31.9 +1.5**
BW06 Boulder Array 96.63 44 ⇓P **P** **02 31 13.2 -0.4**
baz=97
PDAR Pinedale Array 96.63 44 P **P** **02 31 12.9 -0.6**
PDAR pP **pP** **02 31 29.7 -0.7**
PDAR PP **PP** **02 35 09.7 +0.6**
PDAR PKKPbc **PKKPbc** **02 47 57.0 -0.7**
PDAR Pinedale Array 96.63 44 P **P** **02 31 12.9 -0.6**
comp=Z,1.5nm,0.9s,baz=215,slow=3.6,SNR=12
PDAR pP **pP** **02 31 29.7 -0.7**
comp=Z,1.9nm,1.0s,baz=196,slow=3.1,SNR=4.9
PDAR PP **PP** **02 35 09.7 +0.6**
comp=Z,1.0nm,1.1s,baz=242,slow=6.4,SNR=4.0
PDAR PKKPbc **PKKPbc** **02 47 57.0 -0.7**
comp=Z,1.5nm,0.7s,baz=81,slow=4.7,SNR=11
PDAR LR LR 03 06 39.0
comp=Z,234nm,20.4s,baz=262,slow=30
MSO Missoula 96.63 38 *e*PP PP 02 35 06.5 -2.4
T25A Trinidad 96.64 51 ⇓P **P** **02 31 13.6 -0.1**
baz=97
TRF Thorofare Moun 96.65 12 *e*P **P** **02 31 11.1 -2.0**
comp=Z,13nm,1.1s
U26A Atchley Ranch, 96.67 51 ⇓P **P** **02 31 13.7 -0.2**
baz=97
N21A Black Mountain 96.69 46 ⇓P **P** **02 31 14.1 +0.2**
baz=97
M20A Sweetwater, Wa 96.70 45 ⇓P **P** **02 31 14.2 +0.2**
baz=97
Y29A Porterfield Fa 96.71 55 ⇑P **P** **02 31 13.6 -0.4**
baz=97
I17A Pilgrim Ck. 96.72 42 ⇑P **P** **02 31 14.4 +0.4**
baz=97
FLWY Flagg Ranch 96.75 42 *e*P **P** **02 31 14.8 +0.8**
comp=Z,13nm,1.1s
QLMT Earthquake Lak 96.78 41 *e*P **P** **02 31 15.1 +0.9**
QLMT *e*pP **pP** **02 31 31.2 +0.2**
F15A Butte 96.80 40 ⇑P **P** **02 31 14.2 -0.1**
baz=97
H16A Russell Place, 96.81 41 ⇓P **P** **02 31 14.6 +0.3**
baz=97
G16A Moss Hill, Enn 96.81 41 ⇓P **P** **02 31 14.5 +0.3**
baz=97
S25A Robets Cordova 96.91 50 ⇑P **P** **02 31 14.9 -0.1**
baz=97
L20A Wamsutter 96.91 45 ⇓P **P** **02 31 14.8 0.0**
baz=97,SNR=5.3
O22A Kremmling 96.96 47 ⇑P **P** **02 31 15.4 +0.2**
baz=97
H17A Grant Village 97.00 42 ⇑P **P** **02 31 15.9 +0.6**
baz=97
X29A Tulia 97.00 54 ⇑P **P** **02 31 15.2 -0.1**
baz=97
D14A Greenough 97.02 38 ⇓P **P** **02 31 14.6 -0.5**
baz=97
I18A Diamond G Ranc 97.03 43 ⇓P Pdif 02 31 15.7 +0.3
baz=97
A12A Yaak River Ran 97.08 36 ⇓P Pdif 02 31 15.6 +0.3
baz=97
MCK McKinley 97.16 13 *e*P **P** **02 31 14.3 -0.8**
MCK pmax pmax
comp=Z,28nm,1.5s
MCK McKinley 97.16 13 *e*P **P** **02 31 14.3 -0.8**
comp=Z,28nm,1.5s
BOZ Bozeman (W) 97.16 40 *e*P **P** **02 31 15.3 -0.5**
BOZ pmax pmax
comp=Z,8.0nm,1.2s
BOZ Bozeman (W) 97.16 40 *e*P **P** **02 31 15.3 -0.5**
comp=Z,7.8nm,1.2s
BOZ Bozeman (W) 97.16 40 ⇓P Pdif 02 31 16.0 +0.1
baz=97
Q24A Divide 97.17 49 ⇑P **P** **02 31 15.5 -0.7**
baz=97
J19A Crowheart 97.22 43 ⇑P **P** **02 31 16.0 -0.2**
baz=97
AMTX Amarillo 97.25 54 ⇓P **P** **02 31 16.2 -0.3**
baz=97
M21A Separation Pea 97.28 46 ⇓P Pdif 02 31 16.6 0.0
baz=97
K20A Yellowstone Ra 97.29 44 ⇓P **P** **02 31 15.7 -0.8**
baz=97
N22A Wattenberg Ran 97.38 47 ⇓P Pdif 02 31 17.1 -0.1
baz=98
O23A Lake Granby, G 97.38 47 ⇓P Pdif 02 31 17.2 0.0
baz=98
S26A Kim 97.53 51 ⇓P Pdif 02 31 17.7 0.0
baz=98
E16A East Helena 97.68 40 ⇓P Pdif 02 31 18.8 +0.6
baz=98
I19A Meeteetse 97.71 43 ⇓P Pdif 02 31 18.9 +0.5
baz=98
F17A Fitzpatrick Pl 97.86 41 ⇓P **P** **02 31 18.7 -0.2**
baz=98
C15A Salmond Ranch, 97.93 38 ⇓P Pdif 02 31 19.3 0.0
baz=98
K21A Alcova 97.93 45 ⇑P **P** **02 31 19.0 -0.4**
baz=98
B14A Marquette Ranc 97.94 38 ⇑P Pdif 02 31 19.3 0.0
baz=98
LPAZ La Paz 98.06 114 *e*P Pdif 02 31 22.8 +1.5
comp=Z,4.5nm,1.2s
LPAZ La Paz 98.06 114 P Pdif 02 31 23.2 +2.0
comp=Z,1.7nm,0.9s,baz=22,slow=1.4,SNR=4.3
LPAZ LR LR 03 07 25.7
comp=Z,126nm,20.7s,baz=318,slow=30
H19A Powell 98.08 42 ⇑P Pdif 02 31 20.2 +0.2
baz=98
L22A Ellis Ranch, M 98.09 46 ⇑P Pdif 02 31 20.6 +0.4
baz=98
T28A Walsh 98.16 52 ⇑P **P** **02 31 20.3 -0.2**
baz=98
I20A Worland 98.17 43 ⇓P Pdif 02 31 20.6 +0.2
baz=98
RLMT Red Lodge 98.19 42 ⇑P Pdif 02 31 20.8 +0.2
baz=98
M23A Laramie 98.21 46 ⇓P Pdif 02 31 20.8 0.0
baz=98
J21A Lysite 98.22 44 ⇓P Pdif 02 31 20.8 +0.1
baz=98
A14A Double T Ranch 98.24 37 ⇑P Pdif 02 31 20.5 -0.1
baz=98
K22A Casper 98.38 45 ⇓Pdiff Pdif 02 31 21.5 +0.1
baz=98
COLA College 98.39 13 *e*P **P** **02 31 19.7 -0.9**
COLA pmax pmax
comp=Z,52nm,1.8s
COLA College 98.39 13 *e*P **P** **02 31 19.7 -0.9**
comp=Z,52nm,1.8s
C16A Fuhringer Ranc 98.41 39 ⇑Pdiff Pdif 02 31 21.6 +0.3
baz=98
ILAR Eielson Array 98.48 13 P **P** **02 31 19.8 -1.3**
ILAR PKiKP **PKiKP** **02 35 51.6 -1.0**
ILAR PKKPbc PKKPbc 02 47 47.9 -5.3
ILAR Eielson Array 98.48 13 P **P** **02 31 19.8 -1.3**
comp=Z,2.7nm,1.0s,baz=224,slow=5.9,SNR=15
ILAR PKiKP **PKiKP** **02 35 51.6 -1.0**
comp=Z,1.2nm,0.9s,baz=278,slow=2.9,SNR=10
ILAR PKKPbc PKKPbc 02 47 47.9 -5.3
comp=Z,0.7nm,0.8s,baz=353,slow=3.4,SNR=5.8
I21A Big Trails, Te 98.58 44 ⇑Pdiff Pdif 02 31 22.2 -0.1
baz=99
L23A Garrett 98.58 46 ⇑Pdiff Pdif 02 31 22.4 0.0
baz=99
A15A Johnson Ranch, 98.60 37 ⇑Pdiff Pdif 02 31 22.6 +0.5
baz=99
C17A Wharram Farm, 98.84 39 ⇓Pdiff Pdif 02 31 23.8 +0.6
baz=99
J22A Midwest 98.84 44 ⇑Pdiff Pdif 02 31 23.4 0.0
baz=99
G20A Bridger 98.85 42 ⇓Pdiff **P** **02 31 23.0 -0.4**
baz=99
LZH Lanzhou 98.92 307 *e*P Pdif 02 31 27.5 +3.5
LZH sP sP 02 31 49.3 +2.0
LZH *e*S **S** **02 42 49.1 -0.7**
LZH sS sS 02 43 21.1 +2.6
LZH pmax pmax
comp=Z,38nm,1.5s
LZH pmax pmax
comp=Z,180nm,5.3s
K23A Bowen Ranch, D 98.99 45 ⇑Pdiff **P** **02 31 23.8 -0.3**
baz=99
RSSD Black Hills 100.71 45 *e*P **Pdif** **02 31 31.9 +0.1**
RSSD Black Hills 100.71 45 *e*Pdif **Pdif** **02 31 31.9 +0.1**
ULN Ulaanbaatar 103.08 318 *e*Pdif **Pdif** **02 31 42.4 +0.2**
SONM Songino Array 103.44 318 Pdif **Pdif** **02 31 43.1 -0.6**
SONM PKKPbc **PKKPbc** **02 47 37.7 -0.5**
SONM Songino Array 103.44 318 Pdiff **Pdif** **02 31 43.1 -0.6**
comp=Z,0.3nm,0.5s,baz=113,slow=6.8,SNR=3.6
SONM PKKPbc **PKKPbc** **02 47 37.7 -0.5**
comp=Z,1.0nm,0.9s,baz=231,slow=4.7,SNR=5.1
INK Inuvik 104.34 16 PKiKP **PKiKP** **02 36 02.8 -0.4**
INK Inuvik 104.34 16 PKiKP **PKiKP** **02 36 02.8 -0.4**
comp=Z,2.2nm,0.8s,baz=225,slow=5.7,SNR=6.9
YKA Yellowknife Ar 105.99 26 Pdif **Pdif** **02 31 53.9 -0.7**
YKA PKiKP **PKiKP** **02 36 05.3 -1.0**
YKA PKKPbc **PKKPbc** **02 47 26.8 -3.9**
YKA P'P' 02 55 54.1
YKA Yellowknife Ar 105.99 26 Pdiff **Pdif** **02 31 53.8 -0.7**
comp=Z,0.5nm,1.0s,baz=239,slow=4.4,SNR=5.7
YKA PKiKP **PKiKP** **02 36 05.3 -1.0**
comp=Z,0.7nm,0.5s,baz=243,slow=1.6,SNR=33
YKA PKKPbc **PKKPbc** **02 47 26.8 -3.9**
comp=Z,4.0nm,0.9s,baz=43,slow=2.9,SNR=32
YKA PKPPKP **P'P'df** **02 55 54.1 +4.9**
comp=Z,0.4nm,0.8s,baz=31,slow=2.4,SNR=5.8
ULM Lac du Bonnet 108.56 42 PKiKP **PKiKP** **02 36 11.3 -0.2**
ULM Lac du Bonnet 108.56 42 PKiKP **PKiKP** **02 36 11.3 -0.2**
comp=Z,1.6nm,0.6s,baz=207,slow=5.8,SNR=2.9
WMQ Urumqi 113.44 308 *e*PKP **PKiKP** **02 36 21.5 +0.4**
WMQ LR LR
comp=Z,230nm,21.0s
BOSA Boshof 116.71 203 *e*PKPdf **PKPdf** **02 36 28.8 +0.7**
BOSA PKP **PKPdf** **02 36 29.1 +1.0**
BOSA Boshof 116.71 203 PKP **PKPdf** **02 36 29.1 +1.0**
comp=Z,6.4nm,0.6s,baz=190,slow=1.1,SNR=30
RES Resolute Bay 117.81 17 *e*PKPdf **PKPdf** **02 36 27.3 -1.1**
MK31 Makanchi Array 118.01 310 *e*PKIKP **PKPdf** **02 36 28.1 -1.6**
MK31 Makanchi Array 118.01 310 *e*PKPdf **PKPdf** **02 36 28.1 -1.6**
MKAR Makanchi Array 118.01 310 P **Pdif** **02 32 49.2 +0.8**
MKAR 02 36 28.3
MKAR pmax pmax
comp=Z,4.0nm,0.4s
MKAR Makanchi Array 118.01 310 Pdif **Pdif** **02 32 49.2 +0.8**
MKAR PKP **PKPdf** **02 36 28.3 -1.4**
MKAR PKKPbc **PKKPab** **02 46 50.7 -0.3**
MKAR Makanchi Array 118.01 310 Pdiff **Pdif** **02 32 49.2 +0.8**
comp=Z,0.3nm,0.7s,baz=108,slow=4.7,SNR=4.6
MKAR PKP **PKPdf** **02 36 28.3 -1.4**
comp=Z,3.7nm,0.4s,baz=266,slow=1.8,SNR=19
MKAR PKKPbc **PKKPab** **02 46 50.7 -0.3**
comp=Z,0.4nm,0.6s,baz=273,slow=3.5,SNR=7.1
ZALV Zalesovo Beam 118.34 318 PKIKP **PKPdf** **02 36 28.7 -1.4**
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 118.34 318 PKP **PKPdf** **02 36 28.6 -1.4**
ZALV Zalesovo Beam 118.34 318 PKP **PKPdf** **02 36 28.6 -1.4**
comp=Z,3.1nm,0.5s,baz=145,slow=3.4,SNR=4.3
LBTB Lobatse 119.89 205 PKP **PKPdf** **02 36 34.9 +0.6**
LBTB *e*PKPdf **PKiKP** **02 36 35.3 +1.0**
LBTB Lobatse 119.89 205 PKP **PKPdf** **02 36 34.9 +0.6**
comp=Z,3.4nm,0.6s,baz=174,slow=2.9,SNR=9.6
KSH Kashi 120.39 300 *e*PKP **PKPdf** **02 36 35.0 +0.4**
KSH PP **PP** **02 38 06.6 +4.5**
KSH PKS **PKSdf** **02 40 09.8 -1.6**
KSH SKS **SKSdf** **02 43 42.0 +0.3**
KSH SKKS **SKKSac** **02 44 55.7 -0.5**
KSH SS **SS** **02 54 30.8 +4.1**
KSH LR LR
comp=N,110nm,6.4s
KSH LR LR
comp=E,150nm,6.2s
KSH LR LR
comp=Z,280nm,5.8s
KURK Kurchatov 121.31 314 PKIKP **PKPdf** **02 36 34.7 -1.2**
KURK pmax pmax
comp=Z,10.0nm,0.8s
KURK Kurchatov 121.31 314 *e*PKPdf **PKPdf** **02 36 34.7 -1.2**
KURK PKKPbc **PKKPbc** **02 46 38.0 0.0**
KURBB Kurchatov Arra 121.35 313 PKP **PKPdf** **02 36 34.7 -1.3**
comp=Z,10nm,0.8s,baz=293,slow=1.9,SNR=16
KURBB PKKPbc **PKKPbc** **02 46 38.0 +0.1**
comp=Z,0.3nm,0.6s,baz=285,slow=4.6,SNR=4.8
TKM2 Tokmak 2 121.57 304 P **PKPdf** **02 36 35.8 -1.1**
SNR=7.5
KZA Kyzart 121.61 303 P **PKPdf** **02 36 37.6 +0.3**
SNR=7.1
KBK Karagaybulak 121.97 304 P **PKPdf** **02 36 36.9 -0.8**
SNR=7.3
CHMS Chumysh 122.19 304 P **PKPdf** **02 36 37.2 -0.7**
SNR=8.2
AAK Ala-Archa 122.29 304 *e*PKIKP **PKPdf** **02 36 37.6 -0.7**
AAK Ala-Archa 122.29 304 *e*PKPdf **PKPdf** **02 36 37.6 -0.7**
AAK PKKPbc **PKKPbc** **02 46 35.1 +0.8**
AAK Ala-Archa 122.29 304 PKKPbc PKKPbc 02 46 35.1 +0.8
comp=Z,1.3nm,0.8s,baz=200,slow=4.0,SNR=5.7
USP Ospenovka 122.44 304 P **PKPdf** **02 36 37.6 -0.7**
SNR=7.1
AML Almayashu 122.74 303 P **PKPdf** **02 36 38.8 -0.6**
SNR=10
EKS2 Erkin-Say 122.81 303 *e*PKIKP **PKPdf** **02 36 38.8 -0.4**
EKS2 Erkin-Say 122.81 303 *e*PKPdf **PKPdf** **02 36 38.8 -0.4**
FRB Frobisher Bay 125.92 31 PKP **PKPdf** **02 36 43.2 -1.0**
FRB Frobisher Bay 125.92 31 PKP **PKPdf** **02 36 43.2 -1.0**
comp=Z,11nm,1.0s,baz=297,slow=2.2,SNR=11
BVAR Borovoye Array 126.69 315 PKIKP **PKPdf** **02 36 45.5 -0.6**
BVAR pmax pmax
comp=Z,9.0nm,0.4s
BVAR Borovoye Array 126.69 315 PKP **PKPdf** **02 36 45.5 -0.6**
BVAR Borovoye Array 126.69 315 PKP **PKPdf** **02 36 45.5 -0.6**
comp=Z,9.0nm,0.4s,baz=140,slow=2.1,SNR=22
SCHQ Schefferville 126.74 42 PKP **PKPdf** **02 36 45.0 -1.2**
SCHQ Schefferville 126.74 42 PKP **PKPdf** **02 36 45.0 -1.2**
comp=Z,18nm,1.0s,baz=300,slow=1.7,SNR=18
BRVK Borovoye 126.75 316 *e*PKIKP **PKPdf** **02 36 45.5 -0.8**
BRVK Borovoye 126.75 316 *e*PKPdf **PKPdf** **02 36 45.5 -0.8**
LSZ Lusaka 127.52 213 *e*PKPdf **PKPdf** **02 36 49.9 +0.8**
TSUM Tsumeb 127.89 199 *e*PKPdf **PKPdf** **02 36 50.8 +1.1**
TSUM PKP **PKPdf** **02 36 50.9 +1.2**
TSUM Tsumeb 127.89 199 PKP **PKPdf** **02 36 50.9 +1.2**
comp=Z,6.9nm,0.8s,baz=139,slow=3.8,SNR=8.3
RCBR Riachuelo 128.64 129 *e*PKPdf **PKPdf** **02 36 51.5 +0.3**
SPA0 Spitsbergen Ar 132.23 356 *e*P **PKPdf** **02 36 56.9 +0.9**
SFJD Kangerlussuaq 132.55 25 PKP **PKPdf** **02 36 57.2 +0.4**
SFJD Kangerlussuaq 132.55 25 *i*P **PKPdf** **02 36 57.1 +0.3**
SFJD Kangerlussuaq 132.55 25 PKP **PKPdf** **02 36 57.2 +0.4**
comp=Z,7.2nm,0.8s,baz=261,slow=2.3,SNR=4.4
DAG Danmarks Havn 133.10 6 *i*PKIKP **PKPdf** **02 36 55.5 -2.1**
DAG pmax pmax
comp=Z,7.0nm,1.0s
DAG Danmarks Havn 133.10 6 *i*P **PKPdf** **02 36 55.5 -2.1**
comp=Z,7.1nm,1.0s
SUMG Summit 133.26 16 *e*PKIKP **PKPdf** **02 36 58.5 0.0**
SUMG *e* 02 39 22.7
SUMG Summit 133.26 16 *e*PKPdf **PKPdf** **02 36 58.5 0.0**
SUMG *e*PP **PP** **02 39 22.7 -3.7**
SUMG Summit 133.26 16 *i*P **PKPdf** **02 36 58.6 0.0**
comp=Z,10nm,0.9s
ARU Arti 133.41 320 *e*PKIKP **PKPdf** **02 36 58.3 -0.4**
ARU Arti 133.41 320 *e*PKPdf **PKPdf** **02 36 58.3 -0.4**
SOKR Solikamsk 133.75 325 *e*PKIKP **PKPdf** **02 36 55.1 -4.1**
SOKR pmax pmax
comp=Z,70nm,1.4s
SCO Scoresbysund 138.25 12 *i*PKIKP **PKPdf** **02 37 08.3 +0.9**
SCO pmax pmax
comp=Z,7.0nm,0.9s
SCO Scoresbysund 138.25 12 *i*P **PKPdf** **02 37 08.3 +0.9**
comp=Z,6.8nm,0.9s
KEV Kevo 138.62 347 *e*PKHKP PKPpre 02 36 56.9
KEV pmax pmax
comp=Z,4.0nm,0.6s
KEV Kevo 138.62 347 *e*p PKPpre 02 36 56.9
comp=Z,4.3nm,0.6s
ARCES ARCESS Array B 139.09 348 PKPpre PKPpre 02 36 59.1
ARCES PKP **PKPdf** **02 37 09.0 +0.1**
ARCES SKPbc **SKPbc** **02 40 38.8 -0.2**
ARCES ARCESS Array B 139.09 348 PKhKP PKPpre 02 36 59.1
comp=Z,4.1nm,0.6s,baz=31,slow=2.1,SNR=37
ARCES PKP **PKPdf** **02 37 09.0 +0.1**
comp=Z,9.7nm,0.7s,baz=77,slow=1.9,SNR=17
ARCES SKPbc **SKPbc** **02 40 38.8 -0.2**
comp=Z,4.3nm,0.9s,baz=302,slow=2.7,SNR=4.1
ARE0 ARCESS Array S 139.09 348 *e* PKPpre 02 37 01.3
KTK1 Kautokeino 139.95 348 *e*P PKPdf 02 37 02.6 -7.9
TRO Tromso 140.06 351 *e*P PKPdf 02 37 04.3 -6.4
MOR8 Moi Rana 143.91 351 *e*P PKPab 02 37 13.5 -1.5
HAKT HAKKARI 144.98 292 *i*P PKPbc 02 37 14.3 -5.9
KAF Kangasniemi 145.01 340 *e*p PKPbc 02 37 15.7 -3.4
comp=Z,36nm,0.5s
DYDN Diyadin 145.01 296 *i*P PKPbc 02 37 19.2 -0.9
TVAN Van 145.24 294 *i*P PKPbc 02 37 15.6 -5.3
KIV Kislovodsk 145.41 304*d i*PKP2 **PKPdf** **02 37 20.4 -0.7**
KIV pmax pmax
comp=Z,20nm,1.0s
KIV Kislovodsk 145.41 304 *e*PKPdf **PKPdf** **02 37 20.4 -0.7**
OBN Obninsk 145.53 325 *i* **PKPdf** **02 37 20.2 -0.5**
FINES FINESS Array B 145.60 340 PKPbc **PKPdf** **02 37 19.4 -1.2**
FINES FINESS Array B 145.60 340 PKPbc **PKPdf** **02 37 19.4 -1.2**
comp=Z,104nm,0.5s,baz=54,slow=3.9,SNR=835
NSS Namsos 145.80 352 *e*P **PKPdf** **02 37 20.3 -0.6**
VSR Storozhevoye 145.83 317 *e*PKIKP **PKPdf** **02 37 20.7 -0.7**
VSR pmax pmax
comp=N,20nm,0.6s
VSR pmax pmax
comp=E,40nm,0.6s
VSR pmax pmax
comp=Z,100nm,0.6s
VORD Divnogorie 145.85 317 *e*PKIKP **PKPdf** **02 37 20.6 -0.8**
DDEM Demirkent 146.43 298 *i*P **PKPdf** **02 37 19.0 -3.9**
MOL Molde 148.14 355 *e*P **PKPbc** **02 37 27.2 -1.0**
NB2 NORSAR Subarra1 149.26 351 PKP **PKPbc** **02 37 30.2 -1.0**
baz=13,slow=2.6
NB2 NORSAR Subarra1 149.26 351 PKP **PKPbc** **02 37 30.2 -1.0**
comp=Z,109nm,1.1s,baz=13,slow=2.6
NOA NORSAR Array B 149.26 351 PKP **PKPdf** **02 37 26.1 -0.8**
NOA PKPbc **PKPbc** **02 37 30.2 -1.0**
NOA NORSAR Array B 149.26 351 PKP **PKPdf** **02 37 26.1 -0.8**
comp=Z,36nm,0.8s,baz=14,slow=4.2,SNR=14
NOA PKPbc **PKPbc** **02 37 30.2 -1.0**
comp=Z,50nm,0.9s,baz=14,slow=4.2,SNR=72
FOO Floro 149.26 357 *e*P **PKPbc** **02 37 29.3 -1.8**
FOO AMB AMB 02 37 35.0
comp=Z,176nm,1.1s
NAO01 NORSAR Array S 149.49 351 *e*PKPbc **PKPbc** **02 37 31.0 -0.7**
NAO01 *e*PKPab **PKPab** **02 37 35.4 -1.4**
NC602 NORSAR Array S 149.51 351 *e*P **PKPbc** **02 37 30.2 -1.6**
BER Bergen 150.46 356 *e*P **PKPbc** **02 37 33.2 -0.8**
BER AMB AMB 02 37 36.1
comp=Z,106nm,1.5s
KONO Kongsberg 150.82 352 *e*P **PKPbc** **02 37 34.3 -0.7**
KONO AMB AMB 02 37 36.0
comp=Z,133nm,1.3s
KONO Kongsberg 150.82 352 *e*PKIKP **PKPbc** **02 37 34.1 -0.8**
KONO Kongsberg 150.82 352 *e*PKPbc **PKPbc** **02 37 34.1 -0.8**
AKASG Malin Array Be 151.64 322 PKIKP **PKPbc** **02 37 35.5 -1.6**
AKASG pmax pmax
comp=Z,16nm,0.4s
AKASG Malin Array Be 151.64 322 PKPbc **PKPbc** **02 37 35.5 -1.6**
AKASG Malin Array Be 151.64 322 PKPbc **PKPbc** **02 37 35.5 -1.6**
comp=Z,16nm,0.4s,baz=50,slow=2.6,SNR=74
AKBB Malin Array Si 151.64 322 *e*PKIKP **PKPbc** **02 37 35.8 -1.3**
AKBB Malin Array Si 151.64 322 *e*PKPbc **PKPbc** **02 37 35.8 -1.3**
KIEV Kiev 151.65 322 *e*PKIKP **PKPbc** **02 37 36.0 -1.2**
KIEV Kiev 151.65 322 *e*PKPbc **PKPbc** **02 37 36.0 -1.2**
GULE Gulek 152.09 292 *i*P **PKPbc** **02 37 38.3 -0.5**
SUW Suwalki 152.29 332 *e*PKIKP **PKPbc** **02 37 35.2 -3.3**
SUW Suwalki 152.29 332 *e*P **PKPbc** **02 37 37.7 -0.8**
SUW Suwalki 152.29 332 *e*PKPdf **PKPbc** **02 37 35.2 -3.3**
SUW *e*PKPbc **PKiKP** **02 37 37.9 -0.9**
SUW Suwalki 152.29 332 *e*PKP **PKPbc** **02 37 37.7 -0.8**
SUW Suwalki 152.29 332 *e*PKP **PKPbc** **02 37 37.7 -0.8**
HOMB Homborsund 152.29 352 *e*P **PKPbc** **02 37 37.9 -0.4**
HOMB AMB AMB 02 37 43.5
comp=Z,106nm,1.5s
BRTR Keskin Array B 152.72 298 PKPbc **PKPbc** **02 37 38.8 -1.4**
BRTR Keskin Array B 152.72 298 PKPbc **PKPbc** **02 37 38.8 -1.4**
comp=Z,12nm,0.4s,baz=135,slow=3.8,SNR=30
CSS Prodhromos 153.32 287 *e*PKPbc **PKPbc** **02 37 40.9 -0.5**
MUD Monsted U'grnd 153.98 351 *i*PKIKP **PKPbc** **02 37 40.9 -1.2**
MUD pmax pmax
comp=Z,14nm,1.1s
MUD Monsted U'grnd 153.98 351 *i*P **PKPbc** **02 37 40.9 -1.2**
comp=Z,14nm,1.1s
BSD Bornholm Skovb 154.10 343 *i*PKIKP **PKPbc** **02 37 41.9 -0.5**
BSD pmax pmax
comp=Z,12nm,0.4s
BSD Bornholm Skovb 154.10 343 *i*P **PKPbc** **02 37 41.9 -0.5**
comp=Z,12nm,0.4s
LVV L'vov 154.83 325 *e*PKIKP **PKPdf** **02 37 37.5 +2.0**
BEL Belsk 154.88 332 *e*PKP **PKPbc** **02 37 44.2 +0.1**
BEL Belsk 154.88 332 *e*PKP **PKPbc** **02 37 44.2 +0.1**
GKP Gorka Klasztor 155.04 338 *e*PKP PKPdf 02 37 44.7 +9.1
GKP *e* 02 37 47.7
GKP Gorka Klasztor 155.04 338 *e*PKP PKPdf 02 37 44.7 +9.1
GKP *e* 02 37 47.7

GKP	Gorka Klasztor	155.04 338	*e*PKIKP	PKPdf	02 37 44.7	+9.1		
DBIC	Dimbokro	155.05 164	PKP	PKPdf	02 37 37.6	+0.7		
DBIC			*e*PKPbc	PKPab	02 37 46.1	-15		
DBIC			*e*PKPab	PKPab	02 38 02.6	+1.4		
DBIC	Dimbokro	155.05 164	PKP	PKPdf	02 37 37.6	+0.7		
	comp=Z,6.2nm,0.5s,baz=99,slow=1.4,SNR=31							
BUR08	Bucovina Ar. S	155.54 320	*e*PKPdf	PKPdf	02 37 40.3	+3.6		
BUR08			*e*PKPbc	PKPab	02 37 49.4	-13		
KWP	Kalwaria Pacla	155.60 326	*e*PKPab	PKPab	02 38 01.6	-1.2		
PGOR	Pogoanele	155.87 312	⇑*i*P	PKPab	02 38 04.6	+0.5		
BSEG	Bad Segeberg	156.22 348	*e*PKPab	PKPab	02 38 04.3	-0.9		
SECR		156.39 313	⇓*i*P	PKPab	02 38 06.7	+0.3		
UZH	Uzhgorod	156.47 324	*i*	PKPab	02 37 52.8	-14		
UZH			*i*	PKPab	02 38 06.2	-3.4		
OJC	Ojcow	156.51 330	*e*PKPdf	PKPdf	02 37 36.1	-1.6		
OJC	Ojcow	156.51 330	*e*PKIKP	PKPdf	02 37 38.8	+1.1		
OJC	Ojcow	156.51 330	*e*PKPdf	PKPdf	02 37 38.8	+1.1		
NIE	Niedzica	156.87 328	*e*PKPdf	PKPdf	02 37 38.0	-0.2		
NIE	Niedzica	156.87 328	*e*PKIKP	PKPdf	02 37 38.4	+0.1		
HUMR	Humele	157.31 313	⇑*i*P	PKPab	02 38 09.5	-0.9		
KSP	Ksiaz	157.39 336	*e*PKP	PKPdf	02 37 38.9	+0.1		
KSP			*e*	PKPab	02 38 09.5	-1.0		
KSP	Ksiaz	157.39 336	*e*PKP	PKPdf	02 37 38.9	+0.1		
KSP			*e*	PKPab	02 38 09.5	-1.0		
KSP	Ksiaz	157.39 336	*e*PKIKP	PKPdf	02 37 38.6	-0.2		
KSP			*e*		02 37 49.4			
KSP	Ksiaz	157.39 336	*e*P	PKPab	02 38 09.1	-1.3		
OKC	Ostrava-Krasne	157.49 332	*e*PKIKP	PKPdf	02 37 39.3	+0.3		
OKC	Ostrava-Krasne	157.49 332	*e*PKPDF	PKPdf	02 37 39.3	+0.3		
OKC			*e*PKPAB	PKPab	02 38 08.6	-2.3		
UPC	Upice	157.77 336	*e*PKPAB	PKPab	02 38 10.9	-1.2		
MORC	Moravsky Berou	157.78 332	*e*PKIKP	PKPdf	02 37 39.1	-0.3		
MORC	Moravsky Berou	157.78 332	*e*PKPdf	PKPdf	02 37 39.1	-0.3		
DPC	Dobruska-Polom	157.78 335	*e*PKIKP	PKPdf	02 37 39.2	-0.2		
DPC	Dobruska-Polom	157.78 335	*e*PKPdf	PKPdf	02 37 40.0	+0.6		
DPC	Dobruska-Polom	157.78 335	*e*PKPDF	PKPdf	02 37 39.2	-0.2		
DPC			*e*PKPAB	PKPab	02 38 11.4	-0.8		
CLL	Collm	158.03 341	*i* PKIKP	PKPdf	02 37 38.2	-1.4		
CLL			*i*		02 37 50.2			
CLL			*i*		02 38 11.7			
CLL			pmax	pmax				
	comp=Z,17nm,1.6s							
CLL			pmax	pmax				
	comp=Z,15nm,1.2s							
CLL			pmax	pmax				
	comp=Z,14nm,1.0s							
CLL			pmax	pmax				
	comp=Z,21nm,0.9s							
CLL			pmax	pmax				
	comp=Z,27nm,0.9s							
CLL	Collm	158.03 341	*i* PKPdf	PKPdf	02 37 38.2	-1.4		
	comp=Z,17nm,1.6s							
CLL			*i* PKPdiff	PKPab	02 37 50.2	-23		
	comp=Z,15nm,1.2s							
CLL			⇓*i*PKPdiff2		02 37 54.4			
	comp=Z,14nm,1.0s							
CLL			⇓*i*PKPab	PKPab	02 38 11.7	-1.5		
	comp=Z,21nm,0.9s							
CLL			⇑*i*PKPab(2)		02 38 15.5			
	comp=Z,27nm,0.9s							
CLL			*e*PP	PP	02 41 51.0	-1.7		
CLL			*e*PSKS		02 52 24.0			
CLL			*e*PPS	PPS	02 55 18.0			
PSZ	Piszkesteto	158.13 326	*e*PKIKP	PKPdf	02 37 39.2	-0.8		
PSZ	Piszkesteto	158.13 326	*e*PKPdf	PKPdf	02 37 39.2	-0.8		
BRG	Berggiesshubel	158.14 339	*e*PDIF	PKPdf	02 37 38.5	-1.3		
BRG	comp=Z,15nm,1.5s		*i*		02 38 12.4			
	comp=Z,19nm,1.0s							
BRG	Berggiesshubel	158.14 339	*e*PKPab	PKPab	02 38 12.3	-1.4		
BRG	Berggiesshubel	158.14 339	*e*PKIKP	PKPdf	02 37 38.5	-1.3		
BRG			*i*		02 38 12.4			
BRG			pmax	pmax				
	comp=Z,15nm,1.5s							
BRG			pmax	pmax				
	comp=Z,19nm,1.0s							
CLZ	Clausthal	158.19 346	*e*PKPab	PKPab	02 38 13.0	-0.9		
IBBN	Ibbenburen	158.21 350	*e*PKPab	PKPab	02 38 13.0	-0.9		
VYHS	Vyhne	158.21 328	*e*PKIKP	PKPdf	02 37 37.5	-2.4		
VYHS	Vyhne	158.21 328	*e*PKP	PKPdf	02 37 37.5	-2.4		
PVCC	Panska Ves	158.24 338	*e*PKIKP	PKPdf	02 37 39.5	-0.4		
PVCC			*e*		02 38 13.2			
PVCC	Panska Ves	158.24 338	*e*PKPDF	PKPdf	02 37 39.5	-0.4		
PVCC			*e*PKPAB	PKPab	02 38 13.2	-0.9		
FBE	Freiberg	158.27 340	*e*PKPab	PKPab	02 38 13.3	-0.9		
NEUB	Neuenburg	158.45 343	*e*PKPab	PKPab	02 38 13.6	-1.4		
WTSB	Winterswijk	158.68 352	*e*P	PKPab	02 38 17.7	+1.8		
	comp=Z,16nm,0.6s							
PRU	Pruhonice	158.71 337	*e*PKPAB	PKPab	02 38 14.9	-1.3		
BZS	Buzias	158.73 319	⇑PKIKP	PKPdf	02 37 41.4	+0.8		
BZS	Buzias	158.73 319	⇑*i*P	PKPdf	02 37 41.4	+0.8		
TREC	Trest	158.96 334	*e*PKPAB	PKPab	02 38 16.1	-1.2		
TANN	Tannenbergstha	158.98 341	*e*PKPab	PKPab	02 38 15.5	-1.9		
WERD	Werda	159.00 341	*e*PKPab	PKPab	02 38 16.5	-0.9		
MOX	Moxa	159.00 342	*e*PKPab	PKPab	02 38 16.2	-1.2		
PLN	Plauen	159.00 341	*e*PKPab	PKPab	02 38 16.6	-0.8		
GUNZ	Gunzen	159.06 341	*e*PKPab	PKPab	02 38 16.7	-1.1		
WERN	Wernitzgruen	159.12 341	*e*PKPab	PKPab	02 38 17.1	-0.9		
NKC	Novy Kostel	159.15 341	*e*PKPAB	PKPab	02 38 16.6	-1.5		
VTS	Vitosha	159.36 310	⇓PKP2	PKPab	02 38 19.2	-0.3		
VTS	Vitosha	159.36 310	⇓*i*P	PKPab	02 38 19.2	-0.3		
ROTZ	Rotzenmuhle	159.64 340	*e*PKPab	PKPab	02 38 19.7	-0.5		
KHC	Kasperske Hory	159.77 337	*e*PKIKP	PKPdf	02 37 41.1	-0.7		
KHC			*e*		02 38 19.3			
KHC	Kasperske Hory	159.77 337	*e*PKPdf	PKPdf	02 37 41.1	-0.7		
KHC			*e*PKPab	PKPab	02 38 19.3	-1.6		
KHC	Kasperske Hory	159.77 337	*e*PKPDF	PKPdf	02 37 41.0	-0.7		
KHC			*e*PKPAB	PKPab	02 38 19.2	-1.7		
CONA	Conrad Observa	159.92 332	⇑*i*PKPdf	PKPdf	02 37 41.7	-0.3		
	comp=Z,6.8nm,1.1s							
PKSM	Moragy	159.93 324	⇓PKIKP	PKPdf	02 37 40.4	-1.6		
PKSM	Moragy	159.93 324	⇓*i*P	PKPdf	02 37 40.4	-1.6		
BEBN	Eben Emael	159.96 353	PKPab	PKPab	02 38 19.8	-1.7		
HGN	Heimansgroeve	159.96 352	*e*P	PKPab	02 38 20.2	-1.3		
	comp=Z,37nm,1.0s							
GEC2	GERESS Array S	159.97 337	*e*PKPab	PKPab	02 38 20.4	-1.5		
GERES	GERESS Array B	159.97 337	PKP	PKPdf	02 37 40.0	-2.2		
GERES			PKPab	PKPab	02 38 20.7	-1.2		
GERES	GERESS Array B	159.97 337	PKP	PKPdf	02 37 40.0	-2.2		
	comp=Z,1.3nm,0.8s,baz=48,slow=2.0,SNR=11							
GERES			PKPab	PKPab	02 38 20.7	-1.2		
	comp=Z,4.3nm,0.7s,baz=35,slow=3.7,SNR=11							
GRF	Grafenberg Arr	159.98 342	*e*PKPab	PKPab	02 38 21.1	-0.6		
GRF			*e*		02 38 24.0			
GRFO	Grafenberg	159.98 342	*e*PKPab	PKPab	02 38 20.8	-0.9		
WET	Wettzell	159.99 338	*e*PKPab	PKPab	02 38 21.1	-0.7		
MEM	Membach	160.10 352	PKP	PKPdf	02 37 41.4	-0.7		
MEM			PKPab	PKPab	02 38 25.9	+3.8		
TNS	Taunus Mts	160.11 347	*e*PKPab	PKPab	02 38 20.9	-1.4		
SNF	Seneffe	160.37 355	PKPab	PKPab	02 38 22.1	-1.2		
BCLA	Clavier	160.37 353	PKPab	PKPab	02 38 22.1	-1.2		
TOD	Tromm	160.63 346	*e*PKIKP	PKPdf	02 37 41.5	-1.2		
TOD	Tromm	160.63 346	*e*P	PKPdf	02 37 41.5	-1.2		
GIVF	Givet	160.73 354	*e*PKIKP	PKPdf	02 37 42.1	-0.7		
GIVF	Givet	160.73 354	*e*PKIKP	PKPdf	02 37 42.1	-0.7		
GIVF	Givet	160.73 354	*e*PKPdf	PKPdf	02 37 42.1	-0.7		
DOU	Dourbes	160.75 355	PKPab	PKPab	02 38 23.9	-1.1		
BAIF	Baives	160.82 355	*e*PKIKP	PKPdf	02 37 42.4	-0.4		
	comp=Z,24nm,1.1s							
BAIF	Baives	160.82 355	*e*PKIKP	PKPdf	02 37 42.4	-0.4		
BAIF	Baives	160.82 355	*e*PKPdf	PKPdf	02 37 42.4	-0.4		
RUP	Ruppelstein	160.85 350	*e*PKIKP	PKPdf	02 37 42.1	-0.9		
RUP	Ruppelstein	160.85 350	*e*P	PKPdf	02 37 42.1	-0.9		
WLF	Walferdange	161.01 351	PKPab	PKPab	02 38 25.1	-1.1		
WLF	Walferdange	161.01 351	*e*PKPab	PKPab	02 38 25.2	-1.0		
RJOB	Jochberg	161.24 336	*e*PKPab	PKPab	02 38 26.4	-0.9		
SOKA	Soboth	161.26 331	⇑*i*PKPdf	PKPdf	02 37 41.9	-1.6		
	comp=Z,13nm,1.5s							
STU	Stuttgart	161.33 345	*e*PKPab	PKPab	02 38 26.4	-1.2		
STU	Stuttgart	161.33 345	*e*PKPab	PKPab	02 38 30.4	+2.8		
FUR	Furstenfeldbru	161.34 340	*e*PKPab	PKPab	02 38 26.9	-0.8		
LANF	Langenberg	161.42 348	*e*PKIKP	PKPdf	02 37 42.5	-1.1		
LANF	Langenberg	161.42 348	*e*P	PKPdf	02 37 42.5	-1.1		
LANF	Langenberg	161.42 348	*e*P	PKPdf	02 37 42.5	-1.1		
BFO	Black Forest	161.94 346	*e*PKPab	PKPab	02 38 28.8	-1.5		
WTTA	Wattenberg	162.04 338	⇑*i*PKPdf	PKPdf	02 37 43.3	-1.1		
	comp=Z,12nm,1.5s							
SPAK	Spaichingen-Ko	162.06 345	*e*P	PKPdf	02 37 48.8	+4.5		
CDF	Champ du Feu	162.06 348	*e*PKIKP	PKPdf	02 37 43.1	-1.2		
	comp=Z,20nm,1.4s							
CDF	Champ du Feu	162.06 348	*e*PKIKP	PKPdf	02 37 43.1	-1.2		
CDF	Champ du Feu	162.06 348	*e*PKPdf	PKPdf	02 37 43.1	-1.2		
FLN	La Foliniere	162.11 5	*e*PKIKP	PKPdf	02 37 43.6	-0.6		
	comp=Z,30nm,1.1s							
FLN			*e*R					
	comp=Z,237nm,22.0s							
FLN	La Foliniere	162.11 5	*e*PKIKP	PKPdf	02 37 43.6	-0.6		
FLN	La Foliniere	162.11 5	*e*PKPdf	PKPdf	02 37 43.6	-0.6		
PAGF	Fort de Pagny	162.16 352	*e*PKIKP	PKPdf	02 37 43.8	-0.5		
	comp=Z,18nm,1.4s							
PAGF	Fort de Pagny	162.16 352	*e*PKPdf	PKPdf	02 37 43.8	-0.5		
ABTA	Abtersbach	162.19 335	⇑*i*PKPdf	PKPdf	02 37 43.7	-0.8		
	comp=Z,13nm,1.3s							
ROSF	Rostrenen	162.20 11	*e*PKIKP	PKPdf	02 37 43.2	-1.1		
	comp=Z,120nm,1.6s							
ROSF	Rostrenen	162.20 11	*e*PKIKP	PKPdf	02 37 43.2	-1.1		
ROSF	Rostrenen	162.20 11	*e*PKPdf	PKPdf	02 37 43.2	-1.1		
ECH	Echery	162.27 348	*e*PKIKP	PKPdf	02 37 44.3	-0.2		
ECH	Echery	162.27 348	*e*P	PKPdf	02 37 44.3	-0.2		
ECH	Echery	162.27 348	*e*P	PKPdf	02 37 44.3	-0.2		
MEZF	Maizieres J'vi	162.29 353	*e*PKIKP	PKPdf	02 37 44.2	-0.2		
	comp=Z,55nm,1.1s							
MEZF	Maizieres J'vi	162.29 353	*e*PKPdf	PKPdf	02 37 44.2	-0.2		
TOA0	Torodi Ar. Sit	162.29 180	*e*PKPdf	PKPdf	02 37 45.1	-0.4		
TOA0			*e*PKPab	PKPab	02 38 33.5	+1.0		
TORD	Torodi Ar. Bea	162.29 180	PKP	PKPdf	02 37 45.5	0.0		
TORD			PKPab	PKPab	02 38 33.5	+1.0		
TORD			PP	PP	02 42 19.2	+3.8		
TORD	Torodi Ar. Bea	162.29 180	PKP	PKPdf	02 37 45.5	0.0		
	comp=Z,12nm,1.1s,baz=3.7,slow=0.1,SNR=40							
TORD			PKPab	PKPab	02 38 33.5	+1.0		
	comp=Z,15nm,0.5s,baz=177,slow=3.3,SNR=26							
TORD			PP	PP	02 42 19.2	+3.8		
	comp=Z,4.1nm,1.1s,baz=207,slow=3.5,SNR=4.1							
LDF	La Druitiere	162.31 4	*e*PKIKP	PKPdf	02 37 43.7	-0.8		
	comp=Z,37nm,1.3s							
LDF	La Druitiere	162.31 4	*e*PKIKP	PKPdf	02 37 43.7	-0.8		
LDF	La Druitiere	162.31 4	*e*PKPdf	PKPdf	02 37 43.7	-0.8		
SGMF	Saint Gilles	162.39 10	*e*PKIKP	PKPdf	02 37 43.8	-0.7		
	comp=Z,60nm,1.3s							
SGMF	Saint Gilles	162.39 10	*e*PKIKP	PKPdf	02 37 43.8	-0.7		
SGMF	Saint Gilles	162.39 10	*e*PKPdf	PKPdf	02 37 43.8	-0.7		
FELD	Feldberg im Sc	162.44 346	*e*P	PKPdf	02 37 43.2	-1.6		
GRR	Gorron	162.46 6	*e*PKIKP	PKPdf	02 37 44.1	-0.5		
GRR	Gorron	162.46 6	*e*PKIKP	PKPdf	02 37 44.1	-0.5		
GRR	Gorron	162.46 6	*e*PKPdf	PKPdf	02 37 44.1	-0.5		
FETA	Feichten	162.54 339	⇑*i*PKPdf	PKPdf	02 37 44.5	-0.4		
	comp=Z,10nm,1.2s							
SFTF	Sexfontaines	162.59 353	*e*PKIKP	PKPdf	02 37 44.3	-0.5		
	comp=Z,76nm,1.2s							
SFTF	Sexfontaines	162.59 353	*e*PKPdf	PKPdf	02 37 44.3	-0.5		
HAU	Haudompre	162.61 350	*e*PKIKP	PKPdf	02 37 44.0	-0.8		
	comp=Z,36nm,1.3s							
HAU			*e*R					
	comp=Z,241nm,23.0s							
HAU	Haudompre	162.61 350	*e*PKIKP	PKPdf	02 37 44.0	-0.8		
HAU	Haudompre	162.61 350	*e*PKPdf	PKPdf	02 37 44.0	-0.8		
QUIF	Quistinic	162.62 11	*e*PKIKP	PKPdf	02 37 44.2	-0.6		
	comp=Z,37nm,1.2s							
QUIF	Quistinic	162.62 11	*e*PKIKP	PKPdf	02 37 44.2	-0.6		
QUIF	Quistinic	162.62 11	*e*PKPdf	PKPdf	02 37 44.2	-0.6		
HINF	Hinteralfeld	162.71 349	*e*PKIKP	PKPdf	02 37 43.9	-1.1		
	comp=Z,56nm,1.7s							
HINF	Hinteralfeld	162.71 349	*e*PKIKP	PKPdf	02 37 43.9	-1.1		
HINF	Hinteralfeld	162.71 349	*e*PKPdf	PKPdf	02 37 43.9	-1.1		
FUORN	Ofenpass-Fuorn	163.04 340	*e*PKPab	PKPab	02 38 34.8	-0.7		
LOMF	Lomont	163.17 348	*e*PKIKP	PKPdf	02 37 43.4	-2.1		
LOMF	Lomont	163.17 348	*e*P	PKPdf	02 37 43.4	-2.1		
LOMF	Lomont	163.17 348	*e*P	PKPdf	02 37 43.4	-2.1		
TUE	Stuetta	163.43 342	*e*PKPab	PKPab	02 38 36.0	-1.1		
LOR	Lormes	163.62 355	*e*PKIKP	PKPdf	02 37 45.3	-0.5		
	comp=Z,38nm,1.3s							
LOR			*e*R					
	comp=Z,312nm,22.2s							
LOR	Lormes	163.62 355	*e*PKPdf	PKPdf	02 37 45.3	-0.5		
HYF	Humbligny	163.68 358	*e*PKIKP	PKPdf	02 37 45.7	-0.1		
HYF	Humbligny	163.68 358	*e*PKPdf	PKPdf	02 37 45.7	-0.1		
SSF	Saint Saulge	163.85 356	*e*PKIKP	PKPdf	02 37 45.5	-0.5		
	comp=Z,27nm,1.3s							
SSF	Saint Saulge	163.85 356	*e*PKIKP	PKPdf	02 37 45.5	-0.5		
SSF	Saint Saulge	163.85 356	*e*PKPdf	PKPdf	02 37 45.5	-0.5		
CABF	La Chapelle	164.01 349	*e*PKIKP	PKPdf	02 37 46.0	-0.3		
	comp=Z,85nm,1.4s							
CABF	La Chapelle	164.01 349	*e*PKIKP	PKPdf	02 37 46.0	-0.3		
CABF	La Chapelle	164.01 349	*e*PKPdf	PKPdf	02 37 46.0	-0.3		
SENIN	Lac Senin/Sane	164.03 346	*e*PKPab	PKPab	02 38 39.0	-0.8		
MFF	Saint Martin d	164.29 5	*e*PKIKP	PKPdf	02 37 46.2	-0.2		
	comp=Z,60nm,1.3s							
MFF	Saint Martin d	164.29 5	*e*PKIKP	PKPdf	02 37 46.2	-0.2		
MFF	Saint Martin d	164.29 5	*e*PKPdf	PKPdf	02 37 46.2	-0.2		
BGF	Bois d'Agland	164.39 357	*e*PKIKP	PKPdf	02 37 46.1	-0.4		
	comp=Z,20nm,1.0s							
BGF	Bois d'Agland	164.39 357	*e*PKIKP	PKPdf	02 37 46.1	-0.4		
BGF	Bois d'Agland	164.39 357	*e*PKPdf	PKPdf	02 37 46.1	-0.4		
TCF	Toulx Ste Croi	164.67 359	*e*PKIKP	PKPdf	02 37 46.1	-0.7		
	comp=Z,18nm,1.1s							
TCF	Toulx Ste Croi	164.67 359	*e*PKIKP	PKPdf	02 37 46.1	-0.7		
TCF	Toulx Ste Croi	164.67 359	*e*PKPdf	PKPdf	02 37 46.1	-0.7		
LPL	La Plagne	164.95 347	*e*PKIKP	PKPdf	02 37 47.4	+0.1		
LPL	La Plagne	164.95 347	*e*PKIKP	PKPdf	02 37 47.4	+0.1		
LPL	La Plagne	164.95 347	*e*PKPdf	PKPdf	02 37 47.4	+0.1		
LPG	La Plagne	164.97 347	*e*PKIKP	PKPdf	02 37 47.3	-0.1		
LPG	La Plagne	164.97 347	*e*PKIKP	PKPdf	02 37 47.3	-0.1		
LPG	La Plagne	164.97 347	*e*PKPdf	PKPdf	02 37 47.3	-0.1		
RJF	Les Rejaudoux	165.66 1	*e*PKIKP	PKPdf	02 37 47.4	-0.2		
	comp=Z,27nm,1.2s							
RJF			*e*R					
	comp=Z,331nm,22.2s							
RJF	Les Rejaudoux	165.66 1	*e*PKIKP	PKPdf	02 37 47.4	-0.2		
RJF	Les Rejaudoux	165.66 1	*e*PKPdf	PKPdf	02 37 47.4	-0.2		
ORIF	Oris-en-Rattie	165.69 348	*e*PKIKP	PKPdf	02 37 47.3	-0.5		
ORIF			*e*R					
	comp=Z,225nm,22.0s							
ORIF	Oris-en-Rattie	165.69 348	*e*PKIKP	PKPdf	02 37 47.3	-0.5		
ORIF	Oris-en-Rattie	165.69 348	*e*PKPdf	PKPdf	02 37 47.3	-0.5		
LFF	La Frestale	166.00 3	*e*PKIKP	PKPdf	02 37 47.7	-0.2		
	comp=Z,49nm,1.3s							
LFF	La Frestale	166.00 3	*e*PKIKP	PKPdf	02 37 47.7	-0.2		
LFF	La Frestale	166.00 3	*e*PKPdf	PKPdf	02 37 47.7	-0.2		
CAF	Calviac	166.04 359	*e*PKIKP	PKPdf	02 37 47.9	-0.1		
	comp=Z,22nm,1.1s							
CAF	Calviac	166.04 359	*e*PKIKP	PKPdf	02 37 47.9	-0.1		
CAF	Calviac	166.04 359	*e*PKPdf	PKPdf	02 37 47.9	-0.1		
PGAV	Gavieira, Arco	166.34 34	*e*PKPdf	PKPdf	02 37 48.9	+0.5		
PGAV	Gavieira, Arco	166.34 34	*e*PKPab	PKPab	02 38 50.2	+0.2		
SBF	Sospel	166.36 343	*e*PKIKP	PKPdf	02 37 47.9	-0.4		
SBF	Sospel	166.36 343	*e*PKIKP	PKPdf	02 37 47.9	-0.4		
SBF	Sospel	166.36 343	*e*PKPdf	PKPdf	02 37 47.9	-0.4		
LASF	Ste Croix	166.79 354	*e*PKIKP	PKPdf	02 37 48.4	-0.2		
LASF	Ste Croix	166.79 354	*e*PKPdf	PKPdf	02 37 48.4	-0.2		
POLO	Lamas de Olo	167.02 34	*e*PKPdf	PKPdf	02 37 49.9	+1.0		
LMR	La Mourre	167.08 345	*e*PKIKP	PKPdf	02 37 48.2	-0.6		
LMR	La Mourre	167.08 345	*e*PKIKP	PKPdf	02 37 48.2	-0.6		
LMR	La Mourre	167.08 345	*e*PKPdf	PKPdf	02 37 48.2	-0.6		
PVRL	Vila Real	167.13 34	*e*PKPdf	PKPdf	02 37 49.8	+0.8		
PVIS	Viseu	167.47 36	*e*PKPdf	PKPdf	02 37 50.4	+1.2		
MVO	Moncorvo	167.54 33	*e*PKPdf	PKPdf	02 37 50.5	+1.2		
MVO	Moncorvo	167.54 33	*e*PKPab	PKPab	02 38 54.8	-0.5		
EPF	Esparros	167.88 5	*e*PKIKP	PKPdf	02 37 49.5	+0.1		
	comp=Z,35nm,1.2s							
EPF	Esparros	167.88 5	*e*PKIKP	PKPdf	02 37 49.5	+0.1		
EPF	Esparros	167.88 5	*e*PKPdf	PKPdf	02 37 49.5	+0.1		
MTE	Manteigas	167.88 36	*e*PKPdf	PKPdf	02 37 50.3	+0.7		
PTOM	Tomar	167.97 41	*e*PKPdf	PKPdf	02 37 50.5	+1.0		
PTOM	Tomar	167.97 41	*e*PKPab	PKPab	02 38 56.4	-0.8		
PCBR	Castelo Branco	168.32 38	*e*PKPdf	PKPdf	02 37 50.8	+1.0		
PMRV	Marv??o	168.67 39	*e*PKPdf	PKPdf	02 37 50.9	+0.8		
PMRV	Marv??o	168.67 39	*e*PKPab	PKPab	02 38 59.3	-1.0		
EVOP	Sao Brissos	168.86 45	⇑*i*PKIKP	PKPdf	02 37 51.0	+0.9		
EVOP	Sao Brissos	168.86 45	⇑*i*PKPdf	PKPdf	02 37 51.0	+0.9		
PNCL	Nicolau / Gran	168.87 47	*e*PKPdf	PKPdf	02 37 51.2	+1.0		
PNCL	Nicolau / Gran	168.87 47	*e*PKPab	PKPab	02 39 00.3	-0.9		
EVO	Evora	168.92 44	*e*PKPdf	PKPdf	02 37 51.4	+1.2		
EVO	Evora	168.92 44	*e*PKPab	PKPab	02 39 00.4	-1.0		
EVO	Evora	168.92 44	⇑*i*PKIKP	PKPdf	02 37 51.0	+0.8		
	comp=Z,36nm,1.0s							
EVO			*e*R					
	comp=Z,362nm,22.2s							
PESTR	Estremoz	168.95 42	*e*PKPdf	PKPdf	02 37 51.0	+0.8		
PTEO	Sao Teotonio	169.07 50	*e*PKPdf	PKPdf	02 37 51.7	+1.4		
PFVI	Vila Bisbo	169.22 52	*e*PKPdf	PKPdf	02 37 49.9	-0.5		
MESJ	Messejana	169.22 48	*e*P	PKPdf	02 37 51.0	+0.5		
MORF	Marmelete	169.25 51	*e*PKPdf	PKPdf	02 37 52.3	+1.8		
PBEJ	Beja	169.33 46	*e*PKPdf	PKPdf	02 37 51.4	+0.9		
PCVE	Castro Verde	169.46 48	*e*PKPdf	PKPdf	02 37 52.0	+1.4		
PBAR	Barrancos	169.73 43	*e*PKPdf	PKPdf	02 37 51.6	+0.9		
PBAR	Barrancos	169.73 43	*e*PKPab	PKPab	02 39 04.2	-0.8		
PBDV	Barranco-do-Ve	169.76 50	*e*PKPdf	PKPdf	02 37 52.2	+1.4		
PVAQ	Vaqueiros	169.80 48	*e*PKPdf	PKPdf	02 37 52.6	+1.8		
PAB	San Pablo	170.04 29	*e*PKIKP	PKPdf	02 37 51.7	+0.7		
PAB	San Pablo	170.04 29	*e*PKPdf	PKPdf	02 37 51.7	+0.7		
ESDC	Sonseca Array	170.09 27	PKP	PKPdf	02 37 50.6	-0.3		
ESDC			PKPab	PKPab	02 39 04.6	-2.0		
ESDC			PP	PP	02 42 55.5	-0.8		
ESDC	Sonseca Array	170.09 27	PKP	PKPdf	02 37 50.6	-0.3		
	comp=Z,6.1nm,0.9s,baz=343,slow=2.7,SNR=30							
ESDC			PKPab	PKPab	02 39 04.6	-2.0		
	comp=Z,2.6nm,0.9s,baz=327,slow=4.0,SNR=7.4							
ESDC			PP	PP	02 42 55.5	-0.8		
	comp=Z,0.1nm,0.3s,baz=335,slow=5.3,SNR=4.7							
TAM	Tamanrasset	171.24 203	*e*PKIKP	PKPdf	02 37 53.1	+0.9		
TAM			*e*		02 39 13.6			
TAM	Tamanrasset	171.24 203	*e*PKPdf	PKPdf	02 37 53.1	+0.9		
TAM			*e*PKPab	PKPab	02 39 13.6	+1.5		
MDT	Midelt	174.21 69	PKP	PKPdf	02 37 54.4	+1.3		
MDT	Midelt	174.21 69	PKP	PKPdf	02 37 54.4	+1.3		
	comp=Z,14nm,1.0s,baz=1.1,slow=1.6,SNR=27							

IDC **13** *02:24:19.7±4.0, 3.°76N×126.°65E, h18km±25km, mb4.

QIZ LR LR
comp=N,510nm,17.6s
QIZ LR LR
comp=E,220nm,17.6s
QIZ LR LR
comp=Z,800nm,19.2s
QIZ Qiongzhong 22.43 314 *e*P **P** **02 29 23.6 +4.1**
comp=Z,54nm,1.1s
QZH Quanzhou 22.49 340⇑ *i*P **P** **02 29 19.9 -0.2**
QZH S **S** **02 33 20.0 -1.9**
QZH LR LR
comp=N,2µm,15.5s
QZH LR LR
comp=E,720nm,12.5s
QZH LR LR
comp=Z,3µm,18.7s
SBJI Serang 22.77 245 P **P** **02 29 27.8 +4.6**
comp=Z,239nm,1.6s,comp=Z,6µm
MYKOM Kota Tinggi 22.93 266 P **P** **02 29 23.9 -0.9**
MYKOM Kota Tinggi 22.93 266 P **P** **02 29 24.9 +0.1**
comp=Z,45nm,1.0s,comp=Z,715nmcomp=Z,29µm
CGJI Cibinong 23.38 244 P **P** **02 29 27.6 -1.5**
comp=Z,297nm,0.7s,comp=Z,3µm
KGM Kluang 23.44 266 P **P** **02 29 29.9 +0.2**
COEN Coen 23.99 137 *e*P **P** **02 29 31.7 -2.9**
comp=Z,346nm,1.1s
KASI Kota Agung 24.03 248 P P 02 29 42.4 +7.5
comp=Z,122nm,1.0s
PMG Port Moresby 24.19 123 *e*P **P** **02 29 33.6 -2.8**
comp=Z,29nm,0.9s
PMG Port Moresby 24.19 123 P **P** **02 29 35.2 -1.2**
comp=Z,37nm,1.1s,comp=Z,584nm
PMG Port Moresby 24.19 123 P **P** **02 29 33.3 -3.1**
comp=Z,17nm,0.9s,baz=315,slow=8.6,SNR=5.9
LWLI Liwa 24.25 249 P P 02 29 43.0 +5.9
comp=Z,203nm,0.8s,comp=Z,7µm
WRAB Tennant Creek 24.69 163 *e*P **P** **02 29 39.8 -1.1**
WRAB pmax pmax
comp=Z,236nm,0.8s
WRAB Tennant Creek 24.69 163 *e*P **P** **02 29 39.8 -1.1**
comp=Z,236nm,0.8s
WRAB Tennant Creek 24.69 163 P **P** **02 29 40.3 -0.5**
comp=Z,2µm,0.7s,SNR=43
WRA Warramunga Arr 24.69 163 P **P** **02 29 40.0 -0.9**
WRA Warramunga Arr 24.69 163 P **P** **02 29 40.0 -0.9**
comp=Z,320nm,0.5s,baz=339,slow=10,SNR=56
FRIM Kepong 25.06 270 P **P** **02 29 45.0 +0.7**
IPM Ipoh 25.64 273 *e*P **P** **02 29 50.7 +1.0**
comp=Z,84nm,1.1s
IPM Ipoh 25.64 273 P **P** **02 29 50.6 +1.0**
IPM Ipoh 25.64 273 P **P** **02 29 52.0 +2.3**
comp=Z,73nm,1.3s,comp=Z,792nm
MBWA Marble Bar 25.67 195 *e*P **P** **02 29 49.5 -0.3**
comp=Z,172nm,1.4s
MBWA Marble Bar 25.67 195 *e*P **P** **02 29 49.3 -0.5**
BKNI Bangkinang 25.89 263 P P 02 30 04.9 +13
KULM Kulim 26.04 274 *e*P **P** **02 29 54.5 +1.3**
comp=Z,95nm,1.2s
KULM Kulim 26.04 274 P **P** **02 29 54.4 +1.2**
KULM Kulim 26.04 274 P **P** **02 29 55.8 +2.6**
comp=Z,50nm,1.3s,comp=Z,574nm
PPI Padang Panjang 26.64 262 P P 02 30 04.4 +5.8
comp=Z,46nm,1.1s
MNSI Mandailing Nat 27.27 265 P **P** **02 30 05.5 +1.1**
comp=Z,135nm,0.9s,comp=Z,3µm
CBIJ Chichi jima 27.53 31 LR LR 02 38 31.6
comp=Z,921nm,21.4s,baz=211,slow=31
SSE Sheshan 27.71 350 P **P** **02 30 08.7 +0.7**
SSE sP **sP** **02 30 33.7 -0.4**
SSE S **S** **02 34 47.2 +2.2**
SSE pmax pmax
comp=Z,34nm,1.0s
SSE pmax pmax
comp=Z,190nm,3.8s
SSE LR LR
comp=N,310nm,20.0s
SSE LR LR
comp=E,320nm,20.0s
SSE LR LR
comp=Z,610nm,20.4s
PSI Prapat 27.77 269 P **P** **02 30 06.0 -2.9**
PSI Prapat 27.77 269 P **P** **02 30 08.7 -0.2**
comp=Z,40nm,0.9s
PSI Prapat 27.77 269 P **P** **02 30 06.0 -2.9**
comp=Z,12nm,0.7s,baz=130,slow=2.0,SNR=12
PSI LR LR 02 43 10.7
comp=Z,806nm,18.7s,baz=89,slow=41
AS31 Alice Springs 28.12 166 *e*P **P** **02 30 10.6 -1.2**
ASAR Alice Springs 28.12 166 P **P** **02 30 11.3 -0.5**
ASAR PcP **PcP** **02 33 25.7 +1.1**
ASAR S S 02 35 07.2 +15
ASAR Alice Springs 28.12 166 P **P** **02 30 11.3 -0.5**
comp=Z,8.3nm,0.5s,baz=345,slow=7.4,SNR=20
ASAR PcP **PcP** **02 33 25.7 +1.1**
comp=Z,3.3nm,0.5s,baz=355,slow=2.1,SNR=4.3
ASAR S S 02 35 07.2 +15
comp=Z,6.1nm,1.1s,baz=326,slow=15,SNR=4.6
NJ2 Nanjing 29.12 346 *e*P **P** **02 30 20.7 +0.2**
NJ2 pP **pP** **02 30 37.2 -0.8**
NJ2 sP **sP** **02 30 47.5 +0.8**
NJ2 S **S** **02 35 09.0 +1.8**
NJ2 sS **sS** **02 35 40.0 +2.7**
NJ2 pmax pmax
comp=Z,30nm,1.0s
NJ2 pmax pmax
comp=Z,210nm,5.7s
NJ2 LR LR
comp=N,490nm,20.1s
NJ2 LR LR
comp=E,810nm,21.4s
NJ2 LR LR
comp=Z,740nm,23.5s
GSI Gunungsitoli 29.22 266 P **P** **02 30 21.1 -0.6**
comp=Z,134nm,0.9s,comp=Z,2µm
TPTI 29.49 270 P **P** **02 30 26.9 +2.8**
comp=Z,29nm,0.8s,comp=Z,6µm
JNU Nakatsue 29.49 7 P **P** **02 30 22.5 -1.4**
JNU Nakatsue 29.49 7 P **P** **02 30 22.5 -1.4**
comp=Z,24nm,1.1s,baz=238,slow=13,SNR=2.9
JNU LR LR 02 40 49.3
comp=Z,469nm,21.8s,baz=20,slow=34
GYA Guiyang 29.66 322 P **P** **02 30 25.9 +0.3**
GYA pP **pP** **02 30 43.8 +0.7**
GYA PP **PnPn** **02 31 25.6 +1.7**
GYA PcP **PcP** **02 33 29.8 +1.3**
GYA S **S** **02 35 15.9 -0.2**
GYA sS **sS** **02 35 46.0 -0.2**
GYA SS **SnSn** **02 36 55.0 +2.7**
GYA ScS **ScS** **02 40 57.5 -1.8**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.9s
GYA LR LR
comp=N,690nm,17.8s
GYA LR LR
comp=E,520nm,18.9s
GYA LR LR
comp=Z,580nm,17.2s
CTA Charters Tower 30.47 142 P **P** **02 30 32.3 -0.3**
CTA Charters Tower 30.47 142 *e*P **P** **02 30 32.3 -0.3**
comp=Z,20nm,0.9s
CTA Charters Tower 30.47 142 P **P** **02 30 32.3 -0.3**
comp=Z,24nm,0.9s,baz=336,slow=10,SNR=10
CTAO Charters Tower 30.47 142 *e*P **P** **02 30 32.4 -0.3**
CTAO pmax pmax
comp=Z,35nm,1.0s
CTAO Charters Tower 30.47 142 *e*P **P** **02 30 32.4 -0.3**
comp=Z,35nm,1.0s
CMAR Chiang Mai Arr 30.86 300 P **P** **02 30 35.5 -0.7**
CMAR ScP **ScP** **02 37 12.9 +4.9**
CMAR Chiang Mai Arr 30.86 300 P **P** **02 30 35.5 -0.7**
comp=Z,75nm,0.9s,baz=108,slow=7.0,SNR=18
CMAR ScP **ScP** **02 37 12.9 +4.9**
comp=Z,1.3nm,0.6s,baz=127,slow=2.2,SNR=4.9
CMAR LR LR 02 45 32.1
comp=Z,505nm,18.2s,baz=296,slow=41
CHTO Chiang Mai 31.01 301 *e*P **P** **02 30 36.5 -1.0**
CHTO pmax pmax
comp=Z,15nm,0.9s
CHTO Chiang Mai 31.01 301 *e*P **P** **02 30 36.5 -1.0**
comp=Z,15nm,0.9s
CHTO Chiang Mai 31.01 301 P **P** **02 30 37.4 -0.1**
comp=Z,19nm,1.4s
ENH Enshi 31.02 330 *e*P **P** **02 30 35.6 -1.8**
comp=Z,34nm,0.8s

MEEK Meekatharra 31.20 194 *e*P **P** **02 30 38.7 -0.3**
comp=Z,330nm,0.7s
KMI Kunming 31.37 315 P **P** **02 30 42.4 +1.6**
KMI S **S** **02 35 43.1 -0.1**
KMI pmax pmax
comp=Z,7.0nm,1.0s
KMI LR LR
comp=N,550nm,15.2s
KMI LR LR
comp=E,360nm,17.0s
KMI LR LR
comp=Z,780nm,19.1s
BSI Banda Aceh 31.37 274 P **P** **02 30 42.1 +1.4**
comp=Z,29nm,1.0s
KSAR Wonju Array Be 33.56 2 P **P** **02 30 59.4 -0.2**
KSRS Korea Array 33.58 2 P **P** **02 30 59.4 -0.3**
comp=Z,7.0nm,0.7s,baz=176,slow=10,SNR=9.3
KSRS LR LR 02 45 16.6
comp=Z,383nm,18.2s,baz=201,slow=38
MAT Matsushiro 34.32 17 P **P** **02 31 08.3 +2.2**
MAT *e*S S 02 36 39.6 +11
MJAR Matsushiro Arr 34.32 17 P **P** **02 31 03.4 -2.7**
MJAR PcP **PcP** **02 33 41.1 +0.2**
MJAR Matsushiro Arr 34.32 17 P **P** **02 31 03.4 -2.7**
comp=Z,6.6nm,1.1s,baz=200,slow=10.0,SNR=5.8
MJAR PcP **PcP** **02 33 41.1 +0.2**
comp=Z,3.3nm,0.7s,baz=178,slow=4.1,SNR=3.8
MJAR LR LR 02 45 01.1
comp=Z,698nm,18.4s,baz=200,slow=36
FORT Forrest 34.34 178 *e*P **P** **02 31 05.7 -0.7**
comp=Z,91nm,0.7s
FORT Forrest 34.34 178 *e*P **P** **02 31 05.9 -0.5**
comp=Z,66nm,0.6s
CD2 Chengdu 34.63 324 P **P** **02 31 08.8 -0.2**
CD2 PcP **PcP** **02 33 42.2 +0.3**
CD2 S **S** **02 36 36.0 +2.6**
CD2 PcS **PcS** **02 37 27.6 -1.1**
CD2 SS **SnSn** **02 38 49.9 -2.8**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,250nm,5.5s
CD2 LR LR
comp=N,900nm,20.2s
CD2 LR LR
comp=E,800nm,21.2s
CD2 LR LR
comp=Z,980nm,16.6s
BLDU Ballidu 35.47 195 *e*P **P** **02 31 15.3 -0.8**
HNR Honiara 35.60 112 LR LR 02 44 24.3
comp=Z,627nm,22.0s,baz=301,slow=34
KLBR Kellerberrin 36.15 193 *e*P **P** **02 31 21.7 -0.2**
comp=Z,80nm,1.5s
BJT Baijiatuan 37.36 347 *e*P **P** **02 31 31.8 -0.3**
comp=Z,78nm,0.6s
EIDS Eidsvold 37.36 142 *e*P **P** **02 31 31.3 -0.9**
comp=Z,45nm,0.9s
BJI Beijing 37.38 347 P **P** **02 31 32.2 0.0**
BJI S **S** **02 37 17.4 +2.5**
BJI pmax pmax
comp=Z,71nm,0.9s
BJI pmax pmax
comp=Z,310nm,4.3s
BJI LR LR
comp=N,320nm,18.1s
BJI LR LR
comp=E,580nm,20.7s
BJI LR LR
comp=Z,370nm,23.8s
BBOO Buckleboo 37.41 167 *e*P **P** **02 31 32.5 0.0**
comp=Z,672nm,0.9s
NWAO Narrogin (SRO) 37.56 193 *e*P **P** **02 31 34.0 +0.2**
comp=Z,548nm,2.6s
NWAO Narrogin (SRO) 37.56 193 P **P** **02 31 33.5 -0.3**
comp=Z,18nm,0.5s,baz=19,slow=8.1,SNR=15
SNY Shenyang 38.03 356⇑ P **P** **02 31 37.6 -0.1**
SNY pmax pmax
comp=Z,59nm,1.8s
STKA Stephens Creek 38.14 159 *e*P **P** **02 31 37.7 -1.0**
comp=Z,50nm,0.8s
STKA Stephens Creek 38.14 159 *e*P **P** **02 31 37.5 -1.2**
comp=Z,50nm,0.7s
STKA Stephens Creek 38.14 159 P **P** **02 31 38.1 -0.6**
comp=Z,50nm,0.7s,baz=330,slow=8.4,SNR=46
LZH Lanzhou 38.49 330 *e*P **P** **02 31 43.8 +1.9**
LZH pP **pP** **02 32 00.7 +0.9**
LZH sP **sP** **02 32 09.4 +1.0**
LZH PP **PnPn** **02 33 14.4 +0.4**
LZH *e*S **S** **02 37 33.0 +0.7**
LZH sS **sS** **02 38 04.0 +1.0**
LZH SS **SS** **02 40 17.1 -7.7**
LZH pmax pmax
comp=Z,31nm,1.2s
LZH pmax pmax
comp=Z,79nm,4.6s
LZH LR LR
comp=N,1µm,19.4s
LZH LR LR
comp=E,480nm,18.3s
LZH LR LR
comp=Z,650nm,19.9s
HHC Hu-ho-hao-te 39.39 342 *e*P **P** **02 31 46.4 -2.8**
HHC pP **pP** **02 32 05.3 -1.9**
HHC sP **sP** **02 32 13.7 -2.1**
HHC PP **PP** **02 33 22.1 +1.1**
HHC PcP PcP 02 33 49.6 -6.7
HHC ScP **ScP** **02 37 32.6 -5.9**
HHC S **S** **02 37 43.4 -2.1**
HHC pmax pmax
comp=Z,11nm,1.5s
HHC pmax pmax
comp=Z,130nm,4.2s
HHC LR LR
comp=N,370nm,20.4s
HHC LR LR
comp=E,340nm,16.8s
HHC LR LR
comp=Z,510nm,21.6s
CN2 Changchun 39.91 359 *e*P **P** **02 31 53.9 +0.5**
CN2 *ep*P **pP** **02 32 12.2 +0.8**
CN2 PcP **PcP** **02 34 00.3 +2.6**
CN2 *e*S **S** **02 37 53.1 +0.1**
CN2 SS **SS** **02 40 46.3 -6.1**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1µm,20.0s
CN2 LR LR
comp=E,600nm,20.0s
CN2 LR LR
comp=Z,300nm,15.0s
USRK Ussuriysk Arra 40.57 6 P **P** **02 31 58.4 -0.3**
comp=Z,12nm,0.9s,baz=187,slow=6.4,SNR=8.8
MDJ Mudanjiang 40.79 3 P **P** **02 32 00.5 -0.1**
MDJ pP **pP** **02 32 17.8 -0.9**
MDJ sP **sP** **02 32 25.9 -1.4**
MDJ ScP **ScP** **02 37 43.1 -0.6**
MDJ PcS **PcS** **02 37 51.1 -0.2**
MDJ S **S** **02 38 07.0 +0.9**
MDJ pmax pmax
comp=Z,40nm,1.1s
MDJ pmax pmax
comp=Z,43nm,4.0s
MDJ LR LR
comp=N,190nm,30.0s
MDJ LR LR
comp=E,160nm,24.5s
MDJ LR LR
comp=Z,300nm,28.2s
MDJ Mudanjiang 40.79 3 *e*P **P** **02 31 60.0 -0.7**
comp=Z,44nm,0.9s
ARMA Armidale 41.48 147 *e*P **P** **02 32 06.9 +0.3**
comp=Z,57nm,0.8s
ARMA Armidale 41.48 147 *e*P **P** **02 32 06.2 -0.4**
LSA Lhasa 42.43 311 P **P** **02 32 14.1 -0.7**
LSA pmax pmax
comp=Z,40nm,0.8s
LSA Lhasa 42.43 311 *e*P **P** **02 32 13.9 -1.0**
LSA pmax pmax
comp=Z,29nm,0.6s
LSA Lhasa 42.43 311 *e*P **P** **02 32 13.9 -1.0**
comp=Z,29nm,0.6s
ASAJ Asahikawa 42.59 17 *e*P **P** **02 32 14.9 -0.4**
comp=Z,17nm,1.0s

ASAJ Asahikawa 42.59 17 P **P** **02 32 15.1 -0.3**
comp=Z,26nm,0.9s,baz=230,slow=13,SNR=6.6
GTA Gaotai 43.09 329 *e*P **P** **02 32 20.0 +0.4**
GTA pP **pP** **02 32 38.2 +0.4**
GTA sP **sP** **02 32 47.6 +1.2**
GTA S **S** **02 38 40.5 +0.1**
GTA sS **sS** **02 39 12.1 +0.6**
GTA SS SS 02 41 46.7 -8.8
GTA pmax pmax
comp=Z,6.0nm,0.8s
GTA pmax pmax
comp=Z,110nm,5.0s
GTA LR LR
comp=N,540nm,21.4s
GTA LR LR
comp=E,390nm,16.2s
GTA LR LR
comp=Z,670nm,18.5s
YUK Yuzh-Kuril'sk 43.55 20 P **P** **02 32 21.2 -1.8**
YUK *e* 02 33 59.9
YUK *e*PPP PPP 02 34 45.2
YUK S **S** **02 38 49.6 +2.9**
YUK *e*SS **SS** **02 42 00.7 -3.3**
YUK MLR MLR
comp=N,153nm,22.0s
YUK MLR MLR
comp=Z,436nm,22.0s
TAPN Taplejung 44.01 306 *e*P **P** **02 32 25.7 -1.7**
comp=Z,21nm,0.5s
ODAN Odare 44.06 305 *e*P **P** **02 32 26.4 -1.4**
comp=Z,58nm,0.8s
CAN Canberra 44.12 154 *e*P **P** **02 32 27.8 -0.1**
CAN pmax pmax
comp=Z,58nm,1.3s
CAN Canberra 44.12 154 *e*P **P** **02 32 27.8 -0.1**
comp=Z,58nm,1.3s
CAN Canberra 44.12 154 *e*P **P** **02 32 29.1 +1.2**
comp=Z,14nm,1.2s
RAMN Ramite 44.74 305 *e*P **P** **02 32 31.7 -1.5**
comp=Z,58nm,0.9s
HABR Khabarovsk 45.14 8 *e*P **P** **02 32 34.2 -1.5**
HABR *e**SP sP 02 32 47.5 -15
HABR *e* 02 34 19.4
HABR S **S** **02 39 12.3 +2.7**
HABR *e**SS sS 02 39 28.3 -13
HABR *e* 02 42 27.4
HABR *e*SSS SSS 02 43 24.0
HABR pmax pmax
comp=E,105nm,2.3s
HABR pmax pmax
comp=N,172nm,3.5s
HABR pmax pmax
comp=Z,88nm,1.7s
HABR MLR MLR
comp=Z,293nm,19.0s
YSS Yuzh-Sakhalins 45.24 15⇑ *e*P **P** **02 32 37.0 +0.5**
YSS pmax pmax
comp=Z,70nm,1.2s
YSS Yuzh-Sakhalins 45.24 15 *e*P **P** **02 32 36.5 0.0**
comp=Z,18nm,0.7s
JIRN Jiri 45.36 306 *e*P **P** **02 32 36.7 -1.6**
comp=Z,6.3nm,0.6s
KLR Kul'dur 45.53 5 *e*P P 02 32 35.0 -3.8
KLR pmax pmax
comp=Z,72nm,1.4s
GUN Gumba 45.72 306 *e*P **P** **02 32 39.3 -1.7**
comp=Z,51nm,0.6s
HIA Hailar 45.75 354 *e*P **P** **02 32 41.0 +0.4**
comp=Z,92nm,1.2s
KKN Kakani 46.15 306 *e*P **P** **02 32 42.5 -1.8**
comp=Z,15nm,0.4s
DMN Daman 46.22 305 *e*P **P** **02 32 43.4 -1.5**
comp=Z,35nm,0.8s
DZM Mont Dzumac 46.54 125 *e*P **P** **02 32 47.9 +0.6**
comp=Z,103nm,1.2s
DZM *e*LR LR 02 45 56.0
comp=Z,392nm,27.5s
DZM Mont Dzumac 46.54 125 *e*P **P** **02 32 45.7 -1.6**
DZM Mont Dzumac 46.54 125 *e*P **P** **02 32 47.0 -0.3**
comp=Z,28nm,0.8s
DZM Mont Dzumac 46.54 125 P **P** **02 32 46.7 -0.6**
comp=Z,18nm,0.6s,baz=21,slow=20,SNR=20
GKN Gorkha 46.76 306 *e*P **P** **02 32 47.4 -1.6**
ULN Ulaanbaatar 47.11 342 *e*P **P** **02 32 50.7 -0.7**
comp=Z,26nm,0.9s
ULN Ulaanbaatar 47.11 342 P **P** **02 32 52.1 +0.7**
comp=Z,31nm,1.0s
SONM Songino Array 47.29 341 P **P** **02 32 52.1 -0.7**
SONM PcP **PcP** **02 34 23.8 +1.0**
SONM Songino Array 47.29 341 P **P** **02 32 52.1 -0.7**
comp=Z,5.8nm,0.7s,baz=156,slow=7.9,SNR=19
SONM PcP **PcP** **02 34 23.8 +1.0**
comp=Z,4.5nm,0.8s,baz=178,slow=3.9,SNR=3.7
SONM LR LR 02 56 20.1
comp=Z,367nm,20.1s,baz=305,slow=41
KOLN Koldanda 47.51 305 *e*P **P** **02 32 53.4 -1.6**
comp=Z,54nm,0.5s
DANN Dangsing 47.61 306 *e*P **P** **02 32 54.2 -1.6**
comp=Z,52nm,0.4s
HYB Hyderabad 49.11 290 *i* P **P** **02 33 05.0 -2.1**
CIT Chita 49.36 349 *e*P **P** **02 33 06.1 -2.4**
CIT *e* 02 33 17.3
ZAK Zakamensk 50.52 341 *e*P P 02 33 23.2 +5.8
ZAK *e* 02 34 35.3
ZAK pmax pmax
comp=Z,6.0nm,1.1s
TLY Talaya 51.52 342 *e*P **P** **02 33 25.1 +0.3**
TLY pmax pmax
comp=Z,26nm,1.3s
TLY MLR MLR
comp=Z,259nm,20.0s
TLY Talaya 51.52 342 *e*P **P** **02 33 24.3 -0.5**
comp=Z,17nm,0.8s
IRK Irkutsk 51.82 343 *e*P **P** **02 33 28.0 +1.0**
IRK pmax pmax
comp=Z,58nm,1.6s
MOY Mondy 52.37 340 *e*P P 02 33 34.9 +3.7
WMQ Urumqi 52.72 325 *e*P **P** **02 33 34.0 +0.1**
WMQ pP **pP** **02 33 51.0 -1.6**
WMQ sP **sP** **02 33 59.0 -2.0**
WMQ PcP **PcP** **02 34 45.0 +2.3**
WMQ *e*S **S** **02 40 55.0 -1.4**
WMQ pmax pmax
comp=Z,11nm,1.0s
WMQ pmax pmax
comp=Z,190nm,5.8s
WMQ LR LR
comp=N,1µm,20.8s
WMQ LR LR
comp=E,800nm,16.4s
WMQ LR LR
comp=Z,880nm,25.4s
DDI Dehra Dun 52.96 306 *ex* **P** **02 33 33.0 -2.9**
CLNS Chul'man 52.97 359 *e*P **P** **02 33 35.3 -0.2**
CLNS *e* 02 34 37.4
CLNS *e* 02 35 37.3
CLNS *e*PPP PPP 02 36 47.0
CLNS *e*S S 02 41 06.3 +7.0
CLNS pmax pmax
comp=Z,18nm,1.2s
CLNS pmax pmax
comp=N,11nm,1.1s
CLNS pmax pmax
comp=E,6.0nm,1.1s
CLNS pmax pmax
comp=Z,8.0nm,1.4s
CLNS pmax pmax
comp=N,6.0nm,1.0s
CLNS pmax pmax
comp=E,3.0nm,0.8s
CLNS smax smax
comp=E,210nm,11.4s
CLNS smax smax
comp=N,195nm,13.2s
NDI New Delhi 53.11 303 *e*PKP **P** **02 33 35.0 -2.0**
POO Poona 53.71 290⇑ *i*/*x* P 02 33 38.0 -3.5
comp=N,50nm,1.0s
BOD Bodaibo 54.86 352 *e*P **P** **02 33 48.9 -0.2**
BOD pmax pmax
comp=Z,23nm,1.1s
MSVF Nonsavu 54.92 115 *e*P **P** **02 33 52.0 +1.6**
MSVF pmax pmax
comp=Z,92nm,1.1s
MSVF Nonsavu 54.92 115 *e*P **P** **02 33 52.0 +1.6**
comp=Z,92nm,1.1s
MSVF Nonsavu 54.92 115 P **P** **02 33 52.0 +1.6**

comp=Z,453nm,1.4s,SNR=7.0
PEA0B Petropavlovsk- 55.43 22 *e*P P **02 33 53.2 -0.1**
PETK Petropavlovsk- 55.43 22 P P **02 33 52.7 -0.6**
PETK Petropavlovsk- 55.43 22 P P **02 33 52.7 -0.6**
PETK Petropavlovsk- 55.43 22 P P **02 33 52.7 -0.6**
comp=Z,266nm,0.8s,baz=185,slow=4.4,SNR=36
PET Petropavlovsk 55.73 23 *e*P P **02 33 55.5 +0.1**
PET pmax pmax
comp=Z,77nm,1.3s
MK31 Makanchi Array 57.55 325 *e*P P **02 34 07.3 -1.3**
MK31 pmax pmax
comp=Z,6.0nm,0.4s
MK31 Makanchi Array 57.55 325 *e*P P **02 34 07.0 -1.6**
MKAR Makanchi Array 57.55 325 P P **02 34 08.2 -0.3**
MKAR 02 35 03.5
MKAR Makanchi Array 57.55 325 P P **02 34 08.2 -0.3**
MKAR PcP **PcP** **02 35 03.5 +2.2**
MKAR Makanchi Array 57.55 325 P P **02 34 08.2 -0.3**
comp=Z,6.4nm,0.4s,baz=117,slow=7.4,SNR=55
MKAR PcP **PcP** **02 35 03.5 +2.2**
comp=Z,10nm,0.8s,baz=126,slow=5.4,SNR=4.0
MKAR LR LR 03 00 24.4
comp=Z,437nm,19.8s,baz=250,slow=38
KSH Kashi 58.03 315 P P **02 34 12.2 0.0**
KSH pP **pP** **02 34 31.7 +0.4**
KSH sP **sP** **02 34 40.3 +0.7**
KSH PcP **PcP** **02 35 02.4 -1.1**
KSH PP **PP** **02 36 23.4 +1.8**
KSH ScP **ScP** **02 38 54.4 -2.9**
KSH PcS **PcS** **02 39 02.4 -2.6**
KSH S **S** **02 42 06.5 -1.1**
KSH ScS **ScS** **02 43 50.2 -5.2**
KSH SS **SS** **02 46 00.8 +0.8**
KSH LR LR
comp=N,180nm,6.0s
KSH LR LR
comp=E,200nm,5.6s
KSH LR LR
comp=Z,310nm,5.3s
YAK Yakutsk 58.20 2 *e*P P **02 34 12.6 -0.2**
YAK pmax pmax
comp=N,25nm,1.1s
YAK pmax pmax
comp=Z,55nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK Yakutsk 58.20 2 *e*P P **02 34 13.3 +0.5**
comp=E,95nm,0.8s
KZA Kyzart 59.60 318 P P **02 34 23.7 +0.2**
SNR=13
TKM2 Tokmak 2 59.74 319 *i*P P **02 34 23.5 -0.6**
TKM2 Tokmak 2 59.74 319 *e*P P **02 34 22.0 -2.1**
comp=E,13nm,0.8s
TKM2 Tokmak 2 59.74 319 P P **02 34 23.5 -0.6**
SNR=20
KBK Karagaybulak 60.05 318 P P **02 34 26.6 +0.4**
SNR=10
AAK Ala-Archa 60.35 318 *de*P P **02 34 27.8 -0.4**
AAK pmax pmax
comp=Z,58nm,1.7s
AAK Ala-Archa 60.35 318 *e*P P **02 34 27.9 -0.4**
comp=Z,55nm,0.9s
AAK Ala-Archa 60.35 318 P P **02 34 28.0 -0.2**
comp=Z,76nm,0.8s,SNR=8.2
AAK Ala-Archa 60.35 318 P P **02 34 28.2 0.0**
SNR=11
AAK Ala-Archa 60.35 318 LR LR 03 02 46.7
comp=Z,509nm,21.7s,baz=300,slow=38
FRU Bishkek 60.35 318 *e*P P **02 34 28.0 -0.1**
ZAA0 Zalesovo Array 60.58 333 *e*P P **02 34 28.1 -1.3**
ZALV Zalesovo Beam 60.58 333 P P **02 34 27.9 -1.5**
ZALV Zalesovo Beam 60.58 333 P P **02 34 27.9 -1.5**
ZALV Zalesovo Beam 60.58 333 P P **02 34 27.9 -1.5**
comp=Z,4.0nm,0.4s,baz=125,slow=5.9,SNR=21
ZALV LR LR 03 02 22.7
comp=Z,313nm,20.0s,baz=258,slow=38
USP Ospenovka 60.61 318 P P **02 34 29.9 0.0**
SNR=23
AML Almayashu 60.68 317 P P **02 34 30.6 -0.1**
SNR=28
EKS2 Erkin-Say 60.84 318 *e*P P **02 34 31.4 -0.1**
EKS2 pmax pmax
comp=Z,14nm,0.8s
EKS2 Erkin-Say 60.84 318 *e*P P **02 34 31.4 -0.1**
comp=Z,14nm,0.8s
EKS2 Erkin-Say 60.84 318 P P **02 34 31.4 -0.1**
SNR=16
TOZ Tahuroa Road 61.19 137 PN P **02 34 36.4 +2.7**
KURBB Kurchatov Arra 61.73 327 P P **02 34 36.4 -0.8**
comp=Z,6.5nm,0.4s,baz=130,slow=6.6,SNR=43
KURK Kurchatov 61.73 328 *ce*P P **02 34 36.9 -0.3**
KURK pmax pmax
comp=Z,43nm,1.2s
KURK Kurchatov 61.73 328 *e*P P **02 34 35.7 -1.5**
comp=Z,41nm,0.9s
KURK Kurchatov 61.73 328 P P **02 34 36.7 -0.5**
comp=Z,270nm,0.6s,SNR=22
RPZ Rata Peaks 61.77 145 *e*P P **02 34 38.4 +0.8**
comp=Z,41nm,0.9s
RPZ Rata Peaks 61.77 145 PN P **02 34 39.0 +1.4**
NVS Novosibirsk 61.86 333 *e*P P **02 34 38.5 +0.5**
NVS *e*S S **02 42 52.9 -3.0**
NVS pmax pmax
comp=Z,23nm,1.0s
NVS pmax pmax
comp=N,7.0nm,0.9s
NVS pmax pmax
comp=E,10.0nm,1.0s
NVS pmax pmax
comp=Z,20nm,1.2s
NVS smax smax
comp=E,46nm,2.0s
SEY Seymchan 62.03 13 *ce*P P **02 34 37.9 -1.0**
BKZ Black Stump Fm 62.59 138 PN P **02 34 44.5 +1.2**
KK31 Karatay Array 63.22 317 *i*P P **02 34 46.6 -0.7**
KK31 pmax pmax
comp=Z,15nm,0.8s
KKAR Karatay Array 63.22 317 *e*P P **02 34 47.0 -0.4**
KKAR Karatay Array 63.22 317 *e*P P **02 34 47.0 -0.4**
AFI Afiamalu 63.45 107 *e*P P **02 34 51.1 +1.7**
comp=Z,143nm,1.2s
AFI Afiamalu 63.45 107 P P **02 34 50.2 +0.8**
comp=Z,85nm,1.1s,baz=271,slow=20,SNR=10.0
BVA0 Borovoye Array 67.31 327 *i*P P **02 35 12.6 -1.0**
BVA0 pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 67.31 327 P P **02 35 13.2 -0.4**
BVAR Borovoye Array 67.31 327 P P **02 35 13.2 -0.4**
BVAR Borovoye Array 67.31 327 P P **02 35 13.2 -0.4**
comp=Z,21nm,0.9s,baz=124,slow=7.9,SNR=28
BRVK Borovoye 67.38 327 *e*P P **02 35 13.4 -0.6**
BRVK pmax pmax
comp=Z,26nm,0.9s
BRVK Borovoye 67.38 327 *e*P P **02 35 13.4 -0.6**
comp=Z,26nm,0.9s
BRVK Borovoye 67.38 327 P P **02 35 13.7 -0.3**
comp=Z,190nm,0.9s,SNR=20
IDAH Dahanechah 68.57 304 *e*P P **02 35 21.2 -1.0**
IKOO Kooshah 69.23 303 *e*P P **02 35 25.4 -0.9**
ITEG Tejag 69.52 304 *e*P P **02 35 27.6 -0.4**
BILL Bilibino 69.55 15⇑ *i*P P **02 35 27.3 +0.1**
BILL *i* 02 35 48.5
BILL *i* 02 38 09.9
BILL *e*S S **02 44 26.6 -2.5**
BILL pmax pmax
comp=Z,12nm,1.6s
BILL MLR MLR
comp=Z,200nm,19.0s
BILL Bilibino 69.55 15 *e*P P **02 35 27.0 -0.2**
comp=Z,4.2nm,0.6s
AB31 Akbulak array 72.14 321 *e*P P **02 35 41.6 -1.7**
AB31 pmax pmax
comp=Z,7.0nm,0.5s
ABKAR Akbulak array 72.14 321 *e*P P **02 35 41.6 -1.7**
AKTO Aktyubinsk 73.65 322 P P **02 35 51.4 -0.8**
AKTO pmax pmax
comp=Z,4.0nm,1.0s
SVE Sverdlovsk 73.95 328⇑ *e*P P **02 35 54.6 +0.8**
SVE pmax pmax
comp=Z,39nm,1.0s
IPAR Pars 73.99 300 *e*P P **02 35 53.3 -1.8**
GAMB Gambell 74.39 24 *e*P P **02 35 54.8 -1.4**
comp=Z,70nm,1.3s
ARU Arti 74.93 328 *c*P P **02 35 59.6 +0.1**
ARU PPP PPP 02 40 27.5
ARU S **S** **02 45 35.3 +4.3**
ARU SS **SS** **02 50 22.4 +1.7**
ARU pmax pmax
comp=Z,27nm,0.8s
ARU Arti 74.93 328 *e*P P **02 35 58.3 -1.2**
comp=Z,41nm,1.1s
ARU Arti 74.93 328 P P **02 35 58.9 -0.6**
comp=Z,206nm,0.7s,SNR=9.8
QRN Al-Qurain 78.40 298 *e*P P **02 36 18.4 -1.3**
QRN AMb AMB 02 36 23.1
comp=Z,70nm,0.8s
RDF Al-Radifah 78.73 299 *e*P P **02 36 20.6 -0.9**
RDF AMb AMB 02 36 25.5
comp=Z,27nm,0.5s
MIB Mutribah 78.94 299 *e*P P **02 36 20.9 -1.8**
MIB AMb AMB 02 36 40.0
comp=Z,40nm,0.8s
NAY Al-Naaiem 79.01 299 *e*P P **02 36 21.5 -1.6**
NAY AMb AMB 02 36 27.2
comp=Z,22nm,0.9s
SVW2 Sparrevohn 80.80 29 *e*P P **02 36 33.6 +1.5**
comp=Z,101nm,2.2s
ABPO Ambohimpanom 81.31 250 *e*P P **02 36 36.1 +0.3**
comp=Z,12nm,0.7s
GNI Garni 81.47 310 *e*P P **02 36 36.1 -0.1**
comp=Z,62nm,1.1s
KDAK Kodiak Island 81.89 32 *e*P P **02 36 38.2 +0.4**
comp=Z,770nm,2.7s
KDAK Kodiak Island 81.89 32 P P **02 36 38.3 +0.4**
comp=Z,190nm,1.0s,SNR=5.8
KDAK Kodiak Island 81.89 32 P P **02 36 38.2 +0.4**
comp=Z,20nm,0.7s,baz=219,slow=10.0,SNR=15
ZEI Tsey 82.21 312 *e*P P **02 36 41.7 +1.5**
ZEI pmax pmax
comp=Z,13nm,1.0s
SPU Mount Spurr 82.51 29 *e*P P **02 36 41.6 +0.5**
KIV Kislovodsk 83.13 314 *e*P P **02 36 49.0 +4.3**
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,100nm,19.0s
SLKM Skilak Lake 83.34 30 *e*P P **02 36 46.2 +0.8**
SLKM Skilak Lake 83.34 30 *e*P P **02 36 46.2 +0.8**
VNDA Vanda 83.43 173 *e*P P **02 36 46.2 +0.8**
comp=Z,30nm,1.3s
TRF Thorofare Moun 83.54 27 *e*P P **02 36 46.5 -0.1**
comp=Z,64nm,1.3s
RC01 Rabbit Creek A 83.62 29 *e*P P **02 36 47.2 +0.5**
comp=Z,17nm,0.6s
COLD Coldfoot 83.89 23 *e*P P **02 36 49.8 +1.7**
comp=Z,32nm,1.0s
PMR Palmer 83.94 29 *e*P P **02 36 48.9 +0.5**
PMR pmax pmax
comp=Z,33nm,1.0s
PMR Palmer 83.94 29 *e*P P **02 36 48.9 +0.5**
comp=Z,33nm,1.0s
VRHR Novokhopersk 84.03 321 *e*P P **02 36 48.5 -0.5**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,20nm,0.9s
ERZM Erzurum 84.06 310 *i*P P **02 36 50.7 +0.9**
MCK McKinley 84.16 26 *e*P P **02 36 49.9 +0.4**
MCK pmax pmax
comp=Z,128nm,1.5s
MCK McKinley 84.16 26 *e*P P **02 36 49.9 +0.4**
comp=Z,128nm,1.5s
SML Sawmill 84.33 28 *e*P P **02 36 51.1 +0.7**
SML pmax pmax
comp=Z,14nm,0.9s
SML Sawmill 84.33 28 *e*P P **02 36 51.1 +0.7**
comp=Z,14nm,0.9s
ILAR Eielson Array 85.10 25 P P **02 36 54.3 +0.1**
ILAR Eielson Array 85.10 25 P P **02 36 54.3 +0.1**
comp=Z,4.3nm,0.8s,baz=253,slow=5.5,SNR=18
PPT2 Papeete2 85.12 108 *e*LR LR 03 03 47.1
comp=Z,288nm,25.5s
KLMR Klimovskoe 85.40 331 *e*P P **02 36 53.5 -2.2**
KLMR pmax pmax
comp=Z,132nm,1.4s
KLMR MLR MLR
comp=Z,373nm,18.0s
VORD Divnogorie 85.50 321 *e*P P **02 36 55.7 -0.7**
DIV Divide 85.55 29 *e*P P **02 36 57.5 +1.0**
comp=Z,80nm,1.1s
VSR Storozhevoye 85.58 321 *e*P P **02 36 55.5 -1.3**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VSR pmax pmax
comp=N,6.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
PAX Paxson 85.70 27 *e*P P **02 36 58.0 +0.7**
PAX pmax pmax
comp=Z,40nm,1.4s
PAX Paxson 85.70 27 *e*P P **02 36 58.0 +0.7**
comp=Z,40nm,1.4s
TBI Tubuai 85.80 114 *e*LR LR 03 04 06.0
comp=Z,336nm,27.8s
BMRM Bremner River 86.11 29 *e*P P **02 37 00.7 +1.3**
comp=Z,36nm,1.0s
MOS Moscow 86.43 325 *e*P P **02 36 58.6 -2.3**
MOS *e* 02 37 16.3
MOS pmax pmax
comp=Z,69nm,1.2s
MENT Mentasta 86.50 27 *e*P P **02 37 01.1 -0.1**
AKCD Akcadag 86.77 308 *i*P P **02 37 05.3 +2.2**
OBN Obninsk 87.05 325⇓ *i*P P **02 37 03.6 -0.3**
OBN *e*S S **02 47 35.5 -1.4**
OBN pmax pmax
comp=Z,92nm,1.8s
OBN MLR MLR
comp=Z,200nm,22.0s
OBN Obninsk 87.05 325 *e*P P **02 37 04.2 +0.3**
comp=Z,199nm,1.1s
GZT Gaziantep 87.09 307 *i*P P **02 37 04.5 -0.3**
APA Apatity 87.84 337⇓ *i*P P **02 37 09.8 +2.3**
ANDN Andirin 88.05 307 *i*P P **02 37 13.2 +3.9**
JOF Joensuu 89.17 333 *ep* P **02 37 10.8 -3.0**
comp=Z,22nm,0.5s
KMBO Kilima Mbogo 89.54 269 *e*P P **02 37 16.1 -0.9**
comp=Z,8.8nm,0.9s
BRTR Keskin Array B 90.01 310 P P **02 37 19.0 +0.5**
BRTR Keskin Array B 90.01 310 P P **02 37 19.0 +0.5**
comp=Z,7.1nm,0.8s,baz=120,slow=5.0,SNR=32
PUL Pulkovo 90.03 330 *ce*P P **02 37 19.5 +1.6**
PUL pmax pmax
comp=Z,158nm,0.6s
INK Inuvik 90.16 21 *e*P P **02 37 18.6 +0.2**
comp=Z,11nm,1.0s
INK Inuvik 90.16 21 P P **02 37 18.1 -0.3**
comp=Z,7.7nm,1.0s,baz=267,slow=4.5,SNR=8.0
AKASG Malin Array Be 91.88 321 P P **02 37 25.0 -1.7**
AKASG Malin Array Be 91.88 321 P P **02 37 25.0 -1.7**
AKASG Malin Array Be 91.88 321 P P **02 37 25.0 -1.7**
comp=Z,7.1nm,0.8s,baz=71,slow=4.6,SNR=16
KIEV Kiev 91.89 321 *e*P P **02 37 26.1 -0.7**
KIEV pmax pmax
comp=Z,102nm,0.9s
KIEV Kiev 91.89 321 *e*P P **02 37 26.1 -0.7**
comp=Z,102nm,0.9s
MICGM Minsk 92.11 325 *e*P P **02 37 26.0 -1.7**
SYO Syowa Base 92.43 201⇑ *e*P P **02 37 29.0 +0.2**
IDID Didziasalis 92.62 326 AMB AMB 02 37 37.5
comp=Z,36nm,1.0s
IDID Didziasalis 92.62 326 AMB AMB 02 37 37.5
comp=Z,36nm,1.0s
NACGM Naroch 92.68 325 *e* P **02 37 30.0 -0.3**
IZAR Zarasai 92.82 326 *e*P P **02 37 32.2 +1.3**
IZAR AMB AMB 02 37 37.3
comp=Z,50nm,1.1s
IZAR Zarasai 92.82 326 *e*P P **02 37 32.2 +1.3**
IZAR AMB AMB 02 37 37.3
comp=Z,50nm,1.1s
IIGN Ignalina 92.91 326 *e*P P **02 37 32.6 +1.2**
IIGN AMB AMB 02 37 38.1
comp=Z,47nm,1.1s
IIGN Ignalina 92.91 326 *e*P P **02 37 32.6 +1.2**
IIGN AMB AMB 02 37 38.1
comp=Z,47nm,1.1s
ISAL Salakas 92.92 326 *e*P P **02 37 32.6 +1.2**
ISAL AMB AMB 02 37 37.8
comp=Z,38nm,1.0s
ISAL Salakas 92.92 326 *e*P P **02 37 32.6 +1.2**
ISAL AMB AMB 02 37 37.8
comp=Z,38nm,1.0s
TIRR Tirgusor 93.33 315⇓ *i*P P 02 37 38.5 +4.9
QSPA South Pole Qui 93.64 180 *e*P P **02 37 35.4 +0.7**
comp=Z,18nm,1.1s
QSPA South Pole Qui 93.64 180 P P **02 37 35.3 +0.7**
comp=Z,5.5nm,1.0s,baz=16,slow=0.6,SNR=5.8
DLBC Dease Lake 93.74 31 *e*P P **02 37 36.4 +1.1**
DLBC Dease Lake 93.74 31 P P **02 37 36.0 +0.8**
comp=Z,7.2nm,1.0s,baz=226,slow=2.3,SNR=9.3
GRER 94.20 316⇑ *i*P P 02 37 41.8 +4.2
TESR 94.23 317⇑ *i*P P **02 37 37.0 -0.7**
VRI Vrincioaia 94.28 316⇓ *i*P P **02 37 38.1 +0.1**
PLOR Plostina 94.34 316⇓ *i*P P **02 37 39.3 +1.0**
MLR Muntele Rosu 94.89 316⇓ *i*P P **02 37 41.7 +0.8**
SUW Suwalki 94.91 325 *e* P **02 37 41.8 +1.2**
SUW Suwalki 94.91 325 *e* P **02 37 41.8 +1.2**
BURAR Bucovina Array 94.99 318⇑ *i*P P **02 37 38.4 -2.9**
VOIR 95.52 316⇓ *i*P P **02 37 42.6 -1.1**
KWP Kalwaria Pacla 96.20 321⇓ *i*P P **02 37 45.7 -0.9**
TRPA Tarpa 96.65 319⇓ *i*P P 02 37 40.1 -8.5
UZH Uzhgorod 96.69 320 *e*P P **02 37 48.2 -0.6**
BEL Belsk 96.84 323 *e* P **02 37 48.2 -1.2**
BEL Belsk 96.84 323 *e* P **02 37 48.2 -1.2**
CRVS Cervenica-Dubn 97.16 320 *e* P 02 37 47.8 -3.2
RES Resolute Bay 97.81 10 *e*P Pdif 02 37 53.9 +0.5
comp=Z,4.3nm,0.8s
HFS Hagfors 98.01 332 LR LR 03 26 41.5
comp=Z,251nm,18.3s,baz=65,slow=38
PSZ Piszkesteto 98.42 319 *e*P P **02 37 54.5 -2.3**
PSZ pmax pmax
comp=Z,17nm,1.1s
PSZ Piszkesteto 98.42 319 *e*P P **02 37 54.5 -2.3**
comp=Z,17nm,1.1s
NOA NORSAR Array B 98.78 334 LR LR 03 29 08.5
comp=Z,218nm,19.3s,baz=90,slow=39
YKA Yellowknife Ar 99.50 24 P **Pdif** **02 38 01.5 +0.4**
YKA PP **PP** **02 42 08.8 +3.8**
YKA PKKPbc **PKKPbc** **02 54 23.6 -2.5**
YKA Yellowknife Ar 99.50 24 P **Pdif** **02 38 01.5 +0.4**
comp=Z,1.9nm,1.0s,baz=301,slow=4.5,SNR=11
YKA PP **PP** **02 42 08.8 +3.8**
comp=Z,0.8nm,1.0s,baz=291,slow=6.7,SNR=4.3
YKA PKKPbc **PKKPbc** **02 54 23.6 -2.5**
comp=Z,0.2nm,0.5s,baz=122,slow=3.0,SNR=5.2
GERES GERESS Array B 102.08 322 P **Pdif** **02 38 12.8 -0.3**
GERES GERESS Array B 102.08 322 P **Pdif** **02 38 12.8 -0.3**
comp=Z,1.7nm,0.9s,baz=66,slow=1.6,SNR=4.7
NVAR Mina Array Bea 106.91 48 Pdif **Pdif** **02 38 38.0 +3.0**
NVAR PKKPbc **PKKPdf** **02 54 15.5 -0.3**
NVAR Mina Array Bea 106.91 48 Pdiff **Pdif** **02 38 38.0 +3.0**
comp=Z,1.0nm,1.0s,baz=260,slow=10.0,SNR=3.1
NVAR PKKPbc **PKKPdf** **02 54 15.5 -0.3**
comp=Z,0.6nm,0.6s,baz=135,slow=5.1,SNR=5.7
TSUM Tsumeb 109.29 251 Pdif **Pdif** **02 38 51.8 +6.0**
TSUM Tsumeb 109.29 251 Pdiff **Pdif** **02 38 51.8 +6.0**
comp=Z,7.3nm,1.1s,baz=176,slow=4.5,SNR=5.3
PDAR Pinedale Array 111.36 41 PKKPbc PKKPbc 02 53 55.6 +6.0
PDAR Pinedale Array 111.36 41 PKKPbc PKKPbc 02 53 55.6 +6.0
comp=Z,1.2nm,0.8s,baz=123,slow=5.8,SNR=8.4
RSSD Black Hills 114.19 38 *e*PKIKP PKPdf 02 42 57.9 -0.3
RSSD Black Hills 114.19 38 *e*PKP PKPdf 02 42 57.9 -0.3
ECSD EROS Data Cent 118.79 35 *e*PKPdf **PKPdf** **02 43 08.1 +1.3**
Y25A Mesa, Roswell 118.79 48⇓P **PKPdf** **02 43 08.0 +0.8**
baz=119
W26A Owens Ranch, T 118.92 46⇑P **PKPdf** **02 43 08.1 +0.7**
baz=119
MNTX Cornudas Mount 119.25 50 *e*PKPdf **PKPdf** **02 43 08.8 +0.8**
MNTX Cornudas Mount 119.25 50⇓P **PKPdf** **02 43 08.9 +1.0**
baz=119
324A Moseley Ranch, 119.28 51⇓P **PKPdf** **02 43 08.8 +0.5**
baz=119
325A Bean Ranch, Si 119.71 51⇑P **PKPdf** **02 43 09.3 +0.2**
baz=120
Y27A Causey 119.93 47⇓P **PKPdf** **02 43 09.7 +0.4**
baz=120
425A Indio Mountain 119.95 51⇑P **PKPdf** **02 43 10.0 +0.5**
baz=120
Z27A Tatum 120.16 48⇑P **PKPdf** **02 43 10.3 +0.4**
baz=120
SCHQ Schefferville 120.56 9 PKP **PKPdf** **02 43 10.2 +0.4**
SCHQ Schefferville 120.56 9 PKP **PKPdf** **02 43 10.2 +0.4**
comp=Z,1.2nm,0.7s,baz=333,slow=4.5,SNR=3.5
Y29A Porterfield Fa 121.03 47⇑P **PKPdf** **02 43 12.2 +0.8**
baz=121
626A Big Bend Ranch 121.14 52⇑P **PKPdf** **02 43 12.6 +0.8**
baz=121
427A Hayter Ranch, 121.14 50⇓P **PKPdf** **02 43 12.4 +0.6**
baz=121
527A Woodward Ranch 121.29 51⇑P **PKPdf** **02 43 12.2 +0.1**
baz=121
Z29A Hungry Hill Ra 121.30 47⇓P **PKPdf** **02 43 12.8 +0.8**
baz=121
328A Wristen Ranch, 121.36 50⇑P **PKPdf** **02 43 12.5 +0.4**
baz=121
129A Stewart Farms, 121.48 48⇑P **PKPdf** **02 43 12.5 +0.1**
baz=121
TXAR Lajitas Array 121.60 52 PKP **PKPdf** **02 43 12.8 +0.1**
TXAR PKKPbc **PKKPab** **02 53 16.9 +3.2**
TXAR Lajitas Array 121.60 52 PKP **PKPdf** **02 43 12.8 +0.1**
comp=Z,1.0nm,0.9s,baz=250,slow=1.3,SNR=7.3
TXAR PKKPbc **PKKPab** **02 53 16.9 +3.2**
comp=Z,0.3nm,0.7s,baz=106,slow=5.4,SNR=3.6
428A Kincaid Ranch, 121.75 50⇑P **PKPdf** **02 43 13.6 +0.7**
baz=122
627A Terlingua Ranc 121.77 52⇑P **PKPdf** **02 43 13.6 +0.6**
baz=122
329A Wagon Wheel Ra 121.94 49⇑P **PKPdf** **02 43 12.9 -0.4**
baz=122
628A Black Gap, Mar 122.15 52⇑P **PKPdf** **02 43 13.6 -0.1**
baz=122
529A Stev Forest Ra 122.38 51⇓P **PKPdf** **02 43 14.6 +0.5**
baz=122
TOA0 Torodi Ar. Sit 122.91 288 *e*PKPdf **PKPdf** **02 43 15.6 +0.2**
TORD Torodi Ar. Bea 122.91 288 PKP **PKPdf** **02 43 15.7 +0.3**
TORD PKKPbc **PKKPab** **02 53 09.6 +1.6**
TORD Torodi Ar. Bea 122.91 288 PKP **PKPdf** **02 43 15.7 +0.3**
comp=Z,2.7nm,0.7s,baz=75,slow=1.7,SNR=8.9
TORD PKKPbc **PKKPab** **02 53 09.6 +1.6**
comp=Z,0.8nm,0.6s,baz=268,slow=2.6,SNR=5.7
JCT Junction City 124.06 49 *e*PKIKP **PKPdf** **02 43 18.6 +1.3**
JCT Junction City 124.06 49 *e*PKPdf **PKPdf** **02 43 18.6 +1.3**
JCT Junction City 124.06 49⇓P **PKPdf** **02 43 17.9 +0.6**
baz=124
FVM French Village 126.08 36 *e*PKIKP **PKPdf** **02 43 21.3 +0.4**
FVM French Village 126.08 36 *e*PKPdf **PKPdf** **02 43 21.3 +0.4**
MIAR Mount Ida 126.28 41 *e*PKIKP **PKPdf** **02 43 23.2 +1.8**
MIAR Mount Ida 126.28 41 *e*PKPdf **PKPdf** **02 43 23.2 +1.8**
WVT Waverly 128.86 36 *e*PKIKP **PKPdf** **02 43 26.7 +0.4**
WVT Waverly 128.86 36 *e*PKPdf **PKPdf** **02 43 26.7 +0.4**
DBIC Dimbokro 130.57 282 *e*PKPdf **PKPdf** **02 43 30.3 +0.2**
PLCA Paso Flores 140.01 159 PKPpre PKPpre 02 43 43.5
PLCA Paso Flores 140.01 159 PKhKP PKPpre 02 43 43.5
comp=Z,1.9nm,0.8s,baz=233,slow=4.8,SNR=4.6
TRQA Tornquist 144.93 168 *e*PKPdf **PKPdf** **02 43 55.9 +0.1**
LCO Las Campanas 149.90 148 *e*PKPbc **PKPbc** **02 44 09.4 -0.1**
SDV Santo Domingo 158.63 54 *e*PKPdf **PKPdf** **02 44 18.2 +1.1**
LPAZ La Paz 160.80 132 *e*PKPdf **PKPdf** **02 44 22.2 +2.2**
LPAZ La Paz 160.80 132 PKP **PKPdf** **02 44 18.1 -1.9**
comp=Z,2.7nm,1.0s,baz=343,slow=1.2,SNR=6.1
SAML Samuel 168.88 118 *e*PKPdf **PKPdf** **02 44 26.9 +0.7**
SAML *e*PKPab **PKPab** **02 45 38.1 +0.8**

IDC 13 02:41:34.9±1.3,**4.00N**×**126.32E**,**h0**km,**mb3.7**/6,
mb1 3.8/6,**mb1mx3.6**/20,**mbtmpg3.7**/6,**Error ellipse:**
s-maj=188.8km s-min=17.4km az=67.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.06**	**162**	P		P		02 47 01.0	-0.2
	1.2nm,0.6s,baz=341,slow=10,SNR=5.6								
ASAR	**Alice Springs**	**28.47**	**165**	P		P		02 47 33.2	+1.3
	0.2nm,0.3s,baz=346,slow=9.9,SNR=2.5								
STKA	**Stephens Creek**	**38.52**	**159**	P		P		02 48 58.1	-1.1
	0.9nm,0.4s,baz=0.0,slow=7.1,SNR=3.2								
SONM	**Songino Array**	**46.92**	**342**	P		P		02 50 07.8	+0.4
	0.5nm,0.7s,baz=156,slow=3.9,SNR=2.7								
MKAR	**Makanchi Array**	**57.11**	**325**	P		P		02 51 22.8	-0.5
	0.3nm,0.4s,baz=123,slow=8.1,SNR=11								
KURBB	**Kurchatov Arra**	**61.30**	**327**	P		P		02 51 52.0	-0.1
	0.3nm,0.3s,baz=122,slow=6.8,SNR=4.6								

IDC 13 02:49:08.4±3.1,**3.61N**×**126.02E**,**h0**km,**mb3.9**/6,

mb1 4.0/6, **mb1mx3.7**/21, **mbtmp3.9**/6, **Error ellipse: s-maj=434.7km s-min=18.2km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.79**	**161**	P	P	02 54 32.4	+0.2
	4.0nm,0.6s,baz=57,slow=0.1,SNR=0.5						
ASAR	**Alice Springs**	**28.18**	**165**	P	P	02 55 02.9	+0.1
	0.2nm,0.3s,baz=350,slow=6.6,SNR=4.3						
STKA	**Stephens Creek**	**38.27**	**158**	P	P	02 56 30.2	-0.4
	1.0nm,0.4s,baz=330,slow=13,SNR=3.7						
MKAR	**Makanchi Array**	**57.25**	**326**	P	P	02 58 57.3	-0.4
	0.5nm,0.4s,baz=118,slow=7.9,SNR=20						
KURBB	**Kurchatov Arra**	**61.46**	**328**	P	P	02 59 28.2	+1.5
	1.2nm,0.3s,baz=119,slow=6.1,SNR=3.4						
BVAR	**Borovoye Array**	**67.03**	**327**	P	P	03 00 02.1	-1.2
	0.7nm,0.7s,baz=132,slow=6.2,SNR=5.1						

IDC 13 02:59:20.0±1.3, **3.73N**×**126.37E, h0**km, **mb3.8**/6, **mb1 3.9**/6, **mb1mx3.7**/19, **mbtmp3.8**/6, **MS3.0**/1, **Ms1 3.0**/1, **ms1mx2.2**/44, **Error ellipse: s-maj=206.8km s-min=17.5km az=68.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.41**	**347**	LR	LR	03 01 10.4	
	comp=Z,207nm,18.1s,baz=348,slow=32						
WRA	**Warramunga Arr**	**24.80**	**162**	P	P	03 04 43.6	-0.3
	4.2nm,0.6s,baz=343,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.21**	**165**	P	P	03 05 15.2	+0.5
	0.2nm,0.4s,baz=349,slow=7.7,SNR=3.3						
STKA	**Stephens Creek**	**38.26**	**159**	P	P	03 06 41.8	-0.3
	2.9nm,0.8s,baz=321,slow=13,SNR=5.0						
SONM	**Songino Array**	**47.18**	**342**	P	P	03 07 55.1	+0.6
	0.3nm,0.4s,baz=155,slow=4.8,SNR=3.3						
MKAR	**Makanchi Array**	**57.35**	**325**	P	P	03 09 10.4	+0.3
	0.4nm,0.5s,baz=118,slow=7.8,SNR=7.6						
ZALV	**Zalesovo Beam**	**60.42**	**333**	P	P	03 09 30.2	-1.1
	0.4nm,0.4s,baz=119,slow=8.2,SNR=3.3						

IDC ***13*** *03:03:48.8±0.8, 3.90N×126.34E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.9/22, mbtmp3.9/10, Error ellipse: s-maj=66.4km s-min=15.7km az=68.0*
ISCJB ***13*** *03:03:53.3±0.6, 3.8N±0.1×126.1E±0.3, h45km, mb4.0/16, Error ellipse: s-maj=44.4km s-min=9.3km az=159.6*
NEIC ***13*** *03:03:54.1±0.4, 3.85N×126.30E, h35km, mb4.2/6, Error ellipse: s-maj=29.1km s-min=6.4km az=70.0*

ISC 13 03:03:55.1±0.7, **3.8N**±0.1×**126.3E**±0.3, **h45**km, **n31,** σ0**69**/30, **mb4.1**/16, **1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**3.94**	**329**	*eP*	Pn	03 04 59.3	+6.2
FITZ	**Fitzroy Crossi**	**21.79**	**182**	*eP*	**P**	**03 08 43.3**	**0.0**
	4.5nm,0.9s						
WRAB	**Tennant Creek**	**24.90**	**162**	*eP*	**P**	**03 09 14.4**	**+0.4**
	9.3nm,0.8s						
WRA	**Warramunga Arr**	**24.90**	**162**	P	**P**	**03 09 14.7**	**+0.7**
WRA	**Warramunga Arr**	**24.90**	**162**	P	**P**	**03 09 14.7**	**+0.7**
	6.2nm,0.3s,baz=58,slow=0.1,SNR=0.5						
ASAR	**Alice Springs**	**28.31**	**165**	P	**P**	**03 09 44.7**	**0.0**
ASAR	**Alice Springs**	**28.31**	**165**	P	**P**	**03 09 44.7**	**0.0**
	0.2nm,0.3s,baz=340,slow=7.0,SNR=5.0						
STKA	**Stephens Creek**	**38.37**	**159**	P	**P**	**03 11 11.5**	**-0.5**
STKA	**Stephens Creek**	**38.37**	**159**	P	**P**	**03 11 11.5**	**-0.5**
	1.8nm,0.5s,baz=307,slow=5.7,SNR=6.3						
ULN	**Ulaanbaatar**	**46.90**	**342**	*eP*	**P**	**03 12 21.4**	**+0.1**
	1.3nm,0.5s						
SONM	**Songino Array**	**47.08**	**342**	P	**P**	**03 12 22.1**	**-0.5**
SONM	**Songino Array**	**47.08**	**342**	P	**P**	**03 12 22.1**	**-0.5**
	0.5nm,0.7s,baz=158,slow=8.9,SNR=2.7						
MK31	**Makanchi Array**	**57.23**	**325**	*eP*	**P**	**03 13 38.4**	**+0.4**
MKAR	**Makanchi Array**	**57.23**	**325**	P	**P**	**03 13 37.9**	**-0.1**
MKAR	**Makanchi Array**	**57.23**	**325**	P	**P**	**03 13 37.9**	**-0.1**
	0.9nm,0.4s,baz=119,slow=7.7,SNR=22						
TKM2	**Tokmak 2**	**59.39**	**319**	*eP*	**P**	**03 13 53.0**	**-0.3**
	0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**60.31**	**333**	P	**P**	**03 13 57.7**	**-1.4**
ZALV	**Zalesovo Beam**	**60.31**	**333**	P	**P**	**03 13 57.7**	**-1.4**
	0.4nm,0.4s,baz=102,slow=7.9,SNR=3.0						
KURBB	**Kurchatov Arra**	**61.43**	**328**	P	**P**	**03 14 06.0**	**-0.8**
	0.9nm,0.3s,baz=124,slow=6.7,SNR=5.7						
KURK	**Kurchatov**	**61.43**	**328**	*eP*	**P**	**03 14 07.1**	**+0.3**
	1.3nm,0.6s						
BVAR	**Borovoye Array**	**67.01**	**327**	P	**P**	**03 14 44.0**	**+0.7**
BVAR	**Borovoye Array**	**67.01**	**327**	P	**P**	**03 14 44.0**	**+0.7**
	0.6nm,0.6s,baz=120,slow=5.8,SNR=5.1						
BRVK	**Borovoye**	**67.08**	**327**	*eP*	**P**	**03 14 43.5**	**-0.2**
	1.8nm,0.7s						
AKTO	**Aktyubinsk**	**73.31**	**322**	P	**P**	**03 15 22.3**	**+0.3**
AKTO	**Aktyubinsk**	**73.31**	**322**	P	**P**	**03 15 22.3**	**+0.3**
	0.6nm,0.6s,baz=79,slow=10.0,SNR=3.6						
ILAR	**Eielson Array**	**85.22**	**25**	P	**P**	**03 16 26.8**	**+0.1**
ILAR	**Eielson Array**	**85.22**	**25**	P	**P**	**03 16 26.8**	**+0.1**
	0.2nm,0.6s,baz=255,slow=5.4,SNR=3.3						
BUR08	**Bucovina Ar. S**	**94.65**	**318**	*eP*	**P**	**03 17 10.9**	**-0.7**
TOA0	**Torodi Ar. Sit**	**122.47**	**288**	*e*PKPdf	**PKPdf**	**03 22 48.0**	**+1.3**
TORD	**Torodi Ar. Bea**	**122.47**	**288**	PKP	**PKPdf**	**03 22 47.8**	**+1.1**
TORD	**Torodi Ar. Bea**	**122.47**	**288**	PKP	**PKPdf**	**03 22 47.8**	**+1.1**
	0.2nm,0.4s,baz=80,slow=1.7,SNR=10						

IDC 13 03:10:05.9±2.1, **4.45N**×**127.60E, h0**km, **mb3.4**/3, **mb1 3.5**/3, **mb1mx3.3**/19, **mbtmp3.4**/3, **Error ellipse: s-maj=205.9km s-min=26.7km az=68.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.13**	**165**	P	P	03 15 32.8	0.0
	0.3nm,0.5s,baz=345,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**57.47**	**325**	P	P	03 19 56.6	-0.2
	0.2nm,0.4s,baz=122,slow=8.5,SNR=6.6						
ZALV	**Zalesovo Beam**	**60.35**	**332**	P	P	03 20 16.7	+0.1
	0.2nm,0.3s,baz=114,slow=7.1,SNR=2.4						

IDC ***13*** *03:11:27.6±1.7, 13.25S×167.16E, h234km±16km, mb4.0/20, mb1 4.1/21, mb1mx4.0/25, mbtmp4.0/21, Error ellipse: s-maj=16.1km s-min=9.7km az=137.0*
ISCJB ***13*** *03:11:28.0±1.9, 13.24S±0.10×167.19E±0.08, h254km±19km, mb4.3/33, Error ellipse: s-maj=17.2km s-min=10.3km az=147.9*
NEIC ***13*** *03:11:28.1±1.1, 13.22S×167.20E, h242km±10km, mb4.4/14, Error ellipse: s-maj=8.1km s-min=6.2km az=162.0*

ISC 13 03:11:27.6±1.5, **13.20S**±0.09×**167.19E**±0.08, **h235**km±13km, **n110,** σ0**82**/120, **mb4.3**/33, **2D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.85**	**184**	P	**Pn**	**03 13 32.5**	**+0.7**
DZM	**Mont Dzumac**	**8.85**	**184**	P	**Pn**	**03 13 32.5**	**+0.7**
	1.2nm,0.3s,baz=9.3,slow=21,SNR=13						
EIDS	**Eidsvold**	**19.41**	**229**	*eP*	**P**	**03 15 37.5**	**+1.1**
	31nm,0.4s						
PMG	**Port Moresby**	**20.00**	**279**	*eP*	**P**	**03 15 43.7**	**+0.9**
	6.9nm,0.7s						
AFI	**Afiamalu**	**20.46**	**94**	P	**P**	**03 15 47.3**	**-0.6**
AFI	**Afiamalu**	**20.46**	**94**	P	**P**	**03 15 47.3**	**-0.6**
	9.4nm,0.3s,baz=310,slow=10,SNR=3.9						
CTA	**Charters Tower**	**21.18**	**248**	P	**P**	**03 15 55.5**	**+0.3**
CTA	**Charters Tower**	**21.18**	**248**	*eP*	**P**	**03 15 55.4**	**+0.2**
	3.0nm,0.5s						
CTA	**Charters Tower**	**21.18**	**248**	P	**P**	**03 15 55.5**	**+0.2**
	4.0nm,0.6s,baz=82,slow=12,SNR=11						
CTAO	**Charters Tower**	**21.18**	**248**	*eP*	**P**	**03 15 55.4**	**+0.2**
	4.1nm,0.6s						
COEN	**Coen**	**23.35**	**265**	*eP*	**P**	**03 16 16.9**	**+1.5**
	19nm,0.9s						
CMSA	**Cobar Meteorol**	**26.89**	**224**	*eP*	**P**	**03 16 46.6**	**-0.5**
	29nm,1.0s						
STKA	**Stephens Creek**	**29.94**	**227**	P	**P**	**03 17 13.7**	**-0.4**
STKA				PcP	**PcP**	**03 20 10.9**	**+0.3**
STKA	**Stephens Creek**	**29.94**	**227**	*eP*	**P**	**03 17 14.5**	**+0.4**
	3.6nm,0.5s						
STKA	**Stephens Creek**	**29.94**	**227**	P	**P**	**03 17 13.7**	**-0.4**
	4.5nm,0.6s,baz=49,slow=7.6,SNR=16						
STKA				PcP	**PcP**	**03 20 10.9**	**+0.3**
	5.6nm,0.7s,baz=61,slow=2.8,SNR=8.0						
WRAB	**Tennant Creek**	**32.14**	**254**	*eP*	**P**	**03 17 33.0**	**-0.5**
	9.1nm,1.1s						
WRA	**Warramunga Arr**	**32.15**	**254**	P	**P**	**03 17 32.3**	**-1.3**
WRA	**Warramunga Arr**	**32.15**	**254**	P	**P**	**03 17 32.3**	**-1.3**
	1.3nm,0.4s,baz=82,slow=8.7,SNR=5.3						
AS31	**Alice Springs**	**33.17**	**247**	*eP*	**P**	**03 17 41.5**	**-1.0**
ASAR	**Alice Springs**	**33.17**	**247**	P	**P**	**03 17 41.9**	**-0.5**
ASAR				PcP	**PcP**	**03 20 19.6**	**-0.1**
ASAR				S	**S**	**03 22 43.4**	**-1.1**
ASAR				ScP	**ScP**	**03 23 43.5**	**+2.0**
ASAR	**Alice Springs**	**33.17**	**247**	P	**P**	**03 17 41.9**	**-0.5**
	2.8nm,0.4s,baz=75,slow=9.0,SNR=46						
ASAR				PcP	**PcP**	**03 20 19.6**	**-0.1**
	1.6nm,0.6s,baz=72,slow=2.3,SNR=9.4						
ASAR				S	**S**	**03 22 43.4**	**-1.1**
	1.3nm,0.9s,baz=76,slow=15,SNR=6.5						
ASAR				ScP	**ScP**	**03 23 43.5**	**+2.0**
	1.5nm,0.9s,baz=69,slow=3.1,SNR=9.0						
FORT	**Forrest**	**40.02**	**238**	*eP*	**P**	**03 18 40.2**	**+0.1**
	30nm,0.9s						
FITZ	**Fitzroy Crossi**	**40.24**	**258**	P	**P**	**03 18 41.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**40.24**	**258**	P	**P**	**03 18 41.8**	**-0.2**
	2.3nm,0.6s,baz=97,slow=8.1,SNR=3.7						
NWAO	**Narrogin (SRO)**	**49.48**	**238**	P	**P**	**03 19 54.3**	**-0.2**
NWAO	**Narrogin (SRO)**	**49.48**	**238**	P	**P**	**03 19 54.3**	**-0.2**
	11nm,0.9s,baz=140,slow=8.8,SNR=7.7						
KKM	**Kota Kinabalu**	**54.11**	**288**	*eP*	**P**	**03 20 28.6**	**-0.5**
	7.0nm,0.7s						
MJAR	**Matsushiro Arr**	**56.52**	**332**	P	**P**	**03 20 45.0**	**-0.7**
MJAR	**Matsushiro Arr**	**56.52**	**332**	P	**P**	**03 20 45.0**	**-0.7**
	6.1nm,0.9s,baz=172,slow=8.8,SNR=9.0						
MAJO	**Matsushiro**	**56.52**	**332**	*eP*	**P**	**03 20 45.1**	**-0.6**
JNU	**Nakatsue**	**57.64**	**324**	P	**P**	**03 20 53.8**	**+0.2**
JNU	**Nakatsue**	**57.64**	**324**	P	**P**	**03 20 53.8**	**+0.2**
	11nm,0.8s,baz=102,slow=8.2,SNR=4.8						
ASAJ	**Asahikawa**	**61.29**	**340**	P	**P**	**03 21 19.4**	**+1.3**
ASAJ	**Asahikawa**	**61.29**	**340**	P	**P**	**03 21 19.4**	**+1.3**
	12nm,0.6s,baz=217,slow=6.3,SNR=13						
USRK	**Ussuriysk Arra**	**65.49**	**333**	P	**P**	**03 21 47.4**	**+1.7**
	1.9nm,0.5s,baz=101,slow=7.3,SNR=5.9						
PETK	**Petropavlovsk-**	**66.54**	**354**	P	**P**	**03 21 52.9**	**+0.7**
PETK	**Petropavlovsk-**	**66.54**	**354**	P	**P**	**03 21 52.9**	**+0.7**
	4.5nm,0.5s,baz=160,slow=6.7,SNR=8.8						
IPM	**Ipoh**	**67.99**	**280**	*eP*	**P**	**03 22 02.0**	**-0.1**
	8.3nm,0.6s						
PSI	**Prapat**	**69.56**	**278**	P	**P**	**03 22 11.2**	**-0.7**
PSI	**Prapat**	**69.56**	**278**	P	**P**	**03 22 11.2**	**-0.7**
	3.7nm,0.5s,baz=164,slow=7.8,SNR=4.0						
CMAR	**Chiang Mai Arr**	**74.26**	**294**	P	**P**	**03 22 39.5**	**0.0**
CMAR	**Chiang Mai Arr**	**74.26**	**294**	P	**P**	**03 22 39.5**	**0.0**
	4.8nm,0.8s,baz=126,slow=5.1,SNR=15						
CHTO	**Chiang Mai**	**74.38**	**294**	*eP*	**P**	**03 22 40.2**	**-0.1**
	3.3nm,0.7s						
QSPA	**South Pole Qui**	**76.82**	**180**	*eP*	**P**	**03 22 53.4**	**0.0**
	11nm,0.8s						
ULN	**Ulaanbaatar**	**80.86**	**324**	*eP*	**P**	**03 23 15.9**	**+0.3**
	2.4nm,0.4s						
BILL	**Bilibino**	**81.02**	**360**	*eP*	**P**	**03 23 15.8**	**0.0**
	2.9nm,0.6s						
SONM	**Songino Array**	**81.23**	**323**	P	**P**	**03 23 18.0**	**+0.5**
SONM	**Songino Array**	**81.23**	**323**	P	**P**	**03 23 18.0**	**+0.5**
	1.6nm,0.6s,baz=147,slow=5.7,SNR=10						
RC01	**Rabbit Creek A**	**81.53**	**20**	*eP*	**P**	**03 23 18.2**	**-0.4**
	5.9nm,0.5s						
MCK	**McKinley**	**83.73**	**18**	*eP*	**P**	**03 23 29.2**	**-0.7**
	5.3nm,0.5s						
LSA	**Lhasa**	**84.69**	**302**	*eP*	**P**	**03 23 36.5**	**+0.5**
	2.9nm,0.5s						
COLA	**College**	**84.89**	**18**	*eP*	**P**	**03 23 35.0**	**-0.6**
	9.8nm,0.9s						
ILAR	**Eielson Array**	**85.11**	**18**	P	**P**	**03 23 35.7**	**-1.0**
ILAR	**Eielson Array**	**85.11**	**18**	P	**P**	**03 23 35.7**	**-1.0**
	6.9nm,0.6s,baz=243,slow=5.0,SNR=150						
NVAR	**Mina Array Bea**	**86.34**	**49**	P	**P**	**03 23 43.8**	**+0.1**
NVAR	**Mina Array Bea**	**86.34**	**49**	P	**P**	**03 23 43.8**	**+0.1**
	0.5nm,0.7s,baz=246,slow=7.4,SNR=3.9						
MK31	**Makanchi Array**	**96.05**	**317**	*eP*	**P**	**03 24 28.2**	**-0.1**
MKAR	**Makanchi Array**	**96.05**	**317**	P	**P**	**03 24 28.5**	**+0.2**
MKAR	**Makanchi Array**	**96.05**	**317**	P	**P**	**03 24 28.5**	**+0.2**
	3.0nm,0.6s,baz=85,slow=6.1,SNR=33						
ZALV	**Zalesovo Beam**	**96.12**	**324**	P	**P**	**03 24 27.6**	**-0.8**
ZALV	**Zalesovo Beam**	**96.12**	**324**	P	**P**	**03 24 27.6**	**-0.8**
	2.0nm,0.7s,baz=104,slow=3.8,SNR=9.5						
YKA	**Yellowknife Ar**	**96.23**	**27**	P	**P**	**03 24 27.4**	**-1.3**
YKA	**Yellowknife Ar**	**96.23**	**27**	P	**P**	**03 24 27.4**	**-1.3**
	0.4nm,0.6s,baz=258,slow=4.7,SNR=10						
KEV	**Kevo**	**118.24**	**345**	*ep*	**PKPdf**	**03 29 44.8**	**-1.4**
ARCES	**ARCESS Array B**	**118.76**	**346**	PKP	**PKPdf**	**03 29 46.9**	**-0.3**
ARCES	**ARCESS Array B**	**118.76**	**346**	PKP	**PKPdf**	**03 29 46.9**	**-0.3**
	3.3nm,0.4s,baz=78,slow=2.2,SNR=70						
KAF	**Kangasniemi**	**123.75**	**339**	*ep*	**PKPdf**	**03 29 55.4**	**-1.6**
	3.2nm,0.5s						
FINES	**FINESS Array B**	**124.28**	**339**	PKP	**PKPdf**	**03 29 57.8**	**-0.2**
FINES	**FINESS Array B**	**124.28**	**339**	PKP	**PKPdf**	**03 29 57.8**	**-0.2**
	4.4nm,0.9s,baz=62,slow=1.8,SNR=20						
BOSA	**Boshof**	**124.47**	**221**	PKP	**PKPdf**	**03 29 60.0**	**+0.3**
BOSA	**Boshof**	**124.47**	**221**	PKP	**PKPdf**	**03 29 60.0**	**+0.3**
	3.0nm,1.0s,baz=131,slow=11,SNR=3.6						
NB2	**NORSAR Subarra**	**129.14**	**345**	PKPdf	**PKPdf**	**03 30 07.1**	**-0.3**
	comp=Z,8.7nm,1.7s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**129.14**	**345**	PKP	**PKPdf**	**03 30 07.7**	**+0.3**
NOA	**NORSAR Array B**	**129.14**	**345**	PKP	**PKPdf**	**03 30 07.7**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=32,slow=2.0,SNR=6.1						
AKASG	**Malin Array Be**	**129.43**	**327**	PKP	**PKPdf**	**03 30 08.4**	**+0.2**
AKASG	**Malin Array Be**	**129.43**	**327**	PKP	**PKPdf**	**03 30 08.4**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=48,slow=2.7,SNR=6.6						
BR131	**Keskin Array B**	**131.45**	**312**	*e*PKPdf	**PKPdf**	**03 30 12.4**	**-0.1**
BRTR	**Keskin Array B**	**131.45**	**312**	PKP	**PKPdf**	**03 30 12.7**	**+0.1**
BRTR	**Keskin Array B**	**131.45**	**312**	PKP	**PKPdf**	**03 30 12.7**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=154,slow=5.6,SNR=6.1						
BUR08	**Bucovina Ar. S**	**133.32**	**325**	*e*PKPdf	**PKPdf**	**03 30 16.9**	**+1.1**
BDFB	**Brasilia**	**134.90**	**128**	PKP	**PKPdf**	**03 30 19.7**	**0.0**
BDFB	**Brasilia**	**134.90**	**128**	PKP	**PKPdf**	**03 30 19.7**	**0.0**
	comp=Z,3.0nm,0.7s,baz=58,slow=7.6,SNR=4.1						
MORC	**Moravsky Berou**	**135.86**	**332**	*e*PKPdf	**PKPdf**	**03 30 19.6**	**-0.8**
PSZ	**Piszkesteto**	**135.99**	**328**	*e*PKPdf	**PKPdf**	**03 30 18.5**	**-2.2**
TSUM	**Tsumeb**	**136.03**	**224**	*e*PKPdf	**PKPdf**	**03 30 21.8**	**0.0**
BRG	**Berggiesshubel**	**136.60**	**335**	*eP*	**PKPdf**	**03 30 23.9**	**+2.3**
	comp=Z,3.9nm,1.9s						
CSNA	**Conrad Observa**	**137.96**	**331**	*i*PKiKP	**PKiKP**	**03 30 26.7**	**+0.3**
	comp=Z,4.0nm,0.7s						
KHC	**Kasperske Hory**	**138.09**	**334**	*e*PKPdf	**PKPdf**	**03 30 26.5**	**+1.9**
GERES	**GERESS Array B**	**138.25**	**334**	PKP	**PKPdf**	**03 30 25.4**	**+0.5**
GERES	**GERESS Array B**	**138.25**	**334**	PKP	**PKPdf**	**03 30 25.4**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=48,slow=2.0,SNR=10						
MOTA	**Moosalm**	**140.52**	**334**	*i*PKiKP	**PKPdf**	**03 30 30.0**	**+0.8**
	comp=Z,2.0nm,0.5s						
DAVOX	**Davos/Dischmat**	**141.47**	**335**	PKPpre	PKPpre	03 30 26.1	
DAVOX	**Davos/Dischmat**	**141.47**	**335**	PKiKP	PKPpre	03 30 26.1	
	comp=Z,1.9nm,0.5s,baz=326,slow=7.3,SNR=4.1						
KEST	**Kesra**	**149.97**	**322**	*e*PKPbc	**PKPbc**	**03 30 50.7**	**-0.1**
KEST	**Kesra**	**149.97**	**322**	PKPbc	**PKPbc**	**03 30 51.5**	**+0.8**
	comp=Z,5.9nm,0.6s,baz=226,slow=0.2,SNR=21						
PBRG	**Braganca**	**151.02**	**351**	*eP*	**PKPbc**	**03 30 53.2**	**+0.2**
PGAV	**Gavieira, Arco**	**151.07**	**353**	*eP*	**PKPbc**	**03 30 53.8**	**+0.7**
POLO	**Lamas de Olo**	**151.59**	**352**	*eP*	**PKPbc**	**03 30 54.7**	**+0.3**
PVRL	**Vila Real**	**151.68**	**352**	*eP*	**PKPbc**	**03 30 55.4**	**+0.9**
MVO	**Moncorvo**	**151.69**	**351**	*eP*	**PKPbc**	**03 30 55.2**	**+0.7**
PVIS	**Viseu**	**152.25**	**352**	*eP*	**PKPbc**	**03 30 56.4**	**+0.6**
ESDC	**Sonseca Array**	**152.50**	**345**	PKPbc	**PKPbc**	**03 30 57.0**	**+0.6**
ESDC				PKPab	**PKPab**	**03 31 07.8**	**+0.2**
ESDC	**Sonseca Array**	**152.50**	**345**	PKPbc	**PKPbc**	**03 30 57.0**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=15,slow=3.2,SNR=23						
ESDC				PKPab	**PKPab**	**03 31 07.8**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=12,slow=4.0,SNR=6.9						
MTE	**Manteigas**	**152.51**	**351**	*eP*	**PKPbc**	**03 30 56.9**	**+0.5**
PCBR	**Castelo Branco**	**153.05**	**351**	*eP*	**PKPbc**	**03 30 58.6**	**+1.1**
PTOM	**Tomar**	**153.40**	**352**	*eP*	**PKPbc**	**03 30 59.4**	**+1.1**
PMRV	**Marv??o**	**153.44**	**351**	*eP*	**PKPbc**	**03 30 59.5**	**+1.1**
TOA0	**Torodi Ar. Sit**	**165.87**	**271**	*e*PKPdf	**PKPdf**	**03 31 05.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**165.87**	**271**	PKP	**PKPdf**	**03 31 04.8**	**-0.5**
TORD				PKPab	**PKPab**	**03 32 04.6**	**-1.8**
TORD	**Torodi Ar. Bea**	**165.87**	**271**	PKP	**PKPdf**	**03 31 04.8**	**-0.5**
	comp=Z,1.6nm,1.0s,baz=0.3,slow=1.3,SNR=6.6						
TORD				PKPab	**PKPab**	**03 32 04.6**	**-1.8**
	comp=Z,0.8nm,0.6s,baz=86,slow=4.4,SNR=10						

IDC ***13*** *03:11:25.3±0.8, 3.95N×126.57E, h0km, mb4.0/10, mb1 4.0/10, mb1mx3.9/22, mbtmp4.0/10, MS2.8/1, Ms1 2.8/1, ms1mx2.6/38, Error ellipse: s-maj=59.8km s-min=16.3km az=69.0*
ISCJB ***13*** *03:11:29.5±0.5, 3.9N±0.1×126.5E±0.2, h45km, mb4.0/15, Error ellipse: s-maj=37.5km s-min=10.3km az=159.1*
NEIC ***13*** *03:11:30.4±0.4, 3.95N×126.56E, h35km, mb4.4/5, Error ellipse: s-maj=30.1km s-min=8.5km az=70.0*

ISC 13 03:11:31.4±0.8, **3.9N**±0.1×**126.6E**±0.3, **h45**km, **n26,** σ0**68**/25, **mb4.1**/15, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.26**	**343**	LR	LR	03 13 40.5	
	comp=Z,148nm,18.3s,baz=148,slow=42						
WRAB	**Tennant Creek**	**24.93**	**162**	*eP*	**P**	**03 16 50.4**	**-0.1**
	5.1nm,0.8s						
WRA	**Warramunga Arr**	**24.93**	**162**	P	**P**	**03 16 50.7**	**+0.1**
WRA	**Warramunga Arr**	**24.93**	**162**	P	**P**	**03 16 50.7**	**+0.1**
	1.7nm,0.7s,baz=344,slow=10.0,SNR=6.0						
ASAR	**Alice Springs**	**28.35**	**166**	P	**P**	**03 17 21.1**	**-0.3**
ASAR	**Alice Springs**	**28.35**	**166**	P	**P**	**03 17 21.1**	**-0.3**
	0.2nm,0.3s,baz=351,slow=12,SNR=3.4						
STKA	**Stephens Creek**	**38.38**	**159**	P	**P**	**03 18 48.5**	**+0.1**
STKA	**Stephens Creek**	**38.38**	**159**	P	**P**	**03 18 48.5**	**+0.1**
	3.4nm,0.8s,baz=360,slow=8.4,SNR=3.1						
SONM	**Songino Array**	**47.05**	**342**	P	**P**	**03 19 59.3**	**+0.6**
SONM	**Songino Array**	**47.05**	**342**	P	**P**	**03 19 59.3**	**+0.6**
	0.3nm,0.6s,baz=167,slow=7.1,SNR=3.6						
TLY	**Talaya**	**51.28**	**342**	*eP*	**P**	**03 20 28.8**	**-2.1**
	4.3nm,0.8s						
PETK	**Petropavlovsk-**	**55.31**	**22**	P	**P**	**03 21 00.2**	**-0.1**
PETK	**Petropavlovsk-**	**55.31**	**22**	P	**P**	**03 21 00.2**	**-0.1**
	1.8nm,0.5s,baz=184,slow=5.3,SNR=4.2						
MK31	**Makanchi Array**	**57.29**	**325**	*eP*	**P**	**03 21 14.4**	**-0.3**
MKAR	**Makanchi Array**	**57.29**	**325**	P	**P**	**03 21 14.6**	**-0.1**
MKAR	**Makanchi Array**	**57.29**	**325**	P	**P**	**03 21 14.6**	**-0.1**
	0.8nm,0.5s,baz=123,slow=8.2,SNR=8.0						
ZALV	**Zalesovo Beam**	**60.33**	**333**	P	**P**	**03 21 34.9**	**-0.7**
ZALV	**Zalesovo Beam**	**60.33**	**333**	P	**P**	**03 21 34.9**	**-0.7**
	0.8nm,0.4s,baz=134,slow=7.3,SNR=5.4						
KURBB	**Kurchatov Arra**	**61.48**	**327**	P	**P**	**03 21 43.5**	**0.0**
	1.9nm,0.2s,baz=128,slow=7.1,SNR=3.3						
KURK	**Kurchatov**	**61.48**	**328**	*eP*	**P**	**03 21 44.1**	**+0.7**
	3.0nm,0.6s						
BVAR	**Borovoye Array**	**67.06**	**327**	P	**P**	**03 22 20.5**	**+0.6**
BVAR	**Borovoye Array**	**67.06**	**327**	P	**P**	**03 22 20.5**	**+0.6**
	0.6nm,0.7s,baz=132,slow=10,SNR=4.5						
ABKAR	**Akbulak array**	**71.88**	**321**	*eP*	**P**	**03 22 49.4**	**-0.4**
	0.5nm,0.6s						
AKTO	**Aktyubinsk**	**73.39**	**322**	P	**P**	**03 22 59

GALN	**Gameti Lake**	**12.56**	**223**	PN	**Pn**	**03**	**25**	**56.8 +1.0**
GALN				SN	**Sn**	**03**	**28**	**10.8 -4.7**
GALN				LG	Lg	03	29	31.7
GALN				Trac		03	29	38.2
	comp=Z,84nm,1.4s							
WHFN	**White Fish Lak**	**12.64**	**200**	PN	**Pn**	**03**	**25**	**57.1 +0.3**
WHFN				SN	**Sn**	**03**	**28**	**13.5 -3.9**
WHFN				LG	Lg	03	29	28.5
WHFN				Trac		03	29	35.4
	comp=Z,67nm,1.0s							
INK	**Inuvik**	**12.82**	**258**	PN	**Pn**	**03**	**26**	**00.2 +1.0**
INK				SN	**Sn**	**03**	**28**	**18.6 -3.2**
INK	**Inuvik**	**12.82**	**258**	Pn	**Pn**	**03**	**26**	**00.2 +1.0**
	0.4nm,0.3s,baz=50,slow=15,SNR=17							
INK				Sn	**Sn**	**03**	**28**	**16.9 -4.8**
	0.5nm,0.3s,baz=293,slow=23,SNR=6.2							
GDLN	**Gardenia Lake,**	**13.08**	**197**	PN	**Pn**	**03**	**26**	**02.7 -0.1**
GDLN				SN	Sn	03	28	19.8 -8.3
GDLN				LG	Lg	03	29	40.0
GDLN				Trac		03	29	55.8
	comp=Z,40nm,0.7s							
YKW3	**Yellowknife Ar**	**13.57**	**215**	PN	**Pn**	**03**	**26**	**09.4 0.0**
YKW3				SN	Sn	03	28	31.8 -8.2
YKW3				LG	Lg	03	29	55.6
YKW3				Trac		03	30	15.9
	comp=Z,38nm,0.8s							
YKA	**Yellowknife Ar**	**13.63**	**215**	Pn	**Pn**	**03**	**26**	**10.3 +0.1**
	0.7nm,0.3s,baz=20,slow=13,SNR=32							
YKA				Sn	Sn	03	28	33.7 -7.8
	0.8nm,0.3s,baz=22,slow=22,SNR=7.5							
YKA				Lg	Lg	03	30	01.6
	0.6nm,0.3s,baz=22,slow=26,SNR=6.5							
ARVN	**Arviat, NU**	**13.75**	**173**	PN	**Pn**	**03**	**26**	**12.9 +1.1**
ARVN				SN	**Sn**	**03**	**28**	**40.2 -4.0**
ARVN				LG	Lg	03	30	06.2
ARVN				Trac		03	30	14.7
	comp=Z,181nm,2.5s							
IVKQ	**Ivujivik**	**14.18**	**140**	PN	**Pn**	**03**	**26**	**18.6 +0.9**
IVKQ				SN	Sn	03	28	44.6 -10
IVKQ				LG	Lg	03	30	19.2
IVKQ				Trac		03	30	35.7
	comp=Z,18nm,0.8s							
FRB	**Frobisher Bay**	**14.85**	**122**	PN	Pn	03	26	23.1 -3.7
FRB				SN	Sn	03	28	57.9 -13
FRB				LG	Lg	03	30	32.4
FRB				Trac		03	31	01.5
	comp=Z,21nm,0.6s							
FRB	**Frobisher Bay**	**14.85**	**122**	Pn	Pn	03	26	22.1 -4.8
	0.1nm,0.3s,baz=302,slow=15,SNR=2.4							
FRB				Sn	Sn	03	29	00.7 -10
	0.7nm,0.3s,baz=67,slow=18,SNR=5.1							
FRB				Lg	Lg	03	30	34.4
	1.3nm,0.3s,baz=68,slow=19,SNR=12							
ILAR	**Eielson Array**	**19.01**	**265**	P	**Pn**	**03**	**27**	**23.1 +3.8**
	0.2nm,0.3s,baz=37,slow=10.0,SNR=25							
KUQ	**Kuujjuuaa**	**19.96**	**130**	PN	P	03	27	14.1 -15
KUQ				SN	S	03	30	53.2 -20
KUQ				LG	Lg	03	33	08.0
KUQ				Trac		03	33	29.9
	comp=Z,0.9nm,0.2s							
FFC	**Flin Flon**	**20.14**	**187**	PN	Pn	03	27	35.4 +2.5
FFC				SN	S	03	31	04.5 -12
FFC				LG	Lg	03	33	24.2
SCHQ	**Schefferville**	**23.34**	**131**	P	**P**	**03**	**28**	**08.1 +2.9**
	0.5nm,0.7s,baz=344,slow=15,SNR=2.4							

CSEM ***13*** *03:25:45.5, 38˚.55N×21˚.73E, h40km, MD2.9, After ATH*
ATH 13 03:25:45.5, 38˚.55N×21˚.73E, h40km±2km**, MD2.9/6, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
EFP	**Efpalio**	**0.18**	**132**	*e*P	Pn	03	25	53.5	+0.8
EFP				*e*S	Sn	03	25	58.2	+0.6
EFP	**Efpalio**	**0.18**	**132**	*e*P	Pn	03	25	53.5	+0.8
EFP				*e*S	Sn	03	25	58.3	+0.7
EVR	**Evrytania**	**0.37**	**10**	*e*P	Pn	03	25	55.3	+0.5
EVR				*e*S	Sn	03	26	01.5	+0.3
EVR	**Evrytania**	**0.37**	**10**	*e*P	Pn	03	25	55.3	+0.5
EVR				*e*S	Sn	03	26	01.5	+0.3
RLS	**Riolos of Patr**	**0.53**	**203**	*e*P	Pn	03	25	56.5	-0.2
RLS				*e*S	Sn	03	26	06.8	+2.2
RLS	**Riolos of Patr**	**0.53**	**203**	*e*P	Pn	03	25	56.5	-0.2
RLS				*e*S	Sn	03	26	06.8	+2.2
LKD2	**Lefkada island**	**0.87**	**286**	*e*P	Pn	03	26	01.7	+0.3
LKD2				*e*S	Sn	03	26	15.6	+2.7
LKD2	**Lefkada island**	**0.87**	**286**	*e*P	Pn	03	26	01.7	+0.3
LKD2				*e*S	Sn	03	26	15.6	+2.7
VLS	**Valsamata**	**0.97**	**248**	*e*P	Pn	03	26	03.7	+1.0
VLS				*e*S	Sn	03	26	17.9	+2.6
VLS	**Valsamata**	**0.97**	**248**	*e*P	Pn	03	26	03.7	+1.0
VLS				*e*S	Sn	03	26	17.9	+2.6
THL	**Klokotos Trika**	**1.04**	**12**	*e*P	Pn	03	26	05.3	+1.7
THL	**Klokotos Trika**	**1.04**	**12**	*e*P	Pn	03	26	05.3	+1.7
DID	**Didima**	**1.58**	**131**	*e*P	Pn	03	26	12.8	+1.7
DID	**Didima**	**1.58**	**131**	*e*P	Pn	03	26	12.8	+1.7

IDC ***13*** *03:28:50.2±0.4, 3˚.75N×126˚.43E, h0km, mb4.6/34, mb1 4.7/34, mb1mx4.7/35, mbtmp4.6/34, MS4.2/18, Ms1 4.2/18, ms1mx3.9/41, Error ellipse: s-maj=17.3km s-min=8.9km az=77.0*
MOS ***13*** *03:28:54.0±1.1, 3˚.81N×126˚.50E, h33km, mb5.1/42, MS4.3/4, Error ellipse: s-maj=12.2km s-min=5.7km az=112.3*
NEIC ***13*** *03:28:55.6±0.2, 3˚.75N×126˚.61E, h35km, mb5.0/57, Error ellipse: s-maj=8.6km s-min=4.3km az=71.0*
NEIC Felt [II] in the Kepulauan Talaud.
BJI ***13*** *03:28:55.9, 3˚.34N×126˚.77E, h86km, mB5.2/30, mb4.7/44, Ms4.6/32, Ms7 4.4/31*
ISCJB ***13*** *03:28:57.6±0.5, 3˚.81N±0˚.02×126˚.76E±0˚.04, h68km±4km, mb4.8/119, Error ellipse: s-maj=6.2km s-min=3.8km az=164.0*
DJA ***13*** *03:29:01, 3˚.73N×126˚.88E, h72km, mb5.0/43*
ISC 13 03:29:00.7±0.3, 3˚.71N±0˚.04×126˚.76E±0˚.05, h81km±2km**, n350, σ1§62/384, mb4.9**/116**, 16C-17D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
MNI	**Manado**	**2.96**	**220**	P	**Pn**	**03**	**29**	**47.2**	**+1.7**
GSPH	**General Santos**	**2.97**	**323**	‖*e*P	Pn	03	29	41.5	-4.3
TNTI	**Ternate**	**2.98**	**168**	P	**Pn**	**03**	**29**	**46.4**	**+0.6**
MATI	**Mati**	**3.25**	**351**	*e*P	**Pn**	**03**	**29**	**46.9**	**-2.7**
DAV	**Davao City (W)**	**3.54**	**341**	Pn	Pn	03	29	47.6	-5.8
DAV	**Davao City (W)**	**3.54**	**341**	P	Pn	03	29	59.6	+6.2
DAV	**Davao City (W)**	**3.54**	**341**	Pn	Pn	03	29	47.6	-5.8
	47nm,0.3s,baz=243,slow=4.5,SNR=1.7								
DMPH	**Davao City--Mi**	**3.57**	**340**	‖*e*P	**Pn**	**03**	**29**	**51.9**	**-2.0**
KCP	**Kidapawan**	**3.67**	**333**	‖*e*P	Pn	03	29	51.2	-4.1
KCP				*i* S	**Sn**	**03**	**30**	**40.3**	**+2.7**
KMSI	**Cibinong**	**4.17**	**222**	P	**Pn**	**03**	**30**	**03.5**	**+1.5**
CTBH	**Cotabato--PC H**	**4.29**	**324**	‖*i*P	Pn	03	29	58.7	-4.9
LBMI	**Labuha**	**4.38**	**170**	P	**Pn**	**03**	**30**	**05.9**	**+1.0**
CGP	**Cagayan de Oro**	**5.14**	**337**	‖*e*P	**Pn**	**03**	**30**	**16.0**	**+0.7**
BUTP	**Butuan**	**5.34**	**348**	*e*P	**Pn**	**03**	**30**	**15.3**	**-2.7**
MRSI	**Marisa**	**5.79**	**236**	P	**Pn**	**03**	**30**	**24.4**	**+0.4**
	626nm,0.7s,6μm2.0nm								
LUWI	**Luwuk**	**6.18**	**220**	P	Pn	03	30	39.2	+10
SWI	**Sorong**	**6.39**	**135**	P	**Pn**	**03**	**30**	**30.0**	**-2.3**
	125nm,1.3s,2μm0.5nm								
MSLP	**Maasin**	**6.66**	**344**	*e*P	**Pn**	**03**	**30**	**38.9**	**+3.0**
NLAI	**Namlea**	**6.91**	**177**	P	**Pn**	**03**	**30**	**38.8**	**-0.6**
	117nm,0.7s,4μm1.0nm								
GUIM	**Jordan**	**8.02**	**329**	*e*P	Pn	03	30	45.1	-9.4
MYLDM	**Lahad Datu**	**8.36**	**280**	P	**Pn**	**03**	**31**	**00.8**	**+1.6**
	262nm,1.0s,3μm1.0nm								
KDI	**Kendari**	**8.67**	**209**	P	**Pn**	**03**	**31**	**01.5**	**-1.9**
	36nm,1.2s,1μm0.3nm								
SPSI	**Sidrap Palu**	**10.34**	**223**	P	Pn	03	31	33.5	+7.3
KKM	**Kota Kinabalu**	**10.76**	**283**	*e*Pn	**Pn**	**03**	**31**	**32.3**	**+0.3**
KKM	**Kota Kinabalu**	**10.76**	**283**	P	**Pn**	**03**	**31**	**33.3**	**+1.3**
	61nm,1.5s,1μm								
TLE	**Tual**	**11.04**	**147**	P	Pn	03	31	45.7	+10
KAPI	**Kappang**	**11.14**	**219**	*e*Pn	**Pn**	**03**	**31**	**37.9**	**+0.8**
KBKI	**Kotabaru**	**12.67**	**237**	P	P	03	32	09.5	+3.5
SMPI	**Sarmi**	**13.22**	**115**	P	**Pn**	**03**	**32**	**05.4**	**+0.2**
	101nm,0.8s								
BBKI	**Banjar Baru**	**13.88**	**239**	P	**P**	**03**	**32**	**18.3**	**-1.1**
	140nm,2.0s,4μm								
SBUM	**Sibu**	**14.57**	**265**	P	**Pn**	**03**	**32**	**24.4**	**+1.5**
	61nm,0.9s,793nm								
JAY	**Jayapura**	**15.25**	**114**	P	**P**	**03**	**32**	**34.8**	**0.0**
	64nm,0.8s,4μm								
STKI	**Sintang**	**15.69**	**257**	P	**P**	**03**	**32**	**42.2**	**+2.6**
	68nm,0.9s								
KHKI	**Kahang-Kahang**	**16.36**	**223**	P	**P**	**03**	**32**	**48.5**	**+1.5**
	135nm,0.8s,2μm								
KSM	**Kuching**	**16.58**	**263**	*e*Pn	**P**	**03**	**32**	**50.1**	**+0.7**
	51nm,0.8s								
KSM	**Kuching**	**16.58**	**263**	P	**P**	**03**	**32**	**50.0**	**+0.5**
	72nm,0.8s,887nm								
BLJI	**Banyuglugur**	**17.38**	**229**	P	P	03	33	04.5	+6.3
GRJI	**Gresik**	**17.73**	**234**	P	Pn	03	33	09.3	+6.9
GMJI	**Gumukmas**	**17.83**	**228**	P	Pn	03	33	08.5	+4.9
	114nm,1.0s								
SJI	**Sawahan**	**18.79**	**233**	P	**P**	**03**	**33**	**14.0**	**+0.1**
	60nm,1.2s,7μm								
TWG	**Pinlang**	**19.78**	**344**	*e*P	**P**	**03**	**33**	**24.0**	**-0.5**
	40nm,0.8s								
YULB	**Yu-li**	**20.27**	**345**	*e*P	**P**	**03**	**33**	**26.1**	**-3.7**
	24nm,0.8s								
TPUB	**Ta-pu**	**20.36**	**344**	*e*P	**P**	**03**	**33**	**27.9**	**-2.9**
	76nm,0.5s								
GUMO	**Guam**	**20.40**	**60**	LR	LR	03	39	46.2	
	comp=Z,573nm,21.5s,baz=277,slow=32								
TGJI	**Tegal**	**20.50**	**239**	P	**P**	**03**	**33**	**33.0**	**+0.6**
	52nm,0.9s								
SSLB	**Suanglung**	**20.73**	**345**	*e*P	**P**	**03**	**33**	**33.2**	**-1.7**
	41nm,0.6s								
PPBI	**Pangkal Pinang**	**21.42**	**255**	P	P	03	33	48.5	+6.2
YHNB	**Yeheng**	**21.47**	**347**	*e*P	**P**	**03**	**33**	**42.0**	**-0.8**
	25nm,0.7s								
FITZ	**Fitzroy Crossi**	**21.70**	**183**	*e*P	**P**	**03**	**33**	**44.5**	**-0.6**
	20nm,0.7s								
FITZ	**Fitzroy Crossi**	**21.70**	**183**	*e*P	**P**	**03**	**33**	**43.6**	**-1.6**
	40nm,0.6s								
FITZ	**Fitzroy Crossi**	**21.70**	**183**	P	**P**	**03**	**33**	**43.4**	**-1.8**
	13nm,0.6s,baz=18,slow=10,SNR=31								
TATO	**Taipei**	**21.74**	**347**	*e*P	**P**	**03**	**33**	**46.1**	**+0.6**
	86nm,0.8s								
LEM	**Lembang**	**21.79**	**241**	P	**P**	**03**	**33**	**49.0**	**+2.7**
	90nm,0.8s								
CBJI	**Citeko**	**22.28**	**243**	P	**P**	**03**	**33**	**54.4**	**+2.9**
	281nm,0.8s								
QIZ	**Qiongzhong**	**22.47**	**314**	P	**P**	**03**	**33**	**53.5**	**0.0**
QIZ				*p*P	**pP**	**03**	**34**	**09.5**	**-0.5**
QIZ				*s*P	**sP**	**03**	**34**	**19.8**	**-0.3**
QIZ				S	**S**	**03**	**37**	**55.8**	**+1.0**
QIZ				pmax	pmax				
	comp=Z,17nm,1.9s								
QIZ				LR	LR				
	comp=N,410nm,18.9s								
QIZ				LR	LR				
	comp=Z,610nm,21.3s								
QIZ	**Qiongzhong**	**22.47**	**314**	*e*P	**P**	**03**	**33**	**53.5**	**0.0**
	comp=Z,28nm,1.1s								
QZH	**Quanzhou**	**22.53**	**340**	P	P	03	34	06.0	+12
QZH				S	Sn	03	38	06.3	-8.3
QZH				LR	LR				
	comp=Z,2μm,22.8s								
MYKOM	**Kota Tinggi**	**22.96**	**266**	P	**P**	**03**	**33**	**59.6**	**+1.0**
	comp=Z,30nm,0.7s								
CGJI	**Cibinong**	**23.40**	**244**	P	**P**	**03**	**34**	**03.5**	**+0.8**
	comp=Z,141nm,0.7s,comp=Z,2μm								
COEN	**Coen**	**23.95**	**137**	*e*P	**P**	**03**	**34**	**05.5**	**-2.1**
	comp=Z,180nm,1.4s								
KASI	**Kota Agung**	**24.05**	**248**	P	**P**	**03**	**34**	**12.2**	**+3.6**
	comp=Z,83nm,1.0s								
PMG	**Port Moresby**	**24.15**	**123**	*e*P	**P**	**03**	**34**	**08.0**	**-1.4**
LWLI	**Liwa**	**24.28**	**249**	P	P	03	34	26.7	+16
WRAB	**Tennant Creek**	**24.65**	**163**	*e*P	**P**	**03**	**34**	**13.9**	**0.0**
WRAB				pmax	pmax				
	comp=Z,69nm,0.7s								
WRAB	**Tennant Creek**	**24.65**	**163**	*e*P	**P**	**03**	**34**	**13.9**	**0.0**
	comp=Z,69nm,0.7s								
WRAB	**Tennant Creek**	**24.65**	**163**	P	**P**	**03**	**34**	**14.0**	**0.0**
	comp=Z,577nm,0.7s,SNR=25								
WRA	**Warramunga Arr**	**24.66**	**163**	P	**P**	**03**	**34**	**13.6**	**-0.4**
WRA	**Warramunga Arr**	**24.66**	**163**	P	**P**	**03**	**34**	**13.6**	**-0.4**
	comp=Z,69nm,0.5s,baz=34,slow=0.0,SNR=8.2								
MBWA	**Marble Bar**	**25.66**	**195**	*e*P	**P**	**03**	**34**	**23.6**	**+0.5**
	comp=Z,35nm,1.0s								
IPM	**Ipoh**	**25.68**	**273**	*e*P	**P**	**03**	**34**	**22.7**	**-0.8**
	comp=Z,27nm,1.0s								
IPM	**Ipoh**	**25.68**	**273**	P	P	03	34	28.9	+5.5
	comp=Z,30nm,1.6s								
PPI	**Padang Panjang**	**26.67**	**262**	P	P	03	34	43.3	+11
MNSI	**Mandailing Nat**	**27.31**	**265**	P	P	03	34	47.1	+9.0
	comp=Z,43nm,0.9s,comp=Z,4μm								
CBIJ	**Chichi jima**	**27.54**	**31**	LR	LR	03	44	30.1	
	comp=Z,520nm,18.8s,baz=239,slow=34								
SSE	**Sheshan**	**27.74**	**350**	P	**P**	**03**	**34**	**39.8**	**-1.9**
SSE				S	**S**	**03**	**39**	**18.0**	**-0.5**
SSE				pmax	pmax				
	comp=Z,51nm,0.7s								
SSE				pmax	pmax				
	comp=Z,270nm,4.3s								
SSE				LR	LR				
	comp=N,480nm,18.2s								
SSE				LR	LR				
	comp=E,280nm,18.2s								
SSE				LR	LR				
	comp=Z,660nm,17.6s								
PSI	**Prapat**	**27.80**	**269**	P	**P**	**03**	**34**	**38.6**	**-4.0**
PSI	**Prapat**	**27.80**	**269**	P	**P**	**03**	**34**	**43.2**	**+0.6**
	comp=Z,13nm,0.9s								
PSI	**Prapat**	**27.80**	**269**	P	**P**	**03**	**34**	**38.6**	**-4.0**
	comp=Z,10.0nm,0.8s,baz=116,slow=4.8,SNR=7.5								
AS31	**Alice Springs**	**28.09**	**166**	*e*P	**P**	**03**	**34**	**45.0**	**0.0**
ASAR	**Alice Springs**	**28.09**	**166**	P	**P**	**03**	**34**	**44.8**	**-0.1**
ASAR				PcP	**PcP**	**03**	**37**	**59.0**	**+1.3**
ASAR				S	S	03	39	31.4	+7.2
ASAR				ScP	ScP	03	41	39.2	+7.6
ASAR	**Alice Springs**	**28.09**	**166**	P	**P**	**03**	**34**	**44.8**	**-0.1**
	comp=Z,2.2nm,0.4s,baz=350,slow=7.0,SNR=41								
ASAR				PcP	**PcP**	**03**	**37**	**59.0**	**+1.3**
	comp=Z,2.5nm,0.6s,baz=332,slow=1.5,SNR=4.6								
ASAR				S	S	03	39	31.4	+7.2
	comp=Z,2.6nm,1.0s,baz=353,slow=22,SNR=4.8								
ASAR				ScP	ScP	03	41	39.2	+7.6
	comp=Z,1.4nm,0.8s,baz=318,slow=2.1,SNR=4.4								
WHN	**Wuhan**	**29.15**	**338**	P	P	03	35	03.3	+9.1
WHN				*e*S	S	03	39	53.3	+13
WHN				LR	LR				
	comp=Z,2μm,20.9s								
NJ2	**Nanjing**	**29.16**	**346**	*e*P	**P**	**03**	**34**	**53.8**	**-0.5**
NJ2				*p*P	**pP**	**03**	**35**	**10.4**	**-2.6**
NJ2				*s*P	**sP**	**03**	**35**	**21.9**	**-0.6**
NJ2				S	**S**	**03**	**39**	**41.0**	**+0.3**
NJ2				sS	**sS**	**03**	**40**	**14.0**	**+0.9**
NJ2				pmax	pmax				
	comp=Z,20nm,1.0s								
NJ2				pmax	pmax				
	comp=Z,290nm,4.0s								
NJ2				LR	LR				
	comp=N,850nm,20.4s								
NJ2				LR	LR				
	comp=E,1μm,23.6s								
NJ2				LR	LR				
	comp=Z,550nm,16.1s								
GSI	**Gunungsitoli**	**29.25**	**266**	P	**P**	**03**	**34**	**54.5**	**-0.9**
JNU	**Nakatsue**	**29.51**	**7**	P	**P**	**03**	**34**	**58.2**	**+0.8**
JNU	**Nakatsue**	**29.51**	**7**	P	**P**	**03**	**34**	**58.2**	**+0.8**
	comp=Z,13nm,0.7s,baz=52,slow=18,SNR=3.1								
GYA	**Guiyang**	**29.70**	**322**	P	**P**	**03**	**35**	**01.0**	**+1.7**
GYA				*p*P	**pP**	**03**	**35**	**20.8**	**+2.6**
GYA				*s*P	**sP**	**03**	**35**	**31.3**	**+3.7**
GYA				PcP	**PcP**	**03**	**38**	**02.5**	**+0.6**
GYA				S	**S**	**03**	**39**	**50.9**	**+1.2**
GYA				SS	**SnSn**	**03**	**41**	**30.8**	**+3.6**
GYA				ScP	**ScP**	**03**	**41**	**35.0**	**-1.8**
GYA				ScS	**ScS**	**03**	**45**	**29.9**	**-2.2**
GYA				pmax	pmax				
	comp=Z,30nm,0.8s								
GYA				pmax	pmax				
	comp=Z,120nm,4.9s								
GYA				LR	LR				
	comp=N,550nm,17.1s								
GYA				LR	LR				
	comp=E,490nm,18.6s								
GYA				LR	LR				
	comp=Z,510nm,17.7s								
CTA	**Charters Tower**	**30.43**	**142**	P	**P**	**03**	**35**	**08.7**	**+2.9**
CTA	**Charters Tower**	**30.43**	**142**	*e*P	**P**	**03**	**35**	**07.0**	**+1.3**
	comp=Z,5.1nm,0.8s								
CTA	**Charters Tower**	**30.43**	**142**	P	**P**	**03**	**35**	**08.7**	**+2.9**
	comp=Z,5.0nm,0.8s,baz=338,slow=10,SNR=4.8								
CTAO	**Charters Tower**	**30.43**	**142**	*e*P	**P**	**03**	**35**	**06.3**	**+0.6**
CTAO				pmax	pmax				
	comp=Z,9.0nm,1.0s								
CTAO	**Charters Tower**	**30.43**	**142**	*e*P	**P**	**03**	**35**	**06.3**	**+0.6**
	comp=Z,9.1nm,1.0s								
CMAR	**Chiang Mai Arr**	**30.91**	**300**	P	**P**	**03**	**35**	**07.2**	**-2.8**
CMAR	**Chiang Mai Arr**	**30.91**	**300**	P	**P**	**03**	**35**	**07.2**	**-2.8**
	comp=Z,1.2nm,0.4s,baz=122,slow=6.8,SNR=5.7								
CHTO	**Chiang Mai**	**31.06**	**301**	*e*P	**P**	**03**	**35**	**10.4**	**-0.9**
CHTO				pmax	pmax				
	comp=Z,14nm,0.8s								
CHTO	**Chiang Mai**	**31.06**	**301**	*e*P	**P**	**03**	**35**	**10.4**	**-0.9**
	comp=Z,14nm,0.8s								
CHTO	**Chiang Mai**	**31.06**	**301**	P	**P**	**03**	**35**	**12.6**	**+1.3**
	comp=Z,20nm,1.1s								
ENH	**Enshi**	**31.06**	**330**	*e*P	**P**	**03**	**35**	**08.5**	**-2.7**
	comp=Z,25nm,0.9s								
MEEK	**Meekatharra**	**31.18**	**194**	*e*P	**P**	**03**	**35**	**12.5**	**+0.2**
	comp=Z,176nm,0.8s								
KMI	**Kunming**	**31.41**	**315**	P	**P**	**03**	**35**	**16.1**	**+1.5**
KMI				pmax	pmax				
	comp=Z,6.0nm,0.6s								
KMI				LR	LR				
	comp=N,270nm,20.6s								
KMI				LR	LR				
	comp=E,410nm,22.4s								
KMI				LR	LR				
	comp=Z,590nm,23.2s								
JHJ	**Hachijo jima 2**	**31.69**	**21**	LR	LR	03	47	20.2	
	comp=Z,543nm,19.2s,baz=97,slow=35								
KSAR	**Wonju Array Be**	**33.59**	**2**	P	**P**	**03**	**35**	**33.0**	**-0.2**
KSAR				PcP	**PcP**	**03**	**38**	**13.3**	**+1.4**
KSRS	**Korea Array**	**33.60**	**2**	P	**P**	**03**	**35**	**33.0**	**-0.3**
	comp=Z,7.3nm,0.7s,baz=178,slow=9.7,SNR=21								
KSRS				PcP	**PcP**	**03**	**38**	**13.3**	**+1.4**
	comp=Z,1.6nm,0.8s,baz=181,slow=4.3,SNR=4.3								
FORT	**Forrest**	**34.32**	**178**	*e*P	**P**	**03**	**35**	**39.4**	**-0.2**
	comp=Z,27nm,0.7s								
FORT	**Forrest**	**34.32**	**178**	*e*P	**P**	**03**	**35**	**38.8**	**-0.8**
	comp=Z,29nm,0.8s								
MJAR	**Matsushiro Arr**	**34.33**	**16**	P	**P**	**03**	**35**	**37.5**	**-2.2**
MJAR	**Matsushiro Arr**	**34.33**	**16**	P	**P**	**03**	**35**	**37.5**	**-2.2**
	comp=Z,2.6nm,0.7s,baz=189,slow=11,SNR=7.1								
MJAR				LR	LR	03	47	00.1	
	comp=Z,398nm,21.1s,baz=200,slow=32								
MAJO	**Matsushiro**	**34.33**	**16**	*e*P	**P**	**03**	**35**	**39.4**	**-0.3**
MAJO				pmax	pmax				
	comp=Z,8.0nm,0.8s								
MAJO	**Matsushiro**	**34.33**	**16**	*e*P	**P**	**03**	**35**	**39.4**	**-0.3**
	comp=Z,7.9nm,0.8s								
MAT	**Matsushiro**	**34.33**	**16**	P	**P**	**03**	**35**	**39.2**	**-0.5**
XAN	**Xi'an**	**34.45**	**333**	P	P	03	35	37.4	-3.3
XAN				S	S	03	40	55.5	-7.8
XAN				pmax	pmax				
	comp=Z,5.0nm,0.7s								
XAN				LR	LR				
	comp=N,280nm,16.9s								
XAN				LR	LR				
	comp=E,140nm,16.2s								
XAN				LR	LR				
	comp=Z,130nm,17.8s								
CD2	**Chengdu**	**34.68**	**324**	P	**P**	**03**	**35**	**42.0**	**-0.8**
CD2				PcP	**PcP**	**03**	**38**	**15.6**	**+0.3**
CD2				S	**S**	**03**	**41**	**08.9**	**+2.0**
CD2				PcS	**PcS**	**03**	**42**	**01.0**	**-1.1**
CD2				pmax	pmax				
	comp=Z,20nm,0.5s								
CD2				pmax	pmax				
	comp=Z,250nm,5.5s								
HNR	**Honiara**	**35.56**	**112**	LR	LR	03	49	08.5	
	comp=Z,232nm,19.7s,baz=296,slow=34								
KLBR	**Kellerberrin**	**36.14**	**193**	*e*P	**P**	**03**	**35**	**55.5**	**+0.3**
	comp=Z,123nm,1.7s								
EIDS	**Eidsvold**	**37.32**	**142**	*e*P	**P**	**03**	**36**	**05.4**	**+0.1**
	comp=Z,21nm,0.9s								
BBOO	**Buckleboo**	**37.38**	**167**	*e*P	**P**	**03**	**36**	**06.2**	**+0.5**
	comp=Z,3μm,2.4s								
BBOO	**Buckleboo**	**37.38**	**167**	*e*P	**P**	**03**	**36**	**05.7**	**0.0**
	comp=

MDJ LR LR
comp=N,130nm,29.8s
MDJ LR LR
comp=E,110nm,30.8s
MDJ LR LR
comp=Z,210nm,27.7s
MDJ Mudanjiang 40.81 3 *e*P **P 03 36 33.6 -0.6**
comp=Z,33nm,1.1s
ARMA Armidale 41.44 147 *e*P **P 03 36 40.4 +0.7**
LSA Lhasa 42.47 311 *e*P **P 03 36 47.5 -1.1**
LSA pmax pmax
comp=Z,15nm,0.6s
LSA Lhasa 42.47 311 *e*P **P 03 36 47.5 -1.1**
comp=Z,15nm,0.6s
ASAJ Asahikawa 42.60 17 *e*P **P 03 36 49.5 +0.7**
comp=Z,7.6nm,0.9s
ASAJ Asahikawa 42.60 17 P **P 03 36 48.7 -0.2**
comp=Z,8.8nm,0.7s,baz=268,slow=13,SNR=5.8
ARPS Mount Arapiles 42.66 162 *e*P **P 03 36 50.6 +1.2**
comp=Z,55nm,0.8s
GTA Gaotai 43.13 329 *e*P **P 03 36 51.9 -1.4**
GTA pP **pP 03 37 10.1 -2.8**
GTA sP **sP 03 37 19.6 -2.6**
GTA S **S 03 43 15.3 +1.4**
GTA sS **sS 03 43 48.8 +1.5**
GTA SS **SS 03 46 24.3 -5.1**
GTA pmax pmax
comp=Z,3.0nm,0.6s
GTA pmax pmax
comp=Z,120nm,5.9s
GTA LR LR
comp=N,460nm,19.2s
GTA LR LR
comp=E,350nm,17.6s
GTA LR LR
comp=Z,680nm,20.7s
TAPN Taplejung 44.05 306 *e*P **P 03 36 58.8 -2.3**
comp=Z,27nm,0.7s
CAN Canberra 44.08 154 *e*P **P 03 37 02.6 +1.7**
CAN pmax pmax
comp=Z,19nm,0.9s
CAN Canberra 44.08 154 *e*P **P 03 37 02.6 +1.7**
comp=Z,19nm,0.9s
CAN Canberra 44.08 154 *e*P **P 03 37 02.9 +2.0**
comp=Z,8.5nm,0.6s
ODAN Odare 44.10 305 *e*P **P 03 36 59.4 -2.1**
comp=Z,46nm,0.7s
RAMN Ramite 44.78 305 *e*P **P 03 37 04.8 -2.1**
comp=Z,37nm,0.7s
YSS Yuzh-Sakhalins 45.25 15 *e*P P 03 37 17.2 +7.2
JIRN Jiri 45.41 306 *e*P **P 03 37 10.0 -2.0**
comp=Z,11nm,0.7s
KLR Kul'dur 45.55 5 *e*P **P 03 37 10.8 -1.5**
GUN Gumba 45.76 306 *e*P **P 03 37 12.2 -2.6**
comp=Z,44nm,0.6s
HIA Hailar 45.78 354 *e*P **P 03 37 13.7 -0.5**
comp=Z,12nm,0.7s
PKI Pulchoki 46.00 305 *e*P **P 03 37 14.3 -2.4**
KKN Kakani 46.20 306 *e*P **P 03 37 15.5 -2.5**
comp=Z,12nm,0.5s
DMN Daman 46.27 305 *e*P **P 03 37 16.9 -1.7**
comp=Z,31nm,0.8s
DZM Mont Dzumac 46.50 125 *e*P **P 03 37 20.4 +0.1**
comp=Z,15nm,0.9s
DZM Mont Dzumac 46.50 125 P **P 03 37 21.8 +1.4**
comp=Z,6.4nm,0.9s,baz=321,slow=4.8,SNR=5.2
GKN Gorkha 46.80 306 *e*P **P 03 37 20.7 -2.0**
comp=Z,16nm,0.4s
ULN Ulaanbaatar 47.15 342 *e*P **P 03 37 24.1 -0.9**
comp=Z,14nm,1.0s
ULN *e*PcP **PcP 03 38 54.9 -0.6**
ULN Ulaanbaatar 47.15 342 P **P 03 37 25.8 +0.7**
comp=Z,9.0nm,0.7s
SONM Songino Array 47.33 341 P **P 03 37 24.5 -1.9**
SONM PcP **PcP 03 38 56.5 +0.3**
SONM Songino Array 47.33 341 P **P 03 37 24.5 -1.9**
comp=Z,4.3nm,0.6s,baz=160,slow=8.9,SNR=12
SONM PcP **PcP 03 38 56.5 +0.3**
comp=Z,2.3nm,0.7s,baz=145,slow=3.7,SNR=3.2
SONM LR LR 03 58 58.0
comp=Z,194nm,20.4s,baz=154,slow=38
KOLN Koldanda 47.56 305 *e*P **P 03 37 26.3 -2.4**
comp=Z,55nm,0.7s
DANN Dangsing 47.65 306 *e*P **P 03 37 26.9 -2.6**
comp=Z,85nm,0.7s
HYB Hyderabad 49.15 290 *i* P **P 03 37 41.5 +0.7**
ZAK Zakamensk 50.55 341 *e*P **P 03 37 49.3 -1.7**
ZAK *e* 03 39 08.6
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 51.56 342 *e*P **P 03 37 58.8 +0.4**
TLY *e* 03 40 01.9
TLY *e*S **S 03 45 16.6 +3.7**
TLY *e*SS **SS 03 48 53.0 +2.9**
TLY pmax pmax
comp=Z,18nm,0.9s
TLY MLR MLR
comp=Z,141nm,20.0s
TLY Talaya 51.56 342 *e*P **P 03 37 58.5 0.0**
comp=Z,17nm,0.9s
MOY Mondy 52.41 340 *e*P **P 03 38 04.0 -0.9**
WMQ Urumqi 52.76 325 *e*P **P 03 38 08.6 +1.1**
WMQ pP **pP 03 38 28.0 +0.3**
WMQ sP **sP 03 38 37.0 +0.2**
WMQ PP **PP 03 40 09.0 +1.4**
WMQ *e*S **S 03 45 31.0 +1.3**
WMQ pmax pmax
comp=Z,8.0nm,0.8s
WMQ pmax pmax
comp=Z,250nm,5.6s
WMQ LR LR
comp=N,1μm,18.8s
WMQ LR LR
comp=E,740nm,16.5s
WMQ LR LR
comp=Z,910nm,23.0s
CLNS Chul'man 53.00 359 *e*P P 03 38 05.6 -3.4
CLNS pmax pmax
comp=Z,16nm,0.8s
CLNS pmax pmax
comp=E,8.0nm,0.8s
CLNS pmax pmax
comp=N,8.0nm,1.1s
POO Poona 53.75 290 *e*PKP **P 03 38 13.0 -2.2**
BOD Bodaibo 54.89 352 *e*P **P 03 38 21.3 -1.4**
BOD pmax pmax
comp=Z,10.0nm,1.4s
PETK Petropavlovsk- 55.44 22 P **P 03 38 27.4 +0.6**
PETK Petropavlovsk- 55.44 22 P **P 03 38 27.4 +0.6**
PETK Petropavlovsk- 55.44 22 P **P 03 38 27.4 +0.6**
comp=Z,4.6nm,0.6s,baz=189,slow=5.7,SNR=7.1
PETK LR LR 03 58 25.0
comp=Z,116nm,21.8s,baz=219,slow=32
MK31 Makanchi Array 57.59 325 *e*P **P 03 38 40.0 -2.2**
MK31 pmax pmax
comp=Z,5.0nm,0.4s
MK31 Makanchi Array 57.59 325 *e*P **P 03 38 40.1 -2.1**
MKAR Makanchi Array 57.59 325 *ce*P **P 03 38 40.2 -2.0**
MKAR pmax pmax
comp=Z,5.0nm,0.4s
MKAR Makanchi Array 57.59 325 P **P 03 38 40.2 -2.0**
MKAR ScP ScP 03 43 35.9 +8.4
MKAR Makanchi Array 57.59 325 P **P 03 38 40.2 -2.0**
comp=Z,4.6nm,0.4s,baz=121,slow=8.4,SNR=57
MKAR ScP ScP 03 43 35.9 +8.4
comp=Z,1.2nm,0.7s,baz=119,slow=4.7,SNR=4.8
MKAR LR LR 04 05 28.2
comp=Z,252nm,18.1s,baz=115,slow=38
KSH Kashi 58.08 315 *e*P **P 03 38 47.9 +2.0**
KSH pP **pP 03 39 07.1 +0.7**
KSH sP **sP 03 39 16.8 +1.4**
KSH PcP **PcP 03 39 38.1 +1.2**
KSH PP **PP 03 41 00.1 +4.7**
KSH ScP **ScP 03 43 30.8 +0.8**
KSH PcS **PcS 03 43 38.1 -0.4**
KSH S **S 03 46 43.5 +2.5**
KSH sS **sS 03 47 16.8 +0.9**
KSH ScS **ScS 03 48 26.9 -1.4**
KSH SS **SS 03 50 38.1 +4.5**
KSH LR LR
comp=N,200nm,5.3s
KSH LR LR
comp=E,140nm,5.5s
KSH LR LR
comp=Z,230nm,6.7s
YAK Yakutsk 58.23 2 *e*P **P 03 38 46.5 +0.2**
YAK pmax pmax
comp=N,11nm,1.3s
YAK pmax pmax
comp=Z,38nm,0.8s
YAK Yakutsk 58.23 2 *e*P **P 03 38 45.2 -1.1**
comp=Z,45nm,0.6s
TKM2 Tokmak 2 59.78 319 *e*P **P 03 38 56.3 -1.4**
TKM2 pmax pmax
comp=Z,24nm,0.6s
TKM2 Tokmak 2 59.78 319 *e*P **P 03 38 56.3 -1.4**
comp=Z,24nm,0.6s
AAK Ala-Archa 60.39 318 *e*P **P 03 39 01.3 -0.5**
AAK pmax pmax
comp=Z,22nm,1.7s
AAK Ala-Archa 60.39 318 *e*P **P 03 39 01.3 -0.5**
comp=Z,44nm,1.1s
AAK Ala-Archa 60.39 318 P **P 03 39 01.1 -0.7**
comp=Z,1.2nm,0.5s,baz=186,slow=8.8,SNR=3.6
ZAA0 Zalesovo Array 60.62 333 *e*P **P 03 39 00.3 -2.7**
ZALV Zalesovo Beam 60.62 333 P **P 03 39 00.3 -2.6**
ZALV Zalesovo Beam 60.62 333 P **P 03 39 00.3 -2.6**
ZALV Zalesovo Beam 60.62 333 P **P 03 39 00.3 -2.6**
comp=Z,4.6nm,0.5s,baz=132,slow=6.7,SNR=30
ZALV LR LR 04 06 51.3
comp=Z,220nm,19.5s,baz=174,slow=38
EKS2 Erkin-Say 60.88 318 *e*P **P 03 39 04.6 -0.5**
EKS2 pmax pmax
comp=Z,13nm,1.1s
EKS2 Erkin-Say 60.88 318 *e*P **P 03 39 04.6 -0.5**
comp=Z,13nm,1.1s
KURBB Kurchatov Arra 61.77 327 P **P 03 39 09.4 -1.4**
comp=Z,7.1nm,0.6s,baz=124,slow=6.6,SNR=26
KURK Kurchatov 61.77 327 *ce*P **P 03 39 10.6 -0.2**
KURK pmax pmax
comp=Z,14nm,0.7s
KURK Kurchatov 61.77 327 *e*P **P 03 39 09.5 -1.3**
comp=Z,21nm,0.8s
KURK Kurchatov 61.77 327 P **P 03 39 09.9 -0.9**
comp=Z,180nm,0.7s,SNR=11
NVS Novosibirsk 61.90 333 *e*P **P 03 39 09.0 -2.6**
NVS *e*S **S 03 47 27.1 -2.0**
NVS *e* 03 48 54.3
NVS pmax pmax
comp=Z,12nm,1.0s
NVS pmax pmax
comp=N,5.0nm,0.7s
NVS pmax pmax
comp=E,6.0nm,0.7s
NVS smax smax
comp=N,9.0nm,1.6s
NVS smax smax
comp=E,12nm,1.8s
SEY Seymchan 62.05 13 *ce*P P 03 39 08.1 -4.3
KKAR Karatay Array 63.27 317 *e*P **P 03 39 19.8 -1.1**
KKAR pmax pmax
comp=Z,14nm,1.0s
KKAR Karatay Array 63.27 317 *e*P **P 03 39 19.8 -1.1**
comp=Z,14nm,1.0s
VOSK Vostochnaya 66.90 327 P **P 03 39 42.0 -2.3**
VOSK pmax pmax
comp=Z,9.0nm,0.7s
BRVK Borovoye 67.42 327 *ce*P **P 03 39 47.3 -0.3**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 67.42 327 *e*P **P 03 39 46.5 -1.1**
comp=Z,21nm,0.9s
BRVK Borovoye 67.42 327 P **P 03 39 46.1 -1.5**
comp=Z,130nm,1.0s,SNR=6.3
ZRNK Zerenda 68.08 327 P **P 03 39 50.2 -1.5**
ZRNK pmax pmax
comp=Z,16nm,0.8s
BILL Bilibino 69.56 15 *e*P **P 03 40 00.2 -0.4**
BILL *i* 03 40 21.9
BILL *e* 03 42 31.9
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL MLR MLR
comp=Z,100nm,17.0s
BILL Bilibino 69.56 15 *e*P **P 03 40 00.1 -0.6**
AB31 Akbulak array 72.18 321 *i* P **P 03 40 15.2 -1.7**
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 72.18 321 *e*P **P 03 40 14.9 -1.9**
comp=Z,9.1nm,0.9s
AKTO Aktyubinsk 73.69 322 P **P 03 40 25.2 -0.6**
AKTO Aktyubinsk 73.69 322 P **P 03 40 25.2 -0.6**
AKTO Aktyubinsk 73.69 322 P **P 03 40 25.2 -0.6**
comp=Z,4.0nm,0.6s,baz=100,slow=9.0,SNR=20
SVE Sverdlovsk 73.99 328 *e*P P 03 40 34.4 +7.0
SVE pmax pmax
comp=Z,25nm,1.0s
ARU Arti 74.97 328 *c i*P **P 03 40 32.0 -1.1**
ARU 03 43 17.7
ARU S **S 03 50 07.1 +2.9**
ARU pmax pmax
comp=Z,6.0nm,0.6s
ARU Arti 74.97 328 *e*P **P 03 40 31.9 -1.1**
comp=Z,13nm,0.6s
QRN Al-Qurain 78.44 298 *e*P **P 03 40 51.4 -1.8**
MIB Mutribah 78.98 299 *e*P **P 03 40 54.4 -1.7**
MIB AMb AMB 03 41 08.0
comp=Z,28nm,0.7s
NAY Al-Naaiem 79.05 299 *e*P **P 03 40 54.7 -1.9**
NAY AMb AMB 03 41 09.2
comp=Z,17nm,1.7s
OPO Ambohidratompo 81.31 251 P **P 03 41 08.3 -0.8**
OPO Ambohidratompo 81.31 251 P **P 03 41 08.3 -0.8**
comp=Z,2.4nm,0.4s,baz=61,slow=9.6,SNR=6.0
KDAK Kodiak Island 81.89 32 P **P 03 41 14.1 +3.0**
KDAK Kodiak Island 81.89 32 P **P 03 41 14.1 +3.0**
comp=Z,5.2nm,0.8s,baz=202,slow=20,SNR=5.3
ZEI Tsey 82.25 312 *e*P **P 03 41 13.7 0.0**
ZEI pmax pmax
comp=Z,7.0nm,0.7s
TRF Thorofare Moun 83.55 27 *e*P **P 03 41 19.9 0.0**
comp=Z,19nm,1.0s
RC01 Rabbit Creek A 83.63 29 *e*P **P 03 41 20.5 +0.4**
comp=Z,21nm,1.0s
COLD Coldfoot 83.90 23 *e*P **P 03 41 22.7 +1.3**
comp=Z,15nm,0.9s
PMR Palmer 83.95 29 *e*P **P 03 41 22.2 +0.5**
PMR pmax pmax
comp=Z,14nm,0.9s
PMR Palmer 83.95 29 *e*P **P 03 41 22.2 +0.5**
comp=Z,14nm,0.9s
VRHR Novokhopersk 84.07 321 *e*P **P 03 41 20.7 -1.8**
VRHR pmax pmax
comp=Z,8.0nm,0.6s
VRHR pmax pmax
comp=N,1.0nm,0.3s
VRHR pmax pmax
comp=E,5.0nm,0.6s
MCK McKinley 84.17 26 *e*P **P 03 41 23.3 +0.5**
MCK pmax pmax
comp=Z,62nm,1.4s
MCK McKinley 84.17 26 *e*P **P 03 41 23.3 +0.5**
comp=Z,62nm,1.4s
SML Sawmill 84.34 28 *e*P **P 03 41 23.7 -0.1**
SML pmax pmax
comp=Z,5.0nm,0.8s
SML Sawmill 84.34 28 *e*P **P 03 41 23.7 -0.1**
comp=Z,4.6nm,0.8s
COLA College 84.70 25 *e*P **P 03 41 25.9 +0.5**
COLA pmax pmax
comp=Z,5.0nm,0.6s
COLA College 84.70 25 *e*P **P 03 41 25.9 +0.5**
comp=Z,4.5nm,0.6s
ILAR Eielson Array 85.11 25 P **P 03 41 27.5 0.0**
ILAR Eielson Array 85.11 25 P **P 03 41 27.5 0.0**
comp=Z,2.9nm,0.9s,baz=255,slow=5.3,SNR=13
KLMR Klimovskoe 85.44 331 *e*P **P 03 41 28.0 -1.2**
KLMR pmax pmax
comp=Z,82nm,1.3s
VORD Divnogorie 85.54 321 *e*P **P 03 41 29.2 -0.7**
DIV Divide 85.55 29 *e*P **P 03 41 29.4 -0.5**
comp=Z,23nm,0.8s
VSR Storozhevoye 85.62 321 *e*P **P 03 41 29.0 -1.3**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,1.0nm,0.3s
VSR pmax pmax
comp=E,10.0nm,0.9s
PAX Paxson 85.70 27 *e*P **P 03 41 31.3 +0.7**
PAX pmax pmax
comp=Z,24nm,1.5s
PAX Paxson 85.70 27 *e*P **P 03 41 31.3 +0.7**
comp=Z,24nm,1.5s
BMRM Bremner River 86.12 29 *e*P **P 03 41 34.1 +1.5**
comp=Z,15nm,0.9s
OBN Obninsk 87.09 325⇑ *i*P **P 03 41 37.6 +0.2**
OBN pmax pmax
comp=Z,31nm,1.4s
OBN MLR MLR
comp=Z,200nm,17.0s
JOF Joensuu 89.21 333 *e*P **P 03 41 46.6 -0.7**
JOF pmax pmax
comp=Z,10.0nm,0.5s
JOF Joensuu 89.21 333 *ep* **P 03 41 46.6 -0.7**
comp=Z,9.8nm,0.5s
KMBO Kilima Mbogo 89.58 269 *e*P **P 03 41 50.7 +0.3**
comp=Z,4.7nm,0.8s
KEV Kevo 89.92 340 *e*P **P 03 41 50.0 -0.5**
KEV Kevo 89.92 340 *ep* **P 03 41 50.0 -0.5**
BR131 Keskin Array S 90.06 310 *e*P **P 03 41 51.1 -0.9**
comp=Z,3.7nm,0.8s
BRTR Keskin Array B 90.06 310 P **P 03 41 50.6 -1.4**
BRTR Keskin Array B 90.06 310 P **P 03 41 50.6 -1.4**
comp=Z,2.5nm,1.0s,baz=104,slow=4.0,SNR=6.8
BRTR LR LR 04 31 16.8
comp=Z,58nm,19.9s,baz=278,slow=42
INK Inuvik 90.17 21 *e*P **P 03 41 51.8 +0.1**
comp=Z,3.7nm,1.0s
INK Inuvik 90.17 21 P **P 03 41 51.9 +0.2**
comp=Z,2.6nm,1.0s,baz=294,slow=5.7,SNR=6.9
ARCES ARCESS Array B 90.48 340 P **P 03 41 51.6 -1.5**
ARCES ARCESS Array B 90.48 340 P **P 03 41 51.6 -1.5**
comp=Z,2.6nm,0.6s,baz=76,slow=6.1,SNR=22
ARCES LR LR 04 25 22.2
comp=Z,113nm,19.6s,baz=141,slow=38
SPITS Spitsbergen Ar 90.50 349 LR LR 04 27 60.0
comp=Z,134nm,19.7s,baz=100,slow=39
KAF Kangasniemi 91.63 332 *e*P **P 03 41 57.6 -1.0**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 91.63 332 *ep* **P 03 41 57.6 -1.0**
comp=Z,4.1nm,0.5s
FINES FINESS Array B 91.86 332 P **P 03 41 58.8 -0.8**
FINES FINESS Array B 91.86 332 P **P 03 41 58.8 -0.8**
comp=Z,3.0nm,0.6s,baz=59,slow=4.6,SNR=14
FINES LR LR 04 26 47.8
comp=Z,200nm,18.4s,baz=125,slow=38
AKASG Malin Array Be 91.92 321 P **P 03 41 58.3 -1.9**
AKASG Malin Array Be 91.92 321 P **P 03 41 58.3 -1.9**
AKASG Malin Array Be 91.92 321 P **P 03 41 58.3 -1.9**
comp=Z,2.6nm,0.7s,baz=69,slow=4.7,SNR=7.2
AKASG LR LR 04 25 36.2
comp=Z,122nm,20.9s,baz=85,slow=37
AKBB Malin Array Si 91.92 321 *e*P **P 03 41 59.8 -0.4**
AKBB Malin Array Si 91.92 321 *e*P **P 03 41 59.8 -0.4**
KIEV Kiev 91.94 321 *e*P **P 03 41 59.0 -1.3**
KIEV pmax pmax
comp=Z,5.0nm,0.8s
KIEV Kiev 91.94 321 *e*P **P 03 41 59.0 -1.3**
comp=Z,4.5nm,0.8s
SYO Syowa Base 92.42 201⇓ *e*P **P 03 42 02.8 +0.8**
SYO Syowa Base 92.42 201⇑ *es*P pP 03 42 19.6 -4.4
QSPA South Pole Qui 93.62 180 *e*P **P 03 42 10.4 +2.6**
comp=Z,13nm,1.3s
QSPA South Pole Qui 93.62 180 P **P 03 42 07.8 0.0**
comp=Z,3.1nm,1.0s,baz=157,slow=0.7,SNR=5.5
DLBC Dease Lake 93.75 31 P **P 03 42 09.7 +1.2**
DLBC Dease Lake 93.75 31 P **P 03 42 09.7 +1.2**
comp=Z,0.9nm,0.4s,baz=232,slow=18,SNR=2.2
DLBC LR LR 04 20 10.9
comp=Z,216nm,20.1s,baz=159,slow=33
TESR 94.27 317⇓ *i*P **P 03 42 09.5 -1.7**
VRI Vrincioaia 94.33 316⇓ *i*P **P 03 42 12.1 +0.6**
VRI Vrincioaia 94.33 316⇓ *i*P **P 03 42 12.1 +0.6**
MLR Muntele Rosu 94.93 316⇓ *i*P **P 03 42 14.7 +0.3**
SUW Suwalki 94.95 325 *e*P **P 03 42 14.1 0.0**
SUW pmax pmax
comp=Z,47nm,0.9s
SUW Suwalki 94.95 325 *e*P **P 03 42 14.1 0.0**
comp=Z,47nm,0.9s
BURAR Bucovina Array 95.03 318⇑ *i*P **P 03 42 13.3 -1.5**
BUR08 Bucovina Ar. S 95.04 318 *e*P **P 03 42 13.8 -1.0**
UZH Uzhgorod 96.73 320 *e*P **P 03 42 23.0 +0.7**
UZH *i* 03 42 33.6
RES Resolute Bay 97.83 10 *e*P Pdif 03 42 27.2 +0.5
comp=Z,1.8nm,0.8s
RES Resolute Bay 97.83 10 P Pdif 03 42 26.9 +0.2
comp=Z,1.0nm,0.7s,baz=301,slow=1.5,SNR=3.9
HFS Hagfors 98.05 332 LR LR 04 31 14.4
comp=Z,178nm,18.9s,baz=66,slow=38
NB2 NORSAR Subarra 98.82 334 P **P 03 42 29.7 -1.8**
comp=Z,3.4nm,0.8s,baz=68,slow=4.6
NOA NORSAR Array B 98.82 334 P **P 03 42 29.9 -1.6**
NOA NORSAR Array B 98.82 334 P **P 03 42 29.9 -1.6**
comp=Z,1.6nm,0.7s,baz=66,slow=4.6,SNR=4.2
NOA LR LR 04 31 14.0
comp=Z,177nm,20.3s,baz=60,slow=38
LSZ Lusaka 99.23 255 *e*P **Pdif 03 42 34.0 -0.3**
comp=Z,3.3nm,0.8s
MORC Moravsky Berou 99.44 322 *e*P **Pdif 03 42 33.7 -0.8**
MORC pmax pmax
comp=Z,2.0nm,0.8s
MORC Moravsky Berou 99.44 322 *e*P **Pdif 03 42 33.6 -0.8**
comp=Z,2.1nm,0.8s
YKA Yellowknife Ar 99.50 24 P **Pdif 03 42 34.6 +0.2**
YKA PKiKP **PKiKP 03 47 04.0 +0.8**
YKA PKKPbc **PKKPbc 03 58 56.5 -2.8**
YKA Yellowknife Ar 99.50 24 P **Pdif 03 42 34.6 +0.2**
comp=Z,0.2nm,0.7s,baz=297,slow=4.3,SNR=4.2
YKA PKiKP **PKiKP 03 47 04.0 +0.8**
comp=Z,0.2nm,0.6s,baz=298,slow=1.8,SNR=5.3
YKA PKKPbc **PKKPbc 03 58 56.4 -2.8**
comp=Z,0.1nm,0.6s,baz=114,slow=2.5,SNR=4.2
BRG Berggiesshubel 101.27 323 *e*P **Pdif 03 42 46.1 +3.5**
comp=Z,5.2nm,1.0s
BRG *e* 03 42 53.4
comp=Z,7.6nm,0.9s
BRG Berggiesshubel 101.27 323 *e*P **Pdif 03 42 46.1 +3.5**
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 101.67 324 *e*P **Pdif 03 42 50.0 +5.7**
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL MLR MLR
comp=Z,300nm,18.7s
CLL Collm 101.67 324 *e*(pPdif) 03 42 50.0
CLL LmV 04 31 00.0
comp=Z,200nm,18.8s
GERES GERESS Array B 102.12 322 P **Pdif 03 42 46.1 -0.4**
GERES GERESS Array B 102.12 322 P **Pdif 03 42 46.1 -0.4**
comp=Z,0.5nm,0.7s,baz=50,slow=4.2,SNR=4.4
NVAR Mina Array Bea 106.90 48 PKKPbc PKKPbc 03 58 51.0 +14
NVAR Mina Array Bea 106.90 48 PKKPbc PKKPbc 03 58 51.0 +14
comp=Z,1.0nm,0.6s,baz=134,slow=4.2,SNR=5.8
PDAR Pinedale Array 111.35 41 PKKPbc PKKPbc 03 58 32.0 +9.1
PDAR Pinedale Array 111.35 41 PKKPbc PKKPbc 03 58 32.0 +9.1
comp=Z,1.5nm,0.8s,baz=126,slow=6.7,SNR=12
TUC Tucson 114.79 52 *e*PKIKP PKPdf 03 47 34.0 +1.3
TUC Tucson 114.79 52 *e*PKP PKPdf 03 47 34.0 +1.3
Y23A Lovelace Mesa, 117.76 48⇓P **PKPdf 03 47 39.0 +0.5**
baz=118
Y25A Mesa, Roswell 118.78 48⇑P **PKPdf 03 47 40.5 +0.1**
baz=119
MNTX Cornudas Mount 119.24 50 *e*PKPdf **PKPdf 03 47 43.1 +1.9**
BGNE Belgrade 119.29 38⇑P **PKPdf 03 47 41.7 +0.6**
baz=119
Z27A Tatum 120.15 48⇓P **PKPdf 03 47 43.8 +0.8**
baz=120
SCHQ Schefferville 120.58 9 PKP **PKPdf 03 47 43.5 +0.4**
SCHQ Schefferville 120.58 9 PKP **PKPdf 03 47 43.5 +0.4**
comp=Z,1.8nm,0.7s,baz=129,slow=2.3,SNR=6.5
Y29A Porterfield Fa 121.02 47⇑P **PKPdf 03 47 45.5 +0.8**
baz=121
527A Woodward Ranch 121.28 51⇓P **PKPdf 03 47 45.7 +0.4**
baz=121
328A Wristen Ranch, 121.35 50⇑P **PKPdf 03 47 45.8 +0.5**
baz=121
129A Stewart Farms, 121.47 48⇑P **PKPdf 03 47 45.8 +0.3**
baz=122
TXAR Lajitas Array 121.59 52 PKP **PKPdf 03 47 47.2 +1.3**
TXAR Lajitas Array 121.59 52 PKP **PKPdf 03 47 47.2 +1.3**
comp=Z,0.4nm,0.7s,baz=245,slow=1.5,SNR=6.2
428A Kincaid Ranch, 121.74 50⇑P **PKPdf 03 47 46.6 +0.4**
baz=122
627A Terlingua Ranc 121.76 52⇓P **PKPdf 03 47 47.0 +0.8**

baz=122
528A **Cox Ranch, San** 121.91 51 ⇑P PKPdf 03 47 47.7 +1.2
baz=122
628A **Black Gap, Mar** 122.14 52 ⇓P PKPdf 03 47 47.5 +0.7
baz=122
529A **Stev Forest Ra** 122.37 51 ⇓P PKPdf 03 47 48.4 +1.0
baz=122
TOA0 **Torodi Ar. Sit** 122.95 288 ePKPdf PKPdf 03 47 48.8 +0.1
TORD **Torodi Ar. Bea** 122.95 288 PKP PKPdf 03 47 49.0 +0.3
TORD **Torodi Ar. Bea** 122.95 288 PKP PKPdf 03 47 49.0 +0.3
comp=Z,3.2nm,0.7s,baz=83,slow=1.6,SNR=29
JCT **Junction City** 124.05 49 ePKIKP PKPdf 03 47 52.0 +1.5
JCT **Junction City** 124.05 49 ePKPdf PKPdf 03 47 52.0 +1.5
JCT **Junction City** 124.05 49 ⇓P PKPdf 03 47 51.3 +0.8
baz=124
HKT **Hockley** 127.28 48 ePKIKP PKPdf 03 47 56.5 0.0
HKT **Hockley** 127.28 48 ePKPdf PKPdf 03 47 56.5 0.0
WVT **Waverly** 128.86 36 ePKIKP PKPdf 03 48 00.4 +0.9
WVT **Waverly** 128.86 36 ePKPdf PKPdf 03 48 00.4 +0.9
DBIC **Dimbokro** 130.61 282 PKP PKPdf 03 48 03.6 +0.3
DBIC ePKPdf PKiKP 03 48 04.4 +0.1
DBIC **Dimbokro** 130.61 282 PKP PKPdf 03 48 03.6 +0.3
comp=Z,1.5nm,0.6s,baz=58,slow=7.9,SNR=5.5
TKL **Tuckaleechee C** 131.51 34 PKP PKPdf 03 48 06.2 +1.7
TKL **Tuckaleechee C** 131.51 34 PKP PKPdf 03 48 06.2 +1.7
comp=Z,4.1nm,0.9s,baz=213,slow=4.4,SNR=4.3
PLCA **Paso Flores** 139.98 159 PKP PKPdf 03 48 21.4 +1.1
PLCA ePKPdf PKiKP 03 48 21.9 -0.7
PLCA **Paso Flores** 139.98 159 PKP PKPdf 03 48 21.4 +1.1
comp=Z,2.5nm,0.9s,baz=57,slow=2.4,SNR=5.3
TRQA **Tornquist** 144.89 168 ePKPdf PKPdf 03 48 29.6 +0.6
JTS **JuntasAbangare** 145.50 66 PKPbc PKPab 03 48 33.9 +2.8
JTS **JuntasAbangare** 145.50 66 PKPbc PKPab 03 48 33.9 +2.8
comp=Z,8.5nm,0.8s,baz=286,slow=9.9,SNR=4.1
CFAA **Coronel Fontan** 148.87 155 PKPbc PKPbc 03 48 40.1 +0.3
CFAA **Coronel Fontan** 148.87 155 PKPbc PKPbc 03 48 40.1 +0.3
comp=Z,0.9nm,0.6s,baz=249,slow=2.4,SNR=16
LCO **Las Campanas** 149.86 148 ePKPbc PKPbc 03 48 44.1 +1.4
NNA **Nana** 155.24 111 ePKPbc PKPdf 03 48 53.6 +7.9
CPUP **Villa Florida** 157.17 171 ePKPdf PKPdf 03 48 49.3 +1.3
CPUP ePKPab PKPab 03 49 19.2 +0.5

PRE 13 03:32:06.1±0.7, 27°.98S×26°.72E, h2km, ML2.2, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**1.20**	**29**	*e*P	Pg	03 32 28.6	-0.7
PRYS				*e*S	Sb	03 32 45.8	0.0
PRYS				AML	AML	03 32 48.6	
	comp=Z,49nm,0.3s						
BOSA	**Boshof**	**1.43**	**244**	*e*P	Pb	03 32 33.6	-0.1
BOSA				*e*S	Sn	03 32 53.5	+0.6
BOSA				AML	AML	03 32 55.6	
	comp=Z,12nm,1.0s						
SWZ	**Schweizer**	**1.47**	**303**	*e*P	Pg	03 32 34.6	+0.1
SWZ				*e*S	Sn	03 32 54.5	+0.8
SWZ				AML	AML	03 32 58.5	
	comp=Z,27nm,0.7s						
LBTB	**Lobatse**	**3.12**	**341**	*e*P	Pn	03 32 57.8	+1.3
LBTB				*e*S	Sn	03 33 34.5	0.0
LBTB				AML	AML	03 33 51.2	
	comp=Z,9.7nm,0.3s						

*ISCJB **13** 03:37:01.4±0.3, 10°.71N±0°.03×62°.59W±0°.02, h103km±3km, mb3.7/10, Error ellipse: s-maj=4.8km s-min=3.3km az=137.4*
*FUNV **13** 03:37:03.0, 10°.72N×62°.48W, h100km, MW3.7*
*IDC **13** 03:37:04.9±0.8, 10°.89N×62°.61W, h115km±7km, mb3.5/10, mb1 3.7/10, mb1mx3.5/22, mbtmp3.5/10, Error ellipse: s-maj=16.6km s-min=10.6km az=103.0*
*TRN **13** 03:37:05.8, 10°.80N×62°.30W, h103km, MD3.8*
ISC 13 03:37:02.9±0.6, 10°.70N±0°.03×62°.54W±0°.03, h107km±5km, n45, σ1$97/69, mb3.8/10, 5C-6D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.32**	**100**	⇑*i*P	**Pn**	**03 37 17.5**	**-0.8**
GUIV				*e*S	**Sn**	**03 37 26.8**	**-3.1**
GUNV	**Guanoco**	**0.67**	**216**	*e*P	**Pn**	**03 37 20.9**	**+0.3**
GUNV				*e*S	**Sn**	**03 37 33.6**	**-0.4**
CRUV	**Carupano**	**0.68**	**268**	⇑*e*P	**Pn**	**03 37 20.1**	**-0.6**
CRUV				*e*S	**Sn**	**03 37 32.8**	**-1.4**
ALNG	**Atlantic LNG**	**0.99**	**122**	*e*S	**Sn**	**03 37 38.8**	**-0.5**
BUAY	**Buenos Aires**	**1.03**	**125**	*e*P	Pn	03 37 26.2	+2.1
BUAY				*e*S	**Sn**	**03 37 39.7**	**-0.4**
TRN	**Trinidad (W)**	**1.12**	**93**	⇑*i*P	**Pn**	**03 37 25.0**	**-0.1**
TRN				*e*S	**Sn**	**03 37 39.6**	**-2.3**
TPP	**Pointe-a-Pierr**	**1.14**	**109**	*e*P	**Pn**	**03 37 25.9**	**+0.6**
TPP				*e*S	**Sn**	**03 37 40.8**	**-1.5**
SIPA	**Siparia**	**1.16**	**118**	*e*P	Pn	03 37 27.6	+2.0
SIPA				*e*S	**Sn**	**03 37 42.9**	**+0.2**
TBH	**Brigand Hill**	**1.47**	**98**	*e*P	**Pn**	**03 37 29.6**	**+0.4**
TBH				*e*S	**Sn**	**03 37 46.7**	**-2.3**
GRW	**Mount Saint Ca**	**1.69**	**31**	*e*P	**Pn**	**03 37 31.7**	**-0.2**
GRW				*e*S	**Sn**	**03 37 51.6**	**-2.4**
TPR	**Prospect**	**1.80**	**74**	*e*P	**Pn**	**03 37 33.3**	**+0.1**
TPR				*e*S	**Sn**	**03 37 53.7**	**-2.7**
BOT	**Bacolet**	**1.85**	**75**	*e*P	**Pn**	**03 37 33.6**	**-0.3**
BOT				*e*S	**Sn**	**03 37 53.5**	**-4.0**
TOSP	**Speyside**	**2.06**	**73**	*e*P	**Pn**	**03 37 35.8**	**-0.7**
TOSP				*e*S	**Sn**	**03 37 57.7**	**-4.4**
PCRV	**Puerto La Cruz**	**2.12**	**256**	⇓*e*P	**Pn**	**03 37 37.4**	**0.0**
RIOV	**Rio Grande**	**2.71**	**165**	⇓*e*P	**Pn**	**03 37 44.6**	**-0.5**
RIOV				*e*S	**Sn**	**03 38 14.8**	**-2.6**
PRGV	**PARIAGUAN**	**2.83**	**227**	*e*S	**Sn**	**03 38 18.5**	**-1.7**
SVB	**Belmont**	**2.85**	**26**	*e*P	**Pn**	**03 37 47.9**	**+1.0**
SVB				*e*S	**Sn**	**03 38 18.6**	**-2.1**
SVV	**Soufriere Volc**	**2.91**	**26**	*e*P	**Pn**	**03 37 48.5**	**+0.9**
SVV				*e*S	**Sn**	**03 38 19.8**	**-2.2**
GURV	**El Guri**	**2.97**	**190**	⇓*i*P	**Pn**	**03 37 48.3**	**-0.2**
GURV				*e*S	**Sn**	**03 38 21.1**	**-2.5**
MCLT	**Moule a Chique**	**3.38**	**27**	*e*P	**Pn**	**03 37 53.9**	**+0.1**
MCLT				*e*S	**Sn**	**03 38 29.7**	**-3.5**
SLB	**Belfond**	**3.44**	**25**	*e*P	**Pn**	**03 37 54.7**	**0.0**
SLB				*e*S	**Sn**	**03 38 31.2**	**-3.5**
BIRV	**Birongo**	**3.67**	**267**	*e*P	**Pn**	**03 37 57.9**	**+0.1**
BIRV				*e*S	**Sn**	**03 38 37.7**	**-2.6**
MERV	**Las Mercedes**	**3.97**	**249**	⇓*e*P	**Pn**	**03 38 00.9**	**-0.9**
MERV				*e*S	**Sn**	**03 38 44.0**	**-3.5**
BIM	**Bigot**	**4.05**	**21**	*e*P	**Pn**	**03 38 03.2**	**+0.2**
BIM				*e*S	**Sn**	**03 38 50.1**	**+0.6**
MVM	**Montagne Vaucl**	**4.15**	**23**	*e*P	**Pn**	**03 38 04.7**	**+0.4**
MVM				*e*S	**Sn**	**03 38 53.4**	**+1.5**
FDF	**Fort de France**	**4.23**	**19**	⇑*e*P	**Pn**	**03 38 05.5**	**+0.2**
FDF				⇑*e*S	**Sn**	**03 38 50.7**	**-3.1**
LUEV	**Luepa**	**4.95**	**167**	*e*P	**Pn**	**03 38 13.2**	**-1.9**
LUEV				*e*S	**Sn**	**03 39 05.8**	**-5.5**
TURV	**Turiamo**	**5.21**	**268**	*e*P	**Pn**	**03 38 17.4**	**-1.2**
LZG	**Guadaloupe-1**	**5.46**	**8**	*e*P	**Pn**	**03 38 24.1**	**+2.2**
BAUV	**El Baul**	**5.69**	**253**	⇓*e*P	**Pn**	**03 38 23.9**	**-1.2**
TEPV	**Terepaima**	**6.58**	**264**	*e*P	**Pn**	**03 38 35.7**	**-1.6**
CURV	**Curarigua**	**7.33**	**265**	*e*P	**Pn**	**03 38 44.9**	**-2.6**
MONV	**Montecano**	**7.39**	**280**	*e*P	**Pn**	**03 38 46.3**	**-1.9**
ELOV	**Elorza**	**7.78**	**242**	*e*P	**Pn**	**03 38 51.6**	**-1.9**
SOCV	**Socops**	**8.54**	**254**	⇓*e*P	**Pn**	**03 39 02.0**	**-1.9**
SIV	**San Ignacio**	**26.56**	**177**	P	**P**	**03 42 33.5**	**+2.4**
	1.1nm,0.5s,baz=11,slow=9.7,SNR=9.3						
SIV				pP	pP	03 42 58.6	+4.1
	0.8nm,0.6s,baz=59,slow=9.0,SNR=2.8						
LPAZ	**La Paz**	**27.38**	**192**	P	**P**	**03 42 42.0**	**+2.9**
	0.7nm,0.6s,baz=22,slow=5.4,SNR=2.5						
LPAZ				pP	pP	03 43 06.7	+4.1
	1.0nm,0.7s,baz=40,slow=11,SNR=3.1						
TXAR	**Lajitas Array**	**42.58**	**302**	P	**P**	**03 44 49.9**	**+1.2**
	0.3nm,0.8s,baz=101,slow=14,SNR=3.3						
TXAR				pP	**pP**	**03 45 16.0**	**+2.7**
	0.4nm,0.8s,baz=111,slow=6.9,SNR=3.4						
ULM	**Lac du Bonnet**	**48.04**	**332**	P	**P**	**03 45 30.4**	**-0.9**
	1.0nm,0.4s,baz=133,slow=10.0,SNR=4.0						
PDAR	**Pinedale Array**	**51.81**	**317**	P	**P**	**03 46 00.5**	**+0.2**
	0.6nm,0.5s,baz=111,slow=8.1,SNR=4.3						
PDAR				pP	**pP**	**03 46 26.2**	**+0.5**
	0.4nm,0.7s,baz=110,slow=11,SNR=1.8						
TORD	**Torodi Ar. Bea**	**62.75**	**81**	P	**P**	**03 47 19.0**	**+1.5**
	0.7nm,0.5s,baz=288,slow=6.9,SNR=18						
YKA	**Yellowknife Ar**	**63.64**	**336**	P	**P**	**03 47 21.0**	**-1.4**
	0.3nm,0.4s,baz=111,slow=7.2,SNR=12						
ILAR	**Eielson Array**	**77.98**	**334**	P	**P**	**03 48 48.3**	**-0.9**
	0.7nm,0.8s,baz=91,slow=4.7,SNR=6.1						
FINES	**FINESS Array B**	**80.03**	**29**	P	**P**	**03 49 01.3**	**+0.9**
	2.4nm,0.9s,baz=277,slow=4.2,SNR=9.1						
BRTR	**Keskin Array B**	**87.95**	**50**	P	**P**	**03 49 42.7**	**+1.4**
	1.2nm,0.9s,baz=350,slow=5.0,SNR=4.9						

*IDC **13** 03:44:32.9±0.9, 3°.98N×126°.63E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/19, mbtmp3.9/6, MS3.4/2, Ms1 3.4/2, ms1mx2.8/39, Error ellipse: s-maj=76.3km s-min=17.3km az=69.0*
ISC 13 03:44:39.1±0.9, 3°.9N±0°.2×126°.6E±0°.5, h45km, n10, σ0$49/7, mb4.0/7, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.28**	**342**	LR	LR	03 47 05.6	
	comp=Z,297nm,18.7s,baz=164,slow=47						
CTBH	**Cotabato--PC H**	**4.01**	**325**	⇑*i*P	Pn	03 45 44.6	+6.5
WRA	**Warramunga Arr**	**24.91**	**162**	P	**P**	**03 49 58.2**	**0.0**
	4µm,0.3s,baz=274,slow=0.1,SNR=10						
ASAR	**Alice Springs**	**28.34**	**166**	P	**P**	**03 50 28.5**	**-0.5**
	0.2nm,0.4s,baz=345,slow=11,SNR=4.0						
STKA	**Stephens Creek**	**38.37**	**159**	P	**P**	**03 51 56.5**	**+0.5**
	3.2nm,0.7s,baz=307,slow=5.5,SNR=5.3						
ASAJ	**Asahikawa**	**42.45**	**17**	LR	LR	04 09 09.9	
	comp=Z,107nm,21.4s,baz=176,slow=35						
SONM	**Songino Array**	**47.06**	**341**	P	**P**	**03 53 06.8**	**+0.3**
	0.4nm,0.5s,baz=170,slow=9.0,SNR=3.6						
MKAR	**Makanchi Array**	**57.31**	**325**	P	**P**	**03 54 22.8**	**+0.3**
	0.9nm,0.6s,baz=123,slow=7.8,SNR=12						
KURBB	**Kurchatov Arra**	**61.49**	**327**	P	**P**	**03 54 50.8**	**-0.5**
	0.9nm,0.5s,baz=129,slow=6.2,SNR=14						
ILAR	**Eielson Array**	**84.99**	**25**	P	**P**	**03 57 09.3**	**-0.2**
	0.6nm,0.9s,baz=269,slow=7.2,SNR=4.9						

*IDC **13** 03:46:01.4±0.6, 3°.63N×126°.55E, h0km, mb4.3/17, mb1 4.4/17, mb1mx4.4/22, mbtmp4.3/17, MS3.7/4, Ms1 3.8/4, ms1mx3.3/38, Error ellipse: s-maj=26.3km s-min=13.4km az=75.0*
*NEIC **13** 03:46:06.9±0.3, 3°.82N×126°.92E, h35km, mb4.6/25, Error ellipse: s-maj=11.9km s-min=6.7km az=72.0*
*ISCJB **13** 03:46:09.1±0.8, 3°.68N±0°.04×126°.84E±0°.06, h73km±7km, mb4.5/44, Error ellipse: s-maj=10.8km s-min=5.3km az=153.5*
*BJI **13** 03:46:10.0, 4°.00N×127°.00E, h55km, mB5.2/15, mb4.7/20, Ms4.5/10, Ms7 4.1/11*
*DJA **13** 03:46:11, 3°.64N×126°.96E, h59km, mb4.6/10*
ISC 13 03:46:09.3±0.5, 3°.73N±0°.05×126°.91E±0°.07, h61km±3km, n90, σ1$67/114, mb4.6/43, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.98**	**171**	P	**Pn**	**03 46 53.8**	**-0.4**
GSPH	**General Santos**	**3.05**	**320**	*e*P	**Pn**	**03 46 55.1**	**-0.2**
GSPH				*e*S	**Sn**	**03 47 31.7**	**+1.1**
MNI	**Manado**	**3.07**	**222**	P	Pn	03 47 01.5	+6.0
LBMI	**Labuha**	**4.38**	**172**	P	**Pn**	**03 47 14.1**	**+0.7**
MRSI	**Masa**	**5.93**	**237**	P	**Pn**	**03 47 34.9**	**+0.3**
	119nm,0.6s,2µm25µm0.6nm						
SWI	**Sorong**	**6.30**	**136**	P	**Pn**	**03 47 41.7**	**+2.0**
	74nm,0.8s,0.3nm						
MYLDM	**Lahad Datu**	**8.51**	**280**	P	Pn	03 48 13.2	+3.3
	73nm,1.1s,0.3nm						
KDI	**Kendari**	**8.76**	**209**	P	**Pn**	**03 48 15.3**	**+1.9**
	24nm,1.0s,0.1nm						
KKM	**Kota Kinabalu**	**10.90**	**283**	*e*Pn	**Pn**	**03 48 43.8**	**+1.0**
KKM	**Kota Kinabalu**	**10.90**	**283**	P	Pn	03 48 47.6	+4.8
KAPI	**Kappang**	**11.25**	**220**	*e*Pn	**Pn**	**03 48 48.2**	**+0.7**
KAPI	**Kappang**	**11.25**	**220**	LR	LR	03 53 43.6	
	comp=Z,310nm,18.4s,baz=41,slow=42						
KSM	**Kuching**	**16.73**	**263**	*e*Pn	**Pn**	**03 50 00.7**	**+0.8**
	23nm,1.1s						
KNRA	**Kununurra**	**19.37**	**175**	*e*P	**P**	**03 50 30.0**	**-0.2**
	101nm,0.6s						
TPUB	**Ta-pu**	**20.38**	**343**	*e*P	**P**	**03 50 37.1**	**-4.1**
	20nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.73**	**183**	*e*P	**P**	**03 50 57.3**	**+1.6**
	6.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.73**	**183**	P	**P**	**03 50 53.2**	**-2.5**
	6.5nm,0.8s,baz=20,slow=7.4,SNR=4.7						
COEN	**Coen**	**23.86**	**138**	*e*P	**P**	**03 51 17.6**	**+0.3**
	30nm,0.6s						
COEN	**Coen**	**23.86**	**138**	*e*P	**P**	**03 51 16.7**	**-0.6**
	25nm,0.6s						
WRAB	**Tennant Creek**	**24.63**	**163**	*e*P	**P**	**03 51 24.3**	**+0.1**
	46nm,0.9s						
WRA	**Warramunga Arr**	**24.63**	**163**	P	**P**	**03 51 24.1**	**-0.2**
WRA	**Warramunga Arr**	**24.63**	**163**	P	**P**	**03 51 24.1**	**-0.2**
	32nm,0.7s,baz=343,slow=10,SNR=0.3						
IPM	**Ipoh**	**25.83**	**273**	*e*P	**P**	**03 51 36.9**	**+1.6**
	4.9nm,0.5s						
PSI	**Prapat**	**27.96**	**269**	P	**P**	**03 51 51.4**	**-3.1**
PSI	**Prapat**	**27.96**	**269**	P	**P**	**03 51 51.4**	**-3.1**
	4.1nm,0.5s,baz=33,slow=9.0,SNR=4.5						
AS31	**Alice Springs**	**28.07**	**166**	*e*P	**P**	**03 51 58.2**	**+2.9**
ASAR	**Alice Springs**	**28.07**	**166**	P	**P**	**03 51 54.9**	**-0.4**
ASAR	**Alice Springs**	**28.07**	**166**	P	**P**	**03 51 54.9**	**-0.4**
	1.3nm,0.6s,baz=353,slow=7.9,SNR=14						
GYA	**Guiyang**	**29.78**	**321**	P	**P**	**03 52 12.0**	**+1.4**
GYA				pP	**pP**	**03 52 27.6**	**+2.0**
GYA				sP	**sP**	**03 52 34.0**	**+1.2**
GYA				PP	PP	03 53 12.4	-6.4
GYA				PcP	**PcP**	**03 55 14.5**	**+1.4**
GYA				S	**S**	**03 57 05.3**	**+2.4**
GYA				sS	**sS**	**03 57 30.0**	**+1.4**
GYA				SS	ScP	03 58 43.4	-6.7
GYA				ScP	ScP	03 58 49.9	-0.2
GYA				ScS	**ScS**	**04 02 44.3**	**-1.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.9s						
GYA				LR	LR		
	comp=N,450nm,17.6s						
GYA				LR	LR		
	comp=E,390nm,18.9s						
GYA				LR	LR		
	comp=Z,410nm,17.8s						
CMAR	**Chiang Mai Arr**	**31.03**	**300**	P	**P**	**03 52 20.1**	**-1.5**
CMAR	**Chiang Mai Arr**	**31.03**	**300**	P	**P**	**03 52 20.1**	**-1.5**
	comp=Z,1.0nm,0.4s,baz=115,slow=7.2,SNR=7.5						
CMAR				LR	LR	04 04 36.8	
	comp=Z,80nm,19.1s,baz=138,slow=36						
CHTO	**Chiang Mai**	**31.18**	**301**	*e*P	**P**	**03 52 21.8**	**-1.1**
	comp=Z,1.8nm,0.5s						
KMI	**Kunming**	**31.51**	**315**	P	**P**	**03 52 28.8**	**+2.9**
KMI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KSAR	**Wonju Array Be**	**33.56**	**1**	P	**P**	**03 52 45.5**	**+2.0**
KSRS	**Korea Array**	**33.57**	**1**	P	**P**	**03 52 45.5**	**+1.9**
	comp=Z,2.6nm,0.9s,baz=182,slow=10,SNR=5.7						
FORT	**Forrest**	**34.34**	**178**	*e*P	**P**	**03 52 49.1**	**-1.1**
	comp=Z,18nm,0.7s						
FORT	**Forrest**	**34.34**	**178**	*e*P	**P**	**03 52 48.9**	**-1.4**
	comp=Z,16nm,0.7s						
XAN	**Xi'an**	**34.49**	**333**	P	**P**	**03 52 49.8**	**-1.9**
XAN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,56nm,6.5s						
HNR	**Honiara**	**35.42**	**112**	LR	LR	04 06 49.0	
	comp=Z,122nm,18.6s,baz=293,slow=35						
EIDS	**Eidsvold**	**37.24**	**142**	*e*P	**P**	**03 53 15.9**	**+0.6**
	comp=Z,26nm,1.2s						
BBOO	**Buckleboo**	**37.36**	**167**	*e*P	**P**	**03 53 15.9**	**-0.3**
	comp=Z,85nm,0.7s						
BJT	**Baijiatuan**	**37.41**	**346**	*e*P	**P**	**03 53 16.6**	**+0.1**
	comp=Z,11nm,0.5s						
BJI	**Beijing**	**37.43**	**346**	P	**P**	**03 53 17.1**	**+0.5**
BJI				pmax	pmax		
	comp=Z,26nm,1.2s						
STKA	**Stephens Creek**	**38.07**	**160**	*e*P	**P**	**03 53 22.7**	**+0.6**
	comp=Z,2.6nm,0.7s						
STKA	**Stephens Creek**	**38.07**	**160**	*e*P	**P**	**03 53 22.1**	**0.0**
	comp=Z,11nm,0.7s						
STKA	**Stephens Creek**	**38.07**	**160**	P	**P**	**03 53 22.3**	**+0.2**
	comp=Z,12nm,0.6s,baz=331,slow=7.9,SNR=20						
LZH	**Lanzhou**	**38.59**	**329**	*e*P	**P**	**03 53 28.4**	**+1.7**
LZH				pP	**pP**	**03 53 41.5**	**-0.6**
LZH				sP	**sP**	**03 53 48.0**	**-1.2**
LZH				pmax	pmax		
	comp=Z,15nm,1.0s						
HHC	**Hu-ho-hao-te**	**39.45**	**342**	*e*P	P	03 53 38.1	+4.3
HHC				pP	pP	03 53 53.1	+3.9
HHC				PP	PP	03 55 14.6	+9.2
HHC				PcP	**PcP**	**03 55 39.8**	**-0.9**
HHC				ScP	**ScP**	**03 59 21.6**	**-2.7**
HHC				ScS	**ScS**	**04 03 34.5**	**-2.1**
HHC				pmax	pmax		
	comp=Z,12nm,1.4s						
HHC				pmax	pmax		
	comp=Z,200nm,4.8s						
HHC				LR	LR		
	comp=N,260nm,16.8s						
HHC				LR	LR		
	comp=E,230nm,15.6s						
HHC				LR	LR		
	comp=Z,170nm,14.4s						
CN2	**Changchun**	**39.92**	**358**	*e*P	**P**	**03 53 39.4**	**+1.9**
USRK	**Ussuriysk Arra**	**40.55**	**6**	P	**P**	**03 53 44.1**	**+1.5**
	comp=Z,3.0nm,0.7s,baz=177,slow=11,SNR=4.8						
MDJ	**Mudanjiang**	**40.78**	**3**	P	**P**	**03 53 45.3**	**+0.7**
MDJ				pP	**pP**	**03 53 58.5**	**-1.6**
MDJ				sP	**sP**	**03 54 04.6**	**-2.6**
MDJ				ScP	**ScP**	**03 59 30.6**	**+1.3**
MDJ				PcS	**PcS**	**03 59 36.3**	**+0.8**
MDJ				S	**S**	**03 59 53.3**	**+2.3**
MDJ				pmax	pmax		
	comp=Z,18nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,110nm,3.8s						
MDJ				LR	LR		
	comp=Z,54nm,22.5s						
MDJ	**Mudanjiang**	**40.78**	**3**	*e*P	**P**	**03 53 45.1**	**+0.5**
	comp=Z,11nm,0.8s						
ARMA	**Armidale**	**41.37**	**147**	*e*P	**P**	**03 53 51.0**	**+1.3**
	comp=Z,8.6nm,0.7s						
LSA	**Lhasa**	**42.57**	**311**	*e*P	**P**	**03 54 00.1**	**+0.1**
	comp=Z,3.8nm,0.4s						
ULN	**Ulaanbaatar**	**47.17**	**342**	*e*P	**P**	**03 54 35.5**	**-0.4**
	comp=Z,6.9nm,1.1s						
SONM	**Songino Array**	**47.35**	**341**	P	**P**	**03 54 37.1**	**-0.3**
SONM	**Songino Array**	**47.35**	**341**	P	**P**	**03 54 37.1**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=159,slow=8.9,SNR=4.4						
WMQ	**Urumqi**	**52.83**	**325**	*e*P	**P**	**03 55 19.5**	**+0.7**
WMQ				pP	**pP**	**03 55 35.0**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
WMQ				LR	LR		
	comp=N,190nm,21.2s						
WMQ				LR	LR		
	comp=E,220nm,21.8s						
WMQ				LR	LR		
	comp=Z,270nm,28.4s						
PETK	**Petropavlovsk-**	**55.36**	**22**	P	**P**	**03 55 38.3**	**+1.4**
PETK	**Petropavlovsk-**	**55.36**	**22**	P	**P**	**03 55 38.3**	**+1.4**
	comp=Z,5.5nm,0.9s,baz=201,slow=7.9,SNR=4.0						
MK31	**Makanchi Array**	**57.66**	**325**	*e*P	**P**	**03 55 54.1**	**+0.6**
MKAR	**Makanchi Array**	**57.66**	**325**	*e*P	**P**	**03 55 53.6**	**+0.2**
MKAR				ScP	**ScP**	**04 00 46.5**	**+5.6**
MKAR	**Makanchi Array**	**57.66**	**325**	P	**P**	**03 55 52.5**	**-0.9**
	comp=Z,2.2nm,0.6s,baz=122,slow=8.5,SNR=13						
MKAR				ScP	**ScP**	**04 00 46.5**	**+5.6**
	comp=Z,0.5nm,0.8s,baz=108,slow=5.3,SNR=3.8						
KSH	**Kashi**	**58.17**	**315**	P	**P**	**03 55 57.3**	**0.0**
KSH				pP	**pP**	**03 56 13.3**	**-0.3**
KSH				sP	**sP**	**03 56 20.4**	**-0.1**
KSH				PcP	**PcP**	**03 56 47.1**	**-1.2**
KSH				PP	**PP**	**03 58 07.9**	**+1.2**
KSH				ScP	**ScP**	**04 00 40.1**	**-3.3**
KSH				PcS	**PcS**	**04 00 47.1**	**-2.8**
KSH				S	**S**	**04 03 52.9**	**-1.6**
KSH				sS	**sS**	**04 04 20.4**	**-1.6**
KSH				ScS	**ScS**	**04 05 37.3**	**-4.6**
KSH				SS	**SS**	**04 07 48.4**	**+1.4**
KSH				LR	LR		
	comp=N,150nm,6.1s						
KSH				LR	LR		
	comp=E,120nm,4.6s						
KSH				LR	LR		
	comp=Z,240nm,6.0s						
TKM2	**Tokmak 2**	**59.86**	**318**	*e*P	**P**	**03 56 08.5**	**-0.6**
	comp=Z,1.5nm,0.6s						
AAK	**Ala-Archa**	**60.48**	**318**	*e*P	**P**	**03 56 13.4**	**+0.2**
	comp=Z,19nm,1.3s						
AAK	**Ala-Archa**	**60.48**	**318**	P	**P**	**03 56 13.2**	**0.0**
	comp=Z,0.9nm,0.6s,baz=181,slow=9.7,SNR=4.6						
AAK				LR	LR	04 22 10.3	
	comp=Z,136nm,19.8s,baz=64,slow=36						
ZALV	**Zalesovo Beam**	**60.67**	**333**	P	**P**	**03 56 12.7**	**-1.4**
ZALV	**Zalesovo Beam**	**60.67**	**333**	P	**P**	**03 56 12.7**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=108,slow=4.8,SNR=5.4						
EKS2	**Erkin-Say**	**60.97**	**318**	*e*P	**P**	**03 56 16.2**	**-0.3**
	comp=Z,2.4nm,0.6s						
KURK	**Kurchatov**	**61.84**	**327**	*e*P	**P**	**03 56 22.6**	**+0.6**
	comp=Z,8.6nm,0.9s						
KKAR	**Karatay Array**	**63.35**	**317**	*e*P	**P**	**03 56 32.2**	**-0.1**
BRVK	**Borovoye**	**67.49**	**327**	*e*P	**P**	**03 56 59.0**	**+0.1**
	comp=Z,14nm,1.1s						
ABKAR

STKA	Stephens Creek	38.10	160	P		P	04 11 55.9	-0.3
	1.1nm,0.6s,baz=331,slow=10,SNR=3.0							
MKAR	Makanchi Array	57.75	325	P		P	04 14 28.2	-0.1
	0.2nm,0.3s,baz=116,slow=6.7,SNR=3.1							
ZALV	Zalesovo Beam	60.69	333	P		P	04 14 48.4	-0.1
	0.2nm,0.3s,baz=128,slow=9.3,SNR=2.8							

IDC ***13*** *04:05:22.7±0.6,3.95N×126.55E,h0km,mb4.2/18, mb1 4.3/18,mb1mx4.3/21,mbtmp4.2/18,MS3.1/2, Ms1 3.1/2,ms1mx2.5/34,Error ellipse: s-maj=34.4km s-min=13.9km az=72.0*

ISCJB ***13*** *04:05:27.2±0.3,3.92N±0.06×126.6E±0.1,h45km, mb4.4/34,MS3.0/1,Error ellipse: s-maj=16.1km s-min=6.5km az=159.7*

NEIC ***13*** *04:05:27.9±0.2,3.93N×126.59E,h35km,mb4.6/18,Error ellipse: s-maj=10.8km s-min=4.3km az=70.0*

ISC 13 04:05:29.2±0.5,3.93N±0.08×126.7E±0.1,h45km,n67, σ1§32/69,mb4.4/33,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.30	341	LR	LR	04 07 48.2	
	comp=Z,330nm,18.7s,baz=346,slow=45						
CTBH	Cotabato--PC H	4.06	324	⇑iP	Pn	04 06 30.7	+1.9
TPUB	Ta-pu	20.12	344	*e*P	P	04 09 58.7	-0.7
	19nm,0.6s						
SSLB	Suanglung	20.49	345	*e*P	P	04 10 03.7	+0.2
	11nm,0.6s						
FITZ	Fitzroy Crossi	21.92	183	P	P	04 10 17.9	-0.9
FITZ	Fitzroy Crossi	21.92	183	P	P	04 10 17.9	-0.9
	2.7nm,0.7s,baz=17,slow=6.3,SNR=3.5						
COEN	Coen	24.17	138	*e*P	P	04 10 41.2	-0.3
WRAB	Tennant Creek	24.89	163	*e*P	P	04 10 47.5	-0.5
	16nm,0.8s						
WRA	Warramunga Arr	24.90	163	P	P	04 10 47.4	-0.7
WRA	Warramunga Arr	24.90	163	P	P	04 10 47.4	-0.7
	12nm,0.8s,baz=343,slow=10,SNR=14						
AS31	Alice Springs	28.32	166	*e*P	P	04 11 19.7	+0.8
ASAR	Alice Springs	28.33	166	P	P	04 11 19.9	+1.0
ASAR	Alice Springs	28.33	166	P	P	04 11 19.9	+1.0
	0.8nm,0.5s,baz=344,slow=9.8,SNR=6.2						
CMAR	Chiang Mai Arr	30.71	300	P	P	04 11 40.0	-0.2
CMAR	Chiang Mai Arr	30.71	300	P	P	04 11 40.0	-0.2
	1.2nm,0.4s,baz=98,slow=6.7,SNR=3.3						
ENH	Enshi	30.82	330	*e*P	P	04 11 40.2	-0.8
	4.8nm,0.4s						
KSAR	Wonju Array Be	33.37	2	P	P	04 12 03.7	+0.6
KSRS	Korea Array	33.38	2	P	P	04 12 03.7	+0.5
	1.8nm,0.7s,baz=186,slow=11,SNR=4.4						
MJAR	Matsushiro Arr	34.11	17	LR	LR	04 22 55.8	
	comp=Z,27nm,21.2s,baz=220,slow=31						
EIDS	Eidsvold	37.55	142	*e*P	P	04 12 39.5	+0.2
	15nm,1.1s						
BBOO	Buckleboo	37.61	167	*e*P	P	04 12 39.5	-0.2
	56nm,0.6s						
STKA	Stephens Creek	38.34	159	P	P	04 12 45.9	+0.1
STKA	Stephens Creek	38.34	159	P	P	04 12 45.9	+0.1
	5.9nm,0.7s,baz=329,slow=7.5,SNR=9.5						
MDJ	Mudanjiang	40.60	3	*e*P	P	04 13 03.5	-1.0
LSA	Lhasa	42.26	311	*e*P	P	04 13 19.1	+0.2
	4.0nm,0.6s						
ULN	Ulaanbaatar	46.91	342	*e*P	P	04 13 55.4	0.0
	4.4nm,1.0s						
SONM	Songino Array	47.09	341	P	P	04 13 57.1	+0.4
SONM	Songino Array	47.09	341	P	P	04 13 57.1	+0.4
	1.4nm,0.9s,baz=157,slow=8.0,SNR=5.2						
PETK	Petropavlovsk-	55.27	22	P	P	04 14 58.2	+0.4
PETK	Petropavlovsk-	55.27	22	P	P	04 14 58.2	+0.4
	2.8nm,0.7s,baz=181,slow=5.8,SNR=3.5						
MK31	Makanchi Array	57.35	325	*e*P	P	04 15 11.7	-1.1
MKAR	Makanchi Array	57.35	325	P	P	04 15 12.5	-0.4
MKAR				PcP	PcP	04 16 08.0	+1.5
MKAR				ScP	ScP	04 20 08.8	+5.9
MKAR	Makanchi Array	57.35	325	P	P	04 15 12.5	-0.4
	2.0nm,0.7s,baz=122,slow=8.3,SNR=20						
MKAR				PcP	PcP	04 16 08.0	+1.5
	1.4nm,0.9s,baz=115,slow=5.6,SNR=3.8						
MKAR				ScP	ScP	04 20 08.8	+5.9
	0.3nm,0.8s,baz=124,slow=3.5,SNR=3.5						
YAK	Yakutsk	58.01	2	*e*P	P	04 15 17.5	+0.4
	20nm,0.7s						
ZALV	Zalesovo Beam	60.38	333	P	P	04 15 32.3	-1.4
ZALV	Zalesovo Beam	60.38	333	P	P	04 15 32.3	-1.4
	1.2nm,0.6s,baz=129,slow=6.9,SNR=9.0						
EKS2	Erkin-Say	60.66	318	*e*P	P	04 15 36.0	0.0
	1.5nm,0.8s						
KURK	Kurchatov	61.53	327	*e*P	P	04 15 41.0	-0.6
	3.9nm,0.6s						
BRVK	Borovoye	67.19	327	*e*P	P	04 16 18.9	+0.3
	2.7nm,0.7s						
ABKAR	Akbulak array	71.95	321	*e*P	P	04 16 47.1	-0.9
	0.8nm,0.6s						
AKTO	Aktyubinsk	73.46	322	P	P	04 16 56.6	-0.3
AKTO	Aktyubinsk	73.46	322	P	P	04 16 56.6	-0.3
	1.6nm,0.7s,baz=84,slow=8.0,SNR=6.5						
TRF	Thorofare Moun	83.39	27	*e*P	P	04 17 51.6	-0.1
	4.7nm,0.9s						
RC01	Rabbit Creek A	83.47	29	*e*P	P	04 17 52.4	+0.4
	10nm,1.1s						
COLD	Coldfoot	83.73	23	*e*P	P	04 17 53.4	+0.3
	6.4nm,1.0s						
PMR	Palmer	83.80	29	*e*P	P	04 17 53.8	+0.2
	10nm,1.1s						
MCK	McKinley	84.01	26	*e*P	P	04 17 54.4	-0.2
	12nm,1.3s						
ILAR	Eielson Array	84.95	25	P	P	04 17 59.4	0.0
ILAR	Eielson Array	84.95	25	P	P	04 17 59.4	0.0
	1.4nm,1.0s,baz=246,slow=5.9,SNR=8.3						
BRTR	Keskin Array B	89.84	310	P	P	04 18 21.9	-1.7
BRTR	Keskin Array B	89.84	310	P	P	04 18 21.9	-1.7
	1.1nm,0.9s,baz=73,slow=4.3,SNR=4.1						
ARCES	ARCESS Array B	90.24	340	P	P	04 18 23.3	-1.4
ARCES	ARCESS Array B	90.24	340	P	P	04 18 23.3	-1.4
	2.2nm,0.8s,baz=82,slow=7.6,SNR=6.5						
FINES	FINESS Array B	91.62	332	P	P	04 18 31.0	-0.2
FINES	FINESS Array B	91.62	332	P	P	04 18 31.0	-0.2
	2.2nm,1.0s,baz=66,slow=4.8,SNR=3.8						
AKASG	Malin Array Be	91.69	321	P	P	04 18 30.6	-1.3
AKASG	Malin Array Be	91.69	321	P	P	04 18 30.6	-1.3
	0.2nm,0.3s,baz=60,slow=6.3,SNR=5.0						
BUR08	Bucovina Ar. S	94.81	318	*e*P	P	04 18 46.4	0.0
NOA	NORSAR Array B	98.58	334	P	P	04 19 01.7	-1.4
NOA	NORSAR Array B	98.58	334	P	P	04 19 01.7	-1.4
	1.2nm,0.9s,baz=65,slow=4.5,SNR=2.8						
YKA	Yellowknife Ar	99.34	24	P	Pdif	04 19 05.7	-0.7
YKA	Yellowknife Ar	99.34	24	P	Pdif	04 19 05.6	-0.7
	0.2nm,0.8s,baz=298,slow=4.2,SNR=3.8						
TXAR	Lajitas Array	121.52	52	PKP	PKPdf	04 24 19.7	+1.1
TXAR	Lajitas Array	121.52	52	PKP	PKPdf	04 24 19.7	+1.1
	0.2nm,0.6s,baz=259,slow=0.9,SNR=2.9						
TORD	Torodi Ar. Bea	122.80	288	PKP	PKPdf	04 24 21.4	+0.1
TORD	Torodi Ar. Bea	122.80	288	PKP	PKPdf	04 24 21.4	+0.1
	0.3nm,0.7s,baz=2.2,slow=1.4,SNR=4.1						
TRQA	Tornquist	145.13	168	*e*PKPbc	PKPdf	04 25 02.4	+0.1

IDC 13 04:21:26.3±5.3,3.44N×126.18E,h0km,mb3.7/4, mb1 3.7/4,mb1mx3.5/20,mbtmp3.7/4,Error ellipse: s-maj=691.2km s-min=21.2km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.58	161	P	P	04 26 48.0	-0.3
	132nm,0.3s,baz=336,slow=11,SNR=12						
ASAR	Alice Springs	27.97	165	P	P	04 27 19.2	+0.3
	0.1nm,0.2s,baz=345,slow=8.9,SNR=3.3						
MKAR	Makanchi Array	57.48	326	P	P	04 31 16.9	-0.5
	0.3nm,0.4s,baz=118,slow=7.4,SNR=13						
KURBB	Kurchatov Arra	61.69	328	P	P	04 31 46.3	0.0
	0.5nm,0.3s,baz=129,slow=6.6,SNR=5.5						
BVAR	Borovoye Array	67.27	327	P	P	04 32 23.3	+0.6
	1.1nm,0.9s,baz=118,slow=6.4,SNR=4.3						

IDC ***13*** *04:24:38.5±0.5,19.42N×66.32W,h0km,mb4.0/16, mb1 4.3/17,mb1mx4.1/25,mbtmp4.1/17,ML3.2/1,Error ellipse: s-maj=16.0km s-min=13.4km az=70.0*

RSPR ***13*** *04:24:40.9,19.63N×66.30W,h35km±13km,MD3.8/14*

NEIC ***13*** *04:24:40.9,19.63N×66.30W,h35km,mb4.5/24,After RSPR.*

ISCJB ***13*** *04:24:41.1±1.3,19.43N±0.03×66.38W±0.03,h23km±10km, mb4.3/39,Error ellipse: s-maj=5.1km s-min=3.7km az=145.5*

ISC 13 04:24:41.7±1.6,19.37N±0.05×66.41W±0.03,h22km±12km, n252,σ1§01/277,mb4.4/39,100C-73D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	1.07	198	*e*P	Pb	04 25 02.3	+0.7
AOPR	Arecibo Observ	1.07	198	*e*P	Pb	04 25 02.3	+0.7
AOPR				*e*Sn	Sb	04 25 13.2	-2.0
AOPR				*e*Sn	Sn	04 25 13.7	-1.9
AOPR				*e*S		04 25 18.8	
AGPR	Aguadilla, PR	1.12	217	*e*P	Pb	04 25 02.5	+0.1
AGPR	Aguadilla, PR	1.12	217	*e*P	Pb	04 25 02.5	+0.1
LRS	Lares	1.15	201	*e*P	Pb	04 25 03.0	0.0
LRS	Lares	1.15	201	*e*Pn	Pn	04 25 02.4	-0.1
AGP	Aguadilla	1.18	216	*e*Pn	Pn	04 25 02.2	-0.8
AGP				*e*Sn	Sb	04 25 14.9	-3.5
CBYP	Canovanas	1.21	154	*e*P	Pn	04 25 03.0	-0.3
CBYP	Canovanas	1.21	154	*e*P	Pn	04 25 03.0	-0.3
CBYP				*e*S	Sn	04 25 20.3	+1.2
SJG	San Juan	1.27	169	*e*P	Pn	04 25 04.2	0.0
SJG	San Juan	1.27	169	*e*P	Pb	04 25 04.5	-0.6
SJG	San Juan	1.27	169	*e*P	Pb	04 25 04.5	-0.6
SJG				Sn	Sb	04 25 22.6	+1.6
SJG	San Juan	1.27	169	Pn	Pn	04 25 04.0	-0.2
	160nm,0.3s,baz=81,slow=0.1,SNR=168						
SJG				Sn	Sb	04 25 22.6	+1.6
	372nm,0.3s,baz=270,slow=20,SNR=67						
CELP	Cerrillos	1.30	187	*e*P	Pb	04 25 05.1	-0.4
CELP	Cerrillos	1.30	187	*e*Pn	Pn	04 25 04.2	-0.4
HUMP	Col San Antoni	1.33	157	*e*P	Pn	04 25 04.9	0.0
HUMP	Col San Antoni	1.33	157	*e*P	Pn	04 25 04.9	0.0
HUMP				*e*Sn	Sn	04 25 19.7	-2.3
HUMP				*e*S	Sb	04 25 23.4	+0.8
OBIP	Obispado Ponce	1.33	188	*e*P	Pb	04 25 06.0	-0.1
OBIP	Obispado Ponce	1.33	188	*e*P	Pb	04 25 06.0	-0.1
OBIP				*e*S	Sb	04 25 25.0	+2.3
MPR	Mayaguez	1.35	211	*e*Pn	Pn	04 25 05.5	+0.4
MPR				*e*Sn	Sn	04 25 20.7	-1.6
LSP	Las Mesas	1.35	209	*e*P	Pb	04 25 06.2	-0.2
LSP				*e*S	Sb	04 25 25.6	+2.4
LSP	Las Mesas	1.35	209	*e*P	Pb	04 25 06.2	-0.2
LSP				*e*S	Sb	04 25 25.6	+2.4
CPD	Cerro la Pandu	1.41	161	*e*P	Pn	04 25 06.2	+0.2
CPD				*e*S	Sb	04 25 26.0	+1.2
CPD	Cerro la Pandu	1.41	161	*e*P	Pn	04 25 06.2	+0.2
CPD				*e*S	Sb	04 25 26.0	+1.2
GBPR	Guanica, Bosqu	1.46	198	*e*P	Pb	04 25 07.5	-0.6
GBPR	Guanica, Bosqu	1.46	198	*e*P	Pb	04 25 07.5	-0.6
MTP	Monte Pirata	1.50	147	*e*Pn	Pn	04 25 06.5	-0.8
CRPR	Cabo Rojo, PR	1.51	206	*e*P	Pb	04 25 08.4	-0.7
CRPR	Cabo Rojo, PR	1.51	206	*e*P	Pb	04 25 08.4	-0.7
CRPR				*e*S	Sb	04 25 29.8	+1.9
CDVI	St. Croix	2.24	136	*e*Pn	Pn	04 25 18.5	+1.0
CDVI				*e*Sn	Sn	04 25 43.5	-0.9
SMN1	Samana, DR	2.71	267	*e*P	Pn	04 25 23.4	-0.7
SMN1				*e*S	Sn	04 25 55.8	-0.5
DR12	Loma Pena Alta	2.87	259	*e*P	Pn	04 25 25.9	-0.3
DR12				*e*S	Sn	04 26 00.6	+0.4
DR12	Loma Pena Alta	2.87	259	*e*P	Pn	04 25 25.9	-0.3
DR12				*e*S	Sn	04 26 00.6	+0.4
SDDR	Presa de Saban	4.63	266	*e*Pn	Pn	04 25 52.1	+1.6
SDDR				*e*Sn	Sn	04 26 45.3	+1.7
ANWB	Willy Bob	4.70	110	*e*Pn	Pn	04 25 51.8	+0.5
GRTK	Grand Turk	4.92	296	*e*Pn	Pn	04 25 50.5	-3.8
LZG	Guadaloupe-1	5.46	125	*e*P	Pn	04 26 03.1	+1.4
SDV	Santo Domingo	11.20	202	*e*Pn	Pn	04 27 19.4	-1.3
ROSC	El Rosal	16.36	209	*e*Pn	Pn	04 28 29.6	-0.9
ROSC	El Rosal	16.36	209	Pn	P	04 28 32.6	-0.7
	1.9nm,0.3s,baz=70,slow=6.3,SNR=12						
NHSC	New Hope	18.41	321	*e*P	P	04 28 51.1	-4.2
TEIG	Tepich	20.60	276	P	P	04 29 20.3	+0.9
TEIG	Tepich	20.60	276	P	P	04 29 20.3	+0.9
	7.1nm,0.8s,baz=62,slow=15,SNR=7.9						
TGUH	Tegucigalpa,Un	20.67	258	*e*P	P	04 29 20.7	+0.5
	89nm,1.3s						
OTAV	Otavalo	22.38	213	*e*P	P	04 29 40.0	+0.9
	58nm,1.4s						
JCT	Junction City	32.13	297	⇓P	P	04 31 08.6	+0.9
	baz=32						
Y29A	Porterfield Fa	34.49	302	⇓P	P	04 31 28.9	+0.7
	baz=34						
628A	Black Gap, Mar	34.59	294	⇓P	P	04 31 30.1	+1.0
	baz=34						
428A	Kincaid Ranch,	34.62	296	⇑P	P	04 31 29.7	+0.3
	baz=35,SNR=7.3						
228A	UT Block 9, Go	34.81	299	⇓P	P	04 31 31.1	0.0
	baz=35						
ECSD	EROS Data Cent	35.06	321	*e*P	P	04 31 32.9	-0.2
	7.6nm,0.8s						
TXAR	Lajitas Array	35.24	294	P	P	04 31 36.0	+1.2
TXAR				PcP	PcP	04 34 07.3	+1.8
TXAR	Lajitas Array	35.24	294	P	P	04 31 36.0	+1.2
	1.6nm,0.5s,baz=113,slow=9.1,SNR=23						
TXAR				PcP	PcP	04 34 07.3	+1.8
	1.1nm,0.9s,baz=140,slow=5.9,SNR=4.8						
427A	Hayter Ranch,	35.24	296	⇓P	P	04 31 34.9	0.0
	baz=35						
527A	Woodward Ranch	35.31	295	⇓P	P	04 31 35.9	+0.4
	baz=35						
SCHQ	Schefferville	35.40	360	P	P	04 31 35.6	-0.2
SCHQ				PcP	PcP	04 34 05.7	+0.3
SCHQ	Schefferville	35.40	360	P	P	04 31 35.6	-0.2
	1.4nm,0.7s,baz=153,slow=4.1,SNR=7.1						
SCHQ				PcP	PcP	04 34 05.7	+0.3
	1.2nm,0.7s,baz=162,slow=6.4,SNR=3.2						
LPAZ	La Paz	35.48	183	P	P	04 31 37.8	+0.4
LPAZ	La Paz	35.48	183	P	P	04 31 37.8	+0.4
	1.1nm,0.6s,baz=15,slow=7.3,SNR=4.9						
626A	Big Bend Ranch	35.67	294	⇓P	P	04 31 39.9	+1.4
	baz=36						
426A	McDonald Obser	35.75	296	⇑P	P	04 31 39.3	-0.1
	baz=36						
Z26A	Caprock	36.21	300	⇑P	P	04 31 43.2	+0.1
	baz=36						
425A	Indio Mountain	36.58	296	⇓P	P	04 31 47.1	+0.7
	baz=36,SNR=9.3						
325A	Bean Ranch, Si	36.66	297	⇓P	P	04 31 47.4	+0.3
	baz=37,SNR=5.6						
225A	Deer Hill, Car	36.67	298	⇑P	P	04 31 47.4	+0.3
	baz=37						
Y25A	Mesa, Roswell	36.94	301	⇓P	P	04 31 50.2	+0.8
	baz=37						
MNTX	Cornudas Mount	37.06	297	⇑P	P	04 31 50.6	+0.3
	baz=37						
324A	Moseley Ranch,	37.10	297	⇓P	P	04 31 51.2	+0.4
	baz=37						
U25A	Circle Dot Ran	37.35	305	⇓P	P	04 31 53.4	+0.5
	baz=37						
V25A	Rancho No Teng	37.35	304	⇑P	P	04 31 53.6	+0.6
	baz=37						
AGMN	Agassiz Nation	37.41	327	*e*P	P	04 31 51.0	-2.0
	3.2nm,0.7s						
S25A	Robets Cordova	37.74	307	⇑P	P	04 31 57.0	+0.7
	baz=38						
R24A	Sanders Place,	38.43	308	⇓P	P	04 32 02.6	+0.6
	baz=38						
SDCO	Great Sand Dun	38.58	307	*e*P	P	04 32 04.0	+0.6
	3.6nm,0.9s						
SDCO				*e*pP	pP	04 32 19.4	+9.2
SDCO	Great Sand Dun	38.58	307	⇓P	P	04 32 03.8	+0.4
	baz=38						
U23A	El Rito	38.71	304	⇑P	P	04 32 05.0	+0.5
	baz=39						
ISCO	Idaho Springs	39.31	310	*e*P	P	04 32 10.7	+1.2
	4.9nm,1.3s						
ISCO	Idaho Springs	39.31	310	⇑P	P	04 32 10.3	+0.8
	baz=39						
Y21A	Point of Rocks	39.38	300	⇑P	P	04 32 11.2	+1.2
	baz=39						
T22A	Edith	39.44	305	⇑P	P	04 32 11.7	+1.1
	baz=39						
PHWY	Pilot Hill	39.72	312	*e*P	P	04 32 12.9	0.0
	12nm,1.5s						
220A	Playas Peak, P	39.74	297	⇑P	P	04 32 13.7	+0.8
	baz=40						
U21A	Nageezi	39.88	304	⇓P	P	04 32 15.1	+0.8
	baz=40						
O22A	Kremmling	40.10	310	⇓P	P	04 32 16.9	+0.7
	baz=40						
R21A	Cimarron	40.30	307	⇓P	P	04 32 19.0	+1.3
	baz=40						
Q21A	Lamborn Mesa,	40.45	308	⇑P	P	04 32 20.0	+1.1
	baz=40						
P21A	Newcastle	40.56	309	⇓P	P	04 32 21.0	+1.1
	baz=40						
L22A	Ellis Ranch, M	40.67	313	⇑P	P	04 32 22.8	+2.2
	baz=40						
K22A	Casper	40.96	314	⇓P	P	04 32 25.1	+2.1
	baz=41						
Q20A	Ridgley Place,	41.03	308	⇑P	P	04 32 24.9	+1.2
	baz=41						
T19A	Beclabito	41.05	304	⇑P	P	04 32 24.8	+1.0
	baz=41						
P20A	De Beque	41.25	308	⇓P	P	04 32 26.7	+1.3
	baz=41						
L21A	Rawlins	41.30	312	⇑P	P	04 32 26.4	+0.5
	baz=41						
S19A	Harvey Farm, M	41.35	305	⇑P	P	04 32 26.9	+0.6
	baz=41						
K21A	Alcova	41.45	313	⇓P	P	04 32 28.3	+1.2
	baz=41,SNR=7.5						
D24A	Glendive	41.46	321	⇓P	P	04 32 28.6	+1.7
	baz=41						
R19A	Curley Farm, L	41.58	306	⇑P	P	04 32 28.7	+0.5
	baz=42						
Q19A	Hogan Spring (	41.75	307	⇑P	P	04 32 30.4	+0.9
	baz=42						
T18A	Mexican Hat	41.78	304	⇑P	P	04 32 30.5	+0.8
	baz=42						
G22A	Birney	41.82	317	⇓P	P	04 32 31.2	+1.2
	baz=42						
J21A	Lysite	41.84	314	⇑P	P	04 32 31.1	+0.9
	baz=42						
I21A	Big Trails, Te	41.91	315	⇑P	P	04 32 31.5	+0.7
	baz=42						
X17A	Forest Lakes	41.99	300	⇑P	P	04 32 32.6	+0.9
	baz=42						
L20A	Wamsutter	41.99	312	⇓P	P	04 32 32.1	+0.6
	baz=42						
S18A	Hurst Farm, Bl	42.00	305	⇓P	P	04 32 32.6	+0.9
	baz=42						
O19A	Miners Draw (B	42.02	309	⇑P	P	04 32 32.7	+0.9
	baz=42						
F22A	Rosebud	42.04	318	⇓P	P	04 32 32.6	+0.9
	baz=42						
R18A	Canyonlands Na	42.09	306	⇓P	P	04 32 32.8	+0.5
	baz=42						
E22A	Miles City	42.13	319	⇑P	P	04 32 33.1	+0.7
	baz=42						
K20A	Yellowstone Ra	42.21	313	⇓P	P	04 32 34.3	+1.1
	baz=42						
N19A	John Jarvie Ra	42.24	310	⇑P	P	04 32 34.1	+0.6
	baz=42						
J20A	Shoshoni	42.28	314	⇑P	P	04 32 34.7	+0.9
	baz=42						
I20A	Worland	42.53	315	⇓P	P	04 32 36.3	+0.6
	baz=42						
K19A	Absolon Red Bu	42.62	313	⇑P	P	04 32 36.9	+0.3
	baz=42						
WUAZ	Wupatki	42.65	302	⇓P	P	04 32 37.9	+1.1
	baz=43						
P18A	Preston Nutter	42.66	308	⇓P	P	04 32 37.2	0.0
	baz=43						
L19A	Farson	42.74	312	⇑P	P	04 32 38.2	+0.6
	baz=43						
J19A	Crowheart	42.91	313	⇓P	P	04 32 39.5	+0.5
	baz=43,SNR=6.6						
D21A	La Casta Ranch	43.05	319	⇑P	P	04 32 41.0	+1.1
	baz=43,SNR=11						
BW06	Boulder Array	43.09	313	⇓P	P	04 32 41.1	+0.6
	baz=43						
PDAR	Pinedale Array	43.09	313	P	P	04 32 40.9	+0.3
PDAR				PcP	PcP	04 34 30.8	+0.5
PDAR	Pinedale Array	43.09	313	P	P	04 32 40.9	+0.3
	1.1nm,0.8s,baz=106,slow=11,SNR=6.4						
PDAR				PcP	PcP	04 34 30.8	+0.5
	1.1nm,0.6s,baz=117,slow=5.9,SNR=6.2						
O17A	Robinson Place	43.18	309	⇓P	P	04 32 42.1	+0.9
	baz=43						
S16A	Weppner Ranch,	43.24	305	⇓P	P	04 32 42.2	+0.5
	baz=43						
F20A	Billings	43.25	317	⇓P	P	04 32 42.7	+1.2
	baz=43						
214A	Organ Pipe Nat	43.36	296	⇑P	P	04 32 44.4	+1.8
	baz=43						
H19A	Powell	43.37	315	⇑P	P	04 32 44.0	+1.4
	baz=43						
K18A	Toltan Ranch,	43.39	312	⇓P	P	04 32 44.2	+1.3
	baz=43						
114A	Black Gap (USA	43.50	297	⇑P	P	04 32 44.8	+1.2
	baz=43						
E20A	Meyer Farm, Mu	43.52	318	⇓P	P	04 32 44.8	+1.1
	baz=43						
J18A	Kendall Valley	43.56	313	⇑P	P	04 32 44.8	+0.5
	baz=43						
I18A	Diamond G Ranc	43.58	314	⇓P	P	04 32 45.0	+0.6
	baz=44,SNR=5.3						
RLMT	Red Lodge	43.72	316	*e*P	P	04 32 45.8	+0.3
	74nm,2.6s						
RLMT	Red Lodge	43.72	316	⇑P	P	04 32 46.4	+0.9
	baz=44						
D20A	Manuel Ranch,	43.77	319	⇑P	P	04 32 47.2	+1.5
	baz=44						
H18A	Shoshone NF, C	43.82	315	⇑P	P	04 32 46.7	+0.4
	baz=44						
E19A	Rath Farm, Rou	43.92	318	⇓P	P	04 32 48.2	+1.3
	baz=44						
C20A	Veseth Ranch,	43.95	320	⇓P	P	04 32 47.9	+0.8
	baz=44						
J17A	Brown Place, J	44.09	313	⇑P	P	04 32 49.1	+0.7
	baz=44						
LOHW	Long Hollow

I15A	Monteview	45.51	313	⇓P		P	04 33 01.4 +1.7
	baz=45						
K14A	Jones Ranch, D	45.58	311	⇑P		P	04 33 00.9 +0.6
	baz=45						
A18A	Metzger Ranch,	45.58	321	⇑P		P	04 33 01.3 +1.3
	baz=45						
C17A	Wharram Farm,	45.62	319	⇓P		P	04 33 01.5 +1.0
	baz=46						
E16A	East Helena	45.80	317	⇑P		P	04 33 02.8 +0.9
	baz=46						
G15A	Dillon	45.87	315	⇑P		P	04 33 04.2 +1.6
	baz=46						
D16A	Dana Ranch, Ca	45.89	318	⇑P		P	04 33 03.8 +1.1
	baz=46						
B17A	L&G Farms, Che	45.90	319	⇓P		P	04 33 03.7 +1.1
	baz=46						
HRY	Holter Researc	45.96	317	eP		P	04 33 04.3 +1.1
SWSC	Sam W. Stewart	45.96	297	⇑P		P	04 33 04.0 +0.7
	baz=46						
DLMT	Dillon	46.01	315	eP		P	04 33 03.0 -0.7
	3.5nm,0.7s						
MCMT	McKenzie Canyo	46.01	314	eP		P	04 33 04.4 +0.7
	0.9nm,0.9s						
J14A	Carey	46.03	312	⇓P		P	04 33 05.1 +1.2
	baz=46						
F15A	Butte	46.09	316	⇑P		P	04 33 05.8 +1.5
	baz=46						
A17A	Triple J Farms	46.10	320	⇓P		P	04 33 05.2 +1.0
	baz=46						
I14A	Mackay	46.15	313	⇑P		P	04 33 06.1 +1.2
	baz=46,SNR=11						
H14A	Leadore	46.30	314	⇓P		P	04 33 07.2 +1.3
	baz=46,SNR=8.1						
C16A	Fuhringer Ranc	46.30	318	⇑P		P	04 33 06.5 +0.7
	baz=46						
B16A	M & M Farms, S	46.51	319	⇑P		P	04 33 08.4 +1.0
	baz=46						
J13A	Cove Ranch, Pi	46.51	312	⇑P		P	04 33 08.5 +0.9
	baz=46,SNR=10						
G14A	Jackson	46.55	315	⇓P		P	04 33 09.0 +1.0
	baz=46						
PFO	Pinyon Flat Ob	46.56	298	⇑P		P	04 33 08.6 +0.5
	baz=46						
I13A	Wildhorse Cree	46.61	313	⇑P		P	04 33 09.7 +1.2
	baz=46,SNR=9.7						
A16A	West Butte Ran	46.65	320	⇑P		P	04 33 09.3 +0.7
	baz=46,SNR=7.2						
F14A	Wisdom	46.66	315	⇓P		P	04 33 09.8 +1.0
	baz=46,SNR=6.2						
HLID	Hailey	46.72	312	eP		P	04 33 10.4 +1.1
	4.0nm,0.9s						
HLID	Hailey	46.72	312	⇑P		P	04 33 10.0 +0.7
	baz=47,SNR=6.8						
C15A	Salmond Ranch,	46.83	318	⇑P		P	04 33 10.8 +0.7
	baz=47,SNR=10						
H13A	Challis	46.89	313	⇓P		P	04 33 11.5 +0.9
	baz=47						
B15A	Bradely Ranch,	47.00	319	⇑P		P	04 33 12.2 +0.9
	baz=47						
D14A	Greenough	47.17	317	⇑P		P	04 33 13.2 +0.6
	baz=47						
I12A	Atlanta	47.29	312	⇓P		P	04 33 14.8 +1.0
	baz=47						
H12A	Diamond D Ranc	47.30	313	⇑P		P	04 33 14.5 +0.7
	baz=47						
A15A	Johnson Ranch,	47.35	320	⇑P		P	04 33 14.9 +0.8
	baz=47,SNR=6.7						
MSO	Missoula	47.37	316	⇑P		P	04 33 15.3 +1.1
	baz=47						
E13A	Victor	47.40	316	⇑P		P	04 33 15.4 +0.9
	baz=47						
B14A	Marquette Ranc	47.46	319	⇑P		P	04 33 15.4 +0.5
	baz=47						
C14A	Swan Lake	47.55	318	⇑P		P	04 33 16.4 +0.8
	baz=47						
SWMT	Swartz Lake	47.62	317	eP		P	04 33 15.8 -0.4
	2.8nm,0.7s						
MFID	Camas Ranch	47.68	312	eP		P	04 33 17.4 +0.7
	4.5nm,0.9s						
MFID	Camas Ranch	47.68	312	⇑P		P	04 33 17.2 +0.5
	baz=48						
A14A	Double T Ranch	47.77	319	⇓P		P	04 33 17.5 +0.1
	baz=48,SNR=7.3						
G12A	Big Creek, Yel	47.78	314	⇑P		P	04 33 18.5 +1.0
	baz=48						
D13A	Huson	47.79	317	⇓P		P	04 33 18.3 +0.8
	baz=48,SNR=5.2						
F12A	Elk City	47.91	315	⇑P		P	04 33 19.1 +0.7
	baz=48						
C13A	Hot Springs	48.05	317	⇑P		P	04 33 20.2 +0.7
	baz=48						
WALA	Waterton Lakes	48.10	319	eP		P	04 33 20.4 +0.5
	1.0nm,2.0s						
B13A	Whitefish	48.21	318	⇓P		P	04 33 21.0 +0.3
	baz=48						
BSMT	Bassoo Peak	48.24	318	eP		P	04 33 20.9 -0.2
E12A	Beaver Dam Sad	48.31	315	⇑P		P	04 33 22.7 +1.2
	baz=48						
D12A	Red Ives Fores	48.35	316	⇓P		P	04 33 21.9 0.0
	baz=48						
A13A	Flathead Natio	48.37	319	⇑P		P	04 33 22.8 +0.9
	baz=48						
NVAR	Mina Array Bea	48.58	304	P		P	04 33 24.6 +0.8
NVAR	Mina Array Bea	48.58	304	P		P	04 33 24.6 +0.8
	0.9nm,0.5s,baz=92,slow=7.8,SNR=6.0						
BMO	Blue Mountains	49.06	313	eP		P	04 33 27.4 0.0
	13nm,1.9s						
C11A	Tepee Creek (N	49.18	317	⇑P		P	04 33 28.8 +0.7
	baz=49						
NEW	Newport	49.86	317	eP		P	04 33 33.3 0.0
	8.5nm,0.7s						
NEW	Newport	49.86	317	⇑P		P	04 33 34.0 +0.7
	baz=50,SNR=13						
YKA	Yellowknife Ar	54.26	335	P		P	04 34 04.5 -1.1
YKA	Yellowknife Ar	54.26	335	P		P	04 34 04.5 -1.1
	1.8nm,0.6s,baz=113,slow=7.7,SNR=43						
ESDC	Sonseca Array	56.86	55	P		P	04 34 24.1 -0.8
ESDC	Sonseca Array	56.86	55	P		P	04 34 24.1 -0.8
	1.3nm,0.7s,baz=274,slow=7.5,SNR=9.6						
RES	Resolute Bay	57.43	351	P		P	04 34 28.4 +0.1
RES	Resolute Bay	57.43	351	P		P	04 34 28.4 +0.1
	0.8nm,0.8s,baz=140,slow=7.6,SNR=4.3						
DBIC	Dimbokro	61.00	93	P		P	04 34 54.0 0.0
DBIC	Dimbokro	61.00	93	P		P	04 34 54.0 0.0
	3.0nm,0.6s,baz=293,slow=7.9,SNR=4.8						
TORD	Torodi Ar. Bea	65.32	84	P		P	04 35 21.8 -0.9
TORD	Torodi Ar. Bea	65.32	84	P		P	04 35 21.8 -0.9
	0.6nm,0.6s,baz=295,slow=7.0,SNR=16						
ILAR	Eielson Array	68.61	333	P		P	04 35 42.2 -0.5
ILAR	Eielson Array	68.61	333	P		P	04 35 42.2 -0.5
	2.3nm,0.6s,baz=105,slow=4.0,SNR=39						
ARCES	ARCESS Array B	72.69	22	P		P	04 36 06.9 -0.6
ARCES	ARCESS Array B	72.69	22	P		P	04 36 06.9 -0.6
	2.4nm,0.8s,baz=288,slow=4.6,SNR=3.9						
FINES	FINESS Array B	74.37	30	P		P	04 36 17.1 -0.3
FINES	FINESS Array B	74.37	30	P		P	04 36 17.1 -0.3
	2.9nm,1.0s,baz=289,slow=5.8,SNR=3.4						
MLR	Muntele Rosu	78.05	46	P		P	04 36 40.5 +1.6
MLR	Muntele Rosu	78.05	46	P		P	04 36 40.5 +1.6
	0.5nm,0.7s,baz=246,slow=20,SNR=7.4						
BRTR	Keskin Array B	85.25	50	P		P	04 37 18.1 +1.0
BRTR	Keskin Array B	85.25	50	P		P	04 37 18.1 +1.0
	1.0nm,0.7s,baz=272,slow=2.4,SNR=6.3						
STKA	Stephens Creek	151.94	238	PKPbc		PKPbc	04 44 35.3 -0.1
STKA	Stephens Creek	151.94	238	PKPbc		PKPbc	04 44 35.3 -0.1
	2.8nm,1.0s,baz=124,slow=3.6,SNR=3.6						
ASAR	Alice Springs	160.63	254	PKPab		PKPab	04 45 22.4 0.0
ASAR	Alice Springs	160.63	254	PKPab		PKPab	04 45 22.4 0.0
	0.9nm,0.7s,baz=94,slow=4.1,SNR=6.0						

BJI ***13*** *04:28:13.9, 3.˚73N×126.˚72E, h19km, mB5.1/27, mb4.9/45, Ms4.6/21, Ms7 4.2/22*

IDC ***13*** *04:28:14.3±0.5, 3.˚88N×126.˚51E, h0km, mb4.7/27, mb1 4.7/27, mb1mx4.7/28, mbtmp4.6/27, MS3.7/11, Ms1 3.7/11, ms1mx3.4/41, Error ellipse: s-maj=20.6km s-min=11.0km az=73.0*

TEH ***13*** *04:28:15.0, 4.˚20N×127.˚02E, h9km, ML5.0*

ISCJB ***13*** *04:28:15.1±0.2, 3.˚99N±0.˚03×126.˚63E±0.˚05, h15km, mb4.9/96, MS3.8/20, Error ellipse: s-maj=7.6km s-min=3.8km az=159.5*

MOS ***13*** *04:28:17.6±0.9, 3.˚93N×126.˚60E, h33km, mb5.1/33, Error ellipse: s-maj=12.7km s-min=5.7km az=114.0*

NEIC ***13*** *04:28:19.5±0.2, 3.˚95N×126.˚68E, h35km, mb4.9/42, Error ellipse: s-maj=8.8km s-min=4.6km az=70.0*

DJA ***13*** *04:28:26, 3.˚67N×126.˚66E, h51km, mb4.8/23*

ISC 13 04:28:17.1±0.5, 3.˚99N±0.˚04×126.˚69E±0.˚06, h17km±2km, n247, σ1=39/267, mb4.9/94, MS3.8/21, 16C-6D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GSPH	General Santos	2.71	320	eP		Pb	04 29 04.5	-0.8
MATI	Mati	2.97	352	eP		Pb	04 29 08.0	-1.6
MNI	Manado	3.13	216	P		Pg	04 29 15.2	-2.0
DAV	Davao City (W)	3.25	340	Pn		Pb	04 29 13.4	-1.1
DAV				Sn		Sg	04 30 00.8	-0.9
DAV	Davao City (W)	3.25	340	Pn		Pb	04 29 13.4	-1.1
	77nm,0.3s,baz=215,slow=19,SNR=6.5							
DAV				Sn		Sg	04 30 00.8	-0.9
	72nm,0.3s,baz=143,slow=20,SNR=3.8							
DAV				LR		LR	04 30 42.4	
	comp=Z,1μm,18.5s,baz=36,slow=45							
TNTI	Ternate	3.27	168	P		Pn	04 29 09.2	+1.6
DMPH	Davao City--Mi	3.29	339	⇑P		Pb	04 29 14.3	-0.8
KCP	Kidapawan	3.40	332	⇑P		Pb	04 29 13.7	-3.2
CTBH	Cotabato--PC H	4.03	323	⇑eP		Pn	04 29 21.5	+3.4
BUKP	Musuan	4.19	337	eP		Pn	04 29 25.2	+4.8
KMSI	Cibinong	4.34	219	P		Pg	04 29 39.4	-0.9
LBMI	Labuha	4.67	170	P		Pn	04 29 28.9	+2.0
CGP	Cagayan de Oro	4.86	336	⇓eP		Pb	04 29 36.6	-5.2
BUTP	Butuan	5.06	348	eP		Pb	04 29 39.1	-6.2
MRSI	Marisa	5.89	234	P		Pn	04 29 47.7	+4.0
	229nm,0.6s,2μm0.8nm							
MSLP	Maasin	6.37	344	eP		Pn	04 29 58.0	+7.8
SWI	Sorong	6.64	136	P		Pn	04 29 55.8	+1.8
	118nm,1.3s,2μm0.5nm							
NLAI	Namlea	7.19	177	P		Pn	04 30 03.8	+2.2
	64nm,0.9s,961nm0.4nm							
MYLDM	Lahad Datu	8.25	279	P		Pn	04 30 24.0	+7.9
	118nm,1.4s,0.5nm							
KDI	Kendari	8.88	207	P		Pn	04 30 35.3	+11
KKM	Kota Kinabalu	10.63	281	ePn		Pn	04 30 54.5	+5.6
KKM	Kota Kinabalu	10.63	281	P		Pn	04 30 56.9	+8.0
	26nm,1.0s,573nm							
BAKI	Biak	10.73	118	P		Pn	04 30 56.9	+6.8
	121nm,1.3s							
TLE	Tual	11.31	148	P		Pn	04 31 02.5	+4.4
	139nm,1.1s							
KAPI	Kappang	11.31	218	Pn		Pn	04 31 02.9	+4.7
KAPI	Kappang	11.31	218	Pn		Pn	04 31 02.9	+4.7
	0.4nm,0.3s,baz=41,slow=19,SNR=2.0							
KSM	Kuching	16.55	262	eP		P	04 32 14.0	+2.8
	43nm,1.1s							
TWG	Pinlang	19.49	344	eP		P	04 32 42.3	-1.2
	37nm,0.6s							
YULB	Yu-li	19.98	345	eP		P	04 32 47.8	-1.1
	257nm,2.4s							
TPUB	Ta-pu	20.07	344	eP		P	04 32 49.7	-0.1
	54nm,0.6s							
GUMO	Guam	20.32	61	LR		LR	04 40 05.7	
	comp=Z,129nm,18.7s,baz=114,slow=35							
SSLB	Suanglung	20.45	345	eP		P	04 32 53.6	-0.3
	33nm,0.7s							
FITZ	Fitzroy Crossi	21.98	183	eP		P	04 33 09.5	-0.9
	12nm,0.8s							
FITZ	Fitzroy Crossi	21.98	183	eP		P	04 33 09.4	-0.9
	17nm,0.6s							
FITZ	Fitzroy Crossi	21.98	183	P		P	04 33 09.0	-1.4
	4.7nm,0.5s,baz=3.4,slow=11,SNR=13							
QIZ	Qiongzhong	22.23	314	P		P	04 33 15.3	+2.1
QIZ				S		S	04 37 21.8	+4.3
QZH	Quanzhou	22.24	340	P		P	04 33 12.4	-0.8
QZH				pmax		pmax		
	comp=Z,80nm,0.9s							
COEN	Coen	24.20	138	eP		P	04 33 32.0	-1.1
	comp=Z,124nm,1.2s							
COEN	Coen	24.20	138	eP		P	04 33 31.4	-1.6
	comp=Z,41nm,0.6s							
PMG	Port Moresby	24.36	123	eP		P	04 33 33.7	-0.8
	comp=Z,14nm,0.8s							
WRAB	Tennant Creek	24.94	163	eP		P	04 33 39.3	-0.4
WRAB				pmax		pmax		
	comp=Z,34nm,0.8s							
WRAB	Tennant Creek	24.94	163	eP		P	04 33 39.3	-0.4
	comp=Z,34nm,0.8s							
WRA	Warramunga Arr	24.94	163	P		P	04 33 38.3	-1.5
WRA	Warramunga Arr	24.94	163	P		P	04 33 38.3	-1.5
	comp=Z,33nm,0.8s,baz=344,slow=10,SNR=115							
IPM	Ipoh	25.60	272	eP		P	04 33 48.1	+2.2
	comp=Z,31nm,1.3s							
MBWA	Marble Bar	25.91	195	eP		P	04 33 48.5	0.0
	comp=Z,58nm,1.4s							
MBWA	Marble Bar	25.91	195	eP		P	04 33 48.5	0.0
KULM	Kulim	25.98	274	eP		P	04 33 50.9	+1.6
	comp=Z,24nm,1.2s							
CBIJ	Chichi jima	27.34	31	LR		LR	04 43 30.6	
	comp=Z,138nm,20.3s,baz=137,slow=33							
PSI	Prapat	27.74	268	P		P	04 34 03.6	-1.7
PSI	Prapat	27.74	268	P		P	04 34 03.6	-1.7
	comp=Z,9.4nm,1.0s,baz=135,slow=19,SNR=6.0							
AS31	Alice Springs	28.37	166	eP		P	04 34 10.1	-0.6
ASAR	Alice Springs	28.37	166	P		P	04 34 09.6	-1.1
ASAR	Alice Springs	28.37	166	P		P	04 34 09.6	-1.1
	comp=Z,3.4nm,0.5s,baz=345,slow=7.5,SNR=20							
WHN	Wuhan	28.87	338	P		P	04 34 16.1	+1.1
GYA	Guiyang	29.44	321	P		P	04 34 22.0	+1.7
GYA				PP		PnPn	04 35 17.8	+3.4
GYA				PcP		PcP	04 37 27.5	+1.5
GYA				S		S	04 39 15.8	+1.8
GYA				SS		SS	04 40 48.9	-30
GYA				ScP		ScP	04 41 08.4	+1.0
GYA				ScS		ScS	04 45 01.3	-0.8
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,120nm,4.9s							
GYA				LR		LR		
	comp=N,550nm,17.8s							
GYA				LR		LR		
	comp=E,510nm,18.2s							
GYA				LR		LR		
	comp=Z,560nm,17.9s							
CMAR	Chiang Mai Arr	30.71	300	P		P	04 34 31.9	+0.5
CMAR	Chiang Mai Arr	30.71	300	P		P	04 34 31.9	+0.5
	comp=Z,3.6nm,0.8s,baz=120,slow=7.1,SNR=16							
CMAR				LR		LR	04 46 49.5	
	comp=Z,84nm,21.1s,baz=135,slow=36							
ENH	Enshi	30.78	330	eP		P	04 34 32.1	+0.1
	comp=Z,16nm,0.6s							
CHTO	Chiang Mai	30.85	301	eP		P	04 34 33.4	+0.6
CHTO				pmax		pmax		
	comp=Z,8.0nm,0.8s							
CHTO	Chiang Mai	30.85	301	eP		P	04 34 33.4	+0.6
	comp=Z,7.8nm,0.8s							
KMI	Kunming	31.17	315	P		P	04 34 38.9	+3.2
KMI				pP		pP	04 34 40.8	-0.1
KMI				sP		sP	04 34 41.8	-1.2
KMI				PP		PnPn	04 35 41.4	+3.9
KMI				S		S	04 39 44.1	+2.8
KMI				SS		SS	04 41 30.6	-24
KMI				pmax		pmax		
	comp=Z,12nm,0.9s							
KMI				LR		LR		
	comp=N,170nm,10.7s							
KMI				LR		LR		
	comp=E,180nm,16.1s							
KMI				LR		LR		
	comp=Z,250nm,20.4s							
MEEK	Meekatharra	31.43	194	eP		P	04 34 37.5	-0.2
	comp=Z,79nm,0.8s							
KSAR	Wonju Array Be	33.31	2	P		P	04 34 55.7	+1.7
KSRS	Korea Array	33.33	2	P		P	04 34 55.7	+1.6
	comp=Z,3.9nm,0.5s,baz=183,slow=9.8,SNR=14							
KSRS				LR		LR	04 49 27.9	
	comp=Z,77nm,20.2s,baz=180,slow=38							
MJAR	Matsushiro Arr	34.09	17	P		P	04 35 02.0	+1.2
MJAR	Matsushiro Arr	34.09	17	P		P	04 35 02.0	+1.2
	comp=Z,1.9nm,0.5s,baz=183,slow=11,SNR=4.6							
XAN	Xi'an	34.17	333	P		P	04 35 01.0	-0.6
XAN				pP		pP	04 35 05.0	-1.8
XAN				S		S	04 40 25.4	-2.0
XAN				pmax		pmax		
	comp=Z,17nm,0.7s							
XAN				pmax		pmax		
	comp=Z,26nm,4.9s							
XAN				LR		LR		
	comp=N,110nm,14.6s							
XAN				LR		LR		
	comp=E,94nm,17.6s							
XAN				LR		LR		
	comp=Z,74nm,17.2s							
FORT	Forrest	34.60	178	eP		P	04 35 04.6	-0.7
	comp=Z,18nm,0.7s							
HNR	Honiara	35.73	112	LR		LR	04 48 27.5	
	comp=Z,88nm,20.2s,baz=110,slow=34							
BJT	Baijiatuau	37.11	347	eP		P	04 35 27.6	+0.8
	comp=Z,72nm,0.8s							
BJI	Beijing	37.13	347	P		P	04 35 27.6	+0.7
BJI				S		S	04 41 14.5	+2.0
BJI				pmax		pmax		
	comp=Z,76nm,0.8s							
BJI				LR		LR		
	comp=Z,66nm,21.9s							
SNY	Shenyang	37.78	356	⇓P		P	04 35 34.6	+2.3
SNY				pmax		pmax		
	comp=Z,46nm,0.6s							
NWAO	Narrogin (SRO)	37.79	193	P		P	04 35 32.7	0.0
NWAO	Narrogin (SRO)	37.79	193	P		P	04 35 32.7	0.0
	comp=Z,4.8nm,0.5s,baz=45,slow=10.0,SNR=3.6							
LZH	Lanzhou	38.26	329	eP		P	04 35 36.8	0.0
LZH				pP		pP	04 35 41.3	-0.7
LZH				sP		sP	04 35 43.8	-0.3
LZH				pmax		pmax		
	comp=Z,28nm,1.0s							
LZH				pmax		pmax		
	comp=Z,97nm,5.6s							
LZH				LR		LR		
	comp=N,550nm,17.7s							
LZH				LR		LR		
	comp=E,300nm,16.2s							
LZH				LR		LR		
	comp=Z,380nm,19.6s							
STKA	Stephens Creek	38.38	159	eP		P	04 35 37.7	+0.1
	comp=Z,7.9nm,0.6s							
STKA	Stephens Creek	38.38	159	eP		P	04 35 37.3	-0.3
	comp=Z,29nm,0.6s							
STKA	Stephens Creek	38.38	159	P		P	04 35 37.5	-0.1
	comp=Z,37nm,0.6s,baz=338,slow=8.9,SNR=57							
HHC	Hu-ho-hao-te	39.14	342	eP		P	04 35 44.3	+0.3
HHC				pP		pP	04 35 50.9	+1.6
HHC				sP		sP	04 35 55.8	+4.4
HHC				PP		PnPn	04 37 20.8	+4.3
HHC				PcP		PcP	04 37 52.0	-1.5
HHC				ScP		ScP	04 41 38.6	-2.8
HHC				S		S	04 41 43.4	+0.1
HHC				sS		sS	04 41 57.8	+5.9
HHC				SS		SS	04 44 27.6	-8.7
HHC				pmax		pmax		
	comp=Z,20nm,1.1s							
HHC				pmax		pmax		
	comp=Z,120nm,7.2s							
HHC				LR		LR		
	comp=N,140nm,21.6s							
HHC				LR		LR		
	comp=E,300nm,20.4s							
HHC				LR		LR		
	comp=Z,240nm,20.4s							
CN2	Changchun	39.66	359	eP		P	04 35 47.6	-0.6
CN2				eS		S	04 41 49.8	-1.0
CN2				pmax		pmax		
	comp=Z,10.0nm,1.0s							
CN2				pmax		pmax		
	comp=Z,200nm,4.0s							
CN2				LR		LR		
	comp=N,1μm,20.0s							
CN2				LR		LR		
	comp=E,700nm,20.0s							
CN2				LR		LR		
	comp=Z,1μm,21.0s							
CMSA	Cobar Meteorol	39.70	154	eP		P	04 35 49.1	+0.5
	comp=Z,42nm,0.6s							
USRK	Ussuriysk Arra	40.32	6	P		P	04 35 54.9	+1.3
	comp=Z,6.5nm,0.7s,baz=189,slow=7.7,SNR=11							
MDJ	Mudanjiang	40.54	3	P		P	04 35 55.3	-0.2
MDJ				ScP		ScP	04 41 45.8	-0.8
MDJ				S		S	04 42 03.3	-0.6
MDJ				ScS		ScS	04 46 00.5	-0.2
MDJ				pmax		pmax		
	comp=Z,11nm,1.7s							
MDJ				pmax		pmax		
	comp=Z,200nm,4.4s							
MDJ				LR		LR		
	comp=Z,65nm,26.1s							
MDJ	Mudanjiang	40.54	3	eP		P	04 35 56.5	+1.0
	comp=Z,15nm,0.8s							
ARMA	Armidale	41.70	147	eP		P	04 36 05.6	+0.3
	comp=Z,32nm,0.8s							
ARMA	Armidale	41.70	147	eP		P	04 36 06.6	+1.2
LSA	Lhasa	42.24	311	eP		P	04 36 10.8	+0.6
LSA				pmax		pmax		
	comp=Z,11nm,0.6s							
LSA	Lhasa	42.24	311	eP		P	04 36 10.8	+0.6
	comp=Z,11nm,0.6s							
GTA	Gaotai	42.85	329	eP		P	04 36 14.3	-0.4
GTA				pP		pP	04 36 18.0	-2.0
GTA				sP		sP	04 36 21.3	-0.8
GTA				S		S	04 42 38.8	+0.1
GTA				SS		SS	04 45 45.1	-5.1
GTA				pmax		pmax		
	comp=Z,9.0nm,0.9s							
GTA				pmax		pmax		
	comp=Z,200nm,6.7s							
GTA				LR		LR		
	comp=N,130nm,13.1s							
GTA				LR		LR		
	comp=E,240nm,15.9s							
GTA				LR		LR		
	comp=Z,250nm,16.6s							
TAPN	Taplejung	43.83	306	eP		P	04 36 21.8	-1.2
	comp=Z,10.0nm,0.6s							
ODAN	Odare	43.89	305	eP		P	04 36 22.7	-0.6
	comp=Z,20nm,0.7s							
RAMN	Ramite	44.57	305	eP		P	04 36 28.4	-0.4
	comp=Z,26nm,0.8s							
JIRN	Jiri	45.19	306	eP		P	04 36 33.5	-0.4
	comp=Z,7.0nm,0.8s							
KLR	Kul'dur	45.28	5	eP		P	04 36 32.2	-1.6
KLR				pmax		pmax		
	comp=Z,48nm,1.4s							
HIA	Hailar	45.50	354	eP		P	04 36 37.0	+1.4
	comp=Z,16nm,0.7s							
GUN	Gumba	45.54	306	eP		P	04 36 36.0	-0.7
	comp=Z,43nm,0.7s							
PKI	Pulchoki	45.79	305	eP		P	04 36 37.8	-0.8
	comp=Z,7.8nm,0.5s							
KKN	Kakani	45.98	305	eP		P	04 36 39.4	-0.6
GKN	Gorkha	46.59	305	eP		P	04 36 44.2	-0.5
DZM	Mont Dzumac	46.72	125	eP		P	04 36 46.9	+1.2
	comp=Z,12nm,0.6s							
DZM	Mont Dzumac	46.72	125	P		P	04 36 45.7	0.0
	comp=Z,15nm,0.6s,baz=294,slow=6.7,SNR=25							
ULN	Ulaanbaatar	46.86	342	eP		P	04 36 47.1	+0.6
	comp=Z,12nm,0.7s							
SONM	Songino Array	47.04	341	P		P	04 36 48.5	+0.6
SONM				PcP		PcP	04 38 20.7	+0.8
SONM	Songino Array	47.04	341	P		P	04 36 48.5	+0.6
	comp=Z,8.4nm,0.6s,baz=156

WMQ LR LR
comp=N,270nm,19.6s
WMQ LR LR
comp=E,280nm,22.0s
WMQ LR LR
comp=Z,300nm,22.0s
CLNS Chul'man 52.72 359 *e*P **P 04 37 31.5 +0.7**
CLNS pmax pmax
comp=Z,13nm,1.1s
CLNS pmax pmax
comp=N,6.0nm,1.1s
CLNS pmax pmax
comp=E,6.0nm,0.8s
BOD Bodaibo 54.60 352 ⇓ *i*P **P 04 37 45.5 +1.0**
BOD pmax pmax
comp=Z,15nm,1.1s
PETK Petropavlovsk- 55.21 22 P **P 04 37 50.8 +1.8**
PETK Petropavlovsk- 55.21 22 P **P 04 37 50.8 +1.8**
PETK Petropavlovsk- 55.21 22 P **P 04 37 50.8 +1.8**
comp=Z,5.5nm,0.7s,baz=188,slow=3.3,SNR=7.8
MK31 Makanchi Array 57.32 325 *e*P **P 04 38 03.8 -0.4**
MK31 Makanchi Array 57.32 325 *e*P **P 04 38 03.8 -0.4**
MKAR Makanchi Array 57.32 325 *e*P **P 04 38 04.1 -0.2**
MKAR 04 38 58.4
MKAR Makanchi Array 57.32 325 *e*P **P 04 38 04.1 -0.2**
MKAR PcP **PcP 04 38 58.4 +0.1**
MKAR Makanchi Array 57.32 325 P **P 04 38 03.8 -0.4**
comp=Z,5.6nm,0.5s,baz=117,slow=7.0,SNR=111
MKAR PcP **PcP 04 38 58.4 +0.1**
comp=Z,2.4nm,0.6s,baz=119,slow=4.1,SNR=4.4
MKAR LR 05 04 23.9
comp=Z,142nm,19.0s,baz=253,slow=38
KSH Kashi 57.83 315 P **P 04 38 09.1 +1.0**
KSH pP **pP 04 38 14.5 +1.0**
KSH sP **sP 04 38 16.1 +0.5**
KSH PcP **PcP 04 39 00.5 -0.1**
KSH PP **PP 04 40 20.3 +3.9**
KSH ScP **ScP 04 42 58.1 -2.1**
KSH PcS **PcS 04 43 00.5 -1.5**
KSH S **S 04 46 08.8 +1.6**
KSH ScS **ScS 04 47 54.1 -3.3**
KSH SS **SS 04 50 02.1 +4.0**
KSH LR LR
comp=N,220nm,5.3s
KSH LR LR
comp=E,160nm,6.7s
KSH LR LR
comp=Z,220nm,7.2s
YAK Yakutsk 57.95 2 *e*P **P 04 38 08.7 +0.4**
YAK pmax pmax
comp=Z,41nm,0.9s
YAK pmax pmax
comp=N,20nm,1.4s
YAK pmax pmax
comp=E,4.0nm,0.9s
TKM2 Tokmak 2 59.53 318 *e*P **P 04 38 20.4 +0.5**
TKM2 pmax pmax
comp=Z,7.0nm,0.8s
TKM2 Tokmak 2 59.53 318 *e*P **P 04 38 20.4 +0.5**
comp=Z,6.7nm,0.8s
AAK Ala-Archa 60.14 318 *ce*P **P 04 38 25.2 +1.1**
AAK pmax pmax
comp=Z,20nm,1.7s
AAK Ala-Archa 60.14 318 *e*P **P 04 38 24.7 +0.6**
comp=Z,31nm,1.3s
AAK Ala-Archa 60.14 318 P **P 04 38 23.8 -0.3**
comp=Z,2.9nm,0.9s,baz=138,slow=9.0,SNR=7.8
AAK LR LR 05 08 22.0
comp=Z,86nm,20.7s,baz=82,slow=40
ZAA0 Zalesovo Array 60.34 333 *e*P **P 04 38 23.9 -1.1**
ZALV Zalesovo Beam 60.34 333 P **P 04 38 24.3 -0.8**
ZALV Zalesovo Beam 60.34 333 P **P 04 38 24.2 -0.8**
ZALV Zalesovo Beam 60.34 333 P **P 04 38 24.2 -0.8**
comp=Z,4.8nm,0.5s,baz=123,slow=6.6,SNR=28
ZALV LR LR 05 07 00.8
comp=Z,68nm,18.4s,baz=249,slow=38
EKS2 Erkin-Say 60.63 318 *e*P **P 04 38 28.2 +0.7**
EKS2 pmax pmax
comp=Z,9.0nm,0.9s
EKS2 Erkin-Say 60.63 318 *e*P **P 04 38 28.2 +0.7**
comp=Z,9.4nm,0.9s
KURBB Kurchatov Arra 61.50 327 P **P 04 38 32.2 -0.8**
comp=Z,20nm,0.7s,baz=124,slow=6.2,SNR=107
KURBB LR LR 05 06 31.8
comp=Z,30nm,19.2s,baz=25,slow=37
KURK Kurchatov 61.50 327 *ce*P **P 04 38 32.5 -0.5**
KURK pmax pmax
comp=Z,26nm,0.7s
KURK Kurchatov 61.50 327 *e*P **P 04 38 32.8 -0.2**
comp=Z,27nm,0.8s
NVS Novosibirsk 61.62 333 *e*P **P 04 38 32.6 -1.1**
SEY Seymchan 61.79 13 *ce*P **P 04 38 35.6 +0.9**
KK31 Karatay Array 63.02 317 *i*P **P 04 38 43.3 -0.1**
KK31 pmax pmax
comp=Z,2.0nm,0.6s
KKAR Karatay Array 63.02 317 *e*P **P 04 38 43.7 +0.3**
KKAR Karatay Array 63.02 317 *e*P **P 04 38 43.7 +0.3**
BVA0 Borovoye Array 67.08 327 *i*P **P 04 39 09.1 -0.5**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s
BVAR Borovoye Array 67.08 327 P **P 04 39 09.2 -0.4**
BVAR Borovoye Array 67.08 327 P **P 04 39 09.2 -0.4**
BVAR Borovoye Array 67.08 327 P **P 04 39 09.2 -0.4**
comp=Z,16nm,1.0s,baz=130,slow=9.1,SNR=42
BRVK Borovoye 67.15 327 *e*P **P 04 39 09.3 -0.7**
BRVK pmax pmax
comp=Z,26nm,1.1s
BRVK Borovoye 67.15 327 *e*P **P 04 39 09.2 -0.7**
comp=Z,26nm,1.1s
ZRNK Zerenda 67.81 326 P **P 04 39 13.3 -0.9**
ZRNK pmax pmax
comp=Z,31nm,1.1s
IDAH Dahanechah 68.40 304 *e*P **P 04 39 18.2 -0.4**
IMYA Miami 68.85 307 *e*P **P 04 39 20.6 -0.7**
IKOO Kooshah 69.07 303 *e*P **P 04 39 21.8 -1.0**
BILL Bilibino 69.31 15 *e*P **P 04 39 23.4 +0.1**
BILL pmax pmax
comp=Z,3.0nm,1.2s
BILL Bilibino 69.31 15 *e*P **P 04 39 21.7 -1.5**
IMOG Moghan 69.41 307 *e*P **P 04 39 24.2 -0.7**
IKRD Kardeh 70.18 308 *e*P P 04 39 23.8 -5.8
AB31 Akbulak array 71.92 321 *i*P **P 04 39 38.5 -1.1**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR Akbulak array 71.92 321 *e*P **P 04 39 38.9 -0.6**
AKTO Aktyubinsk 73.43 322 P **P 04 39 48.1 -0.4**
AKTO pmax pmax
comp=Z,2.0nm,0.9s
IPAR Pars 73.84 300 *e*P **P 04 39 50.7 -1.0**
ARU Arti 74.70 328 *ci*P **P 04 39 54.7 -1.1**
ARU S **S 04 49 28.7 -2.5**
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 74.70 328 *e*P **P 04 39 55.2 -0.6**
comp=Z,8.6nm,0.7s
IKLH Kolahrood 75.38 303 *e*P **P 04 40 00.2 -0.3**
QRN Al-Qurain 78.25 298 *e*P **P 04 40 15.2 -1.3**
QRN AMb AMB 04 40 25.3
comp=Z,72nm,1.5s
MIB Mutribah 78.79 299 *e*P **P 04 40 18.2 -1.3**
MIB AMb AMB 04 40 19.6
comp=Z,37nm,0.8s
IKOM Komasi 78.82 304 *e*Pn P 04 40 16.0 -3.7
NAY Al-Naaiem 78.86 299 *e*P **P 04 40 18.3 -1.5**
NAY AMb AMB 04 40 22.1
comp=Z,14nm,1.0s
ISRB Sarab 78.89 308 *e*P **P 04 40 20.1 -0.1**
ZEI Tsey 82.01 312 *e*P **P 04 40 36.2 -0.6**
ZEI pmax pmax
comp=Z,6.0nm,1.0s
KIV Kislovodsk 82.93 314 *e*P P 04 40 44.9 +3.5
KIV pmax pmax
comp=Z,6.0nm,1.0s
COLD Coldfoot 83.67 23 *e*P **P 04 40 46.7 +2.0**
comp=Z,13nm,1.1s
PMR Palmer 83.74 29 *e*P **P 04 40 43.9 -1.1**
PMR pmax pmax
comp=Z,53nm,1.7s
PMR Palmer 83.74 29 *e*P **P 04 40 43.9 -1.1**
comp=Z,54nm,1.7s
VRHR Novokhopersk 83.81 321 *e*P **P 04 40 45.4 -0.3**
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
SML Sawmill 84.13 28 *e*P **P 04 40 48.2 +1.1**
SML pmax pmax
comp=Z,9.0nm,1.5s
SML Sawmill 84.13 28 *e*P **P 04 40 48.2 +1.1**
comp=Z,8.8nm,1.5s
COLA College 84.48 25 *e*P **P 04 40 48.1 -0.7**
COLA pmax pmax
comp=Z,2.0nm,0.6s
COLA College 84.48 25 *e*P **P 04 40 48.1 -0.7**
comp=Z,2.0nm,0.6s
ILAR Eielson Array 84.89 25 P **P 04 40 51.5 +0.6**
ILAR Eielson Array 84.89 25 P **P 04 40 51.5 +0.6**
comp=Z,1.5nm,0.9s,baz=246,slow=5.1,SNR=12
KLMR Klimovskoe 85.16 331 *e*P **P 04 40 51.1 -1.2**
KLMR pmax pmax
comp=Z,63nm,1.3s
VORD Divnogorie 85.28 321 *e*P **P 04 40 52.5 -0.6**
VSR Storozhevoye 85.36 321 *e*P **P 04 40 52.2 -1.3**
VSR pmax pmax
comp=N,8.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,10.0nm,1.1s
MOS Moscow 86.20 325 *e*P **P 04 40 56.4 -1.2**
MOS pmax pmax
comp=Z,39nm,0.9s
ANN Anapa 86.69 315 *e*P **P 04 41 00.9 +0.7**
ANN pmax pmax
comp=Z,121nm,1.3s
OBN Obninsk 86.83 325 ⇓ *i*P **P 04 41 00.6 0.0**
OBN pmax pmax
comp=Z,62nm,1.6s
OBN Obninsk 86.83 325 *e*P **P 04 40 59.8 -0.8**
comp=Z,18nm,0.7s
JOF Joensuu 88.93 333 *e*P **P 04 41 10.0 -0.5**
JOF pmax pmax
comp=Z,7.0nm,0.6s
JOF Joensuu 88.93 333 *ep* **P 04 41 10.0 -0.5**
comp=Z,7.0nm,0.6s
KMBO Kilima Mbogo 89.52 269 *e*P **P 04 41 14.8 +0.2**
comp=Z,7.0nm,1.1s
KEV Kevo 89.63 340 *e*P **P 04 41 13.3 -0.4**
KEV Kevo 89.63 340 *ep* **P 04 41 13.3 -0.4**
BR131 Keskin Array S 89.83 310 *e*P **P 04 41 13.8 -1.7**
comp=Z,3.8nm,1.0s
BRTR Keskin Array B 89.83 310 P **P 04 41 14.1 -1.4**
BRTR Keskin Array B 89.83 310 P **P 04 41 14.1 -1.4**
comp=Z,1.4nm,0.6s,baz=124,slow=4.5,SNR=12
INK Inuvik 89.94 21 *e*P **P 04 41 15.6 +0.4**
comp=Z,10nm,1.4s
ARCES ARCESS Array B 90.19 340 P **P 04 41 16.3 0.0**
ARCES ARCESS Array B 90.19 340 P **P 04 41 16.3 0.0**
comp=Z,3.3nm,0.7s,baz=77,slow=5.6,SNR=26
SPITS Spitsbergen Ar 90.22 349 P **P 04 41 16.7 +0.4**
SPITS Spitsbergen Ar 90.22 349 P **P 04 41 16.7 +0.4**
comp=Z,3.6nm,0.7s,baz=161,slow=12,SNR=4.7
CSS Prodhromos 90.49 305 *e*P **P 04 41 17.6 -0.9**
comp=Z,10nm,0.8s
KAF Kangasniemi 91.35 332 *e*P **P 04 41 20.9 -0.9**
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 91.35 332 *ep* **P 04 41 20.9 -0.9**
comp=Z,3.8nm,0.6s
FINES FINESS Array B 91.58 332 P **P 04 41 22.4 -0.5**
FINES FINESS Array B 91.58 332 P **P 04 41 22.4 -0.5**
comp=Z,4.8nm,0.7s,baz=57,slow=4.3,SNR=13
AKASG Malin Array Be 91.67 321 *ce*P **P 04 41 22.6 -1.0**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKASG Malin Array Be 91.67 321 P **P 04 41 22.7 -0.9**
AKASG Malin Array Be 91.67 321 P **P 04 41 22.7 -0.9**
comp=Z,4.8nm,0.8s,baz=70,slow=4.5,SNR=8.0
KIEV Kiev 91.68 321 *e*P **P 04 41 22.3 -1.3**
KIEV pmax pmax
comp=Z,6.0nm,0.9s
KIEV Kiev 91.68 321 *e*P **P 04 41 22.3 -1.3**
comp=Z,6.1nm,0.9s
TESR 94.02 317 ⇓ *i*P **P 04 41 34.3 -0.3**
VRI Vrincioaia 94.08 316 ⇑ P **P 04 41 34.9 0.0**
VRI Vrincioaia 94.08 316 ⇑ *i*P **P 04 41 34.9 0.0**
PLOR Plostina 94.14 316 ⇑ P **P 04 41 35.5 +0.3**
PLOR Plostina 94.14 316 ⇑ *i*P **P 04 41 35.5 +0.3**
MLR Muntele Rosu 94.69 316 P **P 04 41 37.3 -0.5**
MLR Muntele Rosu 94.69 316 ⇑ *i*P **P 04 41 36.2 -1.6**
MLR Muntele Rosu 94.69 316 P **P 04 41 37.3 -0.5**
comp=Z,2.0nm,0.9s,baz=52,slow=2.8,SNR=10.0
SUW Suwalki 94.69 325 *e*P **P 04 41 36.4 -1.0**
SUW pmax pmax
comp=Z,31nm,1.0s
SUW Suwalki 94.69 325 *e*P **P 04 41 36.4 -1.0**
comp=Z,31nm,1.0s
BURAR Bucovina Array 94.78 318 ⇓ *i*P **P 04 41 37.7 -0.5**
BUR08 Bucovina Ar. S 94.79 318 *e*P **P 04 41 38.1 -0.1**
UZH Uzhgorod 96.48 320 ⇑ *i*P **P 04 41 45.4 -0.3**
UZH *i* 04 41 55.8
UZH *i* 04 42 03.6
RES Resolute Bay 97.57 10 *e*P Pdif 04 41 50.7 +0.5
comp=Z,1.7nm,0.8s
BZS Buzias 97.63 317 ⇑ P **P 04 41 50.0 -1.0**
BZS Buzias 97.63 317 ⇑ *i*P **P 04 41 50.0 -1.0**
PSZ Piszkesteto 98.21 319 *e*P Pdif 04 41 53.6 -0.1
PSZ pmax pmax
comp=Z,8.0nm,1.1s
PSZ Piszkesteto 98.21 319 *e*P Pdif 04 41 53.6 -0.1
comp=Z,7.9nm,1.1s
NB2 NORSAR Subarra 98.54 334 P **P 04 41 53.8 -1.0**
comp=Z,1.3nm,0.6s,baz=66,slow=4.6
NOA NORSAR Array B 98.54 334 P **P 04 41 53.8 -1.0**
NOA NORSAR Array B 98.54 334 P **P 04 41 53.8 -1.0**
comp=Z,1.7nm,0.6s,baz=67,slow=4.6,SNR=6.5
YKA Yellowknife Ar 99.28 24 P **Pdif 04 41 58.7 +0.7**
YKA Yellowknife Ar 99.28 24 P **Pdif 04 41 58.7 +0.7**
comp=Z,0.2nm,0.5s,baz=302,slow=5.1,SNR=6.2
BRG Berggiesshubel 101.01 323 *e*P **Pdif 04 42 06.4 +0.5**
comp=Z,11nm,1.4s
BRG Berggiesshubel 101.01 323 *e*P **Pdif 04 42 06.4 +0.5**
BRG pmax pmax
comp=Z,11nm,1.4s
GERES GERESS Array B 101.86 322 P **Pdif 04 42 09.8 -0.1**
GERES GERESS Array B 101.86 322 P **Pdif 04 42 09.8 -0.1**
comp=Z,0.8nm,0.7s,baz=69,slow=4.4,SNR=5.7
PDAR Pinedale Array 111.19 41 PKKPbc PKKPbc 04 57 54.0 +5.9
PDAR Pinedale Array 111.19 41 PKKPbc PKKPbc 04 57 54.0 +5.9
comp=Z,0.8nm,0.9s,baz=126,slow=7.5,SNR=3.8
TOA0 Torodi Ar. Sit 122.80 288 *e*PKPdf **PKPdf 04 47 12.9 -0.5**
TORD Torodi Ar. Bea 122.80 288 PKP **PKPdf 04 47 13.1 -0.3**
TORD Torodi Ar. Bea 122.80 288 PKP **PKPdf 04 47 13.1 -0.3**
comp=Z,1.4nm,0.7s,baz=70,slow=1.9,SNR=18
DBIC Dimbokro 130.48 282 PKP **PKPdf 04 47 27.7 -0.3**
DBIC Dimbokro 130.48 282 PKP **PKPdf 04 47 27.7 -0.3**
comp=Z,1.8nm,0.8s,baz=342,slow=2.3,SNR=3.9
TRQA Tornquist 145.18 168 *e*PKPbc **PKPbc 04 47 53.8 -0.1**

BJI **13** *04:39:29.5, 19°.50N×66°.40W, h6km, Ms7 4.8/3*
IDC **13** *04:39:29.1±0.5, 19°.46N×66°.36W, h0km, mb4.3/24, mb1 4.5/25, mb1mx4.4/30, mbtmp4.3/25, ML3.4/1, MS4.2/18, Ms1 4.2/18, ms1mx4.0/37, Error ellipse: s-maj=13.3km s-min=11.8km az=49.0*
ISCJB **13** *04:39:32.0±1.1, 19°.45N±0°.02×66°.34W±0°.03, h27km±8km, mb4.6/91, MS4.3/19, Error ellipse: s-maj=4.2km s-min=3.1km az=150.9*
RSPR **13** *04:39:33.0, 19°.47N×66°.36W, h6km±1km, MD4.4/16*
NEIC **13** *04:39:33.0, 19°.47N×66°.36W, h6km, mb4.8/75, MD4.4(RSPR), After RSPR.*

ISC 13 04:39:31.6±1.3, 19°.42N±0°.04×66°.36W±0°.04, h13km±8km, n468, s0882/468, mb4.7/91, MS4.2/19, 147C-128D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**		**1.13 200**	⇑ *e*P		**Pg**	**04 39 52.5**	**-0.8**
AOPR	**Arecibo Observ**		**1.13 200**	⇑ *e*P		**Pg**	**04 39 52.5**	**-0.8**
AOPR				*e*Sn		**Sg**	**04 40 06.0**	**-2.1**
AOPR				*e*S		**Sb**	**04 40 08.2**	**+0.7**
AGPR	**Aguadilla, PR**		**1.18 217**	⇑ *e*P		**Pg**	**04 39 53.3**	**-1.1**
AGPR	**Aguadilla, PR**		**1.18 217**	⇑ *e*P		**Pg**	**04 39 53.3**	**-1.1**
AGPR				*e*S		**Sg**	**04 40 08.9**	**-0.9**
LRS	**Lares**		**1.21 203**	⇑ *i*P		**Pn**	**04 39 53.7**	**-0.6**
LRS	**Lares**		**1.21 203**	*i* Pu		**Pn**	**04 39 53.7**	**-0.6**
CBYP	**Canovanas**		**1.23 157**	⇑ *e*P		**Pn**	**04 39 54.2**	**-0.4**
CBYP	**Canovanas**		**1.23 157**	⇑ *e*P		**Pn**	**04 39 54.2**	**-0.4**
CBYP				*e*S		**Sb**	**04 40 11.2**	**+0.6**
AGP	**Aguadilla**		**1.25 217**	*e*Pn		Pn	04 39 52.9	-1.9
AGP				*e*Sn		**Sb**	**04 40 11.9**	**+0.9**
SJG	**San Juan**		**1.31 171**	⇑ *e*P		**Pn**	**04 39 55.4**	**-0.2**
SJG	**San Juan**		**1.31 171**	⇑ *i*P		**Pn**	**04 39 55.1**	**-0.5**
SJG	**San Juan**		**1.31 171**	⇑ *e*P		**Pn**	**04 39 55.4**	**-0.2**
SJG				Sn		Sb	04 40 09.4	-3.3
SJG				*e*S		**Sg**	**04 40 12.9**	**-1.0**
SJG	**San Juan**		**1.31 171**	Pn		**Pn**	**04 39 55.2**	**-0.3**
	181nm,0.3s,baz=270,slow=0.4,SNR=244							
SJG				Sn		Sb	04 40 09.4	-3.3
	279nm,0.3s,baz=270,slow=5.3,SNR=20							
CELP	**Cerrillos**		**1.35 189**	⇑ *i*P		**Pn**	**04 39 55.9**	**-0.3**
CELP	**Cerrillos**		**1.35 189**	*i* Pu		**Pn**	**04 39 55.9**	**-0.3**
HUMP	**Col San Antoni**		**1.35 159**	⇑ *e*P		**Pn**	**04 39 55.8**	**-0.3**
HUMP	**Col San Antoni**		**1.35 159**	⇑ *e*P		**Pn**	**04 39 55.8**	**-0.3**
HUMP				*e*Sn		Sb	04 40 09.1	-4.9
HUMP				*e*S		**Sn**	**04 40 13.6**	**-0.4**
OBIP	**Obispado Ponce**		**1.39 190**	⇑ *e*P		**Pn**	**04 39 56.4**	**-0.2**
OBIP	**Obispado Ponce**		**1.39 190**	⇑ *e*P		**Pn**	**04 39 56.4**	**-0.2**
OBIP				*e*S		**Sb**	**04 40 14.9**	**0.0**
MPR	**Mayaguez**		**1.41 212**	⇑ *e*P		**Pn**	**04 39 56.9**	**-0.1**
MPR	**Mayaguez**		**1.41 212**	⇑ *e*P		**Pn**	**04 39 56.9**	**-0.1**
MPR				*e*Sn		**Sn**	**04 40 17.1**	**+1.7**
LSP	**Las Mesas**		**1.42 209**	⇓ *e*P		**Pn**	**04 39 56.8**	**-0.2**
LSP	**Las Mesas**		**1.42 209**	⇓ *e*P		**Pn**	**04 39 56.8**	**-0.2**
CPD	**Cerro la Pandu**		**1.43 163**	⇑ *e*P		**Pn**	**04 39 57.3**	**0.0**
CPD	**Cerro la Pandu**		**1.43 163**	⇑ *e*P		**Pn**	**04 39 57.3**	**0.0**
CPD				*e*S		**Sn**	**04 40 16.2**	**+0.2**
GBPR	**Guanica, Bosqu**		**1.52 199**	⇓ *i*P		**Pn**	**04 39 58.7**	**+0.3**
GBPR	**Guanica, Bosqu**		**1.52 199**	⇓ *i*P		**Pn**	**04 39 58.7**	**+0.3**
MTP	**Monte Pirata**		**1.52 150**	⇑ *e*P		**Pn**	**04 39 58.2**	**-0.2**
MTP	**Monte Pirata**		**1.52 150**	⇑ *e*P		**Pn**	**04 39 58.2**	**-0.2**
MTP				*e*S		**Sn**	**04 40 17.6**	**-0.4**
CRPR	**Cabo Rojo, PR**		**1.57 207**	⇑ *e*P		**Pn**	**04 39 59.5**	**+0.4**
CRPR	**Cabo Rojo, PR**		**1.57 207**	⇑ *e*P		**Pn**	**04 39 59.5**	**+0.4**
CRPR				*e*S		**Sn**	**04 40 19.2**	**-0.1**
TBVI	**Tortola**		**1.92 121**	⇑ *e*P		**Pn**	**04 40 03.9**	**-0.1**
TBVI	**Tortola**		**1.92 121**	⇑ *e*P		**Pn**	**04 40 03.9**	**-0.1**
CDVI	**St. Croix**		**2.24 137**	*e*Pg		**Pn**	**04 40 09.7**	**+1.4**
CDVI				*e*Sn		Sn	04 40 31.2	-4.6
SMN1	**Samana, DR**		**2.77 266**	⇑ *e*P		**Pn**	**04 40 15.2**	**-0.4**
SMN1				*e*S		**Sn**	**04 40 47.7**	**-1.2**
DR12	**Loma Pena Alta**		**2.93 258**	⇑ *i*P		**Pn**	**04 40 17.6**	**-0.3**
DR12	**Loma Pena Alta**		**2.93 258**	*i* Pu		**Pn**	**04 40 17.6**	**-0.3**
SKI	**Saint Kitts**		**4.01 121**	*e*P		**Pn**	**04 40 33.2**	**+0.5**
SKI				*e*S		**Sn**	**04 41 20.7**	**+1.1**
ANWB	**Willy Bob**		**4.67 111**	*e*Pn		Pn	04 40 39.5	-2.3
SDDR	**Presa de Saban**		**4.68 266**	*e*Pn		**Pn**	**04 40 43.1**	**+1.1**
GRTK	**Grand Turk**		**4.94 296**	*e*Pn		**Pn**	**04 40 45.8**	**+0.3**
LZG	**Guadaloupe-1**		**5.45 126**	*e*P		**Pn**	**04 40 53.0**	**+0.5**
SEG	**Port Louis**		**5.50 122**	*e*P		**Pn**	**04 40 52.1**	**-1.2**
HMG	**Houelmont**		**5.60 127**	*e*P		**Pn**	**04 40 54.4**	**-0.2**
DOG	**Dongo Capester**		**5.63 126**	*e*P		Pn	04 40 60.0	+4.9
MGG	**Marie-Galante**		**5.93 125**	*e*P		Pn	04 41 02.2	+3.1
MASC	**Masc**		**7.45 277**	*e*P		**Pn**	**04 41 18.3**	**-1.7**
MASC				*e*S		Sn	04 42 38.5	-5.9
	comp=N,3.4nm,0.6s							
MASC				*e*				
	comp=E,2.5nm,0.4s							
RCC	**Rio Carpintero**		**8.82 275**	*e*P		Pn	04 41 35.1	-3.7
RCC				*e*S		Sn	04 43 08.8	-9.2
	comp=N,114nm,1.2s							
RCC				*e*				
	comp=E,122nm,1.2s							
LMGC	**Las Mercedes**		**10.05 275**	*e*P		Pn	04 41 52.2	-3.5
LMGC				*e*S		Sn	04 43 37.1	-11
	comp=N,240nm,1.4s							
LMGC				*e*				
	comp=E,222nm,1.0s							
SDV	**Santo Domingo**		**11.26 202**	*e*Pn		**Pn**	**04 42 14.2**	**+1.8**
SOR	**Soroa**		**15.90 285**	*e*P		**P**	**04 43 19.2**	**+0.4**
DWPF	**Disney**		**16.28 305**	*e*Pn		**Pn**	**04 43 20.5**	**+0.6**
	comp=E,38nm,0.8s							
ROSC	**El Rosal**		**16.43 209**	*e*Pn		**Pn**	**04 43 24.6**	**+2.3**
ROSC	**El Rosal**		**16.43 209**	Pn		**Pn**	**04 43 24.1**	**+1.8**
	comp=E,2.6nm,0.3s,baz=72,slow=13,SNR=19							
ROSC				LR		LR	04 48 53.9	
	comp=E,320nm,21.9s,baz=200,slow=34							
BCIP	**Isla Barro Col**		**16.55 234**	*e*Pn		**Pn**	**04 43 24.7**	**+1.2**
NHSC	**New Hope**		**18.40 321**	*e*Pn		**P**	**04 43 49.8**	**+3.4**
	comp=E,65nm,0.6s							
CNNC	**Cliffs of the**		**18.77 329**	*e*Pn		Pn	04 43 57.2	+6.2
	comp=E,46nm,0.4s							
LHS	**Liberty Hill**		**19.74 322**	*e*Pn		**Pn**	**04 44 03.5**	**+1.0**
JSC	**Jenkinsville**		**19.86 321**	*e*Pn		Pn	04 44 08.7	+4.7
JTS	**JuntasAbangare**		**20.12 246**	P		**P**	**04 44 06.0**	**+0.7**
JTS	**JuntasAbangare**		**20.12 246**	P		**P**	**04 44 06.0**	**+0.7**
	comp=E,21nm,0.9s,baz=50,slow=9.5,SNR=9.4							
JTS				LR		LR	04 51 26.3	
	comp=E,347nm,20.0s,baz=277,slow=36							
TEIG	**Tepich**		**20.64 276**	P		**P**	**04 44 11.6**	**+0.6**
TEIG	**Tepich**		**20.64 276**	P		**P**	**04 44 11.6**	**+0.6**
	comp=E,15nm,0.7s,baz=87,slow=9.6,SNR=8.0							
TEIG				LR		LR	04 52 37.5	
	comp=E,868nm,18.3s,baz=342,slow=38							
GOGA	**Godfrey**		**20.67 316**	*e*P		Pn	04 44 20.7	+7.1
	comp=E,31nm,1.2s							
TGUH	**Tegucigalpa,Un**		**20.72 258**	*e*P		**P**	**04 44 12.4**	**+0.5**
	comp=E,129nm,1.3s							
JSRW	**J. Sargeant Re**		**20.80 333**	*e*P		**P**	**04 44 12.7**	**+0.1**
CBN	**Corbin**		**21.03 335**	*e*P		**P**	**04 44 15.3**	**+0.2**
	comp=E,49nm,0.6s							
BLA	**Blacksburg**		**21.58 328**	*e*P		**P**	**04 44 20.9**	**-0.1**
	comp=E,86nm,0.8s							
SDMD	**Soldier's Deli**		**21.89 338**	*e*P		**P**	**04 44 28.0**	**+3.8**
	comp=E,34nm,0.7s							
BRAL	**Brewton**		**21.96 306**	*e*P		**P**	**04 44 27.1**	**+2.0**
	comp=E,37nm,0.8s							
TKL	**Tuckaleechee C**		**22.31 320**	*e*P		**P**	**04 44 30.0**	**+1.2**
TKL				S		S	04 48 25.6	-8.3
TKL	**Tuckaleechee C**		**22.31 320**	P		**P**	**04 44 29.1**	**+0.3**
	comp=E,5.3nm,1.0s,baz=118,slow=8.7,SNR=3.6							
TKL				S		S	04 48 25.6	-8.3
	comp=E,7.2nm,0.7s,baz=157,slow=15,SNR=3.5							
TKL				LR		LR	04 52 31.3	
	comp=E,478nm,20.4s,baz=231,slow=35							
OTAV	**Otavalo**		**22.45 213**	*e*P		**P**	**04 44 30.9**	**-0.1**
	comp=E,44nm,0.9s							
PAL	**Palisades**		**22.47 345**	*e*P		**P**	**04 44 34.8**	**+4.4**
	comp=E,49nm,0.9s							
YLE	**Yale**		**22.54 347**	*e*P		P	04 44 45.2	+14
CPCT	**Cooper Cave**		**22.63 319**	*e*P		P	**04 44 33.4**	**+1.1**
TZTN	**Tazewell**		**22.78 322**	*e*P		P	04 44 44.8	+11
	comp=E,25nm,0.7s							
LRAL	**Lakeview Retre**		**22.90 310**	*e*P		**P**	**04 44 34.1**	**-0.9**
	comp=E,97nm,2.1s							
SSPA	**Standing Stone**		**23.34 337**	*e*P		**P**	**04 44 41.0**	**+1.4**
	comp=E,13nm,0.9s							
PLAL	**Pickwick Lake**		**24.69 313**	*e*P		**P**	**04 44 52.1**	**-0.2**
	comp=E,55nm,1.4s							
ALLY	**Alegheny Colle**		**25.08 335**	*e*P		**P**	**04 44 56.4**	**+0.6**
	comp=E,53nm,0.8s							
WVT	**Waverly**		**25.17 316**	*e*P		**P**	**04 44 56.2**	**-0.5**
	comp=E,7.9nm,0.8s							
ACSO	**Alum Creek Sta**		**25.18 329**	*e*P		**P**	**04 44 56.9**	**+0.2**
	comp=E,30nm,0.8s							
OXF	**Oxford**		**25.38 311**	*e*P		**P**	**04 44 57.5**	**-1.1**
	comp=E,50nm,1.1s							
ERPA	**Erie**		**25.41 336**	*e*P		**P**	**04 45 00.6**	**+1.7**
	comp=E,28nm,0.8s							
WCI	**Wyandotte Cave**		**25.52 321**	*e*P		**P**	**04 45 00.1**	**+0.2**
	comp=E,14nm,0.8s							
AAM	**Ann Arbor**		**27.11 331**	*e*P		**P**	**04 45 17.6**	**+3.4**
	comp=E,39nm,0.6s							
SAML	**Samuel**		**28.36 173**	*e*P		P	04 45 24.2	-1.3
	comp=E,19nm,1.4s							
HKT	**Hockley**		**28.69 297**	*e*P		**P**	**04 45 28.1**	**-0.2**
	comp=E,4.8nm,1.1s							
ATAH	**Atahualpa**		**28.93 205**	P		**P**	**

628A	Black Gap, Mar	34.61 294	⇓P		P	04 46 20.5	-0.1
	baz=35						
528A	Cox Ranch, San	34.63 295	⇓P		P	04 46 20.5	-0.3
	baz=35,SNR=11						
428A	Kincaid Ranch,	34.64 296	⇑P		P	04 46 20.6	-0.2
	baz=35,SNR=28						
CBKS	Cedar Bluff	34.72 311	eP		P	04 46 20.9	-0.5
	comp=E,9.9nm,0.8s						
CBKS	Cedar Bluff	34.72 311	⇓P		P	04 46 21.6	+0.2
	baz=35						
BGNE	Belgrade	34.80 316	⇓P		P	04 46 21.9	-0.1
	baz=35						
328A	Wristen Ranch,	34.86 297	⇑P		P	04 46 22.9	+0.2
	baz=35						
Y28A	McKinney Farm,	34.98 302	⇓P		P	04 46 23.1	-0.6
	baz=35						
ECSD	EROS Data Cent	35.06 321	eP		P	04 46 23.6	-0.6
	comp=E,21nm,0.8s						
TXAR	Lajitas Array	35.26 294	P		P	04 46 26.0	-0.2
TXAR	Lajitas Array	35.26 294	P		P	04 46 26.0	-0.2
	comp=E,5.7nm,0.7s,baz=109,slow=8.6,SNR=46						
427A	Hayter Ranch,	35.27 296	⇓P		P	04 46 25.8	-0.5
	baz=35,SNR=12						
527A	Woodward Ranch	35.33 295	⇓P		P	04 46 26.5	-0.4
	baz=35						
SCHQ	Schefferville	35.36 360	P		P	04 46 26.0	-0.6
SCHQ	Schefferville	35.36 360	P		P	04 46 26.0	-0.6
	comp=E,2.6nm,0.6s,baz=193,slow=7.3,SNR=16						
227A	Bennet, Jal	35.39 298	⇑P		P	04 46 27.1	-0.2
	baz=35						
MSTX	Muleshoe	35.41 302	⇑P		P	04 46 27.5	0.0
	baz=35						
LPAZ	La Paz	35.52 183	eP		P	04 46 29.4	+0.3
	comp=E,8.7nm,0.9s						
LPAZ	La Paz	35.52 183	P		P	04 46 28.1	-0.9
	comp=E,2.3nm,0.6s,baz=24,slow=11,SNR=5.0						
Z27A	Tatum	35.61 300	⇑P		P	04 46 28.7	-0.5
	baz=36						
626A	Big Bend Ranch	35.69 294	⇑P		P	04 46 29.7	-0.2
	baz=36						
426A	McDonald Obser	35.77 296	⇓P		P	04 46 30.3	-0.4
	baz=36,SNR=11						
226A	Malaga, Loving	36.08 298	⇑P		P	04 46 32.7	-0.5
	baz=36						
126A	Clayton Basin,	36.12 299	⇓P		P	04 46 32.7	-0.9
	baz=36						
GDL2	Guadalupe Moun	36.32 298	eP		P	04 46 34.5	-0.8
	comp=E,2.9nm,0.6s						
425A	Indio Mountain	36.60 296	⇑P		P	04 46 38.0	+0.2
	baz=36,SNR=13						
125A	Gardner Draw,	36.65 299	⇓P		P	04 46 37.5	-0.7
	baz=37						
325A	Bean Ranch, Si	36.68 297	⇓P		P	04 46 38.3	-0.2
	baz=37,SNR=15						
225A	Deer Hill, Car	36.69 298	⇓P		P	04 46 37.9	-0.6
	baz=37						
U26A	Atchley Ranch,	36.84 305	⇑P		P	04 46 39.1	-0.7
	baz=37,SNR=5.3						
BRSD	Miller	36.86 320	⇑P		P	04 46 39.7	+0.1
	baz=37						
W25A	X Bar L Ranch,	37.08 303	⇑P		P	04 46 41.9	+0.1
	baz=37						
MNTX	Cornudas Mount	37.08 297	eP		P	04 46 41.0	-0.7
	comp=E,5.2nm,1.0s						
MNTX	Cornudas Mount	37.08 297	⇓P		P	04 46 41.1	-0.6
	baz=37,SNR=9.3						
324A	Moseley Ranch,	37.12 297	⇓P		P	04 46 41.8	-0.4
	baz=37,SNR=8.2						
224A	Cornudas Mount	37.26 298	⇓P		P	04 46 43.3	-0.1
	baz=37						
124A	Stringfield Ra	37.32 299	⇑P		P	04 46 43.9	-0.1
	baz=37						
U25A	Circle Dot Ran	37.36 305	⇓P		P	04 46 43.8	-0.4
	baz=37,SNR=6.4						
V25A	Rancho No Teng	37.37 304	⇑P		P	04 46 44.3	0.0
	baz=37						
Z24A	Sheeppen Canyo	37.37 300	⇓P		P	04 46 44.3	0.0
	baz=37						
AGMN	Agassiz Nation	37.39 327	eP		P	04 46 43.2	-0.9
	comp=E,11nm,0.7s						
Q26A	Hugo	37.49 309	⇑P		P	04 46 45.1	-0.2
	baz=37						
Y24A	Capitan	37.55 301	⇑P		P	04 46 45.3	-0.6
	baz=38						
T25A	Trinidad	37.58 306	⇑P		P	04 46 45.8	-0.3
	baz=38						
S25A	Robets Cordova	37.75 307	⇑P		P	04 46 47.2	-0.3
	baz=38,SNR=6.9						
V24A	Rampart Ranch,	37.85 304	⇓P		P	04 46 49.0	+0.6
	baz=38						
Y23A	Lovelace Mesa,	38.06 301	⇑P		P	04 46 50.6	+0.4
	baz=38						
S24A	Houchin Ranch,	38.33 307	⇑P		P	04 46 52.8	+0.2
	baz=38						
R24A	Sanders Place,	38.44 308	⇑P		P	04 46 53.2	-0.1
	baz=38,SNR=5.8						
V23A	Ortiz Mt. (NFS	38.57 303	⇓P		P	04 46 54.4	0.0
	baz=38						
SDCO	Great Sand Dun	38.58 307	eP		P	04 46 54.4	-0.3
	comp=E,7.8nm,0.9s						
SDCO	Great Sand Dun	38.58 307	⇓P		P	04 46 54.4	-0.3
	baz=38,SNR=10						
222A	Williams Famil	38.59 297	⇑P		P	04 46 54.6	0.0
	baz=38						
ANMO	Albuquerque	38.60 302	eP		P	04 46 53.7	-1.0
	comp=E,2.2nm,1.1s						
ANMO	Albuquerque	38.60 302	P		P	04 46 54.0	-0.7
	comp=E,1.2nm,0.9s,baz=107,slow=8.8,SNR=3.2						
122A	Conniff Cattle	38.60 298	⇑P		P	04 46 54.7	0.0
	baz=38						
ULM	Lac du Bonnet	38.68 330	P		P	04 46 53.7	-1.2
ULM	Lac du Bonnet	38.68 330	P		P	04 46 53.7	-1.2
	comp=E,4.5nm,0.8s,baz=128,slow=9.7,SNR=8.9						
ULM			LR		LR	05 02 34.5	
	comp=E,381nm,18.3s,baz=136,slow=36						
Q24A	Divide	38.70 309	⇓P		P	04 46 55.4	-0.2
	baz=39						
U23A	El Rito	38.73 304	⇓P		P	04 46 55.9	+0.1
	baz=39						
R23A	Moffat	38.96 307	⇑P		P	04 46 58.3	+0.5
	baz=39						
L25A	Engebretsen Ra	39.02 314	⇑P		P	04 46 58.4	+0.4
	baz=39						
O24A	Longmont	39.03 310	⇑P		P	04 46 58.5	+0.3
	baz=39						
MDND	Maddock	39.11 324	⇑P		P	04 46 59.7	+1.2
	baz=39						
N24A	Carr	39.15 312	⇓P		P	04 47 00.2	+1.0
	baz=39						
V22A	San Miguel Ran	39.19 303	⇑P		P	04 47 00.6	+1.0
	baz=39						
BDFB	Brasilia	39.23 151	LR		LR	05 03 20.3	
	comp=E,266nm,21.2s,baz=133,slow=36						
U22A	Llaves	39.26 304	⇓P		P	04 47 00.6	+0.4
	baz=39,SNR=5.3						
Z21A	St. Cloud Mine	39.26 299	⇓P		P	04 47 00.8	+0.5
	baz=39						
ISCO	Idaho Springs	39.31 310	eP		P	04 47 00.6	-0.2
	comp=E,7.4nm,1.0s						
ISCO	Idaho Springs	39.31 310	⇓P		P	04 47 00.6	-0.2
	baz=39,SNR=8.4						
M24A	Cheyenne	39.34 312	⇑P		P	04 47 01.1	+0.3
	baz=39						
Y21A	Point of Rocks	39.39 300	⇑P		P	04 47 01.7	+0.3
	baz=39						
T22A	Edith	39.45 305	⇓P		P	04 47 02.0	+0.1
	baz=39,SNR=5.8						
X21A	Alamocita Cree	39.57 301	⇓P		P	04 47 03.4	+0.5
	baz=40						
S22A	4UR Ranch, Cre	39.59 306	⇑P		P	04 47 03.1	0.0
	baz=40						
O23A	Lake Granby, G	39.67 310	⇓P		P	04 47 04.0	+0.2
	baz=40						
R22A	Saguache, Gunn	39.67 307	⇓P		P	04 47 03.7	-0.1
	baz=40						
PHWY	Pilot Hill	39.73 312	eP		P	04 47 04.0	-0.2
	comp=E,22nm,1.5s						
220A	Playas Peak, P	39.76 297	⇑P		P	04 47 04.8	+0.4
	baz=40						
RSSD	Black Hills	39.89 317	eP		P	04 47 05.1	-0.3
U21A	Nageezi	39.90 304	⇓P		P	04 47 05.9	+0.3
	baz=40,SNR=5.7						
T21A	Navajo Lake	39.94 305	⇑P		P	04 47 06.4	+0.6
	baz=40						
120A	U Bar Ranch, L	39.94 298	⇓P		P	04 47 06.9	+1.0
	baz=40						
Y20A	Horse Springs,	39.95 300	⇓P		P	04 47 06.0	0.0
	baz=40						
M23A	Laramie	39.97 312	⇓P		P	04 47 06.2	+0.1
	baz=40						
P22A	Eagle	40.08 309	⇑P		P	04 47 07.1	0.0
	baz=40						
O22A	Kremmling	40.11 310	⇓P		P	04 47 07.0	-0.4
	baz=40,SNR=6.6						
SMCO	Snowmass	40.11 308	eP		P	04 47 07.6	0.0
	comp=E,12nm,1.4s						
N22A	Wattenberg Ran	40.26 311	⇓P		P	04 47 09.0	+0.4
	baz=40						
R21A	Cimarron	40.31 307	⇑P		P	04 47 09.2	+0.1
	baz=40,SNR=5.7						
319A	Douglas	40.33 296	⇑P		P	04 47 09.5	+0.4
	baz=40						
Q21A	Lamborn Mesa,	40.46 308	⇑P		P	04 47 10.4	+0.3
	baz=40,SNR=5.4						
H24A	Dirks Ranch, A	40.50 317	⇑P		P	04 47 09.9	-0.4
	baz=40						
P21A	Newcastle	40.57 309	⇑P		P	04 47 11.2	+0.1
	baz=40						
G24A	Alzada	40.67 318	⇑P		P	04 47 12.8	+1.1
	baz=41						
Y19A	Nutrioso	40.67 300	⇑P		P	04 47 12.7	+0.6
	baz=41						
S20A	Disappointment	40.78 306	⇑P		P	04 47 13.5	+0.5
	baz=41						
F24A	Ekalaka	40.93 319	⇓P		P	04 47 13.6	-0.2
	baz=41						
N21A	Black Mountain	41.01 310	⇓P		P	04 47 15.1	+0.4
	baz=41						
Q20A	Ridgley Place,	41.03 307	⇑P		P	04 47 15.1	+0.2
	baz=41,SNR=9.5						
T19A	Beclabito	41.06 304	⇑P		P	04 47 15.2	+0.1
	baz=41						
U19A	Dine' College,	41.08 303	⇑P		P	04 47 15.9	+0.5
	baz=41						
M21A	Separation Pea	41.17 312	⇑P		P	04 47 15.9	-0.2
	baz=41						
J22A	Midwest	41.22 315	⇓P		P	04 47 16.3	0.0
	baz=41						
L21A	Rawlins	41.30 312	⇓P		P	04 47 17.0	-0.1
	baz=41						
X18A	Snowflake	41.34 300	⇓P		P	04 47 17.7	+0.2
	baz=41						
S19A	Harvey Farm, M	41.36 305	⇓P		P	04 47 17.2	-0.4
	baz=41,SNR=7.2						
I22A	9 Mile Ranch,	41.41 315	⇓P		P	04 47 17.7	-0.1
	baz=41						
D24A	Glendive	41.45 321	⇑P		P	04 47 17.8	-0.2
	baz=41						
K21A	Alcova	41.45 313	⇑P		P	04 47 17.9	-0.4
	baz=41,SNR=17						
F23A	Volborg	41.47 318	⇑P		P	04 47 17.6	-0.6
	baz=41,SNR=5.4						
R19A	Curley Farm, L	41.59 306	⇑P		P	04 47 19.6	+0.1
	baz=42						
C24A	Savage	41.71 321	⇓P		P	04 47 20.2	+0.1
	baz=42						
TUC	Tucson	41.71 297	eP		P	04 47 21.1	+0.7
	comp=E,5.2nm,1.2s						
M20A	Sweetwater, Wa	41.72 311	⇓P		P	04 47 20.8	+0.3
	baz=42						
E23A	Ismay	41.76 319	⇑P		P	04 47 20.4	-0.2
	baz=42,SNR=7.6						
T18A	Mexican Hat	41.79 304	⇓P		P	04 47 20.7	-0.3
	baz=42						
G22A	Birney	41.82 317	⇑P		P	04 47 21.0	-0.2
	baz=42,SNR=8.0						
J21A	Lysite	41.84 314	⇑P		P	04 47 21.1	-0.4
	baz=42						
LVC	Limon Verde	41.85 184	eP		P	04 47 18.9	-2.8
	comp=E,0.6nm,0.6s						
I21A	Big Trails, Te	41.91 315	⇓P		P	04 47 21.4	-0.6
	baz=42						
L20A	Wamsutter	41.99 312	⇑P		P	04 47 22.7	0.0
	baz=42,SNR=5.4						
X17A	Forest Lakes	42.01 300	⇑P		P	04 47 23.3	+0.3
	baz=42						
D23A	Lindsay	42.01 320	⇑P		P	04 47 22.9	+0.3
	baz=42						
S18A	Hurst Farm, Bl	42.01 305	⇓P		P	04 47 23.0	0.0
	baz=42						
O19A	Miners Draw (B	42.03 309	⇓P		P	04 47 23.1	0.0
	baz=42						
F22A	Rosebud	42.03 318	⇓P		P	04 47 22.9	0.0
	baz=42,SNR=5.9						
R18A	Canyonlands Na	42.09 306	⇑P		P	04 47 23.3	-0.3
	baz=42,SNR=5.0						
E22A	Miles City	42.13 319	⇑P		P	04 47 23.6	+0.1
	baz=42						
N19A	John Jarvie Ra	42.24 310	⇑P		P	04 47 24.0	-0.7
	baz=42,SNR=5.2						
J20A	Shoshoni	42.28 314	⇑P		P	04 47 25.2	+0.1
	baz=42,SNR=11						
C23A	Lambert	42.29 321	⇑P		P	04 47 25.1	+0.3
	baz=42						
B23A	Brockton	42.50 322	⇑P		P	04 47 26.9	+0.4
	baz=42						
I20A	Worland	42.53 315	⇓P		P	04 47 27.0	0.0
	baz=42						
X16A	Lo Mia Camp, P	42.54 300	⇑P		P	04 47 27.9	+0.6
	baz=42						
D22A	Cohagen	42.59 320	⇑P		P	04 47 28.0	+0.7
	baz=42,SNR=12						
S17A	Black Ridge (B	42.62 305	⇑P		P	04 47 28.3	+0.5
	baz=43						
K19A	Absolon Red Bu	42.62 313	⇓P		P	04 47 27.9	+0.1
	baz=43						
WUAZ	Wupatki	42.66 302	eP		P	04 47 28.1	-0.2
	comp=E,9.8nm,1.0s						
WUAZ	Wupatki	42.66 302	⇓P		P	04 47 28.5	+0.3
	baz=43,SNR=6.3						
P18A	Preston Nutter	42.67 308	⇑P		P	04 47 28.3	-0.2
	baz=43						
C22A	Vida	42.68 321	⇑P		P	04 47 28.3	+0.2
	baz=43						
R17A	Hanksville Air	42.73 306	⇑P		P	04 47 28.4	-0.3
	baz=43						
L19A	Farson	42.74 312	⇑P		P	04 47 28.9	0.0
	baz=43						
SRU	San Rafael	42.75 307	⇓P		P	04 47 28.9	0.0
	baz=43						
E21A	Keefer Ranch,	42.87 319	⇑P		P	04 47 29.8	+0.1
	baz=43						
J19A	Crowheart	42.91 313	⇓P		P	04 47 29.9	-0.3
	baz=43,SNR=20						
B22A	Reddig Ranch S	43.01 321	⇓P		P	04 47 31.1	+0.4
	baz=43						
M18A	Lyman	43.04 310	⇑P		P	04 47 31.1	-0.2
	baz=43						
D21A	La Casta Ranch	43.05 319	⇓P		P	04 47 31.9	+0.9
	baz=43,SNR=26						
G20A	Bridger	43.06 316	⇑P		P	04 47 30.9	-0.4
	baz=43						
BW06	Boulder Array	43.10 312	eP		P	04 47 30.6	-1.2
	comp=E,5.9nm,1.1s						
BW06	Boulder Array	43.10 312	⇑P		P	04 47 31.2	-0.6
	baz=43,SNR=5.9						
PDAR	Pinedale Array	43.10 312	P		P	04 47 30.9	-0.9
PDAR			PcP		PcP	04 49 21.1	-0.4
PDAR	Pinedale Array	43.10 312	P		P	04 47 30.9	-0.9
	comp=E,1.8nm,0.7s,baz=117,slow=8.6,SNR=13						
PDAR			PcP		PcP	04 49 21.1	-0.4
	comp=E,2.1nm,0.6s,baz=124,slow=5.3,SNR=8.5						
PD02	Pinedale Array	43.11 312	eP		P	04 47 30.6	-1.3
PD01	Pinedale Array	43.12 312	eP		P	04 47 30.8	-1.1
I19A	Meeteetse	43.14 314	⇑P		P	04 47 31.6	-0.4
	baz=43,SNR=6.0						
L18A	Fontenelle, Gr	43.17 311	⇓P		P	04 47 32.2	-0.2
	baz=43						
O17A	Robinson Place	43.19 308	⇓P		P	04 47 32.4	-0.1
	baz=43,SNR=7.4						
F20A	Billings	43.25 317	⇑P		P	04 47 32.6	-0.2
	baz=43,SNR=12						
H19A	Powell	43.36 315	⇑P		P	04 47 33.6	-0.2
	baz=43,SNR=8.9						
214A	Organ Pipe Nat	43.38 296	⇑P		P	04 47 34.3	+0.3
	baz=43						
K18A	Toltan Ranch,	43.39 312	⇑P		P	04 47 34.3	+0.1
	baz=43						
C21A	Desert Coulee	43.45 320	⇓P		P	04 47 34.7	+0.4
	baz=43,SNR=7.6						
E20A	Meyer Farm, Mu	43.52 318	⇓P		P	04 47 35.1	+0.2
	baz=44,SNR=8.5						
114A	Black Gap (USA	43.52 297	⇑P		P	04 47 36.1	+1.1
	baz=44,SNR=7.3						
U15A	North Rim	43.55 303	⇓P		P	04 47 35.4	-0.2
	baz=44						
J18A	Kendall Valley	43.56 313	⇑P		P	04 47 35.4	-0.1
	baz=44,SNR=13						
I18A	Diamond G Ranc	43.58 314	⇓P		P	04 47 35.7	0.0
	baz=44,SNR=22						
DAU	Daniels Canyon	43.63 309	eP		P	04 47 35.9	-0.3
	comp=E,5.4nm,0.8s						
B21A	Ellsworth Farm	43.67 321	⇑P		P	04 47 36.8	+0.8
	baz=44						
RLMT	Red Lodge	43.72 316	eP		P	04 47 34.7	-2.0
	comp=E,56nm,1.8s						
RLMT	Red Lodge	43.72 316	⇓P		P	04 47 36.6	-0.1
	baz=44,SNR=5.5						
Y14A	Wickenburg	43.76 299	⇑P		P	04 47 37.4	+0.4
	baz=44						
D20A	Manuel Ranch,	43.77 319	⇓P		P	04 47 37.2	+0.3
	baz=44,SNR=8.2						
F19A	Roth Farm, Mol	43.78 317	⇓P		P	04 47 37.0	-0.1
	baz=44						
L17A	Cokeville	43.82 311	⇓P		P	04 47 37.5	0.0
	baz=44						
H18A	Shoshone NF, C	43.82 315	⇓P		P	04 47 36.7	-0.8
	baz=44,SNR=13						
JLU	Jordanelle	43.82 309	eP		P	04 47 37.9	+0.3
	comp=E,57nm,2.2s						
MSU	Marysvale	43.87 306	eP		P	04 47 39.3	+1.3
A21A	Bergtoll Ranch	43.87 322	⇑P		P	04 47 38.1	+0.4
	baz=44,SNR=8.0						
N16A	Rees Ranch, Co	43.88 309	⇓P		P	04 47 38.1	0.0
	baz=44						
MVU	Marysvale	43.89 306	eP		P	04 47 39.2	+1.0
	comp=E,48nm,2.7s						
E19A	Rath Farm, Rou	43.92 318	⇓P		P	04 47 38.6	+0.4
	baz=44,SNR=13						
C20A	Veseth Ranch,	43.95 320	⇑P		P	04 47 38.6	+0.3
	baz=44,SNR=7.3						
G18A	Lazy EL Ranch,	43.98 316	⇓P		P	04 47 38.7	-0.1
	baz=44,SNR=5.4						
K17A	Gardner Place,	44.04 312	⇑P		P	04 47 39.1	-0.3
	baz=44						
J17A	Brown Place, J	44.09 313	⇑P		P	04 47 39.9	+0.2
	baz=44,SNR=12						
LOHW	Long Hollow	44.09 313	eP		P	04 47 39.5	-0.3
	comp=E,21nm,0.9s						
SNOW	Snow King Moun	44.15 313	eP		P	04 47 40.7	+0.4
	comp=E,23nm,1.1s						
HWUT	Hardware Ranch	44.17 310	eP		P	04 47 39.8	-0.5
	comp=E,111nm,2.6s						
I17A	Pilgrim Ck.	44.17 314	⇑P		P	04 47 40.7	+0.3
	baz=44,SNR=6.8						
REDW	Red Top Meadow	44.19 313	eP		P	04 47 40.6	+0.1
	comp=E,91nm,1.9s						
L16A	Fish Haven	44.19 311	⇑P		P	04 47 40.0	-0.5
	baz=44,SNR=12						
GCMT	Greycliff	44.23 317	eP		P	04 47 40.8	+0.1
	comp=E,17nm,1.4s						
MOOW	Moose Ponds	44.23 313	eP		P	04 47 40.6	-0.2
	comp=E,10.0nm,0.8s						
D19A	Cripps Ranch,	44.26 319	⇑P		P	04 47 41.2	+0.3
	baz=44,SNR=6.7						
LKWY	Lake	44.27 315	eP		P	04 47 42.5	+1.3
	comp=E,6.6nm,0.9s						
F18A	Big Timber	44.30 317	⇑P		P	04 47 41.5	+0.3
	baz=44,SNR=15						
A20A	Cobblestone Ra	44.41 321	⇑P		P	04 47 42.5	+0.5
	baz=44,SNR=9.7						
FFC	Flin Flon	44.42 331	eP		P	04 47 40.4	-1.5
	comp=E,2.1nm,0.6s						
DCID1	Drake Creek	44.49 313	eP		P	04 47 43.1	+0.3
	comp=E,21nm,1.2s						
RRI2	Red Ridge	44.51 313	eP		P	04 47 43.2	+0.1
	comp=E,8.9nm,0.9s						
K16A	Soda Springs	44.54 312	⇓P		P	04 47 43.4	+0.1
	baz=44,SNR=9.8						
C19A	Slack Wire Ran	44.60 319	⇓P		P	04 47 44.6	+1.0
	baz=44						
W13A	Hualapai Mount	44.63 301	⇓P		P	04 47 44.7	+0.6
	baz=45						
E18A	Harlowton	44.67 317	⇓P		P	04 47 44.7	+0.4
	baz=45,SNR=12						
N15A	Stansbury Isla	44.68 309	⇑P		P	04 47 44.9	+0.5
	baz=45						
J16A	Bone	44.69 312	⇓P		P	04 47 44.8	+0.3
	baz=45						
DUG	Dugway	44.73 308	eP		P	04 47 44.9	+0.1
	comp=E,8.9nm,1.3s						
DUG	Dugway	44.73 308	⇓P		P	04 47 44.9	+0.1
	baz=45						
G17A	Pierce Place,	44.76 316	⇑P		P	04 47 45.4	+0.4
	baz=45,SNR=5.7						
M15A	Larsen Ranch,	44.77 310	⇑P		P	04 47 44.4	-0.7
	baz=45						
I16A	Newdale	44.78 313	⇓P		P	04 47 45.5	+0.2
	baz=45,SNR=8.3						
D18A	Linhart Farms,	44.85 318	⇓P		P	04 47 46.0	+0.4
	baz=45						
L15A	Malad City	44.87 311	⇓P		P	04 47 45.5	-0.5
	baz=45,SNR=9.8						
H16A	Russell Place,	44.89 315	⇑P		P	04 47 47.2	+1.1
	baz=45,SNR=11						
F17A	Fitzpatrick Pl	44.91 316	⇓P		P	04 47 46.7	+0.6
	baz=45,SNR=12						
A19A	Klindworth Far	44.91 321	⇓P		P	04 47 46.7	+0.6
	baz=45,SNR=5.8						
QLMT	Earthquake Lak	45.05 315	eP		P	04 47 48.9	+1.5
EGMT	Eagleton	45.15 319	eP		P	04 47 48.5	+0.6
	comp=E,16nm,1.3s						
EGMT	Eagleton	45.15 319	⇑P		P	04 47 48.5	+0.6
	baz=45						
K15A	Arbon	45.16 311	⇓P		P	04 47 48.1	-0.1
	baz=45,SNR=5.3						
GLA	Glamis	45.18 298	⇓P		P	04 47 48.7	+0.3
	baz=45						
E17A	Martinsdale	45.24 317	⇑P		P	04 47 49.2	+0.3
	baz=45,SNR=8.8						
J15A	Blackfoot	45.30 312	⇓P		P	04 47 49.5	+0.2
	baz=45,SNR=7.4						
B18A	Beardsley Farm	45.31 320	⇓P		P	04 47 49.7	+0.5
	baz=45,SNR=6.6						
D17A	Six Diamond Ra	45.39 318	⇓P		P	04 47 50.3	+0.4
	baz=45,SNR=15						
G16A	Moss Hill, Enn	45.44 315	⇑P		P	04 47 50.8	+0.4
	baz=45,SNR=11						
BOZ	Bozeman (W)	45.46 316	eP		P	04 47 50.5	0.0
	comp=E,34nm,1.8s						
BOZ	Bozeman (W)	45.46 316	⇑P		P	04 47 50.7	+0.2
	baz=45,SNR=9.8						
L14A	Malta	45.49 310	⇑P		P	04 47 50.9	0.0
	baz=45,SNR=6.0						
F16A	Kennard Place,	45.50 316	⇑P		P	04 47 51.2	+0.3
	baz=45,SNR=7.3						
I15A	Monteview	45.51 313	⇓P		P	04 47 51.9	+0.9
	baz=45,SNR=12						
IRM	Iron Mountain	45.55 299	⇑P		P	04 47 52.2	+1.0
	baz=46,SNR=6.5						
A18A	Metzger Ranch,	45.57 321	⇓P		P	04 47 51.4	+0.2
	baz=46,SNR=11						
K14A	Jones Ranch, D	45.58 311	⇑P		P	04 47 51.5	-0.1
	baz=46,SNR=13						
C17A	Wharram Farm,	45.62 319	⇑P		P	04 47 51.9	+0.2
	baz=46,SNR=13						
LDFC	Landfair	45.62 300	eP		P	04 47 53.6	+1.7
	comp=E,19nm,1.0s						
E16A

C16A **Fuhringer Ranc** **46.30 318** ⇑P **P** **04 47 57.1 0.0**
baz=46,SNR=15
H14A **Leadore** **46.30 314** ⇑P **P** **04 47 57.9 +0.7**
baz=46,SNR=18
CPUP **Villa Florida** **46.31 169** *eP* P 04 47 53.8 -3.3
TUQ **Turquoise Moun** **46.32 301** ⇓P **P** **04 47 57.9 +0.4**
baz=46
E15A **Deer Lodge** **46.38 316** ⇑P **P** **04 47 58.4 +0.6**
baz=46
R11A **Troy Canyon, C** **46.47 305** ⇑P **P** **04 47 59.1 +0.5**
baz=46
MONP **Monument Peak** **46.50 297** ⇑P **P** **04 48 00.0 +1.0**
baz=46
J13A **Cove Ranch, Pi** **46.51 312** ⇓P **P** **04 47 59.3 +0.5**
baz=46,SNR=23
D15A **Lincoln** **46.52 317** ⇓P **P** **04 47 59.0 +0.2**
baz=46,SNR=12
G14A **Jackson** **46.55 315** ⇓P **P** **04 47 59.5 +0.3**
baz=46,SNR=6.8
I13A **Wildhorse Cree** **46.61 313** ⇑P **P** **04 48 00.4 +0.6**
baz=46,SNR=28
A16A **West Butte Ran** **46.64 320** ⇑P **P** **04 48 00.0 +0.3**
baz=47,SNR=24
ELK **Elko** **46.65 308** *eP* **P** **04 47 59.5 -0.6**
F14A **Wisdom** **46.66 315** ⇓P **P** **04 48 00.6 +0.5**
baz=47,SNR=19
HLID **Hailey** **46.73 312** *eP* **P** **04 48 00.8 +0.3**
comp=E,9.1nm,0.9s
HLID **Hailey** **46.73 312** ⇓P **P** **04 48 00.9 +0.3**
baz=47,SNR=13
C15A **Salmond Ranch,** **46.83 318** ⇓P **P** **04 48 01.6 +0.3**
baz=47,SNR=34
H13A **Challis** **46.89 313** ⇑P **P** **04 48 01.9 +0.1**
baz=47,SNR=14
E14A **Clinton** **46.94 316** ⇓P **P** **04 48 02.1 0.0**
baz=47,SNR=5.8
CHMT **Chamberlain Mo** **46.94 317** *eP* **P** **04 48 02.4 +0.2**
B15A **Bradely Ranch,** **46.99 319** ⇓P **P** **04 48 02.4 -0.2**
baz=47,SNR=12
G13A **Cobalt** **47.03 314** ⇓P **P** **04 48 02.9 +0.1**
baz=47
D14A **Greenough** **47.16 317** ⇓P **P** **04 48 03.7 -0.2**
baz=47,SNR=6.0
SLMT **Seeley Lake** **47.21 317** *eP* **P** **04 48 04.4 +0.1**
I12A **Atlanta** **47.29 312** ⇑P **P** **04 48 05.5 +0.5**
baz=47,SNR=17
F13A **Darby** **47.30 315** ⇑P **P** **04 48 04.9 0.0**
baz=47,SNR=8.4
H12A **Diamond D Ranc** **47.30 313** ⇓P **P** **04 48 04.9 -0.1**
baz=47,SNR=5.3
A15A **Johnson Ranch,** **47.34 320** ⇓P **P** **04 48 05.4 +0.2**
baz=47,SNR=19
MSO **Missoula** **47.36 316** *eP* **P** **04 48 05.5 +0.1**
comp=E,2.5nm,0.8s
MSO **Missoula** **47.36 316** ⇑P **P** **04 48 05.3 -0.1**
baz=47
E13A **Victor** **47.40 316** ⇓P **P** **04 48 06.0 +0.3**
baz=47,SNR=14
B14A **Marquette Ranc** **47.45 319** ⇓P **P** **04 48 05.7 -0.4**
baz=47
C14A **Swan Lake** **47.55 318** ⇓P **P** **04 48 07.1 +0.3**
baz=48
SWMT **Swartz Lake** **47.62 317** *eP* **P** **04 48 07.6 +0.2**
MPMC **Manual Prospec** **47.66 301** ⇓P **P** **04 48 08.4 +0.4**
baz=48
MFID **Camas Ranch** **47.68 311** *eP* **P** **04 48 07.4 -0.5**
comp=E,12nm,0.9s
MFID **Camas Ranch** **47.68 311** ⇑P **P** **04 48 08.0 +0.1**
baz=48,SNR=7.6
YBMT **Yellow Bay** **47.75 318** *eP* **P** **04 48 08.4 0.0**
comp=E,24nm,1.3s
A14A **Double T Ranch** **47.76 319** ⇓P **P** **04 48 08.3 -0.2**
baz=48,SNR=22
G12A **Big Creek, Yel** **47.78 314** ⇓P **P** **04 48 08.7 -0.1**
baz=48
D13A **Huson** **47.78 317** ⇑P **P** **04 48 08.7 0.0**
baz=48,SNR=12
JTMT **Jette** **47.88 318** *eP* **P** **04 48 09.7 +0.3**
F12A **Elk City** **47.91 315** ⇓P **P** **04 48 09.7 0.0**
baz=48,SNR=8.9
BLMT **Blacktail Moun** **48.02 318** *eP* **P** **04 48 10.9 +0.2**
C13A **Hot Springs** **48.05 317** ⇓P **P** **04 48 10.8 +0.1**
baz=48,SNR=5.6
WALA **Waterton Lakes** **48.10 319** *eP* **P** **04 48 10.6 -0.5**
comp=E,0.2nm,0.6s
B13A **Whitefish** **48.21 318** ⇑P **P** **04 48 11.9 0.0**
baz=48,SNR=7.0
BSMT **Bassoo Peak** **48.24 318** *eP* **P** **04 48 12.5 +0.2**
E12A **Beaver Dam Sad** **48.31 315** ⇑P **P** **04 48 12.9 +0.1**
baz=48
D12A **Red Ives Fores** **48.35 316** ⇓P **P** **04 48 12.5 -0.6**
baz=48
A13A **Flathead Natio** **48.36 319** ⇓P **P** **04 48 13.1 0.0**
baz=48
NVAR **Mina Array Bea** **48.59 304** P **P** **04 48 15.2 0.0**
NVAR **Mina Array Bea** **48.59 304** P **P** **04 48 15.2 0.0**
comp=E,2.7nm,0.6s,baz=90,slow=6.9,SNR=20
C12B **Naegeli Ranch,** **48.63 317** ⇓P **P** **04 48 15.5 +0.4**
baz=49
B12A **Libby** **48.94 318** ⇓P **P** **04 48 17.8 +0.2**
baz=49
BMO **Blue Mountains** **49.06 313** *eP* **P** **04 48 18.0 -0.6**
comp=E,35nm,1.9s
A12A **Yaak River Ran** **49.13 319** ⇓P **P** **04 48 19.4 +0.4**
baz=49,SNR=7.6
C11A **Tepee Creek (N** **49.17 317** ⇑P **P** **04 48 19.2 -0.1**
baz=49
WVOR **Wild Horse Val** **49.49 310** *eP* **P** **04 48 21.3 -0.6**
comp=E,7.0nm,1.0s
NEW **Newport** **49.85 317** *eP* **P** **04 48 23.9 -0.6**
comp=E,26nm,0.7s
NEW **Newport** **49.85 317** ⇑P **P** **04 48 24.2 -0.3**
baz=50,SNR=37
YBH **Yreka Blue Hor** **52.37 308** P **P** **04 48 41.9 -1.6**
YBH **Yreka Blue Hor** **52.37 308** P **P** **04 48 41.9 -1.6**
comp=E,2.0nm,0.6s,baz=96,slow=5.1,SNR=6.5
YKA **Yellowknife Ar** **54.23 335** P **P** **04 48 55.4 -1.4**
YKA **Yellowknife Ar** **54.23 335** P **P** **04 48 55.3 -1.4**
comp=E,6.2nm,0.6s,baz=112,slow=7.7,SNR=120
SUMG **Summit** **55.50 10** *eP* **P** **04 49 06.7 +0.4**
comp=E,19nm,0.8s
SUMG **Summit** **55.50 10** *i P* **P** **04 49 06.6 +0.3**
comp=E,15nm,0.7s
ESDC **Sonseca Array** **56.79 55** P **P** **04 49 15.7 0.0**
ESDC **Sonseca Array** **56.79 55** P **P** **04 49 15.7 0.0**
comp=E,1.9nm,0.7s,baz=272,slow=6.7,SNR=15
ESDC LR LR 05 08 08.2
comp=E,132nm,18.6s,baz=140,slow=30
RES **Resolute Bay** **57.39 351** *eP* **P** **04 49 19.0 -0.2**
comp=E,1.3nm,0.8s
RES **Resolute Bay** **57.39 351** P **P** **04 49 18.2 -1.0**
comp=E,0.9nm,0.6s,baz=142,slow=4.5,SNR=8.8
DLBC **Dease Lake** **59.92 327** *eP* **P** **04 49 36.0 -1.2**
PLCA **Paso Flores** **59.97 184** P **P** **04 49 37.1 -0.5**
PLCA **Paso Flores** **59.97 184** P **P** **04 49 37.1 -0.5**
comp=E,2.6nm,1.0s,baz=9.0,slow=8.3,SNR=3.0
DBIC **Dimbokro** **60.96 93** *eP* **P** **04 49 44.4 -0.5**
comp=E,10nm,0.8s
DBIC **Dimbokro** **60.96 93** P **P** **04 49 44.9 0.0**
comp=E,7.0nm,0.8s,baz=271,slow=7.5,SNR=9.7
DBIC LR LR 05 13 45.7
comp=E,205nm,18.2s,baz=248,slow=34
DAG **Danmarks Havn** **62.10 11** *i P* **P** **04 49 50.8 -0.9**
comp=E,34nm,0.8s
INK **Inuvik** **63.71 338** *eP* **P** **04 50 01.0 -1.4**
comp=E,7.0nm,0.8s
TOA0 **Torodi Ar. Sit** **65.27 84** *eP* **P** **04 50 12.8 -0.8**
TORD **Torodi Ar. Bea** **65.27 84** P **P** **04 50 12.8 -0.7**
TORD **Torodi Ar. Bea** **65.27 84** P **P** **04 50 12.8 -0.7**
comp=E,1.2nm,0.5s,baz=289,slow=7.3,SNR=22
TORD LR LR 05 16 06.3
comp=E,310nm,18.8s,baz=275,slow=34
TAM **Tamanrasset** **66.54 73** *eP* **P** **04 50 23.3 +1.5**
comp=E,5.6nm,1.0s
TAM *e* 04 50 36.5
MENT **Mentasta** **67.15 331** *eP* **P** **04 50 24.7 -0.2**
NOA **NORSAR Array B** **67.20 31** LR LR 05 15 30.5
comp=E,162nm,18.5s,baz=270,slow=32
GRFO **Grafenberg** **67.47 43** *eP* P 04 50 18.4 -8.7
HFS **Hagfors** **68.43 32** LR LR 05 16 38.2
comp=E,448nm,18.6s,baz=254,slow=33
ILAR **Eielson Array** **68.59 333** P **P** **04 50 32.8 -1.1**
ILAR **Eielson Array** **68.59 333** P **P** **04 50 32.8 -1.1**
comp=E,6.8nm,0.6s,baz=106,slow=4.1,SNR=127
ILAR LR LR 05 21 50.4
comp=E,476nm,18.8s,baz=288,slow=37
COLA **College** **69.00 333** *eP* **P** **04 50 35.2 -1.2**
comp=E,10nm,0.8s
GERES **GERESS Array B** **69.16 44** LR LR 05 18 48.1
comp=E,101nm,19.3s,baz=136,slow=34
PMR **Palmer** **69.70 330** *e*Pn P 04 50 35.6 -5.1
VRAC **Vranov** **70.99 43** LR LR 05 18 29.3
comp=E,97nm,18.5s,baz=285,slow=33
ARCES **ARCESS Array B** **72.63 22** P **P** **04 50 58.3 -0.1**
ARCES **ARCESS Array B** **72.63 22** P **P** **04 50 58.3 -0.1**
comp=E,6.7nm,1.1s,baz=289,slow=5.5,SNR=6.2
ARCES LR LR 05 20 31.4
comp=E,81nm,18.1s,baz=173,slow=34
FINES **FINESS Array B** **74.30 30** P **P** **04 51 08.3 -0.1**
FINES **FINESS Array B** **74.30 30** P **P** **04 51 08.3 -0.1**
comp=E,2.3nm,0.8s,baz=307,slow=6.9,SNR=3.5
FINES LR LR 05 21 06.0
comp=E,183nm,18.4s,baz=315,slow=34
BUR08 **Bucovina Ar. S** **76.93 44** *eP* **P** **04 51 24.9 +1.0**
TNA **Tin City** **77.19 335** *eP* **P** **04 51 25.7 +0.9**
comp=E,8.4nm,0.8s
MLR **Muntele Rosu** **77.98 46** P **P** **04 51 30.0 +0.2**
MLR **Muntele Rosu** **77.98 46** P **P** **04 51 30.0 +0.2**
comp=E,1.5nm,0.8s,baz=198,slow=3.2,SNR=13
AKASG **Malin Array Be** **78.66 40** P **P** **04 51 32.5 -0.7**
AKASG **Malin Array Be** **78.66 40** P **P** **04 51 32.6 -0.7**
comp=E,0.5nm,0.5s,baz=284,slow=4.6,SNR=5.1
BILL **Bilibino** **84.80 343** *eP* **P** **04 52 04.8 -0.5**
comp=E,6.8nm,0.7s
BR131 **Keskin Array S** **85.18 50** *eP* **P** **04 52 07.9 -0.2**
comp=E,2.6nm,0.8s
BRTR **Keskin Array B** **85.18 50** P **P** **04 52 07.8 -0.2**
BRTR **Keskin Array B** **85.18 50** P **P** **04 52 07.8 -0.2**
comp=E,2.4nm,0.7s,baz=274,slow=3.4,SNR=14
EIL **Elat** **89.90 59** LR LR 05 32 51.3
comp=E,77nm,18.2s,baz=101,slow=36
BVAR **Borovoye Array** **98.73 25** LR LR 05 34 50.0
comp=E,102nm,18.8s,baz=179,slow=34
KSH **Kashi** **111.62 31** *e*PKP **PKiKP** **04 58 04.9 -1.5**
KSH PP PP **04 58 49.8 +2.8**
KSH PKS **PKSdf** **05 01 41.3 -1.8**
KSH SKS **SKSdf** **05 05 16.0 -2.5**
KSH SKKS SKKSac 05 05 44.1 -6.5
KSH SS **SS** **05 14 21.5 +0.1**
KSH LR LR
comp=Z,280nm,6.7s
WMQ **Urumqi** **112.72 20** *e*PKP **PKiKP** **04 58 07.0 -1.3**
WMQ LR LR
comp=Z,190nm,19.3s
HHC **Hu-ho-hao-te** **120.01 2** *e*PKP **PKPdf** **04 58 20.3 -2.1**
HHC PP **PP** **04 59 46.3 +1.0**
HHC PKS **PKSdf** **05 01 56.9 -2.3**
HHC SKS **SKSdf** **05 05 31.5 -3.0**
HHC SKKS SKKSac 05 06 37.4 -9.3
HHC SS **SS** **05 16 11.3 +0.9**
HHC AMB AMB
comp=Z,140nm,13.2s
HHC LR LR
comp=Z,150nm,15.6s
KMI **Kunming** **134.47 14** PKP **PKPdf** **04 58 50.5 0.0**
COEN **Coen** **151.22 276** *e*PKPbc **PKPbc** **04 59 25.6 -0.1**
STKA **Stephens Creek** **152.00 238** PKPbc **PKPdf** **04 59 25.4 +4.9**
STKA **Stephens Creek** **152.00 238** PKPbc **PKPdf** **04 59 25.4 +4.9**
comp=Z,4.0nm,0.6s,baz=95,slow=4.3,SNR=6.6
ASAR **Alice Springs** **160.69 254** PKPab **PKPab** **05 00 13.2 -0.8**
ASAR **Alice Springs** **160.69 254** PKPab **PKPab** **05 00 13.2 -0.8**
comp=Z,1.3nm,0.7s,baz=103,slow=4.3,SNR=8.5

IDC ***13*** *04:40:30.1±1.0,4.°00N×126.°56E,h0km,mb3.9/10, mb1 4.1/10,mb1mx4.0/20,mbtmp3.9/10,Error ellipse: s-maj=69.9km s-min=15.8km az=67.0*
ISCJB ***13*** *04:40:34.3±0.6,4.°0N±0.°1×126.°6E±0.°3,h45km,mb4.0/16, Error ellipse: s-maj=41.0km s-min=8.8km az=158.5*
NEIC ***13*** *04:40:35.2±0.6,3.°97N×126.°45E,h35km,mb4.3/7,Error ellipse: s-maj=38.5km s-min=8.5km az=70.0*
ISC 13 04:40:36.4±0.8,3.°9N±0.°1×126.°6E±0.°3,h45km,n32, σ0s91/33,mb4.0/16,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.00**	**325**	*i* P		Pn		**04 41 36.7**	**+1.4**
TPUB	**Ta-pu**	**20.09**	**344**	*e*P		P		**04 45 04.5**	**-1.9**
	14nm,0.6s								
FITZ	**Fitzroy Crossi**	**21.92**	**182**	P		P		**04 45 25.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**21.92**	**182**	P		P		**04 45 25.2**	**-0.9**
	1.6nm,0.8s,baz=0.8,slow=14,SNR=2.3								
WRAB	**Tennant Creek**	**24.92**	**162**	*e*P		P		**04 45 56.4**	**+0.9**
	8.9nm,1.0s								
WRA	**Warramunga Arr**	**24.93**	**162**	P		P		**04 45 56.0**	**+0.4**
WRA	**Warramunga Arr**	**24.93**	**162**	P		P		**04 45 56.0**	**+0.4**
	4.9nm,0.8s,baz=343,slow=10,SNR=15								
ASAR	**Alice Springs**	**28.35**	**166**	P		P		**04 46 26.9**	**+0.4**
ASAR	**Alice Springs**	**28.35**	**166**	P		P		**04 46 26.9**	**+0.4**
	0.2nm,0.3s,baz=343,slow=11,SNR=3.6								
CMAR	**Chiang Mai Arr**	**30.64**	**300**	P		P		**04 46 46.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**30.64**	**300**	P		P		**04 46 46.9**	**+0.2**
	1.3nm,0.7s,baz=109,slow=7.0,SNR=4.2								
STKA	**Stephens Creek**	**38.38**	**159**	P		P		**04 47 53.7**	**+0.3**
STKA	**Stephens Creek**	**38.38**	**159**	P		P		**04 47 53.7**	**+0.3**
	3.4nm,0.7s,baz=348,slow=9.3,SNR=5.8								
ULN	**Ulaanbaatar**	**46.88**	**342**	*e*P		P		**04 49 01.8**	**-0.6**
	1.3nm,0.7s								
SONM	**Songino Array**	**47.05**	**341**	P		P		**04 49 03.6**	**-0.2**
SONM	**Songino Array**	**47.05**	**341**	P		P		**04 49 03.6**	**-0.2**
	1.0nm,0.7s,baz=149,slow=6.7,SNR=2.5								
MK31	**Makanchi Array**	**57.30**	**325**	*e*P		P		**04 50 19.0**	**-0.8**
MKAR	**Makanchi Array**	**57.30**	**325**	P		P		**04 50 18.8**	**-0.9**
MKAR				PcP		PcP		**04 51 14.0**	**+0.5**
MKAR	**Makanchi Array**	**57.30**	**325**	P		P		**04 50 18.8**	**-0.9**
	0.7nm,0.4s,baz=117,slow=7.7,SNR=18								
MKAR				PcP		PcP		**04 51 14.0**	**+0.5**
	0.7nm,0.8s,baz=174,slow=2.9,SNR=4.3								
ZALV	**Zalesovo Beam**	**60.33**	**333**	P		P		**04 50 38.8**	**-1.8**
ZALV	**Zalesovo Beam**	**60.33**	**333**	P		P		**04 50 38.8**	**-1.8**
	0.4nm,0.4s,baz=122,slow=7.5,SNR=3.2								
KURK	**Kurchatov**	**61.48**	**328**	*e*P		P		**04 50 47.1**	**-1.4**
	1.4nm,0.5s								
BRVK	**Borovoye**	**67.14**	**327**	*e*P		P		**04 51 24.9**	**-0.5**
	1.7nm,0.8s								
ABKAR	**Akbulak array**	**71.89**	**321**	*e*P		P		**04 51 54.5**	**-0.4**
	0.6nm,0.6s								
GNI	**Garni**	**81.23**	**310**	*e*P		P		04 52 44.5	-3.6
	3.9nm,0.7s								
BRTR	**Keskin Array B**	**89.77**	**310**	P		P		**04 53 30.6**	**0.0**
BRTR	**Keskin Array B**	**89.77**	**310**	P		P		**04 53 30.6**	**0.0**
	0.4nm,0.7s,baz=73,slow=2.6,SNR=2.7								
ARCES	**ARCESS Array B**	**90.20**	**340**	P		P		**04 53 33.1**	**+1.3**
ARCES	**ARCESS Array B**	**90.20**	**340**	P		P		**04 53 33.1**	**+1.3**
	1.7nm,0.9s,baz=66,slow=7.0,SNR=3.0								
BUR08	**Bucovina Ar. S**	**94.75**	**318**	*e*P		P		**04 53 54.0**	**+0.6**
TORD	**Torodi Ar. Bea**	**122.71**	**288**	PKP		**PKPdf**		**04 59 28.3**	**-0.1**
TORD	**Torodi Ar. Bea**	**122.71**	**288**	PKP		**PKPdf**		**04 59 28.3**	**-0.1**
	0.5nm,0.8s,baz=50,slow=1.4,SNR=4.1								

IDC ***13*** *04:45:22.0±0.9,0.°52S×133.°07E,h0km,mb4.1/9, mb1 4.2/11,mb1mx4.0/21,mbtmp4.1/11,ML4.1/2,MS3.1/1, Ms1 3.1/1,ms1mx2.4/30,Error ellipse: s-maj=41.6km s-min=11.7km az=76.0*
ISCJB ***13*** *04:45:25.3±0.5,0.°42S±0.°05×133.°20E±0.°06,h32km, mb4.1/13,Error ellipse: s-maj=8.5km s-min=7.4km az=149.7*
DJA ***13*** *04:45:25,0.°51S×133.°14E,h10km,MLv4.8/8*
NEIC ***13*** *04:45:27.4±0.5,0.°48S×133.°17E,h35km,mb4.2/7,Error ellipse: s-maj=15.7km s-min=7.6km az=66.0*
ISC 13 04:45:27.0±0.7,0.°45S±0.°07×133.°15E±0.°06,h32km,n41, σ1s31/41,mb4.3/13,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.93**	**258**	P		P		**04 45 56.1**	**-1.6**
FAKI	**Fak Fak**	**2.61**	**200**	P		P		**04 46 07.2**	**+0.2**
BAKI	**Biak**	**3.05**	**104**	P		P		**04 46 14.3**	**+1.3**
MSAI	**Masohi**	**5.10**	**236**	P		P		**04 46 44.1**	**+2.8**
	109nm,0.7s,1μm0.3nm								
TLE	**Tual**	**5.17**	**185**	P		P		**04 46 43.6**	**+1.4**
	167nm,0.7s,5μm1.6nm								
LBMI	**Labuha**	**5.65**	**268**	P		P		**04 46 51.7**	**+2.9**
	154nm,0.8s,0.5nm								
AAI	**Ambon**	**5.90**	**237**	P		P		**04 46 52.5**	**+0.2**
	214nm,0.9s,3μm0.8nm								
NLAI	**Namlea**	**6.65**	**245**	P		Pn		04 47 06.5	+4.0
	106nm,0.7s,3μm0.6nm								
KDI	**Kendari**	**11.08**	**252**	P		Pn		04 48 06.7	+3.3
	14nm,0.9s								
KAPI	**Kappang**	**14.12**	**251**	Pn		**Pn**		**04 48 47.6**	**+2.6**
KAPI	**Kappang**	**14.12**	**251**	Pn		**Pn**		**04 48 47.7**	**+2.6**
	1.3nm,0.3s,baz=101,slow=10,SNR=4.7								
COEN	**Coen**	**16.69**	**144**	*e*P		**P**		**04 49 20.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**19.03**	**202**	*e*P		**P**		**04 49 44.5**	**-1.9**
	5.9nm,0.6s								
FITZ				S		Sn		04 53 05.0	-15
FITZ	**Fitzroy Crossi**	**19.03**	**202**	P		**P**		**04 49 44.7**	**-1.8**
	0.4nm,0.3s,baz=34,slow=10,SNR=9.1								
FITZ				S		Sn		04 53 05.0	-15
	0.3nm,0.3s,baz=96,slow=9.2,SNR=4.5								
FITZ				LR		LR		04 56 50.9	
	comp=Z,66nm,20.9s,baz=2.9,slow=36								
WRAB	**Tennant Creek**	**19.39**	**177**	*e*P		**P**		**04 49 49.7**	**-0.9**
	9.5nm,0.8s								
WRA	**Warramunga Arr**	**19.40**	**177**	P		**P**		**04 49 49.8**	**-0.8**
WRA				S		S		04 53 14.7	-14
WRA	**Warramunga Arr**	**19.40**	**177**	P		**P**		**04 49 49.8**	**-0.8**
	0.6nm,0.3s,baz=354,slow=11,SNR=24								
WRA				S		S		04 53 14.7	-14
	baz=0.0,slow=0.0,SNR=2.8								
AS31	**Alice Springs**	**23.09**	**178**	*e*P		**P**		**04 50 29.5**	**-0.7**
ASAR	**Alice Springs**	**23.09**	**178**	P		**P**		**04 50 29.6**	**-0.6**
ASAR				S		**S**		**04 54 41.3**	**+1.9**
ASAR	**Alice Springs**	**23.09**	**178**	P		**P**		**04 50 29.6**	**-0.6**
	9.3nm,0.9s,baz=8.1,slow=11,SNR=39								
ASAR				S		**S**		**04 54 41.3**	**+1.9**
	3.6nm,1.1s,baz=0.3,slow=21,SNR=9.7								
CTA	**Charters Tower**	**23.35**	**147**	P		**P**		**04 50 33.8**	**+1.0**
CTA	**Charters Tower**	**23.35**	**147**	P		**P**		**04 50 33.8**	**+1.0**
	3.2nm,0.7s,baz=327,slow=12,SNR=3.5								
CTAO	**Charters Tower**	**23.35**	**147**	*e*P		**P**		**04 50 33.5**	**+0.6**
	7.8nm,0.8s								
STKA	**Stephens Creek**	**32.26**	**166**	P		**P**		**04 51 51.2**	**-1.5**
STKA	**Stephens Creek**	**32.26**	**166**	P		**P**		**04 51 51.2**	**-1.5**
	3.7nm,0.6s,baz=326,slow=11,SNR=5.8								
CMAR	**Chiang Mai Arr**	**38.51**	**301**	P		**P**		**04 52 46.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**38.51**	**301**	P		**P**		**04 52 46.1**	**-0.7**
	0.5nm,0.4s,baz=123,slow=5.8,SNR=4.2								
MK31	**Makanchi Array**	**64.66**	**324**	*e*P		**P**		**04 56 02.5**	**+0.7**
MKAR	**Makanchi Array**	**64.66**	**324**	P		**P**		**04 56 02.5**	**+0.7**
MKAR	**Makanchi Array**	**64.66**	**324**	P		**P**		**04 56 02.5**	**+0.7**
	1.7nm,0.7s,baz=115,slow=7.7,SNR=21								
ZALV	**Zalesovo Beam**	**67.25**	**331**	P		**P**		**04 56 17.9**	**-0.4**
ZALV	**Zalesovo Beam**	**67.25**	**331**	P		**P**		**04 56 17.8**	**-0.4**
	0.8nm,0.6s,baz=119,slow=5.8,SNR=5.9								
EKS2	**Erkin-Say**	**68.25**	**317**	*e*P		**P**		**04 56 25.5**	**+0.4**
	1.4nm,0.7s								
KURK	**Kurchatov**	**68.73**	**326**	*e*P		**P**		**04 56 28.1**	**+0.5**
	2.9nm,0.8s								
KURBB	**Kurchatov Arra**	**68.73**	**326**	P		**P**		**04 56 27.7**	**+0.1**
	3.3nm,0.8s,baz=120,slow=5.8,SNR=36								
BVAR	**Borovoye Array**	**74.32**	**326**	P		**P**		**04 57 01.6**	**+0.3**
BVAR	**Borovoye Array**	**74.32**	**326**	P		**P**		**04 57 01.6**	**+0.3**
	2.8nm,0.6s,baz=122,slow=7.2,SNR=18								
BRVK	**Borovoye**	**74.39**	**326**	*e*P		**P**		**04 57 01.5**	**-0.2**
	3.9nm,0.6s								
ABKAR	**Akbulak array**	**79.43**	**320**	*e*P		**P**		**04 57 29.8**	**-0.4**
	1.4nm,0.6s								
ILAR	**Eielson Array**	**86.12**	**25**	P		**P**		**04 58 04.2**	**-0.4**
ILAR	**Eielson Array**	**86.12**	**25**	P		**P**		**04 58 04.2**	**-0.4**
	0.4nm,0.9s,baz=239,slow=5.1,SNR=4.3								

IDC 13 04:46:32.8±1.8,3.°57N×126.°77E,h0km,mb4.0/5, mb1 4.2/5,mb1mx3.8/20,mbtmp4.0/5,MS3.0/1,Ms1 3.0/1, ms1mx2.1/33,Error ellipse: s-maj=177.4km s-min=21.3km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.68**	**341**	LR		LR		04 49 21.3	
	comp=Z,203nm,18.5s,baz=294,slow=46								
WRA	**Warramunga Arr**	**24.52**	**163**	P		P		04 51 54.0	-0.3
	5.3nm,0.7s,baz=343,slow=10,SNR=5.9								
ASAR	**Alice Springs**	**27.95**	**166**	P		P		04 52 25.3	+0.1
	1.2nm,0.8s,baz=347,slow=7.7,SNR=1.9								
STKA	**Stephens Creek**	**37.96**	**159**	P		P		04 53 52.5	+0.1
	4.3nm,0.8s,baz=337,slow=7.7,SNR=4.5								
MKAR	**Makanchi Array**	**57.71**	**325**	P		P		04 56 24.9	-0.6
	0.5nm,0.5s,baz=118,slow=7.7,SNR=5.2								
KURBB	**Kurchatov Arra**	**61.90**	**327**	P		P		04 56 54.6	+0.5
	1.2nm,0.8s,baz=128,slow=5.8,SNR=4.0								

ISCJB ***13*** *04:49:13.8±0.4,57.°06N±0.°07×156.°55W±0.°10, h113km±5km,mb3.4/4,Error ellipse: s-maj=13.2km s-min=4.2km az=142.5*
NEIC ***13*** *04:49:17.1,57.°07N×156.°56W,h79km,MG3.2(AEIC), After AEIC.*
IDC ***13*** *04:49:18.3±0.9,0.°57S×156.°47W,h114km±5km,mb3.2/4, mb1 3.4/5,mb1mx3.1/26,mbtmp3.2/5,Error ellipse: s-maj=68.6km s-min=45.7km az=14.0*
ISC 13 04:49:14.7±0.9,57.°10N±0.°07×156.°63W±0.°06, h103km±9km,n53,σ1s14/59,mb3.5/4,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANNE	**Aniakchak Nort**	**0.81**	**257**	P		**Pn**		**04 49 32.9**	**-0.5**
ANPK	**Aniakchak Peak**	**0.86**	**253**	P		Pn		**04 49 33.8**	**-0.2**
ANNW	**Aniakchak Nort**	**0.88**	**262**	P		**Pn**		**04 49 34.7**	**+0.6**
KABR	**Katmai Barrier**	**1.36**	**40**	P		**Pn**		**04 49 39.5**	**+0.1**
KABU	**Katmai Buttres**	**1.38**	**31**	P		**Pn**		**04 49 40.2**	**+0.6**
KABU				S		**Sn**		**04 49 59.5**	**+1.0**
VNHG	**Veniaminof 1**	**1.66**	**239**	P		**Pn**		**04 49 44.5**	**+1.5**
VNSG	**Veniaminof 6**	**1.68**	**235**	P		**Pn**		**04 49 44.2**	**+0.9**
KARR	**Katmai Rainbow**	**1.74**	**36**	P		**Pn**		**04 49 44.6**	**+0.6**
KAPH	**Katmai Pasha**	**1.93**	**38**	P		**Pn**		**04 49 47.3**	**+0.8**
KAPH				S		**Sn**		**04 50 11.9**	**+1.1**
KDAK	**Kodiak Island**	**2.29**	**71**	P		**Pn**		**04 49 51.4**	**+0.4**
KDAK				S		**Sn**		**04 50 17.2**	**-1.6**
FOPK	**Fourpeaked Vol**	**2.36**	**44**	P		**Pn**		**04 49 52.6**	**+0.6**
SDPT	**Sand Point**	**2.78**	**232**	P		**Pn**		**04 49 57.9**	**+0.5**
SDPT				S		**Sn**		**04 50 31.1**	**+0.8**
AUW	**Augustine West**	**2.82**	**35**	P		**Pn**		**04 49 59.5**	**+1.5**
AUL	**Augustine Lava**	**2.84**	**35**	P		**Pn**		**04 49 59.8**	**+1.5**
OPT	**Oil Point**	**3.12**	**34**	P		**Pn**		**04 50 03.4**	**+1.4**
PS4A	**Pavlof South-4**	**3.41**	**241**	P		**Pn**		**04 50 06.7**	**+0.8**
ILW	**Iliamna West**	**3.48**	**30**	P		**Pn**		**04 50 08.3**	**+1.3**
DT1	**Dutton Round H**	**3.75**	**240**	P		**Pn**		**04 50 10.7**	**+0.4**
DRIA	**Deer Island**	**3.82**	**238**	P		**Pn**		**04 50 11.6**	**+0.2**
NCT	**North Crescent**	**3.96**	**27**	P		**Pn**		**04 50 14.7**	**+1.2**
BRLK	**Bradley Lake**	**4.03**	**46**	P		**Pn**		**04 50 14.2**	**0.0**
BRLK				S		**Sn**		**04 50 58.1**	**-2.2**
DFR	**Drift River**	**4.05**	**29**	P		**Pn**		**04 50 15.8**	**+1.2**
CKL	**Chakachamna La**	**4.66**	**26**	P		**Pn**		**04

MKAR	**Makanchi Array**	**65.46**	**320**	P		**P**		**04 59 47.4**	**+1.2**
	0.1nm,0.4s,baz=38,slow=7.3,SNR=3.2								

*ISK **13** 04:50:31.8, 37.°52N × 38.°63E, h8km, MD2.7*
*ISCJB **13** 04:50:32.5 ± 0.6, 37.°54N ± 0.°04 × 38.°63E ± 0.°04, h4km ± 7km, Error ellipse: s-maj=6.8km s-min=4.8km az=172.0*
*DDA **13** 04:50:33.0, 37.°57N × 38.°61E, h7km, MD2.8*
*CSEM **13** 04:50:32.4 ± 0.2, 37.°52N × 38.°63E, h8km, MD2.7, Error ellipse: s-maj=4.5km s-min=3.6km az=171.0*
ISC 13 04:50:32.4 ± 1.0, **37.°52N** ± 0.°04 × **38.°63E** ± 0.°03, **h9**km ± 9km, **n24,** σ0**49**/34, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.17**	**117**	PG	**Pg**	**04 50 35.8**	**-0.3**
URFA				SG	**Sg**	**04 50 38.8**	**+0.1**
URFA	**Urfa**	**0.17**	**117**	*i* Pg	**Pg**	**04 50 35.8**	**-0.3**
URFA				*i* Sg	**Sg**	**04 50 38.8**	**+0.1**
ATAB	**Bozova**	**0.27**	**259**	*i* P	**Pg**	**04 50 38.3**	**+0.6**
ATAB				*i* S	**Sb**	**04 50 42.8**	**-1.3**
ATAB	**Bozova**	**0.27**	**259**	*i* P	**Pg**	**04 50 38.3**	**+0.6**
ATAB				*i* S	**Sb**	**04 50 42.8**	**-1.3**
MALT	**Malatya**	**0.81**	**349**	*e*Pg	**Pg**	**04 50 48.0**	**0.0**
MALT	**Malatya**	**0.81**	**349**	*e*Pg	**Pg**	**04 50 48.0**	**0.0**
MYA	**Malataya**	**0.82**	**349**	*e*Pg	**Pg**	**04 50 47.7**	**-0.5**
MYA	**Malataya**	**0.82**	**349**	*e*Pg	**Pg**	**04 50 47.7**	**-0.5**
AKCD	**Akcadag**	**0.95**	**325**	*i* P	**Pn**	**04 50 52.1**	**0.0**
AKCD				*i* S	**Sb**	**04 51 04.1**	**+0.1**
AKCD	**Akcadag**	**0.95**	**325**	*i* P	**Pn**	**04 50 52.1**	**0.0**
AKCD				*i* S	**Sb**	**04 51 04.1**	**+0.1**
SVRC	**Sivrice-ELAZID**	**1.01**	**32**	*e*PG	**Pg**	**04 50 51.8**	**0.0**
SVRC				*e*SG	**Sb**	**04 51 05.8**	**+0.1**
SVRC	**Sivrice-ELAZID**	**1.01**	**32**	*e*Pg	**Pg**	**04 50 51.8**	**0.0**
SVRC				*e*Sg	**Sb**	**04 51 05.8**	**+0.1**
GAZ	**Gaziantep**	**1.18**	**253**	*e*PN	**Pb**	**04 50 54.8**	**-0.2**
GAZ	**Gaziantep**	**1.18**	**253**	*e*Pn	**Pb**	**04 50 54.8**	**-0.2**
DIYA	**Diyarbakir**	**1.25**	**71**	*i* P	**Pg**	**04 50 57.0**	**+0.6**
DIYA				*i* S	**Sn**	**04 51 13.5**	**+0.3**
DIYA	**Diyarbakir**	**1.25**	**71**	*i* P	**Pg**	**04 50 57.0**	**+0.6**
DIYA				*i* S	**Sn**	**04 51 13.5**	**+0.3**
KMRS	**Kahramanmaras**	**1.37**	**270**	*e*PN	**Pn**	**04 50 57.7**	**-0.1**
KMRS	**Kahramanmaras**	**1.37**	**270**	*e*Pn	**Pn**	**04 50 57.7**	**-0.1**
PTK	**Pertek**	**1.50**	**24**	*e*PN	**Pn**	**04 50 59.3**	**-0.4**
PTK	**Pertek**	**1.50**	**24**	*e*Pn	**Pn**	**04 50 59.3**	**-0.4**
ILIC	**ilic-Erzincan**	**1.93**	**359**	*e*PN	**Pn**	**04 51 05.8**	**+0.2**
ILIC	**ilic-Erzincan**	**1.93**	**359**	*e*Pn	**Pn**	**04 51 05.8**	**+0.2**
KOZT	**Kozan**	**2.23**	**270**	*e*PN	**Pn**	**04 51 10.3**	**+0.8**
KOZT	**Kozan**	**2.23**	**270**	*e*Pn	**Pn**	**04 51 10.3**	**+0.8**

*MDD **13** 04:52:37.1 ± 2.3, 32.°74N × 12.°91W, h0km, mb3.7/7, mbLg2.5/11, Error ellipse: s-maj=72.4km s-min=12.5km az=119.0, PRXIMO*
*INMG **13** 04:52:42.1 ± 1.0, 32.°70N × 13.°10W, h10km, ML2.3, Error ellipse: s-maj=28.1km s-min=8.3km az=119.0*
*CSEM **13** 04:52:45.0 ± 0.6, 33.°14N × 12.°48W, h10km, ML2.5, Error ellipse: s-maj=21.3km s-min=9.6km az=118.0*
ISC 13 04:52:45.2 ± 4.3, **33.°2N** ± 0.°2 × **12.°5W** ± 0.°2, **h10**km, **n41,** σ0**74**/61, **Madeira Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFUE	**Fuerteventura**	**4.67**	**196**	P	Pn	04 53 39.8	-16
	2.4nm,0.3s,SNR=7.9						
CFUE				S	Sn	04 54 23.5	-27
	3.8nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.96**	**36**	*e*Pn	**Pn**	**04 53 59.4**	**-0.4**
PFVI				*e*Sn	**Sn**	**04 54 58.8**	**+1.5**
PFVI				A	A	04 55 03.2	
	4.7nm,0.6s						
PFVI	**Vila Bisbo**	**4.96**	**36**	P	**Pn**	**04 53 58.7**	**-1.1**
	0.6nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**04 54 57.1**	**-0.2**
	1.8nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.96**	**36**	P	**Pn**	**04 53 58.7**	**-1.1**
	0.6nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.96**	**36**	*e*Pn	**Pn**	**04 53 59.4**	**-0.4**
PFVI				S	**Sn**	**04 54 57.1**	**-0.2**
	1.8nm,0.1s,SNR=7.9						
PFVI				*e*Sn	Sb	04 54 58.8	-13
	4.7nm,0.6s						
MORF	**Marmelete**	**5.19**	**36**	*e*Sn	**Sn**	**04 55 03.2**	**+0.3**
MORF				A	A	04 55 09.7	
	2.0nm,0.2s						
MORF	**Marmelete**	**5.19**	**36**	S	**Sn**	**04 55 03.2**	**+0.3**
	2.0nm,0.2s						
MORF	**Marmelete**	**5.19**	**36**	S	**Sn**	**04 55 03.2**	**+0.3**
	2.0nm,0.2s						
PTEO	**Sao Teotonio**	**5.34**	**34**	*e*Pn	**Pn**	**04 54 05.7**	**+0.7**
PTEO				*e*Sn	**Sn**	**04 55 07.2**	**+0.6**
PTEO				A	A	04 55 07.2	
	3.2nm,0.7s						
PTEO	**Sao Teotonio**	**5.34**	**34**	P	**Pn**	**04 54 05.7**	**+0.7**
PTEO				S	**Sn**	**04 55 07.2**	**+0.6**
	1.6nm,0.7s						
PTEO	**Sao Teotonio**	**5.34**	**34**	P	**Pn**	**04 54 05.7**	**+0.7**
PTEO				S	**Sn**	**04 55 07.2**	**+0.6**
	1.6nm,0.7s						
PBDV	**Barranco-do-Ve**	**5.52**	**41**	*e*Pn	**Pn**	**04 54 07.5**	**+0.1**
PBDV				*e*Sn	**Sn**	**04 55 12.0**	**+1.1**
PBDV				A	A	04 55 17.3	
	1.8nm,0.9s						
PBDV	**Barranco-do-Ve**	**5.52**	**41**	P	**Pn**	**04 54 07.5**	**+0.1**
PBDV				S	**Sn**	**04 55 12.0**	**+1.1**
	1.8nm,0.9s						
PBDV	**Barranco-do-Ve**	**5.52**	**41**	P	**Pn**	**04 54 07.5**	**+0.1**
PBDV				S	**Sn**	**04 55 12.0**	**+1.1**
	1.8nm,0.9s						
PCVE	**Castro Verde**	**5.75**	**38**	*e*Pn	**Pn**	**04 54 11.8**	**+1.2**
PCVE				*e*Sn	**Sn**	**04 55 17.4**	**+0.8**
PCVE				A	A	04 55 23.0	
	1.2nm,0.3s						
PCVE	**Castro Verde**	**5.75**	**38**	P	**Pn**	**04 54 11.8**	**+1.2**
PCVE				S	**Sn**	**04 55 17.4**	**+0.8**
	1.2nm,0.3s						
PCVE	**Castro Verde**	**5.75**	**38**	P	**Pn**	**04 54 11.8**	**+1.2**
PCVE				S	**Sn**	**04 55 17.4**	**+0.8**
	1.2nm,0.3s						
PVAQ	**Vaqueiros**	**5.75**	**41**	*e*Pn	**Pn**	**04 54 10.3**	**-0.3**
PVAQ				*e*Sn	**Sn**	**04 55 17.3**	**+0.6**
PVAQ				A	A	04 55 23.3	
	1.4nm,0.9s						
PVAQ	**Vaqueiros**	**5.75**	**41**	P	**Pn**	**04 54 10.3**	**-0.3**
PVAQ				S	**Sn**	**04 55 17.3**	**+0.6**
	1.4nm,0.9s						
PVAQ	**Vaqueiros**	**5.75**	**41**	P	**Pn**	**04 54 10.3**	**-0.3**
PVAQ				S	**Sn**	**04 55 17.3**	**+0.6**
	1.4nm,0.9s						
PNCL	**Nicolau / Gran**	**5.89**	**32**	*e*Pn	**Pn**	**04 54 12.8**	**+0.2**
PNCL				*e*Sn	**Sn**	**04 55 20.0**	**-0.2**
PNCL				A	A	04 55 25.0	
	1.2nm,0.9s						
PNCL	**Nicolau / Gran**	**5.89**	**32**	*e*Pn	**Pn**	**04 54 12.8**	**+0.2**
PNCL				*e*Sn	**Sn**	**04 55 20.0**	**-0.2**
	1.2nm,0.9s						
EVO	**Evora**	**6.47**	**33**	*e*Sn	**Sn**	**04 55 33.8**	**-0.6**
EVO				A	A	04 55 38.1	
	1.4nm,0.1s						
EVO	**Evora**	**6.47**	**33**	S	**Sn**	**04 55 33.8**	**-0.6**
	1.4nm,0.1s						
EVO	**Evora**	**6.47**	**33**	S	**Sn**	**04 55 33.8**	**-0.6**
	1.4nm,0.1s						
ESPR	**Espera**	**6.57**	**54**	P	**Pn**	**04 54 21.7**	**-0.2**
	0.6nm,0.2s,SNR=7.9						
ESPR	**Espera**	**6.57**	**54**	P	**Pn**	**04 54 21.7**	**-0.2**
	0.6nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.60**	**44**	P	**Pn**	**04 54 21.8**	**-0.5**
	0.6nm,0.3s,SNR=7.9						
EMIN				S	**Sn**	**04 55 37.7**	**+0.1**
	0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.60**	**44**	P	**Pn**	**04 54 21.8**	**-0.5**
	0.6nm,0.3s,SNR=7.9						
EMIN				S	**Sn**	**04 55 37.7**	**+0.1**
	0.3nm,0.1s,SNR=7.9						
PBAR	**Barrancos**	**6.68**	**40**	*e*Sn	**Sn**	**04 55 39.7**	**+0.2**
PBAR				A	A	04 55 42.9	
	0.9nm,0.9s						
PBAR	**Barrancos**	**6.68**	**40**	S	**Sn**	**04 55 39.7**	**+0.2**
	0.9nm,0.9s						
PBAR	**Barrancos**	**6.68**	**40**	S	**Sn**	**04 55 39.7**	**+0.2**
	0.9nm,0.9s						
PMRV	**Marv??o**	**7.48**	**32**	*e*Sn	**Sn**	**04 55 58.0**	**-1.3**
PMRV				A	A	04 55 59.6	
	0.8nm,0.3s						
PMRV	**Marv??o**	**7.48**	**32**	S	**Sn**	**04 55 58.0**	**-1.3**
	0.8nm,0.3s						
PMRV	**Marv??o**	**7.48**	**32**	S	**Sn**	**04 55 58.0**	**-1.3**
	0.8nm,0.3s						
EADA	**Adamuz**	**8.14**	**50**	P	**Pn**	**04 54 42.7**	**-0.8**
	0.3nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**04 56 14.2**	**-1.3**
	SNR=7.9						
EADA	**Adamuz**	**8.14**	**50**	P	**Pn**	**04 54 42.7**	**-0.8**
	0.3nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**04 56 14.2**	**-1.3**
	SNR=7.9						
EQES	**Quesada**	**8.96**	**56**	P	**Pn**	**04 54 55.1**	**+0.3**
	0.4nm,0.3s,SNR=7.9						
EQES	**Quesada**	**8.96**	**56**	P	**Pn**	**04 54 55.1**	**+0.3**
	0.4nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**9.30**	**57**	P	**Pn**	**04 55 00.0**	**+0.6**
	0.4nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**9.30**	**57**	P	**Pn**	**04 55 00.0**	**+0.6**
	0.4nm,0.2s,SNR=7.9						

IDC 13 04:56:24.5 ± 1.4, **3.°88N** × **126.°59E, h0**km, **mb3.8**/5, **mb1 3.9**/5, **mb1mx3.6**/20, **mbtmp3.8**/5, **Error ellipse: s-maj=158.2km s-min=20.1km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.87**	**162**	P	P	05 01 48.9	-0.2
	1.2nm,0.6s,baz=343,slow=10,SNR=8.8						
STKA	**Stephens Creek**	**38.32**	**159**	P	P	05 03 47.3	+0.1
	1.4nm,0.6s,baz=350,slow=9.3,SNR=4.1						
SONM	**Songino Array**	**47.11**	**341**	P	P	05 04 58.8	+0.2
	0.6nm,0.5s,baz=159,slow=9.1,SNR=2.6						
MKAR	**Makanchi Array**	**57.35**	**325**	P	P	05 06 14.6	0.0
	0.4nm,0.4s,baz=118,slow=7.7,SNR=16						
KURBB	**Kurchatov Arra**	**61.53**	**327**	P	P	05 06 43.0	-0.3
	1.0nm,0.6s,baz=125,slow=6.5,SNR=11						

NNC 13 05:06:55.5 ± 1.3, **53.°71N** × **87.°08E, h0**km, **mb3.6, mpv3.2, 5C-5D, Error ellipse: s-maj=10.6km s-min=6.6km az=63.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.01**	**243**	⇓Pn	Pn	05 08 25.4	-0.2
	2.8nm,0.8s						
KURK				⇓Pg	Pb	05 08 45.4	+4.4
	2.2nm,0.6s						
KURK				⇑Sn	Sn	05 09 37.0	+2.0
	1.9nm,0.6s						
KURK				⇑Lg	Lg	05 10 06.8	
	9.7nm,0.8s						
KURBB	**Kurchatov Arra**	**6.11**	**243**	Pn	Pn	05 08 26.6	-0.3
	0.3nm,0.3s						
KURBB				Lg	Lg	05 10 09.9	
	1.8nm,0.7s						
MK31	**Makanchi Array**	**7.58**	**206**	Pn	Pn	05 08 50.2	+3.0
	1.5nm,0.9s,baz=28,slow=14,SNR=26						
MK31				⇑Sn	Sn	05 10 19.9	+6.1
	0.8nm,0.5s,baz=31,slow=29,SNR=7.0						
MK31				⇑Lg	Lg	05 10 53.4	
	6.9nm,0.8s,baz=31,slow=29,SNR=4.2						
VOSK	**Vostochnaya**	**9.71**	**271**	⇓Pn	Pn	05 09 15.4	-1.1
	1.0nm,0.6s						
VOSK				⇑Sn	Sn	05 11 07.7	+1.5
	2.2nm,0.6s						
ZRNK	**Zerenda**	**10.84**	**273**	⇓Pn	Pn	05 09 32.0	+0.1
	1.3nm,0.6s						
ZRNK				⇓Sn	Sn	05 11 33.9	+0.1
	2.0nm,1.0s						

IDC 13 05:07:06.8 ± 1.3, **3.°74N** × **126.°58E, h0**km, **mb3.9**/6, **mb1 4.0**/6, **mb1mx3.7**/20, **mbtmp3.9**/6, **Error ellipse: s-maj=152.4km s-min=19.8km az=68.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.74**	**162**	P	P	05 12 29.4	-0.8
	1.2nm,0.5s,baz=340,slow=11,SNR=12						
ASAR	**Alice Springs**	**28.16**	**166**	P	P	05 13 01.9	+0.8
	0.2nm,0.5s,baz=338,slow=7.2,SNR=3.0						
MKAR	**Makanchi Array**	**57.46**	**325**	P	P	05 16 58.3	+0.7
	0.5nm,0.5s,baz=119,slow=8.1,SNR=7.7						
ZALV	**Zalesovo Beam**	**60.51**	**333**	P	P	05 17 18.0	-0.7
	0.6nm,0.4s,baz=132,slow=7.0,SNR=5.2						
KURBB	**Kurchatov Arra**	**61.65**	**327**	P	P	05 17 26.3	-0.2
	0.4nm,0.4s,baz=127,slow=6.3,SNR=6.2						
ARCES	**ARCESS Array B**	**90.39**	**340**	P	P	05 20 09.6	-0.2
	5.6nm,1.2s,baz=64,slow=6.1,SNR=3.3						

IDC 13 05:10:57.7 ± 1.2, **3.°73N** × **126.°70E, h0**km, **mb3.7**/7, **mb1 3.8**/7, **mb1mx3.7**/21, **mbtmp3.7**/7, **Error ellipse: s-maj=144.7km s-min=17.0km az=67.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.69**	**163**	P	P	05 16 20.4	-0.3
	0.8nm,0.5s,baz=342,slow=10,SNR=7.7						
ASAR	**Alice Springs**	**28.12**	**166**	P	P	05 16 52.3	+0.7
	0.2nm,0.4s,baz=343,slow=8.9,SNR=2.8						
STKA	**Stephens Creek**	**38.14**	**159**	P	P	05 18 18.3	-0.5
	1.9nm,0.8s,baz=347,slow=9.2,SNR=3.1						
SONM	**Songino Array**	**47.29**	**341**	P	P	05 19 33.2	+0.1
	0.4nm,0.5s,baz=165,slow=6.0,SNR=2.7						
MKAR	**Makanchi Array**	**57.54**	**325**	P	P	05 20 49.2	+0.2
	0.7nm,0.5s,baz=114,slow=8.2,SNR=9.9						
KURBB	**Kurchatov Arra**	**61.72**	**327**	P	P	05 21 17.6	-0.2
	1.1nm,0.6s,baz=130,slow=6.3,SNR=16						
BVAR	**Borovoye Array**	**67.30**	**327**	P	P	05 21 53.9	-0.5
	0.3nm,0.4s,baz=103,slow=5.2,SNR=3.6						

*IDC **13** 05:24:55.4 ± 0.8, 3.°55N × 126.°83E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, Error ellipse: s-maj=71.4km s-min=16.6km az=69.0*
*NEIC **13** 05:25:01.0 ± 0.5, 3.°56N × 126.°87E, h35km, mb4.5/4, Error ellipse: s-maj=51.6km s-min=9.8km az=69.0*
ISC 13 05:25:02.3 ± 0.8, **3.°6N** ± 0.°2 × **126.°8E** ± 0.°5, **h48**km, **n19,** σ0**73**/19, **mb4.1**/11, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**24.48**	**163**	*e*P	**P**	**05 30 16.6**	**-0.5**
	12nm,1.1s						
WRA	**Warramunga Arr**	**24.48**	**163**	P	**P**	**05 30 16.4**	**-0.7**
WRA	**Warramunga Arr**	**24.48**	**163**	P	**P**	**05 30 16.4**	**-0.7**
	5.8nm,0.9s,baz=343,slow=10,SNR=18						
ASAR	**Alice Springs**	**27.91**	**166**	P	**P**	**05 30 47.5**	**-0.6**
ASAR	**Alice Springs**	**27.91**	**166**	P	**P**	**05 30 47.5**	**-0.6**
	0.3nm,0.4s,baz=342,slow=8.8,SNR=4.4						
STKA	**Stephens Creek**	**37.92**	**159**	*e*P	**P**	**05 32 14.9**	**-0.3**
	0.5nm,0.6s						
STKA	**Stephens Creek**	**37.92**	**159**	P	**P**	**05 32 14.6**	**-0.7**
	1.5nm,0.4s,baz=341,slow=7.5,SNR=6.4						
SONM	**Songino Array**	**47.50**	**341**	P	**P**	**05 33 33.4**	**+0.5**
SONM	**Songino Array**	**47.50**	**341**	P	**P**	**05 33 33.4**	**+0.5**
	0.6nm,0.5s,baz=162,slow=8.3,SNR=2.7						
TAU	**Tasmania Unive**	**49.82**	**160**	*e*P	**P**	**05 33 52.3**	**+1.8**
	24nm,1.1s						
MK31	**Makanchi Array**	**57.76**	**325**	*e*P	**P**	**05 34 49.4**	**+0.8**
MKAR	**Makanchi Array**	**57.76**	**325**	P	**P**	**05 34 48.1**	**-0.5**
MKAR	**Makanchi Array**	**57.76**	**325**	P	**P**	**05 34 48.1**	**-0.5**
	0.5nm,0.4s,baz=119,slow=7.6,SNR=24						
KURBB	**Kurchatov Arra**	**61.94**	**327**	P	**P**	**05 35 16.9**	**-0.3**
	1.5nm,0.6s,baz=131,slow=6.5,SNR=20						
KURK	**Kurchatov**	**61.95**	**328**	*e*P	**P**	**05 35 17.6**	**+0.4**
	3.1nm,0.6s						
ILAR	**Eielson Array**	**85.23**	**25**	P	**P**	**05 37 33.4**	**-0.1**
ILAR	**Eielson Array**	**85.23**	**25**	P	**P**	**05 37 33.4**	**-0.1**
	0.5nm,0.9s,baz=274,slow=5.3,SNR=3.2						
ARCES	**ARCESS Array B**	**90.65**	**340**	P	**P**	**05 37 58.9**	**-0.6**
ARCES	**ARCESS Array B**	**90.65**	**340**	P	**P**	**05 37 58.8**	**-0.6**
	1.7nm,0.8s,baz=68,slow=7.9,SNR=5.0						

*IDC **13** 05:32:33.0 ± 0.8, 3.°92N × 126.°59E, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.0/20, mbtmp4.2/8, Error ellipse: s-maj=58.8km s-min=16.0km az=74.0*
*ISCJB **13** 05:32:37.6 ± 0.6, 3.°9N ± 0.°1 × 126.°5E ± 0.°2, h45km, mb4.2/11, Error ellipse: s-maj=36.1km s-min=10.7km az=160.0*

*NEIC **13** 05:32:38.5 ± 0.5, 3.°89N × 126.°59E, h35km, mb4.3/5, Error ellipse: s-maj=32.3km s-min=9.6km az=71.0*
ISC 13 05:32:39.6 ± 0.8, **3.°9N** ± 0.°1 × **126.°7E** ± 0.°3, **h45**km, **n20,** σ0**98**/20, **mb4.3**/11, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.90**	**183**	*e*P	**P**	**05 37 28.7**	**-0.3**
	5.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.90**	**183**	P	**P**	**05 37 28.0**	**-1.0**
	2.4nm,0.4s,baz=9.3,slow=11,SNR=10.0						
COEN	**Coen**	**24.16**	**138**	*e*P	**P**	**05 37 53.1**	**+1.3**
	31nm,1.0s						
WRAB	**Tennant Creek**	**24.88**	**163**	*e*P	**P**	**05 37 57.7**	**-0.6**
	13nm,0.8s						
WRA	**Warramunga Arr**	**24.88**	**163**	P	**P**	**05 37 57.0**	**-1.3**
WRA	**Warramunga Arr**	**24.88**	**163**	P	**P**	**05 37 57.0**	**-1.3**
	10nm,0.7s,baz=346,slow=11,SNR=2.0						
ASAR	**Alice Springs**	**28.31**	**166**	P	**P**	**05 38 28.9**	**-0.3**
ASAR	**Alice Springs**	**28.31**	**166**	P	**P**	**05 38 28.9**	**-0.3**
	0.4nm,0.2s,baz=346,slow=11,SNR=4.7						
STKA	**Stephens Creek**	**38.33**	**159**	*e*P	**P**	**05 39 56.0**	**-0.1**
	1.2nm,0.6s						
STKA	**Stephens Creek**	**38.33**	**159**	P	**P**	**05 39 56.2**	**0.0**
	6.2nm,0.6s,baz=338,slow=8.7,SNR=21						
PETK	**Petropavlovsk-**	**55.29**	**22**	P	**P**	**05 42 08.3**	**-0.1**
PETK	**Petropavlovsk-**	**55.29**	**22**	P	**P**	**05 42 08.3**	**-0.1**
	3.6nm,0.9s,baz=193,slow=12,SNR=3.9						
MK31	**Makanchi Array**	**57.36**	**325**	*e*P	**P**	**05 42 23.9**	**+0.5**
MKAR	**Makanchi Array**	**57.36**	**325**	P	**P**	**05 42 23.4**	**+0.1**
MKAR	**Makanchi Array**	**57.36**	**325**	P	**P**	**05 42 23.4**	**+0.1**
	0.5nm,0.5s,baz=116,slow=7.6,SNR=12						
ZALV	**Zalesovo Beam**	**60.39**	**333**	P	**P**	**05 42 42.2**	**-1.9**
ZALV	**Zalesovo Beam**	**60.39**	**333**	P	**P**	**05 42 42.2**	**-1.9**
	0.4nm,0.4s,baz=123,slow=5.3,SNR=2.5						
KURK	**Kurchatov**	**61.55**	**327**	*e*P	**P**	**05 42 53.0**	**+0.9**
	1.2nm,0.6s						
ARCES	**ARCESS Array B**	**90.25**	**340**	P	**P**	**05 45 35.9**	**+0.7**
ARCES	**ARCESS Array B**	**90.25**	**340**	P	**P**	**05 45 35.9**	**+0.7**
	3.8nm,1.1s,baz=81,slow=5.9,SNR=3.3						

IDC 13 05:37:45.4 ± 1.8, **3.°69N** × **126.°30E, h0**km, **mb3.7**/5, **mb1 3.9**/5, **mb1mx3.7**/19, **mbtmp3.7**/5, **Error ellipse: s-maj=246.2km s-min=19.4km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.77**	**162**	P	P	05 43 08.5	-0.6
	4.0nm,0.9s,baz=341,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.18**	**165**	P	P	05 43 41.0	+1.1
	0.3nm,0.7s,baz=348,slow=8.5,SNR=2.9						
STKA	**Stephens Creek**	**38.24**	**159**	P	P	05 45 06.8	-0.7
	2.4nm,0.8s,baz=324,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**57.35**	**325**	P	P	05 47 34.8	-0.7
	0.4nm,0.5s,baz=120,slow=8.6,SNR=8.5						
ZALV	**Zalesovo Beam**	**60.43**	**333**	P	P	05 47 57.3	+0.6
	0.3nm,0.5s,baz=114,slow=6.5,SNR=2.6						

IDC 13 05:42:51.7 ± 1.4, **3.°24N** × **125.°05E, h0**km, **mb3.7**/4, **mb1 3.7**/4, **mb1mx3.5**/17, **mbtmp3.7**/4, **Error ellipse: s-maj=188.6km s-min=20.3km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.77**	**159**	P	P	05 48 14.8	-0.7
	47nm,0.5s,baz=337,slow=10,SNR=4.3						
ASAR	**Alice Springs**	**28.10**	**163**	P	P	05 48 46.4	+1.0
	0.2nm,0.6s,baz=345,slow=7.1,SNR=3.7						
STKA	**Stephens Creek**	**38.30**	**157**	P	P	05 50 13.8	-0.3
	1.6nm,0.7s,baz=340,slow=8.0,SNR=4.9						
MKAR	**Makanchi Array**	**57.02**	**326**	P	P	05 52 39.1	-0.3
	0.5nm,0.5s,baz=122,slow=7.3,SNR=12						
ZALV	**Zalesovo Beam**	**60.28**	**334**	P	P	05 53 02.1	+0.2
	0.2nm,0.3s,baz=145,slow=5.3,SNR=2.6						

*IDC **13** 05:47:50.1 ± 0.5, 3.°64N × 126.°83E, h0km, mb4.4/23, mb1 4.5/23, mb1mx4.5/25, mbtmp4.4/23, MS3.9/7, Ms1 3.9/7, ms1mx3.4/34, Error ellipse: s-maj=28.1km s-min=11.9km az=68.0*
*BJI **13** 05:47:53.2, 3.°44N × 127.°08E, h45km, mB5.1/17, mb4.5/26, Ms4.6/14, Ms7 4.3/14*
*ISCJB **13** 05:47:54.7 ± 0.3, 3.°77N ± 0.°05 × 127.°07E ± 0.°06, h43km, mb4.6/51, MS4.0/12, Error ellipse: s-maj=9.0km s-min=6.2km az=161.6*
*NEIC **13** 05:47:55.7 ± 0.3, 3.°78N × 127.°09E, h35km, mb4.8/22, Error ellipse: s-maj=11.8km s-min=6.7km az=67.0*
*DJA **13** 05:47:57, 3.°65N × 127.°18E, h13km, mb4.7/11*
ISC 13 05:47:57.0 ± 0.5, **3.°75N** ± 0.°05 × **127.°09E** ± 0.°07, **h47**km ± 2km, **n124,** σ1**9**§**40**/159, **mb4.6**/50, **MS3.8**/13, **3C-3D, Talaud Islands**

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

GYA				S	**S**	**05 58 55.0**	**+0.4**
GYA				SS	**SnSn**	**06 00 33.6**	**+4.8**
GYA				ScP	**ScP**	**06 00 41.3**	**+0.1**
GYA				ScS	**ScS**	**06 04 34.9**	**-1.8**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,450nm,17.9s						
GYA				LR	LR		
	comp=E,410nm,18.1s						
GYA				LR	LR		
	comp=Z,460nm,17.7s						
CMAR	**Chiang Mai Arr**	**31.17**	**300**	P	**P**	**05 54 10.3**	**-1.6**
CMAR	**Chiang Mai Arr**	**31.17**	**300**	P	**P**	**05 54 10.3**	**-1.6**
	comp=Z,3.4nm,0.6s,baz=112,slow=7.3,SNR=19						
ENH	**Enshi**	**31.19**	**330**	*e*P	**P**	**05 54 10.7**	**-1.2**
	comp=Z,8.5nm,0.8s						
CHTO	**Chiang Mai**	**31.32**	**301**	*e*P	**P**	**05 54 11.7**	**-1.5**
	comp=Z,9.0nm,0.8s						
KMI	**Kunming**	**31.62**	**315**	P	**P**	**05 54 17.4**	**+1.4**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KSAR	**Wonju Array Be**	**33.54**	**1**	P	**P**	**05 54 32.7**	**+0.4**
KSRS	**Korea Array**	**33.55**	**1**	P	**P**	**05 54 32.7**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=175,slow=9.9,SNR=4.7						
XAN	**Xi'an**	**34.56**	**333**	P	**P**	**05 54 39.5**	**-1.8**
XAN				pP	**pP**	**05 54 50.0**	**-3.8**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,46nm,7.7s						
HNR	**Honiara**	**35.26**	**112**	LR	LR	06 07 28.0	
	comp=Z,196nm,20.8s,baz=69,slow=33						
BJT	**Baijiatuau**	**37.44**	**346**	*e*P	**P**	**05 55 06.2**	**+0.5**
	comp=Z,86nm,1.0s						
BJI	**Beijing**	**37.45**	**346**	P	**P**	**05 55 06.5**	**+0.6**
BJI				pmax	pmax		
	comp=Z,46nm,1.1s						
STKA	**Stephens Creek**	**38.02**	**160**	*e*P	**P**	**05 55 10.7**	**-0.1**
	comp=Z,1.9nm,0.7s						
STKA	**Stephens Creek**	**38.02**	**160**	P	**P**	**05 55 09.4**	**-1.4**
	comp=Z,9.0nm,0.7s,baz=338,slow=10,SNR=10						
LZH	**Lanzhou**	**38.67**	**329**	*e*P	**P**	**05 55 16.8**	**+0.4**
LZH				pP	**pP**	**05 55 29.9**	**+0.9**
LZH				sP	**sP**	**05 55 34.3**	**-0.2**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
LZH				LR	LR		
	comp=N,210nm,10.9s						
LZH				LR	LR		
	comp=E,220nm,14.1s						
LZH				LR	LR		
	comp=Z,440nm,17.4s						
HHC	**Hu-ho-hao-te**	**39.49**	**341**	*e*P	**P**	**05 55 23.4**	**+0.2**
HHC				pP	**pP**	**05 55 35.3**	**-0.5**
HHC				sP	**sP**	**05 55 40.1**	**-1.2**
HHC				PP	**PnPn**	**05 56 58.0**	**+0.2**
HHC				PcP	**PcP**	**05 57 31.6**	**+1.4**
HHC				ScP	**ScP**	**06 01 14.6**	**-0.7**
HHC				S	**S**	**06 01 24.3**	**+2.0**
HHC				sS	**sS**	**06 01 44.5**	**+1.1**
HHC				SS	**SS**	**06 04 14.4**	**-3.9**
HHC				ScS	**ScS**	**06 05 26.3**	**-1.3**
HHC				pmax	pmax		
	comp=Z,14nm,1.2s						
HHC				pmax	pmax		
	comp=Z,200nm,10.8s						
HHC				LR	LR		
	comp=N,220nm,16.8s						
HHC				LR	LR		
	comp=E,440nm,20.4s						
HHC				LR	LR		
	comp=Z,220nm,15.6s						
USRK	**Ussuriysk Arra**	**40.52**	**5**	P	**P**	**05 55 31.9**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=192,slow=8.7,SNR=3.6						
MDJ	**Mudanjiang**	**40.76**	**3**	P	**P**	**05 55 33.8**	**+0.4**
MDJ				pP	**pP**	**05 55 45.0**	**-1.1**
MDJ				sP	**sP**	**05 55 50.0**	**-1.6**
MDJ				ScP	**ScP**	**06 01 20.4**	**+0.4**
MDJ				PcS	**PcS**	**06 01 25.5**	**+0.8**
MDJ				S	**S**	**06 01 41.8**	**+1.0**
MDJ				sS	**sS**	**06 02 01.4**	**-0.6**
MDJ				pmax	pmax		
	comp=Z,14nm,2.4s						
MDJ				pmax	pmax		
	comp=Z,160nm,3.8s						
MDJ				LR	LR		
	comp=Z,75nm,23.9s						
LSA	**Lhasa**	**42.70**	**311**	*e*P	**P**	**05 55 50.2**	**+0.1**
	comp=Z,6.4nm,0.6s						
TAPN	**Taplejung**	**44.30**	**306**	*e*P	**P**	**05 56 01.4**	**-1.4**
	comp=Z,18nm,0.7s						
ODAN	**Odare**	**44.35**	**305**	*e*P	**P**	**05 56 01.9**	**-1.3**
	comp=Z,19nm,0.7s						
RAMN	**Ramite**	**45.03**	**305**	*e*P	**P**	**05 56 07.4**	**-1.3**
	comp=Z,21nm,0.7s						
JIRN	**Jiri**	**45.65**	**306**	*e*P	**P**	**05 56 12.3**	**-1.4**
GUN	**Gumba**	**46.01**	**306**	*e*P	**P**	**05 56 14.7**	**-1.8**
	comp=Z,22nm,0.7s						
DZM	**Mont Dzumac**	**46.25**	**125**	P	**P**	**05 56 19.4**	**+1.3**
DZM	**Mont Dzumac**	**46.25**	**125**	P	**P**	**05 56 19.4**	**+1.3**
	comp=Z,2.4nm,0.6s,baz=247,slow=13,SNR=2.5						
PKI	**Pulchoki**	**46.25**	**305**	*e*P	**P**	**05 56 16.4**	**-2.0**
KKN	**Kakani**	**46.44**	**305**	*e*P	**P**	**05 56 18.1**	**-1.7**
DMN	**Daman**	**46.51**	**305**	*e*P	**P**	**05 56 18.9**	**-1.5**
	comp=Z,10nm,0.8s						
GKN	**Gorkha**	**47.05**	**305**	*e*P	**P**	**05 56 22.7**	**-1.7**
ULN	**Ulaanbaatar**	**47.21**	**342**	*e*P	**P**	**05 56 25.7**	**+0.4**
	comp=Z,20nm,1.3s						
SONM	**Songino Array**	**47.40**	**341**	P	**P**	**05 56 27.1**	**+0.3**
SONM				PcP	**PcP**	**05 57 57.7**	**+0.9**
SONM	**Songino Array**	**47.40**	**341**	P	**P**	**05 56 27.1**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=160,slow=8.3,SNR=14						
SONM				PcP	**PcP**	**05 57 57.7**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=156,slow=2.5,SNR=3.9						
KOLN	**Koldanda**	**47.81**	**305**	*e*P	**P**	**05 56 28.8**	**-1.6**
DANN	**Dangsing**	**47.90**	**305**	*e*P	**P**	**05 56 29.5**	**-1.7**
	comp=Z,26nm,0.6s						
HYB	**Hyderabad**	**49.45**	**290**	*i* P	**P**	**05 56 40.5**	**-2.4**
TLY	**Talaya**	**51.62**	**342**	*e*P	**P**	**05 56 60.0**	**+1.2**
	comp=Z,11nm,0.9s						
WMQ	**Urumqi**	**52.92**	**325**	*e*P	**P**	**05 57 09.3**	**+0.7**
WMQ				pP	**pP**	**05 57 21.5**	**-0.1**
WMQ				sP	**sP**	**05 57 27.0**	**0.0**
WMQ				PcP	**PcP**	**05 58 21.4**	**+4.3**
WMQ				PP	**PP**	**05 59 09.4**	**+0.9**
WMQ				*e*S	**S**	**06 04 32.4**	**-2.1**
WMQ				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,220nm,4.7s						
WMQ				LR	LR		
	comp=N,420nm,20.8s						
WMQ				LR	LR		
	comp=E,410nm,25.6s						
WMQ				LR	LR		
	comp=Z,350nm,20.1s						
PETK	**Petropavlovsk-**	**55.28**	**22**	P	**P**	**05 57 26.1**	**+0.6**
PETK	**Petropavlovsk-**	**55.28**	**22**	P	**P**	**05 57 26.1**	**+0.6**
	comp=Z,3.5nm,0.8s,baz=189,slow=5.7,SNR=4.0						
PETK				LR	LR	06 20 05.1	
	comp=Z,76nm,21.2s,baz=90,slow=35						
MK31	**Makanchi Array**	**57.75**	**325**	*e*P	**P**	**05 57 42.7**	**-0.5**
MKAR	**Makanchi Array**	**57.75**	**325**	*e*P	**P**	**05 57 43.0**	**-0.3**
MKAR				PcP	**PcP**	**05 58 36.3**	**+0.7**
MKAR	**Makanchi Array**	**57.75**	**325**	P	**P**	**05 57 42.4**	**-0.8**
	comp=Z,5.1nm,0.5s,baz=122,slow=6.9,SNR=70						
MKAR				PcP	**PcP**	**05 58 36.3**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=140,slow=3.5,SNR=4.1						
KSH	**Kashi**	**58.28**	**315**	P	**P**	**05 57 49.0**	**+1.7**
KSH				pP	**pP**	**05 58 00.3**	**-0.2**
KSH				sP	**sP**	**05 58 06.9**	**+1.0**
KSH				PcP	**PcP**	**05 58 37.8**	**-0.3**
KSH				PP	**PP**	**05 59 59.9**	**+3.2**
KSH				ScP	**ScP**	**06 02 32.4**	**-2.3**
KSH				PcS	**PcS**	**06 02 38.1**	**-1.6**
KSH				S	**S**	**06 05 47.8**	**+1.4**
KSH				sS	**sS**	**06 06 08.5**	**+0.1**
KSH				ScS	**ScS**	**06 07 30.8**	**-2.6**
KSH				SS	**SS**	**06 09 42.3**	**+3.3**
KSH				LR	LR		
	comp=N,84nm,6.0s						
KSH				LR	LR		
	comp=E,89nm,4.8s						
AAK	**Ala-Archa**	**60.59**	**318**	*e*P	**P**	**05 58 03.4**	**+0.3**
	comp=E,19nm,1.0s						
AAK	**Ala-Archa**	**60.59**	**318**	P	**P**	**05 58 03.0**	**-0.1**
	comp=E,1.5nm,0.5s,baz=136,slow=7.9,SNR=6.4						
ZAA0	**Zalesovo Array**	**60.73**	**333**	*e*P	**P**	**05 58 03.1**	**-0.6**
ZALV	**Zalesovo Beam**	**60.73**	**333**	P	**P**	**05 58 02.9**	**-0.8**
ZALV	**Zalesovo Beam**	**60.73**	**333**	P	**P**	**05 58 02.9**	**-0.8**
	comp=E,1.8nm,0.6s,baz=128,slow=6.2,SNR=11						
EKS2	**Erkin-Say**	**61.08**	**317**	*e*P	**P**	**05 58 06.8**	**+0.4**
	comp=E,62nm,2.4s						
KURBB	**Kurchatov Arra**	**61.92**	**327**	P	**P**	**05 58 10.9**	**-0.9**
	comp=E,7.2nm,0.5s,baz=128,slow=6.3,SNR=65						
KURBB				LR	LR	06 27 57.6	
	comp=E,88nm,19.5s,baz=35,slow=39						
KURK	**Kurchatov**	**61.92**	**327**	*e*P	**P**	**05 58 11.2**	**-0.6**
	comp=E,13nm,0.6s						
AFI	**Afiamalu**	**63.11**	**108**	LR	LR	06 21 36.9	
	comp=E,108nm,19.2s,baz=280,slow=32						
KKAR	**Karatay Array**	**63.46**	**317**	*e*P	**P**	**05 58 21.9**	**-0.4**
	comp=E,2.0nm,0.6s						
BVAR	**Borovoye Array**	**67.50**	**327**	P	**P**	**05 58 47.3**	**-0.8**
BVAR	**Borovoye Array**	**67.50**	**327**	P	**P**	**05 58 47.3**	**-0.8**
	comp=E,2.6nm,0.6s,baz=134,slow=8.5,SNR=18						
BRVK	**Borovoye**	**67.57**	**327**	*e*P	**P**	**05 58 48.3**	**-0.3**
	comp=E,12nm,1.2s						
ABKAR	**Akbulak array**	**72.36**	**321**	*e*P	**P**	**05 59 17.4**	**-0.7**
	comp=E,3.3nm,0.7s						
AKTO	**Aktyubinsk**	**73.87**	**322**	P	**P**	**05 59 26.5**	**-0.4**
AKTO	**Aktyubinsk**	**73.87**	**322**	P	**P**	**05 59 26.5**	**-0.4**
	comp=E,5.3nm,0.6s,baz=98,slow=8.7,SNR=32						
ARU	**Arti**	**75.11**	**328**	*e*P	**P**	**05 59 33.2**	**-0.8**
	comp=E,8.3nm,0.6s						
UMR	**Umm Al-Rimmam**	**78.92**	**299**	*e*P	**P**	**05 59 54.6**	**-1.4**
UMR				AMb	AMB	05 59 57.7	
	comp=Z,19nm,0.7s						
MIB	**Mutribah**	**79.26**	**299**	*e*P	**P**	**05 59 56.6**	**-1.2**
MIB				AMb	AMB	05 59 57.9	
	comp=Z,22nm,0.6s						
NAY	**Al-Naaiem**	**79.32**	**299**	*e*P	**P**	**05 59 56.8**	**-1.4**
NAY				AMb	AMB	05 59 58.1	
	comp=Z,12nm,0.7s						
COLD	**Coldfoot**	**83.74**	**23**	*e*P	**P**	**06 00 22.2**	**+1.5**
	comp=Z,6.4nm,1.0s						
ILAR	**Eielson Array**	**84.93**	**25**	P	**P**	**06 00 27.8**	**+0.9**
ILAR	**Eielson Array**	**84.93**	**25**	P	**P**	**06 00 27.8**	**+0.9**
	comp=Z,0.9nm,1.0s,baz=244,slow=6.4,SNR=4.4						
KMBO	**Kilima Mbogo**	**89.91**	**269**	*e*P	**P**	**06 00 52.9**	**+0.7**
	comp=Z,3.7nm,1.1s						
BRTR	**Keskin Array B**	**90.29**	**310**	P	**P**	**06 00 52.4**	**-1.0**
BRTR	**Keskin Array B**	**90.29**	**310**	P	**P**	**06 00 52.4**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=139,slow=5.2,SNR=11						
BRTR				LR	LR	06 50 17.5	
	comp=Z,27nm,18.3s,baz=282,slow=42						
ARCES	**ARCESS Array B**	**90.56**	**340**	P	**P**	**06 00 53.3**	**-0.5**
ARCES	**ARCESS Array B**	**90.56**	**340**	P	**P**	**06 00 53.3**	**-0.5**
	comp=Z,5.0nm,0.8s,baz=62,slow=8.4,SNR=7.6						
FINES	**FINESS Array B**	**91.99**	**332**	P	**P**	**06 00 59.9**	**-0.6**
FINES	**FINESS Array B**	**91.99**	**332**	P	**P**	**06 00 59.9**	**-0.6**
	comp=Z,1.5nm,0.6s,baz=107,slow=2.0,SNR=6.0						
AKASG	**Malin Array Be**	**92.11**	**321**	P	**P**	**06 00 59.8**	**-1.6**
AKASG	**Malin Array Be**	**92.11**	**321**	P	**P**	**06 00 59.8**	**-1.6**
	comp=Z,2.8nm,0.6s,baz=73,slow=4.5,SNR=11						
TESR		**94.47**	**317**	*i* P	**P**	**06 01 12.9**	**+0.6**
VRI	**Vrincioaia**	**94.53**	**316**	*i* P	**P**	**06 01 13.6**	**+0.9**
PLOR	**Plostina**	**94.59**	**316**	*i* P	**P**	**06 01 13.4**	**+0.5**
MLR	**Muntele Rosu**	**95.14**	**316**	*i* P	**P**	**06 01 15.7**	**+0.1**
BURAR	**Bucovina Array**	**95.23**	**318**	*i* P	**P**	**06 01 16.3**	**+0.4**
NB2	**NORSAR Subarra**	**98.93**	**334**	P	**P**	**06 01 31.2**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=66,slow=4.6						
NOA	**NORSAR Array B**	**98.93**	**334**	P	**P**	**06 01 31.1**	**-1.2**
NOA	**NORSAR Array B**	**98.93**	**334**	P	**P**	**06 01 31.1**	**-1.2**
	comp=Z,1.5nm,0.7s,baz=67,slow=4.7,SNR=5.7						
YKA	**Yellowknife Ar**	**99.33**	**24**	P	**Pdif**	**06 01 35.8**	**+1.8**
YKA	**Yellowknife Ar**	**99.33**	**24**	P	**Pdif**	**06 01 35.8**	**+1.8**
	comp=Z,0.1nm,0.6s,baz=297,slow=4.1,SNR=3.4						
GERES	**GERESS Array B**	**102.29**	**322**	P	**Pdif**	**06 01 48.0**	**+0.4**
GERES	**GERESS Array B**	**102.29**	**322**	P	**Pdif**	**06 01 48.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=74,slow=3.5,SNR=4.3						
TXAR	**Lajitas Array**	**121.30**	**52**	PKP	**PKPdf**	**06 06 47.3**	**+1.4**
TXAR	**Lajitas Array**	**121.30**	**52**	PKP	**PKPdf**	**06 06 47.3**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=224,slow=2.5,SNR=2.8						
TORD	**Torodi Ar. Bea**	**123.25**	**288**	PKP	**PKPdf**	**06 06 50.0**	**+0.2**
TORD	**Torodi Ar. Bea**	**123.25**	**288**	PKP	**PKPdf**	**06 06 50.0**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=50,slow=1.8,SNR=7.0						
CFAA	**Coronel Fontan**	**148.76**	**154**	PKPbc	**PKPbc**	**06 07 40.9**	**+0.9**
CFAA	**Coronel Fontan**	**148.76**	**154**	PKPbc	**PKPbc**	**06 07 40.9**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=225,slow=3.4,SNR=8.9						

IDC ***13*** *05:49:30.0±0.8, 3.°88N×126.°12E, h0km, mb4.3/11, mb1 4.4/11, mb1mx4.2/22, mbtmp4.3/11, MS4.0/2, Ms1 4.0/2, ms1mx3.1/34, Error ellipse: s-maj=77.0km s-min=16.7km az=67.0*

NEIC ***13*** *05:49:35.5±0.5, 3.°84N×126.°02E, h35km, mb4.3/3, Error ellipse: s-maj=45.1km s-min=9.6km az=67.0*

ISC 13 05:49:43.2±0.7, 3.°8N×126.°2E×0.°3, h107km, n27, σ1s12/25, mb4.3/13, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.28**	**349**	LR		LR	LR	05 51 32.7	
	comp=Z,2μm,19.9s,baz=90,slow=38								
WRA	**Warramunga Arr**	**24.93**	**162**	P		**P**	**P**	**05 54 55.9**	**-0.8**
WRA	**Warramunga Arr**	**24.93**	**162**	P		**P**	**P**	**05 54 55.9**	**-0.8**
	3.2nm,0.4s,baz=344,slow=10,SNR=4.3								
ASAR	**Alice Springs**	**28.34**	**165**	P		**P**	**P**	**05 55 26.5**	**-0.8**
ASAR	**Alice Springs**	**28.34**	**165**	P		**P**	**P**	**05 55 26.5**	**-0.8**
	0.8nm,0.5s,baz=348,slow=7.1,SNR=2.2								
JHJ	**Hachijo jima 2**	**31.78**	**22**	LR		LR		06 07 03.9	
	comp=Z,396nm,18.5s,baz=79,slow=33								
STKA	**Stephens Creek**	**38.40**	**159**	*e*P			**P**	**05 56 54.6**	**+0.2**
	1.3nm,0.6s								
STKA	**Stephens Creek**	**38.40**	**159**	P			**P**	**05 56 54.1**	**-0.3**
	8.2nm,0.7s,baz=351,slow=8.4,SNR=7.5								
LSA	**Lhasa**	**42.00**	**312**	*e*P			**P**	**05 57 26.2**	**+1.6**
	4.7nm,0.6s								
SONM	**Songino Array**	**47.04**	**342**	P			**P**	**05 58 02.7**	**-1.5**
SONM	**Songino Array**	**47.04**	**342**	P			**P**	**05 58 02.7**	**-1.5**
	2.1nm,0.6s,baz=160,slow=7.9,SNR=5.2								
MKAR	**Makanchi Array**	**57.19**	**325**	P			**P**	**05 59 19.1**	**-0.1**
MKAR	**Makanchi Array**	**57.19**	**325**	P			**P**	**05 59 19.1**	**-0.1**
	2.0nm,0.6s,baz=123,slow=7.6,SNR=6.0								
ZALV	**Zalesovo Beam**	**60.27**	**333**	P			**P**	**05 59 39.0**	**-1.4**
ZALV	**Zalesovo Beam**	**60.27**	**333**	P			**P**	**05 59 39.0**	**-1.4**
	1.7nm,0.6s,baz=131,slow=8.4,SNR=4.1								
KURBB	**Kurchatov Arra**	**61.38**	**328**	P			**P**	**05 59 47.5**	**-0.5**
	5.9nm,0.8s,baz=124,slow=6.1,SNR=8.1								
KURK	**Kurchatov**	**61.39**	**328**	*e*P			**P**	**05 59 46.9**	**-1.0**
BVAR	**Borovoye Array**	**66.96**	**327**	P			**P**	**06 00 23.1**	**-1.2**
BVAR	**Borovoye Array**	**66.96**	**327**	P			**P**	**06 00 23.1**	**-1.2**
	2.3nm,0.8s,baz=132,slow=8.2,SNR=4.4								
BRVK	**Borovoye**	**67.03**	**327**	*e*P			**P**	**06 00 24.8**	**0.0**
	3.0nm,0.6s								
AKTO	**Aktyubinsk**	**73.27**	**322**	P			**P**	**06 01 02.6**	**-0.3**
AKTO	**Aktyubinsk**	**73.27**	**322**	P			**P**	**06 01 02.6**	**-0.3**
	1.8nm,0.6s,baz=107,slow=6.9,SNR=3.3								
ILAR	**Eielson Array**	**85.23**	**25**	P			**P**	**06 02 08.6**	**+1.0**
ILAR	**Eielson Array**	**85.23**	**25**	P			**P**	**06 02 08.6**	**+1.0**
	1.0nm,1.1s,baz=244,slow=6.5,SNR=3.6								
ARCES	**ARCESS Array B**	**90.18**	**340**	P			**P**	**06 02 31.0**	**-0.3**
ARCES	**ARCESS Array B**	**90.18**	**340**	P			**P**	**06 02 31.0**	**-0.3**
	1.9nm,0.8s,baz=74,slow=6.7,SNR=5.0								
LPAZ	**La Paz**	**161.23**	**132**	*e*PKPdf			**PKPdf**	**06 09 35.8**	**+2.8**

IDC 13 05:55:41.7±1.3, 3.°86N×126.°76E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/24, mbtmp3.9/9, Error ellipse: s-maj=84.2km s-min=15.2km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.85**	**183**	P		P	P	06 00 36.5	+0.6
	2.6nm,0.5s,baz=14,slow=9.7,SNR=9.5								
ASAR	**Alice Springs**	**28.23**	**166**	P		P	P	06 01 36.8	+0.2
	0.3nm,0.5s,baz=342,slow=8.9,SNR=3.8								
NWAO	**Narrogin (SRO)**	**37.68**	**193**	P		P	P	06 02 58.3	-0.6
	7.3nm,0.9s,baz=49,slow=11,SNR=3.8								
STKA	**Stephens Creek**	**38.23**	**159**	P		P	P	06 03 03.3	-0.3
	3.3nm,0.6s,baz=341,slow=8.1,SNR=8.6								
MKAR	**Makanchi Array**	**57.47**	**325**	P		P	P	06 05 32.9	+0.3
	0.4nm,0.5s,baz=118,slow=7.5,SNR=7.5								
ZALV	**Zalesovo Beam**	**60.49**	**333**	P		P	P	06 05 52.9	-0.5
	0.4nm,0.4s,baz=126,slow=5.3,SNR=3.9								
KURBB	**Kurchatov Arra**	**61.65**	**327**	P		P	P	06 06 01.2	-0.1
	0.7nm,0.6s,baz=130,slow=6.5,SNR=5.4								
BVAR	**Borovoye Array**	**67.23**	**327**	P			P	06 06 38.3	+0.4
	0.4nm,0.5s,baz=134,slow=8.2,SNR=2.5								
AKTO	**Aktyubinsk**	**73.58**	**322**	P			P	06 07 16.6	-0.1
	0.4nm,0.4s,baz=114,slow=8.3,SNR=2.5								

IDC ***13*** *05:58:01.9±1.3, 3.°48N×126.°72E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/23, mbtmp4.0/8, Error ellipse: s-maj=108.6km s-min=16.7km az=70.0*

ISCJB ***13*** *05:58:07.0±0.9, 3.°4N±0.°2×126.°6E±0.°5, h53km, mb4.0/11, Error ellipse: s-maj=78.4km s-min=11.3km az=159.9*

NEIC ***13*** *05:58:07.0±0.6, 3.°45N×126.°77E, h35km, mb4.1/5, Error ellipse: s-maj=52.0km s-min=8.2km az=71.0*

ISC 13 05:58:08.9±1.1, 3.°4N±0.°2×126.°7E±0.°5, h53km, n18, σ0s29/18, mb4.0/11, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.42**	**183**	*e*P			**P**	**06 02 52.6**	**0.0**
	6.8nm,0.9s								
FITZ	**Fitzroy Crossi**	**21.42**	**183**	P			**P**	**06 02 52.5**	**-0.1**
	2.6nm,0.7s,baz=356,slow=13,SNR=2.8								
WRAB	**Tennant Creek**	**24.40**	**162**	*e*P			**P**	**06 03 22.1**	**-0.4**
	10nm,1.0s								
ASAR	**Alice Springs**	**27.83**	**166**	P			**P**	**06 03 53.2**	**-0.2**
ASAR	**Alice Springs**	**27.83**	**166**	P			**P**	**06 03 53.2**	**-0.2**
	0.7nm,0.7s,baz=348,slow=7.6,SNR=4.2								
STKA	**Stephens Creek**	**37.85**	**159**	*e*P			**P**	**06 05 20.9**	**+0.2**
	1.6nm,0.8s								
STKA	**Stephens Creek**	**37.85**	**159**	P			**P**	**06 05 20.9**	**+0.2**
	8.1nm,0.8s,baz=346,slow=8.7,SNR=10								
SONM	**Songino Array**	**47.58**	**342**	P			**P**	**06 06 39.4**	**0.0**
SONM	**Songino Array**	**47.58**	**342**	P			**P**	**06 06 39.4**	**0.0**
	1.1nm,0.6s,baz=160,slow=7.2,SNR=5.1								
MKAR	**Makanchi Array**	**57.79**	**325**	P			**P**	**06 07 54.6**	**-0.2**
MKAR	**Makanchi Array**	**57.79**	**325**	P			**P**	**06 07 54.6**	**-0.2**
	0.6nm,0.4s,baz=126,slow=6.0,SNR=4.0								
KURBB	**Kurchatov Arra**	**61.98**	**327**	P			**P**	**06 08 23.1**	**-0.4**
	1.7nm,0.7s,baz=128,slow=6.1,SNR=11								
KURK	**Kurchatov**	**61.98**	**328**	*e*P			**P**	**06 08 24.1**	**+0.7**
	2.8nm,0.7s								
BVAR	**Borovoye Array**	**67.56**	**327**	P			**P**	**06 09 00.1**	**+0.3**
BVAR	**Borovoye Array**	**67.56**	**327**	P			**P**	**06 09 00.1**	**+0.3**
	0.5nm,0.4s,baz=126,slow=7.7,SNR=4.0								
ABKAR	**Akbulak array**	**72.37**	**321**	*e*P			**P**	**06 09 29.1**	**-0.2**
	0.6nm,0.6s								
AKTO	**Aktyubinsk**	**73.88**	**322**	P			**P**	**06 09 38.5**	**+0.2**
AKTO	**Aktyubinsk**	**73.88**	**322**	P			**P**	**06 09 38.5**	**+0.2**
	1.3nm,0.8s,baz=90,slow=9.1,SNR=5.7								

IDC ***13*** *05:59:09.0±0.6, 3.°80N×126.°65E, h0km, mb4.2/19, mb1 4.3/19, mb1mx4.3/24, mbtmp4.2/19, MS3.8/12, Ms1 3.8/12, ms1mx3.6/33, Error ellipse: s-maj=33.7km s-min=13.7km az=74.0*

ISCJB ***13*** *05:59:12.5±0.4, 3.°79N±0.°06×126.°7E±0.°1, h36km, mb4.4/26, MS3.7/11, Error ellipse: s-maj=20.0km s-min=7.0km az=163.5*

NEIC ***13*** *05:59:13.3±3.5, 3.°80N×126.°66E, h28km±25km, mb4.4/6, Error ellipse: s-maj=19.2km s-min=6.7km az=73.0*

DJA ***13*** *05:59:18, 3.°75N×126.°62E, h51km, mb4.7/9*

ISC 13 05:59:14.4±0.5, 3.°84N±0.°08×126.°8E±0.°1, h36km, n61, σ1s01/51, mb4.4/26, MS3.7/11, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.90**	**321**	*e*P			**Pn**	**06 00 00.2**	**+2.0**
DAV	**Davao City (W)**	**3.43**	**339**	Pn			**Pn**	**06 00 04.0**	**-1.4**
DAV	**Davao City (W)**	**3.43**	**339**	LR			LR	06 01 51.1	
	comp=Z,2μm,18.3s,baz=68,slow=48								
CTBH	**Cotabato--PC H**	**4.21**	**323**	*i* P			Pn	06 00 20.1	+4.0
GUMO	**Guam**	**20.30**	**60**	LR			LR	06 10 17.2	
	comp=Z

FINES	FINESS Array B	91.77 332	P	P	06 12 17.6	-0.6	
FINES	FINESS Array B	91.77 332	P	P	06 12 17.6	-0.6	
	1.6nm,0.9s,baz=92,slow=4.2,SNR=2.6						
AKASG	Malin Array Be	91.85 321	P	P	06 12 17.9	-0.9	
AKASG	Malin Array Be	91.85 321	P	P	06 12 17.9	-0.9	
	0.4nm,0.3s,baz=76,slow=4.9,SNR=4.8						
TORD	Torodi Ar. Bea	122.95 288	PKP	PKPdf	06 18 08.9	+1.0	
TORD	Torodi Ar. Bea	122.95 288	PKP	PKPdf	06 18 08.9	+1.0	
	0.6nm,0.9s,baz=67,slow=2.6,SNR=2.7						

IDC ***13*** *06:04:02.9±1.0,4.°01N×126.°89E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/21, mbtmp4.0/9, Error ellipse: s-maj=67.2km s-min=15.2km az=68.0*
ISCJB ***13*** *06:04:06.4±0.8,4.°0N±0.°1×126.°8E±0.°3, h36km, mb4.0/11, Error ellipse: s-maj=49.5km s-min=10.8km az=157.7*
NEIC ***13*** *06:04:08.2±0.6,3.°95N×126.°90E, h35km, mb4.0/4, Error ellipse: s-maj=37.6km s-min=8.8km az=68.0*

ISC 13 06:04:08.4±0.9, 4.°0N±0.°1×126.°9E±0.°3, h36km, n20, σ0s75/19, mb4.1/11, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	Cotabato--PC H	4.16	320	⇑*iP*	Pn	06 05 14.8	+5.3
FITZ	Fitzroy Crossi	22.00	183	*eP*	P	06 08 59.4	-0.4
	2.5nm,0.7s						
FITZ	Fitzroy Crossi	22.00	183	P	P	06 08 59.3	-0.4
	1.3nm,0.5s,baz=32,slow=5.6,SNR=4.4						
WRAB	Tennant Creek	24.88	163	*eP*	P	06 09 27.1	-0.9
	8.6nm,0.9s						
WRA	Warramunga Arr	24.89	163	P	P	06 09 26.7	-1.4
WRA	Warramunga Arr	24.89	163	P	P	06 09 26.7	-1.4
	5.4nm,0.8s,baz=342,slow=10,SNR=11						
ASAR	Alice Springs	28.33	166	P	P	06 09 58.9	-0.2
ASAR	Alice Springs	28.33	166	P	P	06 09 58.9	-0.2
	0.3nm,0.4s,baz=347,slow=8.0,SNR=3.6						
CMAR	Chiang Mai Arr	30.90	300	P	P	06 10 21.8	-0.2
CMAR	Chiang Mai Arr	30.90	300	P	P	06 10 21.8	-0.2
	0.6nm,0.4s,baz=106,slow=8.6,SNR=4.6						
STKA	Stephens Creek	38.32	160	*eP*	P	06 11 25.9	+0.1
	1.3nm,1.0s						
STKA	Stephens Creek	38.32	160	P	P	06 11 26.4	+0.6
	2.8nm,0.7s,baz=341,slow=10,SNR=5.0						
SONM	Songino Array	47.10	341	P	P	06 12 37.0	0.0
SONM	Songino Array	47.10	341	P	P	06 12 37.0	0.0
	0.6nm,0.6s,baz=161,slow=13,SNR=2.7						
MKAR	Makanchi Array	57.44	325	P	P	06 13 53.2	-0.5
MKAR	Makanchi Array	57.44	325	P	P	06 13 53.2	-0.5
	0.8nm,0.5s,baz=118,slow=7.6,SNR=21						
KURBB	Kurchatov Arra	61.62	327	P	P	06 14 21.2	-1.1
	1.0nm,0.6s,baz=129,slow=6.6,SNR=10						
KURK	Kurchatov	61.62	327	*eP*	P	06 14 23.1	+0.7
	0.9nm,0.4s						
ARCES	ARCESS Array B	90.26	340	P	P	06 17 05.9	+0.8
ARCES	ARCESS Array B	90.26	340	P	P	06 17 05.9	+0.8
	2.4nm,0.9s,baz=71,slow=5.3,SNR=5.3						

IDC 13 06:05:22.2±1.4, 4.°15N×126.°67E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/21, mbtmp3.9/6, Error ellipse: s-maj=96.9km s-min=18.1km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	22.14	183	P	P	06 10 19.5	-0.1
	2.0nm,0.6s,baz=355,slow=8.7,SNR=2.5						
WRA	Warramunga Arr	25.10	163	P	P	06 10 48.7	-0.2
	6.5nm,0.8s,baz=342,slow=10,SNR=5.7						
ASAR	Alice Springs	28.53	166	P	P	06 11 19.8	0.0
	0.5nm,0.5s,baz=347,slow=7.6,SNR=3.1						
STKA	Stephens Creek	38.54	159	P	P	06 12 46.7	0.0
	2.5nm,0.6s,baz=2.8,slow=10,SNR=3.3						
MKAR	Makanchi Array	57.18	325	P	P	06 15 11.8	+0.8
	0.5nm,0.5s,baz=123,slow=7.2,SNR=3.4						
KURBB	Kurchatov Arra	61.35	327	P	P	06 15 39.0	-0.8
	0.6nm,0.6s,baz=129,slow=6.6,SNR=2.9						

IDC 13 06:11:27.0±0.9, 3.°78N×126.°38E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/21, mbtmp4.0/8, 1C, Error ellipse: s-maj=65.0km s-min=17.1km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	Cotabato--PC H	4.02	328	⇑*iP*	Pb	06 12 38.8	0.0
FITZ	Fitzroy Crossi	21.76	182	P	P	06 16 22.2	+1.8
	1.9nm,0.5s,baz=353,slow=5.7,SNR=5.1						
ASAR	Alice Springs	28.25	165	P	P	06 17 22.1	0.0
	0.5nm,0.4s,baz=343,slow=6.8,SNR=9.9						
STKA	Stephens Creek	38.30	159	P	P	06 18 48.1	-1.4
	3.8nm,0.5s,baz=350,slow=7.6,SNR=8.0						
MKAR	Makanchi Array	57.31	325	P	P	06 21 17.4	+0.5
	0.7nm,0.4s,baz=120,slow=7.2,SNR=19						
ZALV	Zalesovo Beam	60.38	333	P	P	06 21 38.4	+0.4
	0.3nm,0.3s,baz=128,slow=9.5,SNR=4.3						
KURBB	Kurchatov Arra	61.51	327	P	P	06 21 44.0	-1.7
	0.7nm,0.4s,baz=130,slow=7.0,SNR=3.5						
BVAR	Borovoye Array	67.08	327	P	P	06 22 27.1	+4.8
	0.7nm,0.5s,baz=140,slow=9.1,SNR=4.3						
ILAR	Eielson Array	85.21	25	P	P	06 24 06.1	+0.9
	0.3nm,0.6s,baz=247,slow=5.7,SNR=5.9						
ARCES	ARCESS Array B	90.28	340	P	P	06 24 29.6	0.0
	2.2nm,0.9s,baz=81,slow=5.8,SNR=4.2						

IDC 13 06:15:22.6±2.8, 6.°37S×146.°16E, h126km±30km, mb3.6/8, mb1 3.7/10, mb1mx3.6/18, mbtmp3.5/10, MS3.7/2, Ms1 3.9/2, ms1mx3.0/27, Error ellipse: s-maj=29.5km s-min=23.2km az=116.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.18	162	P	Pn	06 16 12.2	+0.9
	19nm,0.3s,baz=359,slow=7.5,SNR=33						
PMG				S	Sn	06 16 49.4	+0.3
	43nm,0.3s,baz=155,slow=21,SNR=28						
PMG				LR	LR	06 17 22.4	
	comp=Z,503nm,20.7s,baz=74,slow=38						
WRA	Warramunga Arr	17.72	219	P	P	06 19 20.2	-0.4
	0.2nm,0.3s,baz=44,slow=12,SNR=6.5						
ASAR	Alice Springs	20.85	213	P	P	06 19 54.5	0.0
	1.1nm,0.7s,baz=33,slow=12,SNR=7.6						
FITZ	Fitzroy Crossi	23.16	238	P	P	06 20 16.1	-2.0
	4.6nm,0.7s,baz=70,slow=9.7,SNR=6.1						
STKA	Stephens Creek	25.73	189	P	P	06 20 42.0	+0.6
	1.1nm,0.4s,baz=23,slow=8.8,SNR=3.1						
CMAR	Chiang Mai Arr	52.69	299	P	P	06 24 25.6	+1.1
	2.4nm,0.5s,baz=125,slow=5.6,SNR=12						
CMAR				LR	LR	06 46 38.7	
	comp=Z,196nm,19.4s,baz=322,slow=36						
MKAR	Makanchi Array	77.25	321	P	P	06 27 03.2	+0.2
	0.4nm,0.3s,baz=98,slow=8.2,SNR=16						
ZALV	Zalesovo Beam	78.88	328	P	P	06 27 10.6	-1.1
	0.8nm,0.6s,baz=116,slow=6.8,SNR=4.5						
KURBB	Kurchatov Arra	81.03	323	P	P	06 27 22.9	-0.5
	0.3nm,0.3s,baz=122,slow=3.8,SNR=5.1						
ILAR	Eielson Array	86.15	23	P	P	06 27 48.4	-0.8
	0.6nm,0.7s,baz=247,slow=5.3,SNR=9.6						
GERES	GERESS Array B	121.73	325	PKP	PKPdf	06 34 02.3	+0.5
	0.3nm,0.6s,baz=90,slow=4.0,SNR=4.9						
TORD	Torodi Ar. Bea	144.37	284	PKP	PKPbc	06 34 43.7	+0.2
	0.9nm,0.5s,baz=71,slow=3.0,SNR=11						
DBIC	Dimbokro	151.20	272	PKPbc	PKPbc	06 35 03.0	+0.8
	2.8nm,0.6s,baz=121,slow=7.5,SNR=6.2						

NEIC ***13*** *06:17:40.0, 19.°37N×66.°44W, h97km, MD3.5(RSPR), After RSPR.*

RSPR 13 06:17:40.0, 19.°37N×66.°44W, h97km±7km, MD3.5/3, 4C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOPR	Arecibo Observ	1.06	196	⇓*eP*	Pn	06 18 00.3	-0.6
AOPR				*eS*	Sn	06 18 16.4	-0.2
AOPR	Arecibo Observ	1.06	196	⇓*eP*	Pn	06 18 00.3	-0.6
AOPR				*eS*	Sn	06 18 16.4	-0.2
CBYP	Canovanas	1.23	153	⇓*eP*	Pn	06 18 02.5	-0.4
CBYP	Canovanas	1.23	153	⇓*eP*	Pn	06 18 02.5	-0.4
CBYP				*eS*	Sn	06 18 19.6	-0.5
HUMP	Col San Antoni	1.34	155	⇑*eP*	Pn	06 18 03.6	-0.6
HUMP	Col San Antoni	1.34	155	⇑*eP*	Pn	06 18 03.6	-0.6
HUMP				*eS*	Sn	06 18 22.3	-0.1
MTP	Monte Pirata	1.52	146	⇑*eP*	Pn	06 18 06.0	-0.3
MTP	Monte Pirata	1.52	146	⇑*eP*	Pn	06 18 06.0	-0.3
MTP				*eS*	Sn	06 18 26.1	-0.2

IDC ***13*** *06:20:04.2±0.7, 3.°59N×126.°09E, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.1/21, mbtmp4.1/14, MS3.1/2, Ms1 3.1/2, ms1mx2.6/30, Error ellipse: s-maj=44.2km s-min=14.0km az=74.0*
ISCJB ***13*** *06:20:09.2±0.5, 3.°59N±0.°08×126.°3E±0.°2, h53km, mb4.2/21, Error ellipse: s-maj=26.2km s-min=8.7km az=162.2*
NEIC ***13*** *06:20:09.2±0.5, 3.°61N×126.°35E, h35km, mb4.3/7, Error ellipse: s-maj=28.3km s-min=9.2km az=71.0*

ISC 13 06:20:11.4±0.7, 3.°61N±0.°10×126.°4E±0.°2, h53km, n39, σ1s25/37, mb4.2/21, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	3.54	346	LR	LR	06 22 45.4	
	comp=Z,324nm,18.8s,baz=195,slow=46						
CTBH	Cotabato--PC H	4.20	329	⇑*iP*	Pn	06 21 15.0	+2.0
KAPI	Kappang	10.87	218	LR	LR	06 27 36.3	
	comp=Z,75nm,18.8s,baz=216,slow=42						
FITZ	Fitzroy Crossi	21.59	182	*eP*	P	06 24 55.5	-1.4
	5.7nm,0.9s						
FITZ	Fitzroy Crossi	21.59	182	P	P	06 24 55.2	-1.7
	2.3nm,0.8s,baz=0,slow=2.0,SNR=3.2						
WRAB	Tennant Creek	24.65	162	*eP*	P	06 25 26.6	-0.7
	16nm,1.0s						
WRA	Warramunga Arr	24.66	162	P	P	06 25 26.1	-1.3
WRA	Warramunga Arr	24.66	162	P	P	06 25 26.1	-1.3
	7.3nm,0.7s,baz=342,slow=11,SNR=28						
ASAR	Alice Springs	28.07	165	P	P	06 26 00.1	+1.9
ASAR	Alice Springs	28.07	165	P	P	06 26 00.1	+1.9
	0.6nm,0.5s,baz=347,slow=7.6,SNR=6.1						
CMAR	Chiang Mai Arr	30.68	301	P	P	06 26 22.6	+1.3
CMAR	Chiang Mai Arr	30.68	301	P	P	06 26 22.6	+1.3
	0.8nm,0.4s,baz=107,slow=7.6,SNR=4.7						
KSAR	Wonju Array Be	33.70	2	P	P	06 26 48.0	+0.5
KSRS	Korea Array	33.71	2	P	P	06 26 48.0	+0.4
	1.4nm,0.7s,baz=182,slow=11,SNR=4.3						
BJI	Beijing	37.44	347	P		06 27 20.4	+0.8
BJI				pmax	pmax		
	comp=Z,23nm,0.7s						
STKA	Stephens Creek	38.12	159	*eP*	P	06 27 25.7	+0.2
	comp=Z,0.7nm,0.7s						
STKA	Stephens Creek	38.12	159	P	P	06 27 26.0	+0.5
	comp=Z,2.7nm,0.6s,baz=321,slow=13,SNR=5.1						
SONM	Songino Array	47.32	342	P	P	06 28 38.8	-1.2
SONM	Songino Array	47.32	342	P	P	06 28 38.8	-1.2
	comp=Z,0.8nm,0.6s,baz=148,slow=7.7,SNR=4.2						
PETK	Petropavlovsk-	55.65	22	P	P	06 29 42.8	+0.8
PETK	Petropavlovsk-	55.65	22	P	P	06 29 42.8	+0.8
	comp=Z,2.7nm,0.8s,baz=216,slow=7.1,SNR=2.7						
MK31	Makanchi Array	57.49	325	*eP*	P	06 29 53.9	-1.3
MKAR	Makanchi Array	57.49	325	P	P	06 29 54.0	-1.2
MKAR				ScP	ScP	06 34 51.0	+7.0
MKAR	Makanchi Array	57.49	325	P	P	06 29 54.0	-1.2
	comp=Z,1.0nm,0.4s,baz=118,slow=8.0,SNR=30						
MKAR				ScP	ScP	06 34 51.0	+7.0
	comp=Z,0.2nm,0.8s,baz=114,slow=5.4,SNR=2.3						
ZALV	Zalesovo Beam	60.56	333	P	P	06 30 14.5	-1.8
ZALV	Zalesovo Beam	60.56	333	P	P	06 30 14.5	-1.8
	comp=Z,0.5nm,0.4s,baz=130,slow=5.0,SNR=3.2						
KURBB	Kurchatov Arra	61.68	328	P	P	06 30 22.9	-1.1
	comp=Z,1.5nm,0.4s,baz=130,slow=6.4,SNR=12						
KURK	Kurchatov	61.69	328	*eP*	P	06 30 22.5	-1.5
	comp=Z,6.0nm,0.8s						
KKAR	Karatay Array	63.12	317	*eP*	P	06 30 33.7	-0.1
	comp=Z,2.5nm,0.9s						
BVAR	Borovoye Array	67.26	327	P	P	06 31 00.2	-0.2
BVAR	Borovoye Array	67.26	327	P	P	06 31 00.2	-0.2
	comp=Z,1.7nm,0.7s,baz=130,slow=8.0,SNR=12						
BRVK	Bovoye	67.33	327	*eP*	P	06 31 01.3	+0.4
	comp=Z,5.1nm,0.9s						
ABKAR	Akbulak array	72.06	321	*eP*	P	06 31 28.4	-1.6
	comp=Z,1.3nm,0.6s						
BRTR	Keskin Array B	89.87	310	P	P	06 33 04.0	-1.1
BRTR	Keskin Array B	89.87	310	P	P	06 33 04.0	-1.1
	comp=Z,0.4nm,0.5s,baz=79,slow=6.4,SNR=3.8						
ARCES	ARCESS Array B	90.46	340	P	P	06 33 07.0	0.0
ARCES	ARCESS Array B	90.46	340	P	P	06 33 07.0	0.0
	comp=Z,3.5nm,1.0s,baz=60,slow=5.8,SNR=4.9						
FINES	FINESS Array B	91.80	332	P	P	06 33 12.0	-1.4
FINES	FINESS Array B	91.80	332	P	P	06 33 12.0	-1.4
	comp=Z,1.8nm,0.9s,baz=42,slow=4.3,SNR=3.1						

IDC 13 06:22:31.3±4.4, 4.°41N×127.°74E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=434.8km s-min=24.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.06	165	P	P	06 27 56.4	-1.2
	457nm,0.3s,baz=54,slow=0.0,SNR=4.4						
ASAR	Alice Springs	28.55	168	P	P	06 28 29.9	+0.9
	0.2nm,0.3s,baz=344,slow=9.9,SNR=3.4						
STKA	Stephens Creek	38.42	161	P	P	06 29 55.0	+0.2
	2.1nm,0.7s,baz=330,slow=5.9,SNR=3.2						
MKAR	Makanchi Array	57.58	325	P	P	06 32 22.9	-0.1
	0.2nm,0.7s,baz=130,slow=9.0,SNR=5.1						

IDC ***13*** *06:28:39.9±3.2, 3.°98N×126.°59E, h16km±19km, mb4.6/27, mb1 4.7/27, mb1mx4.7/28, mbtmp4.6/27, MS4.0/10, Ms1 4.0/10, ms1mx3.7/24, Error ellipse: s-maj=18.9km s-min=10.4km az=79.0*
MOS ***13*** *06:28:40.8±0.9, 3.°99N×126.°60E, h33km, mb5.2/32, MS4.2/4, Error ellipse: s-maj=13.2km s-min=5.7km az=113.3*
NEIC ***13*** *06:28:42.6±0.2, 3.°99N×126.°61E, h35km, mb5.1/38, Error ellipse: s-maj=9.0km s-min=4.2km az=71.0*
TEH ***13*** *06:28:43.0, 4.°14N×126.°99E, h35km, ML5.0*
BJI ***13*** *06:28:44.2, 3.°95N×126.°65E, h69km, mB5.2/30, mb5.0/48, Ms4.6/30, Ms7 4.4/32*
ISCJB ***13*** *06:28:44.8±0.5, 4.°01N±0.°03×126.°79E±0.°04, h72km±4km, mb4.9/98, Error ellipse: s-maj=6.6km s-min=3.9km az=154.1*
DJA ***13*** *06:28:49, 3.°69N×126.°82E, h47km, mb5.1/8*

ISC 13 06:28:45.7±0.4, 3.°93N±0.°04×126.°70E±0.°05, h65km±2km, n295, σ1s50/340, mb5.0/98, 23C-26D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	General Santos	2.76	321	⇑*eP*	Pn	06 29 28.4	+0.7
GSPH				*eS*	Sn	06 30 01.2	+1.2
MNI	Manado	3.09	217	P	Pn	06 29 38.0	+5.9
MNI				S	Sn	06 30 16.1	+8.2
TNTI	Ternate	3.21	168	P	Pn	06 29 33.0	-0.7
DAV	Davao City (W)	3.31	340	*ePn*	Pn	06 29 35.3	+0.2
DAV	Davao City (W)	3.31	340	P	Pn	06 29 39.4	+4.2
DAV	Davao City (W)	3.31	340	Pn	Pn	06 29 34.3	-0.8
	32nm,0.3s,baz=129,slow=5.9,SNR=11						
DAV				Sn	Sn	06 30 24.1	+11
	116nm,0.3s,baz=259,slow=22,SNR=5.1						
KCP	Kidapawan	3.45	332	⇓*eP*	Pn	06 29 38.5	+1.4
KCP				*i* S	Sn	06 30 20.4	+3.5
CTBH	Cotabato--PC H	4.08	323	⇑*eP*	Pn	06 29 45.2	-0.4
BUKP	Musuan	4.25	338	*eP*	Pn	06 29 48.3	+0.3
BUKP				*eS*	Px	06 30 00.3	
KMSI	Cibinong	4.30	219	P	Pn	06 29 57.1	+8.5
CGP	Cagayan de Oro	4.92	336	⇑*eP*	Pn	06 30 03.1	+6.0
CGP				*i* S	Sn	06 31 08.6	+16
PAGZ	Pagadian	5.10	320	*eP*	Pn	06 29 59.7	+0.1
IPIL	Ipil	5.62	313	*eP*	Pn	06 30 06.6	-0.1
MRSI	Marisa	5.86	234	P	Pn	06 30 13.0	+3.0
	437nm,0.6s,4μm1.6nm						
LUWI	Luwuk	6.31	219	P	Pn	06 30 19.9	+3.8
	734nm,1.3s,7μm2.0nm						
NLAI	Namlea	7.13	177	P	Pn	06 30 31.6	+4.2
	81nm,0.8s,4μm0.7nm						
NLAI				S	Sn	06 31 45.3	-1.8
	81nm,0.8s,4μm0.7nm						
PLP	Palo	7.39	347	⇓*eP*	Pn	06 30 33.2	+2.2
MYLDM	Lahad Datu	8.27	279	P	Pn	06 30 44.3	+1.4
	129nm,1.4s,2μm						
FAKI	Fak Fak	8.78	141	P	Pn	06 30 50.5	+0.5
	62nm,0.7s						
KDI	Kendari	8.83	208	P	Pn	06 30 56.3	+5.6
	46nm,1.1s,746nm0.2nm						
TTSI	Tana Toraja	9.76	225	P	Pn	06 31 08.3	+4.9
	102nm,1.2s,2μm						
KKM	Kota Kinabalu	10.65	282	*ePn*	Pn	06 31 18.1	+2.5
KKM	Kota Kinabalu	10.65	282	P	Pn	06 31 17.4	+1.7
	41nm,2.4s,892nm						

BAKI	Biak	10.69	118	P	Pn	06 31 18.4	+2.2
	133nm,1.3s,2μm						
TLE	Tual	11.26	148	P	Pn	06 31 23.1	-0.8
	101nm,1.3s						
KAPI	Kappang	11.27	218	LR	LR	06 36 29.7	
	comp=Z,1μm,19.1s,baz=53,slow=42						
SMPI	Sarmi	13.37	116	P	Pn	06 31 50.2	-2.4
	67nm,1.6s						
BBKI	Banjar Baru	13.94	238	P	Pn	06 31 50.5	-10
PLKI	Palangkaraya	14.13	245	P	P	06 32 06.5	-2.0
	342nm,0.4s,8μm						
SBUM	Sibu	14.53	265	P	P	06 32 11.7	-1.2
	46nm,1.9s,945nm						
STKI	Sintang	15.68	256	P	P	06 32 27.3	+1.6
	39nm,1.5s						
KSM	Kuching	16.55	262	*eP*	P	06 32 36.8	+1.5
	52nm,1.1s						
KSM	Kuching	16.55	262	P	P	06 32 35.2	-0.1
	53nm,1.2s,531nm						
MTN	Manton Dam	17.24	165	*eP*	Pn	06 32 38.5	-3.8
GRJI	Gresik	17.82	233	P	Pn	06 32 55.7	+6.3
	205nm,0.5s,19μm						
SJI	Sawahan	18.87	232	P	Pn	06 33 11.9	+10
	47nm,1.3s						
YULB	Yu-li	20.04	345	*eP*	P	06 33 10.2	-3.5
	21nm,0.8s						
TPUB	Te-pu	20.13	344	*eP*	P	06 33 11.7	-2.9
	92nm,1.1s						
GUMO	Guam	20.34	61	LR	LR	06 39 50.4	
	comp=Z,444nm,21.1s,baz=235,slow=33						
SSLB	Suanglung	20.51	345	*eP*	P	06 33 15.8	-2.9
	138nm,1.5s						
TGJI	Tegal	20.56	239	P	Pn	06 33 28.9	+6.8
	64nm,0.7s,6μm						
YHNB	Yeheng	21.25	347	*eP*	P	06 33 23.8	-2.8
	37nm,0.8s						
PPBI	Pangkal Pinang	21.42	254	P	P	06 33 33.7	+5.1
	18nm,1.1s						
FITZ	Fitzroy Crossi	21.92	183	*eP*	P	06 33 31.6	-2.2
	17nm,0.8s						
FITZ	Fitzroy Crossi	21.92	183	*eP*	P	06 33 33.4	-0.4
	16nm,0.4s						
FITZ	Fitzroy Crossi	21.92	183	P	P	06 33 32.6	-1.2
	6.6nm,0.4s,baz=8.2,slow=7.1,SNR=19						
QIZ	Qiongzhong	22.28	314	P	P	06 33 37.9	+0.2
QIZ				pP	pP	06 33 51.5	-0.1
QIZ				S	S	06 37 40.4	+1.4
QIZ				sS	sS	06 38 03.3	+0.7
QIZ				pmax	pmax		
	comp=Z,14nm,1.4s						
QIZ				LR	LR		
	comp=Z,500nm,23.6s						
JOW	Kunigami	22.82	4	LR	LR	06 42 37.6	
	comp=Z,421nm,18.9s,baz=276,slow=37						
MYKOM	Kota Tinggi	22.91	265	P	P	06 33 51.1	+6.6
	comp=Z,20nm,1.8s						
COEN	Coen	24.15	138	*eP*	P	06 33 57.0	+1.1
	comp=Z,42nm,0.8s						
WRAB	Tennant Creek	24.88	163	*eP*	P	06 34 02.2	-0.4
WRAB				pmax	pmax		
	comp=Z,24nm,0.7s						
WRAB	Tennant Creek	24.88	163	*eP*	P	06 34 02.1	-0.4
	comp=Z,24nm,0.7s						
WRAB	Tennant Creek	24.88	163	P	P	06 34 02.2	-0.4
	comp=Z,173nm,0.5s,SNR=13						
WRA	Warramunga Arr	24.88	163	P	P	06 34 01.6	-1.0
WRA	Warramunga Arr	24.88	163	P	P	06 34 01.6	-1.0
	comp=Z,20nm,1.0s,baz=341,slow=10,SNR=78						
IPM	Ipoh	25.61	272	*eP*	P	06 34 13.0	+3.7
	comp=Z,32nm,1.0s						
IPM	Ipoh	25.61	272	P	P	06 34 15.3	+6.0
	comp=Z,36nm,1.4s						
MBWA	Marble Bar	25.85	195	*eP*	P	06 34 12.1	+0.7
	comp=Z,17nm,0.7s						
BKNI	Bangkinang	25.88	263	P	P	06 34 19.8	+8.0
	comp=Z,80nm,1.1s,comp=Z,2μm						
PPI	Padang Panjang	26.64	261	P	P	06 34 26.2	+7.6
	comp=Z,963nm,0.9s,comp=Z,215μm						
MNSI	Mandailing Nat	27.27	264	P	P	06 34 33.0	+8.7
	comp=Z,36nm,0.9s,comp=Z,3μm						
CBIJ	Chichi jima	27.38	31	LR	LR	06 43 52.3	
	comp=Z,317nm,21.5s,baz=202,slow=33						
PSI	Prapat	27.75	269	P	P	06 34 27.8	-0.9
PSI	Prapat	27.75	269	P	P	06 34 37.8	+9.1
	comp=Z,12nm,1.0s						
PSI	Prapat	27.75	269	P	P	06 34 27.8	-0.9
	comp=Z,2.6nm,0.4s,baz=320,slow=23,SNR=3.5						
AS31	Alice Springs	28.31	166	*eP*	P	06 34 34.2	+0.7
ASAR	Alice Springs	28.31	166	P	P	06 34 33.2	-0.3
ASAR	Alice Springs	28.31	166	P	P	06 34 33.2	-0.3
	comp=Z,1.9nm,0.4s,baz=344,slow=7.0,SNR=20						
WHN	Wuhan	28.93	338	P	P	06 34 38.6	-0.2
WHN				LR	LR		
	comp=Z,2μm,23.8s						
GSI	Gunungsitoli	29.20	266	P	P	06 34 45.5	+4.0
JNU	Nakatsue	29.30	7	P	P	06 34 40.0	-2.2
JNU	Nakatsue	29.30	7	P	P	06 34 40.0	-

comp=Z,241nm,19.1s,baz=195,slow=37
XAN Xi'an 34.22 333 P **P** **06 35 24.0 -1.4**
XAN pP **pP** **06 35 40.0 -1.2**
XAN S **S** **06 40 42.5 -5.2**
XAN pmax pmax
comp=Z,22nm,0.9s
XAN pmax pmax
comp=Z,23nm,5.8s
XAN LR LR
comp=N,280nm,17.6s
XAN LR LR
comp=E,140nm,20.5s
CD2 Chengdu 34.46 324 P **P** **06 35 27.3 -0.2**
CD2 PcP **PcP** **06 38 01.9 +0.2**
CD2 S **S** **06 40 52.9 +1.4**
CD2 PcS **PcS** **06 41 47.3 -1.0**
CD2 SS **SnSn** **06 43 05.3 -2.7**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 pmax pmax
comp=Z,250nm,5.5s
KMBL Kambalda 35.40 187 *e*P **P** **06 35 35.4 -0.1**
comp=Z,106nm,1.1s
HNR Honiara 35.70 112 LR LR 06 49 30.6
comp=Z,274nm,19.5s,baz=71,slow=35
BJT Baijiatuau 37.17 347 *e*P **P** **06 35 50.7 +0.3**
comp=Z,42nm,0.8s
BJI Beijing 37.19 347 P **P** **06 35 50.3 -0.3**
BJI S **S** **06 41 34.3 +1.6**
BJI pmax pmax
comp=Z,30nm,0.6s
BJI LR LR
comp=N,360nm,15.9s
BJI LR LR
comp=E,420nm,19.8s
BJI LR LR
comp=Z,100nm,28.0s
EIDS Eidsvold 37.53 142 *e*P **P** **06 35 54.3 +0.6**
comp=Z,12nm,0.7s
EIDS Eidsvold 37.53 142 *e*P **P** **06 35 53.5 -0.2**
comp=Z,58nm,0.7s
BBOO Buckleboo 37.60 167 *e*P **P** **06 35 53.2 -1.0**
comp=Z,438nm,1.1s
BBOO Buckleboo 37.60 167 *e*P **P** **06 35 54.2 0.0**
comp=Z,68nm,1.0s
NWAO Narrogin (SRO) 37.74 193 P **P** **06 35 55.5 +0.2**
NWAO Narrogin (SRO) 37.74 193 P **P** **06 35 55.5 +0.2**
comp=Z,7.3nm,0.4s,baz=38,slow=8.2,SNR=11
SNY Shenyang 37.84 356 ⇓P **P** **06 35 56.9 +0.8**
SNY pmax pmax
comp=Z,62nm,1.6s
LZH Lanzhou 38.31 330 *e*P **P** **06 35 59.8 -0.6**
LZH pP **pP** **06 36 14.4 -2.1**
LZH sP **sP** **06 36 20.9 -3.1**
LZH pmax pmax
comp=Z,85nm,1.2s
LZH pmax pmax
comp=Z,220nm,5.4s
LZH LR LR
comp=N,220nm,17.3s
LZH LR LR
comp=E,450nm,18.3s
LZH LR LR
comp=Z,590nm,19.3s
STKA Stephens Creek 38.33 159 *e*P **P** **06 36 01.0 +0.6**
comp=Z,5.5nm,1.0s
STKA Stephens Creek 38.33 159 *e*P **P** **06 36 00.8 +0.5**
comp=Z,12nm,0.7s
STKA Stephens Creek 38.33 159 P **P** **06 36 00.4 +0.1**
comp=Z,22nm,0.9s,baz=334,slow=8.2,SNR=22
HHC Hu-ho-hao-te 39.20 342 *e*P **P** **06 36 06.5 -1.2**
HHC PP **PnPn** **06 37 41.6 -0.3**
HHC PcP **PcP** **06 38 16.4 +0.5**
HHC ScP **ScP** **06 41 59.4 +0.4**
HHC S **S** **06 42 05.4 +2.0**
HHC ScS **ScS** **06 46 08.8 -1.9**
HHC pmax pmax
comp=Z,17nm,1.3s
HHC pmax pmax
comp=Z,220nm,9.6s
HHC LR LR
comp=N,320nm,15.6s
HHC LR LR
comp=E,320nm,16.8s
HHC LR LR
comp=Z,310nm,21.6s
CN2 Changchun 39.72 359 *e*P **P** **06 36 14.8 +3.0**
CN2 *ep*P **pP** **06 36 28.1 +0.2**
CN2 *e*S **S** **06 42 14.5 +3.6**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,200nm,10.0s
CN2 LR LR
comp=E,200nm,10.0s
CN2 LR LR
comp=Z,200nm,12.0s
USRK Ussuriysk Arra 40.38 6 P **P** **06 36 17.9 +0.6**
comp=Z,8.8nm,0.8s,baz=195,slow=7.8,SNR=14
MDJ Mudanjiang 40.60 3 P **P** **06 36 19.3 +0.2**
MDJ pP **pP** **06 36 34.4 -0.9**
MDJ sP **sP** **06 36 41.9 -0.8**
MDJ ScP **ScP** **06 42 04.5 +0.3**
MDJ PcS **PcS** **06 42 11.1 +0.4**
MDJ S **S** **06 42 24.8 +0.8**
MDJ sS **sS** **06 42 51.4 -0.1**
MDJ pmax pmax
comp=Z,36nm,1.5s
MDJ pmax pmax
comp=Z,310nm,3.6s
MDJ LR LR
comp=N,150nm,29.2s
MDJ LR LR
comp=E,81nm,33.1s
MDJ LR LR
comp=Z,200nm,30.0s
MDJ Mudanjiang 40.60 3 *e*P **P** **06 36 19.9 +0.8**
comp=Z,213nm,2.1s
ARMA Armidale 41.65 147 *e*P **P** **06 36 29.0 +1.0**
comp=Z,528nm,3.0s
ARMA Armidale 41.65 147 *e*P **P** **06 36 29.1 +1.0**
LSA Lhasa 42.28 311 P **P** **06 36 34.3 +0.5**
LSA Lhasa 42.28 311 *e*P **P** **06 36 34.2 +0.5**
LSA pmax pmax
comp=Z,18nm,0.6s
LSA Lhasa 42.28 311 *e*P **P** **06 36 34.1 +0.4**
comp=Z,18nm,0.6s
ASAJ Asahikawa 42.41 17 P **P** **06 36 32.4 -1.5**
ASAJ Asahikawa 42.41 17 P **P** **06 36 32.4 -1.5**
comp=Z,4.7nm,0.4s,baz=222,slow=14,SNR=3.6
ASAJ LR LR 06 55 27.3
comp=Z,234nm,18.2s,baz=204,slow=38
GTA Gaotai 42.91 329 *e*P **P** **06 36 37.5 -0.7**
GTA pP **pP** **06 36 53.5 -1.0**
GTA sP **sP** **06 37 00.1 -1.9**
GTA S **S** **06 42 58.6 0.0**
GTA sS **sS** **06 43 26.6 +0.4**
GTA SS **SS** **06 46 06.9 -5.5**
GTA pmax pmax
comp=Z,11nm,0.9s
GTA pmax pmax
comp=Z,59nm,5.7s
GTA LR LR
comp=N,480nm,21.1s
GTA LR LR
comp=E,450nm,21.1s
GTA LR LR
comp=Z,580nm,20.7s
TAPN Taplejung 43.87 306 *e*P **P** **06 36 45.4 -1.0**
comp=Z,38nm,0.9s
ODAN Odare 43.93 305 *e*P **P** **06 36 45.7 -1.1**
CAN Canberra 44.30 154 *e*P **P** **06 36 50.7 +1.3**
CAN pmax pmax
comp=Z,49nm,1.4s
CAN Canberra 44.30 154 *e*P **P** **06 36 50.6 +1.3**
comp=Z,49nm,1.4s
CAN Canberra 44.30 154 *e*P **P** **06 36 51.3 +1.9**
comp=Z,16nm,0.8s
RAMN Ramite 44.61 305 *e*P **P** **06 36 51.4 -0.8**
comp=Z,44nm,0.9s
TOO Toolangi 44.84 159 *e*P **P** **06 36 54.5 +0.9**
comp=Z,53nm,1.2s
YSS Yuzh-Sakhalins 45.06 16 *e*P **P** **06 36 55.0 -0.1**
JIRN Jiri 45.23 306 *e*P **P** **06 36 56.5 -0.8**
comp=Z,6.4nm,0.6s
KLR Kul'dur 45.34 5 *e*P P 06 36 53.7 -3.6
KLR pmax pmax
comp=Z,68nm,1.6s
HIA Hailar 45.56 354 *e*P **P** **06 36 59.9 +0.7**
comp=Z,46nm,0.9s
GUN Gumba 45.58 306 *e*P **P** **06 36 59.0 -1.0**
comp=Z,56nm,0.8s
PKI Pulchoki 45.83 305 *e*P **P** **06 37 00.4 -1.6**
KKN Kakani 46.02 305 *e*P **P** **06 37 02.3 -1.0**
GKN Gorkha 46.63 305 *e*P **P** **06 37 06.7 -1.3**
comp=Z,8.9nm,0.3s
DZM Mont Dzumac 46.68 125 *e*S S 06 44 08.6 +15
comp=Z,156nm,32.2s
DZM Mont Dzumac 46.68 125 *e*P **P** **06 37 09.5 +1.1**
comp=Z,21nm,1.4s
DZM Mont Dzumac 46.68 125 P **P** **06 37 10.0 +1.6**
comp=Z,20nm,1.1s,baz=353,slow=6.8,SNR=8.1
ULN Ulaanbaatar 46.92 342 *e*P **P** **06 37 10.0 0.0**
comp=Z,18nm,1.0s
SONM Songino Array 47.10 341 P **P** **06 37 11.2 -0.2**
SONM PcP **PcP** **06 38 43.1 +0.8**
SONM Songino Array 47.10 341 P **P** **06 37 11.2 -0.2**
comp=Z,6.0nm,0.7s,baz=163,slow=8.8,SNR=23
SONM PcP **PcP** **06 38 43.1 +0.8**
comp=Z,4.4nm,0.9s,baz=173,slow=3.7,SNR=4.2
KOLN Koldanda 47.38 305 *e*P **P** **06 37 13.0 -1.0**
comp=Z,46nm,0.6s
DANN Dangsing 47.47 305 *e*P **P** **06 37 13.7 -1.1**
comp=Z,48nm,0.7s
HYB Hyderabad 49.02 290 *i*P **P** **06 37 25.0 -1.5**
CIT Chita 49.17 349 *e*P **P** **06 37 28.3 +1.2**
CIT *e* 06 37 38.4
CIT pmax pmax
comp=Z,138nm,1.4s
ZAK Zakamensk 50.33 341 *e*P **P** **06 37 35.3 -0.7**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 51.33 342 *e*P **P** **06 37 42.8 -0.7**
TLY *e*S S 06 44 51.3 -6.6
TLY pmax pmax
comp=Z,9.0nm,0.9s
TLY MLR MLR
comp=Z,162nm,22.0s
TLY Talaya 51.33 342 *e*P **P** **06 37 42.8 -0.7**
comp=Z,114nm,2.4s
MOY Mondy 52.18 340 *e*P **P** **06 37 50.6 +0.7**
MOY pmax pmax
comp=Z,30nm,2.1s
WMQ Urumqi 52.54 325 P **P** **06 37 52.8 +0.1**
WMQ PcP **PcP** **06 39 03.0 +0.7**
WMQ PP **PP** **06 39 54.0 +1.8**
WMQ *e*S **S** **06 45 15.0 +0.1**
WMQ ScS **ScS** **06 47 33.0 -3.8**
WMQ pmax pmax
comp=Z,23nm,1.1s
WMQ pmax pmax
comp=Z,390nm,5.3s
WMQ LR LR
comp=N,940nm,20.9s
WMQ LR LR
comp=E,600nm,19.0s
WMQ LR LR
comp=Z,700nm,22.7s
CLNS Chul'man 52.78 359 *e*P **P** **06 37 54.6 +0.5**
CLNS *e* 06 39 04.5
CLNS *e* 06 39 55.5
CLNS *e*PPP PPP 06 41 01.2
CLNS *e*S **S** **06 45 16.3 -1.3**
CLNS *e*SS **SS** **06 49 00.1 +3.1**
CLNS pmax pmax
comp=Z,24nm,1.0s
CLNS pmax pmax
comp=N,14nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,1.1s
CLNS pmax pmax
comp=N,3.0nm,0.9s
CLNS pmax pmax
comp=Z,4.0nm,1.0s
CLNS smax smax
comp=E,162nm,13.4s
CLNS smax smax
comp=N,172nm,11.9s
BOD Bodaibo 54.66 352 ⇓*i*P **P** **06 38 07.9 +0.1**
BOD pmax pmax
comp=Z,26nm,1.4s
PETK Petropavlovsk- 55.26 22 P **P** **06 38 12.7 +0.5**
PETK Petropavlovsk- 55.26 22 P **P** **06 38 12.7 +0.5**
PETK Petropavlovsk- 55.26 22 P **P** **06 38 12.7 +0.5**
comp=Z,7.4nm,0.5s,baz=188,slow=4.5,SNR=42
PETK LR LR 06 58 36.0
comp=Z,107nm,19.7s,baz=219,slow=32
MK31 Makanchi Array 57.37 325 *e*P **P** **06 38 26.8 -0.7**
MK31 pmax pmax
comp=Z,14nm,0.6s
MK31 Makanchi Array 57.37 325 *e*P **P** **06 38 26.7 -0.7**
MKAR Makanchi Array 57.37 325 P **P** **06 38 26.9 -0.6**
MKAR Makanchi Array 57.37 325 P **P** **06 38 26.9 -0.6**
MKAR ScP **ScP** **06 43 20.6 +5.4**
MKAR Makanchi Array 57.37 325 P **P** **06 38 26.9 -0.6**
comp=Z,16nm,0.7s,baz=119,slow=7.9,SNR=145
MKAR ScP **ScP** **06 43 20.6 +5.4**
comp=Z,2.2nm,0.9s,baz=108,slow=4.7,SNR=4.9
KSH Kashi 57.88 315 P **P** **06 38 32.0 +0.7**
KSH pP **pP** **06 38 47.6 -0.6**
KSH sP **sP** **06 38 54.8 -0.7**
KSH PcP **PcP** **06 39 22.4 -0.7**
KSH PP **PP** **06 40 43.3 +3.1**
KSH ScP **ScP** **06 43 16.8 -1.0**
KSH PcS **PcS** **06 43 22.4 -2.2**
KSH S **S** **06 46 25.3 -1.2**
KSH sS **sS** **06 46 53.1 -2.1**
KSH ScS **ScS** **06 48 11.3 -4.1**
KSH SS **SS** **06 50 18.3 0.0**
KSH LR LR
comp=N,180nm,6.4s
KSH LR LR
comp=E,120nm,5.4s
KSH LR LR
comp=Z,280nm,7.5s
YAK Yakutsk 58.01 2 *e*P **P** **06 38 31.2 -0.4**
YAK pmax pmax
comp=Z,99nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=N,60nm,1.5s
YAK Yakutsk 58.01 2 *e*P **P** **06 38 31.7 +0.2**
comp=N,128nm,1.0s
TKM2 Tokmak 2 59.58 318 *e*P **P** **06 38 42.0 -1.1**
TKM2 pmax pmax
comp=Z,14nm,0.7s
TKM2 Tokmak 2 59.58 318 *e*P **P** **06 38 42.0 -1.1**
comp=Z,14nm,0.7s
AAK Ala-Archa 60.19 318 *de*P **P** **06 38 47.1 -0.1**
AAK pmax pmax
comp=Z,23nm,1.7s
AAK Ala-Archa 60.19 318 *e*P **P** **06 38 48.0 +0.7**
comp=Z,19nm,0.8s
ZAA0 Zalesovo Array 60.40 333 *e*P **P** **06 38 46.7 -1.5**
ZALV Zalesovo Beam 60.40 333 P **P** **06 38 47.0 -1.2**
ZALV Zalesovo Beam 60.40 333 P **P** **06 38 47.0 -1.2**
ZALV Zalesovo Beam 60.40 333 P **P** **06 38 47.0 -1.2**
comp=Z,6.6nm,0.4s,baz=128,slow=6.4,SNR=48
EKS2 Erkin-Say 60.68 318 *e*P **P** **06 38 51.2 +0.6**
EKS2 pmax pmax
comp=Z,11nm,0.9s
EKS2 Erkin-Say 60.68 318 *e*P **P** **06 38 51.2 +0.6**
comp=Z,11nm,0.9s
KBL Kabul 61.38 307 *e*P **P** **06 38 54.7 -0.9**
KBL pmax pmax
comp=Z,13nm,0.9s
KBL Kabul 61.38 307 *e*P **P** **06 38 54.7 -0.9**
comp=Z,13nm,0.9s
KURK Kurchatov 61.55 327 *ce*P **P** **06 38 55.3 -0.9**
KURK pmax pmax
comp=Z,26nm,0.8s
KURK Kurchatov 61.55 327 *e*P **P** **06 38 55.1 -1.0**
comp=Z,33nm,0.9s
KURK Kurchatov 61.55 327 P **P** **06 38 55.2 -0.9**
comp=Z,183nm,0.9s,SNR=24
NVS Novosibirsk 61.68 333 *e*P **P** **06 38 55.7 -1.2**
NVS *e*S **S** **06 47 10.7 -3.8**
NVS pmax pmax
comp=Z,10.0nm,0.8s
NVS smax smax
comp=E,19nm,2.0s
SEY Seymchan 61.85 13 *ce*P **P** **06 38 57.8 -0.1**
KKAR Karatay Array 63.06 317 *e*P **P** **06 39 06.1 -0.3**
KKAR pmax pmax
comp=Z,11nm,0.8s
KKAR Karatay Array 63.06 317 *e*P **P** **06 39 06.1 -0.3**
comp=Z,11nm,0.8s
BVA0 Borovoye Array 67.14 327 *i*P **P** **06 39 31.9 -0.7**
BVA0 pmax pmax
comp=Z,4.0nm,1.2s
BRVK Borovoye 67.21 327 *e*P **P** **06 39 32.9 -0.2**
BRVK pmax pmax
comp=Z,35nm,1.0s
BRVK Borovoye 67.21 327 *e*P **P** **06 39 32.9 -0.2**
comp=Z,34nm,1.0s
BRVK Borovoye 67.21 327 P **P** **06 39 32.4 -0.6**
comp=Z,112nm,0.8s,SNR=6.1
IDAH Dahanechah 68.44 304 *e*P **P** **06 39 40.6 -0.9**
IMYA Miami 68.89 307 *e*P **P** **06 39 44.3 +0.1**
BILL Bilibino 69.37 15 *e*P **P** **06 39 46.5 +0.2**
BILL pmax pmax
comp=Z,13nm,1.6s
BILL MLR MLR
comp=Z,100nm,15.0s
BILL Bilibino 69.37 15 *e*P **P** **06 39 46.5 +0.2**
comp=Z,5.5nm,0.8s
IMOG Moghan 69.45 307 *e*P **P** **06 39 47.8 0.0**
IPAY Payeh 69.79 307 *e*P **P** **06 39 49.9 +0.1**
DRV Dumont d'Urvil 71.08 174 PP PP 06 41 47.0 -48
DRV S **S** **06 49 05.0 -2.8**
AB31 Akbulak array 71.97 321 *i*P **P** **06 40 01.2 -1.3**
AB31 pmax pmax
comp=Z,12nm,0.9s
ABKAR Akbulak array 71.97 321 *e*P **P** **06 40 01.4 -1.1**
comp=Z,8.6nm,0.8s
IANJ Anjilo 73.72 306 *e*P **P** **06 40 10.4 -3.0**
SVE Sverdlovsk 73.77 328 *e*P **P** **06 40 14.4 +1.4**
SVE pmax pmax
comp=Z,20nm,0.9s
IPAR Pars 73.87 300 *e*P **P** **06 40 13.1 -1.4**
ARU Arti 74.75 328 *d*⇓P **P** **06 40 18.2 -0.5**
ARU S **S** **06 49 54.0 +4.0**
ARU SS **SS** **06 54 37.7 -1.1**
ARU pmax pmax
comp=Z,18nm,1.0s
ARU Arti 74.75 328 *e*P **P** **06 40 17.8 -0.9**
comp=Z,12nm,0.6s
ISFB Sefidab 74.96 304 *e*P **P** **06 40 19.1 -1.4**
IKLH Kolahrood 75.42 303 *e*P **P** **06 40 23.7 +0.4**
SOKR Solikamsk 76.52 331 ⇓*i*P **P** **06 40 28.4 -0.3**
SOKR pmax pmax
comp=Z,10.0nm,1.4s
SOKR MLR MLR
comp=Z,300nm,30.0s
IKOM Komasi 78.86 304 *e*P **P** **06 40 40.2 -2.3**
IDHR Dehrash 79.81 304 *e*P **P** **06 40 50.1 +2.4**
KDAK Kodiak Island 81.74 32 P **P** **06 40 58.6 +1.4**
KDAK Kodiak Island 81.74 32 P **P** **06 40 58.6 +1.4**
comp=Z,20nm,0.9s,baz=21,slow=5.5,SNR=5.5
ZEI Tsey 82.06 312 *e*P **P** **06 40 59.0 -0.6**
ZEI pmax pmax
comp=Z,9.0nm,1.0s
KIV Kislovodsk 82.98 314 *e*P **P** **06 41 04.7 +0.6**
KIV pmax pmax
comp=Z,5.0nm,1.0s
SLKM Skilak Lake 83.19 30 *e*P **P** **06 41 05.1 +0.3**
SLKM Skilak Lake 83.19 30 *e*P **P** **06 41 05.1 +0.3**
RC01 Rabbit Creek A 83.47 29 *e*P **P** **06 41 05.9 -0.2**
comp=Z,13nm,0.6s
COLD Coldfoot 83.72 23 *e*P **P** **06 41 08.8 +1.5**
comp=Z,37nm,1.1s
PMR Palmer 83.79 29 *e*P **P** **06 41 08.0 +0.3**
PMR pmax pmax
comp=Z,36nm,1.1s
PMR Palmer 83.79 29 *e*P **P** **06 41 08.0 +0.3**
comp=Z,36nm,1.1s
VRHR Novokhopersk 83.86 321 *e*P **P** **06 41 07.1 -1.3**
VRHR pmax pmax
comp=N,3.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
ILAR Eielson Array 84.94 25 P **P** **06 41 13.7 +0.1**
ILAR Eielson Array 84.94 25 P **P** **06 41 13.7 +0.1**
comp=Z,4.1nm,1.0s,baz=239,slow=4.2,SNR=19
ILAR LR LR 07 24 04.7
comp=Z,90nm,18.1s,baz=288,slow=39
PPT2 Papeete2 85.21 108 *e*LR LR 07 08 40.1
comp=Z,128nm,26.0s
KLMR Klimovskoe 85.22 331 *e*P **P** **06 41 13.2 -1.8**
KLMR pmax pmax
comp=Z,123nm,1.4s
VORD Divnogorie 85.34 321 *e*P **P** **06 41 15.2 -0.6**
VSR Storozhevoye 85.41 321 *e*P **P** **06 41 15.7 -0.5**
VSR pmax pmax
comp=Z,20nm,0.9s
VSR pmax pmax
comp=N,4.0nm,0.5s
VSR pmax pmax
comp=E,10.0nm,0.9s
TBI Tubuai 85.90 114 *e*LR LR 07 08 57.2
comp=E,172nm,27.0s
MOS Moscow 86.26 325 *e*P P 06 41 15.7 -4.6
MOS pmax pmax
comp=Z,48nm,1.0s
OBN Obninsk 86.88 325 ⇑*i*P **P** **06 41 23.1 -0.2**
OBN pmax pmax
comp=Z,93nm,1.6s
OBN MLR MLR
comp=Z,100nm,17.0s
BR131 Keskin Array S 89.87 310 *e*P **P** **06 41 37.2 -0.8**
comp=Z,2.8nm,0.8s
BRTR Keskin Array B 89.87 310 P **P** **06 41 37.2 -0.8**
BRTR Keskin Array B 89.87 310 P **P** **06 41 37.2 -0.8**
comp=Z,3.4nm,0.8s,baz=120,slow=5.0,SNR=15
BRTR LR LR 07 25 11.0
comp=Z,47nm,20.6s,baz=281,slow=38
INK Inuvik 89.99 21 P **P** **06 41 38.0 +0.2**
INK Inuvik 89.99 21 P **P** **06 41 38.0 +0.2**
comp=Z,4.5nm,1.0s,baz=252,slow=9.5,SNR=9.7
ARCES ARCESS Array B 90.25 340 P **P** **06 41 38.6 -0.4**
ARCES ARCESS Array B 90.25 340 P **P** **06 41 38.6 -0.4**
comp=Z,3.0nm,0.6s,baz=82,slow=6.5,SNR=29
FINES FINESS Array B 91.64 332 P **P** **06 41 45.6 0.0**
FINES FINESS Array B 91.64 332 P **P** **06 41 45.6 0.0**
comp=Z,4.4nm,0.8s,baz=97,slow=6.1,SNR=8.7
AKASG Malin Array Be 91.72 321 P **P** **06 41 45.5 -0.7**
AKASG Malin Array Be 91.72 321 P **P** **06 41 45.5 -0.7**
AKASG Malin Array Be 91.72 321 P **P** **06 41 45.5 -0.7**
comp=Z,7.3nm,0.8s,baz=73,slow=4.1,SNR=11
CFR Carcaliu 93.26 316 ⇑⇑P **P** **06 41 54.3 +0.9**
CFR Carcaliu 93.26 316 ⇑*i*P **P** **06 41 54.3 +0.9**
TESR 94.07 317 ⇓*i*P **P** **06 41 57.2 0.0**
VRI Vrincioaia 94.13 316 ⇑⇑P **P** **06 41 57.8 +0.3**
VRI Vrincioaia 94.13 316 ⇑*i*P **P** **06 41 57.8 +0.3**
PLOR Plostina 94.18 316 ⇑⇑P **P** **06 41 58.1 +0.3**
PLOR Plostina 94.18 316 ⇑*i*P **P** **06 41 58.1 +0.3**
MLR Muntele Rosu 94.73 316 ⇑*i*P **P** **06 42 00.4 0.0**
BURAR Bucovina Array 94.83 318 ⇓*i*P **P** **06 42 01.0 +0.2**
BUR08 Bucovina Ar. S 94.84 318 *e*P **P** **06 42 00.7 -0.1**
KWP Kalwaria Pacla 96.03 321 ⇓P **P** **06 42 06.8 +0.7**
KWP Kalwaria Pacla 96.03 321 ⇓*i*P **P** **06 42 06.8 +0.7**
UZH Uzhgorod 96.53 320 ⇑*i*P **P** **06 42 08.4 +0.1**
UZH *i* 06 42 17.0
UZH *i* 06 42 22.2
CRVS Cervenica-Dubn 97.00 320 *e*P **P** **06 42 11.0 +0.5**
CRVS pmax pmax
comp=Z,17nm,1.1s
CRVS Cervenica-Dubn 97.00 320 *e*P **P** **06 42 11.0 +0.5**
BZS Buzias 97.68 317 ⇑⇑P **P** **06 42 12.8 -0.8**
BZS Buzias 97.68 317 ⇑*i*P **P** **06 42 12.8 -0.8**
NB2 NORSAR Subarra 98.59 334 P **P** **06 42 16.3 -1.1**
comp=Z,4.9nm,1.1s,baz=66,slow=4.6
NOA NORSAR Array B 98.59 334 P **P** **06 42 16.6 -0.8**
NOA NORSAR Array B 98.59 334 P **P** **06 42 16.6 -0.8**
comp=Z,2.3nm,0.8s,baz=65,slow=4.6,SNR=6.4
VYHS Vyhne 98.78 320 *e*P **P** **06 42 17.7 -0.8**
VYHS pmax pmax
comp=Z,9.0nm,2.0s
VYHS Vyhne 98.78 320 PDIF **P** **06 42 17.7 -0.8**

YKA	Yellowknife Ar	99.33	24	P	Pdif	06 42 21.2	+0.7
YKA	Yellowknife Ar	99.33	24	P	Pdif	06 42 21.2	+0.7
	comp=Z,0.4nm,0.5s,baz=297,slow=4.4,SNR=9.8						
BRG	Berggiesshubel	101.06	323	*e*P	Pdif	06 42 29.3	+0.7
	comp=Z,12nm,1.2s						
BRG	Berggiesshubel	101.06	323	*e*P	Pdif	06 42 29.3	+0.7
BRG				pmax	pmax		
	comp=Z,12nm,1.2s						
GERES	GERESS Array B	101.91	322	P	Pdif	06 42 32.4	-0.1
GERES	GERESS Array B	101.91	322	P	Pdif	06 42 32.4	-0.1
	comp=Z,1.9nm,0.9s,baz=10,slow=1.1,SNR=7.1						
S21A	Coal Bank Pass	114.74	45	⇓P	PKPdf	06 47 21.1	+1.3
	baz=115						
P25A	Willow Gulch B	116.36	42	⇑P	PKPdf	06 47 23.4	+0.7
	baz=116						
S25A	Robets Cordova	117.09	44	⇓P	PKPdf	06 47 25.0	+0.8
	baz=117						
T25A	Trinidad	117.36	44	⇓P	PKPdf	06 47 26.2	+1.4
	baz=117						
V24A	Rampart Ranch,	117.42	46	⇑P	PKPdf	06 47 26.4	+1.5
	baz=117						
R26A	Arlington	117.45	43	⇓P	PKPdf	06 47 26.0	+1.3
	baz=117						
Y25A	Mesa, Roswell	118.68	48	⇓P	PKPdf	06 47 28.2	+1.0
	baz=119						
Z25A	Roswell	118.95	48	⇓P	PKPdf	06 47 29.4	+1.7
	baz=119						
MNTX	Cornudas Mount	119.15	50	⇓P	PKPdf	06 47 29.2	+1.1
	baz=119						
324A	Moseley Ranch,	119.18	51	⇓P	PKPdf	06 47 29.0	+0.7
	baz=119						
125A	Gardner Draw,	119.28	49	⇓P	PKPdf	06 47 29.2	+0.8
	baz=119						
425A	Indio Mountain	119.85	51	⇓P	PKPdf	06 47 29.9	+0.3
	baz=120						
Z27A	Tatum	120.05	48	⇑P	PKPdf	06 47 31.0	+1.1
	baz=120						
X28A	Dimmitt	120.21	46	⇑P	PKPdf	06 47 30.9	+0.7
	baz=120						
SCHQ	Schefferville	120.38	9	PKP	PKPdf	06 47 31.2	+1.5
SCHQ	Schefferville	120.38	9	PKP	PKPdf	06 47 31.2	+1.5
	comp=Z,3.1nm,1.1s,baz=0.0,slow=4.0,SNR=3.5						
427A	Hayter Ranch,	121.04	50	⇓P	PKPdf	06 47 32.0	+0.2
	baz=121						
328A	Wristen Ranch,	121.25	50	⇑P	PKPdf	06 47 32.4	+0.2
	baz=121						
TXAR	Lajitas Array	121.50	52	PKP	PKPdf	06 47 34.2	+1.5
TXAR	Lajitas Array	121.50	52	PKP	PKPdf	06 47 34.2	+1.5
	comp=Z,0.7nm,0.8s,baz=133,slow=2.2,SNR=7.3						
428A	Kincaid Ranch,	121.65	50	⇓P	PKPdf	06 47 33.7	+0.7
	baz=122						
528A	Cox Ranch, San	121.82	51	⇓P	PKPdf	06 47 34.5	+1.1
	baz=122						
628A	Black Gap, Mar	122.05	52	⇑P	PKPdf	06 47 34.5	+0.8
	baz=122						
529A	Stev Forest Ra	122.28	51	⇓P	PKPdf	06 47 34.8	+0.6
	baz=122						
TORD	Torodi Ar. Bea	122.83	288	PKP	PKPdf	06 47 35.9	+0.3
TORD	Torodi Ar. Bea	122.83	288	PKP	PKPdf	06 47 35.9	+0.3
	comp=Z,0.8nm,0.5s,baz=64,slow=1.6,SNR=9.7						
TUL1	Tulsa	123.88	41	⇑P	PKPdf	06 47 37.9	+0.9
	baz=124						
JCT	Junction City	123.95	49	*e*PKIKP	PKPdf	06 47 38.8	+1.4
JCT	Junction City	123.95	49	*e*PKPdf	PKPdf	06 47 38.8	+1.4
JCT	Junction City	123.95	49	⇓P	PKPdf	06 47 38.6	+1.2
	baz=124						
LCO	Las Campanas	150.08	148	*e*PKPbc	PKPbc	06 48 30.4	+0.2
CBYP	Canovanas	154.71	29	*e*PKPdf	PKPdf	06 48 33.8	+1.8
CBYP				*e*PKPbc	PKiKP	06 48 41.0	+0.4
LPAZ	La Paz	160.95	131	*e*PKPdf	PKPdf	06 48 42.0	+1.6

IDC ***13*** *06:30:30.1±0.9, 3.°56N×126.°29E, h0km, mb4.5/10, mb1 4.5/10, mb1mx4.3/19, mbtmp4.4/10, MS3.7/3, Ms1 3.7/3, ms1mx3.2/24, Error ellipse: s-maj=52.8km s-min=18.0km az=75.0*

ISCJB ***13*** *06:30:35.7±0.5, 3.°62N±0.°09×126.°5E±0.°2, h53km, mb4.6/19, MS3.6/2, Error ellipse: s-maj=26.9km s-min=10.5km az=161.7*

NEIC ***13*** *06:30:35.6±0.5, 3.°57N×126.°46E, h35km, mb4.8/9, Error ellipse: s-maj=26.7km s-min=9.5km az=69.0*

ISC 13 06:30:37.3±0.7, 3.°6N±0.°1×126.°4E±0.°2, h53km, n30, σ1§10/31, mb4.6/19, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	3.57	346	LR	LR	06 32 34.6	
	comp=Z,2μm,21.4s,baz=130,slow=35						
WRAB	Tennant Creek	24.63	162	*e*P	P	06 35 53.8	+0.9
	27nm,0.8s						
WRA	Warramunga Arr	24.63	162	P	P	06 35 52.6	-0.4
WRA	Warramunga Arr	24.63	162	P	P	06 35 52.6	-0.4
	11nm,0.7s,baz=342,slow=10,SNR=4.5						
KSAR	Wonju Array Be	33.73	2	P	P	06 37 13.8	+0.1
KSRS	Korea Array	33.74	2	P	P	06 37 13.8	0.0
	3.9nm,0.8s,baz=180,slow=9.8,SNR=4.7						
XAN	Xi'an	34.42	334	P	P	06 37 19.6	-0.2
XAN				pP	pP	06 37 29.3	-4.1
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BJT	Baijiatuan	37.45	347	*e*P	P	06 37 45.9	+0.4
	comp=Z,27nm,0.6s						
STKA	Stephens Creek	38.09	159	*e*P	P	06 37 50.6	-0.6
	comp=Z,2.0nm,0.7s						
STKA	Stephens Creek	38.09	159	P	P	06 37 51.2	+0.1
	comp=Z,2.8nm,0.5s,baz=323,slow=11,SNR=2.2						
STKA				LR	LR	06 52 34.8	
	comp=Z,178nm,21.1s,baz=12,slow=35						
USRK	Ussuriysk Arra	40.75	6	P	P	06 38 12.8	-0.2
	comp=Z,1.6nm,0.4s,baz=186,slow=7.2,SNR=4.2						
LSA	Lhasa	42.32	312	*e*P	P	06 38 27.7	+0.9
	comp=Z,9.0nm,0.6s						
SONM	Songino Array	47.35	342	P	P	06 39 06.9	+0.9
SONM				PcP	PcP	06 40 37.3	+1.1
SONM	Songino Array	47.35	342	P	P	06 39 06.9	+0.9
	comp=Z,3.8nm,0.6s,baz=156,slow=8.0,SNR=5.2						
SONM				PcP	PcP	06 40 37.3	+1.1
	comp=Z,1.5nm,0.7s,baz=151,slow=3.3,SNR=3.5						
TLY	Talaya	51.58	342	*e*P	P	06 39 40.0	+1.9
	comp=Z,6.1nm,0.8s						
PETK	Petropavlovsk-	55.68	22	P	P	06 40 08.2	+0.1
PETK	Petropavlovsk-	55.68	22	P	P	06 40 08.2	+0.1
	comp=Z,7.8nm,0.9s,baz=190,slow=6.8,SNR=4.4						
MKAR	Makanchi Array	57.51	325	P	P	06 40 21.4	+0.1
MKAR	Makanchi Array	57.51	325	P	P	06 40 21.4	+0.1
	comp=Z,2.4nm,0.5s,baz=116,slow=8.1,SNR=4.1						
ZALV	Zalesovo Beam	60.59	333	P	P	06 40 41.2	-1.1
ZALV	Zalesovo Beam	60.59	333	P	P	06 40 41.2	-1.1
	comp=Z,2.0nm,0.6s,baz=135,slow=6.6,SNR=3.8						
KBL	Kabul	61.38	308	*e*P	P	06 40 48.7	+0.3
	comp=Z,6.5nm,0.7s						
KURK	Kurchatov	61.71	328	*e*P	P	06 40 49.8	-0.2
	comp=Z,7.2nm,0.5s						
KKAR	Karatay Array	63.14	317	*e*P	P	06 41 00.6	+0.8
	comp=Z,4.1nm,0.6s						
BVAR	Borovoye Array	67.29	327	LR	LR	07 09 29.6	
	comp=Z,23nm,21.4s,baz=226,slow=35						
BRVK	Borovoye	67.36	327	*e*P	P	06 41 28.0	+1.2
	comp=Z,17nm,1.1s						
AKASG	Malin Array Be	91.82	321	P	P	06 43 39.0	-0.6
AKASG	Malin Array Be	91.82	321	P	P	06 43 39.0	-0.6
	comp=Z,0.4nm,0.4s,baz=70,slow=4.9,SNR=4.6						
NOA	NORSAR Array B	98.79	334	P	P	06 44 10.5	-0.7
NOA	NORSAR Array B	98.79	334	P	P	06 44 10.5	-0.7
	comp=Z,1.1nm,0.6s,baz=67,slow=4.6,SNR=3.7						

IDC ***13*** *06:37:10.5±0.6, 4.°07N×126.°66E, h0km, mb4.4/18, mb1 4.4/18, mb1mx4.4/24, mbtmp4.3/18, MS3.8/1, Ms1 3.8/1, ms1mx2.7/29, Error ellipse: s-maj=26.1km s-min=14.5km az=74.0*

ISCJB ***13*** *06:37:13.8±0.4, 4.°07N±0.°07×126.°7E±0.°1, h36km, mb4.4/24, MS3.7/1, Error ellipse: s-maj=15.8km s-min=8.1km az=159.1*

NEIC ***13*** *06:37:15.5±0.4, 4.°13N×126.°86E, h35km, mb4.6/9, Error ellipse: s-maj=13.8km s-min=7.8km az=75.0*

DJA ***13*** *06:37:24, 3.°67N×126.°59E, h46km, mb4.6/7*

ISC 13 06:37:15.8±0.6, 4.°04N±0.°08×126.°8E±0.°1, h36km, n60, σ0§99/61, mb4.5/23, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	General Santos	2.75	318	*e*P	Pn	06 38 00.2	+2.8
CTBH	Cotabato--PC H	4.06	321	⇓*i*P	Pn	06 38 18.2	+2.8
KSM	Kuching	16.67	262	*e*P	P	06 41 10.4	+1.5
	27nm,0.9s						
FITZ	Fitzroy Crossi	22.03	183	*e*P	P	06 42 08.4	+1.0
	17nm,1.2s						
FITZ	Fitzroy Crossi	22.03	183	*e*P	P	06 42 07.4	0.0
	8.3nm,0.5s						
FITZ	Fitzroy Cossi	22.03	183	P	P	06 42 06.4	-0.9
	6.4nm,0.8s,baz=36,slow=8.7,SNR=10						
WRAB	Tennant Creek	24.95	163	*e*P	P	06 42 35.7	-0.3
	23nm,0.8s						
MBWA	Marble Bar	25.99	195	*e*P	P	06 42 45.8	+0.5
	14nm,0.8s						
CBIJ	Chichi jima	27.23	31	LR	LR	06 53 42.7	
	comp=Z,199nm,18.2s,baz=188,slow=36						
PSI	Prapat	27.86	268	P	P	06 43 00.8	-1.7
PSI	Prapat	27.86	268	P	P	06 43 00.8	-1.7
	3.2nm,0.5s,baz=172,slow=16,SNR=4.9						
ASAR	Alice Springs	28.40	166	P	P	06 43 07.1	+0.1
ASAR	Alice Springs	28.40	166	P	P	06 43 07.1	+0.1
	1.0nm,0.6s,baz=353,slow=7.7,SNR=13						
CMAR	Chiang Mai Arr	30.78	300	P	P	06 43 28.2	-0.1
CMAR	Chiang Mai Arr	30.78	300	P	P	06 43 28.2	-0.1
	3.5nm,0.8s,baz=118,slow=7.3,SNR=12						
FORT	Forrest	34.65	178	*e*P	P	06 44 02.0	+0.2
	27nm,0.9s						
STKA	Stephens Creek	38.39	160	*e*P	P	06 44 34.5	+0.7
	2.3nm,0.8s						
STKA	Stephens Creek	38.39	160	P	P	06 44 35.0	+1.1
	11nm,0.8s,baz=337,slow=8.2,SNR=13						
USRK	Ussuriysk Arra	40.26	6	P	P	06 44 49.7	+0.5
	2.5nm,0.8s,baz=206,slow=8.4,SNR=3.2						
LSA	Lhasa	42.29	311	*e*P	P	06 45 06.4	-0.3
	5.4nm,0.6s						
TAPN	Taplejung	43.90	306	*e*P	P	06 45 18.5	-1.1
	10nm,0.7s						
ODAN	Odare	43.95	305	*e*P	P	06 45 19.1	-0.8
	21nm,0.8s						
RAMN	Ramite	44.63	305	*e*P	P	06 45 25.0	-0.4
JIRN	Jiri	45.25	306	*e*P	P	06 45 29.9	-0.6
	3.4nm,0.6s						
GUN	Gumba	45.60	306	*e*P	P	06 45 32.5	-0.7
	22nm,0.8s						
DMN	Daman	46.11	305	*e*P	P	06 45 36.2	-1.0
GKN	Gorkha	46.65	305	*e*P	P	06 45 40.0	-1.2
	5.9nm,0.3s						
SONM	Songino Array	47.03	341	P	P	06 45 42.9	-0.9
SONM				PcP	PcP	06 47 16.5	+0.8
SONM	Songino Array	47.03	341	P	P	06 45 42.9	-0.9
	2.0nm,0.7s,baz=152,slow=8.2,SNR=7.4						
SONM				PcP	PcP	06 47 16.5	+0.8
	1.4nm,0.8s,baz=141,slow=5.0,SNR=4.3						
KOLN	Koldanda	47.41	305	*e*P	P	06 45 46.6	-0.6
	24nm,0.6s						
DANN	Dangsing	47.50	305	*e*P	P	06 45 47.2	-0.8
	30nm,0.6s						
PETK	Petropavlovsk-	55.11	22	P	P	06 46 44.6	+0.3
PETK	Petropavlovsk-	55.11	22	P	P	06 46 44.6	+0.3
	1.5nm,0.7s,baz=216,slow=1.2,SNR=3.6						
MK31	Makanchi Array	57.34	325	*e*P	P	06 46 59.7	-0.7
MKAR	Makanchi Array	57.34	325	P	P	06 46 59.7	-0.7
MKAR	Makanchi Array	57.34	325	P	P	06 46 59.7	-0.7
	5.7nm,0.6s,baz=117,slow=8.0,SNR=64						
ZAA0	Zalesovo Array	60.35	333	*e*P	P	06 47 19.6	-1.5
ZALV	Zalesovo Beam	60.35	333	P	P	06 47 19.9	-1.2
ZALV	Zalesovo Beam	60.35	333	P	P	06 47 19.9	-1.2
	1.8nm,0.4s,baz=124,slow=7.1,SNR=9.5						
KURBB	Kurchatov Arra	61.52	327	P	P	06 47 28.4	-0.7
	5.9nm,0.6s,baz=128,slow=6.3,SNR=84						
KURK	Kurchatov	61.52	327	*e*P	P	06 47 27.8	-1.3
	9.7nm,0.6s						
BVAR	Borovoye Array	67.10	327	P	P	06 48 05.7	0.0
BVAR	Borovoye Array	67.10	327	P	P	06 48 05.7	0.0
	5.2nm,0.7s,baz=127,slow=9.2,SNR=16						
AKTO	Aktyubinsk	73.46	322	P	P	06 48 44.0	-0.6
AKTO	Aktyubinsk	73.46	322	P	P	06 48 44.0	-0.6
	4.1nm,0.8s,baz=102,slow=9.0						
ARU	Arti	74.72	328	*e*P	P	06 48 51.2	-0.6
	4.8nm,0.5s						
ILAR	Eielson Array	84.79	25	P	P	06 49 46.5	+0.2
ILAR	Eielson Array	84.79	25	P	P	06 49 46.5	+0.2
	0.9nm,1.0s,baz=245,slow=7.1,SNR=5.8						
ARCES	ARCESS Array B	90.18	340	P	P	06 50 10.9	-1.3
ARCES	ARCESS Array B	90.18	340	P	P	06 50 10.9	-1.3
	5.6nm,1.1s,baz=49,slow=5.5,SNR=9.3						
FINES	FINESS Array B	91.59	332	P	P	06 50 18.8	-0.1
FINES	FINESS Array B	91.59	332	P	P	06 50 18.8	-0.1
	1.3nm,0.7s,baz=45,slow=5.7,SNR=5.6						
AKASG	Malin Array Be	91.70	321	P	P	06 50 18.1	-1.4
AKASG	Malin Array Be	91.70	321	P	P	06 50 18.1	-1.4
	1.3nm,0.6s,baz=68,slow=4.3,SNR=4.8						
YKA	Yellowknife Ar	99.19	24	P	Pdif	06 50 53.5	+0.1
YKA	Yellowknife Ar	99.19	24	P	Pdif	06 50 53.5	+0.1
	0.2nm,0.8s,baz=284,slow=2.5,SNR=3.4						
SCHQ	Schefferville	120.25	9	PKP	PKPdf	06 56 04.0	+0.9
SCHQ	Schefferville	120.25	9	PKP	PKPdf	06 56 04.0	+0.9
	1.8nm,0.8s,baz=23,slow=4.4,SNR=5.9						
TORD	Torodi Ar. Bea	122.89	288	PKP	PKPdf	06 56 09.4	+0.1
TORD	Torodi Ar. Bea	122.89	288	PKP	PKPdf	06 56 09.4	+0.1
	1.2nm,0.9s,baz=57,slow=1.3,SNR=4.8						

DDA ***13*** *06:43:40.8, 38.°04N×37.°90E, h7km, MD2.8*

ISCJB ***13*** *06:43:41.5±1.8, 38.°06N±0.°07×38.°0E±0.°1, h9km, Error ellipse: s-maj=14.2km s-min=9.0km az=150.8*

ISC 13 06:43:41.1±2.0, 38.°04N±0.°09×37.°93E±0.°10, h9km, n4, σ0§45/6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKCD	Akcadag	0.26	359	*i*P	Pg	06 43 46.1	-0.3
AKCD				*i*S	Sg	06 43 50.4	+0.4
MALT	Malatya	0.48	55	*e*PG	Pg	06 43 50.3	-0.2
MALT				*e*SG	Sg	06 43 57.1	+0.2
MYA	Malatya	0.49	53	*e*PG	Pg	06 43 50.2	-0.4
URFA	Urfa	0.92	130	*e*PG	Pn	06 44 00.5	+0.2

ROM 13 06:59:10.8±0.1, 43.°64N×12.°08E, h8km±1km, Md1.7/6, Ml1.7/5,1C, Error ellipse: s-maj=1.9km s-min=1.7km az=1.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRE	Caprese Michel	0.10	258	⇑*i*Pg	Pg	06 59 13.4	+0.2
CRE					Sg	06 59 15.3	+0.4
PARC	Parchiule	0.12	85	Pg	Pg	06 59 13.7	+0.2
PARC					Sg	06 59 15.7	+0.4
	532nm,0.3s						
BADI	Badiali	0.18	137	Pg	Pg	06 59 15.5	+1.0
BADI					Sg	06 59 18.4	+1.5
	114nm,0.4s						
SFI	Santa Sofia	0.31	328	Pg	Pg	06 59 17.9	+0.8
CAFI	Castiglion Fio	0.32	195	Pg	Pb	06 59 19.2	+0.3
CAFI					Sg	06 59 22.6	+1.1
	52nm,0.3s						
PIEI	Pieia	0.35	107	Pg	Pg	06 59 18.5	+0.8
PIEI					Sg	06 59 23.8	-1.3
	67nm,0.2s						
FSSB	Fossombrone	0.51	84	Pg	Pb	06 59 21.8	-0.3
FSSB					Sg	06 59 29.4	-0.3

CSEM ***13*** *06:59:14.7, 43.°64N×12.°08E, h9km, MD1.2/4, After ROM*

ROM 13 06:59:15.0±0.3, 43.°65N×12.°08E, h8km, 3km, Md1.6/3, Ml1.7/4, Error ellipse: s-maj=3.9km s-min=2.6km az=30.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRE	Caprese Michel	0.09	255	Pg	Pg	06 59 17.5	0.0
CRE					Sg	06 59 19.5	+0.3
CRE	Caprese Michel	0.09	255	Pg	Pg	06 59 17.6	+0.1
CRE					Sg	06 59 19.5	+0.3
PARC	Parchiule	0.12	88	Pg	Pg	06 59 17.9	+0.2
PARC					Sg	06 59 19.9	+0.3
	532nm,0.3s						
PARC	Parchiule	0.12	88	Pg	Pg	06 59 17.9	+0.2
PARC					Sg	06 59 20.0	+0.4
	532nm,0.3s						
BADI	Badiali	0.18	138	Pg	Pg	06 59 20.2	+1.4
BADI					Sg	06 59 22.4	+1.0
	114nm,0.4s						
BADI	Badiali	0.18	138	Sg	Sg	06 59 22.5	+1.1
	114nm,0.4s						
SFI	Santa Sofia	0.31	328	Pg	Pb	06 59 23.1	+0.2
SFI					Sg	Sg	06 59 26.6	+1.3
	252nm,1.8s						
SFI	Santa Sofia	0.31	328	Pg	Pg	06 59 22.0	+0.8
	252nm,1.8s						
CAFI	Castiglion Fio	0.33	194	Pg	Pb	06 59 23.3	+0.2
CAFI					Sg	06 59 26.8	+1.0
	52nm,0.3s						
CAFI	Castiglion Fio	0.33	194	Sg	Sg	06 59 26.9	+1.1
	52nm,0.3s						
PIEI	Pieia	0.35	108	Pg	Pg	06 59 22.1	+0.1
PIEI					Sg	06 59 28.0	+1.3
	67nm,0.2s						

CSEM 13 06:59:33.5, 43.°65N×12.°07E, h9km, MD1.2/3, After ROM, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRE	Caprese Michel	0.10	249	Pg	Pg	06 59 36.5	+0.4
CRE					Sg	06 59 38.3	+0.3
PARC	Parchiule	0.12	93	Pg	Pg	06 59 36.9	+0.5
PARC					Sg	06 59 39.0	+0.6
	532nm,0.3s						
BADI	Badiali	0.19	139	Pg	Pg	06 59 38.2	+0.7
BADI					Sg	06 59 41.5	+1.2
	114nm,0.4s						
ASQU	Asqua	0.25	305	Pg	Pg	06 59 39.2	+0.5
	59nm,0.6s						
SFI	Santa Sofia	0.30	327	Pg	Pb	06 59 40.4	-0.7
	252nm,1.8s						
CAFI	Castiglion Fio	0.33	193	Pg	Pg	06 59 40.9	+0.7
	52nm,0.3s						
PIEI	Pieia	0.36	109	Pg	Pg	06 59 41.0	+0.4
PIEI					Sg	06 59 46.9	-0.9
	67nm,0.2s						

THE ***13*** *07:00:53.5, 38.°41N×22.°02E, h11km±1km, ML1.8/4, Error ellipse: s-maj=1.1km s-min=0.5km az=224.0*

ISCJB ***13*** *07:00:54.1±0.5, 38.°43N±0.°03×22.°01E±0.°03, h4km±8km, Error ellipse: s-maj=5.8km s-min=4.5km az=11.3*

CSEM ***13*** *07:00:54.3±0.4, 38.°42N×22.°00E, h1km±4km, ML1.8/4, Error ellipse: s-maj=7.0km s-min=5.8km az=169.0*

ATH ***13*** *07:00:55.3, 38.°48N×21.°85E, h5km±3km, MD2.9/5*

ISC 13 07:00:54.3±1.1, 38.°42N±0.°03×22.°03E±0.°02, h7km±6km, n19, σ0§51/36, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRIZ	Trizonia	0.07	148	P	Pg	07 00 55.6	-0.5
TRIZ				S	Sg	07 00 57.3	-0.1
TRIZ	Trizonia	0.07	148	P	Pg	07 00 55.6	-0.5
TRIZ				S	Sg	07 00 57.3	-0.1
KALE	Kalithea	0.09	110	P	Pg	07 00 56.2	-0.4
KALE				S	Sg	07 00 58.3	+0.2
KALE	Kalithea	0.09	110	P	Pg	07 00 56.2	-0.4
KALE				S	Sg	07 00 58.3	+0.2
EFP	Efpalio	0.10	273	P	Pg	07 00 56.2	-0.3
EFP				S	Sg	07 00 58.2	+0.1
EFP	Efpalio	0.10	273	*e*PG	Pg	07 00 56.2	-0.3
EFP				*e*SG	Sg	07 00 58.2	+0.1
EFP	Efpalio	0.10	273	*e*Pg	Pg	07 00 56.3	-0.3
EFP				S	Sg	07 00 58.2	+0.1
LAKA	Lakka	0.19	192	P	Pg	07 00 57.4	-0.7
LAKA				S	Sg	07 01 00.5	-0.2
LAKA	Lakka	0.19	192	P	Pg	07 00 57.4	-0.7
LAKA				S	Sg	07 01 00.5	-0.2
DSF	Desfina	0.39	92	P	Pg	07 01 01.0	-1.0
DSF				S	Sg	07 01 07.5	+0.4
DSF	Desfina	0.39	92	P	Pg	07 01 01.0	-1.0
DSF				S	Sg	07 01 07.5	+0.4
EVR	Evrytania	0.52	341	*e*PB	Pg	07 01 04.0	-0.4
EVR				*e*SB	Sg	07 01 10.8	-0.5
EVR	Evrytania	0.52	341	*e*Pg	Pg	07 01 04.0	-0.4
EVR				*e*Sg	Sg	07 01 10.8	-0.5
RLS	Riolos of Patr	0.57	231	*e*PB	Pg	07 01 04.6	-0.8
RLS				*e*SB	Sg	07 01 13.2	+0.4
RLS	Riolos of Patr	0.57	231	*e*Pg	Pg	07 01 04.6	-0.8
RLS				*e*Sg	Sg	07 01 13.2	+0.4
LKR	Lokris	0.80	73	*e*PB	Pn	07 01 12.7	+0.8
LKR	Lokris	0.80	73	*e*Pg	Pn	07 01 12.7	+0.8
THL	Klokotos Trika	1.14	359	*e*PB	Pg	07 01 15.9	-0.3
THL				*e*SB	Sg	07 01 30.6	-0.4
THL	Klokotos Trika	1.14	359	*e*Pg	Pg	07 01 15.9	-0.3
THL				*e*Sg	Sg	07 01 30.6	-0.4

IDC 13 07:12:26.0±3.9, 4.°77N×127.°94E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=379.2km s-min=24.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.35	166	P	P	07 17 53.5	-1.5
	0.6nm,0.5s,baz=333,slow=11,SNR=7.0						
ASAR	Alice Springs	28.86	169	P	P	07 18 27.8	+1.3
	0.2nm,0.3s,baz=338,slow=7.2,SNR=3.3						
STKA	Stephens Creek	38.69	161	P	P	07 19 51.8	0.0
	1.0nm,0.6s,baz=340,slow=10,SNR=3.2						
MKAR	Makanchi Array	57.41	324	P	P	07 22 16.4	-0.1
	0.2nm,0.4s,baz=121,slow=7.5,SNR=7.0						

IDC 13 07:14:52.7±2.6, 4.°17N×127.°07E, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.9/3, MS3.7/2, Ms1 3.7/2, ms1mx2.7/32, Error ellipse: s-maj=385.2km s-min=21.0km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	Kappang	11.69	219	LR	LR	07 21 59.1	
	comp=Z,45nm,18.1s,baz=318,slow=36					

8µm,0.3s,baz=163,slow=20,SNR=68
DZM Mont Dzumac 13.86 153 Pn **Pn 07 50 27.7 -0.1**
DZM Mont Dzumac 13.86 153 Pn **Pn 07 50 27.7 -0.1**
0.1nm,0.3s,baz=294,slow=20,SNR=2.5
CTA Charters Tower 16.53 230 Pn **Pn 07 51 05.0 +1.8**
CTA Charters Tower 16.53 230 Pn **Pn 07 51 05.0 +1.8**
0.2nm,0.3s,baz=73,slow=15,SNR=4.9
CTA LR LR 07 56 41.6
comp=Z,99nm,18.5s,baz=52,slow=34
CTAO Charters Tower 16.53 230 *eP* **P 07 51 07.4 +1.8**
4.8nm,0.7s
WRAB Tennant Creek 26.45 245 *eP* **P 07 52 47.1 -1.1**
9.5nm,0.9s
WRA Warramunga Arr 26.47 245 P **P 07 52 47.8 -0.5**
WRA Warramunga Arr 26.47 245 P **P 07 52 47.8 -0.5**
2.7nm,0.8s,baz=72,slow=9.9,SNR=8.8
STKA Stephens Creek 27.66 215 *eP* **P 07 52 58.2 -0.7**
0.7nm,0.6s
STKA Stephens Creek 27.66 215 P **P 07 52 57.9 -1.0**
3.1nm,0.5s,baz=43,slow=13,SNR=7.1
ASAR Alice Springs 28.23 237 P **P 07 53 02.6 -1.5**
ASAR Alice Springs 28.23 237 P **P 07 53 02.6 -1.5**
1.8nm,0.9s,baz=61,slow=9.9,SNR=12
MJAR Matsushiro Arr 50.29 337 P **P 07 56 06.0 -1.5**
MJAR Matsushiro Arr 50.29 337 P **P 07 56 06.0 -1.5**
1.4nm,0.3s,baz=170,slow=9.2,SNR=6.4
MAJO Matsushiro 50.29 337 *eP* **P 07 56 06.9 -0.5**
7.9nm,0.6s
KSRS Korea Array 55.59 329 LR LR 08 17 43.2
comp=Z,481nm,20.1s,baz=195,slow=33
ASAJ Asahikawa 55.81 345 P **P 07 56 49.0 +1.0**
ASAJ Asahikawa 55.81 345 P **P 07 56 49.0 +1.0**
4.8nm,0.6s,baz=197,slow=11,SNR=4.2
PETK Petropavlovsk- 62.64 359 P **P 07 57 34.6 -0.5**
PETK Petropavlovsk- 62.64 359 P **P 07 57 34.6 -0.5**
3.4nm,0.6s,baz=170,slow=7.4,SNR=6.2
CMAR Chiang Mai Arr 66.15 295 P **P 07 57 59.6 +0.9**
CMAR Chiang Mai Arr 66.15 295 P **P 07 57 59.6 +0.9**
1.1nm,0.3s,baz=116,slow=4.8,SNR=10
SONM Songino Array 74.18 326 P **P 07 58 47.9 +0.3**
SONM Songino Array 74.18 326 P **P 07 58 47.9 +0.3**
1.6nm,0.6s,baz=145,slow=5.7,SNR=5.4
COLA College 84.02 20 *eP* **P 07 59 39.9 -1.0**
3.9nm,0.8s
ILAR Eielson Array 84.29 20 P **P 07 59 41.4 -0.9**
ILAR Eielson Array 84.29 20 P **P 07 59 41.4 -0.9**
1.5nm,0.5s,baz=247,slow=5.3,SNR=50
MKAR Makanchi Array 88.53 318 P **P 08 00 03.1 -0.4**
MKAR Makanchi Array 88.53 318 P **P 08 00 03.1 -0.4**
1.1nm,0.7s,baz=96,slow=5.8,SNR=14
KURK Kurchatov 91.86 321 P **P 08 00 18.1 -0.8**
KURBB Kurchatov Arra 91.90 321 P **P 08 00 18.1 -1.0**
0.3nm,0.3s,baz=108,slow=3.3,SNR=4.5
BVAR Borovoye Array 97.28 322 P P 08 00 41.2 -2.5
BVAR Borovoye Array 97.28 322 P P 08 00 41.2 -2.5
0.5nm,0.5s,baz=96,slow=6.0,SNR=4.1

IDC ***13*** *07:47:21.1±0.6,22°.98S×70°.62W,h0km,mb4.5/14, mb1 4.6/16,mb1mx4.5/19,mbtmp4.5/16,ML4.2/2,MS3.9/5, Ms1 3.9/5,ms1mx3.6/20,Error ellipse: s-maj=19.0km s-min=14.7km az=77.0*
GUC ***13*** *07:47:22.0±0.9,23°.09S×70°.83W,h28km±7km,ML4.9*
ISCJB ***13*** *07:47:23.6±0.9,23°.04S±0°.03×70°.72W±0°.05,h21km±6km, mb4.7/71,MS4.2/3,Error ellipse: s-maj=7.8km s-min=5.7km az=172.2*
BJI ***13*** *07:47:23.8,23°.67S×70°.17W,h27km,mB4.9/5,Ms5.5/4, Ms7 5.2/4*
NEIC ***13*** *07:47:25.3±2.1,23°.09S×70°.61W,h26km±15km,mb4.8/59, Error ellipse: s-maj=9.2km s-min=6.1km az=78.0*
NEIC Felt at Antofagasta.
ISC 13 07:47:25.2±0.7,23°.02S±0°.04×70°.66W±0°.06,h26km±4km, n458,σ1s22/478,mb4.8/71,MS4.2/3,178C-148D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MECH	**Mejillones**	**0.21**	**113**	⇓*iP*	P		**Pb**	**07 47 29.6**	**-1.5**
MECH				*i* S			**Sb**	**07 47 34.4**	**-0.7**
MECH				AML			AML	07 47 39.6	
	comp=E,390µm,0.4s								
PB07	**Plate Boundary**	**1.47**	**29**	⇓*eP*			**Pn**	**07 47 49.8**	**-0.5**
PB07				*i* S			**Sb**	**07 48 10.7**	**+0.3**
PB07				AML			AML	07 48 16.5	
	comp=N,13µm,0.9s								
LVC	**Limon Verde**	**1.66**	**76**	*e*P	n		**Pn**	**07 47 53.7**	**+0.7**
LVC				*e*S	n		**Sb**	**07 48 17.0**	**+1.0**
PB09	**Plate Boundary**	**1.79**	**47**	⇑*eP*			**Pn**	**07 47 55.6**	**+1.0**
PB09				*i* S			**Sb**	**07 48 21.0**	**+1.5**
PB09				AML			AML	07 48 28.5	
	comp=N,39µm,0.7s								
PB01	**Plate Boundary**	**2.25**	**29**	⇓*eP*			**Pn**	**07 48 00.9**	**0.0**
PB01				*i* S			**Sb**	**07 48 31.4**	**-1.3**
PB01				AML			AML	07 48 45.1	
	comp=E,3µm,0.7s								
HMBC	**Humberstone**	**2.82**	**15**	*e*P	n		**Pn**	**07 48 07.5**	**-1.3**
PSGC	**Pisagua**	**3.44**	**8**	*e*P	n		**Pn**	**07 48 15.9**	**-1.4**
LCO	**Las Campanas**	**5.97**	**180**	*e*Pn			Pn	07 48 48.9	-3.3
LCO				*e*Sn			Sb	07 50 12.2	-7.6
LPAZ	**La Paz**	**7.11**	**20**	*e*Pn			**Pn**	**07 49 10.8**	**+2.6**
LPAZ	**La Paz**	**7.11**	**20**	Pn			**Pn**	**07 49 10.7**	**+2.5**
	comp=E,1.2nm,0.3s,baz=199,slow=6.2,SNR=24								
LPAZ				LR			LR	07 51 42.0	
	comp=E,217nm,19.6s,baz=30,slow=37								
CFAA	**Coronel Fontan**	**8.82**	**166**	Pn			**Pn**	**07 49 28.3**	**-2.8**
CFAA				Sn			**Sn**	**07 51 13.6**	**+3.9**
CFAA	**Coronel Fontan**	**8.82**	**166**	Pn			**Pn**	**07 49 28.3**	**-2.8**
	comp=E,0.1nm,0.3s,baz=341,slow=13,SNR=14								
CFAA				Sn			**Sn**	**07 51 13.6**	**+3.9**
	comp=E,0.6nm,0.3s,baz=159,slow=17,SNR=2.3								
SIV	**San Ignacio**	**11.42**	**54**	Pn			**Pn**	**07 50 05.8**	**-1.1**
SIV				Sn			**Sn**	**07 52 12.7**	**-1.1**
SIV	**San Ignacio**	**11.42**	**54**	Pn			**Pn**	**07 50 05.8**	**-1.1**
	comp=E,1.6nm,0.3s,baz=252,slow=13,SNR=57								
SIV				Sn			**Sn**	**07 52 12.7**	**-1.1**
	baz=143,slow=19,SNR=1.5								
CPUP	**Villa Florida**	**12.56**	**108**	*e*Pn			**Pn**	**07 50 22.6**	**+0.2**
SAML	**Samuel**	**15.72**	**28**	*e*P			**P**	**07 51 09.4**	**+0.6**
	comp=E,10nm,0.9s								
TRQA	**Tornquist**	**16.73**	**156**	*e*P			**Pn**	**07 51 17.9**	**-0.1**
	comp=E,47nm,1.0s								
ATAH	**Atahualpa**	**17.46**	**334**	P			**P**	**07 51 29.4**	**+0.8**
ATAH	**Atahualpa**	**17.46**	**334**	P			**P**	**07 51 29.4**	**+0.8**
	comp=E,0.2nm,0.3s,baz=69,slow=16,SNR=3.8								
ATAH				LR			LR	07 57 17.2	
	comp=E,233nm,20.5s,baz=159,slow=34								
PLCA	**Paso Flores**	**17.66**	**180**	*e*P			**P**	**07 51 30.0**	**-0.4**
	comp=E,38nm,1.4s								
PLCA	**Paso Flores**	**17.66**	**180**	P			**Pn**	**07 51 29.6**	**+0.1**
	comp=E,0.1nm,0.3s,baz=5.5,slow=10,SNR=9.1								
BDFB	**Brasilia**	**22.58**	**75**	P			**P**	**07 52 23.4**	**-0.5**
BDFB	**Brasilia**	**22.58**	**75**	P			**P**	**07 52 23.4**	**-0.5**
	comp=E,8.7nm,0.7s,baz=255,slow=12,SNR=5.2								
BDFB				LR			LR	08 02 46.5	
	comp=E,542nm,18.7s,baz=230,slow=41								
OTAV	**Otavalo**	**24.33**	**341**	*e*P			**P**	**07 52 44.6**	**+3.1**
	comp=E,10nm,0.9s								
ROSC	**El Rosal**	**27.94**	**352**	P			**P**	**07 53 17.0**	**+3.0**
ROSC	**El Rosal**	**27.94**	**352**	P			**P**	**07 53 17.0**	**+3.0**
	comp=E,2.2nm,0.4s,baz=108,slow=16,SNR=3.1								
RCBR	**Riachuelo**	**37.60**	**68**	*e*P			**P**	**07 54 39.3**	**+1.1**
	comp=E,43nm,1.2s								
RCBR	**Riachuelo**	**37.60**	**68**	P			**P**	**07 54 39.0**	**+0.9**
	comp=E,16nm,0.9s,baz=221,slow=11,SNR=6.4								
SJG	**San Juan**	**41.12**	**7**	P			**P**	**07 55 05.2**	**-2.0**
SJG	**San Juan**	**41.12**	**7**	P			**P**	**07 55 05.2**	**-2.0**
	comp=E,17nm,0.7s,baz=272,slow=5.5,SNR=4.2								
PMSA	**Palmer Station**	**41.97**	**176**	P			**P**	**07 55 14.2**	**+0.5**
PMSA	**Palmer Station**	**41.97**	**176**	P			**P**	**07 55 14.2**	**+0.5**
	comp=E,13nm,0.9s,baz=325,slow=6.7,SNR=3.6								
BRAL	**Brewton**	**55.98**	**343**	*e*P			**P**	**07 57 02.0**	**+0.5**
	comp=E,23nm,0.9s								
LRAL	**Lakeview Retre**	**57.88**	**344**	*e*P			**P**	**07 57 12.9**	**-2.0**
	comp=E,28nm,1.7s								
KMSC	**Kings Mountain**	**58.72**	**350**	⇑P			**P**	**07 57 20.1**	**-0.6**
	baz=59								
CPCT	**Cooper Cave**	**59.62**	**347**	*e*P			**P**	**07 57 26.5**	**-0.5**
TKL	**Tuckaleechee C**	**59.66**	**348**	*e*P			**P**	**07 57 26.6**	**-0.8**
SWET	**Sewanee**	**59.70**	**346**	*e*P			**P**	**07 57 26.6**	**-1.0**
	comp=E,33nm,1.3s								
PLAL	**Pickwick Lake**	**60.01**	**344**	*e*P			**P**	**07 57 28.6**	**-1.1**
	comp=E,20nm,1.2s								
JCT	**Junction City**	**60.10**	**331**	*e*P			**P**	**07 57 30.8**	**+0.3**
	comp=E,10nm,0.8s								
JCT	**Junction City**	**60.10**	**331**	⇓P			**P**	**07 57 30.3**	**-0.2**
	baz=60,SNR=6.1								
628A	**Black Gap, Mar**	**60.72**	**328**	⇑P			**P**	**07 57 35.4**	**+0.7**
	baz=61								
TXAR	**Lajitas Array**	**60.98**	**327**	P			**P**	**07 57 36.9**	**+0.3**
TXAR	**Lajitas Array**	**60.98**	**327**	P			**P**	**07 57 36.9**	**+0.3**
	comp=E,1.0nm,0.8s,baz=153,slow=6.9,SNR=12								
WVT	**Waverly**			**61.03 344**	*e*P		**P**	**07 57 35.4**	**-1.2**
	comp=E,19nm,1.1s								
528A	**Cox Ranch, San**	**61.23**	**328**	⇑P			**P**	**07 57 38.1**	**-0.1**
	baz=62,SNR=7.2								
MIAR	**Mount Ida**	**61.25**	**338**	*e*P			**P**	**07 57 38.1**	**0.0**
	comp=E,19nm,1.1s								
626A	**Big Bend Ranch**	**61.39**	**327**	⇑P			**P**	**07 57 40.1**	**+0.7**
	baz=62,SNR=14								
527A	**Woodward Ranch**	**61.62**	**328**	⇓P			**P**	**07 57 41.0**	**+0.1**
	baz=62								
428A	**Kincaid Ranch,**	**61.64**	**329**	⇓P			**P**	**07 57 41.6**	**+0.6**
	baz=62								
427A	**Hayter Ranch,**	**62.09**	**328**	⇓P			**P**	**07 57 44.3**	**+0.3**
	baz=62								
328A	**Wristen Ranch,**	**62.25**	**329**	⇑P			**P**	**07 57 45.1**	**+0.1**
	baz=63,SNR=7.7								
426A	**McDonald Obser**	**62.25**	**328**	⇑P			**P**	**07 57 45.6**	**+0.3**
	baz=63,SNR=10.0								
229A	**Bryant Ranch,**	**62.27**	**330**	⇑P			**P**	**07 57 45.5**	**+0.3**
	baz=63								
USIN	**University of**	**62.73**	**345**	*e*P			**P**	**07 57 46.5**	**-1.5**
	comp=E,7.2nm,0.6s								
326A	**Caldwell Ranch**	**62.76**	**328**	⇑P			**P**	**07 57 48.6**	**+0.2**
	baz=63								
228A	**UT Block 9, Go**	**62.76**	**330**	⇑P			**P**	**07 57 48.8**	**+0.4**
	baz=63								
425A	**Indio Mountain**	**62.82**	**327**	⇑P			**P**	**07 57 49.2**	**+0.3**
	baz=63,SNR=13								
129A	**Stewart Farms,**	**62.85**	**331**	⇑P			**P**	**07 57 49.6**	**+0.5**
	baz=63								
SIUC	**Southern Illin**	**62.88**	**344**	*e*P			**P**	**07 57 47.5**	**-1.6**
	comp=E,29nm,1.2s								
227A	**Bennet, Jal**	**63.00**	**329**	⇓P			**P**	**07 57 50.5**	**+0.5**
	baz=63								
128A	**Castleberry Fa**	**63.13**	**330**	⇑P			**P**	**07 57 51.1**	**+0.1**
	baz=64								
TUL1	**Tulsa**	**63.25**	**337**	⇓P			**P**	**07 57 50.9**	**-0.6**
	baz=64,SNR=5.5								
325A	**Bean Ranch, Si**	**63.29**	**327**	⇑P			**P**	**07 57 52.2**	**+0.1**
	baz=64,SNR=22								
Z29A	**Hungry Hill Ra**	**63.31**	**331**	⇑P			**P**	**07 57 51.9**	**-0.2**
	baz=64								
WMOK	**Wichita Mounta**	**63.34**	**334**	*e*P			P	07 57 48.2	-4.0
	comp=E,3.7nm,0.9s								
226A	**Malaga, Loving**	**63.43**	**328**	⇑P			**P**	**07 57 53.6**	**+0.7**
	baz=64,SNR=8.0								
FVM	**French Village**	**63.46**	**343**	*e*P			**P**	**07 57 52.0**	**-0.9**
	comp=E,22nm,1.0s								
127A	**Arkansas Junct**	**63.58**	**329**	⇑P			**P**	**07 57 53.9**	**0.0**
	baz=64								
324A	**Moseley Ranch,**	**63.60**	**327**	⇑P			**P**	**07 57 53.4**	**-0.7**
	baz=64,SNR=5.1								
Z28A	**Tucker Farm, M**	**63.64**	**331**	⇓P			**P**	**07 57 53.6**	**-0.7**
	baz=64								
GDL2	**Guadalupe Moun**	**63.67**	**328**	*e*P			**P**	**07 57 55.1**	**+0.5**
	comp=E,2.8nm,0.7s								
MNTX	**Cornudas Mount**	**63.76**	**327**	⇑P			**P**	**07 57 54.2**	**-0.8**
	baz=64,SNR=6.8								
Y29A	**Porterfield Fa**	**63.80**	**331**	⇓P			**P**	**07 57 55.3**	**-0.1**
	baz=64								
225A	**Deer Hill, Car**	**63.82**	**328**	⇓P			**P**	**07 57 55.6**	**0.0**
	baz=64,SNR=5.4								
126A	**Clayton Basin,**	**63.87**	**329**	⇓P			**P**	**07 57 55.9**	**+0.1**
	baz=64								
Z27A	**Tatum**	**64.04**	**330**	⇑P			**P**	**07 57 56.5**	**-0.4**
	baz=64,SNR=6.8								
Y28A	**McKinney Farm,**	**64.10**	**331**	⇑P			**P**	**07 57 56.7**	**-0.6**
	baz=64								
224A	**Cornudas Mount**	**64.13**	**327**	⇑P			**P**	**07 57 57.4**	**-0.3**
	baz=64,SNR=5.1								
125A	**Gardner Draw,**	**64.18**	**328**	⇑P			**P**	**07 57 57.5**	**-0.5**
	baz=64								
X29A	**Tulia**	**64.31**	**332**	⇑P			**P**	**07 57 57.9**	**-0.8**
	baz=65								
Z26A	**Caprock**	**64.36**	**329**	⇑P			**P**	**07 57 59.1**	**0.0**
	baz=65,SNR=8.8								
MSTX	**Muleshoe**	**64.39**	**331**	⇓P			**P**	**07 57 58.9**	**-0.4**
	baz=65,SNR=6.7								
Y27A	**Causey**	**64.49**	**330**	⇑P			**P**	**07 57 59.4**	**-0.5**
	baz=65,SNR=7.5								
124A	**Stringfield Ra**	**64.61**	**328**	⇑P			**P**	**07 58 01.0**	**+0.1**
	baz=65,SNR=6.0								
Z25A	**Roswell**	**64.72**	**329**	⇑P			**P**	**07 58 01.2**	**-0.2**
	baz=65,SNR=5.4								
Z24A	**Sheeppen Canyo**	**65.07**	**328**	⇑P			**P**	**07 58 04.4**	**+0.5**
	baz=65								
320A	**Kipp Ranch, An**	**65.09**	**325**	⇑P			**P**	**07 58 04.8**	**+0.8**
	baz=65								
Y25A	**Mesa, Roswell**	**65.24**	**329**	⇓P			**P**	**07 58 04.2**	**-0.6**
	baz=66,SNR=5.8								
X26A	**CR and CF Fran**	**65.34**	**330**	⇓P			**P**	**07 58 05.6**	**+0.1**
	baz=66								
319A	**Douglas**	**65.53**	**324**	⇑P			**P**	**07 58 07.7**	**+1.0**
	baz=66,SNR=5.3								
220A	**Playas Peak, P**	**65.54**	**325**	⇑P			**P**	**07 58 07.7**	**+0.9**
	baz=66,SNR=8.7								
Y24A	**Capitan**	**65.59**	**329**	⇓P			**P**	**07 58 08.0**	**+0.8**
	baz=66								
121A	**Cookes Peak, D**	**65.64**	**326**	⇓P			**P**	**07 58 08.7**	**+1.2**
	baz=66,SNR=5.2								
V28A	**Channing**	**65.65**	**332**	⇑P			**P**	**07 58 08.1**	**+0.7**
	baz=66								
W26A	**Owens Ranch, T**	**65.77**	**331**	⇓P			**P**	**07 58 09.1**	**+0.8**
	baz=66								
Z22A	**Elephant Butte**	**65.80**	**327**	⇑P			**P**	**07 58 09.7**	**+1.2**
	baz=66,SNR=13								
Y23A	**Lovelace Mesa,**	**65.90**	**328**	⇓P			**P**	**07 58 10.3**	**+1.2**
	baz=66								
MAIT	**Maitri**	**65.97**	**159**	*e*P			**P**	**07 58 10.2**	**+1.3**
MAIT				*e*				07 58 16.5	
120A	**U Bar Ranch, L**	**66.09**	**325**	⇓P			**P**	**07 58 11.8**	**+1.4**
	baz=66								
W25A	**X Bar L Ranch,**	**66.19**	**330**	⇓P			**P**	**07 58 11.6**	**+0.7**
	baz=66								
Z21A	**St. Cloud Mine**	**66.20**	**327**	⇓P			**P**	**07 58 12.8**	**+1.7**
	baz=66								
Y22A	**Socorro**	**66.35**	**327**	⇓P			**P**	**07 58 13.2**	**+1.2**
	baz=67,SNR=5.1								
BNM	**Barren Site**	**66.35**	**328**	*e*P			**P**	**07 58 13.2**	**+1.1**
	comp=E,6.5nm,1.1s								
LPM	**Los Pinos Moun**	**66.48**	**328**	*e*P			**P**	**07 58 13.6**	**+0.7**
Z20A	**Nine Sixteen R**	**66.52**	**326**	⇑P			**P**	**07 58 14.5**	**+1.4**
	baz=67,SNR=6.0								
Y21A	**Point of Rocks**	**66.76**	**327**	⇓P			**P**	**07 58 16.0**	**+1.3**
	baz=67,SNR=5.8								
V25A	**Rancho No Teng**	**66.78**	**330**	⇑P			**P**	**07 58 14.9**	**+0.2**
	baz=67,SNR=6.5								
LAZ	**Ladron**	**66.81**	**328**	*e*P			**P**	**07 58 16.1**	**+1.1**
	comp=E,12nm,1.8s								
U26A	**Atchley Ranch,**	**66.85**	**331**	⇓P			**P**	**07 58 15.5**	**+0.3**
	baz=67,SNR=6.7								
ANMO	**Albuquerque**	**66.92**	**329**	*e*P			**P**	**07 58 16.2**	**+0.6**
	comp=E,21nm,1.7s								
W23A	**Werner Place,**	**66.94**	**329**	⇓P			**P**	**07 58 16.8**	**+1.0**
	baz=67								
T27A	**Campo**	**66.97**	**333**	⇑P			**P**	**07 58 16.5**	**+0.7**
	baz=67								
V24A	**Rampart Ranch,**	**66.99**	**330**	⇓P			**P**	**07 58 17.2**	**+1.0**
	baz=67								
Y20A	**Horse Springs,**	**67.03**	**326**	⇓P			**P**	**07 58 18.1**	**+1.6**
	baz=67								
TUC	**Tucson**	**67.06**	**324**	*e*P			**P**	**07 58 16.4**	**-0.1**
	comp=E,16nm,1.4s								
U25A	**Circle Dot Ran**	**67.15**	**331**	⇓P			**P**	**07 58 17.3**	**+0.2**
	baz=68								
X21A	**Alamocita Cree**	**67.16**	**327**	⇓P			**P**	**07 58 18.8**	**+1.5**
	baz=68,SNR=7.5								
QSPA	**South Pole Qui**	**67.18**	**180**	*e*P			**P**	**07 58 16.7**	**-0.1**
	comp=E,17nm,0.8s								
QSPA				*e*				07 58 23.4	
QSPA	**South Pole Qui**	**67.18**	**180**	P			**P**	**07 58 16.9**	**0.0**
	comp=E,9.6nm,0.8s,baz=149,slow=2.4,SNR=34								
W22A	**Albuquerque**	**67.21**	**328**	⇑P			**P**	**07 58 18.9**	**+1.4**
	baz=68								
CBKS	**Cedar Bluff**	**67.27**	**336**	*e*P			**P**	**07 58 17.7**	**0.0**
	comp=E,28nm,1.1s								
CBKS	**Cedar Bluff**	**67.27**	**336**	⇑P			**P**	**07 58 18.7**	**+1.0**
	baz=68								
V23A	**Ortiz Mt. (NFS**	**67.43**	**329**	⇓P			**P**	**07 58 20.1**	**+1.2**
	baz=68,SNR=7.9								
T26A	**Comanche Natio**	**67.44**	**332**	⇑P			**P**	**07 58 19.3**	**+0.4**
	baz=68,SNR=6.1								
Y19A	**Nutrioso**	**67.52**	**326**	⇓P			**P**	**07 58 21.3**	**+1.7**
	baz=68,SNR=13								
U24A	**Moreno Valley**	**67.55**	**330**	⇑P			**P**	**07 58 21.2**	**+1.5**
	baz=68								
S27A	**Las Animas**	**67.57**	**333**	⇑P			**P**	**07 58 20.2**	**+0.5**
	baz=68								
X20A	**Quemado**	**67.59**	**327**	⇑P			**P**	**07 58 21.5**	**+1.5**
	baz=68								
S26A	**Kim**	**67.76**	**332**	⇓P			**P**	**07 58 21.5**	**+0.6**
	baz=68,SNR=9.0								
T25A	**Trinidad**	**67.77**	**331**	⇑P			**P**	**07 58 22.0**	**+1.0**
	baz=68								
U23A	**El Rito**	**67.91**	**330**	⇑P			**P**	**07 58 23.3**	**+1.4**
	baz=68								
V22A	**San Miguel Ran**	**67.91**	**329**	⇓P			**P**	**07 58 23.3**	**+1.3**
	baz=68,SNR=6.0								
214A	**Organ Pipe Nat**	**67.92**	**322**	⇑P			**P**	**07 58 23.0**	**+1.1**
	baz=68,SNR=6.0								
T24A	**Torres, Weston**	**68.00**	**331**	⇑P			**P**	**07 58 23.7**	**+1.1**
	baz=68								
R27A	**Eads**	**68.04**	**333**	⇑P			**P**	**07 58 23.5**	**+1.0**
	baz=68								
W20A	**Ramah**	**68.06**	**327**	⇑P			**P**	**07 58 24.0**	**+1.1**
	baz=68								
S25A	**Robets Cordova**	**68.21**	**332**	⇓P			**P**	**07 58 24.1**	**+0.4**
	baz=69								
U22A	**Llaves**	**68.26**	**329**	⇓P			**P**	**07 58 25.6**	**+1.5**
	baz=69								
R26A	**Arlington**	**68.32**	**333**	⇓P			**P**	**07 58 25.1**	**+0.7**
	baz=69,SNR=6.3								
X18A	**Snowflake**	**68.33**	**326**	⇑P			**P**	**07 58 26.0**	**+1.4**
	baz=69								
T23A	**Casias Ranch,**	**68.41**	**330**	⇑P			**P**	**07 58 26.9**	**+1.8**
	baz=69								
S24A	**Houchin Ranch,**	**68.54**	**331**	⇓P			**P**	**07 58 27.3**	**+1.3**
	baz=69,SNR=9.1								
114A	**Black Gap (USA**	**68.56**	**323**	⇑P			**P**	**07 58 27.2**	**+1.4**
	baz=69								
V20A	**Brimhall**	**68.57**	**328**	⇑P			**P**	**07 58 27.3**	**+1.2**
	baz=69								
KSCO	**Kaye Shedlock'**	**68.58**	**334**	⇓P			**P**	**07 58 26.9**	**+0.9**
	baz=69								
X17A	**Forest Lakes**	**68.63**	**325**	⇑P			**P**	**07 58 27.9**	**+1.4**
	baz=69,SNR=6.1								
W18A	**Petrified Fore**	**68.67**	**326**	⇓P			**P**	**07 58 28.2**	**+1.4**
	baz=69								
U21A	**Nageezi**	**68.68**	**329**	⇑P			**P**	**07 58 27.9**	**+1.1**
	baz=69,SNR=6.1								
SDCO	**Great Sand Dun**	**68.75**	**331**	*e*P			**P**	**07 58 27.4**	**+0.1**
	comp=E,16nm,1.2s								
SDCO	**Great Sand Dun**	**68.75**	**331**	⇑P			**P**	**07 58 28.2**	**+0.9**
	baz=69,SNR=12								
V19A	**Window Rock**	**68.79**	**327**	⇓P			**P**	**07 58 29.2**	**+1.7**
	baz=69								
T22A	**Edith**	**68.80**	**329**	⇑P			**P**	**07 58 29.1**	**+1.6**
	baz=69								
Q26A	**Hugo**	**68.88**	**333**	⇑P			**P**	**07 58 29.2**	**+1.4**
	baz=69								
R24A	**Sanders Place,**	**68.98**	**331**	⇑P			**P**	**07 58 29.9**	**+1.4**
	baz=69								
BGNE	**Belgrade**	**68.99**	**338**	⇑P			**P**	**07 58 28.7**	**+0.4**
	baz=69								
X16A	**Lo Mia Camp, P**	**69.03**	**325**	⇓P			**P**	**07 58 30.2**	**+1.3**
	baz=69,SNR=7.1								
P27A	**Ficken Ranch,**	**69.03**	**334**	⇑P			**P**	**07 58 29.7**	**+1.0**
	baz=69								
T21A	**Navajo Lake**	**69.08**	**329**	⇓P			**P**	**07 58 30.6**	**+1.4**
	baz=69								
R23A	**Moffat**	**69.26**	**331**	⇓P			**P**	**07 58 31.4**	**+0.9**
	baz=70,SNR=5.4								
P26A	**Davis Ranch, A**	**69.34**	**334**	⇑P			**P**	**07 58 32.2**	**+1.5**
	baz=70								
S22A	**4UR Ranch, Cre**	**69.36**	**330**	⇓P			**P**	**07 58 32.4**	**+1.3**
	baz=70								
O27A	**Beecher Island**	**69.53**	**334**	⇑P			**P**	**07 58 33.7**	**+1.9**
	baz=70								
Q24A	**Divide**	**69.60**	**332**	⇑P			**P**	**07 58 33.3**	**+0.7**
	baz=70,SNR=5.4								
P25A	**Willow Gulch B**	**69.64**	**333**

Q19A	Hogan Spring (	71.46 329	⇓P	P	07 58 45.4 +1.7
	baz=72				
N23A	Red Feather La	71.55 333	⇓P	P	07 58 45.5 +1.2
	baz=72				
M24A	Cheyenne	71.56 334	⇑P	P	07 58 45.4 +1.2
	baz=72				
K27A	Flueckinger Fa	71.59 336	⇑P	P	07 58 45.2 +0.9
	baz=72,SNR=5.3				
GMRC	Granite Mounta	71.61 322	⇑P	P	07 58 45.8 +1.2
	baz=72,SNR=8.2				
S16A	Weppner Ranch,	71.64 327	⇓P	P	07 58 45.6 +0.8
	baz=72,SNR=5.2				
MURC	Murrieta	71.65 320	⇑P	P	07 58 46.0 +1.2
	baz=72				
PHWY	Pilot Hill	71.68 333	eP	P	07 58 45.2 +0.1
	comp=E,4.0nm,1.0s				
N22A	Wattenberg Ran	71.69 332	⇓P	P	07 58 46.2 +1.0
	baz=72				
R17A	Hanksville Air	71.74 328	⇑P	P	07 58 46.4 +1.1
	baz=72,SNR=8.2				
P19A	Cripple Cowboy	71.87 330	⇓P	P	07 58 47.3 +1.0
	baz=72,SNR=11				
M23A	Laramie	71.93 333	⇓P	P	07 58 47.1 +0.5
	baz=72,SNR=5.9				
O20A	White River Ci	71.93 331	⇓P	P	07 58 47.5 +0.9
	baz=72,SNR=5.8				
Q18A	Rafter H Ranch	71.99 329	⇓P	P	07 58 48.4 +1.6
	baz=72				
R16A	Teasdale	72.02 327	⇑P	P	07 58 48.8 +1.6
	baz=72				
HEC	Hector,Ludlow	72.03 322	⇑P	P	07 58 48.7 +1.6
	baz=72				
N21A	Black Mountain	72.12 331	⇓P	P	07 58 48.9 +1.2
	baz=72				
SRU	San Rafael	72.19 328	eP	P	07 58 49.3 +1.2
	comp=E,7.7nm,1.0s				
SRU	San Rafael	72.19 328	⇑P	P	07 58 48.9 +0.8
	baz=72,SNR=8.3				
TUQ	Turquoise Moun	72.24 322	⇑P	P	07 58 49.7 +1.3
	baz=73				
Q16A	Castle Valley	72.35 328	⇑P	P	07 58 50.7 +1.6
	baz=73,SNR=5.8				
R15A	Junction	72.36 327	⇑P	P	07 58 50.7 +1.5
	baz=73				
CCUT	Cedar City	72.41 326	eP	P	07 58 51.4 +1.8
	comp=E,14nm,1.2s				
L23A	Garrett	72.45 333	⇓P	P	07 58 50.4 +0.8
	baz=73				
P18A	Preston Nutter	72.46 329	⇓P	P	07 58 51.1 +1.3
	baz=73,SNR=8.7				
O19A	Miners Draw (B	72.47 330	⇑P	P	07 58 50.7 +1.0
	baz=73,SNR=8.9				
N20A	Spence Gulch,	72.51 331	⇓P	P	07 58 51.0 +1.0
	baz=73,SNR=6.4				
MSU	Marysvale	72.54 327	eP	P	07 58 51.5 +1.3
P17A	Butcher Ranch,	72.58 329	⇑P	P	07 58 51.6 +1.2
	baz=73,SNR=9.3				
ARUT	Antelope Range	72.63 326	eP	P	07 58 52.7 +1.9
	comp=E,20nm,1.3s				
GSC	Goldstone	72.64 322	⇑P	P	07 58 51.9 +1.2
	baz=73				
M21A	Separation Pea	72.74 332	⇓P	P	07 58 52.5 +1.1
	baz=73				
O18A	Roosevelt	72.85 329	⇓P	P	07 58 53.6 +1.6
	baz=73				
K23A	Bowen Ranch, D	72.96 334	⇓P	P	07 58 54.2 +1.6
	baz=73				
N19A	John Jarvie Ra	72.97 330	⇑P	P	07 58 53.8 +1.1
	baz=73				
M20A	Sweetwater, Wa	73.00 331	⇑P	P	07 58 54.4 +1.4
	baz=73				
EDW2	Edwards Air Fo	73.02 321	⇓P	P	07 58 54.4 +1.4
	baz=73				
L21A	Rawlins	73.03 332	⇓P	P	07 58 53.9 +0.8
	baz=73,SNR=7.4				
J24A	Dixon Ranch, L	73.05 335	⇓P	P	07 58 55.0 +1.9
	baz=73				
O17A	Robinson Place	73.14 329	⇓P	P	07 58 55.3 +1.6
	baz=74,SNR=11				
R13A	O'Grain Ranch,	73.20 326	⇓P	P	07 58 55.9 +1.7
	baz=74				
K22A	Casper	73.24 333	⇓P	P	07 58 55.8 +1.6
	baz=74				
P15A	Leamington	73.40 328	⇑P	P	07 58 56.9 +1.6
	baz=74				
MPU	Maple Canyon	73.43 328	eP	P	07 58 56.2 +0.8
	comp=E,13nm,1.3s				
M19A	Rock Springs	73.45 331	⇑P	P	07 58 57.1 +1.5
	baz=74				
J23A	Dilts Ranch, B	73.47 334	⇑P	P	07 58 57.2 +1.6
	baz=74				
RSSD	Black Hills	73.48 336	eP	P	07 58 56.1 +0.4
	comp=E,6.2nm,1.1s				
I24A	Kuemmerle Ranc	73.49 335	⇓P	P	07 58 57.3 +1.7
	baz=74				
L20A	Wamsutter	73.49 332	⇓P	P	07 58 56.9 +1.1
	baz=74				
FURC	Furnace Creek,	73.51 323	⇑P	P	07 58 57.2 +1.5
	baz=74,SNR=6.3				
K21A	Alcova	73.53 333	⇓P	P	07 58 56.8 +0.8
	baz=74,SNR=7.6				
N17A	Moffit Pass	73.77 329	⇓P	P	07 58 58.8 +1.2
	baz=74,SNR=9.8				
JLU	Jordanelle	73.80 329	eP	P	07 58 58.4 +0.7
	comp=E,2.1nm,0.7s				
M18A	Lyman	73.80 330	⇑P	P	07 58 58.8 +1.1
	baz=74				
ISA	Isabella	73.85 321	eP	P	07 58 58.7 +0.8
	comp=E,6.0nm,1.0s				
ISA	Isabella	73.85 321	⇑P	P	07 58 59.3 +1.4
	baz=74				
J22A	Midwest	73.85 334	⇓P	P	07 58 58.7 +0.8
	baz=74				
L19A	Farson	74.02 331	⇑P	P	07 58 59.8 +0.9
	baz=74,SNR=5.4				
K20A	Yellowstone Ra	74.02 332	⇓P	P	07 58 59.3 +0.5
	baz=74				
DUG	Dugway	74.14 328	eP	P	07 59 01.1 +1.5
	comp=E,11nm,1.2s				
DUG	Dugway	74.14 328	⇑P	P	07 59 00.9 +1.4
	baz=74,SNR=7.5				
GRAC	Grapevine Rang	74.17 323	⇑P	P	07 59 01.4 +1.7
	baz=74				
R11A	Troy Canyon, C	74.18 325	⇑P	P	07 59 01.1 +1.3
	baz=74,SNR=6.0				
L18A	Fontenelle, Gr	74.18 331	⇑P	P	07 59 00.4 +0.6
	baz=74,SNR=7.0				
J21A	Lysite	74.20 333	⇓P	P	07 59 00.8 +0.9
	baz=75				
H24A	Dirks Ranch, A	74.21 336	⇑P	P	07 59 00.5 +0.7
	baz=75				
VES	Vestal, Richgr	74.33 321	⇑P	P	07 59 01.7 +1.1
	baz=75				
K19A	Absolon Red Bu	74.37 332	⇓P	P	07 59 01.7 +0.8
	baz=75				
J20A	Shoshoni	74.47 333	⇑P	P	07 59 02.6 +1.2
	baz=75				
AGMN	Agassiz Nation	74.50 343	eP	P	07 59 01.1 -0.1
	comp=E,15nm,1.0s				
I21A	Big Trails, Te	74.52 333	⇓P	P	07 59 01.7 0.0
	baz=75,SNR=5.2				
N15A	Stansbury Isla	74.53 328	⇑P	P	07 59 02.7 +0.9
	baz=75				
HWUT	Hardware Ranch	74.63 329	eP	P	07 59 03.0 +0.5
	comp=E,19nm,1.5s				
BW06	Boulder Array	74.64 331	⇑P	P	07 59 03.4 +0.9
	baz=75				
PDAR	Pinedale Array	74.64 331	P	P	07 59 02.9 +0.3
PDAR	Pinedale Array	74.64 331	P	P	07 59 02.9 +0.3
	comp=E,1.2nm,1.0s,baz=151,slow=6.6,SNR=6.4				
G24A	Alzada	74.65 336	⇓P	P	07 59 03.3 +1.0
	baz=75				
K18A	Toltan Ranch,	74.75 331	⇓P	P	07 59 04.0 +0.8
	baz=75,SNR=9.9				
J19A	Crowheart	74.81 332	⇑P	P	07 59 03.7 +0.3
	baz=75,SNR=8.3				
L16A	Fish Haven	74.89 330	⇑P	P	07 59 04.7 +0.7
	baz=75				
G23A	Biddle	74.91 335	⇓P	P	07 59 04.1 +0.2
	baz=75,SNR=5.5				
M15A	Larsen Ranch,	74.94 329	⇓P	P	07 59 05.0 +0.8
	baz=75				
I20A	Worland	74.97 333	⇓P	P	07 59 05.1 +0.8
	baz=75				
F24A	Ekalaka	75.10 336	⇑P	P	07 59 05.8 +0.9
	baz=76				
MDND	Maddock	75.19 340	⇓P	P	07 59 06.2 +1.0
	baz=76				
J18A	Kendall Valley	75.19 331	⇓P	P	07 59 05.9 +0.2
	baz=76,SNR=6.9				
K17A	Gardner Place,	75.23 331	⇓P	P	07 59 06.6 +0.7
	baz=76,SNR=5.2				
AHID	Auburn Hatcher	75.33 330	eP	P	07 59 07.0 +0.5
	comp=E,5.4nm,0.9s				
L15A	Malad City	75.33 329	⇓P	P	07 59 06.8 +0.4
	baz=76,SNR=7.5				
F23A	Volborg	75.35 336	⇓P	P	07 59 06.8 +0.4
	baz=76,SNR=5.8				
I19A	Meeteetse	75.41 332	⇓P	P	07 59 07.8 +0.9
	baz=76,SNR=5.0				
I18A	Diamond G Ranc	75.50 332	⇓P	P	07 59 08.3 +0.9
	baz=76,SNR=7.0				
K16A	Soda Springs	75.60 330	⇑P	P	07 59 09.4 +1.4
	baz=76,SNR=9.0				
J17A	Brown Place, J	75.62 331	⇓P	P	07 59 09.0 +0.9
	baz=76,SNR=6.3				
G21A	Lodge Grass	75.64 334	⇓P	P	07 59 08.9 +0.8
	baz=76				
E24A	Baker	75.65 337	⇓P	P	07 59 08.8 +0.8
	baz=76,SNR=5.9				
SYO	Syowa Base	75.65 160	‖eP	P	07 59 03.0 -4.7
SYO	Syowa Base	75.65 160	‖eX		07 59 12.8
REDW	Red Top Meadow	75.68 331	eP	P	07 59 09.1 +0.6
	comp=E,23nm,1.7s				
NVAR	Mina Array Bea	75.71 323	P	P	07 59 10.0 +1.2
NVAR	Mina Array Bea	75.71 323	P	P	07 59 10.0 +1.2
	comp=E,1.4nm,0.8s,baz=156,slow=6.6,SNR=10				
SNOW	Snow King Moun	75.72 331	eP	P	07 59 09.9 +1.1
	comp=E,62nm,2.3s				
F22A	Rosebud	75.73 335	⇓P	P	07 59 09.4 +0.9
	baz=76				
L14A	Malta	75.76 329	⇓P	P	07 59 09.2 +0.4
	baz=76,SNR=6.7				
LOHW	Long Hollow	75.77 331	eP	P	07 59 09.9 +0.9
	comp=E,7.4nm,1.1s				
TPAW	Teton Pass	75.83 331	eP	P	07 59 11.5 +2.1
	comp=E,8.9nm,1.1s				
RRI2	Red Ridge	75.88 331	eP	P	07 59 10.8 +1.1
	comp=E,10nm,1.1s				
H19A	Powell	75.92 333	⇓P	P	07 59 10.8 +1.1
	baz=76				
K15A	Arbon	75.92 330	⇑P	P	07 59 10.8 +1.0
	baz=76				
MOOW	Mose Ponds	75.94 331	eP	P	07 59 10.5 +0.5
	comp=E,1.7nm,0.8s				
J16A	Bone	75.96 330	⇑P	P	07 59 10.9 +0.9
	baz=76				
I17A	Pilgrim Ck.	76.00 331	⇑P	P	07 59 11.5 +1.1
	baz=76,SNR=7.0				
G20A	Bridger	76.05 334	⇑P	P	07 59 10.8 +0.4
	baz=76,SNR=5.6				
K14A	Jones Ranch, D	76.12 329	⇑P	P	07 59 11.8 +0.9
	baz=76				
D24A	Glendive	76.13 337	⇓P	P	07 59 11.6 +0.9
	baz=76				
E22A	Miles City	76.16 336	⇑P	P	07 59 11.6 +0.6
	baz=76				
FLWY	Flagg Ranch	76.19 331	eP	P	07 59 12.9 +1.5
	comp=E,16nm,1.1s				
H18A	Shoshone NF, C	76.21 332	⇓P	P	07 59 12.1 +0.6
	baz=77,SNR=11				
ULM	Lac du Bonnet	76.29 344	P	P	07 59 10.6 -0.9
ULM	Lac du Bonnet	76.29 344	P	P	07 59 10.6 -0.9
	comp=E,3.1nm,0.7s,baz=141,slow=6.3,SNR=8.4				
I16A	Newdale	76.37 331	⇑P	P	07 59 13.5 +1.2
	baz=77				
RLMT	Red Lodge	76.40 333	⇓P	P	07 59 13.5 +0.9
	baz=77,SNR=6.3				
J15A	Blackfoot	76.43 330	⇑P	P	07 59 14.2 +1.6
	baz=77				
D23A	Lindsay	76.50 337	⇓P	P	07 59 14.0 +1.1
	baz=77				
C24A	Savage	76.52 337	⇓P	P	07 59 14.0 +1.0
	baz=77,SNR=7.0				
E21A	Keefer Ranch,	76.68 335	⇓P	P	07 59 14.5 +0.6
	baz=77,SNR=6.9				
G18A	Lazy EL Ranch,	76.68 333	⇓P	P	07 59 14.8 +0.7
	baz=77,SNR=7.2				
D22A	Cohagen	76.84 336	⇑P	P	07 59 15.7 +0.9
	baz=77,SNR=6.8				
F19A	Roth Farm, Mol	76.86 334	⇑P	P	07 59 15.7 +0.7
	baz=77				
J14A	Carey	76.88 329	⇑P	P	07 59 16.6 +1.4
	baz=77				
H16A	Russell Place,	76.92 332	⇑P	P	07 59 16.8 +1.3
	baz=77,SNR=6.2				
I15A	Monteview	76.92 330	⇓P	P	07 59 17.1 +1.7
	baz=77				
C23A	Lambert	77.02 337	⇑P	P	07 59 16.6 +0.8
	baz=77				
E20A	Meyer Farm, Mu	77.06 334	⇑P	P	07 59 17.0 +0.9
	baz=77,SNR=8.8				
D21A	La Casta Ranch	77.08 335	⇑P	P	07 59 16.9 +0.8
	baz=77,SNR=5.0				
F18A	Big Timber	77.22 333	⇑P	P	07 59 17.7 +0.7
	baz=78,SNR=11				
C22A	Vida	77.23 336	⇓P	P	07 59 17.4 +0.5
	baz=78,SNR=5.2				
DGMT	Dagmar	77.24 338	eP	P	07 59 18.0 +0.9
	comp=E,26nm,1.0s				
DGMT	Dagmar	77.24 338	⇑P	P	07 59 17.9 +0.9
	baz=78,SNR=5.7				
J13A	Cove Ranch, Pi	77.24 329	⇑P	P	07 59 18.6 +1.4
	baz=78				
E19A	Rath Farm, Rou	77.29 334	⇓P	P	07 59 18.3 +1.0
	baz=78,SNR=11				
I14A	Mackay	77.31 330	⇑P	P	07 59 18.8 +1.1
	baz=78,SNR=6.1				
HLID	Hailey	77.48 329	eP	P	07 59 19.9 +1.2
	comp=E,8.1nm,1.1s				
HLID	Hailey	77.48 329	⇑P	P	07 59 19.7 +1.1
	baz=78,SNR=11				
B23A	Brockton	77.51 337	⇓P	P	07 59 19.6 +1.1
	baz=78				
D20A	Manuel Ranch,	77.54 335	⇑P	P	07 59 19.2 +0.5
	baz=78,SNR=8.3				
A24A	Westby	77.56 338	⇓P	P	07 59 19.8 +1.1
	baz=78,SNR=5.3				
G16A	Moss Hill, Enn	77.58 332	⇑P	P	07 59 20.3 +1.2
	baz=78				
SCHQ	Schefferville	77.60 2	P	P	07 59 17.7 -1.1
SCHQ	Schefferville	77.60 2	P	P	07 59 17.7 -1.1
	comp=E,1.7nm,0.8s,baz=153,slow=2.3,SNR=3.3				
I13A	Wildhorse Cree	77.61 329	⇑P	P	07 59 20.7 +1.4
	baz=78,SNR=7.4				
F17A	Fitzpatrick Pl	77.61 333	⇑P	P	07 59 20.3 +1.0
	baz=78,SNR=6.4				
MCMT	McKenzie Canyo	77.73 331	eP	P	07 59 21.2 +1.1
	comp=E,2.9nm,1.2s				
B22A	Reddig Ranch S	77.74 337	⇓P	P	07 59 21.0 +1.3
	baz=78				
C21A	Desert Coulee	77.75 336	⇓P	P	07 59 20.3 +0.4
	baz=78,SNR=6.0				
H14A	Leadore	77.80 330	⇑P	P	07 59 21.6 +1.2
	baz=78				
BOZ	Bozeman (W)	77.83 332	eP	P	07 59 21.2 +0.7
BOZ	Bozeman (W)	77.83 332	⇓P	P	07 59 20.7 +0.2
	baz=78,SNR=5.2				
G15A	Dillon	77.83 331	⇓P	P	07 59 21.4 +0.9
	baz=78,SNR=6.3				
E18A	Harlowton	77.83 333	⇓P	P	07 59 21.1 +0.7
	baz=78,SNR=5.0				
F16A	Kennard Place,	77.93 332	⇑P	P	07 59 22.1 +1.1
	baz=78				
I12A	Atlanta	78.00 329	⇑P	P	07 59 22.1 +0.6
	baz=78				
C20A	Reeds Ranch,	78.00 335	⇑P	P	07 59 21.8 +0.6
	baz=78				
DLMT	Dillon	78.03 331	eP	P	07 59 22.4 +0.8
	comp=E,7.4nm,1.4s				
MFID	Camas Ranch	78.05 328	eP	P	07 59 23.1 +1.4
	comp=E,9.9nm,1.3s				
MFID	Camas Ranch	78.05 328	⇓P	P	07 59 22.9 +1.1
	baz=78,SNR=5.1				
E17A	Martinsdale	78.14 333	⇓P	P	07 59 23.1 +0.8
	baz=78				
H13A	Challis	78.17 330	⇓P	P	07 59 23.6 +1.2
	baz=78,SNR=13				
A22A	Carney Farms,	78.29 337	⇑P	P	07 59 23.6 +0.8
	baz=79,SNR=8.9				
D18A	Linhart Farms,	78.29 334	⇓P	P	07 59 24.3 +1.3
	baz=79				
LRM	Limekiln Ridge	78.32 332	eP	P	07 59 24.3 +1.0
F15A	Butte	78.36 332	⇑P	P	07 59 24.6 +1.1
	baz=79,SNR=5.3				
C19A	Slack Wire Ran	78.43 335	⇑P	P	07 59 24.1 +0.4
	baz=79,SNR=5.1				
E16A	East Helena	78.55 332	⇑P	P	07 59 25.5 +1.1
	baz=79				
G13A	Cobalt	78.56 330	⇑P	P	07 59 25.7 +1.2
	baz=79,SNR=22				
D17A	Six Diamond Ra	78.62 333	⇓P	P	07 59 25.6 +0.8
	baz=79,SNR=12				
A21A	Bergtoll Ranch	78.65 337	⇓P	P	07 59 25.4 +0.6
	baz=79				
F14A	Wisdom	78.72 331	⇓P	P	07 59 26.8 +1.3
	baz=79,SNR=8.2				
HRY	Holter Researc	78.75 332	eP	P	07 59 26.9 +1.4
E15A	Deer Lodge	78.87 332	⇓P	P	07 59 27.1 +0.9
	baz=79,SNR=6.9				
D16A	Dana Ranch, Ca	78.88 333	⇓P	P	07 59 27.2 +1.0
	baz=79,SNR=12				
A20A	Cobblestone Ra	78.93 336	⇑P	P	07 59 26.6 +0.2
	baz=79,SNR=8.4				
EGMT	Eagleton	78.94 334	eP	P	07 59 26.7 +0.2
	comp=E,7.6nm,1.1s				
EGMT	Eagleton	78.94 334	⇑P	P	07 59 26.4 0.0
	baz=79				
B19A	Brinkman Farms	78.97 335	⇑P	P	07 59 27.0 +0.4
	baz=79,SNR=7.9				
C17A	Wharram Farm,	79.03 334	⇓P	P	07 59 27.3 +0.3
	baz=79,SNR=6.7				
G12A	Big Creek, Yel	79.09 330	⇑P	P	07 59 28.1 +0.6
	baz=79				
F13A	Darby	79.14 331	⇓P	P	07 59 28.7 +1.0
	baz=80,SNR=14				
E14A	Clinton	79.24 331	⇓P	P	07 59 29.5 +1.2
	baz=80,SNR=5.2				
B18A	Beardsley Farm	79.25 335	⇑P	P	07 59 28.7 +0.6
	baz=80,SNR=8.0				
A19A	Klindworth Far	79.28 336	⇓P	P	07 59 28.5 +0.2
	baz=80				
D15A	Lincoln	79.30 332	⇓P	P	07 59 29.4 +0.8
	baz=80,SNR=5.9				
TOA0	Torodi Ar. Sit	79.39 71	eP	P	07 59 29.0 -0.6
TORD	Torodi Ar. Bea	79.39 71	P	P	07 59 28.5 -1.0
TORD	Torodi Ar. Bea	79.39 71	P	P	07 59 28.5 -1.0
	comp=E,7.3nm,0.8s,baz=250,slow=5.0,SNR=39				
F12A	Elk City	79.53 330	⇑P	P	07 59 30.8 +1.0
	baz=80				
E13A	Victor	79.57 331	⇓P	P	07 59 31.2 +1.2
	baz=80,SNR=9.6				
C16A	Fuhringer Ranc	79.57 333	⇓P	P	07 59 30.6 +0.7
	baz=80,SNR=8.0				
B17A	L&G Farms, Che	79.57 334	⇓P	P	07 59 30.9 +1.0
	baz=80				
A18A	Metzger Ranch,	79.70 335	⇑P	P	07 59 31.3 +0.8
	baz=80				
MSO	Missoula	79.76 331	⇑P	P	07 59 32.6 +1.6
	baz=80				
D14A	Greenough	79.76 332	⇑P	P	07 59 31.9 +0.9
	baz=80,SNR=6.5				
SLMT	Seeley Lake	79.88 332	eP	P	07 59 32.5 +0.8
C15A	Salmond Ranch,	79.91 333	⇑P	P	07 59 33.1 +1.2
	baz=80,SNR=14				
B16A	M & M Farms, S	80.04 334	⇑P	P	07 59 33.5 +1.0
	baz=80				
A17A	Triple J Farms	80.06 334	⇑P	P	07 59 32.9 +0.4
	baz=80,SNR=10.0				
E12A	Beaver Dam Sad	80.17 330	⇑P	P	07 59 33.8 +0.5
	baz=80,SNR=6.2				
D13A	Huson	80.19 331	⇑P	P	07 59 34.3 +1.0
	baz=80,SNR=9.1				
SWMT	Swartz Lake	80.30 332	eP	P	07 59 35.2 +1.3
B15A	Bradely Ranch,	80.31 333	⇓P	P	07 59 34.1 +0.2
	baz=81,SNR=8.5				
C14A	Swan Lake	80.39 332	⇑P	P	07 59 35.4 +1.0
	baz=81,SNR=6.9				
A16A	West Butte Ran	80.42 334	⇑P	P	07 59 35.2 +0.7
	baz=81				
D12A	Red Ives Fores	80.55 331	⇓P	P	07 59 35.8 +0.5
	baz=81				
JTMT	Jette	80.61 332	eP	P	07 59 36.5 +0.9
B14A	Marquette Ranc	80.65 333	⇑P	P	07 59 36.1 +0.3
	baz=81,SNR=6.4				
C13A	Hot Springs	80.68 332	⇓P	P	07 59 36.8 +0.9
	baz=81,SNR=11				
A15A	Johnson Ranch,	80.90 333	⇓P	P	07 59 37.6 +0.5
	baz=81				
BSMT	Bassoo Peak	80.91 332	eP	P	07 59 38.5 +1.2
C12B	Naegeli Ranch,	81.10 331	⇑P	P	07 59 39.2 +1.1
	baz=82				
TSUM	Tsumeb	81.15 107	eP	P	07 59 39.7 +0.4
	comp=E,7.3nm,0.9s				
B13A	Whitefish	81.17 332	⇑P	P	07 59 39.4 +0.9
	baz=82,SNR=5.9				
A14A	Double T Ranch	81.19 333	⇑P	P	07 59 38.9 +0.3
	baz=82,SNR=5.4				
WALA	Waterton Lakes	81.46 333	eP	P	07 59 40.6 +0.5
	comp=E,0.5nm,1.2s				
C11A	Tepee Creek (N	81.55 331	⇑P	P	07 59 41.2 +0.6
	baz=82				
A13A	Flathead Natio	81.57 333	⇓P	P	07 59 41.7 +1.1
	baz=82				
B12A	Libby	81.73 332	⇑P	P	07 59 42.3 +0.9
	baz=82,SNR=7.1				
FFC	Flin Flon	81.96 342	eP	P	07 59 42.2 -0.2
	comp=E,5.3nm,1.2s				
HAWA	Hanford	82.02 328	eP	P	07 59 43.8 +0.8
	comp=E,40nm,1.7s				
A12A	Yaak River Ran	82.11 332	⇑P	P	07 59 44.2 +0.8
	baz=82,SNR=8.7				
NEW	Newport	82.25 331	⇑P	P	07 59 45.0 +0.8
	baz=83				
BOSA	Boshof	84.16 118	P	P	07 59 54.7 0.0
BOSA	Boshof	84.16 118	P	P	07 59 54.7 0.0
	comp=E,3.8nm,0.7s,baz=274,slow=8.5,SNR=7.9				
YKA	Yellowknife Ar	92.08 341	P	P	08 00 31.1 -0.6
YKA	Yellowknife Ar	92.08 341	P	P	08 00 31.0 -0.6
	comp=E,2.3nm,0.8s,baz=137,slow=4.7,SNR=68				
KEST	Kesra	95.51 54	LR	LR	08 48 44.6
	comp=E,84nm,18.7s,baz=286,slow=39				
ASAR	Alice Springs	127.81 209	PKP	PKPdf	08 06 28.7 -0.6
ASAR	Alice Springs	127.81 209	PKP	PKPdf	08 06 28.7 -0.6
	comp=E,2.7nm,0.8s,baz=132,slow=1.4,SNR=3.7				
BVAR	Borovoye Array	137.96 35	PKP	PKPdf	08 06 48.0 +0.7
BVAR	Borovoye Array	137.96 35	PKP	PKPdf	08 06 48.0 +0.7
	comp=E,1.1nm,0.8s,baz=274,slow=2.4,SNR=4.7				
KSH	Kashi	147.31 52	ePKPbc	PKPdf	08 07 03.9 -0.6
KSH			pPKP	pPKPdf	08 07 14.1 +1.0
KSH			sPKP		08 07 18.3
KSH			PP	PP	08 10 35.1 +2.5
KSH			PKS	PKSdf	08 10 37.8 -2.0
KSH			SKS	SKSdf	08 14 08.0 -3.7
KSH			SKKS	SKKSac	08 17 20.8 -2.1
KSH			SS	SS	08 29 32.0 -1.7
KSH			LR	LR	
	comp=N,100nm,5.2s				
KSH			LR	LR	
	comp=E,84nm,4.7s				
KSH			LR	LR	
	comp=Z,270nm,5.5s				
HYB	Hyderabad	150.61 95	i PKP	PKPbc	08 07 15.0 -0.7
MJAR	Matsushiro Arr	151.67 305	PKPbc	PKPbc	08 07 17.7 0.0
MJAR	Matsushiro Arr	151.67 305	PKPbc	PKPbc	08 07 17.7 0.0
	comp=Z,5.1nm,0.8s,baz=121,slow=1.3,SNR=7.7				
MAT	Matsushiro	151.68 305	PKP	PKPbc	08 07 17.8 +0.1
USRK	Ussuriysk Arra	151.84 324	PKPbc	PKPbc	08 07 18.0 +0.2
	comp=Z,4.1nm,0.9s,baz=349,slow=4.6,SNR=4.4				
WMQ	Urumqi	152.64 36	ePKPbc	PKPdf	08 07 11.8 -0.9
HHC	Hu-ho-hao-te	162.12 354	ePKP	PKPdf	08 07 23.8 -0.9
HHC			pPKP	pPKPdf	08 07 29.3 -4.0
HHC			PKS	PKSdf	08 10 55.5 -2.4
HHC			PP	PP	08 11 57.8 +3.6
HHC			SKS	SKSdf	08 14 22.9 -5.1
HHC			SKKS	SKKSac	08 18 41.8 0.0
HHC			SS	SS	08 32 17.1 +5.1
HHC			AMB	AMB	
	comp=Z,96nm,9.6s				
HHC			LR	LR	
	comp=N,200nm,16.8s				
HHC			LR	LR	
	comp=E,470nm,21.6s				
HHC			LR	LR	
	comp=Z,160nm,15.6s				
LZH	Lanzhou	166.13 19	ePKP	PKPdf	08 07 30.0 +1.5
LZH			pPKP	pPKPdf	08 07 40.0 +2.9
KMI	Kunming	173.62 70	PKP	PKPdf	08 07 32.8 -0

GYA AMB AMB
comp=Z,90nm,8.0s

ISK ***13*** *07:49:36.0, 40˚.14N×25˚.14E, h8km, MD3.0*
ATH ***13*** *07:49:37.2, 40˚.21N×25˚.12E, h26km±1km, MD3.1/6*
CSEM ***13*** *07:49:37.8±0.1, 40˚.20N×25˚.17E, h15km, ML2.7/4, Error ellipse: s-maj=3.2km s-min=2.6km az=3.0*
DDA ***13*** *07:49:38.7, 40˚.37N×25˚.37E, h7km, MD3.0*
THE ***13*** *07:49:38.1, 40˚.21N×25˚.15E, h12km±1km, ML2.7/4, Error ellipse: s-maj=1.4km s-min=0.6km az=192.0*
ISCJB ***13*** *07:49:38.4±0.4, 40˚.18N±0˚.03×25˚.16E±0˚.03, h22km±4km, Error ellipse: s-maj=4.3km s-min=3.6km az=7.8*
ISC 13 07:49:37.8±0.9,**40˚21N**±0˚.03×**25˚.16E**±0˚.02,**h13**km±9km, **n40**,σ0§**72**/68,**3C**,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.31**	**177**	P	**Pg**	**07 49 44.5**	**+0.4**
LIA				S	**Sg**	**07 49 48.9**	**+0.5**
LIA	**Limnos Island**	**0.31**	**177**	⇑*i* P	**Pg**	**07 49 44.6**	**+0.4**
LIA	**Limnos Island**	**0.31**	**177**	⇑*i* P	**Pg**	**07 49 44.6**	**+0.4**
LIA				S	**Sg**	**07 49 48.9**	**+0.5**
BOZC	**Bozcaada**	**0.78**	**118**	*i* P	**Pg**	**07 49 53.3**	**+0.4**
BOZC				*i* S	**Sg**	**07 50 01.3**	**-1.7**
OUR	**Ouranopolis**	**0.91**	**278**	P	**Pg**	**07 49 55.1**	**-0.3**
OUR				S	**Sb**	**07 50 08.6**	**+1.1**
OUR	**Ouranopolis**	**0.91**	**278**	P	**Pg**	**07 49 55.1**	**-0.3**
OUR				S	**Sb**	**07 50 08.6**	**+1.1**
ENEZ	**Enez**	**0.92**	**55**	*e*PG	**Pg**	**07 49 55.4**	**-0.2**
ENEZ				*e*SG	**Sn**	**07 50 09.3**	**-0.2**
ENEZ	**Enez**	**0.92**	**55**	*e*Pg	**Pg**	**07 49 55.4**	**-0.2**
ENEZ				*e*Sg	**Sn**	**07 50 09.3**	**-0.2**
KAVA	**Kavala**	**0.93**	**328**	P	**Pg**	**07 49 55.9**	**+0.1**
KAVA				S	**Sb**	**07 50 08.5**	**+0.5**
KAVA	**Kavala**	**0.93**	**328**	P	**Pg**	**07 49 55.9**	**+0.1**
KAVA				S	**Sb**	**07 50 08.5**	**+0.5**
ALN	**Alexandroupoli**	**0.96**	**44**	P	**Pg**	**07 49 56.1**	**-0.3**
ALN				S	**Sn**	**07 50 10.4**	**-0.1**
ALN	**Alexandroupoli**	**0.96**	**44**	⇑*i* PN	**Pg**	**07 49 56.2**	**-0.2**
ALN				*e*SN	**Sb**	**07 50 10.2**	**+1.2**
ALN	**Alexandroupoli**	**0.96**	**44**	P	**Pg**	**07 49 56.1**	**-0.3**
ALN				*e*Sn	**Sb**	**07 50 10.2**	**+1.2**
EZN	**Ezine**	**0.97**	**113**	*e*PG	**Pg**	**07 49 54.8**	**-1.8**
EZN				*e*SG	**Sg**	**07 50 08.8**	**-0.4**
EZN	**Ezine**	**0.97**	**113**	*e*Pg	**Pg**	**07 49 54.8**	**-1.8**
EZN				*e*Sg	**Sg**	**07 50 08.8**	**-0.4**
RDO	**Rodhopi**	**0.98**	**17**	P	**Pg**	**07 49 56.4**	**-0.3**
RDO				S	**Sb**	**07 50 10.2**	**+0.8**
RDO	**Rodhopi**	**0.98**	**17**	*e*PN	**Pg**	**07 49 56.3**	**-0.4**
RDO				*e*SN	**Sb**	**07 50 09.9**	**+0.5**
RDO	**Rodhopi**	**0.98**	**17**	P	**Pg**	**07 49 56.4**	**-0.3**
RDO				*e*Sn	**Sb**	**07 50 09.9**	**+0.5**
RDO				S	**Sb**	**07 50 10.2**	**+0.8**
ERIK	**Erikli-Kesan**	**1.13**	**65**	*e*PN	**Pb**	**07 49 58.8**	**-0.4**
ERIK				*e*SN	**Sn**	**07 50 15.3**	**+0.6**
ERIK	**Erikli-Kesan**	**1.13**	**65**	*e*Pn	**Pb**	**07 49 58.8**	**-0.4**
ERIK				*e*Sn	**Sn**	**07 50 15.3**	**+0.6**
PAIG	**Paliouri**	**1.17**	**257**	P	**Pb**	**07 49 59.0**	**-0.9**
PAIG				S	**Sg**	**07 50 15.9**	**+0.3**
PAIG	**Paliouri**	**1.17**	**257**	P	**Pb**	**07 49 59.0**	**-0.9**
PAIG				S	**Sg**	**07 50 15.9**	**+0.3**
LPK	**Lapseki**	**1.23**	**82**	*e*PN	**Pn**	**07 50 00.3**	**-0.4**
LPK				*e*SN	**Sn**	**07 50 18.5**	**+1.2**
LPK	**Lapseki**	**1.23**	**82**	*e*Pn	**Pn**	**07 50 00.3**	**-0.4**
LPK				*e*Sn	**Sn**	**07 50 18.5**	**+1.2**
PRK	**Paraskevi**	**1.29**	**138**	*e*PN	**Pn**	**07 50 01.5**	**0.0**
PRK				*e*SN	**Sg**	**07 50 19.4**	**+0.1**
PRK	**Paraskevi**	**1.29**	**138**	*e*Pn	**Pn**	**07 50 01.5**	**0.0**
PRK				*e*Sn	**Sg**	**07 50 19.4**	**+0.1**
PLG	**Polygyros**	**1.32**	**278**	*e*PN	**Pn**	**07 50 01.6**	**-0.4**
PLG				*e*SN	**Sb**	**07 50 17.9**	**-1.5**
PLG	**Polygyros**	**1.32**	**278**	*e*Pn	**Pn**	**07 50 01.6**	**-0.4**
NVR	**Nevrokopi**	**1.51**	**320**	*e*PN	**Pn**	**07 50 04.3**	**-0.3**
NVR	**Nevrokopi**	**1.51**	**320**	*e*Pn	**Pn**	**07 50 04.3**	**-0.3**
SART	**Tekirdag**	**1.61**	**72**	*i* P	**Pn**	**07 50 05.5**	**-0.5**
SART				*i* S	**Sg**	**07 50 31.6**	**+1.8**
SART	**Tekirdag**	**1.61**	**72**	*i* P	**Pn**	**07 50 05.5**	**-0.5**
KRBG	**Karabiga-Canak**	**1.64**	**83**	*e*PN	**Pn**	**07 50 06.4**	**0.0**
KRBG	**Karabiga-Canak**	**1.64**	**83**	*e*Pn	**Pn**	**07 50 06.4**	**0.0**
MFT	**Murefte**	**1.72**	**70**	*e*PN	**Pn**	**07 50 07.5**	**0.0**
MFT	**Murefte**	**1.72**	**70**	*e*Pn	**Pn**	**07 50 07.5**	**0.0**
GONE	**Gonen-Balikesi**	**1.94**	**94**	*e*PN	**Pn**	**07 50 10.1**	**-0.4**
GONE	**Gonen-Balikesi**	**1.94**	**94**	*e*Pn	**Pn**	**07 50 10.1**	**-0.4**
CHOS	**Chios island**	**1.95**	**159**	*e*PN	**Pn**	**07 50 11.0**	**+0.4**
CHOS	**Chios island**	**1.95**	**159**	*e*Pn	**Pn**	**07 50 11.0**	**+0.4**

IDC ***13*** *07:53:08.4±0.7, 3˚.51N×126˚.31E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.1/23, mbtmp4.1/12, Error ellipse: s-maj=51.2km s-min=14.0km az=72.0*
ISCJB ***13*** *07:53:13.2±0.5, 3˚.6N±0˚.1×126˚.6E±0˚.3, h53km, mb4.1/16, Error ellipse: s-maj=39.7km s-min=9.3km az=162.5*
NEIC ***13*** *07:53:13.6±0.4, 3˚.51N×126˚.38E, h35km, mb4.3/5, Error ellipse: s-maj=33.0km s-min=8.4km az=72.0*
ISC 13 07:53:15.6±0.7,**3˚.5N**±0˚.1×**126˚.4E**±0˚.3,**h53**km,**n29**, σ0§**97**/28,**mb4.1**/16,**1C**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.27**	**330**	⇑*i* P	Pn	07 54 21.7	+3.6
FITZ	**Fitzroy Crossi**	**21.50**	**182**	P	**P**	**07 58 00.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**21.50**	**182**	P	**P**	**07 58 00.6**	**+0.5**
	1.7nm,0.5s,baz=6.3,slow=9.2,SNR=3.2						
WRAB	**Tennant Creek**	**24.57**	**162**	*e*P	**P**	**07 58 30.2**	**-0.5**
	25nm,0.8s						
WRA	**Warramunga Arr**	**24.58**	**162**	P	**P**	**07 58 29.5**	**-1.3**
WRA	**Warramunga Arr**	**24.58**	**162**	P	**P**	**07 58 29.5**	**-1.3**
	22nm,0.7s,baz=343,slow=10,SNR=75						
ASAR	**Alice Springs**	**27.99**	**165**	P	**P**	**07 59 01.5**	**-0.1**
ASAR	**Alice Springs**	**27.99**	**165**	P	**P**	**07 59 01.5**	**-0.1**
	0.8nm,0.6s,baz=348,slow=7.5,SNR=8.3						
KSAR	**Wonju Array Be**	**33.79**	**2**	P	**P**	**07 59 51.8**	**-0.7**
KSRS	**Korea Array**	**33.80**	**2**	P	**P**	**07 59 51.8**	**-0.8**
	1.5nm,0.6s,baz=183,slow=10,SNR=5.9						
STKA	**Stephens Creek**	**38.04**	**159**	*e*P	**P**	**08 00 28.2**	**-0.8**
	1.5nm,0.8s						
STKA	**Stephens Creek**	**38.04**	**159**	P	**P**	**08 00 28.4**	**-0.6**
	5.8nm,0.6s,baz=336,slow=7.0,SNR=20						
MK31	**Makanchi Array**	**57.55**	**325**	*e*P	**P**	**08 02 59.5**	**-0.3**
MKAR	**Makanchi Array**	**57.55**	**325**	P	**P**	**08 02 59.0**	**-0.9**
MKAR	**Makanchi Array**	**57.55**	**325**	P	**P**	**08 02 59.0**	**-0.9**
	0.7nm,0.5s,baz=119,slow=7.7,SNR=11						
ZALV	**Zalesovo Beam**	**60.64**	**333**	P	**P**	**08 03 20.1**	**-0.9**
ZALV	**Zalesovo Beam**	**60.64**	**333**	P	**P**	**08 03 20.1**	**-0.9**
	0.7nm,0.7s,baz=116,slow=6.6,SNR=2.7						
KURBB	**Kurchatov Arra**	**61.75**	**328**	P	**P**	**08 03 28.4**	**-0.2**
	2.1nm,0.6s,baz=130,slow=6.3,SNR=18						
KURK	**Kurchatov**	**61.75**	**328**	*e*P	**P**	**08 03 28.9**	**+0.3**
	4.0nm,0.7s						
BVAR	**Borovoye Array**	**67.33**	**327**	P	**P**	**08 04 05.6**	**+0.6**
BVAR	**Borovoye Array**	**67.33**	**327**	P	**P**	**08 04 05.6**	**+0.6**
	2.5nm,1.0s,baz=132,slow=8.6,SNR=8.5						
BRVK	**Borovoye**	**67.40**	**327**	*e*P	**P**	**08 04 04.9**	**-0.5**
	2.7nm,1.0s						
ABKAR	**Akbulak array**	**72.12**	**321**	*e*P	**P**	**08 04 34.6**	**+0.1**
	0.4nm,0.5s						
AKTO	**Aktyubinsk**	**73.64**	**322**	P	**P**	**08 04 44.3**	**+0.8**
AKTO	**Aktyubinsk**	**73.64**	**322**	P	**P**	**08 04 44.3**	**+0.8**
	0.7nm,0.6s,baz=103,slow=10.0,SNR=3.7						
ILAR	**Eielson Array**	**85.42**	**25**	P	**P**	**08 05 49.5**	**+2.3**
ILAR	**Eielson Array**	**85.42**	**25**	P	**P**	**08 05 49.5**	**+2.3**
	0.3nm,0.8s,baz=251,slow=4.6,SNR=3.9						
ARCES	**ARCESS Array B**	**90.54**	**340**	P	**P**	**08 06 10.9**	**-0.7**
ARCES	**ARCESS Array B**	**90.54**	**340**	P	**P**	**08 06 10.9**	**-0.7**
	2.2nm,0.9s,baz=75,slow=7.6,SNR=3.3						

MOS ***13*** *07:56:04.9±1.0, 3˚.63N×126˚.56E, h33km, mb5.4/52, MS4.3/6, Error ellipse: s-maj=11.6km s-min=5.2km az=115.9*
BJI ***13*** *07:56:06.2, 3˚.50N×126˚.58E, h57km, mB5.3/30, mb5.1/49, Ms4.7/37, Ms7 4.5/38*
NEIC ***13*** *07:56:06.9±0.2, 3˚.65N×126˚.62E, h35km, mb5.2/61, Error ellipse: s-maj=7.3km s-min=4.0km az=70.0*
IDC ***13*** *07:56:06.2±3.5, 3˚.66N×126˚.61E, h30km±25km, mb4.7/35, mb1 4.7/35, mb1mx4.7/36, mbtmp4.7/35, MS4.3/19, Ms1 4.3/19, ms1mx4.1/32, Error ellipse: s-maj=16.1km s-min=9.4km az=77.0*

ISCJB ***13*** *07:56:08.1±0.4, 3˚.66N±0˚.02×126˚.69E±0˚.03, h63km±3km, mb5.2/142, Error ellipse: s-maj=5.4km s-min=3.5km az=156.7*
TEH ***13*** *07:56:09.0, 3˚.77N×126˚.86E, h55km, ML5.2*
DJA ***13*** *07:56:14, 3˚.46N×126˚.79E, h92km, mb5.1/37*
ISC 13 07:56:09.4±0.3,**3˚.66N**±0˚.03×**126˚.65E**±0˚.05,**h57**km±2km, **h57**km:**pP-P**,**n401**,σ1§**57**/468,**mb5.1**/141,**MS4.3**/40, **16C-21D**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**2.85**	**219**	P	**Pn**	**07 56 53.6**	**+1.2**
GSPH	**General Santos**	**2.95**	**325**	*e*P	**Pn**	**07 56 55.3**	**+1.4**
TNTI	**Ternate**	**2.96**	**166**	P	**Pn**	**07 56 53.4**	**-0.5**
DAV	**Davao City (W)**	**3.55**	**343**	*e*Pn	**Pn**	**07 57 03.6**	**+1.6**
DAV				Sn	Sn	07 57 55.4	+13
DAV	**Davao City (W)**	**3.55**	**343**	P	**Pn**	**07 57 03.7**	**+1.6**
DAV	**Davao City (W)**	**3.55**	**343**	Pn	**Pn**	**07 57 02.2**	**+0.1**
	112nm,0.3s,baz=100,slow=6.2,SNR=5.5						
DAV				Sn	Sn	07 57 55.4	+13
	151nm,0.3s,baz=91,slow=19,SNR=5.9						
DMPH	**Davao City--Mi**	**3.59**	**342**	⇓*i* P	**Pn**	**07 57 04.0**	**+1.5**
KCP	**Kidapawan**	**3.67**	**335**	⇓*i* P	**Pn**	**07 57 04.9**	**+1.1**
KCP				*i* S	Sn	07 57 52.7	+6.8
CTBH	**Cotabato--PC H**	**4.27**	**326**	⇑*e*P	**Pn**	**07 57 11.8**	**-0.1**
LBMI	**Labuha**	**4.35**	**169**	P	**Pn**	**07 57 12.6**	**-0.4**
BUKP	**Musuan**	**4.48**	**339**	*e*P	**Pn**	**07 57 15.8**	**+1.0**
BUKP				*e*S	Px	07 57 38.4	
CGP	**Cagayan de Oro**	**5.15**	**338**	⇓*e*P	**Pn**	**07 57 26.3**	**+2.4**
CGP				*e*S	Sn	07 58 33.7	+12
PAGZ	**Pagadian**	**5.28**	**322**	*e*P	**Pn**	**07 57 26.9**	**+1.1**
BUTP	**Butuan**	**5.37**	**349**	*e*P	Pn	07 57 34.3	+7.2
MRSI	**Marisa**	**5.67**	**236**	P	**Pn**	**07 57 34.0**	**+2.9**
IPIL	**Ipil**	**5.77**	**315**	*e*P	**Pn**	**07 57 32.2**	**-0.2**
LUWI	**Luwuk**	**6.07**	**220**	P	**Pn**	**07 57 38.9**	**+2.3**
	920nm,1.2s,11μm3.8nm						
SWI	**Sorong**	**6.43**	**134**	P	**Pn**	**07 57 40.0**	**-1.6**
	683nm,1.0s,8μm3.0nm						
NLAI	**Namlea**	**6.87**	**176**	P	**Pn**	**07 57 46.2**	**-1.3**
AAI	**Amboin**	**7.46**	**168**	P	**Pn**	**07 57 57.9**	**+2.3**
	158nm,0.8s,0.7nm						
PLP	**Palo**	**7.64**	**348**	⇓*e*P	**Pn**	**07 57 57.9**	**-0.2**
MYLDM	**Lahad Datu**	**8.27**	**281**	P	Pn	07 58 12.7	+6.0
MYLDM	**Lahad Datu**	**8.27**	**281**	P	Pn	07 58 12.2	+5.5
	296nm,1.1s,3μm						
KDI	**Kendari**	**8.57**	**208**	P	**Pn**	**07 58 13.1**	**+2.2**
	121nm,0.9s,1μm						
FAKI	**Fak Fak**	**8.60**	**139**	P	**Pn**	**07 58 11.1**	**-0.2**
	333nm,0.9s,3μm						
TSM	**Tawau**	**8.78**	**274**	P	**Pn**	**07 58 15.4**	**+1.7**
TTSI	**Tana Toraja**	**9.54**	**226**	P	Pn	07 58 29.2	+5.1
	201nm,1.1s,2μm						
SDKM	**Sandakan**	**9.63**	**282**	P	**Pn**	**07 58 26.5**	**+1.1**
SPSI	**Sidrap Palu**	**10.23**	**222**	P	Pn	07 58 37.1	+3.5
	74nm,0.9s,1μm						
KDM	**Kudat**	**10.30**	**289**	P	Pn	07 58 40.1	+5.6
BAKI	**Biak**	**10.61**	**117**	P	**Pn**	**07 58 41.2**	**+2.5**
	229nm,1.0s,3μm						
KKM	**Kota Kinabalu**	**10.67**	**283**	*e*Pn	**Pn**	**07 58 41.9**	**+2.3**
KKM	**Kota Kinabalu**	**10.67**	**283**	P	**Pn**	**07 58 42.3**	**+2.7**
KKM	**Kota Kinabalu**	**10.67**	**283**	P	**Pn**	**07 58 42.3**	**+2.7**
	65nm,1.9s,1μm						
KAPI	**Kappang**	**11.04**	**219**	*e*Pn	Pn	07 58 48.5	+3.9
KAPI	**Kappang**	**11.04**	**219**	Pn	**Pn**	**07 58 44.3**	**-0.2**
	0.4nm,0.3s,baz=162,slow=20,SNR=2.1						
KAPI				LR	LR	08 03 50.8	
	comp=Z,2μm,18.7s,baz=61,slow=42						
TLE	**Tual**	**11.05**	**147**	P	**Pn**	**07 58 44.5**	**-0.4**
	426nm,1.1s,5μm						
TGY	**Tagaytay City**	**11.81**	**332**	LR	LR	08 03 56.9	
	comp=Z,15nm,18.0s,baz=144,slow=40						
SMPI	**Sarmi**	**13.29**	**115**	P	**Pn**	**07 59 15.8**	**+0.4**
	130nm,1.2s,2μm						
BTM	**Bintulu**	**13.55**	**268**	P	**P**	**07 59 23.3**	**-3.0**
BBKI	**Banjar Baru**	**13.76**	**239**	P	**P**	**07 59 26.6**	**-2.0**
	147nm,1.5s,3μm						
SBUM	**Sibu**	**14.46**	**266**	P	**P**	**07 59 35.0**	**-1.4**
SBUM	**Sibu**	**14.46**	**266**	P	**Pn**	**07 59 33.6**	**+2.5**
	91nm,1.1s,950nm						
JAY	**Jayapura**	**15.32**	**113**	P	**P**	**07 59 45.8**	**-0.2**
	170nm,0.7s						
STKI	**Sintang**	**15.58**	**257**	P	**P**	**07 59 52.6**	**+3.8**
	116nm,1.2s						
KSM	**Kuching**	**16.47**	**263**	*e*P	**P**	**08 00 01.1**	**+2.4**
	39nm,0.8s						
KSM	**Kuching**	**16.47**	**263**	P	**P**	**08 00 01.2**	**+2.4**
KSM	**Kuching**	**16.47**	**263**	P	**P**	**08 00 01.0**	**+2.4**
	59nm,1.4s,822nm						
BLJI	**Banyuglugur**	**17.27**	**229**	P	P	08 00 14.6	+7.1
	95nm,0.5s						
SJI	**Sawahan**	**18.67**	**233**	P	Pn	08 00 29.9	+5.9
	72nm,1.1s						
TWG	**Pinlang**	**19.80**	**345**	*e*P	**P**	**08 00 33.0**	**-2.2**
	70nm,0.6s						
YULB	**Yu-li**	**20.29**	**346**	*e*P	**P**	**08 00 37.4**	**-3.1**
	32nm,0.3s						
TPUB	**Ta-pu**	**20.38**	**344**	*e*P	**P**	**08 00 39.8**	**-1.8**
	78nm,0.4s						
SSLB	**Suanglung**	**20.75**	**345**	*e*P	**P**	**08 00 43.1**	**-2.5**
	118nm,1.1s						
NACB	**Ningaohsiao**	**20.97**	**347**	*e*P	**P**	**08 00 45.8**	**-2.1**
	20nm,0.4s						
PPBI	**Pangkal Pinang**	**21.31**	**255**	P	**P**	**08 00 55.3**	**+3.7**
	25nm,1.0s,11μm						
YHNB	**Yeheng**	**21.50**	**347**	*e*P	**P**	**08 00 52.5**	**-1.1**
	49nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.65**	**183**	*e*P	**P**	**08 00 54.0**	**-1.2**
	124nm,1.4s						
FITZ	**Fitzroy Crossi**	**21.65**	**183**	*e*P	**P**	**08 00 53.8**	**-1.4**
	43nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.65**	**183**	P	**P**	**08 00 53.5**	**-1.6**
	12nm,0.5s,baz=18,slow=8.5,SNR=26						
QIZ	**Qiongzhong**	**22.43**	**314**	P	**P**	**08 01 01.3**	**-2.4**
QIZ				S	**S**	**08 05 09.0**	**+2.5**
QIZ				LR	LR		
	comp=N,410nm,17.3s						
QIZ				LR	LR		
	comp=Z,780nm,21.1s						
QIZ	**Qiongzhong**	**22.43**	**314**	*e*P	**P**	**08 01 03.0**	**-0.7**
	comp=Z,32nm,1.1s						
QZH	**Quanzhou**	**22.54**	**341**	⇓*i* P	**P**	**08 01 03.5**	**-1.2**
QZH				S	**S**	**08 05 09.0**	**+0.9**
QZH				pmax	pmax		
	comp=Z,140nm,1.3s						
QZH				LR	LR		
	comp=Z,3μm,24.0s						
MYKOM	**Kota Tinggi**	**22.85**	**266**	P	**P**	**08 01 08.8**	**+0.6**
MYKOM	**Kota Tinggi**	**22.85**	**266**	P	**P**	**08 01 10.4**	**+2.3**
	comp=Z,37nm,0.8s,comp=Z,558nm						
JOW	**Kunigami**	**23.09**	**4**	P	**P**	**08 01 08.2**	**-2.2**
JOW	**Kunigami**	**23.09**	**4**	P	**P**	**08 01 08.2**	**-2.2**
	comp=Z,21nm,0.4s,baz=61,slow=19,SNR=3.0						
BLSI	**Bandar Lampung**	**23.19**	**247**	P	**P**	**08 01 11.3**	**-0.2**
	comp=Z,167nm,0.4s						
KGM	**Kluang**	**23.36**	**267**	P	**P**	**08 01 14.4**	**+1.2**
KTGM	**Kuala Trenggan**	**23.50**	**275**	P	**P**	**08 01 18.8**	**+4.3**
COEN	**Coen**	**23.98**	**137**	*e*P	**P**	**08 01 16.9**	**-1.9**
	comp=Z,270nm,0.9s						
COEN	**Coen**	**23.98**	**137**	*e*P	**P**	**08 01 16.7**	**-2.1**
	comp=Z,168nm,0.9s						
PMG	**Port Moresby**	**24.21**	**123**	*e*P	**P**	**08 01 18.0**	**-2.9**
	comp=Z,33nm,1.0s						
PMG	**Port Moresby**	**24.21**	**123**	P	**P**	**08 01 17.0**	**-3.9**
	comp=Z,36nm,1.0s						
PMG	**Port Moresby**	**24.21**	**123**	P	**P**	**08 01 18.3**	**-2.6**
	comp=Z,12nm,0.9s,baz=316,slow=8.5,SNR=5.6						
WRAB	**Tennant Creek**	**24.64**	**162**	*e*P	**P**	**08 01 23.3**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,231nm,0.8s						
WRAB	**Tennant Creek**	**24.64**	**162**	*e*P	**P**	**08 01 23.3**	**-1.4**
	comp=Z,232nm,0.8s						
WRAB	**Tennant Creek**	**24.64**	**162**	P	**P**	**08 01 23.0**	**-1.8**
	comp=Z,2μm,0.8s,SNR=87						
WRA	**Warramunga Arr**	**24.64**	**162**	P	**P**	**08 01 23.7**	**-1.1**
WRA	**Warramunga Arr**	**24.64**	**162**	P	**P**	**08 01 23.7**	**-1.1**
	comp=Z,221nm,0.8s,baz=38,slow=0.1,SNR=10						
FRIM	**Kepong**	**24.99**	**270**	P	**P**	**08 01 29.6**	**+1.6**
IPM	**Ipoh**	**25.57**	**273**	*e*P	**P**	**08 01 33.8**	**+0.4**
	comp=Z,79nm,1.6s						
IPM	**Ipoh**	**25.57**	**273**	P	**P**	**08 01 34.3**	**+0.9**
IPM	**Ipoh**	**25.57**	**273**	P	P	08 01 39.3	+5.9
	comp=Z,34nm,1.0s						
MBWA	**Marble Bar**	**25.58**	**195**	*e*P	**P**	**08 01 33.7**	**+0.4**
	comp=Z,61nm,1.1s						
KULM	**Kulim**	**25.97**	**275**	*e*P	**P**	**08 01 40.4**	**+3.3**
	comp=Z,9.6nm,0.6s						
KULM	**Kulim**	**25.97**	**275**	P	**P**	**08 01 37.9**	**+0.8**
PPI	**Padang Panjang**	**26.56**	**262**	P	**P**	**08 01 43.2**	**+0.9**
	comp=Z,30nm,1.5s						
MNSI	**Mandailing Nat**	**27.20**	**265**	P	P	08 01 53.8	+5.7
	comp=Z,57nm,0.8s,comp=Z,15μm						
CBIJ	**Chichi jima**	**27.63**	**31**	P	**P**	**08 01 50.6**	**-1.1**
CBIJ	**Chichi jima**	**27.63**	**31**	P	**P**	**08 01 50.6**	**-1.1**
	comp=Z,89nm,0.7s,baz=307,slow=20,SNR=4.2						
CBIJ				LR	LR	08 10 47.4	
	comp=Z,443nm,20.4s,baz=248,slow=32						
PSI	**Prapat**	**27.70**	**269**	P	**P**	**08 01 52.6**	**0.0**
PSI	**Prapat**	**27.70**	**269**	P	**P**	**08 01 52.4**	**-0.3**
	comp=Z,22nm,1.3s						
PSI	**Prapat**	**27.70**	**269**	P	**P**	**08 01 52.6**	**0.0**
	comp=Z,8.8nm,0.8s,baz=69,slow=4.6,SNR=5.6						
PSI				LR	LR	08 14 46.7	
	comp=Z,686nm,19.0s,baz=266,slow=40						
SSE	**Sheshan**	**27.77**	**350**	P	**P**	**08 01 52.5**	**-0.4**
SSE				sP	**sP**	**08 02 11.4**	**-2.4**
SSE				S	**S**	**08 06 33.3**	**+1.5**
SSE				sS	**sS**	**08 06 55.9**	**+0.1**
SSE				pmax	pmax		
	comp=Z,49nm,0.8s						
SSE				pmax	pmax		
	comp=Z,320nm,4.6s						
SSE				LR	LR		
	comp=N,140nm,28.1s						
SSE				LR	LR		
	comp=E,310nm,28.1s						
SSE				LR	LR		
	comp=Z,230nm,22.8s						
AS31	**Alice Springs**	**28.06**	**166**	*e*P	**P**	**08 01 55.1**	**-0.6**
ASAR	**Alice Springs**	**28.07**	**166**	P	**P**	**08 01 54.5**	**-1.2**
ASAR				S	S	08 06 54.9	+18
ASAR	**Alice Springs**	**28.07**	**166**	P	**P**	**08 01 54.5**	**-1.2**
	comp=Z,15nm,0.7s,baz=344,slow=12,SNR=25						
ASAR				S	S	08 06 54.9	+18
	comp=Z,9.9nm,1.0s,baz=337,slow=18,SNR=9.0						
NJ2	**Nanjing**	**29.18**	**346**	*e*P	**P**	**08 02 06.5**	**+1.1**
NJ2				pP	**pP**	**08 02 20.5**	**+0.9**
NJ2				sP	**sP**	**08 02 26.3**	**0.0**
NJ2				S	**S**	**08 06 55.5**	**+1.6**
NJ2				sS	**sS**	**08 07 14.5**	**-3.5**
NJ2				pmax	pmax		
	comp=Z,30nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,500nm,3.9s						
NJ2				LR	LR		
	comp=N,580nm,18.0s						
NJ2				LR	LR		
	comp=E,630nm,18.0s						
NJ2				LR	LR		
	comp=Z,670nm,17.9s						
JNU	**Nakatsue**	**29.58**	**7**	*e*P	**P**	**08 02 08.6**	**-0.4**
	comp=Z,64nm,1.6s						
JNU	**Nakatsue**	**29.58**	**7**	P	**P**	**08 02 07.7**	**-1.3**
	comp=Z,28nm,0.8s,baz=152,slow=4.4,SNR=6.5						
GYA	**Guiyang**	**29.68**	**322**	P	**P**	**08 02 09.9**	**-0.2**
GYA				pP	**pP**	**08 02 25.8**	**+1.5**
GYA				sP	**sP**	**08 02 32.4**	**+1.4**
GYA				PP	**PnPn**	**08 03 11.9**	**+4.4**
GYA				PcP	**PcP**	**08 05 14.6**	**+1.2**
GYA				S	**S**	**08 07 03.4**	**+1.3**
GYA				sS	**sS**	**08 07 26.9**	**+0.7**
GYA				SS	**SnSn**	**08 08 41.3**	**+5.4**
GYA				ScP	**ScP**	**08 08 51.0**	**+0.2**
GYA				ScS	**ScS**	**08 12 43.4**	**-2.6**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=N,650nm,17.9s						
GYA				LR	LR		
	comp=E,540nm,17.1s						
GYA				LR	LR		
	comp=Z,660nm,16.7s						
**

comp=E,810nm,21.2s
CD2 LR LR
comp=Z,710nm,17.0s
HNR Honiara 35.64 112 LR LR 08 16 32.0
comp=Z,318nm,18.6s,baz=266,slow=34
KLBR Kellerberrin 36.06 193 *e*P **P 08 03 06.1 +0.5**
comp=Z,32nm,0.9s
EIDS Eidsvold 37.34 142 *e*P **P 08 03 15.7 -0.9**
comp=Z,25nm,0.8s
BBOO Buckleboo 37.35 167 *e*P **P 08 03 16.1 -0.4**
comp=Z,303nm,0.7s
BBOO Buckleboo 37.35 167 *e*P **P 08 03 15.9 -0.6**
comp=Z,55nm,0.4s
BJT Baijiatuau 37.42 347 *e*P **P 08 03 18.0 +1.0**
comp=Z,124nm,0.8s
BJI Beijing 37.44 347 P **P 08 03 18.1 +1.0**
BJI pP **pP 08 03 29.3 -2.3**
BJI sP **sP 08 03 35.8 -2.5**
BJI S **S 08 09 06.3 +4.7**
BJI pmax pmax
comp=Z,140nm,0.8s
BJI LR LR
comp=N,510nm,19.5s
BJI LR LR
comp=E,400nm,15.0s
BJI LR LR
comp=Z,210nm,24.6s
NWAO Narrogin (SRO) 37.47 193 P **P 08 03 17.8 +0.3**
NWAO Narrogin (SRO) 37.47 193 P **P 08 03 17.8 +0.3**
comp=Z,12nm,0.8s,baz=350,slow=17,SNR=7.8
IMP Imphal 37.85 307 *e*PKP **P 08 03 18.0 -3.0**
STKA Stephens Creek 38.09 159 *e*P **P 08 03 21.9 -0.9**
comp=Z,8.6nm,0.7s
STKA Stephens Creek 38.09 159 *e*P **P 08 03 21.6 -1.2**
comp=Z,37nm,0.7s
STKA Stephens Creek 38.09 159 P **P 08 03 21.9 -0.9**
comp=Z,38nm,0.6s,baz=330,slow=8.8,SNR=70
STKA LR LR 08 20 44.7
comp=Z,234nm,20.2s,baz=102,slow=39
SNY Shenyang 38.10 356 ‖P **P 08 03 24.8 +2.1**
SNY pmax pmax
comp=Z,65nm,0.4s
LZH Lanzhou 38.52 330 *e*P **P 08 03 26.6 0.0**
LZH pP **pP 08 03 38.9 -2.2**
LZH sP **sP 08 03 42.9 -4.9**
LZH pmax pmax
comp=Z,38nm,1.1s
LZH pmax pmax
comp=Z,220nm,5.9s
LZH LR LR
comp=N,510nm,16.7s
LZH LR LR
comp=E,450nm,17.3s
LZH LR LR
comp=Z,1μm,18.9s
HHC Hu-ho-hao-te 39.44 342 *e*P **P 08 03 34.4 +0.3**
HHC pP **pP 08 03 45.3 -3.4**
HHC PP **PnPn 08 05 09.3 +0.4**
HHC PcP **PcP 08 05 40.4 -0.9**
HHC S **S 08 09 34.3 +2.2**
HHC SS **SS 08 12 23.3 -5.0**
HHC ScS **ScS 08 13 38.8 +1.3**
HHC pmax pmax
comp=Z,18nm,1.2s
HHC pmax pmax
comp=Z,170nm,6.0s
HHC LR LR
comp=N,570nm,18.0s
HHC LR LR
comp=E,480nm,20.4s
HHC LR LR
comp=Z,640nm,25.2s
SHL Shillong 39.85 307 *i*P **P 08 03 35.5 -2.4**
SHL *e*S **S 08 09 38.0 -0.9**
CN2 Changchun 39.99 359 *e*P **P 08 03 39.4 +0.9**
CN2 *ep*P **pP 08 03 54.8 +1.7**
CN2 *e*S **S 08 09 40.4 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,500nm,15.0s
CN2 LR LR
comp=E,600nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
USRK Ussuriysk Arra 40.65 6 P **P 08 03 44.6 +0.7**
comp=Z,6.8nm,0.5s,baz=183,slow=7.3,SNR=24
MDJ Mudanjiang 40.87 3 P **P 08 03 46.6 +0.8**
MDJ pP **pP 08 03 59.8 -0.6**
MDJ sP **sP 08 04 05.9 -1.1**
MDJ ScP **ScP 08 09 31.3 +0.7**
MDJ PcS **PcS 08 09 37.1 +0.7**
MDJ S **S 08 09 55.5 +2.4**
MDJ sS **sS 08 10 18.4 +0.6**
MDJ pmax pmax
comp=Z,57nm,0.9s
MDJ pmax pmax
comp=Z,89nm,2.9s
MDJ LR LR
comp=N,230nm,28.0s
MDJ LR LR
comp=E,200nm,30.8s
MDJ LR LR
comp=Z,250nm,26.3s
MDJ Mudanjiang 40.87 3 *e*P **P 08 03 47.0 +1.2**
comp=Z,54nm,1.0s
ARMA Armidale 41.45 147 *e*P **P 08 03 51.2 +0.3**
comp=Z,50nm,0.8s
ARMA Armidale 41.45 147 *e*P **P 08 03 51.0 +0.1**
LSA Lhasa 42.43 312 P **P 08 04 00.3 +1.0**
LSA pmax pmax
comp=Z,30nm,0.7s
LSA Lhasa 42.43 312 *e*P **P 08 03 59.5 +0.2**
LSA pmax pmax
comp=Z,14nm,0.6s
LSA Lhasa 42.43 312 *e*P **P 08 03 59.5 +0.2**
comp=Z,14nm,0.6s
ARPS Mount Arapiles 42.64 162 *e*P **P 08 04 01.4 +1.0**
comp=Z,76nm,0.9s
ASAJ Asahikawa 42.68 17 *e*P **P 08 04 01.6 +1.0**
comp=Z,16nm,1.1s
ASAJ Asahikawa 42.68 17 P **P 08 04 01.6 +1.0**
comp=Z,14nm,0.6s,baz=217,slow=13,SNR=12
GTA Gaotai 43.12 329 *e*P **P 08 04 03.4 -1.0**
GTA pP **pP 08 04 18.8 -0.3**
GTA sP **sP 08 04 26.0 +0.3**
GTA S **S 08 10 26.5 -0.2**
GTA sS **sS 08 10 52.4 +0.9**
GTA SS **SS 08 13 34.3 -6.8**
GTA pmax pmax
comp=Z,9.0nm,1.5s
GTA pmax pmax
comp=Z,250nm,5.5s
GTA LR LR
comp=N,300nm,21.6s
GTA LR LR
comp=E,690nm,19.5s
GTA LR LR
comp=Z,1μm,19.7s
TAPN Taplejung 44.00 306 *e*P **P 08 04 11.4 -0.4**
comp=Z,31nm,0.4s
ODAN Odare 44.05 306 *e*P **P 08 04 12.1 -0.1**
comp=Z,35nm,0.4s
CAN Canberra 44.08 153 *e*P **P 08 04 12.3 +0.2**
CAN pmax pmax
comp=Z,23nm,0.8s
CAN Canberra 44.08 153 *e*P **P 08 04 12.3 +0.2**
comp=Z,23nm,0.8s
CAN Canberra 44.08 153 *e*P **P 08 04 12.7 +0.6**
comp=Z,15nm,0.8s
RAMN Ramite 44.73 305 *e*P **P 08 04 17.6 0.0**
comp=Z,34nm,0.4s
HABR Khabarovsk 45.22 8 *e*P P 08 04 28.6 +7.7
HABR *e*PPP PPP 08 06 44.7
HABR *e*S **S 08 10 57.6 +0.8**
HABR *e**SS sS 08 11 14.5 -7.2
HABR *e* 08 14 13.2
HABR *e*SSS SSS 08 15 09.7
HABR pmax pmax
comp=N,56nm,2.3s
HABR pmax pmax
comp=Z,164nm,2.0s
HABR pmax pmax
comp=E,79nm,2.0s
HABR MLR MLR
comp=Z,209nm,19.0s
YSS Yuzh-Sakhalins 45.33 15‖ *e*P **P 08 04 22.8 +1.1**
YSS *e* 08 04 31.3
YSS Yuzh-Sakhalins 45.33 15 *e*P **P 08 04 22.0 +0.3**
comp=Z,15nm,0.6s
JIRN Jiri 45.35 306 *e*P **P 08 04 21.8 -0.9**
comp=Z,8.7nm,0.4s
KLR Kul'dur 45.61 5 *e*P P 08 04 19.8 -4.1
KLR pmax pmax
comp=Z,140nm,1.8s
GUN Gumba 45.70 306 *e*P **P 08 04 25.2 -0.3**
comp=Z,49nm,0.3s
HIA Hailar 45.82 354 *e*P **P 08 04 27.0 +1.3**
comp=Z,48nm,1.0s
PKI Pulchoki 45.95 305 *e*P **P 08 04 26.6 -0.8**
KKN Kakani 46.14 306 *e*P **P 08 04 28.2 -0.6**
comp=Z,16nm,0.3s
DMN Daman 46.21 305 *e*P **P 08 04 28.8 -0.5**
DZM Mont Dzumac 46.56 125 *e*P **P 08 04 32.3 +0.4**
comp=Z,57nm,1.1s
DZM *e*S **S 08 11 19.9 +3.0**
comp=Z,243nm,31.8s
DZM *e*SS **SS 08 14 43.8 +0.1**
comp=Z,210nm,28.8s
DZM *e*LR LR 08 17 40.9
comp=Z,300nm,26.1s
DZM Mont Dzumac 46.56 125 *e*P **P 08 04 30.7 -1.3**
comp=Z,22nm,0.9s
DZM Mont Dzumac 46.56 125 P **P 08 04 31.8 -0.2**
comp=Z,17nm,0.9s,baz=281,slow=4.3,SNR=10
GKN Gorkha 46.75 306 *e*P **P 08 04 32.9 -0.5**
comp=Z,25nm,0.5s
ULN Ulaanbaatar 47.16 342 *e*P **P 08 04 36.2 -0.1**
comp=Z,21nm,0.9s
ULN Ulaanbaatar 47.16 342 P **P 08 04 36.8 +0.5**
SNR=7.6
ULN Ulaanbaatar 47.16 342 P **P 08 04 39.0 +2.7**
SONM Songino Array 47.34 342 P **P 08 04 37.4 -0.3**
SONM PcP **PcP 08 06 08.7 +0.9**
SONM Songino Array 47.34 342 P **P 08 04 37.4 -0.3**
comp=Z,4.6nm,0.4s,baz=164,slow=8.7,SNR=25
SONM PcP **PcP 08 06 08.7 +0.9**
comp=Z,2.7nm,0.8s,baz=150,slow=3.2,SNR=2.0
SONM LR LR 08 27 24.3
comp=Z,338nm,19.7s,baz=22,slow=40
KOLN Koldanda 47.50 305 *e*P **P 08 04 39.0 -0.4**
comp=Z,51nm,0.3s
DANN Dangsing 47.59 306 *e*P **P 08 04 39.4 -0.8**
comp=Z,71nm,0.4s
HYB Hyderabad 49.07 290 *i*P **P 08 04 50.0 -1.4**
HYB *e* 08 04 59.0
CIT Chita 49.42 349 *e*P **P 08 04 53.9 +0.4**
CIT *e* 08 05 02.9
CIT pmax pmax
comp=Z,141nm,1.4s
ZAK Zakamensk 50.56 341 *e*P **P 08 05 01.4 -0.9**
ZAK *e* 08 06 18.5
ZAK pmax pmax
comp=Z,4.0nm,1.1s
TLY Talaya 51.57 342 *e*P **P 08 05 09.1 -0.6**
TLY *e*S S 08 12 17.2 -9.1
TLY pmax pmax
comp=Z,19nm,0.9s
TLY MLR MLR
comp=Z,294nm,20.0s
TLY Talaya 51.57 342 *e*P **P 08 05 10.7 +1.0**
comp=Z,16nm,0.8s
TLY Talaya 51.57 342 P **P 08 05 11.1 +1.3**
SNR=7.5
AGRA Agra 52.03 302 *e*PKP **P 08 05 12.4 -1.1**
AGRA AMb AMB 08 05 14.0
comp=Z,58nm,0.6s
MOY Mondy 52.42 340 *e*P **P 08 05 16.6 +0.4**
ASOR Ausora 52.66 304 *e*PKP **P 08 05 16.8 -1.4**
WMQ Urumqi 52.74 325 P **P 08 05 18.8 +0.2**
WMQ pP **pP 08 05 30.0 -3.7**
WMQ sP **sP** 08 05 34.0 -6.2
WMQ PcP **PcP 08 06 29.0 +1.4**
WMQ PP **PP 08 07 20.0 +1.6**
WMQ *e*S **S 08 12 41.0 -1.6**
WMQ ScS **ScS 08 14 59.0 -4.5**
WMQ pmax pmax
comp=Z,20nm,1.5s
WMQ pmax pmax
comp=Z,250nm,5.5s
WMQ LR LR
comp=N,900nm,20.3s
WMQ LR LR
comp=E,830nm,16.0s
WMQ LR LR
comp=Z,970nm,22.8s
DDI Dehra Dun 52.95 306 *e*PKP **P 08 05 19.0 -1.4**
CLNS Chul'man 53.04 359 *e*P **P 08 05 20.0 -0.6**
CLNS *e* 08 06 26.0
CLNS *e* 08 07 20.2
CLNS *e*PPP PPP 08 08 30.1
CLNS *e*S **S 08 12 45.6 -0.7**
CLNS *e* 08 15 06.7
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=Z,11nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS pmax pmax
comp=Z,5.0nm,1.0s
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,3.0nm,1.2s
CLNS smax smax
comp=N,150nm,11.9s
CLNS smax smax
comp=E,390nm,16.4s
NDI New Delhi 53.09 303 *e*PKP P 08 05 18.0 -3.4
AYAN Aya Nagar 53.11 303 *e*PKP **P 08 05 19.9 -1.6**
AYAN AMb AMB 08 05 22.2
comp=Z,48nm,1.3s
BHGR Bahadurgarh 53.33 303 *e*PKP **P 08 05 21.5 -1.6**
KUDL Kundal 53.54 303 *e*PKP **P 08 05 23.6 -1.0**
KUDL AMb AMB 08 05 24.3
comp=Z,79nm,0.8s
POO Poona 53.67 290‖ *i*P **P 08 05 23.0 -2.8**
comp=Z,50nm,1.0s
KKR Kurukshetra 53.83 305 *e*PKP **P 08 05 26.3 -0.6**
KHET Khetri 54.09 302 *e*PKP **P 08 05 27.9 -0.8**
KHET AMb AMB 08 05 29.3
comp=Z,64nm,1.0s
BOD Bodaibo 54.92 352 *e*P **P 08 05 34.3 +0.1**
BOD pmax pmax
comp=Z,22nm,1.5s
MSVF Nonsavu 54.95 115 *e*P **P 08 05 36.9 +1.7**
MSVF pmax pmax
comp=Z,82nm,1.0s
MSVF Nonsavu 54.95 115 *e*P **P 08 05 36.9 +1.7**
comp=Z,82nm,1.0s
MSVF Nonsavu 54.95 115 P **P 08 05 36.3 +1.1**
comp=Z,482nm,1.0s,SNR=7.8
PEA0B Petropavlovsk- 55.52 22 *e*P **P 08 05 39.4 +0.8**
PETK Petropavlovsk- 55.52 22 P **P 08 05 39.5 +0.9**
PETK Petropavlovsk- 55.52 22 P **P 08 05 39.5 +0.9**
PETK Petropavlovsk- 55.52 22 P **P 08 05 39.5 +0.9**
comp=Z,14nm,0.7s,baz=187,slow=3.6,SNR=26
PETK LR LR 08 26 21.1
comp=Z,129nm,20.8s,baz=220,slow=33
PET Petropavlovsk 55.82 23 *e*P **P 08 05 43.1 +2.4**
PET pmax pmax
comp=Z,13nm,0.5s
MK31 Makanchi Array 57.57 325 *i*P **P 08 05 52.4 -0.9**
MK31 pmax pmax
comp=Z,6.0nm,0.4s
MK31 Makanchi Array 57.57 325 *e*P **P 08 05 52.6 -0.7**
MKAR Makanchi Array 57.57 325 *e*P **P 08 05 52.6 -0.7**
MKAR Makanchi Array 57.57 325 *e*P **P 08 05 52.6 -0.7**
MKAR ScP **ScP 08 10 42.4 +1.0**
MKAR Makanchi Array 57.57 325 P **P 08 05 52.5 -0.9**
comp=Z,7.9nm,0.3s,baz=120,slow=7.4,SNR=91
MKAR ScP **ScP 08 10 42.4 +1.0**
comp=Z,0.4nm,0.6s,baz=152,slow=4.1,SNR=2.1
MKAR LR LR 08 32 18.4
comp=Z,455nm,20.1s,baz=115,slow=38
KSH Kashi 58.04 315 P **P 08 05 57.8 +0.9**
KSH pP **pP 08 06 14.3 +2.1**
KSH sP **sP 08 06 21.3 +2.7**
KSH PcP **PcP 08 06 48.0 -0.3**
KSH PP **PP 08 08 08.8 +2.8**
KSH ScP **ScP 08 10 41.0 -2.8**
KSH PcS **PcS 08 10 48.0 -1.8**
KSH S **S 08 13 53.8 +0.1**
KSH sS **sS 08 14 21.3 +1.8**
KSH ScS **ScS 08 15 38.3 -3.6**
KSH SS **SS 08 17 49.3 +3.5**
KSH LR LR
comp=N,200nm,6.6s
KSH LR LR
comp=E,160nm,5.2s
KSH LR LR
comp=Z,280nm,6.1s
YAK Yakutsk 58.28 2 *e*P **P 08 05 57.9 0.0**
YAK *e**PP **pP 08 06 11.7 -1.5**
YAK *e* 08 06 46.0
YAK *e* 08 08 07.1
YAK *e*S **S 08 13 57.7 +2.0**
YAK *e**SS **sS 08 14 23.9 +2.4**
YAK *e* 08 15 42.5
YAK pmax pmax
comp=N,21nm,1.3s
YAK pmax pmax
comp=Z,47nm,0.9s
YAK pmax pmax
comp=Z,190nm,4.9s
YAK smax smax
comp=E,133nm,3.0s
YAK smax smax
comp=N,105nm,2.8s
YAK Yakutsk 58.28 2 *e*P **P 08 05 58.6 +0.7**
comp=N,54nm,0.8s
ULHL Ulahol 59.02 318 P **P 08 06 04.7 +0.9**
SNR=14
KZA Kyzart 59.61 318 P **P 08 06 09.1 +1.0**
SNR=6.6
TKM2 Tokmak 2 59.75 319 *i*P **P 08 06 08.7 -0.1**
TKM2 Tokmak 2 59.75 319 *e*P **P 08 06 08.3 -0.4**
comp=N,33nm,1.0s
TKM2 Tokmak 2 59.75 319 P **P 08 06 08.7 -0.1**
SNR=28
KBK Karagaybulak 60.06 318 P **P 08 06 12.0 +1.1**
SNR=10.0
UCH Uchtor 60.17 317 P **P 08 06 13.5 +1.5**
SNR=8.7
CHMS Chumysh 60.34 318 P **P 08 06 13.0 +0.4**
SNR=6.7
AAK Ala-Archa 60.36 318*d i*P **P 08 06 13.4 +0.5**
AAK pmax pmax
comp=Z,80nm,2.0s
AAK Ala-Archa 60.36 318 *e*P **P 08 06 13.8 +0.9**
comp=Z,174nm,1.4s
AAK Ala-Archa 60.36 318 P **P 08 06 13.8 +0.9**
comp=Z,72nm,0.8s,SNR=11
AAK Ala-Archa 60.36 318 P **P 08 06 13.6 +0.7**
SNR=12
AAK Ala-Archa 60.36 318 P **P 08 06 13.8 +0.9**
SNR=14
AAK Ala-Archa 60.36 318 P **P 08 06 12.5 -0.4**
comp=Z,5.0nm,0.6s,baz=93,slow=5.2,SNR=19
AAK LR LR 08 36 13.0
comp=Z,189nm,20.1s,baz=135,slow=40
ZAA0 Zalesovo Array 60.62 333 *e*P **P 08 06 13.8 -0.5**
ZALV Zalesovo Beam 60.62 333 P **P 08 06 12.9 -1.3**
ZALV Zalesovo Beam 60.62 333 P **P 08 06 12.9 -1.3**
ZALV Zalesovo Beam 60.62 333 P **P 08 06 12.9 -1.3**
comp=Z,2.9nm,0.3s,baz=114,slow=7.2,SNR=11
ZALV LR LR 08 33 59.5
comp=Z,264nm,19.2s,baz=85,slow=38
USP Ospenovka 60.62 319 P **P 08 06 15.1 +0.5**
SNR=25
AML Almayashu 60.69 317 P **P 08 06 16.8 +1.3**
SNR=44
EKS2 Erkin-Say 60.85 318 *e*P **P 08 06 16.5 +0.3**
EKS2 pmax pmax
comp=Z,33nm,0.9s
EKS2 Erkin-Say 60.85 318 *e*P **P 08 06 16.5 +0.3**
comp=Z,33nm,0.9s
EKS2 Erkin-Say 60.85 318 P **P 08 06 17.6 +1.3**
SNR=30
KBL Kabul 61.50 308 *e*P **P 08 06 20.3 -0.6**
KBL pmax pmax
comp=Z,25nm,1.0s
KBL Kabul 61.50 308 *e*P **P 08 06 20.3 -0.6**
comp=Z,25nm,1.0s
KURBB Kurchatov Arra 61.76 327 P **P 08 06 21.0 -1.0**
comp=Z,28nm,0.6s,baz=128,slow=6.2,SNR=82
KURBB LR LR 08 33 05.7
comp=Z,145nm,21.9s,baz=135,slow=36
KURK Kurchatov 61.76 328*c i*P **P 08 06 21.1 -0.9**
KURK pmax pmax
comp=Z,99nm,1.2s
KURK Kurchatov 61.76 328 *e*P **P 08 06 21.4 -0.6**
comp=Z,52nm,0.7s
KURK Kurchatov 61.76 328 P **P 08 06 21.8 -0.2**
comp=Z,479nm,0.5s,SNR=42
NVS Novosibirsk 61.90 333 *e*P **P 08 06 21.0 -1.9**
NVS *e*S **S 08 14 38.7 -3.7**
NVS pmax pmax
comp=Z,20nm,1.2s
NVS pmax pmax
comp=E,10.0nm,1.4s
NVS smax smax
comp=E,20nm,1.8s
SEY Seymchan 62.12 13‖ *e*P **P 08 06 26.0 +1.8**
KK31 Karatay Array 63.23 317 *i*P **P 08 06 31.7 -0.3**
KK31 pmax pmax
comp=Z,37nm,1.0s
KKAR Karatay Array 63.23 317 *e*P **P 08 06 32.6 +0.6**
KKAR pmax pmax
comp=Z,21nm,0.8s
KKAR Karatay Array 63.23 317 *e*P **P 08 06 32.6 +0.6**
comp=Z,21nm,0.8s
BVA0 Borovoye Array 67.34 327 *i*P **P 08 06 57.6 -0.8**
BVA0 pmax pmax
comp=Z,12nm,1.1s
BVAR Borovoye Array 67.34 327 P **P 08 06 58.0 -0.4**
BVAR Borovoye Array 67.34 327 P **P 08 06 58.0 -0.4**
BVAR Borovoye Array 67.34 327 P **P 08 06 58.0 -0.4**
comp=Z,41nm,1.0s,baz=126,slow=7.5,SNR=64
BVAR LR LR 08 38 15.3
comp=Z,185nm,21.6s,baz=114,slow=38
BRVK Borovoye 67.41 327*c i*P **P 08 06 58.2 -0.6**
BRVK pmax pmax
comp=Z,92nm,1.2s
BRVK Borovoye 67.41 327 *e*P **P 08 06 57.6 -1.2**
comp=Z,68nm,1.0s
BRVK Borovoye 67.41 327 P **P 08 06 58.2 -0.6**
comp=Z,375nm,1.0s,SNR=34
BRVK Borovoye 67.41 327 P **P 08 06 59.0 +0.1**
SNR=21
ZRNK Zerenda 68.06 327 P **P 08 07 01.9 -1.1**
ZRNK pmax pmax
comp=Z,37nm,0.5s
IDAH Dahanechah 68.55 304 *e*P **P 08 07 07.0 +0.2**
IMYA Miami 69.02 308 *e*P **P 08 07 08.6 -0.9**
ISRO Mashad 69.51 307 *e*P **P 08 07 10.8 -1.7**
IMOG Moghan 69.58 307 *e*P **P 08 07 13.0 -0.1**
BILL Bilibino 69.64 15 *e*P **P 08 07 14.4 +1.9**
BILL *i* 08 07 34.9
BILL *e* 08 09 46.2
BILL pmax pmax
comp=Z,16nm,2.5s
BILL MLR MLR
comp=Z,200nm,17.0s
BILL Bilibino 69.64 15 *e*P **P 08 07 12.8 +0.3**
comp=Z,5.6nm,0.9s
IKRD Kardeh 70.36 308 *e*P P 08 07 12.2 -5.6
DRV Dumont d'Urvil 70.81 174 S S 08 16 16.0 -14
AB31 Akbulak array 72.16 321 *i*P **P 08 07 27.1 -1.0**
AB31 pmax pmax
comp=Z,8.0nm,0.6s
ABKAR Akbulak array 72.16 321 *e*P **P 08 07 27.7 -0.4**
comp=Z,13nm,0.7s
ICHK Chekchek 73.05 302 *e*P **P 08 07 33.7 -0.4**
AKTO Aktyubinsk 73.67 322 P **P 08 07 36.9 -0.2**
AKTO Aktyubinsk 73.67 322 P **P 08 07 36.9 -0.2**
AKTO Aktyubinsk 73.67 322 P **P 08 07 36.9 -0.2**
comp=Z,4.4nm,0.3s,baz=101,slow=7.4,SNR=34
IANJ Anjilo 73.84 306 *e*P **P 08 07 37.7 -1.0**
ISRV Sarvestan 73.87 299 *e*P **P 08 07 38.3 -0.8**
IPAR Pars 73.97 300 *e*P **P 08 07 38.0 -1.6**
SVE Sverdlovsk 73.98 328‖ *e*P **P 08 07 38.6 -0.1**
SVE pmax pmax
comp=Z,45nm,1.1s

IALA	**Alasht**	**74.80**	**306**	*eP*		**P**	**08 07 43.7**	**-0.6**
ARU	**Arti**	**74.95**	**328c**	*i*P		**P**	**08 07 43.4**	**-1.0**
ARU				S		**S**	**08 17 19.0**	**+1.5**
ARU				pmax	pmax			
	comp=Z,34nm,1.2s							
ARU	**Arti**	**74.95**	**328**	*eP*		**P**	**08 07 43.2**	**-1.1**
	comp=Z,19nm,0.8s							
ARU	**Arti**	**74.95**	**328**	P		**P**	**08 07 43.7**	**-0.7**
	comp=Z,162nm,1.0s,SNR=7.8							
ISFB	**Sefidab**	**75.08**	**304**	*eP*		**P**	**08 07 45.3**	**-0.4**
IKLH	**Kolahrood**	**75.53**	**303**	*eP*		**P**	**08 07 47.6**	**-0.9**
SOKR	**Solikamsk**	**76.73**	**331** ⇓	*i*P		**P**	**08 07 54.5**	**+0.1**
SOKR				pmax	pmax			
	comp=Z,20nm,1.4s							
SOKR				MLR	MLR			
	comp=Z,270nm,24.0s							
QRN	**Al-Qurain**	**78.37**	**298**	*eP*		**P**	**08 08 02.8**	**-1.4**
QRN				AMb	AMB	AMB	08 08 05.0	
	comp=Z,39nm,0.3s							
MIB	**Mutribah**	**78.92**	**300**	*eP*		**P**	**08 08 06.0**	**-1.3**
MIB				AMb	AMB	AMB	08 08 08.0	
	comp=Z,44nm,0.7s							
NAY	**Al-Naaiem**	**78.98**	**299**	*eP*		**P**	**08 08 06.2**	**-1.5**
NAY				AMb	AMB	AMB	08 08 08.2	
	comp=Z,32nm,0.8s							
IHRS	**Heris**	**79.59**	**308**	*eP*		**P**	**08 08 08.6**	**-2.4**
IDHR	**Dehrash**	**79.92**	**304**	*eP*		**P**	**08 08 12.4**	**-0.5**
IMRD	**Marand**	**80.66**	**308**	*eP*		**P**	**08 08 16.4**	**-0.3**
ABPO	**Ambohimpanom**	**81.21**	**250**	*eP*		**P**	**08 08 19.5**	**-0.6**
ABPO				pmax	pmax			
	comp=Z,10.0nm,0.7s							
ABPO	**Ambohimpanom**	**81.21**	**250**	*eP*		**P**	**08 08 19.4**	**-0.6**
	comp=Z,10nm,0.7s							
ZEI	**Tsey**	**82.21**	**312**	*eP*		**P**	**08 08 24.1**	**-0.8**
ZEI				pmax	pmax			
	comp=Z,21nm,1.4s							
KIV	**Kislovodsk**	**83.13**	**314**	*eP*		**P**	**08 08 30.3**	**+0.8**
KIV				*i*			08 11 41.4	
KIV				pmax	pmax			
	comp=Z,12nm,1.2s							
KIV				MLR	MLR			
	comp=Z,100nm,17.0s							
TRF	**Thorofare Moun**	**83.64**	**27**	*eP*		**P**	**08 08 34.5**	**+2.7**
	comp=Z,15nm,0.9s							
RC01	**Rabbit Creek A**	**83.72**	**29**	*eP*		**P**	**08 08 33.8**	**+1.7**
	comp=Z,16nm,0.6s							
COLD	**Coldfoot**	**83.99**	**23**	*eP*		**P**	**08 08 35.2**	**+1.9**
	comp=Z,18nm,0.9s							
PMR	**Palmer**	**84.04**	**29**	*eP*		**P**	**08 08 34.3**	**+0.7**
PMR				pmax	pmax			
	comp=Z,24nm,1.1s							
PMR	**Palmer**	**84.04**	**29**	*eP*		**P**	**08 08 34.3**	**+0.7**
	comp=Z,24nm,1.1s							
VRHR	**Novokhopersk**	**84.05**	**321**	*eP*		**P**	**08 08 32.9**	**-1.0**
VRHR				pmax	pmax			
	comp=Z,20nm,0.9s							
VRHR				pmax	pmax			
	comp=N,5.0nm,0.4s							
VRHR				pmax	pmax			
	comp=E,7.0nm,0.9s							
MCK	**McKinley**	**84.26**	**26**	*eP*		**P**	**08 08 34.9**	**+0.2**
MCK				pmax	pmax			
	comp=Z,21nm,0.9s							
MCK	**McKinley**	**84.26**	**26**	*eP*		**P**	**08 08 34.9**	**+0.2**
	comp=Z,21nm,0.9s							
SML	**Sawmill**	**84.43**	**28**	*eP*		**P**	**08 08 35.9**	**+0.2**
SML				pmax	pmax			
	comp=Z,11nm,1.0s							
SML	**Sawmill**	**84.43**	**28**	*eP*		**P**	**08 08 35.9**	**+0.2**
	comp=Z,11nm,1.0s							
PPT2	**Papeete2**	**85.17**	**108**	*e*LR		LR	08 35 39.8	
	comp=Z,221nm,27.5s							
ILAR	**Eielson Array**	**85.20**	**25**	P		**P**	**08 08 39.4**	**-0.1**
ILAR	**Eielson Array**	**85.20**	**25**	P		**P**	**08 08 39.4**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=247,slow=5.2,SNR=19							
KLMR	**Klimovskoe**	**85.43**	**331**	*d*P		**P**	**08 08 41.0**	**+0.4**
KLMR				pmax	pmax			
	comp=Z,142nm,1.3s							
VORD	**Divnogorie**	**85.52**	**321**	*eP*		**P**	**08 08 40.5**	**-0.8**
VSR	**Storozhevoye**	**85.59**	**321**	*eP*		**P**	**08 08 41.1**	**-0.6**
VSR				pmax	pmax			
	comp=Z,40nm,1.3s							
VSR				pmax	pmax			
	comp=N,4.0nm,0.6s							
VSR				pmax	pmax			
	comp=E,30nm,1.3s							
DIV	**Divide**	**85.64**	**29**	*eP*		**P**	**08 08 43.1**	**+1.3**
	comp=E,25nm,0.8s							
PAX	**Paxson**	**85.80**	**27**	*eP*		**P**	**08 08 43.7**	**+1.1**
PAX				pmax	pmax			
	comp=Z,28nm,1.5s							
PAX	**Paxson**	**85.80**	**27**	*eP*		**P**	**08 08 43.7**	**+1.1**
	comp=Z,28nm,1.5s							
TBI	**Tubuai**	**85.83**	**114**	*e*SS		SS	08 24 57.3	+6.3
	comp=Z,91nm,32.0s							
TBI				*e*LR		LR	08 35 59.3	
	comp=Z,252nm,28.0s							
BMRM	**Bremner River**	**86.22**	**29**	*eP*		**P**	**08 08 45.8**	**+1.1**
	comp=Z,80nm,1.5s							
MOS	**Moscow**	**86.45**	**325**	*eP*		**P**	**08 08 44.5**	**-1.3**
MOS				*e*			08 12 07.0	
MOS				pmax	pmax			
	comp=Z,112nm,1.6s							
ANN	**Anapa**	**86.89**	**315**	*eP*		**P**	**08 08 45.5**	**-2.7**
ANN				*e*			08 19 08.3	
ANN				pmax	pmax			
	comp=Z,70nm,1.3s							
OBN	**Obninsk**	**87.07**	**325** ⇓	*i*P		**P**	**08 08 48.7**	**-0.1**
OBN				*i*			08 08 55.1	
OBN				*e*			08 12 20.1	
OBN				pmax	pmax			
	comp=Z,129nm,1.6s							
OBN				MLR	MLR			
	comp=Z,200nm,20.0s							
OBN	**Obninsk**	**87.07**	**325**	*eP*		**P**	**08 08 49.0**	**+0.1**
	comp=Z,63nm,0.8s							
ASF	**Jabal al Asfar**	**87.87**	**302**	P		**P**	**08 08 53.7**	**+0.4**
ASF	**Jabal al Asfar**	**87.87**	**302**	P		**P**	**08 08 53.7**	**+0.4**
	comp=Z,12nm,0.9s,baz=323,slow=3.0,SNR=23							
APA	**Apatity**	**87.89**	**337** ⇑	*eP*		**P**	**08 08 51.4**	**-1.1**
APA				MLR	MLR			
	comp=Z,1μm,14.0s							
MMAI	**Mount Meron Ar**	**89.08**	**303**	P		**P**	**08 08 59.3**	**+0.3**
MMAI	**Mount Meron Ar**	**89.08**	**303**	P		**P**	**08 08 59.3**	**+0.3**
	comp=Z,2.8nm,0.5s,baz=81,slow=5.2,SNR=6.6							
JOF	**Joensuu**	**89.21**	**333**	*eP*		**P**	**08 08 57.6**	**-1.2**
JOF				pmax	pmax			
	comp=Z,7.0nm,0.5s							
JOF	**Joensuu**	**89.21**	**333**	*ep*		**P**	**08 08 57.6**	**-1.2**
	comp=Z,7.4nm,0.5s							
KMBO	**Kilima Mbogo**	**89.47**	**269**	*eP*		**P**	**08 09 01.9**	**+0.5**
	comp=Z,26nm,1.3s							
KMBO	**Kilima Mbogo**	**89.47**	**269**	P		**P**	**08 09 02.7**	**+1.2**
	SNR=9.2							
EIL	**Elat**	**89.69**	**300**	P		**P**	**08 09 02.0**	**+0.2**
EIL	**Elat**	**89.69**	**300**	P		**P**	**08 09 02.0**	**+0.2**
	comp=Z,11nm,0.8s,baz=118,slow=2.3,SNR=9.1							
KEV	**Kevo**	**89.93**	**340**	*eP*		**P**	**08 09 00.7**	**-1.3**
KEV				pmax	pmax			
	comp=Z,4.0nm,0.6s							
KEV	**Kevo**	**89.93**	**340**	*ep*		**P**	**08 09 00.7**	**-1.3**
	comp=Z,3.8nm,0.6s							
BR131	**Keskin Array S**	**90.01**	**310**	*eP*		**P**	**08 09 02.5**	**-0.7**
	comp=Z,8.1nm,0.9s							
BRTR	**Keskin Array B**	**90.01**	**310**	P		**P**	**08 09 02.5**	**-0.7**
BRTR	**Keskin Array B**	**90.01**	**310**	P		**P**	**08 09 02.5**	**-0.7**
	comp=Z,6.4nm,0.9s,baz=119,slow=3.8,SNR=19							
BRTR				LR		LR	08 57 47.2	
	comp=Z,83nm,18.2s,baz=282,slow=41							
INK	**Inuvik**	**90.26**	**21**	*eP*		**P**	**08 09 04.1**	**+0.5**
	comp=Z,11nm,1.3s							
ARCES	**ARCESS Array B**	**90.49**	**340**	P		**P**	**08 09 04.6**	**-0.1**
ARCES	**ARCESS Array B**	**90.49**	**340**	P		**P**	**08 09 04.6**	**-0.1**
	comp=Z,4.1nm,0.4s,baz=77,slow=5.9,SNR=50							
ARCES				LR		LR	08 52 24.1	
	comp=Z,175nm,20.7s,baz=350,slow=37							
KAF	**Kangasniemi**	**91.62**	**332**	*eP*		**P**	**08 09 08.2**	**-1.9**
KAF				pmax	pmax			
	comp=Z,5.0nm,0.6s							
KAF	**Kangasniemi**	**91.62**	**332**	*ep*		**P**	**08 09 08.2**	**-1.9**
	comp=Z,4.6nm,0.6s							
FINES	**FINESS Array B**	**91.86**	**332**	P		**P**	**08 09 11.4**	**+0.2**
FINES	**FINESS Array B**	**91.86**	**332**	P		**P**	**08 09 11.4**	**+0.2**
	comp=Z,1.6nm,0.4s,baz=46,slow=3.7,SNR=9.3							
FINES				LR		LR	08 54 51.6	
	comp=Z,190nm,19.5s,baz=314,slow=38							
AKASG	**Malin Array Be**	**91.90**	**321**	*ce*P		**P**	**08 09 10.8**	**-0.8**
AKASG				pmax	pmax			
	comp=Z,5.0nm,0.7s							
AKASG	**Malin Array Be**	**91.90**	**321**	P		**P**	**08 09 10.9**	**-0.7**
AKASG	**Malin Array Be**	**91.90**	**321**	P		**P**	**08 09 10.9**	**-0.7**
	comp=Z,4.8nm,0.7s,baz=67,slow=4.6,SNR=14							
AKASG				LR		LR	08 56 18.4	
	comp=Z,180nm,20.5s,baz=65,slow=39							
KIEV	**Kiev**	**91.91**	**321**	*eP*		**P**	**08 09 10.2**	**-1.5**
KIEV				pmax	pmax			
	comp=Z,20nm,1.5s							
KIEV	**Kiev**	**91.91**	**321**	*eP*		**P**	**08 09 10.2**	**-1.5**
	comp=Z,20nm,1.5s							
VSU	**Vasula**	**92.09**	**329** ⇑	*eP*		**P**	**08 09 14.6**	**+2.3**
VSU				pmax	pmax			
	comp=Z,29nm,1.7s							
QSPA	**South Pole Qui**	**93.57**	**180**	P		**P**	**08 09 20.4**	**+1.3**
QSPA	**South Pole Qui**	**93.57**	**180**	P		**P**	**08 09 20.4**	**+1.3**
	comp=Z,2.1nm,0.9s,baz=153,slow=4.5,SNR=4.7							
TESR		**94.24**	**317** ⇓	*i*P		**P**	**08 09 22.5**	**0.0**
VRI	**Vrincioaia**	**94.29**	**316** ⇑	*i*P		**P**	**08 09 23.6**	**+0.8**
VRI	**Vrincioaia**	**94.29**	**316** ⇑	*i*P		**P**	**08 09 23.6**	**+0.8**
MLR	**Muntele Rosu**	**94.90**	**316** ⇑	*i*P		**P**	**08 09 25.3**	**-0.4**
BURAR	**Bucovina Array**	**95.00**	**318** ⇓	*i*P		**P**	**08 09 26.7**	**+0.6**
BUR08	**Bucovina Ar. S**	**95.01**	**318**	*eP*		**P**	**08 09 25.9**	**-0.2**
KWP	**Kalwaria Pacla**	**96.21**	**321** ⇑	P		**P**	**08 09 32.2**	**+0.7**
KWP	**Kalwaria Pacla**	**96.21**	**321** ⇑	*i*P		**P**	**08 09 32.2**	**+0.7**
KOLS	**Kolonicke sedl**	**96.65**	**320**	*eP*		**P**	**08 09 34.1**	**+0.6**
KOLS				pmax	pmax			
	comp=Z,9.0nm,1.3s							
KOLS	**Kolonicke sedl**	**96.65**	**320**	*eP*		**P**	**08 09 34.1**	**+0.6**
KOLS				*e*pP		**pP**	**08 09 49.8**	**0.0**
UZH	**Uzhgorod**	**96.70**	**320** ⇑	*i*P		**P**	**08 09 33.3**	**-0.4**
UZH				*i*			08 09 43.1	
CRVS	**Cervenica-Dubn**	**97.18**	**320**	*eP*		**P**	**08 09 35.8**	**-0.1**
CRVS				pmax	pmax			
	comp=Z,31nm,1.7s							
CRVS	**Cervenica-Dubn**	**97.18**	**320**	*eP*		**P**	**08 09 35.8**	**-0.1**
NB2	**NORSAR Subarra**	**98.81**	**334**	P		**P**	**08 09 41.7**	**-1.3**
	comp=Z,5.2nm,1.0s,baz=66,slow=4.6							
NOA	**NORSAR Array B**	**98.81**	**334**	P		**P**	**08 09 42.2**	**-0.8**
NOA	**NORSAR Array B**	**98.81**	**334**	P		**P**	**08 09 42.2**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=68,slow=4.6,SNR=5.4							
NOA				LR		LR	08 59 07.6	
	comp=Z,230nm,19.7s,baz=50,slow=38							
VYHS	**Vyhne**	**98.96**	**320**	*eP*		Pdif	08 09 44.1	+0.2
VYHS				pmax	pmax			
	comp=Z,11nm,2.0s							
VYHS	**Vyhne**	**98.96**	**320**	PDIF		Pdif	08 09 44.1	+0.2
YKA	**Yellowknife Ar**	**99.59**	**24**	P		**Pdif**	**08 09 46.3**	**0.0**
YKA	**Yellowknife Ar**	**99.59**	**24**	P		**Pdif**	**08 09 46.3**	**0.0**
	comp=Z,0.3nm,0.6s,baz=297,slow=4.2,SNR=9.5							
BRG	**Berggiesshubel**	**101.25**	**323**	*eP*		**Pdif**	**08 09 55.2**	**+1.2**
	comp=Z,8.8nm,1.3s							
BRG	**Berggiesshubel**	**101.25**	**323**	*eP*		**Pdif**	**08 09 55.2**	**+1.2**
BRG				pmax	pmax			
	comp=Z,9.0nm,1.3s							
GERES	**GERESS Array B**	**102.09**	**322**	P		**Pdif**	**08 09 58.5**	**+0.5**
GERES				PP		**PP**	**08 14 11.6**	**+1.7**
GERES	**GERESS Array B**	**102.09**	**322**	P		**Pdif**	**08 09 58.5**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=77,slow=5.9,SNR=7.8							
GERES				PP		**PP**	**08 14 11.6**	**+1.7**
	comp=Z,0.7nm,0.9s,baz=40,slow=7.0,SNR=5.2							
NVAR	**Mina Array Bea**	**107.01**	**48**	Pdif		**Pdif**	**08 10 23.3**	**+3.1**
NVAR	**Mina Array Bea**	**107.01**	**48**	Pdiff		**Pdif**	**08 10 23.3**	**+3.1**
	comp=Z,0.1nm,0.4s,baz=260,slow=5.4,SNR=2.5							
MNTX	**Cornudas Mount**	**119.35**	**50** ⇑	P		**PKPdf**	**08 14 53.8**	**+0.7**
	baz=119							
425A	**Indio Mountain**	**120.05**	**51** ⇓	P		**PKPdf**	**08 14 54.9**	**+0.3**
	baz=120							
Z27A	**Tatum**	**120.26**	**48** ⇑	P		**PKPdf**	**08 14 55.2**	**+0.3**
	baz=120							
SCHQ	**Schefferville**	**120.65**	**9**	PKP		**PKPdf**	**08 14 54.6**	**-0.2**
SCHQ	**Schefferville**	**120.65**	**9**	PKP		**PKPdf**	**08 14 54.6**	**-0.2**
	comp=Z,1.8nm,0.9s,baz=243,slow=6.8,SNR=3.0							
526A	**Mary Lane Ranc**	**121.06**	**52**	P		**PKPdf**	**08 14 57.4**	**+0.8**
	baz=121							
527A	**Woodward Ranch**	**121.39**	**51** ⇓	P		**PKPdf**	**08 14 56.9**	**-0.3**
	baz=121							
TXAR	**Lajitas Array**	**121.70**	**52**	PKP		**PKPdf**	**08 14 59.1**	**+1.3**
TXAR	**Lajitas Array**	**121.70**	**52**	PKP		**PKPdf**	**08 14 59.1**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=262,slow=1.2,SNR=5.6							
428A	**Kincaid Ranch,**	**121.85**	**50** ⇓	P		**PKPdf**	**08 14 58.9**	**+0.9**
	baz=122							
627A	**Terlingua Ranc**	**121.87**	**52** ⇓	P		**PKPdf**	**08 14 59.2**	**+1.1**
	baz=122							
528A	**Cox Ranch, San**	**122.03**	**51** ⇓	P		**PKPdf**	**08 14 59.0**	**+0.6**
	baz=122							
529A	**Stev Forest Ra**	**122.48**	**51** ⇓	P		**PKPdf**	**08 14 59.7**	**+0.4**
	baz=122							
TORD	**Torodi Ar. Bea**	**122.87**	**288**	PKPpre		PKPpre	08 14 57.6	
TORD				PKP		**PKiKP**	**08 15 00.7**	**+0.2**
TORD	**Torodi Ar. Bea**	**122.87**	**288**	PKhKP		PKPpre	08 14 57.6	
	comp=Z,2.0nm,0.8s,baz=53,slow=1.7,SNR=11							
TORD				PKP		**PKiKP**	**08 15 00.7**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=61,slow=1.7,SNR=11							
JCT	**Junction City**	**124.16**	**49**	*e*PKiKP		**PKPdf**	**08 15 04.1**	**+1.7**
JCT	**Junction City**	**124.16**	**49**	*e*PKPdf		**PKPdf**	**08 15 04.1**	**+1.7**
PLCA	**Paso Flores**	**139.97**	**160**	PKP		**PKPdf**	**08 15 30.8**	**-1.1**
PLCA	**Paso Flores**	**139.97**	**160**	PKP		**PKPdf**	**08 15 30.8**	**-1.1**
	comp=Z,1.1nm,0.9s,baz=230,slow=7.2,SNR=2.3							
LPAZ	**La Paz**	**160.80**	**132**	*e*PKPdf		**PKPdf**	**08 16 06.5**	**+1.6**
LPAZ				PKP		**PKPdf**	**08 16 06.8**	**+1.9**
LPAZ	**La Paz**	**160.80**	**132**	PKP		**PKPdf**	**08 16 06.8**	**+1.9**
	comp=Z,2.7nm,1.1s,baz=306,slow=5.7,SNR=5.1							

IDC 13 08:03:18.1±1.9, 4.13N×127.78E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/20, mbtmpb3.9/4, MS3.6/1, Ms1 3.6/1, ms1mx3.1/32, Error ellipse: s-maj=188.3km s-min=21.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.65**	**323**	LR	LR	08 05 22.7	
	comp=Z,916nm,21.9s,baz=175,slow=34						
WRA	**Warramunga Arr**	**24.77**	**165**	P	P	08 08 39.9	-2.0
	2.5nm,0.7s,baz=346,slow=10,SNR=8.0						
STKA	**Stephens Creek**	**38.15**	**161**	P	P	08 10 40.9	+1.6
	3.0nm,1.0s,baz=320,slow=7.9,SNR=3.6						
MKAR	**Makanchi Array**	**57.83**	**325**	P	P	08 13 11.7	+0.1
	0.3nm,0.4s,baz=115,slow=7.1,SNR=8.4						
KURBB	**Kurchatov Arra**	**61.98**	**327**	P	P	08 13 39.7	-0.2
	0.5nm,0.5s,baz=128,slow=6.1,SNR=7.2						

IDC 13 08:09:50.7±1.9, 4.85N×127.91E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/21, mbtmpb3.7/5, Error ellipse: s-maj=124.6km s-min=20.3km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.92**	**186**	P	P	08 14 56.2	-0.2
	2.4nm,0.6s,baz=14,slow=10,SNR=6.6						
ASAR	**Alice Springs**	**28.94**	**169**	P	P	08 15 52.8	+0.8
	0.4nm,0.5s,baz=346,slow=7.9,SNR=5.6						
STKA	**Stephens Creek**	**38.78**	**161**	P	P	08 17 16.3	-0.9
	2.0nm,0.8s,baz=331,slow=7.0,SNR=3.8						
MKAR	**Makanchi Array**	**57.32**	**324**	P	P	08 19 40.4	-0.1
	0.3nm,0.4s,baz=122,slow=7.5,SNR=14						
KURBB	**Kurchatov Arra**	**61.44**	**327**	P	P	08 20 08.9	0.0
	0.3nm,0.4s,baz=127,slow=6.4,SNR=4.4						

IDC 13 08:22:50.0±1.8, 4.11N×127.23E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/21, mbtmpb3.7/5, Error ellipse: s-maj=125.9km s-min=20.6km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.13**	**184**	P	P	08 27 47.3	0.0
	1.1nm,0.6s,baz=13,slow=15,SNR=2.5						
ASAR	**Alice Springs**	**28.37**	**167**	P	P	08 28 45.7	-0.3
	0.2nm,0.5s,baz=349,slow=8.1,SNR=4.9						
STKA	**Stephens Creek**	**38.31**	**160**	P	P	08 30 12.7	+0.2
	1.7nm,0.7s,baz=336,slow=10,SNR=5.1						
MKAR	**Makanchi Array**	**57.53**	**325**	P	P	08 32 41.8	+0.5
	0.4nm,0.5s,baz=121,slow=7.1,SNR=7.3						
KURBB	**Kurchatov Arra**	**61.69**	**327**	P	P	08 33 09.2	-0.7
	0.5nm,0.5s,baz=128,slow=6.5,SNR=4.6						

IDC 13 08:23:35.8±0.9, 4.12N×126.65E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.9/23, mbtmpb3.9/10, MS3.2/2, Ms1 3.2/2, ms1mx2.6/31, Error ellipse: s-maj=49.4km s-min=16.7km az=69.0

ISCJB 13 08:23:40.1±0.6, 4.1N±0.1×126.6E±0.2, h45km, mb4.0/12, MS3.1/1, Error ellipse: s-maj=38.0km s-min=10.9km az=157.6

NEIC 13 08:23:41.0±0.5, 4.12N×126.70E, h35km, mb4.3/4, Error ellipse: s-maj=31.2km s-min=9.3km az=69.0

ISC 13 08:23:42.1±0.8, 4.1N±0.1×126.7E±0.2, h45km, n25, σ0.993/23, mb4.0/12, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.20**	**339**	LR	LR	08 26 05.0	
	comp=Z,306nm,18.1s,baz=184,slow=48						
CTBH	**Cotabato--PC H**	**4.00**	**322** ⇑	*eP*	**Pn**	**08 24 42.8**	**+1.9**
GUMO	**Guam**	**20.23**	**61**	LR	LR	08 34 21.3	
	comp=Z,94nm,20.4s,baz=115,slow=32						
FITZ	**Fitzroy Crossi**	**22.06**	**183**	*eP*	**P**	**08 28 35.1**	**+1.8**
	87nm,1.9s						
FITZ	**Fitzroy Crossi**	**22.06**	**183**	P	**P**	**08 28 33.9**	**+0.7**
	1.2nm,0.5s,baz=21,slow=11,SNR=3.9						
WRAB	**Tennant Creek**	**25.00**	**163**	*eP*	**P**	**08 29 01.7**	**-0.2**
	5.8nm,0.8s						
ASAR	**Alice Springs**	**28.44**	**166**	P	**P**	**08 29 32.5**	**-0.4**
ASAR	**Alice Springs**	**28.44**	**166**	P	**P**	**08 29 32.5**	**-0.4**
	0.4nm,0.3s,baz=339,slow=7.8,SNR=5.3						
CMAR	**Chiang Mai Arr**	**30.71**	**300**	P	**P**	**08 29 51.7**	**-1.4**
CMAR	**Chiang Mai Arr**	**30.71**	**300**	P	**P**	**08 29 51.7**	**-1.4**
	0.7nm,0.3s,baz=110,slow=7.1,SNR=5.2						
STKA	**Stephens Creek**	**38.44**	**159**	*eP*	**P**	**08 30 59.4**	**-0.3**
	1.5nm,1.1s						
STKA	**Stephens Creek**	**38.44**	**159**	P	**P**	**08 30 59.8**	**+0.1**
	1.9nm,0.5s,baz=358,slow=10.0,SNR=4.6						
SONM	**Songino Array**	**46.98**	**341**	P	**P**	**08 32 09.3**	**+0.4**
SONM	**Songino Array**	**46.98**	**341**	P	**P**	**08 32 09.3**	**+0.4**
	0.8nm,0.5s,baz=167,slow=8.6,SNR=2.4						
MK31	**Makanchi Array**	**57.29**	**325**	*eP*	**P**	**08 33 24.7**	**-0.6**
MKAR	**Makanchi Array**	**57.29**	**325**	P	**P**	**08 33 24.3**	**-1.0**
MKAR	**Makanchi Array**	**57.29**	**325**	P	**P**	**08 33 24.3**	**-1.0**
	0.9nm,0.4s,baz=118,slow=7.5,SNR=16						
KURBB	**Kurchatov Arra**	**61.46**	**327**	P	**P**	**08 33 52.8**	**-1.2**
	0.6nm,0.4s,baz=129,slow=6.0,SNR=6.0						
KURK	**Kurchatov**	**61.46**	**327**	*eP*	**P**	**08 33 53.0**	**-1.1**
	2.2nm,0.7s						
BVAR	**Borovoye Array**	**67.05**	**327**	P	**P**	**08 34 30.5**	**-0.1**
BVAR	**Borovoye Array**	**67.05**	**327**	P	**P**	**08 34 30.5**	**-0.1**
	1.0nm,0.8s,baz=121,slow=7.8,SNR=5.8						
AKTO	**Aktyubinsk**	**73.40**	**322**	P	**P**	**08 35 09.4**	**-0.2**
AKTO	**Aktyubinsk**	**73.40**	**322**	P	**P**	**08 35 09.4**	**-0.2**
	1.0nm,0.8s,baz=79,slow=10,SNR=4.0						
ILAR	**Eielson Array**	**84.79**	**25**	P	**P**	**08 36 11.8**	**+0.2**
ILAR	**Eielson Array**	**84.79**	**25**	P	**P**	**08 36 11.8**	**+0.2**
	0.5nm,0.8s,baz=249,slow=4.9,SNR=4.9						

IDC 13 08:26:39.4±0.8, 3.67N×126.61E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/21, mbtmpb4.0/8, Error ellipse: s-maj=56.2km s-min=16.8km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.65**	**182**	P	P	08 31 31.7	+0.1
	2.7nm,0.8s,baz=34,slow=7.3,SNR=3.8						
WRA	**Warramunga Arr**	**24.66**	**162**	P	P	08 32 00.7	-1.4
	4.2nm,0.7s,baz=331,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**28.08**	**166**	P	P	08 32 34.7	+1.7
	0.4nm,0.3s,baz=350,slow=13,SNR=7.3						
ASAR				PcP	PcP	08 35 46.9	-0.8
	0.3nm,0.4s,baz=345,slow=2.2,SNR=5.5						
STKA	**Stephens Creek**	**38.11**	**159**	P	P	08 34 00.0	-0.2
	1.2nm,0.4s,baz=341,slow=9.2,SNR=3.5						
PETK	**Petropavlovsk-**	**55.53**	**22**	P	P	08 36 16.8	+0.4
	1.3nm,0.5s,baz=182,slow=6.5,SNR=5.2						
MKAR	**Makanchi Array**	**57.54**	**325**	P	P	08 36 30.2	-0.5
	0.8nm,0.5s,baz=112,slow=7.5,SNR=

ASAR	Alice Springs	28.34 165	P		P	08 39 31.4	-0.8	
	0.7nm,0.5s,baz=344,slow=7.3,SNR=14							
CMAR	Chiang Mai Arr	30.27 301	P		P	08 39 50.2	+0.8	
CMAR	Chiang Mai Arr	30.27 301	P		P	08 39 50.2	+0.8	
	0.9nm,0.3s,baz=108,slow=7.0,SNR=5.8							
STKA	Stephens Creek	38.42 158	*eP*		P	08 40 58.3	-1.2	
	1.2nm,0.8s							
STKA	Stephens Creek	38.42 158	P		P	08 40 58.7	-0.8	
	5.9nm,0.8s,baz=325,slow=7.5,SNR=10							
SONM	Songino Array	47.04 342	P		P	08 42 08.2	-0.9	
SONM	Songino Array	47.04 342	P		P	08 42 08.1	-0.9	
	0.8nm,0.6s,baz=157,slow=7.8,SNR=2.1							
MK31	Makanchi Array	57.13 326	*eP*		P	08 43 23.5	-0.3	
MKAR	Makanchi Array	57.13 326	P		P	08 43 23.2	-0.5	
MKAR			PcP		PcP	08 44 18.3	+1.0	
MKAR	Makanchi Array	57.13 326	P		P	08 43 23.2	-0.5	
	1.2nm,0.5s,baz=121,slow=7.4,SNR=25							
MKAR			PcP		PcP	08 44 18.3	+1.0	
	1.3nm,0.6s,baz=120,slow=4.9,SNR=5.7							
MKAR			LR		LR	09 11 03.2		
	comp=Z,42nm,18.5s,baz=223,slow=39							
ZALV	Zalesovo Beam	60.24 333	P		P	08 43 44.2	-0.9	
ZALV	Zalesovo Beam	60.24 333	P		P	08 43 44.2	-0.9	
	0.9nm,0.6s,baz=123,slow=8.2,SNR=4.5							
ZALV			LR		LR	09 10 06.5		
	comp=Z,34nm,19.5s,baz=61,slow=36							
KURBB	Kurchatov Arra	61.33 328	P		P	08 43 52.5	-0.1	
	1.2nm,0.5s,baz=127,slow=6.5,SNR=10							
KURK	Kurchatov	61.34 328	*eP*		P	08 43 51.5	-1.1	
	4.5nm,0.9s							
BVAR	Borovoye Array	66.91 327	P		P	08 44 29.0	0.0	
BVAR	Borovoye Array	66.91 327	P		P	08 44 29.0	0.0	
	1.2nm,0.8s,baz=120,slow=10,SNR=5.7							
AKTO	Aktyubinsk	73.20 322	P		P	08 45 08.0	+0.4	
AKTO	Aktyubinsk	73.20 322	P		P	08 45 08.0	+0.4	
	1.3nm,0.7s,baz=98,slow=12,SNR=6.9							
ILAR	Eielson Array	85.35 25	P		P	08 46 14.2	+0.9	
ILAR	Eielson Array	85.35 25	P		P	08 46 14.2	+0.9	
	0.3nm,0.6s,baz=242,slow=5.3,SNR=3.8							
ARCES	ARCESS Array B	90.17 340	P		P	08 46 37.0	+0.8	
ARCES	ARCESS Array B	90.17 340	P		P	08 46 37.0	+0.8	
	5.7nm,1.1s,baz=64,slow=6.1,SNR=3.4							
FINES	FINESS Array B	91.47 332	P		P	08 46 43.2	+0.9	
FINES	FINESS Array B	91.47 332	P		P	08 46 43.2	+0.9	
	2.1nm,0.8s,baz=82,slow=10.0,SNR=3.5							
NOA	NORSAR Array B	98.44 333	P		Pdif	08 47 15.0	+0.7	
NOA	NORSAR Array B	98.44 333	P		Pdif	08 47 15.0	+0.7	
	1.0nm,0.8s,baz=66,slow=4.6,SNR=2.7							
SCHQ	Schefferville	120.62 9	PKP		PKPdf	08 52 28.4	+1.0	
SCHQ	Schefferville	120.62 9	PKP		PKPdf	08 52 28.4	+1.0	
	1.5nm,0.8s,baz=63,slow=10,SNR=3.6							
TORD	Torodi Ar. Bea	122.26 288	PKP		PKPdf	08 52 33.2	+1.5	
TORD	Torodi Ar. Bea	122.26 288	PKP		PKPdf	08 52 33.2	+1.5	
	0.8nm,0.8s,baz=73,slow=1.6,SNR=4.4							

IDC 13 08:34:58.5±1.8, 4.29N×127.18E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.9/4, Error ellipse: s-maj=122.6km s-min=24.0km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.30 184		P		P		08 39 58.3	+0.6
	1.2nm,0.3s,baz=0.0,slow=11,SNR=2.8								
ASAR	Alice Springs	28.55 167		P		P		08 40 55.2	-1.1
	0.4nm,0.6s,baz=340,slow=6.9,SNR=2.7								
STKA	Stephens Creek	38.50 160		P		P		08 42 23.3	+0.7
	2.1nm,0.7s,baz=332,slow=7.1,SNR=2.5								
MKAR	Makanchi Array	57.35 325		P		P		08 44 49.0	+0.4
	0.7nm,0.5s,baz=116,slow=4.9,SNR=4.9								
TORD	Torodi Ar. Bea	123.16 289		PKP		PKPdf		08 53 57.3	-1.0
	0.4nm,0.9s,baz=57,slow=2.9,SNR=3.0								

IDC 13 08:35:41.8±0.8, 3.70N×126.39E, h0km, mb4.2/14, mb1 4.2/14, mb1mx4.2/22, mbtmp4.2/14, Error ellipse: s-maj=38.6km s-min=17.6km az=69.0
ISCJB 13 08:35:47.1±0.5, 3.76N±0.08×126.5E±0.2, h53km, mb4.3/22, Error ellipse: s-maj=24.5km s-min=9.6km az=163.9
NEIC 13 08:35:47.0±0.5, 3.77N×126.55E, h35km, mb4.6/10, Error ellipse: s-maj=26.5km s-min=9.2km az=72.0
ISC 13 08:35:49.1±0.6, 3.8N±0.1×126.6E±0.2, h53km, n38, σ1s02/38, mb4.3/22, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YHNB	Yeheng	21.38 347		*eP*		P		08 40 31.1	-1.4
	17nm,0.9s								
FITZ	Fitzroy Crossi	21.73 182		*eP*		P		08 40 37.8	+1.6
	4.1nm,0.6s								
WRAB	Tennant Creek	24.76 162		*eP*		P		08 41 04.5	-1.5
ASAR	Alice Springs	28.18 166		P		P		08 41 37.5	+0.7
ASAR	Alice Springs	28.18 166		P		P		08 41 37.5	+0.7
	0.5nm,0.3s,baz=342,slow=9.5,SNR=3.6								
CMAR	Chiang Mai Arr	30.70 301		P		P		08 41 59.4	+0.1
CMAR	Chiang Mai Arr	30.70 301		P		P		08 41 59.4	+0.1
	1.1nm,0.5s,baz=119,slow=7.3,SNR=4.9								
KSAR	Wonju Array Be	33.55 2		P		P		08 42 23.9	-0.1
KSRS	Korea Array	33.56 2		P		P		08 42 23.9	-0.2
	3.5nm,0.8s,baz=185,slow=10,SNR=6.8								
BJT	Baijiatuan	37.30 347		*eP*		P		08 42 56.8	+0.7
	26nm,0.6s								
STKA	Stephens Creek	38.22 159		*eP*		P		08 43 01.8	-2.2
	1.9nm,0.9s								
STKA	Stephens Creek	38.22 159		P		P		08 43 02.1	-1.8
	2.9nm,0.6s,baz=336,slow=9.9,SNR=5.0								
USRK	Ussuriysk Arra	40.57 6		P		P		08 43 24.1	+0.8
	1.7nm,0.6s,baz=194,slow=6.9,SNR=4.3								
LSA	Lhasa	42.29 311		*eP*		P		08 43 39.2	+0.9
	7.2nm,0.6s								
SONM	Songino Array	47.22 342		P		P		08 44 16.9	0.0
SONM	Songino Array	47.22 342		P		P		08 44 16.9	0.0
	1.7nm,0.6s,baz=160,slow=8.7,SNR=5.8								
MKAR	Makanchi Array	57.43 325		P		P		08 45 31.9	-0.6
MKAR	Makanchi Array	57.43 325		P		P		08 45 31.9	-0.6
	4.6nm,0.5s,baz=119,slow=7.8,SNR=20								
AAK	Ala-Archa	60.22 318		*eP*		P		08 45 52.6	+0.5
	4.4nm,0.4s								
AAK	Ala-Archa	60.22 318		P		P		08 45 52.2	+0.1
	1.0nm,0.5s,baz=187,slow=12,SNR=3.8								
ZALV	Zalesovo Beam	60.48 333		P		P		08 45 52.1	-1.4
ZALV	Zalesovo Beam	60.48 333		P		P		08 45 52.1	-1.4
	0.9nm,0.3s,baz=134,slow=7.3,SNR=9.2								
KBL	Kabul	61.36 308		*eP*		P		08 45 59.3	-0.8
	2.0nm,0.5s								
KURK	Kurchatov	61.62 328		*eP*		P		08 46 00.4	-0.8
	13nm,0.5s								
BVAR	Borovoye Array	67.20 327		P		P		08 46 37.7	0.0
BVAR	Borovoye Array	67.20 327		P		P		08 46 37.7	0.0
	1.6nm,0.5s,baz=52,slow=4.5,SNR=8.8								
BRVK	Borovoye	67.27 327		*eP*		P		08 46 37.8	-0.4
	4.0nm,0.6s								
ABKAR	Akbulak array	72.02 321		*eP*		P		08 47 06.0	-1.4
	2.8nm,0.6s								
AKTO	Aktyubinsk	73.53 322		P		P		08 47 15.9	-0.5
AKTO	Aktyubinsk	73.53 322		P		P		08 47 15.9	-0.5
	1.0nm,0.4s,baz=102,slow=6.2,SNR=8.5								
ILAR	Eielson Array	85.16 25		P		P		08 48 21.4	+1.9
ILAR	Eielson Array	85.16 25		P		P		08 48 21.4	+1.9
	0.3nm,0.7s,baz=236,slow=6.4,SNR=4.0								
ARCES	ARCESS Array B	90.36 340		P		P		08 48 43.5	-0.8
ARCES	ARCESS Array B	90.36 340		P		P		08 48 43.5	-0.8
	1.4nm,0.5s,baz=81,slow=7.5,SNR=9.4								
FINES	FINESS Array B	91.72 332		P		P		08 48 51.6	+0.8
FINES	FINESS Array B	91.72 332		P		P		08 48 51.6	+0.8
	0.5nm,0.5s,baz=74,slow=5.9,SNR=4.0								
TORD	Torodi Ar. Bea	122.74 288		PKP		PKPdf		08 54 39.9	-0.3
TORD	Torodi Ar. Bea	122.74 288		PKP		PKPdf		08 54 39.8	-0.3
	0.4nm,0.8s,baz=85,slow=3.2,SNR=3.0								

IDC 13 08:42:02.8±2.0, 4.12N×127.07E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=161.7km s-min=24.2km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.96 164		P		P		08 47 27.7	-0.5
	3.8nm,0.7s,baz=343,slow=10,SNR=12								
ASAR	Alice Springs	28.41 167		P		P		08 48 00.8	+1.5
	0.3nm,0.3s,baz=347,slow=12,SNR=7.3								
STKA	Stephens Creek	38.38 160		P		P		08 49 24.7	-1.1
	2.3nm,0.6s,baz=326,slow=10,SNR=7.7								
MKAR	Makanchi Array	57.43 325		P		P		08 51 53.4	0.0
	0.3nm,0.5s,baz=123,slow=7.1,SNR=7.2								

IDC 13 08:47:26.7±0.8, 4.19N×126.76E, h0km, mb4.0/9, mb1 4.1/9, mb1mx4.0/20, mbtmp4.0/9, MS3.1/1, Ms1 3.1/1, ms1mx2.3/27, Error ellipse: s-maj=46.9km s-min=16.5km az=71.0
ISCJB 13 08:47:29.8±0.7, 4.1N±0.1×126.7E±0.2, h36km, mb4.0/11, Error ellipse: s-maj=36.2km s-min=10.5km az=157.1
NEIC 13 08:47:31.5±0.5, 4.09N×126.68E, h35km, mb4.2/4, Error ellipse: s-maj=30.6km s-min=9.3km az=70.0
ISC 13 08:47:32.0±0.7, 4.1N±0.1×126.8E±0.2, h36km, n25, σ1s02/26, mb3.9/11, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	4.00 320		||*iP*		Pn	08 48 32.2	+1.4
KAPI	Kappang	11.49 218		LR		LR		08 54 49.8	
	comp=Z,98nm,20.0s,baz=298,slow=38								
FITZ	Fitzroy Crossi	22.11 183		*eP*		P		08 52 24.0	-0.4
	2.4nm,0.5s								
FITZ	Fitzroy Crossi	22.11 183		P		P		08 52 26.3	+1.9
	1.8nm,0.5s,baz=20,slow=12,SNR=3.5								
WRAB	Tennant Creek	25.02 163		*eP*		P		08 52 52.4	-0.4
	14nm,0.8s								
ASAR	Alice Springs	28.47 166		P		P		08 53 23.6	-0.2
ASAR	Alice Springs	28.47 166		P		P		08 53 23.6	-0.2
	0.5nm,0.5s,baz=344,slow=7.9,SNR=7.6								
CMAR	Chiang Mai Arr	30.75 300		P		P		08 53 43.6	-0.5
CMAR	Chiang Mai Arr	30.75 300		P		P		08 53 43.6	-0.5
	0.8nm,0.3s,baz=106,slow=6.2,SNR=5.7								
STKA	Stephens Creek	38.46 160		*eP*		P		08 54 49.9	-0.7
	1.1nm,0.8s								
STKA	Stephens Creek	38.46 160		P		P		08 54 50.8	+0.2
	5.0nm,0.9s,baz=339,slow=7.7,SNR=6.9								
SONM	Songino Array	46.96 341		P		P		08 55 58.5	-0.9
SONM	Songino Array	46.96 341		P		P		08 55 58.5	-0.9
	0.4nm,0.5s,baz=148,slow=8.5,SNR=3.5								
MK31	Makanchi Array	57.29 325		*eP*		P		08 57 15.1	-1.0
MKAR	Makanchi Array	57.29 325		P		P		08 57 15.2	-1.0
MKAR				PcP		PcP		08 58 10.2	+0.1
MKAR	Makanchi Array	57.29 325		P		P		08 57 15.2	-1.0
	0.9nm,0.4s,baz=122,slow=8.0,SNR=25								
MKAR				PcP		PcP		08 58 10.2	+0.1
	0.7nm,0.6s,baz=109,slow=5.5,SNR=3.6								
ZALV	Zalesovo Beam	60.28 333		P		P		08 57 35.7	-1.1
ZALV	Zalesovo Beam	60.28 333		P		P		08 57 35.7	-1.1
	0.3nm,0.3s,baz=78,slow=13,SNR=3.0								
KURK	Kurchatov	61.46 327		*eP*		P		08 57 43.0	-1.9
	3.8nm,0.8s								
ILAR	Eielson Array	84.72 25		P		P		09 00 02.8	+0.8
ILAR	Eielson Array	84.72 25		P		P		09 00 02.8	+0.8
	0.8nm,1.1s,baz=250,slow=7.6,SNR=3.4								
ARCES	ARCESS Array B	90.11 340		P		P		09 00 29.4	+1.4
ARCES	ARCESS Array B	90.11 340		P		P		09 00 29.4	+1.4
	1.9nm,0.8s,baz=80,slow=5.0,SNR=3.4								
TORD	Torodi Ar. Bea	122.88 288		PKP		PKPdf		09 06 24.7	-0.7
TORD	Torodi Ar. Bea	122.88 288		PKP		PKPdf		09 06 24.7	-0.7
	0.3nm,0.7s,baz=62,slow=3.0,SNR=2.8								

MAN 13 08:54:31, 17.81N×120.56E, h39km, mb3.8, ML2.6, MS2.2, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIPP	Brgy, Tapao	0.15 318		||*iP*		Pn	08 54 39.5	-0.2
SIPP				*iS*			Sn	08 54 45.3	-1.7
ABRA	Dolores	0.22 138		*eP*			Pn	08 54 40.3	+1.2
PIP	Pasuquin	0.51 6		||*iP*		Pn	08 54 43.9	+1.9
PIP				*eS*			Sn	08 54 52.9	+3.3

IDC 13 09:05:33.1±0.8, 4.01N×126.61E, h0km, mb3.9/10, mb1 3.9/10, mb1mx3.8/22, mbtmp3.9/10, MS2.8/1, Ms1 2.8/1, ms1mx2.1/38, Error ellipse: s-maj=55.3km s-min=16.3km az=74.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	3.21 341		LR		LR		09 07 46.8	
	comp=Z,145nm,18.0s,baz=254,slow=42								
FITZ	Fitzroy Crossi	22.00 182		P		P		09 10 29.7	+0.7
	1.8nm,0.7s,baz=14,slow=12,SNR=2.7								
ASAR	Alice Springs	28.42 166		P		P		09 11 29.5	-0.2
	0.1nm,0.3s,baz=341,slow=7.0,SNR=6.4								
STKA	Stephens Creek	38.44 159		P		P		09 12 56.3	-0.4
	0.8nm,0.4s,baz=323,slow=10,SNR=3.0								
SONM	Songino Array	46.99 341		P		P		09 14 07.1	+0.9
	0.4nm,0.5s,baz=168,slow=7.4,SNR=3.0								
PETK	Petropavlovsk-	55.22 22		P		P		09 15 07.9	+0.1
	1.7nm,0.7s,baz=196,slow=4.6,SNR=4.0								
MKAR	Makanchi Array	57.26 325		P		P		09 15 22.3	-0.2
	1.0nm,0.5s,baz=119,slow=8.4,SNR=13								
ZALV	Zalesovo Beam	60.28 333		P		P		09 15 42.5	-0.9
	0.9nm,0.4s,baz=141,slow=7.2,SNR=3.1								
BVAR	Borovoye Array	67.02 327		P		P		09 16 27.9	0.0
	0.6nm,0.5s,baz=121,slow=16,SNR=4.9								
AKTO	Aktyubinsk	73.36 322		P		P		09 17 07.3	+0.4
	0.5nm,0.4s,baz=78,slow=12,SNR=3.7								
ARCES	ARCESS Array B	90.14 340		P		P		09 18 34.4	-0.6
	1.1nm,0.7s,baz=35,slow=3.0,SNR=3.8								

PRE 13 09:13:09.6±0.4, 26.41S×27.74E, h2km, ML1.6, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KLOF	Kloof	0.13 298		*eP*		Pg		09 13 12.5	+0.1
KLOF				*eS*		Sg		09 13 13.9	-0.4
KLOF				AML		AML		09 13 14.7	
	comp=Z,410nm,0.1s								
PRYS	Parys	0.61 213		*eP*		Pg		09 13 21.2	-0.4
PRYS				*eS*		Sg		09 13 30.1	+0.3
PRYS				AML		AML		09 13 31.4	
	comp=Z,4.9nm,0.3s								
LBTB	Lobatse	2.38 305		*eP*		Pn		09 13 50.4	+0.5
LBTB				*eS*		Sn		09 14 20.2	+0.5
LBTB				AML		AML		09 14 23.1	
	comp=Z,2.6nm,0.6s								

IDC 13 09:15:45.8±0.7, 4.09N×126.83E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.1/23, mbtmp4.1/16, MS3.4/2, Ms1 3.4/2, ms1mx2.6/41, Error ellipse: s-maj=33.6km s-min=15.2km az=74.0
ISCJB 13 09:15:49.2±0.4, 4.06N±0.07×126.8E±0.1, h36km, mb4.1/22, MS3.4/2, Error ellipse: s-maj=17.6km s-min=8.7km az=155.9
NEIC 13 09:15:51.0±0.3, 4.06N×126.83E, h35km, mb4.3/8, Error ellipse: s-maj=12.5km s-min=6.0km az=65.0
ISC 13 09:15:51.0±0.5, 4.06N±0.09×126.9E±0.1, h36km, n44, σ0s59/41, mb4.1/21, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	4.07 321		||*iP*		Pn	09 16 57.3	+6.5
FITZ	Fitzroy Crossi	22.05 183		*eP*		P		09 20 43.6	+0.8
	1.8nm,0.5s								
FITZ	Fitzroy Crossi	22.05 183		P		P		09 20 43.4	+0.6
	2.0nm,0.5s,baz=360,slow=8.3,SNR=5.8								
PMG	Port Moresby	24.26 124		*eP*		P		09 21 04.8	-0.2
	1.7nm,0.4s								
WRAB	Tennant Creek	24.96 163		*eP*		P		09 21 11.5	+0.2
	14nm,1.0s								
KULM	Kulim	26.14 274		*eP*		P		09 21 21.1	-1.0
CBIJ	Chichi jima	27.19 31		LR		LR		09 32 21.3	
	comp=Z,86nm,19.1s,baz=157,slow=37								
ASAR	Alice Springs	28.40 166		P		P		09 21 42.7	+0.4
ASAR	Alice Springs	28.40 166		P		P		09 21 42.7	+0.4
	0.4nm,0.5s,baz=340,slow=7.1,SNR=7.1								
CTAO	Charters Tower	30.65 142		*eP*		P		09 22 00.8	-1.5
	13nm,1.4s								
CMAR	Chiang Mai Arr	30.81 300		P		P		09 22 03.6	-0.1
CMAR	Chiang Mai Arr	30.81 300		P		P		09 22 03.6	-0.1
	0.9nm,0.3s,baz=108,slow=9.3,SNR=4.5								
KSAR	Wonju Array Be	33.24 2		P		P		09 22 25.4	+0.6
KSRS	Korea Array	33.25 2		P		P		09 22 25.4	+0.5
	0.9nm,0.6s,baz=180,slow=9.9,SNR=4.4								
STKA	Stephens Creek	38.40 160		*eP*		P		09 23 09.7	+0.7
	0.8nm,0.7s								
STKA	Stephens Creek	38.40 160		P		P		09 23 08.6	-0.4
	4.2nm,0.7s,baz=341,slow=8.1,SNR=8.4								
SONM	Songino Array	47.02 341		P		P		09 24 18.6	-0.4
SONM	Songino Array	47.02 341		P		P		09 24 18.6	-0.4
	0.5nm,0.5s,baz=155,slow=10.0,SNR=5.3								

PETK	Petropavlovsk-	55.08 22	P		P	09 25 19.3	0.0	
PETK	Petropavlovsk-	55.08 22	P		P	09 25 19.3	0.0	
	1.2nm,0.6s,baz=199,slow=7.3,SNR=5.9							
MK31	Makanchi Array	57.35 325	*eP*		P	09 25 35.6	-0.1	
MKAR	Makanchi Array	57.35 325	P		P	09 25 35.5	-0.1	
MKAR	Makanchi Array	57.35 325	P		P	09 25 35.5	-0.1	
	1.4nm,0.4s,baz=118,slow=7.5,SNR=19							
ZALV	Zalesovo Beam	60.35 333	P		P	09 25 55.5	-0.8	
ZALV	Zalesovo Beam	60.35 333	P		P	09 25 55.5	-0.8	
	0.7nm,0.4s,baz=117,slow=6.6,SNR=4.7							
KURBB	Kurchatov Arra	61.53 327	P		P	09 26 04.2	-0.1	
	1.7nm,0.4s,baz=130,slow=6.4,SNR=11							
KURK	Kurchatov	61.53 327	*eP*		P	09 26 03.9	-0.5	
	4.5nm,0.8s							
BVAR	Borovoye Array	67.11 327	P		P	09 26 41.3	+0.4	
BVAR	Borovoye Array	67.11 327	P		P	09 26 41.3	+0.4	
	1.8nm,0.7s,baz=133,slow=8.3,SNR=9.4							
BRVK	Borovoye	67.18 327	*eP*		P	09 26 42.1	+0.7	
	3.1nm,0.7s							
AKTO	Aktyubinsk	73.48 322	P		P	09 27 20.4	+0.4	
AKTO	Aktyubinsk	73.48 322	P		P	09 27 20.4	+0.4	
	1.5nm,0.7s,baz=100,slow=4.6,SNR=7.0							
ARU	Arti	74.72 328	*eP*		P	09 27 26.8	-0.2	
	1.7nm,0.5s							
ILAR	Eielson Array	84.76 25	P		P	09 28 21.6	+0.3	
ILAR	Eielson Array	84.76 25	P		P	09 28 21.6	+0.3	
	0.6nm,0.8s,baz=262,slow=5.4,SNR=7.1							
ARCES	ARCESS Array B	90.18 340	P		P	09 28 46.6	-0.7	
ARCES	ARCESS Array B	90.18 340	P		P	09 28 46.6	-0.7	
	5.6nm,1.1s,baz=91,slow=8.5,SNR=5.5							
FINES	FINESS Array B	91.60 332	P		P	09 28 54.3	+0.3	
FINES	FINESS Array B	91.60 332	P		P	09 28 54.3	+0.3	
	0.7nm,0.6s,baz=81,slow=8.6,SNR=2.5							
MLR	Muntele Rosu	94.75 316	LR		LR	10 19 07.1		
	comp=Z,12nm,18.3s,baz=319,slow=40							
YKA	Yellowknife Ar	99.15 24	P		Pdif	09 29 29.4	+1.0	
YKA	Yellowknife Ar	99.15 24	P		Pdif	09 29 29.4	+1.0	
	0.1nm,0.6s,baz=297,slow=4.5,SNR=3.6							
TORD	Torodi Ar. Bea	122.93 288	PKP		PKPdf	09 34 45.1	+0.6	
TORD	Torodi Ar. Bea	122.93 288	PKP		PKPdf	09 34 45.1	+0.6	
	0.3nm,0.8s,baz=346,slow=0.7,SNR=3.2							

IDC 13 09:19:11.0±1.7, 3.92N×126.87E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/20, mbtmp3.9/5, MS4.6/1, Ms1 4.6/1, ms1mx2.8/41, Error ellipse: s-maj=97.6km s-min=23.0km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.91 183		P		P		09 24 05.4	-0.6
	2.6nm,0.6s,baz=6.8,slow=11,SNR=5.5								
JOW	Kunigami	22.83 3		LR		LR		09 30 59.0	
	comp=Z,2μm,21.8s,baz=296,slow=31								
WRA	Warramunga Arr	24.82 163		P		P		09 24 34.6	-0.6
	7.4nm,0.7s,baz=344,slow=11,SNR=0.2								
ASAR	Alice Springs	28.26 166		P		P		09 25 07.1	+0.9
	0.2nm,0.3s,baz=346,slow=10,SNR=3.4								
STKA	Stephens Creek	38.25 160		P		P		09 26 33.0	-0.1
	4.4nm,0.7s,baz=336,slow=7.0,SNR=8.8								
MKAR	Makanchi Array	57.48 325		P		P		09 29 02.0	-0.1
	0.3nm,0.5s,baz=134,slow=7.4,SNR=4.4								

IDC 13 09:22:09.8±2.6, 4.39N×127.29E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=223.0km s-min=25.1km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.15 164		P		P		09 27 35.3	-1.7
	1.5nm,0.7s,baz=343,slow=11,SNR=5.9								
ASAR	Alice Springs	28.62 167		P		P		09 28 10.1	+1.9
	0.2nm,0.4s,baz=345,slow=10,SNR=4.5								
MKAR	Makanchi Array	57.34 325		P		P		09 31 59.8	0.0
	0.4nm,0.4s,baz=116,slow=7.5,SNR=12								

IDC 13 09:27:35.7±0.8, 3.61N×126.39E, h0km, mb4.0/10, mb1 4.2/10, mb1mx4.0/20, mbtmp4.1/10, MS3.4/2, Ms1 3.4/2, ms1mx2.6/36, Error ellipse: s-maj=45.0km s-min=15.8km az=73.0
ISCJB 13 09:27:40.8±0.5, 3.60N±0.07×126.4E±0.1, h53km, mb4.2/15, MS3.3/2, Error ellipse: s-maj=16.4km s-min=9.3km az=172.7
NEIC 13 09:27:41.0±0.3, 3.64N×126.44E, h35km, mb4.4/7, Error ellipse: s-maj=11.1km s-min=6.4km az=81.0
*DJA 13 09:27:44, 3.67N

comp=Z,418nm,19.9s,baz=217,slow=44

CTBH	**Cotabato--PC H**	**4.24**	**323**	‖	*iP*	Pn	09 30 49.5	+3.4
BUKP	**Musuan**	**4.39**	**337**		*eP*	Pn	09 30 53.4	+5.1
BUKP					*eS*	Sn	09 31 02.8	-35
PAGZ	**Pagadian**	**5.26**	**320**		*eP*	**Pn**	**09 31 00.7**	**+0.5**
PAGZ					*eS*	Sn	09 31 06.8	-53
FITZ	**Fitzroy Crossi**	**21.82**	**183**		*eP*	**P**	**09 34 32.3**	**-1.1**
	5.7nm,0.7s							
FITZ	**Fitzroy Crossi**	**21.82**	**183**		P	**P**	**09 34 33.0**	**-0.3**
	4.4nm,1.0s,baz=21,slow=12,SNR=3.5							
WRAB	**Tennant Creek**	**24.74**	**163**		*eP*	**P**	**09 35 02.1**	**-0.3**
	28nm,0.8s							
ASAR	**Alice Springs**	**28.18**	**166**		P	**P**	**09 35 33.5**	**0.0**
ASAR					PcP	**PcP**	**09 38 46.8**	**-0.1**
ASAR	**Alice Springs**	**28.18**	**166**		P	**P**	**09 35 33.5**	**0.0**
	1.5nm,0.5s,baz=343,slow=11,SNR=9.4							
ASAR					PcP	**PcP**	**09 38 46.8**	**-0.1**
	1.3nm,0.7s,baz=338,slow=2.3,SNR=6.4							
CMAR	**Chiang Mai Arr**	**30.90**	**300**		P	**P**	**09 35 57.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**30.90**	**300**		P	**P**	**09 35 57.5**	**-0.1**
	0.9nm,0.4s,baz=110,slow=6.9,SNR=5.3							
KSAR	**Wonju Array Be**	**33.47**	**2**		P	**P**	**09 36 20.0**	**+0.2**
KSRS	**Korea Array**	**33.49**	**2**		P	**P**	**09 36 20.0**	**+0.1**
	1.7nm,0.6s,baz=174,slow=9.9,SNR=3.0							
STKA	**Stephens Creek**	**38.19**	**159**		*eP*	**P**	**09 37 00.5**	**+0.2**
	1.4nm,0.6s							
STKA					PcP	**PcP**	**09 39 14.3**	**-0.2**
STKA	**Stephens Creek**	**38.19**	**159**		P	**P**	**09 37 00.3**	**-0.1**
	6.0nm,0.4s,baz=332,slow=7.5,SNR=9.6							
STKA					PcP	**PcP**	**09 39 14.3**	**-0.2**
	3.0nm,0.5s,baz=327,slow=3.7,SNR=3.8							
SONM	**Songino Array**	**47.24**	**341**		P	**P**	**09 38 14.4**	**+0.7**
SONM	**Songino Array**	**47.24**	**341**		P	**P**	**09 38 14.4**	**+0.7**
	1.1nm,0.5s,baz=156,slow=8.3,SNR=4.9							
PETK	**Petropavlovsk-**	**55.31**	**22**		P	**P**	**09 39 13.6**	**-0.4**
PETK	**Petropavlovsk-**	**55.31**	**22**		P	**P**	**09 39 13.6**	**-0.4**
	1.9nm,0.5s,baz=186,slow=4.1,SNR=9.2							
MK31	**Makanchi Array**	**57.53**	**325**		*eP*	**P**	**09 39 28.5**	**-1.5**
MKAR	**Makanchi Array**	**57.53**	**325**		P	**P**	**09 39 28.6**	**-1.3**
MKAR	**Makanchi Array**	**57.53**	**325**		P	**P**	**09 39 28.6**	**-1.3**
	1.8nm,0.5s,baz=114,slow=7.4,SNR=9.8							
ZALV	**Zalesovo Beam**	**60.54**	**333**		P	**P**	**09 39 48.7**	**-2.0**
ZALV	**Zalesovo Beam**	**60.54**	**333**		P	**P**	**09 39 48.7**	**-2.0**
	1.0nm,0.4s,baz=126,slow=7.0,SNR=6.6							
KURK	**Kurchatov**	**61.71**	**327**		*eP*	**P**	**09 39 57.5**	**-1.1**
	4.6nm,0.6s							
ABKAR	**Akbulak array**	**72.13**	**321**		*eP*	**P**	**09 41 03.6**	**-1.4**
	2.3nm,0.8s							
ILAR	**Eielson Array**	**84.98**	**25**		P	**P**	**09 42 15.0**	**-0.5**
ILAR	**Eielson Array**	**84.98**	**25**		P	**P**	**09 42 15.0**	**-0.5**
	0.2nm,0.5s,baz=252,slow=5.1,SNR=7.1							
ARCES	**ARCESS Array B**	**90.39**	**340**		P	**P**	**09 42 41.5**	**+0.1**
ARCES	**ARCESS Array B**	**90.39**	**340**		P	**P**	**09 42 41.5**	**+0.1**
	5.3nm,1.0s,baz=72,slow=7.8,SNR=4.2							
FINES	**FINESS Array B**	**91.79**	**332**		P	**P**	**09 42 49.8**	**+1.8**
FINES	**FINESS Array B**	**91.79**	**332**		P	**P**	**09 42 49.8**	**+1.8**
	1.5nm,0.7s,baz=19,slow=5.0,SNR=3.3							
TMUT	**Trail Mountain**	**111.61**	**45**		*e*PKPdf	**PKiKP**	**09 48 16.1**	**+0.4**
TXAR	**Lajitas Array**	**121.47**	**52**		PKP	**PKPdf**	**09 48 35.6**	**+1.1**
TXAR	**Lajitas Array**	**121.47**	**52**		PKP	**PKPdf**	**09 48 35.6**	**+1.1**
	0.3nm,0.7s,baz=197,slow=1.3,SNR=4.0							
TORD	**Torodi Ar. Bea**	**122.97**	**288**		PKP	**PKPdf**	**09 48 39.6**	**+2.0**
TORD	**Torodi Ar. Bea**	**122.97**	**288**		PKP	**PKPdf**	**09 48 39.6**	**+2.0**
	0.4nm,0.8s,baz=49,slow=0.8,SNR=2.9							

IDC 13 09:43:49.6±2.3, **4°00'N×126°88E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4**/20, **mbtmp3.5**/4, **Error ellipse: s-maj=164.8km s-min=22.2km az=74.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.99**	**183**	P	P	09 48 45.7	+0.2
	1.5nm,0.6s,baz=0.0,slow=8.1,SNR=4.2						
ASAR	**Alice Springs**	**28.34**	**166**	P	P	09 49 45.3	-0.2
	0.2nm,0.5s,baz=342,slow=11,SNR=3.5						
MKAR	**Makanchi Array**	**57.42**	**325**	P	P	09 53 39.8	-0.4
	0.2nm,0.5s,baz=116,slow=7.9,SNR=5.3						
ZALV	**Zalesovo Beam**	**60.42**	**333**	P	P	09 54 01.1	+0.3
	0.2nm,0.3s,baz=145,slow=5.3,SNR=2.8						

IDC 13 09:54:40.4±0.5, *3°97N×126°36E, h0km, mb4.4/22, mb1 4.5/22, mb1mx4.4/27, mbtmp4.4/22, MS3.8/9, Ms1 3.8/9, ms1mx3.4/37, Error ellipse: s-maj=28.4km s-min=12.0km az=63.0*

NEIC 13 09:54:45.8±0.3, *3°97N×126°40E, h35km, mb4.7/12, Error ellipse: s-maj=16.9km s-min=6.2km az=65.0*

ISCJB 13 09:54:47.4±0.6, *4°08N±0°04×126°66E±0°06, h71km±5km, mb4.5/40, Error ellipse: s-maj=10.5km s-min=5.0km az=154.0*

BJI 13 09:54:47.1, 4°09N×126°16E, h56km, mB5.1/13, mb4.7/17, Ms4.5/4, MS7 4.3/4

DJA 13 09:54:48, 3°71N×126°71E, h10km, mb4.9/8

ISC 13 09:54:47.5±1.0, **4°02N±0°06×126°57E±0°07, h49**km±9km, **n110, σ1°47**/106, **mb4.6**/38, **MS3.8**/10, **2C-1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.61**	**322**	*eP*	**Pn**	**09 55 28.1**	**+0.8**
MNI	**Manado**	**3.09**	**214**	P	**Pn**	**09 55 36.4**	**+2.6**
DAV	**Davao City (W)**	**3.19**	**342**	Pn	**Pn**	**09 55 36.0**	**+0.9**
DAV				Sn	Sn	09 56 20.1	+8.2
DAV	**Davao City (W)**	**3.19**	**342**	P	Pn	09 55 41.2	+6.1
DAV	**Davao City (W)**	**3.19**	**342**	Pn	**Pn**	**09 55 36.0**	**+0.9**
	56nm,0.3s,baz=231,slow=7.9,SNR=2.3						
DAV				Sn	Sn	09 56 20.1	+8.2
	70nm,0.3s,baz=226,slow=22,SNR=4.4						
KCP	**Kidapawan**	**3.31**	**334**	‖ *eP*	**Pn**	**09 55 38.7**	**+1.8**
KCP				*i* S	**Sn**	**09 56 16.9**	**+1.8**
TNTI	**Ternate**	**3.32**	**166**	P	**Pn**	**09 55 37.3**	**+0.3**
CTBH	**Cotabato--PC H**	**3.93**	**324**	‖ *iP*	**Pn**	**09 55 45.3**	**-0.1**
BUKP	**Musuan**	**4.12**	**339**	*eP*	**Pn**	**09 55 50.9**	**+2.9**
BUKP				*eS*	Sn	09 56 04.5	-30
CGP	**Cagayan de Oro**	**4.78**	**337**	‖ *iP*	Pn	09 56 07.3	+10
PAGZ	**Pagadian**	**4.95**	**320**	*eP*	**Pn**	**09 56 00.3**	**+0.9**
IPIL	**Ipil**	**5.46**	**313**	*eP*	**Pn**	**09 56 08.3**	**+1.9**
LUWI	**Luwuk**	**6.30**	**217**	P	Pn	09 56 21.5	+3.6
MYLDM	**Lahad Datu**	**8.13**	**278**	P	Pn	09 56 48.2	+5.2
	110nm,1.5s						
FAKI	**Fak Fak**	**8.93**	**140**	P	**Pn**	**09 56 53.9**	**0.0**
KKM	**Kota Kinabalu**	**10.51**	**281**	*e*Pn	Pn	09 57 09.6	-6.2
	15nm,0.6s						
KKM				*e*Sn	**Sn**	**09 59 09.6**	**-2.6**
KKM	**Kota Kinabalu**	**10.51**	**281**	P	Pn	09 57 19.6	+3.9
	31nm,0.8s,616nm						
BAKI	**Biak**	**10.84**	**118**	P	**Pn**	**09 57 21.5**	**+1.3**
SBUM	**Sibu**	**14.41**	**264**	P	**Pn**	**09 58 11.3**	**+2.5**
	50nm,1.1s,587nm						
KSM	**Kuching**	**16.44**	**262**	*eP*	**P**	**09 58 39.9**	**+2.8**
	33nm,0.8s						
KSM	**Kuching**	**16.44**	**262**	P	**P**	**09 58 39.8**	**+2.8**
	44nm,0.9s						
TPUB	**Ta-pu**	**20.01**	**344**	*eP*	**P**	**09 59 14.0**	**-2.2**
TGJI	**Tegal**	**20.51**	**238**	P	Pn	09 59 25.0	+0.7
FITZ	**Fitzroy Crossi**	**22.00**	**182**	P	**P**	**09 59 36.5**	**-1.2**
FITZ	**Fitzroy Crossi**	**22.00**	**182**	*eP*	**P**	**09 59 37.8**	**+0.1**
	19nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.00**	**182**	P	**P**	**09 59 36.5**	**-1.2**
	9.3nm,0.7s,baz=37,slow=6.8,SNR=11						
COEN	**Coen**	**24.30**	**138**	*eP*	**P**	**10 00 01.7**	**+1.1**
	41nm,0.7s						
WRAB	**Tennant Creek**	**25.00**	**162**	*eP*	**P**	**10 00 06.3**	**-0.7**
	32nm,0.8s						
CBIJ	**Chichi jima**	**27.37**	**31**	LR	LR	10 11 32.7	
	comp=Z,132nm,18.4s,baz=207,slow=37						
AS31	**Alice Springs**	**28.43**	**166**	*eP*	**P**	**10 00 37.7**	**-0.1**
ASAR	**Alice Springs**	**28.43**	**166**	P	**P**	**10 00 37.0**	**-0.9**
ASAR	**Alice Springs**	**28.43**	**166**	P	**P**	**10 00 37.0**	**-0.9**
	3.3nm,0.7s,baz=345,slow=7.0,SNR=18						
WHN	**Wuhan**	**28.80**	**338**	P	**P**	**10 00 41.8**	**+0.9**
CMAR	**Chiang Mai Arr**	**30.59**	**300**	P	**P**	**10 00 56.8**	**-0.3**
CMAR				ScP	**ScP**	**10 07 37.6**	**+4.0**
CMAR	**Chiang Mai Arr**	**30.59**	**300**	P	**P**	**10 00 56.8**	**-0.3**
	4.3nm,0.8s,baz=112,slow=7.0,SNR=21						
CMAR				ScP	**ScP**	**10 07 37.6**	**+4.0**
	1.3nm,0.6s,baz=135,slow=1.9,SNR=6.2						
CMAR				LR	LR	10 13 11.2	
	comp=Z,101nm,18.7s,baz=125,slow=36						
ENH	**Enshi**	**30.70**	**330**	*eP*	**P**	**10 00 56.4**	**-1.4**
	8.3nm,0.7s						
CHTO	**Chiang Mai**	**30.74**	**301**	*eP*	**P**	**10 00 58.5**	**+0.2**
	5.5nm,0.6s						
CTA	**Charters Tower**	**30.79**	**142**	P	**P**	**10 00 58.5**	**-0.2**
CTA	**Charters Tower**	**30.79**	**142**	P	**P**	**10 00 58.5**	**-0.2**
	3.7nm,0.8s,baz=1.6,slow=7.1,SNR=3.5						
KSAR	**Wonju Array Be**	**33.28**	**2**	P	**P**	**10 01 19.4**	**-1.0**
KSRS	**Korea Array**	**33.30**	**2**	P	**P**	**10 01 19.4**	**-1.1**
	1.4nm,0.6s,baz=182,slow=8.9,SNR=4.6						
XAN	**Xi'an**	**34.09**	**333**	P	**P**	**10 01 25.8**	**-1.7**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,16nm,5.9s						
HNR	**Honiara**	**35.84**	**112**	LR	LR	10 16 23.6	
	comp=Z,85nm,19.0s,baz=267,slow=36						
BJT	**Baijiatuau**	**37.05**	**347**	*eP*	**P**	**10 01 52.4**	**-0.3**
	comp=Z,33nm,0.9s						
BBOO	**Buckleboo**	**37.72**	**167**	*eP*	**P**	**10 01 59.0**	**+0.5**
	comp=Z,201nm,0.8s						
LZH	**Lanzhou**	**38.17**	**330**	*eP*	**P**	**10 02 02.8**	**+0.2**
LZH				pP	pP	10 02 10.0	-5.5
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
LZH				pmax	pmax		
	comp=Z,75nm,4.0s						
STKA	**Stephens Creek**	**38.46**	**159**	P	**P**	**10 02 04.7**	**-0.1**
STKA	**Stephens Creek**	**38.46**	**159**	*eP*	**P**	**10 02 04.6**	**-0.1**
	comp=Z,16nm,0.8s						
STKA	**Stephens Creek**	**38.46**	**159**	P	**P**	**10 02 04.7**	**-0.1**
	comp=Z,20nm,0.8s,baz=335,slow=8.3,SNR=31						
STKA				LR	LR	10 16 57.6	
	comp=Z,99nm,21.6s,baz=22,slow=35						
USRK	**Ussuriysk Arra**	**40.30**	**6**	P	**P**	**10 02 21.2**	**+1.3**
	comp=Z,2.4nm,0.7s,baz=167,slow=9.4,SNR=5.4						
ARMA	**Armidale**	**41.79**	**147**	*eP*	**P**	**10 02 32.5**	**-0.1**
LSA	**Lhasa**	**42.13**	**311**	*eP*	**P**	**10 02 36.0**	**+0.2**
	comp=Z,7.2nm,0.6s						
GTA	**Gaotai**	**42.77**	**329**	*eP*	**P**	**10 02 38.8**	**-1.6**
GTA				S	**S**	**10 09 05.3**	**+4.2**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,170nm,5.7s						
GTA				LR	LR		
	comp=N,230nm,16.4s						
GTA				LR	LR		
	comp=E,200nm,16.6s						
GTA				LR	LR		
	comp=Z,300nm,17.6s						
TAPN	**Taplejung**	**43.72**	**306**	*eP*	**P**	**10 02 47.5**	**-1.0**
	comp=Z,14nm,0.6s						
ODAN	**Odare**	**43.77**	**305**	*eP*	**P**	**10 02 48.2**	**-0.7**
	comp=Z,20nm,0.5s						
RAMN	**Ramite**	**44.45**	**305**	*eP*	**P**	**10 02 53.8**	**-0.6**
	comp=Z,13nm,0.7s						
JIRN	**Jiri**	**45.08**	**306**	*eP*	**P**	**10 02 58.5**	**-0.9**
	comp=Z,5.3nm,0.7s						
GUN	**Gumba**	**45.43**	**306**	*eP*	**P**	**10 03 00.9**	**-1.3**
	comp=Z,20nm,0.6s						
PKI	**Pulchoki**	**45.67**	**305**	*eP*	**P**	**10 03 02.4**	**-1.7**
DMN	**Daman**	**45.94**	**305**	*eP*	**P**	**10 03 05.0**	**-1.1**
	comp=Z,11nm,0.7s						
ULN	**Ulaanbaatar**	**46.80**	**342**	*eP*	**P**	**10 03 11.5**	**-0.9**
	comp=Z,3.8nm,0.7s						
DZM	**Mont Dzumac**	**46.83**	**125**	P	**P**	**10 03 13.0**	**+0.1**
DZM	**Mont Dzumac**	**46.83**	**125**	P	**P**	**10 03 13.0**	**+0.1**
	comp=Z,6.5nm,0.6s,baz=309,slow=3.2,SNR=15						
SONM	**Songino Array**	**46.97**	**341**	P	**P**	**10 03 13.3**	**-0.5**
SONM				PcP	**PcP**	**10 04 46.7**	**+1.1**
SONM	**Songino Array**	**46.97**	**341**	P	**P**	**10 03 13.3**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=158,slow=8.0,SNR=14						
SONM				PcP	**PcP**	**10 04 46.7**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=145,slow=5.7,SNR=3.8						
SONM				LR	LR	10 23 33.0	
	comp=Z,137nm,21.1s,baz=106,slow=37						
KOLN	**Koldanda**	**47.23**	**305**	*eP*	**P**	**10 03 15.1**	**-1.1**
	comp=Z,32nm,0.7s						
DANN	**Dangsing**	**47.32**	**305**	*eP*	**P**	**10 03 15.3**	**-1.7**
	comp=Z,35nm,0.6s						
MK31	**Makanchi Array**	**57.23**	**325**	*eP*	**P**	**10 04 28.8**	**-1.1**
MKAR	**Makanchi Array**	**57.23**	**325**	P	**P**	**10 04 28.8**	**-1.1**
MKAR				PcP	**PcP**	**10 05 24.1**	**+0.3**
MKAR	**Makanchi Array**	**57.23**	**325**	P	**P**	**10 04 28.8**	**-1.1**
	comp=Z,2.7nm,0.4s,baz=122,slow=7.9,SNR=36						
MKAR				PcP	**PcP**	**10 05 24.1**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=127,slow=5.4,SNR=2.8						
MKAR				LR	LR	10 30 47.5	
	comp=Z,168nm,19.1s,baz=247,slow=38						
AAK	**Ala-Archa**	**60.04**	**318**	P	**P**	**10 04 50.2**	**+0.5**
AAK	**Ala-Archa**	**60.04**	**318**	P	**P**	**10 04 50.2**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=171,slow=4.1,SNR=3.3						
ZALV	**Zalesovo Beam**	**60.26**	**333**	P	**P**	**10 04 49.8**	**-1.0**
ZALV	**Zalesovo Beam**	**60.26**	**333**	P	**P**	**10 04 49.8**	**-1.0**
	comp=Z,1.1nm,0.4s,baz=101,slow=7.5,SNR=2.9						
ZALV				LR	LR	10 30 33.0	
	comp=Z,62nm,20.4s,baz=245,slow=36						
KBL	**Kabul**	**61.22**	**307**	*eP*	**P**	**10 04 57.1**	**-0.9**
	comp=Z,4.3nm,0.7s						
KURBB	**Kurchatov Arra**	**61.41**	**327**	P	**P**	**10 04 57.4**	**-1.3**
	comp=Z,5.9nm,0.8s,baz=124,slow=6.3,SNR=34						
KURK	**Kurchatov**	**61.41**	**327**	P	**P**	**10 04 57.4**	**-1.3**
BVAR	**Borovoye Array**	**66.99**	**327**	P	**P**	**10 05 33.9**	**-1.3**
BVAR	**Borovoye Array**	**66.99**	**327**	P	**P**	**10 05 33.9**	**-1.3**
	comp=Z,1.9nm,0.7s,baz=133,slow=10,SNR=8.8						
BVAR				LR	LR	10 36 42.8	
	comp=Z,82nm,18.7s,baz=269,slow=38						
BRVK	**Borovoye**	**67.06**	**327**	*eP*	**P**	**10 05 34.5**	**-1.1**
	comp=Z,6.9nm,0.8s						
ABKAR	**Akbulak array**	**71.83**	**321**	*eP*	**P**	**10 06 03.5**	**-1.6**
	comp=Z,2.1nm,0.7s						
AKTO	**Aktyubinsk**	**73.33**	**322**	P	**P**	**10 06 12.6**	**-1.5**
AKTO	**Aktyubinsk**	**73.33**	**322**	P	**P**	**10 06 12.6**	**-1.5**
	comp=Z,3.1nm,0.8s,baz=92,slow=11,SNR=9.0						
MCK	**McKinley**	**83.97**	**26**	*eP*	**P**	**10 07 14.1**	**+1.8**
	comp=Z,17nm,1.2s						
ILAR	**Eielson Array**	**84.91**	**25**	P	**P**	**10 07 18.5**	**+1.5**
ILAR	**Eielson Array**	**84.91**	**25**	P	**P**	**10 07 18.5**	**+1.5**
	comp=Z,0.5nm,0.4s,baz=236,slow=5.3,SNR=13						
JOF	**Joensuu**	**88.85**	**333**	*ep*	**P**	**10 07 34.1**	**-2.1**
	comp=Z,6.2nm,0.6s						
BRTR	**Keskin Array B**	**89.72**	**310**	P	**P**	**10 07 39.4**	**-1.6**
BRTR	**Keskin Array B**	**89.72**	**310**	P	**P**	**10 07 39.4**	**-1.6**
	comp=Z,1.5nm,0.7s,baz=138,slow=4.0,SNR=7.8						
ARCES	**ARCESS Array B**	**90.12**	**340**	P	**P**	**10 07 40.8**	**-1.2**
ARCES	**ARCESS Array B**	**90.12**	**340**	P	**P**	**10 07 40.8**	**-1.2**
	comp=Z,3.9nm,0.9s,baz=81,slow=7.5,SNR=7.8						
KAF	**Kangasniemi**	**91.27**	**332**	*ep*	**P**	**10 07 46.2**	**-1.3**
	comp=Z,2.4nm,0.5s						
FINES	**FINESS Array B**	**91.50**	**332**	P	**P**	**10 07 48.0**	**-0.6**
FINES	**FINESS Array B**	**91.50**	**332**	P	**P**	**10 07 48.0**	**-0.6**
	comp=Z,2.0nm,0.7s,baz=72,slow=6.2,SNR=6.1						
MLR	**Muntele Rosu**	**94.58**	**316**	P	**P**	**10 08 02.3**	**-1.0**
MLR	**Muntele Rosu**	**94.58**	**316**	P	**P**	**10 08 02.3**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=171,slow=8.7,SNR=4.2						
KWP	**Kalwaria Pacla**	**95.88**	**321**	*eP*	**P**	**10 08 10.5**	**+1.5**
	comp=Z,42nm,0.6s						
NB2	**NORSAR Subarra**	**98.46**	**334**	P	Pdif	10 08 22.5	+2.1
	baz=69,slow=4.6						
NB2	**NORSAR Subarra**	**98.46**	**334**	P	Pdif	10 08 22.5	+2.1
	comp=Z,4.1nm,1.0s,baz=69,slow=4.6						
NOA	**NORSAR Array B**	**98.46**	**334**	P	Pdif	10 08 20.9	+0.5
NOA	**NORSAR Array B**	**98.46**	**334**	P	Pdif	10 08 20.9	+0.5
	comp=Z,2.2nm,0.8s,baz=68,slow=4.7,SNR=5.7						
NOA				LR	LR	10 57 36.2	
	comp=Z,64nm,18.2s,baz=355,slow=38						
YKA	**Yellowknife Ar**	**99.30**	**24**	P	**Pdif**	**10 08 24.4**	**+0.4**
YKA	**Yellowknife Ar**	**99.30**	**24**	P	**Pdif**	**10 08 24.4**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=299,slow=4.4,SNR=4.4						
SCHQ	**Schefferville**	**120.31**	**9**	PKP	**PKPdf**	**10 13 34.0**	**+0.8**
SCHQ	**Schefferville**	**120.31**	**9**	PKP	**PKPdf**	**10 13 34.0**	**+0.8**
	comp=Z,2.0nm,1.0s,baz=55,slow=14,SNR=4.4						
TXAR	**Lajitas Array**	**121.54**	**52**	PKP	**PKPdf**	**10 13 38.4**	**+1.9**
TXAR	**Lajitas Array**	**121.54**	**52**	PKP	**PKPdf**	**10 13 38.4**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=143,slow=0.6,SNR=4.5						
TORD	**Torodi Ar. Bea**	**122.68**	**288**	PKP	**PKPdf**	**10 13 36.4**	**-2.5**
TORD	**Torodi Ar. Bea**	**122.68**	**288**	PKP	**PKPdf**	**10 13 36.4**	**-2.5**
	comp=Z,1.2nm,0.8s,baz=66,slow=1.7,SNR=8.7						
JCT	**Junction City**	**123.99**	**49**	*e*PKPdf	**PKPdf**	**10 13 42.2**	**+1.1**

IDC 13 09:59:17.1±0.7, *3°41N×126°19E, h0km, mb4.3/15, mb1 4.4/15, mb1mx4.3/23, mbtmp4.3/15, MS3.9/3, Ms1 3.9/3, ms1mx3.3/34, Error ellipse: s-maj=61.9km s-min=15.4km az=67.0*

ISCJB 13 09:59:21.0±0.7, *3°7N±0°17×127°0E±0°3, h48km, mb4.4/22, MS3.9/3, Error ellipse: s-maj=50.4km s-min=9.0km az=159.2*

NEIC 13 09:59:21.5±0.5, *3°70N×126°90E, h35km, mb4.7/5, Error ellipse: s-maj=36.9km s-min=6.8km az=70.0*

ISC 13 09:59:22.8±0.8, **3°8N±0°1×127°2E±0°3, h48**km, **n45, σ1°06/41, mb4.4**/22, **1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.53**	**320**	‖ *iP*	**Pn**	**10 00 30.5**	**+1.6**
GUMO	**Guam**	**19.99**	**60**	LR	LR	10 10 40.1	
	comp=Z,115nm,18.2s,baz=172,slow=32						
FITZ	**Fitzroy Crossi**	**21.78**	**184**	*eP*	**P**	**10 04 10.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**21.78**	**184**	P	**P**	**10 04 10.2**	**-0.5**
	3.9nm,0.9s,baz=360,slow=9.7,SNR=2.4						
WRAB	**Tennant Creek**	**24.57**	**164**	*eP*	**P**	**10 04 38.7**	**+0.3**
	25nm,0.8s						
WRA	**Warramunga Arr**	**24.57**	**164**	P	**P**	**10 04 37.7**	**-0.8**
WRA	**Warramunga Arr**	**24.57**	**164**	P	**P**	**10 04 37.7**	**-0.8**
	6.4nm,0.8s,baz=344,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**28.03**	**167**	P	**P**	**10 05 11.1**	**+1.4**
ASAR	**Alice Springs**	**28.03**	**167**	P	**P**	**10 05 11.1**	**+1.4**
	0.9nm,0.7s,baz=332,slow=7.1,SNR=4.8						
BJT	**Baijiatuau**	**37.45**	**346**	*eP*	P	10 06 27.4	-4.2
	23nm,0.3s						
STKA	**Stephens Creek**	**37.99**	**160**	P	**P**	**10 06 35.5**	**-0.8**
STKA	**Stephens Creek**	**37.99**	**160**	P	**P**	**10 06 35.5**	**-0.8**
	1.5nm,0.4s,baz=308,slow=9.2,SNR=6.3						
ULN	**Ulaanbaatar**	**47.24**	**342**	*eP*	**P**	**10 07 51.5**	**+0.2**
	11nm,1.2s						
SONM	**Songino Array**	**47.42**	**341**	P	**P**	**10 07 52.5**	**-0.2**
SONM				PcP	**PcP**	**10 09 24.6**	**+2.0**
SONM	**Songino Array**	**47.42**	**341**	P	**P**	**10 07 52.5**	**-0.2**
	3.1nm,1.1s,baz=163,slow=7.6,SNR=10						
SONM				PcP	**PcP**	**10 09 24.6**	**+2.0**
	1.4nm,0.9s,baz=149,slow=2.0,SNR=4.2						
MK31	**Makanchi Array**	**57.80**	**325**	*eP*	**P**	**10 09 08.6**	**-0.8**
MKAR	**Makanchi Array**	**57.80**	**325**	P	**P**	**10 09 08.4**	**-1.0**
MKAR	**Makanchi Array**	**57.80**	**325**	P	**P**	**10 09 08.4**	**-1.0**
	2.6nm,0.9s,baz=125,slow=8.2,SNR=8.9						
ZALV	**Zalesovo Beam**	**60.78**	**333**	P	**P**	**10 09 28.1**	**-1.7**
ZALV	**Zalesovo Beam**	**60.78**	**333**	P	**P**	**10 09 28.1**	**-1.7**
	1.6nm,0.8s,baz=115,slow=7.0,SNR=5.0						
KBL	**Kabul**	**61.88**	**307**	*eP*	**P**	**10 09 36.2**	**-1.7**
	2.2nm,0.7s						
KURBB	**Kurchatov Arra**	**61.97**	**327**	P	**P**	**10 09 36.9**	**-1.0**
	5.6nm,0.9s,baz=123,slow=5.9,SNR=19						
KURK	**Kurchatov**	**61.97**	**327**	*eP*	**P**	**10 09 37.3**	**-0.6**
	7.8nm,1.0s						
AFI	**Afiamalu**	**63.00**	**108**	LR	LR	10 36 19.2	
	comp=Z,120nm,18.1s,baz=320,slow=35						
BVAR	**Borovoye Array**	**67.56**	**327**	P	**P**	**10 10 13.4**	**-0.8**
BVAR	**Borovoye Array**	**67.56**	**327**	P	**P**	**10 10 13.4**	**-0.8**
	3.4nm,0.9s,baz=115,slow=7.0,SNR=8.4						
BRVK	**Borovoye**	**67.63**	**327**	*eP*	**P**	**10 10 13.9**	**-0.7**
	4.1nm,0.8s

ERTU	**Ertsjaerv**	**3.89 300**	P	**Pn**	**10 01 27.9 +1.1**	
VAF	**Ylistaro**	**3.95 246**	*e*SG	**Sb**	**10 02 28.3 +3.8**	
VAF		MSG			10 02 28.3	
	comp=Z,2.4nm,0.4s					
BURU	**Burvik**	**3.98 271**	*e*P	**Pn**	**10 01 27.8 -0.3**	
BURU	**Burvik**	**3.98 271**	P	**Pn**	**10 01 27.8 -0.3**	
FIA0	**FINESS Array S**	**3.99 213**	Pn	**Pn**	**10 01 28.2 +0.1**	
	baz=29,slow=14					
FIA0			Pg	**Pb**	**10 01 36.8 -0.2**	
	baz=17,slow=18					
FIA0			Sn	**Sn**	**10 02 14.4 -1.1**	
	baz=34,slow=22					
FIA0			Lg	Lg	10 02 28.0	
	baz=21,slow=37					
FIA0	**FINESS Array S**	**3.99 213**	Pn	**Pn**	**10 01 28.2 +0.1**	
	baz=29,slow=14					
FIA0			Pg	**Pb**	**10 01 36.8 -0.2**	
	baz=17,slow=18					
FIA0			Sn	**Sn**	**10 02 14.4 -1.1**	
	baz=34,slow=22					
FIA0			Lg	Lg	10 02 28.0	
	baz=21,slow=37					
FIA0	**FINESS Array S**	**3.99 213**	Pn	**Pn**	**10 01 28.2 +0.1**	
	baz=29,slow=14,SNR=50					
FIA0			Sn	**Sn**	**10 02 14.4 -1.1**	
	baz=34,slow=20,SNR=50					
FIA0			Lg	Lg	10 02 28.0	
	baz=21,slow=31,SNR=9.7					
FINES	**FINESS Array B**	**3.99 213**	Pn	**Pn**	**10 01 28.3 +0.1**	
	comp=Z,0.1nm,0.3s,baz=39,slow=13,SNR=9.2					
FINES			Pg	**Pb**	**10 01 37.2 +0.3**	
	comp=Z,0.4nm,0.3s,baz=24,slow=14,SNR=11					
FINES			Sn	**Sn**	**10 02 14.7 -0.8**	
	comp=Z,0.4nm,0.3s,baz=37,slow=20,SNR=5.2					
FINES			Lg	Lg	10 02 29.3	
	comp=Z,1.2nm,0.3s,baz=29,slow=26,SNR=16					
MASU	**Masugnsbyn**	**4.38 311**	*e*P	**Pn**	**10 01 34.8 +1.1**	
MASU	**Masugnsbyn**	**4.38 311**	P	**Pn**	**10 01 34.7 +1.1**	
DUNU	**Dundret**	**4.71 304**	*e*P	**Pn**	**10 01 39.9 +1.7**	
DUNU	**Dundret**	**4.71 304**	P	**Pn**	**10 01 39.8 +1.7**	
LANU	**Lannavaara**	**4.74 317**	*e*P	**Pn**	**10 01 38.7 +0.2**	
LANU	**Lannavaara**	**4.74 317**	P	**Pn**	**10 01 38.7 +0.2**	
SVAU	**Svanoeiden**	**4.77 271**	*e*P	**Pn**	**10 01 39.0 +0.2**	
SVAU	**Svanoeiden**	**4.77 271**	P	**Pn**	**10 01 39.0 +0.2**	
ARA0	**ARCESS Array S**	**5.12 339**	Pn	**Pn**	**10 01 43.9 +0.1**	
	baz=154,slow=14					
ARA0			Sn	**Sn**	**10 02 41.7 -1.8**	
	baz=157,slow=28					
ARA0			Lg	Lg	10 03 03.9	
	baz=151,slow=37					
ARA0	**ARCESS Array S**	**5.12 339**	Pn	**Pn**	**10 01 43.9 +0.1**	
	baz=154,slow=14					
ARA0			Sn	**Sn**	**10 02 41.7 -1.8**	
	baz=157,slow=28					
ARA0			Lg	Lg	10 03 03.9	
	baz=151,slow=37					
ARA0	**ARCESS Array S**	**5.12 339**	*e*P	**Pn**	**10 01 43.9 +0.1**	
ARA0			*e*S	**Sn**	**10 02 41.7 -1.8**	
ARA0			*e*SG	**Sb**	**10 03 03.9 +5.7**	
ARA0	**ARCESS Array S**	**5.12 339**	Pn	**Pn**	**10 01 43.9 +0.1**	
	baz=154,slow=13,SNR=50					
ARA0			S	**Sn**	**10 02 41.7 -1.8**	
ARA0			Lg	Lg	10 03 03.9	
	baz=151,slow=32,SNR=8.5					
ARCES	**ARCESS Array B**	**5.12 339**	Pn	**Pn**	**10 01 44.0 +0.2**	
	comp=Z,0.7nm,0.3s,baz=155,slow=13,SNR=95					
ARCES			Sn	**Sn**	**10 02 42.5 -0.9**	
	comp=Z,0.4nm,0.3s,baz=157,slow=24,SNR=6.2					
ARCES			Lg	Lg	10 03 03.2	
	comp=Z,0.8nm,0.3s,baz=151,slow=30,SNR=10					
BREU	**Bredtraesk**	**5.32 265**	*e*P	**Pn**	**10 01 45.8 -0.7**	
BREU	**Bredtraesk**	**5.32 265**	P	**Pn**	**10 01 45.8 -0.7**	
NIKU	**Nikkaluokta**	**5.57 308**	*e*P	**Pn**	**10 01 51.2 +1.3**	
NIKU	**Nikkaluokta**	**5.57 308**	P	**Pn**	**10 01 51.2 +1.3**	
HEMU	**Hemsoen**	**6.00 255**	*e*P	**Pn**	**10 01 54.8 -0.9**	
HEMU	**Hemsoen**	**6.00 255**	P	**Pn**	**10 01 54.8 -0.9**	
HFS	**Hagfors**	**9.14 247**	Pn	**Pn**	**10 02 38.0 -0.7**	
	comp=Z,0.1nm,0.3s,baz=63,slow=14,SNR=6.1					
NB2	**NORSAR Subarra**	**9.62 256**	Pn	**Pn**	**10 02 45.2 -0.2**	
	baz=69,slow=14					
NB2	**NORSAR Subarra**	**9.62 256**	Pn	**Pn**	**10 02 45.2 -0.2**	
	baz=69,slow=14					
NB2	**NORSAR Subarra**	**9.62 256**	*e*P	**Pn**	**10 02 45.2 -0.2**	
NB2	**NORSAR Subarra**	**9.62 256**	P	**Pn**	**10 02 45.2 -0.2**	
NOA	**NORSAR Array B**	**9.62 256**	Pn	**Pn**	**10 02 44.7 -0.8**	
	comp=Z,0.1nm,0.3s,baz=60,slow=11,SNR=4.4					

*ISCJB **13** 10:05:15.6±0.4,39°.27N±0°.02×29°.12E±0°.03,h6km±4km, Error ellipse: s-maj=3.9km s-min=3.7km az=153.7*
*ISK **13** 10:05:15.4,39°.27N×29°.12E,h8km,MD2.6*
*DDA **13** 10:05:15.3,39°.27N×29°.11E,h7km,MD2.8*
*CSEM **13** 10:05:15.8±0.1,39°.27N×29°.12E,h8km,MD2.6, Error ellipse: s-maj=1.7km s-min=1.5km az=90.0*

ISC 13 10:05:15.8±1.0,**39°.27N**±0°.02×**29.12E**±0°.02,**h9**km±9km, **n44**,σ0**s37**/64,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.32**	**56**	PG		**Pg**	**Pg**	**10 05 22.2**	**-0.1**
TVSB				*e*SG		**Sg**	**Sg**	**10 05 26.7**	**+0.2**
TVSB	**Tavsanli**	**0.32**	**56**	*i* Pg		**Pg**	**Pg**	**10 05 22.2**	**-0.1**
TVSB				*e*Sg		**Sg**	**Sg**	**10 05 26.7**	**+0.2**
GDZ	**Gediz**	**0.34**	**123**	*i* P		**Pg**	**Pg**	**10 05 22.9**	**+0.4**
GDZ				*e*S		**Sg**	**Sg**	**10 05 26.4**	**-0.6**
GDZ	**Gediz**	**0.34**	**123**	*i* P		**Pg**	**Pg**	**10 05 22.9**	**+0.4**
GDZ				*e*S		**Sg**	**Sg**	**10 05 26.4**	**-0.6**
DEMI	**Demirci**	**0.39**	**234**	*i* P		**Pg**	**Pg**	**10 05 23.8**	**+0.4**
DEMI				*i* S		**Sg**	**Sg**	**10 05 28.7**	**+0.1**
DEMI	**Demirci**	**0.39**	**234**	*i* P		**Pg**	**Pg**	**10 05 23.8**	**+0.4**
DEMI				*i* S		**Sg**	**Sg**	**10 05 28.7**	**+0.1**
DST	**Dursunbey**	**0.51**	**311**	*e*PG		**Pg**	**Pg**	**10 05 25.8**	**0.0**
DST				*e*SG		**Sg**	**Sg**	**10 05 32.9**	**+0.4**
DST	**Dursunbey**	**0.51**	**311**	*e*Pg		**Pg**	**Pg**	**10 05 25.8**	**0.0**
DST				*e*Sg		**Sg**	**Sg**	**10 05 32.9**	**+0.4**
DURS	**Dursunbey**	**0.60**	**304**	*i* P		**Pg**	**Pg**	**10 05 27.6**	**+0.1**
DURS				*e*S		**Sg**	**Sg**	**10 05 35.0**	**-0.3**
DURS	**Dursunbey**	**0.60**	**304**	*i* P		**Pg**	**Pg**	**10 05 27.6**	**+0.1**
DURS				*e*S		**Sg**	**Sg**	**10 05 35.0**	**-0.3**
ALT	**Altintas**	**0.80**	**105**	*e*PG		**Pg**	**Pg**	**10 05 31.4**	**+0.2**
ALT	**Altintas**	**0.80**	**105**	*e*Pg		**Pg**	**Pg**	**10 05 31.4**	**+0.2**
KULA	**Kula-Manisa**	**0.83**	**206**	*e*PG		**Pg**	**Pg**	**10 05 32.2**	**+0.3**
KULA	**Kula-Manisa**	**0.83**	**206**	*e*Pg		**Pg**	**Pg**	**10 05 32.2**	**+0.3**
ULDT	**Uludag**	**0.87**	**1**	*i* P		**Pg**	**Pg**	**10 05 32.3**	**-0.3**
ULDT				*i* S		**Sg**	**Sg**	**10 05 43.1**	**-0.9**
ULDT	**Uludag**	**0.87**	**1**	*i* P		**Pg**	**Pg**	**10 05 32.3**	**-0.3**
ULDT				*i* S		**Sg**	**Sg**	**10 05 43.1**	**-0.9**
MANT	**Manisa**	**0.89**	**210**	*i* P		**Pg**	**Pg**	**10 05 33.2**	**+0.2**
MANT				*i* S		**Sg**	**Sg**	**10 05 43.8**	**-0.8**
MANT	**Manisa**	**0.89**	**210**	*i* P		**Pg**	**Pg**	**10 05 33.2**	**+0.2**
MANT				*i* S		**Sg**	**Sg**	**10 05 43.8**	**-0.8**
KHAL	**Karahalli**	**0.94**	**162**	*i* P		**Pb**	**Pb**	**10 05 34.5**	**+0.1**
KHAL				*i* S		**Sg**	**Sg**	**10 05 46.2**	**-0.1**
KHAL	**Karahalli**	**0.94**	**162**	*i* P		**Pb**	**Pb**	**10 05 34.5**	**+0.1**
KHAL				*i* S		**Sg**	**Sg**	**10 05 46.2**	**-0.1**
KHL	**Karahalli**	**1.00**	**161**	*e*PG		**Pg**	**Pg**	**10 05 34.7**	**-0.3**
KHL	**Karahalli**	**1.00**	**161**	*e*Pg		**Pg**	**Pg**	**10 05 34.7**	**-0.3**
CAVI	**Cavuskoy**	**1.09**	**31**	*e*PN		**Pn**	**Pn**	**10 05 37.3**	**0.0**
CAVI	**Cavuskoy**	**1.09**	**31**	*e*Pn		**Pn**	**Pn**	**10 05 37.3**	**0.0**
AKHS	**Akhisar**	**1.09**	**249**	*i* P		**Pg**	**Pg**	**10 05 37.1**	**+0.4**
AKHS				*i* S		**Sg**	**Sg**	**10 05 50.5**	**-0.4**
AKHS	**Akhisar**	**1.09**	**249**	*i* P		**Pg**	**Pg**	**10 05 37.1**	**+0.4**
AKHS				*i* S		**Sg**	**Sg**	**10 05 50.5**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.11**	**351**	*e*PN		**Pn**	**Pn**	**10 05 37.8**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.11**	**351**	*e*Pn		**Pn**	**Pn**	**10 05 37.8**	**+0.2**
KCTX	**Karacabey (Bur**	**1.16**	**330**	*e*PN		**Pb**	**Pb**	**10 05 37.9**	**-0.1**
KCTX	**Karacabey (Bur**	**1.16**	**330**	*e*Pn		**Pb**	**Pb**	**10 05 37.9**	**-0.1**
GEMT	**Gemlik**	**1.17**	**3**	*e*PN		**Pg**	**Pg**	**10 05 38.8**	**+0.6**
GEMT	**Gemlik**	**1.17**	**3**	*e*Pn		**Pg**	**Pg**	**10 05 38.8**	**+0.6**
BALY	**Balya**	**1.25**	**293**	*i* P		**Pg**	**Pg**	**10 05 40.1**	**+0.2**
BALY				*i* S		**Sn**	**Sn**	**10 05 56.7**	**+0.1**
BALY	**Balya**	**1.25**	**293**	*i* P		**Pg**	**Pg**	**10 05 40.1**	**+0.2**
BALY				*i* S		**Sn**	**Sn**	**10 05 56.7**	**+0.1**
ADVT	**Abdulvahap**	**1.26**	**22**	*e*PN		**Pn**	**Pn**	**10 05 39.7**	**+0.1**
ADVT	**Abdulvahap**	**1.26**	**22**	*e*Pn		**Pn**	**Pn**	**10 05 39.7**	**+0.1**
ARMT	**Armutlu**	**1.31**	**351**	*e*PN		**Pn**	**Pn**	**10 05 40.2**	**-0.2**
ARMT	**Armutlu**	**1.31**	**351**	*e*Pn		**Pn**	**Pn**	**10 05 40.2**	**-0.2**
YLV	**Yalova**	**1.31**	**8**	*e*PN		**Pg**	**Pg**	**10 05 41.4**	**+0.4**
YLV	**Yalova**	**1.31**	**8**	*e*Pn		**Pg**	**Pg**	**10 05 41.4**	**+0.4**
GONE	**Gonen-Balikesi**	**1.35**	**305**	*e*PN		**Pn**	**Pn**	**10 05 40.5**	**-0.4**
GONE	**Gonen-Balikesi**	**1.35**	**305**	*e*Pn		**Pn**	**Pn**	**10 05 40.5**	**-0.4**
GULT	**Gulveren**	**1.58**	**42**	*e*PN		**Pn**	**Pn**	**10 05 44.7**	**+0.5**
GULT	**Gulveren**	**1.58**	**42**	*e*Pn		**Pn**	**Pn**	**10 05 44.7**	**+0.5**

*ISCJB **13** 10:10:44.5±1.0,61°.06N±0°.04×29°.03E±0°.09,h0km, Error ellipse: s-maj=6.6km s-min=4.7km az=31.8*
*HEL **13** 10:10:47.2±0.5,60°.91N×29°.12E,h0km,ML1.6, Explosion*
*CSEM **13** 10:10:47.2,60°.91N×29°.12E,h0km,ML1.6,Mining explosion. After HEL*
*IDC **13** 10:10:48.5±1.9,60°.98N×28°.97E,h0km,mb1 3.3/3, mb1mx3.0/26,mbtmp3.2/3,ML2.6/3, Error ellipse: s-maj=19.9km s-min=12.2km az=178.0*

ISC 13 10:10:46.8±1.2,**60°.99N**±0°.05×**29°.01E**±0°.05,**h0**km,**n22**, σ0**s65**/36,**Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.84**	**239**	PG		**Pg**	**Pg**	**10 11 02.7**	**-0.3**
VJF				SG		**Sg**	**Sg**	**10 11 14.4**	**+0.6**
VJF	**Virojoki**	**0.84**	**239**	Pg		**Pg**	**Pg**	**10 11 02.6**	**-0.3**
VJF				Sg		**Sg**	**Sg**	**10 11 14.4**	**+0.6**
FIA0	**FINESS Array S**	**1.49**	**289**	PG		**Pn**	**Pn**	**10 11 14.1**	**-0.7**
FIA0	baz=111								
FIA0				SG		**Sn**	**Sn**	**10 11 35.3**	**+0.3**
FIA0				MSG				10 11 35.3	
	comp=Z,4.5nm,0.5s								
FIA0				RG		Rg	Rg	10 11 44.0	
FIA0	**FINESS Array S**	**1.49**	**289**	Pg		**Pn**	**Pn**	**10 11 14.1**	**-0.7**
FIA0				Sg		**Sn**	**Sn**	**10 11 35.3**	**+0.3**
FINES	**FINESS Array B**	**1.49**	**289**	Pg		**Pn**	**Pn**	**10 11 14.2**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=108,slow=16,SNR=15								
FINES				Lg		Lg		10 11 35.0	
	comp=Z,2.0nm,0.3s,baz=104,slow=28,SNR=18								
FINES				Rg		Rg	Rg	10 11 42.5	
	comp=Z,16nm,0.7s,baz=121,slow=31,SNR=22								
PVF	**Pernaja**	**1.61**	**255**	PG		**Pn**	**Pn**	**10 11 15.6**	**-0.8**
PVF				SG		**Sg**	**Sg**	**10 11 39.1**	**+0.7**
PVF				MSG				10 11 39.1	
	comp=Z,4.3nm,0.2s								
PVF	**Pernaja**	**1.61**	**255**	Pg		**Pn**	**Pn**	**10 11 15.6**	**-0.8**
PVF				Sg		**Sg**	**Sg**	**10 11 39.1**	**+0.7**
KAF	**Kangasniemi**	**1.72**	**312**	PN		**Pb**	**Pb**	**10 11 19.3**	**0.0**
KAF				SG		**Sb**	**Sb**	**10 11 41.6**	**+0.2**
KAF				MSG				10 11 41.6	
	comp=Z,2.5nm,0.4s								
KAF	**Kangasniemi**	**1.72**	**312**	Pn		**Pb**	**Pb**	**10 11 19.2**	**0.0**
KAF				Sg		**Sb**	**Sb**	**10 11 41.6**	**+0.2**
SUF	**Sumiainen**	**2.21**	**323**	PN		**Pb**	**Pb**	**10 11 27.4**	**-0.1**
SUF				SG		**Sb**	**Sb**	**10 11 56.6**	**+1.3**
SUF	**Sumiainen**	**2.21**	**323**	Pn		**Pb**	**Pb**	**10 11 27.4**	**-0.1**
SUF				Sg		**Sb**	**Sb**	**10 11 56.6**	**+1.3**
JOF	**Joensuu**	**2.22**	**28**	PN		**Pb**	**Pb**	**10 11 27.5**	**-0.3**
	baz=200								
JOF				SG		**Sb**	**Sb**	**10 11 56.6**	**+0.8**
JOF				MSG				10 11 56.6	
	comp=Z,2.9nm,0.2s								
JOF	**Joensuu**	**2.22**	**28**	Pn		**Pb**	**Pb**	**10 11 27.5**	**-0.3**
JOF				Sg		**Sb**	**Sb**	**10 11 56.6**	**+0.8**
KEF	**Keuruu**	**2.31**	**303**	PN		**Pb**	**Pb**	**10 11 28.2**	**-1.0**
KEF				SG		**Sb**	**Sb**	**10 11 58.7**	**+0.4**
KEF				MSG				10 11 58.7	
	comp=Z,1.8nm,0.4s								
KEF	**Keuruu**	**2.31**	**303**	Pn		**Pb**	**Pb**	**10 11 28.2**	**-1.0**
KEF				Sg		**Sb**	**Sb**	**10 11 58.7**	**+0.4**
MEF	**Metsahovi**	**2.40**	**253**	PN		**Pn**	**Pn**	**10 11 28.2**	**+0.9**
MEF	**Metsahovi**	**2.40**	**253**	Pn		**Pn**	**Pn**	**10 11 28.2**	**+0.9**
VAF	**Ylistaro**	**3.63**	**307**	SG		**Sg**	**Sg**	**10 12 43.3**	**0.0**
VAF				MSG				10 12 43.3	
	comp=Z,0.9nm,0.4s								
VAF	**Ylistaro**	**3.63**	**307**	Sg		**Sg**	**Sg**	**10 12 43.3**	**0.0**
HFS	**Hagfors**	**7.60**	**270**	Pn		**Pn**	**Pn**	**10 12 38.1**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=69,slow=15,SNR=4.3								
NOA	**NORSAR Array B**	**8.64**	**278**	Pn		**Pn**	**Pn**	**10 12 52.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=72,slow=17,SNR=2.8								
ARCES	**ARCESS Array B**	**8.71**	**352**	Pn		**Pn**	**Pn**	**10 12 53.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=171,slow=12,SNR=8.0								

*IDC **13** 10:22:09.0±0.6,3°.60N×126°.52E,h0km,mb4.3/18, mb1 4.4/18,mb1mx4.3/22,mbtmp4.3/18,MS3.5/7, Ms1 3.5/7,ms1mx3.2/36,Error ellipse: s-maj=27.8km s-min=12.7km az=75.0*
*BJI **13** 10:22:11.3,3°.47N×126°.79E,h36km, mB5.2/16,mb4.7/24, Ms4.6/11,Ms7 4.2/14*
*NEIC **13** 10:22:14.0±0.3,3°.65N×126°.64E,h35km,mb4.8/14, Error ellipse: s-maj=13.1km s-min=5.9km az=67.0*
*ISCJB **13** 10:22:14.3±0.3,3°.62N±0°.05×126°.65E±0°.08,h53km, mb4.5/38,MS3.6/13,Error ellipse: s-maj=11.8km s-min=4.5km az=154.5*
*DJA **13** 10:22:17,3°.64N×126°.99E,h20km,mb4.8/7*

ISC 13 10:22:15.8±0.4,**3°.66N**±0°.06×**126°.65E**±0°.09,**h53**km,**n96**, σ1**s92**/124,**mb4.5**/37,**MS3.5**/13,**1C**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.95**	**325**	*e*P		Pn		10 23 02.9	+2.5
TNTI	**Ternate**	**2.96**	**166**	P		**Pn**		**10 23 01.8**	**+1.5**
DAV	**Davao City (W)**	**3.55**	**343**	*e*Pn		**Pn**		**10 23 07.0**	**-1.5**
DAV				Sn		Sn		10 24 02.3	+13
DAV	**Davao City (W)**	**3.55**	**343**	Pn		Pn		10 23 16.3	+7.8
	79nm,0.3s,baz=246,slow=18,SNR=3.2								
DAV				Sn		Sn		10 24 02.3	+13
	40nm,0.3s,baz=49,slow=16,SNR=4.7								
CTBH	**Cotabato--PC H**	**4.27**	**326**	*i* P		Pn		10 23 22.7	+4.3
LBMI	**Labuha**	**4.35**	**169**	P		**Pn**		**10 23 21.1**	**+1.6**
LUWI	**Luwuk**	**6.07**	**220**	P		Pn		10 23 50.7	+7.6
SWI	**Sorong**	**6.43**	**134**	P		**Pn**		**10 23 47.8**	**-0.2**
MYLDM	**Lahad Datu**	**8.27**	**281**	P		Pn		10 24 21.9	+8.7
	75nm,1.1s								
KDI	**Kendari**	**8.57**	**208**	P		Pn		10 24 23.9	+6.5
TTSI	**Tana Toraja**	**9.54**	**226**	P		Pn		10 24 39.6	+9.0
KKM	**Kota Kinabalu**	**10.67**	**283**	*e*Pn		**Pn**		**10 24 44.3**	**-1.9**
KKM	**Kota Kinabalu**	**10.67**	**283**	P		Pn		10 24 55.3	+9.2
	13nm,1.0s								
TLE	**Tual**	**11.05**	**147**	P		**Pn**		**10 24 52.6**	**+1.3**
SBUM	**Sibu**	**14.46**	**266**	P		P		10 25 47.7	+4.6
YULB	**Yu-li**	**20.29**	**346**	*e*P		**P**		**10 26 44.7**	**-2.6**
	5.8nm,0.5s								
TPUB	**Ta-pu**	**20.38**	**344**	*e*P		**P**		**10 26 46.2**	**-2.1**
	29nm,0.7s								
GUMO	**Guam**	**20.52**	**60**	LR		LR		10 32 53.5	
	comp=Z,84nm,21.3s,baz=131,slow=31								
SSLB	**Suanglung**	**20.75**	**345**	*e*P		**P**		**10 26 49.3**	**-3.1**
	197nm,2.2s								
FITZ	**Fitzroy Crossi**	**21.65**	**183**	*e*P		**P**		**10 27 01.6**	**-0.3**
	3.1nm,0.5s								
FITZ	**Fitzroy Crossi**	**21.65**	**183**	*e*P		**P**		**10 27 01.3**	**-0.6**
	7.3nm,0.5s								
FITZ	**Fitzroy Crossi**	**21.65**	**183**	P		**P**		**10 27 01.3**	**-0.6**
	5.5nm,0.7s,baz=10,slow=10,SNR=9.4								
QIZ	**Qiongzhong**	**22.43**	**314**	P		**P**		**10 27 11.3**	**+0.9**
QIZ				sP		sP		10 27 23.8	-5.4
QIZ				S		**S**		**10 31 18.1**	**+4.6**
QIZ				pmax		pmax			
	comp=Z,110nm,5.1s								
COEN	**Coen**	**23.98**	**137**	*e*P		**P**		**10 27 24.7**	**-0.9**
	comp=Z,56nm,0.9s								
COEN	**Coen**	**23.98**	**137**	*e*P		**P**		**10 27 24.3**	**-1.3**
	comp=Z,19nm,0.5s								
WRAB	**Tennant Creek**	**24.63**	**162**	*e*P		**P**		**10 27 31.1**	**-0.4**
	comp=Z,64nm,0.8s								
WRA	**Warramunga Arr**	**24.64**	**162**	P		**P**		**10 27 31.2**	**-0.4**
WRA	**Warramunga Arr**	**24.64**	**162**	P		**P**		**10 27 31.2**	**-0.4**
	comp=Z,50nm,0.7s,baz=343,slow=10,SNR=126								
QIS	**Mount Isa**	**27.22**	**153**	*e*P		**P**		**10 27 54.5**	**-0.4**
AS31	**Alice Springs**	**28.06**	**166**	*e*P		**P**		**10 28 02.2**	**-0.3**
ASAR	**Alice Springs**	**28.06**	**166**	P		**P**		**10 28 01.8**	**-0.7**
ASAR	**Alice Springs**	**28.06**	**166**	P		**P**		**10 28 01.8**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=349,slow=8.0,SNR=29								
GYA	**Guiyang**	**29.68**	**322**	P		**P**		**10 28 17.8**	**+0.9**
GYA				pP		**pP**		**10 28 29.3**	**-1.1**
GYA				PP		**PnPn**		**10 29 17.4**	**+3.3**
GYA				PcP		**PcP**		**10 31 22.0**	**+1.6**
GYA				S		**S**		**10 33 12.8**	**+3.6**
GYA				SS		**SnSn**		**10 34 48.5**	**+6.0**
GYA				ScS		**ScS**		**10 38 52.1**	**-1.2**
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
GYA				pmax		pmax			
	comp=Z,90nm,4.9s								
GYA				LR		LR			
	comp=N,460nm,17.8s								
GYA				LR		LR			
	comp=E,440nm,18.0s								
GYA				LR		LR			
	comp=Z,480nm,17.9s								
CTAO	**Charters Tower**	**30.46**	**142**	*e*P		**P**		**10 28 23.2**	**-0.5**
	comp=Z,11nm,1.2s								
CMAR	**Chiang Mai Arr**	**30.84**	**301**	P		**P**		**10 28 27.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**30.84**	**301**	P		**P**		**10 28 27.9**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=112,slow=6.9,SNR=12								
CMAR				LR		LR		10 41 59.8	
	comp=Z,48nm,18.9s,baz=40,slow=39								
CHTO	**Chiang Mai**	**30.99**	**301**	*e*P		**P**		**10 28 29.2**	**+0.7**
	comp=Z,4.6nm,0.9s								
ENH	**Enshi**	**31.05**	**330**	*e*P		**P**		**10 28 28.6**	**-0.4**
	comp=Z,4.3nm,0.4s								
KMI	**Kunming**	**31.38**	**315**	P		P		10 28 34.6	+2.5
KMI				pmax		pmax			
	comp=Z,5.0nm,0.5s								
KSAR	**Wonju Array Be**	**33.64**	**2**	P		**P**		**10 28 52.5**	**+1.0**
KSRS	**Korea Array**	**33.65**	**2**	P		**P**		**10 28 52.5**	**+0.9**
	comp=Z,3.2nm,0.6s,baz=179,slow=9.8,SNR=15								
MJAR	**Matsushiro Arr**	**34.41**	**17**	P		**P**		**10 28 59.1**	**+0.9**
MJAR	**Matsushiro Arr**	**34.41**	**17**	P		**P**		**10 28 59.1**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=185,slow=11,SNR=4.3								
MJAR				LR		LR		10 42 33.9	
	comp=Z,61nm,19.2s,baz=175,slow=36								
XAN	**Xi'an**	**34.45**	**333**	P		**P**		**10 28 57.1**	**-1.5**
XAN				pP		**pP**		**10 29 07.4**	**-4.8**
XAN				pmax		pmax			
	comp=Z,3.0nm,1.0s								
CD2	**Chengdu**	**34.66**	**324**	P		**P**		**10 29 00.8**	**+0.4**
CD2				pP		**pP**		**10 29 10.5**	**-3.6**
CD2				sP		sP		10 29 14.4	-5.9
CD2				PcP		**PcP**		**10 31 34.3**	**+0.5**
CD2				S		**S**		**10 34 28.0**	**+1.4**
CD2				sS		sS		10 34 44.0	-5.6
CD2				PcS		**PcS**		**10 35 19.6**	**-0.9**
CD2				SS		**SnSn**		**10 36 41.9**	**-1.3**
CD2				pmax		pmax			
	comp=Z,30nm,0.6s								
CD2				pmax		pmax			
	comp=Z,250nm,5.5s								
BJT	**Baijiatuau**	**37.42**	**347**	*e*P		**P**		**10 29 25.1**	**+1.2**
	comp=Z,18nm,0.6s								
BJI	**Beijing**	**37.44**	**347**	P		**P**		**10 29 25.1**	**+1.1**
BJI				pmax		pmax			
	comp=Z,23nm,0.7s								
BJI				LR		LR			
	comp=Z,42nm,19.2s								
STKA	**Stephens Creek**	**38.09**	**159**	P		**P**		**10 29 29.3**	**-0.3**
STKA	**Stephens Creek**	**38.09**	**159**	*e*P		**P**		**10 29 29.3**	**-0.3**
	comp=Z,11nm,0.6s								
STKA	**Stephens Creek**	**38.09**	**159**	P		**P**		**10 29 29.3**	**-0.3**
	comp=Z,13nm,0.6s,baz=340,slow=9.5,SNR=50								
LZH	**Lanzhou**	**38.53**	**330**	*e*P		**P**		**10 29 35.4**

comp=Z,8.5nm,0.7s
KKAR **Karatay Array** 63.23 317 *e*P P 10 32 39.0 +0.1
BVAR **Borovoye Array** 67.34 327 P P 10 33 05.7 +0.4
BVAR **Borovoye Array** 67.34 327 P P 10 33 05.7 +0.4
comp=Z,6.1nm,1.0s,baz=131,slow=7.9,SNR=22
BRVK **Borovoye** 67.41 327 *e*P P 10 33 06.0 +0.3
comp=Z,9.6nm,1.0s
ABKAR **Akbulak array** 72.16 321 *e*P P 10 33 34.5 -0.5
AKTO **Aktyubinsk** 73.67 322 P P 10 33 44.8 +0.9
AKTO **Aktyubinsk** 73.67 322 P P 10 33 44.8 +0.9
comp=Z,1.3nm,0.3s,baz=115,slow=6.6,SNR=14
ARU **Arti** 74.95 328 *e*P P 10 33 51.6 +0.4
comp=Z,6.1nm,0.6s
ILAR **Eielson Array** 85.20 25 P P 10 34 48.2 +1.9
ILAR **Eielson Array** 85.20 25 P P 10 34 48.2 +1.9
comp=Z,0.6nm,0.9s,baz=271,slow=4.7,SNR=7.1
ARCES **ARCESS Array B** 90.49 340 P P 10 35 11.2 -0.4
ARCES **ARCESS Array B** 90.49 340 P P 10 35 11.2 -0.4
comp=Z,0.9nm,0.4s,baz=72,slow=5.9,SNR=14
FINES **FINESS Array B** 91.86 332 P P 10 35 18.0 -0.1
FINES **FINESS Array B** 91.86 332 P P 10 35 18.0 -0.1
comp=Z,1.3nm,0.8s,baz=46,slow=6.0,SNR=4.0
YKA **Yellowknife Ar** 99.59 24 P Pdif 10 35 55.9 +2.7
YKA **Yellowknife Ar** 99.59 24 P Pdif 10 35 55.9 +2.7
comp=Z,0.1nm,0.5s,baz=294,slow=4.1,SNR=3.6
TORD **Torodi Ar. Bea** 122.87 288 PKP PKPdf 10 41 08.2 +1.1
TORD **Torodi Ar. Bea** 122.87 288 PKP PKPdf 10 41 08.2 +1.1
comp=Z,0.3nm,0.6s,baz=57,slow=1.0,SNR=2.4
LRAL **Lakeview Retre** 131.56 38 *e*PKPdf PKPdf 10 41 22.0 -1.2

ISK ***13*** *10:26:18.1,38.69N×35.64E,h5km,MD3.1*
DDA ***13*** *10:26:18.9,38.73N×35.65E,h7km,MD3.1*
CSEM ***13*** *10:26:19.3±0.2,38.69N×35.58E,h2km,MD3.1, Error ellipse: s-maj=5.3km s-min=4.7km az=96.0*
ISC 13 10:26:19.6±1.3,38.69N±0.03×35.66E±0.03,h2km±11km, n32,σ1°18/45,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNN	**Bunyan**	**0.22**	**42**	*e*PG	**Pg**	**10 26 23.5**	**-0.4**
BNN				*e*SG	**Sg**	**10 26 27.5**	**+0.7**
BNN	**Bunyan**	**0.22**	**42**	*e*Pg	**Pg**	**10 26 23.5**	**-0.4**
BNN				*e*Sg	**Sg**	**10 26 27.5**	**+0.7**
KOZT	**Kozan**	**1.22**	**174**	*e*PN	**Pg**	**10 26 41.9**	**-1.0**
KOZT	**Kozan**	**1.22**	**174**	*e*Pn	**Pg**	**10 26 41.9**	**-1.0**
ANDN	**Andirin**	**1.23**	**154**	*i* P	**Pn**	**10 26 43.7**	**-0.4**
ANDN				*i* S	**Sn**	**10 27 02.3**	**+0.9**
ANDN	**Andirin**	**1.23**	**154**	*i* P	**Pn**	**10 26 43.7**	**-0.4**
ANDN				*i* S	**Sn**	**10 27 02.3**	**+0.9**
CDAG	**Cicekdag**	**1.37**	**313**	*e*P	**Pg**	**10 26 44.4**	**-1.4**
CDAG				*e*S	**Sn**	**10 27 06.2**	**+1.5**
CDAG	**Cicekdag**	**1.37**	**313**	*e*P	**Pg**	**10 26 44.4**	**-1.4**
CDAG				*e*S	**Sn**	**10 27 06.2**	**+1.5**
KMRS	**Kahramanmaras**	**1.54**	**140**	*e*PN	**Pn**	**10 26 48.1**	**0.0**
KMRS	**Kahramanmaras**	**1.54**	**140**	*e*Pn	**Pn**	**10 26 48.1**	**0.0**
GULE	**Gulek**	**1.57**	**207**	*i* P	**Pn**	**10 26 48.8**	**+0.1**
GULE				*i* S	**Sg**	**10 27 11.5**	**+1.5**
GULE	**Gulek**	**1.57**	**207**	*i* P	**Pn**	**10 26 48.8**	**+0.1**
GULE				*i* S	**Sg**	**10 27 11.5**	**+1.5**
CORM	**Corum**	**1.69**	**332**	*e*PN	**Pn**	**10 26 49.8**	**-0.6**
CORM	**Corum**	**1.69**	**332**	*e*Pn	**Pn**	**10 26 49.8**	**-0.6**
DARE	**Darende-Malaty**	**1.70**	**80**	*e*PN	Pn	10 26 46.6	-3.9
DARE				*e*SN	**Sn**	**10 27 07.3**	**-5.6**
AKCD	**Akcadag**	**1.82**	**102**	*i* P	**Pn**	**10 26 52.5**	**+0.4**
AKCD				*i* S	**Sb**	**10 27 17.5**	**+0.4**
AKCD	**Akcadag**	**1.82**	**102**	*i* P	**Pn**	**10 26 52.5**	**+0.4**
AKCD				*i* S	**Sb**	**10 27 17.5**	**+0.4**
GAZ	**Gaziantep**	**1.95**	**140**	*e*PN	**Pn**	**10 26 54.1**	**+0.2**
GAZ	**Gaziantep**	**1.95**	**140**	*e*Pn	**Pn**	**10 26 54.1**	**+0.2**
GZT	**Gaziantep**	**2.01**	**131**	*i* P	**Pn**	**10 26 53.9**	**-0.8**
GZT				*i* S	**Sb**	**10 27 23.2**	**+0.6**
MERS	**Mersin**	**2.03**	**207**	*e*PN	**Pn**	**10 26 54.1**	**-0.9**
MERS	**Mersin**	**2.03**	**207**	*e*Pn	**Pn**	**10 26 54.1**	**-0.9**
RSDY	**Resadiye-TOKAT**	**2.14**	**37**	*e*PN	**Pn**	**10 26 57.2**	**+0.8**
RSDY	**Resadiye-TOKAT**	**2.14**	**37**	*e*Pn	**Pn**	**10 26 57.2**	**+0.8**
MYA	**Malataya**	**2.20**	**99**	*e*PN	**Pn**	**10 26 57.7**	**+0.3**
MYA	**Malataya**	**2.20**	**99**	*e*Pn	**Pn**	**10 26 57.7**	**+0.3**
MALT	**Malatya**	**2.21**	**99**	*e*PN	**Pn**	**10 26 57.9**	**+0.5**
MALT	**Malatya**	**2.21**	**99**	*e*Pn	**Pn**	**10 26 57.9**	**+0.5**
KEMA	**Kemaliye**	**2.28**	**74**	*i* P	**Pn**	**10 26 59.1**	**+0.6**
KEMA				*i* S	**Sb**	**10 27 30.7**	**+0.3**
KEMA	**Kemaliye**	**2.28**	**74**	*i* P	**Pn**	**10 26 59.1**	**+0.6**
KEMA				*i* S	**Sb**	**10 27 30.7**	**+0.3**
PTK	**Pertek**	**2.92**	**85**	*e*PN	**Pn**	**10 27 08.2**	**+0.8**
PTK	**Pertek**	**2.92**	**85**	*e*Pn	**Pn**	**10 27 08.2**	**+0.8**

ISCJB ***13*** *10:40:58.9±0.4,47.99N±0.04×146.9E±0.1,h442km, mb3.6/20,Error ellipse: s-maj=10.9km s-min=4.8km az=21.5*
IDC ***13*** *10:41:01.2±1.1,48.11N×146.90E,h450km±14km, mb3.2/16,mb1 3.4/21,mb1mx3.3/29,mbtmp3.2/21,Error ellipse: s-maj=14.9km s-min=10.3km az=165.0*
ISC 13 10:40:59.9±0.5,47.92N±0.07×146.97E±0.10,h442km,n44, σ2°11/49,mb3.7/20,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JRA	**Rausu**	**4.19**	**199**	P	**P**	**10 42 17.7**	**+1.5**
JSE	**Soyaes**	**4.24**	**227**	P	P	10 42 20.1	+3.4
JWK2	**Keihoku**	**4.36**	**235**	P	P	10 42 21.9	+4.2
JTKR	**Abashiri--Toko**	**4.49**	**210**	P	**P**	**10 42 21.1**	**+2.1**
NEM2	**Nemuro 2**	**4.64**	**191**	P	**P**	**10 42 19.5**	**-0.9**
NEM2				*e*S	**S**	**10 43 22.4**	**-3.6**
ASAJ	**Asahikawa**	**4.88**	**220**	P	P	10 42 25.3	+2.6
	3.5nm,0.3s,baz=74,slow=4.9,SNR=20						
ASAJ				S	**S**	**10 43 34.1**	**+4.0**
	baz=159,slow=30,SNR=5.6						
JKK2	**Kamakawa 2**	**5.01**	**218**	P	**P**	**10 42 26.4**	**+2.4**
JAR	**Ashorobuto**	**5.14**	**207**	P	**P**	**10 42 26.6**	**+1.3**
JAK	**Akkeshi**	**5.18**	**199**	P	**P**	**10 42 25.0**	**-0.6**
JAK				*e*S	**S**	**10 43 31.4**	**-4.1**
JHR	**Hokuryu**	**5.56**	**223**	P	P	10 42 32.0	+2.6
JFR	**Furan**	**5.67**	**214**	P	**P**	**10 42 32.5**	**+2.0**
JCH	**Churui**	**5.89**	**207**	P	**P**	**10 42 32.4**	**-0.3**
JCH				*e*S	**S**	**10 43 44.6**	**-4.0**
JNBK	**Urakawa-nobuka**	**6.38**	**209**	P	**P**	**10 42 37.8**	**-0.1**
JNBK				*e*S	**S**	**10 43 53.5**	**-4.5**
JEW	**Eniwo**	**6.40**	**219**	P	**P**	**10 42 39.8**	**+1.8**
JKB	**Kayabe**	**7.36**	**217**	P	**P**	**10 42 48.1**	**-0.2**
JKB				*e*S	**S**	**10 44 12.7**	**-4.4**
JOT	**Ohata**	**7.78**	**215**	P	**P**	**10 42 53.4**	**+0.5**
JOT				*e*S	**S**	**10 44 20.0**	**-5.5**
JANG	**Nango**	**8.51**	**209**	P	**P**	**10 43 01.3**	**+0.6**
JANG				*e*S	**S**	**10 44 35.8**	**-4.2**
PETK	**Petropavlovsk-**	**8.58**	**49**	P	**P**	**10 43 02.6**	**+1.3**
	0.1nm,0.3s,baz=220,slow=10,SNR=5.3						
JOM	**Ohasama**	**9.39**	**208**	P	**P**	**10 43 12.5**	**+2.1**
JMK	**Ichinoseki**	**9.89**	**207**	P	P	10 43 18.4	+2.6
USRK	**Ussuriysk Arra**	**11.05**	**256**	P	**P**	**10 43 29.4**	**+1.1**
	0.4nm,0.3s,baz=58,slow=12,SNR=12						
MJAR	**Matsushiro Arr**	**13.09**	**213**	P	**P**	**10 43 53.0**	**+2.3**
	0.7nm,0.3s,baz=13,slow=11,SNR=8.3						
KSRS	**Korea Array**	**17.44**	**240**	P	**P**	**10 44 38.9**	**+1.9**
	0.2nm,0.3s,baz=44,slow=9.6,SNR=8.4						
SONM	**Songino Array**	**27.00**	**285**	P	**P**	**10 46 04.6**	**+0.2**
	0.4nm,0.5s,baz=81,slow=8.9,SNR=3.0						
ILAR	**Eielson Array**	**38.26**	**39**	P	**P**	**10 47 39.9**	**-0.2**
	3.0nm,0.7s,baz=276,slow=9.2,SNR=38						
ZALV	**Zalesovo Beam**	**38.50**	**303**	P	**P**	**10 47 41.6**	**-0.6**
	0.4nm,0.3s,baz=56,slow=8.8,SNR=2.8						
ZALV				PcP	**PcP**	**10 49 43.0**	**-1.1**
	1.0nm,0.6s,baz=58,slow=3.8,SNR=4.8						
MKAR	**Makanchi Array**	**42.67**	**294**	P	**P**	**10 48 16.1**	**+0.2**
	1.5nm,0.5s,baz=73,slow=7.6,SNR=12						
KURBB	**Kurchatov Arra**	**43.29**	**300**	P	**P**	**10 48 20.5**	**-0.1**
	2.5nm,0.4s,baz=72,slow=8.7,SNR=19						
KURBB				PcP	**PcP**	**10 49 59.5**	**-0.4**
	0.8nm,0.6s,baz=70,slow=3.1,SNR=9.2						
BVAR	**Borovoye Array**	**46.84**	**306**	P	**P**	**10 48 47.7**	**-0.3**
	0.5nm,0.5s,baz=79,slow=7.8,SNR=3.4						
YKA	**Yellowknife Ar**	**52.43**	**35**	P	**P**	**10 49 28.5**	**-0.7**
	1.6nm,0.7s,baz=304,slow=6.9,SNR=38						
YKA				PcP	**PcP**	**10 50 32.3**	**-0.5**
	0.2nm,0.6s,baz=310,slow=3.4,SNR=5.0						
KEV	**Kevo**	**54.77**	**338**	*ep*	**P**	**10 49 44.2**	**-1.6**
	0.7nm,0.3s						
ARCES	**ARCESS Array B**	**55.30**	**339**	P	**P**	**10 49 48.9**	**-0.7**
	2.3nm,0.8s,baz=33,slow=6.8,SNR=8.3						
JOF	**Joensuu**	**58.36**	**331**	*ep*	**P**	**10 50 09.8**	**-0.9**
	2.6nm,0.5s						
KAF	**Kangasniemi**	**60.54**	**332**	*ep*	P	10 50 21.6	-3.8
	1.4nm,0.5s						
FINES	**FINESS Array B**	**61.12**	**332**	P	**P**	**10 50 28.5**	**-0.8**
	4.8nm,0.5s,baz=38,slow=8.1,SNR=26						
NVAR	**Mina Array Bea**	**65.51**	**59**	P	**P**	**10 50 59.4**	**+1.1**
	1.4nm,0.7s,baz=300,slow=6.1,SNR=9.5						
NB2	**NORSAR Subarra**	**65.67**	**338**	P	**P**	**10 50 57.7**	**-1.0**
	comp=Z,1.4nm,0.9s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**65.67**	**338**	P	**P**	**10 50 57.9**	**-0.8**
	comp=Z,4.0nm,0.7s,baz=31,slow=6.3,SNR=9.9						
HFS	**Hagfors**	**65.80**	**336**	P	**P**	**10 50 58.3**	**-1.1**
	comp=Z,2.8nm,0.6s,baz=75,slow=7.6,SNR=5.1						
PDAR	**Pinedale Array**	**67.34**	**51**	P	**P**	**10 51 09.8**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=5.9,slow=1.4,SNR=15						
ULM	**Lac du Bonnet**	**68.26**	**38**	P	**P**	**10 51 13.8**	**-1.1**
	comp=Z,1.3nm,0.6s,baz=355,slow=2.1,SNR=3.4						
ASAR	**Alice Springs**	**72.22**	**193**	P	**P**	**10 51 40.5**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=1.1,slow=5.1,SNR=10						
GERES	**GERESS Array B**	**75.46**	**330**	P	**P**	**10 51 56.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=27,slow=2.4,SNR=3.2						
TXAR	**Lajitas Array**	**80.44**	**57**	P	**P**	**10 52 25.0**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=297,slow=4.0,SNR=27						

ISK ***13*** *10:41:26.3,37.17N×37.25E,h4km,MD2.7*
DDA ***13*** *10:41:28.0,37.13N×37.33E,h7km,MD3.0*
CSEM ***13*** *10:41:27.3±0.3,37.18N×37.24E,h5km,MD2.7,Error ellipse: s-maj=8.1km s-min=6.5km az=119.0*
ISC 13 10:41:27.1±1.2,37.16N±0.03×37.26E±0.03,h1km±12km, n18,σ0°63/29,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.04**	**287**	*e*PG	**Pg**	**10 41 27.7**	**-0.2**
GAZ				*e*SG	**Sg**	**10 41 28.3**	**-0.1**
GAZ	**Gaziantep**	**0.04**	**287**	*e*Pg	**Pg**	**10 41 27.7**	**-0.2**
GAZ				*e*Sg	**Sg**	**10 41 28.3**	**-0.1**
KUZU	**Kuzuini**	**0.41**	**201**	*i* P	**Pb**	**10 41 36.8**	**-0.5**
KUZU				*i* S	**Sg**	**10 41 41.7**	**+1.3**
KUZU	**Kuzuini**	**0.41**	**201**	*i* P	**Pb**	**10 41 36.8**	**-0.5**
KUZU				*i* S	**Sg**	**10 41 41.7**	**+1.3**
KMRS	**Kahramanmaras**	**0.45**	**320**	*e*PG	**Pg**	**10 41 35.4**	**-0.3**
KMRS				*e*SG	**Sg**	**10 41 42.4**	**+0.9**
KMRS	**Kahramanmaras**	**0.45**	**320**	*e*Pg	**Pg**	**10 41 35.4**	**-0.3**
KMRS				*e*Sg	**Sg**	**10 41 42.4**	**+0.9**
ANDN	**Andirin**	**0.84**	**300**	*i* P	**Pn**	**10 41 46.1**	**-0.1**
ANDN				*i* S	**Sn**	**10 41 59.2**	**-0.1**
ANDN	**Andirin**	**0.84**	**300**	*i* P	**Pn**	**10 41 46.1**	**-0.1**
KOZT	**Kozan**	**1.19**	**286**	*e*PN	**Pg**	**10 41 49.5**	**-0.3**
KOZT	**Kozan**	**1.19**	**286**	*e*Pn	**Pg**	**10 41 49.5**	**-0.3**
AKCD	**Akcadag**	**1.25**	**25**	*i* P	**Pn**	**10 41 52.2**	**+0.3**
AKCD				*i* S	**Sn**	**10 42 10.6**	**+1.1**
AKCD	**Akcadag**	**1.25**	**25**	*i* P	**Pn**	**10 41 52.2**	**+0.3**
AKCD				*i* S	**Sn**	**10 42 10.6**	**+1.1**
URFA	**Urfa**	**1.28**	**77**	*e*PN	**Pg**	**10 41 51.3**	**-0.3**
URFA				*e*SN	**Sn**	**10 42 09.6**	**-0.5**
URFA	**Urfa**	**1.28**	**77**	*e*Pn	**Pg**	**10 41 51.3**	**-0.3**
URFA				*e*Sn	**Sn**	**10 42 09.6**	**-0.5**
MALT	**Malatya**	**1.48**	**39**	*e*PN	**Pb**	**10 41 55.1**	**-0.4**
MALT	**Malatya**	**1.48**	**39**	*e*Pn	**Pb**	**10 41 55.1**	**-0.4**
MYA	**Malataya**	**1.49**	**38**	*e*PN	**Pn**	**10 41 54.8**	**-0.3**
MYA	**Malataya**	**1.49**	**38**	*e*Pn	**Pn**	**10 41 54.8**	**-0.3**

IDC ***13*** *10:47:57.7±1.2,3.91N×126.07E,h0km, mb3.9/7, mb1 4.0/7,mb1mx3.8/20,mbtmp3.9/7,MS2.8/1,Ms1 2.8/1, ms1mx1.9/35,Error ellipse: s-maj=115.4km s-min=16.3km az=69.0*
MAN ***13*** *10:48:51,7.38N×124.66E,h12km, mb4.5, ML3.3, MS3.2*
ISC 13 10:47:58.1±1.5,4.1N±0.3×126.2E±0.6,h10km,n10, σ1°36/7,mb3.9/7,1C,Taluad Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**3.64**	**328**	*i* P	**Pb**	**10 49 01.2**	**-1.3**
BUKP	**Musuan**	**3.90**	**343**	*e*P	Pb	10 49 04.3	-2.7
BUKP				*e*S	Sn	10 49 17.2	-27
PAGZ	**Pagadian**	**4.64**	**323**	*e*P	Pb	10 49 15.5	-4.1
PAGZ				*e*S	Sn	10 49 23.3	-39
FITZ	**Fitzroy Crossi**	**22.09**	**181**	P	**P**	**10 52 53.7**	**+0.1**
	2.5nm,0.7s,baz=4.1,slow=12,SNR=3.9						
FITZ				LR	LR	11 02 16.2	
	comp=Z,28nm,19.7s,baz=252,slow=39						
WRA	**Warramunga Arr**	**25.22**	**162**	P	**P**	**10 53 23.5**	**-0.8**
	4.5nm,0.7s,baz=336,slow=12,SNR=33						
ASAR	**Alice Springs**	**28.63**	**165**	P	**P**	**10 53 54.6**	**-0.3**
	0.5nm,0.6s,baz=335,slow=7.2,SNR=7.1						
STKA	**Stephens Creek**	**38.69**	**159**	P	**P**	**10 55 21.8**	**-0.5**
	4.1nm,0.8s,baz=340,slow=8.8,SNR=6.3						
SONM	**Songino Array**	**46.76**	**342**	P	P	10 56 31.6	+3.8
	0.3nm,0.6s,baz=167,slow=7.2,SNR=3.0						
MKAR	**Makanchi Array**	**56.93**	**325**	P	**P**	**10 57 45.2**	**+1.7**
	0.6nm,0.5s,baz=124,slow=7.7,SNR=9.6						
KURBB	**Kurchatov Arra**	**61.12**	**327**	P	**P**	**10 58 13.9**	**+1.4**
	1.3nm,0.5s,baz=124,slow=6.0,SNR=19						

IDC 13 10:53:39.2±2.2,3.62N×126.44E,h0km,mb3.7/6, mb1 3.8/6,mb1mx3.6/20,mbtmp3.7/6,Error ellipse: s-maj=322.1km s-min=17.8km az=66.0,Taluad Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.67**	**162**	P	P	10 59 01.7	-0.4
	0.8nm,0.5s,baz=335,slow=12,SNR=6.3						
ASAR	**Alice Springs**	**28.08**	**165**	P	P	10 59 32.9	+0.1
	0.1nm,0.4s,baz=342,slow=9.0,SNR=2.5						
STKA	**Stephens Creek**	**38.13**	**159**	P	P	11 01 00.5	+0.2
	2.2nm,0.9s,baz=321,slow=17,SNR=3.0						
MKAR	**Makanchi Array**	**57.48**	**325**	P	P	11 03 30.5	+0.3
	0.6nm,0.5s,baz=119,slow=7.8,SNR=8.9						
ZALV	**Zalesovo Beam**	**60.55**	**333**	P	P	11 03 50.9	-0.4
	0.3nm,0.4s,baz=106,slow=3.1,SNR=3.3						
KURBB	**Kurchatov Arra**	**61.67**	**328**	P	P	11 03 59.0	0.0
	0.9nm,0.6s,baz=130,slow=5.8,SNR=10						

IDC 13 10:58:38.0±2.5,3.64N×126.38E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.7/20,mbtmp3.8/5,Error ellipse: s-maj=311.8km s-min=19.3km az=65.0,Taluad Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.70**	**162**	P	P	11 03 59.5	-1.6
	2.5nm,0.5s,baz=342,slow=11,SNR=15						
ASAR	**Alice Springs**	**28.11**	**165**	P	P	11 04 32.6	+0.8
	0.4nm,0.5s,baz=342,slow=10,SNR=8.2						
STKA	**Stephens Creek**	**38.17**	**159**	P	P	11 06 00.2	+0.9
	1.8nm,0.8s,baz=325,slow=12,SNR=4.8						
MKAR	**Makanchi Array**	**57.43**	**325**	P	P	11 08 28.7	+0.1
	0.5nm,0.5s,baz=118,slow=8.7,SNR=8.8						
KURBB	**Kurchatov Arra**	**61.63**	**328**	P	P	11 08 57.2	-0.2
	0.7nm,0.6s,baz=129,slow=6.1,SNR=6.8						

IDC 13 11:10:20.4±4.4,5.58S×151.74E,h75km±40km,mb3.9/14, mb1 4.1/15,mb1mx4.0/21,mbtmp3.9/15,ML3.2/1, MS3.5/3,Ms1 3.5/3,ms1mx2.9/33,Error ellipse: s-maj=24.7km s-min=20.9km az=12.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.92**	**230**	P	Pn	11 11 46.3	+0.8
	4.4nm,0.3s,baz=39,slow=9.1,SNR=23						
PMG				S	Sn	11 12 51.6	-0.5
	8.2nm,0.3s,baz=309,slow=14,SNR=8.8						
CTA	**Charters Tower**	**15.38**	**200**	LR	LR	11 19 21.3	
	comp=Z,145nm,18.4s,baz=236,slow=35						
DZM	**Mont Dzumac**	**21.71**	**140**	P	P	11 15 06.3	+0.7
	2.1nm,0.8s,baz=44,slow=18,SNR=5.7						
DZM				LR	LR	11 22 28.1	
	comp=Z,126nm,18.9s,baz=233,slow=34						
WRA	**Warramunga Arr**	**22.14**	**228**	P	P	11 15 10.0	-0.1
	7.3nm,0.6s,baz=54,slow=10,SNR=37						
ASAR	**Alice Springs**	**24.87**	**222**	P	P	11 15 36.7	+0.5
	7.8nm,0.7s,baz=60,slow=8.6,SNR=54						
STKA	**Stephens Creek**	**27.84**	**199**	LR	LR	11 27 31.1	
	comp=Z,92nm,19.6s,baz=24,slow=37						
FITZ	**Fitzroy Crossi**	**28.36**	**242**	P	P	11 16 07.6	-0.1
	9.1nm,0.6s,baz=58,slow=11,SNR=14						
CMAR	**Chiang Mai Arr**	**57.25**	**296**	P	P	11 20 01.6	+0.9
	0.7nm,0.3s,baz=122,slow=6.6,SNR=4.6						
SONM	**Songino Array**	**66.42**	**328**	P	P	11 21 02.0	+0.2
	1.5nm,0.5s,baz=139,slow=5.6,SNR=9.4						
MKAR	**Makanchi Array**	**80.21**	**319**	P	P	11 22 22.9	0.0
	0.9nm,0.7s,baz=93,slow=8.0,SNR=9.0						
ZALV	**Zalesovo Beam**	**81.21**	**327**	P	P	11 22 26.9	-1.1
	0.9nm,0.4s,baz=122,slow=6.7,SNR=5.0						
ILAR	**Eielson Array**	**83.27**	**22**	P	P	11 22 37.0	-1.6
	0.7nm,0.6s,baz=260,slow=5.0,SNR=10						
KURBB	**Kurchatov Arra**	**83.75**	**322**	P	P	11 22 41.0	-0.2
	1.9nm,0.9s,baz=101,slow=4.8,SNR=4.1						
AAK	**Ala-Archa**	**84.43**	**314**	P	P	11 22 45.5	+0.4
	0.8nm,0.5s,baz=116,slow=6.6,SNR=5.7						
BVAR	**Borovoye Array**	**89.22**	**323**	P	P	11 23 08.4	+0.4
	1.4nm,0.7s,baz=97,slow=4.9,SNR=6.4						
NVAR	**Mina Array Bea**	**93.39**	**52**	P	P	11 23 29.1	+1.2
	1.9nm,0.9s,baz=255,slow=6.2,SNR=7.8						
YKA	**Yellowknife Ar**	**96.60**	**28**	P	P	11 23 42.2	+0.5
	0.1nm,0.5s,baz=271,slow=4.9,SNR=4.0						
PDAR	**Pinedale Array**	**100.15**	**48**	P	Pdif	11 23 58.2	-0.3
	0.5nm,0.8s,baz=226,slow=2.4,SNR=3.5						
GERES	**GERESS Array B**	**124.15**	**328**	PKP	PKPdf	11 29 10.9	+0.3
	1.4nm,0.6s,baz=332,slow=1.4,SNR=8.4						
BDFB	**Brasilia**	**151.24**	**137**	PKPbc	PKPbc	11 30 04.6	-1.9
	2.8nm,0.5s,baz=121,slow=5.9,SNR=3.6						

MAN 13 11:10:41,14.37N×120.39E,h34km,mb4.3,ML3.1,MS2.9, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.59**	**116**	*e*P	Pb	11 10 55.6	+2.3
LUBP	**Lubang**	**0.64**	**192**	*e*P	Pb	11 10 55.5	+1.5
LUBP				*e*S	Sb	11 11 03.7	+0.9
SCZP	**Santa Cruz**	**1.48**	**342**	*e*P	Pb	11 11 06.6	-1.3
BALP	**Baler**	**1.79**	**40**	*e*P	Pn	11 11 10.3	+0.9
BOLP	**Bolinao**	**2.06**	**347**	*e*P	Pn	11 11 15.2	+2.1
CAUP	**Cauayan**	**2.91**	**28**	*e*P	Pn	11 11 25.1	+0.1

IDC 13 11:19:43.1±1.4,3.87N×126.18E,h0km,mb3.6/6, mb1 3.8/6,mb1mx3.6/21,mbtmp3.6/6,Error ellipse: s-maj=108.8km s-min=18.7km az=68.0,Taluad Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.84**	**181**	P	P	11 24 38.7	+1.3
	1.4nm,0.8s,baz=4.4,slow=13,SNR=2.6						
WRA	**Warramunga Arr**	**24.99**	**162**	P	P	11 25 08.5	-0.3
	0.7nm,0.5s,baz=337,slow=11,SNR=13						
ASAR	**Alice Springs**	**28.39**	**165**	P	P	11 25 39.1	-0.3
	0.3nm,0.6s,baz=344,slow=7.2,SNR=8.0						
STKA	**Stephens Creek**	**38.46**	**159**	P	P	11 27 06.3	-0.7
	0.8nm,0.5s,baz=342,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**57.12**	**325**	P	P	11 29 31.6	0.0
	0.2nm,0.4s,baz=114,slow=6.6,SNR=5.8						
KURBB	**Kurchatov Arra**	**61.32**	**328**	P	P	11 30 00.6	+0.1
	0.5nm,0.4s,baz=121,slow=6.3,SNR=6.6						

IDC ***13*** *11:31:44.4±0.4,3.96N×126.67E,h0km,mb4.6/27, mb1 4.7/27,mb1mx4.7/29,mbtmp4.6/27,MS4.2/11, Ms1 4.1/11,ms1mx3.7/32,Error ellipse: s-maj=22.5km s-min=10.4km az=71.0*
MOS ***13*** *11:31:47.7±1.0,3.97N×126.66E,h33km,mb5.1/37, MS4.2/6,Error ellipse: s-maj=14.2km s-min=5.7km az=114.8*
NEIC ***13*** *11:31:49.6±0.2,3.97N×126.82E,h35km,mb5.1/38,Error ellipse: s-maj=9.9km s-min=5.6km az=66.0*
BJI ***13*** *11:31:51.3,4.00N×126.72E,h63km,mB5.2/27,mb4.8/41, Ms4.6/29,Ms7 4.3/32*
ISCJB ***13*** *11:31:52.3±0.5,4.00N±0.02×126.81E±0.04,h76km±4km, mb4.8/109,Error ellipse: s-maj=6.4km s-min=3.9km az=164.0*
DJA ***13*** *11:31:

FITZ Fitzroy Crossi 21.97 183 P **P** **11 36 39.3 -2.3**
16nm,0.5s,baz=3.5,slow=12,SNR=24
QIZ Qiongzhong 22.32 313 P **P** **11 36 44.9 -0.6**
QIZ pP **pP** **11 36 59.5 +0.5**
QIZ sP **sP** **11 37 07.1 +0.3**
QIZ pmax pmax
comp=Z,17nm,1.4s
QIZ LR LR
comp=N,380nm,18.1s
QIZ LR LR
comp=E,220nm,16.6s
QIZ LR LR
comp=Z,630nm,19.1s
MYKOM **Kota Tinggi 23.02 265** P **P** **11 36 54.8 +1.9**
MYKOM **Kota Tinggi 23.02 265** P **P** **11 36 55.7 +2.8**
comp=Z,22nm,2.1s,comp=Z,506nm
COEN Coen 24.11 138 *e*P **P** **11 37 02.4 -0.6**
comp=Z,65nm,0.8s
WRAB Tennant Creek 24.89 163 *e*P **P** **11 37 09.1 -0.9**
WRAB pmax pmax
comp=Z,72nm,0.8s
WRAB Tennant Creek 24.89 163 *e*P **P** **11 37 09.1 -0.9**
comp=Z,72nm,0.8s
WRAB Tennant Creek 24.89 163 P **P** **11 37 08.7 -1.3**
comp=Z,589nm,0.6s,SNR=15
WRA Warramunga Arr 24.90 163 P **P** **11 37 08.5 -1.6**
WRA Warramunga Arr 24.90 163 P **P** **11 37 08.5 -1.6**
comp=Z,56nm,0.6s,baz=343,slow=10,SNR=228
FRIM Kepong 25.14 269 P P 11 37 20.0 +7.6
IPM Ipoh 25.71 272 *e*P **P** **11 37 17.3 -0.3**
comp=Z,34nm,1.1s
IPM Ipoh 25.71 272 P P 11 37 25.9 +8.3
IPM Ipoh 25.71 272 P P 11 37 25.1 +7.5
comp=Z,33nm,1.4s
MBWA Marble Bar 25.93 195 *e*P **P** **11 37 17.8 -1.5**
comp=Z,58nm,1.2s
BKNI Bangkinang 25.99 263 P P 11 37 28.4 +8.3
KULM Kulim 26.10 274 *e*P **P** **11 37 21.9 +0.9**
comp=Z,37nm,1.3s
KULM Kulim 26.10 274 P P 11 37 37.1 +16
PPI Padang Panjang 26.75 261 P **P** **11 37 31.0 +4.1**
comp=Z,18nm,1.0s
CBIJ Chichi jima 27.29 31 LR LR 11 47 23.2
comp=Z,600nm,18.6s,baz=193,slow=34
MNSI Mandailing Nat 27.38 264 P P 11 37 41.4 +8.8
QIS Mount Isa 27.43 153 *e*P **P** **11 37 33.0 0.0**
SSE Sheshan 27.49 350 P **P** **11 37 33.5 +0.2**
SSE sP **sP** **11 37 59.0 +3.2**
SSE S **S** **11 42 11.8 +2.1**
SSE pmax pmax
comp=Z,54nm,1.0s
SSE pmax pmax
comp=Z,280nm,3.8s
SSE LR LR
comp=N,200nm,22.2s
SSE LR LR
comp=E,110nm,22.2s
SSE LR LR
comp=Z,290nm,20.8s
PSI Prapat 27.85 268 P **P** **11 37 41.5 +4.5**
comp=Z,22nm,1.0s
AS31 Alice Springs 28.34 166 *e*P **P** **11 37 39.8 -1.2**
ASAR Alice Springs 28.34 166 P **P** **11 37 39.9 -1.2**
ASAR PcP **PcP** **11 40 54.1 +1.3**
ASAR Alice Springs 28.34 166 P **P** **11 37 39.9 -1.2**
comp=Z,3.7nm,0.5s,baz=342,slow=7.3,SNR=75
ASAR PcP **PcP** **11 40 54.1 +1.3**
comp=Z,1.0nm,0.4s,baz=357,slow=2.7,SNR=4.5
NJ2 Nanjing 28.91 346 *e*P **P** **11 37 47.6 +1.7**
NJ2 pP **pP** **11 37 59.6 -1.6**
NJ2 sP **sP** **11 38 07.0 -1.5**
NJ2 S **S** **11 42 31.0 -1.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,620nm,4.6s
NJ2 LR LR
comp=N,360nm,18.0s
NJ2 LR LR
comp=E,470nm,21.0s
NJ2 LR LR
comp=Z,420nm,12.8s
WHN Wuhan 28.92 337 P **P** **11 37 45.5 -0.6**
WHN *e*S **S** **11 42 37.4 +5.1**
WHN LR LR
comp=Z,2μm,20.7s
GYA Guiyang 29.52 321 P **P** **11 37 53.3 +1.7**
GYA pP **pP** **11 38 10.3 +3.4**
GYA PP PP 11 38 51.8 -7.5
GYA PcP **PcP** **11 40 56.9 +1.1**
GYA S **S** **11 42 42.8 +0.7**
GYA ScP **ScP** **11 44 31.5 -1.0**
GYA ScS **ScS** **11 48 25.3 -2.2**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=N,490nm,17.5s
GYA LR LR
comp=E,460nm,18.2s
GYA LR LR
comp=Z,520nm,17.7s
CTA Charters Tower 30.61 142 P **P** **11 38 02.5 +1.2**
CTA Charters Tower 30.61 142 P **P** **11 38 02.5 +1.2**
comp=Z,3.0nm,0.9s,baz=321,slow=11,SNR=2.9
CM31 Chiang Mai Arr 30.81 300 *e*P **P** **11 38 02.8 -0.2**
comp=Z,10.0nm,0.8s
CMAR Chiang Mai Arr 30.81 300 P **P** **11 38 02.6 -0.4**
CMAR PcP **PcP** **11 41 02.9 +3.8**
CMAR ScP **ScP** **11 44 42.5 +5.8**
CMAR Chiang Mai Arr 30.81 300 P **P** **11 38 02.6 -0.4**
comp=Z,9.5nm,0.8s,baz=114,slow=7.1,SNR=37
CMAR PcP **PcP** **11 41 02.9 +3.8**
comp=Z,1.0nm,0.7s,baz=146,slow=2.2,SNR=4.9
CMAR ScP **ScP** **11 44 42.5 +5.8**
comp=Z,0.5nm,0.4s,baz=129,slow=2.4,SNR=5.9
ENH Enshi 30.85 330 *e*P **P** **11 38 01.9 -1.3**
comp=Z,16nm,0.9s
CHTO Chiang Mai 30.96 301 *e*P **P** **11 38 03.4 -0.9**
CHTO pmax pmax
comp=Z,18nm,0.9s
CHTO Chiang Mai 30.96 301 *e*P **P** **11 38 03.4 -0.9**
comp=Z,18nm,0.9s
CHTO Chiang Mai 30.96 301 P **P** **11 38 03.3 -0.9**
comp=Z,25nm,0.9s
KMI Kunming 31.26 315 P **P** **11 38 08.5 +1.4**
KMI pP **pP** **11 38 25.9 +3.5**
KMI PP PP 11 39 15.0 -3.7
KMI S **S** **11 43 09.9 +0.3**
KMI pmax pmax
comp=Z,10.0nm,1.1s
KMI LR LR
comp=N,330nm,14.0s
KMI LR LR
comp=E,280nm,15.1s
KMI LR LR
comp=Z,480nm,14.0s
KSAR Wonju Array Be 33.32 2 P **P** **11 38 25.6 +0.9**
KSRS Korea Array 33.33 2 P **P** **11 38 25.6 +0.8**
comp=Z,2.6nm,0.8s,baz=177,slow=9.1,SNR=6.3
MAT Matsushiro 34.06 17 P **P** **11 38 30.4 -0.8**
XAN Xi'an 34.23 333 P **P** **11 38 31.3 -1.4**
XAN pP **pP** **11 38 47.5 -0.6**
XAN S S 11 43 49.8 -5.4
XAN sS **sS** **11 44 16.8 -4.6**
XAN pmax pmax
comp=Z,9.0nm,1.0s
XAN pmax pmax
comp=Z,12nm,3.1s
XAN LR LR
comp=N,280nm,17.9s
XAN LR LR
comp=E,130nm,16.8s
XAN LR LR
comp=Z,160nm,17.9s
CD2 Chengdu 34.49 324 P **P** **11 38 33.8 -1.2**
CD2 PcP **PcP** **11 41 08.8 -0.3**
CD2 S **S** **11 43 59.3 0.0**
CD2 PcS **PcS** **11 44 54.0 -1.7**
CD2 SS SS 11 46 11.3 -20
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 pmax pmax
comp=Z,120nm,5.5s
CD2 LR LR
comp=N,580nm,20.2s
CD2 LR LR
comp=E,630nm,21.2s
CD2 LR LR
comp=Z,710nm,17.0s
FORT Forrest 34.58 178 *e*P **P** **11 38 34.4 -1.3**
comp=Z,22nm,0.6s
KLBR Kellerberrin 36.41 193 *e*P **P** **11 38 51.1 -0.3**
comp=Z,13nm,0.5s
BJT Baijiatuau 37.14 346 *e*P **P** **11 38 55.8 -1.8**
comp=Z,39nm,0.9s
BJI Beijing 37.16 346 P **P** **11 38 57.5 -0.2**
BJI S S 11 44 28.9 -11
BJI pmax pmax
comp=Z,26nm,0.8s
BJI LR LR
comp=Z,140nm,22.6s
EIDS Eidsvold 37.50 142 *e*P **P** **11 39 00.8 0.0**
comp=Z,24nm,1.2s
BBOO Buckleboo 37.63 167 *e*P **P** **11 39 01.1 -0.6**
comp=Z,556nm,1.1s
BBOO Buckleboo 37.63 167 *e*P **P** **11 39 01.0 -0.7**
comp=Z,78nm,0.4s
NWAO Narrogin (SRO) 37.81 193 P **P** **11 39 02.7 -0.6**
NWAO Narrogin (SRO) 37.81 193 P **P** **11 39 02.7 -0.6**
comp=Z,43nm,1.0s,baz=25,slow=8.0,SNR=16
LZH Lanzhou 38.33 329 *e*P **P** **11 39 07.8 0.0**
LZH pP **pP** **11 39 20.3 -3.1**
LZH sP sP 11 39 24.9 -5.8
LZH pmax pmax
comp=Z,45nm,1.1s
LZH pmax pmax
comp=Z,120nm,4.6s
LZH LR LR
comp=N,520nm,13.4s
LZH LR LR
comp=E,660nm,16.1s
LZH LR LR
comp=Z,550nm,18.5s
STKA Stephens Creek 38.34 159 *e*P **P** **11 39 07.0 -0.8**
comp=Z,4.9nm,0.6s
STKA Stephens Creek 38.34 159 *e*P **P** **11 39 06.4 -1.3**
comp=Z,18nm,0.6s
STKA Stephens Creek 38.34 159 P **P** **11 39 07.3 -0.4**
comp=Z,24nm,0.7s,baz=334,slow=9.8,SNR=60
STKA LR LR 11 55 39.4
comp=Z,164nm,21.3s,baz=8.0,slow=37
HHC Hu-ho-hao-te 39.19 342 *e*P **P** **11 39 15.3 +0.4**
HHC pP **pP** **11 39 30.5 0.0**
HHC sP **sP** **11 39 37.8 0.0**
HHC PP PP 11 40 50.3 +4.5
HHC S **S** **11 45 14.3 +3.6**
HHC ScS **ScS** **11 49 19.3 +1.1**
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,200nm,4.4s
HHC LR LR
comp=N,330nm,16.7s
HHC LR LR
comp=E,390nm,16.7s
HHC LR LR
comp=Z,130nm,16.6s
CN2 Changchun 39.67 358 *e*P **P** **11 39 21.8 +3.0**
CN2 *e*pP **pP** **11 39 37.1 +2.7**
CN2 PcP **PcP** **11 41 28.0 +3.5**
CN2 *e*S **S** **11 45 22.0 +4.3**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,15.0s
CN2 LR LR
comp=E,400nm,15.0s
CN2 LR LR
comp=Z,400nm,16.0s
SHL Shillong 39.79 306 *i* P **P** **11 39 18.0 -2.2**
SHL *e*S **S** **11 45 21.5 +1.2**
USRK Ussuriysk Arra 40.32 6 P **P** **11 39 24.3 +0.3**
comp=Z,17nm,0.6s,baz=190,slow=7.4,SNR=4.8
MDJ Mudanjiang 40.55 3 P **P** **11 39 27.4 +1.4**
MDJ pP **pP** **11 39 42.5 +0.8**
MDJ sP **sP** **11 39 49.8 +0.9**
MDJ ScP **ScP** **11 45 12.0 +0.4**
MDJ PcS **PcS** **11 45 18.8 +0.9**
MDJ S **S** **11 45 33.8 +3.1**
MDJ sS **sS** **11 46 00.3 +3.0**
MDJ pmax pmax
comp=Z,24nm,2.1s
MDJ pmax pmax
comp=Z,180nm,3.9s
MDJ LR LR
comp=N,87nm,24.8s
MDJ LR LR
comp=E,96nm,27.9s
MDJ LR LR
comp=Z,110nm,26.8s
ARMA Armidale 41.63 147 *e*P **P** **11 39 35.5 +0.3**
LSA Lhasa 42.33 311 P P 11 39 45.6 +4.2
LSA pmax pmax
comp=Z,10.0nm,0.7s
LSA Lhasa 42.33 311 *e*P **P** **11 39 41.4 0.0**
LSA pmax pmax
comp=Z,22nm,0.7s
LSA Lhasa 42.33 311 *e*P **P** **11 39 41.4 0.0**
comp=Z,22nm,0.7s
ASAJ Asahikawa 42.33 17 P P 11 39 46.0 +5.4
ASAJ Asahikawa 42.33 17 P P 11 39 46.0 +5.4
comp=Z,4.8nm,0.5s,baz=225,slow=11,SNR=6.2
ASAJ LR LR 11 58 10.9
comp=Z,266nm,19.0s,baz=12,slow=37
GTA Gaotai 42.92 329 *e*P **P** **11 39 45.0 -0.6**
GTA pP **pP** **11 40 00.3 -1.1**
GTA sP **sP** **11 40 07.1 -1.6**
GTA S **S** **11 46 06.0 -0.3**
GTA sS **sS** **11 46 32.3 -0.8**
GTA SS SS 11 49 12.0 -8.1
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,110nm,5.5s
GTA LR LR
comp=N,370nm,18.1s
GTA LR LR
comp=E,380nm,17.8s
GTA LR LR
comp=Z,650nm,18.8s
YUK Yuzh-Kuril'sk 43.30 20 *e*P P 11 40 01.2 +13
YUK MLR MLR
comp=N,241nm,22.0s
YUK MLR MLR
comp=E,467nm,22.0s
YUK MLR MLR
comp=Z,523nm,22.0s
TAPN Taplejung 43.93 306 *e*P **P** **11 39 53.0 -1.1**
comp=Z,43nm,0.8s
ODAN Odare 43.98 305 *e*P **P** **11 39 53.3 -1.2**
comp=Z,49nm,0.8s
RAMN Ramite 44.67 305 *e*P **P** **11 39 58.9 -1.1**
comp=Z,62nm,1.1s
TOO Toolangi 44.84 159 *e*P **P** **11 40 01.5 +0.6**
comp=Z,63nm,1.7s
HABR Khabarovsk 44.89 8 P **P** **11 40 01.0 -0.1**
HABR *e**PP pP 11 40 09.9 -7.1
HABR *e* 11 41 46.4
HABR S **S** **11 46 38.4 +4.1**
HABR *e**SS sS 11 46 54.7 -6.6
HABR *e* 11 49 55.0
HABR MLR MLR
comp=Z,225nm,18.0s
YSS Yuzh-Sakhalins 44.98 15 *e*P P 11 40 06.7 +4.9
JIRN Jiri 45.28 306 *e*P **P** **11 40 03.8 -1.2**
comp=Z,13nm,0.9s
HIA Hailar 45.52 354 *e*P **P** **11 40 06.8 +0.7**
comp=Z,23nm,0.9s
GUN Gumba 45.64 306 *e*P **P** **11 40 06.6 -1.2**
comp=Z,54nm,0.8s
PKI Pulchoki 45.88 305 *e*P **P** **11 40 08.1 -1.6**
KKN Kakani 46.08 305 *e*P **P** **11 40 09.6 -1.5**
comp=Z,23nm,0.6s
DMN Daman 46.15 305 *e*P **P** **11 40 09.8 -1.9**
comp=Z,30nm,0.9s
DZM Mont Dzumac 46.62 125 P **P** **11 40 15.7 +0.4**
DZM Mont Dzumac 46.62 125 P **P** **11 40 15.7 +0.4**
comp=Z,3.5nm,0.8s,baz=287,slow=11,SNR=4.2
GKN Gorkha 46.68 305 *e*P **P** **11 40 14.1 -1.7**
comp=Z,11nm,0.3s
ULN Ulaanbaatar 46.91 342 *e*P **P** **11 40 17.3 +0.1**
comp=Z,26nm,1.4s
SONM Songino Array 47.09 341 P **P** **11 40 18.4 -0.2**
SONM PcP **PcP** **11 41 50.5 +0.8**
SONM Songino Array 47.09 341 P **P** **11 40 18.4 -0.2**
comp=Z,5.0nm,0.8s,baz=160,slow=9.7,SNR=20
SONM PcP **PcP** **11 41 50.5 +0.8**
comp=Z,3.4nm,0.8s,baz=185,slow=3.6,SNR=5.0
KOLN Koldanda 47.44 305 *e*P **P** **11 40 20.6 -1.2**
comp=Z,49nm,0.4s
DANN Dangsing 47.53 305 *e*P **P** **11 40 21.2 -1.4**
comp=Z,79nm,0.6s
HYB Hyderabad 49.10 290 *i* P **P** **11 40 33.0 -1.5**
ZAK Zakamensk 50.31 341 *e*P **P** **11 40 42.8 -0.5**
ZAK *e* 11 42 02.8
ZAK pmax pmax
comp=Z,4.0nm,1.3s
TLY Talaya 51.32 342 *e*P **P** **11 40 50.0 -0.7**
TLY pmax pmax
comp=Z,8.0nm,0.9s
TLY MLR MLR
comp=Z,166nm,20.0s
TLY Talaya 51.32 342 *e*P **P** **11 40 51.0 +0.3**
MOY Mondy 52.17 340 *e*P **P** **11 40 57.6 +0.4**
MOY pmax pmax
comp=Z,33nm,2.1s
WMQ Urumqi 52.56 325 *e*P **P** **11 40 59.9 -0.3**
WMQ pP **pP** **11 41 15.0 -1.4**
WMQ sP **sP** **11 41 22.0 -1.5**
WMQ PcP **PcP** **11 42 10.0 +0.3**
WMQ PP PP 11 43 01.0 +1.3
WMQ *e*S **S** **11 48 22.0 -0.7**
WMQ ScS **ScS** **11 50 41.0 -3.5**
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ pmax pmax
comp=Z,180nm,3.9s
WMQ LR LR
comp=N,1μm,18.0s
WMQ LR LR
comp=E,730nm,13.9s
WMQ LR LR
comp=Z,850nm,18.0s
POO Poona 53.70 290⇑ *i*P **P** **11 41 06.0 -2.9**
comp=Z,30nm,1.0s
BOD Bodaibo 54.63 352⇑ *i*P **P** **11 41 14.6 -0.3**
BOD pmax pmax
comp=Z,14nm,1.3s
PETK Petropavlovsk- 55.17 22 P **P** **11 41 17.7 -1.3**
PETK Petropavlovsk- 55.17 22 P **P** **11 41 17.7 -1.3**
PETK Petropavlovsk- 55.17 22 P **P** **11 41 17.7 -1.3**
comp=Z,5.0nm,0.9s,baz=198,slow=3.8,SNR=6.5
MK31 Makanchi Array 57.39 325 *e*P **P** **11 41 33.9 -1.0**
MK31 pmax pmax
comp=Z,7.0nm,0.6s
MK31 Makanchi Array 57.39 325 *e*P **P** **11 41 33.7 -1.2**
MKAR Makanchi Array 57.39 325 *i* P **P** **11 41 33.9 -1.0**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 57.39 325 P **P** **11 41 34.2 -0.7**
MKAR PcP **PcP** **11 42 29.4 +1.2**
MKAR ScP ScP 11 46 30.3 +7.4
MKAR Makanchi Array 57.39 325 P **P** **11 41 34.2 -0.7**
comp=Z,3.4nm,0.4s,baz=119,slow=7.5,SNR=77
MKAR PcP **PcP** **11 42 29.4 +1.2**
comp=Z,6.3nm,0.8s,baz=129,slow=4.7,SNR=5.8
MKAR ScP ScP 11 46 30.3 +7.4
comp=Z,1.1nm,0.7s,baz=121,slow=5.2,SNR=4.5
MKAR LR LR 12 08 29.2
comp=Z,304nm,18.0s,baz=120,slow=38
KSH Kashi 57.92 315 P **P** **11 41 39.3 +0.4**
KSH pP **pP** **11 41 54.9 -0.5**
KSH sP **sP** **11 42 01.6 -0.8**
KSH PcP **PcP** **11 42 29.6 -1.0**
KSH PP **PP** **11 43 50.4 +2.6**
KSH ScP **ScP** **11 46 22.6 -2.9**
KSH PcS **PcS** **11 46 29.6 -2.5**
KSH S **S** **11 49 32.5 -2.0**
KSH sS **sS** **11 50 00.0 -2.4**
KSH ScS **ScS** **11 51 18.5 -4.7**
KSH SS **SS** **11 53 25.5 -0.9**
KSH LR LR
comp=N,130nm,6.0s
KSH LR LR
comp=E,150nm,5.8s
KSH LR LR
comp=Z,210nm,10.9s
YAK Yakutsk 57.96 2 *e*P **P** **11 41 37.5 -1.0**
YAK pmax pmax
comp=Z,36nm,1.1s
YAK pmax pmax
comp=N,12nm,1.1s
YAK Yakutsk 57.96 2 *e*P **P** **11 41 39.0 +0.4**
comp=N,26nm,0.8s
TKM2 Tokmak 2 59.61 318 *e*P **P** **11 41 49.4 -1.2**
TKM2 pmax pmax
comp=Z,28nm,0.6s
TKM2 Tokmak 2 59.61 318 *e*P **P** **11 41 49.4 -1.2**
comp=Z,28nm,0.6s
AAK Ala-Archa 60.22 318⇓ *i*P **P** **11 41 55.4 +0.5**
AAK pmax pmax
comp=Z,38nm,1.8s
AAK Ala-Archa 60.22 318 *e*P **P** **11 41 55.3 +0.5**
comp=Z,48nm,1.3s
AAK Ala-Archa 60.22 318 P **P** **11 41 54.9 +0.1**
comp=Z,3.3nm,0.9s,baz=172,slow=8.4,SNR=9.8
ZAA0 Zalesovo Array 60.40 333 *e*P **P** **11 41 53.8 -1.7**
ZALV Zalesovo Beam 60.40 333 P **P** **11 41 54.4 -1.2**
ZALV Zalesovo Beam 60.40 333 P **P** **11 41 54.4 -1.2**
ZALV Zalesovo Beam 60.40 333 P **P** **11 41 54.4 -1.2**
comp=Z,1.4nm,0.3s,baz=133,slow=6.9,SNR=13
ZALV LR LR 12 09 16.0
comp=Z,119nm,20.2s,baz=251,slow=37
EKS2 Erkin-Say 60.72 317 *e*P **P** **11 41 57.9 -0.2**
EKS2 pmax pmax
comp=Z,8.0nm,0.8s
EKS2 Erkin-Say 60.72 317 *e*P **P** **11 41 57.9 -0.2**
comp=Z,8.1nm,0.8s
KBL Kabul 61.43 307 *e*P **P** **11 42 02.1 -1.1**
KBL pmax pmax
comp=Z,14nm,0.8s
KBL Kabul 61.43 307 *e*P **P** **11 42 02.1 -1.1**
comp=Z,14nm,0.8s
KURBB Kurchatov Arra 61.57 327 P **P** **11 42 02.9 -0.7**
comp=Z,4.7nm,0.4s,baz=129,slow=6.0,SNR=23
KURBB LR LR 12 10 34.2
comp=Z,103nm,19.1s,baz=105,slow=38
KURK Kurchatov 61.57 327 *d i*P **P** **11 42 02.9 -0.7**
KURK pmax pmax
comp=Z,23nm,1.2s
KURK Kurchatov 61.57 327 *e*P **P** **11 42 02.5 -1.0**
comp=Z,22nm,0.7s
KURK Kurchatov 61.57 327 P **P** **11 42 02.7 -0.9**
comp=Z,189nm,0.7s,SNR=7.1
NVS Novosibirsk 61.68 333 *e*P **P** **11 42 02.9 -1.3**
SEY Seymchan 61.77 13⇑ *e*P **P** **11 42 06.5 +1.8**
KKAR Karatay Array 63.10 317 *e*P **P** **11 42 13.0 -1.0**
KKAR Karatay Array 63.10 317 *e*P **P** **11 42 13.0 -1.0**
VOSK Vostochnaya 66.70 327 P **P** **11 42 36.3 -0.9**
VOSK pmax pmax
comp=Z,6.0nm,0.4s
BVA0 Borovoye Array 67.15 327 *i* P **P** **11 42 38.9 -1.1**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 67.15 327 P **P** **11 42 39.5 -0.6**
BVAR Borovoye Array 67.15 327 P **P** **11 42 39.5 -0.6**
BVAR Borovoye Array 67.15 327 P **P** **11 42 39.5 -0.6**
comp=Z,3.2nm,0.6s,baz=124,slow=7.2,SNR=25
BVAR LR LR 12 12 55.3
comp=Z,130nm,20.4s,baz=355,slow=37
BRVK Borovoye 67.22 327 *c i*P **P** **11 42 39.1 -1.4**
BRVK pmax pmax
comp=Z,7.0nm,0.7s
BRVK Borovoye 67.22 327 P **P** **11 42 40.2 -0.3**
comp=Z,97nm,0.9s,SNR=8.2
ZRNK Zerenda 67.88 326 P **P** **11 42 43.9 -0.7**
ZRNK pmax pmax
comp=Z,7.0nm,0.5s
BILL Bilibino 69.30 15 *e*P **P** **11 42 55.2 +2.0**
BILL pmax pmax
comp=Z,8.0nm,1.6s
BILL MLR MLR

comp=Z,100nm,15.0s
AB31 Akbulak array 72.00 321 P P 11 43 08.9 -1.1
AB31 pmax pmax
comp=Z,2.0nm,0.3s
ABKAR Akbulak array 72.00 321 eP P 11 43 09.0 -1.0
AKTO Aktyubinsk 73.51 322 P P 11 43 17.9 -1.0
AKTO pmax pmax
comp=Z,3.0nm,1.1s
AKTO Aktyubinsk 73.51 322 P P 11 43 18.3 -0.6
AKTO Aktyubinsk 73.51 322 P P 11 43 18.3 -0.6
comp=Z,3.3nm,0.4s,baz=111,slow=6.0,SNR=20
AKTO LR LR 12 18 35.3
comp=Z,252nm,19.3s,baz=104,slow=38
SVE Sverdlovsk 73.79 328 eP P 11 43 20.0 -0.4
SVE pmax pmax
comp=Z,29nm,1.4s
ARU Arti 74.77 328 *d iP* **P 11 43 25.8 -0.3**
ARU 11 46 09.3
ARU S **S 11 53 00.4 +2.7**
ARU SS **SS 11 57 45.2 -1.3**
ARU pmax pmax
comp=Z,14nm,1.0s
ARU Arti 74.77 328 *eP* **P 11 43 24.7 -1.4**
comp=Z,14nm,0.9s
SOKR Solikamsk 76.53 331 *eP* **P 11 43 35.1 -0.9**
SOKR pmax pmax
comp=Z,10.0nm,1.4s
SOKR MLR MLR
comp=Z,170nm,18.0s
QRN Al-Qurain 78.35 298 *eP* **P 11 43 44.9 -2.1**
QRN AMb AMB 11 43 54.2
comp=Z,81nm,1.0s
MIB Mutribah 78.89 299 *eP* **P 11 43 48.2 -1.7**
MIB AMb AMB 11 43 50.4
comp=Z,42nm,0.9s
NAY Al-Naaiem 78.96 299 *eP* **P 11 43 48.5 -1.8**
NAY AMb AMB 11 43 50.6
comp=Z,15nm,0.9s
KDAK Kodiak Island 81.64 32 P P 11 44 04.5 +0.5
KDAK Kodiak Island 81.64 32 P P 11 44 04.5 +0.5
comp=Z,13nm,0.9s,baz=353,slow=3.2,SNR=4.1
ZEI Tsey 82.10 312 *eP* **P 11 44 06.3 -0.8**
ZEI pmax pmax
comp=Z,9.0nm,0.9s
KIV Kislovodsk 83.02 314 *eP* P 11 44 07.6 -4.1
KIV pmax pmax
comp=Z,4.0nm,0.9s
TRF Thorofare Moun 83.29 27 *eP* **P 11 44 12.0 -0.8**
comp=Z,26nm,1.1s
RC01 Rabbit Creek A 83.37 29 *eP* **P 11 44 13.1 +0.1**
comp=Z,171nm,2.4s
COLD Coldfoot 83.64 23 *eP* **P 11 44 16.4 +2.2**
comp=Z,20nm,1.1s
PMR Palmer 83.69 29 *eP* **P 11 44 12.2 -2.4**
PMR pmax pmax
comp=Z,29nm,1.2s
PMR Palmer 83.69 29 *eP* **P 11 44 12.2 -2.4**
comp=Z,29nm,1.2s
VRHR Novokhopersk 83.89 321 *eP* **P 11 44 15.2 -0.7**
VRHR pmax pmax
comp=N,4.0nm,0.4s
VRHR pmax pmax
comp=Z,8.0nm,0.4s
VRHR pmax pmax
comp=E,1.0nm,0.2s
MCK McKinley 83.91 26 *eP* **P 11 44 15.9 +0.1**
MCK pmax pmax
comp=Z,147nm,2.2s
MCK McKinley 83.91 26 *eP* **P 11 44 15.8 +0.1**
comp=Z,147nm,2.2s
SML Sawmill 84.08 28 *eP* **P 11 44 17.5 +0.8**
SML pmax pmax
comp=Z,10.0nm,1.2s
SML Sawmill 84.08 28 *eP* **P 11 44 17.5 +0.8**
comp=Z,9.6nm,1.2s
ILAR Eielson Array 84.85 25 P P 11 44 20.4 -0.1
ILAR Eielson Array 84.85 25 P P 11 44 20.4 -0.1
comp=Z,3.5nm,0.9s,baz=250,slow=5.0,SNR=21
KLMR Klimovskoe 85.22 331 *eP* **P 11 44 20.2 -2.2**
KLMR pmax pmax
comp=Z,113nm,1.4s
DIV Divide 85.30 29 *eP* **P 11 44 24.6 +1.8**
comp=Z,22nm,0.9s
VORD Divnogorie 85.36 321 *eP* **P 11 44 22.3 -1.0**
VSR Storozhevoye 85.44 321 *eP* **P 11 44 22.7 -1.0**
VSR pmax pmax
comp=N,5.0nm,0.7s
VSR pmax pmax
comp=E,8.0nm,0.7s
VSR pmax pmax
comp=Z,8.0nm,0.7s
PAX Paxson 85.45 27 *eP* **P 11 44 24.6 +1.0**
PAX pmax pmax
comp=Z,19nm,1.4s
PAX Paxson 85.45 27 *eP* **P 11 44 24.6 +1.0**
comp=Z,19nm,1.4s
MOS Moscow 86.28 325 *eP* **P 11 44 26.1 -1.6**
MOS pmax pmax
comp=Z,77nm,1.2s
OBN Obninsk 86.90 325 ⇓ *iP* **P 11 44 30.3 -0.4**
OBN *i* 11 44 36.4
OBN *eS* **S 11 55 03.0 -1.1**
OBN pmax pmax
comp=Z,47nm,1.2s
OBN MLR MLR
comp=Z,100nm,17.0s
JOF Joensuu 88.99 333 *eP* **P 11 44 40.4 -0.2**
JOF pmax pmax
comp=Z,7.0nm,0.5s
JOF Joensuu 88.99 333 *ep* **P 11 44 40.4 -0.2**
comp=Z,7.3nm,0.5s
KMBO Kilima Mbogo 89.63 269 *eP* **P 11 44 44.6 -0.3**
comp=Z,5.6nm,1.0s
INK Inuvik 89.91 21 P P 11 44 45.8 +1.0
INK Inuvik 89.91 21 P P 11 44 45.8 +1.0
comp=Z,2.4nm,1.0s,baz=275,slow=5.6,SNR=5.0
BR131 Keskin Array S 89.92 310 *eP* **P 11 44 44.6 -1.0**
comp=Z,3.9nm,0.8s
BRTR Keskin Array B 89.92 310 P P 11 44 44.9 -0.8
BRTR Keskin Array B 89.92 310 P P 11 44 44.9 -0.8
comp=Z,5.4nm,0.9s,baz=117,slow=5.1,SNR=19
BRTR LR LR 12 29 36.2
comp=Z,61nm,19.7s,baz=281,slow=39
ARCES ARCESS Array B 90.24 340 P P 11 44 45.8 -0.6
ARCES ARCESS Array B 90.24 340 P P 11 44 45.8 -0.6
comp=Z,6.4nm,0.8s,baz=82,slow=6.5,SNR=21
KAF Kangasniemi 91.41 332 *eP* **P 11 44 50.6 -1.3**
KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 91.41 332 *ep* **P 11 44 50.6 -1.3**
comp=Z,3.0nm,0.5s
FINES FINESS Array B 91.65 332 P P 11 44 52.8 -0.1
FINES FINESS Array B 91.65 332 P P 11 44 52.8 -0.1
comp=Z,3.8nm,0.7s,baz=90,slow=4.6,SNR=10
FINES LR LR 12 32 23.9
comp=Z,127nm,18.1s,baz=315,slow=40
AKASG Malin Array Be 91.75 321 P P 11 44 52.3 -1.4
AKASG Malin Array Be 91.75 321 P P 11 44 52.2 -1.4
AKASG Malin Array Be 91.75 321 P P 11 44 52.2 -1.4
comp=Z,2.6nm,0.5s,baz=71,slow=4.7,SNR=9.8
VSU Vasula 91.89 329 ⇓ *eP* **P 11 44 53.6 -0.5**
VSU pmax pmax
comp=Z,20nm,1.0s
SYO Syowa Base 92.68 201 ⇑ *eP* **P 11 44 57.0 -0.5**
QSPA South Pole Qui 93.88 180 *eP* **P 11 45 04.3 +1.0**
comp=Z,11nm,1.1s
TESR 94.11 317 ⇓ *iP* **P 11 45 04.8 +0.1**
VRI Vrincioaia 94.17 316 ⇓ *P* **P 11 45 05.3 +0.3**
VRI Vrincioaia 94.17 316 ⇓ *iP* **P 11 45 05.3 +0.3**
SUW Suwalki 94.76 325 *eP* **P 11 45 07.1 -0.4**
SUW Suwalki 94.76 325 *eP* **P 11 45 07.1 -0.4**
SUW Suwalki 94.76 325 *eP* **P 11 45 07.1 -0.4**
SUW Suwalki 94.76 325 *eP* **P 11 45 07.1 -0.4**
comp=Z,42nm,0.8s
MLR Muntele Rosu 94.77 316 ⇓ *iP* **P 11 45 07.9 0.0**
BURAR Bucovina Array 94.86 318 ⇓ *iP* **P 11 45 08.4 +0.1**
BUR08 Bucovina Ar. S 94.87 318 *eP* **P 11 45 08.4 +0.1**
KWP Kalwaria Pacla 96.06 321 ⇓ *P* **P 11 45 14.0 +0.4**
KWP Kalwaria Pacla 96.06 321 ⇓ *iP* **P 11 45 14.0 +0.4**
KOLS Kolonicke sedl 96.50 320 *eP* **P 11 45 16.2 +0.6**
KOLS Kolonicke sedl 96.50 320 *eP* **P 11 45 16.2 +0.6**
TRPA Tarpa 96.52 319 ⇑ *iP* P 11 45 07.6 -8.0
UZH Uzhgorod 96.56 320 ⇑ *iP* **P 11 45 15.7 -0.1**
UZH *i* 11 45 26.1
DRGR 96.71 318 ⇑ *P* **P 11 45 16.8 +0.2**
DRGR 96.71 318 ⇑ *iP* **P 11 45 16.8 +0.2**
CRVS Cervenica-Dubn 97.03 320 *eP* **P 11 45 18.0 0.0**
CRVS pmax pmax
comp=Z,13nm,1.0s
CRVS Cervenica-Dubn 97.03 320 *eP* **P 11 45 18.0 0.0**
BZS Buzias 97.72 317 ⇓ *P* **P 11 45 20.8 -0.3**
BZS Buzias 97.72 317 ⇓ *iP* **P 11 45 20.8 -0.3**
OJC Ojcow 97.73 322 *eP* **P 11 45 21.0 -0.1**
OJC Ojcow 97.73 322 *eP* **P 11 45 21.2 +0.1**
NB2 NORSAR Subarra 98.60 334 P **P 11 45 23.9 -0.9**
comp=Z,4.0nm,1.0s,baz=67,slow=4.8
NOA NORSAR Array B 98.60 334 P P 11 45 24.1 -0.6
NOA NORSAR Array B 98.60 334 P P 11 45 24.1 -0.6
comp=Z,1.4nm,0.7s,baz=68,slow=4.6,SNR=5.7
YKA Yellowknife Ar 99.24 24 P Pdif 11 45 29.1 +1.5
YKA Yellowknife Ar 99.24 24 P Pdif 11 45 29.1 +1.5
comp=Z,0.4nm,0.6s,baz=299,slow=4.3,SNR=9.0
MORC Moravsky Berou 99.26 322 ⇑ *P* **Pdif 11 45 28.7 +0.7**
MORC Moravsky Berou 99.26 322 *eP* **Pdif 11 45 27.5 -0.5**
comp=Z,6.1nm,1.0s
MORC Moravsky Berou 99.26 322 ⇑ *iP* **Pdif 11 45 28.7 +0.7**
BRG Berggiesshubel 101.08 323 *eP* **Pdif 11 45 36.5 +0.5**
comp=Z,8.0nm,1.0s
BRG Berggiesshubel 101.08 323 *eP* **Pdif 11 45 36.5 +0.5**
BRG pmax pmax
comp=Z,8.0nm,1.0s
GERES GERESS Array B 101.94 322 P P Pdif 11 45 39.7 -0.3
GERES GERESS Array B 101.94 322 P P Pdif 11 45 39.7 -0.3
comp=Z,1.3nm,0.7s,baz=76,slow=4.1,SNR=11
BFO Black Forest 105.43 323 *ePP* PP 11 50 22.2 +4.8
SLMT Seeley Lake 106.64 38 *ePdif* **Pdif 11 45 54.6 -6.4**
PDAR Pinedale Array 111.12 41 PKKPbc PKKPbc 12 01 26.1 +8.1
PDAR Pinedale Array 111.12 41 PKKPbc PKKPbc 12 01 26.1 +8.1
comp=Z,0.9nm,0.9s,baz=117,slow=5.5,SNR=5.5
GDL2 Guadalupe Moun 119.59 49 *ePP* PP 11 52 03.3 +4.3
TXAR Lajitas Array 121.39 52 PKP PKPdf 11 50 42.4 +2.5
TXAR Lajitas Array 121.39 52 PKP PKPdf 11 50 42.4 +2.5
comp=Z,0.3nm,0.7s,baz=208,slow=1.7,SNR=5.0
TORD Torodi Ar. Bea 122.91 288 PKP PKPdf 11 50 43.2 +0.2
TORD PP PP 11 52 23.6 +1.3
TORD Torodi Ar. Bea 122.91 288 PKP PKPdf 11 50 43.2 +0.2
comp=Z,1.1nm,0.6s,baz=82,slow=1.6,SNR=21
TORD PP PP 11 52 23.6 +1.3
comp=Z,1.4nm,1.0s,baz=61,slow=5.1,SNR=4.0
JCT Junction City 123.84 49 *ePKIKP* **PKPdf 11 50 45.1 +0.6**
JCT Junction City 123.84 49 *ePKPdf* **PKPdf 11 50 45.1 +0.6**
PLCA Paso Flores 140.21 159 PKPpre PKPpre 11 51 10.9
PLCA Paso Flores 140.21 159 PKhKP PKPpre 11 51 10.9
comp=Z,1.8nm,0.8s,baz=228,slow=0.8,SNR=3.1
LCO Las Campanas 150.07 148 *ePKPdf* **PKPdf 11 51 31.5 -1.0**
LCO *ePKPbc* **PKPbc 11 51 37.2 -0.3**
LCO *ePKPab* **PKPab 11 51 42.9 -0.5**
LPAZ La Paz 160.90 131 PKP PKPdf 11 51 48.7 +1.0
LPAZ La Paz 160.90 131 PKP PKPdf 11 51 48.7 +1.0
comp=Z,2.0nm,1.1s,baz=260,slow=3.1,SNR=4.5

IDC 13 11:35:33.3±1.6, 4.06N×126.94E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/20, mbtmp4.0/4, MS3.6/1, Ms1 3.6/1, ms1mx2.6/34, Error ellipse: s-maj=165.4km s-min=21.8km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.93**	**163**	P	P	11 40 58.6	+0.1
	4.4nm,0.6s,baz=343,slow=11,SNR=5.4						
WRA				LR	LR	11 49 43.7	
	comp=Z,122nm,19.2s,baz=30,slow=34						
STKA	**Stephens Creek**	**38.36**	**160**	P	P	11 42 56.0	-0.3
	2.0nm,0.6s,baz=315,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**57.41**	**325**	P	P	11 45 23.7	-0.1
	0.3nm,0.4s,baz=119,slow=7.9,SNR=4.5						
KURBB	**Kurchatov Arra**	**61.58**	**327**	P	P	11 45 52.5	0.0
	0.8nm,0.5s,baz=134,slow=6.8,SNR=3.6						

*BJI **13** 11:40:32.2, 3.25N×126.84E, h40km, mB5.2/20, mb4.7/34, Ms4.6/16, Ms7 4.3/17*
*IDC **13** 11:40:32.3±0.4, 3.70N×126.47E, h0km, mb4.7/25, mb1 4.7/25, mb1mx4.7/27, mbtmp4.6/25, MS4.0/4, Ms1 4.0/4, ms1mx3.4/32, Error ellipse: s-maj=20.6km s-min=10.6km az=72.0*
*ISCJB **13** 11:40:37.8±0.2, 3.77N±0.02×126.71E±0.04, h53km, mb4.8/68, MS4.1/11, Error ellipse: s-maj=5.6km s-min=3.2km az=163.0*
*NEIC **13** 11:40:37.3±0.3, 3.75N×126.57E, h35km, mb4.9/30, Error ellipse: s-maj=12.4km s-min=5.6km az=72.0*
*DJA **13** 11:40:44, 3.48N×126.66E, h86km, mb5.0/15*

ISC 13 11:40:39.4±0.3, 3.76N±0.04×126.64E±0.06, h53km, n176, σ1s67/206, mb4.8/65, MS4.2/11, 8C-3D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.86**	**324**	*eP*	Pn	11 41 24.9	+2.2
MNI	**Manado**	**2.92**	**218**	P	**Pn**	**11 41 24.5**	**+1.1**
TNTI	**Ternate**	**3.06**	**166**	P	**Pn**	**11 41 25.1**	**-0.2**
MATI	**Mati**	**3.19**	**353**	*eP*	Pn	11 41 29.7	+2.6
MATI				*eS*	**Sn**	**11 42 04.0**	**+0.1**
DAV	**Davao City (W)**	**3.45**	**342**	Pn	Pn	11 41 27.1	-3.6
DAV				Sn	Sn	11 42 18.2	+7.8
DAV	**Davao City (W)**	**3.45**	**342**	Pn	**Pn**	**11 41 31.0**	**+0.2**
	31nm,0.3s,baz=342,slow=6.4,SNR=2.1						
DAV				Sn	Sn	11 42 18.2	+7.8
	64nm,0.3s,baz=75,slow=20,SNR=3.5						
DMPH	**Davao City--Mi**	**3.49**	**341**	⇓ *iP*	**Pn**	**11 41 32.6**	**+1.4**
KCP	**Kidapawan**	**3.58**	**335**	⇑ *eP*	Pn	11 41 35.1	+2.7
KCP				*eS*	Sn	11 42 22.1	+8.6
KMSI	**Cibinong**	**4.13**	**220**	P	Pn	11 41 42.4	+2.4
CTBH	**Cotabato--PC H**	**4.18**	**325**	⇑ *eP*	Pn	11 41 43.1	+2.4
BUKP	**Musuan**	**4.38**	**339**	*eP*	**Pn**	**11 41 45.5**	**+2.0**
LBMI	**Labuha**	**4.45**	**169**	P	**Pn**	**11 41 45.4**	**+1.0**
PAGZ	**Pagadian**	**5.20**	**322**	*eP*	**Pn**	**11 41 55.9**	**+1.2**
MRSI	**Marisa**	**5.71**	**235**	P	Pn	11 42 03.4	+1.7
	486nm,0.6s,4μm						
LUWI	**Luwuk**	**6.14**	**219**	P	Pn	11 42 11.6	+4.1
SWI	**Sorong**	**6.51**	**135**	P	**Pn**	**11 42 12.8**	**+0.1**
	260nm,1.0s						
AAI	**Ambon**	**7.56**	**168**	P	Pn	11 42 45.1	+18
MYLDM	**Lahad Datu**	**8.23**	**280**	P	Pn	11 42 39.5	+3.3
MYLDM	**Lahad Datu**	**8.23**	**280**	P	Pn	11 42 39.7	+3.4
	117nm,0.9s						
KDI	**Kendari**	**8.65**	**208**	P	**Pn**	**11 42 41.4**	**-0.6**
	93nm,0.8s						
FAKI	**Fak Fak**	**8.69**	**140**	P	**Pn**	**11 42 43.2**	**+0.7**
TSM	**Tawau**	**8.76**	**274**	P	Pn	11 42 45.7	+2.2
TTSI	**Tana Toraja**	**9.60**	**225**	P	Pn	11 42 57.3	+2.3
	88nm,0.9s,940nm						
KKM	**Kota Kinabalu**	**10.63**	**283**	*ePn*	Pn	11 43 12.3	+3.1
KKM	**Kota Kinabalu**	**10.63**	**283**	P	Pn	11 43 11.8	+2.6
	32nm,1.4s						
BAKI	**Biak**	**10.67**	**117**	P	Pn	11 43 12.4	+2.8
	161nm,1.2s						
TLE	**Tual**	**11.15**	**147**	P	**Pn**	**11 43 17.9**	**+1.7**
	86nm,0.9s						
KBKI	**Kotabaru**	**12.60**	**236**	P	P	11 43 53.0	+7.1
SMPI	**Sarmi**	**13.35**	**115**	P	**Pn**	**11 43 48.8**	**+2.5**
SBUM	**Sibu**	**14.45**	**265**	P	**P**	**11 44 04.6**	**-2.0**
	34nm,0.9s						
KSM	**Kuching**	**16.47**	**263**	*ePn*	**P**	**11 44 31.2**	**+2.2**
	29nm,0.8s						
KSM	**Kuching**	**16.47**	**263**	P	**P**	**11 44 31.5**	**+2.5**
KSM	**Kuching**	**16.47**	**263**	P	**P**	**11 44 31.5**	**+2.5**
	38nm,0.8s						
JAGI	**Jajag, Banyuwa**	**17.39**	**226**	P	**P**	**11 44 41.3**	**+2.1**
TWG	**Pinlang**	**19.70**	**345**	*ePn*	**P**	**11 45 03.2**	**-1.2**
	117nm,1.4s						
YULB	**Yu-li**	**20.19**	**346**	*ePn*	**P**	**11 45 08.4**	**-1.4**
	102nm,1.8s						
TPUB	**Ta-pu**	**20.28**	**344**	*ePn*	**P**	**11 45 10.1**	**-0.7**
	34nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.74**	**183**	*eP*	**P**	**11 45 25.5**	**-1.1**
	29nm,1.3s						
FITZ	**Fitzroy Crossi**	**21.74**	**183**	*eP*	**P**	**11 45 25.5**	**-1.1**
	20nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.74**	**183**	P	**P**	**11 45 25.6**	**-0.9**
	9.1nm,0.4s,baz=15,slow=11,SNR=30						
MYKOM	**Kota Tinggi**	**22.84**	**266**	P	**P**	**11 45 38.1**	**-0.3**
	24nm,0.8s						
COEN	**Coen**	**24.06**	**137**	*eP*	**P**	**11 45 48.7**	**-1.3**
	351nm,2.1s						
LWLI	**Liwa**	**24.18**	**249**	P	**P**	**11 45 53.4**	**+2.2**
	131nm,0.8s						
WRAB	**Tennant Creek**	**24.73**	**162**	*eP*	**P**	**11 45 54.7**	**-1.3**
	85nm,0.8s						
WRA	**Warramunga Arr**	**24.74**	**162**	P	**P**	**11 45 55.6**	**-0.5**
WRA				S	**S**	**11 50 16.4**	**+1.7**
WRA	**Warramunga Arr**	**24.74**	**162**	P	**P**	**11 45 55.6**	**-0.5**
	77nm,0.7s,baz=344,slow=11,SNR=157						
WRA				S	**S**	**11 50 16.4**	**+1.7**
	7.9nm,0.8s,baz=333,slow=18,SNR=5.4						
IPM	**Ipoh**	**25.55**	**273**	*eP*	**P**	**11 46 04.5**	**+0.9**
	22nm,1.1s						
IPM	**Ipoh**	**25.55**	**273**	P	**P**	**11 46 03.8**	**+0.2**
	20nm,0.9s						
MBWA	**Marble Bar**	**25.67**	**195**	*eP*	**P**	**11 46 04.3**	**-0.2**
	385nm,2.3s						
QIS	**Mount Isa**	**27.31**	**153**	*eP*	**P**	**11 46 19.6**	**+0.2**
CBIJ	**Chichi jima**	**27.56**	**31**	LR	LR	11 56 27.8	
	comp=Z,336nm,19.2s,baz=125,slow=34						
PSI	**Prapat**	**27.68**	**269**	P	**P**	**11 46 22.3**	**-0.6**
PSI	**Prapat**	**27.68**	**269**	P	**P**	**11 46 21.8**	**-1.1**
	19nm,0.9s						
PSI	**Prapat**	**27.68**	**269**	P	**P**	**11 46 22.3**	**-0.6**
	9.1nm,0.6s,baz=210,slow=4.7,SNR=6.5						
AS31	**Alice Springs**	**28.16**	**166**	*eP*	**P**	**11 46 25.6**	**-1.3**
ASAR	**Alice Springs**	**28.16**	**166**	P	**P**	**11 46 26.1**	**-0.9**
ASAR				PcP	**PcP**	**11 49 40.5**	**+0.5**
ASAR				S	**S**	**11 51 08.8**	**-0.1**
ASAR	**Alice Springs**	**28.16**	**166**	P	**P**	**11 46 26.1**	**-0.9**
	3.2nm,0.5s,baz=339,slow=8.3,SNR=46						
ASAR				PcP	**PcP**	**11 49 40.5**	**+0.5**
	3.0nm,0.6s,baz=349,slow=3.0,SNR=6.1						
ASAR				S	**S**	**11 51 08.8**	**-0.1**
	2.1nm,0.9s,baz=343,slow=16,SNR=5.7						
WHN	**Wuhan**	**29.06**	**338**	*eP*	**P**	**11 46 35.3**	**+0.5**
GYA	**Guiyang**	**29.59**	**322**	P	P	11 46 42.0	+2.3
GYA				pP	pP	11 46 52.8	-0.4
GYA				PP	**PnPn**	**11 47 40.0**	**+3.5**
GYA				PcP	**PcP**	**11 49 44.3**	**+0.6**
GYA				S	**S**	**11 51 33.3**	**+1.9**
GYA				SS	SS	11 53 11.8	-27
GYA				ScP	**ScP**	**11 53 21.0**	**-0.4**
GYA				ScS	**ScS**	**11 57 15.6**	**-0.8**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,470nm,17.8s						
GYA				LR	LR		
	comp=E,440nm,17.6s						
GYA				LR	LR		
	comp=Z,500nm,17.0s						
CMAR	**Chiang Mai Arr**	**30.78**	**300**	P	**P**	**11 46 50.6**	**+0.4**
CMAR				ScP	**ScP**	**11 53 30.9**	**+5.6**
CMAR	**Chiang Mai Arr**	**30.78**	**300**	P	**P**	**11 46 50.6**	**+0.4**
	comp=Z,4.9nm,0.8s,baz=112,slow=7.1,SNR=29						
CMAR				ScP	**ScP**	**11 53 30.9**	**+5.6**
	comp=Z,0.3nm,0.5s,baz=155,slow=1.9,SNR=4.3						
CHTO	**Chiang Mai**	**30.93**	**301**	*eP*	**P**	**11 46 52.1**	**+0.5**
	comp=Z,7.0nm,0.9s						
CHTO	**Chiang Mai**	**30.93**	**301**	P	**P**	**11 46 52.0**	**+0.5**
	comp=Z,10nm,1.0s						
ENH	**Enshi**	**30.96**	**330**	*eP*	**P**	**11 46 51.5**	**-0.1**
	comp=Z,7.8nm,0.6s						
KMI	**Kunming**	**31.29**	**315**	P	**P**	**11 46 56.3**	**+1.4**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KSAR	**Wonju Array Be**	**33.54**	**2**	P	**P**	**11 47 15.6**	**+1.4**
KSAR				PcP	**PcP**	**11 49 55.8**	**+1.9**
KSRS	**Korea Array**	**33.56**	**2**	P	**P**	**11 47 15.6**	**+1.3**
	comp=Z,4.5nm,0.6s,baz=181,slow=10,SNR=21						
KSRS				PcP	**PcP**	**11 49 55.8**	**+1.8**
	comp=Z,1.2nm,0.6s,baz=187,slow=2.4,SNR=4.3						
KSRS				LR	LR	11 59 18.2	
	comp=Z,274nm,21.1s,baz=181,slow=34						
MJAR	**Matsushiro Arr**	**34.32**	**17**	LR	LR	11 58 26.1	
	comp=Z,314nm,20.8s,baz=220,slow=31						
XAN	**Xi'an**	**34.35**	**333**	P	**P**	**11 47 20.5**	**-0.8**
XAN				pP	**pP**	**11 47 30.8**	**-4.1**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FORT	**Forrest**	**34.37**	**178**	*eP*	**P**	**11 47 20.8**	**-0.6**
	comp=Z,51nm,0.9s						
FORT	**Forrest**	**34.37**	**178**	*eP*	**P**	**11 47 20.6**	**-0.8**
	comp=Z,40nm,0.7s						
CD2	**Chengdu**	**34.57**	**324**	P	**P**	**11 47 22.5**	**-0.7**
CD2				pP	**pP**	**11 47 32.3**	**-4.5**
CD2				sP	sP	11 47 36.1	-7.0
CD2				PcP	**PcP**	**11 49 56.4**	**-0.7**
CD2				S	**S**	**11 52 49.0**	**+0.2**
CD2				PcS	**PcS**	**11 53 41.8**	**-1.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CD2				pmax	pmax		
	comp=Z,250nm,5.5s						
CD2				LR	LR		
	comp=N,580nm,20.2s						
CD2				LR	LR		
	comp=E,630nm,21.2s						
CD2				LR	LR		
	comp=Z,710nm,17.0s						
HNR	**Honiara**	**35.69**	**112**	LR	LR	12 01 34.9	
	comp=Z,171nm,18.6s,baz=261,slow=35						
KLBR	**Kellerberrin**	**36.16**	**193**	*eP*	**P**	**11 47 36.2**	**-0.6**
	comp=Z,45nm,1.1s						
BJT	**Baijiatuan**	**37.32**	**347**	*eP*	**P**	**11 47 46.5**	**0.0**
	comp=Z,40nm,0.7s						
BJI	**Beijing**	**37.34**	**347**	P	**P**	**11 47 47.9**	**+1.2**
BJI				pmax	pmax		
	comp=Z,58nm,0.7s						
BBOO	**Buckleboo**	**37.45**	**167**	*eP*	**P**	**11 47 47.1**	**-0.7**
	comp=Z,867nm,1.7s						
NWAO	**Narrogin (SRO)**	**37.56**	**193**	P	**P**	**11 47 48.0**	**-0.7**
NWAO	**Narrogin (SRO)**	**37.56**	**193**	P	**P**	**11 47 48.0**	**-0.7**
	comp=Z,10nm,0.5s,baz=16,slow=8.7,SNR=20						
STKA	**Stephens Creek**	**38.19**	**159**	*eP*	**P**	**11 47 53.8**	**-0.3**
	comp=Z,5.6nm,0.9s						
STKA				PcP	**PcP**	**11 50 08.3**	**+0.4**
STKA	**Stephens Creek**	**38.19**	**159**	*eP*	**P**	**11 47 53.5**	**-0.5**
	comp=Z,15nm,0.6s						
STKA	**Stephens Creek**	**38.19**	**159**	P	**P**	**11 47 53.5**	**-0.5**
	comp=Z,29nm,0.9s,baz=332,slow=8.1,SNR=39						
STKA				PcP	**PcP**	**11 50 08.3**	**+0.4**
	comp=Z,6.2nm,0.6s,baz=356,slow=5.4,SNR=3.7						
LZH	**Lanzhou**	**38.43**	**330**	*eP*	**P**	**11 47 57.3**	**+1.1**
LZH				pP	**pP**	**11 48 12.5**	**+2.5**
LZH				sP	**sP**	**11 48 17.4**	**+1.2**
LZH				pmax	pmax		
	comp=Z,25nm,1.2s						
LZH				pmax	pmax		
	comp=Z,260nm,4.5s						
HHC	**Hu-ho-hao-te**	**39.34**	**342**	*eP*	**P**	**11 48 04.1**	**+0.4**
HHC				pP	**pP**	**11 48 16.3**	**-1.2**
HHC				sP	**sP**	**11 48 21.1**	**-2.6**
HHC				PP	**PnPn**	**11 49 41.5**	**+3.5**
HHC				PcP	**PcP**	**11 50 13.8**	**+2.4**
HHC				ScP	**ScP**	**11 53 56.8**	**+1.0**
HHC				S	**S**	**11 54 01.6**	**+0.3**
HHC				ScS	**ScS**	**11 58 06.1**	**-1.7**
HHC				pmax	pmax		
	comp=Z,21nm,0.8s						
HHC				pmax	pmax		
	comp=Z,100nm,4.8s						
HHC				LR	LR		
	comp=N,330nm,15.6s						
HHC				LR	LR		
	comp=E,400nm,21.6s						
HHC				LR	LR		
	comp=Z,170nm,19.2s						
CN2	**Changchun**	**39.89**	**359**	*eP*	**P**	**11 48 07.0**	**-1.1**
CN2				*ePP*	**pP**	**11 48 20.1**	**-1.8**
CN2				PcP	**PcP**	**11 50 13.3**	**+0.3**
CN2				*eS*	**S**	**11 54 08.1**	**-1.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,13.0s						
CN2				LR	LR		
	comp=E,300nm,13.0s						
CN2				LR	LR		
	comp=Z,300nm,15.0s					

MDJ				ScP	**ScP**	11 54 00.4	-0.7
MDJ				PcS	**PcS**	11 54 05.3	-1.2
MDJ				S	**S**	11 54 21.6	-0.8
MDJ				sS	**sS**	11 54 40.9	-4.8
MDJ				pmax	pmax		
	comp=Z,13nm,2.4s						
MDJ				pmax	pmax		
	comp=Z,130nm,3.5s						
MDJ				LR	LR		
	comp=N,100nm,29.9s						
MDJ				LR	LR		
	comp=E,46nm,24.6s						
MDJ				LR	LR		
	comp=Z,130nm,29.9s						
MDJ	**Mudanjiang**	**40.77**	**3**	*eP*	**P**	**11 48 17.3**	**+1.9**
	comp=Z,13nm,0.8s						
ARMA	**Armidale**	**41.54**	**147**	*eP*	**P**	**11 48 22.7**	**+0.7**
LSA	**Lhasa**	**42.35**	**311**	*eP*	**P**	**11 48 30.1**	**+1.0**
	comp=Z,12nm,0.6s						
ASAJ	**Asahikawa**	**42.59**	**17**	P	**P**	**11 48 32.0**	**+1.8**
ASAJ	**Asahikawa**	**42.59**	**17**	P	**P**	**11 48 32.0**	**+1.8**
	comp=Z,4.3nm,0.7s,baz=243,slow=11,SNR=2.7						
ARPS	**Mount Arapiles**	**42.74**	**162**	*eP*	**P**	**11 48 31.8**	**+0.2**
	comp=Z,19nm,0.5s						
GTA	**Gaotai**	**43.02**	**329**	*eP*	**P**	**11 48 33.6**	**-0.4**
GTA				pP	pP	11 48 42.6	-5.4
GTA				sP	sP	11 48 47.3	-6.9
GTA				S	**S**	**11 54 56.4**	**+0.3**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,98nm,5.2s						
GTA				LR	LR		
	comp=N,180nm,14.7s						
GTA				LR	LR		
	comp=E,270nm,16.9s						
GTA				LR	LR		
	comp=Z,370nm,18.5s						
CAN	**Canberra**	**44.18**	**153**	*eP*	**P**	**11 48 44.3**	**+1.1**
	comp=Z,5.4nm,0.6s						
HIA	**Hailar**	**45.72**	**354**	*eP*	P	11 48 58.3	+3.0
	comp=Z,32nm,1.3s						
DZM	**Mont Dzumac**	**46.63**	**125**	P	**P**	**11 49 04.1**	**+1.2**
DZM	**Mont Dzumac**	**46.63**	**125**	P	**P**	**11 49 04.1**	**+1.2**
	comp=Z,4.8nm,0.6s,baz=335,slow=7.7,SNR=8.0						
ULN	**Ulaanbaatar**	**47.06**	**342**	*eP*	**P**	**11 49 05.5**	**-0.5**
	comp=Z,5.6nm,0.8s						
ULN	**Ulaanbaatar**	**47.06**	**342**	P	**P**	**11 49 05.4**	**-0.5**
	comp=Z,9.0nm,1.1s						
SONM	**Songino Array**	**47.24**	**341**	P	**P**	**11 49 07.9**	**+0.6**
SONM				PcP	**PcP**	**11 50 36.3**	**-1.6**
SONM	**Songino Array**	**47.24**	**341**	P	**P**	**11 49 07.9**	**+0.6**
	comp=Z,3.9nm,0.7s,baz=157,slow=8.5,SNR=24						
SONM				PcP	**PcP**	**11 50 36.3**	**-1.6**
	comp=Z,2.3nm,0.7s,baz=168,slow=4.2,SNR=5.0						
HYB	**Hyderabad**	**49.02**	**290**	*i P*	**P**	**11 49 20.0**	**-1.4**
WMQ	**Urumqi**	**52.65**	**325**	*eP*	**P**	**11 49 47.8**	**-0.6**
WMQ				pP	**pP**	**11 50 00.0**	**-2.7**
WMQ				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WMQ				LR	LR		
	comp=Z,300nm,21.0s						
POO	**Poona**	**53.62**	**290**	⇑*i P*	**P**	**11 49 53.0**	**-2.9**
	comp=Z,50nm,1.0s						
PETK	**Petropavlovsk-**	**55.44**	**22**	P	**P**	**11 50 09.9**	**+1.4**
PETK	**Petropavlovsk-**	**55.44**	**22**	P	**P**	**11 50 09.9**	**+1.4**
	comp=Z,6.1nm,0.8s,baz=191,slow=6.9,SNR=6.6						
MK31	**Makanchi Array**	**57.48**	**325**	*eP*	**P**	**11 50 22.8**	**-0.4**
MKAR	**Makanchi Array**	**57.48**	**325**	*eP*	**P**	**11 50 22.6**	**-0.5**
MKAR				PcP	**PcP**	**11 51 16.5**	**+0.2**
MKAR				ScP	**ScP**	**11 55 17.8**	**+5.9**
MKAR	**Makanchi Array**	**57.48**	**325**	P	**P**	**11 50 22.6**	**-0.5**
	comp=Z,5.9nm,0.5s,baz=121,slow=7.8,SNR=72						
MKAR				PcP	**PcP**	**11 51 16.5**	**+0.2**
	comp=Z,2.7nm,0.6s,baz=122,slow=5.1,SNR=4.5						
MKAR				ScP	**ScP**	**11 55 17.8**	**+5.9**
	comp=Z,0.8nm,0.9s,baz=120,slow=5.2,SNR=4.7						
KSH	**Kashi**	**57.96**	**315**	P	**P**	**11 50 27.8**	**+1.0**
KSH				pP	**pP**	**11 50 37.5**	**-3.8**
KSH				sP	sP	11 50 41.8	-5.5
KSH				PcP	**PcP**	**11 51 16.8**	**-1.7**
KSH				PP	**PP**	**11 52 37.8**	**+2.1**
KSH				ScP	**ScP**	**11 55 13.6**	**-0.7**
KSH				PcS	**PcS**	**11 55 16.8**	**-3.2**
KSH				S	**S**	**11 58 25.1**	**+1.7**
KSH				sS	sS	11 58 42.0	-5.7
KSH				ScS	**ScS**	**12 00 09.8**	**-2.3**
KSH				SS	**SS**	**12 02 19.4**	**+4.2**
KSH				LR	LR		
	comp=N,150nm,6.4s						
KSH				LR	LR		
	comp=E,120nm,7.5s						
KSH				LR	LR		
	comp=Z,260nm,6.1s						
ULHL	**Ulahol**	**58.94**	**318**	P	**P**	**11 50 34.7**	**+1.0**
	SNR=5.5						
KZA	**Kyzart**	**59.53**	**318**	P	**P**	**11 50 39.3**	**+1.3**
	SNR=9.6						
TKM2	**Tokmak 2**	**59.66**	**319**	*eP*	**P**	**11 50 39.4**	**+0.8**
	comp=Z,8.0nm,0.7s						
TKM2	**Tokmak 2**	**59.66**	**319**	P	**P**	**11 50 39.7**	**+1.0**
	SNR=12						
AAK	**Ala-Archa**	**60.27**	**318**	*eP*	**P**	**11 50 43.6**	**+0.8**
	comp=Z,13nm,0.8s						
AAK				PcP	**PcP**	**11 51 28.8**	**+1.1**
AAK	**Ala-Archa**	**60.27**	**318**	P	**P**	**11 50 43.3**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=135,slow=7.1,SNR=9.9						
AAK				PcP	**PcP**	**11 51 28.8**	**+1.1**
	comp=Z,1.6nm,0.5s,baz=146,slow=6.6,SNR=4.6						
ZAA0	**Zalesovo Array**	**60.52**	**333**	*eP*	**P**	**11 50 42.6**	**-1.4**
ZALV	**Zalesovo Beam**	**60.52**	**333**	P	**P**	**11 50 42.9**	**-1.1**
ZALV	**Zalesovo Beam**	**60.52**	**333**	P	**P**	**11 50 42.9**	**-1.1**
	comp=Z,4.0nm,0.6s,baz=134,slow=5.4,SNR=12						
AML	**Almayashu**	**60.61**	**317**	P	**P**	**11 50 46.2**	**+0.9**
	SNR=27						
EKS2	**Erkin-Say**	**60.77**	**318**	*eP*	**P**	**11 50 46.8**	**+0.7**
	comp=Z,9.5nm,0.8s						
EKS2	**Erkin-Say**	**60.77**	**318**	P	**P**	**11 50 47.4**	**+1.3**
	SNR=14						
KBL	**Kabul**	**61.43**	**307**	*eP*	**P**	**11 50 49.8**	**-1.1**
	comp=Z,7.5nm,0.7s						
KURBB	**Kurchatov Arra**	**61.66**	**327**	P	**P**	**11 50 50.9**	**-1.0**
	comp=Z,13nm,0.6s,baz=130,slow=6.4,SNR=61						
KURK	**Kurchatov**	**61.67**	**328**	*eP*	**P**	**11 50 51.2**	**-0.6**
	comp=Z,23nm,0.6s						
KKAR	**Karatay Array**	**63.15**	**317**	*eP*	**P**	**11 51 01.6**	**-0.3**
BVAR	**Borovoye Array**	**67.25**	**327**	P	**P**	**11 51 28.2**	**0.0**
BVAR	**Borovoye Array**	**67.25**	**327**	P	**P**	**11 51 28.2**	**0.0**
	comp=Z,9.2nm,0.7s,baz=128,slow=7.5,SNR=47						
BRVK	**Borovoye**	**67.32**	**327**	*eP*	**P**	**11 51 28.1**	**-0.6**
	comp=Z,14nm,0.8s						
ABKAR	**Akbulak array**	**72.07**	**321**	*eP*	**P**	**11 51 57.5**	**-0.6**
AKTO	**Aktyubinsk**	**73.58**	**322**	P	**P**	**11 52 06.6**	**-0.4**
AKTO	**Aktyubinsk**	**73.58**	**322**	P	**P**	**11 52 06.6**	**-0.4**
	comp=Z,8.9nm,0.8s,baz=107,slow=7.9,SNR=37						
ARU	**Arti**	**74.86**	**328**	*eP*	**P**	**11 52 13.2**	**-1.1**
	comp=Z,9.3nm,0.8s						
QRN	**Al-Qurain**	**78.31**	**298**	*eP*	**P**	**11 52 33.0**	**-1.4**
QRN				AMb	AMB	11 52 34.6	
	comp=Z,57nm,0.9s						
MIB	**Mutribah**	**78.86**	**299**	*eP*	**P**	**11 52 35.9**	**-1.4**
MIB				AMb	AMB	11 52 37.6	
	comp=Z,22nm,0.7s						
NAY	**Al-Naaiem**	**78.92**	**299**	*eP*	**P**	**11 52 35.7**	**-2.0**
NAY				AMb	AMB	11 52 37.9	
	comp=Z,8.0nm,0.7s						
COLD	**Coldfoot**	**83.90**	**23**	*eP*	**P**	**11 53 05.3**	**+2.0**
	comp=Z,11nm,1.1s						
ILAR	**Eielson Array**	**85.12**	**25**	P	**P**	**11 53 09.8**	**+0.3**
ILAR	**Eielson Array**	**85.12**	**25**	P	**P**	**11 53 09.8**	**+0.3**
	comp=Z,1.9nm,1.0s,baz=250,slow=5.0,SNR=9.9						
DOT	**Dot Lake**	**86.35**	**27**	*eP*	P	11 53 11.2	-4.4
	comp=Z,31nm,1.4s						
KMBO	**Kilima Mbogo**	**89.46**	**269**	*eP*	**P**	**11 53 32.7**	**+0.9**
	comp=Z,4.1nm,0.8s						
BR131	**Keskin Array S**	**89.93**	**310**	*eP*	**P**	**11 53 32.1**	**-1.3**
	comp=Z,3.6nm,0.8s						
BRTR	**Keskin Array B**	**89.93**	**310**	P	**P**	**11 53 32.5**	**-0.9**
BRTR	**Keskin Array B**	**89.93**	**310**	P	**P**	**11 53 32.5**	**-0.9**
	comp=Z,4.2nm,0.8s,baz=111,slow=4.6,SNR=16						
ARCES	**ARCESS Array B**	**90.39**	**340**	P	**P**	**11 53 34.2**	**-0.5**
ARCES	**ARCESS Array B**	**90.39**	**340**	P	**P**	**11 53 34.2**	**-0.5**
	comp=Z,5.6nm,0.8s,baz=90,slow=6.6,SNR=18						
FINES	**FINESS Array B**	**91.76**	**332**	P	**P**	**11 53 41.5**	**+0.3**
FINES	**FINESS Array B**	**91.76**	**332**	P	**P**	**11 53 41.5**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=39,slow=5.3,SNR=6.8						
AKASG	**Malin Array Be**	**91.81**	**321**	P	**P**	**11 53 40.5**	**-1.2**
AKASG	**Malin Array Be**	**91.81**	**321**	P	**P**	**11 53 40.5**	**-1.2**
	comp=Z,3.0nm,0.6s,baz=71,slow=4.5,SNR=7.3						
TIRR	**Tirgusor**	**93.25**	**315**	⇑*iP*	**P**	**11 53 48.3**	**-0.2**
TESR		**94.15**	**317**	⇑*iP*	**P**	**11 53 52.5**	**-0.1**
VRI	**Vrincioaia**	**94.21**	**316**	⇓*iP*	**P**	**11 53 54.2**	**+1.3**
MLR	**Muntele Rosu**	**94.81**	**316**	⇓*iP*	**P**	**11 53 55.8**	**0.0**
BURAR	**Bucovina Array**	**94.92**	**318**	⇑*iP*	**P**	**11 53 56.7**	**+0.5**
BUR08	**Bucovina Ar. S**	**94.92**	**318**	*eP*	**P**	**11 53 56.3**	**+0.1**
VOIR		**95.44**	**316**	⇑*iP*	P	11 54 05.7	+7.1
DRGR		**96.76**	**318**	⇑*iP*	**P**	**11 54 04.8**	**+0.2**
CRVS	**Cervenica-Dubn**	**97.09**	**320**	*eP*	Pdif	11 54 06.1	+0.1
NB2	**NORSAR Subarra**	**98.72**	**334**	P	Pdif	11 54 12.3	-0.7
	comp=Z,0.3nm,0.7s,baz=69,slow=5.6						
NOA	**NORSAR Array B**	**98.72**	**334**	P	Pdif	11 54 12.0	-1.0
NOA	**NORSAR Array B**	**98.72**	**334**	P	Pdif	11 54 12.0	-1.0
	comp=Z,2.1nm,0.8s,baz=67,slow=4.5,SNR=6.9						
MORC	**Moravsky Berou**	**99.33**	**322**	*eP*	**Pdif**	**11 54 13.4**	**-2.6**
	comp=Z,14nm,1.2s						
YKA	**Yellowknife Ar**	**99.51**	**24**	P	**Pdif**	**11 54 17.6**	**+1.1**
YKA				PKKPbc	**PKKPbc**	**12 10 38.3**	**-3.0**
YKA	**Yellowknife Ar**	**99.51**	**24**	P	**Pdif**	**11 54 17.5**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=291,slow=3.8,SNR=4.2						
YKA				PKKPbc	**PKKPbc**	**12 10 38.3**	**-3.0**
	comp=Z,0.1nm,0.6s,baz=116,slow=3.2,SNR=3.7						
PTRM	**Twissleman Ran**	**106.36**	**51**	*e*Pdif	**Pdif**	**11 54 45.7**	**-2.0**
NVAR	**Mina Array Bea**	**106.96**	**48**	PKKPbc	**PKKPab**	**12 10 32.0**	**-1.8**
	comp=Z,0.8nm,0.7s,baz=34,slow=3.7,SNR=4.2						
PDAR	**Pinedale Array**	**111.39**	**41**	PKKPbc	PKKPbc	12 10 11.7	+6.9
PDAR	**Pinedale Array**	**111.39**	**41**	PKKPbc	PKKPbc	12 10 11.7	+6.9
	comp=Z,0.9nm,0.8s,baz=127,slow=5.2,SNR=5.8						
TXAR	**Lajitas Array**	**121.65**	**52**	PKP	**PKPdf**	**11 59 29.3**	**+1.1**
TXAR	**Lajitas Array**	**121.65**	**52**	PKP	**PKPdf**	**11 59 29.3**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=7,slow=2.1,SNR=6.6						
TORD	**Torodi Ar. Bea**	**122.82**	**288**	PKP	**PKPdf**	**11 59 30.6**	**0.0**
TORD	**Torodi Ar. Bea**	**122.82**	**288**	PKP	**PKPdf**	**11 59 30.6**	**0.0**
	comp=Z,1.3nm,0.6s,baz=57,slow=1.9,SNR=9.0						
PLCA	**Paso Flores**	**140.06**	**160**	PKP	**PKPdf**	**12 00 03.9**	**+1.4**
PLCA	**Paso Flores**	**140.06**	**160**	PKP	**PKPdf**	**12 00 03.9**	**+1.4**
	comp=Z,1.8nm,0.7s,baz=217,slow=5.1,SNR=3.5						

IDC 13 11:46:27.2±2.0, 4°.16N×127°.17E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.9/4, MS3.1/1, Ms1 3.1/1, ms1mx2.3/33, Error ellipse: s-maj=213.5km s-min=22.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.30**	**331**	LR	LR	11 48 32.6	
	comp=Z,320nm,20.3s,baz=224,slow=38						
WRA	**Warramunga Arr**	**24.96**	**164**	P	P	11 51 52.1	-0.5
	2.7nm,0.7s,baz=344,slow=11,SNR=4.1						
STKA	**Stephens Creek**	**38.38**	**160**	P	P	11 53 50.7	+0.5
	3.8nm,1.1s,baz=321,slow=13,SNR=3.3						
MKAR	**Makanchi Array**	**57.46**	**325**	P	P	11 56 17.8	-0.2
	0.3nm,0.3s,baz=120,slow=7.5,SNR=6.8						
KURBB	**Kurchatov Arra**	**61.62**	**327**	P	P	11 56 46.7	+0.1
	0.5nm,0.7s,baz=125,slow=6.3,SNR=3.7						

*IDC **13** 11:54:22.8±7.4, 36°.48N×71°.09E, h114km±62km, mb3.3/4, mb1 3.3/8, mb1mx3.1/28, mbtmp3.2/8, MS3.7/1, Ms1 3.7/1, ms1mx2.5/27, Error ellipse: s-maj=54.3km s-min=28.3km az=34.0*
*NNC **13** 11:54:26.1±2.6, 37°.26N×70°.47E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=21.4km s-min=20.3km az=96.0*
*ISCJB **13** 11:54:31.5±1.1, 36°.99N±0°.08×71°.2E±0°.1, h204km, mb3.2/4, Error ellipse: s-maj=11.5km s-min=11.1km az=139.8*

ISC 13 11:54:31.3±1.6, 37°.1N±0°.1×71°.0E±0°.1, h204km, n13, σ1s80/15, mb3.4/4, 3C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.06**	**357**	Pn	**Pn**	**11 55 57.0**	**-2.4**
	0.6nm,0.2s,baz=176,slow=12,SNR=22						
KK31				⇑Sn	**S**	**11 57 08.0**	**-0.9**
	2.4nm,0.4s,baz=186,slow=20,SNR=6.7						
AAK	**Ala-Archa**	**6.20**	**25**	P	**Pn**	**11 55 59.5**	**-1.8**
	0.8nm,0.3s,baz=181,slow=7.1,SNR=8.2						
AAK				S	**S**	**11 57 11.6**	**-0.8**
	0.7nm,0.3s,baz=343,slow=20,SNR=12						
TKM2	**Tokmak 2**	**6.85**	**30**	⇓Pn	**Pn**	**11 56 07.6**	**-2.2**
	3.4nm,1.1s						
TKM2				⇑Sn	**S**	**11 57 29.4**	**+1.6**
	7.0nm,0.9s						
AB31	**Akbulak array**	**14.60**	**330**	Pn	**Pn**	**11 57 48.2**	**-0.1**
	0.2nm,0.3s,baz=153,slow=12,SNR=15						
AB31				⇑Sn	**S**	**12 00 28.9**	**-1.2**
	1.0nm,0.5s,baz=157,slow=25,SNR=5.7						
KURBB	**Kurchatov Arra**	**14.61**	**19**	P	**P**	**11 57 51.6**	**+2.2**
	0.0nm,0.3s,baz=210,slow=10.0,SNR=4.2						
AKTO	**Aktyubinsk**	**16.30**	**329**	⇓Pn	**Pn**	**11 58 10.6**	**+1.7**
	0.4nm,0.8s						
AKTO				Sn	**S**	**12 01 10.1**	**+1.7**
	0.5nm,1.0s						
AKTO	**Aktyubinsk**	**16.30**	**329**	P	**Pn**	**11 58 11.6**	**+2.7**
	0.2nm,0.3s,baz=142,slow=13,SNR=6.8						
AKTO				S	**S**	**12 01 08.5**	**+0.1**
	0.2nm,0.3s,baz=102,slow=14,SNR=3.6						
ZALV	**Zalesovo Beam**	**19.43**	**25**	P	**Pn**	**11 58 46.3**	**+0.6**
	0.7nm,0.3s,baz=223,slow=11,SNR=17						
FINES	**FINESS Array B**	**37.02**	**326**	P	P	12 01 25.2	+4.1
	0.7nm,0.5s,baz=120,slow=8.2,SNR=4.3						
ARCES	**ARCESS Array B**	**40.63**	**337**	P	P	12 01 56.4	+5.4
	1.3nm,0.8s,baz=110,slow=7.9,SNR=4.2						
NOA	**NORSAR Array B**	**43.94**	**323**	P	P	12 02 21.0	+3.2
	0.4nm,0.6s,baz=99,slow=7.8,SNR=3.4						
JNU	**Nakatsue**	**48.47**	**76**	LR	LR	12 27 51.0	
	comp=Z,73nm,19.2s,baz=318,slow=41						
ASAR	**Alice Springs**	**84.58**	**125**	P	**P**	**12 06 41.0**	**-0.8**
	0.7nm,1.1s,baz=319,slow=5.2,SNR=4.4						

*IDC **13** 11:59:12.8±0.9, 50°.22N×73°.28E, h0km, mb3.1/1, mb1 3.1/5, mb1mx3.0/29, mbtmp3.0/5, ML2.9/4, Error ellipse: s-maj=12.5km s-min=9.3km az=69.0*
*NNC **13** 11:59:15.9±0.3, 49°.96N×72°.94E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=3.5km s-min=2.3km az=53.0*

ISC 13 11:59:13.4±0.8, 50°.29N±0°.05×73°.35E±0°.04, h10km, n15, σ1s36/23, 6C, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VOSK	**Vostochnaya**	**2.85**	**330**	Pn	**Pb**	**12 00 04.4**	**0.0**
	1.3nm,0.4s						
VOSK				Sn	**Sg**	**12 00 43.4**	**-1.5**
	4.5nm,0.5s						
BVA0	**Borovoye Array**	**3.30**	**327**	Pn	**Pb**	**12 00 11.4**	**-0.6**
	0.1nm,0.5s,baz=141,slow=16,SNR=12						
BVA0				Sn	**Sb**	**12 00 53.5**	**+1.3**
	0.8nm,0.5s,baz=140,slow=23,SNR=9.9						
BVAR	**Borovoye Array**	**3.30**	**327**	Pg	**Pb**	**12 00 11.7**	**-0.3**
	1.0nm,0.3s,baz=142,slow=16,SNR=12						
BVAR				Lg	Lg	12 00 55.7	
	1.9nm,0.3s,baz=136,slow=28,SNR=13						
KURBB	**Kurchatov Arra**	**3.33**	**82**	Pn	**Pb**	**12 00 13.5**	**+1.0**
	0.3nm,0.3s						
KURBB				⇑Sn	**Sg**	**12 00 57.8**	**-2.5**
	4.2nm,0.6s						
KURBB	**Kurchatov Arra**	**3.33**	**82**	Pn	**Pn**	**12 00 06.0**	**+0.5**
	0.1nm,0.3s,baz=271,slow=14,SNR=12						
KURBB				Pg	**Pb**	**12 00 12.4**	**-0.1**
	0.4nm,0.3s,baz=270,slow=16,SNR=24						
KURBB				Lg	Lg	12 00 56.1	
	0.6nm,0.3s,baz=268,slow=28,SNR=12						
BRVK	**Borovoye**	**3.37**	**327**	Pn	**Pb**	**12 00 12.5**	**-0.6**
	1.8nm,0.5s						
BRVK				⇑Sn	**Sb**	**12 00 55.0**	**+0.9**
	9.1nm,0.5s						
KURK	**Kurchatov**	**3.39**	**81**	Pn	**Pb**	**12 00 14.4**	**+0.8**
	2.5nm,0.9s						
KURK				⇑Sn	**Sg**	**12 01 00.3**	**-2.1**
	8.0nm,0.6s						
ZRNK	**Zerenda**	**3.80**	**316**	Pn	Pb	12 00 16.7	-3.8
	0.9nm,0.3s						
ZRNK				⇑Sn	**Sb**	**12 01 04.5**	**-2.1**
	7.6nm,0.6s						
MK31	**Makanchi Array**	**6.89**	**117**	Pn	Pn	12 01 02.7	+8.3
	0.2nm,0.3s,baz=297,slow=14,SNR=7.0						
MK31				⇑Sn	Sb	12 02 26.0	-9.5
	1.2nm,0.5s,baz=302,slow=27,SNR=6.6						
MKAR	**Makanchi Array**	**6.89**	**117**	Pn	**Pn**	**12 00 54.9**	**+0.5**
	0.1nm,0.3s,baz=298,slow=12,SNR=5.3						
MKAR				Pg	Pb	12 01 15.5	+2.3
	0.3nm,0.3s,baz=301,slow=12,SNR=11						
MKAR				Lg	Lg	12 02 46.7	
	0.3nm,0.3s,baz=296,slow=25,SNR=7.4						
KK31	**Karatay Array**	**7.45**	**196**	Pn	**Pn**	**12 01 02.5**	**+0.4**
	0.3nm,0.3s,baz=14,slow=12,SNR=7.0						
KK31				⇑Sn	**Sn**	**12 02 28.5**	**+1.9**
	0.9nm,0.4s,baz=9.9,slow=24,SNR=4.7						
TKM2	**Tokmak 2**	**7.53**	**167**	Pn	**Pn**	**12 01 03.2**	**-0.2**
	0.9nm,0.5s						
TKM2				Sn	**Sn**	**12 02 26.5**	**-2.4**
	1.0nm,0.5s						
TKM2				Lg	Lg	12 03 07.3	
	2.5nm,0.7s						
AAK	**Ala-Archa**	**7.70**	**174**	Pn	**Pn**	**12 01 05.4**	**-0.3**
	0.9nm,0.3s,baz=28,slow=1.4,SNR=11						
AAK				Sn	**Sn**	**12 02 31.6**	**-1.4**
	0.2nm,0.3s,baz=126,slow=19,SNR=3.8						
AAK				Lg	Lg	12 03 15.3	
	0.2nm,0.3s,baz=68,slow=14,SNR=3.7						
ZALV	**Zalesovo Beam**	**7.95**	**58**	Pn	**Pn**	**12 01 10.1**	**+1.2**
	0.2nm,0.3s,baz=248,slow=14,SNR=4.0						
ILAR	**Eielson Array**	**61.10**	**18**	P	**P**	**12 09 28.4**	**+1.3**
	0.2nm,0.9s,baz=327,slow=6.5,SNR=3.1						

IDC 13 12:10:21.8±2.0, 3°.57N×126°.30E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/20, mbtmp3.3/4, Error ellipse: s-maj=203.2km s-min=21.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.67**	**162**	P	P	12 15 43.8	-0.7
	0.3nm,0.3s,baz=340,slow=11,SNR=9.8						
ASAR	**Alice Springs**	**28.07**	**165**	P	P	12 16 16.1	+0.9
	0.3nm,0.7s,baz=342,slow=8.0,SNR=3.7						
MKAR	**Makanchi Array**	**57.44**	**326**	P	P	12 20 12.0	-0.5
	0.1nm,0.3s,baz=117,slow=6.8,SNR=5.1						
KURBB	**Kurchatov Arra**	**61.64**	**328**	P	P	12 20 41.5	+0.2
	0.7nm,1.1s,baz=118,slow=7.5,SNR=2.5						

IDC 13 12:10:31.1±1.6, 3°.55N×125°.92E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, Error ellipse: s-maj=190.5km s-min=19.6km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.77**	**161**	P	P	12 15 54.4	-0.4
	1.0nm,0.5s,baz=340,slow=9.9,SNR=12						
ASAR	**Alice Springs**	**28.15**	**164**	P	P	12 16 26.0	+0.7
	0.2nm,0.5s,baz=344,slow=9.6,SNR=4.7						
STKA	**Stephens Creek**	**38.25**	**158**	P	P	12 17 52.9	-0.3
	0.6nm,0.4s,baz=347,slow=8.7,SNR=3.4						
MKAR	**Makanchi Array**	**57.25**	**326**	P	P	12 20 19.9	-0.5
	0.2nm,0.3s,baz=118,slow=7.0,SNR=8.2						
KURBB	**Kurchatov Arra**	**61.46**	**328**	P	P	12 20 49.9	+0.5
	0.6nm,0.8s,baz=126,slow=6.7,SNR=5.7						

*IDC **13** 12:19:07.3±1.1, 4°.27N×127°.39E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/23, mbtmp4.0/11, Error ellipse: s-maj=96.8km s-min=14.0km az=71.0*

ISC 13 12:19:08.9±1.1, 4°.3N±0°.2×127°.2E±0°.5, h10km, n14, σ0s92/12, mb4.1/11, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.16**	**315**	⇑*iP*	Pb	12 20 19.2	-3.1
BUKP	**Musuan**	**4.17**	**329**	*eP*	**Pb**	**12 20 21.5**	**-1.1**
BUKP				*e*S	Sn	12 20 37.9	-24
PAGZ	**Pagadian**	**5.21**	**313**	*eP*	Pn	12 20 31.1	+4.1
PAGZ				*e*S	Sn	12 20 39.8	-47
FITZ	**Fitzroy Crossi**	**22.29**	**184**	P	**P**	**12 24 06.9**	**+0.4**
	1.4nm,0.4s,baz=4.4,slow=13,SNR=4.9						
WRA	**Warramunga Arr**	**25.06**	**164**	P	**P**	**12 24 32.6**	**-1.1**
	6.4nm,0.8s,baz=343,slow=11,SNR=35						
ASAR	**Alice Springs**	**28.52**	**167**	P	**P**	**12 25 04.2**	**-0.7**
	0.3nm,0.3s,baz=344,slow=11,SNR=8.6						
STKA	**Stephens Creek**	**38.47**	**160**	P	**P**	**

couple: M₀1.10000×10¹⁷ NP1:φ₀21.00000°,δ51.00000°, λ128.00000°. NP2:φ₀151.00000°,δ52.00000°,λ53.00000°. Principal axes: T 1.1000, Plg61.0000°, Azm356.0000°; N 0.0400, Plg28.0000°, Azm175.0000°; P -1.1400, Plg0.0000°, Azm265.0000°;

DJA 13 12:37:55,3.77N×126.90E,h65ᵏᵐ,Mw5.3/57

ISC 13 12:37:51.6±0.2,3.79N±0.03×126.74E±0.04,h39ᵏᵐ±2ᵏᵐ, h39ᵏᵐ:pP-P,n686,σ1§68/707,mb5.4/162,MS5.2/208, 55C-65D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.90**	**322**	*eP*		**Pn**		**12 38 37.7**	**+2.4**
MNI	**Manado**	**3.01**	**219**	P		**Pn**		**12 38 39.4**	**+2.6**
TNTI	**Ternate**	**3.06**	**168**	P		**Pn**		**12 38 38.0**	**+0.5**
DAV	**Davao City (W)**	**3.46**	**340**	*e*Pn		**Pn**		**12 38 42.2**	**-0.7**
DAV				*e*Sn		Sn		12 39 30.1	+7.4
DAV				*e*Sn		Sn		12 39 31.4	+8.8
DAV	**Davao City (W)**	**3.46**	**340**	⇑*e*P		**Pn**		**12 38 45.1**	**+2.1**
DAV	**Davao City (W)** SNR=75	**3.46**	**340**	Pn		**Pn**		**12 38 45.3**	**+2.4**
DAV	**Davao City (W)**	**3.46**	**340**	P		**Pn**		**12 38 45.7**	**+2.8**
DAV	**Davao City (W)** 81nm,0.3s,baz=249,slow=2.1,SNR=22	**3.46**	**340**	Pn		**Pn**		**12 38 43.4**	**+0.5**
DAV	174nm,0.3s,baz=246,slow=20,SNR=7.4			Sn		Sn		12 39 30.0	+7.4
DAV	comp=Z,22μm,18.2s,baz=165,slow=41			LR		LR		12 40 11.4	
DMPH	**Davao City--Mi**	**3.49**	**339**	⇓*e*P		**Pn**		**12 38 45.9**	**+2.5**
KCP	**Kidapawan**	**3.59**	**333**	⇓*i*P		Pn		12 38 48.3	+3.4
KCP				*i* S		Sn		12 39 38.5	+12
CTBH	**Cotabato--PC H**	**4.22**	**324**	⇓*e*P		**Pn**		**12 38 55.7**	**+2.3**
KMSI	**Cibinong**	**4.22**	**221**	P		Pn		12 38 58.7	+5.2
BUKP	**Musuan**	**4.39**	**338**	*e*P		**Pn**		**12 38 58.5**	**+2.7**
LBMI	**Labuha**	**4.47**	**170**	P		**Pn**		**12 38 57.1**	**+0.3**
CGP	**Cagayan de Oro**	**5.06**	**336**	⇓*i*P		Pn		12 39 10.0	+5.0
CGP				*i* S		Sn		12 40 19.4	+17
PAGZ	**Pagadian**	**5.24**	**320**	*e*P		**Pn**		**12 39 09.8**	**+2.5**
BUTP	**Butuan**	**5.26**	**348**	*e*P		Pn		12 39 14.0	+6.3
IPIL	**Ipil**	**5.74**	**314**	*e*P		**Pn**		**12 39 16.3**	**+2.0**
MRSI	**Marisa**	**5.82**	**236**	P		Pn		**12 39 17.8**	**+2.4**
LUWI	**Luwuk**	**6.23**	**220**	P		Pn		12 39 25.6	+4.5
SWI	**Sorong**	**6.46**	**136**	P		Pn		**12 39 23.6**	**-0.7**
PLP	**Palo**	**7.53**	**347**	⇓*e*P		Pn		**12 39 41.5**	**+2.6**
AAI	**Ambon**	**7.57**	**169**	P		**Pn**		**12 39 36.8**	**-2.7**
MYLDM	**Lahad Datu**	**8.33**	**280**	P		Pn		12 39 55.0	+5.1
MYLDM	**Lahad Datu** 656nm,1.3s,12μm63μm	**8.33**	**280**	P		Pn		12 39 53.8	+3.9
FAKI	**Fak Fak**	**8.64**	**140**	P		**Pn**		**12 39 54.2**	**0.0**
RCP	**Roxas**	**8.67**	**333**	⇓*e*P		**Pn**		**12 39 56.6**	**+2.0**
RCP				*e*S		Sn		12 41 45.8	+15
KDI	**Kendari**	**8.73**	**208**	P		**Pn**		**12 39 55.3**	**-0.1**
BNDI	**Bandanaira**	**8.84**	**159**	P		**Pn**		**12 39 57.1**	**+0.2**
TSM	**Tawau**	**8.86**	**274**	P		**Pn**		**12 39 59.8**	**+2.6**
KALP	**Kalibo**	**8.97**	**331**	*e*P		Pn		12 40 04.2	+5.6
SDKM	**Sandakan**	**9.69**	**281**	P		**Pn**		**12 40 10.5**	**+1.9**
BBSI	**Bau Bau**	**10.12**	**204**	P		Pn		12 40 18.7	+4.3
KDM	**Kudat**	**10.34**	**288**	P		Pn		12 40 22.6	+5.1
SPSI	**Sidrap Palu**	**10.39**	**222**	P		Pn		12 40 21.9	+3.8
SMKI	**Samarinda**	**10.42**	**246**	P		Pn		12 40 23.2	+4.7
BAKI	**Biak**	**10.59**	**118**	P		**Pn**		**12 40 20.6**	**-0.3**
KKM	**Kota Kinabalu**	**10.72**	**282**	*e*Pn		**Pn**		**12 40 25.1**	**+2.2**
KKM				*e*Sn		**Sn**		**12 42 19.2**	**-2.5**
KKM	**Kota Kinabalu**	**10.72**	**282**	P		Pn		12 40 27.4	+4.6
KKM	**Kota Kinabalu** 212nm,1.7s,5μm21μm	**10.72**	**282**	P		Pn		12 40 27.1	+4.3
TLE	**Tual**	**11.12**	**147**	P		**Pn**		**12 40 29.4**	**+1.3**
KAPI	**Kappang**	**11.19**	**219**	*e*Pn		**Pn**		**12 40 28.4**	**-0.8**
KAPI	**Kappang** 164nm,1.2s,3μm	**11.19**	**219**	P		**Pn**		**12 40 29.9**	**+0.7**
KAPI	**Kappang** 4.6nm,0.3s,baz=127,slow=1.5,SNR=9.0	**11.19**	**219**	Pn		**Pn**		**12 40 28.8**	**-0.3**
BKSI	**Bulukumba**	**11.21**	**216**	P		**Pn**		**12 40 32.3**	**+2.9**
TGY	**Tagaytay City** comp=Z,64nm,18.2s,baz=146,slow=42	**11.74**	**331**	LR		LR		12 45 58.9	
KBKI	**Kotabaru**	**12.70**	**236**	P		**Pn**		**12 40 51.1**	**+1.3**
MMRI	**Maumere**	**13.14**	**200**	P		**Pn**		**12 40 54.0**	**-1.8**
SMPI	**Sarmi**	**13.27**	**115**	P		**Pn**		**12 40 56.2**	**-1.3**
BTM	**Bintulu**	**13.65**	**268**	P		**P**		**12 41 08.0**	**-2.9**
BBKI	**Banjar Baru**	**13.91**	**239**	P		**P**		**12 41 12.7**	**-1.1**
PLKI	**Palangkaraya**	**14.12**	**245**	P		**P**		**12 41 14.8**	**-1.3**
SBUM	**Sibu**	**14.56**	**265**	P		**P**		**12 41 19.0**	**-2.1**
SBUM	**Sibu** 153nm,1.8s,4μm	**14.56**	**265**	P		**P**		**12 41 18.3**	**-2.7**
WSI	**Waingapu**	**14.84**	**206**	P		**Pn**		**12 41 20.3**	**+1.5**
JAY	**Jayapura**	**15.30**	**114**	P		**P**		**12 41 27.1**	**-2.2**
PIP	**Pasuquin**	**15.64**	**338**	⇑*e*P		**P**		**12 41 33.7**	**+0.8**
STKI	**Sintang**	**15.70**	**257**	P		**P**		**12 41 33.5**	**-0.2**
PBKI	**Pangkalan Bun**	**16.39**	**247**	P		**P**		**12 41 44.0**	**+2.6**
KHKI	**Kahang-Kahang**	**16.41**	**223**	P		**P**		**12 41 44.3**	**+2.8**
KSM	**Kuching** 198nm,1.1s	**16.58**	**262**	*e*Pn		**Pn**		**12 41 40.4**	**-0.9**
KSM	**Kuching**	**16.58**	**262**	P		**P**		**12 41 45.9**	**+2.5**
KSM	**Kuching** 197nm,1.4s,4μm	**16.58**	**262**	P		**P**		**12 41 45.0**	**+1.6**
BLJI	**Banyuglugur**	**17.42**	**229**	P		**P**		**12 41 54.0**	**+1.3**
JAGI	**Jajag, Banyuwa**	**17.49**	**226**	P		P		12 41 58.5	+4.9
GMJI	**Gumukmas**	**17.88**	**228**	P		**Pn**		**12 41 57.4**	**-0.1**
KRKI	**Karangkates**	**18.55**	**230**	P		Pn		12 42 15.8	+10
SJI	**Sawahan** 172nm,1.5s,3μm	**18.82**	**233**	P		**Pn**		**12 42 12.6**	**+3.5**
PWJI	**Pagerwojo**	**18.97**	**232**	P		**Pn**		**12 42 11.1**	**+0.3**
PCJI	**Pacitan**	**19.57**	**232**	P		**Pn**		**12 42 21.6**	**+3.7**
TWG	**Pinlang** 102nm,0.6s	**19.70**	**344**	*e*P		**P**		**12 42 15.6**	**-2.2**
YULB	**Yu-li** 474nm,1.9s	**20.18**	**345**	*e*P		**P**		**12 42 20.2**	**-2.8**
TPUB	**Ta-pu** 270nm,0.6s	**20.27**	**344**	*e*P		**P**		**12 42 22.3**	**-1.7**
GUMO	**Guam**	**20.37**	**60**	PFAKE				12 42 40.0	+13
GUMO	comp=Z,1μm,20.0s			LR		LR			
SSLB	**Suanglung** comp=Z,162nm,0.6s	**20.65**	**345**	*e*P		**P**		**12 42 26.1**	**-2.0**
NACB	**Ninganchiao** comp=Z,29nm,0.6s	**20.86**	**347**	*e*P		**P**		**12 42 29.0**	**-1.4**
YHNB	**Yeheng** comp=Z,98nm,0.8s	**21.39**	**347**	*e*P		**P**		**12 42 35.7**	**-0.4**
YHNB				*e*S		**S**		**12 46 30.9**	**-0.8**
YHNB	comp=Z,6μm,20.0s			LR		LR			
PPBI	**Pangkal Pinang**	**21.43**	**254**	P		**P**		**12 42 37.8**	**+1.2**
TATO	**Taipei** comp=Z,64nm,0.8s	**21.66**	**347**	*e*P		**P**		**12 42 39.3**	**+0.4**
TATO	comp=Z,5μm,20.0s			LR		LR			
FITZ	**Fitzroy Crossi** comp=Z,309nm,1.4s	**21.78**	**183**	*e*P		**P**		**12 42 39.0**	**-1.3**
FITZ	**Fitzroy Crossi** comp=Z,151nm,1.1s	**21.78**	**183**	*e*P		**P**		**12 42 37.5**	**-2.8**
FITZ				*e*S		**S**		**12 46 32.8**	**-6.4**
FITZ	**Fitzroy Crossi** comp=Z,68nm,0.8s,baz=18,slow=10,SNR=32	**21.78**	**183**	P		**P**		**12 42 38.2**	**-2.1**
LEM	**Lembang**	**21.81**	**241**	P		**P**		**12 42 45.0**	**+4.2**
HKC	**Hong Kong Obse**	**22.07**	**328**	*e*P		**P**		**12 42 48.0**	**+4.7**
CBJI	**Citeko**	**22.30**	**243**	P		**P**		**12 42 50.4**	**+4.5**
QIZ	**Qiongzhong**	**22.41**	**314**	P		**P**		**12 42 48.8**	**+1.8**
QIZ				S		**S**		**12 46 51.1**	**+0.2**
QIZ	comp=Z,740nm,11.6s			pmax		pmax			
QIZ	comp=N,2μm,17.4s			LR		LR			
QIZ	comp=E,1μm,15.1s			LR		LR			
QIZ	comp=Z,4μm,17.7s			LR		LR			
QIZ	**Qiongzhong** comp=Z,344nm,1.8s	**22.41**	**314**	*e*P		**P**		**12 42 47.0**	**0.0**
QIZ	comp=Z,5μm,20.0s			LR		LR			
QZH	**Quanzhou**	**22.45**	**340**	⇑*i*P		**P**		**12 42 46.3**	**-1.0**
QZH				S		**S**		**12 46 45.0**	**-6.5**
QZH	comp=Z,390nm,1.2s			pmax		pmax			
QZH	comp=N,11μm,19.6s			LR		LR			
QZH	comp=E,4μm,13.5s			LR		LR			
QZH	comp=Z,17μm,24.1s			LR		LR			
DBJI	**Dramaga**	**22.45**	**243**	P		**P**		**12 42 51.2**	**+3.6**
SBJI	**Serang**	**22.82**	**245**	P		**P**		**12 42 56.2**	**+4.8**
MYKOM	**Kota Tinggi**	**22.95**	**266**	P		**P**		**12 42 54.5**	**+1.7**
MYKOM	**Kota Tinggi** comp=Z,82nm,0.7s,comp=Z,2μm	**22.95**	**266**	P		**P**		**12 42 54.2**	**+1.4**
JOW	**Kunigami** comp=Z,65nm,1.1s	**22.96**	**4**	*e*P		**P**		**12 42 53.8**	**+1.1**
JOW	**Kunigami** comp=Z,38nm,0.6s,baz=148,slow=17,SNR=5.8	**22.96**	**4**	P		**P**		**12 42 53.2**	**+0.5**
GZH	**Guangzhou**	**23.15**	**327**	P		**P**		**12 42 56.5**	**+1.8**
GZH				S		**S**		**12 47 05.1**	**+1.5**
GZH	comp=N,4μm,17.7s			LR		LR			
GZH	comp=E,6μm,18.9s			LR		LR			
GZH	comp=Z,10μm,18.6s			LR		LR			
BLSI	**Bandar Lampung**	**23.32**	**247**	P		**P**		**12 43 00.0**	**+3.5**
CGJI	**Cibinong**	**23.42**	**244**	P		**P**		**12 43 00.9**	**+3.4**
KLSI		**23.55**	**249**	P		**P**		**12 42 57.6**	**-1.2**
COEN	**Coen** comp=Z,1μm,1.5s	**24.02**	**138**	*e*P		**P**		**12 42 59.9**	**-3.1**
KASI	**Kota Agung**	**24.07**	**248**	P		P		12 43 10.7	+7.1
PMG	**Port Moresby** comp=Z,102nm,1.5s	**24.21**	**123**	*e*P		**P**		**12 43 01.3**	**-3.5**
PMG	comp=Z,2μm,19.0s			LR		LR			
PMG	**Port Moresby** comp=Z,41nm,1.4s,comp=Z,1μm	**24.21**	**123**	P		**P**		**12 43 01.6**	**-3.2**
PMG	**Port Moresby** comp=Z,11nm,1.1s,baz=294,slow=5.5,SNR=9.2	**24.21**	**123**	P		**P**		**12 43 01.9**	**-3.0**
LWLI	**Liwa**	**24.29**	**249**	P		P		12 43 11.6	+5.8
WRAB	**Tennant Creek**	**24.73**	**163**	*e*P		**P**		**12 43 08.0**	**-1.6**
WRAB				*e*S		**S**		**12 47 28.8**	**-0.5**
WRAB	comp=Z,296nm,0.8s			pmax		pmax			
WRAB	comp=Z,2μm,20.0s			MLR		MLR			
WRAB	**Tennant Creek** comp=Z,296nm,0.8s	**24.73**	**163**	*e*P		**P**		**12 43 08.0**	**-1.6**
WRAB				*e*S		**S**		**12 47 28.8**	**-0.5**
WRAB	comp=Z,2μm,20.0s			LR		LR			
WRA	**Warramunga Arr**	**24.74**	**163**	P		**P**		**12 43 07.2**	**-2.5**
WRA				S		**S**		**12 47 30.1**	**+0.7**
WRA	**Warramunga Arr** comp=Z,285nm,0.8s,baz=344,slow=9.9,SNR=355	**24.74**	**163**	P		**P**		**12 43 07.2**	**-2.5**
WRA	comp=Z,62nm,1.4s,baz=342,slow=18,SNR=6.0			S		**S**		**12 47 30.1**	**+0.7**
FRIM	**Kepong**	**25.08**	**270**	P		**P**		**12 43 14.1**	**+1.3**
KSI	**Kapahiang**	**25.24**	**253**	P		**P**		**12 43 17.3**	**+3.0**
IPM	**Ipoh** comp=Z,945nm,2.2s	**25.66**	**272**	*e*P		**P**		**12 43 18.6**	**+0.5**
IPM	**Ipoh** comp=Z,137nm,1.8s,comp=Z,2μm	**25.66**	**272**	P		**P**		**12 43 22.3**	**+4.2**
IPM	**Ipoh**	**25.66**	**272**	P		**P**		**12 43 20.7**	**+2.6**
MBWA	**Marble Bar** comp=Z,194nm,1.2s	**25.73**	**195**	*e*P		**P**		**12 43 18.7**	**+0.1**
MBWA	comp=Z,1μm,20.0s			LR		LR			
BKNI	**Bangkinang**	**25.91**	**263**	P		**P**		**12 43 23.2**	**+2.8**
KULM	**Kulim** comp=Z,287nm,1.5s	**26.05**	**274**	*e*P		**P**		**12 43 23.8**	**+2.1**
KULM	comp=Z,2μm,22.0s			LR		LR			
KULM	**Kulim**	**26.05**	**274**	P		**P**		**12 43 24.4**	**+2.7**
KULM	**Kulim** comp=Z,126nm,1.5s,comp=Z,2μm	**26.05**	**274**	P		**P**		**12 43 25.0**	**+3.3**
PPI	**Padang Panjang**	**26.66**	**261**	P		**P**		**12 43 28.3**	**+1.1**
MNSI	**Mandailing Nat**	**27.30**	**264**	P		**P**		**12 43 34.8**	**+1.9**
CBIJ	**Chichi jima**	**27.48**	**31**	P		**P**		**12 43 33.8**	**-0.5**
CBIJ	**Chichi jima** comp=Z,112nm,0.7s,baz=291,slow=13,SNR=4.4	**27.48**	**31**	P		**P**		**12 43 33.8**	**-0.5**
CBIJ	comp=Z,3μm,20.1s,baz=358,slow=35			LR		LR		12 53 53.9	
SSE	**Sheshan**	**27.66**	**350**	P		**P**		**12 43 36.8**	**+0.9**
SSE				S		**S**		**12 48 18.4**	**+3.1**
SSE	comp=Z,61nm,1.2s			pmax		pmax			
SSE	comp=Z,780nm,11.3s			pmax		pmax			
SSE	comp=N,1μm,22.1s			LR		LR			
SSE	comp=E,3μm,22.1s			LR		LR			
SSE	comp=Z,2μm,20.0s			LR		LR			
PSI	**Prapat**	**27.79**	**269**	P		**P**		**12 43 37.0**	**-0.5**
PSI	**Prapat** comp=Z,63nm,2.0s,comp=Z,1μm	**27.79**	**269**	P		**P**		**12 43 38.8**	**+1.4**
PSI	**Prapat** comp=Z,18nm,0.7s,baz=82,slow=7.5,SNR=10	**27.79**	**269**	P		**P**		**12 43 37.0**	**-0.5**
PSI	comp=Z,1μm,18.2s,baz=316,slow=40			LR		LR		12 56 13.3	
AS31	**Alice Springs**	**28.17**	**166**	*e*P		**P**		**12 43 39.2**	**-1.4**
AS31				*e*S		**S**		**12 48 19.9**	**-3.8**
ASAR	**Alice Springs**	**28.17**	**166**	P		**P**		**12 43 38.6**	**-2.0**
ASAR				S		**S**		**12 48 24.7**	**+1.1**
ASAR	**Alice Springs** comp=Z,9.6nm,0.6s,baz=353,slow=7.9,SNR=78	**28.17**	**166**	P		**P**		**12 43 38.6**	**-2.0**
ASAR	comp=Z,4.5nm,1.0s,baz=345,slow=18,SNR=4.2			S		**S**		**12 48 24.7**	**+1.1**
WHN	**Wuhan**	**29.07**	**338**	⇓P		**P**		**12 43 48.8**	**+0.4**
WHN				pP		**pP**		**12 43 57.9**	**-1.3**
WHN				S		**S**		**12 48 40.3**	**+2.8**
WHN	comp=Z,140nm,1.0s			pmax		pmax			
WHN	comp=Z,10μm,22.1s			LR		LR			
NJ2	**Nanjing**	**29.07**	**346**	*e*P		**P**		**12 43 49.0**	**+0.6**
NJ2				pP		**pP**		**12 43 58.8**	**-0.4**
NJ2				sP		**sP**		**12 44 03.5**	**-0.4**
NJ2				S		**S**		**12 48 41.0**	**+3.5**
NJ2				sS		**sS**		**12 48 57.5**	**+2.1**
NJ2	comp=Z,80nm,1.0s			pmax		pmax			
NJ2	comp=Z,630nm,10.8s			pmax		pmax			
NJ2	comp=N,2μm,19.5s			LR		LR			
NJ2	comp=E,5μm,25.0s			LR		LR			
NJ2	comp=Z,2μm,22.0s			LR		LR			
GSI	**Gunungsitoli**	**29.24**	**266**	P		**P**		**12 43 50.0**	**-0.2**
JNU	**Nakatsue** comp=Z,103nm,1.5s	**29.43**	**7**	*e*P		**P**		**12 43 51.3**	**-0.4**
JNU	**Nakatsue** comp=Z,79nm,1.2s,baz=176,slow=6.6,SNR=6.6	**29.43**	**7**	P		**P**		**12 43 50.3**	**-1.4**
GYA	**Guiyang**	**29.63**	**321**	⇓*i*P		**P**		**12 43 54.8**	**+1.2**
GYA				pP		**pP**		**12 44 06.3**	**+1.9**
GYA				PP		**PnPn**		**12 44 53.0**	**+3.4**
GYA				PcP		**PcP**		**12 46 58.8**	**+1.0**
GYA				S		**S**		**12 48 44.6**	**-2.1**
GYA				sS		**sS**		**12 49 04.5**	**-0.1**
GYA				SS		SS		12 50 23.3	-30
GYA				ScP		**ScP**		**12 50 35.6**	**-1.3**
GYA				ScS		**ScS**		**12 54 30.8**	**-1.2**
GYA	comp=Z,20nm,1.0s			pmax		pmax			
GYA	comp=Z,120nm,5.0s			pmax		pmax			
GYA	comp=N,2μm,16.2s			LR		LR			
GYA	comp=E,2μm,16.5s			LR		LR			
GYA	comp=Z,5μm,18.4s			LR		LR			
CTA	**Charters Tower**	**30.50**	**142**	P		**P**		**12 43 58.7**	**-2.7**
CTA	**Charters Tower** comp=Z,22nm,1.5s	**30.50**	**142**	*e*P		**P**		**12 43 59.5**	**-1.8**
CTA				*e*S		**S**		**12 49 03.9**	**+3.5**
CTA	**Charters Tower** comp=Z,37nm,1.3s,baz=316,slow=11,SNR=10	**30.50**	**142**	P		**P**		**12 43 58.7**	**-2.7**
CTAO	**Charters Tower**	**30.50**	**142**	*e*P		**P**		**12 43 59.6**	**-1.8**
CTAO	comp=Z,42nm,1.2s			pmax		pmax			
CTAO	comp=Z,984nm,20.0s			MLR		MLR			
CTAO	**Charters Tower** comp=Z,42nm,1.2s	**30.50**	**142**	*e*P		**P**		**12 43 59.6**	**-1.8**
CTAO	comp=Z,984nm,20.0s			LR		LR			
CM31	**Chiang Mai Arr** comp=Z,12nm,0.6s	**30.85**	**300**	*e*P		**P**		**12 44 04.8**	**+0.3**
CM31	comp=Z,4μm,19.0s			LR		LR			
CMAR	**Chiang Mai Arr**	**30.85**	**300**	P		**P**		**12 44 03.8**	**-0.6**
CMAR				ScP		**ScP**		**12 50 44.5**	**+3.7**
CMAR	**Chiang Mai Arr** comp=Z,11nm,1.0s,baz=118,slow=7.1,SNR=52	**30.85**	**300**	P		**P**		**12 44 03.8**	**-0.6**
CMAR	comp=Z,2.9nm,0.9s,baz=151,slow=1.9,SNR=5.0			ScP		**ScP**		**12 50 44.5**	**+3.7**
CMAR	comp=Z,5μm,19.1s,baz=106,slow=40			LR		LR		12 58 29.5	
ENH	**Enshi** comp=Z,55nm,0.7s	**30.98**	**330**	*e*P		**P**		**12 44 04.2**	**-1.2**
ENH	comp=Z,7μm,20.0s			LR		LR			
CHTO	**Chiang Mai**	**31.00**	**301**	*e*P		**P**		**12 44 05.8**	**0.0**
CHTO	comp=Z,225nm,1.7s			pmax		pmax			
CHTO	comp=Z,3μm,19.0s			MLR		MLR			
CHTO	**Chiang Mai** comp=Z,225nm,1.7s	**31.00**	**301**	*e*P		**P**		**12 44 05.8**	**0.0**
CHTO	comp=Z,3μm,19.0s			LR		LR			
CHTO	**Chiang Mai** SNR=44	**31.00**	**301**	P		**P**		**12 44 06.2**	**+0.4**
CHTO	**Chiang Mai** comp=Z,84nm,1.8s,comp=Z,1μm	**31.00**	**301**	P		**P**		**12 44 06.5**	**+0.8**
KMI	**Kunming**	**31.34**	**315**	P		**P**		**12 44 10.3**	**+1.4**
KMI				pP		**pP**		**12 44 21.3**	**+1.6**
KMI				sP		**sP**		**12 44 25.3**	**+0.9**
KMI				PP		**PnPn**		**12 45 14.9**	**+2.6**
KMI				S		**S**		**12 49 14.0**	**+0.1**
KMI				sS		**sS**		**12 49 32.6**	**+0.8**
KMI				SS		SS		12 51 04.4	-25
KMI	comp=Z,21nm,1.2s			pmax		pmax			
KMI	comp=Z,140nm,6.1s			pmax		pmax			
KMI	comp=N,2μm,16.2s			LR		LR			
KMI	comp=E,2μm,17.1s			LR		LR			
KMI	comp=Z,4μm,18.1s			LR		LR			
BSI	**Banda Aceh**	**31.39**	**274**	P		**P**		**12 44 11.6**	**+2.4**
JAGI	**Hachijo jima 2** comp=Z,4μm,19.5s,baz=35,slow=35	**31.62**	**21**	LR		LR		12 56 24.6	
KSAR	**Wonju Array Be**	**33.51**	**2**	P		**P**		**12 44 27.1**	**-0.4**
KSAR				PcP		**PcP**		**12 47 09.8**	**+2.0**
KSRS	**Korea Array** comp=Z,33nm,1.1s,baz=176,slow=10,SNR=37	**33.52**	**2**	P		**P**		**12 44 27.1**	**-0.5**
KSRS	comp=Z,6.1nm,0.8s,baz=184,slow=2.6,SNR=9.5			PcP		**PcP**		**12 47 09.8**	**+2.0**
INCN	**Inchon**	**33.53**	**360**	PFAKE				12 44 40.0	+12
INCN	comp=Z,4μm,20.0s			LR		LR			
COCO	**West Island**	**33.70**	**241**	PFAKE				12 44 40.0	+11
COCO	comp=Z,2μm,20.0s			LR		LR			
MAJO	**Matsushiro**	**34.26**	**17**	*e*P		**P**		**12 44 32.3**	**-1.7**
MAJO	comp=Z,32nm,1.1s			pmax		pmax			
MAJO	comp=Z,4μm,19.0s			MLR		MLR			
MAJO	**Matsushiro** comp=Z,32nm,1.1s	**34.26**	**17**	*e*P		**P**		**12 44 32.3**	**-1.7**
MAJO	comp=Z,4μm,19.0s			LR		LR			
MAT	**Matsushiro**	**34.26**	**17**	P		**P**		**12 44 32.3**	**-1.7**
MAT				S		**S**		**12 49 54.0**	**-4.5**
MJAR	**Matsushiro Arr**	**34.26**	**17**	P		**P**		**12 44 32.3**	**-1.7**
MJAR				PcP		**PcP**		**12 47 11.9**	**+1.9**
MJAR	**Matsushiro Arr** comp=Z,12nm,1.1s,baz=201,slow=9.6,SNR=14	**34.26**	**17**	P		**P**		**12 44 32.3**	**-1.7**
MJAR	comp=Z,7.0nm,0.9s,baz=199,slow=3.9,SNR=5.2			PcP		**PcP**		**12 47 11.9**	**+1.9**
MJAR	comp=Z,3μm,18.4s,baz=205,slow=38			LR		LR		12 59 19.7	
XAN	**Xi'an**	**34.37**	**333**	P		**P**		**12 44 33.8**	**-1.2**
XAN				pP		**pP**		**12 44 43.9**	**-2.0**
XAN				sP		**sP**		**12 44 48.3**	**-2.2**
XAN				PP		**PnPn**		**12 45 48.1**	**-2.4**
XAN				S		S		12 49 54.1	-6.2
XAN	comp=Z,24nm,0.9s			pmax		pmax			
XAN	comp=Z,27nm,3.2s			pmax		pmax			
XAN	comp=N,3μm,22.0s			LR		LR			
XAN	comp=Z,2μm,20.0s			LR		LR			
FORT	**Forrest** comp=Z,102nm,0.7s	**34.40**	**178**	*e*P		**P**		**12 44 34.0**	**-1.3**
FORT	**Forrest** comp=Z,78nm,0.6s	**34.40**	**178**	*e*P		**P**		**12 44 33.7**	**-1.6**
CD2	**Chengdu**	**34.60**	**324**	P		**P**		**12 44 38.0**	**+0.9**
CD2				pP		**pP**		**12 44 47.8**	**-0.2**
CD2				sP		**sP**		**12 44 51.6**	**-1.0**
CD2				PcP		**PcP**		**12 47 10.8**	**-0.4**
CD2				S		**S**		**12 50 06.0**	**+2.0**
CD2				sS		**sS**		**12 50 22.0**	**0.0**
CD2				PcS		**PcS**		**12 50 56.3**	**-1.5**
CD2				SS		**SnSn**		**12 52 20.8**	**+2.6**
CD2	comp=Z,30nm,0.9s			pmax		pmax			
CD2	comp=Z,250nm,5.5s			pmax		pmax			
CD2	comp=N,4μm,21.6s			LR		LR			
CD2	comp=E,3μm,18.6s			LR		LR			
CD2	comp=Z,3μm,18.1s			LR		LR			
DL2	**Dalian**	**35.26**	**353**	P		**P**		**12 44 43.0**	**+0.4**
DL2				S		**S**		**12 50 13.9**	**+0.1**
DL2	comp=Z,130nm,0.9s			pmax		pmax			
DL2	comp=N,1μm,23.0s			LR		LR			
DL2	comp=E,2μm,17.7s			LR		LR			
DL2	comp=Z,2μm,19.4s			LR		LR			
HNR	**Honiara**	**35.60**	**112**	P		**P**		**12 44 45.7**	**-0.2**
HNR	comp=Z,2μm,22.0s			LR		LR			
HNR	**Honiara** comp=Z,20nm,0.5s,baz=173,slow=8.1,SNR=4.2	**35.60**	**112**	P		**P**		**12 44 45.7**	**-0.2**
KLBR	**Kellerberrin** comp=Z,17nm,0.4s	**36.21**	**193**	*e*P		**P**		**12 44 49.6**	**-1.3**
BJT	**Baijiatuau** comp=Z,103nm,0.5s	**37.31**	**347**	*e*P		**P**		**12 44 59.6**	**-0.5**
BJT	comp=Z,2μm,20.0s			LR		LR			
BJI	**Beijing**	**37.33**	**347**	P		**P**		**12 45 00.8**	**+0.6**
BJI				S		**S**		**12 50 43.5**	**-1.9**
BJI				sS		**ScP**		**12 51 01.3**	**-2.0**
BJI	comp=Z,130nm,0.7s			pmax		pmax			
BJI	comp=N,2μm,19.9s			LR		LR			
BJI	comp=E,1μm,20.5s			LR		LR			
BJI	comp=

comp=Z,17nm,0.8s
STKA Stephens Creek 38.18 159 eP P 12 45 05.2 -2.4
comp=Z,74nm,0.8s
STKA eS S 12 50 51.7 -6.9
STKA Stephens Creek 38.18 159 P P 12 45 06.0 -1.6
comp=Z,86nm,0.8s,baz=333,slow=8.5,SNR=88
LZH Lanzhou 38.46 330 eP P 12 45 10.1 0.0
LZH pP **pP 12 45 18.4 -2.6**
LZH sP **sP 12 45 21.3 -4.3**
LZH PcP **PcP 12 47 23.4 +0.6**
LZH eS **S 12 51 03.1 +0.1**
LZH SS **SnSn 12 53 44.1 -7.4**
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,360nm,5.1s
LZH LR LR
comp=N,3μm,16.4s
LZH LR LR
comp=E,4μm,20.0s
LZH LR LR
comp=Z,7μm,21.6s
HHC Hu-ho-hao-te 39.34 342 eP P 12 45 17.6 +0.2
HHC pP **pP 12 45 30.3 +2.0**
HHC sP **sP 12 45 35.1 +2.2**
HHC PP **PnPn 12 46 51.8 +0.7**
HHC PcP **PcP 12 47 24.3 -1.1**
HHC ScP **ScP 12 51 09.6 -1.6**
HHC S **S 12 51 19.3 +3.2**
HHC sS **sS 12 51 38.3 +4.0**
HHC SS **SS 12 54 07.0 -4.0**
HHC ScS **ScS 12 55 18.9 -4.2**
HHC pmax pmax
comp=Z,38nm,1.7s
HHC pmax pmax
comp=Z,530nm,12.0s
HHC LR LR
comp=N,2μm,20.4s
HHC LR LR
comp=E,2μm,20.4s
HHC LR LR
comp=Z,3μm,22.8s
VLA Vladivostok 39.43 6 i P 12 45 18.0 +0.2
VLA e 12 46 46.3
VLA e 12 47 23.0
VLA S **S 12 51 16.6 -0.4**
VLA pmax pmax
comp=Z,139nm,1.3s
BTO Baotou 39.63 340 eP P 12 45 18.3 -1.4
SHL Shillong 39.85 306 ePKP P 12 45 19.5 -2.4
SHL eS **S 12 51 22.0 -2.2**
CN2 Changchun 39.86 359 eP P 12 45 21.1 -0.3
CN2 epP **pP 12 45 30.9 -1.5**
CN2 esP **sP 12 45 34.9 -2.1**
CN2 eS **S 12 51 24.4 +0.9**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,17.0s
CN2 LR LR
comp=E,1μm,17.0s
CN2 LR LR
comp=Z,2μm,20.0s
USRK Ussuriysk Arra 40.51 6 P P 12 45 27.4 +0.6
comp=Z,19nm,0.7s,baz=186,slow=7.6,SNR=18
USRK LR LR 13 01 39.8
comp=Z,1μm,20.9s,baz=3.3,slow=35
MDJ Mudanjiang 40.73 3 P P 12 45 29.6 +0.9
MDJ pP **pP 12 45 38.4 -1.3**
MDJ sP **sP 12 45 42.3 -2.0**
MDJ ScP **ScP 12 51 17.3 +1.0**
MDJ PcS **PcS 12 51 21.0 +0.7**
MDJ S **S 12 51 39.4 +2.9**
MDJ pmax pmax
comp=Z,69nm,1.4s
MDJ pmax pmax
comp=Z,330nm,3.7s
MDJ LR LR
comp=N,1μm,27.4s
MDJ LR LR
comp=E,1μm,29.3s
MDJ LR LR
comp=Z,2μm,23.6s
MDJ Mudanjiang 40.73 3 eP P 12 45 29.6 +0.9
comp=Z,243nm,1.4s
MDJ LR LR
comp=Z,2μm,20.0s
ERM Erimo 40.79 19 PFAKE 12 45 40.0 +11
ERM LR LR
comp=Z,3μm,20.0s
ARMA Armidale 41.51 147 eP P 12 45 35.3 -0.2
comp=Z,415nm,2.1s
ARMA Armidale 41.51 147 eP P 12 45 34.8 -0.6
ARMA eS **S 12 51 46.4 -2.3**
CAL Calcutta 41.59 300 ePKP P 12 45 34.3 -1.7
CAL ex x 12 51 42.2
LSA Lhasa 42.41 311 eP P 12 45 43.1 -0.1
LSA pmax pmax
comp=Z,39nm,0.7s
LSA MLR MLR
comp=Z,2μm,22.0s
LSA Lhasa 42.41 311 eP P 12 45 43.1 -0.1
comp=Z,39nm,0.7s
LSA LR LR
comp=Z,2μm,22.0s
ASAJ Asahikawa 42.53 17 eP P 12 45 44.8 +1.4
comp=Z,83nm,1.6s
ASAJ Asahikawa 42.53 17 P P 12 45 44.5 +1.1
comp=Z,31nm,0.9s,baz=228,slow=14,SNR=15
ASAJ LR LR 13 03 09.4
comp=Z,3μm,20.6s,baz=35,slow=36
GTA Gaotai 43.05 329 eP P 12 45 47.3 -0.6
GTA pP **pP 12 45 56.5 -2.4**
GTA sP **sP 12 46 01.3 -2.2**
GTA S **S 12 52 10.4 -0.8**
GTA sS **sS 12 52 28.9 -0.7**
GTA SS **SS 12 55 18.8 -5.7**
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,260nm,5.0s
GTA LR LR
comp=N,3μm,22.3s
GTA LR LR
comp=E,4μm,20.7s
GTA LR LR
comp=Z,4μm,22.1s
TAPN Taplejung 43.99 306 eP P 12 45 54.8 -1.1
comp=Z,40nm,0.6s
TAPN Taplejung 43.99 306 eP P 12 45 54.8 -1.1
comp=Z,40nm,0.6s
ODAN Odare 44.04 305 eP P 12 45 55.5 -0.7
comp=Z,74nm,0.6s
ODAN Odare 44.04 305 eP P 12 45 55.5 -0.7
comp=Z,74nm,0.6s
CAN Canberra 44.16 154 eP P 12 45 57.2 +0.5
CAN pmax pmax
comp=Z,39nm,0.9s
CAN MLR MLR
comp=Z,2μm,20.0s
CAN Canberra 44.16 154 eP P 12 45 57.2 +0.5
comp=Z,39nm,0.9s
CAN LR LR
comp=Z,2μm,20.0s
CNB Canberra Magne 44.32 153 eP P 12 45 57.0 -1.0
comp=Z,102nm,1.4s
TOO Toolangi 44.69 159 eP P 12 46 01.8 +0.8
comp=Z,207nm,1.4s
RAMN Ramite 44.72 305 eP P 12 46 00.9 -0.8
comp=Z,68nm,0.6s
RAMN Ramite 44.72 305 eP P 12 46 00.9 -0.8
comp=Z,68nm,0.6s
HABR Khabarovsk 45.08 8 eP P 12 46 01.9 -1.9
HABR e*SP **sP 12 46 17.2 -2.3**
HABR e 12 47 47.9
HABR ePPP PPP 12 48 26.8
HABR eS **S 12 52 39.6 -0.6**
HABR e*SS **sS 12 52 56.4 -2.2**
HABR e 12 55 55.8
HABR pmax pmax
comp=Z,333nm,2.2s
HABR pmax pmax
comp=E,244nm,3.3s
HABR pmax pmax
comp=N,162nm,2.2s
HABR MLR MLR
comp=Z,2μm,19.0s
YSS Yuzh-Sakhalins 45.18 15 i eP P 12 46 06.0 +1.4
YSS e*SP **sP 12 46 21.0 +0.7**
YSS eS **S 12 52 42.0 +0.3**
YSS pmax pmax
comp=Z,100nm,1.2s
YSS MLR MLR
comp=N,2μm,19.0s
YSS MLR MLR
comp=Z,2μm,19.0s
YSS MLR MLR
comp=E,2μm,18.0s
YSS Yuzh-Sakhalins 45.18 15 eP P 12 46 05.5 +0.9
comp=E,110nm,1.2s
YSS LR LR
comp=Z,637nm,21.0s
JIRN Jiri 45.34 306 eP P 12 46 05.7 -1.0
comp=Z,20nm,0.7s
JIRN Jiri 45.34 306 eP P 12 46 05.7 -1.0
comp=Z,20nm,0.7s
KLR Kul'dur 45.47 5 eP P 12 46 03.2 -3.7
KLR eS S 12 52 54.0 +8.1
KLR pmax pmax
comp=Z,140nm,1.6s
GUN Gumba 45.70 306 eP P 12 46 08.7 -0.8
comp=Z,53nm,0.5s
GUN Gumba 45.70 306 eP P 12 46 08.7 -0.8
comp=Z,53nm,0.4s
HIA Hailar 45.70 354 eP P 12 46 09.1 +0.3
comp=Z,174nm,1.3s
HIA LR LR
comp=Z,3μm,20.0s
PKI Pulchoki 45.94 305 eP P 12 46 09.8 -1.6
comp=Z,29nm,0.6s
PKI Pulchoki 45.94 305 eP P 12 46 09.8 -1.6
comp=Z,29nm,0.6s
KKN Kakani 46.13 306 eP P 12 46 11.7 -1.1
comp=Z,22nm,0.4s
TARA Tarawa 46.19 92 PFAKE 12 46 20.0 +6.8
TARA LR LR
comp=Z,250nm,19.0s
DMN Daman 46.20 305 eP P 12 46 13.0 -0.4
DMN Daman 46.20 305 eP P 12 46 13.0 -0.4
DZM Mont Dzumac 46.56 125 eP P 12 46 15.3 -0.7
comp=Z,118nm,1.2s
DZM eS **S 12 53 04.6 +2.1**
comp=Z,2μm,30.6s
DZM eSS **SS 12 56 30.1 +1.1**
comp=Z,864nm,26.1s
DZM eLR LR 12 59 24.1
comp=Z,2μm,28.4s
DZM Mont Dzumac 46.56 125 eP P 12 46 14.2 -1.9
DZM Mont Dzumac 46.56 125 eP P 12 46 15.6 -0.5
comp=Z,46nm,1.0s
DZM Mont Dzumac 46.56 125 P P 12 46 15.6 -0.5
comp=Z,29nm,0.9s,baz=349,slow=7.8,SNR=15
GKN Gorkha 46.74 306 eP P 12 46 16.3 -1.2
comp=Z,36nm,0.5s
GKN Gorkha 46.74 306 eP P 12 46 16.3 -1.2
comp=Z,36nm,0.5s
ULN Ulaanbaatar 47.06 342 eP P 12 46 19.4 -0.3
comp=Z,54nm,0.9s
ULN LR LR
comp=Z,3μm,22.0s
ULN Ulaanbaatar 47.06 342 P **P 12 46 19.8 +0.2**
SNR=30
ULN Ulaanbaatar 47.06 342 P **P 12 46 19.6 -0.1**
comp=Z,63nm,1.2s,comp=Z,748nm
SONM Songino Array 47.24 341 P **P 12 46 20.8 -0.2**
SONM Songino Array 47.24 341 P **P 12 46 20.8 -0.2**
comp=Z,16nm,0.6s,baz=157,slow=8.3,SNR=45
SONM LR LR 13 09 44.0
comp=Z,2μm,20.2s,baz=155,slow=40
KOLN Koldanda 47.50 305 eP P 12 46 22.2 -1.3
KOLN Koldanda 47.50 305 eP P 12 46 22.2 -1.3
DANN Dangsing 47.59 306 eP P 12 46 22.8 -1.5
comp=Z,184nm,0.5s
DANN Dangsing 47.59 306 eP P 12 46 22.8 -1.5
comp=Z,184nm,0.5s
HYB Hyderabad 49.11 290 *i* P **P 12 46 35.0 -0.8**
HYB eS **S 12 53 36.0 -2.7**
CIT Chita 49.31 349 eP P 12 46 37.6 +0.8
CIT e 12 46 55.6
CIT pmax pmax
comp=Z,403nm,1.6s
TAU Tasmania Unive 50.08 160 PFAKE 12 46 50.0 +7.3
TAU LR LR
comp=Z,1μm,21.0s
ZAK Zakamensk 50.47 341 eP P 12 46 44.4 -1.3
ZAK e 12 48 07.1
ZAK pmax pmax
comp=Z,9.0nm,1.5s
LATR Latur 51.15 291 ePKP P 12 46 51.0 -0.2
AKL Akola 51.17 294 i P P 12 46 50.3 -1.1
AKL AMb AMB 12 46 54.1
comp=Z,105nm,1.1s
AKL *i* S **S 12 54 07.7 +0.3**
TLY Talaya 51.47 342 eP P 12 46 53.0 -0.1
TLY eS S 12 54 00.5 -10
TLY eSS **SS 12 57 46.1 -0.9**
TLY pmax pmax
comp=Z,22nm,0.9s
TLY MLR MLR
comp=Z,2μm,22.0s
TLY Talaya 51.47 342 eP P 12 46 54.0 +0.9
comp=Z,155nm,1.9s
TLY LR LR
comp=Z,2μm,22.0s
TLY Talaya 51.47 342 P **P 12 46 53.9 +0.8**
SNR=10.0
IRK Irkutsk 51.77 343 eP P 12 46 55.0 -0.3
IRK e 12 48 53.9
IRK pmax pmax
comp=Z,92nm,2.1s
MOY Mondy 52.33 340 eP P 12 47 00.1 +0.5
MOY pmax pmax
comp=Z,97nm,2.6s
WMQ Urumqi 52.68 325 P **P 12 47 02.4 +0.1**
WMQ pP **pP 12 47 13.6 0.0**
WMQ sP **sP 12 47 18.1 -0.1**
WMQ PcP **PcP 12 48 13.0 +1.2**
WMQ PP **PP 12 49 04.0 +2.2**
WMQ PcS **PcS 12 52 09.0 -1.4**
WMQ S **S 12 54 26.0 -1.5**
WMQ sS **sS 12 54 43.0 -3.2**
WMQ ScS **ScS 12 56 48.0 -1.2**
WMQ pmax pmax
comp=Z,42nm,1.5s
WMQ pmax pmax
comp=Z,260nm,3.8s
WMQ LR LR
comp=N,4μm,19.2s
WMQ LR LR
comp=E,3μm,20.0s
WMQ LR LR
comp=Z,2μm,23.9s
CLNS Chul'man 52.91 359 eP P 12 47 03.6 -0.2
CLNS e*PP **pP 12 47 15.2 +0.1**
CLNS e 12 48 07.8
CLNS e 12 49 05.4
CLNS ePPP PPP 12 50 14.2
CLNS eS **S 12 54 34.8 +4.7**
CLNS eSS **SS 12 58 13.8 +4.2**
CLNS pmax pmax
comp=Z,50nm,1.1s
CLNS pmax pmax
comp=N,43nm,1.4s
CLNS pmax pmax
comp=E,11nm,1.0s
CLNS pmax pmax
comp=Z,14nm,1.3s
CLNS pmax pmax
comp=N,12nm,1.2s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS smax smax
comp=N,220nm,11.6s
CLNS smax smax
comp=E,210nm,11.1s
CLNS MLR MLR
comp=N,1μm,18.0s
CLNS MLR MLR
comp=Z,1μm,21.0s
CLNS MLR MLR
comp=E,512nm,14.0s
DDI Dehra Dun 52.94 306 ex P 12 47 05.5 +1.0
POO Poona 53.71 290 i P P 12 47 08.0 -2.3
comp=E,60nm,1.0s
FUNA Funafuti 53.72 103 PFAKE 12 47 20.0 +10
FUNA LR LR
comp=Z,2μm,21.0s
BOD Bodaibo 54.80 352 i P P 12 47 17.9 +0.4
BOD pmax pmax
comp=Z,57nm,1.2s
MSVF Nonsavu 54.93 115 eP P 12 47 19.8 +0.6
MSVF pmax pmax
comp=Z,85nm,1.2s
MSVF MLR MLR
comp=Z,1μm,19.0s
MSVF Nonsavu 54.93 115 eP P 12 47 19.8 +0.6
comp=Z,85nm,1.2s
MSVF LR LR
comp=Z,1μm,19.0s
DGAR Diego Garcia 55.31 258 PFAKE 12 47 30.0 +8.1
DGAR LR LR
comp=Z,488nm,22.0s
PEA0B Petropavlovsk- 55.37 22 eP P 12 47 22.6 +0.9
PETK Petropavlovsk- 55.37 22 P **P 12 47 21.8 +0.1**
PETK Petropavlovsk- 55.37 22 P **P 12 47 21.8 +0.1**
PETK Petropavlovsk- 55.37 22 P **P 12 47 21.8 +0.1**
comp=Z,18nm,0.7s,baz=189,slow=4.4,SNR=17
PETK LR LR 13 14 06.8
comp=Z,927nm,18.1s,baz=216,slow=39
PET Petropavlovsk 55.66 23 eP P 12 47 25.1 +1.3
PET eS **S 12 55 08.7 +1.5**
PET pmax pmax
comp=Z,38nm,0.8s
PET pmax pmax
comp=Z,500nm,8.5s
PET MLR MLR
comp=Z,1μm,18.0s
PET MLR MLR
comp=Z,1μm,18.0s
PET Petropavlovsk 55.66 23 eP P 12 47 25.1 +1.3
comp=Z,34nm,1.0s
PET LR LR
comp=Z,1μm,19.0s
MK31 Makanchi Array 57.51 325 eP P 12 47 35.7 -1.4
MK31 Makanchi Array 57.51 325 eP P 12 47 35.7 -1.4
MKAR Makanchi Array 57.51 325 i P P 12 47 35.7 -1.4
MKAR pmax pmax
comp=Z,12nm,0.4s
MKAR Makanchi Array 57.51 325 P P 12 47 35.7 -1.4
MKAR ScP **ScP 12 52 32.1 +4.7**
MKAR *e* 13 17 38.5
MKAR Makanchi Array 57.51 325 P P 12 47 35.7 -1.4
comp=Z,12nm,0.4s,baz=119,slow=8.5,SNR=106
MKAR ScP **ScP 12 52 32.1 +4.7**
comp=Z,2.2nm,0.7s,baz=110,slow=5.3,SNR=4.3
MKAR LR LR 13 14 11.2
comp=Z,2μm,21.7s,baz=114,slow=38
MKAR PKP2bc 13 17 38.5
comp=Z,0.6nm,0.9s,baz=297,slow=5.3,SNR=4.9
KSH Kashi 58.01 315 P P 12 47 41.8 +0.9
KSH pP **pP 12 47 51.6 -0.7**
KSH sP **sP 12 47 55.8 -1.0**
KSH PcP **PcP 12 48 33.1 +0.5**
KSH PP **PP 12 49 52.9 +3.2**
KSH ScP **ScP 12 52 29.0 -0.9**
KSH PcS **PcS 12 52 33.1 -1.0**
KSH S **S 12 55 40.1 +1.1**
KSH sS **sS 12 55 57.0 -0.9**
KSH ScS **ScS 12 57 24.8 -3.0**
KSH SS **SS 12 59 33.1 +2.4**
KSH LR LR
comp=N,2μm,18.4s
KSH LR LR
comp=E,2μm,20.5s
KSH LR LR
comp=Z,2μm,23.7s
YAK Yakutsk 58.15 2 c i P P 12 47 41.0 -0.1
YAK e*PP **pP 12 47 50.7 -1.9**
YAK e 12 48 33.2
YAK e 12 49 49.8
YAK ePPP PPP 12 51 11.8
YAK eS **S 12 55 40.8 +1.1**
YAK e*SS **sS 12 55 58.5 -0.1**
YAK e 12 57 27.6
YAK eSS **SS 12 59 28.3 -3.3**
YAK pmax pmax
comp=Z,171nm,0.9s
YAK pmax pmax
comp=N,94nm,1.3s
YAK pmax pmax
comp=E,31nm,1.2s
YAK pmax pmax
comp=Z,567nm,6.7s
YAK pmax pmax
comp=N,298nm,3.9s
YAK pmax pmax
comp=E,281nm,3.3s
YAK smax smax
comp=N,883nm,4.8s
YAK smax smax
comp=E,256nm,3.0s
YAK MLR MLR
comp=Z,1μm,19.0s
YAK MLR MLR
comp=E,432nm,16.0s
YAK MLR MLR
comp=N,882nm,17.0s
YAK Yakutsk 58.15 2 eP P 12 47 41.1 -0.1
comp=N,255nm,1.0s
YAK LR LR
comp=Z,1μm,20.0s
OUZ Omahuta 58.60 136 eP P 12 47 45.6 +0.8
comp=Z,102nm,1.4s
ULHL Ulahol 58.98 318 P **P 12 47 48.0 +0.3**
SNR=27
KZA Kyzart 59.58 318 P **P 12 47 52.8 +0.7**
SNR=54
TKM2 Tokmak 2 59.71 319 eP P 12 47 52.0 -0.7
TKM2 e*PP **pP 12 48 03.7 -0.5**
TKM2 pmax pmax
comp=Z,17nm,0.9s
TKM2 MLR MLR
comp=Z,2μm,22.0s
TKM2 Tokmak 2 59.71 319 eP P 12 47 52.0 -0.7
comp=Z,17nm,0.9s
TKM2 epP **pP 12 48 03.7 -0.5**
TKM2 LR LR
comp=Z,2μm,22.0s
TKM2 Tokmak 2 59.71 319 P **P 12 47 54.3 +1.6**
SNR=34
KBK Karagaybulak 60.02 318 P **P 12 47 56.7 +1.9**
SNR=23
UCH Uchtor 60.14 317 P **P 12 47 58.1 +2.2**
SNR=8.2
CHMS Chumysh 60.30 318 P **P 12 47 57.8 +1.2**
SNR=11
AAK Ala-Archa 60.32 318 i P P 12 47 56.7 -0.2
AAK pmax pmax
comp=Z,166nm,1.6s
AAK Ala-Archa 60.32 318 P **P 12 47 56.3 -0.6**
AAK LR LR
comp=Z,1μm,19.0s
AAK Ala-Archa 60.32 318 P **P 12 47 57.5 +0.7**
SNR=27
AAK Ala-Archa 60.32 318 P **P 12 47 59.9 +3.0**
SNR=21
AAK Ala-Archa 60.32 318 P **P 12 47 56.3 -0.6**
comp=Z,8.4nm,0.6s,baz=133,slow=6.5,SNR=19
FRU Bishkek 60.32 318 eP P 12 47 56.0 -0.7
FRU pmax pmax
comp=Z,60nm,2.0s
ZAA0 Zalesovo Array 60.54 333 eP P 12 47 56.2 -1.7
ZALV Zalesovo Beam 60.54 333 P **P 12 47 56.5 -1.4**
ZALV Zalesovo Beam 60.54 333 P **P 12 47 56.5 -1.4**
ZALV *e* 13 17 24.7
ZALV Zalesovo Beam 60.54 333 P **P 12 47 56.5 -1.4**
comp=Z,4.4nm,0.3s,baz=132,slow=6.5,SNR=30
ZALV LR LR 13 16 01.4
comp=Z,2μm,20.1s,baz=130,slow=38
ZALV PKP2bc 13 17 24.7
comp=Z,0.3nm,0.3s,baz=270,slow=1.5,SNR=3.9
USP Ospenovka 60.58 318 P **P 12 47 60.0 +1.5**
SNR=13
AML Almayashu 60.65 317 P **P 12 48 01.3 +1.9**
SNR=57

JCZ Jackson Bay 60.74 146 P* **P 12 48 00.4 +0.9**
EKS2 Erkin-Say 60.81 318 *eP* **P 12 47 59.8 -0.4**
EKS2 pmax pmax
comp=Z,34nm,0.8s
EKS2 MLR MLR
comp=Z,1µm,22.0s
EKS2 Erkin-Say 60.81 318 *eP* **P 12 47 59.8 -0.4**
comp=Z,34nm,0.8s
EKS2 LR LR
comp=Z,1µm,22.0s
EKS2 Erkin-Say 60.81 318 P **P 12 48 02.1 +2.0**
SNR=46
KBL Kabul 61.49 307 *eP* **P 12 48 05.0 0.0**
KBL pmax pmax
comp=Z,24nm,0.6s
KBL Kabul 61.49 307 *eP* **P 12 48 05.0 0.0**
comp=Z,24nm,0.6s
KURBB Kurchatov Arra 61.69 327 P **P 12 48 04.8 -0.9**
comp=Z,20nm,0.5s,baz=130,slow=6.4,SNR=60
KURK Kurchatov 61.70 327*c iP* **P 12 48 05.4 -0.4**
KURK pmax pmax
comp=Z,179nm,2.5s
KURK Kurchatov 61.70 327 *eP* **P 12 48 04.2 -1.5**
comp=Z,46nm,0.6s
KURK LR LR
comp=Z,1µm,21.0s
KURK Kurchatov 61.70 327 P **P 12 48 05.8 0.0**
SNR=42
NVS Novosibirsk 61.82 333⇑ *iP* **P 12 48 04.5 -2.0**
NVS *eS* **S 12 56 23.7 -3.5**
NVS *e* 12 57 52.5
NVS pmax pmax
comp=Z,50nm,0.9s
NVS pmax pmax
comp=N,22nm,1.2s
NVS pmax pmax
comp=E,23nm,1.2s
NVS smax smax
comp=E,80nm,2.2s
NVS smax smax
comp=N,63nm,2.1s
LTZ Lake Taylor 61.95 143 PN **P 12 48 07.5 -0.2**
SEY Seymchan 61.97 13⇓ *iP* **P 12 48 08.6 +1.2**
KHZ Kahutara 62.51 143 *eP* **P 12 48 11.0 -0.3**
URZ Urewera 62.58 137 *eP* **P 12 48 10.5 -1.4**
comp=N,93nm,1.3s
SNZO South Karori 62.60 141 PFAKE 12 48 20.0 +8.0
SNZO LR LR
comp=Z,2µm,20.0s
KK31 Karatay Array 63.20 317 *i* P **P 12 48 15.7 -0.3**
KK31 pmax pmax
comp=Z,28nm,0.7s
KKAR Karatay Array 63.20 317 *eP* **P 12 48 15.4 -0.6**
KKAR pmax pmax
comp=Z,21nm,0.7s
KKAR Karatay Array 63.20 317 *eP* **P 12 48 15.4 -0.6**
comp=Z,21nm,0.7s
AFI Afiamalu 63.45 107 *eP* **P 12 48 19.8 +1.6**
comp=Z,168nm,1.3s
AFI Afiamalu 63.45 107 P **P 12 48 17.7 -0.5**
comp=Z,45nm,0.9s,baz=267,slow=22,SNR=5.9
AFI LR LR 13 10 34.0
comp=Z,503nm,21.4s,baz=100,slow=31
VOSK Vostochnaya 66.82 327 P **P 12 48 37.7 -1.7**
VOSK pmax pmax
comp=Z,23nm,0.5s
BVA0 Borovoye Array 67.28 327 *i* P **P 12 48 42.2 0.0**
BVA0 pmax pmax
comp=Z,22nm,1.5s
BVAR Borovoye Array 67.28 327 LR LR 13 19 53.8
comp=Z,1µm,21.5s,baz=111,slow=38
BRVK Borovoye 67.35 327*d iP* **P 12 48 43.6 +0.9**
BRVK pmax pmax
comp=Z,74nm,1.2s
BRVK Borovoye 67.35 327 *eP* **P 12 48 41.7 -1.0**
comp=Z,71nm,1.1s
BRVK LR LR
comp=Z,1µm,21.0s
BRVK Borovoye 67.35 327 P **P 12 48 44.5 +1.8**
SNR=28
ZRNK Zerenda 68.00 327 P **P 12 48 45.6 -1.2**
ZRNK pmax pmax
comp=Z,44nm,0.9s
BILL Bilibino 69.49 15*d iP* **P 12 48 56.3 +0.5**
BILL *i* S **S 12 58 00.2 -0.2**
BILL pmax pmax
comp=Z,41nm,1.6s
BILL MLR MLR
comp=Z,900nm,19.0s
BILL Bilibino 69.49 15 *eP* **P 12 48 56.5 +0.7**
comp=Z,28nm,1.1s
BILL LR LR
comp=Z,1µm,21.0s
ABKT Ailbek 70.86 309 P **P 12 49 07.4 +2.5**
comp=Z,120nm,1.6s,SNR=5.7
CASY Casey 70.88 187 PFAKE 12 49 10.0 +5.7
CASY LR LR
comp=Z,703nm,22.0s
DRV Dumont d'Urvil 70.94 174 PP PP 12 51 41.0 -1.2
DRV S **S 12 58 14.0 -3.2**
DRV SS SS 13 01 53.0 -58
DRV L L 13 07 00.0
DRV R 13 11 00.0
MSEY Mahe Island 71.69 264 PFAKE 12 49 20.0 +10
MSEY LR LR
comp=Z,547nm,20.0s
AB31 Akbulak array 72.11 321 *i* P **P 12 49 12.2 +0.1**
AB31 pmax pmax
comp=Z,19nm,0.7s
ABKAR Akbulak array 72.11 321 *eP* **P 12 49 10.3 -1.8**
comp=Z,12nm,0.6s
UNV Unalaska Valle 73.36 35 *eP* **P 12 49 20.1 +0.7**
AKTO Aktyubinsk 73.62 322 P **P 12 49 20.9 -0.1**
AKTO pmax pmax
comp=Z,7.0nm,1.2s
AKTO Aktyubinsk 73.62 322 LR LR 13 26 54.1
comp=Z,2µm,19.4s,baz=102,slow=40
SVE Sverdlovsk 73.91 328⇑ *eP* **P 12 49 23.1 +0.5**
SVE *e* 12 52 10.6
SVE *eS* **S 12 58 51.3 -0.4**
SVE pmax pmax
comp=Z,57nm,1.0s
SVE MLR MLR
comp=Z,1µm,22.0s
GAMB Gambell 74.33 24 *eP* **P 12 49 26.3 +1.4**
comp=Z,110nm,1.2s
ARU Arti 74.89 328*d iP* **P 12 49 28.0 -0.2**
ARU 12 52 12.5
ARU PPP PPP 12 53 56.5
ARU S **S 12 59 03.5 +0.8**
ARU SS **SS 13 03 45.9 -5.4**
ARU pmax pmax
comp=Z,51nm,1.2s
ARU MLR MLR
comp=Z,986nm,22.0s
ARU Arti 74.89 328 *eP* **P 12 49 28.1 -0.2**
comp=Z,22nm,0.5s
ARU LR LR
comp=Z,1µm,22.0s
SOKR Solikamsk 76.66 331*c iP* **P 12 49 40.4 +2.1**
SOKR S **S 12 59 23.1 +1.1**
SOKR pmax pmax
comp=Z,30nm,1.3s
SOKR MLR MLR
comp=Z,2µm,26.0s
KBD Kabd 78.60 299 *eP* **P 12 49 47.9 -2.0**
KBD AMb AMB 12 49 56.2
comp=Z,28nm,1.3s
MIB Mutribah 78.93 299 *eP* **P 12 49 50.0 -1.6**
MIB AMb AMB 12 50 04.0
comp=Z,54nm,0.7s
NAY Al-Naaiem 79.00 299 *eP* **P 12 49 50.0 -2.1**
NAY AMb AMB 12 49 55.3
comp=Z,25nm,0.7s
MAK Makhachkala 79.55 313 *eP* **P 12 49 56.1 +1.4**
MAK *e* 12 52 57.3
MAK *e*PPP PPP 12 54 50.1
MAK *eS* **S 12 59 53.5 -0.3**
MAK *e* 13 00 14.3
MAK pmax pmax
comp=Z,156nm,1.3s
DGRG David-gareji 81.03 311 P **P 12 50 06.0 +3.1**
ABPO Ambohimpanom 81.34 250 *eP* **P 12 50 05.1 0.0**
ABPO pmax pmax
comp=Z,15nm,0.7s
ABPO MLR MLR
comp=Z,405nm,19.0s
ABPO Ambohimpanom 81.34 250 *eP* **P 12 50 05.1 0.0**
comp=Z,15nm,0.7s
ABPO LR LR
comp=Z,405nm,19.0s
GNI Garni 81.45 310 *eP* **P 12 50 07.9 +2.7**
comp=Z,16nm,1.3s
GNI Garni 81.45 310 LR LR 13 28 37.0
comp=Z,219nm,21.1s,baz=82,slow=37
TBLG Delisi 81.52 311 P **P 12 50 08.4 +3.0**
TBLG Delisi 81.52 311 P **P 12 50 08.4 +3.0**
BHD Baghdad 81.55 303 *ex* **P 12 50 06.0 +0.4**
BHD *ex* **S 13 00 16.4 +1.3**
KDAK Kodiak Island 81.83 32 LR LR 13 27 03.4
comp=Z,806nm,18.8s,baz=263,slow=36
RSO Redoubt South 82.03 30 *eP* **P 12 50 07.7 -0.2**
ZEI Tsey 82.19 312 *eP* **P 12 50 08.7 -0.4**
ZEI pmax pmax
comp=Z,20nm,0.9s
AKH Akhalkalaki 82.44 311 P **P 12 50 11.2 +0.7**
TUTA Tutak 82.92 309 *i* P **P 12 50 14.9 +1.9**
KIV Kislovodsk 83.10 314 *eP* **P 12 50 15.3 +1.6**
KIV *i* 12 53 20.9
KIV *i* S **S 13 00 36.4 +5.5**
KIV pmax pmax
comp=Z,17nm,1.6s
KIV MLR MLR
comp=Z,800nm,20.0s
KIV Kislovodsk 83.10 314 *eP* **P 12 50 14.2 +0.5**
comp=Z,14nm,0.8s
KIV LR LR
comp=Z,989nm,20.0s
SLKM Skilak Lake 83.28 30 *eP* **P 12 50 15.1 +0.9**
SLKM Skilak Lake 83.28 30 *eP* **P 12 50 15.1 +0.9**
TRF Thorofare Moun 83.48 27 *eP* **P 12 50 15.7 +0.4**
comp=Z,235nm,1.7s
VNDA Vanda 83.49 173 PFAKE
VNDA LR LR 12 50 20.0 +5.2
comp=Z,787nm,19.0s
RC01 Rabbit Creek A 83.56 29 *eP* **P 12 50 16.4 +0.8**
comp=Z,92nm,1.2s
DAGI Agillar 83.63 311 *i* P **P 12 50 17.0 +0.5**
SEW Seward 83.64 30 *eP* **P 12 50 17.2 +1.3**
comp=Z,132nm,1.3s
MAW Mawson 83.82 200 LR LR 13 28 07.5
comp=Z,336nm,19.1s,baz=54,slow=36
COLD Coldfoot 83.83 23 *eP* **P 12 50 18.3 +1.5**
comp=Z,85nm,1.2s
PMR Palmer 83.88 29 *eP* **P 12 50 17.7 +0.5**
PMR pmax pmax
comp=Z,111nm,1.1s
PMR Palmer 83.88 29 *eP* **P 12 50 17.7 +0.5**
comp=Z,111nm,1.1s
VRHR Novokhopersk 84.00 321 *eP* **P 12 50 17.6 -0.4**
VRHR *eS* **S 13 00 34.6 -4.8**
VRHR pmax pmax
comp=N,4.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,30nm,0.6s
VRHR smax smax
comp=E,150nm,1.6s
VRHR smax smax
comp=Z,5.0nm,0.4s
VRHR smax smax
comp=N,50nm,1.6s
MCK McKinley 84.10 26 *eP* **P 12 50 18.8 +0.5**
MCK pmax pmax
comp=Z,205nm,1.5s
MCK McKinley 84.10 26 *eP* **P 12 50 18.8 +0.5**
comp=Z,192nm,1.5s
SML Sawmill 84.28 28 *eP* **P 12 50 20.3 +1.0**
SML pmax pmax
comp=Z,45nm,1.2s
SML Sawmill 84.28 28 *eP* **P 12 50 20.3 +1.0**
comp=Z,45nm,1.2s
COLA College 84.63 25 *eP* **P 12 50 21.2 +0.3**
COLA pmax pmax
comp=Z,40nm,1.5s
COLA MLR MLR
comp=Z,859nm,21.0s
COLA College 84.63 25 *eP* **P 12 50 21.2 +0.3**
comp=Z,40nm,1.5s
COLA LR LR
comp=Z,859nm,21.0s
KOPT Kop Dagi 84.71 310 *i* P **P 12 50 25.3 +3.1**
DIYA Diyarbakir 85.03 308 *i* P P 12 50 39.9 +16
ILAR Eielson Array 85.04 25 P P **12 50 22.8 -0.2**
ILAR Eielson Array 85.04 25 P P **12 50 22.8 -0.2**
comp=Z,6.9nm,1.0s,baz=266,slow=3.6,SNR=33
ILAR LR LR 13 31 13.9
comp=Z,420nm,18.0s,baz=186,slow=38
PPT2 Papeete2 85.12 108 *eS* **S 13 00 52.6 +0.6**
comp=Z,292nm,26.8s
PPT2 *eS* **SS 13 06 26.0 -0.4**
comp=Z,444nm,29.8s
PPT2 *eLR* LR 13 17 20.3
comp=Z,1µm,29.2s
KLMR Klimovskoe 85.36 331*d iP* **P 12 50 25.2 +0.6**
KLMR *eS* **S 13 00 48.7 -3.8**
KLMR pmax pmax
comp=Z,250nm,1.4s
KLMR pmax pmax
comp=Z,87nm,3.7s
KLMR MLR MLR
comp=Z,2µm,19.0s
VORD Divnogorie 85.47 321 *eP* **P 12 50 26.0 +0.6**
VORD *eS* S 13 00 46.7 -7.3
DIV Divide 85.49 29 *eP* **P 12 50 27.4 +2.0**
comp=Z,178nm,1.2s
VSR Storozhevoye 85.55 321 *eP* **P 12 50 25.6 -0.2**
VSR *e* 13 00 41.1
VSR *eS* **S 13 00 51.8 -3.0**
VSR pmax pmax
comp=Z,40nm,1.0s
VSR pmax pmax
comp=N,4.0nm,0.3s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR smax smax
comp=N,80nm,2.3s
VSR smax smax
comp=Z,50nm,2.3s
VSR smax smax
comp=E,20nm,1.1s
VSR MLR MLR
comp=N,610nm,23.0s
VSR MLR MLR
comp=E,510nm,23.0s
VSR MLR MLR
comp=Z,940nm,23.0s
PAX Paxson 85.64 27 *eP* **P 12 50 25.2 -0.9**
PAX pmax pmax
comp=Z,129nm,1.7s
PAX Paxson 85.64 27 *eP* **P 12 50 25.2 -0.9**
comp=Z,129nm,1.7s
KELT Kelkit 85.66 310 *i* P **P 12 50 26.4 -0.5**
TBI Tubuai 85.80 114 *eS* **S 13 00 59.7 +1.4**
comp=Z,731nm,28.2s
TBI *eSS* **SS 13 06 37.8 +1.7**
comp=Z,360nm,29.5s
TBI *eLQ* LQ 13 14 07.4
comp=Z,617nm,37.2s
TBI *eLR* LR 13 17 31.6
comp=Z,1µm,32.2s
BMRM Bremner River 86.06 29 *eP* **P 12 50 30.1 +1.9**
comp=Z,49nm,1.0s
KEMA Kemaliye 86.27 309 *i* P **P 12 50 31.2 +1.4**
MOS Moscow 86.39 325 *eP* **P 12 50 28.7 -1.2**
MOS *e* 13 01 07.5
MOS pmax pmax
comp=Z,157nm,1.6s
MOS pmax pmax
comp=Z,700nm,2.8s
MOS MLR MLR
comp=Z,1µm,21.0s
MENT Mentasta 86.44 27 *eP* **P 12 50 30.9 +0.9**
AKCD Akcadag 86.75 308 *i* P **P 12 50 33.2 +1.0**
ANN Anapa 86.86 315 *eP* **P 12 50 31.2 -1.2**
ANN *e* 13 00 54.3
ANN pmax pmax
comp=Z,151nm,1.3s
OBN Obninsk 87.02 325*d iP* **P 12 50 32.8 -0.1**
OBN *i* 12 50 43.1
OBN *i* S **S 13 01 05.2 -3.7**
OBN pmax pmax
comp=Z,172nm,1.6s
OBN MLR MLR
comp=Z,1µm,22.0s
OBN Obninsk 87.02 325 *eP* **P 12 50 33.8 +0.9**
comp=Z,117nm,1.1s
OBN LR LR
comp=Z,909nm,20.0s
LVZ Lovozero 87.30 338 PFAKE 12 50 40.0 +5.9
LVZ LR LR
comp=Z,2µm,20.0s
EGAK Eagle 87.50 25 PFAKE 12 50 50.0 +15
EGAK LR LR
comp=Z,476nm,20.0s
APA Apatity 87.80 337⇑ *iP* P 12 50 40.0 +3.6
APA MLR MLR
comp=Z,4µm,17.0s
CTKT Corum 89.04 310 *i* P P 12 50 30.2 -13
MMAI Mount Meron Ar 89.08 303 LR LR 13 33 29.0
comp=Z,137nm,19.1s,baz=95,slow=38
JOF Joensuu 89.13 333 *eP* **P 12 50 42.3 -0.5**
JOF pmax pmax
comp=Z,22nm,0.6s
JOF Joensuu 89.13 333 *ep* **P 12 50 42.3 -0.5**
comp=Z,22nm,0.6s
SIM Simferopol' 89.21 315 *eP* P 12 50 30.7 -13
SIM *eS* S 13 01 04.0 -26
SIM pmax pmax
comp=Z,20nm,1.4s
KMBO Kilima Mbogo 89.56 269 *eP* **P 12 50 46.7 +0.5**
comp=Z,38nm,1.4s
KMBO LR LR
comp=Z,475nm,20.0s
KEV Kevo 89.84 340 *eP* **P 12 50 43.9 -2.1**
KEV pmax pmax
comp=Z,7.0nm,0.7s
KEV Kevo 89.84 340 PFAKE 12 51 00.0 +14
KEV LR LR
comp=Z,1µm,20.0s
KEV Kevo 89.84 340 *ep* **P 12 50 43.9 -2.1**
comp=Z,6.6nm,0.7s
BR131 Keskin Array S 89.99 310 *eP* **P 12 50 46.9 -0.7**
comp=Z,11nm,0.9s
BR131 LR LR
comp=Z,564nm,20.0s
BRTR Keskin Array B 89.99 310 P **P 12 50 47.2 -0.4**
BRTR Keskin Array B 89.99 310 P **P 12 50 47.2 -0.4**
comp=Z,4.1nm,0.8s,baz=122,slow=5.6,SNR=13
BRTR LR LR 13 40 43.5
comp=Z,503nm,20.0s,baz=59,slow=42
INK Inuvik 90.10 21 *eP* **P 12 50 47.5 +0.3**
comp=Z,28nm,1.3s
ARCES ARCESS Array B 90.39 340 P **P 12 50 48.5 -0.1**
ARCES ARCESS Array B 90.39 340 P **P 12 50 48.5 -0.1**
comp=Z,7.3nm,0.6s,baz=87,slow=7.7,SNR=55
ARCES LR LR 13 37 05.8
comp=Z,658nm,19.3s,baz=81,slow=39
ARE0 ARCESS Array S 90.39 340 *eP* **P 12 50 48.7 +0.1**
CSS Prodhromos 90.65 305 *eP* **P 12 50 51.7 +1.1**
comp=Z,29nm,0.9s
CSS LR LR
comp=Z,352nm,21.0s
SKAG Skagway 90.79 30 *eP* **P 12 50 51.1 +0.4**
KBS Kingsbay 90.94 350 PFAKE 12 51 00.0 +9.0
KBS LR LR
comp=Z,2µm,20.0s
KAF Kangasniemi 91.55 332 *eP* **P 12 50 53.1 -1.0**
KAF pmax pmax
comp=Z,8.0nm,0.5s
KAF Kangasniemi 91.55 332 *ep* **P 12 50 53.1 -1.0**
comp=Z,8.0nm,0.5s
FINES FINESS Array B 91.78 332 P **P 12 50 55.0 -0.2**
FINES FINESS Array B 91.78 332 P **P 12 50 55.0 -0.2**
comp=Z,3.5nm,0.5s,baz=50,slow=5.5,SNR=13
FINES LR LR 13 35 52.2
comp=Z,1µm,20.9s,baz=81,slow=38
AKASG Malin Array Be 91.85 321*ceP* **P 12 50 57.9 +2.1**
AKASG pmax pmax
comp=Z,9.0nm,0.6s
AKASG Malin Array Be 91.85 321 P **P 12 50 54.7 -1.1**
AKASG Malin Array Be 91.85 321 P **P 12 50 54.7 -1.1**
comp=Z,9.2nm,0.6s,baz=71,slow=4.5,SNR=17
AKASG LR LR 13 37 50.1
comp=Z,965nm,20.4s,baz=105,slow=39
AKBB Malin Array Si 91.85 321 *eP* **P 12 50 55.3 -0.5**
AKBB Malin Array Si 91.85 321 *eP* **P 12 50 55.2 -0.5**
KIEV Kiev 91.86 321 *eP* **P 12 50 55.2 -0.6**
KIEV pmax pmax
comp=Z,15nm,0.9s
KIEV MLR MLR
comp=Z,1µm,21.0s
KIEV Kiev 91.86 321 *eP* **P 12 50 55.1 -0.6**
comp=Z,15nm,0.9s
KIEV LR LR
comp=Z,1µm,21.0s
VSU Vasula 92.02 329⇑ *eP* **P 12 50 57.7 +1.4**
VSU pmax pmax
comp=Z,51nm,1.7s
MICGM Minsk 92.08 325⇓ *eP* P 12 51 00.0 +3.3
MNK Minsk 92.11 325⇓ *eP* **P 12 51 00.0 +3.2**
MNK *e* 13 01 32.0
MNK *eS* **S 13 01 55.0 -1.4**
SYO Syowa Base 92.49 201⇓ *eP* **P 12 50 57.6 -0.6**
SYO Syowa Base 92.49 201⇑ *eP* **P 12 51 01.0 +2.8**
ISP Isparta 92.61 308 PFAKE 12 51 10.0 +10
ISP LR LR
comp=Z,788nm,19.0s
NACGM Naroch 92.64 325 *e* P 12 51 03.0 +3.7
WRAK Wrangell Islan 92.89 33 *eP* **P 12 51 02.1 +1.7**
comp=Z,22nm,0.8s
CFR Carcaliu 93.39 316⇑ *iP* **P 12 51 03.5 +0.5**
CFR Carcaliu 93.39 316⇑ *iP* **P 12 51 03.5 +0.5**
DIB Dawson Inlet, 93.43 36 T T 14 35 03.3
SNR=9.9
QSPA South Pole Qui 93.70 180 *eP* **P 12 51 05.4 +1.4**
comp=Z,74nm,1.7s
QSPA LR LR
comp=Z,766nm,19.0s
TESR 94.20 317⇓ *iP* **P 12 51 06.3 -0.4**
PLOR Plostina 94.31 316⇑ *iP* **P 12 51 07.8 +0.5**
PLOR Plostina 94.31 316⇑ *iP* **P 12 51 07.8 +0.5**
MLR Muntele Rosu 94.86 316⇓ *iP* **P 12 51 10.3 +0.3**
BURAR Bucovina Array 94.96 318⇓ *iP* **P 12 51 10.8 +0.5**
BUR08 Bucovina Ar. S 94.97 318 *eP* **P 12 51 10.8 +0.5**
VOIR 95.49 316 ⇓ P **P 12 51 12.4 -0.4**
VOIR 95.49 316⇓ *iP* **P 12 51 12.4 -0.4**
KWP Kalwaria Pacla 96.17 321 PFAKE 12 51 30.0 +14
KWP LR LR
comp=Z,1µm,19.0s
KOLS Kolonicke sedl 96.61 320 *eP* **P 12 51 17.3 -0.3**
KOLS pmax pmax
comp=Z,17nm,1.5s
KOLS Kolonicke sedl 96.61 320 *eP* **P 12 51 17.3 -0.3**
KOLS *e*PP **PP 12 55 15.4 +3.3**
UZH Uzhgorod 96.66 320 *eP* **P 12 51 19.1 +1.2**
UZH *i* 12 51 25.9
UZH *i* 12 55 21.9
DRGR 96.81 318⇑ P **P 12 51 18.8 +0.1**
DRGR 96.81 318⇑ *iP* **P 12 51 18.8 +0.1**
CRVS Cervenica-Dubn 97.13 320 *eP* Pdif 12 51 21.0 +0.9
CRVS pmax pmax
comp=Z,20nm,1.0s
CRVS Cervenica-Dubn 97.13 320 *eP* Pdif 12 51 21.0 +0.9
DAG Danmarks Havn 97.19 352 *i* P **P 12 51 18.6 -1.1**
DAG pmax pmax
comp=Z,12nm,0.8s
DAG Danmarks Havn 97.19 352 *i* P **P 12 51 18.6 -1.1**
comp=Z,116nm,0.8s
RES Resolute Bay 97.75 10 *eP* Pdif 12 51 23.1 +0.8
comp=Z,11nm,0.8s
BZS Buzias 97.81 317⇓ P **P 12 51 21.6 -1.6**
BZS Buzias 97.81 317⇓ *iP* **P 12 51 21.6 -1.6**
PSZ Piszkesteto 98.39 319 *eP* **P 12 51 25.8 0.0**
PSZ pmax pmax
comp=Z,13nm,1.1s
PSZ MLR MLR
comp=Z,841nm,19.0s
PSZ Piszkesteto 98.39 319 *eP* **P 12 51 25.8 0.0**
comp=Z,13nm,1.1s
PSZ LR LR
comp=Z,841nm,19.0s
NB2 NORSAR Subarra 98.74 334 P **P 12 51 25.6 -1.4**
baz=66,slow=4.6
NB2 NORSAR Subarra 98.74 334 P **P 12 51 25.6 -1.4**
comp=Z,5.0nm,0.7s,baz=66,slow=4.6

NOA NORSAR Array B 98.74 334 P **P** 12 51 25.4 -1.6
NOA NORSAR Array B 98.74 334 P **P** 12 51 25.4 -1.6
comp=Z,3.9nm,0.7s,baz=67,slow=4.6,SNR=11
NOA LR LR 13 40 47.5
comp=Z,1μm,22.0s,baz=70,slow=38
VYHS Vyhne 98.92 320 *e*P **P** 12 51 26.1 -2.0
VYHS pmax pmax
comp=Z,11nm,1.9s
VYHS Vyhne 98.92 320 PDIF **P** 12 51 26.1 -2.0
VYHS *e*PP **PP** 12 55 33.1 +3.2
OKC Ostrava-Krasne 98.97 322 *e*P Pdif 12 51 30.3 +2.0
OKC *e* 12 51 37.7
OKC MLR MLR
comp=Z,900nm,19.3s
OKC Ostrava-Krasne 98.97 322 *e*PDIFF Pdif 12 51 30.3 +2.0
OKC *e*pP pP 12 51 37.7 -2.6
OKC AMS AMS 13 41 30.0
comp=Z,900nm,19.3s
RKT Rikitea 99.09 113 *e*LR LR 13 23 49.3
comp=Z,1μm,36.5s
LSZ Lusaka 99.23 255 *e*P **Pdif** **12 51 29.6 -0.7**
comp=Z,6.4nm,0.8s
LSZ LR LR
comp=Z,518nm,21.0s
YKA Yellowknife Ar 99.44 24 P **Pdif** **12 51 30.5 +0.5**
YKA PP PP 12 55 41.0 +7.7
YKA PKiKP **PKiKP** **12 56 00.8 +1.5**
YKA PKKPbc **PKKPdf** **13 08 00.7 +1.7**
YKA Yellowknife Ar 99.44 24 P **Pdif** **12 51 30.5 +0.5**
comp=Z,1.2nm,0.6s,baz=299,slow=4.3,SNR=29
YKA PP PP 12 55 41.0 +7.7
comp=Z,0.6nm,0.9s,baz=299,slow=7.5,SNR=3.6
YKA PKiKP **PKiKP** **12 56 00.7 +1.5**
comp=Z,0.2nm,0.5s,baz=299,slow=1.9,SNR=4.1
YKA PKKPbc **PKKPdf** **13 08 00.6 +1.7**
comp=Z,0.1nm,0.5s,baz=122,slow=2.9,SNR=5.1
DPC Dobruska-Polom 99.94 322 *e*P **Pdif** **12 51 32.8 +0.2**
DPC MLR MLR
comp=Z,800nm,16.8s
DPC Dobruska-Polom 99.94 322 *e*PDIFF **Pdif** **12 51 32.8 +0.2**
DPC AMS AMS 13 41 10.0
comp=Z,800nm,16.8s
KONO Kongsberg 100.05 333 PFAKE 12 51 40.0 +7.2
KONO LR LR
comp=Z,1μm,19.0s
TIR Tirane 100.07 313 PFAKE 12 51 40.0 +6.6
TIR LR LR
comp=Z,679nm,20.0s
UPC Upice 100.08 323 *e*P **Pdif** **12 51 30.2 -3.0**
UPC Upice 100.08 323 *e*PDIFF **Pdif** **12 51 30.2 -3.0**
NLWA Neilton Lookou 100.19 41 PFAKE 12 51 40.0 +6.2
NLWA LR LR
comp=Z,845nm,21.0s
TREC Trest 100.79 322 AMS AMS 13 43 00.0
comp=Z,1μm,18.6s
PVCC Panska Ves 100.94 323 AMS AMS 13 42 30.0
comp=Z,900nm,20.6s
PRU Pruhonice 101.14 322 AMS AMS 13 42 10.0
comp=Z,1μm,19.4s
BRG Berggiesshubel 101.20 323 *e*P **Pdif** **12 51 38.3 +0.2**
comp=Z,2.8nm,0.6s
BRG *e* 12 51 42.2
comp=Z,12nm,1.1s
BRG Berggiesshubel 101.20 323 *e*P **Pdif** **12 51 38.3 +0.2**
BRG pmax pmax
comp=Z,3.0nm,0.6s
BRG pmax pmax
comp=Z,12nm,1.1s
CLL Collm 101.60 324 *e*P **Pdif** **12 51 41.0 +1.1**
CLL *e*S **Sdif** **13 03 17.0 -1.0**
CLL pmax pmax
comp=Z,9.0nm,1.3s
CLL MLR MLR
comp=Z,1μm,21.5s
CLL Collm 101.60 324 *e*Pdif **Pdif** **12 51 41.0 +1.1**
comp=Z,9.0nm,1.3s
CLL *e*PP **PP** **12 55 55.0 +5.0**
CLL *e*Sdif Sdif 13 03 17.0 -1.0
CLL *e*PS **PS** **13 04 57.0 +2.3**
CLL *e*PPS PPS 13 05 49.0
CLL *e*SS **SS** **13 10 18.0 -1.8**
CLL *e*SSS SSS 13 14 48.0
CLL Lm MLR 13 39 00.0
comp=Z,1μm,21.5s
BOSA Boshof 101.89 242 PFAKE 12 51 50.0 +8.1
BOSA LR LR
comp=Z,486nm,20.0s
KHC Kasperske Hory 102.02 322 *e*P **Pdif** **12 51 43.5 +1.6**
KHC MLR MLR
comp=Z,700nm,24.0s
KHC Kasperske Hory 102.02 322 *e*PDIFF **Pdif** **12 51 43.5 +1.6**
KHC *e*pP 12 51 50.6
KHC AMS AMS 13 43 00.0
comp=Z,700nm,24.0s
GERES GERESS Array B 102.04 322 P **Pdif** **12 51 43.0 +1.0**
GERES PP **PP** **12 55 54.9 +1.3**
GERES GERESS Array B 102.04 322 P **Pdif** **12 51 43.0 +1.0**
comp=Z,0.8nm,0.6s,baz=54,slow=6.8,SNR=8.9
GERES PP **PP** **12 55 54.9 +1.3**
comp=Z,0.5nm,0.6s,baz=57,slow=4.9,SNR=3.7
NKC Novy Kostel 102.31 323 *e*P **Pdif** **12 51 44.9 +1.7**
NKC Novy Kostel 102.31 323 *e*PDIFF **Pdif** **12 51 44.9 +1.7**
TIP Timpagrande 102.93 311 PFAKE 12 52 00.0 +14
TIP LR LR
comp=Z,684nm,22.0s
HAWA Hanford 103.32 41 PFAKE 12 52 00.0 +12
HAWA LR LR
comp=Z,478nm,21.0s
CUC Castrocucco 103.40 312 PFAKE 12 52 00.0 +12
CUC LR LR
comp=Z,621nm,22.0s
NEW Newport 104.17 38 PFAKE 12 52 00.0 +8.5
NEW LR LR
comp=Z,643nm,20.0s
AQU L'Aquila 104.42 315 PFAKE 12 52 00.0 +7.3
AQU LR LR
comp=Z,1μm,20.0s
WVOR Wild Horse Val 105.28 44 PFAKE 12 56 20.0
WVOR LR LR
comp=Z,749nm,21.0s
BMO Blue Mountains 105.33 42 PFAKE 12 56 20.0
BMO LR LR
comp=Z,536nm,20.0s
BFO Black Forest 105.54 322 PFAKE 12 56 20.0
BFO LR LR
comp=Z,1μm,21.0s
TUE Stuetta 105.66 320 PFAKE 12 56 20.0
TUE LR LR
comp=Z,1μm,20.0s
VLC Villacollemand 105.86 318 PFAKE 12 56 20.0
VLC LR LR
comp=Z,1μm,21.0s
WLF Walferdange 106.26 324 PFAKE 12 56 20.0
WLF LR LR
comp=Z,1μm,21.0s
ECH Echery 106.30 323 PFAKE 12 56 20.0
ECH LR LR
comp=Z,1μm,21.0s
MSO Missoula 106.72 39 PFAKE 12 56 20.0
MSO LR LR
comp=Z,402nm,22.0s
NVAR Mina Array Bea 106.86 48 Pdif **Pdif** **12 52 04.6 +0.7**
NVAR PKKPbc **PKKPbc** **13 07 32.9 -0.1**
NVAR Mina Array Bea 106.86 48 Pdiff **Pdif** **12 52 04.6 +0.7**
comp=Z,0.3nm,0.3s,baz=270,slow=5.4,SNR=2.9
NVAR PKKPbc **PKKPbc** **13 07 32.9 -0.1**
comp=Z,0.2nm,0.3s,baz=123,slow=5.5,SNR=3.5
BMN Battle Mountai 106.97 46 PFAKE 12 56 20.0
BMN LR LR
comp=Z,720nm,21.0s
TPH Tonopah 107.78 48 PFAKE 12 56 30.0
TPH LR LR
comp=Z,618nm,21.0s
BNI Bardonecchia 107.94 320 PFAKE 12 56 30.0
BNI LR LR
comp=Z,1μm,21.0s
DAC Darwin (Calif) 108.09 50 PFAKE 12 56 30.0
DAC LR LR
comp=Z,1μm,19.0s
ESK Eskdalemuir 108.20 333 PFAKE 12 56 30.0
ESK LR LR
comp=Z,2μm,20.0s
BOZ Bozeman (W) 108.68 39 PFAKE 12 56 30.0
BOZ LR LR
comp=Z,371nm,20.0s

EGMT Eagleton 108.73 36 PFAKE 12 56 30.0
EGMT LR LR
comp=Z,359nm,20.0s
FFC Flin Flon 109.17 27 PFAKE 12 56 30.0
FFC LR LR
comp=Z,725nm,20.0s
TSUM Tsumeb 109.33 251 PFAKE 12 56 30.0
TSUM LR LR
comp=Z,676nm,21.0s
PFO Pinyon Flat Ob 109.83 52 PFAKE 12 56 30.0
PFO LR LR
comp=Z,480nm,19.0s
LKWY Lake 109.94 40 PFAKE 12 56 30.0
LKWY LR LR
comp=Z,669nm,19.0s
DUG Dugway 110.19 45 PFAKE 12 56 30.0
DUG LR LR
comp=Z,577nm,20.0s
AHID Auburn Hatcher 110.28 42 PFAKE 12 56 30.0
AHID LR LR
comp=Z,377nm,19.0s
RLMT Red Lodge 110.40 39 PFAKE 12 56 30.0
RLMT LR LR
comp=Z,369nm,19.0s
HWUT Hardware Ranch 110.47 43 PFAKE 12 56 30.0
HWUT LR LR
comp=Z,650nm,19.0s
D22A Cohagen 111.26 36 ⇓P **PKiKP** **12 56 21.9 +0.3**
baz=111
MVU Marysvale 111.28 46 PFAKE 12 56 30.0
MVU LR LR
comp=Z,666nm,22.0s
BW06 Boulder Array 111.30 41 PFAKE 12 56 30.0
BW06 LR LR
comp=Z,674nm,20.0s
PDAR Pinedale Array 111.30 41 PKKPbc PKKPbc 13 07 25.8 +6.8
PDAR Pinedale Array 111.30 41 PKKPbc PKKPbc 13 07 25.8 +6.8
comp=Z,1.6nm,0.7s,baz=124,slow=7.1,SNR=6.7
DGMT Dagmar 111.68 34 PFAKE 12 56 30.0
DGMT LR LR
comp=Z,409nm,19.0s
F23A Volborg 112.46 37 ⇓P **PKiKP** **12 56 23.8 -0.2**
baz=112
K21A Alcova 112.86 40 ⇓P **PKiKP** **12 56 24.5 -0.6**
baz=113
J22A Midwest 112.98 39 ⇑P **PKiKP** **12 56 24.8 -0.3**
baz=113
WUAZ Wupatki 113.08 49 PFAKE 12 56 40.0
WUAZ LR LR
comp=Z,632nm,21.0s
T18A Mexican Hat 113.53 47 ⇓P **PKiKP** **12 56 26.5 +0.2**
baz=114
N21A Black Mountain 113.58 42 ⇑P **PKiKP** **12 56 27.0 +0.6**
baz=114
RSSD Black Hills 114.13 38 *e*PKIKP PKPdf 12 56 27.4 0.0
RSSD Black Hills 114.13 38 *e*PKPdf PKPdf 12 56 27.4 0.0
MVCO Mesa Verde 114.50 46 PFAKE 12 56 40.0 +12
MVCO LR LR
comp=Z,657nm,22.0s
TUC Tucson 114.75 52 PFAKE 12 56 40.0 +11
TUC LR LR
comp=Z,629nm,21.0s
S21A Coal Bank Pass 114.80 45 ⇓P PKPdf 12 56 29.9 +0.8
baz=115
O23A Lake Granby, G 114.91 42 ⇓P PKPdf 12 56 30.3 +1.2
baz=115
ISCO Idaho Springs 115.32 42 PFAKE 12 56 40.0 +10
ISCO LR LR
comp=Z,374nm,20.0s
ISCO Idaho Springs 115.32 42 ⇑P **PKPdf** **12 56 31.0 +1.1**
baz=115
K26A Motz Farm, Whi 115.42 39 ⇓P **PKPdf** **12 56 30.1 +0.3**
baz=115
U21A Nageezi 115.44 47 ⇓P **PKPdf** **12 56 30.7 +0.6**
baz=115
R23A Moffat 115.94 44 ⇑P **PKPdf** **12 56 32.4 +1.3**
baz=116
Y20A Horse Springs, 115.98 49 ⇓P **PKPdf** **12 56 32.8 +1.5**
baz=116
U22A Llaves 116.05 46 ⇑P **PKPdf** **12 56 32.4 +1.0**
baz=116
Z20A Nine Sixteen R 116.14 50 ⇑P **PKPdf** **12 56 32.7 +1.1**
baz=116
AGMN Agassiz Nation 116.20 30 PFAKE 12 56 40.0 +9.0
AGMN LR LR
comp=Z,577nm,20.0s
X21A Alamocita Cree 116.20 49 ⇓P **PKPdf** **12 56 33.7 +1.9**
baz=116
319A Douglas 116.29 52 ⇓P **PKPdf** **12 56 33.6 +1.8**
baz=116
T23A Casias Ranch, 116.33 45 ⇑P **PKPdf** **12 56 33.1 +1.2**
baz=116
SDCO Great Sand Dun 116.38 44 PFAKE 12 56 40.0 +8.0
SDCO LR LR
comp=Z,693nm,22.0s
SDCO Great Sand Dun 116.38 44 ⇓P **PKPdf** **12 56 33.2 +1.2**
baz=116
P25A Willow Gulch B 116.43 42 ⇓P **PKPdf** **12 56 32.4 +0.5**
baz=116
Q25A Bedland, Calha 116.67 43 ⇓P **PKPdf** **12 56 33.2 +0.7**
baz=117
TAM Tamanrasset 116.87 298 PFAKE 12 56 40.0 +6.8
TAM LR LR
comp=Z,445nm,20.0s
320A Kipp Ranch, An 116.90 52 ⇓P **PKPdf** **12 56 34.1 +1.1**
baz=117
P26A Davis Ranch, A 116.95 42 ⇓P **PKPdf** **12 56 33.5 +0.6**
baz=117
ANMO Albuquerque 116.97 48 PFAKE 12 56 40.0 +6.9
ANMO LR LR
comp=Z,522nm,19.0s
121A Cookes Peak, D 117.00 51 ⇑P **PKPdf** **12 56 34.4 +1.2**
baz=117
T24A Torres, Weston 117.01 45 ⇓P **PKPdf** **12 56 34.1 +0.9**
baz=117
Y22A Socorro 117.03 49 ⇓P **PKPdf** **12 56 34.0 +0.7**
baz=117
OGNE Ogallala 117.08 40 PFAKE 12 56 40.0 +7.0
OGNE LR LR
comp=Z,394nm,19.0s
Z22A Elephant Butte 117.33 49 ⇓P **PKPdf** **12 56 34.2 +0.4**
baz=117
ESLA Sonseca Array 117.42 319 PFAKE 12 56 40.0 +6.3
ESLA LR LR
comp=Z,5μm,20.0s
T25A Trinidad 117.43 45 ⇓P **PKPdf** **12 56 33.8 -0.1**
baz=117
R26A Arlington 117.52 43 ⇓P **PKPdf** **12 56 33.9 0.0**
baz=117
Y23A Lovelace Mesa, 117.72 48 ⇑P **PKPdf** **12 56 35.0 +0.4**
baz=118
PAB San Pablo 117.74 319 PFAKE 12 56 40.0 +5.7
PAB LR LR
comp=Z,778nm,20.0s
S26A Kim 117.84 44 ⇓P **PKPdf** **12 56 34.5 -0.2**
baz=118
V25A Rancho No Teng 117.90 46 ⇑P **PKPdf** **12 56 35.3 +0.4**
baz=118
T26A Comanche Natio 117.98 44 ⇓P **PKPdf** **12 56 35.4 +0.3**
baz=118
Y24A Capitan 118.18 48 ⇓P **PKPdf** **12 56 35.6 +0.2**
baz=118
W25A X Bar L Ranch, 118.31 46 ⇑P **PKPdf** **12 56 36.0 +0.4**
baz=118
Z24A Sheeppen Canyo 118.50 49 ⇑P **PKPdf** **12 56 37.1 +1.0**
baz=118
V26A Tequesquite Ra 118.52 46 ⇑P **PKPdf** **12 56 35.9 -0.1**
baz=118
EYMN Ely 118.57 28 PFAKE 12 56 50.0 +14
EYMN LR LR
comp=Z,483nm,21.0s
124A Stringfield Ra 118.71 49 ⇑P **PKPdf** **12 56 36.8 +0.3**
baz=119
Y25A Mesa, Roswell 118.73 48 ⇓P **PKPdf** **12 56 37.0 +0.6**
baz=119
W26A Owens Ranch, T 118.87 46 ⇑P **PKPdf** **12 56 37.8 +1.1**
baz=119
Z25A Roswell 119.01 49 ⇓P **PKPdf** **12 56 38.1 +1.1**
baz=119
T28A Walsh 119.03 44 ⇑P **PKPdf** **12 56 37.9 +1.0**
baz=119
MNTX Cornudas Mount 119.20 50 *e*PKPdf **PKPdf** **12 56 38.5 +1.2**
MNTX LR LR
comp=Z,304nm,19.0s
MNTX Cornudas Mount 119.20 50 ⇓P **PKPdf** **12 56 38.6 +1.3**
baz=119
324A Moseley Ranch, 119.23 51 ⇑P **PKPdf** **12 56 38.9 +1.4**
baz=119
BGNE Belgrade 119.24 37 ⇓P **PKPdf** **12 56 37.1 +0.1**
baz=119
MTE Manteigas 119.32 321 PFAKE 12 56 50.0 +13
MTE LR LR
comp=Z,860nm,21.0s
125A Gardner Draw, 119.33 49 ⇑P **PKPdf** **12 56 38.7 +1.0**
baz=119
325A Bean Ranch, Si 119.66 51 ⇑P **PKPdf** **12 56 38.1 -0.2**
baz=120
CBKS Cedar Bluff 119.72 41 PFAKE 12 56 50.0 +12
CBKS LR LR
comp=Z,638nm,20.0s
Y27A Causey 119.88 47 ⇓P **PKPdf** **12 56 38.9 +0.2**
baz=120
425A Indio Mountain 119.90 51 ⇑P **PKPdf** **12 56 39.6 +0.8**
baz=120
226A Malaga, Loving 120.02 49 ⇓P **PKPdf** **12 56 39.6 +0.7**
baz=120
Z27A Tatum 120.11 48 ⇑P **PKPdf** **12 56 39.2 +0.1**
baz=120
326A Caldwell Ranch 120.44 50 ⇓P **PKPdf** **12 56 39.9 +0.1**
baz=120
AMTX Amarillo 120.46 46 PFAKE 12 56 50.0 +10
AMTX LR LR
comp=Z,548nm,19.0s
SCHQ Schefferville 120.50 9 PKP **PKPdf** **12 56 39.7 +0.6**
SCHQ LR LR
comp=Z,951nm,20.0s
SCHQ Schefferville 120.50 9 PKP **PKPdf** **12 56 39.7 +0.6**
comp=Z,1.1nm,0.6s,baz=255,slow=19,SNR=3.0
526A Mary Lane Ranc 120.91 52 ⇓P **PKPdf** **12 56 41.0 +0.3**
baz=121
Y29A Porterfield Fa 120.98 47 ⇑P **PKPdf** **12 56 41.6 +0.9**
baz=121
626A Big Bend Ranch 121.09 52 ⇓P **PKPdf** **12 56 42.0 +0.9**
baz=121
427A Hayter Ranch, 121.09 50 ⇑P **PKPdf** **12 56 41.8 +0.8**
baz=121
527A Woodward Ranch 121.24 51 ⇓P **PKPdf** **12 56 42.5 +1.1**
baz=121
Z29A Hungry Hill Ra 121.24 47 ⇑P **PKPdf** **12 56 42.0 +0.8**
baz=121
328A Wristen Ranch, 121.31 50 ⇓P **PKPdf** **12 56 42.2 +0.8**
baz=121
129A Stewart Farms, 121.43 48 ⇑P **PKPdf** **12 56 42.0 +0.4**
baz=121
TXAR Lajitas Array 121.55 52 PKP **PKPdf** **12 56 43.0 +1.0**
TXAR Lajitas Array 121.55 52 PKP **PKPdf** **12 56 43.0 +1.0**
comp=Z,2.6nm,0.9s,baz=205,slow=1.4,SNR=20
KSU1 Kansas State U 121.55 39 *e*PKPdf **PKPdf** **12 56 42.2 +0.6**
KSU1 LR LR
comp=Z,532nm,20.0s
428A Kincaid Ranch, 121.70 50 ⇓P **PKPdf** **12 56 43.4 +1.2**
baz=122
627A Terlingua Ranc 121.72 52 ⇑P **PKPdf** **12 56 42.9 +0.6**
baz=122
SCIA State Center 121.82 34 PFAKE 12 56 50.0 +8.0
SCIA LR LR
comp=Z,731nm,19.0s
528A Cox Ranch, San 121.87 51 ⇑P **PKPdf** **12 56 42.8 +0.2**
baz=122
628A Black Gap, Mar 122.09 52 ⇓P **PKPdf** **12 56 44.1 +1.1**
baz=122
529A Stev Forest Ra 122.33 51 ⇑P **PKPdf** **12 56 44.1 +0.7**
baz=122
RTC Rabat Centre 122.36 315 PFAKE 12 56 50.0 +6.8
RTC LR LR
comp=Z,442nm,21.0s
WMOK Wichita Mounta 122.58 44 PFAKE 12 56 50.0 +6.3
WMOK LR LR
comp=Z,668nm,20.0s
TORD Torodi Ar. Bea 122.91 288 PKP **PKPdf** **12 56 44.7 0.0**
TORD PP **PP** **12 58 25.8 +2.1**
TORD PKKPbc **PKKPab** **13 06 37.2 0.0**
TORD Torodi Ar. Bea 122.91 288 PKP **PKPdf** **12 56 44.7 0.0**
comp=Z,3.2nm,0.7s,baz=52,slow=1.9,SNR=18
TORD PP **PP** **12 58 25.8 +2.1**
comp=Z,4.9nm,1.2s,baz=72,slow=4.4,SNR=3.8
TORD PKKPbc **PKKPab** **13 06 37.2 0.0**
comp=Z,0.7nm,0.7s,baz=272,slow=3.6,SNR=3.6
ABTX Abilene, Hawle 123.06 47 ⇑P **PKPdf** **12 56 45.4 +0.7**
baz=123
JCT Junction City 124.01 49 *e*PKIKP **PKPdf** **12 56 47.5 +0.9**
JCT MLR MLR
comp=Z,400nm,20.0s
JCT Junction City 124.01 49 *e*PKPdf **PKPdf** **12 56 47.5 +0.9**
JCT LR LR
comp=Z,400nm,20.0s
JCT Junction City 124.01 49 ⇑P **PKPdf** **12 56 47.6 +0.9**
baz=124
GLMI Grayling 124.07 27 PFAKE 12 57 00.0 +14
GLMI LR LR
comp=Z,664nm,19.0s
HDIL Hopedale 124.91 33 PFAKE 12 57 00.0 +12
HDIL LR LR
comp=Z,491nm,20.0s
WHTX Lake Whitney 124.98 46 ⇑P **PKPdf** **12 56 49.4 +1.1**
baz=125
SFIN Scholer Farm 126.21 32 ⇓P **PKPdf** **12 56 51.0 +0.5**
baz=126
MIAR Mount Ida 126.22 41 *e*PKIKP **PKPdf** **12 56 52.0 +1.4**
MIAR MLR MLR
comp=Z,673nm,20.0s
MIAR Mount Ida 126.22 41 *e*PKPdf **PKPdf** **12 56 52.0 +1.4**
MIAR LR LR
comp=Z,673nm,20.0s
AAM Ann Arbor 126.47 28 PFAKE 12 57 00.0 +9.1
AAM LR LR
comp=Z,551nm,20.0s
NATX Nacogdoches 127.09 45 PFAKE 12 57 00.0 +7.6
NATX LR LR
comp=Z,748nm,19.0s
HKT Hockley 127.23 48 *e*PKIKP **PKPdf** **12 56 54.4 +1.8**
HKT Hockley 127.23 48 *e*PKPdf **PKPdf** **12 56 54.4 +1.8**
ERPA Erie 128.25 25 PFAKE 12 57 00.0 +5.7
ERPA LR LR
comp=Z,718nm,22.0s
ACSO Alum Creek Sta 128.40 29 PFAKE 12 57 00.0 +5.4
ACSO LR LR
comp=Z,597nm,20.0s
NCB Newcomb 128.85 19 PFAKE 12 57 10.0 +15
NCB LR LR
comp=Z,720nm,20.0s
OXF Oxford 128.92 39 PFAKE 12 57 10.0 +14
OXF LR LR
comp=Z,726nm,21.0s
LBNH Lisbon 129.33 17 PFAKE 12 57 10.0 +14
LBNH LR LR
comp=Z,1μm,22.0s
PLAL Pickwick Lake 129.43 37 *e*PKPdf **PKPdf** **12 56 57.5 +0.7**
PLAL LR LR
comp=Z,509nm,21.0s
VBMS Vicksburg 129.66 42 PFAKE 12 57 10.0 +13
VBMS LR LR
comp=Z,564nm,20.0s
BINY Binghamton 129.78 22 PFAKE 12 57 10.0 +13
BINY LR LR
comp=Z,697nm,19.0s
DBIC Dimbokro 130.58 282 PKP **PKPdf** **12 57 00.4 +0.9**
DBIC *e*PKPdf **PKiKP** **12 57 00.8 +0.5**
DBIC SKP 13 00 40.6
DBIC LR LR
comp=Z,236nm,20.0s
DBIC Dimbokro 130.58 282 PKP **PKPdf** **12 57 00.4 +0.9**
comp=Z,2.2nm,0.6s,baz=5.3,slow=2.1,SNR=5.2
DBIC SKP 13 00 40.6
comp=Z,8.1nm,0.9s,baz=24,slow=2.6,SNR=3.2
QUA2 Belchertown 130.97 19 *e*PKPdf **PKPdf** **12 56 58.6 -0.8**
LRAL Lakeview Retre 131.40 38 PFAKE 12 57 10.0 +9.5
LRAL LR LR
comp=Z,524nm,20.0s
BLA Blacksburg 132.01 29 PFAKE 12 57 10.0 +8.4
BLA LR LR
comp=Z,678nm,20.0s
CBN Corbin 132.61 26 PFAKE 12 57 10.0 +7.3
CBN LR LR
comp=Z,712nm,19.0s
BRAL Brewton 132.71 41 PFAKE 12 57 10.0 +7.0
BRAL LR LR
comp=Z,506nm,20.0s
GOGA Godfrey 133.26 35 PFAKE 12 57 10.0 +6.0
GOGA LR LR
comp=Z,654nm,20.0s
CNNC Cliffs of the 134.81 29 PFAKE 12 57 20.0 +13
CNNC LR LR

comp=Z,567nm,19.0s
NHSC New Hope 135.32 33 PFAKE 12 57 20.0 +12
NHSC LR LR
comp=Z,572nm,19.0s
PLCA Paso Flores 140.06 159 *e*PKPdf **PKPdf 12 57 16.6 +0.2**
PLCA Paso Flores 140.06 159 PKP **PKPdf 12 57 16.8 +0.2**
comp=Z,4.2nm,0.7s,baz=216,slow=4.2,SNR=6.5
TRQA Tornquist 144.98 168 *e*PKPdf **PKPab 12 57 24.5 0.0**
TRQA LR LR
comp=Z,402nm,20.0s
SACV Santiago Islan 145.21 303 PFAKE 12 57 40.0 +14
SACV LR LR
comp=Z,443nm,19.0s
JTS JuntasAbangare 145.47 66 PKPbc **PKPdf 12 57 26.5 -0.3**
JTS JuntasAbangare 145.47 66 PKPbc **PKPdf 12 57 26.5 -0.3**
comp=Z,53nm,1.0s,baz=280,slow=5.5,SNR=5.8
MTDJ Mount Denham 147.58 47 PFAKE 12 57 40.0 +5.0
MTDJ LR LR
comp=Z,401nm,21.0s
GTBY Guantanamo Bay 148.11 42 PFAKE 12 57 40.0 +3.0
GTBY LR LR
comp=Z,416nm,21.0s
CFAA Coronel Fontan 148.95 155 PKPbc **PKPbc 12 57 35.8 -0.4**
CFAA Coronel Fontan 148.95 155 PKPbc **PKPbc 12 57 35.8 -0.4**
comp=Z,1.3nm,0.6s,baz=225,slow=3.1,SNR=18
GRTK Grand Turk 149.36 34 *e*PKPdf **PKPdf 12 57 33.1 +0.2**
GRTK *e*PKPbc **PKPbc 12 57 37.6 +0.3**
GRTK *e*PKPab **PKPab 12 57 41.4 -0.5**
GRTK LR LR
comp=Z,458nm,19.0s
LCO Las Campanas 149.94 148 *e*PKPbc **PKPbc 12 57 40.0 +1.0**
BCIP Isla Barro Col 150.54 64 *e*PKPbc **PKPbc 12 57 40.8 +0.3**
BCIP LR LR
comp=Z,441nm,19.0s
SDDR Presa de Saban 151.24 37 *e*PKPdf **PKPdf 12 57 36.4 +0.4**
SDDR *e*PKPbc **PKiKP 12 57 42.4 -0.1**
SDDR LR LR
comp=Z,522nm,20.0s
OTAV Otavalo 154.51 82 *e*PKPdf **PKPdf 12 57 42.2 +0.7**
OTAV *e*PKPbc **PKiKP 12 57 50.5 +0.5**
OTAV LR LR
comp=Z,289nm,20.0s
ATAH Atahualpa 154.76 99 PKP **PKPdf 12 57 42.8 +1.0**
ATAH PKPbc **PKiKP 12 57 51.3 +0.9**
ATAH PKPab **PKPab 12 58 06.8 +1.3**
ATAH Atahualpa 154.76 99 PKP **PKPdf 12 57 42.8 +1.0**
comp=Z,12nm,1.1s,baz=320,slow=3.1,SNR=7.1
ATAH PKPbc **PKiKP 12 57 51.3 +0.9**
comp=Z,9.4nm,0.8s,baz=304,slow=6.8,SNR=7.0
ATAH PKPab **PKPab 12 58 06.8 +1.3**
comp=Z,19nm,0.8s,baz=28,slow=3.7,SNR=7.7
SJG San Juan 154.79 30 PFAKE 12 57 50.0 +0.2
SJG LR LR
comp=Z,525nm,22.0s
MTP Monte Pirata 155.10 29 *e*PKPdf **PKPdf 12 57 42.5 +0.9**
MTP *e*PKPbc PKPab 12 57 50.4 -16
MTP *e*PKPab PKPab 12 58 07.2 +1.2
NNA Nana 155.28 111 PFAKE 12 57 50.0 +8.0
NNA LR LR
comp=Z,382nm,22.0s
ANWB Willy Bob 157.07 21 PFAKE 12 57 50.0 +5.8
ANWB LR LR
comp=Z,610nm,21.0s
SDV Santo Domingo 158.58 54 *e*PKPdf **PKPdf 12 57 47.0 +0.6**
SDV LR LR
comp=Z,138nm,20.0s
SPB Sao Paulo 159.53 195 PFAKE 12 58 00.0 +13
SPB LR LR
comp=Z,581nm,21.0s
FDF Fort de France 160.00 23 PFAKE 12 58 00.0 +12
FDF LR LR
comp=Z,670nm,21.0s
LPAZ La Paz 160.82 131 *e*PKPdf **PKPdf 12 57 49.2 -0.2**
LPAZ PKP **PKPdf 12 57 49.7 +0.3**
LPAZ *e*PKPab **PKPab 12 58 33.3 +1.7**
LPAZ LR LR
comp=Z,531nm,22.0s
LPAZ La Paz 160.82 131 PKP **PKPdf 12 57 49.7 +0.3**
comp=Z,7.2nm,1.3s,baz=330,slow=1.9,SNR=9.6
RCBR Riachuelo 162.59 263 PFAKE 12 58 00.0 +9.4
RCBR LR LR
comp=Z,531nm,21.0s
SIV San Ignacio 165.65 148 PKP **PKPdf 12 57 53.7 +0.5**
SIV San Ignacio 165.65 148 PKP **PKPdf 12 57 53.7 +0.5**
comp=Z,3.1nm,1.1s,baz=286,slow=1.0,SNR=6.9
BDFB Brasilia 167.15 203 PFAKE 12 58 00.0 +5.5
BDFB LR LR
comp=Z,681nm,20.0s
SAML Samuel 168.89 118 *e*PKPdf **PKPdf 12 57 56.7 +1.0**
SAML LR LR
comp=Z,534nm,21.0s

IDC ***13*** *12:43:25.9±1.2,4.25N×126.92E,h0km,mb4.2/7, mb1 4.3/7,mb1mx4.0/20,mbtmp4.2/7,Error ellipse: s-maj=83.2km s-min=16.7km az=65.0*

ISC 13 12:43:31.5±1.2,3.8N±0.3×125.7E±0.5,h35km,n17, σ168/12,mb4.2/7,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.04**	**161**	P	**P**		**12 48 53.1**	**+0.5**
	5.7nm,0.8s,baz=342,slow=10.0,SNR=4.4							
ASAR	**Alice Springs**	**28.41**	**164**	P	**P**		**12 49 24.0**	**+1.0**
	0.9nm,0.7s,baz=345,slow=11,SNR=3.6							
CMAR	**Chiang Mai Arr**	**30.00**	**301**	P	P		12 49 43.6	+6.5
	1.4nm,0.8s,baz=118,slow=7.3,SNR=4.9							
STKA	**Stephens Creek**	**38.53**	**158**	P	**P**		**12 50 49.7**	**-1.1**
	4.4nm,0.8s,baz=335,slow=8.1,SNR=3.2							
TAPN	**Taplejung**	**43.20**	**307**	*e*P	P		12 51 33.7	+3.9
	59nm,1.3s							
ODAN	**Odare**	**43.24**	**306**	*e*P	P		12 51 34.8	+4.7
	36nm,0.9s							
RAMN	**Ramite**	**43.92**	**306**	*e*P	**P**		**12 51 38.0**	**+2.5**
JIRN	**Jiri**	**44.55**	**306**	*e*P	**P**		**12 51 40.6**	**-0.1**
	10.0nm,1.1s							
GUN	**Gumba**	**44.91**	**307**	*e*P	**P**		**12 51 42.5**	**-1.0**
PKI	**Pulchoki**	**45.14**	**306**	*e*P	**P**		**12 51 43.5**	**-1.9**
	66nm,1.1s							
KKN	**Kakani**	**45.34**	**306**	*e*P	**P**		**12 51 44.8**	**-2.0**
	28nm,0.8s							
DMN	**Daman**	**45.40**	**306**	*e*P	**P**		**12 51 45.2**	**-2.2**
	85nm,1.3s							
GKN	**Gorkha**	**45.94**	**306**	*e*P	P		12 51 47.7	-3.8
	18nm,0.7s							
KOLN	**Koldanda**	**46.69**	**305**	*e*P	P		12 51 53.0	-4.5
	14nm,0.6s							
SONM	**Songino Array**	**46.95**	**342**	P	**P**		**12 51 58.4**	**-0.7**
	2.1nm,1.0s,baz=164,slow=6.9,SNR=3.7							
MKAR	**Makanchi Array**	**56.96**	**326**	P	**P**		**12 53 14.8**	**+1.3**
	1.5nm,0.5s,baz=122,slow=7.9,SNR=6.7							
KURBB	**Kurchatov Arra**	**61.17**	**328**	P	**P**		**12 53 43.8**	**+1.2**
	3.2nm,0.7s,baz=125,slow=6.1,SNR=6.1							

IDC 13 12:47:14.0±2.2,22.08S×68.05W,h107km±20km,mb3.8/4, mb1 4.0/7,mb1mx3.8/17,mbtmp3.8/7,Error ellipse: s-maj=26.0km s-min=17.9km az=111.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.76**	**359**	P	P		12 48 39.5	+1.6
	2.0nm,0.3s,baz=178,slow=5.3,SNR=28							
LPAZ				S	Sn		12 49 34.5	-8.8
	0.8nm,0.3s,baz=174,slow=16,SNR=4.3							
SIV	**San Ignacio**	**8.95**	**49**	P	P		12 49 20.8	+0.3
	7.7nm,0.3s,baz=245,slow=11,SNR=113							
SIV				S	Sn		12 50 56.2	-3.5
	0.8nm,0.3s,baz=310,slow=22,SNR=5.8							
CFAA	**Coronel Fontan**	**9.49**	**181**	P	P		12 49 26.1	-1.6
	0.2nm,0.3s,baz=351,slow=13,SNR=10							
PLCA	**Paso Flores**	**18.72**	**186**	P	P		12 51 25.2	-0.6
	0.3nm,0.3s,baz=351,slow=7.5,SNR=8.3							
BDFB	**Brasilia**	**20.00**	**75**	P	P		12 51 39.2	+0.8
	2.2nm,0.4s,baz=243,slow=10,SNR=4.1							
NVAR	**Mina Array Bea**	**76.44**	**322**	P	P		12 58 52.1	-0.1
	0.6nm,0.6s,baz=146,slow=6.6,SNR=3.4							
TORD	**Torodi Ar. Bea**	**76.80**	**70**	P	P		12 58 54.9	+0.5
	2.8nm,0.5s,baz=246,slow=5.3							
YKA	**Yellowknife Ar**	**92.00**	**340**	P	P		13 00 09.0	-1.1
	0.8nm,0.5s,baz=133,slow=4.6,SNR=17							
ASAR	**Alice Springs**	**129.76**	**206**	PKP	PKPdf		13 06 10.6	-0.9
	0.3nm,0.4s,baz=124,slow=1.5,SNR=5.9							
WRA	**Warramunga Arr**	**132.85**	**209**	PKP	PKPdf		13 06 16.6	-0.8
	0.4nm,0.5s,baz=161,slow=1.6,SNR=7.7							
ZALV	**Zalesovo Beam**	**142.13**	**26**	PKP	PKPdf		13 06 33.2	-0.1
	0.4nm,0.5s,baz=317,slow=4.3,SNR=4.0							
MKAR	**Makanchi Array**	**145.62**	**37**	PKPbc	PKPbc		13 06 40.1	0.0
	0.4nm,0.6s,baz=322,slow=2.6,SNR=4.0							

IDC 13 12:48:11.4±1.7,3.29N×126.67E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.7/20,mbtmp3.8/5,Error ellipse: s-maj=183.6km s-min=19.6km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.29**	**162**	P	P		12 53 30.9	+0.1
	2.0nm,0.7s,baz=341,slow=10,SNR=7.5							
ASAR	**Alice Springs**	**27.71**	**166**	P	P		12 54 02.4	+0.7
	0.5nm,0.6s,baz=346,slow=6.2,SNR=5.4							
STKA	**Stephens Creek**	**37.75**	**159**	P	P		12 55 28.6	-0.7
	3.0nm,0.8s,baz=333,slow=8.0,SNR=4.1							
MKAR	**Makanchi Array**	**57.88**	**325**	P	P		12 58 05.0	-0.2
	0.4nm,0.4s,baz=126,slow=7.6,SNR=3.0							
KURBB	**Kurchatov Arra**	**62.07**	**328**	P	P		12 58 33.9	0.0
	0.5nm,0.3s,baz=128,slow=6.0,SNR=3.4							

IDC 13 12:49:05.8±1.1,4.05N×126.70E,h0km,mb4.0/9, mb1 4.1/9,mb1mx3.9/21,mbtmp4.0/9,Error ellipse: s-maj=71.5km s-min=15.5km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.04**	**183**	P	P		12 54 02.5	+0.3
	1.9nm,0.6s,baz=21,slow=14,SNR=3.5							
WRA	**Warramunga Arr**	**25.00**	**163**	P	P		12 54 31.2	-0.4
	2.1nm,0.5s,baz=344,slow=10,SNR=8.6							
ASAR	**Alice Springs**	**28.43**	**166**	P	P		12 55 01.9	-0.6
	0.5nm,0.5s,baz=345,slow=6.7,SNR=3.2							
CMAR	**Chiang Mai Arr**	**30.68**	**300**	P	P		12 55 22.4	-0.1
	0.2nm,0.3s,baz=96,slow=6.6,SNR=2.3							
STKA	**Stephens Creek**	**38.44**	**159**	P	P		12 56 30.0	+0.5
	2.7nm,0.4s,baz=115,slow=18,SNR=9.0							
MKAR	**Makanchi Array**	**57.27**	**325**	P	P		12 58 55.7	+0.3
	0.8nm,0.4s,baz=121,slow=8.2,SNR=7.7							
ZALV	**Zalesovo Beam**	**60.29**	**333**	P	P		12 59 15.8	-0.4
	0.7nm,0.3s,baz=126,slow=8.2,SNR=4.8							
KURBB	**Kurchatov Arra**	**61.45**	**327**	P	P		12 59 24.1	0.0
	1.1nm,0.3s,baz=123,slow=6.5,SNR=4.8							
FINES	**FINESS Array B**	**91.53**	**332**	P	P		13 02 14.2	-0.1
	1.4nm,0.9s,baz=47,slow=3.6,SNR=3.8							

IDC ***13*** *12:50:33.4±0.8,4.11N×126.69E,h0km,mb4.0/11, mb1 4.2/11,mb1mx4.0/21,mbtmp4.1/11,Error ellipse: s-maj=46.2km s-min=14.9km az=70.0*
ISCJB ***13*** *12:50:37.8±0.7,4.1N±0.1×126.7E±0.2,h45km,mb4.0/11, Error ellipse: s-maj=29.2km s-min=10.2km az=152.2*

ISC 13 12:50:39.6±0.8,4.0N±0.1×126.6E±0.2,h45km,n18, σ068/19,mb4.2/17,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.03**	**183**	P	**P**		**12 55 30.9**	**+0.4**
	3.3nm,0.5s,baz=20,slow=7.2,SNR=6.4							
WRA	**Warramunga Arr**	**25.01**	**163**	P	**P**		**12 55 59.8**	**+0.2**
	4.1nm,0.6s,baz=343,slow=11,SNR=7.3							
ASAR	**Alice Springs**	**28.44**	**166**	P	**P**		**12 56 30.4**	**+0.1**
	0.8nm,0.5s,baz=345,slow=7.1,SNR=5.6							
CMAR	**Chiang Mai Arr**	**30.64**	**300**	P	**P**		**12 56 50.7**	**+0.7**
	1.8nm,0.8s,baz=115,slow=7.3,SNR=8.4							
STKA	**Stephens Creek**	**38.45**	**159**	P	**P**		**12 57 56.8**	**-0.4**
	5.0nm,0.5s,baz=334,slow=6.5,SNR=4.8							
TAPN	**Taplejung**	**43.76**	**306**	*e*P	**P**		**12 58 41.0**	**-0.4**
	7.4nm,0.6s							
ODAN	**Odare**	**43.82**	**305**	*e*P	**P**		**12 58 41.8**	**0.0**
	8.8nm,0.7s							
RAMN	**Ramite**	**44.50**	**305**	*e*P	**P**		**12 58 47.4**	**+0.2**
JIRN	**Jiri**	**45.12**	**306**	*e*P	**P**		**12 58 52.1**	**-0.2**
	2.1nm,0.6s							
GUN	**Gumba**	**45.47**	**306**	*e*P	**P**		**12 58 54.9**	**-0.2**
	10nm,0.6s							
SONM	**Songino Array**	**46.97**	**341**	P	**P**		**12 59 07.2**	**+0.9**
	0.3nm,0.4s,baz=177,slow=9.7,SNR=2.9							
KOLN	**Koldanda**	**47.27**	**305**	*e*P	**P**		**12 59 09.0**	**-0.1**
	13nm,0.5s							
DANN	**Dangsing**	**47.36**	**305**	*e*P	**P**		**12 59 09.5**	**-0.4**
	14nm,0.5s							
MKAR	**Makanchi Array**	**57.25**	**325**	P	**P**		**13 00 22.2**	**-0.4**
	1.2nm,0.5s,baz=121,slow=8.6,SNR=9.1							
MKAR				PcP	**PcP**		**13 01 16.9**	**+0.3**
	0.6nm,0.7s,baz=98,slow=3.7,SNR=3.7							
ZALV	**Zalesovo Beam**	**60.27**	**333**	P	**P**		**13 00 42.1**	**-1.3**
	0.6nm,0.5s,baz=120,slow=8.8,SNR=3.5							
KURBB	**Kurchatov Arra**	**61.43**	**327**	P	**P**		**13 00 50.8**	**-0.5**
	2.5nm,0.4s,baz=124,slow=6.3,SNR=7.8							
ILAR	**Eielson Array**	**84.86**	**25**	P	**P**		**13 03 10.4**	**+1.0**
	0.3nm,0.8s,baz=275,slow=5.2,SNR=3.5							
ARCES	**ARCESS Array B**	**90.12**	**340**	P	**P**		**13 03 33.2**	**-1.5**
	2.1nm,0.8s,baz=78,slow=6.7,SNR=4.5							

IDC 13 12:55:18.3±1.3,3.68N×126.48E,h0km,mb3.8/7, mb1 3.9/7,mb1mx3.7/20,mbtmp3.8/7,MS4.1/1,Ms1 4.1/1, ms1mx2.5/38,1C,Error ellipse: s-maj=195.5km s-min=16.8km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.16**	**328**	*i*P	Pb		12 56 29.8	-2.7
GUMO	**Guam**	**20.66**	**60**	LR	LR		13 07 24.5	
	comp=Z,517nm,19.0s,baz=245,slow=35							
WRA	**Warramunga Arr**	**24.71**	**162**	P	P		13 00 40.8	-0.6
	3.2nm,0.6s,baz=338,slow=10,SNR=12							
ASAR	**Alice Springs**	**28.13**	**165**	P	P		13 01 13.7	+1.4
	0.4nm,0.5s,baz=344,slow=8.1,SNR=6.7							
STKA	**Stephens Creek**	**38.17**	**159**	P	P		13 02 38.9	-0.8
	2.6nm,0.7s,baz=335,slow=8.1,SNR=7.3							
SONM	**Songino Array**	**47.27**	**342**	P	P		13 03 53.5	0.0
	0.2nm,0.4s,baz=157,slow=9.7,SNR=2.6							
MKAR	**Makanchi Array**	**57.45**	**325**	P	P		13 05 08.0	-1.1
	0.4nm,0.4s,baz=118,slow=7.5,SNR=7.1							
ZALV	**Zalesovo Beam**	**60.52**	**333**	P	P		13 05 30.8	+0.6
	0.5nm,0.4s,baz=124,slow=8.0,SNR=4.0							
BVAR	**Borovoye Array**	**67.22**	**327**	P	P		13 06 15.0	+0.5
	0.6nm,0.7s,baz=108,slow=4.8,SNR=4.3							

RSPR 13 12:59:16.0,18.66N×69.36W,h92km±2km,MD3.6/7,4C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.12**	**351**	*i*P	Pn		12 59 28.2	-0.9
DR12				*e*S	Sn		12 59 38.6	-0.2
SDDR	**Presa de Saban**	**1.85**	**280**	*e*P	Pn		12 59 45.6	-0.8
SDDR	**Presa de Saban**	**1.85**	**280**	*e*S	Sn		13 00 09.8	+0.2
CRPR	**Cabo Rojo, PR**	**2.23**	**107**	*e*P	Pn		12 59 51.8	+0.4
CRPR	**Cabo Rojo, PR**	**2.23**	**107**	*e*S	Sn		13 00 18.2	-0.2
LRS	**Lares**	**2.42**	**98**	*e*P	Pn		12 59 53.4	-0.4
CELP	**Cerrillos**	**2.71**	**102**	*e*P	Pn		12 59 57.9	+0.3
MTP	**Monte Pirata**	**3.66**	**98**	*e*P	Pn		13 00 09.5	-0.9

IDC 13 13:08:05.0±1.9,3.26N×125.96E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.5/18,mbtmp3.5/4,Error ellipse: s-maj=186.5km s-min=23.8km az=64.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.48**	**161**	P	P		13 13 25.8	-0.3
	1.7nm,0.8s,baz=338,slow=12,SNR=12							
ASAR	**Alice Springs**	**27.86**	**164**	P	P		13 13 57.8	+1.2
	0.2nm,0.5s,baz=346,slow=12,SNR=6.5							
STKA	**Stephens Creek**	**37.97**	**158**	P	P		13 15 23.7	-0.9
	1.2nm,0.7s,baz=341,slow=9.3,SNR=3.1							
MKAR	**Makanchi Array**	**57.51**	**326**	P	P		13 17 56.1	-0.1
	0.2nm,0.4s,baz=122,slow=7.4,SNR=3.9							

PRE 13 13:11:50.6±0.9,26.37S×27.62E,h2km,ML2.3,South Africa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ERPM	**east rand prop**	**0.56**	**87**	*e*P	Pg		13 12 01.7	+0.2
ERPM				*e*S	Sg		13 12 09.3	+0.4
ERPM				AML	AML		13 12 11.9	
	comp=Z,49nm,0.4s							
PRYS	**Parys**	**0.60**	**203**	*e*P	Pg		13 12 02.4	0.0
PRYS				*e*S	Sg		13 12 10.2	-0.1
PRYS				AML	AML		13 12 14.7	
	comp=Z,54nm,0.8s							
SLR	**Silverton**	**0.87**	**43**	*e*P	Pg		13 12 06.7	-0.7
SLR				*e*S	Sg		13 12 19.6	+0.8
SLR				AML	AML		13 12 27.6	
	comp=Z,39nm,0.2s							
SWZ	**Schweizer**	**2.20**	**248**	*e*P	Pn		13 12 29.2	+0.8
SWZ				*e*S	Sn		13 12 57.0	+0.5
SWZ				AML	AML		13 12 59.1	
	comp=Z,40nm,0.6s							
LBTB	**Lobatse**	**2.27**	**306**	*e*P	Pn		13 12 30.6	+1.2
LBTB				*e*S	Sn		13 12 58.1	0.0
LBTB				AML	AML		13 13 02.8	
	comp=Z,36nm,0.5s							
BOSA	**Boshof**	**3.07**	**223**	*e*P	Pn		13 12 40.6	+0.3
BOSA				*e*S	Sn		13 13 18.4	+0.7
BOSA				AML	AML		13 13 34.0	
	comp=Z,5.4nm,0.6s							

IDC 13 13:18:17.2±0.9,4.07N×126.71E,h0km,mb3.7/9, mb1 3.8/9,mb1mx3.7/20,mbtmp3.7/9,1C,Error ellipse: s-maj=56.6km s-min=15.7km az=69.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**3.97**	**322**	*i*P	Pb		13 19 27.5	-0.6
WRA	**Warramunga Arr**	**25.02**	**163**	P	P		13 23 42.5	-0.5
	3.0nm,0.7s,baz=345,slow=10,SNR=13							
ASAR	**Alice Springs**	**28.45**	**166**	P	P		13 24 13.4	-0.6
	0.2nm,0.7s,baz=344,slow=8.2,SNR=4.2							
CMAR	**Chiang Mai Arr**	**30.68**	**300**	P	P		13 24 33.8	-0.1
	0.3nm,0.3s,baz=103,slow=8.4,SNR=4.6							
KSRS	**Korea Array**	**33.24**	**2**	P	P		13 24 55.7	-0.4
	0.9nm,0.8s,baz=165,slow=8.4,SNR=3.2							
STKA	**Stephens Creek**	**38.45**	**159**	P	P		13 25 41.9	+0.9
	2.3nm,0.8s,baz=43,slow=1.2,SNR=5.4							
SONM	**Songino Array**	**46.97**	**341**	P	P		13 26 50.4	+0.3
	0.3nm,0.5s,baz=175,slow=6.7,SNR=2.5							
MKAR	**Makanchi Array**	**57.26**	**325**	P	P		13 28 06.6	0.0
	0.5nm,0.5s,baz=121,slow=8.6,SNR=16							
ZALV	**Zalesovo Beam**	**60.28**	**333**	P	P		13 28 26.6	-0.8
	0.2nm,0.3s,baz=138,slow=7.0,SNR=2.3							
BVAR	**Borovoye Array**	**67.02**	**327**	P	P		13 29 12.8	+0.8
	0.3nm,0.5s,baz=95,slow=7.4,SNR=4.0							

MOS ***13*** *13:18:34.9±0.8,8.42S×74.05W,h154km,mb5.2/69,Error ellipse: s-maj=7.8km s-min=5.1km az=96.1*
ISCJB ***13*** *13:18:35.5±0.6,8.46S±0.04×74.05W±0.03,h162km±5km, mb5.0/242,Error ellipse: s-maj=6.5km s-min=3.5km az=26.7*
BJI ***13*** *13:18:35.2,7.85S×74.18W,h147km,mB5.2/16*
NEIC ***13*** *13:18:36.2±0.5,8.52S×73.99W,h157km±4km,mb5.2/169, Error ellipse: s-maj=4.2km s-min=2.7km az=220.0*
NEIC Felt at Lima and Pucallpa, Peru.
IDC ***13*** *13:18:37.5±0.4,8.51S×74.08W,h170km±3km,mb4.6/22, mb1 4.7/27,mb1mx4.7/28,mbtmp4.6/27,MS3.2/1, Ms1 3.3/1,ms1mx2.8/28,Error ellipse: s-maj=9.3km s-min=7.6km az=46.0*

ISC 13 13:18:36.8±0.3,8.51S±0.04×74.01W±0.05,h165km±2km, h165km:pP-P,n997,σ088/1070,mb5.1/242,200C-214D, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.45**	**219**	*e*Pn	**Pn**		**13 19 41.8**	**-1.6**
NNA				*e*Sn	**Sn**		**13 20 33.2**	**-2.1**
NNA				S	**Sn**		**13 20 34.0**	**-1.3**
NNA	**Nana**	**4.45**	**219**	Pn	**Pn**		**13 19 42.9**	**-0.5**
	2μm,0.4s,SNR=60							
NNA	**Nana**	**4.45**	**219**	P	**Pn**		**13 19 43.4**	**0.0**
	89nm,0.3s,baz=49,slow=8.5,SNR=94							
NNA				S	**Sn**		**13 20 34.0**	**-1.3**
	288nm,0.3s,baz=162,slow=23,SNR=15							
ATAH	**Atahualpa**	**4.56**	**287**	P	**Pn**		**13 19 43.5**	**-1.7**
ATAH				S	**Sn**		**13 20 37.2**	**-1.2**
ATAH	**Atahualpa**	**4.56**	**287**	P	**Pn**		**13 19 43.5**	**-1.7**
	438nm,0.3s,baz=114,slow=5.8,SNR=665							
ATAH				S	**Sn**		**13 20 37.2**	**-1.2**
	218nm,0.3s,baz=168,slow=14,SNR=9.7							
LPAZ	**La Paz**	**9.63**	**144**	*e*Pn	**Pn**		**13 20 51.7**	**-0.6**
LPAZ	**La Paz**	**9.63**	**144**	P	**Pn**		**13 20 51.8**	**-0.6**
	1.8nm,0.3s,baz=330,slow=12,SNR=58							
LPAZ				LR	LR		13 25 34.3	
	comp=Z,145nm,21.7s,baz=236,slow=43							
OTAV	**Otavalo**	**9.75**	**333**	*e*Pn	**Pn**		**13 20 53.7**	**-0.1**
SAML	**Samuel**	**10.71**	**93**	*e*Pn	**Pn**		**13 21 05.2**	**-0.8**
	3.3nm,0.3s							
SAML				*e*Sn	**Sn**		**13 22 59.5**	**-5.2**
ROSC	**El Rosal**	**13.28**	**359**	P	**Pn**		**13 21 41.1**	**+1.6**
ROSC	**El Rosal**	**13.28**	**359**	P	**Pn**		**13 21 41.1**	**+1.6**
	3.6nm,0.3s,baz=103,slow=14,SNR=7.0							
SIV	**San Ignacio**	**14.66**	**122**	P	**Pn**		**13 21 56.5**	**0.0**
SIV	**San Ignacio**	**14.66**	**122**	P	**Pn**		**13 21 56.5**	**0.0**
	6.4nm,0.3s,baz=305,slow=11,SNR=106							
SDV	**Santo Domingo**	**17.60**	**11**	*e*Pn	**Pn**		**13 22 32.1**	**-0.2**
	87nm,0.5s							
PAYG	**Puerto Ayora**	**17.98**	**295**	*e*P	**P**		**13 22 33.6**	**-1.4**
	134nm,1.1s							
LCO	**Las Campanas**	**20.63**	**172**	*e*P	**P**		**13 23 04.1**	**+0.3**
	34nm,0.8s							
JTS	**JuntasAbangare**	**21.62**	**330**	P	**P**		**13 23 14.2**	**0.0**
JTS	**JuntasAbangare**	**21.62**	**330**	P	**P**		**13 23 14.2**	**0.0**
	19nm,0.9s,baz=128,slow=4.1,SNR=7.6							
CFAA	**Coronel Fontan**	**23.60**	**168**	P	**P**		**13 23 33.9**	**+1.1**
CFAA	**Coronel Fontan**	**23.60**	**168**	P	**P**		**13 23 33.9**	**+1.1**
	1.5nm,0.7s,baz=340,slow=11,SNR=19							
GRGR	**Grenville**	**23.90**	**31**	*e*P	**P**		**13 23 34.9**	**-0.7**
	242nm,0.6s							
BDFB	**Brasilia**	**26.37**	**108**	P	**P**		**13 23 58.1**	**+0.1**
BDFB				pP	**pP**		**13 24 35.3**	**+3.1**
BDFB	**Brasilia**	**26.37**	**108**	P	**P**		**13 23 58.1**	**+0.1**
	29nm,0.6s,baz=277,slow=12,SNR=33							
BDFB				pP	**

HKT pmax pmax
comp=Z,25nm,1.3s
HKT Hockley 43.62 332 eP P 13 26 25.8 +0.9
comp=Z,25nm,1.3s
KMSC Kings Mountain 43.96 351 ⇑P P 13 26 28.0 +0.4
baz=44,SNR=13
NATX Nacogdoches 44.65 335 eP P 13 26 34.6 +1.5
comp=Z,61nm,0.7s
CPCT Cooper Cave 44.83 348 eP P 13 26 34.6 +0.2
TKL Tuckaleechee C 44.88 349 eP P 13 26 34.8 -0.1
TKL Tuckaleechee C 44.88 349 P P 13 26 35.0 +0.1
comp=Z,19nm,1.2s,baz=148,slow=7.4,SNR=6.0
SWET Sewanee 44.92 346 eP P 13 26 34.9 -0.3
comp=Z,34nm,0.8s
PLAL Pickwick Lake 45.25 344 eP P 13 26 36.1 -1.7
comp=Z,24nm,1.0s
BLA Blacksburg 45.87 353 eP P 13 26 43.3 +0.6
BLA pmax pmax
comp=Z,37nm,0.7s
BLA Blacksburg 45.87 353 eP P 13 26 43.3 +0.6
comp=Z,37nm,0.7s
JCT Junction City 46.00 329 eP P 13 26 44.7 +0.9
JCT pmax pmax
comp=Z,33nm,1.2s
JCT Junction City 46.00 329 eP P 13 26 44.7 +0.9
comp=Z,33nm,1.2s
JCT Junction City 46.00 329 ⇓P P 13 26 44.5 +0.6
baz=46,SNR=9.3
JSRW J. Sargeant Re 46.10 356 eP P 13 26 45.3 +0.9
WVT Waverly 46.27 344 eP P 13 26 43.2 -2.5
WVT pmax pmax
comp=Z,26nm,1.2s
WVT Waverly 46.27 344 eP P 13 26 43.2 -2.5
comp=Z,26nm,1.2s
UALR University of 46.41 339 eP P 13 26 45.8 -1.1
comp=Z,37nm,0.8s
CBN Corbin 46.57 356 eP P 13 26 49.3 +1.3
comp=Z,113nm,0.5s
MIAR Mount Ida 46.66 338 eP P 13 26 48.3 -0.5
MIAR pmax pmax
comp=Z,11nm,0.7s
MIAR Mount Ida 46.66 338 eP P 13 26 48.3 -0.5
comp=Z,11nm,0.7s
628A Black Gap, Mar 46.91 325 ⇑P P 13 26 52.3 +1.4
baz=47,SNR=40
TXAR Lajitas Array 47.24 324 P P 13 26 54.2 +0.7
TXAR PcP PcP 13 28 22.5 +0.3
TXAR Lajitas Array 47.24 324 P P 13 26 54.2 +0.7
comp=Z,14nm,0.7s,baz=149,slow=8.8,SNR=132
TXAR PcP PcP 13 28 22.5 +0.3
comp=Z,4.0nm,0.8s,baz=134,slow=5.4,SNR=5.9
528A Cox Ranch, San 47.36 325 ⇓P P 13 26 55.2 +0.7
baz=48,SNR=25
626A Big Bend Ranch 47.68 324 ⇑P P 13 26 58.2 +1.3
baz=48,SNR=107
428A Kincaid Ranch, 47.73 326 ⇓P P 13 26 58.4 +1.1
baz=48,SNR=11
SDMD Soldier's Deli 47.74 357 eP P 13 26 58.2 +1.0
comp=Z,58nm,1.3s
527A Woodward Ranch 47.81 325 ⇓P P 13 26 58.8 +0.7
baz=48,SNR=40
WCI Wyandotte Cave 47.89 347 eP P 13 26 57.2 -1.1
WCI pmax pmax
comp=Z,27nm,0.9s
WCI Wyandotte Cave 47.89 347 eP P 13 26 57.2 -1.1
comp=Z,27nm,0.9s
USIN University of 47.96 345 eP P 13 26 57.9 -0.9
comp=Z,42nm,0.8s
SIUC Southern Illin 48.13 344 eP P 13 26 59.1 -1.0
comp=Z,48nm,0.8s
229A Bryant Ranch, 48.22 328 ⇓P P 13 27 01.3 +0.2
baz=48,SNR=5.9
427A Hayter Ranch, 48.23 326 ⇑P P 13 27 01.7 +0.6
baz=48,SNR=13
328A Wristen Ranch, 48.30 327 ⇑P P 13 27 02.2 +0.5
baz=48,SNR=13
MVL Millersville 48.31 358 eP P 13 27 02.5 +1.1
comp=Z,66nm,0.9s
426A McDonald Obser 48.45 325 ⇑P P 13 27 03.6 +0.7
baz=49,SNR=26
TUL1 Tulsa 48.71 336 ⇓P P 13 27 04.6 0.0
baz=49,SNR=9.9
228A UT Block 9, Go 48.76 327 ⇓P P 13 27 05.1 0.0
baz=49,SNR=11
129A Stewart Farms, 48.77 328 ⇓P P 13 27 05.5 +0.2
baz=49,SNR=19
OLIL Olney 48.79 345 eP P 13 27 04.1 -1.1
comp=Z,80nm,1.4s
BLO Bloomington 48.84 347 eP P 13 27 04.5 -1.0
BLO pmax pmax
comp=Z,64nm,0.7s
BLO Bloomington 48.84 347 eP P 13 27 04.5 -1.0
comp=Z,64nm,0.7s
326A Caldwell Ranch 48.90 325 ⇑P P 13 27 06.9 +0.7
baz=49,SNR=12
WMOK Wichita Mounta 48.98 333 eP P 13 27 06.7 -0.1
WMOK pmax pmax
comp=Z,16nm,0.8s
WMOK Wichita Mounta 48.98 333 eP P 13 27 06.7 -0.1
comp=Z,16nm,0.8s
SSPA Standing Stone 49.03 356 eP P 13 27 07.8 +0.9
comp=Z,84nm,1.4s
227A Bennet, Jal 49.05 327 ⇓P P 13 27 08.1 +0.7
baz=49,SNR=5.7
425A Indio Mountain 49.08 324 ⇑P P 13 27 08.1 +0.4
baz=49,SNR=61
128A Castleberry Fa 49.09 328 ⇓P P 13 27 08.0 +0.3
baz=49,SNR=18
Z29A Hungry Hill Ra 49.19 329 ⇑P P 13 27 08.5 +0.1
baz=49,SNR=14
ACSO Alum Creek Sta 49.20 351 eP P 13 27 08.1 -0.1
comp=Z,50nm,0.8s
PAL Palisades 49.27 0 eP P 13 27 09.3 +0.6
PAL pmax pmax
comp=Z,35nm,0.8s
PAL Palisades 49.27 0 eP P 13 27 09.3 +0.6
comp=Z,35nm,0.8s
325A Bean Ranch, Si 49.51 325 ⇑P P 13 27 11.4 +0.4
baz=50,SNR=28
226A Malaga, Loving 49.53 326 ⇑P P 13 27 12.4 +1.3
baz=50,SNR=16
Z28A Tucker Farm, M 49.56 328 ⇓P P 13 27 11.3 0.0
baz=50,SNR=19
YLE Yale 49.58 1 eP P 13 27 11.3 +0.2
127A Arkansas Junct 49.60 327 ⇑P P 13 27 11.9 +0.3
baz=50,SNR=7.1
Y29A Porterfield Fa 49.65 330 ⇑P P 13 27 12.4 +0.5
baz=50,SNR=44
GDL2 Guadalupe Moun 49.78 326 eP P 13 27 14.4 +1.5
324A Moseley Ranch, 49.85 324 ⇑P P 13 27 13.5 -0.1
baz=50,SNR=29
126A Clayton Basin, 49.93 327 ⇓P P 13 27 15.0 +0.9
baz=50,SNR=28
225A Deer Hill, Car 49.97 325 ⇑P P 13 27 15.4 +0.9
baz=50,SNR=34
Y28A McKinney Farm, 49.98 329 ⇑P P 13 27 14.6 +0.2
baz=50,SNR=9.4
MNTX Cornudas Mount 49.98 325 eP P 13 27 13.6 -0.7
comp=Z,26nm,1.3s
MNTX ePcP PcP 13 28 31.8 -0.2
MNTX Cornudas Mount 49.98 325 ⇓P P 13 27 14.3 -0.1
baz=50,SNR=26
Z27A Tatum 50.01 328 ⇓P P 13 27 14.9 +0.2
baz=50,SNR=29
SFIN Scholer Farm 50.12 347 ⇑P P 13 27 13.8 -1.4
baz=50,SNR=18
X29A Tulia 50.13 330 ⇑P P 13 27 15.6 +0.1
baz=50,SNR=15
ALLY Alegheny Colle 50.23 354 eP P 13 27 16.2 +0.2
comp=Z,54nm,0.8s
125A Gardner Draw, 50.29 326 ⇑P P 13 27 17.3 +0.5
baz=50,SNR=27
MSTX Muleshoe 50.29 329 ⇓P P 13 27 16.9 +0.1
baz=50,SNR=21
224A Cornudas Mount 50.34 325 ⇑P P 13 27 17.2 0.0
baz=50,SNR=28
Z26A Caprock 50.39 327 ⇑P P 13 27 18.0 +0.5
baz=51,SNR=31
Y27A Causey 50.43 328 ⇓P P 13 27 18.0 +0.2
baz=51,SNR=17
X28A Dimmitt 50.43 330 ⇓P P 13 27 17.9 0.0
baz=51,SNR=6.4
AMTX Amarillo 50.47 330 ⇓P P 13 27 18.0 0.0
baz=51
BINY Binghamton 50.49 358 eP P 13 27 19.1 +1.2
comp=Z,133nm,0.8s
W29A Amraillo 50.64 331 ⇑P P 13 27 19.4 0.0
baz=51,SNR=16

ERPA Erie 50.67 354 eP P 13 27 19.7 +0.4
comp=Z,59nm,0.8s
124A Stringfield Ra 50.77 325 ⇓P P 13 27 21.1 +0.6
baz=51,SNR=24
Z25A Roswell 50.79 326 ⇑P P 13 27 21.0 +0.4
baz=51,SNR=41
Y26A Elida 50.80 328 ⇓P P 13 27 20.6 -0.1
baz=51
223A Chaparral, Ant 50.81 324 ⇑P P 13 27 20.6 -0.1
baz=51
HRV Adam Dziewonsk 50.81 2 eP P 13 27 21.1 +0.8
HRV pmax pmax
comp=Z,85nm,1.0s
HRV Adam Dziewonsk 50.81 2 eP P 13 27 21.1 +0.8
comp=Z,85nm,1.0s
HDIL Hopedale 50.82 345 eP P 13 27 19.4 -1.0
comp=Z,101nm,0.9s
TRY Troy 50.99 0 eP P 13 27 22.8 +1.1
X27A F and S Farms, 50.99 329 ⇑P P 13 27 22.2 +0.2
baz=51,SNR=28
W28A Vega 51.02 330 ⇓P P 13 27 22.5 +0.3
baz=51
123A Bell Site, Whi 51.18 325 ⇓P P 13 27 24.0 +0.6
baz=51
V29A Stinnett 51.19 331 ⇓P P 13 27 23.9 +0.5
baz=51
Y25A Mesa, Roswell 51.27 327 ⇑P P 13 27 24.4 +0.3
baz=52,SNR=17
222A Williams Famil 51.28 324 ⇓P P 13 27 25.1 +0.9
baz=52,SNR=29
X26A CR and CF Fran 51.28 328 ⇓P P 13 27 24.6 +0.4
baz=52,SNR=26
V28A Channing 51.43 331 ⇓P P 13 27 25.5 +0.3
baz=52,SNR=15
320A Kipp Ranch, An 51.59 322 ⇑P P 13 27 27.4 +0.8
baz=52,SNR=7.7
221A Mesquite Ranch 51.61 323 ⇑P P 13 27 27.8 +1.2
baz=52
Z23A Rita Site, Whi 51.62 325 ⇓P P 13 27 27.5 +0.8
baz=52,SNR=19
122A Conniff Cattle 51.65 324 ⇑P P 13 27 28.1 +1.1
baz=52,SNR=7.1
Y24A Capitan 51.67 326 ⇓P P 13 27 27.3 +0.1
baz=52,SNR=22
W26A Owens Ranch, T 51.68 329 ⇑P P 13 27 27.5 +0.4
baz=52,SNR=11
X25A Clemmons Ranch 51.71 328 ⇑P P 13 27 27.3 -0.1
baz=52,SNR=8.2
KSU1 Kansas State U 51.81 338 eP P 13 27 27.4 -0.4
comp=Z,51nm,0.9s
220A Playas Peak, P 51.98 322 ⇑P P 13 27 30.4 +0.9
baz=52,SNR=41
121A Cookes Peak, D 51.99 323 ⇑P P 13 27 30.6 +1.1
baz=52,SNR=21
Y23A Lovelace Mesa, 52.02 326 ⇑P P 13 27 30.3 +0.5
baz=52,SNR=34
Z22A Elephant Butte 52.03 325 ⇓P P 13 27 30.6 +0.8
baz=52,SNR=24
319A Douglas 52.08 321 ⇑P P 13 27 31.1 +1.0
baz=52,SNR=33
W25A X Bar L Ranch, 52.13 328 ⇓P P 13 27 30.9 +0.4
baz=52,SNR=22
X24A Lazy VL Ranch, 52.15 327 ⇑P P 13 27 31.0 +0.3
baz=52,SNR=16
NCB Newcomb 52.23 360 eP P 13 27 31.9 +1.1
comp=Z,37nm,0.8s
MDV Middlebury 52.26 1 eP P 13 27 31.5 +0.4
T28A Walsh 52.48 332 ⇓P P 13 27 32.8 -0.1
baz=53,SNR=13
Z21A St. Cloud Mine 52.48 324 ⇓P P 13 27 34.1 +1.0
baz=53,SNR=12
BNM Barren Site 52.50 326 eP P 13 27 33.6 +0.3
comp=Z,13nm,1.0s
120A U Bar Ranch, L 52.50 323 ⇓P P 13 27 34.3 +1.0
baz=53,SNR=20
Y22A Socorro 52.53 325 ⇑P P 13 27 34.2 +0.7
baz=53,SNR=12
LBNH Lisbon 52.53 2 eP P 13 27 33.5 +0.4
LBNH pmax pmax
comp=Z,41nm,0.8s
LBNH Lisbon 52.53 2 eP P 13 27 33.5 +0.4
comp=Z,42nm,0.8s
X23A Hourglass Bar 52.57 326 ⇑P P 13 27 34.2 +0.4
baz=53
LPM Los Pinos Moun 52.62 326 eP P 13 27 34.7 +0.5
W24A Lazy 6 Ranch, 52.63 328 ⇓P P 13 27 34.4 +0.2
baz=53,SNR=19
U26A Atchley Ranch, 52.69 330 ⇑P P 13 27 35.1 +0.5
baz=53,SNR=37
V25A Rancho No Teng 52.70 329 ⇓P P 13 27 35.1 +0.4
baz=53,SNR=61
LENM Lemitar 52.70 325 eP P 13 27 35.8 +1.0
T27A Campo 52.72 331 ⇑P P 13 27 35.0 +0.2
baz=53,SNR=34
CBKS Cedar Bluff 52.81 335 eP P 13 27 35.9 +0.6
CBKS pmax pmax
comp=Z,69nm,1.0s
CBKS Cedar Bluff 52.81 335 eP P 13 27 35.9 +0.6
comp=Z,69nm,1.0s
CBKS Cedar Bluff 52.81 335 ⇓P P 13 27 35.9 +0.6
baz=53,SNR=6.5
Z20A Nine Sixteen R 52.88 323 ⇑P P 13 27 37.2 +1.2
baz=53,SNR=28
LONY Lazonia 52.88 359 eP P 13 27 34.8 -0.8
comp=Z,32nm,1.1s
LONY ePcP PcP 13 28 42.4 -0.2
V24A Rampart Ranch, 52.95 328 ⇓P P 13 27 36.8 +0.2
baz=53,SNR=49
LAZ Ladron 52.97 326 eP P 13 27 37.6 +0.9
comp=Z,16nm,1.3s
X22A Bernardo 52.97 326 ⇓P P 13 27 37.9 +1.2
baz=53,SNR=9.2
Y21A Point of Rocks 52.98 325 ⇓P P 13 27 38.2 +1.3
baz=53,SNR=56
W23A Werner Place, 52.99 327 ⇓P P 13 27 37.4 +0.5
baz=53,SNR=13
ANMO Albuquerque 52.99 326 eP P 13 27 37.5 +0.6
comp=Z,24nm,1.0s
U25A Circle Dot Ran 53.02 329 ⇑P P 13 27 37.5 +0.4
baz=53,SNR=39
FRNY Flat Rock 53.09 0 eP P 13 27 38.1 +0.9
comp=Z,55nm,0.8s
SCIA State Center 53.17 342 eP P 13 27 37.0 -0.7
comp=Z,34nm,0.6s
T26A Comanche Natio 53.23 331 ⇓P P 13 27 38.9 +0.4
baz=53,SNR=13
MSNY Massena 53.26 359 eP P 13 27 38.9 +0.5
comp=Z,560nm,0.9s
W22A Albuquerque 53.31 326 ⇓P P 13 27 40.3 +1.0
baz=54
Y20A Horse Springs, 53.32 324 ⇓P P 13 27 40.2 +0.9
baz=54,SNR=25
X21A Alamocita Cree 53.37 325 ⇓P P 13 27 40.9 +1.2
baz=54,SNR=54
V23A Ortiz Mt. (NFS 53.45 327 ⇓P P 13 27 40.8 +0.6
baz=54,SNR=13
U24A Moreno Valley 53.48 329 ⇓P P 13 27 41.6 +1.0
baz=54,SNR=11
S26A Kim 53.52 331 ⇓P P 13 27 41.4 +0.7
baz=54,SNR=49
T25A Trinidad 53.60 330 ⇓P P 13 27 42.1 +0.8
baz=54,SNR=52
TUC Tucson 53.65 321 eP P 13 27 42.1 +0.5
TUC pmax pmax
comp=Z,16nm,0.9s
TUC Tucson 53.65 321 eP P 13 27 42.1 +0.5
comp=Z,16nm,0.9s
R27A Eads 53.74 332 ⇓P P 13 27 42.2 +0.1
baz=54,SNR=29
W21A San Fidel 53.78 326 ⇑P P 13 27 43.5 +0.9
baz=54
X20A Quemado 53.84 325 ⇓P P 13 27 44.2 +1.1
baz=54,SNR=24
Y19A Nutrioso 53.86 324 ⇓P P 13 27 44.2 +0.8
baz=54,SNR=20
T24A Torres, Weston 53.87 329 ⇓P P 13 27 44.4 +1.0
baz=54,SNR=16
U23A El Rito 53.89 328 ⇑P P 13 27 44.2 +0.7
baz=54,SNR=30
S25A Robets Cordova 54.02 330 ⇑P P 13 27 45.0 +0.7
baz=54,SNR=38
R26A Arlington 54.05 331 ⇓P P 13 27 44.8 +0.4
baz=54,SNR=45
KSCO Kaye Shedlock' 54.24 333 ⇓P P 13 27 46.2 +0.4
baz=54,SNR=15
W20A Ramah 54.26 325 ⇑P P 13 27 46.8 +0.7
baz=54,SNR=17
V21A Milan 54.28 326 ⇓P P 13 27 47.2 +1.0
baz=54,SNR=16
U22A Llaves 54.28 327 ⇓P P 13 27 47.4 +1.2
baz=54
R25A Fountain Ranch 54.33 331 ⇓P P 13 27 47.0 +0.5
baz=54,SNR=7.9
T23A Casias Ranch, 54.35 329 ⇑P P 13 27 47.5 +0.7
baz=55,SNR=37
S24A Houchin Ranch, 54.39 330 ⇑P P 13 27 47.9 +0.8
baz=55,SNR=18
BGNE Belgrade 54.40 338 ⇓P P 13 27 46.5 -0.2
baz=55,SNR=13
Q26A Hugo 54.58 332 ⇓P P 13 27 48.9 +0.6
baz=55,SNR=12
SDCO Great Sand Dun 54.62 329 eP P 13 27 49.4 +0.6
comp=Z,98nm,1.5s
SDCO Great Sand Dun 54.62 329 ⇓P P 13 27 49.6 +0.8
baz=55,SNR=66
P27A Ficken Ranch, 54.66 333 ⇑P P 13 27 49.3 +0.5
baz=55
X18A Snowflake 54.67 324 ⇓P P 13 27 50.0 +0.9
baz=55,SNR=20
214A Organ Pipe Nat 54.70 319 ⇑P P 13 27 49.9 +0.7
baz=55,SNR=33
V20A Brimhall 54.73 326 ⇓P P 13 27 50.0 +0.5
baz=55,SNR=5.2
U21A Nageezi 54.75 327 ⇑P P 13 27 50.3 +0.6
baz=55,SNR=20
T22A Edith 54.78 328 ⇑P P 13 27 50.7 +0.8
baz=55,SNR=21
R24A Sanders Place, 54.80 330 ⇑P P 13 27 50.6 +0.6
baz=55,SNR=8.6
S23A Nye Farm, Mont 54.84 329 ⇑P P 13 27 51.0 +0.6
baz=55,SNR=9.9
Q25A Bedland, Calha 54.92 331 ⇓P P 13 27 51.0 +0.2
baz=55
W18A Petrified Fore 54.96 324 ⇓P P 13 27 51.7 +0.5
baz=55,SNR=11
V19A Window Rock 54.99 325 ⇑P P 13 27 52.1 +0.7
baz=55,SNR=8.3
P26A Davis Ranch, A 55.02 332 ⇓P P 13 27 51.8 +0.4
baz=55,SNR=8.9
X17A Forest Lakes 55.05 323 ⇓P P 13 27 52.8 +0.9
baz=55,SNR=26
T21A Navajo Lake 55.10 327 ⇑P P 13 27 52.7 +0.5
baz=55,SNR=10
R23A Moffat 55.12 330 ⇑P P 13 27 52.9 +0.5
baz=55,SNR=18
O27A Beecher Island 55.14 334 ⇓P P 13 27 52.9 +0.7
baz=55,SNR=16
U20A Newcomb 55.18 326 ⇓P P 13 27 53.1 +0.4
baz=55,SNR=8.5
114A Black Gap (USA 55.27 320 ⇓P P 13 27 53.9 +0.7
baz=55,SNR=7.0
S22A 4UR Ranch, Cre 55.30 328 ⇓P P 13 27 54.3 +0.6
baz=56,SNR=32
P25A Willow Gulch B 55.36 332 ⇑P P 13 27 54.6 +0.7
baz=56,SNR=10
Q24A Divide 55.39 331 ⇑P P 13 27 54.7 +0.4
baz=56,SNR=11
X16A Lo Mia Camp, P 55.48 322 ⇑P P 13 27 55.8 +0.9
baz=56,SNR=33
U19A Dine' College, 55.50 326 ⇑P P 13 27 54.8 -0.2
baz=56,SNR=5.2
O26A Horse Wrangler 55.55 333 ⇑P P 13 27 55.6 +0.4
baz=56,SNR=7.2
OGNE Ogallala 55.56 334 eP P 13 27 55.0 -0.2
comp=Z,50nm,0.8s
OGNE ePcP PcP 13 28 52.5 -0.5
OGNE Ogallala 55.56 334 ⇑P P 13 27 55.7 +0.5
baz=56,SNR=6.3
R22A Saguache, Gunn 55.62 329 ⇓P P 13 27 56.7 +0.7
baz=56,SNR=21
N27A Anderson Farm, 55.67 334 ⇓P P 13 27 56.5 +0.5
baz=56,SNR=6.1
Q23A Hartsel 55.68 330 ⇑P P 13 27 57.0 +0.6
baz=56
Z14A Wintersburg 55.71 320 ⇓P P 13 27 57.1 +0.9
baz=56
P24A Kohler Place, 55.71 331 ⇓P P 13 27 57.2 +0.8
baz=56
S21A Coal Bank Pass 55.73 328 ⇑P P 13 27 57.1 +0.4
baz=56,SNR=23
MVCO Mesa Verde 55.78 327 eP P 13 27 57.5 +0.4
comp=Z,95nm,1.6s
MVCO Mesa Verde 55.78 327 ⇑P P 13 27 57.4 +0.4
baz=56,SNR=16
T19A Beclabito 55.79 326 ⇓P P 13 27 57.2 +0.2
baz=56,SNR=23
O25A Wiggins 55.81 332 ⇑P P 13 27 57.8 +0.7
baz=56
113A Mohawk Valley, 55.84 319 ⇑P P 13 27 57.7 +0.5
baz=56,SNR=5.4
ECSD EROS Data Cent 55.90 340 eP P 13 27 56.5 -0.9
comp=Z,14nm,0.8s
N26A Koester Ranch, 55.98 333 ⇑P P 13 27 59.0 +0.7
baz=56
P23A Jefferson 56.05 330 ⇓P P 13 28 00.0 +1.0
baz=56,SNR=26
SPMN St. Paul 56.10 344 ⇓P P 13 27 57.5 -1.3
baz=56,SNR=15
Y14A Wickenburg 56.12 321 ⇓P P 13 28 00.1 +0.8
baz=56
R21A Cimarron 56.14 328 ⇑P P 13 28 00.3 +0.7
baz=56,SNR=40
S20A Disappointment 56.16 327 ⇓P P 13 28 00.8 +1.0
baz=56,SNR=47
Q22A Crested Butte, 56.18 329 ⇓P P 13 28 00.6 +0.6
baz=56,SNR=28
M27A Reverse DX Ran 56.20 335 ⇑P P 13 28 00.2 +0.5
baz=56,SNR=16
WUAZ Wupatki 56.20 323 eP P 13 28 00.9 +1.0
comp=Z,46nm,0.9s
WUAZ Wupatki 56.20 323 ⇑P P 13 28 00.9 +1.0
baz=56,SNR=48
O24A Longmont 56.27 332 ⇓P P 13 28 01.1 +0.8
baz=56,SNR=7.3
ISCO Idaho Springs 56.27 331 eP P 13 28 01.1 +0.6
ISCO pmax pmax
comp=Z,21nm,1.0s
ISCO Idaho Springs 56.27 331 eP P 13 28 01.1 +0.6
comp=Z,22nm,1.0s
ISCO Idaho Springs 56.27 331 ⇓P P 13 28 01.1 +0.6
baz=56,SNR=25
N25A Grover 56.36 333 ⇓P P 13 28 01.9 +0.9
baz=57
R20A Redvale 56.44 328 ⇓P P 13 28 02.4 +0.8
baz=57,SNR=43
SMCO Snowmass 56.46 330 eP P 13 28 02.0 +0.1
comp=Z,28nm,0.9s
M26A McRoberts Ranc 56.47 334 ⇑P P 13 28 02.5 +0.8
baz=57,SNR=5.9
T18A Mexican Hat 56.48 326 ⇑P P 13 28 02.0 +0.1
baz=57,SNR=58
PV01 Paradox Valley 56.50 328 eP P 13 28 02.9 +0.7
comp=Z,3µm,0.8s
Q21A Lamborn Mesa, 56.50 329 ⇓P P 13 28 02.8 +0.8
baz=57,SNR=9.2
S19A Harvey Farm, M 56.52 327 ⇓P P 13 28 02.6 +0.4
baz=57,SNR=42
P22A Eagle 56.67 330 ⇓P P 13 28 03.9 +0.7
baz=57,SNR=35
GLA Glamis 56.71 319 eP P 13 28 04.8 +1.4
GLA pmax pmax
comp=Z,22nm,1.1s
GLA Glamis 56.71 319 eP P 13 28 04.8 +1.4
comp=Z,22nm,1.1s
GLA Glamis 56.71 319 ⇓P P 13 28 04.1 +0.6
baz=57
N24A Carr 56.73 332 ⇓P P 13 28 04.7 +1.1
baz=57,SNR=18
O23A Lake Granby, G 56.73 331 ⇑P P 13 28 04.6 +0.8
baz=57,SNR=74
M25A Palm-Egli Farm 56.84 333 ⇑P P 13 28 05.0 +0.6
baz=57,SNR=10.0
PV04 Paradox Valley 56.87 328 eP P 13 28 05.5 +0.9
T17A Navajo Res., N 56.90 325 ⇑P P 13 28 05.9 +0.9
baz=57,SNR=45
L26A Underwood Farm 56.91 334 ⇑P P 13 28 05.5 +0.7
baz=57
S18A Hurst Farm, Bl 56.94 326 ⇓P P 13 28 05.9 +0.6
baz=57
Y12C Blythe 56.96 320 ⇑P P 13 28 06.0 +0.9
baz=57,SNR=11
P21A Newcastle 56.96 329 ⇑P P 13 28 06.2 +0.9
baz=57,SNR=40
R19A Curley Farm, L 56.98 327 ⇓P P 13 28 05.5 0.0
baz=57,SNR=25
O22A Kremmling 57.00 331 ⇑P P 13 28 05.8 +0.1

baz=57,SNR=38
PDMCI **Parker Dam,Lak** 57.07 321 ⇑P P 13 28 06.6 +0.7
baz=57
K27A **Flueckinger Fa** 57.10 335 ⇓P P 13 28 06.7 +0.6
baz=57,SNR=16
M24A **Cheyenne** 57.22 333 ⇓P P 13 28 07.8 +0.8
baz=57,SNR=14
SWSC **Sam W. Stewart** 57.27 318 ⇑P P 13 28 08.2 +0.9
baz=57
N23A **Red Feather La** 57.28 332 ⇓P P 13 28 08.1 +0.5
baz=58,SNR=18
DVTC **Desert V Tower** 57.30 318 ⇑P P 13 28 08.4 +0.7
baz=58
BRSD **Miller** 57.33 339 ⇓P P 13 28 06.9 -0.6
baz=58
S17A **Black Ridge (B** 57.35 326 ⇓P P 13 28 08.7 +0.7
baz=58,SNR=12
U15A **North Rim** 57.36 324 ⇓P P 13 28 09.3 +1.0
baz=58,SNR=31
PHWY **Pilot Hill** 57.37 332 eP P 13 28 08.7 +0.4
comp=Z,30nm,0.9s
L25A **Engebretsen Ra** 57.39 334 ⇓P P 13 28 09.0 +0.8
baz=58,SNR=9.6
R18A **Canyonlands Na** 57.39 327 ⇓P P 13 28 08.3 0.0
baz=58,SNR=22
P20A **De Beque** 57.42 329 ⇓P P 13 28 09.0 +0.5
baz=58,SNR=16
W13A **Hualapai Mount** 57.43 321 ⇑P P 13 28 09.7 +1.0
baz=58,SNR=24
N22A **Wattenberg Ran** 57.45 331 ⇑P P 13 28 09.4 +0.6
baz=58,SNR=9.4
Q19A **Hogan Spring (** 57.47 328 ⇑P P 13 28 09.3 +0.6
baz=58,SNR=86
O21A **Pagoda** 57.49 330 ⇓P P 13 28 10.0 +0.9
baz=58,SNR=12
K26A **Motz Farm, Whi** 57.49 335 ⇓P P 13 28 09.5 +0.7
baz=58,SNR=9.5
BC3 **Big Chuckawall** 57.50 319 ⇓P P 13 28 09.8 +0.7
baz=58,SNR=16
IRM **Iron Mountain** 57.62 320 ⇓P P 13 28 10.7 +0.9
baz=58,SNR=37
M23A **Laramie** 57.63 332 ⇑P P 13 28 10.6 +0.6
baz=58,SNR=49
MONP **Monument Peak** 57.66 318 ⇑P P 13 28 10.4 +0.1
baz=58
K25A **Mack Ranch, Ha** 57.72 334 ⇑P P 13 28 11.1 +0.7
baz=58
O20A **White River Ci** 57.82 329 ⇑P P 13 28 12.0 +0.7
baz=58,SNR=20
P19A **Cripple Cowboy** 57.82 328 ⇓P P 13 28 11.9 +0.5
baz=58,SNR=41
R17A **Hanksville Air** 57.86 326 ⇓P P 13 28 12.0 +0.4
baz=58,SNR=50
S16A **Weppner Ranch,** 57.86 325 ⇓P P 13 28 12.2 +0.6
baz=58,SNR=29
N21A **Black Mountain** 57.93 330 ⇑P P 13 28 13.2 +1.1
baz=58,SNR=24
Q18A **Rafter H Ranch** 58.04 327 ⇑P P 13 28 13.3 +0.6
baz=58,SNR=10
BELC **Belle Mtn. Jos** 58.06 319 ⇑P P 13 28 13.7 +0.7
baz=58,SNR=11
PFO **Pinyon Flat Ob** 58.12 318 eP P 13 28 14.7 +1.3
comp=Z,14nm,0.9s
PFO **Pinyon Flat Ob** 58.12 318 ⇑P P 13 28 14.1 +0.6
baz=58,SNR=5.1
L23A **Garrett** 58.13 333 ⇑P P 13 28 13.8 +0.4
baz=58,SNR=24
LDFC **Landfair** 58.18 321 eP P 13 28 15.2 +1.4
comp=Z,25nm,0.8s
R16A **Teasdale** 58.19 326 ⇑P P 13 28 14.7 +0.7
baz=58,SNR=23
K24A **Anderson Ranch** 58.22 334 ⇑P P 13 28 14.7 +0.7
baz=58
SRU **San Rafael** 58.26 327 eP P 13 28 14.8 +0.5
SRU pmax pmax
comp=Z,33nm,0.8s
SRU **San Rafael** 58.26 327 eP P 13 28 14.8 +0.5
comp=Z,33nm,0.8s
SRU **San Rafael** 58.26 327 ⇓P P 13 28 14.6 +0.3
baz=58,SNR=34
EYMN **Ely** 58.30 346 eP P 13 28 13.4 -0.8
comp=Z,43nm,0.9s
GMRC **Granite Mounta** 58.34 320 ⇑P P 13 28 15.7 +0.8
baz=58,SNR=18
N20A **Spence Gulch,** 58.36 330 ⇓P P 13 28 15.6 +0.5
baz=59,SNR=37
O19A **Miners Draw (B** 58.39 329 ⇓P P 13 28 15.6 +0.4
baz=59,SNR=20
L22A **Ellis Ranch, M** 58.40 332 ⇓P P 13 28 16.3 +1.0
baz=59,SNR=14
Q16A **Castle Valley** 58.47 326 ⇑P P 13 28 16.3 +0.5
baz=59,SNR=14
P18A **Preston Nutter** 58.48 328 ⇓P P 13 28 16.6 +0.6
baz=59,SNR=17
RWWY **Rawlins** 58.50 331 eP P 13 28 17.2 +1.1
comp=Z,48nm,0.9s
M21A **Separation Pea** 58.51 331 ⇑P P 13 28 16.7 +0.6
baz=59,SNR=18
R15A **Junction** 58.59 325 ⇓P P 13 28 17.6 +0.9
baz=59,SNR=19
K23A **Bowen Ranch, D** 58.60 333 ⇑P P 13 28 17.0 +0.4
baz=59,SNR=10
MURC **Murrieta** 58.60 318 ⇓P P 13 28 17.4 +0.7
baz=59
P17A **Butcher Ranch,** 58.63 327 ⇓P P 13 28 17.5 +0.6
baz=59,SNR=31
J24A **Dixon Ranch, L** 58.64 334 ⇓P P 13 28 17.6 +0.8
baz=59,SNR=6.2
MSU **Marysvale** 58.74 325 eP P 13 28 18.6 +0.9
MSU **Marysvale** 58.74 325 eP P 13 28 18.6 +0.9
MVU **Marysvale** 58.75 325 eP P 13 28 18.3 +0.4
comp=Z,30nm,1.0s
CCUT **Cedar City** 58.76 324 eP P 13 28 19.3 +1.5
comp=Z,13nm,0.9s
TMUT **Trail Mountain** 58.76 327 eP P 13 28 18.5 +0.5
comp=Z,23nm,0.7s
L21A **Rawlins** 58.79 331 ⇑P P 13 28 18.3 +0.3
baz=59,SNR=21
HEC **Hector,Ludlow** 58.80 320 ⇑P P 13 28 19.1 +1.1
baz=59,SNR=7.2
M20A **Sweetwater, Wa** 58.82 330 ⇓P P 13 28 18.9 +0.7
baz=59,SNR=28
O18A **Roosevelt** 58.82 328 ⇓P P 13 28 19.1 +0.9
baz=59,SNR=16
BBRC **Big Bear Solar** 58.83 319 ⇓P P 13 28 19.6 +1.2
baz=59
N19A **John Jarvie Ra** 58.86 329 ⇑P P 13 28 18.6 +0.1
baz=59,SNR=45
TUQ **Turquoise Moun** 58.92 320 ⇓P P 13 28 19.7 +0.7
baz=59,SNR=13
K22A **Casper** 58.93 332 ⇓P P 13 28 19.4 +0.5
baz=59,SNR=20
ARUT **Antelope Range** 58.96 324 eP P 13 28 20.3 +1.1
ARUT pmax pmax
comp=Z,62nm,1.4s
ARUT **Antelope Range** 58.96 324 eP P 13 28 20.3 +1.1
comp=Z,62nm,1.4s
RSSD **Black Hills** 59.02 335 eP P 13 28 19.5 0.0
RSSD pmax pmax
comp=Z,53nm,1.4s
RSSD **Black Hills** 59.02 335 eP P 13 28 19.5 0.0
comp=Z,52nm,1.4s
I24A **Kuemmerle Ranc** 59.05 335 ⇑P P 13 28 20.3 +0.7
baz=59,SNR=6.0
O17A **Robinson Place** 59.15 328 ⇑P P 13 28 21.4 +0.9
baz=59,SNR=52
P16A **Fountain Green** 59.23 327 ⇓P P 13 28 22.0 +1.0
baz=59,SNR=12
K21A **Alcova** 59.25 332 ⇑P P 13 28 21.6 +0.5
baz=60,SNR=34
L20A **Wamsutter** 59.28 331 ⇓P P 13 28 21.7 +0.3
baz=60,SNR=18
M19A **Rock Springs** 59.31 330 ⇓P P 13 28 21.7 +0.1
baz=60
DRLN **Deer Lake** 59.31 12 eP P 13 28 21.6 +0.5
comp=Z,109nm,0.6s
GSC **Goldstone** 59.40 320 eP P 13 28 23.1 +0.9
GSC pmax pmax
comp=Z,15nm,0.9s
GSC **Goldstone** 59.40 320 eP P 13 28 23.1 +0.9
comp=Z,15nm,0.9s
GSC **Goldstone** 59.40 320 ⇓P P 13 28 23.0 +0.9
baz=60,SNR=10
SHOC **Shoshone** 59.44 321 ⇓P P 13 28 23.1 +0.7
baz=60,SNR=9.4
I23A **Meade Ranch, G** 59.49 334 ⇑P P 13 28 24.3 +1.6
baz=60
MPU **Maple Canyon** 59.50 327 eP P 13 28 23.6 +0.6
comp=Z,38nm,0.8s
J22A **Midwest** 59.50 333 ⇓P P 13 28 22.9 +0.1
baz=60,SNR=33
R13A **O'Grain Ranch,** 59.53 324 ⇓P P 13 28 24.5 +1.3
baz=60,SNR=46
P15A **Leamington** 59.54 326 ⇓P P 13 28 23.9 +0.8
baz=60
DAU **Daniels Canyon** 59.58 328 eP P 13 28 24.4 +0.8
DAU **Daniels Canyon** 59.58 328 eP P 13 28 24.4 +0.8
M18A **Lyman** 59.70 329 ⇓P P 13 28 24.2 -0.1
baz=60,SNR=20
H24A **Dirks Ranch, A** 59.74 335 ⇑P P 13 28 24.3 -0.1
baz=60,SNR=16
N17A **Moffit Pass** 59.74 328 ⇑P P 13 28 25.2 +0.6
baz=60,SNR=42
AGMN **Agassiz Nation** 59.76 343 eP P 13 28 23.5 -0.7
K20A **Yellowstone Ra** 59.78 331 ⇓P P 13 28 24.7 -0.1
baz=60,SNR=47
JLU **Jordanelle** 59.82 328 eP P 13 28 26.0 +0.8
comp=Z,34nm,0.8s
L19A **Farson** 59.85 330 ⇑P P 13 28 25.8 +0.5
baz=60,SNR=35
J21A **Lysite** 59.89 332 ⇓P P 13 28 25.8 +0.3
baz=60,SNR=36
EDW2 **Edwards Air Fo** 59.90 319 ⇓P P 13 28 26.0 +0.4
baz=60,SNR=5.5
H23A **Clabaugh Cattl** 59.95 335 ⇓P P 13 28 26.0 +0.2
baz=60
N16A **Rees Ranch, Co** 60.02 328 ⇑P P 13 28 27.2 +0.8
baz=60,SNR=27
M17A **Scullys Gap (B** 60.04 329 ⇓P P 13 28 26.5 -0.1
baz=60,SNR=28
L18A **Fontenelle, Gr** 60.06 330 ⇑P P 13 28 26.8 +0.1
baz=60,SNR=20
LRMC **Laurel Mountai** 60.07 319 ⇓P P 13 28 27.4 +0.6
baz=60
O15A **The Old Anders** 60.14 327 ⇑P P 13 28 28.1 +0.9
baz=60,SNR=5.7
K19A **Absolon Red Bu** 60.15 331 ⇓P P 13 28 27.0 -0.3
baz=60,SNR=42
G24A **Alzada** 60.16 336 ⇑P P 13 28 27.2 0.0
baz=60,SNR=8.0
FURC **Furnace Creek,** 60.16 321 ⇓P P 13 28 28.2 +1.0
baz=60,SNR=26
I21A **Big Trails, Te** 60.18 333 ⇓P P 13 28 27.3 -0.1
baz=60,SNR=35
J20A **Shoshoni** 60.19 332 ⇑P P 13 28 28.3 +0.8
baz=60,SNR=31
DUG **Dugway** 60.27 326 eP P 13 28 29.0 +0.9
DUG pmax pmax
comp=Z,70nm,0.8s
DUG **Dugway** 60.27 326 eP P 13 28 29.0 +0.9
comp=Z,70nm,0.8s
DUG **Dugway** 60.27 326 ⇓P P 13 28 29.1 +0.9
baz=60,SNR=77
MPMC **Manual Prospec** 60.30 320 ⇓P P 13 28 28.9 +0.4
baz=60,SNR=11
H22A **Clearmont** 60.38 334 ⇑P P 13 28 28.6 -0.1
baz=61,SNR=5.2
BW06 **Boulder Array** 60.45 331 eP P 13 28 29.1 -0.3
comp=Z,20nm,0.9s
BW06 **Boulder Array** 60.45 331 ⇑P P 13 28 29.1 -0.3
baz=61,SNR=32
G23A **Biddle** 60.46 335 ⇓P P 13 28 29.2 0.0
baz=61,SNR=28
MDND **Maddock** 60.51 340 ⇑P P 13 28 29.7 +0.3
baz=61,SNR=13
J19A **Crowheart** 60.58 331 ⇓P P 13 28 30.1 -0.1
baz=61,SNR=33
K18A **Toltan Ranch,** 60.59 330 ⇑P P 13 28 30.9 +0.6
baz=61,SNR=30
F24A **Ekalaka** 60.59 336 ⇑P P 13 28 30.2 +0.1
baz=61,SNR=16
R11A **Troy Tranyon, C** 60.59 323 ⇓P P 13 28 31.3 +1.0
baz=61,SNR=36
N15A **Stansbury Isla** 60.60 327 ⇓P P 13 28 30.7 +0.4
baz=61,SNR=7.8
ARVC **Arvin** 60.60 318 ⇑P P 13 28 30.8 +0.6
baz=61
HWUT **Hardware Ranch** 60.60 328 eP P 13 28 30.1 -0.3
comp=Z,64nm,0.6s
L17A **Cokeville** 60.61 329 ⇓P P 13 28 30.2 -0.2
baz=61,SNR=65
I20A **Worland** 60.67 332 ⇑P P 13 28 31.0 +0.2
baz=61,SNR=32
ISA **Isabella** 60.69 319 eP P 13 28 31.8 +0.8
ISA pmax pmax
comp=Z,11nm,0.8s
ISA **Isabella** 60.69 319 eP P 13 28 31.8 +0.8
comp=Z,11nm,0.8s
ISA **Isabella** 60.69 319 ⇓P P 13 28 31.6 +0.6
baz=61,SNR=7.9
H21A **Big Horn, Sher** 60.71 333 ⇓P P 13 28 30.7 -0.3
baz=61,SNR=9.5
GRAC **Grapevine Rang** 60.81 321 ⇓P P 13 28 32.7 +1.0
baz=61,SNR=9.1
L16A **Fish Haven** 60.83 329 ⇑P P 13 28 31.7 -0.2
baz=61,SNR=22
G22A **Birney** 60.85 334 ⇑P P 13 28 31.6 -0.2
baz=61,SNR=20
CWC **Cottonwood Cre** 60.91 320 ⇑P P 13 28 33.0 +0.4
baz61
M15A **Larsen Ranch,** 60.97 328 ⇓P P 13 28 32.8 0.0
baz=61,SNR=16
J18A **Kendall Valley** 61.01 331 ⇓P P 13 28 33.0 -0.2
baz=61,SNR=94
K17A **Gardner Place,** 61.11 330 ⇑P P 13 28 33.7 -0.1
baz=61,SNR=37
PKM **Peak Mountain** 61.12 318 ⇑P P 13 28 34.1 +0.1
baz=61
E24A **Baker** 61.12 337 ⇑P P 13 28 34.1 +0.4
baz=61,SNR=8.7
I19A **Meeteetse** 61.14 332 ⇑P P 13 28 34.1 +0.2
baz=61,SNR=12
VES **Vestal, Richgr** 61.19 319 ⇑P P 13 28 34.8 +0.6
baz=61,SNR=5.2
AHID **Auburn Hatcher** 61.21 330 eP P 13 28 34.4 0.0
comp=Z,31nm,0.7s
G21A **Lodge Grass** 61.25 334 ⇑P P 13 28 34.5 -0.1
baz=62,SNR=8.1
I18A **Diamond G Ranc** 61.27 331 ⇓P P 13 28 35.2 +0.2
baz=62,SNR=53
F22A **Rosebud** 61.28 335 ⇓P P 13 28 34.6 -0.2
baz=62,SNR=14
L15A **Malad City** 61.32 328 ⇑P P 13 28 35.2 0.0
baz=62,SNR=66
HVU **Hansel Valley** 61.36 328 eP P 13 28 35.9 +0.5
HVU pmax pmax
comp=Z,28nm,0.9s
HVU **Hansel Valley** 61.36 328 eP P 13 28 35.9 +0.5
comp=Z,28nm,0.9s
TIN **Tinemaha** 61.38 321 ⇓P P 13 28 36.7 +1.0
baz=62,SNR=5.1
BBTS **Babate** 61.46 68 P P 13 28 37.1 +0.8
BBTS **Babate** 61.46 68 P P 13 28 37.1 +0.8
comp=Z,28nm,0.9s,baz=266,slow=2.3,SNR=5.6
J17A **Brown Place, J** 61.46 330 ⇓P P 13 28 36.5 +0.4
baz=62,SNR=36
E23A **Ismay** 61.47 336 ⇑P P 13 28 35.9 0.0
baz=62
SMMC **Simmler** 61.48 318 ⇑P P 13 28 36.9 +0.7
baz=62
K16A **Soda Springs** 61.50 329 ⇓P P 13 28 36.8 +0.3
baz=62,SNR=31
REDW **Red Top Meadow** 61.52 330 eP P 13 28 36.7 +0.1
comp=Z,38nm,1.3s
ULM **Lac du Bonnet** 61.53 344 P P 13 28 35.2 -1.0
ULM pP pP 13 29 13.6 -1.3
ULM **Lac du Bonnet** 61.53 344 P P 13 28 35.2 -1.0
comp=Z,29nm,0.6s,baz=156,slow=6.8,SNR=61
ULM pP pP 13 29 13.6 -1.3
comp=Z,20nm,0.9s,baz=165,slow=4.4,SNR=5.0
SNOW **Snow King Moun** 61.55 330 eP P 13 28 37.2 +0.4
comp=Z,23nm,0.7s
RCTC **Rector, Farmer** 61.58 319 ⇓P P 13 28 37.0 +0.2
baz=62
D24A **Glendive** 61.59 337 ⇓P P 13 28 37.5 +0.8
baz=62,SNR=11
LOHW **Long Hollow** 61.59 331 eP P 13 28 37.2 +0.2
comp=Z,21nm,0.7s
H19A **Powell** 61.62 332 ⇓P P 13 28 37.1 0.0
baz=62,SNR=8.7
TPAW **Teton Pass** 61.67 330 eP P 13 28 39.0 +1.3
comp=Z,18nm,0.7s
E22A **Miles City** 61.68 335 ⇑P P 13 28 37.2 -0.2
baz=62,SNR=9.7
F21A **Absaloka Mine,** 61.69 334 ⇓P P 13 28 37.4 0.0
baz=62,SNR=11
G20A **Bridger** 61.69 333 ⇓P P 13 28 37.2 -0.4
baz=62,SNR=37
RRI2 **Red Ridge** 61.75 330 eP P 13 28 38.5 +0.4
comp=Z,58nm,0.8s
MOOW **Moose Ponds** 61.76 331 eP P 13 28 38.3 +0.1
comp=Z,14nm,0.9s
MTUM **Tungsten Hills** 61.78 321 eP P 13 28 39.2 +0.8
L14A **Malta** 61.79 328 ⇑P P 13 28 38.4 +0.1
baz=62,SNR=47
I17A **Pilgrim Ck.** 61.80 331 ⇓P P 13 28 39.2 +0.7
baz=62,SNR=36
J16A **Bone** 61.84 330 ⇓P P 13 28 39.1 +0.4
baz=62,SNR=33
DCID1 **Drake Creek** 61.86 330 eP P 13 28 39.5 +0.7
comp=Z,60nm,1.3s
K15A **Arbon** 61.88 329 ⇓P P 13 28 39.1 +0.2
baz=62,SNR=26
H18A **Shoshone NF, C** 61.94 332 ⇓P P 13 28 39.2 -0.2
baz=62,SNR=25
C24A **Savage** 61.97 337 ⇓P P 13 28 39.8 +0.6
baz=62,SNR=5.1
D23A **Lindsay** 61.98 336 ⇑P P 13 28 40.2 +0.8
baz=62
FLWY **Flagg Ranch** 61.98 331 eP P 13 28 40.2 +0.6
comp=Z,65nm,0.9s
ELK **Elko** 61.99 325 eP P 13 28 40.1 +0.4
RLMT **Red Lodge** 62.09 332 eP P 13 28 40.6 +0.2
comp=Z,24nm,0.9s
RLMT **Red Lodge** 62.09 332 ⇓P P 13 28 40.7 +0.4
baz=62,SNR=27
K14A **Jones Ranch, D** 62.11 328 ⇓P P 13 28 40.4 0.0
baz=62,SNR=27
F20A **Billings** 62.12 334 ⇑P P 13 28 40.6 +0.3
baz=62,SNR=7.6
MLAC **Mammoth Lakes** 62.12 321 ⇓P P 13 28 41.6 +0.9
baz=62
H17A **Grant Village** 62.16 331 ⇑P P 13 28 41.5 +0.7
baz=62,SNR=13
LKWY **Lake** 62.20 331 eP P 13 28 32.8 -8.3
LKWY pmax pmax
comp=Z,26nm,0.7s
LKWY **Lake** 62.20 331 eP P 13 28 32.8 -8.3
comp=Z,26nm,0.7s
I16A **Newdale** 62.22 330 ⇓P P 13 28 41.6 +0.5
baz=62,SNR=45
E21A **Keefer Ranch,** 62.23 335 ⇑P P 13 28 41.4 +0.4
baz=62,SNR=18
NVAR **Mina Array Bea** 62.28 322 P P 13 28 42.0 +0.3
NVAR pP PcP 13 29 19.8 -0.2
NVAR **Mina Array Bea** 62.28 322 P P 13 28 42.0 +0.3
comp=Z,12nm,0.7s,baz=126,slow=6.8,SNR=52
NVAR pP PcP 13 29 19.8 -0.2
comp=Z,5.8nm,0.8s,baz=147,slow=5.3,SNR=5.0
YFT **Old Faithful** 62.32 331 eP P 13 28 42.7 +0.8
comp=Z,49nm,1.1s
J15A **Blackfoot** 62.34 329 ⇑P P 13 28 42.6 +0.6
baz=62,SNR=33
D22A **Cohagen** 62.35 336 ⇓P P 13 28 42.8 +1.0
baz=63,SNR=65
G18A **Lazy EL Ranch,** 62.38 332 ⇓P P 13 28 42.6 +0.4
baz=63,SNR=50
C23A **Lambert** 62.48 337 ⇑P P 13 28 43.4 +0.8
baz=63,SNR=15
F19A **Roth Farm, Mol** 62.51 333 ⇓P P 13 28 43.3 +0.3
baz=63,SNR=57
D21A **La Casita Ranch** 62.62 335 ⇑P P 13 28 44.4 +0.8
baz=63,SNR=47
E20A **Meyer Farm, Mu** 62.66 334 ⇓P P 13 28 44.5 +0.7
baz=63,SNR=28
DGMT **Dagmar** 62.66 338 eP P 13 28 45.0 +1.2
comp=Z,51nm,1.0s
DGMT **Dagmar** 62.66 338 ⇑P P 13 28 44.7 +0.9
baz=63,SNR=6.6
H16A **Russell Place,** 62.71 331 ⇑P P 13 28 45.5 +1.1
baz=63,SNR=88
C22A **Vida** 62.71 336 ⇑P P 13 28 44.9 +0.7
baz=63,SNR=22
I15A **Monteview** 62.80 330 ⇑P P 13 28 46.0 +1.0
baz=63,SNR=19
J14A **Carey** 62.84 329 ⇓P P 13 28 46.4 +1.1
baz=63
QLMT **Earthquake Lak** 62.89 331 eP P 13 28 47.0 +1.4
F18A **Big Timber** 62.89 333 ⇓P P 13 28 46.2 +0.7
baz=63,SNR=63
E19A **Rath Farm, Rou** 62.91 334 ⇓P P 13 28 46.1 +0.5
baz=63,SNR=32
BMN **Battle Mountai** 62.91 324 eP P 13 28 46.1 +0.3
BMN pmax pmax
comp=Z,21nm,0.7s
BMN **Battle Mountai** 62.91 324 eP P 13 28 46.1 +0.3
comp=Z,21nm,0.7s
G17A **Pierce Place,** 62.93 332 ⇑P P 13 28 47.1 +1.3
baz=63,SNR=13
B23A **Brockton** 62.95 337 ⇑P P 13 28 47.0 +1.2
baz=63,SNR=44
A24A **Westby** 62.96 338 ⇑P P 13 28 46.8 +1.1
baz=63,SNR=26
D20A **Manuel Ranch,** 63.12 335 ⇑P P 13 28 47.3 +0.4
baz=63,SNR=30
B22A **Reddig Ranch S** 63.21 337 ⇑P P 13 28 48.2 +0.7
baz=63,SNR=16
I14A **Mackay** 63.24 329 ⇓P P 13 28 48.9 +1.0
baz=63,SNR=40
C21A **Desert Coulee** 63.27 336 ⇓P P 13 28 48.5 +0.7
baz=64,SNR=53
A23A **Redstone** 63.32 338 ⇑P P 13 28 49.2 +1.0
baz=64,SNR=16
H15A **Lima** 63.33 330 ⇓P P 13 28 49.6 +1.1
baz=64,SNR=43
F17A **Fitzpatrick Pl** 63.33 332 ⇑P P 13 28 49.2 +0.8
baz=64,SNR=30
CMB **Columbia Colle** 63.34 320 eP P 13 28 49.3 +0.8
CMB pmax pmax
comp=Z,10.0nm,1.0s
CMB **Columbia Colle** 63.34 320 eP P 13 28 49.3 +0.8
comp=Z,10nm,1.0s
G16A **Moss Hill, Enn** 63.36 331 ⇑P P 13 28 49.3 +0.6
baz=64,SNR=33
SCHQ **Schefferville** 63.39 5 eP P 13 28 48.7 +0.3
comp=Z,61nm,0.9s
SCHQ **Schefferville** 63.39 5 P P 13 28 48.7 +0.3
comp=Z,42nm,0.7s,baz=191,slow=5.0,SNR=74
HLID **Hailey** 63.47 328 eP P 13 28 50.1 +0.7
comp=Z,23nm,1.0s
HLID **Hailey** 63.47 328 ⇓P P 13 28 50.2 +0.7
baz=64,SNR=33
E18A **Harlowton** 63.49 333 ⇓P P 13 28 50.1 +0.6
baz=64,SNR=47
C20A **Veseth Ranch,** 63.55 335 ⇑P P 13 28 50.1 +0.4
baz=64,SNR=15
I13A **Wildhorse Cree** 63.57 329 ⇑P P 13 28 50.9 +0.8
baz=64,SNR=61
BOZ **Bozeman (W)** 63.59 331 eP P 13 28 50.4 +0.3
BOZ pmax pmax
comp=Z,30nm,0.9s
BOZ **Bozeman (W)** 63.59 331 eP P 13 28 50.4 +0.3
comp=Z,30nm,0.9s
BOZ **Bozeman (W)** 63.59 331 ⇑P P 13 28 50.5 +0.4
baz=64,SNR=52
G15A **Dillon** 63.65 331 ⇓P P 13 28 51.2 +0.6
baz=64,SNR=30
H14A **Leadore** 63.68 330 ⇓P P 13 28 51.7 +0.9
baz=64,SNR=39
F16A **Kennard Place,** 63.69 332 ⇑P P 13 28 51.2 +0.5
baz=64,SNR=39
B21A **Ellsworth Farm** 63.71 336 ⇑P P 13 28 51.6 +0.9
baz=64,SNR=23
WCN **Washoe City** 63.72 322 eP P 13 28 52.4 +1.3
WCN pmax pmax
comp=Z,32nm,1.0s
WCN **Washoe City** 63.72 322 eP P 13 28 52.4 +1.3
comp=Z,32nm,1.0s
WCN **Washoe City** 63.72 322 ⇓P P 13 28 52.3 +1.3
baz=64,SNR=12
A22A **Carney Farms,** 63.74 337 ⇑P P 13 28 52.0 +1.0
baz=64,SNR=28
E17A **Martinsdale** 63.84 332 ⇓P P 13 28 52.2 +0.4
baz=64,SNR=36
DLMT **Dillon** 63.84 331 eP P 13 28 52.5 +0.7
comp=Z,22nm,0.9s
D18A **Linhart Farms,** 63.92 334 ⇓P P 13 28 52.8 +0.6
baz=64,SNR=26
C19A **Slack Wire Ran** 64.01 334 ⇓P P 13 28 53.2 +0.5
baz=64,SNR=36
H13A **Challis** 64.09 329 ⇓P P 13 28 54.0 +0.5
baz=64,SNR=29
LRM **Limekiln Ridge** 64.11 331 eP P 13 28 54.0 +0.4
MFID **Camas Ranch** 64.12 327 eP P 13 28 54.5 +0.9

MFID Camas Ranch 64.12 327 ⇓P P 13 28 54.5 +0.9
baz=64,SNR=81
A21A Bergtoll Ranch 64.13 337 ⇑P P 13 28 54.2 +0.8
baz=64
B20A Solberg Farm, 64.13 336 ⇓P P 13 28 53.9 +0.4
baz=64,SNR=8.9
F15A Butte 64.14 331 ⇑P P 13 28 54.1 +0.3
baz=64,SNR=19
G14A Jackson 64.18 330 ⇑P P 13 28 54.6 +0.5
baz=64
E16A East Helena 64.27 332 ⇑P P 13 28 54.8 +0.3
baz=64,SNR=26
D17A Six Diamond Ra 64.28 333 ⇑P P 13 28 55.0 +0.4
baz=64,SNR=41
BEKR Beckworth 64.43 322 ⇑P P 13 28 54.9 -0.9
baz=65
A20A Cobblestone Ra 64.44 336 ⇑P P 13 28 56.0 +0.5
baz=65,SNR=20
G13A Cobalt 64.46 330 ⇓P P 13 28 56.4 +0.6
baz=65,SNR=46
HRY Holter Researc 64.47 332 eP P 13 28 56.4 +0.6
B19A Brinkman Farms 64.52 335 ⇑P P 13 28 56.5 +0.5
baz=65,SNR=15
EGMT Eagleton 64.53 334 eP P 13 28 56.4 +0.2
comp=Z,30nm,0.8s
EGMT Eagleton 64.53 334 ⇓P P 13 28 56.5 +0.4
baz=65,SNR=29
F14A Wisdom 64.54 331 ⇑P P 13 28 57.1 +0.7
baz=65,SNR=36
D16A Dana Ranch, Ca 64.58 333 ⇑P P 13 28 57.2 +0.6
baz=65,SNR=40
E15A Deer Lodge 64.64 331 ⇓P P 13 28 57.2 +0.2
baz=65,SNR=20
C17A Wharram Farm, 64.67 333 ⇓P P 13 28 57.4 +0.3
baz=65,SNR=24
OHCM Honcut 64.81 321 eP P 13 28 59.1 +1.2
A19A Klindworth Far 64.81 335 ⇑P P 13 28 58.4 +0.5
baz=65,SNR=41
B18A Beardsley Farm 64.83 335 ⇑P P 13 28 58.6 +0.5
baz=65,SNR=55
F13A Darby 65.00 330 ⇓P P 13 28 59.7 +0.4
baz=65,SNR=29
WVOR Wild Horse Val 65.02 325 eP P 13 28 58.3 -1.2
WVOR pmax pmax
comp=Z,22nm,1.1s
WVOR Wild Horse Val 65.02 325 eP P 13 28 58.3 -1.2
comp=Z,22nm,1.1s
D15A Lincoln 65.03 332 ⇑P P 13 29 00.1 +0.6
baz=65,SNR=22
E14A Clinton 65.04 331 ⇓P P 13 29 00.2 +0.7
baz=65,SNR=48
B17A L&G Farms, Che 65.19 334 ⇓P P 13 29 00.4 0.0
baz=65,SNR=6.9
C16A Fuhringer Ranc 65.24 333 ⇓P P 13 29 01.2 +0.4
baz=65,SNR=32
A18A Metzger Ranch, 65.26 335 ⇓P P 13 29 01.1 +0.3
baz=66,SNR=36
CHMT Chamberlain Mo 65.28 331 eP P 13 29 01.6 +0.4
E13A Victor 65.39 331 ⇑P P 13 29 02.5 +0.7
baz=66,SNR=60
F12A Elk City 65.43 329 ⇑P P 13 29 02.6 +0.5
baz=66,SNR=30
D14A Greenough 65.52 331 ⇑P P 13 29 03.1 +0.5
baz=66,SNR=15
MSO Missoula 65.55 331 eP P 13 29 03.6 +0.8
comp=Z,43nm,0.9s
MSO Missoula 65.55 331 ⇓P P 13 29 03.6 +0.8
baz=66,SNR=47
C15A Salmond Ranch, 65.61 332 ⇑P P 13 29 04.1 +0.9
baz=66,SNR=44
SLMT Seeley Lake 65.63 332 eP P 13 29 03.8 +0.4
A17A Triple J Farms 65.64 334 ⇑P P 13 29 03.7 +0.4
baz=66,SNR=41
B16A M & M Farms, S 65.68 333 ⇑P P 13 29 03.6 +0.1
baz=66,SNR=16
BMO Blue Mountains 65.87 328 eP P 13 29 05.1 +0.2
BMO pmax pmax
comp=Z,9.0nm,1.0s
BMO Blue Mountains 65.87 328 eP P 13 29 05.1 +0.2
comp=Z,8.6nm,1.0s
D13A Huson 65.98 331 ⇓P P 13 29 06.1 +0.6
baz=66,SNR=16
B15A Bradely Ranch, 65.99 333 ⇑P P 13 29 05.5 0.0
baz=66,SNR=15
A16A West Butte Ran 66.03 334 ⇑P P 13 29 06.0 +0.2
baz=66
SWMT Swartz Lake 66.06 332 eP P 13 29 06.7 +0.6
WDC Whiskeytown Da 66.19 321 eP P 13 29 05.6 -1.3
WDC pmax pmax
comp=Z,14nm,0.6s
WDC Whiskeytown Da 66.19 321 eP P 13 29 05.6 -1.3
comp=Z,14nm,0.6s
B14A Marquette Ranc 66.34 333 ⇓P P 13 29 08.1 +0.2
baz=66,SNR=21
JTMT Jette 66.37 332 eP P 13 29 09.2 +1.2
C13A Hot Springs 66.46 331 ⇑P P 13 29 09.3 +0.8
baz=67,SNR=37
A15A Johnson Ranch, 66.55 333 ⇓P P 13 29 09.1 -0.1
baz=67,SNR=8.1
BLMT Blacktail Moun 66.59 332 eP P 13 29 10.4 +0.9
BSMT Bassoo Peak 66.68 331 eP P 13 29 10.9 +0.8
A14A Double T Ranch 66.86 333 ⇑P P 13 29 11.3 +0.2
baz=67,SNR=13
B13A Whitefish 66.90 332 ⇓P P 13 29 11.8 +0.5
baz=67,SNR=12
C12B Naegeli Ranch, 66.91 331 ⇓P P 13 29 12.1 +0.8
baz=67,SNR=33
YBH Yreka Blue Hor 66.97 322 eP P 13 29 10.2 -1.8
comp=Z,16nm,0.9s
BUOR Burton Butte 67.02 323 P P 13 29 12.9 +0.6
KHMM Horse Mountain 67.10 321 eP P 13 29 14.3 +1.5
comp=Z,50nm,0.8s
WALA Waterton Lakes 67.14 333 eP P 13 29 13.4 +0.5
comp=Z,0.7nm,0.8s
FFC Flin Flon 67.23 343 eP P 13 29 12.7 -0.4
FFC pmax pmax
comp=Z,29nm,1.3s
FFC Flin Flon 67.23 343 i P P 13 29 13.1 0.0
FFC Flin Flon 67.23 343 eP P 13 29 12.7 -0.4
comp=Z,29nm,1.3s
FFC Flin Flon 67.23 343 P P 13 29 12.1 -1.0
comp=Z,101nm,0.6s,SNR=6.7
C11A Tepee Creek (N 67.38 331 ⇓P P 13 29 15.0 +0.7
baz=68
VIPM Ingram Point 67.45 326 P P 13 29 16.1 +1.1
VIPM Ingram Point 67.45 326 P P 13 29 16.1 +1.1
B12A Libby 67.50 331 ⇓P P 13 29 15.8 +0.8
baz=68,SNR=8.3
KRMB Red Mountain 67.58 322 eP P 13 29 15.6 -0.2
HUMO Hull Mountain 67.64 323 eP P 13 29 15.8 -0.3
comp=Z,169nm,2.4s
A12A Yaak River Ran 67.86 332 ⇑P P 13 29 18.2 +0.9
baz=68,SNR=37
HAWA Hanford 68.06 328 eP P 13 29 19.2 +0.7
comp=Z,14nm,1.1s
NEW Newport 68.09 331 eP P 13 29 19.0 +0.2
comp=Z,18nm,0.8s
NEW Newport 68.09 331 ⇓P P 13 29 18.9 +0.2
baz=68,SNR=21
BROR Big Rock Looko 68.34 325 P P 13 29 20.5 +0.3
WTV Waterville 69.13 329 P P 13 29 26.3 +1.1
ETW Entiat 69.26 328 P P 13 29 27.2 +1.0
LON Longmire 69.50 327 eP P 13 29 28.2 +0.7
LON pmax pmax
comp=Z,16nm,0.9s
LON Longmire 69.50 327 eP P 13 29 28.2 +0.7
comp=Z,16nm,0.9s
NLW Nelson Butte 69.57 329 P P 13 29 28.8 +0.8
LIC Lamto 70.31 80 eP P 13 29 32.8 -0.2
baz=254
LIC Lamto 70.31 80 eP P 13 29 32.8 -0.2
DBIC Dimbokro 70.56 80 eP P 13 29 34.8 +0.3
comp=Z,26nm,0.8s
DBIC Dimbokro 70.56 80 P P 13 29 34.7 +0.1
comp=Z,20nm,0.5s,baz=246,slow=6.2,SNR=33
NLWA Neilton Lookou 71.01 327 eP P 13 29 38.4 +1.8
comp=Z,45nm,0.8s
PGC Sidney 71.55 328 eP P 13 29 41.2 +1.5
comp=Z,2.5nm,0.9s
PFVI Vila Bisbo 75.91 48 eP P 13 30 06.7 +1.3
comp=Z,54nm,2.1s
SNAA Sanae 76.09 162 eP P 13 29 58.0 -7.9
comp=Z,7.6nm,0.7s
MORF Marmelete 76.10 48 eP P 13 30 07.9 +1.3
comp=Z,65nm,1.4s
MORF Marmelete 76.10 48 eP P 13 30 07.7 +1.1

PTEO Sao Teotonio 76.14 48 eP P 13 30 08.3 +1.6
comp=Z,46nm,1.6s
LIS Lisbon 76.28 47 eP P 13 30 08.8 +1.3
LIS AMb AMB 13 30 18.0
comp=Z,55nm,0.7s
LIS Lisbon 76.28 47 eP P 13 30 08.8 +1.3
comp=Z,55nm,0.7s
LIS Lisbon 76.28 47 eP P 13 30 08.8 +1.3
PNCL Nicolau / Gran 76.49 48 eP P 13 30 10.0 +1.3
comp=Z,32nm,0.8s
PBDV Barranco-do-Ve 76.61 49 eP P 13 30 11.0 +1.6
comp=Z,38nm,1.3s
MESJ Messejana 76.62 48 eP P 13 30 10.7 +1.2
MESJ Messejana 76.62 48 eP P 13 30 10.6 +1.2
PCVE Castro Verde 76.67 48 eP P 13 30 11.1 +1.3
comp=Z,42nm,0.9s
PVAQ Vaqueiros 76.83 48 eP P 13 30 11.7 +1.1
comp=Z,23nm,2.0s
EVOP Sao Brissos 76.95 47 eP P 13 30 11.6 +0.4
EVOP pmax pmax
comp=Z,46nm,0.8s
EVOP Sao Brissos 76.95 47 eP P 13 30 11.6 +0.4
comp=Z,46nm,0.8s
PBEJ Beja 76.95 48 eP P 13 30 12.4 +1.1
comp=Z,22nm,1.5s
EVO Evora 77.03 47 eP P 13 30 12.6 +0.9
comp=Z,26nm,1.2s
EVO Evora 77.03 47 eP P 13 30 11.6 -0.1
comp=Z,46nm,0.8s
PMTG Montargil 77.08 47 eP P 13 30 12.6 +0.6
comp=Z,26nm,0.8s
PTOM Tomar 77.15 46 eP P 13 30 13.0 +0.6
comp=Z,34nm,1.5s
SFJD Kangerlussuaq 77.19 9 i P P 13 30 11.3 -0.7
comp=Z,15nm,0.8s
SFJD i pP pP 13 30 50.1 -2.3
YKA Yellowknife Ar 77.38 342 P P 13 30 12.8 -0.2
YKA pP pP 13 30 54.4 +0.8
YKA Yellowknife Ar 77.38 342 P P 13 30 12.8 -0.2
comp=Z,18nm,0.7s,baz=140,slow=6.3,SNR=442
YKA pP pP 13 30 54.3 +0.8
comp=Z,7.1nm,0.5s,baz=142,slow=6.0,SNR=7.5
PESTR Estremoz 77.46 47 eP P 13 30 15.5 +1.4
comp=Z,37nm,1.4s
PBAR Barrancos 77.61 48 eP P 13 30 15.9 +0.9
comp=Z,23nm,1.3s
PMRV Marv??o 77.81 47 eP P 13 30 08.0 -8.1
comp=Z,18nm,2.0s
PCBR Castelo Branco 77.90 46 eP P 13 30 17.1 +0.6
comp=Z,16nm,1.7s
PVIS Viseu 77.94 45 eP P 13 30 17.3 +0.5
comp=Z,36nm,0.8s
MTE Manteigas 78.06 46 eP P 13 30 18.0 +0.4
comp=Z,23nm,0.7s
MTE Manteigas 78.06 46 eP P 13 30 17.9 +0.4
comp=Z,19nm,0.7s
PGAV Gavieira, Arco 78.16 44 eP P 13 30 18.0 0.0
comp=Z,30nm,2.0s
TORD Torodi Ar. Bea 78.18 75 P P 13 30 18.3 -0.3
TORD S S 13 39 57.0 -3.1
TORD Torodi Ar. Bea 78.18 75 P P 13 30 18.3 -0.3
comp=Z,20nm,0.6s,baz=282,slow=5.4,SNR=125
TORD S S 13 39 57.0 -3.1
comp=Z,1.4nm,0.8s,baz=259,slow=12,SNR=5.9
PCAB Cabril 78.22 44 eP P 13 30 18.2 -0.1
comp=Z,31nm,1.4s
POLO Lamas de Olo 78.26 45 eP P 13 30 18.9 +0.3
comp=Z,12nm,1.4s
PVRL Vila Real 78.27 45 eP P 13 30 19.1 +0.5
comp=Z,20nm,1.3s
MVO Moncorvo 78.71 45 eP P 13 30 21.7 +0.6
comp=Z,32nm,0.7s
PBRG Braganca 79.15 45 eP P 13 30 24.1 +0.7
comp=Z,15nm,1.2s
PAB San Pablo 80.06 47 eP P 13 30 28.6 +0.2
PAB pmax pmax
comp=Z,22nm,0.8s
PAB San Pablo 80.06 47 eP P 13 30 28.6 +0.2
comp=Z,22nm,0.8s
ESDC Sonseca Array 80.38 47 P P 13 30 31.1 +1.0
ESDC Sonseca Array 80.38 47 P P 13 30 31.1 +1.0
comp=Z,13nm,0.8s,baz=254,slow=6.1,SNR=26
DLBC Dease Lake 80.46 334 eP P 13 30 31.3 +1.2
NVL N'lazarevskaya 80.65 160 eP P 13 30 31.8 +0.9
NVL pmax pmax
comp=Z,15nm,0.9s
QSPA South Pole Qui 81.61 180 eP P 13 30 37.6 +1.4
comp=Z,38nm,1.1s
QSPA epP pP 13 31 17.2 +0.2
SKAG Skagway 83.33 333 eP P 13 30 45.8 +0.9
comp=Z,10nm,0.8s
SJPF Ste Jean 83.43 45 eP P 13 30 46.9 +1.0
comp=Z,92nm,0.7s
SJPF Ste Jean 83.43 45 eP P 13 30 46.9 +1.0
SJPF pmax pmax
comp=Z,92nm,0.7s
SJPF Ste Jean 83.43 45 eP P 13 30 46.9 +1.0
comp=Z,92nm,0.7s
OSSF Osses 83.45 45 eP P 13 30 46.5 +0.5
OSSF Osses 83.45 45 eP P 13 30 46.5 +0.5
LARF Larrau 83.58 45 eP P 13 30 48.0 +1.3
LARF Larrau 83.58 45 eP P 13 30 48.0 +1.3
QUIF Quistinic 83.70 40 eP P 13 30 47.2 +0.1
comp=Z,46nm,1.1s
QUIF Quistinic 83.70 40 eP P 13 30 47.2 +0.1
QUIF pmax pmax
comp=Z,47nm,1.1s
QUIF Quistinic 83.70 40 eP P 13 30 47.2 +0.1
comp=Z,46nm,1.1s
TAM Tamanrasset 83.72 66 eP P 13 30 48.9 +0.9
TAM pmax pmax
comp=Z,20nm,0.8s
TAM Tamanrasset 83.72 66 eP P 13 30 48.9 +0.9
comp=Z,20nm,0.8s
ROSF Rostrenen 83.78 39 eP P 13 30 47.7 +0.2
comp=Z,28nm,0.6s
ROSF Rostrenen 83.78 39 eP P 13 30 47.7 +0.2
ROSF pmax pmax
comp=Z,28nm,0.6s
ROSF Rostrenen 83.78 39 eP P 13 30 47.7 +0.2
comp=Z,28nm,0.6s
ETSF Etsaut 83.83 45 eP P 13 30 49.0 +1.0
comp=Z,42nm,0.8s
ETSF Etsaut 83.83 45 eP P 13 30 49.0 +1.0
ETSF pmax pmax
comp=Z,42nm,0.8s
ETSF Etsaut 83.83 45 eP P 13 30 49.0 +1.0
comp=Z,42nm,0.8s
RES Resolute Bay 84.03 355 eP P 13 30 48.7 +0.5
comp=Z,22nm,0.9s
SUMG Summit 84.13 10 i P P 13 30 50.3 +1.0
SUMG i *PP pP 13 31 29.6 -0.7
SUMG pmax pmax
comp=Z,64nm,0.8s
SUMG Summit 84.13 10 eP P 13 30 49.4 +0.1
comp=Z,85nm,0.9s
SUMG epP pP 13 31 29.8 -0.5
SUMG Summit 84.13 10 i P P 13 30 50.3 +1.0
comp=Z,64nm,0.8s
SUMG i pP pP 13 31 29.6 -0.7
SGMF Saint Gilles 84.20 40 eP P 13 30 49.7 0.0
comp=Z,22nm,0.7s
SGMF Saint Gilles 84.20 40 eP P 13 30 49.7 0.0
SGMF pmax pmax
comp=Z,22nm,0.7s
SGMF Saint Gilles 84.20 40 eP P 13 30 49.7 0.0
comp=Z,22nm,0.7s
EPF Esparros 84.50 45 eP P 13 30 52.3 +0.9
comp=Z,35nm,0.7s
EPF Esparros 84.50 45 eP P 13 30 52.3 +0.9
EPF pmax pmax
comp=Z,35nm,0.7s
EPF Esparros 84.50 45 eP P 13 30 52.3 +0.9
comp=Z,35nm,0.7s
MFF Saint Martin d 85.23 42 eP P 13 30 55.2 +0.4
comp=Z,99nm,0.8s
MFF Saint Martin d 85.23 42 eP P 13 30 55.2 +0.4
MFF pmax pmax
comp=Z,99nm,0.8s
MFF Saint Martin d 85.23 42 eP P 13 30 55.2 +0.4
comp=Z,99nm,0.8s
GRR Gorron 85.32 40 eP P 13 30 55.2 0.0
comp=Z,66nm,0.8s
GRR Gorron 85.32 40 eP P 13 30 55.2 0.0
GRR pmax pmax
comp=Z,66nm,0.8s
GRR Gorron 85.32 40 eP P 13 30 55.2 0.0

comp=Z,66nm,0.8s
LFF La Frestale 85.33 43 eP P 13 30 55.8 +0.4
comp=Z,117nm,0.7s
LFF La Frestale 85.33 43 eP P 13 30 55.8 +0.4
LFF pmax pmax
comp=Z,117nm,0.7s
LFF La Frestale 85.33 43 eP P 13 30 55.8 +0.4
comp=Z,117nm,0.7s
FLN La Foliniere 85.67 40 eP P 13 30 57.1 +0.1
comp=Z,95nm,0.9s
FLN La Foliniere 85.67 40 eP P 13 30 57.1 +0.1
FLN pmax pmax
comp=Z,95nm,0.9s
FLN La Foliniere 85.67 40 eP P 13 30 57.1 +0.1
comp=Z,95nm,0.9s
LDF La Druitiere 85.85 40 eP P 13 30 57.8 -0.1
comp=Z,124nm,1.2s
LDF La Druitiere 85.85 40 eP P 13 30 57.8 -0.1
LDF pmax pmax
comp=Z,124nm,1.2s
LDF La Druitiere 85.85 40 eP P 13 30 57.8 -0.1
comp=Z,124nm,1.2s
RJF Les Rejaudoux 85.96 43 eP P 13 30 58.3 -0.2
comp=Z,44nm,0.9s
RJF Les Rejaudoux 85.96 43 eP P 13 30 58.3 -0.2
RJF pmax pmax
comp=Z,44nm,0.9s
RJF Les Rejaudoux 85.96 43 eP P 13 30 58.3 -0.2
comp=Z,44nm,0.9s
SCO Scoresbysund 86.22 15 i P P 13 31 00.2 +1.1
SCO i *PP pP 13 31 39.6 -0.8
SCO pmax pmax
comp=Z,17nm,0.9s
SCO Scoresbysund 86.22 15 i P P 13 31 00.2 +1.1
comp=Z,17nm,0.9s
SCO i pP pP 13 31 39.6 -0.8
CAF Calviac 86.23 44 eP P 13 30 59.7 -0.2
comp=Z,18nm,0.6s
CAF Calviac 86.23 44 eP P 13 30 59.7 -0.2
CAF pmax pmax
comp=Z,18nm,0.6s
CAF Calviac 86.23 44 eP P 13 30 59.7 -0.2
comp=Z,18nm,0.6s
TCF Toulx Ste Croi 86.70 42 eP P 13 31 01.7 -0.4
comp=Z,25nm,0.8s
TCF Toulx Ste Croi 86.70 42 eP P 13 31 01.7 -0.4
TCF pmax pmax
comp=Z,25nm,0.8s
TCF Toulx Ste Croi 86.70 42 eP P 13 31 01.7 -0.4
comp=Z,25nm,0.8s
VERF Verneugheol 86.74 43 eP P 13 31 02.5 +0.1
VERF Verneugheol 86.74 43 eP P 13 31 02.5 +0.1
PYM Petit Puy Mans 87.09 43 eP P 13 31 04.3 +0.2
PYM Petit Puy Mans 87.09 43 eP P 13 31 04.3 +0.2
PYM Petit Puy Mans 87.09 43 eP P 13 31 04.3 +0.2
LBL Lubilhac 87.12 44 eP P 13 31 05.0 +0.8
LBL Lubilhac 87.12 44 eP P 13 31 05.0 +0.8
LBL Lubilhac 87.12 44 eP P 13 31 05.0 +0.8
INK Inuvik 87.12 341 eP P 13 31 03.8 +0.2
comp=Z,34nm,0.8s
BGF Bois d'Agland 87.20 42 eP P 13 31 04.2 -0.3
comp=Z,65nm,0.7s
BGF Bois d'Agland 87.20 42 eP P 13 31 04.2 -0.3
BGF pmax pmax
comp=Z,65nm,0.7s
BGF Bois d'Agland 87.20 42 eP P 13 31 04.2 -0.3
comp=Z,65nm,0.7s
LASF Ste Croix 87.25 45 eP P 13 31 04.9 +0.1
comp=Z,32nm,0.9s
LASF Ste Croix 87.25 45 eP P 13 31 04.9 +0.1
comp=Z,32nm,0.9s
HYF Humbligny 87.25 42 eP P 13 31 04.7 0.0
HYF Humbligny 87.25 42 eP P 13 31 04.7 0.0
AGO Saint Agoulin 87.25 43 eP P 13 31 04.6 -0.2
AGO Saint Agoulin 87.25 43 eP P 13 31 04.6 -0.2
PLDF La Plantade 87.56 43 eP P 13 31 06.2 -0.1
PLDF La Plantade 87.56 43 eP P 13 31 06.2 -0.1
PLDF La Plantade 87.56 43 eP P 13 31 06.2 -0.1
SSF Saint Saulge 87.77 42 eP P 13 31 06.4 -0.8
comp=Z,17nm,0.7s
SSF Saint Saulge 87.77 42 eP P 13 31 06.4 -0.8
SSF pmax pmax
comp=Z,17nm,0.7s
SSF Saint Saulge 87.77 42 eP P 13 31 06.4 -0.8
comp=Z,17nm,0.7s
VIVF Saint-Julien-l 88.00 44 eP P 13 31 08.6 +0.2
comp=Z,50nm,1.0s
VIVF Saint-Julien-l 88.00 44 eP P 13 31 08.6 +0.2
VIVF pmax pmax
comp=Z,50nm,1.0s
VIVF Saint-Julien-l 88.00 44 eP P 13 31 08.6 +0.2
comp=Z,50nm,1.0s
LOR Lormes 88.05 42 eP P 13 31 07.9 -0.6
comp=Z,29nm,0.7s
LOR Lormes 88.05 42 eP P 13 31 07.9 -0.6
comp=Z,29nm,0.7s
BMRM Bremner River 88.17 333 eP P 13 31 09.6 +0.8
EGAK Eagle 88.18 337 eP P 13 31 09.0 +0.3
SMRF Simiane la Rot 88.43 45 eP P 13 31 10.9 +0.5
SMRF Simiane la Rot 88.43 45 eP P 13 31 10.9 +0.5
MENT Mentasta 88.50 335 eP P 13 31 10.4 +0.1
MENT ePP PP 13 34 40.9 0.0
TSUM Tsumeb 88.73 109 eP P 13 31 12.6 0.0
comp=Z,5.5nm,0.8s
ORIF Oris-en-Rattie 88.85 44 eP P 13 31 13.0 +0.5
comp=Z,73nm,0.7s
ORIF Oris-en-Rattie 88.85 44 eP P 13 31 13.0 +0.5
ORIF pmax pmax
comp=Z,73nm,0.7s
ORIF Oris-en-Rattie 88.85 44 eP P 13 31 13.0 +0.5
comp=Z,73nm,0.7s
LMR La Mourre 88.94 46 eP P 13 31 12.7 -0.1
comp=Z,60nm,0.9s
LMR La Mourre 88.94 46 eP P 13 31 12.7 -0.1
LMR pmax pmax
comp=Z,60nm,0.9s
LMR La Mourre 88.94 46 eP P 13 31 12.7 -0.1
comp=Z,60nm,0.9s
BAIF Baives 88.98 39 eP P 13 31 12.5 -0.3
comp=Z,12nm,0.7s
BAIF Baives 88.98 39 eP P 13 31 12.5 -0.3
BAIF pmax pmax
comp=Z,12nm,0.7s
BAIF Baives 88.98 39 eP P 13 31 12.5 -0.3
comp=Z,12nm,0.7s
SFTF Sexfontaines 89.05 41 eP P 13 31 12.8 -0.4
comp=Z,42nm,0.9s
SFTF Sexfontaines 89.05 41 eP P 13 31 12.8 -0.4
comp=Z,42nm,0.9s
MEZF Maizieres J'vi 89.13 41 eP P 13 31 13.3 -0.2
comp=Z,18nm,0.6s
MEZF Maizieres J'vi 89.13 41 eP P 13 31 13.3 -0.2
comp=Z,18nm,0.6s
SNF Seneffe 89.13 39 P P 13 31 13.7 +0.2
DOU Dourbes 89.23 39 P P 13 31 13.8 -0.1
comp=Z,15nm,1.0s
PAX Paxson 89.26 334 eP P 13 31 13.7 -0.2
PAX pmax pmax
comp=Z,41nm,1.0s
PAX Paxson 89.26 334 eP P 13 31 13.7 -0.2
comp=Z,41nm,1.0s
GIVF Givet 89.37 39 eP P 13 31 14.7 +0.1
comp=Z,79nm,0.9s
GIVF Givet 89.37 39 eP P 13 31 14.7 +0.1
GIVF pmax pmax
comp=Z,79nm,0.9s
GIVF Givet 89.37 39 eP P 13 31 14.7 +0.1
comp=Z,79nm,0.9s
CABF La Chapelle 89.38 43 eP P 13 31 14.7 -0.2
comp=Z,46nm,0.9s
CABF La Chapelle 89.38 43 eP P 13 31 14.7 -0.2
CABF pmax pmax
comp=Z,46nm,0.9s
CABF La Chapelle 89.38 43 eP P 13 31 14.7 -0.2
comp=Z,46nm,0.9s
MBDF Montbardon 89.43 45 eP P 13 31 15.4 +0.2
comp=Z,25nm,1.1s
MBDF Montbardon 89.43 45 eP P 13 31 15.4 +0.2
MBDF pmax pmax
comp=Z,25nm,1.1s
MBDF Montbardon 89.43 45 eP P 13 31 15.4 +0.2
comp=Z,25nm,1.1s
RSL Roselend 89.54 44 eP P 13 31 16.9 +1.2
RSL Roselend 89.54 44 eP P 13 31 16.9 +1.2
RSL Roselend 89.54 44 eP P 13 31 16.9 +1.2
KEST Kesra 89.56 54 P P 13 31 16.7 +0.7

KEST	**Kesra**	**89.56**	**54**	P		**P**	**13 31 16.7**	**+0.7**	
	comp=Z,5.2nm,0.7s,baz=265,slow=7.5,SNR=6.2								
LPL	**La Plagne**	**89.57**	**44**	*e*P		**P**	**13 31 16.5**	**+0.5**	
	comp=Z,62nm,0.7s								
LPL	**La Plagne**	**89.57**	**44**	*e*P		**P**	**13 31 16.5**	**+0.5**	
LPL					pmax	pmax			
	comp=Z,62nm,0.7s								
LPL	**La Plagne**	**89.57**	**44**	*e*P		**P**	**13 31 16.5**	**+0.5**	
	comp=Z,62nm,0.7s								
PAGF	**Fort de Pagny**	**89.58**	**41**	*e*P		**P**	**13 31 15.6**	**-0.1**	
	comp=Z,6.6nm,0.8s								
PAGF	**Fort de Pagny**	**89.58**	**41**	*e*P		**P**	**13 31 15.6**	**-0.1**	
	comp=Z,6.6nm,0.8s								
LPG	**La Plagne**	**89.58**	**44**	*e*P		**P**	**13 31 16.8**	**+0.7**	
	comp=Z,74nm,0.8s								
LPG	**La Plagne**	**89.58**	**44**	*e*P		**P**	**13 31 16.8**	**+0.7**	
LPG					pmax	pmax			
	comp=Z,74nm,0.8s								
LPG	**La Plagne**	**89.58**	**44**	*e*P		**P**	**13 31 16.8**	**+0.7**	
	comp=Z,74nm,0.8s								
THEF	**They Montfort**	**89.67**	**41**	*e*P		**P**	**13 31 16.1**	**0.0**	
THEF	**They Montfort**	**89.67**	**41**	*e*P		**P**	**13 31 16.1**	**0.0**	
THEF	**They Montfort**	**89.67**	**41**	*e*P		**P**	**13 31 16.1**	**0.0**	
SBF	**Sospel**	**89.71**	**46**	*e*P		**P**	**13 31 16.2**	**-0.3**	
SBF	**Sospel**	**89.71**	**46**	*e*P		**P**	**13 31 16.2**	**-0.3**	
SBF	**Sospel**	**89.71**	**46**	*e*P		**P**	**13 31 16.2**	**-0.3**	
BCLA	**Clavier**	**89.75**	**39**	P		**P**	**13 31 16.7**	**+0.3**	
	comp=Z,7.8nm,1.0s								
HAU	**Haudompre**	**89.86**	**41**	*e*P		**P**	**13 31 16.5**	**-0.5**	
	comp=Z,11nm,0.5s								
HAU	**Haudompre**	**89.86**	**41**	*e*P		**P**	**13 31 16.5**	**-0.5**	
HAU					pmax	pmax			
	comp=Z,11nm,0.5s								
HAU	**Haudompre**	**89.86**	**41**	*e*P		**P**	**13 31 16.5**	**-0.5**	
	comp=Z,11nm,0.5s								
LOMF	**Lomont**	**90.03**	**42**	*e*P		**P**	**13 31 17.8**	**-0.1**	
LOMF	**Lomont**	**90.03**	**42**	*e*P		**P**	**13 31 17.8**	**-0.1**	
LOMF	**Lomont**	**90.03**	**42**	*e*P		**P**	**13 31 17.8**	**-0.1**	
WLF	**Walferdange**	**90.11**	**40**	P		**P**	**13 31 18.9**	**+0.8**	
	comp=Z,20nm,1.1s								
WLF	**Walferdange**	**90.11**	**40**	*e*P		**P**	**13 31 18.5**	**+0.4**	
	comp=Z,34nm,0.9s								
WLF	**Walferdange**	**90.11**	**40**	*e*P		**P**	**13 31 18.9**	**+0.8**	
WLF	**Walferdange**	**90.11**	**40**	*e*P		**P**	**13 31 18.9**	**+0.8**	
SML	**Sawmill**	**90.14**	**333**	*e*P		**P**	**13 31 18.6**	**+0.6**	
SML	**Sawmill**	**90.14**	**333**	*e*P		**P**	**13 31 18.6**	**+0.6**	
HINF	**Hinteralfeld**	**90.15**	**42**	*e*P		**P**	**13 31 17.8**	**-0.6**	
HINF	**Hinteralfeld**	**90.15**	**42**	*e*P		**P**	**13 31 17.8**	**-0.6**	
HINF	**Hinteralfeld**	**90.15**	**42**	*e*P		**P**	**13 31 17.8**	**-0.6**	
MEM	**Membach**	**90.23**	**39**	P		**P**	**13 31 18.3**	**-0.3**	
	comp=Z,8.2nm,1.1s								
SYO	**Syowa Base**	**90.32**	**161⇑**	*e*P		**P**	**13 31 18.0**	**-0.7**	
MOF	**Molkenrain**	**90.34**	**42**	*e*P		**P**	**13 31 18.9**	**-0.5**	
MOF	**Molkenrain**	**90.34**	**42**	*e*P		**P**	**13 31 18.9**	**-0.5**	
MOF	**Molkenrain**	**90.34**	**42**	*e*P		**P**	**13 31 18.9**	**-0.5**	
ECH	**Echery**	**90.44**	**41**	*e*P		**P**	**13 31 19.6**	**-0.1**	
ECH					pmax	pmax			
	comp=Z,27nm,1.1s								
ECH	**Echery**	**90.44**	**41**	*e*P		**P**	**13 31 19.6**	**-0.1**	
	comp=Z,27nm,1.1s								
ECH	**Echery**	**90.44**	**41**	*e*P		**P**	**13 31 19.5**	**-0.1**	
ILAR	**Eielson Array**	**90.46**	**336**	P		**P**	**13 31 19.2**	**-0.1**	
ILAR					pP	**pP**	**13 32 01.8**	**+0.8**	
ILAR					PP	**PP**	**13 34 56.5**	**+0.2**	
ILAR	**Eielson Array**	**90.46**	**336**	P		**P**	**13 31 19.2**	**-0.1**	
	comp=Z,10.0nm,0.9s,baz=144,slow=3.2,SNR=72								
ILAR					pP	**pP**	**13 32 01.8**	**+0.8**	
	comp=Z,3.0nm,0.9s,baz=128,slow=3.6,SNR=4.3								
ILAR					PP	**PP**	**13 34 56.5**	**+0.2**	
	comp=Z,1.6nm,0.8s,baz=109,slow=7.4,SNR=6.8								
BBS	**Basel-Blauen**	**90.51**	**42**	*e*P		**P**	**13 31 20.0**	**-0.1**	
BBS	**Basel-Blauen**	**90.51**	**42**	*e*P		**P**	**13 31 20.0**	**-0.1**	
CDF	**Champ du Feu**	**90.56**	**41**	*e*P		**P**	**13 31 19.9**	**-0.4**	
	comp=Z,42nm,0.9s								
CDF	**Champ du Feu**	**90.56**	**41**	*e*P		**P**	**13 31 19.9**	**-0.4**	
CDF					pmax	pmax			
	comp=Z,42nm,0.9s								
CDF	**Champ du Feu**	**90.56**	**41**	*e*P		**P**	**13 31 19.9**	**-0.4**	
	comp=Z,42nm,0.9s								
RC01	**Rabbit Creek A**	**90.57**	**332**	*e*P		**P**	**13 31 20.2**	**+0.3**	
	comp=Z,33nm,1.0s								
RUP	**Ruppelstein**	**90.69**	**40**	*e*P		**P**	**13 31 21.3**	**+0.5**	
RUP	**Ruppelstein**	**90.69**	**40**	*e*P		**P**	**13 31 21.3**	**+0.5**	
DAG	**Danmarks Havn**	**90.77**	**11⇓**	*i*P		**P**	**13 31 20.8**	**+0.2**	
DAG					pmax	pmax			
	comp=Z,14nm,0.9s								
DAG	**Danmarks Havn**	**90.77**	**11⇓**	*i*P		**P**	**13 31 20.8**	**+0.2**	
	comp=Z,137nm,0.9s								
COLA	**College**	**90.88**	**336**	*e*P		**P**	**13 31 20.5**	**-0.8**	
COLA					pmax	pmax			
	comp=Z,44nm,0.9s								
COLA	**College**	**90.88**	**336**	*e*P		**P**	**13 31 20.5**	**-0.8**	
	comp=Z,44nm,0.9s								
FELD	**Feldberg im Sc**	**90.92**	**42**	*e*P		**P**	**13 31 21.7**	**-0.4**	
MCK	**McKinley**	**90.98**	**335**	*e*P		**P**	**13 31 22.0**	**+0.1**	
MCK					pmax	pmax			
	comp=Z,15nm,0.8s								
MCK	**McKinley**	**90.98**	**335**	*e*P		**P**	**13 31 22.0**	**+0.1**	
	comp=Z,15nm,0.8s								
LANF	**Langenberg**	**91.02**	**41**	*e*P		**P**	**13 31 22.6**	**+0.3**	
LANF	**Langenberg**	**91.02**	**41**	*e*P		**P**	**13 31 22.6**	**+0.3**	
LANF	**Langenberg**	**91.02**	**41**	*e*P		**P**	**13 31 22.6**	**+0.3**	
KDAK	**Kodiak Island**	**91.10**	**328**	P		**P**	**13 31 21.7**	**-0.8**	
KDAK	**Kodiak Island**	**91.10**	**328**	P		**P**	**13 31 21.7**	**-0.8**	
	comp=Z,23nm,0.7s,baz=286,slow=6.1,SNR=10								
BUG	**Bochum--Univer**	**91.19**	**38**	*e*P		**P**	**13 31 23.4**	**+0.4**	
	comp=Z,30nm,1.0s								
BFO	**Black Forest**	**91.23**	**41**	*e*P		**P**	**13 31 23.0**	**-0.4**	
	comp=Z,11nm,1.2s								
SPAK	**Spaichingen-Ko**	**91.48**	**42**	*e*P		**P**	**13 31 24.5**	**-0.1**	
TRF	**Thorofare Moun**	**91.48**	**334**	*e*P		**P**	**13 31 23.5**	**-0.9**	
	comp=Z,14nm,0.7s								
TUE	**Stuetta**	**91.55**	**43**	*e*P		**P**	**13 31 24.5**	**-0.6**	
	comp=Z,9.2nm,1.0s								
IBBN	**Ibbenburen**	**91.66**	**37**	*e*P		**P**	**13 31 25.6**	**+0.4**	
	comp=Z,20nm,0.6s								
TNS	**Taunus Mts**	**91.67**	**40**	*e*P		**P**	**13 31 25.6**	**+0.2**	
	comp=Z,12nm,1.2s								
DAVA	**Damuels**	**92.06**	**43⇑**	*i*P		**P**	**13 31 27.7**	**+0.3**	
	comp=Z,15nm,0.8s								
COLD	**Coldfoot**	**92.49**	**338**	*e*P		**P**	**13 31 29.5**	**+0.7**	
	comp=Z,9.9nm,0.9s								
MOTA	**Moosalm**	**92.89**	**43⇑**	*i*P		**P**	**13 31 31.2**	**0.0**	
	comp=Z,8.6nm,0.6s								
CLZ	**Clausthal**	**93.16**	**38**	*e*P		**P**	**13 31 32.8**	**+0.6**	
	comp=Z,39nm,1.7s								
WTTA	**Wattenberg**	**93.23**	**43⇑**	*i*P		**P**	**13 31 32.8**	**0.0**	
	comp=Z,32nm,1.4s								
BSEG	**Bad Segeberg**	**93.48**	**36**	*e*P		**P**	**13 31 34.1**	**+0.6**	
	comp=Z,18nm,0.8s								
MOX	**Moxa**	**93.74**	**40**	*e*P		**P**	**13 31 35.4**	**+0.5**	
	comp=Z,6.0nm,1.2s								
ABTA	**Abfaltersbach**	**93.75**	**43⇑**	*i*P		**P**	**13 31 35.1**	**0.0**	
	comp=Z,29nm,1.3s								
BOSA	**Boshof**	**94.01**	**120**	P		**P**	**13 31 38.5**	**+1.7**	
BOSA	**Boshof**	**94.01**	**120**	P		**P**	**13 31 38.5**	**+1.7**	
	comp=Z,4.1nm,1.0s,baz=298,slow=13,SNR=3.0								
RJOB	**Jochberg**	**94.08**	**43**	*e*P		**P**	**13 31 36.6**	**0.0**	
	comp=Z,13nm,1.2s								
TANN	**Tannenbergstha**	**94.24**	**40**	*e*P		**P**	**13 31 38.2**	**+1.0**	
	comp=Z,12nm,1.3s								
WET	**Wettzell**	**94.33**	**41**	*e*P		**P**	**13 31 38.4**	**+0.8**	
	comp=Z,34nm,2.0s								
KBA	**Koelnbreinsper**	**94.36**	**43⇑**	*i*P		**P**	**13 31 37.6**	**-0.4**	
	comp=Z,15nm,1.1s								
MYKA	**Terra Mystica**	**94.50**	**44⇑**	*i*P		**P**	**13 31 38.5**	**-0.1**	
	comp=Z,13nm,0.9s								
CLL	**Collm**	**94.70**	**39**	*e*P		**P**	**13 31 39.8**	**+0.6**	
	comp=Z,8.0nm,0.9s								
CLL	**Collm**	**94.70**	**39**	*i* P		**P**	**13 31 40.2**	**+1.0**	
CLL					pmax	pmax			
	comp=Z,8.0nm,0.9s								
CLL	**Collm**	**94.70**	**39**	*i* P		**P**	**13 31 40.2**	**+1.0**	
	comp=Z,8.0nm,0.9s								
KHC	**Kasperske Hory**	**94.78**	**41**	*e*P		**P**	**13 31 40.9**	**+1.2**	
KHC	**Kasperske Hory**	**94.78**	**41**	*e*P		**P**	**13 31 40.9**	**+1.2**	
GEC2	**GERESS Array S**	**94.83**	**41**	*e*P		**P**	**13 31 40.0**	**0.0**	
	comp=Z,5.0nm,1.0s								
GERES	**GERESS Array B**	**94.83**	**41**	P		**P**	**13 31 40.2**	**+0.2**	
GERES	**GERESS Array B**	**94.83**	**41**	P		**P**	**13 31 40.2**	**+0.2**	
	comp=Z,2.1nm,0.7s,baz=242,slow=2.9,SNR=15								
CRNS	**Crni Vrh**	**94.86**	**44**	*i* P		**P**	**13 31 40.5**	**+0.4**	
NB2	**NORSAR Subarra**	**95.06**	**29**	P		**P**	**13 31 41.7**	**+1.0**	
	baz=261,slow=4.6								
NB2	**NORSAR Subarra**	**95.06**	**29**	P		**P**	**13 31 41.7**	**+1.0**	
	comp=Z,13nm,0.9s,baz=261,slow=4.6								
NOA	**NORSAR Array B**	**95.06**	**29**	P		**P**	**13 31 41.7**	**+1.0**	
NOA	**NORSAR Array B**	**95.06**	**29**	P		**P**	**13 31 41.7**	**+1.0**	
	comp=Z,7.2nm,0.8s,baz=259,slow=4.5,SNR=19								
MOA	**Molln**	**95.08**	**43⇓**	*i*PcP		**PcP**	**13 31 41.5**	**+0.1**	
	comp=Z,14nm,1.0s								
BRG	**Berggiesshubel**	**95.23**	**39**	*e*P		**P**	**13 31 42.6**	**+0.9**	
	comp=Z,9.9nm,1.2s								
BRG				*e*			13 31 51.8		
	comp=Z,3.1nm,0.9s								
BRG	**Berggiesshubel**	**95.23**	**39**	*e*P		**P**	**13 31 42.4**	**+0.7**	
	comp=Z,10.0nm,1.2s								
BRG	**Berggiesshubel**	**95.23**	**39**	*e*P		**P**	**13 31 42.6**	**+0.9**	
BRG					pmax	pmax			
	comp=Z,10.0nm,1.2s								
BRG					pmax	pmax			
	comp=Z,3.0nm,0.9s								
SOKA	**Soboth**	**95.46**	**44⇑**	*i*P		**P**	**13 31 42.3**	**-0.6**	
	comp=Z,5.3nm,1.1s								
CRES	**Cresnjev**	**95.66**	**45**	*i* P		**P**	**13 31 44.3**	**+0.5**	
ARSA	**Arzberg**	**95.86**	**43⇑**	*i*P		**P**	**13 31 44.6**	**-0.1**	
	comp=Z,15nm,1.4s								
CONA	**Conrad Observa**	**96.15**	**43⇑**	*i*P		**P**	**13 31 46.2**	**+0.1**	
	comp=Z,13nm,0.9s								
DPC	**Dobruska-Polom**	**96.69**	**40**	*e*P		**P**	**13 31 49.1**	**+0.7**	
DPC	**Dobruska-Polom**	**96.69**	**40**	*e*P		**P**	**13 31 49.1**	**+0.7**	
KSP	**Ksiaz**	**96.71**	**40**	*e*P		**P**	**13 31 49.4**	**+1.0**	
VYHS	**Vyhne**	**98.18**	**42**	*e*P		Pdif	13 31 55.9	+0.8	
VYHS					pmax	pmax			
	comp=Z,3.0nm,0.8s								
VYHS	**Vyhne**	**98.18**	**42**	PDIF		Pdif	13 31 55.9	+0.8	
ARCES	**ARCESS Array B**	**101.25**	**21**	P		**Pdif**	**13 32 07.8**	**-0.5**	
ARCES	**ARCESS Array B**	**101.25**	**21**	P		**Pdif**	**13 32 07.8**	**-0.5**	
	comp=Z,2.2nm,0.8s,baz=262,slow=2.7,SNR=4.6								
KIS	**Kishinev**	**104.92**	**44**	LRM		MLR	13 37 35.0		
	comp=Z,800nm,20.0s								
YAK	**Yakutsk**	**123.82**	**347**	*e*PKIKP		**PKPdf**	**13 37 13.7**	**-1.1**	
YAK					pmax	pmax			
	comp=Z,11nm,1.1s								
ABKAR	**Akbulak array**	**124.11**	**35**	*e*PKPdf		**PKPdf**	**13 37 16.3**	**+0.5**	
BRVK	**Borovoye**	**127.01**	**26⇑**	*i*PKIKP		**PKPdf**	**13 37 22.4**	**+1.2**	
BRVK					pmax	pmax			
	comp=Z,7.0nm,1.0s								
BRVK	**Borovoye**	**127.01**	**26**	*e*PKPdf		**PKPdf**	**13 37 20.8**	**-0.4**	
STKA	**Stephens Creek**	**127.38**	**219**	PKP		**PKPdf**	**13 37 22.0**	**-0.6**	
STKA				*e*PKPdf		**PKPdf**	**13 37 22.7**	**+0.1**	
STKA				pPKP		**pPKPdf**	**13 38 07.4**	**+1.3**	
STKA	**Stephens Creek**	**127.38**	**219**	*e*PKP		**PKPdf**	**13 37 22.7**	**+0.1**	
	comp=Z,5.9nm,0.7s								
STKA	**Stephens Creek**	**127.38**	**219**	PKP		**PKPdf**	**13 37 22.0**	**-0.6**	
	comp=Z,8.2nm,0.8s,baz=24,slow=1.9,SNR=14								
STKA				pPKP		**pPKPdf**	**13 38 07.4**	**+1.3**	
	comp=Z,3.3nm,0.6s,baz=74,slow=4.4,SNR=3.6								
NVS	**Novosibirsk**	**130.35**	**17**	*e*PKIKP		**PKPdf**	**13 37 27.4**	**-0.1**	
NVS				*e*			13 38 07.9		
BOD	**Bodaibo**	**130.41**	**354**	*e*PKIKP		**PKPdf**	**13 37 26.6**	**-0.9**	
BOD					pmax	pmax			
	comp=Z,5.0nm,2.2s								
CTA	**Charters Tower**	**131.25**	**234**	PKP		**PKPdf**	**13 37 29.5**	**-0.8**	
CTA	**Charters Tower**	**131.25**	**234**	PKP		**PKPdf**	**13 37 29.5**	**-0.8**	
	comp=Z,6.4nm,1.1s,baz=162,slow=7.2,SNR=4.0								
ZAA0	**Zalesovo Array**	**131.59**	**17**	*e*PKPdf		**PKPdf**	**13 37 30.3**	**+0.5**	
ZALV	**Zalesovo Beam**	**131.59**	**17**	PKIKP		**PKPdf**	**13 37 30.5**	**+0.6**	
ZALV							13 38 13.8		
ZALV	**Zalesovo Beam**	**131.59**	**17**	PKP		**PKPdf**	**13 37 30.4**	**+0.6**	
ZALV				pPKP		**pPKPdf**	**13 38 13.8**	**+0.5**	
ZALV				SKPbc		**SKPab**	**13 40 41.0**	**+0.3**	
ZALV	**Zalesovo Beam**	**131.59**	**17**	PKP		**PKPdf**	**13 37 30.4**	**+0.6**	
	comp=Z,26nm,0.9s,baz=302,slow=2.8,SNR=70								
ZALV				pPKP		**pPKPdf**	**13 38 13.8**	**+0.5**	
	comp=Z,11nm,0.8s,baz=268,slow=2.2,SNR=6.5								
ZALV				SKPbc		**SKPab**	**13 40 41.0**	**+0.3**	
	comp=Z,0.7nm,0.5s,baz=322,slow=4.4,SNR=3.7								
KURK	**Kurchatov**	**132.21**	**23**	*d i*PKIKP		**PKPdf**	**13 37 31.8**	**+0.7**	
KURK					pmax	pmax			
	comp=Z,16nm,1.0s								
KURK	**Kurchatov**	**132.21**	**23**	*e*PKPdf		**PKPdf**	**13 37 31.4**	**+0.2**	
EKS2	**Erkin-Say**	**135.77**	**34**	*e*PKIKP		**PKPdf**	**13 37 38.3**	**+0.1**	
EKS2	**Erkin-Say**	**135.77**	**34**	*e*PKPdf		**PKPdf**	**13 37 38.3**	**+0.1**	
EKS2	**Erkin-Say**	**135.77**	**34**	P		**PKPdf**	**13 37 40.1**	**+1.8**	
	SNR=9.2								
AML	**Almayashu**	**136.06**	**35**	P		**PKPdf**	**13 37 40.5**	**+1.3**	
	SNR=8.8								
AAK	**Ala-Archa**	**136.18**	**34**	*c i*PKIKP		**PKPdf**	**13 37 40.8**	**+1.8**	
AAK	**Ala-Archa**	**136.18**	**34**	*e*PKPdf		**PKPdf**	**13 37 40.4**	**+1.3**	
AAK	**Ala-Archa**	**136.18**	**34**	P		**PKPdf**	**13 37 40.9**	**+1.8**	
	SNR=7.5								
TKM2	**Tokmak 2**	**136.59**	**33**	*e*PKIKP		**PKPdf**	**13 37 40.2**	**+0.3**	
TKM2	**Tokmak 2**	**136.59**	**33**	*e*PKPdf		**PKPdf**	**13 37 40.2**	**+0.3**	
TKM2	**Tokmak 2**	**136.59**	**33**	P		**PKPdf**	**13 37 41.3**	**+1.4**	
	SNR=6.4								
MK31	**Makanchi Array**	**136.81**	**24**	*e*PKIKP		**PKPdf**	**13 37 39.9**	**0.0**	
MK31	**Makanchi Array**	**136.81**	**24**	*e*PKPdf		**PKPdf**	**13 37 39.9**	**0.0**	
MKAR	**Makanchi Array**	**136.81**	**24**	PKIKP		**PKPdf**	**13 37 40.0**	**+0.1**	
MKAR							13 38 24.8		
MKAR	**Makanchi Array**	**136.81**	**24**	PKP		**PKPdf**	**13 37 40.0**	**+0.1**	
MKAR				pPKP		**pPKPdf**	**13 38 24.8**	**+1.3**	
MKAR				SKPbc		**SKPbc**	**13 40 57.0**	**-0.4**	
MKAR	**Makanchi Array**	**136.81**	**24**	PKhKP		PKPpre	13 37 29.2		
	comp=Z,2.6nm,1.2s,baz=338,slow=2.6,SNR=5.6								
MKAR				PKP		**PKPdf**	**13 37 40.0**	**+0.1**	
	comp=Z,8.8nm,1.0s,baz=340,slow=1.4,SNR=24								
MKAR				pPKP	pPKPdf		13 38 24.8	+1.3	
	comp=Z,4.6nm,0.8s,baz=336,slow=2.7,SNR=7.4								
MKAR				SKPbc		**SKPbc**	**13 40 57.0**	**-0.4**	
	comp=Z,0.5nm,0.7s,baz=352,slow=4.4,SNR=3.2								
COEN	**Coen**	**136.88**	**239**	*e*PKP		**PKPdf**	**13 37 40.7**	**-0.2**	
	comp=Z,24nm,0.7s								
COEN				*e*pPKP		**pPKPdf**	**13 38 21.7**	**-2.7**	
TLY	**Talaya**	**136.91**	**2**	*e*PKIKP		**PKPdf**	**13 37 41.4**	**+1.5**	
TLY					pmax	pmax			
	comp=Z,4.0nm,0.7s								
TLY	**Talaya**	**136.91**	**2**	*e*PKPdf		**PKPdf**	**13 37 39.8**	**-0.1**	
ULHL	**Ulahol**	**137.40**	**33**	P		**PKPdf**	**13 37 43.2**	**+1.8**	
	SNR=8.7								
USRK	**Ussuriysk Arra**	**137.86**	**332**	PKP		**PKPdf**	**13 37 42.3**	**+0.5**	
	comp=Z,2.8nm,0.6s,baz=33,slow=3.0,SNR=7.6								
AS31	**Alice Springs**	**137.97**	**220**	*e*PKPdf		**PKPdf**	**13 37 42.6**	**-0.2**	
ASAR	**Alice Springs**	**137.97**	**220**	PKPpre		PKPpre	13 37 33.6		
ASAR				PKP		**PKPdf**	**13 37 42.4**	**-0.4**	
ASAR				pPKP	pPKPdf		13 38 26.6	+0.4	
ASAR	**Alice Springs**	**137.97**	**220**	PKhKP		PKPpre	13 37 33.6		
	comp=Z,1.0nm,0.6s,baz=139,slow=2.6,SNR=11								
ASAR				PKP		**PKPdf**	**13 37 42.4**	**-0.4**	
	comp=Z,5.5nm,0.9s,baz=126,slow=2.4,SNR=21								
ASAR				pPKP	pPKPdf		13 38 26.6	+0.4	
	comp=Z,2.7nm,0.7s,baz=124,slow=1.5,SNR=4.9								
ZAK	**Zakamensk**	**138.20**	**3⇓**	*i*PKIKP		**PKPdf**	**13 37 43.1**	**+0.6**	
ZAK				*e*			13 40 30.0		
ZAK					pmax	pmax			
	comp=Z,4.0nm,1.1s								
KSH	**Kashi**	**139.08**	**36**	*e*PKP		**PKPdf**	**13 37 42.1**	**-2.3**	
KSH				sPKP			13 38 40.8		
KSH				PP		**PP**	**13 40 40.5**	**+2.2**	
KSH				PKS		**PKSdf**	**13 41 16.6**	**-4.0**	
KSH				SKS		**SKSdf**	**13 44 33.8**	**-5.9**	
KSH				SKKS		**SKKSac**	**13 47 12.5**	**-4.4**	
KSH				SS		**SS**	**13 58 39.3**	**-2.4**	
KSH				LR	LR				
	comp=N,160nm,5.6s								
KSH				LR	LR				
	comp=E,130nm,5.6s								
KSH				LR	LR				
	comp=Z,270nm,5.0s								
MAT	**Matsushiro**	**139.56**	**319**	PKP		**PKPdf**	**13 37 45.1**	**-0.2**	
MJAR	**Matsushiro Arr**	**139.56**	**319**	PKPpre		PKPpre	13 37 35.9		
MJAR				PKP		**PKPdf**	**13 37 45.3**	**0.0**	
MJAR	**Matsushiro Arr**	**139.56**	**319**	PKhKP		PKPpre	13 37 35.9		
	comp=Z,2.4nm,0.7s,baz=169,slow=1.6,SNR=6.8								
MJAR				PKP		**PKPdf**	**13 37 45.3**	**0.0**	
	comp=Z,4.7nm,0.9s,baz=118,slow=1.0,SNR=6.0								
WRA	**Warramunga Arr**	**140.28**	**224**	PKP		**PKPdf**	**13 37 47.0**	**0.0**	
WRA				pPKP		**pPKPdf**	**13 38 29.0**	**-1.6**	
WRA	**Warramunga Arr**	**140.28**	**224**	PKP		**PKPdf**	**13 37 47.0**	**0.0**	
	comp=Z,6.1nm,0.5s,baz=127,slow=2.0,SNR=25								
WRA				pPKP		**pPKPdf**	**13 38 29.0**	**-1.6**	
	comp=Z,3.9nm,0.6s,baz=125,slow=2.1,SNR=5.3								
ULN	**Ulaanbaatar**	**140.77**	**359**	*e*PKPpre		PKPpre	13 37 42.7		
ULN				PKPdf		**PKPdf**	**13 37 47.9**	**+0.6**	
SONM	**Songino Array**	**140.81**	**360**	PKPpre		PKPpre	13 37 40.0		
SONM				PKP		**PKPdf**	**13 37 47.3**	**0.0**	
SONM	**Songino Array**	**140.81**	**360**	PKhKP		PKPpre	13 37 40.0		
	comp=Z,1.8nm,0.8s,baz=329,slow=3.0,SNR=8.8								
SONM				PKP		**PKPdf**	**13 37 47.3**	**0.0**	
	comp=Z,3.7nm,0.6s,baz=316,slow=1.6,SNR=16								
CN2	**Changchun**	**140.96**	**337**	*e*PKP		PKPdf	13 37 54.3	+6.8	
CN2					PP	PP	13 40 59.5	+10	
CN2					SS	SS	13 59 14.0	+12	
CN2					AMB	AMB			
	comp=Z,300nm,6.0s								
CN2					LR	LR			
	comp=N,300nm,21.0s								
CN2					LR	LR			
	comp=E,300nm,21.0s								
CN2					LR	LR			
	comp=Z,300nm,23.0s								
WMQ	**Urumqi**	**141.37**	**21**	*e*PKP		**PKPdf**	**13 37 48.8**	**+0.4**	
KSRS	**Korea Array**	**145.00**	**329**	PKP		**PKPbc**	**13 37 54.5**	**0.0**	
	comp=Z,39nm,0.8s,baz=53,slow=3.5,SNR=64								
KSRS				pPKP		**pPKPdf**	**13 38 38.0**	**-0.4**	
	comp=Z,7.7nm,0.9s,baz=34,slow=2.9,SNR=2.6								
KSAR	**Wonju Array Be**	**145.03**	**329**	PKP		**PKPbc**	**13 37 54.5**	**-0.1**	
KSAR				pPKP		**pPKPdf**	**13 38 38.0**	**-0.5**	
DDI	**Dehra Dun**	**146.04**	**46**	*e*PKP		**PKPbc**	**13 37 57.7**	**-0.3**	
JNU	**Nakatsue**	**146.40**	**320**	PKPbc		**PKPdf**	**13 37 56.7**	**-0.7**	
JNU	**Nakatsue**	**146.40**	**320**	PKPbc		**PKPdf**	**13 37 56.7**	**-0.7**	
	comp=Z,22nm,0.9s,baz=99,slow=11,SNR=6.5								
FITZ	**Fitzroy Crossi**	**147.21**	**216**	*e*PKPdf		**PKPdf**	**13 38 00.1**	**+1.0**	
FITZ				PKPbc		**PKPbc**	**13 38 01.5**	**-0.1**	
FITZ				pPKPbc		**pPKPbc**	**13 38 46.5**	**+1.9**	
FITZ	**Fitzroy Crossi**	**147.21**	**216**	*e*PKP		**PKPdf**	**13 37 59.7**	**+0.6**	
	comp=Z,84nm,0.8s								
FITZ				*e*pPKP		**pPKPdf**	**13 38 41.2**	**-1.5**	
FITZ	**Fitzroy Crossi**	**147.21**	**216**	PKPbc		**PKPbc**	**13 38 01.5**	**-0.1**	
	comp=Z,46nm,0.8s,baz=180,slow=3.7,SNR=45								
FITZ				pPKPbc		**pPKPbc**	**13 38 46.5**	**+1.9**	
	comp=Z,44nm,0.8s,baz=172,slow=5.2,SNR=12								
POO	**Poona**	**147.25**	**69⇑**	*i*P		**PKPbc**	**13 38 01.0**	**-0.8**	
	comp=Z,17nm,2.0s								
BJI	**Beijing**	**147.31**	**345**	PKPbc		**PKPdf**	**13 37 59.0**	**+0.3**	
BJT	**Baijiatuan**	**147.33**	**345**	*e*PKPdf		**PKPdf**	**13 37 59.6**	**+0.9**	
HHC	**Hu-ho-hao-te**	**147.41**	**352**	*e*PKPbc		**PKPdf**	**13 37 59.8**	**+0.8**	
HHC

FITZ	**Fitzroy Crossi** 45nm,0.8s	**21.83**	**183**	*eP*	**P**	**13**	**36**	**50.1 -1.9**
FITZ				P	pP	13	36	51.7 -10
FITZ	**Fitzroy Crossi** 2.9nm,0.9s,baz=7.1,slow=8.1,SNR=3.4	**21.83**	**183**	P	**P**	**13**	**36**	**51.7 -0.3**
COEN	**Coen** 27nm,1.2s	**24.03**	**138**	*eP*	**P**	**13**	**37**	**15.1 +0.6**
WRAB	**Tennant Creek** 6.8nm,0.6s	**24.77**	**163**	*eP*	**P**	**13**	**37**	**20.9 -0.3**
WRA	**Warramunga Arr**	**24.77**	**163**	P	**P**	**13**	**37**	**20.5 -0.7**
WRA	**Warramunga Arr** 2.7nm,0.8s,baz=344,slow=9.7,SNR=16	**24.77**	**163**	P	**P**	**13**	**37**	**20.5 -0.7**
ASAR	**Alice Springs**	**28.21**	**166**	P	**P**	**13**	**37**	**54.0 +1.8**
ASAR	**Alice Springs** 0.4nm,0.3s,baz=342,slow=9.8,SNR=13	**28.21**	**166**	P	**P**	**13**	**37**	**54.0 +1.8**
STKA	**Stephens Creek**	**38.21**	**159**	P	**P**	**13**	**39**	**18.8 -0.3**
STKA	**Stephens Creek** 2.1nm,0.8s,baz=333,slow=11,SNR=4.0	**38.21**	**159**	P	**P**	**13**	**39**	**18.8 -0.3**
TAU	**Tasmania Unive**	**50.11**	**160**	*eP*	P	13	40	49.0 -5.3
MKAR	**Makanchi Array**	**57.49**	**325**	P	**P**	**13**	**41**	**46.4 -2.0**
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=116,slow=7.5,SNR=8.0	**57.49**	**325**	P	**P**	**13**	**41**	**46.4 -2.0**
MAW	**Mawson** 75nm,2.1s	**83.87**	**200**	*eP*	**P**	**13**	**44**	**27.7 -0.6**

*ISCJB **13** 13:41:02.1±0.5,22.93N±0.03×123.03E±0.03,h26km, Error ellipse: s-maj=4.5km s-min=2.7km az=145.8*
*JMA **13** 13:41:03.5±0.2,22.97N×123.13E,h67km,M3.0*
*TAP **13** 13:41:04.6,22.95N×122.85E,h94km±1km, ML3.2,D*

ISC 13 13:41:01.3±1.2, 22.87N±0.05×123.08E±0.04, h26km, n42, σ1.9 29/74, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.35**	**29**	P	**Pn**	**13**	**41**	**25.3 +0.8**
HATJ				*eS*	**Sn**	**13**	**41**	**41.5 -0.2**
IRIF	**Iriomote-Funau**	**1.57**	**22**	P	**Pn**	**13**	**41**	**28.6 +1.0**
IRIF				*eS*	**Sn**	**13**	**41**	**46.8 -0.3**
YOJ	**Yonaguni jima**	**1.58**	**358**	P	**Pn**	**13**	**41**	**28.7 +1.0**
YOJ				*eS*	**Sn**	**13**	**41**	**47.3 0.0**
JKRS	**Kuro-shima**	**1.60**	**32**	P	**Pn**	**13**	**41**	**28.9 +0.9**
JKRS				*eS*	**Sn**	**13**	**41**	**47.8 -0.1**
LAY	**Lan-yu** baz=239	**1.64**	**240**	*eP*	**Pn**	**13**	**41**	**28.3 -0.1**
TWF1	**Yuli** baz=283	**1.71**	**287**	P	**Pn**	**13**	**41**	**29.7 +0.3**
TWF1				*eS*	**Sn**	**13**	**41**	**48.4 -2.1**
JIJ	**Ishigaki jima** baz=283	**1.78**	**33**	P	**Pn**	**13**	**41**	**30.9 +0.5**
JIJ				*eS*	**Sn**	**13**	**41**	**51.0 -1.1**
ESL	**Shilin** baz=304	**1.78**	**302**	*eP*	**Pn**	**13**	**41**	**30.0 -0.4**
ESL				*eS*	**Sn**	**13**	**41**	**49.8 -2.4**
TWD	**Chiawan** baz=315	**1.81**	**312**	*eP*	**Pn**	**13**	**41**	**31.6 +0.8**
TWD				*eS*	**Sn**	**13**	**41**	**50.9 -2.2**
TWG	**Pinlang** baz=263	**1.85**	**269**	P	**Pn**	**13**	**41**	**32.5 +1.1**
TWG				*eS*	**Sn**	**13**	**41**	**52.8 -1.2**
ELDTW	**Lidau** baz=282	**1.93**	**280**	*eP*	**Pn**	**13**	**41**	**33.0 +0.5**
ENA	**Nanau** baz=325	**1.98**	**322**	*eP*	**Pn**	**13**	**41**	**34.7 +1.6**
ENA				*eS*	**Sn**	**13**	**41**	**56.6 -0.4**
ECL	**Taimali** baz=258	**1.98**	**262**	P	**Pn**	**13**	**41**	**33.8 +0.6**
ECL				*eS*	**Sn**	**13**	**41**	**54.8 -2.3**
TWC	**Suao** baz=337	**2.06**	**327**	*eP*	**Pn**	**13**	**41**	**35.9 +1.6**
TWC				*eS*	**Sn**	**13**	**41**	**57.6 -1.6**
WHF	**Hehuan Shan** baz=309	**2.09**	**308**	*eP*	**Pn**	**13**	**41**	**35.4 +0.3**
WHF				*eS*	**Sn**	**13**	**42**	**00.0 -0.5**
EAST	**Anshuo** baz=258	**2.12**	**257**	P	**Pn**	**13**	**41**	**36.3 +1.2**
EAST				*eS*	**Sn**	**13**	**42**	**00.3 -0.3**
STYT	**Tauyuan** baz=281	**2.16**	**278**	*eP*	**Pn**	**13**	**41**	**36.3 +0.7**
STYT				*eS*	**Sn**	**13**	**42**	**00.9 -0.7**
ALS	**Alishan** baz=287	**2.19**	**287**	*eP*	**Pn**	**13**	**41**	**37.9 +1.6**
ALS				*eS*	**Sn**	**13**	**42**	**01.6 -1.1**
NNS	**Nan Shan** baz=311	**2.21**	**315**	*eP*	**Pn**	**13**	**41**	**37.8 +1.4**
NNS				*eS*	**Sn**	**13**	**42**	**02.1 -0.9**
TWT	**Tachien** baz=310	**2.22**	**309**	*eP*	**Pn**	**13**	**41**	**37.6 +1.0**
TWT				*eS*	**Sn**	**13**	**42**	**02.8 -0.6**
TSEB	**Hengchuen, Pin** baz=240	**2.24**	**245**	*eP*	**Pn**	**13**	**41**	**37.6 +0.9**
ENTT	**Nioudou** baz=331	**2.24**	**322**	*eP*	**Pn**	**13**	**41**	**38.3 +1.5**
ENTT				*eS*	**Sn**	**13**	**42**	**03.9 +0.3**
SMLT	**Sun Moon Lake** baz=300	**2.24**	**297**	*eP*	**Pn**	**13**	**41**	**37.7 +0.9**
TWE	**Neicheng** baz=334	**2.25**	**325**	*eP*	**Pn**	**13**	**41**	**38.4 +1.6**
TWE				S	**Sn**	**13**	**42**	**02.9 -0.9**
SSD	**Sandimen** baz=263	**2.26**	**267**	*eP*	**Pn**	**13**	**41**	**38.4 +1.3**
TYC	**Yuchr** baz=300	**2.28**	**297**	*eP*	**Pn**	**13**	**41**	**38.8 +1.4**
TWK1	**Hengchun** baz=242	**2.30**	**247**	*eP*	**Pn**	**13**	**41**	**38.2 +0.7**
TWK1				*eS*	**Sn**	**13**	**42**	**04.2 -0.8**
WTP	**Ta-pu** baz=280	**2.30**	**280**	*eP*	**Pn**	**13**	**41**	**39.3 +1.7**
JTJ	**Tarama**	**2.30**	**40**	P	**Pn**	**13**	**41**	**38.4 +0.8**
JTJ				*eS*	**Sn**	**13**	**42**	**05.4 +0.3**
SGST	**Jiashian** baz=274	**2.31**	**276**	*eP*	**Pn**	**13**	**41**	**38.7 +1.0**
SGST				*eS*	**Sn**	**13**	**42**	**05.8 +0.5**
CHN5	**Tsauling** baz=288	**2.32**	**289**	*eP*	**Pn**	**13**	**41**	**40.7 +2.7**
CHN5				*eS*	**Sn**	**13**	**42**	**06.0 +0.3**
SCZT	**Fangliau** baz=255	**2.33**	**258**	*eP*	**Pn**	**13**	**41**	**40.1 +2.2**
HEN	**Hengchun** baz=240	**2.33**	**249**	*eP*	**Pn**	**13**	**41**	**39.7 +1.7**
HEN				*eS*	**Sn**	**13**	**42**	**05.7 0.0**
CHN1	**Nanshi** baz=276	**2.37**	**278**	*eP*	**Pn**	**13**	**41**	**41.4 +2.8**
CHN1				*eS*	**Sn**	**13**	**42**	**09.0 +2.2**
NSK	**Sanguang** baz=322	**2.39**	**319**	*eP*	**Pn**	**13**	**41**	**39.4 +0.6**
NSK				*eS*	**Sn**	**13**	**42**	**06.5 -0.8**
TWK	**Hsinying** baz=278	**2.42**	**280**	*eP*	**Pn**	**13**	**41**	**39.0 -0.2**
TWK				*eS*	**Sn**	**13**	**42**	**09.6 +1.6**
TWM1	**Shoushan** baz=267	**2.45**	**269**	*eP*	**Pb**	**13**	**41**	**44.4 -0.3**
NWF	**Wu-fen Shan** baz=343	**2.49**	**332**	*eP*	**Pn**	**13**	**41**	**41.5 +1.3**
TWA	**Mucha** baz=330	**2.50**	**327**	*eP*	**Pb**	**13**	**41**	**43.9 -1.7**
TWA				*eS*	**Sn**	**13**	**42**	**10.1 0.0**
TWQ1	**Liyutan** baz=306	**2.57**	**305**	*eP*	**Pn**	**13**	**41**	**43.7 +2.3**
TWQ1				*eS*	**Sn**	**13**	**42**	**12.7 +0.8**
NSTT	**Nanjuang** baz=311	**2.58**	**313**	*eP*	**Pn**	**13**	**41**	**44.2 +2.7**
NSTT				*eS*	**Sn**	**13**	**42**	**11.8 -0.3**
TWS1	**Kuangyinshan** baz=329	**2.69**	**326**	*eP*	**Pn**	**13**	**41**	**44.6 +1.7**
TWS1				*eS*	**Sn**	**13**	**42**	**15.1 +0.5**

*DJA **13** 13:42:19, 1.54S×120.41E, h10km, MLv3.1/3*

IDC 13 13:42:00.6±7.5, 2.69N×127.29E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/19, mbtmp3.9/4, Error ellipse: s-maj=120.5km s-min=90.0km az=143.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 1.5nm,0.6s,baz=8.8,slow=14,SNR=4.0	**20.73**	**184**	P	P	13	46	42.8 -0.1
WRA	**Warramunga Arr** 3.2nm,0.5s,baz=344,slow=11,SNR=26	**23.53**	**163**	P	P	13	47	12.4 -0.3
ASAR	**Alice Springs** 0.5nm,0.4s,baz=342,slow=7.3,SNR=13	**26.98**	**167**	P	P	13	47	44.0 -0.2
STKA	**Stephens Creek** 1.9nm,0.4s,baz=358,slow=7.6,SNR=7.2	**36.97**	**160**	P	P	13	49	12.1 +0.4

*IDC **13** 13:43:42.8±1.5, 1.87N×96.61E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/23, mbtmp3.7/6, ML3.4/2, Error ellipse: s-maj=37.7km s-min=20.4km az=52.0*
*ISCJB **13** 13:43:45.0±0.9, 1.94N±0.08×96.52E±0.08, h28km, mb3.7/5, Error ellipse: s-maj=13.0km s-min=9.2km az=39.1*
*DJA **13** 13:43:46.5±1.2, 2.N±7.°×9.7°E±.°, h21km±14km, M3.8/7, mb4.0/2, MLv3.6/7*

ISC 13 13:43:47.4±1.1, 2.02N±0.09×96.67E±0.09, h28km, n14, σ1.9 01/15, mb3.7/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.15**	**128**	P	**Pb**	**13**	**44**	**07.7 -1.0**
TPTI		**1.33**	**22**	P	**Pn**	**13**	**44**	**10.0 -0.1**
PSI	**Prapat**	**2.38**	**71**	P	**Pn**	**13**	**44**	**25.4 +0.7**
PSI	**Prapat** 1.0nm,0.3s,baz=225,slow=8.6,SNR=3.4	**2.38**	**71**	Pn	**Pn**	**13**	**44**	**24.1 -0.5**
PSI	2.2nm,0.3s,baz=243,slow=23,SNR=5.9			Sn	**Sb**	**13**	**44**	**57.0 -1.6**
MNSI	**Mandailing Nat**	**3.15**	**113**	P	**Pn**	**13**	**44**	**36.4 +1.2**
BSI	**Banda Aceh**	**3.71**	**338**	P	**Pn**	**13**	**44**	**42.4 -0.6**
IPM	**Ipoh** 18nm,0.7s,0.1nm	**4.98**	**61**	P	**Pn**	**13**	**45**	**01.8 +1.4**
KULM	**Kulim**	**5.13**	**51**	P	**Pn**	**13**	**45**	**03.4 +1.0**
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=199,slow=11,SNR=15	**16.48**	**8**	Pn	**Pn**	**13**	**47**	**37.6 +0.8**
WRA	**Warramunga Arr** 0.9nm,0.6s,baz=301,slow=9.2,SNR=9.4	**42.91**	**122**	P	**P**	**13**	**51**	**43.3 -0.8**
ASAR	**Alice Springs** 0.5nm,0.9s,baz=298,slow=7.6,SNR=5.7	**44.31**	**127**	P	**P**	**13**	**51**	**54.5 -0.8**
MKAR	**Makanchi Array** 0.9nm,0.6s,baz=142,slow=8.4,SNR=13	**46.32**	**346**	P	**P**	**13**	**52**	**11.7 +0.8**
SONM	**Songino Array** 0.3nm,0.3s,baz=194,slow=9.8,SNR=2.5	**46.40**	**9**	P	**P**	**13**	**52**	**12.0 +0.4**
ZALV	**Zalesovo Beam** 1.2nm,0.4s,baz=190,slow=5.3,SNR=11	**52.67**	**351**	P	**P**	**13**	**52**	**59.9 +0.8**

*IDC **13** 13:45:33.1±1.2, 1.91N×96.57E, h0km, mb4.2/8, mb1 4.3/9, mb1mx3.9/24, mbtmp4.2/9, ML3.7/2, Error ellipse: s-maj=34.7km s-min=17.2km az=47.0*
*ISCJB **13** 13:45:35.1±0.6, 1.93N±0.06×96.52E±0.06, h28km, mb4.4/12, Error ellipse: s-maj=9.5km s-min=6.7km az=43.3*
*NEIC **13** 13:45:38.4±0.5, 1.96N×96.67E, h35km, mb4.9/4, Error ellipse: s-maj=14.3km s-min=6.6km az=56.0*
*DJA **13** 13:45:38.1±2.0, 2.N±12.°×9.7°E±3.°5, h10km±35km, M4.0/7, mb4.4/1, MLv3.8/7*

ISC 13 13:45:37.5±0.7, 2.01N±0.06×96.69E±0.08, h28km, n34, σ0.9 70/37, mb4.2/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.12**	**128**	P	**Pn**	**13**	**45**	**57.6 +0.2**
GSI				S	**Sb**	**13**	**46**	**12.4 -0.2**
TPTI		**1.34**	**21**	P	**Pn**	**13**	**45**	**59.9 -0.5**
PSI	**Prapat**	**2.37**	**70**	Pn	**Pn**	**13**	**46**	**15.0 +0.4**
PSI				Sn	**Sb**	**13**	**46**	**47.3 -1.1**
PSI	**Prapat**	**2.37**	**70**	P	**Pn**	**13**	**46**	**15.1 +0.4**
PSI	**Prapat** 1.8nm,0.3s,baz=197,slow=14,SNR=2.3	**2.37**	**70**	Pn	**Pn**	**13**	**46**	**15.0 +0.4**
PSI	5.2nm,0.3s,baz=243,slow=20,SNR=6.1			Sn	**Sb**	**13**	**46**	**47.3 -1.1**
TSI	**Tuntungan**	**2.39**	**52**	P	**Pn**	**13**	**46**	**16.0 +1.2**
MNSI	**Mandailing Nat**	**3.13**	**113**	P	**Pn**	**13**	**46**	**26.4 +1.4**
IPM	**Ipoh**	**4.98**	**60**	P	**Pn**	**13**	**46**	**51.8 +1.3**
KULM	**Kulim**	**5.12**	**50**	P	**Pn**	**13**	**46**	**53.7 +1.2**
CMAR	**Chiang Mai Arr**	**16.50**	**8**	Pn	**Pn**	**13**	**49**	**26.6 -0.5**
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=198,slow=12,SNR=25	**16.50**	**8**	Pn	**Pn**	**13**	**49**	**26.6 -0.5**
FITZ	**Fitzroy Crossi** 39nm,1.9s	**34.81**	**126**	*eP*	**P**	**13**	**52**	**26.2 0.0**
NWAO	**Narrogin (SRO)** 18nm,1.1s	**39.80**	**153**	*eP*	**P**	**13**	**53**	**07.2 -1.2**
WRA	**Warramunga Arr**	**42.89**	**122**	P	**P**	**13**	**53**	**34.0 0.0**
WRA	**Warramunga Arr** 2.5nm,0.7s,baz=301,slow=9.2,SNR=22	**42.89**	**122**	P	**P**	**13**	**53**	**34.0 0.0**
ASAR	**Alice Springs**	**44.28**	**127**	P	**P**	**13**	**53**	**45.5 +0.3**
ASAR	**Alice Springs** 0.9nm,0.7s,baz=301,slow=7.9,SNR=13	**44.28**	**127**	P	**P**	**13**	**53**	**45.5 +0.3**
MK31	**Makanchi Array**	**46.34**	**346**	*eP*	**P**	**13**	**54**	**01.2 +0.1**
MKAR	**Makanchi Array**	**46.34**	**346**	P	**P**	**13**	**54**	**01.7 +0.6**
MKAR	**Makanchi Array** 2.0nm,0.6s,baz=163,slow=7.5,SNR=20	**46.34**	**346**	P	**P**	**13**	**54**	**01.7 +0.6**
SONM	**Songino Array**	**46.42**	**9**	P	**P**	**13**	**54**	**02.4 +0.6**
SONM	**Songino Array** 1.0nm,0.6s,baz=185,slow=8.3,SNR=5.8	**46.42**	**9**	P	**P**	**13**	**54**	**02.4 +0.6**
COEN	**Coen** 80nm,1.7s	**48.72**	**110**	*eP*	**P**	**13**	**54**	**20.4 +0.3**
PMG	**Port Moresby**	**51.53**	**104**	P	**P**	**13**	**54**	**41.5 0.0**
PMG	**Port Moresby** 6.5nm,0.7s,baz=311,slow=5.7,SNR=5.0	**51.53**	**104**	P	**P**	**13**	**54**	**41.5 0.0**
ZAA0	**Zalesovo Array**	**52.69**	**351**	*eP*	**P**	**13**	**54**	**49.7 +0.3**
ZALV	**Zalesovo Beam**	**52.69**	**351**	P	**P**	**13**	**54**	**49.9 +0.5**
ZALV	**Zalesovo Beam** 3.8nm,0.6s,baz=184,slow=6.3,SNR=22	**52.69**	**351**	P	**P**	**13**	**54**	**49.9 +0.5**
STKA	**Stephens Creek**	**54.27**	**132**	*eP*	**P**	**13**	**55**	**00.6 -0.8**
ABKAR	**Akbulak array** 1.4nm,0.9s	**56.57**	**332**	*eP*	**P**	**13**	**55**	**17.4 -0.2**
FINES	**FINESS Array B**	**79.06**	**333**	P	**P**	**13**	**57**	**38.5 -0.4**
FINES	**FINESS Array B** 2.4nm,1.0s,baz=91,slow=8.4,SNR=4.3	**79.06**	**333**	P	**P**	**13**	**57**	**38.5 -0.4**
ARCES	**ARCESS Array B**	**81.61**	**340**	P	**P**	**13**	**57**	**53.4 +0.8**
ARCES	**ARCESS Array B** 1.2nm,0.7s,baz=55,slow=4.6,SNR=6.4	**81.61**	**340**	P	**P**	**13**	**57**	**53.4 +0.8**

*IDC **13** 13:50:31.6±1.5, 3.91N×126.67E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/19, mbtmp3.9/5, Error ellipse: s-maj=90.8km s-min=18.6km az=61.0*
*ISCJB **13** 13:50:35.4±1.0, 3.8N±0.2×126.5E±0.2, h45km, mb4.1/9, Error ellipse: s-maj=34.7km s-min=13.7km az=145.4*
*NEIC **13** 13:50:36.4±0.8, 3.81N×126.56E, h35km, mb4.7/4, Error ellipse: s-maj=30.0km s-min=12.1km az=56.0*

ISC 13 13:50:37.8±1.0, 3.8N±0.2×126.5E±0.3, h45km, n16, σ0.9 93/18, mb4.1/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.75**	**182**	*eP*	**P**	**13**	**55**	**25.8 +0.2**
COEN	**Coen** 46nm,1.6s	**24.14**	**137**	*eP*	**P**	**13**	**55**	**48.0 -1.8**
WRAB	**Tennant Creek** 3.9nm,0.7s	**24.78**	**162**	*eP*	**P**	**13**	**55**	**55.6 0.0**
WRA	**Warramunga Arr**	**24.78**	**162**	P	**P**	**13**	**55**	**55.8 +0.1**
WRA	**Warramunga Arr** 4.4nm,0.7s,baz=344,slow=11,SNR=41	**24.78**	**162**	P	**P**	**13**	**55**	**55.8 +0.1**
MBWA	**Marble Bar** 47nm,1.5s	**25.66**	**195**	*eP*	**P**	**13**	**56**	**02.1 -1.4**
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**	**13**	**56**	**27.6 +1.2**
ASAR	**Alice Springs** 0.4nm,0.3s,baz=346,slow=11,SNR=12	**28.20**	**166**	P	**P**	**13**	**56**	**27.6 +1.2**
CTAO	**Charters Tower** 23nm,1.7s	**30.62**	**141**	*eP*	**P**	**13**	**56**	**48.0 0.0**
CMAR	**Chiang Mai Arr**	**30.68**	**301**	P	**P**	**13**	**56**	**48.0 -0.5**
CMAR	**Chiang Mai Arr** 0.4nm,0.5s,baz=117,slow=6.7,SNR=4.3	**30.68**	**301**	P	**P**	**13**	**56**	**48.0 -0.5**
STKA	**Stephens Creek**	**38.24**	**159**	*eP*	**P**	**13**	**57**	**54.0 +0.4**
STKA	**Stephens Creek** 2.2nm,0.6s,baz=322,slow=8.1,SNR=6.7	**38.24**	**159**	P	**P**	**13**	**57**	**54.0 +0.4**
TAU	**Tasmania Unive**	**50.13**	**160**	*eP*	**P**	**13**	**59**	**28.0 -0.6**
MKAR	**Makanchi Array**	**57.41**	**325**	P	**P**	**14**	**00**	**21.8 -0.2**
MKAR				PcP	**PcP**	**14**	**01**	**16.8 +1.4**
MKAR	**Makanchi Array** 0.4nm,0.3s,baz=116,slow=7.9,SNR=12	**57.41**	**325**	P	**P**	**14**	**00**	**21.8 -0.2**
MKAR	0.3nm,0.7s,baz=114,slow=4.5,SNR=3.5			PcP	**PcP**	**14**	**01**	**16.8 +1.4**

*NEIC **13** 13:53:01.6, 19.53N×66.28W, h63km, MD3.7(RSPR), After RSPR.*

RSPR 13 13:53:01.6, 19.53N×66.28W, h63km±6km, 10C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.26**	**201**	*eP*	P	13	53	22.4 -0.8
AOPR	**Arecibo Observ**	**1.26**	**201**	*eP*	P	13	53	22.4 -0.8
AOPR				*eS*	Sn	13	53	38.8 -0.7
CBYP	**Canovanas**	**1.31**	**162**	*eP*	P	13	53	23.0 -1.0
CBYP	**Canovanas**	**1.31**	**162**	*eP*	P	13	53	23.0 -1.0
CBYP				*eS*	Sn	13	53	39.9 -0.9
LRS	**Lares**	**1.35**	**204**	*ePn*	Pn	13	53	23.6 -0.8
LRS				*eSn*	Sn	13	53	39.5 -2.0
SJG	**San Juan**	**1.42**	**175**	*ePn*	Pn	13	53	24.6 -0.7
SJG				*eSn*	Sn	13	53	42.7 -0.3
HUMP	**Col San Antoni**	**1.44**	**164**	*eP*	P	13	53	24.6 -1.0
HUMP	**Col San Antoni**	**1.44**	**164**	*eP*	P	13	53	24.6 -1.0
CELP	**Cerrillos**	**1.48**	**191**	*eP*	P	13	53	25.4 -0.7
CELP	**Cerrillos**	**1.48**	**191**	*eP*	P	13	53	25.4 -0.7
CELP				*ePn*	Pn	13	53	25.6 -0.4
CELP				*eSn*	Sn	13	53	44.4 -0.1
LSP	**Las Mesas**	**1.55**	**210**	*ePn*	Pn	13	53	26.2 -0.9
LSP				*eSn*	Sn	13	53	45.3 -1.1
MTP	**Monte Pirata**	**1.58**	**154**	*eP*	Pn	13	53	26.9 -0.6
MTP	**Monte Pirata**	**1.58**	**154**	*eP*	Pn	13	53	26.9 -0.6
MTP				*ePn*	Pn	13	53	27.3 -0.2
MTP				*eSn*	Sn	13	53	44.9 -2.2
MTP				*eS*		13	53	46.4
CRPR	**Cabo Rojo, PR**	**1.71**	**208**	*eP*	P	13	53	28.4 -0.7
CRPR	**Cabo Rojo, PR**	**1.71**	**208**	*eP*	P	13	53	28.4 -0.7
CRPR				*ePn*	Pn	13	53	28.8 -0.4
CRPR				*eS*	Sn	13	53	49.3 -0.7
CRPR				*eSn*	Sn	13	53	50.9 +0.8

PRE 13 13:56:33.9±2.2, 26.47S×27.39E, h2km, ML1.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.45**	**183**	*eP*	Pg	13	56	43.6 +0.7
PRYS				*eS*	Sg	13	56	49.5 +0.6
PRYS	comp=Z,14nm,0.4s			AML	AML	13	56	51.4
ERPM	**east rand prop**	**0.78**	**81**	*eP*	Pg	13	56	49.4 +0.4
ERPM				*eS*	Sg	13	56	58.6 -0.7
ERPM	comp=Z,2.9nm,0.4s			AML	AML	13	57	00.7
SLR	**Silverton**	**1.09**	**48**	*eP*	Pn	13	56	56.6 +0.3
SLR				*eS*	Sg	13	57	09.8 +0.5
SLR	comp=Z,7.5nm,0.2s			AML	AML	13	57	14.1
SWZ	**Schweizer**	**1.97**	**248**	*eP*	Pn	13	57	09.3 +0.8
SWZ				*eS*	Sn	13	57	33.2 -0.8
SWZ	comp=Z,6.1nm,0.6s			AML	AML	13	57	35.8
LBTB	**Lobatse**	**2.17**	**312**	*eP*	Pn	13	57	12.3 +1.0
LBTB				*eS*	Sn	13	57	39.7 +0.8
LBTB	comp=Z,7.1nm,0.7s			AML	AML	13	57	41.8
BOSA	**Boshof**	**2.85**	**221**	*eP*	Pn	13	57	20.7 0.0
BOSA				*eS*	Sn	13	57	55.8 +0.1
BOSA	comp=Z,1.4nm,0.3s			AML	AML	13	58	01.9

IDC 13 13:57:47.4±1.9, 3.43N×126.96E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=161.8km s-min=25.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.9nm,0.6s,baz=342,slow=10,SNR=6.1	**24.34**	**163**	P	P	14	03	06.2 -0.9
ASAR	**Alice Springs** 0.2nm,0.4s,baz=352,slow=12,SNR=4.9	**27.77**	**166**	P	P	14	03	39.0 +0.8
STKA	**Stephens Creek** 1.5nm,0.8s,baz=340,slow=9.6,SNR=6.2	**37.77**	**159**	P	P	14	05	05.3 -0.1
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=112,slow=7.4,SNR=5.8	**57.93**	**325**	P	P	14	07	41.4 -0.1

IDC 13 14:03:44.4±0.9, 3.73N×126.62E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.7/20, mbtmp3.7/9, Error ellipse: s-maj=67.2km s-min=15.3km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 1.8nm,0.4s,baz=5.7,slow=10,SNR=3.4	**21.71**	**183**	P	P	14	08	37.1 -0.3
WRA	**Warramunga Arr** 0.9nm,0.4s,baz=337,slow=11,SNR=14	**24.71**	**162**	P	P	14	09	07.1 -0.5
ASAR	**Alice Springs** 0.3nm,0.6s,baz=344,slow=11,SNR=10.0	**28.14**	**166**	P	P	14	09	38.9 +0.4
CMAR	**Chiang Mai Arr** 0.4nm,0.7s,baz=113,slow=6.9,SNR=4.6	**30.78**	**301**	P	P	14	10	02.0 0.0
STKA	**Stephens Creek** 2.4nm,0.7s,baz=357,slow=7.0,SNR=7.2	**38.17**	**159**	P	P	14	11	05.8 0.0
SONM	**Songino Array** 0.4nm,0.7s,baz=134,slow=8.3,SNR=2.2	**47.27**	**342**	P	P	14	12	19.9 +0.2
SONM	0.5nm,0.7s,baz=134,slow=4.2,SNR=3.4			PcP	PcP	14	13	51.2 +0.3
MKAR	**Makanchi Array** 0.5nm,0.4s,baz=119,slow=7.3,SNR=23	**57.49**	**325**	P	P	14	13	35.7 +0.2
MKAR	0.4nm,0.6s,baz=131,slow=5.6,SNR=3.3			PcP	PcP	14	14	29.3 +0.1
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=122,slow=6.9,SNR=3.5	**60.54**	**333**	P	P	14	13	55.5 -0.9
ARCES	**ARCESS Array B** 2.3nm,0.9s,baz=74,slow=5.2,SNR=4.5	**90.41**	**340**	P	P	14	16	46.7 -0.9

IDC 13 14:07:01.4±2.0, 4.03N×127.71E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, MS2.9/1, Ms1 2.9/1, ms1mx2.2/31, 1C, Error ellipse: s-maj=166.0km s-min=23.8km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.68**	**313**	*iP*	Pn	14	08	15.9 +2.5
KAPI	**Kappang** comp=Z,51nm,19.2s,baz=195,slow=34	**11.99**	**222**	LR	LR	14	13	50.0
WRA	**Warramunga Arr** 0.9nm,0.6s,baz=345,slow=10,SNR=5.4	**24.70**	**165**	P	P	14	12	23.0 -1.4
ASAR	**Alice Springs** 0.2nm,0.3s,

*IDC **13** 14:09:55.7±0.9, 9.90N×126.10E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.8/20, mbtmp3.7/10, Error ellipse: s-maj=42.2km s-min=20.6km az=68.0*
*NEIC **13** 14:09:57.5±0.5, 9.87N×125.88E, h10km, mb4.1/3, Error ellipse: s-maj=20.7km s-min=8.6km az=65.0*
NEIC Felt [II PIVS] at Dapa and [I PIVS] at Surigao.
*MAN **13** 14:10:04, 9.93N×126.09E, h39km, mb5.3, ML4.3, MS4.5*
MAN INTENSITY II - DAPA SIARGAO; INTENSITY I - SURIGAO CITY.

ISC 13 14:09:58.4±1.7, 9.88N±0.04×126.05E±0.07, h15km±10km, n45, σ1°25/44, mb3.8/13, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.99**	**205**	*e*P	Pn	14 10 21.4	+3.6
MSLP	**Maasin**	**1.20**	**282**	*e*P	Pg	14 10 25.6	+4.1
PLP	**Palo**	**1.66**	**321**	⇓*e*P	**Pg**	**14 10 31.1**	**+0.8**
PLP				*e*S	**Sb**	**14 10 50.3**	**+1.0**
OCLP	**Ormoc**	**1.83**	**310**	*e*P	**Pg**	**14 10 34.9**	**+1.2**
CGP	**Cagayan de Oro**	**1.94**	**223**	⇓*i*P	**Pg**	**14 10 35.7**	**-0.1**
CGP				*i* S	**Sg**	**14 11 01.0**	**0.0**
LLP	**Lapu-Lapu**	**2.10**	**282**	*e*P	**Pg**	**14 10 38.2**	**-0.5**
LLP				*e*S	**Sn**	**14 11 01.1**	**+2.3**
TBP	**Tagbilaran**	**2.16**	**265**	*e*P	**Pg**	**14 10 40.9**	**+0.9**
TBP				*e*S	**Sb**	**14 11 05.0**	**+1.1**
BUKP	**Musuan**	**2.21**	**206**	*e*P	**Pg**	**14 10 40.3**	**-0.6**
DAV	**Davao City (W)**	**2.83**	**189**	*e*Pn	**Pb**	**14 10 48.5**	**-0.2**
DAV	**Davao City (W)**	**2.83**	**189**	Pn	**Pb**	**14 10 49.0**	**+0.4**
	70nm,0.3s,baz=236,slow=7.3,SNR=2.7						
DAV				Sn	**Sb**	**14 11 25.8**	**+2.8**
	46nm,0.3s,baz=285,slow=19,SNR=4.1						
CTBH	**Cotabato--PC H**	**3.18**	**214**	⇑*i*P	**Pb**	**14 10 53.1**	**-1.6**
PAGZ	**Pagadian**	**3.32**	**233**	*e*P	**Pb**	**14 10 56.3**	**-0.7**
GUIM	**Jordan**	**3.48**	**283**	*e*P	**Pb**	**14 10 58.0**	**-1.8**
CUYO	**Cuyo Island**	**5.04**	**282**	*e*P	Pn	14 11 19.5	+5.9
ENPP	**El Nido**	**6.64**	**282**	*e*P	Pn	14 11 42.0	+6.4
BALP	**Baler**	**7.28**	**324**	*e*P	Pn	14 11 49.5	+5.3
CAUP	**Cauayan**	**8.14**	**330**	*e*P	**Pn**	**14 11 58.9**	**+2.8**
TWG	**Pinlang**	**13.72**	**340**	*e*Pn	**Pn**	**14 13 11.9**	**-0.6**
	99nm,1.8s						
YULB	**Yu-li**	**14.19**	**342**	*e*Pn	**Pn**	**14 13 18.1**	**-0.9**
	20nm,1.3s						
TPUB	**Ta-pu**	**14.32**	**339**	*e*P	**P**	**14 13 28.7**	**+0.9**
SSLB	**Suanglung**	**14.66**	**341**	*e*P	Pn	14 13 17.8	-7.6
QIZ	**Qiongzhong**	**18.12**	**302**	*e*P	**Pn**	**14 14 06.9**	**-2.9**
	23nm,1.3s						
CM31	**Chiang Mai Arr**	**27.60**	**291**	*e*P	**P**	**14 15 42.0**	**-3.4**
	0.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**27.60**	**291**	P	**P**	**14 15 46.3**	**+0.9**
CMAR	**Chiang Mai Arr**	**27.60**	**291**	P	**P**	**14 15 46.3**	**+0.9**
	0.2nm,0.5s,baz=72,slow=6.8,SNR=2.9						
WRAB	**Tennant Creek**	**30.73**	**165**	*e*P	**P**	**14 16 14.1**	**+1.0**
	10nm,1.6s						
WRA	**Warramunga Arr**	**30.74**	**165**	P	**P**	**14 16 12.3**	**-0.9**
WRA	**Warramunga Arr**	**30.74**	**165**	P	**P**	**14 16 12.3**	**-0.9**
	0.6nm,0.9s,baz=342,slow=9.2,SNR=3.0						
ASAR	**Alice Springs**	**34.21**	**167**	P	**P**	**14 16 43.6**	**-0.1**
ASAR	**Alice Springs**	**34.21**	**167**	P	**P**	**14 16 43.6**	**-0.1**
	0.3nm,0.4s,baz=350,slow=7.0,SNR=10						
STKA	**Stephens Creek**	**44.10**	**161**	*e*P	**P**	**14 18 06.7**	**+0.5**
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**52.21**	**323**	P	**P**	**14 19 08.5**	**-0.3**
MKAR	**Makanchi Array**	**52.21**	**323**	P	**P**	**14 19 08.5**	**-0.3**
	0.9nm,0.7s,baz=108,slow=9.9,SNR=6.3						
ZALV	**Zalesovo Beam**	**54.86**	**332**	P	**P**	**14 19 27.3**	**-0.8**
ZALV	**Zalesovo Beam**	**54.86**	**332**	P	**P**	**14 19 27.3**	**-0.8**
	0.4nm,0.4s,baz=104,slow=6.1,SNR=3.5						
ILAR	**Eielson Array**	**79.89**	**26**	P	**P**	**14 22 06.5**	**+0.2**
ILAR	**Eielson Array**	**79.89**	**26**	P	**P**	**14 22 06.5**	**+0.2**
	0.2nm,0.8s,baz=235,slow=6.4,SNR=4.6						
ARCES	**ARCESS Array B**	**84.48**	**340**	P	**P**	**14 22 29.9**	**-0.5**
ARCES	**ARCESS Array B**	**84.48**	**340**	P	**P**	**14 22 29.9**	**-0.5**
	2.2nm,0.8s,baz=61,slow=5.6,SNR=7.2						
BRTR	**Keskin Array B**	**85.61**	**309**	P	**P**	**14 22 37.0**	**+0.2**
BRTR	**Keskin Array B**	**85.61**	**309**	P	**P**	**14 22 37.0**	**+0.2**
	0.6nm,0.7s,baz=90,slow=5.8,SNR=2.7						
FINES	**FINESS Array B**	**86.13**	**332**	P	**P**	**14 22 37.7**	**-1.0**
FINES	**FINESS Array B**	**86.13**	**332**	P	**P**	**14 22 37.7**	**-1.0**
	0.5nm,0.4s,baz=70,slow=5.0,SNR=7.9						
YKA	**Yellowknife Ar**	**94.20**	**24**	P	**P**	**14 23 16.6**	**0.0**
YKA	**Yellowknife Ar**	**94.20**	**24**	P	**P**	**14 23 16.6**	**0.0**
	0.3nm,0.7s,baz=299,slow=4.5,SNR=9.8						

IDC 13 14:20:57.6±1.9, 4.18N×127.23E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=162.2km s-min=23.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.97**	**164**	P	P	14 26 23.1	0.0
	0.5nm,0.4s,baz=344,slow=10,SNR=6.2						
ASAR	**Alice Springs**	**28.43**	**167**	P	P	14 26 53.7	-0.6
	0.2nm,0.8s,baz=348,slow=8.5,SNR=3.0						
STKA	**Stephens Creek**	**38.38**	**160**	P	P	14 28 21.1	+0.4
	1.8nm,0.9s,baz=339,slow=6.6,SNR=2.9						
MKAR	**Makanchi Array**	**57.47**	**325**	P	P	14 30 48.5	-0.1
	0.2nm,0.3s,baz=119,slow=7.5,SNR=12						

IDC 13 14:25:13.0±1.8, 3.99N×126.83E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, MS2.9/1, Ms1 2.9/1, ms1mx2.5/36, Error ellipse: s-maj=154.6km s-min=22.6km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**11.40**	**218**	LR	LR	14 32 34.4	
	comp=Z,51nm,18.4s,baz=207,slow=39						
WRA	**Warramunga Arr**	**24.91**	**163**	P	P	14 30 36.8	-1.1
	0.9nm,0.5s,baz=344,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.34**	**166**	P	P	14 31 08.8	-0.1
	0.2nm,0.8s,baz=342,slow=7.4,SNR=5.7						
STKA	**Stephens Creek**	**38.34**	**160**	P	P	14 32 36.8	+1.0
	1.8nm,0.6s,baz=325,slow=6.4,SNR=8.8						
MKAR	**Makanchi Array**	**57.40**	**325**	P	P	14 35 03.3	-0.1
	0.3nm,0.4s,baz=120,slow=7.9,SNR=15						

*MOS **13** 14:29:13.8±1.6, 50.43N×101.59E, h5km, mb4.2/1, Error ellipse: s-maj=20.7km s-min=10.6km az=69.0*
*BYKL **13** 14:29:13.3±0.9, 50.38N×101.56E*

ISC 13 14:29:12.8±1.3, 50.37N±0.05×101.54E±0.04, h10km, n32, σ2°13/50, 2C-10D, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAK	**Zakamensk**	**1.11**	**89**	*e*PG	**Pb**	**14 29 32.0**	**-2.2**
ZAK				*e*S	**Sg**	**14 29 46.7**	**-1.9**
ZAK				pmax	pmax		
	comp=Z,182nm,0.2s						
ZAK				smax	smax		
	comp=E,529nm,0.2s						
ZAK	**Zakamensk**	**1.11**	**89**	*e*Pg	**Pb**	**14 29 32.3**	**-1.9**
ZAK				⇓*i*		14 29 35.3	
ZAK				*i* Sg	**Sg**	**14 29 47.8**	**-0.8**
ZAK				*e*		14 29 52.7	
ZAK				max			
	comp=E,183nm,0.2s						
ZAK				max			
	comp=E,523nm,0.2s						
MOY	**Mondy**	**1.34**	**345**	*e*PG	**Pn**	**14 29 36.8**	**-0.9**
MOY				*e*		14 29 54.8	
MOY				pmax	pmax		
	comp=Z,71nm,0.3s						
MOY				smax	smax		
	comp=E,603nm,0.5s						
MOY	**Mondy**	**1.34**	**345**	⇓*i*Pg	**Pn**	**14 29 36.9**	**-0.8**
	comp=E,49nm,0.7s						
MOY				⇑*i*Pg	**Pn**	**14 29 36.9**	**-0.8**
	comp=E,17nm,0.7s						
MOY				⇓*i*Pg	**Pn**	**14 29 36.9**	**-0.8**
	comp=E,49nm,0.7s						
MOY				*e*		14 29 39.8	
MOY				*i* Sg	**Sb**	**14 29 54.9**	**-0.5**
MOY				max			
	comp=E,83nm,0.3s						
MOY				Smax			
	comp=E,625nm,1.2s						
ARS	**Arshan**	**1.65**	**19**	*e*PG	**Pb**	**14 29 42.8**	**-0.5**
ARS	**Arshan**	**1.65**	**19**	⇓*i*Pg	**Pb**	**14 29 43.5**	**+0.2**
ARS				*e*		14 29 47.6	
ARS				*e*Sg	**Sg**	**14 30 05.2**	**-0.6**
ARS				max			
	comp=E,139nm,0.5s						
ARS				Smax			
	comp=E,580nm,0.6s						
TLY	**Talaya**	**1.87**	**44**	*e*PN	**Pb**	**14 29 46.0**	**-1.0**
TLY				*e*		14 30 10.7	
TLY				pmax	pmax		
	comp=Z,111nm,0.3s						
TLY				smax	smax		
	comp=N,714nm,0.4s						
TLY	**Talaya**	**1.87**	**44**	⇓*i*Pg	**Pb**	**14 29 45.9**	**-1.0**
	comp=N,64nm,0.6s						
TLY				⇓*i*Pg	**Pb**	**14 29 45.9**	**-1.0**
	comp=N,65nm,0.6s						
TLY				⇓*i*Pg	**Pb**	**14 29 45.9**	**-1.0**
	comp=N,72nm,0.6s						
TLY				*e*		14 30 03.1	
TLY				*e*Sg	**Sb**	**14 30 10.9**	**+0.5**
TLY				Pmax			
	comp=N,84nm,0.4s						
TLY				Smax			
	comp=N,681nm,0.4s						
ORL	**Orlik**	**2.43**	**334**	*e*PN	**Pb**	**14 29 56.9**	**+0.3**
ORL				*e*		14 30 27.5	
ORL				pmax	pmax		
	comp=Z,34nm,0.3s						
ORL				smax	smax		
	comp=E,197nm,0.4s						
ORL	**Orlik**	**2.43**	**334**	*e*Pn	**Pn**	**14 29 53.8**	**+1.2**
ORL				⇓*i*Pg	**Pb**	**14 29 56.9**	**+0.3**
ORL				*e*		14 30 00.5	
ORL				*e*Sg	**Sb**	**14 30 28.9**	**+2.3**
ORL				*e*		14 30 32.1	
ORL				max			
	comp=E,31nm,0.6s						
ORL				max			
	comp=E,197nm,0.6s						
IRK	**Irkutsk**	**2.54**	**41**	*e*PN	**Pb**	**14 29 57.4**	**-1.0**
IRK				*e*		14 30 29.5	
IRK				pmax	pmax		
	comp=Z,369nm,0.3s						
IRK				smax	smax		
	comp=N,806nm,0.4s						
IRK	**Irkutsk**	**2.54**	**41**	*e*Pg	**Pb**	**14 29 57.9**	**-0.5**
IRK				*e*PgPg	**PnPn**	**14 30 01.2**	**-0.1**
IRK				*e*		14 30 28.8	
IRK				*e*Sg	**Sb**	**14 30 31.7**	**+2.0**
IRK				max			
	comp=N,368nm,0.5s						
IRK				Smax			
	comp=N,733nm,0.4s						
LSTR	**Listvyanka**	**2.56**	**53**	*e*PN	**Pb**	**14 29 58.4**	**-0.4**
LSTR				*e*		14 30 32.1	
LSTR				pmax	pmax		
	comp=Z,26nm,0.4s						
LSTR				smax	smax		
	comp=N,49nm,0.4s						
LSTR	**Listvyanka**	**2.56**	**53**	*e*Pn	**Pn**	**14 29 55.1**	**+0.8**
LSTR				*e*Pg	**Pb**	**14 29 58.2**	**-0.6**
LSTR				*e*PgPg	**PnPn**	**14 30 01.1**	**-0.4**
LSTR				*e*Sn	**Sn**	**14 30 24.9**	**-0.6**
LSTR				*e*		14 30 30.4	
LSTR				*e*Sg	**Sb**	**14 30 32.1**	**+1.8**
LSTR				Pmax			
	comp=N,22nm,0.4s						
LSTR				Smax			
	comp=N,180nm,1.6s						
KAB	**Kabansk**	**3.63**	**60**	*e*Sg	**Sb**	**14 31 04.8**	**+3.8**
KAB				Smax			
	comp=N,201nm,0.6s						
TRG	**Tyrgan**	**3.84**	**50**	*e*PN	**Pn**	**14 30 13.8**	**+1.9**
TRG				*e*		14 30 21.2	
TRG				*e*S	**Sn**	**14 30 56.2**	**-0.8**
TRG				*e*		14 31 09.5	
TRG				pmax	pmax		
	comp=Z,23nm,0.6s						
TRG				smax	smax		
	comp=N,129nm,0.3s						
TRG	**Tyrgan**	**3.84**	**50**	*e*Pn	**Pn**	**14 30 12.8**	**+0.9**
TRG				⇓*i*		14 30 16.4	
TRG				*e*Pg	**Pb**	**14 30 20.5**	**0.0**
TRG				*i* Sg	**Sb**	**14 31 10.6**	**+3.5**
TRG				Pmax			
	comp=N,25nm,0.6s						
TRG				Smax			
	comp=N,117nm,0.5s						
ZRHB	**Zarechye**	**4.13**	**56**	*e*Pn	**Pn**	**14 30 18.3**	**+2.4**
ZRHB				*e*		14 30 21.9	
ZRHB				*e*Pg	**Pb**	**14 30 27.7**	**+2.1**
ZRHB				*e*		14 31 00.7	
ZRHB				*e*Sg	**Sg**	**14 31 22.5**	**-2.9**
ZRHB				*e*		14 31 27.3	
ZRHB				max			
	comp=N,68nm,0.9s						
ZRHB				max			
	comp=N,228nm,1.2s						
UUDB	**Ulan-Yde**	**4.14**	**66**	*e*Pg	**Pb**	**14 30 26.0**	**+0.3**
UUDB				*e*Sg	**Sb**	**14 31 19.5**	**+3.8**
UUDB				Pmax			
	comp=N,84nm,1.0s						
UUDB				Smax			
	comp=N,180nm,1.6s						
ULN	**Ulaanbaatar**	**4.40**	**123**	*e*Pg	**Pb**	**14 30 32.9**	**+2.7**
ULN				*e*Sg	**Sg**	**14 31 29.4**	**-4.6**
OGRR	**Ongureny**	**4.97**	**46**	*e*PN	**Pn**	**14 30 28.1**	**+0.7**
OGRR				*e*		14 30 41.2	
OGRR	**Ongureny**	**4.97**	**46**	*e*Pn	**Pn**	**14 30 28.8**	**+1.4**
OGRR				*e*		14 30 33.0	
OGRR				⇑*i*Pg	**Pb**	**14 30 41.1**	**+1.2**
OGRR				*e*Sg	**Sb**	**14 31 44.6**	**+4.9**
OGRR				*e*		14 31 49.1	
OGRR				Pmax			
	comp=N,28nm,0.7s						
OGRR				max			
	comp=N,95nm,0.9s						
MXMB	**Maximikha**	**5.33**	**54**	⇓*i*	Pn	14 30 36.7	+4.4
MXMB				*e*Pg	Pb	14 30 49.3	+3.4
MXMB				*e*Sg	**Sg**	**14 31 58.5**	**-5.1**
MXMB				*e*		14 32 06.1	
MXMB				Pmax			
	comp=N,13nm,0.5s						
MXMB				Smax			
	comp=N,89nm,1.0s						
SYVR	**Suvo**	**6.17**	**54**	*e*	Pn	14 30 48.7	+4.8
SYVR				*e*Pg	Pb	14 31 03.5	+3.2
SYVR				*e*		14 31 07.0	
SYVR				*e*Sg	Sg	14 32 23.2	-7.6
SYVR				*e*		14 32 25.1	
SYVR				max			
	comp=N,4.0nm,0.5s						
SYVR				max			
	comp=N,14nm,1.1s						
KPC	**Khapcheranga**	**7.01**	**91**	*e*PG	Pb	14 31 19.8	+5.2
KPC				*e*		14 32 51.5	
KPC				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KPC				smax	smax		
	comp=N,43nm,1.3s						
KPC	**Khapcheranga**	**7.01**	**91**	*e*Pg	Pb	14 31 20.2	+5.6
KPC				*e*Sg	**Sg**	**14 32 52.5**	**-5.2**
KPC				Pmax			
	comp=N,2.0nm,1.0s						
KPC				Smax			
	comp=N,42nm,1.4s						
NIZ	**Nizh Angarsk**	**7.25**	**39**	*e*PG	Pg	14 31 25.1	-6.3
NIZ				*e*		14 32 56.3	
NIZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NIZ				smax	smax		
	comp=N,26nm,0.9s						
NIZ	**Nizh Angarsk**	**7.25**	**39**	*e*	Pn	14 31 02.8	+4.2
NIZ				*e*		14 31 11.9	
NIZ				*e*Pg	Pb	14 31 22.6	+4.1
NIZ				*e*		14 32 28.0	
NIZ				*e*Sg	Sg	14 32 57.9	-7.2
NIZ				Pmax			
	comp=N,6.0nm,1.0s						
NIZ				Smax			
	comp=N,26nm,0.6s						
YLYR	**Ulyunkhan**	**7.39**	**49**	*e*Pn	Pn	14 31 04.2	+3.6
YLYR				*e*Pg	Pb	14 31 24.9	+3.9
YLYR				*e*Sg	Sb	14 32 59.1	+10
YLYR				*e*		14 33 07.8	
YLYR				max			
	comp=N,13nm,1.0s						
KMO	**Kumora**	**8.01**	**43**	*e*Sg	Sg	14 33 22.5	-7.2
KMO				Smax			
	comp=N,70nm,1.5s						
YOA	**Uoyan**	**8.40**	**43**	*e*		14 33 31.8	
YOA				*i* Sg	Sg	14 33 35.6	-6.4
YOA				Smax			
	comp=N,58nm,0.8s						
TUP	**Tupik**	**11.95**	**63**	*e*		14 34 16.6	
TUP				*e*Sg		14 35 21.3	
TUP				Smax			
	comp=N,7.0nm,1.0s						

IDC 13 14:35:25.4±0.9, 6.01N×77.42W, h19km±5km, mb3.2/2, mb1 3.3/2, mb1mx3.2/18, mbtmp3.2/2, Error ellipse: s-maj=37.4km s-min=26.2km az=27.0, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**3.28**	**110**	Pg	Pb	14 36 24.9	+1.3
	8.1nm,0.3s,baz=344,slow=7.4,SNR=6.3						
YKA	**Yellowknife Ar**	**62.62**	**342**	P	P	14 45 48.0	-0.2
	0.1nm,0.5s,baz=133,slow=6.8,SNR=4.0						
YKA				pP	pP	14 45 54.3	+0.1
	0.1nm,0.5s,baz=130,slow=6.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**78.09**	**78**	P	P	14 47 24.4	+0.5
	0.3nm,0.5s,baz=285,slow=6.3,SNR=3.4						
ASAR	**Alice Springs**	**145.13**	**236**	PKPbc	PKPbc	14 55 01.4	-0.7
	0.4nm,0.7s,baz=112,slow=4.6,SNR=4.4						
ASAR				pPKPbc	pPKPbc	14 55 07.7	-1.1
	0.7nm,0.9s,baz=119,slow=3.7,SNR=4.1						
WRA	**Warramunga Arr**	**146.18**	**243**	PKPbc	PKPdf	14 55 04.2	-0.3
	0.4nm,0.7s,baz=103,slow=3.1,SNR=4.4						
WRA				pPKPbc	pPKPbc	14 55 11.1	-0.8
	0.3nm,0.5s,baz=101,slow=2.7,SNR=2.5						

IDC 13 14:35:42.0±1.5, 3.82N×127.51E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/20, mbtmp3.8/6, Error ellipse: s-maj=154.2km s-min=19.0km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.55**	**164**	P	P	14 41 03.6	-0.2
	1.0nm,0.8s,baz=345,slow=9.9,SNR=9.8						
ASAR	**Alice Springs**	**28.02**	**167**	P	P	14 41 34.8	-0.3
	0.2nm,0.7s,baz=344,slow=11,SNR=3.0						
STKA	**Stephens Creek**	**37.94**	**160**	P	P	14 43 02.1	+0.6
	1.0nm,0.5s,baz=321,slow=9.9,SNR=4.4						
MKAR	**Makanchi Array**	**57.93**	**325**	P	P	14 45 35.8	-0.4
	0.4nm,0.6s,baz=122,slow=8.1,SNR=6.8						
KURBB	**Kurchatov Arra**	**62.09**	**327**	P	P	14 46 05.0	+0.4
	0.3nm,0.4s,baz=131,slow=6.6,SNR=5.9						
ARCES	**ARCESS Array B**	**90.63**	**340**	P	P	14 48 45.9	-0.3
	5.5nm,1.1s,baz=90,slow=8.1,SNR=3.7						

IDC 13 14:36:30.2±1.2, 3.85N×127.20E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/22, mbtmp3.8/8, Error ellipse: s-maj=93.5km s-min=16.8km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.86**	**184**	P	P	14 41 25.5	+0.8
	2.5nm,0.8s,baz=346,slow=8.3,SNR=3.3						
WRA	**Warramunga Arr**	**24.66**	**164**	P	P	14 41 51.5	-1.4
	4.0nm,0.8s,baz=343,slow=10,SNR=7.3						
ASAR	**Alice Springs**	**28.12**	**167**	P	P	14 42 25.2	+1.1
	0.4nm,0.6s,baz=337,slow=11,SNR=5.7						
STKA	**Stephens Creek**	**38.08**	**160**	P	P	14 43 50.5	-0.3
	2.0nm,0.6s,baz=334,slow=9.1,SNR=4.5						
MKAR	**Makanchi Array**	**57.73**	**325**	P	P	14 46 23.4	+0.5
	0.5nm,0.5s,baz=119,slow=7.5,SNR=5.3						
KURBB	**Kurchatov Arra**	**61.89**	**327**	P	P	14 46 50.9	-0.6
	0.8nm,0.6s,baz=132,slow=6.6,SNR=7.5						
BVAR	**Borovoye Array**	**67.48**	**327**	P	P	14 47 28.0	+0.1
	0.5nm,0.7s,baz=120,slow=10,SNR=3.4						
ARCES	**ARCESS Array B**	**90.50**	**340**	P	P	14 49 33.6	-0.1
	1.9nm,0.8s,baz=81,slow=5.8,SNR=3.7						

*IDC **13** 14:38:25.4±0.3, 3.94N×126.57E, h0km, mb5.1/35, mb1 5.1/35, mb1mx5.1/36, mbtmp5.1/35, MS4.1/6, Ms1 4.2/6, ms1mx3.6/35, Error ellipse: s-maj=15.4km s-min=8.4km az=77.0*
*BJI **13** 14:38:26.4, 3.83N×126.80E, h31km, mB5.3/39, mb5.1/54, Ms4.7/40, Ms7 4.4/39*
*MOS **13** 14:38:29.1±1.1, 4.10N×126.73E, h33km, mb5.3/66, MS4.1/6, Error ellipse: s-maj=10.4km s-min=4.9km az=114.4*
*NEIC **13** 14:38:30.3±0.2, 4.14N×126.77E, h35km, mb5.3/62, Error ellipse: s-maj=6.8km s-min=4.0km az=73.0*
*ISCJB **13** 14:38:31.8±0.4, 4.07N±0.02×126.82E±0.03, h61km±3km, mb5.2/139, Error ellipse: s-maj=4.9km s-min=3.2km az=163.2*
*DJA **13** 14:38:34, 3.92N×126.66E, h10km, mb5.3/17*

ISC 13 14:38:30.8±0.3, 4.09N±0.03×126.74E±0.04, h41km±1km, h41km:pP-P, n485, σ1°62/565, mb5.2/133, MS4.3/27, 47C-43D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.67**	**318**	⇑*e*P	Pn	14 39 15.7	+4.2
MATI	**Mati**	**2.88**	**350**	*e*P	Pn	14 39 17.7	+3.4
DAV	**Davao City (W)**	**3.18**	**339**	*e*Pn	**Pn**	**14 39 17.1**	**-1.3**
DAV				*e*Pn	Pn	14 39 17.8	-0.6
DAV	**Davao City (W)**	**3.18**	**339**	P	Pn	14 39 24.6	+6.2
DAV	**Davao City (W)**	**3.18**	**339**	Pn	Pn	14 39 22.0	+3.6
	127nm,0.3s,baz=109,slow=7.7,SNR=7.9						
DAV				Sn	Sn	14 40 02.9	+7.8
	130nm,0.3s,baz=21,slow=20,SNR=4.3						
DMPH	**Davao City--Mi**	**3.22**	**338**	⇑*e*P	Pn	14 39 22.6	+3.6
MNI	**Manado**	**3.24**	**216**	P	**Pn**	**14 39 22.4**	**+3.2**
KCP	**Kidapawan**	**3.33**	**331**	⇑*e*P	Pn	14 39 24.0	+3.4
KCP				*i* S	Sn	14 40 14.3	+15
TNTI	**Ternate**	**3.35**	**169**	P	**Pn**	**14 39 21.9**	**+1.1**
CTBH	**Cotabato--PC H**	**3.98**	**322**	⇑*e*P	**Pn**	**14 39 32.4**	**+3.0**
BUKP	**Musuan**	**4.12**	**336**	*e*P	Pn	14 39 35.1	+3.7
KMSI	**Cibinong**	**4.45**	**218**	P	Pn	14 39 39.3	+3.5
LBMI	**Labuha**	**4.75**	**171**	P	**Pn**	**14 39 41.9**	**+1.8**
CGP	**Cagayan de Oro**	**4.79**	**335**	⇓*e*P	Pn	14 39 49.8	+9.2
PAGZ	**Pagadian**	**5.01**	**318**	*e*P	Pn	14 39 47.0	+3.5
IPIL	**Ipil**	**5.54**	**312**	*e*P	**Pn**	**14 39 54.0**	**+3.2**
MRSI	**Marisa**	**5.99**	**233**	P	Pn	14 40 00.8	+3.8
	684nm,0.7s,6µm2.3nm						
MSLP	**Maasin**	**6.29**	**343**	*e*P	Pn	14 40 07.0	+5.8
LUWI	**Luwuk**	**6.46**	**218**	P	Pn	14 40 09.4	+6.0
	1µm,1.0s,10µm4.0nm						
SWI	**Sorong**	**6.68**	**137**	P	**Pn**	**14 40 06.7**	**+0.2**
	187nm,1.0s,2µm0.6nm						
LLP	**Lapu-Lapu**	**6.

KAPI **Kappang** 11.42 218 P Pn 14 41 14.8 +3.3
54nm,1.2s
KAPI **Kappang** 11.42 218 Pn **Pn** **14 41 11.0 -0.5**
0.4nm,0.3s,baz=216,slow=22,SNR=2.3
BKSI **Bulukumba** 11.45 215 P **Pn** **14 41 13.8 +1.9**
49nm,0.8s,665nm
KBKI **Kotabaru** 12.86 235 P Pn 14 41 34.7 +3.5
61nm,1.1s,1µm
SMPI **Sarmi** 13.40 117 P Pn 14 41 41.9 +3.3
86nm,1.0s,2µm
MMRI **Maumere** 13.41 200 P P 14 41 54.8 +7.5
BTM **Bintulu** 13.66 267 P P 14 41 53.7 +3.6
BBKI **Banjar Baru** 14.06 238 P **P** **14 41 53.0 -1.5**
222nm,1.2s,3µm
SBUM **Sibu** 14.59 264 P **P** **14 41 59.9 -0.5**
SBUM **Sibu** 14.59 264 P **P** **14 41 59.6 -0.8**
170nm,1.0s,2µm
PBKI **Pangkalan Bun** 16.50 246 P **P** **14 42 24.1 +2.4**
306nm,1.1s,2µm
KSM **Kuching** 16.61 261 *e*Pn **P** **14 42 25.0 +2.0**
KSM **Kuching** 16.61 261 P **P** **14 42 26.6 +3.7**
KSM **Kuching** 16.61 261 P **P** **14 42 26.3 +3.3**
188nm,0.9s,2µm
KHKI **Kahang-Kahang** 16.62 222 P **P** **14 42 24.7 +1.7**
126nm,1.1s
IGBI **Denpasar** 17.26 222 P **P** **14 42 32.0 +1.9**
108nm,1.1s
JAGI **Jajag, Banyuwa** 17.70 225 P **P** **14 42 36.6 +1.7**
124nm,0.7s
GMJI **Gumukmas** 18.07 227 P **P** **14 42 42.5 +3.4**
104nm,1.1s
SJI **Sawahan** 19.00 232 P **P** **14 42 49.9 +0.5**
99nm,0.9s
PWJI **Pagerwojo** 19.15 231 P **P** **14 42 50.8 -0.1**
68nm,1.1s
TWG **Pinlang** 19.41 344 *e*P **P** **14 42 51.4 -2.4**
72nm,0.5s
PCJI **Pacitan** 19.74 232 P **P** **14 42 57.1 -0.3**
YULB **Yu-li** 19.90 345 *e*P **P** **14 42 57.2 -1.8**
43nm,0.6s
TPUB **Ta-pu** 19.99 343 *e*P **P** **14 42 59.2 -0.8**
134nm,0.6s
GUMO **Guam** 20.23 61 LR LR 14 49 12.2
comp=Z,505nm,21.4s,baz=242,slow=32
SSLB **Suanglung** 20.37 345 *e*P **P** **14 43 02.7 -1.4**
84nm,0.7s
NACB **Ninganchiao** 20.58 347 *e*P **P** **14 43 04.3 -2.0**
213nm,2.0s
YHNB **Yeheng** 21.11 346 *e*Pn **P** **14 43 13.4 +1.2**
70nm,0.6s
PPBI **Pangkal Pinang** 21.50 254 P **P** **14 43 17.9 +1.4**
26nm,1.8s,2µm
FITZ **Fitzroy Crossi** 22.07 183 *e*P **P** **14 43 20.8 -1.7**
31nm,0.6s
FITZ **Fitzroy Crossi** 22.07 183 *e*P **P** **14 43 20.2 -2.3**
49nm,0.6s
FITZ **Fitzroy Crossi** 22.07 183 P **P** **14 43 21.6 -0.9**
37nm,0.7s,baz=19,slow=11,SNR=33
FITZ S **S** **14 47 20.1 -3.6**
8.3nm,1.0s,baz=186,slow=22,SNR=5.5
QZH **Quanzhou** 22.17 340 P **P** **14 43 24.4 +0.9**
QZH S **S** **14 47 23.0 -2.4**
QZH LR LR
comp=Z,2µm,19.0s
QIZ **Qiongzhong** 22.20 313 P **P** **14 43 24.5 +0.6**
QIZ S **S** **14 47 26.6 +0.4**
QIZ pmax pmax
comp=Z,45nm,0.9s
QIZ LR LR
comp=N,460nm,16.7s
QIZ LR LR
comp=Z,550nm,18.5s
QIZ **Qiongzhong** 22.20 313 *e*P **P** **14 43 23.7 -0.2**
comp=Z,23nm,0.6s
JOW **Kunigami** 22.66 4 P **P** **14 43 30.7 +1.9**
JOW **Kunigami** 22.66 4 P **P** **14 43 30.7 +1.9**
comp=Z,76nm,0.7s,baz=180,slow=9.2,SNR=9.6
MYKOM **Kota Tinggi** 22.97 265 P **P** **14 43 34.5 +2.4**
MYKOM **Kota Tinggi** 22.97 265 P **P** **14 43 33.6 +1.5**
comp=Z,121nm,0.9s,comp=Z,752nm
CGJI **Cibinong** 23.55 243 P **P** **14 43 36.7 -1.1**
comp=Z,136nm,0.9s,comp=Z,2µm
COEN **Coen** 24.23 138 *e*P **P** **14 43 43.0 -1.1**
comp=Z,147nm,1.1s
PMG **Port Moresby** 24.37 123 P **P** **14 43 45.6 +0.2**
PMG **Port Moresby** 24.37 123 P **P** **14 43 45.6 +0.2**
comp=Z,2.4nm,0.7s,baz=322,slow=18,SNR=1.9
WRAB **Tennant Creek** 25.02 163 *e*P **P** **14 43 50.8 -0.4**
WRAB pmax pmax
comp=Z,101nm,0.7s
WRAB **Tennant Creek** 25.02 163 *e*P **P** **14 43 50.8 -0.4**
comp=Z,101nm,0.7s
WRA **Warramunga Arr** 25.02 163 P **P** **14 43 50.8 -0.5**
WRA S **S** **14 48 12.0 -0.8**
WRA ScP **ScP** **14 51 04.4 +2.7**
WRA **Warramunga Arr** 25.02 163 P **P** **14 43 50.8 -0.5**
comp=Z,90nm,0.8s,baz=338,slow=11,SNR=91
WRA S **S** **14 48 12.0 -0.8**
comp=Z,10nm,1.0s,baz=348,slow=16,SNR=5.0
WRA ScP **ScP** **14 51 04.4 +2.7**
comp=Z,2.0nm,1.0s,baz=342,slow=2.8,SNR=4.7
FRIM **Kepong** 25.08 269 P **P** **14 43 53.7 +1.8**
KSI **Kapahiang** 25.32 253 P **P** **14 43 58.0 +3.9**
comp=Z,106nm,0.7s,comp=Z,2µm
IPM **Ipoh** 25.64 272 *e*P **P** **14 43 57.9 +0.8**
comp=Z,36nm,0.8s
IPM **Ipoh** 25.64 272 P **P** **14 43 58.7 +1.6**
BKNI **Bangkinang** 25.95 262 P **P** **14 44 01.1 +1.4**
comp=Z,168nm,1.1s,comp=Z,2µm
MBWA **Marble Bar** 26.01 195 *e*P **P** **14 44 01.3 +1.1**
comp=Z,99nm,0.9s
KULM **Kulim** 26.03 274 *e*P **P** **14 44 01.5 +1.0**
comp=Z,35nm,1.0s
KULM **Kulim** 26.03 274 P **P** **14 44 02.0 +1.5**
KULM **Kulim** 26.03 274 P **P** **14 44 01.3 +0.8**
comp=Z,39nm,1.4s,comp=Z,418nm
PPI **Padang Panjang** 26.71 261 P **P** **14 44 07.1 +0.5**
comp=Z,53nm,1.0s
CBIJ **Chichi jima** 27.23 31 P **P** **14 44 11.7 +0.6**
CBIJ **Chichi jima** 27.23 31 P **P** **14 44 11.7 +0.6**
comp=Z,151nm,0.8s,baz=292,slow=20,SNR=4.0
CBIJ LR LR 14 53 34.7
comp=Z,360nm,18.7s,baz=137,slow=33
MNSI **Mandailing Nat** 27.33 264 P **P** **14 44 12.2 0.0**
comp=Z,51nm,0.5s,comp=Z,2µm
SSE **Sheshan** 27.37 350 P **P** **14 44 13.1 +0.8**
SSE S **S** **14 48 52.3 +2.7**
SSE sS **sS** **14 49 10.3 +2.1**
SSE pmax pmax
comp=Z,45nm,1.0s
SSE pmax pmax
comp=Z,320nm,4.1s
SSE LR LR
comp=N,230nm,20.5s
SSE LR LR
comp=E,100nm,20.5s
SSE LR LR
comp=Z,330nm,21.8s
PSI **Prapat** 27.79 268 P **P** **14 44 15.2 -1.3**
PSI **Prapat** 27.79 268 P **P** **14 44 16.8 +0.3**
comp=Z,56nm,0.9s,comp=Z,386nm
PSI **Prapat** 27.79 268 P **P** **14 44 15.2 -1.3**
comp=Z,39nm,0.9s,baz=104,slow=3.5,SNR=25
AS31 **Alice Springs** 28.45 166 *e*P **P** **14 44 22.1 -0.1**
AS31 *es*P **sP** **14 44 36.5 -1.7**
ASAR **Alice Springs** 28.46 166 P **P** **14 44 22.1 -0.1**
ASAR S S 14 49 18.7 +12
ASAR **Alice Springs** 28.46 166 P **P** **14 44 22.1 -0.1**
comp=Z,9.2nm,0.6s,baz=354,slow=7.7,SNR=136
ASAR S S 14 49 18.7 +12
comp=Z,4.5nm,0.8s,baz=352,slow=16,SNR=6.6
NJ2 **Nanjing** 28.79 346 *e*P **P** **14 44 26.0 +1.0**
NJ2 pP **pP** **14 44 35.3 -0.8**
NJ2 sP **sP** **14 44 38.5 -2.5**
NJ2 S S 14 49 18.0 +6.1
NJ2 pmax pmax
comp=Z,20nm,0.8s
NJ2 pmax pmax
comp=Z,490nm,4.2s
NJ2 LR LR
comp=N,560nm,17.8s
NJ2 LR LR
comp=E,1µm,14.6s
NJ2 LR LR
comp=Z,400nm,17.5s
WHN **Wuhan** 28.80 337 ⇑P **P** **14 44 26.1 +1.0**
WHN *e*S **S** **14 49 15.8 +3.6**
WHN LR LR
comp=Z,2µm,19.1s
JNU **Nakatsue** 29.14 7 P **P** **14 44 28.6 +0.4**
JNU **Nakatsue** 29.14 7 P **P** **14 44 28.6 +0.4**
comp=Z,21nm,0.8s,baz=256,slow=14,SNR=6.6
GSI **Gunungsitoli** 29.26 265 P **P** **14 44 28.5 -0.9**
comp=Z,112nm,0.8s
GYA **Guiyang** 29.40 321 ⇑*i*P **P** **14 44 32.4 +1.8**
GYA pP **pP** **14 44 41.8 0.0**
GYA PP **PnPn** **14 45 29.0 +3.3**
GYA PcP **PcP** **14 47 37.8 +1.6**
GYA S **S** **14 49 23.0 +1.0**
GYA sS **sS** **14 49 41.3 +0.7**
GYA SS SS 14 50 56.8 -31
GYA ScP **ScP** **14 51 15.0 +0.1**
GYA ScS **ScS** **14 55 08.4 -1.3**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=N,760nm,16.9s
GYA LR LR
comp=E,670nm,16.6s
GYA LR LR
comp=Z,740nm,18.0s
CMAR **Chiang Mai Arr** 30.70 300 P **P** **14 44 43.4 +1.2**
CMAR PcP **PcP** **14 47 42.2 +2.7**
CMAR ScP **ScP** **14 51 23.4 +4.2**
CMAR **Chiang Mai Arr** 30.70 300 P **P** **14 44 43.4 +1.2**
comp=Z,17nm,0.7s,baz=117,slow=7.1,SNR=66
CMAR PcP **PcP** **14 47 42.2 +2.7**
comp=Z,2.7nm,0.9s,baz=142,slow=0.5,SNR=6.0
CMAR ScP **ScP** **14 51 23.4 +4.2**
comp=Z,0.5nm,0.3s,baz=133,slow=0.6,SNR=5.3
CMAR LR LR 14 56 46.6
comp=Z,281nm,20.1s,baz=123,slow=36
ENH **Enshi** 30.73 330 *e*P **P** **14 44 40.4 -1.8**
comp=Z,60nm,0.8s
ENH *e*PcP **PcP** **14 47 38.5 -0.9**
CTA **Charters Tower** 30.74 142 P **P** **14 44 44.3 +1.9**
CTA **Charters Tower** 30.74 142 *e*P **P** **14 44 44.0 +1.6**
comp=Z,6.0nm,0.6s
CTA **Charters Tower** 30.74 142 P **P** **14 44 44.3 +1.9**
comp=Z,8.9nm,0.9s,baz=337,slow=7.4,SNR=6.4
CTAO **Charters Tower** 30.74 142 *e*P **P** **14 44 41.9 -0.5**
CTAO pmax pmax
comp=Z,10.0nm,0.8s
CTAO **Charters Tower** 30.74 142 *e*P **P** **14 44 41.9 -0.5**
comp=Z,10.0nm,0.8s
CHTO **Chiang Mai** 30.85 301 *e*P **P** **14 44 43.7 +0.2**
CHTO pmax pmax
comp=Z,31nm,0.8s
CHTO **Chiang Mai** 30.85 301 *e*P **P** **14 44 43.7 +0.2**
comp=Z,31nm,0.8s
CHTO **Chiang Mai** 30.85 301 P **P** **14 44 44.8 +1.4**
comp=Z,53nm,0.8s,comp=Z,456nm
KMI **Kunming** 31.14 315 P **P** **14 44 47.3 +1.1**
KMI pP **pP** **14 44 58.4 +1.1**
KMI sP **sP** **14 45 02.5 +0.3**
KMI PP **PnPn** **14 45 52.1 +3.3**
KMI S **S** **14 49 51.0 +1.5**
KMI sS **sS** **14 50 08.4 +0.2**
KMI SS SS 14 51 38.6 -25
KMI pmax pmax
comp=Z,13nm,0.8s
KMI pmax pmax
comp=Z,110nm,4.4s
KMI LR LR
comp=N,250nm,17.6s
KMI LR LR
comp=E,340nm,14.7s
KMI LR LR
comp=Z,550nm,16.5s
KSAR **Wonju Array Be** 33.21 2 P **P** **14 45 05.0 +1.1**
KSAR PcP **PcP** **14 47 48.4 +2.4**
KSRS **Korea Array** 33.23 2 P **P** **14 45 05.0 +1.0**
comp=Z,12nm,0.8s,baz=182,slow=9.5,SNR=32
KSRS PcP **PcP** **14 47 48.4 +2.4**
comp=Z,11nm,0.7s,baz=194,slow=2.7,SNR=20
MJAR **Matsushiro Arr** 33.98 17 P **P** **14 45 08.8 -1.8**
MJAR PcP **PcP** **14 47 50.1 +1.9**
MJAR **Matsushiro Arr** 33.98 17 P **P** **14 45 08.8 -1.8**
comp=Z,4.9nm,0.6s,baz=188,slow=9.2,SNR=14
MJAR PcP **PcP** **14 47 50.1 +1.9**
comp=Z,4.2nm,0.8s,baz=209,slow=3.3,SNR=5.2
MAJO **Matsushiro** 33.98 17 *e*P **P** **14 45 09.5 -1.2**
MAJO pmax pmax
comp=Z,14nm,0.8s
MAJO **Matsushiro** 33.98 17 *e*P **P** **14 45 09.5 -1.2**
comp=Z,14nm,0.8s
MAT **Matsushiro** 33.98 17 P **P** **14 45 09.0 -1.7**
XAN **Xi'an** 34.10 333 P **P** **14 45 11.8 0.0**
XAN pP **pP** **14 45 21.8 -1.3**
XAN S **S** **14 50 37.8 +2.7**
XAN sS **sS** **14 50 54.0 +0.1**
XAN pmax pmax
comp=Z,4.0nm,0.7s
XAN pmax pmax
comp=Z,26nm,6.1s
XAN LR LR
comp=N,260nm,18.1s
XAN LR LR
comp=E,140nm,18.1s
XAN LR LR
comp=Z,170nm,18.5s
CD2 **Chengdu** 34.36 324 P **P** **14 45 14.8 +0.7**
CD2 pP **pP** **14 45 24.4 -1.0**
CD2 sP **sP** **14 45 28.3 -1.9**
CD2 PcP **PcP** **14 47 50.3 +0.8**
CD2 S **S** **14 50 39.3 +0.1**
CD2 sS **sS** **14 50 55.3 -2.7**
CD2 PcS **PcS** **14 51 35.5 -0.4**
CD2 SS **SnSn** **14 52 50.4 -1.3**
CD2 pmax pmax
comp=Z,50nm,0.7s
CD2 pmax pmax
comp=Z,250nm,5.5s
CD2 LR LR
comp=N,580nm,20.2s
CD2 LR LR
comp=E,630nm,21.2s
CD2 LR LR
comp=Z,710nm,17.0s
FORT **Forrest** 34.69 178 *e*P **P** **14 45 17.3 +0.5**
comp=Z,147nm,0.7s
FORT **Forrest** 34.69 178 *e*P **P** **14 45 17.2 +0.4**
comp=Z,112nm,0.6s
HNR **Honiara** 35.72 112 LR LR 14 58 46.6
comp=Z,242nm,20.3s,baz=265,slow=34
KLBR **Kellerberrin** 36.50 193 *e*P **P** **14 45 32.8 +0.4**
comp=Z,87nm,0.7s
BJT **Baijiatuau** 37.02 346 *e*P **P** **14 45 35.7 -1.0**
comp=Z,99nm,0.5s
BJT *e*PcP **PcP** **14 47 58.0 +0.9**
BJI **Beijing** 37.04 346 P **P** **14 45 38.1 +1.2**
BJI S **S** **14 51 16.8 -3.1**
BJI pmax pmax
comp=Z,130nm,0.5s
BJI LR LR
comp=N,330nm,13.8s
BJI LR LR
comp=E,380nm,16.3s
BJI LR LR
comp=Z,170nm,21.6s
EIDS **Eidsvold** 37.63 142 *e*P **P** **14 45 42.4 +0.4**
comp=Z,31nm,0.8s
SNY **Shenyang** 37.68 356 ⇑P **P** **14 45 42.0 -0.3**
SNY pmax pmax
comp=Z,27nm,2.1s
BBOO **Buckleboo** 37.75 167 *e*P **P** **14 45 42.8 -0.2**
comp=Z,1µm,0.7s
NWAO **Narrogin (SRO)** 37.90 193 *e*P **P** **14 45 45.0 +0.8**
comp=Z,66nm,0.9s
NWAO **Narrogin (SRO)** 37.90 193 P **P** **14 45 45.4 +1.2**
comp=Z,51nm,0.7s,baz=16,slow=8.1,SNR=28
LZH **Lanzhou** 38.20 329 *e*P **P** **14 45 48.4 +1.4**
LZH pP **pP** **14 45 58.8 +0.5**
LZH sP **sP** **14 46 04.8 +1.6**
LZH PP **PnPn** **14 47 19.3 +2.6**
LZH PcP **PcP** **14 48 04.1 +3.1**
LZH *e*S **S** **14 51 41.4 +3.4**
LZH sS **sS** **14 51 55.3 -1.6**
LZH SS **SnSn** **14 54 16.3 -8.3**
LZH pmax pmax
comp=Z,110nm,1.0s
LZH pmax pmax
comp=Z,160nm,5.0s
LZH LR LR
comp=N,640nm,16.3s
LZH LR LR
comp=E,250nm,12.6s
LZH LR LR
comp=Z,680nm,18.6s
STKA **Stephens Creek** 38.46 159 *e*P **P** **14 45 49.2 +0.3**
comp=Z,16nm,0.8s
STKA **Stephens Creek** 38.46 159 ⇑*i*P **P** **14 45 49.4 +0.5**
comp=Z,64nm,0.8s
STKA **Stephens Creek** 38.46 159 P **P** **14 45 49.5 +0.5**
comp=Z,82nm,0.8s,baz=335,slow=8.2,SNR=122
HHC **Hu-ho-hao-te** 39.06 342 *e*P **P** **14 45 55.4 +1.3**
HHC pP **pP** **14 46 02.3 -3.1**
HHC sP **sP** **14 46 09.5 -0.8**
HHC PP **PnPn** **14 47 31.0 +4.1**
HHC PcP **PcP** **14 48 02.3 -1.2**
HHC ScP **ScP** **14 51 46.4 -2.5**
HHC S **S** **14 51 53.6 +2.8**
HHC sS **sS** **14 52 11.6 +1.9**
HHC SS **SS** **14 54 42.6 -1.7**
HHC ScS **ScS** **14 55 58.1 -2.1**
HHC pmax pmax
comp=Z,39nm,1.2s
HHC pmax pmax
comp=Z,170nm,6.0s
HHC LR LR
comp=N,390nm,16.8s
HHC LR LR
comp=E,410nm,16.8s
HHC LR LR
comp=Z,330nm,20.4s
CN2 **Changchun** 39.57 359 *e*P **P** **14 45 58.8 +0.8**
CN2 *ep*P **pP** **14 46 11.0 +1.6**
CN2 *e*S **S** **14 51 59.3 +1.3**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,500nm,15.0s
CN2 LR LR
comp=E,400nm,15.0s
CN2 LR LR
comp=Z,400nm,16.0s
USRK **Ussuriysk Arra** 40.22 6 P **P** **14 46 04.7 +1.3**
comp=Z,7.8nm,0.5s,baz=186,slow=7.5,SNR=17
MDJ **Mudanjiang** 40.44 3 P **P** **14 46 05.8 +0.5**
MDJ pP **pP** **14 46 14.8 -1.9**
MDJ sP **sP** **14 46 18.6 -3.0**
MDJ ScP **ScP** **14 51 54.9 +0.9**
MDJ PcS **PcS** **14 51 58.8 +0.7**
MDJ S **S** **14 52 13.3 +2.3**
MDJ sS **sS** **14 52 28.4 -1.6**
MDJ pmax pmax
comp=Z,29nm,1.9s
MDJ pmax pmax
comp=Z,240nm,3.6s
MDJ LR LR
comp=N,110nm,25.4s
MDJ LR LR
comp=E,77nm,22.1s
MDJ LR LR
comp=Z,160nm,29.4s
MDJ **Mudanjiang** 40.44 3 *e*P **P** **14 46 04.1 -1.2**
comp=Z,38nm,1.0s
MDJ *e*PcP **PcP** **14 48 06.4 -1.3**
ARMA **Armidale** 41.76 147 *e*P **P** **14 46 18.4 +1.9**
comp=Z,53nm,0.7s
ARMA **Armidale** 41.76 147 *e*P **P** **14 46 18.0 +1.5**
LSA **Lhasa** 42.21 311 *e*P **P** **14 46 21.5 +0.8**
LSA *e* 14 48 15.4
LSA pmax pmax
comp=Z,18nm,0.6s
LSA **Lhasa** 42.21 311 *e*P **P** **14 46 21.4 +0.8**
comp=Z,18nm,0.6s
LSA *e*PcP **PcP** **14 48 15.4 +1.0**
ASAJ **Asahikawa** 42.25 17 P **P** **14 46 21.1 +0.9**
ASAJ **Asahikawa** 42.25 17 P **P** **14 46 21.1 +0.9**
comp=Z,13nm,0.6s,baz=242,slow=17,SNR=17
GTA **Gaotai** 42.80 329 *e*P **P** **14 46 25.4 +0.5**
GTA pP **pP** **14 46 35.1 -1.2**
GTA sP **sP** **14 46 38.6 -2.6**
GTA PcP **PcP** **14 48 18.3 +2.6**
GTA S **S** **14 52 47.1 +0.7**
GTA sS **sS** **14 53 03.3 -2.2**
GTA SS SS 14 55 51.4 -7.1
GTA pmax pmax
comp=Z,31nm,0.8s
GTA pmax pmax
comp=Z,240nm,5.5s
GTA LR LR
comp=N,540nm,19.5s
GTA LR LR
comp=E,420nm,15.4s
GTA LR LR
comp=Z,700nm,20.9s
TAPN **Taplejung** 43.81 306 *e*P **P** **14 46 33.6 +0.1**
comp=Z,46nm,0.7s
ODAN **Odare** 43.87 305 *e*P **P** **14 46 34.1 +0.2**
comp=Z,56nm,0.6s
CAN **Canberra** 44.43 154 *e*P **P** **14 46 38.1 +0.2**
CAN *e* 14 48 19.6
CAN pmax pmax
comp=Z,70nm,1.1s
CAN **Canberra** 44.43 154 *e*P **P** **14 46 38.1 +0.2**
comp=Z,70nm,1.1s
CAN *e*PcP **PcP** **14 48 19.6 -1.5**
RAMN **Ramite** 44.55 305 *e*P **P** **14 46 39.6 +0.3**
comp=Z,36nm,0.5s
CNB **Canberra Magne** 44.58 153 *e*P **P** **14 46 40.9 +1.7**
comp=Z,100nm,1.0s
YSS **Yuzh-Sakhalins** 44.90 16 *e*P **P** **14 46 43.8 +2.4**
TOO **Toolangi** 44.97 159 *e*P **P** **14 46 44.2 +2.0**
comp=Z,88nm,0.8s
JIRN **Jiri** 45.17 306 *e*P **P** **14 46 44.6 +0.2**
comp=Z,14nm,0.7s
HIA **Hailar** 45.41 354 *e*P **P** **14 46 44.4 -1.1**
comp=Z,24nm,0.8s
HIA *e*PcP **PcP** **14 48 23.2 -1.0**
GUN **Gumba** 45.52 306 *e*P **P** **14 46 47.3 +0.1**
comp=Z,83nm,0.7s
PKI **Pulchoki** 45.77 305 *e*P **P** **14 46 48.9 -0.2**
comp=Z,31nm,0.9s
KKN **Kakani** 45.96 305 *e*P **P** **14 46 50.7 +0.2**
DMN **Daman** 46.03 305 *e*P **P** **14 46 51.2 +0.1**
comp=Z,54nm,1.0s
GKN **Gorkha** 46.57 305 *e*P **P** **14 46 55.4 +0.2**
comp=Z,24nm,0.6s
DZM **Mont Dzumac** 46.73 126 *e*P **P** **14 46 56.6 +0.2**
comp=Z,12nm,0.8s
DZM *e*PcP **PcP** **14 48 28.5 -1.1**
DZM **Mont Dzumac** 46.73 126 P **P** **14 46 56.9 +0.5**
comp=Z,11nm,0.8s,baz=347,slow=7.3,SNR=10
ULN **Ulaanbaatar** 46.78 342 *e*P **P** **14 46 56.6 +0.1**
comp=Z,20nm,0.6s
ULN **Ulaanbaatar** 46.78 342 P **P** **14 46 57.8 +1.3**
SONM **Songino Array** 46.96 341 P **P** **14 46 59.2 +1.3**
SONM PcP **PcP** **14 48 31.9 +2.0**
SONM **Songino Array** 46.96 341 P **P** **14 46 59.2 +1.3**
comp=Z,12nm,0.6s,baz=156,slow=9.2,SNR=53
SONM PcP **PcP** **14 48 31.9 +2.0**
comp=Z,11nm,0.7s,baz=160,slow=3.4,SNR=9.2
SONM LR LR 15 07 28.8
comp=Z,357nm,21.2s,baz=37,slow=37
KOLN **Koldanda** 47.33 305 *e*P **P** **14 47 01.5 +0.3**
comp=Z,86nm,0.6s
DANN **Dangsing** 47.42 305 *e*P **P** **14 47 01.8 -0.2**
comp=Z,120nm,0.5s
HYB **Hyderabad** 49.01 289 *i*P **P** **14 47 13.0 -1.1**
MOO **Moorlands** 49.89 160 *e*P **P** **14 47 22.3 +2.0**
comp=Z,89nm,1.0s
ZAK **Zakamensk** 50.19 341 *e*P **P** **14 47 23.4 +0.8**
ZAK pmax pmax
comp=Z,4.0nm,0.8s
TAU **Tasmania Unive** 50.35 160 *e*P **P** **14 47 26.0 +2.2**
TAU pmax pmax
comp=Z,32nm,1.0s
TAU **Tasmania Unive** 50.35 160 *e*P **P** **14 47 26.0 +2.2**
comp=Z,32nm,1.0s
TLY **Talaya** 51.20 342 *e*P **P** **14 47 30.7 +0.6**
TLY *e*S S 14 54 54.4 +8.8

TLY pmax pmax
comp=Z,12nm,0.7s
TLY MLR MLR
comp=Z,100nm,19.0s
TLY Talaya 51.20 342 *e*P **P 14 47 29.2 -0.8**
comp=Z,14nm,0.7s
MOY Mondy 52.05 340 *e*P **P 14 47 38.5 +1.9**
MOY pmax pmax
comp=Z,44nm,2.1s
WMQ Urumqi 52.44 325 P P **14 47 40.3 +0.7**
WMQ pP **pP 14 47 50.0 -1.3**
WMQ sP **sP 14 47 53.0 -3.1**
WMQ PcP **PcP 14 48 50.0 +0.1**
WMQ PP **PP 14 49 41.0 +2.3**
WMQ S **S 14 55 03.0 0.0**
WMQ sS **sS 14 55 19.0 -3.5**
WMQ ScS **ScS 14 57 24.0 -2.3**
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ pmax pmax
comp=Z,230nm,4.4s
WMQ LR LR
comp=N,1μm,17.0s
WMQ LR LR
comp=E,770nm,17.8s
WMQ LR LR
comp=Z,830nm,18.0s
CLNS Chul'man 52.62 359 *e*P **P 14 47 41.8 +1.2**
CLNS *e* 14 48 48.3
CLNS *e* 14 49 42.7
CLNS *e*PPP PPP 14 50 49.0
CLNS *e*S **S 14 55 06.1 +1.1**
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=Z,18nm,1.1s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=N,5.0nm,0.8s
CLNS pmax pmax
comp=Z,3.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS smax smax
comp=E,224nm,15.2s
CLNS smax smax
comp=N,112nm,13.2s
BOD Bodaibo 54.52 352⇓ *i*P **P 14 47 55.7 +1.3**
BOD pmax pmax
comp=Z,31nm,1.2s
MSVF Nonsavu 55.05 115 *e*P **P 14 47 58.7 -0.4**
MSVF pmax pmax
comp=Z,16nm,0.9s
MSVF Nonsavu 55.05 115 *e*P **P 14 47 58.7 -0.4**
comp=Z,16nm,0.9s
PEA0B Petropavlovsk- 55.10 22 *e*P **P 14 47 57.4 -1.4**
PETK Petropavlovsk- 55.10 22 P **P 14 48 00.1 +1.3**
PETK pmax pmax
comp=Z,12nm,0.7s
PETK Petropavlovsk- 55.10 22 P **P 14 48 00.1 +1.3**
PETK Petropavlovsk- 55.10 22 P **P 14 48 00.1 +1.3**
comp=Z,12nm,0.7s,baz=195,slow=5.0,SNR=32
MK31 Makanchi Array 57.27 325 *i*P **P 14 48 14.7 +0.3**
MK31 pmax pmax
comp=Z,18nm,0.6s
MK31 Makanchi Array 57.27 325 *e*P **P 14 48 14.7 +0.3**
MKAR Makanchi Array 57.27 325 *e*P **P 14 48 14.9 +0.5**
MKAR 14 49 09.8
MKAR Makanchi Array 57.27 325 *e*P **P 14 48 14.9 +0.5**
MKAR PcP **PcP 14 49 09.8 +1.4**
MKAR ScP **ScP 14 53 09.7 +4.6**
MKAR *e* 15 25 28.8
MKAR Makanchi Array 57.27 325 P **P 14 48 15.0 +0.5**
comp=Z,21nm,0.5s,baz=121,slow=8.4,SNR=208
MKAR PcP **PcP 14 49 09.8 +1.4**
comp=Z,9.2nm,0.7s,baz=118,slow=5.1,SNR=5.3
MKAR ScP **ScP 14 53 09.7 +4.6**
comp=Z,1.0nm,0.7s,baz=107,slow=5.4,SNR=4.5
MKAR P4KPbc 15 25 28.8
comp=Z,0.9nm,0.8s,baz=127,slow=4.2,SNR=7.7
KSH Kashi 57.80 315 P **P 14 48 20.3 +1.9**
KSH pP **pP 14 48 30.1 -0.2**
KSH sP **sP 14 48 34.3 -0.7**
KSH PcP **PcP 14 49 11.8 +1.0**
KSH PP **PP 14 50 30.1 +3.2**
KSH ScP **ScP 14 53 07.5 -0.3**
KSH PcS **PcS 14 53 11.8 -0.4**
KSH S **S 14 56 16.1 +1.0**
KSH sS **sS 14 56 33.0 -1.8**
KSH ScS **ScS 14 58 03.4 -1.6**
KSH SS **SS 15 00 09.1 +2.9**
KSH LR LR
comp=N,140nm,5.6s
KSH LR LR
comp=E,180nm,4.8s
KSH LR LR
comp=Z,220nm,5.4s
YAK Yakutsk 57.85 2 *e*P **P 14 48 19.0 +0.9**
YAK pmax pmax
comp=Z,111nm,1.1s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK pmax pmax
comp=N,28nm,0.9s
YAK Yakutsk 57.85 2 *e*P **P 14 48 17.7 -0.4**
comp=N,196nm,1.0s
KZA Kyzart 59.36 317 P **P 14 48 30.9 +1.3**
SNR=6.7
TKM2 Tokmak 2 59.49 318 *i*P **P 14 48 30.8 +0.6**
TKM2 Tokmak 2 59.49 318 *e*P **P 14 48 30.7 +0.6**
comp=N,11nm,1.0s
TKM2 Tokmak 2 59.49 318 P **P 14 48 30.8 +0.6**
SNR=12
AAK Ala-Archa 60.10 318 *e*P **P 14 48 31.9 -2.4**
comp=N,18nm,0.6s
AAK Ala-Archa 60.10 318 P **P 14 48 35.1 +0.7**
comp=N,2.0nm,0.5s,baz=151,slow=10.0,SNR=9.7
ZAA0 Zalesovo Array 60.28 333 *e*P **P 14 48 33.5 -1.7**
ZALV Zalesovo Beam 60.28 333 P **P 14 48 35.1 0.0**
ZALV pmax pmax
comp=Z,8.0nm,0.4s
ZALV Zalesovo Beam 60.28 333 P **P 14 48 35.0 0.0**
ZALV ⇑*e* 15 18 06.9
ZALV Zalesovo Beam 60.28 333 P **P 14 48 35.0 0.0**
comp=Z,7.8nm,0.4s,baz=122,slow=6.5,SNR=50
ZALV PKP2bc 15 18 06.9
comp=Z,0.5nm,0.5s,baz=341,slow=3.1,SNR=4.4
USP Ospenovka 60.36 318 P **P 14 48 35.8 -0.2**
SNR=9.4
AML Almayashu 60.44 317 P **P 14 48 37.9 +1.0**
SNR=15
EKS2 Erkin-Say 60.59 317 *e*P **P 14 48 38.4 +0.7**
EKS2 pmax pmax
comp=Z,10.0nm,0.7s
EKS2 Erkin-Say 60.59 317 *e*P **P 14 48 38.4 +0.7**
comp=Z,9.7nm,0.7s
EKS2 Erkin-Say 60.59 317 P **P 14 48 38.6 +1.0**
SNR=12
KBL Kabul 61.31 307 *e*P **P 14 48 42.3 -0.5**
KBL pmax pmax
comp=Z,15nm,0.8s
KBL Kabul 61.31 307 *e*P **P 14 48 42.3 -0.5**
comp=Z,15nm,0.8s
KURBB Kurchatov Arra 61.45 327 P **P 14 48 43.5 +0.4**
comp=Z,24nm,0.6s,baz=127,slow=6.3,SNR=199
KURK Kurchatov 61.45 327 *e*P **P 14 48 43.3 +0.2**
comp=Z,40nm,0.6s
NVS Novosibirsk 61.56 333⇑ *i*P **P 14 48 43.8 0.0**
NVS *e*S **S 14 57 00.0 -2.7**
NVS pmax pmax
comp=Z,40nm,1.0s
NVS pmax pmax
comp=N,12nm,1.1s
NVS pmax pmax
comp=E,14nm,1.1s
NVS smax smax
comp=E,48nm,2.4s
NVS smax smax
comp=N,8.0nm,1.6s
SEY Seymchan 61.68 13⇓ *e*P **P 14 48 46.9 +2.4**
KKAR Karatay Array 62.98 317 *e*P **P 14 48 53.4 -0.2**
KKAR Karatay Array 62.98 317 *e*P **P 14 48 53.4 -0.2**
BVA0 Borovoye Array 67.03 327 *i*P **P 14 49 19.9 +0.2**
BVA0 pmax pmax
comp=Z,4.0nm,0.8s
BVAR Borovoye Array 67.03 327 P **P 14 49 20.2 +0.5**
BVAR pmax pmax
comp=Z,27nm,0.7s
BVAR Borovoye Array 67.03 327 P **P 14 49 20.2 +0.5**
BVAR Borovoye Array 67.03 327 P **P 14 49 20.2 +0.5**
comp=Z,27nm,0.7s,baz=133,slow=8.9,SNR=150
BRVK Borovoye 67.10 327*c i*P **P 14 49 20.5 +0.4**
BRVK pmax pmax
comp=Z,57nm,1.0s
BRVK Borovoye 67.10 327 *e*P **P 14 49 20.1 -0.1**
comp=Z,41nm,0.8s
BILL Bilibino 69.21 15⇓ *i*P **P 14 49 33.9 +0.8**
BILL *i* 14 49 57.6
BILL *e* 14 52 08.0
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL MLR MLR
comp=Z,100nm,17.0s
BILL Bilibino 69.21 15 *e*P **P 14 49 33.0 -0.1**
comp=Z,6.7nm,0.9s
ABKT Ailbek 70.68 309 P **P 14 49 43.8 +1.0**
comp=Z,94nm,1.2s,SNR=6.7
DRV Dumont d'Urvil 71.23 174 P P 14 49 55.0 +10
DRV Dumont d'Urvil 71.23 174 PP PP 14 53 10.0 +46
DRV S S 14 58 14.0 -45
DRV SS **SS 15 03 30.0 -4.0**
DRV L L 15 07 00.0
DRV R 15 12 00.0
AB31 Akbulak array 71.88 321 *i*P **P 14 49 49.8 +0.1**
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 71.88 321 *e*P **P 14 49 50.1 +0.3**
AKTO Aktyubinsk 73.39 322 P **P 14 49 59.3 +0.6**
AKTO pmax pmax
comp=Z,19nm,0.8s
AKTO Aktyubinsk 73.39 322 P **P 14 49 59.3 +0.6**
AKTO Aktyubinsk 73.39 322 P **P 14 49 59.3 +0.6**
comp=Z,19nm,0.8s,baz=100,slow=9.0,SNR=76
SVE Sverdlovsk 73.66 328*c i*P **P 14 50 01.6 +1.5**
SVE pmax pmax
comp=Z,37nm,1.0s
ARU Arti 74.64 328*c i*P **P 14 50 06.4 +0.5**
ARU 14 52 49.1
ARU S **S 14 59 40.2 +1.5**
ARU SS **SS 15 04 26.4 0.0**
ARU pmax pmax
comp=Z,26nm,1.0s
ARU Arti 74.64 328 *e*P **P 14 50 06.0 +0.1**
comp=Z,21nm,0.7s
SOKR Solikamsk 76.41 331 *e*P **P 14 50 16.0 +0.2**
SOKR pmax pmax
comp=Z,10.0nm,0.6s
SOKR MLR MLR
comp=Z,250nm,23.0s
SDPT Sand Point 76.89 34 *e*P **P 14 50 16.3 -2.4**
KBD Kabd 78.46 299 *e*P **P 14 50 27.7 -0.3**
KBD AMb AMB 14 50 33.6
comp=Z,27nm,0.7s
RDF Al-Radifah 78.58 299 *e*P **P 14 50 28.7 0.0**
RDF AMb AMB 14 50 30.9
comp=Z,31nm,0.6s
MIB Mutribah 78.78 299 *e*P **P 14 50 29.0 -0.8**
MIB AMb AMB 14 50 34.6
comp=Z,54nm,0.7s
NAY Al-Naaiem 78.85 299 *e*P **P 14 50 29.5 -0.7**
NAY AMb AMB 14 50 32.4
comp=Z,21nm,0.6s
DGRG David-gareji 80.84 311 P **P 14 50 43.5 +2.8**
TBLG Delisi 81.32 311 P **P 14 50 45.6 +2.2**
TBLG Delisi 81.32 311 P **P 14 50 45.6 +2.2**
BHD Baghdad 81.39 303 *ex* **P 14 50 46.3 +2.5**
BHD *ex* **S 15 00 56.7 +4.5**
ABPO Ambohimpanom 81.44 250 *e*P **P 14 50 45.2 +0.7**
ABPO pmax pmax
comp=Z,27nm,0.6s
ABPO Ambohimpanom 81.44 250 *e*P **P 14 50 45.2 +0.7**
comp=Z,27nm,0.6s
KDAK Kodiak Island 81.58 32 *e*P **P 14 50 41.9 -2.4**
KDAK Kodiak Island 81.58 32 P **P 14 50 46.3 +2.0**
comp=Z,28nm,0.7s,baz=280,slow=5.6,SNR=15
GOR Gori 81.80 312 P **P 14 50 47.2 +1.4**
ZEI Tsey 81.98 312 *e*P **P 14 50 47.5 +0.4**
ZEI pmax pmax
comp=Z,14nm,0.9s
AKH Akhalkalaki 82.25 311 P **P 14 50 50.3 +1.9**
KIV Kislovodsk 82.90 314 *e*P **P 14 50 53.4 +1.8**
KIV *e* 14 54 07.3
KIV pmax pmax
comp=Z,6.0nm,1.1s
SLKM Skilak Lake 83.03 30 *e*P **P 14 50 50.8 -1.1**
SLKM Skilak Lake 83.03 30 *e*P **P 14 50 50.8 -1.1**
TRF Thorofare Moun 83.22 27 *e*P **P 14 50 52.2 -0.7**
comp=Z,32nm,1.0s
RC01 Rabbit Creek A 83.31 29 *e*P **P 14 50 52.5 -0.7**
comp=Z,30nm,0.9s
SEW Seward 83.39 30 *e*P **P 14 50 52.1 -1.5**
COLD Coldfoot 83.56 23 *e*PcP **P 14 50 56.8 +2.3**
PMR Palmer 83.63 29 *e*P **P 14 50 55.3 +0.5**
PMR pmax pmax
comp=Z,41nm,0.9s
PMR Palmer 83.63 29 *e*P **P 14 50 55.3 +0.5**
comp=Z,41nm,0.9s
VRHR Novokhopersk 83.77 321 *e*P **P 14 50 57.8 +2.0**
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,6.0nm,0.5s
VNDA Vanda 83.78 173 *e*P **P 14 50 55.7 +0.4**
comp=E,26nm,1.0s
MCK McKinley 83.84 26 *e*P **P 14 50 55.3 -0.7**
MCK pmax pmax
comp=Z,44nm,0.9s
MCK McKinley 83.84 26 *e*P **P 14 50 55.3 -0.7**
comp=Z,44nm,0.9s
SML Sawmill 84.02 28 *e*P **P 14 50 56.6 -0.4**
SML pmax pmax
comp=Z,19nm,0.9s
SML Sawmill 84.02 28 *e*P **P 14 50 56.6 -0.4**
comp=Z,19nm,0.9s
COLA College 84.37 25 *e*P **P 14 50 57.0 -1.6**
COLA pmax pmax
comp=Z,9.0nm,0.8s
COLA College 84.37 25 *e*P **P 14 50 57.0 -1.6**
comp=Z,9.3nm,0.8s
SBA Scott Base 84.69 172 *e*P **P 14 50 59.9 0.0**
SBA Scott Base 84.69 172 *e*P **P 14 50 59.9 0.0**
ILAR Eielson Array 84.78 25 P **P 14 51 01.1 +0.4**
ILAR PKKPbc **PKKPbc 15 09 10.6 -1.8**
ILAR Eielson Array 84.78 25 P **P 14 51 01.1 +0.4**
comp=Z,6.3nm,0.9s,baz=244,slow=4.5,SNR=47
ILAR PKKPbc **PKKPbc 15 09 10.6 -1.8**
comp=Z,0.3nm,0.7s,baz=5.5,slow=3.2,SNR=4.1
KLMR Klimovskoe 85.10 331*c i*P **P 14 51 02.9 +0.6**
KLMR *e*S **S 15 01 25.4 -3.4**
KLMR pmax pmax
comp=Z,72nm,0.5s
DIV Divide 85.23 29 *e*P **P 14 51 03.7 +0.6**
comp=Z,55nm,0.9s
VORD Divnogorie 85.24 321 *e*P **P 14 51 03.0 -0.2**
VSR Storozhevoye 85.32 321 *e*P **P 14 51 04.0 +0.4**
VSR pmax pmax
comp=N,5.0nm,1.0s
VSR pmax pmax
comp=Z,20nm,1.0s
VSR pmax pmax
comp=E,10.0nm,0.8s
PAX Paxson 85.38 27 *e*P **P 14 51 04.0 +0.1**
PAX pmax pmax
comp=Z,45nm,1.4s
PAX Paxson 85.38 27 *e*P **P 14 51 04.0 +0.1**
comp=Z,45nm,1.4s
BMRM Bremner River 85.80 29 *e*P **P 14 51 05.8 -0.2**
comp=Z,33nm,0.9s
MOS Moscow 86.15 325 *e*P **P 14 51 07.4 -0.3**
MOS pmax pmax
comp=Z,98nm,1.2s
MENT Mentasta 86.18 27 *e*P **P 14 51 07.2 -0.5**
OBN Obninsk 86.78 325⇑ *i*P **P 14 51 11.3 +0.6**
OBN *i* 14 51 18.0
OBN pmax pmax
comp=Z,119nm,1.6s
OBN MLR MLR
comp=Z,200nm,19.0s
OBN Obninsk 86.78 325 *e*P **P 14 51 11.4 +0.6**
comp=Z,142nm,1.5s
JOF Joensuu 88.87 333 *e*P **P 14 51 20.8 +0.2**
JOF Joensuu 88.87 333 *e*p **P 14 51 20.8 +0.2**
KEV Kevo 89.56 340 *e*P **P 14 51 23.5 -0.2**
KEV pmax pmax
comp=Z,4.0nm,0.6s
KEV Kevo 89.56 340 *e*p **P 14 51 23.5 -0.2**
comp=Z,3.9nm,0.6s
KMBO Kilima Mbogo 89.57 269 *e*P **P 14 51 26.0 +0.8**
comp=Z,20nm,1.0s
BR131 Keskin Array S 89.80 310 *e*P **P 14 51 26.0 +0.3**
comp=Z,3.7nm,0.7s
BRTR Keskin Array B 89.80 310 P **P 14 51 25.6 -0.1**
BRTR Keskin Array B 89.80 310 P **P 14 51 25.6 -0.1**
comp=Z,4.3nm,0.9s,baz=122,slow=4.8,SNR=16
INK Inuvik 89.83 21 *e*P **P 14 51 25.0 0.0**
comp=Z,41nm,1.9s
INK Inuvik 89.83 21 P **P 14 51 24.9 0.0**
comp=Z,4.8nm,0.8s,baz=290,slow=5.1,SNR=17
ARCES ARCESS Array B 90.12 340 P **P 14 51 26.8 +0.4**
ARCES ARCESS Array B 90.12 340 P **P 14 51 26.8 +0.4**
comp=Z,4.1nm,0.5s,baz=86,slow=7.1,SNR=50
ARCES LR LR 15 35 20.9
comp=Z,168nm,21.0s,baz=273,slow=38
SPITS Spitsbergen Ar 90.13 349 P **P 14 51 27.8 +1.5**
SPITS Spitsbergen Ar 90.13 349 P **P 14 51 27.8 +1.5**
comp=Z,9.0nm,0.7s,baz=97,slow=10.0,SNR=7.4
KAF Kangasniemi 91.29 332 *e*P **P 14 51 31.9 0.0**
KAF pmax pmax
comp=Z,11nm,0.6s
KAF Kangasniemi 91.29 332 *e*p **P 14 51 31.9 0.0**
comp=Z,11nm,0.6s
FINES FINESS Array B 91.52 332 P **P 14 51 34.4 +1.4**
FINES FINESS Array B 91.52 332 P **P 14 51 34.4 +1.4**
comp=Z,7.6nm,0.6s,baz=46,slow=5.3,SNR=25
AKASG Malin Array Be 91.62 321 P **P 14 51 34.0 +0.3**
AKASG pmax pmax
comp=Z,10.0nm,0.7s
AKASG Malin Array Be 91.62 321 P **P 14 51 34.0 +0.3**
AKASG Malin Array Be 91.62 321 P **P 14 51 34.0 +0.3**
comp=Z,10nm,0.7s,baz=69,slow=4.7,SNR=25
AKBB Malin Array Si 91.62 321 *e*P **P 14 51 33.7 0.0**
AKBB Malin Array Si 91.62 321 *e*P **P 14 51 33.7 0.0**
KIEV Kiev 91.63 321 *e*P **P 14 51 33.3 -0.5**
KIEV pmax pmax
comp=Z,11nm,0.8s
KIEV Kiev 91.63 321 *e*P **P 14 51 33.3 -0.5**
comp=Z,11nm,0.8s
NACGM Naroch 92.40 325 *e* **P 14 51 35.0 -2.2**
SYO Syowa Base 92.76 201⇑ *e*P **P 14 51 39.0 +0.5**
SYO Syowa Base 92.76 201⇑ *e*P **P 14 51 40.3 +1.8**
DLBC Dease Lake 93.43 31 P **P 14 51 43.4 +1.4**
DLBC Dease Lake 93.43 31 P **P 14 51 43.4 +1.4**
comp=Z,4.3nm,0.9s,baz=259,slow=4.3,SNR=6.0
TESR 93.98 317⇓ *i*P **P 14 51 45.8 +1.1**
QSPA South Pole Qui 93.99 180 *e*P **P 14 51 46.1 +1.7**
QSPA PKKPbc **PKKPdf 15 08 48.5 -0.5**
QSPA South Pole Qui 93.99 180 P **P 14 51 44.3 -0.1**
comp=Z,12nm,1.0s,baz=334,slow=3.1,SNR=16
QSPA PKKPbc **PKKPdf 15 08 48.5 -0.5**
comp=Z,1.7nm,0.7s,baz=189,slow=4.1,SNR=10
VRI Vrincioaia 94.04 316⇓ *i*P **P 14 51 46.1 +1.0**
VRI Vrincioaia 94.04 316⇓ *i*P **P 14 51 46.0 +1.0**
PLOR Plostina 94.10 316⇑ *i*P **P 14 51 46.6 +1.3**
PLOR Plostina 94.10 316⇑ *i*P **P 14 51 46.6 +1.3**
SUW Suwalki 94.64 325 *e*P **P 14 51 48.8 +1.3**
SUW pmax pmax
comp=Z,99nm,1.0s
SUW Suwalki 94.64 325 *e*P **P 14 51 48.8 +1.3**
comp=Z,99nm,1.0s
MLR Muntele Rosu 94.65 316⇑ *i*P **P 14 51 49.2 +1.2**
BURAR Bucovina Array 94.74 318⇑ *i*P **P 14 51 49.9 +1.6**
BUR08 Bucovina Ar. S 94.75 318 *e*P **P 14 51 48.8 +0.5**
KOLS Kolonicke sedl 96.38 320 *e*P **P 14 51 56.4 +0.8**
KOLS pmax pmax
comp=Z,17nm,1.8s
KOLS Kolonicke sedl 96.38 320 *e*P **P 14 51 56.4 +0.8**
UZH Uzhgorod 96.44 320⇑ *i*P **P 14 51 56.9 +1.1**
DRGR 96.59 318⇓ P **P 14 51 57.6 +0.9**
DRGR 96.59 318⇓ *i*P **P 14 51 57.6 +0.9**
CRVS Cervenica-Dubn 96.91 320 *e*P **P 14 51 59.4 +1.4**
CRVS pmax pmax
comp=Z,17nm,0.9s
CRVS Cervenica-Dubn 96.91 320 *e*P **P 14 51 59.4 +1.4**
RES Resolute Bay 97.46 10 P Pdif 14 52 00.7 +0.7
RES Resolute Bay 97.46 10 P Pdif 14 52 00.7 +0.7
comp=Z,1.6nm,0.7s,baz=310,slow=5.0,SNR=5.3
BZS Buzias 97.60 317⇓ P P 14 51 51.6 -10
BZS Buzias 97.60 317⇓ *i*P P 14 51 51.6 -10
OJC Ojcow 97.61 322 *e*P Pdif 14 52 02.0 +0.8
OJC Ojcow 97.61 322 *e*P Pdif 14 52 02.1 +0.9
OJC Ojcow 97.61 322 *e*P Pdif 14 52 02.0 +0.8
comp=Z,12nm,0.9s
NB2 NORSAR Subarra 98.47 334 P **P 14 52 04.4 -0.4**
comp=Z,3.1nm,0.8s,baz=68,slow=4.6
NOA NORSAR Array B 98.47 334 P **P 14 52 04.5 -0.4**
NOA NORSAR Array B 98.47 334 P **P 14 52 04.5 -0.4**
comp=Z,2.5nm,0.8s,baz=67,slow=4.6,SNR=8.5
VYHS Vyhne 98.69 320 *e*P **P 14 52 06.6 +0.6**
VYHS pmax pmax
comp=Z,7.0nm,1.8s
VYHS Vyhne 98.69 320 PDIF **P 14 52 06.6 +0.6**
MORC Moravsky Berou 99.13 322⇓ P **Pdif 14 52 09.7 +1.7**
MORC Moravsky Berou 99.13 322 *e*P **Pdif 14 52 08.6 +0.6**
comp=Z,7.9nm,1.1s
MORC Moravsky Berou 99.13 322⇓ *i*P **Pdif 14 52 09.7 +1.7**
YKA Yellowknife Ar 99.17 24 P **Pdif 14 52 09.1 +1.3**
YKA PKiKP **PKiKP 14 56 40.0 +2.2**
YKA PKKPbc **PKKPbc 15 08 31.8 -3.4**
YKA Yellowknife Ar 99.17 24 P **Pdif 14 52 09.1 +1.3**
comp=Z,1.3nm,0.6s,baz=298,slow=4.4,SNR=6.9
YKA PP PP 14 56 28.6 +18
comp=Z,0.3nm,1.0s,baz=290,slow=7.2,SNR=3.7
YKA PKiKP **PKiKP 14 56 39.9 +2.2**
comp=Z,0.5nm,0.6s,baz=306,slow=1.7,SNR=10
YKA PKKPbc **PKKPbc 15 08 31.7 -3.4**
comp=Z,0.2nm,0.7s,baz=112,slow=2.5,SNR=4.1
LSZ Lusaka 99.30 255 *e*P **Pdif 14 52 09.6 0.0**
comp=Z,4.5nm,0.8s
KSP Ksiaz 99.56 323 *e*P **Pdif 14 52 11.5 +1.6**
DPC Dobruska-Polom 99.70 322 *e*P **Pdif 14 52 12.3 +1.7**
DPC Dobruska-Polom 99.70 322 *e*Pdif **Pdif 14 52 10.3 -0.3**
comp=Z,9.0nm,0.8s
DPC Dobruska-Polom 99.70 322 *e*PDIFF **Pdif 14 52 12.3 +1.7**
DPC *e*pP pP 14 52 17.2 -5.9
UPC Upice 99.84 323 *e*P **Pdif 14 52 12.8 +1.7**
UPC Upice 99.84 323 *e*PDIFF **Pdif 14 52 12.8 +1.7**
VRAC Vranov 99.86 321⇑ *i*P **Pdif 14 52 12.9 +1.6**
PVCC Panska Ves 100.70 323 *e*P **Pdif 14 52 16.8 +1.9**
PVCC Panska Ves 100.70 323 *e*PDIFF **Pdif 14 52 16.8 +1.9**
PRU Pruhonice 100.90 323 *e*P **Pdif 14 52 17.6 +1.8**
PRU Pruhonice 100.90 323 *e*PDIFF **Pdif 14 52 17.6 +1.8**
BRG Berggiesshubel 100.96 323 *e*P **Pdif 14 52 17.3 +1.2**
comp=Z,12nm,0.9s
BRG Berggiesshubel 100.96 323 *e*Pdiff **Pdif 14 52 17.3 +1.2**
BRG Berggiesshubel 100.96 323 *e*P **Pdif 14 52 17.3 +1.2**
BRG pmax pmax
comp=Z,12nm,0.9s
CLL Collm 101.36 324 *e*P **Pdif 14 52 19.0 +1.2**
CLL Collm 101.36 324 *e*Pdif **Pdif 14 52 19.0 +1.2**
CLL Lm MLR 15 41 00.0
comp=N,100nm,19.2s
CLL Lm MLR 15 41 00.0
comp=E,100nm,18.9s
CLL Lm MLR 15 41 00.0
comp=Z,100nm,18.5s
KHC Kasperske Hory 101.79 322 *e*P **Pdif 14 52 21.2 +1.3**
KHC Kasperske Hory 101.79 322 *e*PDIFF **Pdif 14 52 21.2 +1.3**
GEC2 GERESS Array S 101.81 322 *e*Pdiff **Pdif 14 52 21.4 +1.3**
GERES GERESS Array B 101.81 322 P **Pdif 14 52 20.9 +0.8**
GERES PKiKP **PKiKP 14 56 45.8 +2.7**
GERES GERESS Array B 101.81 322 P **Pdif 14 52 20.9 +0.8**
comp=Z,2.7nm,0.9s,baz=76,slow=5.6,SNR=17
GERES PKiKP **PKiKP 14 56 45.8 +2.7**
comp=Z,0.2nm,0.3s,baz=72,slow=3.4,SNR=3.7
TANN Tannenbergstha 102.00 323 *e*Pdiff **Pdif 14 52 22.4 +1.6**
NKC Novy Kostel 102.08 323 *e*P **Pdif 14 52 22.3 +1.2**
NKC Novy Kostel 102.08 323 *e*PDIFF **Pdif 14 52 22.3 +1.2**
ROTZ Rotzenmuhle 102.39 323 *e*Pdiff **Pdif 14 52 24.6 +2.1**
MOX Moxa 102.42 324 *e*Pdiff **Pdif 14 52 24.2 +1.6**
CLZ Clausthal 102.67 325 *e*Pdiff **Pdif 14 52 25.9 +2.2**
NVAR Mina Array Bea 106.66 48 Pdif **Pdif 14 52 44.3 +2.3**

NVAR PKKPbc **PKKPbc** 15 08 13.3 +0.7
NVAR PKKP **PKKPab** 15 08 28.5 +0.6
NVAR Mina Array Bea 106.66 48 Pdiff **Pdif** 14 52 44.3 +2.3
comp=Z,1.3nm,0.9s,baz=270,slow=6.2,SNR=4.5
NVAR PKKPbc **PKKPbc** 15 08 13.3 +0.7
comp=Z,0.4nm,0.4s,baz=132,slow=5.5,SNR=3.6
NVAR PKKP **PKKPab** 15 08 28.5 +0.6
comp=Z,1.6nm,0.7s,baz=131,slow=5.5,SNR=6.8
A17A Triple J Farms 107.50 36 ⇑P **PKiKP** 14 56 54.4 +0.9
baz=107
B20A Solberg Farm, 109.30 35 ⇓P **PKiKP** 14 56 57.9 +1.0
baz=109
G20A Bridger 110.78 38 ⇓P **PKiKP** 14 56 59.9 0.0
baz=111
D22A Cohagen 111.02 36 ⇓P **PKiKP** 14 57 01.2 +1.0
baz=111
L18A Fontenelle, Gr 111.14 42 ⇑P **PKiKP** 14 57 01.8 +1.0
baz=111
I20A Worland 111.45 39 ⇓P **PKiKP** 14 57 01.9 +0.7
baz=111
J20A Shoshoni 111.76 40 ⇓P **PKiKP** 14 57 03.4 +1.6
baz=112
U15A North Rim 111.85 48 ⇑P **PKiKP** 14 57 04.0 +1.7
baz=112
K21A Alcova 112.64 40 ⇑P **PKiKP** 14 57 04.2 +0.6
baz=112
J22A Midwest 112.75 39 ⇓P **PKiKP** 14 57 04.4 +0.7
baz=113
N20A Spence Gulch, 112.83 42 ⇓P **PKiKP** 14 57 04.3 +0.3
baz=113
N21A Black Mountain 113.36 42 ⇓P **PKiKP** 14 57 06.4 +1.4
baz=113
RSSD Black Hills 113.90 38 *e*PKIKP **PKiKP** 14 57 05.6 -0.4
RSSD Black Hills 113.90 38 *e*PKPdf **PKiKP** 14 57 05.5 -0.4
S21A Coal Bank Pass 114.60 45 ⇑P PKPdf 14 57 10.5 +2.9
baz=114
ULM Lac du Bonnet 114.64 29 PKP PKPdf 14 57 08.0 +1.1
ULM Lac du Bonnet 114.64 29 PKP PKPdf 14 57 08.0 +1.1
comp=Z,0.7nm,0.4s,baz=15,slow=1.8,SNR=6.3
O23A Lake Granby, G 114.70 42 ⇓P PKPdf 14 57 10.3 +2.6
baz=114
K26A Motz Farm, Whi 115.19 39 ⇓P **PKPdf** 14 57 09.7 +1.3
baz=115
Z20A Nine Sixteen R 115.96 50 ⇓P **PKPdf** 14 57 12.7 +2.5
baz=116
V22A San Miguel Ran 116.02 47 ⇓P **PKPdf** 14 57 13.1 +2.8
baz=116
319A Douglas 116.11 52 ⇑P **PKPdf** 14 57 12.7 +2.2
baz=116
P25A Willow Gulch B 116.21 42 ⇑P **PKPdf** 14 57 12.6 +2.1
baz=116
Y22A Socorro 116.84 49 ⇑P **PKPdf** 14 57 14.5 +2.6
baz=117
Z22A Elephant Butte 117.14 49 ⇑P **PKPdf** 14 57 15.0 +2.6
baz=117
T25A Trinidad 117.22 44 ⇑P **PKPdf** 14 57 15.2 +2.6
baz=117
V24A Rampart Ranch, 117.28 46 ⇓P **PKPdf** 14 57 15.1 +2.4
baz=117
W24A Lazy 6 Ranch, 117.42 47 ⇑P **PKPdf** 14 57 15.8 +2.8
baz=117
U25A Circle Dot Ran 117.58 45 ⇑P **PKPdf** 14 57 15.7 +2.5
baz=117
S26A Kim 117.64 44 ⇓P **PKPdf** 14 57 15.4 +2.2
baz=118
V25A Rancho No Teng 117.70 46 ⇓P **PKPdf** 14 57 16.1 +2.6
baz=118
T26A Comanche Natio 117.77 44 ⇓P **PKPdf** 14 57 15.9 +2.3
baz=118
Y24A Capitan 117.99 48 ⇑P **PKPdf** 14 57 16.4 +2.3
baz=118
U26A Atchley Ranch, 118.05 45 ⇓P **PKPdf** 14 57 16.5 +2.3
baz=118
W25A X Bar L Ranch, 118.11 46 ⇑P **PKPdf** 14 57 16.5 +2.3
baz=118
Z24A Sheeppen Canyo 118.31 49 ⇑P **PKPdf** 14 57 16.7 +2.0
baz=118
Y25A Mesa, Roswell 118.54 48 ⇓P **PKPdf** 14 57 16.9 +1.8
baz=118
BGNE Belgrade 119.01 37 ⇓P **PKPdf** 14 57 16.6 +1.0
baz=119
MNTX Cornudas Mount 119.01 50 ⇑P **PKPdf** 14 57 18.1 +2.2
baz=119
324A Moseley Ranch, 119.05 51 ⇑P **PKPdf** 14 57 18.3 +2.2
baz=119
125A Gardner Draw, 119.14 49 ⇑P **PKPdf** 14 57 18.1 +1.9
baz=119
425A Indio Mountain 119.72 51 ⇓P **PKPdf** 14 57 19.5 +2.1
baz=120
226A Malaga, Loving 119.83 49 ⇑P **PKPdf** 14 57 19.5 +1.9
baz=120
SCHQ Schefferville 120.22 9 *e*PKPdf **PKPdf** 14 57 16.8 -0.7
SCHQ PKP **PKPdf** 14 57 19.5 +2.0
SCHQ Schefferville 120.22 9 PKP **PKPdf** 14 57 19.5 +2.0
comp=Z,11nm,0.6s,baz=11,slow=2.2,SNR=35
426A McDonald Obser 120.51 51 ⇓P **PKPdf** 14 57 20.8 +1.7
baz=120
526A Mary Lane Ranc 120.73 51 ⇑P **PKPdf** 14 57 21.5 +2.1
baz=121
427A Hayter Ranch, 120.91 50 ⇓P **PKPdf** 14 57 21.6 +1.9
baz=121
626A Big Bend Ranch 120.91 52 ⇓P **PKPdf** 14 57 21.5 +1.8
baz=121
Z29A Hungry Hill Ra 121.05 47 ⇓P **PKPdf** 14 57 21.5 +1.7
baz=121
527A Woodward Ranch 121.06 51 ⇓P **PKPdf** 14 57 22.1 +2.0
baz=121
328A Wristen Ranch, 121.12 49 ⇓P **PKPdf** 14 57 21.8 +1.8
baz=121
129A Stewart Farms, 121.24 48 ⇑P **PKPdf** 14 57 22.3 +2.0
baz=121
TXAR Lajitas Array 121.37 52 PKP **PKPdf** 14 57 22.5 +1.9
TXAR Lajitas Array 121.37 52 PKP **PKPdf** 14 57 22.5 +1.9
comp=Z,1.6nm,0.7s,baz=324,slow=2.0,SNR=10
428A Kincaid Ranch, 121.52 50 ⇓P **PKPdf** 14 57 23.2 +2.4
baz=121
627A Terlingua Ranc 121.54 52 ⇑P **PKPdf** 14 57 23.0 +2.1
baz=121
528A Cox Ranch, San 121.69 51 ⇑P **PKPdf** 14 57 23.5 +2.3
baz=122
628A Black Gap, Mar 121.92 51 ⇓P **PKPdf** 14 57 23.1 +1.5
baz=122
529A Stev Forest Ra 122.15 51 ⇓P **PKPdf** 14 57 24.0 +1.9
baz=122
TORD Torodi Ar. Bea 122.82 288 PKP **PKPdf** 14 57 24.4 +0.9
TORD PKKPbc **PKKPab** 15 07 17.6 +1.1
TORD Torodi Ar. Bea 122.82 288 PKP **PKPdf** 14 57 24.4 +0.9
comp=Z,6.1nm,0.7s,baz=58,slow=2.0,SNR=39
TORD PKKPbc **PKKPab** 15 07 17.6 +1.1
comp=Z,0.6nm,0.7s,baz=282,slow=4.1,SNR=3.8
JCT Junction City 123.82 49 ⇑P **PKPdf** 14 57 27.0 +1.8
baz=124
MIAR Mount Ida 126.01 41 *e*PKIKP **PKPdf** 14 57 28.3 -0.9
MIAR Mount Ida 126.01 41 *e*PKPdf **PKPdf** 14 57 28.2 -0.9
OLIL Olney 126.60 34 *e*PKPdf **PKPdf** 14 57 30.0 -0.2
ACSO Alum Creek Sta 128.14 29 *e*PKPdf **PKPdf** 14 57 33.1 0.0
WVT Waverly 128.56 36 *e*PKIKP **PKPdf** 14 57 34.2 +0.2
WVT Waverly 128.56 36 *e*PKPdf **PKPdf** 14 57 34.2 +0.2
PLAL Pickwick Lake 129.20 37 *e*PKPdf **PKPdf** 14 57 35.0 -0.2
DBIC Dimbokro 130.51 282 PKP **PKPdf** 14 57 40.3 +2.0
DBIC Dimbokro 130.51 282 PKP **PKPdf** 14 57 40.3 +2.0
comp=Z,5.1nm,0.7s,baz=135,slow=1.9,SNR=7.0
LRAL Lakeview Retre 131.18 38 *e*PKPdf **PKPdf** 14 57 38.8 -0.3
TKL Tuckaleechee C 131.20 33 *e*PKPdf **PKPdf** 14 57 38.3 -0.8
CMIG Matias Romero 133.82 62 PKP **PKPdf** 14 57 46.4 +1.9
CMIG Matias Romero 133.82 62 PKP **PKPdf** 14 57 46.4 +1.9
comp=Z,3.5nm,0.7s,baz=305,slow=3.0,SNR=6.6
PLCA Paso Flores 140.34 159 PKP **PKPdf** 14 57 58.6 +2.6
PLCA Paso Flores 140.34 159 PKP **PKPdf** 14 57 58.6 +2.6
comp=Z,3.4nm,0.7s,baz=256,slow=3.2,SNR=8.8
TRQA Tornquist 145.26 168 *e*PKPdf **PKPbc** 14 58 03.2 -1.2
JTS JuntasAbangare 145.36 65 PKPbc **PKPdf** 14 58 07.9 +2.4
JTS JuntasAbangare 145.36 65 PKPbc **PKPdf** 14 58 07.9 +2.4
comp=Z,23nm,0.7s,baz=323,slow=5.5,SNR=16
LCO Las Campanas 150.19 148 *e*PKPdf **PKPdf** 14 58 12.5 -1.0
SDDR Presa de Saban 151.01 37 *e*PKPbc **PKPbc** 14 58 20.9 +0.4
OTAV Otavalo 154.47 81 *e*PKPdf **PKPdf** 14 58 19.8 -0.7
SDV Santo Domingo 158.41 53 *e*PKPdf **PKPdf** 14 58 25.2 0.0
LPAZ La Paz 161.02 131 *e*PKPdf **PKPdf** 14 58 28.5 -0.1
LPAZ PKP PKPab 14 58 30.5 -.41
LPAZ PKPab PKPab 14 59 14.3 +2.8
LPAZ La Paz 161.02 131 PKP **PKPdf** 14 58 30.5 +1.9
comp=Z,3.4nm,0.9s,baz=343,slow=1.7,SNR=11
LPAZ PKPab **PKPab** 14 59 14.3 +2.8
comp=Z,2.0nm,0.8s,baz=306,slow=5.4,SNR=4.5

*ISCJB **13** 14:50:24.5±0.9, 23°.92N±0°.02×122°.40E±0°.02, h13km±6km, Error ellipse: s-maj=3.8km s-min=2.7km az=157.2*
*TAP **13** 14:50:25.4, 24°.00N×122°.38E, h21km, ML2.9, C*
*JMA **13** 14:50:26.0±0.1, 24°.21N×122°.34E, h26km, M2.2*
ISC 13 14:50:24.6±0.9, 23°.94N±0°.03×122°.41E±0°.02, h22km±11km, n40, σ0°.70/71, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TWD	**Chiawan** baz=276	**0.75**	**281**	*e*P		**Pb**	**14 50 39.2**	**+0.2**
TWD				*e*S		**Sn**	**14 50 49.8**	**-0.8**
YOJ	**Yonaguni jima** baz=276	**0.76**	**47**	P		**Pb**	**14 50 38.7**	**-0.4**
YOJ				*e*S		**Sb**	**14 50 47.7**	**-1.3**
ENA	**Nanau** baz=316	**0.78**	**309**	*e*P		**Pb**	**14 50 39.3**	**-0.1**
ENA				*e*S		**Sb**	**14 50 49.4**	**-0.1**
TWC	**Suao** baz=321	**0.83**	**323**	P		**Pb**	**14 50 39.9**	**-0.5**
TWC				*e*S		**Sb**	**14 50 49.8**	**-1.5**
ESL	**Shilin** baz=246	**0.90**	**262**	*e*P		**Pn**	**14 50 41.0**	**-0.9**
ESL				*e*S		**Sb**	**14 50 53.0**	**-0.1**
ILA	**Ilan** baz=322	**1.01**	**324**	*e*P		**Pb**	**14 50 45.2**	**+1.7**
TWE	**Neicheng** baz=317	**1.03**	**319**	*e*P		**Pb**	**14 50 43.8**	**+0.1**
TWE				*e*S		**Sb**	**14 50 57.0**	**+0.3**
ENTT	**Nioudou** baz=310	**1.03**	**312**	P		**Pb**	**14 50 44.0**	**+0.2**
ENTT				*e*S		**Sb**	**14 50 57.3**	**+0.4**
WHF	**Hehuan Shan** baz=264	**1.06**	**281**	P		**Pn**	**14 50 44.4**	**-0.2**
WHF				*e*S		**Sn**	**14 50 58.4**	**-0.5**
NNS	**Nan Shan** baz=281	**1.06**	**298**	P		**Pn**	**14 50 44.5**	**+0.2**
NNS				*e*S		**Sb**	**14 50 58.4**	**+0.4**
EHY	**Hungye** baz=242	**1.08**	**247**	*e*P		**Pn**	**14 50 44.6**	**+0.1**
EHY				*e*S		**Sn**	**14 50 58.3**	**-0.5**
TWB1	**Santiao Chiao** baz=339	**1.13**	**340**	*e*P		**Pb**	**14 50 45.5**	**+0.1**
TWT	**Tachien** baz=270	**1.17**	**286**	*e*P		**Pb**	**14 50 46.5**	**+0.4**
TWT				S		**Sb**	**14 51 01.7**	**+0.8**
TWF1	**Yuli** baz=236	**1.17**	**240**	*e*P		**Pn**	**14 50 46.0**	**+0.3**
TWF1				*e*S		**Sn**	**14 51 01.0**	**-0.1**
NSK	**Sanguang** baz=304	**1.20**	**308**	P		**Pb**	**14 50 46.7**	**-0.1**
NSK				*e*S		**Sb**	**14 51 02.3**	**+0.4**
NWF	**Wu-fen Shan** baz=331	**1.26**	**333**	*e*P		**Pn**	**14 50 47.0**	**+0.1**
NWF				*e*S		**Sb**	**14 51 03.7**	**+0.2**
CHKT	**Chengkung** baz=225	**1.27**	**229**	*e*P		**Pn**	**14 50 46.0**	**-1.0**
CHKT				*e*S		**Sn**	**14 51 02.3**	**-1.1**
IRIF	**Iriomote-Funau**	**1.27**	**72**	P		**Pb**	**14 50 48.3**	**+0.4**
IRIF				*e*S		**Sb**	**14 51 04.6**	**+0.8**
TWA	**Mucha** baz=322	**1.27**	**324**	*e*P		**Pb**	**14 50 47.6**	**-0.4**
SMLT	**Sun Moon Lake** baz=254	**1.38**	**268**	*e*P		**Pb**	**14 50 49.9**	**+0.1**
SMLT				*e*S		**Sb**	**14 51 07.0**	**0.0**
TYC	**Yuchr** baz=265	**1.42**	**269**	*e*P		**Pb**	**14 50 50.4**	**+0.1**
NSTT	**Nanjuang** baz=295	**1.45**	**298**	*e*P		**Pb**	**14 50 51.1**	**+0.2**
NSTT				*e*S		**Sb**	**14 51 08.9**	**-0.1**
ELDTW	**Lidau** baz=236	**1.48**	**240**	*e*P		**Pn**	**14 50 49.5**	**-0.5**
ELDTW				*e*S		**Sn**	**14 51 07.6**	**-1.1**
JKRS	**Kuro-shima**	**1.50**	**78**	P		**Pb**	**14 50 52.4**	**+0.7**
JKRS				*e*S		**Sb**	**14 51 11.1**	**+0.9**
ALS	**Alishan** baz=251	**1.53**	**254**	*e*P		**Pn**	**14 50 52.0**	**+1.1**
ALS				*e*S		**Sb**	**14 51 11.4**	**-0.1**
TWQ1	**Liyutan** baz=282	**1.54**	**285**	*e*P		**Pb**	**14 50 52.6**	**+0.1**
CHN5	**Tsauling** baz=243	**1.62**	**258**	*e*P		**Pb**	**14 50 53.6**	**-0.3**
CHN5				*e*S		**Sb**	**14 51 14.2**	**+0.3**
JIJ	**Ishigaki jima**	**1.64**	**75**	P		**Pb**	**14 50 53.9**	**-0.3**
JIJ				*e*S		**Sb**	**14 51 14.7**	**+0.2**
TWG	**Pinlang** baz=237	**1.66**	**228**	*e*P		**Pn**	**14 50 52.6**	**+0.3**
TWG				*e*S		**Sn**	**14 51 12.3**	**-0.7**
STYT	**Tauyuan** baz=229	**1.70**	**243**	*e*P		**Pb**	**14 50 54.7**	**-0.5**
STYT				*e*S		**Sn**	**14 51 15.1**	**+1.0**
WTP	**Ta-pu** baz=245	**1.78**	**247**	*e*P		**Pb**	**14 50 55.8**	**-0.9**
WTP				*e*S		**Sb**	**14 51 18.6**	**0.0**
SGST	**Jiashian** baz=230	**1.88**	**243**	*e*P		**Pb**	**14 50 58.1**	**-0.1**
SGST				*e*S		**Sb**	**14 51 21.2**	**-0.1**
CHN1	**Nanshi** baz=244	**1.88**	**247**	*e*P		**Pb**	**14 50 57.5**	**-0.8**
CHN1				*e*S		**Sb**	**14 51 22.1**	**+0.8**
TWK	**Hsinying** baz=247	**1.88**	**249**	*e*P		**Pb**	**14 50 57.8**	**-0.5**
TWK				*e*S		**Sb**	**14 51 21.0**	**-0.4**
ECL	**Taimali** baz=222	**1.89**	**225**	*e*P		**Pn**	**14 50 56.0**	**+0.4**
ECL				*e*S		**Sn**	**14 51 18.5**	**-0.2**
SSD	**Sandimen** baz=224	**2.02**	**234**	*e*P		**Pn**	**14 50 59.1**	**+1.8**
SSD				*e*S		**Sn**	**14 51 23.6**	**+1.7**
EAST	**Anshuo** baz=221	**2.11**	**223**	*e*P		**Pn**	**14 50 59.7**	**+1.0**
TWM1	**Shoushan** baz=236	**2.14**	**239**	*e*P		**Pn**	**14 50 59.7**	**+0.8**
JTJ	**Tarama**	**2.21**	**71**	*e*S		**Sb**	**14 51 29.3**	**-1.4**
SCZT	**Fangliau** baz=224	**2.27**	**227**	*e*P		**Pn**	**14 51 00.7**	**-0.1**

IDC 13 15:06:55.4±0.8, 3°.96N×126°.84E, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.0/20, mbtmp4.2/9, MS3.8/2, Ms1 3.8/2, ms1mx2.8/36, 1C, Error ellipse: s-maj=42.9km s-min=15.2km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.14**	**322**	⇑*i*P		Pb	15 08 08.8	-0.5
BUKP	**Musuan**	**4.28**	**336**	*e*P		Pb	15 08 08.1	-3.4
BUKP				*e*S		Sn	15 08 25.0	-28
KAPI	**Kappang** comp=Z,100nm,19.0s,baz=304,slow=40	**11.39**	**219**	LR		LR	15 14 28.8	
FITZ	**Fitzroy Crossi** 3.1nm,0.5s,baz=26,slow=11,SNR=9.7	**21.96**	**183**	P		P	15 11 50.3	-0.6
JOW	**Kunigami** comp=Z,1μm,19.3s,baz=138,slow=33	**22.78**	**3**	LR		LR	15 19 19.3	
WRA	**Warramunga Arr** 13nm,0.6s,baz=343,slow=11,SNR=98	**24.87**	**163**	P		P	15 12 19.6	-0.3
ASAR	**Alice Springs** 0.8nm,0.4s,baz=342,slow=8.7,SNR=20	**28.31**	**166**	P		P	15 12 50.8	-0.2
CMAR	**Chiang Mai Arr** 0.4nm,0.4s,baz=118,slow=7.9,SNR=5.1	**30.85**	**300**	P		P	15 13 13.3	-0.3
STKA	**Stephens Creek** 9.6nm,0.8s,baz=342,slow=7.5,SNR=21	**38.31**	**160**	P		P	15 14 18.4	+0.5
PETK	**Petropavlovsk-** 2.3nm,0.9s,baz=187,slow=5.3,SNR=6.5	**55.17**	**22**	P		P	15 16 29.4	-0.3
MKAR	**Makanchi Array** 0.9nm,0.6s,baz=119,slow=8.4,SNR=13	**57.43**	**325**	P		P	15 16 46.0	0.0
ZALV	**Zalesovo Beam** 0.6nm,0.5s,baz=124,slow=6.6,SNR=4.4	**60.43**	**333**	P		P	15 17 07.3	+0.6
ARCES	**ARCESS Array B** 3.6nm,1.0s,baz=40,slow=4.0,SNR=6.3	**90.27**	**340**	P		P	15 19 56.8	-1.1
TORD	**Torodi Ar. Bea** 0.4nm,0.9s,baz=29,slow=3.3,SNR=2.7	**122.95**	**288**	PKP		PKPdf	15 25 55.5	+0.7

*IDC **13** 15:16:15.9±0.7, 3°.93N×126°.57E, h0km, mb4.1/13, mb1 4.1/13, mb1mx4.0/21, mbtmp4.0/13, MS2.9/1, Ms1 2.9/1, ms1mx2.4/35, Error ellipse: s-maj=41.9km s-min=14.2km az=71.0*
*ISCJB **13** 15:16:20.3±0.6, 3°.93N±0°.10×126°.76E±0°.2, h45km, mb4.0/13, Error ellipse: s-maj=25.2km s-min=9.9km az=153.6*
ISC 13 15:16:22.2±0.7, 3°.9N±0°.1×126°.6E±0°.2, h45km, n23, σ0°.69/22, mb4.1/13, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)** comp=Z,181nm,18.2s,baz=206,slow=47	**3.29**	**342**	LR		LR	15 18 50.6	
CTBH	**Cotabato--PC H**	**4.03**	**325**	⇑*i*P		Pn	15 17 28.4	+6.9
FITZ	**Fitzroy Crossi** 1.7nm,0.8s,baz=7.6,slow=15,SNR=2.7	**21.90**	**182**	P		**P**	**15 21 10.8**	**-0.8**
WRA	**Warramunga Arr** 1.7nm,0.5s,baz=334,slow=11,SNR=21	**24.90**	**162**	P		**P**	**15 21 40.4**	**-0.7**
ASAR	**Alice Springs** 0.3nm,0.4s,baz=347,slow=12,SNR=11	**28.32**	**166**	P		**P**	**15 22 11.4**	**-0.6**
CMAR	**Chiang Mai Arr** 0.6nm,0.8s,baz=97,slow=6.2,SNR=5.6	**30.66**	**300**	P		**P**	**15 22 32.1**	**-0.6**
STKA	**Stephens Creek** 2.0nm,0.5s,baz=301,slow=13,SNR=8.9	**38.35**	**159**	P		**P**	**15 23 39.0**	**0.0**
TAPN	**Taplejung** 9.4nm,0.6s	**43.80**	**306**	*e*P		**P**	**15 24 24.6**	**+0.3**
ODAN	**Odare** 7.9nm,0.7s	**43.85**	**305**	*e*P		**P**	**15 24 25.7**	**+1.1**
RAMN	**Ramite** 4.9nm,0.6s	**44.53**	**305**	*e*P		**P**	**15 24 30.5**	**+0.4**
JIRN	**Jiri**	**45.15**	**306**	*e*P		**P**	**15 24 35.3**	**+0.1**
GUN	**Gumba** 4.3nm,0.4s	**45.51**	**306**	*e*P		**P**	**15 24 38.5**	**+0.5**
SONM	**Songino Array** 0.6nm,0.4s,baz=130,slow=5.8,SNR=3.8	**47.08**	**341**	P		**P**	**15 24 49.3**	**-0.5**
KOLN	**Koldanda** 12nm,0.6s	**47.31**	**305**	*e*P		**P**	**15 24 52.3**	**+0.4**
DANN	**Dangsing** 11nm,0.5s	**47.40**	**306**	*e*P		**P**	**15 24 52.9**	**+0.2**
PETK	**Petropavlovsk-** 1.0nm,0.5s,baz=186,slow=4.2,SNR=8.8	**55.31**	**22**	P		**P**	**15 25 51.5**	**+0.2**
MKAR	**Makanchi Array** 1.7nm,0.5s,baz=117,slow=7.8,SNR=24	**57.33**	**325**	P		**P**	**15 26 06.2**	**+0.4**
MKAR	0.8nm,0.8s,baz=101,slow=5.0,SNR=3.2			PcP		**PcP**	**15 27 00.6**	**+1.1**
ZALV	**Zalesovo Beam** 1.4nm,0.4s,baz=116,slow=6.1,SNR=8.0	**60.36**	**333**	P		**P**	**15 26 26.1**	**-0.5**
ARCES	**ARCESS Array B** 3.6nm,0.9s,baz=64,slow=8.4,SNR=6.5	**90.23**	**340**	P		**P**	**15 29 17.3**	**-0.4**
FINES	**FINESS Array B** 1.4nm,0.8s,baz=32,slow=8.2,SNR=2.9	**91.61**	**332**	P		**P**	**15 29 23.3**	**-0.9**
QSPA	**South Pole Qui** 0.9nm,1.0s,baz=26,slow=4.3,SNR=2.8	**93.82**	**180**	P		**P**	**15 29 35.9**	**+1.4**
NOA	**NORSAR Array B** 0.4nm,0.7s,baz=44,slow=17,SNR=2.7	**98.56**	**334**	P		**P**	**15 29 55.7**	**-0.4**
TORD	**Torodi Ar. Bea** 0.3nm,0.8s,baz=112,slow=3.4,SNR=2.4	**122.73**	**288**	PKP		**PKPdf**	**15 35 14.8**	**+0.5**

IDC 13 15:17:35.3±1.0, 21°.32N×146°.25E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/22, mbtmp3.6/6, Error ellipse: s-maj=54.4km s-min=22.5km az=105.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=13,slow=8.6,SNR=5.3	**42.63**	**197**	P		P	15 25 33.9	+0.2
ASAR	**Alice Springs** 0.3nm,0.7s,baz=15,slow=10,SNR=5.0	**46.31**	**196**	P		P	15 26 02.5	-0.5
ZALV	**Zalesovo Beam** 0.5nm,0.4s,baz=102,slow=7.2,SNR=3.8	**56.28**	**321**	P		P	15 27 17.8	+0.2
ILAR	**Eielson Array** 0.7nm,0.5s,baz=268,slow=5.4,SNR=10.0	**61.08**	**27**	P		P	15 27 50.3	-0.5
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=288,slow=5.5,SNR=6.5	**75.44**	**28**	P		P	15 29 21.6	+0.7
FINES	**FINESS Array B** 0.7nm,0.6s,baz=64,slow=4.4,SNR=4.3	**84.73**	**335**	P		P	15 30 10.6	-0.5

IDC 13 15:22:04.2±2.1, 3°.67N×126°.96E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=182.7km s-min=26.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 2.8nm,0.8s,baz=342,slow=10,SNR=6.8	**24.56**	**163**	P		P	15 27 25.2	-0.7
ASAR	**Alice Springs** 0.2nm,0.7s,baz=336,slow=8.8,SNR=2.7	**28.00**	**166**	P		P	15 27 58.2	+1.2
STKA	**Stephens Creek** 1.4nm,0.7s,baz=330,slow=8.9,SNR=3.8	**37.99**	**160**	P		P	15 29 23.4	-0.6
MKAR	**Makanchi Array** 0.6nm,0.6s,baz=121,slow=8.8,SNR=4.6	**57.73**	**325**	P		P	15 31 56.8	-0.2

IDC 13 15:23:54.0±1.4, 21°.61S×176°.83W, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.0/18, mbtmp4.1/6, MS2.5/1, Ms1 2.5/1, ms1mx2.3/26, Error ellipse: s-maj=42.4km s-min=31.0km az=9.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga** comp=Z,19nm,21.2s,baz=201,slow=30	**15.89**	**92**	LR		LR	15 31 46.1	
CTA	**Charters Tower** 2.6nm,0.4s,baz=85,slow=12,SNR=7.7	**34.48**	**266**	P		P	15 30 45.9	+1.9
STKA	**Stephens Creek** 2.1nm,0.4s,baz=81,slow=9.4,SNR=11	**38.31**	**246**	P		P	15 31 16.1	-0.5
ASAR	**Alice Springs** 1.8nm,0.7s,baz=99,slow=8.0,SNR=16	**45.34**	**258**	P		P	15 32 13.7	-0.6
ASAR	0.2nm,0.6s,baz=114,slow=4.5,SNR=3.6			PcP		PcP	15 33 54.2	+0.2
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=96,slow=8.3,SNR=8.6	**45.54**	**263**	P		P	15 32 15.1	-0.8
FITZ	**Fitzroy Crossi** 0.9nm,0.4s,baz=76,slow=8.3,SNR=4.5	**53.97**	**263**	P		P	15 33 19.6	-0.5
QSPA	**South Pole Qui** 2.4nm,0.7s,baz=14,slow=2.6,SNR=14	**68.46**	**180**	P		P	15 34 57.9	+0.1
ARCES	**ARCESS Array B** 5.0nm,1.1s,baz=19,slow=3.8,SNR=8.5	**130.21**	**350**	PKP		PKPdf	15 43 05.0	-0.5
GERES	**GERESS Array B** 0.4nm,0.5s,baz=5.7,slow=1.0,SNR=3.6	**151.56**	**345**	PKPbc		PKPbc	15 43 50.0	-0.2

IDC 13 15:24:01.5±1.5, 4°.38N×127°.29E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/19, mbtmp3.8/5, MS3.3/1, Ms1 3.3/1, ms1mx2.2/34, Error ellipse: s-maj=152.0km s-min=19.6km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam** comp=Z,84nm,19.4s,baz=57,slow=32	**19.61**	**61**	LR		LR	15 34 29.7	
WRA	**Warramunga Arr** 2.7nm,0.8s,baz=344,slow=10,SNR=6.2	**25.15**	**164**	P		P	15 29 27.2	-1.4
ASAR	**Alice Springs** 0.5nm,0.5s,baz=346,slow=10,SNR=5.0	**28.61**	**167**	P		P	15 30 01.4	+1.6
STKA	**Stephens Creek** 2.5nm,0.7s,baz=6.3,slow=8.0,SNR=5.8	**38.55**	**160**	P		P	15 31 25.8	-0.3
MKAR	**Makanchi Array** 0.6nm,0.5s,baz=125,slow=8.0,SNR=8.0	**57.34**	**325**	P		P	15 33 51.8	+0.3
ZALV	**Zalesovo Beam** 0.4nm,0.5s,baz=111,slow=7.9,SNR=3.0	**60.27**	**333**	P		P	15 34 11.3	-0.4

IDC 13 15:25:57.0±1.4, 3°.99N×126°.70E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=146.6km s-min=19.4km az=67.0, Talaud Islands

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

WRA **Warramunga Arr 24.94 163** P P 15 31 21.6 -0.6
0.5nm,0.4s,baz=342,slow=11,SNR=7.0
ASAR **Alice Springs 28.37 166** P P 15 31 53.9 +0.7
0.1nm,0.3s,baz=337,slow=7.7,SNR=2.8
STKA **Stephens Creek 38.38 159** P P 15 33 19.8 -0.3
0.8nm,0.5s,baz=344,slow=7.6,SNR=3.0
MKAR **Makanchi Array 57.33 325** P P 15 35 47.2 +0.3
1.0nm,0.5s,baz=118,slow=7.8,SNR=19
ZALV **Zalesovo Beam 60.34 333** P P 15 36 07.3 -0.4
0.8nm,0.4s,baz=133,slow=7.1,SNR=6.8

IDC 13 15:32:30.3±1.6, 4°24'N×127°09'E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, MS4.1/1, Ms1 4.1/1, ms1mx2.6/35, 1C, Error ellipse: s-maj=98.7km s-min=22.4km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.10**	**316**	⇑*iP*		Pn	15 33 37.8	+3.5
FITZ	**Fitzroy Crossi**	**22.24**	**184**	P		P	15 37 29.3	+0.4
	1.2nm,0.5s,baz=0.0,slow=10,SNR=3.0							
JOW	**Kunigami**	**22.50**	**3**	LR		LR	15 44 13.2	
	comp=Z,567nm,21.2s,baz=299,slow=31							
WRA	**Warramunga Arr**	**25.06**	**164**	P		P	15 37 56.9	+0.3
	2.0nm,0.5s,baz=343,slow=11,SNR=25							
ASAR	**Alice Springs**	**28.52**	**167**	P		P	15 38 27.7	-0.1
	0.2nm,0.6s,baz=348,slow=6.8,SNR=6.1							
STKA	**Stephens Creek**	**38.48**	**160**	P		P	15 39 53.5	-0.7
	2.7nm,0.9s,baz=339,slow=8.6,SNR=4.3							
MKAR	**Makanchi Array**	**57.35**	**325**	P		P	15 42 20.4	0.0
	0.3nm,0.4s,baz=115,slow=7.4,SNR=11							

IDC 13 15:33:03.3±1.1, 3°61'N×126°38'E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/20, mbtmp3.8/6, MS3.1/1, Ms1 3.1/1, ms1mx2.2/37, Error ellipse: s-maj=61.5km s-min=20.3km az=78.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**3.53**	**347**	LR		LR	15 34 48.0	
	comp=Z,295nm,21.0s,baz=242,slow=30							
FITZ	**Fitzroy Crossi**	**21.59**	**182**	P		P	15 37 55.1	+0.3
	2.3nm,0.8s,baz=20,slow=12,SNR=2.4							
WRA	**Warramunga Arr**	**24.68**	**162**	P		P	15 38 25.8	-0.4
	2.1nm,0.6s,baz=339,slow=10,SNR=12							
ASAR	**Alice Springs**	**28.09**	**165**	P		P	15 38 57.3	+0.3
	0.5nm,0.6s,baz=343,slow=8.2,SNR=6.5							
ASAR				PcP		PcP	15 42 11.6	-0.2
	0.2nm,0.5s,baz=358,slow=2.0,SNR=4.5							
STKA	**Stephens Creek**	**38.15**	**159**	P		P	15 40 24.3	-0.2
	1.0nm,0.5s,baz=331,slow=9.2,SNR=4.2							
PETK	**Petropavlovsk-**	**55.67**	**22**	P		P	15 42 40.9	-0.3
	2.1nm,0.9s,baz=155,slow=4.6,SNR=4.5							
MKAR	**Makanchi Array**	**57.45**	**325**	P		P	15 42 54.1	0.0
	0.4nm,0.6s,baz=119,slow=7.6,SNR=5.9							

IDC 13 15:34:10.7±1.4, 3°51'N×126°90'E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=160.7km s-min=22.1km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.43**	**163**	P		P	15 39 32.0	+0.6
	0.8nm,0.9s,baz=343,slow=10.0,SNR=2.6							
STKA	**Stephens Creek**	**37.87**	**159**	P		P	15 41 28.9	-0.6
	1.9nm,0.7s,baz=339,slow=9.2,SNR=3.3							
SONM	**Songino Array**	**47.56**	**341**	P		P	15 42 48.2	0.0
	0.3nm,0.4s,baz=161,slow=5.8,SNR=2.5							
MKAR	**Makanchi Array**	**57.83**	**325**	P		P	15 44 03.8	-0.4
	0.4nm,0.5s,baz=120,slow=7.8,SNR=5.1							

*NEIC **13** 15:43:40.2, 19°.17N×66°.28W, h82km, MD3.4(RSPR), After RSPR.*
RSPR 13 15:43:40.2, 19°.17N×66°.28W, h82km±6km, 4C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBYP	**Canovanas**	**0.98**	**156**	⇓*eP*		Pn	15 43 58.7	-0.6
CBYP	**Canovanas**	**0.98**	**156**	⇓*eP*		Pn	15 43 58.7	-0.6
CBYP				*eS*		Sn	15 44 13.0	-0.5
CELP	**Cerrillos**	**1.13**	**195**	*ePn*		Pn	15 44 01.4	+0.4
CELP				*eSn*		Sn	15 44 16.8	+0.3
MTP	**Monte Pirata**	**1.27**	**147**	⇑*eP*		Pn	15 44 02.1	-0.7
MTP	**Monte Pirata**	**1.27**	**147**	⇑*eP*		Pn	15 44 02.1	-0.7
MTP				*eS*		Sn	15 44 20.4	+0.7
CRPR	**Cabo Rojo, PR**	**1.40**	**214**	⇑*eP*		Pn	15 44 03.8	-0.6
CRPR	**Cabo Rojo, PR**	**1.40**	**214**	⇑*eP*		Pn	15 44 03.8	-0.6
SDDR	**Presa de Saban**	**4.74**	**269**	*ePn*		Pn	15 44 48.0	-1.4

IDC 13 15:47:57.1±1.8, 4°00'N×126°65'E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=156.5km s-min=23.7km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.96**	**163**	P		P	15 53 21.9	-0.6
	0.6nm,0.5s,baz=343,slow=11,SNR=8.8							
ASAR	**Alice Springs**	**28.39**	**166**	P		P	15 53 53.6	+0.2
	0.4nm,0.9s,baz=343,slow=7.3,SNR=3.9							
STKA	**Stephens Creek**	**38.41**	**159**	P		P	15 55 20.7	+0.2
	1.8nm,0.9s,baz=337,slow=7.7,SNR=2.5							
MKAR	**Makanchi Array**	**57.29**	**325**	P		P	15 57 46.8	0.0
	0.4nm,0.6s,baz=120,slow=8.0,SNR=9.0							

IDC 13 15:49:30.3±0.8, 3°46'N×126°37'E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/20, mbtmp3.9/8, 1C, Error ellipse: s-maj=53.3km s-min=15.0km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.29**	**331**	⇑*iP*		Pb	15 50 43.3	-3.5
FITZ	**Fitzroy Crossi**	**21.43**	**182**	P		P	15 54 21.5	+1.3
	1.9nm,0.7s,baz=335,slow=17,SNR=2.1							
WRA	**Warramunga Arr**	**24.54**	**162**	P		P	15 54 50.0	-1.9
	2.8nm,0.7s,baz=343,slow=10,SNR=12							
ASAR	**Alice Springs**	**27.94**	**165**	P		P	15 55 23.9	+1.3
	0.4nm,0.5s,baz=344,slow=7.6,SNR=11							
STKA	**Stephens Creek**	**38.01**	**159**	P		P	15 56 50.0	-0.3
	2.5nm,0.7s,baz=342,slow=10,SNR=6.4							
SONM	**Songino Array**	**47.44**	**342**	P		P	15 58 07.3	+0.4
	0.9nm,0.9s,baz=164,slow=8.6,SNR=4.4							
PETK	**Petropavlovsk-**	**55.82**	**22**	P		P	15 59 09.7	+0.4
	3.6nm,0.9s,baz=176,slow=3.8,SNR=3.1							
MKAR	**Makanchi Array**	**57.57**	**326**	P		P	15 59 22.4	+0.4
	0.9nm,0.6s,baz=126,slow=8.3,SNR=13							
ZALV	**Zalesovo Beam**	**60.67**	**333**	P		P	15 59 42.2	-1.1
	0.4nm,0.6s,baz=120,slow=5.2,SNR=2.9							
KURBB	**Kurchatov Arra**	**61.77**	**328**	P		P	15 59 50.5	-0.3
	baz=129,slow=5.8							

IDC 13 15:53:17.2±1.9, 4°05N×126°61E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/19, mbtmp3.3/4, Error ellipse: s-maj=235.7km s-min=21.1km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.02**	**163**	P		P	15 58 42.7	-0.5
	0.2nm,0.4s,baz=342,slow=11,SNR=5.7							
ASAR	**Alice Springs**	**28.45**	**166**	P		P	15 59 14.3	+0.2
	0.2nm,0.8s,baz=341,slow=7.4,SNR=4.8							
MKAR	**Makanchi Array**	**57.23**	**325**	P		P	16 03 06.6	+0.1
	0.2nm,0.4s,baz=114,slow=8.1,SNR=5.2							
MKAR				PcP		PcP	16 04 01.8	+0.9
	0.3nm,0.7s,baz=103,slow=3.5,SNR=3.3							
ZALV	**Zalesovo Beam**	**60.25**	**333**	P		P	16 03 26.5	-0.9
	0.3nm,0.5s,baz=123,slow=5.3,SNR=2.7							

IDC 13 15:58:11.8±1.2, 3°73N×126°71E, h0km, mb3.5/7, mb1 3.6/7, mb1mx3.5/21, mbtmp3.5/7, Error ellipse: s-maj=128.6km s-min=17.8km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.69**	**163**	P		P	16 03 35.0	+0.4
	1.2nm,0.7s,baz=343,slow=10,SNR=8.9							
ASAR	**Alice Springs**	**28.11**	**166**	P		P	16 04 05.4	-0.2
	0.3nm,1.0s,baz=345,slow=10,SNR=2.8							
STKA	**Stephens Creek**	**38.13**	**159**	P		P	16 05 32.5	-0.3
	1.5nm,0.7s,baz=329,slow=6.1,SNR=3.3							
SONM	**Songino Array**	**47.30**	**341**	P		P	16 06 47.6	+0.4
	0.4nm,0.8s,baz=145,slow=5.3,SNR=2.6							
MKAR	**Makanchi Array**	**57.55**	**325**	P		P	16 08 02.8	-0.4
	0.2nm,0.4s,baz=118,slow=7.1,SNR=9.7							
KURBB	**Kurchatov Arra**	**61.73**	**327**	P		P	16 08 31.6	-0.4
	0.6nm,0.8s,baz=121,slow=6.4,SNR=5.3							
BVAR	**Borovoye Array**	**67.31**	**327**	P		P	16 09 08.6	+0.1
	0.5nm,0.7s,baz=117,slow=7.2,SNR=3.5							

*IDC **13** 16:02:54.4±0.7, 4°.02N×126°.62E, h0km, mb4.0/12, mb1 4.1/12, mb1mx4.0/22, mbtmp4.0/12, MS3.6/2, Ms1 3.6/2, ms1mx2.8/26, Error ellipse: s-maj=36.9km s-min=13.5km az=70.0*
*ISCJB **13** 16:02:58.5±0.6, 4°.0N±0°.1×126°.8E±0°.2, h45km, mb4.0/12, MS3.7/2, Error ellipse: s-maj=29.3km s-min=9.8km az=156.5*
ISC 13 16:03:01.2±0.7, 4°.0N±0°.1×126°.7E±0°.2, h45km, n16, σ2s03/19, mb4.1/12, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSPH	**General Santos**	**2.73**	**320**	*eP*		**Pn**	**16 03 44.2**	**+1.5**
CTBH	**Cotabato--PC H**	**4.05**	**323**	⇑*eP*		**Pn**	**16 04 00.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**21.37**	**183**	P		**P**	**16 07 52.0**	**+0.6**
	3.4nm,0.5s,baz=360,slow=4.1,SNR=12							
WRA	**Warramunga Arr**	**24.93**	**163**	P		**P**	**16 08 19.5**	**-0.9**
	8.6nm,0.7s,baz=343,slow=11,SNR=71							
WRA				S		**S**	**16 12 42.4**	**+1.5**
	0.9nm,0.8s,baz=343,slow=18,SNR=5.5							
ASAR	**Alice Springs**	**28.36**	**166**	P		**P**	**16 08 50.5**	**-0.7**
	0.4nm,0.5s,baz=341,slow=7.2,SNR=18							
CMAR	**Chiang Mai Arr**	**30.73**	**300**	P		**P**	**16 09 11.9**	**-0.5**
	1.7nm,0.8s,baz=112,slow=7.0,SNR=14							
STKA	**Stephens Creek**	**38.37**	**159**	P		**P**	**16 10 17.5**	**-0.6**
	3.4nm,0.4s,baz=329,slow=9.5,SNR=11							
DZM	**Mont Dzumac**	**46.69**	**125**	LR		LR	16 30 22.7	
	comp=Z,123nm,20.6s,baz=28,slow=35							
SONM	**Songino Array**	**47.05**	**341**	P		**P**	**16 11 27.6**	**-0.9**
	0.4nm,0.6s,baz=161,slow=9.5,SNR=4.5							
SONM				PcP		**PcP**	**16 13 00.4**	**+0.3**
	0.6nm,0.9s,baz=157,slow=4.7,SNR=2.8							
PETK	**Petropavlovsk-**	**55.20**	**22**	P		**P**	**16 12 29.2**	**-0.2**
	3.6nm,1.0s,baz=192,slow=7.7,SNR=4.9							
MKAR	**Makanchi Array**	**57.34**	**325**	P		**P**	**16 12 43.1**	**-1.7**
	0.9nm,0.5s,baz=120,slow=7.3,SNR=16							
MKAR				PcP		**PcP**	**16 13 38.2**	**-0.2**
	0.8nm,0.6s,baz=127,slow=4.1,SNR=4.7							
MKAR				ScP		**ScP**	**16 17 41.5**	**+6.6**
	0.3nm,0.7s,baz=129,slow=3.2,SNR=3.9							
MKAR				LR		LR	16 40 42.2	
	comp=Z,33nm,18.3s,baz=172,slow=40							
ZALV	**Zalesovo Beam**	**60.35**	**333**	P		**P**	**16 13 03.4**	**-2.2**
	0.4nm,0.4s,baz=99,slow=5.5,SNR=4.4							
KURBB	**Kurchatov Arra**	**61.52**	**327**	P		**P**	**16 13 11.6**	**-1.9**
	0.8nm,0.5s,baz=129,slow=6.2,SNR=18							
BVAR	**Borovoye Array**	**67.10**	**327**	P		**P**	**16 13 49.4**	**-0.7**
	1.6nm,0.8s,baz=142,slow=7.5,SNR=7.4							
ILAR	**Eielson Array**	**84.88**	**25**	P		**P**	**16 15 32.5**	**+1.4**
	0.2nm,0.7s,baz=250,slow=5.5,SNR=4.9							
TORD	**Torodi Ar. Bea**	**122.83**	**288**	PKP		**PKPdf**	**16 21 52.7**	**-0.7**
	0.2nm,0.4s,baz=115,slow=1.3,SNR=4.7							

*IDC **13** 16:07:33.4±0.8, 26°.90N×55°.94E, h0km, mb3.8/17, mb1 4.0/19, mb1mx3.9/31, mbtmp3.9/19, ML3.5/1, Error ellipse: s-maj=18.5km s-min=18.1km az=166.0*
*TEH **13** 16:07:34.9, 26°.93N×55°.93E, h13km, ML3.6*
*CSEM **13** 16:07:36.2±0.1, 26°.92N×55°.90E, h2km, ML3.6, Error ellipse: s-maj=4.4km s-min=2.6km az=82.0*
*OMAN **13** 16:07:36.4±0.1, 26°.92N×56°.11E, h2km±3km, Error ellipse: s-maj=28.2km s-min=3.9km az=258.0*
ISC 13 16:07:36.0±1.7, 26°.94N±0°.03×55°.95E±0°.06, h11km±11km, n84, σ1s43/83, mb3.8/21, 7C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IBND	**Bandar-abas**	**0.73**	**45**	*ePg*		**Pb**	**16 07 50.3**	**-0.4**
IBND				*eSg*		**Sb**	**16 08 01.3**	**+0.6**
IBND				*e*			16 08 22.4	
	comp=Z,66μm,0.2s							
IBND	**Bandar-abas**	**0.73**	**45**	*ePg*		**Pb**	**16 07 50.3**	**-0.4**
IBND				*eSg*		**Sb**	**16 08 01.3**	**+0.6**
BANOM	**Banah**	**1.05**	**163**	⇑*P*		**Pg**	**16 07 55.8**	**-0.5**
	SNR=227							
BANOM				⇓*S*		**Sb**	**16 08 10.0**	**-0.1**
BANOM	**Banah**	**1.05**	**163**	*P*		**Pg**	**16 07 55.8**	**-0.5**
	SNR=227							
BANOM				*S*		**Sb**	**16 08 10.0**	**-0.1**
NAZ	**Nazwa, Dubai**	**1.96**	**188**	⇓*P*		**Pn**	**16 08 10.9**	**+1.8**
	SNR=15							
NAZ				⇑*S*		**Sn**	**16 08 34.5**	**+0.9**
NAZ	**Nazwa, Dubai**	**1.96**	**188**	*P*		**Pn**	**16 08 10.5**	**+1.4**
NAZ				*S*		**Sn**	**16 08 34.5**	**+0.9**
HATD	**Hatta, Dubai**	**2.11**	**176**	⇑*P*		**Pn**	**16 08 12.1**	**+0.9**
	SNR=87							
HATD				⇓*S*		**Sn**	**16 08 39.8**	**+2.4**
HATD	**Hatta, Dubai**	**2.11**	**176**	*P*		**Pn**	**16 08 12.1**	**+0.9**
	SNR=87							
HATD				*S*		**Sn**	**16 08 39.8**	**+2.4**
FAQ	**Al Faqa, Dubai**	**2.21**	**189**	*P*		**Pn**	**16 08 13.8**	**+1.3**
	SNR=22							
ASHO	**Ashiyiah**	**2.25**	**178**	⇑*P*		**Pn**	**16 08 14.4**	**+1.3**
	SNR=86							
ASHO	**Ashiyiah**	**2.25**	**178**	*P*		**Pn**	**16 08 14.1**	**+1.0**
	SNR=86							
ASUD	**Al Ashush, Dub**	**2.37**	**194**	⇑*P*		**Pn**	**16 08 16.7**	**+1.9**
	SNR=59							
ASUD	**Al Ashush, Dub**	**2.37**	**194**	*P*		**Pn**	**16 08 16.7**	**+1.9**
	SNR=59							
ISRV	**Sarvestan**	**3.50**	**315**	*ePn*		**Pn**	**16 08 32.4**	**+1.8**
ISRV				*e*			16 09 56.7	
	comp=Z,2μm,0.5s							
ISRV	**Sarvestan**	**3.50**	**315**	*ePn*		**Pn**	**16 08 32.4**	**+1.8**
IPAR	**Pars**	**3.86**	**319**	*ePn*		**Pn**	**16 08 37.3**	**+1.7**
IPAR				*e*			16 09 29.7	
	comp=Z,860nm,0.4s							
IPAR	**Pars**	**3.86**	**319**	*ePn*		**Pn**	**16 08 37.3**	**+1.7**
IMEH	**Mehriz**	**4.59**	**346**	*ePn*		**Pn**	**16 08 47.1**	**+1.6**
IMEH				*e*			16 08 59.4	
	comp=Z,406nm,0.2s							
IMEH	**Mehriz**	**4.59**	**346**	*ePn*		**Pn**	**16 08 47.1**	**+1.6**
IBAF	**Bafgh**	**4.65**	**356**	*ePn*		**Pn**	**16 08 48.1**	**+1.8**
IBAF				*e*			16 08 53.8	
	comp=Z,341nm,0.1s							
IBAF	**Bafgh**	**4.65**	**356**	*ePn*		**Pn**	**16 08 48.1**	**+1.8**
ISAD	**Sadrabad**	**5.34**	**339**	*ePn*		**Pn**	**16 08 58.0**	**+2.1**
ISAD				*e*			16 10 12.6	
	comp=Z,493nm,0.3s							
ISAD	**Sadrabad**	**5.34**	**339**	*ePn*		**Pn**	**16 08 58.0**	**+2.1**
ICHK	**Chekchek**	**5.46**	**346**	*ePn*		**Pn**	**16 08 59.1**	**+1.6**
ICHK				*e*			16 09 29.8	
	comp=Z,288nm,0.3s							
ICHK	**Chekchek**	**5.46**	**346**	*ePn*		**Pn**	**16 08 59.1**	**+1.6**
IKOO	**Kooshah**	**6.08**	**25**	*ePn*		**Pn**	**16 09 07.7**	**+1.7**
IKOO				*e*			16 11 11.9	
	comp=N,231nm,0.4s							
IKOO	**Kooshah**	**6.08**	**25**	*ePn*		**Pn**	**16 09 07.7**	**+1.7**
ITEG	**Tejag**	**6.42**	**22**	*ePn*		**Pn**	**16 09 12.7**	**+2.1**
ITEG				*e*			16 11 23.4	
	comp=Z,156nm,0.3s							
ITEG	**Tejag**	**6.42**	**22**	*ePn*		**Pn**	**16 09 12.7**	**+2.1**
IGAR	**Gharneh**	**6.42**	**329**	*ePn*		**Pn**	**16 09 12.5**	**+1.8**
IGAR				*e*			16 09 18.8	
	comp=Z,332nm,0.2s							
IDAH	**Dahanechah**	**6.71**	**30**	*ePn*		**Pn**	**16 09 16.0**	**+1.4**
IDAH				*e*			16 11 24.0	
	comp=Z,126nm,0.3s							
IDAH	**Dahanechah**	**6.71**	**30**	*ePn*		**Pn**	**16 09 16.0**	**+1.4**
IZEF	**Zefreh**	**6.72**	**333**	*ePn*		**Pn**	**16 09 15.7**	**+0.9**
IZEF				*e*			16 09 16.5	
	comp=Z,234nm,0.2s							
IZEF	**Zefreh**	**6.72**	**333**	*ePn*		**Pn**	**16 09 15.7**	**+0.9**
IMON	**Monand**	**7.01**	**26**	*ePn*		**Pn**	**16 09 21.2**	**+2.3**
IMON				*e*			16 11 39.5	
	comp=E,253nm,0.2s							
IMON	**Monand**	**7.01**	**26**	*ePn*		**Pn**	**16 09 21.2**	**+2.3**
IPIR	**Pirpir**	**7.22**	**324**	*ePn*		**Pn**	**16 09 23.6**	**+1.9**
IPIR				*e*			16 09 27.1	
	comp=Z,283nm,0.1s							
IPIR	**Pirpir**	**7.22**	**324**	*ePn*		**Pn**	**16 09 23.6**	**+1.9**
IKLH	**Kolahrood**	**7.40**	**330**	*ePn*		**Pn**	**16 09 24.9**	**+0.7**
IKLH				*e*			16 09 27.5	
	comp=Z,172nm,0.1s							
IKLH	**Kolahrood**	**7.40**	**330**	*ePn*		**Pn**	**16 09 24.9**	**+0.7**
RDF	**Al-Radifah**	**7.69**	**287**	*eP*		**Pn**	**16 09 27.8**	**-0.2**
RDF				AML		AML	16 10 50.7	
	comp=Z,8.4nm,0.4s							
RDF	**Al-Radifah**	**7.69**	**287**	*eP*		Pn	16 09 27.8	-0.2
NAY	**Al-Naaiem**	**8.03**	**289**	*eP*		**Pn**	**16 09 32.7**	**+0.1**
NAY				AML		AML	16 11 05.0	
	comp=Z,4.1nm,0.6s							
NAY	**Al-Naaiem**	**8.03**	**289**	*eP*		**Pn**	**16 09 32.7**	**+0.1**
ISFB	**Sefidab**	**8.05**	**338**	*ePn*		**Pn**	**16 09 34.7**	**+1.8**
ISFB				*e*			16 09 35.5	
	comp=Z,83nm,0.1s							
ISFB	**Sefidab**	**8.05**	**338**	*ePn*		**Pn**	**16 09 34.7**	**+1.8**
MIB	**Mutribah**	**8.11**	**293**	*eP*		**Pn**	**16 09 33.7**	**0.0**
MIB				AML		AML	16 11 07.9	
	comp=Z,8.0nm,0.4s							
MIB	**Mutribah**	**8.11**	**293**	*eP*		**Pn**	**16 09 33.7**	**0.0**
IVRN	**Varamin**	**8.81**	**337**	*ePn*		**Pn**	**16 09 45.1**	**+1.7**
IVRN				*e*			16 09 57.2	
	comp=Z,122nm,0.2s							
IVRN	**Varamin**	**8.81**	**337**	*ePn*		**Pn**	**16 09 45.1**	**+1.7**
IDMV	**Damavand**	**9.24**	**340**	*ePn*		**Pn**	**16 09 51.7**	**+2.2**
IDMV				*e*			16 10 08.9	
	comp=Z,56nm,0.2s							
IDMV	**Damavand**	**9.24**	**340**	*ePn*		**Pn**	**16 09 51.7**	**+2.2**
IPRN	**Peran**	**9.78**	**343**	*ePn*		**Pn**	**16 09 59.1**	**+2.5**
IRAZ	**Razeghan**	**9.89**	**330**	*ePn*		**Pn**	**16 09 59.0**	**+0.7**
IRAZ				*e*			16 09 59.4	
	comp=Z,81nm,0.2s							
IRAZ	**Razeghan**	**9.89**	**330**	*ePn*		**Pn**	**16 09 59.0**	**+0.7**
IKOM	**Komasi**	**10.24**	**317**	*ePn*		**Pn**	**16 10 03.6**	**+0.5**
IKOM	**Komasi**	**10.24**	**317**	*ePn*		**Pn**	**16 10 03.6**	**+0.5**
IGHG	**Ghaleghazi**	**10.93**	**315**	*ePn*		**Pn**	**16 10 12.5**	**-0.1**
IGHG	**Ghaleghazi**	**10.93**	**315**	*ePn*		**Pn**	**16 10 12.5**	**-0.1**
GNI	**Garni**	**16.14**	**328**	*Pn*		**Pn**	**16 11 25.0**	**+2.1**
	comp=Z,0.4nm,0.3s,baz=280,slow=1.3,SNR=3.9							
EIL	**Elat**	**18.69**	**283**	*P*		**P**	**16 11 56.1**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=33,slow=13,SNR=3.5							
MMAI	**Mount Meron Ar**	**18.79**	**294**	*P*		**P**	**16 11 54.6**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=105,slow=14,SNR=2.5							
AAK	**Ala-Archa**	**21.77**	**39**	*P*		**P**	**16 12 28.7**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=214,slow=5.3,SNR=8.1							
BRTR	**Keskin Array B**	**22.52**	**310**	*P*		**P**	**16 12 36.4**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=135,slow=12,SNR=6.3							
AKTO	**Aktyubinsk**	**23.52**	**3**	*P*		**P**	**16 12 45.8**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=171,slow=10,SNR=5.7							
BVAR	**Borovoye Array**	**28.20**	**19**	*P*		**P**	**16 13 27.7**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=206,slow=9.1,SNR=9.7							
AKASG	**Malin Array Be**	**31.27**	**327**	*P*		P	16 13 54.5	-1.1
	comp=Z,1.7nm,0.5s,baz=135,slow=8.7,SNR=8.6							
ZALV	**Zalesovo Beam**	**34.35**	**30**	*P*		**P**	**16 14 21.9**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=245,slow=10.0,SNR=4.4							
GERES	**BERESS Array B**	**39.21**	**315**	*P*		P	16 15 02.5	-1.7
	comp=Z,0.3nm,0.5s,baz=93,slow=8.3,SNR=3.8							
JOF	**Joensuu**	**39.47**	**343**	*ep*		**P**	**16 15 05.0**	**-1.0**
	comp=Z,0.9nm,0.4s							
FINES	**FINESS Array B**	**39.91**	**338**	*P*		**P**	**16 15 08.9**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=145,slow=9.2,SNR=27							
KAF	**Kangasniemi**	**40.32**	**339**	*ep*		**P**	**16 15 12.0**	**-1.1**
	comp=Z,0.6nm,0.4s							
FETA	**Feichten**	**40.64**	**312**	⇑*iP*		P	16 15 15.1	-1.0
	comp=Z,4.7nm,1.0s							
DAVA	**Damuels**	**41.27**	**312**	⇑*iP*		P	16 15 20.0	-1.3
	comp=Z,7.0nm,0.5s							
SONM	**Songino Array**	**44.27**	**48**	*P*		**P**	**16 15 44.9**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=263,slow=8.8,SNR=3.9							
NB2	**NORSAR Subarra**	**45.39**	**331**	*P*		P	16 15 52.7	-1.6
	comp=Z,0.4nm,0.4s,baz=120,slow=7.9							
NOA	**NORSAR Array B**	**45.39**	**331**	*P*		P	16 15 52.7	-1.6
	comp=Z,0.3nm,0.5s,baz=126,slow=7.5,SNR=2.9							
ARCES	**ARCESS Array B**	**46.17**	**346**	*P*		**P**	**16 15 59.9**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=146,slow=7.4,SNR=11							
TORD	**Torodi Ar. Bea**	**52.42**	**266**	*P*		P	16 16 47.6	-1.2
	comp=Z,3.5nm,0.5s,baz=63,slow=7.3,SNR=40							
BOSA	**Boshof**	**62.60**	**210**	*P*		**P**	**16 18 00.2**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=25,slow=6.2,SNR=6.1							
ILAR	**Eielson Array**	**86.88**

KHZ	**Kahutara**	**2.48**	**204**	PN	Pn	16 10 44.0 -1.2
URZ	**Urewera**	**2.55**	**43**	PN	Pn	16 10 44.9 -1.3
URZ	**Urewera**	**2.55**	**43**	*e*Pn	Pn	16 10 44.1 -2.1
MWZ	**Matawai**	**2.73**	**49**	PN	Pn	16 10 47.7 -1.0
DSZ	**Denniston Nort**	**2.83**	**235**	PN	Pn	16 10 49.3 -0.8
MKAZ	**Moumakai**	**3.05**	**4**	PN	Pn	16 10 51.5 -1.4
LTZ	**Lake Taylor**	**3.29**	**216**	PN	Pn	16 10 54.8 -1.6
MQZ	**McQueen's Vall**	**3.93**	**205**	PN	Pn	16 11 01.4 -3.7
WCZ	**Waipu Caves**	**4.23**	**354**	PN	Pn	16 11 08.5 -0.8
RPZ	**Rata Peaks**	**4.57**	**218**	*e*Pn	Pn	16 11 11.7 -2.2
CAN	**Canberra**	**21.02**	**275**	*e*P	P	16 14 40.7 -7.8

GUC 13 16:25:49.5±0.7, 31°29S×69°66W, h168km±14km, ML3.9, 4C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTCH	**Petorca**	**1.46**	**228**	*i* P	Pn	16 26 20.6	+0.6
PTCH				*i* S	Sn	16 26 43.9	+0.2
PTCH				AML	AML	16 26 44.6	
	comp=N,2μm,0.4s						
OVCH	**Ovalle**	**1.49**	**297**↑	*i* P	Pn	16 26 22.4	+2.0
OVCH				*i* S	Sn	16 26 46.2	+2.0
OVCH				AML	AML	16 26 47.3	
	comp=N,1μm,0.2s						
TLL	**Tololo Astrono**	**1.49**	**318**↑	*i* P	Pn	16 26 22.7	+1.9
TLL				*i* S	Sn	16 26 46.7	+1.9
PEL	**Peldehue**	**2.04**	**205**	*e*P	Pn	16 26 26.8	+0.5
PEL				*i* S	Sn	16 26 55.1	+0.1
PEL				AML	AML	16 26 56.5	
	comp=E,438nm,0.3s						
FCH	**Farellones**	**2.10**	**195**	AML	AML	16 26 14.8	
	comp=E,374nm,0.5s						
RCDM	**Rinconada Maip**	**2.40**	**204**	*e*P	Pn	16 26 30.9	+0.5
RCDM				*i* S	Sn	16 27 02.3	+0.1
RCDM				AML	AML	16 27 02.8	
	comp=E,478nm,0.1s						
ANTU	**Antumapu**	**2.42**	**200**	*i* P	Pn	16 26 31.2	+0.5
ANTU				*i* S	Sn	16 27 03.2	+0.5
ANTU				AML	AML	16 27 03.5	
	comp=N,306nm,0.4s						
LCO	**Las Campanas**	**2.44**	**338**↑	*i* P	Pn	16 26 33.3	+2.0
LCO				*i* S	Sn	16 27 05.7	+2.1
LCO				AML	AML	16 27 09.2	
	comp=E,395nm,0.4s						
LMEL	**Las Melosas**	**2.59**	**190**↑	*i* P	Pn	16 26 33.7	+0.9
LMEL				*i* S	Sn	16 27 07.0	+0.4
LMEL				AML	AML	16 27 18.5	
	comp=N,129nm,0.2s						
VACH	**Vallenar**	**2.87**	**340**	*i* P	Pn	16 26 36.5	+0.4
VACH				*i* S	Sn	16 27 12.5	+0.3
VACH				AML	AML	16 27 18.4	
	comp=E,661nm,0.1s						

*ISCJB **13** 16:28:08.7±2.5, 23°14N±0°06×125°40E±0°08, h31km±19km, mb3.5/7, Error ellipse: s-maj=13.0km s-min=8.4km az=143.2*
*JMA **13** 16:28:09.2±0.3, 23°21N×125°31E, h18km, M2.9*
*IDC **13** 16:28:10.4±1.0, 23°12N×125°53E, h30km±6km, mb3.4/7, mb1 3.5/8, mb1mx3.3/24, mbtmp3.4/8, Error ellipse: s-maj=45.4km s-min=14.4km az=68.0*
ISC 13 16:28:10.3±0.9, 23°15N±0°08×125°39E±0°07, h31km±7km, n15, σ1°01/24, mb3.5/7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.60**	**0**	P	**Pn**	**16 28 36.2**	**-0.4**
JTJ	**Tarama**	**1.61**	**337**	P	**Pn**	**16 28 36.2**	**-0.5**
JTJ				*e*S	**Sn**	**16 28 55.3**	**-1.2**
JMJ	**Miyako jima 2**	**1.66**	**357**	P	**Pn**	**16 28 37.0**	**-0.4**
JMJ				*e*S	**Sn**	**16 28 57.4**	**-0.2**
JIJ	**Ishigaki jima**	**1.66**	**317**	P	**Pn**	**16 28 36.3**	**-1.1**
JIJ				*e*S	**Sn**	**16 28 55.5**	**-2.2**
JKRS	**Kuro-shima**	**1.67**	**311**	P	**Pn**	**16 28 36.7**	**-0.7**
JKRS				*e*S	**Sn**	**16 28 56.8**	**-1.0**
HATJ	**Hateruma jima**	**1.71**	**302**	P	**Pn**	**16 28 37.5**	**-0.6**
IRIF	**Iriomote-Funau**	**1.93**	**308**	P	**Pn**	**16 28 40.2**	**-0.8**
IRIF				*e*S	**Sn**	**16 29 04.0**	**-0.2**
JOW	**Kunigami**	**4.50**	**35**	Pn	**Pn**	**16 29 15.1**	**-1.4**
	baz=205,slow=17						
SONM	**Songino Array**	**28.93**	**333**	P	**P**	**16 34 08.1**	**+1.3**
	0.2nm,0.3s,baz=147,slow=7.8,SNR=3.2						
MKAR	**Makanchi Array**	**41.77**	**315**	P	**P**	**16 35 58.1**	**+1.2**
	0.6nm,0.6s,baz=101,slow=9.8,SNR=8.4						
ZALV	**Zalesovo Beam**	**43.23**	**326**	P	**P**	**16 36 08.8**	**+0.2**
	1.0nm,0.5s,baz=111,slow=8.0,SNR=7.6						
ZALV				pP	**pP**	**16 36 18.6**	**+0.9**
	0.4nm,0.4s,baz=109,slow=8.8,SNR=3.3						
WRA	**Warramunga Arr**	**43.71**	**168**	P	**P**	**16 36 11.9**	**-0.9**
	0.9nm,0.9s,baz=348,slow=9.0,SNR=7.1						
WRA				pP	**pP**	**16 36 21.2**	**-0.7**
	0.6nm,0.6s,baz=347,slow=8.9,SNR=3.0						
KURBB	**Kurchatov Arra**	**45.39**	**319**	P	**P**	**16 36 27.4**	**+1.4**
	0.3nm,0.3s,baz=128,slow=7.1,SNR=3.2						
KURBB				pP	**pP**	**16 36 35.6**	**+0.5**
	0.3nm,0.4s,baz=106,slow=7.6,SNR=2.4						
ASAR	**Alice Springs**	**47.27**	**169**	P	**P**	**16 36 41.0**	**0.0**
	0.2nm,0.5s,baz=356,slow=8.1,SNR=8.3						
ASAR				pP	**pP**	**16 36 49.9**	**-0.2**
	0.1nm,0.5s,baz=355,slow=8.2,SNR=1.7						
ASAR				pPcP		16 38 21.7	
	0.2nm,0.5s,baz=329,slow=3.1,SNR=6.0						
BVAR	**Borovoye Array**	**50.92**	**320**	P	**P**	**16 37 09.4**	**+0.8**
	0.3nm,0.5s,baz=88,slow=9.2,SNR=3.2						

IDC 13 16:30:19.6±1.6, 26°61N×140°67E, h418km±18km, mb2.8/3, mb1 3.0/3, mb1mx2.5/21, mbtmp2.8/3, Error ellipse: s-maj=61.0km s-min=19.4km az=101.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.44**	**70**	P	P	16 31 14.2	-0.1
	3.4nm,0.3s,baz=287,slow=19,SNR=4.8						
CBIJ				S	S	16 31 55.2	-3.3
	12nm,0.3s,baz=286,slow=22,SNR=11						
WRA	**Warramunga Arr**	**46.68**	**188**	P	P	16 38 08.7	-0.1
	0.5nm,0.3s,baz=6.8,slow=7.8,SNR=23						
ILAR	**Eielson Array**	**58.79**	**29**	P	P	16 39 35.6	-0.1
	0.1nm,0.5s,baz=262,slow=5.7,SNR=2.8						
FINES	**FINESS Array B**	**77.78**	**333**	P	P	16 41 31.8	0.0
	1.2nm,0.9s,baz=40,slow=2.4,SNR=5.4						

*TAP **13** 16:35:10.7, 24°14N×122°40E, h21km, ML2.8, C*
*ISCJB **13** 16:35:10.0±0.5, 24°07N±0°04×122°42E±0°02, h19km±5km, Error ellipse: s-maj=6.1km s-min=3.1km az=169.5*
*JMA **13** 16:35:10.1±0.4, 24°75N×122°38E, h42km, M1.8*
ISC 13 16:35:10.2±1.1, 24°09N±0°04×122°41E±0°02, h26km±13km, n29, σ0°85/50, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.66**	**56**	P	**Pb**	**16 35 22.7**	**-0.5**
YOJ				*e*S	**Sb**	**16 35 31.7**	**-0.3**
ENA	**Nanau**	**0.70**	**299**	*e*P	**Pb**	**16 35 23.5**	**-0.3**
	baz=305						
ENA				*e*S	**Sb**	**16 35 33.3**	**+0.3**
	baz=305						
TWC	**Suao**	**0.73**	**315**	P	**Pn**	**16 35 23.7**	**-1.2**
	baz=307						
TWC				S	**Sb**	**16 35 33.1**	**-0.7**
	baz=307						
TWD	**Chiawan**	**0.74**	**269**	*e*P	**Pb**	**16 35 24.9**	**+0.3**
	baz=266						
TWE	**Neicheng**	**0.92**	**313**	P	**Pb**	**16 35 27.6**	**0.0**
	baz=312						
TWE				S	**Sb**	**16 35 39.6**	**+0.1**
	baz=312						
ESL	**Shilin**	**0.94**	**253**	*e*P	**Pn**	**16 35 27.1**	**-0.6**
	baz=240						
ESL				*e*S	**Sn**	**16 35 38.5**	**-1.8**
	baz=240						
ENTT	**Nioudou**	**0.94**	**305**	P	**Pb**	**16 35 28.0**	**0.0**
	baz=304						
ENTT				*e*S	**Sb**	**16 35 40.7**	**+0.6**
	baz=304						
TWB1	**Santiao Chiao**	**0.99**	**337**	*e*P	**Pn**	**16 35 27.8**	**-0.7**
	baz=343						
NNS	**Nan Shan**	**1.01**	**290**	P	**Pb**	**16 35 29.7**	**+0.6**
	baz=288						
NNS				*e*S	**Sb**	**16 35 42.3**	**+0.2**
	baz=288						
WHF	**Hehuan Shan**	**1.05**	**273**	*e*P	**Pn**	**16 35 29.4**	**-0.3**
	baz=259						
WHF				*e*S	**Sb**	**16 35 44.0**	**+0.5**
	baz=259						
NSK	**Sanguang**	**1.12**	**301**	*e*P	**Pb**	**16 35 30.9**	**-0.2**
	baz=309						
NSK				*e*S	**Sb**	**16 35 45.0**	**-0.3**
	baz=309						
NWF	**Wu-fen Shan**	**1.13**	**330**	*e*P	**Pb**	**16 35 31.1**	**-0.2**
	baz=329						
NWF				*e*S	**Sb**	**16 35 45.9**	**+0.4**
	baz=329						
TWT	**Tachien**	**1.14**	**278**	*e*P	**Pb**	**16 35 32.1**	**+0.7**
	baz=276						
TWT				*e*S	**Sb**	**16 35 47.2**	**+1.3**
	baz=276						
EHY	**Hungye**	**1.16**	**240**	*e*P	**Pn**	**16 35 29.4**	**-1.3**
	baz=239						
EHY				*e*S	**Sn**	**16 35 44.7**	**-1.0**
	baz=239						
TWA	**Mucha**	**1.16**	**320**	*e*P	**Pb**	**16 35 32.0**	**+0.3**
	baz=319						
IRIF	**Iriomote-Funau**	**1.23**	**78**	P	**Pn**	**16 35 32.0**	**+0.3**
IRIF				*e*S	**Sb**	**16 35 49.0**	**+0.8**
TWF1	**Yuli**	**1.26**	**234**	*e*P	**Pn**	**16 35 31.2**	**-0.9**
	baz=233						
NSTT	**Nanjuang**	**1.39**	**293**	*e*P	**Pn**	**16 35 34.0**	**0.0**
	baz=291						
NSTT				*e*S	**Sb**	**16 35 52.2**	**-0.8**
	baz=291						
SMLT	**Sun Moon Lake**	**1.40**	**262**	*e*P	**Pn**	**16 35 33.5**	**-0.7**
	baz=261						
SMLT				*e*S	**Sn**	**16 35 52.4**	**+0.6**
	baz=261						
TYC	**Yuchr**	**1.43**	**263**	*e*P	**Pb**	**16 35 35.7**	**-0.6**
	baz=262						
TYC				*e*S	**Sb**	**16 35 53.8**	**-0.3**
	baz=262						
JKRS	**Kuro-shima**	**1.47**	**84**	P	**Pb**	**16 35 36.6**	**-0.2**
JKRS				*e*S	**Sb**	**16 35 55.7**	**+0.6**
TWQ1	**Liyutan**	**1.52**	**280**	*e*P	**Pn**	**16 35 36.5**	**+0.8**
	baz=266						
ELDTW	**Lidau**	**1.56**	**235**	*e*P	**Pn**	**16 35 34.8**	**-1.7**
	baz=234						
ALS	**Alishan**	**1.58**	**249**	*e*P	**Pb**	**16 35 38.3**	**-0.7**
	baz=249						
ALS				*e*S	**Sn**	**16 35 58.1**	**+1.5**
	baz=249						
JIJ	**Ishigaki jima**	**1.60**	**80**	P	**Pn**	**16 35 36.8**	**-0.1**
JIJ				*e*S	**Sn**	**16 35 56.7**	**0.0**
CHN5	**Tsauling**	**1.66**	**253**	*e*P	**Pn**	**16 35 38.2**	**+0.5**
	baz=242						
CHN5				*e*S	**Sb**	**16 36 01.0**	**+0.2**
	baz=242						
WTP	**Ta-pu**	**1.85**	**243**	*e*P	**Pb**	**16 35 42.1**	**-1.3**
	baz=242						
CHN1	**Nanshi**	**1.95**	**243**	*e*P	**Pn**	**16 35 43.5**	**+1.8**
	baz=243						
CHN1				*e*S	**Sn**	**16 36 07.3**	**+2.0**
	baz=243						
SSD	**Sandimen**	**2.11**	**231**	*e*P	**Pn**	**16 35 45.0**	**+1.1**
	baz=222						

NEIC 13 16:41:02.0, 12°33S×77°33W, h36km, mb4.1/2, ML3.8(ARE), After ARE., Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**0.59**	**55**	*e*Pn	Pn	16 41 15.4	+1.4
NNA				*e*Sn	Sn	16 41 22.9	+0.5
PAYG	**Puerto Ayora**	**17.30**	**311**	*e*Pn	Pn	16 44 59.4	-1.5
	12nm,0.9s						
LCO	**Las Campanas**	**17.71**	**161**	*e*Pn	Pn	16 45 05.7	-0.5
	22nm,1.5s						
SDV	**Santo Domingo**	**22.10**	**18**	*e*P	P	16 45 54.7	+0.1

IDC 13 16:44:26.9±1.4, 3°96N×127°00E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.6/20, mbtmp3.6/6, 1C, Error ellipse: s-maj=108.0km s-min=18.3km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.25**	**320**↑	*i* P	Pn	16 45 37.4	+4.5
FITZ	**Fitzroy Crossi**	**21.96**	**183**	P	P	16 49 21.6	-0.8
	2.7nm,1.0s,baz=354,slow=10,SNR=1.6						
WRA	**Warramunga Arr**	**24.82**	**163**	P	P	16 49 50.5	-0.5
	0.7nm,0.4s,baz=344,slow=9.6,SNR=17						
ASAR	**Alice Springs**	**28.27**	**167**	P	P	16 50 23.1	+1.0
	0.2nm,0.7s,baz=345,slow=12,SNR=9.0						
SONM	**Songino Array**	**47.17**	**341**	P	P	16 53 01.8	+0.4
	0.2nm,0.6s,baz=129,slow=8.4,SNR=2.5						
MKAR	**Makanchi Array**	**57.52**	**325**	P	P	16 54 17.9	-0.3
	0.4nm,0.4s,baz=121,slow=7.3,SNR=15						
ZALV	**Zalesovo Beam**	**60.51**	**333**	P	P	16 54 38.5	-0.2
	0.3nm,0.4s,baz=122,slow=5.4,SNR=2.2						

*IDC **13** 16:49:07.4±0.4, 3°51N×126°68E, h0km, mb4.9/28, mb1 5.0/28, mb1mx5.0/29, mbtmp4.9/28, MS4.6/14, Ms1 4.6/14, ms1mx4.3/39, Error ellipse: s-maj=17.8km s-min=8.9km az=79.0*
*BJI **13** 16:49:07.9, 3°20N×126°83E, h35km, mB5.3/40, mb5.1/51, Ms5.0/47, Ms7 4.7/46*
*MOS **13** 16:49:10.7±1.1, 3°60N×126°78E, h33km, mb5.5/45, MS4.7/11, Error ellipse: s-maj=11.7km s-min=5.2km az=116.8*
*TEH **13** 16:49:12.0, 3°69N×127°09E, h35km, ML5.6*
*NEIC **13** 16:49:12.3±0.2, 3°64N×126°84E, h35km, mb5.2/50, Error ellipse: s-maj=7.7km s-min=4.4km az=73.0*
*ISCJB **13** 16:49:12.2±0.2, 3°64N±0°02×126°92E±0°03, h48km, mb5.2/129, MS4.7/43, Error ellipse: s-maj=4.2km s-min=3.0km az=176.2*
*DJA **13** 16:49:18, 3°52N×126°91E, h65km, mb5.2/45*
ISC 13 16:49:13.7±0.2, 3°64N±0°03×126°90E±0°04, h48km, h48km:pP-P, n402, σ1°78/487, mb5.2/126, MS4.7/44, 31C-27D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.89**	**171**	P	**Pn**	**16 49 58.0**	**+0.8**
MNI	**Manado**	**3.00**	**223**	P	**Pn**	**16 50 00.4**	**+1.6**
DAV	**Davao City (W)**	**3.65**	**339**	*e*Pn	**Pn**	**16 50 07.6**	**-0.1**
DAV	**Davao City (W)**	**3.65**	**339**↑	*i* P	Pn	16 50 11.3	+3.6
DAV	**Davao City (W)**	**3.65**	**339**	P	Pn	16 50 12.2	+4.5
DAV	**Davao City (W)**	**3.65**	**339**	Pn	**Pn**	**16 50 09.9**	**+2.2**
	37nm,0.3s,baz=52,slow=4.0,SNR=16						
DMPH	**Davao City--Mi**	**3.69**	**338**	*e*P	**Pn**	**16 50 10.2**	**+2.0**
KCP	**Kidapawan**	**3.80**	**332**	*e*P	Pn	16 50 14.7	+4.9
KMSI	**Cibinong**	**4.22**	**224**	P	**Pn**	**16 50 18.0**	**+2.5**
LBMI	**Labuha**	**4.29**	**172**	P	**Pn**	**16 50 18.7**	**+2.2**
CTBH	**Cotabato--PC H**	**4.43**	**323**↑	*e*P	**Pn**	**16 50 19.9**	**+1.4**
CGP	**Cagayan de Oro**	**5.26**	**335**↓	*e*P	Pn	16 50 33.7	+3.9
MRSI	**Marisa**	**5.87**	**238**	P	**Pn**	**16 50 40.4**	**+2.2**
	598nm,1.2s,6μm2.0nm						
SWI	**Sorong**	**6.24**	**136**	P	**Pn**	**16 50 44.5**	**+1.2**
	364nm,1.1s,4μm1.3nm						
TBP	**Tagbilaran**	**6.73**	**333**	*e*P	Pn	16 51 38.1	+48
MSAI	**Masohi**	**7.23**	**164**	P	**Pn**	**16 50 59.8**	**+3.0**
	39nm,1.2s						
LLP	**Lapu-Lapu**	**7.24**	**336**	*e*P	**Pn**	**16 50 59.6**	**+2.6**
LLP				*e*S	Sn	16 52 25.3	+7.3
PLP	**Palo**	**7.71**	**346**↓	*e*P	**Pn**	**16 51 05.5**	**+2.0**
FAKI	**Fak Fak**	**8.43**	**141**	P	**Pn**	**16 51 14.3**	**+1.0**
	181nm,1.1s,2μm15μm						
MYLDM	**Lahad Datu**	**8.52**	**281**	P	Pn	16 51 18.4	+3.9
MYLDM	**Lahad Datu**	**8.52**	**281**	P	Pn	16 51 17.6	+3.1
	236nm,1.1s,3μm41μm						
KDI	**Kendari**	**8.68**	**210**	P	**Pn**	**16 51 16.0**	**-0.7**
	185nm,0.9s,1μm						
TSM	**Tawau**	**9.03**	**274**	P	**Pn**	**16 51 23.2**	**+1.7**
TTSI	**Tana Toraja**	**9.71**	**227**	P	**Pn**	**16 51 33.2**	**+2.4**
	224nm,1.2s,2μm						
SDKM	**Sandakan**	**9.88**	**282**	P	**Pn**	**16 51 34.2**	**+1.0**
SPSI	**Sidrap Palu**	**10.39**	**223**	P	**Pn**	**16 51 41.9**	**+1.8**
	60nm,0.9s,1μm						
KDM	**Kudat**	**10.54**	**288**	P	Pn	16 51 48.0	+5.8
KKM	**Kota Kinabalu**	**10.91**	**283**	*e*Pn	**Pn**	**16 51 49.2**	**+1.8**
KKM	**Kota Kinabalu**	**10.91**	**283**	P	Pn	16 51 50.6	+3.2
KKM	**Kota Kinabalu**	**10.91**	**283**	P	**Pn**	**16 51 49.5**	**+2.1**
	80nm,1.6s,2μm						
KAPI	**Kappang**	**11.18**	**220**	Pn	**Pn**	**16 51 50.5**	**-0.4**
KAPI	**Kappang**	**11.18**	**220**	Pn	**Pn**	**16 51 50.5**	**-0.4**
	0.9nm,0.3s,baz=60,slow=16,SNR=2.3						
BKSI	**Bulukumba**	**11.19**	**217**	P	**Pn**	**16 51 52.7**	**+1.6**
	52nm,0.8s,686nm						
KBKI	**Kotabaru**	**12.75**	**237**	P	**Pn**	**16 52 12.9**	**+0.4**
	60nm,1.4s,1μm						
BTM	**Bintulu**	**13.80**	**269**	P	**Pn**	**16 52 28.9**	**+2.0**
SBUM	**Sibu**	**14.71**	**266**	P	**P**	**16 52 42.7**	**-1.4**
SBUM	**Sibu**	**14.71**	**266**	P	**P**	**16 52 41.7**	**-2.4**
	149nm,0.8s,2μm						
PBKI	**Pangkalan Bun**	**16.48**	**248**	P	**P**	**16 53 03.5**	**-0.2**
KSM	**Kuching**	**16.72**	**263**	*e*Pn	**P**	**16 53 06.7**	**+0.3**
	95nm,0.7s						
KSM	**Kuching**	**16.72**	**263**	P	**P**	**16 53 07.5**	**+1.2**
KSM	**Kuching**	**16.72**	**263**	P	**P**	**16 53 06.9**	**+0.5**
	157nm,0.8s,2μm						
KMMI	**Kalianget**	**16.72**	**231**	P	**P**	**16 53 07.9**	**+1.5**
	171nm,1.2s						
IGBI	**Denpasar**	**17.05**	**223**	P	**P**	**16 53 11.1**	**+1.1**
	93nm,0.8s						
BLJI	**Banyuglugur**	**17.44**	**230**	P	P	16 53 20.8	+6.4
JAGI	**Jajag, Banyuwa**	**17.51**	**227**	P	**P**	**16 53 16.9**	**+1.8**
	128nm,0.9s						
GMJI	**Gumukmas**	**17.90**	**229**	P	**P**	**16 53 21.7**	**+2.3**
	133nm,1.1s						
SJI	**Sawahan**	**18.86**	**233**	P	**P**	**16 53 28.7**	**-1.4**
	107nm,0.9s,2μm						
PWJI	**Pagerwojo**	**19.00**	**232**	P	**P**	**16 53 30.0**	**-1.6**
	101nm,0.9s						
TWG	**Pinlang**	**19.89**	**344**	*e*P	**P**	**16 53 39.1**	**-2.0**
	86nm,0.9s						
YOGI	**Yogyakarta**	**20.10**	**235**	P	**P**	**16 53 44.4**	**+0.8**
	559nm,1.4s						
GUMO	**Guam**	**20.31**	**60**	LR	LR	17 00 10.4	
	comp=Z,865nm,21.6s,baz=57,slow=32						
YULB	**Yu-li**	**20.37**	**345**	*e*P	**P**	**16 53 43.7**	**-2.7**
	66nm,0.5s						
TPUB	**Ta-pu**	**20.46**	**343**	*e*P	**P**	**16 53 45.6**	**-1.9**
	219nm,0.8s						
TGJI	**Tegal**	**20.59**	**240**	P	**P**	**16 53 48.8**	**-0.1**
	72nm,0.8s						
SSLB	**Sanglung**	**20.84**	**345**	*e*P	**P**	**16 53 49.0**	**-2.5**
	202nm,0.9s						
NACB	**Ninganchiao**	**21.05**	**346**	*e*P	**P**	**16 53 52.1**	**-1.6**
	49nm,0.8s						
NACB				*e*pP	**pP**	**16 54 02.0**	**-2.9**
YHNB	**Yeheng**	**21.57**	**346**	*e*P	**P**	**16 53 58.6**	**-0.8**
	77nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.64**	**183**	*e*P	**P**	**16 54 00.6**	**+0.4**
FITZ				S	**S**	**16 57 54.6**	**-2.7**
FITZ	**Fitzroy Crossi**	**21.64**	**183**	*e*P	**P**	**16 53 58.6**	**-1.5**
	39nm,0.6s						
FITZ				*e*S	**S**	**16 57 53.4**	**-3.9**
FITZ	**Fitzroy Crossi**	**21.64**	**183**	P	**P**	**16 53 59.9**	**-0.2**
	15nm,0.6s,baz=0.2,slow=12,SNR=17						
FITZ				S	**S**	**16 57 54.6**	**-2.7**
	17nm,1.0s,baz=183,slow=18,SNR=3.5						
CISI	**Cisompet, Garu**	**22.06**	**240**	P	**P**	**16 54 03.1**	**-1.6**
	99nm,0.7s						
QIZ	**Qiongzhong**	**22.62**	**314**	P	P	16 54 01.8	-8.9
QIZ				S	**S**	**16 58 12.3**	**-3.1**
QIZ				pmax	pmax		
	comp=Z,360nm,15.6s						
QIZ				LR	LR		
	comp=N,870nm,17.5s						
QIZ				LR	LR		
	comp=Z,1μm,15.2s						
QZH	**Quanzhou**	**22.64**	**340**↓	*i* P	**P**	**16 54 11.8**	**+1.0**
QZH				S	**S**	**16 58 18.0**	**+2.5**
QZH				pmax	pmax		
	comp=Z,820nm,1.9s						
QZH				LR	LR		
	comp=N,4μm,18.2s						
QZH				LR	LR		
	comp=E,5μm,21.0s						
QZH				LR	LR		
	comp=Z,5μm,18.1s						
JOW	**Kunigami**	**23.10**	**3**	P	**P**	**16 54 17.4**	**+1.9**
JOW	**Kunigami**	**23.10**	**3**	P	**P**	**16 54 17.4**	**+1.9**
	comp=Z,40nm,0.5s,baz=194,slow=9.1,SNR=8.9						
MYKOM	**Kota Tinggi**	**23.10**	**266**	P	**P**	**16 54 16.0**	**+0.4**
MYKOM	**Kota Tinggi**	**23.10**	**266**	P	**P**	**16 54 15.6**	**-0.1**
	comp=Z,71nm,1.2s,comp=Z,892nm						
CGJI	**Cibinong**	**23.50**	**244**	P	**P**	**16 54 18.8**	**-0.7**
	comp=Z,268nm,0.7s,comp=Z,2μm						
KTGM	**Kuala Trenggan**	**23.75**	**275**	P	**P**	**16 54 22.4**	**+0.5**
COEN	**Coen**	**23.80**	**138**	*e*P	**P**	**16 54 18.9**	**-3.3**
	comp=Z,337nm,1.4s						
PMG	**Port Moresby**	**23.99**	**123**	P	**P**	**16 54 25.1**	**+1.1**
PMG	**Port Moresby**	**23.99**	**123**	P	**P**	**16 54 25.1**	**+1.1**
	comp=Z,3.2nm,0.7s,baz=337,slow=7.7,SNR=2.5						
KASI	**Kota Agung**	**24.16**	**248**	P	**P**	**16 54 27.2**	**+1.6**
	comp=Z,233nm,1.0s,comp=Z,2μm						
WRAB	**Tennant Creek**	**24.54**	**163**	*e*P	**P**	**16 54 27.9**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,125nm,0.7s						
WRAB	**Tennant Creek**	**24.54**	**163**	*e*P	**P**	**16 54 27.9**	**-1.2**
	comp=Z,125nm,0.7s						
WRA	**Warramunga Arr**	**24.55**	**163**	P	**P**	**16 54 28.3**	**-0.8**
WRA				S	**S**	**16 58 47.5**	**+0.7**
WRA	**Warramunga Arr**	**24.55**	**163**	P	**P**	**16 54 28.3**	**-0.8**
	comp=Z,199nm,0.4s,baz=336,slow=11,SNR=85						
WRA				S	**S**	**16 58 47.5**	**+0.7**
	comp=Z,8.9nm,1.0s,baz=335,slow=18,SNR=4.0						
FRIM	**Kepong**	**25.24**	**270**	P	**P**	**16 54 35.7**	**+0.3**
MBWA	**Marble Bar**	**25.63**	**196**	*e*P	**P**	**16 54 38.2**	**-0.7**
	comp=Z,149nm,1.4s						
IPM	**Ipoh**	**25.83**	**273**	*e*P	**P**	**16 54 40.2**	**-0.6**
	comp=Z,51nm,1.2s						
IPM	**Ipoh**	**25.83**	**273**	P	**P**	**16 54 40.9**	**+0.1**
KULM	**Kulim**	**26.22**	**275**	*e*P	**P**	**16 54 43.3**	**-1.1

GYA PcP **PcP** **16 58 21.3 +2.1**
GYA S **S** **17 00 13.8 +3.2**
GYA sS **sS** **17 00 31.6 -0.1**
GYA SS SS 17 01 51.5 -28
GYA ScP **ScP** **17 01 59.0 +1.4**
GYA ScS **ScS** **17 05 52.4 -0.6**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=N,720nm,17.9s
GYA LR LR
comp=E,690nm,18.6s
GYA LR LR
comp=Z,710nm,17.0s
CTA Charters Tower 30.29 142 P **P** **16 55 22.1 +1.5**
CTA Charters Tower 30.29 142 *e*P P 16 55 25.3 +4.7
comp=Z,5.0nm,0.6s
CTA Charters Tower 30.29 142 P **P** **16 55 22.1 +1.5**
comp=Z,1.9nm,0.6s,baz=322,slow=14,SNR=1.7
CTAO Charters Tower 30.29 142 *e*P **P** **16 55 18.7 -1.9**
CTAO pmax pmax
comp=Z,82nm,2.2s
CTAO Charters Tower 30.29 142 *e*P **P** **16 55 18.7 -1.9**
comp=Z,82nm,2.2s
CMAR Chiang Mai Arr 31.07 300 P **P** **16 55 27.4 -0.1**
CMAR ScP **ScP** **17 02 06.7 +5.1**
CMAR Chiang Mai Arr 31.07 300 P **P** **16 55 27.4 -0.1**
comp=Z,5.3nm,0.6s,baz=116,slow=7.1,SNR=28
CMAR ScP **ScP** **17 02 06.7 +5.1**
comp=Z,2.3nm,1.1s,baz=106,slow=3.2,SNR=4.7
CMAR LR LR 17 09 17.6
comp=Z,949nm,18.1s,baz=283,slow=39
ENH Enshi 31.19 330 *e*P **P** **16 55 27.6 -0.8**
comp=Z,41nm,0.8s
CHTO Chiang Mai 31.21 301 *e*P **P** **16 55 28.1 -0.7**
CHTO pmax pmax
comp=Z,31nm,1.2s
CHTO Chiang Mai 31.21 301 *e*P **P** **16 55 28.1 -0.7**
comp=Z,31nm,1.2s
CHTO Chiang Mai 31.21 301 P **P** **16 55 29.1 +0.3**
SNR=11
KMI Kunming 31.56 315 P **P** **16 55 34.3 +2.2**
KMI pP **pP** **16 55 44.8 +0.2**
KMI sP **sP** **16 55 48.9 -1.4**
KMI PP **PP** **16 56 40.6 -3.4**
KMI S **S** **17 00 41.3 +3.5**
KMI sS **sS** **17 00 58.3 -0.6**
KMI SS **SnSn** **17 02 31.9 +5.3**
KMI pmax pmax
comp=Z,11nm,1.0s
KMI pmax pmax
comp=Z,170nm,3.5s
KMI LR LR
comp=N,820nm,16.1s
KMI LR LR
comp=E,680nm,16.5s
KMI LR LR
comp=Z,1μm,24.2s
KSAR Wonju Array Be 33.65 1 P **P** **16 55 51.3 +1.5**
KSAR PcP **PcP** **16 58 31.3 +2.2**
KSRS Korea Array 33.66 1 P **P** **16 55 51.3 +1.4**
comp=Z,15nm,0.7s,baz=185,slow=10.0,SNR=37
KSRS PcP **PcP** **16 58 31.3 +2.2**
comp=Z,2.9nm,0.6s,baz=185,slow=2.9,SNR=8.2
KSRS LR LR 17 11 55.5
comp=Z,710nm,18.2s,baz=185,slow=40
FORT Forrest 34.24 178 *e*P **P** **16 55 54.0 -1.1**
comp=Z,56nm,0.7s
FORT Forrest 34.24 178 *e*P **P** **16 55 55.0 -0.1**
comp=Z,45nm,0.6s
MJAR Matsushiro Arr 34.36 16 P **P** **16 55 56.0 -0.1**
MJAR PcP **PcP** **16 58 33.5 +2.3**
MJAR Matsushiro Arr 34.36 16 P **P** **16 55 56.0 -0.1**
comp=Z,2.6nm,0.6s,baz=188,slow=10.0,SNR=8.6
MJAR PcP **PcP** **16 58 33.5 +2.3**
comp=Z,4.0nm,0.8s,baz=188,slow=3.8,SNR=6.7
MAT Matsushiro 34.36 16 P **P** **16 55 57.1 +1.0**
MAT *e*S **S** **17 01 15.8 -4.7**
XAN Xi'an 34.57 333 P **P** **16 55 57.1 -0.9**
XAN pP **pP** **16 56 07.5 -3.1**
XAN sP **sP** **16 56 11.3 -5.0**
XAN S S 17 01 17.0 -6.9
XAN pmax pmax
comp=Z,11nm,0.9s
XAN pmax pmax
comp=Z,44nm,4.8s
XAN LR LR
comp=N,870nm,16.9s
XAN LR LR
comp=E,290nm,18.6s
XAN LR LR
comp=Z,460nm,20.2s
CD2 Chengdu 34.82 324 P **P** **16 56 01.0 +0.9**
CD2 pP **pP** **16 56 10.5 -2.3**
CD2 sP **sP** **16 56 14.4 -4.1**
CD2 PcP **PcP** **16 58 33.3 +0.6**
CD2 S **S** **17 01 29.1 +1.3**
CD2 sS **sS** **17 01 45.1 -3.9**
CD2 SS **SnSn** **17 03 44.3 -0.9**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,260nm,5.0s
CD2 LR LR
comp=N,2μm,18.4s
CD2 LR LR
comp=E,2μm,19.1s
CD2 LR LR
comp=Z,2μm,19.2s
KLBR Kellerberrin 36.10 193 *e*P **P** **16 56 11.2 +0.1**
comp=Z,71nm,1.1s
EIDS Eidsvold 37.18 142 *e*P **P** **16 56 18.7 -1.6**
comp=Z,104nm,1.6s
BBOO Buckleboo 37.28 167 *e*P **P** **16 56 21.8 +0.7**
comp=Z,774nm,1.1s
BJT Baijiatuan 37.49 346 *e*P **P** **16 56 24.2 +1.4**
comp=Z,275nm,0.7s
NWAO Narrogin (SRO) 37.51 193 P **P** **16 56 22.7 -0.3**
NWAO Narrogin (SRO) 37.51 193 P **P** **16 56 22.7 -0.3**
comp=Z,19nm,1.0s,baz=34,slow=11,SNR=4.4
BJI Beijing 37.51 346 P **P** **16 56 24.6 +1.7**
BJI pP **pP** **16 56 33.3 -2.4**
BJI PP **PnPn** **16 57 57.0 +6.5**
BJI S S 17 02 14.4 +5.8
BJI sS **ScP** **17 02 24.9 +0.9**
BJI LR LR
comp=N,610nm,15.9s
BJI LR LR
comp=E,950nm,18.6s
BJI LR LR
comp=Z,440nm,21.8s
STKA Stephens Creek 37.99 159 P **P** **16 56 27.0 0.0**
STKA Stephens Creek 37.99 159 *e*P **P** **16 56 27.1 0.0**
comp=Z,45nm,0.9s
STKA *e*S **S** **17 02 15.7 -0.3**
STKA Stephens Creek 37.99 159 P **P** **16 56 27.0 0.0**
comp=Z,23nm,0.4s,baz=337,slow=7.4,SNR=82
SNY Shenyang 38.14 356 ||P **P** **16 56 30.3 +2.1**
SNY pmax pmax
comp=Z,35nm,0.8s
LZH Lanzhou 38.67 329 *e*P **P** **16 56 34.4 +1.4**
LZH pP **pP** **16 56 44.1 -1.7**
LZH sP **sP** **16 56 49.0 -2.4**
LZH PP **PnPn** **16 58 08.1 +3.4**
LZH *e*S **ScP** **17 02 30.0 +1.3**
LZH pmax pmax
comp=Z,76nm,1.2s
LZH pmax pmax
comp=Z,300nm,5.3s
LZH LR LR
comp=N,560nm,16.4s
LZH LR LR
comp=E,2μm,19.7s
LZH LR LR
comp=Z,3μm,19.5s
HHC Hu-ho-hao-te 39.54 342 *e*P **P** **16 56 40.9 +0.8**
HHC pP **pP** **16 56 50.8 -2.1**
HHC sP sP 16 56 53.1 -5.5
HHC PP **PnPn** **16 58 14.6 -0.3**
HHC PcP **PcP** **16 58 44.6 -2.3**
HHC S **S** **17 02 44.4 +5.0**
HHC sS **sS** **17 02 57.6 -3.3**
HHC ScS **ScS** **17 06 42.9 -1.4**
HHC pmax pmax
comp=Z,32nm,0.9s
HHC pmax pmax
comp=Z,290nm,7.2s
HHC LR LR
comp=N,880nm,19.2s
HHC LR LR
comp=E,840nm,19.2s
HHC LR LR
comp=Z,840nm,18.0s
CN2 Changchun 40.01 358 *e*P **P** **16 56 44.9 +1.0**
CN2 *ep*P **pP** **16 56 55.3 -1.4**
CN2 *e*S **S** **17 02 49.4 +3.2**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,1μm,18.0s
CN2 LR LR
comp=E,1μm,18.0s
CN2 LR LR
comp=Z,1μm,20.0s
USRK Ussuriysk Arra 40.64 6 P **P** **16 56 51.3 +2.3**
comp=Z,8.8nm,0.6s,baz=192,slow=7.5,SNR=18
MDJ Mudanjiang 40.88 3 P **P** **16 56 52.1 +1.1**
MDJ pP **pP** **16 57 01.0 -2.9**
MDJ sP **sP** **16 57 04.6 -4.9**
MDJ ScP **ScP** **17 02 38.9 +2.0**
MDJ PcS **PcS** **17 02 42.8 +1.0**
MDJ S **S** **17 03 03.0 +4.0**
MDJ sS **sS** **17 03 18.1 -2.5**
MDJ pmax pmax
comp=Z,33nm,1.7s
MDJ pmax pmax
comp=Z,370nm,4.5s
MDJ LR LR
comp=N,250nm,24.8s
MDJ LR LR
comp=E,360nm,30.3s
MDJ LR LR
comp=Z,410nm,22.7s
MDJ Mudanjiang 40.88 3 *e*P **P** **16 56 50.5 -0.5**
comp=Z,50nm,1.0s
ARMA Armidale 41.30 147 *e*P **P** **16 56 55.9 +1.1**
ASAJ Asahikawa 42.62 17 LR LR 17 15 01.2
comp=Z,1μm,19.6s,baz=204,slow=36
LSA Lhasa 42.63 311 P **P** **16 57 06.8 +0.7**
LSA pmax pmax
comp=Z,40nm,1.0s
LSA Lhasa 42.63 311 P **P** **16 57 06.9 +0.8**
LSA S **S** **17 03 31.4 +5.1**
LSA pmax pmax
comp=Z,30nm,0.7s
LSA pmax pmax
comp=Z,150nm,5.0s
LSA LR LR
comp=N,260nm,16.0s
LSA LR LR
comp=E,570nm,21.0s
LSA LR LR
comp=Z,470nm,21.0s
LSA Lhasa 42.63 311 *e*P **P** **16 57 06.3 +0.2**
LSA pmax pmax
comp=Z,33nm,0.6s
LSA Lhasa 42.63 311 *e*P **P** **16 57 06.3 +0.2**
comp=Z,33nm,0.6s
GTA Gaotai 43.26 329 *e*P **P** **16 57 10.6 -0.1**
GTA pP **pP** **16 57 19.8 -3.9**
GTA sP **sP** **16 57 24.8 -4.5**
GTA PcP **PcP** **16 58 58.6 -0.6**
GTA S **S** **17 03 37.0 +2.3**
GTA sS **sS** **17 03 51.5 -4.9**
GTA SS **SS** **17 06 43.5 -5.9**
GTA pmax pmax
comp=Z,11nm,0.7s
GTA pmax pmax
comp=Z,160nm,5.9s
GTA LR LR
comp=N,1μm,22.1s
GTA LR LR
comp=E,1μm,20.2s
GTA LR LR
comp=Z,2μm,19.0s
YUK Yuzh-Kuril'sk 43.58 20 *e*P P 16 57 07.9 -5.1
YUK *e*S **S** **17 03 34.5 -4.3**
YUK *e*SS **SS** **17 06 56.4 +1.3**
YUK MLR MLR
comp=N,177nm,18.0s
YUK MLR MLR
comp=E,912nm,18.0s
YUK MLR MLR
comp=Z,744nm,18.0s
TAPN Taplejung 44.21 306 *e*P **P** **16 57 17.9 -0.8**
comp=Z,76nm,1.0s
ODAN Odare 44.26 305 *e*P **P** **16 57 18.3 -0.8**
comp=Z,49nm,0.6s
TOO Toolangi 44.49 159 *e*P P 16 57 25.0 +4.5
comp=Z,62nm,1.0s
RAMN Ramite 44.94 305 *e*P **P** **16 57 24.1 -0.4**
comp=Z,69nm,0.9s
HABR Khabarovsk 45.21 8 *e*P **P** **16 57 25.5 -0.4**
HABR *e**PP **pP** **16 57 35.2 -3.7**
HABR *e* 16 59 04.1
HABR *e* 16 59 12.2
HABR S **S** **17 04 05.0 +2.6**
HABR *e**SS **sS** **17 04 21.7 -2.5**
HABR *e* 17 07 19.2
HABR *e*SSS SSS 17 08 18.6
HABR pmax pmax
comp=N,239nm,3.1s
HABR pmax pmax
comp=Z,402nm,3.1s
HABR pmax pmax
comp=E,225nm,3.1s
HABR MLR MLR
comp=Z,557nm,17.0s
YSS Yuzh-Sakhalins 45.28 15 ||*i*P **P** **16 57 28.9 +2.4**
YSS MLR MLR
comp=N,600nm,20.0s
YSS MLR MLR
comp=E,600nm,20.0s
YSS MLR MLR
comp=Z,1μm,20.0s
YSS Yuzh-Sakhalins 45.28 15 *e*P **P** **16 57 26.4 -0.1**
comp=Z,12nm,0.6s
JIRN Jiri 45.56 306 *e*P **P** **16 57 29.0 -0.6**
comp=Z,22nm,0.9s
KLR Kul'dur 45.61 4 *e*P **P** **16 57 27.2 -1.9**
KLR pmax pmax
comp=Z,100nm,1.8s
KLR MLR MLR
comp=E,1μm,20.0s
HIA Hailar 45.87 353 *e*P **P** **16 57 29.4 -1.8**
comp=E,82nm,1.3s
GUN Gumba 45.92 306 *e*P **P** **16 57 31.7 -0.7**
comp=E,136nm,0.8s
TARA Tarawa 46.03 92 *e*P **P** **16 57 32.6 -0.4**
comp=E,85nm,0.6s
PKI Pulchoki 46.16 305 *e*P **P** **16 57 33.0 -1.3**
comp=E,19nm,0.6s
DZM Mont Dzumac 46.34 125 *e*P **P** **16 57 37.6 +2.1**
comp=E,49nm,1.1s
DZM *e*S **S** **17 04 17.8 -1.9**
comp=E,1μm,29.3s
DZM *e*SS **SS** **17 07 49.7 +3.7**
comp=E,585nm,28.1s
DZM *e*LR LR 17 10 42.8
comp=E,1μm,26.1s
DZM Mont Dzumac 46.34 125 *e*P **P** **16 57 36.0 +0.5**
comp=E,27nm,1.1s
KKN Kakani 46.35 306 *e*P **P** **16 57 34.5 -1.1**
comp=E,20nm,0.7s
DMN Daman 46.42 305 *e*P **P** **16 57 35.6 -0.6**
comp=E,50nm,1.0s
GKN Gorkha 46.96 306 *e*P **P** **16 57 39.2 -1.1**
comp=E,13nm,0.5s
ULN Ulaanbaatar 47.26 342 *e*P **P** **16 57 42.8 +0.5**
comp=E,16nm,0.6s
ULN *e*PcP **PcP** **16 59 13.7 +0.8**
ULN *e*PP **PP** **16 59 35.3 +1.6**
ULN Ulaanbaatar 47.26 342 P **P** **16 57 43.6 +1.3**
SNR=12
SONM Songino Array 47.44 341 P **P** **16 57 44.2 +0.6**
SONM PcP **PcP** **16 59 14.8 +1.3**
SONM Songino Array 47.44 341 P **P** **16 57 44.2 +0.6**
comp=E,13nm,0.5s,baz=162,slow=7.7,SNR=80
SONM PcP **PcP** **16 59 14.8 +1.3**
comp=E,9.9nm,0.8s,baz=150,slow=3.3,SNR=7.3
KOLN Koldanda 47.72 305 *e*P **P** **16 57 45.6 -0.7**
comp=E,73nm,0.5s
DANN Dangsing 47.81 306 *e*P **P** **16 57 46.5 -0.6**
comp=E,86nm,0.6s
HYB Hyderabad 49.31 290 *i*P **P** **16 57 57.0 -1.4**
CIT Chita 49.48 349 *e*P **P** **16 58 01.4 +2.2**
CIT *e* 16 58 08.2
CIT pmax pmax
comp=Z,206nm,1.8s
ZAK Zakamensk 50.66 341 *e*P **P** **16 58 08.8 +0.5**
ZAK *e* 16 59 25.3
ZAK pmax pmax
comp=Z,5.0nm,1.5s
TLY Talaya 51.67 342 *e*P **P** **16 58 16.2 +0.5**
TLY *e* 17 00 10.4
TLY pmax pmax
comp=Z,18nm,0.8s
TLY MLR MLR
comp=Z,470nm,20.0s
TLY Talaya 51.67 342 *e*P **P** **16 58 15.8 +0.1**
comp=Z,18nm,0.7s
TLY Talaya 51.67 342 P **P** **16 58 18.0 +2.3**
SNR=13
IRK Irkutsk 51.96 343 *e*P **P** **16 58 19.2 +1.3**
IRK pmax pmax
comp=Z,68nm,1.9s
MOY Mondy 52.52 340 *e*P **P** **16 58 24.1 +1.9**
MOY pmax pmax
comp=Z,46nm,2.3s
WMQ Urumqi 52.90 325 P **P** **16 58 25.3 +0.3**
WMQ pP **pP** **16 58 37.8 -0.5**
WMQ sP **sP** **16 58 40.0 -3.8**
WMQ PcP **PcP** **16 59 35.8 +2.2**
WMQ PP **PP** **17 00 27.0 +2.0**
WMQ S **S** **17 05 50.0 -0.7**
WMQ sS **sS** **17 06 08.0 -4.9**
WMQ ScS **ScS** **17 08 09.0 -1.8**
WMQ pmax pmax
comp=Z,20nm,0.8s
WMQ pmax pmax
comp=Z,270nm,4.2s
WMQ LR LR
comp=N,4μm,16.8s
WMQ LR LR
comp=E,3μm,16.8s
WMQ LR LR
comp=Z,3μm,18.7s
CLNS Chul'man 53.07 359 *e*P **P** **16 58 27.6 +1.6**
CLNS *e* 16 59 35.1
CLNS *e* 17 00 32.3
CLNS *e*PPP PPP 17 01 38.9
CLNS *e*S **S** **17 05 56.0 +3.4**
CLNS pmax pmax
comp=Z,18nm,1.0s
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=N,6.0nm,1.0s
CLNS pmax pmax
comp=Z,8.0nm,1.1s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS smax smax
comp=N,194nm,14.3s
CLNS smax smax
comp=E,157nm,11.3s
NDI New Delhi 53.31 303 *e*PKP P 16 58 20.0 -8.3
POO Poona 53.91 290 ||*i*P **P** **16 58 30.0 -2.8**
comp=E,40nm,1.0s
MSVF Nonsavu 54.72 115 *e*P **P** **16 58 38.4 -0.3**
MSVF pmax pmax
comp=Z,32nm,1.1s
MSVF Nonsavu 54.72 115 *e*P **P** **16 58 38.4 -0.3**
comp=Z,32nm,1.1s
BOD Bodaibo 54.98 352 ||*i*P **P** **16 58 40.8 +1.0**
BOD pmax pmax
comp=Z,26nm,1.6s
PETK Petropavlovsk- 55.45 22 P **P** **16 58 44.9 +1.6**
PETK Petropavlovsk- 55.45 22 P **P** **16 58 44.9 +1.6**
PETK Petropavlovsk- 55.45 22 P **P** **16 58 44.9 +1.6**
comp=Z,6.0nm,0.6s,baz=185,slow=5.5,SNR=30
PET Petropavlovsk 55.74 23 *e*P P 16 58 55.6 +10
PET *e*S S 17 06 37.2 +8.7
PET pmax pmax
comp=Z,41nm,1.3s
PET MLR MLR
comp=Z,500nm,13.0s
MK31 Makanchi Array 57.73 325 *e*P **P** **16 58 59.5 -0.2**
MK31 pmax pmax
comp=Z,17nm,0.5s
MKAR Makanchi Array 57.73 325 P **P** **16 58 59.6 -0.1**
MKAR Makanchi Array 57.73 325 P **P** **16 58 59.5 -0.1**
MKAR ScP ScP 17 03 56.0 +7.6
MKAR Makanchi Array 57.73 325 P **P** **16 58 59.5 -0.1**
comp=Z,25nm,0.5s,baz=118,slow=7.8,SNR=247
MKAR ScP ScP 17 03 56.0 +7.6
comp=Z,0.7nm,0.7s,baz=132,slow=3.2,SNR=3.0
MKAR LR LR 17 28 06.4
comp=Z,592nm,18.2s,baz=106,slow=40
KSH Kashi 58.23 315 P **P** **16 59 04.6 +1.1**
KSH pP **pP** **16 59 14.5 -2.4**
KSH sP **sP** **16 59 17.8 -4.6**
KSH PcP **PcP** **16 59 54.1 -0.3**
KSH PP **PP** **17 01 14.8 +2.0**
KSH ScP **ScP** **17 03 49.9 -1.0**
KSH PcS **PcS** **17 03 54.1 -1.9**
KSH S **S** **17 07 04.6 +2.5**
KSH sS **sS** **17 07 21.5 -3.1**
KSH ScS **ScS** **17 08 47.0 -2.4**
KSH SS **SS** **17 10 59.3 +4.7**
KSH LR LR
comp=N,680nm,15.9s
KSH LR LR
comp=E,980nm,18.6s
KSH LR LR
comp=Z,730nm,15.0s
YAK Yakutsk 58.29 2 *e*P **P** **16 59 04.3 +1.0**
YAK *e**PP **pP** **16 59 12.0 -4.7**
YAK *e* 16 59 55.3
YAK *e*PPP PPP 17 02 38.0
YAK *e*S **S** **17 07 04.6 +2.8**
YAK *e**SS **sS** **17 07 23.8 -0.5**
YAK *e* 17 08 52.0
YAK *e*SSS SSS 17 13 24.2
YAK pmax pmax
comp=Z,62nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.9s
YAK pmax pmax
comp=N,30nm,1.3s
YAK pmax pmax
comp=N,497nm,6.2s
YAK pmax pmax
comp=Z,245nm,4.1s
YAK pmax pmax
comp=E,318nm,4.8s
YAK smax smax
comp=N,200nm,4.1s
YAK smax smax
comp=E,260nm,4.2s
YAK MLR MLR
comp=Z,391nm,19.0s
YAK MLR MLR
comp=N,334nm,19.0s
YAK MLR MLR
comp=E,322nm,17.0s
YAK Yakutsk 58.29 2 *e*P **P** **16 59 02.7 -0.6**
comp=E,92nm,0.9s
YAK *ep*P **pP** **16 59 12.4 -4.3**
YAK *es*P sP 16 59 16.6 -5.6
YAK *e*PcP **PcP** **16 59 55.0 +1.1**
ULHL Ulahol 59.20 318 P **P** **16 59 10.8 +0.6**
SNR=5.5
KZA Kyzart 59.80 318 P **P** **16 59 15.2 +0.6**
SNR=10
TKM2 Tokmak 2 59.93 319 *e*P **P** **16 59 15.1 -0.2**
TKM2 pmax pmax
comp=Z,13nm,0.8s
TKM2 Tokmak 2 59.93 319 *e*P **P** **16 59 15.1 -0.2**
comp=Z,13nm,0.8s

KBK	Karagaybulak	60.24 318		P		P	16 59 13.7	-3.7
	SNR=14							
AAK	Ala-Archa	60.54 318		*e*P		P	16 59 19.5	+0.1
AAK				*e*			17 00 06.3	
AAK					pmax	pmax		
	comp=Z,43nm,0.9s							
AAK	Ala-Archa	60.54 318		*e*P		P	16 59 19.5	+0.1
	comp=Z,43nm,0.9s							
AAK				*e*PcP		PcP	17 00 06.3	+2.6
AAK	Ala-Archa	60.54 318		P		P	16 59 21.6	+2.2
	SNR=9.7							
AAK	Ala-Archa	60.54 318		P		P	16 59 19.9	+0.5
	comp=Z,3.9nm,0.6s,baz=152,slow=8.8,SNR=21							
ZALV	Zalesovo Beam	60.74 333		P		P	16 59 19.7	-0.7
ZALV	Zalesovo Beam	60.74 333		P		P	16 59 19.6	-0.7
ZALV			⇑	*e*			17 28 50.4	
ZALV	Zalesovo Beam	60.74 333		P		P	16 59 19.6	-0.7
	comp=Z,9.0nm,0.7s,baz=118,slow=6.6,SNR=25							
ZALV				LR		LR	17 27 17.9	
	comp=Z,588nm,19.9s,baz=274,slow=38							
ZALV				PKP2bc			17 28 50.4	
	comp=Z,0.3nm,0.4s,baz=328,slow=5.1,SNR=3.6							
USP	Ospenovka	60.80 318		P		P	16 59 21.2	+0.2
	SNR=29							
AML	Almayashu	60.87 317		P		P	16 59 22.0	0.0
	SNR=30							
EKS2	Erkin-Say	61.03 318		*e*P		P	16 59 23.1	+0.4
EKS2					pmax	pmax		
	comp=Z,12nm,0.8s							
EKS2	Erkin-Say	61.03 318		*e*P		P	16 59 23.1	+0.4
	comp=Z,12nm,0.8s							
EKS2	Erkin-Say	61.03 318		P		P	16 59 23.0	+0.3
	SNR=20							
KBL	Kabul	61.71 307		*e*P		P	16 59 26.1	-1.5
KBL					pmax	pmax		
	comp=Z,14nm,0.9s							
KBL	Kabul	61.71 307		*e*P		P	16 59 26.1	-1.5
	comp=Z,14nm,0.9s							
KURBB	Kurchatov Arra	61.91 327		P		P	16 59 28.3	0.0
	comp=Z,27nm,0.6s,baz=130,slow=6.4,SNR=92							
KURK	Kurchatov	61.91 327	⇑	*i*P		P	16 59 28.1	-0.2
KURK					pmax	pmax		
	comp=Z,35nm,0.6s							
KURK	Kurchatov	61.91 327		*e*P		P	16 59 28.1	-0.2
	comp=Z,39nm,0.6s							
KURK				*e*PP		PP	17 01 44.9	-0.1
KURK	Kurchatov	61.91 327		P		P	16 59 28.5	+0.2
	SNR=14							
NVS	Novosibirsk	62.03 333	⇑	*i*P		P	16 59 28.2	-0.8
NVS				*e*S		S	17 07 50.8	+0.8
NVS					pmax	pmax		
	comp=Z,77nm,1.9s							
NVS					pmax	pmax		
	comp=N,23nm,1.6s							
NVS					pmax	pmax		
	comp=E,20nm,1.8s							
NVS					smax	smax		
	comp=N,65nm,3.0s							
NVS					smax	smax		
	comp=E,19nm,2.2s							
SEY	Seymchan	62.08 13	⇑	*e*P		P	16 59 32.2	+3.0
KK31	Karatay Array	63.41 317		*i*P		P	16 59 38.7	+0.2
KK31					pmax	pmax		
	comp=Z,7.0nm,0.6s							
KKAR	Karatay Array	63.41 317		*e*P		P	16 59 37.2	-1.3
KKAR					pmax	pmax		
	comp=Z,8.0nm,0.7s							
KKAR	Karatay Array	63.41 317		*e*P		P	16 59 37.2	-1.3
	comp=Z,8.1nm,0.7s							
VOSK	Vostochnaya	67.03 327		P		P	17 00 01.3	-0.5
VOSK					pmax	pmax		
	comp=Z,33nm,0.7s							
BVA0	Borovoye Array	67.49 327		*i*P		P	17 00 04.6	0.0
BVA0					pmax	pmax		
	comp=Z,4.0nm,0.9s							
BVAR	Borovoye Array	67.49 327		P		P	17 00 04.7	+0.1
BVAR	Borovoye Array	67.49 327		P		P	17 00 04.7	+0.1
BVAR	Borovoye Array	67.49 327		P		P	17 00 04.7	+0.1
	comp=Z,12nm,0.6s,baz=126,slow=7.4,SNR=44							
BRVK	Borovoye	67.56 327	*d*	*i*P		P	17 00 05.3	+0.2
BRVK					pmax	pmax		
	comp=Z,28nm,0.7s							
BRVK	Borovoye	67.56 327		*e*P		P	17 00 05.4	+0.4
	comp=Z,37nm,0.9s							
BRVK				*e*pP		pP	17 00 16.1	-2.7
BRVK				*es*P		sP	17 00 20.1	-4.1
BRVK	Borovoye	67.56 327		P		P	17 00 08.6	+3.6
	SNR=16							
ZRNK	Zerenda	68.21 326		P		P	17 00 09.1	-0.1
ZRNK					pmax	pmax		
	comp=Z,45nm,0.8s							
IDAH	Dahanechah	68.77 304		*e*P		P	17 00 13.4	0.0
IMYA	Miami	69.23 307		*e*P		P	17 00 16.0	-0.1
IKOO	Kooshah	69.44 303		*e*P		P	17 00 17.4	-0.2
BILL	Bilibino	69.59 15		*e*P		P	17 00 19.3	+1.8
BILL				*i*			17 00 40.8	
BILL				*e*S		SKiKP	17 10 00.4	-1.3
BILL				*e*SS		SS	17 13 47.7	-2.6
BILL					pmax	pmax		
	comp=Z,13nm,1.4s							
BILL					MLR	MLR		
	comp=Z,300nm,18.0s							
BILL	Bilibino	69.59 15		*e*P		P	17 00 17.5	0.0
	comp=Z,10nm,1.2s							
ITEG	Tejag	69.72 304		*e*P		P	17 00 19.7	+0.5
IMOG	Moghan	69.79 307		*e*P		P	17 00 19.8	+0.1
IPAY	Payeh	70.12 307		*e*P		P	17 00 22.3	+0.6
IKRD	Kardeh	70.56 308		*e*P		P	17 00 19.8	-4.6
DRV	Dumont d'Urvil	70.77 175		PP		PP	17 02 50.0	-12
DRV				S		S	17 09 24.0	-11
DRV				SS		SS	17 13 43.0	-26
DRV				L		L	17 18 00.0	
DRV				R			17 23 00.0	
IBAF	Bafgh	72.22 302		*e*P		P	17 00 35.6	+1.3
AB31	Akbulak array	72.33 321		*i*P		P	17 00 34.2	-0.2
AB31					pmax	pmax		
	comp=Z,12nm,0.6s							
ABKAR	Akbulak array	72.33 321		*e*P		P	17 00 34.0	-0.4
	comp=Z,8.2nm,0.5s							
IMEH	Mehriz	73.00 302		*e*P		P	17 00 39.1	0.0
ICHK	Chekchek	73.27 302		*e*P		P	17 00 40.6	-0.1
AKTO	Aktyubinsk	73.83 322		P		P	17 00 43.2	-0.1
AKTO					pmax	pmax		
	comp=Z,5.0nm,0.8s							
AKTO	Aktyubinsk	73.83 322		P		P	17 00 43.4	+0.1
AKTO	Aktyubinsk	73.83 322		P		P	17 00 43.4	+0.1
	comp=Z,24nm,0.7s,baz=102,slow=7.1,SNR=48							
IANJ	Anjilo	74.05 306		*e*P		P	17 00 44.5	-0.7
SVE	Sverdlovsk	74.13 328	⇑	*i*P		P	17 00 45.5	+0.6
SVE					pmax	pmax		
	comp=Z,35nm,1.0s							
SVE					MLR	MLR		
	comp=Z,507nm,20.0s							
IPAR	Pars	74.19 300		*e*P		P	17 00 44.9	-1.3
GAMB	Gambell	74.41 24		*e*P		P	17 00 46.7	+0.4
	comp=Z,32nm,1.1s							
IZEF	Zefreh	75.08 303		*e*P		P	17 00 50.4	-0.9
ARU	Arti	75.10 328	*c*	*i*P		P	17 00 50.3	-0.2
ARU				S		S	17 10 27.0	+1.8
ARU					pmax	pmax		
	comp=Z,16nm,0.6s							
ARU	Arti	75.10 328		*e*P		P	17 00 50.2	-0.3
	comp=Z,19nm,0.5s							
IGAR	Gharneh	75.28 302		*e*P		P	17 00 52.5	+0.1
IKLH	Kolahrood	75.75 303		*e*P		P	17 00 55.1	0.0
IPIR	Pirpir	76.27 303		*e*P		P	17 00 58.1	0.0
SOKR	Solikamsk	76.87 331		*e*P		P	17 01 00.5	0.0
SOKR				S		S	17 10 51.2	+6.7
SOKR					pmax	pmax		
	comp=Z,10.0nm,0.9s							
SOKR					MLR	MLR		
	comp=Z,320nm,13.0s							
QRN	Al-Qurain	78.60 298		*e*P		P	17 01 09.9	-0.9
QRN					AMb	AMB	17 01 15.9	
	comp=Z,54nm,0.9s							
UMR	Umm Al-Rimmam	78.81 299		*e*P		P	17 01 11.5	-0.4
UMR					AMb	AMB	17 01 14.8	
	comp=Z,40nm,0.9s							
RDF	Al-Radifah	78.93 299		*e*P		P	17 01 12.4	-0.3
RDF					AMb	AMB	17 01 16.1	
	comp=Z,28nm,0.8s							
MIB	Mutribah	79.14 299		*e*P		P	17 01 13.0	-0.8
MIB					AMb	AMB	17 01 17.9	
	comp=Z,62nm,0.7s							
IKOM	Komasi	79.19 304		*e*P		P	17 01 11.4	-2.8
NAY	Al-Naaiem	79.21 299		*e*P		P	17 01 13.0	-1.2
NAY					AMb	AMB	17 01 17.7	
	comp=Z,24nm,0.8s							
ISRB	Sarab	79.27 308		*e*P		P	17 01 15.2	+0.6
MAK	Makhachkala	79.77 313		*e*P		P	17 01 17.2	+0.3
MAK				*e*			17 04 21.6	
MAK				*e*PPP		PPP	17 06 11.9	
MAK				*e*S		S	17 11 17.5	+1.2
MAK					pmax	pmax		
	comp=Z,141nm,1.5s							
IHRS	Heris	79.80 308		*e*P		P	17 01 17.4	-0.1
IGHG	Ghalaghazi	79.97 304		*e*P		P	17 01 18.4	-0.1
IMRD	Marand	80.87 308		*e*P		P	17 01 23.7	+0.5
DGRG	David-gareji	81.25 311		P		P	17 01 24.3	-0.7
ABPO	Ambohimpanom	81.44 250		*e*P		P	17 01 27.1	+0.5
ABPO					pmax	pmax		
	comp=Z,30nm,0.9s							
ABPO	Ambohimpanom	81.44 250		*e*P		P	17 01 27.1	+0.5
	comp=Z,30nm,0.9s							
GNI	Garni	81.67 310		*e*P		P	17 01 26.1	-1.3
	comp=Z,11nm,0.9s							
TBLG	Delisi	81.74 311		P		P	17 01 29.4	+1.9
TBLG	Delisi	81.74 311		P		P	17 01 29.4	+1.9
ZEI	Tsey	82.40 312		*e*P		P	17 01 31.0	-0.2
ZEI					pmax	pmax		
	comp=Z,15nm,0.9s							
AKH	Akhalkalaki	82.66 311		P		P	17 01 32.7	+0.1
KIV	Kislovodsk	83.32 314		*e*P		P	17 01 35.9	+0.1
KIV				*e*			17 01 45.0	
KIV				*i*SS		SS	17 17 26.3	+7.2
KIV					pmax	pmax		
	comp=Z,14nm,2.5s							
COLD	Coldfoot	83.91 23		*e*P		P	17 01 38.6	+0.4
	comp=Z,15nm,0.8s							
VRHR	Novokhopersk	84.22 321		*e*P		P	17 01 39.5	-0.6
VRHR					pmax	pmax		
	comp=Z,30nm,0.7s							
VRHR					pmax	pmax		
	comp=N,6.0nm,0.8s							
VRHR					pmax	pmax		
	comp=E,10.0nm,0.7s							
PPT2	Papeete2	84.92 108		*e*S		S	17 12 08.3	-1.8
	comp=E,224nm,26.2s							
PPT2				*e*SS		SS	17 17 45.0	+1.1
	comp=E,284nm,30.0s							
PPT2				*e*LR		LR	17 28 29.3	
	comp=E,923nm,29.8s							
ILAR	Eielson Array	85.11 25		P		P	17 01 45.1	+0.8
ILAR	Eielson Array	85.11 25		P		P	17 01 45.1	+0.8
	comp=E,4.6nm,1.0s,baz=250,slow=5.6,SNR=22							
SOC	Sochi	85.47 313		*e*P		P	17 01 43.2	-3.4
SOC				*e*S		S	17 12 04.6	-10
KLMR	Klimovskoe	85.57 331		*e*P		P	17 01 47.1	+0.5
KLMR					pmax	pmax		
	comp=Z,113nm,1.4s							
KLMR					MLR	MLR		
	comp=Z,777nm,23.0s							
TBI	Tubuai	85.59 114		*e*S		S	17 12 13.7	-2.7
	comp=Z,182nm,28.0s							
TBI				*e*SS		SS	17 18 11.1	+18
	comp=Z,244nm,29.8s							
TBI				*e*LR		LR	17 28 42.5	
	comp=Z,847nm,30.8s							
VSR	Storozhevoye	85.77 321		*e*P		P	17 01 47.6	-0.2
VSR					pmax	pmax		
	comp=Z,20nm,0.8s							
VSR					pmax	pmax		
	comp=N,10.0nm,1.5s							
VSR					pmax	pmax		
	comp=E,10.0nm,0.8s							
MOS	Moscow	86.61 325		*e*P		P	17 01 51.4	-0.5
MOS				*e*			17 02 01.5	
MOS					pmax	pmax		
	comp=Z,82nm,1.1s							
ANN	Anapa	87.08 315		*e*P		P	17 01 53.8	-0.6
ANN					pmax	pmax		
	comp=Z,91nm,1.0s							
OBN	Obninsk	87.23 325	⇓	*i*P		P	17 01 55.3	+0.4
OBN				*i*			17 02 02.7	
OBN				*e*S		S	17 12 33.4	+2.3
OBN					pmax	pmax		
	comp=Z,74nm,1.6s							
OBN	Obninsk	87.23 325		*e*P		P	17 01 52.5	-2.4
	comp=Z,26nm,0.4s							
APA	Apatity	88.00 337	⇓	*e*P		P	17 01 59.0	+0.6
ASF	Jabal al Asfar	88.09 302		LR		LR	17 48 46.4	
	comp=Z,116nm,19.1s,baz=67,slow=41							
MMAI	Mount Meron Ar	89.30 303		LR		LR	17 49 00.5	
	comp=Z,193nm,20.5s,baz=85,slow=40							
JOF	Joensuu	89.34 333		*e*P		P	17 02 03.9	-0.8
JOF					pmax	pmax		
	comp=Z,12nm,0.5s							
JOF	Joensuu	89.34 333		*e*p		P	17 02 03.9	-0.8
	comp=Z,12nm,0.5s							
KMBO	Kilima Mbogo	89.72 269		*e*P		P	17 02 08.9	+0.9
	comp=Z,26nm,1.2s							
KMBO	Kilima Mbogo	89.72 269		P		P	17 02 09.9	+1.9
	SNR=12							
KEV	Kevo	90.03 340		*e*P		P	17 02 06.7	-1.2
KEV					pmax	pmax		
	comp=Z,7.0nm,0.8s							
KEV	Kevo	90.03 340		*e*p		P	17 02 06.7	-1.2
	comp=Z,7.0nm,0.8s							
BRTR	Keskin Array B	90.21 310		P		P	17 02 08.9	-0.6
BRTR	Keskin Array B	90.21 310		P		P	17 02 08.9	-0.6
	comp=Z,10nm,0.9s,baz=127,slow=5.3,SNR=30							
BRTR					LR	LR	17 51 51.7	
	comp=Z,238nm,20.8s,baz=213,slow=42							
ARCES	ARCESS Array B	90.59 340		P		P	17 02 10.7	+0.2
ARCES	ARCESS Array B	90.59 340		P		P	17 02 10.7	+0.2
	comp=Z,16nm,0.7s,baz=85,slow=6.6,SNR=102							
ARCES					LR	LR	17 48 43.6	
	comp=Z,349nm,18.1s,baz=225,slow=40							
CSS	Prodhromos	90.86 305		*e*P		P	17 02 12.3	-0.2
	comp=Z,16nm,1.0s							
KAF	Kangasniemi	91.75 332		*e*P		P	17 02 15.2	-0.8
KAF					pmax	pmax		
	comp=Z,4.0nm,0.5s							
KAF	Kangasniemi	91.75 332		*e*p		P	17 02 15.2	-0.8
	comp=Z,4.4nm,0.5s							
FINES	FINESS Array B	91.99 332		P		P	17 02 16.9	-0.2
FINES	FINESS Array B	91.99 332		P		P	17 02 16.9	-0.2
	comp=Z,2.9nm,0.4s,baz=63,slow=4.4,SNR=39							
FINES					LR	LR	17 47 57.6	
	comp=Z,446nm,19.3s,baz=291,slow=38							
AKASG	Malin Array Be	92.07 321		P		P	17 02 17.2	-0.5
AKASG	Malin Array Be	92.07 321		P		P	17 02 17.2	-0.5
AKASG	Malin Array Be	92.07 321		P		P	17 02 17.2	-0.5
	comp=Z,7.0nm,0.7s,baz=70,slow=4.6,SNR=17							
AKASG					LR	LR	17 49 16.3	
	comp=Z,285nm,19.1s,baz=50,slow=39							
KIEV	Kiev	92.08 321		*e*P		P	17 02 15.9	-1.9
KIEV					pmax	pmax		
	comp=Z,10.0nm,1.0s							
KIEV	Kiev	92.08 321		*e*P		P	17 02 15.9	-1.9
	comp=Z,10nm,1.0s							
NACGM	Naroch	92.86 325		*e*		P	17 02 21.0	-0.3
QSPA	South Pole Qui	93.55 180		*e*P		P	17 02 24.3	0.0
	comp=Z,6.6nm,0.9s							
QSPA				*e*pP		pP	17 02 35.8	-2.8
QSPA				*es*P		sP	17 02 39.8	-4.1
CFR	Carcaliu	93.61 316	⇓	P		P	17 02 26.5	+1.5
CFR	Carcaliu	93.61 316	⇓	*i*P		P	17 02 26.5	+1.5
TESR		94.42 317	⇑	*i*P		P	17 02 29.0	+0.3
VRI	Vrincioaia	94.48 316	⇑	P		P	17 02 30.2	+1.2
VRI	Vrincioaia	94.48 316	⇑	*i*P		P	17 02 30.2	+1.2
PLOR	Plostina	94.53 316	⇓	P		P	17 02 30.3	+1.0
PLOR	Plostina	94.53 316	⇓	*i*P		P	17 02 30.3	+1.0
SECR		95.08 316	⇓	*i*P		P	17 02 29.6	-2.2
MLR	Muntele Rosu	95.08 316	⇑	*i*P		P	17 02 32.7	+0.8
SUW	Suwalki	95.09 325		*e*P		P	17 02 32.1	+0.6
SUW					pmax	pmax		
	comp=Z,26nm,0.8s							
SUW	Suwalki	95.09 325		*e*P		P	17 02 32.1	+0.6
	comp=Z,26nm,0.8s							
BURAR	Bucovina Array	95.18 318	⇓	*i*P		P	17 02 33.0	+0.7
VOIR		95.71 316	⇑	P		P	17 02 34.9	+0.2
VOIR		95.71 316	⇑	*i*P		P	17 02 34.8	+0.1
KOLS	Kolonicke sedl	96.82 320		*e*P		P	17 02 43.1	+3.5
KOLS					pmax	pmax		
	comp=Z,6.0nm,1.3s							
KOLS	Kolonicke sedl	96.82 320		*e*P		P	17 02 43.1	+3.5
UZH	Uzhgorod	96.88 320		*e*P		P	17 02 41.0	+1.2
DRGR		97.02 318	⇑	P		Pdif	17 02 42.0	+1.3
DRGR		97.02 318	⇑	*i*P		Pdif	17 02 42.0	+1.3
CRVS	Cervenica-Dubn	97.35 320		*e*P		Pdif	17 02 43.1	+1.0
CRVS					pmax	pmax		
	comp=Z,8.0nm,1.0s							
CRVS	Cervenica-Dubn	97.35 320		*e*P		Pdif	17 02 43.1	+1.0
DAG	Danmarks Havn	97.36 352		*i*P		Pdif	17 02 41.6	+0.1
DAG					pmax	pmax		
	comp=Z,10.0nm,0.9s							
DAG	Danmarks Havn	97.36 352		*i*P		Pdif	17 02 41.6	+0.1
	comp=Z,103nm,0.9s							
RES	Resolute Bay	97.87 10		*e*P		Pdif	17 02 44.4	+0.6
	comp=Z,3.7nm,0.9s							
BZS	Buzias	98.03 317	⇓	P		P	17 02 45.0	-0.1
BZS	Buzias	98.03 317	⇓	*i*P		P	17 02 45.0	-0.1
HFS	Hagfors	98.18 332		LR		LR	17 49 06.1	
	comp=Z,310nm,20.5s,baz=68,slow=37							
RKT	Rikitea	98.89 113		*e*LR		LR	17 35 06.9	
	comp=Z,472nm,24.8s							
NB2	NORSAR Subarra	98.94 334		P		P	17 02 48.2	-0.7
	baz=67,slow=4.6							
NB2	NORSAR Subarra	98.94 334		P		P	17 02 48.2	-0.7
	comp=Z,5.6nm,0.8s,baz=67,slow=4.6							
NOA	NORSAR Array B	98.94 334		P		P	17 02 48.2	-0.7
NOA	NORSAR Array B	98.94 334		P		P	17 02 48.2	-0.7
	comp=Z,3.9nm,0.7s,baz=66,slow=4.6,SNR=14							
NOA					LR	LR	17 52 26.3	
	comp=Z,525nm,20.7s,baz=50,slow=38							
VYHS	Vyhne	99.14 320		*e*P		Pdif	17 02 50.2	+0.2
VYHS	Vyhne	99.14 320		PDIF		Pdif	17 02 50.2	+0.2
LSZ	Lusaka	99.35 255		*e*P		Pdif	17 02 51.4	-0.4
	comp=Z,5.5nm,0.9s							
YKA	Yellowknife Ar	99.51 24		P		Pdif	17 02 53.5	+2.2
YKA				PKiKP		PKiKP	17 07 22.4	+2.1
YKA				PKKPbc		PKKPbc	17 19 13.0	-3.2
YKA	Yellowknife Ar	99.51 24		P		Pdif	17 02 53.4	+2.2
	comp=Z,0.8nm,0.7s,baz=298,slow=4.6,SNR=17							
YKA				PKiKP		PKiKP	17 07 22.4	+2.1
	comp=Z,0.3nm,0.6s,baz=298,slow=1.5,SNR=5.7							
YKA				PKKPbc		PKKPbc	17 19 13.0	-3.2
	comp=Z,0.2nm,0.6s,baz=119,slow=3.2,SNR=4.0							
BRG	Berggiesshubel	101.41 323		*e*P		Pdif	17 03 00.7	+0.7
	comp=Z,4.3nm,1.0s							
BRG				*e*			17 03 03.5	
	comp=Z,4.2nm,0.9s							
BRG								
	comp=N,393nm,20.6s							
BRG								
	comp=E,227nm,19.4s							
BRG								
	comp=Z,387nm,16.3s							
BRG	Berggiesshubel	101.41 323		*e*P		Pdif	17 03 00.7	+0.7
BRG					pmax	pmax		
	comp=Z,4.0nm,1.0s							
BRG					pmax	pmax		
	comp=Z,4.0nm,0.9s							
BRG					MLR	MLR		
	comp=N,393nm,20.6s							
BRG					MLR	MLR		
	comp=E,227nm,19.4s							
BRG					MLR	MLR		
	comp=Z,387nm,16.3s							
GERES	GERESS Array B	102.26 322		P		Pdif	17 03 04.8	+0.8
GERES	GERESS Array B	102.26 322		P		Pdif	17 03 04.8	+0.8
	comp=Z,1.6nm,1.0s,baz=26,slow=3.4,SNR=8.3							
LKWY	Lake	109.95 40		*e*PKiKP		PKiKP	17 07 40.9	+0.4
LKWY	Lake	109.95 40		*e*PKPdf		PKiKP	17 07 40.9	+0.4
PDAR	Pinedale Array	111.31 41		PKiKP		PKiKP	17 07 44.6	+1.6
PDAR				PKKPab		PKKPab	17 18 49.0	-0.2
PDAR	Pinedale Array	111.31 41		PKiKP		PKiKP	17 07 44.6	+1.6
	comp=Z,0.5nm,0.7s,baz=48,slow=1.3,SNR=4.0							
PDAR				PKKPab		PKKPab	17 18 49.0	-0.2
	comp=Z,1.1nm,0.9s,baz=120,slow=9.0,SNR=4.4							
J22A	Midwest	112.99 39	⇑	P		PKiKP	17 07 47.0	+0.9
	baz=113							
ULM	Lac du Bonnet	114.95 29		PKP		PKPdf	17 07 50.3	+0.9
ULM	Lac du Bonnet	114.95 29		PKP		PKPdf	17 07 50.3	+0.9
	comp=Z,1.4nm,0.6s,baz=339,slow=1.9,SNR=3.6							
P25A	Willow Gulch B	116.43 42	⇓	P		PKPdf	17 07 55.0	+2.2
	baz=116							
Z22A	Elephant Butte	117.30 50	⇓	P		PKPdf	17 07 57.0	+2.4
	baz=117							
V24A	Rampart Ranch,	117.47 46	⇓	P		PKPdf	17 07 57.7	+2.7
	baz=117							
R27A	Eads	117.97 43	⇑	P		PKPdf	17 07 56.7	+1.0
	baz=118							
T26A	Comanche Natio	117.98 44	⇑	P		PKPdf	17 07 57.4	+1.5
	baz=118							
W25A	X Bar L Ranch,	118.29 47	⇑	P		PKPdf	17 07 57.8	+1.3
	baz=118							
MNTX	Cornudas Mount	119.17 51		*e*PKPdf		PKPdf	17 07 58.5	+0.4
MNTX	Cornudas Mount	119.17 51	⇓	P		PKPdf	17 07 59.5	+1.4
	baz=119							
324A	Moseley Ranch,	119.20 51	⇑	P		PKPdf	17 07 59.1	+0.7
	baz=119							
BGNE	Belgrade	119.26 38	⇓	P		PKPdf	17 07 59.3	+1.3
	baz=119							
425A	Indio Mountain	119.86 51	⇑	P		PKPdf	17 08 01.3	+1.6
	baz=120							
Z27A	Tatum	120.09 48	⇓	P		PKPdf	17 08 01.6	+1.7
	baz=120							
SCHQ	Schefferville	120.63 9		PKP		PKPdf	17 08 01.7	+1.5
SCHQ	Schefferville	120.63 9		PKP		PKPdf	17 08 01.7	+1.5
	comp=Z,3.1nm,0.7s,baz=265,slow=3.0,SNR=8.3							
426A	McDonald Obser	120.66 51	⇑	P		PKPdf	17 08 02.9	+1.6
	baz=121							
526A	Mary Lane Ranc	120.87 52	⇓	P		PKPdf	17 08 03.0	+1.4
	baz=121							
427A	Hayter Ranch,	121.06 51	⇓	P		PKPdf	17 08 03.8	+1.9
	baz=121							
527A	Woodward Ranch	121.21 51	⇑	P		PKPdf	17 08 04.3	+2.1
	baz=121							
328A	Wristen Ranch,	121.28 50	⇑	P		PKPdf	17 08 03.6	+1.4
	baz=121							
TXAR	Lajitas Array	121.52 52		PKP		PKPdf	17 08 05.0	+2.1
TXAR	Lajitas Array	121.52 52		PKP		PKPdf	17 08 05.0	+2.1
	comp=Z,1.4nm,0.8s,baz=252,slow=0.9,SNR=9.6							
428A	Kincaid Ranch,	121.67 50	⇑	P		PKPdf	17 08 05.3	+2.3
	baz=122							
627A	Terlingua Ranc	121.68 52	⇑	P		PKPdf	17 08 04.2	+1.

KSRS	Korea Array	33.79	2	P	P	17 03 10.2	+0.7
	0.9nm,0.5s,baz=176,slow=10,SNR=5.4						
STKA	Stephens Creek	37.94	159	P	P	17 03 45.1	+0.1
	3.2nm,0.5s,baz=340,slow=9.1,SNR=8.5						
DZM	Mont Dzumac	46.43	125	P	P	17 04 54.5	-0.1
	2.9nm,0.9s,baz=262,slow=15,SNR=2.5						
SONM	Songino Array	47.49	342	P	P	17 05 02.7	+0.1
	0.8nm,0.5s,baz=149,slow=8.4,SNR=5.5						
PETK	Petropavlovsk-	55.63	22	P	P	17 06 03.3	-0.1
	2.3nm,0.9s,baz=195,slow=6.0,SNR=4.1						
MKAR	Makanchi Array	57.72	325	P	P	17 06 17.8	-0.5
	1.8nm,0.5s,baz=121,slow=8.0,SNR=30						
ZALV	Zalesovo Beam	60.77	333	P	P	17 06 39.4	+0.1
	0.6nm,0.3s,baz=130,slow=6.7,SNR=4.1						
KURBB	Kurchatov Arra	61.91	327	P	P	17 06 46.8	-0.3
	2.1nm,0.5s,baz=130,slow=6.4,SNR=14						
BVAR	Borovoye Array	67.49	327	P	P	17 07 23.1	-0.4
	0.6nm,0.5s,baz=116,slow=6.8,SNR=5.4						
ILAR	Eielson Array	85.30	25	P	P	17 09 04.4	0.0
	0.6nm,0.9s,baz=249,slow=4.6,SNR=3.0						
BRTR	Keskin Array B	90.14	310	P	P	17 09 29.0	+0.6
	0.6nm,0.7s,baz=116,slow=3.4,SNR=2.9						
ARCES	ARCESS Array B	90.64	340	P	P	17 09 28.9	-1.0
	2.5nm,0.9s,baz=87,slow=6.4,SNR=6.0						
TORD	Torodi Ar. Bea	122.97	288	PKP	PKPdf	17 15 24.6	-0.5
	0.6nm,0.8s,baz=35,slow=1.1,SNR=3.0						

IDC 13 16:57:40.6±0.7, 3.56N×126.72E, h0km, mb4.2/17, mb1 4.3/17, mb1mx4.2/23, mbtmp4.2/17, Error ellipse: s-maj=36.5km s-min=14.5km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	21.55	183	P	P	17 02 33.3	+1.6
	3.1nm,0.6s,baz=355,slow=10,SNR=3.1						
WRA	Warramunga Arr	24.53	163	P	P	17 03 01.2	-0.9
	11nm,0.7s,baz=341,slow=10,SNR=5.8						
ASAR	Alice Springs	27.95	166	P	P	17 03 33.8	+0.8
	1.1nm,0.6s,baz=342,slow=11,SNR=2.6						
CMAR	Chiang Mai Arr	30.95	301	P	P	17 04 00.7	+1.0
	0.7nm,0.6s,baz=121,slow=7.1,SNR=3.5						
KSRS	Korea Array	33.75	2	P	P	17 04 24.4	+0.5
	2.0nm,0.8s,baz=177,slow=9.8,SNR=4.6						
STKA	Stephens Creek	37.98	159	P	P	17 04 59.8	-0.6
	2.5nm,0.4s,baz=342,slow=9.1,SNR=7.1						
ASAJ	Asahikawa	42.76	17	P	P	17 05 40.1	+0.4
	11nm,1.1s,baz=243,slow=16,SNR=3.3						
SONM	Songino Array	47.45	341	P	P	17 06 18.0	+0.7
	1.3nm,0.6s,baz=154,slow=5.9,SNR=4.8						
PETK	Petropavlovsk-	55.59	22	P	P	17 07 17.8	-0.2
	3.3nm,1.0s,baz=184,slow=3.9,SNR=2.6						
MKAR	Makanchi Array	57.69	325	P	P	17 07 32.4	-0.7
	1.4nm,0.4s,baz=119,slow=7.4,SNR=9.1						
ZALV	Zalesovo Beam	60.73	333	P	P	17 07 53.2	-0.8
	0.7nm,0.4s,baz=119,slow=7.3,SNR=2.5						
KURBB	Kurchatov Arra	61.88	327	P	P	17 08 01.4	-0.4
	3.8nm,0.5s,baz=131,slow=6.6,SNR=9.5						
BVAR	Borovoye Array	67.46	327	P	P	17 08 37.9	-0.3
	0.9nm,0.4s,baz=113,slow=4.3,SNR=5.5						
AKTO	Aktyubinsk	73.78	322	P	P	17 09 16.9	0.0
	0.8nm,0.4s,baz=116,slow=6.5,SNR=3.5						
BRTR	Keskin Array B	90.12	310	P	P	17 10 42.4	-0.8
	0.4nm,0.5s,baz=77,slow=3.3,SNR=2.5						
ARCES	ARCESS Array B	90.60	340	P	P	17 10 43.7	-0.8
	1.2nm,0.6s,baz=81,slow=5.9,SNR=3.6						
FINES	FINESS Array B	91.98	332	P	P	17 10 52.8	+1.7
	0.6nm,0.5s,baz=90,slow=3.8,SNR=4.0						
YKA	Yellowknife Ar	99.66	24	P	Pdif	17 11 30.1	+4.1
	0.1nm,0.7s,baz=312,slow=4.9,SNR=3.6						
TORD	Torodi Ar. Bea	122.96	288	PKP	PKPdf	17 16 39.2	-0.8
	0.1nm,0.4s,baz=40,slow=1.2,SNR=1.9						

PRE 13 16:59:37.2±0.7, 26.39S×27.45E, h2km, ML2.3, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	Kloof	0.14	76	eP	Pg	16 59 40.2	-0.1
KLOF				eS	Sg	16 59 42.3	-0.1
KLOF				AML	AML	16 59 46.4	
	comp=Z,525nm,0.1s						
PRYS	Parys	0.55	189	eP	Pg	16 59 47.5	-0.4
PRYS				eS	Sg	16 59 55.8	+0.6
PRYS				AML	AML	16 59 56.5	
	comp=Z,44nm,0.2s						
ERPM	east rand prop	0.71	87	eP	Pg	16 59 51.1	0.0
ERPM				eS	Sg	17 00 00.6	+0.2
ERPM				AML	AML	17 00 02.2	
	comp=Z,32nm,0.2s						
BFSD	Buffelsfontein	0.77	231	eP	Pg	16 59 51.7	-0.4
BFSD				eS	Sg	17 00 02.8	+0.6
BFSD				AML	AML	17 00 03.0	
	comp=Z,103nm,0.3s						
SLR	Silverton	0.99	49	eP	Pg	16 59 56.2	-0.1
SLR				eS	Sb	17 00 10.1	-0.7
SLR				AML	AML	17 00 16.3	
	comp=Z,54nm,0.2s						
SWZ	Schweizer	2.06	247	eP	Pn	17 00 14.0	+1.0
SWZ				eS	Sn	17 00 39.7	+0.3
SWZ				AML	AML	17 00 42.6	
	comp=Z,34nm,0.3s						

IDC 13 17:02:39.7±1.8, 10.77S×162.65E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.7/19, mbtmp3.9/5, ML4.0/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/31, Error ellipse: s-maj=44.8km s-min=30.0km az=54.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	2.97	296	Pn	Pn	17 03 30.0	+1.8
	54nm,0.3s,baz=144,slow=4.6,SNR=54						
HNR				Sn	Sn	17 04 06.6	+2.1
	126nm,0.3s,baz=185,slow=22,SNR=14						
HNR				LR	LR	17 04 36.7	
	comp=Z,325nm,19.8s,baz=280,slow=39						
DZM	Mont Dzumac	11.82	163	Pn	Pn	17 05 31.8	+2.1
	0.3nm,0.3s,baz=332,slow=15,SNR=7.3						
CTA	Charters Tower	18.31	238	P	P	17 06 59.1	+3.6
	0.2nm,0.3s,baz=66,slow=12,SNR=7.7						
WRA	Warramunga Arr	28.74	248	P	P	17 08 38.3	-0.9
	0.5nm,0.6s,baz=78,slow=9.0,SNR=3.8						
SONM	Songino Array	76.67	325	P	P	17 14 33.3	+0.6
	0.4nm,0.7s,baz=126,slow=7.3,SNR=3.1						
MKAR	Makanchi Array	91.25	317	P	P	17 15 45.7	-1.4
	0.3nm,0.6s,baz=94,slow=5.4,SNR=5.9						

PRE 13 17:06:04.3±0.9, 26.41S×27.42E, h2km, ML1.5, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	Parys	0.52	186	eP	Pg	17 06 14.2	-0.2
PRYS				eS	Sg	17 06 21.8	+0.4
PRYS				AML	AML	17 06 25.6	
	comp=Z,22nm,0.4s						
ERPM	east rand prop	0.74	85	eP	Pg	17 06 19.3	+0.5
ERPM				eS	Sg	17 06 29.1	+0.5
ERPM				AML	AML	17 06 32.8	
	comp=Z,4.5nm,0.6s						
SLR	Silverton	1.02	49	eP	Pg	17 06 23.8	-0.3
SLR				eS	Sg	17 06 38.3	+0.7
SLR				AML	AML	17 06 44.9	
	comp=Z,16nm,0.2s						
SWZ	Schweizer	2.02	247	eP	Pb	17 06 41.0	-1.0
SWZ				eS	Sn	17 07 05.8	+0.2
SWZ				AML	AML	17 07 06.3	
	comp=Z,2.7nm,0.4s						

IDC 13 17:12:20.0±2.0, 24.10S×66.73W, h0km, mb3.6/2, mb1 3.7/2, mb1mx3.6/13, mbtmp3.5/2, Error ellipse: s-maj=95.0km s-min=68.9km az=4.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	Torodi Ar. Bea	76.37	69	P	P	17 24 11.6	0.0
	0.2nm,0.5s,baz=252,slow=7.3,SNR=2.8						
YKA	Yellowknife Ar	94.31	340	P	P	17 25 40.6	-0.2
	0.1nm,0.4s,baz=133,slow=4.1,SNR=3.8						
WRA	Warramunga Arr	131.65	207	PKP	PKPdf	17 31 35.2	-0.4
	0.3nm,0.9s,baz=164,slow=1.7,SNR=4.5						
MKAR	Makanchi Array	146.44	40	PKPbc	PKPbc	17 32 02.4	-0.7

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	0.5nm,0.6s,baz=323,slow=2.9,SNR=5.4						

IDC 13 17:18:54.5±1.9, 3.72N×127.42E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, Error ellipse: s-maj=111.6km s-min=26.3km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	21.75	185	P	P	17 23 49.1	+1.3
	2.7nm,1.0s,baz=14,slow=12,SNR=2.7						
WRA	Warramunga Arr	24.47	164	P	P	17 24 14.8	-0.8
	0.8nm,0.6s,baz=342,slow=10,SNR=8.1						
ASAR	Alice Springs	27.94	167	P	P	17 24 46.7	-0.1
	0.2nm,0.3s,baz=340,slow=11,SNR=9.9						
STKA	Stephens Creek	37.88	160	P	P	17 26 13.6	+0.2
	2.1nm,1.0s,baz=337,slow=6.4,SNR=3.4						
MKAR	Makanchi Array	57.96	325	P	P	17 28 48.6	-0.3
	0.1nm,0.3s,baz=117,slow=7.8,SNR=3.5						

IDC 13 17:19:38.3±0.8, 4.12N×126.85E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.8/20, mbtmp3.8/9, 1C, Error ellipse: s-maj=46.5km s-min=15.2km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	Cotabato--PC H	4.02	320	iP	Pn	17 20 45.5	+4.3
FITZ	Fitzroy Crossi	22.12	183	P	P	17 24 35.6	+0.2
	2.1nm,0.6s,baz=350,slow=12,SNR=4.7						
WRA	Warramunga Arr	25.02	163	P	P	17 25 03.5	-0.8
	2.9nm,0.6s,baz=344,slow=11,SNR=11						
ASAR	Alice Springs	28.46	166	P	P	17 25 35.6	+0.3
	0.4nm,0.4s,baz=344,slow=11,SNR=3.2						
CMAR	Chiang Mai Arr	30.78	300	P	P	17 25 56.7	+0.8
	0.8nm,0.8s,baz=106,slow=6.6,SNR=7.1						
STKA	Stephens Creek	38.45	160	P	P	17 27 01.9	-0.1
	2.5nm,0.8s,baz=325,slow=11,SNR=3.8						
SONM	Songino Array	46.97	341	P	P	17 28 11.3	+0.1
	0.3nm,0.4s,baz=155,slow=8.8,SNR=3.5						
SONM				PcP	PcP	17 29 43.8	+0.1
	0.4nm,0.7s,baz=127,slow=3.8,SNR=3.0						
MKAR	Makanchi Array	57.30	325	P	P	17 29 27.4	-0.6
	0.9nm,0.5s,baz=118,slow=8.0,SNR=13						
MKAR				PcP	PcP	17 30 22.6	+0.3
	0.4nm,0.6s,baz=116,slow=4.7,SNR=2.8						
ZALV	Zalesovo Beam	60.30	333	P	P	17 29 47.3	-1.3
	0.5nm,0.4s,baz=116,slow=3.4,SNR=3.3						
ILAR	Eielson Array	84.70	25	P	P	17 32 14.5	+0.6
	0.2nm,0.6s,baz=278,slow=6.3,SNR=3.1						

*ISCJB **13** 17:24:57.9±0.9, 74.66N±0.04×10.0E±0.3, h10km, mb3.3/2, Error ellipse: s-maj=10.9km s-min=5.6km az=179.0*
*CSEM **13** 17:24:58.4±1.4, 74.50N×9.68E, h20km, ML2.4, Error ellipse: s-maj=28.9km s-min=13.8km az=52.0*
*BER **13** 17:24:59.9±2.5, 74.49N×9.38E, h15km±29km, MD2.4, ML2.4, ML2.9(NAO)*
*IDC **13** 17:24:59.4±2.2, 74.57N×9.66E, h0km, mb3.5/2, mb1 3.6/5, mb1mx3.3/27, mbtmp3.5/5, ML2.3/2, Error ellipse: s-maj=43.4km s-min=11.4km az=89.0*
*NAO **13** 17:25:02.5±5.1, 74.52N×10.15E, h25km±89km, ML2.9*

ISC 13 17:24:59.1±1.3, 74.61N±0.06×10.0E±0.1, h10km, n20, σ2§14/32, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO	Bjornoya	2.45	88	eS	Sn	17 26 08.8	-0.2
BJO	Bjornoya	2.45	88	eS	Sn	17 26 08.8	-0.2
	SNR=50						
HSP	Hornsund	2.77	27	eP	Pn	17 25 43.8	+0.4
HSP				eS	Sn	17 26 15.2	-1.6
SPA0	Spitsbergen Ar	3.89	20	Pn	Pn	17 25 59.9	+1.1
	baz=199,slow=12						
SPA0				Sn	Sn	17 26 43.9	-0.5
	baz=209,slow=28						
SPA0	Spitsbergen Ar	3.89	20	Pn	Pn	17 25 59.9	+1.1
	baz=199,slow=12						
SPA0				Sn	Sn	17 26 43.9	-0.5
	baz=209,slow=28						
SPA0	Spitsbergen Ar	3.89	20	Pn	Pn	17 25 59.9	+1.1
	baz=199,slow=12,SNR=50						
SPA0				Sn	Sn	17 26 43.9	-0.5
	baz=209,slow=26,SNR=50						
SPITS	Spitsbergen Ar	3.89	20	Pn	Pn	17 25 59.8	+1.1
	baz=198,slow=16,SNR=597						
SPITS				Sn	Sn	17 26 44.7	+0.4
	baz=198,slow=26,SNR=2.4						
HOPEN	Hopen	4.20	56	eP	Pn	17 26 05.1	+2.1
HOPEN				eS	Sn	17 26 52.5	+0.5
HOPEN				AML	AML	17 26 56.7	
	comp=Z,14nm,0.3s						
HOPEN	Hopen	4.20	56	eP	Pn	17 26 05.1	+2.1
	SNR=49						
HOPEN				eS	Sn	17 26 52.5	+0.5
	comp=Z,14nm,0.3s,SNR=49						
KBS	Kingsbay	4.37	5	Pn	Pn	17 26 04.3	-1.0
KBS				Sn	Sn	17 26 53.5	-2.6
KBS	Kingsbay	4.37	5	eP	Pn	17 26 04.5	-0.8
KBS				eS	Sn	17 26 54.6	-1.5
KBS	Kingsbay	4.37	5	Pn	Pn	17 26 04.3	-1.0
KBS				Sn	Sn	17 26 53.5	-2.6
KBS				eS	Sb	17 26 54.6	-14
	SNR=49						
ARA0	ARCESS Array S	6.96	129	Pn	Pn	17 26 40.8	-0.1
	baz=327,slow=12						
ARA0				Sn	Sn	17 27 55.0	-5.0
	baz=333,slow=22						
ARA0	ARCESS Array S	6.96	129	Pn	Pn	17 26 40.8	-0.1
	baz=327,slow=12						
ARA0				Sn	Sn	17 27 55.0	-5.0
	baz=333,slow=22						
ARA0	ARCESS Array S	6.96	129	Sn	Sn	17 27 55.0	-5.0
	baz=333,slow=20,SNR=1.5						
ARCES	ARCESS Array B	6.96	129	Pn	Pn	17 26 41.5	+0.7
	comp=Z,0.1nm,0.3s,baz=323,slow=9.5,SNR=6.9						
ARCES				Sn	Sn	17 27 56.2	-3.7
	comp=Z,0.5nm,0.3s,baz=330,slow=24,SNR=7.0						
KEV	Kevo	7.10	125	ep	Pn	17 26 46.3	+3.5
	comp=Z,0.5nm,0.4s						
FINES	FINESS Array B	14.43	148	Pn	Pn	17 28 23.9	+1.0
	comp=Z,0.0nm,0.3s,baz=348,slow=11,SNR=2.6						
AKASG	Malin Array Be	25.29	151	P	P	17 30 27.9	+2.7
	comp=Z,1.1nm,0.6s,baz=348,slow=9.5,SNR=3.4						
GERES	GERESS Array B	25.90	174	P	P	17 30 31.2	+0.3
	comp=Z,0.3nm,0.5s,baz=342,slow=12,SNR=4.4						

PRE 13 17:34:01.9±1.0, 26.41S×27.45E, h2km, ML2.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	Kloof	0.15	68	eP	Pg	17 34 05.1	0.0
KLOF				eS	Sg	17 34 07.1	-0.2
KLOF				AML	AML	17 34 09.6	
	comp=Z,581nm,0.2s						
PRYS	Parys	0.52	189	eP	Pg	17 34 11.7	-0.5
PRYS				eS	Sg	17 34 19.6	+0.4
PRYS				AML	AML	17 34 20.2	
	comp=Z,39nm,0.4s						
ERPM	east rand prop	0.71	85	eP	Pg	17 34 16.4	+0.7
ERPM				eS	Sg	17 34 25.3	+0.1
ERPM				AML	AML	17 34 29.5	
	comp=Z,12nm,0.2s						
BFSD	Buffelsfontein	0.75	233	eP	Pg	17 34 16.3	-0.2
BFSD				eS	Sg	17 34 27.2	+0.7
BFSD				AML	AML	17 34 28.1	
	comp=Z,33nm,0.4s						
SLR	Silverton	1.00	48	eP	Pg	17 34 21.2	-0.2
SLR				eS	Sg	17 34 34.8	+0.3
SLR				AML	AML	17 34 43.0	
	comp=Z,18nm,0.3s						
SWZ	Schweizer	2.05	247	eP	Pn	17 34 38.8	+1.2
SWZ				eS	Sn	17 35 03.8	-0.1
SWZ				AML	AML	17 35 06.6	
	comp=Z,25nm,0.3s						
BOSA	Boshof	2.94	221	eP	Pn	17 34 50.8	+0.9
BOSA				eS	Sn	17 35 25.6	-0.3
BOSA				AML	AML	17 35 30.6	
	comp=Z,2.8nm,0.3s						

IDC 13 17:39:36.3±1.2, 42.91S×72.44W, h0km, mb3.8/3, mb1 4.1/4, mb1mx4.0/13, mbtmp3.8/4, ML4.2/1, Error ellipse: s-maj=39.6km s-min=18.8km az=125.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	Paso Flores	2.59	34	Pn	Pn	17 40 19.8	+0.2
	9.9nm,0.3s,baz=208,slow=14,SNR=126						
PLCA				Pg	Pb	17 40 23.1	-0.7
	12nm,0.3s,baz=220,slow=17,SNR=126						
PLCA				Lg	Lg	17 40 59.5	
	15nm,0.3s,baz=303,slow=20,SNR=7.2						
TXAR	Lajitas Array	77.41	332	P	P	17 51 33.2	0.0
	0.4nm,0.8s,baz=169,slow=10.0,SNR=5.1						
TORD	Torodi Ar. Bea	87.57	70	P	P	17 52 25.6	-0.8
	0.6nm,0.9s,baz=219,slow=5.8,SNR=2.8						
PDAR	Pinedale Array	91.58	334	P	P	17 52 44.8	-0.1
	0.5nm,0.8s,baz=126,slow=10,SNR=4.1						
AKTO	Aktyubinsk	145.73	60	PKPbc	PKPdf	17 59 15.7	-0.3
	3.6nm,1.3s,baz=281,slow=5.2,SNR=4.8						
CMAR	Chiang Mai Arr	154.55	161	PKPbc	PKPbc	17 59 39.9	+0.7
	0.4nm,0.3s,baz=228,slow=3.5,SNR=4.1						

IDC 13 17:54:40.0±1.5, 3.84N×126.24E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/19, mbtmp3.3/4, Error ellipse: s-maj=149.2km s-min=23.4km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.94	162	P	P	18 00 04.3	-1.0
	0.2nm,0.4s,baz=342,slow=10,SNR=3.9						
ASAR	Alice Springs	28.34	165	P	P	18 00 37.0	+1.1
	0.3nm,0.9s,baz=347,slow=12,SNR=2.7						
SONM	Songino Array	47.04	342	P	P	18 03 14.2	+0.8
	0.1nm,0.3s,baz=165,slow=6.0,SNR=3.6						
MKAR	Makanchi Array	57.19	325	P	P	18 04 28.3	-0.7
	0.2nm,0.5s,baz=122,slow=7.6,SNR=8.5						

IDC 13 17:55:36.2±2.0, 4.19N×126.78E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=171.2km s-min=24.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.10	163	P	P	18 01 01.2	-1.6
	0.7nm,0.8s,baz=343,slow=10,SNR=3.6						
ASAR	Alice Springs	28.54	166	P	P	18 01 34.7	+0.9
	0.5nm,1.0s,baz=344,slow=12,SNR=3.0						
STKA	Stephens Creek	38.53	160	P	P	18 03 01.3	+0.7
	1.2nm,0.9s,baz=330,slow=8.1,SNR=2.9						
MKAR	Makanchi Array	57.21	325	P	P	18 05 25.2	-0.1
	0.3nm,0.5s,baz=119,slow=7.6,SNR=7.2						

IDC 13 17:58:43.1±1.2, 3.14N×126.05E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/18, mbtmp3.4/5, Error ellipse: s-maj=145.1km s-min=20.0km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.34	161	P	P	18 04 01.6	-1.3
	0.9nm,0.6s,baz=340,slow=11,SNR=8.9						
ASAR	Alice Springs	27.72	164	P	P	18 04 33.5	+0.1
	0.1nm,0.4s,baz=339,slow=7.3,SNR=3.1						
STKA	Stephens Creek	37.82	158	P	P	18 06 03.2	+1.6
	1.6nm,0.7s,baz=325,slow=8.9,SNR=4.0						
SONM	Songino Array	47.65	342	P	P	18 07 20.6	-0.7
	0.2nm,0.5s,baz=150,slow=9.4,SNR=2.5						
MKAR	Makanchi Array	57.66	326	P	P	18 08 35.5	+0.1
	0.3nm,0.6s,baz=136,slow=7.2,SNR=3.9						

*IDC **13** 18:00:40.6±0.6, 4.01N×126.74E, h0km, mb4.4/17, mb1 4.5/17, mb1mx4.4/22, mbtmp4.4/17, MS3.6/4, Ms1 3.6/4, ms1mx3.0/27, Error ellipse: s-maj=27.0km s-min=12.4km az=76.0*
*BJI **13** 18:00:40.7, 3.46N×126.80E, h35km, mB5.0/11, mb4.6/27, Ms4.7/9, Ms7 4.3/11*
*ISCJB **13** 18:00:43.3±0.3, 4.05N±0.04×126.84E±0.07, h31km, mb4.5/44, MS3.8/7, Error ellipse: s-maj=10.1km s-min=4.9km az=164.5*
*TEH **13** 18:00:45.0, 4.13N×127.10E, h35km, ML4.6*
*NEIC **13** 18:00:45.5±0.3, 4.04N×126.82E, h35km, mb4.6/20, Error ellipse: s-maj=11.1km s-min=5.8km az=74.0*
*DJA **13** 18:00:51, 3.76N×126.94E, h44km, mb4.6/9*

ISC 13 18:00:45.6±0.6, 4.01N±0.05×126.87E±0.09, h41km±3km, n115, σ1§41/124, mb4.5/44, MS3.7/7, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	General Santos	2.81	317	eP	Pn	18 01 31.0	+2.8
TNTI	Ternate	3.26	171	P	Pn	18 01 38.2	+4.0
MNI	Manado	3.26	219	P	Pn	18 01 37.8	+3.5
DAV	Davao City (W)	3.30	337	Pn	Pn	18 01 34.4	-0.4
DAV	Davao City (W)	3.30	337	P	Pn	18 01 51.1	+16
DAV	Davao City (W)	3.30	337	Pn	Pn	18 01 38.1	+3.3
	42nm,0.3s,baz=27,slow=4.5,SNR=2.5						
DMPH	Davao City--Mi	3.34	336	eP	Pn	18 01 40.8	+5.4
KCP	Kidapawan	3.47	329	eP	Pn	18 01 42.4	+5.2
CTBH	Cotabato--PC H	4.12	321	iP	Pn	18 01 48.6	+2.5
KMSI	Cibinong	4.47	220	P	Pn	18 01 56.1	+5.2
LBMI	Labuha	4.66	172	P	Pn	18 01 56.5	+2.9
MRSI	Marisa	6.05	235	P	Pn	18 02 16.4	+3.8
	159nm,0.6s,2μm0.6nm						
MYLDM	Lahad Datu	8.42	278	P	Pn	18 02 50.8	+5.6
	60nm,1.1s						
PCI	Palu	8.56	235	P	Pn	18 03 00.1	+13
KDI	Kendari	8.98	208	P	Pn	18 02 54.3	+1.4
	32nm,0.9s						
TTSI	Tana Toraja	9.94	225	P	Pn	18 03 13.3	+7.3
BAKI	Biak	10.58	119	P	Pn	18 03 23.8	+9.0
	46nm,1.4s						
KKM	Kota Kinabalu	10.80	281	ePn	Pn	18 03 19.3	+1.3
	12nm,0.9s						
KKM	Kota Kinabalu	10.80	281	P	Pn	18 03 23.9	+5.9
	22nm,1.2s						
SBUM	Sibu	14.71	264	P	P	18 04 16.5	-0.1
	30nm,0.9s						
KSM	Kuching	16.73	262	ePn	P	18 04 40.7	+1.6
	26nm,0.8s						
KSM	Kuching	16.73	262	P	P	18 04 41.4	+2.3
	36nm,0.9s						
MTN	Manton Dam	17.27	166	eP	Pn	18 04 42.3	-1.6
TPUB	Ta-pu	20.10	343	eP	P	18 05 14.7	-1.4
	24nm,0.8s						
SSLB	Suanglung	20.47	344	eP	P	18 05 19.4	-0.7
	16nm,0.8s					

comp=Z,3.1nm,0.8s,baz=117,slow=7.2,SNR=24
CMAR PcP **PcP** **18 09 56.6 +1.9**
comp=Z,0.3nm,0.6s,baz=140,slow=0.4,SNR=4.1
ENH Enshi 30.86 330 *eP* **P** **18 06 57.4 -0.8**
comp=Z,4.7nm,0.6s
CHTO Chiang Mai 31.00 301 *eP* **P** **18 06 59.6 +0.1**
comp=Z,5.5nm,0.8s
KMI Kunming 31.28 314 P P 18 07 07.8 +5.6
KMI pmax pmax
comp=Z,5.0nm,1.0s
MEEK Meekatharra 31.50 194 *eP* **P** **18 07 04.5 +0.7**
comp=Z,121nm,0.8s
KSAR Wonju Array Be 33.28 1 P **P** **18 07 21.4 +2.0**
KSRS Korea Array 33.30 2 P **P** **18 07 21.4 +1.9**
comp=Z,1.0nm,0.5s,baz=180,slow=9.6,SNR=6.0
KSRS LR LR 18 22 13.4
comp=Z,50nm,18.1s,baz=145,slow=39
XAN Xi'an 34.23 333 P **P** **18 07 27.3 -0.4**
XAN pP **pP** **18 07 37.1 -1.8**
XAN pmax pmax
comp=Z,5.0nm,0.8s
FORT Forrest 34.61 178 *eP* **P** **18 07 32.0 +1.1**
comp=Z,15nm,0.6s
BJI Beijing 37.15 346 P **P** **18 07 54.4 +1.9**
BJI pmax pmax
comp=Z,10.0nm,0.5s
BBOO Buckleboo 37.64 167 *eP* **P** **18 07 58.3 +1.5**
comp=Z,34nm,0.3s
NWAO Narrogin (SRO) 37.85 193 P **P** **18 07 59.7 +1.1**
NWAO Narrogin (SRO) 37.85 193 P **P** **18 07 59.7 +1.1**
comp=Z,28nm,1.1s,baz=19,slow=9.3
LZH Lanzhou 38.33 329 *eP* **P** **18 08 04.3 +1.4**
LZH pP **pP** **18 08 13.3 -0.9**
LZH sP **sP** **18 08 16.8 -2.3**
LZH pmax pmax
comp=Z,20nm,1.3s
STKA Stephens Creek 38.34 160 P **P** **18 08 04.3 +1.6**
STKA Stephens Creek 38.34 160 *eP* **P** **18 08 04.1 +1.3**
comp=Z,10nm,0.8s
STKA Stephens Creek 38.34 160 P **P** **18 08 04.3 +1.6**
comp=Z,13nm,0.7s,baz=334,slow=7.4,SNR=20
HHC Hu-ho-hao-te 39.18 342 *eP* P 18 08 14.6 +4.8
HHC pP pP 18 08 23.5 +2.3
HHC sP sP 18 08 27.1 +1.1
HHC PP **PnPn** **18 09 48.6 +5.6**
HHC PcP **PcP** **18 10 18.6 0.0**
HHC S S 18 14 17.3 +10
HHC sS sS 18 14 25.5 -0.7
HHC SS **SS** **18 16 59.0 -2.4**
HHC pmax pmax
comp=Z,15nm,2.0s
HHC pmax pmax
comp=Z,120nm,8.4s
HHC LR LR
comp=N,280nm,14.4s
HHC LR LR
comp=E,290nm,15.6s
HHC LR LR
comp=Z,160nm,12.0s
MDJ Mudanjiang 40.51 3 P **P** **18 08 22.3 +1.6**
MDJ pmax pmax
comp=Z,39nm,4.4s
LSA Lhasa 42.36 311 *eP* **P** **18 08 37.0 +0.4**
comp=Z,3.5nm,0.6s
GTA Gaotai 42.93 329 *eP* **P** **18 08 40.9 +0.2**
GTA pP **pP** **18 08 50.3 -1.9**
GTA sP **sP** **18 08 54.3 -2.7**
GTA PcP **PcP** **18 10 33.4 +2.5**
GTA pmax pmax
comp=Z,3.0nm,0.7s
TAPN Taplejung 43.97 306 *eP* **P** **18 08 48.9 -0.6**
comp=Z,11nm,0.8s
ODAN Odare 44.02 305 *eP* **P** **18 08 49.3 -0.6**
comp=Z,17nm,0.7s
RAMN Ramite 44.70 305 *eP* **P** **18 08 55.3 0.0**
comp=Z,15nm,0.8s
JIRN Jiri 45.32 306 *eP* **P** **18 09 00.0 -0.4**
comp=Z,4.3nm,0.8s
GUN Gumba 45.67 306 *eP* **P** **18 09 02.7 -0.4**
comp=Z,11nm,0.6s
PKI Pulchoki 45.92 305 *eP* **P** **18 09 04.4 -0.7**
KKN Kakani 46.11 305 *eP* **P** **18 09 05.6 -0.9**
comp=Z,3.7nm,0.5s
DMN Daman 46.19 305 *eP* **P** **18 09 06.8 -0.3**
comp=Z,7.7nm,0.7s
ULN Ulaanbaatar 46.90 342 *eP* **P** **18 09 12.7 +0.5**
comp=Z,10nm,1.4s
ULN *ePcP* **PcP** **18 10 44.4 -0.1**
SONM Songino Array 47.08 341 P **P** **18 09 14.5 +0.9**
SONM PcP **PcP** **18 10 46.3 +1.2**
SONM Songino Array 47.08 341 P **P** **18 09 14.5 +0.9**
comp=Z,0.9nm,0.4s,baz=158,slow=7.9,SNR=10
SONM PcP **PcP** **18 10 46.3 +1.2**
comp=Z,1.6nm,0.7s,baz=164,slow=3.2,SNR=7.5
SONM LR LR 18 29 35.4
comp=Z,84nm,18.1s,baz=78,slow=37
KOLN Koldanda 47.48 305 *eP* **P** **18 09 16.8 -0.3**
comp=Z,20nm,0.6s
DANN Dangsing 47.57 305 *eP* **P** **18 09 17.4 -0.5**
comp=Z,24nm,0.6s
TLY Talaya 51.31 342 *eP* **P** **18 09 47.0 +1.3**
comp=Z,1.8nm,0.6s
WMQ Urumqi 52.58 325 *eP* **P** **18 09 57.5 +2.1**
WMQ pP **pP** **18 10 07.0 -0.1**
WMQ pmax pmax
comp=Z,7.0nm,0.8s
WMQ LR LR
comp=Z,170nm,19.4s
PETK Petropavlovsk- 55.12 22 P **P** **18 10 15.6 +1.9**
PETK Petropavlovsk- 55.12 22 P **P** **18 10 15.6 +1.9**
comp=Z,1.1nm,0.5s,baz=197,slow=3.6,SNR=5.5
MK31 Makanchi Array 57.41 325 *eP* **P** **18 10 29.8 -0.4**
MKAR Makanchi Array 57.41 325 P **P** **18 10 30.3 +0.2**
MKAR PcP **PcP** **18 11 24.7 +1.0**
MKAR Makanchi Array 57.41 325 P **P** **18 10 30.3 +0.2**
comp=Z,2.7nm,0.5s,baz=118,slow=8.1,SNR=54
MKAR PcP **PcP** **18 11 24.7 +1.0**
comp=Z,1.8nm,0.7s,baz=106,slow=5.6,SNR=5.3
MKAR LR LR 18 35 32.0
comp=Z,63nm,19.2s,baz=349,slow=36
KSH Kashi 57.95 315 P **P** **18 10 36.5 +2.3**
KSH pP **pP** **18 10 46.4 +0.3**
KSH sP **sP** **18 10 50.5 -0.3**
KSH PcP **PcP** **18 11 26.9 +0.8**
KSH PP **PP** **18 12 46.6 +3.6**
KSH ScP **ScP** **18 15 22.8 -0.4**
KSH PcS **PcS** **18 15 26.9 -0.7**
KSH S S **18 18 33.9 +2.1**
KSH sS **sS** **18 18 50.8 -0.7**
KSH ScS **ScS** **18 20 18.6 -2.3**
KSH SS **SS** **18 22 26.9 +3.6**
KSH LR LR
comp=N,54nm,4.8s
KSH LR LR
comp=E,81nm,4.4s
KSH LR LR
comp=Z,190nm,6.1s
ZALV Zalesovo Beam 60.40 333 P **P** **18 10 50.4 -0.4**
ZALV Zalesovo Beam 60.40 333 P **P** **18 10 50.4 -0.4**
comp=Z,0.8nm,0.4s,baz=124,slow=7.3,SNR=6.8
EKS2 Erkin-Say 60.74 317 P **P** **18 10 53.6 +0.2**
KBL Kabul 61.46 307 *eP* **P** **18 10 57.5 -1.1**
comp=Z,3.8nm,0.9s
KURK Kurchatov 61.58 327 *eP* **P** **18 10 58.5 -0.3**
comp=Z,3.6nm,0.4s
BRVK Borovoye 67.23 327 *eP* **P** **18 11 35.4 -0.3**
comp=Z,5.1nm,0.8s
IDAH Dahanechah 68.54 304 *eP* **P** **18 11 44.5 -0.2**
IMYA Miami 68.98 307 *eP* **P** **18 11 47.1 -0.2**
IKOO Kooshah 69.21 303 *eP* **P** **18 11 49.0 +0.1**
IKRD Kardeh 70.31 308 *eP* P 18 11 51.0 -4.6
ABKAR Abkulak array 72.02 321 *eP* **P** **18 12 03.6 -1.7**
comp=Z,7.7nm,0.7s
IPAR Pars 73.98 300 *eP* **P** **18 12 17.6 -0.2**
ARU Arti 74.78 328 *eP* **P** **18 12 21.3 -0.1**
comp=Z,3.7nm,0.7s
MCK McKinley 83.85 26 *eP* **P** **18 13 11.6 +0.8**
comp=Z,22nm,1.4s
ILAR Eielson Array 84.79 25 P P **18 13 16.1 +0.6**
ILAR Eielson Array 84.79 25 P **P** **18 13 16.1 +0.6**
comp=Z,0.5nm,0.6s,baz=254,slow=5.9,SNR=6.5
KMBO Kilima Mbogo 89.70 269 *eP* **P** **18 13 41.1 +0.5**
comp=Z,4.2nm,1.0s
BRTR Keskin Array B 89.95 310 P **P** **18 13 40.2 -0.9**
BRTR Keskin Array B 89.95 310 P **P** **18 13 40.2 -0.9**
comp=Z,0.8nm,0.7s,baz=126,slow=2.8,SNR=5.7
ARCES ARCESS Array B 90.23 340 P **P** **18 13 40.7 -1.0**
ARCES ARCESS Array B 90.23 340 P **P** **18 13 40.7 -1.0**
comp=Z,1.9nm,0.9s,baz=89,slow=6.3,SNR=5.5
FINES FINESS Array B 91.65 332 P **P** **18 13 49.4 +1.0**
FINES FINESS Array B 91.65 332 P **P** **18 13 49.4 +1.0**
comp=Z,1.6nm,0.7s,baz=58,slow=4.7,SNR=8.4
AKASG Malin Array Be 91.76 321 P **P** **18 13 48.8 -0.3**
AKASG Malin Array Be 91.76 321 P **P** **18 13 48.8 -0.3**
comp=Z,5.6nm,1.2s,baz=78,slow=5.2,SNR=5.0
QSPA South Pole Qui 93.92 180 P **P** **18 13 59.2 +0.4**
comp=Z,3.1nm,1.0s
NOA NORSAR Array B 98.60 334 LR LR 19 04 41.0
comp=Z,25nm,18.4s,baz=255,slow=39
SCHQ Schefferville 120.27 9 PKP **PKPdf** **18 19 34.5 +2.2**
SCHQ Schefferville 120.27 9 PKP **PKPdf** **18 19 34.5 +2.2**
comp=Z,2.6nm,0.9s,baz=4.8,slow=13,SNR=3.6
TORD Torodi Ar. Bea 122.97 288 PKP **PKPdf** **18 19 38.8 +0.2**
TORD Torodi Ar. Bea 122.97 288 PKP **PKPdf** **18 19 38.8 +0.2**
comp=Z,1.0nm,0.8s,baz=110,slow=1.8,SNR=5.8

MEX 13 18:02:12.1±0.8, 15°.37N×94°.66W, h20km±16km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**1.43**	**76**	*eP*		Pn		18 02 33.9	-3.0
PCIG				*i*	S	Sn		18 02 50.8	-4.3
HUIG	**Huatulco**	**1.45**	**286**	*i*	P	Pn		18 02 34.4	-2.7
HUIG				*i*	S	Sn		18 02 50.6	-5.0
CMIG	**Matias Romero**	**1.72**	**353**	*eP*		Pn		18 02 37.8	-3.2
CMIG				*i*	S	Sn		18 02 58.2	-4.2
TGIG		**2.04**	**46**	*i*	P	Pn		18 02 43.5	-1.8
TGIG				*i*	S	Sn		18 03 07.1	-3.1
CCIG	**Comitan**	**2.60**	**69**	*i*	P	Pn		18 02 50.2	-3.0
CCIG				*i*	S	Sn		18 03 20.2	-4.1
VHO	**Vista Hermosa**	**2.61**	**311**	*i*	P	Pn		18 02 50.3	-3.1
VHO				*i*	S	Sn		18 03 21.7	-3.0
PNIG	**Pinotepa**	**3.48**	**287**	*i*	P	Pn		18 03 03.5	-1.7
PNIG				*i*	S	Sn		18 03 42.2	-3.7

*ISCJB **13** 18:05:24.4±1.6, 74°.69N±0°.06×10°.2E±0°.5, h10km, Error ellipse: s-maj=17.3km s-min=7.7km az=172.2*
*CSEM **13** 18:05:26.6±0.9, 74°.66N×9°.64E, h20km, ML3.1, Error ellipse: s-maj=25.7km s-min=9.4km az=73.0*
*BER **13** 18:05:27.8±3.8, 74°.70N×9°.25E, h15km±57km, MD2.4, ML3.1(NAO)*
*NAO **13** 18:05:30.6±4.9, 74°.74N×10°.30E, h22km±71km, ML3.1*
ISC 13 18:05:24.4±2.5, 74°.73N±0°.09×9°.6E±0°.2, h10km, n14, σ1$90/23, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**2.72**	**30**	*eP*		**Pn**		**18 06 09.8**	**+1.7**
HSP				*eS*		**Sn**		**18 06 39.9**	**-1.1**
SPA0	**Spitsbergen Ar**	**3.82**	**22**	Pn		Pn		18 06 25.8	+2.6
	baz=191,slow=16								
SPA0				Sn		**Sn**		**18 07 07.5**	**-0.6**
	baz=206,slow=22								
SPA0	**Spitsbergen Ar**	**3.82**	**22**	Pn		Pn		18 06 25.8	+2.6
	baz=191,slow=16								
SPA0				Sn		**Sn**		**18 07 07.5**	**-0.6**
	baz=206,slow=22								
SPA0	**Spitsbergen Ar**	**3.82**	**22**	Pn		Pn		18 06 25.8	+2.6
	baz=191,slow=15,SNR=398								
SPA0				Sn		**Sn**		**18 07 07.5**	**-0.6**
	baz=206,slow=21,SNR=4.4								
HOPEN	**Hopen**	**4.24**	**58**	*eP*		**Pn**		**18 06 31.8**	**+2.9**
HOPEN				*eS*		**Sn**		**18 07 18.7**	**+0.3**
HOPEN	**Hopen**	**4.24**	**58**	*eP*		**Pn**		**18 06 31.8**	**+2.9**
	SNR=53								
HOPEN				*eS*		**Sn**		**18 07 18.7**	**+0.3**
	SNR=53								
KBS	**Kingsbay**	**4.26**	**6**	Pn		**Pn**		**18 06 30.3**	**+1.1**
KBS				Sn		**Sn**		**18 07 16.4**	**-2.4**
KBS	**Kingsbay**	**4.26**	**6**	Pn		**Pn**		**18 06 30.3**	**+1.1**
KBS				Sn		**Sn**		**18 07 16.4**	**-2.4**
KBS	**Kingsbay**	**4.26**	**6**	Pn		**Pn**		**18 06 30.3**	**+1.1**
KBS				Sn		**Sn**		**18 07 16.4**	**-2.4**
	SNR=55								
ARA0	**ARCESS Array S**	**7.13**	**129**	Pn		**Pn**		**18 07 10.1**	**+1.5**
	baz=329,slow=12								
ARA0				Sn		**Sn**		**18 08 26.9**	**-2.6**
	baz=336,slow=22								
ARA0	**ARCESS Array S**	**7.13**	**129**	Pn		**Pn**		**18 07 10.1**	**+1.5**
	baz=329,slow=12								
ARA0				Sn		**Sn**		**18 08 26.9**	**-2.6**
	baz=336,slow=22								
ARA0	**ARCESS Array S**	**7.13**	**129**	Pn		**Pn**		**18 07 10.1**	**+1.5**
	baz=329,slow=11,SNR=8.5								
ARA0				Sn		**Sn**		**18 08 27.0**	**-2.6**
	baz=336,slow=21,SNR=9.4								
KEV	**Kevo**	**7.27**	**124**	*ep*		**Pn**		**18 07 09.5**	**-1.1**
	0.3nn,0.3s								
KEV	**Kevo**	**7.27**	**124**	*eP*		**Pn**		**18 07 09.5**	**-1.1**
	0.3nn,0.3s								

IDC 13 18:06:25.2±2.0, 3°.97N×127°.14E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, MS4.3/1, Ms1 4.3/1, ms1mx2.6/26, Error ellipse: s-maj=148.3km s-min=26.2km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**22.76**	**3**	LR		LR		18 18 42.0	
	comp=Z,906nm,21.9s,baz=228,slow=32								
WRA	**Warramunga Arr**	**24.79**	**164**	P		P		18 11 48.1	-1.0
	2.2nm,0.7s,baz=343,slow=11,SNR=8.5								
ASAR	**Alice Springs**	**28.25**	**167**	P		P		18 12 22.0	+1.7
	0.1nm,0.2s,baz=346,slow=12,SNR=4.1								
STKA	**Stephens Creek**	**38.21**	**160**	P		P		18 13 46.0	-0.9
	2.0nm,0.7s,baz=334,slow=9.4,SNR=4.6								
MKAR	**Makanchi Array**	**57.60**	**325**	P		P		18 16 17.0	-0.1
	0.1nm,0.4s,baz=119,slow=7.3,SNR=4.3								

IDC 13 18:10:50.1±1.8, 4°.08N×127°.09E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=144.6km s-min=23.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.91**	**164**	P		P		18 16 14.6	-0.5
	3.9nm,0.6s,baz=344,slow=11,SNR=42								
ASAR	**Alice Springs**	**28.37**	**167**	P		P		18 16 46.4	+0.1
	0.4nm,0.3s,baz=344,slow=11,SNR=9.7								
STKA	**Stephens Creek**	**38.33**	**160**	P		P		18 18 13.2	+0.3
	2.0nm,0.7s,baz=333,slow=6.7,SNR=6.7								
MKAR	**Makanchi Array**	**57.47**	**325**	P		P		18 20 41.0	-0.1
	0.2nm,0.4s,baz=117,slow=7.8,SNR=9.1								

IDC 13 18:17:36.6±2.2, 3°.14N×126°.04E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/18, mbtmp3.2/3, Error ellipse: s-maj=210.7km s-min=25.7km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.35**	**161**	P		P		18 22 56.2	-0.2
	0.7nm,0.4s,baz=340,slow=11,SNR=8.1								
ASAR	**Alice Springs**	**27.73**	**164**	P		P		18 23 27.6	+0.6
	0.2nm,0.7s,baz=334,slow=7.5,SNR=5.1								
MKAR	**Makanchi Array**	**57.65**	**326**	P		P		18 27 28.4	-0.3
	0.1nm,0.5s,baz=128,slow=9.3,SNR=5.0								

IDC 13 18:20:07.7±2.0, 3°.79N×126°.98E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=157.0km s-min=25.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.67**	**163**	P		P		18 25 29.6	-0.9
	0.7nm,0.6s,baz=343,slow=10,SNR=7.1								
ASAR	**Alice Springs**	**28.11**	**166**	P		P		18 26 02.5	+1.0
	0.2nm,0.5s,baz=346,slow=6.8,SNR=3.2								
STKA	**Stephens Creek**	**38.09**	**160**	P		P		18 27 28.1	-0.3
	0.5nm,0.3s,baz=336,slow=9.9,SNR=2.8								
MKAR	**Makanchi Array**	**57.65**	**325**	P		P		18 29 59.8	-0.1
	0.2nm,0.5s,baz=122,slow=7.5,SNR=4.5								

IDC 13 18:30:30.9±1.4, 4.73S×149.64E, h594km±16km, mb3.0/12, mb1 3.1/14, mb1mx3.1/18, mbtmp3.0/14, Error ellipse: s-maj=29.6km s-min=13.3km az=103.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.25**	**208**	P		P		18 32 06.9	+1.4
	2.6nm,0.3s,baz=37,slow=5.9,SNR=13								
PMG				S		S		18 33 21.1	-1.5
	0.9nm,0.3s,baz=220,slow=19,SNR=8.1								
CTA	**Charters Tower**	**15.61**	**192**	P		P		18 33 46.6	+1.6
	0.4nm,0.3s,baz=16,slow=12,SNR=5.5								
WRA	**Warramunga Arr**	**21.23**	**223**	P		P		18 34 36.6	+0.6
	2.5nm,0.3s,baz=47,slow=9.6,SNR=74								
ASAR	**Alice Springs**	**24.18**	**217**	P		P		18 35 02.5	+0.2
	1.9nm,0.4s,baz=50,slow=8.3,SNR=64								
ASAR				PcP		PcP		18 38 21.1	-0.8
	0.3nm,0.5s,baz=43,slow=1.7,SNR=5.0								
FITZ	**Fitzroy Crossi**	**26.96**	**239**	P		P		18 35 26.4	-0.5
	1.6nm,0.4s,baz=248,slow=4.3,SNR=7.2								
STKA	**Stephens Creek**	**28.04**	**195**	P		P		18 35 35.6	-0.4
	1.1nm,0.8s,baz=20,slow=12,SNR=4.9								
MJAR	**Matsushiro Ar**	**42.43**	**346**	P		P		18 37 34.7	-0.2
	1.5nm,0.5s,baz=172,slow=11,SNR=4.2								
KSRS	**Korea Array**	**46.59**	**336**	P		P		18 38 07.5	+0.8
	1.3nm,0.6s,baz=154,slow=8.6,SNR=4.4								
CMAR	**Chiang Mai Arr**	**55.01**	**296**	P		P		18 39 07.5	-0.6
	1.0nm,0.7s,baz=124,slow=5.4,SNR=8.4								
PETK	**Petropavlovsk-**	**58.03**	**6**	P		P		18 39 28.3	+0.3
	3.1nm,1.1s,baz=170,slow=9.8,SNR=3.8								
SONM	**Songino Array**	**64.62**	**329**	P		P		18 40 12.3	+1.0
	0.7nm,0.5s,baz=149,slow=4.5,SNR=6.8								
MKAR	**Makanchi Array**	**78.22**	**320**	P		P		18 41 29.7	-0.6
	0.3nm,0.4s,baz=97,slow=7.3,SNR=8.7								
ZALV	**Zalesovo Beam**	**79.37**	**327**	P		P		18 41 35.3	-0.9
	0.3nm,0.4s,baz=102,slow=6.1,SNR=2.6								
ILAR	**Eielson Array**	**83.30**	**23**	P		P		18 41 54.6	-1.4
	0.3nm,0.5s,baz=251,slow=4.8,SNR=6.9								
TORD	**Torodi Ar. Bea**	**147.28**	**287**	PKPbc		PKPbc		18 49 09.6	-0.1
	1.4nm,0.6s,baz=79,slow=2.1,SNR=15								

IDC 13 18:32:47.0±1.8, 3°.99N×126°.85E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/19, mbtmp3.9/4, 1D, Error ellipse: s-maj=148.2km s-min=23.2km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.12**	**321**	‖	*i*	P	Pb	18 33 58.8	-1.8
WRA	**Warramunga Arr**	**24.90**	**163**	P		P		18 38 11.7	-0.1
	5.5nm,0.7s,baz=343,slow=10,SNR=31								
ASAR	**Alice Springs**	**28.34**	**166**	P		P		18 38 42.8	-0.1
	0.5nm,0.7s,baz=342,slow=9.0,SNR=5.0								
STKA	**Stephens Creek**	**38.33**	**160**	P		P		18 40 09.8	+0.1
	3.6nm,0.7s,baz=318,slow=10,SNR=11								
MKAR	**Makanchi Array**	**57.41**	**325**	P		P		18 42 37.5	-0.1
	0.3nm,0.4s,baz=117,slow=8.4,SNR=9.7								

IDC 13 18:36:03.8±1.8, 3°.25N×126°.93E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/19, mbtmp3.4/4, Error ellipse: s-maj=149.5km s-min=23.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.17**	**163**	P		P		18 41 21.8	-0.3
	1.9nm,0.8s,baz=343,slow=10,SNR=10								
ASAR	**Alice Springs**	**27.61**	**166**	P		P		18 41 53.0	-0.2
	0.1nm,0.7s,baz=342,slow=7.7,SNR=3.0								
STKA	**Stephens Creek**	**37.62**	**159**	P		P		18 43 20.8	+0.3
	1.1nm,0.6s,baz=346,slow=8.3,SNR=2.7								
MKAR	**Makanchi Array**	**58.06**	**325**	P		P		18 45 58.8	-0.1
	0.1nm,0.4s,baz=120,slow=8.8,SNR=3.4								

*BJI **13** 18:42:26.3, 3°.52N×127°.33E, h29km, mB5.1/18, mb4.6/31, Ms4.6/16, Ms7 4.3/18*
*IDC **13** 18:42:26.4±0.5, 3°.67N×126°.93E, h0km, mb4.4/17, mb1 4.5/17, mb1mx4.5/20, mbtmp4.4/17, MS3.7/6, Ms1 3.7/6, ms1mx3.3/35, Error ellipse: s-maj=36.9km s-min=9.5km az=76.0*
*ISCJB **13** 18:42:29.0±1.4, 3°.93N±0°.04×127°.08E±0°.06, h23km±9km, mb4.5/36, MS3.8/12, Error ellipse: s-maj=10.4km s-min=6.0km az=161.2*
*NEIC **13** 18:42:31.4±0.5, 3°.80N×127°.23E, h35km, mb4.8/14, Error ellipse: s-maj=16.8km s-min=9.1km az=76.0*
*DJA **13** 18:42:35, 3°.64N×127°.08E, h50km, mb4.5/8*
ISC 13 18:42:31.1±0.5, 3°.82N±0°.05×127°.12E±0°.08, h28km±2km, n103, σ1$54/153, mb4.7/35, MS3.7/12, 4C-3D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.04**	**175**	P		**Pn**		**18 43 19.3**	**+1.9**
GSPH	**General Santos**	**3.12**	**316**	‖	*eP*	**Pn**		**18 43 21.0**	**+2.3**
MNI	**Manado**	**3.28**	**224**	P		**Pn**		**18 43 21.0**	**+0.3**
DAV	**Davao City (W)**	**3.57**	**335**	Pn		Pb		18 43 29.6	-4.1
DAV	**Davao City (W)**	**3.57**	**335**	P		**Pb**		**18 43 36.0**	**+2.3**
DAV	**Davao City (W)**	**3.57**	**335**	Pn		**Pb**		**18 43 30.7**	**-3.0**
	35nm,0.3s,baz=159,slow=8.6,SNR=4.4								
DMPH	**Davao City--Mi**	**3.62**	**334**	*i*	P	Pn		18 43 29.0	+3.7
CTBH	**Cotabato--PC H**	**4.43**	**320**	‖	*iP*	**Pn**		**18 43 34.9**	**-1.6**
LBMI	**Labuha**	**4.45**	**175**	P		**Pn**		**18 43 39.4**	**+2.7**
KMSI	**Cibinong**	**4.50**	**224**	P		**Pn**		**18 43 40.2**	**+2.7**
MRSI	**Marisa**	**6.15**	**237**	P		**Pn**		**18 44 02.5**	**+2.3**
	72nm,0.8s,652nm0.3nm								
SWI	**Sorong**	**6.22**	**138**	P		Pn		18 44 04.8	+3.6
	44nm,1.2s,1μm0.2nm								
MYLDM	**Lahad Datu**	**8.70**	**279**	P		**Pn**		**18 44 36.0**	**+0.8**
	58nm,1.0s								
KDI	**Kendari**	**8.94**	**210**	P		**Pn**		**18 44 38.0**	**-0.5**
	18nm,0.7s								
TTSI	**Tana Toraja**	**9.99**	**227**	P		Pn		18 45 03.3	+10
KKM	**Kota Kinabalu**	**11.09**	**282**	*eP*		**Pn**		**18 45 09.8**	**+1.7**
	8.1nm,0.8s								
KKM	**Kota Kinabalu**	**11.09**	**282**	P		**Pn**		**18 45 10.7**	**+2.6**
	16nm,1.5s								
STKI	**Sintang**	**16.07**	**257**	P		**P**		**18 46 19.4**	**+0.9**
KSM	**Kuching**	**16.96**	**263**	*eP*		**P**		**18 46 28.2**	**0.0**
	19nm,0.9s								
GUMO	**Guam**	**20.03**	**60**	LR		LR		18 52 55.0	
	comp=Z,172nm,21.1s,baz=138,slow=31								
YULB	**Yu-li**	**20.25**	**344**	*eP*		**P**		**18 47 01.1**	**-3.3**
	62nm,1.4s								
TPUB	**Ta-pu**	**20.36**	**343**	*eP*		**P**		**18 47 03.7**	**-1.9**
	82nm,0.8s								
SSLB	**Suanglung**	**20.72**	**344**	*eP*		**P**		**18 47 07.5**	**-2.1**
	38nm,0.8s								
YHNB	**Yeheng**	**21.45**	**346**	*eP*		**P**		**18 47 15.6**	**-1.9**
	22nm,0.7s								
FITZ	**Fitzroy Crossi**	**21.83**	**184**	P		**P**		**18 47 19.9**	**-1.6**
FITZ	**Fitzroy Crossi**	**21.83**	**184**	P		**P**		**18 47 19.9**	**-1.6**
	5.1nm,0.5s,baz=73,slow=13,SNR=9.3								
QIZ	**Qiongzhong**	**22.66**	**313**	P		**P**		**18 47 31.3**	**+0.9**
QIZ				S		**S**		**18 51 38.1**	**+1.1**
QIZ				pmax	pmax				
	comp=Z,100nm,6.0s								
QIZ				LR	LR				
	comp=Z,250nm,18.3s								
WRAB	**Tennant Creek**	**24.65**	**164**	*eP*		**P**		**18 47 49.2**	**-0.4**
	comp=Z,24nm,0.8s								
WRA	**Warramunga Arr**	**24.66**	**164**	P		**P**		**18 47 48.9**	**-0.7**
WRA				PcP		**PcP**		**18 51 26.4**	**-0.4**
WRA				S		**S**		**18 52 09.5**	**-0.2**
WRA	**Warramunga Arr**	**24.66**	**164**	P		**P**		**18 47 48.9**	**-0.7**
	comp=Z,19nm,0.6s,baz=344,slow=11,SNR=88

GYA PcP **PcP** 18 51 41.8 +2.5
GYA S **S** 18 53 33.5 +1.8
GYA sS **sS** 18 53 45.3 -0.1
GYA SS SS 18 55 08.4 -31
GYA ScP **ScP** 18 55 20.0 +0.3
GYA ScS **ScS** 18 59 14.8 -0.3
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.7s
GYA LR LR
comp=N,420nm,17.6s
GYA LR LR
comp=E,390nm,18.3s
GYA LR LR
comp=Z,410nm,17.5s
CMAR Chiang Mai Arr 31.16 300 LR LR 19 03 03.0
comp=Z,49nm,19.0s,baz=130,slow=40
KMI Kunming 31.59 314 P **P** 18 48 54.3 +2.4
KMI pmax pmax
comp=Z,7.0nm,1.0s
KSAR Wonju Array Be 33.47 1 P **P** 18 49 08.2 +0.3
KSRS Korea Array 33.48 1 P **P** 18 49 08.2 +0.2
comp=Z,3.3nm,0.9s,baz=178,slow=10,SNR=7.2
MJAR Matsushiro Arr 34.12 16 LR LR 19 02 48.5
comp=Z,131nm,18.1s,baz=230,slow=36
XAN Xi'an 34.51 333 P **P** 18 49 15.6 -1.5
XAN pP **pP** 18 49 25.3 -0.1
XAN pmax pmax
comp=Z,3.0nm,0.8s
BJI Beijing 37.39 346 P **P** 18 49 42.1 +0.5
BJI S **S** 18 55 29.0 +1.0
BJI pmax pmax
comp=Z,48nm,0.7s
STKA Stephens Creek 38.08 160 P **P** 18 49 46.4 -1.1
STKA Stephens Creek 38.08 160 P **P** 18 49 46.4 -1.1
comp=Z,6.2nm,0.6s,baz=349,slow=7.3,SNR=21
LZH Lanzhou 38.62 329 *e*P **P** 18 49 51.9 -0.4
LZH pP **pP** 18 49 59.1 -1.6
LZH sP **sP** 18 50 02.3 -1.8
LZH pmax pmax
comp=Z,15nm,1.1s
HHC Hu-ho-hao-te 39.44 341 *e*P **P** 18 49 59.4 +0.5
HHC pP **pP** 18 50 06.5 -0.8
HHC sP **sP** 18 50 13.8 +3.0
HHC PP **PnPn** 18 51 35.3 +2.6
HHC PcP **PcP** 18 52 04.0 -2.7
HHC ScP **ScP** 18 55 55.4 +1.8
HHC S **S** 18 56 00.3 +1.2
HHC pmax pmax
comp=Z,16nm,1.4s
HHC pmax pmax
comp=Z,160nm,8.4s
HHC LR LR
comp=N,340nm,19.2s
HHC LR LR
comp=E,420nm,16.8s
HHC LR LR
comp=Z,180nm,16.8s
USRK Ussuriysk Arra 40.44 5 P **P** 18 50 08.2 +1.2
comp=Z,2.1nm,0.6s,baz=187,slow=7.7,SNR=4.7
USRK LR LR 19 05 39.8
comp=Z,172nm,18.1s,baz=238,slow=34
MDJ Mudanjiang 40.69 3 P **P** 18 50 09.6 +0.5
MDJ pP **pP** 18 50 15.8 -1.7
MDJ sP **sP** 18 50 18.4 +2.5
MDJ ScP **ScP** 18 55 59.4 +1.2
MDJ PcS **PcS** 18 56 01.9 +0.9
MDJ S **S** 18 56 19.3 +1.8
MDJ pmax pmax
comp=Z,6.0nm,1.5s
MDJ pmax pmax
comp=Z,350nm,4.1s
MDJ LR LR
comp=Z,54nm,20.9s
GTA Gaotai 43.22 329 *e*P **P** 18 50 29.3 -0.8
GTA pP **pP** 18 50 38.6 0.0
GTA sP **sP** 18 50 42.4 +0.4
GTA PcP **PcP** 18 52 21.3 +2.2
GTA S **S** 18 56 53.0 -2.4
GTA sS **sS** 18 57 08.4 -1.0
GTA SS **SS** 19 00 02.8 -6.4
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,150nm,5.7s
GTA LR LR
comp=N,150nm,9.0s
GTA LR LR
comp=E,230nm,11.4s
GTA LR LR
comp=Z,230nm,11.6s
TAPN Taplejung 44.28 306 *e*P **P** 18 50 37.2 -1.8
comp=Z,9.2nm,0.7s
ODAN Odare 44.34 305 *e*P **P** 18 50 37.7 -1.7
comp=Z,9.9nm,0.6s
RAMN Ramite 45.02 305 *e*P **P** 18 50 43.3 -1.5
comp=Z,16nm,1.0s
JIRN Jiri 45.64 306 *e*P **P** 18 50 48.3 -1.6
comp=Z,2.7nm,0.6s
GUN Gumba 45.99 306 *e*P **P** 18 50 50.8 -1.8
comp=Z,14nm,0.7s
KKN Kakani 46.43 305 *e*P **P** 18 50 54.0 -1.9
comp=Z,25nm,1.4s
DMN Daman 46.50 305 *e*P **P** 18 50 54.8 -1.7
GKN Gorkha 47.03 305 *e*P **P** 18 50 58.8 -1.8
ULN Ulaanbaatar 47.15 342 *e*P **P** 18 51 01.7 +0.5
comp=Z,12nm,0.9s
SONM Songino Array 47.34 341 P **P** 18 51 03.6 +1.0
SONM PcP **PcP** 18 52 34.4 +1.2
SONM Songino Array 47.34 341 P **P** 18 51 03.6 +1.0
comp=Z,4.5nm,0.6s,baz=156,slow=8.7,SNR=30
SONM PcP **PcP** 18 52 34.4 +1.2
comp=Z,1.7nm,0.7s,baz=161,slow=3.8,SNR=6.1
KOLN Koldanda 47.80 305 *e*P **P** 18 51 04.9 -1.7
comp=Z,12nm,0.6s
DANN Dangsing 47.88 305 *e*P **P** 18 51 05.5 -1.9
comp=Z,19nm,0.7s
HYB Hyderabad 49.45 290 *i* P **P** 18 51 17.0 -2.3
TLY Talaya 51.57 342 *e*P **P** 18 51 35.2 +0.6
comp=Z,8.6nm,0.8s
WMQ Urumqi 52.88 325 *e*P **P** 18 51 44.5 -0.1
WMQ pP **pP** 18 51 55.0 +1.7
WMQ sP **sP** 18 51 59.0 +2.4
WMQ PcP **PcP** 18 52 53.0 -0.6
WMQ S **S** 18 59 09.0 -2.9
WMQ sS **sS** 18 59 26.0 -0.1
WMQ pmax pmax
comp=Z,9.0nm,1.0s
WMQ pmax pmax
comp=Z,260nm,5.4s
WMQ LR LR
comp=N,370nm,23.0s
WMQ LR LR
comp=E,210nm,22.2s
WMQ LR LR
comp=Z,240nm,21.8s
PETK Petropavlovsk- 55.20 22 P **P** 18 52 02.1 +0.8
PETK Petropavlovsk- 55.20 22 P **P** 18 52 02.1 +0.8
comp=Z,4.1nm,0.7s,baz=190,slow=4.9,SNR=7.9
MK31 Makanchi Array 57.70 325 *e*P **P** 18 52 19.0 -0.3
MK31 *e*PcP **PcP** 18 53 12.2 +0.2
MKAR Makanchi Array 57.70 325 P **P** 18 52 18.6 -0.7
MKAR PcP **PcP** 18 53 12.4 +0.3
MKAR Makanchi Array 57.70 325 P **P** 18 52 18.6 -0.7
comp=Z,6.4nm,0.7s,baz=119,slow=8.1,SNR=75
MKAR PcP **PcP** 18 53 12.4 +0.3
comp=Z,4.8nm,0.7s,baz=110,slow=5.1,SNR=9.6
YAK Yakutsk 58.11 1 *e*P **P** 18 52 21.9 +0.1
comp=Z,33nm,0.9s
YAK *e*PcP **PcP** 18 53 14.7 +1.5
KSH Kashi 58.26 315 P **P** 18 52 25.3 +1.8
KSH pP **pP** 18 52 32.3 +0.1
KSH sP **sP** 18 52 36.4 +0.8
KSH PcP **PcP** 18 53 15.3 +0.7
KSH PP **PP** 18 54 36.4 +3.7
KSH ScP **ScP** 18 57 12.5 -0.6
KSH PcS **PcS** 18 57 15.3 -0.9
KSH S **S** 19 00 25.3 +1.3
KSH sS **sS** 19 00 37.8 -0.6
KSH ScS **ScS** 19 02 09.6 -2.0
KSH SS **SS** 19 04 18.3 +2.1
KSH LR LR
comp=N,74nm,5.0s
KSH LR LR
comp=E,92nm,5.0s
KSH LR LR
comp=Z,220nm,5.2s
AAK Ala-Archa 60.55 318 *e*P **P** 18 52 40.6 +1.2
comp=Z,34nm,1.5s
AAK *e*PcP **PcP** 18 53 23.6 -0.1
ZALV Zalesovo Beam 60.69 333 P **P** 18 52 38.8 -1.0
ZALV Zalesovo Beam 60.69 333 P **P** 18 52 38.8 -1.0
comp=Z,2.2nm,0.7s,baz=125,slow=6.2,SNR=12
ZALV LR LR 19 22 13.0
comp=Z,60nm,19.1s,baz=95,slow=39
KURK Kurchatov 61.88 327 *e*P **P** 18 52 47.0 -0.9
comp=Z,11nm,0.6s
BRVK Borovoye 67.53 327 *e*P **P** 18 53 23.9 -0.9
comp=Z,8.9nm,1.0s
ARU Arti 75.07 328 *e*P **P** 18 54 09.1 -1.1
comp=Z,6.9nm,0.9s
ILAR Eielson Array 84.85 25 P **P** 18 55 03.8 +0.8
ILAR Eielson Array 84.85 25 P **P** 18 55 03.8 +0.8
comp=Z,0.3nm,0.7s,baz=275,slow=4.8,SNR=4.0
KMBO Kilima Mbogo 89.95 269 *e*P **P** 18 55 28.7 -0.3
comp=Z,3.6nm,1.0s
BRTR Keskin Array B 90.27 310 P **P** 18 55 29.0 -0.8
BRTR Keskin Array B 90.27 310 P **P** 18 55 29.0 -0.8
comp=Z,2.4nm,1.0s,baz=106,slow=4.5,SNR=7.7
ARCES ARCESS Array B 90.50 340 P **P** 18 55 29.9 -0.1
ARCES ARCESS Array B 90.50 340 P **P** 18 55 29.9 -0.1
comp=Z,3.6nm,0.6s,baz=88,slow=7.4,SNR=25
FINES FINESS Array B 91.94 332 P **P** 18 55 36.5 -0.3
FINES FINESS Array B 91.94 332 P **P** 18 55 36.5 -0.3
comp=Z,1.5nm,0.7s,baz=49,slow=6.1,SNR=7.1
AKASG Malin Array Be 92.07 321 P **P** 18 55 37.0 -0.8
AKASG Malin Array Be 92.07 321 P **P** 18 55 37.0 -0.8
comp=Z,2.1nm,0.6s,baz=78,slow=4.1,SNR=10
TESR 94.44 317 ||*i* P **P** 18 55 48.8 0.0
VRI Vrincioaia 94.50 316 ||*i* P **P** 18 55 49.6 +0.5
PLOR Plostina 94.56 316 ||*i* P **P** 18 55 49.4 0.0
MLR Muntele Rosu 95.11 316 ||*i* P **P** 18 55 52.1 +0.1
BURAR Bucovina Array 95.19 318 ||*i* P **P** 18 55 53.0 +0.7
NB2 NORSAR Subarra 98.88 334 P **P** 18 56 07.2 -1.4
comp=Z,1.8nm,0.9s,baz=67,slow=4.8
NOA NORSAR Array B 98.88 334 P **P** 18 56 07.5 -1.1
NOA NORSAR Array B 98.88 334 P **P** 18 56 07.5 -1.1
comp=Z,1.3nm,0.7s,baz=66,slow=4.6,SNR=5.6
YKA Yellowknife Ar 99.25 24 P **Pdif** 18 56 10.6 +0.4
YKA Yellowknife Ar 99.25 24 P **Pdif** 18 56 10.6 +0.4
comp=Z,0.2nm,0.7s,baz=293,slow=4.5,SNR=3.4
GERES GERESS Array B 102.26 322 P **Pdif** 18 56 23.1 -0.8
GERES GERESS Array B 102.26 322 P **Pdif** 18 56 23.1 -0.8
comp=Z,0.6nm,0.8s,baz=29,slow=3.0,SNR=4.3
TORD Torodi Ar. Bea 123.26 288 PKP **PKPdif** 19 01 25.6 -0.9
TORD Torodi Ar. Bea 123.26 288 PKP **PKPdif** 19 01 25.6 -0.9
comp=Z,1.3nm,0.9s,baz=76,slow=1.3,SNR=6.8

BJI 13 18:44:19.5, 22.48N×97.05E, h18km, ML3.5/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**5.84**	**62**	Pg	Pb	18 46 04.3	+3.2

IDC 13 18:51:24.8±2.1, 3.92N×126.78E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, 1C, Error ellipse: s-maj=162.5km s-min=25.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.13**	**323**	||*i* P	Pb	18 52 37.1	-1.4
WRA	**Warramunga Arr**	**24.85**	**163**	P	P	18 56 49.9	+0.7
	1.0nm,0.7s,baz=343,slow=10,SNR=7.7						
ASAR	**Alice Springs**	**28.29**	**166**	P	P	18 57 19.5	-0.7
	0.5nm,1.0s,baz=349,slow=8.3,SNR=3.2						
MKAR	**Makanchi Array**	**57.42**	**325**	P	P	19 01 15.3	-0.1
	0.1nm,0.4s,baz=124,slow=8.0,SNR=2.9						

GUC 13 18:54:27.4±0.7, 29.71S×71.33W, h14km±4km, MD3.5, ML3.2, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**0.64**	**135**	*e*P	Pg	18 54 40.6	+0.2
TLL				*i* S	Sg	18 54 49.5	+0.3
TLL				AML	AML	18 54 50.1	
	comp=N,3μm,0.3s						
LCO	**Las Campanas**	**0.88**	**38**	||*i* P	Pn	18 54 45.8	0.0
LCO				*i* S	Sn	18 54 58.5	-0.2
LCO				AML	AML	18 54 59.1	
	comp=E,824nm,0.5s						
OVCH	**Ovalle**	**0.90**	**173**	*i* P	Pb	18 54 43.2	-1.7
OVCH				AML	AML	18 55 02.9	
	comp=N,2μm,0.4s						
VACH	**Vallenar**	**1.23**	**24**	*i* P	Pn	18 54 48.8	-1.5
VACH				*i* S	Sb	18 55 05.2	-1.1
VACH				AML	AML	18 55 11.2	
	comp=N,2μm,0.1s						
CHNG	**Los Chungos**	**2.17**	**184**	*i* P	Pn	18 55 03.6	+0.5
CHNG				*i* S	Sn	18 55 31.3	+1.4
CHNG				AML	AML	18 55 35.2	
	comp=E,198nm,0.3s						
ROCH	**El Roble**	**3.26**	**175**	||*i* P	Pn	18 55 19.7	+1.2
ROCH				*i* S	Sn	18 55 59.6	+2.2

IDC 13 18:58:27.4±2.2, 3.84N×126.86E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/19, mbtmp3.3/3, Error ellipse: s-maj=183.4km s-min=26.0km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.75**	**163**	P	P	19 03 49.5	-1.4
	0.7nm,0.7s,baz=342,slow=10,SNR=4.9						
ASAR	**Alice Springs**	**28.19**	**166**	P	P	19 04 23.1	+1.2
	0.4nm,1.0s,baz=346,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**57.54**	**325**	P	P	19 08 18.7	-0.1
	0.2nm,0.5s,baz=119,slow=8.6,SNR=2.8						

*IDC **13** 19:00:44.6±0.6, 3.46N×126.77E, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.3/20, mbtmp4.2/13, MS3.6/9, Ms1 3.6/9, ms1mx3.3/37, Error ellipse: s-maj=34.9km s-min=13.4km az=75.0*
*BJI **13** 19:00:47.9, 3.60N×127.20E, h35km, mB5.2/14, mb4.6/24, Ms4.5/10, MS7 4.2/12*
*ISCJB **13** 19:00:48.7±0.3, 3.57N±0.04×127.09E±0.05, h48km, mb4.5/38, MS3.7/13, Error ellipse: s-maj=7.8km s-min=5.2km az=175.8*
*NEIC **13** 19:00:49.1±0.3, 3.50N×126.91E, h35km, mb4.7/21, Error ellipse: s-maj=11.7km s-min=5.8km az=75.0*
*DJA **13** 19:00:53, 3.51N×127.06E, h49km, mb4.5/7*

ISC 13 19:00:50.8±0.5, 3.57N±0.05×127.00E±0.08, h48km, n94, σ1 57/112, mb4.6/43, MS3.8/13, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**3.02**	**226**	P	**Pn**	**19 01 37.8**	**+1.7**
GSPH	**General Santos**	**3.23**	**321**	*i* P	**Pn**	**19 01 41.6**	**+2.4**
DAV	**Davao City (W)**	**3.76**	**338**	*e*Pn	**Pn**	**19 01 45.8**	**-0.5**
DAV	**Davao City (W)**	**3.76**	**338**	Pn	**Pn**	**19 01 47.0**	**+0.8**
	33nm,0.3s,baz=256,slow=4.2,SNR=3.1						
DMPH	**Davao City--Mi**	**3.80**	**337**	*e*P	**Pn**	**19 01 49.1**	**+2.3**
KMSI	**Cibinong**	**4.23**	**225**	P	**Pn**	**19 01 55.5**	**+2.7**
CTBH	**Cotabato--PC H**	**4.55**	**323**	||*i* P	**Pn**	**19 01 58.1**	**+0.9**
MRSI	**Marisa**	**5.91**	**239**	P	**Pn**	**19 02 17.2**	**+1.3**
SWI	**Sorong**	**6.12**	**136**	P	**Pn**	**19 02 18.7**	**-0.1**
PCI	**Palu**	**8.43**	**238**	P	Pn	19 03 06.9	+17
MYLDM	**Lahad Datu**	**8.62**	**281**	P	Pn	19 02 56.8	+3.7
	34nm,1.0s						
KDI	**Kendari**	**8.66**	**210**	P	**Pn**	**19 02 55.5**	**+1.9**
	18nm,0.8s						
TTSI	**Tana Toraja**	**9.73**	**228**	P	**Pn**	**19 03 09.6**	**+1.4**
KKM	**Kota Kinabalu**	**11.03**	**283**	*e*Pn	**Pn**	**19 03 28.7**	**+2.6**
	10nm,1.0s						
KKM	**Kota Kinabalu**	**11.03**	**283**	P	**Pn**	**19 03 28.6**	**+2.6**
	12nm,1.1s						
STKI	**Sintang**	**15.90**	**258**	P	**P**	**19 04 35.6**	**+1.2**
KSM	**Kuching**	**16.80**	**263**	*e*Pn	**Pn**	**19 04 41.0**	**-1.9**
	14nm,0.9s						
KSM	**Kuching**	**16.80**	**263**	P	**P**	**19 04 45.9**	**+1.4**
	15nm,0.9s						
GUMO	**Guam**	**20.26**	**59**	LR	LR	19 12 33.9	
	comp=Z,100nm,20.3s,baz=109,slow=35						
YULB	**Yu-li**	**20.47**	**345**	*e*P	**P**	**19 05 22.9**	**-1.7**
	93nm,1.5s						

TPUB Ta-pu 20.56 343 *e*P **P** 19 05 24.2 -1.4
90nm,1.1s
SSLB Suanglung 20.93 344 *e*P **P** 19 05 28.5 -1.2
51nm,0.8s
FITZ Fitzroy Crossi 21.57 184 P **P** 19 05 35.4 -1.1
FITZ Fitzroy Crossi 21.57 184 P **P** 19 05 35.4 -1.1
2.9nm,0.5s,baz=355,slow=10,SNR=7.3
YHNB Yeheng 21.67 346 *e*P **P** 19 05 38.2 +0.7
20nm,0.7s
WRAB Tennant Creek 24.44 163 *e*P **P** 19 06 04.5 -0.8
28nm,0.9s
WRA Warramunga Arr 24.45 163 P **P** 19 06 04.3 -1.0
WRA Warramunga Arr 24.45 163 P **P** 19 06 04.3 -1.0
18nm,0.7s,baz=338,slow=11,SNR=77
ASAR Alice Springs 27.89 166 P **P** 19 06 35.1 -1.3
ASAR S S 19 11 35.0 +18
ASAR Alice Springs 27.89 166 P **P** 19 06 35.1 -1.3
1.1nm,0.5s,baz=344,slow=9.0,SNR=20
ASAR S S 19 11 35.0 +18
1.8nm,1.1s,baz=354,slow=21,SNR=6.7
PSI Prapat 28.04 269 LR LR 19 17 06.9
comp=Z,74nm,19.6s,baz=262,slow=35
GYA Guiyang 29.96 321 *e*P **P** 19 06 57.0 +2.1
GYA pP **pP** 19 07 06.8 -0.7
GYA PP PP 19 07 55.8 -7.4
GYA PcP **PcP** 19 09 58.0 +1.3
GYA S **S** 19 11 52.3 +2.7
GYA sS **sS** 19 12 09.3 -1.4
GYA ScP **ScP** 19 13 35.4 +0.3
GYA ScS **ScS** 19 17 30.3 -0.4
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.9s
GYA LR LR
comp=N,460nm,17.5s
GYA LR LR
comp=E,420nm,18.0s
GYA LR LR
comp=Z,480nm,17.8s
CMAR Chiang Mai Arr 31.19 300 P **P** 19 07 05.0 -0.7
CMAR Chiang Mai Arr 31.19 300 P **P** 19 07 05.0 -0.7
comp=Z,1.0nm,0.7s,baz=114,slow=6.9,SNR=9.0
CMAR LR LR 19 21 54.5
comp=Z,40nm,18.4s,baz=180,slow=41
ENH Enshi 31.30 330 *e*P **P** 19 07 06.3 -0.3
comp=Z,4.4nm,0.6s
CHTO Chiang Mai 31.34 301 *e*P **P** 19 07 05.5 -1.5
comp=Z,3.3nm,0.9s
KMI Kunming 31.68 315 P **P** 19 07 12.8 +2.6
KMI pmax pmax
comp=Z,6.0nm,0.9s
KSAR Wonju Array Be 33.72 1 P **P** 19 07 27.3 -0.3
KSRS Korea Array 33.74 1 P **P** 19 07 27.3 -0.4
comp=Z,1.4nm,0.7s,baz=182,slow=10,SNR=4.3
KSRS LR LR 19 22 30.6
comp=Z,58nm,19.8s,baz=345,slow=39
XAN Xi'an 34.68 333 P **P** 19 07 36.8 +0.7
XAN pmax pmax
comp=Z,16nm,3.1s
HNR Honiara 35.28 112 LR LR 19 21 55.6
comp=Z,178nm,19.1s,baz=214,slow=36
BJT Baijiatuan 37.59 346 *e*P **P** 19 08 01.1 +0.4
comp=Z,17nm,0.6s
BJI Beijing 37.61 346 P **P** 19 08 02.3 +1.4
BJI pmax pmax
comp=Z,33nm,0.9s
BJI LR LR
comp=Z,45nm,20.3s
STKA Stephens Creek 37.88 160 *e*P **P** 19 08 03.1 -0.3
comp=Z,4.2nm,0.8s
STKA Stephens Creek 37.88 160 P **P** 19 08 03.9 +0.6
comp=Z,16nm,0.8s,baz=338,slow=8.0,SNR=27
LZH Lanzhou 38.78 329 *e*P **P** 19 08 12.4 +1.4
LZH pP **pP** 19 08 22.3 -1.5
LZH sP **sP** 19 08 26.8 -2.7
LZH pmax pmax
comp=Z,17nm,1.4s
HHC Hu-ho-hao-te 39.64 342 *e*P **P** 19 08 20.8 +2.7
HHC pP **pP** 19 08 30.1 -0.8
HHC sP **sP** 19 08 33.8 -2.7
HHC PP PP 19 09 57.6 +7.7
HHC PcP **PcP** 19 10 25.3 +0.9
HHC ScP **ScP** 19 14 11.8 +2.4
HHC S **S** 19 14 20.3 +2.3
HHC sS sS 19 14 33.3 -6.2
HHC SS SS 19 17 04.4 -10
HHC ScS **ScS** 19 18 19.9 -2.1
HHC pmax pmax
comp=Z,12nm,2.2s
HHC pmax pmax
comp=Z,280nm,7.2s
HHC LR LR
comp=N,220nm,18.0s
HHC LR LR
comp=E,460nm,16.8s
HHC LR LR
comp=Z,220nm,19.2s
CN2 Changchun 40.09 358 *e*P P 19 08 30.1 +8.5
USRK Ussuriysk Arra 40.71 6 P **P** 19 08 28.6 +1.9
comp=Z,3.5nm,0.8s,baz=170,slow=8.5,SNR=5.4
MDJ Mudanjiang 40.95 3 P **P** 19 08 28.8 +0.1
MDJ pmax pmax
comp=Z,18nm,2.0s
MDJ pmax pmax
comp=Z,160nm,4.2s
LSA Lhasa 42.75 311 *e*P **P** 19 08 44.1 -0.1
comp=Z,3.5nm,0.7s
TAPN Taplejung 44.33 306 *e*P **P** 19 08 56.0 -0.8
comp=Z,15nm,1.1s
ODAN Odare 44.38 305 *e*P **P** 19 08 56.5 -0.7
comp=Z,13nm,0.9s
RAMN Ramite 45.06 305 *e*P **P** 19 09 01.6 -1.0
comp=Z,4.7nm,0.5s
JIRN Jiri 45.69 306 *e*P **P** 19 09 06.4 -1.3
GUN Gumba 46.04 306 *e*P **P** 19 09 08.6 -1.8
KKN Kakani 46.48 306 *e*P **P** 19 09 12.0 -1.7
DMN Daman 46.54 305 *e*P **P** 19 09 13.6 -0.7
GKN Gorkha 47.08 306 *e*P **P** 19 09 17.0 -1.4
ULN Ulaanbaatar 47.36 342 *e*P **P** 19 09 20.8 +0.6
comp=Z,13nm,1.4s
SONM Songino Array 47.54 341 P **P** 19 09 22.8 +1.3
SONM Songino Array 47.54 341 P **P** 19 09 22.8 +1.3
comp=Z,1.3nm,0.6s,baz=158,slow=8.9,SNR=11
SONM LR LR 19 31 14.0
comp=Z,80nm,19.3s,baz=127,slow=38
KOLN Koldanda 47.84 305 *e*P **P** 19 09 23.6 -0.7
comp=Z,6.2nm,0.4s
DANN Dangsing 47.93 306 *e*P **P** 19 09 24.1 -1.0
comp=Z,9.5nm,0.5s
TLY Talaya 51.77 342 *e*P **P** 19 09 54.6 +1.0
comp=Z,3.3nm,0.7s
WMQ Urumqi 53.01 325 *e*P **P** 19 10 04.8 +1.8
WMQ pP **pP** 19 10 14.3 -1.9
WMQ pmax pmax
comp=Z,6.0nm,0.8s
WMQ pmax pmax
comp=Z,160nm,5.4s
WMQ LR LR
comp=Z,190nm,20.0s
PETK Petropavlovsk- 55.48 22 P **P** 19 10 22.4 +1.7
PETK Petropavlovsk- 55.48 22 P **P** 19 10 22.4 +1.7
comp=Z,4.7nm,0.9s,baz=182,slow=5.1,SNR=6.9
MK31 Makanchi Array 57.84 325 *e*P **P** 19 10 37.3 -0.3
MKAR Makanchi Array 57.84 325 P **P** 19 10 37.6 0.0
MKAR Makanchi Array 57.84 325 P **P** 19 10 37.6 0.0
comp=Z,1.3nm,0.4s,baz=123,slow=7.3,SNR=20
MKAR LR LR 19 39 35.7
comp=Z,70nm,19.4s,baz=163,slow=40
KSH Kashi 58.35 315 P **P** 19 10 42.4 +1.0
KSH pP **pP** 19 10 52.3 -2.6
KSH sP **sP** 19 10 56.4 -4.0
KSH PcP **PcP** 19 11 32.5 +0.5
KSH PP **PP** 19 12 53.6 +2.6
KSH ScP **ScP** 19 15 28.4 -0.2
KSH PcS **PcS** 19 15 32.5 -1.2
KSH S **S** 19 18 42.4 +1.6
KSH sS **sS** 19 18 59.0 -4.3
KSH ScS **ScS** 19 20 25.8 -1.6
KSH SS **SS** 19 22 37.0 +3.4
KSH LR LR
comp=N,69nm,5.2s
KSH LR LR
comp=E,120nm,5.6s
KSH LR LR

comp=Z,230nm,5.3s
YAK Yakutsk 58.36 1 eP P 19 10 41.6 +0.7
comp=Z,220nm,1.0s
AAK Ala-Archa 60.66 318 eP P 19 10 56.2 -1.1
comp=Z,12nm,1.1s
ZALV Zalesovo Beam 60.85 333 P P 19 10 57.9 -0.3
ZALV Zalesovo Beam 60.85 333 P P 19 10 57.9 -0.3
comp=Z,1.1nm,0.6s,baz=115,slow=7.0,SNR=5.3
ZALV LR LR 19 41 23.0
comp=Z,64nm,18.3s,baz=208,slow=40
EKS2 Erkin-Say 61.15 318 eP P 19 10 59.7 -0.9
comp=Z,2.8nm,0.8s
KBL Kabul 61.84 307 P P 19 11 03.7 -1.8
KURK Kurchatov 62.02 327 eP P 19 11 06.0 -0.2
comp=Z,6.0nm,0.7s
BRVK Borovoye 67.67 327 eP P 19 11 42.8 -0.1
comp=Z,4.0nm,0.8s
AKTO Aktyubinsk 73.95 322 LR LR 19 49 50.5
comp=Z,137nm,18.6s,baz=7,2,slow=40
ARU Arti 75.22 328 eP P 19 12 28.0 -0.3
comp=Z,2.5nm,0.6s
MIB Mutribah 79.27 300 eP P 19 12 50.7 -0.8
MIB AMb AMB 19 12 56.2
comp=Z,7.4nm,0.8s
NAY Al-Naaiem 79.33 299 eP P 19 12 50.7 -1.2
NAY AMb AMB 19 12 53.1
comp=Z,4.4nm,0.8s
PMR Palmer 83.96 29 P P 19 13 16.1 +0.4
comp=Z,9.1nm,1.1s
PAX Paxson 85.72 27 P P 19 13 22.6 -2.0
comp=Z,14nm,0.3s
BRTR Keskin Array B 90.33 310 P P 19 13 46.9 -0.4
BRTR Keskin Array B 90.33 310 P P 19 13 46.9 -0.4
comp=Z,1.2nm,0.9s,baz=126,slow=6.3,SNR=4.3
ARCES ARCESS Array B 90.69 340 P P 19 13 48.8 +0.7
ARCES ARCESS Array B 90.69 340 P P 19 13 48.8 +0.7
comp=Z,3.5nm,1.0s,baz=64,slow=8.2,SNR=6.9
TXAR Lajitas Array 121.48 52 PKP PKPdf 19 19 42.4 +2.5
TXAR Lajitas Array 121.48 52 PKP PKPdf 19 19 42.4 +2.5
comp=Z,1.0nm,0.9s,baz=302,slow=2.4,SNR=6.0
TORD Torodi Ar. Bea 123.22 288 PKP PKPdf 19 19 44.5 +1.0
TORD Torodi Ar. Bea 123.22 288 PKP PKPdf 19 19 44.5 +1.0
comp=Z,0.7nm,0.8s,baz=50,slow=1.6,SNR=5.1

MEX 13 19:09:02.7±0.4, 15.58N×95.79W, h10km±3km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	Huatulco	0.36	302	*i* P		Pg 19 09 09.5	-0.3
HUIG				*i* S		Sg 19 09 14.3	-0.3
CMIG	Matias Romero	1.74	30	*e*P		Pn 19 09 29.6	-3.4
CMIG				*i* S		Sn 19 09 50.5	-4.8
VHO	Vista Hermosa	1.74	329	*i* P		Pn 19 09 29.8	-3.5
VHO				*i* S		Sn 19 09 51.1	-4.7
PNIG	Pinotepa	2.39	290	*i* P		Pn 19 09 38.9	-3.1
PNIG				*i* S		Sn 19 10 06.2	-5.2
PCIG		2.48	87	*e*P		Pn 19 09 40.6	-2.7
PCIG				*i* S		Sn 19 10 09.3	-4.4
TGIG		2.83	65	*i* P		Pn 19 09 45.0	-3.2
TGIG				*i* S		Sn 19 10 17.6	-4.8

IDC 13 19:10:46.3±1.3, 3.87N×126.62E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/20, mbtmp3.8/6, 1C, Error ellipse: s-maj=94.1km s-min=18.1km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	Cotabato--PC H	4.08	325	*i* P		Pb 19 11 55.8	-3.3
FITZ	Fitzroy Crossi	21.86	182	P	P	19 15 40.6	-0.1
	1.8nm,0.9s,baz=25,slow=11,SNR=2.8						
WRA	Warramunga Arr	24.85	162	P	P	19 16 10.2	-0.5
	5.4nm,0.6s,baz=342,slow=11,SNR=48						
ASAR	Alice Springs	28.28	166	P	P	19 16 41.5	-0.1
	0.3nm,0.4s,baz=350,slow=7.7,SNR=6.2						
STKA	Stephens Creek	38.30	159	P	P	19 18 09.4	+0.6
	1.1nm,0.6s,baz=320,slow=10,SNR=6.0						
MKAR	Makanchi Array	57.38	325	P	P	19 20 37.0	+0.4
	0.2nm,0.4s,baz=124,slow=7.6,SNR=8.3						
ZALV	Zalesovo Beam	60.41	333	P	P	19 20 57.0	-0.5
	0.2nm,0.3s,baz=123,slow=5.3,SNR=2.5						

PRE 13 19:35:12.1±1.0, 26.42S×27.39E, h2km, ML1.9, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	Kloof	0.21	72	*e*P	Pg	19 35 16.2	-0.2
KLOF				*e*S	Sg	19 35 19.1	-0.3
KLOF				AML	AML	19 35 34.6	
	comp=Z,300nm,0.1s						
PRYS	Parys	0.51	183	*e*P	Pg	19 35 22.3	+0.2
PRYS				*e*S	Sg	19 35 29.3	+0.5
PRYS				AML	AML	19 35 30.6	
	comp=Z,33nm,0.4s						
ERPM	east rand prop	0.77	85	*e*P	Pg	19 35 26.7	-0.5
ERPM				*e*S	Sg	19 35 38.0	+0.6
ERPM				AML	AML	19 35 47.6	
	comp=Z,7.4nm,0.1s						
SLR	Silverton	1.05	50	*e*P	Pg	19 35 32.9	+0.3
SLR				*e*S	Sb	19 35 47.1	-0.6
SLR				AML	AML	19 35 52.1	
	comp=Z,21nm,0.2s						
SWZ	Schweizer	1.99	247	*e*P	Pb	19 35 48.2	-1.0
SWZ				*e*S	Sn	19 36 12.4	-0.2
SWZ				AML	AML	19 36 16.3	
	comp=Z,10nm,0.8s						
LBTB	Lobatse	2.13	310	*e*P	Pn	19 35 49.5	+0.5
LBTB				*e*S	Sn	19 36 17.1	+1.0
LBTB				AML	AML	19 36 20.6	
	comp=Z,14nm,0.3s						
BOSA	Boshof	2.89	220	*e*P	Pn	19 35 59.8	+0.4
BOSA				*e*S	Sn	19 36 35.2	+0.3
BOSA				AML	AML	19 36 42.8	
	comp=Z,2.0nm,0.4s						

IDC 13 19:49:19.8±2.2, 4.17N×126.85E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/20, mbtmp3.3/4, Error ellipse: s-maj=204.9km s-min=21.9km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.07	163	P	P	19 54 45.9	-0.3
	0.5nm,0.6s,baz=342,slow=11,SNR=7.3						
ASAR	Alice Springs	28.51	166	P	P	19 55 17.4	+0.2
	0.2nm,0.8s,baz=342,slow=12,SNR=3.4						
MKAR	Makanchi Array	57.26	325	P	P	19 59 09.5	+0.2
	0.2nm,0.6s,baz=121,slow=6.9,SNR=1.7						
KURBB	Kurchatov Arra	61.43	327	P	P	19 59 37.7	-0.3
	0.2nm,0.4s,baz=120,slow=8.9,SNR=4.5						

IDC 13 19:54:42.1±1.1, 3.66N×127.00E, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/23, mbtmp4.0/10, Error ellipse: s-maj=98.9km s-min=14.6km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	21.66	183	P	P	19 59 35.0	+0.6
	7.3nm,1.2s,baz=323,slow=5.1,SNR=4.1						
WRA	Warramunga Arr	24.54	163	P	P	20 00 03.0	-0.7
	2.7nm,0.8s,baz=336,slow=11,SNR=13						
ASAR	Alice Springs	27.98	166	P	P	20 00 34.7	-0.1
	0.4nm,0.6s,baz=348,slow=6.9,SNR=5.0						
STKA	Stephens Creek	37.97	160	P	P	20 02 02.2	+0.4
	1.5nm,0.5s,baz=322,slow=11,SNR=7.6						
SONM	Songino Array	47.45	341	P	P	20 03 19.5	+0.7
	0.5nm,0.6s,baz=159,slow=8.0,SNR=6.5						
MKAR	Makanchi Array	57.77	325	P	P	20 04 35.2	0.0
	1.4nm,0.6s,baz=119,slow=8.0,SNR=24						
KURBB	Kurchatov Arra	61.94	327	P	P	20 05 03.2	-0.5
	1.0nm,0.6s,baz=131,slow=6.4,SNR=19						
BVAR	Borovoye Array	67.53	327	P	P	20 05 40.8	+0.7
	0.6nm,0.6s,baz=152,slow=9.8,SNR=5.5						
AKTO	Aktyubinsk	73.88	322	P	P	20 06 18.5	-0.5
	1.8nm,0.7s,baz=98,slow=8.1,SNR=6.4						
ARCES	ARCESS Array B	90.61	340	P	P	20 07 45.5	-0.6
	2.1nm,0.8s,baz=35,slow=4.4,SNR=4.9						

IDC 13 19:59:18.5±1.4, 4.14N×126.92E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/20, mbtmp3.6/6, Error ellipse: s-maj=151.6km s-min=17.5km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.02	163	P	P	20 04 44.2	-0.2
	0.7nm,0.6s,baz=344,slow=10,SNR=8.1						
ASAR	Alice Springs	28.47	166	P	P	20 05 14.3	-1.2
	0.2nm,0.7s,baz=341,slow=7.2,SNR=3.7						
STKA	Stephens Creek	38.45	160	P	P	20 06 43.6	+1.4
	1.1nm,0.6s,baz=326,slow=9.6,SNR=3.5						
MKAR	Makanchi Array	57.33	325	P	P	20 09 08.8	+0.3
	0.3nm,0.4s,baz=116,slow=7.9,SNR=10						
MKAR				PcP	PcP	20 10 03.5	+0.9
	0.2nm,0.6s,baz=104,slow=4.6,SNR=3.6						
ZALV	Zalesovo Beam	60.31	333	P	P	20 09 27.9	-1.1
	0.3nm,0.4s,baz=142,slow=3.3,SNR=2.7						
KURBB	Kurchatov Arra	61.49	327	P	P	20 09 37.1	0.0
	0.3nm,0.4s,baz=131,slow=5.2,SNR=8.5						

IDC 13 20:03:46.8±1.9, 4.25N×126.92E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, 1D, Error ellipse: s-maj=189.1km s-min=23.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	Cotabato--PC H	3.98	318	*i* P		Pb 20 04 58.8	+1.0
WRA	Warramunga Arr	25.12	163	P	P	20 09 12.5	-1.2
	1.2nm,0.7s,baz=344,slow=10,SNR=10						
STKA	Stephens Creek	38.55	160	P	P	20 11 12.8	+1.5
	1.0nm,0.8s,baz=340,slow=8.8,SNR=2.2						
MKAR	Makanchi Array	57.24	325	P	P	20 13 35.9	-0.2
	0.6nm,0.4s,baz=120,slow=7.7,SNR=6.9						
KURBB	Kurchatov Arra	61.41	327	P	P	20 14 04.9	+0.1
	0.3nm,0.4s,baz=120,slow=8.2,SNR=2.1						

IDC 13 20:03:53.6±1.1, 3.76N×125.92E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.8/19, mbtmp3.8/7, Error ellipse: s-maj=178.6km s-min=16.0km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.97	161	P	P	20 09 18.4	-0.6
	0.8nm,0.4s,baz=344,slow=10,SNR=14						
ASAR	Alice Springs	28.35	164	P	P	20 09 49.0	-0.7
	0.4nm,0.7s,baz=348,slow=7.4,SNR=6.5						
STKA	Stephens Creek	38.45	158	P	P	20 11 18.3	+0.9
	2.6nm,0.6s,baz=344,slow=11,SNR=8.9						
SONM	Songino Array	47.01	342	P	P	20 12 26.6	-0.2
	0.2nm,0.6s,baz=156,slow=6.8,SNR=2.6						
SONM				PcP	PcP	20 13 59.2	+0.1
	0.2nm,0.6s,baz=147,slow=4.5,SNR=2.5						
MKAR	Makanchi Array	57.07	326	P	P	20 13 42.0	+0.3
	0.6nm,0.4s,baz=121,slow=7.9,SNR=13						
MKAR				PcP	PcP	20 14 36.8	+0.2
	0.4nm,0.6s,baz=129,slow=3.5,SNR=3.8						
ZALV	Zalesovo Beam	60.19	333	P	P	20 14 01.9	-1.4
	0.5nm,0.4s,baz=140,slow=5.3,SNR=4.3						
KURBB	Kurchatov Arra	61.27	328	P	P	20 14 11.1	+0.4
	baz=133,slow=5.1						
FINES	FINESS Array B	91.42	332	P	P	20 17 01.1	-0.4
	2.3nm,1.0s,baz=80,slow=4.7,SNR=4.0						

PRE 13 20:06:26.5±0.9, 26.98S×26.62E, h2km, ML1.6, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BFSD	Buffelsfontein	0.18	52	*e*P	Pg	20 06 30.4	+0.1
BFSD				*e*S	Sg	20 06 32.8	0.0
BFSD				AML	AML	20 06 35.0	
	comp=Z,21nm,0.1s						
PRYS	Parys	0.66	85	*e*P	Pg	20 06 40.0	+0.6
PRYS				*e*S	Sg	20 06 47.8	-0.3
PRYS				AML	AML	20 06 54.6	
	comp=Z,4.4nm,0.9s						
SWZ	Schweizer	1.17	260	*e*P	Pg	20 06 48.5	-0.7
SWZ				*e*S	Sb	20 07 05.4	-0.1
SWZ				AML	AML	20 07 07.5	
	comp=Z,7.6nm,0.3s						
BOSA	Boshof	2.03	216	*e*P	Pn	20 07 02.5	+0.6
BOSA				*e*S	Sb	20 07 29.1	-1.1
BOSA				AML	AML	20 07 31.4	
	comp=Z,11nm,0.6s						
LBTB	Lobatse	2.17	334	*e*P	Pn	20 07 04.4	+0.7
LBTB				*e*S	Sn	20 07 31.9	+0.7
LBTB				AML	AML	20 07 35.1	
	comp=Z,10nm,0.7s						

IDC 13 20:09:25.6±1.0, 3.90N×126.41E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.7/20, mbtmp3.7/7, Error ellipse: s-maj=113.8km s-min=16.1km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	21.88	182	P	P	20 14 19.9	-0.3
	2.7nm,1.0s,baz=9.5,slow=12,SNR=2.4						
WRA	Warramunga Arr	24.94	162	P	P	20 14 50.3	-0.5
	1.1nm,0.5s,baz=343,slow=10,SNR=16						
ASAR	Alice Springs	28.35	165	P	P	20 15 22.1	+0.5
	0.2nm,0.3s,baz=345,slow=12,SNR=6.4						
STKA	Stephens Creek	38.40	159	P	P	20 16 48.4	-0.5
	2.4nm,0.6s,baz=325,slow=6.4,SNR=7.4						
SONM	Songino Array	47.04	342	P	P	20 17 57.9	-1.2
	0.3nm,0.7s,baz=149,slow=9.0,SNR=2.7						
SONM				PcP	PcP	20 19 32.3	+1.1
	0.3nm,0.7s,baz=113,slow=3.3,SNR=2.4						
MKAR	Makanchi Array	57.24	325	P	P	20 19 14.8	-0.1
	0.5nm,0.4s,baz=118,slow=7.7,SNR=14						
MKAR				PcP	PcP	20 20 10.5	+1.2
	0.3nm,0.6s,baz=106,slow=4.4,SNR=2.9						
ZALV	Zalesovo Beam	60.30	333	P	P	20 19 34.7	-1.2
	0.5nm,0.3s,baz=120,slow=6.7,SNR=5.1						

IDC 13 20:11:13.4±7.1, 30.72S×178.06W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.7/15, mbtmp3.6/2, Error ellipse: s-maj=301.4km s-min=54.8km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	43.04	267	P	P	20 19 14.9	-0.2
	0.5nm,0.6s,baz=106,slow=7.9,SNR=6.6						
WRA	Warramunga Arr	44.06	273	P	P	20 19 23.4	0.0
	0.6nm,0.5s,baz=114,slow=8.0,SNR=8.8						
FINES	FINESS Array B	145.43	340	PKPbc	PKPbc	20 30 51.6	-1.0
	0.8nm,0.4s,baz=49,slow=3.4,SNR=12						

IDC 13 20:11:37.4±2.3, 4.01N×126.55E, h0km, mb3.4/3, mb1 3.4/3, mb1mx3.3/19, mbtmp3.4/3, Error ellipse: s-maj=249.3km s-min=30.3km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	28.43	166	P	P	20 17 34.0	0.0
	0.3nm,1.0s,baz=346,slow=12,SNR=3.1						
SONM	Songino Array	46.98	341	P	P	20 20 10.2	-0.1
	0.1nm,0.3s,baz=146,slow=7.3,SNR=2.6						
MKAR	Makanchi Array	57.22	325	P	P	20 21 26.4	-0.1
	0.5nm,0.5s,baz=117,slow=6.9,SNR=6.5						

PRE 13 20:12:05.1±0.7, 27.90S×26.69E, h2km, ML1.5, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	Parys	1.14	32	*e*P	Pg	20 12 26.8	-0.3
PRYS				*e*S	Sb	20 12 42.7	-0.4
PRYS				AML	AML	20 12 44.6	
	comp=Z,9.1nm,0.3s						
BOSA	Boshof	1.45	240	*e*P	Pg	20 12 33.5	+0.4
BOSA				*e*S	Sn	20 12 52.8	+0.5
BOSA				AML	AML	20 12 53.6	
	comp=Z,2.4nm,0.8s						
LBTB	Lobatse	3.03	341	*e*P	Pn	20 12 55.1	+0.8
LBTB				*e*S	Sn	20 13 31.5	+0.2
LBTB				AML	AML	20 13 39.0	
	comp=Z,3.1nm,0.9s						

IDC 13 20:13:41.8±2.2, 6.79S×128.92E, h0km, mb3.3/1, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=89.5km s-min=28.9km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	11.69	196	Pn	Pn	20 16 29.9	-0.1
	0.3nm,0.3s,baz=17,slow=11,SNR=6.4						
FITZ				Sn	Sn	20 18 26.5	-15
	0.4nm,0.3s,baz=78,slow=18,SNR=4.1						
WRA	Warramunga Arr	14.09	159	Pn	Pn	20 17 02.0	-0.8
	0.2nm,0.3s,baz=341,slow=13,SNR=6.6						
WRA				Sn	Sn	20 19 26.8	-13
	0.5nm,0.3s,baz=325,slow=22,SNR=10						
ASAR	Alice Springs	17.45	165	P	Pn	20 17 47.3	+0.5
	0.2nm,0.3s,baz=343,slow=11,SNR=16						
ASAR				S	Sn	20 20 48.0	-14
	0.2nm,0.3s,baz=320,slow=17,SNR=6.3						
MKAR	Makanchi Array	67.47	327	P	P	20 24 39.6	0.0
	0.1nm,0.4s,baz=126,slow=7.8,SNR=4.2						

IDC 13 20:20:34.0±1.5, 4.02N×126.65E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/19, mbtmp3.6/6, Error ellipse: s-maj=223.6km s-min=19.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.98	163	P	P	20 25 58.7	-1.0
	0.6nm,0.5s,baz=343,slow=10,SNR=2.9						
ASAR	Alice Springs	28.41	166	P	P	20 26 31.4	+0.8
	0.2nm,0.6s,baz=336,slow=6.5,SNR=2.6						
STKA	Stephens Creek	38.43	159	P	P	20 27 57.5	0.0
	1.1nm,0.6s,baz=344,slow=7.3,SNR=4.1						
SONM	Songino Array	47.00	341	P	P	20 29 07.5	+0.3
	0.3nm,0.8s,baz=142,slow=7.3,SNR=2.8						
MKAR	Makanchi Array	57.27	325	P	P	20 30 23.6	0.0
	0.5nm,0.5s,baz=120,slow=7.9,SNR=9.8						
ZALV	Zalesovo Beam	60.30	333	P	P	20 30 43.8	-0.6
	0.4nm,0.4s,baz=128,slow=6.9,SNR=3.3						

IDC **13** *20:22:33.4±1.7, 56.04N×162.19E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.2/25, mbtmp3.6/2, ML2.8/1, Error ellipse: s-maj=54.0km s-min=29.0km az=135.0*
ISCJB **13** *20:22:37.0±0.5, 55.73N±0.03×162.30E±0.06, h48km±9km, mb3.7/2, Error ellipse: s-maj=5.8km s-min=4.3km az=4.1*
KRSC **13** *20:22:37.4±0.8, 55.74N×162.19E, h42km±42km, ML3.9*
ISC 13 20:22:37.2±1.6, 55.75N±0.03×162.28E±0.05, h32km±14km, n31, σ1s18/56, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBTR	Krutoberegovo	0.55	33	*i* P	Pn	20 22 48.7	-0.1
KBTR				*i* S	Sb	20 22 57.5	+1.1
ZLN	Zelenaya	0.87	289	*i* P	Pn	20 22 53.5	+0.1
ZLN				*i* S	Sn	20 23 05.1	+0.1
BZGR	Bezymyannyi-Gr	0.91	283	*i* P	Pn	20 22 53.8	-0.1
BZGR				*i* S	Sn	20 23 06.2	+0.2
CIRR	Tsirk	0.94	294	*i* P	Pn	20 22 54.1	-0.2
CIRR				*i* S	Sn	20 23 06.3	-0.3
SMKR	Semkarok	0.95	332	*i* P	Pn	20 22 54.4	0.0
SMKR				*i* S	Sn	20 23 06.8	-0.1
LGNR	Loginova	0.96	291	*i* P	Pn	20 22 54.9	+0.3
LGNR				*i* S	Sn	20 23 07.8	+0.5
BDR	Baidarnaya	1.02	324	*i* P	Pn	20 22 55.6	+0.3
BDR				*i* S	Sn	20 23 08.8	+0.3
BZMR	Bezymyannaya	1.03	281	*i* P	Pn	20 22 55.6	+0.1
BZMR				*i* S	Sn	20 23 09.1	+0.3
BZWR	Bezymyannyi-We	1.03	283	*i* P	Pn	20 22 55.7	+0.2
BZWR				*i* S	Sn	20 23 09.3	+0.4
KRSR	Krestovskiy	1.07	297	*i* P	Pn	20 22 55.8	-0.3
KRSR				*i* S	Sn	20 23 09.0	-0.9
KLY	Klyuchi	1.07	303	*i* P	Pn	20 22 54.5	-1.5
KLY				*i* S	Sn	20 23 07.4	-2.4
SRKR	Sorokina	1.10	326	*i* P	Pn	20 22 56.7	+0.3
SRKR				*i* S	Sn	20 23 10.1	-0.5
KMNR	Kamenistaya	1.15	271	*i* P	Pn	20 22 58.0	+0.8
KMNR				*i* S	Sn	20 23 13.5	+1.6
KPT	Kopyto	1.18	282	*i* P	Pn	20 22 58.0	+0.4
KPT				*i* S	Sn	20 23 14.0	+1.4
MKZ	Mys Kozlova	1.23	195	*i* P	Pn	20 22 57.8	-0.4
MKZ				*i* S	Sn	20 23 13.3	-0.4
KOZ	Kozyrevsk	1.39	284	*i* P	Pn	20 23 01.7	+1.3
KOZ				*i* S	Sn	20 23 19.4	+1.8
SRDR	Sredinnyy	1.55	293	*i* P	Pn	20 23 03.7	+1.1
SRDR				*i* S	Sn	20 23 23.1	+1.5
ESO	Esso	2.03	277	P	Pn	20 23 09.7	+0.6
ESO				*i* S	Sn	20 23 33.5	+0.2
SPN	Mys Shipunski	2.96	207	P	Pn	20 23 21.8	-0.2
SPN				*i* S	Sn	20 23 54.9	-1.5
SDLR	Sedlovina	3.17	220	*e*P	Pn	20 23 26.0	+1.1
SDLR				*e*S	Sn	20 24 01.6	0.0
SMAR	Somma	3.21	221	P	Pn	20 23 26.7	+1.1
AVH	Avacha	3.23	221	P	Pn	20 23 27.3	+1.6
AVH				*i* S	Sn	20 24 04.0	+0.9
UGLR	Uglovaya	3.25	220	P	Pn	20 23 27.4	+1.5
KOK	Koryaka	3.25	222	P	Pn	20 23 27.6	+1.6
PET	Petropavlovsk	3.46	219	P	Pn	20 23 30.0	+1.3
PET				*i* S	Sn	20 24 08.7	+0.2
PETK	Petropavlovsk-	3.76	227	Pn	Pn	20 23 34.5	+1.6
	0.7nm,0.3s,baz=58,slow=16,SNR=8.1						
PETK				Sn	Sb	20 24 23.9	-4.0
	0.5nm,0.3s,baz=8.3,slow=21,SNR=2.8						
RUS	Russkaya	3.99	215	P	Pn	20 23 36.9	+0.8
RUS				*i* S	Sn	20 24 20.8	-0.9
MTVR	Mutnovka	4.06	218	P	Pn	20 23 39.1	+1.9
MTVR				*i* S	Sn	20 24 24.7	+1.0
ASAK	Asacha	4.24	219	P	Pn	20 23 41.9	+2.3
FINES	FINESS Array B	58.18	337	P	P	20 32 26.4	-1.1
	0.7nm,0.6s,baz=22,slow=6.2,SNR=3.5						
TXAR	Lajitas Array	68.46	69	P	P	20 33 36.9	+0.8
	0.3nm,0.6s,baz=317,slow=5.1,SNR=4.1						

IDC **13** *20:41:29.7±0.6, 3.62N×126.55E, h0km, mb4.1/16, mb1 4.2/16, mb1mx4.2/20, mbtmp4.1/16, MS3.6/7, Ms1 3.6/7, ms1mx3.2/41, Error ellipse: s-maj=32.5km s-min=13.2km az=75.0*
BJI **13** *20:41:30.3, 3.28N×126.96E, h41km, mB5.2/18, mb4.6/33, Ms4.7/10, Ms7 4.4/12*
ISCJB **13** *20:41:33.1±0.3, 3.71N±0.05×126.89E±0.07, h36km, mb4.5/40, MS3.8/10, Error ellipse: s-maj=11.2km s-min=5.9km az=159.8*
NEIC **13** *20:41:34.1±0.5, 3.79N×127.00E, h35km, mb4.7/17, Error ellipse: s-maj=18.0km s-min=8.9km az=75.0*
DJA **13** *20:41:39, 3.71N×126.90E, h69km, mb4.5/9*
ISC 13 20:41:35.1±0.5, 3.74N±0.07×126.96E±0.09, h36km, n88, σ1s60/112, mb4.5/40, MS3.7/10, 3C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	General Santos	3.07	319	*e*P	Pn	20 42 22.5	+1.3
DAV	Davao City (W)	3.58	338	*e*Pn	Pn	20 42 24.6	-3.4
DAV				Sn	Sn	20 43 17.8	+8.7
DAV	Davao City (W)	3.58	338	Pn	Pn	20 42 30.4	+2.3
	47nm,0.3s,baz=69,slow=1.3,SNR=6.4						
DAV				Sn	Sn	20 43 17.8	+8.7
	58nm,0.3s,baz=235

ASAR	**Alice Springs**	**28.07**	**166**	P		P		20 47 21.3	-2.2
	0.6nm,0.5s,baz=349,slow=7.3,SNR=12								
WHN	**Wuhan**	**29.20**	**337**	P		**P**		**20 47 33.8**	**+0.5**
GYA	**Guiyang**	**29.80**	**321**	*e*P		**P**		**20 47 40.0**	**+1.1**
GYA				pP		**pP**		**20 47 50.3**	**+1.1**
GYA				PP		**PnPn**		**20 48 37.8**	**+2.4**
GYA				PcP		**PcP**		**20 50 41.6**	**-0.4**
GYA				S		**S**		**20 52 32.3**	**-1.0**
GYA				sS		**sS**		**20 52 51.0**	**+0.7**
GYA				ScP		**ScP**		**20 54 20.8**	**-0.7**
GYA				ScS		**ScS**		**20 58 13.3**	**-3.5**
GYA				pmax		pmax			
	comp=Z,10.0nm,0.8s								
GYA				pmax		pmax			
	comp=Z,90nm,4.8s								
GYA				LR		LR			
	comp=N,490nm,17.4s								
GYA				LR		LR			
	comp=E,450nm,18.1s								
GYA				LR		LR			
	comp=Z,450nm,17.9s								
CMAR	**Chiang Mai Arr**	**31.06**	**300**	P		**P**		**20 47 48.0**	**-1.9**
CMAR	**Chiang Mai Arr**	**31.06**	**300**	P		**P**		**20 47 48.0**	**-1.9**
	comp=Z,1.5nm,1.0s,baz=122,slow=7.1,SNR=8.7								
CMAR				LR		LR		21 00 07.8	
	comp=Z,52nm,20.2s,baz=105,slow=36								
ENH	**Enshi**	**31.13**	**330**	*e*P		**P**		**20 47 48.7**	**-1.8**
	comp=Z,14nm,0.8s								
CHTO	**Chiang Mai**	**31.21**	**301**	*e*P		**P**		**20 47 49.9**	**-1.4**
	comp=Z,1.9nm,0.7s								
KMI	**Kunming**	**31.53**	**315**	P		**P**		**20 47 55.6**	**+1.3**
KMI				pmax		pmax			
	comp=Z,4.0nm,1.0s								
KSAR	**Wonju Array Be**	**33.55**	**1**	P		**P**		**20 48 12.2**	**+0.7**
KSRS	**Korea Array**	**33.56**	**1**	P		**P**		**20 48 12.2**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=179,slow=9.8,SNR=4.9								
MJAR	**Matsushiro Arr**	**34.24**	**16**	LR		LR		21 02 30.3	
	comp=Z,84nm,18.3s,baz=165,slow=37								
MAJO	**Matsushiro**	**34.25**	**16**	P		P		20 48 14.6	-3.1
	comp=Z,9.9nm,1.0s								
XAN	**Xi'an**	**34.51**	**333**	P		**P**		**20 48 18.5**	**-1.5**
XAN				pP		**pP**		**20 48 28.3**	**-2.1**
XAN				pmax		pmax			
	comp=Z,6.0nm,0.8s								
HNR	**Honiara**	**35.39**	**112**	LR		LR		21 00 22.2	
	comp=Z,57nm,20.7s,baz=294,slow=32								
BBOO	**Buckleboo**	**37.37**	**167**	*e*P		**P**		**20 48 45.8**	**+1.4**
	comp=Z,19nm,0.6s								
BJT	**Baijiatuan**	**37.41**	**346**	*e*P		**P**		**20 48 44.8**	**+0.2**
	comp=Z,15nm,0.6s								
BJI	**Beijing**	**37.42**	**346**	P		**P**		**20 48 45.4**	**+0.6**
BJI				S		**S**		**20 54 30.8**	**0.0**
BJI				pmax		pmax			
	comp=Z,30nm,1.1s								
STKA	**Stephens Creek**	**38.06**	**160**	P		**P**		**20 48 51.3**	**+1.0**
STKA	**Stephens Creek**	**38.06**	**160**	*e*P		**P**		**20 48 51.1**	**+0.8**
	comp=Z,3.9nm,0.7s								
STKA	**Stephens Creek**	**38.06**	**160**	P		**P**		**20 48 51.3**	**+1.0**
	comp=Z,6.2nm,0.7s,baz=334,slow=8.0,SNR=25								
LZH	**Lanzhou**	**38.60**	**329**	*e*P		**P**		**20 48 55.5**	**+0.4**
LZH				pP		**pP**		**20 49 03.5**	**-2.0**
LZH				sP		**sP**		**20 49 07.1**	**-2.7**
LZH				pmax		pmax			
	comp=Z,23nm,1.2s								
HHC	**Hu-ho-hao-te**	**39.45**	**342**	*e*P		**P**		**20 49 03.3**	**+1.3**
HHC				pP		**pP**		**20 49 12.9**	**+0.4**
HHC				sP		**sP**		**20 49 16.5**	**-0.3**
HHC				PP		**PnPn**		**20 50 40.4**	**+4.3**
HHC				PcP		**PcP**		**20 51 06.8**	**-2.7**
HHC				S		**S**		**20 55 01.8**	**+0.1**
HHC				pmax		pmax			
	comp=Z,15nm,1.7s								
HHC				pmax		pmax			
	comp=Z,270nm,4.8s								
HHC				LR		LR			
	comp=N,390nm,16.8s								
HHC				LR		LR			
	comp=E,520nm,20.4s								
HHC				LR		LR			
	comp=Z,330nm,19.2s								
USRK	**Ussuriysk Arra**	**40.53**	**6**	P		**P**		**20 49 11.8**	**+1.1**
	comp=Z,2.3nm,0.7s,baz=188,slow=5.9,SNR=3.1								
MDJ	**Mudanjiang**	**40.77**	**3**	P		P		20 49 10.6	-2.1
MDJ				pP		pP		20 49 19.6	-3.7
MDJ				ScP		**ScP**		**20 54 59.3**	**-1.2**
MDJ				PcS		**PcS**		**20 55 03.0**	**-1.2**
MDJ				S		**S**		**20 55 18.8**	**-2.2**
MDJ				pmax		pmax			
	comp=Z,1μm,5.4s								
LSA	**Lhasa**	**42.60**	**311**	*e*P		**P**		**20 49 28.3**	**-0.2**
	comp=Z,3.5nm,0.6s								
GTA	**Gaotai**	**43.20**	**329**	*e*P		**P**		**20 49 32.3**	**-0.5**
GTA				pP		**pP**		**20 49 41.5**	**-1.9**
GTA				sP		**sP**		**20 49 45.8**	**-1.9**
GTA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
TAPN	**Taplejung**	**44.19**	**306**	*e*P		**P**		**20 49 39.5**	**-1.7**
	comp=Z,16nm,1.1s								
ODAN	**Odare**	**44.24**	**305**	*e*P		**P**		**20 49 40.3**	**-1.3**
	comp=Z,11nm,0.7s								
RAMN	**Ramite**	**44.92**	**305**	*e*P		**P**		**20 49 46.0**	**-1.0**
	comp=Z,15nm,1.0s								
JIRN	**Jiri**	**45.55**	**306**	*e*P		**P**		**20 49 50.8**	**-1.3**
	comp=Z,3.0nm,0.7s								
HIA	**Hailar**	**45.77**	**353**	*e*P		**P**		**20 49 53.3**	**+0.2**
	comp=Z,20nm,1.0s								
GUN	**Gumba**	**45.90**	**306**	*e*P		**P**		**20 49 53.4**	**-1.4**
	comp=Z,10nm,0.5s								
KKN	**Kakani**	**46.34**	**305**	*e*P		**P**		**20 49 56.5**	**-1.6**
DMN	**Daman**	**46.41**	**305**	*e*P		**P**		**20 49 57.5**	**-1.2**
	comp=Z,9.9nm,1.0s								
GKN	**Gorkha**	**46.94**	**305**	*e*P		**P**		**20 50 01.4**	**-1.4**
ULN	**Ulaanbaatar**	**47.17**	**342**	*e*P		**P**		**20 50 04.2**	**-0.1**
	comp=Z,8.4nm,1.1s								
SONM	**Songino Array**	**47.36**	**341**	P		**P**		**20 50 05.7**	**+0.1**
SONM				PcP		**PcP**		**20 51 36.9**	**+0.8**
SONM	**Songino Array**	**47.36**	**341**	P		**P**		**20 50 05.7**	**+0.1**
	comp=Z,1.5nm,0.6s,baz=159,slow=7.1,SNR=12								
SONM				PcP		**PcP**		**20 51 36.9**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=132,slow=2.1,SNR=3.0								
SONM				LR		LR		21 10 23.5	
	comp=Z,80nm,18.0s,baz=106,slow=37								
KOLN	**Koldanda**	**47.70**	**305**	*e*P		**P**		**20 50 07.6**	**-1.2**
	comp=Z,16nm,0.6s								
DANN	**Dangsing**	**47.79**	**305**	*e*P		**P**		**20 50 07.6**	**-2.0**
	comp=Z,21nm,0.6s								
TLY	**Talaya**	**51.59**	**342**	P		**P**		**20 50 37.4**	**-0.3**
	comp=Z,3.5nm,0.8s								
WMQ	**Urumqi**	**52.84**	**325**	*e*P		**P**		**20 50 47.5**	**+0.2**
WMQ				pP		**pP**		**20 50 59.9**	**+1.8**
WMQ				pmax		pmax			
	comp=Z,8.0nm,1.2s								
WMQ				pmax		pmax			
	comp=Z,190nm,6.4s								
WMQ				LR		LR			
	comp=Z,190nm,20.1s								
PETK	**Petropavlovsk-**	**55.33**	**22**	P		**P**		**20 51 08.0**	**+2.8**
PETK	**Petropavlovsk-**	**55.33**	**22**	P		**P**		**20 51 08.0**	**+2.8**
	comp=Z,1.0nm,0.4s,baz=201,slow=7.7,SNR=2.8								
MKAR	**Makanchi Array**	**57.67**	**325**	P		**P**		**20 51 21.0**	**-1.0**
MKAR				ScP		**ScP**		**20 56 16.9**	**+4.7**
MKAR	**Makanchi Array**	**57.67**	**325**	P		**P**		**20 51 21.0**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=122,slow=8.2,SNR=33								
MKAR				ScP		**ScP**		**20 56 16.9**	**+4.7**
	comp=Z,0.4nm,0.8s,baz=108,slow=4.7,SNR=3.3								
MKAR				LR		LR		21 17 55.5	
	comp=Z,53nm,19.2s,baz=170,slow=38								
YAK	**Yakutsk**	**58.19**	**2**	*e*P		**P**		**20 51 25.3**	**+0.1**
	comp=Z,16nm,0.4s								
KSH	**Kashi**	**58.19**	**315**	*e*P		**P**		**20 51 27.5**	**+1.6**
KSH				pP		**pP**		**20 51 37.4**	**+0.6**
KSH				sP		**sP**		**20 51 41.5**	**+0.5**
KSH				PcP		**PcP**		**20 52 17.6**	**+0.5**
KSH				PP		**PP**		**20 53 38.8**	**+3.8**
KSH				ScP		**ScP**		**20 56 13.4**	**-1.4**
KSH				PcS		**PcS**		**20 56 17.6**	**-1.1**
KSH				S		**S**		**20 59 25.9**	**+0.6**
KSH				sS		**sS**		**20 59 42.8**	**-0.5**
KSH				ScS		**ScS**		**21 01 10.6**	**-2.5**
KSH				SS		**SS**		**21 03 19.3**	**+1.8**
KSH				LR		LR			
	comp=N,96nm,6.1s								
KSH				LR		LR			
	comp=E,100nm,4.9s								
KSH				LR		LR			
	comp=Z,240nm,5.1s								
AAK	**Ala-Archa**	**60.50**	**318**	LR		LR		21 17 49.0	
	comp=Z,80nm,20.0s,baz=83,slow=36								
ZAA0	**Zalesovo Array**	**60.68**	**333**	*e*P		**P**		**20 51 40.7**	**-1.9**
ZALV	**Zalesovo Beam**	**60.68**	**333**	P		**P**		**20 51 40.9**	**-1.7**
ZALV	**Zalesovo Beam**	**60.68**	**333**	P		**P**		**20 51 40.9**	**-1.7**
	comp=Z,0.8nm,0.4s,baz=122,slow=7.2,SNR=7.9								
ZALV				LR		LR		21 20 40.5	
	comp=Z,55nm,20.4s,baz=206,slow=39								
EKS2	**Erkin-Say**	**60.99**	**318**	P		P		20 51 40.6	-4.5
	comp=Z,5.0nm,0.6s								
KURK	**Kurchatov**	**61.85**	**327**	*e*P		**P**		**20 51 49.6**	**-1.0**
	comp=Z,6.9nm,0.6s								
ARU	**Arti**	**75.04**	**328**	*e*P		**P**		**20 53 11.3**	**-1.6**
	comp=Z,11nm,1.2s								
ILAR	**Eielson Array**	**84.99**	**25**	P		**P**		**20 54 08.1**	**+1.6**
ILAR	**Eielson Array**	**84.99**	**25**	P		**P**		**20 54 08.1**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=271,slow=6.0,SNR=4.1								
BRTR	**Keskin Array B**	**90.18**	**310**	P		**P**		**20 54 31.6**	**-0.7**
BRTR	**Keskin Array B**	**90.18**	**310**	P		**P**		**20 54 31.6**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=116,slow=7.0,SNR=6.4								
ARCES	**ARCESS Array B**	**90.51**	**340**	P		**P**		**20 54 33.0**	**0.0**
ARCES	**ARCESS Array B**	**90.51**	**340**	P		**P**		**20 54 33.0**	**0.0**
	comp=Z,3.1nm,0.8s,baz=86,slow=3.8,SNR=8.4								
FINES	**FINESS Array B**	**91.92**	**332**	P		**P**		**20 54 39.0**	**-0.6**
FINES	**FINESS Array B**	**91.92**	**332**	P		**P**		**20 54 39.0**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=38,slow=7.5,SNR=5.3								
AKASG	**Malin Array Be**	**92.02**	**321**	P		**P**		**20 54 39.0**	**-1.3**
AKASG	**Malin Array Be**	**92.02**	**321**	P		**P**		**20 54 39.0**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=68,slow=5.1,SNR=4.2								
SYO	**Syowa Base**	**92.52**	**201**	⇑*e*X		P		20 54 37.0	-5.2
BUR08	**Bucovina Ar. S**	**95.14**	**318**	*e*P		**P**		**20 54 54.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**123.13**	**288**	PKP		**PKPdf**		**21 00 29.5**	**+0.5**
TORD	**Torodi Ar. Bea**	**123.13**	**288**	PKP		**PKPdf**		**21 00 29.5**	**+0.5**
	comp=Z,0.2nm,0.8s,baz=70,slow=1.5,SNR=2.4								

IDC 13 21:00:22.7±1.1, 3°.28N×126°.34E, h0km, mb3.5/8, mb1 3.7/8, mb1mx3.5/21, mbtmp3.5/8, Error ellipse: s-maj=93.4km s-min=15.5km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.25**	**182**	P	P	21 05 11.8	+1.2
	1.0nm,0.8s,baz=345,slow=5.9,SNR=1.7						
WRA	**Warramunga Arr**	**24.37**	**162**	P	P	21 05 42.6	-0.2
	1.0nm,0.5s,baz=340,slow=11,SNR=22						
ASAR	**Alice Springs**	**27.77**	**165**	P	P	21 06 14.1	+0.5
	0.3nm,0.6s,baz=342,slow=13,SNR=6.3						
STKA	**Stephens Creek**	**37.85**	**159**	P	P	21 07 40.5	-0.8
	2.3nm,0.6s,baz=344,slow=10,SNR=7.2						
SONM	**Songino Array**	**47.60**	**342**	P	P	21 09 00.9	+0.4
	0.5nm,0.7s,baz=152,slow=6.5,SNR=3.2						
MKAR	**Makanchi Array**	**57.71**	**326**	P	P	21 10 14.3	-1.0
	0.2nm,0.4s,baz=125,slow=8.5,SNR=10						
KURBB	**Kurchatov Arra**	**61.91**	**328**	P	P	21 10 43.8	-0.3
	0.2nm,0.4s,baz=134,slow=6.3,SNR=5.6						
BVAR	**Borovoye Array**	**67.49**	**327**	P	P	21 11 21.1	+0.6
	0.2nm,0.3s,baz=110,slow=5.5,SNR=4.7						

*ISCJB **13** 21:01:31.5±0.7, 6°.95N×0°.08×73°.09W×0°.09, h165km±8km, mb3.4/2, Error ellipse: s-maj=18.5km s-min=7.6km az=37.3*

*FUNV **13** 21:01:32.9, 6°.89N×73°.13W, h169km, MW3.1*

*IDC **13** 21:01:33.8±7.5, 7°.03N×73°.65W, h155km±214km, mb3.2/2, mb1 3.4/3, mb1mx3.0/21, mbtmp3.3/3, ML2.2/1, Error ellipse: s-maj=383.4km s-min=83.8km az=135.0*

ISC 13 21:01:32.2±1.1, 6°.90N±0°.07×73°.03W±0°.08, h162km±10km, n10, σ1°77/17, 2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.20**	**36**	⇓*e*P	**Pn**	**21 02 01.2**	**+1.1**
CAPV				*e*S	**Sn**	**21 02 21.9**	**+0.3**
ROSC	**El Rosal**	**2.41**	**213**	P	**Pn**	**21 02 13.2**	**-0.1**
	14nm,0.3s,baz=89,slow=5.6,SNR=18						
ROSC				S	**Sn**	**21 02 43.2**	**-1.7**
	63nm,0.3s,baz=87,slow=14,SNR=11						
VIGV	**El Vigia**	**2.54**	**40**	*e*P	**Pn**	**21 02 15.3**	**+0.8**
VIGV				*e*S	**Sn**	**21 02 46.8**	**-0.4**
SOCV	**Socops**	**2.56**	**57**	*e*P	**Pn**	**21 02 15.9**	**+1.2**
SOCV				*e*S	**Sn**	**21 02 47.4**	**-0.1**
ELOV	**Elorza**	**3.52**	**88**	*e*P	**Pn**	**21 02 27.6**	**+0.9**
VIRV	**Villa del Rosa**	**3.64**	**10**	⇓*i*P	**Pn**	**21 02 28.1**	**0.0**
VIRV				*e*S	**Sn**	**21 03 08.4**	**-3.4**
CURV	**Curarigua**	**4.33**	**44**	*e*P	**Pn**	**21 02 37.8**	**+0.5**
CURV				*e*S	**Sn**	**21 03 25.9**	**-2.1**
BAUV	**El Baul**	**5.34**	**67**	*e*P	**Pn**	**21 02 50.1**	**-0.3**
BAUV				*e*S	**Sn**	**21 03 47.6**	**-3.9**
SCHQ	**Schefferville**	**48.06**	**5**	P	**P**	**21 09 56.5**	**+1.4**
	0.9nm,0.5s,baz=201,slow=8.6,SNR=3.6						
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**21 11 43.2**	**+0.3**
	0.2nm,0.6s,baz=134,slow=7.3,SNR=7.3						

IDC 13 21:06:16.4±45.0, 15°.43S×173°.65W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/17, mbtmp4.1/3, Error ellipse: s-maj=867.7km s-min=170.6km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.81**	**240**	P	P	21 14 23.6	-0.7
	1.2nm,0.5s,baz=88,slow=8.6,SNR=5.6						
WRA	**Warramunga Arr**	**49.60**	**257**	P	P	21 15 09.9	+0.1
	0.4nm,0.5s,baz=91,slow=7.1,SNR=20						
ASAR	**Alice Springs**	**49.87**	**252**	P	P	21 15 12.0	+0.1
	4.8nm,0.6s,baz=88,slow=8.3,SNR=79						

*IDC **13** 21:18:59.5±2.1, 34°.70N×73°.24E, h0km, mb3.6/5, mb1 3.6/9, mb1mx3.4/29, mbtmp3.5/9, ML3.2/4, Error ellipse: s-maj=51.4km s-min=25.3km az=125.0*

*ISCJB **13** 21:19:03.0±0.6, 34°.91N±0°.05×73°.2E±0°.1, h21km, mb3.8/7, Error ellipse: s-maj=13.8km s-min=5.2km az=19.2*

ISC 13 21:19:03.8±0.6, 34°.78N±0°.05×73°.21E±0°.06, h21km, n21, σ1°26/23, mb3.9/7, 1C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**1.11**	**178**	P	**Pb**	**21 19 24.8**	**+0.4**
CEP	**Cherat**	**1.44**	**229**	P	**Pn**	**21 19 28.8**	**+0.1**
CEP				S	**Sb**	**21 19 50.0**	**+2.2**
THW	**Thamme Wali**	**2.32**	**212**	P	**Pb**	**21 19 43.8**	**-1.2**
THN	**Thein Dam**	**3.13**	**137**	*ex*	Pn	21 19 56.7	+4.8
DLH	**Dalhousie**	**3.20**	**133**	*ex*	**Pb**	**21 20 00.0**	**-0.1**
SDNR	**Sundarnagar**	**4.54**	**135**	*ex*	**Sn**	**21 21 06.0**	**+2.5**
DDI	**Dehra Dun**	**6.04**	**136**	*ex*	**Sb**	**21 21 58.0**	**-2.1**
AAK	**Ala-Archa**	**7.91**	**7**	Pn	**Pn**	**21 20 59.6**	**+1.9**
	0.1nm,0.3s,baz=167,slow=6.7,SNR=4.4						
AAK				Sn	**Sn**	**21 22 28.3**	**+1.7**
	0.1nm,0.3s,baz=114,slow=20,SNR=3.1						
KK31	**Karatay Array**	**8.58**	**347**	Pn	**Pn**	**21 21 07.7**	**+1.0**
	0.8nm,0.3s,baz=172,slow=14,SNR=43						
KK31				⇑Sn	**Sn**	**21 22 42.1**	**-0.7**
	0.9nm,0.4s,baz=171,slow=22,SNR=6.8						
MKAR	**Makanchi Array**	**13.82**	**27**	Pn	**Pn**	**21 22 19.8**	**+1.4**
	0.0nm,0.3s,baz=202,slow=14,SNR=3.0						
KURBB	**Kurchatov Arra**	**16.30**	**12**	Pn	**Pn**	**21 22 50.9**	**-0.4**
	0.0nm,0.3s,baz=194,slow=12,SNR=3.0						
BVAR	**Borovoye Array**	**18.35**	**355**	P	**P**	**21 23 16.2**	**-0.6**
	0.1nm,0.3s,baz=166,slow=9.4,SNR=6.3						
AKTO	**Aktyubinsk**	**19.17**	**329**	P	**P**	**21 23 25.6**	**-0.3**
	0.4nm,0.3s,baz=149,slow=11,SNR=6.0						
ZALV	**Zalesovo Beam**	**20.84**	**20**	P	**P**	**21 23 43.0**	**-0.8**
	1.5nm,0.4s,baz=215,slow=11,SNR=11						
QRN	**Al-Qurain**	**22.30**	**261**	*e*P	**P**	**21 24 00.5**	**+0.6**
QRN				AMb	AMB	21 24 06.0	
	comp=Z,29nm,1.5s						
MIB	**Mutribah**	**22.40**	**264**	*e*P	**P**	**21 24 01.2**	**+0.3**
MIB				AMb	AMB	21 24 05.0	
	comp=Z,12nm,1.2s						
NAY	**Al-Naaiem**	**22.67**	**263**	*e*P	**P**	**21 24 02.6**	**-1.2**
NAY				AMb	AMB	21 24 08.4	
	comp=Z,4.8nm,1.1s						
ARCES	**ARCESS Array B**	**43.42**	**338**	P	**P**	**21 27 04.6**	**0.0**
	comp=Z,3.2nm,1.1s,baz=108,slow=7.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**67.51**	**271**	P	**P**	**21 29 57.8**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=44,slow=5.3,SNR=7.2						
ILAR	**Eielson Array**	**75.93**	**17**	P	**P**	**21 30 48.0**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=293,slow=4.7,SNR=3.3						
YKA	**Yellowknife Ar**	**82.86**	**4**	P	**P**	**21 31 25.6**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=347,slow=5.9,SNR=4.7						

*NEIC **13** 21:22:00.0, 10°.98N×62°.00W, h22km, MD3.6(TRN), After TRN.*

NEIC Felt at Diego Martin, Maraval, and Santa Cruz, Trinidad.

*TRN **13** 21:22:14.7, 10°.98N×61°.96W, h21km, MD3.7*

TRN Felt II in Northern Trinidad.

*IDC **13** 21:22:15.6±6.0, 11°.12N×62°.23W, h75km±41km, mb3.4/6, mb1 3.6/6, mb1mx3.3/21, mbtmp3.4/6, Error ellipse: s-maj=43.6km s-min=30.3km az=35.0*

*FUNV **13** 21:22:15.2, 10°.80N×61°.86W, h49km, MW3.8*

ISC 13 21:22:13.8±1.2, 10°.97N±0°.03×62°.01W±0°.03, h30km±12km, n60, σ1°73/74, mb3.8/6, 4C-40, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.38**	**214**	⇑*i*P	**Pn**	**21 22 25.2**	**+1.9**
GUIV				*e*S	**Sn**	**21 22 32.0**	**+2.3**
TRN	**Trinidad (W)**	**0.67**	**118**	*e*P	**Pn**	**21 22 28.4**	**+1.0**
TRN				*i*S	**Sn**	**21 22 36.8**	**0.0**
TPN	**Pointe-a-Pierr**	**0.85**	**140**	*e*P	**Pn**	**21 22 30.5**	**+0.7**
TPP				*e*S	**Sn**	**21 22 43.1**	**+2.0**
TBH	**Brigand Hill**	**1.04**	**117**	*e*P	**Pn**	**21 22 32.9**	**+0.5**
TBH				*i*S	**Sn**	**21 22 48.6**	**+2.6**
GRGR	**Grenville**	**1.21**	**17**	*e*Pn	**Pb**	**21 22 36.3**	**+0.1**
GRGR				*e*Sn	**Sb**	**21 22 47.3**	**-4.1**
GRGR				*e*		21 22 52.2	
GUNV	**Guanoco**	**1.22**	**229**	⇓*i*P	**Pn**	**21 22 35.8**	**+1.0**
GUNV				*e*S	**Sn**	**21 22 50.7**	**+0.3**
TPR	**Prospect**	**1.23**	**80**	*e*P	**Pb**	**21 22 35.7**	**-0.8**
GRW	**Mount Saint Ca**	**1.23**	**16**	⇓*e*P	**Pb**	**21 22 37.0**	**+0.3**
GRW				*e*S	**Sn**	**21 22 53.3**	**+2.5**
CRUV	**Carupano**	**1.24**	**257**	⇓*i*P	**Pn**	**21 22 36.1**	**+0.9**
CRUV				*e*S	**Sn**	**21 22 52.3**	**+1.4**
GRHS	**Sauteurs**	**1.30**	**16**	*e*P	**Pb**	**21 22 38.3**	**+0.7**
GRHS	**Sauteurs**	**1.30**	**16**	*e*	**Sn**	**21 22 49.4**	**-2.9**
GRHS				*e*S	**Sb**	**21 22 54.6**	**+0.6**
GRIC	**Isle de Caille**	**1.37**	**17**	*e*P	**Pb**	**21 22 39.5**	**+0.6**
GRIC	**Isle de Caille**	**1.37**	**17**	*e*	**Sn**	**21 22 50.2**	**-4.0**
GRIC				*e*S	**Sb**	**21 22 56.9**	**+0.8**
GRSS	**Sisters**	**1.38**	**16**	*e*P	**Pb**	**21 22 39.2**	**+0.2**
GRSS	**Sisters**	**1.38**	**16**	*e*	**Sn**	**21 22 50.1**	**-4.2**
GRSS				*e*S	**Sb**	**21 22 56.8**	**+0.6**
TOSP	**Speyside**	**1.48**	**77**	⇓*i*P	**Pn**	**21 22 38.8**	**+0.4**
TOSP				*e*S	**Sb**	**21 22 57.8**	**-1.4**
FCV	**Fort Charlotte**	**2.30**	**19**	*e*P	**Pn**	**21 22 50.8**	**+1.0**
FCV				*e*S	**Sn**	**21 23 17.9**	**+0.8**
ORIV	**Oritupano**	**2.34**	**216**	*e*P	**Pn**	**21 22 50.3**	**+0.1**
SVB	**Belmont**	**2.41**	**18**	*e*P	**Pn**	**21 22 52.9**	**+1.7**
SVB				*e*S	**Sn**	**21 23 20.7**	**+1.0**
SVV	**Soufriere Volc**	**2.46**	**18**	*e*P	**Pn**	**21 22 53.6**	**+1.7**
SVV				*e*S	**Sn**	**21 23 22.5**	**+1.4**
PCRV	**Puerto La Cruz**	**2.70**	**253**	*e*P	**Pn**	**21 22 56.4**	**+1.1**
RIOV	**Rio Grande**	**2.89**	**176**	*e*P	**Pn**	**21 22 56.1**	**-1.7**
RIOV				*e*S	Sn	21 23 25.5	-6.1
MCLT	**Moule a Chique**	**2.92**	**21**	*e*P	**Pn**	**21 22 59.5**	**+1.2**
MCLT				*e*S	**Sn**	**21 23 33.4**	**+1.1**
GURV	**El Guri**	**3.36**	**199**	*e*P	**Pn**	**21 23 02.8**	**-1.5**
GURV				*e*S	Sn	21 23 37.7	-5.6
BIM	**Bigot**	**3.64**	**14**	*e*P	**Pn**	**21 23 10.2**	**+1.9**
BIM				*e*S	**Sn**	**21 23 48.4**	**-1.9**
MVM	**Montagne Vaucl**	**3.73**	**17**	*e*P	**Pn**	**21 23 11.2**	**+1.8**
MVM				*e*S	**Sn**	**21 23 52.9**	**+0.6**
CUPV	**Cœpira**	**3.83**	**257**	*e*P	**Pn**	**21 23 12.3**	**+1.5**
CUPV				*e*S	**Sn**	**21 23 54.7**	**-0.2**
FDF	**Fort de France**	**3.83**	**13**	*e*Pn	**Pn**	**21 23 12.0**	**+1.1**
FDF				*e*Sn	**Sn**	**21 23 51.6**	**-3.4**
FDF	**Fort de France**	**3.83**	**13**	⇑*e*P	**Pn**	**21 23 12.2**	**+1.3**
FDF				⇑*e*S	**Sn**	**21 23 53.5**	**-1.5**
BIRV	**Birongo**	**4.22**	**264**	*e*P

41C-26D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.77**	**327**	*eP*	Pn	21 27 24.1	+4.5
GSPH				*eS*	**Sn**	**21 27 55.8**	**+3.9**
MNI	**Manado**	**2.82**	**216**	P	Pn	21 27 24.2	+4.0
MNI				S	Sn	21 27 59.6	+6.7
TNTI	**Ternate**	**3.09**	**163**	P	**Pn**	**21 27 24.4**	**+0.5**
TNTI				S	**Sn**	**21 28 00.7**	**+1.1**
DAV	**Davao City (W)**	**3.41**	**345**	Pn	**Pn**	**21 27 27.3**	**-1.0**
DAV				Sn	**Sn**	**21 28 06.2**	**-1.4**
DAV	**Davao City (W)**	**3.41**	**345**	*iP*	**Pn**	**21 27 31.2**	**+2.9**
DAV	**Davao City (W)**	**3.41**	**345**	P	**Pn**	**21 27 31.0**	**+2.7**
DAV	**Davao City (W)**	**3.41**	**345**	Pn	**Pn**	**21 27 30.5**	**+2.2**
	64nm,0.3s,baz=145,slow=1.9,SNR=12						
DAV				Sn	**Sn**	**21 28 12.1**	**+4.5**
	202nm,0.3s,baz=248,slow=23,SNR=4.1						
DAV				LR	LR	21 29 05.8	
	comp=Z,16μm,21.2s,baz=190,slow=44						
DMPH	**Davao City--Mi**	**3.44**	**344**	*eP*	**Pn**	**21 27 30.3**	**+1.5**
KCP	**Kidapawan**	**3.52**	**337**	*eP*	Pn	21 27 38.2	+8.4
KCP				*i* S	Sn	21 28 21.1	+11
KMSI	**Cibinong**	**4.03**	**218**	P	Pn	21 27 41.7	+5.0
CTBH	**Cotabato--PC H**	**4.10**	**327**	*eP*	Pn	21 27 42.0	+4.3
LBMI	**Labuha**	**4.48**	**167**	P	**Pn**	**21 27 44.7**	**+1.7**
CGP	**Cagayan de Oro**	**5.00**	**339**	*iP*	Pn	21 27 58.9	+8.8
CGP				*i* S	**Sn**	**21 28 48.7**	**+2.1**
MRSI	**Marisa**	**5.58**	**234**	P	Pn	21 28 03.0	+4.9
SWI	**Sorong**	**6.62**	**134**	P	**Pn**	**21 28 12.6**	**+0.2**
LLP	**Lapu-Lapu**	**6.98**	**339**	*eP*	**Pn**	**21 28 19.5**	**+2.2**
LLP				*eS*	Sn	21 29 44.5	+9.0
MSAI	**Masohi**	**7.47**	**161**	P	**Pn**	**21 28 25.9**	**+1.9**
PLP	**Palo**	**7.51**	**349**	*eP*	Pn	21 28 28.5	+3.9
AAI	**Ambon**	**7.59**	**167**	P	**Pn**	**21 28 26.9**	**+1.2**
MYLDM	**Lahad Datu**	**8.08**	**280**	P	Pn	21 28 40.8	+8.4
MYLDM	**Lahad Datu**	**8.08**	**280**	P	Pn	21 28 39.5	+7.1
	711nm,1.4s,8μm						
KDI	**Kendari**	**8.58**	**207**	P	**Pn**	**21 28 41.8**	**+2.6**
	295nm,1.0s,3μm						
TSM	**Tawau**	**8.60**	**274**	P	Pn	21 28 45.1	+5.5
FAKI	**Fak Fak**	**8.79**	**139**	P	**Pn**	**21 28 43.9**	**+1.8**
	617nm,1.1s,6μm2.0nm						
BNDI	**Bandanaira**	**8.90**	**157**	P	Pn	21 28 49.1	+5.4
SDKM	**Sandakan**	**9.44**	**282**	P	Pn	21 28 56.7	+5.5
TTSI	**Tana Toraja**	**9.48**	**225**	P	Pn	21 28 57.2	+5.5
BBSI	**Bau Bau**	**9.98**	**203**	P	Pn	21 29 06.1	+7.7
KDM	**Kudat**	**10.11**	**289**	P	Pn	21 29 09.1	+8.9
SMKI	**Samarinda**	**10.16**	**246**	P	Pn	21 29 07.7	+6.7
SPSI	**Sidrap Palu**	**10.19**	**221**	P	Pn	21 29 08.3	+7.0
KKM	**Kota Kinabalu**	**10.48**	**283**	*ePn*	Pn	21 29 11.7	+6.3
KKM				*eSn*	**Sn**	**21 31 03.9**	**+2.3**
KKM	**Kota Kinabalu**	**10.48**	**283**	P	Pn	21 29 13.0	+7.6
KKM	**Kota Kinabalu**	**10.48**	**283**	P	Pn	21 29 12.5	+7.1
	200nm,1.1s,4μm						
BAKI	**Biak**	**10.80**	**117**	P	**Pn**	**21 29 12.6**	**+2.9**
	821nm,1.3s,11μm						
KAPI	**Kappang**	**11.00**	**218**	*ePn*	Pn	21 29 17.3	+4.9
KAPI				*eSn*	Sn	21 31 24.2	+10
KAPI	**Kappang**	**11.00**	**218**	Pn	Pn	21 29 19.7	+7.2
	506nm,0.6s,SNR=6.2						
KAPI	**Kappang**	**11.00**	**218**	P	Pn	21 29 20.0	+7.5
	156nm,1.5s,2μm						
KAPI	**Kappang**	**11.00**	**218**	Pn	**Pn**	**21 29 15.4**	**+2.9**
	5.0nm,0.3s,baz=8.7,slow=4.4,SNR=12						
KAPI				LR	LR	21 34 06.0	
	comp=Z,7μm,19.5s,baz=55,slow=41						
BKSI	**Bulukumba**	**11.03**	**215**	P	Pn	21 29 20.4	+7.6
TLE	**Tual**	**11.23**	**146**	P	**Pn**	**21 29 18.1**	**+2.5**
	36μm,1.5s						
TGY	**Tagaytay City**	**11.65**	**332**	Pn	Pn	21 29 28.0	+6.6
TGY	**Tagaytay City**	**11.65**	**332**	Pn	Pn	21 29 28.0	+6.6
	36nm,0.3s,baz=98,slow=7.6,SNR=5.6						
TGY				LR	LR	21 34 24.6	
	comp=Z,43nm,20.5s,baz=135,slow=40						
KBKI	**Kotabaru**	**12.46**	**236**	P	**P**	**21 29 41.1**	**-2.4**
MMRI	**Maumere**	**13.02**	**199**	P	P	21 29 57.7	+8.1
BTM	**Bintulu**	**13.38**	**268**	P	**P**	**21 29 53.3**	**-0.4**
SMPI	**Sarmi**	**13.49**	**115**	P	**Pn**	**21 29 47.4**	**+0.9**
BBKI	**Banjar Baru**	**13.66**	**238**	P	**P**	**21 29 55.1**	**-1.7**
BCPH	**Baguio City Da**	**13.82**	**336**	*iP*	**P**	**21 29 57.7**	**-1.0**
BCPH				*i* S	Px	21 30 13.6	
WSI	**Waingapu**	**14.69**	**205**	P	P	21 30 12.3	+4.1
STKI	**Sintang**	**15.43**	**257**	P	**P**	**21 30 17.5**	**+1.0**
JAY	**Jayapura**	**15.52**	**113**	P	**P**	**21 30 16.6**	**-0.9**
PBKI	**Pangkalan Bun**	**16.13**	**247**	P	**P**	**21 30 26.8**	**+2.5**
KHKI	**Kahang-Kahang**	**16.20**	**222**	P	**P**	**21 30 29.5**	**+4.5**
	174nm,1.1s,3μm						
KSM	**Kuching**	**16.31**	**262**	*eP*	**P**	**21 30 29.0**	**+2.7**
	233nm,1.1s						
KSM				*eScP*	**ScP**	**21 38 47.2**	**-0.4**
KSM	**Kuching**	**16.31**	**262**	P	**P**	**21 30 30.7**	**+4.5**
KSM	**Kuching**	**16.31**	**262**	P	**P**	**21 30 28.2**	**+1.9**
	226nm,1.3s,3μm						
KMMI	**Kalianget**	**16.47**	**229**	P	P	21 30 35.8	+7.8
	179nm,1.4s,3μm						
MTN	**Manton Dam**	**17.12**	**164**	*eP*	**Pn**	**21 30 30.2**	**-3.8**
BLJI	**Banyuglugur**	**17.20**	**228**	P	P	21 30 44.3	+8.2
	159nm,0.7s,3μm						
JAGI	**Jajag, Banyuwa**	**17.28**	**225**	P	P	21 30 42.5	+5.5
	198nm,1.5s,3μm						
GMJI	**Gumukmas**	**17.66**	**227**	P	P	21 30 49.3	+8.1
	288nm,1.0s						
KRKI	**Karangkates**	**18.33**	**230**	P	Pn	21 30 58.7	+10
	349nm,0.8s						
MMPI	**Merauke**	**18.43**	**131**	P	**P**	**21 30 49.3**	**-0.3**
	732nm,0.7s,10μm						
SJI	**Sawahan**	**18.60**	**232**	P	**Pn**	**21 30 55.2**	**+3.1**
PWJI	**Pagerwojo**	**18.74**	**231**	P	Pn	21 30 59.5	+5.7
	200nm,1.0s						
SMRI	**Semarang**	**19.27**	**236**	P	Pn	21 31 05.5	+5.2
	157nm,1.6s						
PCJI	**Pacitan**	**19.34**	**232**	P	**Pn**	**21 31 03.7**	**+2.7**
TWG	**Pinlang**	**19.66**	**345**	*eP*	**P**	**21 31 00.8**	**-2.4**
	103nm,0.6s						
YULB	**Yu-li**	**20.16**	**346**	*eP*	**P**	**21 31 06.4**	**-2.1**
	63nm,0.7s						
YULB				*eS*	**S**	**21 34 50.3**	**-2.4**
TPUB	**Ta-pu**	**20.24**	**344**	*eP*	**P**	**21 31 08.1**	**-1.4**
	267nm,0.7s						
TPUB				*eS*	**S**	**21 34 54.0**	**-0.4**
SSLB	**Suanglung**	**20.62**	**345**	*eP*	**P**	**21 31 11.7**	**-1.9**
	139nm,0.7s						
SSLB				*eS*	**S**	**21 34 59.9**	**-2.1**
NACB	**Ninganchiao**	**20.84**	**347**	*eP*	**P**	**21 31 15.0**	**-0.9**
	51nm,1.0s						
PPBI	**Pangkal Pinang**	**21.17**	**254**	P	P	21 31 26.2	+6.7
YHNB	**Yeheng**	**21.37**	**347**	*eP*	**P**	**21 31 20.9**	**-0.8**
	88nm,0.8s						
YHNB				*eS*	**S**	**21 35 17.9**	**+1.1**
LEM	**Lembang**	**21.57**	**241**	P	**P**	**21 31 27.8**	**+3.8**
	157nm,1.3s,3μm						
TATO	**Taipei**	**21.64**	**348**	P	**P**	**21 31 27.4**	**+3.0**
FITZ	**Fitzroy Crossi**	**21.73**	**182**	*eP*	**P**	**21 31 24.8**	**-0.7**
	145nm,1.0s						
FITZ				*eS*	**S**	**21 35 18.1**	**-5.9**
FITZ				S	Sn	21 35 18.2	-16
FITZ	**Fitzroy Crossi**	**21.73**	**182**	*eP*	**P**	**21 31 24.8**	**-0.7**
	117nm,0.5s						
FITZ				*eS*	**S**	**21 35 18.2**	**-5.7**
FITZ	**Fitzroy Crossi**	**21.73**	**182**	P	**P**	**21 31 24.8**	**-0.7**
	52nm,0.5s,baz=19,slow=10,SNR=110						
FITZ				S	**S**	**21 35 18.2**	**-5.7**
	46nm,1.1s,baz=319,slow=19,SNR=7.6						
CISI	**Cisompet, Garu**	**21.75**	**239**	P	P	21 31 40.1	+14
HKC	**Hong Kong Obse**	**21.96**	**328**	*eP*	**P**	**21 31 26.0**	**-1.9**
CBJI	**Citeko**	**22.05**	**243**	P	**P**	**21 31 32.2**	**+3.2**
DBJI	**Dramaga**	**22.20**	**243**	P	**P**	**21 31 32.7**	**+2.1**
QIZ	**Qiongzhong**	**22.24**	**314**	P	**P**	**21 31 31.5**	**+0.5**
QIZ				S	**S**	**21 35 33.6**	**0.0**
QIZ				LR	LR		
	comp=N,2μm,16.3s						
QIZ				LR	LR		
	comp=E,730nm,24.3s						
QIZ				LR	LR		
	comp=Z,3μm,26.2s						
QIZ	**Qiongzhong**	**22.24**	**314**	*eP*	**P**	**21 31 31.6**	**+0.5**
	comp=Z,90nm,1.0s						
QIZ				*eS*	**S**	**21 35 31.3**	**-2.3**
QZH	**Quanzhou**	**22.39**	**341**	*iP*	**P**	**21 31 33.4**	**+0.8**
QZH				S	**S**	**21 35 31.5**	**-4.6**
QZH				pmax	pmax		
	comp=Z,140nm,0.6s						
QZH				LR	LR		
	comp=N,14μm,26.2s						
QZH				LR	LR		
	comp=E,3μm,15.0s						
QZH				LR	LR		
	comp=Z,12μm,25.1s						
SBJI	**Serang**	**22.57**	**244**	P	P	21 31 45.1	+11
	comp=Z,329nm,1.0s,comp=Z,5μm						
MYKOM	**Kota Tinggi**	**22.69**	**266**	P	**P**	**21 31 39.2**	**+3.3**
MYKOM	**Kota Tinggi**	**22.69**	**266**	P	**P**	**21 31 37.3**	**+1.5**
	comp=Z,93nm,1.1s,comp=Z,1μm						
PMBI	**Palembang**	**22.69**	**253**	P	**P**	**21 31 37.0**	**+1.2**
JOW	**Kunigami**	**23.01**	**4**	*eP*	**P**	**21 31 38.4**	**-0.6**
	comp=Z,56nm,1.0s						
JOW	**Kunigami**	**23.01**	**4**	P	**P**	**21 31 39.7**	**+0.7**
	comp=Z,39nm,0.8s,baz=189,slow=14,SNR=5.1						
JOW				LR	LR	21 40 17.4	
	comp=Z,2μm,20.5s,baz=226,slow=36						
BLSI	**Bandar Lampung**	**23.07**	**247**	P	**P**	**21 31 38.5**	**-1.2**
CGJI	**Cibinong**	**23.17**	**244**	P	**P**	**21 31 41.5**	**+0.8**
KASI	**Kota Agung**	**23.81**	**247**	P	P	21 31 52.3	+5.4
LWLI	**Liwa**	**24.03**	**249**	P	**P**	**21 31 50.6**	**+1.5**
COEN	**Coen**	**24.16**	**137**	*eP*	**P**	**21 31 47.9**	**-2.3**
	comp=Z,479nm,1.0s						
COEN				*eScP*	**ScP**	**21 39 06.6**	**+0.6**
PMG	**Port Moresby**	**24.41**	**123**	*eP*	**P**	**21 31 49.4**	**-3.0**
	comp=Z,81nm,0.9s						
PMG	**Port Moresby**	**24.41**	**123**	P	**P**	**21 31 49.8**	**-2.6**
	comp=Z,92nm,1.1s,comp=Z,862nm						
PMG	**Port Moresby**	**24.41**	**123**	P	**P**	**21 31 49.2**	**-3.1**
	comp=Z,33nm,0.9s,baz=322,slow=6.6,SNR=17						
PMG				LR	LR	21 42 03.5	
	comp=Z,1μm,18.8s,baz=1.1,slow=38						
WRAB	**Tennant Creek**	**24.78**	**162**	*eP*	**P**	**21 31 54.5**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,563nm,0.9s						
WRAB	**Tennant Creek**	**24.78**	**162**	*eP*	**P**	**21 31 54.5**	**-1.2**
	comp=Z,563nm,0.9s						
WRAB	**Tennant Creek**	**24.78**	**162**	P	**P**	**21 31 54.7**	**-1.0**
	comp=Z,4μm,0.8s						
WRA	**Warramunga Arr**	**24.78**	**162**	P	**P**	**21 31 54.2**	**-1.6**
WRA				S	**S**	**21 36 11.9**	**-3.7**
WRA				ScP	**ScP**	**21 39 06.5**	**-1.1**
WRA	**Warramunga Arr**	**24.78**	**162**	P	**P**	**21 31 54.2**	**-1.6**
	comp=Z,467nm,1.0s,baz=338,slow=11,SNR=237						
WRA				S	**S**	**21 36 11.9**	**-3.7**
	comp=Z,14nm,1.1s,baz=335,slow=19,SNR=5.3						
WRA				ScP	**ScP**	**21 39 06.5**	**-1.1**
	comp=Z,10nm,0.9s,baz=337,slow=3.3,SNR=6.6						
FRIM	**Kepong**	**24.82**	**270**	P	**P**	**21 31 58.7**	**+2.6**
KSI	**Kapahiang**	**24.98**	**253**	P	**P**	**21 32 00.6**	**+2.9**
IPM	**Ipoh**	**25.40**	**273**	*eP*	**P**	**21 32 02.7**	**+1.2**
	comp=Z,397nm,1.3s						
IPM				*eScP*	**ScP**	**21 39 10.0**	**+0.4**
IPM	**Ipoh**	**25.40**	**273**	P	**P**	**21 32 04.1**	**+2.7**
IPM	**Ipoh**	**25.40**	**273**	P	**P**	**21 32 05.8**	**+4.3**
	comp=Z,247nm,1.4s,comp=Z,2μm						
MBWA	**Marble Bar**	**25.63**	**195**	*eP*	**P**	**21 32 04.4**	**+1.0**
	comp=Z,106nm,0.8s						
MBWA	**Marble Bar**	**25.63**	**195**	P	**P**	**21 32 05.0**	**+1.6**
	SNR=5.7						
BKNI	**Bangkinang**	**25.65**	**263**	P	**P**	**21 32 05.3**	**+1.6**
KRJI	**Kerinci**	**25.67**	**257**	P	P	21 32 19.4	+15
KULM	**Kulim**	**25.80**	**274**	*eP*	**P**	**21 32 05.9**	**+0.9**
	comp=Z,300nm,1.3s						
KULM				*eScP*	**ScP**	**21 39 10.8**	**+0.1**
KULM	**Kulim**	**25.80**	**274**	P	**P**	**21 32 07.1**	**+2.1**
KULM	**Kulim**	**25.80**	**274**	P	**P**	**21 32 08.0**	**+3.0**
	comp=Z,178nm,1.4s,comp=Z,2μm						
PPI	**Padang Panjang**	**26.40**	**261**	P	**P**	**21 32 11.8**	**+1.3**
	comp=Z,116nm,1.7s,comp=Z,2μm						
MNSI	**Mandailing Nat**	**27.04**	**264**	P	**P**	**21 32 18.2**	**+1.9**
PSI	**Prapat**	**27.53**	**269**	P	**P**	**21 32 20.9**	**+0.1**
PSI				S	**S**	**21 37 01.6**	**+2.1**
PSI				ScP	**ScP**	**21 39 15.3**	**-0.7**
PSI	**Prapat**	**27.53**	**269**	P	**P**	**21 32 20.3**	**-0.5**
	comp=Z,64nm,1.3s,comp=Z,957nm						
PSI	**Prapat**	**27.53**	**269**	P	**P**	**21 32 20.9**	**+0.1**
	comp=Z,31nm,0.9s,baz=105,slow=4.5,SNR=18						
PSI				S	**S**	**21 37 01.6**	**+2.1**
	comp=Z,1.7nm,0.4s,baz=142,slow=19,SNR=5.6						
PSI				ScP	**ScP**	**21 39 15.3**	**-0.7**
	comp=Z,16nm,0.9s,baz=119,slow=3.5,SNR=8.3						
PSI				LR	LR	21 45 15.2	
	comp=Z,3μm,19.3s,baz=89,slow=41						
SSE	**Sheshan**	**27.65**	**350**	P	**P**	**21 32 21.3**	**-0.2**
SSE				sP	**sP**	**21 32 37.3**	**-0.3**
SSE				S	**S**	**21 37 00.9**	**+0.2**
SSE				sS	**sS**	**21 37 19.8**	**+0.5**
SSE				pmax	pmax		
	comp=Z,44nm,1.0s						
SSE				pmax	pmax		
	comp=Z,600nm,4.6s						
SSE				LR	LR		
	comp=N,790nm,26.5s						
SSE				LR	LR		
	comp=E,900nm,26.5s						
SSE				LR	LR		
	comp=Z,1μm,17.3s						
TSI	**Tuntungan**	**27.86**	**270**	P	P	21 32 33.6	+10
	comp=Z,128nm,1.4s						
AS31	**Alice Springs**	**28.20**	**165**	*eP*	**P**	**21 32 25.7**	**-0.9**
ASAR	**Alice Springs**	**28.20**	**165**	P	**P**	**21 32 25.6**	**-1.0**
ASAR				S	**S**	**21 37 06.6**	**-3.0**
ASAR				ScP	**ScP**	**21 39 16.2**	**-1.5**
ASAR				*e*		22 05 06.4	
ASAR	**Alice Springs**	**28.20**	**165**	P	**P**	**21 32 25.6**	**-1.0**
	comp=Z,14nm,0.6s,baz=346,slow=7.1,SNR=112						
ASAR				S	**S**	**21 37 06.6**	**-3.0**
	comp=Z,6.5nm,1.0s,baz=346,slow=15,SNR=3.3						
ASAR				ScP	**ScP**	**21 39 16.2**	**-1.5**
	comp=Z,8.3nm,1.0s,baz=1.9,slow=3.2,SNR=6.1						
ASAR				P3KPbc		22 05 06.4	
	comp=Z,0.5nm,0.9s,baz=166,slow=4.9,SNR=5.3						
GSI	**Gunungsitoli**	**28.98**	**266**	P	**P**	**21 32 33.6**	**0.0**
	comp=Z,72nm,0.7s						
WHN	**Wuhan**	**29.01**	**338**	P	**P**	**21 32 34.1**	**+0.5**
WHN				S	**S**	**21 37 23.3**	**+1.2**
WHN				pmax	pmax		
	comp=Z,120nm,1.0s						
WHN				LR	LR		
	comp=Z,8μm,17.6s						
NJ2	**Nanjing**	**29.05**	**347**	*eP*	**P**	**21 32 34.8**	**+0.9**
NJ2				pP	**pP**	**21 32 46.4**	**+1.3**
NJ2				sP	**sP**	**21 32 51.9**	**+1.9**
NJ2				S	**S**	**21 37 25.0**	**+2.3**
NJ2				sS	**sS**	**21 37 45.0**	**+3.7**
NJ2				pmax	pmax		
	comp=Z,70nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,640nm,4.4s						
NJ2				LR	LR		
	comp=N,2μm,24.1s						
NJ2				LR	LR		
	comp=E,2μm,25.6s						
NJ2				LR	LR		
	comp=Z,2μm,21.8s						
GYA	**Guiyang**	**29.50**	**322**	*iP*	**P**	**21 32 38.3**	**+0.1**
GYA				pP	**pP**	**21 32 49.8**	**+0.4**
GYA				PP	**PnPn**	**21 33 37.0**	**+3.3**
GYA				PcP	**PcP**	**21 35 44.3**	**+1.2**
GYA				S	**S**	**21 37 32.6**	**+2.4**
GYA				sS	**sS**	**21 37 47.8**	**-1.0**
GYA				SS	SS	21 39 05.3	-31
GYA				ScP	**ScP**	**21 39 22.0**	**+0.1**
GYA				ScS	**ScS**	**21 43 16.8**	**0.0**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,780nm,17.5s						
GYA				LR	LR		
	comp=E,660nm,18.1s						
GYA				LR	LR		
	comp=Z,750nm,17.8s						
JNU	**Nakatsue**	**29.50**	**8**	*eP*	**P**	**21 32 38.0**	**0.0**
	comp=Z,25nm,0.9s						
JNU				*eScP*	**ScP**	**21 39 18.6**	**-3.1**
JNU	**Nakatsue**	**29.50**	**8**	P	**P**	**21 32 37.0**	**-1.1**
	comp=Z,26nm,0.8s,baz=180,slow=3.0,SNR=8.6						
JNU				LR	LR	21 44 11.7	
	comp=Z,803nm,20.5s,baz=184,slow=36						
CTA	**Charters Tower**	**30.64**	**141**	P	**P**	**21 32 46.7**	**-1.5**
CTA				ScP	**ScP**	**21 39 25.2**	**-0.4**
CTA	**Charters Tower**	**30.64**	**141**	*eP*	**P**	**21 32 48.2**	**0.0**
	comp=Z,20nm,0.8s						
CTA				*eSCP*	**ScP**	**21 39 26.3**	**+0.8**
CTA	**Charters Tower**	**30.64**	**141**	P	**P**	**21 32 46.7**	**-1.5**
	comp=Z,37nm,1.0s,baz=322,slow=11,SNR=22						
CTA				ScP	**ScP**	**21 39 25.2**	**-0.4**
	comp=Z,30nm,1.1s,baz=342,slow=5.1,SNR=6.4						
CTAO	**Charters Tower**	**30.64**	**141**	*eP*	**P**	**21 32 47.7**	**-0.5**
CTAO				*e*		21 39 25.3	
CTAO				pmax	pmax		
	comp=Z,33nm,0.9s						
CTAO	**Charters Tower**	**30.64**	**141**	*eP*	**P**	**21 32 47.7**	**-0.5**
	comp=Z,33nm,0.9s						
CTAO				*eScP*	**ScP**	**21 39 25.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**30.64**	**301**	P	**P**	**21 32 48.5**	**+0.2**
CMAR				PcP	**PcP**	**21 35 47.9**	**+1.8**
CMAR				ScP	**ScP**	**21 39 26.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**30.64**	**301**	P	**P**	**21 32 48.5**	**+0.2**
	comp=Z,22nm,0.9s,baz=122,slow=7.7,SNR=94						
CMAR				PcP	**PcP**	**21 35 47.9**	**+1.8**
	comp=Z,4.4nm,0.9s,baz=111,slow=4.9,SNR=3.0						
CMAR				ScP	**ScP**	**21 39 26.2**	**+0.6**
	comp=Z,13nm,1.0s,baz=143,slow=1.8,SNR=22						
CHTO	**Chiang Mai**	**30.80**	**301**	*eP*	**P**	**21 32 50.2**	**+0.6**
CHTO				*e*		21 35 49.4	
CHTO				*e*		21 39 26.7	
CHTO				pmax	pmax		
	comp=Z,26nm,0.8s						
CHTO	**Chiang Mai**	**30.80**	**301**	*eP*	**P**	**21 32 50.2**	**+0.6**
	comp=Z,26nm,0.8s						
CHTO				*ePcP*	**PcP**	**21 35 49.4**	**+3.0**
CHTO				*eScP*	**ScP**	**21 39 26.7**	**+0.5**
CHTO	**Chiang Mai**	**30.80**	**301**	P	**P**	**21 32 50.5**	**+0.9**
	SNR=18						
CHTO	**Chiang Mai**	**30.80**	**301**	P	**P**	**21 32 50.3**	**+0.6**
	comp=Z,58nm,1.3s,comp=Z,730nm						
ENH	**Enshi**	**30.88**	**330**	*eP*	**P**	**21 32 50.1**	**-0.2**
	comp=Z,48nm,0.7s						
ENH				*eScP*	**ScP**	**21 39 25.5**	**-0.7**
BSI	**Banda Aceh**	**31.13**	**274**	P	P	21 32 59.0	+6.3
	comp=Z,24nm,1.2s						
KMI	**Kunming**	**31.19**	**315**	P	**P**	**21 32 54.9**	**+1.6**
KMI				pP	**pP**	**21 33 05.8**	**+1.3**
KMI				sP	**sP**	**21 33 09.8**	**+0.4**
KMI				PP	**PnPn**	**21 33 57.3**	**+1.2**
KMI				S	**S**	**21 37 58.9**	**+2.0**
KMI				sS	**sS**	**21 38 16.1**	**+0.5**
KMI				SS	SS	21 39 46.6	-25
KMI				pmax	pmax		
	comp=Z,14nm,1.1s						
KMI				pmax	pmax		
	comp=Z,310nm,3.8s						
KMI				LR	LR		
	comp=N,810nm,13.6s						
KMI				LR	LR		
	comp=E,2μm,21.5s						
KMI				LR	LR		
	comp=Z,3μm,19.2s						
JHJ	**Hachijo jima 2**	**31.75**	**22**	LR	LR	21 44 39.7	
	comp=Z,2μm,20.7s,baz=62,slow=34						
KSAR	**Wonju Array Be**	**33.55**	**2**	P	**P**	**21 33 14.6**	**+1.0**
KSRS	**Korea Array**	**33.56**	**2**	P	**P**	**21 33 14.6**	**+0.9**
	comp=Z,29nm,0.7s,baz=182,slow=10,SNR=60						
KSRS				LR	LR	21 47 41.0	
	comp=Z,862nm,19.6s,baz=195,slow=38						
XAN	**Xi'an**	**34.28**	**334**	P	**P**	**21 33 19.3**	**-0.7**
XAN				pP	**pP**	**21 33 29.4**	**-1.9**
XAN				sP	**sP**	**21 33 33.6**	**-2.6**
XAN				S	**S**	**21 38 38.8**	**-5.7**
XAN				pmax	pmax		
	comp=Z,23nm,0.9s						
XAN				pmax	pmax		
	comp=Z,44nm,5.6s						
XAN				LR	LR		
	comp=N,980nm,20.5s						
XAN				LR	LR		
	comp=E,370nm,20.5s						
XAN				LR	LR		
	comp=E,610nm,19.1s						
MAT	**Matsushiro**	**34.37**	**17**	P	**P**	**21 33 21.2**	**+0.5**
MJAR	**Matsushiro Arr**	**34.37**	**17**	P	**P**	**21 33 20.6**	**-0.1**
MJAR	**Matsushiro Arr**	**34.37**	**17**	P	**P**	**21 33 20.6**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=187,slow=10,SNR=14						
MJAR				LR	LR	21 45 32.2	
	comp=Z,2μm,21.2s,baz=200,slow=33						
FORT	**Forrest**	**34.37**	**178**	*eP*	**P**	**21 33 20.9**	**+0.2**
	comp=Z,156nm,0.9s						
CD2	**Chengdu**	**34.48**	**324**	*iP*	**P**	**21 33 22.0**	**+0.2**
CD2				pP	**pP**	**21 33 31.8**	**-1.2**
CD2				sP	**sP**	**21 33 35.6**	**-2.3**
CD2				PcP	**PcP**	**21 35 55.9**	**-0.6**
CD2				S	**S**	**21 38 48.5**	**+0.9**
CD2				sS	**sS**	**21 39 04.5**	**-1.9**
CD2				PcS	**PcS**	**21 39 41.3**	**-1.7**
CD2				SS	**SnSn**	**21 41 01.8**	**+0.7**
CD2				pmax	pmax		
	comp=Z,50nm,0.8s						
CD2				pmax	pmax		
	comp=Z,320nm,5.1s						
CD2				LR	LR		
	comp=N,2μm,23.1s						
CD2				LR	LR		
	comp=E,2μm,21.9s						
CD2				LR	LR		
	comp=Z,3μm,19.0s						
DL2	**Dalian**	**35.27**	**353**	P	**P**	**21 33 29.1**	**+0.8**
DL2	

LZH				LR	LR				
	comp=Z,3μm,20.2s								
HHC	**Hu-ho-hao-te**	**39.30**	**342**	*e*P	**P**	**21 34 02.6**	**-0.1**		
HHC				pP	**pP**	**21 34 12.9**	**-1.2**		
HHC				sP	**sP**	**21 34 17.8**	**-1.1**		
HHC				PP	**PnPn**	**21 35 38.0**	**+1.6**		
HHC				PcP	PcP	21 36 05.6	-5.3		
HHC				ScP	**ScP**	**21 39 58.3**	**+1.9**		
HHC				S	**S**	**21 40 03.0**	**+2.1**		
HHC				sS	**sS**	**21 40 16.3**	**-3.6**		
HHC				SS	**SS**	**21 42 52.0**	**-3.7**		
HHC				ScS	**ScS**	**21 44 07.5**	**-0.8**		
HHC				pmax	pmax				
	comp=Z,33nm,1.3s								
HHC				pmax	pmax				
	comp=Z,270nm,9.6s								
HHC				LR	LR				
	comp=N,2μm,20.4s								
HHC				LR	LR				
	comp=E,1μm,20.4s								
HHC				LR	LR				
	comp=Z,3μm,21.6s								
VLA	**Vladivostok**	**39.49**	**6**	*i*P	**P**	**21 34 04.4**	**+0.3**		
VLA				*e*S	**S**	**21 40 05.8**	**+2.3**		
VLA				pmax	pmax				
	comp=Z,47nm,0.9s								
BTO	**Baotou**	**39.58**	**340**	*e*P	**P**	**21 34 04.6**	**-0.4**		
SHL	**Shillong**	**39.66**	**307**	*i* P	**P**	**21 34 05.5**	**-0.5**		
SHL				*ex*	x	21 40 02.0			
CN2	**Changchun**	**39.89**	**359**	*e*P	**P**	**21 34 07.3**	**-0.1**		
CN2				*e*pP	**pP**	**21 34 18.3**	**-0.5**		
CN2				PcP	**PcP**	**21 36 13.3**	**+0.7**		
CN2				*e*S	**S**	**21 40 08.1**	**-1.4**		
CN2				SS	**SS**	**21 43 00.8**	**-6.4**		
CN2				pmax	pmax				
	comp=Z,30nm,0.8s								
CN2				pmax	pmax				
	comp=Z,200nm,4.0s								
CN2				LR	LR				
	comp=N,1μm,16.0s								
CN2				LR	LR				
	comp=E,1μm,16.0s								
CN2				LR	LR				
	comp=Z,1μm,18.0s								
USRK	**Ussuriysk Arra**	**40.57**	**6**	P	**P**	**21 34 13.4**	**+0.4**		
	comp=Z,7.2nm,0.4s,baz=186,slow=7.7,SNR=29								
MDJ	**Mudanjiang**	**40.79**	**3**	P	**P**	**21 34 15.8**	**+1.0**		
MDJ				pP	**pP**	**21 34 24.5**	**-1.8**		
MDJ				sP	**sP**	**21 34 28.4**	**-2.7**		
MDJ				ScP	**ScP**	**21 40 03.4**	**+1.4**		
MDJ				PcS	**PcS**	**21 40 07.1**	**+1.0**		
MDJ				S	**S**	**21 40 25.6**	**+2.8**		
MDJ				sS	**sS**	**21 40 40.8**	**-1.1**		
MDJ				pmax	pmax				
	comp=Z,28nm,1.1s								
MDJ				pmax	pmax				
	comp=Z,790nm,6.9s								
MDJ				LR	LR				
	comp=N,550nm,23.2s								
MDJ				LR	LR				
	comp=E,300nm,30.6s								
MDJ				LR	LR				
	comp=Z,680nm,22.6s								
MDJ	**Mudanjiang**	**40.79**	**3**	*e*P	**P**	**21 34 15.7**	**+0.9**		
	comp=Z,50nm,0.8s								
CAL	**Calcutta**	**41.38**	**300**	*e*PKP	**P**	**21 34 18.5**	**-1.6**		
ARMA	**Armidale**	**41.62**	**146**	*e*P	**P**	**21 34 22.6**	**+0.5**		
	comp=Z,63nm,0.7s								
ARMA	**Armidale**	**41.62**	**146**	*e*P	**P**	**21 34 22.5**	**+0.5**		
LSA	**Lhasa**	**42.24**	**312**	P	**P**	**21 34 29.8**	**+2.3**		
LSA				sP	**sP**	**21 34 47.4**	**+3.6**		
LSA				S	S	21 40 38.4	-7.3		
LSA				pmax	pmax				
	comp=Z,30nm,0.8s								
LSA				pmax	pmax				
	comp=Z,460nm,5.0s								
LSA				LR	LR				
	comp=N,570nm,26.0s								
LSA				LR	LR				
	comp=E,470nm,23.0s								
LSA				LR	LR				
	comp=Z,1μm,27.0s								
LSA	**Lhasa**	**42.24**	**312**	*e*P	**P**	**21 34 28.2**	**+0.7**		
LSA				*e*		21 36 21.2			
LSA				*e*S	**S**	**21 40 44.1**	**-1.6**		
LSA				pmax	pmax				
	comp=Z,44nm,0.8s								
LSA	**Lhasa**	**42.24**	**312**	*e*P	**P**	**21 34 28.2**	**+0.7**		
	comp=Z,44nm,0.8s								
LSA				*e*PcP	**PcP**	**21 36 21.2**	**+0.1**		
LSA				*e*ScP	**ScP**	**21 40 09.1**	**+0.4**		
LSA				*e*S	**S**	**21 40 44.1**	**-1.6**		
ASAJ	**Asahikawa**	**42.64**	**17**	*e*P	**P**	**21 34 32.3**	**+2.3**		
	comp=Z,30nm,0.9s								
ASAJ	**Asahikawa**	**42.64**	**17**	P	**P**	**21 34 30.7**	**+0.7**		
	comp=Z,24nm,0.8s,baz=226,slow=16,SNR=8.7								
ASAJ				LR	LR	21 50 13.9			
	comp=Z,1μm,21.8s,baz=211,slow=33								
GTA	**Gaotai**	**42.95**	**329**	*e*P	**P**	**21 34 32.6**	**-0.2**		
GTA				pP	**pP**	**21 34 41.8**	**-2.5**		
GTA				sP	**sP**	**21 34 45.8**	**-3.3**		
GTA				ScP	**ScP**	**21 40 11.0**	**+0.1**		
GTA				S	**S**	**21 40 56.3**	**+1.0**		
GTA				sS	**sS**	**21 41 11.1**	**-3.3**		
GTA				SS	**SS**	**21 44 01.9**	**-6.2**		
GTA				ScS	**ScS**	**21 44 29.3**	**-1.1**		
GTA				pmax	pmax				
	comp=Z,14nm,0.8s								
GTA				pmax	pmax				
	comp=Z,290nm,6.2s								
GTA				LR	LR				
	comp=N,1μm,22.8s								
GTA				LR	LR				
	comp=E,2μm,19.5s								
GTA				LR	LR				
	comp=Z,3μm,20.7s								
YUK	**Yuzh-Kuril'sk**	**43.61**	**20**	*d i*P	P	21 34 41.1	+3.3		
YUK				*e*		21 36 14.3			
YUK				*e*S	S	21 41 14.0	+9.5		
YUK				*e*SS	**SS**	**21 44 16.0**	**-4.7**		
YUK				pmax	pmax				
	comp=Z,86nm,3.6s								
TAPN	**Taplejung**	**43.80**	**306**	*e*P	**P**	**21 34 39.8**	**-0.2**		
	comp=Z,114nm,0.8s								
ODAN	**Odare**	**43.85**	**306**	*e*P	**P**	**21 34 40.4**	**0.0**		
	comp=Z,113nm,0.6s								
CAN	**Canberra**	**44.24**	**153**	*e*P	**P**	**21 34 44.5**	**+1.4**		
CAN				pmax	pmax				
	comp=Z,189nm,1.2s								
CAN	**Canberra**	**44.24**	**153**	*e*P	**P**	**21 34 44.5**	**+1.4**		
	comp=Z,189nm,1.2s								
CNB	**Canberra Magne**	**44.40**	**153**	*e*P	**P**	**21 34 45.6**	**+1.2**		
	comp=Z,288nm,0.9s								
RAMN	**Ramite**	**44.53**	**305**	*e*P	**P**	**21 34 45.9**	**+0.1**		
	comp=Z,82nm,0.6s								
TOO	**Toolangi**	**44.75**	**158**	*e*P	**P**	**21 34 48.3**	**+1.2**		
	comp=Z,526nm,1.8s								
TOO				*e*PCP	**PcP**	**21 36 30.1**	**+1.2**		
TOO				*e*S	**S**	**21 41 23.5**	**+2.1**		
HABR	**Khabarovsk**	**45.15**	**8**	P	P	21 34 58.8	+8.7		
HABR				*e*S	**S**	**21 41 27.9**	**+1.1**		
HABR				*e**SS	sS	21 41 44.5	-1.5		
HABR				*e*		21 44 43.0			
HABR				*e*SSS	SSS	21 45 40.4			
HABR				pmax	pmax				
	comp=Z,144nm,1.8s								
HABR				pmax	pmax				
	comp=E,88nm,1.8s								
HABR				pmax	pmax				
	comp=N,112nm,2.7s								
HABR				MLR	MLR				
	comp=Z,584nm,21.0s								
JIRN	**Jiri**	**45.16**	**306**	*e*P	**P**	**21 34 50.9**	**0.0**		
	comp=Z,27nm,0.8s								
YSS	**Yuzh-Sakhalins**	**45.28**	**16**	*e*P	**P**	**21 34 51.0**	**-0.1**		
YSS				*e*		21 35 09.0			
YSS				MLR	MLR				
	comp=Z,700nm,18.0s								
YSS				MLR	MLR				
	comp=N,800nm,20.0s								
YSS	**Yuzh-Sakhalins**	**45.28**	**16**	*e*P	**P**	**21 34 50.7**	**-0.5**		
	comp=N,106nm,1.2s								
GUN	**Gumba**	**45.51**	**306**	*e*P	**P**	**21 34 53.5**	**-0.2**		
	comp=N,184nm,0.7s								
KLR	**Kul'dur**	**45.53**	**5**	*e*P	P	21 34 49.4	-3.7		
KLR				pmax	pmax				
	comp=Z,130nm,2.0s								
HIA	**Hailar**	**45.71**	**354**	*e*P	**P**	**21 34 54.5**	**0.0**		
	comp=Z,104nm,1.1s								
PKI	**Pulchoki**	**45.75**	**305**	*e*P	**P**	**21 34 55.0**	**-0.6**		
KKN	**Kakani**	**45.95**	**306**	*e*P	**P**	**21 34 56.8**	**-0.2**		
	comp=Z,55nm,0.7s								
DMN	**Daman**	**46.01**	**305**	*e*P	**P**	**21 34 57.0**	**-0.6**		
	comp=Z,71nm,0.8s								
GKN	**Gorkha**	**46.55**	**306**	*e*P	**P**	**21 35 01.1**	**-0.6**		
	comp=Z,85nm,0.7s								
NOUC	**Port Laguerre**	**46.65**	**125**	*e*P	**P**	**21 35 01.9**	**-0.4**		
DZM	**Mont Dzumac**	**46.75**	**125**	*e*P	**P**	**21 35 02.9**	**-0.3**		
	comp=Z,402nm,1.1s								
DZM				*e*S	**S**	**21 41 51.9**	**+1.2**		
	comp=Z,1μm,30.8s								
DZM				*e*LR	LR	21 48 22.0			
	comp=Z,1μm,23.9s								
DZM	**Mont Dzumac**	**46.75**	**125**	*e*P	**P**	**21 35 02.4**	**-0.8**		
DZM	**Mont Dzumac**	**46.75**	**125**	*e*P	**P**	**21 35 03.2**	**0.0**		
	comp=Z,198nm,1.1s								
DZM	**Mont Dzumac**	**46.75**	**125**	P	**P**	**21 35 03.4**	**+0.2**		
	comp=Z,119nm,0.9s,baz=311,slow=6.2,SNR=62								
ULN	**Ulaanbaatar**	**47.02**	**342**	*e*P	**P**	**21 35 05.1**	**0.0**		
	comp=Z,45nm,1.0s								
ULN				*e*ScP	**ScP**	**21 40 28.1**	**+0.5**		
ULN	**Ulaanbaatar**	**47.02**	**342**	P	**P**	**21 35 05.9**	**+0.9**		
	SNR=10								
ULN	**Ulaanbaatar**	**47.02**	**342**	P	**P**	**21 35 05.0**	**0.0**		
	comp=Z,24nm,0.8s								
SONM	**Songino Array**	**47.20**	**342**	P	**P**	**21 35 06.3**	**0.0**		
SONM				PcP	**PcP**	**21 36 35.3**	**-2.1**		
SONM				ScP	**ScP**	**21 40 29.1**	**+0.8**		
SONM	**Songino Array**	**47.20**	**342**	P	**P**	**21 35 06.3**	**0.0**		
	comp=Z,18nm,0.7s,baz=156,slow=8.8,SNR=51								
SONM				PcP	**PcP**	**21 36 35.3**	**-2.1**		
	comp=Z,9.1nm,0.8s,baz=168,slow=3.8,SNR=3.7								
SONM				ScP	**ScP**	**21 40 29.1**	**+0.8**		
	comp=Z,2.5nm,0.9s,baz=151,slow=3.3,SNR=2.6								
SONM				LR	LR	21 57 41.7			
	comp=Z,1μm,21.4s,baz=157,slow=40								
KOLN	**Koldanda**	**47.31**	**305**	*e*P	**P**	**21 35 07.5**	**-0.2**		
	comp=Z,160nm,0.5s								
DANN	**Dangsing**	**47.40**	**306**	*e*P	**P**	**21 35 08.1**	**-0.4**		
	comp=Z,240nm,0.6s								
HYB	**Hyderabad**	**48.87**	**290**	*i* P	**P**	**21 35 18.0**	**-1.7**		
HYB				*e*S	**S**	**21 42 21.0**	**+0.1**		
NGP	**Nagpur**	**49.20**	**295**	*e*PKP	**P**	**21 35 19.9**	**-2.2**		
NGP				AMb	AMB	21 35 29.2			
	comp=Z,41nm,0.6s								
CIT	**Chita**	**49.30**	**349**	*e*P	**P**	**21 35 23.6**	**+1.2**		
CIT				*e*		21 35 36.0			
CIT				pmax	pmax				
	comp=Z,123nm,1.4s								
TRD	**Trivandrum**	**49.44**	**278**	*ex*	x	21 37 21.8			
TRD				AMb	AMB	21 37 25.2			
	comp=Z,79nm,1.0s								
MOO	**Moorlands**	**49.67**	**160**	*e*P	**P**	**21 35 26.7**	**+1.4**		
	comp=Z,309nm,1.0s								
TAU	**Tasmania Unive**	**50.13**	**160**	*e*P	**P**	**21 35 29.9**	**+1.1**		
TAU				pmax	pmax				
	comp=Z,80nm,1.0s								
TAU	**Tasmania Unive**	**50.13**	**160**	*e*P	**P**	**21 35 29.9**	**+1.1**		
	comp=Z,80nm,1.0s								
ZAK	**Zakamensk**	**50.42**	**341**	*e*P	**P**	**21 35 30.9**	**-0.1**		
ZAK				*e*		21 36 49.5			
ZAK				*e*		21 45 18.7			
ZAK				pmax	pmax				
	comp=Z,10.0nm,1.2s								
LATR	**Latur**	**50.92**	**291**	*e*PKP	**P**	**21 35 35.6**	**+0.4**		
AKL	**Akola**	**50.95**	**294**	*i* P	**P**	**21 35 35.1**	**-0.3**		
AKL				AMb	AMB	21 35 37.7			
	comp=Z,141nm,1.1s								
TLY	**Talaya**	**51.43**	**342**	*e*P	**P**	**21 35 38.0**	**-0.5**		
TLY				pmax	pmax				
	comp=Z,29nm,0.9s								
TLY				MLR	MLR				
	comp=Z,922nm,20.0s								
TLY	**Talaya**	**51.43**	**342**	*e*P	**P**	**21 35 39.2**	**+0.7**		
	comp=Z,25nm,0.8s								
TLY	**Talaya**	**51.43**	**342**	P	**P**	**21 35 38.8**	**+0.3**		
	SNR=8.4								
TLY	**Talaya**	**51.43**	**342**	P	**P**	**21 35 39.7**	**+1.2**		
	comp=Z,148nm,0.6s,SNR=8.6								
IRK	**Irkutsk**	**51.73**	**343**	*e*P	**P**	**21 35 40.8**	**+0.1**		
IRK				pmax	pmax				
	comp=Z,65nm,1.8s								
MOY	**Mondy**	**52.27**	**340**	*e*P	**P**	**21 35 45.8**	**+0.9**		
MOY				pmax	pmax				
	comp=Z,57nm,3.9s								
WMQ	**Urumqi**	**52.56**	**325**	P	**P**	**21 35 46.8**	**-0.3**		
WMQ				pP	**pP**	**21 35 59.0**	**+0.1**		
WMQ				sP	**sP**	**21 36 04.0**	**+0.3**		
WMQ				PcP	**PcP**	**21 36 56.0**	**-1.0**		
WMQ				PP	**PP**	**21 37 48.0**	**+1.5**		
WMQ				ScP	**ScP**	**21 40 51.0**	**-0.3**		
WMQ				S	**S**	**21 43 09.0**	**-2.4**		
WMQ				sS	**sS**	**21 43 29.0**	**-1.9**		
WMQ				ScS	**ScS**	**21 45 30.0**	**-3.8**		
WMQ				pmax	pmax				
	comp=Z,34nm,1.2s								
WMQ				pmax	pmax				
	comp=Z,340nm,4.0s								
WMQ				LR	LR				
	comp=N,4μm,20.0s								
WMQ				LR	LR				
	comp=E,3μm,20.0s								
WMQ				LR	LR				
	comp=Z,4μm,22.8s								
DDI	**Dehra Dun**	**52.75**	**306**	*e*PKP	**P**	**21 35 48.0**	**-0.8**		
CLNS	**Chul'man**	**52.95**	**359**	*e*P	P	21 35 52.9	+3.2		
CLNS				pmax	pmax				
	comp=Z,25nm,1.0s								
CLNS				pmax	pmax				
	comp=E,4.0nm,0.8s								
CLNS				pmax	pmax				
	comp=N,20nm,1.0s								
POO	**Poona**	**53.47**	**290**	*e*PKP	**P**	**21 35 53.4**	**-0.8**		
POO				AMb	AMB	21 35 54.5			
	comp=Z,65nm,0.7s								
SMLA	**Simla**	**53.75**	**306**	*i* P	**P**	**21 35 56.3**	**+0.4**		
BOD	**Bodaibo**	**54.80**	**352**	*i* P	**P**	**21 36 03.8**	**+0.6**		
BOD				pmax	pmax				
	comp=Z,40nm,1.8s								
MSVF	**Nonsavu**	**55.15**	**115**	*e*P	**P**	**21 36 07.7**	**+1.3**		
MSVF				pmax	pmax				
	comp=Z,163nm,1.0s								
MSVF	**Nonsavu**	**55.15**	**115**	*e*P	**P**	**21 36 07.7**	**+1.3**		
	comp=Z,163nm,1.0s								
MSVF	**Nonsavu**	**55.15**	**115**	P	**P**	**21 36 07.6**	**+1.1**		
	comp=Z,903nm,1.0s,SNR=23								
PETK	**Petropavlovsk-**	**55.50**	**22**	P	**P**	**21 36 08.8**	**+0.5**		
PETK				pmax	pmax				
	comp=Z,9.0nm,0.5s								
PETK	**Petropavlovsk-**	**55.50**	**22**	P	**P**	**21 36 08.8**	**+0.5**		
PETK	**Petropavlovsk-**	**55.50**	**22**	P	**P**	**21 36 08.8**	**+0.5**		
	comp=Z,9.2nm,0.5s,baz=181,slow=6.0,SNR=11								
PET	**Petropavlovsk**	**55.80**	**23**	*e*P	P	21 36 16.0	+5.6		
PET				*e*S	**S**	**21 43 59.7**	**+5.2**		
PET				pmax	pmax				
	comp=Z,79nm,1.1s								
PET				MLR	MLR				
	comp=Z,600nm,12.0s								
MKAR	**Makanchi Array**	**57.39**	**325**	*e*P	**P**	**21 36 21.6**	**-0.4**		
MKAR				S	**S**	**21 44 13.4**	**-2.6**		
MKAR	**Makanchi Array**	**57.39**	**325**	P	**P**	**21 36 21.5**	**-0.5**		
MKAR	**Makanchi Array**	**57.39**	**325**	*e*P	**P**	**21 36 21.6**	**-0.4**		
MKAR				S	**S**	**21 44 13.4**	**-2.6**		
MKAR				P'P'		22 06 13.2			
MKAR				⇑*e*		22 06 26.3			
MKAR				*e*		22 13 34.1			
MKAR	**Makanchi Array**	**57.39**	**325**	P	**P**	**21 36 21.5**	**-0.5**		
	comp=Z,18nm,0.5s,baz=118,slow=7.5,SNR=113								
MKAR				S	**S**	**21 44 13.4**	**-2.6**		
	comp=Z,2.8nm,1.1s,baz=125,slow=12,SNR=4.7								
MKAR				LR	LR	22 02 46.8			
	comp=Z,1μm,19.5s,baz=110,slow=38								
MKAR				PKPPKP	**P'P'df**	**22 06 13.2**	**+2.7**		
	comp=Z,0.5nm,0.9s,baz=270,slow=4.2,SNR=4.5								
MKAR				PKP2bc		22 06 26.3			
	comp=Z,1.2nm,1.0s,baz=316,slow=3.3,SNR=4.6								
MKAR				P4KPbc		22 13 34.1			
	comp=Z,0.4nm,0.7s,baz=122,slow=4.6,SNR=4.2								
KSH	**Kashi**	**57.85**	**315**	P	**P**	**21 36 26.3**	**+0.9**		
KSH				pP	**pP**	**21 36 39.1**	**+1.8**		
KSH				sP	**sP**	**21 36 44.5**	**+2.4**		
KSH				PcP	**PcP**	**21 37 18.0**	**+0.4**		
KSH				PP	**PP**	**21 38 37.5**	**+3.5**		
KSH				ScP	**ScP**	**21 41 12.6**	**-2.1**		
KSH				PcS	**PcS**	**21 41 18.0**	**-1.1**		
KSH				S	**S**	**21 44 22.3**	**-0.1**		
KSH				sS	**sS**	**21 44 43.3**	**+1.1**		
KSH				ScS	**ScS**	**21 46 08.1**	**-4.0**		
KSH				SS	**SS**	**21 48 15.1**	**+1.4**		
KSH				LR	LR				
	comp=N,850nm,18.4s								
KSH				LR	LR				
	comp=E,430nm,13.7s								
KSH				LR	LR				
	comp=Z,890nm,18.7s								
YAK	**Yakutsk**	**58.19**	**2**	*e*P	**P**	**21 36 26.5**	**-0.7**		
YAK				*e**PP	**pP**	**21 36 38.7**	**-0.4**		
YAK				*e*		21 38 36.4			
YAK				*e*PPP	PPP	21 39 57.2			
YAK				*e*S	**S**	**21 44 28.2**	**+2.5**		
YAK				*e**SS	**sS**	**21 44 44.4**	**-1.1**		
YAK				*e*		21 46 11.0			
YAK				*e*SS	**SS**	**21 48 20.9**	**+3.0**		
YAK				pmax	pmax				
	comp=E,10.0nm,1.1s								
YAK				pmax	pmax				
	comp=N,46nm,1.0s								
YAK				pmax	pmax				
	comp=Z,97nm,1.0s								
YAK				pmax	pmax				
	comp=Z,151nm,3.5s								
YAK				smax	smax				
	comp=N,502nm,3.4s								
YAK				smax	smax				
	comp=E,306nm,2.5s								
YAK				MLR	MLR				
	comp=N,360nm,24.0s								
YAK				MLR	MLR				
	comp=Z,631nm,20.0s								
YAK				MLR	MLR				
	comp=E,271nm,17.0s								
YAK	**Yakutsk**	**58.19**	**2**	*e*P	**P**	**21 36 26.3**	**-0.9**		
	comp=E,180nm,0.9s								
OUZ	**Omahuta**	**58.76**	**135**	*e*P	**P**	**21 36 32.3**	**+0.6**		
	comp=E,37nm,1.0s								
ULHL	**Ulahol**	**58.84**	**318**	P	**P**	**21 36 33.0**	**+0.6**		
	SNR=7.3								
KZA	**Kyzart**	**59.43**	**318**	P	**P**	**21 36 37.2**	**+0.5**		
	SNR=68								
TKM2	**Tokmak 2**	**59.56**	**319**	*i* P	**P**	**21 36 37.4**	**0.0**		
TKM2	**Tokmak 2**	**59.56**	**319**	*e*P	**P**	**21 36 37.2**	**-0.2**		
	comp=E,27nm,0.5s								
TKM2	**Tokmak 2**	**59.56**	**319**	P	**P**	**21 36 37.4**	**0.0**		
	SNR=36								
KBK	**Karagaybulak**	**59.88**	**318**	P	**P**	**21 36 41.2**	**+1.6**		
	SNR=39								
UCH	**Uchtor**	**59.99**	**317**	P	**P**	**21 36 42.5**	**+1.9**		
	SNR=13								
CHMS	**Chumysh**	**60.16**	**318**	P	**P**	**21 36 42.2**	**+1.0**		
	SNR=24								
AAK	**Ala-Archa**	**60.17**	**318**	*c i*P	**P**	**21 36 41.4**	**-0.2**		
AAK				pmax	pmax				
	comp=Z,116nm,1.6s								
AAK	**Ala-Archa**	**60.17**	**318**	*e*P	**P**	**21 36 41.3**	**-0.2**		
	comp=Z,238nm,1.3s								
AAK				*e*ScP	**ScP**	**21 41 21.4**	**-3.6**		
AAK	**Ala-Archa**	**60.17**	**318**	P	**P**	**21 36 41.1**	**-0.4**		
	comp=Z,136nm,0.8s,SNR=26								
AAK	**Ala-Archa**	**60.17**	**318**	P	**P**	**21 36 41.8**	**+0.3**		
	SNR=26								
AAK	**Ala-Archa**	**60.17**	**318**	P	**P**	**21 36 42.4**	**+0.8**		
	SNR=33								
FRU	**Bishkek**	**60.17**	**318**	*e*P	**P**	**21 36 42.0**	**+0.6**		
FRU				*e*		21 36 58.0			
FRU				*e*		21 37 32.0			
FRU				*e*		21 46 26.0			
USP	**Ospenovka**	**60.44**	**319**	P	**P**	**21 36 44.4**	**+1.2**		
	SNR=103								
ZALV	**Zalesovo Beam**	**60.45**	**333**	P	**P**	**21 36 41.7**	**-1.3**		
ZALV				S	**S**	**21 44 50.3**	**-5.0**		
ZALV				pmax	pmax				
	comp=Z,9.0nm,0.5s								
ZALV				smax	smax				
	comp=N,1.0nm,1.0s								
ZALV				MLR	MLR				
	comp=Z,722nm,19.4s								
ZALV	**Zalesovo Beam**	**60.45**	**333**	P	**P**	**21 36 41.6**	**-1.3**		
ZALV				S	**S**	**21 44 50.2**	**-5.0**		
ZALV				⇑*e*		22 06 12.9			
ZALV	**Zalesovo Beam**	**60.45**	**333**	P	**P**	**21 36 41.6**	**-1.3**		
	comp=Z,8.7nm,0.5s,baz=116,slow=6.4,SNR=43								
ZALV				S	**S**	**21 44 50.2**	**-5.0**		
	comp=Z,1.4nm,1.0s,baz=123,slow=21,SNR=4.4								
ZALV				LR	LR	22 05 24.3			
	comp=Z,722nm,19.4s,baz=313,slow=38								
ZALV				PKP2bc		22 06 12.9			
	comp=Z,2.4nm,0.9s,baz=299,slow=3.1,SNR=8.8								
AML	**Almayashu**	**60.50**	**317**	P	**P**	**21 36 44.5**	**+0.4**		
	SNR=104								
EKS2	**Erkin-Say**	**60.66**	**318**	*e*P	**P**	**21 36 44.8**	**0.0**		
EKS2				pmax	pmax				
	comp=Z,49nm,0.8s								
EKS2	**Erkin-Say**	**60.66**	**318**	*e*P	**P**	**21 36 44.8**	**0.0**		
	comp=Z,49nm,0.8s								
EKS2	**Erkin-Say**	**60.66**	**318**	P	**P**	**21 36 44.9**	**0.0**		
	SNR=97								
KURBB	**Kurchatov Arra**	**61.58**	**327**	P	**P**	**21 36 50.1**	**-0.6**		
	comp=Z,48nm,0.7s,baz=130,slow=6.6,SNR=164								
KURBB				ScP	**ScP**	**21 41 32.6**	**+1.8**		
	comp=Z,2.0nm,1.0s,baz=126,slow=4.6,SNR=2.6								
KURBB				S	**S**	**21 45 05.7**	**-4.1**		
	comp=Z,1.2nm,1.0s,baz=112,slow=16,SNR=3.5								
KURK	**Kurchatov**	**61.59**	**328**	*e*P	**P**	**21 36 50.2**	**-0.6**		
KURK				S	**S**	**21 45 05.7**	**-4.1**		
KURK				pmax	pmax				
	comp=Z,81nm,0.6s								
KURK	**Kurchatov**	**61.59**	**328**	P	**P**	**21 36 50.1**	**-0.6**		
KURK	**Kurchatov**	**61.59**	**328**	*e*P	**P**	**21 36 50.2**	**-0.6**		
	comp=Z,81nm,0.6s								
KURK				ScP	**ScP**	**21 41 32.6**	**+1.8**		
KURK				S	**S**	**21 45 05.7**	**-4.1**		
KURK	**Kurchatov**	**61.59**	**328**	P	**P**	**21 36 50.6**	**-0.1**		
	SNR=28								
KURK	**Kurchatov**	**61.59**	**328**	P	**P**	**21 36 50.6**	**-0.1**		
	comp

BVAR S **S** **21 46 13.1 -5.6**
comp=N,1.3nm,1.0s,baz=114,slow=7.0,SNR=2.8
BRVK **Borovoye** **67.24 327***c iP* **P** **21 37 27.1 -0.6**
BRVK pmax pmax
comp=Z,115nm,1.0s
BRVK **Borovoye** **67.24 327** *e*P **P** **21 37 27.3 -0.4**
comp=Z,149nm,1.2s
BRVK **Borovoye** **67.24 327** P **P** **21 37 27.0 -0.6**
comp=Z,557nm,0.8s,SNR=52
BRVK **Borovoye** **67.24 327** P **P** **21 37 27.5 -0.2**
SNR=36
IDAH **Dahanechah** **68.36 304** *e*P **P** **21 37 36.0 +0.5**
IMYA **Miami** **68.83 308** *e*P **P** **21 37 38.3 +0.1**
IKOO **Kooshah** **69.02 303** *e*P **P** **21 37 39.0 -0.6**
ITEG **Tejag** **69.31 304** *e*P **P** **21 37 41.2 -0.1**
ISRO **Mashad** **69.32 307** *e*P **P** **21 37 41.2 0.0**
IMOG **Moghan** **69.39 307** *e*P **P** **21 37 41.7 -0.2**
BILL **Bilibino** **69.59 15** *e*P **P** **21 37 43.2 +1.1**
BILL *i* 21 37 59.0
BILL *e*SS SS 21 51 19.9 +4.5
BILL pmax pmax
comp=Z,13nm,1.6s
BILL MLR MLR
comp=Z,200nm,20.0s
BILL **Bilibino** **69.59 15** *e*P **P** **21 37 43.5 +1.4**
comp=Z,20nm,1.0s
IPAY **Payeh** **69.72 307** *e*P **P** **21 37 44.4 +0.5**
IKRD **Kardeh** **70.16 308** *e*P P 21 37 42.5 -4.1
ABKT **Ailbek** **70.68 309** P **P** **21 37 49.9 +0.4**
comp=Z,139nm,1.5s,SNR=9.2
DRV **Dumont d'Urvil** **70.92 174** PP PP 21 40 30.0 +2.2
DRV S S 21 46 23.0 -40
DRV SS SS 21 50 27.0 -69
DRV L L 21 54 00.0
DRV R 22 01 00.0
IBAF **Bafgh** **71.80 302** *e*P **P** **21 37 55.3 -1.2**
ABKAR **Akbulak array** **71.97 321** *e*P **P** **21 37 56.2 -0.7**
comp=Z,30nm,0.7s
IMEH **Mehriz** **72.58 302** *e*P **P** **21 37 59.6 -1.7**
ICHK **Chekchek** **72.85 302** *e*P **P** **21 38 02.3 -0.6**
ISAD **Sadrabad** **73.43 302** *e*P **P** **21 38 05.4 -0.9**
AKTO **Aktyubinsk** **73.49 322** P **P** **21 38 05.3 -0.6**
AKTO pmax pmax
comp=Z,49nm,0.8s
AKTO **Aktyubinsk** **73.49 322** P **P** **21 38 05.3 -0.6**
AKTO **Aktyubinsk** **73.49 322** P **P** **21 38 05.3 -0.6**
comp=Z,49nm,0.8s,baz=102,slow=7.5,SNR=126
IANJ **Anjilo** **73.64 306** *e*P **P** **21 38 07.0 -0.5**
ISRV **Sarvestan** **73.68 299** *e*P **P** **21 38 07.1 -0.8**
IPAR **Pars** **73.77 300** *e*P **P** **21 38 06.5 -1.9**
SVE **Sverdlovsk** **73.81 329**⇓ *e*P **P** **21 38 07.1 -0.6**
SVE *e*PPP PPP 21 42 43.2
SVE *e*S **S** **21 47 39.1 +3.1**
SVE pmax pmax
comp=Z,85nm,1.0s
SVE MLR MLR
comp=Z,574nm,22.0s
ISHM **Shahmirzad** **74.19 306** *e*P **P** **21 38 10.6 -0.1**
ILAS **Lasjerd** **74.41 306** *e*P **P** **21 38 11.5 -0.5**
GAMB **Gambell** **74.48 24** *e*P **P** **21 38 12.6 +1.2**
comp=Z,35nm,0.9s
IFIR **Firoozkooh** **74.60 306** *e*P **P** **21 38 12.9 -0.2**
IZEF **Zefreh** **74.67 303** *e*P **P** **21 38 12.2 -1.3**
ARU **Arti** **74.78 328***c iP* **P** **21 38 12.3 -1.0**
ARU S **S** **21 47 47.6 +0.7**
ARU SS **SS** **21 52 30.0 -5.2**
ARU pmax pmax
comp=Z,92nm,1.2s
ARU MLR MLR
comp=Z,467nm,22.0s
ARU **Arti** **74.78 328** *e*P **P** **21 38 12.3 -1.0**
comp=Z,49nm,0.7s
ARU **Arti** **74.78 328** P **P** **21 38 12.0 -1.3**
comp=Z,444nm,0.8s,SNR=38
IGAR **Gharneh** **74.86 302** *e*P **P** **21 38 14.0 -0.6**
ISFB **Sefidab** **74.88 304** *e*P **P** **21 38 14.2 -0.3**
IKLH **Kolahrood** **75.33 303** *e*P **P** **21 38 17.6 +0.2**
IVRN **Varamin** **75.37 305** *e*P **P** **21 38 16.0 -1.3**
IPIR **Pirpir** **75.85 303** *e*P **P** **21 38 20.2 -0.2**
RAR **Rarotonga** **76.28 113** P **P** **21 38 23.0 +0.4**
RAR **Rarotonga** **76.28 113** P **P** **21 38 23.0 +0.4**
comp=Z,31nm,1.0s,baz=206,slow=4.1,SNR=3.8
IMHD **Mahdasht** **76.30 306** *e*P **P** **21 38 22.6 0.0**
IRAZ **Razeghan** **76.87 305** *e*P **P** **21 38 25.7 -0.3**
QRN **Al-Qurain** **78.18 298** *e*P **P** **21 38 32.3 -0.9**
QRN AMb AMB 21 38 33.5
comp=Z,121nm,0.8s
UMR **Umm Al-Rimmam** **78.39 299** *e*P **P** **21 38 33.0 -1.2**
UMR AMb AMB 21 38 34.8
comp=Z,83nm,0.7s
KBD **Kabd** **78.39 299** *e*P **P** **21 38 32.9 -1.5**
KBD AMb AMB 21 38 34.8
comp=Z,53nm,0.8s
RDF **Al-Radifah** **78.51 299** *e*P **P** **21 38 34.3 -0.7**
RDF AMb AMB 21 38 35.9
comp=Z,90nm,0.8s
MIB **Mutribah** **78.72 299** *e*P **P** **21 38 34.9 -1.3**
MIB AMb AMB 21 38 36.9
comp=Z,120nm,0.8s
IKOM **Komasi** **78.78 304** *e*P **P** **21 38 35.0 -1.6**
NAY **Al-Naaiem** **78.79 299** *e*P **P** **21 38 35.4 -1.2**
NAY AMb AMB 21 38 36.8
comp=Z,48nm,0.8s
ISRB **Sarab** **78.87 308** *e*P **P** **21 38 37.6 +0.5**
ILIN **Lien** **79.27 305** *e*P **P** **21 38 38.2 -1.2**
MAK **Makhachkala** **79.38 313** P **P** **21 38 38.4 -1.1**
MAK *e* 21 41 43.3
MAK *e*S **S** **21 48 36.3 -1.2**
MAK pmax pmax
comp=Z,156nm,1.4s
MAK MLR MLR
comp=Z,477nm,19.0s
IHRS **Heris** **79.39 308** *e*P **P** **21 38 39.6 -0.4**
IBST **Bostanabad** **79.48 307** *e*P **P** **21 38 39.8 -0.6**
IGHG **Ghaleghazi** **79.56 304** *e*P **P** **21 38 38.7 -2.3**
IDHR **Dehrash** **79.73 304** *e*P **P** **21 38 39.4 -2.4**
ITBZ **Tabriz** **80.09 308** *e*P **P** **21 38 44.0 +0.3**
IMRD **Marand** **80.47 308** *e*P **P** **21 38 45.5 -0.2**
DGRG **David-gareji** **80.86 311** P **P** **21 38 48.7 +1.1**
ABPO **Ambohimpanom** **81.08 250** *e*P **P** **21 38 48.8 -0.5**
ABPO pmax pmax
comp=Z,20nm,0.9s
ABPO **Ambohimpanom** **81.08 250** *e*P **P** **21 38 48.8 -0.5**
comp=Z,20nm,0.9s
GNI **Garni** **81.28 310** *e*P **P** **21 38 50.7 +0.7**
comp=Z,26nm,1.0s
GNI **Garni** **81.28 310** P **P** **21 38 50.8 +0.8**
comp=Z,3.2nm,0.6s,baz=9.7,slow=11,SNR=5.7
BHD **Baghdad** **81.35 303** *ex* P 21 38 45.0 -5.2
BHD *ex* S 21 48 51.0 -7.5
BHD *ex* x 21 49 01.0
TBLG **Delisi** **81.35 311** P **P** **21 38 50.5 +0.4**
TBLG **Delisi** **81.35 311** P **P** **21 38 50.5 +0.4**
GOR **Gori** **81.83 312** P **P** **21 38 53.8 +1.1**
ZEI **Tsey** **82.02 312** *e*P **P** **21 38 53.7 -0.2**
ZEI pmax pmax
comp=Z,23nm,0.9s
RSO **Redoubt South** **82.19 30** *e*P **P** **21 38 54.8 +0.4**
AKH **Akhalkalaki** **82.27 311** P **P** **21 38 56.3 +1.2**
SPU **Mount Spurr** **82.61 29** *e*P **P** **21 38 56.8 +0.5**
KIV **Kislovodsk** **82.94 314** *e*P **P** **21 38 59.0 +0.5**
KIV *i* S **S** **21 49 18.4 +3.7**
KIV pmax pmax
comp=Z,7.0nm,0.8s
KIV MLR MLR
comp=Z,300nm,19.0s
KIV **Kislovodsk** **82.94 314** *e*P **P** **21 38 59.5 +1.0**
comp=Z,13nm,0.9s
SLKM **Skilak Lake** **83.44 30** *e*P **P** **21 39 01.2 +0.5**
SLKM **Skilak Lake** **83.44 30** *e*P **P** **21 39 01.2 +0.5**
TRF **Thorofare Moun** **83.63 27** *e*P **P** **21 39 01.6 -0.2**
comp=Z,68nm,1.2s
RC01 **Rabbit Creek A** **83.72 29** *e*P **P** **21 39 02.3 +0.3**
comp=Z,45nm,0.7s
SEW **Seward** **83.80 30** *e*P **P** **21 39 03.1 +0.7**
comp=Z,79nm,1.1s
VRHR **Novokhopersk** **83.86 321** *e*P **P** **21 39 01.7 -1.2**
VRHR *e*S S 21 49 14.7 -8.8
VRHR pmax pmax
comp=Z,30nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.8s
VRHR smax smax
comp=E,60nm,1.2s
VRHR smax smax
comp=Z,40nm,3.8s
VRHR smax smax
comp=N,40nm,1.3s
COLD **Coldfoot** **83.97 23** *e*P **P** **21 39 05.0 +1.8**
comp=N,44nm,1.0s
PMR **Palmer** **84.04 29** *e*P **P** **21 39 03.8 +0.2**
PMR pmax pmax
comp=Z,55nm,1.0s
PMR **Palmer** **84.04 29** *e*P **P** **21 39 03.8 +0.2**
comp=Z,56nm,1.0s
MCK **McKinley** **84.25 26** *e*P **P** **21 39 05.0 +0.3**
MCK pmax pmax
comp=Z,128nm,1.4s
MCK **McKinley** **84.25 26** *e*P **P** **21 39 05.0 +0.3**
comp=Z,128nm,1.4s
SML **Sawmill** **84.43 28** *e*P **P** **21 39 06.6 +0.9**
SML pmax pmax
comp=Z,36nm,1.2s
SML **Sawmill** **84.43 28** *e*P **P** **21 39 06.6 +0.9**
comp=Z,36nm,1.2s
COLA **College** **84.78 25** *e*P **P** **21 39 06.7 -0.6**
COLA pmax pmax
comp=Z,8.0nm,0.8s
COLA **College** **84.78 25** *e*P **P** **21 39 06.7 -0.6**
comp=Z,8.1nm,0.8s
ILAR **Eielson Array** **85.19 25** P **P** **21 39 08.9 -0.4**
ILAR PKKPbc **PKKPbc** **21 57 17.6 -0.4**
ILAR **Eielson Array** **85.19 25** P **P** **21 39 08.9 -0.4**
comp=Z,6.8nm,0.9s,baz=251,slow=5.4,SNR=32
ILAR PKKPbc **PKKPbc** **21 57 17.6 -0.4**
comp=Z,0.4nm,0.8s,baz=77,slow=0.6,SNR=4.4
KLMR **Klimovskoe** **85.26 331***c iP* **P** **21 39 09.3 -0.5**
KLMR *e*S **S** **21 49 32.0 -5.0**
KLMR pmax pmax
comp=Z,203nm,1.2s
KLMR pmax pmax
comp=Z,119nm,5.3s
KLMR MLR MLR
comp=Z,734nm,20.0s
VORD **Divnogorie** **85.33 321** *e*P **P** **21 39 09.8 -0.6**
PPT2 **Papeete2** **85.36 108** *e*S **S** **21 49 42.7 +2.9**
comp=Z,296nm,25.2s
PPT2 *e*SS **SS** **21 55 17.8 +2.4**
comp=Z,1μm,31.5s
PPT2 *e*LR LR 22 06 15.6
comp=Z,1μm,26.5s
VSR **Storozhevoye** **85.41 321** *e*P **P** **21 39 09.9 -0.9**
VSR *e*S S 21 49 29.9 -9.0
VSR pmax pmax
comp=Z,50nm,1.0s
VSR pmax pmax
comp=N,4.0nm,1.2s
VSR pmax pmax
comp=E,40nm,1.2s
VSR smax smax
comp=N,30nm,1.0s
VSR smax smax
comp=Z,2.0nm,1.0s
VSR smax smax
comp=E,10.0nm,1.2s
DIV **Divide** **85.65 29** *e*P **P** **21 39 13.3 +1.4**
comp=E,91nm,1.0s
PAX **Paxson** **85.79 27** *e*P **P** **21 39 13.2 +0.7**
PAX pmax pmax
comp=Z,27nm,1.1s
PAX **Paxson** **85.79 27** *e*P **P** **21 39 13.2 +0.7**
comp=Z,27nm,1.1s
TBI **Tubuai** **86.03 114** *e*S **S** **21 49 47.7 +1.7**
comp=Z,208nm,26.2s
TBI *e*LR LR 22 06 26.2
comp=Z,1μm,27.5s
BMRM **Bremner River** **86.22 29** *e*P **P** **21 39 15.2 +0.5**
comp=Z,43nm,0.9s
MOS **Moscow** **86.28 325** *e*P **P** **21 39 13.5 -1.4**
MOS *e*S S 21 49 37.2 -10
MOS pmax pmax
comp=Z,127nm,1.0s
MOS pmax pmax
comp=Z,300nm,1.7s
MOS MLR MLR
comp=N,700nm,22.0s
MOS MLR MLR
comp=E,600nm,20.0s
MOS MLR MLR
comp=Z,900nm,20.0s
ANN **Anapa** **86.70 315** *e*P **P** **21 39 15.9 -1.4**
ANN *e* 21 49 39.1
ANN pmax pmax
comp=Z,119nm,1.0s
ANN MLR MLR
comp=N,521nm,23.0s
ANN MLR MLR
comp=E,435nm,23.0s
ANN MLR MLR
comp=Z,618nm,23.0s
OBN **Obninsk** **86.90 325**⇑ *iP* **P** **21 39 17.4 -0.6**
OBN *i* S **SKSac** **21 49 39.5 -2.2**
OBN pmax pmax
comp=Z,127nm,1.4s
OBN MLR MLR
comp=Z,900nm,21.0s
OBN **Obninsk** **86.90 325** *e*P **P** **21 39 17.6 -0.3**
comp=Z,106nm,1.2s
OBN **Obninsk** **86.90 325** P **P** **21 39 17.0 -1.0**
comp=Z,431nm,1.3s,SNR=6.7
EGAK **Eagle** **87.64 25** *e*P **P** **21 39 21.9 +0.5**
comp=Z,7.7nm,0.9s
ASF **Jabal al Asfar** **87.67 302** P **P** **21 39 22.6 +0.2**
ASF **Jabal al Asfar** **87.67 302** P **P** **21 39 22.6 +0.2**
comp=Z,17nm,0.8s,baz=324,slow=3.1,SNR=36
APA **Apatity** **87.73 337**⇑ *iP* **P** **21 39 24.0 +2.2**
APA pmax pmax
comp=Z,31nm,1.0s
APA MLR MLR
comp=Z,2μm,18.0s
MMAI **Mount Meron Ar** **88.88 303** P **P** **21 39 27.9 -0.1**
MMAI **Mount Meron Ar** **88.88 303** P **P** **21 39 27.9 -0.1**
comp=Z,4.0nm,0.5s,baz=79,slow=8.6,SNR=19
JOF **Joensuu** **89.04 333** *e*P **P** **21 39 26.9 -1.2**
JOF pmax pmax
comp=Z,18nm,0.6s
JOF **Joensuu** **89.04 333** *e*p **P** **21 39 26.9 -1.2**
comp=Z,18nm,0.6s
SIM **Simferopol'** **89.05 315** *e*P P 21 39 16.2 -12
SIM *e*S **SKSac** **21 49 58.0 +2.8**
SIM pmax pmax
comp=Z,32nm,1.4s
KMBO **Kilima Mbogo** **89.30 269** *e*P **P** **21 39 31.5 +0.9**
comp=Z,31nm,1.2s
EIL **Elat** **89.49 300** P **P** **21 39 30.4 -0.6**
EIL **Elat** **89.49 300** P **P** **21 39 30.4 -0.6**
comp=Z,17nm,0.9s,baz=28,slow=1.7,SNR=17
KEV **Kevo** **89.78 340** *e*P **P** **21 39 30.7 -0.7**
KEV pmax pmax
comp=Z,6.0nm,0.7s
KEV **Kevo** **89.78 340** *e*p **P** **21 39 30.7 -0.7**
comp=Z,6.2nm,0.7s
BRTR **Keskin Array B** **89.81 310** P **P** **21 39 31.4 -1.0**
BRTR **Keskin Array B** **89.81 310** P **P** **21 39 31.4 -1.0**
comp=Z,14nm,0.9s,baz=116,slow=5.0,SNR=53
INK **Inuvik** **90.23 21** *e*P **P** **21 39 34.0 +0.5**
comp=Z,31nm,1.5s
ARCES **ARCESS Array B** **90.34 340** P **P** **21 39 33.2 -0.8**
ARCES **ARCESS Array B** **90.34 340** P **P** **21 39 33.2 -0.8**
comp=Z,15nm,0.7s,baz=84,slow=4.5,SNR=39
ARCES LR LR 22 23 15.6
comp=Z,542nm,21.9s,baz=76,slow=38
SPB4 **Spitsbergen Ar** **90.41 349** *e*P **P** **21 39 33.4 -0.9**
CSS **Prodhromos** **90.45 305** *e*P **P** **21 39 35.2 -0.1**
comp=Z,23nm,0.9s
KAF **Kangasniemi** **91.46 332** *e*P **P** **21 39 38.1 -1.2**
KAF pmax pmax
comp=Z,9.0nm,0.6s
KAF **Kangasniemi** **91.46 332** *e*p **P** **21 39 38.1 -1.2**
comp=Z,8.9nm,0.6s
FINES **FINESS Array B** **91.69 332** P **P** **21 39 39.1 -1.3**
FINES **FINESS Array B** **91.69 332** P **P** **21 39 39.1 -1.3**
comp=Z,11nm,0.8s,baz=58,slow=5.5,SNR=29
FINES LR LR 22 25 19.0
comp=Z,624nm,20.2s,baz=88,slow=38
AKASG **Malin Array Be** **91.72 321** P **P** **21 39 39.6 -1.2**
AKASG pmax pmax
comp=Z,13nm,0.7s
AKASG MLR MLR
comp=Z,459nm,20.9s
AKASG **Malin Array Be** **91.72 321** P **P** **21 39 39.6 -1.2**
AKASG **Malin Array Be** **91.72 321** P **P** **21 39 39.6 -1.2**
comp=Z,12nm,0.7s,baz=70,slow=4.8,SNR=38
AKASG LR LR 22 26 57.9
comp=Z,459nm,20.9s,baz=70,slow=40
KIEV **Kiev** **91.73 321** *e*P **P** **21 39 39.9 -0.9**
KIEV pmax pmax
comp=Z,25nm,1.2s
KIEV **Kiev** **91.73 321** *e*P **P** **21 39 39.9 -0.9**
comp=Z,25nm,1.2s
MICGM **Minsk** **91.96 325**⇓ *e*P **P** **21 39 40.0 -1.8**
MNK **Minsk** **91.99 325**⇓ *e*P **P** **21 39 40.0 -2.0**
MNK *e* 21 50 13.0
MNK *e*S **S** **21 50 35.0 -5.7**
MNK pmax pmax
comp=Z,80nm,1.0s
MNK MLR MLR
comp=Z,5μm,20.0s
MNK MLR MLR
comp=E,2μm,20.0s
SYO **Syowa Base** **92.36 201**⇑ *e*P **P** **21 39 43.2 -0.1**
SYO **Syowa Base** **92.36 201**⇑ *e*pP pP 21 39 52.7 -3.1
NACGM **Naroch** **92.52 325** *e* **P** **21 39 42.0 -2.4**
WRAK **Wrangell Islan** **93.06 33** *e*P **P** **21 39 47.3 +0.5**
comp=E,26nm,0.9s
CFR **Carcaliu** **93.24 316**⇑ *e*P **P** **21 39 47.3 -0.6**
CFR **Carcaliu** **93.24 316**⇑ *iP* **P** **21 39 47.3 -0.6**
QSPA **South Pole Qui** **93.66 180** *e*P **P** **21 39 50.1 +0.6**
comp=E,28nm,1.2s
DLBC **Dease Lake** **93.85 31** *e*P **P** **21 39 51.8 +1.2**
TESR **94.05 317**⇑ *iP* **P** **21 39 51.5 -0.2**
VRI **Vrincioaia** **94.11 316** ⇓P **P** **21 39 51.9 -0.1**
VRI **Vrincioaia** **94.11 316** ⇓ *iP* **P** **21 39 51.9 -0.1**
PLOR **Plostina** **94.16 316**⇑ P **P** **21 39 52.3 0.0**
PLOR **Plostina** **94.16 316**⇑ *iP* **P** **21 39 52.3 0.0**
MLR **Muntele Rosu** **94.71 316** P **P** **21 39 53.8 -1.1**
MLR **Muntele Rosu** **94.71 316**⇑ *iP* **P** **21 39 54.6 -0.3**
MLR **Muntele Rosu** **94.71 316** P **P** **21 39 53.8 -1.1**
comp=E,4.6nm,0.9s,baz=40,slow=0.6,SNR=25
SUW **Suwalki** **94.76 325** *e*P **P** **21 39 54.4 -0.4**
SUW **Suwalki** **94.76 325** *e*P **P** **21 39 54.4 -0.4**
SUW **Suwalki** **94.76 325** *e*P **P** **21 39 54.4 -0.4**
SUW **Suwalki** **94.76 325** *e*P **P** **21 39 54.1 -0.6**
comp=E,127nm,1.1s
BURAR **Bucovina Array** **94.82 318** P **P** **21 39 55.8 +0.5**
BURAR **Bucovina Array** **94.82 318**⇑ *iP* **P** **21 39 55.6 +0.3**
BUR08 **Bucovina Ar. S** **94.82 318** *e*P **P** **21 39 55.1 -0.2**
LVV **L'vov** **95.15 321** *e*P **P** **21 39 55.6 -1.0**
LVV MLR MLR
comp=Z,300nm,22.0s
VOIR **95.34 316** ⇓P **P** **21 39 56.3 -1.4**
VOIR **95.34 316** ⇓ *iP* **P** **21 39 56.3 -1.4**
BMR **Baia Mare** **95.95 319** ⇓P **P** **21 40 00.7 +0.4**
BMR **Baia Mare** **95.95 319** ⇓ *iP* **P** **21 40 00.7 +0.4**
KWP **Kalwaria Pacla** **96.03 321** *e*P **P** **21 40 00.5 -0.2**
KWP **Kalwaria Pacla** **96.03 321** *e*P **P** **21 40 00.5 -0.2**
KWP **Kalwaria Pacla** **96.03 321** *e*P **P** **21 40 00.3 -0.4**
KWP pmax pmax
comp=Z,21nm,0.9s
KWP **Kalwaria Pacla** **96.03 321** *e*P **P** **21 40 00.3 -0.4**
comp=Z,21nm,0.9s
KOLS **Kolonicke sedl** **96.47 320** *e*P **P** **21 40 02.6 -0.1**
KOLS pmax pmax
comp=Z,15nm,1.2s
KOLS **Kolonicke sedl** **96.47 320** *e*P **P** **21 40 02.6 -0.1**
TRPA **Tarpa** **96.47 319**⇑ *iP* **P** **21 40 02.2 -0.5**
UZH **Uzhgorod** **96.52 320** *i* P **P** **21 40 03.1 +0.2**
UZH *i* 21 40 13.9
DRGR **96.66 318**⇑ P **P** **21 40 03.6 -0.1**
DRGR **96.66 318**⇑ *iP* **P** **21 40 03.6 -0.1**
BEL **Belsk** **96.69 323** *e*P **P** **21 40 04.3 +0.8**
BEL **Belsk** **96.69 323** *e*P **P** **21 40 04.3 +0.8**
BEL **Belsk** **96.69 323** *e*P **P** **21 40 04.3 +0.8**
CRVS **Cervenica-Dubn** **96.99 320** *e*P 21 40 05.5
CRVS pmax pmax
comp=Z,26nm,1.1s
CRVS **Cervenica-Dubn** **96.99 320** *e*P 21 40 05.5
BZS **Buzias** **97.66 317**⇑ P **P** **21 40 07.3 -0.8**
BZS **Buzias** **97.66 317**⇑ *iP* **P** **21 40 07.3 -0.8**
OJC **Ojcow** **97.71 322** *e*P **P** **21 40 08.0 -0.2**
OJC **Ojcow** **97.71 322** *e*P Pdif 21 40 08.4 +0.1
OJC **Ojcow** **97.71 322** *e*P **P** **21 40 08.0 -0.2**
comp=Z,9.5nm,0.8s
RES **Resolute Bay** **97.83 10** *e*P **P** **21 40 08.0 -0.3**
comp=Z,7.6nm,0.9s
HFS **Hagfors** **97.88 332** P **P** **21 40 06.8 -1.9**
HFS **Hagfors** **97.88 332** P **P** **21 40 06.8 -1.9**
comp=Z,4.6nm,0.7s,baz=72,slow=4.7,SNR=5.5
PSZ **Piszkesteto** **98.25 319** *e*P Pdif 21 40 10.9 0.0
PSZ pmax pmax
comp=Z,12nm,1.1s
PSZ **Piszkesteto** **98.25 319** *e*P Pdif 21 40 10.9 0.0
comp=Z,12nm,1.1s
NB2 **NORSAR Subarra** **98.65 334** P **P** **21 40 10.8 -1.5**
baz=68,slow=4.8
NB2 **NORSAR Subarra** **98.65 334** P **P** **21 40 10.8 -1.5**
comp=Z,7.7nm,0.8s,baz=68,slow=4.8
NOA **NORSAR Array B** **98.65 334** P **P** **21 40 11.0 -1.2**
NOA **NORSAR Array B** **98.65 334** P **P** **21 40 11.0 -1.2**
comp=Z,6.8nm,0.8s,baz=68,slow=4.6,SNR=20
NOA LR LR 22 29 25.9
comp=Z,714nm,20.8s,baz=65,slow=38
VYHS **Vyhne** **98.78 320** *e*P **P** **21 40 12.7 -0.4**
VYHS pmax pmax
comp=Z,14nm,2.2s
VYHS **Vyhne** **98.78 320** PDIF **P** **21 40 12.7 -0.4**
OKC **Ostrava-Krasne** **98.84 322** *e*P Pdif 21 40 13.7 +0.4
OKC **Ostrava-Krasne** **98.84 322** *e*PDIFF Pdif 21 40 13.7 +0.4
OKC *ex* x 21 40 18.0
NAO01 **NORSAR Array S** **98.88 333** *e*PcP **PcP** **21 40 11.7 -1.6**
MORC **Moravsky Berou** **99.23 322** *e*P **Pdif** **21 40 15.5 +0.4**
MORC pmax pmax
comp=Z,10.0nm,1.2s
MORC **Moravsky Berou** **99.23 322** *e*P **Pdif** **21 40 15.5 +0.4**
comp=Z,10nm,1.2s
RKT **Rikitea** **99.32 113** *e*LR LR 22 12 31.8
comp=Z,752nm,34.5s
PKSM **Moragy** **99.53 318**⇑ P **Pdif** **21 40 16.3 -0.1**
PKSM **Moragy** **99.53 318**⇑ *iP* **Pdif** **21 40 16.3 -0.1**
YKA **Yellowknife Ar** **99.58 24** P **Pdif** **21 40 16.2 -0.1**
YKA PKKPbc **PKKPbc** **21 56 39.6 -1.1**
YKA **Yellowknife Ar** **99.58 24** P **Pdif** **21 40 16.2 -0.1**
comp=Z,0.9nm,0.6s,baz=295,slow=4.1,SNR=22
YKA PKKPbc **PKKPbc** **21 56 39.6 -1.1**
comp=Z,0.1nm,0.4s,baz=116,slow=2.3,SNR=3.7
KSP **Ksiaz** **99.67 323** *e*P **Pdif** **21 40 17.3 +0.2**
KSP **Ksiaz** **99.67 323** *e*P **Pdif** **21 40 17.3 +0.2**
KSP **Ksiaz** **99.67 323**⇓ *e*P **Pdif** **21 40 17.2 +0.2**
KSP MLR MLR
comp=Z,1μm,24.2s
DPC **Dobruska-Polom** **99.81 322** *e*P **Pdif** **21 40 18.0 +0.3**
DPC MLR MLR
comp=Z,500nm,17.5s
DPC **Dobruska-Polom** **99.81 322** *e*Pdif **Pdif** **21 40 18.2 +0.5**
comp=Z,12nm,1.1s
DPC **Dobruska-Polom** **99.81 322** *e*PDIFF **Pdif** **21 40 18.0 +0.3**
DPC *ex* x 21 40 22.1
DPC AMS AMS 22 27 50.0
comp=Z,500nm,17.5s
UPC **Upice** **99.95 323** *e*P **Pdif** **21 40 18.7 +0.4**
UPC **Upice** **99.95 323** *e*PDIFF **Pdif** **21 40 18.7 +0.4**
UPC *ex* x 21 40 22.4
VRAC **Vranov** **99.96 321** P **Pdif** **21 40 17.2 -1.2**
VRAC **Vranov** **99.96 321** P **Pdif** **21 40 17.2 -1.2**
comp=Z,2.7nm,0.5s,baz=88,slow=5.5,SNR=6.1
RUE **Ruedersdorf** **100.61 325** *e*Pdiff **Pdif** **21 40 21.6 +0.5**
TREC **Trest** **100.65 322** *e*P **Pdif** **21 40 22.0 +0.5**
TREC MLR MLR
comp=Z,400nm,18.2s
TREC **Trest** **100.65 322** *e*PDIFF **Pdif** **21 40 22.0 +0.5**
TREC AMS AMS 22 31 50.0
comp=Z,400nm,18.2s
PVCC **Panska Ves** **100.81 323** *e*P **Pdif** **21 40 22.8 +0.7**
PVCC MLR MLR
comp=Z,800nm,23.0s
PVCC **Panska Ves** **100.81 323** *e*PDIFF **Pdif** **21 40 22.8 +0.7**
PVCC AMS AMS 22 27 10.0
comp=Z,800nm,23.0s
PRU **Pruhonice** **101.01 322** *e*P **Pdif** **21 40 23.2 +0.2**
PRU MLR MLR
comp=Z,500nm,17.6s
PRU **Pruhonice** **101.01 322** *e*PDIFF **Pdif** **21 40 23.2 +0.2**
PRU *ex* x 21 40 27.5

PRU				*e*pP	pP	21 40 38.5	+2.9	
PRU				AMS	AMS	22 28 30.0		
	comp=Z,500nm,17.6s							
BRG	**Berggiesshubel**	**101.07**	**323**	*e*PDIF	**Pdif**	**21 40 23.9**	**+0.7**	
	comp=Z,16nm,1.3s							
BRG				*e*		21 40 28.0		
	comp=Z,13nm,1.0s							
BRG				PP	PP	21 44 23.0	-8.7	
BRG								
	comp=N,378nm,18.4s							
BRG								
	comp=E,463nm,16.9s							
BRG								
	comp=Z,1μm,30.3s							
BRG	**Berggiesshubel**	**101.07**	**323**	*e*Pdiff	**Pdif**	**21 40 23.4**	**+0.2**	
BRG	**Berggiesshubel**	**101.07**	**323**	*e*P	**Pdif**	**21 40 23.9**	**+0.7**	
BRG				pmax	pmax			
	comp=Z,16nm,1.3s							
BRG				pmax	pmax			
	comp=Z,13nm,1.0s							
BRG				MLR	MLR			
	comp=N,378nm,18.4s							
BRG				MLR	MLR			
	comp=E,463nm,16.9s							
BRG				MLR	MLR			
	comp=Z,1μm,30.3s							
FBE	**Freiberg**	**101.40**	**324**	*e*Pdiff	**Pdif**	**21 40 25.2**	**+0.5**	
CLL	**Collm**	**101.47**	**324**	*e*Pdiff	**Pdif**	**21 40 25.1**	**0.0**	
CLL	**Collm**	**101.47**	**324**	*e*P	**Pdif**	**21 40 25.0**	**0.0**	
CLL				*e*		21 51 01.0		
CLL				*e*S	**Sdif**	**21 52 02.0**	**-0.4**	
CLL				pmax	pmax			
	comp=Z,8.0nm,1.0s							
CLL	**Collm**	**101.47**	**324**	*e*Pdif	**Pdif**	**21 40 25.0**	**0.0**	
	comp=Z,8.0nm,1.0s							
CLL				*e*PP	**PKiKP**	**21 44 48.0**	**-0.9**	
CLL				*e*SKSac	**SKSac**	**21 51 01.0**	**-0.2**	
CLL				*e*Sdif	**Sdif**	**21 52 02.0**	**-0.4**	
CLL				*e*PS	**PS**	**21 53 32.0**	**-7.1**	
CLL				*e*PPS	PPS	21 54 20.0		
CLL				*e*SS	**SS**	**21 59 06.0**	**+2.4**	
CLL				*es*SS		21 59 42.0		
CLL				*e*(SSS)		22 03 48.0		
CLL				*e*		22 08 42.0		
CLL				Lm	MLR	22 29 00.0		
	comp=N,500nm,21.9s							
CLL				Lm	MLR	22 29 00.0		
	comp=E,300nm,21.2s							
CLL				Lm	MLR	22 29 00.0		
	comp=Z,500nm,20.9s							
CLL				LmV(360		23 45 00.0		
	comp=Z,100nm,20.1s							
KHC	**Kasperske Hory**	**101.89**	**322**	*e*P	**Pdif**	**21 40 26.7**	**-0.3**	
KHC				MLR	MLR			
	comp=Z,400nm,19.2s							
KHC	**Kasperske Hory**	**101.89**	**322**	*e*Pdif	**Pdif**	**21 40 27.3**	**+0.3**	
KHC	**Kasperske Hory**	**101.89**	**322**	*e*PDIFF	**Pdif**	**21 40 26.7**	**-0.3**	
KHC				*ex*	x	21 40 31.3		
KHC				*es*P		21 40 48.0		
KHC				AMS	AMS	22 29 30.0		
	comp=Z,400nm,19.2s							
GEC2	**GERESS Array S**	**101.91**	**322**	*e*Pdiff	**Pdif**	**21 40 27.4**	**+0.2**	
GERES	**GERESS Array B**	**101.91**	**322**	P	**Pdif**	**21 40 26.9**	**-0.3**	
GERES				PP	**PP**	**21 44 40.5**	**+2.2**	
GERES	**GERESS Array B**	**101.91**	**322**	P	**Pdif**	**21 40 26.9**	**-0.3**	
	comp=Z,2.9nm,0.9s,baz=72,slow=4.3,SNR=17							
GERES				PP	**PP**	**21 44 40.5**	**+2.2**	
	comp=Z,1.0nm,0.8s,baz=78,slow=7.4,SNR=3.9							
TANN	**Tannenbergstha**	**102.11**	**323**	*e*Pdiff	**Pdif**	**21 40 28.2**	**+0.2**	
WERD	**Werda**	**102.19**	**323**	*e*Pdiff	**Pdif**	**21 40 28.6**	**+0.3**	
GUNZ	**Gunzen**	**102.21**	**323**	*e*Pdiff	**Pdif**	**21 40 28.9**	**+0.5**	
WERN	**Wernitzgruen**	**102.21**	**323**	*e*Pdiff	**Pdif**	**21 40 29.0**	**+0.6**	
NEUB	**Neuenburg**	**102.23**	**324**	*e*Pdiff	**Pdif**	**21 40 28.6**	**+0.3**	
WET	**Wettzell**	**102.32**	**322**	*e*Pdiff	**Pdif**	**21 40 29.2**	**+0.3**	
ROTZ	**Rotzenmuhle**	**102.50**	**323**	*e*Pdiff	**Pdif**	**21 40 30.4**	**+0.8**	
MOX	**Moxa**	**102.53**	**324**	*e*Pdiff	**Pdif**	**21 40 30.3**	**+0.5**	
NRDL	**Niedersach Rie**	**102.68**	**326**	*e*Pdiff	**Pdif**	**21 40 31.4**	**+1.1**	
CLZ	**Clausthal**	**102.79**	**325**	*e*Pdiff	**Pdif**	**21 40 31.7**	**+0.8**	
GRF	**Grafenberg Arr**	**103.12**	**323**	*e*Pdiff	**Pdif**	**21 40 33.1**	**+0.7**	
GRF				*e*L	L	22 30 39.6		
	comp=Z,466nm,20.3s							
NVAR	**Mina Array Bea**	**107.08**	**48**	Pdif	**Pdif**	**21 40 52.1**	**+1.6**	
NVAR				PKKPbc	**PKKPbc**	**21 56 21.6**	**+3.6**	
NVAR	**Mina Array Bea**	**107.08**	**48**	Pdiff	**Pdif**	**21 40 52.1**	**+1.6**	
	comp=Z,1.4nm,0.8s,baz=266,slow=5.2,SNR=6.9							
NVAR				PKKPbc	**PKKPbc**	**21 56 21.6**	**+3.6**	
	comp=Z,1.0nm,0.5s,baz=117,slow=5.2,SNR=7.8							
LPG	**La Plagne**	**107.57**	**320**	*e*PKiKP	**PKiKP**	**21 44 59.7**	**-1.0**	
	comp=Z,37nm,1.3s							
LPG	**La Plagne**	**107.57**	**320**	*e*PKPdf	**PKiKP**	**21 44 59.7**	**-1.0**	
SSF	**Saint Saulge**	**108.89**	**323**	*e*PKiKP	**PKiKP**	**21 45 00.9**	**-1.8**	
	comp=Z,26nm,1.4s							
SSF	**Saint Saulge**	**108.89**	**323**	*e*PKPdf	**PKiKP**	**21 45 00.9**	**-1.8**	
DUG	**Dugway**	**110.39**	**45**	*e*PKKPab	PKKPab	21 56 20.5	+2.6	
JLU	**Jordanelle**	**111.18**	**44**	*e*PKKPab	PKKPab	21 56 17.9	+3.3	
PDAR	**Pinedale Array**	**111.50**	**41**	Pdif	**Pdif**	**21 41 13.9**	**+3.7**	
PDAR				PKiKP	**PKiKP**	**21 45 08.4**	**+0.3**	
PDAR				PKKPbc	**PKKPab**	**21 56 11.8**	**-1.3**	
PDAR	**Pinedale Array**	**111.50**	**41**	Pdiff	**Pdif**	**21 41 13.9**	**+3.7**	
	comp=Z,0.4nm,0.7s,baz=256,slow=3.4,SNR=2.9							
PDAR				PKiKP	**PKiKP**	**21 45 08.4**	**+0.3**	
	comp=Z,0.4nm,0.7s,baz=270,slow=1.5,SNR=3.9							
PDAR				PKKPbc	**PKKPab**	**21 56 11.8**	**-1.3**	
	comp=Z,2.4nm,0.8s,baz=119,slow=7.5,SNR=13							
TMUT	**Trail Mountain**	**111.89**	**45**	*e*PKKPab	PKKPab	21 56 13.7	+2.2	
SRU	**San Rafael**	**112.45**	**45**	*e*PKKPab	PKKPab	21 56 11.4	+2.6	
J22A	**Midwest**	**113.17**	**39**	⇓P	**PKiKP**	**21 45 11.2**	**0.0**	
	baz=113							
SMCO	**Snowmass**	**114.89**	**44**	*e*PKKPab	PKKPab	21 56 02.2	+3.9	
ESDC	**Sonseca Array**	**117.27**	**319**	PP	PP	21 46 34.4	+4.8	
ESDC				PKKPbc	**PKKPbc**	**21 55 44.1**	**+0.2**	
ESDC	**Sonseca Array**	**117.27**	**319**	PP	PP	21 46 34.4	+4.8	
	comp=Z,0.3nm,0.4s,baz=48,slow=7.7,SNR=4.2							
ESDC				PKKPbc	**PKKPbc**	**21 55 44.1**	**+0.2**	
	comp=Z,0.2nm,0.4s,baz=232,slow=5.2,SNR=4.2							
T26A	**Comanche Natio**	**118.19**	**44**	⇑P	**PKPdf**	**21 45 21.5**	**+0.5**	
	baz=118							
Y24A	**Capitan**	**118.40**	**48**	⇑P	**PKPdf**	**21 45 22.0**	**+0.4**	
	baz=118							
ECSD	**EROS Data Cent**	**118.91**	**34**	*e*PKPdf	**PKPdf**	**21 45 22.5**	**+0.5**	
Y25A	**Mesa, Roswell**	**118.95**	**48**	⇓P	**PKPdf**	**21 45 23.1**	**+0.5**	
	baz=119							
W26A	**Owens Ranch, T**	**119.08**	**46**	⇓P	**PKPdf**	**21 45 23.0**	**+0.2**	
	baz=119							
MTE	**Manteigas**	**119.18**	**321**	*e*PKPdf	PKPdf	21 45 30.2	+7.5	
324A	**Moseley Ranch,**	**119.46**	**51**	⇑P	**PKPdf**	**21 45 24.4**	**+0.8**	
	baz=119							
PCBR	**Castelo Branco**	**119.46**	**320**	*e*PKPdf	**PKPdf**	**21 45 24.1**	**+1.0**	
PBAR	**Barrancos**	**120.10**	**319**	*e*PKPdf	**PKPdf**	**21 45 24.9**	**+0.5**	
425A	**Indio Mountain**	**120.12**	**51**	⇓P	**PKPdf**	**21 45 25.0**	**+0.1**	
	baz=120							
Z27A	**Tatum**	**120.33**	**48**	⇑P	**PKPdf**	**21 45 24.7**	**-0.4**	
	baz=120							
EVO	**Evora**	**120.54**	**319**	*e*PKPdf	PKPdf	21 45 30.7	+5.4	
SCHQ	**Schefferville**	**120.58**	**9**	PKP	**PKPdf**	**21 45 25.1**	**+0.3**	
SCHQ	**Schefferville**	**120.58**	**9**	PKP	**PKPdf**	**21 45 25.1**	**+0.3**	
	comp=Z,3.0nm,0.9s,baz=293,slow=5.2,SNR=4.2							
PCVE	**Castro Verde**	**121.06**	**319**	*e*PKPdf	**PKPdf**	**21 45 28.5**	**+2.2**	
PNCL	**Nicolau / Gran**	**121.11**	**319**	*e*PKPdf	**PKPdf**	**21 45 28.4**	**+2.0**	
526A	**Mary Lane Ranc**	**121.13**	**51**	⇑P	**PKPdf**	**21 45 27.3**	**+0.4**	
	baz=121							
626A	**Big Bend Ranch**	**121.32**	**52**	⇑P	**PKPdf**	**21 45 27.7**	**+0.6**	
	baz=121							
527A	**Woodward Ranch**	**121.47**	**51**	⇑P	**PKPdf**	**21 45 27.9**	**+0.4**	
	baz=121							
328A	**Wristen Ranch,**	**121.53**	**50**	⇑P	**PKPdf**	**21 45 27.8**	**+0.3**	
	baz=121							
TXAR	**Lajitas Array**	**121.78**	**52**	PKP	**PKPdf**	**21 45 29.1**	**+1.1**	
TXAR				PKKPbc	**PKKPab**	**21 55 28.0**	**+0.2**	
TXAR	**Lajitas Array**	**121.78**	**52**	PKP	**PKPdf**	**21 45 29.1**	**+1.1**	
	comp=Z,1.2nm,0.8s,baz=37,slow=0.7,SNR=9.1							
TXAR				PKKPbc	**PKKPab**	**21 55 28.0**	**+0.2**	
	comp=Z,0.2nm,0.4s,baz=163,slow=6.6,SNR=2.2							
428A	**Kincaid Ranch,**	**121.92**	**50**	⇓P	**PKPdf**	**21 45 28.6**	**+0.3**	
	baz=122							
627A	**Terlingua Ranc**	**121.95**	**52**	⇓P	**PKPdf**	**21 45 28.9**	**+0.5**	
	baz=122							
628A	**Black Gap, Mar**	**122.32**	**52**	⇓P	**PKPdf**	**21 45 29.4**	**+0.4**	
	baz=122							
529A	**Stev Forest Ra**	**122.56**	**51**	⇓P	**PKPdf**	**21 45 30.2**	**+0.8**	
	baz=122							
429A	**Davenport Ranc**	**122.58**	**50**	⇑P	**PKPdf**	**21 45 30.0**	**+0.5**	
	baz=122							
TOA0	**Torodi Ar. Sit**	**122.67**	**288**	*e*PKPdf	**PKPdf**	**21 45 29.9**	**-0.1**	
TORD	**Torodi Ar. Bea**	**122.67**	**288**	PKP	**PKPdf**	**21 45 29.6**	**-0.4**	
TORD				PKKPbc	**PKKPab**	**21 55 24.3**	**+0.4**	
TORD	**Torodi Ar. Bea**	**122.67**	**288**	PKP	**PKPdf**	**21 45 29.6**	**-0.4**	
	comp=Z,2.4nm,0.6s,baz=64,slow=1.5,SNR=24							
TORD				PKKPbc	**PKKPab**	**21 55 24.3**	**+0.4**	
	comp=Z,1.0nm,0.6s,baz=267,slow=3.3,SNR=10							
JCT	**Junction City**	**124.23**	**49**	*e*PKiKP	**PKPdf**	**21 45 33.3**	**+0.7**	
JCT	**Junction City**	**124.23**	**49**	*e*PKPdf	**PKPdf**	**21 45 33.3**	**+0.7**	
JCT	**Junction City**	**124.23**	**49**	⇑P	**PKPdf**	**21 45 33.5**	**+0.8**	
	baz=124							
WHTX	**Lake Whitney**	**125.19**	**46**	⇓P	**PKPdf**	**21 45 34.3**	**0.0**	
	baz=125							
MIAR	**Mount Ida**	**126.42**	**41**	*e*PKiKP	**PKPdf**	**21 45 38.6**	**+1.9**	
MIAR	**Mount Ida**	**126.42**	**41**	*e*PKPdf	**PKPdf**	**21 45 38.6**	**+1.9**	
PLAL	**Pickwick Lake**	**129.62**	**37**	*e*PKPdf	**PKPdf**	**21 45 42.9**	**+0.2**	
DBIC	**Dimbokro**	**130.33**	**282**	PKP	**PKPdf**	**21 45 44.5**	**-0.1**	
DBIC				SKPbc	**SKPab**	**21 49 02.7**	**-2.0**	
DBIC	**Dimbokro**	**130.33**	**282**	PKP	**PKPdf**	**21 45 44.5**	**-0.1**	
	comp=Z,2.0nm,0.6s,baz=69,slow=1.7,SNR=5.6							
DBIC				SKPbc	**SKPab**	**21 49 02.7**	**-2.0**	
	comp=Z,14nm,0.9s,baz=64,slow=5.2,SNR=7.6							
LIC	**Lamto**	**130.58**	**281**	*e*PKiKP	**PKPdf**	**21 45 42.8**	**-2.3**	
	comp=Z,45nm,1.2s							
LIC	**Lamto**	**130.58**	**281**	*e*PKPdf	**PKPdf**	**21 45 42.8**	**-2.3**	
LRAL	**Lakeview Retre**	**131.59**	**38**	*e*PKPdf	**PKPdf**	**21 45 48.1**	**+1.6**	
TRQA	**Tornquist**	**144.99**	**168**	*e*PKPbc	**PKPdf**	**21 46 11.0**	**0.0**	
JTS	**JuntasAbangare**	**145.73**	**66**	PKPbc	**PKPbc**	**21 46 13.0**	**-0.2**	
JTS	**JuntasAbangare**	**145.73**	**66**	PKPbc	**PKPbc**	**21 46 13.0**	**-0.2**	
	comp=Z,48nm,0.9s,baz=294,slow=3.0,SNR=21							
GTBY	**Guantanamo Bay**	**148.31**	**41**	*e*PKPdf	**PKPdf**	**21 46 17.4**	**+0.5**	
GTBY				*es*PKPdf	**sPKPdf**	**21 46 32.5**	**-1.8**	
CFAA	**Coronel Fontan**	**149.03**	**155**	PKP	**PKPdf**	**21 46 18.3**	**+0.4**	
CFAA				PKPbc	**PKPbc**	**21 46 22.2**	**+0.3**	
CFAA	**Coronel Fontan**	**149.03**	**155**	PKP	**PKPdf**	**21 46 18.3**	**+0.4**	
	comp=Z,3.7nm,0.6s,baz=270,slow=4.1,SNR=4.4							
CFAA				PKPbc	**PKPbc**	**21 46 22.2**	**+0.3**	
	comp=Z,3.7nm,0.6s,baz=225,slow=3.1,SNR=36							
LCO	**Las Campanas**	**150.05**	**149**	*e*PKPbc	**PKPbc**	**21 46 25.7**	**+0.8**	
SDDR	**Presa de Saban**	**151.43**	**37**	*e*PKPbc	**PKPbc**	**21 46 28.6**	**+0.5**	
SDDR				*e*PKPab	**PKPab**	**21 46 37.0**	**+0.7**	
OTAV	**Otavalo**	**154.77**	**81**	*es*PKPdf	sPKPdf	21 46 42.7	-2.2	
ATAH	**Atahualpa**	**155.01**	**99**	PKP	**PKPdf**	**21 46 28.5**	**+0.7**	
ATAH				PKPbc	PKPab	21 46 40.5	-12	
ATAH				PKPab	PKPab	21 46 54.1	+1.9	
ATAH	**Atahualpa**	**155.01**	**99**	PKP	**PKPdf**	**21 46 28.5**	**+0.7**	
	comp=Z,3.3nm,0.7s,baz=342,slow=6.4,SNR=3.1							
ATAH				PKPbc	PKPab	21 46 40.5	-12	
	comp=Z,27nm,1.2s,baz=291,slow=1.7,SNR=9.1							
ATAH				PKPab	PKPab	21 46 54.1	+1.9	
	comp=Z,21nm,1.0s,baz=226,slow=4.1,SNR=8.1							
CPUP	**Villa Florida**	**157.26**	**171**	PKPab	**PKPab**	**21 47 00.5**	**-0.2**	
CPUP	**Villa Florida**	**157.26**	**171**	PKPab	**PKPab**	**21 47 00.5**	**-0.2**	
	comp=Z,5.9nm,0.7s,baz=216,slow=1.8,SNR=10							
SDV	**Santo Domingo**	**158.81**	**54**	*e*PKPdf	**PKPdf**	**21 46 33.8**	**+1.5**	
SDV				*e*PKPab	**PKPab**	**21 47 09.1**	**+0.9**	
RCBR	**Riachuelo**	**162.32**	**263**	PKPab	**PKPab**	**21 47 23.1**	**-0.4**	
RCBR	**Riachuelo**	**162.32**	**263**	PKPab	**PKPab**	**21 47 23.1**	**-0.4**	
	comp=Z,19nm,0.9s,baz=139,slow=3.0,SNR=6.8							
SIV	**San Ignacio**	**165.75**	**149**	PKP	**PKPdf**	**21 46 39.4**	**+0.4**	
SIV				PKPab	**PKPab**	**21 47 39.2**	**+1.1**	
SIV	**San Ignacio**	**165.75**	**149**	PKP	**PKPdf**	**21 46 39.4**	**+0.4**	
	comp=Z,3.5nm,1.2s,baz=131,slow=20,SNR=4.6							
SIV				PKPab	**PKPab**	**21 47 39.2**	**+1.1**	
	comp=Z,11nm,1.1s,baz=227,slow=4.3,SNR=7.7							
BDFB	**Brasilia**	**167.00**	**204**	PKPab	**PKPab**	**21 47 44.8**	**+1.1**	
BDFB	**Brasilia**	**167.00**	**204**	PKPab	**PKPab**	**21 47 44.8**	**+1.1**	
	comp=Z,5.3nm,1.0s,baz=120,slow=8.1,SNR=4.0							
SAML	**Samuel**	**169.10**	**119**	*e*PKPdf	**PKPdf**	**21 46 43.1**	**+1.7**	
SAML				*e*PKPab	**PKPab**	**21 47 53.4**	**+0.2**	

*ISCJB **13** 22:29:43.7±0.9, 17.9°N±0.1°×121.47°E±0.07, h28km, mb3.3/4, Error ellipse: s-maj=16.0km s-min=8.1km az=18.6*

*MAN **13** 22:29:49, 18.04°N×120.69°E, h78km, mb4.4, ML3.3, MS3.1*

*IDC **13** 22:29:50.8±10.0, 17.88°N×121.05E, h90km±106km, mb3.1/5, mb1 3.3/5, mb1mx3.2/20, mbtmp3.1/5, Error ellipse: s-maj=52.9km s-min=19.5km az=78.0*

ISC 13 22:29:44.6±1.2, 18.0°N±0.2×121.47°E±0.1°0, h28km, n8, σ1§64/8, mb3.2/4, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.89**	**295**	⇑*i*P		**Pb**		**22 30 03.4**	**+1.9**
PIP				*e*S		**Sb**		**22 30 12.8**	**-0.2**
SIPP	**Brgy, Tapao**	**0.96**	**269**	⇓*i*P		**Pn**		**22 30 03.0**	**+0.8**
SIPP				*i*S		Sn		**22 30 13.1**	**-1.9**
KSRS	**Korea Array**	**20.24**	**15**	P		Pn		22 34 20.6	+0.9
	1.4nm,0.5s,baz=195,slow=11,SNR=6.6								
WRA	**Warramunga Arr**	**39.72**	**161**	P		**P**		**22 37 14.4**	**-0.4**
	0.2nm,0.5s,baz=342,slow=8.8,SNR=2.9								
ASAR	**Alice Springs**	**43.11**	**163**	P		**P**		**22 37 43.3**	**+0.7**
	0.2nm,0.4s,baz=339,slow=7.4,SNR=3.0								
MKAR	**Makanchi Array**	**43.15**	**321**	P		**P**		**22 37 40.6**	**-2.1**
	0.4nm,0.8s,baz=120,slow=8.5,SNR=5.0								
ILAR	**Eielson Array**	**74.63**	**26**	P		**P**		**22 41 21.4**	**+0.4**
	1.7nm,1.3s,baz=264,slow=5.0,SNR=3.3								
YKA	**Yellowknife Ar**	**88.59**	**23**	pP		pP		22 42 56.0	+12
	0.4nm,0.9s,baz=308,slow=3.7,SNR=5.8								

IDC 13 21:31:23.3±1.8, 4.11N×126.84E, h0km, mb4.2/5, mb1 4.4/5, mb1mx3.9/21, mbtmp4.2/5, Error ellipse: s-maj=165.2km s-min=28.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.01**	**163**	P		P		21 36 48.9	-0.2
	11nm,1.1s,baz=343,slow=11,SNR=3.4								
MKAR	**Makanchi Array**	**57.31**	**325**	P		P		21 41 13.3	+0.3
	10nm,0.8s,baz=111,slow=7.9,SNR=9.1								
ZALV	**Zalesovo Beam**	**60.30**	**333**	P		P		21 41 33.4	-0.3
	0.9nm,0.6s,baz=144,slow=6.3,SNR=2.9								
KURBB	**Kurchatov Arra**	**61.48**	**327**	P		P		21 41 41.1	-0.6
	1.2nm,0.7s,baz=122,slow=7.3,SNR=4.0								
BVAR	**Borovoye Array**	**67.06**	**327**	P		P		21 42 18.9	+0.6
	1.2nm,0.7s,baz=100,slow=7.9,SNR=2.8								

IDC 13 21:50:11.5±1.6, 3.17N×129.19E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/19, mbtmp3.5/6, MS3.9/1, Ms1 3.9/1, ms1mx2.7/25, Error ellipse: s-maj=89.7km s-min=18.8km az=64.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.51**	**168**	P		P		21 55 24.1	+0.7
	0.3nm,0.3s,baz=344,slow=10,SNR=13								
ASAR	**Alice Springs**	**27.06**	**170**	P		P		21 55 55.4	-0.6
	0.3nm,0.5s,baz=359,slow=8.3,SNR=4.1								
PSI	**Prapat**	**30.23**	**270**	LR		LR		22 10 41.1	
	comp=Z,215nm,19.0s,baz=241,slow=41								
CMAR	**Chiang Mai Arr**	**33.28**	**299**	P		P		21 56 52.4	+1.3
	0.8nm,0.7s,baz=128,slow=7.3,SNR=5.8								
STKA	**Stephens Creek**	**36.79**	**162**	P		P		21 57 20.4	-0.8
	0.5nm,0.4s,baz=324,slow=10,SNR=2.6								
MKAR	**Makanchi Array**	**59.43**	**324**	P		P		22 00 16.0	-0.1
	0.3nm,0.5s,baz=118,slow=8.3,SNR=6.7								
KURBB	**Kurchatov Arra**	**63.55**	**327**	P		P		22 00 43.1	-0.7
	0.2nm,0.3s,baz=127,slow=7.4,SNR=5.1								

IDC 13 22:00:49.0±1.2, 3.70N×126.37E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, 1C, Error ellipse: s-maj=129.8km s-min=18.8km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.09**	**329**	⇑*i*P		Pb		22 02 01.7	-0.3
WRA	**Warramunga Arr**	**24.76**	**162**	P		P		22 06 12.0	-0.6
	0.8nm,0.4s,baz=343,slow=10,SNR=10								
ASAR	**Alice Springs**	**28.17**	**165**	P		P		22 06 43.1	-0.4
	0.2nm,0.3s,baz=341,slow=9.2,SNR=2.6								
STKA	**Stephens Creek**	**38.23**	**159**	P		P		22 08 11.9	+1.0
	0.9nm,0.5s,baz=337,slow=8.1,SNR=4.1								
SONM	**Songino Array**	**47.22**	**342**	P		P		22 09 24.1	+0.2
	0.5nm,0.7s,baz=156,slow=9.6,SNR=3.4								
MKAR	**Makanchi Array**	**57.38**	**325**	P		P		22 10 38.9	-0.4
	0.6nm,0.5s,baz=120,slow=7.6,SNR=24								

IDC 13 22:08:24.7±1.7, 4.38N×127.34E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.7/4, Error ellipse: s-maj=152.4km s-min=20.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.13**	**164**	P		P		22 13 50.9	-0.8
	0.9nm,0.6s,baz=344,slow=10,SNR=13								
ASAR	**Alice Springs**	**28.61**	**167**	P		P		22 14 24.5	+1.5
	0.2nm,0.4s,baz=356,slow=12,SNR=3.1								
STKA	**Stephens Creek**	**38.53**	**160**	P		P		22 15 48.0	-1.1
	0.6nm,0.3s,baz=340,slow=5.5,SNR=3.8								
MKAR	**Makanchi Array**	**57.37**	**325**	P		P		22 18 14.7	-0.3
	0.4nm,0.4s,baz=121,slow=7.6,SNR=21								
MKAR				PKPbc	PKPab	PcP		22 19 09.2	+0.2
	0.2nm,0.4s,baz=114,slow=4.9,SNR=3.9								

*IDC **13** 22:29:33.1±0.9, 3.86N×127.22E, h0km, mb4.0/10, mb1 4.2/10, mb1mx4.0/20, mbtmp4.0/10, MS3.5/2, Ms1 3.5/2, ms1mx2.7/32, Error ellipse: s-maj=64.2km s-min=15.2km az=68.0*

*ISCJB **13** 22:29:36.6±0.7, 3.8N±0.1°×127.1E±0.3°, h36km, mb4.1/13, MS3.4/2, Error ellipse: s-maj=45.8km s-min=9.9km az=159.1*

*NEIC **13** 22:29:38.2±0.6, 3.75N×127.08E, h35km, mb4.4/3, Error ellipse: s-maj=41.5km s-min=9.2km az=67.0*

ISC 13 22:29:38.4±0.8, 3.8N±0.2×127.2E±0.3, h36km, n24, σ0§78/26, mb4.1/13, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.86**	**184**	P		**P**		**22 34 29.3**	**+1.2**
	2.5nm,0.6s,baz=11,slow=9.5,SNR=3.3								
WRAB	**Tennant Creek**	**24.64**	**164**	*e*P		**P**		**22 34 55.2**	**-0.6**
	11nm,0.8s								
WRA	**Warramunga Arr**	**24.65**	**164**	P		**P**		**22 34 55.6**	**-0.3**
WRA	**Warramunga Arr**	**24.65**	**164**	P		**P**		**22 34 55.6**	**-0.3**
	8.9nm,0.7s,baz=344,slow=11,SNR=72								
ASAR	**Alice Springs**	**28.11**	**167**	P		**P**		**22 35 26.5**	**-0.6**
ASAR	**Alice Springs**	**28.11**	**167**	P		**P**		**22 35 26.5**	**-0.6**
	0.8nm,0.6s,baz=335,slow=8.9,SNR=9.1								
PSI	**Prapat**	**28.27**	**269**	LR		LR		22 47 20.5	
	comp=Z,70nm,18.3s,baz=104,slow=38								
CMAR	**Chiang Mai Arr**	**31.24**	**300**	P		**P**		**22 35 54.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**31.24**	**300**	P		**P**		**22 35 54.8**	**-0.1**
	1.2nm,0.3s,baz=125,slow=7.8,SNR=5.4								
MJAR	**Matsushiro Arr**	**34.08**	**16**	LR		LR		22 48 02.4	
	comp=Z,76nm,19.0s,baz=150,slow=33								
STKA	**Stephens Creek**	**38.06**	**160**	P		**P**		**22 36 53.7**	**0.0**
	2.9nm,0.6s,baz=339,slow=8.6,SNR=6.8								
ULN	**Ulaanbaatar**	**47.17**	**342**	*e*P		**P**		**22 38 08.4**	**+0.9**
	2.3nm,0.8s								
SONM	**Songino Array**	**47.35**	**341**	P		**P**		**22 38 10.0**	**+1.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.47**	**329**	*i* P	**Pg**	**23 00 23.0**	**+0.7**
ACX				*i* S	**Sg**	**23 00 28.8**	**+0.1**
CAIG	**El Cayaco**	**0.86**	**313**	*i* P	**Pg**	**23 00 28.6**	**-1.0**
CAIG				*i* S	**Sg**	**23 00 38.8**	**-2.2**
PNIG	**Pinotepa**	**1.42**	**93**	*i* P	**Pn**	**23 00 37.2**	**-1.0**
PNIG				*i* S	**Sn**	**23 00 53.5**	**-3.2**
PLIG	**Platanillo**	**1.92**	**3**	*e*P	**Pn**	**23 00 44.3**	**-0.9**
PLIG				*i* S	**Sn**	**23 01 07.0**	**-2.3**
ZIIG	**Zihuatanejo**	**2.12**	**303**	*e*P	**Pn**	**23 00 46.9**	**-0.8**
ZIIG				*i* S	**Sn**	**23 01 11.0**	**-2.8**
UTMO	**Huajuapan**	**2.19**	**51**	*i* P	**Pn**	**23 00 48.0**	**-1.1**
UTMO				*i* S	**Sn**	**23 01 14.7**	**-1.4**
YAIG	**Yautepec**	**2.44**	**12**	*e*P	**Pn**	**23 00 50.8**	**-1.6**
YAIG				*i* S	**Sn**	**23 01 20.6**	**-1.5**
MZVM		**2.74**	**7**	*i* P	**Pn**	**23 00 55.8**	**-0.5**
MZVM				*i* S	**Sn**	**23 01 26.9**	**-2.3**
PPM	**Popocatepetl**	**2.75**	**20**	*e*P	**Pn**	**23 00 55.5**	**-1.5**
PPM				*i* P	Pb	23 00 56.4	-5.7
PPM				*i* S	**Sn**	**23 01 28.8**	**-1.5**
VHO	**Vista Hermosa**	**2.82**	**77**	*e*P	**Pn**	**23 00 57.6**	**0.0**
VHO				*i* S	**Sn**	**23 01 29.3**	**-2.2**
OXX	**Oaxaca**	**2.83**	**77**	*e*P	**Pn**	**23 00 57.0**	**-0.7**
OXX				*i* S	**Sn**	**23 01 30.1**	**-1.7**
SZVM	**Salazar**	**2.85**	**4**	*e*P	**Pn**	**23 00 58.0**	**-0.3**
SZVM				*i* S	**Sn**	**23 01 31.7**	**-1.0**
PBIG	**Penon de los B**	**3.00**	**9**	*i* P	**Pn**	**23 00 59.0**	**-1.0**
PBIG				*i* S	**Sn**	**23 01 34.7**	**-1.1**
PBVM	**Pinon**	**3.00**	**9**	*i* P	**Pn**	**23 01 00.1**	**+0.1**
PBVM				*i* S	**Sn**	**23 01 34.2**	**-1.6**
AZVM	**Cuida Lopez Ma**	**3.12**	**6**	*e*P	**Pn**	**23 01 01.4**	**-0.5**
PTVM	**Pico Tres Padr**	**3.15**	**8**	*e*P	**Pn**	**23 01 02.1**	**-0.2**
PTVM				*i* S	**Sn**	**23 01 38.2**	**-1.6**
IIO	**Organos**	**3.23**	**15**	*i* P	**Pn**	**23 01 03.0**	**-0.4**
IIO				*i* S	**Sn**	**23 01 39.8**	**-1.9**
VTVM	**Tizayuca**	**3.38**	**13**	*i* P	**Pn**	**23 01 05.1**	**-0.4**
HUIG	**Huatulco**	**3.43**	**101**	*e*P	**Pn**	**23 01 06.3**	**+0.5**
HUIG				*i* S	**Sn**	**23 01 44.8**	**-1.5**
MMIG	**Aquila**	**4.01**	**298**	*i* P	**Pn**	**23 01 13.5**	**-0.3**
CMIG	**Matias Romero**	**4.56**	**81**	Pn	**Pn**	**23 01 20.9**	**-0.6**
CMIG				Pg	**Pg**	**23 01 40.5**	**+0.2**
CMIG				Sn	**Sn**	**23 02 11.1**	**-3.2**
CMIG				Lg	Lg	23 02 36.3	
CMIG	**Matias Romero**	**4.56**	**81**	*e*P	**Pn**	**23 01 20.6**	**-0.9**
CMIG				*e*S	**Sn**	**23 02 13.6**	**-0.8**
CMIG	**Matias Romero**	**4.56**	**81**	Pn	**Pn**	**23 01 20.9**	**-0.6**
	5.3nm,0.3s,baz=262,slow=11,SNR=58						
CMIG				Pg	**Pg**	**23 01 40.5**	**+0.2**
	8.5nm,0.3s,baz=251,slow=17,SNR=13						
CMIG				Sn	**Sn**	**23 02 11.1**	**-3.2**
	10nm,0.3s,baz=292,slow=16,SNR=6.0						
CMIG				Lg	Lg	23 02 36.3	
	16nm,0.3s,baz=353,slow=15,SNR=8.1						
CMIG				LR	LR	23 03 25.1	
	comp=Z,474nm,19.3s,baz=262,slow=43						
EZ5V		**4.85**	**309**	*i* P	**Pn**	**23 01 25.8**	**+0.2**
EZ5V				*i* S	**Sn**	**23 02 19.5**	**-2.2**
R15V		**4.97**	**304**	*e*P	**Pn**	**23 01 25.9**	**-1.2**
R15V				*i* S	**Sn**	**23 02 21.5**	**-2.8**
TEIG	**Tepich**	**11.39**	**69**	Pn	**Pn**	**23 02 54.4**	**-0.7**
TEIG				Sn	Sn	23 04 53.0	-9.2
TEIG	**Tepich**	**11.39**	**69**	Pn	**Pn**	**23 02 54.4**	**-0.7**
	1.5nm,0.3s,baz=84,slow=3.4,SNR=6.2						
TEIG				Sn	Sn	23 04 53.0	-9.2
	1.3nm,0.3s,baz=300,slow=20,SNR=4.0						
TEIG				LR	LR	23 08 26.7	
	comp=Z,284nm,18.4s,baz=147,slow=44						
TXAR	**Lajitas Array**	**13.35**	**344**	Lg	Lg	23 07 17.3	
TXAR	**Lajitas Array**	**13.35**	**344**	Lg	Lg	23 07 17.3	
	0.2nm,0.3s,baz=163,slow=25,SNR=4.4						
JTS	**JuntasAbangare**	**15.51**	**111**	*e*Pn	**P**	**23 03 55.0**	**-0.6**
	19nm,0.8s						
JTS	**JuntasAbangare**	**15.51**	**111**	Pn	**P**	**23 03 56.9**	**+1.3**
	3.7nm,0.3s,baz=319,slow=16,SNR=11						
TUC	**Tucson**	**18.76**	**329**	*e*P	**Pn**	**23 04 32.6**	**+0.6**
MIAR	**Mount Ida**	**18.80**	**16**	*e*P	**Pn**	**23 04 35.4**	**+3.0**
MTDJ	**Mount Denham**	**21.14**	**82**	*e*P	**P**	**23 04 58.1**	**+0.5**
WUAZ	**Wupatki**	**21.69**	**333**	*e*P	**P**	**23 05 06.2**	**+2.7**
	7.1nm,1.0s						
SDCO	**Great Sand Dun**	**21.83**	**347**	*e*P	**P**	**23 05 05.2**	**+0.1**
WVT	**Waverly**	**22.21**	**26**	*e*P	**P**	**23 05 06.7**	**-2.2**
ISA	**Isabella**	**25.47**	**322**	*e*P	**P**	**23 05 40.8**	**+0.2**
NVAR	**Mina Array Bea**	**27.36**	**327**	P	**P**	**23 06 00.7**	**+2.9**
NVAR	**Mina Array Bea**	**27.36**	**327**	P	**P**	**23 06 00.7**	**+2.9**
	1.1nm,0.7s,baz=145,slow=8.3,SNR=5.6						
PDAR	**Pinedale Array**	**27.57**	**344**	P	**P**	**23 06 01.8**	**+2.2**
PDAR	**Pinedale Array**	**27.57**	**344**	P	**P**	**23 06 01.8**	**+2.2**
	0.9nm,1.0s,baz=151,slow=6.1,SNR=3.9						
SCHQ	**Schefferville**	**45.85**	**26**	P	P	23 08 40.4	+5.9
SCHQ	**Schefferville**	**45.85**	**26**	P	P	23 08 40.4	+5.9
	1.2nm,0.5s,baz=240,slow=11,SNR=7.8						
YKA	**Yellowknife Ar**	**47.18**	**351**	P	**P**	**23 08 45.4**	**+0.8**
YKA	**Yellowknife Ar**	**47.18**	**351**	P	**P**	**23 08 45.4**	**+0.8**
	0.4nm,0.8s,baz=160,slow=7.1,SNR=5.1						
SIV	**San Ignacio**	**49.85**	**128**	LR	LR	23 28 18.9	
	comp=Z,137nm,18.5s,slow=34						

IDC 13 23:01:23.9±2.3, 4.03N×127.03E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=196.0km s-min=27.2km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.88**	**163**	P	P	23 06 48.0	-0.6
	0.7nm,0.6s,baz=343,slow=9.8,SNR=9.0						
ASAR	**Alice Springs**	**28.33**	**167**	P	P	23 07 20.4	+0.7
	0.1nm,0.4s,baz=348,slow=8.5,SNR=3.2						
STKA	**Stephens Creek**	**38.30**	**160**	P	P	23 08 46.2	-0.1
	0.9nm,0.4s,baz=320,slow=7.9,SNR=2.4						
MKAR	**Makanchi Array**	**57.48**	**325**	P	P	23 11 14.9	-0.1
	0.2nm,0.6s,baz=126,slow=8.5,SNR=3.9						

PRU 13 23:09:10.6, 50.32N×18.93E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.57**	**100**	*e*Pg	Pg	23 09 21.1	-0.4
OJC				*e*Sg	Sg	23 09 29.0	+0.1
OKC	**Ostrava-Krasne**	**0.70**	**227**	*e*SG	Sg	23 09 33.2	+0.1
	comp=Z,4.1nm,0.3s						
DPC	**Dobruska-Polom**	**1.67**	**272**	*e*PG	Pb	23 09 41.8	-0.5
DPC				*e*SG	Sg	23 10 04.9	+0.4
	comp=Z,2.5nm,0.7s						
KSP	**Ksiaz**	**1.76**	**288**	*e*Pg	Pg	23 09 45.1	+0.7
KSP				*e*Sg	Sg	23 10 09.1	+1.9
KHC	**Kasperske Hory**	**3.67**	**253**	*e*SG	Sb	23 11 05.0	+3.5

*BJI **13** 23:13:12.8, 30.71N×84.10E, h10km, mb4.0/4*
*IDC **13** 23:13:12.7±4.4, 30.63N×83.98E, h46km±42km, mb3.4/10, mb1 3.6/13, mb1mx3.5/29, mbtmp3.5/13, ML3.8/3, MS3.2/4, Ms1 3.2/4, ms1mx2.8/37, Error ellipse: s-maj=33.8km s-min=17.5km az=52.0*
*NDI **13** 23:13:53.4±5.4, 30.39N×79.70E, h10km, ML3.1*
ISC 13 23:13:09.5±0.6, 30.60N±0.08×84.00E±0.06, h10km, n30, σ1s93/24, mb3.6/10, MS3.1/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.44**	**253**	*ex*	**Pn**	**23 14 06.0**	**+2.6**
LGTI	**Lohaghat**	**3.45**	**252**	*e*PKP	**Pb**	**23 14 11.2**	**+0.5**
LGTI				*ex*	**Sg**	**23 15 01.0**	**+0.6**
DDI	**Dehra Dun**	**5.14**	**268**	*ex*	**Pn**	**23 14 26.0**	**-0.6**
SMLA	**Simla**	**5.90**	**277**	*e*PKP	Pn	23 14 33.0	-3.9
NDI	**New Delhi**	**6.21**	**254**	*ex*	Pn	23 15 02.0	+4.3
LSA	**Lhasa**	**6.26**	**96**	Pn	Pn	23 14 46.6	+4.3
AGRA	**Agra**	**6.28**	**239**	*e*PKP	Pn	23 14 48.6	+6.4
AGRA				*ex*	**Sb**	**23 16 13.4**	**-0.8**
AGRA				AML	AML	23 16 37.4	
	comp=N,67nm,0.5s						
AGRA				AML	AML	23 16 37.9	
	comp=E,76nm,0.6s						
KUDL	**Kundal**	**7.00**	**251**	*e*PKP	**Pn**	**23 14 49.5**	**-2.5**
KUDL				*ex*	x	23 16 40.2	
KHET	**Khetri**	**7.58**	**253**	*e*PKP	Pn	23 14 56.6	-3.5
SHL	**Shillong**	**8.58**	**124**	*e*PKP	Sn	23 16 42.2	-8.7
IMP	**Imphal**	**10.54**	**121**	*ex*	**Pn**	**23 15 42.0**	**+1.3**
AAK	**Ala-Archa**	**14.21**	**330**	P	**Pn**	**23 16 32.3**	**+1.4**
	comp=E,0.1nm,0.3s,baz=146,slow=11,SNR=2.9						
POO	**Poona**	**15.14**	**220**	*ex*	**Pn**	**23 16 45.0**	**+1.4**
GTA	**Gaotai**	**15.64**	**52**	*e*P	**P**	**23 16 54.5**	**+0.2**
GTA				pP	**pP**	**23 16 58.8**	**+1.7**
GTA				sP	**sP**	**23 17 01.8**	**+3.4**
GTA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR	**Makanchi Array**	**16.22**	**356**	P	**Pn**	**23 16 58.8**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=180,slow=12,SNR=18						
CMAR	**Chiang Mai Arr**	**18.17**	**128**	P	**Pn**	**23 17 21.6**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=309,slow=11,SNR=13						
KURBB	**Kurchatov Arra**	**20.41**	**350**	P	**P**	**23 17 44.5**	**-2.1**
	comp=Z,5.3nm,0.8s,baz=172,slow=10,SNR=40						
KURBB				LR	LR	23 26 47.7	
	comp=Z,74nm,18.7s,baz=115,slow=40						
ZALV	**Zalesovo Beam**	**23.34**	**1**	P	**P**	**23 18 15.2**	**-2.5**
	comp=Z,1.2nm,0.6s,baz=188,slow=9.8,SNR=8.5						
SONM	**Songino Array**	**24.30**	**39**	P	**P**	**23 18 27.3**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=225,slow=10,SNR=8.3						
BVAR	**Borovoye Array**	**24.51**	**340**	P	**P**	**23 18 26.8**	**-2.1**
	comp=Z,0.4nm,0.6s,baz=161,slow=8.8,SNR=5.7						
AKTO	**Aktyubinsk**	**27.74**	**323**	LR	LR	23 30 10.8	
	comp=Z,37nm,21.7s,baz=274,slow=37						
PSI	**Prapat**	**31.05**	**150**	LR	LR	23 32 10.4	
	comp=Z,51nm,20.2s,baz=160,slow=36						
BRTR	**Keskin Array B**	**41.70**	**297**	P	**P**	**23 21 01.8**	**+3.2**
	comp=Z,0.4nm,0.7s,baz=82,slow=11,SNR=3.3						
MJAR	**Matsushiro Arr**	**45.06**	**67**	LR	LR	23 41 07.5	
	comp=Z,39nm,18.7s,baz=45,slow=37						
FINES	**FINESS Array B**	**49.38**	**327**	P	P	23 21 48.6	-2.6
	comp=Z,1.7nm,0.9s,baz=91,slow=11,SNR=3.9						
ARCES	**ARCESS Array B**	**50.75**	**337**	P	**P**	**23 22 07.3**	**-1.9**
	comp=Z,1.8nm,0.8s,baz=110,slow=9.7,SNR=3.9						
WRA	**Warramunga Arr**	**69.76**	**129**	P	**P**	**23 24 17.8**	**-2.3**
	comp=Z,0.7nm,0.8s,baz=324,slow=6.5,SNR=4.0						
ASAR	**Alice Springs**	**72.12**	**133**	P	**P**	**23 24 32.7**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=318,slow=5.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**76.88**	**278**	P	**P**	**23 25 01.2**	**-1.1**
	comp=Z,0.5nm,0.9s,baz=57,slow=5.3,SNR=3.1						
YKA	**Yellowknife Ar**	**86.03**	**9**	P	**P**	**23 25 48.2**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=339,slow=4.9,SNR=4.8						

IDC 13 23:13:57.3±2.2, 3.90N×126.51E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=206.1km s-min=28.7km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.91**	**162**	P	P	23 19 22.0	-0.2
	0.4nm,0.4s,baz=341,slow=11,SNR=5.2						
STKA	**Stephens Creek**	**38.36**	**159**	P	P	23 21 20.2	-0.1
	0.8nm,0.3s,baz=323,slow=10,SNR=4.7						
MKAR	**Makanchi Array**	**57.29**	**325**	P	P	23 23 46.9	0.0
	0.1nm,0.5s,baz=124,slow=7.1,SNR=3.9						

*ISK **13** 23:17:54.2, 39.40N×33.00E, h5km, MD2.6*
*ISCJB **13** 23:17:55.4±0.7, 39.43N±0.05×33.02E±0.06, h5km±5km, Error ellipse: s-maj=10.0km s-min=6.0km az=136.2*
*DDA **13** 23:17:55.4, 39.40N×33.08E, h7km, MD2.7*
*CSEM **13** 23:17:55.1±0.3, 39.46N×33.03E, h8km, MD2.7, Error ellipse: s-maj=9.7km s-min=6.8km az=146.0*
ISC 13 23:17:55.2±1.1, 39.40N±0.05×33.02E±0.04, h5km±7km, n15, σ0s67/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Af ar-Bala (A**	**0.06**	**40**	*e*PG	**Pg**	**23 17 56.4**	**-0.3**
AFSR				*e*SG	**Sg**	**23 17 57.8**	**0.0**
AFSR	**Af ar-Bala (A**	**0.06**	**40**	*e*Pg	**Pg**	**23 17 56.4**	**-0.3**
AFSR				*e*Sg	**Sg**	**23 17 57.8**	**0.0**
BBAL	**Bala**	**0.16**	**29**	*i* Pg	**Pg**	**23 17 58.3**	**-0.1**
BBAL				*i* Sg	**Sg**	**23 18 00.4**	**-0.1**
LOD	**Lodumlu**	**0.53**	**338**	*e*PG	**Pg**	**23 18 04.9**	**-0.4**
LOD	**Lodumlu**	**0.53**	**338**	*e*Pg	**Pg**	**23 18 04.9**	**-0.4**
CDAG	**Cicekdag**	**1.07**	**78**	*e*P	**Pg**	**23 18 14.8**	**-0.8**
CDAG				*e*S	**Sg**	**23 18 29.8**	**+0.3**
CDAG	**Cicekdag**	**1.07**	**78**	*e*P	**Pg**	**23 18 14.8**	**-0.8**
CDAG				*e*S	**Sg**	**23 18 29.8**	**+0.3**
ELDT	**Eldivan**	**1.13**	**16**	*e*P	**Pg**	**23 18 16.1**	**-0.7**
ELDT				*e*S	**Sb**	**23 18 33.3**	**+0.9**
ELDT	**Eldivan**	**1.13**	**16**	*e*P	**Pg**	**23 18 16.1**	**-0.7**
KDHN	**Kadinhani**	**1.13**	**219**	*e*P	**Pn**	**23 18 18.8**	**+1.1**
KDHN				*e*S	**Sn**	**23 18 33.2**	**-0.5**
KDHN	**Kadinhani**	**1.13**	**219**	*e*P	**Pn**	**23 18 18.8**	**+1.1**
KDHN				*e*S	**Sn**	**23 18 33.2**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.16**	**273**	*e*PN	**Pg**	**23 18 16.5**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.16**	**273**	*e*Pn	**Pg**	**23 18 16.5**	**-0.9**
CORM	**Corum**	**1.46**	**57**	*e*PN	**Pn**	**23 18 22.3**	**0.0**
CORM	**Corum**	**1.46**	**57**	*e*Pn	**Pn**	**23 18 22.3**	**0.0**

IDC 13 23:22:11.1±3.1, 42.72S×72.62W, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.9/15, mbtmp3.7/5, ML4.1/1, Error ellipse: s-maj=84.8km s-min=20.3km az=142.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**2.52**	**39**	Pn	Pn	23 22 54.0	+0.6
	8.6nm,0.3s,baz=215,slow=16,SNR=146						
PLCA				Pg	Pb	23 22 56.5	-0.8
	12nm,0.3s,baz=219,slow=17,SNR=140						
PLCA				Lg	Lg	23 23 31.7	
	29nm,0.3s,baz=308,slow=20,SNR=17						
CPUP	**Villa Florida**	**20.59**	**42**	P	Pn	23 26 52.8	-0.9
	0.3nm,0.3s,baz=199,slow=18,SNR=2.9						
SIV	**San Ignacio**	**28.42**	**24**	P	P	23 28 05.6	-1.8
	0.8nm,0.7s,baz=228,slow=16,SNR=3.2						
TXAR	**Lajitas Array**	**77.18**	**332**	P	P	23 34 07.2	+0.5
	0.3nm,0.6s,baz=146,slow=9.1,SNR=3.9						
PDAR	**Pinedale Array**	**91.35**	**334**	P	P	23 35 18.6	0.0
	0.6nm,0.8s,baz=154,slow=5.0,SNR=3.9						

*BGS **13** 23:32:14.7±2.4, 44.56N×88.92E, h10km, mb4.8*
*ISCJB **13** 23:32:39.7±0.7, 46.75N±0.02×84.49E±0.03, h4km±4km, mb4.7/130, MS3.9/15, Error ellipse: s-maj=3.5km s-min=3.0km az=39.3*
*LDG **13** 23:32:40.8±0.3, 46.93N×84.48E, h10km, Mb4.8/38, Ms3.6/7, Error ellipse: s-maj=21.1km s-min=5.4km az=176.0*
*IDC **13** 23:32:41.8±0.5, 46.74N×84.62E, h9km±3km, mb4.3/27, mb1 4.5/33, mb1mx4.4/38, mbtmp4.3/33, ML4.3/6, MS3.6/10, Ms1 3.6/10, ms1mx3.2/45, Error ellipse: s-maj=9.7km s-min=6.6km az=12.0*
*BJI **13** 23:32:41.6, 46.80N×84.64E, h29km, mB4.6/16, mb4.5/23, ML4.7/9, Ms4.2/25, Ms7 4.0/22*
*MOS **13** 23:32:42.2±1.1, 46.73N×84.47E, h22km, mb5.2/42, Error ellipse: s-maj=5.8km s-min=4.3km az=122.0*
*NEIC **13** 23:32:42.5±0.2, 46.75N×84.50E, mb5.0/60, Error ellipse: s-maj=5.0km s-min=3.6km az=181.0*
*NNC **13** 23:32:44.9±1.1, 46.67N×84.38E, h110km±6km, mb3.9, mpv4.6, Error ellipse: s-maj=11.2km s-min=5.9km az=90.0*
*ASRS **13** 23:32:45.2±1.4, 46.84N×84.46E, h15km, Ms4.2/3*
*SZGRF **13** 23:33:02.7, 47.60N×81.60E, h33km, mb4.7, Eastern Kazakhstan*
ISC 13 23:32:43.6±0.4, 46.77N±0.03×84.41E±0.03, h18km±2km, h17km:pP-P, n434, σ1s34/491, mb4.8/132, MS3.9/16, 100C-34D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**1.46**	**272**	P	**Pb**	**23 33 10.4**	**+0.2**
	1μm,0.6s,baz=94,slow=17						
MK31				S	**Sg**	**23 33 30.9**	**+0.3**
	1μm,0.4s,baz=89,slow=33,SNR=21						
MK31	**Makanchi Array**	**1.46**	**272**	*e*PG	**Pb**	**23 33 10.5**	**+0.3**
MK31				*e*		23 33 30.9	
MK31	**Makanchi Array**	**1.46**	**272**	*e*Pn	**Pb**	**23 33 10.5**	**+0.3**
MK31				*e*Sg	**Sg**	**23 33 30.9**	**+0.3**
MKAR	**Makanchi Array**	**1.46**	**272**	*e*PN	**Pb**	**23 33 10.5**	**+0.3**
MKAR				*e*		23 33 30.8	
MKAR	**Makanchi Array**	**1.46**	**272**	*e*Pn	**Pb**	**23 33 10.5**	**+0.3**
MKAR				Pg	**Pb**	**23 33 10.8**	**+0.6**
MKAR				*e*Sn	**Sg**	**23 33 30.8**	**+0.2**
MKAR				Lg	Lg	23 33 31.1	
MKAR	**Makanchi Array**	**1.46**	**272**	Pg	**Pb**	**23 33 10.8**	**+0.6**
	601nm,0.3s,baz=91,slow=18						
MKAR				Lg	Lg	23 33 31.1	
	2μm,0.3s,baz=85,slow=33,SNR=30						
WMQ	**Urumqi**	**3.75**	**141**	Pn	**Pn**	**23 33 40.5**	**-0.1**
WMQ				Sn	**Sn**	**23 34 25.0**	**+0.7**
WMQ				smax	smax		
	comp=N,2μm,0.6s						
WMQ				smax	smax		
	comp=E,3μm,0.7s						
WMQ				LR	LR		
	comp=N,4μm,6.2s						
WMQ				LR	LR		
	comp=E,6μm,6.4s						
WMQ				LR	LR		
	comp=Z,4μm,6.2s						
UKR	**Ust'-Kan**	**4.18**	**3**	*e*Pn	**Pn**	**23 33 49.0**	**+2.5**
UKR				*e*Sg	**Sb**	**23 34 50.7**	**+3.9**
UKR	**Ust'-Kan**	**4.18**	**3**	*e*PN	**Pn**	**23 33 49.0**	**+2.5**
UKR				*e*		23 34 50.7	
ARTR	**Artybash**	**5.37**	**19**	*e*Pn	**Pn**	**23 34 05.2**	**+2.4**
ARTR				*e*Sg	**Sg**	**23 35 31.5**	**-4.4**
ARTR	**Artybash**	**5.37**	**19**	*e*PN	**Pn**	**23 34 05.2**	**+2.4**
KURBB	**Kurchatov Arra**	**5.48**	**317**	⇓Pn	**Pn**	**23 34 05.0**	**+0.7**
	comp=Z,2.4nm,0.3s						
KURBB	**Kurchatov Arra**	**5.48**	**317**	Pn	**Pn**	**23 34 06.2**	**+1.9**
	comp=Z,4.1nm,0.3s,baz=132,slow=12,SNR=207						
KURBB				Sn	**Sn**	**23 35 10.8**	**+4.0**
	comp=Z,11nm,0.3s,baz=85,slow=31,SNR=6.0						
KURBB				Lg	Lg	23 35 35.8	
	comp=Z,27nm,0.3s,baz=140,slow=28,SNR=15						
KURK	**Kurchatov**	**5.50**	**318**	⇓Pn	**Pn**	**23 34 05.3**	**+0.7**
	comp=Z,9.9nm,0.3s						
KURK				⇓Pg	**Pg**	**23 34 27.9**	**-0.9**
	comp=Z,125nm,0.8s						
KURK				⇑Sn	**Sn**	**23 35 08.4**	**+1.1**
	comp=Z,106nm,0.4s						
KURK				⇓Lg	Lg	23 35 43.5	
	comp=Z,831nm,0.6s						
KURK	**Kurchatov**	**5.50**	**318**	*c i*PN	**Pn**	**23 34 05.6**	**+1.0**
KURK				pmax	pmax		
	comp=Z,25nm,1.0s						
KURK	**Kurchatov**	**5.50**	**318**	*e*Pn	**Pn**	**23 34 05.4**	**+0.9**
KURK				*e*Sn	**Sn**	**23 35 10.0**	**+2.6**
KURK				Lg	Lg	23 35 35.8	
AAA	**Alma-Ata**	**6.34**	**239**	*e*PN	Pb	23 34 38.4	+5.0
AAA				pmax	pmax		
	comp=Z,159nm,0.6s						
KNDC	**Almaty**	**6.36**	**239**	⇑Pn	**Pn**	**23 34 16.1**	**-0.4**
	comp=Z,170nm,0.8s						
KNDC				⇑Sn	**Sn**	**23 35 25.5**	**-3.2**
	comp=Z,309nm,0.7s						
KNDC				⇓Lg	Lg	23 36 08.1	
	comp=Z,708nm,0.9s						
TASR	**Tashtagol**	**6.41**	**19**	*e*Pn	**Pn**	**23 34 18.8**	**+1.8**
TASR				*e*Sg	Sg	23 36 01.7	-7.2
TASR	**Tashtagol**	**6.41**	**19**	*e*PN	**Pn**	**23 34 18.8**	**+1.8**
ELT	**Yel'tsovka**	**6.61**	**10**	*e*Pn	**Pn**	**23 34 21.8**	**+2.1**
ELT	**Yel'tsovka**	**6.61**	**10**	*e*PN	**Pn**	**23 34 21.8**	**+2.1**
ZAA0	**Zalesovo Array**	**7.19**	**2**	*e*Pn	**Pn**	**23 34 27.7**	**-0.1**
ZAA0				*e*Sn	**Sn**	**23 35 49.3**	**+0.3**
ZALV	**Zalesovo Beam**	**7.19**	**2**	P	**Pn**	**23 34 27.9**	**+0.1**
ZALV						23 35 50.4	
ZALV	**Zalesovo Beam**	**7.19**	**2**	Pn	**Pn**	**23 34 27.9**	**+0.1**
ZALV				Sn	**Sn**	**23 35 50.4**	**+1.4**
ZALV				Lg	Lg	23 36 28.4	
ZALV	**Zalesovo Beam**	**7.19**	**2**	Pn	**Pn**	**23 34 27.9**	**+0.1**
	comp=Z,5.8nm,0.3s,baz=189,slow=14,SNR=64						
ZALV				Sn	**Sn**	**23 35 50.4**	**+1.4**
	comp=Z,20nm,0.3s,baz=181,slow=24,SNR=9.3						
ZALV				Lg	Lg	23 36 28.4	
	comp=Z,15nm,0.3s,baz=186,slow=28,SNR=12						
ZALV				LR	LR	23 37 30.3	
	comp=Z,168nm,20.2s,baz=205,slow=40						
TKM2	**Tokmak 2**	**7.35**	**242**	⇑Pn	**Pn**	**23 34 29.9**	**-0.3**
	comp=Z,29nm,0.5s						
TKM2				⇓Lg	Lg	23 36 39.0	
	comp=Z,167nm,0.7s						
TKM2	**Tokmak 2**	**7.35**	**242**	*i* P	**Pn**	**23 34 31.7**	**+1.6**
TKM2	**Tokmak 2**	**7.35**	**242**	*e*Pn	**Pn**	**23 34 29.1**	**-1.1**
TKM2	**Tokmak 2**	**7.35**	**242**	P	**Pn**	**23 34 31.8**	**+1.6**
	SNR=27						
ULHL	**Ulahol**	**7.38**	**235**	P	**Pn**	**23 34 33.4**	**+2.8**
	SNR=74						
CHMS	**Chumysh**	**7.83**	**245**	P	**Pn**	**23 34 37.8**	**+1.3**
	SNR=12						
USP	**Ospenovka**

comp=Z,2.2nm,0.3s,baz=120,slow=13,SNR=55
BVAR Sn **Sn** **23 37 20.6 -1.6**
comp=Z,9.9nm,0.3s,baz=105,slow=24,SNR=11
BVAR Lg Lg 23 38 34.8
comp=Z,7.0nm,0.3s,baz=121,slow=24,SNR=8.0
BVAR LR LR 23 39 32.4
comp=Z,357nm,18.4s,baz=114,slow=37
BRVK Borovoye 11.06 310 ⇑Pn **Pn** **23 35 20.3 -0.5**
comp=Z,32nm,1.0s
BRVK ⇑Sn **Sn** **23 37 22.4 -1.5**
comp=Z,78nm,0.7s
BRVK ⇓Lg Lg 23 38 38.8
comp=Z,266nm,1.0s
BRVK Borovoye 11.06 310*c iP* **Pn** **23 35 21.2 +0.5**
BRVK pmax pmax
comp=Z,26nm,1.2s
BRVK Borovoye 11.06 310 *ePn* **Pn** **23 35 21.3 +0.5**
BRVK *eSn* **Sn** **23 37 22.4 -1.5**
ZRNK Zerenda 11.70 308 ⇓Pn **Pn** **23 35 28.4 -1.1**
comp=Z,11nm,0.6s
ZRNK ⇑Sn **Sn** **23 37 38.2 -1.3**
comp=Z,56nm,1.0s
ZRNK ⇓Lg Lg 23 38 58.7
comp=Z,245nm,1.1s
ZRNK Zerenda 11.70 308 *i P* **Pn** **23 35 29.2 -0.3**
ZRNK pmax pmax
comp=Z,11nm,0.3s
MOY Mondy 11.89 60 *eP* Pn 23 35 42.6 +10
MOY pmax pmax
comp=Z,8.0nm,0.9s
ZAK Zakamensk 13.00 67 *eP* **Pn** **23 35 46.7 -0.7**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
GTA Gaotai 13.43 118 *eP* Pn 23 35 48.1 -5.3
GTA S Sn 23 38 11.3 -11
GTA pmax pmax
comp=Z,2.0nm,0.6s
GTA pmax pmax
comp=Z,57nm,4.8s
GTA LR LR
comp=N,670nm,13.5s
GTA LR LR
comp=E,500nm,10.2s
GTA LR LR
comp=Z,380nm,12.4s
TLY Talaya 13.49 62 *eP* **Pn** **23 35 54.8 +0.9**
TLY pmax pmax
comp=Z,5.0nm,0.8s
TLY MLR MLR
comp=Z,261nm,17.0s
TLY Talaya 13.49 62 *ePn* **Pn** **23 35 55.4 +1.5**
SONM Songino Array 14.95 78 Pn **Pn** **23 36 12.7 -1.3**
SONM Lg Lg 23 40 31.6
SONM Songino Array 14.95 78 Pn **Pn** **23 36 12.7 -1.3**
comp=Z,0.3nm,0.3s,baz=276,slow=11,SNR=7.9
SONM Lg Lg 23 40 31.6
comp=Z,0.9nm,0.3s,baz=269,slow=28,SNR=13
SONM LR LR 23 42 04.6
comp=Z,186nm,21.0s,baz=279,slow=38
ULN Ulaanbaatar 15.39 78 *ePn* **Pn** **23 36 20.9 +1.1**
comp=Z,14nm,1.2s
CHCP Chirah Chowk 15.60 217 P **Pn** **23 36 23.2 +0.7**
CEP Cherat 16.04 221 P **Pn** **23 36 26.9 -1.4**
CEP S **Sn** **23 39 26.0 +0.3**
AB31 Akbulak array 16.54 288 Pn **Pn** **23 36 30.7 -3.8**
comp=Z,9.9nm,0.5s,baz=93,slow=12,SNR=262
AB31 ⇑Lg Lg 23 41 30.8
comp=Z,17nm,0.8s,baz=88,slow=27,SNR=3.6
ABKAR Akbulak array 16.54 288 *ePn* **Pn** **23 36 32.7 -1.7**
comp=Z,12nm,0.5s
KBL Kabul 16.85 229 *eP* **Pn** **23 36 37.4 -1.3**
KBL pmax pmax
comp=Z,10.0nm,0.5s
KBL Kabul 16.85 229 *eP* **Pn** **23 36 37.4 -1.3**
comp=Z,10nm,0.5s
THW Thamme Wali 16.98 219 P **Pn** **23 36 38.1 -2.1**
SVE Sverdlovsk 17.73 313⇓*eP* **Pn** **23 36 48.7 -0.6**
SVE *eS* **Sn** **23 40 01.6 -4.6**
SVE pmax pmax
comp=Z,28nm,1.1s
SVE MLR MLR
comp=Z,281nm,9.0s
AKTO Aktyubinsk 17.80 292 ⇓Pn **Pn** **23 36 46.2 -4.0**
comp=Z,1.1nm,0.5s
AKTO ⇓Lg Lg 23 42 11.9
comp=Z,8.4nm,1.4s
AKTO Aktyubinsk 17.80 292 P **Pn** **23 36 49.6 -0.6**
AKTO Aktyubinsk 17.80 292 P **Pn** **23 36 49.6 -0.6**
AKTO Lg Lg 23 42 07.8
AKTO Aktyubinsk 17.80 292 P **Pn** **23 36 49.6 -0.6**
comp=Z,1.1nm,0.3s,baz=92,slow=12,SNR=42
AKTO Lg Lg 23 42 07.8
comp=Z,0.3nm,0.3s,baz=3.4,slow=19,SNR=6.1
AKTO LR LR 23 43 54.1
comp=Z,312nm,19.1s,baz=96,slow=38
LSA Lhasa 17.83 161 *eP* **Pn** **23 36 50.6 -0.6**
LSA pmax pmax
comp=Z,9.0nm,0.7s
LSA Lhasa 17.83 161 *ePn* **Pn** **23 36 50.6 -0.6**
comp=Z,9.4nm,0.7s
LZH Lanzhou 18.01 119 *eP* **Pn** **23 36 52.4 -0.7**
LZH pP **pP** **23 37 00.8 +2.3**
LZH sP **sP** **23 37 03.4 +2.6**
LZH *eS* **Sn** **23 40 07.0 -6.6**
LZH sS **S** **23 40 15.1 -4.5**
LZH SS **SnSn** **23 40 30.3 +3.2**
LZH pmax pmax
comp=Z,27nm,1.1s
LZH pmax pmax
comp=Z,200nm,5.6s
LZH LR LR
comp=N,650nm,15.2s
LZH LR LR
comp=E,600nm,14.7s
LZH LR LR
comp=Z,480nm,15.4s
DANN Dangsing 18.39 182 *eP* **P** **23 36 55.9 -2.0**
comp=Z,19nm,0.5s
ARU Arti 18.64 311*d iP* **P** **23 37 00.0 0.0**
ARU S **Sn** **23 40 28.3 +0.2**
ARU pmax pmax
comp=Z,15nm,0.8s
ARU Arti 18.64 311 *ePn* **P** **23 37 00.2 +0.1**
comp=Z,17nm,0.5s
ARU *eSn* **Sn** **23 40 23.8 -4.3**
GKN Gorkha 18.73 179 *eP* **P** **23 36 59.7 -1.8**
comp=Z,17nm,0.5s
GUN Gumba 18.86 176 *eP* **P** **23 37 01.5 -1.6**
comp=Z,41nm,0.6s
KKN Kakani 18.96 178 *eP* **P** **23 37 02.2 -1.8**
comp=Z,18nm,0.6s
KOLN Koldanda 18.98 182 *eP* **P** **23 37 02.8 -1.4**
comp=Z,15nm,0.7s
JIRN Jiri 19.12 175 *eP* **P** **23 37 05.7 -0.3**
comp=Z,8.9nm,0.4s
DMN Daman 19.13 178 *eP* **P** **23 37 05.5 -0.5**
comp=Z,23nm,0.9s
PKI Pulchoki 19.18 177 *eP* **P** **23 37 05.3 -1.2**
comp=Z,23nm,0.6s
TAPN Taplejung 19.56 171 *eP* **P** **23 37 09.6 -1.0**
comp=Z,24nm,0.6s
RAMN Ramite 19.86 174 *eP* **P** **23 37 12.3 -1.6**
comp=Z,17nm,0.5s
ODAN Odare 20.01 172 *eP* **P** **23 37 14.5 -1.0**
comp=Z,66nm,0.8s
HHC Hu-ho-hao-te 20.41 97 *eP* Pn 23 37 20.8 -1.1
HHC pP pP 23 37 27.5 +2.8
HHC sP sP 23 37 33.5 +6.5
HHC PP **PnPn** **23 37 40.8 +4.0**
HHC S S 23 40 59.8 -7.8
HHC sS sS 23 41 14.1 -1.6
HHC SS **SnSn** **23 41 30.9 +5.1**
HHC PcP **PcP** **23 41 32.1 +0.5**
HHC pmax pmax
comp=Z,15nm,1.7s
HHC LR LR
comp=N,690nm,14.4s
HHC LR LR
comp=E,600nm,14.4s
HHC LR LR
comp=Z,350nm,13.2s
BOD Bodaibo 21.03 47⇑*iP* **P** **23 37 25.2 -0.9**
BOD pmax pmax
comp=Z,23nm,1.1s
XAN Xi'an 22.48 116 P **P** **23 37 38.9 -3.0**
XAN pP **pP** **23 37 47.0 +0.1**
XAN S S 23 41 32.0 -16
XAN pmax pmax
comp=Z,4.0nm,0.9s
XAN pmax pmax
comp=Z,15nm,4.5s
XAN LR LR
comp=N,320nm,12.4s
XAN LR LR
comp=E,110nm,12.7s
BJI Beijing 23.93 95 P **P** **23 37 56.1 -0.3**
BJI pmax pmax
comp=Z,11nm,0.8s
BJI LR LR
comp=N,990nm,12.2s
BJI LR LR
comp=E,410nm,12.2s
ENH Enshi 25.46 121 *eP* **P** **23 38 08.9 -1.6**
comp=E,11nm,0.8s
KMI Kunming 26.08 140 P **P** **23 38 17.4 +1.0**
KMI S **S** **23 42 47.8 +0.8**
KMI pmax pmax
comp=Z,8.0nm,1.5s
KMI LR LR
comp=N,180nm,7.9s
KMI LR LR
comp=E,170nm,12.3s
KMI LR LR
comp=Z,180nm,12.0s
GYA Guiyang 26.85 131 P **P** **23 38 24.5 +1.3**
GYA PP **PnPn** **23 39 10.0 +5.0**
GYA PcP **PcP** **23 41 47.5 +2.0**
GYA S **S** **23 42 57.8 -1.2**
GYA SS **SnSn** **23 44 07.3 +3.5**
GYA ScP **ScP** **23 45 25.5 +0.9**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.6s
GYA LR LR
comp=N,480nm,17.2s
GYA LR LR
comp=E,360nm,17.7s
GYA LR LR
comp=Z,450nm,17.3s
VRHR Novokhopersk 28.14 295 *eP* P 23 38 52.0 +18
VRHR pmax pmax
comp=N,6.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.8s
CN2 Changchun 28.79 81 *eP* **P** **23 38 40.9 +0.6**
CN2 *es*P **sP** **23 38 49.8 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,13.0s
CN2 LR LR
comp=E,200nm,13.0s
CN2 LR LR
comp=Z,300nm,15.0s
ZEI Tsey 28.81 277 *eP* **P** **23 38 42.3 +1.6**
ZEI pmax pmax
comp=Z,7.0nm,1.9s
KIV Kislovodsk 29.20 280 *eP* **P** **23 38 42.3 -1.8**
KIV *i* 23 39 37.9
KIV pmax pmax
comp=Z,5.0nm,1.0s
KIV MLR MLR
comp=Z,100nm,16.0s
GNI Garni 29.30 272 *eP* **P** **23 38 46.7 +1.7**
comp=Z,7.9nm,0.9s
GNI Garni 29.30 272 P **P** **23 38 46.8 +1.7**
comp=Z,6.4nm,0.8s,baz=356,slow=5.2,SNR=11
KLMR Klimovskoe 29.34 315 *eP* **P** **23 38 44.8 -0.2**
KLMR pmax pmax
comp=Z,26nm,1.0s
VORD Divnogorie 29.61 295 *eP* **P** **23 38 46.9 -0.6**
VSR Storozhevoye 29.65 295 *eP* **P** **23 38 47.4 -0.4**
VSR pmax pmax
comp=Z,8.0nm,1.0s
VSR pmax pmax
comp=N,7.0nm,1.2s
VSR pmax pmax
comp=E,8.0nm,0.8s
CHTO Chiang Mai 30.33 152 *eP* **P** **23 38 53.7 -0.4**
CHTO pmax pmax
comp=Z,77nm,3.0s
CHTO Chiang Mai 30.33 152 *eP* **P** **23 38 53.7 -0.4**
comp=Z,77nm,3.0s
CMAR Chiang Mai Arr 30.67 152 P **P** **23 38 57.0 -0.1**
CMAR Chiang Mai Arr 30.67 152 P **P** **23 38 57.0 -0.1**
comp=Z,4.1nm,0.6s,baz=332,slow=8.7,SNR=27
OBN Obninsk 30.74 304⇑*eP* **P** **23 38 57.1 -0.3**
OBN *e* 23 39 54.8
OBN pmax pmax
comp=Z,9.0nm,1.2s
OBN MLR MLR
comp=Z,200nm,18.0s
OBN Obninsk 30.74 304 *eP* **P** **23 38 57.1 -0.3**
comp=Z,176nm,2.8s
MDJ Mudanjiang 31.31 77 P **P** **23 39 02.8 +0.3**
MDJ pP **pP** **23 39 08.6 +0.7**
MDJ sP **sP** **23 39 11.3 +1.1**
MDJ S **S** **23 44 07.9 -0.5**
MDJ sS **sS** **23 44 18.4 +1.0**
MDJ ScP **ScP** **23 45 39.3 +1.0**
MDJ PcS **PcS** **23 45 41.8 +1.4**
MDJ pmax pmax
comp=Z,45nm,4.5s
KSAR Wonju Array Be 33.20 90 P **P** **23 39 17.3 -2.0**
UMR Umm Al-Rimmam 33.21 252 *eP* **P** **23 39 19.8 +0.4**
UMR AMb AMB 23 39 21.0
comp=Z,25nm,0.8s
KSRS Korea Array 33.23 90 P **P** **23 39 17.3 -2.1**
comp=Z,0.4nm,0.3s,baz=291,slow=8.9,SNR=4.3
KSRS LR LR 23 53 47.7
comp=Z,87nm,20.3s,baz=325,slow=38
MIB Mutribah 33.29 253 *eP* **P** **23 39 20.3 +0.2**
MIB AMb AMB 23 39 21.6
comp=Z,20nm,0.8s
JOF Joensuu 33.42 318 *eP* **P** **23 39 20.4 -0.4**
JOF pmax pmax
comp=Z,6.0nm,0.4s
JOF Joensuu 33.42 318 *ep* **P** **23 39 20.4 -0.4**
comp=Z,6.1nm,0.4s
NAY Al-Naaiem 33.72 252 *eP* **P** **23 39 23.7 -0.1**
NAY AMb AMB 23 39 24.9
comp=Z,21nm,0.8s
RDF Al-Radifah 33.73 251 *eP* **P** **23 39 24.6 +0.7**
RDF AMb AMB 23 39 26.7
comp=Z,29nm,1.6s
QIZ Qiongzhong 34.65 134 P **P** **23 39 34.3 +2.4**
QIZ S **S** **23 45 04.3 +3.6**
QIZ LR LR
comp=Z,190nm,4.9s
KAF Kangasniemi 35.73 317 *eP* **P** **23 39 40.4 -0.4**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 35.73 317 *ep* **P** **23 39 40.4 -0.4**
comp=Z,4.4nm,0.5s
VSU Vasula 35.80 311⇓*eP* **P** **23 39 41.9 +0.5**
VSU pmax pmax
comp=Z,40nm,1.0s
FINES FINESS Array B 35.87 316 P **P** **23 39 42.8 +0.8**
FINES FINESS Array B 35.87 316 P **P** **23 39 42.8 +0.8**
comp=Z,4.0nm,0.6s,baz=83,slow=9.0,SNR=30
AKASG Malin Array Be 35.90 297 P **P** **23 39 42.2 -0.2**
AKASG Malin Array Be 35.90 297 P **P** **23 39 42.2 -0.2**
AKASG Malin Array Be 35.90 297 P **P** **23 39 42.2 -0.2**
comp=Z,1.2nm,0.4s,baz=62,slow=8.8,SNR=6.4
KEV Kevo 35.93 330 *eP* **P** **23 39 42.6 +0.2**
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 35.93 330 *ep* **P** **23 39 42.6 +0.2**
comp=Z,0.8nm,0.4s
ARCES ARCESS Array B 36.41 330 P **P** **23 39 47.3 +0.7**
ARCES ARCESS Array B 36.41 330 P **P** **23 39 47.3 +0.7**
comp=Z,4.5nm,0.6s,baz=92,slow=8.9,SNR=35
ARCES LR LR 23 55 50.2
comp=Z,78nm,21.4s,baz=2.8,slow=38
BR131 Keskin Array S 37.10 278 *eP* **P** **23 39 53.6 +0.7**
comp=Z,1.5nm,0.6s
BR131 *e*PP **PnPn** **23 41 19.8 +2.0**
BRTR Keskin Array B 37.10 278 P **P** **23 39 53.9 +0.9**
BRTR Keskin Array B 37.10 278 P **P** **23 39 53.9 +0.9**
comp=Z,2.1nm,0.7s,baz=85,slow=7.0,SNR=17
CFR Carcaliu 38.43 289⇑P **P** **23 40 04.2 +0.3**
CFR Carcaliu 38.43 289⇑*iP* **P** **23 40 04.2 +0.3**
ASF Jabal al Asfar 38.87 265 P **P** **23 40 09.2 +1.3**
ASF Jabal al Asfar 38.87 265 P **P** **23 40 09.2 +1.3**
comp=Z,5.2nm,0.8s,baz=60,slow=8.1,SNR=16
TESR 38.88 291⇑*iP* **P** **23 40 08.3 +0.6**
BUR08 Bucovina Ar. S 39.38 294 *eP* **P** **23 40 12.3 +0.3**
BURAR Bucovina Array 39.38 294⇑*iP* **P** **23 40 13.0 +1.0**
MMAI Mount Meron Ar 39.40 268 P **P** **23 40 13.9 +1.6**
MMAI Mount Meron Ar 39.40 268 P **P** **23 40 13.9 +1.6**
comp=Z,2.1nm,0.8s,baz=61,slow=12,SNR=3.7
MLR Muntele Rosu 39.73 290⇑*iP* **P** **23 40 16.1 +1.2**
ASAJ Asahikawa 40.11 72 LR LR 23 57 54.7
comp=Z,111nm,19.9s,baz=163,slow=38
SEY Seymchan 40.20 41⇑*eP* **P** **23 40 20.5 +2.0**
KWP Kalwaria Pacla 40.21 298⇑P **P** **23 40 20.6 +1.8**
KWP Kalwaria Pacla 40.21 298 *eP* **P** **23 40 19.9 +1.1**
comp=Z,14nm,0.9s
KWP Kalwaria Pacla 40.21 298⇑*iP* **P** **23 40 20.6 +1.8**
TRPA Tarpa 40.86 295⇑*iP* **P** **23 40 25.1 +1.0**
CRVS Cervenica-Dubn 41.23 297 *eP* **P** **23 40 26.1 -1.2**
CRVS pmax pmax
comp=Z,20nm,2.4s
CRVS Cervenica-Dubn 41.23 297 *eP* **P** **23 40 26.1 -1.2**
DRGR 41.27 293⇑P **P** **23 40 28.6 +1.0**
DRGR 41.27 293⇑*iP* **P** **23 40 28.6 +1.0**
EIL Elat 41.71 264 P **P** **23 40 33.0 +1.7**
EIL Elat 41.71 264 P **P** **23 40 33.0 +1.7**
comp=Z,3.0nm,0.7s,baz=75,slow=13,SNR=5.7
OJC Ojcow 41.76 299 *eP* **P** **23 40 32.1 +0.5**
OJC Ojcow 41.76 299 *eP* **P** **23 40 32.6 +1.1**
OJC Ojcow 41.76 299 *eP* **P** **23 40 31.9 +0.4**
comp=Z,6.6nm,0.8s
YUK Yuzh-Kuril'sk 42.27 70*c iP* P 23 40 32.1 -3.6
YUK *e* 23 42 14.9
YUK *e*PPP PPP 23 42 41.3
YUK *e*S S 23 46 46.8 -8.5
YUK *e*SSS SSS 23 50 35.1
YUK MLR MLR
comp=E,278nm,15.0s
YUK MLR MLR
comp=Z,539nm,15.0s
VYHS Vyhne 43.00 297 *eP* **P** **23 40 42.8 +1.2**
VYHS pmax pmax
comp=Z,12nm,2.2s
VYHS Vyhne 43.00 297 *eP* **P** **23 40 42.8 +1.2**
NB2 NORSAR Subarra 43.01 317 P **P** **23 40 41.7 +0.1**
baz=73,slow=7.9
NB2 NORSAR Subarra 43.01 317 P **P** **23 40 41.7 +0.1**
comp=Z,24nm,1.0s,baz=73,slow=7.9
NOA NORSAR Array B 43.01 317 P **P** **23 40 42.0 +0.3**
NOA NORSAR Array B 43.01 317 P **P** **23 40 42.0 +0.3**
comp=Z,5.6nm,0.5s,baz=74,slow=7.9,SNR=35
NOA LR LR 00 01 42.9
comp=Z,19nm,18.3s,baz=90,slow=40
NAO01 NORSAR Array S 43.22 317 *eP* **P** **23 40 43.3 0.0**
comp=Z,6.4nm,0.7s
DPC Dobruska-Polom 43.78 301 *eP* **P** **23 40 49.5 +1.6**
DPC *e* 23 40 53.8
DPC Dobruska-Polom 43.78 301 *eP* **P** **23 40 48.1 +0.1**
comp=Z,110nm,2.8s
DPC Dobruska-Polom 43.78 301 *eP* **P** **23 40 49.5 +1.6**
DPC *ep*P **pP** **23 40 53.8 +0.3**
UPC Upice 43.90 301 *eP* **P** **23 40 50.1 +1.2**
UPC Upice 43.90 301 *eP* **P** **23 40 50.1 +1.2**
PVCC Panska Ves 44.74 302 *eP* **P** **23 40 57.3 +1.7**
PVCC *e* 23 41 01.4
PVCC Panska Ves 44.74 302 *eP* **P** **23 40 57.3 +1.7**
PVCC *ep*P **pP** **23 41 01.4 +0.3**
BILL Bilibino 44.80 32 *eP* P 23 40 59.3 +3.5
BILL *i* 23 42 45.4
BILL pmax pmax
comp=Z,5.0nm,0.8s
BILL MLR MLR
comp=Z,100nm,17.0s
BILL Bilibino 44.80 32 *eP* **P** **23 40 55.9 +0.1**
comp=Z,3.4nm,0.8s
BRG Berggiesshubel 44.97 302 *eP* **P** **23 40 58.4 +1.0**
comp=Z,4.0nm,1.0s
BRG Berggiesshubel 44.97 302 *eP* **P** **23 40 58.4 +1.0**
comp=Z,4.0nm,0.8s
BRG Berggiesshubel 44.97 302 *eP* **P** **23 40 58.4 +1.0**
BRG pmax pmax
comp=Z,4.0nm,1.0s
PRU Pruhonice 44.97 301 *eP* **P** **23 40 58.4 +1.0**
PRU Pruhonice 44.97 301 *eP* **P** **23 40 58.4 +1.0**
FBE Freiberg 45.29 303 *eP* **P** **23 41 01.1 +1.2**
comp=Z,16nm,1.0s
CLL Collm 45.34 303 *eP* **P** **23 41 01.1 +0.8**
comp=Z,11nm,0.7s
CLL Collm 45.34 303 *i P* **P** **23 41 00.8 +0.5**
CLL *e* 23 41 05.0
CLL pmax pmax
comp=Z,11nm,0.7s
CLL Collm 45.34 303 *i P* **P** **23 41 00.8 +0.5**
comp=Z,11nm,0.7s
CLL *ep*P **pP** **23 41 05.0 -0.8**
CLL Lm MLR 00 00 00.0
comp=Z,100nm,19.3s
MUD Monsted U'grnd 45.47 311 *i P* **P** **23 41 02.4 +1.2**
MUD pmax pmax
comp=Z,25nm,0.7s
MUD Monsted U'grnd 45.47 311 *i P* **P** **23 41 02.4 +1.2**
comp=Z,25nm,0.7s
PETK Petropavlovsk- 45.68 54 P **P** **23 41 02.2 -0.9**
PETK Petropavlovsk- 45.68 54 P **P** **23 41 02.2 -0.9**
PETK Petropavlovsk- 45.68 54 P **P** **23 41 02.2 -0.9**
comp=Z,6.8nm,0.8s,baz=270,slow=5.8,SNR=6.4
BSEG Bad Segeberg 45.80 308 *eP* **P** **23 41 05.7 +1.8**
comp=Z,44nm,1.2s
KHC Kasperske Hory 45.90 300 *eP* **P** **23 41 06.2 +1.3**
KHC *e* 23 41 10.3
KHC Kasperske Hory 45.90 300 *eP* **P** **23 41 06.2 +1.3**
KHC *ep*P **pP** **23 41 10.3 -0.1**
GERES GERESS Array B 45.95 300 P **P** **23 41 06.4 +1.1**
GERES GERESS Array B 45.95 300 P **P** **23 41 06.4 +1.1**
comp=Z,0.5nm,0.5s,baz=55,slow=8.2,SNR=7.0
GERES LR LR 00 01 05.4
comp=Z,174nm,19.4s,baz=283,slow=37
TANN Tannenbergstha 46.01 302 *eP* **P** **23 41 07.0 +1.2**
comp=Z,20nm,1.6s
NEUB Neuenburg 46.08 304 *eP* **P** **23 41 07.0 +0.8**
comp=Z,12nm,0.7s
WERD Werda 46.09 302 *eP* **P** **23 41 07.4 +1.1**
comp=Z,5.0nm,0.9s
GUNZ Gunzen 46.11 302 *eP* **P** **23 41 07.6 +1.1**
comp=Z,8.0nm,0.9s
WERN Wernitzgruen 46.12 302 *eP* **P** **23 41 07.9 +1.4**
comp=Z,8.0nm,1.0s
PLN Plauen 46.16 302 *eP* **P** **23 41 08.0 +1.1**
comp=Z,34nm,0.9s
WET Wettzell 46.31 301 *eP* **P** **23 41 09.2 +1.1**
comp=Z,5.0nm,1.0s
MOX Moxa 46.41 303 *eP* **P** **23 41 09.8 +1.0**
comp=Z,10.0nm,0.9s
ROTZ Rotzenmuhle 46.44 302 *eP* **P** **23 41 10.4 +1.4**
comp=Z,7.0nm,1.3s
NRDL Niedersach Rie 46.49 306 *eP* **P** **23 41 10.9 +1.6**
comp=Z,19nm,1.0s
GRF Grafenberg Arr 47.05 302 *eP* **P** **23 41 15.4 +1.6**
comp=Z,13nm,1.0s
GRFO Grafenberg 47.05 302 *eP* **P** **23 41 15.2 +1.4**
GRFO pmax pmax
comp=Z,22nm,1.4s
GRFO Grafenberg 47.05 302 *eP* **P** **23 41 15.2 +1.4**
comp=Z,22nm,1.4s
DAG Danmarks Havn 47.86 342 *i P* **P** **23 41 18.6 -1.1**
DAG pmax pmax
comp=Z,2.0nm,0.7s
DAG Danmarks Havn 47.86 342 *i P* **P** **23 41 18.6 -1.1**
comp=Z,18nm,0.7s
IBBN Ibbenburen 47.88 306 *eP* **P** **23 41 21.3 +1.1**
comp=Z,30nm,0.5s
STU Stuttgart 48.65 302 *eP* **P** **23 41 27.3 +1.1**
comp=Z,8.0nm,0.9s
FUORN Ofenpass-Fuorn 49.03 299 *eP* **P** **23 41 30.4 +0.9**
comp=Z,19nm,1.4s
BFO Black Forest 49.36 301 *eP* **P** **23 41 32.6 +0.9**
comp=Z,14nm,1.0s
BFO Black Forest 49.36 301 *eP* **P** **23 41 32.1 +0.4**
BFO pmax pmax
comp=Z,4.0nm,0.8s

BFO	**Black Forest**	**49.36**	**301**	*e*P	**P**	**23 41 32.1**	**+0.4**
	comp=Z,4.4nm,0.8s						
CDF	**Champ du Feu**	**49.94**	**302**⇑	*i*P	**P**	**23 41 36.7**	**+0.5**
	comp=Z,10.0nm,1.0s						
CDF	**Champ du Feu**	**49.94**	**302**⇑	*i*P	**P**	**23 41 36.7**	**+0.5**
CDF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CDF	**Champ du Feu**	**49.94**	**302**⇑	*i*P	**P**	**23 41 36.7**	**+0.5**
	comp=Z,10.0nm,1.0s						
WLF	**Walferdange**	**49.99**	**304**	*e*P	**P**	**23 41 38.9**	**+2.5**
	comp=Z,35nm,1.8s						
ECH	**Echery**	**50.10**	**302**	*e*P	**P**	**23 41 37.6**	**+0.2**
ECH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ECH	**Echery**	**50.10**	**302**	*e*P	**P**	**23 41 37.5**	**+0.2**
	comp=Z,4.2nm,0.9s						
HINF	**Hinteralfeld**	**50.48**	**301**	*e*P	**P**	**23 41 40.7**	**+0.5**
	comp=Z,12nm,0.8s						
HINF	**Hinteralfeld**	**50.48**	**301**	*e*P	**P**	**23 41 40.7**	**+0.5**
HINF				pmax	pmax		
	comp=Z,12nm,0.8s						
HINF	**Hinteralfeld**	**50.48**	**301**	*e*P	**P**	**23 41 40.7**	**+0.5**
	comp=Z,12nm,0.8s						
GIVF	**Givet**	**50.53**	**305**	*e*P	**P**	**23 41 41.7**	**+1.2**
	comp=Z,21nm,0.9s						
GIVF	**Givet**	**50.53**	**305**	*e*P	**P**	**23 41 41.7**	**+1.2**
GIVF				pmax	pmax		
	comp=Z,21nm,0.9s						
GIVF	**Givet**	**50.53**	**305**	*e*P	**P**	**23 41 41.7**	**+1.2**
	comp=Z,21nm,0.9s						
HAU	**Haudompre**	**50.68**	**302**⇑	*i*P	**P**	**23 41 42.2**	**+0.5**
	comp=Z,20nm,0.8s						
HAU				*e*R			
	comp=Z,224nm,17.0s						
HAU	**Haudompre**	**50.68**	**302**⇑	*i*P	**P**	**23 41 42.2**	**+0.5**
HAU				pmax	pmax		
	comp=Z,20nm,0.8s						
HAU	**Haudompre**	**50.68**	**302**⇑	*i*P	**P**	**23 41 42.2**	**+0.5**
	comp=Z,20nm,0.8s						
PAGF	**Fort de Pagny**	**50.77**	**303**	*e*P	**P**	**23 41 43.6**	**+1.2**
	comp=Z,3.1nm,0.8s						
PAGF	**Fort de Pagny**	**50.77**	**303**	*e*P	**P**	**23 41 43.6**	**+1.2**
	comp=Z,3.1nm,0.8s						
BAIF	**Baives**	**50.90**	**305**	*e*P	**P**	**23 41 44.6**	**+1.3**
	comp=Z,16nm,0.9s						
BAIF	**Baives**	**50.90**	**305**	*e*P	**P**	**23 41 44.6**	**+1.3**
BAIF				pmax	pmax		
	comp=Z,16nm,0.9s						
BAIF	**Baives**	**50.90**	**305**	*e*P	**P**	**23 41 44.6**	**+1.3**
	comp=Z,16nm,0.9s						
MEZF	**Maizieres J'vi**	**51.19**	**303**⇑	*i*P	**P**	**23 41 46.9**	**+1.4**
	comp=Z,57nm,0.8s						
MEZF	**Maizieres J'vi**	**51.19**	**303**	*i*P	**P**	**23 41 46.9**	**+1.4**
	comp=Z,57nm,0.8s						
SFTF	**Sexfontaines**	**51.34**	**303**	*i*P	**P**	**23 41 47.6**	**+0.9**
	comp=Z,38nm,0.7s						
SFTF	**Sexfontaines**	**51.34**	**303**⇑	*i*P	**P**	**23 41 47.6**	**+0.9**
	comp=Z,38nm,0.7s						
CABF	**La Chapelle**	**51.53**	**300**⇑	*i*P	**P**	**23 41 48.7**	**+0.5**
	comp=Z,28nm,1.0s						
CABF	**La Chapelle**	**51.53**	**300**⇑	*i*P	**P**	**23 41 48.7**	**+0.5**
CABF				pmax	pmax		
	comp=Z,29nm,1.0s						
CABF	**La Chapelle**	**51.53**	**300**⇑	*i*P	**P**	**23 41 48.7**	**+0.5**
	comp=Z,28nm,1.0s						
ESY	**Stoneypath**	**51.66**	**314**	*e*P	**P**	**23 41 49.3**	**+0.4**
ESY	**Stoneypath**	**51.66**	**314**	P	**P**	**23 41 49.3**	**+0.4**
LPG	**La Plagne**	**51.71**	**299**⇑	*i*P	**P**	**23 41 51.0**	**+1.2**
	comp=Z,52nm,0.8s						
LPG	**La Plagne**	**51.71**	**299**⇑	*i*P	**P**	**23 41 51.0**	**+1.2**
LPG				pmax	pmax		
	comp=Z,52nm,0.8s						
LPG	**La Plagne**	**51.71**	**299**⇑	*i*P	**P**	**23 41 51.0**	**+1.2**
	comp=Z,52nm,0.8s						
LPL	**La Plagne**	**51.71**	**299**⇑	*i*P	**P**	**23 41 50.9**	**+1.2**
	comp=Z,25nm,0.5s						
LPL	**La Plagne**	**51.71**	**299**⇑	*i*P	**P**	**23 41 50.9**	**+1.2**
LPL				pmax	pmax		
	comp=Z,25nm,0.5s						
LPL	**La Plagne**	**51.71**	**299**⇑	*i*P	**P**	**23 41 50.9**	**+1.2**
	comp=Z,25nm,0.5s						
PGF	**Pioggiola**	**51.88**	**295**	*e*P	**P**	**23 41 51.5**	**+0.6**
	comp=Z,76nm,1.1s						
PGF	**Pioggiola**	**51.88**	**295**	*e*P	**P**	**23 41 51.5**	**+0.6**
PGF				pmax	pmax		
	comp=Z,76nm,1.1s						
PGF	**Pioggiola**	**51.88**	**295**	*e*P	**P**	**23 41 51.5**	**+0.6**
	comp=Z,76nm,1.1s						
EBL	**Broad Law**	**51.94**	**314**	*e*P	**P**	**23 41 51.3**	**+0.3**
EBL	**Broad Law**	**51.94**	**314**	P	**P**	**23 41 51.3**	**+0.3**
BNI	**Bardonecchia**	**51.99**	**298**	*e*P	**P**	**23 41 52.4**	**+0.7**
BNI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BNI	**Bardonecchia**	**51.99**	**298**	*e*P	**P**	**23 41 52.4**	**+0.7**
	comp=Z,10nm,0.8s						
MBDF	**Montbardon**	**52.10**	**298**	*e*P	**P**	**23 41 53.3**	**+0.7**
	comp=Z,33nm,1.0s						
MBDF	**Montbardon**	**52.10**	**298**	*e*P	**P**	**23 41 53.3**	**+0.7**
MBDF				pmax	pmax		
	comp=Z,33nm,1.0s						
MBDF	**Montbardon**	**52.10**	**298**	*e*P	**P**	**23 41 53.3**	**+0.7**
	comp=Z,33nm,1.0s						
SBF	**Sospel**	**52.15**	**297**	*e*P	**P**	**23 41 53.5**	**+0.7**
SBF	**Sospel**	**52.15**	**297**	*e*P	**P**	**23 41 53.5**	**+0.7**
SBF	**Sospel**	**52.15**	**297**	*e*P	**P**	**23 41 53.5**	**+0.7**
ESK	**Eskdalemuir**	**52.24**	**314**	*e*P	**P**	**23 41 52.6**	**-0.7**
ESK	**Eskdalemuir**	**52.24**	**314**	P	**P**	**23 41 52.6**	**-0.7**
LOR	**Lormes**	**52.51**	**302**	*e*P	**P**	**23 41 55.3**	**-0.1**
	comp=Z,11nm,0.7s						
LOR				*e*R			
	comp=Z,66nm,18.5s						
LOR	**Lormes**	**52.51**	**302**	*e*P	**P**	**23 41 55.3**	**-0.1**
	comp=Z,11nm,0.6s						
ORIF	**Oris-en-Rattie**	**52.54**	**299**⇑	*i*P	**P**	**23 41 56.2**	**+0.5**
	comp=Z,24nm,0.9s						
ORIF				*e*R			
	comp=Z,267nm,17.0s						
ORIF	**Oris-en-Rattie**	**52.54**	**299**⇑	*i*P	**P**	**23 41 56.2**	**+0.5**
ORIF				pmax	pmax		
	comp=Z,24nm,0.9s						
ORIF	**Oris-en-Rattie**	**52.54**	**299**⇑	*i*P	**P**	**23 41 56.2**	**+0.5**
	comp=Z,24nm,0.9s						
KESW	**Keswick, Cumbr**	**52.56**	**313**	*e*P	**P**	**23 41 55.6**	**0.0**
KESW				AMB	AMB	23 42 09.2	
	comp=Z,79nm,3.2s						
KESW	**Keswick, Cumbr**	**52.56**	**313**	P	**P**	**23 41 55.6**	**0.0**
KESW				AMB	AMB	23 42 09.2	
	comp=Z,79nm,3.2s						
SSF	**Saint Saulge**	**52.82**	**302**⇑	*i*P	**P**	**23 41 57.8**	**+0.1**
	comp=Z,16nm,0.8s						
SSF	**Saint Saulge**	**52.82**	**302**⇑	*i*P	**P**	**23 41 57.8**	**+0.1**
SSF				pmax	pmax		
	comp=Z,16nm,0.8s						
SSF	**Saint Saulge**	**52.82**	**302**⇑	*i*P	**P**	**23 41 57.8**	**+0.1**
	comp=Z,16nm,0.8s						
SKP1	**Kophill**	**52.82**	**309**	*e*P	**P**	**23 41 58.0**	**+0.4**
SKP1	**Kophill**	**52.82**	**309**	P	**P**	**23 41 58.0**	**+0.4**
GCD	**Castle Douglas**	**52.84**	**314**	*e*P	**P**	**23 41 58.1**	**+0.5**
GCD	**Castle Douglas**	**52.84**	**314**	P	**P**	**23 41 58.1**	**+0.5**
HYF	**Humbligny**	**53.21**	**303**	*e*P	**P**	**23 42 01.2**	**+0.6**
HYF	**Humbligny**	**53.21**	**303**	*e*P	**P**	**23 42 01.2**	**+0.6**
SMRF	**Simiane la Rot**	**53.23**	**298**	*e*P	**P**	**23 42 01.5**	**+0.7**
	comp=Z,8.6nm,0.7s						
SMRF	**Simiane la Rot**	**53.23**	**298**	*e*P	**P**	**23 42 01.5**	**+0.7**
	comp=Z,8.6nm,0.7s						
VIVF	**Saint-Julien-l**	**53.30**	**299**⇑	*i*P	**P**	**23 42 01.8**	**+0.5**
	comp=Z,14nm,0.8s						
VIVF	**Saint-Julien-l**	**53.30**	**299**⇑	*i*P	**P**	**23 42 01.8**	**+0.5**
VIVF				pmax	pmax		
	comp=Z,14nm,0.8s						
VIVF	**Saint-Julien-l**	**53.30**	**299**⇑	*i*P	**P**	**23 42 01.8**	**+0.5**
	comp=Z,14nm,0.8s						
BGF	**Bois d'Agland**	**53.47**	**302**⇑	*i*P	**P**	**23 42 02.8**	**+0.3**
	comp=Z,12nm,0.8s						
BGF	**Bois d'Agland**	**53.47**	**302**⇑	*i*P	**P**	**23 42 02.8**	**+0.3**
BGF				pmax	pmax		
	comp=Z,12nm,0.8s						
BGF	**Bois d'Agland**	**53.47**	**302**⇑	*i*P	**P**	**23 42 02.8**	**+0.3**
	comp=Z,12nm,0.8s						
HLM1	**Long Mynd**	**53.50**	**311**	*e*P	**P**	**23 42 01.8**	**-0.8**
HLM1				AMB	AMB	23 42 07.9	
	comp=Z,37nm,4.3s						
HLM1	**Long Mynd**	**53.50**	**311**	P	**P**	**23 42 01.8**	**-0.8**
HLM1				AMB	AMB	23 42 07.9	
	comp=Z,37nm,4.3s						
MCH1	**Michaelchurch**	**53.84**	**310**	*e*P	**P**	**23 42 05.4**	**+0.3**
MCH1				AMB	AMB	23 42 07.3	
	comp=Z,40nm,2.7s						
MCH1	**Michaelchurch**	**53.84**	**310**	P	**P**	**23 42 05.4**	**+0.3**
MCH1				AMB	AMB	23 42 07.3	
	comp=Z,40nm,2.7s						
TCF	**Toulx Ste Croi**	**53.99**	**302**⇑	*i*P	**P**	**23 42 06.9**	**+0.6**
	comp=Z,10.0nm,0.6s						
TCF	**Toulx Ste Croi**	**53.99**	**302**⇑	*i*P	**P**	**23 42 06.9**	**+0.6**
TCF				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TCF	**Toulx Ste Croi**	**53.99**	**302**⇑	*i*P	**P**	**23 42 06.9**	**+0.6**
	comp=Z,10.0nm,0.6s						
LDF	**La Druitiere**	**54.08**	**305**⇑	*i*P	**P**	**23 42 07.3**	**+0.4**
	comp=Z,18nm,0.5s						
LDF	**La Druitiere**	**54.08**	**305**⇑	*i*P	**P**	**23 42 07.3**	**+0.4**
LDF				pmax	pmax		
	comp=Z,18nm,0.5s						
LDF	**La Druitiere**	**54.08**	**305**⇑	*i*P	**P**	**23 42 07.3**	**+0.4**
	comp=Z,18nm,0.5s						
FLN	**La Foliniere**	**54.19**	**306**⇑	*i*P	**P**	**23 42 08.1**	**+0.4**
	comp=Z,34nm,0.6s						
FLN				*e*R			
	comp=Z,91nm,18.2s						
FLN	**La Foliniere**	**54.19**	**306**⇑	*i*P	**P**	**23 42 08.1**	**+0.4**
FLN				pmax	pmax		
	comp=Z,34nm,0.6s						
FLN	**La Foliniere**	**54.19**	**306**⇑	*i*P	**P**	**23 42 08.1**	**+0.4**
	comp=Z,34nm,0.6s						
LASF	**Ste Croix**	**54.21**	**299**	*e*P	**P**	**23 42 08.9**	**+0.9**
	comp=Z,40nm,1.0s						
LASF	**Ste Croix**	**54.21**	**299**	*e*P	**P**	**23 42 08.9**	**+0.9**
	comp=Z,40nm,1.0s						
GRR	**Gorron**	**54.61**	**305**	*e*P	**P**	**23 42 11.0**	**+0.3**
	comp=Z,37nm,1.0s						
GRR	**Gorron**	**54.61**	**305**	*e*P	**P**	**23 42 11.0**	**+0.3**
GRR				pmax	pmax		
	comp=Z,37nm,1.0s						
GRR	**Gorron**	**54.61**	**305**	*e*P	**P**	**23 42 11.0**	**+0.3**
	comp=Z,37nm,1.0s						
CAF	**Calviac**	**54.81**	**301**	*e*P	**P**	**23 42 13.4**	**+1.1**
	comp=Z,16nm,0.8s						
CAF	**Calviac**	**54.81**	**301**	*e*P	**P**	**23 42 13.4**	**+1.1**
CAF				pmax	pmax		
	comp=Z,16nm,0.8s						
CAF	**Calviac**	**54.81**	**301**	*e*P	**P**	**23 42 13.4**	**+1.1**
	comp=Z,16nm,0.8s						
RJF	**Les Rejaudoux**	**54.93**	**301**⇑	*i*P	**P**	**23 42 14.1**	**+1.0**
	comp=Z,16nm,0.7s						
RJF				*e*R			
	comp=Z,88nm,22.5s						
RJF	**Les Rejaudoux**	**54.93**	**301**⇑	*i*P	**P**	**23 42 14.1**	**+1.0**
RJF				pmax	pmax		
	comp=Z,16nm,0.7s						
RJF	**Les Rejaudoux**	**54.93**	**301**⇑	*i*P	**P**	**23 42 14.1**	**+1.0**
	comp=Z,16nm,0.7s						
MFF	**Saint Martin d**	**55.18**	**303**⇑	*i*P	**P**	**23 42 15.2**	**+0.3**
	comp=Z,5.9nm,0.6s						
MFF	**Saint Martin d**	**55.18**	**303**⇑	*i*P	**P**	**23 42 15.2**	**+0.3**
MFF				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MFF	**Saint Martin d**	**55.18**	**303**⇑	*i*P	**P**	**23 42 15.2**	**+0.3**
	comp=Z,5.9nm,0.6s						
LFF	**La Frestale**	**55.59**	**301**⇑	*i*P	**P**	**23 42 19.0**	**+1.1**
	comp=Z,19nm,0.6s						
LFF	**La Frestale**	**55.59**	**301**⇑	*i*P	**P**	**23 42 19.0**	**+1.1**
LFF				pmax	pmax		
	comp=Z,19nm,0.6s						
LFF	**La Frestale**	**55.59**	**301**⇑	*i*P	**P**	**23 42 19.0**	**+1.1**
	comp=Z,19nm,0.6s						
SGMF	**Saint Gilles**	**55.63**	**306**	*e*P	**P**	**23 42 18.8**	**+0.7**
	comp=Z,35nm,0.9s						
SGMF	**Saint Gilles**	**55.63**	**306**	*e*P	**P**	**23 42 18.8**	**+0.7**
SGMF				pmax	pmax		
	comp=Z,35nm,0.9s						
SGMF	**Saint Gilles**	**55.63**	**306**	*e*P	**P**	**23 42 18.8**	**+0.7**
	comp=Z,35nm,0.9s						
ROSF	**Rostrenen**	**55.98**	**306**⇑	*i*P	**P**	**23 42 21.4**	**+0.8**
	comp=Z,14nm,0.6s						
ROSF	**Rostrenen**	**55.98**	**306**⇑	*i*P	**P**	**23 42 21.4**	**+0.8**
ROSF				pmax	pmax		
	comp=Z,14nm,0.6s						
ROSF	**Rostrenen**	**55.98**	**306**⇑	*i*P	**P**	**23 42 21.4**	**+0.8**
	comp=Z,14nm,0.6s						
QUIF	**Quistinic**	**56.15**	**306**	*e*P	**P**	**23 42 22.6**	**+0.8**
	comp=Z,39nm,0.8s						
QUIF	**Quistinic**	**56.15**	**306**	*e*P	**P**	**23 42 22.6**	**+0.8**
QUIF				pmax	pmax		
	comp=Z,39nm,0.8s						
QUIF	**Quistinic**	**56.15**	**306**	*e*P	**P**	**23 42 22.6**	**+0.8**
	comp=Z,39nm,0.8s						
EPF	**Esparros**	**56.91**	**299**⇑	*i*P	**P**	**23 42 27.4**	**0.0**
	comp=Z,15nm,0.7s						
EPF	**Esparros**	**56.91**	**299**⇑	*i*P	**P**	**23 42 27.4**	**0.0**
EPF				pmax	pmax		
	comp=Z,15nm,0.7s						
EPF	**Esparros**	**56.91**	**299**⇑	*i*P	**P**	**23 42 27.4**	**0.0**
	comp=Z,15nm,0.7s						
ETSF	**Etsaut**	**57.53**	**300**	*e*P	**P**	**23 42 32.8**	**+1.0**
	comp=Z,15nm,0.8s						
ETSF	**Etsaut**	**57.53**	**300**	*e*P	**P**	**23 42 32.8**	**+1.0**
ETSF				pmax	pmax		
	comp=Z,15nm,0.8s						
ETSF	**Etsaut**	**57.53**	**300**	*e*P	**P**	**23 42 32.8**	**+1.0**
	comp=Z,15nm,0.8s						
ESDC	**Sonseca Array**	**61.52**	**299**	P	**P**	**23 42 59.9**	**+0.6**
ESDC	**Sonseca Array**	**61.52**	**299**	P	**P**	**23 42 59.9**	**+0.6**
	comp=Z,7.1nm,0.6s,baz=50,slow=7.1,SNR=59						
ESLA	**Sonseca Array**	**61.52**	**299**	*e*P	**P**	**23 42 59.7**	**+0.4**
	comp=Z,5.3nm,1.2s						
INK	**Inuvik**	**61.79**	**15**	P	**P**	**23 43 00.6**	**-0.1**
INK	**Inuvik**	**61.79**	**15**	P	**P**	**23 43 00.6**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=349,slow=7.4,SNR=7.4						
PAB	**San Pablo**	**61.83**	**299**	*e*P	**P**	**23 43 02.0**	**+0.5**
PAB				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PAB	**San Pablo**	**61.83**	**299**	*e*P	**P**	**23 43 02.0**	**+0.5**
	comp=Z,7.7nm,0.8s						
PBRG	**Braganca**	**61.84**	**302**	*e*P	**P**	**23 43 02.7**	**+1.3**
ILAR	**Eielson Array**	**61.84**	**22**	P	**P**	**23 43 00.5**	**-0.6**
ILAR	**Eielson Array**	**61.84**	**22**	P	**P**	**23 43 00.5**	**-0.6**
	comp=Z,3.6nm,0.7s,baz=312,slow=4.7,SNR=19						
MVO	**Moncorvo**	**62.41**	**302**	*e*P	**P**	**23 43 06.3**	**+1.0**
	comp=Z,16nm,1.7s						
PCAB	**Cabril**	**62.64**	**303**	*e*P	**P**	**23 43 07.9**	**+1.1**
	comp=Z,21nm,1.5s						
MTE	**Manteigas**	**63.19**	**301**	*e*P	**P**	**23 43 12.3**	**+1.7**
	comp=Z,15nm,1.7s						
PMRV	**Marv??o**	**63.73**	**300**	*e*P	**P**	**23 43 14.9**	**+0.9**
	comp=Z,15nm,1.9s						
PESTR	**Estremoz**	**64.20**	**300**	*e*P	**P**	**23 43 17.5**	**+0.3**
	comp=Z,15nm,1.8s						
PBAR	**Barrancos**	**64.32**	**299**	*e*P	**P**	**23 43 18.5**	**+0.6**
	comp=Z,12nm,1.4s						
PMTG	**Montargil**	**64.45**	**300**	*e*P	**P**	**23 43 18.5**	**-0.3**
	comp=Z,14nm,2.0s						
EVO	**Evora**	**64.67**	**300**	*e*P	**P**	**23 43 21.2**	**+1.0**
	comp=Z,9.4nm,1.9s						
EVO	**Evora**	**64.67**	**300**⇑	*i*P	**P**	**23 43 21.2**	**+1.0**
	comp=Z,17nm,1.2s						
EVO				*e*R			
	comp=Z,102nm,18.0s						
EVOP	**Sao Brissos**	**64.74**	**300**⇑	*i*P	**P**	**23 43 21.2**	**+0.5**
EVOP				pmax	pmax		
	comp=Z,17nm,1.2s						
EVOP	**Sao Brissos**	**64.74**	**300**⇑	*i*P	**P**	**23 43 21.2**	**+0.5**
	comp=Z,17nm,1.2s						
PBEJ	**Beja**	**64.91**	**299**	*e*P	**P**	**23 43 22.5**	**+0.7**
	comp=Z,10nm,1.7s						
KDAK	**Kodiak Island**	**65.63**	**30**	P	**P**	**23 43 25.8**	**-0.3**
KDAK	**Kodiak Island**	**65.63**	**30**	P	**P**	**23 43 25.8**	**-0.3**
	comp=Z,17nm,0.8s,baz=313,slow=5.0,SNR=6.9						
YKA	**Yellowknife Ar**	**70.03**	**9**	P	**P**	**23 43 52.9**	**-0.9**
YKA	**Yellowknife Ar**	**70.03**	**9**	P	**P**	**23 43 52.8**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=341,slow=6.6,SNR=17						
DLBC	**Dease Lake**	**71.37**	**18**	P	**P**	**23 43 59.8**	**-2.3**
DLBC	**Dease Lake**	**71.37**	**18**	P	**P**	**23 43 59.8**	**-2.3**
	comp=Z,0.9nm,0.4s,baz=274,slow=19,SNR=3.6						
TOA0	**Torodi Ar. Sit**	**75.58**	**274**	*e*P	**P**	**23 44 27.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**75.58**	**274**	P	**P**	**23 44 26.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**75.58**	**274**	P	**P**	**23 44 26.9**	**-0.4**
	comp=Z,4.0nm,0.7s,baz=33,slow=5.0,SNR=33						
SCHQ	**Schefferville**	**75.89**	**343**	P	**P**	**23 44 26.9**	**-1.8**
SCHQ	**Schefferville**	**75.89**	**343**	P	**P**	**23 44 26.9**	**-1.8**
	comp=Z,2.5nm,0.9s,baz=5.7,slow=10,SNR=3.5						
FFC	**Flin Flon**	**78.74**	**4**	*i* P	**P**	**23 44 44.8**	**+0.3**
FFC	**Flin Flon**	**78.74**	**4**	*e*P	**P**	**23 44 43.6**	**-0.9**
	comp=Z,76nm,2.8s						
WRAB	**Tennant Creek**	**80.21**	**133**	*e*P	**P**	**23 44 55.2**	**+2.3**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WRAB	**Tennant Creek**	**80.21**	**133**	*e*P	**P**	**23 44 55.2**	**+2.3**
	comp=Z,10nm,0.6s						
WRA	**Warramunga Arr**	**80.21**	**133**	P	**P**	**23 44 51.5**	**-1.5**
WRA				pP	**pP**	**23 44 54.8**	**-4.0**
WRA	**Warramunga Arr**	**80.21**	**133**	P	**P**	**23 44 51.5**	**-1.5**
	comp=Z,6.8nm,0.6s,baz=338,slow=5.3,SNR=49						
WRA				pP	**pP**	**23 44 54.8**	**-4.0**
	comp=Z,6.8nm,0.6s,baz=338,slow=5.3,SNR=36						
ASAR	**Alice Springs**	**83.14**	**135**	P	**P**	**23 45 07.0**	**-1.3**
ASAR				pP	**PcP**	**23 45 10.4**	**-2.4**
ASAR	**Alice Springs**	**83.14**	**135**	P	**P**	**23 45 07.0**	**-1.3**
	comp=Z,2.5nm,0.8s,baz=325,slow=4.7,SNR=16						
ASAR				pP	**PcP**	**23 45 10.4**	**-2.4**
	comp=Z,2.4nm,0.8s,baz=333,slow=5.0,SNR=17						
A13A	**Flathead Natio**	**83.28**	**12**	⇓P	**P**	**23 45 08.1**	**-0.9**
	baz=83						
ULM	**Lac du Bonnet**	**83.36**	**0**	P	**P**	**23 45 07.8**	**-1.4**
ULM	**Lac du Bonnet**	**83.36**	**0**	P	**P**	**23 45 07.8**	**-1.4**
	comp=Z,0.7nm,0.3s,baz=347,slow=7.9,SNR=3.5						
A14A	**Double T Ranch**	**83.39**	**12**	⇑P	**P**	**23 45 08.6**	**-1.0**
	baz=83						
A15A	**Johnson Ranch,**	**83.48**	**11**	⇑P	**P**	**23 45 08.8**	**-1.2**
	baz=83						
NEW	**Newport**	**83.51**	**14**	⇓P	**P**	**23 45 09.1**	**-1.0**
	baz=83						
A17A	**Triple J Farms**	**83.77**	**10**	⇓P	**P**	**23 45 10.7**	**-0.8**
	baz=83						
A18A	**Metzger Ranch,**	**83.89**	**9**	⇓P	**P**	**23 45 11.1**	**-1.0**
	baz=84						
A19A	**Klindworth Far**	**84.00**	**9**	⇓P	**P**	**23 45 11.5**	**-1.2**
	baz=84						
A21A	**Bergtoll Ranch**	**84.11**	**7**	⇓P	**P**	**23 45 12.3**	**-0.9**
	baz=84						
A20A	**Cobblestone Ra**	**84.13**	**8**	⇓P	**P**	**23 45 12.1**	**-1.2**
	baz=84						
B15A	**Bradely Ranch,**	**84.15**	**11**	⇓P	**P**	**23 45 12.2**	**-1.3**
	baz=84						
BSMT	**Bassoo Peak**	**84.28**	**13**	*e*P	**P**	**23 45 14.4**	**+0.1**
B19A	**Brinkman Farms**	**84.45**	**9**	⇓P	**P**	**23 45 13.7**	**-1.3**
	baz=84						
C13A	**Hot Springs**	**84.48**	**13**	⇓P	**P**	**23 45 14.7**	**-0.4**
	baz=84						
C14A	**Swan Lake**	**84.52**	**12**	⇓P	**P**	**23 45 14.9**	**-0.5**
	baz=84						
C15A	**Salmond Ranch,**	**84.67**	**11**	⇓P	**P**	**23 45 15.1**	**-1.1**
	baz=84						
DBIC	**Dimbokro**	**84.69**	**274**	P	**P**	**23 45 16.4**	**-0.2**
DBIC	**Dimbokro**	**84.69**	**274**	P	**P**	**23 45 16.4**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=43,slow=12,SNR=5.0						
EGMT	**Eagleton**	**84.78**	**9**	⇓P	**P**	**23 45 15.5**	**-1.2**
	baz=84						
D12A	**Red Ives Fores**	**84.97**	**13**	⇑P	**P**	**23 45 16.5**	**-1.2**
	baz=85						
C21A	**Desert Coulee**	**85.25**	**8**	⇓P	**P**	**23 45 17.9**	**-1.1**
	baz=85						
D22A	**Cohagen**	**86.01**	**7**	⇑P	**P**	**23 45 22.1**	**-0.6**
	baz=86						
E17A	**Martinsdale**	**86.19**	**11**	⇑P	**P**	**23 45 23.3**	**-0.6**
	baz=86						
F17A	**Fitzpatrick Pl**	**86.77**	**10**	⇑P	**P**	**23 45 25.5**	**-1.1**
	baz=86						
F18A	**Big Timber**	**86.88**	**10**	⇑P	**P**	**23 45 26.9**	**-0.3**
	baz=86						
G16A	**Moss Hill, Enn**	**87.28**	**11**	⇓P	**P**	**23 45 28.4**	**-0.8**
	baz=87						
RLMT	**Red Lodge**	**87.70**	**10**	⇑P	**P**	**23 45 30.4**	**-0.9**
	baz=87						
LKWY	**Lake**	**88.12**	**11**	*e*P	**P**	**23 45 34.3**	**+1.0**
LKWY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
LKWY	**Lake**	**88.12**	**11**	*e*P	**P**	**23 45 34.3**	**+1.0**
	comp=Z,3.3nm,0.8s						
I12A	**Atlanta**	**88.18**	**14**	⇑P	**P**	**23 45 32.8**	**-0.7**
	baz=88						
H21A	**Big Horn, Sher**	**88.43**	**8**	⇓P	**P**	**23 45 34.0**	**-0.6**
	baz=88						
IMW	**Indian Meadow**	**88.70**	**11**	*e*P	**P**	**23 45 36.4**	**+0.3**
	comp=Z,60nm,2.8s						
RSSD	**Black Hills**	**89.19**	**6**	*e*P	**P**	**23 45 38.3**	**0.0**
RSSD				pmax	pmax		

PUZ	**Puketiti**	**5.43**	**194**	*e*PN	**Pn**	00 15 21.4	**+0.4**
PUZ				SN	**Sn**	00 16 21.6	**-0.7**
MWZ	**Matawai**	**5.86**	**199**	*e*PN	**Pn**	00 15 26.2	**-0.6**
URZ	**Urewera**	**5.92**	**202**	*e*PN	**Pn**	00 15 29.0	**+1.5**
URZ				*e*SN	**Sn**	00 16 34.7	**+0.6**
RAHZ	**Arahi**	**6.53**	**200**	*e*PN	**Pn**	00 15 37.6	**+1.6**
BKZ	**Black Stump Fm**	**6.94**	**203**	*e*PN	**Pn**	00 15 42.9	**+1.2**
BHHZ	**Black Hill Sta**	**7.37**	**204**	*e*PN	**Pn**	00 15 48.6	**+1.0**
BFZ	**Birch Farm**	**8.40**	**200**	*e*PN	**Pn**	00 16 01.5	**-0.2**
MRZ	**Mangatainoka R**	**8.59**	**203**	*e*PN	**Pn**	00 16 02.1	**-2.1**
HOWZ	**Holdsworth Sta**	**8.82**	**202**	*e*PN	**Pn**	00 16 06.5	**-0.9**
OGWZ	**Otaki Gorge**	**8.87**	**204**	*e*PN	**Pn**	00 16 06.8	**-1.3**
TUWZ	**Tuamarina**	**9.85**	**207**	PN	**Pn**	00 16 20.4	**-1.1**
NNZ	**Nelson**	**9.90**	**210**	PN	**Pn**	00 16 21.5	**-0.7**
THZ	**Tophouse**	**10.55**	**210**	*e*PN	**Pn**	00 16 28.5	**-2.7**
ASAR	**Alice Springs**	**41.31**	**271**	P	**P**	00 21 46.0	**+1.1**
	0.4nm,0.7s,baz=116,slow=8.5,SNR=5.5						
WRA	**Warramunga Arr**	**42.52**	**276**	P	**P**	00 21 56.2	**+1.4**
	0.3nm,0.4s,baz=114,slow=7.7,SNR=10						
FINES	**FINESS Array B**	**146.74**	**337**	PKPbc	**PKPdf**	00 33 35.1	**-3.0**
	0.7nm,0.5s,baz=31,slow=5.1,SNR=8.6						
NOA	**NORSAR Array B**	**150.81**	**349**	PKPbc	**PKPdf**	00 33 45.2	**+0.4**
	1.0nm,0.8s,baz=21,slow=4.8,SNR=3.4						

IDC 14 00:18:00.1±1.2, 3°48'N×126°60'E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/20, mbtmp3.9/6, Error ellipse: s-maj=138.5km s-min=16.6km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.49**	**162**	P	P	00 23 20.8	-0.5
	2.4nm,0.5s,baz=342,slow=10,SNR=22						
ASAR	**Alice Springs**	**27.91**	**166**	P	P	00 23 52.3	+0.2
	0.6nm,0.5s,baz=336,slow=9.1,SNR=8.4						
STKA	**Stephens Creek**	**37.95**	**159**	P	P	00 25 19.8	+0.3
	3.1nm,0.5s,baz=351,slow=7.5,SNR=14						
SONM	**Songino Array**	**47.49**	**342**	P	P	00 26 37.0	-0.1
	0.4nm,0.5s,baz=152,slow=9.5,SNR=3.2						
MKAR	**Makanchi Array**	**57.68**	**325**	P	P	00 27 52.5	0.0
	0.7nm,0.6s,baz=119,slow=7.9,SNR=11						
KURBB	**Kurchatov Arra**	**61.87**	**328**	P	P	00 28 21.0	-0.3
	0.7nm,0.5s,baz=130,slow=6.6,SNR=11						

IDC 14 00:28:37.5±2.4, 17°55S×173°13W, h0km, mb3.6/4, mb1 4.1/5, mb1mx3.8/18, mbtmp3.8/5, ML2.9/1, Error ellipse: s-maj=105.9km s-min=24.9km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.85**	**20**	Pn	Pn	00 29 38.0	0.0
	50nm,0.3s,baz=201,slow=8.6,SNR=36						
AFI				Sn	Sn	00 30 11.6	-13
	35nm,0.3s,baz=230,slow=18,SNR=7.9						
WRA	**Warramunga Arr**	**49.64**	**258**	P	P	00 37 29.6	-1.6
	0.3nm,0.6s,baz=105,slow=7.0,SNR=6.2						
ASAR	**Alice Springs**	**49.72**	**254**	P	P	00 37 32.5	+0.6
	1.7nm,0.6s,baz=89,slow=8.2,SNR=23						
PDAR	**Pinedale Array**	**83.69**	**42**	P	P	00 41 08.3	-0.2
	0.6nm,0.7s,baz=194,slow=2.9,SNR=4.8						
ILAR	**Eielson Array**	**84.49**	**11**	P	P	00 41 11.2	-0.6
	0.1nm,0.5s,baz=219,slow=7.0,SNR=3.7						
BRTR	**Keskin Array B**	**147.96**	**319**	PKPbc	PKPbc	00 48 25.9	+0.6
	0.3nm,0.6s,baz=123,slow=2.9,SNR=2.5						

IDC 14 00:30:26.3±3.3, 16°76S×177°13W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.9/17, mbtmp4.4/3, Error ellipse: s-maj=162.8km s-min=40.3km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.26**	**240**	P	P	00 38 05.5	+0.3
	1.2nm,0.3s,baz=98,slow=9.8,SNR=6.6						
WRA	**Warramunga Arr**	**46.05**	**258**	P	P	00 38 52.2	0.0
	1.4nm,0.5s,baz=93,slow=7.4,SNR=31						
ASAR	**Alice Springs**	**46.29**	**253**	P	P	00 38 53.6	-0.5
	9.4nm,0.6s,baz=88,slow=8.4,SNR=72						
BRTR	**Keskin Array B**	**144.81**	**317**	PKP	PKPab	00 50 02.8	-1.9
	0.4nm,0.8s,baz=76,slow=3.6,SNR=3.2						
GERES	**GERESS Array B**	**146.80**	**347**	PKPbc	PKPbc	00 50 10.8	+0.2
	0.2nm,0.4s,baz=2.9,slow=2.0,SNR=2.9						

*NEIC **14** 00:30:53.2, 19°58N×66°28W, h69km, MD3.4(RSPR), After RSPR.*

RSPR 14 00:30:53.2, 19°58N×66°28W, h69km±11km, MD3.4/4, 8C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**1.31**	**200**⇑	*e*P	Pn	00 31 14.2	-1.5
AOPR	**Arecibo Observ**	**1.31**	**200**⇑	*e*P	Pn	00 31 14.2	-1.5
AOPR				*e*S	Sn	00 31 31.7	-0.8
AGPR	**Aguadilla, PR**	**1.36**	**216**	*e*Pn	Pn	00 31 15.0	-1.2
AGPR				*e*Sn	Sn	00 31 32.4	-1.2
CBYP	**Canovanas**	**1.36**	**163**⇓	*e*P	Pn	00 31 15.5	-0.9
CBYP	**Canovanas**	**1.36**	**163**	*e*S	Sn	00 31 33.3	-0.5
CBYP	**Canovanas**	**1.36**	**163**	*e*Pn	Pn	00 31 15.5	-0.9
CBYP				*e*Sn	Sn	00 31 32.1	-1.7
LRS	**Lares**	**1.39**	**203**	*e*Pn	Pn	00 31 16.1	-0.6
LRS				*e*Sn	Sn	00 31 32.4	-2.0
SJG	**San Juan**	**1.47**	**175**	*e*Pn	Pn	00 31 16.4	-1.3
SJG				*e*Sn	Sn	00 31 34.7	-1.4
HUMP	**Col San Antoni**	**1.49**	**164**⇑	*e*P	Pn	00 31 16.9	-1.1
HUMP	**Col San Antoni**	**1.49**	**164**⇑	*e*P	Pn	00 31 16.9	-1.1
HUMP				*e*S	Sn	00 31 35.9	-0.7
CELP	**Cerrillos**	**1.52**	**191**	*e*Pn	Pn	00 31 17.5	-1.0
CELP				*e*Sn	Sn	00 31 37.2	-0.3
OBIP	**Obispado Ponce**	**1.56**	**192**	*e*Pn	Pn	00 31 16.1	-2.8
CPD	**Cerro la Pandu**	**1.57**	**167**⇑	*e*P	Pn	00 31 18.4	-0.7
CPD	**Cerro la Pandu**	**1.57**	**167**⇑	*e*P	Pn	00 31 18.4	-0.7
LSP	**Las Mesas**	**1.59**	**209**	*e*Pn	Pn	00 31 18.7	-0.7
LSP				*e*Sn	Sn	00 31 38.6	-0.6
MTP	**Monte Pirata**	**1.63**	**155**⇑	*e*P	Pn	00 31 19.3	-0.6
MTP	**Monte Pirata**	**1.63**	**155**	*e*Pn	Pn	00 31 19.2	-0.6
MTP				*e*Sn	Sn	00 31 39.3	-0.7
CRPR	**Cabo Rojo, PR**	**1.75**	**207**⇑	*e*P	Pn	00 31 21.0	-0.5
CRPR	**Cabo Rojo, PR**	**1.75**	**207**	*e*Pn	Pn	00 31 21.1	-0.4
SDDR	**Presa de Saban**	**4.77**	**264**	*e*Pn	Pn	00 32 01.8	-0.9

*NNC **14** 00:33:57.6±2.3, 39°19N×72°05E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=17.6km s-min=10.8km az=6.0*

ISC 14 00:33:58.9±3.6, 39°0N±0°2×71°74E±0°10, h34km, n9, σ2°9 04/13, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.50**	**25**	P	**Pn**	**00 34 53.0**	**+1.8**
	SNR=30						
KZA	**Kyzart**	**4.10**	**40**	P	**Pn**	**00 35 01.4**	**+1.8**
	SNR=12						
AAK	**Ala-Archa**	**4.22**	**29**	P	**Pn**	**00 35 02.9**	**+1.9**
	SNR=6.3						
KK31	**Karatay Array**	**4.24**	**348**	⇓Pn	**Pn**	**00 35 01.8**	**+0.8**
	1.2nm,0.3s,baz=164,slow=13,SNR=35						
KK31				Pg	**Pb**	00 35 12.3	-0.3
	2.1nm,0.5s,baz=162,slow=15,SNR=13						
KK31				⇑Sn	**Sn**	**00 35 51.2**	**+1.9**
	0.8nm,0.2s,baz=168,slow=19,SNR=8.8						
KK31				⇑Lg	Lg	00 36 05.3	
	2.4nm,0.4s						
KBK	**Karagaybulak**	**4.42**	**32**	P	**Pn**	**00 35 06.6**	**+2.9**
	SNR=5.4						
CHMS	**Chumysh**	**4.63**	**29**	P	**Pn**	**00 35 08.0**	**+1.5**
	SNR=6.8						
TKM2	**Tokmak 2**	**4.92**	**35**	⇑Pn	**Pn**	**00 35 08.7**	**-1.9**
	7.7nm,1.4s						
TKM2				⇑Sn	**Sn**	**00 36 03.5**	**-2.8**
	3.2nm,0.6s						
TKM2				⇓Lg	Lg	00 36 23.3	
	5.5nm,0.7s						
TKM2	**Tokmak 2**	**4.92**	**35**	P	**Pn**	**00 35 12.4**	**+1.8**
	SNR=5.3						
AB31	**Akbulak array**	**13.31**	**324**	⇑P	**Pn**	**00 37 04.1**	**-1.2**
	0.4nm,0.6s,baz=136,slow=12,SNR=6.8						
AB31				⇑S	**Sn**	**00 39 31.4**	**-0.6**
	0.6nm,0.7s,baz=132,slow=26,SNR=3.4						

*ISCJB **14** 00:51:45.4±1.0, 49°.8S±0°.1×125°.9E±0°.3, h10km, mb4.0/6, MS3.9/8, Error ellipse: s-maj=27.3km s-min=17.3km az=179.4*

*IDC **14** 00:51:46.0±0.8, 49°.74S×125°.90E, h0km, mb4.0/6, mb1 4.3/7, mb1mx4.1/14, mbtmp4.2/7, ML2.8/1, MS3.9/9, Ms1 3.9/9, ms1mx3.7/21, Error ellipse: s-maj=39.5km s-min=20.5km az=91.0*

*NEIC **14** 00:51:47.2±0.6, 49°.79S×125°.71E, h10km, mb4.3/2, Error ellipse: s-maj=30.6km s-min=14.9km az=76.0*

ISC 14 00:51:47.4±0.7, 49°.8S±0°.1×125°.8E±0°.2, h10km, n36, σ1°91/33, mb4.1/6, MS3.9/8, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**17.98**	**336**	*e*Pn	**Pn**	**00 55 57.5**	**+0.1**
	11nm,0.6s						
NWAO	**Narrogin (SRO)**	**17.98**	**336**	P	**P**	**00 55 58.6**	**+0.8**
	1.4nm,0.3s,baz=177,slow=9.7,SNR=11						
NWAO				LR	LR	01 01 14.5	
	comp=Z,483nm,20.4s,baz=338,slow=32						
DRV	**Dumont d'Urvil**	**18.45**	**162**	P	P	00 55 54.0	-8.7
DRV				L	L	00 59 00.0	
DRV				R		01 00 00.0	
STKA	**Stephens Creek**	**21.41**	**39**	P	**P**	**00 56 35.3**	**+0.1**
	1.9nm,0.7s,baz=190,slow=9.9,SNR=3.7						
STKA				LR	LR	01 03 26.1	
	comp=Z,125nm,20.0s,baz=203,slow=33						
ASAR	**Alice Springs**	**26.80**	**17**	P	**P**	**00 57 27.2**	**-0.4**
ASAR				PcP	**PcP**	**01 00 48.8**	**-1.6**
ASAR	**Alice Springs**	**26.80**	**17**	P	**P**	**00 57 27.2**	**-0.4**
	2.1nm,0.6s,baz=194,slow=8.8,SNR=16						
ASAR				PcP	**PcP**	**01 00 48.8**	**-1.6**
	0.3nm,0.8s,baz=191,slow=1.9,SNR=4.1						
WRA	**Warramunga Arr**	**30.52**	**16**	P	**P**	**00 57 59.9**	**-0.8**
WRA	**Warramunga Arr**	**30.52**	**16**	P	**P**	**00 57 59.9**	**-0.8**
	0.8nm,0.5s,baz=195,slow=8.2,SNR=4.7						
WRA				LR	LR	01 09 02.4	
	comp=Z,175nm,20.5s,baz=185,slow=34						
FITZ	**Fitzroy Crossi**	**31.58**	**360**	LR	LR	01 09 52.8	
	comp=Z,256nm,18.7s,baz=181,slow=34						
MAW	**Mawson**	**35.30**	**216**	LR	LR	01 10 43.5	
	comp=Z,170nm,19.1s,baz=302,slow=32						
QSPA	**South Pole Qui**	**40.37**	**180**	*e*P	**P**	**00 59 24.2**	**-0.8**
	10nm,1.1s						
QSPA				PcP	**PcP**	**01 01 28.6**	**+0.6**
QSPA	**South Pole Qui**	**40.37**	**180**	P	**P**	**00 59 24.9**	**-0.2**
	3.5nm,1.0s,baz=339,slow=6.2,SNR=5.9						
QSPA				PcP	**PcP**	**01 01 28.5**	**+0.6**
	3.6nm,0.9s,baz=334,slow=6.0,SNR=6.5						
HNR	**Honiara**	**49.19**	**47**	LR	LR	01 18 11.4	
	comp=Z,96nm,19.5s,baz=253,slow=32						
PSI	**Prapat**	**57.26**	**328**	P	**P**	**01 01 34.0**	**-1.1**
PSI	**Prapat**	**57.26**	**328**	P	**P**	**01 01 34.0**	**-1.1**
	2.2nm,0.5s,baz=148,slow=10,SNR=3.9						
CMAR	**Chiang Mai Arr**	**71.96**	**333**	P	**P**	**01 03 12.2**	**+1.2**
CMAR	**Chiang Mai Arr**	**71.96**	**333**	P	**P**	**01 03 12.2**	**+1.2**
	0.8nm,0.4s,baz=190,slow=6.3,SNR=6.7						
CMAR				LR	LR	01 31 19.8	
	comp=Z,67nm,21.2s,baz=354,slow=33						
JNU	**Nakatsue**	**82.63**	**4**	LR	LR	01 38 13.7	
	comp=Z,76nm,18.5s,baz=186,slow=34						
PLCA	**Paso Flores**	**88.75**	**168**	LR	LR	01 40 19.5	
	comp=Z,115nm,20.8s,baz=156,slow=33						
ILAR	**Eielson Array**	**132.42**	**35**	PKP	**PKPdf**	**01 11 00.9**	**+0.5**
ILAR	**Eielson Array**	**132.42**	**35**	PKP	**PKPdf**	**01 11 00.9**	**+0.5**
	0.6nm,0.9s,baz=291,slow=3.6,SNR=5.0						
NVAR	**Mina Array Bea**	**133.91**	**79**	PKP	**PKPdf**	**01 11 06.0**	**+1.6**
NVAR	**Mina Array Bea**	**133.91**	**79**	PKP	**PKPdf**	**01 11 06.0**	**+1.6**
	1.2nm,0.9s,baz=225,slow=4.0,SNR=5.2						
TXAR	**Lajitas Array**	**137.64**	**100**	PKP	**PKPdf**	**01 11 12.3**	**+0.8**
TXAR	**Lajitas Array**	**137.64**	**100**	PKP	**PKPdf**	**01 11 12.3**	**+0.8**
	0.7nm,0.9s,baz=186,slow=2.4,SNR=4.9						
PDAR	**Pinedale Array**	**141.85**	**79**	PKP	**PKPdf**	**01 11 17.0**	**-1.9**
PDAR	**Pinedale Array**	**141.85**	**79**	PKP	**PKPdf**	**01 11 17.0**	**-1.9**
	0.2nm,0.5s,baz=151,slow=2.1,SNR=4.4						
ESDC	**Sonseca Array**	**143.54**	**274**	PKP	PKPbc	01 11 19.4	+0.2
ESDC	**Sonseca Array**	**143.54**	**274**	PKP	PKPbc	01 11 19.4	+0.2
	0.1nm,0.3s,baz=135,slow=2.1,SNR=4.9						
YKA	**Yellowknife Ar**	**145.37**	**45**	PKPbc	**PKPab**	**01 11 24.3**	**+0.1**
YKA	**Yellowknife Ar**	**145.37**	**45**	PKPbc	**PKPab**	**01 11 24.3**	**+0.1**
	7.3nm,0.8s,baz=268,slow=3.3,SNR=123						
RSSD	**Black Hills**	**146.02**	**80**	*e*PKPbc	**PKPbc**	**01 11 27.1**	**+0.1**
DGMT	**Dagmar**	**147.73**	**73**	*e*PKPbc	**PKPbc**	**01 11 32.4**	**+0.9**
FFC	**Flin Flon**	**150.78**	**62**	*e*PKPbc	**PKPbc**	**01 11 39.1**	**+0.3**
FFC				*e*PKPab	**PKPab**	**01 11 47.0**	**+0.9**
ULM	**Lac du Bonnet**	**153.45**	**73**	PKPbc	**PKPbc**	**01 11 44.5**	**-0.6**
ULM	**Lac du Bonnet**	**153.45**	**73**	PKPbc	**PKPbc**	**01 11 44.5**	**-0.6**
	2.4nm,0.9s,baz=218,slow=0.9,SNR=5.7						

IDC 14 00:54:41.0±10.0, 19°43S×176°74W, h200km±89km, mb3.5/6, mb1 3.7/6, mb1mx3.4/19, mbtmp3.5/6, Error ellipse: s-maj=30.4km s-min=28.5km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.79**	**263**	P	P	01 01 14.3	+1.4
	2.4nm,0.5s,baz=91,slow=13,SNR=5.3						
STKA	**Stephens Creek**	**39.32**	**243**	P	P	01 01 50.7	-0.2
	1.4nm,0.9s,baz=107,slow=7.8,SNR=2.9						
ASAR	**Alice Springs**	**45.92**	**256**	P	P	01 02 44.0	-0.2
	3.2nm,0.8s,baz=86,slow=8.6,SNR=27						
ASAR				PcP	PcP	01 04 15.3	-2.4
	0.8nm,0.5s,baz=98,slow=4.1,SNR=6.7						
WRA	**Warramunga Arr**	**45.93**	**261**	P	P	01 02 43.4	-0.8
	0.9nm,0.5s,baz=96,slow=7.8,SNR=8.4						
QSPA	**South Pole Qui**	**70.64**	**180**	P	P	01 05 35.0	+0.4
	2.1nm,0.7s,baz=36,slow=5.1,SNR=9.4						
NVAR	**Mina Array Bea**	**79.44**	**43**	P	P	01 06 25.1	-0.3
	0.1nm,0.3s,baz=204,slow=6.5,SNR=2.7						
MKAR	**Makanchi Array**	**111.32**	**314**	PKiKP	PKiKP	01 12 50.1	-1.0
	0.2nm,0.6s,baz=90,slow=1.4,SNR=2.6						
AKASG	**Malin Array Be**	**142.63**	**333**	PKP	PKPdf	01 13 47.2	-2.9
	0.7nm,0.3s,baz=45,slow=4.3,SNR=4.7						
BRTR	**Keskin Array B**	**146.97**	**314**	PKPbc	PKPbc	01 13 59.8	-0.6
	1.1nm,0.6s,baz=137,slow=4.3,SNR=8.5						
GERES	**GERESS Array B**	**149.47**	**346**	PKPbc	PKPbc	01 14 07.7	+1.2
	1.0nm,0.8s,baz=42,slow=2.2,SNR=8.3						

*ATH **14** 01:13:28.7, 39°.31N×25°.47E, h30km±2km, MD3.1/4*
*DDA **14** 01:13:30.8, 39°.44N×25°.62E, h7km, MD3.1*
*ISK **14** 01:13:32.2, 39°.63N×25°.57E, h5km, MD3.2*
*ISCJB **14** 01:13:32.4±1.8, 39°.62N±0°.07×25°.50E±0°.07, h5km±9km, Error ellipse: s-maj=13.1km s-min=7.1km az=35.3*
*CSEM **14** 01:13:34.2±0.3, 39°.67N×25°.55E, h10km, MD3.2, Error ellipse: s-maj=7.6km s-min=4.6km az=35.0*

ISC 14 01:13:31.7±1.5, 39°58N±0°04×25°58E±0°04, h3km±17km, n40, σ1°07/46, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.44**	**316**	*e*PN	**Pb**	**01 13 41.4**	**-0.7**
LIA				*e*SN	**Sb**	**01 13 51.2**	**+2.1**
LIA	**Limnos Island**	**0.44**	**316**	*e*Pn	**Pb**	**01 13 41.4**	**-0.7**
BOZC	**Bozcaada**	**0.45**	**55**	*e*P	**Pb**	**01 13 42.4**	**+0.1**
BOZC				*e*S	**Sb**	**01 13 48.3**	**-1.0**
EZN	**Ezine**	**0.62**	**67**	*e*PG	**Pb**	**01 13 45.1**	**-0.1**
EZN				*e*SG	**Sb**	**01 13 55.1**	**+0.7**
EZN	**Ezine**	**0.62**	**67**	*e*Pg	**Pb**	**01 13 45.1**	**-0.1**
EZN				*e*Sg	**Sb**	**01 13 55.1**	**+0.7**
PRK	**Paraskevi**	**0.63**	**122**	*e*PN	Pg	01 13 41.6	-2.2
PRK				*e*SN	**Sg**	**01 13 50.8**	**-1.2**
AYVA	**Ayvalik**	**0.90**	**107**	*e*P	**Pg**	**01 13 47.6**	**-1.4**
AYVA				*e*S	**Sg**	**01 14 01.2**	**+0.5**
LPK	**Lapseki**	**1.20**	**49**	*e*PN	**Pg**	**01 13 56.0**	**+1.2**
LPK	**Lapseki**	**1.20**	**49**	*e*Pn	**Pg**	**01 13 56.0**	**+1.2**
ENEZ	**Enez**	**1.23**	**21**	*e*PN	**Pg**	**01 13 56.3**	**+0.9**
ENEZ	**Enez**	**1.23**	**21**	*e*Pn	**Pg**	**01 13 56.3**	**+0.9**
CHOS	**Chios island**	**1.25**	**163**	*e*PN	Pn	01 13 48.9	-7.2
CHOS				*e*SN	Sb	01 14 02.2	-10
ERIK	**Erikli-Kesan**	**1.30**	**33**	*e*PN	**Pg**	**01 13 57.6**	**+0.9**
ERIK	**Erikli-Kesan**	**1.30**	**33**	*e*Pn	**Pg**	**01 13 57.6**	**+0.9**
ALN	**Alexandroupoli**	**1.36**	**15**	*e*PN	**Pg**	**01 13 57.4**	**-0.4**
ALN	**Alexandroupoli**	**1.36**	**15**	*e*Pn	**Pg**	**01 13 57.4**	**-0.4**
KRBG	**Karabiga-Canak**	**1.55**	**58**	*e*PN	**Pg**	**01 14 01.8**	**+0.4**
KRBG	**Karabiga-Canak**	**1.55**	**58**	*e*Pn	**Pg**	**01 14 01.8**	**+0.4**
BALY	**Balya**	**1.58**	**84**	*e*P	**Pb**	**01 14 01.9**	**+0.3**
BALY				*e*S	**Sg**	**01 14 23.2**	**+0.6**
BALY	**Balya**	**1.58**	**84**	*e*P	**Pb**	**01 14 01.9**	**+0.3**
BALY				*e*S	**Sg**	**01 14 23.2**	**+0.6**
RKY	**Sarkoy-Tekirda**	**1.65**	**47**	*e*PN	**Pg**	**01 14 03.0**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.65**	**47**	*e*Pn	**Pg**	**01 14 03.0**	**-0.3**
BLCB	**Balcova**	**1.65**	**136**	*e*PN	**Pg**	**01 14 04.1**	**+0.7**
BLCB	**Balcova**	**1.65**	**136**	*e*Pn	**Pg**	**01 14 04.1**	**+0.7**
GONE	**Gonen-Balikesi**	**1.69**	**73**	*e*PN	**Pg**	**01 14 04.0**	**-0.1**
GONE	**Gonen-Balikesi**	**1.69**	**73**	*e*Pn	**Pg**	**01 14 04.0**	**-0.1**
MFT	**Murefte**	**1.77**	**47**	*e*PN	**Pb**	**01 14 05.1**	**+0.2**
MFT	**Murefte**	**1.77**	**47**	*e*Pn	**Pb**	**01 14 05.1**	**+0.2**
BALB	**Balikesir**	**1.78**	**87**	*e*PN	**Pb**	**01 14 05.3**	**+0.4**
BALB	**Balikesir**	**1.78**	**87**	*e*Pn	**Pb**	**01 14 05.3**	**+0.4**
AKS	**Akhisar**	**1.87**	**111**	*e*PN	**Pb**	**01 14 07.1**	**+0.6**
AKS	**Akhisar**	**1.87**	**111**	*e*Pn	**Pb**	**01 14 07.1**	**+0.6**
EDC	**Edincik**	**1.91**	**66**	*e*PN	**Pb**	**01 14 07.1**	**-0.1**
EDC	**Edincik**	**1.91**	**66**	*e*Pn	**Pb**	**01 14 07.1**	**-0.1**
KCTX	**Karacabey (Bur**	**2.24**	**71**	*e*PN	**Pb**	**01 14 11.8**	**-1.0**
KCTX	**Karacabey (Bur**	**2.24**	**71**	*e*Pn	**Pb**	**01 14 11.8**	**-1.0**
EDRB	**Edirne**	**2.43**	**21**	*e*PN	**Pb**	**01 14 13.8**	**-2.1**
EDRB	**Edirne**	**2.43**	**21**	*e*Pn	**Pb**	**01 14 13.9**	**-2.1**
TVSB	**Tavsanli**	**3.00**	**91**	*e*PN	**Pb**	**01 14 23.2**	**-2.7**
TVSB	**Tavsanli**	**3.00**	**91**	*e*Pn	**Pb**	**01 14 23.2**	**-2.7**

*IDC **14** 01:15:49.7±0.7, 3°.92N×126°.70E, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.1/20, mbtmp4.1/11, MS3.6/3, Ms1 3.6/3, ms1mx3.0/33, Error ellipse: s-maj=46.2km s-min=14.2km az=70.0*

*ISCJB **14** 01:15:53.1±0.4, 3°.89N±0°.09×126°.6E±0°.2, h36km, mb4.4/21, MS4.0/2, Error ellipse: s-maj=26.4km s-min=8.2km az=158.4*

*NEIC **14** 01:15:54.8±0.4, 3°.92N×126°.74E, h35km, mb4.6/9, Error ellipse: s-maj=23.3km s-min=7.3km az=68.0*

ISC 14 01:15:55.0±0.6, 3°.9N±0°.1×126°.8E±0°.2, h36km, n39, σ0°88/39, mb4.3/21, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.34**	**339**	LR	LR	01 18 01.3	
	comp=Z,158nm,18.2s,baz=313,slow=40						
FITZ	**Fitzroy Crossi**	**21.93**	**183**	P	**P**	**01 20 45.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**21.93**	**183**	P	**P**	**01 20 45.7**	**+0.3**
	2.5nm,0.4s,baz=0.2,slow=10.0,SNR=9.5						
WRAB	**Tennant Creek**	**24.86**	**163**	*e*P	**P**	**01 21 13.4**	**-0.9**
	33nm,1.0s						
WRA	**Warramunga Arr**	**24.86**	**163**	P	**P**	**01 21 14.2**	**-0.1**
WRA	**Warramunga Arr**	**24.86**	**163**	P	**P**	**01 21 14.2**	**-0.1**
	20nm,0.8s,baz=343,slow=10,SNR=95						
AS31	**Alice Springs**	**28.30**	**166**	*e*P	**P**	**01 21 46.1**	**+0.8**
ASAR	**Alice Springs**	**28.30**	**166**	P	**P**	**01 21 45.0**	**-0.4**
ASAR	**Alice Springs**	**28.30**	**166**	P	**P**	**01 21 45.0**	**-0.4**
	0.7nm,0.3s,baz=343,slow=7.5,SNR=18						
CTAO	**Charters Tower**	**30.58**	**142**	*e*P	**P**	**01 22 04.1**	**-1.5**
	17nm,1.4s						
CMAR	**Chiang Mai Arr**	**30.83**	**300**	P	**P**	**01 22 06.4**	**-1.4**
CMAR	**Chiang Mai Arr**	**30.83**	**300**	P	**P**	**01 22 06.4**	**-1.4**
	2.3nm,0.6s,baz=112,slow=6.2,SNR=6.7						
BBOO	**Buckleboo**	**37.59**	**167**	*e*P	**P**	**01 23 06.2**	**+0.1**
	58nm,0.4s						
STKA	**Stephens Creek**	**38.30**	**159**	P	**P**	**01 23 12.0**	**-0.2**
STKA	**Stephens Creek**	**38.30**	**159**	P	**P**	**01 23 12.0**	**-0.2**
	11nm,0.8s,baz=335,slow=7.9,SNR=19						
SONM	**Songino Array**	**47.12**	**341**	P	**P**	**01 24 24.9**	**+1.2**
SONM				PcP	**PcP**	**01 25 55.6**	**+0.5**
SONM	**Songino Array**	**47.12**	**341**	P	**P**	**01 24 24.9**	**+1.2**
	0.3nm,0.4s,baz=165,slow=8.4,SNR=3.9						
SONM				PcP	**PcP**	**01 25 55.6**	**+0.5**
	0.6nm,0.8s,baz=145,slow=3.5,SNR=3.1						
MK31	**Makanchi Array**	**57.43**	**325**	*e*P	**P**	**01 25 40.0**	**-0.1**
MKAR	**Makanchi Array**	**57.43**	**325**	P	**P**	**01 25 39

ASAR	Alice Springs	28.40	166	P		P	01 37 26.1	-0.9
ASAR	Alice Springs	28.40	166	P		P	01 37 26.1	-0.9
	0.9nm,0.5s,baz=352,slow=8.0,SNR=18							
CMAR	Chiang Mai Arr	30.71	300	P		P	01 37 48.2	+0.8
CMAR	Chiang Mai Arr	30.71	300	P		P	01 37 48.2	+0.8
	2.2nm,0.7s,baz=109,slow=6.8,SNR=11							
CHTO	Chiang Mai	30.85	301	*e*P		P	01 37 48.4	-0.3
	7.7nm,1.0s							
KSAR	Wonju Array Be	33.28	2	P		P	01 38 09.3	-0.5
KSRS	Korea Array	33.30	2	P		P	01 38 09.3	-0.6
	1.8nm,0.7s,baz=180,slow=10,SNR=5.3							
KSRS				LR		LR	01 50 57.9	
	comp=Z,40nm,18.9s,baz=180,slow=35							
BJT	Baijiatuau	37.08	347	*e*P		P	01 38 42.3	-0.2
	19nm,0.8s							
EIDS	Eidsvold	37.59	142	*e*P		P	01 38 47.2	+0.2
	70nm,1.7s							
BBOO	Buckleboo	37.69	167	*e*P		P	01 38 47.8	+0.1
	101nm,0.7s							
STKA	Stephens Creek	38.41	159	P		P	01 38 54.1	+0.3
STKA	Stephens Creek	38.41	159	P		P	01 38 54.1	+0.3
	6.9nm,0.5s,baz=330,slow=6.0,SNR=16							
ARMA	Armidale	41.72	147	*e*P		P	01 39 22.4	+1.0
	19nm,0.9s							
TLY	Talaya	51.25	342	*e*P		P	01 40 35.7	0.0
	3.3nm,0.8s							
PETK	Petropavlovsk-	55.17	22	P		P	01 41 04.6	+0.1
PETK	Petropavlovsk-	55.17	22	P		P	01 41 04.6	+0.1
	1.4nm,0.5s,baz=190,slow=7.3,SNR=3.1							
MK31	Makanchi Array	57.31	325	*e*P		P	01 41 19.6	-0.3
MKAR	Makanchi Array	57.31	325	P		P	01 41 19.4	-0.5
MKAR				ScP		ScP	01 46 15.1	+5.1
MKAR	Makanchi Array	57.31	325	P		P	01 41 19.4	-0.5
	1.4nm,0.5s,baz=120,slow=8.0,SNR=18							
MKAR				ScP		ScP	01 46 15.1	+5.1
	0.5nm,0.7s,baz=120,slow=4.7,SNR=4.5							
ZALV	Zalesovo Beam	60.32	333	P		P	01 41 39.3	-1.3
ZALV	Zalesovo Beam	60.32	333	P		P	01 41 39.3	-1.3
	0.7nm,0.4s,baz=138,slow=7.4,SNR=5.3							
EKS2	Erkin-Say	60.62	318	*e*P		P	01 41 41.3	-1.8
	1.4nm,0.7s							
KURBB	Kurchatov Arra	61.48	327	P		P	01 41 48.5	-0.1
	1.3nm,0.5s,baz=126,slow=6.0,SNR=11							
KURK	Kurchatov	61.49	327	*e*P		P	01 41 48.1	-0.4
	2.9nm,0.5s							
KKAR	Karatay Array	63.01	317	*e*P		P	01 41 57.2	-1.8
	1.5nm,0.8s							
BVAR	Borovoye Array	67.07	327	P		P	01 42 24.9	-0.3
BVAR	Borovoye Array	67.07	327	P		P	01 42 24.9	-0.3
	2.2nm,0.6s,baz=128,slow=9.6,SNR=14							
BRVK	Borovoye	67.14	327	*e*P		P	01 42 25.4	-0.2
	4.9nm,0.9s							
ABKAR	Akbulak array	71.91	321	*e*P		P	01 42 54.0	-1.1
AKTO	Aktyubinsk	73.42	322	P		P	01 43 04.0	0.0
AKTO	Aktyubinsk	73.42	322	P		P	01 43 04.0	0.0
	1.2nm,0.5s,baz=125,slow=8.5,SNR=5.8							
MCK	McKinley	83.92	26	*e*P		P	01 44 01.4	-0.1
	4.9nm,0.8s							
ILAR	Eielson Array	84.86	25	P		P	01 44 06.5	+0.3
ILAR	Eielson Array	84.86	25	P		P	01 44 06.5	+0.3
	1.2nm,0.9s,baz=239,slow=6.6,SNR=7.4							
INK	Inuvik	89.91	21	*e*P		P	01 44 29.9	-0.5
	4.6nm,1.3s							
ARCES	ARCESS Array B	90.17	340	P		P	01 44 31.0	-0.8
ARCES	ARCESS Array B	90.17	340	P		P	01 44 31.0	-0.8
	0.8nm,0.7s,baz=88,slow=6.4,SNR=4.0							
FINES	FINESS Array B	91.57	332	P		P	01 44 37.7	-0.7
FINES	FINESS Array B	91.57	332	P		P	01 44 37.7	-0.7
	2.4nm,0.9s,baz=67,slow=5.0,SNR=4.6							
SUW	Suwalki	94.67	325	*e*P		P	01 44 52.7	-0.1
	11nm,0.9s							
BUR08	Bucovina Ar. S	94.78	318	*e*P		P	01 44 53.9	+0.2
MORC	Moravsky Berou	99.17	322	*e*P		Pdif	01 45 13.2	-0.2
	3.0nm,1.1s							
YKA	Yellowknife Ar	99.25	24	P		Pdif	01 45 12.2	-1.2
YKA	Yellowknife Ar	99.25	24	P		Pdif	01 45 12.2	-1.2
	0.2nm,0.6s,baz=297,slow=5.0,SNR=5.4							
SCHQ	Schefferville	120.29	9	PKP		PKPdf	01 50 23.5	+0.7
SCHQ	Schefferville	120.29	9	PKP		PKPdf	01 50 23.5	+0.7
	4.5nm,1.2s,baz=0.0,slow=1.0,SNR=7.0							
TXAR	Lajitas Array	121.44	52	PKP		PKPdf	01 50 27.2	+1.4
TXAR	Lajitas Array	121.44	52	PKP		PKPdf	01 50 27.2	+1.4
	0.8nm,1.1s,baz=177,slow=1.6,SNR=2.7							
TOA0	Torodi Ar. Sit	122.81	288	*e*PKPdf		PKPdf	01 50 28.9	+0.3
TORD	Torodi Ar. Bea	122.81	288	PKP		PKPdf	01 50 29.0	+0.3
TORD	Torodi Ar. Bea	122.81	288	PKP		PKPdf	01 50 29.0	+0.3
	0.7nm,0.6s,baz=87,slow=1.7,SNR=6.1							
WVT	Waverly	128.64	36	*e*PKPdf		PKPdf	01 50 39.8	+0.4

*BJI **14** 01:34:27.0,36.˙10N×69.˙84E,h123km,mb4.6/2*
*IDC **14** 01:34:36.7±3.7,36.˙32N×70.˙98E,h171km±32km,mb3.5/9, mb1 3.6/14,mb1mx3.3/30,mbtmp3.4/14,Error ellipse: s-maj=25.2km s-min=17.6km az=26.0*
*ISCJB **14** 01:34:38.7±0.4,36.˙53N±0.˙03×70.˙89E±0.˙07,h188km, mb3.7/10,Error ellipse: s-maj=8.4km s-min=3.4km az=157.3*
*NNC **14** 01:34:48.0±2.5,37.˙16N×71.˙12E,h212km±22km,mb2.7, mpv4.0,Error ellipse: s-maj=24.5km s-min=15.2km az=25.0*

ISC 14 01:34:40.1±0.6,36.˙63N±0.˙05×71.˙06E±0.˙08,h188km,n57, σ1s74/65,mb3.7/10,6C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	Cherat	2.89	166	⇑P	Pn	01 35 30.4	+2.4
CEP				S	Sn	01 36 07.0	+1.7
CHCP	Chirah Chowk	3.47	148	P	Pn	01 35 37.6	+2.6
THW	Thamme Wali	3.87	171	⇑P	Pn	01 35 41.7	+1.8
KSH	Kashi	4.83	52	P	Pn	01 35 49.9	-2.2
KSH				S	Sn	01 36 39.6	-9.2
	comp=N,94nm,0.7s						
KSH				smax	smax		
	comp=E,110nm,0.5s						
SARP	Sargodha	4.88	164	⇓P	Pn	01 35 54.1	+1.3
THN	Thein Dam	5.68	136	*e*PKP	Pn	01 36 04.0	+0.9
THN				*e*S	Sn	01 37 06.6	-1.9
DLH	Dalhousie	5.75	134	*e*PKP	Pn	01 36 05.0	+0.8
DLH				*e*S	Sn	01 37 08.0	-2.3
AML	Almayashu	5.86	20	P	Pn	01 36 07.6	+1.9
	SNR=121						
UCH	Uchtor	6.20	25	P	Pn	01 36 12.6	+2.4
	SNR=6.6						
KZA	Kyzart	6.33	30	P	Pn	01 36 13.3	+1.5
	SNR=15						
EKS2	Erkin-Say	6.38	18	P	Pn	01 36 14.6	+2.4
	SNR=17						
KK31	Karatay Array	6.48	356	⇑P	Pn	01 36 14.8	+1.4
	comp=E,1.6nm,0.3s,baz=173,slow=11,SNR=126						
KK31				⇑S	Sn	01 37 24.2	-2.9
	comp=E,19nm,0.7s,baz=185,slow=23,SNR=18						
AAK	Ala-Archa	6.55	23	P	Pn	01 36 16.9	+2.3
	SNR=30						
AAK	Ala-Archa	6.55	23	P	Pn	01 36 17.0	+2.5
	comp=E,7.8nm,0.3s,baz=167,slow=6.1,SNR=80						
AAK				S	Sn	01 37 29.6	+0.4
	comp=E,2.3nm,0.3s,baz=112,slow=19,SNR=4.8						
KBK	Karagaybulak	6.72	25	P	Pn	01 36 19.9	+3.1
	SNR=8.8						
ULHL	Ulahol	6.89	34	P	Pn	01 36 21.0	+2.0
	SNR=21						
CHMS	Chumysh	6.96	23	P	Pn	01 36 22.2	+2.5
	SNR=11						
USP	Ospenovka	7.13	21	P	Pn	01 36 24.2	+2.2
	SNR=7.1						
TKM2	Tokmak 2	7.19	28	⇓P	Pn	01 36 24.8	+2.0
	comp=E,26nm,0.7s						
TKM2				⇑S	Sn	01 37 41.3	-2.9
	comp=E,14nm,0.8s						
TKM2	Tokmak 2	7.19	28	P	Pn	01 36 25.0	+2.1
	SNR=36						
SMLA	Simla	7.48	135	*i* P	Pn	01 36 27.6	+1.0
SMLA				*i* S	Sn	01 37 48.2	-2.6
SMLA				*i* S	Sn	01 37 48.4	-2.4
SMLA				⇓AML	AML	01 37 52.5	
	comp=N,939nm,0.3s						
SMLA				AML	AML	01 37 52.7	
	comp=E,1μm,0.3s						
DDI	Dehra Dun	8.58	135	*ex*	Sn	01 38 19.5	+2.1
KHET	Khetri	9.43	153	*e*PKP	Pn	01 36 50.0	-2.1
KHET				*e*S	Sn	01 38 28.0	-9.5
KHET				AML	AML	01 38 34.9	
	comp=E,14nm,0.3s						
KHET				AML	AML	01 38 35.1	
	comp=N,14nm,0.4s						
AYAN	Aya Nagar	9.60	146	*e*PKP	Pn	01 36 55.8	+1.4
AYAN				*e*S	Sn	01 38 33.2	-8.3
KUDL	Kundal	9.62	150	*e*PKP	Pn	01 36 52.2	-2.4
KUDL				*e*S	Sn	01 38 33.0	-9.1
KUDL				AML	AML	01 38 37.6	
	comp=E,11nm,0.5s						
KUDL				AML	AML	01 38 38.9	
	comp=N,7.2nm,0.3s						
MK31	Makanchi Array	13.16	36	P	Pn	01 37 41.0	+1.2
	comp=N,0.3nm,0.3s,baz=214,slow=11,SNR=27						
MKAR	Makanchi Array	13.16	36	P	Pn	01 37 41.3	+1.4
	comp=N,0.2nm,0.3s,baz=211,slow=11,SNR=17						
DANN	Dangsing	13.52	124	*e*Pn	Pn	01 37 44.6	-0.3
	comp=N,9.0nm,0.2s						
KOLN	Koldanda	13.80	126	*e*Pn	Pn	01 37 48.7	+0.4
	comp=N,7.3nm,0.3s						
GKN	Gorkha	14.33	123	*e*Pn	P	01 37 55.6	-1.0
	comp=N,27nm,0.4s						
DMN	Daman	14.90	123	*e*Pn	P	01 38 02.5	-0.5
	comp=N,19nm,0.5s						
KKN	Kakani	14.91	122	*e*Pn	Pn	01 38 02.3	+0.4
	comp=N,22nm,0.5s						
KURBB	Kurchatov Arra	14.98	19	P	P	01 38 03.4	0.0
	comp=N,0.1nm,0.3s,baz=209,slow=7.4,SNR=6.6						
AB31	Akbulak array	14.99	331	P	Pn	01 38 02.1	-0.4
	comp=N,2.4nm,1.4s,baz=38,slow=5.5,SNR=3.5						
PKI	Pulchoki	15.13	123	*e*Pn	Pn	01 38 04.7	-0.1
	comp=N,14nm,0.4s						
GUN	Gumba	15.24	121	*e*Pn	P	01 38 06.5	-0.3
	comp=N,12nm,0.3s						
JIRN	Jiri	15.61	121	*e*Pn	P	01 38 10.8	-0.2
	comp=N,9.1nm,0.5s						
VOSK	Vostochnaya	16.09	360	⇓P	P	01 38 15.7	+0.1
	comp=N,1.8nm,0.7s						
RAMN	Ramite	16.34	122	*e*Pn	P	01 38 17.7	-1.2
	comp=N,9.9nm,0.4s						
ZRNK	Zerenda	16.38	356	⇑P	Pn	01 38 20.1	+0.7
	comp=N,2.7nm,0.5s						
BVA0	Borovoye Array	16.40	359	P	Pn	01 38 20.3	+0.7
	comp=N,0.2nm,0.6s,baz=161,slow=10,SNR=29						
BVAR	Borovoye Array	16.40	359	P	Pn	01 38 20.1	+0.5
	comp=N,1.0nm,0.3s,baz=164,slow=9.6,SNR=24						
AKTO	Aktyubinsk	16.69	330	P	Pn	01 38 23.4	+0.3
	comp=N,1.0nm,0.3s,baz=144,slow=8.8,SNR=23						
TAPN	Taplejung	16.87	119	*e*Pn	P	01 38 24.1	-0.6
	comp=N,16nm,0.6s						
ZALV	Zalesovo Beam	19.78	25	P	P	01 38 56.9	+1.3
	comp=N,1.8nm,0.4s,baz=209,slow=10,SNR=13						
GTA	Gaotai	22.78	74	P	P	01 39 30.3	+3.7
JOF	Joensuu	35.78	330	*ep*	P	01 41 20.8	0.0
	comp=N,3.6nm,0.4s						
FINES	FINESS Array B	37.40	326	P	P	01 41 35.1	+0.6
	comp=N,1.5nm,0.4s,baz=122,slow=8.5,SNR=25						
KAF	Kajaani	37.54	327	*ep*	P	01 41 35.2	-0.5
	comp=N,1.0nm,0.5s						
ARCES	ARCESS Array B	41.04	338	P	P	01 42 05.3	+0.8
	comp=N,2.6nm,0.6s,baz=115,slow=8.7,SNR=24						
NB2	NORSAR Subarra	44.30	323	P	P	01 42 30.7	-0.3
	comp=Z,1.2nm,0.5s,baz=96,slow=7.9						
NOA	NORSAR Array B	44.30	323	P	P	01 42 30.7	-0.3
	comp=Z,1.6nm,0.6s,baz=96,slow=7.8,SNR=8.8						
TORD	Torodi Ar. Bea	65.77	269	P	P	01 45 02.5	-2.7
	comp=Z,0.6nm,0.4s,baz=48,slow=5.9,SNR=25						
ILAR	Eielson Array	74.64	16	P	P	01 45 58.0	-0.3
	comp=Z,0.3nm,0.5s,baz=304,slow=5.2,SNR=5.1						
YKA	Yellowknife Ar	81.11	3	P	P	01 46 33.9	0.0
	comp=Z,0.5nm,0.4s,baz=351,slow=5.4,SNR=19						
WRA	Warramunga Arr	82.02	122	P	P	01 46 37.7	-1.6
	comp=Z,0.3nm,0.3s,baz=325,slow=4.7,SNR=4.3						
ASAR	Alice Springs	84.29	125	P	P	01 46 48.9	-2.0
	comp=Z,0.6nm,0.6s,baz=311,slow=4.9,SNR=5.0						

*ISK **14** 01:43:22.2,40.˙79N×31.˙60E,h5km,MD3.0*
*DDA **14** 01:43:24.1,40.˙80N×31.˙58E,h7km,MD2.9*
*CSEM **14** 01:43:24.0±0.2,40.˙78N×31.˙58E,h5km,MD3.0,Error ellipse: s-maj=5.4km s-min=3.0km az=169.0*

ISC 14 01:43:24.2±1.1,40.˙80N±0.˙03×31.˙58E±0.˙02,h8km±10km, n49,σ0s62/63,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDUB	Mudurnu	0.43	222	*e*PG	Pg	01 43 31.9	-0.7
MDUB				*e*SG	Sg	01 43 39.4	+1.1
MDUB	Mudurnu	0.43	222	*e*Pg	Pg	01 43 31.9	-0.7
MDUB				*e*Sg	Sg	01 43 39.4	+1.1
HENT	Hendek	0.52	273	*e*P	Pg	01 43 34.1	0.0
HENT				*e*S	Sb	01 43 42.1	-1.0
HENT	Hendek	0.52	273	*e*P	Pg	01 43 34.1	0.0
HENT				*e*S	Sb	01 43 42.1	-1.0
GULT	Gulveren	0.89	246	*e*PG	Pg	01 43 40.4	-0.8
GULT	Gulveren	0.89	246	*e*Pg	Pg	01 43 40.4	-0.8
SAFT	Safranbolu	0.95	62	*e*PG	Pg	01 43 41.2	-1.2
SAFT	Safranbolu	0.95	62	*e*Pg	Pg	01 43 41.2	-1.2
GPA	Golpazari	1.09	243	*e*PN	Pg	01 43 44.6	-0.5
GPA	Golpazari	1.09	243	*e*Pn	Pg	01 43 44.6	-0.5
BORA	Eskisehir	1.25	224	*e*P	Pn	01 43 47.1	-0.9
BORA				*e*S	Sn	01 44 05.5	+0.4
BORA	Eskisehir	1.25	224	*e*P	Pn	01 43 47.1	-0.9
BORA				*e*S	Sn	01 44 05.5	+0.4
LOD	Lodumlu	1.28	135	*e*PN	Pn	01 43 47.7	-0.7
LOD	Lodumlu	1.28	135	*e*Pn	Pn	01 43 47.7	-0.7
SVRH	Sivrihisar-ESK	1.35	182	*e*PN	Pn	01 43 49.0	-0.3
SVRH	Sivrihisar-ESK	1.35	182	*e*Pn	Pn	01 43 49.0	-0.3
ESKT	Eskisehir	1.39	204	*e*PN	Pn	01 43 49.8	-0.1
ESKT	Eskisehir	1.39	204	*e*Pn	Pn	01 43 49.8	-0.1
SEYT	Eskypehyr	1.39	204	*e*P	Pb	01 43 50.4	0.0
SEYT				*e*S	Sb	01 44 07.8	-0.5
SEYT	Eskypehyr	1.39	204	*e*P	Pb	01 43 50.4	0.0
SEYT				*e*S	Sb	01 44 07.8	-0.5
ELDT	Eldivan	1.44	102	*e*P	Pg	01 43 52.8	+1.0
ELDT				*e*S	Sb	01 44 10.2	+0.3
ELDT	Eldivan	1.44	102	*e*P	Pg	01 43 52.8	+1.0
ELDT				*e*S	Sb	01 44 10.2	+0.3
ADVT	Abdulvahap	1.45	256	*e*PN	Pn	01 43 50.9	+0.3
ADVT	Abdulvahap	1.45	256	*e*Pn	Pn	01 43 50.9	+0.3
CAVI	Cavuskoy	1.45	246	*e*PN	Pn	01 43 50.9	+0.3
CAVI	Cavuskoy	1.45	246	*e*Pn	Pn	01 43 50.9	+0.3
HRT	Hereke	1.45	272	*e*PN	Pn	01 43 50.9	+0.2
HRT	Hereke	1.45	272	*e*Pn	Pn	01 43 50.9	+0.2
BALT	Daday	1.55	61	*e*P	Pn	01 43 52.1	+0.4
BALT				*e*S	Sg	01 44 14.0	-0.1
BALT	Daday	1.55	61	*e*P	Pn	01 43 52.6	+0.4
BALT				*e*S	Sg	01 44 14.0	-0.1
CANT	Cankiri	1.56	96	*e*PN	Pn	01 43 52.1	-0.2
YLV	Yalova	1.69	263	*e*PN	Pn	01 43 54.7	+0.7
YLV	Yalova	1.69	263	*e*Pn	Pn	01 43 54.7	+0.7
BBAL	Bala	1.72	136	*e*P	Pb	01 43 55.6	-0.5
BBAL				*e*S	Sg	01 44 20.5	+1.0
BBAL	Bala	1.72	136	*e*P	Pb	01 43 55.6	-0.5
BBAL				*e*S	Sg	01 44 20.5	+1.0
AFSR	Af˙ar-Bala (A	1.77	139	*e*PN	Pn	01 43 55.0	-0.1
AFSR	Af˙ar-Bala (A	1.77	139	*e*Pn	Pn	01 43 55.0	-0.1
ISK	Istanbul-Kandi	1.93	279	*e*PN	Pn	01 43 57.7	+0.5
ISK	Istanbul-Kandi	1.93	279	*e*Pn	Pn	01 43 57.7	+0.5
ALT	Altintas	2.07	213	*e*PN	Pn	01 43 59.7	+0.4
ALT	Altintas	2.07	213	*e*Pn	Pn	01 43 59.7	+0.4
MDNY	Mudanya-Bursa	2.09	259	*e*PN	Pn	01 44 00.1	+0.6
MDNY	Mudanya-Bursa	2.09	259	*e*Pn	Pn	01 44 00.1	+0.6
TVSB	Tavsanli	2.11	231	*e*PN	Pn	01 44 00.1	+0.3
TVSB	Tavsanli	2.11	231	*e*Pn	Pn	01 44 00.1	+0.3
BGKT	Bogazkoy	2.16	281	*e*PN	Pn	01 44 01.1	+0.7
BGKT	Bogazkoy	2.16	281	*e*Pn	Pn	01 44 01.1	+0.7
CORM	Corum	2.41	104	*e*PN	Pn	01 44 04.1	+0.1
CORM	Corum	2.41	104	*e*Pn	Pn	01 44 04.1	+0.1

*ATH **14** 01:57:23.1,36.˙38N×27.˙23E,h16km±1km,MD3.1/5*
*CSEM **14** 01:57:24.5±0.4,36.˙25N×27.˙36E,h10km,MD2.8,Error ellipse: s-maj=13.9km s-min=7.9km az=117.0*
*DDA **14** 01:57:36.5,36.˙77N×27.˙84E,h7km,MD2.8*

ISC 14 01:57:24.5±1.2,36.˙24N±0.˙03×27.˙54E±0.˙04,h13km±11km, n18,σ1s65/30,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	Arkhangelos	0.47	92	*e*PN	Pn	01 57 37.5	+0.4
ARG				*e*SN	Sn	01 57 48.0	+2.7
ARG	Arkhangelos	0.47	92	*e*Pn	Pn	01 57 37.5	+0.4
ARG				*e*Sn	Sn	01 57 48.0	+2.7
DAT	Datca	0.49	3	*e*PG	Pb	01 57 35.9	+0.7
DAT				*e*SG	Sb	01 57 42.8	+0.4
KARP	Karpathos	0.75	204	*e*PN	Pg	01 57 39.3	+0.2
KARP				*e*SN	Sb	01 57 50.5	+0.8
KARP	Karpathos	0.75	204	*e*Pn	Pg	01 57 39.3	+0.2
KARP				*e*Sn	Sb	01 57 50.5	+0.8
BDRM	Kayabasi	0.83	355	*e*P	Pb	01 57 40.5	-0.4
BDRM				*e*S	Sg	01 57 51.5	-0.1
BDRM	Kayabasi	0.83	355	*e*P	Pb	01 57 40.5	-0.4
BDRM				*e*S	Sg	01 57 51.5	-0.1
BODT	Bodrum	0.85	347	*e*PG	Pg	01 57 41.2	+0.3
TURN	Turunc	1.07	53	*e*P	Pb	01 57 42.7	-2.1
TURN				*e*S	Sb	01 57 55.2	-3.5
TURN	Turunc	1.07	53	*e*P	Pb	01 57 42.7	-2.1
TURN				*e*S	Sb	01 57 55.2	-3.5
YER	Yerkesik	1.08	33	*e*PG	Pg	01 57 46.1	+0.8
AYDN	Tasoluk	1.45	11	*e*P	Pg	01 57 53.3	+0.9
AYDN				*e*S	Sg	01 58 13.6	+2.4
ZKR	Zakros	1.55	224	*e*PN	Pn	01 57 51.5	-0.4
ZKR				*e*SN	Sb	01 58 12.3	-0.5
ZKR	Zakros	1.55	224	*e*Pn	Pn	01 57 51.5	-0.4
ZKR				*e*Sn	Sb	01 58 12.3	-0.5
NPS	Neapolis	1.84	239	*e*PN	Pn	01 57 54.0	-2.0
NPS	Neapolis	1.84	239	*e*Pn	Pn	01 57 54.0	-2.0
LAST	Lasithi	1.99	238	*e*PN	Pn	01 57 56.7	-1.3
LAST	Lasithi	1.99	238	*e*Pn	Pn	01 57 56.7	-1.3

*IDC **14** 01:57:38.2±0.7,3.˙95N×126.˙75E,h0km,mb3.9/12, mb1 4.1/12,mb1mx3.9/22,mbtmp3.9/12,Error ellipse: s-maj=36.5km s-min=14.3km az=72.0*
*ISCJB **14** 01:57:41.6±0.5,3.˙94N±0.˙08×126.˙7E±0.˙2,h36km, mb4.0/15,Error ellipse: s-maj=25.9km s-min=8.7km az=159.7*
*NEIC **14** 01:57:43.5±0.3,3.˙92N×126.˙74E,h35km,mb4.3/4,Error ellipse: s-maj=19.2km s-min=6.7km az=70.0*

ISC 14 01:57:43.7±0.6,3.˙9N±0.˙1×126.˙8E±0.˙2,h36km,n31, σ0s75/31,mb4.0/15,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SSLB	Suanglung	20.53	345	*e*P	P	02 02 18.7	-0.5
	9.1nm,0.8s						
FITZ	Fitzroy Crossi	21.91	183	P	P	02 02 33.7	-0.2
FITZ	Fitzroy Crossi	21.91	183	P	P	02 02 33.7	-0.2
	2.5nm,0.7s,baz=4.4,slow=13,SNR=3.5						
WRAB	Tennant Creek	24.85	163	*e*P	P	02 03 03.1	+0.1
	7.0nm,0.7s						
WRA	Warramunga Arr	24.85	163	P	P	02 03 02.7	-0.3
WRA	Warramunga Arr	24.85	163	P	P	02 03 02.7	-0.3
	7.6nm,0.7s,baz=343,slow=10,SNR=28						
ASAR	Alice Springs	28.29	166	P	P	02 03 33.9	-0.1
ASAR	Alice Springs	28.29	166	P	P	02 03 33.9	-0.1
	0.4nm,0.5s,baz=346,slow=7.3,SNR=6.7						
CMAR	Chiang Mai Arr	30.80	300	P	P	02 03 57.7	+1.3
CMAR	Chiang Mai Arr	30.80	300	P	P	02 03 57.7	+1.3
	1.1nm,0.3s,baz=108,slow=8.6,SNR=5.3						
BBOO	Buckleboo	37.58	167	*e*P	P	02 04 55.1	+0.3
STKA	Stephens Creek	38.29	159	P	P	02 05 01.0	+0.1
STKA	Stephens Creek	38.29	159	P	P	02 05 01.0	+0.1
	2.6nm,0.6s,baz=337,slow=6.5,SNR=8.9						
DZM	Mont Dzumac	46.62	125	*e*P	P	02 06 09.3	+0.5
	37nm,1.7s						
SONM	Songino Array	47.13	341	P	P	02 06 13.6	+1.1
SONM	Songino Array	47.13	341	P	P	02 06 13.6	+1.1
	0.3nm,0.6s,baz=167,slow=7.1,SNR=3.7						
PETK	Petropavlovsk-	55.24	22	P	P	02 07 13.3	+0.2
PETK	Petropavlovsk-	55.24	22	P	P	02 07 13.3	+0.2
	1.6nm,0.9s,baz=177,slow=4.1,SNR=3.7						
MK31	Makanchi Array	57.42	325	*e*P	P	02 07 28.4	-0.5
MKAR	Makanchi Array	57.42	325	P	P	02 07 28.5	-0.4
MKAR	Makanchi Array	57.42	325	P	P	02 07 28.5	-0.4
	0.4nm,0.4s,baz=121,slow=8.0,SNR=14						
KURBB	Kurchatov Arra	61.60	327	P	P	02 07 56.4	-1.1
	0.4nm,0.5s,baz=128,slow=6.7,SNR=7.1						
KURK	Kurchatov	61.60	327	*e*P	P	02 07 57.0	-0.5
	1.1nm,0.5s						
BVAR	Borovoye Array	67.18	327	P	P	02 08 32.9	-1.1

EIDS	**Eidsvold**	**18.05 254**	*e*P		**Pn**	**02 10 59.4**	**+1.3**		
	comp=Z,80nm,1.0s								
AFI	**Afiamalu**	**18.66 69**	P		**P**	**02 11 01.7**	**-1.9**		
AFI	**Afiamalu**	**18.66 69**	P		**P**	**02 11 01.7**	**-1.9**		
	comp=Z,4.1nm,0.3s,baz=345,slow=9.2,SNR=4.1								
ARMA	**Armidale**	**18.96 238**	*e*P		**Pn**	**02 11 09.9**	**+1.1**		
	comp=Z,161nm,1.4s								
ARMA	**Armidale**	**18.96 238**	*e*P		**Pn**	**02 11 09.7**	**+0.9**		
KHZ	**Kahutara**	**20.97 173**	*e*P		**P**	**02 11 28.1**	**-0.1**		
	comp=Z,214nm,1.4s								
RPZ	**Rata Peaks**	**22.10 179**	*e*P		**P**	**02 11 40.6**	**+0.4**		
	comp=Z,80nm,1.1s								
CTA	**Charters Tower**	**22.54 269**	P		**P**	**02 11 45.6**	**+0.8**		
CTA	**Charters Tower**	**22.54 269**	*e*P		**P**	**02 11 45.5**	**+0.7**		
	comp=Z,72nm,1.1s								
CTA	**Charters Tower**	**22.54 269**	P		**P**	**02 11 45.6**	**+0.8**		
	comp=Z,44nm,0.6s,baz=98,slow=11,SNR=53								
CTA			LR		LR	02 19 48.3			
	comp=Z,238nm,20.3s,baz=92,slow=34								
CTAO	**Charters Tower**	**22.54 269**	*e*P		**P**	**02 11 45.5**	**+0.7**		
CTAO			pmax		pmax				
	comp=Z,98nm,0.9s								
CTAO	**Charters Tower**	**22.54 269**	*e*P		**P**	**02 11 45.5**	**+0.7**		
	comp=Z,98nm,0.9s								
CAN	**Canberra**	**23.16 229**	*e*P		**P**	**02 11 52.1**	**+1.5**		
CAN			pmax		pmax				
	comp=Z,90nm,0.9s								
CAN	**Canberra**	**23.16 229**	*e*P		**P**	**02 11 52.1**	**+1.5**		
	comp=Z,90nm,0.9s								
CAN	**Canberra**	**23.16 229**	*e*P		**P**	**02 11 52.1**	**+1.5**		
	comp=Z,58nm,0.9s								
ODZ	**Otahua Downs**	**23.43 179**	*e*P		**P**	**02 11 53.3**	**+0.4**		
	comp=Z,266nm,1.2s								
WHZ	**Wether Hill Ro**	**24.35 184**	*e*P		**P**	**02 12 02.2**	**+1.0**		
PMG	**Port Moresby**	**25.34 295**	*e*P		**P**	**02 12 10.5**	**0.0**		
	comp=Z,270nm,0.9s								
PMG	**Port Moresby**	**25.34 295**	P		**P**	**02 12 10.5**	**0.0**		
	comp=Z,336nm,0.8s,comp=Z,2µm								
PMG	**Port Moresby**	**25.34 295**	P		**P**	**02 12 11.2**	**+0.7**		
	comp=Z,248nm,0.8s,baz=100,slow=5.3,SNR=179								
TOO	**Toolangi**	**26.73 228**	*e*P		**P**	**02 12 24.4**	**+1.5**		
	comp=Z,94nm,0.9s								
COEN	**Coen**	**26.91 282**	*e*P		**P**	**02 12 26.2**	**+1.6**		
	comp=Z,1µm,1.8s								
STKA	**Stephens Creek**	**27.56 242**	*e*P		**P**	**02 12 31.6**	**+1.3**		
	comp=Z,2.9nm,0.8s								
STKA			PcP		**PcP**	**02 15 45.9**	**+0.8**		
STKA			ScP		**ScP**	**02 19 18.0**	**+3.9**		
STKA	**Stephens Creek**	**27.56 242**	*e*P		**P**	**02 12 31.5**	**+1.1**		
	comp=Z,11nm,0.7s								
STKA	**Stephens Creek**	**27.56 242**	P		**P**	**02 12 31.5**	**+1.1**		
	comp=Z,13nm,0.6s,baz=90,slow=11,SNR=40								
STKA			PcP		**PcP**	**02 15 45.9**	**+0.8**		
	comp=Z,3.2nm,0.7s,baz=22,slow=4.4,SNR=2.9								
STKA			ScP		**ScP**	**02 19 18.0**	**+3.9**		
	comp=Z,5.9nm,0.9s,baz=86,slow=4.5,SNR=5.0								
STKA			LR		LR	02 21 49.8			
	comp=Z,118nm,19.5s,baz=238,slow=32								
RAR	**Rarotonga**	**27.83 95**	LR		LR	02 20 55.2			
	comp=Z,580nm,19.2s,baz=255,slow=30								
MOO	**Moorlands**	**28.44 218**	*e*P		**P**	**02 12 39.4**	**+1.4**		
	comp=Z,268nm,0.8s								
TAU	**Tasmania Unive**	**28.67 217**	*e*P		**P**	**02 12 40.0**	**0.0**		
TAU			pmax		pmax				
	comp=Z,32nm,1.1s								
TAU	**Tasmania Unive**	**28.67 217**	*e*P		**P**	**02 12 40.0**	**0.0**		
	comp=Z,32nm,1.1s								
BBOO	**Buckleboo**	**32.34 242**	*e*P		**P**	**02 13 13.4**	**+0.9**		
	comp=Z,240nm,1.0s								
BBOO	**Buckleboo**	**32.34 242**	*e*P		**P**	**02 13 13.1**	**+0.6**		
	comp=Z,57nm,0.9s								
AS31	**Alice Springs**	**33.62 259**	*e*P		**P**	**02 13 23.8**	**-0.1**		
ASAR	**Alice Springs**	**33.63 259**	P		**P**	**02 13 23.9**	**0.0**		
ASAR			PcP		**PcP**	**02 16 01.1**	**-0.2**		
ASAR			ScP		**ScP**	**02 19 38.3**	**+4.1**		
ASAR	**Alice Springs**	**33.63 259**	P		**P**	**02 13 23.9**	**0.0**		
	comp=Z,33nm,0.6s,baz=86,slow=9.3,SNR=358								
ASAR			PcP		**PcP**	**02 16 01.1**	**-0.2**		
	comp=Z,2.6nm,0.8s,baz=82,slow=3.0,SNR=4.6								
ASAR			ScP		**ScP**	**02 19 38.3**	**+4.1**		
	comp=Z,2.4nm,1.0s,baz=105,slow=4.4,SNR=5.8								
WRAB	**Tennant Creek**	**33.63 266**	*e*P		**P**	**02 13 23.3**	**-0.6**		
WRAB			pmax		pmax				
	comp=Z,76nm,1.2s								
WRAB	**Tennant Creek**	**33.63 266**	*e*P		**P**	**02 13 23.2**	**-0.6**		
	comp=Z,76nm,1.2s								
WRAB	**Tennant Creek**	**33.63 266**	P		**P**	**02 13 23.0**	**-0.9**		
	comp=Z,304nm,1.1s,SNR=40								
WRA	**Warramunga Arr**	**33.64 266**	P		**P**	**02 13 23.1**	**-0.9**		
WRA			S		**S**	**02 18 36.2**	**-1.4**		
WRA	**Warramunga Arr**	**33.64 266**	P		**P**	**02 13 23.1**	**-0.9**		
	comp=Z,35nm,0.9s,baz=101,slow=7.8,SNR=102								
WRA			S		**S**	**02 18 36.2**	**-1.4**		
	comp=Z,2.7nm,1.1s,baz=87,slow=14,SNR=4.5								
WRA			LR		LR	02 27 06.1			
	comp=Z,302nm,18.6s,baz=90,slow=36								
JAY	**Jayapura**	**34.47 299**	P		**P**	**02 13 31.3**	**+0.1**		
	comp=Z,269nm,0.8s,comp=Z,5µm								
SMPI	**Sarmi**	**36.40 298**	P		**P**	**02 13 49.3**	**+1.6**		
	comp=Z,63nm,0.9s								
TBI	**Tubuai**	**37.13 101**	*e*LR		LR	02 24 01.6			
	comp=Z,512nm,30.8s								
PPT2	**Papeete2**	**37.92 91**	*e*LQ		LQ	02 22 44.8			
	comp=Z,690nm,24.5s								
PPT2			*e*LR		LR	02 24 22.2			
	comp=Z,706nm,31.5s								
FORT	**Forrest**	**38.83 247**	*e*P		**P**	**02 14 08.2**	**+0.2**		
	comp=Z,34nm,0.6s								
FAKI	**Fak Fak**	**41.38 291**	P		**P**	**02 14 29.2**	**0.0**		
	comp=Z,192nm,1.2s,comp=Z,2µm								
FITZ	**Fitzroy Crossi**	**42.07 267**	P		**P**	**02 14 35.6**	**+0.8**		
FITZ	**Fitzroy Crossi**	**42.07 267**	*e*P		**P**	**02 14 35.4**	**+0.6**		
	comp=Z,172nm,0.8s								
FITZ	**Fitzroy Crossi**	**42.07 267**	P		**P**	**02 14 35.6**	**+0.8**		
	comp=Z,112nm,0.8s,baz=115,slow=7.4,SNR=109								
FITZ			LR		LR	02 31 24.7			
	comp=Z,222nm,19.6s,baz=104,slow=35								
GUMO	**Guam**	**42.95 322**	LR		LR	02 29 39.3			
	comp=Z,208nm,20.1s,baz=90,slow=32								
SWI	**Sorong**	**43.27 293**	P		**P**	**02 14 44.9**	**+0.4**		
	comp=Z,240nm,0.9s,comp=Z,2µm								
LBMI	**Labuha**	**46.62 291**	P		P	02 15 14.4	+3.3		
	comp=Z,112nm,0.9s								
MBWA	**Marble Bar**	**46.94 261**	*e*P		**P**	**02 15 13.8**	**+0.3**		
	comp=Z,49nm,0.6s								
MBWA	**Marble Bar**	**46.94 261**	*e*P		**P**	**02 15 13.9**	**+0.4**		
KLBR	**Kellerberrin**	**47.67 246**	*e*P		**P**	**02 15 19.0**	**-0.1**		
	comp=Z,22nm,0.5s								
NWAO	**Narrogin (SRO)**	**48.10 245**	*e*P		**P**	**02 15 22.5**	**+0.2**		
	comp=Z,35nm,0.8s								
NWAO	**Narrogin (SRO)**	**48.10 245**	P		**P**	**02 15 23.0**	**+0.7**		
	comp=Z,48nm,0.8s,baz=91,slow=6.5,SNR=23								
BLDU	**Ballidu**	**48.61 248**	*e*P		**P**	**02 15 26.0**	**-0.2**		
DRV	**Dumont d'Urvil**	**49.06 195**	P		P	02 15 16.0	-13		
DRV	**Dumont d'Urvil**	**49.06 195**	PP		PP	02 17 26.0	+2.4		
DRV			S		S	02 22 04.0	-20		
DRV			SS		ScS	02 25 20.0	+12		
DRV			R			02 29 00.0			
KDI	**Kendari**	**49.45 284**	P		**P**	**02 15 33.4**	**+0.5**		
	comp=Z,54nm,1.1s,comp=Z,948nm								
MNI	**Manado**	**49.96 291**	P		**P**	**02 15 37.8**	**+1.1**		
	comp=Z,513nm,0.9s,comp=Z,5µm								
LUWI	**Luwuk**	**50.59 287**	P		**P**	**02 15 42.7**	**+1.2**		
	comp=Z,250nm,1.1s,comp=Z,3µm								
BKSI	**Bulukumba**	**51.17 281**	P		**P**	**02 15 46.1**	**+0.3**		
	comp=Z,93nm,0.8s,comp=Z,998nm								
KAPI	**Kappang**	**51.63 281**	*e*P		**P**	**02 15 49.9**	**+0.7**		
	comp=Z,86nm,1.0s								
KAPI	**Kappang**	**51.63 281**	P		**P**	**02 15 49.7**	**+0.5**		
	comp=Z,110nm,1.2s,comp=Z,1µm								
KAPI	**Kappang**	**51.63 281**	LR		LR	02 36 04.5			
	comp=Z,80nm,22.0s,baz=100,slow=34								
MRSI	**Marisa**	**52.03 289**	P		**P**	**02 15 52.4**	**+0.2**		
	comp=Z,53nm,1.1s								
SPSI	**Sidrap Palu**	**52.04 282**	P		**P**	**02 15 52.3**	**+0.1**		
	comp=Z,47nm,0.9s								
TTSI	**Tana Toraja**	**52.37 283**	P		**P**	**02 15 56.0**	**+1.3**		
MYLDM	**Lahad Datu**	**57.30 292**	P		P	02 16 33.4	+3.3		
TSM	**Tawau**	**57.41 290**	P		**P**	**02 16 32.4**	**+1.4**		
CASY	**Casey**	**58.42 204**	*e*P		**P**	**02 16 36.5**	**-0.7**		
	comp=Z,56nm,1.1s								
SDKM	**Sandakan**	**58.65 291**	P		**P**	**02 16 40.8**	**+1.1**		
KDM	**Kudat**	**59.59 292**	P		**P**	**02 16 47.7**	**+1.7**		
KKM	**Kota Kinabalu**	**59.70 291**	*e*P		**P**	**02 16 48.0**	**+1.1**		
	comp=Z,71nm,0.9s								
KKM	**Kota Kinabalu**	**59.70 291**	P		**P**	**02 16 48.2**	**+1.3**		
TGY	**Tagaytay City**	**60.03 302**	P		**P**	**02 16 50.0**	**+0.9**		
TGY	**Tagaytay City**	**60.03 302**	P		**P**	**02 16 50.0**	**+0.9**		
	comp=Z,141nm,0.3s,baz=206,slow=14,SNR=5.3								
BTM	**Bintulu**	**61.14 287**	P		**P**	**02 16 58.4**	**+1.8**		
SBUM	**Sibu**	**61.58 285**	P		**P**	**02 17 01.6**	**+2.0**		
KSM	**Kuching**	**62.88 283**	*e*P		**P**	**02 17 08.4**	**+0.1**		
KSM	**Kuching**	**62.88 283**	P		**P**	**02 17 09.9**	**+1.6**		
JOW	**Kunigami**	**63.02 318**	P		**P**	**02 17 09.5**	**+0.6**		
JOW	**Kunigami**	**63.02 318**	P		**P**	**02 17 09.5**	**+0.6**		
	comp=Z,39nm,1.0s,baz=157,slow=11,SNR=4.0								
TWG	**Pinlang**	**65.18 310**	*e*P		**P**	**02 17 22.9**	**-0.2**		
MJAR	**Matsushiro Arr**	**65.27 332**	P		**P**	**02 17 22.8**	**-0.7**		
MJAR	**Matsushiro Arr**	**65.27 332**	P		**P**	**02 17 22.8**	**-0.7**		
	comp=Z,41nm,0.9s,baz=171,slow=7.2,SNR=43								
MJAR			LR		LR	02 40 58.6			
	comp=Z,163nm,19.2s,baz=110,slow=31								
MAJO	**Matsushiro**	**65.27 332**	*e*P		**P**	**02 17 23.7**	**+0.3**		
MAJO	**Matsushiro**	**65.27 332**	*e*P		**P**	**02 17 23.7**	**+0.3**		
MAT	**Matsushiro**	**65.27 332**	P		**P**	**02 17 23.4**	**0.0**		
NACB	**Ninganchiao**	**65.67 311**	*e*P		**P**	**02 17 26.4**	**+0.2**		
	comp=Z,102nm,1.0s								
TPUB	**Ta-pu**	**65.80 310**	*e*P		**P**	**02 17 26.8**	**-0.3**		
	comp=Z,102nm,0.8s								
SSLB	**Suanglung**	**65.87 310**	*e*P		**P**	**02 17 27.1**	**-0.5**		
JNU	**Nakatsue**	**66.14 324**	*e*P		**P**	**02 17 29.7**	**+0.6**		
JNU	**Nakatsue**	**66.14 324**	P		**P**	**02 17 29.2**	**+0.1**		
	comp=Z,48nm,0.9s,baz=99,slow=4.3,SNR=13								
YHNB	**Yeheng**	**66.14 311**	*e*P		**P**	**02 17 29.9**	**+0.6**		
	comp=Z,126nm,1.1s								
TATO	**Taipei**	**66.25 312**	*e*P		**P**	**02 17 30.1**	**+0.2**		
	comp=Z,127nm,0.9s								
QSPA	**South Pole Qui**	**68.50 180**	*e*P		**P**	**02 17 43.6**	**-0.1**		
	comp=Z,50nm,1.1s								
QSPA	**South Pole Qui**	**68.50 180**	P		**P**	**02 17 43.7**	**0.0**		
	comp=Z,31nm,1.0s,baz=15,slow=1.1,SNR=45								
MYKOM	**Kota Tinggi**	**68.89 281**	P		**P**	**02 17 48.5**	**+1.7**		
ASAJ	**Asahikawa**	**70.12 339**	P		**P**	**02 17 55.1**	**+1.4**		
ASAJ	**Asahikawa**	**70.12 339**	P		**P**	**02 17 55.1**	**+1.4**		
	comp=Z,21nm,0.9s,baz=214,slow=15,SNR=4.7								
KSRS	**Korea Array**	**70.98 325**	P		**P**	**02 17 59.9**	**+0.9**		
	comp=Z,15nm,0.9s,baz=144,slow=6.3,SNR=34								
KSRS			LR		LR	02 45 06.8			
	comp=Z,64nm,21.6s,baz=326,slow=32								
KSAR	**Wonju Array Be**	**71.00 325**	P		**P**	**02 17 59.9**	**+0.8**		
FRIM	**Kepong**	**71.51 281**	P		**P**	**02 18 03.9**	**+1.1**		
QIZ	**Qiongzhong**	**71.61 300**	P		**P**	**02 18 04.9**	**+1.7**		
QIZ			pP		pP	02 18 41.1	+6.5		
QIZ			sP		sP	02 18 57.5	+9.2		
QIZ			pmax		pmax				
	comp=Z,36nm,0.9s								
QIZ			pmax		pmax				
	comp=Z,100nm,8.4s								
IPM	**Ipoh**	**72.56 282**	*e*P		**P**	**02 18 09.7**	**+0.6**		
	comp=Z,64nm,1.0s								
IPM	**Ipoh**	**72.56 282**	P		**P**	**02 18 10.1**	**+1.1**		
NJ2	**Nanjing**	**72.57 316**	*e*P		**P**	**02 18 09.6**	**+0.9**		
NJ2			pmax		pmax				
	comp=Z,40nm,0.9s								
YSS	**Yuzh-Sakhalins**	**72.59 341**	⇑*i*P		**P**	**02 18 10.8**	**+2.4**		
YSS			pmax		pmax				
	comp=Z,50nm,0.9s								
YSS	**Yuzh-Sakhalins**	**72.59 341**	*e*P		**P**	**02 18 09.9**	**+1.5**		
	comp=Z,33nm,0.9s								
KULM	**Kulim**	**73.23 283**	*e*P		**P**	**02 18 13.4**	**+0.4**		
	comp=Z,53nm,1.1s								
KULM	**Kulim**	**73.23 283**	P		**P**	**02 18 14.4**	**+1.4**		
PSI	**Prapat**	**73.81 280**	P		**P**	**02 18 16.0**	**-0.5**		
PSI	**Prapat**	**73.81 280**	P		**P**	**02 18 16.0**	**-0.5**		
	comp=Z,35nm,1.0s,baz=185,slow=4.7,SNR=20								
USRK	**Ussuriysk Arra**	**74.25 332**	P		**P**	**02 18 19.3**	**+1.1**		
	comp=Z,14nm,1.0s,baz=130,slow=4.7,SNR=14								
USRK			LR		LR	02 45 31.0			
	comp=Z,110nm,20.0s,baz=303,slow=31								
WHN	**Wuhan**	**74.65 312**	P		**P**	**02 18 21.9**	**+1.0**		
WHN			pmax		pmax				
	comp=Z,110nm,1.3s								
PETK	**Petropavlovsk-**	**75.16 352**	P		**P**	**02 18 24.0**	**+0.7**		
PETK	**Petropavlovsk-**	**75.16 352**	P		**P**	**02 18 24.0**	**+0.7**		
PETK	**Petropavlovsk-**	**75.16 352**	P		**P**	**02 18 24.0**	**+0.7**		
	comp=Z,33nm,0.9s,baz=147,slow=6.5,SNR=29								
PETK			LR		LR	02 47 58.1			
	comp=Z,76nm,19.3s,baz=153,slow=33								
DL2	**Dalian**	**75.47 323**	P		**P**	**02 18 26.5**	**+1.2**		
DL2			pmax		pmax				
	comp=Z,50nm,1.0s								
MDJ	**Mudanjiang**	**75.64 331**	P		**P**	**02 18 27.8**	**+1.6**		
MDJ			pmax		pmax				
	comp=Z,32nm,1.2s								
MDJ			pmax		pmax				
	comp=Z,560nm,5.4s								
HABR	**Khabarovsk**	**76.52 337**	*e*P		**P**	**02 18 31.0**	**-0.1**		
HABR			*e*			02 18 41.4			
HABR			*e*			02 21 23.8			
HABR			*e*PPP		PPP	02 23 10.7			
HABR			*e*S		**S**	**02 28 04.9**	**-1.5**		
HABR			*e*			02 28 32.7			
HABR			*e*			02 28 46.9			
HABR			*e**SS		**sS**	**02 29 05.0**	**+3.7**		
HABR			*e*SSS		SSS	02 36 26.6			
HABR			pmax		pmax				
	comp=N,82nm,3.0s								
HABR			pmax		pmax				
	comp=Z,109nm,2.0s								
HABR			pmax		pmax				
	comp=E,65nm,2.0s								
HABR			MLR		MLR				
	comp=Z,88nm,19.0s								
MAW	**Mawson**	**76.67 202**	LR		LR	02 45 35.8			
	comp=Z,136nm,19.3s,baz=302,slow=30								
CN2	**Changchun**	**76.96 328**	*e*P		**P**	**02 18 34.8**	**+1.1**		
CN2			*e*pP		pP	02 19 13.4	+7.9		
CN2			*e*sP		sP	02 19 29.8	+11		
CN2			*e*S		**S**	**02 28 09.0**	**-2.4**		
CN2			pmax		pmax				
	comp=Z,50nm,1.0s								
ENH	**Enshi**	**77.92 309**	*e*P		**P**	**02 18 39.7**	**+0.3**		
	comp=Z,120nm,1.4s								
GYA	**Guiyang**	**77.97 305**	⇑*i*P		**P**	**02 18 40.8**	**+0.9**		
GYA			PcP		**PcP**	**02 18 51.3**	**+2.1**		
GYA			pP		pP	02 19 21.6	+10		
GYA			sP		sP	02 19 38.0	+13		
GYA			PP		**PP**	**02 21 41.8**	**+3.9**		
GYA			S		**S**	**02 28 21.4**	**-1.9**		
GYA			SKS		**SKSac**	**02 28 35.8**	**-6.7**		
GYA			pmax		pmax				
	comp=Z,30nm,1.0s								
GYA			pmax		pmax				
	comp=Z,140nm,5.9s								
KLR	**Kul'dur**	**78.39 335**	*e*P		**P**	**02 18 39.0**	**-2.5**		
BJT	**Baijiatuan**	**79.36 321**	*e*P		**P**	**02 18 46.9**	**-0.1**		
	comp=Z,27nm,0.9s								
KMI	**Kunming**	**80.35 302**	⇑P		**P**	**02 18 55.0**	**+2.0**		
KMI			pP		pP	02 19 33.9	+8.8		
KMI			sP		sP	02 19 52.8	+14		
KMI			PP		**PP**	**02 22 02.1**	**+4.2**		
KMI			S		**S**	**02 28 45.9**	**-2.9**		
KMI			SKS		**SKSac**	**02 28 55.0**	**-4.6**		
KMI			pmax		pmax				
	comp=Z,61nm,1.0s								
KMI			pmax		pmax				
	comp=Z,220nm,3.1s								
CM31	**Chiang Mai Arr**	**80.38 294**	*e*P		**P**	**02 18 55.2**	**+2.3**		
	comp=Z,26nm,0.8s								
CMAR	**Chiang Mai Arr**	**80.38 294**	P		**P**	**02 18 55.2**	**+2.3**		
CMAR	**Chiang Mai Arr**	**80.38 294**	P		**P**	**02 18 55.2**	**+2.3**		
	comp=Z,31nm,0.9s,baz=135,slow=4.0,SNR=106								
XAN	**Xi'an**	**80.42 312**	P		**P**	**02 18 54.0**	**+1.1**		
XAN			pP		pP	02 19 33.0	+8.0		
XAN			S		**S**	**02 28 45.0**	**-3.8**		
XAN			pmax		pmax				
	comp=Z,15nm,1.3s								
XAN			pmax		pmax				
	comp=Z,60nm,5.4s								
CHTO	**Chiang Mai**	**80.53 294**	*e*P		**P**	**02 18 55.7**	**+1.9**		
CHTO			pmax		pmax				
	comp=Z,48nm,0.9s								
CHTO	**Chiang Mai**	**80.53 294**	*e*P		**P**	**02 18 55.7**	**+1.9**		
	comp=Z,46nm,0.9s								
CD2	**Chengdu**	**82.44 307**	P		**P**	**02 19 04.6**	**+0.9**		
CD2			pP		**pP**	**02 19 40.0**	**+4.1**		
CD2			S		**S**	**02 29 07.4**	**-2.4**		
CD2			sS		**sS**	**02 30 09.1**	**+3.7**		
CD2			pmax		pmax				
	comp=Z,10.0nm,0.7s								
CD2			pmax		pmax				
	comp=Z,250nm,5.5s								
CD2			LR		LR				
	comp=N,580nm,20.2s								
CD2			LR		LR				
	comp=E,630nm,21.2s								
CD2			LR		LR				
	comp=Z,710nm,17.0s								
HHC	**Hu-ho-hao-te**	**82.63 319**	⇑P		**P**	**02 19 05.6**	**+1.1**		
HHC			pP		pP	02 19 45.3	+8.6		
HHC			PP		**PP**	**02 22 19.1**	**+2.9**		
HHC			SKS		**S**	**02 29 07.6**	**-3.9**		
HHC			S		**SKSac**	**02 29 08.8**	**-5.2**		
HHC			pmax		pmax				
	comp=Z,34nm,1.0s								
HHC			pmax		pmax				
	comp=Z,380nm,6.5s								
SYO	**Syowa Base**	**82.99 196**	⇑*e*P		**P**	**02 19 04.0**	**-1.8**		
HIA	**Hailar**	**83.62 329**	*e*P		**P**	**02 19 09.2**	**-0.1**		
	comp=Z,10nm,0.9s								
PMSA	**Palmer Station**	**84.39 160**	*e*P		**P**	**02 19 13.0**	**0.0**		
	comp=Z,53nm,1.4s								
LZH	**Lanzhou**	**85.03 312**	*e*P		**P**	**02 19 18.8**	**+1.9**		
LZH			pP		pP	02 19 55.1	+5.8		
LZH			sP		sP	02 20 13.9	+11		
LZH			*e*S		**S**	**02 29 33.3**	**-2.4**		
LZH			pmax		pmax				
	comp=Z,71nm,1.1s								
LZH			pmax		pmax				
	comp=Z,210nm,4.7s								
SEY	**Seymchan**	**85.40 352**	⇓*e*P		**P**	**02 19 18.4**	**+0.6**		
NVL	**N'lazarevskaya**	**86.69 187**	*e*P		**P**	**02 19 24.5**	**+0.2**		
NVL			pmax		pmax				
	comp=Z,20nm,0.8s								
SNAA	**Sanae**	**86.89 182**	*e*P		P	02 19 17.2	-8.2		
	comp=Z,15nm,0.8s								
CLNS	**Chul'man**	**86.92 337**	*e*P		**P**	**02 19 26.0**	**+0.5**		
CLNS			pmax		pmax				
	comp=Z,28nm,1.2s								
CLNS			pmax		pmax				
	comp=E,5.0nm,1.1s								
CLNS			pmax		pmax				
	comp=N,21nm,1.5s								
IMP	**Imphal**	**87.31 298**	*e*PKP		**P**	**02 19 28.0**	**-0.2**		
ULN	**Ulaanbaatar**	**89.32 323**	*e*P		**P**	**02 19 37.3**	**0.0**		
	comp=N,28nm,1.3s								
ULN			*e*pP		**pP**	**02 20 06.6**	**-3.4**		
YAK	**Yakutsk**	**89.38 342**	*e*P		**P**	**02 19 36.1**	**-0.8**		
YAK			pmax		pmax				
	comp=Z,25nm,0.9s								
YAK	**Yakutsk**	**89.38 342**	*e*P		**P**	**02 19 36.9**	**-0.1**		
	comp=Z,21nm,0.6s								
BILL	**Bilibino**	**89.39 358**	⇑*i*P		**P**	**02 19 37.0**	**+0.1**		
BILL			*e*			02 19 48.1			
BILL			pmax		pmax				
	comp=Z,42nm,1.4s								
BILL			MLR		MLR				
	comp=Z,100nm,14.0s								
BILL	**Bilibino**	**89.39 358**	*e*P		**P**	**02 19 36.8**	**-0.1**		
	comp=Z,52nm,1.4s								
GTA	**Gaotai**	**89.45 313**	⇑P		**P**	**02 19 39.3**	**+1.3**		
GTA			pP		pP	02 20 19.6	+8.9		
GTA			sP		sP	02 20 36.8	+13		
GTA			SKS		**SKSac**	**02 29 53.3**	**-3.3**		
GTA			S		**S**	**02 30 16.9**	**-1.0**		
GTA			pmax		pmax				
	comp=Z,16nm,1.4s								
GTA			pmax		pmax				
	comp=Z,250nm,5.0s								
NVAR	**Mina Array Bea**	**89.58 48**	P		**P**	**02 19 39.2**	**+0.4**		
NVAR	**Mina Array Bea**	**89.58 48**	P		**P**	**02 19 39.2**	**+0.4**		
	comp=Z,2.0nm,0.9s,baz=224,slow=8.6,SNR=9.3								
SONM	**Songino Array**	**89.67 323**	P		**P**	**02 19 39.3**	**+0.5**		
SONM	**Songino Array**	**89.67 323**	P		**P**	**02 19 39.3**	**+0.5**		
	comp=Z,14nm,1.0s,baz=132,slow=4.6,SNR=48								
MCK	**McKinley**	**90.77 17**	*e*P		**P**	**02 19 43.0**	**-0.5**		
MCK			pmax		pmax				
	comp=Z,16nm,1.4s								
MCK	**McKinley**	**90.77 17**	*e*P		**P**	**02 19 43.0**	**-0.5**		
	comp=Z,16nm,1.4s								
LSA	**Lhasa**	**91.60 301**	*e*P		**P**	**02 19 49.4**	**+0.7**		
LSA			pmax		pmax				
	comp=Z,13nm,1.0s								
LSA	**Lhasa**	**91.60 301**	*e*P		**P**	**02 19 49.4**	**+0.7**		
	comp=Z,13nm,1.0s								
BOD	**Bodaibo**	**91.85 334**	*e*P		**P**	**02 19 45.7**	**-2.9**		
COLA	**College**	**91.96 17**	*e*P

BVAR	**Borovoye Array**	**112.84 320**	PKiKP	**PKiKP**	**02 25 15.4**	**-1.4**		
BVAR	**Borovoye Array**	**112.84 320**	PKiKP	**PKiKP**	**02 25 15.4**	**-1.4**		
BVAR	**Borovoye Array**	**112.84 320**	PKiKP	**PKiKP**	**02 25 15.4**	**-1.4**		
	comp=Z,1.3nm,0.9s,baz=101,slow=3.0,SNR=5.1							
ABKAR	**Akbulak array**	**119.23 315**	*e*PKPdf	**PKPdf**	**02 25 28.1**	**-1.1**		
ARU	**Arti**	**119.70 324**	*i* PKIKP	**PKPdf**	**02 25 29.8**	**0.0**		
ARU					02 26 51.7			
ARU	**Arti**	**119.70 324**	*e*PKPdf	**PKPdf**	**02 25 29.3**	**-0.5**		
AKTO	**Aktyubinsk**	**120.45 317**	PKIKP	**PKPdf**	**02 25 29.8**	**-1.7**		
AKTO	**Aktyubinsk**	**120.45 317**	PKP	**PKPdf**	**02 25 29.8**	**-1.7**		
AKTO	**Aktyubinsk**	**120.45 317**	PKP	**PKPdf**	**02 25 29.8**	**-1.7**		
	comp=Z,2.6nm,0.8s,baz=79,slow=1.5,SNR=12							
LBTB	**Lobatse**	**122.40 218**	*e*PKPdf	**PKPdf**	**02 25 36.7**	**+0.5**		
SCHQ	**Schefferville**	**126.17 37**	PKP	**PKPdf**	**02 25 40.8**	**-1.6**		
SCHQ	**Schefferville**	**126.17 37**	PKP	**PKPdf**	**02 25 40.8**	**-1.6**		
	comp=Z,3.6nm,1.1s,baz=242,slow=3.3,SNR=3.9							
KEV	**Kevo**	**127.04 345**	*e*PKIKP	**PKPdf**	**02 25 41.6**	**-1.9**		
KEV			pmax	pmax				
	comp=Z,2.0nm,0.6s							
KEV	**Kevo**	**127.04 345**	*ep*	**PKPdf**	**02 25 41.6**	**-1.9**		
	comp=Z,2.2nm,0.6s							
ARCES	**ARCESS Array B**	**127.56 345**	PKP	**PKPdf**	**02 25 44.4**	**-0.2**		
ARCES	**ARCESS Array B**	**127.56 345**	PKP	**PKPdf**	**02 25 44.4**	**-0.2**		
	comp=Z,3.5nm,0.6s,baz=48,slow=1.7,SNR=46							
KLMR	**Klimovskoe**	**128.05 332**	*e*PKIKP	**PKPdf**	**02 25 44.6**	**-1.1**		
KLMR			pmax	pmax				
	comp=Z,18nm,1.4s							
KMBO	**Kilima Mbogo**	**128.93 250**	*e*PKPdf	**PKPdf**	**02 25 50.6**	**+1.4**		
JOF	**Joensuu**	**130.27 337**	*e*PKIKP	**PKPdf**	**02 25 48.8**	**-1.1**		
JOF			pmax	pmax				
	comp=Z,5.0nm,0.7s							
JOF	**Joensuu**	**130.27 337**	*ep*	**PKPdf**	**02 25 48.8**	**-1.1**		
	comp=Z,5.0nm,0.7s							
GNI	**Garni**	**130.53 305**	*e*PKPdf	**PKPdf**	**02 25 51.5**	**+0.1**		
SCO	**Scoresbysund**	**130.53 5**	*i* P	**SKPbc**	**02 29 03.9**	**+1.8**		
	comp=Z,10nm,1.0s							
KAF	**Kangasniemi**	**132.58 338**	*e*PKIKP	**PKPdf**	**02 25 52.0**	**-2.3**		
KAF			pmax	pmax				
	comp=Z,3.0nm,0.6s							
KAF	**Kangasniemi**	**132.58 338**	*ep*	**PKPdf**	**02 25 52.0**	**-2.3**		
	comp=Z,3.1nm,0.6s							
FINES	**FINESS Array B**	**133.11 337**	PKP	**PKPdf**	**02 25 55.0**	**-0.3**		
FINES			SKPbc	**SKPab**	**02 29 14.4**	**+0.9**		
FINES	**FINESS Array B**	**133.11 337**	PKP	**PKPdf**	**02 25 55.0**	**-0.3**		
	comp=Z,4.3nm,0.8s,baz=32,slow=1.7,SNR=11							
FINES			SKPbc	**SKPab**	**02 29 14.4**	**+0.9**		
	comp=Z,10nm,1.0s,baz=75,slow=2.2,SNR=11							
NB2	**NORSAR Subarra**	**137.94 345**	PKPdf	PKPpre	02 25 57.6			
	comp=Z,5.6nm,1.2s,baz=31,slow=1.9							
NOA	**NORSAR Array B**	**137.94 345**	PKP	**PKPdf**	**02 26 04.7**	**+0.3**		
NOA	**NORSAR Array B**	**137.94 345**	PKP	**PKPdf**	**02 26 04.7**	**+0.3**		
	comp=Z,1.9nm,0.8s,baz=32,slow=2.0,SNR=5.7							
AKASG	**Malin Array Be**	**137.96 323**	PKIKP	PKPpre	02 26 00.5			
AKASG					02 26 06.3			
AKASG	**Malin Array Be**	**137.96 323**	PKPpre	PKPpre	02 26 00.5			
AKASG			PKP	**PKiKP**	**02 26 06.3**	**-0.3**		
AKASG			SKPbc	**SKPbc**	**02 29 28.3**	**+1.3**		
AKASG	**Malin Array Be**	**137.96 323**	PKhKP	PKPpre	02 26 00.5			
	comp=Z,0.2nm,0.3s,baz=61,slow=4.7,SNR=4.1							
AKASG			PKP	**PKiKP**	**02 26 06.3**	**-0.3**		
	comp=Z,0.4nm,0.3s,baz=61,slow=2.5,SNR=7.0							
AKASG			SKPbc	**SKPbc**	**02 29 28.3**	**+1.3**		
	comp=Z,3.4nm,0.8s,baz=43,slow=2.9,SNR=7.7							
BRTR	**Keskin Array B**	**139.01 306**	PKPpre	PKPpre	02 25 58.5			
BRTR	**Keskin Array B**	**139.01 306**	PKhKP	PKPpre	02 25 58.5			
	comp=Z,0.8nm,0.8s,baz=91,slow=4.1,SNR=4.6							
BUR08	**Bucovina Ar. S**	**141.77 321**	*e*PKPdf	**PKPdf**	**02 26 12.9**	**+1.1**		
BURAR	**Bucovina Array**	**141.78 321**	⇑*i*P	PKPpre	02 26 08.5			
MLR	**Muntele Rosu**	**142.37 318**	⇓*i*P	**PKPdf**	**02 26 08.9**	**-4.1**		
KOLS	**Kolonicke sedl**	**142.70 325**	*e*PKIKP	**PKPdf**	**02 26 11.4**	**-1.9**		
KOLS	**Kolonicke sedl**	**142.70 325**	*e*PKP	**PKPdf**	**02 26 11.4**	**-1.9**		
UZH	**Uzhgorod**	**142.87 324**	⇑*i*PKIKP	**PKPdf**	**02 26 11.3**	**-2.3**		
VOIR		**142.95 318**	⇑*i*PKIKP	**PKPdf**	**02 26 12.9**	**-1.1**		
VOIR		**142.95 318**	⇑*i*P	**PKPdf**	**02 26 12.9**	**-1.1**		
TRPA	**Tarpa**	**143.02 324**	⇓*i*P	PKPbc	02 26 11.1	+0.1		
TRPA	**Tarpa**	**143.02 324**	*e*	PKPbc	02 26 11.8	+0.8		
CRVS	**Cervenica-Dubn**	**143.15 325**	*e*PKIKP	**PKPdf**	**02 26 13.1**	**-1.0**		
CRVS	**Cervenica-Dubn**	**143.15 325**	*e*PKP	**PKPdf**	**02 26 13.1**	**-1.0**		
HUMR	**Humele**	**143.42 317**	⇑*i*P	PKPbc	02 26 12.6	+0.3		
DRGR		**143.66 322**	⇑PKIKP	PKPbc	02 26 13.6	+0.6		
DRGR		**143.66 322**	⇑*i*P	PKPbc	02 26 13.6	+0.6		
ALN	**Alexandroupoli**	**144.21 311**	*e*P	**PKPab**	**02 26 13.9**	**-0.4**		
RUE	**Ruedersdorf**	**144.24 335**	*e*PKPbc	PKPbc	02 26 14.9	+0.6		
OKC	**Ostrava-Krasne**	**144.24 329**	*e*PKIKP	PKPbc	02 26 15.0	+0.5		
OKC	**Ostrava-Krasne**	**144.24 329**	*e*PKP	PKPbc	02 26 15.0	+0.5		
OKC			*ep*PKP	pPKPdf	02 26 45.2	-5.0		
BSEG	**Bad Segeberg**	**144.28 340**	*e*PKPbc	PKPbc	02 26 15.0	+0.5		
KDZ	**Kurdzhali**	**144.36 312**	*i* P	**PKPab**	**02 26 14.9**	**0.0**		
GZR	**Gura Zlata**	**144.36 320**	⇑PKHKP	PKPbc	02 26 15.8	+0.7		
GZR	**Gura Zlata**	**144.36 320**	⇑*i*P	**PKPdf**	**02 26 15.8**	**-0.6**		
KSP	**Ksiaz**	**144.40 332**	*e*PKIKP	PKPbc	02 26 15.6	+0.6		
RDO	**Rodhopi**	**144.47 311**	*e*P	**PKPab**	**02 26 13.7**	**-1.6**		
MORC	**Moravsky Berou**	**144.57 329**	*e*PKIKP	PKPbc	02 26 16.0	+0.4		
MORC	**Moravsky Berou**	**144.57 329**	*e*PKPdf	PKPbc	02 26 16.0	+0.3		
MORC	**Moravsky Berou**	**144.57 329**	⇑*i*P	PKPbc	02 26 16.0	+0.4		
PSZ	**Piszkesteto**	**144.58 325**	⇓PKIKP	**PKPdf**	**02 26 16.7**	**0.0**		
PSZ	**Piszkesteto**	**144.58 325**	*e*PKPdf	PKPbc	02 26 16.2	+0.4		
PSZ	**Piszkesteto**	**144.58 325**	⇓*i*P	**PKPdf**	**02 26 16.7**	**0.0**		
PSZ	**Piszkesteto**	**144.58 325**	⇑*e*PKPbc	**PKPdf**	**02 26 16.3**	**-0.4**		
PRK	**Paraskevi**	**144.62 308**	*e*P	**PKPab**	**02 26 15.4**	**-0.5**		
KRLC	**Kraliky**	**144.72 330**	*e*PKP	**PKPdf**	**02 26 16.5**	**-0.4**		
DPC	**Dobruska-Polom**	**144.74 331**	*e*PKIKP	**PKPdf**	**02 26 16.9**	**0.0**		
DPC	**Dobruska-Polom**	**144.74 331**	*e*PKP	**PKPdf**	**02 26 16.9**	**0.0**		
DPC			*ep*PKP	**pPKPdf**	**02 26 46.7**	**-4.4**		
UPC	**Upice**	**144.76 331**	*e*PKIKP	**PKPdf**	**02 26 16.9**	**0.0**		
UPC	**Upice**	**144.76 331**	*e*PKP	**PKPdf**	**02 26 16.9**	**0.0**		
VYHS	**Vyhne**	**144.77 327**	*e*PKIKP	**PKPdf**	**02 26 17.2**	**+0.2**		
VYHS	**Vyhne**	**144.77 327**	*e*PKP	**PKPdf**	**02 26 17.2**	**+0.2**		
RZN	**Rozhen**	**144.82 313**	*i* P	**PKPab**	**02 26 16.2**	**-0.6**		
PGB	**Panagyurishte**	**144.83 314**	*i* P	**PKPab**	**02 26 15.8**	**-0.9**		
BZS	**Buzias**	**144.94 321**	⇓PKIKP	**PKPdf**	**02 26 17.2**	**-0.1**		
BZS	**Buzias**	**144.94 321**	⇓*i*P	**PKPdf**	**02 26 17.2**	**-0.1**		
KARP	**Karpathos**	**144.98 302**	*e*P	PKPbc	02 26 08.5	-8.9		
CHOS	**Chios island**	**145.06 307**	*e*P	**PKPbc**	**02 26 16.1**	**-1.5**		
LIA	**Limnos Island**	**145.19 310**	*e*P	**PKPbc**	**02 26 14.1**	**-3.7**		
EAB	**Aberfoyle**	**145.19 355**	⇑*e*P	**PKPbc**	**02 26 16.6**	**-0.7**		
EAB	**Aberfoyle**	**145.19 355**	P	**PKPbc**	**02 26 16.6**	**-0.7**		
ESY	**Stoneypath**	**145.29 353**	⇑*e*P	**PKPdf**	**02 26 17.2**	**-0.4**		
ESY	**Stoneypath**	**145.29 353**	P	**PKPdf**	**02 26 17.2**	**-0.4**		
BUD	**Budapest**	**145.31 325**	⇑*e*	**PKPab**	**02 26 18.8**	**+0.6**		
VRAC	**Vranov**	**145.34 329**	⇑*i*P	**PKPab**	**02 26 18.9**	**+0.6**		
EDI	**Edinburgh**	**145.34 354**	*e*P	**PKPdf**	**02 26 16.9**	**-0.7**		
EDI	**Edinburgh**	**145.34 354**	P	**PKPdf**	**02 26 16.9**	**-0.7**		
PVCC	**Panska Ves**	**145.38 333**	*e*PKIKP	**PKPab**	**02 26 18.8**	**+0.4**		
PVCC	**Panska Ves**	**145.38 333**	*e*PKP	**PKPab**	**02 26 18.8**	**+0.4**		
PVCC			*ep*PKP	**pPKPdf**	**02 26 46.6**	**-5.5**		
BRG	**Berggiesshubel**	**145.39 333**	*i* PKP	**PKPab**	**02 26 18.8**	**+0.4**		
	comp=Z,145nm,0.9s							
BRG			*i*		02 26 44.2			
	comp=Z,39nm,1.2s							
BRG			*e*		02 29 47.5			
	comp=Z,26nm,1.9s							
BRG	**Berggiesshubel**	**145.39 333**	*e*PKPbc	**PKPab**	**02 26 18.8**	**+0.4**		
BRG	**Berggiesshubel**	**145.39 333**	*i* PKIKP	**PKPab**	**02 26 18.8**	**+0.4**		
BRG			*e*		02 29 47.5			
BRG			pmax	pmax				
	comp=Z,145nm,0.9s							
BRG			pmax	pmax				
	comp=Z,39nm,1.2s							
BRG			pmax	pmax				
	comp=Z,26nm,2.0s							
CLL	**Collm**	**145.44 335**	*e*PKPbc	**PKPab**	**02 26 18.7**	**+0.2**		
CLL	**Collm**	**145.44 335**	⇑*i*PKIKP	**PKPab**	**02 26 18.6**	**+0.1**		
CLL			*e*		02 26 27.0			
CLL			pmax	pmax				
	comp=Z,131nm,0.9s							
CLL	**Collm**	**145.44 335**	⇑*i*PKPdf	**PKPab**	**02 26 18.6**	**+0.1**		
	comp=Z,131nm,0.9s							
CLL			*e*		02 26 27.0			
CLL			*ep*PKPbc	pPKPbc	02 26 48.0	-4.0		
VTS	**Vitosha**	**145.45 315**	⇑PKIKP	**PKPab**	**02 26 19.6**	**+0.5**		
VTS	**Vitosha**	**145.45 315**	⇑*i*P	**PKPab**	**02 26 19.5**	**+0.5**		
VTS	**Vitosha**	**145.45 315**	*i* P	**PKPdf**	**02 26 17.9**	**-0.6**		
EAU	**Auchinoon**	**145.45 354**	⇑*e*P	**PKPbc**	**02 26 18.1**	**0.0**		
EAU	**Auchinoon**	**145.45 354**	P	**PKPbc**	**02 26 18.1**	**0.0**		
SMOL	**Smolenice**	**145.47 328**	*e*PKIKP	**PKPab**	**02 26 20.0**	**+1.2**		
SMOL	**Smolenice**	**145.47 328**	*e*PKP	**PKPab**	**02 26 20.0**	**+1.2**		
EBL	**Broad Law**	**145.48 353**	⇑*e*P	**PKPdf**	**02 26 17.9**	**0.0**		
EBL	**Broad Law**	**145.48 353**	P	**PKPdf**	**02 26 17.9**	**0.0**		
MMB	**Musomiste**	**145.54 313**	*i* P	**PKPdf**	**02 26 18.3**	**-0.2**		
NVR	**Nevrokopi**	**145.55 313**	P	**PKPab**	**02 26 19.2**	**-0.2**		
NVR	**Nevrokopi**	**145.55 313**	*e*P	**PKPdf**	**02 26 18.4**	**-0.2**		
NRDL	**Niedersach Rie**	**145.55 339**	*e*PKPbc	**PKPab**	**02 26 19.2**	**+0.4**		
NRDL			*ep*PKPbc	pPKPbc	02 26 48.7	-3.5		
PKS6	**Bocsa**	**145.55 323**	⇓*e*PKPbc	**PKPab**	**02 26 20.1**	**+1.0**		
PGBU	**Glenifferbraes**	**145.58 355**	*e*P	**PKPdf**	**02 26 17.9**	**-0.2**		
PGBU	**Glenifferbraes**	**145.58 355**	P	**PKPdf**	**02 26 17.9**	**-0.2**		
FBE	**Freiberg**	**145.59 334**	*e*PKPbc	**PKPab**	**02 26 19.8**	**+0.7**		
FBE			*ep*PKPbc	pPKPbc	02 26 49.2	-3.2		
PKSG		**145.71 325**	⇓*e*PKPdf	**PKPab**	**02 26 20.0**	**+0.3**		
PRU	**Pruhonice**	**145.79 332**	*e*PKP2	**PKPab**	**02 26 19.9**	**0.0**		
PRU	**Pruhonice**	**145.79 332**	*e*PKP	**PKPab**	**02 26 19.9**	**0.0**		
PRU			*ep*PKP	**pPKPdf**	**02 26 49.3**	**-3.6**		
ZKR	**Zakros**	**145.83 301**	*e*P	**PKPdf**	**02 26 18.9**	**-0.3**		
TREC	**Trest**	**145.87 330**	*e*PKP2	**PKPab**	**02 26 20.4**	**+0.1**		
TREC	**Trest**	**145.87 330**	*e*PKP	**PKPab**	**02 26 20.4**	**+0.1**		
ESK	**Eskdalemuir**	**145.94 353**	*e*P	**PKPdf**	**02 26 18.8**	**0.0**		
ESK	**Eskdalemuir**	**145.94 353**	P	**PKPdf**	**02 26 18.8**	**0.0**		
ESK	**Eskdalemuir**	**145.94 353**	*i* PKP2	**PKPbc**	**02 26 19.8**	**+0.2**		
ESK	**Eskdalemuir**	**145.94 353**	*e*PKPbc	**PKPbc**	**02 26 19.4**	**-0.3**		
PKST	**T˜˜s**	**145.98 326**	⇑*e*PKPdf	**PKPbc**	**02 26 20.1**	**+0.1**		
NEUB	**Neuenburg**	**146.00 336**	*e*PKPbc	**PKPab**	**02 26 20.6**	**0.0**		
NEUB			*ep*PKPbc	pPKPbc	02 26 50.1	-3.5		
CLZ	**Clausthal**	**146.00 338**	*e*PKPbc	**PKPab**	**02 26 20.9**	**+0.2**		
PLG	**Polygyros**	**146.24 311**	*e*P	**PKPdf**	**02 26 16.9**	**-2.9**		
PKS9	**Tamasi**	**146.27 324**	⇑*e*PKPdf	**PKPab**	**02 26 21.3**	**-0.6**		
XAL	**Allendale**	**146.28 352**	⇑*e*P	**PKPbc**	**02 26 20.3**	**-0.4**		
XAL	**Allendale**	**146.28 352**	P	**PKPbc**	**02 26 20.3**	**-0.4**		
NPS	**Neapolis**	**146.28 302**	*e*P	**PKPbc**	**02 26 21.1**	**-0.2**		
PKSM	**Moragy**	**146.30 324**	⇑PKP2	**PKPbc**	**02 26 21.4**	**+0.5**		
PKSM	**Moragy**	**146.30 324**	⇑*i*P	**PKPbc**	**02 26 21.4**	**+0.5**		
PKSM	**Moragy**	**146.30 324**	⇑*e*PKPdf	**PKPbc**	**02 26 21.5**	**+0.5**		
TANN	**Tannenbergstha**	**146.35 334**	*e*PKPbc	**PKPab**	**02 26 21.9**	**-0.2**		
WERD	**Werda**	**146.38 334**	*e*PKPbc	**PKPab**	**02 26 21.9**	**-0.3**		
WERD			*ep*PKPbc	pPKPbc	02 26 52.9	-2.0		
LAST	**Lasithi**	**146.41 301**	*e*P	**PKPbc**	**02 26 21.5**	**-0.3**		
PLN	**Plauen**	**146.42 335**	*e*PKPbc	**PKPab**	**02 26 22.0**	**-0.3**		
GUNZ	**Gunzen**	**146.44 334**	*e*PKPbc	**PKPab**	**02 26 22.3**	**-0.2**		
SOP	**Sopron**	**146.46 327**	⇑*e*PKPdf	**PKPab**	**02 26 22.0**	**-0.6**		
GCD	**Castle Douglas**	**146.47 354**	*e*P	**PKPdf**	**02 26 20.4**	**+0.8**		
GCD	**Castle Douglas**	**146.47 354**	P	**PKPdf**	**02 26 20.4**	**+0.8**		
IBBN	**Ibbenburen**	**146.48 341**	*e*PKPbc	**PKPab**	**02 26 21.9**	**-0.6**		
WERN	**Wernitzgruen**	**146.48 334**	*e*PKPbc	**PKPab**	**02 26 22.5**	**-0.1**		
NKC	**Novy Kostel**	**146.49 334**	*e*PKP2	**PKPab**	**02 26 22.2**	**-0.5**		
NKC	**Novy Kostel**	**146.49 334**	*e*PKP	**PKPab**	**02 26 22.2**	**-0.5**		
MOX	**Moxa**	**146.50 335**	*e*PKPbc	**PKPab**	**02 26 22.2**	**-0.5**		
GAL1	**Galloway**	**146.53 355**	*e*P	**PKPbc**	**02 26 21.0**	**-0.4**		
GAL1	**Galloway**	**146.53 355**	P	**PKPbc**	**02 26 21.0**	**-0.4**		
CONA	**Conrad Observa**	**146.64 328**	⇑*i*PKPab	**PKPab**	**02 26 22.8**	**-0.6**		
	comp=Z,56nm,1.1s,SNR=23							
RHK3	**Tenkes**	**146.71 323**	⇑*e*PKPdf	**PKPbc**	**02 26 22.7**	**+0.5**		
DIVS	**Divibare**	**146.73 319**	P	**PKPbc**	**02 26 22.9**	**+0.5**		
PTL	**Penteli**	**146.80 307**	*e*P	**PKPbc**	**02 26 21.8**	**-1.0**		
NEO	**Neokhori**	**146.81 310**	*e*P	**PKPdf**	**02 26 18.4**	**-2.4**		
IDI	**Anoyia**	**146.84 302**	*e*PKPbc	**PKPbc**	**02 26 23.4**	**+0.4**		
IDI	**Anoyia**	**146.84 302**	*e*P	**PKPbc**	**02 26 22.5**	**-0.5**		
KHC	**Kasperske Hory**	**146.85 332**	*e*PKP2	**PKPbc**	**02 26 23.2**	**+0.6**		
KHC	**Kasperske Hory**	**146.85 332**	*e*PKPbc	**PKPbc**	**02 26 23.0**	**+0.4**		
KHC	**Kasperske Hory**	**146.85 332**	*e*PKP	**PKPbc**	**02 26 23.2**	**+0.6**		
KHC			*ep*PKP	**pPKPdf**	**02 26 52.8**	**-2.0**		
ATH	**Athens Observa**	**146.94 307**	P	**PKPbc**	**02 26 23.0**	**-0.1**		
ATH	**Athens Observa**	**146.94 307**	*e*P	**PKPdf**	**02 26 19.5**	**-1.4**		
ROTZ	**Rotzenmuhle**	**146.95 334**	*e*PKPbc	**PKPab**	**02 26 23.7**	**-0.8**		
ROTZ			*ep*PKPbc	pPKPbc	02 26 53.6	-3.0		
UBBA	**Unterbreizbach**	**146.97 337**	*e*PKPbc	**PKPab**	**02 26 23.6**	**-0.7**		
GEC2	**GERESS Array S**	**147.00 331**	*e*PKPbc	**PKPbc**	**02 26 23.7**	**+0.6**		
GERES	**GERESS Array B**	**147.00 331**	PKPbc	**PKPbc**	**02 26 23.6**	**+0.5**		
GERES			SKPbc	**SKiKP**	**02 29 51.2**	**+1.3**		
GERES	**GERESS Array B**	**147.00 331**	PKPbc	**PKPbc**	**02 26 23.6**	**+0.5**		
	comp=Z,35nm,0.8s,baz=33,slow=3.2,SNR=290							
GERES			SKPbc	**SKiKP**	**02 29 51.2**	**+1.3**		
	comp=Z,1.3nm,1.0s,baz=11,slow=0.7,SNR=3.5							
LIT	**Litokhoron**	**147.01 311**	*e*P	**PKPdf**	**02 26 16.0**	**-5.1**		
WTSB	**Winterswijk**	**147.07 341**	*e*PKP	**PKPbc**	**02 26 23.1**	**+0.2**		
	comp=Z,50nm,1.0s							
BEHE	**Becsehely**	**147.15 325**	*e*PKPdf	**PKPbc**	**02 26 23.6**	**+0.2**		
WET	**Wettzell**	**147.15 332**	*e*PKPbc	**PKPbc**	**02 26 24.2**	**+0.8**		
NAIG	**Nisos Aigina**	**147.18 307**	*e*P	**PKPdf**	**02 26 22.2**	**+0.8**		
ATAL	**Atalanti**	**147.19 309**	P	**PKPbc**	**02 26 23.2**	**-0.6**		
LKR	**Lokris**	**147.22 309**	*e*P	**PKPdf**	**02 26 22.2**	**+0.8**		
ARSA	**Arzberg**	**147.27 328**	⇑*i*PKPab	**PKPbc**	**02 26 24.1**	**+0.4**		
	comp=Z,7.4nm,0.8s							
VAM	**Vamos**	**147.36 302**	*e*P	**PKPbc**	**02 26 25.3**	**+1.0**		
BUG	**Bochum--Univer**	**147.38 340**	*e*PKPbc	**PKPbc**	**02 26 24.3**	**+0.5**		
GRFO	**Grafenberg**	**147.41 335**	*e*PKP2	**PKPbc**	**02 26 24.5**	**+0.5**		
GRFO	**Grafenberg**	**147.41 335**	*e*PKPbc	**PKPbc**	**02 26 24.5**	**+0.5**		
DID	**Didima**	**147.45 307**	*e*P	**PKPdf**	**02 26 23.1**	**+1.2**		
MOA	**Molln**	**147.47 329**	⇑*i*PKPbc	**PKPbc**	**02 26 24.6**	**+0.3**		
	comp=Z,22nm,1.0s,SNR=8.1							
LTK	**Loutraki**	**147.47 308**	*e*P	PKPdf	02 26 13.3	-8.6		
DIDY	**Didyma**	**147.48 307**	P	**PKPbc**	**02 26 24.0**	**-0.8**		
FNA	**Florina**	**147.49 313**	P	**PKPbc**	**02 26 24.1**	**-0.5**		
THL	**Klokotos Trika**	**147.57 311**	*e*P	**PKPbc**	**02 26 22.6**	**+0.7**		
KARN	**Karpenision**	**147.58 303**	*e*P	**PKPbc**	**02 26 25.7**	**+0.7**		
DESF	**Desfina**	**147.65 309**	P	**PKPdf**	**02 26 23.6**	**+1.4**		
GROS	**Grobnik**	**147.81 326**	*i* PKPdf	**PKPdf**	**02 26 22.0**	**-0.3**		
GROS			*i* PKPbc	PKPbc	02 26 25.3	0.0		
SOKA	**Soboth**	**147.91 327**	⇓*i*PKPbc	**PKPbc**	**02 26 25.5**	**-0.1**		
	comp=Z,35nm,1.1s							
VLI	**Velíai**	**147.94 305**	*e*P	**PKPbc**	**02 26 24.3**	**-1.6**		
WME	**Myndd Eilian**	**147.95 354**	⇑*e*P	**PKPbc**	**02 26 25.0**	**-0.3**		
WME	**Myndd Eilian**	**147.95 354**	P	**PKPbc**	**02 26 25.0**	**-0.3**		
GUR	**Goura**	**147.96 308**	*e*P	**PKPbc**	**02 26 25.3**	**-0.7**		
EVR	**Evrytania**	**147.98 310**	*e*P	**PKPbc**	**02 26 24.9**	**-1.1**		
STNC	**Stoke**	**148.00 351**	*e*P	**PKPbc**	**02 26 25.5**	**0.0**		
STNC	**Stoke**	**148.00 351**	P	**PKPbc**	**02 26 25.5**	**0.0**		
TNS	**Taunus Mts**	**148.02 338**	*e*PKPbc	**PKPbc**	**02 26 26.4**	**+0.7**		
WPM1	**Penmaenmawr**	**148.05 353**	⇑*e*P	**PKPbc**	**02 26 25.1**	**-0.5**		
WPM1	**Penmaenmawr**	**148.05 353**	P	**PKPbc**	**02 26 25.1**	**-0.5**		
EFP	**Efpalio**	**148.10 309**	*e*P	**PKPbc**	**02 26 25.9**	**-0.3**		
LAKA	**Lakka**	**148.12 309**	P	**PKPbc**	**02 26 27.3**	**+1.0**		
YRC	**Rhoscolyn**	**148.12 354**	⇑*e*P	**PKPbc**	**02 26 25.2**	**-0.5**		
YRC	**Rhoscolyn**	**148.12 354**	P	**PKPbc**	**02 26 25.2**	**-0.5**		
VLX	**Vlachokerasia**	**148.14 307**	*e*P	**PKPbc**	**02 26 25.8**	**-0.7**		
RJOB	**Jochberg**	**148.23 331**	*e*PKPbc	**PKPbc**	**02 26 26.6**	**+0.2**		
FOEL	**Foel Wylfa**	**148.33 353**	*e*P	**PKPbc**	**02 26 26.0**	**-0.4**		
FOEL	**Foel Wylfa**	**148.33 353**	P	**PKPbc**	**02 26 26.0**	**-0.4**		
JAN	**Janina**	**148.34 312**	*e*P	**PKPbc**	**02 26 26.6**	**-0.3**		
HGN	**Heimansgroeve**	**148.38 341**	*e*PKP	**PKPbc**	**02 26 26.8**	**+0.3**		
	comp=Z,40nm,1.1s							
TOD	**Tromm**	**148.41 337**	PKP2	**PKPbc**	**02 26 26.7**	**0.0**		
TOD	**Tromm**	**148.41 337**	PKP	**PKPbc**	**02 26 26.7**	**0.0**		
KBA	**Koelnbreinsper**	**148.46 329**	⇑*i*PKPbc	**PKPbc**	**02 26 26.7**	**-0.4**		
	comp=Z,39nm,1.0s,SNR=20							
ITM	**Ithomi**	**148.54 307**	*e*P	**PKPdf**	**02 26 23.7**	**0.0**		
RLS	**Riolos of Patr**	**148.56 308**	*e*P	**PKPbc**	**02 26 28.3**	**+0.9**		
FUR	**Furstenfeldbru**	**148.58 333**	*e*PKPbc	**PKPbc**	**02 26 27.6**	**+0.4**		
BOJS	**Bojanci**	**148.58 325**	*i* PKPdf	**PKPdf**	**02 26 24.7**	**+1.3**		
BOJS			*i* PKPbc	PKPbc	02 26 27.9	+0.6		
LJU	**Ljubljana**	**148.60 327**	*i* PKPbc	**PKPbc**	**02 26 27.6**	**+0.4**		
ABH	**Alteburg**	**148.62 338**	PKP	**PKPbc**	**02 26 28.0**	**+0.7**		
MYKA	**Terra Mystica**	**148.63 328**	⇑*i*PKPbc	**PKPbc**	**02 26 27.0**	**-0.5**		
	comp=Z,26nm,0.7s							
LKD2	**Lefkada island**	**148.85 310**	*e*P	**PKPdf**	**02 26 24.3**	**+0.2**		
BCLA	**Clavier**	**148.88 341**	PKPbc	**PKPbc**	**02 26 27.9**	**+0.1**		
KTD	**Kalmit**	**148.91 337**	PKP2	**PKPbc**	**02 26 28.2**	**+0.2**		
KTD	**Kalmit**	**148.91 337**	PKP	**PKPbc**	**02 26 28.2**	**+0.2**		
VOY	**Vojsko**	**148.93 327**	*e*	**pPKPdf**	**02 26 54.0**	**-4.4**		
VOY			*i*		02 26 57.9			
VOY			*e*		02 27 01.7			
JAVS	**Javornik**	**148.93 327**	*i* PKPbc	**PKPbc**	**02 26 28.1**	**-0.1**		
RUP	**Ruppelstein**	**148.94 339**	PKP2	**PKPbc**	**02 26 28.9**	**+0.8**		
RUP	**Ruppelstein**	**148.94 339**	PKP	**PKPbc**	**02 26 28.9**	**+0.8**		
STU	**Stuttgart**	**148.95 335**	*e*PKPbc	**PKPbc**	**02 26 28.7**	**+0.6**	

ILA	**Ilan**	**0.97**	**323**	*e*P		**Pn**	**02 26 54.8**	**+0.7**
	baz=321							
ILA				*e*S		**Sb**	**02 27 07.3**	**-0.2**
	baz=321							
TWE	**Neicheng**	**0.99**	**318**	⇑P		**Pn**	**02 26 55.0**	**+0.7**
	baz=324							
TWE				*e*S		**Sn**	**02 27 08.3**	**+1.2**
	baz=324							
ENTT	**Nioudou**	**1.00**	**311**	⇓*i*P		**Pb**	**02 26 55.4**	**0.0**
	baz=309							
ENTT				*e*S		**Sb**	**02 27 08.0**	**-0.3**
	baz=309							
NNS	**Nan Shan**	**1.04**	**296**	P		**Pn**	**02 26 55.9**	**+0.8**
	baz=293							
NNS				*e*S		**Sn**	**02 27 09.2**	**+0.6**
	baz=293							
WHF	**Hehuan Shan**	**1.04**	**279**	*e*P		**Pn**	**02 26 55.7**	**+0.3**
	baz=263							
WHF				*e*S		**Sn**	**02 27 09.7**	**+0.5**
	baz=263							
TWB1	**Santiao Chiao**	**1.08**	**340**	*i* P		**Pn**	**02 26 56.4**	**+0.8**
	baz=327							
TWB1				S		**Sn**	**02 27 09.9**	**+0.4**
	baz=327							
EHY	**Hungye**	**1.09**	**244**	*e*P		**Pb**	**02 26 57.1**	**+0.2**
	baz=241							
EHY				*e*S		**Sb**	**02 27 11.2**	**+0.3**
	baz=241							
TWT	**Tachien**	**1.15**	**284**	P		**Pn**	**02 26 57.8**	**+1.2**
	baz=270							
TWT				S		**Sb**	**02 27 13.2**	**+0.6**
	baz=270							
YHNB	**Yeheng**	**1.15**	**306**	*e*Pn		**Pn**	**02 26 57.2**	**+0.6**
YHNB				*e*Sn		**Sn**	**02 27 07.4**	**-3.9**
YULB	**Yu-li**	**1.17**	**240**	*e*Pn		**Pn**	**02 26 57.0**	**+0.3**
YULB				*e*Sn		**Sn**	**02 27 10.5**	**-1.1**
NSK	**Sanguang**	**1.17**	**306**	⇓*i*P		**Pn**	**02 26 57.8**	**+1.0**
	baz=304							
NSK				S		**Sn**	**02 27 13.0**	**+1.3**
	baz=304							
TWF1	**Yuli**	**1.19**	**238**	*e*P		**Pn**	**02 26 57.7**	**+0.7**
	baz=235							
TWF1				*e*S		**Sn**	**02 27 12.6**	**+0.5**
	baz=235							
NWF	**Wu-fen Shan**	**1.22**	**333**	P		**Pn**	**02 26 58.5**	**+1.0**
	baz=331							
NWF				S		**Sb**	**02 27 15.0**	**+0.5**
	baz=331							
TWA	**Mucha**	**1.23**	**323**	P		**Pb**	**02 26 59.2**	**-0.2**
	baz=321							
TWA				*e*S		**Sb**	**02 27 15.4**	**+0.4**
	baz=321							
IRIF	**Iriomote-Funau**	**1.27**	**74**	P		**Pb**	**02 26 59.6**	**-0.3**
IRIF				S		**Sb**	**02 27 17.7**	**+1.8**
TATO	**Taipei**	**1.29**	**320**	*e*Pn		**Pb**	**02 26 59.9**	**-0.3**
CHKT	**Chengkung**	**1.29**	**227**	*e*P		**Pn**	**02 26 58.6**	**+0.2**
	baz=225							
CHKT				*e*S		**Sn**	**02 27 13.6**	**-1.0**
	baz=225							
HATJ	**Hateruma jima**	**1.29**	**87**	P		**Pb**	**02 26 59.8**	**-0.5**
HATJ				S		**Sb**	**02 27 18.4**	**+1.8**
TAP1	**Taipei**	**1.31**	**323**	*e*P		**Pn**	**02 26 60.0**	**+1.2**
	baz=320							
TAP1				S		**Sb**	**02 27 18.0**	**+0.8**
	baz=320							
TAP	**Taipei**	**1.32**	**323**	*e*P		**Pb**	**02 27 00.4**	**-0.5**
	baz=320							
TAP				*e*S		**Sb**	**02 27 18.1**	**+0.6**
	baz=320							
SSLB	**Suanglung**	**1.33**	**262**	*e*Pn		**Pn**	**02 26 59.7**	**+0.6**
SSLB				*e*Sn		**Sn**	**02 27 17.0**	**+1.3**
SMLT	**Sun Moon Lake**	**1.37**	**266**	⇓P		**Pn**	**02 27 00.8**	**+1.2**
	baz=253							
SMLT				*e*S		**Sn**	**02 27 17.6**	**+0.8**
	baz=253							
TYC	**Yuchr**	**1.41**	**267**	*e*P		**Pn**	**02 27 01.3**	**+1.3**
	baz=264							
TYC				*e*S		**Sb**	**02 27 20.3**	**+0.4**
	baz=264							
TWS1	**Kuangyinshan**	**1.42**	**322**	*e*P		**Pn**	**02 27 01.7**	**+1.4**
	baz=319							
NSTT	**Nanjuang**	**1.42**	**297**	P		**Pb**	**02 27 02.4**	**-0.1**
	baz=294							
NSTT				S		**Sb**	**02 27 20.1**	**-0.3**
	baz=294							
NCU	**National Centr**	**1.47**	**312**	*e*P		**Pb**	**02 27 02.6**	**-0.8**
	baz=309							
TWY	**Chenhua**	**1.47**	**331**	*e*P		**Pb**	**02 27 02.9**	**-0.5**
	baz=328							
TWY				*e*S		**Sb**	**02 27 21.1**	**-0.6**
	baz=328							
ELDTW	**Lidau**	**1.49**	**238**	*e*P		**Pb**	**02 27 03.1**	**-0.6**
	baz=236							
JKRS	**Kuro-shima**	**1.50**	**80**	P		**Pb**	**02 27 03.4**	**-0.4**
JKRS				S		**Sb**	**02 27 23.6**	**+1.2**
TWQ1	**Liyutan**	**1.52**	**284**	P		**Pb**	**02 27 04.1**	**-0.1**
	baz=281							
TWQ1				*e*S		**Sb**	**02 27 22.8**	**-0.4**
	baz=281							
ALS	**Alishan**	**1.53**	**252**	⇑P		**Pb**	**02 27 04.0**	**-0.5**
	baz=250							
ALS				*e*S		**Sn**	**02 27 22.4**	**+1.5**
	baz=250							
NSY	**Sanyi**	**1.55**	**286**	*e*P		**Pb**	**02 27 04.2**	**-0.6**
	baz=284							
NSY				*e*S		**Sn**	**02 27 23.1**	**+2.0**
	baz=284							
WNT	**Mingjian**	**1.57**	**266**	*e*P		**Pb**	**02 27 04.3**	**-0.7**
	baz=264							
WNT				*e*S		**Sb**	**02 27 24.7**	**+0.3**
	baz=264							
TCU	**Taichung**	**1.58**	**276**	*e*P		**Pb**	**02 27 04.9**	**-0.3**
	baz=273							
TCU				*e*S		**Sb**	**02 27 25.2**	**+0.5**
	baz=273							
CHN5	**Tsauling**	**1.62**	**257**	*e*P		**Pb**	**02 27 05.2**	**-0.8**
	baz=243							
CHN5				*e*S		**Sb**	**02 27 26.1**	**+0.1**
	baz=243							
JIJ	**Ishigaki jima**	**1.64**	**76**	P		**Pb**	**02 27 04.7**	**-1.5**
JIJ				S		**Sb**	**02 27 27.3**	**+0.8**
TTN	**Taitung**	**1.68**	**223**	*e*P		**Pn**	**02 27 05.7**	**+1.9**
	baz=222							
TWG	**Pinlang**	**1.68**	**227**	*e*P		**Pn**	**02 27 04.2**	**+0.5**
	baz=237							
TWG				*e*S		**Sn**	**02 27 24.4**	**+0.1**
	baz=237							
TWG	**Pinlang**	**1.68**	**227**	*e*Pn		**Pn**	**02 27 04.0**	**+0.2**
TWG				*e*Sn		**Sn**	**02 27 24.3**	**+0.1**
WGK	**Gukeng**	**1.70**	**260**	*e*P		**Pb**	**02 27 06.9**	**-0.4**
	baz=258							
WGK				*e*S		**Sb**	**02 27 28.6**	**+0.3**
	baz=258							
STYT	**Tauyuan**	**1.71**	**242**	*e*P		**Pn**	**02 27 05.9**	**+1.6**
	baz=230							
STYT				*e*S		**Sn**	**02 27 27.0**	**+1.9**
	baz=230							
TPUB	**Ta-pu**	**1.76**	**248**	*e*Pn		**Pb**	**02 27 07.1**	**-1.1**
TPUB				*e*Sn		**Sn**	**02 27 28.8**	**+2.6**
WTP	**Ta-pu**	**1.79**	**246**	*e*P		**Pb**	**02 27 08.0**	**-0.8**
	baz=244							
WTP				*e*S		**Sb**	**02 27 30.8**	**-0.1**
	baz=244							
CHN2	**Minshiung**	**1.82**	**256**	*e*P		**Pb**	**02 27 08.7**	**-0.5**
	baz=254							
CHN2				*e*S		**Sb**	**02 27 32.2**	**+0.6**
	baz=254							
CHY	**Chiayi**	**1.87**	**255**	*e*P		**Pb**	**02 27 09.6**	**-0.5**
	baz=253							
CHY				*e*S		**Sb**	**02 27 32.4**	**-0.7**
	baz=253							
CHN1	**Nanshi**	**1.89**	**245**	*e*P		**Pb**	**02 27 09.7**	**-0.7**
	baz=244							
CHN1				*e*S		**Sb**	**02 27 33.7**	**+0.1**
	baz=244							
TWK	**Hsinying**	**1.89**	**248**	*e*P		**Pb**	**02 27 09.6**	**-0.9**
	baz=246							
TWK				*e*S		**Sb**	**02 27 33.3**	**-0.5**
	baz=246							
SGST	**Jiashian**	**1.89**	**242**	*e*P		**Pb**	**02 27 09.9**	**-0.5**
	baz=231							
SGST				*e*S		**Sb**	**02 27 33.8**	**+0.1**
	baz=231							
ECL	**Taimali**	**1.91**	**224**	*e*P		**Pn**	**02 27 08.0**	**+1.0**
	baz=223							
ECL				*e*S		**Sn**	**02 27 29.0**	**-1.0**
	baz=223							
WTCT	**Ta-ch'eng**	**1.94**	**267**	*e*P		**Pb**	**02 27 09.9**	**-1.3**
	baz=278							
WTCT				*e*S		**Sb**	**02 27 34.3**	**-0.7**
	baz=278							
WSF	**Szhu**	**2.02**	**261**	*e*P		**Pb**	**02 27 11.6**	**-1.1**
	baz=258							
WSF				*e*S		**Sb**	**02 27 36.7**	**-0.7**
	baz=258							
SSD	**Sandimen**	**2.04**	**233**	*e*P		**Pb**	**02 27 11.5**	**-1.5**
	baz=226							
SSD				*e*S		**Sb**	**02 27 37.1**	**-0.7**
	baz=226							
CHN3	**Shinhua**	**2.07**	**244**	*e*P		**Pb**	**02 27 12.5**	**-1.0**
	baz=243							
CHN3				*e*S		**Sb**	**02 27 39.5**	**+0.6**
	baz=243							
LAY	**Lan-yu**	**2.09**	**202**	*e*P		**Pn**	**02 27 09.8**	**+0.3**
	baz=202							
CHN8	**Yiju**	**2.10**	**253**	*e*P		**Pb**	**02 27 12.4**	**-1.7**
	baz=251							
CHN8				*e*S		**Sb**	**02 27 38.5**	**-1.2**
	baz=251							
TAW	**Tawu**	**2.13**	**221**	*e*P		**Pn**	**02 27 12.3**	**+2.4**
	baz=229							
EAST	**Anshuo**	**2.14**	**222**	*e*P		**Pn**	**02 27 10.5**	**+0.4**
	baz=221							
EAST				*e*S		**Sn**	**02 27 35.7**	**+0.1**
	baz=221							
TWM1	**Shoushan**	**2.15**	**238**	*e*P		**Pb**	**02 27 14.8**	**-0.1**
	baz=236							
SCLT	**Jiali**	**2.17**	**249**	*e*P		**Pb**	**02 27 13.7**	**-1.5**
	baz=247							
SCLT				*e*S		**Sb**	**02 27 40.4**	**-1.4**
	baz=247							
TAI1	**Yung-k'ang**	**2.20**	**245**	*e*P		**Pb**	**02 27 14.5**	**-1.2**
	baz=243							
TAI1				*e*S		**Sb**	**02 27 41.1**	**-1.4**
	baz=243							
JTJ	**Tarama**	**2.20**	**72**	P		**Pb**	**02 27 13.6**	**-2.2**
JTJ				*e*S		**Sb**	**02 27 41.1**	**-1.6**
SCZT	**Fangliau**	**2.29**	**226**	*e*P		**Pn**	**02 27 15.1**	**+2.9**
	baz=219							
SCZT				*e*S		**Sn**	**02 27 42.1**	**+2.8**
	baz=219							
TWP	**Hsiaoliuchiu**	**2.48**	**229**	*e*P		**Pb**	**02 27 19.1**	**-1.4**
	baz=229							
TWP				*e*S		**Sb**	**02 27 50.8**	**+0.2**
	baz=229							
TSEB	**Hengchuen, Pin**	**2.49**	**214**	*e*P		**Pb**	**02 27 19.0**	**-1.7**
	baz=215							
TSEB				*e*S		**Sn**	**02 27 47.6**	**+3.3**
	baz=215							
HEN	**Hengchun**	**2.49**	**218**	*e*P		**Pn**	**02 27 17.8**	**+2.8**
	baz=218							
HEN				*e*S		**Sn**	**02 27 46.1**	**+1.8**
	baz=218							
TWK1	**Hengchun**	**2.50**	**216**	*e*P		**Pn**	**02 27 16.2**	**+1.1**
	baz=216							
TWK1				*e*S		**Sn**	**02 27 45.3**	**+0.7**
	baz=216							
QZH	**Quanzhou**	**3.59**	**286**	⇑*i*Pn		**Pn**	**02 27 31.5**	**+1.4**
QZH				Sn		**Sn**	**02 28 11.1**	**-0.4**
QZH				smax	smax			
	comp=N,170nm,0.5s							
QZH				smax	smax			
	comp=E,120nm,0.6s							
KNM	**Kinmen**	**3.64**	**278**	*e*P		**Pn**	**02 27 33.4**	**+2.6**
	baz=275							
JOW	**Kunigami**	**6.03**	**61**	Pn		**Pn**	**02 28 03.5**	**0.0**
JOW	**Kunigami**	**6.03**	**61**	Pn		**Pn**	**02 28 03.5**	**0.0**
	comp=E,3.5nm,0.3s,baz=128,slow=18,SNR=3.3							
KSAR	**Wonju Array Be**	**14.21**	**18**	Pn		**P**	**02 30 01.1**	**-1.6**
KSRS	**Korea Array**	**14.24**	**18**	Pn		**P**	**02 30 01.0**	**-1.8**
	comp=E,0.1nm,0.3s,baz=197,slow=12,SNR=9.7							
ASAJ	**Asahikawa**	**26.02**	**35**	LR		LR	02 42 08.9	
	comp=E,241nm,20.3s,baz=286,slow=35							
SONM	**Songino Array**	**26.99**	**336**	P		**P**	**02 32 15.7**	**+0.1**
SONM	**Songino Array**	**26.99**	**336**	P		**P**	**02 32 15.7**	**+0.1**
	comp=E,1.8nm,0.7s,baz=146,slow=10,SNR=13							
MK31	**Makanchi Array**	**39.25**	**316**	*e*P		**P**	**02 34 02.6**	**+0.4**
MKAR	**Makanchi Array**	**39.25**	**316**	P		**P**	**02 34 02.8**	**+0.6**
MKAR	**Makanchi Array**	**39.25**	**316**	P		**P**	**02 34 02.8**	**+0.6**
	comp=E,1.2nm,0.6s,baz=99,slow=9.7,SNR=21							
ZAA0	**Zalesovo Array**	**41.01**	**327**	*e*P		**P**	**02 34 15.8**	**-0.8**
ZALV	**Zalesovo Beam**	**41.01**	**327**	P		**P**	**02 34 16.1**	**-0.6**
ZALV	**Zalesovo Beam**	**41.01**	**327**	P		**P**	**02 34 16.1**	**-0.6**
	comp=E,2.8nm,0.6s,baz=110,slow=7.9,SNR=17							
TKM2	**Tomak 2**	**42.76**	**308**	*e*P		**P**	**02 34 32.7**	**+1.4**
	comp=E,1.6nm,0.7s							
KURK	**Kurchatov**	**42.95**	**320**	*e*P		**P**	**02 34 32.3**	**-0.2**
	comp=E,1.4nm,0.6s							
AAK	**Ala-Archa**	**43.50**	**307**	*e*P		**P**	**02 34 37.3**	**0.0**
	comp=E,5.6nm,0.9s							
BVAR	**Borovoye Array**	**48.53**	**321**	P		**P**	**02 35 16.8**	**+0.3**
BVAR	**Borovoye Array**	**48.53**	**321**	P		**P**	**02 35 16.8**	**+0.3**
	comp=E,0.8nm,0.5s,baz=104,slow=7.6,SNR=8.1							
BRVK	**Borovoe**	**48.60**	**321**	*e*P		**P**	**02 35 16.1**	**-0.9**
	comp=E,2.6nm,0.9s							
ASAR	**Alice Springs**	**48.67**	**166**	P		P	02 35 04.4	-14
	comp=E,0.2nm,0.3s,baz=336,slow=7.5,SNR=5.3							
ABKAR	**Akbulak array**	**54.37**	**314**	*e*P		**P**	**02 36 00.6**	**+0.3**
	comp=E,1.3nm,0.6s							
ARCES	**ARCESS Array B**	**70.13**	**338**	P		**P**	**02 37 46.1**	**+0.5**
ARCES	**ARCESS Array B**	**70.13**	**338**	P		**P**	**02 37 46.1**	**+0.5**
	comp=E,2.1nm,0.9s,baz=54,slow=4.6,SNR=2.8							
FINES	**FINESS Array B**	**72.17**	**330**	P		**P**	**02 37 57.2**	**-0.8**
FINES	**FINESS Array B**	**72.17**	**330**	P		**P**	**02 37 57.2**	**-0.8**
	comp=E,1.2nm,0.7s,baz=80,slow=3.1,SNR=4.8							
BRTR	**Keskin Array B**	**74.18**	**307**	P		**P**	**02 38 10.5**	**0.0**
BRTR	**Keskin Array B**	**74.18**	**307**	P		**P**	**02 38 10.5**	**0.0**
	comp=E,0.9nm,0.8s,baz=96,slow=6.8,SNR=6.0							
NOA	**NORSAR Array B**	**78.91**	**332**	P		**P**	**02 38 35.8**	**-0.9**
NOA	**NORSAR Array B**	**78.91**	**332**	P		**P**	**02 38 35.8**	**-0.9**
	comp=E,0.3nm,0.6s,baz=21,slow=16,SNR=2.8							

MEX 14 02:27:27.3±0.8, 16°.04N×98°.16W, h5km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.35**	**5**	*e*P		Pg	02 27 32.9	-1.3
PNIG				*i* S		Sg	02 27 39.5	+0.6
VHO	**Vista Hermosa**	**1.71**	**53**	*e*P		Pn	02 27 55.3	-2.7
VHO				*e*S		Sn	02 28 16.1	-4.4
UTMO	**Huajuapan**	**1.81**	**11**	*i* P		Pn	02 27 55.2	-4.3
UTMO				*i* S		Sn	02 28 18.6	-4.5
ACX	**Acapulco**	**1.83**	**297**	*e*P		Pn	02 27 56.9	-2.6
ACX				*e*S		Sn	02 28 20.0	-3.1
HUIG	**Huatulco**	**1.99**	**98**	*e*P		Pn	02 27 57.7	-3.9
HUIG				*e*S		Sn	02 28 23.3	-3.6
CAIG	**El Cayaco**	**2.26**	**297**	*e*P		Pn	02 28 02.1	-3.2
CAIG				*i* S		Sn	02 28 29.7	-4.0
MEIG	**Mezcala**	**2.34**	**323**	*e*P		Pn	02 28 03.7	-2.9
MEIG				*e*S		Sn	02 28 31.9	-3.9
PLIG	**Platanillo**	**2.67**	**331**	*e*P		Pn	02 28 08.6	-2.5
PLIG				*e*S		Sn	02 28 39.9	-4.1
CMIG	**Matias Romero**	**3.31**	**71**	*e*P		Pn	02 28 17.5	-2.2
CMIG				*e*S		Sn	02 28 55.5	-4.1
ZIIG	**Zihuatanejo**	**3.53**	**297**	*e*P		Pn	02 28 20.3	-2.5
ZIIG				*i* S		Sn	02 29 02.0	-3.0

*TAP **14** 02:29:43.1, 24°.05N×122°.34E, h29km±1km, ML2.9, C*
*JMA **14** 02:29:44.1±0.4, 23°.99N×122°.54E, h0km*
ISC 14 02:29:41.7±1.2, 24°.01N±0°.04×122°.37E±0°.03, h14km±9km, n26, σ0°.43/48, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.70**	**267**	*e*P		**Pg**	**02 29 55.2**	**-0.1**
	baz=252							
ENA	**Nanau**	**0.70**	**306**	*e*P		**Pb**	**02 29 55.7**	**-0.1**
	baz=311							
ENA				*e*S		**Sb**	**02 30 06.1**	**+0.7**
	baz=311							
TWD	**Chiawan**	**0.71**	**276**	P		**Pb**	**02 29 56.1**	**+0.3**
	baz=273							
TWD				S		**Sb**	**02 30 05.8**	**+0.4**
	baz=273							
YOJ	**Yonaguni jima**	**0.74**	**53**	P		**Pb**	**02 29 56.9**	**+0.5**
YOJ				*e*S		**Sg**	**02 30 05.6**	**-0.3**
TWC	**Suao**	**0.76**	**322**	P		**Pg**	**02 29 56.5**	**0.0**
	baz=322							
TWC				S		**Sg**	**02 30 06.5**	**+0.1**
	baz=322							
ESL	**Shilin**	**0.88**	**257**	*e*P		**Pn**	**02 29 59.3**	**-0.3**
	baz=247							
ESL				*e*S		**Sb**	**02 30 09.8**	**-0.4**
	baz=247							
TWE	**Neicheng**	**0.95**	**318**	*e*P		**Pn**	**02 30 00.5**	**-0.2**
	baz=324							
TWE				S		**Sb**	**02 30 12.2**	**-0.3**
	baz=324							
ENTT	**Nioudou**	**0.96**	**311**	P		**Pg**	**02 30 00.5**	**+0.2**
	baz=309							
ENTT				S		**Sb**	**02 30 12.6**	**-0.2**
	baz=309							
WHF	**Hehuan Shan**	**1.01**	**278**	P		**Pb**	**02 30 01.1**	**-0.2**
	baz=263							
WHF				S		**Sb**	**02 30 14.4**	**-0.3**
	baz=263							
TWB1	**Santiao Chiao**	**1.05**	**341**	*e*P		**Pn**	**02 30 01.8**	**-0.2**
	baz=330							
TWB1				*e*S		**Sb**	**02 30 15.4**	**+0.1**
	baz=330							
TWT	**Tachien**	**1.11**	**283**	*e*P		**Pg**	**02 30 03.3**	**+0.1**
	baz=268							
TWT				*e*S		**Sb**	**02 30 16.6**	**-0.7**
	baz=268							
NSK	**Sanguang**	**1.13**	**306**	*e*P		**Pb**	**02 30 02.7**	**-0.4**
	baz=304							
NSK				*e*S		**Sb**	**02 30 17.4**	**-0.3**
	baz=304							
TWF1	**Yuli**	**1.18**	**236**	*e*P		**Pn**	**02 30 03.0**	**-0.8**
	baz=224							
TWF1				*e*S		**Sb**	**02 30 18.1**	**-0.9**
	baz=224							
NWF	**Wu-fen Shan**	**1.18**	**333**	*e*P		**Pn**	**02 30 03.9**	**0.0**
	baz=332							
NWF				*e*S		**Sn**	**02 30 19.5**	**-0.3**
	baz=332							
TWA	**Mucha**	**1.20**	**324**	*e*P		**Pg**	**02 30 05.0**	**+0.2**
	baz=323							
IRIF	**Iriomote-Funau**	**1.29**	**75**	P		**Pb**	**02 30 05.7**	**0.0**
IRIF				*e*S		**Sg**	**02 30 22.9**	**-0.4**
SMLT	**Sun Moon Lake**	**1.35**	**265**	*e*P		**Pb**	**02 30 07.2**	**+0.4**
	baz=263							
SMLT				*e*S		**Sn**	**02 30 23.6**	**-0.3**
	baz=263							
TYC	**Yuchr**	**1.38**	**266**	*e*P		**Pb**	**02 30 07.9**	**+0.5**
	baz=264							
TYC				*e*S		**Sn**	**02 30 24.1**	**-0.6**
	baz=264							
NSTT	**Nanjuang**	**1.39**	**297**	P		**Pb**	**02 30 07.8**	**+0.3**
	baz=295							
NSTT				S		**Sn**	**02 30 24.9**	**0.0**
	baz=295							
TWQ1	**Liyutan**	**1.49**	**283**	*e*P		**Pn**	**02 30 08.6**	**+0.5**
	baz=282							
TWQ1				*e*S		**Sn**	**02 30 27.2**	**-0.3**
	baz=282							
ALS	**Alishan**	**1.51**	**251**	*e*P		**Pb**	**02 30 09.8**	**+0.1**
	baz=249							
ALS				*e*S		**Sn**	**02 30 28.2**	**-0.1**
	baz=249							
JKRS	**Kuro-shima**	**1.52**	**81**	*e*S		**Sb**	**02 30 28.9**	**+0.1**
CHN5	**Tsauling**	**1.60**	**255**	*e*P		**Pb**	**02 30 10.8**	**-0.3**
	baz=244							
CHN5				*e*S		**Sn**	**02 30 30.3**	**+0.1**
	baz=244							
JIJ	**Ishigaki jima**	**1.66**	**77**	*e*S		**Sb**	**02 30 32.5**	**-0.4**
WTP	**Ta-pu**	**1.78**	**245**	*e*P		**Pn**	**02 30 12.8**	**+0.7**
	baz=244							
WTP				*e*S		**Sn**	**02 30 34.7**	**+0.2**
	baz=244							
CHN1	**Nanshi**	**1.88**	**244**	*e*P		**Pn**	**02 30 14.4**	**+1.1**
	baz=243							
CHN1				*e*S		**Sn**	**02 30 37.8**	**+0.9**
	baz=243							

*IDC **14** 02:42:23.3±10.0, 31°.27S×179°.01W, h0km, mb3.5/2,*
mb1 3.8/2, mb1mx3.6/14, mbtmp3.5/2, Error ellipse:
s-maj=465.7km s-min=55.2km az=158.0
*ISCJB **14** 02:43:12.3±1.9, 31°.9S±0°.1×179°.3E±0°.3, h400km, mb3.0/2,*
Error ellipse: s-maj=36.9km s-min=12.9km az=170.5
ISC 14 02:43:13.7±2.0, 32°.0S±0°.1×179°.1E±0°.3, h400km, n16, σ1§17/18, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PUZ	**Puketiti**	**6.10**	**187**	*e*PN		**Pn**	**02 44 46.7**	**-0.6**
MWZ	**Matawai**	**6.45**	**191**	*e*PN		**Pn**	**02 44 51.3**	**+0.1**
URZ	**Urewera**	**6.46**	**194**	*e*PN		**Pn**	**02 44 50.8**	**-0.5**
URZ				SN		**S**	**02 46 10.9**	**+0.1**
CNGZ	**Carnagh Statio**	**6.51**	**186**	*e*PN		**Pn**	**02 44 53.9**	**+2.1**
NMHZ	**Naumai**	**7.33**	**194**	*e*PN		**P**	**02 45 01.2**	**-0.4**
BKZ	**Black Stump Fm**	**7.47**	**196**	*e*PN		**P**	**02 45 03.3**	**+0.2**
BHHZ	**Black Hill Sta**	**7.88**	**198**	*e*PN		**P**	**02 45 07.0**	**-0.7**
KAHZ	**Kahuranaki**	**7.99**	**193**	*e*PN		**P**	**02 45 10.0**	**+1.1**
BFZ	**Birch Farm**	**8.97**	**194**	*e*PN		**P**	**02 45 21.3**	**+1.6**
MRZ	**Mangatainoka R**	**9.11**	**197**	*e*PN		**Pn**	**02 45 21.0**	**-0.3**
MRZ				*e*SN		**S**	**02 47 04.2**	**-1.9**
TIWZ	**Tintock**	**9.14**	**196**	PN		**Pn**	**02 45 22.6**	**+1.0**
OGWZ	**Otaki Gorge**	**9.36**	**199**	*e*PN		**Pn**	**02 45 24.6**	**+0.5**
TCW	**Tory Channel**	**9.99**	**202**	*e*PN		**Pn**	**02 45 31.4**	**-0.1**
ASAR	**Alice Springs**	**40.62**	**270**	P		**P**	**02 50 17.9**	**+0.9**
	0.3nm,0.5s,baz=109,slow=7.2,SNR=4.6							
WRA	**Warramunga Arr**	**41.76**	**276**	P		**P**	**02 50 26.8**	**+0.7**
	0.3nm,0.4s,baz=113,slow=8.1,SNR=7.4							
FINES	**FINESS Array B**	**145.74**	**337**	PKPbc		**PKPdf**	**03 02 02.3**	**-2.3**
	2.6nm,0.7s,baz=38,slow=3.8,SNR=19							

IDC 14 02:47:00.4±2.0, 4°.24N×126°.98E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, Error ellipse: s-maj=115.2km s-min=25.1km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.24**	**183**	P		P	02 51 59.1	+0.2

WHF				S		Sn	02 50 54.3	-0.2		
	baz=262									
TWB1	**Santiao Chiao**	**1.04**	**341**	*eP*		**Pn**	**02 50 40.1**	**-0.9**		
	baz=341									
TWT	**Tachien**	**1.10**	**282**	*eP*		**Pb**	**02 50 42.7**	**+0.1**		
	baz=268									
TWT				*eS*		**Sb**	**02 50 57.8**	**+1.2**		
	baz=268									
NSK	**Sanguang**	**1.12**	**306**	P		**Pb**	**02 50 42.6**	**-0.1**		
	baz=293									
NSK				*eS*		**Sb**	**02 50 57.1**	**+0.1**		
	baz=293									
NWF	**Wu-fen Shan**	**1.17**	**333**	*eP*		**Pn**	**02 50 43.1**	**+0.2**		
	baz=332									
NWF				*eS*		**Sb**	**02 50 59.6**	**+1.2**		
	baz=332									
TWF1	**Yuli**	**1.18**	**236**	*eP*		**Pn**	**02 50 43.5**	**+0.5**		
	baz=223									
TWF1				*eS*		**Sn**	**02 50 57.9**	**-0.4**		
	baz=223									
IRIF	**Iriomote-Funau**	**1.29**	**76**	P		**Pb**	**02 50 45.7**	**+0.1**		
IRIF				*eS*		**Sn**	**02 51 01.2**	**+0.3**		
SMLT	**Sun Moon Lake**	**1.34**	**264**	*eP*		**Pb**	**02 50 46.7**	**+0.2**		
	baz=253									
SMLT				*eS*		**Sb**	**02 51 03.3**	**-0.1**		
	baz=253									
NSTT	**Nanjuang**	**1.38**	**296**	*eP*		**Pb**	**02 50 47.3**	**+0.1**		
	baz=294									
NSTT				*eS*		**Sb**	**02 51 04.3**	**0.0**		
	baz=294									
TYC	**Yuchr**	**1.38**	**265**	*eP*		**Pb**	**02 50 46.9**	**-0.2**		
	baz=263									
TYC				*eS*		**Sb**	**02 51 04.3**	**0.0**		
	baz=263									
TWQ1	**Liyutan**	**1.48**	**283**	*eP*		**Pb**	**02 50 48.4**	**-0.5**		
	baz=270									
TWQ1				*eS*		**Sb**	**02 51 07.1**	**-0.3**		
	baz=270									
ELDTW	**Lidau**	**1.48**	**236**	*eP*		**Pn**	**02 50 47.5**	**+0.2**		
	baz=235									
ELDTW				*eS*		**Sn**	**02 51 05.0**	**-1.0**		
	baz=235									
ALS	**Alishan**	**1.51**	**251**	*eP*		**Pn**	**02 50 48.5**	**+0.7**		
	baz=249									
ALS				*eS*		**Sn**	**02 51 07.1**	**+0.2**		
	baz=249									
JKRS	**Kuro-shima**	**1.52**	**82**	*eS*		**Sb**	**02 51 08.5**	**+0.1**		
CHN5	**Tsauling**	**1.60**	**255**	*eP*		**Pb**	**02 50 50.6**	**-0.3**		
	baz=244									
CHN5				*eS*		**Sb**	**02 51 10.9**	**+0.2**		
	baz=244									
JIJ	**Ishigaki jima**	**1.66**	**78**	P		**Pn**	**02 50 50.6**	**+1.0**		
JIJ				*eS*		**Sn**	**02 51 09.7**	**-0.5**		
STYT	**Tauyuan**	**1.70**	**240**	*eP*		**Pn**	**02 50 51.6**	**+1.4**		
	baz=230									
STYT				*eS*		**Sb**	**02 51 12.9**	**-0.7**		
	baz=230									
WTP	**Ta-pu**	**1.78**	**245**	*eP*		**Pb**	**02 50 53.3**	**-0.6**		
	baz=243									
WTP				*eS*		**Sb**	**02 51 15.4**	**-0.5**		
	baz=243									
TWK	**Hsinying**	**1.87**	**247**	*eP*		**Pn**	**02 50 53.9**	**+1.3**		
	baz=245									
TWK				*eS*		**Sb**	**02 51 17.9**	**-0.8**		
	baz=245									
CHN1	**Nanshi**	**1.88**	**244**	*eP*		**Pb**	**02 50 54.8**	**-0.8**		
	baz=243									
CHN1				*eS*		**Sb**	**02 51 18.0**	**-0.6**		
	baz=243									

IDC 14 02:52:38.8±1.3, 42.79S×72.49W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/15, mbtmpg3.9/5, ML3.9/1, Error ellipse: s-maj=40.4km s-min=16.8km az=122.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**2.51**	**36**	Pn	Pn	02 53 22.0	+1.0
	5.7nm,0.3s,baz=211,slow=14,SNR=92						
PLCA				Pg	Pb	02 53 24.6	-0.2
	6.4nm,0.3s,baz=221,slow=16,SNR=129						
PLCA				Lg	Lg	02 53 59.5	
	17nm,0.3s,baz=118,slow=21,SNR=15						
CFAA	**Coronel Fontan**	**11.66**	**18**	Pn	Pn	02 55 30.7	+4.2
	0.0nm,0.3s,baz=257,slow=12,SNR=2.5						
SIV	**San Ignacio**	**28.44**	**24**	P	P	02 58 34.3	-1.0
	1.1nm,0.8s,baz=218,slow=12,SNR=4.5						
QSPA	**South Pole Qui**	**47.46**	**180**	P	P	03 01 15.8	+0.7
	0.8nm,0.4s,baz=184,slow=6.7,SNR=3.5						
TXAR	**Lajitas Array**	**77.28**	**332**	P	P	03 04 35.1	+0.1
	0.5nm,1.0s,baz=168,slow=9.2,SNR=3.8						
PDAR	**Pinedale Array**	**91.45**	**334**	P	P	03 05 46.7	0.0
	0.4nm,0.8s,baz=161,slow=8.5,SNR=3.6						
MKAR	**Makanchi Array**	**161.69**	**69**	PKPab	PKPab	03 13 25.1	-1.3
	0.6nm,1.0s,baz=216,slow=1.2,SNR=3.7						

MEX 14 02:57:02.0±0.7, 18.82N×102.40W, h102km±10km, MD3.9, Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**1.04**	**240**	*eP*	Pn	02 57 22.0	-1.0
MMIG				*i* S	Sn	02 57 36.9	-1.9
EZ5V		**1.31**	**300**	*eP*	Pn	02 57 25.1	-1.4
EZ5V				*eS*	Sn	02 57 43.7	-1.2
MOIG	**Morelia**	**1.43**	**53**	*i* P	Pn	02 57 26.9	-0.9
MOIG				*i* S	Sn	02 57 44.9	-2.5
ZIIG	**Zihuatanejo**	**1.50**	**143**	*eP*	Pn	02 57 27.1	-1.3
ZIIG				*i* S	Sn	02 57 46.7	-1.6
R15V		**1.54**	**283**	*eP*	Pn	02 57 26.7	-2.2
R15V				*i* S	Sn	02 57 47.6	-1.7
SFJM	**Santa Fe**	**1.76**	**340**	*i* P	Pn	02 57 30.1	-1.8
SFJM				*eS*	Sn	02 57 53.0	-1.6
CAIG	**El Cayaco**	**2.69**	**131**	*i* P	Pn	02 57 43.0	-0.7
CAIG				*i* S	Sn	02 58 13.5	-2.3
PLIG	**Platanillo**	**2.78**	**98**	*i* P	Pn	02 57 43.8	-1.2
PLIG				*i* S	Sn	02 58 17.1	-1.1
MEIG	**Mezcala**	**2.79**	**108**	*eP*	Pn	02 57 44.3	-0.8
MEIG				*i* S	Sn	02 58 16.7	-1.6
ANIG	**Ahuacatlan**	**2.98**	**318**	*i* P	Pn	02 57 46.2	-1.6
ANIG				*i* S	Sn	02 58 20.3	-2.7
YAIG	**Yautepec**	**3.16**	**89**	*i* P	Pn	02 57 49.2	-0.9
YAIG				*i* S	Sn	02 58 25.9	-1.3

SOF **14** *02:58:15.7, 40.74N×21.03E, h0km, MD3.3*
IDC **14** *02:58:16.6±1.2, 40.59N×21.09E, h0km, mb3.5/8, mb1 3.6/11, mb1mx3.5/27, mbtmp3.5/11, ML3.0/3, Error ellipse: s-maj=21.7km s-min=14.9km az=138.0*
ATH **14** *02:58:19.7, 40.70N×21.25E, h28km±1km, ML3.7*
BEO **14** *02:58:19.4±1.1, 40.74N×21.21E, h0km, ML3.2/1*
SKO **14** *02:58:20.3, 40.73N×21.21E, h23km, ML3.2*
PDG **14** *02:58:20.2±0.7, 40.69N×21.24E, h18km±1km, ML3.3/8, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
ISCJB **14** *02:58:20.3±0.3, 40.71N±0.01×21.20E±0.02, h21km±3km, mb3.5/6, Error ellipse: s-maj=2.6km s-min=2.0km az=158.5*
CSEM **14** *02:58:20.1±0.1, 40.68N×21.23E, h10km, ML3.6/11, Error ellipse: s-maj=2.3km s-min=1.7km az=70.0*
THE **14** *02:58:21.3, 40.67N×21.24E, h11km±1km, ML3.6/11, Error ellipse: s-maj=1.6km s-min=0.7km az=317.0*
PRU **14** *02:58:23.7, 41.04N×21.06E, h0km*
ISC 14 02:58:20.3±0.8, 40.71N±0.01×21.22E±0.02, h20km±3km, n238, σ1$22/317, mb3.5/6, 23C-29D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.14**	**57**	P	**Pg**	**02 58 25.0**	**+0.3**
FNA				S	**Sg**	**02 58 29.0**	**+1.3**
FNA	**Florina**	**0.14**	**57**	P	**Pg**	**02 58 25.0**	**+0.3**
FNA				S	**Sg**	**02 58 29.0**	**+1.3**
NEST	**Nestorio**	**0.32**	**204**	P	**Pg**	**02 58 26.5**	**-0.8**
NEST				S	**Sg**	**02 58 31.9**	**-0.2**
BIA	**Bitola**	**0.32**	**14**	↓*i* Pg	**Pg**	**02 58 26.9**	**-0.5**
BIA				*e*Sg	**Sb**	**02 58 33.0**	**+0.7**
BIA	**Bitola**	**0.32**	**14**	↓*i* Pg	**Pg**	**02 58 26.9**	**-0.5**
BIA				*e*Sg	**Sb**	**02 58 32.9**	**+0.7**
KZN	**Kozani**	**0.58**	**133**	P	**Pb**	**02 58 31.6**	**-0.2**
KZN				S	**Sg**	**02 58 40.4**	**+0.6**
KZN	**Kozani**	**0.58**	**133**	*e*Pn	**Pb**	**02 58 31.1**	**-0.7**
KZN				*e*SN	**Sg**	**02 58 40.4**	**+0.6**
KZN	**Kozani**	**0.58**	**133**	*e*Pn	**Pb**	**02 58 31.1**	**-0.7**
KZN				S	**Sg**	**02 58 40.4**	**+0.6**
KZN	**Kozani**	**0.58**	**133**	P	**Pb**	**02 58 31.6**	**-0.2**
KZN				S	**Sg**	**02 58 40.4**	**+0.6**
MEV	**Metsovon**	**0.92**	**180**	P	**Pb**	**02 58 37.0**	**-0.7**
MEV	**Metsovon**	**0.92**	**180**	P	**Pb**	**02 58 37.0**	**-0.7**
GRG	**Griva**	**0.93**	**74**	P	**Pb**	**02 58 38.2**	**+0.4**
GRG				S	**Sn**	**02 58 52.9**	**+1.8**
GRG	**Griva**	**0.93**	**74**	P	**Pb**	**02 58 38.2**	**+0.4**
JAN	**Janina**	**1.09**	**195**	P	**Pn**	**02 58 40.0**	**-0.5**
JAN				S	**Sg**	**02 58 57.1**	**+1.5**
JAN	**Janina**	**1.09**	**195**	*e*PN	**Pn**	**02 58 39.9**	**-0.5**
JAN				*e*SN	**Sg**	**02 58 55.5**	**-0.1**
JAN	**Janina**	**1.09**	**195**	P	**Pn**	**02 58 40.0**	**-0.5**
JAN				*e*Sn	**Sg**	**02 58 55.5**	**-0.1**
JAN				S	**Sg**	**02 58 57.1**	**+1.5**
LIT	**Litokhoron**	**1.14**	**122**	P	**Pb**	**02 58 41.8**	**+0.4**
LIT				S	**Sg**	**02 58 57.6**	**+0.1**
LIT	**Litokhoron**	**1.14**	**122**	*e*PN	**Pn**	**02 58 41.4**	**+0.2**
LIT				*e*SN	**Sn**	**02 58 56.9**	**+0.6**
LIT	**Litokhoron**	**1.14**	**122**	*e*Pn	**Pn**	**02 58 41.4**	**+0.2**
LIT	**Litokhoron**	**1.14**	**122**	P	**Pb**	**02 58 41.8**	**+0.4**
LIT				*e*Sn	**Sn**	**02 58 56.9**	**+0.6**
LIT				S	**Sg**	**02 58 57.6**	**+0.1**
VAY	**Valandovo**	**1.19**	**59**	*e*Pn	**Pb**	**02 58 42.6**	**+0.4**
VAY				*e*Sn	**Sg**	**02 58 59.4**	**+0.4**
VAY				*e*Lg	Lg	02 59 01.3	
	comp=N,676nm,0.6s						
VAY	**Valandovo**	**1.19**	**59**	*e*Pn	**Pb**	**02 58 43.0**	**+0.8**
VAY				*e*Sn	**Sg**	**02 58 59.8**	**+0.8**
VAY				*e*Lg	Lg	02 59 01.8	
	comp=N,676nm,0.6s						
TIR	**Tirane**	**1.21**	**302**	*e*Pn	**Pb**	**02 58 42.8**	**+0.3**
TIR				*e*Sn	**Sg**	**02 58 59.3**	**-0.2**
SKO	**Skopje**	**1.27**	**7**	*e*Pn	**Pb**	**02 58 44.4**	**+0.8**
SKO				*e*Lg	Lg	02 59 04.3	
	comp=E,422nm,0.7s						
SKO	**Skopje**	**1.27**	**7**	*e*Pn	**Pg**	**02 58 44.9**	**-0.1**
SKO				*e*Lg	Lg	02 59 01.7	
	comp=E,422nm,0.7s						
THL	**Klokotos Trika**	**1.29**	**152**	P	**Pn**	**02 58 43.1**	**-0.1**
THL				S	**Sg**	**02 59 01.6**	**-0.6**
THL	**Klokotos Trika**	**1.29**	**152**	*e*PN	**Pn**	**02 58 43.1**	**-0.1**
THL				*e*SN	**Sb**	**02 59 01.0**	**+0.9**
THL	**Klokotos Trika**	**1.29**	**152**	P	**Pn**	**02 58 43.1**	**-0.1**
THL				*e*Sn	**Sb**	**02 59 01.0**	**+0.9**
THL				S	**Sg**	**02 59 01.6**	**-0.6**
THE	**Thessaloniki**	**1.33**	**93**	P	**Pn**	**02 58 44.1**	**+0.4**
THE	**Thessaloniki**	**1.33**	**93**	P	**Pn**	**02 58 44.1**	**+0.4**
KNT	**Kendrikon**	**1.35**	**70**	P	**Pb**	**02 58 45.0**	**+0.1**
KNT				S	**Sg**	**02 59 05.4**	**+1.3**
KNT	**Kendrikon**	**1.35**	**70**	P	**Pb**	**02 58 45.0**	**+0.1**
IGT	**Igoumenitsa**	**1.36**	**210**	P	**Pb**	**02 58 45.6**	**+0.6**
IGT				S	**Sg**	**02 59 04.8**	**+0.6**
IGT	**Igoumenitsa**	**1.36**	**210**	P	**Pb**	**02 58 45.6**	**+0.6**
IGT				S	**Sg**	**02 59 04.8**	**+0.6**
HORT	**Hortiatis**	**1.44**	**94**	P	**Pn**	**02 58 45.5**	**+0.2**
HORT				S	**Sg**	**02 59 06.0**	**-0.7**
HORT	**Hortiatis**	**1.44**	**94**	P	**Pn**	**02 58 45.5**	**+0.2**
HORT				S	**Sg**	**02 59 06.0**	**-0.7**
KEK	**Kerkira**	**1.47**	**228**	P	**Pb**	**02 58 47.4**	**+0.4**
KEK				S	**Sb**	**02 59 05.0**	**-0.3**
KEK	**Kerkira**	**1.47**	**228**	*e*PN	**Pb**	**02 58 47.2**	**+0.2**
KEK				*e*SN	**Sb**	**02 59 06.6**	**+1.3**
KEK	**Kerkira**	**1.47**	**228**	*e*Pn	**Pb**	**02 58 47.2**	**+0.2**
KEK				S	**Sb**	**02 59 05.0**	**-0.3**
KEK				*e*Sn	**Sb**	**02 59 06.6**	**+1.3**
RGA	**Parga**	**1.54**	**206**	P	**Pb**	**02 58 48.2**	**+0.1**
RGA	**Parga**	**1.54**	**206**	P	**Pb**	**02 58 48.2**	**+0.1**
SOH	**Sokhos**	**1.63**	**85**	P	**Pn**	**02 58 48.8**	**+0.9**
SOH	**Sokhos**	**1.63**	**85**	P	**Pn**	**02 58 48.8**	**+0.9**
PLG	**Polygyros**	**1.73**	**100**	P	**Pn**	**02 58 50.4**	**+1.1**
PLG				S	**Sb**	**02 59 12.4**	**-0.3**
PLG	**Polygyros**	**1.73**	**100**	*e*PB	**Pn**	**02 58 49.3**	**0.0**
PLG				*e*SN	**Sn**	**02 59 10.7**	**-0.1**
PLG	**Polygyros**	**1.73**	**100**	*e*Pb	**Pn**	**02 58 49.3**	**0.0**
PLG	**Polygyros**	**1.73**	**100**	P	**Pn**	**02 58 50.4**	**+1.1**
PLG				*e*Sn	**Sn**	**02 59 12.7**	**-0.1**
PLG				S	**Sb**	**02 59 12.4**	**-0.3**
KKB	**Krupnik**	**1.82**	**50**	*i* P	**Pn**	**02 58 51.0**	**+0.5**
KKB	**Krupnik**	**1.82**	**50**	*i* P	**Pn**	**02 58 51.0**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.83**	**157**	P	**Pn**	**02 58 51.9**	**+1.2**
MAKR				S	**Sb**	**02 59 15.3**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.83**	**157**	P	**Pn**	**02 58 51.9**	**+1.2**
MAKR				S	**Sb**	**02 59 15.3**	**-0.3**
EVR	**Evrytania**	**1.84**	**166**	P	**Pn**	**02 58 52.1**	**+1.2**
EVR				S	**Sn**	**02 59 15.0**	**+1.3**
EVR	**Evrytania**	**1.84**	**166**	*e*PN	**Pn**	**02 58 51.6**	**+0.7**
EVR				*e*SN	**Sn**	**02 59 14.1**	**+0.4**
EVR	**Evrytania**	**1.84**	**166**	*e*Pn	**Pn**	**02 58 51.6**	**+0.7**
EVR	**Evrytania**	**1.84**	**166**	P	**Pn**	**02 58 52.1**	**+1.2**
EVR				*e*Sn	**Sn**	**02 59 14.1**	**+0.4**
EVR				S	**Sn**	**02 59 15.0**	**+1.3**
SRS	**Serrai**	**1.84**	**76**	P	**Pn**	**02 58 51.4**	**+0.6**
SRS	**Serrai**	**1.84**	**76**	P	**Pn**	**02 58 51.4**	**+0.6**
ULC	**Ulcinj**	**1.95**	**311**	↑*i* Pn	**Pb**	**02 58 54.3**	**-0.8**
ULC				*e*Sn	**Sb**	**02 59 20.0**	**+1.1**
ULC	**Ulcinj**	**1.95**	**311**	↑*i* Pn	**Pb**	**02 58 54.3**	**-0.8**
ULC				*e*Sn	**Sb**	**02 59 20.0**	**+1.1**
LKD2	**Lefkada island**	**1.96**	**193**	P	**Pb**	**02 58 54.4**	**-1.0**
LKD2	**Lefkada island**	**1.96**	**193**	*e*PB	**Pn**	**02 58 53.8**	**+1.3**
LKD2	**Lefkada island**	**1.96**	**193**	*e*Pb	**Pn**	**02 58 53.8**	**+1.3**
LKD2	**Lefkada island**	**1.96**	**193**	P	**Pb**	**02 58 54.4**	**-1.0**
XOR	**Xorichti**	**2.02**	**131**	P	**Pn**	**02 58 53.8**	**+0.5**
XOR	**Xorichti**	**2.02**	**131**	P	**Pn**	**02 58 53.8**	**+0.5**
PAIG	**Paliouri**	**2.04**	**112**	P	**Pn**	**02 58 53.8**	**+0.4**
PAIG	**Paliouri**	**2.04**	**112**	P	**Pn**	**02 58 53.8**	**+0.4**
MMB	**Musomiste**	**2.09**	**64**	*i* P	**Pn**	**02 58 55.5**	**+1.3**
MMB	**Musomiste**	**2.09**	**64**	*i* P	**Pn**	**02 58 55.5**	**+1.3**
NVR	**Nevrokopi**	**2.10**	**71**	P	**Pn**	**02 58 55.3**	**+0.9**
NVR	**Nevrokopi**	**2.10**	**71**	*e*PN	**Pn**	**02 58 55.0**	**+0.6**
NVR				*e*SN	**Sn**	**02 59 20.6**	**+0.6**
NVR	**Nevrokopi**	**2.10**	**71**	*e*Pb	**Pn**	**02 58 55.0**	**+0.6**
NVR	**Nevrokopi**	**2.10**	**71**	P	**Pn**	**02 58 55.3**	**+0.9**
NVR				*e*Sn	**Sn**	**02 59 20.6**	**+0.6**
PVY	**Plav**	**2.11**	**334**	↓*i* Pn	**Pn**	**02 58 56.2**	**+1.6**
PVY				*e*Sn	**Sb**	**02 59 24.0**	**+0.2**
PVY	**Plav**	**2.11**	**334**	↓*i* Pn	**Pn**	**02 58 56.2**	**+1.6**
PVY				*e*Sn	**Sb**	**02 59 24.0**	**+0.2**
OUR	**Ouranopolis**	**2.14**	**99**	P	**Pn**	**02 58 55.8**	**+1.0**
OUR	**Ouranopolis**	**2.14**	**99**	P	**Pn**	**02 58 55.8**	**+1.0**
BARS	**Barje**	**2.15**	**12**	↓*i* Pn	**Pn**	**02 58 56.4**	**+1.3**
BARS				*e*Sn	**Sb**	**02 59 23.6**	**-1.3**
BARS	**Barje**	**2.15**	**12**	↓*i* Pn	**Pn**	**02 58 56.4**	**+1.3**
BARS				*e*Sn	**Sb**	**02 59 23.6**	**-1.3**
SCTE	**Santa Cesarea**	**2.19**	**254**	*e*Pn	**Pn**	**02 58 56.0**	**+0.4**
SCTE				*e*Sn	**Sn**	**02 59 23.0**	**+0.8**
AXAR	**Agios Charalam**	**2.23**	**150**	P	**Pn**	**02 58 57.1**	**+0.9**
AXAR				S	**Sn**	**02 59 25.4**	**+2.2**
AXAR	**Agios Charalam**	**2.23**	**150**	P	**Pn**	**02 58 57.1**	**+0.9**
AXAR				S	**Sn**	**02 59 25.4**	**+2.2**
TTG	**Podgorica**	**2.26**	**320**	↑*i* Pn	**Pb**	**02 58 58.9**	**-1.6**
TTG				*e*Sn	**Sb**	**02 59 27.9**	**-0.1**
PDG	**Podgorica**	**2.27**	**320**	↑*i* Pn	**Pb**	**02 58 58.9**	**-1.6**
PDG				*e*Sn	**Sb**	**02 59 27.9**	**-0.2**
EFP	**Efpalio**	**2.34**	**167**	P	**Pn**	**02 58 58.1**	**+0.5**
EFP	**Efpalio**	**2.34**	**167**	*e*PN	**Pn**	**02 58 58.0**	**+0.5**
EFP	**Efpalio**	**2.34**	**167**	P	**Pn**	**02 58 58.1**	**+0.5**
BUM	**Brajici-Budva**	**2.36**	**313**	↑*i* Pn	**Pn**	**02 58 59.8**	**+1.8**
BUM				*e*Sn	**Sb**	**02 59 30.3**	**-0.7**
BUM	**Brajici-Budva**	**2.36**	**313**	↑*i* Pn	**Pn**	**02 58 59.8**	**+1.8**
BUM				*e*Sn	**Sb**	**02 59 30.3**	**-0.7**
IVA	**Berane**	**2.38**	**336**	↑*i* Pn	**Pb**	**02 59 00.7**	**-1.8**
IVA				*e*Sn	**Sb**	**02 59 30.4**	**-1.0**
BEY	**Berane**	**2.38**	**336**	↑*i* Pn	**Pb**	**02 59 00.7**	**-1.8**
BEY				*e*Sn	**Sb**	**02 59 30.4**	**-1.1**
VTS	**Vitosha**	**2.40**	**38**	P	**Pn**	**02 59 00.4**	**+1.8**
VTS	**Vitosha**	**2.40**	**38**	↓*i* P	**Pn**	**02 59 00.5**	**+1.8**
VTS	**Vitosha**	**2.40**	**38**	*i* P	**Pn**	**02 59 00.9**	**+1.3**
VTS	**Vitosha**	**2.40**	**38**	↓*i* Pn	**Pn**	**02 59 00.3**	**+1.7**
VTS				*e*Sn	**Sn**	**02 59 29.3**	**+1.7**
VTS	**Vitosha**	**2.40**	**38**	*i* P	**Pn**	**02 58 59.9**	**+1.3**
VTS	**Vitosha**	**2.40**	**38**	↓*i* Pn	**Pn**	**02 59 00.3**	**+1.7**
VTS				*e*Sn	**Sn**	**02 59 29.3**	**+1.7**
KALE	**Kalithea**	**2.42**	**163**	P	**Pn**	**02 58 59.7**	**+0.9**
KALE	**Kalithea**	**2.42**	**163**	P	**Pn**	**02 58 59.7**	**+0.9**
UPR	**University Cam**	**2.46**	**170**	*e*PB	**Pn**	**02 59 00.9**	**+1.6**
UPR	**University Cam**	**2.46**	**170**	*e*Pb	**Pn**	**02 59 00.9**	**+1.6**
LKR	**Lokris**	**2.47**	**146**	P	**Pn**	**02 59 00.1**	**+0.7**
LKR	**Lokris**	**2.47**	**146**	*e*PN	**Pn**	**02 59 00.2**	**+0.8**
LKR				*e*SN	**Sn**	**02 59 29.4**	**+0.4**
LKR	**Lokris**	**2.47**	**146**	*e*Pn	**Pn**	**02 59 00.2**	**+0.8**
LKR				*e*Sn	**Sn**	**02 59 29.4**	**+0.4**
DESF	**Desfina**	**2.51**	**156**	P	**Pn**	**02 58 59.8**	**-0.2**
DESF	**Desfina**	**2.51**	**156**	P	**Pn**	**02 58 59.8**	**-0.2**
SELS	**Selova**	**2.51**	**358**	*e*Pn	**Pn**	**02 59 00.6**	**+0.6**
KAVA	**Kavala**	**2.52**	**82**	P	**Pn**	**02 59 01.2**	**+1.2**
KAVA	**Kavala**	**2.52**	**82**	P	**Pn**	**02 59 01.2**	**+1.2**
LAKA	**Lakka**	**2.53**	**166**	P	**Pn**	**02 59 01.6**	**+1.3**
LAKA	**Lakka**	**2.53**	**166**	P	**Pn**	**02 59 01.6**	**+1.3**
VLS	**Valsamata**	**2.57**	**191**	P	**Pn**	**02 59 01.9**	**+1.0**
VLS	**Valsamata**	**2.57**	**191**	*e*PN	**Pn**	**02 59 01.6**	**+0.7**
VLS				*e*SN	**Sn**	**02 59 33.2**	**+1.6**
VLS	**Valsamata**	**2.57**	**191**	*e*Pn	**Pn**	**02 59 01.6**	**+0.7**
VLS	**Valsamata**	**2.57**	**191**	P	**Pn**	**02 59 01.9**	**+1.0**
VLS				*e*Sn	**Sn**	**02 59 33.2**	**+1.6**
RLS	**Riolos of Patr**	**2.65**	**176**	*e*PN	**Pn**	**02 59 02.5**	**+0.6**
RLS	**Riolos of Patr**	**2.65**	**176**	*e*Pn	**Pn**	**02 59 02.5**	**+0.6**
HCY	**Herceg Novi**	**2.68**	**311**	*e*Pn	**Pn**	**02 59 04.1**	**+1.7**
HCY				*e*Sn	**Sb**	**02 59 38.0**	**-2.2**
HCY	**Herceg Novi**	**2.68**	**311**	*e*Pn	**Pn**	**02 59 04.1**	**+1.7**
HCY				*e*Sn	**Sb**	**02 59 38.0**	**-2.2**
ZAPS	**Zavoj**	**2.77**	**22**	↓*i* Pn	**Pn**	**02 59 05.7**	**+2.1**
RZN	**Rozhen**	**2.81**	**68**	P	**Pb**	**02 59 07.7**	**-2.3**
RZN	**Rozhen**	**2.81**	**68**	P	**Pb**	**02 59 07.7**	**-2.3**
GUR	**Goura**	**2.90**	**162**	P	**Pn**	**02 59 06.3**	**+0.9**
GUR	**Goura**	**2.90**	**162**	*e*PN	**Pn**	**02 59 05.7**	**+0.3**
GUR	**Goura**	**2.90**	**162**	*e*Pn	**Pn**	**02 59 05.7**	**+0.3**
GUR	**Goura**	**2.90**	**162**	P	**Pn**	**02 59 06.3**	**+0.9**
PLE	**Pljevlja**	**2.96**	**333**	↓*i* Pn	**Pn**	**02 59 07.0**	**+0.8**
PLE				*e*Sn	**Sn**	**02 59 43.1**	**+1.9**
PLE	**Pljevlja**	**2.96**	**333**	↓*i* Pn	**Pn**	**02 59 07.0**	**+0.8**
PLE				*e*Sn	**Sn**	**02 59 43.1**	**+1.9**
BRY	**Bratogost**	**2.97**	**318**	↑*i* Pn	**Pn**	**02 59 08.2**	**+1.8**
BRY				*e*Sn	**Sn**	**02 59 45.1**	**+3.5**
BRY	**Bratogost**	**2.97**	**318**	↑*i* Pn	**Pn**	**02 59 08.2**	**+1.8**
BRY				*e*Sn	**Sn**	**02 59 45.1**	**+3.5**
PLD	**Plovdiv**	**2.97**	**61**	P	**Pn**	**02 59 08.8**	**+2.5**
PLD	**Plovdiv**	**2.97**	**61**	P	**Pn**	**02 59 08.8**	**+2.5**
IVAS	**Ivanjica**	**2.98**	**345**	*e*Pn	**Pn**	**02 59 07.2**	**+0.8**
IVAS	**Ivanjica**	**2.98**	**345**	*e*Pn	**Pn**	**02 59 07.2**	**+0.8**
TAR1	**Taranto**	**3.00**	**268**	*e*Pn	**Pn**	**02 59 06.8**	**+0.1**
LTK	**Loutraki**	**3.00**	**153**	*e*PN	**Pn**	**02 59 07.0**	**+0.2**
LTK	**Loutraki**	**3.00**	**153**	*e*Pn	**Pn**	**02 59 07.0**	**+0.2**
UPM	**Unac-Piva**	**3.03**	**326**	↑*i* Pn	**Pn**	**02 59 09.2**	**+1.9**
UPM				*e*Sn	**Sn**	**02 59 46.3**	**+3.1**
UPM	**Unac-Piva**	**3.03**	**326**	↑*i* Pn	**Pn**	**02 59 09.2**	**+1.9**
UPM				*e*Sn	**Sn**	**02 59 46.3**	**+3.1**
LIA	**Limnos Island**	**3.14**	**104**	*e*PN	**Pn**	**02 59 09.4**	**+0.8**
LIA	**Limnos Island**	**3.14**	**104**	*e*Pn	**Pn**	**02 59 09.4**	**+0.8**
BOLS	**Boljevac**	**3.17**	**10**	↓*i* Pn	**Pn**	**02 59 08.6**	**-

comp=Z,1.5nm,0.6s,baz=158,slow=11
NB2 NORSAR Subarra 21.27 347 P **P 03 03 04.4 -0.7**
comp=Z,1.5nm,0.6s,baz=158,slow=11,SNR=5.4
NOA NORSAR Array B 21.27 347 P **P 03 03 04.7 -0.5**
comp=Z,1.4nm,0.6s,baz=157,slow=10,SNR=12
ARCES ARCESS Array B 28.98 3 P **P 03 04 16.8 -1.4**
comp=Z,1.2nm,0.8s,baz=198,slow=11,SNR=5.7
TORD Torodi Ar. Bea 32.35 217 P **P 03 04 47.2 -1.2**
comp=Z,0.3nm,0.7s,baz=28,slow=9.3,SNR=3.5
MKAR Makanchi Array 43.56 61 P **P 03 06 21.9 -0.8**
comp=Z,0.3nm,0.6s,baz=280,slow=7.5,SNR=4.9
SCHQ Schefferville 56.99 316 P **P 03 08 03.5 -0.6**
comp=Z,2.8nm,1.1s,baz=86,slow=14,SNR=2.4
YKA Yellowknife Ar 71.20 340 P **P 03 09 36.7 -0.7**
comp=Z,0.1nm,0.5s,baz=38,slow=5.3,SNR=5.9

CSEM ***14*** *02:58:23.2±0.1, 42.38N×13.33E, h2km, MD1.7/3, Error ellipse: s-maj=4.3km s-min=2.7km az=134.0*
ROM 14 02:58:22.5±0.1, 42.38N×13.33E, h6km±1km, Md1.7/3, 2C, Error ellipse: s-maj=0.6km s-min=0.2km az=126.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AQU	**L'Aquila**	**0.06**	**112**	Pg	Pg	02 58 24.3	+0.2
AQU				Sg	Sg	02 58 25.5	+0.2
AQU	**L'Aquila**	**0.06**	**112**	Pg	Pg	02 58 24.3	+0.2
AQU				Sg	Sg	02 58 25.5	+0.2
CAMP	**Campotosto**	**0.17**	**20**	Pg	Pg	02 58 26.5	+0.4
CAMP				Sg	Sg	02 58 29.4	+0.8
CAMP	**Campotosto**	**0.17**	**20**	Pg	Pg	02 58 26.5	+0.4
CAMP				Sg	Sg	02 58 29.4	+0.8
FIAM	**Fiamignano**	**0.19**	**236**	*iPg*	Pg	02 58 26.9	+0.4
FIAM				Sg	Sg	02 58 30.1	+1.0
FIAM	**Fiamignano**	**0.19**	**236**	*iPg*	Pg	02 58 26.9	+0.4
FIAM				Sg	Sg	02 58 30.1	+1.0

IDC 14 03:06:28.4±1.2, 3.84N×126.86E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/21, mbtmp3.8/8, Error ellipse: s-maj=104.8km s-min=15.6km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.83**	**183**	P	P	03 11 22.3	-0.3
	1.0nm,0.5s,baz=0.0,slow=9.1,SNR=3.8						
WRA	**Warramunga Arr**	**24.75**	**163**	P	P	03 11 51.6	-0.3
	4.7nm,0.7s,baz=343,slow=11,SNR=30						
ASAR	**Alice Springs**	**28.19**	**166**	P	P	03 12 22.6	-0.3
	0.3nm,0.5s,baz=351,slow=7.9,SNR=5.1						
STKA	**Stephens Creek**	**38.19**	**160**	P	P	03 13 50.3	+0.4
	3.0nm,0.8s,baz=321,slow=9.2,SNR=8.4						
SONM	**Songino Array**	**47.24**	**341**	P	P	03 15 03.3	-0.1
	0.6nm,0.7s,baz=158,slow=8.0,SNR=4.5						
MKAR	**Makanchi Array**	**57.54**	**325**	P	P	03 16 19.4	-0.5
	1.1nm,0.5s,baz=121,slow=7.8,SNR=18						
ZALV	**Zalesovo Beam**	**60.55**	**333**	P	P	03 16 39.5	-1.0
	0.6nm,0.5s,baz=136,slow=7.2,SNR=4.0						
AKTO	**Aktyubinsk**	**73.65**	**322**	P	P	03 18 05.0	+1.0
	0.4nm,0.5s,baz=117,slow=14,SNR=2.9						
TORD	**Torodi Ar. Bea**	**123.00**	**289**	PKP	PKPdf	03 25 28.2	+0.2
	0.4nm,1.0s,baz=76,slow=1.0,SNR=5.2						

CSEM ***14*** *03:09:24.0, 45.71N×15.59E, h0km, ML0.9, After LJU*
LJU 14 03:09:24.0, 45.71N×15.59E, h9km, ML0.9, 4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRES	**Cresnjev**	**0.15**	**321**	*iPg*	Pg	03 09 27.2	0.0
CRES				*i* Sg	Sg	03 09 29.8	+0.3
CRES							
	comp=Z,10.0nm,0.1s						
CRES	**Cresnjev**	**0.15**	**321**	*iPg*	Pg	03 09 27.2	-0.1
CRES				*i* Sg	Sg	03 09 29.8	+0.3
	comp=Z,10.0nm,0.1s						
GCIS	**Gornji Cirnik**	**0.16**	**10**	*iPg*	Pg	03 09 27.3	-0.1
GCIS				*i* Sg	Sg	03 09 30.2	+0.4
GCIS							
	comp=Z,13nm,0.1s						
GCIS	**Gornji Cirnik**	**0.16**	**10**	*iPg*	Pg	03 09 27.3	-0.2
GCIS				*i* Sg	Sg	03 09 30.2	+0.4
	comp=Z,13nm,0.1s						
GOLS	**Golise**	**0.30**	**5**	*i* Pg	Pg	03 09 30.1	0.0
GOLS				*i* Sg	Sg	03 09 34.2	0.0
GOLS							
	comp=Z,5.0nm,0.1s						
GOLS	**Golise**	**0.30**	**5**	*i* Pg	Pg	03 09 30.0	-0.1
GOLS				*i* Sg	Sg	03 09 34.2	0.0
	comp=Z,4.0nm,0.1s						
LEGS	**Legarje**	**0.30**	**322**	*i* Pg	Pg	03 09 30.1	0.0
LEGS	**Legarje**	**0.30**	**322**	*i* Pg	Pg	03 09 30.1	0.0
BOJS	**Bojanci**	**0.31**	**229**	*i* Pg	Pg	03 09 30.4	+0.2
BOJS				*i* Sg	Sg	03 09 34.7	+0.2
BOJS							
	comp=Z,4.0nm,0.1s						
BOJS	**Bojanci**	**0.31**	**229**	*i* Pg	Pg	03 09 30.4	+0.2
BOJS				*i* Sg	Sg	03 09 34.7	+0.3
	comp=Z,4.0nm,0.1s						
VISS	**Visnje**	**0.53**	**280**	*i* Pg	Pg	03 09 34.9	+0.5
VISS				*i* Sg	Sg	03 09 42.0	+0.5
VISS	**Visnje**	**0.53**	**280**	*i* Pg	Pg	03 09 34.9	+0.5
VISS				*i* Sg	Sg	03 09 42.0	+0.6

IDC 14 03:36:16.1±2.0, 24.80S×178.65E, h575km±22km, mb3.4/8, mb1 3.5/9, mb1mx3.4/17, mbtmp3.3/9, Error ellipse: s-maj=16.8km s-min=13.9km az=170.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.53**	**281**	P	P	03 38 50.2	+0.1
	0.4nm,0.3s,baz=125,slow=19,SNR=5.9						
HNR	**Honiara**	**23.47**	**307**	P	P	03 40 41.9	-0.2
	67nm,0.3s,baz=343,slow=19,SNR=5.4						
STKA	**Stephens Creek**	**33.25**	**249**	P	P	03 42 06.4	-0.4
	0.8nm,0.4s,baz=310,slow=23,SNR=4.2						
ASAR	**Alice Springs**	**40.68**	**262**	P	P	03 43 07.8	+0.1
	2.6nm,0.8s,baz=96,slow=8.4,SNR=20						
ASAR				S	S	03 48 38.4	+0.9
	1.0nm,0.9s,baz=101,slow=16,SNR=6.9						
WRA	**Warramunga Arr**	**41.13**	**268**	P	P	03 43 10.8	-0.4
	7.5nm,0.6s,baz=104,slow=8.1,SNR=56						
WRA				S	S	03 48 43.7	-0.2
	1.5nm,1.0s,baz=103,slow=12,SNR=4.2						
QSPA	**South Pole Qui**	**65.28**	**180**	P	P	03 46 01.7	+0.1
	9.0nm,1.1s,baz=281,slow=1.0,SNR=25						
MJAR	**Matsushiro Arr**	**71.96**	**327**	P	P	03 46 41.2	-0.9
	2.8nm,0.8s,baz=176,slow=6.9,SNR=4.9						
PETK	**Petropavlovsk-**	**79.70**	**347**	P	P	03 47 24.7	+0.3
	3.7nm,0.7s,baz=142,slow=7.5,SNR=5.7						
USRK	**Ussuriysk Arra**	**80.86**	**328**	P	P	03 47 31.7	+1.1
	3.0nm,0.8s,baz=116,slow=11,SNR=3.5						
NVAR	**Mina Array Bea**	**86.25**	**45**	P	P	03 47 58.1	+0.4
	0.6nm,0.7s,baz=230,slow=8.8,SNR=4.3						
BVAR	**Borovoye Array**	**120.30**	**318**	PKP	PKPdf	03 54 01.9	-0.3
	1.1nm,0.5s,baz=171,slow=2.5,SNR=6.4						
ARCES	**ARCESS Array B**	**132.51**	**348**	PKP	PKPdf	03 54 23.6	-1.4
	1.5nm,0.9s,baz=40,slow=6.3,SNR=7.2						
FINES	**FINESS Array B**	**138.89**	**340**	PKhKP	PKPpre	03 54 27.3	
	0.4nm,0.4s,baz=33,slow=4.5,SNR=5.8						
NB2	**NORSAR Subarra**	**142.77**	**350**	PKP	PKPdf	03 54 40.8	-3.2
	comp=Z,1.6nm,0.6s,baz=18,slow=3.1						
NOA	**NORSAR Array B**	**142.77**	**350**	PKP	PKPdf	03 54 41.3	-2.8
	comp=Z,3.5nm,0.8s,baz=16,slow=4.8,SNR=13						
AKASG	**Malin Array Be**	**145.04**	**326**	PKPbc	PKPdf	03 54 48.2	0.0
	comp=Z,2.9nm,0.6s,baz=46,slow=4.2,SNR=9.6						
BRTR	**Keskin Array B**	**147.12**	**305**	PKPbc	PKPbc	03 54 55.3	-0.2
	comp=Z,0.9nm,0.6s,baz=132,slow=4.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**168.06**	**194**	PKPab	PKPab	03 56 29.2	-0.4
	comp=Z,0.4nm,0.8s,baz=180,slow=2.9,SNR=3.5						

IDC 14 04:12:20.9±1.8, 2.98S×117.42E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=198.1km s-min=24.4km az=57.0, Borneo

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**17.05**	**152**	P	P	04 16 22.5	-0.3
	0.1nm,0.3s,baz=0.0,slow=13,SNR=2.4						
WRA	**Warramunga Arr**	**23.60**	**137**	P	P	04 17 33.4	-0.4
	1.0nm,0.5s,baz=315,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**26.02**	**144**	P	P	04 17 55.8	-0.2
	0.8nm,0.5s,baz=315,slow=8.2,SNR=16						
STKA	**Stephens Creek**	**36.65**	**144**	P	P	04 19 29.2	-0.2
	0.4nm,0.3s,baz=332,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**58.42**	**332**	P	P	04 22 18.6	+0.2
	0.2nm,0.5s,baz=122,slow=8.3,SNR=4.1						

IDC 14 04:19:10.1±1.9, 20.95S×179.66W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.8/16, mbtmp3.7/5, Error ellipse: s-maj=156.9km s-min=24.3km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.20**	**244**	P	P	04 26 14.0	-0.7
	0.7nm,0.5s,baz=91,slow=6.5,SNR=3.1						
ASAR	**Alice Springs**	**42.90**	**257**	P	P	04 27 10.4	-0.4
	0.9nm,0.8s,baz=86,slow=8.6,SNR=9.5						
WRA	**Warramunga Arr**	**43.00**	**263**	P	P	04 27 12.2	+0.5
	0.4nm,0.4s,baz=96,slow=8.4,SNR=10						
NVAR	**Mina Array Bea**	**82.42**	**44**	P	P	04 31 34.8	+0.2
	0.3nm,0.7s,baz=217,slow=7.3,SNR=2.6						
TXAR	**Lajitas Array**	**88.61**	**58**	P	P	04 32 05.2	-0.3
	0.3nm,0.7s,baz=219,slow=9.7,SNR=4.5						

IDC 14 04:28:30.7±1.2, 3.74N×126.46E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/19, mbtmp3.5/5, Error ellipse: s-maj=127.6km s-min=19.9km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.78**	**162**	P	P	04 33 53.7	-0.8
	1.1nm,0.6s,baz=343,slow=11,SNR=10						
ASAR	**Alice Springs**	**28.19**	**165**	P	P	04 34 25.7	+0.4
	0.2nm,0.7s,baz=345,slow=10,SNR=3.2						
STKA	**Stephens Creek**	**38.24**	**159**	P	P	04 35 53.0	+0.4
	1.6nm,0.7s,baz=331,slow=13,SNR=3.8						
SONM	**Songino Array**	**47.20**	**342**	P	P	04 37 05.9	+0.5
	0.2nm,0.7s,baz=132,slow=4.3,SNR=2.8						
MKAR	**Makanchi Array**	**57.39**	**325**	P	P	04 38 20.2	-0.8
	0.2nm,0.4s,baz=118,slow=8.2,SNR=4.4						

IDC ***14*** *04:53:17.7±0.7, 3.73N×126.65E, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.1/23, mbtmp4.1/15, MS3.7/3, Ms1 3.7/3, ms1mx3.0/32, Error ellipse: s-maj=44.9km s-min=13.3km az=68.0*
NEIC ***14*** *04:53:22.4±0.4, 3.86N×127.11E, h35km, mb4.4/11, Error ellipse: s-maj=17.0km s-min=6.5km az=68.0*
DJA ***14*** *04:53:36.9±1.2, 4.1N±8.1×126.6E±7.1, h10km, M4.6/9, mB5.3/5, mb4.6/9, MLv4.5/6, Mw(mB)4.7/5*
ISC 14 04:53:24.7±0.6, 3.78N±0.07×127.0E±0.1, h53km, n60, σ1s13/54, mb4.3/26, MS3.8/3, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**3.01**	**173**	P	Pn	04 54 26.3	+16
MNI	**Manado**	**3.16**	**223**	P	Pn	04 54 20.5	+8.4
CTBH	**Cotabato--PC H**	**4.38**	**321**	*iP*	Pn	04 54 32.2	+3.5
BUKP	**Musuan**	**4.50**	**335**	*eP*	**Pn**	**04 54 32.3**	**+1.8**
BUKP				*eS*	Sn	04 54 53.0	-29
PAGZ	**Pagadian**	**5.41**	**319**	*eP*	**Pn**	**04 54 42.3**	**-0.5**
PAGZ				*eS*	Sn	04 54 55.3	-49
MRSI	**Marisa**	**6.02**	**237**	P	**Pn**	**04 54 51.8**	**+0.6**
	78nm,1.2s,901nm0.3nm						
LUWI	**Luwuk**	**6.38**	**221**	P	Pn	04 55 01.8	+5.6
	98nm,1.3s,2µm0.7nm						
MYLDM	**Lahad Datu**	**8.58**	**280**	P	**Pn**	**04 55 29.5**	**+3.2**
	100nm,1.1s,0.3nm						
KDI	**Kendari**	**8.84**	**210**	P	Pn	04 55 41.7	+12
	14nm,1.2s,0.1nm						
TTSI	**Tana Toraja**	**9.87**	**227**	P	Pn	04 55 49.2	+5.2
	31nm,1.3s,2µm						
KKM	**Kota Kinabalu**	**10.97**	**282**	*ePn*	**Pn**	**04 56 01.6**	**+2.5**
	24nm,0.9s						
KKM	**Kota Kinabalu**	**10.97**	**282**	P	Pn	04 56 02.8	+3.6
	34nm,1.1s,796nm						
BBKI	**Banjar Baru**	**14.11**	**240**	P	**P**	**04 56 48.4**	**+0.3**
	63nm,1.5s,4µm						
SBUM	**Sibu**	**14.81**	**265**	P	**P**	**04 56 53.6**	**-2.3**
	20nm,1.1s						
KSM	**Kuching**	**16.82**	**263**	*ePn*	**P**	**04 57 18.1**	**-0.1**
	22nm,0.8s						
KSM	**Kuching**	**16.82**	**263**	P	**P**	**04 57 19.8**	**+1.6**
FITZ	**Fitzroy Crossi**	**21.78**	**183**	P	**P**	**04 58 11.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**21.78**	**183**	P	**P**	**04 58 11.0**	**-1.3**
	0.8nm,0.3s,baz=63,slow=18,SNR=2.6						
WRAB	**Tennant Creek**	**24.65**	**163**	*eP*	**P**	**04 58 40.0**	**-0.6**
	16nm,0.8s						
WRA	**Warramunga Arr**	**24.65**	**163**	P	**P**	**04 58 40.6**	**-0.1**
WRA	**Warramunga Arr**	**24.65**	**163**	P	**P**	**04 58 40.6**	**-0.1**
	14nm,0.8s,baz=343,slow=10,SNR=53						
ASAR	**Alice Springs**	**28.10**	**166**	P	**P**	**04 59 12.0**	**+0.3**
ASAR	**Alice Springs**	**28.10**	**166**	P	**P**	**04 59 12.0**	**+0.3**
	0.6nm,0.3s,baz=342,slow=11,SNR=11						
CMAR	**Chiang Mai Arr**	**31.07**	**300**	P	**P**	**04 59 36.8**	**-1.3**
CMAR	**Chiang Mai Arr**	**31.07**	**300**	P	**P**	**04 59 36.8**	**-1.3**
	1.1nm,0.3s,baz=117,slow=6.9,SNR=5.0						
MJAR	**Matsushiro Arr**	**34.20**	**16**	LR	LR	05 13 44.6	
	comp=Z,104nm,18.7s,baz=230,slow=36						
BBOO	**Buckleboo**	**37.39**	**167**	*eP*	**P**	**05 00 32.6**	**0.0**
STKA	**Stephens Creek**	**38.08**	**160**	P	**P**	**05 00 38.5**	**0.0**
STKA	**Stephens Creek**	**38.08**	**160**	P	**P**	**05 00 38.5**	**0.0**
	7.9nm,0.6s,baz=336,slow=9.1,SNR=17						
LSA	**Lhasa**	**42.60**	**311**	*eP*	**P**	**05 01 15.9**	**-0.6**
	4.7nm,0.6s						
ULN	**Ulaanbaatar**	**47.15**	**342**	*eP*	**P**	**05 01 52.0**	**0.0**
	1.7nm,0.7s						
SONM	**Songino Array**	**47.34**	**341**	P	**P**	**05 01 53.0**	**-0.4**
SONM				PcP	**PcP**	**05 03 24.1**	**+0.5**
SONM	**Songino Array**	**47.34**	**341**	P	**P**	**05 01 53.0**	**-0.4**
	1.0nm,0.7s,baz=160,slow=8.4,SNR=10.0						
SONM				PcP	**PcP**	**05 03 24.1**	**+0.5**
	0.7nm,0.7s,baz=158,slow=3.7,SNR=4.2						
TLY	**Talaya**	**51.56**	**342**	*eP*	**P**	**05 02 25.7**	**+0.3**
	3.0nm,0.7s						
MK31	**Makanchi Array**	**57.66**	**325**	*eP*	**P**	**05 03 08.4**	**-1.4**
MKAR	**Makanchi Array**	**57.66**	**325**	P	**P**	**05 03 08.4**	**-1.4**
MKAR				PcP	**PcP**	**05 04 02.7**	**+0.4**
MKAR	**Makanchi Array**	**57.66**	**325**	P	**P**	**05 03 08.4**	**-1.4**
	0.7nm,0.6s,baz=122,slow=7.7,SNR=18						
MKAR				PcP	**PcP**	**05 04 02.7**	**+0.4**
	0.6nm,0.6s,baz=114,slow=3.0,SNR=3.6						
MKAR				LR	LR	05 29 42.9	
	comp=Z,70nm,19.5s,baz=356,slow=38						
TKM2	**Tokmak 2**	**59.88**	**318**	*eP*	**P**	**05 03 25.1**	**-0.4**
	1.8nm,0.9s						
ZALV	**Zalesovo Beam**	**60.66**	**333**	P	**P**	**05 03 28.4**	**-1.9**
ZALV	**Zalesovo Beam**	**60.66**	**333**	P	**P**	**05 03 28.4**	**-1.9**
	0.7nm,0.4s,baz=127,slow=7.7,SNR=5.5						
ZALV				LR	LR	05 31 31.4	
	comp=Z,72nm,18.1s,baz=90,slow=38						
EKS2	**Erkin-Say**	**60.99**	**318**	*eP*	**P**	**05 03 32.9**	**-0.1**
	1.9nm,0.6s						
KURBB	**Kurchatov Arra**	**61.84**	**327**	P	**P**	**05 03 37.5**	**-0.8**
	2.5nm,0.6s,baz=125,slow=6.4,SNR=14						
KURK	**Kurchatov**	**61.84**	**327**	*eP*	**P**	**05 03 38.9**	**+0.5**
	5.2nm,0.6s						
KKAR	**Karatay Array**	**63.37**	**317**	*eP*	**P**	**05 03 48.5**	**-0.2**
	1.9nm,0.8s						
BVAR	**Borovoye Array**	**67.42**	**327**	P	**P**	**05 04 14.3**	**-0.4**
BVAR	**Borovoye Array**	**67.42**	**327**	P	**P**	**05 04 14.3**	**-0.4**
	1.9nm,0.8s,baz=142,slow=7.5,SNR=9.3						
BRVK	**Borovoye**	**67.49**	**327**	*eP*	**P**	**05 04 14.9**	**-0.2**
	3.8nm,0.8s						
ABKAR	**Akbulak array**	**72.28**	**321**	*eP*	**P**	**05 04 43.6**	**-1.0**
	0.8nm,0.6s						
AKTO	**Aktyubinsk**	**73.78**	**322**	P	**P**	**05 04 52.8**	**-0.7**
AKTO	**Aktyubinsk**	**73.78**	**322**	P	**P**	**05 04 52.8**	**-0.7**
	3.0nm,0.7s,baz=96,slow=7.6,SNR=14						
COLD	**Coldfoot**	**83.75**	**23**	*eP*	**P**	**05 05 50.7**	**+2.9**
	4.1nm,1.0s						
ILAR	**Eielson Array**	**84.95**	**25**	P	P	05 05 57.1	+3.1
ILAR	**Eielson Array**	**84.95**	**25**	P	P	05 05 57.1	+3.1
	0.8nm,1.1s,baz=248,slow=6.7,SNR=3.2						
BRTR	**Keskin Array B**	**90.19**	**310**	P	**P**	**05 06 20.5**	**+0.5**
BRTR	**Keskin Array B**	**90.19**	**310**	P	**P**	**05 06 20.5**	**+0.5**
	1.1nm,0.9s,baz=115,slow=4.6,SNR=5.2						
ARCES	**ARCESS Array B**	**90.49**	**340**	P	**P**	**05 06 19.9**	**-0.6**
ARCES	**ARCESS Array B**	**90.49**	**340**	P	**P**	**05 06 19.9**	**-0.6**
	1.7nm,0.9s,baz=73,slow=7.6,SNR=2.9						
FINES	**FINESS Array B**	**91.91**	**332**	P	**P**	**05 06 26.5**	**-0.7**
FINES	**FINESS Array B**	**91.91**	**332**	P	**P**	**05 06 26.5**	**-0.7**
	1.5nm,0.8s,baz=67,slow=5.0,SNR=5.0						
BUR08	**Bucovina Ar. S**	**95.14**	**318**	*eP*	**P**	**05 06 44.1**	**+1.6**

IDC 14 05:00:04.2±1.4, 3.78N×126.51E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, 1C, Error ellipse: s-maj=157.6km s-min=20.0km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.09**	**327**	*iP*	Pb	05 01 16.1	-1.1
WRA	**Warramunga Arr**	**24.80**	**162**	P	P	05 05 27.6	-0.5
	1.1nm,0.5s,baz=344,slow=9.9,SNR=12						
ASAR	**Alice Springs**	**28.22**	**166**	P	P	05 05 59.8	+0.8
	0.2nm,0.4s,baz=348,slow=8.9,SNR=3.8						
SONM	**Songino Array**	**47.18**	**342**	P	P	05 08 39.6	+0.9
	0.3nm,0.6s,baz=152,slow=8.9,SNR=3.7						
MKAR	**Makanchi Array**	**57.39**	**325**	P	P	05 09 54.4	-0.1
	0.3nm,0.3s,baz=120,slow=7.7,SNR=15						
KURBB	**Kurchatov Arra**	**61.58**	**327**	P	P	05 10 22.3	-1.0
	0.5nm,0.4s,baz=131,slow=6.4,SNR=6.2						

IDC ***14*** *05:00:47.1±2.6, 10.99S×166.29E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/18, mbtmp3.9/7, MS3.0/1, Ms1 3.0/1, ms1mx2.3/27, Error ellipse: s-maj=100.3km s-min=24.2km az=139.0*
NEIC ***14*** *05:00:54.2±0.9, 10.60S×165.95E, h35km, mb4.4/1, Error ellipse: s-maj=25.1km s-min=16.4km az=103.0*
ISCJB ***14*** *05:01:03.9±0.9, 11.33S±0.07×166.2E±0.2, h155km, mb3.6/7, Error ellipse: s-maj=23.5km s-min=10.4km az=176.8*
ISC 14 05:01:05.0±0.9, 11.34S±0.09×166.3E±0.2, h155km, n17, σ1s00/17, mb3.6/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.68**	**179**	*eP*	**Pn**	**05 03 35.9**	**+1.9**
DZM				*eS*	**Sn**	**05 05 30.0**	**-2.2**
DZM	**Mont Dzumac**	**10.68**	**179**	*ePn*	**Pn**	**05 03 35.5**	**+1.5**
	28nm,0.7s						
CTA	**Charters Tower**	**21.13**	**243**	LR	LR	05 12 31.9	
	comp=Z,42nm,21.3s,baz=232,slow=33						
WRA	**Warramunga Arr**	**31.87**	**250**	P	**P**	**05 07 15.8**	**0.0**
WRA	**Warramunga Arr**	**31.87**	**250**	P	**P**	**05 07 15.8**	**0.0**
	2.0nm,0.8s,baz=81,slow=9.1,SNR=9.3						
ASAR	**Alice Springs**	**33.13**	**244**	P	**P**	**05 07 26.5**	**-0.3**
ASAR	**Alice Springs**	**33.13**	**244**	P	**P**	**05 07 26.5**	**-0.3**
	0.7nm,0.9s,baz=67,slow=9.4,SNR=5.6						
FITZ	**Fitzroy Crossi**	**39.81**	**255**	*eP*	**P**	**05 08 23.8**	**+0.4**
	3.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**39.81**	**255**	P	**P**	**05 08 23.0**	**-0.4**
	2.0nm,0.5s,baz=104,slow=7.7,SNR=8.3						
SONM	**Songino Array**	**79.21**	**324**	P	**P**	**05 12 52.5**	**-0.5**
SONM	**Songino Array**	**79.21**	**324**	P	**P**	**05 12 52.6**	**-0.5**
	0.3nm,0.6s,baz=135,slow=5.6,SNR=3.5						
ILAR	**Eielson Array**	**83.62**	**18**	P	**P**	**05 13 16.1**	**+0.5**
ILAR	**Eielson Array**	**83.62**	**18**	P	**P**	**05 13 16.1**	**+0.5**
	0.5nm,0.6s,baz=239,slow=4.9,SNR=13						
MKAR	**Makanchi Array**	**94.09**	**317**	P	**P**	**05 14 06.3**	**+0.4**
MKAR	**Makanchi Array**	**94.09**	**317**	P	**P**	**05 14 06.3**	**+0.4**
	0.7nm,0.6s,baz=93,slow=5.9,SNR=10						
YKA	**Yellowknife Ar**	**94.99**	**27**	P	**P**	**05 14 08.7**	**-0.9**
YKA	**Yellowknife Ar**	**94.99**	**27**	P	**P**	**05 14 08.7**	**-0.9**
	0.2nm,0.6s,baz=256,slow=4.9,SNR=5.2						

NEIC ***14*** *05:08:38.8, 18.81N×104.03W, h5km, mb3.5/2, MD3.8(MEX), After MEX.*
NEIC Felt at Manzanillo, Pihuamo and Tecoman.
MEX 14 05:08:38.8±2.4, 18.83N×104.01W, h5km, MD3.9, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
R15V		**0.34**	**5**	*eP*	Pg	05 08 43.9	-1.6
R15V				*i* S	Sg	05 08 49.9	-0.1
R15V		**0.34**	**5**	*eP*	Pg	05 08 43.9	-1.6
R15V				*i* S	Sg	05 08 50.0	0.0
EZ5V		**0.75**	**31**	*eP*	Pg	05 08 53.7	+0.1
EZ5V				*i* S	Sb	05 09 05.1	-0.5
EZ5V		**0.75**	**31**	*eP*	Pg	05 08 53.7	+0.1
EZ5V				*i* S	Sg	05 09 01.4	-2.2
MMIG	**Aquila**	**0.83**	**130**	*eP*	Pg	05 08 53.0	-1.7
MMIG				*eS*	Sg	05 09 04.1	-1.5
MMIG	**Aquila**	**0.83**	**130**	*eP*	Pg	05 08 53.0	-1.7
MMIG				*i* S	Sg	05 09 03.3	-2.3
MMIG				*eS*	Sb	05 09 04

PFVI	**Vila Bisbo**	**5.25**	**70**	P		Pn	05 13 24.3	+5.0	
	1.9nm,0.2s,SNR=7.9								
PFVI				S		**Sn**	**05 14 19.7**	**-0.1**	
	2.4nm,0.2s,SNR=7.9								
PFVI	**Vila Bisbo**	**5.25**	**70**	P		Pn	05 13 24.3	+5.0	
	1.9nm,0.2s,SNR=7.9								
PFVI				*e*Sn		**Sn**	**05 14 19.8**	**-0.1**	
	1.7nm,0.3s								
MORF	**Marmelete**	**5.44**	**69**	*e*Pn		Pn	05 13 27.6	+5.8	
MORF				*e*Sn		**Sn**	**05 14 24.3**	**-0.2**	
MORF				A		A	05 14 33.2		
	1.5nm,0.1s								
MORF	**Marmelete**	**5.44**	**69**	P		Pn	05 13 27.6	+5.8	
MORF				S		**Sn**	**05 14 24.3**	**-0.2**	
	1.5nm,0.1s								
MORF	**Marmelete**	**5.44**	**69**	P		Pn	05 13 27.6	+5.8	
MORF				S		**Sn**	**05 14 24.3**	**-0.2**	
	1.5nm,0.1s								
PTEO	**Sao Teotonio**	**5.46**	**67**	*e*Sn		**Sn**	**05 14 25.9**	**+1.0**	
PTEO	**Sao Teotonio**	**5.46**	**67**	S		**Sn**	**05 14 25.9**	**+1.0**	
PTEO	**Sao Teotonio**	**5.46**	**67**	S		**Sn**	**05 14 25.9**	**+1.0**	
PMAFR	**Mafra**	**5.71**	**52**	S		**Sn**	**05 14 28.3**	**-3.0**	
	5.1nm,0.1s,SNR=7.9								
PNCL	**Nicolau / Gran**	**5.81**	**62**	*e*Pn		Pn	05 13 30.9	+4.0	
PNCL				*e*Sn		**Sn**	**05 14 31.8**	**-1.8**	
PNCL				A		A	05 14 38.5		
	1.1nm,0.2s								
PNCL	**Nicolau / Gran**	**5.81**	**62**	*e*Pn		Pn	05 13 30.9	+4.0	
MESJ	**Messejana**	**5.93**	**65**	*e*P		Pn	05 13 33.9	+5.3	
MESJ				*e*S		**Sn**	**05 14 37.7**	**+1.1**	
MESJ				AML		AML	05 14 40.1		
	comp=E,1.4nm,0.1s								
MESJ	**Messejana**	**5.93**	**65**	*e*P		Pn	05 13 33.9	+5.3	
MESJ				*e*S		**Sn**	**05 14 37.7**	**+1.1**	
MESJ	**Messejana**	**5.93**	**65**	P		Pn	05 13 33.9	+5.3	
MESJ				S		**Sn**	**05 14 37.7**	**+1.1**	
MESJ	**Messejana**	**5.93**	**65**	P		Pn	05 13 33.9	+5.3	
MESJ				S		**Sn**	**05 14 37.7**	**+1.1**	
PCVE	**Castro Verde**	**6.00**	**67**	*e*Pn		Pn	05 13 34.6	+5.1	
PCVE				*e*Sn		**Sn**	**05 14 37.9**	**-0.4**	
PCVE				A		A	05 14 47.3		
	comp=E,1.0nm,0.3s								
PCVE	**Castro Verde**	**6.00**	**67**	P		Pn	05 13 34.6	+5.1	
PCVE				S		**Sn**	**05 14 37.9**	**-0.4**	
	comp=E,1.0nm,0.3s								
PCVE	**Castro Verde**	**6.00**	**67**	P		Pn	05 13 34.6	+5.1	
PCVE				S		**Sn**	**05 14 37.9**	**-0.4**	
	comp=E,1.0nm,0.3s								
PVAQ	**Vaqueiros**	**6.18**	**70**	*e*Pn		Pn	05 13 38.3	+6.3	
PVAQ				*e*Sn		**Sn**	**05 14 43.0**	**+0.3**	
PVAQ				A		A	05 14 49.6		
	comp=E,1.3nm,0.2s								
PVAQ	**Vaqueiros**	**6.18**	**70**	P		Pn	05 13 38.3	+6.3	
PVAQ				S		**Sn**	**05 14 43.0**	**+0.3**	
	comp=E,1.3nm,0.2s								
EVO	**Evora**	**6.36**	**60**	*e*Sn		**Sn**	**05 14 44.7**	**-2.4**	
EVO				A		A	05 14 49.6		
	comp=E,2.0nm,0.1s								
EVO	**Evora**	**6.36**	**60**	S		**Sn**	**05 14 44.7**	**-2.4**	
	comp=E,2.0nm,0.1s								
PESTR	**Estremoz**	**6.80**	**58**	*e*Pn		Pn	05 13 45.1	+4.5	
PESTR				*e*Sn		**Sn**	**05 14 54.9**	**-3.2**	
PESTR				A		A	05 15 01.8		
	comp=E,1.3nm,0.5s								
PESTR	**Estremoz**	**6.80**	**58**	P		Pn	05 13 45.1	+4.5	
PESTR				S		**Sn**	**05 14 54.9**	**-3.2**	
	comp=E,1.3nm,0.5s								
PESTR	**Estremoz**	**6.80**	**58**	P		Pn	05 13 45.1	+4.5	
CFUE	**Fuerteventura**	**6.92**	**172**	S		**Sn**	**05 14 58.4**	**-2.7**	
	SNR=7.9								
PBAR	**Barrancos**	**6.92**	**65**	*e*Sn		**Sn**	**05 14 59.4**	**-1.6**	
PBAR				A		A	05 15 03.9		
	comp=E,0.5nm,0.2s								
PBAR	**Barrancos**	**6.92**	**65**	S		**Sn**	**05 14 59.4**	**-1.6**	
	comp=E,0.5nm,0.2s								
EMIN	**Mina Concepcio**	**7.08**	**69**	P		Pn	05 13 49.6	+5.3	
	comp=E,0.2nm,0.2s,SNR=7.9								
EMIN				S		**Sn**	**05 15 05.5**	**+0.8**	
	SNR=7.9								
EMIN	**Mina Concepcio**	**7.08**	**69**	P		Pn	05 13 49.6	+5.3	
	comp=E,0.2nm,0.2s,SNR=7.9								
EMIN				S		**Sn**	**05 15 05.5**	**+0.8**	
	SNR=7.9								
ESPR	**Espera**	**7.53**	**77**	S		**Sn**	**05 15 18.2**	**+2.2**	
	SNR=7.9								
EPLA	**Plasencia**	**8.40**	**55**	S		Sn	05 15 32.4	-5.0	
	SNR=7.9								

ISCJB ***14*** *05:24:54.3±0.3,5°.91S±0°.07×80°.78W±0°.07, h30km, mb4.4/43, MS3.9/11, Error ellipse: s-maj=12.4km s-min=5.4km az=136.1*

BJI ***14*** *05:24:58.4, 5°.80S×80°.80W, h45km, mB5.4/3, Ms5.4/2, Ms7 5.3/2*

NEIC ***14*** *05:24:59.2±0.9, 5°.86S×80°.75W, h57km±8km, mb4.6/28, Error ellipse: s-maj=11.8km s-min=5.6km az=51.0*

NEIC Felt at Piura and Sechura.

IDC ***14*** *05:24:59.6±2.4, 5°.94S×80°.94W, h69km±21km, mb3.7/16, mb1 3.9/17, mb1mx3.9/21, mbtmp3.8/17, MS3.8/13, Ms1 3.8/13, ms1mx3.6/31, Error ellipse: s-maj=27.3km s-min=13.8km az=50.0*

ISC 14 05:24:55.5±0.4, 5°.93S±0°.07×80°.82W±0°.07, h30km, n176, σ1s29/185, mb4.4/43, MS3.8/11, 38C-45D, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.69**	**116**	P	**Pb**	**05 25 40.8**	**-2.5**
ATAH				S	**Sb**	**05 26 17.0**	**+1.1**
ATAH	**Atahualpa**	**2.69**	**116**	P	**Pb**	**05 25 40.8**	**-2.5**
	59nm,0.3s,baz=328,slow=9.1,SNR=199						
ATAH				S	**Sb**	**05 26 17.0**	**+1.1**
	285nm,0.3s,baz=260,slow=19,SNR=9.2						
ATAH				LR	LR	05 26 35.6	
	comp=Z,862nm,19.0s,baz=290,slow=34						
OTAV	**Otavalo**	**6.57**	**21**	*e*Pn	**Pn**	**05 26 31.9**	**+1.3**
NNA	**Nana**	**7.18**	**147**	*e*Pn	**Pn**	**05 26 40.6**	**+2.0**
NNA				S	**Sn**	**05 27 58.4**	**-0.9**
NNA	**Nana**	**7.18**	**147**	P	**Pn**	**05 26 41.1**	**+2.4**
	2.0nm,0.3s,baz=329,slow=14,SNR=10						
NNA				S	**Sn**	**05 27 58.4**	**-0.9**
	17nm,0.3s,baz=192,slow=20,SNR=7.5						
NNA				LR	LR	05 29 18.0	
	comp=Z,209nm,18.5s,baz=317,slow=36						
PAYG	**Puerto Ayora**	**10.80**	**299**	*e*Pn	**Pn**	**05 27 30.0**	**+1.8**
	23nm,0.5s						
LPAZ	**La Paz**	**16.14**	**131**	*e*P	**P**	**05 28 44.3**	**+0.3**
	9.7nm,0.8s						
JTS	**JuntasAbangare**	**16.64**	**346**	LR	LR	05 34 07.1	
	comp=Z,269nm,18.8s,baz=20,slow=33						
SAML	**Samuel**	**17.74**	**101**	*e*P	**Pn**	**05 29 00.6**	**+0.1**
	23nm,0.9s						
SDV	**Santo Domingo**	**17.88**	**35**	*e*P	**Pn**	**05 29 02.4**	**0.0**
	23nm,1.4s						
LVC	**Limon Verde**	**20.18**	**146**	*e*P	Pn	05 29 32.5	+2.4
	0.7nm,1.0s						
SIV	**San Ignacio**	**21.79**	**119**	P	**P**	**05 29 46.0**	**+0.7**
SIV	**San Ignacio**	**21.79**	**119**	P	**P**	**05 29 46.0**	**+0.7**
	7.3nm,0.7s,baz=296,slow=13,SNR=30						
CMIG	**Matias Romero**	**26.77**	**329**	LR	LR	05 38 54.8	
	comp=Z,196nm,20.5s,baz=174,slow=31						
TEIG	**Tepich**	**27.01**	**344**	LR	LR	05 40 38.2	
	comp=Z,147nm,18.5s,baz=269,slow=35						
SJG	**San Juan**	**27.94**	**31**	P	**P**	**05 30 43.0**	**-0.5**
SJG	**San Juan**	**27.94**	**31**	P	**P**	**05 30 42.9**	**-0.5**
	8.9nm,0.6s,baz=270,slow=19,SNR=3.2						
CFAA	**Coronel Fontan**	**28.13**	**157**	P	**P**	**05 30 45.5**	**+0.4**
CFAA	**Coronel Fontan**	**28.13**	**157**	P	**P**	**05 30 45.5**	**+0.4**
	0.4nm,1.0s,baz=315,slow=4.3,SNR=5.0						
CFAA				LR	LR	05 39 49.5	
	comp=Z,32nm,20.9s,baz=29,slow=32						
CPUP	**Villa Florida**	**30.23**	**135**	P	**P**	**05 31 04.3**	**+0.6**
CPUP	**Villa Florida**	**30.23**	**135**	P	**P**	**05 31 04.3**	**+0.6**
	0.9nm,0.6s,baz=274,slow=10,SNR=3.8						
CPUP				LR	LR	05 46 04.6	
	comp=Z,101nm,20.1s,baz=77,slow=42						
BDFB	**Brasilia**	**33.59**	**109**	P	**P**	**05 31 33.8**	**+0.2**
BDFB	**Brasilia**	**33.59**	**109**	P	**P**	**05 31 33.8**	**+0.2**
	1.8nm,0.4s,baz=270,slow=8.1,SNR=4.6						
BDFB				LR	LR	05 46 23.4	
	comp=Z,308nm,19.3s,baz=145,slow=38						
HKT	**Hockley**	**38.48**	**339**	*e*P	**P**	**05 32 16.7**	**+1.7**
	3.6nm,1.0s						
529A	**Stev Forest Ra**	**41.31**	**331**	⇓P	**P**	**05 32 40.1**	**+1.4**
	baz=42						
TXAR	**Lajitas Array**	**41.38**	**329**	P	**P**	**05 32 39.7**	**+0.4**
TXAR	**Lajitas Array**	**41.38**	**329**	P	**P**	**05 32 39.7**	**+0.4**
	0.2nm,0.6s,baz=157,slow=5.8,SNR=3.7						
TXAR				LR	LR	05 48 12.9	
	comp=Z,97nm,21.0s,baz=270,slow=34						
TKL	**Tuckaleechee C**	**41.46**	**356**	P	**P**	**05 32 39.4**	**-0.4**
TKL	**Tuckaleechee C**	**41.46**	**356**	P	**P**	**05 32 39.4**	**-0.4**
	1.3nm,0.7s,baz=166,slow=11,SNR=3.5						
429A	**Davenport Ranc**	**41.58**	**332**	⇑P	**P**	**05 32 41.9**	**+1.0**
	baz=42						
626A	**Big Bend Ranch**	**41.80**	**329**	⇓P	**P**	**05 32 45.0**	**+2.3**
	baz=42						
527A	**Woodward Ranch**	**42.01**	**330**	⇑P	**P**	**05 32 46.6**	**+2.1**
	baz=42						
ABTX	**Abilene, Hawle**	**42.32**	**336**	⇓P	**P**	**05 32 47.9**	**+1.0**
	baz=42						
329A	**Wagon Wheel Ra**	**42.34**	**333**	⇓P	**P**	**05 32 47.7**	**+0.6**
	baz=42						
328A	**Wristen Ranch,**	**42.64**	**332**	⇑P	**P**	**05 32 50.1**	**+0.5**
	baz=43						
426A	**McDonald Obser**	**42.64**	**330**	⇑P	**P**	**05 32 50.1**	**+0.3**
	baz=43						
425A	**Indio Mountain**	**43.22**	**329**	⇑P	**P**	**05 32 54.8**	**+0.5**
	baz=43						
TUL1	**Tulsa**	**43.94**	**342**	⇑P	**P**	**05 32 60.0**	**+0.1**
	baz=44						
324A	**Moseley Ranch,**	**44.00**	**329**	⇓P	**P**	**05 33 00.7**	**+0.1**
	baz=44						
MNTX	**Cornudas Mount**	**44.16**	**329**	⇓P	**P**	**05 33 02.1**	**+0.4**
	baz=44,SNR=5.6						
CPRX	**Cap Rock**	**44.51**	**332**	*e*P	**P**	**05 33 06.3**	**+1.7**
	5.4nm,0.9s						
125A	**Gardner Draw,**	**44.58**	**331**	⇑P	**P**	**05 33 05.7**	**+0.6**
	baz=45						
Z26A	**Caprock**	**44.76**	**332**	⇑P	**P**	**05 33 07.2**	**+0.6**
	baz=45						
124A	**Stringfield Ra**	**45.00**	**330**	⇓P	**P**	**05 33 09.8**	**+1.1**
	baz=45,SNR=5.5						
Z25A	**Roswell**	**45.11**	**331**	⇓P	**P**	**05 33 10.6**	**+1.2**
	baz=45						
W27A	**Bowe Ranch, En**	**45.85**	**334**	⇓P	**P**	**05 33 15.9**	**+0.6**
	baz=46						
220A	**Playas Peak, P**	**45.97**	**327**	⇓P	**P**	**05 33 16.3**	**0.0**
	baz=46						
319A	**Douglas**	**45.99**	**325**	⇑P	**P**	**05 33 16.5**	**0.0**
	baz=46						
Z22A	**Elephant Butte**	**46.20**	**329**	⇓P	**P**	**05 33 19.3**	**+1.2**
	baz=46,SNR=5.3						
Y23A	**Lovelace Mesa,**	**46.29**	**331**	⇓P	**P**	**05 33 19.7**	**+0.9**
	baz=46,SNR=6.6						
V26A	**Tequesquite Ra**	**46.78**	**334**	⇓P	**P**	**05 33 23.1**	**+0.5**
	baz=47,SNR=6.5						
Z20A	**Nine Sixteen R**	**46.94**	**328**	⇓P	**P**	**05 33 24.6**	**+0.7**
	baz=47,SNR=6.1						
W24A	**Lazy 6 Ranch,**	**47.02**	**332**	⇑P	**P**	**05 33 25.3**	**+0.8**
	baz=47						
V25A	**Rancho No Teng**	**47.18**	**333**	⇑P	**P**	**05 33 26.4**	**+0.6**
	baz=47,SNR=7.2						
ANMO	**Albuquerque**	**47.31**	**331**	*e*P	**P**	**05 33 27.6**	**+0.9**
	10nm,1.3s						
V24A	**Rampart Ranch,**	**47.38**	**333**	⇑P	**P**	**05 33 28.0**	**+0.6**
	baz=48						
T27A	**Campo**	**47.42**	**336**	⇓P	**P**	**05 33 28.2**	**+0.6**
	baz=48						
X21A	**Alamocita Cree**	**47.56**	**329**	⇓P	**P**	**05 33 29.5**	**+0.7**
	baz=48,SNR=6.1						
U25A	**Circle Dot Ran**	**47.56**	**334**	⇓P	**P**	**05 33 29.3**	**+0.6**
	baz=48,SNR=5.3						
V23A	**Ortiz Mt. (NFS**	**47.82**	**332**	⇑P	**P**	**05 33 31.5**	**+0.7**
	baz=48						
T25A	**Trinidad**	**48.19**	**335**	⇑P	**P**	**05 33 34.4**	**+0.8**
	baz=48						
U23A	**El Rito**	**48.30**	**332**	⇓P	**P**	**05 33 35.4**	**+0.9**
	baz=48						
S25A	**Robets Cordova**	**48.64**	**335**	⇑P	**P**	**05 33 38.0**	**+1.0**
	baz=49,SNR=6.5						
R26A	**Arlington**	**48.78**	**336**	⇓P	**P**	**05 33 39.3**	**+1.3**
	baz=49,SNR=7.1						
SDCO	**Great Sand Dun**	**49.16**	**334**	*e*P	**P**	**05 33 41.9**	**+0.6**
	29nm,2.1s						
SDCO	**Great Sand Dun**	**49.16**	**334**	⇑P	**P**	**05 33 41.8**	**+0.6**
	baz=49,SNR=8.0						
P23A	**Jefferson**	**50.67**	**335**	⇓P	**P**	**05 33 54.3**	**+1.6**
	baz=51,SNR=9.0						
T18A	**Mexican Hat**	**50.72**	**330**	⇓P	**P**	**05 33 53.4**	**+0.6**
	baz=51,SNR=5.3						
R20A	**Redvale**	**50.83**	**332**	⇓P	**P**	**05 33 55.1**	**+1.4**
	baz=51,SNR=5.3						
S19A	**Harvey Farm, M**	**50.84**	**331**	⇑P	**P**	**05 33 54.4**	**+0.6**
	baz=51						
PV01	**Paradox Valley**	**50.87**	**332**	*e*P	**P**	**05 33 55.4**	**+1.3**
	280nm,1.0s						
ISCO	**Idaho Springs**	**50.94**	**335**	*e*P	**P**	**05 33 55.3**	**+0.7**
	2.6nm,0.9s						
ISCO	**Idaho Springs**	**50.94**	**335**	⇑P	**P**	**05 33 55.3**	**+0.7**
	baz=51						
T17A	**Navajo Res., N**	**51.08**	**329**	⇑P	**P**	**05 33 55.8**	**+0.1**
	baz=51,SNR=7.1						
PV10	**Paradox Valley**	**51.29**	**332**	*e*P	**P**	**05 33 58.4**	**+1.2**
	79nm,1.0s						
R19A	**Curley Farm, L**	**51.33**	**331**	⇓P	**P**	**05 33 57.9**	**+0.4**
	baz=52						
IRM	**Iron Mountain**	**51.41**	**323**	⇓P	**P**	**05 33 58.5**	**+0.5**
	baz=52						
ECSD	**EROS Data Cent**	**51.46**	**345**	*e*P	**P**	**05 33 57.4**	**-0.7**
	15nm,1.6s						
P21A	**Newcastle**	**51.49**	**334**	⇑P	**P**	**05 33 59.6**	**+0.9**
	baz=52						
S17A	**Black Ridge (B**	**51.57**	**330**	⇓P	**P**	**05 34 00.0**	**+0.8**
	baz=52						
S16A	**Weppner Ranch,**	**52.04**	**329**	⇓P	**P**	**05 34 04.0**	**+1.2**
	baz=52,SNR=5.6						
Q18A	**Rafter H Ranch**	**52.38**	**331**	⇑P	**P**	**05 34 06.6**	**+1.4**
	baz=52						
N21A	**Black Mountain**	**52.54**	**335**	⇓P	**P**	**05 34 08.3**	**+1.8**
	baz=53						
SRU	**San Rafael**	**52.58**	**331**	*e*P	**P**	**05 34 08.2**	**+1.4**
	4.3nm,1.2s						
CCUT	**Cedar City**	**52.84**	**328**	*e*P	**P**	**05 34 10.0**	**+1.2**
	6.0nm,1.3s						
ARUT	**Antelope Range**	**53.05**	**328**	*e*P	**P**	**05 34 10.0**	**-0.3**
	6.1nm,1.2s						
M20A	**Sweetwater, Wa**	**53.42**	**335**	⇑P	**P**	**05 34 13.4**	**+0.4**
	baz=54						
L21A	**Rawlins**	**53.47**	**335**	⇑P	**P**	**05 34 14.1**	**+0.8**
	baz=54						
R13A	**O'Grain Ranch,**	**53.62**	**328**	⇑P	**P**	**05 34 14.6**	**+0.1**
	baz=54						
JLU	**Jordanelle**	**54.19**	**331**	*e*P	**P**	**05 34 20.1**	**+1.4**
	2.0nm,0.7s						
J22A	**Midwest**	**54.33**	**337**	⇑P	**P**	**05 34 20.0**	**+0.4**
	baz=54						
DUG	**Dugway**	**54.54**	**330**	*e*P	**P**	**05 34 22.3**	**+1.3**
	3.4nm,1.0s						
K19A	**Absolon Red Bu**	**54.80**	**335**	⇓P	**P**	**05 34 22.9**	**-0.1**
	baz=55						
RKT	**Rikitea**	**54.80**	**246**	*e*LR	LR	05 50 19.6	
	145nm,25.8s						
RKT				*e*T	T	06 33 00.8	
	7.8nm,0.3s						
HWUT	**Hardware Ranch**	**55.03**	**332**	*e*P	**P**	**05 34 24.9**	**+0.3**
	16nm,1.3s						
BW06	**Boulder Array**	**55.05**	**334**	*e*P	**P**	**05 34 24.5**	**-0.4**
	2.2nm,1.0s						
BW06	**Boulder Array**	**55.05**	**334**	⇓P	**P**	**05 34 24.4**	**-0.4**
	baz=55						
PDAR	**Pinedale Array**	**55.05**	**334**	P	**P**	**05 34 24.6**	**-0.3**
PDAR	**Pinedale Array**	**55.05**	**334**	P	**P**	**05 34 24.6**	**-0.3**
	2.4nm,1.0s,baz=144,slow=7.8,SNR=12						
PDAR				LR	LR	05 58 50.2	
	comp=Z,76nm,18.9s,baz=336,slow=37						
K18A	**Toltan Ranch,**	**55.16**	**334**	⇓P	**P**	**05 34 26.5**	**+0.9**
	baz=55,SNR=9.1						
L16A	**Fish Haven**	**55.29**	**333**	⇓P	**P**	**05 34 26.5**	**0.0**
	baz=55						
AGMN	**Agassiz Nation**	**55.60**	**348**	*e*P	**P**	**05 34 28.9**	**+0.5**
	66nm,2.5s						
J18A	**Kendall Valley**	**55.61**	**334**	⇑P	**P**	**05 34 29.0**	**+0.1**
	baz=56						
F24A	**Ekalaka**	**55.70**	**340**	⇑P	**P**	**05 34 29.5**	**+0.2**
	baz=56						
H20A	**Greybull**	**55.83**	**337**	⇓P	**P**	**05 34 29.8**	**-0.4**
	baz=56						
REDW	**Red Top Meadow**	**56.10**	**334**	*e*P	**P**	**05 34 33.4**	**+1.1**
	8.1nm,1.3s						
NVAR	**Mina Array Bea**	**56.20**	**325**	P	**P**	**05 34 33.5**	**+0.3**
NVAR	**Mina Array Bea**	**56.20**	**325**	P	**P**	**05 34 33.5**	**+0.3**
	1.0nm,0.8s,baz=146,slow=5.0,SNR=7.3						
TPAW	**Teton Pass**	**56.24**	**334**	*e*P	**P**	**05 34 36.6**	**+3.2**
	6.4nm,1.2s						
RRI2	**Red Ridge**	**56.29**	**334**	*e*P	**P**	**05 34 34.4**	**+0.6**
	9.7nm,1.1s						
K14A	**Jones Ranch, D**	**56.51**	**332**	⇓P	**P**	**05 34 34.9**	**-0.3**
	baz=57						
J15A	**Blackfoot**	**56.83**	**333**	⇓P	**P**	**05 34 38.2**	**+0.7**
	baz=57,SNR=5.9						
J14A	**Carey**	**57.27**	**332**	⇓P	**P**	**05 34 41.6**	**+1.0**
	baz=57						
ULM	**Lac du Bonnet**	**57.46**	**349**	P	**P**	**05 34 41.1**	**-0.5**
ULM	**Lac du Bonnet**	**57.46**	**349**	P	**P**	**05 34 41.1**	**-0.5**
	1.1nm,0.5s,baz=187,slow=2.8,SNR=4.1						
D21A	**La Casta Ranch**	**57.63**	**339**	⇓P	**P**	**05 34 43.9**	**+1.0**
	baz=58						
J13A	**Cove Ranch, Pi**	**57.64**	**332**	⇓P	**P**	**05 34 43.5**	**+0.4**
	baz=58,SNR=5.4						
F18A	**Big Timber**	**57.69**	**336**	⇑P	**P**	**05 34 43.9**	**+0.4**
	baz=58,SNR=6.5						
E19A	**Rath Farm, Rou**	**57.78**	**337**	⇓P	**P**	**05 34 45.1**	**+1.1**
	baz=58						
HLID	**Hailey**	**57.87**	**332**	*e*P	**P**	**05 34 45.4**	**+0.5**
	5.3nm,1.1s						
HLID	**Hailey**	**57.87**	**332**	⇓P	**P**	**05 34 45.6**	**+0.7**
	baz=58,SNR=7.4						
H15A	**Lima**	**57.88**	**334**	⇓P	**P**	**05 34 46.2**	**+1.3**
	baz=58						
G16A	**Moss Hill, Enn**	**58.00**	**335**	⇑P	**P**	**05 34 46.2**	**+0.5**
	baz=58						
I13A	**Wildhorse Cree**	**58.00**	**332**	⇑P	**P**	**05 34 46.5**	**+0.6**
	baz=58,SNR=6.4						
H14A	**Leadore**	**58.20**	**333**	⇑P	**P**	**05 34 47.9**	**+0.8**
	baz=58,SNR=6.0						
BOZ	**Bozeman (W)**	**58.26**	**335**	*e*P	**P**	**05 34 48.5**	**+1.0**
	12nm,1.5s						
BOZ	**Bozeman (W)**	**58.26**	**335**	⇑P	**P**	**05 34 48.1**	**+0.6**
	baz=58,SNR=6.5						
C21A	**Desert Coulee**	**58.32**	**339**	⇓P	**P**	**05 34 48.5**	**+0.7**
	baz=58						
F16A	**Kennard Place,**	**58.37**	**335**	⇑P	**P**	**05 34 49.0**	**+0.8**
	baz=58						
I12A	**Atlanta**	**58.39**	**331**	⇓P	**P**	**05 34 49.1**	**+0.6**
	baz=58						
MFID	**Camas Ranch**	**58.44**	**331**	*e*P	**P**	**05 34 49.6**	**+0.9**
	24nm,1.4s						
MFID	**Camas Ranch**	**58.44**	**331**	⇑P	**P**	**05 34 49.8**	**+1.0**
	baz=59,SNR=11						
DLMT	**Dillon**	**58.45**	**334**	*e*P	**P**	**05 34 50.1**	**+1.3**
	5.9nm,1.1s						
H13A	**Challis**	**58.56**	**333**	⇑P	**P**	**05 34 50.7**	**+1.1**
	baz=59						
E17A	**Martinsdale**	**58.60**	**336**	⇓P	**P**	**05 34 50.8**	**+1.0**
	baz=59						
H12A	**Diamond D Ranc**	**58.83**	**332**	⇑P	**P**	**05 34 52.0**	**+0.5**
	baz=59,SNR=7.0						
F13A	**Darby**	**59.54**	**333**	⇑P	**P**	**05 34 57.1**	**+0.8**
	baz=60,SNR=5.2						
E14A	**Clinton**	**59.66**	**334**	⇓P	**P**	**05 34 58.1**	**+0.9**
	baz=60						
MOD	**Modoc**	**59.68**	**327**	*e*P	**P**	**05 34 58.3**	**+0.8**
	19nm,1.4s						
C16A	**Fuhringer Ranc**	**60.04**	**336**	⇓P	**P**	**05 35 01.1**	**+1.4**
	baz=60						
BMO	**Blue Mountains**	**60.22**	**331**	*e*P	**P**	**05 35 00.8**	**-0.2**
	17nm,2.1s						
B14A	**Marquette Ranc**	**61.10**	**336**	⇑P	**P**	**05 35 07.6**	**+0.6**
	baz=61,SNR=7.1						
SCHQ	**Schefferville**	**61.66**	**9**	P	**P**	**05 35 09.0**	**-1.5**
SCHQ	**Schefferville**	**61.66**	**9**	P	**P**	**05 35 09.0**	**-1.5**
	1.0nm,0.4s,baz=157,slow=7.7,SNR=8.0						
PPT2	**Papeete2**	**68.00**	**254**	*e*LR	LR	05 56 30.6	
	126nm,24.0s						
TBI	**Tubuai**	**68.07**	**247**	*e*T	T	06 49 36.9	
	8.5nm,0.3s						
YKA	**Yellowknife Ar**	**72.97**	**344**	P	**P**	**05 36 21.0**	**-0.9**
YKA	**Yellowknife Ar**	**72.97**	**344**	P	**P**	**05 36 21.0**	**-0.9**
	0.5nm,0.4s,baz=143,slow=6.3,SNR=20						
DBIC	**Dimbokro**	**76.83**	**82**	P	**P**	**05 36 45.7**	**+0.4**
DBIC	**Dimbokro**	**76.83**	**82**	P	**P**	**05 36 45.7**	**+0.4**
	3.6nm,0.9s,baz=243,slow=9.2,SNR=4.4						
INK	**Inuvik**	**82.60**	**343**	*e*P	**P**	**05 37 15.3**	**-0.1**
	9.5nm,1.4s						
EGAK	**Eagle**	**83.22**	**338**	*e*P	**P**	**05 37 18.3**	**-0.4**
	12nm,1.3s						
ESDC	**Sonseca Array**	**83.73**	**49**	P	**P**	**05 37 23.0**	**+1.0**
ESDC	**Sonseca Array**	**83.73**	**49**	P	**P**	**05 37 23.0**	**+1.0**
	1.4nm,0.6s,baz=258,slow=4.7,SNR=12						
TORD	**Torodi Ar. B

*ISCJB **14** 05:30:08.3±0.2,4°.23N±0'.02×126°.92E±0'.04,h33km, mb4.9/89,MS4.3/29,Error ellipse: s-maj=5.3km s-min=3.2km az=169.8*
*NEIC **14** 05:30:10.5±0.2,4°.18N×126°.75E,h35km,mb4.9/47,Error ellipse: s-maj=7.7km s-min=4.4km az=73.0*
*TEH **14** 05:30:11.0,4°.21N×126°.86E,h35km, ML4.9*
*DJA **14** 05:30:15,3°.85N×126°.93E,h79km, mb5.2/11*
ISC 14 05:30:10.1±0.4,**4°.09N**±0°.04×**126°.76E**±0°.06,**h33**km±1km, **n266,**σ1§**46**/291,**mb4.9**/88,**MS4.3**/29,**10C-8D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
GSPH	**General Santos**	**2.68**	**318**	⇑*i*	**Pn**	**05 30 50.7**	**-0.4**
GSPH	**General Santos**	**2.68**	**318**	*eP*	**Pn**	**05 30 50.8**	**-0.3**
MATI	**Mati**	**2.88**	**350**	*eP*	**Pb**	**05 31 00.8**	**0.0**
DAV	**Davao City (W)**	**3.18**	**338**	*e*Pn	**Pb**	**05 31 06.9**	**+0.9**
DAV				Sn	Sb	05 31 50.2	+5.8
DAV	**Davao City (W)**	**3.18**	**338**	P	**Pb**	**05 31 07.7**	**+1.7**
DAV	**Davao City (W)**	**3.18**	**338**	Pn	**Pn**	**05 30 58.5**	**+0.6**
	baz=312,slow=12,SNR=2.1						
DAV				Sn	Sb	05 31 50.2	+5.8
	110nm,0.3s,baz=288,slow=20,SNR=7.4						
MNI	**Manado**	**3.26**	**216**	P	Pn	05 31 02.3	+3.3
KCP	**Kidapawan**	**3.34**	**330**	⇓*e*P	**Pb**	**05 31 07.7**	**-1.1**
KCP				*i* S	**Sb**	**05 31 54.3**	**+5.3**
TNTI	**Ternate**	**3.35**	**170**	P	**Pn**	**05 31 02.6**	**+2.3**
TNTI				S	**Sn**	**05 31 42.2**	**+3.2**
CTBH	**Cotabato--PC H**	**3.99**	**321**	⇑*e*P	**Pn**	**05 31 11.5**	**+2.5**
BUKP	**Musuan**	**4.12**	**336**	*e*P	Pn	05 31 14.3	+3.5
KMSI	**Cibinong**	**4.47**	**219**	P	Pn	05 31 19.7	+4.1
LBMI	**Labuha**	**4.76**	**171**	P	Pn	05 31 25.3	+5.7
IPIL	**Ipil**	**5.55**	**312**	*e*P	**Pn**	**05 31 32.4**	**+1.9**
MRSI	**Marisa**	**6.01**	**233**	P	Pn	05 31 40.1	+3.3
	378nm,0.6s,4μm1.4nm						
LUWI	**Luwuk**	**6.48**	**218**	P	Pn	05 31 49.4	+6.2
	1μm,1.1s,11μm4.7nm						
SWI	**Sorong**	**6.67**	**138**	P	**Pn**	**05 31 47.0**	**+1.2**
	118nm,0.7s,2μm0.4nm						
NLAI	**Namlea**	**7.29**	**177**	P	**Pn**	**05 31 55.8**	**+1.4**
	108nm,0.6s,3μm0.9nm						
NLAI				S	**Sn**	**05 33 14.1**	**-2.0**
	108nm,0.6s,3μm0.9nm						
MSAI	**Masohi**	**7.70**	**164**	P	Pn	05 32 06.7	+6.7
	23nm,0.7s,0.1nm						
MYLDM	**Lahad Datu**	**8.31**	**278**	P	Pn	05 32 14.0	+5.7
MYLDM	**Lahad Datu**	**8.31**	**278**	P	Pn	05 32 14.8	+6.5
	127nm,1.0s,2μm0.4nm						
TSM	**Tawau**	**8.87**	**272**	P	Pn	05 32 21.2	+5.2
KDI	**Kendari**	**9.01**	**207**	P	**Pn**	**05 32 19.9**	**+2.0**
	79nm,0.9s,965nm						
SDKM	**Sandakan**	**9.66**	**280**	P	Pn	05 32 32.5	+5.5
TTSI	**Tana Toraja**	**9.92**	**224**	P	Pn	05 32 35.6	+5.1
	152nm,1.1s,2μm						
KDM	**Kudat**	**10.27**	**286**	P	Pn	05 32 41.3	+5.9
SPSI	**Sidrap Palu**	**10.63**	**221**	P	Pn	05 32 47.0	+6.8
	43nm,1.1s						
KKM	**Kota Kinabalu**	**10.69**	**281**	*e*Pn	Pn	05 32 45.2	+4.1
KKM	**Kota Kinabalu**	**10.69**	**281**	P	Pn	05 32 46.7	+5.7
KKM	**Kota Kinabalu**	**10.69**	**281**	P	Pn	05 32 47.7	+6.7
	42nm,1.2s,763nm11μm						
KAPI	**Kappang**	**11.44**	**218**	*e*Pn	Pn	05 32 54.9	+3.5
KAPI	**Kappang**	**11.44**	**218**	P	Pn	05 32 57.9	+6.6
	42nm,1.1s						
KAPI	**Kappang**	**11.44**	**218**	Pn	**Pn**	**05 32 53.9**	**+2.5**
	0.2nm,0.3s,baz=158,slow=5.7,SNR=4.3						
KAPI				LR	LR	05 38 03.3	
	comp=Z,1μm,18.6s,baz=235,slow=42						
SBUM	**Sibu**	**14.61**	**264**	P	**P**	**05 33 39.4**	**-1.2**
SBUM	**Sibu**	**14.61**	**264**	P	**P**	**05 33 40.6**	**0.0**
	65nm,0.8s,863nm						
KSM	**Kuching**	**16.64**	**261**	*e*Pn	**P**	**05 34 04.7**	**+1.6**
	93nm,1.2s						
KSM	**Kuching**	**16.64**	**261**	P	**P**	**05 34 05.6**	**+2.5**
KSM	**Kuching**	**16.64**	**261**	P	**P**	**05 34 05.1**	**+2.0**
	69nm,0.9s,670nm						
IGBI	**Denpasar**	**17.28**	**222**	P	P	05 34 25.9	+16
MTN	**Manton Dam**	**17.38**	**166**	*e*P	**Pn**	**05 34 07.9**	**-2.3**
BLJI	**Banyuglugur**	**17.63**	**228**	P	P	05 34 20.9	+6.8
PWJI	**Pagerwojo**	**19.17**	**231**	P	**Pn**	**05 34 36.5**	**+4.4**
	68nm,0.8s						
YULB	**Yu-li**	**19.90**	**345**	*e*P	**P**	**05 34 37.7**	**-1.2**
	13nm,0.5s						
TPUB	**Ta-pu**	**19.99**	**343**	*e*P	**P**	**05 34 38.4**	**-1.6**
	48nm,0.7s						
GUMO	**Guam**	**20.21**	**61**	LR	LR	05 40 48.1	
	comp=Z,648nm,21.3s,baz=241,slow=32						
SSLB	**Suanglung**	**20.37**	**345**	*e*P	**P**	**05 34 44.4**	**+0.4**
	24nm,0.8s						
TGJI	**Tegal**	**20.71**	**238**	P	Pn	05 34 50.1	-0.2
	66nm,0.8s						
YHNB	**Yeheng**	**21.10**	**346**	*e*P	**P**	**05 34 52.4**	**+0.3**
	27nm,0.8s						
PPBI	**Pangkal Pinang**	**21.53**	**254**	P	P	05 35 02.0	+5.3
	20nm,1.2s						
LEM	**Lembang**	**21.98**	**240**	P	**P**	**05 35 04.9**	**+3.3**
	89nm,0.8s						
FITZ	**Fitzroy Crossi**	**22.08**	**183**	*e*P	**P**	**05 35 02.3**	**-0.2**
	26nm,0.7s						
FITZ	**Fitzroy Crossi**	**22.08**	**183**	*e*P	**P**	**05 35 02.0**	**-0.5**
	49nm,0.6s						
FITZ				*e*S	**S**	**05 39 00.5**	**-3.8**
FITZ	**Fitzroy Crossi**	**22.08**	**183**	P	**P**	**05 35 02.7**	**+0.1**
	26nm,0.7s,baz=13,slow=11,SNR=33						
QIZ	**Qiongzhong**	**22.21**	**313**	P	**P**	**05 35 05.3**	**+1.3**
QIZ				pP	**pP**	**05 35 13.5**	**+0.6**
QIZ				sP	**sP**	**05 35 17.5**	**+0.3**
QIZ				S	**S**	**05 39 04.9**	**-1.9**
QIZ				sS	**sS**	**05 39 22.9**	**+1.5**
QIZ				pmax	pmax		
	comp=Z,16nm,1.0s						
QIZ				pmax	pmax		
	comp=Z,98nm,5.1s						
QIZ				LR	LR		
	comp=N,470nm,18.0s						
QIZ				LR	LR		
	comp=Z,740nm,17.9s						
QIZ	**Qiongzhong**	**22.21**	**313**	*e*P	**P**	**05 35 04.7**	**+0.7**
	comp=Z,20nm,1.0s						
JOW	**Kunigami**	**22.66**	**4**	P	**P**	**05 35 09.3**	**+0.7**
JOW	**Kunigami**	**22.66**	**4**	P	**P**	**05 35 09.3**	**+0.7**
	comp=Z,32nm,0.7s,baz=173,slow=17,SNR=5.3						
MYKOM	**Kota Tinggi**	**23.00**	**265**	P	**P**	**05 35 16.8**	**+4.5**
MYKOM	**Kota Tinggi**	**23.00**	**265**	P	**P**	**05 35 13.7**	**+1.4**
	comp=Z,33nm,1.1s						
KTGM	**Kuala Trenggan**	**23.58**	**274**	P	P	05 35 22.9	+4.7
COEN	**Coen**	**24.22**	**138**	*e*P	**P**	**05 35 23.8**	**-0.3**
	comp=Z,44nm,0.8s						
WRAB	**Tennant Creek**	**25.02**	**163**	*e*P	**P**	**05 35 30.5**	**-0.7**
	comp=Z,54nm,0.8s						
WRA	**Warramunga Arr**	**25.02**	**163**	P	**P**	**05 35 31.3**	**0.0**
WRA				ScP	**ScP**	**05 42 43.7**	**+1.0**
WRA	**Warramunga Arr**	**25.02**	**163**	P	**P**	**05 35 31.3**	**0.0**
	comp=Z,33nm,0.5s,baz=341,slow=10,SNR=55						
WRA				ScP	**ScP**	**05 42 43.7**	**+1.0**
	comp=Z,2.0nm,0.9s,baz=343,slow=3.1,SNR=6.2						
IPM	**Ipoh**	**25.67**	**272**	*e*P	**P**	**05 35 37.5**	**+0.2**
	comp=Z,30nm,1.1s						
IPM	**Ipoh**	**25.67**	**272**	P	**P**	**05 35 41.8**	**+4.5**
IPM	**Ipoh**	**25.67**	**272**	P	P	05 35 43.7	+6.4
	comp=Z,27nm,1.1s,comp=Z,431nm						
BKNI	**Bangkinang**	**25.97**	**262**	P	P	05 35 48.5	+8.5
MBWA	**Marble Bar**	**26.03**	**195**	*e*P	**P**	**05 35 42.1**	**+1.7**
	comp=Z,50nm,1.1s						
KULM	**Kulim**	**26.05**	**274**	*e*P	**P**	**05 35 43.2**	**+2.5**
	comp=Z,30nm,1.0s						
KULM	**Kulim**	**26.05**	**274**	P	**P**	**05 35 45.3**	**+4.6**
KULM	**Kulim**	**26.05**	**274**	P	P	05 35 45.6	+4.8
	comp=Z,32nm,1.2s						
CBIJ	**Chichi jima**	**27.21**	**31**	LR	LR	05 45 35.2	
	comp=Z,516nm,18.1s,baz=124,slow=34						
MNSI	**Mandailing Nat**	**27.35**	**264**	P	**P**	**05 35 52.7**	**+0.2**
	comp=Z,52nm,1.0s,comp=Z,1μm						
SSE	**Sheshan**	**27.37**	**350**	P	**P**	**05 35 55.6**	**+3.2**
SSE				S	**S**	**05 40 34.6**	**+4.4**
SSE				pmax	pmax		
	comp=Z,42nm,0.7s						
SSE				pmax	pmax		
	comp=Z,520nm,4.3s						
SSE				LR	LR		
	comp=N,330nm,21.8s						
SSE				LR	LR		
	comp=E,49nm,21.8s						
SSE				LR	LR		
	comp=Z,460nm,22.2s						
PSI	**Prapat**	**27.82**	**268**	P	**P**	**05 35 55.6**	**-1.1**
PSI	**Prapat**	**27.82**	**268**	P	**P**	**05 35 57.5**	**+0.7**
	comp=Z,18nm,0.9s						
PSI	**Prapat**	**27.82**	**268**	P	**P**	**05 35 55.6**	**-1.1**
	comp=Z,13nm,0.8s,baz=67,slow=5.3,SNR=7.1						
PSI				LR	LR	05 45 49.5	
	comp=Z,123nm,19.9s,baz=237,slow=34						
AS31	**Alice Springs**	**28.46**	**166**	*e*P	**P**	**05 36 02.7**	**+0.4**
ASAR	**Alice Springs**	**28.46**	**166**	P	**P**	**05 36 02.8**	**+0.5**
ASAR				PcP	**PcP**	**05 39 14.6**	**+0.6**
ASAR	**Alice Springs**	**28.46**	**166**	P	**P**	**05 36 02.8**	**+0.5**
	comp=Z,3.3nm,0.5s,baz=354,slow=7.8,SNR=72						
ASAR				PcP	**PcP**	**05 39 14.6**	**+0.6**
	comp=Z,2.3nm,0.7s,baz=327,slow=2.4,SNR=4.9						
NJ2	**Nanjing**	**28.79**	**346**	*e*P	**P**	**05 36 04.0**	**-1.0**
NJ2				pP	**pP**	**05 36 14.6**	**-0.1**
NJ2				sP	**sP**	**05 36 18.5**	**-0.2**
NJ2				PP	**PnPn**	**05 36 57.4**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,30nm,1.3s						
NJ2				pmax	pmax		
	comp=Z,390nm,9.1s						
NJ2				LR	LR		
	comp=N,840nm,21.4s						
NJ2				LR	LR		
	comp=E,1μm,24.0s						
NJ2				LR	LR		
	comp=Z,720nm,12.8s						
WHN	**Wuhan**	**28.80**	**337**	*e*P	**P**	**05 36 06.8**	**+1.6**
WHN				*e*S	S	05 41 00.8	+8.0
WHN				LR	LR		
	comp=Z,3μm,19.0s						
JNU	**Nakatsue**	**29.13**	**7**	P	**P**	**05 36 07.0**	**-1.2**
JNU	**Nakatsue**	**29.13**	**7**	P	**P**	**05 36 07.0**	**-1.2**
	comp=Z,14nm,0.8s,baz=129,slow=4.5,SNR=5.9						
GSI	**Gunungsitoli**	**29.28**	**265**	P	**P**	**05 36 08.7**	**-1.0**
GYA	**Guiyang**	**29.41**	**321**	P	**P**	**05 36 12.8**	**+2.0**
GYA				pP	**pP**	**05 36 22.5**	**+2.1**
GYA				PP	**PnPn**	**05 37 09.8**	**+4.4**
GYA				S	**S**	**05 41 03.3**	**+0.5**
GYA				sS	**sS**	**05 41 20.9**	**+2.2**
GYA				ScP	**ScP**	**05 42 55.5**	**-0.4**
GYA				ScS	**ScS**	**05 46 49.0**	**-1.7**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.1s						
GYA				LR	LR		
	comp=N,540nm,17.6s						
GYA				LR	LR		
	comp=E,510nm,18.2s						
GYA				LR	LR		
	comp=Z,550nm,17.9s						
CMAR	**Chiang Mai Arr**	**30.72**	**300**	P	**P**	**05 36 22.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**30.72**	**300**	P	**P**	**05 36 22.1**	**-0.2**
	comp=Z,9.9nm,0.8s,baz=120,slow=7.3,SNR=45						
CMAR				LR	LR	05 49 08.6	
	comp=Z,334nm,19.7s,baz=111,slow=37						
CTA	**Charters Tower**	**30.73**	**142**	*e*P	P	05 36 27.0	+4.6
	comp=Z,4.8nm,0.8s						
CTA	**Charters Tower**	**30.73**	**142**	LR	LR	05 50 01.9	
	comp=Z,254nm,18.7s,baz=108,slow=39						
CTAO	**Charters Tower**	**30.73**	**142**	*e*P	**P**	**05 36 24.7**	**+2.3**
	comp=Z,9.3nm,0.9s						
ENH	**Enshi**	**30.73**	**330**	*e*P	**P**	**05 36 21.5**	**-0.9**
	comp=Z,5.1nm,0.3s						
CHTO	**Chiang Mai**	**30.87**	**300**	*e*P	**P**	**05 36 23.5**	**-0.1**
	comp=Z,15nm,0.7s						
CHTO	**Chiang Mai**	**30.87**	**300**	P	**P**	**05 36 24.0**	**+0.3**
	comp=Z,25nm,0.7s						
KMI	**Kunming**	**31.15**	**314**	P	P	05 36 29.6	+3.3
KMI				S	**S**	**05 41 31.3**	**+1.0**
KMI				pmax	pmax		
	comp=Z,16nm,0.8s						
KMI				LR	LR		
	comp=N,350nm,12.5s						
KMI				LR	LR		
	comp=E,490nm,17.0s						
KMI				LR	LR		
	comp=Z,720nm,18.9s						
JHJ	**Hachijo jima 2**	**31.34**	**21**	LR	LR	05 48 04.0	
	comp=Z,172nm,21.7s,baz=191,slow=34						
KSAR	**Wonju Array Be**	**33.20**	**2**	P	**P**	**05 36 43.5**	**-0.5**
KSRS	**Korea Array**	**33.22**	**2**	P	**P**	**05 36 43.5**	**-0.6**
	comp=Z,8.0nm,0.8s,baz=181,slow=9.7,SNR=25						
KSRS				LR	LR	05 50 30.4	
	comp=Z,295nm,20.8s,baz=184,slow=37						
MJAR	**Matsushiro Arr**	**33.97**	**17**	P	**P**	**05 36 48.6**	**-2.0**
MJAR	**Matsushiro Arr**	**33.97**	**17**	P	**P**	**05 36 48.6**	**-2.0**
	comp=Z,2.8nm,0.6s,baz=180,slow=9.3,SNR=5.2						
MJAR				LR	LR	05 51 27.2	
	comp=Z,411nm,18.2s,baz=200,slow=38						
MAT	**Matsushiro**	**33.97**	**17**	P	**P**	**05 36 48.9**	**-1.7**
XAN	**Xi'an**	**34.11**	**333**	P	**P**	**05 36 49.5**	**-2.4**
XAN				pP	**pP**	**05 36 59.5**	**-2.1**
XAN				sP	**sP**	**05 37 03.5**	**-2.2**
XAN				pmax	pmax		
	comp=Z,47nm,0.9s						
XAN				LR	LR		
	comp=N,380nm,19.1s						
XAN				LR	LR		
	comp=E,180nm,17.0s						
XAN				LR	LR		
	comp=Z,260nm,19.1s						
FORT	**Forrest**	**34.70**	**178**	*e*P	**P**	**05 36 57.3**	**+0.3**
	comp=Z,47nm,0.7s						
HNR	**Honiara**	**35.70**	**112**	LR	LR	05 49 50.5	
	comp=Z,316nm,21.4s,baz=286,slow=33						
KLBR	**Kellerberrin**	**36.51**	**193**	*e*P	**P**	**05 37 12.8**	**+0.3**
	comp=Z,26nm,1.1s						
BJT	**Baijiatuan**	**37.02**	**346**	*e*P	**P**	**05 37 17.9**	**+1.1**
	comp=Z,24nm,0.7s						
EIDS	**Eidsvold**	**37.62**	**142**	*e*P	**P**	**05 37 23.2**	**+1.2**
	comp=Z,371nm,2.8s						
SNY	**Shenyang**	**37.68**	**356**	⇓P	**P**	**05 37 23.3**	**+1.0**
SNY				pmax	pmax		
	comp=Z,27nm,0.5s						
BBOO	**Buckleboo**	**37.75**	**167**	*e*P	**P**	**05 37 23.4**	**+0.4**
	comp=Z,337nm,0.7s						
LZH	**Lanzhou**	**38.21**	**329**	*e*P	**P**	**05 37 26.8**	**-0.3**
LZH				pP	**pP**	**05 37 35.9**	**-1.0**
LZH				sP	**sP**	**05 37 39.4**	**-1.5**
LZH				PcP	**PcP**	**05 39 38.8**	**-2.4**
LZH				*e*S	**S**	**05 43 19.1**	**+0.3**
LZH				pmax	pmax		
	comp=Z,36nm,1.2s						
LZH				pmax	pmax		
	comp=Z,100nm,5.0s						
LZH				LR	LR		
	comp=N,730nm,15.4s						
LZH				LR	LR		
	comp=E,410nm,15.4s						
LZH				LR	LR		
	comp=Z,650nm,15.6s						
STKA	**Stephens Creek**	**38.46**	**160**	*e*P	**P**	**05 37 29.6**	**+0.6**
	comp=Z,5.0nm,0.6s						
STKA	**Stephens Creek**	**38.46**	**160**	*e*P	**P**	**05 37 29.5**	**+0.5**
	comp=Z,22nm,0.6s						
STKA	**Stephens Creek**	**38.46**	**160**	P	**P**	**05 37 29.6**	**+0.5**
	comp=Z,26nm,0.7s,baz=337,slow=9.7,SNR=67						
STKA				LR	LR	05 52 13.6	
	comp=Z,141nm,21.8s,baz=116,slow=34						
HHC	**Hu-ho-hao-te**	**39.06**	**342**	*e*P	**P**	**05 37 34.8**	**+0.7**
HHC				sP	**sP**	**05 37 47.8**	**-0.2**
HHC				PP	**PnPn**	**05 39 08.8**	**+2.0**
HHC				PcP	**PcP**	**05 39 44.1**	**+0.4**
HHC				ScP	**ScP**	**05 43 29.4**	**-0.4**
HHC				S	**S**	**05 43 32.1**	**+0.7**
HHC				ScS	**ScS**	**05 47 38.9**	**-2.3**
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,250nm,6.4s						
HHC				LR	LR		
	comp=N,570nm,14.8s						
HHC				LR	LR		
	comp=E,740nm,14.5s						
HHC				LR	LR		
	comp=Z,670nm,14.1s						
CN2	**Changchun**	**39.56**	**359**	*e*P	**P**	**05 37 40.8**	**+2.7**
CN2				*e*pP	**pP**	**05 37 50.1**	**+2.2**
CN2				*e*S	**S**	**05 43 43.0**	**+4.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,2μm,19.0s						
CN2				LR	LR		
	comp=E,900nm,19.0s						
CN2				LR	LR		
	comp=Z,800nm,18.0s						
USRK	**Ussuriysk Arra**	**40.21**	**6**	P	**P**	**05 37 43.3**	**-0.1**
	comp=Z,4.5nm,0.7s,baz=189,slow=9.0,SNR=9.7						
ARMA	**Armidale**	**41.75**	**147**	*e*P	**P**	**05 37 58.5**	**+2.0**
	comp=Z,31nm,0.9s						
ARMA	**Armidale**	**41.75**	**147**	*e*P	**P**	**05 37 57.6**	**+1.1**
LSA	**Lhasa**	**42.23**	**311**	*e*P	**P**	**05 38 01.5**	**+0.6**
	comp=Z,7.6nm,0.7s						
ASAJ	**Asahikawa**	**42.24**	**17**	*e*P	**P**	**05 37 59.8**	**-0.3**
	comp=Z,13nm,1.1s						
ASAJ	**Asahikawa**	**42.24**	**17**	P	**P**	**05 38 00.2**	**+0.1**
	comp=Z,11nm,0.7s,baz=202,slow=11,SNR=5.2						
GTA	**Gaotai**	**42.80**	**329**	*e*P	**P**	**05 38 02.6**	**-2.4**
GTA				pP	**pP**	**05 38 12.6**	**-2.3**
GTA				sP	**sP**	**05 38 16.4**	**-2.5**
GTA				S	**S**	**05 44 23.9**	**-3.3**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,200nm,4.7s						
GTA				LR	LR		
	comp=N,580nm,21.1s						
GTA				LR	LR		
	comp=E,690nm,20.4s						
GTA				LR	LR		
	comp=Z,1μm,21.1s						
TAPN	**Taplejung**	**43.83**	**306**	*e*P	**P**	**05 38 12.5**	**-1.2**
	comp=Z,44nm,0.7s						
ODAN	**Odare**	**43.89**	**305**	*e*P	**P**	**05 38 12.9**	**-1.2**
	comp=Z,54nm,0.7s						
CAN	**Canberra**	**44.42**	**154**	*e*P	**P**	**05 38 19.5**	**+1.5**
	comp=Z,21nm,1.0s						
RAMN	**Ramite**	**44.57**	**305**	*e*P	**P**	**05 38 18.7**	**-0.9**
	comp=Z,40nm,0.6s						
TOO	**Toolangi**	**44.97**	**159**	*e*P	**P**	**05 38 24.3**	**+2.1**
	comp=Z,24nm,0.6s						
JIRN	**Jiri**	**45.19**	**306**	*e*P	**P**	**05 38 23.4**	**-1.2**
	comp=Z,10nm,0.6s						
HIA	**Hailar**	**45.41**	**354**	*e*P	**P**	**05 38 26.9**	**+1.4**
	comp=Z,9.8nm,0.7s						
GUN	**Gumba**	**45.54**	**306**	*e*P	**P**	**05 38 26.1**	**-1.3**
	comp=Z,53nm,0.6s						
PKI	**Pulchoki**	**45.79**	**305**	*e*P	**P**	**05 38 27.6**	**-1.7**
KKN	**Kakani**	**45.98**	**305**	*e*P	**P**	**05 38 29.0**	**-1.7**
	comp=Z,17nm,0.5s						
DMN	**Daman**	**46.05**	**305**	*e*P	**P**	**05 38 30.0**	**-1.3**
	comp=Z,45nm,1.0s						
GKN	**Gorkha**	**46.59**	**305**	*e*P	**P**	**05 38 33.7**	**-1.7**
	comp=Z,23nm,0.6s						
ULN	**Ulaanbaatar**	**46.78**	**342**	*e*P	**P**	**05 38 37.4**	**+0.8**
	comp=Z,5.7nm,0.8s						
SONM	**Songino Array**	**46.97**	**341**	P	**P**	**05 38 37.6**	**-0.4**
SONM				PcP	**PcP**	**05 40 10.2**	**0.0**
SONM	**Songino Array**	**46.97**	**341**	P	**P**	**05 38 37.6**	**-0.4**
	comp=Z,2.3nm,0.5s,baz=160,slow=9.9,SNR=26						
SONM				PcP	**PcP**	**05 40 10.2**	**0.0**
	comp=Z,2.1nm,0.8s,baz=174,slow=2.9,SNR=4.9						
KOLN	**Koldanda**	**47.35**	**304**	*e*P	**P**	**05 38 40.2**	**-1.2**
	comp=Z,81nm,0.5s						
DANN	**Dangsing**	**47.43**	**305**	*e*P	**P**	**05 38 40.6**	**-1.6**
	comp=Z,118nm,0.6s						
HYB	**Hyderabad**	**49.03**	**289**	*i* P	**P**	**05 38 53.0**	**-1.3**
TLY	**Talaya**	**51.20**	**342**	*e*P	**P**	**05 39 10.3**	**+0.1**
	comp=Z,4.7nm,0.7s						
WMQ	**Urumqi**	**52.45**	**325**	*e*P	**P**	**05 39 19.8**	**+0.1**
WMQ				pP	**pP**	**05 39 30.0**	**+0.2**
WMQ				sP	**sP**	**05 39 33.5**	**-0.3**
WMQ				PcP	**PcP**	**05 40 30.0**	**-0.2**
WMQ				*e*S	**S**	**05 46 42.0**	**-1.9**
WMQ				sS	**sS**	**05 47 00.0**	**-0.5**
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,160nm,6.3s						
WMQ				LR	LR		
	comp=N,760nm,16.0s						
WMQ				LR	LR		
	comp=E,410nm,17.0s						
WMQ				LR	LR		
	comp=Z,490nm,21.0s						
POO	**Poona**	**53.62**	**290**	*ex*	**P**	**05 39 26.0**	**-2.8**
PETK	**Petropavlovsk-**	**55.08**	**22**	P	**P**	**05 39 39.0**	**+0.2**
PETK	**Petropavlovsk-**	**55.08**	**22**	P	**P**	**05 39 39.0**	**+0.2**
	comp=Z,3.9nm,0.7s,baz=215,slow=4.8,SNR=6.7						
PETK				LR	LR	06 02 44.6	
	comp=Z,120nm,18.1s,baz=236,slow=36						
MK31	**Makanchi Array**	**57.28**	**325**	*e*P	**P**	**05 39 53.0**	**-1.6**
MKAR	**Makanchi Array**	**57.28**	**325**	P	**P**	**05 39 53.6**	**-1.0**
MKAR				PcP	**PcP**	**05 40 48.8**	**+0.1**
MKAR	**Makanchi Array**	**57.28**	**325**	P	**P**	**05 39 53.6**	**-1.0**
	comp=Z,10nm,0.7s,baz=127,slow=8.0,SNR=125						
MKAR				PcP	**PcP**	**05 40 48.8**	**+0.1**
	comp=Z,6.0nm,0.7s,baz=126,slow=3.3,SNR=6.5						
MKAR				LR	LR	06 06 46.2	
	comp=Z,508nm,18.4s,baz=116,slow=38						
KSH	**Kashi**	**57.81**	**315**	*e*P	**P**	**05 39 59.8**	**+1.2**
KSH				pP	**pP**	**05 40 09.6**	**+0.8**
KSH				sP	**sP**	**05 40 13.8**	**+1.0**
KSH				PcP	**PcP**	**05 40 50.4**	**-0.6**
KSH				PP	**PP**	**05 42 09.6**	**+2.6**
KSH				ScP	**ScP**	**05 44 47.5**	**-1.3**
KSH				PcS	**PcS**	**05 44 50.4**	**-2.0**
KSH				S	**S**	**05 47 55.8**	**-0.2**
KSH				sS	**sS**	**05 48 12.4**	**-0.4**
KSH				ScS	**ScS**	**05 49 43.1**	**-2.9**
KSH				SS	**SS**	**05 51 48.8**	**+1.7**
KSH				LR	LR		
	comp=N,100nm,5.7s						
KSH				LR	LR		
	comp=E,97nm,4.6s						
KSH				LR	LR		
	comp=Z,180nm,5.9s						
YAK	**Yakutsk**	**57.85**	**2**	*e*P	**P**	**05 39 58.4**	**+0.1**
	comp=Z,20nm,

	comp=Z,28nm,0.7s								
NAY	**Al-Naaiem**	**78.87**	**299**	*eP*		**P**		**05 42 08.4**	**-2.1**
NAY				AMb		AMB		05 42 10.4	
	comp=Z,11nm,0.6s								
ABPO	**Ambohimpanom**	**81.47**	**250**	*eP*		**P**		**05 42 24.4**	**-0.4**
	comp=Z,10nm,1.0s								
COLD	**Coldfoot**	**83.55**	**23**	*eP*		**P**		**05 42 34.7**	**+0.1**
	comp=Z,12nm,1.3s								
PMR	**Palmer**	**83.61**	**29**	*eP*		**P**		**05 42 34.2**	**-0.7**
	comp=Z,7.7nm,0.8s								
MCK	**McKinley**	**83.82**	**26**	*eP*		**P**		**05 42 35.6**	**-0.5**
	comp=Z,34nm,1.4s								
SML	**Sawmill**	**84.00**	**28**	*eP*		**P**		**05 42 36.1**	**-0.9**
	comp=Z,4.9nm,0.9s								
ILAR	**Eielson Array**	**84.76**	**25**	P		**P**		**05 42 40.8**	**0.0**
ILAR	**Eielson Array**	**84.76**	**25**	P		**P**		**05 42 40.8**	**0.0**
	comp=Z,1.3nm,0.7s,baz=254,slow=6.2,SNR=22								
PPT2	**Papeete2**	**85.19**	**108**	*e*LR		LR		06 09 39.4	
	comp=Z,163nm,26.5s								
PAX	**Paxson**	**85.36**	**27**	*eP*		**P**		**05 42 45.2**	**+1.3**
	comp=Z,78nm,2.4s								
BMRM	**Bremner River**	**85.78**	**29**	*eP*		**P**		**05 42 45.4**	**-0.6**
	comp=Z,17nm,1.1s								
TBI	**Tubuai**	**85.90**	**114**	*e*LR		LR		06 09 57.3	
	comp=Z,201nm,26.5s								
ASF	**Jabal al Asfar**	**87.73**	**302**	P		**P**		**05 42 56.2**	**-0.1**
ASF	**Jabal al Asfar**	**87.73**	**302**	P		**P**		**05 42 56.2**	**-0.1**
	comp=Z,3.9nm,0.6s,baz=332,slow=6.0,SNR=10.0								
JOF	**Joensuu**	**88.87**	**333**	*ep*		**P**		**05 42 59.1**	**-1.7**
	comp=Z,13nm,0.6s								
KEV	**Kevo**	**89.56**	**340**	*ep*		P		05 43 00.5	-3.4
KMBO	**Kilima Mbogo**	**89.59**	**269**	*eP*		**P**		**05 43 05.3**	**-0.2**
	comp=Z,7.0nm,1.2s								
BR131	**Keskin Array S**	**89.82**	**310**	*eP*		**P**		**05 43 04.4**	**-1.5**
	comp=Z,1.7nm,0.6s								
BRTR	**Keskin Array B**	**89.82**	**310**	P		**P**		**05 43 04.5**	**-1.5**
BRTR	**Keskin Array B**	**89.82**	**310**	P		**P**		**05 43 04.5**	**-1.5**
	comp=Z,2.4nm,0.7s,baz=139,slow=3.9,SNR=16								
ARCES	**ARCESS Array B**	**90.12**	**340**	P		**P**		**05 43 05.5**	**-1.1**
ARCES				PKiKP		**PKiKP**		**05 48 02.7**	**+0.5**
ARCES	**ARCESS Array B**	**90.12**	**340**	P		**P**		**05 43 05.5**	**-1.1**
	comp=Z,3.9nm,0.7s,baz=74,slow=5.5,SNR=31								
ARCES				PKiKP		**PKiKP**		**05 48 02.7**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=126,slow=2.5,SNR=6.3								
ARCES				LR		LR		06 26 23.1	
	comp=Z,181nm,21.6s,baz=83,slow=38								
KAF	**Kangasniemi**	**91.29**	**332**	*ep*		**P**		**05 43 10.0**	**-2.1**
	comp=Z,3.9nm,0.7s								
FINES	**FINESS Array B**	**91.53**	**332**	P		**P**		**05 43 12.3**	**-0.9**
FINES	**FINESS Array B**	**91.53**	**332**	P		**P**		**05 43 12.3**	**-0.9**
	comp=Z,5.6nm,0.8s,baz=58,slow=5.2,SNR=24								
FINES				LR		LR		06 27 38.2	
	comp=Z,253nm,18.7s,baz=128,slow=38								
AKASG	**Malin Array Be**	**91.63**	**321**	P		**P**		**05 43 12.5**	**-1.4**
AKASG	**Malin Array Be**	**91.63**	**321**	P		**P**		**05 43 12.5**	**-1.4**
	comp=Z,5.7nm,0.8s,baz=69,slow=4.6,SNR=16								
AKASG				LR		LR		06 26 56.4	
	comp=Z,135nm,21.2s,baz=30,slow=37								
KIEV	**Kiev**	**91.64**	**321**	*eP*		**P**		**05 43 12.2**	**-1.8**
	comp=Z,4.1nm,0.8s								
NACGM	**Naroch**	**92.41**	**325**	*e*		P		05 43 14.0	-3.4
TIRR	**Tirgusor**	**93.11**	**315**	⫴	*iP*	**P**		**05 43 20.9**	**0.0**
TESR		**94.00**	**317**	⇑	*iP*	**P**		**05 43 24.4**	**-0.6**
VRI	**Vrincioaia**	**94.06**	**316**	⇑	*iP*	**P**		**05 43 25.4**	**+0.1**
PLOR	**Plostina**	**94.11**	**316**	⇑	*iP*	**P**		**05 43 26.0**	**+0.4**
SUW	**Suwalki**	**94.65**	**325**	*eP*		**P**		**05 43 27.0**	**-0.8**
SUW	**Suwalki**	**94.65**	**325**	*eP*		**P**		**05 43 27.0**	**-0.8**
SUW	**Suwalki**	**94.65**	**325**	*eP*		**P**		**05 43 26.9**	**-0.8**
	comp=Z,44nm,1.0s								
MLR	**Muntele Rosu**	**94.66**	**316**	⫴	*iP*	**P**		**05 43 27.3**	**-0.9**
BURAR	**Bucovina Array**	**94.75**	**318**	⇑	*iP*	**P**		**05 43 28.0**	**-0.6**
BUR08	**Bucovina Ar. S**	**94.76**	**318**	*eP*		**P**		**05 43 27.7**	**-0.9**
VOIR		**95.29**	**316**	⫴	*iP*	**P**		**05 43 31.5**	**+0.5**
KWP	**Kalwaria Pacla**	**95.95**	**321**	⫴	*iP*	**P**		**05 43 32.8**	**-1.1**
KOLS	**Kolonicke sedl**	**96.39**	**320**	*eP*		**P**		**05 43 37.3**	**+1.4**
TRPA	**Tarpa**	**96.40**	**319**	⇑	*iP*	**P**		**05 43 34.4**	**-1.5**
DRGR		**96.60**	**318**	⇑	*iP*	**P**		**05 43 36.3**	**-0.6**
GZR	**Gura Zlata**	**96.87**	**316**	⇑	*iP*	**P**		**05 43 37.5**	**-0.7**
CRVS	**Cervenica-Dubn**	**96.92**	**320**	*eP*		**P**		**05 43 38.2**	**-0.1**
BZS	**Buzias**	**97.61**	**317**	⫴	*iP*	**P**		**05 43 40.7**	**-0.7**
OJC	**Ojcow**	**97.62**	**322**	*eP*		**P**		**05 43 40.1**	**-1.3**
OJC	**Ojcow**	**97.62**	**322**	*eP*		**P**		**05 43 40.6**	**-0.8**
	comp=Z,32nm,2.0s								
NB2	**NORSAR Subarra**	**98.48**	**334**	P		**P**		**05 43 43.7**	**-1.4**
	comp=Z,5.0nm,1.1s,baz=68,slow=5.1								
NOA	**NORSAR Array B**	**98.48**	**334**	P		**P**		**05 43 43.6**	**-1.5**
NOA	**NORSAR Array B**	**98.48**	**334**	P		**P**		**05 43 43.6**	**-1.5**
	comp=Z,1.2nm,0.7s,baz=68,slow=4.5,SNR=6.2								
NOA				LR		LR		06 33 53.3	
	comp=Z,139nm,18.3s,baz=105,slow=39								
VYHS	**Vyhne**	**98.70**	**320**	PDIF		Pdif		05 43 50.1	+3.8
MORC	**Moravsky Berou**	**99.14**	**322**	⇑	*iP*	**Pdif**		**05 43 48.0**	**-0.3**
YKA	**Yellowknife Ar**	**99.16**	**24**	P		**Pdif**		**05 43 47.8**	**-0.2**
YKA				PKiKP		**PKiKP**		**05 48 18.5**	**+0.5**
YKA	**Yellowknife Ar**	**99.16**	**24**	P		**Pdif**		**05 43 47.8**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=294,slow=4.1,SNR=9.0								
YKA				PKiKP		**PKiKP**		**05 48 18.5**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=304,slow=1.8,SNR=4.1								
RKT	**Rikitea**	**99.19**	**113**	*e*LR		LR		06 16 00.8	
	comp=Z,130nm,34.5s								
KSP	**Ksiaz**	**99.57**	**323**	*eP*		**Pdif**		**05 43 50.4**	**+0.3**
KSP	**Ksiaz**	**99.57**	**323**	*eP*		**Pdif**		**05 43 50.4**	**+0.3**
VRAC	**Vranov**	**99.87**	**321**	⫴	*iP*	**Pdif**		**05 43 52.1**	**+0.6**
BRG	**Berggiesshubel**	**100.97**	**323**	*eP*		**Pdif**		**05 43 56.5**	**+0.2**
	comp=Z,7.1nm,0.8s								
CLL	**Collm**	**101.36**	**324**	*e*Pdif		**Pdif**		**05 43 58.0**	**-0.1**
	comp=Z,5.0nm,1.0s								
GERES	**GERESS Array B**	**101.82**	**322**	P		**Pdif**		**05 43 59.7**	**-0.6**
GERES	**GERESS Array B**	**101.82**	**322**	P		**Pdif**		**05 43 59.7**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=52,slow=5.1,SNR=10								
ECSD	**EROS Data Cent**	**118.47**	**34**	*e*PKPdf		**PKPdf**		**05 48 54.7**	**0.0**
SCHQ	**Schefferville**	**120.20**	**9**	PKP		**PKPdf**		**05 48 57.5**	**-0.3**
SCHQ	**Schefferville**	**120.20**	**9**	PKP		**PKPdf**		**05 48 57.5**	**-0.3**
	comp=Z,3.5nm,0.5s,baz=345,slow=2.6,SNR=18								
KSU1	**Kansas State U**	**121.31**	**39**	*e*PKPdf		**PKPdf**		**05 49 01.2**	**+0.8**
TXAR	**Lajitas Array**	**121.35**	**52**	PKP		**PKPdf**		**05 49 01.8**	**+1.0**
TXAR	**Lajitas Array**	**121.35**	**52**	PKP		**PKPdf**		**05 49 01.8**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=215,slow=1.1,SNR=7.6								
TORD	**Torodi Ar. Bea**	**122.84**	**288**	PKP		**PKPdf**		**05 49 03.9**	**0.0**
TORD	**Torodi Ar. Bea**	**122.84**	**288**	PKP		**PKPdf**		**05 49 03.9**	**0.0**
	comp=Z,2.0nm,0.7s,baz=93,slow=1.9,SNR=19								
JCT	**Junction City**	**123.80**	**49**	*e*PKPdf		**PKPdf**		**05 49 06.5**	**+1.1**
PLAL	**Pickwick Lake**	**129.18**	**37**	*e*PKPdf		**PKPdf**		**05 49 15.6**	**+0.1**
DBIC	**Dimbokro**	**130.53**	**282**	PKP		**PKPdf**		**05 49 18.8**	**+0.2**
DBIC	**Dimbokro**	**130.53**	**282**	PKP		**PKPdf**		**05 49 18.8**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=135,slow=2.9,SNR=2.9								
CMIG	**Matias Romero**	**133.80**	**62**	PKP		**PKPdf**		**05 49 24.7**	**0.0**
CMIG	**Matias Romero**	**133.80**	**62**	PKP		**PKPdf**		**05 49 24.7**	**0.0**
	comp=Z,1.4nm,0.6s,baz=212,slow=4.1,SNR=5.4								
PLCA	**Paso Flores**	**140.33**	**159**	PKP		**PKPdf**		**05 49 37.8**	**+1.5**
PLCA	**Paso Flores**	**140.33**	**159**	PKP		**PKPdf**		**05 49 37.8**	**+1.5**
	comp=Z,1.5nm,0.6s,baz=246,slow=2.0,SNR=7.2								
CFAA	**Coronel Fontan**	**149.21**	**154**	PKP		**PKPdf**		**05 49 52.5**	**+0.7**
CFAA				PKPbc		**PKPbc**		**05 49 56.0**	**0.0**
CFAA	**Coronel Fontan**	**149.21**	**154**	PKP		**PKPdf**		**05 49 52.5**	**+0.7**
	comp=Z,0.3nm,0.9s,baz=210,slow=3.7,SNR=5.6								
CFAA				PKPbc		**PKPbc**		**05 49 56.0**	**0.0**
	comp=Z,0.9nm,0.6s,baz=224,slow=3.7,SNR=19								
LCO	**Las Campanas**	**150.19**	**148**	*e*PKPbc		**PKPbc**		**05 49 59.0**	**+0.2**
SDV	**Santo Domingo**	**158.39**	**53**	*e*PKPdf		**PKPdf**		**05 50 04.7**	**-0.7**
LPAZ	**La Paz**	**161.00**	**131**	*e*PKPdf		**PKPdf**		**05 50 09.9**	**+1.1**

IDC 14 05:35:28.5±7.8, 17°69S×178°37W, h506km±92km, mb3.3/8, mb1 3.5/9, mb1mx3.3/19, mbtmp3.3/9, Error ellipse: s-maj=58.1km s-min=29.6km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.93**	**251**	P	P	05 38 36.4	-1.7
	0.4nm,0.3s,baz=243,slow=9.0,SNR=3.7						
PMG	**Port Moresby**	**34.46**	**279**	P	P	05 41 34.8	+1.1
	6.7nm,0.7s,baz=97,slow=8.1,SNR=4.6						
STKA	**Stephens Creek**	**38.77**	**241**	P	P	05 42 09.3	+0.2
	1.6nm,0.5s,baz=84,slow=9.2,SNR=3.9						
WRA	**Warramunga Arr**	**44.71**	**259**	P	P	05 42 55.9	-0.4
	2.2nm,0.5s,baz=95,slow=7.4,SNR=18						
ASAR	**Alice Springs**	**44.88**	**254**	P	P	05 42 57.3	-0.4
	8.1nm,0.6s,baz=87,slow=8.6,SNR=51						
NVAR	**Mina Array Bea**	**79.24**	**44**	P	P	05 46 41.7	+0.4
	0.3nm,0.6s,baz=217,slow=8.1,SNR=3.9						
ILAR	**Eielson Array**	**85.67**	**13**	P	P	05 47 11.8	-1.0
	0.2nm,0.5s,baz=222,slow=5.1,SNR=7.6						
TXAR	**Lajitas Array**	**85.85**	**58**	P	P	05 47 15.3	+0.7
	1.1nm,0.8s,baz=227,slow=4.6,SNR=9.8						
PDAR	**Pinedale Array**	**87.17**	**43**	P	P	05 47 20.1	-0.7
	0.5nm,0.7s,baz=212,slow=3.2,SNR=4.0						

*ISCJB **14** 05:43:53.8±0.4, 0.°05S±0.°05×124.°45E±0.°04, h73km, mb3.9/9, Error ellipse: s-maj=7.2km s-min=5.7km az=14.4*
*DJA **14** 05:43:55, 0.°16S×124.°45E, h34km, MLv4.7/9*
*IDC **14** 05:43:56.7±4.0, 0.°12S×124.°13E, h84km±39km, mb3.6/9, mb1 3.7/10, mb1mx3.6/21, mbtmp3.6/10, MS3.3/2, Ms1 3.3/2, ms1mx2.7/38, Error ellipse: s-maj=35.9km s-min=16.2km az=67.0*

ISC 14 05:43:55.5±0.7, 0.°09S±0.°06×124.°41E±0.°05, h73km, n22, σ1°43/25, mb4.0/9, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.78**	**327**	P	**Pn**	**05 44 10.0**	**-1.6**
KMSI				S	**Sn**	**05 44 21.8**	**-1.7**
MNI	**Manado**	**1.58**	**16**	P	**Pn**	**05 44 22.9**	**+1.2**
LUWI	**Luwuk**	**1.89**	**240**	P	**Pn**	**05 44 26.8**	**+1.0**
LUWI				S	**Sn**	**05 44 48.4**	**-0.4**
MRSI	**Marisa**	**2.53**	**283**	P	**Pn**	**05 44 32.4**	**-2.0**
LBMI	**Labuha**	**3.14**	**100**	P	**Pn**	**05 44 42.7**	**0.0**
LBMI				S	**Sn**	**05 45 17.3**	**-1.8**
NLAI	**Namlea**	**4.13**	**139**	P	**Pn**	**05 44 55.0**	**-1.2**
TTSI	**Tana Toraja**	**5.45**	**237**	P	**Pn**	**05 45 15.8**	**+1.6**
	143nm,0.7s,2μm0.6nm						
MSAI	**Masohi**	**5.56**	**126**	P	**Pn**	**05 45 15.8**	**+0.1**
	58nm,0.7s,981nm0.3nm						
SPSI	**Sidrap Palu**	**6.03**	**230**	P	**Pn**	**05 45 23.7**	**+1.6**
	131nm,0.4s,2μm0.6nm						
KAPI	**Kappang**	**6.75**	**223**	P	**Pn**	**05 45 32.3**	**+0.3**
	6.6nm,0.3s,baz=24,slow=7.5,SNR=10						
KAPI				LR	LR	05 48 50.0	
	comp=Z,242nm,18.2s,baz=65,slow=45						
DAV	**Davao City (W)**	**7.21**	**9**	LR	LR	05 48 22.8	
	comp=Z,201nm,20.8s,baz=179,slow=36						
MYLDM	**Lahad Datu**	**7.89**	**312**	P	**Pn**	**05 45 50.5**	**+2.9**
WRA	**Warramunga Arr**	**22.00**	**154**	P	**P**	**05 48 43.4**	**-0.5**
	3.7nm,0.7s,baz=334,slow=11,SNR=25						
ASAR	**Alice Springs**	**25.19**	**159**	P	**P**	**05 49 15.1**	**+0.7**
	1.0nm,0.6s,baz=341,slow=7.6,SNR=11						
ASAR				PcP	**PcP**	**05 52 47.8**	**+1.1**
	1.1nm,0.5s,baz=351,slow=2.0,SNR=16						
USRK	**Ussuriysk Arra**	**44.61**	**8**	P	**P**	**05 52 01.5**	**+1.0**
	1.7nm,0.7s,baz=207,slow=8.1,SNR=4.5						
SONM	**Songino Array**	**50.24**	**344**	P	**P**	**05 52 44.1**	**-0.3**
	0.6nm,0.5s,baz=161,slow=7.8,SNR=5.6						
MKAR	**Makanchi Array**	**59.43**	**328**	P	**P**	**05 53 50.1**	**-0.6**
	0.9nm,0.3s,baz=121,slow=8.3,SNR=23						
PETK	**Petropavlovsk-**	**59.82**	**23**	P	**P**	**05 53 54.8**	**+1.6**
	1.0nm,0.5s,baz=187,slow=5.2,SNR=10						
ZALV	**Zalesovo Beam**	**62.98**	**335**	P	**P**	**05 54 12.6**	**-1.9**
	0.5nm,0.3s,baz=130,slow=7.0,SNR=4.9						
KURBB	**Kurchatov Arra**	**63.75**	**329**	P	**P**	**05 54 17.9**	**-1.8**
	1.1nm,0.5s,baz=120,slow=7.9,SNR=7.0						
BVAR	**Borovoye Array**	**69.29**	**328**	P	**P**	**05 54 53.7**	**-1.3**
	0.4nm,0.4s,baz=123,slow=5.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**121.79**	**285**	PKP	**PKPdf**	**06 02 41.9**	**-0.4**
	0.4nm,0.7s,baz=83,slow=1.7,SNR=3.5						

*IDC **14** 05:48:11.1±1.1, 3.°81N×127.°33E, h0km, mb3.9/10, mb1 4.1/10, mb1mx3.9/23, mbtmp4.0/10, Error ellipse: s-maj=99.4km s-min=14.7km az=70.0*
*ISCJB **14** 05:48:14.5±0.7, 3.°7N±0.°2×127.°1E±0.°4, h33km, mb4.0/14, Error ellipse: s-maj=66.0km s-min=9.8km az=161.6*
*NEIC **14** 05:48:16.4±0.5, 3.°76N×127.°29E, h35km, mb4.2/6, Error ellipse: s-maj=45.3km s-min=7.1km az=73.0*

ISC 14 05:48:16.4±0.9, 3.°8N±0.°1×127.°4E±0.°4, h35km, n23, σ0°55/23, mb4.1/14, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YHNB	**Yeheng**	**21.56**	**345**	*eP*	**P**	**05 53 03.6**	**+0.6**
	18nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.81**	**184**	*eP*	**P**	**05 53 06.4**	**+0.7**
	3.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.81**	**184**	P	**P**	**05 53 06.4**	**+0.7**
	2.4nm,0.8s,baz=20,slow=11,SNR=3.7						
WRAB	**Tennant Creek**	**24.54**	**164**	*eP*	**P**	**05 53 32.8**	**-0.2**
	5.1nm,0.7s						
WRA	**Warramunga Arr**	**24.55**	**164**	P	**P**	**05 53 33.1**	**+0.1**
WRA	**Warramunga Arr**	**24.55**	**164**	P	**P**	**05 53 33.1**	**+0.1**
	1.9nm,0.5s,baz=338,slow=11,SNR=15						
ASAR	**Alice Springs**	**28.02**	**167**	P	**P**	**05 54 04.1**	**-0.3**
ASAR	**Alice Springs**	**28.02**	**167**	P	**P**	**05 54 04.1**	**-0.3**
	0.3nm,0.5s,baz=343,slow=7.4,SNR=3.1						
STKA	**Stephens Creek**	**37.96**	**160**	*eP*	**P**	**05 55 30.7**	**-0.1**
	0.9nm,0.8s						
STKA	**Stephens Creek**	**37.96**	**160**	P	**P**	**05 55 30.5**	**-0.3**
	2.4nm,0.6s,baz=333,slow=10,SNR=6.4						
SONM	**Songino Array**	**47.45**	**341**	P	**P**	**05 56 48.6**	**+0.8**
SONM	**Songino Array**	**47.45**	**341**	P	**P**	**05 56 48.6**	**+0.8**
	0.6nm,0.6s,baz=155,slow=8.3,SNR=5.3						
MKAR	**Makanchi Array**	**57.88**	**325**	P	**P**	**05 58 04.3**	**-0.6**
MKAR	**Makanchi Array**	**57.88**	**325**	P	**P**	**05 58 04.3**	**-0.6**
	1.1nm,0.5s,baz=126,slow=7.6,SNR=22						
KURBB	**Kurchatov Arra**	**62.04**	**327**	P	**P**	**05 58 32.9**	**-0.4**
	1.6nm,0.5s,baz=131,slow=6.5,SNR=23						
KURK	**Kurchatov**	**62.04**	**327**	*eP*	**P**	**05 58 32.7**	**-0.6**
	3.5nm,0.6s						
BVAR	**Borovoye Array**	**67.62**	**327**	P	**P**	**05 59 09.4**	**-0.2**
BVAR	**Borovoye Array**	**67.62**	**327**	P	**P**	**05 59 09.4**	**-0.2**
	0.4nm,0.5s,baz=120,slow=5.7,SNR=4.4						
BRVK	**Borovoye**	**67.69**	**327**	*eP*	**P**	**05 59 10.1**	**0.0**
	1.8nm,0.7s						
AKTO	**Aktyubinsk**	**74.01**	**322**	P	**P**	**05 59 47.6**	**-1.0**
AKTO	**Aktyubinsk**	**74.01**	**322**	P	**P**	**05 59 47.6**	**-1.0**
	0.8nm,0.6s,baz=96,slow=10,SNR=4.2						
ARCES	**ARCESS Array B**	**90.62**	**340**	P	**P**	**06 01 15.1**	**+0.2**
ARCES	**ARCESS Array B**	**90.62**	**340**	P	**P**	**06 01 15.1**	**+0.2**
	3.7nm,1.0s,baz=90,slow=5.8,SNR=3.8						

IDC 14 05:51:47.4±1.1, 4.°24N×126.°99E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/21, mbtmp4.0/7, Error ellipse: s-maj=87.1km s-min=16.0km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.24**	**183**	P	P	05 56 45.7	-0.4
	2.1nm,0.6s,baz=9.0,slow=11,SNR=7.7						
WRA	**Warramunga Arr**	**25.10**	**164**	P	P	05 57 13.7	-0.4
	6.8nm,0.7s,baz=344,slow=10,SNR=18						
ASAR	**Alice Springs**	**28.55**	**167**	P	P	05 57 45.1	-0.1
	0.8nm,0.6s,baz=345,slow=7.2,SNR=10						
STKA	**Stephens Creek**	**38.52**	**160**	P	P	05 59 12.2	+0.5
	5.8nm,0.7s,baz=333,slow=6.8,SNR=11						
SONM	**Songino Array**	**46.90**	**341**	P	P	06 00 19.9	+0.1
	0.1nm,0.3s,baz=151,slow=6.4,SNR=2.0						
MKAR	**Makanchi Array**	**57.28**	**325**	P	P	06 01 36.8	-0.3
	2.9nm,0.6s,baz=120,slow=8.2,SNR=9.8						
BVAR	**Borovoye Array**	**67.03**	**327**	P	P	06 02 42.4	0.0
	0.8nm,0.7s,baz=114,slow=7.0,SNR=5.4						

SKHL 14 05:56:23.4±0.4, 48.°68N×142.°43E, h10km, mb3.8/3, 2C, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UGL	**Uglegorsk**	**0.47**	**329**	⇑ *i*Pg	Pb	05 56 33.4	-0.3
UGL				AMB	AMB	05 56 34.5	
	170nm,0.4s						
UGL				*e*Sg	Sb	05 56 40.3	-0.3
UGL				A	A	05 56 43.0	
	2μm,0.5s						
UGL				A	A	05 56 43.0	
	2μm,0.4s						
UGL				A	A	05 56 43.0	
	810nm,0.4s						
YSS	**Yuzh-Sakhalins**	**1.74**	**173**	⇑ *e*Pg	Pg	05 56 58.0	+1.2
YSS				AMB	AMB	05 56 58.5	
	40nm,0.6s						
YSS				*e*Sg	Sg	05 57 22.0	+2.6
YSS				A	A	05 57 26.0	
	86nm,0.5s						
YSS				A	A	05 57 26.0	
	66nm,0.5s						
TYV	**Tymovskoe**	**2.19**	**4**	*e*Pg	Pg	05 57 06.8	+1.4
TYV				AMB	AMB	05 57 10.0	
	13nm,0.8s						
TYV				AMB	AMB	05 57 10.0	
	22nm,0.8s						
TYV				*e*Sg	Sg	05 57 37.5	+3.7
TYV				A	A	05 57 51.0	
	9.0nm,0.7s						
TYV				A	A	05 57 51.0	
	33nm,0.7s						
GRNR	**Gornyy**	**4.42**	**300**	*e*Sg	Sb	05 58 40.0	+5.4
NKL	**Nikolayevsk**	**4.61**	**347**	*eP*	Pn	05 57 35.0	+1.9
NKL				*e*Sg	Sg	05 58 57.0	+5.7
NKL				A	A	05 59 02.0	
	23nm,0.7s						
NKL				A	A	05 59 02.0	
	15nm,0.7s						
OKH	**Okha**	**4.89**	**4**	*e*Pg	Pg	05 58 01.5	+4.6
EKMR	**Ekimchan**	**7.43**	**310**	*e*Sg	Sg	06 00 17.0	-4.9
EKMR				A	A	06 00 17.9	
	5.0nm,0.6s						
EKMR				A	A	06 00 17.9	
	4.0nm,0.6s						

*SZGRF **14** 05:59:22.1, 18.°34S×177.°55W, h33km, Fiji Islands region*
*PRU **14** 06:00:20.3, 17.°70S×178.°00W, h547km*

IDC 14 06:00:19.7±1.2, 17.°67S×178.°13W, h536km±14km, mb3.6/13, mb1 3.8/15, mb1mx3.6/23, mbtmp3.6/15, 2C-5D, Error ellipse: s-maj=22.7km s-min=9.3km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.17**	**59**	P	P	06 02 07.7	-1.3
	20nm,0.3s,baz=183,slow=2.8,SNR=20						
AFI				S	S	06 03 35.7	-2.7
	1.9nm,0.3s,baz=90,slow=20,SNR=2.2						
DZM	**Mont Dzumac**	**15.15**	**251**	*eP*	P	06 03 32.7	+1.5
DZM	**Mont Dzumac**	**15.15**	**251**	P	P	06 03 32.1	+0.9
	2.6nm,0.3s,baz=78,slow=14,SNR=34						
JCZ	**Jackson Bay**	**28.55**	**200**	P*	P	06 05 31.1	-1.3
EIDS	**Eidsvold**	**29.60**	**250**	*eP*	P	06 05 40.9	-0.7
	100nm,0.8s						
ARMA	**Armidale**	**30.29**	**240**	*eP*	P	06 05 47.7	+0.1
CTA	**Charters Tower**	**33.75**	**260**	*eP*	P	06 06 16.6	-0.5
	9.4nm,0.9s						
CTA	**Charters Tower**	**33.75**	**260**	P	P	06 06 16.9	-0.2
	11nm,0.8s,baz=100,slow=12,SNR=14						
CNB	**Canberra Magne**	**33.78**	**232**	*eP*	P	06 06 17.7	+0.4
	206nm,0.6s						
PMG	**Port Moresby**	**34.68**	**279**	P	P	06 06 26.3	+1.3
	56nm,0.8s,baz=93,slow=6.4,SNR=27						
QLP	**Quilpie**	**35.87**	**249**	*eP*	P	06 06 34.4	-0.3
TOO	**Toolangi**	**37.53**	**231**	*eP*	P	06 06 48.4	+0.2
	254nm,0.8s						
STKA	**Stephens Creek**	**38.98**	**241**	⫴ *iP*	P	06 07 00.4	+0.3
	27nm,0.7s						
STKA	**Stephens Creek**	**38.98**	**241**	P	P	06 07 00.5	+0.4
	31nm,0.6s,baz=77,slow=8.8,SN

baz=271
TWT eS Sb 06 09 42.5 +0.5
baz=271
NSK Sanguang 1.15 308 eP Pb 06 09 27.6 -0.4
baz=304
NSK eS Sb 06 09 42.6 -0.2
baz=304
TWF1 Yuli 1.16 238 eP Pb 06 09 27.4 -0.6
baz=236
TWF1 eS Sb 06 09 42.6 -0.3
baz=236
NWF Wu-fen Shan 1.21 334 eP Pn 06 09 28.7 -0.2
baz=330
NWF eS Sn 06 09 45.4 +0.2
baz=330
IRIF Iriomote-Funau 1.30 74 P Pn 06 09 30.3 +0.3
IRIF S Sb 06 09 46.8 -0.2
HATJ Hateruma jima 1.32 86 eS Sb 06 09 47.2 -0.5
SMLT Sun Moon Lake 1.34 266 eP Pn 06 09 30.4 -0.3
baz=254
SMLT eS Sb 06 09 48.2 -0.2
baz=254
TYC Yuchr 1.38 267 eP Pb 06 09 32.0 +0.2
baz=265
TYC eS Sn 06 09 49.0 -0.2
baz=265
NSTT Nanjuang 1.40 298 eP Pn 06 09 31.8 +0.3
baz=295
NSTT eS Sn 06 09 49.5 -0.3
baz=295
TWQ1 Liyutan 1.50 285 eP Pn 06 09 32.9 +0.2
baz=282
TWQ1 eS Sn 06 09 50.3 -1.8
baz=282
ALS Alishan 1.50 252 eP Pn 06 09 32.9 -0.1
baz=251
ALS eS Sn 06 09 51.8 -0.8
baz=251
CHN5 Tsauling 1.59 257 eP Pn 06 09 34.8 +0.8
baz=245
CHN5 eS Sn 06 09 54.8 +0.3
baz=245
JIJ Ishigaki jima 1.67 76 P Pb 06 09 37.1 +0.3
JIJ eS Sn 06 09 57.7 +1.3
CHN1 Nanshi 1.86 245 eP Pn 06 09 38.8 +1.1
baz=245
CHN1 eS Sn 06 10 02.0 +0.9
baz=245
TWK Hsinying 1.86 248 eP Pn 06 09 37.8 +0.1
baz=247
TWK eS Sn 06 10 00.9 -0.2
baz=247
ECL Taimali 1.89 224 eP Pn 06 09 39.2 +1.1
baz=223
ECL eS Sn 06 10 00.8 -0.9
baz=223
SSD Sandimen 2.01 233 eP Pn 06 09 40.2 +0.5
baz=225
SSD eS Sn 06 10 04.5 -0.2
baz=225
LAY Lan-yu 2.07 201 eP Pn 06 09 39.7 -0.8
baz=200

MOS ***14*** *06:12:36.4±0.9,53.°40N×160.°96E,h47km,mb4.1/8, Error ellipse: s-maj=16.6km s-min=8.7km az=78.3*

ISCJB ***14*** *06:12:37.5±0.5,53.°44N±0.°03×160.°85E±0.°06,h61km±5km, mb3.7/14, Error ellipse: s-maj=7.0km s-min=2.8km az=30.5*

KRSC ***14*** *06:12:38.2±0.1,53.°47N×160.°79E,h43km±33km,ML4.3*

IDC ***14*** *06:12:42.0±1.8,53.°62N×160.°55E,h80km±19km,mb3.5/14, mb1 3.7/14,mb1mx3.6/25,mbtmp3.5/14, Error ellipse: s-maj=25.9km s-min=15.4km az=171.0*

ISC 14 06:12:36.9±1.1,53.°38N±0.°04×160.°98E±0.°04,h43km±11km, n61,σ1s36/99,mb3.8/14,1D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.64**	**245**	PN	**Pn**	**06 12 49.9**	**+0.3**
SPN				S	**Sn**	**06 12 58.0**	**-0.7**
SPN	**Mys Shipunski**	**0.64**	**245**	*i* P	**Pn**	**06 12 49.9**	**+0.3**
SPN				*i* S	**Sn**	**06 12 58.0**	**-0.7**
MKZ	**Mys Kozlova**	**1.26**	**20**	PN	**Pn**	**06 12 57.5**	**-0.6**
MKZ	**Mys Kozlova**	**1.26**	**20**	*e*P	**Pn**	**06 12 57.5**	**-0.6**
SDLR	**Sedlovina**	**1.26**	**266**	*i* P	**Pn**	**06 12 58.6**	**+0.4**
SDLR				*i* S	**Sn**	**06 13 13.7**	**-0.3**
UGLR	**Uglovaya**	**1.31**	**264**	*i* P	**Pn**	**06 12 59.5**	**+0.7**
UGLR				*i* S	**Sn**	**06 13 14.3**	**-0.8**
SMAR	**Somma**	**1.31**	**266**	*i* P	**Pn**	**06 12 59.3**	**+0.3**
SMAR				*i* S	**Sn**	**06 13 14.5**	**-0.9**
AVH	**Avacha**	**1.35**	**266**	*i* P	**Pn**	**06 13 00.1**	**+0.7**
AVH				*i* S	**Sn**	**06 13 15.9**	**-0.2**
KOK	**Koryaka**	**1.41**	**268**	*i* P	**Pn**	**06 13 00.8**	**+0.6**
KOK				*e*S	**Sn**	**06 13 16.7**	**-0.9**
PET	**Petropavlovsk**	**1.45**	**257**	⇓*i* PN	**Pn**	**06 13 01.1**	**+0.5**
PET				*e*S	**Sn**	**06 13 18.4**	**+0.1**
PET				pmax	pmax		
	comp=Z,140nm,0.4s						
PET				smax	smax		
	comp=E,1μm,0.4s						
PET				smax	smax		
	comp=N,797nm,0.4s						
PET	**Petropavlovsk**	**1.45**	**257**	*i* P	**Pn**	**06 13 01.2**	**+0.6**
PET				*i* S	**Sn**	**06 13 17.7**	**-0.6**
RUS	**Russkaya**	**1.77**	**239**	PN	**Pn**	**06 13 05.6**	**+0.6**
RUS				S	**Sn**	**06 13 25.7**	**-0.5**
RUS	**Russkaya**	**1.77**	**239**	*i* P	**Pn**	**06 13 05.6**	**+0.6**
RUS				*i* S	**Sn**	**06 13 25.7**	**-0.5**
MTVR	**Mutnovka**	**1.92**	**243**	*i* P	**Pn**	**06 13 08.3**	**+1.1**
MTVR				*i* S	**Sn**	**06 13 30.2**	**+0.1**
PETK	**Petropavlovsk-**	**1.99**	**264**	PN	**Pn**	**06 13 09.3**	**+1.2**
PETK				S	**Sn**	**06 13 33.6**	**+1.8**
PETK				pmax	pmax		
	comp=Z,16nm,0.3s						
PETK				smax	smax		
	comp=N,62nm,0.3s						
PETK	**Petropavlovsk-**	**1.99**	**264**	P	**Pn**	**06 13 09.3**	**+1.2**
	comp=N,16nm,0.3s,baz=87,slow=21,SNR=485						
PETK				S	**Sn**	**06 13 33.6**	**+1.8**
	comp=N,62nm,0.3s,baz=295,slow=23,SNR=23						
ASAK	**Asacha**	**2.12**	**243**	*i* P	**Pn**	**06 13 11.6**	**+1.7**
ASAK				*i* S	**Sn**	**06 13 36.2**	**+1.2**
APC	**Apacha**	**2.35**	**260**	*e*P	**Pn**	**06 13 14.9**	**+2.0**
APC				*i* S	**Sn**	**06 13 41.2**	**+0.7**
KMNR	**Kamenistaya**	**2.43**	**350**	*e*P	**Pn**	**06 13 15.6**	**+1.5**
KMNR				*i* S	**Sn**	**06 13 42.9**	**+0.3**
BZGR	**Bezymyannyi-Gr**	**2.58**	**356**	*i* P	**Pn**	**06 13 17.8**	**+1.6**
BZGR				*i* S	**Sn**	**06 13 46.4**	**+0.1**
BZMR	**Bezymyannaya**	**2.58**	**354**	*i* P	**Pn**	**06 13 18.0**	**+1.7**
BZMR				*i* S	**Sn**	**06 13 47.1**	**+0.6**
BZWR	**Bezymyannyi-We**	**2.61**	**354**	*i* P	**Pn**	**06 13 18.4**	**+1.7**
BZWR				*i* S	**Sn**	**06 13 48.5**	**+1.3**
KPT	**Kopyto**	**2.63**	**351**	*i* P	**Pn**	**06 13 18.7**	**+1.7**
KPT				*e*S	**Sn**	**06 13 48.3**	**+0.6**
ZLN	**Zelenaya**	**2.65**	**358**	*i* P	**Pn**	**06 13 19.1**	**+1.9**
ZLN				*i* S	**Sn**	**06 13 49.1**	**+1.0**
LGNR	**Loginova**	**2.72**	**357**	*i* P	**Pn**	**06 13 20.4**	**+2.1**
LGNR				*i* S	**Sn**	**06 13 51.5**	**+1.4**
CIRR	**Tsirk**	**2.75**	**357**	*i* P	**Pn**	**06 13 20.4**	**+1.8**
CIRR				*i* S	**Sn**	**06 13 51.4**	**+0.8**
KOZ	**Kozyrevsk**	**2.77**	**347**	*i* P	**Pn**	**06 13 19.4**	**+0.7**
KOZ				*i* S	**Sn**	**06 13 49.7**	**-1.1**
KOZR	**Kozyr**	**2.77**	**347**	PN	**Pn**	**06 13 19.4**	**+0.6**
KOZR				S	**Sn**	**06 13 49.7**	**-1.3**
MIPR	**Malaya Ipel'ka**	**2.79**	**248**	*e*P	**Pn**	**06 13 21.6**	**+2.6**
KRSR	**Krestovskiy**	**2.86**	**355**	*i* P	**Pn**	**06 13 21.4**	**+1.3**
KRSR				*i* S	**Sn**	**06 13 52.8**	**-0.5**
ESO	**Esso**	**2.88**	**333**	PN	**Pn**	**06 13 20.9**	**+0.6**
ESO				S	**Sn**	**06 13 51.6**	**-2.1**
ESO	**Esso**	**2.88**	**333**	*i* P	**Pn**	**06 13 20.9**	**+0.6**
ESO				*e*S	**Sn**	**06 13 51.6**	**-2.1**
KLY	**Klyuchi**	**2.95**	**356**	PN	**Pn**	**06 13 22.5**	**+1.3**
KLY				S	**Sn**	**06 13 54.8**	**-0.5**
KLY	**Klyuchi**	**2.95**	**356**	*i* P	**Pn**	**06 13 22.5**	**+1.3**
KLY				*i* S	**Sn**	**06 13 54.8**	**-0.5**
KBTR	**Krutoberegovo**	**3.03**	**20**	PN	**Pn**	**06 13 23.2**	**+0.9**
KBTR				S	**Sn**	**06 13 55.7**	**-1.6**
KBTR	**Krutoberegovo**	**3.03**	**20**	*e*P	**Pn**	**06 13 23.2**	**+0.9**
KBTR				*i* S	**Sn**	**06 13 55.7**	**-1.6**
SRDR	**Sredinnyy**	**3.04**	**347**	*i* P	**Pn**	**06 13 22.8**	**+0.3**
SRDR				*e*S	**Sn**	**06 13 55.5**	**-2.1**
BDR	**Baidarnaya**	**3.20**	**2**	*i* P	**Pn**	**06 13 26.8**	**+2.0**
BDR				*i* S	**Sn**	**06 14 02.7**	**+1.0**
SMKR	**Semkarok**	**3.23**	**5**	*e*P	**Pn**	**06 13 26.6**	**+1.5**
SMKR				*i* S	**Sn**	**06 14 01.8**	**-0.5**
SRKR	**Sorokina**	**3.29**	**2**	*i* P	**Pn**	**06 13 27.6**	**+1.7**
SRKR				*i* S	**Sn**	**06 14 04.0**	**+0.2**
BKI	**Bering**	**3.45**	**56**	PN	**Pn**	**06 13 29.1**	**+1.1**
BKI	**Bering**	**3.45**	**56**	*i* P	**Pn**	**06 13 29.1**	**+1.1**
BKI				*i* S	**Sn**	**06 14 04.9**	**-2.7**
SKR	**Severo-Kuril's**	**4.04**	**230**	*e*PN	Pn	06 13 56.0	+20
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
FX1	**Attu Island--F**	**7.35**	**89**	P	**Pn**	**06 14 23.3**	**+1.8**
	comp=Z,1.3nm,0.3s,baz=265,slow=5.0,SNR=5.2						
FX1				S	**Sn**	**06 15 40.6**	**-2.9**
	comp=Z,10.0nm,0.3s,baz=168,slow=20,SNR=13						
ILAR	**Eielson Array**	**28.24**	**46**	P	**P**	**06 18 26.1**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=262,slow=8.0,SNR=14						
SONM	**Songino Array**	**34.36**	**283**	P	**P**	**06 19 17.1**	**-2.4**
	comp=Z,0.1nm,0.4s,baz=77,slow=7.4,SNR=2.4						
YKA	**Yellowknife Ar**	**42.59**	**43**	P	**P**	**06 20 29.5**	**+1.4**
	comp=Z,1.0nm,0.5s,baz=297,slow=7.8,SNR=36						
MKAR	**Makanchi Array**	**48.51**	**296**	P	**P**	**06 21 12.4**	**-2.8**
MKAR	**Makanchi Array**	**48.51**	**296**	P	**P**	**06 21 12.4**	**-2.8**
	comp=Z,0.2nm,0.4s,baz=48,slow=7.9,SNR=4.1						
ARCES	**ARCESS Array B**	**53.19**	**342**	P	**P**	**06 21 48.6**	**-1.4**
	comp=Z,2.1nm,0.8s,baz=47,slow=9.1,SNR=3.8						
NVAR	**Mina Array Bea**	**55.14**	**71**	P	**P**	**06 22 07.8**	**+2.8**
	comp=Z,0.2nm,0.4s,baz=310,slow=5.8,SNR=4.0						
PDAR	**Pinedale Array**	**56.92**	**62**	P	**P**	**06 22 19.2**	**+1.6**
	comp=Z,1.2nm,0.9s,baz=348,slow=2.1,SNR=7.7						
FINES	**FINESS Array B**	**60.07**	**337**	P	**P**	**06 22 38.1**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=42,slow=6.4,SNR=12						
NB2	**NORSAR Subarra**	**63.42**	**344**	P	**P**	**06 23 00.8**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=23,slow=6.5						
NOA	**NORSAR Array B**	**63.42**	**344**	P	**P**	**06 23 00.8**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=23,slow=6.8,SNR=4.5						
SCHQ	**Schefferville**	**65.15**	**28**	P	**P**	**06 23 12.8**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=336,slow=10.0,SNR=3.4						
AKASG	**Malin Array Be**	**68.65**	**329**	P	**P**	**06 23 34.2**	**-1.0**
AKASG	**Malin Array Be**	**68.65**	**329**	P	**P**	**06 23 34.2**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=27,slow=6.4,SNR=3.0						
TXAR	**Lajitas Array**	**70.03**	**68**	P	**P**	**06 23 46.7**	**+2.4**
	comp=Z,1.0nm,0.5s,baz=303,slow=5.3,SNR=18						
GERES	**GERESS Array B**	**74.45**	**338**	P	**P**	**06 24 10.2**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=29,slow=6.7,SNR=4.5						
WRA	**Warramunga Arr**	**76.56**	**206**	P	**P**	**06 24 23.7**	**+1.2**
	comp=Z,0.5nm,1.0s,baz=20,slow=6.0,SNR=4.7						

IDC ***14*** *06:22:54.1±1.5,2.°42S×140.°44E,h0km,mb3.8/6, mb1 4.1/7,mb1mx3.8/16,mbtmp3.9/7,ML4.2/1,MS3.4/3, Ms1 3.4/3,ms1mx2.8/26, Error ellipse: s-maj=60.7km s-min=14.4km az=98.0*

ISCJB ***14*** *06:22:56.5±1.0,2.°40S±0.°09×140.°4E±0.°2,h24km,mb3.8/6, MS3.3/3, Error ellipse: s-maj=36.0km s-min=10.0km az=12.0*

NEIC ***14*** *06:22:59.8±0.8,2.°37S×140.°36E,h35km,mb4.1/2, Error ellipse: s-maj=35.1km s-min=9.6km az=97.0*

ISC 14 06:22:58.6±1.1,2.°45S±0.°10×140.°3E±0.°3,h24km,n18, σ1s82/22,mb3.9/6,MS3.4/3,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**18.31**	**198**	*e*P	**Pn**	**06 27 12.3**	**+1.2**
	8.0nm,0.9s						
WRA	**Warramunga Arr**	**18.32**	**198**	P	**Pn**	**06 27 12.3**	**+0.9**
WRA				S	**Sn**	**06 30 31.3**	**-4.1**
WRA	**Warramunga Arr**	**18.32**	**198**	P	**Pn**	**06 27 12.3**	**+0.9**
	0.8nm,0.3s,baz=17,slow=12,SNR=17						
WRA				S	**Sn**	**06 30 31.3**	**-4.1**
	0.1nm,0.3s,baz=34,slow=24,SNR=4.5						
FITZ	**Fitzroy Crossi**	**21.16**	**222**	*e*P	**P**	**06 27 42.9**	**+0.6**
	15nm,1.2s						
FITZ				S	**S**	**06 31 35.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**21.16**	**222**	P	**P**	**06 27 43.9**	**+1.7**
	2.7nm,0.7s,baz=30,slow=8.1,SNR=5.7						
FITZ				S	**S**	**06 31 35.6**	**-1.0**
	2.9nm,0.7s,baz=182,slow=17,SNR=3.4						
FITZ				LR	LR	06 37 04.0	
	comp=Z,47nm,18.5s,baz=152,slow=40						
AS31	**Alice Springs**	**21.97**	**196**	*e*P	**P**	**06 27 51.9**	**+1.0**
ASAR	**Alice Springs**	**21.97**	**196**	P	**P**	**06 27 52.5**	**+1.5**
ASAR				S	**S**	**06 31 54.6**	**+2.1**
ASAR	**Alice Springs**	**21.97**	**196**	P	**P**	**06 27 52.5**	**+1.5**
	2.2nm,0.6s,baz=18,slow=9.1,SNR=25						
ASAR				S	**S**	**06 31 54.6**	**+2.1**
	0.4nm,0.7s,baz=27,slow=23,SNR=4.2						
STKA	**Stephens Creek**	**29.29**	**178**	LR	LR	06 42 37.1	
	comp=Z,88nm,18.7s,baz=24,slow=40						
SONM	**Songino Array**	**58.16**	**334**	LR	LR	07 00 09.6	
	comp=Z,55nm,18.3s,baz=121,slow=38						
MKAR	**Makanchi Array**	**70.54**	**322**	P	**P**	**06 34 11.7**	**0.0**
MKAR	**Makanchi Array**	**70.54**	**322**	P	**P**	**06 34 11.7**	**0.0**
	1.0nm,0.7s,baz=103,slow=7.9,SNR=10.0						
ZALV	**Zalesovo Beam**	**72.50**	**329**	P	**P**	**06 34 22.4**	**-0.9**
ZALV	**Zalesovo Beam**	**72.50**	**329**	P	**P**	**06 34 22.4**	**-0.9**
	0.4nm,0.3s,baz=117,slow=5.0,SNR=3.2						
BVAR	**Borovoye Array**	**79.99**	**325**	P	**P**	**06 35 05.8**	**-0.1**
BVAR	**Borovoye Array**	**79.99**	**325**	P	**P**	**06 35 05.8**	**-0.1**
	1.0nm,0.7s,baz=103,slow=6.2,SNR=5.5						
ILAR	**Eielson Array**	**84.96**	**24**	P	**P**	**06 35 30.1**	**-1.5**
ILAR	**Eielson Array**	**84.96**	**24**	P	**P**	**06 35 30.1**	**-1.5**
	0.5nm,0.9s,baz=261,slow=4.3,SNR=4.5						

MEX 14 06:31:42.5±0.5,15.°86N×95.°15W,h7km±6km,MD3.9,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.93**	**264**	*e*P	Pg	06 31 58.0	-2.4
HUIG				*e*S	Sg	06 32 10.1	-2.5
CMIG	**Matias Romero**	**1.25**	**12**	*e*P	Pn	06 32 02.6	-3.8
CMIG				*i* S	Sb	06 32 17.9	-4.8
PCIG		**1.86**	**95**	*i* P	Pn	06 32 11.1	-3.7
PCIG				*i* S	Sn	06 32 33.0	-5.6
VHO	**Vista Hermosa**	**1.94**	**308**	*e*P	Pn	06 32 12.1	-4.1
VHO				*e*S	Sn	06 32 36.9	-4.1
TGIG		**2.15**	**65**	*e*P	Pn	06 32 16.0	-2.8
TGIG				*e*S	Sn	06 32 41.7	-4.0
CCIG	**Comitan**	**2.92**	**81**	*e*P	Pn	06 32 26.7	-2.9
CCIG				*e*S	Sn	06 33 01.1	-4.1

IDC ***14*** *06:55:38.3±0.9,3.°82N×127.°27E,h0km,mb4.1/12, mb1 4.2/12,mb1mx4.0/23,mbtmp4.1/12,MS3.1/2, Ms1 3.1/2,ms1mx2.7/33, Error ellipse: s-maj=64.9km s-min=14.3km az=69.0*

NEIC ***14*** *06:55:43.4±0.6,3.°78N×127.°28E,h35km,mb4.2/7, Error ellipse: s-maj=36.7km s-min=8.1km az=69.0*

ISC 14 06:55:43.4±0.9,3.°8N±0.°1×127.°3E±0.°3,h35km,n30, σ0s71/28,mb4.1/17,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.84**	**184**	*e*P	**P**	**07 00 34.1**	**+1.1**
	54nm,1.9s						
FITZ	**Fitzroy Crossi**	**21.84**	**184**	P	**P**	**07 00 33.2**	**+0.2**
	1.1nm,0.4s,baz=343,slow=11,SNR=4.0						
JOW	**Kunigami**	**22.90**	**2**	LR	LR	07 08 32.9	
	comp=Z,65nm,19.8s,baz=204,slow=34						
WRAB	**Tennant Creek**	**24.59**	**164**	*e*P	**P**	**07 00 59.4**	**-1.0**
	16nm,0.8s						
WRA	**Warramunga Arr**	**24.60**	**164**	P	**P**	**07 01 00.5**	**0.0**
WRA	**Warramunga Arr**	**24.60**	**164**	P	**P**	**07 01 00.5**	**0.0**
	8.5nm,0.8s,baz=344,slow=11,SNR=37						
ASAR	**Alice Springs**	**28.06**	**167**	P	**P**	**07 01 32.0**	**+0.3**
ASAR	**Alice Springs**	**28.06**	**167**	P	**P**	**07 01 32.0**	**+0.3**
	1.0nm,0.7s,baz=337,slow=8.1,SNR=9.2						
CMAR	**Chiang Mai Arr**	**31.34**	**300**	P	**P**	**07 02 00.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**31.34**	**300**	P	**P**	**07 02 00.4**	**-0.5**
	1.0nm,0.4s,baz=118,slow=7.2,SNR=6.4						
KSRS	**Korea Array**	**33.49**	**1**	LR	LR	07 14 29.8	
	comp=Z,55nm,21.9s,baz=170,slow=34						
STKA	**Stephens Creek**	**38.01**	**160**	*e*P	**P**	**07 02 56.8**	**-1.5**
	1.7nm,0.9s						
STKA	**Stephens Creek**	**38.01**	**160**	P	**P**	**07 02 58.0**	**-0.2**
	2.5nm,0.8s,baz=330,slow=8.1,SNR=5.2						
ULN	**Ulaanbaatar**	**47.22**	**341**	*e*P	**P**	**07 04 14.6**	**+1.5**
	1.6nm,0.9s						
SONM	**Songino Array**	**47.41**	**341**	P	**P**	**07 04 15.7**	**+1.2**
SONM	**Songino Array**	**47.41**	**341**	P	**P**	**07 04 15.7**	**+1.2**
	0.6nm,0.7s,baz=154,slow=9.6,SNR=5.3						
MKAR	**Makanchi Array**	**57.82**	**325**	P	**P**	**07 05 31.4**	**-0.1**
MKAR	**Makanchi Array**	**57.82**	**325**	P	**P**	**07 05 31.4**	**-0.1**
	0.9nm,0.5s,baz=120,slow=7.9,SNR=9.6						
KURBB	**Kurchatov Arra**	**61.99**	**327**	P	**P**	**07 05 59.8**	**-0.1**
	2.5nm,0.7s,baz=126,slow=6.5,SNR=23						
KURK	**Kurchatov**	**61.99**	**327**	*e*P	**P**	**07 05 60.0**	**+0.1**
	4.1nm,0.6s						
KKAR	**Karatay Array**	**63.57**	**317**	*e*P	**P**	**07 06 09.6**	**-1.1**
	0.7nm,0.7s						
BVAR	**Borovoye Array**	**67.57**	**327**	P	**P**	**07 06 36.6**	**+0.3**
BVAR	**Borovoye Array**	**67.57**	**327**	P	**P**	**07 06 36.6**	**+0.3**
	0.6nm,0.6s,baz=123,slow=5.3,SNR=4.7						
ABKAR	**Akbulak array**	**72.46**	**321**	*e*P	**P**	**07 07 05.8**	**-0.5**
	1.0nm,0.6s						
AKTO	**Aktyubinsk**	**73.96**	**322**	P	**P**	**07 07 15.1**	**-0.2**
AKTO	**Aktyubinsk**	**73.96**	**322**	P	**P**	**07 07 15.1**	**-0.2**
	2.3nm,0.7s,baz=97,slow=8.0,SNR=12						
ARCES	**ARCESS Array B**	**90.57**	**340**	P	**P**	**07 08 41.6**	**-0.1**
ARCES	**ARCESS Array B**	**90.57**	**340**	P	**P**	**07 08 41.6**	**-0.1**
	2.4nm,0.9s,baz=74,slow=6.7,SNR=4.3						
FINES	**FINESS Array B**	**92.04**	**332**	P	**P**	**07 08 48.8**	**+0.3**
FINES	**FINESS Array B**	**92.04**	**332**	P	**P**	**07 08 48.8**	**+0.3**
	0.7nm,0.8s,baz=3.4,slow=7.0,SNR=2.4						

GUC 14 06:57:01.2±0.6,31.°66S×71.°67W,h30km±1km,MD3.5, ML3.3,4C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.27**	**147**	⇓*i* P	Pb	06 57 08.1	-0.1
CHNG				*i* S	Sb	06 57 13.2	+0.2
CHNG				AML	AML	06 57 13.4	
	comp=N,8μm,0.2s						
PTCH	**Petorca**	**0.87**	**134**	⇑*i* P	Pn	06 57 17.1	-0.3
PTCH				*i* S	Sn	06 57 28.9	-0.3
PTCH				AML	AML	06 57 33.1	
	comp=E,2μm,0.2s						
OVCH	**Ovalle**	**1.12**	**21**	*i* P	Pn	06 57 21.2	+0.3
OVCH				*i* S	Sb	06 57 36.2	0.0
OVCH				AML	AML	06 57 42.1	
	comp=N,1μm,0.2s						
JACH	**Jahuel**	**1.37**	**138**	*e*P	Pn	06 57 25.3	+0.9
JACH				*i* S	Sb	06 57 43.3	-0.3
ROCH	**El Roble**	**1.42**	**157**	AML	AML	06 57 48.4	
	comp=N,1μm,0.3s						
TLL	**Tololo Astrono**	**1.66**	**27**	⇑*i* P	Pn	06 57 29.8	+1.2
TLL				*i* S	Sb	06 57 51.8	-0.5
TLL				AML	AML	06 58 01.7	
	comp=N,469nm,0.5s						
PEL	**Peldehue**	**1.70**	**151**	⇓*i* P	Pn	06 57 30.0	+1.2
PEL				*i* S	Sb	06 57 52.0	-0.9
PEL				AML	AML	06 57 55.5	
	comp=E,1μm,0.3s						
FSR	**Penalolen**	**2.05**	**152**	⇑*i* P	Pn	06 57 35.4	+1.6
FSR				*i* S	Sb	06 58 00.8	-2.3
FSR				AML	AML	06 58 11.6	
	comp=E,115nm,0.7s						
TACH	**Talagante**	**2.08**	**163**	⇑*i* P	Pn	06 57 35.2	+1.1
ANTU	**Antumapu**	**2.10**	**156**	*i* P	Pn	06 57 35.4	+1.1
ANTU				*i* S	Sn	06 58 01.7	+2.3
ANTU				AML	AML	06 58 11.2	
	comp=E,348nm,0.3s						
SJCH	**San Jose de Ma**	**2.27**	**151**	⇓*i* P	Pn	06 57 37.1	+0.4
SJCH				*i* S	Sn	06 58 05.3	+1.6
SJCH				AML	AML	06 58 16.3	
	comp=N,238nm,0.8s						
CHCH	**Chadas Angostu**	**2.42**	**160**	*i* P	Pn	06 57 40.3	+1.4
CHCH				*i* S	Sn	06 58 10.1	+2.5
LMEL	**Las Melosas**	**2.51**	**151**	*e*P	Pn	06 57 41.8	+1.6
LMEL				*i* S	Sn	06 58 12.4	+2.5
LMEL				AML	AML	06 58 23.0	
	comp=N,442nm,0.4s						

IDC 14 07:15:37.1±2.8,6.°33S×103.°66E,h0km,mb3.9/6, mb1 4.0/6,mb1mx3.8/20,mbtmp3.9/6,Error ellipse: s-maj=97.4km s-min=26.1km az=52.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**25.07**	**349**	P	P	07 21 04.0	+0.6
	0.8nm,0.3s,baz=182,slow=9.1,SNR=6.5						
WRA	**Warramunga Arr**	**32.72**	**117**	P	P	07 22 11.6	-0.1
	0.6nm,0.7s,baz=290,slow=12,SNR=2.6						
KSRS	**Korea Array**	**49.10**	**26**	P	P	07 24 25.8	-0.6
	1.0nm,0.7s,baz=212,slow=6.8,SNR=4.2						
SONM	**Songino Array**	**53.99**	**2**	P	P	07 25 03.0	0.0
	1.6nm,0.6s,baz=178,slow=8.8,SNR=15						
MKAR	**Makanchi Array**	**56.19**	**342**	P	P	07 25 18.9	+0.1
	0.8nm,0.6s,baz=144,slow=7.7,SNR=7.5						
ZALV	**Zalesovo Beam**	**62.11**	**348**	P	P	07 25 58.8	-0.9
	0.7nm,0.4s,baz=142,slow=5.1,SNR=6.0						
TXAR	**Lajitas Array**	**145.54**	**45**	PKPbc	PKPdf	07 35 17.9	-0.3
	0.6nm,0.5s,baz=340,slow=2.4,SNR=12						

IDC 14 07:16:10.3±2.1,4.°67N×126.°88E,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.5/19,mbtmp3.8/3,Error ellipse: s-maj=151.3km s-min=29.2km az=64.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.53**	**164**	P	P	07 21 40.1	-0.7
	3.8nm,0.8s,baz=344,slow=10,SNR=16						
STKA	**Stephens Creek**	**38.95**	**160**	P	P	07 23 39.0	+0.8
	1.5nm,0.6s,baz=342,slow=7.5,SNR=4.0						
MKAR	**Makanchi Array**	**56.88**	**325**	P	P	07 25 56.9	-0.1
	0.1nm,0.4s,baz=127,slow=7.5,SNR=2.6						

**KRSC 14 07:17:26.3±0.1

TXAR	**Lajitas Array**	**86.06**	**58**	P	P	07 29 33.8	+1.0
	1.1nm,0.7s,baz=224,slow=6.0,SNR=11							
PDAR	**Pinedale Array**	**87.34**	**44**	P	P	07 29 38.6	-0.1
	0.8nm,0.6s,baz=205,slow=3.2,SNR=10							
INK	**Inuvik**	**91.72**	**15**	P	P	07 29 57.6	-0.4
	0.7nm,0.7s,baz=185,slow=3.8,SNR=4.5							
YKA	**Yellowknife Ar**	**94.21**	**25**	P	P	07 30 09.0	-0.6
	0.3nm,0.8s,baz=244,slow=4.9,SNR=3.7							
GERES	**GERESS Array B**	**147.32**	**345**	PKPbc	PKPbc	07 36 31.4	-0.4
	0.9nm,0.6s,baz=33,slow=3.2,SNR=7.6							

IDC **14** *07:18:38.2±1.0,4.15N×127.01E,h0km,mb4.0/10, mb1 4.1/10,mb1mx4.0/20,mbtmp4.0/10,MS3.2/1, Ms1 3.2/1,ms1mx2.3/31,Error ellipse: s-maj=65.8km s-min=15.1km az=68.0*

ISCJB **14** *07:18:42.1±0.7,4.0N±0.1×126.9E±0.2,h36km,mb4.0/12, Error ellipse: s-maj=38.6km s-min=7.4km az=155.2*

NEIC **14** *07:18:43.2±0.7,4.10N×127.00E±0.3,h35km,mb4.3/3,Error ellipse: s-maj=44.1km s-min=10.0km az=69.0*

ISC 14 07:18:43.7±0.9,4.0N±0.1×127.0E±0.3,h36km,n26, σ1s33/25,mb4.1/12,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.88**	**316**	*eP*			**Pn**	**07 19 25.7**	**-1.5**
DAV	**Davao City (W)**	**3.34**	**336**	LR			LR	07 21 05.0	
	comp=Z,333nm,19.2s,baz=222,slow=45								
BUKP	**Musuan**	**4.28**	**334**	*eP*			Pn	07 19 50.4	+4.0
BUKP				*eS*			**Sn**	**07 20 38.3**	**+3.1**
PAGZ	**Pagadian**	**5.21**	**317**	*eP*			**Pn**	**07 19 59.7**	**+0.5**
PAGZ				*eS*			Px	07 20 19.4	
FITZ	**Fitzroy Crossi**	**22.01**	**183**	P			**P**	**07 23 34.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**22.01**	**183**	P			**P**	**07 23 34.7**	**-0.3**
	0.9nm,0.3s,baz=357,slow=10.0,SNR=5.5								
WRAB	**Tennant Creek**	**24.88**	**163**	*eP*			**P**	**07 24 03.3**	**0.0**
	10nm,1.0s								
WRA	**Warramunga Arr**	**24.88**	**163**	P			**P**	**07 24 03.9**	**+0.6**
WRA	**Warramunga Arr**	**24.88**	**163**	P			**P**	**07 24 03.9**	**+0.6**
	3.5nm,0.6s,baz=340,slow=10,SNR=16								
ASAR	**Alice Springs**	**28.33**	**166**	P			**P**	**07 24 34.9**	**+0.6**
ASAR	**Alice Springs**	**28.33**	**166**	P			**P**	**07 24 34.9**	**+0.6**
	0.4nm,0.5s,baz=340,slow=6.6,SNR=8.0								
CMAR	**Chiang Mai Arr**	**30.93**	**300**	P			**P**	**07 24 58.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**30.93**	**300**	P			**P**	**07 24 58.4**	**+0.9**
	0.7nm,0.3s,baz=103,slow=6.7,SNR=5.2								
STKA	**Stephens Creek**	**38.31**	**160**	*eP*			**P**	**07 26 01.6**	**+0.6**
	0.9nm,0.6s								
STKA	**Stephens Creek**	**38.31**	**160**	P			**P**	**07 26 02.4**	**+1.4**
	4.6nm,0.6s,baz=340,slow=7.6,SNR=11								
SONM	**Songino Array**	**47.11**	**341**	P			**P**	**07 27 11.7**	**-0.7**
SONM	**Songino Array**	**47.11**	**341**	P			**P**	**07 27 11.7**	**-0.7**
	0.7nm,0.6s,baz=156,slow=8.8,SNR=5.1								
MKAR	**Makanchi Array**	**57.46**	**325**	P			**P**	**07 28 26.9**	**-2.2**
MKAR	**Makanchi Array**	**57.46**	**325**	P			**P**	**07 28 26.9**	**-2.2**
	0.6nm,0.5s,baz=121,slow=7.7,SNR=10.0								
ZALV	**Zalesovo Beam**	**60.45**	**333**	P			**P**	**07 28 47.8**	**-1.8**
ZALV	**Zalesovo Beam**	**60.45**	**333**	P			**P**	**07 28 47.8**	**-1.8**
	0.5nm,0.4s,baz=108,slow=7.7,SNR=2.9								
KURK	**Kurchatov**	**61.63**	**327**	*eP*			**P**	**07 28 55.7**	**-2.0**
	3.6nm,0.9s								
ARCES	**ARCESS Array B**	**90.27**	**340**	P			**P**	**07 31 41.0**	**+0.5**
ARCES	**ARCESS Array B**	**90.27**	**340**	P			**P**	**07 31 41.0**	**+0.5**
	2.2nm,1.0s,baz=70,slow=5.3,SNR=3.8								
FINES	**FINESS Array B**	**91.70**	**332**	P			**P**	**07 31 47.3**	**+0.1**
FINES	**FINESS Array B**	**91.70**	**332**	P			**P**	**07 31 47.3**	**+0.1**
	1.0nm,0.8s,baz=44,slow=6.8,SNR=2.8								

FUNV 14 07:24:07.8,8.61N×70.66W,h1km,MW3.5,2C-3D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.38**	**210**	*eP*			Pg	07 24 14.9	-0.2
SOCV				*eS*			Sg	07 24 21.0	+1.0
VIGV	**El Vigia**	**0.73**	**288**	*iP*			Pg	07 24 22.2	+0.3
VIGV				*eS*			Sg	07 24 31.9	+0.5
CURV	**Curarigua**	**1.56**	**26**	*eP*			Pn	07 24 35.5	-1.2
QARV	**Quebrada Arrib**	**1.59**		*eP*			Pn	07 24 37.4	+0.2
CAPV	**Capacho**	**1.79**	**246**	*eP*			Pn	07 24 40.2	0.0
TEPV	**Terepaima**	**1.98**	**47**	*eP*			Pn	07 24 41.6	-0.9
TEPV				*eS*			Sn	07 25 07.1	-0.9
ELOV	**Elorza**	**1.98**	**144**	*eP*			Pn	07 24 41.8	-0.8
SIQV	**Siquisique**	**2.19**	**23**	*eP*			Pn	07 24 45.2	-0.3
SIQV				*eS*			Sn	07 25 12.6	-0.7
DABV	**Dabajuro**	**2.30**	**1**	*eP*			Pn	07 24 46.7	-0.2
DABV				*eS*			Sn	07 25 14.1	-1.6
VIRV	**Villa del Rosa**	**2.55**	**318**	*iP*			Pn	07 24 48.9	-1.3
VIRV				*eS*			Sn	07 25 20.4	-1.6
BAUV	**El Baul**	**2.61**	**83**	*eP*			Pn	07 24 49.5	-1.7
JACV	**Jacura**	**3.05**	**36**	*eP*			Pn	07 24 56.5	-0.7
JACV				*eS*			Sn	07 25 32.1	-2.4
TURV	**Turiamo**	**3.33**	**57**	*eP*			Pn	07 25 00.4	-0.7
TURV				*eS*			Sn	07 25 38.8	-2.5
MONV	**Montecano**	**3.39**	**12**	*iP*			Pn	07 25 01.1	-0.8
MONV				*eS*			Sn	07 25 39.7	-3.1
FUNV	**FUNVISIS**	**4.22**	**64**	*eP*			Pn	07 25 11.8	-1.7
PAYV	**Puerto Ayacuch**	**4.36**	**137**	*eP*			Pn	07 25 13.1	-2.0
PAYV				*eS*			Sn	07 26 02.6	-4.1
MERV	**Las Mercedes**	**4.36**	**81**	*eP*			Pn	07 25 13.4	-1.9
MERV				*eS*			Sn	07 26 03.1	-3.7
PCRV	**Puerto La Cruz**	**6.15**	**75**	*eP*			Pn	07 25 38.7	-1.2

IDC **14** *07:25:11.2±0.5,3.64N×126.50E,h0km,mb4.4/22, mb1 4.5/22,mb1mx4.5/24,mbtmp4.4/22,MS3.7/8, Ms1 3.7/8,ms1mx3.3/31,Error ellipse: s-maj=27.0km s-min=11.7km az=73.0*

BJI **14** *07:25:13.4,3.54N×126.94E,h35km,mB5.2/24,mb4.8/31, Ms4.9/13,Ms7 4.5/14*

ISCJB **14** *07:25:16.0±0.3,3.74N±0.03×126.90E±0.05,h48km, mb4.6/46,MS3.9/11,Error ellipse: s-maj=7.0km s-min=4.0km az=172.9*

NEIC **14** *07:25:16.4±0.3,3.71N×126.61E,h35km,mb4.8/18,Error ellipse: s-maj=16.1km s-min=6.3km az=71.0*

NEIC Felt [II] at Melonguanne.

DJA **14** *07:25:21,3.53N×126.81E,h47km,mb4.6/5*

ISC 14 07:25:17.5±0.4,3.76N±0.04×126.88E±0.07,h48km,n112, σ1s50/139,mb4.7/50,MS3.8/11,2D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**3.01**	**320**	*eP*			**Pn**	**07 26 04.0**	**+1.2**
GSPH				*eS*			**Sn**	**07 26 40.7**	**+3.0**
TNTI	**Ternate**	**3.01**	**171**	P			**Pn**	**07 26 02.1**	**-0.6**
TNTI				S			**Sn**	**07 26 37.9**	**+0.3**
MNI	**Manado**	**3.08**	**222**	P			**Pn**	**07 26 04.1**	**+0.4**
MNI				S			**Sn**	**07 26 39.6**	**+0.4**
MATI	**Mati**	**3.22**	**349**	*eP*			Pn	07 26 11.1	+5.4
DAV	**Davao City (W)**	**3.53**	**339**	P			Pn	07 26 14.6	+4.7
CTBH	**Cotabato--PC H**	**4.32**	**323**	*iP*			Pn	07 26 24.5	+3.8
BUKP	**Musuan**	**4.47**	**336**	*eP*			**Pn**	**07 26 25.0**	**+2.1**
BUKP				*eS*			Sn	07 27 00.7	-13
PAGZ	**Pagadian**	**5.35**	**320**	*eP*			**Pn**	**07 26 35.8**	**+0.9**
LUWI	**Luwuk**	**6.30**	**221**	P			**Pn**	**07 26 50.1**	**+2.2**
	298nm,1.2s,3μm0.9nm								
MYLDM	**Lahad Datu**	**8.47**	**280**	P			Pn	07 27 22.1	+4.4
	105nm,1.0s								
KDI	**Kendari**	**8.77**	**209**	P			**Pn**	**07 27 21.9**	**+0.1**
	28nm,1.3s,772nm								
KKM	**Kota Kinabalu**	**10.87**	**282**	*ePn*			**Pn**	**07 27 53.0**	**+2.4**
	10nm,0.6s								
KKM	**Kota Kinabalu**	**10.87**	**282**	P			**Pn**	**07 27 52.1**	**+1.5**
	20nm,1.8s								
KAPI	**Kappang**	**11.26**	**219**	LR			LR	07 33 00.2	
	comp=Z,382nm,18.2s,baz=56,slow=43								
SBUM	**Sibu**	**14.70**	**265**	P			**Pn**	**07 28 44.4**	**+1.8**
	39nm,1.3s								
KSM	**Kuching**	**16.71**	**263**	*eP*			**P**	**07 29 10.5**	**+0.4**
	33nm,1.0s								
KSM	**Kuching**	**16.71**	**263**	P			**P**	**07 29 11.5**	**+1.3**
GUMO	**Guam**	**20.27**	**60**	LR			LR	07 36 25.2	
	comp=Z,155nm,21.2s,baz=139,slow=33								
TPUB	**Ta-pu**	**20.34**	**343**	*eP*			**P**	**07 29 47.5**	**-2.5**
	96nm,1.7s								
SSLB	**Suanglung**	**20.72**	**344**	*eP*			**P**	**07 29 52.2**	**-1.8**
	17nm,0.8s								
FITZ	**Fitzroy Crossi**	**21.76**	**183**	*eP*			**P**	**07 30 04.2**	**-1.0**
	12nm,0.9s								
FITZ	**Fitzroy Crossi**	**21.76**	**183**	P			**P**	**07 30 03.4**	**-1.8**
	15nm,1.1s,baz=4.8,slow=9.0,SNR=7.6								
QIZ	**Qiongzhong**	**22.53**	**314**	P			**P**	**07 30 13.4**	**-0.1**
QIZ				S			**S**	**07 34 20.0**	**+2.4**
QIZ				pmax			pmax		
	comp=Z,65nm,4.1s								
JOW	**Kunigami**	**22.98**	**3**	LR			LR	07 39 23.9	
	comp=Z,94nm,18.6s,baz=165,slow=37								
WRAB	**Tennant Creek**	**24.66**	**163**	*eP*			**P**	**07 30 33.2**	**-0.7**
	comp=Z,49nm,0.9s								
WRA	**Warramunga Arr**	**24.67**	**163**	P			**P**	**07 30 33.9**	**-0.1**
WRA	**Warramunga Arr**	**24.67**	**163**	P			**P**	**07 30 33.9**	**-0.1**
	comp=Z,40nm,0.8s,baz=343,slow=10,SNR=138								
PSI	**Prapat**	**27.93**	**269**	LR			LR	07 42 14.4	
	comp=Z,230nm,21.2s,baz=275,slow=37								
AS31	**Alice Springs**	**28.11**	**166**	*eP*			**P**	**07 31 08.0**	**+3.0**
ASAR	**Alice Springs**	**28.11**	**166**	P			**P**	**07 31 04.5**	**-0.6**
ASAR				PcP			**PcP**	**07 34 19.6**	**+1.0**
ASAR	**Alice Springs**	**28.11**	**166**	P			**P**	**07 31 04.5**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=352,slow=8.0,SNR=17								
ASAR				PcP			**PcP**	**07 34 19.6**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=339,slow=1.6,SNR=5.5								
NJ2	**Nanjing**	**29.14**	**346**	*eP*			**P**	**07 31 15.5**	**+1.5**
NJ2				pmax			pmax		
	comp=Z,20nm,1.0s								
GYA	**Guiyang**	**29.74**	**321**	P			**P**	**07 31 21.0**	**+1.4**
GYA				pP			**pP**	**07 31 31.8**	**-0.4**
GYA				PP			PP	07 32 20.4	-7.1
GYA				PcP			**PcP**	**07 34 24.3**	**+1.5**
GYA				sS			S	07 36 32.0	+19
GYA				SS			ScP	07 37 51.9	-9.2
GYA				ScP			ScP	07 38 02.4	+1.3
GYA				ScS			**ScS**	**07 41 55.3**	**-1.0**
GYA				pmax			pmax		
	comp=Z,10.0nm,0.8s								
GYA				pmax			pmax		
	comp=Z,110nm,5.1s								
GYA				LR			LR		
	comp=N,540nm,17.6s								
GYA				LR			LR		
	comp=E,510nm,18.2s								
GYA				LR			LR		
	comp=Z,550nm,17.9s								
CMAR	**Chiang Mai Arr**	**30.99**	**300**	P			**P**	**07 31 30.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**30.99**	**300**	P			**P**	**07 31 30.1**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=115,slow=7.6,SNR=4.4								
KMI	**Kunming**	**31.47**	**315**	P			P	07 31 40.3	+5.3
KMI				pmax			pmax		
	comp=Z,12nm,0.6s								
KSAR	**Wonju Array Be**	**33.53**	**1**	P			**P**	**07 31 54.8**	**+2.1**
KSRS	**Korea Array**	**33.55**	**1**	P			**P**	**07 31 54.8**	**+2.0**
	comp=Z,3.9nm,0.8s,baz=182,slow=10,SNR=13								
MAT	**Matsushiro**	**34.25**	**16**	P			**P**	**07 31 58.7**	**-0.2**
MJAR	**Matsushiro Arr**	**34.25**	**16**	LR			LR	07 44 02.5	
	comp=Z,103nm,18.4s,baz=205,slow=33								
XAN	**Xi'an**	**34.46**	**333**	P			**P**	**07 31 59.4**	**-1.4**
XAN				pmax			pmax		
	comp=Z,3.0nm,0.8s								
XAN				pmax			pmax		
	comp=Z,44nm,5.3s								
BJT	**Baijiatuan**	**37.37**	**346**	*eP*			**P**	**07 32 26.7**	**+1.1**
	comp=Z,15nm,0.6s								
NWAO	**Narrogin (SRO)**	**37.62**	**193**	P			**P**	**07 32 27.2**	**-0.6**
NWAO	**Narrogin (SRO)**	**37.62**	**193**	P			**P**	**07 32 27.2**	**-0.6**
	comp=Z,12nm,1.1s,baz=137,slow=7.7,SNR=2.5								
SNY	**Shenyang**	**38.02**	**356**	*ℓP*			**P**	**07 32 33.3**	**+2.3**
SNY				pmax			pmax		
	comp=Z,22nm,1.3s								
STKA	**Stephens Creek**	**38.10**	**160**	*eP*			**P**	**07 32 32.2**	**+0.3**
	comp=Z,2.1nm,0.9s								
STKA	**Stephens Creek**	**38.10**	**160**	P			**P**	**07 32 32.3**	**+0.3**
	comp=Z,9.2nm,0.6s,baz=331,slow=8.2,SNR=29								
LZH	**Lanzhou**	**38.55**	**329**	*eP*			**P**	**07 32 37.8**	**+1.9**
LZH				pP			**pP**	**07 32 47.4**	**-1.3**
LZH				sP			**sP**	**07 32 52.4**	**-1.9**
LZH				PP			PP	07 34 13.1	+8.2
LZH				PcP			**PcP**	**07 34 48.5**	**+0.6**
LZH				*eS*			**S**	**07 38 28.4**	**-0.3**
LZH				pmax			pmax		
	comp=Z,22nm,1.1s								
LZH				pmax			pmax		
	comp=Z,140nm,4.6s								
HHC	**Hu-ho-hao-te**	**39.42**	**342**	*eP*			**P**	**07 32 42.3**	**-0.6**
HHC				sP			**sP**	**07 32 56.8**	**-4.6**
HHC				PP			PP	07 34 18.0	+3.8
HHC				PcP			**PcP**	**07 34 49.8**	**-0.6**
HHC				ScP			**ScP**	**07 38 34.9**	**-0.4**
HHC				PcS			**PcS**	**07 38 38.8**	**-1.5**
HHC				S			**S**	**07 38 42.1**	**+0.7**
HHC				sS			**sS**	**07 38 59.1**	**-3.8**
HHC				SS			SS	07 41 30.8	-6.4
HHC				ScS			**ScS**	**07 42 45.5**	**-1.9**
HHC				pmax			pmax		
	comp=Z,19nm,0.6s								
HHC				pmax			pmax		
	comp=Z,270nm,6.3s								
HHC				LR			LR		
	comp=N,550nm,14.3s								
HHC				LR			LR		
	comp=E,980nm,15.2s								
HHC				LR			LR		
	comp=Z,290nm,15.6s								
CN2	**Changchun**	**39.89**	**358**	*eP*			**P**	**07 32 46.8**	**+0.1**
CN2				*ep*P			**pP**	**07 32 56.8**	**-2.7**
CN2				PcP			**PcP**	**07 34 53.1**	**+1.4**
CN2				*eS*			**S**	**07 38 49.8**	**+1.6**
CN2				pmax			pmax		
	comp=Z,20nm,1.0s								
CN2				pmax			pmax		
	comp=Z,200nm,5.0s								
CN2				LR			LR		
	comp=N,2μm,20.0s								
CN2				LR			LR		
	comp=E,900nm,20.0s								
CN2				LR			LR		
	comp=Z,1μm,21.0s								
USRK	**Ussuriysk Arra**	**40.52**	**6**	P			**P**	**07 32 54.2**	**+2.4**
	comp=Z,4.0nm,0.8s,baz=192,slow=5.6,SNR=6.9								
MDJ	**Mudanjiang**	**40.76**	**3**	P			**P**	**07 32 55.9**	**+2.0**
MDJ				pmax			pmax		
	comp=Z,17nm,1.0s								
MDJ				pmax			pmax		
	comp=Z,620nm,5.0s								
LSA	**Lhasa**	**42.53**	**311**	*eP*			**P**	**07 33 09.5**	**+0.3**
	comp=Z,7.6nm,0.7s								
GTA	**Gaotai**	**43.15**	**329**	*eP*			**P**	**07 33 15.8**	**+2.2**
GTA				pP			**pP**	**07 33 25.8**	**-0.8**
GTA				sP			**sP**	**07 33 29.6**	**-2.6**
TAPN	**Taplejung**	**44.12**	**306**	*eP*			**P**	**07 33 20.7**	**-1.2**
ODAN	**Odare**	**44.18**	**305**	*eP*			**P**	**07 33 21.0**	**-1.2**
	comp=Z,11nm,0.6s								
RAMN	**Ramite**	**44.86**	**305**	*eP*			**P**	**07 33 27.0**	**-0.7**
	comp=Z,9.0nm,0.5s								
JIRN	**Jiri**	**45.48**	**306**	*eP*			**P**	**07 33 31.8**	**-0.9**
GUN	**Gumba**	**45.83**	**306**	*eP*			**P**	**07 33 34.2**	**-1.3**
	comp=Z,14nm,0.5s								
DZM	**Mont Dzumac**	**46.43**	**125**	P			**P**	**07 33 41.9**	**+1.9**
DZM	**Mont Dzumac**	**46.43**	**125**	P			**P**	**07 33 41.9**	**+1.9**
	comp=Z,3.7nm,0.6s,baz=126,slow=7.5,SNR=6.7								
ULN	**Ulaanbaatar**	**47.14**	**342**	*eP*			**P**	**07 33 45.4**	**+0.3**
	comp=Z,6.2nm,1.1s								
SONM	**Songino Array**	**47.32**	**341**	P			**P**	**07 33 46.8**	**+0.2**
SONM				PcP			**PcP**	**07 35 18.2**	**+1.3**
SONM	**Songino Array**	**47.32**	**341**	P			**P**	**07 33 46.8**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=158,slow=8.9,SNR=12								
SONM				PcP			**PcP**	**07 35 18.2**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=164,slow=4.7,SNR=3.7								
SONM				LR			LR	07 53 45.9	
	comp=Z,101nm,19.6s,baz=158,slow=36								
KOLN	**Koldanda**	**47.63**	**305**	*eP*			**P**	**07 33 48.5**	**-0.9**
	comp=Z,17nm,0.5s								
DANN	**Dangsing**	**47.72**	**305**	*eP*			**P**	**07 33 49.0**	**-1.2**
	comp=Z,26nm,0.6s								
WMQ	**Urumqi**	**52.79**	**325**	*eP*			**P**	**07 34 28.4**	**+0.4**
WMQ				pP			**pP**	**07 34 38.0**	**-3.3**
WMQ				pmax			pmax		
	comp=Z,6.0nm,0.9s								
WMQ				pmax			pmax		
	comp=Z,130nm,4.6s								
WMQ				LR			LR		
	comp=N,170nm,21.6s								
WMQ				LR			LR		
	comp=E,330nm,23.2s								
WMQ				LR			LR		
	comp=Z,250nm,22.8s								
PETK	**Petropavlovsk-**	**55.34**	**22**	P			**P**	**07 34 49.1**	**+2.7**
PETK	**Petropavlovsk-**	**55.34**	**22**	P			**P**	**07 34 49.1**	**+2.7**
	comp=Z,6.5nm,0.8s,baz=207,slow=6.2,SNR=4.8								
MK31	**Makanchi Array**	**57.62**	**325**	*eP*			**P**	**07 35 01.7**	**-1.1**
MKAR	**Makanchi Array**	**57.62**	**325**	*eP*			**P**	**07 35 02.4**	**-0.4**
MKAR	**Makanchi Array**	**57.62**	**325**	P			**P**	**07 35 02.0**	**-0.8**
	comp=Z,3.5nm,0.6s,baz=121,slow=8.6,SNR=48								
MKAR				LR			LR	08 01 33.6	
	comp=Z,104nm,18.1s,baz=256,slow=38								
KSH	**Kashi**	**58.13**	**315**	P			**P**	**07 35 08.0**	**+1.4**
KSH				pP			**pP**	**07 35 17.9**	**-2.1**
KSH				sP			**sP**	**07 35 22.0**	**-3.5**
KSH				PcP			**PcP**	**07 35 57.3**	**-0.6**
KSH				PP			**PP**	**07 37 18.3**	**+2.5**
KSH				ScP			**ScP**	**07 39 53.3**	**-1.0**
KSH				PcS			**PcS**	**07 39 57.3**	**-2.1**
KSH				S			**S**	**07 43 05.4**	**+0.7**
KSH				ScS			**ScS**	**07 44 50.4**	**-2.2**
KSH				SS			**SS**	**07 46 59.8**	**+2.9**
KSH				LR			LR		
	comp=N,100nm,5.0s								
KSH				LR			LR		
	comp=E,120nm,5.6s								
KSH				LR			LR		
	comp=Z,170nm,6.3s								
KZA	**Kyzart**	**59.69**	**317**	P			**P**	**07 35 19.0**	**+1.3**
	SNR=9.0								
TKM2	**Tokmak 2**	**59.82**	**318**	*eP*			**P**	**07 35 18.7**	**+0.3**
	comp=Z,30nm,0.6s								
TKM2	**Tokmak 2**	**59.82**	**318**	P			**P**	**07 35 19.2**	**+0.8**
	SNR=6.6								
AAK	**Ala-Archa**	**60.44**	**318**	*eP*			**P**	**07 35 23.2**	**+0.6**
	comp=Z,37nm,1.4s								
AAK	**Ala-Archa**	**60.44**	**318**	P			**P**	**07 35 22.3**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=188,slow=7.7,SNR=6.4								
ZAA0	**Zalesovo Array**	**60.63**	**333**	*eP*			**P**	**07 35 23.0**	**-0.4**
ZALV	**Zalesovo Beam**	**60.63**	**333**	P			**P**	**07 35 22.5**	**-0.9**
ZALV	**Zalesovo Beam**	**60.63**	**333**	P			**P**	**07 35 22.5**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=116,slow=6.8,SNR=8.9								
ZALV				LR			LR	08 01 33.7	
	comp=Z,50nm,20.5s,baz=343,slow=36								
USP	**Ospenovka**	**60.70**	**318**	P			**P**	**07 35 24.6**	**+0.4**
	SNR=8.2								
AML	**Almayashu**	**60.77**	**317**	P			**P**	**07 35 25.9**	**+0.8**
	SNR=11								
EKS2	**Erkin-Say**	**60.93**	**318**	*eP*			**P**	**07 35 26.0**	**+0.2**
	comp=Z,12nm,1.3s								
EKS2	**Erkin-Say**	**60.93**	**318**	P			**P**	**07 35 27.0**	**+1.1**
	SNR=7.8								
KBL	**Kabul**	**61.62**	**307**	*eP*			**P**	**07 35 29.5**	**-1.3**
	comp=Z,12nm,1.3s								
KURK	**Kurchatov**	**61.80**	**327**	*eP*			**P**	**07 35 29.9**	**-1.5**
	comp=Z,13nm,0.7s								
KKAR	**Karatay Array**	**63.31**	**317**	*eP*			**P**	**07 35 41.9**	**+0.2**
	comp=Z,3.3nm,0.6s								
BRVK	**Borovoye**	**67.45**	**327**	*eP*			**P**	**07 36 07.9**	**-0.3**
	comp=Z,18nm,1.1s								
ABKAR	**Akbulak array**	**72.22**	**321**	*eP*			**P**	**07 36 37.2**	**-0.4**
	comp=Z,4.6nm,0.7s								
ARU	**Arti**	**74.99**	**328**	*eP*			**P**	**07 36 53.1**	**-0.6**
	comp=Z,12nm,1.3s								
ILAR	**Eielson Array**	**85.01**	**25**	P			**P**	**07 37 50.0**	**+2.3**
ILAR	**Eielson Array**	**85.01**	**25**	P			**P**	**07 37 50.0**	**+2.3**
	comp=Z,0.7nm,0.9s,baz=261,slow=5.5,SNR=5.6								
JOF	**Joensuu**	**89.22**	**333**	*ep*			**P**	**07 38 06.2**	**-1.8**
	comp=Z,2.7nm,0.6s								
INK	**Inuvik**	**90.08**	**22**	P			**P**	**07 38 13.4**	**+1.5**
INK	**Inuvik**	**90.08**	**22**	P			**P**	**07 38 13.4**	**+1.5**
	comp=Z,2.4nm,1.2s,baz=285,slow=4.8,SNR=3.0								
BRTR	**Keskin Array B**	**90.12**	**310**	P			**P**	**07 38 12.2**	**-0.8**
BRTR	**Keskin Array B**	**90.12**	**310**	P			**P**	**07 38 12.2**	**-0.8**
	comp=Z,2.0nm,0.9s,baz=98,slow=3.7,SNR=5.8								
ARCES	**ARCESS Array B**	**90.47**	**340**	P			**P**	**07 38 13.3**	**-0.5**
ARCES	**ARCESS Array B**	**90.47**	**340**	P			**P**	**07 38 13.3**	**-0.5**
	comp=Z,2.6nm,0.9s,baz=72,slow=5.5,SNR=9.0								
KAF	**Kangasniemi**	**91.64**	**332**	*ep*			**P**	**07 38 19.8**	**+0.5**
	comp=Z,1.2nm,0.5s								
FINES	**FINESS Array B**	**91.88**	**332**	P			**P**	**07 38 19.9**	**-0.5**
FINES	**FINESS Array B**	**91.88**	**332**	P			**P

CRPR eS Sn 07 49 34.6 +1.5
LRS Lares 2.01 94 ⇓iP Pn 07 49 12.2 +0.4
LRS Lares 2.01 94 ⇓iP Pn 07 49 12.2 +0.4
GBPR Guanica, Bosqu 2.03 103 ⇑iP Pn 07 49 12.9 +0.9
GBPR Guanica, Bosqu 2.03 103 *i* Pu Pn 07 49 12.9 +0.9
AOPR Arecibo Observ 2.09 93⇑eP Pn 07 49 13.4 +0.7
AOPR Arecibo Observ 2.09 93⇑eP Pn 07 49 13.4 +0.7
AOPR eS Sn 07 49 39.8 +0.5
OBIP Obispado Ponce 2.27 100⇓eP Pn 07 49 15.5 +0.6
OBIP Obispado Ponce 2.27 100⇓eP Pn 07 49 15.5 +0.6
OBIP eS Sn 07 49 44.7 +1.4
SDDR Presa de Saban 2.28 284⇓eP Pn 07 49 15.3 +0.1
SDDR Presa de Saban 2.28 284⇓eP Pn 07 49 15.3 +0.1
SDDR eS Sn 07 49 44.3 +0.7
CELP Cerrillos 2.29 99 ⇓iP Pn 07 49 15.8 +0.6
CELP Cerrillos 2.29 99 ⇓iP Pn 07 49 15.8 +0.6
SJG San Juan 2.68 97⇑eP Pn 07 49 21.1 +0.8
SJG San Juan 2.68 97 ⇓iP Pn 07 49 19.7 -0.6
SJG San Juan 2.68 97 ⇓iP Pn 07 49 19.7 -0.6
SJG S Sn 07 49 52.5 -0.4
SJG San Juan 2.68 97 P Pn 07 49 19.7 -0.6
782nm,0.3s,baz=270,slow=8.5,SNR=290
SJG S Sn 07 49 52.5 -0.4
759nm,0.3s,baz=270,slow=18,SNR=9.7
CPD Cerro la Pandu 2.92 98⇑eP Pn 07 49 24.1 +0.7
CPD Cerro la Pandu 2.92 98⇑eP Pn 07 49 24.1 +0.7
CPD eS Sn 07 49 58.9 +0.6
CPD Cerro la Pandu 2.92 98⇑eP Pn 07 49 24.1 +0.7
CPD eS Sn 07 49 58.9 +0.6
CBYP Canovanas 2.94 93⇑eP Pn 07 49 23.6 -0.2
CBYP Canovanas 2.94 93⇑eP Pn 07 49 23.6 -0.2
HUMP Col San Antoni 2.96 96⇑eP Pn 07 49 24.0 +0.1
HUMP Col San Antoni 2.96 96⇑eP Pn 07 49 24.0 +0.1
MTP Monte Pirata 3.25 96⇓eP Pn 07 49 27.8 +0.1
MTP Monte Pirata 3.25 96⇓eP Pn 07 49 27.8 +0.1
MTP eS Sn 07 50 06.4 +0.4
GRTK Grand Turk 3.67 326 ePn Pn 07 49 30.4 -2.8
GRTK eSn Sn 07 50 09.4 -6.5
CDVI St. Croix 4.04 99 ePn Pn 07 49 37.1 -1.1
CDVI eSn Sn 07 50 26.0 +1.1
TBVI Tortola 4.11 90⇑iP Pn 07 49 37.7 -1.4
TBVI Tortola 4.11 90 *i* Pu Pn 07 49 37.7 -1.4
ABV Anegada 4.39 86⇑iP Pn 07 49 42.1 -0.8
ABVI Anegada Island 4.39 86 *i* Pu Pn 07 49 42.1 -0.8
SABA Saba 5.49 98⇑eP Pn 07 49 58.8 +1.1
SABA Saba 5.49 98⇑eP Pn 07 49 58.8 +1.1
SMRT St. Maarten 5.60 93⇑eP Pn 07 50 00.2 +1.1
SMRT St. Maarten 5.60 93⇑eP Pn 07 50 00.2 +1.1
GTBY Guantanamo Bay 6.00 285 ePn Pn 07 50 00.4 -4.1
590nm,0.9s
SKI Saint Kitts 6.02 100 eP Pn 07 50 05.2 +0.4
SKI eS Sn 07 51 14.9 +2.4
RCC Rio Carpintero 6.55 285 eP Pn 07 50 06.6 -5.4
RCC eS Sn 07 51 14.0 -11
comp=N,292nm,0.6s
RCC e
comp=E,288nm,0.5s
ANWB Willy Bob 6.86 95 ePn Pn 07 50 14.5 -1.6
comp=E,452nm,0.7s
BPA Boggy Peak 6.90 101 eP Pn 07 50 16.5 -0.3
BPA eS Sn 07 51 34.5 +0.5
CMJ Castle Mountai 7.06 269⇑iP Pn 07 50 17.4 -1.4
YHJ Yallahs 7.19 267⇑iP Pn 07 50 20.3 -0.4
LZG Guadaloupe-1 7.23 107⇑iP Pn 07 50 21.7 +0.5
HMG Houelmont 7.35 108 eP Pn 07 50 23.3 +0.4
SCG Saint Claude 7.35 108 eP Pn 07 50 23.9 +1.0
BCG Bois Riant Cap 7.39 108 eP Pn 07 50 24.8 +1.5
PHG Guadaloupe-2 7.39 108 eP Pn 07 50 24.4 +0.9
SEG Port Louis 7.39 105 eP Pn 07 50 24.4 +1.0
GWJ Greenwich 7.40 268 *i* P Pn 07 50 22.1 -1.4
DOG Dongo Capester 7.41 108 eP Pn 07 50 24.7 +1.1
HOJ Hope 7.43 268⇑iP Pn 07 50 23.2 -0.6
TBG Guadaloupe-3 7.45 109 eP Pn 07 50 25.1 +1.0
STH Stony Hill 7.48 268 *i* P Pn 07 50 23.4 -1.1
BNJ Bonny Gate 7.60 270 *i* P Pn 07 50 24.3 -1.9
MGG Marie-Galante 7.72 108 eP Pn 07 50 28.4 +0.7
DVCT Vielle Casse P 7.75 110 eP Pn 07 50 31.0 +2.9
DVCT eS Sn 07 51 53.1 -1.3
LMGC Las Mercedes 7.77 283 eP Pn 07 50 23.9 -4.6
LMGC eS Sn 07 51 48.2 -6.7
comp=N,453nm,1.7s
LMGC e
comp=E,486nm,0.9s
DWS Wesley 7.85 110 eP Pn 07 50 33.1 +3.5
DWS eS Sn 07 51 56.3 -0.6
MDN Morne-Daniel 7.88 112 eP Pn 07 50 32.2 +2.2
MDN eS Sn 07 51 57.1 -0.5
BBJ Bamboo Saint A 7.90 271 *i* P Pn 07 50 28.9 -1.3
DPMT Pointe Michel 7.92 113 eP Pn 07 50 32.6 +2.2
DPMT eS Sn 07 52 00.4 +1.9
DSHT Scott's Head 7.94 113 eP Pn 07 50 32.4 +1.7
DSHT eS Sn 07 51 59.3 +0.3
DFBT Forest Bistro 7.94 113 eP Pn 07 50 32.7 +1.9
DFBT eS Sn 07 52 01.2 +2.1
DSTT Stowe 7.99 112 eP Pn 07 50 33.5 +2.1
DLPL La Plaine 8.00 112 eP Pn 07 50 29.8 -1.8
DLPL eS Sn 07 51 58.9 -1.7
MTDJ Mount Denham 8.16 270 ePn Pn 07 50 32.4 -1.3
MCJ Malvern 8.32 268⇑iP Pn 07 50 37.0 +1.1
FDF Fort de France 8.34 115 eP Pn 07 50 37.1 +0.8
FDF pmax pmax
comp=Z,531nm,0.6s
FDF Fort de France 8.34 115 ePn Pn 07 50 37.1 +0.8
comp=Z,531nm,0.6s
FDF Fort de France 8.34 115⇑iP Pn 07 50 37.0 +0.8
FDF ⇑eS Sn 07 52 05.4 -3.5
MBJ Montego Bay 8.46 271 *i* P Pn 07 50 37.2 -0.6
BIM Bigot 8.51 116 eP Pn 07 50 38.0 -0.5
BIM Bigot 8.51 116⇑eP Pn 07 50 39.6 +1.1
MVM Montagne Vaucl 8.64 115 eP Pn 07 50 42.0 +1.7
SLB Belfond 8.88 120⇑iP Pn 07 50 45.7 +2.2
NEJ Negril 8.91 270 *i* P Pn 07 50 43.3 -0.5
SVB Belmont 9.02 124 eP Pn 07 50 44.2 -1.2
SVB eS Sn 07 52 22.1 -3.2
SVV Soufriere Volc 9.03 123 eP Pn 07 50 48.0 +2.5
MCLT Moule a Chique 9.03 120 eP Pn 07 50 46.0 +0.5
MCLT eS Sn 07 52 19.1 -6.4
BHS Barnard House 9.11 123 eP Pn 07 50 49.5 +2.9
GRSS Sisters 9.36 130 eP Pn 07 50 50.3 +0.4
GRSS eS Sn 07 52 27.8 -5.6
GRHS Sauteurs 9.38 130 eP Pn 07 50 51.8 +1.5
GRIC Isle de Caille 9.38 130 eP Pn 07 50 51.2 +1.0
GRW Mount Saint Ca 9.41 131 eP Pn 07 50 52.2 +1.5
GRW eS Sn 07 52 30.1 -4.8
GRGR Grenville 9.44 131 ePn Pn 07 50 51.6 +0.7
comp=Z,454nm,0.6s
SDV Santo Domingo 9.65 190 ePn Pn 07 50 56.5 +2.4
BBGH Gun Hill 10.47 119 ePn Pn 07 51 07.9 +3.1
comp=Z,1μm,0.8s
TRN Trinidad (W) 10.66 136 eP Pn 07 51 10.7 +3.3
TRN eS Sn 07 53 01.3 -3.6
TPR Prospect 10.71 131 eP Pn 07 51 13.3 +5.2
TOSP Speyside 10.80 130 eP Pn 07 51 11.3 +1.9
TOSP eS Sn 07 53 04.4 -4.1
MGV Manicaragua 10.97 291 eP Pn 07 51 03.1 -8.4
MGV eS Sn 07 52 58.6 -14
comp=N,283nm,0.7s
MGV e
comp=E,103nm,1.1s
TBH Brigand Hill 11.00 135 eP Pn 07 51 17.0 +5.0
TBH eS Sn 07 53 07.8 -5.5
SOR Soroa 13.85 291 eP Pn 07 51 48.9 -0.3
BCIP Isla Barro Col 14.03 230 ePn Pn 07 51 53.1 +1.5
BBSR BB Station 14.37 15 ePn Pn 07 51 55.5 -0.3
JTS JuntasAbangare 17.49 245 P Pn 07 52 34.3 -0.1
JTS JuntasAbangare 17.49 245 P Pn 07 52 34.3 -0.1
comp=E,2.0nm,0.3s,baz=48,slow=13,SNR=14
JTS LR LR 07 59 05.6
comp=E,163nm,20.7s,baz=68,slow=36
NHSC New Hope 17.73 328 eP P 07 52 36.6 +0.4
comp=E,242nm,1.1s
COW Cow Castle Cre 18.21 327 eP P 07 52 41.3 -0.2
TEIG Tepich 18.32 279 P P 07 52 43.4 +0.5
TEIG Tepich 18.32 279 P P 07 52 43.3 +0.5
comp=E,9.3nm,0.3s,baz=58,slow=4.8,SNR=34
TEIG LR LR 07 59 50.5
comp=E,55nm,20.2s,baz=1.4,slow=37
CNNC Cliffs of the 18.50 336 eP P 07 52 44.8 +0.2
comp=E,67nm,0.6s
JSC Jenkinsville 19.21 328 eP P 07 52 52.1 -0.3
JSC Jenkinsville 19.21 328 eP P 07 52 52.1 -0.3

GOGA Godfrey 19.77 322 eP P 07 52 58.5 0.0
GOGA pmax pmax
comp=Z,139nm,0.8s
GOGA Godfrey 19.77 322 eP P 07 52 58.5 0.0
comp=Z,139nm,0.8s
KMSC Kings Mountain 19.93 329 ⇓P P 07 52 59.7 -0.5
baz=20
OTAV Otavalo 20.37 208 eP Pn 07 53 08.2 -0.7
comp=Z,273nm,1.1s
JSRW J. Sargeant Re 20.70 340 eP P 07 53 08.2 -0.2
CBN Corbin 21.00 341 eP P 07 53 12.3 +0.6
comp=Z,154nm,1.0s
BLA Blacksburg 21.23 334 eP P 07 53 13.9 -0.3
BLA pmax pmax
comp=Z,147nm,0.8s
BLA Blacksburg 21.23 334 eP P 07 53 13.9 -0.3
comp=Z,147nm,0.8s
TKL Tuckaleechee C 21.58 325 P P 07 53 17.4 -0.6
TKL sP **sP** 07 53 56.6 +0.5
TKL S S 07 57 11.7 +2.1
TKL Tuckaleechee C 21.58 325 P P 07 53 17.4 -0.6
comp=Z,41nm,0.9s,baz=154,slow=12,SNR=40
TKL sP **sP** 07 53 56.6 +0.5
comp=Z,65nm,0.7s,baz=156,slow=12,SNR=6.4
TKL S S 07 57 11.7 +2.1
comp=Z,52nm,0.6s,baz=215,slow=20,SNR=7.5
TKL LR LR 08 01 39.8
comp=Z,254nm,20.2s,baz=144,slow=36
LRAL Lakeview Retre 21.74 315 eP P 07 53 19.7 0.0
comp=Z,257nm,1.0s
CPCT Cooper Cave 21.84 324 eP P 07 53 20.4 -0.2
SDMD Soldier's Deli 21.97 343 eP P 07 53 21.9 -0.1
comp=Z,79nm,0.7s
MVL Millersville 22.40 345 eP P 07 53 26.3 0.0
comp=Z,61nm,0.9s
SWET Sewanee 22.49 321 eP P 07 53 27.1 -0.2
comp=Z,94nm,1.0s
BRNJ Basking Ridge 22.67 349 eP P 07 53 29.5 +0.5
comp=Z,42μm,0.9s
CPNY Central Park 22.67 350 eP P 07 53 29.2 +0.2
comp=Z,38nm,0.7s
PAL Palisades 22.87 350 eP P 07 53 30.6 -0.3
PAL pmax pmax
comp=Z,58nm,0.8s
PAL Palisades 22.87 350 eP P 07 53 30.6 -0.3
comp=Z,58nm,0.8s
SSPA Standing Stone 23.40 343 eP P 07 53 36.4 +0.5
comp=Z,75nm,1.0s
SSPA e 07 53 57.0
PLAL Pickwick Lake 23.65 318 eP P 07 53 38.6 +0.4
comp=Z,144nm,0.9s
PLAL e 07 54 01.5
VBMS Vicksburg 23.77 309 eP P 07 53 39.8 +0.6
comp=Z,202nm,1.1s
VBMS e 07 54 05.6
HRV Adam Dziewonsk 24.07 355 eP P 07 53 43.0 +1.1
HRV e 07 54 06.4
HRV pmax pmax
comp=Z,71nm,0.9s
HRV Adam Dziewonsk 24.07 355 eP P 07 53 43.0 +1.1
comp=Z,71nm,0.9s
HRV e 07 54 06.4
OXF Oxford 24.23 315 eP P 07 53 43.5 +0.1
OXF e 07 54 08.3
OXF pmax pmax
comp=Z,434nm,1.1s
OXF Oxford 24.23 315 eP P 07 53 43.5 +0.1
comp=Z,434nm,1.1s
OXF e 07 54 08.3
WVT Waverly 24.24 320 eP P 07 53 43.1 -0.4
WVT e 07 54 10.1
WVT pmax pmax
comp=Z,77nm,0.6s
WVT Waverly 24.24 320 eP P 07 53 43.1 -0.4
comp=Z,77nm,0.6s
WVT e 07 54 10.1
BINY Binghamton 24.41 347 eP P 07 53 45.7 +0.7
comp=Z,189nm,1.6s
TRY Troy 24.52 352 eP P 07 53 46.6 +0.6
CMIG Matias Romero 24.73 271 P P 07 53 45.1 -3.1
CMIG Matias Romero 24.73 271 P P 07 53 45.1 -3.1
comp=Z,12nm,0.7s,baz=72,slow=7.2,SNR=26
WCI Wyandotte Cave 24.84 326 eP P 07 53 49.1 +0.1
WCI e 07 54 16.1
WCI pmax pmax
comp=Z,53nm,0.8s
WCI Wyandotte Cave 24.84 326 eP P 07 53 49.1 +0.1
comp=Z,53nm,0.8s
WCI e 07 54 16.1
ACSO Alum Creek Sta 24.84 334 eP P 07 53 49.5 +0.5
comp=Z,145nm,0.9s
ACSO e 07 54 13.4
ALLY Alegheny Colle 25.02 340 eP P 07 53 50.9 +0.4
comp=Z,85nm,1.0s
ACCN Adirondack Com 25.17 352 eP P 07 53 52.2 +0.4
comp=Z,40nm,0.6s
ACCN e 07 54 20.6
GLAT Glass 25.23 319 eP P 07 53 53.9 +1.5
ERPA Erie 25.39 341 eP P 07 53 54.1 +0.2
comp=Z,69nm,0.9s
ERPA e 07 54 21.9
ERPA e 07 54 33.6
USIN University of 25.40 324 eP P 07 53 54.0 0.0
comp=Z,169nm,1.0s
USIN e 07 54 21.4
USIN e 07 54 34.4
GNAR Gosnell 25.50 317 eP P 07 53 55.1 +0.1
comp=Z,2μm,1.0s
GNAR e 07 54 21.5
BLO Bloomington 25.66 327 eP P 07 53 56.5 +0.2
BLO pmax pmax
comp=Z,71nm,1.2s
BLO Bloomington 25.66 327 eP P 07 53 56.5 +0.2
comp=Z,71nm,1.2s
HBAR Harrisburg 25.68 316 eP P 07 53 56.8 +0.2
MDV Middlebury 25.71 353 eP P 07 53 56.9 +0.2
PARMO Parma 25.77 319 eP P 07 53 57.7 +0.4
PARMO e 07 54 23.9
PARMO e 07 54 38.5
NCB Newcomb 25.82 351 eP P 07 53 58.9 +1.1
comp=Z,50nm,1.0s
NCB e 07 54 28.7
SIUC Southern Illin 26.12 321 eP P 07 54 00.9 +0.4
comp=Z,245nm,1.1s
SIUC e 07 54 28.0
SIUC e 07 54 41.7
OLIL Olney 26.18 324 eP P 07 54 01.5 +0.5
comp=Z,84nm,0.8s
UALR University of 26.39 313 eP P 07 54 03.3 +0.3
comp=Z,55nm,0.9s
NATX Nacogdoches 26.70 305 eP P 07 54 07.1 +1.3
comp=Z,148nm,0.8s
NATX e 07 54 33.6
AAM Ann Arbor 26.86 335 eP P 07 54 07.5 +0.4
AAM pmax pmax
comp=Z,105nm,1.0s
AAM Ann Arbor 26.86 335 eP P 07 54 07.5 +0.4
comp=Z,105nm,1.0s
SFIN Scholer Farm 26.86 328 ⇓P P 07 54 07.3 +0.2
baz=27,SNR=13
MSNY Massena 26.92 351 eP P 07 54 07.8 +0.3
comp=Z,98nm,1.0s
MSNY e 07 54 37.1
HKT Hockley 26.99 300 eP P 07 54 08.6 +0.3
HKT e 07 54 34.5
HKT e 07 54 48.0
HKT pmax pmax
comp=Z,32nm,1.0s
HKT Hockley 26.99 300 eP P 07 54 08.6 +0.3
comp=Z,32nm,1.0s
HKT e 07 54 34.5
HKT e 07 54 48.0
ATAH Atahualpa 27.08 201 P P 07 54 11.8 +2.0
ATAH ScP **ScP** 08 00 58.5 +1.5
ATAH Atahualpa 27.08 201 P P 07 54 11.8 +2.0
comp=Z,20nm,0.8s,baz=338,slow=9.0,SNR=10
ATAH ScP **ScP** 08 00 58.5 +1.5
comp=Z,6.5nm,0.9s,baz=52,slow=2.1,SNR=5.4
MIAR Mount Ida 27.14 311 eP P 07 54 09.8 +0.1
MIAR e 07 54 35.9
MIAR e 07 54 50.6
MIAR pmax pmax
comp=Z,46nm,0.9s
MIAR Mount Ida 27.14 311 eP P 07 54 09.8 +0.1
comp=Z,46nm,0.9s
MIAR e 07 54 35.9
MIAR e 07 54 50.6
SADO Sadowa 27.59 344 P P 07 54 13.2 -0.4
SADO Sadowa 27.59 344 P P 07 54 13.2 -0.4
comp=Z,8.5nm,0.6s,baz=178,slow=9.7,SNR=12
SADO LR LR 08 04 34.6
comp=Z,186nm,20.8s,baz=259,slow=35
SAML Samuel 27.82 168 eP P 07 54 15.8 -0.1
comp=Z,0.8nm,0.4s
HDIL Hopedale 28.12 326 eP P 07 54 18.4 0.0
comp=Z,51nm,0.9s
WHTX Lake Whitney 28.99 303 ⇑P P 07 54 26.8 +0.6
baz=29
GLMI Grayling 29.37 337 eP P 07 54 30.0 +0.6
comp=Z,23nm,0.5s
TUL1 Tulsa 29.39 312 ⇑P P 07 54 30.0 +0.3
baz=29,SNR=41
JCT Junction City 30.42 299 eP P 07 54 39.0 0.0
JCT pmax pmax
comp=Z,68nm,1.3s
JCT Junction City 30.42 299 eP P 07 54 39.0 0.0
comp=Z,68nm,1.3s
JCT Junction City 30.42 299 ⇑P P 07 54 39.0 0.0
baz=30,SNR=21
ABTX Abilene, Hawle 30.95 303 ⇑P P 07 54 43.8 +0.3
baz=31
WMOK Wichita Mounta 31.06 307 eP P 07 54 44.3 -0.2
WMOK e*PP **pP** 07 55 11.1 -0.2
WMOK e*SP **sP** 07 55 25.0 -0.5
WMOK pmax pmax
comp=Z,51nm,0.8s
WMOK Wichita Mounta 31.06 307 eP P 07 54 44.2 -0.2
comp=Z,51nm,0.8s
WMOK epP **pP** 07 55 11.1 -0.2
WMOK esP **sP** 07 55 25.0 -0.5
SCIA State Center 31.20 324 eP P 07 54 45.5 -0.1
comp=Z,81nm,0.6s
NNA Nana 31.24 195 eP P 07 54 46.8 +0.6
comp=Z,36nm,1.0s
NNA epP **pP** 07 55 16.8 +3.8
KSU1 Kansas State U 31.59 316 eP P 07 54 48.6 -0.4
comp=Z,45nm,0.8s
429A Davenport Ranc 32.20 298 ⇑P P 07 54 54.0 -0.6
baz=32
529A Stev Forest Ra 32.36 297 ⇑P P 07 54 55.6 -0.3
baz=32
229A Bryant Ranch, 32.49 301 ⇓P P 07 54 57.1 0.0
baz=32,SNR=15
329A Wagon Wheel Ra 32.50 300 ⇑P P 07 54 57.1 -0.1
baz=32
129A Stewart Farms, 32.73 302 ⇑P P 07 54 59.1 -0.1
baz=33,SNR=11
628A Black Gap, Mar 32.78 296 ⇑P P 07 54 59.7 0.0
baz=33,SNR=36
Z29A Hungry Hill Ra 32.79 303 ⇓P P 07 54 59.7 -0.1
baz=33,SNR=23
528A Cox Ranch, San 32.84 297 ⇓P P 07 55 00.4 +0.1
baz=33,SNR=116
428A Kincaid Ranch, 32.89 298 ⇓P P 07 55 01.3 +0.6
baz=33,SNR=95
Y29A Porterfield Fa 32.96 304 ⇑P P 07 55 01.1 -0.1
baz=33,SNR=21
328A Wristen Ranch, 33.15 299 ⇑P P 07 55 02.4 -0.5
baz=33,SNR=23
228A UT Block 9, Go 33.17 301 ⇑P P 07 55 02.7 -0.4
baz=33,SNR=33
X29A Tulia 33.18 305 ⇓P P 07 55 02.9 -0.2
baz=33,SNR=7.6
627A Terlingua Ranc 33.20 296 ⇑P P 07 55 03.7 +0.3
baz=33,SNR=89
128A Castleberry Fa 33.23 302 ⇓P P 07 55 03.3 -0.2
baz=33,SNR=20
SPMN St. Paul 33.26 329 ⇑P P 07 55 03.0 -0.6
baz=33,SNR=14
AMTX Amarillo 33.32 306 eP P 07 55 04.0 -0.4
comp=Z,35nm,0.8s
AMTX epP **pP** 07 55 31.1 -0.2
AMTX Amarillo 33.32 306 ⇑P P 07 55 03.9 -0.4
baz=33,SNR=12
Z28A Tucker Farm, M 33.34 303 ⇑P P 07 55 04.1 -0.5
baz=33,SNR=11
W29A Amraillo 33.38 306 ⇑P P 07 55 04.5 -0.4
baz=33,SNR=8.9
TXAR Lajitas Array 33.42 295 P P 07 55 05.4 +0.2
TXAR pP **pP** 07 55 33.5 +1.2
TXAR PcP **PcP** 07 57 44.6 +0.6
TXAR ScP **ScP** 08 01 18.6 +1.4
TXAR Lajitas Array 33.42 295 P P 07 55 05.4 +0.2
comp=Z,17nm,0.6s,baz=110,slow=8.9,SNR=180
TXAR pP **pP** 07 55 33.5 +1.2
comp=Z,4.4nm,0.7s,baz=125,slow=11,SNR=1.9
TXAR PcP **PcP** 07 57 44.6 +0.6
comp=Z,2.7nm,0.7s,baz=140,slow=6.4,SNR=3.6
TXAR ScP **ScP** 08 01 18.6 +1.4
comp=Z,3.7nm,0.9s,baz=123,slow=5.9,SNR=12
Y28A McKinney Farm, 33.43 304 ⇑P P 07 55 05.0 -0.3
baz=33,SNR=28
427A Hayter Ranch, 33.52 298 ⇑P P 07 55 06.3 +0.2
baz=33,SNR=80
527A Woodward Ranch 33.54 297 ⇓P P 07 55 06.6 +0.2
baz=33
CBKS Cedar Bluff 33.54 314 eP P 07 55 06.5 +0.4
CBKS e*PP **pP** 07 55 33.5 +0.3
CBKS e*SP **sP** 07 55 48.3 +1.0
CBKS pmax pmax
comp=Z,120nm,0.8s
CBKS Cedar Bluff 33.54 314 eP P 07 55 06.5 +0.4
comp=Z,120nm,0.8s
CBKS epP **pP** 07 55 33.5 +0.3
CBKS esP **sP** 07 55 48.3 +1.0
CBKS Cedar Bluff 33.54 314 ⇓P P 07 55 06.4 +0.4
baz=33,SNR=21
V29A Stinnett 33.56 308 ⇓P P 07 55 06.6 +0.2
baz=34,SNR=6.5
X28A Dimmitt 33.59 305 ⇑P P 07 55 06.0 -0.7
baz=34,SNR=6.6
227A Bennet, Jal 33.71 300 ⇑P P 07 55 07.7 0.0
baz=34,SNR=33
327A Balmorhea Ranc 33.72 299 ⇑P P 07 55 08.0 +0.3
baz=34
BGNE Belgrade 33.84 319 ⇓P P 07 55 07.7 -1.0
baz=34,SNR=5.9
626A Big Bend Ranch 33.86 296 ⇓P P 07 55 09.3 +0.2
baz=34,SNR=48
MSTX Muleshoe 33.86 304 ⇓P P 07 55 08.9 -0.2
baz=34,SNR=34
526A Mary Lane Ranc 33.92 297 ⇓P P 07 55 10.3 +0.6
baz=34
127A Arkansas Junct 33.95 301 ⇑P P 07 55 09.2 -0.6
baz=34,SNR=27
426A McDonald Obser 34.00 298 ⇓P P 07 55 10.7 +0.3
baz=34,SNR=83
Z27A Tatum 34.01 303 ⇑P P 07 55 09.4 -1.0
baz=34,SNR=22
V28A Channing 34.05 307 ⇓P P 07 55 10.2 -0.5
baz=34,SNR=9.3
326A Caldwell Ranch 34.11 299 ⇑P P 07 55 10.9 -0.3
baz=34
Y27A Causey 34.15 304 ⇓P P 07 55 10.9 -0.6
baz=34,SNR=37
ECSD EROS Data Cent 34.29 323 eP P 07 55 12.0 -0.5
comp=Z,72nm,0.9s
ECSD epP **pP** 07 55 38.9 -0.7
ECSD esP **sP** 07 55 53.3 -0.5
X27A F and S Farms, 34.34 305 ⇑P P 07 55 12.7 -0.4
baz=34,SNR=16
226A Malaga, Loving 34.39 300 ⇓P P 07 55 13.3 -0.3
baz=34,SNR=21
W27A Bowe Ranch, En 34.45 306 ⇓P P 07 55 13.3 -0.8
baz=34,SNR=24
CPRX Cap Rock 34.46 302 eP P 07 55 14.2 -0.1
comp=Z,17nm,0.5s
126A Clayton Basin, 34.48 301 ⇓P P 07 55 14.0 -0.3
baz=34,SNR=40
LPAZ La Paz 34.54 179 eP P 07 55 15.3 -0.3
comp=Z,22nm,0.7s
Z26A Caprock 34.62 302 ⇓P P 07 55 14.8 -0.8
baz=34,SNR=26
GDL2 Guadalupe Moun 34.64 300 eP P 07 55 15.7 -0.1
GDL2 epP **pP** 07 55 42.9 0.0
EYMN Ely 34.68 333 eP P 07 55 15.5 -0.3
comp=Z,42nm,1.3s
EYMN epP **pP** 07 55 41.6 -1.3
425A Indio Mountain 34.83 298 ⇓P P 07 55 18.2 +0.7
baz=35,SNR=46
X26A CR and CF Fran 34.86 304 ⇓P P 07 55 18.1 +0.3
baz=35,SNR=10

T27A Campo 34.91 309 ⇑P P 07 55 17.8 -0.3
baz=35,SNR=8.3
325A Bean Ranch, Si 34.95 299 ⇓P P 07 55 19.1 +0.6
baz=35,SNR=74
225A Deer Hill, Car 35.00 300 ⇓P P 07 55 19.3 +0.4
baz=35,SNR=63
125A Gardner Draw, 35.00 301 ⇑P P 07 55 18.5 -0.4
baz=35,SNR=42
W26A Owens Ranch, T 35.00 305 ⇓P P 07 55 19.0 +0.1
baz=35,SNR=14
SIV San Ignacio 35.10 167 P P 07 55 19.4 -0.3
SIV ScP ScP 08 01 23.9 +0.8
SIV San Ignacio 35.10 167 P P 07 55 19.4 -0.3
comp=Z,8.0nm,0.4s,baz=14,slow=10,SNR=71
SIV ScP ScP 08 01 23.9 +0.8
comp=Z,1.8nm,0.8s,baz=281,slow=23,SNR=2.7
Z25A Roswell 35.21 302 ⇑P P 07 55 20.5 -0.2
baz=35,SNR=42
V26A Tequesquite Ra 35.25 306 ⇑P P 07 55 20.8 -0.2
baz=35,SNR=36
MNTX Cornudas Mount 35.36 299 eP P 07 55 21.9 +0.1
comp=Z,47nm,0.9s
MNTX epP pP 07 55 49.6 +0.6
MNTX esP sP 07 56 04.0 +0.8
MNTX Cornudas Mount 35.36 299 ⇑P P 07 55 22.1 +0.3
baz=35,SNR=84
Y25A Mesa, Roswell 35.37 303 ⇑P P 07 55 22.8 +0.7
baz=35,SNR=16
324A Moseley Ranch, 35.39 299 ⇓P P 07 55 22.5 +0.2
baz=35,SNR=52
U26A Atchley Ranch, 35.43 307 ⇓P P 07 55 22.4 -0.2
baz=35,SNR=50
R27A Eads 35.46 311 ⇑P P 07 55 22.7 -0.1
baz=35,SNR=15
224A Cornudas Mount 35.56 300 ⇑P P 07 55 24.1 +0.3
baz=36,SNR=63
W25A X Bar L Ranch, 35.58 305 ⇑P P 07 55 24.2 +0.3
baz=36,SNR=17
T26A Comanche Natio 35.60 309 ⇓P P 07 55 23.7 -0.4
baz=36,SNR=8.4
KSCO Kaye Shedlock' 35.64 312 ⇑P P 07 55 24.5 +0.2
baz=36,SNR=12
124A Stringfield Ra 35.66 301 ⇑P P 07 55 25.2 +0.5
baz=36,SNR=41
S26A Kim 35.68 310 ⇑P P 07 55 24.6 -0.1
baz=36,SNR=5.3
Z24A Sheeppen Canyo 35.75 302 ⇑P P 07 55 26.0 +0.6
baz=36
P27A Ficken Ranch, 35.84 313 ⇓P P 07 55 26.2 +0.1
baz=36,SNR=18
V25A Rancho No Teng 35.90 306 ⇑P P 07 55 27.2 +0.6
baz=36,SNR=50
R26A Arlington 35.93 311 ⇓P P 07 55 26.5 -0.3
baz=36,SNR=13
U25A Circle Dot Ran 35.93 307 ⇓P P 07 55 27.2 +0.3
baz=36,SNR=42
Y24A Capitan 35.96 303 ⇑P P 07 55 27.8 +0.5
baz=36,SNR=36
O27A Beecher Island 36.06 314 ⇑P P 07 55 27.9 0.0
baz=36,SNR=17
BRSD Miller 36.06 323 ⇑P P 07 55 26.9 -0.8
baz=36
OGNE Ogallala 36.11 315 eP P 07 55 27.9 -0.3
comp=Z,51nm,0.7s
OGNE Ogallala 36.11 315 ⇓P P 07 55 27.9 -0.3
baz=36,SNR=9.5
X24A Lazy VL Ranch, 36.14 304 ⇑P P 07 55 29.2 +0.4
baz=36
T25A Trinidad 36.20 308 ⇓P P 07 55 29.6 +0.5
baz=36,SNR=20
Q26A Hugo 36.23 312 ⇓P P 07 55 30.1 +0.7
baz=36,SNR=12
123A Bell Site, Whi 36.30 300 ⇓P P 07 55 30.7 +0.7
baz=36,SNR=5.0
W24A Lazy 6 Ranch, 36.31 305 ⇑P P 07 55 31.1 +0.9
baz=36,SNR=29
SCHQ Schefferville 36.34 2 eP P 07 55 30.3 +0.4
comp=Z,40nm,0.6s
SCHQ sP sP 07 56 11.3 -0.1
SCHQ ScP ScP 08 01 26.3 -0.8
SCHQ Schefferville 36.34 2 P P 07 55 30.2 +0.3
comp=Z,37nm,0.5s,baz=191,slow=7.1,SNR=241
SCHQ sP sP 07 56 11.3 -0.1
comp=Z,120nm,1.3s,baz=184,slow=8.2,SNR=4.4
SCHQ ScP ScP 08 01 26.3 -0.8
comp=Z,4.0nm,1.0s,baz=288,slow=14,SNR=2.4
SCHQ LR LR 08 10 21.9
comp=Z,94nm,19.0s,baz=243,slow=36
V24A Rampart Ranch, 36.37 306 ⇑P P 07 55 31.5 +0.8
baz=36,SNR=13
N27A Anderson Farm, 36.38 315 ⇓P P 07 55 30.4 -0.2
baz=36,SNR=32
P26A Davis Ranch, A 36.38 313 ⇑P P 07 55 30.9 +0.3
baz=36,SNR=21
S25A Robets Cordova 36.40 309 ⇓P P 07 55 31.3 +0.4
baz=36,SNR=22
Z23A Rita Site, Whi 36.43 301 ⇓P P 07 55 31.7 +0.6
baz=36,SNR=24
Y23A Lovelace Mesa, 36.46 302 ⇑P P 07 55 32.1 +0.7
baz=36,SNR=38
R25A Fountain Ranch 36.48 310 ⇓P P 07 55 31.6 +0.2
baz=36,SNR=25
U24A Moreno Valley 36.60 307 ⇓P P 07 55 33.5 +0.9
baz=36,SNR=8.7
M27A Reverse DX Ran 36.62 316 ⇑P P 07 55 32.5 -0.1
baz=36,SNR=9.7
T24A Torres, Weston 36.65 308 ⇓P P 07 55 33.8 +0.7
baz=36,SNR=18
O26A Horse Wrangler 36.65 314 ⇑P P 07 55 33.1 +0.2
baz=36,SNR=9.7
X23A Hourglass Bar 36.74 303 ⇓P P 07 55 34.5 +0.7
baz=37,SNR=13
Q25A Bedland, Calha 36.75 311 ⇓P P 07 55 33.9 0.0
baz=37,SNR=14
L27A T5 Ranch, Ells 36.84 317 ⇑P P 07 55 34.2 -0.3
baz=37,SNR=6.5
N26A Koester Ranch, 36.85 315 ⇓P P 07 55 34.7 +0.1
baz=37,SNR=11
222A Williams Famil 36.88 299 ⇑P P 07 55 35.5 +0.5
baz=37,SNR=9.7
W23A Werner Place, 36.88 304 ⇓P P 07 55 35.8 +0.8
baz=37,SNR=32
AGMN Agassiz Nation 36.92 330 eP P 07 55 34.1 -0.8
comp=Z,36nm,0.5s
AGMN epP pP 07 56 02.1 -0.1
AGMN eScP ScP 08 01 29.8 +0.4
122A Conniff Cattle 36.92 300 ⇓P P 07 55 36.5 +1.1
baz=37,SNR=9.9
P25A Willow Gulch B 36.94 312 ⇑P P 07 55 35.3 -0.1
baz=37,SNR=11
S24A Houchin Ranch, 36.97 309 ⇑P P 07 55 36.5 +0.6
baz=37,SNR=15
BNM Barren Site 36.98 303 eP P 07 55 36.4 +0.5
comp=Z,90nm,1.2s
BNM epP pP 07 56 03.1 -0.1
LPM Los Pinos Moun 37.02 303 eP P 07 55 36.9 +0.7
LPM epP pP 07 56 03.5 -0.1
Z22A Elephant Butte 37.02 301 ⇑P P 07 55 36.6 +0.4
baz=37,SNR=15
ANMO Albuquerque 37.06 304 eP P 07 55 37.1 +0.6
comp=Z,23nm,1.0s
ANMO epP pP 07 56 03.8 0.0
V23A Ortiz Mt. (NFS 37.08 305 ⇑P P 07 55 38.1 +1.4
baz=37,SNR=9.7
M26A McRoberts Ranc 37.09 316 ⇓P P 07 55 36.5 -0.1
baz=37,SNR=9.0
K27A Flueckinger Fa 37.10 318 ⇑P P 07 55 35.5 -1.1
baz=37,SNR=8.3
R24A Sanders Place, 37.11 310 ⇓P P 07 55 37.3 +0.4
baz=37,SNR=41
O25A Wiggins 37.15 313 ⇑P P 07 55 37.5 +0.4
baz=37
Y22A Socorro 37.19 302 ⇑P P 07 55 38.0 +0.4
baz=37,SNR=22
Y22D IRIS PASSCAL I 37.19 302 ⇑P P 07 55 38.5 +0.9
baz=37,SNR=5.0
SDCO Great Sand Dun 37.22 309 eP P 07 55 38.3 +0.3
comp=Z,79nm,1.5s
SDCO epP pP 07 56 04.8 -0.6
SDCO Great Sand Dun 37.22 309 ⇑P P 07 55 38.3 +0.3
baz=37,SNR=59
LENM Lemitar 37.26 302 eP P 07 55 38.9 +0.7
LENM epP pP 07 56 06.4 +0.9
U23A El Rito 37.27 306 ⇓P P 07 55 39.4 +1.1
baz=37,SNR=16
L26A Underwood Farm 37.32 316 ⇓P P 07 55 38.3 -0.3
baz=37
X22A Bernardo 37.38 303 ⇓P P 07 55 40.1 +1.0
baz=37,SNR=6.4
T23A Casias Ranch, 37.38 307 ⇑P P 07 55 40.0 +0.7
baz=37,SNR=11
Q24A Divide 37.42 311 ⇑P P 07 55 39.7 +0.1
baz=37,SNR=15
W22A Albuquerque 37.42 304 ⇓P P 07 55 40.6 +1.0
baz=37,SNR=7.0
221A Mesquite Ranch 37.42 299 ⇑P P 07 55 40.5 +1.0
baz=37,SNR=6.6
N25A Grover 37.43 314 ⇑P P 07 55 39.8 +0.3
baz=37
LAZ Ladron 37.45 303 eP P 07 55 40.3 +0.4
comp=Z,13nm,1.0s
LAZ epP pP 07 56 07.1 -0.2
P24A Kohler Place, 37.46 312 ⇑P P 07 55 40.3 +0.5
baz=37,SNR=12
121A Cookes Peak, D 37.53 300 ⇑P P 07 55 41.6 +1.0
baz=37,SNR=21
S23A Nye Farm, Mont 37.58 308 ⇑P P 07 55 41.7 +0.8
baz=38,SNR=15
Z21A St. Cloud Mine 37.61 301 ⇓P P 07 55 42.0 +0.8
baz=38,SNR=11
R23A Moffat 37.62 309 ⇓P P 07 55 41.8 +0.5
baz=38,SNR=26
M25A Palm-Egli Farm 37.69 315 ⇑P P 07 55 41.6 -0.1
baz=38,SNR=10
V22A San Miguel Ran 37.69 305 ⇓P P 07 55 43.0 +1.1
baz=38,SNR=40
K26A Motz Farm, Whi 37.70 317 ⇓P P 07 55 41.2 -0.5
baz=38,SNR=14
Y21A Point of Rocks 37.78 302 ⇑P P 07 55 43.8 +1.1
baz=38,SNR=35
U22A Llaves 37.79 306 ⇑P P 07 55 43.8 +1.1
baz=38,SNR=40
O24A Longmont 37.82 313 ⇑P P 07 55 43.1 +0.3
baz=38,SNR=13
320A Kipp Ranch, An 37.92 297 ⇑P P 07 55 44.9 +1.1
baz=38,SNR=12
L25A Engebretsen Ra 37.96 316 ⇓P P 07 55 44.0 +0.1
baz=38,SNR=17
X21A Alamocita Cree 37.98 303 ⇓P P 07 55 44.9 +0.6
baz=38,SNR=33
N24A Carr 37.98 314 ⇑P P 07 55 44.7 +0.5
baz=38
220A Playas Peak, P 38.02 298 ⇓P P 07 55 45.6 +1.0
baz=38,SNR=23
T22A Edith 38.03 307 ⇓P P 07 55 45.5 +0.8
baz=38,SNR=16
W21A San Fidel 38.05 304 ⇑P P 07 55 45.6 +0.8
baz=38,SNR=19
P23A Jefferson 38.07 311 ⇑P P 07 55 46.0 +0.9
baz=38,SNR=9.2
ISCO Idaho Springs 38.07 312 eP P 07 55 45.7 +0.6
ISCO e*PP pP 07 56 13.0 +0.4
ISCO e*SP sP 07 56 26.4 -0.3
ISCO pmax pmax
comp=Z,41nm,0.8s
ISCO Idaho Springs 38.07 312 eP P 07 55 45.7 +0.6
comp=Z,42nm,0.8s
ISCO epP pP 07 56 13.0 +0.4
ISCO esP sP 07 56 26.4 -0.3
ISCO Idaho Springs 38.07 312 ⇓P P 07 55 45.7 +0.6
baz=38,SNR=39
K25A Mack Ranch, Ha 38.11 317 ⇑P P 07 55 45.4 +0.2
baz=38,SNR=17
S22A 4UR Ranch, Cre 38.21 308 ⇓P P 07 55 46.7 +0.4
baz=38,SNR=30
M24A Cheyenne 38.22 315 ⇑P P 07 55 46.5 +0.3
baz=38,SNR=31
V21A Milan 38.23 305 ⇑P P 07 55 47.6 +1.2
baz=38,SNR=9.9
120A U Bar Ranch, L 38.24 299 ⇓P P 07 55 47.5 +1.0
baz=38,SNR=12
ULM Lac du Bonnet 38.32 332 P P 07 55 45.5 -1.1
ULM sP sP 07 56 28.1 -0.1
ULM ScP ScP 08 01 34.8 +0.2
ULM Lac du Bonnet 38.32 332 P P 07 55 45.5 -1.1
comp=Z,20nm,0.8s,baz=137,slow=8.2,SNR=28
ULM sP sP 07 56 28.1 -0.1
comp=Z,26nm,0.8s,baz=134,slow=7.6,SNR=7.7
ULM ScP ScP 08 01 34.8 +0.2
comp=Z,2.3nm,0.7s,baz=144,slow=5.4,SNR=2.9
ULM LR LR 08 11 29.3
comp=Z,128nm,18.1s,baz=87,slow=36
R22A Saguache, Gunn 38.32 309 ⇓P P 07 55 47.8 +0.6
baz=38,SNR=19
Z20A Nine Sixteen R 38.32 300 ⇑P P 07 55 48.2 +1.1
baz=38,SNR=13
Y20A Horse Springs, 38.32 302 ⇓P P 07 55 48.1 +0.9
baz=38,SNR=25
U21A Nageezi 38.42 306 ⇑P P 07 55 49.1 +1.1
baz=38,SNR=23
O23A Lake Granby, G 38.45 312 ⇑P P 07 55 49.0 +0.7
baz=38,SNR=15
MDND Maddock 38.50 327 ⇓P P 07 55 47.9 -0.3
baz=38,SNR=13
L24A Wheatland 38.55 315 ⇓P P 07 55 49.1 +0.2
baz=38,SNR=11
319A Douglas 38.56 297 ⇑P P 07 55 50.3 +1.2
baz=38,SNR=31
X20A Quemado 38.57 303 ⇑P P 07 55 50.2 +1.0
baz=38,SNR=18
PHWY Pilot Hill 38.58 314 eP P 07 55 48.8 -0.5
comp=Z,38nm,1.0s
PHWY epP pP 07 56 16.5 -0.3
PHWY esP sP 07 56 31.0 +0.1
Q22A Crested Butte, 38.66 310 ⇓P P 07 55 50.3 +0.3
baz=38,SNR=30
W20A Ramah 38.72 303 ⇑P P 07 55 51.2 +0.7
baz=39,SNR=7.6
N23A Red Feather La 38.74 313 ⇓P P 07 55 50.8 +0.2
baz=39,SNR=7.3
K24A Anderson Ranch 38.78 316 ⇓P P 07 55 50.8 0.0
baz=39,SNR=9.1
P22A Eagle 38.81 311 ⇑P P 07 55 51.3 +0.1
baz=39,SNR=20
SMCO Snowmass 38.81 310 eP P 07 55 51.9 +0.4
comp=Z,84nm,1.4s
SMCO epP pP 07 56 18.6 -0.4
M23A Laramie 38.83 314 ⇑P P 07 55 51.4 0.0
baz=39,SNR=6.7
V20A Brimhall 38.87 304 ⇓P P 07 55 52.4 +0.7
baz=39,SNR=7.5
O22A Kremling 38.88 312 ⇑P P 07 55 52.0 +0.2
baz=39,SNR=27
S21A Coal Bank Pass 38.90 308 ⇓P P 07 55 52.4 +0.3
baz=39,SNR=24
RSSD Black Hills 38.95 319 eP P 07 55 52.0 -0.2
RSSD pmax pmax
comp=Z,8.0nm,0.8s
RSSD Black Hills 38.95 319 eP P 07 55 52.0 -0.2
comp=Z,8.2nm,0.8s
R21A Cimarron 38.95 309 ⇑P P 07 55 53.0 +0.6
baz=39,SNR=38
J24A Dixon Ranch, L 38.96 317 ⇑P P 07 55 52.2 0.0
baz=39
Y19A Nutrioso 39.05 301 ⇓P P 07 55 54.5 +1.2
baz=39,SNR=20
N22A Wattenberg Ran 39.06 313 ⇑P P 07 55 53.8 +0.5
baz=39,SNR=9.2
L23A Garrett 39.09 315 ⇑P P 07 55 53.4 -0.2
baz=39,SNR=29
Q21A Lamborn Mesa, 39.13 309 ⇑P P 07 55 54.9 +1.0
baz=39,SNR=7.9
P21A Newcastle 39.28 310 ⇓P P 07 55 55.8 +0.7
baz=39,SNR=29
MVCO Mesa Verde 39.30 307 eP P 07 55 55.5 +0.2
comp=Z,5.4nm,0.7s
MVCO Mesa Verde 39.30 307 ⇑P P 07 55 55.4 +0.2
baz=39,SNR=5.9
V19A Window Rock 39.30 304 ⇓P P 07 55 56.0 +0.6
baz=39
S20A Disappointment 39.38 308 ⇑P P 07 55 56.9 +0.9
baz=39,SNR=21
M22A Cedar Creek Ra 39.40 314 ⇑P P 07 55 56.4 +0.3
baz=39,SNR=11
R20A Redvale 39.51 308 ⇓P P 07 55 58.0 +0.9
baz=39,SNR=18
L22A Ellis Ranch, M 39.55 315 ⇑P P 07 55 57.9 +0.6
baz=39,SNR=13
O21A Pagoda 39.55 311 ⇓P P 07 55 57.8 +0.5
baz=39,SNR=9.6
H24A Dirks Ranch, A 39.58 319 ⇓P P 07 55 56.4 -1.0
baz=39,SNR=19
U19A Dine' College, 39.59 305 ⇓P P 07 55 57.8 +0.1
baz=40,SNR=8.8
T19A Beclabito 39.59 306 ⇑P P 07 55 58.1 +0.4
baz=40,SNR=27
PV01 Paradox Valley 39.64 308 eP P 07 55 58.9 +0.8
comp=Z,4μm,1.5s
PV01 epP pP 07 56 26.9 +1.2
BDFB Brasilia 39.66 147 P P 07 55 57.8 -0.5
BDFB PcP PcP 07 58 03.6 +0.7
BDFB ScP ScP 08 01 41.4 +1.0
BDFB Brasilia 39.66 147 P P 07 55 57.8 -0.5
comp=Z,19nm,0.8s,baz=304,slow=8.5,SNR=34
BDFB PcP PcP 07 58 03.6 +0.7
comp=Z,7.8nm,0.9s,baz=320,slow=0.8,SNR=3.5
BDFB ScP ScP 08 01 41.4 +1.0
comp=Z,2.9nm,0.7s,baz=142,slow=9.7,SNR=3.2
BDFB LR LR 08 12 42.9
comp=Z,132nm,19.4s,baz=145,slow=36
Q20A Ridgley Place, 39.70 309 ⇓P P 07 55 59.3 +0.8
baz=40,SNR=62
X18A Snowflake 39.73 302 ⇓P P 07 55 59.8 +0.9
baz=40,SNR=13
G24A Alzada 39.79 320 ⇑P P 07 55 58.8 -0.3
baz=40,SNR=12
N21A Black Mountain 39.79 312 ⇓P P 07 55 59.9 +0.6
baz=40,SNR=12
K22A Casper 39.87 315 ⇓P P 07 55 59.6 -0.3
baz=40,SNR=27
RWWY Rawlins 39.94 314 eP P 07 56 00.9 +0.4
comp=Z,40nm,1.0s
RWWY epP pP 07 56 28.8 +0.6
RWWY esP sP 07 56 42.7 +0.5
S19A Harvey Farm, M 39.95 307 ⇑P P 07 56 01.1 +0.5
baz=40,SNR=34
P20A De Beque 39.96 310 ⇑P P 07 56 01.4 +0.8
baz=40,SNR=14
PV04 Paradox Valley 39.97 308 eP P 07 56 01.6 +0.8
PV04 epP pP 07 56 28.1 -0.3
TUC Tucson 39.98 298 eP P 07 56 01.8 +0.9
TUC pmax pmax
comp=Z,14nm,1.0s
TUC Tucson 39.98 298 eP P 07 56 01.8 +0.9
comp=Z,14nm,1.0s
M21A Separation Pea 40.01 314 ⇑P P 07 56 01.3 +0.1
baz=40,SNR=15
PV10 Paradox Valley 40.06 308 eP P 07 56 01.8 +0.1
comp=Z,708nm,1.1s
O20A White River Ci 40.07 311 ⇓P P 07 56 01.8 +0.2
baz=40,SNR=18
F24A Ekalaka 40.07 321 ⇓P P 07 56 01.2 -0.2
baz=40,SNR=16
L21A Rawlins 40.16 314 ⇓P P 07 56 02.2 -0.1
baz=40,SNR=19
J22A Midwest 40.18 317 ⇑P P 07 56 01.7 -0.7
baz=40,SNR=49
R19A Curley Farm, L 40.20 308 ⇑P P 07 56 03.2 +0.4
baz=40,SNR=20
G23A Biddle 40.32 320 ⇑P P 07 56 03.0 -0.4
baz=40,SNR=21
T18A Mexican Hat 40.33 306 ⇑P P 07 56 04.2 +0.5
baz=40,SNR=54
N20A Spence Gulch, 40.34 312 ⇑P P 07 56 04.2 +0.3
baz=40,SNR=8.2
K21A Alcova 40.35 315 ⇓P P 07 56 04.2 +0.4
baz=40,SNR=110
E24A Baker 40.37 322 ⇓P P 07 56 03.7 -0.1
baz=40
X17A Forest Lakes 40.38 302 ⇓P P 07 56 05.8 +1.5
baz=40,SNR=6.3
I22A 9 Mile Ranch, 40.40 317 ⇑P P 07 56 03.4 -0.8
baz=40,SNR=19
Q19A Hogan Spring (40.41 309 ⇑P P 07 56 04.7 +0.3
baz=40,SNR=33
P19A Cripple Cowboy 40.43 310 ⇓P P 07 56 04.6 0.0
baz=40,SNR=14
M20A Sweetwater, Wa 40.53 313 ⇓P P 07 56 05.8 +0.4
baz=40,SNR=16
RCBR Riachuelo 40.55 123 eP P 07 56 06.0 +0.3
comp=Z,51nm,0.6s
S18A Hurst Farm, Bl 40.58 307 ⇑P P 07 56 06.4 +0.5
baz=40,SNR=47
F23A Volborg 40.59 320 ⇑P P 07 56 05.1 -0.5
baz=40
D24A Glendive 40.67 323 ⇑P P 07 56 06.6 +0.4
baz=40
R18A Canyonlands Na 40.71 308 ⇑P P 07 56 07.1 +0.3
baz=41,SNR=54
O19A Miners Draw (B 40.76 311 ⇑P P 07 56 07.2 -0.1
baz=41
J21A Lysite 40.78 316 ⇓P P 07 56 07.3 -0.1
baz=41,SNR=59
LVC Limon Verde 40.82 180 eP P 07 56 06.8 -1.1
comp=Z,3.3nm,0.6s
L20A Wamsutter 40.84 314 ⇑P P 07 56 08.2 +0.3
baz=41,SNR=12
I21A Big Trails, Te 40.88 317 ⇑P P 07 56 07.2 -0.9
baz=41,SNR=25
G22A Birney 40.89 319 ⇑P P 07 56 07.9 -0.2
baz=41,SNR=44
X16A Lo Mia Camp, P 40.91 302 ⇑P P 07 56 09.8 +1.2
baz=41,SNR=14
E23A Ismay 40.92 321 ⇓P P 07 56 08.3 0.0
baz=41,SNR=11
C24A Savage 40.95 323 ⇓P P 07 56 08.8 +0.2
baz=41,SNR=17
N19A John Jarvie Ra 41.01 312 ⇓P P 07 56 08.9 -0.4
baz=41,SNR=17
T17A Navajo Res., N 41.01 306 ⇓P P 07 56 10.1 +0.7
baz=41,SNR=7.7
H21A Big Horn, Sher 41.09 318 ⇑P P 07 56 08.7 -1.1
baz=41,SNR=6.3
WUAZ Wupatki 41.10 303 eP P 07 56 11.5 +1.5
comp=Z,59nm,1.3s
WUAZ epP pP 07 56 39.3 +1.5
WUAZ Wupatki 41.10 303 ⇓P P 07 56 11.2 +1.1
baz=41,SNR=8.7
K20A Yellowstone Ra 41.10 315 ⇑P P 07 56 09.7 -0.3
baz=41,SNR=13
Q18A Rafter H Ranch 41.10 309 ⇑P P 07 56 10.5 +0.5
baz=41,SNR=20
F22A Rosebud 41.13 320 ⇓P P 07 56 10.0 -0.1
baz=41,SNR=44
S17A Black Ridge (B 41.18 306 ⇑P P 07 56 11.6 +1.0
baz=41,SNR=56
J20A Shoshoni 41.21 316 ⇓P P 07 56 11.0 +0.2
baz=41,SNR=25
D23A Lindsay 41.21 322 ⇓P P 07 56 11.2 +0.5
baz=41,SNR=12
M19A Rock Springs 41.21 313 ⇓P P 07 56 10.3 -0.7
baz=41,SNR=7.6
E22A Miles City 41.27 321 ⇓P P 07 56 10.9 -0.3
baz=41,SNR=6.3
R17A Hanksville Air 41.33 308 ⇑P P 07 56 12.4 +0.6
baz=41,SNR=22
DGMT Dagmar 41.34 324 eP P 07 56 12.2 +0.5
comp=Z,144nm,0.8s
DGMT epP pP 07 56 40.1 +0.6
DGMT esP sP 07 56 54.0 +0.5
DGMT Dagmar 41.34 324 ⇑P P 07 56 12.2 +0.5
baz=41,SNR=63
P18A Preston Nutter 41.35 310 ⇓P P 07 56 12.6 +0.4
baz=41
O18A Roosevelt 41.38 311 ⇑P P 07 56 12.5 +0.2
baz=41
SRU San Rafael 41.40 309 eP P 07 56 13.0 +0.5
SRU pmax pmax
comp=Z,37nm,1.2s
SRU San Rafael 41.40 309 eP P 07 56 13.0 +0.5
comp=Z,37nm,1.2s
SRU San Rafael 41.40 309 ⇑P P 07 56 12.9 +0.5
baz=41,SNR=28
G21A Lodge Grass 41.46 319 ⇓P P 07 56 12.2 -0.7
baz=41,SNR=16
I20A Worland 41.49 316 ⇓P P 07 56 12.6 -0.5
baz=41,SNR=19
A24A Westby 41.49 325 ⇓P P 07 56 13.2 +0.3
baz=41,SNR=12
K19A Absolon Red Bu 41.50 315 ⇑P P 07 56 12.5 -0.8
baz=41,SNR=13
C23A Lambert 41.53 323 ⇑P P 07 56 13.9 +0.6
baz=41,SNR=40
L19A Farson 41.58 313 ⇓P P 07 56 13.7 -0.2
baz=41,SNR=10.0
214A Organ Pipe Nat 41.62 298 ⇓P P 07 56 15.3 +1.1
baz=42,SNR=11
H20A Greybull 41.63 317 ⇓P P 07 56 13.3 -1.0
baz=42,SNR=24
P17A Butcher Ranch, 41.67 309 ⇓P P 07 56 15.3 +0.7
baz=42,SNR=15
F21A Absaloka Mine, 41.69 319 ⇓P P 07 56 14.3 -0.4
baz=42
D22A Cohagen 41.77 322 ⇓P P 07 56 16.0 +0.7

baz=42,SNR=21
B23A Brockton 41.78 324 ⇑P P 07 56 16.0 +0.8
baz=42,SNR=50
114A Black Gap (USA 41.80 299 ⇑P P 07 56 17.1 +1.4
baz=42,SNR=15
S16A Weppner Ranch, 41.81 306 ⇑P P 07 56 16.4 +0.6
baz=42,SNR=15
J19A Crowheart 41.82 315 ⇓P P 07 56 15.6 -0.3
baz=42,SNR=22
Q16A Castle Valley 41.82 308 ⇓P P 07 56 16.3 +0.4
baz=42,SNR=21
M18A Lyman 41.83 312 ⇑P P 07 56 15.6 -0.4
baz=42,SNR=7.9
R16A Teasdale 41.87 307 ⇓P P 07 56 17.2 +0.7
baz=42,SNR=23
O17A Robinson Place 41.89 310 ⇑P P 07 56 17.2 +0.6
baz=42
C22A Vida 41.90 323 ⇓P P 07 56 16.8 +0.5
baz=42,SNR=28
Z14A Wintersburg 41.95 300 ⇑P P 07 56 17.9 +1.0
baz=42
TMUT Trail Mountain 41.96 309 *e*P P 07 56 18.0 +0.8
comp=Z,76nm,1.2s
TMUT *ep*P **pP** 07 56 45.3 +0.2
BW06 Boulder Array 41.96 314 ⇓P P 07 56 16.6 -0.5
baz=42,SNR=14
PDAR Pinedale Array 41.96 314 P P 07 56 16.6 -0.6
PDAR pP **pP** 07 56 44.5 -0.5
PDAR sP **sP** 07 56 58.5 -0.4
PDAR PcP **PcP** 07 58 09.9 -0.3
PDAR ScP **ScP** 08 01 48.6 -0.7
PDAR Pinedale Array 41.96 314 P P 07 56 16.6 -0.6
comp=Z,4.7nm,0.8s,baz=120,slow=11,SNR=39
PDAR pP **pP** 07 56 44.5 -0.5
comp=Z,9.0nm,0.9s,baz=124,slow=9.8,SNR=9.4
PDAR sP **sP** 07 56 58.6 -0.4
comp=Z,6.7nm,0.9s,baz=116,slow=10,SNR=3.8
PDAR PcP **PcP** 07 58 09.9 -0.3
comp=Z,2.1nm,0.6s,baz=127,slow=5.2,SNR=4.7
PDAR ScP **ScP** 08 01 48.6 -0.7
comp=Z,1.9nm,1.0s,baz=99,slow=9.2,SNR=4.0
PD02 Pinedale Array 41.97 314 *e*P P 07 56 16.6 -0.6
PD02 *ep*P **pP** 07 56 44.4 -0.7
PD02 *es*P **sP** 07 56 58.7 -0.4
L18A Fontenelle, Gr 41.98 313 ⇑P P 07 56 17.1 -0.1
baz=42,SNR=11
PD01 Pinedale Array 41.98 314 *e*P P 07 56 16.6 -0.7
PD01 *ep*P **pP** 07 56 45.0 -0.2
A23A Redstone 41.99 325 ⇑P P 07 56 17.7 +0.7
baz=42,SNR=13
E21A Keefer Ranch, 42.00 320 ⇓P P 07 56 16.9 -0.2
baz=42,SNR=5.9
I19A Meeteetse 42.09 316 ⇓P P 07 56 17.8 -0.3
baz=42,SNR=28
G20A Bridger 42.09 318 ⇑P P 07 56 16.9 -1.1
baz=42,SNR=14
Y14A Wickenburg 42.10 300 ⇓P P 07 56 19.3 +1.1
baz=42,SNR=19
N17A Moffit Pass 42.20 311 ⇓P P 07 56 19.1 0.0
baz=42,SNR=8.8
D21A La Casta Ranch 42.21 321 ⇓P P 07 56 19.6 +0.8
baz=42,SNR=48
K18A Toltan Ranch, 42.24 314 ⇓P P 07 56 19.6 +0.2
baz=42,SNR=10
B22A Reddig Ranch S 42.26 323 ⇑P P 07 56 20.3 +1.1
baz=42,SNR=22
M17A Scullys Gap (B 42.26 312 ⇑P P 07 56 19.4 -0.1
baz=42,SNR=6.2
F20A Billings 42.31 319 ⇑P P 07 56 19.6 -0.2
baz=42,SNR=24
DAU Daniels Canyon 42.34 310 *e*P P 07 56 20.9 +0.6
DAU *e**PP **pP** 07 56 48.0 -0.2
DAU Daniels Canyon 42.34 310 *e*P P 07 56 20.9 +0.6
DAU *ep*P **pP** 07 56 48.0 -0.2
H19A Powell 42.35 317 ⇑P P 07 56 19.7 -0.4
baz=42,SNR=30
P16A Fountain Green 42.38 309 ⇓P P 07 56 21.3 +0.8
baz=42,SNR=12
J18A Kendall Valley 42.45 315 ⇓P P 07 56 20.6 -0.5
baz=42,SNR=14
O16A Springville 42.45 310 ⇓P P 07 56 21.4 +0.3
baz=42
R15A Junction 42.46 307 ⇓P P 07 56 22.2 +1.1
baz=42,SNR=13
MSU Marysvale 42.46 307 *e*P P 07 56 22.3 +1.1
MSU Marysvale 42.46 307 *e*P P 07 56 22.3 +1.1
MVU Marysvale 42.48 307 *e*P P 07 56 22.5 +1.1
comp=Z,17nm,0.7s
MVU *ep*P **pP** 07 56 50.0 +0.6
MPU Maple Canyon 42.49 310 *e*P P 07 56 21.9 +0.5
comp=Z,59nm,1.0s
MPU *ep*P **pP** 07 56 49.3 0.0
I18A Diamond G Ranc 42.50 315 ⇓P P 07 56 21.6 +0.1
baz=42,SNR=41
JLU Jordanelle 42.53 310 *e*P P 07 56 22.3 +0.5
comp=Z,29nm,0.8s
JLU *ep*P **pP** 07 56 49.8 0.0
113A Mohawk Valley, 42.54 299 ⇓P P 07 56 22.4 +0.8
baz=42,SNR=7.8
A22A Carney Farms, 42.58 324 ⇑P P 07 56 22.7 +0.9
baz=42,SNR=42
N16A Rees Ranch, Co 42.62 311 ⇑P P 07 56 22.8 +0.4
baz=42,SNR=10
L17A Cokeville 42.62 313 ⇑P P 07 56 21.8 -0.6
baz=42,SNR=12
E20A Meyer Farm, Mu 42.63 320 ⇓P P 07 56 22.6 +0.3
baz=42,SNR=38
C21A Desert Coulee 42.65 322 ⇓P P 07 56 22.8 +0.5
baz=42,SNR=12
RLMT Red Lodge 42.72 318 *e*P P 07 56 23.2 0.0
comp=Z,32nm,0.7s
RLMT *ep*P **pP** 07 56 51.2 0.0
RLMT Red Lodge 42.72 318 ⇑P P 07 56 23.2 0.0
baz=43,SNR=51
H18A Shoshone NF, C 42.79 317 ⇑P P 07 56 23.0 -0.8
baz=43,SNR=47
P15A Leamington 42.83 309 ⇑P P 07 56 24.6 +0.5
baz=43,SNR=10
F19A Roth Farm, Mol 42.84 319 ⇓P P 07 56 23.8 -0.2
baz=43,SNR=22
M16A Huntsville 42.89 311 ⇓P P 07 56 24.3 -0.3
baz=43
D20A Manuel Ranch, 42.91 321 ⇓P P 07 56 24.8 +0.3
baz=43,SNR=26
B21A Ellsworth Farm 42.91 323 ⇓P P 07 56 25.3 +0.9
baz=43,SNR=16
HWUT Hardware Ranch 42.94 312 *e*P P 07 56 24.2 -0.8
comp=Z,33nm,1.0s
HWUT *ep*P **pP** 07 56 52.4 -0.6
J17A Brown Place, J 42.97 315 ⇓P P 07 56 25.4 +0.2
baz=43,SNR=26
L16A Fish Haven 42.99 312 ⇑P P 07 56 25.1 -0.3
baz=43,SNR=13
LOHW Long Hollow 42.99 315 *e*P P 07 56 25.4 0.0
comp=Z,40nm,0.9s
LOHW *ep*P **pP** 07 56 53.2 -0.2
G18A Lazy EL Ranch, 42.99 318 ⇑P P 07 56 25.0 -0.3
baz=43,SNR=22
E19A Rath Farm, Rou 43.01 320 ⇓P P 07 56 25.8 +0.5
baz=43,SNR=61
AHID Auburn Hatcher 43.02 314 *e*P P 07 56 25.7 +0.1
comp=Z,23nm,0.8s
AHID *ep*P **pP** 07 56 53.5 -0.1
W13A Hualapai Mount 43.02 302 ⇓P P 07 56 27.3 +1.6
baz=43,SNR=19
SNOW Snow King Moun 43.04 315 *e*P P 07 56 25.9 +0.1
comp=Z,40nm,1.0s
SNOW *ep*P **pP** 07 56 53.2 -0.7
REDW Red Top Meadow 43.07 314 *e*P P 07 56 26.0 0.0
comp=Z,51nm,0.9s
REDW *ep*P **pP** 07 56 53.7 -0.3
I17A Pilgrim Ck. 43.09 315 ⇓P P 07 56 26.4 +0.2
baz=43,SNR=13
C20A Veseth Ranch, 43.12 322 ⇓P P 07 56 26.7 +0.5
baz=43,SNR=8.7
CCUT Cedar City 43.12 306 *e*P P 07 56 27.5 +0.9
comp=Z,39nm,1.3s
MOOW Moose Ponds 43.14 315 *e*P P 07 56 26.2 -0.4
comp=Z,34nm,0.8s
MOOW *ep*P **pP** 07 56 54.6 0.0
MOOW *es*P **sP** 07 57 09.0 +0.4
A21A Bergtoll Ranch 43.15 324 ⇓P P 07 56 27.4 +1.1
baz=43,SNR=81
TPAW Teton Pass 43.18 315 *e*P P 07 56 28.1 +1.1
comp=Z,30nm,1.0s
TPAW *ep*P **pP** 07 56 55.8 +0.8
LKWY Lake 43.23 316 *e*P P 07 56 28.0 +0.7
LKWY pmax pmax
comp=Z,7.0nm,0.8s
LKWY Lake 43.23 316 *e*P P 07 56 28.0 +0.7
comp=Z,6.6nm,0.8s
FLWY Flagg Ranch 43.24 316 *e*P P 07 56 27.4 0.0
comp=Z,15nm,0.8s
FLWY *ep*P **pP** 07 56 56.3 +1.0
ARUT Antelope Range 43.24 306 *e*P P 07 56 28.3 +0.8
ARUT pmax pmax
comp=Z,49nm,0.8s
ARUT Antelope Range 43.24 306 *e*P P 07 56 28.3 +0.8
comp=Z,49nm,0.8s
GCMT Greycliff 43.26 318 *e*P P 07 56 27.5 0.0
comp=Z,25nm,1.0s
GCMT *ep*P **pP** 07 56 55.6 +0.1
IMW Indian Meadow 43.33 315 *e*P P 07 56 27.7 -0.4
comp=Z,19nm,1.1s
IMW *ep*P **pP** 07 56 56.7 +0.5
F18A Big Timber 43.34 318 ⇑P P 07 56 28.3 +0.2
baz=43,SNR=60
DCID1 Drake Creek 43.38 315 *e*P P 07 56 28.9 +0.5
comp=Z,31nm,0.9s
DCID1 *ep*P **pP** 07 56 56.8 +0.3
K16A Soda Springs 43.38 313 ⇓P P 07 56 28.6 +0.1
baz=43,SNR=14
RRI2 Red Ridge 43.38 314 *e*P P 07 56 28.6 0.0
comp=Z,28nm,0.9s
RRI2 *ep*P **pP** 07 56 56.5 -0.1
D19A Cripps Ranch, 43.39 320 ⇑P P 07 56 28.6 +0.2
baz=43
DUG Dugway 43.40 309 *e*P P 07 56 29.3 +0.6
DUG *e**PP **pP** 07 56 57.1 +0.4
DUG pmax pmax
comp=Z,40nm,0.9s
DUG Dugway 43.40 309 *e*P P 07 56 29.2 +0.6
comp=Z,40nm,0.9s
DUG *ep*P **pP** 07 56 57.1 +0.4
DUG Dugway 43.40 309 ⇑P P 07 56 29.3 +0.6
baz=43,SNR=28
YFT Old Faithful 43.47 316 *e*P P 07 56 30.6 +1.3
comp=Z,10nm,0.9s
YNR Norris Junctio 43.47 316 *e*P P 07 56 29.6 +0.3
comp=Z,5.3nm,0.7s
B20A Solberg Farm, 43.49 322 ⇑P P 07 56 30.3 +1.1
baz=43,SNR=38
M15A Larsen Ranch, 43.52 311 ⇓P P 07 56 29.2 -0.4
baz=43,SNR=8.9
J16A Bone 43.55 314 ⇑P P 07 56 29.8 -0.1
baz=43,SNR=9.0
YMR Madison River 43.64 316 *e*P P 07 56 31.1 +0.4
comp=Z,17nm,0.8s
L15A Malad City 43.65 312 ⇓P P 07 56 30.3 -0.4
baz=44,SNR=24
A20A Cobblestone Ra 43.66 323 ⇓P P 07 56 31.3 +0.8
baz=44,SNR=35
I16A Newdale 43.69 315 ⇑P P 07 56 31.1 +0.1
baz=44,SNR=14
R13A O'Grain Ranch, 43.74 306 ⇑P P 07 56 32.9 +1.4
baz=44
E18A Harlowton 43.75 319 ⇑P P 07 56 31.7 +0.4
baz=44,SNR=36
G17A Pierce Place, 43.75 317 ⇓P P 07 56 32.2 +0.7
baz=44,SNR=6.9
C19A Slack Wire Ran 43.76 321 ⇑P P 07 56 31.7 +0.4
baz=44,SNR=17
H16A Russell Place, 43.84 316 ⇑P P 07 56 32.9 +0.7
baz=44,SNR=10
HVU Hansel Valley 43.86 312 *e*P P 07 56 32.4 +0.1
HVU *e**PP **pP** 07 56 59.7 -0.7
HVU pmax pmax
comp=Z,17nm,1.1s
HVU Hansel Valley 43.86 312 *e*P P 07 56 32.4 +0.1
comp=Z,17nm,1.1s
HVU *ep*P **pP** 07 56 59.7 -0.7
IRM Iron Mountain 43.89 300 ⇓P P 07 56 34.0 +1.4
baz=44,SNR=37
F17A Fitzpatrick Pl 43.94 318 ⇓P P 07 56 33.5 +0.6
baz=44,SNR=36
D18A Linhart Farms, 43.96 320 ⇑P P 07 56 33.6 +0.6
baz=44,SNR=13
K15A Arbon 43.98 313 ⇑P P 07 56 33.3 0.0
baz=44,SNR=6.9
LDFC Landfair 44.01 302 *e*P P 07 56 35.8 +2.3
comp=Z,68nm,0.9s
LDFC *ep*P **pP** 07 57 03.0 +1.4
QLMT Earthquake Lak 44.01 316 *e*P P 07 56 34.8 +1.2
QLMT *ep*P **pP** 07 57 03.0 +1.4
B19A Brinkman Farms 44.03 322 ⇑P P 07 56 34.1 +0.6
baz=44,SNR=14
BC3 Big Chuckawall 44.07 300 ⇓P P 07 56 35.1 +1.1
baz=44,SNR=10
FFC Flin Flon 44.11 333 *e*P P 07 56 32.8 -1.1
FFC *e**PP **pP** 07 57 01.6 -0.4
FFC *e**SP **sP** 07 57 14.6 -1.4
FFC pmax pmax
comp=Z,44nm,0.8s
FFC Flin Flon 44.11 333 *e*P P 07 56 32.8 -1.1
comp=Z,44nm,0.8s
FFC *ep*P **pP** 07 57 01.6 -0.4
FFC *es*P **sP** 07 57 14.6 -1.4
FFC Flin Flon 44.11 333 P P 07 56 32.2 -1.7
comp=Z,201nm,0.5s,SNR=15
A19A Klindworth Far 44.15 323 ⇑P P 07 56 35.2 +0.9
baz=44,SNR=22
J15A Blackfoot 44.16 314 ⇑P P 07 56 34.8 +0.1
baz=44,SNR=14
L14A Malta 44.27 312 ⇓P P 07 56 35.4 -0.1
baz=44,SNR=16
E17A Martinsdale 44.30 319 ⇓P P 07 56 36.2 +0.4
baz=44,SNR=59
EGMT Eagleton 44.31 321 *e*P P 07 56 36.1 +0.4
comp=Z,111nm,1.2s
EGMT *ep*P **pP** 07 57 04.1 +0.2
EGMT Eagleton 44.31 321 ⇓P P 07 56 36.1 +0.4
baz=44,SNR=27
K14A Jones Ranch, D 44.38 313 ⇑P P 07 56 36.3 -0.2
baz=44,SNR=28
GMRC Granite Mounta 44.40 301 ⇓P P 07 56 38.0 +1.2
baz=44,SNR=17
I15A Monteview 44.40 315 ⇓P P 07 56 37.4 +0.8
baz=44,SNR=18
G16A Moss Hill, Enn 44.41 317 ⇑P P 07 56 37.2 +0.6
baz=44,SNR=20
BOZ Bozeman (W) 44.46 317 *e*P P 07 56 37.2 +0.2
BOZ *e**PP **pP** 07 57 04.8 -0.4
BOZ pmax pmax
comp=Z,31nm,1.0s
BOZ Bozeman (W) 44.46 317 *e*P P 07 56 37.2 +0.2
comp=Z,31nm,1.0s
BOZ *ep*P **pP** 07 57 04.8 -0.4
BOZ Bozeman (W) 44.46 317 ⇓P P 07 56 37.3 +0.2
baz=44,SNR=38
D17A Six Diamond Ra 44.49 320 ⇑P P 07 56 37.5 +0.3
baz=44,SNR=45
B18A Beardsley Farm 44.49 322 ⇓P P 07 56 37.8 +0.6
baz=44,SNR=10
F16A Kennard Place, 44.51 317 ⇑P P 07 56 37.7 +0.3
baz=44,SNR=30
TUQ Turquoise Moun 44.72 302 ⇑P P 07 56 40.7 +1.4
baz=45,SNR=17
H15A Lima 44.73 315 ⇑P P 07 56 40.2 +1.0
baz=45,SNR=22
C17A Wharram Farm, 44.74 320 ⇑P P 07 56 39.4 +0.3
baz=45,SNR=57
MONP Monument Peak 44.77 298 ⇓P P 07 56 41.0 +1.2
baz=45,SNR=6.8
A18A Metzger Ranch, 44.78 322 ⇑P P 07 56 39.7 +0.3
baz=45,SNR=29
G15A Dillon 44.83 316 ⇑P P 07 56 40.6 +0.6
baz=45,SNR=24
E16A East Helena 44.84 318 ⇓P P 07 56 40.2 +0.2
baz=45,SNR=17
J14A Carey 44.87 313 ⇓P P 07 56 41.1 +0.7
baz=45
MCMT McKenzie Canyo 44.94 316 *e*P P 07 56 41.7 +0.7
comp=Z,12nm,0.9s
MCMT *ep*P **pP** 07 57 10.2 +1.0
D16A Dana Ranch, Ca 44.97 319 ⇓P P 07 56 41.2 +0.2
baz=45,SNR=26
DLMT Dillon 44.98 316 *e*P P 07 56 41.8 +0.7
comp=Z,40nm,0.9s
DLMT *ep*P **pP** 07 57 09.3 0.0
DLMT *es*P **sP** 07 57 24.3 +1.1
DLMT *e*ScP **ScP** 08 02 02.8 +1.3
HRY Holter Researc 45.01 319 *e*P P 07 56 41.7 +0.4
HRY *ep*P **pP** 07 57 10.0 +0.4
HRY *es*P **sP** 07 57 23.9 +0.4
R11A Troy Canyon, C 45.02 306 ⇓P P 07 56 42.9 +1.3
baz=45,SNR=53
I14A Mackay 45.03 314 ⇓P P 07 56 42.3 +0.7
baz=45
B17A L&G Farms, Che 45.05 321 ⇓P P 07 56 41.8 +0.2
baz=45,SNR=23
LRM Limekiln Ridge 45.05 317 *e*P P 07 56 42.4 +0.6
LRM *ep*P **pP** 07 57 10.0 -0.1
LRM *es*P **sP** 07 57 24.5 +0.5
SHOC Shoshone 45.09 303 ⇓P P 07 56 43.8 +1.8
baz=45,SNR=18
F15A Butte 45.09 317 ⇓P P 07 56 42.6 +0.5
baz=45,SNR=13
H14A Leadore 45.21 315 ⇑P P 07 56 43.9 +0.8
baz=45,SNR=22
A17A Triple J Farms 45.29 322 ⇓P P 07 56 43.8 +0.3
baz=45,SNR=33
ELK Elko 45.34 309 *e*P P 07 56 44.9 +0.7
ELK *ep*P **pP** 07 57 12.8 +0.4
J13A Cove Ranch, Pi 45.35 313 ⇑P P 07 56 44.5 +0.4
baz=45,SNR=22
E15A Deer Lodge 45.41 318 ⇑P P 07 56 44.7 +0.1
baz=45,SNR=13
GSC Goldstone 45.41 302 *e*P P 07 56 46.2 +1.6
GSC *e**PP **pP** 07 57 14.3 +1.4
GSC pmax pmax
comp=Z,36nm,1.0s
GSC Goldstone 45.41 302 *e*P P 07 56 46.2 +1.6
comp=Z,36nm,1.0s
GSC *ep*P **pP** 07 57 14.3 +1.4
GSC Goldstone 45.41 302 ⇑P P 07 56 46.2 +1.6
baz=45,SNR=13
C16A Fuhringer Ranc 45.41 320 ⇑P P 07 56 44.5 0.0
baz=45,SNR=45
I13A Wildhorse Cree 45.48 314 ⇑P P 07 56 45.8 +0.5
baz=45,SNR=27
G14A Jackson 45.50 316 ⇓P P 07 56 45.5 +0.2
baz=45,SNR=12
HLID Hailey 45.57 313 *e*P P 07 56 46.3 +0.4
comp=Z,31nm,1.4s
HLID *ep*P **pP** 07 57 14.8 +0.7
HLID Hailey 45.57 313 ⇓P P 07 56 46.3 +0.4
baz=45,SNR=20
D15A Lincoln 45.58 319 ⇓P P 07 56 46.2 +0.4
baz=45,SNR=24
F14A Wisdom 45.65 317 ⇓P P 07 56 47.1 +0.6
baz=46,SNR=23
B16A M & M Farms, S 45.65 321 ⇑P P 07 56 46.4 +0.1
baz=46,SNR=7.4
H13A Challis 45.79 315 ⇑P P 07 56 47.6 0.0
baz=46,SNR=16
A16A West Butte Ran 45.82 321 ⇑P P 07 56 48.0 +0.3
baz=46
C15A Salmond Ranch, 45.93 320 ⇑P P 07 56 48.9 +0.3
baz=46,SNR=45
CPUP Villa Florida 45.93 165 *e*P P 07 56 47.0 -1.5
comp=Z,162nm,0.6s
CPUP pP **pP** 07 57 17.2 +0.3
CPUP PcP **PcP** 07 58 23.4 -0.1
CPUP ScP **ScP** 08 02 06.5 +1.2
CPUP Villa Florida 45.93 165 P P 07 56 47.2 -1.3
comp=Z,36nm,0.7s,baz=335,slow=7.6,SNR=141
CPUP pP **pP** 07 57 17.2 +0.3
comp=Z,20nm,0.9s,baz=5.0,slow=4.4,SNR=2.0
CPUP PcP **PcP** 07 58 23.4 -0.1
comp=Z,14nm,0.7s,baz=312,slow=2.5,SNR=4.5
CPUP ScP **ScP** 08 02 06.5 +1.2
comp=Z,3.3nm,0.7s,baz=339,slow=4.7,SNR=6.1
CPUP LR LR 08 18 10.6
comp=Z,96nm,19.2s,baz=116,slow=39
E14A Clinton 45.95 318 ⇑P P 07 56 49.3 +0.5
baz=46
G13A Cobalt 45.96 316 ⇑P P 07 56 48.6 -0.2
baz=46
BFSC Mount Baldy Ra 45.96 300 ⇓P P 07 56 49.9 +0.9
baz=46,SNR=6.9
CHMT Chamberlain Mo 45.99 318 *e*P P 07 56 49.4 +0.2
CHMT *ep*P **pP** 07 57 17.2 -0.3
CHMT *es*P **sP** 07 57 31.2 -0.1
MPMC Manual Prospec 46.08 303 ⇑P P 07 56 51.1 +1.0
baz=46,SNR=16
B15A Bradely Ranch, 46.12 320 ⇑P P 07 56 49.9 -0.1
baz=46,SNR=46
I12A Atlanta 46.14 314 ⇑P P 07 56 50.6 +0.2
baz=46,SNR=25
GRAC Grapevine Rang 46.14 304 ⇓P P 07 56 52.0 +1.7
baz=46,SNR=20
H12A Diamond D Ranc 46.19 315 ⇑P P 07 56 50.6 -0.1
baz=46,SNR=9.3
D14A Greenough 46.21 318 ⇓P P 07 56 51.0 +0.2
baz=46,SNR=16
F13A Darby 46.27 316 ⇑P P 07 56 51.2 -0.1
baz=46,SNR=10
SLMT Seeley Lake 46.27 319 *e*P P 07 56 51.5 +0.2
SLMT *ep*P **pP** 07 57 19.3 -0.3
EDW2 Edwards Air Fo 46.31 301 ⇓P P 07 56 53.0 +1.3
baz=46,SNR=16
PASC Pasadena Art C 46.38 300 *e*P P 07 56 53.3 +1.1
comp=Z,17nm,1.0s
PASC *ep*P **pP** 07 57 20.6 0.0
MSO Missoula 46.39 318 *e*P P 07 56 52.4 +0.2
MSO *ep*P **pP** 07 57 19.8 -0.8
MSO Missoula 46.39 318 ⇓P P 07 56 52.4 +0.2
baz=46,SNR=8.5
E13A Victor 46.41 317 ⇓P P 07 56 52.6 +0.3
baz=46,SNR=16
MFID Camas Ranch 46.50 313 *e*P P 07 56 53.3 +0.1
comp=Z,18nm,0.9s
MFID *ep*P **pP** 07 57 20.7 -0.8
MFID Camas Ranch 46.50 313 ⇓P P 07 56 53.2 +0.1
baz=46,SNR=12
A15A Johnson Ranch, 46.51 321 ⇓P P 07 56 53.3 +0.2
baz=46,SNR=37
B14A Marquette Ranc 46.58 320 ⇓P P 07 56 53.4 -0.3
baz=46,SNR=12
CWC Cottonwood Cre 46.61 303 ⇑P P 07 56 55.8 +1.7
baz=46,SNR=8.6
C14A Swan Lake 46.63 319 ⇓P P 07 56 54.2 +0.2
baz=46,SNR=18
SWMT Swartz Lake 46.69 319 *e*P P 07 56 54.7 +0.2
SWMT *ep*P **pP** 07 57 22.8 -0.1
G12A Big Creek, Yel 46.70 315 ⇓P P 07 56 54.5 -0.2
baz=46
BMN Battle Mountai 46.72 309 *e*P P 07 56 55.5 +0.6
BMN *e**PP **pP** 07 57 23.4 +0.1
BMN pmax pmax
comp=Z,31nm,1.2s
BMN Battle Mountai 46.72 309 *e*P P 07 56 55.5 +0.6
comp=Z,31nm,1.2s
BMN *ep*P **pP** 07 57 23.4 +0.1
ISA Isabella 46.81 302 *e*P P 07 56 57.5 +1.9
ISA *e**PP **pP** 07 57 22.9 -1.1
ISA pmax pmax
comp=Z,19nm,1.3s
ISA Isabella 46.81 302 *e*P P 07 56 57.5 +1.9
comp=Z,19nm,1.3s
ISA *ep*P **pP** 07 57 22.9 -1.1
D13A Huson 46.82 318 ⇑P P 07 56 55.6 +0.1
baz=47,SNR=22
YBMT Yellow Bay 46.83 319 *e*P P 07 56 55.9 +0.2
comp=Z,28nm,0.9s
YBMT *ep*P **pP** 07 57 24.6 +0.5
YBMT *es*P **sP** 07 57 40.7 +2.8
F12A Elk City 46.86 316 ⇓P P 07 56 55.8 -0.1
baz=47,SNR=17
A14A Double T Ranch 46.92 321 ⇑P P 07 56 56.1 -0.2
baz=47,SNR=30
JTMT Jette 46.96 319 *e*P P 07 56 57.0 +0.4
JTMT *ep*P **pP** 07 57 25.5 +0.5
ARVC Arvin 47.03 301 ⇓P P 07 56 58.9 +1.7
baz=47,SNR=9.5
BLMT Blacktail Moun 47.11 319 *e*P P 07 56 58.1 +0.2
BLMT *ep*P **pP** 07 57 26.8 +0.5
C13A Hot Springs 47.11 319 ⇑P P 07 56 58.0 +0.3
baz=47,SNR=10
NVAR Mina Array Bea 47.12 306 P P 07 56 59.2 +1.0
NVAR pP **pP** 07 57 27.6 +1.0
NVAR sP **sP** 07 57 41.6 +1.1
NVAR ScP **ScP** 08 02 11.4 +0.8
NVAR Mina Array Bea 47.12 306 P P 07 56 59.2 +1.0
comp=Z,41nm,1.1s,baz=97,slow=5.5,SNR=80
NVAR pP **pP** 07 57 27.6 +1.0
comp=Z,48nm,1.0s,baz=103,slow=6.4,SNR=11
NVAR sP **sP** 07 57 41.6 +1.1
comp=Z,12nm,0.9s,baz=90,slow=7.4,SNR=2.2
NVAR ScP **ScP** 08 02 11.4 +0.8

comp=Z,1.0nm,0.8s,baz=159,slow=5.1,SNR=3.9
NVAR LR LR 08 18 35.6
comp=Z,122nm,21.5s,baz=274,slow=38
LCO Las Campanas 47.22 182 *e*P **P 07 56 58.8 -0.1**
comp=Z,59nm,0.9s
WALA Waterton Lakes 47.25 321 *e*P **P 07 56 57.9 -0.9**
comp=Z,0.9nm,1.3s
WALA *e*pP **pP 07 57 26.5 -0.8**
E12A Beaver Dam Sad 47.29 317 ⇑P **P 07 56 59.3 +0.1**
baz=47,SNR=20
BSMT Bassoo Peak 47.31 319 *e*P **P 07 56 59.7 +0.3**
BSMT *e*pP **pP 07 57 28.0 +0.1**
B13A Whitefish 47.31 320 ⇓P **P 07 56 59.2 0.0**
baz=47,SNR=14
VES Vestal, Richgr 47.33 302 ⇑P **P 07 57 01.2 +1.7**
baz=47,SNR=14
D12A Red Ives Fores 47.38 318 ⇑P **P 07 56 59.6 -0.2**
baz=47
MLAC Mammoth Lakes 47.40 304 ⇓P **P 07 57 01.8 +1.4**
baz=47,SNR=6.0
A13A Flathead Natio 47.50 320 ⇑P **P 07 57 00.5 -0.2**
baz=47,SNR=16
RCTC Rector, Farmer 47.52 303 ⇓P **P 07 57 02.6 +1.6**
baz=47,SNR=12
C12B Naegeli Ranch, 47.69 318 ⇓P **P 07 57 02.3 +0.1**
baz=48,SNR=11
PKM Peak Mountain 47.81 301 ⇓P **P 07 57 05.1 +1.6**
baz=48,SNR=5.0
BMO Blue Mountains 47.95 314 *e*P **P 07 57 03.2 -1.1**
BMO *e**PP **pP 07 57 31.9 -0.9**
BMO pmax pmax
comp=Z,16nm,1.1s
BMO Blue Mountains 47.95 314 *e*P **P 07 57 03.2 -1.1**
comp=Z,16nm,1.1s
BMO *e*pP **pP 07 57 31.9 -0.9**
B12A Libby 48.04 319 ⇓P **P 07 57 05.0 +0.2**
baz=48,SNR=6.4
PTRM Twissleman Ran 48.21 302 *e*P **P 07 57 06.8 +0.4**
C11A Tepee Creek (N 48.23 318 ⇓P **P 07 57 06.3 0.0**
baz=48
A12A Yaak River Ran 48.25 320 ⇑P **P 07 57 06.9 +0.4**
baz=48,SNR=26
CMB Columbia Colle 48.67 305 *e*P **P 07 57 10.4 +0.5**
CMB *e**PP **pP 07 57 38.5 0.0**
CMB pmax pmax
comp=Z,12nm,1.2s
CMB Columbia Colle 48.67 305 *e*P **P 07 57 10.4 +0.5**
comp=Z,12nm,1.2s
CMB *e*pP **pP 07 57 38.5 0.0**
NEW Newport 48.92 319 *e*P **P 07 57 11.2 -0.4**
comp=Z,68nm,1.0s
NEW *e*pP **pP 07 57 40.0 -0.2**
NEW *es*P **sP 07 57 53.3 -0.7**
NEW Newport 48.92 319 ⇓P **P 07 57 11.2 -0.4**
baz=49,SNR=46
MOD Modoc 49.31 310 *e*P **P 07 57 14.6 -0.3**
comp=Z,12nm,0.9s
OD2 Odessa Site #2 49.65 317 P **P 07 57 16.9 -0.2**
HAWA Hanford 49.89 316 *e*P **P 07 57 18.8 -0.2**
comp=Z,20nm,0.9s
HAWA *e*pP **pP 07 57 47.1 -0.5**
SFJD Kangerlussuaq 49.95 9 P **P 07 57 19.6 +0.7**
SFJD sP **sP 07 58 01.2 -0.2**
SFJD Kangerlussuaq 49.95 9 P **P 07 57 19.6 +0.7**
comp=Z,5.1nm,0.6s,baz=194,slow=7.4,SNR=2.4
SFJD sP **sP 07 58 01.2 -0.2**
comp=Z,23nm,0.9s,baz=192,slow=8.9,SNR=5.8
VIPM Ingram Point 50.13 313 P **P 07 57 21.3 +0.3**
VIPM Ingram Point 50.13 313 P **P 07 57 21.3 +0.3**
ETW Entiat 50.76 317 P **P 07 57 25.1 -0.6**
WPW White Pass 51.31 316 P **P 07 57 30.1 +0.3**
HUMO Hull Mountain 51.38 310 *e*P **P 07 57 29.5 -0.7**
comp=Z,4.4nm,0.8s
NLWA Neilton Lookou 53.02 316 *e*P **P 07 57 41.5 -0.8**
comp=Z,30nm,1.3s
PGC Sidney 53.05 318 *e*P **P 07 57 41.3 -1.1**
comp=Z,3.2nm,1.3s
PGC *e*pP **pP 07 58 10.3 -1.1**
YKA Yellowknife Ar 54.07 336 P **P 07 57 48.4 -1.2**
YKA pP **pP 07 58 17.6 -1.1**
YKA sP **sP 07 58 30.7 -1.7**
YKA ScP **ScP 08 02 39.1 -0.5**
YKA Yellowknife Ar 54.07 336 P **P 07 57 48.4 -1.2**
comp=Z,15nm,0.6s,baz=112,slow=7.5,SNR=260
YKA pP **pP 07 58 17.6 -1.1**
comp=Z,11nm,0.6s,baz=116,slow=7.3,SNR=8.5
YKA sP **sP 07 58 30.7 -1.7**
comp=Z,24nm,0.8s,baz=114,slow=7.1,SNR=7.8
YKA ScP **ScP 08 02 39.1 -0.5**
comp=Z,0.7nm,0.7s,baz=113,slow=4.7,SNR=4.0
PMTG Montargil 56.02 55 *e*P **P 07 58 05.9 +1.8**
comp=Z,15nm,1.8s
EVOP Sao Brissos 56.07 56 *e*P **P 07 58 05.1 +0.7**
EVOP Sao Brissos 56.07 56 *e*P **P 07 58 05.1 +0.7**
EVO Evora 56.16 56 *e*P **P 07 58 05.8 +0.7**
comp=Z,14nm,1.7s
EVO Evora 56.16 56 *e*P **P 07 58 05.1 0.0**
comp=Z,10nm,0.7s
EVO *e*R
comp=Z,90nm,18.5s
PBEJ Beja 56.25 56 *e*P **P 07 58 07.2 +1.5**
comp=Z,11nm,2.1s
PVAQ Vaqueiros 56.35 57 *e*P **P 07 58 07.4 +1.0**
comp=Z,21nm,1.6s
PVIS Viseu 56.38 53 *e*P **P 07 58 06.9 +0.2**
comp=Z,21nm,1.4s
POLO Lamas de Olo 56.51 52 *e*P **P 07 58 08.2 +0.6**
comp=Z,9.7nm,1.5s
TRQA Tornquist 56.59 173 *e*P **P 07 58 07.0 -1.0**
comp=Z,22nm,1.4s
PCBR Castelo Branco 56.64 54 *e*P **P 07 58 09.4 +0.9**
PMRV Marv??o 56.69 55 *e*P **P 07 58 09.0 +0.2**
comp=Z,16nm,1.4s
SUMG Summit 56.87 11 *i*P **P 07 58 10.5 +0.5**
SUMG *i* 07 58 40.1
SUMG Summit 56.87 11 *e*P **P 07 58 10.2 +0.1**
comp=Z,55nm,0.9s
SUMG *e*pP **pP 07 58 39.3 -0.1**
SUMG Summit 56.87 11 *i*P **P 07 58 10.5 +0.5**
comp=Z,41nm,0.9s
PBAR Barrancos 56.91 56 *e*P **P 07 58 11.8 +1.4**
comp=Z,14nm,1.4s
MVO Moncorvo 57.07 53 *e*P **P 07 58 12.2 +0.7**
RES Resolute Bay 57.98 352 *e*P **P 07 58 16.3 -0.9**
comp=Z,8.3nm,0.9s
RES *e*pP **pP 07 58 46.5 -0.2**
PLCA Paso Flores 58.90 181 P **P 07 58 23.4 -0.8**
PLCA ScP **ScP 08 03 02.2 +0.9**
PLCA Paso Flores 58.90 181 P **P 07 58 23.4 -0.8**
comp=Z,11nm,0.9s,baz=353,slow=8.1,SNR=14
PLCA ScP **ScP 08 03 02.2 +0.9**
comp=Z,2.2nm,0.8s,baz=6.8,slow=6.7,SNR=3.2
PAB San Pablo 59.05 55 *e*P **P 07 58 25.5 +0.2**
PAB pmax pmax
comp=Z,4.0nm,0.7s
PAB San Pablo 59.05 55 *e*P **P 07 58 25.5 +0.2**
comp=Z,4.2nm,0.7s
ESDC Sonseca Array 59.34 54 P **P 07 58 28.4 +1.1**
ESDC pP **pP 07 57 57.6 +0.6**
ESDC Sonseca Array 59.34 54 P **P 07 58 28.4 +1.1**
comp=Z,4.8nm,0.7s,baz=273,slow=7.1,SNR=32
ESDC pP **pP 07 58 57.6 +0.6**
comp=Z,4.9nm,0.8s,baz=273,slow=7.3,SNR=4.2
ESLA Sonseca Array 59.34 54 *e*P **P 07 58 28.4 +1.0**
comp=Z,1.4nm,0.8s
ESLA *e*pP **pP 07 58 57.9 +1.0**
DLBC Dease Lake 59.40 328 *e*P **P 07 58 27.8 +0.4**
DLBC *e*pP **pP 07 58 56.7 -0.3**
DLBC *es*P **sP 07 59 10.1 -0.4**
ROSF Rostrenen 60.31 44 *e*P **P 07 58 33.7 -0.1**
ROSF Rostrenen 60.31 44 *e*P **P 07 58 33.7 -0.1**
ROSF Rostrenen 60.31 44 *e*P **P 07 58 33.7 -0.1**
QUIF Quistinic 60.35 45 *e*P **P 07 58 34.0 0.0**
QUIF *e*pP **pP 07 59 04.1 +0.4**
QUIF Quistinic 60.35 45 *e*P **P 07 58 34.0 0.0**
QUIF *e**PP **pP 07 59 04.1 +0.4**
QUIF Quistinic 60.35 45 *e*P **P 07 58 34.0 0.0**
QUIF *e*pP **pP 07 59 04.1 +0.4**
ESK Eskdalemuir 61.24 36 *e*P **P 07 58 40.6 +0.7**
ESK pmax pmax
comp=Z,15nm,1.1s
ESK Eskdalemuir 61.24 36 *e*P **P 07 58 40.6 +0.7**
comp=Z,15nm,1.1s
SJPF Ste Jean 61.46 50 *e*P **P 07 58 42.1 +0.4**
SJPF *e*pP **pP 07 59 12.3 +0.9**
SJPF Ste Jean 61.46 50 *e*P **P 07 58 42.1 +0.4**
SJPF *e*pP **pP 07 59 12.3 +0.9**
GRR Gorron 61.92 45 *e*P **P 07 58 44.6 0.0**
GRR Gorron 61.92 45 *e*P **P 07 58 44.6 0.0**
GRR Gorron 61.92 45 *e*P **P 07 58 44.6 0.0**
FLN La Foliniere 62.20 44 *e*P **P 07 58 46.4 0.0**
comp=Z,14nm,0.8s
FLN *e*pP **pP 07 59 16.6 +0.3**
FLN *e*R
comp=Z,79nm,20.8s
FLN La Foliniere 62.20 44 *e*P **P 07 58 46.4 0.0**
FLN *e**PP **pP 07 59 16.6 +0.3**
FLN La Foliniere 62.20 44 *e*P **P 07 58 46.4 0.0**
FLN *e*pP **pP 07 59 16.6 +0.3**
MFF Saint Martin d 62.32 47 *e*P **P 07 58 47.5 +0.2**
comp=Z,13nm,0.6s
MFF *e*pP **pP 07 59 17.7 +0.6**
MFF Saint Martin d 62.32 47 *e*P **P 07 58 47.5 +0.2**
MFF *e**PP **pP 07 59 17.7 +0.6**
MFF Saint Martin d 62.32 47 *e*P **P 07 58 47.5 +0.2**
MFF *e*pP **pP 07 59 17.7 +0.6**
LDF La Druitiere 62.42 44 *e*P **P 07 58 47.9 -0.1**
comp=Z,12nm,0.7s
LDF *e*pP **pP 07 59 18.1 +0.3**
LDF La Druitiere 62.42 44 *e*P **P 07 58 47.9 -0.1**
LDF *e**PP **pP 07 59 18.1 +0.3**
LDF La Druitiere 62.42 44 *e*P **P 07 58 47.9 -0.1**
LDF *e*pP **pP 07 59 18.1 +0.3**
EPF Esparros 62.61 51 *e*P **P 07 58 50.0 +0.6**
comp=Z,7.0nm,0.5s
EPF *e*pP **pP 07 59 20.2 +1.0**
EPF Esparros 62.61 51 *e*P **P 07 58 50.0 +0.6**
EPF *e**PP **pP 07 59 20.2 +1.0**
EPF Esparros 62.61 51 *e*P **P 07 58 50.0 +0.6**
EPF *e*pP **pP 07 59 20.2 +1.0**
LFF La Frestale 62.90 48 *e*P **P 07 58 51.3 +0.1**
LFF La Frestale 62.90 48 *e*P **P 07 58 51.3 +0.1**
LFF La Frestale 62.90 48 *e*P **P 07 58 51.3 +0.1**
LIC Lamto 63.34 92 ⇑*i*P **P 07 58 54.7 +0.1**
comp=Z,56nm,0.9s,baz=284
LIC Lamto 63.34 92 ⇑*i*P **P 07 58 54.7 +0.1**
DBIC Dimbokro 63.37 92 *e*P **P 07 58 54.6 -0.2**
comp=Z,20nm,0.6s
DBIC Dimbokro 63.37 92 P **P 07 58 55.0 +0.2**
comp=Z,17nm,0.5s,baz=271,slow=6.8,SNR=37
RJF Les Rejaudoux 63.45 48 *e*P **P 07 58 54.6 -0.3**
comp=Z,25nm,1.2s
RJF *e*pP **pP 07 59 24.9 +0.1**
RJF *e*R
comp=Z,76nm,19.8s
RJF Les Rejaudoux 63.45 48 *e*P **P 07 58 54.6 -0.3**
RJF *e**PP **pP 07 59 24.9 +0.1**
RJF Les Rejaudoux 63.45 48 *e*P **P 07 58 54.6 -0.3**
RJF *e*pP **pP 07 59 24.9 +0.1**
DAG Danmarks Havn 63.52 11 *i*P **P 07 58 54.3 -0.4**
DAG Danmarks Havn 63.52 11 *i*P **P 07 58 54.3 -0.4**
INK Inuvik 63.66 338 *e*P **P 07 58 54.4 -1.3**
comp=Z,14nm,1.1s
INK *e*pP **pP 07 59 23.3 -2.4**
INK Inuvik 63.66 338 LR LR 08 25 40.2
comp=Z,146nm,18.3s,baz=138,slow=35
CAF Calviac 63.84 48 *e*P **P 07 58 57.3 -0.2**
comp=Z,12nm,0.9s
CAF *e*pP **pP 07 59 27.6 +0.2**
CAF Calviac 63.84 48 *e*P **P 07 58 57.3 -0.2**
CAF *e**PP **pP 07 59 27.6 +0.2**
CAF Calviac 63.84 48 *e*P **P 07 58 57.3 -0.2**
CAF *e*pP **pP 07 59 27.6 +0.2**
ALE Alert 64.16 1 P **P 07 58 58.0 -0.9**
comp=Z,146nm,0.5s,SNR=9.8
HYF Humbligny 64.24 46 *e*P **P 07 59 00.2 +0.2**
HYF *e*pP **pP 07 59 30.4 +0.4**
HYF Humbligny 64.24 46 *e*P **P 07 59 00.2 +0.2**
HYF *e*pP **pP 07 59 30.4 +0.4**
BGF Bois d'Agland 64.38 47 *e*P **P 07 59 00.7 -0.2**
comp=Z,5.1nm,0.5s
BGF *e*pP **pP 07 59 30.8 -0.1**
BGF Bois d'Agland 64.38 47 *e*P **P 07 59 00.7 -0.2**
BGF *e**PP **pP 07 59 30.8 -0.1**
BGF Bois d'Agland 64.38 47 *e*P **P 07 59 00.7 -0.2**
BGF *e*pP **pP 07 59 30.8 -0.1**
SSF Saint Saulge 64.83 46 *e*P **P 07 59 03.4 -0.4**
SSF *e*pP **pP 07 59 33.7 -0.2**
SSF Saint Saulge 64.83 46 *e*P **P 07 59 03.4 -0.4**
SSF *e**PP **pP 07 59 33.7 -0.2**
SSF Saint Saulge 64.83 46 *e*P **P 07 59 03.4 -0.4**
SSF *e*pP **pP 07 59 33.7 -0.2**
LOR Lormes 65.07 46 *e*P **P 07 59 04.9 -0.5**
comp=Z,7.8nm,0.6s
LOR *e*pP **pP 07 59 35.1 -0.4**
LOR *e*R
comp=Z,64nm,20.8s
LOR Lormes 65.07 46 *e*P **P 07 59 04.9 -0.5**
LOR *e*pP **pP 07 59 35.1 -0.4**
LASF Ste Croix 65.14 49 *e*P **P 07 59 06.4 +0.5**
LASF Ste Croix 65.14 49 *e*P **P 07 59 06.4 +0.5**
SNF Seneffe 65.35 42 P **P 07 59 07.4 +0.3**
comp=Z,18nm,3.2s
DOU Dourbes 65.55 43 P **P 07 59 08.7 +0.3**
DOU AP **pP 07 59 38.3 -0.2**
VIVF Saint-Julien-l 65.70 48 *e*P **P 07 59 10.2 +0.7**
VIVF *e*pP **PcP 07 59 40.5 +0.6**
VIVF Saint-Julien-l 65.70 48 *e*P **P 07 59 10.2 +0.7**
VIVF *e**PP **PcP 07 59 40.5 +0.6**
VIVF Saint-Julien-l 65.70 48 *e*P **P 07 59 10.2 +0.7**
VIVF *e*pP **PcP 07 59 40.5 +0.6**
GIVF Givet 65.70 43 *e*P **P 07 59 09.2 -0.1**
GIVF *e*pP **pP 07 59 39.4 -0.1**
GIVF Givet 65.70 43 *e*P **P 07 59 09.2 -0.1**
GIVF *e**PP **pP 07 59 39.4 -0.1**
GIVF Givet 65.70 43 *e*P **P 07 59 09.2 -0.1**
GIVF *e*pP **pP 07 59 39.4 -0.1**
SFTF Sexfontaines 65.85 45 *e*P **P 07 59 10.1 -0.3**
comp=Z,10nm,0.6s
SFTF *e*pP **PcP 07 59 40.4 0.0**
SFTF Sexfontaines 65.85 45 *e*P **P 07 59 10.1 -0.3**
SFTF *e*pP **PcP 07 59 40.4 0.0**
MEZF Maizieres J'vi 65.86 44 *e*P **P 07 59 10.3 -0.1**
comp=Z,19nm,0.5s
MEZF *e*pP **pP 07 59 40.7 +0.2**
MEZF Maizieres J'vi 65.86 44 *e*P **P 07 59 10.3 -0.1**
MEZF *e*pP **pP 07 59 40.7 +0.2**
EGAK Eagle 65.88 333 *e*P **P 07 59 10.1 -0.1**
comp=Z,16nm,1.1s
EGAK *e*pP **pP 07 59 40.3 -0.1**
PAGF Fort de Pagny 66.31 44 *e*P **P 07 59 13.2 -0.1**
PAGF *e*pP **pP 07 59 43.5 +0.1**
PAGF Fort de Pagny 66.31 44 *e*P **P 07 59 13.2 -0.1**
PAGF *e*pP **pP 07 59 43.5 +0.1**
MEM Membach 66.45 42 P **P 07 59 14.6 +0.5**
comp=Z,9.1nm,1.1s
MEM AP **pP 07 59 44.6 +0.2**
ORIF Oris-en-Rattie 66.55 48 *e*P **P 07 59 15.7 +0.7**
ORIF *e*pP **pP 07 59 45.9 +0.7**
ORIF *e*R
comp=Z,88nm,22.5s
ORIF Oris-en-Rattie 66.55 48 *e*P **P 07 59 15.7 +0.7**
ORIF *e**PP **pP 07 59 45.9 +0.7**
ORIF Oris-en-Rattie 66.55 48 *e*P **P 07 59 15.7 +0.7**
ORIF *e*pP **pP 07 59 45.9 +0.7**
WLF Walferdange 66.56 43 P **P 07 59 14.4 -0.4**
CABF La Chapelle 66.61 47 *e*P **P 07 59 15.2 -0.2**
CABF La Chapelle 66.61 47 *e*P **P 07 59 15.2 -0.2**
CABF La Chapelle 66.61 47 *e*P **P 07 59 15.2 -0.2**
HAU Haudompre 66.74 45 *e*P **P 07 59 15.7 -0.4**
HAU *e*R
comp=Z,58nm,19.2s
HAU Haudompre 66.74 45 *e*P **P 07 59 15.7 -0.4**
HAU Haudompre 66.74 45 *e*P **P 07 59 15.7 -0.4**
MENT Mentasta 66.80 331 *e*P **P 07 59 16.8 +0.5**
MENT *e*pP **pP 07 59 46.0 -0.4**
BMRM Bremner River 67.08 329 *e*P **P 07 59 18.4 +0.4**
comp=Z,13nm,0.9s
BMRM *e*pP **pP 07 59 48.4 +0.1**
BMRM *es*P **sP 08 00 02.3 +0.6**
HINF Hinteralfeld 67.08 45 *e*P **P 07 59 17.5 -0.8**
comp=Z,3.9nm,0.6s
HINF *e*pP **pP 07 59 47.9 -0.6**
HINF Hinteralfeld 67.08 45 *e*P **P 07 59 17.5 -0.8**
HINF *e**PP **pP 07 59 47.9 -0.6**
HINF Hinteralfeld 67.08 45 *e*P **P 07 59 17.5 -0.8**
HINF *e*pP **pP 07 59 47.9 -0.6**
LPL La Plagne 67.12 48 *e*P **P 07 59 19.3 +0.5**
LPL La Plagne 67.12 48 *e*P **P 07 59 19.3 +0.5**
LPL La Plagne 67.12 48 *e*P **P 07 59 19.3 +0.5**
LPG La Plagne 67.13 48 *e*P **P 07 59 19.4 +0.5**
LPG *e*pP **pP 07 59 49.8 +0.6**
LPG La Plagne 67.13 48 *e*P **P 07 59 19.4 +0.5**
LPG *e**PP **pP 07 59 49.8 +0.6**
LPG La Plagne 67.13 48 *e*P **P 07 59 19.4 +0.5**
LPG *e*pP **pP 07 59 49.8 +0.6**
ECH Echery 67.27 45 *e*P **P 07 59 19.7 +0.2**
ECH *e**PP **pP 07 59 49.6 -0.1**
ECH pmax pmax
comp=Z,6.0nm,1.0s
ECH Echery 67.27 45 *e*P **P 07 59 19.7 +0.2**
comp=Z,6.0nm,1.0s
ECH *e*pP **pP 07 59 49.6 -0.1**
CDF Champ du Feu 67.34 45 *e*P **P 07 59 19.5 -0.5**
CDF Champ du Feu 67.34 45 *e*P **P 07 59 19.5 -0.5**
CDF Champ du Feu 67.34 45 *e*P **P 07 59 19.5 -0.5**
TOA0 Torodi Ar. Sit 67.82 83 *e*P **P 07 59 23.1 -0.2**
TORD Torodi Ar. Bea 67.82 83 P **P 07 59 23.3 -0.1**
TORD pP **pP 07 59 53.0 -0.7**
TORD sP **sP 08 00 07.8 +0.8**
TORD Torodi Ar. Bea 67.82 83 P **P 07 59 23.3 -0.1**
comp=Z,23nm,1.0s,baz=288,slow=6.3,SNR=78
TORD pP **pP 07 59 53.0 -0.7**
comp=Z,6.3nm,0.8s,baz=284,slow=5.6,SNR=2.9
TORD sP **sP 08 00 07.8 +0.8**
comp=Z,3.1nm,0.6s,baz=272,slow=6.5,SNR=1.7
ILAR Eielson Array 68.32 333 P **P 07 59 24.9 -0.8**
ILAR pP **pP 07 59 54.5 -1.6**
ILAR sP **sP 08 00 09.0 -0.4**
ILAR Eielson Array 68.32 333 P **P 07 59 24.9 -0.8**
comp=Z,4.4nm,0.9s,baz=102,slow=4.2,SNR=41
ILAR pP **pP 07 59 54.5 -1.6**
comp=Z,5.9nm,0.8s,baz=96,slow=4.2,SNR=8.8
ILAR sP **sP 08 00 09.0 -0.4**
comp=Z,9.5nm,0.9s,baz=114,slow=4.8,SNR=7.8
ILAR LR LR 08 29 24.1
comp=Z,212nm,19.4s,baz=134,slow=36
TAM Tamanrasset 69.16 72 *e*P **P 07 59 33.7 +1.8**
TAM pmax pmax
comp=Z,10.0nm,0.8s
TAM Tamanrasset 69.16 72 *e*P **P 07 59 33.6 +1.8**
comp=Z,10nm,0.8s
MCK McKinley 69.19 332 *e*P **P 07 59 30.7 -0.4**
MCK *e**PP **pP 08 00 00.9 -0.6**
MCK *e**SP **sP 08 00 14.7 -0.2**
MCK pmax pmax
comp=Z,13nm,1.1s
MCK McKinley 69.19 332 *e*P **P 07 59 30.7 -0.4**
comp=Z,13nm,1.1s
MCK *e*pP **pP 08 00 00.9 -0.6**
MCK *es*P **sP 08 00 14.7 -0.2**
NB2 NORSAR Subarra 69.28 31 P **P 07 59 32.4 +0.7**
comp=Z,1.9nm,0.7s,baz=271,slow=6.5
NOA NORSAR Array B 69.28 31 P **P 07 59 32.6 +0.9**
NOA pP **pP 08 00 02.6 +0.5**
NOA sP **sP 08 00 15.6 +0.1**
NOA NORSAR Array B 69.28 31 P **P 07 59 32.6 +0.9**
comp=Z,3.2nm,0.8s,baz=271,slow=6.3,SNR=12
NOA pP **pP 08 00 02.6 +0.5**
comp=Z,6.1nm,0.8s,baz=271,slow=6.4,SNR=8.6
NOA sP **sP 08 00 15.6 +0.1**
comp=Z,7.8nm,0.8s,baz=272,slow=6.4,SNR=6.9
COLD Coldfoot 69.75 336 *e*P **P 07 59 34.6 +0.2**
comp=Z,7.6nm,1.0s
COLD *e*pP **pP 08 00 04.7 -0.2**
COLD *es*P **sP 08 00 17.6 -0.7**
TRF Thorofare Moun 69.80 332 *e*P **P 07 59 34.1 -0.9**
comp=Z,16nm,0.7s
GRF Grafenberg Arr 69.85 43 *e*P pP 08 00 05.4 -0.4
comp=Z,12nm,1.2s
KEST Kesra 70.15 58 *e*P **P 07 59 38.4 +0.8**
KEST Kesra 70.15 58 P **P 07 59 38.4 +0.8**
comp=Z,7.5nm,0.8s,baz=156,slow=1.3,SNR=12
EFI East Falkland 70.48 173 *e*P **P 07 59 39.6 +0.7**
EFI pmax pmax
comp=Z,62nm,0.8s
EFI East Falkland 70.48 173 *e*P **P 07 59 39.6 +0.7**
comp=Z,62nm,0.8s
CLL Collm 70.83 41 *e*P **P 07 59 42.0 +0.7**
CLL *e**PP **pP 08 00 12.0 +0.2**
CLL Collm 70.83 41 *e*P **P 07 59 42.0 +0.7**
CLL *e*pP **pP 08 00 12.0 +0.2**
CLL *es*P **sP 08 00 23.0 -2.1**
KHC Kasperske Hory 71.44 43 *e*P **P 07 59 45.6 +0.5**
KHC *e**PP **pP 08 00 15.6 0.0**
KHC Kasperske Hory 71.44 43 *e*P **P 07 59 45.6 +0.5**
comp=Z,4.3nm,1.1s
KHC *e*pP **pP 08 00 15.5 -0.2**
KHC Kasperske Hory 71.44 43 *e*P **P 07 59 45.6 +0.5**
KHC *e*pP **pP 08 00 15.6 0.0**
BRG Berggiesshubel 71.47 42 *e*P **P 07 59 45.5 +0.4**
comp=Z,3.0nm,0.9s
BRG *e* 08 00 15.3
comp=Z,10nm,1.1s
BRG *e* 08 00 27.2
comp=Z,9.9nm,1.1s
BRG Berggiesshubel 71.47 42 *e*P **P 07 59 45.5 +0.4**
BRG *e* 08 00 15.3
BRG *e* 08 00 27.2
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG pmax pmax
comp=Z,10.0nm,1.1s
GERES GERESS Array B 71.55 44 P **P 07 59 46.2 +0.3**
GERES pP **pP 08 00 15.3 -1.1**
GERES GERESS Array B 71.55 44 P **P 07 59 46.2 +0.3**
comp=Z,2.2nm,0.9s,baz=274,slow=5.2,SNR=12
GERES pP **pP 08 00 15.3 -1.1**
comp=Z,3.8nm,1.1s,baz=255,slow=4.0,SNR=4.0
PRU Pruhonice 71.95 42 *e*P **P 07 59 48.4 +0.3**
PRU *e**PP **pP 08 00 18.6 -0.1**
PRU Pruhonice 71.95 42 *e*P **P 07 59 48.4 +0.3**
PRU *e*pP **pP 08 00 18.6 -0.1**
JAVS Javornik 72.19 47 *i*P **P 07 59 50.6 +0.9**
JAVS *i* 08 00 20.4
SKDS Skadanscina 72.21 47 *i*P **P 07 59 48.9 -0.9**
CEY Cerknica 72.46 47 *i*P **P 07 59 52.1 +0.8**
CEY *i* 08 00 21.9
UPC Upice 72.82 42 *e*P **P 07 59 53.7 +0.5**
UPC *e**PP **pP 08 00 23.5 -0.4**
UPC Upice 72.82 42 *e*P **P 07 59 53.7 +0.5**
UPC *e*pP **pP 08 00 23.5 -0.4**
DPC Dobruska-Polom 73.04 42 *e*P **P 07 59 55.1 +0.5**
DPC *e**PP **pP 08 00 25.0 -0.3**
DPC Dobruska-Polom 73.04 42 *e*P **P 07 59 55.1 +0.5**
DPC *e*pP **pP 08 00 25.0 -0.3**
VRAC Vranov 73.37 43 ⇓*i*P pP 08 00 27.1 -0.1
MORC Moravsky Berou 73.90 42 *e*P **P 08 00 00.0 +0.3**
MORC *e**PP **pP 08 00 29.6 -0.8**
MORC pmax pmax
comp=Z,5.0nm,0.8s
MORC Moravsky Berou 73.90 42 *e*P **P 07 59 60.0 +0.3**
comp=Z,5.4nm,0.8s
MORC *e*pP **pP 08 00 29.6 -0.8**
MORC Moravsky Berou 73.90 42 ⇑*i*P pP 08 00 29.9 -0.5
ARCES ARCESS Array B 74.42 21 P **P 08 00 02.6 +0.4**
ARCES pP **pP 08 00 33.0 0.0**
ARCES sP **sP 08 00 47.0 +0.7**
ARCES ARCESS Array B 74.42 21 P **P 08 00 02.6 +0.4**
comp=Z,5.7nm,0.6s,baz=278,slow=4.5,SNR=31
ARCES pP **pP 08 00 33.0 0.0**
comp=Z,14nm,0.6s,baz=259,slow=3.2,SNR=11
ARCES sP **sP 08 00 47.0 +0.7**
comp=Z,6.9nm,0.5s,baz=284,slow=4.9,SNR=4.0
KEV Kevo 74.89 21 *e*P **P 08 00 03.5 -1.4**
KEV pmax pmax
comp=Z,4.0nm,0.9s
KEV Kevo 74.89 21 *e*p **P 08 00 03.5 -1.4**
comp=Z,4.1nm,0.9s
VYHS Vyhne 74.97 43 *e*P **P 08 00 06.5 +0.7**
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS Vyhne 74.97 43 *e*P **P 08 00 06.5 +0.7**
VYHS *e*pP **pP 08 00 37.0 +0.4**
PKSM Moragy 75.28 46 ⇑*i*P pP 08 00 37.1 -1.3
PSZ Piszkesteto 75.77 44 ⇓*i*P pP 08 00 44.4 +3.0
KAF Kangasniemi 76.30 29 *e*P **P 08 00 11.5 -1.6**

KAF pmax pmax
comp=Z,3.0nm,0.5s
KAF Kangasniemi 76.30 29 *e*p **P 08 00 11.5 -1.6**
comp=Z,3.4nm,0.5s
FINES FINESS Array B 76.35 30 P **P 08 00 13.8 +0.5**
FINES pP **pP 08 00 43.9 -0.3**
FINES FINESS Array B 76.35 30 P **P 08 00 13.8 +0.5**
comp=Z,9.5nm,0.7s,baz=283,slow=4.6,SNR=51
FINES pP **pP 08 00 43.9 -0.3**
comp=Z,7.9nm,0.7s,baz=278,slow=2.9,SNR=5.1
CRVS Cervenica-Dubn 76.59 43 *e*P **P 08 00 16.1 +1.1**
CRVS pmax pmax
comp=Z,5.0nm,1.3s
CRVS Cervenica-Dubn 76.59 43 *e*P **P 08 00 16.1 +1.1**
CRVS *e*pP **pP 08 00 47.1 +1.2**
TNA Tin City 77.02 335 *e*P **P 08 00 18.3 +1.3**
comp=Z,3.6nm,0.7s
TNA *e*pP **pP 08 00 49.0 +1.0**
KOLS Kolonicke sedl 77.10 43 *e*P **P 08 00 19.0 +1.1**
KOLS pmax pmax
comp=Z,2.0nm,0.7s
KOLS Kolonicke sedl 77.10 43 *e*P **P 08 00 19.0 +1.1**
KOLS *e*pP **pP 08 00 49.9 +1.0**
VSU Vasula 77.39 32⇑*i*P **P 08 00 19.3 +0.1**
VSU pmax pmax
comp=Z,42nm,1.9s
BZS Buzias 77.43 46⇑⇑P **P 08 00 20.8 +1.0**
BZS Buzias 77.43 46⇑*i*P **P 08 00 20.8 +1.0**
DRGR 77.89 45 ⇓P **P 08 00 22.9 +0.5**
DRGR 77.89 45 ⇓*i*P **P 08 00 22.9 +0.5**
LVV L'vov 78.01 41 *e*P P 08 00 18.8 -4.1
GZR Gura Zlata 78.28 46 ⇓P **P 08 00 25.6 +1.0**
GZR Gura Zlata 78.28 46 ⇓*i*P **P 08 00 25.6 +1.0**
JOF Joensuu 78.32 27 *e*P **P 08 00 23.4 -0.9**
JOF pmax pmax
comp=Z,7.0nm,0.7s
JOF Joensuu 78.32 27 *e*p **P 08 00 23.4 -0.9**
comp=Z,7.0nm,0.7s
BURAR Bucovina Array 79.33 43⇓*i*P **P 08 00 30.7 +0.4**
VOIR 79.81 46 ⇓P **P 08 00 34.9 +1.9**
VOIR 79.81 46⇓*i*P **P 08 00 34.9 +1.9**
MLR Muntele Rosu 80.40 45⇓*i*P **P 08 00 37.8 +1.6**
TESR 80.58 44⇓*i*P P 08 00 46.5 +10
PLOR Plostina 80.77 45 ⇓P P 08 00 42.7 +4.7
PLOR Plostina 80.77 45⇓*i*P P 08 00 42.7 +4.7
AKASG Malin Array Be 80.96 40 P **P 08 00 39.0 +0.1**
AKASG *PP **pP 08 01 10.0 -0.1**
AKASG Malin Array Be 80.96 40 P **P 08 00 39.0 +0.1**
AKASG pP **pP 08 01 10.0 -0.1**
AKASG Malin Array Be 80.96 40 P **P 08 00 39.0 +0.1**
comp=Z,3.2nm,0.8s,baz=287,slow=4.5,SNR=6.8
AKASG pP **pP 08 01 10.0 -0.1**
comp=Z,0.4nm,0.3s,baz=330,slow=14,SNR=1.7
CFR Carcaliu 81.97 45⇑P **P 08 00 42.7 -1.6**
CFR Carcaliu 81.97 45⇑*i*P **P 08 00 42.7 -1.6**
IDI Anoyia 82.59 55 *e*P **P 08 00 48.9 +1.1**
comp=Z,31nm,0.8s
KLMR Klimovskoe 82.69 28 *e*P P 08 00 55.4 +7.7
KLMR pmax pmax
comp=Z,10.0nm,1.1s
PMSA Palmer Station 83.05 178 *e*P **P 08 00 49.7 +0.5**
comp=Z,33nm,0.9s
OBN Obninsk 83.59 34⇑*e*P **P 08 00 52.8 +0.4**
OBN *e**PP **pP 08 01 23.8 0.0**
OBN *e**SP **sP 08 01 38.4 +1.5**
OBN pmax pmax
comp=Z,33nm,1.2s
BILL Bilibino 84.95 342⇑*e*P **P 08 00 59.8 +0.7**
BILL *i* *PP **pP 08 01 30.5 -0.1**
BILL *i* *SP **sP 08 01 43.6 -0.1**
BILL 08 11 15.0
BILL *e* 08 12 24.6
BILL pmax pmax
comp=Z,6.0nm,1.2s
BILL MLR MLR
comp=Z,100nm,19.0s
BILL Bilibino 84.95 342 *e*P **P 08 00 59.9 +0.8**
comp=Z,4.5nm,0.8s
BILL *e*pP **pP 08 01 30.5 -0.1**
BILL *e*sP **sP 08 01 44.2 +0.6**
VSR Storozhevoye 86.62 37 *e*P **P 08 01 07.0 -0.6**
VSR *e**PP **pP 08 01 38.6 -0.6**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VSR pmax pmax
comp=N,5.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.3s
VORD Divnogorie 86.80 37 *e*P **P 08 01 07.7 -0.8**
VORD *e**PP **pP 08 01 40.0 -0.1**
BR131 Keskin Array S 87.66 49 *e*P **P 08 01 13.4 +0.2**
comp=E,5.2nm,0.8s
BR131 *e*pP **pP 08 01 44.4 -0.4**
BR131 *e*sP **sP 08 01 57.3 -0.6**
BRTR Keskin Array B 87.66 49 P **P 08 01 13.7 +0.5**
BRTR pP **pP 08 01 44.4 -0.4**
BRTR sP **sP 08 01 57.1 -0.7**
BRTR Keskin Array B 87.66 49 P **P 08 01 13.7 +0.5**
comp=E,5.8nm,0.8s,baz=272,slow=3.5,SNR=16
BRTR pP **pP 08 01 44.4 -0.4**
comp=E,4.1nm,0.8s,baz=261,slow=4.1,SNR=4.1
BRTR sP **sP 08 01 57.1 -0.7**
comp=E,4.7nm,0.8s,baz=263,slow=3.2,SNR=4.3
VRHR Novokhopersk 88.06 36 *e*P **P 08 01 14.8 +0.3**
VRHR *e**PP **pP 08 01 46.5 +0.3**
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,6.0nm,0.6s
SEY Seymchan 92.65 342⇑*i*P **P 08 01 37.0 +1.3**
TSUM Tsumeb 92.79 109 *e*P **P 08 01 38.2 +0.9**
comp=E,4.0nm,0.8s
ZALV Zalesovo Beam 104.44 16 PKKPab PKKPab 08 18 31.1 -5.6
ZALV Zalesovo Beam 104.44 16 PKKPab PKKPab 08 18 31.1 -5.6
comp=E,1.0nm,0.6s,baz=178,slow=2.6,SNR=4.9
MKAR Makanchi Array 110.06 21 PKiKP **PKiKP 08 06 54.1 -1.1**
MKAR PKKPbc **PKKPbc 08 17 55.5 -3.2**
MKAR PKKPab **PKKPab 08 18 07.7 -3.9**
MKAR PKKP **PKKPdf 08 18 15.8 +1.9**
MKAR Makanchi Array 110.06 21 PKiKP **PKiKP 08 06 54.1 -1.1**
comp=E,0.1nm,0.5s,baz=325,slow=1.7,SNR=2.6
MKAR PKKPbc **PKKPbc 08 17 55.5 -3.2**
comp=E,1.0nm,1.0s,baz=123,slow=4.5,SNR=3.6
MKAR PKKPab **PKKPab 08 18 07.7 -3.9**
comp=E,0.6nm,0.9s,baz=116,slow=6.6,SNR=3.5
MKAR PKKP **PKKPdf 08 18 15.8 +1.9**
comp=E,1.1nm,0.7s,baz=119,slow=5.1,SNR=5.3
KSH Kashi 113.67 29 *e*PKP **PKiKP 08 07 05.1 +2.7**
KSH PP PP 08 08 02.3 +6.9
KSH PKS **PKSdf 08 10 40.3 +1.0**
KSH SKKS 08 14 44.3
KSH SS **SS 08 23 37.3 +4.1**
KSH LR LR
comp=N,110nm,6.2s
KSH LR LR
comp=E,71nm,3.8s
KSH LR LR
comp=Z,220nm,5.3s
SYO Syowa Base 113.72 158⇑*e*X P 08 03 04.0
SONM Songino Array 113.88 3 PKiKP **PKiKP 08 07 01.9 -0.7**
SONM *e* 08 07 34.2
SONM PKKPbc **PKKPbc 08 17 43.1 -3.2**
SONM PKKPab **PKKPab 08 17 50.6 -4.2**
SONM Songino Array 113.88 3 PKiKP **PKiKP 08 07 01.9 -0.7**
comp=Z,0.3nm,0.5s,baz=299,slow=3.0,SNR=3.7
SONM pPKiKP **pPKiKP 08 07 34.2 -1.6**
comp=Z,0.5nm,0.7s,baz=249,slow=0.9,SNR=2.7
SONM PKKPbc **PKKPbc 08 17 43.1 -3.2**
comp=Z,0.9nm,0.5s,baz=169,slow=3.6,SNR=8.5
SONM PKKPab **PKKPab 08 17 50.6 -4.2**
comp=Z,1.2nm,0.8s,baz=158,slow=4.5,SNR=5.7
WMQ Urumqi 114.43 18 *e*PKP PKPdf 08 07 05.5 +1.8
WMQ AMB AMB
comp=Z,130nm,4.6s
USRK Ussuriysk Arra 114.77 344 pPKP pPKiKP 08 07 35.4 -2.0
comp=Z,1.3nm,0.6s,baz=150,slow=44,SNR=2.1
CN2 Changchun 116.66 348 *e*PKP **PKPdf 08 07 11.5 +3.6**
MJAR Matsushiro Arr 119.58 335 PKP **PKPdf 08 07 15.0 +1.3**
MJAR pPKP **pPKPdf 08 07 46.3 -0.6**
MJAR Matsushiro Arr 119.58 335 PKP **PKPdf 08 07 15.0 +1.3**
comp=Z,0.7nm,0.6s,baz=63,slow=0.4,SNR=3.1
MJAR pPKP **pPKPdf 08 07 46.3 -0.6**
comp=Z,3.2nm,0.8s,baz=283,slow=0.7,SNR=5.8
HHC Hu-ho-hao-te 121.00 360 *e*PKP **PKPdf 08 07 14.5 -2.0**
HHC PP **PP 08 08 48.1 +2.3**
HHC PKS **PKSdf 08 10 50.1 -3.1**
HHC SKS **SKSdf 08 14 14.8 -2.6**
HHC SKKS **SKKSac 08 15 30.3 -4.6**
HHC SS **SS 08 25 06.8 -0.6**
HHC AMB AMB
comp=Z,140nm,9.1s
GTA Gaotai 121.48 10 *e*PKP **PKPdf 08 07 19.9 +2.4**
KSRS Korea Array 122.16 344 PKP **PKPdf 08 07 18.2 -0.4**
comp=Z,2.4nm,0.9s,baz=52,slow=2.1,SNR=5.4
KSRS pPKP **pPKPdf 08 07 50.9 -0.9**
comp=Z,4.1nm,0.9s,baz=358,slow=0.6,SNR=6.7
KSAR Wonju Array Be 122.18 344 PKP **PKPdf 08 07 18.2 -0.5**
KSAR pPKP **pPKPdf 08 07 50.9 -0.9**
MAW Mawson 122.22 160 PKP **PKPdf 08 07 18.1 +0.4**
MAW Mawson 122.22 160 PKP **PKPdf 08 07 18.1 +0.4**
comp=Z,31nm,0.9s,baz=237,slow=8.9,SNR=3.8
NJ2 Nanjing 129.22 351 *e*PKP **PKPdf 08 07 32.3 0.0**
CD2 Chengdu 130.42 8 PKP **PKPdf 08 07 33.3 -1.4**
GYA Guiyang 135.15 6 *e*Pdif **Pdif 08 04 43.8 -2.5**
GYA PKP **PKPdf 08 07 43.0 -0.8**
GYA sPKP 08 08 28.8
GYA PP **PP 08 10 21.8 +3.1**
GYA AMB AMB
comp=Z,90nm,7.8s
KMI Kunming 135.93 11 PKP **PKPdf 08 07 45.6 +0.2**
CMAR Chiang Mai Arr 141.43 19 PKPpre PKPpre 08 07 53.0
CMAR Chiang Mai Arr 141.43 19 PKhKP PKPpre 08 07 53.0
comp=Z,1.0nm,0.4s,baz=324,slow=1.6,SNR=5.7
PMG Port Moresby 143.88 279 *e*PKPdf PKPab 08 07 57.0 -0.1
PMG Port Moresby 143.88 279 PKhKP PKPab 08 07 57.0 -0.2
comp=Z,24nm,0.9s,baz=137,slow=0.6,SNR=6.7
TOO Toolangi 144.40 231 *e*PKP **PKPab 08 07 58.2 -0.3**
comp=Z,118nm,1.0s
CMSA Cobar Meteorol 146.16 241 *e*PKP **PKPdf 08 08 03.2 0.0**
comp=Z,129nm,0.8s
TGY Tagaytay City 146.21 343 pPKPbc pPKPbc 08 08 38.8 +1.0
TGY Tagaytay City 146.21 343 pPKPbc pPKPbc 08 08 38.8 +1.0
comp=Z,172nm,0.3s,baz=174,slow=8.2,SNR=1.7
CTA Charters Tower 146.76 261 PKPbc **PKPdf 08 08 05.2 +0.6**
CTA pPKPbc pPKPbc 08 08 40.2 +0.9
CTA Charters Tower 146.76 261 *e*PKP **PKPdf 08 08 04.6 0.0**
comp=Z,8.2nm,0.8s
CTA Charters Tower 146.76 261 PKPbc **PKPdf 08 08 05.2 +0.6**
comp=Z,9.5nm,0.7s,baz=82,slow=4.2,SNR=13
CTA pPKPbc pPKPbc 08 08 40.2 +0.9
comp=Z,7.0nm,0.8s,baz=112,slow=5.4,SNR=3.0
CTAO Charters Tower 146.76 261 *e*PKIKP **PKPdf 08 08 04.6 0.0**
CTAO Charters Tower 146.76 261 *e*PKPdf **PKPdf 08 08 04.5 0.0**
COEN Coen 148.85 273 *e*PKPbc **PKPbc 08 08 11.5 -0.7**
STKA Stephens Creek 149.41 238 *e*PKPdf **PKPdf 08 08 08.2 -0.3**
STKA *e*PKPbc **PKPbc 08 08 12.2 -0.9**
STKA PKPbc **PKPbc 08 08 12.4 -0.7**
STKA pPKPbc **pPKPbc 08 08 47.1 +1.0**
STKA Stephens Creek 149.41 238 *e*PKP **PKPdf 08 08 08.2 -0.3**
comp=Z,21nm,0.7s
STKA Stephens Creek 149.41 238 PKP **PKPdf 08 08 08.3 -0.3**
comp=Z,24nm,0.7s,baz=152,slow=0.6,SNR=37
STKA PKPbc **PKPbc 08 08 12.4 -0.7**
comp=Z,24nm,0.7s,baz=82,slow=2.7,SNR=40
STKA pPKPbc **pPKPbc 08 08 47.1 +1.0**
comp=Z,11nm,0.7s,baz=83,slow=3.9,SNR=4.1
BBOO Buckleboo 153.39 233 *e*PKP **PKPbc 08 08 20.8 -1.5**
comp=Z,56nm,0.8s
PSI Prapat 155.73 31 pPKPab pPKPab 08 09 17.4 0.0
PSI Prapat 155.73 31 pPKPab pPKPab 08 09 17.4 0.0
comp=Z,10nm,0.6s,baz=294,slow=10.0,SNR=3.2
WRA Warramunga Arr 157.96 262 PKP **PKPdf 08 08 20.7 -0.4**
WRA Warramunga Arr 157.96 262 PKP **PKPdf 08 08 20.7 -0.4**
comp=Z,5.7nm,0.9s,baz=78,slow=1.2,SNR=35
ASAR Alice Springs 158.06 252 PKP **PKPdf 08 08 20.5 -0.6**
ASAR PKPab **PKPab 08 08 54.9 -0.4**
ASAR pPKPab **pPKPab 08 09 25.1 -2.1**
ASAR Alice Springs 158.06 252 PKP **PKPdf 08 08 20.5 -0.6**
comp=Z,2.7nm,0.8s,baz=104,slow=1.5,SNR=25
ASAR PKPab **PKPab 08 08 54.9 -0.4**
comp=Z,8.8nm,0.8s,baz=106,slow=4.6,SNR=32
ASAR pPKPab **pPKPab 08 09 25.1 -2.1**
comp=Z,3.3nm,0.7s,baz=102,slow=5.0,SNR=3.0

*BJI **14** 08:03:29.5,3˚.31N×126˚.93E,h35km,mB5.1/20,mb4.7/30, Ms4.7/18,Ms7 4.3/19*
*ISCJB **14** 08:03:35.8±0.2,4˚.09N±0˚.02×126˚.85E±0˚.04,h32km, mb4.6/56,MS4.1/30,Error ellipse: s-maj=6.0km s-min=3.4km az=171.2*
*NEIC **14** 08:03:37.5±0.4,4˚.06N×126˚.78E,h35km,mb4.6/21,Error ellipse: s-maj=12.6km s-min=7.5km az=78.0*
NEIC Felt [III] at Melonguanne.
*IDC **14** 08:03:42.2±1.7,3˚.92N×126˚.47E,h79km±15km,mb4.1/25, mb1 4.2/27,mb1mx4.2/28,mbtmp4.1/27,MS4.0/23, Ms1 4.0/23,ms1mx3.8/43,Error ellipse: s-maj=19.6km s-min=8.2km az=78.0*
*DJA **14** 08:03:44,3˚.72N×126˚.69E,h38km,mb4.8/16*
ISC 14 08:03:37.8±0.5,**4˚.07N**±0˚.04×**126˚.78E**±0˚.06,**h34**km±1km, **n136,σ1§64/163,mb4.6/55,MS4.1/30,2C-2D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.71**	**318**	*e*P	**Pn**	**Pn**	**08 04 18.2**	**-0.9**
MATI	**Mati**	**2.91**	**350**	*e*P	**Pn**	**Pn**	**08 04 22.2**	**+0.5**
DAV	**Davao City (W)**	**3.21**	**338**	P	Pn	Pn	08 04 29.5	+3.6
DAV				S	**Sb**	**Sb**	**08 05 10.2**	**-2.8**
DAV	**Davao City (W)**	**3.21**	**338**	P	Pn	Pn	08 04 30.1	+4.1
DAV	**Davao City (W)**	**3.21**	**338**	P	Pn	Pn	08 04 29.5	+3.6
	42nm,0.3s,baz=38,slow=9.3,SNR=6.6							
DAV				S	**Sb**	**Sb**	**08 05 10.2**	**-2.8**
	55nm,0.3s,baz=87,slow=21,SNR=3.5							
DAV				LR	LR		08 05 59.3	
	comp=Z,4μm,19.6s,baz=184,slow=42							
MNI	**Manado**	**3.25**	**217**	P	**Pn**	**Pn**	**08 04 26.7**	**+0.3**
MNI				S	**Sn**	**Sn**	**08 05 06.7**	**+2.7**
DMPH	**Davao City--Mi**	**3.25**	**337**	⇓*e*P	**Pn**	**Pn**	**08 04 29.0**	**+2.5**
TNTI	**Ternate**	**3.33**	**170**	P	**Pn**	**Pn**	**08 04 28.9**	**+1.5**
TNTI				S	**Sn**	**Sn**	**08 05 06.4**	**+0.6**
CTBH	**Cotabato--PC H**	**4.03**	**321**	⇑*i*P	**Pn**	**Pn**	**08 04 38.3**	**+1.2**
BUKP	**Musuan**	**4.16**	**336**	*e*P	**Pn**	**Pn**	**08 04 41.3**	**+2.3**
KMSI	**Cibinong**	**4.46**	**219**	P	**Pn**	**Pn**	**08 04 45.4**	**+2.4**
LBMI	**Labuha**	**4.73**	**171**	P	**Pn**	**Pn**	**08 04 49.9**	**+3.1**
CGP	**Cagayan de Oro**	**4.83**	**335**	⇓*e*P	Pn	Pn	08 04 51.7	+3.5
CGP				*e*S	Sn	Sn	08 05 51.2	+8.3
PAGZ	**Pagadian**	**5.06**	**318**	*e*P	**Pn**	**Pn**	**08 04 52.7**	**+1.5**
IPIL	**Ipil**	**5.59**	**312**	*e*P	Pn	Pn	08 04 52.5	-6.1
MRSI	**Marisa**	**6.01**	**234**	P	**Pn**	**Pn**	**08 05 04.4**	**0.0**
	395nm,0.5s,4μm1.4nm							
LUWI	**Luwuk**	**6.47**	**218**	P	**Pn**	**Pn**	**08 05 13.2**	**+2.5**
	742nm,1.2s,7μm2.6nm							
SWI	**Sorong**	**6.63**	**138**	P	**Pn**	**Pn**	**08 05 15.5**	**+2.6**
	118nm,1.2s,2μm0.4nm							
NLAI	**Namlea**	**7.26**	**178**	P	Pn	Pn	08 05 26.9	+5.3
MYLDM	**Lahad Datu**	**8.33**	**278**	P	Pn	Pn	08 05 40.0	+3.7
	109nm,1.4s							
FAKI	**Fak Fak**	**8.83**	**142**	P	Pn	Pn	08 05 46.8	+3.7
	68nm,1.0s							
KDI	**Kendari**	**8.99**	**208**	P	**Pn**	**Pn**	**08 05 48.5**	**+3.2**
	51nm,1.0s,1μm							
SPSI	**Sidrap Palu**	**10.62**	**221**	P	Pn	Pn	08 06 19.0	+11
KKM	**Kota Kinabalu**	**10.71**	**281**	*e*Pn	Pn	Pn	08 06 12.8	+3.8
KKM	**Kota Kinabalu**	**10.71**	**281**	P	Pn	Pn	08 06 12.8	+3.8
	32nm,1.7s,673nm							
TLE	**Tual**	**11.33**	**148**	P	**Pn**	**Pn**	**08 06 20.3**	**+3.0**
	101nm,1.2s							
KAPI	**Kappang**	**11.43**	**218**	P	**Pn**	**Pn**	**08 06 20.2**	**+1.4**
KAPI	**Kappang**	**11.43**	**218**	P	**Pn**	**Pn**	**08 06 20.2**	**+1.4**
	0.7nm,0.3s,baz=61,slow=24,SNR=2.3							
KAPI				LR	LR		08 11 17.5	
	comp=Z,468nm,18.8s,baz=63,slow=41							
SBUM	**Sibu**	**14.63**	**264**	P	**Pn**	**Pn**	**08 07 04.2**	**+1.7**
	29nm,1.0s							
KSM	**Kuching**	**16.66**	**262**	*e*P	**P**	**P**	**08 07 30.9**	**0.0**
	25nm,1.0s							
KSM	**Kuching**	**16.66**	**262**	P	**P**	**P**	**08 07 31.0**	**+0.1**
YULB	**Yu-li**	**19.93**	**345**	*e*P	**P**	**P**	**08 08 04.7**	**-2.2**
	8.9nm,0.5s							
TPUB	**Ta-pu**	**20.02**	**343**	*e*P	**P**	**P**	**08 08 06.9**	**-1.0**
	27nm,0.8s							
GUMO	**Guam**	**20.20**	**61**	LR	LR		08 14 51.2	
	comp=Z,234nm,20.1s,baz=237,slow=33							
SSLB	**Suanglung**	**20.40**	**345**	*e*P	**P**	**P**	**08 08 12.2**	**+0.2**
	19nm,0.6s							

YHNB Yeheng 21.14 346 *e*P **P 08 08 19.8 -0.2**
16nm,0.6s
FITZ Fitzroy Crossi 22.06 183 *e*P **P 08 08 27.9 -1.9**
9.8nm,0.6s
FITZ Fitzroy Crossi 22.06 183 *e*PKP **P 08 08 27.9 -1.9**
17nm,0.6s
FITZ *e* 08 12 24.2
FITZ Fitzroy Crossi 22.06 183 P **P 08 08 28.4 -1.5**
5.2nm,0.4s,baz=20,slow=8.0,SNR=16
QIZ Qiongzhong 22.25 313 P **P 08 08 32.3 +0.4**
QIZ S **S 08 12 38.8 +3.8**
QIZ pmax pmax
comp=Z,19nm,1.4s
QIZ LR LR
comp=Z,320nm,16.4s
JOW Kunigami 22.68 3 *e*P **P 08 08 35.7 -0.8**
comp=Z,6.3nm,0.6s
JOW Kunigami 22.68 3 P **P 08 08 39.2 +2.7**
comp=Z,26nm,0.9s,baz=161,slow=10,SNR=4.5
JOW LR LR 08 17 11.1
comp=Z,253nm,19.6s,baz=204,slow=35
WRAB Tennant Creek 24.98 163 *e*P **P 08 08 54.5 -4.0**
comp=Z,42nm,1.0s
WRA Warramunga Arr 24.99 163 P **P 08 08 57.3 -1.3**
WRA Warramunga Arr 24.99 163 P **P 08 08 57.3 -1.3**
comp=Z,10nm,0.6s,baz=342,slow=10,SNR=37
IPM Ipoh 25.69 272 *e*P **P 08 09 05.4 +0.4**
comp=Z,17nm,1.0s
MBWA Marble Bar 26.01 195 *e*P **P 08 09 06.5 -1.3**
KULM Kulim 26.07 274 *e*P **P 08 09 10.8 +2.2**
comp=Z,32nm,1.3s
PSI Prapat 27.84 268 LR LR 08 22 32.3
comp=Z,268nm,18.6s,baz=255,slow=41
ASAR Alice Springs 28.43 166 P **P 08 09 28.9 -0.6**
ASAR Alice Springs 28.43 166 P **P 08 09 28.9 -0.6**
comp=Z,1.7nm,0.5s,baz=348,slow=6.8,SNR=12
NJ2 Nanjing 28.82 346 *e*P **P 08 09 32.8 -0.1**
NJ2 pP **pP 08 09 43.3 +0.7**
NJ2 sP **sP 08 09 46.3 -0.4**
NJ2 PP **PnPn 08 10 25.6 +0.9**
NJ2 S **S 08 14 20.0 -0.6**
NJ2 sS **sS 08 14 38.0 +1.3**
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 pmax pmax
comp=Z,520nm,4.1s
NJ2 LR LR
comp=N,390nm,20.8s
NJ2 LR LR
comp=E,320nm,28.0s
NJ2 LR LR
comp=Z,360nm,23.6s
JNU Nakatsue 29.16 7 P **P 08 09 36.8 +0.8**
JNU Nakatsue 29.16 7 P **P 08 09 36.7 +0.8**
comp=Z,5.3nm,0.7s,baz=159,slow=19,SNR=2.3
JNU LR LR 08 19 43.4
comp=Z,323nm,21.6s,baz=78,slow=33
GYA Guiyang 29.44 321 *e*P **P 08 09 40.0 +1.3**
GYA pP **pP 08 09 48.9 +0.5**
GYA PP **PnPn 08 10 37.3 +3.8**
GYA S **S 08 14 32.0 +1.1**
GYA sS **sS 08 14 48.0 +1.0**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,80nm,4.8s
GYA LR LR
comp=N,440nm,16.6s
GYA LR LR
comp=E,310nm,17.2s
GYA LR LR
comp=Z,450nm,16.9s
CTA Charters Tower 30.69 142 P **P 08 09 50.3 +0.6**
CTA Charters Tower 30.69 142 P **P 08 09 50.3 +0.6**
comp=Z,4.5nm,0.8s,baz=7.7,slow=9.9,SNR=1.9
CTA LR LR 08 24 26.9
comp=Z,207nm,18.1s,baz=322,slow=40
CMAR Chiang Mai Arr 30.75 300 P **P 08 09 49.1 -1.1**
CMAR ScP **ScP 08 16 29.3 +1.5**
CMAR Chiang Mai Arr 30.75 300 P **P 08 09 49.1 -1.1**
comp=Z,1.5nm,0.6s,baz=114,slow=7.7,SNR=8.8
CMAR ScP **ScP 08 16 29.3 +1.5**
comp=Z,0.8nm,0.3s,baz=175,slow=1.8,SNR=6.1
CMAR LR LR 08 22 05.2
comp=Z,168nm,20.4s,baz=129,slow=36
CHTO Chiang Mai 30.90 301 *e*P **P 08 09 49.8 -1.7**
comp=Z,5.3nm,0.8s
KMI Kunming 31.18 314 P **P 08 09 54.0 -0.2**
KMI S **S 08 14 59.3 +0.9**
KMI pmax pmax
comp=Z,11nm,0.5s
KMI LR LR
comp=N,220nm,13.6s
KMI LR LR
comp=E,340nm,17.7s
KMI LR LR
comp=Z,460nm,21.4s
MEEK Meekatharra 31.53 194 *e*P **P 08 09 55.0 -2.0**
comp=Z,103nm,0.9s
KSAR Wonju Array Be 33.23 2 P **P 08 10 12.8 +1.0**
KSRS Korea Array 33.24 2 P **P 08 10 12.8 +0.9**
comp=Z,2.1nm,0.7s,baz=178,slow=11,SNR=7.0
KSRS LR LR 08 24 45.5
comp=Z,198nm,18.9s,baz=188,slow=38
MJAR Matsushiro Arr 33.99 17 P **P 08 10 19.1 +0.7**
MJAR Matsushiro Arr 33.99 17 P **P 08 10 19.1 +0.7**
comp=Z,1.3nm,0.8s,baz=193,slow=9.1,SNR=2.9
MJAR LR LR 08 24 17.6
comp=Z,233nm,19.4s,baz=180,slow=36
XAN Xi'an 34.14 333 P **P 08 10 18.0 -1.8**
XAN pP **pP 08 10 28.3 -1.3**
XAN S S 08 15 37.8 -6.1
XAN pmax pmax
comp=Z,4.0nm,1.0s
XAN pmax pmax
comp=Z,21nm,5.4s
XAN LR LR
comp=N,250nm,17.1s
XAN LR LR
comp=E,100nm,18.2s
XAN LR LR
comp=Z,110nm,20.7s
KMBL Kambalda 35.55 187 *e*P **P 08 10 29.9 -2.0**
comp=Z,78nm,0.7s
EIDS Eidsvold 37.58 142 *e*P **P 08 10 48.6 -0.7**
comp=Z,14nm,0.9s
EIDS Eidsvold 37.58 142 *e*P **P 08 10 49.4 +0.1**
comp=Z,56nm,0.8s
SNY Shenyang 37.71 356⇑P **P 08 10 53.1 +3.0**
SNY pmax pmax
comp=Z,15nm,0.6s
BBOO Buckleboo 37.72 167 *e*P **P 08 10 48.6 -1.7**
comp=Z,37nm,0.4s
NWAO Narrogin (SRO) 37.89 193 P **P 08 10 50.5 -1.3**
NWAO Narrogin (SRO) 37.89 193 P **P 08 10 50.5 -1.3**
comp=Z,5.2nm,0.6s,baz=337,slow=21,SNR=6.2
LZH Lanzhou 38.24 329 *e*P **P 08 10 54.9 -0.1**
LZH pP **pP 08 11 03.4 -1.5**
LZH sP **sP 08 11 09.4 +0.5**
LZH *e*S **S 08 16 46.4 -0.4**
LZH pmax pmax
comp=Z,24nm,1.1s
LZH pmax pmax
comp=Z,130nm,5.5s
LZH LR LR
comp=N,220nm,13.3s
LZH LR LR
comp=E,160nm,12.0s
LZH LR LR
comp=Z,650nm,17.0s
STKA Stephens Creek 38.42 160 *e*P **P 08 10 56.0 -0.3**
comp=Z,4.6nm,0.8s
STKA Stephens Creek 38.42 160 *e*P **P 08 10 55.5 -0.8**
comp=Z,20nm,0.8s
STKA Stephens Creek 38.42 160 P **P 08 10 55.9 -0.4**
comp=Z,22nm,0.8s,baz=336,slow=7.3,SNR=14
HHC Hu-ho-hao-te 39.10 342 *e*P **P 08 11 01.1 -0.9**
HHC sP **sP 08 11 14.8 -1.2**
HHC PP **PnPn 08 12 35.6 +0.9**
HHC PcP **PcP 08 13 10.8 -0.6**
HHC ScP **ScP 08 16 55.6 -1.9**
HHC S **S 08 16 58.5 -1.0**
HHC ScS **ScS 08 21 05.6 -3.3**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax

comp=Z,170nm,6.1s
HHC LR LR
comp=N,500nm,14.9s
HHC LR LR
comp=E,750nm,14.1s
HHC LR LR
comp=Z,310nm,14.3s
CN2 Changchun 39.59 358 *eP* **P 08 11 07.8 +1.9**
USRK Ussuriysk Arra 40.23 6 P **P 08 11 13.2 +2.0**
comp=Z,4.0nm,0.8s,baz=165,slow=7.9,SNR=5.6
GTA Gaotai 42.84 329 P **P 08 11 34.8 +1.9**
GTA pP **pP 08 11 44.8 +1.9**
GTA sP **sP 08 11 48.6 +1.7**
GTA S **S 08 17 57.0 +1.8**
GTA sS **sS 08 18 14.1 +2.4**
GTA SS **SS 08 21 03.0 -4.2**
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,160nm,5.7s
GTA LR LR
comp=N,280nm,17.1s
GTA LR LR
comp=E,520nm,19.0s
GTA LR LR
comp=Z,570nm,20.0s
ARPS Mount Arapiles 42.99 162 *eP* **P 08 11 33.3 -0.6**
comp=Z,36nm,0.8s
DZM Mont Dzumac 46.69 126 P **P 08 12 04.3 +0.6**
DZM Mont Dzumac 46.69 126 P **P 08 12 04.3 +0.6**
comp=Z,4.2nm,0.7s,baz=37,slow=16,SNR=3.2
ULN Ulaanbaatar 46.82 342 *eP* **P 08 12 04.0 -0.4**
comp=Z,18nm,1.7s
SONM Songino Array 47.00 341 P **P 08 12 05.4 -0.5**
SONM PP **PP 08 13 56.9 +0.2**
SONM ScP **ScP 08 17 29.2 0.0**
SONM Songino Array 47.00 341 P **P 08 12 05.4 -0.5**
comp=Z,1.4nm,0.4s,baz=155,slow=7.2,SNR=14
SONM PP **PP 08 13 56.9 +0.2**
comp=Z,0.8nm,0.7s,baz=163,slow=3.4,SNR=3.6
SONM ScP **ScP 08 17 29.2 0.0**
comp=Z,0.2nm,0.3s,baz=158,slow=4.8,SNR=3.8
SONM LR LR 08 32 42.2
comp=Z,216nm,21.9s,baz=297,slow=37
TLY Talaya 51.23 342 *eP* **P 08 12 38.1 +0.1**
comp=Z,3.5nm,0.8s
WMQ Urumqi 52.48 325 *eP* **P 08 12 47.6 0.0**
WMQ pP **pP 08 12 57.0 -0.8**
WMQ pmax pmax
comp=Z,6.0nm,0.7s
WMQ pmax pmax
comp=Z,120nm,4.2s
WMQ LR LR
comp=N,250nm,20.4s
WMQ LR LR
comp=E,250nm,24.0s
WMQ LR LR
comp=Z,330nm,23.3s
PETK Petropavlovsk- 55.10 22 P **P 08 13 09.2 +2.7**
PETK Petropavlovsk- 55.10 22 P **P 08 13 09.1 +2.7**
comp=Z,2.0nm,0.5s,baz=197,slow=7.1,SNR=3.1
MK31 Makanchi Array 57.31 325 *eP* **P 08 13 20.4 -2.0**
MKAR Makanchi Array 57.31 325 *eP* **P 08 13 20.7 -1.7**
MKAR Makanchi Array 57.31 325 P **P 08 13 20.6 -1.9**
comp=Z,2.5nm,0.4s,baz=117,slow=7.9,SNR=42
MKAR LR LR 08 39 41.6
comp=Z,296nm,19.5s,baz=122,slow=38
KSH Kashi 57.84 315 *eP* **P 08 13 26.5 0.0**
KSH pP **pP 08 13 36.4 -0.4**
KSH sP **sP 08 13 40.5 -0.2**
KSH PcP **PcP 08 14 17.9 -0.8**
KSH PP **PP 08 15 37.8 +2.9**
KSH ScP **ScP 08 18 13.8 -2.7**
KSH PcS **PcS 08 18 17.9 -2.3**
KSH S **S 08 21 24.9 +0.9**
KSH sS **sS 08 21 41.8 +0.8**
KSH ScS **ScS 08 23 10.9 -2.9**
KSH SS **SS 08 25 17.9 +2.7**
KSH LR LR
comp=N,79nm,8.5s
KSH LR LR
comp=E,120nm,5.6s
KSH LR LR
comp=Z,220nm,6.7s
ZAA0 Zalesovo Array 60.31 333 *eP* **P 08 13 41.0 -2.1**
ZALV Zalesovo Beam 60.31 333 P **P 08 13 40.5 -2.6**
ZALV Zalesovo Beam 60.31 333 P **P 08 13 40.5 -2.6**
comp=Z,1.2nm,0.3s,baz=119,slow=6.7,SNR=10
ZALV LR LR 08 41 22.3
comp=Z,134nm,18.7s,baz=250,slow=38
KBL Kabul 61.36 307 *eP* **P 08 13 48.8 -2.1**
comp=Z,3.2nm,0.7s
KURK Kurchatov 61.49 327 *eP* **P 08 13 49.3 -1.8**
comp=Z,14nm,1.2s
KKAR Karatay Array 63.02 317 *eP* **P 08 14 00.4 -1.2**
comp=Z,6.3nm,1.1s
BRVK Borovoye 67.14 327 *eP* **P 08 14 27.2 -1.0**
comp=Z,10nm,0.9s
ABKAR Akbulak array 71.92 321 *eP* **P 08 14 56.0 -1.8**
comp=Z,2.3nm,0.7s
ARU Arti 74.68 328 *eP* **P 08 15 13.0 -0.8**
comp=Z,71nm,2.4s
KDAK Kodiak Island 81.58 32 P **P 08 15 53.7 +1.7**
KDAK Kodiak Island 81.58 32 P **P 08 15 53.7 +1.7**
comp=Z,9.4nm,0.8s,baz=236,slow=18,SNR=3.9
KDAK LR LR 08 50 54.9
comp=Z,151nm,19.7s,baz=254,slow=35
ILAR Eielson Array 84.78 25 P **P 08 16 08.9 +0.5**
ILAR Eielson Array 84.78 25 P **P 08 16 08.9 +0.5**
comp=Z,0.4nm,0.5s,baz=245,slow=5.0,SNR=8.4
ASF Jabal al Asfar 87.77 302 LR LR 09 01 27.4
comp=Z,38nm,20.2s,baz=86,slow=40
JOF Joensuu 88.91 333 *ep* P 08 16 25.3 -3.2
comp=Z,3.1nm,0.5s
KEV Kevo 89.59 340 *ep* **P 08 16 30.3 -1.3**
comp=Z,2.0nm,0.6s
EIL Elat 89.60 300 LR LR 08 59 13.0
comp=Z,54nm,18.4s,baz=267,slow=37
BRTR Keskin Array B 89.85 310 P **P 08 16 32.4 -1.3**
BRTR Keskin Array B 89.85 310 P **P 08 16 32.4 -1.3**
comp=Z,0.4nm,0.4s,baz=90,slow=4.3,SNR=3.3
ARCES ARCESS Array B 90.15 340 P **P 08 16 33.4 -0.9**
ARCES ARCESS Array B 90.15 340 P **P 08 16 33.4 -0.9**
comp=Z,1.8nm,0.6s,baz=74,slow=6.1,SNR=14
ARCES LR LR 08 59 59.3
comp=Z,118nm,21.2s,baz=176,slow=37
SPITS Spitsbergen Ar 90.16 349 LR LR 09 02 51.7
comp=Z,89nm,18.5s,baz=50,slow=39
KAF Kangasniemi 91.33 332 *ep* **P 08 16 38.4 -1.4**
comp=Z,1.7nm,0.4s
FINES FINESS Array B 91.56 332 P **P 08 16 40.0 -1.0**
FINES FINESS Array B 91.56 332 P **P 08 16 40.0 -1.0**
comp=Z,2.5nm,0.9s,baz=56,slow=5.4,SNR=14
FINES LR LR 09 00 25.1
comp=Z,104nm,18.7s,baz=125,slow=37
AKASG Malin Array Be 91.67 321 P **P 08 16 39.6 -2.1**
AKASG Malin Array Be 91.67 321 P **P 08 16 39.6 -2.1**
comp=Z,0.2nm,0.3s,baz=67,slow=5.2,SNR=4.4
AKASG LR LR 09 03 53.0
comp=Z,83nm,19.3s,baz=55,slow=39
BUR08 Bucovina Ar. S 94.79 318 *eP* **P 08 16 54.9 -1.5**
BBB Bella Bella 96.00 37 LR LR 08 53 10.7
comp=Z,67nm,19.8s,baz=96,slow=31
RES Resolute Bay 97.47 10 LR LR 09 03 31.7
comp=Z,49nm,19.6s,baz=71,slow=37
NB2 NORSAR Subarra 98.51 334 P **P 08 17 12.4 -0.4**
comp=Z,2.4nm,1.1s,baz=68,slow=5.3
NOA NORSAR Array B 98.51 334 P **P 08 17 12.8 +0.1**
NOA NORSAR Array B 98.51 334 P **P 08 17 12.8 +0.1**
comp=Z,0.9nm,0.7s,baz=69,slow=4.7,SNR=4.7
NOA LR LR 09 06 20.2
comp=Z,131nm,18.8s,baz=270,slow=38
YKA Yellowknife Ar 99.17 24 P **Pdif 08 17 17.0 +1.3**
YKA Yellowknife Ar 99.17 24 P **Pdif 08 17 17.0 +1.3**
comp=Z,0.2nm,0.6s,baz=295,slow=4.9,SNR=3.6
CLL Collm 101.40 324 LmV 08 26 00.0
comp=Z,100nm,20.4s
TORD Torodi Ar. Bea 122.87 288 PKP **PKPdf 08 22 30.3 -1.2**
TORD Torodi Ar. Bea 122.87 288 PKP **PKPdf 08 22 30.3 -1.2**
comp=Z,0.3nm,0.6s,baz=37,slow=2.5,SNR=3.7
CFAA Coronel Fontan 149.18 154 PKPbc **PKPbc 08 23 23.1 -0.4**
CFAA Coronel Fontan 149.18 154 PKPbc **PKPbc 08 23 23.1 -0.4**
comp=Z,0.1nm,0.4s,baz=197,slow=3.3,SNR=2.8

*IDC **14** 08:08:37.1±11.0, 53.°22N×175.°20W, h84km±101km,*

mb3.1/3,mb1 3.5/5,mb1mx3.1/27,mbtmp3.3/5,ML4.1/1, Error ellipse: s-maj=69.5km s-min=30.4km az=18.0

NEIC 14 08:08:18.8, 51.62N×175.43W, h10km, ML3.7(AEIC), **After AEIC., Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.96**	**52**	P	Pg	08 08 36.1	-1.2
ATKA				S	Sg	08 08 49.2	-0.6
KOKL	**Mount Kliuchef**	**1.04**	**46**	P	Pb	08 08 39.0	+0.1
KOKL				S	Sb	08 08 53.2	+0.6
KOWE	**Korovin West**	**1.04**	**44**	P	Pb	08 08 39.1	+0.1
KOFP	**Korovin Flat P**	**1.05**	**51**	P	Pg	08 08 38.5	-0.6
KOKV	**Korovin Volcan**	**1.08**	**46**	P	Pb	08 08 38.8	-0.8
KOKV				S	Sn	08 08 55.1	0.0
KOSE	**Korovin Southe**	**1.12**	**49**	P	Pb	08 08 39.8	-0.5
KDAK	**Kodiak Island**	**14.54**	**56**	P	Pn	08 11 46.0	+1.8
KDAK	**Kodiak Island**	**14.54**	**56**	P	Pn	08 11 46.0	+1.8
	1.0nm,0.3s,baz=301,slow=18,SNR=14						
ILAR	**Eielson Array**	**19.76**	**37**	P	P	08 12 45.2	-3.3
ILAR	**Eielson Array**	**19.76**	**37**	P	P	08 12 45.2	-3.3
	0.4nm,0.3s,baz=233,slow=8.9,SNR=30						
INK	**Inuvik**	**26.06**	**34**	P	P	08 13 49.6	-2.3
INK	**Inuvik**	**26.06**	**34**	P	P	08 13 49.6	-2.3
	0.7nm,0.9s,baz=263,slow=4.9,SNR=2.8						
NVAR	**Mina Array Bea**	**41.43**	**85**	P	P	08 16 13.4	+7.9
NVAR	**Mina Array Bea**	**41.43**	**85**	P	P	08 16 13.4	+7.9
	0.3nm,0.7s,baz=299,slow=9.2,SNR=2.3						
MKAR	**Makanchi Array**	**61.51**	**310**	P	P	08 18 38.6	+3.1
MKAR	**Makanchi Array**	**61.51**	**310**	P	P	08 18 38.6	+3.1
	0.2nm,0.2s,baz=42,slow=6.7,SNR=12						

WEL 14 08:13:42.0±0.3, 37.°10S×176.°69E, h242km±3km, ML3.8/13, **6C, Error ellipse: s-maj=4.9km s-min=4.8km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.20**	**164**	⇑PN	Pn	08 14 17.4	+0.1
URZ				SN	S	08 14 46.2	-0.1
RRRZ	**Republican Roa**	**1.24**	**186**	PN	Pn	08 14 18.7	+1.0
MXZ	**Matakaoa Point**	**1.37**	**110**	PN	Pn	08 14 18.4	-0.1
MXZ				SN	S	08 14 46.7	-0.5
MWZ	**Matawai**	**1.40**	**152**	⇑PN	Pn	08 14 18.8	0.0
PUZ	**Puketiti**	**1.58**	**128**	⇑PN	Pn	08 14 20.2	0.0
PUZ				SN	S	08 14 49.0	-1.2
CNGZ	**Carnagh Statio**	**1.83**	**139**	PN	Pn	08 14 22.7	+0.5
RAHZ	**Arahi**	**1.84**	**170**	⇑PN	Pn	08 14 22.9	+0.6
NMHZ	**Naumai**	**2.00**	**177**	⇑PN	Pn	08 14 24.6	+0.8
KNZ	**Kokohu**	**2.07**	**158**	PN	Pn	08 14 24.2	-0.1
BKZ	**Black Stump Fm**	**2.07**	**184**	⇑PN	Pn	08 14 24.3	-0.1
MHGZ	**Mahia Peninsul**	**2.26**	**155**	PN	Pn	08 14 26.2	-0.1
WPVZ	**Whakapapa**	**2.29**	**203**	PN	Pn	08 14 27.0	+0.4
TUVZ	**Tukino**	**2.31**	**200**	PN	Pn	08 14 27.3	+0.4
MCHZ	**McNeill Hill**	**2.34**	**180**	PN	Pn	08 14 27.2	+0.3
WNVZ	**Wahianoa**	**2.38**	**201**	PN	Pn	08 14 27.7	+0.1
MOVZ	**Moawhango**	**2.42**	**198**	PN	Pn	08 14 27.6	-0.3
BHHZ	**Black Hill Sta**	**2.43**	**192**	PN	Pn	08 14 27.7	-0.3
MTVZ	**Mangateitei**	**2.47**	**202**	PN	Pn	08 14 28.5	+0.1
KAHZ	**Kahuranaki**	**2.69**	**177**	PN	Pn	08 14 30.3	-0.4
PNHZ	**Pukenui**	**2.83**	**188**	PN	Pn	08 14 31.1	-1.1
PXZ	**Pawanui**	**2.93**	**177**	PN	Pn	08 14 32.2	-0.9
WPHZ	**Waipukurau**	**2.97**	**184**	PN	Pn	08 14 32.9	-0.6
WAZ	**Wanganui**	**2.97**	**206**	*e*PN	Pn	08 14 33.3	-0.3
PRHZ	**Porangahau**	**3.16**	**181**	PN	Pn	08 14 34.8	-0.9
DVHZ	**Dannevirke**	**3.22**	**187**	PN	Pn	08 14 35.2	-1.2
POWZ	**Post Office Ro**	**3.36**	**192**	PN	Pn	08 14 36.8	-1.1
BFZ	**Birch Farm**	**3.59**	**185**	PN	Pn	08 14 38.8	-1.8
MRZ	**Mangatainoka R**	**3.66**	**193**	PN	Pn	08 14 39.3	-2.1
MRZ				SN	S	08 15 25.4	-3.1
TIWZ	**Tintock**	**3.72**	**189**	PN	Pn	08 14 40.6	-1.5
HOWZ	**Holdsworth Sta**	**3.90**	**193**	PN	Pn	08 14 41.9	-2.3
KIW	**Kapiti Island**	**4.00**	**200**	PN	Pn	08 14 43.3	-2.1
TMWZ	**Te Maipa**	**4.05**	**189**	PN	Pn	08 14 44.6	-1.4
MTW	**Mount Morrison**	**4.16**	**192**	PN	Pn	08 14 44.8	-2.3
CAW	**Cannon Point**	**4.20**	**197**	PN	Pn	08 14 45.1	-2.6
DUWZ	**D'Urville Isla**	**4.28**	**209**	PN	Pn	08 14 46.2	-2.5
SNZO	**South Karori**	**4.48**	**200**	PN	Pn	08 14 48.4	-2.6
TCW	**Tory Channel**	**4.51**	**204**	PN	Pn	08 14 49.0	-2.4
PLWZ	**Palliser**	**4.60**	**194**	PN	Pn	08 14 49.7	-2.9
TUWZ	**Tuamarina**	**4.82**	**205**	PN	Pn	08 14 52.4	-2.8
NNZ	**Nelson**	**4.85**	**211**	PN	Pn	08 14 52.7	-2.9
QRZ	**Quartz Range**	**4.94**	**220**	PN	Pn	08 14 53.6	-3.1
THZ	**Tophouse**	**5.50**	**211**	PN	Pn	08 15 01.0	-2.7
KHZ	**Kahutara**	**5.84**	**204**	PN	Pn	08 15 05.1	-2.6
DSZ	**Denniston Nort**	**5.99**	**218**	PN	Pn	08 15 07.0	-2.8
LTZ	**Lake Taylor**	**6.61**	**210**	PN	Pn	08 15 14.0	-3.6

*ISCJB **14** 08:21:36.5±0.8, 35.°58N±0.°04×69.°69E±0.°10, h90km, mb3.4/3, Error ellipse: s-maj=11.8km s-min=4.9km az=167.6*

*IDC **14** 08:21:38.8±8.0, 35.°68N×69.°58E, h90km±67km, mb3.3/3, mb1 3.3/7, mb1mx3.1/29, mbtmp3.3/7, ML3.6/4, Error ellipse: s-maj=74.0km s-min=30.2km az=158.0*

*NNC **14** 08:21:40.0±4.7, 35.°78N×69.°55E, h69km±97km, mb3.6, mpv3.9, Error ellipse: s-maj=40.2km s-min=34.4km az=127.0*

ISC 14 08:21:37.7±1.0, 35.°55N±0.°06×69.°7E±0.°1, h90km, n22, σ0.96/27, mb3.5/3, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.52**	**133**	⇓P	Pn	**08 22 17.3**	**+0.4**
CEP				S	Sn	**08 22 47.0**	**+0.1**
THW	**Thamme Wali**	**3.24**	**148**	⇓P	Pn	**08 22 26.1**	**-0.4**
THW				S	Sn	**08 23 03.0**	**-1.1**
CHCP	**Chirah Chowk**	**3.50**	**122**	P	Pn	**08 22 29.9**	**-0.2**
AML	**Almayashu**	**7.28**	**24**	P	Pn	**08 23 22.3**	**+0.7**
	SNR=33						
KK31	**Karatay Array**	**7.57**	**5**	⇑P	Pn	**08 23 25.4**	**+0.1**
	2.2nm,0.5s,baz=198,slow=14,SNR=46						
KK31				⇓S	Sn	**08 24 47.4**	**-2.1**
	7.4nm,0.8s,baz=193,slow=22,SNR=7.3						
EKS2	**Erkin-Say**	**7.78**	**23**	P	Pn	**08 23 30.2**	**+2.0**
	SNR=7.5						
KZA	**Kyzart**	**7.83**	**32**	P	Pn	**08 23 29.4**	**+0.2**
	SNR=6.8						
AAK	**Ala-Archa**	**8.00**	**26**	P	Pn	**08 23 31.9**	**+0.6**
	SNR=20						
AAK	**Ala-Archa**	**8.00**	**26**	P	Pn	**08 23 31.8**	**+0.6**
	4.2nm,0.3s,baz=183,slow=5.8,SNR=47						
AAK				S	Sn	**08 24 59.2**	**-0.9**
	1.4nm,0.3s,baz=344,slow=19,SNR=13						
KBK	**Karagaybulak**	**8.19**	**28**	P	Pn	**08 23 35.4**	**+1.5**
	SNR=6.6						
CHMS	**Chumysh**	**8.41**	**26**	P	Pn	**08 23 37.4**	**+0.7**
	SNR=5.3						
USP	**Ospenovka**	**8.56**	**24**	P	Pn	**08 23 38.8**	**0.0**
	SNR=6.5						
TKM2	**Tokmak 2**	**8.67**	**30**	⇑P	Pn	**08 23 40.1**	**-0.3**
	2.8nm,0.4s						
TKM2				⇓S	Sn	**08 25 16.3**	**-0.2**
	5.4nm,0.8s						
TKM2	**Tokmak 2**	**8.67**	**30**	P	Pn	**08 23 40.4**	**-0.1**
	SNR=11						
MK31	**Makanchi Array**	**14.68**	**36**	P	P	**08 25 03.7**	**-0.8**
	0.4nm,0.4s,baz=214,slow=9.9,SNR=8.2						
MKAR	**Makanchi Array**	**14.68**	**36**	P	Pn	**08 25 01.6**	**+0.9**
	0.1nm,0.3s,baz=218,slow=14,SNR=6.8						
AB31	**Akbulak array**	**15.45**	**335**	⇑P	Pn	**08 25 09.7**	**-0.7**
	0.6nm,0.5s,baz=158,slow=13,SNR=29						
KURBB	**Kurchatov Arra**	**16.37**	**20**	P	Pn	**08 25 20.1**	**-1.7**
	0.0nm,0.3s,baz=210,slow=11,SNR=6.6						
BVAR	**Borovoye Array**	**17.48**	**1**	P	Pn	**08 25 36.4**	**+1.0**
	0.4nm,0.3s,baz=169,slow=8.1,SNR=8.4						
ZALV	**Zalesovo Beam**	**21.22**	**25**	P	P	**08 26 16.4**	**+0.4**
	1.8nm,0.4s,baz=215,slow=11,SNR=10						
SONM	**Songino Array**	**29.75**	**54**	P	P	**08 27 36.8**	**+1.2**
	0.4nm,0.8s,baz=253,slow=7.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**64.53**	**268**	P	P	**08 32 06.4**	**+0.3**
	0.4nm,0.6s,baz=48,slow=6.0,SNR=5.7						

*SZGRF **14** 08:29:30.1, 14.°78S×167.°52E, h33km, Vanuatu Islands*

*NOU **14** 08:29:33.7±0.8, 15.°44S×167.°28E, h30km, MD3.5, ML4.8*

*IDC **14** 08:29:33.8±1.3, 15.°69S×167.°63E, h68km±9km, mb4.6/20, mb1 4.6/20, mb1mx4.6/21, mbtmp4.5/20, MS3.8/12, Ms1 3.8/12, ms1mx3.6/23, Error ellipse: s-maj=18.3km s-min=11.5km az=101.0*

*ISCJB **14** 08:29:35.4±1.1, 15.°79S±0.°05×167.°50E±0.°06, h94km±11km, mb4.8/55, Error ellipse: s-maj=9.5km s-min=7.7km az=167.6*

*BJI **14** 08:29:36.4, 15.°90S×168.°08E, h127km, mB5.1/21, mb4.7/33*

*MOS **14** 08:29:38.2±1.2, 15.°61S×167.°39E, h111km, mb4.7/15, Error ellipse: s-maj=10.9km s-min=8.3km az=24.3*

*NEIC **14** 08:29:39.9±1.1, 15.°72S×167.°46E, h120km±10km, mb4.9/22, Error ellipse: s-maj=9.2km s-min=7.6km az=179.0*

ISC 14 08:29:39.9±0.4, 15.°87S±0.°04×167.°50E±0.°05, h120km±2km, h120km:pP-P, n337, σ1949/394, mb4.9/55, 13C-15D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**6.25**	**189**	*e*Pn	**Pn**	**08 31 08.1**	**-1.8**
	468nm,0.3s						
DZM				*e*Sn	**Sn**	**08 32 18.1**	**-1.9**
	535nm,0.3s						
DZM	**Mont Dzumac**	**6.25**	**189**	*e*P	**Pn**	**08 31 07.5**	**-2.4**
DZM				*e*S	**Sn**	**08 32 18.6**	**-1.4**
DZM				AMP		08 32 22.9	
	comp=Z,8μm,1.9s						
DZM	**Mont Dzumac**	**6.25**	**189**	*e*Pn	**Pn**	**08 31 08.0**	**-1.8**
	comp=Z,374nm,0.4s						
DZM				*e*Sn	**Sn**	**08 32 16.7**	**-3.4**
DZM				S	**Sn**	**08 32 19.6**	**-0.4**
DZM	**Mont Dzumac**	**6.25**	**189**	P	**Pn**	**08 31 08.1**	**-1.8**
	comp=Z,138nm,0.3s,baz=33,slow=14,SNR=1034						
DZM				S	**Sn**	**08 32 19.6**	**-0.4**
	comp=Z,210nm,0.3s,baz=127,slow=22,SNR=16						
BAYA	**Yate Dam**	**6.28**	**185**	*e*P	**Pn**	**08 31 08.5**	**-1.7**
BAYA				*e*S	**Sn**	**08 32 18.8**	**-1.8**
NOUC	**Port Laguerre**	**6.30**	**190**	*e*P	**Pn**	**08 31 08.7**	**-1.7**
NOUC				*e*S	**Sn**	**08 32 17.9**	**-3.2**
NOUC				AMP		08 32 23.3	
	comp=Z,408nm,0.0s						
LASL	**Noumea**	**6.39**	**188**	*e*P	**Pn**	**08 31 10.5**	**-1.2**
LASL				*e*S	**Sn**	**08 32 21.6**	**-1.7**
LASL				AMP		08 32 28.2	
	comp=Z,2μm,0.9s						
NORM	**Noumea**	**6.40**	**189**	*e*P	**Pn**	**08 31 10.0**	**-1.8**
NORM				*e*S	**Sn**	**08 32 21.4**	**-2.1**
NORM				AMP		08 32 25.6	
	comp=Z,2μm,3.0s						
PLUM	**Mont Dore**	**6.42**	**187**	*e*P	**Pn**	**08 31 10.6**	**-1.5**
PLUM				*e*S	**Sn**	**08 32 22.0**	**-2.0**
PLUM				AMP		08 32 27.7	
	comp=Z,1μm,0.9s						
HNR	**Honiara**	**9.76**	**310**	*e*Pn	**Pn**	**08 31 55.6**	**-1.6**
	comp=Z,419nm,0.8s						
HNR	**Honiara**	**9.76**	**310**	P	**Pn**	**08 31 54.4**	**-2.8**
	comp=Z,32nm,0.3s,baz=195,slow=5.6,SNR=6.1						
HNR				LR	LR	08 35 27.4	
	comp=Z,455nm,18.0s,baz=288,slow=36						
MSVF	**Nonsavu**	**10.27**	**102**	*e*P	**Pn**	**08 32 06.1**	**+1.9**
MSVF	**Nonsavu**	**10.27**	**102**	*e*Pn	**Pn**	**08 32 06.1**	**+1.9**
EIDS	**Eidsvold**	**18.03**	**236**	*e*P	**Pn**	**08 33 43.8**	**+0.9**
	comp=Z,38nm,1.0s						
EIDS	**Eidsvold**	**18.03**	**236**	*e*P	**Pn**	**08 33 43.8**	**+0.9**
	comp=Z,174nm,1.0s						
OUZ	**Omahuta**	**20.03**	**165**	*e*P	Pn	08 34 06.2	-0.1
	comp=Z,91nm,1.1s						
AFI	**Afiamalu**	**20.12**	**87**	*e*P	**P**	**08 34 06.0**	**+1.3**
	comp=Z,19nm,0.6s						
AFI	**Afiamalu**	**20.12**	**87**	P	**P**	**08 34 04.3**	**-0.4**
	comp=Z,2.4nm,0.3s,baz=290,slow=21,SNR=8.0						
AFI				LR	LR	08 39 39.0	
	comp=Z,236nm,19.4s,baz=288,slow=30						
ARMA	**Armidale**	**20.52**	**222**	*e*P	Pn	08 34 12.0	-0.3
	comp=Z,16nm,0.6s						
CTA	**Charters Tower**	**20.64**	**255**	P	**P**	**08 34 10.8**	**+0.7**
CTA	**Charters Tower**	**20.64**	**255**	*e*P	**P**	**08 34 10.4**	**+0.3**
	comp=Z,21nm,0.8s						
CTA	**Charters Tower**	**20.64**	**255**	P	**P**	**08 34 10.8**	**+0.7**
	comp=Z,34nm,0.9s,baz=82,slow=13,SNR=21						
CTAO	**Charters Tower**	**20.64**	**255**	*e*P	**P**	**08 34 10.8**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,33nm,0.9s						
CTAO	**Charters Tower**	**20.64**	**255**	*e*P	**P**	**08 34 10.8**	**+0.7**
	comp=Z,33nm,0.9s						
PMG	**Port Moresby**	**20.86**	**286**	*e*P	**P**	**08 34 12.2**	**-0.3**
	comp=Z,40nm,1.0s						
PMG	**Port Moresby**	**20.86**	**286**	P	**P**	**08 34 14.1**	**+1.6**
	comp=Z,19nm,1.0s,baz=149,slow=14,SNR=3.4						
COEN	**Coen**	**23.58**	**271**	*e*P	**P**	**08 34 40.0**	**0.0**
	comp=Z,395nm,1.6s						
COEN	**Coen**	**23.58**	**271**	*e*P	**P**	**08 34 39.8**	**-0.2**
	comp=Z,56nm,0.8s						
URZ	**Urewera**	**23.86**	**161**	*e*P	**P**	**08 34 43.8**	**+1.6**
	comp=Z,278nm,2.0s						
STKA	**Stephens Creek**	**28.45**	**231**	*e*P	**P**	**08 35 24.3**	**+0.7**
	comp=Z,2.2nm,0.8s						
STKA				PcP	**PcP**	**08 38 32.9**	**0.0**
STKA	**Stephens Creek**	**28.45**	**231**	*e*P	**P**	**08 35 23.0**	**-0.6**
	comp=Z,4.3nm,0.7s						
STKA	**Stephens Creek**	**28.45**	**231**	P	**P**	**08 35 24.4**	**+0.8**
	comp=Z,4.9nm,0.7s,baz=61,slow=5.4,SNR=8.4						
STKA				PcP	**PcP**	**08 38 32.9**	**0.0**
	comp=Z,10nm,0.6s,baz=20,slow=2.7,SNR=12						
STKA				LR	LR	08 46 26.9	
	comp=Z,120nm,20.7s,baz=33,slow=35						
TOO	**Toolangi**	**29.08**	**218**	*e*P	**P**	**08 35 31.5**	**+2.3**
	comp=Z,54nm,1.0s						
RAR	**Rarotonga**	**31.44**	**105**	P	**P**	**08 35 51.9**	**+1.7**
RAR	**Rarotonga**	**31.44**	**105**	P	**P**	**08 35 51.8**	**+1.7**
	comp=Z,17nm,1.0s,baz=322,slow=6.1,SNR=3.1						
WRAB	**Tennant Creek**	**31.77**	**258**	*e*P	**P**	**08 35 51.9**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WRAB	**Tennant Creek**	**31.77**	**258**	*e*P	**P**	**08 35 51.9**	**-1.3**
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**31.79**	**258**	P	**P**	**08 35 51.9**	**-1.3**
WRA				PcP	**PcP**	**08 38 43.9**	**+2.1**
WRA				ScP	**ScP**	**08 42 21.2**	**+6.9**
WRA	**Warramunga Arr**	**31.79**	**258**	P	**P**	**08 35 51.9**	**-1.3**
	comp=Z,3.9nm,0.8s,baz=86,slow=8.6,SNR=32						
WRA				PcP	**PcP**	**08 38 43.9**	**+2.1**
	comp=Z,2.3nm,0.9s,baz=83,slow=3.0,SNR=4.4						
WRA				ScP	**ScP**	**08 42 21.2**	**+6.9**
	comp=Z,1.3nm,0.9s,baz=82,slow=3.5,SNR=6.7						
WRA				LR	LR	08 47 45.2	
	comp=Z,102nm,19.7s,baz=335,slow=34						
AS31	**Alice Springs**	**32.49**	**251**	*e*P	**P**	**08 35 59.0**	**-0.4**
ASAR	**Alice Springs**	**32.50**	**251**	P	**P**	**08 35 58.7**	**-0.8**
ASAR				PcP	**PcP**	**08 38 44.5**	**+0.8**
ASAR				ScP	**ScP**	**08 42 22.0**	**+5.3**
ASAR	**Alice Springs**	**32.50**	**251**	P	**P**	**08 35 58.7**	**-0.8**
	comp=Z,13nm,0.8s,baz=77,slow=8.8,SNR=83						
ASAR				PcP	**PcP**	**08 38 44.5**	**+0.8

JNU LR LR 08 59 50.9
comp=Z,91nm,21.0s,baz=81,slow=30
ASAJ Asahikawa 63.88 340 P **P** **08 39 59.5 -0.3**
ASAJ Asahikawa 63.88 340 P **P** **08 39 59.5 -0.3**
comp=Z,27nm,1.1s,baz=229,slow=15,SNR=7.3
ASAJ LR LR 09 03 58.2
comp=Z,79nm,20.5s,baz=62,slow=32
KSRS Korea Array 64.80 326 P **P** **08 40 05.5 -0.4**
comp=Z,1.7nm,0.9s,baz=155,slow=8,SNR=4.0
KSRS LR LR 09 03 59.4
comp=Z,33nm,18.6s,baz=145,slow=32
KSAR Wonju Array Be 64.82 326 P **P** **08 40 05.5 -0.5**
YSS Yuzh-Sakhalins 66.38 342⇑*i*P **P** **08 40 16.0 +0.2**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 66.38 342 *e*P **P** **08 40 15.2 -0.6**
comp=Z,52nm,1.0s
QIZ Qiongzhong 66.49 299 P **P** **08 40 17.5 +0.4**
QIZ S **S** **08 48 59.3 +0.7**
QIZ pmax pmax
comp=Z,11nm,1.3s
NJ2 Nanjing 66.65 316 *e*P **P** **08 40 18.6 +0.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
USRK Ussuriysk Arra 67.99 333 P **P** **08 40 26.0 -0.1**
comp=Z,8.1nm,1.0s,baz=156,slow=5.3,SNR=7.4
FX1 Attu Island--F 68.64 4 P **P** **08 40 28.8 -1.1**
FX1 Attu Island--F 68.64 4 P **P** **08 40 28.8 -1.1**
comp=Z,16nm,0.8s,baz=90,slow=15,SNR=3.2
PETK Petropavlovsk- 69.21 354 P **P** **08 40 32.7 -0.8**
PETK Petropavlovsk- 69.21 354 P **P** **08 40 32.7 -0.8**
PETK Petropavlovsk- 69.21 354 P **P** **08 40 32.7 -0.8**
comp=Z,12nm,0.8s,baz=155,slow=8.8,SNR=15
PETK LR LR 09 04 33.6
comp=Z,47nm,20.3s,baz=254,slow=30
HABR Khabarovsk 70.27 338 *e*P **P** **08 40 38.1 -1.9**
HABR *e**PP **PcP** **08 41 03.4 +2.4**
HABR *e**SP sP 08 41 14.5 -8.2
HABR *e* 08 43 14.9
HABR *e*PPP PPP 08 44 58.1
HABR *e*S **S** **08 49 43.1 +0.9**
HABR *e* 08 50 31.6
HABR *e*SS **SS** **08 54 16.7 +1.3**
HABR pmax pmax
comp=N,55nm,2.8s
HABR pmax pmax
comp=Z,75nm,1.7s
HABR pmax pmax
comp=E,79nm,2.1s
CN2 Changchun 70.73 329 *e*P **P** **08 40 44.3 +1.3**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
GYA Guiyang 72.55 305 P **P** **08 40 55.3 +0.9**
GYA sP **sP** **08 41 38.8 +1.6**
GYA PP **PP** **08 43 40.3 +2.8**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.7s
QSPA South Pole Qui 74.17 180 *e*P **P** **08 41 04.1 +0.8**
comp=Z,19nm,0.8s
QSPA South Pole Qui 74.17 180 P **P** **08 41 04.2 +0.9**
comp=Z,20nm,0.7s,baz=13,slow=2.6,SNR=68
XAN Xi'an 74.62 313 P **P** **08 41 05.6 -0.7**
XAN pmax pmax
comp=Z,2.0nm,0.7s
XAN pmax pmax
comp=Z,23nm,3.7s
KMI Kunming 75.10 302 P **P** **08 41 10.4 +1.0**
KMI pP **pP** **08 41 41.1 +1.6**
KMI S **S** **08 50 40.1 +1.6**
KMI pmax pmax
comp=Z,15nm,1.0s
KMI pmax pmax
comp=Z,65nm,3.1s
KMI LR LR
comp=Z,65nm,34.3s
CMAR Chiang Mai Arr 75.62 294 P **P** **08 41 12.9 +0.6**
CMAR Chiang Mai Arr 75.62 294 P **P** **08 41 12.9 +0.6**
comp=Z,7.4nm,0.7s,baz=132,slow=4.7,SNR=30
CHTO Chiang Mai 75.75 295 *e*P **P** **08 41 13.7 +0.7**
CHTO pmax pmax
comp=Z,8.0nm,0.7s
CHTO Chiang Mai 75.75 295 *e*P **P** **08 41 13.7 +0.7**
comp=Z,7.9nm,0.7s
HHC Hu-ho-hao-te 76.59 320 *e*P **P** **08 41 17.9 +0.4**
HHC PcP **PcP** **08 41 29.3 +0.8**
HHC pP **pP** **08 41 49.3 +1.6**
HHC sP **sP** **08 42 02.5 +2.0**
HHC PP **PP** **08 44 13.5 +2.0**
HHC S **S** **08 50 52.3 -1.9**
HHC SKS **SKSac** **08 51 12.8 -5.5**
HHC ScS **SKKSac** **08 51 19.9 +1.0**
HHC SS **SS** **08 55 52.5 +0.1**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,200nm,6.8s
CD2 Chengdu 76.88 308 P **P** **08 41 19.6 +0.4**
CD2 pP **pP** **08 41 49.9 +0.5**
CD2 sP **sP** **08 42 03.0 +0.7**
CD2 PP **PP** **08 44 15.8 +1.8**
CD2 S **S** **08 50 56.1 -1.4**
CD2 SS **SS** **08 55 57.8 +0.9**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,190nm,4.8s
CD2 LR LR
comp=N,350nm,5.3s
CD2 LR LR
comp=Z,280nm,4.8s
LZH Lanzhou 79.25 312 *e*P **P** **08 41 33.0 +0.6**
LZH pP **pP** **08 42 01.4 -1.3**
LZH sP **sP** **08 42 16.1 +0.6**
LZH pmax pmax
comp=Z,32nm,1.3s
SEY Seymchan 79.43 353 *ce*P **P** **08 41 31.0 -1.5**
CLNS Chul'man 80.66 338 *e*P **P** **08 41 37.5 -1.8**
CLNS pmax pmax
comp=E,3.0nm,1.0s
CLNS pmax pmax
comp=N,14nm,1.4s
CLNS pmax pmax
comp=Z,16nm,1.2s
YAK Yakutsk 83.18 343 *e*P **P** **08 41 50.6 -1.7**
YAK *e*PPP PPP 08 46 55.7
YAK *e*S **S** **08 52 00.5 -1.6**
YAK *e**SS **sS** **08 52 53.7 -1.2**
YAK *e*SS **SS** **08 57 31.9 +2.2**
YAK pmax pmax
comp=Z,58nm,0.9s
YAK pmax pmax
comp=N,10.0nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK pmax pmax
comp=Z,410nm,4.8s
YAK pmax pmax
comp=N,470nm,5.8s
YAK pmax pmax
comp=E,391nm,6.2s
YAK smax smax
comp=N,451nm,4.9s
YAK smax smax
comp=E,328nm,4.5s
YAK Yakutsk 83.18 343 *e*P **P** **08 41 51.6 -0.6**
comp=E,28nm,0.6s
ULN Ulaanbaatar 83.18 324 *e*P **P** **08 41 52.3 -0.6**
comp=E,19nm,0.8s
ULN *e* 08 42 14.4
SONM Songino Array 83.54 324 P **P** **08 41 53.9 -0.8**
SONM Songino Array 83.54 324 P **P** **08 41 53.9 -0.8**
comp=E,18nm,1.1s,baz=146,slow=4.2,SNR=42
GTA Gaotai 83.61 314⇑P **P** **08 41 55.4 +0.1**
GTA pP **pP** **08 42 27.5 +1.6**
GTA sP **sP** **08 42 41.0 +2.4**
GTA SKS **SKSac** **08 52 01.9 -5.2**
GTA S **S** **08 52 06.1 -1.7**
GTA sS **sS** **08 53 01.3 +0.7**
GTA SS **SS** **08 57 37.0 -0.4**
GTA pmax pmax
comp=Z,13nm,1.6s
GTA pmax pmax
comp=Z,210nm,5.9s

BILL Bilibino 83.68 360⇓*e*P **P** **08 41 53.5 -1.2**
BILL *e* 08 42 31.3
BILL pmax pmax
comp=Z,26nm,1.4s
BILL MLR MLR
comp=Z,100nm,16.0s
BILL Bilibino 83.68 360 *e*P **P** **08 41 53.3 -1.5**
comp=Z,13nm,0.8s
SHL Shillong 84.31 298 *e*PKP **P** **08 41 59.0 -0.1**
BOD Bodaibo 85.59 334 *e*P **P** **08 42 02.7 -1.9**
BOD pmax pmax
comp=Z,9.0nm,1.9s
ZAK Zakamensk 86.61 325⇑*i*P **P** **08 42 08.8 -1.1**
ZAK pmax pmax
comp=Z,9.0nm,1.0s
ISA Isabella 86.68 52 *e*P **P** **08 42 10.0 -0.5**
ISA pmax pmax
comp=Z,2.0nm,0.7s
ISA Isabella 86.68 52 *e*P **P** **08 42 10.0 -0.5**
comp=Z,2.4nm,0.7s
TLY Talaya 87.06 326 *e*P **P** **08 42 09.6 -2.3**
TLY pmax pmax
comp=Z,6.0nm,1.2s
COLA College 87.33 17 *e*P **P** **08 42 10.0 -2.8**
COLA pmax pmax
comp=Z,5.0nm,0.8s
COLA College 87.33 17 *e*P **P** **08 42 10.0 -2.8**
comp=Z,5.4nm,0.8s
ILAR Eielson Array 87.53 18 P **P** **08 42 11.0 -2.9**
ILAR Eielson Array 87.53 18 P **P** **08 42 11.0 -2.9**
comp=Z,3.6nm,0.6s,baz=238,slow=5.1,SNR=55
ILAR LR LR 09 14 53.7
comp=Z,119nm,20.1s,baz=249,slow=31
SYO Syowa Base 87.68 197⇑*i*P **P** **08 42 14.0 -0.7**
NVAR Mina Array Bea 87.84 49 P **P** **08 42 15.4 -0.8**
NVAR PKKPbc **PKKPbc** **09 00 04.8 +0.9**
NVAR Mina Array Bea 87.84 49 P **P** **08 42 15.4 -0.8**
comp=Z,1.3nm,0.8s,baz=227,slow=8.1,SNR=7.1
NVAR PKKPbc **PKKPbc** **09 00 04.8 +0.9**
comp=Z,0.8nm,0.7s,baz=86,slow=4.9,SNR=5.6
PMSA Palmer Station 90.62 160 *e*P **P** **08 42 29.6 +1.1**
comp=Z,42nm,1.1s
PMSA Palmer Station 90.62 160 P **P** **08 42 29.4 +0.9**
comp=Z,7.1nm,0.2s,baz=195,slow=12,SNR=9.3
NVL N'lazarevskaya 91.96 188 *e*P **P** **08 42 35.1 +0.5**
NVL pmax pmax
comp=Z,25nm,0.9s
WMQ Urumqi 93.68 314 *e*P **P** **08 42 42.8 -0.3**
WMQ pP **pP** **08 43 11.5 -2.7**
WMQ pmax pmax
comp=Z,9.0nm,1.0s
WMQ pmax pmax
comp=Z,170nm,4.0s
PDAR Pinedale Array 95.55 47 PKKPbc PKKPbc 08 59 43.2 -1.0
PDAR Pinedale Array 95.55 47 PKKPbc PKKPbc 08 59 43.2 -1.0
comp=Z,0.4nm,0.7s,baz=85,slow=3.1,SNR=4.5
PDAR LR LR 09 15 34.9
comp=Z,65nm,21.6s,baz=141,slow=29
TXAR Lajitas Array 96.62 62 P **P** **08 42 58.7 +1.8**
TXAR Lajitas Array 96.62 62 P **P** **08 42 58.7 +1.8**
comp=Z,0.2nm,0.5s,baz=229,slow=4.8,SNR=3.5
TXAR LR LR 09 21 41.0
comp=Z,57nm,18.2s,baz=185,slow=32
MK31 Makanchi Array 98.18 316 *e*P **P** **08 43 03.1 -0.3**
MK31 Makanchi Array 98.18 316 *e*P **P** **08 43 03.1 -0.3**
MKAR Makanchi Array 98.18 316 P **P** **08 43 02.9 -0.5**
MKAR Makanchi Array 98.18 316 P **P** **08 43 02.9 -0.5**
MKAR PKiKP **PKiKP** **08 47 35.3 -0.4**
MKAR Makanchi Array 98.18 316 P **P** **08 43 02.9 -0.5**
comp=Z,2.2nm,0.8s,baz=95,slow=5.7,SNR=20
MKAR PKiKP **PKiKP** **08 47 35.3 -0.4**
comp=Z,0.5nm,0.5s,baz=183,slow=0.9,SNR=15
MKAR LR LR 09 26 14.0
comp=Z,28nm,18.6s,baz=253,slow=35
ZAA0 Zalesovo Array 98.44 324 *e*P **P** **08 43 03.0 -1.4**
ZALV Zalesovo Beam 98.44 324 P **P** **08 43 03.2 -1.2**
ZALV Zalesovo Beam 98.44 324 P **P** **08 43 03.2 -1.2**
ZALV PKiKP **PKiKP** **08 47 35.3 -0.5**
ZALV Zalesovo Beam 98.44 324 P **P** **08 43 03.2 -1.2**
comp=Z,4.1nm,0.8s,baz=102,slow=6.2,SNR=11
ZALV PKiKP **PKiKP** **08 47 35.3 -0.5**
comp=Z,0.8nm,0.5s,baz=122,slow=2.5,SNR=4.6
YKA Yellowknife Ar 98.45 27 P **P** **08 43 02.1 -2.0**
YKA PKKPbc **PKKPbc** **08 59 34.4 -2.4**
YKA Yellowknife Ar 98.45 27 P **P** **08 43 02.1 -2.0**
comp=Z,4.1nm,0.8s,baz=255,slow=4.7,SNR=85
YKA PKKPbc **PKKPbc** **08 59 34.4 -2.4**
comp=Z,0.3nm,0.6s,baz=66,slow=2.9,SNR=11
KSH Kashi 101.08 308 *e*P **Pdif** **08 43 17.6 +1.0**
KSH PP **PP** **08 47 31.4 +4.5**
KSH SKS 08 53 45.8
KSH S **Sdif** **08 54 44.1 -1.3**
KSH SS **SS** **09 01 49.8 +2.2**
KSH LR LR
comp=N,110nm,6.9s
KSH LR LR
comp=E,130nm,6.2s
KSH LR LR
comp=Z,220nm,6.1s
BVAR Borovoye Array 106.77 321 PKiKP **PKiKP** **08 47 50.6 -0.5**
BVAR Borovoye Array 106.77 321 PKiKP **PKiKP** **08 47 50.6 -0.5**
comp=Z,0.8nm,0.4s,baz=103,slow=3.3,SNR=4.6
RES Resolute Bay 107.20 16 PKKPbc PKKPbc 08 59 09.3 -1.6
RES PKKP **PKKPdf** **08 59 23.0 -0.5**
RES Resolute Bay 107.20 16 PKKPbc PKKPbc 08 59 09.3 -1.6
comp=Z,0.5nm,0.6s,baz=115,slow=4.8,SNR=3.8
RES PKKP **PKKPdf** **08 59 23.0 -0.5**
comp=Z,0.6nm,0.7s,baz=67,slow=6.7,SNR=4.0
SVE Sverdlovsk 112.36 325 *e*PKiKP **PKiKP** **08 48 00.9 -0.5**
ARU Arti 113.55 325 *e*PKiKP **PKiKP** **08 48 03.0 -0.7**
ARU Arti 113.55 325 *e*PKPdf **PKiKP** **08 48 03.0 -0.7**
SPITS Spitsbergen Ar 116.08 354 PKP **PKPdf** **08 48 07.3 -0.8**
SPITS Spitsbergen Ar 116.08 354 PKP **PKPdf** **08 48 07.3 -0.8**
comp=Z,9.6nm,0.7s,baz=84,slow=8.5,SNR=12
CPUP Villa Florida 119.51 133 PKKPbc PKKPbc 08 58 26.9 -1.2
CPUP Villa Florida 119.51 133 PKKPbc PKKPbc 08 58 26.9 -1.2
comp=Z,0.8nm,0.3s,baz=330,slow=2.9,SNR=3.1
KEV Kevo 120.88 345 *e*PKiKP **PKPdf** **08 48 15.0 -2.4**
KEV pmax pmax
comp=Z,12nm,0.6s
KEV Kevo 120.88 345 *ep* **PKPdf** **08 48 15.0 -2.4**
comp=Z,12nm,0.6s
ARCES ARCESS Array B 121.41 345 PKP **PKPdf** **08 48 17.8 -0.7**
ARCES PKKPab **PKKPab** **08 58 20.2 +0.5**
ARCES ARCESS Array B 121.41 345 PKP **PKPdf** **08 48 17.8 -0.7**
comp=Z,20nm,0.5s,baz=102,slow=1.8,SNR=252
ARCES PKKPab **PKKPab** **08 58 20.2 +0.5**
comp=Z,2.0nm,0.8s,baz=209,slow=2.2,SNR=7.8
KLMR Klimovskoe 121.80 333 *e*PKiKP **PKPdf** **08 48 16.6 -2.8**
KLMR pmax pmax
comp=Z,40nm,1.6s
BOSA Boshof 122.65 220 PKP **PKPdf** **08 48 22.7 +0.4**
BOSA Boshof 122.65 220 PKP **PKPdf** **08 48 22.7 +0.4**
comp=Z,7.1nm,0.8s,baz=184,slow=1.1,SNR=11
SCHQ Schefferville 123.11 34 PKP **PKPdf** **08 48 20.9 -1.3**
SCHQ PKKPbc **PKKPbc** **08 58 14.4 -0.8**
SCHQ Schefferville 123.11 34 PKP **PKPdf** **08 48 20.9 -1.3**
comp=Z,1.7nm,0.8s,baz=182,slow=14,SNR=2.7
SCHQ PKKPbc **PKKPbc** **08 58 14.4 -0.8**
comp=Z,1.6nm,0.6s,baz=87,slow=9.2,SNR=4.8
JOF Joensuu 124.02 338 *e*PKiKP **PKPdf** **08 48 21.1 -2.5**
JOF pmax pmax
comp=Z,20nm,0.7s
JOF Joensuu 124.02 338 *ep* **PKPdf** **08 48 21.1 -2.5**
comp=Z,20nm,0.7s
GNI Garni 125.01 308 *e*PKPdf **PKPdf** **08 48 27.0 +0.5**
ZEI Tsey 125.17 311 *e*PKiKP **PKPdf** **08 48 26.5 -0.3**
ZEI pmax pmax
comp=Z,8.0nm,1.0s
OBN Obninsk 125.78 328⇓*i*PKiKP **PKPdf** **08 48 26.8 -0.4**
OBN pmax pmax
comp=Z,33nm,1.1s
KIV Kislovodsk 125.79 313⇑*i*PKiKP **PKPdf** **08 48 28.5 +0.7**
KIV pmax pmax
comp=Z,22nm,1.5s
KAF Kangasniemi 126.33 339 *e*PKiKP **PKPdf** **08 48 25.7 -2.4**
KAF pmax pmax
comp=Z,11nm,0.6s
KAF Kangasniemi 126.33 339 *ep* **PKPdf** **08 48 25.7 -2.4**
comp=Z,11nm,0.6s
FINES FINESS Array B 126.86 338 PKP **PKPdf** **08 48 28.5 -0.6**
FINES FINESS Array B 126.86 338 PKP **PKPdf** **08 48 28.5 -0.6**
comp=Z,16nm,0.9s,baz=14,slow=3.5,SNR=32
ANN Anapa 129.19 315 *e*PKiKP PKPdf 08 48 26.1 -8.0
ANN pmax pmax
comp=Z,70nm,1.4s
NACGM Naroch 130.70 331 *e* **PKPdf** **08 48 35.0 -1.6**
NB2 NORSAR Subarra131.78 345 PKPdf **PKPdf** **08 48 38.1 -0.5**
comp=Z,3.1nm,0.6s,baz=31,slow=1.9
NOA NORSAR Array B131.78 345 PKP **PKPdf** **08 48 38.5 -0.1**
NOA SKPbc **SKPab** **08 51 57.5 +3.2**
NOA NORSAR Array B131.78 345 PKP **PKPdf** **08 48 38.5 -0.1**
comp=Z,7.1nm,0.7s,baz=35,slow=2.0,SNR=35
NOA SKPbc **SKPab** **08 51 57.5 +3.2**
comp=Z,2.5nm,0.9s,baz=32,slow=2.8,SNR=5.6
AKASG Malin Array Be 131.80 325 PKIKP **PKPdf** **08 48 38.6 -0.2**
AKASG Malin Array Be 131.80 325 PKP **PKPdf** **08 48 38.6 -0.2**
AKASG SKPbc **SKPab** **08 51 57.3 +2.7**
AKASG Malin Array Be 131.80 325 PKP **PKPdf** **08 48 38.6 -0.2**
comp=Z,5.8nm,0.8s,baz=74,slow=1.8,SNR=12
AKASG SKPbc **SKPab** **08 51 57.3 +2.7**
comp=Z,1.6nm,0.6s,baz=50,slow=4.4,SNR=6.1
KIEV Kiev 131.81 325 *e*PKIKP **PKPdf** **08 48 37.5 -1.4**
KIEV Kiev 131.81 325 *e*PKPdf **PKPdf** **08 48 37.5 -1.4**
HFS Hagfors 131.87 343 PKP **PKPdf** **08 48 38.3 -0.4**
HFS SKPbc **SKPab** **08 51 58.2 +3.6**
HFS Hagfors 131.87 343 PKP **PKPdf** **08 48 38.3 -0.4**
comp=Z,6.3nm,0.6s,baz=92,slow=3.6,SNR=21
HFS SKPbc **SKPab** **08 51 58.2 +3.6**
comp=Z,1.6nm,0.5s,baz=14,slow=18,SNR=10
ASF Jabal al Asfar 132.47 299 PKP **PKPdf** **08 48 41.4 +0.5**
ASF SKPbc **SKPab** **08 52 01.9 +3.6**
ASF Jabal al Asfar 132.47 299 PKP **PKPdf** **08 48 41.4 +0.5**
comp=Z,3.7nm,0.7s,baz=311,slow=4.0,SNR=7.4
ASF SKPbc **SKPab** **08 52 01.9 +3.6**
comp=Z,0.9nm,0.4s,baz=336,slow=1.1,SNR=3.5
SUW Suwalki 132.90 332 *e*PKP **PKPdf** **08 48 41.3 +0.5**
SUW Suwalki 132.90 332 *e*PKP **PKPdf** **08 48 41.3 +0.5**
SUW Suwalki 132.90 332 *e*PKIKP **PKPdf** **08 48 41.3 +0.5**
BDFB Brasilia 132.99 130 PKP **PKPdf** **08 48 42.5 +0.2**
BDFB Brasilia 132.99 130 PKP **PKPdf** **08 48 42.5 +0.2**
comp=Z,1.0nm,0.5s,baz=288,slow=4.9,SNR=3.1
BRTR Keskin Array B 133.42 310 PKP **PKPdf** **08 48 42.1 -0.3**
BRTR SKPbc **SKPab** **08 52 03.3 +1.1**
BRTR Keskin Array B 133.42 310 PKP **PKPdf** **08 48 42.1 -0.3**
comp=Z,1.8nm,0.6s,baz=131,slow=4.4,SNR=8.4
BRTR SKPbc **SKPab** **08 52 03.3 +1.1**
comp=Z,1.2nm,0.8s,baz=152,slow=5.6,SNR=5.3
MMAI Mount Meron Ar 133.59 301 SKPab **SKiKP** **08 52 06.8 -2.5**
MMAI Mount Meron Ar 133.59 301 SKPab **SKiKP** **08 52 06.8 -2.5**
comp=Z,2.6nm,0.8s,baz=90,slow=2.5,SNR=4.3
CFR Carcaliu 135.13 319⇑PKIKP **PKPdf** **08 48 45.3 0.0**
CFR Carcaliu 135.13 319⇑*i*P **PKPdf** **08 48 45.3 0.0**
BUR08 Bucovina Ar. S 135.65 324 *e*PKPdf **PKPdf** **08 48 47.6 +1.2**
BURAR Bucovina Array 135.66 324⇑*i*P **PKPdf** **08 48 47.1 +0.7**
MLR Muntele Rosu 136.33 321 PKP **PKPdf** **08 48 46.9 -0.8**
MLR Muntele Rosu 136.33 321⇓*i*P **PKPdf** **08 48 47.3 -0.4**
MLR Muntele Rosu 136.33 321 PKP **PKPdf** **08 48 46.9 -0.8**
comp=Z,0.6nm,0.7s,baz=66,slow=5.9,SNR=3.5
KOLS Kolonicke sedl 136.52 327 *e*PKIKP **PKPdf** **08 48 48.1 +0.3**
KOLS Kolonicke sedl 136.52 327 *e*PKP **PKPdf** **08 48 48.1 +0.3**
TRPA Tarpa 136.86 326⇓*i*P **PKPdf** **08 48 48.3 -0.1**
OJC Ojcow 136.96 330 *e*PKPdf **PKPdf** **08 48 48.0 -0.5**
OJC Ojcow 136.96 330 *e*PKIKP **PKPdf** **08 48 48.4 -0.2**
CRVS Cervenica-Dubn 136.96 327 *e*PKIKP **PKPdf** **08 48 49.4 +0.8**
CRVS Cervenica-Dubn 136.96 327 *e*PKP **PKPdf** **08 48 49.4 +0.8**
CRVS *e*SKPDF 08 52 09.0
DRGR 137.54 324⇓⇓PKIKP **PKPdf** **08 48 49.9 +0.1**
DRGR 137.54 324⇓⇓*i*P **PKPdf** **08 48 49.9 +0.1**
OKC Ostrava-Krasne 138.00 330 *e*PKIKP **PKPdf** **08 48 50.4 -0.1**
OKC Ostrava-Krasne 138.00 330 *e*PKPdf **PKPdf** **08 48 50.4 -0.1**
KSP Ksiaz 138.15 333 *e*PKP **PKPdf** **08 48 51.4 +0.7**
KSP Ksiaz 138.15 333 *e*PKP **PKPdf** **08 48 51.4 +0.7**
KSP Ksiaz 138.15 333 *e*PKIKP **PKPdf** **08 48 50.7 0.0**
GZR Gura Zlata 138.28 322⇑PKIKP **PKPdf** **08 48 50.8 -0.4**
GZR Gura Zlata 138.28 322⇑*i*P **PKPdf** **08 48 50.8 -0.4**
MORC Moravsky Berou 138.33 331⇓⇓PKIKP **PKPdf** **08 48 49.8 -1.4**
MORC Moravsky Berou 138.33 331 *e*PKPdf **PKPdf** **08 48 50.8 -0.3**
MORC Moravsky Berou 138.33 331⇓*i*P **PKPdf** **08 48 49.8 -1.4**
DPC Dobruska-Polom 138.49 332 *e*PKIKP PKPpre 08 48 48.6
DPC Dobruska-Polom 138.49 332 *e*PKPpre PKPpre 08 48 48.7
DPC *e*PKPdf **PKPdf** **08 48 51.7 +0.3**
UPC Upice 138.51 333 *e*PKIKP **PKPdf** **08 48 51.0 -0.4**
UPC Upice 138.51 333 *e*PKPdf **PKPdf** **08 48 51.0 -0.4**
UPC *ex* x 08 48 53.7
VYHS Vyhne 138.56 328 *e*PKIKP **PKPdf** **08 48 51.5 -0.1**
VYHS Vyhne 138.56 328 *e*PKP **PKPdf** **08 48 51.5 -0.1**
VYHS *e*SKP 08 52 20.1
BZS Buzias 138.83 323⇓⇓PKIKP **PKPdf** **08 48 52.0 -0.1**
BZS Buzias 138.83 323⇓*i*P **PKPdf** **08 48 52.0 -0.1**
VRAC Vranov 139.10 331 PKP **PKPdf** **08 48 53.3 +0.8**
VRAC Vranov 139.10 331 PKP **PKPdf** **08 48 53.3 +0.8**
comp=Z,1.2nm,0.4s,baz=25,slow=3.2,SNR=3.0
PVCC Panska Ves 139.13 334 *e*PKIKP **PKPdf** **08 48 52.8 +0.3**
PVCC Panska Ves 139.13 334 *e*PKPdf **PKPdf** **08 48 52.8 +0.3**
PVCC *ex* x 08 48 55.1
BRG Berggiesshubel 139.13 334 *e*PKP **PKPdf** **08 48 52.6 +0.1**
comp=Z,19nm,1.4s
BRG *e* 08 52 21.8
comp=Z,6.8nm,1.1s
BRG Berggiesshubel 139.13 334 *e*PKPdf **PKPdf** **08 48 52.3 -0.2**
BRG Berggiesshubel 139.13 334 *e*PKIKP **PKPdf** **08 48 52.6 +0.1**
BRG pmax pmax
comp=Z,19nm,1.4s
BRG pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 139.18 336 *e*PKPdf **PKPdf** **08 48 52.0 -0.6**
CLL Collm 139.18 336⇓*i*PKIKP **PKPdf** **08 48 52.5 -0.1**
CLL pmax pmax
comp=Z,10.0nm,1.4s
CLL Collm 139.18 336⇓*i*PKPdf **PKPdf** **08 48 52.5 -0.1**
comp=Z,10.0nm,1.4s
CLL *i* 08 48 54.6
comp=Z,10.0nm,1.0s
CLL *e*SKPdf **SKPdf** **08 52 15.0 -1.5**
FBE Freiberg 139.34 335 *e*PKPdf **PKPdf** **08 48 52.8 -0.1**
PRU Pruhonice 139.54 333 *e*PKIKP **PKPdf** **08 48 53.2 -0.1**
PRU Pruhonice 139.54 333 *e*PKPdf **PKPdf** **08 48 53.2 -0.1**
PRU *ex* x 08 48 55.5
TANN Tannenbergstha 140.09 335 *e*PKPdf **PKPdf** **08 48 54.2 -0.2**
WERD Werda 140.13 335 *e*PKPdf **PKPdf** **08 48 54.0 -0.4**
PKSM Moragy 140.13 326⇓⇓PKIKP **PKPdf** **08 48 54.3 -0.2**
PKSM Moragy 140.13 326⇓*i*P **PKPdf** **08 48 54.3 -0.2**
PLN Plauen 140.16 335 *e*PKPdf **PKPdf** **08 48 54.2 -0.2**
PLN *e*SKPbc **SKiKP** **08 52 24.3 +2.2**
GUNZ Gunzen 140.18 335 *e*PKPdf **PKPdf** **08 48 54.3 -0.2**
WERN Wernitzgruen 140.22 335 *e*PKPdf **PKPdf** **08 48 54.5 -0.1**
WERN *e*SKPbc **SKiKP** **08 52 24.9 +2.6**
NKC Novy Kostel 140.24 335 *e*PKPdf **PKPdf** **08 48 54.4 -0.2**
MOX Moxa 140.25 336 *e*PKPdf **PKPdf** **08 48 54.1 -0.5**
ROHR Rohrbach 140.29 335 *e*PKPdf **PKPdf** **08 48 54.6 -0.1**
KHC Kasperske Hory 140.60 333 *e*PKIKP PKPpre 08 48 50.7
KHC Kasperske Hory 140.60 333 *e*PKPpre PKPpre 08 48 50.7
KHC *e*PKPdf **PKPdf** **08 48 55.3 0.0**
ROTZ Rotzenmuhle 140.69 335 *e*SKPbc **SKiKP** **08 52 26.1 +2.8**
GEC2 GERESS Array S 140.75 333 *e*PKPdf **PKPdf** **08 48 55.2 -0.5**
GEC2 *e*SKPbc **SKiKP** **08 52 26.1 +2.6**
GERES GERESS Array B 140.75 333 PKPpre PKPpre 08 48 50.2
GERES PKP **PKPdf** **08 48 55.9 +0.2**
GERES SKPbc **SKiKP** **08 52 26.6 +3.1**
GERES GERESS Array B 140.75 333 PKhKP PKPpre 08 48 50.2
comp=Z,4.8nm,0.7s,baz=33,slow=3.2,SNR=7.6
GERES PKP **PKPdf** **08 48 55.9 +0.2**
comp=Z,4.7nm,0.7s,baz=48,slow=2.0,SNR=20
GERES SKPbc **SKiKP** **08 52 26.6 +3.1**
comp=Z,0.8nm,0.6s,baz=32,slow=3.9,SNR=6.0
GRF Grafenberg Arr 141.15 335 *e*PKPdf **PKPdf** **08 48 55.9 -0.4**
KBA Koelnbreinsper 142.22 331⇑*i*PKPdf **PKPdf** **08 48 56.0 -2.4**
comp=Z,11nm,1.3s
MEM Membach 142.27 341 PKP **PKPdf** **08 48 58.0 -0.2**
RUP Ruppelstein 142.70 339 PKIKP **PKPdf** **08 48 55.1 -4.0**
RUP Ruppelstein 142.70 339 PKP **PKPdf** **08 48 55.1 -4.0**
ABTA Abfaltersbach 142.85 331 *i* PKPdf **PKPdf** **08 48 55.3 -4.2**
comp=Z,16nm,0.7s,SNR=15
SNF Seneffe 142.89 342 PKP **PKPdf** **08 48 57.7 -1.5**
WLF Walferdange 143.04 340 PKP PKPbc 08 48 57.3 +0.6
WLF Walferdange 143.04 340 *e*PKIKP PKPbc 08 48 56.3 -0.4
WLF Walferdange 143.04 340 *e*PKPdf PKPbc 08 48 56.3 -0.4
DOU Dourbes 143.16 342 PKP PKPab 08 48 56.1 +0.5
FETA Feichten 143.44 333⇑*i*PKPdf PKPbc 08 48 57.7 -0.5
comp=Z,18nm,1.0s,SNR=9.1
FELD Feldberg im Sc 143.88 336 PKP PKPbc 08 48 59.4 0.0
ECH Echery 143.92 338 *e*PKIKP PKPab 08 48 58.5 -0.2
ECH Echery 143.92 338 *e*PKPdf PKPab 08 48 58.5 -0.2
ECH Echery 143.92 338 PKP PKPbc 08 48 59.2 -0.1
DAVOX Davos/Dischmat 144.00 334 PKP PKPbc 08 48 60.0 +0.2
DAVOX Davos/Dischmat 144.00 334 PKP PKPbc 08 48 60.0 +0.2

comp=Z,16nm,0.5s,baz=60,slow=3.2,SNR=37

MOF	**Molkenrain**	**144.23 337**	PKIKP	PKPbc	08 49 00.5	+0.1
MOF	**Molkenrain**	**144.23 337**	PKP	PKPbc	08 49 00.5	+0.1
MOF	**Molkenrain**	**144.23 337**	PKP	PKPbc	08 49 00.5	+0.1
THEF	**They Montfort**	**144.33 339**	PKIKP	**PKPab**	**08 48 59.6**	**-0.6**
THEF	**They Montfort**	**144.33 339**	PKP	**PKPab**	**08 48 59.6**	**-0.6**
THEF	**They Montfort**	**144.33 339**	PKP	**PKPab**	**08 48 59.6**	**-0.6**
TUE	**Stuetta**	**144.47 334**	*e*PKPdf	**PKPab**	**08 49 01.1**	**0.0**
LOMF	**Lomont**	**144.76 337**	PKIKP	**PKPab**	**08 49 01.6**	**-0.3**
LOMF	**Lomont**	**144.76 337**	PKP	**PKPab**	**08 49 01.6**	**-0.3**
LOMF	**Lomont**	**144.76 337**	PKP	**PKPab**	**08 49 01.6**	**-0.3**
AQU	**L'Aquila**	**145.50 326**	‖ *i*P	**PKPab**	**08 49 05.8**	**+1.0**
OG01	**Vacheresse**	**145.67 336**	PKP	**PKPbc**	**08 49 05.0**	**+0.1**
OG01	**Vacheresse**	**145.67 336**	PKP	**PKPab**	**08 49 05.0**	**+0.1**
RSL	**Roselend**	**146.22 336**	PKP2	**PKPab**	**08 49 07.2**	**-0.4**
RSL	**Roselend**	**146.22 336**	PKP	**PKPab**	**08 49 07.2**	**-0.4**
RSL	**Roselend**	**146.22 336**	PKP	**PKPab**	**08 49 07.2**	**-0.4**
OG35	**Corcelles**	**146.33 337**	PKP	**PKPbc**	**08 49 07.1**	**+0.2**
BNI	**Bardonecchia**	**146.72 335**	*e*PKP2	**PKPdf**	**08 49 06.3**	**0.0**
BNI	**Bardonecchia**	**146.72 335**	*e*PKPdf	**PKPdf**	**08 49 06.3**	**0.0**
BNI			*e*PKPbc	**PKPab**	**08 49 09.0**	**-0.5**
PLDF	**La Plantade**	**147.09 339**	PKP2	**PKPbc**	**08 49 09.1**	**0.0**
PLDF	**La Plantade**	**147.09 339**	PKP	**PKPbc**	**08 49 09.1**	**0.0**
PLDF	**La Plantade**	**147.09 339**	PKP	**PKPbc**	**08 49 09.1**	**0.0**
AGO	**Saint Agoulin**	**147.19 340**	PKP	**PKPbc**	**08 49 08.8**	**-0.4**
AGO	**Saint Agoulin**	**147.19 340**	PKP	**PKPbc**	**08 49 08.8**	**-0.4**
SSB	**Saint Sauveur**	**147.36 337**	PKP2	**PKPbc**	**08 49 09.7**	**-0.1**
SSB	**Saint Sauveur**	**147.36 337**	PKP	**PKPbc**	**08 49 09.7**	**-0.1**
SSB	**Saint Sauveur**	**147.36 337**	PKP	**PKPbc**	**08 49 09.7**	**-0.1**
VERF	**Verneugheol**	**147.67 340**	PKP	**PKPbc**	**08 49 10.2**	**-0.4**
VERF	**Verneugheol**	**147.67 340**	PKP	**PKPbc**	**08 49 10.2**	**-0.4**
LBL	**Lubilhac**	**147.87 339**	PKP2	**PKPbc**	**08 49 11.8**	**+0.6**
LBL	**Lubilhac**	**147.87 339**	PKP	**PKPbc**	**08 49 11.8**	**+0.6**
LBL	**Lubilhac**	**147.87 339**	PKP	**PKPbc**	**08 49 11.8**	**+0.6**
FRNF	**Fournols**	**147.96 340**	PKP	**PKPbc**	**08 49 11.6**	**+0.2**
FRNF	**Fournols**	**147.96 340**	PKP	**PKPbc**	**08 49 11.6**	**+0.2**
MLS	**Moulis**	**150.60 339**	PKP	**PKPbc**	**08 49 17.5**	**-0.5**
VIEF	**Viey**	**151.02 341**	PKP	**PKPbc**	**08 49 19.5**	**+0.4**
ATE	**Arette**	**151.06 342**	PKP	**PKPbc**	**08 49 18.9**	**-0.2**
LARF	**Larrau**	**151.19 342**	PKP	**PKPbc**	**08 49 19.8**	**+0.4**
KEST	**Kesra**	**152.22 319**	*e*PKPbc	**PKPbc**	**08 49 22.1**	**+0.1**
KEST	**Kesra**	**152.22 319**	PKPbc	**PKPbc**	**08 49 22.5**	**+0.4**

comp=Z,3.8nm,0.6s,baz=197,slow=5.2,SNR=12

PBRG	**Braganca**	**153.68 350**	*e*PKPbc	**PKPbc**	**08 49 24.6**	**-0.4**
PBRG	**Braganca**	**153.68 350**	*e*PKPab	**PKPab**	**08 49 37.4**	**-0.6**
PGAV	**Gavieira, Arco**	**153.74 352**	*e*PKPbc	**PKPbc**	**08 49 25.1**	**-0.1**
PCAB	**Cabril**	**153.96 352**	*e*PKPab	**PKPab**	**08 49 39.0**	**-0.2**
POLO	**Lamas de Olo**	**154.26 352**	*e*PKPbc	**PKPbc**	**08 49 26.2**	**-0.1**
POLO	**Lamas de Olo**	**154.26 352**	*e*PKPab	**PKPab**	**08 49 40.4**	**-0.2**
PVRL	**Vila Real**	**154.35 352**	*e*PKPbc	**PKPbc**	**08 49 26.4**	**0.0**
PVRL	**Vila Real**	**154.35 352**	*e*PKPab	**PKPab**	**08 49 41.0**	**+0.1**
MVO	**Moncorvo**	**154.35 350**	*e*PKPbc	**PKPbc**	**08 49 26.3**	**-0.2**
MVO	**Moncorvo**	**154.35 350**	*e*PKPab	**PKPab**	**08 49 40.6**	**-0.3**
PVIS	**Viseu**	**154.92 352**	*e*PKPab	**PKPab**	**08 49 43.3**	**0.0**
ESDC	**Sonseca Array**	**155.14 344**	PKP	**PKPdf**	**08 49 17.5**	**-1.7**
ESDC			PKPbc	PKPab	08 49 28.1	-16
ESDC			PKPab	PKPab	08 49 43.9	-0.4
ESDC	**Sonseca Array**	**155.14 344**	PKP	**PKPdf**	**08 49 17.5**	**-1.7**

comp=Z,0.5nm,0.5s,baz=168,slow=15,SNR=6.4

ESDC			PKPbc	PKPab	08 49 28.1	-16

comp=Z,3.1nm,0.8s,baz=16,slow=2.9,SNR=12

ESDC			PKPab	PKPab	08 49 43.9	-0.4

comp=Z,5.4nm,0.8s,baz=16,slow=3.4,SNR=17

PAB	**San Pablo**	**155.36 345**	*e*PKIKP	PKPdf	08 49 28.2	+8.6
PAB			*e*		08 49 44.3	
PAB	**San Pablo**	**155.36 345**	*e*PKPbc	PKPdf	08 49 28.2	+8.6
PAB			*e*PKPab	**PKPab**	**08 49 44.3**	**-1.0**
PCBR	**Castelo Branco**	**155.72 351**	*e*PKPbc	**PKPdf**	**08 49 19.9**	**0.0**
PCBR	**Castelo Branco**	**155.72 351**	*e*PKPab	**PKPab**	**08 49 46.5**	**-0.2**
PTOM	**Tomar**	**156.07 352**	*e*PKPbc	PKPdf	08 49 30.1	+10
PTOM	**Tomar**	**156.07 352**	*e*PKPab	**PKPab**	**08 49 48.4**	**+0.2**
PMRV	**Marv??o**	**156.11 350**	*e*PKPbc	PKPdf	08 49 30.1	+10
PMRV	**Marv??o**	**156.11 350**	*e*PKPab	**PKPab**	**08 49 48.0**	**-0.4**
PMTG	**Montargil**	**156.59 352**	*e*PKPbc	PKPdf	08 49 31.0	+10
PMTG	**Montargil**	**156.59 352**	*e*PKPab	**PKPab**	**08 49 50.2**	**-0.2**
PESTR	**Estremoz**	**156.69 350**	*e*PKPab	**PKPab**	**08 49 50.8**	**-0.1**
EVO	**Evora**	**157.08 351**	*e*PKPab	**PKPab**	**08 49 52.6**	**0.0**
PBAR	**Barrancos**	**157.26 349**	*e*PKPab	**PKPab**	**08 49 53.2**	**-0.2**
PBEJ	**Beja**	**157.55 350**	*e*PKPab	**PKPab**	**08 49 55.0**	**+0.4**
PNCL	**Nicolau / Gran**	**157.57 352**	*e*PKPab	**PKPab**	**08 49 55.2**	**+0.5**
PCVE	**Castro Verde**	**157.97 351**	*e*PKPab	**PKPab**	**08 49 56.8**	**+0.4**
PVAQ	**Vaqueiros**	**158.14 350**	*e*PKPab	**PKPab**	**08 49 57.4**	**+0.2**
PTEO	**Sao Teotonio**	**158.15 352**	*e*PKPab	**PKPab**	**08 49 58.1**	**+0.9**
MORF	**Marmelete**	**158.38 352**	*e*PKPab	**PKPab**	**08 49 58.7**	**+0.4**
TORD	**Torodi Ar. Bea**	**166.00 261**	PKP	**PKPdf**	**08 49 30.8**	**-0.9**
TORD			PKPab	**PKPab**	**08 50 32.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**166.00 261**	PKP	**PKPdf**	**08 49 30.8**	**-0.9**

comp=Z,2.4nm,0.6s,baz=15,slow=0.6,SNR=22

TORD			PKPab	**PKPab**	**08 50 32.2**	**-0.3**

comp=Z,2.7nm,0.7s,baz=105,slow=4.0,SNR=9.3

IDC 14 09:30:13.0±1.4, 3°.57S×145°.81E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.9/16, mbtmp3.8/9, ML4.2/1, MS3.5/7, Ms1 3.5/7, ms1mx3.1/30, Error ellipse: s-maj=44.5km s-min=19.4km az=101.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.96 167**		Pn	Pn	09 31 48.7	+6.2

0.4nm,0.3s,baz=336,slow=10.0,SNR=3.0

HNR	**Honiara**	**15.21 113**		LR	LR	09 39 04.3	

comp=Z,88nm,20.2s,baz=295,slow=35

WRA	**Warramunga Arr**	**19.75 214**		P	P	09 34 44.3	-0.4

0.7nm,0.3s,baz=32,slow=11,SNR=27

WRA				LR	LR	09 42 35.8	

comp=Z,128nm,21.4s,baz=30,slow=38

ASAR	**Alice Springs**	**23.06 209**		P	P	09 35 20.2	0.0

2.6nm,0.8s,baz=33,slow=10,SNR=27

FITZ	**Fitzroy Crossi**	**24.47 232**		P	P	09 35 33.1	-0.9

3.2nm,0.7s,baz=38,slow=15,SNR=4.5

FITZ				LR	LR	09 44 58.9	

comp=Z,89nm,21.9s,baz=269,slow=36

KAPI	**Kappang**	**26.02 266**		LR	LR	09 44 46.5	

comp=Z,103nm,21.5s,baz=354,slow=34

DZM	**Mont Dzumac**	**27.19 134**		LR	LR	09 45 38.1	

comp=Z,121nm,19.1s,baz=209,slow=34

STKA	**Stephens Creek**	**28.44 188**		P	P	09 36 10.8	+1.1

1.1nm,0.6s,baz=342,slow=9.6,SNR=2.6

NWAO	**Narrogin (SRO)**	**39.59 219**		LR	LR	09 55 21.6	

comp=Z,162nm,19.9s,baz=278,slow=38

CMAR	**Chiang Mai Arr**	**51.07 297**		P	P	09 39 18.4	+0.6

0.9nm,0.5s,baz=111,slow=4.9,SNR=7.4

SONM	**Songino Array**	**61.71 331**		P	P	09 40 34.1	+0.8

0.4nm,0.8s,baz=131,slow=8.1,SNR=2.8

MKAR	**Makanchi Array**	**74.88 320**		P	P	09 41 54.8	-1.0

0.1nm,0.6s,baz=101,slow=5.4,SNR=2.7

ZALV	**Zalesovo Beam**	**76.33 328**		P	P	09 42 03.5	-0.3

0.6nm,0.8s,baz=134,slow=4.2,SNR=3.6

ZALV				LR	LR	10 13 13.4	

comp=Z,46nm,18.4s,baz=81,slow=34

ILAR	**Eielson Array**	**83.73 23**		P	P	09 42 43.4	-0.3

1.2nm,0.9s,baz=248,slow=4.5,SNR=11

IDC 14 09:34:30.2±1.7, 4°.31N×127°.10E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.8/5, MS3.7/1, Ms1 3.7/1, ms1mx2.4/38, Error ellipse: s-maj=95.3km s-min=22.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.31 184**		P	P	09 39 29.4	0.0

1.7nm,0.5s,baz=8.1,slow=11,SNR=4.0

WRA	**Warramunga Arr**	**25.12 164**		P	P	09 39 56.2	-0.8

2.5nm,0.6s,baz=344,slow=11,SNR=19

ASAR	**Alice Springs**	**28.58 167**		P	P	09 40 27.9	-0.3

0.4nm,0.7s,baz=346,slow=7.8,SNR=5.7

STKA	**Stephens Creek**	**38.54 160**		P	P	09 41 55.6	+1.1

1.7nm,0.7s,baz=348,slow=7.0,SNR=5.2

MKAR	**Makanchi Array**	**57.30 325**		P	P	09 44 19.8	0.0

0.3nm,0.4s,baz=120,slow=7.9,SNR=9.7

ARCES	**ARCESS Array B**	**90.04 340**		LR	LR	10 36 58.9	

comp=Z,36nm,18.6s,baz=338,slow=42

IDC 14 09:40:37.4±1.4, 3°.30S×139°.80E, h0km, mb3.9/7, mb1 4.1/8, mb1mx4.0/14, mbtmp4.0/8, ML4.1/1, MS3.4/1, Ms1 3.3/1, ms1mx2.4/33, Error ellipse: s-maj=57.0km s-min=20.3km az=100.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.38 197**		P	Pn	09 44 39.9	-1.6

0.7nm,0.3s,baz=17,slow=13,SNR=24

FITZ	**Fitzroy Crossi**	**20.22 222**		P	P	09 45 14.3	+0.1

4.1nm,0.5s,baz=31,slow=8.6,SNR=12

FITZ				S	S	09 48 43.8	-18

2.0nm,0.6s,baz=266,slow=14,SNR=2.2

ASAR	**Alice Springs**	**21.03 195**		P	P	09 45 24.3	+1.3

4.2nm,0.7s,baz=25,slow=8.8,SNR=54

ASAR				S	S	09 49 11.1	-7.2

1.2nm,0.6s,baz=8.7,slow=27,SNR=4.7

STKA	**Stephens Creek**	**28.48 177**		LR	LR	09 59 07.0	

comp=Z,68nm,18.2s,baz=188,slow=39

KSRS	**Korea Array**	**42.02 346**		P	P	09 48 32.4	+1.8

0.6nm,0.6s,baz=158,slow=9.1,SNR=3.9

SONM	**Songino Array**	**58.72 334**		P	P	09 50 37.0	-0.1

0.1nm,0.4s,baz=93,slow=10,SNR=3.8

MKAR	**Makanchi Array**	**70.92 322**		P	P	09 51 56.2	-0.4

0.4nm,0.6s,baz=186,slow=24,SNR=8.4

ZALV	**Zalesovo Beam**	**72.99 330**		P	P	09 52 07.7	-1.1

0.6nm,0.4s,baz=118,slow=6.1,SNR=4.4

ILAR	**Eielson Array**	**85.92 24**		P	P	09 53 18.7	-0.4

0.7nm,0.4s,baz=262,slow=4.4,SNR=30

IDC 14 09:54:46.1±4.9, 24°.64S×179°.70E, h539km±53km, mb3.3/7, mb1 3.5/8, mb1mx3.3/19, mbtmp3.4/8, Error ellipse: s-maj=32.7km s-min=23.9km az=44.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.44 279**		P	P	09 57 29.1	-0.3

1.2nm,0.3s,baz=79,slow=18,SNR=13

CTA	**Charters Tower**	**31.21 272**		P	P	10 00 22.2	+0.4

8.2nm,0.3s,baz=94,slow=11,SNR=22

STKA	**Stephens Creek**	**34.19 249**		P	P	10 00 47.1	+0.2

0.8nm,0.4s,baz=89,slow=11,SNR=4.4

ASAR	**Alice Springs**	**41.65 262**		P	P	10 01 47.5	-0.3

0.7nm,0.3s,baz=92,slow=6.4,SNR=29

WRA	**Warramunga Arr**	**42.09 267**		P	P	10 01 50.5	-0.8

2.1nm,0.3s,baz=99,slow=6.9,SNR=63

FITZ	**Fitzroy Crossi**	**50.50 266**		P	P	10 02 54.9	-0.1

2.0nm,0.7s,baz=101,slow=5.2,SNR=4.0

QSPA	**South Pole Qui**	**65.44 180**		P	P	10 04 35.6	0.0

3.4nm,0.8s,baz=77,slow=1.8,SNR=22

TXAR	**Lajitas Array**	**91.06 58**		P	P	10 06 53.3	-0.2

1.0nm,0.8s,baz=218,slow=5.6,SNR=11

ARCES	**ARCESS Array B**	**132.56 348**		PKP	PKPdf	10 12 58.3	-0.4

3.4nm,1.0s,baz=359,slow=1.4,SNR=7.5

FINES	**FINESS Array B**	**139.06 341**		PKhKP	PKPpre	10 13 01.9	

1.4nm,1.0s,baz=66,slow=4.6,SNR=3.7

FINES				PKP	PKPdf	10 13 12.1	+1.2

0.7nm,0.6s,baz=99,slow=4.8,SNR=3.6

BRTR	**Keskin Array B**	**147.80 306**		PKPbc	PKPbc	10 13 30.2	-0.6

0.6nm,0.6s,baz=256,slow=1.2,SNR=3.1

IDC 14 09:59:05.5±1.9, 4°.45N×127°.34E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=152.7km s-min=23.6km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.19 164**		P	P	10 04 31.4	-1.7

1.1nm,0.6s,baz=344,slow=10,SNR=7.5

ASAR	**Alice Springs**	**28.66 167**		P	P	10 05 06.3	+2.0

0.2nm,0.3s,baz=343,slow=10,SNR=5.3

STKA	**Stephens Creek**	**38.59 160**		P	P	10 06 30.1	-0.3

1.5nm,0.5s,baz=343,slow=5.4,SNR=4.5

MKAR	**Makanchi Array**	**57.32 325**		P	P	10 08 55.4	-0.1

0.4nm,0.5s,baz=115,slow=8.1,SNR=10

PRE 14 10:06:03.7±0.7, 26°.19S×27°.80E, h2km, ML1.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPM	**east rand prop**	**0.42 111**		*e*P	Pg	10 06 10.9	-1.2
ERPM				*e*S	Sg	10 06 17.4	-0.3
ERPM				AML	AML	10 06 29.9	

comp=Z,17nm,0.2s

SLR	**Silverton**	**0.62 44**		*e*P	Pg	10 06 15.7	-0.3
SLR				*e*S	Sg	10 06 24.3	+0.1
SLR				AML	AML	10 06 40.0	

comp=Z,35nm,0.4s

BFSD	**Buffelsfontein**	**1.13 233**		*e*P	Pg	10 06 25.6	-0.1
BFSD				*e*S	Sb	10 06 41.5	-0.1
BFSD				AML	AML	10 06 44.1	

comp=Z,9.7nm,0.7s

LBTB	**Lobatse**	**2.31 300**		*e*P	Pn	10 06 44.0	+1.1
LBTB				*e*S	Sn	10 07 12.7	+0.7
LBTB				AML	AML	10 07 49.7	

comp=Z,8.5nm,0.4s

BOSA	**Boshof**	**3.31 223**		*e*P	Pn	10 06 57.1	+0.4
BOSA				*e*S	Sn	10 07 36.4	-0.5
BOSA				AML	AML	10 08 27.7	

comp=Z,2.5nm,0.4s

MOS 14 10:16:58.2±1.5, 52°.89N×96°.41E, h10km, mb4.3/1, Error ellipse: s-maj=78.6km s-min=30.6km az=10.2, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**2.10 98**		*e*PN	Pb	10 17 35.6	-0.9
ORL				*e*		10 18 03.7	
ORL				pmax	pmax		

comp=Z,140nm,0.4s

ORL				smax	smax		

comp=N,874nm,0.7s

ARS	**Arshan**	**3.81 102**		*e*PN	Pb	10 18 06.4	+0.8
ARS				*e*		10 18 58.0	
ARS				pmax	pmax		

comp=Z,27nm,0.2s

ARS				smax	smax		

comp=E,766nm,0.7s

TLY	**Talaya**	**4.60 102**		*e*PN	Pb	10 18 19.5	+0.4
TLY				*e*		10 19 19.8	
TLY				pmax	pmax		

comp=Z,11nm,0.4s

TLY				smax	smax		

comp=N,131nm,0.8s

ZAK	**Zakamensk**	**4.96 118**		*e*PN	Pb	10 18 26.7	+1.4
ZAK				*e*S	Sg	10 19 32.7	-5.0
ZAK				pmax	pmax		

comp=Z,29nm,1.0s

ZAK				smax	smax		

comp=N,87nm,0.8s

TASR	**Tashtagol**	**5.17 272**		*e*PN	Pn	10 18 20.9	+5.2
TASR				*e*		10 19 31.6	
LSTR	**Listvyanka**	**5.26 98**		*e*PN	Pb	10 18 32.1	+1.9
LSTR				*e*		10 19 40.2	
LSTR				pmax	pmax		

comp=Z,19nm,0.7s

LSTR				smax	smax		

comp=N,177nm,1.2s

TRG	**Tyrgan**	**6.03 87**		*e*PN	Pn	10 18 27.0	-0.4
TRG				*e*		10 18 46.0	
TRG				*e*S	Sn	10 19 36.2	-0.3
TRG				*e*		10 20 04.8	
TRG				pmax	pmax		

comp=Z,7.0nm,0.6s

TRG				smax	smax		

comp=N,160nm,1.0s

AKAR	**Aktash**	**6.05 248**		*e*PN	Pn	10 18 20.0	-7.9
AKAR				*e*		10 19 56.2	
OGRR	**Ongureny**	**6.75 79**		*e*PN	Pn	10 18 37.4	+0.1
OGRR				*e*		10 18 59.3	
OGRR				pmax	pmax		

comp=Z,11nm,0.5s

NVS	**Novosibirsk**	**8.03 289**		*e*P	Pb	10 19 12.9	-4.4

IDC 14 10:19:29.9±2.1, 7°.52S×124°.47E, h384km±31km, mb3.0/4, mb1 3.1/8, mb1mx3.0/18, mbtmp3.0/8, Error ellipse: s-maj=53.5km s-min=14.3km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.31 298**		P	Pn	10 20 54.7	+0.2

1.6nm,0.3s,baz=135,slow=8.1,SNR=10

FITZ	**Fitzroy Crossi**	**10.58 174**		P	P	10 21 53.1	-1.3

0.6nm,0.3s,baz=17,slow=9.0,SNR=7.9

WRA	**Warramunga Arr**	**15.62 143**		P	P	10 22 49.8	0.0

0.6nm,0.3s,baz=313,slow=13,SNR=40

ASAR	**Alice Springs**	**18.43 152**		P	P	10 23 20.4	+0.6

0.3nm,0.3s,baz=325,slow=8.7,SNR=24

STKA	**Stephens Creek**	**29.02 149**		P	P	10 24 56.0	-0.2

1.4nm,0.9s,baz=308,slow=11,SNR=4.5

MJAR	**Matsushiro Arr**	**45.69 16**		P	P	10 27 14.1	-0.1

1.5nm,0.7s,baz=196,slow=9.6,SNR=4.4

SONM	**Songino Array**	**57.38 346**		P	P	10 28 39.3	-0.5

0.4nm,0.6s,baz=169,slow=6.8,SNR=4.2

MKAR	**Makanchi Array**	**65.77 330**		P	P	10 29 35.3	+0.2

0.2nm,0.5s,baz=115,slow=5.4,SNR=4.0

PRE 14 10:19:45.4±0.9, 26°.42S×27°.48E, h2km, ML1.9, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.13 59**		*e*P	Pg	10 19 48.6	+0.4
KLOF				*e*S	Sg	10 19 49.9	-0.3
KLOF				AML	AML	10 19 51.4	

comp=Z,668nm,0.6s

ERPM	**east rand prop**	**0.69 84**		*e*P	Pg	10 19 58.4	-0.4
ERPM				*e*S	Sg	10 20 08.5	+0.6
ERPM				AML	AML	10 20 13.9	

comp=Z,9.8nm,0.7s

SLR	**Silverton**	**0.99 47**		*e*P	Pg	10 20 04.7	+0.1
SLR				*e*S	Sb	10 20 18.9	-0.2
SLR				AML	AML	10 20 22.6	

comp=Z,16nm,0.2s

SEK	**Senekal**	**1.90 176**		*e*P	Pn	10 20 19.4	+0.3
SEK				*e*S	Sb	10 20 44.8	-0.7
SEK				AML	AML	10 20 48.3	

comp=Z,11nm,0.2s

LBTB	**Lobatse**	**2.20 309**		*e*P	Pn	10 20 23.7	+0.5
LBTB				*e*S	Sn	10 20 51.5	+0.4
LBTB				AML	AML	10 20 56.3	

comp=Z,15nm,0.3s

BOSA	**Boshof**	**2.95 222**		*e*P	Pn	10 20 33.9	+0.4
BOSA				*e*S	Sn	10 21 10.5	+0.9
BOSA				AML	AML	10 21 19.4	

comp=Z,3.3nm,0.3s

IDC 14 10:23:38.2±1.6, 3°.96S×144°.08E, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.8/17, mbtmp4.0/6, ML4.2/1, Error ellipse: s-maj=42.0km s-min=25.4km az=116.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.22 151**		Pn	Pn	10 25 13.0	+1.6

0.7nm,0.3s,baz=310,slow=7.9,SNR=2.9

WRA	**Warramunga Arr**	**18.51 210**		P	P	10 27 55.6	-0.7

0.8nm,0.3s,baz=31,slow=11,SNR=15

ASAR	**Alice Springs**	**21.92 206**		P	P	10 28 33.5	+0.1

2.1nm,0.6s,baz=32,slow=9.0,SNR=15

FITZ	**

PRE 14 10:46:29.4±1.2, 27°05S×26°69E, h2km, ML1.8, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLEK	**Tau Lekoa**	**0.08**	**349**	*e*P	Pg	10 46 31.4	+0.1
TLEK				*e*S	Sg	10 46 32.5	0.0
MOAB	**Moab Khotsong**	**0.11**	**60**	*e*P	Pg	10 46 32.0	+0.2
MOAB				*e*S	Sg	10 46 32.9	-0.6
MOAB				AML	AML	10 46 33.1	
	comp=Z,453nm,0.2s						
SEK	**Senekal**	**1.52**	**147**	*e*P	Pg	10 46 59.5	+0.7
SEK				*e*S	Sg	10 47 19.2	+0.5
SEK				AML	AML	10 47 22.2	
	comp=Z,4.9nm,0.3s						
BOSA	**Boshof**	**2.01**	**219**	*e*P	Pn	10 47 04.4	-0.2
BOSA				*e*S	Sn	10 47 31.5	+1.0
BOSA				AML	AML	10 47 35.4	
	comp=Z,4.9nm,0.8s						

IDC 14 10:49:30.9±2.1, 3°94N×126°84E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=190.0km s-min=22.8km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.86**	**163**	P	P	10 54 54.5	-0.8
	0.6nm,0.4s,baz=342,slow=10,SNR=15						
ASAR	**Alice Springs**	**28.29**	**166**	P	P	10 55 27.4	+1.0
	0.1nm,0.3s,baz=347,slow=8.2,SNR=3.9						
STKA	**Stephens Creek**	**38.29**	**160**	P	P	10 56 52.9	-0.3
	2.0nm,0.9s,baz=338,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**57.44**	**325**	P	P	10 59 21.5	-0.1
	0.3nm,0.3s,baz=120,slow=7.3,SNR=14						

IDC 14 11:23:20.6±0.5, 3°63N×126°58E, h0km, mb4.3/22, mb1 4.3/23, mb1mx4.3/25, mbtmp4.2/23, ML4.3/1, MS3.5/9, Ms1 3.5/9, ms1mx3.1/28, Error ellipse: s-maj=28.5km s-min=8.6km az=73.0

ISCJB 14 11:23:25.7±0.3, 3°76N±0°03×126°93E±0°05, h48km, mb4.4/41, MS3.7/12, Error ellipse: s-maj=7.5km s-min=4.0km az=161.0

BJI 14 11:23:25.6, 3°88N×126°84E, h36km, mB5.2/18, mb4.7/27, Ms4.8/12, Ms7 4.4/14

NEIC 14 11:23:25.9±0.3, 3°79N×126°92E, h35km, mb4.7/13, Error ellipse: s-maj=12.3km s-min=6.8km az=65.0

DJA 14 11:23:34, 3°36N×126°86E, h43km, MLv4.7/8

ISC 14 11:23:27.1±0.3, 3.71N±0°04×126.81E±0°07, h48km, n107, σ1§71/132, mb4.5/39, MS3.5/12, 1C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.97**	**169**	P	**Pn**	**11 24 13.4**	**+1.6**
MNI	**Manado**	**2.99**	**221**	P	**Pn**	**11 24 14.1**	**+2.0**
GSPH	**General Santos**	**3.00**	**322**	⇓*i*P	**Pn**	**11 24 12.1**	**-0.3**
MATI	**Mati**	**3.26**	**350**	*e*P	**Pn**	**11 24 17.4**	**+1.6**
DAV	**Davao City (W)**	**3.56**	**340**	Pn	**Pn**	**11 24 16.8**	**-3.0**
DAV				Sn	**Sn**	**11 25 00.9**	**+0.2**
DAV	**Davao City (W)**	**3.56**	**340**	P	Pn	11 24 28.8	+8.9
DAV	**Davao City (W)**	**3.56**	**340**	Pn	Pn	11 24 15.9	-4.0
	24nm,0.3s,baz=142,slow=20,SNR=2.1						
DAV				Sn	**Sn**	**11 25 00.9**	**+0.2**
	74nm,0.3s,baz=312,slow=17,SNR=4.4						
KCP	**Kidapawan**	**3.70**	**332**	⇓*e*P	Pn	11 24 28.3	+6.5
KMSI	**Cibinong**	**4.21**	**222**	P	Pn	11 24 38.5	+10
KMSI				S	Sn	11 25 28.3	+12
CTBH	**Cotabato--PC H**	**4.32**	**324**	⇑*e*P	**Pn**	**11 24 32.1**	**+1.8**
LBMI	**Labuha**	**4.38**	**171**	P	**Pn**	**11 24 32.6**	**+1.5**
LBMI				S	**Sn**	**11 25 17.4**	**-3.5**
BUKP	**Musuan**	**4.49**	**337**	*e*P	**Pn**	**11 24 34.2**	**+1.4**
PAGZ	**Pagadian**	**5.34**	**320**	*e*P	**Pn**	**11 24 45.6**	**+1.3**
MRSI	**Marisa**	**5.83**	**237**	P	**Pn**	**11 24 53.0**	**+1.9**
IPIL	**Ipil**	**5.85**	**314**	*e*P	**Pn**	**11 24 51.8**	**+0.4**
LUWI	**Luwuk**	**6.21**	**221**	P	Pn	11 25 03.3	+7.0
SWI	**Sorong**	**6.36**	**136**	P	**Pn**	**11 24 59.7**	**+1.4**
APSI	**Ampana**	**6.91**	**228**	P	Pn	11 25 11.4	+5.6
	29μm,0.9s,295nm						
NLAI	**Namlea**	**6.91**	**178**	P	**Pn**	**11 25 05.9**	**0.0**
	33nm,0.6s,816nm0.2nm						
MYLDM	**Lahad Datu**	**8.41**	**280**	P	Pn	11 25 29.0	+2.5
	43nm,1.2s						
TTSI	**Tana Toraja**	**9.69**	**226**	P	Pn	11 25 49.6	+5.6
	35nm,1.1s,1μm						
KKM	**Kota Kinabalu**	**10.81**	**283**	*e*Pn	**Pn**	**11 26 01.6**	**+2.1**
KKM	**Kota Kinabalu**	**10.81**	**283**	P	Pn	11 26 02.9	+3.5
KAPI	**Kappang**	**11.17**	**219**	LR	LR	11 30 53.7	
	comp=Z,194nm,19.6s,baz=201,slow=41						
KSM	**Kuching**	**16.63**	**263**	*e*P	**P**	**11 27 20.3**	**+1.4**
	26nm,1.3s						
MTN	**Manton Dam**	**17.00**	**165**	*e*P	**Pn**	**11 27 19.2**	**-2.4**
YULB	**Yu-li**	**20.28**	**345**	*e*P	**P**	**11 27 56.4**	**-2.6**
	70nm,2.0s						
GUMO	**Guam**	**20.35**	**60**	LR	LR	11 34 18.4	
	comp=Z,149nm,19.4s,baz=75,slow=32						
FITZ	**Fitzroy Crossi**	**21.70**	**183**	*e*P	**P**	**11 28 13.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**21.70**	**183**	*e*P	**P**	**11 28 14.5**	**+0.2**
	7.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.70**	**183**	P	**P**	**11 28 13.0**	**-1.3**
	4.2nm,0.8s,baz=354,slow=10,SNR=5.8						
QIZ	**Qiongzhong**	**22.51**	**314**	P	**P**	**11 28 23.6**	**+0.6**
QIZ				S	**S**	**11 32 30.0**	**+3.1**
COEN	**Coen**	**23.91**	**138**	*e*P	**P**	**11 28 37.3**	**+0.5**
	16nm,0.5s						
WRAB	**Tennant Creek**	**24.64**	**163**	*e*P	**P**	**11 28 43.8**	**+0.5**
	29nm,0.8s						
WRA	**Warramunga Arr**	**24.64**	**163**	P	**P**	**11 28 42.6**	**-0.8**
WRA				S	**S**	**11 33 03.5**	**+1.7**
WRA	**Warramunga Arr**	**24.64**	**163**	P	**P**	**11 28 42.6**	**-0.8**
	18nm,0.5s,baz=344,slow=10,SNR=77						
WRA				S	**S**	**11 33 03.5**	**+1.7**
	1.0nm,0.8s,baz=345,slow=17,SNR=5.6						
PSI	**Prapat**	**27.85**	**269**	LR	LR	11 40 40.1	
	comp=Z,119nm,20.8s,baz=355,slow=38						
AS31	**Alice Springs**	**28.07**	**166**	*e*P	**P**	**11 29 13.9**	**-0.5**
ASAR	**Alice Springs**	**28.08**	**166**	P	**P**	**11 29 14.1**	**-0.3**
ASAR				PcP	**PcP**	**11 32 28.6**	**+0.5**
ASAR				S	S	11 34 03.4	+7.4
ASAR	**Alice Springs**	**28.08**	**166**	P	**P**	**11 29 14.1**	**-0.3**
	1.1nm,0.5s,baz=351,slow=7.6,SNR=14						
ASAR				PcP	**PcP**	**11 32 28.6**	**+0.5**
	1.0nm,0.6s,baz=356,slow=1.4,SNR=4.7						
ASAR				S	S	11 34 03.4	+7.4
	0.6nm,0.8s,baz=345,slow=17,SNR=3.0						
NJ2	**Nanjing**	**29.17**	**346**	*e*P	**P**	**11 29 23.1**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,50nm,1.4s						
WHN	**Wuhan**	**29.17**	**338**	*e*P	**P**	**11 29 20.8**	**-3.2**
JNU	**Nakatsue**	**29.51**	**7**	P	**P**	**11 29 27.4**	**+0.4**
JNU	**Nakatsue**	**29.51**	**7**	P	**P**	**11 29 27.4**	**+0.4**
	comp=Z,8.7nm,1.1s,baz=192,slow=9.3,SNR=3.5						
JNU				LR	LR	11 40 30.1	
	comp=Z,53nm,18.0s,baz=176,slow=35						
GYA	**Guiyang**	**29.73**	**322**	*e*P	**P**	**11 29 31.0**	**+1.8**
GYA				pP	**pP**	**11 29 41.8**	**0.0**
GYA				PP	**PnPn**	**11 30 30.5**	**+4.2**
GYA				PcP	**PcP**	**11 32 33.1**	**+0.7**
GYA				S	**S**	**11 34 23.8**	**+1.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,470nm,17.6s						
GYA				LR	LR		
	comp=E,360nm,18.2s						
GYA				LR	LR		
	comp=Z,450nm,16.9s						
CMAR	**Chiang Mai Arr**	**30.95**	**300**	P	**P**	**11 29 39.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**30.95**	**300**	P	**P**	**11 29 39.3**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=127,slow=7.5,SNR=6.4						
KMI	**Kunming**	**31.45**	**315**	P	**P**	**11 29 46.9**	**+2.4**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KSAR	**Wonju Array Be**	**33.59**	**2**	P	**P**	**11 30 04.1**	**+1.3**
KSRS	**Korea Array**	**33.60**	**2**	P	**P**	**11 30 04.1**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=179,slow=11,SNR=7.2						
MJAR	**Matsushiro Arr**	**34.32**	**16**	LR	LR	11 41 58.6	
	comp=Z,82nm,18.9s,baz=195,slow=32						
XAN	**Xi'an**	**34.47**	**333**	P	**P**	**11 30 09.4**	**-1.2**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,27nm,4.7s						
BJT	**Baijiatuan**	**37.40**	**346**	P	**P**	**11 30 34.0**	**-1.5**
	comp=Z,25nm,0.5s						
STKA	**Stephens Creek**	**38.08**	**159**	P	**P**	**11 30 41.7**	**+0.3**
	comp=Z,138nm,2.7s						
STKA				PcP	**PcP**	**11 32 56.6**	**+0.8**
STKA	**Stephens Creek**	**38.08**	**159**	*e*P	**P**	**11 30 41.7**	**+0.3**
	comp=Z,10nm,0.6s						
STKA	**Stephens Creek**	**38.08**	**159**	P	**P**	**11 30 41.7**	**+0.3**
	comp=Z,13nm,0.6s,baz=331,slow=7.3,SNR=24						
STKA				PcP	**PcP**	**11 32 56.6**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=342,slow=3.2,SNR=2.2						
LZH	**Lanzhou**	**38.56**	**330**	*e*P	**P**	**11 30 47.6**	**+2.0**
LZH				pP	**pP**	**11 30 57.0**	**-1.3**
LZH				sP	**sP**	**11 31 02.6**	**-1.4**
LZH				pmax	pmax		
	comp=Z,14nm,1.3s						
HHC	**Hu-ho-hao-te**	**39.44**	**342**	*e*P	**P**	**11 30 52.5**	**-0.3**
HHC				sP	sP	11 31 05.9	-5.4
HHC				PP	**PnPn**	**11 32 27.9**	**+0.7**
HHC				PcP	**PcP**	**11 33 00.1**	**0.0**
HHC				ScP	**ScP**	**11 36 45.3**	**+0.3**
HHC				PcS	**PcS**	**11 36 49.0**	**-1.1**
HHC				S	**S**	**11 36 51.9**	**+0.5**
HHC				sS	**sS**	**11 37 08.9**	**-4.0**
HHC				SS	**SS**	**11 39 42.4**	**-4.8**
HHC				ScS	**ScS**	**11 40 56.0**	**-1.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,64nm,6.0s						
HHC				LR	LR		
	comp=N,250nm,14.8s						
HHC				LR	LR		
	comp=E,400nm,15.3s						
HHC				LR	LR		
	comp=Z,290nm,14.7s						
CN2	**Changchun**	**39.94**	**358**	*e*P	**P**	**11 30 58.0**	**+1.3**
CN2				*e*S	S	11 37 04.1	+5.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=Z,400nm,20.0s						
USRK	**Ussuriysk Arra**	**40.58**	**6**	P	**P**	**11 31 02.7**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=186,slow=8.3,SNR=6.1						
ARMA	**Armidale**	**41.41**	**147**	*e*P	**P**	**11 31 10.9**	**+1.7**
	comp=Z,6.0nm,0.6s						
ARMA	**Armidale**	**41.41**	**147**	*e*P	**P**	**11 31 09.5**	**+0.3**
GTA	**Gaotai**	**43.15**	**329**	*e*P	**P**	**11 31 25.3**	**+2.0**
GTA				pP	**pP**	**11 31 35.1**	**-1.2**
GTA				sP	**sP**	**11 31 39.0**	**-2.9**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TARA	**Tarawa**	**46.12**	**92**	*e*P	**P**	**11 31 45.3**	**-1.9**
	comp=Z,83nm,0.9s						
SONM	**Songino Array**	**47.34**	**341**	P	**P**	**11 31 56.2**	**-0.1**
SONM				PcP	**PcP**	**11 33 27.1**	**+0.5**
SONM	**Songino Array**	**47.34**	**341**	P	**P**	**11 31 56.2**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=166,slow=8.0,SNR=7.6						
SONM				PcP	**PcP**	**11 33 27.1**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=166,slow=5.1,SNR=2.0						
SONM				LR	LR	11 52 21.1	
	comp=Z,45nm,18.2s,baz=52,slow=37						
WMQ	**Urumqi**	**52.78**	**325**	*e*P	**P**	**11 32 37.8**	**+0.1**
WMQ				pP	**pP**	**11 32 48.0**	**-2.9**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,140nm,3.7s						
WMQ				LR	LR		
	comp=Z,140nm,25.3s						
PETK	**Petropavlovsk-**	**55.42**	**22**	P	**P**	**11 32 58.3**	**+1.8**
PETK	**Petropavlovsk-**	**55.42**	**22**	P	**P**	**11 32 58.3**	**+1.8**
	comp=Z,3.2nm,0.6s,baz=185,slow=5.1,SNR=4.7						
MK31	**Makanchi Array**	**57.62**	**325**	*e*P	**P**	**11 33 11.7**	**-0.7**
MKAR	**Makanchi Array**	**57.62**	**325**	*e*P	**P**	**11 33 11.8**	**-0.6**
MKAR				ScP	**ScP**	**11 38 07.0**	**+5.6**
MKAR	**Makanchi Array**	**57.62**	**325**	P	**P**	**11 33 11.6**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=122,slow=7.0,SNR=34						
MKAR				ScP	**ScP**	**11 38 07.0**	**+5.6**
	comp=Z,0.3nm,0.7s,baz=136,slow=3.5,SNR=1.6						
MKAR				LR	LR	11 57 55.8	
	comp=Z,39nm,19.7s,baz=263,slow=36						
KSH	**Kashi**	**58.11**	**315**	*e*P	**P**	**11 33 17.3**	**+1.2**
KSH				pP	**pP**	**11 33 27.3**	**-2.3**
KSH				sP	**sP**	**11 33 31.3**	**-3.8**
KSH				PcP	**PcP**	**11 34 07.4**	**0.0**
KSH				PP	**PP**	**11 35 28.5**	**+3.2**
KSH				ScP	**ScP**	**11 38 03.3**	**-0.6**
KSH				PcS	**PcS**	**11 38 07.4**	**-1.6**
KSH				S	**S**	**11 41 14.8**	**+0.7**
KSH				sS	**sS**	**11 41 31.6**	**-5.0**
KSH				ScS	**ScS**	**11 43 00.4**	**-1.7**
KSH				SS	**SS**	**11 45 09.0**	**+2.8**
KSH				LR	LR		
	comp=N,100nm,4.6s						
KSH				LR	LR		
	comp=E,73nm,4.8s						
KSH				LR	LR		
	comp=Z,250nm,5.6s						
TKM2	**Tokmak 2**	**59.81**	**319**	*e*P	**P**	**11 33 28.4**	**+0.5**
	comp=Z,2.5nm,0.8s						
AAK	**Ala-Archa**	**60.42**	**318**	P	**P**	**11 33 32.0**	**-0.1**
AAK	**Ala-Archa**	**60.42**	**318**	P	**P**	**11 33 32.0**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=140,slow=7.6,SNR=5.4						
AAK				LR	LR	12 01 17.1	
	comp=Z,44nm,18.6s,baz=298,slow=38						
ZALV	**Zalesovo Beam**	**60.64**	**333**	P	**P**	**11 33 31.7**	**-1.4**
ZALV	**Zalesovo Beam**	**60.64**	**333**	P	**P**	**11 33 31.7**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=126,slow=6.6,SNR=4.8						
EKS2	**Erkin-Say**	**60.92**	**318**	*e*P	**P**	**11 33 36.5**	**+1.1**
	comp=Z,3.4nm,0.7s						
KURBB	**Kurchatov Arra**	**61.80**	**327**	P	**P**	**11 33 40.3**	**-0.7**
	comp=Z,3.8nm,0.5s,baz=128,slow=6.5,SNR=28						
KURK	**Kurchatov**	**61.80**	**327**	*e*P	**P**	**11 33 40.5**	**-0.5**
KKAR	**Karatay Array**	**63.30**	**317**	*e*P	**P**	**11 33 51.6**	**+0.4**
BVAR	**Borovoye Array**	**67.38**	**327**	P	**P**	**11 34 17.5**	**+0.1**
BVAR	**Borovoye Array**	**67.38**	**327**	P	**P**	**11 34 17.5**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=123,slow=7.3,SNR=16						
BRVK	**Borovoye**	**67.45**	**327**	*e*P	**P**	**11 34 18.2**	**+0.4**
	comp=Z,9.1nm,1.1s						
ABKAR	**Akbulak array**	**72.22**	**321**	*e*P	**P**	**11 34 46.2**	**-1.0**
AKTO	**Aktyubinsk**	**73.72**	**322**	LR	LR	12 08 30.7	
	comp=Z,22nm,19.3s,baz=271,slow=37						
ARU	**Arti**	**74.99**	**328**	*e*P	**P**	**11 35 03.3**	**0.0**
	comp=Z,3.2nm,0.7s						
ILAR	**Eielson Array**	**85.09**	**25**	P	**P**	**11 35 59.2**	**+1.6**
ILAR	**Eielson Array**	**85.09**	**25**	P	**P**	**11 35 59.2**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=256,slow=4.2,SNR=11						
KMBO	**Kilima Mbogo**	**89.63**	**269**	*e*P	**P**	**11 36 22.4**	**+1.4**
	comp=Z,35nm,2.6s						
BRTR	**Keskin Array B**	**90.09**	**310**	P	**P**	**11 36 22.5**	**0.0**
BRTR	**Keskin Array B**	**90.09**	**310**	P	**P**	**11 36 22.5**	**0.0**
	comp=Z,1.2nm,0.9s,baz=104,slow=6.1,SNR=4.4						
ARCES	**ARCESS Array B**	**90.49**	**340**	P	**P**	**11 36 23.1**	**-0.4**
ARCES	**ARCESS Array B**	**90.49**	**340**	P	**P**	**11 36 23.1**	**-0.4**
	comp=Z,3.8nm,1.0s,baz=69,slow=6.9,SNR=6.6						
FINES	**FINESS Array B**	**91.89**	**332**	P	**P**	**11 36 30.0**	**-0.1**
FINES	**FINESS Array B**	**91.89**	**332**	P	**P**	**11 36 30.0**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=75,slow=7.4,SNR=4.8						
AKASG	**Malin Array Be**	**91.96**	**321**	P	**P**	**11 36 30.5**	**-0.2**
AKASG	**Malin Array Be**	**91.96**	**321**	P	**P**	**11 36 30.5**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=73,slow=5.2,SNR=3.8						
NOA	**NORSAR Array B**	**98.84**	**334**	P	Pdif	11 37 02.5	+0.6
NOA	**NORSAR Array B**	**98.84**	**334**	P	Pdif	11 37 02.5	+0.6
	comp=Z,0.7nm,0.8s,baz=66,slow=4.3,SNR=3.5						
YKA	**Yellowknife Ar**	**99.48**	**24**	P	**Pdif**	**11 37 06.3**	**+1.6**
YKA	**Yellowknife Ar**	**99.48**	**24**	P	**Pdif**	**11 37 06.3**	**+1.6**
	comp=Z,0.1nm,0.5s,baz=257,slow=4.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**123.00**	**288**	PKP	**PKPdf**	**11 42 20.2**	**+0.9**
TORD	**Torodi Ar. Bea**	**123.00**	**288**	PKP	**PKPdf**	**11 42 20.2**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=62,slow=3.4,SNR=2.5						
CFAA	**Coronel Fontan**	**148.85**	**155**	PKPbc	**PKPbc**	**11 43 10.7**	**+0.4**
CFAA	**Coronel Fontan**	**148.85**	**155**	PKPbc	**PKPbc**	**11 43 10.7**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=208,slow=4.5,SNR=4.2						

GUC 14 11:33:56.4±0.4, 42°85S×72°76W, h12km±7km, ML3.3

IDC 14 11:33:57.9±1.1, 42°81S×72°47W, h0km, mb3.8/5, mb1 4.1/6, mb1mx4.0/14, mbtmp3.9/6, ML4.0/1, Error ellipse: s-maj=36.3km s-min=17.3km az=120.0

ISCJB 14 11:34:01.3±0.9, 42°69S±0°06×72°5W±0°2, h33km, mb4.0/4, Error ellipse: s-maj=24.3km s-min=8.6km az=1.0

ISC 14 11:34:03.0±1.0, 42°62S±0°10×72°6W±0°2, h35km, n11, σ1§68/11, mb4.1/4, 1C-1D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUNY	**Huinay**	**0.29**	**35**	⇑*i*P	Pn	11 34 06.3	-4.4
HUNY				*i* S	**Sn**	**11 34 14.3**	**-1.7**
HUNY				AML	AML	11 34 15.0	
	comp=N,2μm,0.2s						
ILCA	**Isla Las Cabra**	**0.56**	**8**	⇓*i*P	**Pn**	**11 34 11.5**	**-3.0**
ILCA				*i* S	**Sn**	**11 34 22.6**	**+0.1**
ILCA				AML	AML	11 34 23.9	
	comp=E,798nm,0.4s						
HOCH	**HornopirØn**	**0.73**	**13**	*i* S	**Sn**	**11 34 28.1**	**+1.4**
HOCH				AML	AML	11 34 39.8	
	comp=N,1μm,0.6s						
PLCA	**Paso Flores**	**2.45**	**40**	Pn	**Pn**	**11 34 41.1**	**+0.6**
	comp=N,7.0nm,0.3s,baz=217,slow=16,SNR=96						
PLCA				Lg	Lg	11 35 18.5	
	comp=N,32nm,0.3s,baz=128,slow=20,SNR=25						
COYC	**Coyhaique**	**2.98**	**172**	AML	AML	11 35 26.9	
	comp=E,102nm,0.4s						
CPUP	**Villa Florida**	**20.52**	**43**	P	**P**	**11 38 38.5**	**+0.4**
	comp=E,0.6nm,0.4s,baz=190,slow=12,SNR=4.7						
QSPA	**South Pole Qui**	**47.63**	**180**	P	**P**	**11 42 34.5**	**-0.9**
	comp=E,3.9nm,0.9s,baz=134,slow=8.4,SNR=7.2						
TXAR	**Lajitas Array**	**77.09**	**332**	P	**P**	**11 45 54.9**	**+2.3**
	comp=E,0.5nm,0.8s,baz=166,slow=7.7,SNR=5.4						
TORD	**Torodi Ar. Bea**	**87.61**	**70**	P	**P**	**11 46 47.1**	**-0.7**
	comp=E,0.7nm,0.9s,baz=242,slow=6.1,SNR=3.4						
PDAR	**Pinedale Array**	**91.25**	**334**	P	**P**	**11 47 05.5**	**+1.0**
	comp=E,1.5nm,1.1s,baz=144,slow=6.3,SNR=5.1						
AKTO	**Aktyubinsk**	**145.71**	**59**	PKPbc	**PKPbc**	**11 53 36.8**	**-0.6**
	comp=E,1.8nm,0.9s,baz=259,slow=5.1,SNR=5.8						

CASC 14 11:47:45.4±2.4, 8°36N×82°82W, h10km±13km, MD3.7, 1C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.45**	**16**	*e*P	Pg	11 47 55.0	+0.6
BRU2				*e*S	Sb	11 48 03.3	+0.7
ACR	**Cerro Adams**	**0.45**	**310**	⇑*e*P	Pg	11 47 53.9	-0.5
ACR				*e*S	Sg	11 48 01.0	+0.6
TBS2		**0.46**	**20**	*e*P	Pb	11 47 56.3	+0.5
TBS2				*e*S	Sb	11 48 04.8	+2.0
BUS	**Buena Vista**	**1.51**	**322**	*e*P	Pn	11 48 11.9	-1.3
BUS				*e*S	Sn	11 48 32.8	-0.5
QCR	**Quepos**	**1.70**	**308**	*e*P	Pn	11 48 14.0	-1.2
QCR				*e*S	Sn	11 48 36.9	-0.2
PTEN	**Parque Tenorio**	**3.17**	**318**	*i* P	Pn	11 48 37.6	+2.1
CUI	**Cuipilapa**	**3.25**	**315**	*i* P	Pn	11 48 37.6	+1.0
GPS3	**Bodega del ICE**	**3.46**	**314**	*i* P	Pn	11 48 40.7	+1.1
GPS3				*i* S	Sb	11 49 27.2	-2.0
LAPC	**Finca la Perla**	**3.52**	**313**	*i* P	Pn	11 48 41.5	+1.2
PTP	**Ponta Puerca**	**19.38**	**58**	*e*P	x	11 47 49.4	

PRE 14 11:49:09.0±1.6, 32°51S×19°73E, h5km, ML1.1, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**0.92**	**82**	*e*P	Pb	11 49 27.5	-0.3
SUR				*e*S	Sg	11 49 39.3	+0.1
SUR				AML	AML	11 49 41.8	
	comp=Z,2.2nm,0.3s						
CER	**Ceres**	**0.92**	**203**	*e*P	Pb	11 49 27.6	0.0
CER				*e*S	Sg	11 49 38.7	-0.1
CER				AML	AML	11 49 42.1	
	comp=Z,3.1nm,0.4s						
CVNA	**Calvinia**	**1.03**	**1**	*e*P	Pb	11 49 29.5	0.0
CVNA				*e*S	Sg	11 49 42.4	0.0
CVNA				AML	AML	11 49 49.9	
	comp=Z,4.7nm,0.1s						

NNC 14 11:51:22.4±2.7, 53°94N×86°89E, h0km, mb3.6, mpv3.1, 6C-5D, Error ellipse: s-maj=19.7km s-min=17.2km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.01**	**241**	⇑Pn	Pn	11 52 53.8	+1.2
	5.3nm,1.5s						
KURK				⇓Sn	Sn	11 54 03.8	+1.8
	2.0nm,0.7s						
KURK				⇓Lg	Lg	11 54 33.2	
	16nm,1.1s						
KURBB	**Kurchatov Arra**	**6.11**	**240**	⇑Pn	Pn	11 52 54.0	+0.1
	1.3nm,1.6s						
KURBB				⇑Sn	Sn	11 54 05.4	+0.8
	1.1nm,0.7s						
KURBB				⇑Lg	Lg	11 54 36.4	
	3.3nm,0.8s						
MK31	**Makanchi Array**	**7.74**	**204**	⇑Pn	Pn	11 53 15.8	-0.5
	1.9nm,1.1s,baz=38,slow=11,SNR=7.7						
MK31				⇑Sn	Sn	11 54 45.5	+0.9
	2.6nm,1.1s,baz=112,slow=28,SNR=2.7						
M

IDC 14 12:07:57.3±1.9, 3°95N×127°01E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/20, mbtmp3.3/4, Error ellipse: s-maj=151.8km s-min=23.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.81**	**163**	P	P		12 13 20.1	-1.3
	1.6nm,0.8s,baz=343,slow=11,SNR=14							
ASAR	**Alice Springs**	**28.26**	**167**	P	P		12 13 54.5	+2.0
	0.1nm,0.3s,baz=343,slow=11,SNR=2.7							
MKAR	**Makanchi Array**	**57.53**	**325**	P	P		12 17 48.7	0.0
	0.1nm,0.4s,baz=120,slow=7.8,SNR=3.5							
KURBB	**Kurchatov Arra**	**61.70**	**327**	P	P		12 18 17.2	-0.1
	0.2nm,0.3s,baz=125,slow=7.0,SNR=3.2							

*TAP **14** 12:08:29.6, 24°47N×122°63E, h87km, ML3.8, C*
*ISCJB **14** 12:08:29.1±0.4, 24°45N±0°03×122°67E±0°02, h83km±4km, mb3.2/4, Error ellipse: s-maj=4.4km s-min=2.5km az=169.0*
*JMA **14** 12:08:30.0±0.2, 24°56N×122°71E, h79km±1km, M2.7*
*IDC **14** 12:08:31.4±8.5, 24°77N×122°80E, h124km±94km, mb3.0/4, mb1 3.1/5, mb1mx2.9/23, mbtmp3.0/5, ML3.0/1, Error ellipse: s-maj=72.0km s-min=20.1km az=60.0*

ISC 14 12:08:29.1±0.9, 24°45N±0°04×122°67E±0°02, h82km±7km, n63, σ1§10/117, mb3.3/4, 3C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.31**	**88**	P	P	**Pn**	**12 08 42.1**	**+0.5**
YOJ				S	S	**Sn**	**12 08 51.0**	**+0.1**
TWC	**Suao**	**0.77**	**282**	⇑*i*P	P	**Pn**	**12 08 45.8**	**+0.3**
	baz=285							
TWC				*i*S	S	**Sn**	**12 08 57.5**	**-0.4**
	baz=285							
TWB1	**Santiao Chiao**	**0.83**	**312**	P	P	**Pn**	**12 08 46.4**	**+0.1**
	baz=316							
TWB1				S	S	**Sn**	**12 08 58.5**	**-0.7**
	baz=316							
ENA	**Nanau**	**0.85**	**269**	P	P	**Pn**	**12 08 47.3**	**+0.8**
	baz=261							
ENA				*e*S	S	**Sn**	**12 08 59.8**	**+0.3**
	baz=261							
ILA	**Ilan**	**0.90**	**291**	*e*P	P	**Pn**	**12 08 47.5**	**+0.5**
	baz=290							
ILA				S	S	**Sn**	**12 09 00.5**	**+0.1**
	baz=290							
TWE	**Neicheng**	**0.95**	**287**	*i*P	P	**Pn**	**12 08 48.2**	**+0.5**
	baz=286							
TWE				*e*S	S	**Sn**	**12 09 01.1**	**-0.5**
	baz=286							
IRIF	**Iriomote-Funau**	**0.97**	**97**	P	P	**Pn**	**12 08 48.5**	**+0.6**
IRIF				S	S	**Sn**	**12 09 02.9**	**+0.9**
NWF	**Wu-fen Shan**	**1.02**	**308**	*i*P	P	**Pn**	**12 08 49.1**	**+0.6**
	baz=301							
NWF				S	S	**Sn**	**12 09 02.7**	**-0.4**
	baz=301							
ENTT	**Nioudou**	**1.02**	**281**	⇑P	P	**Pn**	**12 08 49.3**	**+0.7**
	baz=284							
ENTT				*e*S	S	**Sn**	**12 09 03.7**	**+0.6**
	baz=284							
TWD	**Chiawan**	**1.05**	**250**	P	P	**Pn**	**12 08 49.0**	**+0.2**
	baz=247							
TWD				S	S	**Sn**	**12 09 02.8**	**-0.8**
	baz=247							
HWA	**Hwalien**	**1.08**	**244**	*e*P	P	**Pn**	**12 08 49.5**	**+0.3**
	baz=242							
HWA				*e*S	S	**Sn**	**12 09 04.2**	**-0.1**
	baz=242							
HATJ	**Hateruma jima**	**1.11**	**110**	P	P	**Pn**	**12 08 50.7**	**+1.2**
HATJ				S	S	**Sn**	**12 09 06.4**	**+1.6**
NNS	**Nan Shan**	**1.18**	**270**	*e*P	P	**Pn**	**12 08 51.2**	**+0.6**
	baz=261							
NNS				*e*S	S	**Sn**	**12 09 06.6**	**-0.1**
	baz=261							
TAP1	**Taipei**	**1.20**	**300**	*e*P	P	**Pn**	**12 08 50.1**	**-0.5**
	baz=290							
TAP1				*e*S	S	**Sn**	**12 09 06.5**	**-0.2**
	baz=290							
NSK	**Sanguang**	**1.22**	**281**	P	P	**Pn**	**12 08 51.7**	**+0.8**
	baz=280							
NSK				S	S	**Sn**	**12 09 07.5**	**+0.1**
	baz=280							
JKRS	**Kuro-shima**	**1.24**	**100**	P	P	**Pn**	**12 08 51.8**	**+0.7**
JKRS				S	S	**Sn**	**12 09 08.8**	**+1.1**
TWY	**Chenhua**	**1.27**	**310**	P	P	**Pn**	**12 08 52.1**	**+0.5**
	baz=305							
TWY				*e*S	S	**Sn**	**12 09 08.7**	**+0.2**
	baz=305							
ESL	**Shilin**	**1.30**	**241**	⇓*i*P	P	**Pn**	**12 08 51.8**	**-0.1**
	baz=244							
ESL				*e*S	S	**Sn**	**12 09 08.7**	**-0.3**
	baz=244							
TWS1	**Kuangyinshan**	**1.31**	**300**	⇑*i*P	P	**Pn**	**12 08 52.7**	**+0.7**
	baz=299							
TWS1				*e*S	S	**Sn**	**12 09 09.3**	**0.0**
	baz=299							
WHF	**Hehuan Shan**	**1.32**	**257**	P	P	**Pn**	**12 08 53.0**	**+0.5**
	baz=261							
WHF				*e*S	S	**Sn**	**12 09 10.0**	**-0.2**
	baz=261							
JIJ	**Ishigaki jima**	**1.34**	**93**	P	P	**Pn**	**12 08 52.9**	**+0.4**
JIJ				S	S	**Sn**	**12 09 09.9**	**-0.2**
TWT	**Tachien**	**1.38**	**262**	*e*P	P	**Pn**	**12 08 54.2**	**+1.2**
	baz=260							
TWT				*e*S	S	**Sn**	**12 09 11.5**	**+0.3**
	baz=260							
NCU	**National Centr**	**1.45**	**291**	*e*P	P	**Pn**	**12 08 54.9**	**+1.1**
	baz=290							
NCU				*e*S	S	**Sn**	**12 09 13.2**	**+0.8**
	baz=290							
NSTT	**Nanjuang**	**1.53**	**277**	*e*P	P	**Pn**	**12 08 55.9**	**+1.0**
	baz=276							
NSTT				*e*S	S	**Sn**	**12 09 14.9**	**+0.5**
	baz=276							
EHY	**Hungye**	**1.55**	**233**	*e*P	P	**Pn**	**12 08 55.1**	**0.0**
	baz=231							
EHY				*e*S	S	**Sn**	**12 09 13.8**	**-1.1**
	baz=231							
TWF1	**Yuli**	**1.67**	**229**	⇓*i*P	P	**Pn**	**12 08 56.9**	**+0.2**
	baz=236							
TWF1				*e*S	S	**Sn**	**12 09 16.9**	**-0.6**
	baz=236							
SMLT	**Sun Moon Lake**	**1.71**	**251**	P	P	**Pn**	**12 08 58.4**	**+1.1**
	baz=246							
SMLT				S	S	**Sn**	**12 09 19.4**	**+0.6**
	baz=246							
TWQ1	**Liyutan**	**1.73**	**267**	*e*P	P	**Pn**	**12 08 59.2**	**+1.7**
	baz=275							
TWQ1				*e*S	S	**Sn**	**12 09 19.9**	**+0.8**
	baz=275							
NSY	**Sanyi**	**1.74**	**269**	*e*P	P	**Pn**	**12 08 58.9**	**+1.3**
	baz=268							
NSY				*e*S	S	**Sn**	**12 09 20.0**	**+0.7**
	baz=268							
TYC	**Yuchr**	**1.74**	**252**	*e*P	P	**Pn**	**12 08 58.8**	**+1.1**
	baz=246							
TYC				*e*S	S	**Sn**	**12 09 20.0**	**+0.7**
	baz=246							
CHKT	**Chengkung**	**1.80**	**222**	⇓P	P	**Pn**	**12 08 58.1**	**-0.3**
	baz=216							
CHKT				*e*S	S	**Sn**	**12 09 18.8**	**-1.8**
	baz=216							
TCU	**Taichung**	**1.84**	**261**	*e*P	P	**Pn**	**12 08 58.2**	**-0.8**
	baz=269							
JTJ	**Tarama**	**1.86**	**84**	P	P	**Pn**	**12 09 00.1**	**+1.0**
JTJ				S	S	**Sn**	**12 09 23.2**	**+1.2**
WNT	**Mingjian**	**1.90**	**253**	*e*P	P	**Pn**	**12 09 01.8**	**+2.0**
	baz=251							
WNT				*e*S	S	**Sn**	**12 09 25.4**	**+2.4**
	baz=251							
ALS	**Alishan**	**1.95**	**242**	P	P	**Pn**	**12 09 02.3**	**+1.7**
	baz=234							
ALS				*e*S	S	**Sn**	**12 09 25.0**	**+0.5**
	baz=234							
ELDTW	**Lidau**	**1.97**	**231**	P	P	**Pn**	**12 09 00.9**	**+0.2**
	baz=229							
ELDTW				*e*S	S	**Sn**	**12 09 23.8**	**-0.9**
	baz=229							
CHN5	**Tsauling**	**2.01**	**245**	*e*P	P	**Pn**	**12 09 02.7**	**+1.4**
	baz=237							
CHN5				*e*S	S	**Sn**	**12 09 27.0**	**+1.2**
	baz=237							
WGK	**Gukeng**	**2.07**	**249**	*e*P	P	**Pn**	**12 09 04.0**	**+2.0**
	baz=248							
WGK				*e*S	S	**Sn**	**12 09 28.9**	**+1.8**
	baz=248							
STYT	**Tauyuan**	**2.17**	**234**	P	P	**Pn**	**12 09 04.7**	**+1.3**
	baz=229							
STYT				*e*S	S	**Sn**	**12 09 29.9**	**+0.3**
	baz=229							
TWG	**Pinlang**	**2.19**	**222**	*e*P	P	**Pn**	**12 09 03.4**	**-0.1**
	baz=227							
TWG				*e*S	S	**Sn**	**12 09 29.2**	**-0.6**
	baz=227							
TTN	**Taitung**	**2.19**	**220**	*e*P	P	**Pn**	**12 09 03.9**	**+0.3**
	baz=214							
WTP	**Ta-pu**	**2.23**	**238**	*e*P	P	**Pn**	**12 09 05.6**	**+1.4**
	baz=230							
WTP				*e*S	S	**Sn**	**12 09 33.0**	**+1.9**
	baz=230							
WTCT	**Ta-ch'eng**	**2.26**	**256**	*e*P	P	**Pn**	**12 09 05.3**	**+0.9**
	baz=254							
WTCT				*e*S	S	**Sn**	**12 09 31.6**	**0.0**
	baz=254							
CHY	**Chiayi**	**2.26**	**246**	*e*P	P	**Pn**	**12 09 06.0**	**+1.5**
	baz=244							
CHY				*e*S	S	**Sn**	**12 09 34.2**	**+2.5**
	baz=244							
TWK	**Hsinying**	**2.32**	**240**	*e*P	P	**Pn**	**12 09 06.8**	**+1.4**
	baz=238							
TWK				*e*S	S	**Sn**	**12 09 34.2**	**+1.1**
	baz=238							
CHN1	**Nanshi**	**2.33**	**238**	*e*P	P	**Pn**	**12 09 07.3**	**+1.8**
	baz=236							
CHN1				*e*S	S	**Sn**	**12 09 35.0**	**+1.6**
	baz=236							
SGST	**Jiashian**	**2.35**	**235**	P	P	**Pn**	**12 09 07.4**	**+1.7**
	baz=233							
SGST				*e*S	S	**Sn**	**12 09 36.0**	**+2.3**
	baz=233							
WSF	**Szhu**	**2.38**	**251**	*e*P	P	**Pn**	**12 09 07.6**	**+1.5**
	baz=259							
WSF				*e*S	S	**Sn**	**12 09 35.6**	**+1.1**
	baz=259							
ECL	**Taimali**	**2.43**	**221**	*e*P	P	**Pn**	**12 09 06.2**	**-0.5**
	baz=219							
ECL				*e*S	S	**Sn**	**12 09 33.9**	**-1.6**
	baz=219							
JOGS	**Gusukube**	**2.51**	**82**	P	P	**Pn**	**12 09 10.2**	**+2.4**
JOGS				*e*S	S	**Sn**	**12 09 38.3**	**+0.8**
SSD	**Sandimen**	**2.52**	**228**	*e*P	P	**Pn**	**12 09 09.4**	**+1.4**
	baz=227							
SSD				*e*S	S	**Sn**	**12 09 38.2**	**+0.2**
	baz=227							
LAY	**Lan-yu**	**2.61**	**203**	P	P	**Pn**	**12 09 08.7**	**-0.6**
	baz=196							
LAY				*e*S	S	**Sn**	**12 09 37.8**	**-2.3**
	baz=196							
TWM1	**Shoushan**	**2.62**	**232**	*e*P	P	**Pn**	**12 09 12.1**	**+2.7**
	baz=231							
EAST	**Anshuo**	**2.65**	**219**	*e*P	P	**Pn**	**12 09 10.1**	**+0.3**
	baz=218							
EAST				*e*S	S	**Sn**	**12 09 40.7**	**-0.4**
	baz=218							
SCZT	**Fangliau**	**2.80**	**223**	*e*P	P	**Pn**	**12 09 13.6**	**+1.8**
	baz=233							
SCZT				*e*S	S	**Sn**	**12 09 45.5**	**+1.0**
	baz=233							
PNG	**Penghu**	**2.98**	**253**	*e*P	P	**Pn**	**12 09 14.5**	**+0.3**
	baz=253							
PNG				*e*S	S	**Sn**	**12 09 47.9**	**-1.1**
	baz=253							
TWK1	**Hengchun**	**3.03**	**215**	*e*P	P	**Pn**	**12 09 15.3**	**+0.4**
	baz=213							
TWK1				*e*S	S	**Sn**	**12 09 50.7**	**+0.6**
	baz=213							
JKE	**Kume jima 2**	**4.16**	**62**	P	P	**Pn**	**12 09 31.1**	**+0.9**
JOW	**Kunigami**	**5.59**	**64**	P	P	**Pn**	**12 09 48.8**	**-0.9**
	1.2nm,0.3s,baz=239,slow=15,SNR=41							
JOW				S	S	**Sn**	**12 10 50.6**	**-1.9**
	0.7nm,0.3s,baz=95,slow=18,SNR=2.7							
SONM	**Songino Array**	**26.67**	**335**	P	P		12 13 55.0	-5.4
	0.3nm,0.7s,baz=134,slow=8.3,SNR=2.5							
MKAR	**Makanchi Array**	**39.10**	**315**	P	P	**P**	**12 15 46.8**	**-1.6**
	0.1nm,0.3s,baz=94,slow=9.0,SNR=3.4							
WRA	**Warramunga Arr**	**45.56**	**165**	P	P	**P**	**12 16 41.1**	**+0.1**
	0.4nm,0.4s,baz=347,slow=8.9,SNR=11							
ASAR	**Alice Springs**	**49.06**	**166**	P	P	**P**	**12 17 08.0**	**-0.1**
	0.2nm,0.3s,baz=348,slow=7.4,SNR=3.9							

IDC 14 12:12:03.8±0.6, 3°76N×126°71E, h0km, mb3.9/18, mb1 4.0/18, mb1mx3.9/23, mbtmp3.9/18, 1C, Error ellipse: s-maj=32.8km s-min=14.0km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.22**	**325**	⇑*e*P		Pb	12 13 15.9	-3.1
FITZ	**Fitzroy Crossi**	**21.75**	**183**	P	P		12 16 57.7	+0.6
	1.3nm,0.4s,baz=348,slow=9.3,SNR=4.8							
WRA	**Warramunga Arr**	**24.72**	**163**	P	P		12 17 26.4	-0.6
	1.6nm,0.7s,baz=342,slow=10,SNR=15							
ASAR	**Alice Springs**	**28.15**	**166**	P	P		12 17 58.0	0.0
	0.3nm,0.4s,baz=341,slow=9.0,SNR=6.7							
CMAR	**Chiang Mai Arr**	**30.84**	**300**	P	P		12 18 22.6	+0.7
	0.8nm,0.6s,baz=124,slow=8.2,SNR=5.4							
KSRS	**Korea Array**	**33.55**	**2**	P	P		12 18 46.4	+1.0
	0.7nm,0.2s,baz=182,slow=10,SNR=4.4							
STKA	**Stephens Creek**	**38.17**	**159**	P	P		12 19 25.4	+0.3
	0.7nm,0.3s,baz=342,slow=12,SNR=3.1							
SONM	**Songino Array**	**47.26**	**341**	P	P		12 20 38.8	-0.1
	0.6nm,0.6s,baz=156,slow=8.1,SNR=5.8							
PETK	**Petropavlovsk-**	**55.41**	**22**	P	P		12 21 39.6	-0.3
	1.0nm,0.6s,baz=192,slow=6.6,SNR=5.5							
MKAR	**Makanchi Array**	**57.52**	**325**	P	P		12 21 55.1	0.0
	0.8nm,0.4s,baz=120,slow=7.8,SNR=19							
MKAR				PcP	PcP		12 22 48.4	-0.2
	0.3nm,0.4s,baz=113,slow=4.3,SNR=2.8							
AAK	**Ala-Archa**	**60.32**	**318**	P	P		12 22 14.3	-0.5
	0.3nm,0.3s,baz=112,slow=11,SNR=2.6							
ZALV	**Zalesovo Beam**	**60.55**	**333**	P	P		12 22 15.4	-0.4
	0.8nm,0.6s,baz=123,slow=5.7,SNR=5.8							
BVAR	**Borovoye Array**	**67.28**	**327**	P	P		12 23 00.6	+0.3
	0.5nm,0.4s,baz=141,slow=5.5,SNR=6.6							
AKTO	**Aktyubinsk**	**73.62**	**322**	P	P		12 23 38.9	-0.2
	0.6nm,0.4s,baz=96,slow=9.9,SNR=3.0							
ILAR	**Eielson Array**	**85.08**	**25**	P	P		12 24 41.4	0.0
	1.1nm,1.2s,baz=249,slow=6.7,SNR=3.8							
ARCES	**ARCESS Array B**	**90.41**	**340**	P	P		12 25 06.8	-0.1
	1.7nm,0.6s,baz=83,slow=6.4,SNR=14							
FINES	**FINESS Array B**	**91.80**	**332**	P	P		12 25 13.1	-0.4
	1.4nm,0.8s,baz=88,slow=6.5,SNR=4.6							
AKASG	**Malin Array Be**	**91.86**	**321**	P	P		12 25 13.4	-0.5
	0.9nm,0.5s,baz=67,slow=5.6,SNR=4.0							
YKA	**Yellowknife Ar**	**99.48**	**24**	P	Pdif		12 25 48.3	-0.1
	0.1nm,0.4s,baz=286,slow=3.1,SNR=2.6							

IDC 14 12:13:33.9±1.2, 4°04N×126°41E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, MS2.9/1, Ms1 2.9/1, ms1mx2.3/40, Error ellipse: s-maj=131.5km s-min=19.7km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.12**	**345**	LR	LR		12 15 31.5	
	comp=Z,193nm,18.2s,baz=196,slow=38							
WRA	**Warramunga Arr**	**25.08**	**162**	P	P		12 18 58.6	-1.8
	0.8nm,0.5s,baz=342,slow=11,SNR=5.4							
ASAR	**Alice Springs**	**28.49**	**165**	P	P		12 19 32.1	+0.9
	0.3nm,0.5s,baz=343,slow=11,SNR=2.8							
STKA	**Stephens Creek**	**38.53**	**159**	P	P		12 20 58.8	+0.4
	2.5nm,0.6s,baz=332,slow=11,SNR=6.9							
SONM	**Songino Array**	**46.90**	**342**	P	P		12 22 06.4	+0.1
	0.6nm,0.7s,baz=152,slow=9.5,SNR=2.1							
MKAR	**Makanchi Array**	**57.12**	**325**	P	P		12 23 22.0	-0.3
	0.4nm,0.4s,baz=118,slow=7.9,SNR=4.8							

IDC 14 12:14:26.2±2.3, 4°06N×126°67E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.6/3, Error ellipse: s-maj=191.9km s-min=25.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.02**	**163**	P	P		12 19 52.3	+0.2
	1.4nm,0.5s,baz=341,slow=11,SNR=5.3							
ASAR	**Alice Springs**	**28.45**	**166**	P	P		12 20 22.7	-0.4
	0.3nm,0.5s,baz=349,slow=7.2,SNR=3.3							
MKAR	**Makanchi Array**	**57.25**	**325**	P	P		12 24 15.6	+0.1
	0.3nm,0.4s,baz=121,slow=8.4,SNR=3.7							

IDC 14 12:15:53.7±1.7, 3°73N×127°04E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=143.0km s-min=28.1km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.59**	**163**	P	P		12 21 15.8	0.0
	1.9nm,0.8s,baz=344,slow=10,SNR=4.7							
SONM	**Songino Array**	**47.40**	**341**	P	P		12 24 29.9	0.0
	0.2nm,0.7s,baz=165,slow=7.8,SNR=2.2							
MKAR	**Makanchi Array**	**57.73**	**325**	P	P		12 25 46.2	-0.2
	0.2nm,0.4s,baz=120,slow=8.3,SNR=5.4							

PRE 14 12:24:06.6±1.0, 26°43S×27°51E, h2km, ML1.9, South Africa

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.12**	**48**	*e*P	Pg		12 24 09.6	+0.4
KLOF				*e*S	Sg		12 24 10.8	0.0
KLOF				AML	AML		12 24 12.2	
	comp=Z,856nm,0.3s							
ERPM	**east rand prop**	**0.66**	**83**	*e*P	Pg		12 24 19.4	-0.1
ERPM				*e*S	Sg		12 24 28.5	+0.2
ERPM				AML	AML		12 24 36.8	
	comp=Z,6.1nm,0.4s							
SEK	**Senekal**	**1.89**	**177**	*e*P	Pb		12 24 41.6	-0.5
SEK				*e*S	Sn		12 25 05.6	+0.8
SEK				AML	AML		12 25 08.4	
	comp=Z,8.4nm,0.5s							
LBTB	**Lobatse**	**2.23**	**309**	*e*P	Pn		12 24 45.6	+0.9
LBTB				*e*S	Sn		12 25 13.3	+0.3
LBTB				AML	AML		12 25 14.9	
	comp=Z,11nm,0.7s							
BOSA	**Boshof**	**2.96**	**222**	*e*P	Pn		12 24 55.6	+0.8
BOSA				*e*S	Sn		12 25 30.7	-0.3
BOSA				AML	AML		12 25 36.8	
	comp=Z,5.1nm,0.8s							

IDC 14 12:26:45.8±2.2, 3°85N×126°85E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, Error ellipse: s-maj=172.9km s-min=27.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.77**	**163**	P	P		12 32 08.5	-1.0
	1.5nm,0.6s,baz=343,slow=11,SNR=21							
ASAR	**Alice Springs**	**28.20**	**166**	P	P		12 32 41.6	+1.1
	0.1nm,0.3s,baz=341,slow=11,SNR=3.3							
MKAR	**Makanchi Array**	**57.52**	**325**	P	P		12 36 37.0	-0.1
	0.3nm,0.8s,baz=130,slow=7.3,SNR=4.3							

IDC 14 12:31:13.2±1.2, 3°98N×126°88E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.6/20, mbtmp3.5/6, Error ellipse: s-maj=95.3km s-min=17.5km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.98**	**183**	P	P		12 36 09.0	0.0
	0.8nm,0.5s,baz=355,slow=11,SNR=2.3							
WRA	**Warramunga Arr**	**24.88**	**163**	P	P		12 36 37.9	-0.1
	4.3nm,0.7s,baz=343,slow=11,SNR=41							
ASAR	**Alice Springs**	**28.32**	**166**	P	P		12 37 08.9	-0.1
	0.3nm,0.5s,baz=347,slow=7.9,SNR=4.9							
SONM	**Songino Array**	**47.11**	**341**	P	P		12 39 46.9	-0.3
	0.2nm,0.4s,baz=150,slow=6.0,SNR=3.0							
MKAR	**Makanchi Array**	**57.44**	**325**	P	P		12 41 03.6	-0.3
	0.2nm,0.5s,baz=128,slow=7.7,SNR=2.0							
ZALV	**Zalesovo Beam**	**60.43**	**333**	P	P		12 41 24.9	+0.4
	0.2nm,0.3s,baz=116,slow=6.6,SNR=2.6							

*ISCJB **14** 12:33:40.3±0.5, 12°90N±0°05×88°81W±0°04, h63km±3km, mb4.5/59, Error ellipse: s-maj=9.3km s-min=4.6km az=29.2*
*BJI **14** 12:33:40.8, 12°90N×88°90W, h52km, mB5.4/3, Ms5.3/3, Ms7 5.2/3*
*NEIC **14** 12:33:40.5±0.4, 12°87N×88°83W, mb4.6/50, MD4.9(SNET), Error ellipse: s-maj=8.8km s-min=4.7km az=37.0*
NEIC Felt [IV] at San Salvador. Also felt at Antiguo Cuscatlan, La Libertad and Santa Ana. Felt at Tegucigalpa, Honduras.
*CASC **14** 12:33:41.1±1.4, 12°89N×88°89W, h35km±16km, MD4.1, ML4.8, mb4.6(NEIC)*
*IDC **14** 12:33:45.2±2.3, 13°09N×88°54W, h95km±19km, mb3.9/16, mb1 4.1/18, mb1mx4.0/26, mbtmp3.9/18, MS3.4/5, Ms1 3.4/5, ms1mx3.1/34, Error ellipse: s-maj=24.3km s-min=10.5km az=55.0*

ISC 14 12:33:40.2±0.7, 12°87N±0°06×88°87W±0°04, h55km±4km, n359, σ1§30/392, mb4.5/60, MS3.4/4, 95C-119D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AIES	**Las Flores**	**0.61**	**343**	⇓*e*P	P	**Pn**	**12 33 52.6**	**-0.4**
AIES				*e*S	S	**Sn**	**12 34 01.8**	**-0.6**
AIES				AML	AML		12 34 08.4	
	comp=Z,28μm,0.3s							
SNVI	**San Vicente**	**0.74**	**2**	*e*P	P	**Pn**	**12 33 54.8**	**-0.1**
SNVI	**San Vicente**	**0.74**	**2**	*e*P	P	**Pn**	**12 33 54.8**	**-0.1**
LFRS	**El Faro**	**0.77**	**346**	*e*P	P	**Pn**	**12 33 54.7**	**-0.5**
LFRS	**El Faro**	**0.77**	**346**	*e*P	P	**Pn**	**12 33 54.7**	**-0.5**
VSM	**San Miguel**	**0.80**	**46**	*e*P	P	**Pn**	**12 33 56.1**	**+0.3**
VSM	**San Miguel**	**0.80**	**46**	*e*P	P	**Pn**	**12 33 56.1**	**+0.3**
BLLM	**Bellamira**	**0.84**	**47**	*e*P	P	**Pn**	**12 33 56.3**	**+0.3**
BLLM	**Bellamira**	**0.84**	**47**	*e*P	P	**Pn**	**12 33 56.3**	**+0.3**
LBRS	**Las Brisas**	**0.88**	**349**	*e*P	P	**Pn**	**12 33 56.6**	**0.0**
LBRS	**Las Brisas**	**0.88**	**349**	*e*P	P	**Pn**	**12 33 56.6**	**0.0**
SNET	**Serv Nac Est T**	**0.88**	**337**	*e*P	P	**Pn**	**12 33 56.4**	**-0.2**
SNET				*e*S	S	**Sn**	**12 34 08.6**	**-0.1**
SNET	**Serv Nac Est T**	**0.88**	**337**	*e*P	P	**Pn**	**12 33 56.4**	**-0.2**
SNET				*e*S	S	**Sn**	**12 34 08.6**	**-0.1**
SNET				AML	AML		12 34 09.7	
	comp=Z,34μm,0.2s							
BOQS	**Boqueron**	**0.95**	**335**	*e*P	P	**Pn**	**12 33 57.6**	**0.0**
BOQS	**Boqueron**	**0.95**	**335**	*e*P	P	**Pn**	**12 33 57.6**	**0.0**
CNCH	**Conchagua**	**1.09**	**68**	⇓*e*P	P	**Pn**	**12 33 59.5**	**+0.2**
CNCH				*e*S	S	**Sn**	**12 34 14.8**	**+1.2**
CNCH	**Conchagua**	**1.09**	**68**	⇓*e*P	P	**Pn**	**12 33 59

MTDJ **Mount Denham** 12.15 63 *e*Pn Pn 12 36 34.3 +3.6
SDV **Santo Domingo** 18.34 101 *e*P **P** 12 37 50.1 -0.4
comp=Z,12nm,0.9s
VBMS **Vicksburg** 19.32 356 *e*P **Pn** 12 38 05.3 +2.9
comp=Z,41nm,0.5s
LRAL **Lakeview Retre** 20.14 5 *e*P **P** 12 38 10.4 +0.5
comp=Z,5.6nm,0.8s
JCT **Junction City** 20.23 332 *e*P **P** 12 38 12.1 +1.1
comp=Z,13nm,0.6s
JCT **Junction City** 20.23 332 ⇓P **P** 12 38 11.9 +1.0
baz=20,SNR=11
WHTX **Lake Whitney** 20.60 339 ⇓P **P** 12 38 16.5 +1.6
baz=21
GOGA **Godfrey** 21.03 13 *e*P **P** 12 38 21.2 +1.7
comp=Z,22nm,0.6s
628A **Black Gap, Mar** 21.04 324 ⇑P **P** 12 38 21.5 +1.8
baz=21,SNR=18
529A **Stev Forest Ra** 21.16 326 ⇓P **P** 12 38 22.0 +1.1
baz=21
627A **Terlingua Ranc** 21.31 323 ⇓P **P** 12 38 24.7 +2.1
baz=21,SNR=21
429A **Davenport Ranc** 21.38 328 ⇓P **P** 12 38 24.1 +0.7
baz=22
TXAR **Lajitas Array** 21.38 322 P **P** 12 38 25.4 +1.9
TXAR PcP **PcP** 12 42 26.8 +1.1
TXAR **Lajitas Array** 21.38 322 P **P** 12 38 25.4 +1.9
comp=Z,4.8nm,0.5s,baz=146,slow=12,SNR=120
TXAR PcP **PcP** 12 42 26.8 +1.1
comp=Z,0.5nm,0.7s,baz=149,slow=4.0,SNR=4.1
528A **Cox Ranch, San** 21.50 325 ⇑P **P** 12 38 26.2 +1.5
baz=22
OXF **Oxford** 21.55 359 *e*P **P** 12 38 26.7 +1.7
comp=Z,14nm,0.7s
626A **Big Bend Ranch** 21.82 322 ⇑P **P** 12 38 29.7 +1.5
baz=22,SNR=6.2
527A **Woodward Ranch** 21.95 324 ⇑P **P** 12 38 30.6 +1.1
baz=22,SNR=9.9
ABTX **Abilene, Hawle** 22.00 335 ⇑P **P** 12 38 30.0 +0.1
baz=22
PLAL **Pickwick Lake** 22.03 2 *e*P **P** 12 38 33.5 +3.4
comp=Z,5.0nm,1.0s
329A **Wagon Wheel Ra** 22.11 329 ⇓P **P** 12 38 32.5 +1.3
baz=22
526A **Mary Lane Ranc** 22.16 323 ⇓P **P** 12 38 33.1 +1.2
baz=22
427A **Hayter Ranch,** 22.36 325 ⇑P **P** 12 38 34.5 +0.6
baz=22
SWET **Sewanee** 22.41 6 *e*P **P** 12 38 35.0 +0.7
comp=Z,43nm,1.7s
JSC **Jenkinsville** 22.41 17 *e*P **P** 12 38 35.9 +1.6
328A **Wristen Ranch,** 22.45 327 ⇑P **P** 12 38 35.6 +0.7
baz=22,SNR=23
SJG **San Juan** 22.50 74 P **P** 12 38 34.6 -0.8
SJG **San Juan** 22.50 74 P **P** 12 38 34.6 -0.8
comp=Z,6.5nm,0.3s,baz=270,slow=19,SNR=2.8
426A **McDonald Obser** 22.58 324 ⇑P **P** 12 38 37.9 +1.5
baz=23,SNR=7.0
228A **UT Block 9, Go** 22.93 329 ⇑P **P** 12 38 39.7 -0.1
baz=23,SNR=9.0
129A **Stewart Farms,** 22.99 331 ⇑P **P** 12 38 39.4 -1.1
baz=23,SNR=6.6
326A **Caldwell Ranch** 23.04 325 ⇓P **P** 12 38 41.0 0.0
baz=23,SNR=8.7
TKL **Tuckaleechee C** 23.15 11 P **P** 12 38 42.2 +0.3
TKL **Tuckaleechee C** 23.15 11 P **P** 12 38 42.2 +0.3
comp=Z,4.1nm,0.5s,baz=185,slow=12,SNR=12
TKL LR LR 12 47 52.8
comp=Z,85nm,19.9s,baz=241,slow=37
WVT **Waverly** 23.18 2 *e*P **P** 12 38 40.9 -1.3
comp=Z,3.1nm,0.6s
128A **Castleberry Fa** 23.28 330 ⇑P **P** 12 38 42.7 -0.7
baz=23
Z29A **Hungry Hill Ra** 23.44 332 ⇑P **P** 12 38 44.0 -0.8
baz=24,SNR=13
WMOK **Wichita Mounta** 23.55 339 *e*P **P** 12 38 46.5 +0.6
comp=Z,6.3nm,0.8s
WMOK *ep*P **pP** 12 38 58.2 -0.7
325A **Bean Ranch, Si** 23.64 324 ⇑P **P** 12 38 47.3 +0.5
baz=24,SNR=5.9
226A **Malaga, Loving** 23.67 326 ⇓P **P** 12 38 47.4 +0.4
baz=24,SNR=5.3
CLNB **Carlsbad** 23.71 327 *e*P **P** 12 38 48.2 +0.8
comp=Z,1.3nm,0.5s
127A **Arkansas Junct** 23.76 328 ⇑P **P** 12 38 47.6 -0.2
baz=24,SNR=13
TUL1 **Tulsa** 23.77 346 ⇑P **P** 12 38 47.8 0.0
baz=24
Z28A **Tucker Farm, M** 23.78 331 ⇓P **P** 12 38 47.4 -0.6
baz=24,SNR=8.6
GDL2 **Guadalupe Moun** 23.92 326 *e*P **P** 12 38 50.3 +0.9
Y29A **Porterfield Fa** 23.93 333 ⇓P **P** 12 38 49.6 +0.2
baz=24,SNR=8.2
324A **Moseley Ranch,** 23.99 323 ⇓P **P** 12 38 50.4 +0.4
baz=24,SNR=11
126A **Clayton Basin,** 24.08 327 ⇓P **P** 12 38 51.0 +0.2
baz=24
225A **Deer Hill, Car** 24.11 325 ⇑P **P** 12 38 52.1 +1.0
baz=24,SNR=12
MNTX **Cornudas Mount** 24.12 324 *e*P **P** 12 38 51.1 +0.1
comp=Z,1.7nm,0.6s
MNTX *ep*P **pP** 12 39 04.5 -0.2
MNTX **Cornudas Mount** 24.12 324 ⇑P **P** 12 38 51.3 +0.2
baz=24,SNR=5.6
Z27A **Tatum** 24.20 330 ⇓P **P** 12 38 51.8 0.0
baz=24,SNR=16
Y28A **McKinney Farm,** 24.23 332 ⇓P **P** 12 38 52.3 +0.2
baz=24,SNR=7.7
125A **Gardner Draw,** 24.43 326 ⇓P **P** 12 38 54.7 +0.8
baz=24,SNR=9.1
X29A **Tulia** 24.43 334 ⇓P **P** 12 38 54.2 +0.2
baz=24,SNR=10
224A **Cornudas Mount** 24.48 324 ⇓P **P** 12 38 54.8 +0.4
baz=25,SNR=9.1
MSTX **Muleshoe** 24.52 331 ⇓P **P** 12 38 54.8 +0.1
baz=25,SNR=18
Z26A **Caprock** 24.55 328 ⇓P **P** 12 38 55.1 0.0
baz=25,SNR=9.6
Y27A **Causey** 24.64 330 ⇓P **P** 12 38 56.0 +0.2
baz=25,SNR=24
X28A **Dimmitt** 24.71 333 ⇓P **P** 12 38 56.6 +0.1
baz=25,SNR=9.3
AMTX **Amarillo** 24.80 334 *e*P **P** 12 38 57.6 +0.3
comp=Z,15nm,0.6s
AMTX *ep*P **pP** 12 39 11.4 +0.4
AMTX **Amarillo** 24.80 334 ⇓P **P** 12 38 58.5 +1.2
baz=25,SNR=10.0
124A **Stringfield Ra** 24.90 325 ⇓P **P** 12 38 59.8 +1.4
baz=25,SNR=7.6
Z25A **Roswell** 24.94 327 ⇑P **P** 12 38 59.5 +0.8
baz=25
W29A **Amraillo** 24.99 335 ⇑P **P** 12 38 59.7 +0.6
baz=25
Y26A **Elida** 24.99 329 ⇓P **P** 12 38 59.9 +0.8
baz=25
X27A **F and S Farms,** 25.23 332 ⇓P **P** 12 39 02.2 +0.9
baz=25,SNR=7.0
Z24A **Sheeppen Canyo** 25.33 326 ⇓P **P** 12 39 03.1 +0.9
baz=25
WCI **Wyandotte Cave** 25.36 5 *e*P **P** 12 39 02.0 -0.3
comp=Z,10nm,0.6s
WCI *ep*P **pP** 12 39 15.8 0.0
Y25A **Mesa, Roswell** 25.43 328 ⇑P **P** 12 39 04.3 +1.2
baz=26,SNR=16
X26A **CR and CF Fran** 25.49 330 ⇓P **P** 12 39 04.1 +0.5
baz=26,SNR=6.5
W27A **Bowe Ranch, En** 25.56 332 ⇓P **P** 12 39 05.0 +0.8
baz=26,SNR=24
V28A **Channing** 25.77 334 ⇓P **P** 12 39 06.6 +0.5
baz=26,SNR=13
Y24A **Capitan** 25.82 327 ⇓P **P** 12 39 08.3 +1.6
baz=26,SNR=6.9
Y23A **Lovelace Mesa,** 26.16 326 ⇑P **P** 12 39 11.2 +1.4
baz=26,SNR=8.5
W25A **X Bar L Ranch,** 26.34 330 ⇓P **P** 12 39 12.6 +1.2
baz=26,SNR=6.4
V26A **Tequesquite Ra** 26.50 332 ⇓P **P** 12 39 13.8 +1.1
baz=27,SNR=16
JSRW **J. Sargeant Re** 26.60 20 *e*P **P** 12 39 13.7 +0.3
BNM **Barren Site** 26.63 326 *e*P **P** 12 39 15.5 +1.4
comp=Z,2.6nm,0.6s
Y22A **Socorro** 26.66 325 ⇑P **P** 12 39 15.9 +1.6
baz=27,SNR=8.7
W24A **Lazy 6 Ranch,** 26.80 329 ⇑P **P** 12 39 16.8 +1.3
baz=27
LENM **Lemitar** 26.84 325 P **P** 12 39 14.4 -1.5
V25A **Rancho No Teng** 26.92 331 ⇓P **P** 12 39 17.8 +1.2
baz=27,SNR=12
U26A **Atchley Ranch,** 26.97 333 ⇓P **P** 12 39 17.9 +0.9
baz=27,SNR=13
Y21A **Point of Rocks** 27.12 324 ⇓P **P** 12 39 20.3 +1.9
baz=27,SNR=7.5
V24A **Rampart Ranch,** 27.14 330 ⇓P **P** 12 39 20.2 +1.6
baz=27
W23A **Werner Place,** 27.14 328 ⇓P **P** 12 39 20.5 +1.8
baz=27,SNR=7.9
ANMO **Albuquerque** 27.15 327 *e*P **P** 12 39 19.8 +1.1
comp=Z,21nm,2.3s
ANMO PcP **PcP** 12 42 37.9 -0.3
ANMO **Albuquerque** 27.15 327 P **P** 12 39 20.0 +1.4
comp=Z,0.8nm,0.4s,baz=108,slow=9.2,SNR=8.2
ANMO PcP **PcP** 12 42 37.9 -0.3
comp=Z,0.7nm,0.7s,baz=169,slow=5.8,SNR=4.3
ANMO LR LR 12 50 45.8
comp=Z,71nm,21.3s,baz=62,slow=38
U25A **Circle Dot Ran** 27.28 332 ⇓P **P** 12 39 21.0 +1.2
baz=27,SNR=6.0
X21A **Alamocita Cree** 27.50 325 ⇓P **P** 12 39 23.6 +1.8
baz=28
S26A **Kim** 27.89 335 ⇓P **P** 12 39 26.2 +1.1
baz=28
T25A **Trinidad** 27.89 333 ⇓P **P** 12 39 26.8 +1.5
baz=28,SNR=8.9
U23A **El Rito** 28.07 329 ⇓P **P** 12 39 28.7 +1.7
baz=28,SNR=17
V22A **San Miguel Ran** 28.12 328 ⇓P **P** 12 39 28.8 +1.4
baz=28,SNR=8.3
T24A **Torres, Weston** 28.12 332 ⇑P **P** 12 39 29.3 +1.8
baz=28
R27A **Eads** 28.18 336 ⇑P **P** 12 39 29.0 +1.2
baz=28
R26A **Arlington** 28.46 335 ⇑P **P** 12 39 31.1 +0.9
baz=29
SDMD **Soldier's Deli** 28.50 20 *e*P **P** 12 39 30.4 0.0
comp=Z,13nm,0.6s
T23A **Casias Ranch,** 28.56 330 ⇓P **P** 12 39 32.3 +1.0
baz=29
R25A **Fountain Ranch** 28.67 334 ⇓P **P** 12 39 33.6 +1.5
baz=29
KSCO **Kaye Shedlock'** 28.75 337 ⇑P **P** 12 39 33.7 +0.9
baz=29,SNR=6.1
P27A **Ficken Ranch,** 29.21 338 ⇑P **P** 12 39 38.1 +1.2
baz=29
Q25A **Bedland, Calha** 29.30 335 ⇓P **P** 12 39 39.1 +1.2
baz=29,SNR=5.2
S22A **4UR Ranch, Cre** 29.50 330 ⇓P **P** 12 39 41.0 +1.3
baz=30,SNR=7.0
BGNE **Belgrade** 29.57 346 ⇓P **P** 12 39 40.8 +0.9
baz=30,SNR=5.9
O27A **Beecher Island** 29.73 339 ⇓P **P** 12 39 42.7 +1.2
baz=30
S21A **Coal Bank Pass** 29.91 329 ⇑P **P** 12 39 44.5 +1.1
baz=30
MVCO **Mesa Verde** 29.93 327 *e*P **P** 12 39 46.6 +3.1
comp=Z,38nm,2.1s
P23A **Jefferson** 30.37 333 ⇑P **P** 12 39 49.0 +1.7
baz=30,SNR=6.2
ISCO **Idaho Springs** 30.62 334 *e*P **P** 12 39 50.6 +1.0
comp=Z,3.0nm,0.8s
ISCO **Idaho Springs** 30.62 334 ⇑P **P** 12 39 50.8 +1.2
baz=31,SNR=5.6
O24A **Longmont** 30.67 335 ⇓P **P** 12 39 51.1 +1.3
baz=31
SMCO **Snowmass** 30.71 332 *e*P **P** 12 39 52.0 +1.5
comp=Z,4.1nm,0.8s
PV04 **Paradox Valley** 31.04 329 *e*P **P** 12 39 54.3 +1.1
O23A **Lake Granby, G** 31.09 334 ⇓P **P** 12 39 55.0 +1.3
baz=31,SNR=7.5
O22A **Kremmling** 31.32 333 ⇑P **P** 12 39 56.7 +0.9
baz=31
N23A **Red Feather La** 31.68 335 ⇓P **P** 12 40 00.0 +1.2
baz=32
N22A **Wattenberg Ran** 31.81 334 ⇑P **P** 12 40 01.3 +1.3
baz=32,SNR=5.9
PHWY **Pilot Hill** 31.82 336 *e*P **P** 12 40 01.5 +1.3
comp=Z,3.9nm,0.6s
K27A **Flueckinger Fa** 31.90 341 ⇑P **P** 12 40 02.1 +1.6
baz=32
R17A **Hanksville Air** 32.00 327 ⇑P **P** 12 40 03.0 +1.5
baz=32
O20A **White River Ci** 32.07 331 ⇑P **P** 12 40 04.1 +1.9
baz=32,SNR=9.0
SRU **San Rafael** 32.41 328 *e*P **P** 12 40 06.6 +1.3
comp=Z,3.1nm,0.8s
SRU **San Rafael** 32.41 328 ⇓P **P** 12 40 06.5 +1.3
baz=32
L23A **Garrett** 32.61 336 ⇑P **P** 12 40 08.1 +1.1
baz=33,SNR=6.0
N20A **Spence Gulch,** 32.63 332 ⇑P **P** 12 40 08.6 +1.5
baz=33,SNR=6.9
P17A **Butcher Ranch,** 32.79 328 ⇑P **P** 12 40 09.6 +1.1
baz=33
M21A **Separation Pea** 32.86 334 ⇑P **P** 12 40 10.4 +1.3
baz=33
RWWY **Rawlins** 32.86 334 *e*P **P** 12 40 10.7 +1.5
comp=Z,6.1nm,0.7s
O18A **Roosevelt** 33.02 330 ⇓P **P** 12 40 11.8 +1.4
baz=33
L21A **Rawlins** 33.16 334 ⇑P **P** 12 40 12.7 +0.9
baz=33,SNR=5.8
K22A **Casper** 33.38 336 ⇓P **P** 12 40 14.7 +1.1
baz=34
SAML **Samuel** 33.48 129 *e*P **P** 12 40 14.1 -0.5
comp=Z,8.1nm,0.9s
SAML *ep*P **pP** 12 40 27.3 -1.2
SAML *e*PcP **PcP** 12 42 55.7 +0.9
MPU **Maple Canyon** 33.66 328 *e*P **P** 12 40 16.6 +0.6
comp=Z,5.6nm,1.0s
RSSD **Black Hills** 33.75 340 *e*P **P** 12 40 18.0 +1.1
comp=Z,5.2nm,0.7s
L19A **Farson** 34.14 332 ⇓P **P** 12 40 21.2 +0.9
baz=34
K20A **Yellowstone Ra** 34.14 334 ⇑P **P** 12 40 21.4 +1.2
baz=34
J21A **Lysite** 34.34 336 ⇓P **P** 12 40 23.2 +1.3
baz=34,SNR=11
I22A **9 Mile Ranch,** 34.42 337 ⇓P **P** 12 40 23.5 +1.0
baz=34,SNR=9.3
H24A **Dirks Ranch, A** 34.48 340 ⇓P **P** 12 40 24.1 +1.1
baz=35,SNR=9.6
K19A **Absolon Red Bu** 34.49 334 ⇓P **P** 12 40 24.1 +0.8
baz=35
BW06 **Boulder Array** 34.76 333 *e*P **P** 12 40 26.4 +0.8
comp=Z,56nm,2.8s
PDAR **Pinedale Array** 34.76 333 P **P** 12 40 26.2 +0.6
PDAR PcP **PcP** 12 42 57.9 -0.4
PDAR **Pinedale Array** 34.76 333 P **P** 12 40 26.2 +0.6
comp=Z,1.6nm,0.6s,baz=131,slow=11,SNR=17
PDAR PcP **PcP** 12 42 57.9 -0.4
comp=Z,2.0nm,0.5s,baz=148,slow=5.4,SNR=18
PD02 **Pinedale Array** 34.77 333 *e*P **P** 12 40 26.0 +0.3
HWUT **Hardware Ranch** 34.80 330 *e*P **P** 12 40 27.6 +1.6
comp=Z,28nm,2.1s
L17A **Cokeville** 34.84 331 ⇑P **P** 12 40 26.6 +0.3
baz=35,SNR=8.7
K18A **Toltan Ranch,** 34.87 332 ⇓P **P** 12 40 27.9 +1.2
baz=35,SNR=6.7
J19A **Crowheart** 34.94 334 ⇓P **P** 12 40 27.7 +0.6
baz=35
G24A **Alzada** 34.95 341 ⇓P **P** 12 40 28.1 +1.0
baz=35,SNR=7.2
H22A **Clearmont** 34.97 338 ⇓P **P** 12 40 28.2 +0.8
baz=35
EYMN **Ely** 35.04 357 *e*P **P** 12 40 25.6 -2.0
comp=Z,14nm,1.3s
L16A **Fish Haven** 35.05 330 ⇑P **P** 12 40 28.7 +0.6
baz=35,SNR=6.2
I20A **Wiand** 35.11 336 ⇑P **P** 12 40 29.7 +1.1
baz=35,SNR=8.3
G23A **Biddle** 35.16 340 ⇑P **P** 12 40 29.6 +0.8
baz=35,SNR=7.6
H21A **Big Horn, Sher** 35.26 337 ⇑P **P** 12 40 30.3 +0.5
baz=35,SNR=13
J18A **Kendall Valley** 35.32 333 ⇓P **P** 12 40 31.0 +0.6
baz=35,SNR=6.1
F24A **Ekalaka** 35.42 341 ⇓P **P** 12 40 31.9 +0.8
baz=36,SNR=9.1
G22A **Birney** 35.49 339 ⇑P **P** 12 40 32.0 +0.3
baz=36,SNR=5.5
H20A **Greybull** 35.51 336 ⇑P **P** 12 40 32.4 +0.5
baz=36,SNR=6.0
L15A **Malad City** 35.51 329 ⇓P **P** 12 40 32.6 +0.5
baz=36,SNR=6.7
I19A **Meeteetse** 35.54 335 ⇑P **P** 12 40 33.4 +1.1
baz=36,SNR=5.3
I18A **Diamond G Ranc** 35.62 334 ⇓P **P** 12 40 34.0 +0.9
baz=36
F23A **Volborg** 35.62 340 ⇓P **P** 12 40 33.4 +0.6
baz=36
J17A **Brown Place, J** 35.75 332 ⇑P **P** 12 40 35.2 +1.1
baz=36,SNR=7.0
AGMN **Agassiz Nation** 35.80 352 *e*P **P** 12 40 33.4 -0.7
comp=Z,7.0nm,0.4s
REDW **Red Top Meadow** 35.81 332 *e*P **P** 12 40 36.0 +1.3
comp=Z,10nm,0.7s
G21A **Lodge Grass** 35.83 338 ⇑P **P** 12 40 35.0 +0.4
baz=36,SNR=7.5
SNOW **Snow King Moun** 35.84 332 *e*P **P** 12 40 36.4 +1.4
comp=Z,13nm,0.7s
LOHW **Long Hollow** 35.90 333 *e*P **P** 12 40 35.8 +0.4
comp=Z,4.3nm,0.6s
TPAW **Teton Pass** 35.95 332 *e*P **P** 12 40 37.8 +1.8
comp=Z,4.9nm,0.7s
F22A **Rosebud** 35.96 339 ⇑P **P** 12 40 36.3 +0.5
baz=36,SNR=8.7
MDND **Maddock** 36.01 348 ⇑P **P** 12 40 36.2 +0.2
baz=36
RRI2 **Red Ridge** 36.01 332 *e*P **P** 12 40 37.0 +0.5
comp=Z,16nm,1.5s
E24A **Baker** 36.02 342 ⇓P **P** 12 40 37.3 +1.1
baz=36
H19A **Powell** 36.05 335 ⇑P **P** 12 40 37.3 +0.7
baz=36
MOOW **Moose Ponds** 36.06 333 *e*P **P** 12 40 37.8 +1.0
comp=Z,48nm,2.5s
K15A **Arbon** 36.09 330 ⇓P **P** 12 40 37.8 +0.8
baz=36
J16A **Bone** 36.09 331 ⇓P **P** 12 40 38.1 +1.0
baz=36
DCID1 **Drake Creek** 36.14 332 *e*P **P** 12 40 37.8 +0.4
DCID1 *e* 12 40 47.4
G20A **Bridger** 36.20 337 ⇑P **P** 12 40 38.0 +0.1
baz=36,SNR=5.7
IMW **Indian Meadow** 36.27 333 *e*P **P** 12 40 39.9 +1.2
comp=Z,47nm,2.6s
E23A **Ismay** 36.28 341 ⇓P **P** 12 40 38.9 +0.5
baz=36,SNR=5.9
K14A **Jones Ranch, D** 36.30 329 ⇑P **P** 12 40 39.6 +0.9
baz=36,SNR=7.7
FLWY **Flagg Ranch** 36.31 333 *e*P **P** 12 40 40.2 +1.4
comp=Z,44nm,2.3s
H18A **Shoshone NF, C** 36.34 335 ⇓P **P** 12 40 39.6 +0.4
baz=36,SNR=17
NVAR **Mina Array Bea** 36.48 320 P **P** 12 40 42.3 +1.8
NVAR PcP **PcP** 12 43 04.5 +1.1
NVAR **Mina Array Bea** 36.48 320 P **P** 12 40 42.3 +1.8
comp=Z,1.3nm,0.7s,baz=124,slow=9.1,SNR=9.8
NVAR PcP **PcP** 12 43 04.5 +1.1
comp=Z,2.9nm,0.7s,baz=131,slow=3.8,SNR=19
D24A **Glendive** 36.52 342 ⇓P **P** 12 40 41.5 +1.0
baz=37
RLMT **Red Lodge** 36.54 336 *e*P **P** 12 40 41.7 +0.9
comp=Z,2.8nm,2.7s
RLMT **Red Lodge** 36.54 336 ⇑P **P** 12 40 41.4 +0.6
baz=37,SNR=6.0
LKWY **Lake** 36.56 334 *e*P P 12 40 44.4 +3.3
comp=Z,8.3nm,1.4s
J15A **Blackfoot** 36.58 331 ⇑P **P** 12 40 41.8 +0.7
baz=37
G18A **Lazy EL Ranch,** 36.82 335 ⇑P **P** 12 40 43.7 +0.5
baz=37,SNR=10
D23A **Lindsay** 36.84 341 ⇑P **P** 12 40 44.1 +0.9
baz=37,SNR=5.2
E21A **Keefer Ranch,** 36.91 339 ⇓P **P** 12 40 44.3 +0.5
baz=37,SNR=15
F19A **Roth Farm, Mol** 37.02 337 ⇑P **P** 12 40 45.3 +0.5
baz=37
H16A **Russell Place,** 37.04 333 ⇓P **P** 12 40 46.3 +1.2
baz=37
J14A **Carey** 37.05 330 ⇓P **P** 12 40 46.1 +1.0
baz=37
D22A **Cohagen** 37.13 340 ⇓P **P** 12 40 46.6 +1.0
baz=37,SNR=14
GCMT **Greycliff** 37.25 336 *e*P **P** 12 40 47.2 +0.4
comp=Z,2.8nm,0.4s
GCMT *ep*P **pP** 12 41 00.3 -0.5
E20A **Meyer Farm, Mu** 37.26 338 ⇓P **P** 12 40 47.7 +0.9
baz=37,SNR=11
G17A **Pierce Place,** 37.31 334 ⇑P **P** 12 40 48.2 +0.9
baz=37,SNR=7.2
D21A **La Casita Ranch** 37.33 339 ⇓P **P** 12 40 48.3 +1.0
baz=37,SNR=12
F18A **Big Timber** 37.36 336 ⇑P **P** 12 40 48.3 +0.6
baz=38,SNR=10
C23A **Lambert** 37.40 342 ⇑P **P** 12 40 48.9 +1.1
baz=38,SNR=6.0
J13A **Cove Ranch, Pi** 37.42 329 ⇓P **P** 12 40 49.0 +0.7
baz=38
E19A **Rath Farm, Rou** 37.46 337 ⇑P **P** 12 40 49.2 +0.6
baz=38
C22A **Vida** 37.56 341 ⇓P **P** 12 40 50.3 +1.0
baz=38,SNR=7.7
HLID **Hailey** 37.66 329 *e*P **P** 12 40 51.7 +1.4
comp=Z,34nm,2.5s
HLID **Hailey** 37.66 329 ⇑P **P** 12 40 51.3 +0.9
baz=38
G16A **Moss Hill, Enn** 37.70 333 ⇑P **P** 12 40 52.0 +1.4
baz=38
DGMT **Dagmar** 37.71 343 *e*P **P** 12 40 51.2 +0.7
comp=Z,23nm,0.7s
DGMT **Dagmar** 37.71 343 ⇑P **P** 12 40 51.1 +0.6
baz=38,SNR=13
ULM **Lac du Bonnet** 37.71 353 P **P** 12 40 49.2 -1.2
ULM **Lac du Bonnet** 37.71 353 P **P** 12 40 49.2 -1.2
comp=Z,2.4nm,0.3s,baz=154,slow=7.8,SNR=17
F17A **Fitzpatrick Pl** 37.75 335 ⇑P **P** 12 40 52.4 +1.4
baz=38,SNR=5.7
D20A **Manuel Ranch,** 37.76 338 ⇓P **P** 12 40 52.2 +1.2
baz=38,SNR=19
I13A **Wildhorse Cree** 37.77 330 ⇓P **P** 12 40 52.6 +1.2
baz=38
MCMT **McKenzie Canyo** 37.86 332 *e*P **P** 12 40 54.0 +1.9
comp=Z,4.0nm,0.7s
B23A **Brockton** 37.93 343 ⇑P **P** 12 40 53.5 +1.1
baz=38
H14A **Leadore** 37.94 331 ⇑P **P** 12 40 54.0 +1.3
baz=38,SNR=5.6
BOZ **Bozeman (W)** 37.95 334 *e*P **P** 12 40 53.5 +0.8
comp=Z,6.6nm,0.6s
BOZ **Bozeman (W)** 37.95 334 ⇓P **P** 12 40 53.5 +0.8
baz=38,SNR=6.6
G15A **Dillon** 37.95 333 ⇓P **P** 12 40 54.1 +1.3
baz=38,SNR=6.6
E18A **Harlowton** 37.98 336 ⇓P **P** 12 40 53.9 +1.0
baz=38,SNR=6.0
C21A **Desert Coulee** 38.03 340 ⇑P **P** 12 40 53.9 +0.6
baz=38
F16A **Kennard Place,** 38.06 334 ⇓P **P** 12 40 54.5 +0.9
baz=38,SNR=9.9
A24A **Westby** 38.07 344 ⇓P **P** 12 40 54.3 +0.8
baz=38,SNR=8.4
D19A **Cripps Ranch,** 38.09 338 ⇓P **P** 12 40 54.6 +0.8
baz=38
B22A **Reddig Ranch S** 38.09 341 ⇑P **P** 12 40 54.7 +0.9
baz=38
I12A **Atlanta** 38.19 329 ⇓P **P** 12 40 55.8 +0.9
baz=38
C20A **Veseth Ranch,** 38.24 339 ⇑P **P** 12 40 55.9 +0.9
baz=38,SNR=7.1
MFID **Camas Ranch** 38.28 328 ⇑P **P** 12 40 56.1 +0.6
baz=38
H13A **Challis** 38.32 330 ⇓P **P** 12 40 56.7 +0.9
baz=38,SNR=5.7
LRM **Limekiln Ridge** 38.44 333 *e*P **P** 12 40 58.1 +1.1
G14A **Jackson** 38.45 332 ⇑P **P** 12 40 57.8 +0.7
baz=38,SNR=6.1
D18A **Linhart Farms,** 38.46 337 ⇑P **P** 12 40 57.9 +0.9
baz=39,SNR=6.1
F15A **Butte** 38.48 333 ⇓P **P** 12 40 58.2 +1.0
baz=39
H12A **Diamond D Ranc** 38.60 330 ⇓P **P** 12 40 59.2 +1.0
baz=39
C19A **Slack Wire Ran** 38.63 338 ⇓P **P** 12 40 59.3 +1.0
baz=39,SNR=22
A22A **Carney Farms,** 38.68 342 ⇑P **P** 12 40 59.8 +1.1
baz=39,SNR=5.5
D17A **Six Diamond Ra** 38.77 336 ⇓P **P** 12 41 00.3 +0.8
baz=39,SNR=8.4
B20A **Solberg Farm,** 38.87 340 ⇓P **P** 12 41 01.1 +0.8
baz=39,SNR=7.0
HRY **Holter Researc** 38.88 335 *e*P **P** 12 41 01.5 +1.0
A21A **Bergtoll Ranch** 38.99 341 ⇓P **P** 12 41 02.3 +1.0
baz=39,SNR=8.8
E15A **Deer Lodge** 39.00 334 ⇑P **P** 12 41 02.2 +0.7
baz=39

D16A	**Dana Ranch, Ca**	**39.02**	**335**	⇑P		**P**	**12 41 02.4**	**+0.8**
	baz=39,SNR=5.4								
EGMT	**Eagleton**	**39.13**	**338**	*e*P		**P**	**12 41 03.3**	**+0.8**
	comp=Z,17nm,0.6s								
EGMT	**Eagleton**	**39.13**	**338**	⇑P		**P**	**12 41 03.3**	**+0.8**
	baz=39,SNR=18								
C17A	**Wharram Farm,**	**39.19**	**336**	⇓P		**P**	**12 41 03.7**	**+0.7**
	baz=39,SNR=7.1								
B19A	**Brinkman Farms**	**39.20**	**339**	⇑P		**P**	**12 41 03.9**	**+0.8**
	baz=39,SNR=26								
A20A	**Cobblestone Ra**	**39.22**	**340**	⇓P		**P**	**12 41 04.2**	**+1.0**
	baz=39,SNR=25								
F13A	**Darby**	**39.27**	**332**	⇓P		**P**	**12 41 04.0**	**+0.2**
	baz=39								
E14A	**Clinton**	**39.36**	**333**	⇑P		**P**	**12 41 04.9**	**+0.3**
	baz=40								
D15A	**Lincoln**	**39.43**	**334**	⇓P		**P**	**12 41 05.8**	**+0.7**
	baz=40								
B18A	**Beardsley Farm**	**39.45**	**338**	⇑P		**P**	**12 41 06.2**	**+1.1**
	baz=40,SNR=7.3								
A19A	**Klindworth Far**	**39.54**	**339**	⇓P		**P**	**12 41 06.6**	**+0.8**
	baz=40,SNR=5.4								
F12A	**Elk City**	**39.68**	**331**	⇑P		**P**	**12 41 07.6**	**+0.5**
	baz=40,SNR=6.8								
E13A	**Victor**	**39.69**	**332**	⇓P		**P**	**12 41 07.5**	**+0.3**
	baz=40,SNR=9.2								
C16A	**Fuhringer Ranc**	**39.72**	**336**	⇓P		**P**	**12 41 07.9**	**+0.5**
	baz=40								
SIV	**San Ignacio**	**39.73**	**135**	P		**P**	**12 41 08.5**	**+0.8**
SIV				PcP		**PcP**	**12 43 14.1**	**+0.5**
SIV	**San Ignacio**	**39.73**	**135**	P		**P**	**12 41 08.5**	**+0.8**
	comp=Z,4.4nm,0.7s,baz=328,slow=8.5,SNR=15								
SIV				PcP		**PcP**	**12 43 14.1**	**+0.5**
	comp=Z,3.1nm,0.6s,baz=295,slow=3.9,SNR=7.8								
B17A	**L&G Farms, Che**	**39.75**	**337**	⇓P		**P**	**12 41 07.9**	**+0.3**
	baz=40,SNR=6.4								
D14A	**Greenough**	**39.88**	**334**	⇑P		**P**	**12 41 09.0**	**+0.2**
	baz=40								
A18A	**Metzger Ranch,**	**39.92**	**338**	⇓P		**P**	**12 41 09.5**	**+0.5**
	baz=40,SNR=18								
C15A	**Salmond Ranch,**	**40.05**	**335**	⇓P		**P**	**12 41 11.0**	**+0.8**
	baz=40								
A17A	**Triple J Farms**	**40.25**	**338**	⇓P		**P**	**12 41 12.2**	**+0.4**
	baz=40,SNR=23								
E12A	**Beaver Dam Sad**	**40.31**	**331**	⇓P		**P**	**12 41 12.0**	**-0.4**
	baz=40								
A16A	**West Butte Ran**	**40.59**	**337**	⇑P		**P**	**12 41 15.1**	**+0.4**
	baz=41								
D12A	**Red Ives Fores**	**40.68**	**332**	⇓P		**P**	**12 41 15.3**	**-0.1**
	baz=41								
A15A	**Johnson Ranch,**	**41.05**	**336**	⇑P		**P**	**12 41 18.9**	**+0.4**
	baz=41,SNR=9.5								
C12B	**Naegeli Ranch,**	**41.23**	**333**	⇑P		**P**	**12 41 20.3**	**+0.5**
	baz=41								
A14A	**Double T Ranch**	**41.33**	**336**	⇑P		**P**	**12 41 21.4**	**+0.7**
	baz=41,SNR=7.2								
C11A	**Tepee Creek (N**	**41.68**	**332**	⇓P		**P**	**12 41 23.7**	**+0.2**
	baz=42								
A13A	**Flathead Natio**	**41.70**	**335**	⇑P		**P**	**12 41 24.7**	**+1.0**
	baz=42								
NEW	**Newport**	**42.38**	**332**	⇑P		**P**	**12 41 28.9**	**-0.3**
	baz=42								
FFC	**Flin Flon**	**43.01**	**349**	*e*P		**P**	**12 41 34.0**	**-0.1**
	comp=Z,7.3nm,0.8s								
SCHQ	**Schefferville**	**45.29**	**18**	P		**P**	**12 41 50.8**	**-1.6**
SCHQ				PcP		**PcP**	**12 43 30.2**	**-1.2**
SCHQ	**Schefferville**	**45.29**	**18**	P		**P**	**12 41 50.8**	**-1.6**
	comp=Z,6.6nm,0.5s,baz=226,slow=6.7,SNR=35								
SCHQ				PcP		**PcP**	**12 43 30.2**	**-1.2**
	comp=Z,3.2nm,0.5s,baz=224,slow=4.1,SNR=9.3								
BDFB	**Brasilia**	**49.36**	**124**	P		**P**	**12 42 24.4**	**-0.3**
BDFB	**Brasilia**	**49.36**	**124**	P		**P**	**12 42 24.4**	**-0.3**
	comp=Z,2.6nm,0.5s,baz=291,slow=10,SNR=6.2								
CPUP	**Villa Florida**	**49.59**	**142**	P		**P**	**12 42 26.4**	**+0.3**
CPUP	**Villa Florida**	**49.59**	**142**	P		**P**	**12 42 26.4**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=305,slow=7.7,SNR=4.9								
YKA	**Yellowknife Ar**	**52.85**	**345**	P		**P**	**12 42 49.5**	**-0.6**
YKA				PcP		**PcP**	**12 43 57.9**	**-0.8**
YKA	**Yellowknife Ar**	**52.85**	**345**	P		**P**	**12 42 49.5**	**-0.6**
	comp=Z,5.4nm,0.3s,baz=143,slow=7.3,SNR=244								
YKA				PcP		**PcP**	**12 43 57.9**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=148,slow=3.7,SNR=5.8								
RKT	**Rikitea**	**57.58**	**232**	*e*T		T	13 45 14.5		
	comp=Z,2.4nm,0.3s								
RES	**Resolute Bay**	**61.89**	**358**	*e*P		**P**	**12 43 52.1**	**-1.5**
	comp=Z,3.5nm,0.6s								
INK	**Inuvik**	**62.39**	**343**	*e*P		**P**	**12 43 56.4**	**-0.6**
	comp=Z,6.3nm,0.6s								
PMOR	**Pomariorio Ree**	**64.65**	**246**	*e*T		T	13 54 11.3		
	comp=Z,2.3nm,0.2s								
ILAR	**Eielson Array**	**65.08**	**336**	P		**P**	**12 44 14.3**	**-0.5**
ILAR	**Eielson Array**	**65.08**	**336**	P		**P**	**12 44 14.3**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=136,slow=5.2,SNR=40								
PPT2	**Papeete2**	**67.13**	**245**	*e*LR		LR	13 04 52.9		
	comp=Z,69nm,23.2s								
NOA	**NORSAR Array B**	**83.67**	**29**	P		**P**	**12 46 01.2**	**-1.7**
NOA	**NORSAR Array B**	**83.67**	**29**	P		**P**	**12 46 01.2**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=286,slow=5.0,SNR=2.9								
NOA				LR		LR	13 19 15.7		
	comp=Z,25nm,21.7s,baz=250,slow=33								
ARCES	**ARCESS Array B**	**86.24**	**19**	P		**P**	**12 46 14.0**	**-1.6**
ARCES	**ARCESS Array B**	**86.24**	**19**	P		**P**	**12 46 14.0**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=293,slow=4.8,SNR=9.0								
TORD	**Torodi Ar. Bea**	**87.67**	**77**	P		P	12 46 20.6	-3.1	
TORD	**Torodi Ar. Bea**	**87.67**	**77**	P		P	12 46 20.6	-3.1	
	comp=Z,0.2nm,0.5s,baz=291,slow=5.3								
QSPA	**South Pole Qui**	**102.83**	**180**	*e*P		**Pdif**	**12 47 31.5**	**-0.3**
	comp=Z,3.1nm,0.7s								
ZALV	**Zalesovo Beam**	**113.23**	**4**	PKiKP		**PKiKP**	**12 52 11.4**	**-0.3**
ZALV	**Zalesovo Beam**	**113.23**	**4**	PKiKP		**PKiKP**	**12 52 11.4**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=292,slow=2.2,SNR=4.9								
CN2	**Changchun**	**115.50**	**333**	*e*PKP		**PKPdf**	**12 52 19.6**	**+3.3**
KURK	**Kurchatov**	**115.75**	**9**	PKP		**PKPdf**	**12 52 15.8**	**-0.8**
KURBB	**Kurchatov Arra**	**115.82**	**9**	PKP		**PKPdf**	**12 52 15.8**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=346,slow=1.7,SNR=6.6								
SONM	**Songino Array**	**118.05**	**348**	PKP		**PKPdf**	**12 52 20.9**	**-0.4**
SONM	**Songino Array**	**118.05**	**348**	PKP		**PKPdf**	**12 52 20.9**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=343,slow=1.6,SNR=17								
KSRS	**Korea Array**	**119.17**	**327**	PKP		**PKPdf**	**12 52 23.2**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=353,slow=2.3,SNR=5.3								
KSAR	**Wonju Array Be**	**119.20**	**327**	PKP		**PKPdf**	**12 52 23.2**	**-0.4**
MKAR	**Makanchi Array**	**120.08**	**7**	PKP		**PKPdf**	**12 52 23.4**	**-1.7**
MKAR	**Makanchi Array**	**120.08**	**7**	PKP		**PKPdf**	**12 52 23.4**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=307,slow=1.9,SNR=12								
HHC	**Hu-ho-hao-te**	**123.30**	**342**	*e*PKP		**PKPdf**	**12 52 30.0**	**-1.6**
HHC				PP		**PP**	**12 54 14.1**	**+2.8**
HHC				PKS		**PKSdf**	**12 56 04.8**	**-3.5**
HHC				SKS		**SKSdf**	**12 59 35.5**	**-3.8**
HHC				SKKS		**SKKSac**	**13 01 02.3**	**-4.6**
HHC				SS		**SS**	**13 10 53.3**	**+0.9**
HHC				AMB		AMB			
	comp=Z,250nm,9.6s								
HHC				LR		LR			
	comp=N,130nm,21.1s								
HHC				LR		LR			
	comp=E,300nm,21.3s								
HHC				LR		LR			
	comp=Z,150nm,21.6s								
KSH	**Kashi**	**126.00**	**14**	*e*PKP		**PKPdf**	**12 52 40.1**	**+3.2**
KSH				sPKP			12 52 54.1		
KSH				PP		**PP**	**12 54 38.5**	**+9.2**
KSH				PKS		**PKSdf**	**12 56 14.8**	**+1.2**
KSH				SKS		**SKSdf**	**12 59 47.1**	**+2.7**
KSH				SKKS		**SKKSac**	**13 01 26.0**	**+1.8**
KSH				SS		**SS**	**13 11 34.3**	**+7.9**
KSH				LR		LR			
	comp=N,75nm,6.5s								
KSH				LR		LR			
	comp=E,81nm,7.0s								
KSH				LR		LR			
	comp=Z,190nm,6.2s								
GTA	**Gaotai**	**127.36**	**352**	*e*PKP		**PKPdf**	**12 52 40.0**	**+0.5**
KMI	**Kunming**	**140.58**	**343**	PKP		**PKPdf**	**12 53 05.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**147.93**	**346**	PKPbc		**PKPdf**	**12 53 18.9**	**+1.6**
CMAR	**Chiang Mai Arr**	**147.93**	**346**	PKPbc		**PKPdf**	**12 53 18.9**	**+1.6**
	comp=Z,2.6nm,0.6s,baz=340,slow=3.5,SNR=14								

*IDC **14** 12:34:01.7±3.3, 15°.92S×167°.83E, h154km±32km, mb3.7/13, mb1 3.8/14, mb1mx3.8/19, mbtmp3.7/14, Error ellipse: s-maj=26.0km s-min=20.0km az=139.0*
*ISCJB **14** 12:34:02.8±0.8, 15°.94S±0°.06×167°.7E±0°.2, h177km, mb3.8/13, Error ellipse: s-maj=22.8km s-min=7.5km az=5.0*
ISC 14 12:34:03.8±0.8, **15°.99S**±0°.08×**167°.8E**±0°.2, **h177**km, **n18, σ1s09/22, mb3.9**/12, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.19**	**192**	*e*P		**Pn**	**Pn**	**12 35 32.2**	**-1.2**
DZM				*e*S		**Sn**	**Sn**	**12 36 43.9**	**-0.1**
DZM	**Mont Dzumac**	**6.19**	**192**	P		**Pn**	**Pn**	**12 35 32.6**	**-0.8**
	4.6nm,0.3s,baz=50,slow=19,SNR=92								
DZM				S		**Sn**	**Sn**	**12 36 42.2**	**-1.7**
	0.6nm,0.3s,baz=319,slow=19,SNR=4.9								
NOUC	**Port Laguerre**	**6.25**	**193**	*e*P		**Pn**	**Pn**	**12 35 33.6**	**-0.5**
NOUC				*e*S		**Sn**	**Sn**	**12 36 47.8**	**+2.6**
STKA	**Stephens Creek**	**28.62**	**232**	P		**P**	**P**	**12 39 44.6**	**+0.9**
	0.9nm,0.3s,baz=19,slow=7.6,SNR=5.7								
WRA	**Warramunga Arr**	**32.07**	**258**	P		**P**	**P**	**12 40 13.3**	**-1.0**
	0.4nm,0.7s,baz=86,slow=8.6,SNR=4.8								
WRA				PcP		**PcP**	**PcP**	**12 42 59.8**	**+0.1**
	1.0nm,1.2s,baz=89,slow=3.7,SNR=4.7								
ASAR	**Alice Springs**	**32.75**	**251**	P		**P**	**P**	**12 40 20.2**	**0.0**
	1.6nm,0.5s,baz=78,slow=8.6,SNR=21								
ASAR				PcP		**PcP**	**PcP**	**12 43 01.9**	**+0.5**
	0.3nm,0.8s,baz=81,slow=2.8,SNR=5.4								
FITZ	**Fitzroy Crossi**	**40.33**	**261**	P		**P**	**P**	**12 41 24.5**	**+0.1**
	2.1nm,0.7s,baz=132,slow=10,SNR=3.0								
MJAR	**Matsushiro Arr**	**59.27**	**332**	P		**P**	**P**	**12 43 46.2**	**-0.6**
	3.9nm,0.7s,baz=175,slow=8.7,SNR=12								
KSRS	**Korea Array**	**65.08**	**326**	P		**P**	**P**	**12 44 25.7**	**+0.2**
	1.6nm,0.9s,baz=138,slow=5.5,SNR=3.9								
USRK	**Ussuriysk Arra**	**68.24**	**333**	P		**P**	**P**	**12 44 45.6**	**+0.3**
	2.4nm,0.7s,baz=137,slow=6.5,SNR=6.5								
CMAR	**Chiang Mai Arr**	**75.95**	**294**	P		**P**	**P**	**12 45 32.3**	**+0.6**
	0.4nm,0.3s,baz=104,slow=3.8,SNR=3.3								
SONM	**Songino Array**	**83.83**	**323**	P		**P**	**P**	**12 46 14.1**	**+0.6**
	1.8nm,0.8s,baz=118,slow=4.0,SNR=14								
ILAR	**Eielson Array**	**87.55**	**18**	P		**P**	**P**	**12 46 29.5**	**-1.8**
	0.5nm,0.6s,baz=240,slow=5.0,SNR=10								
NVAR	**Mina Array Bea**	**87.68**	**49**	P		**P**	**P**	**12 46 34.6**	**+1.8**
	0.1nm,0.3s,baz=223,slow=4.9,SNR=2.5								
MKAR	**Makanchi Array**	**98.48**	**316**	P		Pdif	P	12 47 22.4	+0.4
	0.2nm,0.7s,baz=91,slow=4.0,SNR=2.9								
ZALV	**Zalesovo Beam**	**99.72**	**324**	P		**P**	**P**	**12 47 22.4**	**-0.5**
	0.4nm,0.4s,baz=90,slow=5.8,SNR=3.2								
ARCES	**ARCESS Array B**	**121.60**	**345**	PKP		**PKPdf**	**P**	**12 52 35.4**	**-0.4**
	0.7nm,0.4s,baz=58,slow=2.2,SNR=12								
FINES	**FINESS Array B**	**127.09**	**338**	PKP		**PKPdf**	**P**	**12 52 46.5**	**0.0**
	1.2nm,0.8s,baz=11,slow=1.4,SNR=4.1								

IDC 14 12:38:43.6±11.0, **15°.03S×164°.49E, h0**km, **mb4.0**/3, **mb1 4.1**/4, **mb1mx3.8**/18, **mbtmp3.9**/4, **ML2.9**/1, **Error ellipse: s-maj=201.7km s-min=33.9km az=49.0, Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.24**	**165**	P		Pn	Pn	12 40 30.8	-0.1
	0.2nm,0.3s,baz=323,slow=20,SNR=6.2								
DZM				S		Sn	Sn	12 41 55.8	+1.7
	0.1nm,0.3s,baz=307,slow=20,SNR=2.9								
STKA	**Stephens Creek**	**26.78**	**227**	P		P	P	12 44 25.1	-0.4
	3.5nm,0.4s,baz=54,slow=9.5,SNR=10								
WRA	**Warramunga Arr**	**29.14**	**256**	P		P	P	12 44 47.1	+0.4
	0.3nm,0.5s,baz=86,slow=9.1,SNR=10.0								
ASAR	**Alice Springs**	**30.06**	**249**	P		P	P	12 44 54.8	-0.1
	0.5nm,0.3s,baz=76,slow=9.1,SNR=14								

*ISCJB **14** 12:39:27.3±1.1, 35°.44N±0°.10×81°.6E±0°.1, h15km, mb3.4/7, Error ellipse: s-maj=14.2km s-min=13.2km az=43.5*
*BJI **14** 12:39:27.0, 35°.49N×81°.74E, h10km, ML3.6/4*
*IDC **14** 12:39:27.4±1.2, 35°.34N×81°.14E, h0km, mb3.5/7, mb1 3.5/12, mb1mx3.4/30, mbtmp3.4/12, ML3.1/5, Error ellipse: s-maj=27.7km s-min=19.6km az=55.0*
ISC 14 12:39:28.1±1.2, **35°.3N**±0°.1×**81°.54E**±0°.09, **h15**km, **n16, σ1s47/18, mb3.6/7, 2C-2D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**6.13**	**315**	*e*Pn		**Pn**	**Pn**	**12 40 59.1**	**+0.9**
KSH				*e*Sn		Sn	Sn	12 42 15.5	+7.4
KSH				smax		smax			
	comp=N,91nm,1.3s								
KSH				smax		smax			
	comp=E,48nm,0.9s								
TKM2	**Tokmak 2**	**8.92**	**331**	⇓Pn		**Pn**	**Pn**	**12 41 34.7**	**-1.9**
	comp=E,7.6nm,1.4s								
TKM2				⇑Lg		Lg	Lg	12 44 07.5	
	comp=E,8.8nm,1.5s								
AAK	**Ala-Archa**	**9.17**	**325**	Pn		**Pn**	**Pn**	**12 41 41.6**	**+1.7**
	comp=E,0.1nm,0.3s,baz=165,slow=20,SNR=3.5								
AAK				Lg		Lg	Lg	12 44 10.6	
	comp=E,0.2nm,0.3s,baz=168,slow=19,SNR=3.3								
MK31	**Makanchi Array**	**11.52**	**3**	⇑Pg		**Pn**	**Pn**	**12 42 12.0**	**0.0**
	comp=E,0.5nm,0.5s,baz=186,slow=13,SNR=5.6								
MK31				⇓Lg		Lg	Lg	12 44 14.4	
	comp=E,3.9nm,1.2s,baz=195,slow=12,SNR=3.5								
MKAR	**Makanchi Array**	**11.52**	**3**	Pn		**Pn**	**Pn**	**12 42 12.6**	**+0.6**
	comp=E,0.0nm,0.3s,baz=189,slow=13,SNR=5.0								
MKAR				Sn		**Sn**	**Sn**	**12 44 19.2**	**-1.2**
	comp=E,0.0nm,0.3s,baz=191,slow=22,SNR=2.2								
KURBB	**Kurchatov Arra**	**15.50**	**353**	Pn		**Pn**	**Pn**	**12 43 03.2**	**-2.8**
	comp=E,0.1nm,0.3s,baz=166,slow=9.5,SNR=4.8								
LZH	**Lanzhou**	**18.14**	**81**	*e*P		**pn**	**pP**	**12 43 39.0**	**-0.6**
LZH				pP		**pP**	**pP**	**12 43 43.5**	**-0.7**
LZH				sP		**sP**	**sP**	**12 43 45.5**	**-0.6**
ZALV	**Zalesovo Beam**	**18.81**	**6**	P		**Pn**	**Pn**	**12 43 47.9**	**+0.4**
	comp=E,0.1nm,0.3s,baz=180,slow=13,SNR=3.8								
BVAR	**Borovoye Array**	**19.42**	**339**	P		**P**	**P**	**12 43 54.0**	**+0.3**
	comp=E,0.1nm,0.3s,baz=139,slow=9.5,SNR=4.8								
SONM	**Songino Array**	**22.33**	**48**	P		**P**	**P**	**12 44 28.7**	**+3.4**
	comp=E,0.5nm,0.7s,baz=247,slow=12,SNR=4.8								
CMAR	**Chiang Mai Arr**	**22.78**	**133**	P		P	P	12 44 36.4	+6.2
	comp=E,0.6nm,0.3s,baz=313,slow=12,SNR=4.0								
AKTO	**Aktyubinsk**	**22.82**	**319**	P		**P**	**P**	**12 44 30.6**	**+0.3**
	comp=E,0.9nm,0.7s,baz=107,slow=8.6,SNR=5.4								
FINES	**FINESS Array B**	**43.36**	**325**	P		**P**	**P**	**12 47 29.9**	**+0.5**
	comp=E,1.1nm,0.7s,baz=145,slow=7.0,SNR=3.4								
NOA	**NORSAR Array B**	**50.48**	**324**	P		**P**	**P**	**12 48 25.4**	**+0.2**
	comp=E,0.5nm,0.7s,baz=90,slow=7.5,SNR=3.0								
TORD	**Torodi Ar. Bea**	**74.31**	**275**	P		**P**	**P**	**12 51 03.8**	**-1.5**
	comp=E,0.6nm,0.9s,baz=56,slow=4.8,SNR=5.2								
YKA	**Yellowknife Ar**	**81.71**	**7**	P		**P**	**P**	**12 51 45.6**	**+0.1**
	comp=E,0.2nm,0.7s,baz=340,slow=5.7,SNR=2.9								

*DJA **14** 12:47:08, 6°.95S×129°.38E, h166km, MLv4.1/6*
*IDC **14** 12:47:09.1±6.1, 7°.31S×129°.06E, h169km±62km, mb2.8/1, mb1 3.7/4, mb1mx3.3/16, mbtmp3.4/4, Error ellipse: s-maj=60.3km s-min=28.6km az=65.0*
ISC 14 12:47:12.4±3.5, **7°.6S**±0°.2×**129°.1E**±0°.1, **h131**km, **n6, σ2s82/10, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MTN	**Manton Dam**	**5.57**	**159**	*e*P		**Pn**	**Pn**	**12 48 35.6**	**+2.4**
MTN				*e*S		**Sn**	**Sn**	**12 49 40.0**	**+3.7**
FITZ	**Fitzroy Crossi**	**10.96**	**198**	*e*P		**Pn**	**Pn**	**12 49 47.6**	**+2.0**
	2.3nm,0.2s								
FITZ				*e*S		**Sn**	**Sn**	**12 51 45.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**10.96**	**198**	P		**Pn**	**Pn**	**12 49 46.4**	**+0.8**
	0.8nm,0.3s,baz=32,slow=12,SNR=19								
FITZ				S		**Sn**	**Sn**	**12 51 48.1**	**+1.7**
	1.3nm,0.3s,baz=196,slow=20,SNR=7.2								
WRA	**Warramunga Arr**	**13.27**	**158**	P		**Pn**	**Pn**	**12 50 13.7**	**-2.2**
	0.9nm,0.3s,baz=336,slow=13,SNR=14								
WRA				S		**Sn**	**Sn**	**12 52 38.0**	**-4.4**
	1.1nm,0.3s,baz=331,slow=22,SNR=7.0								
ASAR	**Alice Springs**	**16.62**	**164**	P		**Pn**	**Pn**	**12 50 56.0**	**-1.7**
	1.9nm,0.3s,baz=345,slow=10,SNR=214								
ASAR				S		**Sn**	**Sn**	**12 54 03.4**	**+0.5**
	0.3nm,0.3s,baz=343,slow=25,SNR=4.1								
MKAR	**Makanchi Array**	**68.25**	**327**	P		P	P	12 57 49.7	-9.4
	0.1nm,0.5s,baz=126,slow=5.3,SNR=4.0								

IDC 14 12:55:15.4±1.0, **3°.70N×126°.02E, h0**km, **mb3.9**/7, **mb1 4.0**/7, **mb1mx3.8**/19, **mbtmp3.9**/7, **1C, Error ellipse: s-maj=179.5km s-min=16.7km az=68.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**3.92**	**333**	⇑*i*P		Pb	Pb	12 56 25.5	0.0
WRA	**Warramunga Arr**	**24.88**	**161**	P		P	P	13 00 39.4	-0.6
	4.4nm,0.8s,baz=342,slow=10,SNR=24								
ASAR	**Alice Springs**	**28.26**	**165**	P		P	P	13 01 10.8	+0.2
	0.4nm,0.5s,baz=344,slow=7.9,SNR=9.3								
STKA	**Stephens Creek**	**38.36**	**158**	P		P	P	13 02 38.6	+0.2
	1.2nm,0.4s,baz=341,slow=7.1,SNR=4.6								
SONM	**Songino Array**	**47.10**	**342**	P		P	P	13 03 49.3	-0.1
	0.7nm,0.6s,baz=159,slow=8.8,SNR=7.4								
SONM				PcP		PcP	PcP	13 05 21.5	+0.2
	0.4nm,0.9s,baz=106,slow=3.1,SNR=3.0								
MKAR	**Makanchi Array**	**57.18**	**326**	P		P	P	13 05 04.4	+0.1
	0.9nm,0.4s,baz=119,slow=7.4,SNR=31								
MKAR				PcP		PcP	PcP	13 05 59.6	+0.7
	0.3nm,0.6s,baz=103,slow=4.6,SNR=2.6								
ZALV	**Zalesovo Beam**	**60.30**	**333**	P		P	P	13 05 24.5	-1.3
	0.3nm,0.3s,baz=130,slow=7.0,SNR=3.7								
FINES	**FINESS Array B**	**91.52**	**332**	P		P	P	13 08 23.4	-0.4
	0.9nm,0.8s,baz=57,slow=7.0,SNR=3.9								

IDC 14 12:55:20.6±7.1, **2°.56S×121°.74E, h0**km, **mb3.3**/3, **mb1 3.7**/3, **mb1mx3.4**/18, **mbtmp3.3**/3, **MS3.5**/3, **Ms1 3.5**/3, **ms1mx2.7**/21, **Error ellipse: s-maj=342.1km s-min=35.7km az=76.0, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.21**	**145**	P		P	P	13 00 07.8	-0.3
	0.5nm,0.6s,baz=321,slow=11,SNR=6.4								
ASAR	**Alice Springs**	**24.06**	**152**	P		P	P	13 00 38.0	+0.2
	0.3nm,0.6s,baz=328,slow=8.2,SNR=5.8								
GUMO	**Guam**	**28.00**	**54**	LR		LR	LR	13 10 27.1	
	comp=Z,96nm,19.9s,baz=88,slow=32								
DZM	**Mont Dzumac**	**47.53**	**118**	LR		LR	LR	13 23 05.5	
	comp=Z,38nm,20.6s,baz=20,slow=35								
KURBB	**Kurchatov Arra**	**64.56**	**331**	LR		LR	LR	13 38 44.0	
	comp=Z,96nm,18.4s,baz=235,slow=40								
ILAR	**Eielson Array**	**92.88**	**25**	P		P	P	13 08 35.1	0.0
	0.3nm,0.6s,baz=265,slow=5.6,SNR=7.7								

ENTT				S		**Sb**	**12 44 33.9**	**+0.2**	
	baz=301								
JIJ	**Ishigaki jima**	**1.33**	**72**	P		**Pn**	**12 44 17.8**	**+0.3**	
JIJ				S		**Sn**	**12 44 34.6**	**-0.4**	
NNS	**Nan Shan**	**1.35**	**292**	*e*P		**Pb**	**12 44 18.9**	**+0.4**	
	baz=289								
NNS				*e*S		**Sb**	**12 44 35.9**	**+0.2**	
	baz=289								
WHF	**Hehuan Shan**	**1.38**	**279**	P		**Pn**	**12 44 18.5**	**+0.1**	
	baz=275								
WHF				*e*S		**Sn**	**12 44 36.4**	**-0.1**	
	baz=275								
EHY	**Hungye**	**1.38**	**252**	*e*P		**Pn**	**12 44 18.6**	**+0.4**	
	baz=248								
EHY				*e*S		**Sn**	**12 44 34.7**	**-1.5**	
	baz=248								
NWF	**Wu-fen Shan**	**1.43**	**322**	*e*P		**Pn**	**12 44 19.2**	**+0.4**	
	baz=321								
NWF				*e*S		**Sn**	**12 44 36.4**	**-1.0**	

ISC 14 13:04:43.6±1.2, 41°03N±0°10×43°20E±0°08, h16km, n6, σ0967/8, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	0.44	30	P	Pg	13 04 51.7	-0.9
AKH				S	Sb	13 04 59.6	+0.1
ARTV	**Artvin**	0.98	280	*i* P	Pb	13 05 02.1	-0.2
DAGI	**Agillar**	0.98	273	*i* P	Pb	13 05 02.2	+0.1
DAGI				*i* S	Sn	13 05 17.2	+0.9
DDEM	**Demirkent**	1.11	263	*i* P	Pb	13 05 04.2	-0.2
TUTA	**Tutak**	1.65	191	*i* P	Pn	13 05 12.1	0.0
DGRG	**David-gareji**	1.69	75	P	Pn	13 05 13.3	+0.8

*IDC **14** 13:16:17.6±1.0, 34°.16N×23°.35E, h0km, mb4.1/17, mb1 4.1/24, mb1mx4.0/36, mbtmp4.0/24, ML4.0/7, Error ellipse: s-maj=21.0km s-min=15.3km az=6.0*
*ISCJB **14** 13:16:18.5±0.8, 33°.98N±0°.03×23°.29E±0°.03, h22km±6km, mb4.1/31, Error ellipse: s-maj=5.0km s-min=3.3km az=39.7*
*HLW **14** 13:16:18.1, 34°.33N×23°.24E, h33km±19km, Md3.5, Ml3.5*
*CSEM **14** 13:16:19.1±0.2, 34°.01N×23°.35E, h10km, ML4.2, Error ellipse: s-maj=7.8km s-min=3.6km az=50.0*
*ATH **14** 13:16:20.0, 34°.03N×23°.33E, h29km±5km, ML4.2*
*THE **14** 13:16:24.5, 34°.19N×23°.36E, h88km±22km, ML4.0/2, Error ellipse: s-maj=22.7km s-min=3.1km az=96.0*

ISC 14 13:16:20.9±0.8, 34°.04N±0°.04×23°.34E±0°.04, h25km±5km, n221, σ1918/235, mb4.2/31, 12C-11D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	1.01	38	*e*PN	Pn	13 16 39.6	+0.1
GVD	**Gavdhos**	1.01	38	*e*Pn	Pn	13 16 39.6	+0.1
KARN	**Karanos**	1.45	19	*e*PN	Pn	13 16 46.0	+0.6
KARN	**Karanos**	1.45	19	*e*Pn	Pn	13 16 46.0	+0.6
VAM	**Vamos**	1.54	27	P	Pn	13 16 47.5	+0.7
VAM	**Vamos**	1.54	27	*e*PB	Pn	13 16 47.3	+0.5
VAM				*e*SN	Sb	13 17 08.6	+0.7
VAM	**Vamos**	1.54	27	*e*Pb	Pn	13 16 47.3	+0.5
VAM				*e*Sn	Sb	13 17 08.6	+0.7
SIVA	**Sivas**	1.56	51	*e*PN	Pn	13 16 47.7	+0.7
SIVA	**Sivas**	1.56	51	*e*Pn	Pn	13 16 47.7	+0.7
IDI	**Anoyia**	1.79	45	P	Pn	13 16 50.8	+0.6
IDI	**Anoyia**	1.79	45	*e*PN	Pn	13 16 51.1	+0.9
IDI	**Anoyia**	1.79	45	P	Pn	13 16 50.8	+0.6
IDI	**Anoyia**	1.79	45	*e*Pn	Pn	13 16 51.1	+0.9
LAST	**Lasithi**	2.09	57	*e*PN	Pn	13 16 55.5	+1.1
LAST				*e*SN	Sn	13 17 21.2	+1.5
LAST	**Lasithi**	2.09	57	*e*Pn	Pn	13 16 55.5	+1.1
LAST				*e*Sn	Sn	13 17 21.2	+1.5
XRY	**Khrisi**	2.12	66	*e*PN	Pn	13 16 55.8	+1.1
XRY	**Khrisi**	2.12	66	*e*Pn	Pn	13 16 55.8	+1.1
NPS	**Neapolis**	2.24	56	*e*PB	Pn	13 16 57.9	+1.5
NPS	**Neapolis**	2.24	56	*e*Pb	Pn	13 16 57.9	+1.5
KYTH	**Kithira**	2.25	354	P	Pb	13 16 58.8	-2.1
KYTH	**Kithira**	2.25	354	*e*PB	Pn	13 16 58.5	+1.9
KYTH	**Kithira**	2.25	354	*e*Pb	Pn	13 16 58.5	+1.9
KYTH	**Kithira**	2.25	354	P	Pb	13 16 58.8	-2.1
ZKR	**Zakros**	2.61	65	*e*PN	Pn	13 17 03.0	+1.6
ZKR	**Zakros**	2.61	65	*e*Pn	Pn	13 17 03.0	+1.6
VLI	**Veliai**	2.70	353	*e*PN	Pn	13 17 04.5	+1.9
VLI	**Veliai**	2.70	353	*e*Pn	Pn	13 17 04.5	+1.9
SLUM		2.99	148	P	Pn	13 17 06.1	-0.5
SLUM				S	Sn	13 17 42.7	+1.1
SLUM		2.99	148	S	Sn	13 17 42.7	+1.1
	baz=149						
SLUM				AMP		13 17 00.0	
	comp=E,120μm,0.5s,logA/T=5.4,baz=149						
PYL	**PYLOS**	3.14	336	*e*PN	Pn	13 17 09.4	+0.7
PYL	**PYLOS**	3.14	336	*e*Pn	Pn	13 17 09.4	+0.7
ITM	**Ithomi**	3.34	340	*e*PN	Pn	13 17 13.5	+2.0
ITM				*e*SN	Sn	13 17 51.1	+0.7
ITM	**Ithomi**	3.34	340	*e*Pn	Pn	13 17 13.5	+2.0
ITM				*e*Sn	Sn	13 17 51.1	+0.7
VLX	**Vlachokerasia**	3.42	347	P	Pn	13 17 14.7	+2.1
VLX	**Vlachokerasia**	3.42	347	*e*PN	Pn	13 17 15.6	+3.0
VLX	**Vlachokerasia**	3.42	347	P	Pn	13 17 14.7	+2.1
VLX	**Vlachokerasia**	3.42	347	*e*Pn	Pn	13 17 15.6	+3.0
DID	**Didima**	3.46	359	P	Pn	13 17 13.4	+0.2
DID	**Didima**	3.46	359	*e*PN	Pn	13 17 13.6	+0.4
DID	**Didima**	3.46	359	*e*Pn	Pn	13 17 13.6	+0.4
KARP	**Karpathos**	3.49	63	P	Pn	13 17 15.2	+1.6
KARP				S	Sn	13 17 56.2	+2.1
KARP	**Karpathos**	3.49	63	*e*PN	Pn	13 17 15.1	+1.5
KARP				*e*SN	Sn	13 17 54.3	+0.2
KARP	**Karpathos**	3.49	63	*e*Pn	Pn	13 17 15.1	+1.5
KARP				*e*Sn	Sn	13 17 54.3	+0.2
KARP				S	Sn	13 17 56.2	+2.1
APE	**Apeiranthos**	3.52	30	P	Pn	13 17 12.9	-1.0
APE				S	Sn	13 17 54.3	-0.4
APE	**Apeiranthos**	3.52	30	P	Pn	13 17 12.9	-1.0
APE				S	Sn	13 17 54.3	-0.4
NAIG	**Nisos Aigina**	3.72	2	*e*PN	Pn	13 17 17.2	+0.5
NAIG	**Nisos Aigina**	3.72	2	*e*Pn	Pn	13 17 17.2	+0.5
ATH	**Athens Observa**	3.94	4	*e*PN	Pn	13 17 20.6	+0.9
ATH	**Athens Observa**	3.94	4	*e*Pn	Pn	13 17 20.6	+0.9
GUR	**Goura**	3.98	349	P	Pn	13 17 21.8	+1.5
GUR	**Goura**	3.98	349	*e*PN	Pn	13 17 22.2	+1.9
GUR	**Goura**	3.98	349	P	Pn	13 17 21.8	+1.5
GUR	**Goura**	3.98	349	*e*Pn	Pn	13 17 22.3	+1.9
LTK	**Loutraki**	3.99	356	P	Pn	13 17 20.6	+0.2
LTK	**Loutraki**	3.99	356	*e*PN	Pn	13 17 20.8	+0.4
LTK	**Loutraki**	3.99	356	*e*Pn	Pn	13 17 20.8	+0.4
PTL	**Penteli**	4.03	6	P	Pn	13 17 20.9	0.0
PTL				S	Sn	13 18 05.4	-1.9
PTL	**Penteli**	4.03	6	*e*PN	Pn	13 17 21.0	0.0
PTL	**Penteli**	4.03	6	*e*Pn	Pn	13 17 21.0	0.0
PTL				S	Sn	13 18 05.4	-1.9
RLS	**Riolos of Patr**	4.29	340	P	Pn	13 17 26.4	+1.9
RLS	**Riolos of Patr**	4.29	340	*e*PN	Pn	13 17 26.3	+1.8
RLS	**Riolos of Patr**	4.29	340	*e*Pn	Pn	13 17 26.3	+1.8
HMAT	**Matruh**	4.32	132	P	Pn	13 17 24.5	-0.5
HMAT	**Matruh**	4.32	132	P	Pn	13 17 24.5	-0.5
	baz=133						
KFL	**Anninata**	4.56	334	P	Pn	13 17 28.5	+0.3
KFL	**Anninata**	4.56	334	P	Pn	13 17 28.5	+0.3
LKR	**Lokris**	4.61	357	P	Pn	13 17 29.0	0.0
LKR	**Lokris**	4.61	357	P	Pn	13 17 29.0	0.0
ATAL	**Atalanti**	4.66	357	P	Pn	13 17 29.9	+0.3
ATAL	**Atalanti**	4.66	357	P	Pn	13 17 29.9	+0.3
VLS	**Valsamata**	4.69	333	P	Pn	13 17 30.0	-0.1
VLS	**Valsamata**	4.69	333	*e*PN	Pn	13 17 31.1	+1.0
VLS	**Valsamata**	4.69	333	P	Pn	13 17 30.0	-0.1
VLS	**Valsamata**	4.69	333	*e*Pn	Pn	13 17 31.1	+1.0
AXAR	**Agios Charalam**	4.75	354	P	Pn	13 17 31.5	+0.6
AXAR	**Agios Charalam**	4.75	354	P	Pn	13 17 31.5	+0.6
SMIA	**Simia**	4.83	359	P	Pn	13 17 32.3	+0.3
SMIA	**Simia**	4.83	359	P	Pn	13 17 32.3	+0.3
SWA2		5.11	159	P	Pn	13 17 35.8	0.0
SWA2		5.11	159	P	Pn	13 17 35.8	0.0
	baz=159						
LKD2	**Lefkada island**	5.21	336	*e*PN	Pn	13 17 38.9	+1.7
LKD2	**Lefkada island**	5.21	336	*e*Pn	Pn	13 17 38.9	+1.7
THL	**Klokotos Trika**	5.62	350	P	Pn	13 17 43.1	+0.3
THL	**Klokotos Trika**	5.62	350	P	Pn	13 17 43.1	+0.3
HBRG	**Burj al 'Arab**	6.50	120	P	Pn	13 17 54.2	-0.7
	baz=122						
HNAT	**Natroun**	7.59	123	P	Pn	13 18 09.7	-0.2
HNAT	**Natroun**	7.59	123	P	Pn	13 18 09.7	-0.2
	baz=124						
GLL	**Jalalah**	8.40	120	P	Pn	13 18 20.4	-0.6
GLL	**Jalalah**	8.40	120	P	Pn	13 18 20.4	-0.6
	baz=121						
VTS	**Vitosha**	8.54	359	‖*i*P	Pn	13 18 23.7	+0.6
VTS	**Vitosha**	8.54	359	‖*i*P	Pn	13 18 23.7	+0.6
AMAG	**Maghara**	9.01	109	P	Pn	13 18 28.9	-0.5
AMAG	**Maghara**	9.01	109	P	Pn	13 18 28.9	-0.5
	baz=110						
SUZ		9.09	115	P	Pn	13 18 30.2	-0.2
SUZ		9.09	115	P	Pn	13 18 30.2	-0.2
	baz=116						
HDK1	**Dakhla**	9.97	147	P	Pn	13 18 43.4	+0.8
HDK1	**Dakhla**	9.97	147	P	Pn	13 18 43.4	+0.8
	baz=147						
BRTR	**Keskin Array B**	10.01	52	Pn	Pn	13 18 42.9	-0.4
	comp=E,0.2nm,0.3s,baz=226,slow=14,SNR=9.8						
MMAI	**Mount Meron Ar**	10.12	92	Pn	Pn	13 18 42.4	-2.4
	comp=E,1.9nm,0.3s,baz=287,slow=11,SNR=7.1						
MMAI				Sn	Sn	13 20 33.4	-4.1
	comp=E,2.9nm,0.3s,baz=265,slow=21,SNR=4.6						
HKAT	**Jabal Katrina**	10.64	118	P	Pn	13 18 51.7	-0.2
HKAT	**Jabal Katrina**	10.64	118	P	Pn	13 18 51.7	-0.2
	baz=119						
EIL	**Elat**	10.79	111	Pn	Pn	13 18 54.1	+0.3
	comp=E,0.8nm,0.3s,baz=327,slow=17,SNR=7.7						
EIL				Sn	Sn	13 20 45.5	-8.3
	comp=E,0.5nm,0.3s,baz=296,slow=15,SNR=2.8						
HHRG	**Al Ghardaqah**	11.12	125	P	Pn	13 18 58.9	+0.6
	baz=125						
GZR	**Gura Zlata**	11.35	358	‖*i*P	Pn	13 19 02.0	+0.6
GZR	**Gura Zlata**	11.35	358	‖*i*P	Pn	13 19 02.0	+0.6
VOIR		11.46	6	‖*i*P	Pn	13 19 03.6	+0.6
VOIR		11.46	6	‖*i*P	Pn	13 19 03.6	+0.6
ASF	**Jabal al Asfar**	11.52	96	Pn	Pn	13 19 06.5	+2.6
	comp=E,0.3nm,0.3s,baz=144,slow=7.1,SNR=3.3						
ASF				Sn	Sn	13 21 07.9	-3.9
	comp=E,0.4nm,0.3s,baz=267,slow=21,SNR=2.9						
MLR	**Muntele Rosu**	11.62	9	‖*i*P	Pn	13 19 05.4	+0.3
MLR	**Muntele Rosu**	11.62	9	Pn	Pn	13 19 05.2	+0.1
	comp=E,0.0nm,0.3s,baz=277,slow=18,SNR=2.3						
MLR	**Muntele Rosu**	11.62	9	‖*i*P	Pn	13 19 05.4	+0.3
BZS	**Buzias**	11.64	354	‖*i*P	Pn	13 19 03.8	-1.5
BZS	**Buzias**	11.64	354	‖*i*P	Pn	13 19 03.8	-1.5
PLOR	**Plostina**	12.07	11	‖*i*P	Pn	13 19 10.9	-0.3
PLOR	**Plostina**	12.07	11	‖*i*P	Pn	13 19 10.9	-0.3
DRGR		12.75	358	‖*i*P	Pn	13 19 19.6	-1.0
DRGR		12.75	358	‖*i*P	Pn	13 19 19.6	-1.0
BOJS	**Bojanci**	13.02	334	*i* Pn	Pn	13 19 22.0	-2.2
BOJS				*i* Sn	Sn	13 21 38.8	-9.4
CEY	**Cerknica**	13.53	332	*i* Pn	Pn	13 19 29.8	-1.4
CEY				*i* Sn	Sn	13 21 56.5	-4.1
CEY	**Cerknica**	13.53	332	*i* Pn	Pn	13 19 29.8	-1.4
BURAR	**Bucovina Array**	13.64	5	‖*i*P	Pn	13 19 32.7	0.0
BURAR	**Bucovina Array**	13.64	5	‖*i*P	Pn	13 19 32.7	0.0
GROS	**Grobnik**	13.77	337	*i* Pn	Pn	13 19 31.1	-3.3
JAVS	**Javornik**	13.80	332	*i* Pn	Pn	13 19 33.9	-1.0
JAVS	**Javornik**	13.80	332	*i* Pn	Pn	13 19 33.9	-1.0
PGF	**Pioggiola**	14.09	311	*e*P	Pn	13 19 37.3	-1.6
PSZ	**Piszkesteto**	14.11	350	‖*i*P	Pn	13 19 38.5	-0.6
SOKA	**Soboth**	14.11	336	‖*i*Pn	Pn	13 19 35.9	-3.3
	comp=E,4.0nm,0.6s						
VYHS	**Vyhne**	14.83	348	*e*P	P	13 19 51.9	-2.6
KOLS	**Kolonicke sedl**	14.91	357	*e*P	Pn	13 19 51.0	+1.1
CRVS	**Cervenica-Dubn**	14.92	355	*e*P	P	13 19 55.8	+0.4
MOA	**Molln**	15.39	336	‖*i*Pn	Pn	13 19 53.8	-2.5
	comp=E,12nm,0.6s						
SBF	**Sospel**	15.77	313	*e*P	Pn	13 20 00.7	-0.5
VRAC	**Vranov**	16.06	344	‖*i*P	P	13 20 08.5	+0.4
VRAC	**Vranov**	16.06	344	Pn	Pn	13 20 05.9	+1.0
	comp=E,1.3nm,0.3s,baz=162,slow=8.5,SNR=16						
VRAC	**Vranov**	16.06	344	‖*i*P	P	13 20 08.5	+0.4
LMR	**La Mourre**	16.06	310	*e*P	Pn	13 20 04.6	-0.4
OKC	**Ostrava-Krasne**	16.25	348	*e*P	P	13 20 09.2	-0.9
OKC	**Ostrava-Krasne**	16.25	348	P	P	13 20 09.2	-0.9
MORC	**Moravsky Berou**	16.30	347	‖*i*P	P	13 20 10.6	-0.2
MORC	**Moravsky Berou**	16.30	347	‖*i*P	P	13 20 10.6	-0.2
DAVOX	**Davos/Dischmat**	16.31	325	Pn	P	13 20 10.3	-0.8
	comp=E,0.4nm,0.3s,baz=300,slow=13,SNR=5.3						
TREC	**Trest**	16.32	341	*e*P	P	13 20 11.9	+0.9
TREC	**Trest**	16.32	341	P	P	13 20 11.9	+0.9
OJC	**Ojcow**	16.38	352	*e*P	P	13 20 11.1	-0.6
GERES	**GERESS Array B**	16.44	337	Pn	Pn	13 20 09.0	-0.9
	comp=E,0.2nm,0.3s,baz=166,slow=14,SNR=9.5						
MBDF	**Montbardon**	16.64	315	*e*P	Pn	13 20 12.4	-0.1
	comp=E,12nm,0.8s						
KHC	**Kasperske Hory**	16.73	337	*e*P	Pn	13 20 13.9	+0.4
KHC				*ex*	x	13 20 17.1	
KHC				*ep*P	pP	13 20 27.5	+5.0
KHC	**Kasperske Hory**	16.73	337	P	Pn	13 20 13.9	+0.4
SMRF	**Simiane la Rot**	16.97	311	*e*P	Pn	13 20 15.6	-0.9
DPC	**Dobruska-Polom**	17.10	345	*e*P	Pn	13 20 18.1	0.0
DPC				*ex*	x	13 20 20.9	
DPC	**Dobruska-Polom**	17.10	345	P	Pn	13 20 18.1	0.0
LPG	**La Plagne**	17.10	317	*e*P	Pn	13 20 17.9	-0.4
LPL	**La Plagne**	17.12	317	*e*P	Pn	13 20 18.1	-0.4
AKASG	**Malin Array Be**	17.20	13	P	Pn	13 20 18.2	-1.1
	comp=E,2.4nm,0.3s,baz=206,slow=10,SNR=11						
PRU	**Pruhonice**	17.21	341	*e*P	Pn	13 20 20.0	+0.6
PRU				*ex*	x	13 20 22.8	
PRU	**Pruhonice**	17.21	341	P	Pn	13 20 20.0	+0.6
ORIF	**Oris-en-Rattie**	17.27	314	*e*P	Pn	13 20 20.3	-0.1
	comp=E,23nm,1.2s						
ORIF				*e*R			
	comp=E,204nm,19.0s						
UPC	**Upice**	17.31	344	*e*P	Pn	13 20 21.0	+0.3
UPC				*ex*	x	13 20 23.5	
UPC	**Upice**	17.31	344	P	Pn	13 20 21.0	+0.3
PVCC	**Panska Ves**	17.69	341	*e*P	Pn	13 20 26.4	+0.3
PVCC	**Panska Ves**	17.69	341	P	P	13 20 26.4	+0.3
VIVF	**Saint-Julien-l**	17.97	312	*e*P	Pn	13 20 28.8	-0.1
LASF	**Ste Croix**	18.11	309	*e*P	Pn	13 20 29.9	-0.7
CABF	**La Chapelle**	18.14	319	*e*P	Pn	13 20 29.3	-1.7
HINF	**Hinteralfeld**	18.51	323	*e*P	P	13 20 34.5	-0.7
CDF	**Champ du Feu**	18.71	325	*e*P	Pn	13 20 38.3	+0.3
	comp=E,41nm,1.4s						
HAU	**Haudompre**	18.89	323	*e*P	Pn	13 20 40.0	-0.1
	comp=E,6.9nm,0.6s						
HAU				*e*R			
	comp=E,159nm,19.8s						
PAGF	**Fort de Pagny**	19.57	323	*e*P	P	13 20 46.5	-0.2
	comp=E,5.8nm,1.0s						
CAF	**Calviac**	19.64	310	*e*P	Pn	13 20 48.9	-0.2
SFTF	**Sexfontaines**	19.69	321	*e*P	P	13 20 48.5	+0.4
LOR	**Lormes**	19.76	318	*e*P	P	13 20 48.3	-0.5
	comp=E,11nm,1.0s						
LOR				*e*R			
	comp=E,113nm,23.0s						
SSF	**Saint Saulge**	19.84	317	*e*P	P	13 20 49.5	-0.2
	comp=E,5.2nm,0.7s						
MEZF	**Mazes J'vi**	19.87	322	*e*P	Pn	13 20 51.9	+0.2
	comp=E,22nm,0.7s						
BGF	**Bois d'Agland**	19.95	315	*e*P	P	13 20 51.4	+0.5
	comp=E,15nm,0.9s						
EPF	**Esparros**	20.06	303	*e*P	P	13 20 52.9	+0.7
RJF	**Les Rejaudoux**	20.15	310	*e*P	P	13 20 54.0	+0.8
	comp=E,10nm,0.8s						
RJF				*e*R			
	comp=E,122nm,21.5s						
TCF	**Toulx Ste Croi**	20.19	314	*e*P	Pn	13 20 54.8	-0.8
LFF	**La Frestale**	20.49	309	*e*P	P	13 20 57.7	+0.9
ETSF	**Etsaut**	20.64	302	*e*P	P	13 20 59.5	+0.9
	comp=E,5.4nm,0.7s						
MEM	**Membach**	20.85	328	P	Pn	13 21 02.5	-0.7
	comp=Z,9.5nm,1.1s						
MEM	**Membach**	20.85	328	P	Pn	13 21 02.5	-0.8
	comp=Z,9.5nm,1.1s						
NACGM	**Naroch**	21.00	6	*e*	P	13 20 58.0	-4.2
GIVF	**Givet**	21.04	325	*e*P	P	13 21 03.1	+0.4
	comp=Z,22nm,0.8s						
DOU	**Dourbes**	21.14	325	P	P	13 21 04.5	+0.7
DOU	**Dourbes**	21.14	325	P	P	13 21 04.5	+0.7
SJPF	**Ste Jean**	21.17	303	*e*P	P	13 21 05.2	+1.0
	comp=Z,14nm,0.8s						
BAIF	**Baives**	21.31	324	*e*P	P	13 21 06.0	-0.4
	comp=Z,29nm,1.3s						
SNF	**Seneffe**	21.57	325	P	P	13 21 09.2	+0.8
SNF	**Seneffe**	21.57	325	P	P	13 21 09.2	+0.8
MFF	**Saint Martin d**	21.77	312	*e*P	P	13 21 10.7	+0.1
	comp=Z,12nm,0.6s						
ESDC	**Sonseca Array**	22.51	292	P	P	13 21 19.1	+0.4
	comp=Z,0.5nm,0.5s,baz=95,slow=12,SNR=5.3						
LDF	**La Druitiere**	22.72	317	*e*P	P	13 21 19.9	-0.9
	comp=Z,58nm,1.2s						
FLN	**La Foliniere**	23.01	317	*e*P	P	13 21 22.6	-1.2
	comp=Z,33nm,0.9s						
FLN				*e*R			
	comp=Z,108nm,17.5s						
GRR	**Gorron**	23.04	316	*e*P	P	13 21 23.2	-0.9
	comp=Z,10nm,0.5s						
SGMF	**Saint Gilles**	23.98	314	*e*P	P	13 21 31.3	-1.9
	comp=Z,38nm,0.9s						
QUIF	**Quistinic**	24.20	313	*e*P	P	13 21 35.5	+0.3
	comp=Z,70nm,1.2s						
ROSF	**Rostrenen**	24.44	314	*e*P	P	13 21 36.2	-1.3
	comp=Z,20nm,0.7s						
EVO	**Evora**	25.60	289	*e*P	P	13 21 49.2	+1.2
	comp=Z,12nm,1.1s						
EVO				*e*R			
	comp=Z,61nm,22.8s						
HFS	**Hagfors**	26.86	349	P	P	13 21 58.7	-0.6
	comp=Z,4.4nm,0.5s,baz=153,slow=10.0,SNR=30						
FINES	**FINESS Array B**	27.48	3	P	P	13 22 04.2	-0.6
	comp=Z,2.0nm,0.6s,baz=164,slow=13,SNR=8.7						
NB2	**NORSAR Subarra**	28.13	347	P	P	13 22 09.8	-0.9
	comp=Z,0.3nm,0.6s,baz=153,slow=10						
NB2	**NORSAR Subarra**	28.13	347	P	P	13 22 09.8	-0.9
	comp=Z,0.3nm,0.6s,SNR=4.3						
NOA	**NORSAR Array B**	28.13	347	P	P	13 22 10.1	-0.6
	comp=Z,2.3nm,0.6s,baz=157,slow=9.1,SNR=15						
KAF	**Kangasniemi**	28.16	3	*ep*	P	13 22 11.2	+0.4
	comp=Z,3.0nm,0.6s						
KAF	**Kangasniemi**	28.16	3	*eP*	P	13 22 11.2	+0.4
	comp=Z,3.0nm,0.6s						
TORD	**Torodi Ar. Bea**	28.62	229	P	P	13 22 16.3	+1.0
	comp=Z,0.8nm,0.5s,baz=38,slow=8.9,SNR=6.1						
JOF	**Joensuu**	29.34	7	*ep*	P	13 22 18.0	-3.3
	comp=Z,1.5nm,0.6s						
AKTO	**Aktyubinsk**	30.11	46	P	P	13 22 27.2	-1.1
	comp=Z,1.4nm,0.5s,baz=256,slow=11,SNR=5.2						
ARCES	**ARCESS Array B**	35.57	1	P	P	13 23 14.4	-1.4
	comp=Z,2.2nm,0.6s,baz=184,slow=8.5,SNR=12						
AAK	**Ala-Archa**	40.51	62	P	P	13 23 58.4	+0.5
	comp=Z,1.7nm,0.6s,baz=247,slow=6.5,SNR=8.4						
KURBB	**Kurchatov Arra**	42.99	50	P	P	13 24 17.6	-0.3
	comp=Z,3.1nm,0.5s,baz=277,slow=8.6,SNR=19						
MKAR	**Makanchi Array**	45.65	55	P	P	13 24 39.2	-0.1
	comp=Z,5.9nm,0.5s,baz=270,slow=7.1,SNR=83						
ZALV	**Zalesovo Beam**	46.86	45	P	P	13 24 47.7	-1.0
	comp=Z,2.6nm,0.4s,baz=270,slow=8.2,SNR=18						
GTA	**Gaotai**	59.82	61	*eP*	P	13 26 27.3	+3.0
GTA				pP	pP	13 26 32.8	+0.6
GTA				sP	sP	13 26 35.8	+0.5
GTA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SONM	**Songino Array**	61.36	50	P	P	13 26 35.1	+0.4
	comp=Z,1.3nm,0.8s,baz=281,slow=7.2,SNR=8.3						
SCHQ	**Schefferville**	63.06	320	P	P	13 26 46.0	+0.2
	comp=Z,2.0nm,0.8s,baz=72,slow=6.4,SNR=8.0						
INK	**Inuvik**	76.51	351	P	P	13 28 07.9	-0.3
	comp=Z,1.1nm,0.8s,baz=354,slow=9.3,SNR=6.2						
YKA	**Yellowknife Ar**	78.04	341	P	P	13 28 16.9	0.0
	comp=Z,0.3nm,0.8s,baz=37,slow=5.4,SNR=6.1						
KSRS	**Korea Array**	80.16	51	P	P	13 28 29.4	+0.5
	comp=Z,0.7nm,0.6s,baz=302,slow=4.0,SNR=4.4						
ILAR	**Eielson Array**	81.22	356	P	P	13 28 35.2	+1.1
	comp=Z,0.3nm,0.6s,baz=341,slow=3.0,SNR=6.8						

*OTT **14** 13:16:27.3±0.1, 41°.84N×81°.00W, h5km, MN2.6/19, South shore Lake Erie 93km south from Port Stanley, On Eastern Background Seismic Zone.*

NEIC 14 13:16:27.2, 41°.84N×81°.00W, h5km, MN2.6(OGSO), **MN2.6**(OTT), **After OGSO., Ohio**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACEO	**Ashtabula EMA**	0.20	118	Pg	Pg	13 16 30.7	-0.4
ACEO				Sg	Sg	13 16 33.3	-0.4
LCCO	**Lakeland CC**	0.34	234	Pg	Pg	13 16 32.8	-1.0
LCCO				Sg	Sg	13 16 37.9	-0.4
ALLY	**Alegheny Colle**	0.67	106	Pg	Pg	13 16 39.5	-0.6
ALLY				Sg	Sg	13 16 48.1	-0.7
ALLY	**Alegheny Colle**	0.67	106	PG	Pg	13 16 39.5	-0.6
ALLY				SG	Sg	13 16 48.1	-0.7
ERPA	**Erie**	0.80	69	Pg	Pg	13 16 41.6	-1.1
ERPA				S

BANO	**Bancroft**	**3.89**	**34**	Pn	Pn	13 17 31.2	+3.6
BANO				Sn	Sn	13 18 11.0	-2.6
BANO	**Bancroft**	**3.89**	**34**	PN	Pn	13 17 31.2	+3.6
BANO				SN	Sn	13 18 11.0	-2.6
BANO				Trac		13 18 27.7	
	comp=Z,3.8nm,0.2s						
PLVO	**Plevna**	**4.29**	**40**	PN	Pn	13 17 36.9	+3.7
PLVO				Trac		13 18 30.1	
	comp=Z,16nm,0.5s						
RSPO	**Restoule Provi**	**4.33**	**12**	Pn	Pb	13 17 39.4	-4.4
RSPO				Sn	Sn	13 18 22.6	-1.9
RSPO	**Restoule Provi**	**4.33**	**12**	PN	Pb	13 17 39.4	-4.4
RSPO				SN	Sn	13 18 22.6	-1.9
RSPO				Trac		13 18 58.8	
	comp=Z,172nm,2.0s						

CSEM ***14*** *13:17:24.0, 38°37'N×22°34'E, h10km±4km, ML2.8/5, After THE*
THE 14 13:17:24.0, 38°37'N×22°34'E, h10km±4km, ML2.8/5, 2D, Error ellipse: s-maj=4.4km s-min=0.4km az=253.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRIZ	**Trizonia**	**0.21**	**269**	P	Pg	13 17 28.3	-0.1
TRIZ				S	Sg	13 17 31.9	+0.5
TRIZ	**Trizonia**	**0.21**	**269**	P	Pg	13 17 28.3	-0.1
TRIZ				S	Sg	13 17 31.9	+0.5
LAKA	**Lakka**	**0.31**	**246**	P	Pg	13 17 30.2	-0.2
LAKA				S	Sg	13 17 35.1	+0.5
LAKA	**Lakka**	**0.31**	**246**	P	Pg	13 17 30.2	-0.2
LAKA				S	Sg	13 17 35.1	+0.5
EFP	**Efpalio**	**0.35**	**280**	P	Pg	13 17 30.5	-0.5
EFP				S	Sg	13 17 35.9	+0.3
EFP	**Efpalio**	**0.35**	**280** ⇓	*i* PN	Pg	13 17 30.5	-0.5
EFP	**Efpalio**	**0.35**	**280** ⇓	*i* Pn	Pg	13 17 30.5	-0.5
EFP	**Efpalio**	**0.35**	**280**	P	Pg	13 17 30.5	-0.5
EFP				S	Sg	13 17 35.9	+0.3
GUR	**Goura**	**0.43**	**180**	P	Pg	13 17 32.3	-0.3
GUR				S	Sg	13 17 38.1	-0.3
GUR	**Goura**	**0.43**	**180**	P	Pg	13 17 32.3	-0.3
GUR				S	Sg	13 17 38.1	-0.3
UPR	**University Cam**	**0.45**	**259**	P	Pg	13 17 32.8	0.0
UPR				S	Sg	13 17 38.8	+0.1
UPR	**University Cam**	**0.45**	**259**	P	Pg	13 17 32.8	0.0
UPR				S	Sg	13 17 38.8	+0.1
AXAR	**Agios Charalam**	**0.47**	**32**	P	Pg	13 17 32.9	-0.3
AXAR				S	Sb	13 17 40.9	-0.5
AXAR	**Agios Charalam**	**0.47**	**32**	P	Pg	13 17 32.9	-0.3
AXAR				S	Sb	13 17 40.9	-0.5
LKR	**Lokris**	**0.59**	**61**	P	Pg	13 17 34.9	-0.5
LKR				S	Sg	13 17 43.4	+0.2
LKR	**Lokris**	**0.59**	**61**	P	Pg	13 17 34.9	-0.5
LKR				S	Sg	13 17 43.4	+0.2
LTK	**Loutraki**	**0.60**	**125**	P	Pg	13 17 35.7	0.0
LTK				S	Sb	13 17 44.8	-0.4
LTK	**Loutraki**	**0.60**	**125**	P	Pg	13 17 35.7	0.0
LTK				S	Sb	13 17 44.8	-0.4
ATAL	**Atalanti**	**0.62**	**58**	P	Pg	13 17 35.6	-0.5
ATAL				S	Sg	13 17 44.2	-0.1
ATAL	**Atalanti**	**0.62**	**58**	P	Pg	13 17 35.6	-0.5
ATAL				S	Sg	13 17 44.2	-0.1
MAKR	**Makrakomi, Fth**	**0.67**	**346**	P	Pg	13 17 36.6	-0.4
MAKR	**Makrakomi, Fth**	**0.67**	**346**	P	Pg	13 17 36.8	-0.2
MAKR				S	Sg	13 17 46.1	+0.3
MAKR	**Makrakomi, Fth**	**0.67**	**346**	P	Pg	13 17 36.6	-0.4
MAKR	**Makrakomi, Fth**	**0.67**	**346**	P	Pg	13 17 36.8	-0.2
MAKR				S	Sg	13 17 46.1	+0.3
EVR	**Evrytania**	**0.69**	**323**	P	Pg	13 17 36.6	-0.9
EVR	**Evrytania**	**0.69**	**323**	P	Pg	13 17 36.8	-0.7
EVR				S	Sg	13 17 47.0	+0.3
EVR	**Evrytania**	**0.69**	**323**	*e*PN	Pg	13 17 36.8	-0.7
EVR	**Evrytania**	**0.69**	**323**	P	Pg	13 17 36.6	-0.9
EVR	**Evrytania**	**0.69**	**323**	P	Pg	13 17 36.8	-0.7
EVR				S	Sg	13 17 47.0	+0.3
RLS	**Riolos of Patr**	**0.76**	**246**	P	Pg	13 17 38.1	-0.5
RLS				S	Sb	13 17 50.0	+0.4
RLS	**Riolos of Patr**	**0.76**	**246**	P	Pg	13 17 38.1	-0.5
RLS				S	Sb	13 17 50.0	+0.4

GUC 14 13:17:45.0±0.4, 31°64S×69°79W, h128km±4km, MD3.3, ML3.6, 4C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTCH	**Petorca**	**1.15**	**237**	*i* P	Pn	13 18 09.8	+0.5
PTCH				*i* S	Sn	13 18 28.3	+0.6
PTCH				AML	AML	13 18 30.7	
	comp=E,2μm,0.3s						
JACH	**Jahuel**	**1.24**	**213**	*i* P	Pn	13 18 10.7	+0.4
JACH				*i* S	Sn	13 18 30.2	+0.6
CHNG	**Los Chungos**	**1.48**	**260** ⇑	*i* P	Pn	13 18 12.9	+0.3
CHNG				*i* S	Sn	13 18 33.9	+0.2
CHNG				AML	AML	13 18 43.0	
	comp=E,402nm,0.3s						
OVCH	**Ovalle**	**1.59**	**310** ⇑	*i* P	Pn	13 18 13.5	-0.5
OVCH				*i* S	Sn	13 18 35.9	-0.2
OVCH				AML	AML	13 18 39.6	
	comp=N,606nm,0.5s						
PEL	**Peldehue**	**1.68**	**207**	*e*P	Pn	13 18 15.5	+0.4
PEL				*e*S	Sn	13 18 38.4	+0.3
PEL				AML	AML	13 18 40.1	
	comp=E,872nm,0.3s						
ROCH	**El Roble**	**1.68**	**218** ⇑	*i* P	Pn	13 18 15.6	+0.2
ROCH				*i* S	Sn	13 18 39.1	+0.6
ROCH				AML	AML	13 18 43.7	
	comp=N,659nm,0.4s						
TLL	**Tololo Astrono**	**1.71**	**329**	*i* S	Sn	13 18 39.9	+0.8
TLL				AML	AML	13 18 42.8	
	comp=N,499nm,0.5s						
FCH	**Farellones**	**1.73**	**194** ⇑	*i* P	Pn	13 18 18.9	+2.8
FCH				*i* S	Sn	13 18 43.0	+3.2
FCH				AML	AML	13 18 46.1	
	comp=E,807nm,0.3s						
ANTU	**Antumapu**	**2.05**	**200**	*e*P	Pn	13 18 19.9	+0.3
ANTU				*i* S	Sn	13 18 46.4	+0.4
ANTU				AML	AML	13 18 49.2	
	comp=E,588nm,0.2s						
SJCH	**San Jose de Ma**	**2.05**	**193**	AML	AML	13 18 52.3	
	comp=E,207nm,0.2s						
LMEL	**Las Melosas**	**2.23**	**189**	*e*P	Pn	13 18 22.4	+0.5
LMEL				*i* S	Sn	13 18 50.9	+0.7
LMEL				AML	AML	13 18 60.0	
	comp=N,353nm,0.2s						

ISCJB ***14*** *13:18:45.5±0.9, 4°84N±0°06×124°8E±0°3, h10km, mb3.5/4, Error ellipse: s-maj=37.2km s-min=9.0km az=0.8*
IDC ***14*** *13:18:45.8±1.9, 4°85N×124°87E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=206.9km s-min=22.3km az=65.0*
ISC 14 13:18:46.9±1.3, 4°95N±0°08×125°0E±0°2, h10km, n8, σ1°24/9, mb3.5/4, 1C-1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.13**	**358** ⇓	*i* P	**Pg**	**13 19 09.8**	**+1.2**
GSPH				*e*S	**Sb**	**13 19 23.2**	**-0.3**
CTBH	**Cotabato--PC H**	**2.38**	**342** ⇑	*i* P	**Pb**	**13 19 30.2**	**+0.4**
BUKP	**Musuan**	**2.91**	**1**	*e*P	**Pb**	**13 19 37.4**	**-1.6**
BUKP				*e*S	Sn	13 19 47.1	-21
PAGZ	**Pagadian**	**3.30**	**331**	*e*P	**Pb**	**13 19 43.7**	**-1.8**
PAGZ				*e*S	Sn	13 19 46.8	-31
WRA	**Warramunga Arr**	**26.39**	**160**	P	**P**	**13 24 24.4**	**+0.7**
	0.8nm,0.8s,baz=338,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**29.74**	**163**	P	**P**	**13 24 53.0**	**-0.6**
	0.5nm,0.7s,baz=350,slow=9.9,SNR=5.0						
MKAR	**Makanchi Array**	**55.58**	**326**	P	**P**	**13 28 23.6**	**+0.9**
	0.2nm,0.5s,baz=128,slow=7.2,SNR=3.6						
KURBB	**Kurchatov Arra**	**59.79**	**328**	P	**P**	**13 28 52.3**	**+0.1**
	0.5nm,0.3s,baz=126,slow=5.9,SNR=5.8						

IDC ***14*** *13:49:51.9±1.0, 34°86N×25°28E, h0km, mb3.9/14, mb1 3.9/16, mb1mx3.8/28, mbtmp3.9/16, ML3.5/3, MS3.1/1, Ms1 3.1/1, ms1mx2.2/52, Error ellipse: s-maj=25.4km s-min=15.5km az=172.0*
ISCJB ***14*** *13:49:57.8±0.6, 34°77N±0°06×25°36E±0°04, h60km±4km, mb3.8/14, Error ellipse: s-maj=9.8km s-min=4.8km az=176.5*

ATH ***14*** *13:49:57.9, 34°71N×25°27E, h36km±2km, MD2.9/5*
CSEM ***14*** *13:49:58.9±0.3, 34°73N×25°30E, h30km, MD2.9, Error ellipse: s-maj=7.1km s-min=3.0km az=174.0*
THE ***14*** *13:50:00.4, 34°80N×25°28E, h22km±2km, ML3.2/2, Error ellipse: s-maj=2.7km s-min=1.0km az=356.0*
ISC 14 13:49:58.2±0.9, 34°80N±0°06×25°30E±0°03, h44km±7km, n62, σ1°79/85, mb3.8/14, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.33**	**76**	*e*PB	**Pn**	**13 50 06.9**	**-0.3**
XRY	**Khrisi**	**0.33**	**76**	*e*Pb	**Pn**	**13 50 06.9**	**-0.3**
LAST	**Lasithi**	**0.39**	**22**	P	**Pn**	**13 50 08.8**	**+0.8**
LAST	**Lasithi**	**0.39**	**22**	*e*PB	**Pn**	**13 50 08.4**	**+0.4**
LAST				*e*SB	**Sn**	**13 50 16.7**	**+1.9**
LAST	**Lasithi**	**0.39**	**22**	*e*Pb	**Pn**	**13 50 08.4**	**+0.4**
LAST	**Lasithi**	**0.39**	**22**	P	**Pn**	**13 50 08.8**	**+0.8**
LAST				*e*Sb	**Sn**	**13 50 16.7**	**+1.9**
SIVA	**Sivas**	**0.46**	**299**	P	**Pn**	**13 50 08.9**	**+0.3**
SIVA				S	**Sn**	**13 50 16.6**	**+0.6**
SIVA	**Sivas**	**0.46**	**299**	P	**Pn**	**13 50 08.9**	**+0.3**
SIVA				S	**Sn**	**13 50 16.6**	**+0.6**
NPS	**Neapolis**	**0.53**	**29**	P	**Pn**	**13 50 11.1**	**+1.5**
NPS				S	**Sn**	**13 50 19.7**	**+2.0**
NPS	**Neapolis**	**0.53**	**29**	*e*PN	**Pn**	**13 50 10.7**	**+1.1**
NPS				*e*SN	**Sn**	**13 50 19.7**	**+2.0**
NPS	**Neapolis**	**0.53**	**29**	*e*Pn	**Pn**	**13 50 10.7**	**+1.1**
NPS	**Neapolis**	**0.53**	**29**	P	**Pn**	**13 50 11.1**	**+1.5**
NPS				S	**Sn**	**13 50 19.7**	**+2.0**
IDI	**Anoyia**	**0.59**	**326**	P	**Pn**	**13 50 11.1**	**+0.6**
IDI				S	**Sn**	**13 50 21.3**	**+2.1**
IDI	**Anoyia**	**0.59**	**326**	*e*PN	**Pn**	**13 50 11.3**	**+0.8**
IDI				*e*SB	**Sn**	**13 50 21.6**	**+2.4**
IDI	**Anoyia**	**0.59**	**326**	P	**Pn**	**13 50 11.1**	**+0.6**
IDI				S	**Sn**	**13 50 21.3**	**+2.1**
IDI				*e*Sb	**Sn**	**13 50 21.6**	**+2.4**
ZKR	**Zakros**	**0.82**	**67**	P	**Pn**	**13 50 15.2**	**+1.9**
ZKR				S	**Sn**	**13 50 27.8**	**+3.4**
ZKR	**Zakros**	**0.82**	**67**	*e*PN	**Pn**	**13 50 15.3**	**+1.9**
ZKR				*e*SB	**Sn**	**13 50 27.9**	**+3.5**
ZKR	**Zakros**	**0.82**	**67**	*e*Pn	**Pn**	**13 50 15.3**	**+1.9**
ZKR				*e*Sb	**Sn**	**13 50 27.9**	**+3.5**
GVD	**Gavdhos**	**1.00**	**273**	P	**Pn**	**13 50 16.6**	**+0.8**
GVD				S	**Sn**	**13 50 31.8**	**+3.1**
GVD	**Gavdhos**	**1.00**	**273**	*e*PN	**Pn**	**13 50 17.2**	**+1.4**
GVD	**Gavdhos**	**1.00**	**273**	P	**Pn**	**13 50 16.6**	**+0.8**
GVD	**Gavdhos**	**1.00**	**273**	*e*Pn	**Pn**	**13 50 17.2**	**+1.4**
GVD				S	**Sn**	**13 50 31.8**	**+3.1**
VAM	**Vamos**	**1.09**	**304**	P	**Pn**	**13 50 19.1**	**+2.0**
VAM				S	**Sn**	**13 50 33.1**	**+2.1**
VAM	**Vamos**	**1.09**	**304**	*e*PN	**Pn**	**13 50 19.1**	**+2.0**
VAM	**Vamos**	**1.09**	**304**	P	**Pn**	**13 50 19.1**	**+2.0**
VAM				S	**Sn**	**13 50 33.1**	**+2.1**
KARN	**Karanos**	**1.28**	**298**	P	**Pn**	**13 50 21.6**	**+1.8**
KARN				S	**Sn**	**13 50 39.1**	**+3.3**
KARN	**Karanos**	**1.28**	**298**	*e*PN	**Pn**	**13 50 21.7**	**+1.9**
KARN	**Karanos**	**1.28**	**298**	P	**Pn**	**13 50 21.6**	**+1.8**
KARN				S	**Sn**	**13 50 39.1**	**+3.3**
KARP	**Karpathos**	**1.70**	**63**	P	**Pn**	**13 50 27.9**	**+2.5**
KARP				S	**Sn**	**13 50 49.1**	**+3.1**
KARP	**Karpathos**	**1.70**	**63**	*e*PN	**Pn**	**13 50 28.0**	**+2.5**
KARP	**Karpathos**	**1.70**	**63**	P	**Pn**	**13 50 27.9**	**+2.5**
KARP				S	**Sn**	**13 50 49.1**	**+3.1**
APE	**Apeiranthos**	**2.28**	**5**	P	**Pn**	**13 50 34.7**	**+1.3**
APE				S	**Sn**	**13 51 01.7**	**+1.5**
APE	**Apeiranthos**	**2.28**	**5**	P	**Pn**	**13 50 34.7**	**+1.3**
APE				S	**Sn**	**13 51 01.7**	**+1.5**
KYTH	**Kithira**	**2.37**	**309**	P	**Pn**	**13 50 36.4**	**+1.8**
KYTH	**Kithira**	**2.37**	**309**	*e*PN	**Pn**	**13 50 36.3**	**+1.7**
KYTH	**Kithira**	**2.37**	**309**	P	**Pn**	**13 50 36.4**	**+1.8**
VLI	**Veliai**	**2.71**	**316**	*e*PN	**Pn**	**13 50 41.2**	**+1.8**
VLI	**Veliai**	**2.71**	**316**	*e*Pn	**Pn**	**13 50 41.2**	**+1.8**
TURN	**Turunc**	**3.39**	**51**	*i* P	Pn	13 50 46.0	-2.5
TURN				*i* S	**Sn**	**13 51 26.6**	**-1.0**
GOLH	**Golhisar**	**4.23**	**54**	*i* P	**Pn**	**13 51 01.5**	**+1.3**
GOLH				*i* S	Sn	13 51 40.0	-8.4
GOLH	**Golhisar**	**4.23**	**54**	*i* P	**Pn**	**13 51 01.5**	**+1.3**
KHAL	**Karahalli**	**4.91**	**42**	*i* P	**Pn**	**13 51 10.7**	**+1.1**
KHAL				*i* S	Sn	13 51 50.8	-15
KHAL	**Karahalli**	**4.91**	**42**	*i* P	**Pn**	**13 51 10.7**	**+1.1**
GDZ	**Gediz**	**5.44**	**37**	*i* P	**Pn**	**13 51 16.8**	**-0.1**
GDZ				*i* S	Sn	13 52 00.4	-18
BRTR	**Keskin Array B**	**8.27**	**51**	Pn	Pn	13 51 51.9	-3.8
	0.1nm,0.3s,baz=55,slow=35,SNR=2.7						
MMAI	**Mount Meron Ar**	**8.58**	**99**	Pn	Pn	13 51 56.8	-3.2
	0.9nm,0.3s,baz=289,slow=13,SNR=5.4						
MMAI					Sn	**Sn**	**13 53 36.2**	**+0.7**
	2.1nm,0.3s,baz=307,slow=28,SNR=3.5						
AKASG	**Malin Array Be**	**16.15**	**9**	Pn	**P**	**13 53 43.9**	**-0.7**
	1.6nm,0.3s,baz=201,slow=11,SNR=5.2						
GERES	**GERESS Array B**	**16.42**	**332**	Pn	**Pn**	**13 53 46.0**	**0.0**
	0.1nm,0.3s,baz=148,slow=11,SNR=7.6						
ESDC	**Sonseca Array**	**23.75**	**290**	P	**P**	**13 55 05.8**	**-0.7**
	0.4nm,0.4s,baz=78,slow=9.4,SNR=5.9						
FINES	**FINESS Array B**	**26.67**	**1**	P	**P**	**13 55 30.6**	**-2.1**
	0.6nm,0.4s,baz=165,slow=9.3,SNR=9.0						
AKTO	**Aktyubinsk**	**28.41**	**47**	P	**P**	**13 55 47.2**	**-1.2**
	1.0nm,0.7s,baz=269,slow=8.8,SNR=4.1						
TORD	**Torodi Ar. Bea**	**30.34**	**231**	P	**P**	**13 56 05.3**	**-0.6**
	0.8nm,0.4s,baz=32,slow=8.8,SNR=23						
ARCES	**ARCESS Array B**	**34.79**	**0**	P	**P**	**13 56 42.2**	**-2.0**
	2.0nm,0.9s,baz=165,slow=9.6,SNR=7.9						
ARCES					LR	LR	14 12 17.4	
	comp=Z,30nm,19.0s,baz=173,slow=39						
AAK	**Ala-Archa**	**38.72**	**63**	P	**P**	**13 57 18.8**	**+0.7**
	0.4nm,0.4s,baz=237,slow=9.6,SNR=4.1						
KURBB	**Kurchatov Arra**	**41.26**	**51**	P	**P**	**13 57 39.2**	**+0.3**
	1.7nm,0.4s,baz=277,slow=8.6,SNR=6.9						
MKAR	**Makanchi Array**	**43.88**	**56**	P	**P**	**13 57 59.9**	**-0.4**
	0.7nm,0.5s,baz=275,slow=7.3,SNR=17						
ZALV	**Zalesovo Beam**	**45.17**	**46**	P	**P**	**13 58 09.7**	**-0.8**
	1.8nm,0.5s,baz=268,slow=9.0,SNR=14						
SONM	**Songino Array**	**59.63**	**50**	P	**P**	**13 59 57.7**	**-0.1**
	0.9nm,0.5s,baz=291,slow=7.1,SNR=11						
SCHQ	**Schefferville**	**63.54**	**320**	P	**P**	**14 00 23.6**	**-0.2**
	1.2nm,0.5s,baz=53,slow=5.1,SNR=5.7						
USRK	**Ussuriysk Arra**	**77.02**	**45**	P	**P**	**14 01 46.4**	**0.0**
	1.2nm,0.7s,baz=267,slow=7.4,SNR=3.4						
YKA	**Yellowknife Ar**	**77.83**	**342**	P	**P**	**14 01 50.1**	**-0.5**
	0.2nm,0.5s,baz=33,slow=5.3,SNR=8.8						
KSRS	**Korea Array**	**78.41**	**52**	P	**P**	**14 01 54.4**	**+0.1**
	0.5nm,0.5s,baz=308,slow=4.3,SNR=3.6						

IDC ***14*** *13:50:33.6±1.2, 34°99N×25°10E, h0km, mb3.8/9, mb1 3.8/10, mb1mx3.7/28, mbtmp3.8/10, ML4.1/1, MS3.2/6, Ms1 3.2/6, ms1mx2.7/56, Error ellipse: s-maj=36.5km s-min=19.3km az=158.0*
ISCJB ***14*** *13:50:39.1±0.7, 34°65N±0°06×25°63E±0°06, h50km±6km, mb3.7/9, MS3.4/5, Error ellipse: s-maj=11.5km s-min=6.4km az=34.6*
ATH ***14*** *13:50:39.5, 34°67N×25°24E, h22km±8km, MD2.9/5*
CSEM ***14*** *13:50:39.2±1.1, 34°59N×25°49E, h20km, MD2.9, Error ellipse: s-maj=29.1km s-min=8.9km az=64.0*
ISC 14 13:50:39.4±1.2, 34°63N±0°09×25°41E±0°07, h54km±10km, n39, σ2°12/45, mb3.7/9, MS3.0/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.34**	**44**	*e*PB	**Pn**	**13 50 48.4**	**-0.9**
XRY	**Khrisi**	**0.34**	**44**	*e*Pb	**Pn**	**13 50 48.4**	**-0.9**
LAST	**Lasithi**	**0.54**	**6**	*e*PN	**Pn**	**13 50 50.2**	**-1.2**
LAST				*e*SN	**Sn**	**13 50 58.4**	**-1.7**
LAST	**Lasithi**	**0.54**	**6**	*e*Pn	**Pn**	**13 50 50.2**	**-1.2**
LAST				*e*Sn	**Sn**	**13 50 58.4**	**-1.7**
NPS	**Neapolis**	**0.66**	**15**	*e*PN	**Pn**	**13 50 52.5**	**-0.3**
NPS				*e*SN	**Sn**	**13 51 01.3**	**-1.3**
NPS	**Neapolis**	**0.66**	**15**	*e*Pn	**Pn**	**13 50 52.5**	**-0.3**
NPS				*e*Sn	**Sn**	**13 51 01.3**	**-1.3**
IDI	**Anoyia**	**0.78**	**327**	*e*PN	**Pn**	**13 50 53.0**	**-1.5**
IDI	**Anoyia**	**0.78**	**327**	*e*Pn	**Pn**	**13 50 53.0**	**-1.5**
ZKR	**Zakros**	**0.82**	**54**	*e*PN	**Pn**	**13 50 57.2**	**+2.3**
ZKR				*e*SN	**Sn**	**13 51 10.9**	**+4.6**
ZKR	**Zakros**	**0.82**	**54**	*e*Pn	**Pn**	**13 50 57.2**	**+2.3**
ZKR				*e*Sn	**Sn**	**13 51 10.9**	**+4.6**
AKAS	**Kas**	**3.79**	**64**	*i* P	**Pn**	**13 51 35.9**	**+0.6**
AKAS				*i* S	**Sn**	**13 52 14.6**	**-4.0**
AKAS	**Kas**	**3.79**	**64**	*i* P	**Pn**	**13 51 35.9**	**+0.6**
AKAS				*i* S	**Sn**	**13 52 14.6**	**-4.0**
CSS	**Prodhromos**	**6.53**	**85**	Pn	**Pn**	**13 52 13.9**	**+1.1**
CSS				Sn	**Sn**	**13 53 22.6**	**-3.3**
KZIT	**Kziot**	**8.43**	**114**	Pn	**Pn**	**13 52 39.8**	**+0.9**
KZIT				Sn	Sn	13 54 06.8	-5.8
MMAI	**Mount Meron Ar**	**8.47**	**98**	Pn	**Pn**	**13 52 40.0**	**+0.4**
	2.2nm,0.3s,baz=269,slow=12,SNR=6.4						
MMAI					Sn	**Sn**	**13 54 12.9**	**-0.8**
	7.1nm,0.3s,baz=261,slow=22,SNR=7.8						
RTMI	**Retamim**	**8.59**	**112**	Pn	**Pn**	**13 52 41.4**	**+0.4**
RTMI				Sn	Sn	13 54 11.3	-5.1
KSDI	**Kefar Szold**	**8.64**	**97**	Pn	**Pn**	**13 52 42.2**	**+0.4**
KSDI				Sn	**Sn**	**13 54 13.3**	**-4.5**
MMLI	**Mount Malkishu**	**8.64**	**102**	Pn	**Pn**	**13 52 42.4**	**+0.6**
MMLI				Sn	Sn	13 54 12.5	-5.4
HMDT	**Nahal Hemdat**	**8.78**	**103**	Pn	**Pn**	**13 52 43.9**	**+0.2**
HMDT				Sn	**Sn**	**13 54 17.2**	**-4.0**
DSI	**Dead Sea**	**8.90**	**107**	Pn	**Pn**	**13 52 45.8**	**+0.4**
DSI				Sn	Sn	13 54 19.4	-4.9
MZDA	**Masada**	**8.99**	**109**	Pn	**Pn**	**13 52 46.8**	**+0.3**
MZDA				Sn	Sn	13 54 21.1	-5.3
KRMI	**Paran Flat**	**9.07**	**117**	Pn	**Pn**	**13 52 47.5**	**-0.2**
KRMI				Sn	Sn	13 54 22.5	-5.9
PRNI	**Paran**	**9.16**	**115**	Pn	**Pn**	**13 52 49.3**	**+0.4**
PRNI				Sn	Sn	13 54 24.9	-5.6
EIL	**Elat**	**9.48**	**119**	Sn	Sn	13 54 32.1	-6.3
MLR	**Muntele Rosu**	**10.86**	**2**	LR	LR	13 57 30.0	
	comp=Z,22nm,21.0s,baz=229,slow=40						
AKASG	**Malin Array Be**	**16.30**	**9**	Pn	**Pn**	**13 54 25.0**	**+0.4**
	1.2nm,0.3s,baz=201,slow=11,SNR=5.1						
ESDC	**Sonseca Array**	**23.89**	**291**	P	**P**	**13 55 44.5**	**-3.5**
	0.7nm,0.6s,baz=78,slow=8.2,SNR=4.8						
HFS	**Hagfors**	**26.64**	**347**	LR	LR	14 07 28.9	
	comp=Z,41nm,18.4s,baz=250,slow=39						
FINES	**FINESS Array B**	**26.84**	**1**	P	**P**	**13 56 12.3**	**-2.1**
	0.7nm,0.7s,baz=156,slow=12,SNR=3.3						
NOA	**NORSAR Array B**	**27.96**	**345**	LR	LR	14 08 25.5	
	comp=Z,26nm,18.6s,baz=180,slow=39						
AKTO	**Aktyubinsk**	**28.47**	**46**	P	**P**	**13 56 29.6**	**+0.5**
	1.3nm,0.5s,baz=252,slow=10.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**30.31**	**231**	P	**P**	**13 56 47.5**	**+1.8**
	0.5nm,0.4s,baz=33,slow=8.9,SNR=2.7						
AAK	**Ala-Archa**	**38.72**	**63**	P	**P**	**13 58 00.1**	**+1.8**
	0.3nm,0.3s,baz=206,slow=16,SNR=3.5						
AAK					LR	LR	14 17 28.4	
	comp=Z,21nm,19.3s,baz=43,slow=42						
KURBB	**Kurchatov Arra**	**41.30**	**51**	P	**P**	**13 58 20.5**	**+1.1**
	1.8nm,0.5s,baz=278,slow=8.8,SNR=5.1						
MKAR	**Makanchi Array**	**43.90**	**56**	P	**P**	**13 58 42.1**	**+1.5**
	0.9nm,0.6s,baz=270,slow=8.8,SNR=7.3						
ZALV	**Zalesovo Beam**	**45.23**	**46**	P	**P**	**13 58 51.3**	**+0.3**
	1.3nm,0.4s,baz=265,slow=8.6,SNR=7.4						
SONM	**Songino Array**	**59.67**	**50**	P	**P**	**14 00 39.5**	**+1.4**
	1.2nm,0.7s,baz=286,slow=7.4,SNR=7.6						
INK	**Inuvik**	**76.17**	**352**	LR	LR	14 36 28.5	
	comp=Z,71nm,20.5s,baz=12,slow=36						
DLBC	**Dease Lake**	**85.03**	**347**	LR	LR	14 46 55.8	
	comp=Z,75nm,18.6s,baz=330,slow=40						

PRE 14 13:53:40.0±0.8, 26°98S×26°80E, h2km, ML1.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLEK	**Tau Lekoa**	**0.11**	**279**	*e*P	Pg	13 53 42.2	-0.2
TLEK				*e*S	Sg	13 53 44.3	+0.2
BFSD	**Buffelsfontein**	**0.12**	**355**	*e*P	Pg	13 53 42.7	+0.2
BFSD				*e*S	Sg	13 53 43.8	-0.3
BFSD				AML	AML	13 53 49.4	
	comp=Z,38nm,0.1s						
SEK	**Senekal**	**1.53**	**151**	*e*P	Pg	13 54 09.7	+0.1
SEK				*e*S	Sg	13 54 30.1	+0.6
SEK				AML	AML	13 54 31.3	
	comp=Z,11nm,0.4s						
SLR	**Silverton**	**1.82**	**47**	*e*P	Pb	13 54 13.6	-0.7
SLR				*e*S	Sn	13 54 36.8	+0.5
SLR				AML	AML	13 54 38.6	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.42**	**44**	P	P	14 09 08.2	-0.6
	2.3nm,0.3s,baz=57,slow=12,SNR=5.4						
AFI				S	S	14 10 43.2	-4.6
	5.0nm,0.3s,baz=33,slow=20,SNR=8.8						
DZM	**Mont Dzumac**	**14.88**	**260**	P	P	14 10 18.5	+1.4
	0.3nm,0.3s,baz=279,slow=7.7,SNR=4.9						
STKA	**Stephens Creek**	**38.16**	**244**	P	P	14 13 43.7	-0.5
	3.5nm,0.7s,baz=82,slow=12,SNR=8.5						
ASAR	**Alice Springs**	**44.83**	**256**	P	P	14 14 37.8	+0.3
	13nm,0.7s,baz=96,slow=7.6,SNR=153						
ASAR				PcP	PcP	14 16 06.6	-2.4
	0.8nm,0.6s,baz=102,slow=4.1,SNR=5.3						
ASAR				S	S	14 20 36.6	-1.9
	1.3nm,0.9s,baz=94,slow=16,SNR=7.5						
WRA	**Warramunga Arr**	**44.89**	**262**	P	P	14 14 38.0	+0.1
	3.3nm,0.3s,baz=96,slow=7.6,SNR=262						
WRA				PcP	PcP	14 16 09.4	+0.2
	0.6nm,0.9s,baz=97,slow=3.4,SNR=3.1						
QSPA	**South Pole Qui**	**69.93**	**180**	P	P	14 17 28.7	+0.1
	4.6nm,0.8s,baz=197,slow=0.6,SNR=15						
MJAR	**Matsushiro Arr**	**70.06**	**323**	P	P	14 17 29.7	+0.1
	1.1nm,0.6s,baz=161,slow=6.2,SNR=5.3						
TXAR	**Lajitas Array**	**86.66**	**57**	P	P	14 18 60.0	+1.1
	0.7nm,0.9s,baz=224,slow=5.2,SNR=4.5						
ILAR	**Eielson Array**	**87.91**	**13**	P	P	14 19 04.3	+0.5
	0.5nm,1.0s,baz=218,slow=5.6,SNR=3.7						
CMAR	**Chiang Mai Arr**	**90.22**	**289**	P	P	14 19 17.4	+1.8
	1.9nm,0.8s,baz=124,slow=3.0,SNR=10.0						
MKAR	**Makanchi Array**	**111.12**	**313**	PKiKP	PKiKP	14 24 43.3	-1.5
	0.4nm,0.7s,baz=243,slow=0.3,SNR=5.4						
BVAR	**Borovoye Array**	**118.96**	**320**	PKP	PKPdf	14 24 59.0	-0.6
	0.9nm,0.7s,baz=113,slow=2.0,SNR=6.1						
AKASG	**Malin Array Be**	**142.81**	**332**	PKP	PKPdf	14 25 41.3	-3.1
	2.0nm,0.6s,baz=42,slow=4.1,SNR=7.3						
BRTR	**Keskin Array B**	**146.77**	**313**	PKPbc	PKPbc	14 25 54.1	-0.3
	0.9nm,0.7s,baz=133,slow=5.2,SNR=4.1						
GERES	**GERESS Array B**	**149.92**	**345**	PKPbc	PKPbc	14 26 02.3	+0.4
	1.0nm,0.8s,baz=29,slow=3.3,SNR=7.1						

*IDC **14** 14:16:38.4±0.5,55.20N×162.09E,h0km,mb4.0/23, mb1 4.3/24,mb1mx4.2/30,mbtmp4.1/24,ML4.2/1,MS3.5/11, Ms1 3.5/11,ms1mx3.2/40,Error ellipse: s-maj=16.1km s-min=10.4km az=3.0*
*MOS **14** 14:16:39.8±1.6,55.17N×162.37E,h16km,mb4.2/15,Error ellipse: s-maj=13.0km s-min=7.3km az=78.5*
*KRSC **14** 14:16:42.9±0.1,55.09N×162.30E,h20km±15km,ML4.7*
*ISCJB **14** 14:16:43.5±0.4,55.09N±0.02×162.43E±0.05,h52km±4km, mb4.0/24,MS3.5/9,Error ellipse: s-maj=4.8km s-min=3.1km az=23.6*

ISC 14 14:16:44.1±1.1,55.09N±0.03×162.41E±0.03,h41km±10km, n86,σ1§42/109,mb4.1/24,MS3.4/9,2C-1D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.66**	**217**	PN	**Pn**	**14 16 55.5**	**-1.5**
MKZ				S	**Sn**	**14 17 04.3**	**-1.9**
MKZ	**Mys Kozlova**	**0.66**	**217**	*i* P	**Pn**	**14 16 55.5**	**-1.5**
MKZ				*i* S	**Sn**	**14 17 04.3**	**-1.9**
KBTR	**Krutoberegovo**	**1.15**	**12**	PN	**Pn**	**14 17 03.2**	**-0.5**
KBTR				S	**Sn**	**14 17 18.6**	**+0.4**
KBTR	**Krutoberegovo**	**1.15**	**12**	*i* P	**Pn**	**14 17 03.2**	**-0.5**
KBTR				*i* S	**Sn**	**14 17 18.6**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**1.30**	**312**	*i* P	**Pn**	**14 17 05.7**	**-0.1**
ZLN	**Zelenaya**	**1.30**	**316**	*i* P	**Pn**	**14 17 06.0**	**+0.1**
BZMR	**Bezymyannaya**	**1.38**	**309**	*i* P	**Pn**	**14 17 06.7**	**-0.4**
BZMR				*e*S	**Sn**	**14 17 24.9**	**+0.7**
LGNR	**Loginova**	**1.40**	**316**	*i* P	**Pn**	**14 17 07.7**	**+0.3**
CIRR	**Tsirk**	**1.40**	**318**	*i* P	**Pn**	**14 17 07.1**	**-0.1**
BZWR	**Bezymyannyi-We**	**1.40**	**310**	*i* P	**Pn**	**14 17 07.2**	**-0.1**
KMNR	**Kamenistaya**	**1.41**	**299**	*i* P	**Pn**	**14 17 07.1**	**-0.2**
KMNR				*e*S	**Sn**	**14 17 24.8**	**+0.1**
KPT	**Kopyto**	**1.52**	**306**	*i* P	**Pn**	**14 17 09.1**	**+0.2**
KPT				*e*S	**Sn**	**14 17 28.6**	**+1.0**
KRSR	**Krestovskiy**	**1.54**	**318**	*i* P	**Pn**	**14 17 08.8**	**-0.4**
KRSR				*e*S	**Sn**	**14 17 28.4**	**+0.4**
KLY	**Klyuchi**	**1.58**	**322**	PN	**Pn**	**14 17 08.3**	**-1.3**
KLY				S	**Sn**	**14 17 27.4**	**-1.4**
KLY	**Klyuchi**	**1.58**	**322**	*i* P	**Pn**	**14 17 08.3**	**-1.3**
KLY				*i* S	**Sn**	**14 17 27.4**	**-1.4**
SMKR	**Semkarok**	**1.59**	**341**	*i* P	**Pn**	**14 17 10.1**	**+0.3**
SMKR				*i* S	**Sn**	**14 17 30.2**	**+1.0**
BDR	**Baidarnaya**	**1.63**	**336**	*i* P	**Pn**	**14 17 11.1**	**+0.7**
SRKR	**Sorokina**	**1.72**	**337**	*i* P	**Pn**	**14 17 12.2**	**+0.6**
SRKR				*i* S	**Sn**	**14 17 34.1**	**+1.7**
KOZR	**Kozyr**	**1.73**	**306**	PN	**Pn**	**14 17 12.2**	**+0.5**
KOZR				S	**Sn**	**14 17 33.5**	**+0.9**
KOZ	**Kozyrevsk**	**1.74**	**305**	*i* P	**Pn**	**14 17 12.2**	**+0.4**
KOZ				*e*S	**Sn**	**14 17 33.5**	**+0.8**
SRDR	**Sredinnyy**	**1.96**	**310**	*i* P	**Pn**	**14 17 14.9**	**0.0**
BKI	**Bering**	**2.05**	**85**	PN	**Pn**	**14 17 16.4**	**+0.4**
BKI				S	**Sn**	**14 17 39.9**	**-0.4**
BKI	**Bering**	**2.05**	**85**	*e*P	**Pn**	**14 17 16.4**	**+0.4**
BKI				*i* S	**Sn**	**14 17 39.9**	**-0.4**
SPN	**Mys Shipunski**	**2.44**	**216**	PN	**Pn**	**14 17 20.0**	**-1.3**
SPN	**Mys Shipunski**	**2.44**	**216**	*i* P	**Pn**	**14 17 20.0**	**-1.3**
SPN				*i* S	**Sn**	**14 17 46.8**	**-3.1**
SDLR	**Sedlovina**	**2.75**	**230**	*i* P	**Pn**	**14 17 26.3**	**+0.5**
SDLR				*i* S	**Sn**	**14 17 57.9**	**+0.1**
SMAR	**Somma**	**2.80**	**231**	*i* P	**Pn**	**14 17 27.2**	**+0.7**
SMAR				*i* S	**Sn**	**14 17 59.8**	**+0.7**
AVH	**Avacha**	**2.82**	**231**	*e*P	**Pn**	**14 17 27.7**	**+0.9**
AVH				*i* S	**Sn**	**14 18 01.4**	**+1.8**
UGLR	**Uglovaya**	**2.82**	**230**	*i* P	**Pn**	**14 17 27.6**	**+0.8**
UGLR				*i* S	**Sn**	**14 18 01.5**	**+1.9**
KOK	**Koryaka**	**2.85**	**233**	*e*P	**Pn**	**14 17 28.3**	**+1.1**
KOK				*i* S	**Sn**	**14 18 02.4**	**+2.1**
PET	**Petropavlovsk**	**3.03**	**229**	⇓ *i* PN	**Pn**	**14 17 30.6**	**+1.2**
PET				*e*S	**Sn**	**14 18 07.4**	**+3.0**
PET	comp=Z,289nm,0.5s			pmax	pmax		
PET	comp=E,1μm,1.2s			smax	smax		
PET	comp=N,1μm,1.1s			smax	smax		
PET	comp=E,1μm,0.8s			smax	smax		
PET	comp=N,1μm,0.7s			MLR	MLR		
PET	comp=Z,600nm,20.0s			MLR	MLR		
PET	comp=Z,900nm,10.0s **Petropavlovsk**	**3.03**	**229**	*i* P	**Pn**	**14 17 30.3**	**+0.9**
PET				*i* S	**Sn**	**14 18 05.0**	**+0.6**
PETK	**Petropavlovsk-**	**3.41**	**236**	PN	**Pn**	**14 17 35.0**	**+0.3**
PETK						14 18 18.0	
PETK	comp=Z,8.0nm,0.3s			pmax	pmax		
PETK	comp=N,7.0nm,0.3s			smax	smax		
PETK	comp=Z,266nm,21.1s			MLR	MLR		
PETK	**Petropavlovsk-**	**3.41**	**236**	Pn	**Pn**	**14 17 35.0**	**+0.3**
PETK	comp=Z,8.0nm,0.3s,baz=72,slow=17,SNR=91			Sn	**Sn**	**14 18 18.0**	**+4.2**
PETK	comp=Z,6.5nm,0.3s,baz=58,slow=22,SNR=4.1			LR	LR	14 19 02.4	
	comp=Z,266nm,21.1s,baz=83,slow=43						
RUS	**Russkaya**	**3.52**	**223**	PN	**Pn**	**14 17 36.6**	**+0.4**
RUS	**Russkaya**	**3.52**	**223**	*i* P	**Pn**	**14 17 36.6**	**+0.4**
RUS				*i* S	**Sn**	**14 18 16.8**	**+0.2**
MTVR	**Mutnovka**	**3.62**	**226**	*e*P	**Pn**	**14 17 39.1**	**+1.4**
MTVR				*i* S	**Sn**	**14 18 21.5**	**+2.4**
APC	**Apacha**	**3.78**	**237**	P	**Pn**	**14 17 41.9**	**+2.1**
APC				*i* S	**Sn**	**14 18 25.5**	**+2.6**
ASAK	**Asacha**	**3.81**	**227**	*i* P	**Pn**	**14 17 42.1**	**+1.9**
TILK	**Tilichiki**	**5.74**	**19**	*i* P	**Pn**	**14 18 08.4**	**+1.8**
SKR	**Severo-Kuril's**	**5.82**	**223**	*e*PN	Pn	14 18 11.7	+3.9
SKR				*e*S	Sn	14 19 20.5	+7.2
SKR	comp=Z,50nm,0.5s			pmax	pmax		
SKR	comp=N,220nm,1.0s			smax	smax		
SKR	comp=E,270nm,1.0s			smax	smax		
SKR	comp=Z,130nm,1.0s			smax	smax		
FX1	**Attu Island--F**	**6.72**	**105**	Pn	**Pn**	**14 18 19.9**	**-0.2**
	comp=Z,15nm,0.3s,baz=253,slow=3.8,SNR=18						
FX1				Sn	**Sn**	**14 19 30.4**	**-4.9**
	comp=Z,67nm,0.3s,baz=338,slow=23,SNR=22						
SEY	**Seymchan**	**9.40**	**331**	*e*PN	Pn	14 19 02.1	+5.3
BILL	**Bilibino**	**13.13**	**6**	*oe*PN	Pn	14 19 51.6	+4.0
BILL	comp=Z,13nm,1.6s			pmax	pmax		
BILL	comp=Z,200nm,15.0s			MLR	MLR		
ASAJ	**Asahikawa**	**16.83**	**237**	LR	LR	14 26 29.9	
	comp=Z,114nm,20.3s,baz=212,slow=35						
USRK	**Ussuriysk Arra**	**22.32**	**253**	LR	LR	14 30 25.1	
	comp=Z,83nm,20.4s,baz=89,slow=37						
KDAK	**Kodiak Island**	**24.68**	**65**	P	**P**	**14 22 01.2**	**+0.4**
	comp=Z,9.3nm,0.7s,baz=312,slow=22,SNR=11						
MJA0	**Matsu Arr-Jizo**	**24.84**	**232**	*e*P	**P**	**14 22 03.2**	**+0.8**
MJA0	comp=Z,1.0nm,0.7s			pmax	pmax		
MJAR	**Matsushiro Arr**	**24.85**	**232**	P	**P**	**14 22 02.8**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=27,slow=6.3,SNR=5.8						
BOD	**Boroibo**	**26.44**	**296**	*e*P	**P**	**14 22 18.6**	**+1.9**
ILAR	**Eielson Array**	**26.45**	**48**	P	**P**	**14 22 17.2**	**+0.4**
	comp=Z,2.5nm,1.0s,baz=262,slow=8.1,SNR=17						
ILAR				LR	LR	14 32 44.9	
	comp=Z,74nm,18.9s,baz=217,slow=36						
SONM	**Songino Array**	**34.80**	**282**	P	**P**	**14 23 30.5**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=54,slow=9.7,SNR=3.6						
SONM				PcP	**PcP**	**14 26 02.9**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=46,slow=2.3,SNR=4.8						
DLBC	**Dease Lake**	**35.78**	**56**	LR	LR	14 38 31.4	
	comp=Z,78nm,19.7s,baz=328,slow=37						
YKA	**Yellowknife Ar**	**40.78**	**45**	P	**P**	**14 24 21.9**	**+1.1**
	comp=Z,3.7nm,0.6s,baz=299,slow=7.9,SNR=66						
YKA				PcP	**PcP**	**14 26 21.4**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=305,slow=3.6,SNR=5.7						
ZALV	**Zalesovo Beam**	**42.86**	**302**	LR	LR	14 43 52.4	
	comp=Z,50nm,20.0s,baz=101,slow=38						
KURK	**Kurchatov**	**47.84**	**302**	P	**P**	**14 25 15.7**	**-1.7**
KURBB	**Kurchatov Arra**	**47.95**	**301**	P	**P**	**14 25 15.7**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=57,slow=8.1,SNR=4.5						
MKAR	**Makanchi Array**	**48.52**	**295**	P	**P**	**14 25 20.8**	**-1.9**
MKAR	comp=Z,41nm,18.6s			MLR	MLR		
MKAR	**Makanchi Array**	**48.52**	**295**	P	**P**	**14 25 20.8**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=60,slow=7.2,SNR=5.4						
MKAR				LR	LR	14 46 02.3	
	comp=Z,41nm,18.6s,baz=349,slow=36						
BVAR	**Borovoye Array**	**50.22**	**308**	P	**P**	**14 25 32.9**	**-2.7**
BVAR	comp=Z,1.0nm,0.6s			pmax	pmax		
BVAR	**Borovoye Array**	**50.22**	**308**	P	**P**	**14 25 32.9**	**-2.7**
	comp=Z,0.7nm,0.6s,baz=58,slow=8.4,SNR=6.9						
ARCES	**ARCESS Array B**	**51.81**	**342**	P	**P**	**14 25 47.0**	**-0.2**
	comp=Z,2.2nm,0.9s,baz=42,slow=9.7,SNR=3.6						
ARCES				LR	LR	14 52 24.9	
	comp=Z,36nm,19.5s,baz=9.4,slow=42						
NVAR	**Mina Array Bea**	**53.82**	**73**	P	**P**	**14 26 05.1**	**+2.3**
	comp=Z,1.6nm,0.7s,baz=301,slow=7.4,SNR=10						
PDAR	**Pinedale Array**	**55.38**	**63**	P	**P**	**14 26 15.6**	**+1.5**
	comp=Z,2.6nm,0.8s,baz=328,slow=3.0,SNR=21						
JOF	**Joensuu**	**56.32**	**336**	*e*P	**P**	**14 26 19.4**	**-0.8**
JOF	comp=Z,2.0nm,0.6s			pmax	pmax		
JOF	**Joensuu**	**56.32**	**336**	*e*p	**P**	**14 26 19.4**	**-0.8**
	comp=Z,1.8nm,0.6s						
ULM	**Lac du Bonnet**	**56.47**	**49**	P	**P**	**14 26 22.6**	**+1.1**
	comp=Z,3.6nm,0.5s,baz=315,slow=6.7,SNR=9.1						
AKTO	**Aktyubinsk**	**57.48**	**313**	P	**P**	**14 26 26.5**	**-2.1**
AKTO						14 27 20.3	
AKTO	comp=Z,1.0nm,0.8s			pmax	pmax		
AKTO	comp=Z,2.0nm,0.7s			pmax	pmax		
AKTO	**Aktyubinsk**	**57.48**	**313**	P	**P**	**14 26 26.5**	**-2.1**
	comp=Z,1.0nm,0.8s,baz=2.9,slow=9.6,SNR=4.9						
AKTO				PcP	**PcP**	**14 27 20.2**	**-1.5**
	comp=Z,1.6nm,0.7s,baz=44,slow=4.0,SNR=4.9						
FINES	**FINESS Array B**	**58.82**	**337**	P	**P**	**14 26 36.3**	**-1.4**
	comp=Z,1.3nm,0.5s,baz=39,slow=12,SNR=15						
FINES				LR	LR	14 57 10.3	
	comp=Z,67nm,18.3s,baz=140,slow=42						
CMAR	**Chiang Mai Arr**	**59.91**	**259**	P	**P**	**14 26 44.5**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=22,slow=6.9,SNR=6.7						
NB2	**NORSAR Subarra**	**61.99**	**345**	P	**P**	**14 26 58.0**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=21,slow=6.9						
NOA	**NORSAR Array B**	**61.99**	**345**	P	**P**	**14 26 58.2**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=19,slow=6.7,SNR=4.8						
SCHQ	**Schefferville**	**63.24**	**29**	P	**P**	**14 27 07.2**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=10,slow=5.8,SNR=8.3						
HNR	**Honiara**	**64.31**	**183**	LR	LR	14 56 57.1	
	comp=Z,69nm,18.4s,baz=298,slow=38						
AKASG	**Malin Array Be**	**67.59**	**330**	P	**P**	**14 27 35.3**	**-0.7**
AKASG	**Malin Array Be**	**67.59**	**330**	P	**P**	**14 27 35.3**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=26,slow=6.7,SNR=3.0						
TXAR	**Lajitas Array**	**68.63**	**69**	P	**P**	**14 27 44.8**	**+1.8**
	comp=Z,2.5nm,0.6s,baz=295,slow=4.8,SNR=16						
CLL	**Collm**	**70.96**	**340**	P	**P**	**14 27 57.0**	**+0.2**
KHC	**Kasperske Hory**	**72.91**	**339**	*e*P	**P**	**14 28 07.5**	**-1.1**
KHC	**Kasperske Hory**	**72.91**	**339**	*e*P	**P**	**14 28 07.5**	**-1.1**
GERES	**GERESS Array B**	**73.16**	**339**	P	**P**	**14 28 09.8**	**-0.3**
	comp=Z,1.0nm,0.8s,baz=49,slow=4.4,SNR=5.5						
GERES				LR	LR	15 04 25.3	
	comp=Z,36nm,18.1s,baz=22,slow=39						
WRA	**Warramunga Arr**	**78.47**	**207**	P	**P**	**14 28 41.0**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=19,slow=5.9,SNR=5.6						
ASAR	**Alice Springs**	**82.14**	**206**	P	**P**	**14 29 01.4**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=16,slow=5.5,SNR=18						
ESDC	**Sonseca Array**	**84.85**	**349**	P	**P**	**14 29 14.7**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=1.3,slow=4.6,SNR=13						
QSPA	**South Pole Qui**	**144.84**	**180**	PKP	PKPbc	14 36 14.0	-0.3
	comp=Z,4.6nm,0.7s,baz=338,slow=1.9,SNR=38						

IDC 14 14:18:00.6±3.9,1.34S×100.72E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.5/20,mbtmp3.5/4,Error ellipse: s-maj=164.6km s-min=23.9km az=57.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.71**	**122**	P	P	14 25 18.1	-0.2
	0.6nm,0.4s,baz=303,slow=9.0,SNR=10.0						
ASAR	**Alice Springs**	**39.07**	**127**	P	P	14 25 29.6	-0.2
	0.2nm,0.3s,baz=301,slow=7.9,SNR=5.7						
SONM	**Songino Array**	**49.23**	**5**	P	P	14 26 52.0	+1.1
	0.4nm,0.6s,baz=186,slow=9.1,SNR=4.1						
MKAR	**Makanchi Array**	**50.60**	**344**	P	P	14 27 00.4	-0.8
	0.2nm,0.3s,baz=155,slow=8.0,SNR=7.6						

IDC 14 14:37:38.8±1.3,3.47N×126.71E,h0km,mb3.6/5, mb1 3.7/5,mb1mx3.5/19,mbtmp3.6/5,MS2.9/1,Ms1 2.9/1, ms1mx2.1/31,Error ellipse: s-maj=130.4km s-min=19.6km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.75**	**343**	LR	LR	14 40 25.5	
	comp=Z,144nm,19.6s,baz=325,slow=44						
WRA	**Warramunga Arr**	**24.44**	**162**	P	P	14 42 59.4	-0.2
	1.9nm,0.8s,baz=343,slow=10,SNR=11						
ASAR	**Alice Springs**	**27.87**	**166**	P	P	14 43 29.9	-0.6
	0.1nm,0.2s,baz=204,slow=15,SNR=3.3						
STKA	**Stephens Creek**	**37.89**	**159**	P	P	14 44 58.7	+0.8
	1.5nm,0.7s,baz=324,slow=11,SNR=4.2						
SONM	**Songino Array**	**47.54**	**342**	P	P	14 46 15.8	-0.3
	0.4nm,0.6s,baz=158,slow=7.1,SNR=4.8						
MKAR	**Makanchi Array**	**57.76**	**325**	P	P	14 47 31.8	0.0
	0.4nm,0.5s,baz=114,slow=7.5,SNR=9.2						

WEL 14 14:39:22.7±0.5,36.39S×178.23E,h129km±5km,ML3.5/8, Error ellipse: s-maj=4.7km s-min=4.5km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.17**	**177**	PN	Pn	14 39 47.0	-0.1
PUZ	**Puketiti**	**1.68**	**179**	PN	Pn	14 39 52.8	0.0
PUZ				SN	Sn	14 40 15.6	-0.3
OPRZ	**Ohinepanea**	**1.98**	**222**	PN	Pn	14 39 56.8	+0.5
MWZ	**Matawai**	**2.02**	**196**	PN	Pn	14 39 57.0	+0.1
MWZ				SN	Sn	14 40 22.8	-0.4
URZ	**Urewera**	**2.07**	**205**	PN	Pn	14 39 57.3	-0.1
URZ				SN	Sn	14 40 24.3	+0.2
CNGZ	**Carnagh Statio**	**2.09**	**181**	PN	Pn	14 39 57.9	+0.2
KNZ	**Kokohu**	**2.67**	**189**	PN	Pn	14 40 04.0	-0.8
RAHZ	**Arahi**	**2.68**	**199**	PN	Pn	14 40 05.1	-0.1
MHGZ	**Mahia Peninsul**	**2.77**	**185**	PN	Pn	14 40 05.7	-0.6
NMHZ	**Naumai**	**2.93**	**202**	PN	Pn	14 40 08.4	-0.1
BKZ	**Black Stump Fm**	**3.10**	**206**	PN	Pn	14 40 09.8	-0.8
MCHZ	**McNeill Hill**	**3.28**	**201**	PN	Pn	14 40 12.0	-0.9
BHHZ	**Black Hill Sta**	**3.54**	**208**	PN	Pn	14 40 15.6	-0.8
KAHZ	**Kahuranaki**	**3.57**	**197**	PN	Pn	14 40 15.1	-1.6
PRHZ	**Porangahau**	**4.07**	**197**	PN	Pn	14 40 20.7	-2.7
TSZ	**Takapari Road**	**4.08**	**205**	PN	Pn	14 40 20.6	-2.8
BFZ	**Birch Farm**	**4.56**	**199**	PN	Pn	14 40 27.2	-2.7
MRZ	**Mangatainoka R**	**4.75**	**205**	PN	Pn	14 40 28.8	-3.5
TIWZ	**Tintock**	**4.75**	**202**	PN	Pn	14 40 29.4	-3.1
HOWZ	**Holdsworth Sta**	**4.98**	**204**	PN	Pn	14 40 31.5	-4.0
KIW	**Kapiti Island**	**5.17**	**209**	PN	Pn	14 40 34.4	-3.5
CAW	**Cannon Point**	**5.32**	**207**	*e*PN	Pn	14 40 35.7	-4.3

IDC 14 14:43:22.1±1.2,4.03N×126.71E,h0km,mb3.7/7, mb1 3.9/7,mb1mx3.7/20,mbtmp3.7/7,MS3.1/2,Ms1 3.1/2, ms1mx2.7/29,Error ellipse: s-maj=70.0km s-min=16.3km az=67.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**11.36**	**218**	LR	LR	14 51 08.5	
	comp=Z,88nm,19.5s,baz=106,slow=41						
FITZ	**Fitzroy Crossi**	**22.02**	**183**	P	P	14 48 18.8	+0.5
	3.0nm,0.9s,baz=18,slow=8.6,SNR=4.3						
FITZ				LR	LR	14 57 27.4	
	comp=Z,54nm,20.5s,baz=256,slow=38						
WRA	**Warramunga Arr**	**24.98**	**163**	P	P	14 48 46.7	-1.0
	4.6nm,0.8s,baz=343,slow=10,SNR=20						
ASAR	**Alice Springs**	**28.41**	**166**	P	P	14 49 18.7	+0.1
	0.4nm,0.5s,baz=344,slow=7.2,SNR=13						
CMAR	**Chiang Mai Arr**	**30.71**	**300**	P	P	14 49 39.5	+0.4
	0.7nm,0.7s,baz=108,slow=6.5,SNR=5.2						
STKA	**Stephens Creek**	**38.42**	**159**	P	P	14 50 46.0	+0.5
	3.5nm,0.8s,baz=26,slow=2.2,SNR=7.4						
SONM	**Songino Array**	**47.01**	**341**	P	P	14 51 56.2	+0.9
	0.2nm,0.6s,baz=149,slow=8.6,SNR=2.9						
MKAR	**Makanchi Array**	**57.30**	**325**	P	P	14 53 10.7	-1.2
	0.3nm,0.5s,baz=114,slow=7.8,SNR=11						

*SZGRF **14** 14:47:16.2,18.55S×176.72W,h33km,Fiji Islands region*
*ISCJB **14** 14:48:14.4±0.5,18.6S±0.1×177.9W±0.1,h557km, mb4.1/20,Error ellipse: s-maj=21.6km s-min=7.5km az=146.9*
*IDC **14** 14:48:14.0±1.4,18.58S×177.88W,h538km±16km, mb3.5/15,mb1 3.8/17,mb1mx3.7/22,mbtmp3.5/17,Error ellipse: s-maj=19.9km s-min=10.4km az=147.0*

ISC 14 14:48:14.8±0.7,18.6S±0.2×177.8W±0.1,h557km,n52, σ1§27/54,mb4.2/20,3C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.42**	**52**	P	**P**	**14 50 06.4**	**-0.8**
	9.0nm,0.3s,baz=58,slow=1.9,SNR=18						
AFI				S	**S**	**14 51 37.6**	**-1.6**
	5.4nm,0.3s,baz=213,slow=22,SNR=4.2						
DZM	**Mont Dzumac**	**15.18**	**254**	P	**P**	**14 51 24.8**	**-1.3**
	1.0nm,0.3s,baz=84,slow=17,SNR=10						
ARMA	**Armidale**	**30.11**	**241**	*e*P	**P**	**14 53 40.5**	**+0.5**
CNB	**Canberra Magne**	**33.49**	**233**	*e*P	**P**	**14 54 08.9**	**+0.3**
	23nm,0.4s						
CTA	**Charters Tower**	**33.91**	**261**	*e*P	**P**	**14 54 12.0**	**-0.3**
	11nm,0.7s						
PMG	**Port Moresby**	**35.13**	**280**	P	**P**	**14 54 23.2**	**+0.7**
	23nm,0.8s,baz=93,slow=5.3,SNR=17						
TOO	**Toolangi**	**37.20**	**232**	*e*P	**P**	**14 54 39.5**	**+0.1**
	55nm,0.6s						
STKA	**Stephens Creek**	**38.82**	**242**	*e*P	**P**	**14 54 52.7**	**+0.2**
	13nm,0.9s						
STKA	**Stephens Creek**	**38.82**	**242**	P	**P**	**14 54 52.8**	**+0.2**
	16nm,0.7s,baz=90,slow=8.5,SNR=72						
WRA	**Warramunga Arr**	**45.08**	**260**	P	**P**	**14 55 40.9**	**-1.1**
	12nm,0.4s,baz=97,slow=7.0,SNR=454						
WRA				PcP	**PcP**	**14 57 11.2**	**+0.4**
	0.8nm,0.4s,baz=89,slow=3.7,SNR=4.7						
ASAR	**Alice Springs**	**45.17**	**255**	P	**P**	**14 55 42.2**	**-0.4**
	31nm,0.6s,baz=93,slow=7.5,SNR=502						
ASAR				PcP	**PcP**	**14 57 11.1**	**0.0**
	2.1nm,0.7s,baz=95,slow=4.3,SNR=5.4						
MTN	**Manton Dam**	**49.35**	**269**	*e*P

0.3nm,0.4s,baz=108,slow=7.6,SNR=11
WRA Warramunga Arr 44.08 273 P **P** **15 04 09.4 -0.2**
0.9nm,0.5s,baz=110,slow=8.1,SNR=16
QSPA South Pole Qui 59.37 180 P P 15 06 11.2 +8.1
0.7nm,0.5s,baz=290,slow=8.8,SNR=12
ARCES ARCESS Array B 138.91 348 PKP **PKPdf** **15 15 27.1 +1.0**
2.0nm,0.9s,baz=54,slow=6.1,SNR=2.9
FINES FINESS Array B 145.45 340 PKP **PKPdf** **15 15 36.6 -1.3**
1.8nm,0.5s,baz=48,slow=3.2,SNR=16
NOA NORSAR Array B 149.08 351 PKPbc **PKPbc** **15 15 47.8 -0.5**
0.8nm,0.7s,baz=13,slow=4.1,SNR=3.7

IDC 14 15:02:25.3±1.3, 4°09'N×126°98'E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/19, mbtmp3.5/5, MS3.1/2, Ms1 3.1/2, ms1mx2.7/27, Error ellipse: s-maj=144.1km s-min=18.6km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.27**	**335**	LR	LR	15 04 54.1	
	comp=Z,160nm,19.4s,baz=262,slow=46						
WRA	**Warramunga Arr**	**24.95**	**163**	P	P	15 07 49.4	-1.3
	1.4nm,0.7s,baz=344,slow=9.8,SNR=13						
ASAR	**Alice Springs**	**28.40**	**167**	P	P	15 08 22.6	+0.8
	0.2nm,0.5s,baz=338,slow=7.6,SNR=9.6						
MJAR	**Matsushiro Arr**	**33.91**	**16**	LR	LR	15 22 20.6	
	comp=Z,61nm,20.5s,baz=140,slow=35						
STKA	**Stephens Creek**	**38.38**	**160**	P	P	15 09 48.7	+0.3
	2.0nm,0.9s,baz=332,slow=10,SNR=6.9						
SONM	**Songino Array**	**47.04**	**341**	P	P	15 10 58.8	0.0
	0.3nm,0.6s,baz=155,slow=9.3,SNR=3.2						
MKAR	**Makanchi Array**	**57.40**	**325**	P	P	15 12 15.5	-0.2
	0.2nm,0.3s,baz=117,slow=7.5,SNR=12						

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*IDC **14** 15:29:03.4±0.8, 3°.99'N×126°.69'E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/19, mbtmp3.8/10, Error ellipse: s-maj=53.8km s-min=15.9km az=67.0*
*ISCJB **14** 15:29:08.1±0.6, 3°.9'N±0°.1×126°.6'E±0°.2, h45km, mb3.8/10, Error ellipse: s-maj=28.0km s-min=9.1km az=154.5*
ISC 14 15:29:09.7±0.8, 3°.9'N±0°.1×126°.7'E±0°.2, h45km, n15, σ1§03/15, mb4.0/10, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**3.02**	**352**	*i* P	**Pn**	**15 29 55.5**	**+0.4**
CTBH	**Cotabato--PC H**	**4.07**	**323**	‖*i*P	**Pn**	**15 30 09.6**	**+0.1**
BUKP	**Musuan**	**4.24**	**338**	*e*P	**Pn**	**15 30 11.8**	**0.0**
PAGZ	**Pagadian**	**5.09**	**320**	*e*P	**Pn**	**15 30 25.0**	**+1.5**
IPIL	**Ipil**	**5.61**	**313**	*e*P	**Pn**	**15 30 30.6**	**0.0**
WRA	**Warramunga Arr**	**24.89**	**163**	P	**P**	**15 34 28.8**	**+0.3**
	2.9nm,0.6s,baz=343,slow=11,SNR=40						
ASAR	**Alice Springs**	**28.32**	**166**	P	**P**	**15 34 59.2**	**-0.2**
	0.3nm,0.5s,baz=343,slow=7.3,SNR=12						
CMAR	**Chiang Mai Arr**	**30.73**	**300**	P	**P**	**15 35 20.6**	**-0.2**
	0.5nm,0.7s,baz=98,slow=6.5,SNR=6.4						
STKA	**Stephens Creek**	**38.33**	**159**	P	**P**	**15 36 26.4**	**+0.1**
	2.0nm,0.6s,baz=337,slow=9.7,SNR=6.4						
SONM	**Songino Array**	**47.09**	**341**	P	**P**	**15 37 36.7**	**-0.6**
	0.4nm,0.5s,baz=156,slow=9.2,SNR=4.5						
MKAR	**Makanchi Array**	**57.37**	**325**	P	**P**	**15 38 51.9**	**-1.6**
	0.6nm,0.5s,baz=119,slow=7.5,SNR=21						
ZALV	**Zalesovo Beam**	**60.39**	**333**	P	**P**	**15 39 15.7**	**+1.5**
	0.7nm,0.5s,baz=130,slow=7.8,SNR=4.9						
ILAR	**Eielson Array**	**84.94**	**25**	P	**P**	**15 41 40.0**	**+0.2**
	0.1nm,0.6s,baz=263,slow=4.9,SNR=4.7						
ARCES	**ARCESS Array B**	**90.24**	**340**	P	**P**	**15 42 03.7**	**-1.6**
	2.8nm,0.9s,baz=91,slow=6.3,SNR=3.6						
FINES	**FINESS Array B**	**91.63**	**332**	P	**P**	**15 42 13.4**	**+1.6**
	1.5nm,1.0s,baz=8.9,slow=6.2,SNR=3.7						

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*ISK **14** 15:30:45.4, 37°.23'N×37°.15'E, h2km, MD2.9*
*CSEM **14** 15:30:45.9±0.2, 37°.20'N×37°.11'E, h5km, MD2.9, Error ellipse: s-maj=4.9km s-min=3.6km az=146.0*
*ISCJB **14** 15:30:46.2±0.7, 37°.18'N±0°.03×37°.11'E±0°.04, h3km±7km, Error ellipse: s-maj=6.5km s-min=4.2km az=141.6*
*DDA **14** 15:30:46.6, 37°.10'N×37°.18'E, h7km, MD2.8*
ISC 14 15:30:46.1±0.9, 37°.17'N±0°.03×37°.14'E±0°.03, h4km±7km, n29, σ0§90/41, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.06**	**91**	*e*PG	**Pg**	**15 30 47.0**	**-0.5**
GAZ				*e*SG	**Sg**	**15 30 49.2**	**+0.6**
GAZ	**Gaziantep**	**0.06**	**91**	*e*Pg	**Pg**	**15 30 47.1**	**-0.5**
GAZ				*e*Sg	**Sg**	**15 30 49.2**	**+0.6**
KMRS	**Kahramanmaras**	**0.38**	**331**	*e*PG	**Pg**	**15 30 53.0**	**-0.4**
KMRS	**Kahramanmaras**	**0.38**	**331**	*e*Pg	**Pg**	**15 30 53.1**	**-0.4**
KUZU	**Kuzuini**	**0.40**	**187**	*i* P	**Pg**	**15 30 53.6**	**-0.3**
KUZU				*i* S	**Sg**	**15 31 00.1**	**+1.0**
KUZU	**Kuzuini**	**0.40**	**187**	*i* P	**Pg**	**15 30 53.6**	**-0.3**
KUZU				*i* S	**Sg**	**15 31 00.1**	**+1.0**
ANDN	**Andirin**	**0.75**	**303**	*i* P	**Pn**	**15 31 03.6**	**0.0**
ANDN				*i* S	**Sn**	**15 31 14.8**	**-0.7**
ANDN	**Andirin**	**0.75**	**303**	*i* P	**Pn**	**15 31 03.6**	**0.0**
COBT	**Iskenderun**	**0.96**	**228**	*i* P	**Pg**	**15 31 04.6**	**+0.1**
COBT				*i* S	**Sb**	**15 31 19.3**	**+0.8**
COBT	**Iskenderun**	**0.96**	**228**	*i* P	**Pg**	**15 31 04.6**	**+0.1**
COBT				*i* S	**Sb**	**15 31 19.3**	**+0.8**
ATAB	**Bozova**	**0.97**	**72**	*i* P	**Pb**	**15 31 05.3**	**-0.3**
ATAB				*i* S	**Sn**	**15 31 19.8**	**-1.0**
ATAB	**Bozova**	**0.97**	**72**	*i* P	**Pb**	**15 31 05.3**	**-0.3**
ATAB				*i* S	**Sn**	**15 31 19.8**	**-1.0**
KOZT	**Kozan**	**1.09**	**287**	*e*PG	**Pg**	**15 31 06.9**	**-0.1**
KOZT	**Kozan**	**1.09**	**287**	*e*Pg	**Pg**	**15 31 06.9**	**-0.1**
CEYT	**Ceyhan**	**1.12**	**262**	*e*PN	**Pb**	**15 31 08.2**	**+0.2**
CEYT	**Ceyhan**	**1.12**	**262**	*e*Pn	**Pb**	**15 31 08.2**	**+0.2**
AKCD	**Akcadag**	**1.28**	**29**	*e*P	**Pn**	**15 31 13.3**	**+2.3**
AKCD				*i* S	**Sn**	**15 31 29.9**	**+1.2**
AKCD	**Akcadag**	**1.28**	**29**	*e*P	**Pn**	**15 31 13.3**	**+2.3**
AKCD				*i* S	**Sn**	**15 31 29.9**	**+1.2**
URFA	**Urfa**	**1.37**	**78**	*e*PN	**Pb**	**15 31 11.9**	**-0.5**
URFA	**Urfa**	**1.37**	**78**	*e*Pn	**Pb**	**15 31 11.9**	**-0.5**
YAYL	**Yayladag**	**1.41**	**216**	*i* P	**Pn**	**15 31 12.0**	**-0.6**
YAYL				*i* S	**Sb**	**15 31 31.2**	**-0.1**
YAYL	**Yayladag**	**1.41**	**216**	*i* P	**Pn**	**15 31 12.0**	**-0.6**
YAYL				*i* S	**Sb**	**15 31 31.2**	**-0.1**
MALT	**Malatya**	**1.53**	**42**	*e*PN	**Pn**	**15 31 14.1**	**-0.3**
MALT	**Malatya**	**1.53**	**42**	*e*Pn	**Pn**	**15 31 14.1**	**-0.3**
DARE	**Darende-Malaty**	**1.85**	**16**	*e*PN	Pn	15 31 12.2	-6.6
BNN	**Bunyan**	**1.96**	**329**	*e*PN	**Pn**	**15 31 18.4**	**-1.9**
BNN	**Bunyan**	**1.96**	**329**	*e*Pn	**Pn**	**15 31 18.4**	**-1.9**
SVRC	**Sivrice-ELAZID**	**2.10**	**54**	*e*PN	**Pn**	**15 31 22.0**	**-0.2**
SVRC	**Sivrice-ELAZID**	**2.10**	**54**	*e*Pn	**Pn**	**15 31 22.0**	**-0.2**

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*VIE **14** 15:42:07.3, 24°.83'S×172°.08'E, h0km, mb4.3 879 km SSE of Port Vila*
*IDC **14** 15:42:14.6±0.9, 22°.90'S×170°.96'E, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.2/19, mbtmp4.1/13, ML3.8/1, MS3.6/4, Ms1 3.5/4, ms1mx3.0/28, Error ellipse: s-maj=27.0km s-min=19.3km az=158.0*
*ISCJB **14** 15:42:17.8±0.7, 22°.9'S±0°.1×170°.84'E±0°.06, h31km, mb4.1/12, MS3.7/3, Error ellipse: s-maj=20.8km s-min=8.4km az=4.0*
*SZGRF **14** 15:42:25.7, 20°.44'S×172°.44'E, h33km, Vanuatu Islands region*
ISC 14 15:42:19.8±0.7, 22°.9'S±0°.2×170°.84'E±0°.07, h31km, n53, σ1§19/50, mb4.1/12, MS3.7/3, 8C-4D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.72**	**280**	*e*S	**Sb**	**15 44 08.0**	**-1.4**
DZM	**Mont Dzumac**	**4.14**	**280**	Pn	**Pn**	**15 43 20.0**	**-1.0**
	5.4nm,0.3s,baz=93,slow=17,SNR=64						
DZM				Sn	**Sn**	**15 44 09.8**	**+1.5**
	2.5nm,0.3s,baz=204,slow=18,SNR=3.6						
NOUC	**Port Laguerre**	**4.26**	**279**	*e*P	**Pn**	**15 43 21.5**	**-1.1**
NOUC				*e*S	**Sn**	**15 44 11.4**	**+0.2**
HNR	**Honiara**	**16.94**	**320**	LR	LR	15 51 49.5	
	comp=Z,92nm,18.2s,baz=84,slow=34						
CTA	**Charters Tower**	**23.04**	**272**	P	**P**	**15 47 24.7**	**+2.1**
	4.3nm,0.9s,baz=111,slow=11,SNR=4.5						
STKA	**Stephens Creek**	**27.41**	**245**	P	**P**	**15 48 02.8**	**0.0**
	1.0nm,0.4s,baz=100,slow=10,SNR=4.2						
STKA				LR	LR	15 57 55.3	
	comp=Z,94nm,18.7s,baz=27,slow=34						
ASAR	**Alice Springs**	**33.88**	**261**	P	**P**	**15 48 59.9**	**-0.2**
	1.7nm,0.8s,baz=99,slow=9.0,SNR=19						
WRA	**Warramunga Arr**	**34.05**	**268**	P	**P**	**15 49 00.4**	**-1.2**
	0.4nm,0.5s,baz=99,slow=8.3,SNR=4.0						
FITZ	**Fitzroy Crossi**	**42.48**	**268**	P	**P**	**15 50 12.4**	**0.0**
	6.3nm,0.7s,baz=140,slow=7.6,SNR=12						
MJAR	**Matsushiro Arr**	**66.62**	**332**	P	**P**	**15 53 07.2**	**-0.1**
	0.9nm,0.7s,baz=164,slow=6.2,SNR=3.0						
QSPA	**South Pole Qui**	**67.22**	**180**	P	**P**	**15 53 10.2**	**-0.8**
	3.7nm,1.2s,baz=10,slow=1.4,SNR=3.4						
ASAJ	**Asahikawa**	**71.49**	**339**	LR	LR	16 22 22.4	
	comp=Z,43nm,19.4s,baz=350,slow=34						
PETK	**Petropavlovsk-**	**76.49**	**352**	P	**P**	**15 54 06.2**	**-0.2**
	4.2nm,0.8s,baz=146,slow=7.9,SNR=6.8						
CMAR	**Chiang Mai Arr**	**81.34**	**294**	P	**P**	**15 54 35.9**	**+2.1**
	1.4nm,0.8s,baz=132,slow=4.3,SNR=11						
YBH	**Yreka Blue Hor**	**88.86**	**43**	LR	LR	16 30 43.6	
	comp=Z,47nm,18.2s,baz=97,slow=33						
NVAR	**Mina Array Bea**	**90.08**	**48**	P	**P**	**15 55 16.9**	**-0.1**
	1.7nm,0.7s,baz=226,slow=7.5,SNR=9.2						
SONM	**Songino Array**	**90.98**	**323**	P	**P**	**15 55 21.4**	**+0.5**
	1.6nm,0.9s,baz=115,slow=2.8,SNR=9.8						
ILAR	**Eielson Array**	**93.23**	**17**	P	**P**	**15 55 28.9**	**-1.9**
	0.7nm,1.0s,baz=238,slow=6.0,SNR=5.5						
ARCES	**ARCESS Array B**	**128.92**	**345**	PKP	**PKPdf**	**16 01 23.5**	**-0.2**
	2.3nm,0.8s,baz=62,slow=2.1,SNR=6.7						
KWP	**Kalwaria Pacla**	**143.39**	**325**	‖*i*P	PKPdf	16 01 57.2	+6.2
MLR	**Muntele Rosu**	**143.63**	**317**	‖*i*P	PKPdf	16 02 01.8	+10
TRPA	**Tarpa**	**144.33**	**323**	‖*i*P	**PKPdf**	**16 01 52.1**	**-0.6**
CRVS	**Cervenica-Dubn**	**144.48**	**325**	*e*	**PKPdf**	**16 01 57.9**	**+4.9**
DRGR		**144.96**	**321**	‖*i*P	**PKPdf**	**16 01 54.2**	**+0.2**
LOT	**Lotru**	**145.01**	**318**	‖*i*P	**PKPdf**	**16 01 54.4**	**+0.3**
GZR	**Gura Zlata**	**145.64**	**319**	‖*i*P	**PKPdf**	**16 01 54.9**	**-0.3**
BSEG	**Bad Segeberg**	**145.65**	**340**	*e*PKPbc	**PKPab**	**16 01 55.8**	**+0.4**
DPC	**Dobruska-Polom**	**146.09**	**330**	*e*P	**PKPab**	**16 01 58.4**	**+1.1**
VYHS	**Vyhne**	**146.10**	**326**	*e*	**PKPab**	**16 01 56.9**	**-0.5**
UPC	**Upice**	**146.12**	**331**	*e*P	**PKPab**	**16 01 57.9**	**+0.6**
BZS	**Buzias**	**146.23**	**320**	‖*i*P	**PKPab**	**16 02 00.1**	**+2.2**
VRAC	**Vranov**	**146.68**	**329**	‖*i*P	**PKPab**	**16 01 59.1**	**-0.5**
PVCC	**Panska Ves**	**146.74**	**332**	*e*P	**PKPab**	**16 02 00.2**	**+0.5**
BRG	**Berggiesshubel**	**146.75**	**333**	*e*P	**PKPbc**	**16 01 58.4**	**-0.1**
	5.5nm,0.9s						
BRG				*e*		16 02 09.3	
	4.2nm,0.7s						
BRG	**Berggiesshubel**	**146.75**	**333**	*e*PKPbc	**PKPab**	**16 01 59.4**	**-0.3**
CLL	**Collm**	**146.80**	**334**	*e*PKPbc	**PKPab**	**16 01 59.3**	**-0.6**
CLL	**Collm**	**146.80**	**334**	*i* PKP	**PKPab**	**16 01 59.6**	**-0.3**
	comp=Z,8.0nm,0.8s						
CLL				*i*		16 02 09.1	
FBE	**Freiberg**	**146.96**	**334**	*e*PKPbc	**PKPab**	**16 02 00.3**	**-0.2**
PRU	**Pruhonice**	**147.15**	**331**	*e*P	**PKPab**	**16 02 00.5**	**-0.8**
PRU				*ex*	x	16 02 06.1	
PKSM	**Moragy**	**147.61**	**323**	‖*i*P	**PKPdf**	**16 01 59.4**	**+1.1**
TANN	**Tannenbergstha**	**147.71**	**334**	*e*PKPbc	**PKPab**	**16 02 02.3**	**-1.3**
WERD	**Werda**	**147.75**	**334**	*e*PKPbc	**PKPbc**	**16 02 02.2**	**+0.9**
PLN	**Plauen**	**147.78**	**334**	*e*PKPbc	**PKPbc**	**16 02 02.3**	**+0.9**
GUNZ	**Gunzen**	**147.80**	**334**	*e*PKPbc	**PKPab**	**16 02 02.7**	**-1.2**
WERN	**Wernitzgruen**	**147.84**	**334**	*e*PKPbc	**PKPab**	**16 02 02.9**	**-1.2**
NKC	**Novy Kostel**	**147.85**	**334**	*e*PKPbc	**PKPbc**	**16 02 02.7**	**+1.1**
NKC	**Novy Kostel**	**147.85**	**334**	*e*P	**PKPbc**	**16 02 02.1**	**+0.5**
ROHR	**Rohrbach**	**147.91**	**334**	*e*PKPbc	**PKPab**	**16 02 03.1**	**-1.3**
KHC	**Kasperske Hory**	**148.20**	**331**	*e*P	**PKPbc**	**16 02 03.0**	**+0.4**
KHC				*ex*	x	16 02 09.8	
GRF	**Grafenberg Arr**	**148.77**	**334**	*e*PKPbc	**PKPbc**	**16 02 05.0**	**+1.0**
ABTA	**Abfaltersbach**	**150.43**	**329**	‖*i*PKiKP	**PKPbc**	**16 02 07.2**	**-1.1**
	comp=Z,5.1nm,0.8s						
MOTA	**Moosalm**	**150.64**	**331**	‖*i*PKiKP	**PKPbc**	**16 02 08.7**	**-0.2**
	comp=Z,6.4nm,0.8s						
FETA	**Feichten**	**151.05**	**331**	‖*i*PKiKP	**PKPbc**	**16 02 09.7**	**-0.1**
	comp=Z,8.2nm,1.1s						

IDC 14 15:42:24.9±1.3, 4°12N×126°91E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/19, mbtmp3.6/5, MS3.8/1, Ms1 3.8/1, ms1mx2.0/34, Error ellipse: s-maj=126.0km s-min=19.1km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.00**	**163**	P	P	15 47 49.1	-1.5
	2.3nm,0.7s,baz=343,slow=11,SNR=23						
ASAR	**Alice Springs**	**28.44**	**166**	P	P	15 48 23.4	+1.7
	0.2nm,0.4s,baz=344,slow=9.6,SNR=8.1						
JHJ	**Hachijo jima 2**	**31.26**	**21**	LR	LR	15 59 10.0	
	comp=Z,175nm,19.8s,slow=32						
SONM	**Songino Array**	**46.99**	**341**	P	P	15 50 59.0	+1.0
	0.4nm,0.8s,baz=148,slow=8.5,SNR=3.1						
MKAR	**Makanchi Array**	**57.34**	**325**	P	P	15 52 14.9	0.0
	0.7nm,0.7s,baz=118,slow=7.8,SNR=15						
ZALV	**Zalesovo Beam**	**60.33**	**333**	P	P	15 52 34.0	-1.5
	0.5nm,0.4s,baz=127,slow=7.8,SNR=3.8						

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*IDC **14** 16:14:03.2±0.9, 0°.67'S×135°.24'E, h0km, mb4.1/7, mb1 4.4/9, mb1mx4.1/19, mbtmp4.2/9, ML4.3/2, MS3.4/3, Ms1 3.4/3, ms1mx2.8/27, Error ellipse: s-maj=38.5km s-min=16.5km az=76.0*
*ISCJB **14** 16:14:06.7±0.7, 0°.77S±0°.08×134°.86E±0°.06, h33km, mb4.1/7, MS3.4/2, Error ellipse: s-maj=11.9km s-min=8.2km az=178.3*
*DJA **14** 16:14:14, 1°.19S×135°.20E, h10km, mb4.7/8*
ISC 14 16:14:08.2±0.9, 0°.8S±0°.1×134°.88E±0°.07, h35km, n23, σ1§11/19, mb4.1/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAKI	**Biak**	**1.30**	**110**	P	**Pn**	**16 14 30.0**	**0.0**
FAKI	**Fak Fak**	**3.40**	**231**	P	**Pn**	**16 14 58.3**	**-0.5**
SWI	**Sorong**	**3.62**	**268**	P	**Pn**	**16 15 01.8**	**0.0**
SMPI	**Sarmi**	**4.02**	**108**	P	**Pn**	**16 15 08.0**	**+0.6**
TLE	**Tual**	**5.31**	**204**	P	**Pn**	**16 15 26.6**	**+1.6**
	140nm,0.6s,0.5nm						
JAY	**Jayapura**	**6.08**	**107**	P	**Pn**	**16 15 36.5**	**+0.8**
	36nm,0.9s,4µm0.3nm						
BNDI	**Bandanaira**	**6.22**	**233**	P	**Pn**	**16 15 36.9**	**-0.7**
	123nm,1.2s,0.6nm						
MSAI	**Masohi**	**6.48**	**246**	P	Pn	16 15 45.5	+4.3
COEN	**Coen**	**15.48**	**148**	*e*P	**Pn**	**16 17 41.1**	**-3.0**
	23nm,0.4s						
WRA	**Warramunga Arr**	**19.09**	**182**	P	**P**	**16 18 28.1**	**+0.2**
	1.4nm,0.3s,baz=0,slow=11,SNR=65						
FITZ	**Fitzroy Crossi**	**19.49**	**207**	*e*P	**P**	**16 18 32.8**	**+0.4**
	9.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.49**	**207**	P	**Pn**	**16 18 33.9**	**+0.1**
	0.4nm,0.3s,baz=28,slow=13,SNR=9.1						
FITZ				LR	LR	16 25 17.6	
	comp=Z,81nm,19.4s,baz=137,slow=34						
CTA	**Charters Tower**	**22.21**	**151**	*e*P	**P**	**16 19 03.7**	**+1.9**
	8.2nm,0.6s						
CTA	**Charters Tower**	**22.21**	**151**	P	**P**	**16 19 00.7**	**-1.1**
	9.4nm,0.6s,baz=324,slow=12,SNR=23						
ASAR	**Alice Springs**	**22.80**	**182**	P	**P**	**16 19 09.0**	**+0.9**
	19nm,0.8s,baz=11,slow=12,SNR=104						
STKA	**Stephens Creek**	**31.61**	**169**	*e*P	**P**	**16 20 27.8**	**0.0**
	4.3nm,0.9s						
STKA	**Stephens Creek**	**31.61**	**169**	P	**P**	**16 20 27.9**	**+0.1**
	5.8nm,0.8s,baz=337,slow=11,SNR=8.7						
PSI	**Prapat**	**36.12**	**276**	LR	LR	16 36 53.1	
	comp=Z,45nm,19.0s,baz=144,slow=38						
CMAR	**Chiang Mai Arr**	**40.15**	**300**	P	P	16 21 45.0	+3.7
	0.7nm,0.6s,baz=101,slow=7.0,SNR=4.8						
SONM	**Songino Array**	**54.37**	**337**	LR	LR	16 46 02.6	
	comp=Z,43nm,18.4s,baz=103,slow=35						
MKAR	**Makanchi Array**	**65.92**	**323**	P	**P**	**16 24 51.5**	**+0.7**
	0.8nm,0.6s,baz=107,slow=8.4,SNR=9.4						
ZALV	**Zalesovo Beam**	**68.35**	**331**	P	**P**	**16 25 06.3**	**+0.3**
	0.5nm,0.5s,baz=104,slow=6.1,SNR=3.0						
ILAR	**Eielson Array**	**85.66**	**25**	P	**P**	**16 26 42.8**	**-0.3**
	0.9nm,0.7s,baz=256,slow=4.8,SNR=15						

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*ISCJB **14** 16:16:47.8±1.5, 39°.40N±0°.06×38°.4E±0°.1, h9km±8km, Error ellipse: s-maj=16.2km s-min=8.5km az=20.8*
*CSEM **14** 16:16:47.7±0.7, 39°.37N×38°.34E, h2km, MD2.6, Error ellipse: s-maj=15.2km s-min=6.1km az=124.0*
*DDA **14** 16:16:48.8, 39°.31N×38°.37E, h6km, MD2.8*
*ISK **14** 16:16:50.4, 39°.41N×38°.67E, h5km, MD2.6*
ISC 14 16:16:47.9±1.6, 39°.36N±0°.05×38°.33E±0°.08, h8km±8km, n16, σ0§94/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEMA	**Kemaliye**	**0.15**	**127**	*i* P	**Pg**	**16 16 51.0**	**-0.2**
KEMA				*i* S	**Sg**	**16 16 53.7**	**+0.2**
KEMA	**Kemaliye**	**0.15**	**127**	*i* P	**Pg**	**16 16 51.0**	**-0.2**
KEMA				*i* S	**Sg**	**16 16 53.7**	**+0.2**
ILIC	**ilic-Erzincan**	**0.20**	**63**	*e*PG	**Pg**	**16 16 51.9**	**-0.1**
ILIC				*e*SG	**Sg**	**16 16 54.3**	**-0.6**
ILIC	**ilic-Erzincan**	**0.20**	**63**	*e*Pg	**Pg**	**16 16 51.9**	**-0.1**
ILIC				*e*Sg	**Sg**	**16 16 54.3**	**-0.6**
EZC	**Erzincan**	**0.88**	**63**	*e*PG	**Pg**	**16 17 03.9**	**-0.9**
EZC	**Erzincan**	**0.88**	**63**	*e*Pg	**Pg**	**16 17 03.9**	**-0.9**
PTK	**Pertek**	**0.95**	**119**	*e*PG	**Pb**	**16 17 06.6**	**0.0**
PTK	**Pertek**	**0.95**	**119**	*e*Pg	**Pb**	**16 17 06.6**	**0.0**
ELZG	**Elazig**	**1.00**	**149**	*i* P	**Pg**	**16 17 06.0**	**-1.1**
ELZG				*i* S	**Sb**	**16 17 20.2**	**-0.7**
ELZG	**Elazig**	**1.00**	**149**	*i* P	**Pg**	**16 17 06.0**	**-1.1**
ELZG				*i* S	**Sb**	**16 17 20.2**	**-0.7**
MALT	**Malatya**	**1.05**	**176**	*e*PN	Pn	16 17 13.2	+4.3
ERZN	**Erzincan**	**1.10**	**78**	*e*PG	**Pg**	**16 17 07.9**	**-1.0**
AKCD	**Akcadag**	**1.11**	**197**	*e*P	**Pg**	**16 17 09.3**	**-0.1**
AKCD				*i* S	**Sn**	**16 17 24.6**	**-0.7**
AKCD	**Akcadag**	**1.11**	**197**	*e*P	**Pb**	**16 17 09.3**	**-0.1**
AKCD				*i* S	**Sn**	**16 17 24.6**	**-0.7**
SVRC	**Sivrice-ELAZID**	**1.24**	**142**	*e*PN	**Pn**	**16 17 13.7**	**+2.1**
SVRC	**Sivrice-ELAZID**	**1.24**	**142**	*e*Pn	**Pn**	**16 17 13.7**	**+2.1**

IDC 14 16:26:30.5±1.7, 4°34N×127°02E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/20, mbtmp3.6/4, Error ellipse: s-maj=145.1km s-min=21.3km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.18**	**164**	P	P	16 31 57.4	-0.5
	1.8nm,0.6s,baz=343,slow=10,SNR=13						
ASAR	**Alice Springs**	**28.64**	**167**	P	P	16 32 29.6	+0.6
	0.2nm,0.6s,baz=348,slow=7.8,SNR=5.9						
MKAR	**Makanchi Array**	**57.22**	**325**	P	P	16 36 19.9	+0.3
	0.4nm,0.7s,baz=123,slow=7.3,SNR=8.0						
KURBB	**Kurchatov Arra**	**61.39**	**327**	P	P	16 36 48.0	-0.3
	0.8nm,0.7s,baz=125,slow=6.1,SNR=7.0						

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*IDC **14** 16:27:55.3±1.2, 29°.84N×80°.26E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.4/26, mbtmp3.5/7, ML3.4/1, Error ellipse: s-maj=37.9km s-min=24.6km az=68.0*
*NDI **14** 16:28:05.3±2.8, 29°.88N×80°.04E, h10km, ML3.4*
ISC 14 16:27:57.6±1.5, 29°.97N±0°.04×80°.33E±0°.06, h10km±9km, n17, σ1§22/25, mb3.3/6, 2D, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTH	**Pithoragarh**	**0.43**	**193**	*e*PKP	**Pg**	**16 28 05.9**	**-0.2**
PTH				*e*S	**Sg**	**16 28 10.8**	**-0.9**
LGTI	**Lohaghat**	**0.52**	**188**	*e*PKP	Pn	**16 28 12.9**	**+1.9**
LGTI				*e*S	**Sn**	**16 28 21.7**	**+1.8**
DDI	**Dehra Dun**	**2.00**	**281**	*e*PKP	**Pg**	**16 28 36.0**	**+0.1**
SMLA	**Simla**	**2.96**	**294**	*i* P	**Pb**	**16 28 49.7**	**-0.7**
SMLA				*i* x	**Sb**	**16 29 28.5**	**+1.9**
SMLA				‖AML	AML	16 29 32.0	
	comp=E,1µm,0.3s						
SMLA				‖AML	AML	16 29 33.0	
	comp=N,1µm,0.2s						
NDI	**New Delhi**	**3.00**	**246**	*e*PKP	**Pb**	**16 28 51.0**	**-0.1**
NDI				*ex*	**Sb**	**16 29 27.0**	**-0.8**
SDNR	**Sundarnagar**	**3.27**	**299**	*ex*	Pn	**16 28 48.0**	**-

FBE Sg **Sg** **16 35 10.0 +0.8**
GKP Gorka Klasztor 1.90 21 *e*Pn Pg 16 34 53.1 +6.2
GKP *e*Sn **Sg** **16 35 15.3 +3.7**
GKP *e*Sg Sb 16 35 17.8 +7.5
GKP Gorka Klasztor 1.90 21 *e*Pn Pg 16 34 53.1 +6.2
GKP *e*Sn **Sg** **16 35 15.3 +3.7**
GKP *e*Sg Sb 16 35 17.8 +7.5
RAC Raciborz 1.94 136 *e*Pg **Pb** **16 34 47.3 +0.7**
RAC *e*Sg **Sg** **16 35 13.7 +1.0**
MORC Moravsky Berou 1.95 152 *e*Pn **Pn** **16 34 44.9 0.0**
MORC Moravsky Berou 1.95 152 ⇓*i*P **Pn** **16 34 44.9 0.0**
MORC Moravsky Berou 1.95 152 *e*Pn **Pn** **16 34 44.8 0.0**
baz=336
MORC S **Sn** **16 35 07.9 -2.2**
MORC *e*Sg **Sb** **16 35 12.8 +1.0**
27nm,0.2s,baz=336
CLL Collm 1.96 266 *e*Pn **Pn** **16 34 44.6 -0.3**
CLL *e*Sg **Sg** **16 35 14.0 +0.7**
CLL Collm 1.96 266 *e*Pn **Pn** **16 34 45.0 +0.1**
CLL *e*Pg **Pb** **16 34 47.0 0.0**
CLL *i* 16 34 51.8
CLL *i* Sg **Sg** **16 35 13.5 +0.2**
CLL *i* 16 35 22.9
CLL Collm 1.96 266 Pn **Pn** **16 34 44.6 -0.3**
CLL Sg **Sg** **16 35 14.0 +0.7**
OKC Ostrava-Krasne 2.11 141 *e*Pn **Pn** **16 34 46.5 -0.5**
OKC *e*Sg **Sg** **16 35 18.3 +0.1**
OKC Ostrava-Krasne 2.11 141 *e*PG **Pg** **16 34 50.7 -0.2**
OKC *e*SG **Sb** **16 35 17.1 +0.8**
OKC Ostrava-Krasne 2.11 141 *e*Pn **Pn** **16 34 46.5 -0.5**
baz=326
OKC Ostrava-Krasne 2.11 141 Pg **Pg** **16 34 50.7 -0.2**
OKC Sg **Sg** **16 35 18.3 +0.1**
VRAC Vranov 2.22 172 ⇓*i*P **Pn** **16 34 49.3 +0.8**
VRAC Vranov 2.22 172 Pn **Pn** **16 34 49.2 +0.7**
2.7nm,0.3s,baz=336,slow=14,SNR=21
VRAC Sn **Sb** **16 35 20.0 +0.7**
4.9nm,0.3s,baz=98,slow=19,SNR=11
VRAC Vranov 2.22 172 *e*Pn **Pn** **16 34 49.0 +0.5**
baz=354
VRAC Vranov 2.22 172 ⇓*i*P **Pn** **16 34 49.3 +0.8**
VRAC *e*Sg **Sg** **16 35 21.3 -0.3**
25nm,0.4s,baz=354
TREC Trest 2.24 191 *e*PG **Pb** **16 34 52.7 +0.8**
TREC Trest 2.24 191 Pg **Pb** **16 34 52.7 +0.8**
KRUC Moravsky 2.45 176 *e*Pn **Pn** **16 34 52.4 +0.7**
baz=357
KRUC *e*Sg **Sg** **16 35 29.3 +0.2**
28nm,0.4s,baz=357
TANN Tannenbergstha 2.55 246 *e*Pn **Pn** **16 34 53.6 +0.4**
TANN *e*Sg **Sg** **16 35 31.5 -0.9**
TANN Tannenbergstha 2.55 246 Pn **Pn** **16 34 53.6 +0.4**
TANN Sg **Sg** **16 35 31.5 -0.9**
WERD Werda 2.63 248 *e*Pn **Pn** **16 34 54.3 +0.2**
WERD *e*Sg **Sg** **16 35 34.5 -0.3**
WERD Werda 2.63 248 Pn **Pn** **16 34 54.3 +0.2**
WERD Sg **Sg** **16 35 34.5 -0.3**
NKC Novy Kostel 2.65 243 *e*PN **Pn** **16 34 54.9 +0.5**
NKC *e*PG **Pg** **16 35 01.4 +0.3**
NKC *e*SG **Sg** **16 35 36.5 +1.1**
comp=Z,88nm,0.3s
NKC Novy Kostel 2.65 243 Pn **Pn** **16 34 54.9 +0.5**
OJC Ojcow 2.67 117 *e*Pg **Pg** **16 35 01.1 -0.4**
OJC *e*Sg **Sg** **16 35 37.1 +1.1**
OJC Ojcow 2.67 117 *e*Pn **Pn** **16 34 53.2 -1.4**
baz=303
OJC Ojcow 2.67 117 *e*Pg **Pg** **16 35 01.8 +0.3**
OJC *e*Sg **Sg** **16 35 37.8 +1.8**
JAVC Velka Javorina 2.83 159 *e*Sg **Sg** **16 35 43.3 +2.0**
48nm,0.8s
KHC Kasperske Hory 2.87 215 *e*PN **Pn** **16 34 57.7 +0.1**
KHC *e*PG **Pb** **16 35 04.0 +1.4**
KHC *e*SN **Sn** **16 35 32.1 -0.8**
KHC *e*SG **Sg** **16 35 41.8 -1.0**
comp=Z,28nm,0.4s
KHC Kasperske Hory 2.87 215 Pn **Pn** **16 34 57.7 +0.1**
MOX Moxa 2.96 255 *e*Pn **Pn** **16 34 58.9 +0.2**
MOX Moxa 2.96 255 Pn **Pn** **16 34 58.9 +0.2**
GEC2 GERESS Array S 3.08 211 *e*Pn **Pn** **16 35 01.3 +0.9**
GEC2 GERESS Array S 3.08 211 Pn **Pn** **16 35 01.3 +0.9**
GERES GERESS Array B 3.08 211 Pn **Pn** **16 35 00.3 -0.1**
2.7nm,0.3s,baz=32,slow=12,SNR=87
GERES Pg **Pb** **16 35 07.3 +1.2**
6.1nm,0.3s,baz=29,slow=16,SNR=39
GERES Lg Lg 16 35 46.9
4.5nm,0.3s,baz=30,slow=28,SNR=7.1
SMOL Smolenice 3.11 164 *e* **Pg** **16 35 11.5 +1.5**
SMOL Smolenice 3.11 164 *e*SG **Sg** **16 35 51.9 +1.6**
SMOL Smolenice 3.11 164 *e*Sg **Sg** **16 35 51.9 +1.6**
WET Wettzell 3.14 223 *e*Pn **Pn** **16 35 01.6 +0.4**
WET Wettzell 3.14 223 Pn **Pn** **16 35 01.6 +0.4**
NIE Niedzica 3.40 126 *e*P **Pg** **16 35 16.0 -0.4**
NIE *e*S **Sg** **16 36 00.1 +0.5**
VYHS Vyhne 3.48 149 *e*PN **Pn** **16 35 05.9 0.0**
VYHS *e* 16 35 18.0
VYHS Vyhne 3.48 149 *e*Pn **Pn** **16 35 05.9 0.0**
VYHS *e*Sg **Sg** **16 36 05.2 +2.8**
CONA Conrad Observa 3.58 183 ⇑*i*Pn **Pn** **16 35 07.1 -0.2**
CONA ⇑*i*Sg **Sg** **16 36 03.7 -1.7**
34nm,0.5s
CONA Conrad Observa 3.58 183 Pn **Pn** **16 35 07.1 -0.2**
CONA Sg **Sg** **16 36 03.7 -1.7**
34nm,0.5s
CLZ Clausthal 3.59 278 *e*Pn **Pn** **16 35 08.6 +1.2**
CLZ Clausthal 3.59 278 Pn **Pn** **16 35 08.6 +1.2**
GRA1 Grafenberg Arr 3.60 242 Pn **Pn** **16 35 08.4 +0.8**
GRA1 Sg **Sg** **16 36 05.9 -0.3**
GRF Grafenberg Arr 3.60 242 *e*Pn **Pn** **16 35 08.4 +0.8**
GRF *e*Sg **Sg** **16 36 05.9 -0.3**
BSD Bornholm Skovb 3.69 349 *i*P **Pn** **16 35 07.6 -1.1**
BSD *i*S **Sn** **16 35 48.8 -4.1**
BSD Bornholm Skovb 3.69 349 *i*P **Pn** **16 35 07.6 -1.1**
BSD *i*S **Sn** **16 35 48.8 -4.1**
MOA Molln 3.85 199 ⇑*i*Pn **Pn** **16 35 11.5 +0.6**
MOA ⇑*i*Sg **Sg** **16 36 13.8 -0.1**
35nm,0.6s
MOA Molln 3.85 199 Pn **Pn** **16 35 11.5 +0.6**
MOA Sg **Sg** **16 36 13.8 -0.1**
35nm,0.6s
ARSA Arzberg 4.27 185 ⇑*i*Pn **Pn** **16 35 16.5 -0.2**
ARSA ⇓*j*Sg **Sg** **16 36 26.2 -1.4**
28nm,0.8s
ARSA Arzberg 4.27 185 Pn **Pn** **16 35 16.5 -0.2**
ARSA Sg **Sg** **16 36 26.2 -1.4**
28nm,0.8s
CRVS Cervenica-Dubn 4.31 125 *e*PN **Pn** **16 35 18.0 +0.7**
CRVS *e* 16 35 34.1
CRVS Cervenica-Dubn 4.31 125 *e*Pn **Pn** **16 35 18.0 +0.7**
CRVS *e*Sg **Sg** **16 36 29.0 +0.2**
PSZ Piszkesteto 4.34 144 ⇑*i*P **Pn** **16 35 16.9 -0.9**
PSZ Piszkesteto 4.34 144 ⇑*i*P **Pn** **16 35 16.9 -0.9**
KOLS Kolonicke sedl 4.72 121 *e*PN **Pn** **16 35 22.8 -0.1**
KOLS *e* 16 35 42.9
KOLS Kolonicke sedl 4.72 121 *e*Pn **Pn** **16 35 22.8 -0.1**
KBA Koelnbreinsper 4.78 203 ⇑*i*Pn **Pn** **16 35 24.3 +0.4**
KBA ⇑*i*Sg **Sg** **16 36 44.3 +0.3**
14nm,0.6s
KBA Koelnbreinsper 4.78 203 Pn **Pn** **16 35 24.3 +0.4**
KBA Sg **Sg** **16 36 44.3 +0.3**
14nm,0.6s
KOGS Kog 5.06 179 *i*Pn **Pn** **16 35 30.1 +2.6**
KOGS Kog 5.06 179 *i*Pn **Pn** **16 35 30.1 +2.6**
GROS Grobnik 5.06 185 *i*Pn **Pn** **16 35 29.2 +1.6**
GROS Grobnik 5.06 185 Pn **Pn** **16 35 29.2 +1.6**
TRPA Tarpa 5.36 127 ⇑*i*P **Pn** **16 35 30.2 -1.4**
TRPA Tarpa 5.36 127 ⇑*i*P **Pn** **16 35 30.2 -1.4**
GOLS Golise 5.50 184 *i*Pn **Pn** **16 35 34.9 +1.3**
BOJS Bojanci 6.03 186 *i*Pn **Pn** **16 35 42.2 +1.4**
DAVOX Davos/Dischmat 6.25 223 Pn **Pn** **16 35 42.3 -1.8**
0.3nm,0.3s,baz=36,slow=14,SNR=3.5
DAVOX Lg Lg 16 37 25.3
0.4nm,0.3s,baz=336,slow=20,SNR=2.2
DRGR 6.40 135 ⇑*i*P **Pn** **16 35 45.9 -0.1**
DRGR 6.40 135 ⇑*i*P **Pn** **16 35 45.9 -0.1**
BURAR Bucovina Array 7.08 120 ⇓*i*P **Pn** **16 35 55.0 -0.4**
BURAR Bucovina Array 7.08 120 ⇓*i*P **Pn** **16 35 55.0 -0.4**
AKASG Malin Array Be 8.29 90 Pn **Pn** **16 36 11.9 0.0**
1.2nm,0.3s,baz=279,slow=12,SNR=5.4
HFS Hagfors 8.76 352 Pn **Pn** **16 36 17.6 -0.6**
0.1nm,0.3s,baz=167,slow=15,SNR=5.2
FINES FINESS Array B 11.37 25 Pn **Pn** **16 36 52.0 -2.0**
0.1nm,0.3s,baz=207,slow=11,SNR=5.8
FINES Sn Sn 16 38 54.7 -6.9
0.2nm,0.3s,baz=213,slow=20,SNR=4.4
ARCES ARCESS Array B 18.63 10 P **P** **16 38 25.9 -3.4**
0.2nm,0.3s,baz=193,slow=12,SNR=8.9
BVAR Borovoye Array 32.59 66 P **P** **16 40 44.2 +0.9**
0.3nm,0.6s,baz=306,slow=4.8,SNR=3.3
TORD Torodi Ar. Bea 39.99 202 P **P** **16 41 47.1 +0.3**
0.5nm,0.7s,baz=14,slow=6.7,SNR=2.7
YKA Yellowknife Ar 59.87 336 P **P** **16 44 18.0 +0.7**
0.2nm,0.6s,baz=27,slow=6.8,SNR=4.8
PDAR Pinedale Array 74.95 322 P **P** **16 45 54.4 +1.0**
0.2nm,0.5s,baz=65,slow=4.3,SNR=2.6

IDC 14 16:41:42.0±2.6, 4°.21N×127°.14E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/19, mbtmp3.5/3, Error ellipse: s-maj=215.7km s-min=26.5km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.02**	**164**	P		P		16 47 07.7	-0.3
	0.4nm,0.4s,baz=341,slow=11,SNR=4.6								
ASAR	**Alice Springs**	**28.48**	**167**	P		P		16 47 39.2	+0.1
	0.5nm,0.7s,baz=5.3,slow=9.3,SNR=4.2								
MKAR	**Makanchi Array**	**57.40**	**325**	P		P		16 51 32.5	+0.1
	0.2nm,0.4s,baz=117,slow=7.6,SNR=7.9								

*IDC **14** 16:56:18.5±1.8, 4°.43S×133°.50E, h0km, mb3.4/1, mb1 4.0/5, mb1mx3.7/15, mbtmp3.9/5, ML3.9/4, MS3.4/4, Ms1 3.4/4, ms1mx2.9/23, Error ellipse: s-maj=66.9km s-min=25.8km az=71.0*
*DJA **14** 16:56:20.9±1.2, 4°.5±3°×13°.4E±°, h9km±10km, M4.4/6, mb4.7/4, MLv4.2/6*

ISC 14 16:56:19.1±1.0, 4°.41S±0°.07×133°.63E±0°.10, h35km, n15, σ2§48/11, MS3.3/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**1.51**	**216**	P		Pn		16 56 50.7	+7.1
TLE				S		Sn		16 57 16.9	+15
FAKI	**Fak Fak**	**2.02**	**317**	P		**Pn**		**16 56 50.9**	**+0.2**
BNDI	**Bandanaira**	**3.71**	**268**	P		Pn		16 57 19.3	+5.3
BNDI				S		Sn		16 58 06.6	+10
BAKI	**Biak**	**4.04**	**38**	P		**Pn**		**16 57 16.7**	**-1.8**
SWI	**Sorong**	**4.24**	**326**	P		**Pn**		**16 57 21.3**	**0.0**
SWI				S		**Sn**		**16 58 09.4**	**-0.2**
AAI	**Ambon**	**5.47**	**277**	P		Pn		16 57 43.3	+5.2
	44nm,0.7s								
WRA	**Warramunga Arr**	**15.46**	**177**	Pn		**P**		**16 59 56.9**	**-1.8**
	0.3nm,0.3s,baz=354,slow=13,SNR=18								
WRA						Sn		**17 02 46.1**	**+1.3**
	0.2nm,0.3s,baz=354,slow=23,SNR=4.8								
FITZ	**Fitzroy Crossi**	**15.70**	**209**	Pn		**P**		**17 00 00.4**	**-1.0**
	0.7nm,0.3s,baz=39,slow=12,SNR=10								
FITZ						Sn		**17 02 47.1**	**-3.5**
	0.7nm,0.3s,baz=177,slow=16,SNR=4.4								
ASAR	**Alice Springs**	**19.15**	**179**	P		**Pn**		**17 00 43.7**	**+3.1**
	0.2nm,0.3s,baz=4.5,slow=11,SNR=24								
ASAR				S		**Sn**		**17 04 11.4**	**-2.9**
	0.0nm,0.3s,baz=4.8,slow=23,SNR=3.7								
CTA	**Charters Tower**	**19.85**	**143**	P		**Pn**		**17 00 52.1**	**+3.2**
	0.3nm,0.3s,baz=324,slow=12,SNR=5.5								
STKA	**Stephens Creek**	**28.33**	**166**	LR		LR		17 15 04.1	
	comp=Z,134nm,18.8s,baz=23,slow=40								
JNU	**Nakatsue**	**37.42**	**356**	LR		LR		17 15 26.9	
	comp=Z,46nm,21.8s,baz=127,slow=31								
KSRS	**Korea Array**	**41.98**	**353**	LR		LR		17 21 42.2	
	comp=Z,42nm,19.4s,baz=355,slow=36								
MKAR	**Makanchi Array**	**68.13**	**325**	P		P		17 07 20.1	+4.5
	0.2nm,0.6s,baz=112,slow=7.5,SNR=6.7								
KURBB	**Kurchatov Arra**	**72.27**	**327**	LR		LR		17 44 56.0	
	comp=Z,118nm,19.5s,baz=40,slow=40								

IDC 14 17:01:18.8±1.9, 4°.16N×127°.24E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=152.8km s-min=24.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.95**	**164**	P		P		17 06 42.3	-1.8
	1.5nm,0.8s,baz=344,slow=11,SNR=5.3								
ASAR	**Alice Springs**	**28.41**	**167**	P		P		17 07 17.1	+1.8
	0.1nm,0.3s,baz=344,slow=11,SNR=3.3								
STKA	**Stephens Creek**	**38.35**	**160**	P		P		17 08 41.3	-0.4
	0.5nm,0.5s,baz=349,slow=10,SNR=3.1								
MKAR	**Makanchi Array**	**57.49**	**325**	P		P		17 11 09.9	0.0
	0.1nm,0.6s,baz=124,slow=8.1,SNR=2.3								

IDC 14 17:04:01.5±2.2, 3°.31N×125°.07E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/18, mbtmp3.2/3, Error ellipse: s-maj=229.5km s-min=25.9km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.83**	**159**	P		P		17 09 24.0	-1.8
	0.4nm,0.8s,baz=336,slow=11,SNR=3.5								
ASAR	**Alice Springs**	**28.16**	**163**	P		P		17 09 57.5	+1.7
	0.3nm,0.9s,baz=340,slow=11,SNR=3.1								
MKAR	**Makanchi Array**	**56.37**	**326**	P		P		17 13 48.8	-0.1
	0.1nm,0.3s,baz=115,slow=8.9,SNR=6.8								

IDC 14 17:05:35.5±2.1, 3°.22N×125°.97E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/18, mbtmp3.1/3, Error ellipse: s-maj=193.2km s-min=25.6km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.44**	**161**	P		P		17 10 56.1	-0.1
	0.5nm,0.5s,baz=340,slow=10,SNR=6.2								
ASAR	**Alice Springs**	**27.82**	**164**	P		P		17 11 27.0	+0.3
	0.2nm,0.9s,baz=339,slow=9.9,SNR=2.9								
MKAR	**Makanchi Array**	**57.54**	**326**	P		P		17 15 26.7	-0.2
	0.1nm,0.4s,baz=122,slow=7.0,SNR=3.9								

*NIED **14** 17:11:00, 36°.40N×142°.50E, h8km, Mw3.9 Best double couple: M08.63000×10**14** NP1:φ=4.00000°, δ28.00000°, λ40.00000°. NP2:φ=237.00000°, δ72.00000°, λ112.00000°.*
*IDC **14** 17:11:12.6±0.6, 36°.19N×142°.60E, h0km, mb3.9/16, mb1 4.1/22, mb1mx4.0/31, mbtmp4.0/22, ML3.5/4, Error ellipse: s-maj=16.2km s-min=14.0km az=139.0*
*ISCJB **14** 17:11:13.6±0.4, 36°.36N±0°.04×142°.56E±0°.04, h15km, mb4.0/24, Error ellipse: s-maj=5.8km s-min=4.0km az=152.9*
*JMA **14** 17:11:16.2±0.2, 36°.37N×142°.50E, h67km, M3.7*
*NEIC **14** 17:11:17.5±0.6, 36°.28N×142°.59E, h35km, mb4.4/9, Error ellipse: s-maj=12.1km s-min=9.4km az=139.0*

ISC 14 17:11:14.8±0.5, 36°.32N±0°.05×142°.60E±0°.06, h15km, n73, σ1§37/85, mb4.1/24, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.54**	**247**	P		**Pn**		**17 11 41.3**	**-0.4**
CHOJ				*e*S		**Sn**		**17 12 00.3**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.64**	**299**	P		**Pn**		**17 11 41.9**	**-1.3**
JHO	**Hitachi**	**1.66**	**281**	P		**Pn**		**17 11 42.3**	**-1.1**
JHO				*e*S		**Sn**		**17 12 02.3**	**-2.2**
JFK	**Kawauchi**	**1.73**	**308**	P		**Pn**		**17 11 43.1**	**-1.3**
JFK				*e*S		**Sn**		**17 12 03.7**	**-2.6**
BSO1	**Boso 1**	**2.13**	**219**	P		**Pn**		**17 11 49.6**	**+0.3**
BSO1				*e*S		**Sb**		**17 12 16.3**	**-2.4**
JFT	**Otama**	**2.17**	**304**	P		**Pn**		**17 11 50.2**	**-0.2**
JFT				*e*S		**Sn**		**17 12 14.8**	**-2.3**
JAG	**Ashikaga**	**2.54**	**273**	P		**Pn**		**17 11 54.7**	**-0.8**
JAG				*e*S		**Sn**		**17 12 24.0**	**-2.2**
JMK	**Ichinoseki**	**2.84**	**338**	P		**Pn**		**17 11 58.6**	**-1.1**
JRY	**Ryogami san**	**3.01**	**265**	P		**Pn**		**17 12 01.3**	**-0.6**
JRY				*e*S		**Sn**		**17 12 35.6**	**-2.1**
JOD2	**Odawara 2**	**3.04**	**251**	P		**Pn**		**17 12 02.5**	**+0.1**
JOD2				*e*S		**Sn**		**17 12 37.1**	**-1.5**
JYK	**Kaneyama**	**3.14**	**326**	P		**Pn**		**17 12 03.4**	**-0.4**
JYN	**Shimob**	**3.39**	**257**	P		**Pn**		**17 12 07.9**	**+0.6**
MJAR	**Matsushiro Arr**	**3.55**	**275**	Pn		**Pn**		**17 12 08.9**	**-0.5**
MJAR				Sn		**Sn**		**17 12 52.0**	**+1.0**
MJAR	**Matsushiro Arr**	**3.55**	**275**	Pn		**Pn**		**17 12 08.9**	**-0.5**
	6.9nm,0.3s,baz=42,slow=9.8,SNR=110								
MJAR						Sn		**17 12 52.0**	**+1.0**
	4.6nm,0.3s,baz=82,slow=19,SNR=5.9								
MAJO	**Matsushiro**	**3.55**	**275**	*e*Pn		**Pn**		**17 12 09.5**	**+0.2**
MAT	**Matsushiro**	**3.55**	**275**	P		**Pn**		**17 12 09.8**	**+0.4**
MAT				*e*S		**Sn**		**17 12 49.1**	**-2.0**
MAT	**Matsushiro**	**3.55**	**275**	P		**Pn**		**17 12 10.0**	**+0.6**
JHJ	**Hachijo jima 2**	**3.95**	**217**	Pn		**Pn**		**17 12 13.5**	**-1.3**
	21nm,0.3s,baz=70,slow=19,SNR=8.0								
JHJ						Sn		**17 12 57.2**	**-3.7**
	48nm,0.3s,baz=75,slow=22,SNR=6.1								
ASAJ	**Asahikawa**	**7.79**	**360**	*e*Pn		**Pn**		**17 13 05.6**	**-1.9**
	6.4nm,0.4s								
ASAJ						Sn		**17 14 31.1**	**-4.3**
ASAJ	**Asahikawa**	**7.79**	**360**	Pn		**Pn**		**17 13 05.7**	**-1.9**
	4.7nm,0.3s,baz=225,slow=7.9,SNR=50								
ASAJ						Sn		**17 14 31.1**	**-4.3**
	0.6nm,0.3s,baz=234,slow=19,SNR=2.4								
CBIJ	**Chichi jima**	**9.21**	**182**	Pn		Pn		17 13 23.4	-3.7
CBIJ						Sn		17 15 00.0	-10
CBIJ	**Chichi jima**	**9.21**	**182**	Pn		Pn		17 13 23.4	-3.7
	13nm,0.3s,baz=303,slow=18,SNR=8.6								
CBIJ						Sn		17 15 00.0	-10
	7.5nm,0.3s,baz=319,slow=19,SNR=4.0								
JNU	**Nakatsue**	**10.16**	**255**	Pn		Pn		17 13 43.4	+3.3
JNU	**Nakatsue**	**10.16**	**255**	Pn		Pn		17 13 43.4	+3.3
	0.3nm,0.3s,baz=18,slow=3.2,SNR=3.9								
YSS	**Yuzh-Sakhalins**	**10.62**	**1**	Pn		**Pn**		**17 13 45.1**	**-1.3**
USRK	**Ussuriysk Arra**	**11.28**	**317**	Pn		**Pn**		**17 13 58.1**	**+2.7**
	0.4nm,0.3s,baz=133,slow=14,SNR=6.6								
KSRS	**Korea Array**	**11.81**	**280**	Pn		**Pn**		**17 14 03.5**	**+0.8**
	0.2nm,0.3s,baz=98,slow=14,SNR=5.5								
KSAR	**Wonju Array Be**	**11.84**	**280**	Pn		**Pn**		**17 14 03.5**	**+0.4**
PETK	**Petropavlovsk-**	**19.85**	**28**	P		**Pn**		**17 15 46.5**	**-0.2**
PETK	**Petropavlovsk-**	**19.85**	**28**	P		**Pn**		**17 15 46.5**	**-0.2**
	0.1nm,0.3s,baz=204,slow=3.2,SNR=5.0								
YAK	**Yakutsk**	**26.98**	**347**	*e*P		**P**		**17 16 54.5**	**-1.1**
	6.6nm,0.7s								
YAK				*e*				17 17 06.6	
ENH	**Enshi**	**28.24**	**267**	*e*P		**P**		**17 17 07.3**	**0.0**
	7.7nm,0.7s								
ULN	**Ulaanbaatar**	**28.54**	**305**	*e*P		**P**		**17 17 10.6**	**+0.6**
	4.7nm,1.3s								
SONM	**Songino Array**	**28.97**	**305**	P		**P**		**17 17 15.0**	**+1.2**
SONM	**Songino Array**	**28.97**	**305**	P		**P**		**17 17 15.0**	**+1.2**
	3.0nm,0.6s,baz=104,slow=8.5,SNR=23								
CMAR	**Chiang Mai Arr**	**42.25**	**257**	P		**P**		**17 19 08.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**42.25**	**257**	P		**P**		**17 19 08.0**	**+0.3**
	0.9nm,0.9s,baz=42,slow=6.3,SNR=7.3								
ZAA0	**Zalesovo Array**	**43.10**	**313**	*e*P		**P**		**17 19 13.5**	**-0.6**
ZALV	**Zalesovo Beam**	**43.10**	**313**	P		**P**		**17 19 14.7**	**+0.6**
ZALV				PcP		**PcP**		**17 21 04.2**	**+0.4**
ZALV	**Zalesovo Beam**	**43.10**	**313**	P		**P**		**17 19 14.7**	**+0.6**
	1.6nm,0.4s,baz=94,slow=6.9,SNR=12								
ZALV				PcP		**PcP**		**17 21 04.2**	**+0.4**
	0.7nm,0.6s,baz=79,slow=3.1,SNR=3.1								
MK31	**Makanchi Array**	**45.30**	**303**	*e*P		**P**		**17 19 32.1**	**+0.2**
MKAR	**Makanchi Array**	**45.30**	**303**	P		**P**		**17 19 32.4**	**+0.4**
MKAR	**Makanchi Array**	**45.30**	**303**	P		**P**		**17 19 32.4**	**+0.4**
	3.2nm,0.7s,baz=80,slow=8.7,SNR=22								
KURK	**Kurchatov**	**47.12**	**309**	*e*P		**P**		**17 19 46.2**	**0.0**
	3.1nm,0.6s								
KURBB	**Kurchatov Arra**	**47.19**	**309**	P		**P**		**17 19 47.0**	**+0.4**
	2.3nm,0.5s,baz=83,slow=8.0,SNR=16								
ILAR	**Eielson Array**	**49.59**	**32**	P		**P**		**17 20 05.3**	**+0.4**
ILAR	**Eielson Array**	**49.59**	**32**	P		**P**		**17 20 05.3**	**+0.4**
	0.7nm,0.7s,baz=262,slow=5.7,SNR=12								
TKM2	**Tokmak 2**	**50.81**	**299**	*e*P		**P**		**17 20 15.7**	**+0.9**
	4.1nm,0.6s								
AAK	**Ala-Archa**	**51.67**	**299**	*e*P		**P**		**17 20 20.7**	**-0.5**
	11nm,0.8s								
AAK	**Ala-Archa**	**51.67**	**299**	P		**P**		**17 20 21.9**	**+0.7**
	2.0nm,0.6s,baz=183,slow=8.0,SNR=6.4								
KKAR	**Karatay Array**	**54.30**	**301**	*e*P		**P**		**17 20 40.0**	**-0.5**
	0.8nm,0.6s								
INK	**Inuvik**	**54.59**	**27**	P		**P**		**17 20 43.0**	**+0.9**
INK	**Inuvik**	**54.59**	**27**	P		**P**		**17 20 43.0**	**+0.9**
	0.7nm,0.6s,baz=294,slow=6.2,SNR=7.7								
WRA	**Warramunga Arr**	**56.50**	**189**	P		**P**		**17 20 55.7**	**-0.7**
WRA	**Warramunga Arr**	**56.50**	**189**	P		**P**		**17 20 55.7**	**-0.7**
	0.4nm,0.5s,baz=6.7,slow=7.4,SNR=8.9								
ARU	**Arti**	**57.52**	**319**	*e*P		**P**		**17 21 02.5**	**-0.8**
	5.8nm,1.1s								
ABKAR	**Akbulak array**	**59.12**	**311**	*e*P		**P**		**17 21 14.4**	**-0.2**
	1.4nm,0.7s								
ASAR	**Alice Springs**	**60.23**	**189**	P		**P**		**17 21 21.3**	**-1.1**
ASAR	**Alice Springs**	**60.23**	**189**	P		**P**		**17 21 21.3**	**-1.1**
	0.5nm,0.7s,baz=1.9,slow=6.6,SNR=12								
RES	**Resolute Bay**	**63.05**	**15**	P		**P**		**17 21 41.3**	**+0.5**
YKA	**Yellowknife Ar**	**63.94**	**30**	P		**P**		**17 21 47.2**	**+0.4**
YKA	**Yellowknife Ar**	**63.94**	**30**	P		**P**		**17 21 47.2**	**+0.4**
	0.5nm,0.7s,baz=301,slow=6.8,SNR=10								
FINES	**FINESS Array B**	**69.88**	**333**	P		**P**		**17 22 25.1**	**+0.4**
FINES	**FINESS Array B**	**69.88**	**333**	P		**P**		**17 22 25.1**	**+0.4**
	3.1nm,0.9s,baz=42,slow=5.9,SNR=5.5								
KIV	**Kislovodsk**	**72.09**	**312**	P		**P**		**17 22 40.6**	**+2.1**
NVAR	**Mina Array Bea**	**74.65**	**54**	P		**P**		**17 22 54.8**	**+0.9**
NVAR	**Mina Array Bea**	**74.65**	**54**	P		**P**		**17 22 54.8**	**+0.9**
	1.0nm,0.7s,baz=281,slow=6.0,SNR=7.9								
PDAR	**Pinedale Array**	**77.48**	**46**	P		**P**		**17 23 12.5**	**+2.5**
PDAR	**Pinedale Array**	**77.48**	**46**	P		**P**		**17 23 12.5**	**+2.5**
	0.2nm,0.5s,baz=306,slow=3.1,SNR=2.

KURBB **Kurchatov Arra** 61.55 327 P P 17 37 26.1 -0.3
0.4nm,0.5s,baz=127,slow=6.8,SNR=7.0

*DDA **14** 17:45:55.8, 37.91N×29.17E, h7km, MD3.2*
*ISCJB **14** 17:45:56.0±0.6, 37.91N±0.02×29.17E±0.04, h1km±6km, Error ellipse: s-maj=5.5km s-min=3.9km az=22.6*
*ISK **14** 17:45:56.3, 37.95N×29.18E, h6km, MD2.7*
*CSEM **14** 17:45:56.2±0.1, 37.92N×29.18E, h2km, MD3.2, Error ellipse: s-maj=2.5km s-min=2.1km az=110.0*
ISC 14 17:45:56.3±1.0, **37.91N**±0.02×**29.16E**±0.02, **h6**km±12km, **n36**, σ0**56**/51, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.24**	**202**	*i* P	**Pg**	**17 46 00.8**	**-0.2**
DNZL				*i* S	**Sg**	**17 46 04.3**	**+0.1**
DNZL	**Cakiroluk**	**0.24**	**202**	*i* P	**Pg**	**17 46 00.8**	**-0.2**
DNZL				*i* S	**Sg**	**17 46 04.3**	**+0.1**
KHL	**Karahalli**	**0.50**	**35**	*e*PG	**Pg**	**17 46 05.5**	**-0.5**
KHL				*e*SG	**Sg**	**17 46 12.7**	**+0.1**
KHL	**Karahalli**	**0.50**	**35**	*e*Pg	**Pg**	**17 46 05.5**	**-0.5**
KHL				*e*Sg	**Sg**	**17 46 12.7**	**+0.1**
KHAL	**Karahalli**	**0.53**	**30**	*i* P	**Pg**	**17 46 06.1**	**-0.4**
KHAL				*i* S	**Sg**	**17 46 14.0**	**+0.6**
KHAL	**Karahalli**	**0.53**	**30**	*i* P	**Pg**	**17 46 06.1**	**-0.4**
KHAL				*i* S	**Sg**	**17 46 14.0**	**+0.6**
KULA	**Kula-Manisa**	**0.72**	**327**	*e*PG	**Pg**	**17 46 10.3**	**+0.2**
KULA	**Kula-Manisa**	**0.72**	**327**	*e*Pg	**Pg**	**17 46 10.3**	**+0.2**
MANT	**Manisa**	**0.75**	**321**	*i* P	**Pg**	**17 46 11.0**	**+0.3**
MANT				*i* S	**Sg**	**17 46 21.3**	**+0.9**
MANT	**Manisa**	**0.75**	**321**	*i* P	**Pg**	**17 46 11.0**	**+0.3**
MANT				*i* S	**Sg**	**17 46 21.3**	**+0.9**
YER	**Yerkesik**	**1.04**	**222**	*e*PG	**Pn**	**17 46 17.3**	**-0.2**
YER	**Yerkesik**	**1.04**	**222**	*e*Pg	**Pn**	**17 46 17.3**	**-0.2**
AYDN	**Tasoluk**	**1.04**	**257**	*i* P	**Pg**	**17 46 16.1**	**-0.3**
AYDN				*i* S	**Sg**	**17 46 28.7**	**-1.2**
AYDN	**Tasoluk**	**1.04**	**257**	*i* P	**Pg**	**17 46 16.1**	**-0.3**
AYDN				*i* S	**Sg**	**17 46 28.7**	**-1.2**
ISP	**Isparta**	**1.08**	**94**	*e*PG	**Pb**	**17 46 17.3**	**-0.2**
ISP	**Isparta**	**1.08**	**94**	*e*Pg	**Pb**	**17 46 17.3**	**-0.2**
DEMI	**Demirci**	**1.18**	**343**	*i* P	**Pb**	**17 46 19.2**	**0.0**
DEMI				*i* S	**Sg**	**17 46 34.3**	**-0.1**
DEMI	**Demirci**	**1.18**	**343**	*i* P	**Pb**	**17 46 19.2**	**0.0**
DEMI				*i* S	**Sg**	**17 46 34.3**	**-0.1**
GDZ	**Gediz**	**1.20**	**12**	*i* P	**Pg**	**17 46 18.7**	**-0.7**
GDZ				*i* S	**Sb**	**17 46 35.3**	**-0.1**
GDZ	**Gediz**	**1.20**	**12**	*i* P	**Pg**	**17 46 18.7**	**-0.7**
GDZ				*i* S	**Sb**	**17 46 35.3**	**-0.1**
BCK	**Bucak**	**1.22**	**111**	*e*PN	**Pn**	**17 46 20.0**	**0.0**
BCK	**Bucak**	**1.22**	**111**	*e*Pn	**Pn**	**17 46 20.0**	**0.0**
SHUT	**Suhut-Afyon**	**1.27**	**59**	*e*PN	**Pb**	**17 46 20.6**	**-0.1**
SHUT	**Suhut-Afyon**	**1.27**	**59**	*e*Pn	**Pb**	**17 46 20.6**	**-0.1**
FETY	**Fethiye**	**1.27**	**183**	*e*PN	**Pg**	**17 46 21.3**	**+0.6**
FETY	**Fethiye**	**1.27**	**183**	*e*Pn	**Pg**	**17 46 21.3**	**+0.6**
ELL	**Elmali**	**1.30**	**153**	*e*PN	**Pg**	**17 46 21.9**	**+0.6**
ELL	**Elmali**	**1.30**	**153**	*e*Pn	**Pg**	**17 46 21.9**	**+0.6**
ALT	**Altintas**	**1.36**	**33**	*e*PN	**Pn**	**17 46 22.0**	**0.0**
ALT	**Altintas**	**1.36**	**33**	*e*Pn	**Pn**	**17 46 22.0**	**0.0**
AKHS	**Akhisar**	**1.43**	**313**	*i* P	**Pg**	**17 46 23.7**	**0.0**
AKHS				*i* S	**Sg**	**17 46 44.7**	**+2.4**
AKHS	**Akhisar**	**1.43**	**313**	*i* P	**Pg**	**17 46 23.7**	**0.0**
AKS	**Akhisar**	**1.43**	**313**	*e*PN	**Pb**	**17 46 23.3**	**-0.1**
AKS	**Akhisar**	**1.43**	**313**	*e*Pn	**Pb**	**17 46 23.3**	**-0.1**
TVSB	**Tavsanli**	**1.56**	**9**	*e*PN	**Pn**	**17 46 24.8**	**+0.2**
TVSB	**Tavsanli**	**1.56**	**9**	*e*Pn	**Pn**	**17 46 24.8**	**+0.2**

IDC 14 17:50:31.9±1.0, **4.20N**×**127.45E**, **h0**km, **mb3.5**/6, **mb1 3.7**/6, **mb1mx3.5**/19, **mbtmp3.5**/6, **MS4.0**/1, **Ms1 4.0**/1, **ms1mx2.7**/25, **Error ellipse: s-maj=78.0km s-min=19.0km az=73.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.93**	**164**	P	P	17 55 56.5	-0.4
	1.9nm,0.6s,baz=343,slow=11,SNR=26						
CBIJ	**Chichi jima**	**26.77**	**30**	LR	LR	18 04 57.9	
	comp=Z,318nm,19.5s,baz=136,slow=32						
ASAR	**Alice Springs**	**28.40**	**167**	P	P	17 56 28.0	-0.3
	0.2nm,0.7s,baz=352,slow=7.5,SNR=4.6						
STKA	**Stephens Creek**	**38.32**	**160**	P	P	17 57 55.3	+0.9
	2.1nm,0.9s,baz=331,slow=12,SNR=3.5						
SONM	**Songino Array**	**47.09**	**341**	P	P	17 59 06.4	+0.7
	0.4nm,1.0s,baz=151,slow=6.6,SNR=2.1						
MKAR	**Makanchi Array**	**57.59**	**325**	P	P	18 00 23.0	-0.6
	0.1nm,0.4s,baz=116,slow=8.8,SNR=6.0						
ILAR	**Eielson Array**	**84.38**	**25**	P	P	18 03 05.5	-0.4
	0.9nm,1.2s,baz=247,slow=4.6,SNR=3.7						

*NNC **14** 17:51:25.9±2.0, 43.81N×84.79E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=50.4km s-min=15.5km az=60.0*
ISC 14 17:51:24.3±4.9, **43.7N**±0.4×**85.0E**±0.2, **h10**km, **n4**, σ1**s21**/5, **5C-1D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.94**	**85**	Pg	**Pn**	**17 51 56.8**	**-0.6**
WMQ				Sg	**Sn**	**17 52 22.8**	**+0.9**
WMQ				smax	smax		
	comp=N,71nm,0.3s						
WMQ				smax	smax		
	comp=E,59nm,0.4s						
MK31	**Makanchi Array**	**3.67**	**329**	⇑Pn	**Pn**	**17 52 21.1**	**0.0**
	comp=E,0.2nm,0.5s,baz=151,slow=14,SNR=99						
MK31				⇑Pg	**Pb**	**17 52 29.8**	**+0.6**
	comp=E,2.0nm,0.5s,baz=149,slow=16,SNR=16						
MK31				⇑Lg	Lg	17 53 16.9	
	comp=E,9.4nm,0.7s,baz=144,slow=28,SNR=11						
KURBB	**Kurchatov Arra**	**8.23**	**330**	⇑Sn	**Sn**	**17 54 55.6**	**-1.2**
	comp=E,0.3nm,0.6s						
KURBB				⇑Lg	Lg	17 55 41.0	
	comp=E,1.3nm,0.8s						
KURK	**Kurchatov**	**8.28**	**331**	⇓Lg	Lg	17 55 42.6	
	comp=E,5.5nm,0.9s						

*DDA **14** 17:58:54.8, 37.91N×29.15E, h7km, MD3.0*
*CSEM **14** 17:58:55.0±0.2, 37.91N×29.17E, h2km, MD3.0, Error ellipse: s-maj=4.9km s-min=3.3km az=136.0*
*ISK **14** 17:58:58.6, 38.17N×29.19E, h13km, MD2.7*
ISC 14 17:58:55.8±1.2, **37.95N**±0.02×**29.10E**±0.03, **h0**km±16km, **n29**, σ1**s06**/42, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.26**	**190**	*i* P	**Pg**	**17 58 59.7**	**-1.1**
DNZL				*i* S	**Sg**	**17 59 03.3**	**-0.9**
DNZL	**Cakiroluk**	**0.26**	**190**	*i* P	**Pg**	**17 58 59.7**	**-1.1**
DNZL				*i* S	**Sg**	**17 59 03.3**	**-0.9**
KHL	**Karahalli**	**0.50**	**41**	*e*PG	**Pg**	**17 59 05.3**	**-0.2**
KHL				*e*SG	**Sg**	**17 59 10.4**	**-1.6**
KHL	**Karahalli**	**0.50**	**41**	*e*Pg	**Pg**	**17 59 05.3**	**-0.2**
KHL				*e*Sg	**Sg**	**17 59 10.4**	**-1.6**
KHAL	**Karahalli**	**0.52**	**36**	*i* P	**Pg**	**17 59 05.0**	**-0.8**
KHAL				*i* S	**Sg**	**17 59 13.1**	**+0.4**
KHAL	**Karahalli**	**0.52**	**36**	*i* P	**Pg**	**17 59 05.0**	**-0.8**
KHAL				*i* S	**Sg**	**17 59 13.1**	**+0.4**
KULA	**Kula-Manisa**	**0.66**	**329**	*e*PG	**Pb**	**17 59 09.8**	**-0.6**
KULA	**Kula-Manisa**	**0.66**	**329**	*e*Pg	**Pb**	**17 59 09.8**	**-0.6**
MANT	**Manisa**	**0.69**	**322**	*i* P	**Pg**	**17 59 09.9**	**+0.8**
MANT				*i* S	**Sg**	**17 59 19.2**	**+1.1**
MANT	**Manisa**	**0.69**	**322**	*i* P	**Pg**	**17 59 09.9**	**+0.8**
MANT				*i* S	**Sg**	**17 59 19.2**	**+1.1**
AYDN	**Tasoluk**	**1.01**	**254**	*i* P	**Pg**	**17 59 15.1**	**-0.1**
AYDN				*i* S	**Sg**	**17 59 28.3**	**0.0**
AYDN	**Tasoluk**	**1.01**	**254**	*i* P	**Pg**	**17 59 15.1**	**-0.1**
AYDN				*i* S	**Sg**	**17 59 28.3**	**0.0**
YER	**Yerkesik**	**1.04**	**219**	*e*PN	Pn	17 59 22.3	+4.6
ISP	**Isparta**	**1.13**	**96**	*e*PN	**Pn**	**17 59 20.4**	**+1.4**
ISP	**Isparta**	**1.13**	**96**	*e*Pn	**Pn**	**17 59 20.4**	**+1.4**
DEMI	**Demirci**	**1.14**	**345**	*i* P	**Pg**	**17 59 18.1**	**+0.5**
DEMI				*i* S	**Sg**	**17 59 32.7**	**+0.4**
DEMI	**Demirci**	**1.14**	**345**	*i* P	**Pg**	**17 59 18.1**	**+0.5**
DEMI				*i* S	**Sg**	**17 59 32.7**	**+0.4**
GDZ	**Gediz**	**1.18**	**14**	*i* P	**Pg**	**17 59 18.2**	**-0.2**
GDZ				*i* S	**Sg**	**17 59 34.2**	**+0.5**
GDZ	**Gediz**	**1.18**	**14**	*i* P	**Pg**	**17 59 18.2**	**-0.2**
GDZ				*i* S	**Sg**	**17 59 34.2**	**+0.5**
BCK	**Bucak**	**1.27**	**112**	*e*PN	**Pb**	**17 59 23.2**	**+2.4**
BCK	**Bucak**	**1.27**	**112**	*e*Pn	**Pb**	**17 59 23.2**	**+2.4**
SHUT	**Suhut-Afyon**	**1.29**	**62**	*e*PN	**Pb**	**17 59 20.9**	**-0.2**
SHUT	**Suhut-Afyon**	**1.29**	**62**	*e*Pn	**Pb**	**17 59 20.9**	**-0.2**
ALT	**Altintas**	**1.36**	**35**	*e*PN	**Pn**	**17 59 20.7**	**-1.5**
ALT	**Altintas**	**1.36**	**35**	*e*Pn	**Pn**	**17 59 20.7**	**-1.5**
AKS	**Akhisar**	**1.38**	**313**	*e*PN	**Pg**	**17 59 22.9**	**+0.8**
AKS	**Akhisar**	**1.38**	**313**	*e*Pn	**Pg**	**17 59 23.0**	**+0.8**
TVSB	**Tavsanli**	**1.53**	**11**	*e*PN	**Pn**	**17 59 23.0**	**-1.5**
TVSB	**Tavsanli**	**1.53**	**11**	*e*Pn	**Pn**	**17 59 23.0**	**-1.5**

*THE **14** 18:19:37.2, 41.92N×23.27E, h2km±2km, ML2.4/6, Error ellipse: s-maj=2.3km s-min=1.1km az=293.0*
*SKO **14** 18:19:37.8, 41.94N×23.28E, h5km*
*CSEM **14** 18:19:37.0±0.1, 41.92N×23.25E, h2km, ML2.1, Error ellipse: s-maj=3.7km s-min=2.4km az=64.0*
*BEO **14** 18:19:38.1±0.7, 41.95N×23.26E, h0km, ML2.1/4*
*ATH **14** 18:19:38.0, 41.80N×23.24E, h19km, MD3.5/4*
ISC 14 18:19:36.9±1.1, **41.92N**±0.02×**23.24E**±0.02, **h3**km±10km, **n37**, σ0**78**/76, **Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTS	**Vitosha**	**0.68**	**358**	P	**Pg**	**18 19 49.8**	**-0.1**
VTS				S	**Sg**	**18 19 58.7**	**0.0**
VTS	**Vitosha**	**0.68**	**358**	*e*Pg	**Pg**	**18 19 49.8**	**-0.1**
VTS				*e*Sg	**Sg**	**18 19 58.4**	**-0.3**
VTS	**Vitosha**	**0.68**	**358**	P	**Pg**	**18 19 49.8**	**-0.1**
VTS				*e*Sg	**Sg**	**18 19 58.4**	**-0.3**
VTS				S	**Sg**	**18 19 58.7**	**0.0**
NVR	**Nevrokopi**	**0.73**	**140**	P	**Pg**	**18 19 50.7**	**-0.3**
NVR				S	**Sg**	**18 20 00.3**	**-0.1**
NVR	**Nevrokopi**	**0.73**	**140**	*e*PN	**Pg**	**18 19 50.7**	**-0.3**
NVR				*e*SN	**Sg**	**18 19 59.9**	**-0.5**
NVR	**Nevrokopi**	**0.73**	**140**	P	**Pg**	**18 19 50.7**	**-0.3**
NVR				*e*Sn	**Sg**	**18 19 59.9**	**-0.5**
NVR				S	**Sg**	**18 20 00.3**	**-0.1**
VAY	**Valandovo**	**0.78**	**221**	*e*Pg	**Pg**	**18 19 52.8**	**+0.9**
VAY				*i* Sg	**Sb**	**18 20 03.7**	**-0.4**
VAY				*i* Sg	**Sb**	**18 20 03.7**	**-0.4**
VAY				*e*Lg	Lg	18 20 05.8	
	comp=N,31nm,0.2s						
VAY	**Valandovo**	**0.78**	**221**	*e*Pg	**Pb**	**18 19 53.2**	**+0.1**
VAY				*e*Lg	Lg	18 20 01.2	
	comp=N,31nm,0.2s						
VAY				*i* Sg	Lg	18 20 01.2	
KNT	**Kendrikon**	**0.80**	**199**	P	**Pg**	**18 19 52.5**	**+0.3**
KNT				S	**Sg**	**18 20 03.6**	**+1.1**
KNT	**Kendrikon**	**0.80**	**199**	P	**Pg**	**18 19 52.5**	**+0.3**
KNT				S	**Sg**	**18 20 03.6**	**+1.1**
SRS	**Serrai**	**0.84**	**162**	P	**Pg**	**18 19 53.1**	**+0.1**
SRS				S	**Sg**	**18 20 04.9**	**+1.0**
SRS	**Serrai**	**0.84**	**162**	P	**Pg**	**18 19 53.1**	**+0.1**
SRS				S	**Sg**	**18 20 04.9**	**+1.0**
SOH	**Sokhos**	**1.10**	**176**	P	**Pg**	**18 19 57.8**	**-0.1**
SOH				S	**Sg**	**18 20 12.8**	**+0.7**
SOH	**Sokhos**	**1.10**	**176**	P	**Pg**	**18 19 57.8**	**-0.1**
SOH				S	**Sg**	**18 20 12.8**	**+0.7**
PLD	**Plovdiv**	**1.10**	**80**	P	**Pg**	**18 19 58.1**	**0.0**
PLD				S	**Sg**	**18 20 12.3**	**-0.1**
PLD	**Plovdiv**	**1.10**	**80**	P	**Pg**	**18 19 58.1**	**0.0**
PLD				*e*Sg	**Sg**	**18 20 11.9**	**-0.5**
PLD				S	**Sg**	**18 20 12.3**	**-0.1**
HORT	**Hortiatis**	**1.32**	**185**	P	**Pg**	**18 20 01.7**	**-0.5**
HORT				S	**Sb**	**18 20 20.0**	**+0.2**
HORT	**Hortiatis**	**1.32**	**185**	P	**Pg**	**18 20 01.7**	**-0.5**
HORT				S	**Sb**	**18 20 20.0**	**+0.2**
KAVA	**Kavala**	**1.32**	**133**	P	**Pg**	**18 20 01.6**	**-0.7**
KAVA				S	**Sg**	**18 20 19.3**	**-0.2**
KAVA	**Kavala**	**1.32**	**133**	P	**Pg**	**18 20 01.6**	**-0.7**
KAVA				S	**Sg**	**18 20 19.3**	**-0.2**
BARS	**Barje**	**1.39**	**311**	*e*Pg	**Pn**	**18 20 02.9**	**-0.4**
BARS				*e*Sg	**Sg**	**18 20 21.1**	**-0.5**
BARS	**Barje**	**1.39**	**311**	*e*Pg	**Pn**	**18 20 02.9**	**-0.4**
BARS				*e*Sg	**Sg**	**18 20 21.1**	**-0.5**
ZAPS	**Zavoj**	**1.43**	**342**	*e*Pg	**Pn**	**18 20 04.0**	**+0.1**
ZAPS				*e*Sg	**Sn**	**18 20 23.3**	**+0.1**
PLG	**Polygyros**	**1.55**	**174**	*e*PN	**Pn**	**18 20 04.5**	**-1.0**
PLG				*e*SN	**Sn**	**18 20 24.0**	**-2.1**
PLG	**Polygyros**	**1.55**	**174**	*e*Pn	**Pn**	**18 20 04.5**	**-1.0**
PLG				*e*Sn	**Sn**	**18 20 24.0**	**-2.1**
OUR	**Ouranopolis**	**1.68**	**160**	P	**Pn**	**18 20 06.1**	**-1.1**
OUR				S	**Sg**	**18 20 30.9**	**+0.2**
OUR	**Ouranopolis**	**1.68**	**160**	P	**Pn**	**18 20 06.1**	**-1.1**
OUR				S	**Sg**	**18 20 30.9**	**+0.2**
RDO	**Rodhopi**	**1.89**	**113**	P	**Pn**	**18 20 10.7**	**+0.6**
RDO				S	**Sn**	**18 20 35.2**	**+0.8**
RDO	**Rodhopi**	**1.89**	**113**	*e*PN	**Pn**	**18 20 10.7**	**+0.6**
RDO				*e*SN	**Sn**	**18 20 34.6**	**+0.2**
RDO	**Rodhopi**	**1.89**	**113**	P	**Pn**	**18 20 10.7**	**+0.6**
RDO				*e*Sn	**Sn**	**18 20 34.6**	**+0.2**
RDO				S	**Sn**	**18 20 35.2**	**+0.8**
SELS	**Selova**	**2.04**	**310**	*e*Pn	**Pn**	**18 20 13.8**	**+1.6**
SELS				*e*Sg	**Sg**	**18 20 42.0**	**-0.4**
BOLS	**Boljevac**	**2.13**	**334**	*e*Pn	**Pn**	**18 20 13.9**	**+0.4**
BOLS	**Boljevac**	**2.13**	**334**	*e*Pn	**Pn**	**18 20 13.9**	**+0.4**
ALN	**Alexandroupoli**	**2.34**	**115**	*e*PN	**Pn**	**18 20 17.4**	**+1.1**
ALN				*e*SN	**Sn**	**18 20 46.1**	**+0.5**
ALN	**Alexandroupoli**	**2.34**	**115**	*e*Pn	**Pn**	**18 20 17.4**	**+1.1**
ALN				*e*Sn	**Sn**	**18 20 46.1**	**+0.5**
GRUS	**Gruza**	**2.71**	**318**	*e*Pn	**Pn**	**18 20 23.4**	**+2.0**
GRUS				*e*Sg	**Sg**	**18 21 02.6**	**-1.3**
GRUS	**Gruza**	**2.71**	**318**	*e*Pn	**Pn**	**18 20 23.4**	**+2.0**
GRUS				*e*Sg	**Sg**	**18 21 02.6**	**-1.3**

NNC 14 18:25:15.2±4.1, **49.98N**×**88.01E**, **h0**km, **mb3.7, mpv3.3, 4C-5D, Error ellipse: s-maj=30.6km s-min=19.6km az=73.0, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.96**	**232**	⇓Pn	Pn	18 26 32.0	+1.0
	4.7nm,0.5s,baz=63,slow=12,SNR=131						
MK31				⇑Sn	Sn	18 27 30.1	+1.0
	0.7nm,0.3s,baz=182,slow=21,SNR=7.2						
MK31				⇓Lg	Lg	18 27 52.1	
	7.6nm,0.6s,baz=57,slow=39,SNR=5.6						
KURK	**Kurchatov**	**6.05**	**281**	⇓Pn	Pn	18 26 45.1	-0.8
	2.2nm,0.9s						
KURK				⇑Sn	Sn	18 27 57.3	+1.5
	3.6nm,0.8s						
KURK				⇑Lg	Lg	18 28 25.0	
	17nm,0.8s						
KURBB	**Kurchatov Arra**	**6.11**	**280**	⇓Pn	Pn	18 26 46.1	-0.5
	0.4nm,0.3s						
KURBB				⇑Sn	Sn	18 27 58.3	+1.3
	2.0nm,0.5s						
KURBB				⇓Lg	Lg	18 28 29.5	
	3.3nm,0.6s						

*IDC **14** 18:26:43.8±0.5, 3.93N×126.75E, h0km, mb4.2/19, mb1 4.3/19, mb1mx4.2/25, mbtmp4.2/19, MS3.7/3, Ms1 3.7/3, ms1mx2.8/38, Error ellipse: s-maj=32.0km s-min=11.5km az=72.0*
*NEIC **14** 18:26:48.3±0.4, 3.96N×127.02E, h35km, mb4.5/20, Error ellipse: s-maj=13.5km s-min=7.2km az=69.0*
*BJI **14** 18:26:55.6, 4.04N×126.65E, h98km, mB4.9/11, mb4.7/16*
*DJA **14** 18:26:58, 3.70N×126.65E, h97km, mb4.6/7*
ISC 14 18:26:55.6±0.5, **3.78N**±0.05×**126.76E**±0.09, **h98**km±3km, **n103**, σ1**s45**/126, **mb4.3**/42, **1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.92**	**322**	⇓*i*P	Pn	18 27 32.9	-7.5
MNI	**Manado**	**3.01**	**220**	P	**Pn**	**18 27 38.6**	**-2.8**
TNTI	**Ternate**	**3.04**	**169**	P	Pn	18 27 38.3	-3.6
MATI	**Mati**	**3.19**	**351**	*e*P	Pn	18 27 39.2	-4.7
MATI				*e*S	Sn	18 27 53.8	-27
DAV	**Davao City (W)**	**3.48**	**340**	*e*Pn	**Pn**	**18 27 46.6**	**-1.2**
DAV				*e*Sn	**Sn**	**18 28 30.9**	**+2.8**
DAV	**Davao City (W)**	**3.48**	**340**	Pn	**Pn**	**18 27 46.6**	**-1.2**
	39nm,0.3s,baz=125,slow=16,SNR=3.3						
DAV				Sn	**Sn**	**18 28 29.9**	**+1.9**
	19nm,0.3s,baz=253,slow=23,SNR=5.1						
KMSI	**Cibinong**	**4.22**	**221**	P	**Pn**	**18 27 56.6**	**-1.2**
KMSI				S	Sn	18 28 56.0	+10
BUKP	**Musuan**	**4.41**	**338**	*e*P	Pn	18 27 55.4	-5.1
LBMI	**Labuha**	**4.45**	**170**	P	**Pn**	**18 27 58.0**	**-2.8**
IPIL	**Ipil**	**5.77**	**314**	*e*P	Pn	18 28 13.6	-5.1
MRSI	**Marisa**	**5.83**	**236**	P	**Pn**	**18 28 18.8**	**-0.7**
	93nm,0.6s,1μm0.3nm						
LUWI	**Luwuk**	**6.23**	**220**	P	Pn	18 28 28.6	+3.6
	164nm,1.1s,2μm0.6nm						
SWI	**Sorong**	**6.44**	**136**	P	Pn	18 28 23.4	-4.4
	26nm,0.5s,0.1nm						
APSI	**Ampana**	**6.91**	**228**	P	**Pn**	**18 28 37.1**	**+2.8**
	10μm,0.6s,158nm						
MYLDM	**Lahad Datu**	**8.35**	**280**	P	**Pn**	**18 28 52.1**	**-1.8**
	40nm,1.2s						
FAKI	**Fak Fak**	**8.62**	**140**	P	Pn	18 28 53.1	-4.5
	12nm,1.1s						
KDI	**Kendari**	**8.72**	**208**	P	**Pn**	**18 28 56.3**	**-2.7**
	16nm,0.9s						
KKM	**Kota Kinabalu**	**10.75**	**283**	*e*Pn	**Pn**	**18 29 25.8**	**-0.8**
KKM	**Kota Kinabalu**	**10.75**	**283**	P	**Pn**	**18 29 26.1**	**-0.5**
KAPI	**Kappang**	**11.19**	**219**	LR	LR	18 34 29.7	
	comp=Z,105nm,18.3s,baz=76,slow=41						
KSM	**Kuching**	**16.59**	**263**	*e*Pn	**P**	**18 30 43.9**	**+0.6**
	12nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.77**	**183**	P	**P**	**18 31 38.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**21.77**	**183**	P	**P**	**18 31 38.5**	**-0.9**
	1.7nm,0.3s,baz=120,slow=22,SNR=8.4						
WRAB	**Tennant Creek**	**24.71**	**163**	*e*P	**P**	**18 32 07.0**	**-0.8**
	19nm,0.8s						
WRA	**Warramunga Arr**	**24.72**	**163**	P	**P**	**18 32 07.3**	**-0.5**
WRA	**Warramunga Arr**	**24.72**	**163**	P	**P**	**18 32 07.3**	**-0.5**
	17nm,0.7s,baz=344,slow=10,SNR=71						
AS31	**Alice Springs**	**28.15**	**166**	*e*P	**P**	**18 32 38.0**	**-0.8**
ASAR	**Alice Springs**	**28.15**	**166**	P	**P**	**18 32 38.7**	**-0.1**
ASAR				PcP	**PcP**	**18 35 53.0**	**+2.3**
ASAR	**Alice Springs**	**28.15**	**166**	P	**P**	**18 32 38.7**	**-0.1**
	0.6nm,0.3s,baz=345,slow=11,SNR=22						
ASAR				PcP	**PcP**	**18 35 53.0**	**+2.3**
	0.6nm,0.6s,baz=351,slow=2.5,SNR=4.9						
GYA	**Guiyang**	**29.65**	**321**	*e*P	**P**	**18 32 52.6**	**+0.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CM31	**Chiang Mai Arr**	**30.88**	**300**	*e*P	**P**	**18 33 02.3**	**-0.7**
	comp=Z,1.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**30.88**	**300**	P	**P**	**18 33 02.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**30.88**	**300**	P	**P**	**18 33 02.2**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=99,slow=6.4,SNR=13						
ENH	**Enshi**	**31.00**	**330**	*e*P	**P**	**18 33 01.5**	**-2.5**
	comp=Z,8.6nm,0.9s						
CHTO	**Chiang Mai**	**31.03**	**301**	*e*P	**P**	**18 33 03.4**	**-0.9**
	comp=Z,2.5nm,0.6s						
XAN	**Xi'an**	**34.39**	**333**	P	**P**	**18 33 30.8**	**-2.7**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,12nm,5.3s						
HNR	**Honiara**	**35.58**	**112**	LR	LR	18 47 18.6	
	comp=Z,354nm,18.5s,baz=150,slow=35						
BJT	**Baijiatuau**	**37.33**	**347**	P	**P**	**18 33 56.6**	**-1.8**
	comp=Z,11nm,0.5s						
NWAO	**Narrogin (SRO)**	**37.60**	**193**	P	**P**	**18 34 01.9**	**+1.1**
NWAO	**Narrogin (SRO)**	**37.60**	**193**	P	**P**	**18 34 01.9**	**+1.1**
	comp=Z,13nm,1.1s,baz=45,slow=4.3,SNR=3.2						
STKA	**Stephens Creek**	**38.16**	**159**	*e*P	**P**	**18 34 05.9**	**+0.3**
	comp=Z,1.7nm,0.6s						
STKA				PcP	**PcP**	**18 36 19.9**	**+1.5**
STKA	**Stephens Creek**	**38.16**	**159**	P	**P**	**18 34 06.3**	**+0.7**
	comp=Z,9.8nm,0.7s,baz=334,slow=8.4,SNR=31						
STKA				PcP	**PcP**	**18 36 19.9**	**+1.5**
	comp=Z,1.5nm,0.6s,baz=312,slow=3.5,SNR=3.2						
LZH	**Lanzhou**	**38.48**	**330**	*e*P	**P**	**18 34 08.3**	**-0.1**
LZH				pP	**pP**	**18 34 30.5**	**-0.5**
LZH				sP	**sP**	**18 34 39.9**	**-2.4**
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
HHC	**Hu-ho-hao-te**	**39.37**	**342**	*e*P	**P**	**18 34

comp=Z,0.3nm,0.3s,baz=163,slow=14,SNR=2.7
AAK LR LR 19 04 36.5

ZAA0 Zalesovo Array 60.56 333 *eP* **P 18 36 53.6 -2.0**
ZALV Zalesovo Beam 60.56 333 P **P 18 36 54.0 -1.6**
ZALV Zalesovo Beam 60.56 333 P **P 18 36 54.0 -1.6**
comp=Z,1.7nm,0.6s,baz=125,slow=6.2,SNR=11
KBL Kabul 61.52 307 *eP* **P 18 37 01.0 -1.7**
comp=Z,3.1nm,0.8s
KURK Kurchatov 61.72 327 *eP* **P 18 37 02.4 -1.1**
comp=Z,3.6nm,0.6s
BVAR Borovoye Array 67.30 327 P **P 18 37 39.4 -0.4**
BVAR Borovoye Array 67.30 327 P **P 18 37 39.4 -0.4**
comp=Z,1.7nm,0.7s,baz=116,slow=6.8,SNR=13
BRVK Borovoye 67.37 327 *eP* **P 18 37 40.1 -0.2**
comp=Z,3.6nm,0.7s
ABKAR Akbulak array 72.14 321 *eP* **P 18 38 08.1 -1.5**
comp=Z,1.5nm,0.6s
AKTO Aktyubinsk 73.64 322 P **P 18 38 18.2 -0.2**
AKTO Aktyubinsk 73.64 322 P **P 18 38 18.2 -0.2**
comp=Z,2.2nm,0.6s,baz=107,slow=7.3,SNR=12
ARU Arti 74.92 328 *eP* **P 18 38 24.3 -1.4**
comp=Z,2.2nm,0.5s
MCK McKinley 84.11 26 P **P 18 39 14.6 -0.9**
comp=Z,11nm,1.3s
ILAR Eielson Array 85.05 25 P **P 18 39 20.9 +0.8**
ILAR Eielson Array 85.05 25 P **P 18 39 20.9 +0.8**
comp=Z,0.4nm,0.7s,baz=252,slow=5.9,SNR=6.0
KMBO Kilima Mbogo 89.58 269 *eP* **P 18 39 45.2 +1.9**
comp=Z,5.5nm,1.4s
BRTR Keskin Array B 90.02 310 P **P 18 39 44.7 0.0**
BRTR Keskin Array B 90.02 310 P **P 18 39 44.7 0.0**
comp=Z,0.9nm,0.9s,baz=77,slow=1.9,SNR=3.5
ARCES ARCESS Array B 90.42 340 P **P 18 39 45.5 -0.2**
ARCES ARCESS Array B 90.42 340 P **P 18 39 45.5 -0.2**
comp=Z,2.0nm,0.7s,baz=72,slow=7.8,SNR=5.9
FINES FINESS Array B 91.81 332 P **P 18 39 52.5 +0.2**
FINES FINESS Array B 91.81 332 P **P 18 39 52.5 +0.2**
comp=Z,0.8nm,0.6s,baz=41,slow=6.1,SNR=6.3
AKASG Malin Array Be 91.88 321 P **P 18 39 52.2 -0.7**
AKASG Malin Array Be 91.88 321 P **P 18 39 52.2 -0.7**
comp=Z,1.0nm,0.6s,baz=68,slow=4.8,SNR=4.1
QSPA South Pole Qui 93.68 180 P **P 18 40 03.8 +2.8**
QSPA South Pole Qui 93.68 180 P **P 18 40 03.8 +2.8**
comp=Z,2.6nm,1.1s,baz=201,slow=3.2,SNR=3.5
TORD Torodi Ar. Bea 122.94 288 PKP **PKPdf 18 45 43.0 +1.5**
TORD Torodi Ar. Bea 122.94 288 PKP **PKPdf 18 45 43.0 +1.5**
comp=Z,0.3nm,0.5s,baz=112,slow=1.1,SNR=4.3
CPUP Villa Florida 157.23 170 PKPab **PKPab 18 47 14.4 +2.6**
CPUP Villa Florida 157.23 170 PKPab **PKPab 18 47 14.4 +2.6**
comp=Z,0.2nm,0.3s,baz=189,slow=6.2,SNR=5.2

DJA 14 18:34:19.8±1.4, 2°S±4°×12°1E±°, h10km, M3.5/4, MLv3.5/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APSI	**Ampana**	**1.55**	**23**	P	Pn	18 34 45.2	-2.3
APSI				S	Sn	18 35 07.5	-0.2
SPSI	**Sidrap Palu**	**2.05**	**219**	P	Pn	18 34 53.2	-1.2
SPSI				S	Sn	18 35 21.0	+1.0
LUWI	**Luwuk**	**2.16**	**53**	P	Pb	18 34 58.6	-0.4
LUWI				S	Sn	18 35 23.1	+0.5
KDI	**Kendari**	**2.24**	**136**	P	Pn	18 34 55.5	-1.4
BKSI	**Bulukumba**	**3.09**	**197**	P	Pn	18 35 10.1	+1.4

*CSEM **14** 18:41:32.1±1.3, 42.66N×43.67E, h10km, MD3.1, Error ellipse: s-maj=33.4km s-min=10.7km az=5.0*
*DDA **14** 18:41:36.2, 42.85N×42.59E, h11km, MD3.1*
ISC 14 18:41:33.3±3.2, 42.6N±0.2°×43.53E±0.04, h10km±16km, n14, σ1°906/24, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOR	**Gori**	**0.71**	**143**	P	Pn	18 41 56.7	+7.3
AKH	**Akhalkalaki**	**1.15**	**181**	P	**Pg**	**18 41 54.2**	**-1.1**
AKH				S	**Sb**	**18 42 09.8**	**-0.5**
TBLG	**Delisi**	**1.22**	**132**	P	**Pb**	**18 41 54.6**	**-1.8**
TBLG				S	**Sb**	**18 42 12.1**	**-0.2**
TBLG	**Delisi**	**1.22**	**132**	P	**Pb**	**18 41 54.6**	**-1.8**
TBLG				S	**Sb**	**18 42 12.1**	**-0.2**
DGRG	**David-gareji**	**1.76**	**128**	P	**Pn**	**18 42 05.6**	**+1.7**
DGRG				S	**Sg**	**18 42 30.1**	**+0.1**
ARTV	**Artvin**	**1.82**	**222**	*i* P	**Pn**	**18 42 05.7**	**+0.9**
ARTV				*i* S	**Sb**	**18 42 29.6**	**0.0**
ARTV	**Artvin**	**1.82**	**222**	*i* P	**Pn**	**18 42 05.7**	**+0.9**
ARTV				*i* S	**Sb**	**18 42 29.6**	**0.0**
DBOC	**Borcka**	**1.84**	**230**	*i* P	**Pn**	**18 42 05.4**	**+0.5**
DBOC				*i* S	**Sb**	**18 42 29.2**	**-0.9**
DBOC	**Borcka**	**1.84**	**230**	*i* P	**Pn**	**18 42 05.4**	**+0.5**
DBOC				*i* S	**Sb**	**18 42 29.2**	**-0.9**
DAGI	**Agillar**	**1.91**	**220**	*i* P	**Pn**	**18 42 07.1**	**+1.2**
DAGI				*i* S	**Sb**	**18 42 31.8**	**-0.3**
KARS	**Kars**	**1.96**	**190**	*e*PG	**Pg**	**18 42 12.5**	**+1.7**
DDEM	**Demirkent**	**2.13**	**219**	*i* P	**Pb**	**18 42 11.0**	**-1.0**
DDEM				*i* S	**Sb**	**18 42 38.5**	**0.0**
DDEM	**Demirkent**	**2.13**	**219**	*i* P	**Pb**	**18 42 11.0**	**-1.0**
DDEM				*i* S	**Sb**	**18 42 38.5**	**0.0**
GNI	**Garni**	**2.57**	**159**	*e*PG	**Pg**	**18 42 23.7**	**+1.1**

IDC 14 18:42:04.3±1.6, 12.67S×166.00E, h38km±6km, mb3.9/7, mb1 4.0/8, mb1mx3.9/14, mbtmp4.0/8, ML4.8/1, MS3.6/7, Ms1 3.6/7, ms1mx3.2/36, Error ellipse: s-maj=42.9km s-min=21.1km az=122.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.76**	**298**	Pn	Pn	18 43 41.3	+0.3
	18nm,0.3s,baz=90,slow=20,SNR=4.3						
HNR				Sn	Sn	18 44 57.9	+1.1
	6.8nm,0.3s,baz=210,slow=20,SNR=2.5						
DZM	**Mont Dzumac**	**9.36**	**177**	*e*LR	LR	18 46 36.0	
	228nm,24.8s						
DZM	**Mont Dzumac**	**9.36**	**177**	LR	LR	18 47 14.3	
	comp=Z,130nm,18.6s,baz=196,slow=33						
CTA	**Charters Tower**	**20.32**	**246**	P	Pn	18 46 42.5	+3.1
	1.8nm,0.6s,baz=66,slow=12,SNR=3.7						
CTA				LR	LR	18 53 32.6	
	comp=Z,104nm,19.8s,baz=68,slow=34						
AFI	**Afiamalu**	**21.66**	**96**	LR	LR	18 53 47.3	
	comp=Z,195nm,19.1s,baz=304,slow=32						
STKA	**Stephens Creek**	**29.47**	**226**	P	P	18 48 06.0	+1.3
	3.6nm,1.0s,baz=62,slow=11,SNR=4.4						
STKA				LR	LR	19 00 15.4	
	comp=Z,191nm,18.7s,baz=24,slow=37						
WRA	**Warramunga Arr**	**31.20**	**252**	P	P	18 48 19.6	-0.6
	0.6nm,0.7s,baz=80,slow=9.1,SNR=7.4						
ASAR	**Alice Springs**	**32.32**	**246**	P	P	18 48 29.4	-0.7
	1.2nm,0.7s,baz=68,slow=9.1,SNR=22						
ASAR				pP	pP	18 48 41.2	+0.4
	1.2nm,1.0s,baz=72,slow=9.8,SNR=4.4						
ASAR				PcP	PcP	18 51 16.2	-1.4
	0.8nm,1.1s,baz=52,slow=1.6,SNR=2.9						
FITZ	**Fitzroy Crossi**	**39.23**	**257**	LR	LR	19 05 23.9	
	comp=Z,61nm,19.7s,baz=66,slow=36						
PPT2	**Papeete2**	**43.09**	**102**	*e*LR	LR	19 02 22.6	
	198nm,27.2s						
TBI	**Tubuai**	**43.51**	**111**	*e*LR	LR	19 02 46.6	
	77nm,31.8s						
NWAO	**Narrogin (SRO)**	**48.78**	**237**	LR	LR	19 12 06.8	
	comp=Z,191nm,18.1s,baz=141,slow=37						
MJAR	**Matsushiro Arr**	**55.52**	**333**	P	P	18 51 35.4	-0.3
	1.1nm,0.6s,baz=169,slow=8.1,SNR=5.0						
MJAR				pP	pP	18 51 46.8	-0.2
	1.1nm,0.7s,baz=118,slow=10.0,SNR=2.5						
KSRS	**Korea Array**	**61.35**	**326**	pP	pP	18 52 28.4	+0.7
	0.6nm,0.7s,baz=125,slow=7.6,SNR=2.5						
CMAR	**Chiang Mai Arr**	**72.99**	**294**	pP	pP	18 53 44.4	+2.1
	0.7nm,0.8s,baz=111,slow=4.8,SNR=3.4						
SONM	**Songino Array**	**80.12**	**324**	P	P	18 54 10.5	0.0
	1.0nm,0.7s,baz=139,slow=5.3,SNR=11						
ILAR	**Eielson Array**	**84.96**	**18**	P	P	18 54 32.5	-2.6
	0.3nm,0.6s,baz=242,slow=5.4,SNR=4.8						
PDAR	**Pinedale Array**	**94.46**	**47**	pP	pP	18 55 31.1	-1.8
	0.1nm,0.3s,baz=273,slow=5.3,SNR=2.6						
MKAR	**Makanchi Array**	**94.87**	**317**	P	P	18 55 23.0	+0.6
	1.5nm,0.9s,baz=100,slow=6.3,SNR=8.2						
MKAR				pP	pP	18 55 34.5	+0.2
	1.2nm,0.6s,baz=92,slow=6.4,SNR=8.0						
ZALV	**Zalesovo Beam**	**95.01**	**324**	P	P	18 55 22.1	-0.7
	0.5nm,0.7s,baz=108,slow=4.8,SNR=5.0						
ZALV				pP	pP	18 55 33.9	-0.9
	0.5nm,0.5s,baz=98,slow=4.5,SNR=3.2						

TXAR Lajitas Array 96.38 61 LR LR 19 33 40.9
comp=Z,44nm,19.9s,baz=5.0,slow=32
ARCES ARCESS Array B 117.96 345 PKP PKPdf 19 00 45.2 -1.1
6.2nm,1.2s,baz=66,slow=2.2,SNR=6.1
FINES FINESS Array B 123.36 338 PKP PKPdf 19 00 55.9 -1.0
3.7nm,1.1s,baz=90,slow=4.6,SNR=5.5
GERES GERESS Array B 137.26 333 PKP PKPdf 19 01 25.2 +1.5
0.2nm,0.5s,baz=0.0,slow=1.3,SNR=4.8
KEST Kesra 148.84 321 PKPbc PKPbc 19 01 48.7 +0.3
1.9nm,0.7s,baz=359,slow=1.6,SNR=5.7
ESDC Sonseca Array 151.68 344 PKPbc PKPbc 19 01 55.2 +0.2
0.3nm,0.6s,baz=22,slow=3.1,SNR=6.6
ESDC PKPab PKPab 19 02 03.5 -0.2
0.2nm,0.4s,baz=18,slow=5.4,SNR=3.6

*IDC **14** 18:46:18.2±0.7, 3.95N×126.77E, h0km, mb3.9/15, mb1 4.0/15, mb1mx4.0/23, mbtmp3.9/15, Error ellipse: s-maj=40.0km s-min=13.2km az=71.0*
*ISCJB **14** 18:46:22.2±0.5, 3.95N±0.06×126.84E±0.10, h36km, mb3.9/15, Error ellipse: s-maj=14.9km s-min=6.7km az=155.6*
*DJA **14** 18:46:45.1±1.1, 0°N±11°×12°6E±°, h131km±17km, M3.7/6, mb4.0/1, MLv3.6/6*
ISC 14 18:46:24.0±0.6, 3.94N±0.06×126.8E±0.1, h36km, n27, σ1°39/25, mb3.9/15, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.81**	**319**	*e*P	**Pn**	**18 47 05.8**	**-0.7**
MATI	**Mati**	**3.03**	**350**	*e*P	Pn	18 47 14.7	+5.2
MNI	**Manado**	**3.15**	**218**	P	**Pn**	**18 47 14.0**	**+2.9**
TNTI	**Ternate**	**3.20**	**170**	P	**Pn**	**18 47 13.2**	**+1.4**
DAV	**Davao City (W)**	**3.33**	**339**	Sn	Sn	18 48 01.1	+9.1
	54nm,0.3s,baz=83,slow=19,SNR=4.8						
CTBH	**Cotabato--PC H**	**4.12**	**322**	*e*P	**Pn**	**18 47 25.9**	**+1.4**
BUKP	**Musuan**	**4.27**	**336**	*e*P	**Pn**	**18 47 29.3**	**+2.7**
KMSI	**Cibinong**	**4.36**	**220**	P	Pn	18 47 21.3	-6.5
PAGZ	**Pagadian**	**5.15**	**319**	*e*P	**Pn**	**18 47 41.6**	**+3.0**
IPIL	**Ipil**	**5.67**	**316**	*e*P	**Pn**	**18 47 46.8**	**+1.0**
MRSI	**Marisa**	**5.94**	**235**	P	**Pn**	**18 47 50.3**	**+0.8**
SWI	**Sorong**	**6.54**	**137**	P	**Pn**	**18 47 59.8**	**+2.1**
FITZ	**Fitzroy Crossi**	**21.93**	**183**	P	**P**	**18 51 14.0**	**-0.5**
	1.9nm,0.7s,baz=26,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**24.87**	**163**	P	**P**	**18 51 42.2**	**-1.3**
	2.8nm,0.5s,baz=344,slow=10.0,SNR=29						
ASAR	**Alice Springs**	**28.30**	**166**	P	**P**	**18 52 13.8**	**-0.7**
	0.6nm,0.5s,baz=349,slow=8.1,SNR=12						
CMAR	**Chiang Mai Arr**	**30.81**	**300**	P	**P**	**18 52 36.4**	**-0.4**
	0.4nm,0.7s,baz=124,slow=7.4,SNR=6.1						
KSRS	**Korea Array**	**33.37**	**2**	P	**P**	**18 52 58.6**	**-0.3**
	0.9nm,0.7s,baz=173,slow=9.6,SNR=2.8						
STKA	**Stephens Creek**	**38.31**	**159**	P	**P**	**18 53 41.1**	**-0.1**
	4.2nm,0.6s,baz=337,slow=9.1,SNR=12						
SONM	**Songino Array**	**47.12**	**341**	P	**P**	**18 54 52.6**	**-0.2**
	0.9nm,0.6s,baz=155,slow=9.2,SNR=6.0						
SONM				PcP	**PcP**	**18 56 24.9**	**+0.8**
	0.5nm,0.7s,baz=153,slow=5.0,SNR=3.3						
MKAR	**Makanchi Array**	**57.41**	**325**	P	**P**	**18 56 08.1**	**-1.1**
	1.1nm,0.5s,baz=116,slow=7.3,SNR=17						
AAK	**Ala-Archa**	**60.24**	**318**	P	**P**	**18 56 29.1**	**+0.2**
	0.4nm,0.4s,baz=173,slow=7.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**60.43**	**333**	P	**P**	**18 56 28.5**	**-1.3**
	0.3nm,0.3s,baz=122,slow=7.5,SNR=3.1						
BVAR	**Borovoye Array**	**67.17**	**327**	P	**P**	**18 57 14.7**	**+0.4**
	0.4nm,0.4s,baz=142,slow=7.5,SNR=6.1						
AKTO	**Aktyubinsk**	**73.53**	**322**	P	**P**	**18 57 52.5**	**-0.8**
	1.5nm,0.6s,baz=102,slow=6.5,SNR=9.3						
ILAR	**Eielson Array**	**84.89**	**25**	P	**P**	**18 58 54.8**	**-0.2**
	2.0nm,0.6s,baz=265,slow=6.6,SNR=3.3						
ARCES	**ARCESS Array B**	**90.27**	**340**	P	**P**	**18 59 20.1**	**-0.7**
	2.6nm,0.9s,baz=46,slow=5.6,SNR=5.5						
FINES	**FINESS Array B**	**91.67**	**332**	P	**P**	**18 59 27.0**	**-0.4**
	1.1nm,0.8s,baz=57,slow=7.0,SNR=5.9						

*IDC **14** 18:52:15.5±0.6, 3.70N×126.88E, h0km, mb4.0/14, mb1 4.2/14, mb1mx4.1/21, mbtmp4.0/14, MS3.4/3, Ms1 3.6/3, ms1mx2.9/32, Error ellipse: s-maj=35.4km s-min=13.6km az=73.0*
*DJA **14** 18:52:19.8±0.8, 3°N±6°×12°7E±°, h196km±33km, M4.3/3, mB4.6/2, mb4.5/3, MLv4.3/2, Mw(mB)3.8/2*
*ISCJB **14** 18:52:20.0±0.4, 3.73N±0.04×126.82E±0.07, h48km, mb4.1/22, MS3.5/3, Error ellipse: s-maj=10.8km s-min=5.5km az=170.9*
*NEIC **14** 18:52:20.4±0.4, 3.67N×126.74E, h35km, mb4.3/9, Error ellipse: s-maj=23.6km s-min=8.8km az=72.0*
ISC 14 18:52:22.4±0.5, 3.74N±0.05×126.80E±0.10, h48km, n57, σ1°74/56, mb4.1/22, MS3.5/3, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.97**	**322**	*i* P	**Pn**	**18 53 05.0**	**-2.2**
MNI	**Manado**	**3.00**	**221**	P	**Pn**	**18 53 08.2**	**+0.7**
TNTI	**Ternate**	**3.00**	**169**	P	**Pn**	**18 53 07.4**	**-0.1**
MATI	**Mati**	**3.23**	**350**	*e*P	**Pn**	**18 53 11.5**	**+0.9**
DAV	**Davao City (W)**	**3.52**	**340**	Pn	Pn	18 53 20.1	+5.5
DAV				Sn	Sn	18 54 07.5	+12
DAV	**Davao City (W)**	**3.52**	**340**	P	Pn	18 53 21.2	+6.6
DAV	**Davao City (W)**	**3.52**	**340**	Pn	Pn	18 53 20.1	+5.5
	23nm,0.3s,baz=258,slow=15,SNR=4.3						
DAV				Sn	Sn	18 54 07.5	+12
	30nm,0.3s,baz=115,slow=23,SNR=5.6						
KMSI	**Cibinong**	**4.22**	**222**	P	**Pn**	**18 53 22.1**	**-2.1**
CTBH	**Cotabato--PC H**	**4.29**	**324**	*i* P	**Pn**	**18 53 24.5**	**-0.6**
BUKP	**Musuan**	**4.46**	**337**	*e*P	**Pn**	**18 53 27.9**	**+0.4**
PAGZ	**Pagadian**	**5.31**	**320**	*e*P	**Pn**	**18 53 38.9**	**-0.2**
IPIL	**Ipil**	**5.82**	**314**	*e*P	**Pn**	**18 53 45.5**	**-0.6**
MRSI	**Marisa**	**5.83**	**236**	P	**Pn**	**18 53 48.3**	**+1.9**
	78nm,0.6s						
LUWI	**Luwuk**	**6.22**	**220**	P	**Pn**	**18 53 53.1**	**+1.4**
SWI	**Sorong**	**6.39**	**136**	P	Pn	18 53 42.8	-11
	31nm,0.7s,1μm						
FITZ	**Fitzroy Crossi**	**21.73**	**183**	*e*P	**P**	**18 57 09.4**	**-0.4**
	29nm,1.4s						
FITZ	**Fitzroy Crossi**	**21.73**	**183**	P	**P**	**18 57 08.7**	**-1.1**
	3.2nm,0.9s,baz=11,slow=10,SNR=4.4						
WRAB	**Tennant Creek**	**24.67**	**163**	*e*P	**P**	**18 57 36.7**	**-2.2**
	13nm,0.7s						
WRA	**Warramunga Arr**	**24.68**	**163**	P	**P**	**18 57 36.9**	**-2.0**
WRA	**Warramunga Arr**	**24.68**	**163**	P	**P**	**18 57 36.9**	**-2.0**
	11nm,0.7s,baz=344,slow=10,SNR=34						
AS31	**Alice Springs**	**28.11**	**166**	*e*P	**P**	**18 58 08.4**	**-1.5**
ASAR	**Alice Springs**	**28.11**	**166**	P	**P**	**18 58 08.4**	**-1.5**
ASAR	**Alice Springs**	**28.11**	**166**	P	**P**	**18 58 08.4**	**-1.5**
	0.7nm,0.5s,baz=351,slow=7.7,SNR=14						
CMAR	**Chiang Mai Arr**	**30.92**	**300**	P	**P**	**18 58 35.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**30.92**	**300**	P	**P**	**18 58 35.1**	**+0.2**
	1.0nm,0.9s,baz=126,slow=9.5,SNR=4.4						
CMAR				LR	LR	19 13 09.1	
	comp=Z,49nm,18.8s,baz=105,slow=40						
KSAR	**Wonju Array Be**	**33.55**	**2**	P	**P**	**18 58 58.4**	**+0.6**
KSRS	**Korea Array**	**33.57**	**2**	P	**P**	**18 58 58.4**	**+0.5**
	1.2nm,0.7s,baz=184,slow=11,SNR=3.4						
STKA	**Stephens Creek**	**38.12**	**159**	*e*P	**P**	**18 59 35.6**	**-1.3**
	1.2nm,0.8s						
STKA	**Stephens Creek**	**38.12**	**159**	P	**P**	**18 59 35.7**	**-1.1**
	4.9nm,0.7s,baz=344,slow=8.1,SNR=16						
LSA	**Lhasa**	**42.48**	**311**	*e*P	**P**	**19 00 11.8**	**-1.8**
	2.8nm,0.6s						
HIA	**Hailar**	**45.76**	**354**	*e*P	**P**	**19 00 39.6**	**+0.5**
	6.3nm,0.8s						
SONM	**Songino Array**	**47.31**	**341**	P	**P**	**19 00 50.3**	**-1.0**
SONM				PcP	**PcP**	**19 02 22.4**	**+0.7**
SONM	**Songino Array**	**47.31**	**341**	P	**P**	**19 00 50.3**	**-1.0**
	0.9nm,0.5s,baz=166,slow=7.8,SNR=8.0						
SONM				PcP	**PcP**	**19 02 22.4**	**+0.7**
	0.4nm,0.6s,baz=160,slow=2.9,SNR=2.4						
PETK	**Petropavlovsk-**	**55.40**	**22**	P	**P**	**19 01 51.6**	**-0.1**
PETK	**Petropavlovsk-**	**55.40**	**22**	P	**P**	**19 01 51.6**	**-0.1**
	1.1nm,0.5s,baz=188,slow=9.0,SNR=4.8						
MK31	**Makanchi Array**	**57.58**	**325**	*e*P	**P**	**19 02 05.4**	**-2.0**
MKAR	**Makanchi Array**	**57.58**	**325**	P	**P**	**19 02 06.1**	**-1.2**
MKAR				ScP	**ScP**	**19 07 02.3**	**+5.8**
MKAR	**Makanchi Array**	**57.58**	**325**	P	**P**	**19 02 06.1**	**-1.2**
	1.2nm,0.5s,baz=120,slow=8.2,SNR=20						
MKAR				ScP	**ScP**	**19 07 02.3**	**+5.8**
	0.3nm,0.9s,baz=74,slow=5.2,SNR=3.5						
AAK	**Ala-Archa**	**60.39**	**318**	P	**P**	**19 02 28.0**	**+0.9**
AAK	**Ala-Archa**	**60.39**	**318**	P	**P**	**19 02 28.0**	**+0.9**
	0.5nm,0.5s,baz=177,slow=7.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**60.61**	**333**	P	**P**	**19 02 26.2**	**-1.9**
ZALV	**Zalesovo Beam**	**60.61**	**333**	P	**P**	**19 02 26.2**	**-1.9**
	0.4nm,0.3s,baz=118,slow=6.9,SNR=3.9						
ZALV				LR	LR	19 31 35.0	
	comp=Z,34nm,18.4s,baz=72,slow=39						
KURK	**Kurchatov**	**61.77**	**327**	*e*P	**P**	**19 02 35.1**	**-0.9**
	4.4nm,0.6s						
KKAR	**Karatay Array**	**63.27**	**317**	*e*P	**P**	**19 02 44.9**	**-1.3**
	1.0nm,0.7s						
ABKAR	**Akbulak array**	**72.18**	**321**	*e*P	**P**	**19 03 40.6**	**-1.6**
	0.5nm,0.5s						
AKTO	**Aktyubinsk**	**73.69**	**322**	P	**P**	**19 03 53.0**	**+1.9**
AKTO	**Aktyubinsk**	**73.69**	**322**	P	**P**	**19 03 53.0**	**+1.9**
	1.2nm,0.6s,baz=57,slow=11,SNR=5.4						
COLD	**Coldfoot**	**83.86**	**23**	*e*P	**P**	**19 04 47.6**	**+1.0**
	3.1nm,0.9s						
ILAR	**Eielson Array**	**85.06**	**25**	P	**P**	**19 04 53.0**	**+0.2**
ILAR	**Eielson Array**	**85.06**	**25**	P	**P**	**19 04 53.0**	**+0.2**
	0.9nm,1.0s,baz=241,slow=7.5,SNR=4.8						
ARCES	**ARCESS Array B**	**90.46**	**340**	P	**P**	**19 05 17.8**	**-0.8**
ARCES	**ARCESS Array B**	**90.46**	**340**	P	**P**	**19 05 17.8**	**-0.8**
	1.4nm,0.7s,baz=86,slow=6.7,SNR=5.8						
FINES	**FINESS Array B**	**91.85**	**332**	P	**P**	**19 05 26.1**	**+1.0**
FINES	**FINESS Array B**	**91.85**	**332**	P	**P**	**19 05 26.1**	**+1.0**
	0.5nm,0.5s,baz=97,slow=7.9,SNR=5.4						
NOA	**NORSAR Array B**	**98.81**	**334**	LR	LR	19 57 18.2	
	comp=Z,26nm,20.7s,baz=120,slow=40						
TORD	**Torodi Ar. Bea**	**122.98**	**288**	PKP	**PKPdf**	**19 11 17.0**	**+2.5**
TORD	**Torodi Ar. Bea**	**122.98**	**288**	PKP	**PKPdf**	**19 11 17.0**	**+2.5**
	0.5nm,1.0s,baz=92,slow=1.8,SNR=3.5						

IDC 14 18:52:40.3±1.6, 21.06N×145.48E, h0km, mb3.3/2, mb1 3.8/3, mb1mx3.4/24, mbtmp3.4/3, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx2.4/22, Error ellipse: s-maj=92.7km s-min=32.5km az=101.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**16.68**	**339**	Pn	Pn	18 56 36.1	+0.5
	0.2nm,0.3s,baz=160,slow=5.9,SNR=5.4						
WRA	**Warramunga Arr**	**42.18**	**196**	P	P	19 00 34.9	-0.1
	0.1nm,0.3s,baz=16,slow=8.5,SNR=4.8						
MKAR	**Makanchi Array**	**56.70**	**313**	LR	LR	19 29 02.5	
	comp=Z,39nm,19.3s,baz=6.4,slow=38						
YKA	**Yellowknife Ar**	**76.01**	**28**	P	P	19 04 29.0	-0.1
	0.1nm,0.4s,baz=293,slow=5.7,SNR=3.9						

IDC 14 19:02:02.8±2.4, 3.87N×126.14E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, MS2.9/1, Ms1 2.9/1, ms1mx2.1/23, Error ellipse: s-maj=224.6km s-min=27.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**10.89**	**216**	LR	LR	19 08 22.7	
	comp=Z,62nm,21.1s,baz=206,slow=35						
WRA	**Warramunga Arr**	**25.00**	**161**	P	P	19 07 29.0	+0.5
	0.6nm,0.7s,baz=341,slow=9.6,SNR=5.9						
ASAR	**Alice Springs**	**28.39**	**165**	P	P	19 07 58.6	-0.6
	0.3nm,0.7s,baz=346,slow=7.1,SNR=2.6						
MKAR	**Makanchi Array**	**57.11**	**325**	P	P	19 11 51.1	-0.1
	0.1nm,0.4s,baz=119,slow=8.3,SNR=5.5						

*DJA **14** 19:13:04, 2.63N×96.18E, h10km, MLv4.1/7*
*IDC **14** 19:13:05.3±1.8, 2.49N×96.69E, h0km, mb4.0/5, mb1 4.0/7, mb1mx3.7/24, mbtmp3.9/7, ML3.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/32, Error ellipse: s-maj=49.6km s-min=25.1km az=48.0*
*ISCJB **14** 19:13:08.4±0.9, 2.57N±0.08×96.7E±0.1, h30km, mb4.0/5, MS2.9/1, Error ellipse: s-maj=15.6km s-min=10.3km az=150.7*
ISC 14 19:13:09.9±1.0, 2.61N±0.07×96.7E±0.1, h30km, n16, σ0°81/15, mb3.9/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPTI		**0.79**	**34**	P	**Pn**	**19 13 24.6**	**-0.4**
GSI	**Gunungsitoli**	**1.54**	**147**	P	**Pn**	**19 13 35.1**	**-0.3**
TSI	**Tuntungan**	**2.03**	**64**	P	**Pb**	**19 13 45.5**	**-0.7**
PSI	**Prapat**	**2.20**	**85**	P	**Pn**	**19 13 44.2**	**-0.3**
PSI	**Prapat**	**2.20**	**85**	Pn	**Pn**	**19 13 44.2**	**-0.3**
	5.1nm,0.3s,baz=313,slow=8.1,SNR=11						
LHMI	**Lhok Sumawe**	**

CM31	**Chiang Mai Arr**	**45.15**	**301**	P	**P**	**19 23 49.0**	**-0.9**
	4.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**45.15**	**301**	P	**P**	**19 23 49.9**	**0.0**
CMAR	**Chiang Mai Arr**	**45.15**	**301**	P	**P**	**19 23 49.9**	**0.0**
	1.3nm,0.8s,baz=125,slow=5.7,SNR=11						
CHTO	**Chiang Mai**	**45.30**	**302**	P	**P**	**19 23 50.7**	**-0.4**
	2.6nm,1.0s						
SONM	**Songino Array**	**59.10**	**335**	P	**P**	**19 25 34.4**	**+1.1**
SONM	**Songino Array**	**59.10**	**335**	P	**P**	**19 25 34.4**	**+1.1**
	0.5nm,0.6s,baz=141,slow=7.8,SNR=4.3						
MK31	**Makanchi Array**	**70.98**	**323**	*e*P	**P**	**19 26 51.1**	**+0.7**
MKAR	**Makanchi Array**	**70.98**	**323**	P	**P**	**19 26 51.0**	**+0.6**
MKAR	**Makanchi Array**	**70.98**	**323**	P	**P**	**19 26 51.0**	**+0.6**
	0.5nm,0.6s,baz=114,slow=7.8,SNR=7.4						
ZAA0	**Zalesovo Array**	**73.25**	**330**	P	**P**	**19 27 03.7**	**-0.1**
ZALV	**Zalesovo Beam**	**73.25**	**330**	P	**P**	**19 27 03.7**	**0.0**
ZALV	**Zalesovo Beam**	**73.25**	**330**	P	**P**	**19 27 03.7**	**0.0**
	0.9nm,0.5s,baz=109,slow=6.6,SNR=6.6						
KURK	**Kurchatov**	**74.95**	**325**	*e*P	**P**	**19 27 16.7**	**+2.9**
	6.4nm,1.4s						
KBL	**Kabul**	**75.79**	**307**	P	**P**	**19 27 17.0**	**-2.2**
QSPA	**South Pole Qui**	**85.66**	**180**	P	**P**	**19 28 11.6**	**+0.3**
QSPA	**South Pole Qui**	**85.66**	**180**	P	**P**	**19 28 11.5**	**+0.3**
	2.8nm,0.9s,baz=39,slow=1.8,SNR=8.4						
MCK	**McKinley**	**86.15**	**25**	*e*P	**P**	**19 28 12.5**	**-1.1**
	21nm,1.6s						
ILAR	**Eielson Array**	**87.31**	**24**	P	**P**	**19 28 18.9**	**-0.3**
ILAR	**Eielson Array**	**87.31**	**24**	P	**P**	**19 28 18.9**	**-0.3**
	0.5nm,0.7s,baz=256,slow=4.1,SNR=8.3						

MEX 14 19:18:30.5±1.1, 18°.06N×103°.13W, h92km±11km, MD3.7, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.31**	**319**	*i* P	Pn	19 18 43.6	-0.6
MMIG				*i* S	Sn	19 18 52.2	-2.2
R15V		**1.37**	**324**	*e*P	Pn	19 18 52.7	-2.1
R15V				*i* S	Sn	19 19 11.6	-1.6
EZ5V		**1.48**	**343**	*e*P	Pn	19 18 55.8	-0.7
EZ5V				*i* S	Sn	19 19 14.3	-1.9
ZIIG	**Zihuatanejo**	**1.65**	**106**	*i* P	Pn	19 18 56.7	-1.5
ZIIG				*i* S	Sn	19 19 16.8	-2.6
CAIG	**El Cayaco**	**2.91**	**110**	*e*P	Pn	19 19 14.6	-0.3
CAIG				*i* S	Sn	19 19 47.5	-1.6
PLIG	**Platanillo**	**3.47**	**84**	*i* P	Pn	19 19 20.8	-1.8
PLIG				*i* S	Sn	19 20 01.9	-0.8

*ISCJB **14** 19:23:50.6±0.6, 38°.23N±0°.03×22°.56E±0°.04, h7km±12km, Error ellipse: s-maj=5.0km s-min=4.6km az=164.0*
*CSEM **14** 19:23:50.8±0.1, 38°.22N×22°.57E, h2km, ML1.9/2, Error ellipse: s-maj=3.2km s-min=2.6km az=46.0*
*THE **14** 19:23:51.2, 38°.24N×22°.53E, h2km±3.9km, ML1.9/2, Error ellipse: s-maj=39.8km s-min=0.8km az=142.0*
*ATH **14** 19:23:51.0, 38°.24N×22°.58E, h3km±2km, MD3.0/6*

ISC 14 19:23:50.7±0.9, 38°.25N±0°.02×22°.58E±0°.02, h9km±9km, n24, σ0.9 38/43, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DSF	**Desfina**	**0.17**	**346**	P	**Pg**	**19 23 54.7**	**+0.3**
DSF				S	**Sg**	**19 23 57.3**	**+0.4**
DSF	**Desfina**	**0.17**	**346**	P	**Pg**	**19 23 54.7**	**+0.3**
DSF				S	**Sg**	**19 23 57.3**	**+0.4**
DESF	**Desfina**	**0.17**	**347**	P	**Pg**	**19 23 53.7**	**-0.7**
DESF				S	**Sg**	**19 23 57.0**	**+0.1**
DESF	**Desfina**	**0.17**	**347**	P	**Pg**	**19 23 53.7**	**-0.7**
DESF				S	**Sg**	**19 23 57.0**	**+0.1**
GUR	**Goura**	**0.36**	**211**	P	**Pg**	**19 23 57.8**	**-0.1**
GUR				S	**Sg**	**19 24 03.0**	**+0.3**
GUR	**Goura**	**0.36**	**211**	*e*PG	**Pg**	**19 23 57.8**	**-0.1**
GUR				*e*SG	**Sg**	**19 24 02.8**	**+0.1**
GUR	**Goura**	**0.36**	**211**	P	**Pg**	**19 23 57.8**	**-0.1**
GUR				*e*Sg	**Sg**	**19 24 02.8**	**+0.1**
KALE	**Kalithea**	**0.38**	**293**	P	**Pg**	**19 23 57.9**	**-0.2**
KALE				S	**Sg**	**19 24 02.5**	**-0.6**
KALE	**Kalithea**	**0.38**	**293**	P	**Pg**	**19 23 57.9**	**-0.2**
KALE				S	**Sg**	**19 24 02.5**	**-0.6**
LTK	**Loutraki**	**0.38**	**126**	*e*PG	**Pg**	**19 23 58.0**	**-0.1**
LTK				*e*SG	**Sg**	**19 24 03.5**	**+0.4**
LTK	**Loutraki**	**0.38**	**126**	*e*Pg	**Pg**	**19 23 58.0**	**-0.1**
LTK				*e*Sg	**Sg**	**19 24 03.5**	**+0.4**
LKR	**Lokris**	**0.52**	**39**	P	**Pg**	**19 24 00.9**	**+0.1**
LKR				S	**Sb**	**19 24 09.7**	**0.0**
LKR	**Lokris**	**0.52**	**39**	*e*PG	**Pg**	**19 24 00.8**	**0.0**
LKR				*e*SG	**Sb**	**19 24 08.8**	**-0.9**
LKR	**Lokris**	**0.52**	**39**	P	**Pg**	**19 24 00.9**	**+0.1**
LKR				*e*Sg	**Sb**	**19 24 08.8**	**-0.9**
LKR				S	**Sb**	**19 24 09.7**	**0.0**
AXAR	**Agios Charalam**	**0.52**	**7**	P	**Pg**	**19 24 01.1**	**+0.2**
AXAR				S	**Sb**	**19 24 10.2**	**+0.4**
AXAR	**Agios Charalam**	**0.52**	**7**	P	**Pg**	**19 24 01.1**	**+0.2**
AXAR				S	**Sb**	**19 24 10.2**	**+0.4**
EFP	**Efpalio**	**0.56**	**289**	*e*PG	**Pg**	**19 24 01.8**	**+0.2**
EFP				*e*SG	**Sg**	**19 24 09.4**	**+0.5**
EFP	**Efpalio**	**0.56**	**289**	*e*Pg	**Pg**	**19 24 01.8**	**+0.2**
EFP				*e*Sg	**Sg**	**19 24 09.4**	**+0.5**
NAIG	**Nisos Aigina**	**0.87**	**124**	*e*PB	**Pb**	**19 24 07.8**	**-0.1**
NAIG	**Nisos Aigina**	**0.87**	**124**	*e*Pb	**Pb**	**19 24 07.8**	**-0.1**
EVR	**Evrytania**	**0.90**	**318**	*e*PG	**Pb**	**19 24 08.6**	**0.0**
EVR	**Evrytania**	**0.90**	**318**	*e*Pg	**Pb**	**19 24 08.6**	**0.0**
DID	**Didima**	**0.90**	**145**	*e*PG	**Pg**	**19 24 08.2**	**+0.1**
DID	**Didima**	**0.90**	**145**	*e*Pg	**Pg**	**19 24 08.2**	**+0.1**

*NEIC **14** 19:25:06.3, 18°.06N×68°.29W, h91km, MD3.3(RSPR), After RSPR.*

RSPR 14 19:25:06.3, 18°.06N×68°.29W, h91km±1km, MD3.5/5, 21C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRPR	**Cabo Rojo, PR**	**1.13**	**93**	*e*P	Pn	19 25 27.3	-0.2
CRPR	**Cabo Rojo, PR**	**1.13**	**93**	*e*P	Pn	19 25 27.3	-0.2
CRPR				*e*S	Sn	19 25 43.4	-0.1
LSP	**Las Mesas**	**1.15**	**84**	*e*P	Pn	19 25 27.6	-0.3
LSP				*e*S	Sn	19 25 43.8	-0.3
LSP	**Las Mesas**	**1.15**	**84**	*e*P	Pn	19 25 27.6	-0.3
LSP				*e*S	Sn	19 25 43.8	-0.3
AGPR	**Aguadilla, PR**	**1.19**	**70**	*e*P	Pn	19 25 28.0	-0.3
AGPR	**Aguadilla, PR**	**1.19**	**70**	*e*P	Pn	19 25 28.0	-0.3
AGPR				*e*S	Sn	19 25 44.5	-0.4
DR12	**Loma Pena Alta**	**1.26**	**305**	*i* P	Pn	19 25 28.6	-0.6
DR12				*e*S	Sn	19 25 45.7	-0.8
DR12	**Loma Pena Alta**	**1.26**	**305**	*i* Pu		19 25 28.6	
DR12				*e*S	Sn	19 25 45.7	-0.8
LRS	**Lares**	**1.40**	**80**	*e*P	Pn	19 25 30.5	-0.4
LRS				*e*S	Sn	19 25 48.9	-0.5
LRS	**Lares**	**1.40**	**80**	*e*P	Pn	19 25 30.5	-0.4
LRS				*e*S	Sn	19 25 48.9	-0.5
SMN1	**Samana, DR**	**1.46**	**320**	*e*P	Pn	19 25 31.1	-0.5
SMN1				*e*S	Sn	19 25 50.6	-0.1
AOPR	**Arecibo Observ**	**1.49**	**79**	*e*P	Pn	19 25 31.6	-0.4
AOPR	**Arecibo Observ**	**1.49**	**79**	*e*P	Pn	19 25 31.6	-0.4
AOPR				*e*S	Sn	19 25 51.1	-0.4
OBIP	**Obispado Ponce**	**1.60**	**90**	*e*P	Pn	19 25 32.8	-0.6
OBIP	**Obispado Ponce**	**1.60**	**90**	*e*P	Pn	19 25 32.8	-0.6
CELP	**Cerrillos**	**1.63**	**89**	*e*P	Pn	19 25 33.2	-0.5
CELP				*e*S	Sn	19 25 54.1	-0.5
CELP	**Cerrillos**	**1.63**	**89**	*e*P	Pn	19 25 33.2	-0.5
CELP				*e*S	Sn	19 25 54.1	-0.5
SJG	**San Juan**	**2.04**	**88**	*e*P	Pn	19 25 38.5	-0.5
SJG	**San Juan**	**2.04**	**88**	*e*P	Pn	19 25 38.5	-0.5
SJG				*e*S	Sn	19 26 03.9	-0.1
HUMP	**Col San Antoni**	**2.33**	**88**	*e*P	Pn	19 25 42.4	-0.4
HUMP	**Col San Antoni**	**2.33**	**88**	*e*P	Pn	19 25 42.4	-0.4
HUMP				*e*S	Sn	19 26 10.4	-0.4
MTP	**Monte Pirata**	**2.61**	**89**	*e*P	Pn	19 25 46.3	-0.2
MTP	**Monte Pirata**	**2.61**	**89**	*e*P	Pn	19 25 46.3	-0.2
MTP				*e*S	Sn	19 26 17.5	0.0
SDDR	**Presa de Saban**	**2.98**	**288**	*e*Pn	Pn	19 25 55.0	+3.2
SDDR				*e*S	Sn	19 26 32.5	+5.8

IDC 14 19:25:46.7±1.7, 3°.99N×126°.81E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/19, mbtmp3.3/3, Error ellipse: s-maj=173.6km s-min=26.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.90**	**163**	P	P	19 31 11.7	0.0
	1.0nm,0.8s,baz=344,slow=10,SNR=47						
SONM	**Songino Array**	**47.08**	**341**	P	P	19 34 21.2	+0.7
	0.2nm,0.8s,baz=146,slow=8.0,SNR=2.1						
MKAR	**Makanchi Array**	**57.39**	**325**	P	P	19 35 36.4	-0.7
	0.2nm,0.5s,baz=114,slow=8.0,SNR=5.3						

*ISCJB **14** 19:28:55.7±0.4, 16°.32S±0°.04×69°.62W±0°.05, h189km, mb4.3/18, Error ellipse: s-maj=7.5km s-min=5.8km az=153.9*
*NEIC **14** 19:28:57.9±0.7, 16°.31S×69°.56W, h195km±7km, mb4.3/13, Error ellipse: s-maj=10.6km s-min=7.7km az=78.0*
*IDC **14** 19:28:58.4±1.4, 16°.29S×69°.45W, h192km±11km, mb4.0/10, mb1 3.9/13, mb1mx3.8/21, mbtmp3.8/13, Error ellipse: s-maj=16.0km s-min=12.6km az=26.0*

ISC 14 19:28:57.0±0.4, 16°.35S±0°.06×69°.59W±0°.06, h189km, n63, σ1.9 28/71, mb4.4/18, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.41**	**88**	*e*Pn	Pn	19 29 33.8	+4.2
LPAZ				*e*Sn	**Sn**	**19 29 56.3**	**+1.6**
LVC	**Limon Verde**	**6.26**	**174**	*e*Pn	**Pn**	**19 30 28.7**	**+0.9**
	3.6nm,0.3s						
LVC				*e*Sn	**Sn**	**19 31 35.7**	**-3.8**
SIV	**San Ignacio**	**8.20**	**89**	P	**Pn**	**19 30 52.6**	**-0.3**
SIV				S	**Sn**	**19 32 23.7**	**-1.4**
SIV	**San Ignacio**	**8.20**	**89**	P	**Pn**	**19 30 52.6**	**-0.3**
	1.5nm,0.3s,baz=277,slow=12,SNR=15						
SIV				S	**Sn**	**19 32 23.7**	**-1.4**
	0.7nm,0.3s,baz=277,slow=17,SNR=5.3						
NNA	**Nana**	**8.26**	**301**	*e*Pn	**Pn**	**19 30 52.5**	**-1.3**
NNA				*e*Sn	Sn	19 32 14.4	-12
NNA				S		19 32 21.6	
NNA	**Nana**	**8.26**	**301**	P	**Pn**	**19 30 56.6**	**+2.8**
	3.8nm,0.3s,baz=139,slow=10,SNR=6.9						
NNA				S	**Sn**	**19 32 21.6**	**-5.1**
	4.0nm,0.3s,baz=213,slow=17,SNR=6.5						
SAML	**Samuel**	**9.66**	**41**	*e*Pn	**Pn**	**19 31 11.0**	**-1.1**
	4.7nm,0.7s						
LCO	**Las Campanas**	**12.64**	**184**	*e*Pn	**Pn**	**19 31 51.1**	**+0.5**
	33nm,1.1s						
LCO				*e*Sn	Sn	19 34 03.5	-7.9
CPUP	**Villa Florida**	**15.12**	**133**	P	**Pn**	**19 32 20.9**	**-0.4**
CPUP	**Villa Florida**	**15.12**	**133**	P	**Pn**	**19 32 20.9**	**-0.4**
	0.3nm,0.3s,baz=270,slow=20,SNR=1.9						
CFAA	**Coronel Fontan**	**15.23**	**176**	P	**P**	**19 32 25.0**	**+1.8**
CFAA				S	S	19 35 01.3	-11
CFAA	**Coronel Fontan**	**15.23**	**176**	P	**P**	**19 32 25.0**	**+1.8**
	0.1nm,0.3s,baz=355,slow=10,SNR=15						
CFAA				S	S	19 35 01.3	-11
	0.0nm,0.3s,baz=301,slow=12,SNR=2.7						
OTAV	**Otavalo**	**18.66**	**331**	*e*P	**Pn**	**19 33 05.7**	**+1.7**
	2.6nm,0.6s						
BDFB	**Brasilia**	**20.76**	**91**	P	**P**	**19 33 23.9**	**+0.3**
BDFB	**Brasilia**	**20.76**	**91**	P	**P**	**19 33 23.9**	**+0.3**
	7.4nm,0.5s,baz=266,slow=11,SNR=15						
TRQA	**Tornquist**	**22.64**	**164**	*e*P	**P**	**19 33 41.5**	**-0.5**
	7.0nm,0.7s						
PLCA	**Paso Flores**	**24.31**	**182**	P	**P**	**19 33 58.6**	**+1.4**
PLCA	**Paso Flores**	**24.31**	**182**	P	**P**	**19 33 58.6**	**+1.4**
	11nm,0.8s,baz=360,slow=12,SNR=23						
SDV	**Santo Domingo**	**25.10**	**358**	*e*P	**P**	**19 34 04.6**	**-0.1**
CRPR	**Cabo Rojo, PR**	**34.23**	**4**	P	**P**	**19 35 24.0**	**-1.0**
	8.7nm,0.7s						
CELP	**Cerrillos**	**34.34**	**5**	*e*P	**P**	**19 35 26.3**	**+0.4**
SJG	**San Juan**	**34.42**	**6**	P	**P**	**19 35 25.7**	**-0.9**
	21nm,1.0s						
RCBR	**Riachuelo**	**34.62**	**76**	P	**P**	**19 35 28.0**	**-0.5**
RCBR	**Riachuelo**	**34.62**	**76**	P	**P**	**19 35 28.0**	**-0.5**
	7.1nm,0.6s,baz=268,slow=7.6,SNR=6.4						
SDDR	**Presa de Saban**	**35.15**	**357**	P	**P**	**19 35 33.6**	**+0.7**
	31nm,1.4s						
PMSA	**Palmer Station**	**48.52**	**177**	P	P	19 37 16.7	-3.8
	17nm,0.7s						
MIAR	**Mount Ida**	**55.52**	**336**	*e*P	**P**	**19 38 12.0**	**-0.6**
	2.6nm,0.7s						
BRNJ	**Basking Ridge**	**56.93**	**355**	P	P	19 38 18.3	-4.1
WMOK	**Wichita Mounta**	**57.89**	**332**	*e*P	**P**	**19 38 29.6**	**+0.3**
	2.0nm,0.6s						
SDCO	**Great Sand Dun**	**63.52**	**329**	P	**P**	**19 39 08.8**	**+1.1**
	3.4nm,0.8s						
RSSD	**Black Hills**	**67.91**	**334**	*e*P	**P**	**19 39 36.9**	**+1.4**
DBIC	**Dimbokro**	**67.99**	**76**	P	**P**	**19 39 36.4**	**+0.1**
DBIC	**Dimbokro**	**67.99**	**76**	P	**P**	**19 39 36.4**	**+0.1**
	8.6nm,0.5s,baz=223,slow=6.1,SNR=21						
PDAR	**Pinedale Array**	**69.36**	**330**	P	**P**	**19 39 46.2**	**+1.7**
PDAR	**Pinedale Array**	**69.36**	**330**	P	**P**	**19 39 46.2**	**+1.7**
	0.4nm,0.4s,baz=122,slow=10,SNR=6.3						
ULM	**Lac du Bonnet**	**70.24**	**342**	P	**P**	**19 39 48.6**	**-0.7**
ULM	**Lac du Bonnet**	**70.24**	**342**	P	**P**	**19 39 48.6**	**-0.7**
	6.1nm,0.5s,baz=156,slow=5.9,SNR=12						
SCHQ	**Schefferville**	**70.94**	**2**	P	**P**	**19 39 52.5**	**-1.1**
SCHQ	**Schefferville**	**70.94**	**2**	P	**P**	**19 39 52.5**	**-1.1**
	1.4nm,0.7s,baz=86,slow=3.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.30**	**72**	P	**P**	**19 40 25.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**76.30**	**72**	P	**P**	**19 40 25.5**	**-0.1**
	10nm,0.6s,baz=264,slow=4.9,SNR=76						
ESDC	**Sonseca Array**	**82.66**	**45**	P	**P**	**19 41 00.5**	**+1.1**
ESDC	**Sonseca Array**	**82.66**	**45**	P	**P**	**19 41 00.5**	**+1.1**
	1.1nm,0.5s,baz=255,slow=5.5,SNR=15						
YKA	**Yellowknife Ar**	**86.14**	**341**	P	**P**	**19 41 17.5**	**+1.2**
YKA	**Yellowknife Ar**	**86.14**	**341**	P	**P**	**19 41 17.5**	**+1.2**
	0.8nm,0.4s,baz=134,slow=4.8,SNR=34						
INK	**Inuvik**	**95.91**	**340**	P	**P**	**19 42 02.9**	**+1.2**
	0.9nm,0.6s						
ASAR	**Alice Springs**	**134.07**	**211**	PKPpre	PKPpre	19 47 40.3	
ASAR				PKP	**PKiKP**	**19 47 53.8**	**-0.4**
ASAR				SKPbc	**SKPbc**	**19 51 03.3**	**-1.2**
ASAR	**Alice Springs**	**134.07**	**211**	PKhKP	PKPpre	19 47 40.3	
	0.3nm,0.7s,baz=148,slow=2.2,SNR=4.0						
ASAR				PKP	**PKiKP**	**19 47 53.8**	**-0.4**
	0.4nm,0.6s,baz=138,slow=2.1,SNR=9.7						
ASAR				SKPbc	**SKPbc**	**19 51 03.3**	**-1.2**
	0.4nm,0.9s,baz=132,slow=2.9,SNR=4.1						
WRA	**Warramunga Arr**	**136.94**	**214**	PKPpre	PKPpre	19 47 51.2	
WRA				PKP	**PKiKP**	**19 47 59.6**	**-0.4**
WRA				SKPbc	**SKPbc**	**19 51 12.9**	**-0.5**
WRA	**Warramunga Arr**	**136.94**	**214**	PKhKP	PKPpre	19 47 51.2	
	0.2nm,0.6s,baz=214,slow=1.5,SNR=7.5						
WRA				PKP	**PKiKP**	**19 47 59.6**	**-0.4**
	0.6nm,0.6s,baz=135,slow=1.5,SNR=13						
WRA				SKPbc	**SKPbc**	**19 51 12.9**	**-0.5**
	0.6nm,0.7s,baz=141,slow=2.7,SNR=7.0						
ZALV	**Zalesovo Beam**	**137.52**	**22**	PKP	**PKPdf**	**19 47 57.2**	**-0.9**
ZALV				SKPbc	**SKPbc**	**19 51 14.2**	**+0.3**
ZALV	**Zalesovo Beam**	**137.52**	**22**	PKP	**PKPdf**	**19 47 57.2**	**-0.9**
	1.2nm,0.6s,baz=322,slow=4.4,SNR=6.7						
ZALV				SKPbc	**SKPbc**	**19 51 14.2**	**+0.3**
	0.9nm,0.7s,baz=316,slow=6.2,SNR=4.6						
MKAR	**Makanchi Array**	**141.73**	**32**	PKPpre	PKPpre	19 48 01.9	
MKAR				SKPbc	**SKPbc**	**19 51 24.7**	**-0.9**
MKAR	**Makanchi Array**	**141.73**	**32**	PKhKP	PKPpre	19 48 01.9	
	0.2nm,0.4s,baz=349,slow=3.3,SNR=9.0						
MKAR				SKPbc	**SKPbc**	**19 51 24.7**	**-0.9**
	0.6nm,0.7s,baz=323,slow=2.8,SNR=7.5						
USRK	**Ussuriysk Arra**	**146.77**	**331**	PKPbc	**PKPab**	**19 48 18.4**	**-0.1**
	1.8nm,0.6s,baz=95,slow=2.1,SNR=4.2						
MJAR	**Matsushiro Arr**	**148.19**	**315**	PKPbc	**PKPbc**	**19 48 22.6**	**+1.6**
MJAR	**Matsushiro Arr**	**148.19**	**315**	PKPbc	**PKPbc**	**19 48 22.5**	**+1.6**
	0.6nm,0.3s,baz=85,slow=1.1,SNR=4.3						
SONM	**Songino Array**	**148.43**	**5**	PKPbc	**PKPab**	**19 48 23.6**	**-1.5**
SONM	**Songino Array**	**148.43**	**5**	PKPbc	**PKPab**	**19 48 23.6**	**-1.5**
	6.7nm,0.6s,baz=317,slow=2.1,SNR=105						
PSI	**Prapat**	**162.42**	**139**	PKP	**PKPdf**	**19 48 36.8**	**-0.5**
PSI	**Prapat**	**162.42**	**139**	PKP	**PKPdf**	**19 48 36.8**	**-0.5**
	3.2nm,0.4s,baz=180,slow=1.9,SNR=4.1						
CMAR	**Chiang Mai Arr**	**168.86**	**78**	PKPab	**PKPab**	**19 49 54.4**	**+0.3**
CMAR	**Chiang Mai Arr**	**168.86**	**78**	PKPab	**PKPab**	**19 49 54.4**	**+0.3**
	0.8nm,0.6s,baz=276,slow=6.1,SNR=10						

*ISCJB **14** 19:37:28.6±0.7, 37°.89N±0°.03×29°.17E±0°.05, h2km±7km, Error ellipse: s-maj=7.5km s-min=4.3km az=32.7*
*ISK **14** 19:37:28.6, 37°.98N×29°.16E, h5km, MD3.1*
*DDA **14** 19:37:28.7, 37°.91N×29°.18E, h4km, MD3.0*
*CSEM **14** 19:37:28.5±0.2, 37°.89N×29°.19E, h0km±1km, MD3.0, Error ellipse: s-maj=3.7km s-min=2.5km az=127.0*

ISC 14 19:37:28.7±1.0, 37°.89N±0°.03×29°.18E±0°.03, h8km±12km, n24, σ0.8 64/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DNZL	**Cakiroluk**	**0.22**	**208**	*i* P	**Pg**	**19 37 33.5**	**+0.2**
DNZL				*i* S	**Sg**	**19 37 36.2**	**-0.1**
DNZL	**Cakiroluk**	**0.22**	**208**	*i* P	**Pg**	**19 37 33.5**	**+0.2**
DNZL				*i* S	**Sg**	**19 37 36.2**	**-0.1**
KHL	**Karahalli**	**0.51**	**32**	*e*PG	**Pg**	**19 37 38.5**	**-0.2**
KHL				*e*SG	**Sg**	**19 37 45.9**	**+0.4**
KHL	**Karahalli**	**0.51**	**32**	*e*Pg	**Pg**	**19 37 38.5**	**-0.2**
KHL				*e*Sg	**Sg**	**19 37 45.9**	**+0.4**
KHAL	**Karahalli**	**0.54**	**27**	*i* P	**Pg**	**19 37 38.9**	**-0.4**
KHAL				*i* S	**Sg**	**19 37 46.8**	**+0.4**
KHAL	**Karahalli**	**0.54**	**27**	*i* P	**Pg**	**19 37 38.9**	**-0.4**
KHAL				*i* S	**Sg**	**19 37 46.8**	**+0.4**
MANT	**Manisa**	**0.78**	**321**	*i* P	**Pg**	**19 37 43.7**	**0.0**
MANT				*i* S	**Sg**	**19 37 53.9**	**+0.1**
MANT	**Manisa**	**0.78**	**321**	*i* P	**Pg**	**19 37 43.7**	**0.0**
MANT				*i* S	**Sg**	**19 37 53.9**	**+0.1**
AYDN	**Tasoluk**	**1.05**	**258**	*i* P	**Pb**	**19 37 48.8**	**-0.5**
AYDN				*i* S	**Sg**	**19 38 01.7**	**-0.9**
AYDN	**Tasoluk**	**1.05**	**258**	*i* P	**Pb**	**19 37 48.8**	**-0.5**
AYDN				*i* S	**Sg**	**19 38 01.7**	**-0.9**
ISP	**Isparta**	**1.07**	**93**	*e*PN	**Pn**	**19 37 50.6**	**+0.5**
ISP	**Isparta**	**1.07**	**93**	*e*Pn	**Pn**	**19 37 50.6**	**+0.5**
DEMI	**Demirci**	**1.21**	**343**	*i* P	**Pn**	**19 37 52.2**	**+0.1**
DEMI				*i* S	**Sg**	**19 38 06.8**	**-0.9**
DEMI	**Demirci**	**1.21**	**343**	*i* P	**Pn**	**19 37 52.2**	**+0.1**
DEMI				*i* S	**Sg**	**19 38 06.8**	**-0.9**
GDZ	**Gediz**	**1.22**	**11**	*i* P	**Pb**	**19 37 51.6**	**-0.6**
GDZ				*i* S	**Sg**	**19 38 07.8**	**-0.3**
GDZ	**Gediz**	**1.22**	**11**	*i* P	**Pb**	**19 37 51.6**	**-0.6**
GDZ				*i* S	**Sg**	**19 38 07.8**	**-0.3**
AKHS	**Akhisar**	**1.46**	**313**	*i* P	**Pb**	**19 37 56.0**	**-0.2**
AKHS				*i* S	**Sg**	**19 38 17.4**	**+1.7**
AKHS	**Akhisar**	**1.46**	**313**	*i* P	**Pb**	**19 37 56.0**	**-0.2**
AKHS				*i* S	**Sg**	**19 38 17.4**	**+1.7**
AKS	**Akhisar**	**1.46**	**313**	*e*PN	**Pb**	**19 37 56.2**	**0.0**
BLCB	**Balcova**	**1.76**	**287**	*e*PN	**Pb**	**19 38 00.7**	**-0.5**
BLCB	**Balcova**	**1.76**	**287**	*e*Pn	**Pb**	**19 38 00.7**	**-0.5**
DST	**Dursunbey**	**1.77**	**346**	*e*PN	**Pn**	**19 37 60.0**	**+0.2**
DST	**Dursunbey**	**1.77**	**346**	*e*Pn	**Pn**	**19 38 00.0**	**+0.2**
YLV	**Yalova**	**2.68**	**3**	*e*PN	**Pn**	**19 38 13.5**	**+1.2**

IDC 14 19:40:35.6±2.4, 3°.90N×126°.39E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/19, mbtmp3.2/3, Error ellipse: s-maj=210.6km s-min=26.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.95**	**162**	P	P	19 46 00.5	-0.4
	0.5nm,0.8s,baz=342,slow=9.1,SNR=4.6						
ASAR	**Alice Springs**	**28.36**	**165**	P	P	19 46 32.3	+0.5
	0.3nm,0.8s,baz=349,slow=8.2,SNR=3.3						
MKAR	**Makanchi Array**	**57.22**	**325**	P	P	19 50 24.6	-0.2
	0.2nm,0.5s,baz=119,slow=7.7,SNR=5.6						

*IDC **14** 19:40:57.5±1.1, 12°.02N×86°.10W, h0km, mb3.2/3, mb1 3.7/5, mb1mx3.5/22, mbtmp3.4/5, ML3.6/1, Error ellipse: s-maj=42.8km s-min=13.4km az=54.0*
*ISCJB **14** 19:41:00.2±0.9, 11°.1N±0°.1×86°.8W±0°.1, h63km±12km, mb3.6/4, Error ellipse: s-

*ISCJB **14** 20:05:41.4±0.7, 4.°00N±0.°04×126.°71E±0.°06, h70km±6km, mb4.4/42, Error ellipse: s-maj=10.6km s-min=5.1km az=158.4*

ISC 14 20:05:44.6±0.9, 3.°98N±0.°04×126.°75E±0.°07, h88km±8km, n99, σ1§40/101, mb4.4/40, 2C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.76**	**319**	*e*P	Pn	20 06 21.9	-5.1
MATI	**Mati**	**2.99**	**351**	*e*P	**Pn**	**20 06 29.6**	**-0.3**
MNI	**Manado**	**3.16**	**217**	P	**Pn**	**20 06 30.8**	**-1.5**
TNTI	**Ternate**	**3.24**	**169**	P	**Pn**	**20 06 30.6**	**-2.8**
DAV	**Davao City (W)**	**3.29**	**339**	P	Pn	20 06 36.0	+2.0
DAV	**Davao City (W)** comp=Z,416nm,19.8s,baz=131,slow=44	**3.29**	**339**	LR	LR	20 07 56.6	
CTBH	**Cotabato--PC H**	**4.07**	**322**	*i*P	Pn	20 06 41.2	-3.5
BUKP	**Musuan**	**4.22**	**337**	*e*P	**Pn**	**20 06 44.9**	**-1.9**
KMSI	**Cibinong**	**4.37**	**219**	P	**Pn**	**20 06 49.7**	**+1.0**
LBMI	**Labuha**	**4.65**	**171**	P	**Pn**	**20 06 50.4**	**-2.0**
PAGZ	**Pagadian**	**5.10**	**319**	*e*P	**Pn**	**20 06 56.7**	**-1.9**
IPIL	**Ipil**	**5.62**	**313**	*e*P	Pn	20 07 02.4	-3.3
MRSI	**Marisa** 113nm,0.5s,1μm0.5nm	**5.93**	**234**	P	**Pn**	**20 07 08.6**	**-1.3**
LUWI	**Luwuk** 185nm,0.8s,2μm	**6.38**	**219**	P	**Pn**	**20 07 16.5**	**+0.5**
SWI	**Sorong** 32nm,0.6s,604nm	**6.59**	**137**	P	**Pn**	**20 07 16.0**	**-2.9**
MYLDM	**Lahad Datu** 40nm,1.4s,0.2nm	**8.31**	**279**	P	Pn	20 07 46.3	+3.9
KKM	**Kota Kinabalu** 13nm,0.9s	**10.69**	**281**	*e*Pn	**Pn**	**20 08 13.8**	**-1.2**
KAPI	**Kappang** comp=Z,198nm,18.1s,baz=327,slow=42	**11.34**	**218**	LR	LR	20 13 28.5	
KSM	**Kuching** 15nm,1.0s	**16.61**	**262**	*e*P	**P**	**20 09 33.3**	**+0.1**
KSM	**Kuching** 19nm,1.1s	**16.61**	**262**	P	**P**	**20 09 34.6**	**+1.4**
GUMO	**Guam** comp=Z,95nm,19.5s,baz=98,slow=34	**20.27**	**61**	LR	LR	20 17 09.1	
YHNB	**Yeheng** 14nm,0.9s	**21.21**	**346**	*e*P	**P**	**20 10 24.0**	**+0.6**
FITZ	**Fitzroy Crossi**	**21.97**	**183**	P	**P**	**20 10 29.3**	**-2.1**
FITZ	**Fitzroy Crossi** 8.5nm,0.6s	**21.97**	**183**	*e*P	**P**	**20 10 33.6**	**+2.2**
FITZ	**Fitzroy Crossi** 3.3nm,0.5s,baz=5.2,slow=11,SNR=5.2	**21.97**	**183**	P	**P**	**20 10 29.3**	**-2.1**
WRAB	**Tennant Creek** 17nm,0.8s	**24.91**	**163**	*e*P	**P**	**20 10 58.7**	**-0.9**
WRA	**Warramunga Arr**	**24.91**	**163**	P	**P**	**20 10 58.9**	**-0.7**
WRA	**Warramunga Arr** 16nm,1.0s,baz=345,slow=11,SNR=69	**24.91**	**163**	P	**P**	**20 10 58.9**	**-0.7**
MBWA	**Marble Bar** 15nm,0.8s	**25.91**	**195**	*e*P	**P**	**20 11 09.0**	**+0.4**
KULM	**Kulim** 5.6nm,0.9s	**26.05**	**274**	P	**P**	**20 11 07.4**	**-2.6**
QIS	**Mount Isa**	**27.45**	**153**	*e*P	**P**	**20 11 23.3**	**+0.7**
AS31	**Alice Springs**	**28.35**	**166**	*e*P	**P**	**20 11 30.8**	**+0.3**
ASAR	**Alice Springs**	**28.35**	**166**	P	**P**	**20 11 30.8**	**+0.3**
ASAR	**Alice Springs** 1.5nm,0.5s,baz=347,slow=7.1,SNR=39	**28.35**	**166**	P	**P**	**20 11 30.8**	**+0.3**
GYA	**Guiyang** comp=Z,10.0nm,0.7s	**29.49**	**321**	*e*P pmax	**P** pmax	**20 11 42.8**	**+2.1**
CTAO	**Charters Tower** comp=Z,7.9nm,1.2s	**30.65**	**142**	P	**P**	**20 11 49.9**	**-0.9**
CM31	**Chiang Mai Arr**	**30.77**	**300**	*e*P	**P**	**20 11 51.9**	**0.0**
CMAR	**Chiang Mai Arr**	**30.77**	**300**	P	**P**	**20 11 51.9**	**-0.1**
CMAR	**Chiang Mai Arr** comp=Z,1.6nm,0.8s,baz=110,slow=6.8,SNR=15	**30.77**	**300**	P	**P**	**20 11 51.9**	**-0.1**
CHTO	**Chiang Mai** comp=Z,4.6nm,0.9s	**30.91**	**301**	*e*P	**P**	**20 11 53.2**	**-0.1**
MEEK	**Meekatharra** comp=Z,54nm,0.6s	**31.44**	**194**	*e*P	**P**	**20 11 57.8**	**0.0**
KSAR	**Wonju Array Be**	**33.32**	**2**	P	**P**	**20 12 14.6**	**+0.5**
KSRS	**Korea Array** comp=Z,1.5nm,0.8s,baz=191,slow=13,SNR=4.0	**33.33**	**2**	P	**P**	**20 12 14.6**	**+0.4**
XAN	**Xi'an**	**34.20**	**333**	P	**P**	**20 12 20.9**	**-1.0**
XAN	comp=Z,3.0nm,0.8s			pmax	pmax		
XAN	comp=Z,14nm,5.3s			pmax	pmax		
EIDS	**Eidsvold** comp=Z,56nm,0.8s	**37.53**	**142**	*e*P	**P**	**20 12 52.0**	**+1.6**
LZH	**Lanzhou**	**38.30**	**329**	*e*P	**P**	**20 12 57.6**	**+0.7**
LZH				pP	**pP**	**20 13 20.5**	**+3.0**
LZH				sP	sP	20 13 31.9	+4.3
LZH	comp=Z,14nm,1.1s			pmax	pmax		
STKA	**Stephens Creek** comp=Z,3.5nm,0.9s	**38.35**	**159**	*e*P	**P**	**20 12 58.6**	**+1.4**
STKA	**Stephens Creek** comp=Z,8.6nm,0.8s	**38.35**	**159**	*e*P	**P**	**20 12 58.5**	**+1.4**
STKA	**Stephens Creek** comp=Z,15nm,0.8s,baz=338,slow=7.3,SNR=31	**38.35**	**159**	P	**P**	**20 12 58.8**	**+1.6**
HHC	**Hu-ho-hao-te**	**39.17**	**342**	*e*P	**P**	**20 13 04.9**	**+0.9**
HHC				pP	pP	20 13 29.1	+4.4
HHC				sP	sP	20 13 40.4	+5.6
HHC				PP	**PnPn**	**20 14 41.1**	**+2.1**
HHC				PcP	**PcP**	**20 15 12.8**	**+0.9**
HHC				ScP	**ScP**	**20 18 51.9**	**-0.7**
HHC				S	**S**	**20 18 58.8**	**+1.0**
HHC				PcS	**PcS**	**20 19 01.3**	**-0.4**
HHC				sS	sS	20 19 38.8	+5.5
HHC				SS	**SS**	**20 21 48.8**	**-5.2**
HHC				ScS	**ScS**	**20 23 00.6**	**-3.8**
HHC	comp=Z,11nm,0.6s			pmax	pmax		
HHC	comp=Z,150nm,6.0s			pmax	pmax		
HHC	comp=N,110nm,14.8s			LR	LR		
HHC	comp=E,210nm,14.7s			LR	LR		
HHC	comp=Z,150nm,14.4s			LR	LR		
CMSA	**Cobar Meteorol** comp=Z,36nm,0.5s	**39.66**	**154**	*e*P	**P**	**20 13 10.2**	**+2.1**
ARPS	**Mount Arapiles** comp=Z,49nm,0.8s	**42.91**	**162**	*e*P	**P**	**20 13 36.7**	**+2.1**
TAPN	**Taplejung** comp=Z,9.2nm,0.8s	**43.89**	**306**	*e*P	**P**	**20 13 42.1**	**-0.9**
ODAN	**Odare** comp=Z,8.7nm,0.7s	**43.94**	**305**	*e*P	**P**	**20 13 43.0**	**-0.4**
CAN	**Canberra** comp=Z,9.4nm,0.7s	**44.32**	**154**	*e*P	P	20 13 49.3	+3.2
JIRN	**Jiri**	**45.24**	**306**	*e*P	**P**	**20 13 53.8**	**-0.1**
GUN	**Gumba** comp=Z,5.7nm,0.4s	**45.60**	**306**	*e*P	**P**	**20 13 56.6**	**-0.1**
KKN	**Kakani**	**46.03**	**305**	*e*P	**P**	**20 13 59.4**	**-0.6**
ULN	**Ulaanbaatar** comp=Z,2.5nm,0.9s	**46.89**	**342**	*e*P	**P**	**20 14 06.4**	**+0.1**
SONM	**Songino Array**	**47.07**	**341**	P	**P**	**20 14 08.0**	**+0.4**
SONM				PcP	**PcP**	**20 15 40.3**	**+2.0**
SONM	**Songino Array** comp=Z,0.5nm,0.4s,baz=162,slow=8.4,SNR=11	**47.07**	**341**	P	**P**	**20 14 08.0**	**+0.4**
SONM	comp=Z,0.5nm,0.6s,baz=161,slow=3.0,SNR=2.9			PcP	**PcP**	**20 15 40.3**	**+2.0**
KOLN	**Koldanda** comp=Z,11nm,0.6s	**47.40**	**305**	*e*P	**P**	**20 14 11.0**	**+0.4**
DANN	**Dangsing** comp=Z,12nm,0.6s	**47.49**	**305**	*e*P	**P**	**20 14 10.4**	**-1.0**
TLY	**Talaya**	**51.30**	**342**	P	**P**	**20 14 40.8**	**+1.1**
WMQ	**Urumqi**	**52.53**	**325**	*e*P	**P**	**20 14 49.8**	**+0.7**
PETK	**Petropavlovsk-**	**55.19**	**22**	P	**P**	**20 15 08.6**	**+0.4**
PETK	**Petropavlovsk-** comp=Z,3.6nm,0.9s,baz=191,slow=1.5,SNR=4.6	**55.19**	**22**	P	**P**	**20 15 08.6**	**+0.4**
MK31	**Makanchi Array**	**57.36**	**325**	*e*P	**P**	**20 15 22.4**	**-1.3**
MK31				ePcP	**PcP**	**20 16 17.3**	**+0.5**
MKAR	**Makanchi Array**	**57.36**	**325**	P	**P**	**20 15 23.5**	**-0.3**
MKAR				PcP	**PcP**	**20 16 18.4**	**+1.6**
MKAR	**Makanchi Array** comp=Z,1.6nm,0.5s,baz=128,slow=7.9,SNR=17	**57.36**	**325**	P	**P**	**20 15 23.5**	**-0.3**
MKAR	comp=Z,1.7nm,0.6s,baz=116,slow=4.8,SNR=5.9			PcP	**PcP**	**20 16 18.4**	**+1.6**
YAK	**Yakutsk** comp=Z,7.1nm,0.6s	**57.96**	**2**	*e*P	**P**	**20 15 28.0**	**+0.4**
ZALV	**Zalesovo Beam**	**60.38**	**333**	P	**P**	**20 15 43.9**	**-0.5**
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.4s,baz=134,slow=6.7,SNR=5.2	**60.38**	**333**	P	**P**	**20 15 43.9**	**-0.5**
EKS2	**Erkin-Say** comp=Z,4.2nm,1.2s	**60.68**	**318**	P	**P**	**20 15 46.4**	**-0.5**
KBL	**Kabul** comp=Z,4.1nm,1.0s	**61.39**	**307**	*e*P	**P**	**20 15 51.5**	**-0.4**
KURK	**Kurchatov** comp=Z,3.8nm,0.6s	**61.54**	**327**	*e*P	**P**	**20 15 52.2**	**-0.3**
KKAR	**Karatay Array**	**63.06**	**317**	*e*P	**P**	**20 16 02.1**	**-0.6**
	comp=Z,1.2nm,0.8s						
BRVK	**Borovoye** comp=Z,4.8nm,0.9s	**67.20**	**327**	*e*P	**P**	**20 16 28.4**	**-0.9**
ABKAR	**Akbulak array** comp=Z,1.9nm,0.6s	**71.97**	**321**	*e*P	**P**	**20 16 58.2**	**-0.5**
ARU	**Arti** comp=Z,2.8nm,0.6s	**74.74**	**328**	*e*P	**P**	**20 17 14.3**	**-0.6**
GNI	**Garni**	**81.34**	**310**	P	**P**	**20 17 53.2**	**+1.2**
PMR	**Palmer** comp=Z,23nm,1.4s	**83.72**	**29**	P	**P**	**20 18 04.8**	**+1.2**
MCK	**McKinley**	**83.93**	**26**	*e*P	**P**	**20 18 05.9**	**+1.2**
SML	**Sawmill** comp=Z,1.6nm,0.9s	**84.11**	**28**	*e*P	**P**	**20 18 05.3**	**-0.4**
ILAR	**Eielson Array**	**84.87**	**25**	P	**P**	**20 18 11.1**	**+1.6**
ILAR	**Eielson Array** comp=Z,0.8nm,1.0s,baz=256,slow=6.8,SNR=6.1	**84.87**	**25**	P	**P**	**20 18 11.1**	**+1.6**
BRTR	**Keskin Array B**	**89.88**	**310**	P	**P**	**20 18 34.7**	**+0.4**
BRTR	**Keskin Array B** comp=Z,0.9nm,0.7s,baz=131,slow=3.6,SNR=4.8	**89.88**	**310**	P	**P**	**20 18 34.7**	**+0.4**
ARCES	**ARCESS Array B**	**90.22**	**340**	P	**P**	**20 18 34.8**	**-0.3**
ARCES	**ARCESS Array B** comp=Z,2.8nm,0.9s,baz=69,slow=5.9,SNR=5.3	**90.22**	**340**	P	**P**	**20 18 34.8**	**-0.3**
FINES	**FINESS Array B**	**91.62**	**332**	P	**P**	**20 18 42.5**	**+0.9**
FINES	**FINESS Array B** comp=Z,1.5nm,0.6s,baz=46,slow=5.5,SNR=8.6	**91.62**	**332**	P	**P**	**20 18 42.5**	**+0.9**
SYO	**Syowa Base**	**92.66**	**201**	*i*eX	**P**	**20 18 44.0**	**-2.3**
NOA	**NORSAR Array B**	**98.58**	**334**	P	Pdif	20 19 13.9	+0.4
NOA	**NORSAR Array B** comp=Z,0.9nm,0.8s,baz=68,slow=4.5,SNR=3.5	**98.58**	**334**	P	Pdif	20 19 13.9	+0.4
YKA	**Yellowknife Ar**	**99.27**	**24**	P	**Pdif**	**20 19 18.1**	**+1.7**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.8s,baz=301,slow=4.7,SNR=5.1	**99.27**	**24**	P	**Pdif**	**20 19 18.1**	**+1.7**
TORD	**Torodi Ar. Bea**	**122.86**	**288**	PKP	**PKPdf**	**20 24 31.8**	**+0.3**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.6s,baz=90,slow=1.9,SNR=7.3	**122.86**	**288**	PKP	**PKPdf**	**20 24 31.8**	**+0.3**

IDC 14 20:18:45.7±20.0, 20.°16S×179.°74W, h648km±203km, mb2.8/3, mb1 3.1/3, mb1mx2.7/16, mbtmp2.8/3, Error ellipse: s-maj=270.8km s-min=73.7km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 1.3nm,0.6s,baz=92,slow=8.0,SNR=33	**43.01**	**257**	P	P	20 25 50.8	-0.3
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=96,slow=7.2,SNR=72	**43.03**	**262**	P	P	20 25 51.5	+0.3
ILAR	**Eielson Array** 0.2nm,0.5s,baz=215,slow=5.1,SNR=7.0	**88.36**	**13**	P	P	20 30 30.1	+0.1
GERES	**GERESS Array B** 0.3nm,0.6s,baz=21,slow=2.7,SNR=3.5	**149.41**	**342**	PKPbc	PKPbc	20 37 23.2	-0.3

DJA 14 20:21:31.9±1.3, 0.°5S×107.°12E±1°, h67km±38km, M3.7/4, MLv3.7/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.25**	**51**	P	Pn	20 21 53.9	+0.4
MRSI	**Marisa**	**1.27**	**303**	P	Pn	20 21 54.2	+0.4
MNI	**Manado**	**2.47**	**48**	P	Pn	20 22 09.9	+0.1
KDI	**Kendari**	**3.73**	**186**	P	Pn	20 22 27.0	-0.1
LBMI	**Labuha**	**4.51**	**95**	P	Pn	20 22 37.6	-0.1

*IDC **14** 20:29:04.3±0.4, 5.°35S×151.°82E, h0km, mb5.0/28, mb1 5.1/30, mb1mx5.1/31, mbtmp5.0/30, ML4.1/2, MS4.7/26, Ms1 4.7/26, ms1mx4.6/31, Error ellipse: s-maj=12.4km s-min=10.2km az=97.0*

*MOS **14** 20:29:09.1±1.0, 5.°33S×151.°71E, h36km, mb5.5/36, MS5.0/14, Error ellipse: s-maj=8.2km s-min=6.2km az=91.1*

*BJI **14** 20:29:09.0, 5.°61S×151.°10E, h63km, mB5.3/37, mb5.2/57, Ms5.1/46, Ms7 4.9/45*

*NEIC **14** 20:29:11.2±0.8, 5.°42S×151.°72E, h48km±7km, mb5.2/84, Error ellipse: s-maj=4.9km s-min=4.6km az=164.0*

*ISCJB **14** 20:29:11.6±0.1, 5.°46S±0.°03×151.°65E±0.°03, h61km, mb5.2/143, Error ellipse: s-maj=4.3km s-min=3.6km az=166.7*

*DJA **14** 20:29:14, 5.°89S×152.°31E, h93km, mb5.2/20*

ISC 14 20:29:12.5±0.3, 5.°46S±0.°04×151.°85E±0.°04, h60km±1km, h60km:pP-P, n784, σ1§45/833, mb5.2/130, 106C-117D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 610nm,0.9s	**6.08**	**230**	*e*Pn	**Pn**	**20 30 39.5**	**-0.3**
PMG				*e*Sn	**Sn**	**20 31 45.0**	**-3.0**
PMG				Sn	Sn	20 31 45.1	-2.9
PMG	**Port Moresby** 688nm,0.9s,8μm8μm2.9nm	**6.08**	**230**	P	**Pn**	**20 30 40.7**	**+0.9**
PMG	**Port Moresby** 26nm,0.3s,baz=32,slow=10,SNR=142	**6.08**	**230**	Pn	**Pn**	**20 30 39.4**	**-0.3**
PMG	22nm,0.3s,baz=54,slow=14,SNR=2.2			Sn	**Sn**	**20 31 45.1**	**-2.9**
HNR	**Honiara**	**8.95**	**117**	Pn	**Pn**	**20 31 17.3**	**-1.8**
HNR				Sn	**Sn**	**20 32 57.7**	**-0.7**
HNR				*e*Sn	Sn	20 33 02.0	+3.5
HNR	**Honiara** 9.6nm,0.3s,baz=235,slow=2.8,SNR=8.2	**8.95**	**117**	Pn	**Pn**	**20 31 17.3**	**-1.8**
HNR	7.9nm,0.3s,baz=247,slow=13,SNR=1.9			Sn	**Sn**	**20 32 57.7**	**-0.7**
JAY	**Jayapura**	**11.49**	**284**	P	Pn	20 32 09.0	+15
COEN	**Coen** 154nm,0.9s	**12.01**	**225**	*e*Pn	**Pn**	**20 31 60.0**	**-1.0**
SMPI	**Sarmi** 115nm,2.6s,3μm	**13.55**	**284**	P	**P**	**20 32 27.2**	**-1.9**
CTA	**Charters Tower**	**15.52**	**200**	Pn	**Pn**	**20 32 46.5**	**-1.2**
CTA	**Charters Tower** 17nm,0.8s	**15.52**	**200**	*e*P	**Pn**	**20 32 47.8**	**+0.1**
CTA	**Charters Tower** 0.2nm,0.3s,baz=45,slow=19,SNR=6.0	**15.52**	**200**	Pn	**Pn**	**20 32 46.5**	**-1.2**
CTA	comp=Z,1μm,21.9s,baz=25,slow=29			LR	LR	20 36 32.0	
CTAO	**Charters Tower**	**15.52**	**200**	*e*P	**Pn**	**20 32 45.7**	**-2.0**
CTAO	comp=Z,33nm,0.9s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,34nm,0.9s	**15.52**	**200**	*e*Pn	**Pn**	**20 32 45.7**	**-2.0**
TLE	**Tual** comp=Z,131nm,1.1s,comp=Z,3μm	**19.02**	**269**	P	**Pn**	**20 33 34.1**	**+3.1**
FAKI	**Fak Fak** comp=Z,58nm,1.8s,comp=Z,1μm	**19.70**	**277**	P	**Pn**	**20 33 43.2**	**+4.1**
EIDS	**Eidsvold** comp=Z,120nm,1.1s	**19.81**	**182**	*e*P	**P**	**20 33 38.8**	**+0.6**
GUMO	**Guam**	**20.16**	**340**	P	**P**	**20 33 41.1**	**-0.9**
GUMO	**Guam** comp=Z,273nm,0.9s,baz=181,slow=10,SNR=6.2	**20.16**	**340**	P	**P**	**20 33 41.1**	**-0.9**
GUMO	comp=Z,388nm,18.3s,baz=332,slow=35			LR	LR	20 40 48.3	
SWI	**Sorong** comp=Z,112nm,1.2s,comp=Z,1μm	**21.05**	**282**	P	**P**	**20 33 55.5**	**+3.8**
DZM	**Mont Dzumac** comp=Z,149nm,1.4s	**21.73**	**141**	*e*P	**P**	**20 33 59.7**	**+0.7**
DZM	comp=Z,7μm,22.8s			*e*LR	LR	20 39 18.5	
DZM	**Mont Dzumac**	**21.73**	**141**	P	**P**	**20 33 59.5**	**+0.5**
DZM	**Mont Dzumac** comp=Z,12nm,0.8s,baz=346,slow=12,SNR=8.7	**21.73**	**141**	P	**P**	**20 33 59.5**	**+0.5**
DZM	comp=Z,948nm,19.8s,baz=315,slow=30			LR	LR	20 39 53.8	
QLP	**Quilpie**	**22.22**	**198**	*e*P	**P**	**20 34 04.6**	**+0.4**
WRAB	**Tennant Creek**	**22.28**	**228**	*e*P	**P**	**20 34 04.3**	**-0.6**
WRAB				*e*S	**S**	**20 38 04.4**	**-2.1**
WRAB	comp=Z,75nm,0.8s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,75nm,0.8s	**22.28**	**228**	*e*P	**P**	**20 34 04.2**	**-0.6**
WRAB				*e*S	**S**	**20 38 04.3**	**-2.1**
WRAB				*e*ScP	**ScP**	**20 41 33.5**	**+1.9**
WRAB	**Tennant Creek** comp=Z,617nm,0.6s,SNR=21	**22.28**	**228**	P	**P**	**20 34 05.7**	**+0.8**
WRA	**Warramunga Arr**	**22.30**	**228**	P	**P**	**20 34 05.0**	**0.0**
WRA				S	**S**	**20 38 05.0**	**-1.7**
WRA				ScP	**ScP**	**20 41 35.7**	**+4.1**
WRA	**Warramunga Arr** comp=Z,53nm,0.8s,baz=53,slow=10,SNR=169	**22.30**	**228**	P	**P**	**20 34 05.0**	**0.0**
WRA	comp=Z,24nm,1.1s,baz=56,slow=20,SNR=9.6			S	**S**	**20 38 05.0**	**-1.7**
WRA	comp=Z,14nm,1.0s,baz=48,slow=2.9,SNR=14			ScP	**ScP**	**20 41 35.7**	**+4.1**
WRA				LR	LR	20 42 49.9	
	comp=Z,2μm,20.8s,baz=55,slow=37						
LBMI	**Labuha**	**24.77**	**280**	P	P	20 34 35.8	+6.9
ARMA	**Armidale**	**24.82**	**180**	*e*P	**P**	**20 34 29.9**	**+0.6**
ARMA				*e*S	**S**	**20 38 49.4**	**+1.5**
AS31	**Alice Springs**	**25.02**	**222**	*e*P	**P**	**20 34 30.6**	**-0.5**
AS31				*e*S	**S**	**20 38 53.1**	**+2.0**
ASAR	**Alice Springs**	**25.02**	**222**	P	**P**	**20 34 31.1**	**-0.1**
ASAR				PcP	**PcP**	**20 38 06.5**	**+1.6**
ASAR				S	**S**	**20 38 57.6**	**+6.5**
ASAR				ScP	**ScP**	**20 41 43.0**	**+4.1**
ASAR				*e*		21 07 28.6	
ASAR	**Alice Springs** comp=Z,43nm,0.7s,baz=55,slow=8.8,SNR=108	**25.02**	**222**	P	**P**	**20 34 31.1**	**-0.1**
ASAR	comp=Z,6.6nm,0.9s,baz=44,slow=3.3,SNR=5.0			PcP	**PcP**	**20 38 06.5**	**+1.6**
ASAR	comp=Z,11nm,1.2s,baz=48,slow=16,SNR=5.1			S	**S**	**20 38 57.6**	**+6.5**
ASAR	comp=Z,3.3nm,0.9s,baz=47,slow=2.9,SNR=6.1			ScP	**ScP**	**20 41 43.0**	**+4.1**
ASAR	comp=Z,0.4nm,0.9s,baz=235,slow=5.6,SNR=3.3			P3KPbc		21 07 28.6	
STKA	**Stephens Creek** comp=Z,2.8nm,0.8s	**27.98**	**199**	*e*P	**P**	**20 34 57.6**	**0.0**
STKA	**Stephens Creek** comp=Z,9.3nm,0.7s	**27.98**	**199**	*e*P	**P**	**20 34 59.6**	**+2.0**
STKA	**Stephens Creek** comp=Z,2.7nm,0.8s,baz=17,slow=11,SNR=6.6	**27.98**	**199**	P	**P**	**20 34 58.2**	**+0.6**
STKA	comp=Z,2μm,18.0s,baz=283,slow=38			LR	LR	20 46 39.3	
MSVF	**Nonsavu**	**28.37**	**118**	*e*P	**P**	**20 35 02.4**	**+1.1**
MSVF	comp=Z,17nm,0.9s			pmax	pmax		
MSVF	**Nonsavu** comp=Z,16nm,0.9s	**28.37**	**118**	*e*P	**P**	**20 35 02.4**	**+1.1**
FITZ	**Fitzroy Crossi** comp=Z,122nm,1.0s	**28.51**	**242**	*e*P	**P**	**20 35 01.7**	**-0.8**
FITZ	**Fitzroy Crossi** comp=Z,177nm,1.0s	**28.51**	**242**	*e*P	**P**	**20 35 02.0**	**-0.5**
FITZ	**Fitzroy Crossi** comp=Z,95nm,0.9s,baz=74,slow=6.2,SNR=35	**28.51**	**242**	P	**P**	**20 35 02.0**	**-0.5**
FITZ	comp=Z,1μm,18.1s,baz=319,slow=40			LR	LR	20 48 18.2	
DAV	**Davao City (W)**	**29.02**	**295**	P	P	20 35 01.2	-5.9
DAV	**Davao City (W)** comp=Z,2μm,18.8s,baz=322,slow=36	**29.02**	**295**	LR	LR	20 46 24.4	
CTBH	**Cotabato--PC H**	**30.29**	**294**	*i*eP	**P**	**20 35 18.8**	**+0.5**
BBOO	**Buckleboo** comp=Z,270nm,1.0s	**30.94**	**206**	*e*P	**P**	**20 35 24.0**	**+0.2**
ARPS	**Mount Arapiles** comp=Z,47nm,0.8s	**32.48**	**195**	*e*P	**P**	**20 35 39.2**	**+1.9**
MBWA	**Marble Bar** comp=Z,24nm,0.8s	**34.82**	**240**	*e*P	**P**	**20 35 56.6**	**-1.3**
TGY	**Tagaytay City**	**36.31**	**303**	P	**P**	**20 36 10.4**	**-0.4**
TGY	**Tagaytay City** comp=Z,113nm,0.6s,baz=134,slow=17,SNR=8.0	**36.31**	**303**	P	**P**	**20 36 10.4**	**-0.4**
AFI	**Afiamalu**	**36.78**	**106**	P	**P**	**20 36 16.2**	**+1.3**
AFI	**Afiamalu** comp=Z,11nm,0.3s,baz=318,slow=16,SNR=5.3	**36.78**	**106**	P	**P**	**20 36 16.2**	**+1.3**
AFI	comp=Z,681nm,21.3s,baz=279,slow=31			LR	LR	20 48 21.1	
MOO	**Moorlands** comp=Z,131nm,1.1s	**37.05**	**186**	*e*P	**P**	**20 36 18.5**	**+1.8**
KKM	**Kota Kinabalu** comp=Z,9.4nm,0.8s	**37.36**	**287**	P	**P**	**20 36 19.2**	**-0.5**
TAU	**Tasmania Unive**	**37.51**	**185**	*e*P	**P**	**20 36 22.0**	**+1.5**
TAU	comp=Z,47nm,1.4s			pmax	pmax		
TAU	**Tasmania Unive** comp=Z,47nm,1.4s	**37.51**	**185**	*e*P	**P**	**20 36 22.0**	**+1.5**
MEEK	**Meekatharra** comp=Z,257nm,0.4s	**38.05**	**233**	*e*P	**P**	**20 36 25.1**	**-0.3**
JOW	**Kunigami**	**39.39**	**326**	P	**P**	**20 36 36.5**	**+0.1**
JOW	**Kunigami** comp=Z,64nm,0.8s,baz=143,slow=9.3,SNR=13	**39.39**	**326**	P	**P**	**20 36 36.5**	**+0.1**
JHJ	**Hachijo jima 2** comp=Z,1μm,18.9s,baz=204,slow=32	**40.04**	**344**	LR	LR	20 50 35.2	
KLBR	**Kellerberrin** comp=Z,64nm,1.0s	**41.16**	**227**	*e*P	P	20 36 54.4	+3.2
YULB	**Yu-li** comp=Z,31nm,0.8s	**41.38**	**315**	*e*P	**P**	**20 36 52.6**	**-0.4**
NACB	**Ninganchiao** comp=Z,61nm,1.0s	**41.68**	**316**	*e*P	**P**	**20 36 55.3**	**-0.1**
TPUB	**Ta-pu** comp=Z,51nm,1.0s	**41.79**	**314**	*e*P	**P**	**20 36 55.6**	**-0.8**
SSLB	**Suanglung** comp=Z,22nm,0.8s	**41.87**	**315**	*e*P	**P**	**20 36 57.2**	**+0.1**
SSLB				*e*PcP	**PcP**	**20 38 51.2**	**-0.8**
KSM	**Kuching** comp=Z,11nm,0.9s	**42.05**	**278**	*e*P	**P**	**20 36 57.1**	**-1.6**
KSM				*e*ScP	**ScP**	**20 42 39.1**	**+0.8**
YHNB	**Yeheng** comp=Z,70nm,0.9s	**42.15**	**317**	*e*P	**P**	**20 36 59.8**	**+0.4**
NWAO	**Narrogin (SRO)** comp=Z,43nm,1.3s	**42.25**	**225**	*e*P	P	20 36 56.1	-3.9
NWAO	**Narrogin (SRO)** comp=Z,2μm,20.1s,baz=162,slow=37	**42.25**	**225**	LR	LR	20 55 00.6	
JNU	**Nakatsue**	**43.23**	**334**	P	**P**	**20 37 06.7**	**-1.3**
JNU				*e*PP	**PP**	**20 38 48.6**	**-0.8**
JNU				*e*PcP	**PcP**	**20 38 55.5**	**-0.8**
JNU	**Nakatsue** comp=Z,27nm,0.9s,baz=107,slow=5.9,SNR=12	**43.23**	**334**	P	**P**	**20 37 06.7**	**-1.3**
JNU	comp=Z,598nm,18.8s,baz=325,slow=35			LR	LR	20 53 57.0	
MJAR	**Matsushiro Arr**	**43.69**	**344**	P	**P**	**20 37 08.6**	**-3.0**
MJAR	**Matsushiro Arr** comp=Z,9.4nm,1.0s,baz=171,slow=8.9,SNR=12	**43.69**	**344**	P	**P**	**20 37 08.6**	**-3.0**
MJAR	comp=Z,882nm,21.3s,baz=180,slow=34			LR	LR	20 53 47.4	
MAJO	**Matsushiro** comp=Z,21nm,1.1s	**43.69**	**344**	*e*P	P	20 37 05.7	-5.9
MAJO	comp=Z,21nm,1.1s			pmax	pmax		
MAJO	**Matsushiro** comp=Z,21nm,1.1s	**43.69**	**344**	*e*P	P	20 37 05.7	-5.9
MAT

comp=Z,10.0nm,0.6s
NJ2 pmax pmax
comp=Z,290nm,6.0s
NJ2 LR LR
comp=N,1µm,19.0s
NJ2 LR LR
comp=E,1µm,17.8s
NJ2 LR LR
comp=Z,2µm,18.7s
RAR Rarotonga 49.39 113 P **P** **20 37 57.2 +0.7**
RAR Rarotonga 49.39 113 P **P** **20 37 57.2 +0.7**
comp=Z,29nm,0.7s,baz=304,slow=4.0,SNR=5.5
ASAJ Asahikawa 50.05 351 P **P** **20 37 59.6 -1.5**
ASAJ Asahikawa 50.05 351 P **P** **20 37 59.6 -1.5**
comp=Z,13nm,0.8s,baz=246,slow=19,SNR=3.0
WHN Wuhan 50.68 317 P **P** **20 38 07.3 +1.2**
WHN S **S** **20 45 18.3 +1.3**
WHN pmax pmax
comp=Z,72nm,1.0s
WHN LR LR
comp=Z,3µm,20.0s
IPM Ipoh 51.71 280 P **P** **20 38 12.5 -1.6**
comp=Z,5.3nm,0.7s
IPM *e*PcP **PcP** **20 39 28.9 +1.9**
KULM Kulim 52.22 281 *e*P **P** **20 38 17.4 -0.6**
comp=Z,7.5nm,0.8s
USRK Ussuriysk Arra 52.57 342 P **P** **20 38 18.3 -1.6**
comp=Z,13nm,0.9s,baz=152,slow=8.8,SNR=5.5
USRK LR LR 21 00 49.0
comp=Z,625nm,18.2s,baz=334,slow=36
YSS Yuzh-Sakhalins 52.81 352 *e*P P 20 38 25.0 +3.4
YSS *e* 20 49 26.0
YSS MLR MLR
comp=Z,500nm,17.0s
YSS Yuzh-Sakhalins 52.81 352 P **P** **20 38 23.7 +2.1**
MDJ Mudanjiang 53.71 340 P **P** **20 38 29.3 +1.0**
MDJ pmax pmax
comp=Z,10.0nm,1.3s
MDJ pmax pmax
comp=Z,420nm,4.8s
MDJ LR LR
comp=N,560nm,11.8s
MDJ LR LR
comp=Z,660nm,11.8s
GYA Guiyang 54.05 308⇑ *i*P **P** **20 38 32.5 +1.2**
GYA pP **pP** **20 38 49.8 +2.6**
GYA sP **sP** **20 38 58.9 +4.8**
GYA PP **PP** **20 40 35.4 +2.0**
GYA ScP **ScP** **20 43 28.0 -0.8**
GYA S **S** **20 46 01.8 -1.6**
GYA sS **sS** **20 46 30.5 +0.2**
GYA SS **SS** **20 49 44.0 -1.8**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,5.4s
GYA LR LR
comp=N,620nm,18.6s
GYA LR LR
comp=E,560nm,17.2s
GYA LR LR
comp=Z,550nm,18.9s
CN2 Changchun 54.52 337 *e*P **P** **20 38 36.9 +2.7**
CN2 *e*S **S** **20 46 10.3 +1.4**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,12.0s
CN2 LR LR
comp=E,500nm,12.0s
CN2 LR LR
comp=Z,700nm,11.0s
COCO West Island 54.69 259 P **P** **20 38 37.5 +1.5**
COCO pmax pmax
comp=Z,85nm,0.8s
COCO West Island 54.69 259 P **P** **20 38 37.5 +1.5**
comp=Z,85nm,0.8s
HABR Khabarovsk 55.69 347 *e*P **P** **20 38 40.8 -1.7**
HABR *e**PP **pP** **20 38 56.6 -2.0**
HABR *e*PPP PPP 20 41 58.7
HABR *e*S **S** **20 46 21.9 -2.5**
HABR *e* 20 48 24.3
HABR *e*SS **SS** **20 50 09.1 -1.6**
HABR pmax pmax
comp=E,66nm,2.2s
HABR pmax pmax
comp=Z,47nm,1.7s
HABR pmax pmax
comp=N,31nm,2.2s
HABR MLR MLR
comp=Z,532nm,21.0s
XAN Xi'an 56.45 317 P **P** **20 38 47.9 -0.5**
XAN pP **pP** **20 39 05.0 +0.6**
XAN sP **sP** **20 39 12.3 +1.0**
XAN PP PP 20 41 00.1 +5.4
XAN pmax pmax
comp=Z,8.0nm,1.1s
XAN pmax pmax
comp=Z,44nm,7.8s
XAN LR LR
comp=N,460nm,22.5s
XAN LR LR
comp=E,200nm,21.0s
XAN LR LR
comp=Z,310nm,19.5s
KMI Kunming 56.57 305 P **P** **20 38 51.4 +1.8**
KMI sP **sP** **20 39 15.1 +2.6**
KMI PP **PP** **20 40 59.5 +3.4**
KMI S **S** **20 46 38.4 +1.0**
KMI sS **sS** **20 47 05.5 +1.0**
KMI SS **SS** **20 50 25.3 -0.6**
KMI pmax pmax
comp=Z,25nm,1.0s
KMI pmax pmax
comp=Z,87nm,3.1s
KMI LR LR
comp=N,400nm,14.6s
KMI LR LR
comp=E,440nm,16.5s
KMI LR LR
comp=Z,690nm,19.7s
CM31 Chiang Mai Arr 57.30 296 *e*P **P** **20 38 54.9 +0.3**
comp=Z,26nm,1.1s
CMAR Chiang Mai Arr 57.30 296 P **P** **20 38 54.9 +0.3**
CMAR P'P' 21 08 44.2
CMAR ⇑*e* 21 08 55.1
CMAR Chiang Mai Arr 57.30 296 P **P** **20 38 54.9 +0.3**
comp=Z,15nm,1.0s,baz=114,slow=5.4,SNR=53
CMAR LR LR 21 03 30.0
comp=Z,480nm,19.5s,baz=317,slow=36
CMAR PKPPKP **P'P'df** **21 08 44.2 +0.3**
comp=Z,0.9nm,1.1s,baz=240,slow=4.8,SNR=4.4
CMAR PKP2bc 21 08 55.1
comp=Z,3.3nm,1.0s,baz=283,slow=4.6,SNR=14
CHTO Chiang Mai 57.42 296 *e*P **P** **20 38 55.0 -0.4**
CHTO pmax pmax
comp=Z,50nm,1.4s
CHTO Chiang Mai 57.42 296 *e*P **P** **20 38 55.0 -0.4**
comp=Z,50nm,1.4s
CHTO Chiang Mai 57.42 296 P **P** **20 38 57.3 +1.9**
SNR=17
PPT2 Papeete2 58.44 107 *e*S **S** **20 46 59.8 -2.0**
comp=Z,602nm,28.8s
PPT2 *e*SS **SS** **20 50 51.9 -3.2**
comp=Z,262nm,27.0s
PPT2 *e*LQ LQ 20 53 49.0
comp=Z,878nm,28.8s
PPT2 *e*LR LR 20 56 15.8
comp=Z,527nm,23.0s,baz=282
CD2 Chengdu 58.45 311 P **P** **20 39 02.9 +0.4**
CD2 pP **pP** **20 39 19.0 +0.4**
CD2 sP **sP** **20 39 24.3 -1.2**
CD2 PP **PP** **20 41 14.6 +2.1**
CD2 S **S** **20 47 00.8 -0.7**
CD2 sS **sS** **20 47 26.3 -2.4**
CD2 SS **SS** **20 50 55.5 +0.5**
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,270nm,5.3s
CD2 LR LR
comp=N,1µm,21.4s
CD2 LR LR
comp=Z,1µm,21.4s
CD2 Chengdu 58.45 311 P **P** **20 39 02.8 +0.3**
CD2 pP **pP** **20 39 18.8 +0.2**
CD2 sP **sP** **20 39 25.8 +0.3**
CD2 ScP **ScP** **20 43 46.6 -1.4**
CD2 PcS **PcS** **20 43 53.1 -1.3**
CD2 S **S** **20 46 58.4 -3.1**
CD2 sS **sS** **20 47 25.8 -2.9**
CD2 ScS **ScS** **20 48 43.1 -4.2**
CD2 SS **SS** **20 50 52.6 -2.4**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 pmax pmax
comp=Z,250nm,5.5s
CD2 LR LR
comp=N,580nm,20.2s
CD2 LR LR
comp=E,630nm,21.2s
CD2 LR LR
comp=Z,710nm,17.0s
PET Petropavlovsk 58.55 5 *e*P P 20 39 10.8 +8.2
PET *e*S S 20 47 13.0 +11
PET *e*SSS SSS 20 53 20.7
PET MLR MLR
comp=Z,400nm,18.0s
PETK Petropavlovsk- 58.56 4 P **P** **20 39 03.0 +0.3**
PETK Petropavlovsk- 58.56 4 P **P** **20 39 03.0 +0.3**
PETK Petropavlovsk- 58.56 4 P **P** **20 39 03.0 +0.3**
comp=Z,6.9nm,0.9s,baz=166,slow=8.2,SNR=6.1
PETK LR LR 21 00 38.1
comp=Z,574nm,20.9s,baz=190,slow=32
TIAR Tiarei 58.65 107 *e*P **P** **20 39 05.1 +1.0**
comp=Z,93nm,0.9s
TVO Taravao 58.76 107 *e*P **P** **20 39 06.3 +1.4**
comp=Z,69nm,1.0s
HHC Hu-ho-hao-te 59.04 325⇑ P **P** **20 39 07.4 +1.0**
HHC sP **sP** **20 39 30.1 +0.7**
HHC PcP **PcP** **20 39 54.5 -0.3**
HHC PP **PP** **20 41 21.3 +3.7**
HHC ScP **ScP** **20 43 48.8 -1.6**
HHC PcS **PcS** **20 43 55.8 -1.0**
HHC S **S** **20 47 08.8 -0.1**
HHC sS **sS** **20 47 34.4 -1.7**
HHC ScS **ScS** **20 48 48.3 -3.0**
HHC SS **SS** **20 51 05.9 +2.0**
HHC pmax pmax
comp=Z,30nm,0.8s
HHC pmax pmax
comp=Z,280nm,6.4s
HHC LR LR
comp=N,830nm,16.9s
HHC LR LR
comp=E,690nm,16.5s
HHC LR LR
comp=Z,1µm,16.3s
TBI Tubuai 59.16 114 *e*S **S** **20 47 09.1 -1.8**
comp=Z,469nm,30.2s
TBI *e*SS **SS** **20 51 05.3 -0.8**
comp=Z,244nm,26.2s
TBI *e*LQ LQ 20 54 02.0
comp=Z,2µm,34.0s
TBI *e*LR LR 20 56 29.9
comp=Z,802nm,28.2s,baz=289
BTO Baotou 59.77 324 *e*P **P** **20 39 11.4 -0.1**
MEH Mehetia 59.89 107 *e*P **P** **20 39 13.4 +0.7**
comp=Z,91nm,0.9s
PMOR Pomariorio Ree 59.90 104 *e*P **P** **20 39 14.0 +1.3**
comp=Z,316nm,1.1s
FX1 Attu Island--F 60.87 15 LR LR 21 01 02.3
comp=Z,927nm,19.7s,baz=244,slow=32
LZH Lanzhou 61.05 317 *e*P **P** **20 39 21.3 +0.9**
LZH pP **pP** **20 39 38.3 +1.7**
LZH sP **sP** **20 39 46.8 +3.4**
LZH PcP **PcP** **20 40 03.4 +0.3**
LZH PP **PP** **20 41 32.0 -3.6**
LZH *e*S **S** **20 47 33.0 -2.0**
LZH sS **sS** **20 48 01.1 -1.3**
LZH SS **SS** **20 51 36.4 +0.6**
LZH pmax pmax
comp=Z,34nm,1.1s
LZH pmax pmax
comp=Z,280nm,4.0s
LZH LR LR
comp=N,770nm,18.0s
LZH LR LR
comp=E,730nm,18.2s
LZH LR LR
comp=Z,700nm,19.0s
DRV Dumont d'Urvil 61.65 185 P P 20 39 12.0 -12
DRV Dumont d'Urvil 61.65 185 PP PP 20 41 28.0 -12
DRV S S 20 47 33.0 -8.2
DRV SS SS 20 51 30.0 -14
DRV L L 20 54 00.0
DRV R 20 58 00.0
GTA Gaotai 65.50 318⇓ P **P** **20 39 50.5 +0.7**
GTA pP **pP** **20 40 06.8 +0.7**
GTA sP **sP** **20 40 13.8 +0.9**
GTA PP **PP** **20 42 17.8 +3.2**
GTA S **S** **20 48 31.3 +0.9**
GTA sS **sS** **20 48 58.6 +0.6**
GTA SS **SS** **20 52 47.6 +2.4**
GTA pmax pmax
comp=Z,22nm,1.0s
GTA pmax pmax
comp=Z,240nm,6.2s
GTA LR LR
comp=N,250nm,18.3s
GTA LR LR
comp=E,500nm,19.7s
GTA LR LR
comp=Z,620nm,19.5s
SHL Shillong 65.83 301 *e*PKP **P** **20 39 53.0 +0.8**
ULN Ulaanbaatar 66.06 329 *e*P **P** **20 39 53.1 -0.1**
comp=Z,30nm,0.9s
ULN Ulaanbaatar 66.06 329 P **P** **20 39 54.3 +1.1**
SNR=11
SONM Songino Array 66.38 328 P **P** **20 39 55.5 +0.3**
SONM Songino Array 66.38 328 P **P** **20 39 55.5 +0.3**
comp=Z,13nm,0.5s,baz=144,slow=5.5,SNR=141
SONM LR LR 21 07 34.4
comp=Z,814nm,20.9s,baz=309,slow=35
LSA Lhasa 67.83 305 P **P** **20 40 05.8 +0.6**
LSA pmax pmax
comp=Z,30nm,0.9s
SEY Seymchan 68.20 0⇑ *i*P **P** **20 40 08.7 +2.4**
YAK Yakutsk 69.44 349 *e*P **P** **20 40 13.5 -0.4**
YAK pmax pmax
comp=Z,35nm,1.4s
YAK pmax pmax
comp=N,12nm,1.2s
YAK Yakutsk 69.44 349 *e*P **P** **20 40 14.1 +0.1**
comp=N,73nm,1.3s
ZAK Zakamensk 69.57 329⇑ *i*P **P** **20 40 15.0 -0.2**
ZAK pmax pmax
comp=Z,40nm,1.0s
TAPN Taplejung 69.94 302 *e*P **P** **20 40 18.0 -0.2**
comp=Z,75nm,1.0s
ODAN Odare 70.06 301 *e*P **P** **20 40 18.6 -0.3**
comp=Z,84nm,0.9s
BOD Bodaibo 70.07 340 *e*P **P** **20 40 16.6 -1.3**
BOD pmax pmax
comp=Z,7.0nm,1.1s
TLY Talaya 70.18 330 *e*P **P** **20 40 18.1 -0.7**
TLY *e* 20 40 47.9
TLY *e*S **S** **20 49 20.6 -5.0**
TLY *e*SSS SSS 20 56 55.8
TLY pmax pmax
comp=Z,19nm,1.0s
TLY MLR MLR
comp=Z,354nm,18.0s
TLY Talaya 70.18 330 *e*P **P** **20 40 18.9 +0.1**
comp=Z,15nm,1.0s
TLY Talaya 70.18 330 P **P** **20 40 20.1 +1.3**
SNR=5.7
IRK Irkutsk 70.22 331 *e*P **P** **20 40 18.0 -1.0**
IRK pmax pmax
comp=Z,37nm,1.1s
RAMN Ramite 70.76 301 *e*P **P** **20 40 22.8 -0.4**
comp=Z,23nm,0.8s
JIRN Jiri 71.32 301 *e*P **P** **20 40 26.3 -0.3**
comp=Z,12nm,0.9s
MOY Mondy 71.49 329 *e*P **P** **20 40 27.9 +1.0**
MOY pmax pmax
comp=Z,37nm,1.4s
GUN Gumba 71.65 302 *e*P **P** **20 40 28.3 -0.3**
comp=Z,120nm,0.9s
PKI Pulchoki 71.96 301 *e*P **P** **20 40 29.9 -0.5**
comp=Z,63nm,1.0s
KKN Kakani 72.13 301 *e*P **P** **20 40 30.9 -0.4**
comp=Z,62nm,0.9s
VNDA Vanda 72.21 178 P **P** **20 40 30.4 -0.2**
VNDA *e*PcP **pP** **20 40 47.4 +0.2**
DMN Daman 72.22 301 *e*P **P** **20 40 31.6 -0.4**
comp=Z,137nm,1.0s
RKT Rikitea 72.42 112 *e*LR LR 21 02 42.9
comp=Z,884nm,26.8s
GKN Gorkha 72.73 301 *e*P **P** **20 40 34.4 -0.5**
comp=Z,133nm,1.0s
KOLN Koldanda 73.55 301 *e*P **P** **20 40 39.1 -0.7**
comp=Z,78nm,0.8s
DANN Dangsing 73.57 302 *e*P **P** **20 40 39.3 -0.7**
comp=Z,85nm,0.8s
BILL Bilibino 74.04 6⇓ *e*P **P** **20 40 41.7 +0.2**
BILL *e* 20 40 49.1
BILL 20 40 58.0
BILL pmax pmax
comp=Z,17nm,1.1s
BILL MLR MLR
comp=Z,200nm,16.0s
BILL Bilibino 74.04 6 *e*P **P** **20 40 40.8 -0.7**
comp=Z,17nm,1.1s
GAMB Gambell 74.28 16 *e*P **P** **20 40 43.3 +0.4**
comp=Z,18nm,1.2s
WMQ Urumqi 75.59 318 P **P** **20 40 50.5 -0.5**
WMQ pP **pP** **20 41 07.0 -0.7**
WMQ sP **sP** **20 41 14.0 -0.4**
WMQ PP **PP** **20 43 42.8 +1.5**
WMQ S **S** **20 50 25.0 -2.5**
WMQ sS **sS** **20 50 52.0 -3.7**
WMQ SS **SS** **20 55 22.0 +2.1**
WMQ pmax pmax
comp=Z,27nm,1.1s
WMQ pmax pmax
comp=Z,210nm,6.8s
WMQ LR LR
comp=N,770nm,20.0s
WMQ LR LR
comp=E,610nm,17.2s
WMQ LR LR
comp=Z,740nm,26.4s
HYB Hyderabad 75.81 289 *i*P **P** **20 40 51.0 -1.8**
HYB *e* 20 41 01.5
TNA Tin City 76.69 16 *e*P **P** **20 40 58.7 +2.0**
comp=Z,5.6nm,0.9s
KDAK Kodiak Island 77.19 27 P **P** **20 40 59.9 +0.2**
KDAK Kodiak Island 77.19 27 P **P** **20 40 59.9 +0.2**
comp=Z,13nm,0.9s,baz=288,slow=3.2,SNR=6.2
DGAR Diego Garcia 78.82 264 *e*P **P** **20 41 10.5 +0.8**
DGAR pmax pmax
comp=Z,209nm,1.2s
DGAR Diego Garcia 78.82 264 *e*P **P** **20 41 10.4 +0.8**
comp=Z,209nm,1.2s
SLKM Skilak Lake 79.67 25 *e*P **P** **20 41 12.7 -0.7**
SLKM Skilak Lake 79.67 25 *e*P **P** **20 41 12.7 -0.7**
MK31 Makanchi Array 80.20 319 *i*P **P** **20 41 16.2 -0.3**
MK31 pmax pmax
comp=Z,36nm,1.1s
MK31 Makanchi Array 80.20 319 *e*P **P** **20 41 15.9 -0.7**
MKAR Makanchi Array 80.20 319 P **P** **20 41 16.0 -0.6**
MKAR 21 00 00.8
MKAR Makanchi Array 80.20 319 P **P** **20 41 15.9 -0.6**
MKAR PKKPbc **PKKPbc** **21 00 00.8 -1.0**
MKAR Makanchi Array 80.20 319 P **P** **20 41 15.9 -0.6**
comp=Z,19nm,0.9s,baz=104,slow=5.8,SNR=95
MKAR PKKPbc **PKKPbc** **21 00 00.8 -1.0**
comp=Z,0.4nm,0.8s,baz=328,slow=2.6,SNR=4.6
MKAR LR LR 21 16 58.4
comp=Z,462nm,19.2s,baz=95,slow=36
POO Poona 80.41 290 *e*PKP **P** **20 41 17.0 -1.3**
PMR Palmer 80.68 25 *e*P **P** **20 41 18.5 -0.2**
PMR Palmer 80.68 25 *e*P **P** **20 41 18.5 -0.2**
SML Sawmill 81.12 25 *e*P **P** **20 41 21.4 +0.3**
SML pmax pmax
comp=Z,7.0nm,0.9s
SML Sawmill 81.12 25 *e*P **P** **20 41 21.4 +0.3**
comp=Z,7.0nm,0.9s
TRF Thorofare Moun 81.17 23 *e*P **P** **20 41 20.8 -0.8**
comp=Z,7.8nm,0.8s
ZAA0 Zalesovo Array 81.18 327 *e*P **P** **20 41 19.8 -1.7**
ZALV Zalesovo Beam 81.18 327 P **P** **20 41 20.1 -1.4**
ZALV Zalesovo Beam 81.18 327 P **P** **20 41 20.1 -1.4**
ZALV Zalesovo Beam 81.18 327 P **P** **20 41 20.1 -1.4**
comp=Z,8.6nm,0.5s,baz=111,slow=5.2,SNR=62
ZALV LR LR 21 16 46.1
comp=Z,650nm,20.6s,baz=326,slow=35
MCK McKinley 81.84 23 *e*P **P** **20 41 24.8 -0.1**
MCK pmax pmax
comp=Z,43nm,1.1s
MCK McKinley 81.84 23 *e*P **P** **20 41 24.8 -0.1**
comp=Z,43nm,1.1s
BMRM Bremner River 82.32 26 *e*P **P** **20 41 28.1 +0.6**
comp=Z,32nm,1.2s
BMRM *e* 20 41 43.8
NVS Novosibirsk 82.36 327 *i*P **P** **20 41 26.5 -1.3**
NVS pmax pmax
comp=Z,31nm,1.6s
NVS pmax pmax
comp=N,9.0nm,1.4s
NVS pmax pmax
comp=E,14nm,1.5s
KSH Kashi 82.64 311 P **P** **20 41 31.1 +1.3**
KSH pP **pP** **20 41 48.0 +1.3**
KSH sP **sP** **20 41 55.1 +1.8**
KSH PP **PP** **20 44 44.9 +4.7**
KSH SKS **S** **20 51 43.6 +0.8**
KSH S **SKSac** **20 51 44.9 -1.3**
KSH sS **sS** **20 52 13.0 +1.5**
KSH SS **SS** **20 57 12.8 +6.7**
KSH LR LR
comp=N,77nm,5.1s
KSH LR LR
comp=E,91nm,5.3s
KSH LR LR
comp=Z,290nm,6.0s
COLA College 82.82 22 *e*P **P** **20 41 29.2 -0.7**
COLA pmax pmax
comp=Z,22nm,0.8s
COLA College 82.82 22 *e*P **P** **20 41 29.2 -0.7**
comp=Z,22nm,0.8s
PAX Paxson 82.84 24 *e*P **P** **20 41 30.5 +0.3**
PAX pmax pmax
comp=Z,6.0nm,0.9s
PAX Paxson 82.84 24 *e*P **P** **20 41 30.5 +0.3**
comp=Z,5.7nm,0.9s
ULHL Ulahol 83.08 314 P **P** **20 41 32.6 +0.5**
SNR=9.6
ILAR Eielson Array 83.13 22 P **P** **20 41 30.4 -1.2**
ILAR Eielson Array 83.13 22 P **P** **20 41 30.4 -1.2**
comp=Z,11nm,0.8s,baz=247,slow=4.9,SNR=86
ILAR LR LR 21 16 27.5
comp=Z,671nm,19.6s,baz=70,slow=34
COLD Coldfoot 83.19 19 *e*P **P** **20 41 32.4 +0.6**
comp=Z,7.4nm,0.9s
MENT Mentasta 83.55 25 *e*P **P** **20 41 34.0 +0.2**
TKM2 Tokmak 2 83.70 314 *i*P **P** **20 41 35.3 0.0**
TKM2 Tokmak 2 83.70 314 P **P** **20 41 35.3 0.0**
SNR=47
KURK Kurchatov 83.70 322 *e*P **P** **20 41 33.8 -1.0**
KURK pmax pmax
comp=Z,49nm,1.1s
KURK Kurchatov 83.70 322 *e*P **P** **20 41 33.8 -1.0**
comp=Z,49nm,1.1s
KURK PKKPbc **PKKPbc** **20 59 52.4 -1.4**
KURK P'P' 21 07 56.9
KURK Kurchatov 83.70 322 P **P** **20 41 34.8 0.0**
SNR=14
KURK Kurchatov 83.70 322 P **P** **20 41 34.5 -0.3**
comp=Z,210nm,1.2s,SNR=18
DOT Dot Lake 83.72 24 *e*P **P** **20 41 35.0 +0.4**
comp=Z,7.7nm,1.1s
KURBB Kurchatov Arra 83.73 322 PKKPbc PKKPbc 20 59 52.4 -1.4
comp=Z,0.4nm,0.8s,baz=298,slow=3.3,SNR=5.2
KURBB PKPPKP **P'P'df** **21 07 56.9 +0.1**
comp=Z,0.7nm,0.9s,baz=284,slow=3.0,SNR=4.9
KURBB LR LR 21 20 00.5
comp=Z,384nm,18.8s,baz=95,slow=36
KZA Kyzart 83.76 313 P **P** **20 41 36.7 +0.8**
SNR=71
KBK Karagaybulak 84.11 314 P **P** **20 41 37.7 +0.4**
SNR=23
PNL Peninsula 84.17 28 *e*P **P** **20 41 37.1 +0.1**
comp=Z,36nm,1.0s

CHMS	Chumysh	84.33	314		P		P	20 41 38.6	+0.4
	SNR=27								
UCH	Uchtor	84.33	313		P		P	20 41 39.7	+0.9
	SNR=6.4								
FRU	Bishkek	84.39	314	⇓	eP		P	20 41 39.0	+0.5
FRU					pmax		pmax		
	comp=Z,76nm,1.8s								
AAK	Ala-Archa	84.43	314		eP		P	20 41 38.7	-0.2
AAK					pmax		pmax		
	comp=Z,125nm,0.9s								
AAK	Ala-Archa	84.43	314		eP		P	20 41 38.7	-0.2
	comp=Z,125nm,0.9s								
AAK	Ala-Archa	84.43	314		P		P	20 41 39.0	+0.1
	comp=Z,193nm,0.9s,SNR=29								
AAK	Ala-Archa	84.43	314		P		P	20 41 39.8	+0.9
	SNR=19								
AAK	Ala-Archa	84.43	314		P		P	20 41 39.1	+0.2
	SNR=37								
QSPA	South Pole Qui	84.50	180		P		P	20 41 39.1	+0.3
QSPA	South Pole Qui	84.50	180		P		P	20 41 39.1	+0.3
	comp=Z,11nm,0.8s,baz=2.9,slow=1.9,SNR=29								
USP	Ospenovka	84.56	314		P		P	20 41 39.5	+0.1
	SNR=68								
MAW	Mawson	84.59	203		LR		LR	21 16 16.6	
	comp=Z,718nm,18.9s,baz=87,slow=33								
AML	Almayashu	84.90	313		P		P	20 41 42.2	+0.6
	SNR=147								
EKS2	Erkin-Say	84.95	314		eP		P	20 41 41.7	+0.2
EKS2	Erkin-Say	84.95	314		eP		P	20 41 41.7	+0.2
EKS2	Erkin-Say	84.95	314		P		P	20 41 42.1	+0.6
	SNR=90								
EGAK	Eagle	85.34	23		eP		P	20 41 43.6	+0.9
	comp=Z,14nm,0.9s								
WRAK	Wrangell Islan	86.73	33		eP		P	20 41 51.3	+1.6
	comp=Z,82nm,1.5s								
KBL	Kabul	87.16	305		eP		P	20 41 50.8	-1.9
KBL					pmax		pmax		
	comp=Z,9.0nm,1.0s								
KBL	Kabul	87.16	305		eP		P	20 41 50.8	-1.9
	comp=Z,9.0nm,1.0s								
KK31	Karatay Array	87.39	314		i P		P	20 41 53.1	-0.3
KK31					pmax		pmax		
	comp=Z,48nm,1.3s								
KKAR	Karatay Array	87.39	314		eP		P	20 41 53.2	-0.2
KKAR					pmax		pmax		
	comp=Z,23nm,1.0s								
KKAR	Karatay Array	87.39	314		eP		P	20 41 53.2	-0.2
	comp=Z,23nm,1.0s								
DLBC	Dease Lake	88.44	31		P		P	20 41 56.7	-1.3
DLBC					epP		pP	20 42 14.6	-0.5
DLBC	Dease Lake	88.44	31		P		P	20 41 56.7	-1.3
	comp=Z,12nm,1.0s,baz=244,slow=5.2,SNR=14								
BVA0	Borovoye Array	89.20	323		i P		P	20 41 59.5	-2.2
BVA0					pmax		pmax		
	comp=Z,4.0nm,1.1s								
BRVK	Borovoye	89.27	323	⇑	iP		P	20 42 00.4	-1.6
BRVK					pmax		pmax		
	comp=Z,26nm,1.2s								
BRVK	Borovoye	89.27	323		eP		P	20 42 00.1	-1.9
	comp=Z,22nm,1.0s								
BRVK	Borovoye	89.27	323		P		P	20 42 00.8	-1.2
	comp=Z,113nm,0.8s,SNR=14								
BRVK	Borovoye	89.27	323		P		P	20 42 01.4	-0.5
	SNR=8.1								
KHMM	Horse Mountain	89.33	49		eP		P	20 42 02.0	-0.8
	comp=Z,48nm,1.1s								
INK	Inuvik	89.41	21		eP		P	20 42 01.8	-0.5
	comp=Z,13nm,1.2s								
INK					PKiKP		PKiKP	20 47 01.0	+1.1
INK	Inuvik	89.41	21		P		P	20 42 01.9	-0.3
	comp=Z,2.4nm,0.5s,baz=270,slow=5.3,SNR=19								
INK					PKiKP		PKiKP	20 47 01.0	+1.1
	comp=Z,2.0nm,1.0s,baz=266,slow=3.5,SNR=4.2								
NLWA	Neilton Lookou	90.12	43		eP		P	20 42 07.1	+1.0
	comp=Z,35nm,1.1s								
HUMO	Hull Mountain	90.13	47		eP		P	20 42 07.7	+1.4
	comp=Z,59nm,1.0s								
YBH	Yreka Blue Hor	90.20	48		P		P	20 42 07.1	+0.4
YBH	Yreka Blue Hor	90.20	48		P		P	20 42 07.1	+0.4
	comp=Z,24nm,1.0s,baz=228,slow=1.9,SNR=21								
YBH					LR		LR	21 14 24.1	
	comp=Z,724nm,21.8s,baz=256,slow=30								
BROR	Big Rock Looko	90.70	46		P		P	20 42 09.9	+1.1
HDW	Hoodsport	90.70	42		P		P	20 42 10.4	+1.5
IRO	Indian Ridge	90.81	46		P		P	20 42 10.6	+1.0
TDL	Tradedollar La	91.11	44		P		P	20 42 12.7	+1.8
LON	Longmire	91.44	43		eP		P	20 42 11.8	-0.5
LON					pmax		pmax		
	comp=Z,8.0nm,1.0s								
LON	Longmire	91.44	43		eP		P	20 42 11.8	-0.5
	comp=Z,7.6nm,1.0s								
HTW	Haystack Looko	91.58	42		P		P	20 42 13.7	+0.8
PKM	Peak Mountain	91.72	55	⇑	P		P	20 42 15.7	+1.6
	baz=92								
MOD	Modoc	92.01	48		eP		P	20 42 16.5	+1.3
	comp=Z,56nm,1.1s								
VIPM	Ingram Point	92.03	46		P		P	20 42 16.4	+1.1
VIPM	Ingram Point	92.03	46		P		P	20 42 16.4	+1.1
WCN	Washoe City	92.18	51		eP		P	20 42 17.8	+1.7
WCN					pmax		pmax		
	comp=Z,23nm,0.9s								
WCN	Washoe City	92.18	51		eP		P	20 42 17.8	+1.7
	comp=Z,24nm,0.9s								
WCN	Washoe City	92.18	51	⇓	P		P	20 42 17.9	+1.7
	baz=92								
EBG	Ellensburg	92.30	43		P		P	20 42 17.6	+1.3
TBM	Table Mountain	92.30	43		P		P	20 42 17.6	+1.3
VES	Vestal, Richgr	92.41	54	⇓	P		P	20 42 18.3	+1.3
	baz=92								
SYO	Syowa Base	92.73	200	⇑	eX		P	20 42 13.8	-3.9
ISA	Isabella	92.89	55	⇓	P		P	20 42 21.0	+1.7
	baz=93								
HAWA	Hanford	92.96	44		eP		P	20 42 20.3	+1.0
	comp=Z,32nm,1.0s								
MWC	Mount Wilson	93.11	56		eP		P	20 42 21.7	+1.2
MWC					pmax		pmax		
	comp=Z,57nm,1.2s								
MWC	Mount Wilson	93.11	56		eP		P	20 42 21.7	+1.2
	comp=Z,57nm,1.2s								
EDW2	Edwards Air Fo	93.22	55	⇓	P		P	20 42 21.6	+0.8
	baz=93,SNR=9.4								
NVAR	Mina Array Bea	93.24	52		P		P	20 42 22.2	+1.2
NVAR	Mina Array Bea	93.24	52		P		P	20 42 22.2	+1.2
	comp=Z,23nm,0.8s,baz=255,slow=6.6,SNR=80								
NVAR					LR		LR	21 19 56.9	
	comp=Z,926nm,18.3s,baz=93,slow=33								
LRMC	Laurel Mountai	93.51	55	⇓	P		P	20 42 23.9	+1.7
	baz=94,SNR=22								
MPMC	Manual Prospec	93.72	54	⇑	P		P	20 42 24.3	+1.1
	baz=94,SNR=14								
GRAC	Grapevine Rang	93.88	53	⇑	P		P	20 42 25.7	+1.9
	baz=94								
GSC	Goldstone	94.22	55	⇓	P		P	20 42 27.0	+1.5
	baz=94,SNR=8.3								
FURC	Furnace Creek,	94.25	54	⇓	P		P	20 42 27.6	+2.2
	baz=94,SNR=12								
MONP	Monument Peak	94.39	58	⇓	P		P	20 42 28.6	+2.2
	baz=94,SNR=11								
BMO	Blue Mountains	94.42	46		eP		P	20 42 26.3	+0.2
BMO					pmax		pmax		
	comp=Z,22nm,1.0s								
BMO	Blue Mountains	94.42	46		eP		P	20 42 26.3	+0.2
	comp=Z,22nm,1.0s								
SHOC	Shoshone	94.68	55	⇑	P		P	20 42 29.1	+1.6
	baz=95,SNR=8.2								
NEW	Newport	94.72	42		eP		P	20 42 27.6	+0.2
	comp=Z,27nm,1.1s								
NEW	Newport	94.72	42	⇓	P		P	20 42 28.0	+0.6
	baz=95,SNR=19								
BELC	Belle Mtn. Jos	94.81	56	⇓	P		P	20 42 30.2	+2.0
	baz=95,SNR=12								
TUQ	Turquoise Moun	94.95	55	⇓	P		P	20 42 30.4	+1.6
	baz=95,SNR=14								
GMRC	Granite Mounta	95.13	56	⇓	P		P	20 42 31.7	+2.0
	baz=95,SNR=9.9								
SVE	Sverdlovsk	95.19	327		eP		P	20 42 27.7	-1.6
SVE					eS		SKSac	20 52 56.6	-3.2
SVE					pmax		pmax		
	comp=Z,17nm,1.4s								
SVE					MLR		MLR		
	comp=Z,1μm,20.0s								
BC3	Big Chuckawall	95.24	57	⇑	P		P	20 42 32.2	+2.0
	baz=95,SNR=9.3								
C11A	Tepee Creek (N	95.29	43	⇓	P		P	20 42 30.7	+0.7
	baz=95								
AB31	Akbulak array	95.34	319		i P		P	20 42 27.6	-2.5
AB31					pmax		pmax		
	comp=Z,7.0nm,0.9s								
ABKAR	Akbulak array	95.34	319		eP		P	20 42 27.6	-2.5
R11A	Troy Canyon, C	95.37	52	⇑	P		P	20 42 32.3	+1.5
	baz=96,SNR=18								
MFID	Camas Ranch	95.41	47	⇓	P		P	20 42 31.9	+1.2
	baz=96,SNR=10								
IRM	Iron Mountain	95.52	56	⇑	P		P	20 42 33.5	+2.2
	baz=96,SNR=14								
LDFC	Landfair	95.59	55		eP		P	20 42 33.8	+2.0
	comp=Z,122nm,1.7s								
E12A	Beaver Dam Sad	95.70	44	⇓	P		P	20 42 32.3	+0.2
	baz=96,SNR=16								
A12A	Yaak River Ran	95.73	41	⇑	P		P	20 42 33.6	+1.6
	baz=96,SNR=5.2								
C12B	Naegeli Ranch,	95.81	43	⇓	P		P	20 42 32.0	-0.4
	baz=96,SNR=5.8								
G12A	Big Creek, Yel	95.83	45	⇓	P		P	20 42 33.1	+0.4
	baz=96,SNR=29								
D12A	Red Ives Fores	95.87	43	⇑	P		P	20 42 33.4	+0.7
	baz=96,SNR=22								
F12A	Elk City	95.90	45	⇑	P		P	20 42 33.2	+0.2
	baz=96,SNR=11								
I12A	Atlanta	95.93	47	⇑	P		P	20 42 33.9	+0.7
	baz=96,SNR=5.6								
H12A	Diamond D Ranc	96.15	46	⇓	P		P	20 42 34.3	+0.1
	baz=96								
BSMT	Basoo Peak	96.28	43		eP		P	20 42 34.6	-0.1
	comp=Z,9.9nm,1.0s								
ARU	Arti	96.33	326	c	iP		P	20 42 32.0	-2.5
ARU								20 46 25.7	
ARU					S		SKSac	20 53 02.9	-2.9
ARU					pmax		pmax		
	comp=Z,13nm,1.2s								
ARU					MLR		MLR		
	comp=Z,1μm,22.0s								
ARU	Arti	96.33	326		eP		P	20 42 31.6	-2.9
	comp=Z,9.3nm,1.0s								
HLID	Hailey	96.44	47		eP		P	20 42 36.2	+0.7
	comp=Z,8.0nm,0.8s								
HLID	Hailey	96.44	47	⇑	P		P	20 42 36.3	+0.8
	baz=96,SNR=18								
YKA	Yellowknife Ar	96.45	28		P		P	20 42 35.0	+0.1
YKA					PKiKP		PKiKP	20 47 12.3	+0.2
YKA					PKKPbc		PKKPbc	20 59 19.1	-3.0
YKA	Yellowknife Ar	96.45	28		P		P	20 42 34.9	+0.1
	comp=Z,1.8nm,0.7s,baz=270,slow=4.6,SNR=42								
YKA					PKiKP		PKiKP	20 47 12.3	+0.2
	comp=Z,0.5nm,0.7s,baz=270,slow=1.3,SNR=7.5								
YKA					PKKPbc		PKKPbc	20 59 19.1	-3.0
	comp=Z,0.3nm,0.9s,baz=82,slow=2.6,SNR=4.3								
B13A	Whitefish	96.50	42	⇓	P		P	20 42 36.4	+0.9
	baz=97,SNR=23								
A13A	Flathead Natio	96.54	41	⇑	P		P	20 42 36.6	+0.9
	baz=97								
F13A	Darby	96.55	45	⇑	P		P	20 42 36.1	+0.2
	baz=97,SNR=21								
H13A	Challis	96.58	46	⇓	P		P	20 42 36.6	+0.5
	baz=97,SNR=15								
W13A	Hualapai Mount	96.60	55	⇓	P		P	20 42 38.9	+2.4
	baz=97,SNR=10								
G13A	Cobalt	96.60	45	⇑	P		P	20 42 37.1	+1.0
	baz=97,SNR=12								
J13A	Cove Ranch, Pi	96.61	47	⇑	P		P	20 42 37.7	+1.4
	baz=97,SNR=6.9								
AKTO	Aktyubinsk	96.62	320		P		P	20 42 33.8	-2.1
AKTO					pmax		pmax		
	comp=Z,2.0nm,1.5s								
R13A	O'Grain Ranch,	96.63	52	⇑	P		P	20 42 38.6	+2.1
	baz=97,SNR=8.5								
E13A	Victor	96.66	44	⇓	P		P	20 42 37.2	+0.8
	baz=97								
I13A	Wildhorse Cree	96.66	47	⇓	P		P	20 42 37.2	+0.6
	baz=97,SNR=16								
SWMT	Swartz Lake	96.80	43		eP		P	20 42 37.1	+0.1
	comp=Z,8.6nm,1.3s								
WALA	Waterton Lakes	96.87	41		eP		P	20 42 38.1	+0.8
	comp=Z,0.8nm,1.0s								
ARUT	Antelope Range	97.04	53		eP		Pdif	20 42 40.2	+1.7
ARUT					pmax		pmax		
	comp=Z,16nm,1.2s								
ARUT	Antelope Range	97.04	53		eP		Pdif	20 42 40.1	+1.7
	comp=Z,16nm,1.2s								
E14A	Clinton	97.14	44	⇓	P		Pdif	20 42 39.3	+0.6
	baz=97								
I14A	Mackay	97.14	47	⇑	P		Pdif	20 42 39.6	+0.8
	baz=97,SNR=8.5								
G14A	Jackson	97.15	45	⇑	P		Pdif	20 42 39.5	+0.6
	baz=97,SNR=5.4								
A14A	Double T Ranch	97.20	41	⇑	P		Pdif	20 42 39.6	+0.8
	baz=97,SNR=13								
H14A	Leadore	97.21	46	⇑	P		Pdif	20 42 40.0	+0.9
	baz=97								
L14A	Malta	97.28	48	⇑	P		Pdif	20 42 40.8	+1.4
	baz=97,SNR=14								
B14A	Maquette Ranc	97.30	42	⇑	P		Pdif	20 42 39.9	+0.6
	baz=97,SNR=8.1								
CHMT	Chamberlain Mo	97.31	44		eP		Pdif	20 42 39.5	0.0
	comp=Z,7.2nm,1.2s								
K14A	Jones Ranch, D	97.33	48	⇓	P		Pdif	20 42 40.8	+1.2
	baz=97,SNR=14								
DUG	Dugway	97.57	50	⇓	P		Pdif	20 42 41.3	+0.5
	baz=98								
MCMT	McKenzie Canyo	97.58	46		eP		Pdif	20 42 41.7	+0.9
	comp=Z,18nm,0.9s								
HVU	Hansel Valley	97.62	49		eP		Pdif	20 42 41.3	+0.4
HVU					pmax		pmax		
	comp=Z,23nm,1.0s								
HVU	Hansel Valley	97.62	49		eP		Pdif	20 42 41.3	+0.4
	comp=Z,23nm,1.0s								
A15A	Johnson Ranch,	97.65	41	⇑	P		Pdif	20 42 41.7	+0.9
	baz=98,SNR=9.7								
E15A	Deer Lodge	97.73	44	⇓	P		Pdif	20 42 41.9	+0.6
	baz=98,SNR=11								
H15A	Lima	97.73	46	⇑	P		Pdif	20 42 42.5	+1.1
	baz=98,SNR=5.8								
C15A	Salmond Ranch,	97.74	43	⇓	P		Pdif	20 42 41.4	0.0
	baz=98,SNR=16								
DLMT	Dillon	97.76	45		eP		Pdif	20 42 41.9	+0.4
	comp=Z,3.1nm,0.8s								
B15A	Bradely Ranch,	97.77	42	⇑	P		Pdif	20 42 41.7	+0.4
	baz=98								
K15A	Arbon	97.81	48	⇑	P		Pdif	20 42 43.1	+1.4
	baz=98,SNR=9.2								
F15A	Butte	97.83	45	⇑	P		Pdif	20 42 42.0	+0.2
	baz=98								
G15A	Dillon	97.84	45	⇑	P		Pdif	20 42 42.7	+0.8
	baz=98								
M15A	Larsen Ranch,	97.86	49	⇑	P		Pdif	20 42 42.9	+0.9
	baz=98,SNR=6.7								
J15A	Blackfoot	97.88	47	⇓	P		Pdif	20 42 43.4	+1.3
	baz=98								
L15A	Malad City	97.91	48	⇓	P		Pdif	20 42 43.1	+0.9
	baz=98,SNR=12								
U15A	North Rim	97.93	54	⇑	P		Pdif	20 42 44.4	+1.8
	baz=98,SNR=12								
P15A	Leamington	97.98	51	⇑	P		Pdif	20 42 43.5	+0.9
	baz=98								
MSU	Marysvale	98.05	52		eP		Pdif	20 42 44.7	+1.7
MSU					pmax		pmax		
	comp=Z,4.0nm,1.2s								
MSU	Marysvale	98.05	52		eP		Pdif	20 42 44.7	+1.7
	comp=Z,3.6nm,1.2s								
G16A	Moss Hill, Enn	98.32	45	⇓	P		Pdif	20 42 44.3	+0.3
	baz=98,SNR=6.6								
C16A	Fuhringer Ranc	98.32	43	⇓	P		Pdif	20 42 44.2	+0.3
	baz=98,SNR=6.0								
B16A	M & M Farms, S	98.34	42	⇓	P		Pdif	20 42 44.6	+0.8
	baz=98								
E16A	East Helena	98.39	44	⇑	P		Pdif	20 42 45.0	+0.7
	baz=98								
A16A	West Butte Ran	98.40	41	⇓	P		Pdif	20 42 44.6	+0.5
	baz=98								
BOZ	Bozeman (W)	98.44	45		eP		Pdif	20 42 44.8	+0.3
BOZ					pmax		pmax		
	comp=Z,7.0nm,0.9s								
BOZ	Bozeman (W)	98.44	45		eP		Pdif	20 42 44.8	+0.3
	comp=Z,7.4nm,0.9s								
BOZ	Bozeman (W)	98.44	45	⇓	P		Pdif	20 42 45.0	+0.6
	baz=98,SNR=14								
D16A	Dana Ranch, Ca	98.47	43	⇓	P		Pdif	20 42 45.2	+0.7
	baz=98								
M16A	Huntsville	98.48	49	⇑	P		Pdif	20 42 45.6	+0.8
	baz=99								
J16A	Bone	98.48	47	⇑	P		Pdif	20 42 45.8	+1.0
	baz=99,SNR=18								
S16A	Weppner Ranch,	98.50	53	⇑	P		Pdif	20 42 46.4	+1.5
	baz=99,SNR=6.5								
K16A	Soda Springs	98.50	48	⇑	P		Pdif	20 42 46.4	+1.5
	baz=99,SNR=8.0								
HWUT	Hardware Ranch	98.53	49		eP		Pdif	20 42 45.1	+0.1
	comp=Z,6.2nm,0.9s								
I16A	Newdale	98.56	47	⇓	P		Pdif	20 42 46.1	+1.0
	baz=99,SNR=17								
R16A	Teasdale	98.59	52	⇓	P		Pdif	20 42 47.2	+1.7
	baz=99,SNR=14								
QLMT	Earthquake Lak	98.59	46		eP		Pdif	20 42 46.0	+0.7
	comp=Z,1.1nm,1.0s								
L16A	Fish Haven	98.62	48	⇓	P		Pdif	20 42 46.5	+1.1
	baz=99,SNR=7.5								
N16A	Rees Ranch, Co	98.62	50	⇓	P		Pdif	20 42 46.6	+1.1
	baz=99								
WUAZ	Wupatki	98.66	55		eP		Pdif	20 42 48.0	+2.3
	comp=Z,5.2nm,0.8s								
WUAZ	Wupatki	98.66	55	⇑	P		Pdif	20 42 48.2	+2.5
	baz=99								
RRI2	Red Ridge	98.69	47		eP		Pdif	20 42 46.2	+0.3
	comp=Z,17nm,0.9s								
H16A	Russell Place,	98.72	46	⇑	P		Pdif	20 42 46.6	+0.8
	baz=99,SNR=7.4								
DCID1	Drake Creek	98.79	47		eP		Pdif	20 42 46.5	+0.4
	comp=Z,14nm,0.8s								
TMUT	Trail Mountain	98.81	51		eP		Pdif	20 42 47.5	+1.1
	comp=Z,21nm,0.9s								
B17A	L&G Farms, Che	98.95	42	⇑	P		Pdif	20 42 47.1	+0.6
	baz=99,SNR=12								
TPAW	Teton Pass	98.96	47		eP		Pdif	20 42 48.8	+1.8
	comp=Z,12nm,1.0s								
IMW	Indian Meadow	98.96	47		eP		Pdif	20 42 47.8	+0.7
	comp=Z,8.1nm,1.0s								
A17A	Triple J Farms	98.99	41	⇑	P		Pdif	20 42 47.7	+1.0
	baz=99,SNR=16								
C17A	Wharram Farm,	98.99	43	⇓	P		Pdif	20 42 47.5	+0.7
	baz=99,SNR=6.6								
YFT	Old Faithful	99.02	46		ePdif		Pdif	20 42 48.9	+1.7
	comp=Z,24nm,0.9s								
L17A	Cokeville	99.04	48	⇓	P		Pdif	20 42 48.1	+0.8
	baz=99								
D17A	Six Diamond Ra	99.06	43	⇑	P		Pdif	20 42 48.1	+0.9
	baz=99,SNR=14								
F17A	Fitzpatrick Pl	99.11	45	⇑	P		Pdif	20 42 48.7	+1.3
	baz=99,SNR=12								
FLWY	Flagg Ranch	99.13	46		eP		Pdif	20 42 47.9	+0.3
	comp=Z,11nm,1.0s								
J17A	Brown Place, J	99.14	47	⇑	P		Pdif	20 42 48.7	+1.0
	baz=99,SNR=12								
O17A	Robinson Place	99.16	50	⇓	P		Pdif	20 42 49.3	+1.4
	baz=99,SNR=6.1								
P17A	Butcher Ranch,	99.17	51	⇑	P		Pdif	20 42 49.2	+1.4
	baz=99								
R17A	Hanksville Air	99.20	52	⇑	P		Pdif	20 42 49.3	+1.3
	baz=99								
M17A	Scullys Gap (B	99.20	49	⇓	P		Pdif	20 42 49.0	+0.9
	baz=99								
LOHW	Long Hollow	99.21	47		ePdif		Pdif	20 42 48.4	+0.4
	comp=Z,4.6nm,0.9s								
H17A	Grant Village	99.21	46	⇑	P		Pdif	20 42 50.6	+2.5
	baz=99,SNR=14								
I17A	Pilgrim Ck.	99.22	47	⇑	P		Pdif	20 42 49.6	+1.5
	baz=99,SNR=8.7								
LKWY	Lake	99.33	46		eP		Pdif	20 42 50.4	+1.8
LKWY					pmax		pmax		
	comp=Z,7.0nm,0.9s								
LKWY	Lake	99.33	46		ePdif		Pdif	20 42 50.4	+1.8
	comp=Z,6.7nm,0.9s								
SRU	San Rafael	99.34	51		eP		Pdif	20 42 49.1	+0.4
SRU					pmax		pmax		
	comp=Z,7.0nm,0.9s								
SRU	San Rafael	99.34	51		ePdif		Pdif	20 42 49.1	+0.4
	comp=Z,7.2nm,0.9s								
SRU	San Rafael	99.34	51	⇓	P		Pdif	20 42 49.4	+0.7
	baz=99,SNR=8.4								
E18A	Harlowton	99.61	44	⇓	P		Pdif	20 42 50.9	+1.3
	baz=100,SNR=7.9								
B18A	Beardsley Farm	99.62	42	⇑	P		Pdif	20 42 50.6	+1.0
	baz=100								
K18A	Toltan Ranch,	99.64	48	⇑	P		Pdif	20 42 50.4	+0.4
	baz=100,SNR=8.1								
Q18A	Rafter H Ranch	99.64	51	⇓	P		Pdif	20 42 50.8	+0.8
	baz=100,SNR=13								
J18A	Kendall Valley	99.64	47	⇓	P		Pdif	20 42 50.3	+0.2
	baz=100,SNR=9.9								
EGMT	Eagleton	99.66	42	⇑	P		Pdif	20 42 50.3	+0.6
	baz=100,SNR=5.3								
S18A	Hurst Farm, Bl	99.77	53	⇓	P		Pdif	20 42 52.2	+1.5
	baz=100,SNR=13								
F18A	Big Timber	99.77	44	⇓	P		Pdif	20 42 51.9	+1.5
	baz=100,SNR=7.5								
I18A	Diamond G Ranc	99.78	47	⇓	P		Pdif	20 42 51.5	+0.9
	baz=100,SNR=9.1								
R18A	Canyonlands Na	99.84	52	⇑	P		Pdif	20 42 51.9	+1.0
	baz=100,SNR=12								
H18A	Shoshone NF, C	99.85	46	⇑	P		Pdif	20 42 52.4	+1.5
	baz=100,SNR=6.0								
T18A	Mexican Hat	99.

N20A	Spence Gulch, baz=101	101.03	50	⇓P		Pdif	20 42 57.2	+0.9		
J20A	Shoshoni baz=101,SNR=7.3	101.05	47	⇓P		Pdif	20 42 56.8	+0.7		
H20A	Greybull baz=101	101.05	46	⇑P		Pdif	20 42 56.5	+0.4		
S20A	Disappointment baz=101,SNR=5.4	101.06	53	⇑P		Pdif	20 42 57.6	+1.1		
M20A	Sweetwater, Wa baz=101	101.06	49	⇓P		Pdif	20 42 57.5	+1.1		
Q20A	Ridgley Place, baz=101,SNR=7.4	101.08	52	⇓P		Pdif	20 42 58.0	+1.6		
RES	Resolute Bay	101.28	14	P		Pdif	20 42 56.5	+0.2		
RES	Resolute Bay comp=Z,2.4nm,0.9s,baz=290,slow=3.3,SNR=9.6	101.28	14	P		Pdif	20 42 56.5	+0.2		
A21A	Bergtoll Ranch baz=102	101.47	41	⇑P		Pdif	20 42 58.9	+1.2		
J21A	Lysite baz=102,SNR=14	101.52	47	⇓P		Pdif	20 42 58.9	+0.7		
S21A	Coal Bank Pass baz=102,SNR=7.8	101.52	53	⇓P		Pdif	20 43 00.1	+1.6		
G21A	Lodge Grass baz=102,SNR=5.9	101.57	45	⇑P		Pdif	20 43 00.7	+2.4		
I21A	Big Trails, Te baz=102,SNR=9.3	101.60	47	⇓P		Pdif	20 42 59.6	+1.0		
Q21A	Lamborn Mesa, baz=102,SNR=16	101.64	52	⇑P		Pdif	20 43 00.5	+1.5		
L21A	Rawlins baz=102	101.65	48	⇓P		Pdif	20 42 59.3	+0.4		
M21A	Separation Pea baz=102,SNR=5.9	101.67	49	⇓P		Pdif	20 42 59.3	+0.2		
R21A	Cimarron baz=102,SNR=8.5	101.68	52	⇑P		Pdif	20 43 00.5	+1.3		
K21A	Alcova baz=102,SNR=8.4	101.70	48	⇑P		Pdif	20 43 00.4	+1.2		
P21A	Newcastle baz=102,SNR=8.7	101.71	51	⇑P		Pdif	20 43 00.4	+1.2		
H21A	Big Horn, Sher baz=102,SNR=5.6	101.73	46	⇑P		Pdif	20 43 00.2	+1.2		
SMCO	Snowmass comp=Z,12nm,1.0s	102.10	51	*e*Pdif		Pdif	20 43 02.5	+1.3		
D22A	Cohagen baz=102	102.13	43	⇓P		Pdif	20 43 01.8	+1.1		
A22A	Carney Farms, baz=102	102.13	41	⇓P		Pdif	20 43 02.1	+1.4		
Q22A	Crested Butte, baz=102,SNR=13	102.16	52	⇑P		Pdif	20 43 03.1	+1.7		
I22A	9 Mile Ranch, baz=102,SNR=14	102.18	46	⇓P		Pdif	20 43 02.3	+1.2		
G22A	Birney baz=102	102.21	45	⇓P		Pdif	20 43 02.7	+1.5		
J22A	Midwest baz=102,SNR=18	102.22	47	⇓P		Pdif	20 43 01.8	+0.5		
H22A	Clearmont baz=102,SNR=6.4	102.22	46	⇓P		Pdif	20 43 03.1	+1.8		
K22A	Casper baz=102	102.23	48	⇑P		Pdif	20 43 02.5	+1.0		
P22A	Eagle baz=102	102.24	51	⇓P		Pdif	20 43 03.0	+1.4		
S22A	4UR Ranch, Cre baz=102,SNR=6.5	102.28	53	⇑P		Pdif	20 43 03.8	+1.8		
U22A	Llaves baz=102,SNR=6.6	102.31	54	⇑P		Pdif	20 43 04.6	+2.6		
O22A	Kremmling baz=102,SNR=5.9	102.37	50	⇓P		Pdif	20 43 03.2	+0.9		
C23A	Lambert baz=103	102.74	42	⇓P		Pdif	20 43 04.6	+1.2		
N23A	Red Feather La baz=103,SNR=8.5	102.79	49	⇑P		Pdif	20 43 05.0	+1.0		
D23A	Lindsay baz=103	102.79	43	⇓P		Pdif	20 43 06.0	+2.3		
F23A	Volborg baz=103	102.79	44	⇑P		Pdif	20 43 05.1	+1.4		
G23A	Biddle baz=103	102.85	45	⇓P		Pdif	20 43 05.5	+1.5		
L23A	Garrett baz=103,SNR=6.3	102.88	48	⇓P		Pdif	20 43 04.4	0.0		
K23A	Bowen Ranch, D baz=103	102.89	48	⇑P		Pdif	20 43 05.1	+0.7		
ISCO	Idaho Springs baz=103	103.11	51	⇓P		Pdif	20 43 06.1	+0.5		
H24A	Dirks Ranch, A baz=104	103.48	45	⇓P		Pdif	20 43 07.9	+1.0		
I24A	Kuemmerle Ranc baz=104	103.52	46	⇓P		Pdif	20 43 07.9	+0.9		
N24A	Carr baz=104	103.59	49	⇓P		Pdif	20 43 08.9	+1.4		
RSSD	Black Hills	103.92	46	*e*P		Pdif	20 43 08.6	-0.3		
RSSD	comp=Z,9.0nm,1.0s			pmax		pmax				
RSSD	Black Hills comp=Z,9.1nm,1.0s	103.92	46	*e*Pdif		Pdif	20 43 08.6	-0.3		
TXAR	Lajitas Array	105.28	61	Pdif		Pdif	20 43 19.5	+4.3		
TXAR	Lajitas Array comp=Z,0.6nm,0.8s,baz=270,slow=3.8,SNR=4.2	105.28	61	Pdiff		Pdif	20 43 19.5	+4.3		
ARCES	ARCESS Array B	107.22	343	PKiKP		PKiKP	20 47 30.5	-1.0		
ARCES	ARCESS Array B comp=Z,3.4nm,0.9s,baz=106,slow=2.6,SNR=12	107.22	343	PKiKP		PKiKP	20 47 30.5	-1.0		
FINES	FINESS Array B	111.26	335	Pdif		Pdif	20 43 38.9	-2.0		
FINES				PKiKP		PKiKP	20 47 38.6	-0.6		
FINES	FINESS Array B comp=Z,2.0nm,0.9s,baz=156,slow=5.5,SNR=3.1	111.26	335	Pdiff		Pdif	20 43 38.9	-2.0		
FINES				PKiKP		PKiKP	20 47 38.6	-0.6		
KMBO	comp=Z,3.4nm,0.9s,baz=75,slow=2.9,SNR=7.8 Kilima Mbogo	114.35	266	*e*PKPdf	PKPdf		20 47 47.2	+0.3		
AKASG	Malin Array Be	114.47	324	PKiKP	PKiKP		20 47 44.8	-0.9		
AKASG	Malin Array Be	114.47	324	PKP	PKPdf		20 47 44.8	-0.8		
AKASG	Malin Array Be comp=Z,1.8nm,0.5s,baz=64,slow=2.3,SNR=9.5	114.47	324	PKP	PKPdf		20 47 44.8	-0.9		
BR131	Keskin Array S	115.03 311		*e*PKPdf		PKPdf	20 47 46.2	-1.1		
BRTR	Keskin Array B	115.03 311		PKP		PKPdf	20 47 46.5	-0.8		
BRTR	Keskin Array B comp=Z,3.9nm,0.8s,baz=74,slow=1.8,SNR=17	115.03 311		PKP		PKPdf	20 47 46.5	-0.8		
NB2	NORSAR Subarra comp=Z,2.4nm,1.0s,baz=44,slow=1.9	117.21 340		PKPdf		PKPdf	20 47 49.4	-1.3		
NOA	NORSAR Array B	117.21 340		PKP		PKPdf	20 47 50.0	-0.7		
NOA	NORSAR Array B comp=Z,2.6nm,0.8s,baz=46,slow=1.9,SNR=8.2	117.21 340		PKP		PKPdf	20 47 50.0	-0.7		
CFR	Carcaliu	117.23 319		⇑PKiKP		PKPdf	20 47 50.0	-1.2		
CFR	Carcaliu	117.23 319		⇑*i*P		PKPdf	20 47 50.0	-1.2		
TIRR	Tirgusor	117.31 318		⇑PKiKP		PKPdf	20 47 52.3	+1.0		
TIRR	Tirgusor	117.31 318		⇑*i*P		PKPdf	20 47 52.3	+1.0		
TESR		117.69 320		⇓*i*P		PKPdf	20 47 52.1	+0.1		
BURAR	Bucovina Array	118.13 322		⇑*i*P		PKPdf	20 47 54.1	+1.1		
KWP	Kalwaria Pacla	118.71 325		⇓PKiKP		PKPdf	20 47 55.2	+1.3		
KWP	Kalwaria Pacla	118.71 325		⇓*i*P		PKPdf	20 47 55.2	+1.3		
VOIR		119.14 320		⇑PKiKP		PKPdf	20 47 55.0	0.0		
VOIR		119.14 320		⇑P		PKPdf	20 47 55.0	0.0		
KOLS	Kolonicke sedl	119.30 324		*e*PKiKP		PKPdf	20 47 55.7	+0.6		
KOLS	Kolonicke sedl	119.30 324		*e*PKP		PKPdf	20 47 55.7	+0.6		
SZH	Strazhica	119.41 317		*e*P		PKPdf	20 47 53.5	-2.0		
UZH	Uzhgorod	119.43 324		*e*PKiKP		PKPdf	20 47 55.7	+0.4		
UZH				*e*			20 48 04.0			
UZH				*i*			20 48 10.5			
TRPA	Tarpa	119.52 323		⇓*i*P		PKPdf	20 47 55.5	0.0		
HUMR	Humele	119.56 319		⇓*i*P		PKPdf	20 47 55.7	0.0		
LBTB	Lobatse	119.62 237		*e*PKPdf		PKPdf	20 47 55.6	-1.0		
CRVS	Cervenica-Dubn	119.78 325		*e*PKiKP		PKPdf	20 47 56.0	0.0		
CRVS	Cervenica-Dubn	119.78 325		*e*PKP		PKPdf	20 47 56.0	0.0		
PLCA	Paso Flores	119.82 144		PKP		PKPdf	20 47 56.5	0.0		
PLCA				PKKPbc		PKKPbc	20 58 06.0	-1.5		
PLCA	Paso Flores comp=Z,2.0nm,0.8s,baz=169,slow=3.6,SNR=5.7	119.82 144		PKP		PKPdf	20 47 56.5	0.0		
PLCA				PKKPbc		PKKPbc	20 58 06.0	-1.5		
LOT	comp=Z,2.7nm,0.8s,baz=25,slow=5.9,SNR=5.9 Lotru	119.96 320		⇓*i*P		PKPdf	20 47 56.2	-0.4		
ACSO	Alum Creek Sta	119.99	46	*e*PKPdf		PKPdf	20 47 56.2	-0.5		
DRGR		120.03 322		⇓PKiKP		PKPdf	20 47 56.8	+0.2		
DRGR		120.03 322		⇓*i*P		PKPdf	20 47 56.8	+0.2		
OJC	Ojcow	120.05 327		*e*PKP		PKPdf	20 47 56.1	-0.4		
OJC	Ojcow	120.05 327		*e*PKiKP		PKPdf	20 47 56.7	+0.2		
DIM	Dimitrovgrad	120.14 316		*e*P		PKPdf	20 47 55.6	-1.3		
KDZ	Kurdzhali	120.37 316		*e*P		PKPdf	20 47 55.6	-1.8		
RDO	Rodhopi	120.47 315		*e*P		PKPdf	20 47 56.2	-1.3		
GZR	Gura Zlata	120.61 321		⇑PKiKP		PKPdf	20 47 57.7	-0.1		
GZR	Gura Zlata	120.61 321		⇑*i*P		PKPdf	20 47 57.7	-0.1		
OKC	Ostrava-Krasne	121.16 327		*i* PKiKP		PKPdf	20 47 59.8	+1.2		
OKC	comp=Z,400nm,14.2s			MLR		MLR				
OKC	Ostrava-Krasne comp=Z,400nm,14.2s	121.16 327		*i* PKPdf		PKPdf	20 47 59.8	+1.2		
OKC				AMS		AMS	21 40 30.0			
PSZ	Piszkesteto	121.17 324		⇑PKiKP		PKPdf	20 47 52.9	-5.9		
PSZ	Piszkesteto	121.17 324		⇑*i*P		PKPdf	20 47 52.9	-5.9		
BZS	Buzias	121.24 321		⇓PKiKP		PKPdf	20 47 58.9	0.0		
BZS	Buzias	121.24 321		⇓*i*P		PKPdf	20 47 58.9	0.0		
VYHS	Vyhne	121.49 325		*e*PKiKP		PKPdf	20 47 59.2	-0.1		
VYHS	Vyhne	121.49 325		*e*PKP		PKPdf	20 47 59.2	-0.1		
MORC	Moravsky Berou	121.52 327		⇓PKiKP		PKPdf	20 47 59.8	+0.4		
MORC	Moravsky Berou	121.52 327		*e*PKPdf		PKPdf	20 47 59.4	0.0		
MORC	Moravsky Berou	121.52 327		⇓*i*P		PKPdf	20 47 59.8	+0.4		
VTS	Vitosha	121.52 317		⇓PKiKP		PKPdf	20 47 59.9	+0.2		
VTS	Vitosha	121.52 317		⇓*i*P		PKPdf	20 47 59.9	+0.2		
VTS	Vitosha	121.52 317		*e*P		PKPdf	20 47 59.6	-0.1		
MMB	Musomiste	121.57 316		*e*P		PKPdf	20 47 57.0	-2.7		
NVR	Nevrokopi	121.57 316		*e*P		PKPdf	20 47 58.9	-0.8		
SCHQ	Schefferville	121.79 25		PKP		PKPdf	20 47 59.5	-0.2		
SCHQ	Schefferville comp=Z,5.5nm,0.9s,baz=238,slow=9.5,SNR=5.8	121.79 25		PKP		PKPdf	20 47 59.5	-0.2		
DPC	Dobruska-Polom	121.85 328		*i* PKiKP		PKPdf	20 48 00.4	+0.4		
DPC	comp=Z,600nm,23.5s			MLR		MLR				
DPC	Dobruska-Polom comp=Z,600nm,23.5s	121.85 328		*i* PKPdf		PKPdf	20 48 00.4	+0.4		
DPC				AMS		AMS	21 40 00.0			
APE	Apeiranthos	121.89 311		⇓PKiKP		PKPdf	20 47 59.4	-1.1		
APE	Apeiranthos	121.89 311		⇓*i*P		PKPdf	20 47 59.4	-1.1		
UPC	Upice	121.92 328		*i* PKiKP		PKPdf	20 48 00.4	+0.3		
UPC				*e*			20 48 11.9			
UPC	Upice	121.92 328		*i* PKPdf		pPKPdf	20 48 00.4	+0.3		
UPC				*e*pPKP		pPKPdf	20 48 11.9	-5.9		
VRAC	Vranov	122.29 327		⇓*i*P		PKPdf	20 48 02.2	+1.4		
NPS	Neapolis	122.40 309		*e*P		PKPdf	20 47 52.8	-8.7		
BSEG	Bad Segeberg	122.49 334		*e*PKPdf		PKPdf	20 48 01.1	+0.1		
PVCC	Panska Ves	122.66 329		*i* PKiKP		PKPdf	20 48 01.9	+0.4		
PVCC	comp=Z,400nm,18.8s			MLR		MLR				
PVCC	Panska Ves comp=Z,400nm,18.8s	122.66 329		*i* PKPdf		PKPdf	20 48 01.9	+0.4		
PVCC				AMS		AMS	21 43 40.0			
BRG	Berggiesshubel comp=Z,13nm,0.9s	122.77 330		*e*P		PKPdf	20 48 02.1	+0.5		
BRG	comp=N,344nm,18.5s									
BRG	comp=E,336nm,22.6s									
BRG	comp=Z,613nm,20.1s									
BRG	Berggiesshubel	122.77 330		*e*PKPdf		PKPdf	20 48 02.0	+0.3		
BRG	Berggiesshubel	122.77 330		*e*PKiKP		PKPdf	20 48 02.1	+0.5		
BRG	comp=Z,13nm,1.0s			pmax		pmax				
BRG	comp=N,344nm,18.5s			MLR		MLR				
BRG	comp=E,336nm,22.6s			MLR		MLR				
BRG	comp=Z,613nm,20.1s			MLR		MLR				
PKSM	Moragy	122.77 323		⇓PKiKP		PKPdf	20 48 01.9	+0.1		
PKSM	Moragy	122.77 323		⇓*i*P		PKPdf	20 48 01.9	+0.1		
PTL	Penteli	122.80 312		*e*P		PKPdf	20 48 00.5	-1.7		
TREC	Trest	122.90 327		*i* PKiKP		PKPdf	20 48 02.3	+0.3		
TREC	comp=Z,800nm,23.5s			MLR		MLR				
TREC	Trest comp=Z,800nm,23.5s	122.90 327		*i* PKPdf		PKPdf	20 48 02.3	+0.3		
TREC				AMS		AMS	21 40 20.0			
CLL	Collm	122.96 331		*e*PKPdf		PKPdf	20 48 02.1	+0.1		
CLL	Collm	122.96 331		*i* PKiKP		PKPdf	20 48 01.9	-0.1		
CLL				*e*			20 48 13.0			
CLL	comp=Z,10.0nm,1.0s			pmax		pmax				
CLL	comp=Z,400nm,20.0s			MLR		MLR				
CLL	Collm comp=Z,10.0nm,1.0s	122.96 331		*i* PKPdf		PKPdf	20 48 01.9	-0.1		
CLL				*i*			20 48 05.3			
CLL				*e*PP		PP	20 49 49.0	+8.0		
CLL				*e*SKPdf		SKiKP	20 51 34.0	+0.9		
CLL				*e*SKKSac		SKKSac	20 56 40.0	+4.9		
CLL				*e*PS		PS	20 59 33.0	-5.0		
CLL				*e*PPS		PPS	21 01 04.0			
CLL				*e*			21 02 06.0			
CLL				*e*SKKSacre			21 05 25.0			
CLL				*e*PSPS			21 07 05.0			
CLL				*e*SSS		SSS	21 10 54.0			
CLL				*e*			21 12 24.0			
CLL				*e*SSSS			21 14 42.0			
CLL	comp=N,300nm,19.8s			Lm		MLR	21 43 00.0			
CLL	comp=E,300nm,21.7s			Lm		MLR	21 43 00.0			
CLL	comp=Z,400nm,20.0s			Lm		MLR	21 43 00.0			
PRU	Pruhonice	122.99 329		*i* PKiKP		PKPdf	20 48 02.3	+0.2		
PRU				*e*			20 48 13.8			
PRU	comp=Z,500nm,17.4s			MLR		MLR				
PRU	Pruhonice comp=Z,500nm,17.4s	122.99 329		*i* PKPdf		PKPdf	20 48 02.3	+0.2		
PRU				*e*pPKP		pPKPdf	20 48 13.8	-6.1		
PRU				AMS		AMS	21 42 30.0			
LKR	Lokris	123.21 313		*e*P		PKPdf	20 48 01.9	-1.0		
SSPA	Standing Stone	123.44 44		*e*PKPdf		PKPdf	20 48 03.1	-0.1		
KZN	Kozani	123.44 315		*e*P		PKPdf	20 48 02.7	-0.7		
VAM	Vamos	123.45 309		*e*P		PKPdf	20 47 52.3	-11		
DID	Didima	123.46 312		*e*P		PKPdf	20 48 00.1	-3.4		
CONA	Conrad Observa comp=Z,7.9nm,1.1s,SNR=7.7	123.47 326		⇑PKiKP		PKPdf	20 48 03.1	-0.1		
NRDL	Niedersach Rie	123.56 333		*e*PKPdf		PKPdf	20 48 03.6	+0.6		
TANN	Tannenbergstha	123.79 330		*e*PKPdf		PKPdf	20 48 03.7	0.0		
CLZ	Clausthal	123.87 332		*e*PKPdf		PKPdf	20 48 04.5	+0.7		
NKC	Novy Kostel	123.91 330		*i* PKiKP		PKPdf	20 48 03.5	-0.4		
NKC	Novy Kostel	123.91 330		*i* PKPdf		PKPdf	20 48 03.5	-0.4		
GUR	Goura	123.96 313		*e*P		PKPdf	20 48 03.7	-0.8		
EVR	Evrytania	123.97 314		*e*P		PKPdf	20 48 06.2	+1.7		
KHC	Kasperske Hory	124.01 328		*i* PKiKP		PKPdf	20 48 04.6	+0.4		
KHC				*e*			20 48 16.0			
KHC	comp=Z,600nm,23.0s			MLR		MLR				
KHC	Kasperske Hory	124.01 328		*e*PKPdf		PKPdf	20 48 04.1	-0.1		
KHC	Kasperske Hory	124.01 328		*i* PKPdf		PKPdf	20 48 04.6	+0.4		
KHC				*e*pPKP		pPKPdf	20 48 16.0	-5.9		
KHC	comp=Z,600nm,23.0s			AMS		AMS	21 42 40.0			
MOX	Moxa	124.06 331		*e*PKPdf		PKPdf	20 48 04.6	+0.4		
EFP	Efpalio	124.09 313		*e*P		PKPdf	20 48 05.2	+0.6		
GEC2	GERESS Array S	124.11 328		*e*PKPdf		PKPdf	20 48 04.5	+0.1		
GERES	GERESS Array B	124.11 328		PKP		PKPdf	20 48 04.2	-0.2		
GERES	GERESS Array B comp=Z,5.4nm,0.6s,baz=68,slow=1.5,SNR=45	124.11 328		PKP		PKPdf	20 48 04.2	-0.2		
ROTZ	Rotzenmuhle	124.32 329		*e*PKPdf		PKPdf	20 48 04.8	+0.1		
JAN	Janina	124.35 315		*e*P		PKPdf	20 48 05.5	+0.4		
WET	Wettzell	124.36 329		*e*PKPdf		PKPdf	20 48 05.3	+0.5		
RLS	Riolos of Patr	124.55 313		*e*P		PKPdf	20 47 53.0	-12		
SOKA	Soboth comp=Z,8.9nm,0.9s	124.64 325		⇓*i*PKiKP		PKPdf	20 48 05.0	-0.5		
IBBN	Ibbenburen	124.73 334		*e*PKPdf		PKPdf	20 48 05.6	+0.3		
GRF	Grafenberg Arr	124.87 330		*e*PKPdf		PKPdf	20 48 05.9	+0.1		
RJOB	Jochberg	125.26 327		*e*PKPdf		PKPdf	20 48 06.2	-0.4		
TRY	Troy	125.31 40		*e*PKPdf		PKPdf	20 48 07.8	+1.0		
BUG	Bochum--Univer	125.56 334		*e*PKPdf		PKPdf	20 48 07.2	+0.2		
FUR	Furstenfeldbru	125.81 328		*e*PKPdf		PKPdf	20 48 07.6	0.0		
TNS	Taunus Mts	125.86 332		*e*PKPdf		PKPdf	20 48 08.0	+0.3		
ABTA	Abfaltersbach comp=Z,13nm,1.0s,SNR=8.5	126.01 326		*e*PKiKP		PKPdf	20 48 07.9	-0.2		
WATA	Walderalm comp=Z,6.6nm,0.6s,SNR=7.8	126.16 327		⇓*i*PKiKP		PKPdf	20 48 08.5	0.0		
WTTA	Wattenberg comp=Z,20nm,1.0s,SNR=10	126.17 327		*i* PKiKP		PKPdf	20 48 08.7	+0.2		
MOTA	Moosalm comp=Z,17nm,0.9s,SNR=10.0	126.41 328		⇓*i*PKiKP		PKPdf	20 48 09.0	+0.1		
STU	Stuttgart	126.47 330		*e*PKPdf		PKPdf	20 48 09.6	+0.8		
STU	Stuttgart	126.47 330		*e*PKiKP		PKPdf	20 48 09.2	+0.4		
STU	Stuttgart	126.47 330		*e*PKP		PKPdf	20 48 09.2	+0.4		
LCO	Las Campanas	126.64 132		*e*PKPdf		PKPdf	20 48 09.3	-0.9		
MEM	Membach	126.71 333		PKP		PKPdf	20 48 09.8	+0.6		
FETA	Feichten comp=Z,21nm,1.1s,SNR=11	126.81 328		*i* PKiKP		PKiKP	20 48 10.2	0.0		
DAVA	Damuels comp=Z,9.7nm,0.8s,SNR=7.0	127.09 328		⇓*i*PKiKP		PKiKP	20 48 10.7	-0.1		
BCLA	Clavier	127.16 334		PKP		PKPdf	20 48 10.9	+0.8		
BFO	Black Forest	127.20 330		*e*PKPdf		PKPdf	20 48 10.5	+0.2		
BFO	Black Forest	127.20 330		*e*PKiKP		PKPdf	20 48 09.9	-0.4		
BFO	Black Forest	127.20 330		*e*PKP		PKPdf	20 48 09.9	-0.4		
WLF	Walferdange	127.32 333		PKP		PKPdf	20 48 12.0	+1.6		
WLF	Walferdange	127.32 333		*e*PKPdf		PKPdf	20 48 11.3	+0.9		
WLF	Walferdange	127.32 333		*e*PKiKP		PKPdf	20 48 11.3	+0.9		
WLF	Walferdange	127.32 333		*e*PKPdf		PKPdf	20 48 11.3	+0.9		
SNF	Seneffe	127.54 334		PKP		PKPdf	20 48 10.9	+0.2		
GIVF	Givet comp=Z,36nm,1.1s	127.60 334		*e*PKiKP		PKPdf	20 48 11.2	+0.3		
GIVF	Givet	127.60 334		*e*PKiKP		PKPdf	20 48 11.2	+0.3		
GIVF	Givet	127.60 334		*e*PKPdf		PKPdf	20 48 11.2	+0.3		
CDF	Champ du Feu comp=Z,29nm,1.4s	127.66 331		*e*PKiKP		PKPdf	20 48 10.7	-0.5		
CDF	Champ du Feu	127.66 331		*e*PKiKP		PKPdf	20 48 10.7	-0.5		
CDF	Champ du Feu	127.66 331		*e*PKPdf		PKPdf	20 48 10.7	-0.5		
DOU	Dourbes	127.70 334		PKP		PKPdf	20 48 11.9	+0.7		
ECH	Echery	127.85 331		*e*PKiKP		PKPdf	20 48 10.7	-0.8		
ECH	Echery	127.85 331		*e*PKPdf		PKPdf	20 48 10.7	-0.8		
TUE	Stuetta	127.89 328		*e*PKPdf		PKPdf	20 48 12.0	+0.1		
BAIF	Baives comp=Z,17nm,1.1s	127.90 334		*e*PKiKP		PKPdf	20 48 11.8	+0.3		
BAIF	Baives	127.90 334		*e*PKiKP		PKPdf	20 48 11.8	+0.3		
BAIF	Baives	127.90 334		*e*PKPdf		PKPdf	20 48 11.8	+0.3		
HINF	Hinterlafeld comp=Z,32nm,1.0s	128.28 330		*e*PKiKP		PKPdf	20 48 12.1	-0.3		
HINF	Hinterlafeld	128.28 330		*e*PKiKP		PKPdf	20 48 12.1	-0.3		
HINF	Hinterlafeld	128.28 330		*e*PKPdf		PKPdf	20 48 12.1	-0.3		
PAGF	Fort de Pagny	128.30 332		*e*PKiKP		PKPdf	20 48 12.4	+0.1		
PAGF	Fort de Pagny	128.30 332		*e*PKPdf		PKPdf	20 48 12.4	+0.1		
HAU	Haudompre comp=Z,39nm,1.0s	128.39 331		*e*PKiKP		PKPdf	20 48 12.4	-0.2		
HAU	Haudompre	128.39 331		*e*PKiKP		PKPdf	20 48 12.4	-0.2		
HAU	Haudompre	128.39 331		*e*PKPdf		PKPdf	20 48 12.4	-0.2		
MEZF	Maizieres J'vi comp=Z,17nm,0.8s	128.65 332		*e*PKPdf		PKPdf	20 48 13.4	+0.4		
MEZF	Maizieres J'vi	128.65 332		*e*PKPdf		PKPdf	20 48 13.4	+0.4		
TSUM	Tsumeb	128.73 240		PKPdf		PKPdf	20 48 14.2	0.0		
SFTF	Sexfontaines	128.87 332		*e*PKiKP		PKPdf	20 48 13.5	+0.1		
SFTF	Sexfontaines	128.87 332		*e*PKPdf		PKPdf	20 48 13.5	+0.1		
CABF	La Chapelle comp=Z,57nm,1.4s	129.48 330		*e*PKiKP		PKPdf	20 48 15.1	+0.3		
CABF	La Chapelle	129.48 330		*e*PKiKP		PKPdf	20 48 15.1	+0.3		
CABF	La Chapelle	129.48 330		*e*PKPdf		PKPdf	20 48 15.1	+0.3		
LPL	La Plagne comp=Z,15nm,0.8s	129.90 328		*e*PKiKP		PKPdf	20 48 16.1	+0.3		
LPL	La Plagne	129.90 328		*e*PKiKP		PKPdf	20 48 16.1	+0.3		
LPL	La Plagne	129.90 328		*e*PKPdf		PKPdf	20 48 16.1	+0.3		
LPG	La Plagne comp=Z,12nm,0.8s	129.90 328		*e*PKiKP		PKPdf	20 48 15.9	0.0		
LPG	La Plagne	129.90 328		*e*PKiKP		PKPdf	20 48 15.9	0.0		
LPG	La Plagne	129.90 328		*e*PKPdf		PKPdf	20 48 15.9	0.0		
LOR	Lormes comp=Z,33nm,1.2s	130.10 332		*e*PKiKP		PKPdf	20 48 16.0	+0.2		
LOR	Lormes	130.10 332		*e*PKPdf		PKPdf	20 48 16.0	+0.2		
BNI	Bardonecchia	130.24 328		*e*PKiKP		PKPdf	20 48 16.7	+0.4		
BNI	Bardonecchia	130.24 328		*e*PKPdf		PKPdf	20 48 16.7	+0.4		
MBDF	Montbardon	130.40 328		*e*PKiKP		PKPdf	20 48 16.4	-0.3		
MBDF	Montbardon	130.40 328		*e*PKPdf		PKPdf	20 48 16.4	-0.3		
MBDF	Montbardon	130.40 328		*e*PKPdf		PKPdf	20 48 16.4	-0.3		
SSF	Saint Saulge comp=Z,25nm,1.1s	130.42 332		*e*PKiKP		PKPdf	20 48 16.7	+0.3		
SSF	Saint Saulge	130.42 332		*e*PKiKP		PKPdf	20 48 16.7	+0.3		
SSF	Saint Saulge	130.42 332		*e*PKPdf		PKPdf	20 48 16.7

EVOP	**Sao Brissos**	**142.40**	**334**	*e*PKIKP	**PKPdf**	**20 48 37.4**	**-1.4**
EVOP	**Sao Brissos**	**142.40**	**334**	*e*PKPdf	**PKPdf**	**20 48 37.4**	**-1.4**
PNCL	**Nicolau / Gran**	**142.92**	**334**	*e*PKP	**PKPdf**	**20 48 36.0**	**-3.8**
PCVE	**Castro Verde**	**143.10**	**333**	*e*PKP	**PKPdf**	**20 48 39.6**	**-0.5**
PVAQ	**Vaqueiros**	**143.14**	**332**	*e*PKP	**PKPdf**	**20 48 39.7**	**-0.5**
TAM	**Tamanrasset**	**143.22**	**301**	*e*PKIKP	PKPbc	20 48 38.4	+0.4
TAM	**Tamanrasset**	**143.22**	**301**	*e*PKPdf	PKPbc	20 48 38.4	+0.3
MORF	**Marmelete**	**143.64**	**333**	*e*PKP	**PKPdf**	**20 48 41.3**	**+0.2**
LZG	**Guadaloupe-1**	**145.37**	**69**	*e*P	**PKPab**	**20 48 45.2**	**+0.4**
RTC	**Rabat Centre**	**145.42**	**328**	*e*PKPdf	**PKPab**	**20 48 44.7**	**+0.3**
HMG	**Houelmont**	**145.48**	**70**	*e*P	**PKPab**	**20 48 45.3**	**+0.1**
PHG	**Guadaloupe-2**	**145.53**	**70**	*e*P	**PKPab**	**20 48 46.6**	**+1.1**
SPB	**Sao Paulo**	**145.53**	**148**	*e*PKPdf	**PKPab**	**20 48 45.2**	**+0.1**
DOG	**Dongo Capester**	**145.54**	**70**	*e*P	**PKPab**	**20 48 46.8**	**+1.4**
SEG	**Port Louis**	**145.56**	**69**	*e*P	**PKPab**	**20 48 46.1**	**+0.7**
TBG	**Guadaloupe-3**	**145.56**	**70**	*e*P	**PKPab**	**20 48 46.4**	**+1.0**
TOA0	**Torodi Ar. Sit**	**149.60**	**287**	*e*PKPdf	**PKPdf**	**20 48 51.5**	**-0.2**
TOA0				*e*PKPbc	**PKPbc**	**20 48 56.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**149.60**	**287**	PKP	**PKPdf**	**20 48 52.1**	**+0.4**
TORD				PKPbc	**PKPbc**	**20 48 56.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**149.60**	**287**	PKP	**PKPdf**	**20 48 52.1**	**+0.4**
	comp=Z,69nm,0.9s,baz=11,slow=0.8,SNR=147						
TORD				PKPbc	**PKPbc**	**20 48 56.2**	**-0.1**
	comp=Z,113nm,1.1s,baz=64,slow=2.1,SNR=168						
PMPST	**Porto Santo, M**	**150.40**	**340**	*i* P	**PKPab**	**20 49 08.5**	**+4.3**
PMOZ	**Porto Moniz, M**	**150.92**	**341**	*i* P	**PKPbc**	**20 49 00.9**	**+1.7**
PMOZ				*i* P	**PKPbc**	**20 49 00.9**	**+1.7**
BDFB	**Brasilia**	**151.25**	**137**	PKP	**PKPdf**	**20 48 55.3**	**+0.9**
BDFB				PKPbc	**PKiKP**	**20 49 01.0**	**+0.1**
BDFB	**Brasilia**	**151.25**	**137**	PKP	**PKPdf**	**20 48 55.3**	**+0.9**
	comp=Z,5.4nm,0.7s,baz=198,slow=5.2,SNR=5.5						
BDFB				PKPbc	**PKiKP**	**20 49 01.0**	**+0.1**
	comp=Z,22nm,0.8s,baz=214,slow=2.5,SNR=30						
DBIC	**Dimbokro**	**156.80**	**274**	PKP	**PKPdf**	**20 49 02.5**	**+0.4**
DBIC				PKPbc	PKPab	20 49 10.7	-21
DBIC				PKPab	PKPab	20 49 32.7	+0.7
DBIC	**Dimbokro**	**156.80**	**274**	PKP	**PKPdf**	**20 49 02.5**	**+0.4**
	comp=Z,6.3nm,0.9s,baz=106,slow=7.4,SNR=4.8						
DBIC				PKPbc	PKPab	20 49 10.7	-21
	comp=Z,7.9nm,0.9s,baz=148,slow=2.7,SNR=5.3						
DBIC				PKPab	PKPab	20 49 32.7	+0.7
	comp=Z,18nm,0.9s,baz=102,slow=6.1,SNR=8.7						
LIC	**Lamto**	**156.98**	**273**	*e*PKIKP	**PKPdf**	**20 49 02.7**	**+0.3**
	comp=Z,37nm,1.1s						
LIC	**Lamto**	**156.98**	**273**	*e*PKPdf	**PKPdf**	**20 49 02.7**	**+0.3**

IDC 14 20:35:26.6±7.7, 30.53S×178.22W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.6/14, mbtmp3.4/2, Error ellipse: s-maj=321.3km s-min=59.4km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.91**	**267**	P	P	20 43 26.9	-0.4
	0.3nm,0.8s,baz=111,slow=8.9,SNR=3.5						
WRA	**Warramunga Arr**	**43.92**	**272**	P	P	20 43 35.4	0.0
	1.0nm,0.9s,baz=111,slow=8.1,SNR=6.6						
FINES	**FINESS Array B**	**145.21**	**340**	PKPbc	PKPbc	20 55 04.3	-0.7
	2.0nm,1.0s,baz=34,slow=3.7,SNR=6.1						

DDA 14 20:45:57.0, 37.90N×29.21E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHAL	**Karahalli**	**0.52**	**25**	*i* P	Pb	20 46 08.0	-0.7
KHAL				*i* S	Sg	20 46 14.9	+0.7
MANT	**Manisa**	**0.78**	**319**	*i* P	Pb	20 46 13.0	-0.2
MANT				*i* S	Sg	20 46 22.8	0.0
GDZ	**Gediz**	**1.21**	**10**	*e*P	Pg	20 46 20.1	-0.3
GDZ				*e*S	Sn	20 46 36.9	-0.3

DDA 14 20:46:34.5, 37.95N×29.17E, h3km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHAL	**Karahalli**	**0.50**	**31**	*i* P	Pg	20 46 44.4	+0.2
KHAL				*i* S	Sb	20 46 52.3	-1.5

KRSC 14 20:47:07.3±1.2, 50.65N×157.47E, h10km±10km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAK	**Asacha**	**1.76**	**9**	P	Pn	20 47 38.6	+0.7
ASAK				*i* S	Sb	20 48 01.4	-0.5
MTVR	**Mutnovka**	**1.89**	**13**	*e*P	Pn	20 47 40.3	+0.5
MTVR				*i* S	Sn	20 48 04.3	+0.5
RUS	**Russkaya**	**1.90**	**20**	*e*P	Pn	20 47 39.6	-0.1
RUS				*i* S	Sn	20 48 03.1	-0.6
APC	**Apacha**	**2.29**	**355**	P	Pn	20 47 44.9	-0.2
PET	**Petropavlovsk**	**2.49**	**17**	P	Pn	20 47 48.7	+0.9
PET				*i* S	Sn	20 48 18.9	+0.7
UGLR	**Uglovaya**	**2.70**	**18**	P	Pn	20 47 52.4	+1.5
SDLR	**Sedlovina**	**2.77**	**18**	P	Pn	20 47 52.8	+0.9
SDLR				*i* S	Sn	20 48 45.7	+0.1
SPN	**Mys Shipunski**	**2.92**	**32**	P	Pn	20 47 55.1	+1.4
SPN				*i* S	Sn	20 48 29.8	+1.0
MKZ	**Mys Kozlova**	**4.70**	**32**	P	Pn	20 48 18.5	+0.4
KBTR	**Krutoberegovo**	**6.42**	**28**	P	Pn	20 48 42.4	+0.6

DDA 14 20:49:36.7, 37.14N×39.11E, h5km, MD3.5
CSEM 14 20:49:37.0±0.1, 37.16N×39.09E, h5km, MD3.1, Error ellipse: s-maj=3.1km s-min=2.0km az=163.0
ISK 14 20:49:45.1, 38.12N×39.41E, h5km, MD3.1
ISC 14 20:49:42.4±3.4, 37.6N±0.2×39.25E±0.07, h15km±18km, n17, σ0s49/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DIYA	**Diyarbakir**	**0.78**	**62**	*i* P	**Pb**	**20 49 58.4**	**+0.6**
DIYA				*e*S	**Sn**	**20 50 10.1**	**-0.5**
DIYA	**Diyarbakir**	**0.78**	**62**	*i* P	**Pb**	**20 49 58.4**	**+0.6**
DIYA				*e*S	**Sn**	**20 50 10.1**	**-0.5**
DIY	**Diyarbakir**	**0.84**	**66**	*e*PG	**Pb**	**20 49 59.5**	**+0.6**
DIY				*e*SG	**Sb**	**20 50 09.9**	**-0.2**
DIY	**Diyarbakir**	**0.84**	**66**	*e*Pg	**Pb**	**20 49 59.5**	**+0.6**
ELZG	**Elazig**	**0.96**	**348**	*i* P	**Pn**	**20 50 02.1**	**+0.5**
ELZG				*i* S	Sn	20 50 19.4	+4.1
ELZG	**Elazig**	**0.96**	**348**	*i* P	**Pn**	**20 50 02.1**	**+0.5**
ELZG				*i* S	Sn	20 50 19.4	+4.1
MALT	**Malatya**	**0.99**	**319**	*e*PG	**Pb**	**20 50 01.6**	**+0.2**
MALT				*e*SG	**Sb**	**20 50 14.1**	**-0.4**
MALT	**Malatya**	**0.99**	**319**	*e*Pg	**Pb**	**20 50 01.6**	**+0.2**
MYA	**Malataya**	**1.00**	**320**	*e*PG	**Pb**	**20 50 01.8**	**+0.2**
MYA	**Malataya**	**1.00**	**320**	*e*Pg	**Pb**	**20 50 01.8**	**+0.2**
MARD	**Mardin**	**1.24**	**101**	*i* P	Pn	20 50 01.5	-3.9
MARD				*i* S	Sb	20 50 19.8	-2.8
GZT	**Gaziantep**	**1.36**	**262**	*i* P	Pn	20 50 00.4	-6.7
GZT				*i* S	Sn	20 50 16.5	-8.5
BEST	**Besiri**	**1.64**	**78**	*e*P	Pn	20 50 06.6	-4.2
BEST				*e*S	**Sg**	**20 50 34.5**	**-0.7**
BTMT	**Batman**	**1.88**	**70**	*e*PN	**Pn**	**20 50 14.1**	**-0.1**
BTMT	**Batman**	**1.88**	**70**	*e*Pn	**Pn**	**20 50 14.1**	**-0.1**
KUZU	**Kuzuini**	**1.91**	**246**	*i* P	Pn	20 50 06.8	-7.7
KUZU				*e*S	Sn	20 50 28.4	-10
KUZU	**Kuzuini**	**1.91**	**246**	*i* P	Pn	20 50 06.8	-7.7
KUZU				*e*S	Sn	20 50 28.4	-10

ISK 14 20:50:18.0, 37.82N×29.36E, h5km, MD3.4
DDA 14 20:50:18.6, 37.91N×29.16E, h7km, MD3.7, ML3.9
CSEM 14 20:50:19.4±0.2, 37.90N×29.14E, h2km, ML3.9, Error ellipse: s-maj=5.5km s-min=4.4km az=123.0
ISC 14 20:50:19.3±1.0, 37.92N±0.02×29.13E±0.02, h5km±10km, n51, σ1s10/73, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DNZL	**Cakiroluk**	**0.23**	**197**	*i* P	**Pg**	**20 50 23.7**	**-0.2**
DNZL				*i* S	**Sg**	**20 50 26.7**	**-0.3**
DNZL	**Cakiroluk**	**0.23**	**197**	*i* P	**Pg**	**20 50 23.7**	**-0.2**
DNZL				*i* S	**Sg**	**20 50 26.7**	**-0.3**
KHL	**Karahalli**	**0.51**	**37**	*e*PG	**Pg**	**20 50 29.2**	**+0.1**
KHL				*e*SG	**Sb**	**20 50 37.6**	**-1.0**
KHL	**Karahalli**	**0.51**	**37**	*e*Pg	**Pg**	**20 50 29.2**	**+0.1**
KHL				*e*Sg	**Sb**	**20 50 37.6**	**-1.0**
KHAL	**Karahalli**	**0.54**	**32**	*i* P	**Pg**	**20 50 29.1**	**-0.5**
KHAL				*i* S	**Sg**	**20 50 36.0**	**-0.6**
KHAL	**Karahalli**	**0.54**	**32**	*i* P	**Pg**	**20 50 29.1**	**-0.5**
KHAL				*i* S	**Sg**	**20 50 36.0**	**-0.6**
MANT	**Manisa**	**0.73**	**322**	*i* P	**Pg**	**20 50 33.9**	**+0.6**
MANT				*i* S	**Sb**	**20 50 44.8**	**-0.2**
MANT	**Manisa**	**0.73**	**322**	*i* P	**Pg**	**20 50 33.9**	**+0.6**
MANT				*i* S	**Sb**	**20 50 44.8**	**-0.2**
AYDN	**Tasoluk**	**1.02**	**256**	*i* P	**Pg**	**20 50 38.8**	**-0.1**
AYDN				*i* S	**Sg**	**20 50 52.4**	**+0.2**
AYDN	**Tasoluk**	**1.02**	**256**	*i* P	**Pg**	**20 50 38.8**	**-0.1**
AYDN				*i* S	**Sg**	**20 50 52.4**	**+0.2**
ISP	**Isparta**	**1.10**	**94**	*e*PG	Pg	20 50 36.6	-3.9
ISP	**Isparta**	**1.10**	**94**	*e*Pg	Pg	20 50 36.6	-3.9
TURN	**Turunc**	**1.12**	**202**	*i* P	**Pn**	**20 50 43.9**	**+2.4**
TURN				*i* S	Sn	20 51 03.6	+6.3
DEMI	**Demirci**	**1.17**	**344**	*i* P	**Pb**	**20 50 42.2**	**+0.2**
DEMI				*i* S	**Sb**	**20 50 57.0**	**-0.6**
DEMI	**Demirci**	**1.17**	**344**	*i* P	**Pb**	**20 50 42.2**	**+0.2**
DEMI				*i* S	**Sb**	**20 50 57.0**	**-0.6**
GDZ	**Gediz**	**1.20**	**13**	*i* P	**Pb**	**20 50 42.0**	**-0.6**
GDZ				*i* S	**Sb**	**20 50 58.0**	**-0.6**
GDZ	**Gediz**	**1.20**	**13**	*i* P	**Pb**	**20 50 42.0**	**-0.6**
GDZ				*i* S	**Sb**	**20 50 58.0**	**-0.6**
KORT	**Korkueli**	**1.33**	**133**	*i* P	**Pn**	**20 50 44.4**	**-0.2**
KORT				*e*S	**Sg**	**20 51 04.4**	**+2.4**
KORT	**Korkueli**	**1.33**	**133**	*i* P	**Pn**	**20 50 44.4**	**-0.2**
AKHS	**Akhisar**	**1.41**	**313**	*i* P	**Pn**	**20 50 45.3**	**-0.3**
AKHS				*i* S	**Sg**	**20 51 06.3**	**+1.6**
AKHS	**Akhisar**	**1.41**	**313**	*i* P	**Pn**	**20 50 45.3**	**-0.3**
AKHS				*i* S	**Sg**	**20 51 06.3**	**+1.6**
AKS	**Akhisar**	**1.41**	**313**	*e*PN	**Pn**	**20 50 45.5**	**-0.1**
AKS	**Akhisar**	**1.41**	**313**	*e*Pn	**Pn**	**20 50 45.5**	**-0.1**
GCAM	**G?zelcaml?**	**1.52**	**262**	*e*P	**Pn**	**20 50 46.7**	**-0.3**
GCAM				*e*S	**Sg**	**20 51 08.5**	**+0.5**
GCAM	**G?zelcaml?**	**1.52**	**262**	*e*P	**Pn**	**20 50 46.7**	**-0.3**
GCAM				*e*S	**Sg**	**20 51 08.5**	**+0.5**
BDRM	**Kayabasi**	**1.59**	**238**	*i* P	**Pn**	**20 50 47.6**	**-0.4**
BDRM				*i* S	**Sg**	**20 51 10.9**	**+0.7**
BDRM	**Kayabasi**	**1.59**	**238**	*i* P	**Pn**	**20 50 47.6**	**-0.4**
BDRM				*i* S	**Sg**	**20 51 10.9**	**+0.7**
BLCB	**Balcova**	**1.71**	**287**	*e*PN	**Pg**	**20 50 52.9**	**+0.8**
BLCB	**Balcova**	**1.71**	**287**	*e*Pn	**Pg**	**20 50 52.9**	**+0.8**
AKAS	**Kas**	**1.72**	**167**	*e*P	**Pg**	**20 50 52.5**	**+0.3**
AKAS				*e*S	**Sg**	**20 51 19.0**	**+4.4**
AKAS	**Kas**	**1.72**	**167**	*e*P	**Pg**	**20 50 52.5**	**+0.3**
DST	**Dursunbey**	**1.73**	**347**	*e*PN	**Pg**	**20 50 52.4**	**-0.1**
DST	**Dursunbey**	**1.73**	**347**	*e*Pn	**Pg**	**20 50 52.4**	**-0.1**
ESKT	**Eskisehir**	**2.09**	**39**	*e*PN	**Pn**	**20 50 55.1**	**0.0**
ESKT	**Eskisehir**	**2.09**	**39**	*e*Pn	**Pn**	**20 50 55.1**	**0.0**
ORLT	**Orhaneli**	**2.14**	**355**	*e*PN	**Pb**	**20 50 57.9**	**-0.6**
ORLT	**Orhaneli**	**2.14**	**355**	*e*Pn	**Pb**	**20 50 57.9**	**-0.6**
BALY	**Balya**	**2.17**	**328**	*e*P	**Pn**	**20 50 56.8**	**+0.7**
BALY				*e*S	**Sn**	**20 51 23.3**	**-0.1**
BALY	**Balya**	**2.17**	**328**	*e*P	**Pn**	**20 50 56.8**	**+0.7**
BALY				*e*S	**Sn**	**20 51 23.3**	**-0.1**
KIZT	**Kizilcal**	**2.37**	**65**	*e*PN	**Pn**	**20 50 58.0**	**-0.9**
KIZT	**Kizilcal**	**2.37**	**65**	*e*Pn	**Pn**	**20 50 58.0**	**-0.9**
GPA	**Golpazari**	**2.54**	**21**	*e*PN	**Pn**	**20 51 02.6**	**+1.4**
GPA	**Golpazari**	**2.54**	**21**	*e*Pn	**Pn**	**20 51 02.6**	**+1.4**
BNT	**Bandirma**	**2.61**	**339**	*e*PN	**Pb**	**20 51 05.3**	**-1.3**
BNT	**Bandirma**	**2.61**	**339**	*e*Pn	**Pb**	**20 51 05.3**	**-1.3**
YLV	**Yalova**	**2.66**	**4**	*e*PN	**Pn**	**20 51 05.0**	**+2.2**
YLV	**Yalova**	**2.66**	**4**	*e*Pn	**Pn**	**20 51 05.0**	**+2.2**
HRT	**Hereke**	**2.93**	**8**	*e*PN	**Pn**	**20 51 08.8**	**+2.2**
HRT	**Hereke**	**2.93**	**8**	*e*Pn	**Pn**	**20 51 08.8**	**+2.2**
APE	**Apeiranthos**	**2.98**	**255**	*e*PN	**Pb**	**20 51 11.1**	**-1.8**
APE	**Apeiranthos**	**2.98**	**255**	*e*Pn	**Pb**	**20 51 11.1**	**-1.8**

NNC 14 20:56:47.0±3.3, 37.35N×71.42E, h111km±52km, mb2.9, mpv3.6,2C-4D, Error ellipse: s-maj=27.1km s-min=20.8km az=12.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.79**	**353**	⇓P	Pn	20 58 11.1	+0.6
	2.8nm,0.2s,baz=175,slow=12,SNR=282						
KK31				⇑S	Sn	20 59 16.0	+0.4
	1.2nm,0.3s,baz=180,slow=17,SNR=7.5						
TKM2	**Tokmak 2**	**6.42**	**29**	⇓P	Pn	20 58 18.6	-0.7
	3.6nm,1.1s						
TKM2				⇑S	Sn	20 59 31.7	+0.5
	1.4nm,0.9s						
AB31	**Akbulak array**	**14.52**	**329**	⇓P	Pn	21 00 05.6	-1.3
	0.3nm,0.2s,baz=132,slow=15,SNR=48						
BVA0	**Borovoye Array**	**15.69**	**358**	P	P	21 00 23.0	-0.4
	baz=167,slow=12,SNR=5.0						
AKTO	**Aktyubinsk**	**16.23**	**328**	⇓P	P	21 00 29.0	-0.3
	0.3nm,0.9s						

CSEM 14 20:58:26.5, 43.24N×20.84E, h6km, ML2.4, After BEO
BEO 14 20:58:26.5±0.3, 43.24N×20.84E, h6km±2km, ML2.4/1, 10C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SELS	**Selova**	**0.20**	**96**	⇑*i*Pg	Pg	20 58 29.7	-0.9
SELS				*e*Sg	Sg	20 58 32.8	-0.6
SELS	**Selova**	**0.20**	**96**	⇑*i*Pg	Pg	20 58 29.7	-0.9
SELS				*e*Sg	Sg	20 58 32.8	-0.6
IVAS	**Ivanjica**	**0.60**	**304**	⇑*i*Pg	Pg	20 58 37.6	-0.6
IVAS				*e*Sg	Sg	20 58 45.5	-0.7
IVAS	**Ivanjica**	**0.60**	**304**	⇑*i*Pg	Pg	20 58 37.6	-0.6
IVAS				*e*Sg	Sg	20 58 45.5	-0.7
SJES	**Sjenica**	**0.63**	**272**	*e*Pg	Pg	20 58 38.1	-0.8
SJES				*e*Sg	Sg	20 58 46.0	-1.2
GRUS	**Gruza**	**0.66**	**352**	⇑*i*Pg	Pg	20 58 38.5	-0.6
GRUS				*e*Sg	Sg	20 58 48.3	+0.6
GRUS	**Gruza**	**0.66**	**352**	⇑*i*Pg	Pg	20 58 38.5	-0.6
GRUS				*e*Sg	Sg	20 58 48.3	+0.6
BARS	**Barje**	**0.83**	**120**	*e*Pg	Pg	20 58 42.3	-0.2
BARS				*e*Sg	Sg	20 58 52.7	-0.6
BARS	**Barje**	**0.83**	**120**	*e*Pg	Pg	20 58 42.3	-0.2
BARS				*e*Sg	Sg	20 58 52.7	-0.6
BOLS	**Boljevac**	**1.00**	**54**	⇑*i*Pg	Pg	20 58 44.2	-1.5
BOLS				*e*Sg	Sg	20 58 58.0	-0.8
BOLS	**Boljevac**	**1.00**	**54**	⇑*i*Pg	Pg	20 58 44.2	-1.5
BOLS				*e*Sg	Sg	20 58 58.0	-0.8
TRUS	**Trudelj**	**1.03**	**342**	⇓*i*Pg	Pg	20 58 45.7	-0.7
TRUS				*e*Sg	Sb	20 59 01.2	+0.5
TRUS	**Trudelj**	**1.03**	**342**	⇓*i*Pg	Pg	20 58 45.7	-0.7
TRUS				*e*Sg	Sb	20 59 01.2	+0.5
DIVS	**Divibare**	**1.06**	**325**	⇑*i*Pg	Pg	20 58 45.6	-1.3
DIVS				*e*Sg	Sg	20 59 01.1	+0.4
DIVS	**Divibare**	**1.06**	**325**	⇑*i*Pg	Pg	20 58 45.6	-1.3
DIVS				*e*Sg	Sg	20 59 01.1	+0.4
SVIS	**Svilajnac**	**1.06**	**15**	*e*Pg	Pg	20 58 45.9	-1.0
SVIS				*e*Sg	Sg	20 58 59.9	-0.7
ZAPS	**Zavoj**	**1.31**	**88**	⇓*i*Pg	Pn	20 58 51.1	-0.4
ZAPS				*e*Sg	Sb	20 59 08.2	-0.6
VTS	**Vitosha**	**1.86**	**110**	*e*Pn	Pn	20 58 58.4	-0.7
VTS				*e*Sn	Sn	20 59 23.4	+0.3
VTS	**Vitosha**	**1.86**	**110**	*e*Pn	Pn	20 58 58.4	-0.7
VTS				*e*Sn	Sn	20 59 23.4	+0.3
BZS	**Buzias**	**2.44**	**13**	*e*Pn	Pn	20 59 06.4	-0.5
BZS				*e*Sg	Sg	20 59 44.9	-0.1
BZS	**Buzias**	**2.44**	**13**	*e*Pn	Pn	20 59 06.4	-0.5
BZS				*e*Sg	Sg	20 59 44.9	-0.1

BUC 14 20:59:26.5±0.5, 45.62N×22.14E, h30km, MD2.3/3, 6D, Error ellipse: s-maj=8.1km s-min=4.3km az=10.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BZS	**Buzias**	**0.36**	**270**	⇓*i*P	Pb	20 59 35.0	+0.1
BZS	**Buzias**	**0.36**	**270**	S	Sn	20 59 42.1	+0.2
BZS	**Buzias**	**0.36**	**270**	⇓*i*P	Pb	20 59 35.0	+0.1
BZS				*i* S	Sn	20 59 42.1	+0.2
BZS	**Buzias**	**0.36**	**270**	*e*Sn	Pb	20 59 34.5	-0.4
BZS	**Buzias**	**0.36**	**270**	*e*Sn	Pb	20 59 34.5	-0.4
GZR	**Gura Zlata**	**0.51**	**117**	⇓*i*P	Pb	20 59 37.3	+0.2
GZR	**Gura Zlata**	**0.51**	**117**	⇓*i*P	Pb	20 59 37.3	+0.2
GZR				*i* S	Sb	20 59 44.9	+0.5
DRGR		**1.24**	**19**	⇓*i*P	Pb	20 59 49.2	-0.2
DRGR						21 00 04.7	
DRGR		**1.24**	**19**	⇓*i*P	Pb	20 59 49.2	-0.2
DRGR				*i* S	Sb	21 00 04.7	-0.4

IDC 14 21:12:27.5±1.1, 3.17N×125.21E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/19, mbtmp3.5/6, MS3.0/1, Ms1 3.0/1, ms1mx2.7/24, Error ellipse: s-maj=137.4km s-min=17.7km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.89**	**5**	LR	LR	21 15 19.3	
	comp=Z,170nm,18.2s,baz=46,slow=44						
WRA	**Warramunga Arr**	**24.66**	**159**	P	P	21 17 49.4	-0.8
	1.6nm,0.6s,baz=336,slow=11,SNR=18						
ASAR	**Alice Springs**	**27.99**	**163**	P	P	21 18 21.0	+0.8
	0.1nm,0.5s,baz=342,slow=8.8,SNR=3.7						
STKA	**Stephens Creek**	**38.18**	**157**	P	P	21 19 49.0	0.0
	1.4nm,0.6s,baz=343,slow=10,SNR=4.9						
SONM	**Songino Array**	**47.36**	**343**	P	P	21 21 02.5	-1.0
	0.2nm,0.6s,baz=148,slow=4.9,SNR=2.6						
MKAR	**Makanchi Array**	**57.16**	**326**	P	P	21 22 16.8	+0.6
	0.2nm,0.4s,baz=118,slow=7.3,SNR=6.6						
KURBB	**Kurchatov Arra**	**61.40**	**328**	P	P	21 22 45.5	0.0
	0.1nm,0.4s,baz=126,slow=6.8,SNR=4.6						

IDC 14 21:14:34.9±2.2, 2.75N×128.28E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/18, mbtmp3.2/3, Error ellipse: s-maj=140.1km s-min=26.7km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.32**	**165**	P	P	21 19 45.9	+1.0
	0.8nm,0.5s,baz=346,slow=11,SNR=13						
ASAR	**Alice Springs**	**26.82**	**169**	P	P	21 20 16.0	-1.1
	0.1nm,0.4s,baz=354,slow=8.2,SNR=3.3						
MKAR	**Makanchi Array**	**59.24**	**325**	P	P	21 24 38.4	+0.2
	0.1nm,0.5s,baz=111,slow=8.6,SNR=4.1						

IDC 14 21:18:27.7±1.7, 4.17S×133.23E, h0km, mb3.2/2, mb1 3.5/4, mb1mx3.3/14, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=90.9km s-min=25.7km az=66.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.71**	**176**	P	Pn	21 22 09.9	-0.7
	0.1nm,0.3s,baz=352,slow=13,SNR=5.3						
ASAR	**Alice Springs**	**19.39**	**178**	P	P	21 22 56.0	+0.5
	0.1nm,0.3s,baz=1.3,slow=9.8,SNR=9.1						
CTA	**Charters Tower**	**20.28**	**142**	P	P	21 23 04.7	-0.5
	1.1nm,0.4s,baz=306,slow=8.7,SNR=2.6						
MKAR	**Makanchi Array**	**67.71**	**325**	P	P	21 29 27.1	+0.1
	0.1nm,0.7s,baz=116,slow=8.2,SNR=2.0						

IDC 14 21:20:19.3±0.7, 4.39S×152.99E, h0km, mb4.2/11, mb1 4.3/11, mb1mx4.2/17, mbtmp4.1/11, MS3.9/1, Ms1 3.8/1, ms1mx2.8/23, Error ellipse: s-maj=25.8km s-min=15.6km az=113.0
ISCJB 14 21:20:25.8±0.5, 4.34S±0.06×152.82E±0.09, h55km, mb4.6/21, MS3.8/1, Error ellipse: s-maj=14.1km s-min=7.5km az=23.9
NEIC 14 21:20:29.5±1.8, 4.39S×152.82E, h76km±15km, mb4.9/6, Error ellipse: s-maj=13.0km s-min=9.9km az=84.0
ISC 14 21:20:27.4±0.5, 4.36S±0.08×152.84E±0.10, h55km, n72, σ0s99/65, mb4.4/21, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.55**	**228**	*e*Pn	**Pn**	**21 22 15.3**	**+0.4**
PMG				*e*Sn	**Sn**	**21 23 36.8**	**-2.3**
PMG	**Port Moresby**	**7.55**	**228**	P	Pn	21 22 18.2	+3.3
PMG	**Port Moresby**	**7.55**	**228**	Pn	**Pn**	**21 22 16.3**	**+1.4**
	6.6nm,

GERES	**GERESS Array B**	123.70	329	PKP		**PKPdf**	21 39 19.1	-0.2
	0.8nm,0.6s,baz=71,slow=1.9,SNR=12							
CFAA	**Coronel Fontan**	127.01	135	PKP		**PKPdf**	21 39 26.5	+0.4
CFAA	**Coronel Fontan**	127.01	135	PKP		**PKPdf**	21 39 26.5	+0.4
	0.2nm,0.4s,baz=230,slow=9.5,SNR=4.9							
LPAZ	**La Paz**	134.59	118	*e*PKPdf		**PKPdf**	21 39 41.8	+0.3
CPUP	**Villa Florida**	137.76	138	PKP		**PKPdf**	21 39 47.5	+1.1
CPUP	**Villa Florida**	137.76	138	PKP		**PKPdf**	21 39 47.5	+1.1
	0.3nm,0.4s,baz=266,slow=20,SNR=3.0							
SIV	**San Ignacio**	140.82	122	PKPpre	PKPpre		21 39 49.2	
SIV	**San Ignacio**	140.82	122	PKhKP	PKPpre		21 39 49.2	
	1.4nm,0.7s,baz=232,slow=8.6,SNR=6.0							
TOA0	**Torodi Ar. Sit**	150.21	289	*e*PKPbc		**PKPbc**	21 40 12.4	-1.1
TORD	**Torodi Ar. Bea**	150.21	289	PKPbc		**PKPbc**	21 40 13.1	-0.4
TORD	**Torodi Ar. Bea**	150.21	289	PKPbc		**PKPbc**	21 40 13.1	-0.4
	7.1nm,0.4s,baz=74,slow=2.2,SNR=202							
BDFB	**Brasilia**	151.34	134	PKPbc		**PKPbc**	21 40 16.2	0.0
BDFB	**Brasilia**	151.34	134	PKPbc		**PKPbc**	21 40 16.2	0.0
	9.7nm,0.6s,baz=219,slow=0.8,SNR=18							
DBIC	**Dimbokro**	157.69	277	PKPab		**PKPab**	21 40 51.2	-0.2
DBIC	**Dimbokro**	157.69	277	PKPab		**PKPab**	21 40 51.2	-0.2
	4.9nm,0.6s,baz=109,slow=5.6,SNR=8.8							

DJA **14** *21:24:06,5.˝76S×130.˝12E,h246km,MLv3.9/6*

IDC 14 21:23:50.0±4.6,**6.72S×129.50E,h74**km±47km,**mb4.0**/8,**mb1 4.3**/11,**mb1mx4.1**/17,**mbtmp4.1**/11,**ML4.6**/3,**Error ellipse: s-maj=34.1km s-min=20.4km az=63.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.93**	**198**	P	Pn	21 26 36.7	-0.6
	3.1nm,0.3s,baz=35,slow=12,SNR=26						
FITZ				S	Sn	21 28 38.0	-11
	3.0nm,0.3s,baz=114,slow=18,SNR=4.0						
WRA	**Warramunga Arr**	**13.96**	**161**	P	Pn	21 27 04.1	-0.6
	1.9nm,0.3s,baz=340,slow=12,SNR=4.6						
WRA				S	Sn	21 29 25.9	-12
	4.3nm,0.3s,baz=337,slow=21,SNR=9.6						
ASAR	**Alice Springs**	**17.38**	**166**	P	Pn	21 27 47.1	-0.7
	3.9nm,0.3s,baz=345,slow=9.9,SNR=29						
ASAR				S	Sn	21 30 44.5	-17
	0.4nm,0.3s,baz=329,slow=18,SNR=5.5						
STKA	**Stephens Creek**	**27.47**	**157**	P	P	21 29 30.2	+0.9
	4.5nm,0.5s,baz=324,slow=9.5,SNR=3.4						
PSI	**Prapat**	**31.95**	**286**	P	P	21 30 09.7	+0.3
	6.7nm,0.8s,baz=158,slow=3.6,SNR=4.1						
CMAR	**Chiang Mai Arr**	**39.17**	**310**	P	P	21 31 11.6	+0.6
	2.2nm,0.5s,baz=138,slow=7.0,SNR=14						
MJAR	**Matsushiro Arr**	**43.80**	**10**	P	P	21 31 48.4	-0.3
	1.8nm,0.9s,baz=191,slow=10.0,SNR=5.7						
USRK	**Ussuriysk Arra**	**50.73**	**2**	P	P	21 32 43.1	+0.8
	1.7nm,0.6s,baz=205,slow=8.1,SNR=4.1						
SONM	**Songino Array**	**58.02**	**342**	P	P	21 33 35.7	+0.3
	0.4nm,0.4s,baz=158,slow=6.5,SNR=6.4						
MKAR	**Makanchi Array**	**67.72**	**327**	P	P	21 34 39.4	-0.4
	4.6nm,0.5s,baz=115,slow=8.5,SNR=66						
ZALV	**Zalesovo Beam**	**71.11**	**334**	P	P	21 34 58.8	-1.7
	1.3nm,0.6s,baz=127,slow=4.7,SNR=7.0						
CPUP	**Villa Florida**	**146.49**	**169**	PKPbc	PKPdf	21 43 22.9	+0.7
	0.3nm,0.3s,baz=266,slow=19,SNR=3.1						

ISK **14** *21:29:23.6,37.˝93N×29.˝20E,h5km,MD3.1*

DDA **14** *21:29:23.7,37.˝91N×29.˝17E,h3km,ML3.6*

CSEM **14** *21:29:24.4±0.1,37.˝90N×29.˝17E,h2km,ML3.6,Error ellipse: s-maj=3.1km s-min=2.9km az=119.0*

ISC 14 21:29:24.2±1.2,**37.90N**±0.02×**29.16E**±0.02,**h0**km±15km,**n60**,σ**0.52**/70,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.23**	**203**	*i* P	**Pg**	**21 29 28.6**	**+0.1**
DNZL				*i* S	**Sg**	**21 29 31.0**	**-0.4**
DNZL	**Cakiroluk**	**0.23**	**203**	*i* P	**Pg**	**21 29 28.6**	**+0.1**
DNZL				*i* S	**Sg**	**21 29 31.0**	**-0.4**
KHL	**Karahalli**	**0.51**	**34**	*e*PG	**Pg**	**21 29 34.0**	**-0.1**
KHL				*e*SG	**Sg**	**21 29 41.8**	**+1.0**
KHL	**Karahalli**	**0.51**	**34**	*e*Pg	**Pg**	**21 29 34.0**	**-0.1**
KHL				*e*Sg	**Sg**	**21 29 41.8**	**+1.0**
KHAL	**Karahalli**	**0.54**	**29**	*i* P	**Pg**	**21 29 34.1**	**-0.5**
KHAL				*i* S	**Sg**	**21 29 42.0**	**+0.4**
KHAL	**Karahalli**	**0.54**	**29**	*i* P	**Pg**	**21 29 34.1**	**-0.5**
KHAL				*i* S	**Sg**	**21 29 42.0**	**+0.4**
KULA	**Kula-Manisa**	**0.73**	**328**	*e*PG	**Pg**	**21 29 38.6**	**+0.4**
KULA	**Kula-Manisa**	**0.73**	**328**	*e*Pg	**Pg**	**21 29 38.6**	**+0.4**
MANT	**Manisa**	**0.76**	**322**	*i* P	**Pg**	**21 29 39.0**	**+0.2**
MANT				*i* S	**Sg**	**21 29 48.8**	**+0.2**
MANT	**Manisa**	**0.76**	**322**	*i* P	**Pg**	**21 29 39.0**	**+0.2**
MANT				*i* S	**Sg**	**21 29 48.8**	**+0.2**
YER	**Yerkesik**	**1.03**	**223**	*e*PG	**Pg**	**21 29 43.9**	**-0.1**
YER	**Yerkesik**	**1.03**	**223**	*e*Pg	**Pg**	**21 29 43.9**	**-0.1**
AYDN	**Tasoluk**	**1.04**	**257**	*i* P	**Pg**	**21 29 43.9**	**-0.2**
AYDN				*e*S	**Sg**	**21 29 57.6**	**0.0**
AYDN	**Tasoluk**	**1.04**	**257**	*i* P	**Pg**	**21 29 43.9**	**-0.2**
AYDN				*e*S	**Sg**	**21 29 57.6**	**0.0**
ISP	**Isparta**	**1.08**	**94**	*e*PG	**Pg**	**21 29 44.7**	**-0.3**
ISP	**Isparta**	**1.08**	**94**	*e*Pg	**Pg**	**21 29 44.7**	**-0.3**
DEMI	**Demirci**	**1.19**	**343**	*e*P	**Pg**	**21 29 46.9**	**-0.3**
DEMI	**Demirci**	**1.19**	**343**	*e*P	**Pg**	**21 29 46.9**	**-0.3**
GDZ	**Gediz**	**1.22**	**12**	*i* P	**Pg**	**21 29 46.9**	**-0.6**
GDZ	**Gediz**	**1.22**	**12**	*i* P	**Pg**	**21 29 46.9**	**-0.6**
BCK	**Bucak**	**1.22**	**111**	*e*PN	**Pg**	**21 29 47.9**	**+0.3**
BCK	**Bucak**	**1.22**	**111**	*e*Pn	**Pg**	**21 29 47.9**	**+0.3**
FETY	**Fethiye**	**1.26**	**183**	*e*PN	**Pn**	**21 29 49.4**	**+0.2**
FETY	**Fethiye**	**1.26**	**183**	*e*Pn	**Pn**	**21 29 49.4**	**+0.2**
ELL	**Elmali**	**1.29**	**152**	*e*PN	**Pn**	**21 29 49.8**	**+0.1**
ELL	**Elmali**	**1.29**	**152**	*e*Pn	**Pn**	**21 29 49.8**	**+0.1**
ALT	**Altintas**	**1.38**	**33**	*e*PN	**Pg**	**21 29 49.7**	**-0.9**
ALT	**Altintas**	**1.38**	**33**	*e*Pn	**Pg**	**21 29 49.7**	**-0.9**
AKHS	**Akhisar**	**1.44**	**313**	*i* P	**Pn**	**21 29 50.6**	**-1.0**
AKHS	**Akhisar**	**1.44**	**313**	*i* P	**Pn**	**21 29 50.6**	**-1.0**
AKS	**Akhisar**	**1.44**	**313**	*e*PN	**Pn**	**21 29 51.6**	**0.0**
AKS	**Akhisar**	**1.44**	**313**	*e*Pn	**Pn**	**21 29 51.6**	**0.0**
SUTC	**Sutluce-Ispart**	**1.52**	**105**	*e*PN	**Pn**	**21 29 52.7**	**-0.1**
SUTC	**Sutluce-Ispart**	**1.52**	**105**	*e*Pn	**Pn**	**21 29 52.7**	**-0.1**
TVSB	**Tavsanli**	**1.57**	**9**	*e*PN	**Pn**	**21 29 52.4**	**-1.1**
TVSB	**Tavsanli**	**1.57**	**9**	*e*Pn	**Pn**	**21 29 52.4**	**-1.1**
DAT	**Datca**	**1.72**	**228**	*e*PN	**Pb**	**21 29 56.6**	**-0.1**
DAT	**Datca**	**1.72**	**228**	*e*Pn	**Pb**	**21 29 56.6**	**-0.1**
BLCB	**Balcova**	**1.74**	**287**	*e*PN	**Pb**	**21 29 56.6**	**-0.4**
BLCB	**Balcova**	**1.74**	**287**	*e*Pn	**Pb**	**21 29 56.6**	**-0.4**
DST	**Dursunbey**	**1.75**	**346**	*e*PN	**Pn**	**21 29 56.2**	**+0.2**
DST	**Dursunbey**	**1.75**	**346**	*e*Pn	**Pn**	**21 29 56.2**	**+0.2**
BALB	**Balikesir**	**2.00**	**331**	*e*PN	**Pn**	**21 30 00.0**	**+0.6**
BALB	**Balikesir**	**2.00**	**331**	*e*Pn	**Pn**	**21 30 00.0**	**+0.6**
ESKT	**Eskisehir**	**2.09**	**39**	*e*PN	**Pn**	**21 30 00.6**	**-0.1**
ESKT	**Eskisehir**	**2.09**	**39**	*e*Pn	**Pn**	**21 30 00.6**	**-0.1**
KIZT	**Kizilcal**	**2.35**	**65**	*e*PN	**Pn**	**21 30 04.4**	**+0.1**
KIZT	**Kizilcal**	**2.35**	**65**	*e*Pn	**Pn**	**21 30 04.4**	**+0.1**
GONE	**Gonen-Balikesi**	**2.43**	**332**	*e*PN	**Pn**	**21 30 06.0**	**+0.8**
GONE	**Gonen-Balikesi**	**2.43**	**332**	*e*Pn	**Pn**	**21 30 06.0**	**+0.8**
KCTX	**Karacabey (Bur**	**2.44**	**346**	*e*PN	**Pn**	**21 30 06.0**	**+0.6**
KCTX	**Karacabey (Bur**	**2.44**	**346**	*e*Pn	**Pn**	**21 30 06.0**	**+0.6**
KONT	**Konya--Tatoy**	**2.54**	**88**	*e*PN	**Pn**	**21 30 07.0**	**+0.3**
KONT	**Konya--Tatoy**	**2.54**	**88**	*e*Pn	**Pn**	**21 30 07.0**	**+0.3**
YLV	**Yalova**	**2.67**	**4**	*e*PN	**Pn**	**21 30 09.5**	**+0.9**
YLV	**Yalova**	**2.67**	**4**	*e*Pn	**Pn**	**21 30 09.5**	**+0.9**
ARMT	**Armutlu**	**2.67**	**355**	*e*PN	**Pn**	**21 30 09.3**	**+0.7**
ARMT	**Armutlu**	**2.67**	**355**	*e*Pn	**Pn**	**21 30 09.3**	**+0.7**
GULT	**Gulveren**	**2.74**	**22**	*e*PN	**Pn**	**21 30 10.0**	**+0.4**
GULT	**Gulveren**	**2.74**	**22**	*e*Pn	**Pn**	**21 30 10.0**	**+0.4**

IDC **14** *21:31:42.9±0.5,5.˝90S×130.˝01E,h0km,mb4.7/18, mb1 4.7/19,mb1mx4.7/20,mbtmp4.7/19,ML4.5/1,MS4.0/13, Ms1 4.0/13,ms1mx3.7/27,Error ellipse: s-maj=20.3km s-min=12.5km az=54.0*

ISCJB **14** *21:31:43.1±0.9,5.˝99S×130.˝03×130.˝00E±0.˝03,h18km±7km, mb4.8/59,MS4.1/17,Error ellipse: s-maj=5.2km s-min=4.8km az=137.9*

DJA **14** *21:31:46,5.˝84S×130.˝05E,h10km,mb5.0/36*

MOS **14** *21:31:46.5±1.0,5.˝78S×129.˝99E,h33km,mb5.2/20,Error ellipse: s-maj=14.2km s-min=7.4km az=121.9*

NEIC **14** *21:31:47.8±0.2,5.˝93S×129.˝97E,h35km,mb5.0/31,Error ellipse: s-maj=8.3km s-min=5.3km az=47.0*

BJI **14** *21:31:47.0,6.˝00S×130.˝00E,h35km,mB5.1/28,mb4.7/36, Ms4.9/22,Ms7 4.5/22*

TEH **14** *21:31:48.0,5.˝97S×129.˝98E,h35km,ML5.0*

ISC 14 21:31:48.2±0.3,**5.93S**±0.04×**129.96E**±0.04,**h36**km±1km, **n268**,σ**1.32**/295,**mb4.9**/57,**MS4.0**/17,**32C-21D,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.40**	**358**	P	Pn	21 32 08.0	-3.1
BNDI				S	**Sn**	**21 32 25.1**	**-3.2**
MSAI	**Masohi**	**2.76**	**338**	P	**Pn**	**21 32 27.9**	**-2.1**
MSAI				S	**Sn**	**21 33 05.4**	**+3.3**
TLE	**Tual**	**2.78**	**84**	P	**Pn**	**21 32 31.6**	**+1.5**
TLE				S	**Sn**	**21 33 07.2**	**+4.8**
AAI	**Ambon**	**2.84**	**322**	P	Pn	21 32 28.0	-3.0
FAKI	**Fak Fak**	**3.76**	**37**	P	**Pn**	**21 32 42.7**	**-1.0**
FAKI				S	**Sn**	**21 33 25.7**	**-1.0**
SWI	**Sorong**	**5.20**	**14**	P	**Pn**	**21 33 02.2**	**-1.2**
	192nm,0.7s,5µm1.0nm						
LBMI	**Labuha**	**5.80**	**335**	P	**Pn**	**21 33 12.5**	**+0.8**
	187nm,0.9s,3µm0.9nm						
KDI	**Kendari**	**7.57**	**285**	P	**Pn**	**21 33 35.1**	**-1.0**
	62nm,1.1s,696nm0.2nm						
BAKI	**Biak**	**7.73**	**53**	P	**Pn**	**21 33 38.8**	**+0.6**
	343nm,0.8s,3µm1.4nm						
MMRI	**Maumere**	**8.12**	**250**	P	**Pn**	**21 33 44.9**	**+1.3**
	404nm,1.1s,4µm						
KMSI	**Cibinong**	**8.80**	**317**	P	**Pn**	**21 33 53.9**	**+1.0**
	208nm,1.0s,3µm						
MNI	**Manado**	**8.93**	**325**	P	Pn	21 33 58.1	+3.3
	107nm,1.0s,2µm						
SMPI	**Sarmi**	**9.56**	**66**	P	**Pn**	**21 34 03.8**	**+0.4**
	80nm,1.5s						
BKSI	**Bulukumba**	**9.81**	**273**	P	**Pn**	**21 34 07.0**	**+0.2**
	115nm,0.8s,782nm						
KAPI	**Kappang**	**10.21**	**275**	*e*Pn	**Pn**	**21 34 11.7**	**-0.6**
KAPI	**Kappang**	**10.21**	**275**	P	**Pn**	**21 34 11.6**	**-0.6**
	88nm,0.7s,676nm						
KAPI	**Kappang**	**10.21**	**275**	Pn	**Pn**	**21 34 12.2**	**0.0**
	4.4nm,0.3s,baz=149,slow=7.9,SNR=48						
KAPI				LR	LR	21 37 45.5	
	comp=Z,1µm,19.0s,baz=111,slow=35						
MRSI	**Marisa**	**10.23**	**308**	P	**Pn**	**21 34 13.0**	**+0.5**
	134nm,1.0s,1µm						
WSI	**Waingapu**	**10.27**	**248**	P	Pn	21 34 03.1	-10
SPSI	**Sidrap Palu**	**10.34**	**280**	P	**Pn**	**21 34 14.7**	**+0.6**
	47nm,0.7s,748nm						
JAY	**Jayapura**	**11.24**	**73**	P	**Pn**	**21 34 25.2**	**-1.2**
	30nm,1.0s,5µm						
FITZ	**Fitzroy Crossi**	**12.81**	**199**	*e*Pn	Pn	21 34 43.0	-4.9
FITZ				*e*Sn	Sn	21 37 01.4	-8.0
FITZ	**Fitzroy Crossi**	**12.81**	**199**	*e*P	Pn	21 34 43.4	-4.5
	34nm,0.4s						
FITZ				*e*S	Sn	21 36 59.5	-10
FITZ	**Fitzroy Crossi**	**12.81**	**199**	Pn	Pn	21 34 43.7	-4.2
	3.7nm,0.3s,baz=32,slow=9.8,SNR=42						
FITZ				Sn	Sn	21 36 59.0	-10
	2.1nm,0.3s,baz=108,slow=22,SNR=5.5						
KBKI	**Kotabaru**	**13.99**	**280**	P	P	21 35 17.4	+5.9
WRAB	**Tennant Creek**	**14.56**	**163**	*e*P	Pn	21 35 05.7	-6.1
WRAB	**Tennant Creek**	**14.56**	**163**	*e*Pn	Pn	21 35 05.7	-6.1
WRAB				*e*Sn	Sn	21 37 37.0	-15
WRA	**Warramunga Arr**	**14.57**	**163**	Pn	Pn	21 35 06.2	-5.7
WRA				Sn	Sn	21 37 37.9	-14
WRA	**Warramunga Arr**	**14.57**	**163**	Pn	Pn	21 35 06.2	-5.7
	3.2nm,0.3s,baz=342,slow=13,SNR=30						
WRA				Sn	Sn	21 37 37.9	-14
	4.7nm,0.3s,baz=346,slow=23,SNR=6.6						
WRA				LR	LR	21 41 05.0	
	comp=Z,561nm,21.3s,baz=340,slow=39						
COEN	**Coen**	**15.26**	**123**	*e*Pn	**Pn**	**21 35 17.8**	**-3.2**
	360nm,0.8s						
COEN				*e*Sn	Sn	21 37 55.3	-14
BBKI	**Banjar Baru**	**15.27**	**279**	P	P	21 35 30.0	+4.3
MYLDM	**Lahad Datu**	**15.90**	**314**	P	**P**	**21 35 31.9**	**-0.7**
	86nm,1.5s						
KMMI	**Kalianget**	**15.93**	**265**	P	**P**	**21 35 31.4**	**-1.6**
	222nm,1.0s,2µm						
BLJI	**Banyuglugur**	**16.35**	**263**	P	**P**	**21 35 38.7**	**+1.0**
	72nm,1.1s						
PMG	**Port Moresby**	**17.39**	**103**	*e*P	**P**	**21 35 48.9**	**-0.3**
	150nm,1.1s						
PMG	**Port Moresby**	**17.39**	**103**	P	**Pn**	**21 35 48.0**	**-0.2**
	134nm,1.1s,2µm						
PMG	**Port Moresby**	**17.39**	**103**	P	**P**	**21 35 48.8**	**-0.3**
	1.7nm,0.3s,baz=291,slow=8.1,SNR=34						
AS31	**Alice Springs**	**18.04**	**168**	*e*Pn	**Pn**	**21 35 52.9**	**-3.3**
AS31				*e*Sn	Sn	21 39 03.2	-13
ASAR	**Alice Springs**	**18.04**	**168**	P	**Pn**	**21 35 52.4**	**-3.8**
ASAR				S	Sn	21 39 04.9	-12
ASAR	**Alice Springs**	**18.04**	**168**	P	**Pn**	**21 35 52.4**	**-3.8**
	3.2nm,0.3s,baz=339,slow=8.6,SNR=51						
ASAR				S	Sn	21 39 04.9	-12
	1.3nm,0.3s,baz=355,slow=25,SNR=7.7						
MBWA	**Marble Bar**	**18.10**	**212**	*e*Pn	**Pn**	**21 35 55.4**	**-1.5**
	289nm,2.0s						
PWJI	**Pagerwojo**	**18.14**	**262**	P	**Pn**	**21 35 56.1**	**-1.4**
	54nm,0.8s						
SJI	**Sawahan**	**18.16**	**263**	P	**P**	**21 35 57.3**	**-0.5**
	89nm,1.0s,2µm						
KKM	**Kota Kinabalu**	**18.16**	**311**	*e*P	**P**	**21 35 55.6**	**-2.2**
	150nm,1.0s						
KKM	**Kota Kinabalu**	**18.16**	**311**	P	Pn	21 36 05.5	+7.7
PBKI	**Pangkalan Bun**	**18.52**	**279**	P	**Pn**	**21 36 02.1**	**+0.1**
	280nm,1.1s,3µm						
KSM	**Kuching**	**20.96**	**290**	*e*P	**P**	**21 36 28.5**	**+0.2**
	24nm,1.1s						
CTA	**Charters Tower**	**21.18**	**133**	P	**P**	**21 36 31.7**	**+1.0**
CTA	**Charters Tower**	**21.18**	**133**	⇑*i*P	**P**	**21 36 31.7**	**+1.0**
	72nm,0.9s						
CTA	**Charters Tower**	**21.18**	**133**	P	**P**	**21 36 31.7**	**+1.0**
	92nm,0.9s,baz=310,slow=12,SNR=36						
CTAO	**Charters Tower**	**21.18**	**133**	*e*P	**P**	**21 36 31.7**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,107nm,0.9s						
CTAO	**Charters Tower**	**21.18**	**133**	*e*P	**P**	**21 36 31.7**	**+1.0**
	comp=Z,106nm,0.9s						
GUMO	**Guam**	**24.39**	**37**	LR	LR	21 45 57.3	
	comp=Z,213nm,18.5s,baz=357,slow=35						
FORT	**Forrest**	**24.79**	**184**	*e*P	**P**	**21 37 07.6**	**+0.9**
	comp=Z,97nm,0.7s						
FORT	**Forrest**	**24.79**	**184**	*e*P	**P**	**21 37 06.3**	**-0.5**
	comp=Z,85nm,0.7s						
BBOO	**Buckleboo**	**27.34**	**169**	*e*P	**P**	**21 37 29.6**	**-0.3**
KLBR	**Kellerberrin**	**27.98**	**203**	*e*P	**P**	**21 37 35.2**	**-0.4**
	comp=Z,20nm,0.8s						
STKA	**Stephens Creek**	**28.02**	**159**	*e*P	**P**	**21 37 35.5**	**-0.4**
	comp=Z,7.9nm,1.1s						
STKA	**Stephens Creek**	**28.02**	**159**	⇑*i*P	**P**	**21 37 35.5**	**-0.4**
	comp=Z,20nm,0.7s						
STKA	**Stephens Creek**	**28.02**	**159**	P	**P**	**21 37 35.5**	**-0.4**
	comp=Z,24nm,0.7s,baz=333,slow=8.2,SNR=21						
STKA				LR	LR	21 49 31.3	
	comp=Z,346nm,20.1s,baz=168,slow=38						
NWAO	**Narrogin (SRO)**	**29.36**	**202**	LR	LR	21 50 40.9	
	comp=Z,305nm,18.1s,baz=23,slow=39						
HNR	**Honiara**	**29.91**	**99**	*e*P	**P**	**21 37 53.0**	**0.0**
	comp=Z,136nm,0.9s						
HNR	**Honiara**	**29.91**	**99**	P	**P**	**21 37 52.0**	**-1.0**
	comp=Z,115nm,0.8s,baz=172,slow=4.1,SNR=6.9						
KULM	**Kulim**	**31.32**	**290**	*e*P	**P**	**21 38 08.0**	**+2.6**
	comp=Z,13nm,1.1s						
QIZ	**Qiongzhong**	**31.75**	**322**	P	**P**	**21 38 11.1**	**+2.0**
QIZ				S	**S**	**21 43 20.8**	**+3.9**
QIZ				LR	LR		
	comp=N,170nm,13.0s						
QIZ				LR	LR		
	comp=Z,180nm,15.7s						
PSI	**Prapat**	**32.19**	**285**	P	**P**	**21 38 13.7**	**+0.5**
PSI	**Prapat**	**32.19**	**285**	P	**P**	**21 38 13.7**	**+0.5**
	comp=Z,11nm,1.0s,baz=154,slow=6.4,SNR=6.6						
JOW	**Kunigami**	**32.61**	**357**	LR	LR	21 50 07.6	
	comp=Z,294nm,19.7s,baz=148,slow=34						
CNB	**Canberra Magne**	**34.27**	**151**	*e*P	**P**	**21 38 30.9**	**-0.2**
	comp=Z,130nm,1.0s						
TOO	**Toolangi**	**34.53**	**158**	*e*P	**P**	**21 38 34.6**	**+1.4**
	comp=Z,66nm,1.0s						
NOUC	**Port Laguerre**	**38.60**	**118**	*e*P	**P**	**21 39 07.7**	**-0.4**
DZM	**Mont Dzumac**	**38.72**	**118**	*e*P	**P**	**21 39 08.8**	**-0.4**
DZM	**Mont Dzumac**	**38.72**	**118**	*e*P	**P**	**21 39 09.6**	**+0.3**
	comp=Z,19nm,0.8s						
DZM	**Mont Dzumac**	**38.72**	**118**	P	**P**	**21 39 09.2**	**0.0**
	comp=Z,26nm,0.7s,baz=285,slow=7.3,SNR=24						
JNU	**Nakatsue**	**38.84**	**1**	*e*P	**P**	**21 39 09.9**	**-0.1**
	comp=Z,9.6nm,1.0s						
JNU	**Nakatsue**	**38.84**	**1**	P	**P**	**21 39 11.6**	**+1.6**
	comp=Z,5.9nm,0.8s,baz=40,slow=6.9,SNR=4.7						
JNU				LR	LR	21 53 58.2	
	comp=Z,216nm,19.0s,baz=359,slow=34						

CMAR	**Chiang Mai Arr**	**39.02**	**309**	P	**P**	**21 39 11.8**	**+0.2**
CMAR				PcP	**PcP**	**21 41 22.6**	**+1.1**
CMAR	**Chiang Mai Arr**	**39.02**	**309**	P	**P**	**21 39 11.8**	**+0.2**
	comp=Z,3.9nm,1.1s,baz=140,slow=6.6,SNR=10						
CMAR				PcP	**PcP**	**21 41 22.6**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=179,slow=2.5,SNR=5.0						
CMAR				LR	LR	21 55 34.4	
	comp=Z,132nm,18.6s,baz=312,slow=37						
CHTO	**Chiang Mai**	**39.23**	**309**	*e*P	**P**	**21 39 13.1**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,17nm,1.3s						
CHTO	**Chiang Mai**	**39.23**	**309**	*e*P	**P**	**21 39 13.1**	**-0.3**
	comp=Z,17nm,1.3s						
GYA	**Guiyang**	**39.33**	**326**	⇑*i*P	**P**	**21 39 16.8**	**+2.6**
GYA				pP	**pP**	**21 39 26.6**	**+1.9**
GYA				PP	**PnPn**	**21 40 51.3**	**+3.4**
GYA				PcP	**PcP**	**21 41 24.0**	**+1.5**
GYA				ScP	**ScP**	**21 45 08.8**	**+0.3**
GYA				S	**S**	**21 45 15.8**	**+2.6**
GYA				SS	**SS**	**21 48 04.4**	**-3.5**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,4.9s						
GYA				LR	LR		
	comp=N,520nm,17.6s						
GYA				LR	LR		
	comp=E,460nm,18.2s						
GYA				LR	LR		
	comp=Z,480nm,18.9s						
JHJ	**Hachijo jima 2**	**39.94**	**13**	LR	LR	21 53 02.7	
	comp=Z,172nm,20.2s,baz=96,slow=32						
KMI	**Kunming**	**40.67**	**320**	P	**P**	**21 39 28.1**	**+2.6**
KMI				S	**S**	**21 45 38.5**	**+5.0**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.4s						
KMI				pmax	pmax		
	comp=Z,160nm,4.7s						
ENH	**Enshi**	**41.00**	**333**	*e*P	**P**	**21 39 27.2**	**-0.8**
	comp=Z,9.3nm,0.8s						
MJAR	**Matsushiro Arr**	**42.95**	**10**	P	**P**	**21 39 42.6**	**-1.1**
MJAR	**Matsushiro Arr**	**42.95**	**10**	P	**P**	**21 39 42.6**	**-1.1**
	comp=Z,9.4nm,0.9s,baz=193,slow=11,SNR=26						
MJAR				LR	LR	21 55 58.6	
	comp=Z,140nm,18.9s,baz=190,slow=34						
MAJO	**Matsushiro**	**42.95**	**10**	*e*P	**P**	**21 39 43.1**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,17nm,0.9s						
MAJO	**Matsushiro**	**42.95**	**10**	*e*P	**P**	**21 39 43.1**	**-0.6**
	comp=Z,17nm,0.9s						
MAT	**Matsushiro**	**42.95**	**10**	P	**P**	**21 39 42.7**	**-1.0**
KSAR	**Wonju Array Be**	**43.19**	**358**	P	**P**	**21 39 46.1**	**+0.5**
KSRS	**Korea Array**	**43.20**	**358**	P	**P**	**21 39 46.1**	**+0.4**
	comp=Z,3.3nm,1.1s,baz=172,slow=10,SNR=6.1						
KSRS				LR	LR	21 55 40.8	
	comp=Z,141nm,19.6s,baz=313,slow=33						
TARA	**Tarawa**	**43.50**	**82**	*e*P	**P**	**21 39 46.6**	**-1.9**
	comp=Z,50nm,0.8s						
CD2

SONM	**Songino Array**	**57.42**	**341**	P	**P**	**21 41 33.7**	**+0.4**		
	comp=Z,3.8nm,1.0s,baz=161,slow=6.4,SNR=17								
ZAK	**Zakamensk**	**60.65**	**341**	*e*P	**P**	**21 41 55.3**	**-0.3**		
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.2s								
TLY	**Talaya**	**61.65**	**342**	*e*P	P	21 42 09.3	+7.0		
TLY				pmax	pmax				
	comp=Z,7.0nm,1.0s								
WMQ	**Urumqi**	**62.48**	**327**	P	**P**	**21 42 08.1**	**0.0**		
WMQ				pP	**pP**	**21 42 23.0**	**+4.0**		
WMQ				pmax	pmax				
	comp=Z,19nm,1.0s								
WMQ				pmax	pmax				
	comp=Z,230nm,4.2s								
WMQ				LR	LR				
	comp=Z,290nm,24.9s								
MOY	**Mondy**	**62.50**	**340**	*e*P	**P**	**21 42 09.2**	**+1.1**		
PETK	**Petropavlovsk-**	**63.32**	**18**	P	**P**	**21 42 14.2**	**+0.8**		
PETK	**Petropavlovsk-**	**63.32**	**18**	P	**P**	**21 42 14.2**	**+0.8**		
PETK	**Petropavlovsk-**	**63.32**	**18**	P	**P**	**21 42 14.2**	**+0.8**		
	comp=Z,7.1nm,0.8s,baz=192,slow=8.7,SNR=8.4								
BOD	**Bodaibo**	**64.84**	**351**	*e*P	**P**	**21 42 22.3**	**-1.0**		
KSH	**Kashi**	**67.21**	**317**	P	**P**	**21 42 39.5**	**+0.4**		
KSH				pP	**pP**	**21 42 49.4**	**-0.7**		
KSH				sP	**sP**	**21 42 53.6**	**-0.6**		
KSH				PcP	**PcP**	**21 43 07.3**	**+0.4**		
KSH				PP	**PP**	**21 45 10.3**	**+2.7**		
KSH				ScP		21 47 06.0			
KSH				PcS		21 47 10.3			
KSH				S	**S**	**21 51 31.3**	**-0.3**		
KSH				sS	**sS**	**21 51 48.1**	**-1.6**		
KSH				ScS	**SKSac**	**21 52 31.3**	**-2.8**		
KSH				SS	**SS**	**21 55 53.6**	**+2.0**		
KSH				LR	LR				
	comp=N,87nm,6.1s								
KSH				LR	LR				
	comp=E,76nm,4.6s								
KSH				LR	LR				
	comp=Z,220nm,5.8s								
MK31	**Makanchi Array**	**67.31**	**327**	*e*P	**P**	**21 42 39.2**	**-0.3**		
MK31	**Makanchi Array**	**67.31**	**327**	*e*P	**P**	**21 42 39.2**	**-0.3**		
MKAR	**Makanchi Array**	**67.31**	**327**	*e*P	**P**	**21 42 39.4**	**-0.1**		
MKAR	**Makanchi Array**	**67.31**	**327**	*e*P	**P**	**21 42 39.4**	**-0.1**		
MKAR	**Makanchi Array**	**67.31**	**327**	P	**P**	**21 42 39.4**	**-0.1**		
	comp=Z,12nm,0.7s,baz=129,slow=7.9,SNR=80								
MKAR				LR	LR	22 12 59.2			
	comp=Z,46nm,18.3s,baz=345,slow=37								
YAK	**Yakutsk**	**67.76**	**360**	*e*P	**P**	**21 42 41.3**	**-0.6**		
YAK				pmax	pmax				
	comp=Z,32nm,0.9s								
YAK				pmax	pmax				
	comp=N,10.0nm,1.0s								
YAK	**Yakutsk**	**67.76**	**360**	*e*P	**P**	**21 42 41.9**	**0.0**		
	comp=N,43nm,0.8s								
KZA	**Kyzart**	**68.94**	**319**	P	**P**	**21 42 50.8**	**+0.5**		
	SNR=14								
TKM2	**Tokmak 2**	**69.14**	**320**	*i* P	**P**	**21 42 51.1**	**-0.1**		
TKM2	**Tokmak 2**	**69.14**	**320**	*e*P	**P**	**21 42 50.9**	**-0.3**		
	comp=N,25nm,0.6s								
TKM2	**Tokmak 2**	**69.14**	**320**	P	**P**	**21 42 51.1**	**-0.1**		
	SNR=13								
AAK	**Ala-Archa**	**69.70**	**320***c*	*i* P	**P**	**21 42 54.6**	**-0.1**		
AAK				pmax	pmax				
	comp=Z,25nm,1.2s								
AAK	**Ala-Archa**	**69.70**	**320**	*e*P	**P**	**21 42 54.7**	**+0.1**		
	comp=Z,46nm,1.1s								
AAK	**Ala-Archa**	**69.70**	**320**	P	**P**	**21 42 54.9**	**+0.2**		
	comp=Z,4.3nm,0.8s,baz=126,slow=5.9,SNR=20								
AML	**Almayashu**	**69.98**	**319**	P	**P**	**21 42 57.0**	**+0.3**		
	SNR=14								
USP	**Ospenovka**	**70.01**	**320**	P	**P**	**21 42 56.4**	**0.0**		
	SNR=14								
KBL	**Kabul**	**70.05**	**310**	*e*P	**P**	**21 42 56.1**	**-0.9**		
KBL				pmax	pmax				
	comp=Z,4.0nm,0.8s								
KBL	**Kabul**	**70.05**	**310**	*e*P	**P**	**21 42 56.1**	**-0.9**		
	comp=Z,4.1nm,0.8s								
EKS2	**Erkin-Say**	**70.18**	**319**	*e*P	**P**	**21 42 57.9**	**+0.4**		
EKS2				pmax	pmax				
	comp=Z,9.0nm,0.8s								
EKS2	**Erkin-Say**	**70.18**	**319**	*e*P	**P**	**21 42 57.9**	**+0.4**		
	comp=Z,9.4nm,0.8s								
EKS2	**Erkin-Say**	**70.18**	**319**	P	**P**	**21 42 58.0**	**+0.4**		
	SNR=12								
ZAA0	**Zalesovo Array**	**70.61**	**334**	*e*P	**P**	**21 42 58.7**	**-1.0**		
ZALV	**Zalesovo Beam**	**70.61**	**334**	P	**P**	**21 42 59.2**	**-0.5**		
ZALV	**Zalesovo Beam**	**70.61**	**334**	P	**P**	**21 42 59.2**	**-0.5**		
ZALV	**Zalesovo Beam**	**70.61**	**334**	P	**P**	**21 42 59.2**	**-0.5**		
	comp=Z,4.8nm,0.6s,baz=108,slow=4.8,SNR=28								
SEY	**Seymchan**	**70.77**	**11**⇑	*i* P	**P**	**21 43 01.5**	**+1.0**		
KURK	**Kurchatov**	**71.59**	**328***c*	*i* P	**P**	**21 43 05.5**	**-0.2**		
KURK				pmax	pmax				
	comp=Z,42nm,1.2s								
KURK	**Kurchatov**	**71.59**	**328**	*e*P	**P**	**21 43 05.0**	**-0.8**		
	comp=Z,28nm,0.9s								
NVS	**Novosibirsk**	**71.90**	**334**⇑	*i* P	**P**	**21 43 05.7**	**-1.8**		
NVS				pmax	pmax				
	comp=Z,25nm,1.7s								
NVS				pmax	pmax				
	comp=N,9.0nm,1.4s								
NVS				pmax	pmax				
	comp=E,7.0nm,1.4s								
KK31	**Karatay Array**	**72.52**	**319**	*i* P	**P**	**21 43 11.4**	**-0.1**		
KK31				pmax	pmax				
	comp=Z,13nm,1.0s								
KKAR	**Karatay Array**	**72.52**	**319**	*e*P	**P**	**21 43 11.3**	**-0.2**		
KKAR	**Karatay Array**	**72.52**	**319**	*e*P	**P**	**21 43 11.3**	**-0.2**		
MAW	**Mawson**	**75.93**	**201**	LR	LR	22 16 16.6			
	comp=Z,165nm,19.1s,baz=231,slow=35								
IDAH	**Dahanechah**	**76.69**	**305**	*e*P	**P**	**21 43 36.2**	**-0.1**		
BRVK	**Borovoye**	**77.21**	**328***c*	*i* P	**P**	**21 43 38.1**	**-0.3**		
BRVK				pmax	pmax				
	comp=Z,17nm,1.2s								
BRVK	**Borovoye**	**77.21**	**328**	*e*P	**P**	**21 43 38.5**	**+0.1**		
	comp=Z,11nm,1.0s								
IKOO	**Kooshah**	**77.31**	**305**	*e*P	**P**	**21 43 39.1**	**-0.6**		
IMYA	**Miami**	**77.53**	**309**	*e*Pn	**P**	**21 43 39.9**	**-0.9**		
ITEG	**Tejag**	**77.64**	**305**	*e*P	**P**	**21 43 40.2**	**-1.3**		
BILL	**Bilibino**	**78.08**	**13**	P	**P**	**21 43 43.0**	**0.0**		
BILL				*e*		21 43 50.9			
IPAY	**Payeh**	**78.41**	**309**	*e*P	**P**	**21 43 43.5**	**-2.3**		
ISRV	**Sarvestan**	**81.52**	**301**	*e*P	**P**	**21 44 01.5**	**-1.3**		
ISAD	**Sadrabad**	**81.56**	**303**	*e*P	**P**	**21 44 02.7**	**-0.3**		
AB31	**Akbulak array**	**81.65**	**322**	*i* P	**P**	**21 44 01.4**	**-1.3**		
AB31				pmax	pmax				
	comp=Z,2.0nm,0.5s								
ABKAR	**Akbulak array**	**81.65**	**322**	*e*P	**P**	**21 44 01.5**	**-1.1**		
	comp=Z,3.6nm,0.9s								
IPAR	**Pars**	**81.67**	**301**	*e*P	**P**	**21 44 02.4**	**-1.2**		
IFIR	**Firoozkooh**	**83.11**	**307**	*e*P	P	21 44 07.6	-3.4		
SVE	**Sverdlovsk**	**83.84**	**329**	*e*P	**P**	**21 44 13.8**	**0.0**		
SVE				pmax	pmax				
	comp=Z,26nm,1.4s								
IPIR	**Pirpir**	**84.04**	**304**	*e*P	P	21 44 12.5	-3.3		
SYO	**Syowa Base**	**84.64**	**201**⇑	*e*X		21 44 14.0			
SYO	**Syowa Base**	**84.64**	**201**⇓	*es*P	sP	21 44 31.4	-1.7		
ARU	**Arti**	**84.78**	**328***c*	*i* P	**P**	**21 44 17.7**	**-0.9**		
ARU						21 47 33.7			
ARU				S	S	21 54 38.4	-5.6		
ARU				pmax	pmax				
	comp=Z,20nm,1.7s								
ARU	**Arti**	**84.78**	**328**	*e*P	**P**	**21 44 18.0**	**-0.6**		
	comp=Z,21nm,1.4s								
IRAZ	**Razeghan**	**85.33**	**306**	*e*P	**P**	**21 44 21.1**	**-1.1**		
IKOM	**Komasi**	**87.08**	**305**	*e*P	**P**	**21 44 28.8**	**-2.0**		
ISRB	**Sarab**	**87.54**	**308**	*e*P	**P**	**21 44 32.2**	**-0.8**		
IHRS	**Heris**	**88.10**	**309**	*e*P	**P**	**21 44 34.8**	**-0.9**		
IMRD	**Marand**	**89.20**	**309**	*e*P	**P**	**21 44 38.8**	**-2.0**		
ZEI	**Tsey**	**91.10**	**313**	*e*P	**P**	**21 44 52.3**	**+2.7**		
ZEI				pmax	pmax				
	comp=Z,11nm,1.4s								
COLD	**Coldfoot**	**91.50**	**23**	*e*P	**P**	**21 44 51.6**	**+1.0**		
	comp=Z,5.8nm,0.9s								
ILAR	**Eielson Array**	**92.40**	**25**	P	**P**	**21 44 53.0**	**-1.8**		
ILAR	**Eielson Array**	**92.40**	**25**	P	**P**	**21 44 53.0**	**-1.8**		
	comp=Z,1.5nm,0.8s,baz=262,slow=4.3,SNR=16								
PAX	**Paxson**	**92.77**	**27**	*e*P	**P**	**21 44 54.0**	**-2.7**		
PAX				pmax	pmax				
	comp=Z,25nm,1.6s								
PAX	**Paxson**	**92.77**	**27**	*e*P	**P**	**21 44 54.0**	**-2.7**		
	comp=Z,25nm,1.6s								
EGAK	**Eagle**	**94.84**	**25**	*e*P	**P**	**21 45 04.9**	**-1.1**		
	comp=Z,45nm,2.1s								
OBN	**Obninsk**	**96.77**	**325**	P	**P**	**21 45 14.0**	**-1.0**		
OBN				pmax	pmax				
	comp=Z,4.0nm,1.0s								
INK	**Inuvik**	**97.89**	**22**	*e*P	**P**	**21 45 19.1**	**-0.7**		
	comp=Z,7.4nm,1.3s								
INK	**Inuvik**	**97.89**	**22**	P	**P**	**21 45 18.3**	**-1.5**		
	comp=Z,2.5nm,0.9s,baz=285,slow=2.2,SNR=5.1								
APA	**Apatity**	**97.95**	**337**⇓	*e*P	**P**	**21 45 19.0**	**-1.1**		
APA				MLR	MLR				
	comp=Z,400nm,13.0s								
BRTR	**Keskin Array B**	**98.61**	**309**	P	Pdif	21 45 24.6	+0.7		
BRTR	**Keskin Array B**	**98.61**	**309**	P	Pdif	21 45 24.6	+0.7		
	comp=Z,0.7nm,0.8s,baz=168,slow=7.6,SNR=4.2								
YKA	**Yellowknife Ar**	**106.81**	**26**	PKiKP	**PKiKP**	**21 50 09.2**	**-0.4**		
YKA	**Yellowknife Ar**	**106.81**	**26**	PKiKP	**PKiKP**	**21 50 09.2**	**-0.4**		
	comp=Z,0.8nm,0.6s,baz=292,slow=1.7,SNR=15								
A13A	**Flathead Natio**	**111.15**	**40**	⇑P	**PKiKP**	**21 50 18.3**	**0.0**		
	baz=111								
GERES	**GERESS Array B**	**111.58**	**320**	PKiKP	**PKiKP**	**21 50 18.1**	**-1.0**		
GERES	**GERESS Array B**	**111.58**	**320**	PKiKP	**PKiKP**	**21 50 18.1**	**-1.0**		
	comp=Z,0.5nm,0.7s,baz=100,slow=1.6,SNR=4.5								
A17A	**Triple J Farms**	**113.48**	**39**	⇑P	**PKiKP**	**21 50 22.7**	**0.0**		
	baz=113								
A21A	**Bergtoll Ranch**	**115.79**	**38**	⇑P	**PKPdf**	**21 50 26.8**	**-0.3**		
	baz=116								
C21A	**Desert Coulee**	**116.12**	**39**	⇓P	**PKPdf**	**21 50 27.5**	**-0.3**		
	baz=116								
PDAR	**Pinedale Array**	**116.17**	**45**	PKP	**PKPdf**	**21 50 28.4**	**+0.1**		
PDAR	**Pinedale Array**	**116.17**	**45**	PKP	**PKPdf**	**21 50 28.4**	**+0.1**		
	comp=Z,0.9nm,0.8s,baz=201,slow=1.3,SNR=6.5								
G20A	**Bridger**	**116.31**	**42**	⇑P	**PKPdf**	**21 50 28.2**	**-0.1**		
	baz=116								
S17A	**Black Ridge (B**	**116.62**	**51**	⇓P	**PKPdf**	**21 50 29.3**	**+0.2**		
	baz=117								
T17A	**Navajo Res., N**	**116.77**	**51**	⇓P	**PKPdf**	**21 50 30.0**	**+0.5**		
	baz=117								
I20A	**Worland**	**116.79**	**43**	⇑P	**PKPdf**	**21 50 29.5**	**+0.3**		
	baz=117								
D22A	**Cohagen**	**116.95**	**39**	⇓P	**PKPdf**	**21 50 29.5**	**+0.2**		
	baz=117								
J20A	**Shoshoni**	**117.01**	**44**	⇓P	**PKPdf**	**21 50 30.0**	**+0.2**		
	baz=117								
R18A	**Canyonlands Na**	**117.13**	**50**	⇓P	**PKPdf**	**21 50 30.3**	**+0.1**		
	baz=117								
S18A	**Hurst Farm, BI**	**117.23**	**51**	⇑P	**PKPdf**	**21 50 30.1**	**-0.4**		
	baz=117								
C23A	**Lambert**	**117.32**	**39**	⇑P	**PKPdf**	**21 50 30.3**	**+0.2**		
	baz=117								
I21A	**Big Trails, Te**	**117.41**	**43**	⇑P	**PKPdf**	**21 50 30.1**	**-0.4**		
	baz=117								
T18A	**Mexican Hat**	**117.46**	**51**	⇑P	**PKPdf**	**21 50 30.4**	**-0.4**		
	baz=117								
N20A	**Spence Gulch,**	**117.66**	**47**	⇑P	**PKPdf**	**21 50 31.1**	**-0.1**		
	baz=118								
K21A	**Alcova**	**117.82**	**45**	⇑P	**PKPdf**	**21 50 31.2**	**-0.2**		
	baz=118								
I22A	**9 Mile Ranch,**	**117.93**	**43**	⇑P	**PKPdf**	**21 50 31.4**	**-0.1**		
	baz=118								
J22A	**Midwest**	**118.10**	**44**	⇑P	**PKPdf**	**21 50 31.5**	**-0.4**		
	baz=118								
H24A	**Dirks Ranch, A**	**118.91**	**42**	⇓P	**PKPdf**	**21 50 32.9**	**-0.4**		
	baz=119								
S21A	**Coal Bank Pass**	**118.92**	**50**	⇓P	**PKPdf**	**21 50 33.9**	**+0.1**		
	baz=119								
RSSD	**Black Hills**	**119.49**	**42**	*e*PKIKP	**PKPdf**	**21 50 34.3**	**-0.3**		
RSSD	**Black Hills**	**119.49**	**42**	*e*PKPdf	**PKPdf**	**21 50 34.3**	**-0.3**		
220A	**Playas Peak, P**	**119.75**	**57**	⇑P	**PKPdf**	**21 50 35.4**	**+0.1**		
	baz=122								
S25A	**Robets Cordova**	**121.47**	**49**	⇓P	**PKPdf**	**21 50 39.1**	**+0.5**		
	baz=121								
ULM	**Lac du Bonnet**	**121.57**	**33**	PKP	**PKPdf**	**21 50 37.5**	**-0.6**		
ULM	**Lac du Bonnet**	**121.57**	**33**	PKP	**PKPdf**	**21 50 37.5**	**-0.6**		
	comp=Z,2.6nm,0.7s,baz=8.0,slow=1.3,SNR=6.1								
Y24A	**Capitan**	**121.78**	**54**	⇓P	**PKPdf**	**21 50 39.8**	**+0.5**		
	baz=122								
R26A	**Arlington**	**122.00**	**48**	⇓P	**PKPdf**	**21 50 39.4**	**-0.1**		
	baz=122								
T26A	**Comanche Natio**	**122.26**	**49**	⇑P	**PKPdf**	**21 50 40.0**	**-0.1**		
	baz=122								
324A	**Moseley Ranch,**	**122.38**	**56**	⇓P	**PKPdf**	**21 50 40.5**	**+0.1**		
	baz=122								
Y25A	**Mesa, Roswell**	**122.38**	**53**	⇓P	**PKPdf**	**21 50 40.2**	**-0.1**		
	baz=122								
Y27A	**Causey**	**123.61**	**53**	⇑P	**PKPdf**	**21 50 42.6**	**-0.1**		
	baz=124								
526A	**Mary Lane Ranc**	**123.88**	**58**	⇑P	**PKPdf**	**21 50 43.4**	**+0.1**		
	baz=124								
626A	**Big Bend Ranch**	**123.96**	**58**	⇓P	**PKPdf**	**21 50 43.5**	**0.0**		
	baz=124								
427A	**Hayter Ranch,**	**124.25**	**57**	⇑P	**PKPdf**	**21 50 43.7**	**-0.3**		
	baz=124								
527A	**Woodward Ranch**	**124.26**	**57**	⇑P	**PKPdf**	**21 50 43.9**	**-0.2**		
	baz=124								
TXAR	**Lajitas Array**	**124.41**	**58**	PKP	**PKPdf**	**21 50 44.8**	**+0.5**		
TXAR	**Lajitas Array**	**124.41**	**58**	PKP	**PKPdf**	**21 50 44.8**	**+0.5**		
	comp=Z,1.0nm,0.9s,baz=253,slow=1.3,SNR=7.7								
328A	**Wrsten Ranch,**	**124.60**	**56**	⇓P	**PKPdf**	**21 50 44.8**	**+0.2**		
	baz=125								
627A	**Terlingua Ranc**	**124.61**	**58**	⇓P	**PKPdf**	**21 50 45.0**	**+0.3**		
	baz=125								
528A	**Cox Ranch, San**	**124.94**	**57**	⇑P	**PKPdf**	**21 50 45.8**	**+0.4**		
	baz=125								
329A	**Wagon Wheel Ra**	**125.25**	**55**	⇓P	**PKPdf**	**21 50 46.1**	**+0.3**		
	baz=125								
529A	**Stev Forest Ra**	**125.43**	**57**	⇑P	**PKPdf**	**21 50 46.4**	**+0.2**		
	baz=125								
JCT	**Junction City**	**127.33**	**56**	*e*PKIKP	**PKPdf**	**21 50 50.3**	**+0.5**		
JCT	**Junction City**	**127.33**	**56**	*e*PKPdf	**PKPdf**	**21 50 50.3**	**+0.5**		
JCT	**Junction City**	**127.33**	**56**	⇑P	**PKPdf**	**21 50 50.0**	**+0.2**		
	baz=127								
TORD	**Torodi Ar. Bea**	**128.56**	**282**	PKP	**PKPdf**	**21 50 52.1**	**-0.4**		
TORD	**Torodi Ar. Bea**	**128.56**	**282**	PKP	**PKPdf**	**21 50 52.1**	**-0.4**		
	comp=Z,1.9nm,0.7s,baz=72,slow=1.7,SNR=12								
TUL1	**Tulsa**	**128.56**	**48**	⇓P	**PKPdf**	**21 50 52.4**	**+0.5**		
	baz=128								
PLCA	**Paso Flores**	**129.89**	**160**	PKP	**PKPdf**	**21 50 55.5**	**+1.0**		
PLCA	**Paso Flores**	**129.89**	**160**	PKP	**PKPdf**	**21 50 55.5**	**+1.0**		
	comp=Z,1.5nm,0.8s,baz=211,slow=9.0,SNR=3.8								
DBIC	**Dimbokro**	**135.10**	**273**	PKP	**PKPdf**	**21 51 05.7**	**+0.8**		
DBIC	**Dimbokro**	**135.10**	**273**	PKP	**PKPdf**	**21 51 05.7**	**+0.8**		
	comp=Z,2.8nm,0.7s,baz=165,slow=15,SNR=3.5								
JTS	**JuntasAbangare**	**145.18**	**81**	*e*PKPbc	**PKPdf**	**21 51 23.4**	**+0.3**		
LVC	**Limon Verde**	**146.15**	**148**	*e*PKPab	**PKPab**	**21 51 27.0**	**+0.5**		
CPUP	**Villa Florida**	**147.16**	**168**	PKP	**PKPdf**	**21 51 26.1**	**0.0**		
CPUP				PKPbc	**PKPbc**	**21 51 28.2**	**0.0**		
CPUP	**Villa Florida**	**147.16**	**168**	PKP	**PKPdf**	**21 51 26.1**	**0.0**		
	comp=Z,12nm,0.6s,baz=178,slow=2.5,SNR=42								
CPUP				PKPbc	**PKPbc**	**21 51 28.2**	**0.0**		
	comp=Z,12nm,0.6s,baz=175,slow=3.1,SNR=42								
NNA	**Nana**	**147.95**	**124**	*e*PKPbc	**PKPbc**	**21 51 31.3**	**+0.4**		
SIV	**San Ignacio**	**155.64**	**153**	PKP	**PKPdf**	**21 51 39.4**	**+0.1**		
SIV				PKPab	**PKPab**	**21 52 05.1**	**-0.2**		
SIV	**San Ignacio**	**155.64**	**153**	PKP	**PKPdf**	**21 51 39.4**	**+0.1**		
	comp=Z,1.4nm,0.8s,baz=290,slow=3.2,SNR=5.7								
SIV				PKPab	**PKPab**	**21 52 05.1**	**-0.2**		
	comp=Z,2.2nm,0.7s,baz=180,slow=3.2,SNR=6.1								
SDV	**Santo Domingo**	**159.37**	**81**	*e*PKPdf	**PKPdf**	**21 51 44.1**	**-0.1**		
SDV				*e*PKPab	**PKPab**	**21 52 22.6**	**+0.7**		

*ISCJB **14** 21:32:31.3±0.6, 37.88N±0.04×29.19E±0.05, h9km±6km, Error ellipse: s-maj=8.2km s-min=4.3km az=35.5*
*ISK **14** 21:32:31.5, 37.89N×29.23E, h9km, MD2.7*
*DDA **14** 21:32:31.3, 37.90N×29.17E, h7km, MD2.8*
*CSEM **14** 21:32:31.3±0.2, 37.88N×29.20E, h5km, MD2.8, Error ellipse: s-maj=3.5km s-min=2.8km az=127.0*

ISC 14 21:32:31.6±1.0, 37.89N±0.02×29.17E±0.03, h9km±11km, n26, σ0s51/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DNZL	**Cakiroluk**	**0.22**	**206**	*i* P	**Pg**	**21 32 36.3**	**+0.1**
DNZL				*i* S	**Sg**	**21 32 38.9**	**-0.4**
DNZL	**Cakiroluk**	**0.22**	**206**	*i* P	**Pg**	**21 32 36.3**	**+0.1**
DNZL				*i* S	**Sg**	**21 32 38.9**	**-0.4**
KHL	**Karahalli**	**0.52**	**33**	*e*PG	**Pg**	**21 32 41.8**	**+0.2**
KHL				*e*SG	**Sg**	**21 32 48.9**	**+0.5**
KHL	**Karahalli**	**0.52**	**33**	*e*Pg	**Pg**	**21 32 41.8**	**+0.2**
KHL				*e*Sg	**Sg**	**21 32 48.9**	**+0.5**
KHAL	**Karahalli**	**0.54**	**28**	*i* P	**Pg**	**21 32 41.4**	**-0.7**
KHAL				*i* S	**Sg**	**21 32 49.8**	**+0.4**
KHAL	**Karahalli**	**0.54**	**28**	*i* P	**Pg**	**21 32 41.4**	**-0.7**
KHAL				*i* S	**Sg**	**21 32 49.7**	**+0.4**
KULA	**Kula-Manisa**	**0.74**	**327**	*e*PG	**Pb**	**21 32 46.9**	**+0.2**
KULA	**Kula-Manisa**	**0.74**	**327**	*e*Pg	**Pb**	**21 32 46.9**	**+0.2**
MANT	**Manisa**	**0.77**	**321**	*i* P	**Pg**	**21 32 46.7**	**+0.3**
MANT				*i* S	**Sg**	**21 32 56.4**	**-0.1**
MANT	**Manisa**	**0.77**	**321**	*i* P	**Pg**	**21 32 46.7**	**+0.3**
MANT				*i* S	**Sg**	**21 32 56.4**	**-0.1**
YER	**Yerkesik**	**1.03**	**223**	*e*PG	**Pb**	**21 32 52.0**	**+0.4**
YER	**Yerkesik**	**1.03**	**223**	*e*Pg	**Pb**	**21 32 52.0**	**+0.4**
AYDN	**Tasoluk**	**1.05**	**258**	*i* P	**Pg**	**21 32 51.4**	**-0.3**
AYDN				*i* S	**Sg**	**21 33 04.5**	**-0.8**
AYDN	**Tasoluk**	**1.05**	**258**	*i* P	**Pg**	**21 32 51.4**	**-0.3**
AYDN				*i* S	**Sg**	**21 33 04.5**	**-0.8**
ISP	**Isparta**	**1.07**	**93**	*e*PG	**Pg**	**21 32 51.8**	**-0.4**
ISP	**Isparta**	**1.07**	**93**	*e*Pg	**Pg**	**21 32 51.8**	**-0.4**
DEMI	**Demirci**	**1.20**	**343**	*i* P	**Pn**	**21 32 55.0**	**+0.3**
DEMI				*i* S	**Sg**	**21 33 09.7**	**-0.7**
DEMI	**Demirci**	**1.20**	**343**	*i* P	**Pn**	**21 32 55.0**	**+0.3**
DEMI				*i* S	**Sg**	**21 33 09.7**	**-0.7**
BCK	**Bucak**	**1.21**	**110**	*e*PN	**Pg**	**21 32 54.1**	**-0.6**
BCK	**Bucak**	**1.21**	**110**	*e*Pn	**Pg**	**21 32 54.1**	**-0.6**
GDZ	**Gediz**	**1.22**	**11**	*i* P	**Pg**	**21 32 54.1**	**-0.9**
GDZ				*i* S	**Sg**	**21 33 10.4**	**-0.5**
GDZ	**Gediz**	**1.22**	**11**	*i* P	**Pg**	**21 32 54.1**	**-0.9**
GDZ				*i* S	**Sg**	**21 33 10.4**	**-0.5**
AKS	**Akhisar**	**1.45**	**313**	*e*PN	**Pg**	**21 32 59.1**	**-0.3**
AKS	**Akhisar**	**1.45**	**313**	*e*Pn	**Pg**	**21 32 59.1**	**-0.3**
TVSB	**Tavsanli**	**1.57**	**8**	*e*PN	**Pn**	**21 33 00.2**	**+0.4**
TVSB	**Tavsanli**	**1.57**	**8**	*e*Pn	**Pn**	**21 33 00.2**	**+0.4**

PRE 14 21:40:04.6±1.3, 33.22S×19.10E, h5km, ML2.6, 1C, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CER	**Ceres**	**0.21**	**131**⇑	*i* P	**Pg**	**21 40 09.5**	**+0.6**
CER				*e*S	**Sg**	**21 40 12.3**	**+0.6**
CER				AML	AML	**21 40 14.3**	
	comp=Z,208nm,0.3s						
ELIM	**Elim**	**1.47**	**159**	*e*P	**Pb**	**21 40 32.2**	**-0.3**
ELIM				*e*S	**Sb**	**21 40 51.8**	**+0.1**
ELIM				IAML		**21 40 55.0**	
	comp=Z,68nm,0.2s						
SUR	**Sutherland**	**1.67**	**60**	*e*P	**Pb**	**21 40 36.0**	**-0.1**
SUR				*e*S	**Sn**	**21 40 56.9**	**+0.2**
SUR				AML	AML	**21 40 59.6**	
	comp=Z,40nm,0.2s						
CVNA	**Calvinia**	**1.82**	**18**	*e*P	**Pb**	**21 40 37.9**	**-0.7**
CVNA				*e*S	**Sn**	**21 41 00.7**	**+0.4**
CVNA				AML	AML	**21 41 03.4**	
	comp=Z,38nm,0.4s						
HVD	**Gariep Dam**	**6.03**	**66**	*e*P	**Pn**	**21 41 36.2**	**+1.5**
HVD				*e*S	**Sn**	**21 42 42.8**	**-1.4**
HVD				AML	AML	**21 43 16.6**	
	comp=Z,10.0nm,0.4s						
GRM	**Grahamstown**	**6.20**	**93**	*e*P	**Pn**	**21 41 38.9**	**+2.0**
GRM				*e*S	**Sn**	**21 42 46.6**	**-1.7**
GRM				AML	AML	**21 43 20.0**	
	comp=

	SNR=9.1								
AML	**Almayashu**	**45.30**	**336**	P		**P**		**22 07 10.6**	**+1.7**
	SNR=6.6								
AAK	**Ala-Archa**	**45.40**	**337**	*e*P		**P**		**22 07 11.2**	**+1.9**
	comp=Z,7.5nm,0.6s								
KSAR	**Wonju Array Be**	**45.45**	**35**	P		**P**		**22 07 09.8**	**+0.3**
KSRS	**Korea Array**	**45.48**	**35**	P		**P**		**22 07 09.8**	**+0.1**
	comp=Z,2.3nm,0.6s,baz=234,slow=8.5,SNR=12								
EKS2	**Erkin-Say**	**45.71**	**336**	*e*P		**P**		**22 07 13.7**	**+2.0**
	comp=Z,4.4nm,0.6s								
EKS2	**Erkin-Say**	**45.71**	**336**	P		**P**		**22 07 13.7**	**+2.0**
	SNR=7.3								
USP	**Ospenovka**	**45.93**	**337**	P		**P**		**22 07 14.7**	**+1.3**
	SNR=19								
SONM	**Songino Array**	**46.59**	**9**	P		**P**		**22 07 19.3**	**+0.8**
SONM				PcP		**PcP**		**22 08 52.8**	**+0.4**
SONM	**Songino Array**	**46.59**	**9**	P		**P**		**22 07 19.3**	**+0.8**
	comp=Z,3.8nm,0.4s,baz=191,slow=9.6,SNR=119								
SONM				PcP		**PcP**		**22 08 52.8**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=198,slow=4.3,SNR=7.0								
MK31	**Makanchi Array**	**46.64**	**346**	*e*P		**P**		**22 07 19.7**	**+0.9**
MKAR	**Makanchi Array**	**46.64**	**346**	P		**P**		**22 07 19.7**	**+0.8**
MKAR	**Makanchi Array**	**46.64**	**346**	P		**P**		**22 07 19.7**	**+0.8**
	comp=Z,10nm,0.6s,baz=159,slow=8.8,SNR=166								
ULN	**Ulaanbaatar**	**46.72**	**9**	*e*P		**P**		**22 07 19.9**	**+0.3**
	comp=Z,2.9nm,0.6s								
KKAR	**Karatay Array**	**47.46**	**334**	*e*P		**P**		**22 07 26.4**	**+1.1**
KURK	**Kurchatov**	**51.19**	**345**	*e*P		**P**		**22 07 54.7**	**+1.0**
	comp=Z,11nm,1.2s								
MJAR	**Matsushiro Arr**	**51.39**	**43**	P		**P**		**22 07 55.2**	**-0.2**
MJAR	**Matsushiro Arr**	**51.39**	**43**	P		**P**		**22 07 55.2**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=220,slow=7.3,SNR=8.2								
USRK	**Ussuriysk Arra**	**52.38**	**31**	P		**P**		**22 08 03.6**	**+1.0**
	comp=Z,2.9nm,0.7s,baz=194,slow=3.9,SNR=7.6								
ZAA0	**Zalesovo Array**	**52.96**	**351**	*e*P		**P**		**22 08 07.5**	**+0.7**
ZALV	**Zalesovo Beam**	**52.96**	**351**	P		**P**		**22 08 07.6**	**+0.8**
ZALV	**Zalesovo Beam**	**52.96**	**351**	P		**P**		**22 08 07.6**	**+0.8**
	comp=Z,20nm,0.6s,baz=175,slow=6.9,SNR=126								
BRVK	**Borovoye**	**55.71**	**341**	*e*P		**P**		**22 08 27.2**	**+0.4**
ABKAR	**Akbulak array**	**56.92**	**332**	*e*P		**P**		**22 08 35.7**	**+0.2**
YAK	**Yakutsk**	**64.92**	**16**	*e*P		**P**		**22 09 29.3**	**-0.3**
	comp=Z,47nm,1.1s								
BRTR	**Keskin Array B**	**68.59**	**312**	P		**P**		**22 09 53.4**	**-0.3**
BRTR	**Keskin Array B**	**68.59**	**312**	P		**P**		**22 09 53.4**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=142,slow=8.6,SNR=6.2								
AKASG	**Malin Array Be**	**74.69**	**322**	P		**P**		**22 10 29.5**	**-0.5**
AKASG	**Malin Array Be**	**74.69**	**322**	P		**P**		**22 10 29.5**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=102,slow=4.8,SNR=3.6								
VRI	**Vrincioaia**	**75.07**	**317**	*i*P		**P**		**22 10 33.5**	**+1.1**
VOIR		**76.13**	**316**	*i*P		P		22 10 31.5	-7.0
BURAR	**Bucovina Array**	**76.47**	**319**	*i*P		**P**		**22 10 40.8**	**+0.4**
BUR08	**Bucovina Ar. S**	**76.49**	**319**	*e*P		**P**		**22 10 41.4**	**+0.9**
DRGR		**77.99**	**317**	*i*P		P		**22 10 49.6**	**+0.7**
FINES	**FINESS Array B**	**79.40**	**332**	P		**P**		**22 10 56.3**	**+0.1**
FINES	**FINESS Array B**	**79.40**	**332**	P		**P**		**22 10 56.3**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=103,slow=5.1,SNR=13								
PKSM	**Moragy**	**80.68**	**316**	*i*P		**P**		**22 11 03.8**	**+0.3**
ARCES	**ARCESS Array B**	**81.93**	**340**	P		**P**		**22 11 10.4**	**+0.8**
ARCES	**ARCESS Array B**	**81.93**	**340**	P		**P**		**22 11 10.4**	**+0.8**
	comp=Z,1.9nm,0.4s,baz=108,slow=5.7,SNR=40								
GERES	**GERESS Array B**	**84.26**	**319**	P		**P**		**22 11 22.9**	**+0.7**
GERES	**GERESS Array B**	**84.26**	**319**	P		**P**		**22 11 22.9**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=98,slow=8.2,SNR=9.8								
NOA	**NORSAR Array B**	**86.41**	**331**	P		**P**		**22 11 32.4**	**-0.3**
NOA	**NORSAR Array B**	**86.41**	**331**	P		**P**		**22 11 32.4**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=95,slow=4.9,SNR=3.6								
CPUP	**Villa Florida**	**145.31**	**223**	PKPbc		**PKPdf**		**22 18 29.1**	**+0.2**
CPUP	**Villa Florida**	**145.31**	**223**	PKPbc		**PKPdf**		**22 18 29.1**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=90,slow=5.1,SNR=6.9								

ISCJB ***14*** *22:01:08.3±0.6, 37.90N±0.03×29.17E±0.05, h6km±6km, Error ellipse: s-maj=7.9km s-min=4.3km az=32.5*
ISK ***14*** *22:01:08.2, 37.90N×29.22E, h9km, MD2.7*
DDA ***14*** *22:01:08.1, 37.91N×29.18E, h5km, MD3.0*
CSEM ***14*** *22:01:08.2±0.1, 37.89N×29.20E, h5km, MD3.0, Error ellipse: s-maj=3.2km s-min=2.0km az=126.0*

ISC 14 22:01:08.5±1.1, 37.90N±0.03×29.18E±0.03, h8km±13km, n22, σ0.843/34, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.23**	**208**	*i* P		**Pg**		**22 01 13.0**	**-0.3**
DNZL				*i* S		**Sg**		**22 01 16.8**	**+0.3**
DNZL	**Cakiroluk**	**0.23**	**208**	*i* P		**Pg**		**22 01 13.0**	**-0.3**
DNZL				*i* S		**Sg**		**22 01 16.8**	**+0.3**
KHL	**Karahalli**	**0.50**	**32**	*e*PG		**Pg**		**22 01 18.1**	**-0.3**
KHL				*e*SG		**Sg**		**22 01 25.5**	**+0.5**
KHL	**Karahalli**	**0.50**	**32**	*e*Pg		**Pg**		**22 01 18.1**	**-0.3**
KHL				*e*Sg		**Sg**		**22 01 25.5**	**+0.5**
KHAL	**Karahalli**	**0.53**	**27**	*i* P		**Pg**		**22 01 18.6**	**-0.3**
KHAL				*i* S		**Sg**		**22 01 26.4**	**+0.5**
KHAL	**Karahalli**	**0.53**	**27**	*i* P		**Pg**		**22 01 18.6**	**-0.3**
KHAL				*i* S		**Sg**		**22 01 26.4**	**+0.5**
KULA	**Kula-Manisa**	**0.74**	**326**	*e*PG		**Pg**		**22 01 23.3**	**+0.5**
KULA	**Kula-Manisa**	**0.74**	**326**	*e*Pg		**Pg**		**22 01 23.3**	**+0.5**
MANT	**Manisa**	**0.77**	**321**	*i* P		**Pg**		**22 01 23.4**	**-0.1**
MANT				*e*S		**Sg**		**22 01 33.1**	**-0.4**
MANT	**Manisa**	**0.77**	**321**	*i* P		**Pg**		**22 01 23.4**	**-0.1**
MANT				*e*S		**Sg**		**22 01 33.1**	**-0.4**
YER	**Yerkesik**	**1.04**	**224**	*e*PG		**Pg**		**22 01 29.0**	**+0.4**
YER	**Yerkesik**	**1.04**	**224**	*e*Pg		**Pg**		**22 01 29.0**	**+0.4**
AYDN	**Tasoluk**	**1.06**	**258**	*i* P		**Pg**		**22 01 28.4**	**-0.5**
AYDN				*i* S		**Sg**		**22 01 42.0**	**-0.7**
AYDN	**Tasoluk**	**1.06**	**258**	*i* P		**Pg**		**22 01 28.4**	**-0.5**
AYDN				*i* S		**Sg**		**22 01 42.0**	**-0.7**
BCK	**Bucak**	**1.20**	**111**	*e*PN		**Pg**		**22 01 31.1**	**-0.5**
BCK	**Bucak**	**1.20**	**111**	*e*Pn		**Pg**		**22 01 31.1**	**-0.5**
GDZ	**Gediz**	**1.21**	**11**	*i* P		**Pg**		**22 01 31.4**	**-0.4**
GDZ				*i* S		**Sg**		**22 01 47.3**	**-0.4**
GDZ	**Gediz**	**1.21**	**11**	*i* P		**Pg**		**22 01 31.4**	**-0.4**
GDZ				*i* S		**Sg**		**22 01 47.3**	**-0.4**
AKS	**Akhisar**	**1.46**	**313**	*e*PN		**Pn**		**22 01 35.5**	**+0.3**
AKS	**Akhisar**	**1.46**	**313**	*e*Pn		**Pn**		**22 01 35.5**	**+0.3**
TVSB	**Tavsanli**	**1.57**	**8**	*e*PN		**Pn**		**22 01 37.0**	**+0.2**
TVSB	**Tavsanli**	**1.57**	**8**	*e*Pn		**Pn**		**22 01 37.0**	**+0.2**

ISCJB ***14*** *22:02:56.5±0.8, 5.03S±0.06×129.6E±0.1, h300km, mb3.5/1, Error ellipse: s-maj=15.4km s-min=7.4km az=8.6*
IDC ***14*** *22:02:56.3±3.4, 4.84S×129.49E, h324km±34km, mb3.0/1, mb1 3.3/4, mb1mx3.0/16, mbtmp3.1/4, Error ellipse: s-maj=84.9km s-min=12.9km az=72.0*
DJA ***14*** *22:02:58.6±0.8, 5.5S×13.0E±°, h270km±12km, M3.9/8, mb4.2/2, mB4.8/1, MLv3.7/8, Mw(mB)4.1/1*

ISC 14 22:02:55.4±1.0, 4.96S±0.08×129.4E±0.1, h300km, n11, σ1.973/12, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.64**	**47**	P		**Pn**		**22 03 32.8**	**-1.6**
MSAI	**Masohi**	**1.68**	**342**	P		**Pn**		**22 03 41.6**	**+1.8**
AAI	**Ambon**	**1.77**	**316**	P		Pn		22 03 46.9	+6.5
TLE	**Tual**	**3.36**	**102**	P		**Pn**		**22 03 54.9**	**+0.1**
FAKI	**Fak Fak**	**3.46**	**54**	P		**Pn**		**22 03 57.9**	**+2.0**
FAKI				S		**S**		**22 04 41.9**	**-2.3**
SWI	**Sorong**	**4.46**	**24**	P		Pn		22 04 11.2	+4.5
SWI				S		**S**		**22 05 04.6**	**+0.6**
LBMI	**Labuha**	**4.70**	**336**	P		Pn		22 04 14.5	+4.9
	26nm,0.7s,0.2nm								
FITZ	**Fitzroy Crossi**	**13.58**	**196**	P		**P**		**22 05 57.7**	**+0.9**
	0.5nm,0.3s,baz=22,slow=5.6,SNR=5.6								
FITZ				S		S		22 08 16.9	-10
	0.2nm,0.3s,baz=259,slow=24,SNR=3.3								
WRA	**Warramunga Arr**	**15.64**	**163**	P		**P**		**22 06 22.0**	**+2.4**
	1.2nm,0.3s,baz=348,slow=12,SNR=5.1								
WRA				S		**S**		**22 09 08.9**	**-0.2**
	0.4nm,0.3s,baz=338,slow=20,SNR=5.1								
ASAR	**Alice Springs**	**19.09**	**167**	P		**P**		**22 06 57.1**	**+0.3**
	0.1nm,0.3s,baz=351,slow=12,SNR=9.3								
ASAR				S		**S**		**22 10 18.0**	**+0.8**
	0.3nm,0.3s,baz=348,slow=22,SNR=14								
MKAR	**Makanchi Array**	**66.22**	**327**	P		**P**		**22 13 09.6**	**-1.9**
	0.5nm,0.6s,baz=118,slow=7.8,SNR=12								

IDC ***14*** *22:13:59.9±0.8, 3.71N×127.08E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.1/20, mbtmp4.1/11, Error ellipse: s-maj=51.9km s-min=14.1km az=72.0*
ISCJB ***14*** *22:14:04.7±0.4, 3.73N±0.05×127.05E±0.08, h48km, mb4.2/18, Error ellipse: s-maj=12.1km s-min=6.2km az=169.0*
NEIC ***14*** *22:14:05.2±0.4, 3.65N×126.99E, h35km, mb4.5/8, Error ellipse: s-maj=24.4km s-min=6.8km az=72.0*
DJA ***14*** *22:14:11.2±2.1, 3.1N±22°×12.7E±°, h132km±19km, M4.2/4, mb4.3/3, mB4.6/1, MLv4.2/4, Mw(mB)3.8/1, Mwp5.3/1*

ISC 14 22:14:06.7±0.6, 3.69N±0.08×127.02E±0.10, h48km, n42, σ0.889/40, mb4.3/18, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.92**	**173**	P		**Pn**		**22 14 51.0**	**+0.4**
MNI	**Manado**	**3.11**	**224**	P		**Pn**		**22 14 52.9**	**-0.4**
DAV	**Davao City (W)**	**3.66**	**337**	Pn		Pn		22 15 07.5	+6.7
DAV	**Davao City (W)**	**3.66**	**337**	Pn		Pn		22 15 07.5	+6.7
	30nm,0.3s,baz=276,slow=11,SNR=2.8								
LBMI	**Labuha**	**4.32**	**174**	P		**Pn**		**22 15 11.1**	**+1.1**
KMSI	**Cibinong**	**4.33**	**225**	P		**Pn**		**22 15 11.1**	**+1.1**
MRSI	**Marisa**	**5.99**	**238**	P		**Pn**		**22 15 33.8**	**+1.0**
	79nm,0.8s,711nm10µm								
SWI	**Sorong**	**6.20**	**137**	P		**Pn**		**22 15 36.3**	**+0.6**
	37nm,0.9s								
KDI	**Kendari**	**8.77**	**210**	P		Pn		22 16 06.7	-4.3
SSLB	**Suanglung**	**20.83**	**344**	*e*P		**P**		**22 18 44.0**	**-0.4**
	165nm,2.2s								
FITZ	**Fitzroy Crossi**	**21.69**	**184**	P		**P**		**22 18 53.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**21.69**	**184**	P		**P**		**22 18 53.8**	**+0.1**
	1.9nm,0.5s,baz=44,slow=8.1,SNR=4.9								
WRAB	**Tennant Creek**	**24.55**	**163**	*e*P		**P**		**22 19 21.6**	**-0.5**
	10nm,0.9s								
WRA	**Warramunga Arr**	**24.56**	**163**	P		**P**		**22 19 21.8**	**-0.5**
WRA	**Warramunga Arr**	**24.56**	**163**	P		**P**		**22 19 21.8**	**-0.5**
	6.7nm,0.7s,baz=343,slow=10,SNR=18								
ASAR	**Alice Springs**	**28.00**	**166**	P		**P**		**22 19 52.4**	**-0.9**
ASAR	**Alice Springs**	**28.00**	**166**	P		**P**		**22 19 52.4**	**-0.9**
	0.6nm,0.6s,baz=347,slow=6.2,SNR=11								
CMAR	**Chiang Mai Arr**	**31.14**	**300**	P		**P**		**22 20 21.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**31.14**	**300**	P		**P**		**22 20 21.6**	**+0.4**
	0.5nm,0.4s,baz=110,slow=6.3,SNR=4.2								
KSAR	**Wonju Array Be**	**33.61**	**1**	P		**P**		**22 20 41.7**	**-0.8**
KSRS	**Korea Array**	**33.62**	**1**	P		**P**		**22 20 41.7**	**-0.9**
	1.3nm,0.6s,baz=175,slow=9.8,SNR=5.9								
BJT	**Baijiatuan**	**37.48**	**346**	*e*P		**P**		**22 21 17.2**	**+1.5**
	11nm,0.7s								
STKA	**Stephens Creek**	**37.99**	**160**	P		**P**		**22 21 19.8**	**-0.3**
STKA	**Stephens Creek**	**37.99**	**160**	P		**P**		**22 21 19.8**	**-0.3**
	2.7nm,0.6s,baz=331,slow=9.6,SNR=8.5								
LSA	**Lhasa**	**42.68**	**311**	*e*P		**P**		**22 21 58.8**	**-0.9**
	3.1nm,0.6s								
ULN	**Ulaanbaatar**	**47.25**	**342**	*e*P		**P**		**22 22 36.7**	**+1.4**
	8.5nm,1.5s								
SONM	**Songino Array**	**47.43**	**341**	P		**P**		**22 22 37.9**	**+1.2**
SONM	**Songino Array**	**47.43**	**341**	P		**P**		**22 22 37.9**	**+1.2**
	1.5nm,0.6s,baz=157,slow=8.2,SNR=14								
MK31	**Makanchi Array**	**57.76**	**325**	*e*P		**P**		**22 23 52.7**	**-0.3**
MK31				*e*PcP		**PcP**		**22 24 48.1**	**+2.8**
MKAR	**Makanchi Array**	**57.76**	**325**	*e*P		**P**		**22 23 52.9**	**0.0**
MKAR	**Makanchi Array**	**57.76**	**325**	P		**P**		**22 23 52.6**	**-0.3**
	2.2nm,0.6s,baz=121,slow=8.0,SNR=32								
ZALV	**Zalesovo Beam**	**60.76**	**333**	P		**P**		**22 24 13.0**	**-0.5**
ZALV	**Zalesovo Beam**	**60.76**	**333**	P		**P**		**22 24 13.0**	**-0.5**
	0.8nm,0.5s,baz=126,slow=6.8,SNR=6.3								
EKS2	**Erkin-Say**	**61.08**	**318**	*e*P		**P**		**22 24 16.6**	**+0.6**
	2.2nm,0.9s								
KURK	**Kurchatov**	**61.93**	**327**	*e*P		**P**		**22 24 20.9**	**-0.5**
	4.3nm,0.7s								
KKAR	**Karatay Array**	**63.46**	**317**	*e*P		**P**		**22 24 31.0**	**-0.8**
BRVK	**Borovoye**	**67.58**	**327**	*e*P		**P**		**22 24 58.3**	**+0.1**
	4.3nm,0.9s								
ABKAR	**Akbulak array**	**72.36**	**321**	*e*P		**P**		**22 25 26.9**	**-0.8**
BRTR	**Keskin Array B**	**90.27**	**310**	P		**P**		**22 27 01.9**	**-0.9**
BRTR	**Keskin Array B**	**90.27**	**310**	P		**P**		**22 27 01.9**	**-0.9**
	1.0nm,1.0s,baz=67,slow=4.8,SNR=3.6								
ARCES	**ARCESS Array B**	**90.59**	**340**	P		**P**		**22 27 03.1**	**-0.4**
ARCES	**ARCESS Array B**	**90.59**	**340**	P		**P**		**22 27 03.1**	**-0.4**
	2.7nm,0.8s,baz=60,slow=7.3,SNR=6.2								

PRE 14 22:15:30.8±0.7, 27.00S×68.67E, h2km, ML1.5, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SEK	**Senekal**	**1.57**	**147**	*e*P		Pg		22 16 01.1	-0.1
SEK				*e*S		Sg		22 16 21.8	+0.1
SEK				AML		AML		22 16 22.9	
	comp=Z,4.6nm,0.9s								
BOSA	**Boshof**	**2.03**	**218**	*e*P		Pn		22 16 06.6	+0.3
BOSA				*e*S		Sn		22 16 33.4	+1.0
BOSA				AML		AML		22 16 34.7	
	comp=Z,3.6nm,0.8s								
LBTB	**Lobatse**	**2.20**	**334**	*e*P		Pn		22 16 09.2	+0.7
LBTB				*e*S		Sn		22 16 37.2	+0.7
LBTB				AML		AML		22 16 41.2	
	comp=Z,2.4nm,0.7s								

IDC 14 22:20:35.2±1.6, 8.07S×68.01E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/23, mbtmp3.7/7, MS3.7/7, Ms1 3.7/7, ms1mx3.3/36, Error ellipse: s-maj=46.7km s-min=27.7km az=45.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**22.76**	**241**	LR		LR		22 32 17.2	
	comp=Z,233nm,21.4s,baz=0.5,slow=31								
CMAR	**Chiang Mai Arr**	**40.33**	**49**	P		P		22 28 15.1	+0.3
	0.4nm,0.3s,baz=241,slow=9.0,SNR=8.6								
CMAR				LR		LR		22 42 06.0	
	comp=Z,53nm,19.0s,baz=51,slow=32								
BOSA	**Boshof**	**45.11**	**237**	LR		LR		22 44 26.7	
	comp=Z,133nm,20.1s,baz=349,slow=32								
KAPI	**Kappang**	**51.47**	**90**	LR		LR		22 52 10.6	
	comp=Z,65nm,18.4s,baz=82,slow=37								
MKAR	**Makanchi Array**	**56.08**	**12**	P		P		22 30 14.1	-2.0
	0.3nm,0.5s,baz=207,slow=7.7,SNR=6.5								
FITZ	**Fitzroy Crossi**	**56.82**	**106**	LR		LR		22 50 39.9	
	comp=Z,70nm,19.6s,baz=97,slow=32								
ASAR	**Alice Springs**	**64.76**	**112**	P		P		22 31 15.6	-0.5
	0.4nm,0.7s,baz=277,slow=6.5,SNR=5.8								
WRA	**Warramunga Arr**	**65.09**	**108**	P		P		22 31 18.4	+0.2
	0.4nm,0.8s,baz=277,slow=5.9,SNR=4.7								
SONM	**Songino Array**	**65.17**	**27**	P		P		22 31 19.2	+0.9
	0.8nm,0.8s,baz=222,slow=6.1,SNR=8.7								
JOW	**Kunigami**	**67.90**	**57**	LR		LR		22 57 05.6	
	comp=Z,88nm,21.6s,baz=169,slow=32								
TORD	**Torodi Ar. Bea**	**69.14**	**287**	LR		LR		22 58 19.2	
	comp=Z,48nm,19.3s,baz=130,slow=33								
ESDC	**Sonseca Array**	**81.50**	**312**	P		P		22 32 54.9	+0.1
	0.2nm,0.4s,baz=92,slow=4.4,SNR=4.2								
ARCES	**ARCESS Array B**	**82.75**	**346**	P		P		22 33 01.2	+0.6
	1.9nm,0.7s,baz=132,slow=7.2,SNR=10								

IDC 14 22:41:35.3±2.0, 3.12N×126.02E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/18, mbtmp3.3/4, Error ellipse: s-maj=201.2km s-min=24.0km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.34**	**161**	P		P		22 46 54.8	-0.3
	0.4nm,0.4s,baz=340,slow=11,SNR=6.2								
ASAR	**Alice Springs**	**27.71**	**164**	P		P		22 47 26.4	+0.8
	0.2nm,0.6s,baz=340,slow=9.8,SNR=2.8								
STKA	**Stephens Creek**	**37.83**	**158**	P		P		22 48 53.4	-0.4
	1.4nm,0.6s,baz=354,slow=9.2,SNR=3.9								
MKAR	**Makanchi Array**	**57.65**	**326**	P		P		22 51 27.2	-0.3
	0.1nm,0.5s,baz=127,slow=6.8,SNR=2.5								

IDC 14 22:42:29.7±1.4, 3.94N×126.54E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.7/6, Error ellipse: s-maj=208.0km s-min=18.0km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.94**	**162**	P		P		22 47 54.5	-0.4
	1.3nm,0.7s,baz=337,slow=11,SNR=7.1								
ASAR	**Alice Springs**	**28.36**	**166**	P		P		22 48 26.2	+0.4
	0.3nm,0.8s,baz=349,slow=7.5,SNR=3.4								
STKA	**Stephens Creek**	**38.39**	**159**	P		P		22 49 52.8	-0.1
	2.6nm,0.8s,baz=349,slow=16,SNR=4.0								
SONM	**Songino Array**	**47.04**	**342**	P		P		22 51 03.6	+0.5
	0.4nm,0.5s,baz=161,slow=9.4,SNR=4.9								
MKAR	**Makanchi Array**	**57.27**	**325**	P		P		22 52 19.5	+0.2
	0.5nm,0.5s,baz=117,slow=7.4,SNR=14								
ZALV	**Zalesovo Beam**	**60.32**	**333**	P		P		22 52 39.1	-1.1
	0.2nm,0.3s,baz=84,slow=4.6,SNR=3.7								

IDC 14 22:47:00.7±0.8, 3.64N×126.82E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.9/20, mbtmp4.0/9, Error ellipse: s-maj=76.2km s-min=14.6km az=74.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.64**	**183**	P		P		22 51 54.5	+1.8
	1.4nm,0.5s,baz=31,slow=12,SNR=6.6								
WRA	**Warramunga Arr**	**24.57**	**163**	P		P		22 52 21.8	-0.8
	5.3nm,0.9s,baz=342,slow=10,SNR=22								
ASAR	**Alice Springs**	**28.01**	**166**	P		P		22 52 53.4	-0.2
	0.4nm,0.6s,baz=339,slow=6.8,SNR=8.2								
KSRS	**Korea Array**	**33.67**	**2**	P		P		22 53 44.1	+0.8
	1.3nm,0.6s,baz=180,slow=8.9,SNR=4.6								
STKA	**Stephens Creek**	**38.02**	**159**	P		P		22 54 20.6	-0.2
	2.2nm,0.6s,baz=340,slow=12,SNR=9.0								
SONM	**Songino Array**	**47.41**	**341**	P		P		22 55 37.4	+0.4
	0.9nm,0.7s,baz=156,slow=8.0,SNR=7.6								
SONM				PcP		PcP		22 57 08.2	+0.6
	0.6nm,0.9s,baz=145,slow=2.9,SNR=3.5								
MKAR	**Makanchi Array**	**57.68**	**325**	P		P		22 56 52.5	-0.6
	1.8nm,0.5s,baz=117,slow=7.1,SNR=37								
ZALV	**Zalesovo Beam**	**60.71**	**333**	P		P		22 57 13.8	-0.1
	0.4nm,0.5s,baz=106,slow=4.7,SNR=3.3								
ARCES	**ARCESS Array B**	**90.56**	**340**	P		P		23 00 02.9	-1.6
	1.9nm,0.8s,baz=52,slow=6.3,SNR=5.4								

IDC ***14*** *22:50:45.5±1.3, 8.07S×67.98E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/23, mbtmp3.8/8, MS4.0/10, Ms1 4.0/10, ms1mx3.8/28, Error ellipse: s-maj=42.0km s-min=25.2km az=46.0*
NEIC ***14*** *22:50:47.6±1.4, 7.98S×68.21E, h10km, mb4.4/2, Error ellipse: s-maj=36.2km s-min=22.5km az=203.0*

ISC 14 22:50:47.5±1.4, 8.0S±0.2×68.0E±0.2, h15km, n33, σ1.909/23, mb4.0/10, MS4.0/10, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**4.50**	**83**	*e*Pn		Pn		22 51 49.8	-5.3
DGAR				*e*Sn		Sn		22 52 34.3	-13
OPO	**Ambohidratompo**	**22.75**	**240**	LR		LR		23 02 27.8	
	comp=Z,512nm,20.9s,baz=2.4,slow=31								
ATD	**Arta Tunnel**	**31.63**	**308**	LR		LR		23 07 53.3	
	comp=Z,88nm,18.6s,baz=90,slow=32								
PSI	**Prapat**	**32.70**	**72**	LR		LR		23 08 49.1	
	comp=Z,572nm,19.0s,baz=223,slow=33								
CMAR	**Chiang Mai Arr**	**40.33**	**49**	P		**P**		**22 58 26.6**	**+1.7**
CMAR	**Chiang Mai Arr**	**40.33**	**49**	P		**P**		**22 58 26.6**	**+1.7**
	2.6nm,0.9s,baz=233,slow=9.3,SNR=15								
CMAR				LR		LR		23 12 16.2	
	comp=Z,108nm,19.1s,baz=207,slow=32								
CHTO	**Chiang Mai**	**40.55**

SONM	**Songino Array**	**47.00**	**341**	P	P	23 23 44.8	+0.9	
	0.3nm,0.5s,baz=145,slow=6.5,SNR=2.9							
MKAR	**Makanchi Array**	**57.34**	**325**	P	P	23 25 00.7	-0.1	
	1.0nm,0.6s,baz=117,slow=8.0,SNR=27							
ZALV	**Zalesovo Beam**	**60.33**	**333**	P	P	23 25 19.9	-1.4	
	0.5nm,0.4s,baz=118,slow=8.1,SNR=4.3							
KURBB	**Kurchatov Arra**	**61.51**	**327**	P	P	23 25 29.0	-0.5	
	0.9nm,0.3s,baz=124,slow=6.3,SNR=5.2							
BVAR	**Borovoye Array**	**67.10**	**327**	P	P	23 26 06.3	+0.2	
	0.7nm,0.6s,baz=142,slow=7.4,SNR=6.7							

IDC ***14*** *23:15:23.1±3.1,43.34N×141.02E,h252km±24km,mb2.7/1, mb1 3.0/2,mb1mx2.5/22,mbtmp2.8/2,Error ellipse: s-maj=204.6km s-min=20.6km az=120.0*

ISCJB ***14*** *23:15:29.6±0.7,44.22N±0.06×142.55E±0.09, h232km±5km,mb2.8/2,Error ellipse: s-maj=10.7km s-min=9.0km az=169.0*

JMA ***14*** *23:15:30.2±0.2,44.27N×142.49E,h230km±2km,M2.6*

ISC 14 23:15:30.3±1.1,44.21N±0.06×142.53E±0.07,h230km±7km, n22,σ0.96/31,mb3.0/3,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**0.10**	**150**	P	**Pn**	**23 16 00.5**	**+0.4**
ASAJ				eS	**S**	**23 16 23.4**	**-0.1**
ASAJ	**Asahikawa**	**0.10**	**150**	P	**Pn**	**23 16 00.6**	**+0.4**
	4.6nm,0.3s,baz=266,slow=6.5,SNR=8.1						
ASAJ				S	**S**	**23 16 23.6**	**+0.1**
	1.5nm,0.3s,baz=102,slow=31,SNR=14						
JKK2	**Kamakawa 2**	**0.37**	**154**	P	**Pn**	**23 16 00.9**	**+0.3**
JKK2				eS	**S**	**23 16 24.3**	**+0.1**
JMP	**Maruseppu**	**0.63**	**108**	P	**Pn**	**23 16 01.6**	**+0.2**
JMP				eS	**S**	**23 16 25.5**	**-0.2**
JAB	**Ashibetsu**	**0.74**	**197**	P	**Pn**	**23 16 02.2**	**+0.3**
JAB				eS	**S**	**23 16 27.1**	**+0.6**
JHR	**Hokuryu**	**0.74**	**232**	P	**Pn**	**23 16 02.2**	**+0.3**
JSE	**Soyaes**	**0.75**	**3**	P	**Pn**	**23 16 01.5**	**-0.3**
JSE				eS	**S**	**23 16 25.2**	**-1.4**
JTKR	**Abashiri--Toko**	**1.02**	**103**	P	**Pn**	**23 16 03.8**	**+0.5**
JTKR				eS	**S**	**23 16 29.3**	**+0.2**
JFR	**Furan**	**1.04**	**177**	P	**Pn**	**23 16 03.8**	**+0.2**
JWK2	**Keihoku**	**1.20**	**338**	P	**Pn**	**23 16 03.8**	**-0.6**
JWK2				eS	**S**	**23 16 29.9**	**-1.2**
JAR	**Ashorobuto**	**1.28**	**135**	P	**Pn**	**23 16 05.8**	**+0.7**
JAR				eS	**S**	**23 16 33.6**	**+1.4**
JEW	**Eniwo**	**1.57**	**210**	P	**Pn**	**23 16 08.1**	**+0.7**
JCH	**Churui**	**1.71**	**159**	P	**Pn**	**23 16 07.9**	**-0.6**
JCH				eS	**S**	**23 16 36.1**	**-2.1**
JSK	**Shakotan**	**1.71**	**241**	P	**Pn**	**23 16 08.7**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.93**	**175**	eS	**S**	**23 16 41.9**	**0.0**
JAK	**Akkeshi**	**1.99**	**127**	eS	**S**	**23 16 41.9**	**-0.8**
NEM2	**Nemuro 2**	**2.48**	**109**	eS	**S**	**23 16 48.9**	**-2.6**
JKB	**Kayabe**	**2.56**	**206**	P	**Pn**	**23 16 16.6**	**-0.2**
JKB				eS	**S**	**23 16 51.3**	**-1.9**
PETK	**Petropavlovsk-**	**13.39**	**43**	P	P	23 18 42.0	+8.7
	0.4nm,0.3s,baz=254,slow=6.2,SNR=8.1						
DAV	**Davao City (W)**	**39.85**	**207**	P	P	23 22 22.0	-20
	270nm,0.4s,baz=31,slow=6.5,SNR=4.4						
ILAR	**Eielson Array**	**43.09**	**36**	P	**P**	**23 23 07.5**	**+0.2**
	0.2nm,0.8s,baz=274,slow=9.7,SNR=3.6						
YKA	**Yellowknife Ar**	**57.24**	**33**	P	**P**	**23 24 53.9**	**+0.7**
	0.2nm,0.5s,baz=306,slow=7.1,SNR=5.0						

NEIC ***14*** *23:17:03.0,45.53N×111.89W,h12km,ML3.3(BUT),After BUT.*

IDC ***14*** *23:17:07.6±1.5,45.39N×111.85W,h0km,mb1 3.1/3, mb1mx3.0/25,mbtmp2.7/3,ML3.0/3,Error ellipse: s-maj=21.5km s-min=12.0km az=49.0*

ISC 14 23:17:02.9±0.9,45.53N±0.01×111.89W±0.01,h6km±8km, n76,σ1.9/07/136,23C-27D,Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZ	**Bozeman (W)**	**0.22**	**57**	*e*Pg	**Pg**	**23 17 07.2**	**-0.1**
BOZ				*e*Sg	**Sg**	**23 17 10.0**	**-0.3**
BOZ	**Bozeman (W)**	**0.22**	**57**	⇓P	**Pg**	**23 17 07.6**	**+0.3**
	baz=0.2,SNR=1000						
BOZ				⇓S	**Sg**	**23 17 10.1**	**-0.1**
	baz=0.2						
BOZ				⇓S	**Sg**	**23 17 10.1**	**-0.1**
	baz=0.2						
BOZ				⇓S	**Sg**	**23 17 10.1**	**-0.1**
	baz=0.2						
BOZ				⇓S	**Sg**	**23 17 10.1**	**-0.1**
	baz=0.2						
G16A	**Moss Hill, Enn**	**0.31**	**169**	P	**Pg**	**23 17 09.4**	**+0.4**
	baz=0.3,SNR=772						
F16A	**Kennard Place,**	**0.32**	**36**	⇑P	**Pg**	**23 17 09.8**	**+0.7**
	baz=0.3,SNR=632						
F16A				⇓S	**Sg**	**23 17 13.9**	**+0.6**
	baz=0.3						
F16A				⇓S	**Sg**	**23 17 13.9**	**+0.6**
	baz=0.3						
LRM	**Limekiln Ridge**	**0.49**	**307**	*e*Pg	**Pg**	**23 17 12.9**	**+0.5**
DLMT	**Dillon**	**0.52**	**252**	*e*Pg	**Pg**	**23 17 13.5**	**+0.4**
DLMT				*e*Sg	**Sg**	**23 17 20.6**	**+0.7**
F15A	**Butte**	**0.53**	**307**	⇓P	**Pg**	**23 17 13.5**	**+0.4**
	baz=0.5,SNR=542						
F15A				⇓S	**Sg**	**23 17 20.4**	**+0.4**
	baz=0.5						
F15A				⇓S	**Sg**	**23 17 20.4**	**+0.4**
	baz=0.5						
G15A	**Dillon**	**0.56**	**230**	⇑P	**Pg**	**23 17 13.8**	**+0.1**
	baz=0.6						
G15A				⇑S	**Sg**	**23 17 21.0**	**+0.1**
	baz=0.6						
G15A				⇑S	**Sg**	**23 17 21.0**	**+0.1**
	baz=0.6						
QLMT	**Earthquake Lak**	**0.77**	**155**	*e*Pg	**Pg**	**23 17 17.8**	**+0.1**
QLMT				*e*Sg	**Sg**	**23 17 28.5**	**+0.8**
G17A	**Pierce Place,**	**0.84**	**104**	P	**Pg**	**23 17 19.1**	**+0.1**
	baz=0.8,SNR=211						
G17A				⇑S	**Sg**	**23 17 30.5**	**+0.7**
	baz=0.8						
G17A				⇑S	**Sg**	**23 17 30.5**	**+0.7**
	baz=0.8						
F17A	**Fitzpatrick Pl**	**0.94**	**66**	⇑P	**Pg**	**23 17 21.2**	**+0.3**
	baz=0.9,SNR=1000						
F17A				⇓S	**Sg**	**23 17 33.5**	**+0.3**
	baz=0.9						
F17A				⇓S	**Sg**	**23 17 33.5**	**+0.3**
	baz=0.9						
H16A	**Russell Place,**	**0.94**	**151**	⇓P	**Pg**	**23 17 21.3**	**+0.3**
	baz=0.9						
H16A				⇑S	**Sg**	**23 17 33.4**	**+0.2**
	baz=0.9						
H16A				⇑S	**Sg**	**23 17 33.4**	**+0.2**
	baz=0.9						
MCMT	**McKenzie Canyo**	**0.97**	**224**	*e*Pg	**Pg**	**23 17 21.5**	**-0.2**
MCMT				*e*Sg	**Sn**	**23 17 36.4**	**-1.2**
E16A	**East Helena**	**1.02**	**8**	P	**Pb**	**23 17 22.4**	**-0.6**
	baz=1.0,SNR=657						
E16A				⇓S	**Sb**	**23 17 36.3**	**-0.3**
	baz=1.0						
E16A				⇓S	**Sb**	**23 17 36.3**	**-0.3**
	baz=1.0						
E15A	**Deer Lodge**	**1.04**	**330**	P	**Pb**	**23 17 22.9**	**-0.4**
	baz=1.0,SNR=349						
E15A				⇑S	**Sb**	**23 17 36.5**	**-0.8**
	baz=1.0						
E15A				⇑S	**Sb**	**23 17 36.5**	**-0.8**
	baz=1.0						
H15A	**Lima**	**1.06**	**211**	⇓P	**Pb**	**23 17 23.0**	**-0.7**
	baz=1.1						
H15A				⇑S	**Sb**	**23 17 37.2**	**-0.6**
	baz=1.1						
H15A				⇑S	**Sb**	**23 17 37.2**	**-0.6**
	baz=1.1						
F14A	**Wisdom**	**1.08**	**286**	P	**Pg**	**23 17 23.9**	**+0.4**
	baz=1.1,SNR=1000						
F14A				⇑S	**Sb**	**23 17 38.1**	**-0.3**
	baz=1.1						
F14A				⇑S	**Sb**	**23 17 38.1**	**-0.3**
	baz=1.1						
YMR	**Madison River**	**1.08**	**142**	*e*Pg	**Pb**	**23 17 23.6**	**-0.5**
YMR				*e*Sg	**Sb**	**23 17 37.4**	**-1.2**
G14A	**Jackson**	**1.14**	**256**	⇑P	**Pb**	**23 17 24.8**	**-0.4**
	baz=1.1,SNR=705						
E17A	**Martinsdale**	**1.18**	**37**	P	**Pb**	**23 17 25.4**	**-0.4**
	baz=1.2,SNR=923						
YNR	**Norris Junctio**	**1.18**	**133**	*e*Pg	**Pn**	**23 17 25.4**	**-0.8**
YNR				*e*Sg	**Sb**	**23 17 39.3**	**-2.2**
HRY	**Holter Researc**	**1.18**	**2**	*e*Pg	**Pn**	**23 17 25.5**	**-0.6**
HRY				*e*Sg	**Sg**	**23 17 41.5**	**+0.5**
YFT	**Old Faithful**	**1.31**	**145**	*e*Pg	**Pb**	**23 17 27.9**	**-0.1**
YFT				*e*Sg	**Sb**	**23 17 43.9**	**-1.3**
H14A	**Leadore**	**1.39**	**229**	⇓Pb	**Pb**	**23 17 29.2**	**-0.2**
	baz=1.4,SNR=1000						
E14A	**Clinton**	**1.43**	**309**	⇑Pb	**Pb**	**23 17 29.7**	**-0.3**
	baz=1.4,SNR=348						
E14A				⇑Sb	**Sg**	**23 17 49.0**	**+0.2**
	baz=1.4						
E14A				⇑Sb	**Sg**	**23 17 49.0**	**+0.2**
	baz=1.4						
LKWY	**Lake**	**1.43**	**132**	*e*Pg	**Pg**	**23 17 31.0**	**+0.7**
D16A	**Dana Ranch, Ca**	**1.52**	**9**	Pb	**Pb**	**23 17 31.0**	**-0.6**
	baz=1.5,SNR=468						
F18A	**Big Timber**	**1.57**	**75**	⇓Pb	**Pb**	**23 17 32.1**	**-0.3**
	baz=1.6,SNR=478						
F18A				⇑Sn	**Sb**	**23 17 52.0**	**-0.5**
	baz=1.6						
F18A				⇑Sn	**Sb**	**23 17 52.0**	**-0.5**
	baz=1.6						
D15A	**Lincoln**	**1.58**	**344**	⇓Pb	**Pb**	**23 17 32.3**	**-0.3**
	baz=1.6,SNR=479						
D15A				⇓Sb	**Sg**	**23 17 53.4**	**-0.1**
	baz=1.6						
D15A				⇓Sb	**Sg**	**23 17 53.4**	**-0.1**
	baz=1.6						
GCMT	**Greycliff**	**1.58**	**80**	*e*Pn	**Pb**	**23 17 32.2**	**-0.4**
GCMT				*e*Sn	**Sn**	**23 17 51.4**	**-1.0**
I15A	**Monteview**	**1.59**	**196**	⇑Pb	**Pb**	**23 17 32.5**	**-0.1**
	baz=1.6,SNR=73						
FLWY	**Flagg Ranch**	**1.68**	**149**	*e*Pn	**Pb**	**23 17 34.0**	**-0.3**
FLWY				*e*Sn	**Sg**	**23 17 57.3**	**+0.6**
I16A	**Newdale**	**1.68**	**170**	⇓Pb	**Pb**	**23 17 33.9**	**-0.3**
	baz=1.7,SNR=30						
CHMT	**Chamberlain Mo**	**1.68**	**326**	*e*Pn	**Pn**	**23 17 33.1**	**+0.1**
CHMT				*e*Sn	**Sb**	**23 17 55.2**	**-0.6**
E18A	**Harlowton**	**1.72**	**52**	⇓Pb	**Pb**	**23 17 34.0**	**-1.0**
	baz=1.7,SNR=319						
F13A	**Darby**	**1.73**	**280**	Pn	**Pn**	**23 17 33.6**	**0.0**
	baz=1.7,SNR=889						
IMW	**Indian Meadow**	**1.77**	**157**	*e*Pn	**Pb**	**23 17 35.1**	**-0.7**
IMW				*e*Sn	**Sb**	**23 17 58.5**	**+0.2**
D17A	**Six Diamond Ra**	**1.83**	**27**	⇑Pn	**Pn**	**23 17 34.9**	**-0.1**
	baz=1.8,SNR=236						
E13A	**Victor**	**1.84**	**301**	⇓Pg	**Pg**	**23 17 38.0**	**-0.3**
	baz=1.8						
I17A	**Pilgrim Ck.**	**1.86**	**149**	⇓Pb	**Pb**	**23 17 37.3**	**-0.1**
	baz=1.9,SNR=69						
RLMT	**Red Lodge**	**1.89**	**101**	*e*Pn	**Pb**	**23 17 37.2**	**-0.7**
RLMT				*e*Sn	**Sb**	**23 18 00.8**	**-1.1**
RLMT	**Red Lodge**	**1.89**	**101**	⇓Pb	**Pb**	**23 17 37.4**	**-0.6**
	baz=1.9,SNR=585						
D14A	**Greenough**	**1.92**	**325**	⇓Pg	**Pg**	**23 17 39.2**	**-0.4**
	baz=1.9,SNR=63						
MSO	**Missoula**	**1.93**	**313**	*e*Pn	**Pn**	**23 17 35.9**	**-0.4**
MSO				*e*Sn	**Sb**	**23 18 02.5**	**-0.3**
MOOW	**Moose Ponds**	**1.96**	**155**	*e*Pn	**Pb**	**23 17 38.3**	**-0.7**
MOOW				*e*Sn	**Sb**	**23 18 02.8**	**-1.0**
DCID1	**Drake Creek**	**2.00**	**165**	*e*Pn	**Pb**	**23 17 39.4**	**-0.4**
DCID1				*e*Sn	**Sb**	**23 18 04.7**	**-0.3**
SLMT	**Seeley Lake**	**2.04**	**328**	*e*Pn	**Pn**	**23 17 38.1**	**+0.1**
LOHW	**Long Hollow**	**2.12**	**154**	*e*Pn	**Pb**	**23 17 41.0**	**-1.0**
LOHW				*e*Sn	**Sn**	**23 18 06.5**	**+0.5**
TPAW	**Teton Pass**	**2.15**	**161**	*e*Pn	**Pb**	**23 17 42.7**	**+0.4**
TPAW				*e*Sn	**Sb**	**23 18 09.3**	**0.0**
RRI2	**Red Ridge**	**2.22**	**169**	*e*Pn	**Pb**	**23 17 42.9**	**-0.7**
RRI2				*e*Sn	**Sb**	**23 18 11.4**	**0.0**
SNOW	**Snow King Moun**	**2.22**	**158**	*e*Pn	**Pb**	**23 17 43.1**	**-0.4**
REDW	**Red Top Meadow**	**2.29**	**161**	*e*Pn	**Pb**	**23 17 44.2**	**-0.5**
REDW				*e*Sn	**Sb**	**23 18 14.6**	**+1.3**
SWMT	**Swartz Lake**	**2.46**	**324**	*e*Pn	**Pb**	**23 17 45.7**	**-1.8**
SWMT				*e*Sn	**Sb**	**23 18 18.0**	**-0.2**
HLID	**Hailey**	**2.67**	**223**	*e*Pn	**Pn**	**23 17 48.1**	**+1.5**
HLID				*e*Sn	**Sb**	**23 18 21.2**	**-3.0**
YBMT	**Yellow Bay**	**2.75**	**329**	*e*Pn	**Pn**	**23 17 49.2**	**+1.5**
YBMT				*e*Sn	**Sb**	**23 18 24.5**	**-2.1**
JTMT	**Jette**	**2.76**	**324**	*e*Pn	**Pn**	**23 17 48.5**	**+0.7**
JTMT				*e*Sn	**Sb**	**23 18 26.3**	**-0.6**
EGMT	**Eagleton**	**2.90**	**30**	*e*Pn	**Pn**	**23 17 50.1**	**+0.5**
EGMT				*e*Sn	**Sb**	**23 18 32.0**	**+1.3**
BLMT	**Blacktail Moun**	**3.01**	**326**	*e*Pn	**Pg**	**23 17 60.0**	**-0.6**
BLMT				*e*Sn	**Sb**	**23 18 34.3**	**+0.3**
BSMT	**Bassoo Peak**	**3.06**	**320**	*e*Pn	**Pn**	**23 17 53.2**	**+1.2**
BSMT				*e*Sn	**Sn**	**23 18 30.7**	**+1.7**
PD01	**Pinedale Array**	**3.21**	**148**	*e*Pn	**Pb**	**23 17 59.0**	**-1.4**
PD02	**Pinedale Array**	**3.22**	**148**	*e*Pn	**Pb**	**23 17 59.7**	**-0.9**
PDAR	**Pinedale Array**	**3.23**	**148**	Pn	**Pb**	**23 18 00.1**	**-0.7**
PDAR				Pg	**Pg**	**23 18 05.3**	**+0.5**
PDAR				Lg	Lg	23 18 43.9	
PDAR	**Pinedale Array**	**3.23**	**148**	Pn	**Pb**	**23 18 00.1**	**-0.7**
	0.5nm,0.3s,baz=343,slow=13,SNR=21						
PDAR				Pg	**Pg**	**23 18 05.3**	**+0.5**
	0.6nm,0.3s,baz=321,slow=14,SNR=19						
PDAR				Lg	Lg	23 18 43.9	
	0.5nm,0.3s,baz=352,slow=30,SNR=7.7						
MFID	**Camas Ranch**	**3.52**	**235**	*e*Pn	**Pn**	**23 17 59.3**	**+1.1**
WALA	**Waterton Lakes**	**3.79**	**339**	*e*Pn	**Pb**	**23 18 11.7**	**+1.4**
WALA				*e*Sn	**Sb**	**23 18 51.7**	**-4.7**
HVU	**Hansel Valley**	**3.80**	**190**	*e*Pn	**Pb**	**23 18 08.6**	**-1.9**
HVU				*e*Sn	**Sb**	**23 18 51.6**	**-5.2**
BMO	**Blue Mountains**	**3.89**	**262**	*e*Pn	**Pn**	**23 18 03.5**	**+0.3**
BMO				*e*Sn	**Sn**	**23 18 52.7**	**+3.5**
HWUT	**Hardware Ranch**	**3.93**	**176**	*e*Pn	**Pn**	**23 18 05.0**	**+1.1**
NEW	**Newport**	**4.51**	**309**	*e*Pn	**Pn**	**23 18 11.6**	**-0.1**
NEW				*e*Sn	**Sb**	**23 19 13.7**	**-3.4**
ELK	**Elko**	**5.37**	**208**	*e*Pn	Pn	23 18 28.4	+4.6
HAWA	**Hanford**	**5.40**	**282**	*e*Pn	**Pn**	**23 18 24.3**	**+0.4**
HAWA				*e*Sn	**Sb**	**23 19 41.1**	**-1.5**
RSSD	**Black Hills**	**5.76**	**101**	*e*Pn	Pb	23 18 47.3	+3.5
NVAR	**Mina Array Bea**	**8.55**	**216**	Pn	Pn	23 19 13.1	+5.7
NVAR				Pg	Pg	23 19 34.7	-12
NVAR	**Mina Array Bea**	**8.55**	**216**	Pn	Pn	23 19 13.1	+5.7
	0.2nm,0.3s,baz=35,slow=16,SNR=3.4						
NVAR				Pg	Pg	23 19 34.7	-12
	0.1nm,0.3s,baz=39,slow=17,SNR=2.4						
YKA	**Yellowknife Ar**	**17.07**	**356**	Pn	**P**	**23 21 04.3**	**+0.6**
YKA	**Yellowknife Ar**	**17.07**	**356**	Pn	**P**	**23 21 04.3**	**+0.6**
	0.0nm,0.3s,baz=177,slow=12,SNR=3.8						

IDC ***14*** *23:23:14.0±0.9,11.12S×123.56E,h0km,mb3.9/6, mb1 4.3/9,mb1mx4.1/18,mbtmp4.2/9,ML4.6/3,Error ellipse: s-maj=48.0km s-min=17.3km az=78.0*

NEIC ***14*** *23:23:15.4±0.7,11.23S×123.45E,h10km,mb4.6/1,Error ellipse: s-maj=17.4km s-min=9.9km az=64.0*

ISCJB ***14*** *23:23:16.1±0.5,11.45S±0.06×123.39E±0.10,h33km, mb3.9/6,Error ellipse: s-maj=15.0km s-min=5.4km az=154.0*

DJA ***14*** *23:23:17.1±0.5,11°S±5°×12°3E±°,h10km,M4.6/7,mB6.0/2, mb4.6/7,MLv4.6/6,Mw(mB)5.6/2*

ISC 14 23:23:18.1±0.7,11.45S±0.06×123.50E±0.08,h35km,n28, σ2.58/32,mb4.0/6,South of Timor

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**3.06**	**336**	P	**Pn**	**23 24 03.7**	**-0.3**
BBSI	**Bau Bau**	**6.00**	**351**	P	**Pn**	**23 24 46.6**	**+2.2**
	132nm,0.9s,0.4nm						
FITZ	**Fitzroy Crossi**	**6.93**	**163**	*e*Pn	Pn	23 25 01.6	+4.5
FITZ				*e*Sn	**Sn**	**23 26 18.1**	**+3.4**
FITZ	**Fitzroy Crossi**	**6.93**	**163**	Pn	Pn	23 25 01.6	+4.5
	6.6nm,0.3s,baz=15,slow=9.4,SNR=82						
FITZ				Sn	**Sn**	**23 26 16.6**	**+1.9**
	24nm,0.3s,baz=163,slow=18,SNR=14						
BKSI	**Bulukumba**	**6.95**	**331**	P	**Pn**	**23 24 56.7**	**-0.7**
	32nm,0.9s,0.1nm						
KAPI	**Kappang**	**7.39**	**330**	P	**Pn**	**23 25 03.1**	**-0.5**
	62nm,1.0s,0.2nm						
KDI	**Kendari**	**7.50**	**353**	P	**Pn**	**23 25 06.6**	**+1.6**
	22nm,0.7s,0.1nm						
KHKI	**Kahang-Kahang**	**8.36**	**291**	P	**Pn**	**23 25 14.8**	**-2.0**
	32nm,0.9s						
IGBI	**Denpasar**	**8.63**	**287**	P	Pn	23 25 16.9	-3.6
MBWA	**Marble Bar**	**10.30**	**200**	*e*Pn	**Pn**	**23 25 45.7**	**+2.2**
MBWA				*e*Sn	**Sn**	**23 27 34.8**	**-3.0**
WRA	**Warramunga Arr**	**13.42**	**130**	Pn	**Pn**	**23 26 27.1**	**+1.0**
WRA				Sn	**Sn**	**23 28 49.2**	**-4.9**
WRA	**Warramunga Arr**	**13.42**	**130**	Pn	**Pn**	**23 26 27.1**	**+1.0**
	2.6nm,0.3s,baz=306,slow=14,SNR=108						
WRA				Sn	**Sn**	**23 28 49.2**	**-4.9**
	4.5nm,0.3s,baz=299,slow=24,SNR=15						
WRAB	**Tennant Creek**	**13.42**	**130**	*e*Pn	**Pn**	**23 26 27.2**	**+1.1**
WRAB				*e*Sn	**Sn**	**23 28 48.7**	**-5.4**
AS31	**Alice Springs**	**15.67**	**142**	*e*Pn	**P**	**23 26 58.3**	**-1.8**
AS31				*e*Sn	**Sn**	**23 29 45.6**	**-3.4**
ASAR	**Alice Springs**	**15.67**	**142**	Pn	**P**	**23 26 58.5**	**-1.6**
ASAR				Sn	**Sn**	**23 29 46.0**	**-3.1**
ASAR	**Alice Springs**	**15.67**	**142**	Pn	**P**	**23 26 58.5**	**-1.6**
	2.7nm,0.3s,baz=327,slow=14,SNR=137						
ASAR				Sn	**Sn**	**23 29 46.0**	**-3.1**
	2.3nm,0.3s,baz=319,slow=22,SNR=15						
COEN	**Coen**	**19.36**	**99**	*e*Pn	**Pn**	**23 27 45.5**	**+3.3**
	20nm,0.5s						
COEN				*e*Sn	S	23 31 05.5	-13
NWAO	**Narrogin (SRO)**	**22.13**	**194**	P	**P**	**23 28 15.0**	**+4.3**
	10nm,1.0s,baz=36,slow=17,SNR=2.8						
MJAR	**Matsushiro Arr**	**49.71**	**16**	P	**P**	**23 32 06.1**	**-0.8**
MJAR	**Matsushiro Arr**	**49.71**	**16**	P	**P**	**23 32 06.1**	**-0.8**
	0.7nm,0.4s,baz=202,slow=9.1,SNR=4.3						
SONM	**Songino Array**	**60.95**	**347**	P	**P**	**23 33 27.1**	**-0.7**
SONM	**Songino Array**	**60.95**	**347**	P	**P**	**23 33 27.1**	**-0.7**
	0.6nm,0.5s,baz=160,slow=7.6,SNR=7.7						
MKAR	**Makanchi Array**	**68.69**	**331**	P	**P**	**23 34 18.0**	**0.0**
MKAR	**Makanchi Array**	**68.69**	**331**	P	**P**	**23 34 18.0**	**0.0**
	1.0nm,0.7s,baz=137,slow=8.0,SNR=15						
ZALV	**Zalesovo Beam**	**72.95**	**337**	P	**P**	**23 34 42.6**	**-1.1**
ZALV	**Zalesovo Beam**	**72.95**	**337**	P	**P**	**23 34 42.6**	**-1.1**
	0.4nm,0.5s,baz=123,slow=5.3,SNR=3.5						
QSPA	**South Pole Qui**	**78.55**	**180**	P	P	23 35 19.4	+3.5
QSPA	**South Pole Qui**	**78.55**	**180**	P	P	23 35 19.3	+3.5
	1.0nm,0.8s,baz=20,slow=2.9,SNR=5.3						

NEIC ***14*** *23:29:50.8,36.40S×177.11E,h262km,MG4.4(WEL), After WEL.*

WEL ***14*** *23:29:51.6±0.5,36.45S×177.13E,h258km±4km,ML4.4/16, Error ellipse: s-maj=6.3km s-min=5.2km az=0.0*

ISCJB ***14*** *23:29:51.0±0.9,36.70S±0.10×177.2E±0.1,h285km±8km, mb3.8/4,Error ellipse: s-maj=19.6km s-min=13.4km az=37.1*

IDC ***14*** *23:29:56.3±17.0,36.17S×177.33E,h339km±154km, mb3.6/4,mb1 3.8/4,mb1mx3.5/15,mbtmp3.6/4,Error ellipse: s-maj=98.0km s-min=23.0km az=61.0*

ISC 14 23:29:51.8±1.0,36.7S±0.1×177.17E±0.10,h277km±7km, n115,σ0.78/119,mb4.0/4,1C-4D,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.27**	**135**	⇑PN	**Pn**	**23 30 30.4**	**-0.7**
MXZ				*e*SN	**S**	**23 31 00.3**	**-2.0**
MXZ	**Matakaoa Point**	**1.27**	**135**	Pn	**Pn**	**23 30 30.4**	**-0.7**
MXZ				Sn	**S**	**23 31 02.0**	**-0.3**
URZ	**Urewera**	**1.58**	**182**	PN	**Pn**	**23 30 32.9**	**-0.2**
URZ				SN	**S**	**23 31 05.4**	**-0.7**
URZ	**Urewera**	**1.58**	**182**	Pn	**Pn**	**23 30 32.9**	**-0.2**
URZ				Sn	**S**	**23 31 05.4**	**-0.7**
PUZ	**Puketiti**	**1.64**	**148**	⇓PN	**Pn**	**23 30 33.3**	**-0.3**
PUZ				*e*SN	**S**	**23 31 05.2**	**-1.7**
PUZ	**Puketiti**	**1.64**	**148**	Pn	**Pn**	**23 30 33.3**	**-0.3**
TARZ	**Mount Tarawera**	**1.65**	**199**	*e*PN	**Pn**	**23 30 34.8**	**+1.0**
TARZ	**Mount Tarawera**	**1.65**	**199**	Pn	**Pn**	**23 30 34.9**	**+1.1**
MWZ	**Matawai**	**1.68**	**170**	⇓PN	**Pn**	**23 30 34.3**	**+0.4**
MWZ				*e*SN	**S**	**23 31 06.7**	**-0.8**
MWZ	**Matawai**	**1.68**	**170**	Pn	**Pn**	**23 30 34.3**	**+0.4**
MWZ				Sn	**S**	**23 31 07.5**	**0.0**
PRRZ	**Plateau Road**	**1.92**	**198**	PN	**Pn**	**23 30 37.1**	**+1.3**
PRRZ	**Plateau Road**	**1.92**	**198**	Pn	**Pn**	**23 30 37.1**	**+1.3**
CNGZ	**Carnagh Statio**	**1.99**	**156**	PN	**Pn**	**23 30 36.9**	**+0.6**
CNGZ	**Carnagh Statio**	**1.99**	**156**	Pn	**Pn**	**23 30 36.9**	**+0.6**
RAHZ	**Arahi**	**2.24**	**182**	PN	**Pn**	**23 30 39.4**	**+0.9**
RAHZ	**Arahi**	**2.24**	**182**	Pn	**Pn**	**23 30 39.4**	**+0.9**
PRGZ	**Paritu Road**	**2.31**	**166**	PN	**Pn**	**23 30 40.1**	**+0.8**
PRGZ	**Paritu Road**	**2.31**	**166**	Pn	**Pn**	**23 30 40.1**	**+0.8**
KNZ	**Kokohu**	**2.38**	**170**	PN	**

CTZ	**Chatham Island**	**8.50**	**148**	*e*PN	Pn	23 32 03.8	+13		
CTZ	**Chatham Island**	**8.50**	**148**	Pn	Pn	23 32 06.0	+15		
JCZ	**Jackson Bay**	**9.78**	**218**	PN	**Pn**	**23 32 06.6**	**-0.7**		
JCZ	**Jackson Bay**	**9.78**	**218**	Pn	**Pn**	**23 32 06.6**	**-0.7**		
CTA	**Charters Tower**	**31.64**	**293**	P	**P**	**23 35 49.2**	**-0.3**		
	1.8nm,0.5s,baz=108,slow=3.2,SNR=3.7								
ASAR	**Alice Springs**	**39.27**	**277**	P	**P**	**23 36 53.8**	**-0.5**		
	5.3nm,0.5s,baz=118,slow=7.9,SNR=67								
WRA	**Warramunga Arr**	**40.86**	**282**	P	**P**	**23 37 06.1**	**-1.1**		
	5.0nm,0.4s,baz=120,slow=7.8,SNR=73								
QSPA	**South Pole Qui**	**53.45**	**180**	P	**P**	**23 38 45.7**	**+2.3**		
	0.8nm,0.7s,baz=34,slow=9.0,SNR=5.7								
ARCES	**ARCESS Array B**	**143.67**	**344**	PKP	PKPab	23 48 46.6	-3.5		
	5.8nm,1.1s,baz=42,slow=4.1,SNR=7.2								
FINES	**FINESS Array B**	**149.28**	**333**	PKPbc	**PKPdf**	**23 49 03.7**	**+1.6**		
	0.7nm,0.4s,baz=33,slow=5.3,SNR=11								
TORD	**Torodi Ar. Bea**	**156.22**	**191**	PKPab	**PKPab**	**23 49 42.7**	**-0.1**		
	0.4nm,0.8s,baz=168,slow=4.2,SNR=3.8								

IDC 14 23:32:56.2±2.1, 2°.72N×125°.88E, *h*0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, Error ellipse: s-maj=188.5km s-min=26.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.00**	**160**	P	P	23 38 12.8	0.0
	0.6nm,0.4s,baz=339,slow=11,SNR=4.3						
ASAR	**Alice Springs**			P	P	23 38 43.7	+0.4
	0.3nm,0.8s,baz=345,slow=6.9,SNR=3.2						
MKAR	**Makanchi Array**	**57.91**	**326**	P	P	23 42 49.7	-0.5
	0.3nm,0.8s,baz=134,slow=8.7,SNR=3.9						

IDC 14 23:39:35.6±18.0, 9°.26S×65°.46E, *h*0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse: s-maj=563.2km s-min=35.8km az=66.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**57.79**	**14**	P	P	23 49 28.6	0.0
	0.3nm,0.7s,baz=209,slow=8.3,SNR=3.7						
ASAR	**Alice Springs**	**66.65**	**112**	P	P	23 50 28.2	-0.5
	0.5nm,0.8s,baz=273,slow=6.4,SNR=4.5						
WRA	**Warramunga Arr**	**67.12**	**108**	P	P	23 50 32.2	+0.4
	0.5nm,0.8s,baz=278,slow=7.0,SNR=3.4						
SONM	**Songino Array**	**67.40**	**29**	P	P	23 50 33.0	0.0
	0.6nm,0.7s,baz=211,slow=6.8,SNR=5.6						

WEL 14 23:44:01.4±0.5, 35°.48S×178°.42E, h196km±9km, ML3.5/5, 1D, Error ellipse: s-maj=10.5km s-min=9.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.08**	**182**	PN	Pn	23 44 40.6	+0.2
MXZ				SN	Sn	23 45 11.2	+0.3
PUZ	**Puketiti**	**2.59**	**183**	PN	Pn	23 44 46.0	0.0
PUZ				SN	Sn	23 45 19.2	-1.8
MWZ	**Matawai**	**2.94**	**194**	PN	Pn	23 44 50.5	+0.4
URZ	**Urewera**	**2.96**	**200**	‖PN	Pn	23 44 50.7	+0.4
URZ				SN	Sn	23 45 29.1	+0.3
CNGZ	**Carnagh Statio**	**3.00**	**183**	PN	Pn	23 44 51.3	+0.6
KAHZ	**Kahuranaki**	**4.48**	**195**	PN	Pn	23 45 08.3	-0.7
PRHZ	**Porangahau**	**4.98**	**196**	PN	Pn	23 45 13.7	-1.7
MRZ	**Mangatainoka R**	**5.63**	**203**	PN	Pn	23 45 21.4	-2.4
OGWZ	**Otaki Gorge**	**5.91**	**205**	PN	Pn	23 45 24.8	-2.6

*ISCJB **15** 00:02:38.8±0.6, 37°.91N±0°.03×29°.15E±0°.05, h6km±6km, Error ellipse: s-maj=6.7km s-min=4.2km az=29.9*
*DDA **15** 00:02:38.1, 37°.91N×29°.20E, h7km, MD2.8*
*CSEM **15** 00:02:38.8±0.2, 37°.91N×29°.17E, h2km, MD2.8, Error ellipse: s-maj=4.0km s-min=2.5km az=126.0*
*ISK **15** 00:02:39.3, 37°.94N×29°.16E, h6km, MD2.7*
ISC 15 00:02:38.6±1.0, 37°.91N±0°.04×29°.15E±0°.04, h9km±11km, n24, σ0°.40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.23**	**201**	*i* P	**Pg**	**00 02 43.1**	**-0.4**
DNZL				*e*S	**Sg**	**00 02 46.9**	**+0.2**
DNZL	**Cakiroluk**	**0.23**	**201**	*i* P	**Pg**	**00 02 43.1**	**-0.4**
DNZL				*e*S	**Sg**	**00 02 46.9**	**+0.2**
KHL	**Karahalli**	**0.51**	**35**	*e*PG	**Pg**	**00 02 49.0**	**+0.4**
KHL				*e*SG	**Sb**	**00 02 56.3**	**-1.0**
KHL	**Karahalli**	**0.51**	**35**	*e*Pg	**Pg**	**00 02 49.0**	**+0.4**
KHL				*e*Sg	**Sb**	**00 02 56.3**	**-1.0**
KHAL	**Karahalli**	**0.53**	**30**	*i* P	**Pg**	**00 02 48.7**	**-0.3**
KHAL				*e*S	**Sg**	**00 02 56.6**	**+0.5**
KHAL	**Karahalli**	**0.53**	**30**	*i* P	**Pg**	**00 02 48.7**	**-0.3**
KHAL				*e*S	**Sg**	**00 02 56.6**	**+0.5**
KULA	**Kula-Manisa**	**0.72**	**328**	*e*PG	**Pb**	**00 02 53.4**	**0.0**
KULA				*e*SG	**Sb**	**00 03 03.1**	**-0.3**
KULA	**Kula-Manisa**	**0.72**	**328**	*e*Pg	**Pb**	**00 02 53.4**	**0.0**
KULA				*e*Sg	**Sb**	**00 03 03.1**	**-0.3**
MANT	**Manisa**	**0.75**	**321**	*i* P	**Pb**	**00 02 53.7**	**-0.3**
MANT				*e*S	**Sb**	**00 03 03.9**	**-0.5**
MANT	**Manisa**	**0.75**	**321**	*i* P	**Pb**	**00 02 53.7**	**-0.3**
MANT				*e*S	**Sb**	**00 03 03.9**	**-0.5**
YER	**Yerkesik**	**1.03**	**222**	*e*PG	**Pn**	**00 03 00.0**	**+0.6**
YER	**Yerkesik**	**1.03**	**222**	*e*Pg	**Pn**	**00 03 00.0**	**+0.6**
AYDN	**Tasoluk**	**1.04**	**257**	*i* P	**Pg**	**00 02 58.7**	**+0.1**
AYDN				*i* S	**Sg**	**00 03 12.4**	**+0.3**
AYDN	**Tasoluk**	**1.04**	**257**	*i* P	**Pg**	**00 02 58.7**	**+0.1**
AYDN				*i* S	**Sg**	**00 03 12.4**	**+0.3**
DEMI	**Demirci**	**1.18**	**343**	*e*P	**Pb**	**00 03 01.2**	**-0.1**
DEMI				*i* S	**Sb**	**00 03 16.6**	**-0.2**
DEMI	**Demirci**	**1.18**	**343**	*e*P	**Pb**	**00 03 01.2**	**-0.1**
DEMI				*i* S	**Sb**	**00 03 16.6**	**-0.2**
GDZ	**Gediz**	**1.21**	**12**	*i* P	**Pn**	**00 03 01.6**	**-0.2**
GDZ				*i* S	**Sb**	**00 03 17.4**	**-0.1**
GDZ	**Gediz**	**1.21**	**12**	*i* P	**Pn**	**00 03 01.6**	**-0.2**
GDZ				*i* S	**Sb**	**00 03 17.4**	**-0.1**
SHUT	**Suhut-Afyon**	**1.28**	**59**	*e*PN	**Pg**	**00 03 03.5**	**+0.3**
SHUT	**Suhut-Afyon**	**1.28**	**59**	*e*Pn	**Pg**	**00 03 03.5**	**+0.3**
ALT	**Altintas**	**1.37**	**33**	*e*PN	**Pg**	**00 03 05.1**	**+0.1**
ALT	**Altintas**	**1.37**	**33**	*e*Pn	**Pg**	**00 03 05.1**	**+0.1**
TVSB	**Tavsanli**	**1.56**	**9**	*e*PN	**Pb**	**00 03 07.7**	**0.0**
TVSB	**Tavsanli**	**1.56**	**9**	*e*Pn	**Pb**	**00 03 07.7**	**0.0**

*BJI **15** 00:05:22.5, 2°.88N×127°.30E, h35km, mB5.0/22, mb4.7/32, Ms4.5/13, Ms7 4.0/16*
*IDC **15** 00:05:26.2±0.6, 3°.72N×127°.03E, h0km, mb4.4/18, mb1 4.5/19, mb1mx4.4/22, mbtmp4.4/19, ML4.3/1, MS3.1/2, Ms1 3.2/2, ms1mx2.4/35, Error ellipse: s-maj=29.8km s-min=12.4km az=75.0*
*ISCJB **15** 00:05:30.9±0.3, 3°.76N±0°.04×127°.10E±0°.06, h48km, mb4.6/48, MS3.6/8, Error ellipse: s-maj=8.7km s-min=5.0km az=166.5*
*NEIC **15** 00:05:31.2±0.3, 3°.80N×127°.07E, h35km, mb4.8/18, Error ellipse: s-maj=10.2km s-min=5.9km az=75.0*
*DJA **15** 00:05:45, 3°.24N×126°.65E, h65km, ML v4.3/5*
ISC 15 00:05:32.5±0.4, 3.77N±0°.05×127°.07E±0°.08, h48km, n121, σ1s56/151, mb4.7/55, MS3.6/8, 4C-3D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.99**	**174**	P	**Pn**	00 06 25.0	+7.5
MNI	**Manado**	**3.21**	**224**	P	**Pn**	**00 06 22.9**	**+2.4**
DAV	**Davao City (W)**	**3.60**	**336**	Pn	**Pn**	**00 06 23.6**	**-2.3**
DAV	**Davao City (W)**	**3.60**	**336**	Pn	**Pn**	**00 06 23.5**	**-2.3**
	28nm,0.3s,baz=53,slow=10,SNR=1.8						
LBMI	**Labuha**	**4.40**	**174**	P	Pn	00 06 43.8	+7.0
CTBH	**Cotabato--PC H**	**4.44**	**321**	‖*e*P	**Pn**	**00 06 37.2**	**-0.1**
MRSI	**Marisa**	**6.08**	**238**	P	**Pn**	**00 07 02.8**	**+2.9**
	73nm,0.8s,1μm0.4nm						
MYLDM	**Lahad Datu**	**8.66**	**280**	P	Pn	00 07 43.8	+8.5
	48nm,1.1s						
KDI	**Kendari**	**8.87**	**210**	P	**Pn**	**00 07 37.4**	**-0.8**
	22nm,0.8s						
KSM	**Kuching**	**16.90**	**263**	*e*Pn	**P**	**00 09 27.5**	**+0.2**
KSM	**Kuching**	**16.90**	**263**	P	P	00 09 32.4	+5.1
	21nm,0.9s						
MTN	**Manton Dam**	**16.99**	**166**	*e*P	**Pn**	**00 09 25.8**	**-1.1**
GUMO	**Guam**	**20.10**	**60**	*e*P	**P**	**00 10 01.2**	**-1.2**
YULB	**Yu-li**	**20.29**	**345**	*e*P	**P**	**00 10 01.9**	**-2.6**
	132nm,2.4s						
TPUB	**Ta-pu**	**20.39**	**343**	*e*P	**P**	**00 10 03.6**	**-2.0**
SSLB	**Suanglung**	**20.76**	**344**	*e*P	**P**	**00 10 08.7**	**-0.8**
	253nm,2.6s						
YHNB	**Yeheng**	**21.50**	**346**	*e*P	**P**	**00 10 18.6**	**+1.1**
FITZ	**Fitzroy Crossi**	**21.78**	**184**	*e*P	**P**	**00 10 20.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**21.78**	**184**	*e*P	**P**	**00 10 20.1**	**-0.3**
	12nm,1.0s						
FITZ	**Fitzroy Crossi**	**21.78**	**184**	P	**P**	**00 10 19.0**	**-1.4**
	2.3nm,0.5s,baz=0.0,slow=12,SNR=4.9						
QIZ	**Qiongzhong**	**22.66**	**313**	P	**P**	**00 10 30.3**	**+0.4**
QIZ				S	**S**	**00 14 37.8**	**+2.9**
QIZ				pmax	pmax		
	comp=Z,16nm,1.8s						
QIZ				pmax	pmax		
	comp=Z,100nm,5.4s						
QIZ	**Qiongzhong**	**22.66**	**313**	*e*P	**P**	**00 10 27.2**	**-2.7**
COEN	**Coen**	**23.77**	**138**	*e*P	**P**	**00 10 39.8**	**-1.1**
	comp=Z,5.6nm,0.6s						
WRAB	**Tennant Creek**	**24.61**	**163**	*e*P	**P**	**00 10 48.0**	**-0.5**
	comp=Z,54nm,1.0s						
WRA	**Warramunga Arr**	**24.62**	**163**	P	**P**	**00 10 47.5**	**-1.1**
WRA	**Warramunga Arr**	**24.62**	**163**	P	**P**	**00 10 47.5**	**-1.1**
	comp=Z,14nm,0.7s,baz=344,slow=10,SNR=62						
AS31	**Alice Springs**	**28.07**	**167**	*e*P	**P**	**00 11 20.7**	**+1.0**
ASAR	**Alice Springs**	**28.07**	**167**	P	**P**	**00 11 19.4**	**-0.3**
ASAR	**Alice Springs**	**28.07**	**167**	P	**P**	**00 11 19.4**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=346,slow=7.4,SNR=22						
PSI	**Prapat**	**28.12**	**269**	P	**P**	**00 11 19.4**	**-1.0**
PSI	**Prapat**	**28.12**	**269**	P	**P**	**00 11 19.4**	**-1.0**
	comp=Z,1.7nm,0.3s,baz=239,slow=3.2,SNR=3.6						
NJ2	**Nanjing**	**29.18**	**346**	*e*P	**P**	**00 11 31.0**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WHN	**Wuhan**	**29.22**	**337**	*e*P	**P**	**00 11 31.0**	**+1.2**
GYA	**Guiyang**	**29.85**	**321**	P	**P**	**00 11 37.8**	**+2.1**
GYA				pP	**pP**	**00 11 48.0**	**-0.2**
GYA				PP	PP	00 12 35.4	-8.3
GYA				S	**S**	**00 16 31.0**	**+1.4**
GYA				sS	**sS**	**00 16 48.9**	**-1.8**
GYA				ScS	**ScS**	**00 22 12.3**	**+0.4**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.1s						
GYA				LR	LR		
	comp=N,580nm,17.4s						
GYA				LR	LR		
	comp=E,540nm,18.0s						
GYA				LR	LR		
	comp=Z,570nm,17.7s						
CMAR	**Chiang Mai Arr**	**31.15**	**300**	P	**P**	**00 11 47.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**31.15**	**300**	P	**P**	**00 11 47.2**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=114,slow=7.3,SNR=23						
CMAR				LR	LR	00 24 53.6	
	comp=Z,21nm,18.2s,baz=215,slow=38						
CHTO	**Chiang Mai**	**31.30**	**301**	*e*P	**P**	**00 11 48.1**	**-0.3**
	comp=Z,6.9nm,0.7s						
KMI	**Kunming**	**31.60**	**315**	P	**P**	**00 11 52.8**	**+1.6**
KMI				pP	**pP**	**00 12 03.8**	**0.0**
KMI				sP	**sP**	**00 12 08.3**	**-1.2**
KMI				S	**S**	**00 17 00.9**	**+3.8**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KMI				pmax	pmax		
	comp=Z,79nm,5.8s						
KMI				LR	LR		
	comp=Z,65nm,15.6s						
KSAR	**Wonju Array Be**	**33.52**	**1**	P	**P**	**00 12 07.0**	**-0.6**
KSRS	**Korea Array**	**33.53**	**1**	P	**P**	**00 12 07.0**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=177,slow=8.4,SNR=2.6						
MJAR	**Matsushiro Arr**	**34.19**	**16**	P	**P**	**00 12 16.1**	**+2.6**
MJAR	**Matsushiro Arr**	**34.19**	**16**	P	**P**	**00 12 16.1**	**+2.6**
	comp=Z,1.1nm,0.8s,baz=192,slow=10,SNR=3.3						
MJAR				LR	LR	00 26 11.7	
	comp=Z,54nm,19.9s,baz=165,slow=36						
XAN	**Xi'an**	**34.54**	**333**	P	**P**	**00 12 15.8**	**-0.7**
XAN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,11nm,4.2s						
BBOO	**Buckleboo**	**37.36**	**167**	*e*P	**P**	**00 12 41.0**	**+0.4**
	comp=Z,20nm,0.4s						
BJT	**Baijiatuan**	**37.41**	**346**	*e*P	**P**	**00 12 41.3**	**+0.3**
	comp=Z,22nm,0.6s						
BJI	**Beijing**	**37.43**	**346**	P	**P**	**00 12 42.3**	**+1.2**
BJI				pP	**pP**	**00 12 50.9**	**-3.0**
BJI				PP	PP	00 14 07.8	+0.5
BJI				S	**S**	**00 18 29.8**	**+3.6**
BJI				pmax	pmax		
	comp=Z,43nm,0.8s						
BJI				pmax	pmax		
	comp=Z,65nm,3.7s						
BJI				LR	LR		
	comp=Z,30nm,25.5s						
NWAO	**Narrogin (SRO)**	**37.67**	**194**	P	**P**	**00 12 44.0**	**+0.8**
NWAO	**Narrogin (SRO)**	**37.67**	**194**	P	**P**	**00 12 44.0**	**+0.8**
	comp=Z,7.7nm,0.9s,baz=53,slow=5.1,SNR=3.0						
STKA	**Stephens Creek**	**38.04**	**160**	*e*P	**P**	**00 12 46.5**	**+0.1**
	comp=Z,2.7nm,0.9s						
STKA	**Stephens Creek**	**38.04**	**160**	*e*P	**P**	**00 12 46.3**	**-0.1**
	comp=Z,7.2nm,0.6s						
STKA	**Stephens Creek**	**38.04**	**160**	P	**P**	**00 12 46.1**	**-0.3**
	comp=Z,3.6nm,0.7s,baz=333,slow=10,SNR=13						
HHC	**Hu-ho-hao-te**	**39.47**	**341**	*e*P	**P**	**00 13 00.1**	**+1.7**
HHC				pP	**pP**	**00 13 09.1**	**-2.1**
HHC				sP	**sP**	**00 13 14.3**	**-2.6**
HHC				PP	PP	00 14 36.8	+7.0
HHC				*e*S	**S**	**00 19 00.3**	**+3.1**
HHC				pmax	pmax		
	comp=Z,15nm,1.2s						
HHC				pmax	pmax		
	comp=Z,220nm,4.4s						
HHC				LR	LR		
	comp=N,160nm,10.6s						
HHC				LR	LR		
	comp=E,150nm,10.4s						
HHC				LR	LR		
	comp=Z,57nm,10.7s						
CN2	**Changchun**	**39.89**	**358**	*e*P	**P**	**00 13 04.3**	**+2.6**
CN2				*e*pP	**pP**	**00 13 14.0**	**-0.5**
CN2				*e*S	**S**	**00 19 07.4**	**+4.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
USRK	**Ussuriysk Arra**	**40.50**	**5**	P	**P**	**00 13 08.0**	**+1.3**
	comp=Z,1.4nm,0.6s,baz=180,slow=5.8,SNR=3.6						
MDJ	**Mudanjiang**	**40.74**	**3**	P	**P**	**00 13 09.3**	**+0.6**
MDJ				pmax	pmax		
	comp=Z,11nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,220nm,4.3s						
LSA	**Lhasa**	**42.67**	**311**	P	**P**	**00 13 25.9**	**+0.6**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LSA	**Lhasa**	**42.67**	**311**	*e*P	**P**	**00 13 25.6**	**+0.2**
	comp=Z,6.6nm,0.5s						
GTA	**Gaotai**	**43.24**	**329**	*e*P	**P**	**00 13 31.3**	**+1.9**
GTA				pP	**pP**	**00 13 41.1**	**-1.2**
GTA				sP	**sP**	**00 13 45.1**	**-2.9**
GTA				S	**S**	**00 19 56.4**	**+3.1**
GTA				sS	**sS**	**00 20 12.8**	**-2.2**
GTA				SS	SS	00 23 04.1	-3.9
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,170nm,4.0s						
GTA				LR	LR		
	comp=N,72nm,14.0s						
GTA				LR	LR		
	comp=E,120nm,15.4s						
GTA				LR	LR		
	comp=Z,84nm,16.4s						
TAPN	**Taplejung**	**44.27**	**306**	*e*P	**P**	**00 13 37.1**	**-1.0**
	comp=Z,25nm,1.0s						
ODAN	**Odare**	**44.33**	**305**	*e*P	**P**	**00 13 37.3**	**-1.1**
	comp=Z,15nm,0.6s						
RAMN	**Ramite**	**45.01**	**305**	*e*P	**P**	**00 13 43.1**	**-0.8**
	comp=Z,33nm,1.1s						
JIRN	**Jiri**	**45.63**	**306**	*e*P	**P**	**00 13 48.1**	**-0.8**
	comp=Z,4.1nm,0.5s						
GUN	**Gumba**	**45.98**	**306**	*e*P	**P**	**00 13 50.5**	**-1.2**
	comp=Z,13nm,0.5s						
ULN	**Ulaanbaatar**	**47.19**	**342**	*e*P	**P**	**00 14 02.3**	**+1.7**
	comp=Z,21nm,1.2s						
SONM	**Songino Array**	**47.37**	**341**	P	**P**	**00 14 03.3**	**+1.4**
SONM				PcP	**PcP**	**00 15 33.9**	**+1.8**
SONM	**Songino Array**	**47.37**	**341**	P	**P**	**00 14 03.3**	**+1.4**
	comp=Z,5.2nm,0.9s,baz=158,slow=7.7,SNR=33						
SONM				PcP	**PcP**	**00 15 33.9**	**+1.8**
	comp=Z,1.3nm,0.9s,baz=183,slow=2.4,SNR=4.4						
KOLN	**Koldanda**	**47.78**	**305**	*e*P	**P**	**00 14 04.7**	**-0.9**
	comp=Z,17nm,0.3s						
DANN	**Dangsing**	**47.87**	**305**	*e*P	**P**	**00 14 05.1**	**-1.3**
	comp=Z,30nm,0.8s						
TLY	**Talaya**	**51.60**	**342**	*e*P	**P**	**00 14 33.7**	**-0.3**
	comp=Z,8.5nm,0.9s						
WMQ	**Urumqi**	**52.89**	**325**	P	**P**	**00 14 44.8**	**+1.0**
WMQ				pP	**pP**	**00 14 54.8**	**-2.3**
WMQ				sP	**sP**	**00 14 58.5**	**-4.1**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,160nm,4.3s						
WMQ				LR	LR		
	comp=Z,160nm,18.0s						
MK31	**Makanchi Array**	**57.72**	**325**	*e*P	**P**	**00 15 18.6**	**+0.1**
MKAR	**Makanchi Array**	**57.72**	**325**	*e*P	**P**	**00 15 18.6**	**+0.1**
MKAR				PcP	**PcP**	**00 16 12.1**	**+1.1**
MKAR	**Makanchi Array**	**57.72**	**325**	P	**P**	**00 15 18.9**	**+0.4**
	comp=Z,5.9nm,0.5s,baz=119,slow=7.5,SNR=192						
MKAR				PcP	**PcP**	**00 16 12.1**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=120,slow=4.3,SNR=4.2						
YAK	**Yakutsk**	**58.16**	**1**	*e*P	**P**	**00 15 21.1**	**0.0**
	comp=Z,14nm,0.6s						
KSH	**Kashi**	**58.26**	**315**	*e*P	**P**	**00 15 24.0**	**+1.5**
KSH				pP	**pP**	**00 15 33.9**	**-2.0**
KSH				sP	**sP**	**00 15 38.1**	**-3.4**
KSH				PcP	**PcP**	**00 16 14.1**	**+0.7**
KSH				PP	**PP**	**00 17 35.3**	**+3.4**
KSH				ScP	**ScP**	**00 20 10.0**	**+0.1**
KSH				PcS	**PcS**	**00 20 14.1**	**-0.9**
KSH				S	**S**	**00 23 24.0**	**+2.6**
KSH				sS	**sS**	**00 23 40.9**	**-2.9**
KSH				ScS	**ScS**	**00 25 07.1**	**-1.4**
KSH				SS	**SS**	**00 27 18.6**	**+4.7**
KSH				LR	LR		
	comp=N,120nm,5.3s						
KSH				LR	LR		
	comp=E,120nm,4.2s						
KSH				LR	LR		
	comp=Z,220nm,6.1s						
KZA	**Kyzart**	**59.82**	**317**	P	**P**	**00 15 34.6**	**+1.0**
	SNR=5.9						
TKM2	**Tokmak 2**	**59.95**	**318**	*e*P	**P**	**00 15 34.2**	**0.0**
	comp=Z,3.4nm,0.6s						
TKM2	**Tokmak 2**	**59.95**	**318**	P	**P**	**00 15 34.6**	**+0.4**
	SNR=8.4						
AAK	**Ala-Archa**	**60.56**	**318**	*e*P	**P**	**00 15 38.8**	**+0.4**
	comp=Z,9.7nm,0.8s						
ZAA0	**Zalesovo Array**	**60.71**	**333**	*e*P	**P**	**00 15 38.1**	**-0.8**
ZALV	**Zalesovo Beam**	**60.71**	**333**	P	**P**	**00 15 39.0**	**0.0**
ZALV	**Zalesovo Beam**	**60.71**	**333**	P	**P**	**00 15 39.0**	**0.0**
	comp=Z,1.4nm,0.3s,baz=127,slow=6.2,SNR=16						
USP	**Ospenovka**	**60.82**	**318**	P	**P**	**00 15 39.7**	**-0.3**
	SNR=14						
AML	**Almayashu**	**60.90**	**317**	P	**P**	**00 15 41.6**	**+0.6**
	SNR=14						
EKS2	**Erkin-Say**	**61.05**	**317**	*e*P	**P**	**00 15 42.0**	**+0.3**
	comp=Z,5.4nm,0.9s						
EKS2	**Erkin-Say**	**61.05**	**317**	P	**P**	**00 15 42.7**	**+1.0**
	SNR=7.8						
KBL	**Kabul**	**61.77**	**307**	*e*P	**P**	**00 15 46.0**	**-0.8**
	comp=Z,8.5nm,1.1s						
KURK	**Kurchatov**	**61.89**	**327**	*e*P	**P**	**00 15 47.3**	**+0.3**
	comp=Z,11nm,0.6s						
KKAR	**Karatay Array**	**63.44**	**317**	*e*P	**P**	**00 15 57.1**	**-0.5**
BRVK	**Borovoye**	**67.55**	**327**	*e*P	**P**	**00 16 23.4**	**-0.4**
	comp=Z,5.2nm,0.7s						
ABKAR	**Akbulak array**	**72.34**	**321**	*e*P	**P**	**00 16 53.4**	**+0.1**
ARU	**Arti**	**75.09**	**328**	*e*P	**P**	**00 17 09.2**	**-0.1**
	comp=Z,7.6nm,0.5s						
MCK	**McKinley**	**83.98**	**26**	*e*P	**P**	**00 17 57.5**	**+0.1**
ILAR	**Eielson Array**	**84.92**	**25**	P	**P**	**00 18 03.0**	**+0.8**
ILAR	**Eielson Array**	**84.92**	**25**	P	**P**	**00 18 03.0**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=246,slow=4.8,SNR=5.5						
JOF	**Joensuu**	**89.30**	**333**	*e*p	**P**	**00 18 23.5**	**+0.1**
	comp=Z,4.6nm,0.6s						
BR131	**Keskin Array S**	**90.26**	**310**	*e*P	**P**	**00 18 27.2**	**-1.4**
	comp=Z,3.3nm,0.9s						
BRTR	**Keskin Array B**	**90.26**	**310**	P	**P**	**00 18 28.4**	**-0.2**
BRTR	**Keskin Array B**	**90.26**	**310**	P	**P**	**00 18 28.4**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=129,slow=4.2,SNR=14						
ARCES	**ARCESS Array B**	**90.53**	**340**	P	**P**	**00 18 29.4**	**+0.3**
ARCES	**ARCESS Array B**	**90.53**	**340**	P	**P**	**00 18 29.4**	**+0.3**
	comp=Z,6.0nm,0.8s,baz=83,slow=6.8,SNR=19						
KAF	**Kangasniemi**	**91.72**	**332**	*e*p	**P**	**00 18 34.2**	**-0.5**
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**91.96**	**332**	P	**P**	**00 18 36.3**	**+0.5**
FINES	**FINESS Array B**	**91.96**	**332**	P	**P**	**00 18 36.3**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=56,slow=5.4,SNR=17						
AKASG	**Malin Array Be**	**92.08**	**321**	P	**P**	**00 18 36.5**	**-0.2**
AKASG	**Malin Array Be**	**92.08**	**321**	P	**P**	**00 18 36.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.93**	**169**	P	Pn	00 28 35.5	-6.5
MNI	**Manado**	**2.97**	**222**	P	**Pn**	**00 28 43.6**	**+1.0**
GSPH	**General Santos**	**3.05**	**322**	*iP*	**Pn**	**00 28 41.6**	**-2.1**
DAV	**Davao City (W)**	**3.60**	**340**	*e*Pn	Pn	00 28 46.9	-4.3
DAV	**Davao City (W)**	**3.60**	**340**	Pn	Pn	00 28 57.4	+6.2
	66nm,0.3s,baz=105,slow=5.4,SNR=5.3						
DAV				Sn	Sn	00 29 50.6	+18
	50nm,0.3s,baz=277,slow=20,SNR=3.9						
KMSI	**Cibinong**	**4.19**	**223**	P	Pn	00 29 03.5	+4.2
LBMI	**Labuha**	**4.33**	**171**	P	**Pn**	**00 28 59.7**	**-1.5**
CTBH	**Cotabato--PC H**	**4.37**	**324**	*e*P	**Pn**	**00 29 02.0**	**+0.3**
MRSI	**Marisa**	**5.82**	**237**	P	**Pn**	**00 29 23.0**	**+1.3**
	126nm,0.7s,2μm						
SWI	**Sorong**	**6.32**	**135**	P	Pn	00 29 23.2	-5.3
	93nm,0.9s,1μm						
MYLDM	**Lahad Datu**	**8.44**	**281**	P	**Pn**	**00 29 59.5**	**+1.9**
	67nm,1.0s						
KDI	**Kendari**	**8.66**	**209**	P	**Pn**	**00 30 01.9**	**+1.2**
KKM	**Kota Kinabalu**	**10.83**	**283**	*e*Pn	**Pn**	**00 30 31.6**	**+1.1**
KSM	**Kuching**	**16.64**	**263**	*e*Pn	**P**	**00 31 51.4**	**+1.6**
	11nm,0.7s						
MTN	**Manton Dam**	**16.95**	**165**	*e*P	**Pn**	**00 31 49.5**	**-2.3**
TPUB	**Ta-pu**	**20.42**	**343**	*e*Pn	**P**	**00 32 29.5**	**-1.7**
	33nm,0.9s						
SSLB	**Suanglung**	**20.79**	**345**	*e*P	**P**	**00 32 32.0**	**-3.2**
	16nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.66**	**183**	*e*P	**P**	**00 32 42.2**	**-2.3**
	6.5nm,0.8s						
FITZ				S	**S**	**00 36 37.5**	**-4.4**
FITZ	**Fitzroy Crossi**	**21.66**	**183**	*e*P	**P**	**00 32 43.6**	**-0.9**
	9.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.66**	**183**	P	**P**	**00 32 41.8**	**-2.7**
	4.3nm,0.6s,baz=333,slow=7.2,SNR=8.6						
FITZ				S	**S**	**00 36 37.5**	**-4.4**
	4.4nm,1.0s,baz=16,slow=18,SNR=4.0						
COEN	**Coen**	**23.87**	**138**	*e*P	**P**	**00 33 05.2**	**-2.0**
	42nm,0.9s						
COEN	**Coen**	**23.87**	**138**	*e*P	**P**	**00 33 05.8**	**-1.3**
	21nm,0.6s						
WRAB	**Tennant Creek**	**24.59**	**163**	*e*P	**P**	**00 33 13.7**	**0.0**
	52nm,0.8s						
WRA	**Warramunga Arr**	**24.60**	**163**	P	**P**	**00 33 13.5**	**-0.3**
WRA				S	**S**	**00 37 36.2**	**+4.4**
WRA				ScP	**ScP**	**00 40 28.1**	**+2.2**
WRA	**Warramunga Arr**	**24.60**	**163**	P	**P**	**00 33 13.5**	**-0.3**
	41nm,0.7s,baz=344,slow=10,SNR=164						
WRA				S	**S**	**00 37 36.2**	**+4.4**
	1.0nm,0.9s,baz=341,slow=16,SNR=4.8						
WRA				ScP	**ScP**	**00 40 28.1**	**+2.2**
	0.7nm,0.8s,baz=345,slow=3.3,SNR=4.9						
AS31	**Alice Springs**	**28.03**	**166**	*e*P	**P**	**00 33 44.5**	**-0.2**
ASAR	**Alice Springs**	**28.03**	**166**	P	**P**	**00 33 44.8**	**+0.1**
ASAR				S	**S**	**00 38 30.0**	**+3.9**
ASAR	**Alice Springs**	**28.03**	**166**	P	**P**	**00 33 44.8**	**+0.1**
	2.0nm,0.6s,baz=349,slow=7.8,SNR=25						
ASAR				S	**S**	**00 38 30.0**	**+3.9**
	0.3nm,0.7s,baz=353,slow=21,SNR=3.1						
CMAR	**Chiang Mai Arr**	**30.99**	**300**	P	**P**	**00 34 11.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**30.99**	**300**	P	**P**	**00 34 11.3**	**+0.3**
	3.1nm,0.7s,baz=111,slow=6.9,SNR=18						
CMAR				LR	LR	00 46 18.6	
	comp=Z,54nm,20.4s,baz=180,slow=36						
CHTO	**Chiang Mai**	**31.14**	**301**	*e*P	**P**	**00 34 11.7**	**-0.6**
	4.4nm,0.7s						
KSAR	**Wonju Array Be**	**33.63**	**2**	P	**P**	**00 34 35.2**	**+1.3**
KSRS	**Korea Array**	**33.64**	**2**	P	**P**	**00 34 35.2**	**+1.2**
	2.9nm,0.6s,baz=181,slow=10,SNR=13						
MJAR	**Matsushiro Arr**	**34.35**	**16**	LR	LR	00 48 47.3	
	comp=Z,77nm,19.8s,baz=235,slow=36						
XAN	**Xi'an**	**34.52**	**333**	P	**P**	**00 34 40.4**	**-1.3**
XAN				pP	**pP**	**00 34 55.0**	**+0.6**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,21nm,4.0s						
HNR	**Honiara**	**35.48**	**112**	LR	LR	00 47 17.2	
	comp=Z,74nm,18.6s,baz=36,slow=32						
BBOO	**Buckleboo**	**37.32**	**167**	*e*P	**P**	**00 35 05.8**	**+0.2**
	comp=Z,37nm,1.0s						
BJT	**Baijiatuan**	**37.45**	**346**	*e*P	**P**	**00 35 07.2**	**+0.6**
	comp=Z,20nm,0.5s						
BJI	**Beijing**	**37.47**	**347**	P	**P**	**00 35 07.1**	**+0.3**
BJI				pmax	pmax		
	comp=Z,30nm,0.6s						
STKA	**Stephens Creek**	**38.04**	**159**	*e*P	**P**	**00 35 11.5**	**-0.2**
	comp=Z,2.2nm,0.7s						
STKA	**Stephens Creek**	**38.04**	**159**	*e*P	**P**	**00 35 12.2**	**+0.5**
	comp=Z,6.9nm,0.4s						
STKA	**Stephens Creek**	**38.04**	**159**	P	**P**	**00 35 11.9**	**+0.2**
	comp=Z,9.9nm,0.6s,baz=336,slow=8.3,SNR=35						
SNY	**Shenyang**	**38.10**	**356**	*i*P	**P**	**00 35 14.4**	**+2.3**
SNY				pmax	pmax		
	comp=Z,11nm,0.5s						
USRK	**Ussuriysk Arra**	**40.62**	**6**	P	**P**	**00 35 34.2**	**+1.1**
	comp=Z,2.0nm,0.5s,baz=198,slow=12,SNR=5.9						
USRK				LR	LR	00 52 44.2	
	comp=Z,36nm,18.1s,baz=74,slow=37						
LSA	**Lhasa**	**42.55**	**311**	*e*P	P	00 35 45.6	-4.1
LSA	**Lhasa**	**42.55**	**311**	*e*P	**P**	**00 35 49.5**	**-0.3**
	comp=Z,4.1nm,0.6s						
TAPN	**Taplejung**	**44.13**	**306**	*e*P	**P**	**00 36 01.3**	**-1.0**
	comp=Z,8.1nm,0.4s						
ODAN	**Odare**	**44.18**	**305**	*e*P	**P**	**00 36 01.8**	**-0.9**
	comp=Z,16nm,0.6s						
RAMN	**Ramite**	**44.86**	**305**	*e*P	**P**	**00 36 07.4**	**-0.7**
	comp=Z,7.6nm,0.6s						
YSS	**Yuzh-Sakhalins**	**45.28**	**15**	*e*P	P	00 36 05.2	-5.5
JIRN	**Jiri**	**45.49**	**306**	*e*P	**P**	**00 36 12.2**	**-1.0**
	comp=Z,1.7nm,0.4s						
GUN	**Gumba**	**45.84**	**306**	*e*P	**P**	**00 36 14.9**	**-1.1**
	comp=Z,19nm,0.6s						
ULN	**Ulaanbaatar**	**47.21**	**342**	*e*P	**P**	**00 36 26.4**	**+0.3**
	comp=Z,3.0nm,0.9s						
SONM	**Songino Array**	**47.39**	**341**	P	**P**	**00 36 27.0**	**-0.5**
SONM	**Songino Array**	**47.39**	**341**	P	**P**	**00 36 27.0**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=156,slow=7.6,SNR=14						
SONM				LR	LR	00 56 07.8	
	comp=Z,81nm,19.9s,baz=48,slow=36						
KOLN	**Koldanda**	**47.64**	**305**	*e*P	**P**	**00 36 29.1**	**-0.8**
	comp=Z,20nm,0.5s						
PETK	**Petropavlovsk-**	**55.45**	**22**	P	**P**	**00 37 29.8**	**+2.2**
PETK	**Petropavlovsk-**	**55.45**	**22**	P	**P**	**00 37 29.8**	**+2.2**
	comp=Z,4.9nm,0.8s,baz=191,slow=4.5,SNR=6.3						
MK31	**Makanchi Array**	**57.66**	**325**	*e*P	**P**	**00 37 42.4**	**-1.0**
MKAR	**Makanchi Array**	**57.66**	**325**	*e*P	**P**	**00 37 42.9**	**-0.6**
MKAR				ScP	**ScP**	**00 42 38.6**	**+6.3**
MKAR	**Makanchi Array**	**57.66**	**325**	P	**P**	**00 37 42.6**	**-0.9**
	comp=Z,2.7nm,0.5s,baz=118,slow=7.4,SNR=55						
MKAR				ScP	**ScP**	**00 42 38.6**	**+6.3**
	comp=Z,0.5nm,0.8s,baz=122,slow=4.4,SNR=4.5						
MKAR				LR	LR	01 03 57.6	
	comp=Z,60nm,19.4s,baz=251,slow=38						
TKM2	**Tokmak 2**	**59.86**	**319**	*e*P	**P**	**00 37 58.3**	**-0.7**
	comp=Z,4.9nm,0.8s						
AAK	**Ala-Archa**	**60.47**	**318**	*e*P	**P**	**00 38 03.0**	**-0.1**
	comp=Z,8.6nm,0.8s						
ZAA0	**Zalesovo Array**	**60.69**	**333**	*e*P	**P**	**00 38 02.5**	**-1.7**
ZALV	**Zalesovo Beam**	**60.69**	**333**	P	**P**	**00 38 03.0**	**-1.2**
ZALV	**Zalesovo Beam**	**60.69**	**333**	P	**P**	**00 38 03.0**	**-1.2**
	comp=Z,1.1nm,0.5s,baz=104,slow=6.3,SNR=7.6						
ZALV				LR	LR	01 05 48.5	
	comp=Z,40nm,19.4s,baz=75,slow=38						
EKS2	**Erkin-Say**	**60.96**	**318**	*e*P	**P**	**00 38 07.0**	**+0.6**
	comp=Z,5.8nm,0.8s						
KBL	**Kabul**	**61.64**	**307**	*e*P	**P**	**00 38 09.8**	**-1.5**
	comp=Z,4.8nm,0.9s						
KURK	**Kurchatov**	**61.84**	**327**	*e*P	**P**	**00 38 11.1**	**-1.0**
	comp=Z,11nm,0.7s						
KKAR	**Karatay Array**	**63.34**	**317**	*e*P	**P**	**00 38 21.8**	**-0.5**
BRVK	**Borovoye**	**67.50**	**327**	*e*P	**P**	**00 38 48.2**	**-0.7**
	comp=Z,14nm,1.0s						
ABKAR	**Akbulak array**	**72.26**	**321**	*e*P	**P**	**00 39 16.8**	**-1.5**
ARU	**Arti**	**75.04**	**328**	*e*P	**P**	**00 39 33.1**	**-1.3**
	comp=Z,5.0nm,0.8s						
ILAR	**Eielson Array**	**85.12**	**25**	P	**P**	**00 40 29.4**	**+0.8**
ILAR	**Eielson Array**	**85.12**	**25**	P	**P**	**00 40 29.4**	**+0.8**
	comp=Z,0.9nm,1.0s,baz=275,slow=5.3,SNR=6.4						
KMBO	**Kilima Mbogo**	**89.65**	**269**	*e*P	**P**	**00 40 52.2**	**+0.4**
	comp=Z,1.6nm,0.6s						
BRTR	**Keskin Array B**	**90.14**	**310**	P	**P**	**00 40 52.7**	**-0.7**
BRTR	**Keskin Array B**	**90.14**	**310**	P	**P**	**00 40 52.7**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=102,slow=4.2,SNR=8.3						
ARCES	**ARCESS Array B**	**90.54**	**340**	P	**P**	**00 40 54.5**	**+0.1**
ARCES	**ARCESS Array B**	**90.54**	**340**	P	**P**	**00 40 54.5**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=87,slow=6.2,SNR=9.1						
ARCES				LR	LR	01 27 54.6	
	comp=Z,36nm,18.7s,baz=360,slow=40						
FINES	**FINESS Array B**	**91.93**	**332**	P	**P**	**00 41 01.7**	**+0.6**
FINES	**FINESS Array B**	**91.93**	**332**	P	**P**	**00 41 01.7**	**+0.6**
	comp=Z,1.6nm,0.9s,baz=101,slow=3.9,SNR=7.8						
NOA	**NORSAR Array B**	**98.89**	**334**	P	**P**	**00 41 31.2**	**-1.7**
NOA	**NORSAR Array B**	**98.89**	**334**	P	**P**	**00 41 31.2**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=68,slow=5.2,SNR=2.5						
NOA				LR	LR	01 31 08.4	
	comp=Z,39nm,18.6s,baz=315,slow=38						
TORD	**Torodi Ar. Bea**	**123.03**	**288**	PKP	**PKPdf**	**00 46 50.2**	**0.0**
TORD	**Torodi Ar. Bea**	**123.03**	**288**	PKP	**PKPdf**	**00 46 50.2**	**0.0**
	comp=Z,0.5nm,0.9s,baz=99,slow=2.2,SNR=4.1						
CPUP	**Villa Florida**	**157.12**	**170**	PKPab	**PKPab**	**00 48 21.5**	**+2.0**
CPUP	**Villa Florida**	**157.12**	**170**	PKPab	**PKPab**	**00 48 21.5**	**+2.0**
	comp=Z,0.4nm,0.4s,baz=131,slow=11,SNR=3.3						

CSEM ***15*** *00:32:32.9±0.1, 37.87N×29.21E, h5km, MD2.6, Error ellipse: s-maj=3.3km s-min=2.0km az=128.0*
ISCJB ***15*** *00:32:33.2±0.6, 37.89N±0.03×29.18E±0.05, h6km±5km, Error ellipse: s-maj=7.1km s-min=4.2km az=32.3*
DDA ***15*** *00:32:33.0, 37.91N×29.18E, h5km, MD2.6*
ISK ***15*** *00:32:33.0, 37.89N×29.19E, h9km, MD2.7*

ISC 15 00:32:33.1±0.9, 37.88N±0.03×29.19E±0.03, h12km±9km, n26, σ1°s27/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.22**	**211**	*i*P	**Pg**	**00 32 38.0**	**0.0**
DNZL				*i*S	**Sg**	**00 32 41.5**	**+0.1**
DNZL	**Cakiroluk**	**0.22**	**211**	*i*P	**Pg**	**00 32 38.0**	**0.0**
DNZL				*i*S	**Sg**	**00 32 41.5**	**+0.1**
KHL	**Karahalli**	**0.51**	**31**	*e*PG	**Pg**	**00 32 43.2**	**0.0**
KHL				*e*SG	**Sb**	**00 32 51.2**	**-0.3**
KHL	**Karahalli**	**0.51**	**31**	*e*Pg	**Pg**	**00 32 43.2**	**0.0**
KHL				*e*Sg	**Sb**	**00 32 51.2**	**-0.3**
KHAL	**Karahalli**	**0.54**	**26**	*i*P	**Pg**	**00 32 43.5**	**-0.3**
KHAL				*i*S	**Sg**	**00 32 50.9**	**-0.1**
KHAL	**Karahalli**	**0.54**	**26**	*i*P	**Pg**	**00 32 43.5**	**-0.3**
KHAL				*i*S	**Sg**	**00 32 50.9**	**-0.1**
KULA	**Kula-Manisa**	**0.76**	**327**	*e*PG	**Pb**	**00 32 48.8**	**+0.5**
KULA				*e*SG	**Sb**	**00 32 58.2**	**-0.4**
KULA	**Kula-Manisa**	**0.76**	**327**	*e*Pg	**Pb**	**00 32 48.8**	**+0.5**
KULA				*e*Sg	**Sb**	**00 32 58.2**	**-0.4**
MANT	**Manisa**	**0.79**	**321**	*i*P	**Pg**	**00 32 48.3**	**-0.1**
MANT				*i*S	**Sg**	**00 32 58.6**	**-0.2**
MANT	**Manisa**	**0.79**	**321**	*i*P	**Pg**	**00 32 48.3**	**-0.1**
MANT				*i*S	**Sg**	**00 32 58.6**	**-0.2**
YER	**Yerkesik**	**1.04**	**224**	*e*PG	**Pg**	**00 32 52.9**	**-0.3**
YER	**Yerkesik**	**1.04**	**224**	*e*Pg	**Pg**	**00 32 52.9**	**-0.3**
AYDN	**Tasoluk**	**1.06**	**258**	*i*P	**Pg**	**00 32 53.3**	**-0.3**
AYDN				*i*S	**Sg**	**00 33 07.1**	**-0.4**
AYDN	**Tasoluk**	**1.06**	**258**	*i*P	**Pg**	**00 32 53.3**	**-0.3**
AYDN				*i*S	**Sg**	**00 33 07.1**	**-0.4**
DEMI	**Demirci**	**1.22**	**342**	*e*P	**Pg**	**00 32 56.6**	**0.0**
DEMI				*e*S	**Sb**	**00 33 11.9**	**+0.1**
DEMI	**Demirci**	**1.22**	**342**	*e*P	**Pg**	**00 32 56.6**	**0.0**
DEMI				*e*S	**Sb**	**00 33 11.9**	**+0.1**
GDZ	**Gediz**	**1.23**	**11**	*i*P	**Pb**	**00 32 56.4**	**+0.1**
GDZ				*i*S	**Sb**	**00 33 12.2**	**+0.1**
GDZ	**Gediz**	**1.23**	**11**	*i*P	**Pb**	**00 32 56.4**	**+0.1**
GDZ				*i*S	**Sb**	**00 33 12.2**	**+0.1**
SHUT	**Suhut-Afyon**	**1.26**	**58**	*e*PN	**Pn**	**00 32 56.9**	**+0.2**
SHUT	**Suhut-Afyon**	**1.26**	**58**	*e*Pn	**Pn**	**00 32 56.9**	**+0.2**
ALT	**Altintas**	**1.38**	**31**	*e*PN	**Pb**	**00 32 59.0**	**+0.2**
ALT	**Altintas**	**1.38**	**31**	*e*Pn	**Pb**	**00 32 59.0**	**+0.2**
AKS	**Akhisar**	**1.47**	**313**	*e*PN	**Pb**	**00 33 00.8**	**+0.4**
AKS	**Akhisar**	**1.47**	**313**	*e*Pn	**Pb**	**00 33 00.8**	**+0.4**
TVSB	**Tavsanli**	**1.58**	**8**	*e*PN	**Pb**	**00 33 02.0**	**-0.3**
TVSB	**Tavsanli**	**1.58**	**8**	*e*Pn	**Pb**	**00 33 02.0**	**-0.3**

ISK ***15*** *00:36:02.2, 37.45N×38.62E, h5km, MD3.6*
DDA ***15*** *00:36:03.5, 37.49N×38.55E, h19km, MD3.7, ML3.8*
CSEM ***15*** *00:36:03.7±0.2, 37.46N×38.59E, h2km, MD3.6, Error ellipse: s-maj=4.7km s-min=3.5km az=151.0*

ISC 15 00:36:03.1±0.9, 37.47N±0.02×38.60E±0.02, h7km±6km, n70, σ1°s25/90, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.18**	**98**	*e*Pg	**Pg**	**00 36 05.8**	**-0.9**
URFA	**Urfa**	**0.18**	**98**	*e*Pg	**Pg**	**00 36 05.8**	**-0.9**
ATAB	**Bozova**	**0.24**	**271**	*i*P	**Pb**	**00 36 08.3**	**+0.4**
ATAB				*i*S	**Sg**	**00 36 11.9**	**+0.7**
ATAB	**Bozova**	**0.24**	**271**	*i*P	**Pb**	**00 36 08.3**	**+0.4**
ATAB				*i*S	**Sg**	**00 36 11.9**	**+0.7**
GZT	**Gaziantep**	**0.83**	**263**	*i*P	**Pb**	**00 36 19.4**	**-0.6**
GZT				*i*S	**Sb**	**00 36 32.0**	**+0.4**
MALT	**Malatya**	**0.86**	**351**	*e*PG	**Pb**	**00 36 20.2**	**-0.2**
MALT				*e*SG	**Sn**	**00 36 33.4**	**-1.3**
MALT	**Malatya**	**0.86**	**351**	*e*Pg	**Pb**	**00 36 20.2**	**-0.2**
AKCD	**Akcadag**	**0.99**	**327**	*e*P	**Pb**	**00 36 22.5**	**-0.1**
AKCD				*e*S	**Sg**	**00 36 34.2**	**-0.7**
AKCD	**Akcadag**	**0.99**	**327**	*e*P	**Pb**	**00 36 22.5**	**-0.1**
AKCD				*e*S	**Sg**	**00 36 34.2**	**-0.7**
SVRC	**Sivrice-ELAZID**	**1.07**	**31**	*e*PG	**Pn**	**00 36 24.0**	**-0.7**
SVRC				*e*SG	**Sn**	**00 36 39.9**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.07**	**31**	*e*Pg	**Pn**	**00 36 24.0**	**-0.7**
SVRC				*e*Sg	**Sn**	**00 36 39.9**	**0.0**
ELZG	**Elazig**	**1.07**	**16**	*i*P	**Pn**	**00 36 23.9**	**-0.8**
ELZG				*i*S	**Sn**	**00 36 39.8**	**-0.2**
ELZG	**Elazig**	**1.07**	**16**	*i*P	**Pn**	**00 36 23.9**	**-0.8**
ELZG				*i*S	**Sn**	**00 36 39.8**	**-0.2**
GAZ	**Gaziantep**	**1.15**	**256**	*e*PN	**Pn**	**00 36 25.1**	**-0.5**
GAZ	**Gaziantep**	**1.15**	**256**	*e*Pn	**Pn**	**00 36 25.2**	**-0.5**
DIYA	**Diyarbakir**	**1.29**	**69**	*i*P	**Pb**	**00 36 28.6**	**+0.9**
DIYA				*i*S	**Sn**	**00 36 46.5**	**+1.3**
DIYA	**Diyarbakir**	**1.29**	**69**	*i*P	**Pb**	**00 36 28.6**	**+0.9**
DIYA				*i*S	**Sn**	**00 36 46.5**	**+1.3**
KMRS	**Kahramanmaras**	**1.35**	**272**	*e*PN	**Pn**	**00 36 27.7**	**-0.8**
KMRS	**Kahramanmaras**	**1.35**	**272**	*e*Pn	**Pn**	**00 36 27.7**	**-0.8**
DIY	**Diyarbakir**	**1.36**	**71**	*e*PN	**Pg**	**00 36 29.1**	**0.0**
DIY	**Diyarbakir**	**1.36**	**71**	*e*Pn	**Pg**	**00 36 29.1**	**0.0**
KUZU	**Kuzuini**	**1.40**	**241**	*i*P	**Pg**	**00 36 29.6**	**-0.3**
KUZU				*i*S	**Sg**	**00 36 49.2**	**+1.0**
KUZU	**Kuzuini**	**1.40**	**241**	*i*P	**Pg**	**00 36 29.6**	**-0.3**
KUZU				*i*S	**Sg**	**00 36 49.2**	**+1.0**
PTK	**Pertek**	**1.55**	**23**	*e*PN	**Pg**	**00 36 32.4**	**-0.5**
PTK	**Pertek**	**1.55**	**23**	*e*Pn	**Pg**	**00 36 32.4**	**-0.5**
DARE	**Darende-Malaty**	**1.61**	**337**	*e*PN	**Pn**	**00 36 30.3**	**-1.8**
MNKR	**ALMNKUR**	**1.61**	**160**	*e*P	**Pg**	**00 36 34.1**	**+0.1**
	SNR=57						
KBSD	**Kabsdagh**	**1.62**	**106**	*e*P	**Pb**	**00 36 32.2**	**-1.1**
	SNR=57						
KBSD				*e*S	**Sg**	**00 36 55.4**	**+0.4**
	SNR=58						
MARD	**Mardin**	**1.74**	**94**	*i*P	**Pb**	**00 36 34.1**	**-1.3**
MARD				*i*S	**Sg**	**00 36 58.1**	**-0.9**
JHLN	**Al Jahlan**	**1.79**	**184**	*e*P	**Pg**	**00 36 36.4**	**-1.1**
	SNR=57						
JHLN				*e*S	**Sg**	**00 36 59.5**	**-1.2**
	203nm,0.4s,SNR=58						
ANDN	**Andirin**	**1.80**	**274**	*i*P	**Pb**	**00 36 35.6**	**-0.8**
ANDN				*e*S	**Sg**	**00 37 01.5**	**+0.6**
ANDN	**Andirin**	**1.80**	**274**	*i*P	**Pb**	**00 36 35.6**	**-0.8**
ANDN				*e*S	**Sg**	**00 37 01.5**	**+0.6**
KEMA	**Kemaliye**	**1.80**	**357**	*i*P	**Pb**	**00 36 35.6**	**-0.9**
KEMA				*i*S	**Sg**	**00 37 00.9**	**-0.1**
KEMA	**Kemaliye**	**1.80**	**357**	*i*P	**Pb**	**00 36 35.6**	**-0.9**
ILIC	**ilic-Erzincan**	**1.98**	**359**	*e*PN	**Pb**	**00 36 38.2**	**-1.4**
ILIC	**ilic-Erzincan**	**1.98**	**359**	*e*Pn	**Pb**	**00 36 38.2**	**-1.4**
BINT	**Bingol**	**2.05**	**46**	*e*Pn	**Pg**	**00 36 41.8**	**-0.5**
BEST	**Besiri**	**2.16**	**78**	*i*P	**Pn**	**00 36 39.8**	**+0.2**
BEST				*e*S	**Sg**	**00 37 11.6**	**-0.9**
KOZT	**Kozan**	**2.21**	**271**	*e*PN	**Pb**	**00 36 41.6**	**-1.8**
KOZT	**Kozan**	**2.21**	**271**	*e*Pn	**Pb**	**00 36 41.6**	**-1.8**
BNGB	**Bing¶ll**	**2.23**	**46**	*e*PN	**Pb**	**00 36 41.8**	**-2.1**
ERZN	**Erzincan**	**2.29**	**22**	*e*PN	**Pb**	**00 36 42.8**	**-2.1**
CEYT	**Ceyhan**	**2.32**	**260**	*e*PN	**Pb**	**00 36 43.3**	**-2.0**
CEYT	**Ceyhan**	**2.32**	**260**	*e*Pn	**Pb**	**00 36 43.3**	**-2.0**
EZC	**Erzincan**	**2.36**	**14**	*e*PN	**Pb**	**00 36 43.8**	**-2.2**
EZC	**Erzincan**	**2.36**	**14**	*e*Pn	**Pb**	**00 36 43.8**	**-2.2**
HTY	**Hatay**	**2.39**	**237**	*e*PN	**Pb**	**00 36 44.4**	**-2.1**
HTY	**Hatay**	**2.39**	**237**	*e*Pn	**Pb**	**00 36 44.4**	**-2.1**
BTMT	**Batman**	**2.40**	**72**	*e*PN	**Pn**	**00 36 42.2**	**-0.7**
BTMT	**Batman**	**2.40**	**72**	*e*Pn	**Pn**	**00 36 42.2**	**-0.7**
BNGL	**BINGOL**	**2.50**	**53**	*e*P	**Pb**	**00 36 47.8**	**-0.6**
BNGL				*e*S	**Sn**	**00 37 16.8**	**+1.6**
BNN	**Bunyan**	**2.58**	**303**	*e*PN	**Pn**	**00 36 46.8**	**+1.4**
BNN	**Bunyan**	**2.58**	**303**	*e*Pn	**Pn**	**00 36 46.8**	**+1.4**
KRTS	**Karatas**	**2.73**	**252**	*e*PN	**Pn**	**00 36 48.7**	**+1.3**
KRTS	**Karatas**	**2.73**	**252**	*e*Pn	**Pn**	**00 36 48.7**	**+1.3**
VRTB	**Varto-Mus**	**2.81**	**52**	*e*PN	Pb	00 36 50.4	-3.3
VRTB	**Varto-Mus**	**2.81**	**52**	*e*Pn	Pb	00 36 50.4	-3.3
GUMT	**Gumushane**	**3.07**	**13**	*e*PN	**Pn**	**00 36 54.1**	**+2.0**
GUMT	**Gumushane**	**3.07**	**13**	*e*Pn	**Pn**	**00 36 54.1**	**+2.0**
RSDY	**Resadiye-TOKAT**	**3.09**	**342**	*e*PN	**Pn**	**00 36 54.1**	**+1.8**
RSDY	**Resadiye-TOKAT**	**3.09**	**342**	*e*Pn	**Pn**	**00 36 54.1**	**+1.8**
BAYT	**Ayd¨¬ntepe-Bay**	**3.16**	**22**	*e*PN	**Pn**	**00 36 55.3**	**+1.8**
BAYT	**Ayd¨¬ntepe-Bay**	**3.16**	**22**	*e*Pn	**Pn**	**00 36 55.3**	**+1.8**
EZM	**Erzurum**	**3.25**	**41**	*e*PN	**Pn**	**00 36 56.6**	**+1.8**
ESPY	**Espiye-Giresun**	**3.45**	**2**	*e*PN	**Pn**	**00 36 59.1**	**+1.9**
ESPY	**Espiye-Giresun**	**3.45**	**2**	*e*Pn	**Pn**	**00 36 59.1**	**+1.9**
CUKT	**Cukurca**	**3.99**	**92**	*e*PN	**Pn**	**00 37 06.2**	**+1.3**
CUKT	**Cukurca**	**3.99**	**92**	*e*Pn	**Pn**	**00 37 06.2**	**+1.3**
AGRB	**Hanur-Agry**	**4.04**	**57**	*e*PN	**Pn**	**00 37 07.8**	**+2.3**
AGRB	**Hanur-Agry**	**4.04**	**57**	*e*Pn	**Pn**	**00 37 07.8**	**+2.3**

IDC 15 00:37:21.8±1.8, 3.88N×127.06E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/20, mbtmp3.7/4, Error ellipse: s-maj=148.1km s-min=21.7km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.73**	**163**	P	P	00 42 45.2	+0.1
	3.5nm,0.6s,baz=344,slow=11,SNR=34						
ASAR	**Alice Springs**	**28.18**	**167**	P	P	00 43 16.2	-0.1
	0.3nm,0.3s,baz=346,slow=11,SNR=9.4						
MKAR	**Makanchi Array**	**57.62**	**325**	P	P	00 47 13.1	-0.7
	0.2nm,0.4s,baz=123,slow=7.2,SNR=9.1						
KURBB	**Kurchatov Arra**	**61.79**	**327**	P	P	00 47 43.3	+0.8
	0.5nm,0.6s,baz=127,slow=6.7,SNR=3.1						

MAN 15 00:38:15, 9.85N×123.53E, h8km, mb4.0, ML2.8, MS2.4, 1C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.36**	**116**	*e*P	Pb	00 38 23.5	-0.2
TBP

AKCD	**Akcadag**	**0.97**	**328**	*e*P	**Pg**	**01 07 07.9**	**-0.3**		
AKCD				*e*S	**Sg**	**01 07 20.6**	**-0.2**		
ELZG	**Elazig**	**1.08**	**18**	*i* P	**Pg**	**01 07 09.5**	**-0.7**		
ELZG				*i* S	**Sn**	**01 07 25.4**	**-0.6**		
ELZG	**Elazig**	**1.08**	**18**	*i* P	**Pg**	**01 07 09.5**	**-0.7**		
ELZG				*i* S	**Sn**	**01 07 25.4**	**-0.6**		
SVRC	**Sivrice-ELAZID**	**1.08**	**32**	*e*PN	**Pg**	**01 07 10.3**	**+0.1**		
SVRC	**Sivrice-ELAZID**	**1.08**	**32**	*e*Pn	**Pg**	**01 07 10.3**	**+0.1**		
DIYA	**Diyarbakir**	**1.31**	**69**	*i* P	**Pn**	**01 07 13.6**	**-0.4**		
DIYA				*e*S	**Sb**	**01 07 31.5**	**+0.3**		
DIYA	**Diyarbakir**	**1.31**	**69**	*i* P	**Pn**	**01 07 13.6**	**-0.4**		
DIYA				*e*S	**Sb**	**01 07 31.5**	**+0.3**		
KMRS	**Kahramanmaras**	**1.33**	**272**	*e*PN	**Pn**	**01 07 13.4**	**-0.8**		
KMRS	**Kahramanmaras**	**1.33**	**272**	*e*Pn	**Pn**	**01 07 13.4**	**-0.8**		
KUZU	**Kuzuini**	**1.38**	**240**	*i* P	**Pg**	**01 07 15.7**	**-0.2**		
KUZU				*i* S	**Sg**	**01 07 34.4**	**+0.6**		
KUZU	**Kuzuini**	**1.38**	**240**	*i* P	**Pn**	**01 07 15.7**	**-0.2**		
KUZU				*i* S	**Sg**	**01 07 34.4**	**+0.6**		
DIY	**Diyarbakir**	**1.38**	**72**	*e*PN	**Pb**	**01 07 15.7**	**+0.2**		
DIY	**Diyarbakir**	**1.38**	**72**	*e*Pn	**Pb**	**01 07 15.7**	**+0.2**		
PTK	**Pertek**	**1.56**	**24**	*e*PN	**Pb**	**01 07 18.3**	**-0.3**		
PTK	**Pertek**	**1.56**	**24**	*e*Pn	**Pb**	**01 07 18.3**	**-0.3**		
DARE	**Darende-Malaty**	**1.60**	**338**	*e*PN	**Pn**	**01 07 15.4**	**-2.5**		
MARD	**Mardin**	**1.77**	**94**	*i* P	**Pn**	**01 07 19.6**	**-0.7**		
MARD				*e*S	**Sn**	**01 07 41.6**	**-1.4**		
ANDN	**Andirin**	**1.77**	**274**	*e*P	**Pn**	**01 07 20.6**	**+0.3**		
ANDN				*e*S	**Sb**	**01 07 44.3**	**-0.2**		
ANDN	**Andirin**	**1.77**	**274**	*e*P	**Pn**	**01 07 20.6**	**+0.3**		
ANDN				*e*S	**Sb**	**01 07 44.3**	**-0.2**		
KEMA	**Kemaliye**	**1.80**	**358**	*i* P	**Pn**	**01 07 21.1**	**+0.4**		
KEMA				*i* S	**Sb**	**01 07 45.5**	**+0.2**		
KEMA	**Kemaliye**	**1.80**	**358**	*i* P	**Pg**	**01 07 21.1**	**+0.4**		
KEMA				*i* S	**Sb**	**01 07 45.5**	**+0.2**		
ILIC	**ilic-Erzincan**	**1.98**	**360**	*e*PN	**Pn**	**01 07 24.2**	**+1.0**		
ILIC	**ilic-Erzincan**	**1.98**	**360**	*e*Pn	**Pn**	**01 07 24.2**	**+1.0**		
KOZT	**Kozan**	**2.18**	**271**	*e*PN	**Pn**	**01 07 26.3**	**+0.4**		
KOZT	**Kozan**	**2.18**	**271**	*e*Pn	**Pn**	**01 07 26.3**	**+0.4**		
BNGB	**Bing˜ǁi**	**2.25**	**47**	*e*PN	**Pn**	**01 07 28.1**	**+1.2**		
CEYT	**Ceyhan**	**2.30**	**259**	*e*PN	**Pn**	**01 07 27.6**	**+0.2**		
CEYT	**Ceyhan**	**2.30**	**259**	*e*Pn	**Pn**	**01 07 27.6**	**+0.2**		
ERZN	**Erzincan**	**2.30**	**23**	*e*PN	**Pn**	**01 07 28.9**	**+1.2**		
EZC	**Erzincan**	**2.36**	**15**	*e*PN	**Pn**	**01 07 29.8**	**+1.3**		
EZC	**Erzincan**	**2.36**	**15**	*e*Pn	**Pn**	**01 07 28.9**	**+0.4**		
HTY	**Hatay**	**2.37**	**236**	*e*PN	**Pn**	**01 07 28.7**	**+0.3**		
HTY	**Hatay**	**2.37**	**236**	*e*Pn	**Pn**	**01 07 28.7**	**+0.3**		
BTMT	**Batman**	**2.42**	**72**	*e*PN	**Pn**	**01 07 27.9**	**-1.4**		
BTMT	**Batman**	**2.42**	**72**	*e*Pn	**Pn**	**01 07 27.9**	**-1.4**		
BNN	**Bunyan**	**2.55**	**304**	*e*PN	**Pn**	**01 07 32.0**	**+0.9**		
BNN	**Bunyan**	**2.55**	**304**	*e*Pn	**Pn**	**01 07 32.0**	**+0.9**		
VRTB	**Varto-Mus**	**2.83**	**52**	*e*PN	**Pn**	**01 07 36.3**	**+1.4**		
VRTB	**Varto-Mus**	**2.83**	**52**	*e*Pn	**Pn**	**01 07 36.3**	**+1.4**		
CUKT	**Cukurca**	**4.02**	**92**	*e*PN	**Pn**	**01 07 53.0**	**+1.7**		
CUKT	**Cukurca**	**4.02**	**92**	*e*Pn	**Pn**	**01 07 53.0**	**+1.7**		
AGRB	**Hanur-Agry**	**4.06**	**57**	*e*PN	**Pn**	**01 07 53.6**	**+1.8**		
AGRB	**Hanur-Agry**	**4.06**	**57**	*e*Pn	**Pn**	**01 07 53.6**	**+1.8**		

ISK ***15*** *01:07:47.2, 37.48N×38.60E, h5km, MD3.6*
ISCJB ***15*** *01:07:48.2±0.6, 37.48N±0.03×38.59E±0.03, h2km±5km, Error ellipse: s-maj=5.3km s-min=3.3km az=160.0*
DDA ***15*** *01:07:48.1, 37.49N×38.56E, h7km, MD3.6*
CSEM ***15*** *01:07:48.4±0.2, 37.48N×38.58E, h5km, MD3.6, Error ellipse: s-maj=5.2km s-min=3.6km az=160.0*

ISC 15 01:07:48.4±1.2, 37.49N±0.03×38.58E±0.02, h1km±11km, n47, σ0°75/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	**Urfa**	**0.20**	**105**	*e*PG	**Pg**	**01 07 51.6**	**-0.6**
URFA				*e*SG	**Sg**	**01 07 55.0**	**+0.2**
URFA	**Urfa**	**0.20**	**105**	*e*Pg	**Pg**	**01 07 51.6**	**-0.6**
URFA				*e*Sg	**Sg**	**01 07 55.0**	**+0.2**
ATAB	**Bozova**	**0.23**	**264**	*i* P	**Pg**	**01 07 53.0**	**+0.2**
ATAB				*i* S	**Sg**	**01 07 56.3**	**+0.6**
ATAB	**Bozova**	**0.23**	**264**	*i* P	**Pg**	**01 07 53.0**	**+0.2**
ATAB				*i* S	**Sg**	**01 07 56.3**	**+0.6**
GZT	**Gaziantep**	**0.82**	**261**	*e*P	**Pg**	**01 08 03.9**	**-0.2**
GZT				*e*S	**Sb**	**01 08 17.3**	**0.0**
MALT	**Malatya**	**0.83**	**352**	*e*PG	**Pg**	**01 08 04.4**	**+0.1**
MALT				*e*SG	**Sb**	**01 08 17.1**	**-0.3**
MALT	**Malatya**	**0.83**	**352**	*e*Pg	**Pg**	**01 08 04.4**	**+0.1**
MALT				*e*Sg	**Sb**	**01 08 17.1**	**-0.3**
AKCD	**Akcadag**	**0.95**	**327**	*i* P	**Pg**	**01 08 07.2**	**+0.5**
AKCD				*e*S	**Sg**	**01 08 18.6**	**-0.5**
AKCD	**Akcadag**	**0.95**	**327**	*i* P	**Pg**	**01 08 07.2**	**+0.5**
AKCD				*e*S	**Sg**	**01 08 18.6**	**-0.5**
ELZG	**Elazig**	**1.05**	**18**	*i* P	**Pg**	**01 08 09.2**	**+0.6**
ELZG				*i* S	**Sb**	**01 08 24.4**	**+0.5**
ELZG	**Elazig**	**1.05**	**18**	*i* P	**Pg**	**01 08 09.2**	**+0.6**
ELZG				*i* S	**Sb**	**01 08 24.4**	**+0.5**
SVRC	**Sivrice-ELAZID**	**1.05**	**33**	*e*PG	**Pg**	**01 08 08.5**	**-0.1**
SVRC				*e*SG	**Sb**	**01 08 24.1**	**+0.1**
SVRC	**Sivrice-ELAZID**	**1.05**	**33**	*e*Pg	**Pg**	**01 08 08.5**	**-0.1**
SVRC				*e*Sg	**Sb**	**01 08 24.1**	**+0.1**
GAZ	**Gaziantep**	**1.14**	**254**	*e*PN	**Pg**	**01 08 10.2**	**0.0**
GAZ	**Gaziantep**	**1.14**	**254**	*e*Pn	**Pg**	**01 08 10.2**	**0.0**
DIYA	**Diyarbakir**	**1.29**	**70**	*i* P	**Pg**	**01 08 13.6**	**+0.4**
DIYA				*i* S	**Sb**	**01 08 30.8**	**0.0**
DIYA	**Diyarbakir**	**1.29**	**70**	*i* P	**Pg**	**01 08 13.6**	**+0.4**
DIYA				*i* S	**Sb**	**01 08 30.8**	**0.0**
KMRS	**Kahramanmaras**	**1.34**	**271**	*e*PN	**Pn**	**01 08 13.5**	**-0.8**
KMRS	**Kahramanmaras**	**1.34**	**271**	*e*Pn	**Pn**	**01 08 13.5**	**-0.8**
DIY	**Diyarbakir**	**1.37**	**72**	*e*PN	**Pn**	**01 08 14.2**	**-0.6**
DIY	**Diyarbakir**	**1.37**	**72**	*e*Pn	**Pn**	**01 08 14.2**	**-0.6**
KUZU	**Kuzuini**	**1.40**	**240**	*e*P	**Pn**	**01 08 14.5**	**-0.7**
KUZU				*e*S	**Sg**	**01 08 33.7**	**+0.3**
KUZU	**Kuzuini**	**1.40**	**240**	*e*P	**Pn**	**01 08 14.5**	**-0.7**
KUZU				*e*S	**Sg**	**01 08 33.7**	**+0.3**
PTK	**Pertek**	**1.54**	**24**	*e*PN	**Pn**	**01 08 16.9**	**-0.3**
PTK	**Pertek**	**1.54**	**24**	*e*Pn	**Pn**	**01 08 16.9**	**-0.3**
DARE	**Darende-Malaty**	**1.58**	**338**	*e*PN	**Pn**	**01 08 15.0**	**-2.7**
DARE	**Darende-Malaty**	**1.58**	**338**	*e*Pn	**Pn**	**01 08 15.0**	**-2.7**
KEMA	**Kemaliye**	**1.77**	**358**	*e*P	**Pn**	**01 08 19.9**	**-0.5**
KEMA				*e*S	**Sn**	**01 08 43.9**	**+0.3**
KEMA	**Kemaliye**	**1.77**	**358**	*e*P	**Pn**	**01 08 19.9**	**-0.5**
KEMA				*e*S	**Sn**	**01 08 43.9**	**+0.3**
ANDN	**Andirin**	**1.78**	**273**	*e*P	**Pn**	**01 08 19.9**	**-0.5**
ANDN				*e*S	**Sg**	**01 08 45.0**	**-0.6**
ANDN	**Andirin**	**1.78**	**273**	*e*P	**Pn**	**01 08 19.9**	**-0.5**
ANDN				*e*S	**Sg**	**01 08 45.0**	**-0.6**
ILIC	**ilic-Erzincan**	**1.96**	**360**	*e*PN	**Pn**	**01 08 22.7**	**-0.2**
ILIC	**ilic-Erzincan**	**1.96**	**360**	*e*Pn	**Pn**	**01 08 22.7**	**-0.2**
KOZT	**Kozan**	**2.19**	**270**	*e*PN	**Pn**	**01 08 26.1**	**+0.1**
KOZT	**Kozan**	**2.19**	**270**	*e*Pn	**Pn**	**01 08 26.1**	**+0.1**
BNGB	**Bing˜ǁi**	**2.23**	**47**	*e*PN	**Pn**	**01 08 26.6**	**0.0**
ERZN	**Erzincan**	**2.27**	**23**	*e*PN	**Pn**	**01 08 27.4**	**+0.1**
CEYT	**Ceyhan**	**2.31**	**259**	*e*PN	**Pn**	**01 08 28.0**	**+0.4**
CEYT	**Ceyhan**	**2.31**	**259**	*e*Pn	**Pn**	**01 08 28.0**	**+0.4**
EZC	**Erzincan**	**2.33**	**15**	*e*PN	**Pn**	**01 08 28.3**	**+0.1**
EZC	**Erzincan**	**2.33**	**15**	*e*Pn	**Pn**	**01 08 28.3**	**+0.1**
BTMT	**Batman**	**2.41**	**72**	*e*PN	**Pn**	**01 08 26.8**	**-2.2**
BTMT	**Batman**	**2.41**	**72**	*e*Pn	**Pn**	**01 08 26.8**	**-2.2**
CUKT	**Cukurca**	**4.01**	**92**	*e*PN	**Pn**	**01 08 51.8**	**+0.6**
CUKT	**Cukurca**	**4.01**	**92**	*e*Pn	**Pn**	**01 08 51.8**	**+0.6**
AGRB	**Hanur-Agry**	**4.04**	**58**	*e*PN	**Pn**	**01 08 52.4**	**+0.8**
AGRB	**Hanur-Agry**	**4.04**	**58**	*e*Pn	**Pn**	**01 08 52.4**	**+0.8**

SZGRF ***15*** *01:17:59.6, 17.24S×173.03W, h33km, Tonga Islands*
IDC ***15*** *01:18:00.1±0.5, 16.70S×173.10W, h0km, mb4.6/23, mb1 4.8/23, mb1mx4.8/24, mbtmp4.6/23, MS4.2/14, Ms1 4.2/14, ms1mx4.0/25, Error ellipse: s-maj=18.9km s-min=14.3km az=149.0*
NEIC ***15*** *01:18:02.2±4.3, 16.62S×173.15W, h12km±26km, mb4.9/63, Error ellipse: s-maj=8.3km s-min=4.6km az=146.0*
ISCJB ***15*** *01:18:05.5±1.7, 16.66S±0.06×173.16W±0.04, h48km±15km, mb4.8/98, MS4.3/20, Error ellipse: s-maj=11.3km s-min=5.4km az=161.1*
MOS ***15*** *01:18:07.1±1.2, 15.88S×173.24W, h33km, mb5.0/27, Error ellipse: s-maj=14.0km s-min=8.6km az=61.1*
BJI ***15*** *01:18:10.3, 16.17S×173.39W, h64km, mB5.3/13, mb4.8/19, Ms5.0/8, Ms7 4.7/10*

ISC 15 01:18:08.4±0.4, 16.68S±0.08×173.13W±0.06, h60km±3km, h59km:pP-P, n629, σ0°86/658, mb4.8/99, 119C-120D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.05**	**26**	Pn	Pn	01 18 44.6	-10
AFI				Sn	Sn	01 19 19.2	-11
AFI	**Afiamalu**	**3.05**	**26**	Pn	Pn	01 18 44.6	-10
	46nm,0.3s,baz=225,slow=14,SNR=28						
AFI				Sn	Sn	01 19 19.2	-11
	116nm,0.3s,baz=49,slow=22,SNR=8.5						
MSVF	**Nonsavu**	**8.49**	**262**	P	**Pn**	**01 20 09.4**	**+0.6**
MSVF	**Nonsavu**	**8.49**	**262**	Pn	**Pn**	**01 20 09.4**	**+0.6**
RAR	**Rarotonga**	**13.42**	**112**	*e*Pn	Pn	01 21 06.5	-10
RAR	**Rarotonga**	**13.42**	**112**	Pn	Pn	01 21 06.8	-9.2
	6.7nm,0.3s,baz=256,slow=7.9,SNR=24						
RAR				Sn	Sn	01 23 24.1	-19
	1.2nm,0.3s,baz=336,slow=20,SNR=2.0						
RAR				LR	LR	01 24 50.3	
	comp=Z,1μm,21.6s,baz=9.5,slow=31						
RAR				T	T	01 34 45.8	
	11nm,0.3s,baz=249,slow=21,SNR=7.3						
DZM	**Mont Dzumac**	**19.99**	**251**	*e*P	Pn	01 22 41.8	+3.3
	88nm,1.1s						
DZM				*e*LR	LR	01 27 23.2	
	2μm,23.9s						
DZM	**Mont Dzumac**	**19.99**	**251**	*e*P	**P**	**01 22 34.9**	**-1.4**
	43nm,1.0s						
DZM	**Mont Dzumac**	**19.99**	**251**	P	**P**	**01 22 35.7**	**-0.5**
	7.7nm,0.8s,baz=80,slow=16,SNR=4.3						
NOUC	**Port Laguerre**	**20.12**	**251**	*e*P	Pn	01 22 43.6	+3.7
PAE	**Paea**	**22.52**	**96**	*e*P	**P**	**01 23 01.0**	**-2.4**
	12nm,1.1s						
PPT2	**Papeete2**	**22.53**	**96**	*e*P	**P**	**01 23 03.4**	**-0.2**
	47nm,1.2s						
PPT2				*e*LR	LR	01 28 19.2	
	1μm,24.0s,baz=260						
TIAR	**Tiarei**	**22.75**	**96**	*e*P	**P**	**01 23 04.8**	**-1.1**
	44nm,0.8s						
URZ	**Urewera**	**23.14**	**200**	*e*P	**P**	**01 23 08.6**	**-1.0**
	33nm,0.6s						
TBI	**Tubuai**	**23.19**	**110**	*e*P	**P**	**01 23 09.6**	**-0.6**
	116nm,1.2s						
TBI				*e*LR	LR	01 28 31.1	
	1μm,26.0s,baz=286						
SNZO	**South Karori**	**26.69**	**201**	*e*P	**P**	**01 23 44.4**	**+2.5**
	55nm,0.9s						
RPZ	**Rata Peaks**	**30.10**	**203**	*e*P	**P**	**01 24 14.6**	**+2.3**
	12nm,0.6s						
EIDS	**Eidsvold**	**34.41**	**249**	*e*P	**P**	**01 24 49.1**	**-1.2**
	4.7nm,0.6s						
ARMA	**Armidale**	**34.92**	**241**	*e*P	**P**	**01 24 54.6**	**-0.1**
RKT	**Rikitea**	**36.37**	**106**	*e*LR	LR	01 34 46.8	
	930nm,26.8s,baz=280						
CTA	**Charters Tower**	**38.62**	**259**	LR	LR	01 40 02.5	
	comp=Z,409nm,18.4s,baz=70,slow=34						
CTAO	**Charters Tower**	**38.62**	**259**	*e*P	**P**	**01 25 24.3**	**-1.9**
CTAO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CTAO	**Charters Tower**	**38.62**	**259**	*e*P	**P**	**01 25 24.3**	**-1.9**
	comp=Z,8.6nm,1.0s						
PMG	**Port Moresby**	**39.30**	**276**	*e*P	**P**	**01 25 31.9**	**0.0**
	comp=Z,20nm,1.0s						
PMG	**Port Moresby**	**39.30**	**276**	P	**P**	**01 25 32.8**	**+0.9**
	comp=Z,21nm,1.0s,baz=192,slow=2.2,SNR=7.3						
CMSA	**Cobar Meteorol**	**40.14**	**241**	*e*P	**P**	**01 25 36.8**	**-1.9**
	comp=Z,106nm,0.6s						
COEN	**Coen**	**42.17**	**267**	*e*P	**P**	**01 25 54.8**	**-0.8**
	comp=Z,78nm,0.9s						
COEN	**Coen**	**42.17**	**267**	*e*P	**P**	**01 25 55.7**	**+0.2**
	comp=Z,50nm,0.9s						
STKA	**Stephens Creek**	**43.63**	**241**	*e*P	**P**	**01 26 06.0**	**-1.2**
	comp=Z,3.4nm,1.0s						
STKA	**Stephens Creek**	**43.63**	**241**	*e*P	**P**	**01 26 05.9**	**-1.2**
	comp=Z,7.1nm,0.6s						
STKA	**Stephens Creek**	**43.63**	**241**	P	**P**	**01 26 05.7**	**-1.6**
	comp=Z,10nm,0.8s,baz=94,slow=12,SNR=14						
STKA				LR	LR	01 41 18.6	
	comp=Z,286nm,18.2s,baz=29,slow=32						
BBOO	**Buckleboo**	**48.40**	**241**	*e*P	**P**	**01 26 44.3**	**-0.4**
	comp=Z,227nm,0.8s						
BBOO	**Buckleboo**	**48.40**	**241**	*e*P	**P**	**01 26 44.1**	**-0.6**
	comp=Z,52nm,0.6s						
WRAB	**Tennant Creek**	**49.80**	**258**	*e*P	**P**	**01 26 53.6**	**-2.0**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRAB	**Tennant Creek**	**49.80**	**258**	*e*P	**P**	**01 26 53.6**	**-2.0**
	comp=Z,4.2nm,0.6s						
WRA	**Warramunga Arr**	**49.81**	**258**	P	**P**	**01 26 53.6**	**-2.1**
WRA				S	**S**	**01 34 01.1**	**-0.1**
WRA	**Warramunga Arr**	**49.81**	**258**	P	**P**	**01 26 53.6**	**-2.1**
	comp=Z,2.3nm,0.4s,baz=94,slow=7.1,SNR=20						
WRA				S	**S**	**01 34 01.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=103,slow=13,SNR=6.3						
WRA				LR	LR	01 47 07.1	
	comp=Z,333nm,19.3s,baz=90,slow=35						
AS31	**Alice Springs**	**49.97**	**253**	*e*P	**P**	**01 26 54.9**	**-2.0**
ASAR	**Alice Springs**	**49.97**	**253**	P	**P**	**01 26 55.0**	**-1.9**
ASAR				S	**S**	**01 34 00.7**	**-2.7**
ASAR	**Alice Springs**	**49.97**	**253**	P	**P**	**01 26 55.0**	**-1.9**
	comp=Z,41nm,0.8s,baz=88,slow=8.3,SNR=285						
ASAR				S	**S**	**01 34 00.7**	**-2.7**
	comp=Z,1.7nm,1.1s,baz=90,slow=15,SNR=5.6						
GUMO	**Guam**	**51.25**	**303**	LR	LR	01 46 53.2	
	comp=Z,185nm,19.5s,baz=94,slow=34						
MJAR	**Matsushiro Arr**	**70.08**	**320**	P	**P**	**01 29 14.9**	**+0.6**
MJAR	**Matsushiro Arr**	**70.08**	**320**	P	**P**	**01 29 14.9**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=150,slow=6.0,SNR=4.6						
MJAR				LR	LR	01 53 46.8	
	comp=Z,170nm,21.1s,baz=130,slow=31						
JOW	**Kunigami**	**71.45**	**306**	LR	LR	01 55 17.2	
	comp=Z,187nm,19.6s,baz=135,slow=31						
ASAJ	**Asahikawa**	**72.76**	**328**	P	**P**	**01 29 31.1**	**+0.8**
ASAJ	**Asahikawa**	**72.76**	**328**	P	**P**	**01 29 31.1**	**+0.8**
	comp=Z,7.5nm,0.9s,baz=251,slow=33,SNR=3.1						
JNU	**Nakatsue**	**72.86**	**313**	P	**P**	**01 29 30.0**	**-1.2**
JNU	**Nakatsue**	**72.86**	**313**	P	**P**	**01 29 30.0**	**-1.2**
	comp=Z,8.6nm,1.0s,baz=90,slow=4.0,SNR=2.5						
VES	**Vestal, Richgr**	**73.09**	**43**	⇓P	**P**	**01 29 32.1**	**-0.3**
	baz=73,SNR=7.0						
BFSC	**Mount Baldy Ra**	**73.13**	**45**	⇓P	**P**	**01 29 32.3**	**-0.6**
	baz=73						
MONP	**Monument Peak**	**73.24**	**47**	⇑P	**P**	**01 29 33.2**	**-0.5**
	baz=73						
EDW2	**Edwards Air Fo**	**73.27**	**45**	⇑P	**P**	**01 29 33.1**	**-0.5**
	baz=73,SNR=12						
DVTC	**Desert V Tower**	**73.34**	**48**	⇑P	**P**	**01 29 33.7**	**-0.4**
	baz=74						
QSPA	**South Pole Qui**	**73.37**	**180**	P	**P**	**01 29 34.5**	**+0.7**
QSPA	**South Pole Qui**	**73.37**	**180**	P	**P**	**01 29 34.5**	**+0.7**
	comp=Z,28nm,0.8s,baz=36,slow=1.6,SNR=119						
KKM	**Kota Kinabalu**	**73.38**	**282**	*e*P	**P**	**01 29 36.1**	**+1.3**
	comp=Z,8.8nm,0.6s						
ISA	**Isabella**	**73.39**	**44**	*e*P	**P**	**01 29 34.1**	**-0.2**
ISA				*e*		01 29 45.2	
ISA				pmax	pmax		
	comp=Z,11nm,1.1s						
ISA	**Isabella**	**73.39**	**44**	*e*P	**P**	**01 29 34.1**	**-0.2**
	comp=Z,11nm,1.1s						
ISA				*e*		01 29 45.2	
ISA	**Isabella**	**73.39**	**44**	⇑P	**P**	**01 29 34.1**	**-0.2**
	baz=74,SNR=7.9						
CMB	**Columbia Colle**	**73.56**	**41**	*e*P	**P**	**01 29 35.1**	**-0.1**
CMB				*e*		01 29 45.7	
CMB				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CMB	**Columbia Colle**	**73.56**	**41**	*e*P	**P**	**01 29 35.1**	**-0.1**
	comp=Z,9.8nm,1.0s						
CMB				*e*		01 29 45.7	
PFO	**Pinyon Flat Ob**	**73.61**	**47**	*e*P	**P**	**01 29 35.3**	**-0.5**
	comp=Z,6.2nm,0.9s						
PETK	**Petropavlovsk-**	**73.92**	**342**	P	**P**	**01 29 37.8**	**+0.8**
PETK	**Petropavlovsk-**	**73.92**	**342**	P	**P**	**01 29 37.8**	**+0.8**
PETK	**Petropavlovsk-**	**73.92**	**342**	P	**P**	**01 29 37.8**	**+0.8**
	comp=Z,2.4nm,0.6s,baz=127,slow=8.8,SNR=11						
PETK				LR	LR	01 54 18.0	
	comp=Z,60nm,21.6s,baz=80,slow=30						
BELC	**Belle Mtn. Jos**	**74.14**	**47**	⇓P	**P**	**01 29 38.3**	**-0.6**
	baz=74,SNR=6.6						
MPMC	**Manual Prospec**	**74.27**	**44**	⇓P	**P**	**01 29 39.5**	**-0.2**
	baz=74,SNR=18						
GSC	**Goldstone**	**74.31**	**45**	⇑P	**P**	**01 29 38.9**	**-0.8**
	baz=74,SNR=7.1						
BC3	**Big Chuckawall**	**74.33**	**47**	⇑P	**P**	**01 29 39.5**	**-0.4**
	baz=74,SNR=5.3						
HEC	**Hector,Ludlow**	**74.37**	**46**	⇓P	**P**	**01 29 39.2**	**-0.8**
	baz=74,SNR=16						
YBH	**Yreka Blue Hor**	**74.47**	**37**	*e*P	**P**	**01 29 40.3**	**-0.2**
	comp=Z,9.1nm,0.9s						
WCN	**Washoe City**	**74.72**	**40**	*e*P	**P**	**01 29 42.4**	**+0.3**
WCN				pmax	pmax		
	comp=Z,12nm,1.0s						
WCN	**Washoe City**	**74.72**	**40**	*e*P	**P**	**01 29 42.4**	**+0.3**
	comp=Z,12nm,1.0s						
WCN	**Washoe City**	**74.72**	**40**	⇑P	**P**	**01 29 41.9**	**-0.2**
	baz=75						
GMRC	**Granite Mounta**	**74.80**	**46**	⇓P	**P**	**01 29 42.0**	**-0.7**
	baz=75,SNR=5.4						
IRM	**Iron Mountain**	**74.82**	**47**	⇓P	**P**	**01 29 42.3**	**-0.4**
	baz=75,SNR=8.4						
GRAC	**Grapevine Rang**	**74.89**	**43**	⇑P	**P**	**01 29 43.0**	**0.0**
	baz=75,SNR=5.5						
TUQ	**Turquoise Moun**	**74.98**	**45**	⇓P	**P**	**01 29 43.1**	**-0.5**
	baz=75,SNR=9.7						
Y12C	**Blythe**	**75.04**	**47**	⇓P	**P**	**01 29 43.2**	**-0.7**
	baz=75						
113A	**Mohawk Valley,**	**75.06**	**49**	⇑P	**P**	**01 29 43.3**	**-0.7**
	baz=75,SNR=7.1						
NVAR	**Mina Array Bea**	**75.11**	**42**	P	**P**	**01 29 44.1**	**-0.4**
NVAR	**Mina Array Bea**	**75.11**	**42**	P	**P**	**01 29 44.1**	**-0.4**
	comp=Z,7.3nm,0.8s,baz=226,slow=10.0,SNR=31						
NVAR				LR	LR	01 55 13.5	
	comp=Z,201nm,18.8s,baz=301,slow=30						
214A	**Organ Pipe Nat**	**75.34**	**50**	⇓P	**P**	**01 29 45.3**	**-0.3**
	baz=76,SNR=6.0						
LDFC	**Landfair**	**75.34**	**46**	*e*P	**P**	**01 29 45.7**	**-0.1**
	comp=Z,16nm,0.9s						
114A	**Black Gap (USA**	**75.69**	**49**	⇓P	**P**	**01 29 47.6**	**-0.1**
	baz=76						
TPUB	**Ta-pu**	**75.94**	**300**	*e*P	**P**	**01 29 49.4**	**+0.1**
	comp=Z,320nm,0.8s						
MOD	**Modoc**	**75.97**	**38**	*e*P	**P**	**01 29 49.4**	**+0.2**
	comp=Z,14nm,1.0s						
KDAK	**Kodiak Island**	**76.12**	**11**	P	**P**	**01 29 49.3**	**-0.1**
KDAK	**Kodiak Island**	**76.12**	**11**	P	**P**	**01 29 49.3**	**-0.1**
	comp=Z,7.5nm,0.6s,baz=230,slow=7.9,SNR=12						
W13A	**Hualapai Mount**	**76.20**	**47**	⇓P	**P**	**01 29 50.4**	**-0.4**
	baz=76,SNR=7.2						
Y14A	**Wickurg**	**76.21**	**48**	⇑P	**P**	**01 29 50.3**	**-0.4**
	baz=76,SNR=10						
R11A	**Troy Canyon, C**	**76.82**	**43**	⇓P	**P**	**01 29 53.5**	**-0.6**
	baz=77						
KSRS	**Korea Array**	**77.25**	**316**	P	**P**	**01 29 55.2**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=123,slow=5.9,SNR=2.5						
KSRS				LR	LR	02 01 21.2	
	comp=Z,90nm,18.2s,baz=294,slow=34						
KSAR	**Wonju Array Be**	**77.27**	**316**	P	**P**	**01 29 55.2**	**-1.2**
WVOR	**Wild Horse Val**	**77.28**	**38**	*e*P	**P**	**01 29 56.6**	**0.0**
WVOR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
WVOR	**Wild Horse Val**	**77.28**	**38**	*e*P	**P**	**01 29 56.6**	**0.0**
	comp=Z,7

PMR pmax pmax
comp=Z,47nm,1.4s
PMR Palmer 80.32 11 *eP* P 01 30 11.7 -0.9
comp=Z,47nm,1.4s
HLID Hailey 80.46 39 *eP* P 01 30 13.6 -0.4
comp=Z,11nm,1.1s
HLID Hailey 80.46 39 ⇓P P 01 30 14.0 0.0
baz=81,SNR=14
T19A Beclabito 80.47 47 ⇓P P 01 30 14.8 +0.5
baz=81
J13A Cove Ranch, Pi 80.51 39 ⇓P P 01 30 14.1 -0.1
baz=81,SNR=14
SRU San Rafael 80.57 44 *eP* P 01 30 15.0 +0.2
SRU pmax pmax
comp=Z,6.0nm,0.9s
SRU San Rafael 80.57 44 *eP* P 01 30 15.0 +0.2
comp=Z,6.3nm,0.9s
SRU San Rafael 80.57 44 ⇑P P 01 30 14.9 +0.1
baz=81
DIV Divide 80.58 13 *eP* P 01 30 13.7 -0.5
comp=Z,12nm,0.7s
Y22A Socorro 80.60 50 ⇓P P 01 30 15.4 +0.3
baz=81,SNR=5.6
324A Moseley Ranch, 80.60 53 ⇑P P 01 30 14.8 -0.2
baz=81,SNR=7.9
P17A Butcher Ranch, 80.61 44 ⇓P P 01 30 14.7 -0.3
baz=81
R18A Canyonlands Na 80.64 45 ⇓P P 01 30 14.6 -0.6
baz=81,SNR=7.4
K14A Jones Ranch, D 80.66 40 ⇓P P 01 30 14.7 -0.4
baz=81,SNR=6.1
SML Sawmill 80.67 12 *eP* P 01 30 14.3 -0.3
SML pmax pmax
comp=Z,3.0nm,0.9s
SML Sawmill 80.67 12 *eP* P 01 30 14.3 -0.3
comp=Z,2.5nm,0.9s
425A Indio Mountain 80.69 54 ⇓P P 01 30 15.1 -0.4
baz=81,SNR=6.9
BMRM Bremner River 80.70 14 *eP* P 01 30 14.5 -0.3
comp=Z,28nm,1.0s
JLU Jordanelle 80.72 43 *eP* P 01 30 15.6 0.0
comp=Z,4.6nm,1.0s
H12A Diamond D Ranc 80.75 38 ⇑P P 01 30 15.0 -0.5
baz=81,SNR=5.9
MNTX Cornudas Mount 80.79 53 ⇑P P 01 30 15.6 -0.3
baz=81,SNR=11
G12A Big Creek, Yel 80.80 37 ⇓P P 01 30 15.3 -0.5
baz=81
I13A Wildhorse Cree 80.83 39 ⇓P P 01 30 16.2 +0.2
baz=81,SNR=5.2
Q18A Rafter H Ranch 80.83 45 ⇑P P 01 30 15.9 -0.2
baz=81,SNR=7.4
626A Big Bend Ranch 80.84 55 ⇑P P 01 30 16.1 -0.2
baz=81,SNR=6.9
S19A Harvey Farm, M 80.84 46 ⇑P P 01 30 15.5 -0.8
baz=81
224A Cornudas Mount 80.84 53 ⇓P P 01 30 15.0 -1.4
baz=81,SNR=6.0
L15A Malad City 80.86 41 ⇑P P 01 30 15.4 -0.8
baz=81
J14A Carey 80.87 40 ⇓P P 01 30 16.0 -0.3
baz=81
325A Bean Ranch, Si 80.96 54 ⇓P P 01 30 16.2 -0.8
baz=81,SNR=11
O17A Robinson Place 80.98 43 ⇓P P 01 30 17.0 +0.1
baz=81,SNR=11
LPM Los Pinos Moun 81.01 50 *eP* P 01 30 17.4 +0.2
comp=Z,5.6nm,1.1s
P18A Preston Nutter 81.02 44 ⇑P P 01 30 17.0 -0.3
baz=81
R19A Curley Farm, L 81.02 46 ⇑P P 01 30 16.9 -0.4
baz=81,SNR=6.4
526A Mary Lane Ranc 81.08 55 ⇑P P 01 30 17.3 -0.3
baz=81,SNR=7.3
H13A Challis 81.11 38 ⇓P P 01 30 17.3 -0.2
baz=81,SNR=7.6
TXAR Lajitas Array 81.11 56 P P 01 30 18.0 +0.2
TXAR Lajitas Array 81.11 56 P P 01 30 18.0 +0.2
comp=Z,4.6nm,1.1s,baz=224,slow=7.0,SNR=21
TXAR LR LR 01 58 08.9
comp=Z,119nm,19.5s,baz=185,slow=30
K15A Arbon 81.13 41 ⇑P P 01 30 17.1 -0.5
baz=81
NJ2 Nanjing 81.14 307 *eP* P 01 30 18.1 +0.4
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
F12A Elk City 81.20 37 ⇑P P 01 30 17.1 -0.7
baz=81,SNR=15
PV10 Paradox Valley 81.22 46 *eP* P 01 30 18.1 -0.3
comp=Z,129nm,0.8s
I14A Mackay 81.24 39 ⇑P P 01 30 18.2 0.0
baz=81
U21A Nageezi 81.25 48 ⇑P P 01 30 18.6 +0.1
baz=81,SNR=8.9
Y23A Lovelace Mesa, 81.27 51 ⇑P P 01 30 18.6 0.0
baz=81
PV04 Paradox Valley 81.32 46 *eP* P 01 30 19.0 +0.2
Q19A Hogan Spring (81.35 45 ⇓P P 01 30 18.8 0.0
baz=82,SNR=5.4
627A Terlingua Ranc 81.38 56 ⇓P P 01 30 19.1 -0.1
baz=82,SNR=8.3
426A McDonald Obser 81.39 55 ⇓P P 01 30 19.0 -0.4
baz=82,SNR=9.7
225A Deer Hill, Car 81.39 53 ⇑P P 01 30 19.2 -0.1
baz=82
G13A Cobalt 81.42 38 ⇓P P 01 30 18.7 -0.3
baz=82,SNR=5.8
S20A Disappointment 81.42 46 ⇑P P 01 30 19.4 0.0
baz=82,SNR=6.3
PV01 Paradox Valley 81.42 46 *eP* P 01 30 19.3 0.0
ANMO Albuquerque 81.43 50 *eP* P 01 30 19.6 +0.1
comp=Z,3.0nm,0.8s
L16A Fish Haven 81.47 42 ⇑P P 01 30 18.8 -0.7
baz=82,SNR=5.0
527A Woodward Ranch 81.50 55 ⇑P P 01 30 19.3 -0.5
baz=82
J15A Blackfoot 81.58 40 ⇓P P 01 30 20.3 +0.3
baz=82,SNR=10
R20A Redvale 81.58 46 ⇑P P 01 30 19.8 -0.4
baz=82
NEW Newport 81.62 34 *eP* P 01 30 20.1 +0.1
comp=Z,2.2nm,0.8s
H14A Leadore 81.67 39 ⇓P P 01 30 20.5 0.0
baz=82,SNR=7.4
Y24A Capitan 81.72 51 ⇑P P 01 30 20.9 -0.1
baz=82,SNR=9.5
S21A Coal Bank Pass 81.74 47 ⇑P P 01 30 21.4 +0.2
baz=82,SNR=15
F13A Darby 81.75 37 ⇑P P 01 30 19.7 -1.0
baz=82
125A Gardner Draw, 81.76 52 ⇓P P 01 30 21.5 +0.4
baz=82
GDL2 Guadalupe Moun 81.78 53 *eP* P 01 30 21.4 +0.1
628A Black Gap, Mar 81.80 56 ⇑P P 01 30 21.0 -0.3
baz=82
TRF Thorofare Moun 81.84 10 *eP* P 01 30 19.5 -1.4
comp=Z,17nm,0.6s
C11A Tepee Creek (N 81.84 35 ⇓P P 01 30 20.9 -0.2
baz=82
P19A Cripple Cowboy 81.87 45 ⇑P P 01 30 21.5 -0.2
baz=82,SNR=7.0
SKAG Skagway 81.87 18 *eP* P 01 30 21.7 +0.8
comp=Z,13nm,1.0s
D12A Red Ives Fores 81.88 36 ⇑P P 01 30 20.4 -1.0
baz=82
226A Malaga, Loving 81.92 53 ⇓P P 01 30 21.7 -0.3
baz=82,SNR=6.4
427A Hayter Ranch, 81.95 55 ⇓P P 01 30 21.6 -0.6
baz=82,SNR=6.6
G14A Jackson 81.95 38 ⇓P P 01 30 21.5 -0.5
baz=82,SNR=7.3
Q20A Ridgley Place, 82.01 45 ⇑P P 01 30 22.3 -0.1
baz=82
J16A Bone 82.02 40 ⇓P P 01 30 22.3 0.0
baz=82,SNR=5.1
T22A Edith 82.06 48 ⇑P P 01 30 22.8 +0.1
baz=82
TNA Tin City 82.09 2 *eP* P 01 30 23.4 +1.5
comp=Z,9.1nm,0.8s
MCMT McKenzie Canyo 82.09 39 *eP* P 01 30 22.9 +0.1
comp=Z,2.6nm,0.8s
H15A Lima 82.10 39 ⇓P P 01 30 23.0 +0.2
baz=82,SNR=6.3
O19A Miners Draw (B 82.10 44 ⇑P P 01 30 22.2 -0.6
baz=82
E13A Victor 82.20 37 ⇓P P 01 30 22.2 -0.9
baz=82,SNR=7.9
CN2 Changchun 82.23 320 *eP* P 01 30 25.0 +1.8
CN2 *epP* **pP** 01 30 41.8 +1.8
CN2 *eS* **S** 01 40 33.9 0.0
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
RRI2 Red Ridge 82.24 40 *eP* P 01 30 23.7 +0.1
comp=Z,7.6nm,0.9s
R21A Cimarron 82.24 46 ⇑P P 01 30 23.6 -0.1
baz=82,SNR=8.3
U23A El Rito 82.25 49 ⇓P P 01 30 24.0 +0.2
baz=82
Y25A Mesa, Roswell 82.28 51 ⇑P P 01 30 23.4 -0.4
baz=82
PAX Paxson 82.30 12 *eP* P 01 30 22.5 -0.7
PAX pmax pmax
comp=Z,7.0nm,0.8s
PAX Paxson 82.30 12 *eP* P 01 30 22.5 -0.7
comp=Z,7.2nm,0.8s
F14A Wisdom 82.32 38 ⇑P P 01 30 23.1 -0.7
baz=82
MCK McKinley 82.33 11 *eP* P 01 30 22.8 -0.5
MCK pmax pmax
comp=Z,48nm,0.9s
MCK McKinley 82.33 11 *eP* P 01 30 22.8 -0.5
comp=Z,48nm,0.9s
D13A Huson 82.41 36 ⇓P P 01 30 23.1 -1.0
baz=83,SNR=8.7
I16A Newdale 82.41 40 ⇓P P 01 30 24.0 -0.3
baz=83,SNR=8.4
Q21A Lamborn Mesa, 82.44 46 ⇓P P 01 30 24.6 0.0
baz=83,SNR=6.5
DCID1 Drake Creek 82.45 40 P P 01 30 25.2 +0.6
comp=Z,20nm,0.3s
S22A 4UR Ranch, Cre 82.45 47 ⇓P P 01 30 25.1 +0.2
baz=83,SNR=14
G15A Dillon 82.49 38 ⇑P P 01 30 24.4 -0.4
baz=83,SNR=8.7
DLMT Dillon 82.53 38 *eP* P 01 30 25.2 +0.2
comp=Z,35nm,2.2s
Z26A Caprock 82.53 52 ⇓P P 01 30 24.5 -0.7
baz=83,SNR=9.9
REDW Red Top Meadow 82.54 41 *eP* P 01 30 25.0 -0.1
comp=Z,10nm,1.1s
TPAW Teton Pass 82.54 40 *eP* P 01 30 26.0 +0.9
comp=Z,12nm,1.2s
MSO Missoula 82.55 36 ⇑P P 01 30 23.7 -1.2
baz=83
E14A Clinton 82.58 37 ⇑P P 01 30 24.5 -0.7
baz=83,SNR=12
529A Stev Forest Ra 82.58 56 ⇓P P 01 30 24.5 -0.9
baz=83
O20A White River Ci 82.61 44 ⇑P P 01 30 25.4 -0.2
baz=83
J17A Brown Place, J 82.62 41 ⇓P P 01 30 25.3 -0.2
baz=83,SNR=8.6
MENT Mentasta 82.64 13 *eP* P 01 30 24.8 -0.2
SNOW Snow King Moun 82.65 41 *eP* P 01 30 25.2 -0.5
comp=Z,32nm,1.5s
BSMT Bassoo Peak 82.65 35 *eP* P 01 30 24.7 -0.9
K18A Toltan Ranch, 82.67 42 ⇓P P 01 30 25.6 -0.2
baz=83,SNR=5.3
R22A Saguache, Gunn 82.72 47 ⇓P P 01 30 26.4 +0.1
baz=83,SNR=5.4
IMW Indian Meadow 82.76 40 *eP* P 01 30 26.5 +0.2
comp=Z,5.5nm,0.8s
DLBC Dease Lake 82.80 21 *eP* P 01 30 26.2 +0.3
MOOW Moose Ponds 82.80 40 *eP* P 01 30 26.5 +0.1
comp=Z,77nm,3.0s
LOHW Long Hollow 82.82 41 *eP* P 01 30 26.5 -0.1
comp=Z,6.3nm,1.3s
L19A Farson 82.84 42 ⇑P P 01 30 26.2 -0.5
baz=83,SNR=7.2
P21A Newcastle 82.86 45 ⇑P P 01 30 26.5 -0.3
baz=83
LRM Limekiln Ridge 82.86 38 *eP* P 01 30 26.1 -0.6
Q22A Crested Butte, 82.91 46 ⇓P P 01 30 27.2 0.0
baz=83,SNR=9.4
N20A Spence Gulch, 82.94 44 ⇓P P 01 30 26.9 -0.4
baz=83
D14A Greenough 82.94 36 ⇓P P 01 30 25.6 -1.4
baz=83,SNR=6.8
QLMT Earthquake Lak 82.95 39 *eP* P 01 30 26.8 -0.4
J18A Kendall Valley 82.98 41 ⇑P P 01 30 26.7 -0.7
baz=83,SNR=22
H16A Russell Place, 82.99 39 ⇑P P 01 30 27.5 +0.1
baz=83,SNR=18
CHMT Chamberlain Mo 83.00 37 *eP* P 01 30 26.7 -0.7
FLWY Flagg Ranch 83.00 40 *eP* P 01 30 26.3 -1.2
comp=Z,19nm,1.3s
W25A X Bar L Ranch, 83.02 50 ⇑P P 01 30 27.5 -0.2
baz=83
SMCO Snowmass 83.02 46 *eP* P 01 30 27.8 -0.1
comp=Z,11nm,1.1s
PD01 Pinedale Array 83.04 42 *eP* P 01 30 26.4 -1.3
429A Davenport Ranc 83.05 55 ⇓P P 01 30 27.0 -0.8
baz=83
BW06 Boulder Array 83.05 42 *eP* P 01 30 27.2 -0.5
BW06 Boulder Array 83.05 42 ⇓P P 01 30 26.8 -1.0
baz=83,SNR=9.3
PD02 Pinedale Array 83.05 42 *eP* P 01 30 27.1 -0.7
PDAR Pinedale Array 83.05 42 P P 01 30 27.1 -0.6
PDAR Pinedale Array 83.05 42 P P 01 30 27.1 -0.6
comp=Z,3.7nm,0.8s,baz=212,slow=3.7,SNR=30
PDAR LR LR 02 00 26.7
comp=Z,179nm,18.8s,baz=304,slow=31
E15A Deer Lodge 83.08 37 ⇓P P 01 30 26.8 -0.9
baz=83
B13A Whitefish 83.13 35 ⇓P P 01 30 26.6 -1.2
baz=83
V25A Rancho No Teng 83.17 50 ⇓P P 01 30 27.8 -0.7
baz=83,SNR=6.5
DOT Dot Lake 83.19 13 *eP* P 01 30 27.8 +0.1
H17A Grant Village 83.24 40 ⇑P P 01 30 29.8 +1.0
baz=83,SNR=7.1
BOZ Bozeman (W) 83.26 38 ⇓P P 01 30 28.5 -0.2
baz=83,SNR=7.6
M20A Sweetwater, Wa 83.31 43 ⇑P P 01 30 28.8 -0.3
baz=83
I18A Diamond G Ranc 83.36 41 ⇓P P 01 30 28.8 -0.5
baz=84
R23A Moffat 83.36 47 ⇑P P 01 30 28.9 -0.7
baz=84
SDCO Great Sand Dun 83.39 48 *eP* P 01 30 28.7 -1.0
comp=Z,9.2nm,1.4s
SDCO Great Sand Dun 83.39 48 ⇓P P 01 30 28.7 -1.0
baz=84,SNR=6.1
N21A Black Mountain 83.39 44 ⇓P P 01 30 29.0 -0.7
baz=84,SNR=8.1
Y27A Causey 83.41 52 ⇓P P 01 30 29.3 -0.4
baz=84
LKWY Lake 83.44 40 *eP* P 01 30 31.0 +1.3
LKWY Lake 83.44 40 *eP* P 01 30 31.0 +1.3
L20A Wamsutter 83.46 43 ⇑P P 01 30 29.7 -0.2
baz=84,SNR=9.3
A13A Flathead Natio 83.47 35 ⇑P P 01 30 28.8 -0.8
baz=84
D15A Lincoln 83.48 37 ⇑P P 01 30 29.2 -0.6
baz=84,SNR=9.4
K19A Absolon Red Bu 83.53 42 ⇓P P 01 30 29.2 -1.0
baz=84,SNR=5.6
COLA College 83.57 11 *eP* P 01 30 29.0 -0.6
COLA pmax pmax
comp=Z,43nm,0.9s
COLA College 83.57 11 *eP* P 01 30 29.0 -0.6
comp=Z,43nm,0.9s
J19A Crowheart 83.62 41 ⇓P P 01 30 29.9 -0.7
baz=84,SNR=9.8
QIZ Qiongzhong 83.62 292 P P 01 30 31.1 +0.2
QIZ pP **pP** 01 30 47.0 -0.8
QIZ sP **sP** 01 30 54.3 -0.1
QIZ S **SKSac** 01 40 48.4 -0.5
QIZ pmax pmax
comp=Z,12nm,2.3s
QIZ LR LR
comp=Z,170nm,26.4s
G17A Pierce Place, 83.62 39 ⇓P P 01 30 30.6 +0.1
baz=84
ILAR Eielson Array 83.65 11 P P 01 30 29.3 -0.7
ILAR Eielson Array 83.65 11 P P 01 30 29.3 -0.7
comp=Z,9.8nm,0.6s,baz=227,slow=6.2,SNR=77
ILAR LR LR 02 07 28.8
comp=Z,101nm,18.1s,baz=148,slow=36
E16A East Helena 83.70 38 ⇑P P 01 30 30.3 -0.6
baz=84,SNR=9.5
HRY Holter Researc 83.70 37 *eP* P 01 30 30.5 -0.4
MSTX Muleshoe 83.74 52 ⇓P P 01 30 31.1 -0.3
baz=84
O22A Kremmling 83.77 45 ⇓P P 01 30 31.0 -0.6
baz=84,SNR=7.0
K20A Yellowstone Ra 83.77 42 ⇑P P 01 30 30.2 -1.2
baz=84,SNR=6.2
B14A Marquette Ranc 83.78 35 ⇓P P 01 30 30.1 -1.2
baz=84,SNR=6.0
WALA Waterton Lakes 83.82 35 *eP* P 01 30 30.7 -0.7
comp=Z,0.1nm,0.6s
SEY Seymchan 83.82 345 ⇑*iP* P 01 30 31.3 +0.4
C15A Salmond Ranch, 83.83 36 ⇓P P 01 30 30.7 -0.8
baz=84,SNR=7.4
R24A Sanders Place, 83.88 47 ⇓P P 01 30 31.6 -0.5
baz=84
M21A Separation Pea 83.90 43 ⇓P P 01 30 31.3 -0.9
baz=84,SNR=5.5
F17A Fitzpatrick Pl 83.97 39 ⇓P P 01 30 32.3 0.0
baz=84,SNR=9.7
W27A Bowe Ranch, En 83.98 51 ⇑P P 01 30 31.5 -1.1
baz=84
A14A Double T Ranch 84.04 35 ⇑P P 01 30 31.6 -1.0
baz=84,SNR=8.3
D16A Dana Ranch, Ca 84.04 37 ⇓P P 01 30 32.1 -0.5
baz=84,SNR=8.2
U26A Atchley Ranch, 84.05 49 ⇑P P 01 30 32.2 -0.8
baz=84
L21A Rawlins 84.07 43 ⇓P P 01 30 31.9 -1.1
baz=84
S25A Robets Cordova 84.10 48 ⇑P P 01 30 32.7 -0.6
baz=84
Y28A McKinney Farm, 84.11 52 ⇓P P 01 30 32.5 -0.8
baz=84
N22A Wattenberg Ran 84.13 44 ⇑P P 01 30 32.9 -0.5
baz=84,SNR=5.1
J20A Shoshoni 84.28 42 ⇓P P 01 30 33.4 -0.5
baz=84,SNR=7.3
M22A Cedar Creek Ra 84.31 44 ⇑P P 01 30 32.5 -1.8
baz=84,SNR=6.0
G18A Lazy EL Ranch, 84.33 39 ⇓P P 01 30 34.1 -0.1
baz=84,SNR=5.5
C16A Fuhringer Ranc 84.34 36 ⇓P P 01 30 32.7 -1.4
baz=84,SNR=6.1
H19A Powell 84.36 40 ⇑P P 01 30 34.2 -0.1
baz=84,SNR=7.1
RLMT Red Lodge 84.41 40 *eP* P 01 30 34.9 +0.2
RLMT Red Lodge 84.41 40 ⇑P P 01 30 34.4 -0.3
baz=85,SNR=6.7
A15A Johnson Ranch, 84.42 35 ⇓P P 01 30 33.3 -1.2
baz=85,SNR=8.3
R25A Fountain Ranch 84.43 48 ⇑P P 01 30 34.3 -0.5
baz=84
K21A Alcova 84.47 43 ⇓P P 01 30 34.2 -0.8
baz=85,SNR=7.0
Y29A Porterfield Fa 84.53 52 ⇑P P 01 30 34.6 -0.7
baz=85
F18A Big Timber 84.54 39 ⇓P P 01 30 34.9 -0.2
baz=85,SNR=6.4
D17A Six Diamond Ra 84.60 37 ⇓P P 01 30 35.2 -0.3
baz=85,SNR=8.5
J21A Lysite 84.68 42 ⇑P P 01 30 35.2 -0.8
baz=85,SNR=9.3
B16A M & M Farms, S 84.69 36 ⇓P P 01 30 34.5 -1.3
baz=85,SNR=5.6
L22A Ellis Ranch, M 84.72 43 ⇑P P 01 30 35.9 -0.3
baz=85,SNR=5.9
E18A Harlowton 84.75 38 ⇑P P 01 30 36.3 0.0
baz=85,SNR=7.2
S26A Kim 84.78 48 ⇑P P 01 30 35.7 -0.8
baz=85
EGAK Eagle 84.80 13 *eP* P 01 30 35.8 -0.1
comp=Z,14nm,0.8s
C17A Wharram Farm, 84.81 37 ⇑P P 01 30 35.8 -0.7
baz=85,SNR=15
M23A Laramie 84.93 44 ⇑P P 01 30 36.8 -0.6
baz=85
F19A Roth Farm, Mol 84.98 39 ⇑P P 01 30 37.0 -0.3
baz=85,SNR=7.3
I21A Big Trails, Te 85.00 42 ⇓P P 01 30 36.4 -1.2
baz=85,SNR=6.6
A16A West Butte Ran 85.03 36 ⇑P P 01 30 36.6 -0.9
baz=85
R26A Arlington 85.09 48 ⇑P P 01 30 37.7 -0.4
baz=85
B17A L&G Farms, Che 85.14 36 ⇓P P 01 30 37.2 -0.8
baz=85
L23A Garrett 85.24 44 ⇓P P 01 30 37.5 -1.4
baz=85
COLD Coldfoot 85.36 9 *eP* P 01 30 39.4 +0.7
comp=Z,7.9nm,0.9s
A17A Triple J Farms 85.53 36 ⇑P P 01 30 39.3 -0.7
baz=86,SNR=5.8
ABTX Abilene, Hawle 85.60 54 ⇓P P 01 30 40.0 -0.6
baz=86
BILL Bilibino 85.81 352 ⇑*eP* P 01 30 40.3 -0.5
BILL *e* 01 34 00.3
BILL *eS* **SKSac** 01 40 57.6 -3.2
BILL pmax pmax
comp=Z,11nm,1.2s
BILL Bilibino 85.81 352 *eP* P 01 30 41.0 +0.2
comp=Z,5.8nm,0.9s
C19A Slack Wire Ran 85.86 37 ⇓P P 01 30 41.3 -0.4
baz=86
BJI Beijing 86.53 313 P P 01 30 45.6 +0.6
BJI S **S** 01 41 19.8 +2.9
BJI pmax pmax
comp=Z,8.0nm,1.5s
BJI LR LR
comp=Z,58nm,23.7s
RSSD Black Hills 87.23 42 *eP* P 01 30 47.6 -1.0
RSSD pmax pmax
comp=Z,64nm,2.7s
RSSD Black Hills 87.23 42 *eP* P 01 30 47.6 -1.0
comp=Z,64nm,2.7s
PLCA Paso Flores 88.47 132 *eP* P 01 30 55.4 +0.8
comp=Z,3.1nm,0.7s
PLCA Paso Flores 88.47 132 P P 01 30 55.5 +0.9
comp=Z,3.7nm,0.7s,baz=206,slow=3.0,SNR=8.4
GYA Guiyang 88.87 298 P P 01 30 57.0 +0.3
GYA pP **pP** 01 31 14.8 +1.1
GYA sP **sP** 01 31 21.4 +1.1
GYA PP **PP** 01 34 29.8 +2.9
GYA SKS **SKSac** 01 41 19.3 -2.3
GYA S **S** 01 41 38.3 -1.8
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,6.1s
INK Inuvik 89.45 14 *eP* P 01 30 58.0 -0.3
comp=Z,6.2nm,0.8s
INK Inuvik 89.45 14 P P 01 30 58.1 -0.1
comp=Z,5.1nm,0.8s,baz=220,slow=4.3,SNR=31
HHC Hu-ho-hao-te 90.08 313 *eP* P 01 31 02.8 +0.8
HHC pP **pP** 01 31 19.6 +0.5
HHC sP **sP** 01 31 26.9 +1.3
HHC PP **PP** 01 34 40.4 +4.1
HHC SKS **SKSac** 01 41 26.0 -2.1
HHC S **S** 01 41 49.3 -1.5
HHC sS **sS** 01 42 17.8 -1.9
HHC SS **SS** 01 47 50.8 -0.3
HHC pmax pmax
comp=Z,11nm,1.4s
HHC pmax pmax
comp=Z,96nm,5.5s
HHC LR LR
comp=N,170nm,16.7s
HHC LR LR
comp=E,200nm,13.1s
HHC LR LR
comp=Z,120nm,14.3s
YKA Yellowknife Ar 91.17 23 P P 01 31 05.9 -0.5
YKA Yellowknife Ar 91.17 23 P P 01 31 05.9 -0.5
comp=Z,1.4nm,0.6s,baz=238,slow=4.5,SNR=34
SYO Syowa Base 91.40 191 ⇓*eP*cP **PcP** 01 31 10.6 +2.2
KMI Kunming 91.81 296 P P 01 31 10.5 -0.1
KMI pP **pP** 01 31 28.8 +1.2
KMI sP **sP** 01 31 34.9 +0.7
KMI S **S** 01 42 06.4 -1.1
KMI SS **SS** 01 48 16.1 -0.7
KMI pmax pmax
comp=Z,6.0nm,1.0s
KMI LR LR
comp=N,120nm,18.7s
KMI LR LR
comp=E,130nm,17.6s
KMI LR LR
comp=Z,190nm,17.0s
CMAR Chiang Mai Arr 93.26 288 P P 01 31 19.1 +2.0

CMAR Chiang Mai Arr 93.26 288 P **P** **01 31 19.1 +2.0**
comp=Z,1.2nm,0.6s,baz=92,slow=3.2,SNR=6.2
LZH Lanzhou 94.19 306 *e*P **P** **01 31 19.8 -1.4**
LZH pP **pP** **01 31 37.1 -1.2**
LZH sP **sP** **01 31 43.9 -0.9**
LZH *e*PP **PP** **01 35 10.3 +1.5**
LZH pmax pmax
comp=Z,16nm,1.3s
LZH pmax pmax
comp=Z,63nm,8.9s
LZH LR LR
comp=N,190nm,17.0s
LZH LR LR
comp=E,200nm,17.5s
LZH LR LR
comp=Z,270nm,19.3s
ULM Lac du Bonnet 94.77 39 P **P** **01 31 21.3 -2.0**
ULM Lac du Bonnet 94.77 39 P **P** **01 31 21.3 -2.0**
comp=Z,1.2nm,0.5s,baz=270,slow=2.7,SNR=3.6
ULM LR LR 02 06 55.2
comp=Z,239nm,19.3s,baz=259,slow=31
SONM Songino Array 95.97 318 P **P** **01 31 30.5 +1.4**
SONM Songino Array 95.97 318 P **P** **01 31 30.5 +1.4**
comp=Z,0.8nm,0.8s,baz=104,slow=3.2,SNR=6.3
GTA Gaotai 98.18 309 *e*P Pdif 01 31 42.3 +3.0
GTA pP pP 01 31 59.5 +3.2
GTA sP sP 01 32 06.3 +3.4
GTA pmax pmax
comp=Z,2.0nm,1.0s
RES Resolute Bay 102.89 15 P **Pdif** **01 32 00.2 +0.9**
RES Resolute Bay 102.89 15 P **Pdif** **01 32 00.2 +0.9**
comp=Z,0.8nm,0.8s,baz=254,slow=7.9,SNR=4.7
ZALV Zalesovo Beam 110.39 322 PKiKP **PKiKP** **01 36 33.6 0.0**
ZALV Zalesovo Beam 110.39 322 PKiKP **PKiKP** **01 36 33.6 0.0**
comp=Z,0.4nm,0.5s,baz=111,slow=2.8,SNR=3.5
MK31 Makanchi Array 111.90 314 *e*PKIKP **PKiKP** **01 36 36.5 -0.3**
MK31 Makanchi Array 111.90 314 *e*PKPdf **PKiKP** **01 36 36.5 -0.3**
MKAR Makanchi Array 111.90 314 P **Pdif** **01 32 39.1 -0.9**
MKAR *i* 01 36 36.6
MKAR Makanchi Array 111.90 314 Pdif **Pdif** **01 32 39.1 -0.9**
MKAR PKiKP **PKiKP** **01 36 36.6 -0.2**
MKAR PKKPbc **PKKPab** **01 47 37.8 +0.2**
comp=Z,1.1nm,0.6s,baz=60,slow=0.6,SNR=12
MKAR PKKPbc **PKKPab** **01 47 37.8 +0.2**
comp=Z,0.3nm,0.7s,baz=262,slow=2.5,SNR=5.0
KURK Kurchatov 114.27 319 *i* PKIKP PKPdf 01 36 40.2 -0.9
KURK pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 114.27 319 *e*PKP PKPdf 01 36 40.8 -0.3
KURBB Kurchatov Arra 114.33 318 PKP PKPdf 01 36 40.6 -0.6
comp=Z,0.8nm,0.6s,baz=92,slow=1.9,SNR=10
KSH Kashi 116.44 306 PKP **PKPdf** **01 36 47.5 +1.7**
KSH PP PP 01 38 02.3 +9.0
KSH PKS **PKSdf** **01 40 23.3 +0.7**
KSH SKS **SKSdf** **01 43 54.6 +1.6**
KSH LR LR
comp=N,68nm,4.6s
KSH LR LR
comp=E,76nm,6.5s
KSH LR LR
comp=Z,190nm,5.6s
AAK Ala-Archa 117.50 310 *e*PKIKP **PKPdf** **01 36 47.9 0.0**
AAK Ala-Archa 117.50 310 *e*PKPdf **PKPdf** **01 36 47.9 0.0**
AAK PKP **PKPdf** **01 36 48.1 +0.3**
AAK Ala-Archa 117.50 310 PKP **PKPdf** **01 36 48.1 +0.3**
comp=Z,0.4nm,0.5s,baz=90,slow=7.1,SNR=4.6
EKS2 Erkin-Say 118.03 310 *e*PKIKP **PKPdf** **01 36 49.2 +0.4**
EKS2 Erkin-Say 118.03 310 *e*PKPdf **PKPdf** **01 36 49.2 +0.4**
BVAR Borovoye Array 119.05 322 PKIKP **PKPdf** **01 36 50.5 +0.2**
BVAR Borovoye Array 119.05 322 PKP **PKPdf** **01 36 50.5 +0.2**
BVAR Borovoye Array 119.05 322 PKP **PKPdf** **01 36 50.5 +0.2**
comp=Z,0.7nm,0.5s,baz=42,slow=0.8,SNR=9.8
BRVK Borovoye 119.10 322 ⇑*i* PKIKP **PKPdf** **01 36 50.7 +0.3**
BRVK pmax pmax
comp=Z,4.0nm,1.7s
BRVK Borovoye 119.10 322 *e*PKPdf **PKPdf** **01 36 50.0 -0.3**
KKAR Karatay Array 120.39 310 *e*PKIKP **PKPdf** **01 36 52.9 -0.3**
KKAR Karatay Array 120.39 310 *e*PKPdf **PKPdf** **01 36 52.9 -0.3**
KBL Kabul 122.03 301 *e*PKIKP **PKPdf** **01 36 58.0 +1.2**
KBL Kabul 122.03 301 *e*PKPdf **PKPdf** **01 36 58.0 +1.2**
ARU Arti 124.56 328 *e*PKIKP **PKPdf** **01 37 01.3 +0.6**
ARU Arti 124.56 328 *e*PKPdf **PKPdf** **01 37 01.3 +0.6**
KEV Kevo 125.50 352 *e*PKIKP **PKPdf** **01 37 00.7 -1.4**
KEV pmax pmax
comp=Z,5.0nm,0.7s
KEV Kevo 125.50 352 *ep* **PKPdf** **01 37 00.7 -1.4**
comp=Z,4.9nm,0.7s
ARCES ARCESS Array B 125.91 352 PKP **PKPdf** **01 37 03.6 +0.6**
ARCES ARCESS Array B 125.91 352 PKP **PKPdf** **01 37 03.6 +0.6**
comp=Z,7.3nm,0.7s,baz=40,slow=1.4,SNR=26
ABKAR Akbulak array 126.36 319 *e*PKPdf **PKPdf** **01 37 03.9 -0.5**
AKTO Aktyubinsk 127.14 321 PKIKP **PKPdf** **01 37 06.7 +0.8**
AKTO Aktyubinsk 127.14 321 PKP **PKPdf** **01 37 06.7 +0.8**
AKTO Aktyubinsk 127.14 321 PKP **PKPdf** **01 37 06.7 +0.8**
comp=Z,0.3nm,0.4s,baz=11,slow=10,SNR=3.7
KLMR Klimovskoe 130.08 340 *e*PKIKP **PKPdf** **01 37 10.7 -0.4**
KLMR pmax pmax
comp=Z,18nm,1.6s
JOF Joensuu 130.77 346 *e*PKIKP **PKPdf** **01 37 12.2 -0.2**
JOF pmax pmax
comp=Z,4.0nm,0.6s
JOF Joensuu 130.77 346 *ep* **PKPdf** **01 37 12.2 -0.2**
comp=Z,4.2nm,0.6s
KAF Kangasniemi 132.59 348 *e*PKIKP **PKPdf** **01 37 14.5 -1.4**
KAF pmax pmax
comp=Z,4.0nm,0.7s
KAF Kangasniemi 132.59 348 *ep* **PKPdf** **01 37 14.5 -1.4**
comp=Z,4.1nm,0.7s
FINES FINESS Array B 133.24 347 PKP **PKPdf** **01 37 17.7 +0.6**
FINES FINESS Array B 133.24 347 PKP **PKPdf** **01 37 17.7 +0.6**
comp=Z,4.0nm,0.7s,baz=18,slow=3.6,SNR=14
OBN Obninsk 135.38 336 ⇓*i* PKIKP **PKPdf** **01 37 22.2 +0.9**
OBN *e* 01 40 01.1
OBN *e* 01 44 27.4
OBN pmax pmax
comp=Z,12nm,1.6s
OBN MLR MLR
comp=Z,100nm,14.0s
NB2 NORSAR Subarra135.59 357 PKP **PKPdf** **01 37 21.8 +0.2**
comp=Z,0.8nm,0.6s,baz=37,slow=2.6
NOA NORSAR Array B 135.59 357 PKP **PKPdf** **01 37 22.2 +0.7**
NOA NORSAR Array B 135.59 357 PKP **PKPdf** **01 37 22.2 +0.7**
comp=Z,1.0nm,0.6s,baz=15,slow=3.7,SNR=3.9
AKASG Malin Array Be 141.62 337 PKIKP **PKPdf** **01 37 33.3 +0.5**
AKASG Malin Array Be 141.62 337 PKP **PKPdf** **01 37 33.3 +0.5**
AKASG Malin Array Be 141.62 337 PKP **PKPdf** **01 37 33.3 +0.5**
comp=Z,1.9nm,0.7s,baz=40,slow=3.9,SNR=4.3
KIEV Kiev 141.63 337 *e*PKIKP **PKPdf** **01 37 33.0 +0.1**
KIEV Kiev 141.63 337 *e*PKPdf **PKPdf** **01 37 33.0 +0.1**
TSUM Tsumeb 142.81 197 *e*PKPdf **PKPdf** **01 37 36.4 +0.3**
LVV L'vov 144.15 341 *e*PKPbc PKPbc 01 37 35.5 -0.1
IBBN Ibbenburen 144.45 359 *e*PKPbc PKPbc 01 37 37.0 +0.6
KWP Kalwaria Pacla 144.72 342 *e*PKP **PKPdf** **01 37 38.1 -0.2**
KWP Kalwaria Pacla 144.72 342 *e*PKP **PKPdf** **01 37 38.1 -0.2**
KWP Kalwaria Pacla 144.72 342 *e*PKIKP **PKPdf** **01 37 38.2 -0.2**
KWP Kalwaria Pacla 144.72 342 *e*PKPdf **PKPdf** **01 37 38.2 -0.2**
KWP Kalwaria Pacla 144.72 342 ⇓*i* P **PKPdf** **01 37 38.4 0.0**
WTSB Winterswijk 144.80 0 *e*PKP **PKPab** **01 37 37.3 -0.1**
comp=Z,9.7nm,0.7s
CLZ Clausthal 144.81 356 *e*PKPbc PKPbc 01 37 37.7 0.0
CLZ Clausthal 144.81 356 *e*PKIKP PKPbc 01 37 37.7 0.0
OJC Ojcow 144.96 346 *e*PKP **PKPab** **01 37 38.1 -0.1**
OJC Ojcow 144.96 346 *e*PKIKP **PKPdf** **01 37 38.6 -0.2**
KSP Ksiaz 145.09 350 *e*PKP **PKPdf** **01 37 39.5 +0.5**
KSP Ksiaz 145.09 350 *e*PKP **PKPdf** **01 37 39.5 +0.5**
KSP Ksiaz 145.09 350 *e*PKIKP **PKPdf** **01 37 39.5 +0.5**
CLL Collm 145.11 353 *e*PKPbc **PKPbc** **01 37 38.4 -0.1**
CLL Collm 145.11 353 ⇓*i* PKIKP **PKPbc** **01 37 38.5 -0.1**
CLL pmax pmax
comp=Z,20nm,0.7s
CLL Collm 145.11 353 ⇓*i* PKPdf **PKPbc** **01 37 38.5 -0.1**
comp=Z,20nm,0.7s
CLL *e*(PP) 01 40 52.0
KMBO Kilima Mbogo 145.19 242 *e*PKPbc **PKPdf** **01 37 42.0 +1.4**
BUG Bochum--Univer 145.32 360 *e*PKPbc **PKPbc** **01 37 39.0 -0.2**
NEUB Neuenburg 145.34 355 *e*PKPbc **PKPdf** **01 37 39.4 0.0**
BRG Berggiesshubel 145.42 352 *e*P **PKPbc** **01 37 39.7 +0.1**
comp=Z,9.8nm,0.8s
BRG Berggiesshubel 145.42 352 *e*PKPbc **PKPbc** **01 37 39.7 +0.1**
BRG Berggiesshubel 145.42 352 *e*PKIKP **PKPbc** **01 37 39.7 +0.1**
BRG pmax pmax
comp=Z,10.0nm,0.8s
FBE Freiberg 145.45 353 *e*PKPbc **PKPab** **01 37 40.3 +0.4**
UPC Upice 145.47 350 *e*PKIKP **PKPab** **01 37 40.6 +0.6**
UPC *e* 01 37 47.3
UPC Upice 145.47 350 *e*PKP **PKPab** **01 37 40.6 +0.6**
UPC *ep*PKP **PKiKP** **01 37 47.3 +3.6**
KOLS Kolonicke sedl 145.47 342 *e*PKIKP **PKPab** **01 37 40.8 +0.7**
KOLS Kolonicke sedl 145.47 342 *e*PKP **PKPab** **01 37 40.8 +0.7**
DPC Dobruska-Polom 145.56 349 *e*PKIKP **PKPab** **01 37 41.2 +0.8**
DPC Dobruska-Polom 145.56 349 *e*PKP **PKPab** **01 37 41.2 +0.8**
NIE Niedzica 145.57 344 *e*PKP **PKPab** **01 37 41.0 +0.6**
NIE Niedzica 145.57 344 *e*PKIKP **PKPab** **01 37 41.3 +0.8**
BUR08 Bucovina Ar. S 145.63 338 *e*PKPbc **PKPab** **01 37 41.6 +0.8**
BURAR Bucovina Array 145.65 338 ⇑*i* P **PKPab** **01 37 41.7 +0.8**
PVCC Panska Ves 145.67 351 *e*PKIKP **PKPab** **01 37 40.8 +0.1**
PVCC Panska Ves 145.67 351 *e*PKP **PKPab** **01 37 40.8 +0.1**
OKC Ostrava-Krasne 145.69 347 *e*PKIKP **PKPab** **01 37 41.3 +0.5**
OKC Ostrava-Krasne 145.69 347 *e*PKP **PKPab** **01 37 41.3 +0.5**
CRVS Cervenica-Dubn 145.73 343 *e*PKIKP **PKPab** **01 37 41.7 +0.7**
CRVS Cervenica-Dubn 145.73 343 *e*PKP **PKPab** **01 37 41.7 +0.7**
UZH Uzhgorod 145.73 342 ⇓*i* PKIKP **PKPab** **01 37 41.5 +0.5**
UZH *i* 01 37 47.1
UBBA Unterbreizbach 145.85 356 *e*PKPbc **PKPab** **01 37 41.7 +0.4**
MORC Moravsky Berou 145.88 348 *e*PKIKP **PKPab** **01 37 41.9 +0.3**
MORC Moravsky Berou 145.88 348 *e*PKPbc **PKPab** **01 37 41.9 +0.3**
MORC Moravsky Berou 145.88 348 ⇓*i* P **PKPab** **01 37 42.0 +0.3**
MOX Moxa 145.91 355 *e*PKPbc **PKPbc** **01 37 41.4 +0.3**
MOX Moxa 145.91 355 *e*PKIKP **PKPbc** **01 37 41.4 +0.3**
UCC Uccle 145.91 3 PKP **PKPab** **01 37 43.4 +1.8**
BEBN Eben Emael 145.96 1 PKP **PKPab** **01 37 42.0 +0.2**
HGN Heimansgroeve 146.00 1 *e*PKP **PKPbc** **01 37 41.2 -0.1**
comp=Z,16nm,1.1s
PLN Plauen 146.01 354 *e*PKPbc **PKPbc** **01 37 41.7 +0.3**
TESR 146.02 335 ⇑*i* P **PKPab** **01 37 42.5 +0.3**
WERD Werda 146.04 354 *e*PKPbc **PKPab** **01 37 41.9 -0.2**
TANN Tannenbergstha 146.05 354 *e*PKPbc **PKPab** **01 37 42.1 -0.2**
TRPA Tarpa 146.10 341 ⇑*i* P **PKPab** **01 37 42.7 +0.3**
TRPA Tarpa 146.10 341 ⇓*e*PKPdf **PKPab** **01 37 42.4 0.0**
GUNZ Gunzen 146.12 354 *e*PKPbc **PKPab** **01 37 42.3 -0.2**
MEM Membach 146.15 1 PKP **PKPab** **01 37 42.4 -0.1**
WERN Wernitzgruen 146.19 354 *e*PKPbc **PKPab** **01 37 42.7 0.0**
SNF Seneffe 146.19 3 PKP **PKPab** **01 37 42.5 -0.2**
PRU Pruhonice 146.20 351 *e*PKIKP **PKPab** **01 37 42.7 -0.1**
PRU Pruhonice 146.20 351 *e*PKP **PKPab** **01 37 42.7 -0.1**
NKC Novy Kostel 146.23 354 *e*PKIKP **PKPab** **01 37 42.9 0.0**
NKC *e* 01 37 53.4
NKC Novy Kostel 146.23 354 *e*PKP **PKPab** **01 37 42.9 0.0**
NKC *ep*PKP **pPKPdf** **01 37 53.4 -5.3**
BCLA Clavier 146.32 2 PKP **PKPab** **01 37 43.5 +0.3**
CFR Carcaliu 146.45 332 ⇑*i* P **PKPab** **01 37 43.8 0.0**
VRI Vrincioaia 146.51 335 ⇑*i* P **PKPab** **01 37 44.2 +0.1**
VRAC Vranov 146.51 348 ⇑*i* P **PKPab** **01 37 43.7 -0.3**
TNS Taunus Mts 146.52 358 *e*PKPbc **PKPab** **01 37 44.0 -0.1**
TNS Taunus Mts 146.52 358 *e*PKP2 **PKPab** **01 37 44.0 -0.1**
PLOR Plostina 146.55 335 ⇓*i* P **PKPab** **01 37 44.1 -0.2**
DOU Dourbes 146.62 3 PKP **PKPbc** **01 37 43.7 +0.4**
ROTZ Rotzenmuhle 146.72 354 *e*PKPbc **PKPab** **01 37 44.5 -0.3**
TREC Trest 146.73 350 *e*PKP2 **PKPbc** **01 37 44.0 +0.4**
TREC Trest 146.73 350 *e*PKP **PKPbc** **01 37 44.0 +0.4**
VYHS Vyhne 146.80 345 *e*PKP2 **PKPab** **01 37 45.1 0.0**
VYHS Vyhne 146.80 345 *e*PKP **PKPab** **01 37 45.1 0.0**
ABH Alteburg 146.88 359 PKP **PKPbc** **01 37 44.7 +0.7**
GRF Grafenberg Arr 146.89 355 *e*PKPbc **PKPab** **01 37 44.8 -0.6**
GRF Grafenberg Arr 146.89 355 *e*PKP2 **PKPab** **01 37 44.8 -0.6**
GRFO Grafenberg 146.89 355 *e*PKP2 **PKPbc** **01 37 44.2 +0.1**
GRFO Grafenberg 146.89 355 *e*PKPbc **PKPbc** **01 37 44.1 +0.1**
PSZ Piszkesteto 147.06 344 *e*PKIKP **PKPbc** **01 37 44.0 -0.7**
PSZ Piszkesteto 147.06 344 *e*PKPbc **PKPbc** **01 37 44.0 -0.7**
PSZ Piszkesteto 147.06 344 ⇑*i* P **PKPab** **01 37 45.6 -0.7**
PSZ Piszkesteto 147.06 344 ⇑*e*PKPdf **PKPbc** **01 37 45.9 -0.4**
RUP Ruppelstein 147.07 360 PKP2 **PKPbc** **01 37 45.4 +0.8**
RUP Ruppelstein 147.07 360 PKP **PKPbc** **01 37 45.4 +0.8**
SMOL Smolenice 147.10 347 *e*PKP2 **PKPab** **01 37 46.1 -0.2**
SMOL Smolenice 147.10 347 *e*PKP **PKPab** **01 37 46.1 -0.2**
WLF Walferdange 147.10 1 PKP **PKPab** **01 37 45.7 -0.6**
WLF Walferdange 147.10 1 *e*PKPbc **PKPab** **01 37 45.7 -0.6**
WLF Walferdange 147.10 1 *e*PKP2 **PKPab** **01 37 45.5 -0.7**
WLF Walferdange 147.10 1 *e*PKPbc **PKPab** **01 37 45.5 -0.7**
TOD Tromm 147.12 358 PKP2 **PKPbc** **01 37 45.1 +0.4**
TOD Tromm 147.12 358 PKP **PKPbc** **01 37 45.1 +0.4**
KHC Kasperske Hory 147.18 352 *e*PKIKP **PKPdf** **01 37 42.9 +0.2**
KHC *e* 01 37 45.8
KHC *e* 01 37 52.5
KHC Kasperske Hory 147.18 352 *e*PKPbc **PKPbc** **01 37 45.5 +0.6**
KHC Kasperske Hory 147.18 352 *e*PKP **PKPdf** **01 37 42.9 +0.2**
KHC *ep*PKP **PKPbc** **01 37 45.8 +0.9**
KHC *ex* x 01 37 52.5
DRGR 147.23 340 ⇑*i* P **PKPbc** **01 37 45.2 0.0**
WET Wettzell 147.26 353 *e*PKPbc **PKPbc** **01 37 45.7 +0.6**
WET Wettzell 147.26 353 *e*PKP2 **PKPbc** **01 37 45.7 +0.6**
BR131 Keskin Array S 147.30 320 *e*PKPbc **PKPbc** **01 37 46.5 +0.8**
BRTR Keskin Array B 147.30 320 PKPbc **PKPbc** **01 37 46.5 +0.8**
BRTR Keskin Array B 147.30 320 PKPbc **PKPbc** **01 37 46.5 +0.8**
comp=Z,9.6nm,0.7s,baz=126,slow=2.2,SNR=51
GEC2 GERESS Array S 147.44 352 *e*PKPbc **PKPbc** **01 37 46.4 +0.7**
GEC2 GERESS Array S 147.44 352 *e*PKP2 **PKPbc** **01 37 46.4 +0.7**
GERES GERESS Array B 147.44 352 PKPbc **PKPbc** **01 37 46.3 +0.6**
GERES GERESS Array B 147.44 352 PKPbc **PKPbc** **01 37 46.3 +0.6**
comp=Z,9.8nm,0.7s,baz=17,slow=2.8,SNR=108
VOIR 147.54 336 ⇑*i* P **PKPab** **01 37 47.7 -0.5**
BUD Budapest 147.69 344 ⇓*e*PKPdf **PKPbc** **01 37 47.2 +0.9**
LANF Langenberg 147.78 359 PKP2 **PKPbc** **01 37 47.1 +0.6**
LANF Langenberg 147.78 359 PKP **PKPbc** **01 37 47.1 +0.6**
LANF Langenberg 147.78 359 PKP **PKPbc** **01 37 47.1 +0.6**
STU Stuttgart 147.94 357 *e*PKPbc **PKPbc** **01 37 47.6 +0.7**
STU Stuttgart 147.94 357 *e*PKP2 **PKPbc** **01 37 46.7 -0.2**
STU Stuttgart 147.94 357 *e*PKPbc **PKPbc** **01 37 46.7 -0.2**
CONA Conrad Observa 147.97 349 *i* PKPab **PKPbc** **01 37 48.3 +1.1**
comp=Z,21nm,0.7s,SNR=13
SOP Sopron 148.07 348 ⇑*e*PKPdf **PKPbc** **01 37 48.7 +1.4**
MOA Moln 148.33 350 ⇓*ip*PKPdf **PKPbc** **01 37 48.6 +0.6**
comp=Z,18nm,1.2s,SNR=9.5
FUR Furstenfeldbru 148.40 354 *e*PKPbc **PKPbc** **01 37 48.7 +0.5**
FUR Furstenfeldbru 148.40 354 *e*PKP2 **PKPbc** **01 37 48.7 +0.5**
BFO Black Forest 148.42 358 *e*PKPbc **PKPbc** **01 37 48.8 +0.6**
BFO Black Forest 148.42 358 *e*PKP2 **PKPbc** **01 37 48.5 +0.3**
BFO Black Forest 148.42 358 *e*PKPbc **PKPbc** **01 37 48.5 +0.3**
GZR Gura Zlata 148.42 338 ⇑*i* P **PKPbc** **01 37 49.0 +0.6**
THEF They Montfort 148.53 1 PKP2 **PKPbc** **01 37 49.5 +1.0**
THEF They Montfort 148.53 1 PKP **PKPbc** **01 37 49.5 +1.0**
THEF They Montfort 148.53 1 PKP **PKPbc** **01 37 49.5 +1.0**
ECH Echery 148.55 360 *e*PKP2 **PKPbc** **01 37 49.0 +0.4**
ECH Echery 148.55 360 *e*PKPbc **PKPbc** **01 37 49.0 +0.4**
BZS Buzias 148.62 340 ⇑*i* P **PKPbc** **01 37 48.9 +0.1**
RJOB Jochberg 148.65 352 *e*PKPbc **PKPbc** **01 37 49.5 +0.6**
ARSA Arzberg 148.69 349 ⇑*i*sPKPdf **PKPbc** **01 37 49.8 +0.9**
comp=Z,1nm,0.9s,SNR=8.3
FELD Feldberg im Sc 148.88 359 PKP **PKPbc** **01 37 50.1 +0.5**
PKSM Moragy 148.97 344 ⇑*i* P **PKPbc** **01 37 50.5 +0.8**
PKSM Moragy 148.97 344 ⇑*e*PKPdf **PKPbc** **01 37 50.4 +0.8**
RETA Reutte 149.12 355 *i* sPKPdf **PKPbc** **01 37 50.6 +0.5**
comp=Z,19nm,1.2s,SNR=12
WATA Walderalm 149.19 354 ⇑*i*sPKPdf **PKPbc** **01 37 50.8 +0.4**
comp=Z,5.6nm,0.6s
MOTA Moosalm 149.22 354 ⇓*i*sPKPdf **PKPbc** **01 37 50.9 +0.4**
comp=Z,13nm,1.0s,SNR=13
WTTA Wattenberg 149.25 354 ⇓*i*sPKPdf **PKPbc** **01 37 51.2 +0.6**
comp=Z,24nm,0.6s,SNR=18
SOKA Soboth 149.33 349 ⇓*i*sPKPdf **PKPbc** **01 37 50.8 +0.1**
comp=Z,15nm,1.1s
DAVA Damuels 149.38 356 ⇓*i* PKiKP **PKiKP** **01 37 51.7 -0.3**
comp=Z,24nm,0.9s,SNR=8.5
LOMF Lomont 149.42 0 PKP2 **PKPbc** **01 37 51.2 +0.3**
LOMF Lomont 149.42 0 PKP **PKPbc** **01 37 51.2 +0.3**
LOMF Lomont 149.42 0 PKP **PKPbc** **01 37 51.2 +0.3**
FETA Feichten 149.58 355 *i* PKiKP **PKiKP** **01 37 52.0 -0.5**
comp=Z,24nm,0.9s,SNR=16
ABTA Abfaltersbach 149.66 352 *i* sPKPdf **PKPbc** **01 37 51.6 +0.1**
comp=Z,44nm,1.3s,SNR=15
CRNS Crni Vrh 150.05 350 *i* PKPbc **PKPbc** **01 37 52.6 +0.2**
TUE Stuetta 150.23 357 *e*PKPbc **PKPbc** **01 37 53.9 +0.9**
JAVS Javornik 150.26 350 *e*PKPbc **PKPbc** **01 37 53.2 +0.2**
BOJS Bojanci 150.42 348 *e*PKPbc **PKPbc** **01 37 54.3 +1.0**
AGO Saint Agoulin 150.55 5 PKP **PKPbc** **01 37 54.2 +0.6**
AGO Saint Agoulin 150.55 5 PKP **PKPbc** **01 37 54.2 +0.6**
VTS Vitosha 150.64 335 ⇑*i* P **PKPbc** **01 37 55.0 +0.9**
PLDF La Plantade 150.68 5 PKP2 **PKPbc** **01 37 54.7 +0.7**
PLDF La Plantade 150.68 5 PKP **PKPbc** **01 37 54.7 +0.7**
PLDF La Plantade 150.68 5 PKP **PKPbc** **01 37 54.7 +0.7**
OG35 Corcelles 150.71 2 PKP **PKPbc** **01 37 55.0 +1.0**
RSL Roselend 151.08 0 PKIKP **PKPbc** **01 37 57.1 +2.1**
RSL Roselend 151.08 0 PKP **PKPbc** **01 37 57.1 +2.1**
RSL Roselend 151.08 0 PKP **PKPbc** **01 37 57.1 +2.1**
LBL Lubilhac 151.38 5 PKIKP **PKPbc** **01 37 56.8 +1.2**
LBL Lubilhac 151.38 5 PKP **PKPbc** **01 37 56.8 +1.2**
LBL Lubilhac 151.38 5 PKP **PKPbc** **01 37 56.8 +1.2**
SSB Saint Sauveur 151.43 3 PKIKP **PKPbc** **01 37 56.8 +1.1**
SSB Saint Sauveur 151.43 3 PKP **PKPbc** **01 37 56.8 +1.1**
SSB Saint Sauveur 151.43 3 PKP **PKPbc** **01 37 56.8 +1.1**
BNI Bardonecchia 151.72 0 *e*PKIKP **PKPdf** **01 37 52.0 +1.8**
BNI *e* 01 37 58.0
BNI Bardonecchia 151.72 0 *e*PKPdf **PKPdf** **01 37 52.0 +1.8**
BNI *e*PKPbc **PKiKP** **01 37 58.0 +1.1**
POLO Lamas de Olo 152.34 24 *e*PKPbc **PKPbc** **01 37 58.3 +0.3**
POLO Lamas de Olo 152.34 24 *e*PKPab **PKPab** **01 38 08.1 +0.1**
PVRL Vila Real 152.45 24 *e*PKPbc **PKPbc** **01 37 55.2 -3.0**
PVRL Vila Real 152.45 24 *e*PKPab **PKPab** **01 38 08.6 +0.1**
MVO Moncorvo 152.82 23 *e*PKPbc **PKPbc** **01 37 59.8 +0.8**
MVO Moncorvo 152.82 23 *e*PKPab **PKPab** **01 38 10.4 +0.4**
PTOM Tomar 153.56 27 *e*PKPbc **PKPbc** **01 38 01.2 +0.6**
PTOM Tomar 153.56 27 *e*PKPab **PKPab** **01 38 13.0 -0.1**
PMRV Marv??o 154.15 26 *e*PKPbc **PKPbc** **01 38 02.0 +0.1**
PMRV Marv??o 154.15 26 *e*PKPab **PKPab** **01 38 15.3 -0.3**
ESDC Sonseca Array 155.23 20 PKP **PKPdf** **01 37 56.5 +1.3**
ESDC PKPab **PKPab** **01 38 20.3 +0.1**
ESDC Sonseca Array 155.23 20 PKP **PKPdf** **01 37 56.5 +1.3**
comp=Z,1.0nm,0.4s,baz=349,slow=6.0,SNR=4.7
ESDC PKPab **PKPab** **01 38 20.3 +0.1**
comp=Z,1.5nm,0.6s,baz=326,slow=4.0,SNR=9.9
DBIC Dimbokro 164.82 130 PKP **PKPab** **01 39 01.8 -0.9**
DBIC Dimbokro 164.82 130 PKPab **PKPab** **01 39 01.8 -0.9**
comp=Z,6.5nm,1.4s,baz=190,slow=6.1,SNR=3.1
TAM Tamanrasset 173.79 12 *e*PKPdf **PKPdf** **01 38 13.1 +1.0**
TOA0 Torodi Ar. Sit 173.89 124 *e*PKPab **PKPab** **01 39 41.9 -1.0**
TORD Torodi Ar. Bea 173.89 124 PKP **PKPdf** **01 38 11.1 -1.0**
TORD PKPab **PKPab** **01 39 42.2 -0.7**
TORD Torodi Ar. Bea 173.89 124 PKP **PKPdf** **01 38 11.1 -1.0**
comp=Z,1.8nm,0.8s,baz=285,slow=0.3,SNR=9.0
TORD PKPab **PKPab** **01 39 42.2 -0.7**
comp=Z,4.1nm,0.8s,baz=241,slow=4.1,SNR=20

IDC 15 01:19:49.6±6.3, 23°.99S×178°.82W, h0km, mb4.7/3, mb1 4.9/3, mb1mx4.1/16, mbtmp4.7/3, Error ellipse: s-maj=170.0km s-min=99.6km az=144.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**35.70**	**248**	P	P	01 26 49.1	-0.8
	5.8nm,0.5s,baz=88,slow=7.5,SNR=6.4						
ASAR	**Alice Springs**	**43.09**	**260**	P	P	01 27 51.5	-0.2
	3.9nm,0.4s,baz=93,slow=7.7,SNR=5.2						
WRA	**Warramunga Arr**	**43.48**	**266**	P	P	01 27 55.3	+0.4
	4.6nm,0.3s,baz=102,slow=8.0,SNR=25						
NB2	**NORSAR Subarra142.32**		**352**	PKP	PKPdf	01 39 23.1	-0.6
	comp=Z,0.6nm,0.6s,baz=16,slow=3.3						
NOA	**NORSAR Array B142.32**		**352**	PKP	PKPdf	01 39 23.4	-0.2
	comp=Z,0.8nm,0.6s,baz=12,slow=2.2,SNR=3.9						

*ISK **15** 01:20:56.8, 37°.93N×29°.17E, h5km, MD2.9*
*DDA **15** 01:20:56.3, 37°.90N×29°.17E, h9km, MD3.1*
*CSEM **15** 01:20:56.6±0.1, 37°.89N×29°.19E, h0km±2km, MD3.1, Error ellipse: s-maj=1.9km s-min=1.8km az=110.0*

ISC 15 01:20:56.9±1.0, 37°.90N±0°.02×29°.16E±0°.02, h8km±11km, n35, σ0°49/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DNZL	**Cakiroluk**	**0.23**	**202**	*i* P	**Pg**	**01 21 01.3**	**-0.2**
DNZL				*i* S	**Sg**	**01 21 05.0**	**+0.3**
DNZL	**Cakiroluk**	**0.23**	**202**	*i* P	**Pg**	**01 21 01.3**	**-0.2**
DNZL				*i* S	**Sg**	**01 21 05.0**	**+0.3**
KHL	**Karahalli**	**0.51**	**35**	*e*PG	**Pg**	**01 21 06.8**	**0.0**
KHL				*e*SG	**Sg**	**01 21 14.4**	**+0.9**
KHL	**Karahalli**	**0.51**	**35**	*e*Pg	**Pg**	**01 21 06.8**	**0.0**
KHL				*e*Sg	**Sg**	**01 21 14.4**	**+0.9**
KHAL	**Karahalli**	**0.54**	**30**	*i* P	**Pg**	**01 21 06.8**	**-0.5**
KHAL				*i* S	**Sg**	**01 21 14.2**	**-0.2**
KHAL	**Karahalli**	**0.54**	**30**	*i* P	**Pg**	**01 21 06.8**	**-0.5**
KHAL				*i* S	**Sg**	**01 21 14.2**	**-0.2**
KULA	**Kula-Manisa**	**0.72**	**328**	*e*PG	**Pg**	**01 21 11.1**	**+0.3**
KULA				*e*SG	**Sb**	**01 21 21.3**	**-0.7**
MANT	**Manisa**	**0.75**	**321**	*i* P	**Pg**	**01 21 11.7**	**+0.3**
MANT				*i* S	**Sg**	**01 21 20.8**	**-0.4**
MANT	**Manisa**	**0.75**	**321**	*i* P	**Pg**	**01 21 11.7**	**+0.3**
MANT				*i* S	**Sg**	**01 21 20.8**	**-0.4**
YER	**Yerkesik**	**1.03**	**222**	*e*PG	**Pn**	**01 21 17.6**	**-0.1**
AYDN	**Tasoluk**	**1.04**	**257**	*i* P	**Pg**	**01 21 16.6**	**-0.2**
AYDN				*i* S	**Sg**	**01 21 30.4**	**+0.1**
AYDN	**Tasoluk**	**1.04**	**257**	*i* P	**Pg**	**01 21 16.6**	**-0.2**
AYDN				*i* S	**Sg**	**01 21 30.4**	**+0.1**
ISP	**Isparta**	**1.08**	**94**	*e*PG	**Pg**	**01 21 17.1**	**-0.6**
ISP	**Isparta**	**1.08**	**94**	*e*Pg	**Pg**	**01 21 17.1**	**-0.6**
DEMI	**Demirci**	**1.19**	**343**	*i* P	**Pn**	**01 21 20.2**	**+0.3**

1.2nm,0.5s,baz=315,slow=11,SNR=3.8

IDC 15 01:47:52.7±1.7,6.88S×128.09E, h0km, mb3.4/2, mb1 4.0/5, mb1mx3.7/17, mbtmp3.8/5, ML4.1/2, Error ellipse: s-maj=91.3km s-min=25.2km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.41**	**192**	Pn	Pn	01 50 34.9	-2.1
	1.4nm,0.3s,baz=8.3,slow=14,SNR=8.9						
FITZ				Sn	Sn	01 52 32.9	-12
	0.5nm,0.3s,baz=324,slow=19,SNR=3.5						
WRA	**Warramunga Arr**	**14.33**	**156**	Pn	Pn	01 51 18.4	+1.4
	0.7nm,0.3s,baz=341,slow=12,SNR=14						
WRA				Sn	Sn	01 53 44.5	-12
	0.5nm,0.3s,baz=331,slow=22,SNR=6.4						
ASAR	**Alice Springs**	**17.60**	**162**	P	P	01 52 00.1	-0.6
	0.5nm,0.3s,baz=339,slow=11,SNR=29						
ASAR				S	Sn	01 55 06.1	-10
	0.2nm,0.3s,baz=343,slow=21,SNR=5.5						
MKAR	**Makanchi Array**	**67.10**	**328**	P	P	01 58 47.9	-0.2
	0.3nm,0.7s,baz=117,slow=8.0,SNR=4.2						
KURBB	**Kurchatov Arra**	**71.43**	**329**	P	P	01 59 15.1	+0.3
	0.3nm,0.6s,baz=134,slow=5.4,SNR=7.4						

*ISCJB **15** 01:48:10.9±1.0, 40.16N±0.03×20.25E±0.04, h10km±7km, Error ellipse: s-maj=5.8km s-min=4.0km az=25.2*
*ATH **15** 01:48:12.5, 40.11N×20.40E, h25km± 1km, MD3.1/10*
*CSEM **15** 01:48:12.6±0.3, 40.13N×20.37E, h12km, MD3.1, Error ellipse: s-maj=6.8km s-min=3.1km az=123.0*
*THE **15** 01:48:13.2, 40.11N×20.39E, h8km±2km, ML2.3/6, Error ellipse: s-maj=2.0km s-min=0.7km az=322.0*
ISC 15 01:48:11.9±1.3, 40.15N±0.03×20.34E±0.03, h9km±10km, n42, σ0°43/68, 2C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEK	**Kerkira**	**0.60**	**224**	P	**Pb**	**01 48 24.6**	**+0.1**
KEK				S	**Sb**	**01 48 33.6**	**+0.6**
KEK	**Kerkira**	**0.60**	**224**	*e*PN	**Pb**	**01 48 24.6**	**+0.1**
KEK				*e*SN	**Sb**	**01 48 33.6**	**+0.6**
KEK	**Kerkira**	**0.60**	**224**	P	**Pb**	**01 48 24.6**	**+0.1**
KEK				S	**Sb**	**01 48 33.6**	**+0.6**
NEST	**Nestorio**	**0.60**	**63**	P	**Pb**	**01 48 24.4**	**-0.2**
NEST				S	**Sb**	**01 48 33.7**	**+0.4**
NEST	**Nestorio**	**0.60**	**63**	P	**Pb**	**01 48 24.4**	**-0.2**
NEST				S	**Sb**	**01 48 33.7**	**+0.4**
IGT	**Igoumenitsa**	**0.61**	**181**	P	**Pg**	**01 48 23.8**	**+0.1**
IGT				S	**Sb**	**01 48 33.7**	**+0.3**
IGT	**Igoumenitsa**	**0.61**	**181**	P	**Pg**	**01 48 23.8**	**+0.1**
IGT				S	**Sb**	**01 48 33.7**	**+0.3**
JAN	**Janina**	**0.63**	**141**	P	**Pg**	**01 48 23.9**	**-0.1**
JAN				S	**Sg**	**01 48 32.5**	**+0.2**
JAN	**Janina**	**0.63**	**141**	*e*PN	**Pg**	**01 48 23.8**	**-0.2**
JAN				*e*SN	**Sg**	**01 48 32.4**	**+0.2**
JAN	**Janina**	**0.63**	**141**	P	**Pg**	**01 48 23.9**	**-0.1**
JAN				*e*Sn	**Sg**	**01 48 32.4**	**+0.2**
MEV	**Metsovon**	**0.77**	**118**	P	**Pg**	**01 48 26.6**	**-0.2**
MEV	**Metsovon**	**0.77**	**118**	P	**Pg**	**01 48 26.6**	**-0.2**
RGA	**Parga**	**0.82**	**179**	P	**Pg**	**01 48 27.5**	**-0.2**
RGA				S	**Sb**	**01 48 39.2**	**-0.3**
RGA	**Parga**	**0.82**	**179**	P	**Pg**	**01 48 27.5**	**-0.2**
RGA				S	**Sb**	**01 48 39.2**	**-0.3**
FNA	**Florina**	**1.01**	**51**	P	**Pb**	**01 48 31.8**	**+0.2**
FNA				S	**Sn**	**01 48 46.6**	**-0.1**
FNA	**Florina**	**1.01**	**51**	P	**Pb**	**01 48 31.8**	**+0.2**
FNA				S	**Sn**	**01 48 46.6**	**-0.1**
KZN	**Kozani**	**1.11**	**81**	P	**Pb**	**01 48 32.9**	**-0.3**
KZN				S	**Sn**	**01 48 49.4**	**+0.4**
KZN	**Kozani**	**1.11**	**81**	*e*PN	**Pb**	**01 48 32.5**	**-0.7**
KZN				*e*SN	**Sn**	**01 48 48.8**	**-0.2**
KZN	**Kozani**	**1.11**	**81**	*e*Pn	**Pb**	**01 48 32.5**	**-0.7**
KZN	**Kozani**	**1.11**	**81**	P	**Pb**	**01 48 32.9**	**-0.3**
KZN				*e*Sn	**Sn**	**01 48 48.8**	**-0.2**
KZN				S	**Sn**	**01 48 49.4**	**+0.4**
BIA	**Bitola**	**1.15**	**40**	↑*i*Pg	**Pb**	**01 48 33.6**	**-0.3**
BIA				*i* Sg	**Sn**	**01 48 51.1**	**+1.1**
	comp=E,35nm,0.4s						
BIA	**Bitola**	**1.15**	**40**	↑*i*Pg	**Pb**	**01 48 33.6**	**-0.3**
BIA				*i* Sg	**Sn**	**01 48 51.1**	**+1.1**
	comp=E,35nm,0.4s						
LKD2	**Lefkada island**	**1.38**	**170**	P	**Pb**	**01 48 37.9**	**+0.1**
LKD2				S	**Sn**	**01 48 55.3**	**-0.2**
LKD2	**Lefkada island**	**1.38**	**170**	*e*PN	**Pb**	**01 48 37.8**	**0.0**
LKD2				*e*SN	**Sn**	**01 48 55.4**	**-0.1**
LKD2	**Lefkada island**	**1.38**	**170**	*e*Pn	**Pb**	**01 48 37.8**	**0.0**
LKD2				*e*Sn	**Sn**	**01 48 55.4**	**-0.1**
THL	**Klokotos Trika**	**1.41**	**114**	*e*PN	**Pn**	**01 48 37.3**	**-0.4**
THL				*e*SN	**Sn**	**01 48 56.2**	**-0.2**
THL	**Klokotos Trika**	**1.41**	**114**	*e*Pn	**Pn**	**01 48 37.3**	**-0.4**
THL				*e*Sn	**Sn**	**01 48 56.2**	**-0.2**
LIT	**Litokhoron**	**1.65**	**91**	P	**Pb**	**01 48 42.0**	**-0.4**
LIT	**Litokhoron**	**1.65**	**91**	*e*PN	**Pb**	**01 48 42.0**	**-0.4**
LIT	**Litokhoron**	**1.65**	**91**	P	**Pb**	**01 48 42.0**	**-0.4**
EVR	**Evrytania**	**1.67**	**137**	*e*PN	**Pn**	**01 48 41.4**	**+0.1**
EVR	**Evrytania**	**1.67**	**137**	*e*Pn	**Pn**	**01 48 41.4**	**+0.1**
VLS	**Valsamata**	**1.98**	**174**	*e*PN	**Pb**	**01 48 47.2**	**-0.7**
VLS	**Valsamata**	**1.98**	**174**	*e*Pn	**Pb**	**01 48 47.2**	**-0.7**
EFP	**Efpalio**	**2.10**	**144**	*e*PB	**Pn**	**01 48 48.3**	**+1.1**
PLG	**Polygyros**	**2.39**	**84**	*e*PN	**Pn**	**01 48 51.4**	**+0.3**
PLG	**Polygyros**	**2.39**	**84**	*e*Pn	**Pn**	**01 48 51.4**	**+0.3**
GUR	**Goura**	**2.70**	**144**	*e*PN	**Pn**	**01 48 55.4**	**-0.1**
GUR	**Goura**	**2.70**	**144**	*e*Pn	**Pn**	**01 48 55.4**	**-0.1**
NVR	**Nevrokopi**	**2.93**	**65**	*e*PN	**Pn**	**01 48 58.8**	**+0.2**
NVR	**Nevrokopi**	**2.93**	**65**	*e*Pn	**Pn**	**01 48 58.8**	**+0.2**
STON	**Ston**	**3.37**	**325**	*e*Pn	**Pn**	**01 49 04.1**	**-0.4**
STON				Sn	**Sn**	**01 49 43.2**	**-1.4**

PRE 15 01:49:25.9±0.7, 26.42S×27.35E, h2km, ML1.7, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLR	**Silverton**	**1.08**	**51**	*e*P	Pg	01 49 46.1	-0.7
SLR				*e*S	Sb	01 50 02.0	-0.2
SLR				AML	AML	01 50 05.9	
	comp=Z,9.6nm,0.7s						
SEK	**Senekal**	**1.91**	**173**	*e*P	Pn	01 50 00.1	+0.3
SEK				*e*S	Sb	01 50 25.7	-0.6
SEK				AML	AML	01 50 26.5	
	comp=Z,5.6nm,0.5s						
LBTB	**Lobatse**	**2.11**	**311**	*e*P	Pn	01 50 03.2	+0.8
LBTB				*e*S	Sn	01 50 30.1	+0.7
LBTB				AML	AML	01 50 34.7	
	comp=Z,3.4nm,0.7s						

WEL 15 01:58:27.9±0.4, 38.54S×175.87E, h152km±3km, ML3.6/14, 8C-3D, Error ellipse: s-maj=2.5km s-min=2.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WTVZ	**West Tongariro**	**0.61**	**201**	PN	Pn	01 58 50.3	+0.1
TWVZ	**Taurewa**	**0.63**	**213**	↑PN	Pn	01 58 50.2	0.0
OTVZ	**Oturere**	**0.64**	**195**	PN	Pn	01 58 50.5	+0.1
WPVZ	**Whakapapa**	**0.71**	**201**	PN	Pn	01 58 50.9	+0.1
TUVZ	**Tukino**	**0.75**	**193**	↑PN	Pn	01 58 51.2	+0.1
FWVZ	**Far West T-bar**	**0.76**	**199**	PN	Pn	01 58 51.1	-0.1
BKZ	**Black Stump Fm**	**0.79**	**142**	↑PN	Pn	01 58 51.5	+0.2
BKZ				SN	Sn	01 59 09.0	-0.1
TRVZ	**Turoa**	**0.80**	**198**	PN	Pn	01 58 51.5	0.0
WNVZ	**Wahianoa**	**0.81**	**195**	↑PN	Pn	01 58 51.5	0.0
PKVZ	**Pokaka**	**0.85**	**209**	PN	Pn	01 58 51.6	-0.1
MOVZ	**Moawhango**	**0.87**	**186**	PN	Pn	01 58 51.6	-0.3
MTVZ	**Mangateitei**	**0.90**	**200**	PN	Pn	01 58 52.0	0.0
NMHZ	**Naumai**	**0.92**	**128**	PN	Pn	01 58 53.5	+1.3
NMHZ				SN	Sn	01 59 12.9	+2.1
BHHZ	**Black Hill Sta**	**0.96**	**171**	PN	Pn	01 58 52.4	-0.2
BHHZ				SN	Sn	01 59 10.4	-1.0
URZ	**Urewera**	**1.01**	**74**	↓PN	Pn	01 58 52.6	-0.2
URZ				SN	Sn	01 59 11.5	-0.4
MCHZ	**McNeill Hill**	**1.11**	**145**	PN	Pn	01 58 54.7	+1.0
MWZ	**Matawai**	**1.31**	**81**	↓PN	Pn	01 58 55.6	-0.1
MWZ				SN	Sn	01 59 16.6	-0.4
PNHZ	**Pukenui**	**1.39**	**170**	PN	Pn	01 58 56.1	-0.4
WAZ	**Wanganui**	**1.40**	**209**	PN	Pn	01 58 55.9	-0.6
KAHZ	**Kahuranaki**	**1.48**	**148**	PN	Pn	01 58 57.7	+0.3
KNZ	**Kokohu**	**1.49**	**109**	PN	Pn	01 58 57.5	+0.1
WPHZ	**Waipukurau**	**1.58**	**164**	↑PN	Pn	01 58 58.1	-0.3
MHGZ	**Mahia Peninsul**	**1.70**	**112**	PN	Pn	01 59 00.1	+0.4
DVHZ	**Dannevirke**	**1.77**	**173**	↑PN	Pn	01 58 59.5	-1.0
PRHZ	**Porangahau**	**1.82**	**161**	↑PN	Pn	01 59 00.5	-0.5
CNGZ	**Carnagh Statio**	**1.83**	**89**	PN	Pn	01 59 01.8	+0.7
POWZ	**Post Office Ro**	**1.85**	**182**	PN	Pn	01 59 00.1	-1.3
PUZ	**Puketiti**	**1.93**	**77**	PN	Pn	01 59 01.9	-0.5
MRZ	**Mangatainoka R**	**2.13**	**186**	↑PN	Pn	01 59 02.8	-1.8
MXZ	**Matakaoa Point**	**2.15**	**64**	PN	Pn	01 59 04.5	-0.4
BFZ	**Birch Farm**	**2.16**	**172**	PN	Pn	01 59 03.5	-1.4
TIWZ	**Tintock**	**2.23**	**180**	PN	Pn	01 59 04.2	-1.7
OGWZ	**Otaki Gorge**	**2.34**	**193**	PN	Pn	01 59 05.1	-2.0
HOWZ	**Holdsworth Sta**	**2.37**	**187**	PN	Pn	01 59 05.2	-2.3
KIW	**Kapiti Island**	**2.43**	**197**	PN	Pn	01 59 05.8	-2.5
TMWZ	**Te Maipa**	**2.56**	**180**	↓PN	Pn	01 59 07.7	-2.2
MTW	**Mount Morrison**	**2.63**	**186**	PN	Pn	01 59 07.9	-2.7
CAW	**Cannon Point**	**2.64**	**193**	PN	Pn	01 59 08.1	-2.6
PAWZ	**Paruwai Farm**	**2.86**	**187**	PN	Pn	01 59 10.6	-2.9
TRWZ	**Traveller**	**2.86**	**183**	PN	Pn	01 59 10.9	-2.6
MSWZ	**Moikau Station**	**2.91**	**189**	PN	Pn	01 59 11.0	-3.1
TCW	**Tory Channel**	**2.94**	**204**	PN	Pn	01 59 11.4	-3.0
PLWZ	**Palliser**	**3.06**	**189**	PN	Pn	01 59 12.7	-3.4
NNZ	**Nelson**	**3.29**	**215**	PN	Pn	01 59 15.3	-3.6
QRZ	**Quartz Range**	**3.44**	**227**	PN	Pn	01 59 16.6	-4.3
THZ	**Tophouse**	**3.94**	**214**	PN	Pn	01 59 23.6	-3.8

IDC 15 02:06:41.2±6.3, 16.11S×173.75W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/17, mbtmp3.7/3, Error ellipse: s-maj=299.6km s-min=32.5km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.90**	**41**	Pn	Pn	02 07 24.6	-4.2
	3.1nm,0.3s,baz=198,slow=20,SNR=5.1						
AFI				Sn	Sn	02 07 57.1	-7.3
	11nm,0.3s,baz=30,slow=20,SNR=9.4						
WRA	**Warramunga Arr**	**49.36**	**257**	P	P	02 15 32.4	-0.4
	0.3nm,0.5s,baz=96,slow=7.3,SNR=4.3						
ASAR	**Alice Springs**	**49.57**	**252**	P	P	02 15 34.2	-0.2
	1.1nm,0.6s,baz=88,slow=8.7,SNR=20						
ILAR	**Eielson Array**	**83.20**	**11**	P	P	02 19 08.2	-0.8
	0.6nm,0.6s,baz=212,slow=5.9,SNR=11						
BRTR	**Keskin Array B**	**146.49**	**320**	PKPbc	PKPbc	02 26 25.0	+0.1
	0.8nm,0.9s,baz=57,slow=3.9,SNR=3.3						
GERES	**GERESS Array B**	**146.79**	**351**	PKPbc	PKPbc	02 26 25.4	0.0
	0.1nm,0.3s,baz=2.9,slow=3.9,SNR=6.0						

PRE 15 02:14:04.4±1.0, 26.37S×27.47E, h2km, ML1.9, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.12**	**80**	*e*P	Pg	02 14 06.7	-0.4
KLOF				*e*S	Sg	02 14 09.4	+0.5
KLOF				AML	AML	02 14 11.2	
	comp=Z,326nm,0.1s						
ERPM	**east rand prop**	**0.69**	**88**	*e*P	Pg	02 14 18.1	+0.1
ERPM				*e*S	Sg	02 14 27.2	+0.1
ERPM				AML	AML	02 14 35.0	
	comp=Z,11nm,0.9s						
SLR	**Silverton**	**0.96**	**49**	*e*P	Pg	02 14 23.0	-0.2
SLR				*e*S	Sg	02 14 36.1	+0.3
SLR				AML	AML	02 14 42.1	
	comp=Z,11nm,0.2s						
SEK	**Senekal**	**1.95**	**176**	*e*P	Pb	02 14 39.9	-1.0
SEK				*e*S	Sn	02 15 04.6	+0.7
SEK				AML	AML	02 15 06.5	
	comp=Z,8.4nm,0.2s						
LBTB	**Lobatse**	**2.17**	**308**	*e*P	Pn	02 14 42.8	+1.1
LBTB				*e*S	Sn	02 15 09.9	+0.7
LBTB				AML	AML	02 15 14.0	
	comp=Z,7.0nm,0.5s						
BOSA	**Boshof**	**2.98**	**221**	*e*P	Pn	02 14 52.8	-0.1
BOSA				*e*S	Sn	02 15 29.5	+0.2
BOSA				AML	AML	02 15 35.8	
	comp=Z,7.2nm,0.7s						

IDC 15 02:17:59.1±1.5, 3.50N×126.57E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/20, mbtmp3.4/4, Error ellipse: s-maj=129.3km s-min=26.0km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.52**	**162**	P	P	02 23 20.6	+0.2
	0.5nm,0.5s,baz=343,slow=10,SNR=7.6						
SONM	**Songino Array**	**47.46**	**342**	P	P	02 26 37.0	+1.2
	0.5nm,0.6s,baz=157,slow=7.8,SNR=4.1						
MKAR	**Makanchi Array**	**57.65**	**325**	P	P	02 27 50.9	-0.4
	0.2nm,0.4s,baz=119,slow=7.1,SNR=8.6						
KURBB	**Kurchatov Arra**	**61.84**	**328**	P	P	02 28 19.3	-0.7
	0.4nm,0.5s,baz=117,slow=8.3,SNR=5.4						

IDC 15 02:18:20.9±1.8, 42.97S×72.45W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.8/14, mbtmp3.6/5, ML4.0/1, MS3.6/1, Ms1 3.6/1, ms1mx2.8/15, Error ellipse: s-maj=51.4km s-min=20.3km az=134.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**2.65**	**33**	Pn	Pn	02 19 06.2	+1.2
	5.8nm,0.3s,baz=216,slow=14,SNR=124						
PLCA				Pg	Pb	02 19 08.6	-0.8
	7.9nm,0.3s,baz=220,slow=17,SNR=140						
PLCA				Lg	Lg	02 19 45.5	
	8.0nm,0.3s,baz=132,slow=21,SNR=9.9						
CPUP	**Villa Florida**	**20.69**	**41**	P	P	02 23 02.9	+0.3
	0.4nm,0.5s,baz=186,slow=10,SNR=3.8						
SIV	**San Ignacio**	**28.60**	**23**	P	P	02 24 17.6	-1.3
	1.0nm,0.9s,baz=197,slow=9.8,SNR=4.1						
SIV				LR	LR	02 38 13.9	
	comp=Z,103nm,19.5s,slow=42						
TXAR	**Lajitas Array**	**77.46**	**332**	P	P	02 30 18.5	+0.4
	0.3nm,0.7s,baz=173,slow=8.2,SNR=2.7						
PDAR	**Pinedale Array**	**91.63**	**334**	P	P	02 31 29.9	+0.2
	0.5nm,0.8s,baz=134,slow=7.7,SNR=4.3						
MKAR	**Makanchi Array**	**161.72**	**69**	PKPab	PKPab	02 39 07.9	-0.8
	0.3nm,0.8s,baz=236,slow=1.6,SNR=3.8						

IDC 15 02:19:28.5±1.4, 4.31N×127.09E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.7/20, mbtmp3.7/7, Error ellipse: s-maj=196.2km s-min=16.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.13**	**164**	P	P	02 24 54.3	-1.1
	1.6nm,0.6s,baz=342,slow=11,SNR=14						
ASAR	**Alice Springs**	**28.59**	**167**	P	P	02 25 27.7	+1.1
	0.4nm,0.5s,baz=346,slow=7.4,SNR=5.6						
STKA	**Stephens Creek**	**38.54**	**160**	P	P	02 26 53.1	+0.1
	1.7nm,0.5s,baz=332,slow=9.4,SNR=5.1						
SONM	**Songino Array**	**46.87**	**341**	P	P	02 28 00.4	-0.2
	0.2nm,0.3s,baz=125,slow=7.6,SNR=3.3						
MKAR	**Makanchi Array**	**57.29**	**325**	P	P	02 29 18.1	0.0
	0.2nm,0.4s,baz=123,slow=7.4,SNR=8.5						
ZALV	**Zalesovo Beam**	**60.24**	**333**	P	P	02 29 39.2	+0.7
	0.3nm,0.4s,baz=123,slow=5.3,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.45**	**327**	P	P	02 29 46.1	-0.7
	0.3nm,0.5s,baz=129,slow=6.5,SNR=4.7						

IDC 15 02:25:22.6±1.8, 3.98N×127.41E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=146.6km s-min=21.9km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.73**	**164**	P	P	02 30 44.9	-1.0
	1.3nm,0.6s,baz=344,slow=11,SNR=12						
ASAR	**Alice Springs**	**28.20**	**167**	P	P	02 31 18.2	+1.1
	0.2nm,0.3s,baz=341,slow=10,SNR=3.2						
MKAR	**Makanchi Array**	**57.74**	**325**	P	P	02 35 15.2	-0.1
	0.3nm,0.5s,baz=119,slow=8.1,SNR=7.3						
KURBB	**Kurchatov Arra**	**61.90**	**327**	P	P	02 35 43.9	0.0
	0.7nm,0.8s,baz=123,slow=6.8,SNR=4.2						

IDC 15 02:26:55.4±1.6, 1.67N×124.73E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=193.9km s-min=21.3km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.45**	**157**	P	P	02 32 05.7	-1.0
	1.1nm,0.4s,baz=334,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**26.72**	**161**	P	P	02 32 38.1	+1.4
	0.5nm,0.5s,baz=344,slow=11,SNR=5.2						
MKAR	**Makanchi Array**	**58.14**	**327**	P	P	02 36 51.8	+0.8
	0.1nm,0.3s,baz=121,slow=8.3,SNR=7.1						
KURBB	**Kurchatov Arra**	**62.42**	**329**	P	P	02 37 19.1	-1.1
	0.3nm,0.6s,baz=130,slow=6.3,SNR=3.7						

*ISCJB **15** 02:38:53.9±0.7, 46.74N±0.07×84.55E±0.08, h10km, mb3.4/1, MS3.4/1, Error ellipse: s-maj=11.5km s-min=5.9km az=35.1*
*IDC **15** 02:38:53.4±1.4, 46.59N×84.69E, h0km, mb3.5/1, mb1 3.4/5, mb1mx3.2/29, mbtmp3.3/5, ML3.1/4, MS3.4/1, Ms1 3.4/1, ms1mx2.2/40, Error ellipse: s-maj=15.3km s-min=13.2km az=24.0*
*NNC **15** 02:38:57.4±3.5, 46.36N×84.26E, h0km, mb3.0, mpv3.2, Error ellipse: s-maj=21.2km s-min=14.7km az=107.0*
ISC 15 02:38:56.3±1.3, 46.6N±0.1×84.47E±0.09, h10km, n11, σ0°66/10, 1C-1D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**1.51**	**277**	P	**Pn**	**02 39 23.8**	**+0.5**
	6.5nm,0.3s,baz=109,slow=16,SNR=1639						
MK31				S	**Sn**	**02 39 43.5**	**+0.4**
	28nm,0.3s,baz=107,slow=28,SNR=20						
MKAR	**Makanchi Array**	**1.51**	**277**	Pg	**Pn**	**02 39 24.1**	**+0.7**
	15nm,0.3s,baz=96,slow=20,SNR=956						
MKAR				Lg	Lg	02 39 44.8	
	74nm,0.3s,baz=92,slow=29,SNR=29						
WMQ	**Urumqi**	**3.62**	**140**	Pn	**Pn**	**02 39 53.0**	**+0.5**
WMQ				Sn	**Sn**	**02 40 35.8**	**+0.5**
WMQ				smax	smax		
	comp=N,110nm,0.7s						
WMQ				smax	smax		
	comp=E,91nm,0.5s						
KURBB	**Kurchatov Arra**	**5.60**	**318**	Pn	**Pn**	**02 40 20.6**	**+1.1**
	comp=E,0.4nm,0.3s,baz=134,slow=12,SNR=12						
KURBB				Lg	Lg	02 41 51.6	
	comp=E,0.9nm,0.3s,baz=150,slow=31,SNR=6.4						
KURK	**Kurchatov**	**5.62**	**319**	↑Lg	Lg	02 41 55.1	
	comp=E,26nm,0.5s						
ZALV	**Zalesovo Beam**	**7.32**	**2**	Pn	**Pn**	**02 40 43.0**	**-0.2**
	comp=E,0.3nm,0.3s,baz=200,slow=15,SNR=4.5						
ZALV				Pg	Pg	02 41 12.2	-4.2
	comp=E,0.5nm,0.3s,baz=188,slow=19,SNR=8.7						
ZALV				Lg	Lg	02 42 44.4	
	comp=E,0.2nm,0.3s,baz=189,slow=28,SNR=2.5						
TKM2	**Tokmak 2**	**7.33**	**243**	↓Lg	Lg	02 42 43.0	
	comp=E,5.2nm,0.7s						
AAK	**Ala-Archa**	**8.16**	**244**	Pn	**Pn**	**02 40 55.1**	**+0.2**
	comp=E,0.1nm,0.3s,baz=38,slow=12,SNR=2.9						
AAK				Lg	Lg	02 43 11.0	
	comp=E,0.2nm,0.3s,baz=0.0,slow=20,SNR=6.7						
BVAR	**Borovoye Array**	**11.11**	**310**	Pn	**Pn**	**02 41 34.4**	**-0.7**
	comp=E,0.2nm,0.3s,baz=116,slow=14,SNR=4.0						
BVAR				Sn	**Sn**	**02 43 39.1**	**-0.1**
	comp=E,0.2nm,0.3s,baz=114,slow=21,SNR=3.2						
BVAR				Lg	Lg	02 44 51.8	
	comp=E,0.4nm,0.3s,baz=127,slow=31,SNR=6.0						
ATD	**Arta Tunnel**	**49.55**	**239**	LR	LR	03 12 45.1	
	comp=E,35nm,18.8s,baz=29,slow=41						
WRA	**Warramunga Arr**	**80.09**	**133**	P	P	02 51 04.0	-2.2
	comp=E,0.5nm,1.1s,baz=340,slow=5.4,SNR=4.6						

*ISCJB **15** 02:41:01.0±0.4, 62.13S±0.06×56.24W±0.2, h10km, mb4.5/24, MS3.8/7, Error ellipse: s-maj=13.1km s-min=8.9km az=178.1*
*IDC **15** 02:41:00.8±0.5, 62.08S×56.38W, h0km, mb4.4/10, mb1 4.4/11, mb1mx4.4/14, mbtmp4.4/11, ML4.4/1, MS3.8/9, Ms1 3.7/9, ms1mx3.6/18, Error ellipse: s-maj=26.2km s-min=15.4km az=94.0*
*NEIC **15** 02:41:02.3±0.2, 62.15S×56.36W, h10km, mb4.9/16, Error ellipse: s-maj=9.9km s-min=7.1km az=86.0*
ISC 15 02:41:02.5±0.3, 62.11S±0.07×56.24W±0.08, h10km, n91, σ0°83/89, mb4.7/23, MS3.8/7, 1C, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**4.41**	**229**	*e*Pn	**Pn**	**02 42 08.4**	**-0.9**
PMSA				*e*Pg	**Pb**	**02 42 21.6**	**+1.7**
PMSA				*e*Sg	**Sb**	**02 43 13.2**	**+0.1**
PMSA	**Palmer Station**	**4.41**	**229**	Pn	**Pn**	**02 42 08.6**	**-0.8**
	1.8nm,0.3s,baz=43,slow=12,SNR=5.0						
PMSA				LR	LR	02 43 11.3	
	comp=Z,194nm,21.2s,baz=52,slow=30						
PMSA				Sn	**Sb**	**02 43 13.1**	**+0.1**
	11nm,0.3s,baz=163,slow=19,SNR=6.1						
USHA	**

ASAR	**Alice Springs**	**94.14**	**189**	P	**P**	**02**	**54**	**20.6 -0.7**
ASAR	**Alice Springs**	**94.14**	**189**	P	**P**	**02**	**54**	**20.6 -0.7**
	1.9nm,0.9s,baz=161,slow=3.8,SNR=13							
AS31	**Alice Springs**	**94.14**	**189**	*eP*	**P**	**02**	**54**	**20.8 -0.5**
CTAO	**Charters Tower**	**96.14**	**201**	*eP*	**P**	**02**	**54**	**30.2 -0.2**
	5.1nm,1.2s							
HKT	**Hockley**	**97.11**	**326**	*eP*	Pdif	02	54	34.5 +0.2
	10nm,1.5s							
TAM	**Tamanrasset**	**97.74**	**55**	*eP*	**P**	**02**	**54**	**37.3 -0.2**
WRA	**Warramunga Arr**	**97.80**	**190**	P	**P**	**02**	**54**	**36.7 -1.2**
WRA	**Warramunga Arr**	**97.80**	**190**	P	**P**	**02**	**54**	**36.7 -1.2**
	1.4nm,0.8s,baz=182,slow=4.0,SNR=16							
WRAB	**Tennant Creek**	**97.81**	**190**	*eP*	**P**	**02**	**54**	**36.7 -1.3**
	8.0nm,1.5s							
TXAR	**Lajitas Array**	**98.76**	**319**	PKKPbc	PKKPbc	03	11	10.6 +2.7
TXAR	**Lajitas Array**	**98.76**	**319**	PKKPbc	PKKPbc	03	11	10.6 +2.7
	0.4nm,0.9s,baz=304,slow=2.3,SNR=3.6							
WVOR	**Wild Horse Val**	**115.59**	**313**	*e*PKPdf	**PKPdf**	**02**	**59**	**44.6 +0.7**
GVD	**Gavdhos**	**115.91**	**64**	*e*PKPdf	**PKPdf**	**02**	**59**	**43.6 -1.0**
BR131	**Keskin Array S**	**124.13**	**69**	*e*PKPdf	**PKPdf**	**02**	**59**	**59.3 -1.1**
BRTR	**Keskin Array B**	**124.13**	**69**	PKP	**PKPdf**	**02**	**59**	**59.5 -0.9**
BRTR	**Keskin Array B**	**124.13**	**69**	PKP	**PKPdf**	**02**	**59**	**59.5 -0.9**
	0.5nm,0.9s,baz=224,slow=4.0,SNR=4.7							
KIV	**Kislovodsk**	**131.54**	**72**	*e*PKPdf	**PKPdf**	**03**	**00**	**13.2 -1.1**
YKA	**Yellowknife Ar**	**131.84**	**328**	PKP	**PKPdf**	**03**	**00**	**14.0 -0.2**
YKA	**Yellowknife Ar**	**131.84**	**328**	PKP	**PKPdf**	**03**	**00**	**14.0 -0.2**
	0.3nm,0.6s,baz=158,slow=2.0,SNR=13							
CMAR	**Chiang Mai Arr**	**133.07**	**147**	PKP	**PKPdf**	**03**	**00**	**18.6 +0.7**
CMAR	**Chiang Mai Arr**	**133.07**	**147**	PKP	**PKPdf**	**03**	**00**	**18.6 +0.7**
	0.6nm,0.3s,baz=202,slow=1.0,SNR=5.9							
ILAR	**Eielson Array**	**143.09**	**314**	PKPpre	PKPpre	03	00	31.1
ILAR	**Eielson Array**	**143.09**	**314**	PKhKP	PKPpre	03	00	31.1
	0.8nm,0.9s,baz=135,slow=1.7,SNR=7.6							
MCK	**McKinley**	**143.15**	**312**	*e*PKPdf	**PKPdf**	**03**	**00**	**33.3 -1.7**
AKTO	**Aktyubinsk**	**143.32**	**77**	PKPpre	PKPpre	03	00	31.3
AKTO	**Aktyubinsk**	**143.32**	**77**	PKhKP	PKPpre	03	00	31.3
	3.0nm,0.8s,baz=204,slow=4.5,SNR=15							
ARCES	**ARCESS Array B**	**143.36**	**36**	PKPpre	PKPpre	03	00	31.7
ARCES	**ARCESS Array B**	**143.36**	**36**	PKhKP	PKPpre	03	00	31.7
	1.4nm,0.6s,baz=211,slow=1.6,SNR=10							
ABKAR	**Akbulak array**	**143.39**	**80**	*e*PKPpre	PKPpre	03	00	31.2
COLA	**College**	**143.48**	**314**	*e*PKPdf	**PKPdf**	**03**	**00**	**34.4 -1.0**
KKAR	**Karatay Array**	**143.80**	**96**	*e*PKPdf	PKPbc	03	00	34.3 -0.2
EKS2	**Erkin-Say**	**144.98**	**100**	*e*PKPdf	**PKPab**	**03**	**00**	**38.5 +0.2**
AAK	**Ala-Archa**	**145.29**	**101**	*e*PKPbc	**PKPab**	**03**	**00**	**39.8 +0.2**
COLD	**Coldfoot**	**145.64**	**317**	*e*PKPbc	**PKPab**	**03**	**00**	**40.4 +0.4**
TKM2	**Tokmak 2**	**146.02**	**102**	*e*PKPbc	**PKPbc**	**03**	**00**	**41.5 -0.3**
SPITS	**Spitsbergen Ar**	**146.57**	**21**	PKPbc	**PKPbc**	**03**	**00**	**41.8 -0.4**
SPITS	**Spitsbergen Ar**	**146.57**	**21**	PKPbc	**PKPbc**	**03**	**00**	**41.8 -0.4**
	6.0nm,0.9s,baz=295,slow=10,SNR=7.1							
ENH	**Enshi**	**146.82**	**157**	*e*PKPbc	**PKPbc**	**03**	**00**	**44.4 +0.1**
ARU	**Arti**	**147.50**	**70**	*e*PKPbc	**PKPbc**	**03**	**00**	**44.2 -1.0**
ARU				*e*PKPbc	**PKPab**	**03**	**00**	**47.7 +0.3**
BRVK	**Borovoye**	**150.76**	**83**	*e*PKPbc	**PKPbc**	**03**	**00**	**53.2 -0.4**
BRVK				*e*PKPbc	**PKPab**	**03**	**01**	**00.3 -0.5**
BVAR	**Borovoye Array**	**150.79**	**83**	PKP	**PKPdf**	**03**	**00**	**46.9 -1.2**
BVAR				PKPbc	**PKPbc**	**03**	**00**	**53.6 0.0**
BVAR	**Borovoye Array**	**150.79**	**83**	PKP	**PKPdf**	**03**	**00**	**46.9 -1.2**
	0.2nm,0.4s,baz=300,slow=2.8,SNR=3.6							
BVAR				PKPbc	**PKPbc**	**03**	**00**	**53.6 0.0**
	7.8nm,0.8s,baz=222,slow=1.9,SNR=47							
TNA	**Tin City**	**151.02**	**307**	*e*PKPbc	**PKPbc**	**03**	**00**	**54.6 +0.9**
MK31	**Makanchi Array**	**152.05**	**104**	*e*PKPbc	**PKPbc**	**03**	**00**	**56.1 -0.7**
MKAR	**Makanchi Array**	**152.05**	**104**	PKPbc	**PKPbc**	**03**	**00**	**56.0 -0.8**
MKAR	**Makanchi Array**	**152.05**	**104**	PKPbc	**PKPbc**	**03**	**00**	**56.0 -0.8**
	3.8nm,0.9s,baz=250,slow=2.9,SNR=30							
MJAR	**Matsushiro Arr**	**152.86**	**206**	PKPbc	**PKPbc**	**03**	**00**	**59.2 +0.2**
MJAR	**Matsushiro Arr**	**152.86**	**206**	PKPbc	**PKPbc**	**03**	**00**	**59.2 +0.2**
	1.2nm,0.8s,baz=160,slow=2.0,SNR=3.3							
KURBB	**Kurchatov Arra**	**153.04**	**94**	PKP	**PKPdf**	**03**	**00**	**51.2 -0.3**
	0.2nm,0.6s,baz=234,slow=2.2,SNR=5.4							
KURBB				PKPbc	**PKPbc**	**03**	**00**	**58.6 -0.2**
	3.0nm,0.9s,baz=236,slow=2.9,SNR=25							
KURBB				PKPab	**PKPab**	**03**	**01**	**09.9 -0.5**
	2.5nm,1.2s,baz=225,slow=3.7,SNR=4.9							
KURK	**Kurchatov**	**153.14**	**94**	PKP	**PKPdf**	**03**	**00**	**51.2 -0.4**
KURK				*e*PKPbc	**PKPbc**	**03**	**00**	**58.3 -0.7**
KURK				PKPbc	**PKiKP**	**03**	**00**	**58.6 -0.6**
KURK				PKPab	**PKPab**	**03**	**01**	**09.9 -0.9**
ZALV	**Zalesovo Beam**	**158.13**	**94**	PKPab	**PKPab**	**03**	**01**	**31.5 -0.6**
ZALV	**Zalesovo Beam**	**158.13**	**94**	PKPab	**PKPab**	**03**	**01**	**31.5 -0.6**
	0.7nm,0.8s,baz=259,slow=5.3,SNR=4.3							
USRK	**Ussuriysk Arra**	**161.42**	**199**	PKPab	**PKPab**	**03**	**01**	**46.2 -0.4**
	2.8nm,0.9s,baz=120,slow=11,SNR=3.6							
SONM	**Songino Array**	**162.66**	**138**	PKPab	**PKPab**	**03**	**01**	**52.7 +0.5**
SONM	**Songino Array**	**162.66**	**138**	PKPab	**PKPab**	**03**	**01**	**52.7 +0.5**
	1.0nm,0.9s,baz=198,slow=4.2,SNR=8.2							

IDC ***15*** *02:47:00.1±1.9,39.9°N×77.98E,h0km,mb3.1/2, mb1 3.1/4,mb1mx3.0/27,mbtmp3.1/4,ML2.8/3,Error ellipse: s-maj=22.7km s-min=19.1km az=171.0*
NNC ***15*** *02:47:08.1±10.0,40.26N×79.07E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=78.9km s-min=66.4km az=179.0*

ISC 15 02:47:07.0±1.3,40°09N±0.07×78°29E±0.07,h22km,n19, σ1s79/20,5C-2D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.88**	**253**	Pn	**Pn**	**02**	**47**	**37.8 0.0**
KSH				Sn	**Sb**	**02**	**48**	**06.3 +2.7**
KSH				smax	smax			
	comp=N,660nm,0.6s							
KSH				smax	smax			
	comp=E,490nm,0.7s							
ULHL	**Ulahol**	**2.65**	**325**	P	**Pn**	**02**	**47**	**49.9 +1.3**
	SNR=22							
KZA	**Kyzart**	**3.04**	**312**	P	**Pn**	**02**	**47**	**55.7 +1.6**
	SNR=58							
KNDC	**Almaty**	**3.28**	**343**	⇓Pn	**Pb**	**02**	**48**	**02.1 -2.4**
	comp=E,20nm,0.5s							
KNDC				⇑Sn	**Sb**	**02**	**48**	**47.4 +3.5**
	comp=E,119nm,0.6s							
TKM2	**Tokmak 2**	**3.48**	**325**	⇑Pn	**Pn**	**02**	**48**	**01.3 +1.4**
	comp=E,8.1nm,0.3s							
TKM2				⇑Sn	**Sb**	**02**	**48**	**50.2 +0.5**
	comp=E,23nm,0.4s							
TKM2	**Tokmak 2**	**3.48**	**325**	P	**Pn**	**02**	**48**	**01.2 +1.3**
	SNR=11							
KBK	**Karagaybulak**	**3.59**	**317**	P	Pb	02	48	06.1 -3.7
	SNR=8.8							
AAK	**Ala-Archa**	**3.82**	**313**	P	**Pn**	**02**	**48**	**05.4 +0.8**
	SNR=13							
AAK	**Ala-Archa**	**3.82**	**313**	Pn	**Pn**	**02**	**48**	**03.0 -1.6**
	comp=E,0.5nm,0.3s,baz=144,slow=11,SNR=8.6							
AAK				Pg	Pb	02	48	10.2 -3.6
	comp=E,2.6nm,0.3s,baz=130,slow=13,SNR=39							
AAK				Lg	Lg	02	48	60.0
	comp=E,6.6nm,0.3s,baz=294,slow=20,SNR=19							
CHMS	**Chumysh**	**3.94**	**319**	P	**Pb**	**02**	**48**	**14.2 -1.5**
	SNR=8.2							
AML	**Almayashu**	**4.03**	**302**	P	**Pn**	**02**	**48**	**06.8 -0.9**
	SNR=23							
EKS2	**Erkin-Say**	**4.26**	**309**	P	**Pn**	**02**	**48**	**11.6 +1.1**
	SNR=7.3							
USP	**Ospenovka**	**4.26**	**319**	P	**Pb**	**02**	**48**	**18.8 -2.3**
	SNR=11							
KK31	**Karatay Array**	**6.56**	**300**	Pn	Pb	02	48	55.5 -4.8
	comp=E,0.2nm,0.3s,baz=116,slow=16,SNR=7.2							
KK31				⇑Sn	**Sb**	**02**	**50**	**17.9 -0.4**
	comp=E,3.4nm,0.6s,baz=106,slow=26,SNR=6.3							
MK31	**Makanchi Array**	**7.30**	**22**	⇓Pn	**Pn**	**02**	**48**	**52.5 +0.2**
	comp=E,0.2nm,0.3s,baz=199,slow=11,SNR=29							
MK31				⇑Lg	Lg	02	50	51.8
	comp=E,0.8nm,0.5s							
MKAR	**Makanchi Array**	**7.30**	**22**	Pn	**Pn**	**02**	**48**	**51.5 -0.8**
	comp=E,0.3nm,0.3s,baz=204,slow=13,SNR=15							
MKAR				Sn	**Sn**	**02**	**50**	**17.1 +2.6**
	comp=E,0.2nm,0.3s,baz=203,slow=26,SNR=2.4							
MKAR				Lg	Lg	02	50	59.2
	comp=E,0.2nm,0.3s,baz=188,slow=20,SNR=3.9							
BVAR	**Borovoye Array**	**14.02**	**340**	Pn	Pn	02	50	18.8 -5.4
	comp=E,0.0nm,0.3s,baz=155,slow=11,SNR=2.7							
SONM	**Songino Array**	**21.57**	**60**	P	**P**	**02**	**51**	**56.3 +1.2**
	comp=E,0.2nm,0.7s,baz=273,slow=11,SNR=2.8							
TORD	**Torodi Ar. Bea**	**71.44**	**272**	P	P	02	58	20.4 -5.5
	comp=E,0.3nm,0.6s,baz=48,slow=5.5,SNR=5.6							

ISCJB ***15*** *03:04:29.6±0.4,62.15S±0.06×56.2W±0.2,h10km, mb4.5/24,MS3.7/6,Error ellipse: s-maj=11.4km s-min=8.5km az=17.2*
IDC ***15*** *03:04:29.7±0.5,62.08S×56.21W,h0km,mb4.4/11, mb1 4.4/12,mb1mx4.3/15,mbtmp4.3/12,ML4.4/1,MS3.7/8, Ms1 3.7/8,ms1mx3.5/20,Error ellipse: s-maj=25.8km s-min=16.1km az=87.0*
NEIC ***15*** *03:04:31.0±0.2,62.14S×56.12W,h10km,mb4.8/16,Error ellipse: s-maj=10.0km s-min=6.9km az=76.0*

ISC 15 03:04:31.0±0.4,62.17S±0.07×56.16W±0.07,h10km,n81, σ1s00/80,mb4.6/24,MS3.7/6,South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**4.39**	**230**	*e*Pn	**Pn**	**03**	**05**	**38.6 +0.9**
PMSA				*e*Sn	**Sn**	**03**	**06**	**28.8 0.0**
PMSA				*e*Sg	**Sg**	**03**	**06**	**49.5 -2.4**
PMSA	**Palmer Station**	**4.39**	**230**	Pn	**Pn**	**03**	**05**	**38.2 +0.6**
	1.9nm,0.3s,baz=29,slow=18,SNR=4.5							
PMSA				Sn	**Sb**	**03**	**06**	**41.9 +0.8**
	5.1nm,0.3s,baz=180,slow=20,SNR=5.7							
PMSA				LR	LR	03	07	08.2
	comp=Z,374nm,19.5s,baz=49,slow=36							
USHA	**Ushuaia**	**9.75**	**313**	LR	LR	03	10	03.3
	comp=Z,607nm,19.9s,baz=58,slow=34							
SNAA	**Sanae**	**22.12**	**138**	*eP*	**P**	**03**	**09**	**21.5 -4.7**
	15nm,1.0s							
PLCA	**Paso Flores**	**23.16**	**331**	*eP*	**P**	**03**	**09**	**37.1 -0.2**
	7.4nm,1.2s							
PLCA	**Paso Flores**	**23.16**	**331**	P	**P**	**03**	**09**	**37.0 -0.4**
	3.0nm,0.9s,baz=171,slow=10,SNR=4.2							
PLCA				LR	LR	03	18	34.3
	comp=Z,229nm,19.8s,baz=95,slow=37							
TRQA	**Tornquist**	**24.41**	**349**	*eP*	**P**	**03**	**09**	**50.2 +0.8**
	17nm,1.0s							
QSPA	**South Pole Qui**	**28.05**	**180**	P	**P**	**03**	**10**	**24.1 +1.9**
QSPA				PcP	**PcP**	**03**	**13**	**36.8 +0.6**
QSPA	**South Pole Qui**	**28.05**	**180**	P	**P**	**03**	**10**	**24.1 +1.9**
	9.0nm,0.8s,baz=158,slow=4.1,SNR=36							
QSPA				PcP	**PcP**	**03**	**13**	**36.8 +0.6**
	1.0nm,0.7s,baz=222,slow=12,SNR=4.3							
CFAA	**Coronel Fontan**	**31.56**	**340**	LR	LR	03	24	30.9
	comp=Z,14nm,21.4s,baz=17,slow=38							
LCO	**Las Campanas**	**34.52**	**337**	*eP*	**P**	**03**	**11**	**19.5 0.0**
	73nm,1.9s							
CPUP	**Villa Florida**	**35.84**	**358**	*eP*	**P**	**03**	**11**	**29.8 -0.7**
	13nm,0.7s							
CPUP	**Villa Florida**	**35.84**	**358**	P	**P**	**03**	**11**	**29.8 -0.7**
	2.6nm,0.6s,baz=158,slow=9.0,SNR=14							
CPUP				LR	LR	03	24	55.4
	comp=Z,102nm,20.2s,baz=155,slow=34							
LVC	**Limon Verde**	**40.49**	**342**	*eP*	**P**	**03**	**12**	**10.4 +0.4**
	0.2nm,0.6s							
MAW	**Mawson**	**43.25**	**151**	LR	LR	03	29	59.8
	comp=Z,312nm,20.8s,baz=28,slow=35							
SIV	**San Ignacio**	**46.26**	**353**	P	**P**	**03**	**12**	**55.9 -0.4**
SIV	**San Ignacio**	**46.26**	**353**	P	**P**	**03**	**12**	**55.9 -0.4**
	3.1nm,0.7s,baz=169,slow=8.7,SNR=21							
LPAZ	**La Paz**	**46.61**	**344**	*eP*	**P**	**03**	**12**	**59.6 -0.1**
	8.3nm,1.5s							
BDFB	**Brasilia**	**46.83**	**11**	P	**P**	**03**	**13**	**00.7 -0.2**
BDFB	**Brasilia**	**46.83**	**11**	P	**P**	**03**	**13**	**00.7 -0.2**
	2.6nm,0.9s,baz=148,slow=6.0,SNR=4.6							
BDFB				LR	LR	03	31	32.2
	comp=Z,111nm,18.1s,baz=186,slow=35							
NNA	**Nana**	**52.28**	**334**	*eP*	**P**	**03**	**13**	**42.5 +0.1**
	20nm,1.2s							
SAML	**Samuel**	**53.37**	**351**	*eP*	**P**	**03**	**13**	**49.5 -0.9**
	5.6nm,1.3s							
BOSA	**Boshof**	**61.17**	**97**	*eP*	**P**	**03**	**14**	**45.6 +0.1**
	18nm,1.2s							
BOSA	**Boshof**	**61.17**	**97**	P	**P**	**03**	**14**	**46.5 +0.9**
	7.5nm,0.8s,baz=207,slow=10,SNR=9.2							
LBTB	**Lobatse**	**64.38**	**95**	*eP*	**P**	**03**	**15**	**07.9 +0.9**
	13nm,0.9s							
OTAV	**Otavalo**	**64.50**	**335**	*eP*	**P**	**03**	**15**	**08.8 +0.6**
	11nm,1.0s							
TSUM	**Tsumeb**	**65.62**	**85**	*eP*	**P**	**03**	**15**	**15.6 +0.4**
	5.0nm,1.0s							
LSZ	**Lusaka**	**73.99**	**92**	*eP*	**P**	**03**	**16**	**08.0 +1.3**
	23nm,1.5s							
DBIC	**Dimbokro**	**79.08**	**52**	*eP*	**P**	**03**	**16**	**35.6 +0.4**
	12nm,1.2s							
DBIC	**Dimbokro**	**79.08**	**52**	P	**P**	**03**	**16**	**35.6 +0.4**
	7.4nm,1.1s,baz=196,slow=7.4,SNR=4.8							
CMIG	**Matias Romero**	**84.71**	**323**	P	**P**	**03**	**17**	**04.3 -0.4**
CMIG	**Matias Romero**	**84.71**	**323**	P	**P**	**03**	**17**	**04.3 -0.4**
	2.3nm,0.9s,baz=171,slow=9.0,SNR=3.8							
TORD	**Torodi Ar. Bea**	**87.50**	**56**	P	**P**	**03**	**17**	**19.2 +0.5**
TORD	**Torodi Ar. Bea**	**87.50**	**56**	P	**P**	**03**	**17**	**19.2 +0.5**
	1.3nm,0.8s,baz=210,slow=4.4,SNR=8.5							
KMBO	**Kilima Mbogo**	**90.61**	**94**	*eP*	**P**	**03**	**17**	**32.8 -0.9**
	6.9nm,1.4s							
ASAR	**Alice Springs**	**94.08**	**189**	P	**P**	**03**	**17**	**49.1 -0.3**
ASAR	**Alice Springs**	**94.08**	**189**	P	**P**	**03**	**17**	**49.1 -0.3**
	1.3nm,0.9s,baz=160,slow=4.1,SNR=7.4							
AS31	**Alice Springs**	**94.08**	**189**	*eP*	**P**	**03**	**17**	**48.8 -0.7**
WRA	**Warramunga Arr**	**97.74**	**190**	P	**P**	**03**	**18**	**05.4 -0.7**
WRA	**Warramunga Arr**	**97.74**	**190**	P	**P**	**03**	**18**	**05.4 -0.7**
	0.8nm,0.7s,baz=178,slow=4.0,SNR=12							
WRAB	**Tennant Creek**	**97.75**	**190**	*eP*	**P**	**03**	**18**	**05.2 -1.0**
	11nm,1.4s							
TXAR	**Lajitas Array**	**98.84**	**319**	LR	LR	03	55	05.9
	comp=Z,61nm,19.1s,baz=160,slow=31							
GERES	**GERESS Array B**	**123.80**	**48**	PKP	**PKPdf**	**03**	**23**	**26.4 -1.5**
GERES	**GERESS Array B**	**123.80**	**48**	PKP	**PKPdf**	**03**	**23**	**26.4 -1.5**
	0.5nm,0.8s,baz=208,slow=3.3,SNR=4.9							
BR131	**Keskin Array S**	**124.12**	**69**	*e*PKPdf	**PKPdf**	**03**	**23**	**28.5 -0.3**
BRTR	**Keskin Array B**	**124.12**	**69**	PKP	**PKPdf**	**03**	**23**	**28.2 -0.6**
BRTR	**Keskin Array B**	**124.12**	**69**	PKP	**PKPdf**	**03**	**23**	**28.2 -0.6**
	0.8nm,1.0s,baz=132,slow=2.1,SNR=4.3							
BUR08	**Bucovina Ar. S**	**127.08**	**57**	*e*PKPdf	**PKPdf**	**03**	**23**	**34.3 +0.1**
YKA	**Yellowknife Ar**	**131.92**	**328**	PKP	**PKPdf**	**03**	**23**	**42.9 +0.1**
YKA	**Yellowknife Ar**	**131.92**	**328**	PKP	**PKPdf**	**03**	**23**	**42.8 +0.1**
	0.1nm,0.5s,baz=156,slow=2.0,SNR=6.5							
CMAR	**Chiang Mai Arr**	**132.99**	**147**	PKP	**PKPdf**	**03**	**23**	**48.2 +1.9**
CMAR	**Chiang Mai Arr**	**132.99**	**147**	PKP	**PKPdf**	**03**	**23**	**48.2 +1.9**
	0.9nm,0.3s,baz=224,slow=2.5,SNR=3.3							
RES	**Resolute Bay**	**138.94**	**345**	*e*PKPdf	**PKPdf**	**03**	**23**	**55.4 -0.1**
ILAR	**Eielson Array**	**143.17**	**314**	PKPpre	PKPab	03	24	00.2 +1.1
ILAR	**Eielson Array**	**143.17**	**314**	PKhKP	PKPab	03	24	00.2 +1.1
	0.8nm,0.8s,baz=140,slow=2.0,SNR=7.5							
AKTO	**Aktyubinsk**	**143.30**	**77**	PKPpre	PKPab	03	24	00.1 +0.1
AKTO	**Aktyubinsk**	**143.30**	**77**	PKhKP	PKPab	03	24	00.1 +0.1
	4.2nm,0.9s,baz=189,slow=6.8,SNR=6.3							
ABKAR	**Akbulak array**	**143.36**	**80**	*e*PKPdf	PKPab	03	24	00.1 -0.2
ARCES	**ARCESS Array B**	**143.39**	**36**	PKPpre	PKPab	03	24	00.1 +0.2
ARCES	**ARCESS Array B**	**143.39**	**36**	PKhKP	PKPab	03	24	00.1 +0.2
	2.6nm,0.8s,baz=214,slow=2.9,SNR=7.2							
KKAR	**Karatay Array**	**143.76**	**96**	*e*PKPdf	PKPbc	03	24	03.1 +0.2
EKS2	**Erkin-Say**	**144.93**	**100**	*e*PKPdf	PKPbc	03	24	06.8 +0.1
AAK	**Ala-Archa**	**145.24**	**101**	*e*PKPbc	**PKPab**	**03**	**24**	**07.9 0.0**
AAK	**Ala-Archa**	**145.24**	**101**	PKPbc	**PKPab**	**03**	**24**	**07.9 0.0**
	2.6nm,0.7s,baz=179,slow=3.6,SNR=13							
TKM2	**Tokmak 2**	**145.97**	**102**	*e*PKPbc	**PKPbc**	**03**	**24**	**10.3 +0.2**
ENH	**Enshi**	**146.74**	**157**	*e*PKPbc	**PKPbc**	**03**	**24**	**12.8 +0.3**
ARU	**Arti**	**147.49**	**70**	*e*PKPbc	**PKPbc**	**03**	**24**	**12.8 -0.9**
ARU				*e*PKPab	**PKiKP**	**03**	**24**	**15.7 -0.1**
JNU	**Nakatsue**	**150.58**	**192**	PKPbc	**PKPbc**	**03**	**24**	**23.9 +1.6**
JNU	**Nakatsue**	**150.58**	**192**	PKPbc	**PKPbc**	**03**	**24**	**23.9 +1.6**
	3.7nm,0.8s,baz=156,slow=5.0,SNR=3.9							
BRVK	**Borovoye**	**150.73**	**83**	*e*PKPbc	**PKPbc**	**03**	**24**	**21.8 -0.2**
BVAR	**Borovoye Array**	**150.76**	**83**	PKPbc	**PKPbc**	**03**	**24**	**22.3 +0.3**
BVAR	**Borovoye Array**	**150.76**	**83**	PKPbc	**PKPbc**	**03**	**24**	**22.3 +0.3**
	7.5nm,0.8s,baz=225,slow=1.8,SNR=42							
MK31	**Makanchi Array**	**152.00**	**104**	*e*PKPdf	**PKPdf**	**03**	**24**	**17.8 -0.8**
MK31				*e*PKPbc	**PKPbc**	**03**	**24**	**24.9 -0.3**
MKAR	**Makanchi Array**	**152.00**	**104**	PKP	**PKPdf**	**03**	**24**	**18.5 -0.2**
MKAR				PKPbc	**PKPbc**	**03**	**24**	**25.0 -0.2**
MKAR	**Makanchi Array**	**152.00**	**104**	PKP	**PKPdf**	**03**	**24**	**18.5 -0.2**
	0.7nm,1.0s,baz=248,slow=1.6,SNR=4.2							
MKAR				PKPbc	**PKPbc**	**03**	**24**	**25.0 -0.2**
	3.5nm,0.8s,baz=225,slow=1.2,SNR=28							
KURBB	**Kurchatov Arra**	**153.00**	**94**	PKP	**PKPdf**	**03**	**24**	**19.8 -0.1**
	0.7nm,0.8s,baz=248,slow=2.2,SNR=5.5							
KURBB				PKPbc	**PKiKP**	**03**	**24**	**27.3 -0.1**
	3.6nm,1.0s,baz=239,slow=2.8,SNR=25							
KURK	**Kurchatov**	**153.10**	**94**	*e*PKPdf	**PKPdf**	**03**	**24**	**19.5 -0.6**
KURK				*e*PKPbc	**PKPbc**	**03**	**24**	**27.3 -0.2**
KURK				*e*PKPab	**PKPab**	**03**	**24**	**38.4 -0.8**
ZALV	**Zalesovo Beam**	**158.09**	**94**	PKPab	**PKPab**	**03**	**24**	**59.0 -1.5**
ZALV	**Zalesovo Beam**	**158.09**	**94**	PKPab	**PKPab**	**03**	**24**	**59.0 -1.5**
	0.5nm,0.5s,baz=242,slow=3.1,SNR=4.2							
SONM	**Songino Array**	**162.59**	**138**	PKPab	**PKPab**	**03**	**25**	**21.1 +0.7**
SONM	**Songino Array**	**162.59**	**138**	PKPab	**PKPab**	**03**	**25**	**21.1 +0.7**
	0.9nm,0.8s,baz=192,slow=3.5,SNR=7.2							

IDC 15 03:07:56.1±55.0,19°27S×179°48W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.8/16,mbtmp4.1/3,Error ellipse: s-maj=993.6km s-min=155.3km az=81.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.10**	**242**	P	P	03	15	08.3 -0.2
	2.0nm,0.9s,baz=72,slow=9.6,SNR=3.0							
WRA	**Warramunga Arr**	**43.41**	**261**	P	P	03	16	01.0 +0.1
	1.3nm,0.3s,baz=97,slow=7.6,SNR=92							
ASAR	**Alice Springs**	**43.46**	**256**	P	P	03	16	00.9 -0.4
	1.4nm,0.6s,baz=91,slow=7.7,SNR=32							

ISCJB ***15*** *03:16:17.3±0.6,31.78S±0.03×70.06W±0.06,h127km±6km, mb3.3/1,Error ellipse: s-maj=9.1km s-min=5.0km az=179.7*
GUC ***15*** *03:16:17.8±0.6,31.81S×70.35W,h138km±3km,MD3.8, ML4.0*
IDC ***15*** *03:16:18.7±3.7,31.85S×69.97W,h113km±28km,mb3.3/1, mb1 3.1/3,mb1mx3.1/13,mbtmp3.1/3,Error ellipse: s-maj=59.7km s-min=26.3km az=126.0*

ISC 15 03:16:18.5±0.9,31.79S±0.04×70.06W±0.06,h119km±8km, n26,σ0s90/41,6C-5D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCH	**Petorca**	**0.88**	**237**	⇑*i*P	**Pn**	**03**	**16**	**39.3 0.0**
PTCH				*i* S	**Sn**	**03**	**16**	**55.0 0.0**
PTCH				AML	AML	03	16	56.6
	comp=N,7μm,0.2s							
JACH	**Jahuel**	**1.00**	**207**	⇑*i*P	**Pn**	**03**	**16**	**40.8 +0.2**
JACH				*i* S	**Sn**	**03**

STKA	**Stephens Creek**	**37.72**	**159**	P		**P**	**03 27 42.8**	**-0.8**
	5.2nm,0.8s,baz=346,slow=5.7,SNR=7.4								
ASAJ	**Asahikawa**	**42.95**	**17**	*e*P		P	03 28 30.3	+3.6
	5.7nm,1.1s								
ULN	**Ulaanbaatar**	**47.53**	**342**	*e*P		**P**	**03 29 04.6**	**+1.4**
	2.9nm,1.1s								
SONM	**Songino Array**	**47.71**	**341**	P		**P**	**03 29 04.0**	**-0.5**
SONM	**Songino Array**	**47.71**	**341**	P		**P**	**03 29 04.0**	**-0.5**
	0.6nm,0.7s,baz=155,slow=7.8,SNR=4.6								
PETK	**Petropavlovsk-**	**55.76**	**22**	P		**P**	**03 30 03.6**	**-0.7**
PETK	**Petropavlovsk-**	**55.76**	**22**	P		**P**	**03 30 03.6**	**-0.7**
	6.2nm,1.0s,baz=264,slow=4.3,SNR=5.4								
MK31	**Makanchi Array**	**57.94**	**325**	*e*P		**P**	**03 30 19.5**	**-0.5**
MKAR	**Makanchi Array**	**57.94**	**325**	P		**P**	**03 30 19.4**	**-0.5**
MKAR	**Makanchi Array**	**57.94**	**325**	P		**P**	**03 30 19.4**	**-0.5**
	1.5nm,0.6s,baz=120,slow=8.4,SNR=12								
MKAR				LR		LR	03 58 30.6		
	comp=Z,30nm,20.1s,baz=224,slow=39								
ZALV	**Zalesovo Beam**	**60.99**	**333**	P		**P**	**03 30 41.8**	**+1.1**
ZALV	**Zalesovo Beam**	**60.99**	**333**	P		**P**	**03 30 41.8**	**+1.1**
	0.9nm,0.7s,baz=120,slow=8.5,SNR=5.4								
KURBB	**Kurchatov Arra**	**62.13**	**327**	P		**P**	**03 30 48.1**	**-0.4**
	3.6nm,0.6s,baz=130,slow=6.3,SNR=23								
KURK	**Kurchatov**	**62.13**	**328**	*e*P		**P**	**03 30 48.3**	**-0.3**
	5.9nm,0.6s								
KKAR	**Karatay Array**	**63.60**	**317**	*e*P		**P**	**03 30 58.5**	**0.0**
	1.3nm,0.7s								
BRVK	**Borovoye**	**67.78**	**327**	*e*P		**P**	**03 31 25.2**	**0.0**
	2.2nm,0.6s								
ABKAR	**Akbulak array**	**72.53**	**321**	*e*P		**P**	**03 31 53.5**	**-0.9**
	1.0nm,0.6s								
TRF	**Thorofare Moun**	**83.85**	**27**	*e*P		P	03 33 00.9	+4.0
	8.3nm,1.2s								
COLD	**Coldfoot**	**84.22**	**23**	*e*P		**P**	**03 32 59.9**	**+1.5**
	3.9nm,1.0s								
BRTR	**Keskin Array B**	**90.36**	**310**	P		**P**	**03 33 28.1**	**-0.9**
BRTR	**Keskin Array B**	**90.36**	**310**	P		**P**	**03 33 28.1**	**-0.9**
	0.5nm,0.8s,baz=104,slow=6.1,SNR=2.7								
BUR08	**Bucovina Ar. S**	**95.38**	**318**	*e*P		**P**	**03 33 51.7**	**-0.1**
YKA	**Yellowknife Ar**	**99.82**	**24**	P		**Pdif**	**03 34 11.3**	**-0.1**
YKA	**Yellowknife Ar**	**99.82**	**24**	P		**Pdif**	**03 34 11.3**	**-0.1**
	0.1nm,0.5s,baz=294,slow=5.2,SNR=3.7								
TXAR	**Lajitas Array**	**121.76**	**52**	PKP		**PKPdf**	**03 39 22.6**	**+0.7**
TXAR	**Lajitas Array**	**121.76**	**52**	PKP		**PKPdf**	**03 39 22.6**	**+0.7**
	0.2nm,0.5s,baz=247,slow=1.9,SNR=3.0								
TORD	**Torodi Ar. Bea**	**123.14**	**288**	PKP		**PKPdf**	**03 39 25.5**	**+0.7**
TORD	**Torodi Ar. Bea**	**123.14**	**288**	PKP		**PKPdf**	**03 39 25.5**	**+0.7**
	0.3nm,0.8s,baz=78,slow=3.8,SNR=2.5								
TRQA	**Tornquist**	**144.50**	**168**	*e*PKPdf		**PKPdf**	**03 40 03.6**	**-0.4**
LCO	**Las Campanas**	**149.50**	**149**	*e*PKPbc		**PKPbc**	**03 40 18.7**	**+1.3**

IDC 15 03:27:57.9±0.9, 84°.85N×98°.93E, *h*0km, mb3.5/9, mb1 3.7/10, mb1mx3.5/26, mbtmp3.6/10, ML3.2/1, Error ellipse: s-maj=28.3km s-min=17.4km az=146.0, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARCES	**ARCESS Array B**	**19.72**	**267**	P		P	03 32 28.8	+0.3
	0.1nm,0.3s,baz=24,slow=11,SNR=3.9							
INK	**Inuvik**	**25.31**	**44**	P		P	03 33 25.5	+0.1
	0.7nm,0.7s,baz=16,slow=8.8,SNR=2.7							
FINES	**FINESS Array B**	**27.60**	**262**	P		P	03 33 45.5	-0.7
	1.7nm,0.9s,baz=12,slow=7.3,SNR=3.5							
ILAR	**Eielson Array**	**27.88**	**57**	P		P	03 33 49.4	+0.7
	0.3nm,0.9s,baz=352,slow=5.5,SNR=3.7							
SONM	**Songino Array**	**37.22**	**172**	P		P	03 35 10.7	+0.1
	0.7nm,0.8s,baz=346,slow=7.5,SNR=6.1							
AKASG	**Malin Array B**	**37.95**	**256**	P		P	03 35 16.1	-0.4
	0.8nm,0.5s,baz=8.4,slow=9.3,SNR=3.0							
MKAR	**Makanchi Array**	**38.45**	**198**	P		P	03 35 20.2	-0.7
	0.4nm,0.6s,baz=6.9,slow=7.4,SNR=6.6							
GERES	**GERESS Array B**	**41.18**	**271**	P		P	03 35 44.5	+0.8
	0.2nm,0.6s,baz=346,slow=7.6,SNR=3.7							
BRTR	**Keskin Array B**	**48.46**	**249**	P		P	03 36 42.3	+0.6
	1.3nm,1.2s,baz=21,slow=6.2,SNR=3.3							
TXAR	**Lajitas Array**	**65.64**	**22**	P		P	03 38 42.5	-0.9
	0.2nm,0.6s,baz=7.4,slow=3.1,SNR=4.0							

IDC 15 03:35:20.0±2.2, 3°.77N×127°.91E, *h*0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=162.4km s-min=24.6km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.40**	**165**	P		P	03 40 40.4	+0.1
	1.0nm,0.6s,baz=345,slow=10,SNR=14							
ASAR	**Alice Springs**	**27.89**	**168**	P		P	03 41 11.7	-0.1
	0.3nm,0.6s,baz=342,slow=8.3,SNR=4.9							
MKAR	**Makanchi Array**	**58.20**	**325**	P		P	03 45 16.0	-0.1
	0.6nm,0.5s,baz=119,slow=7.5,SNR=13							

*IDC **15** 03:50:42.5±0.6, 3°.88N×126°.38E, h0km, mb4.2/16, mb1 4.3/16, mb1mx4.2/22, mbtmp4.2/16, MS3.3/1, Ms1 3.3/1, ms1mx2.3/26, Error ellipse: s-maj=34.4km s-min=13.2km az=72.0*

*ISCJB **15** 03:50:47.1±0.3, 3°.89N±0°.06×126°.4E±0°.1, h45km, mb4.3/34, Error ellipse: s-maj=16.6km s-min=5.9km az=153.5*

*NEIC **15** 03:50:47.8±0.2, 3°.89N×126°.40E, h35km, mb4.5/20, Error ellipse: s-maj=11.7km s-min=4.2km az=62.0*

ISC 15 03:50:48.9±0.5, 3°.93N±0°.08×126.5E±0°.1, h45km, n61, σ0.79/60, mb4.3/34, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.24**	**344**	LR	LR	03 53 10.4	
	comp=Z,465nm,19.8s,baz=170,slow=45						
DMPH	**Davao City--Mi**	**3.28**	**343**	*e*P	**Pn**	**03 51 38.1**	**+0.3**
DMPH				*i* S	Sn	03 52 50.6	+35
KSM	**Kuching**	**16.32**	**262**	*e*Pn	**P**	**03 54 39.2**	**+1.8**
	9.6nm,0.9s						
TPUB	**Ta-pu**	**20.07**	**344**	*e*P	**P**	**03 55 18.0**	**-0.7**
	17nm,0.6s						
SSLB	**Suanglung**	**20.45**	**345**	*e*P	**P**	**03 55 22.7**	**0.0**
	8.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.90**	**182**	P	**P**	**03 55 38.4**	**0.0**
FITZ	**Fitzroy Crossi**	**21.90**	**182**	P	**P**	**03 55 38.4**	**0.0**
	2.2nm,0.5s,baz=0.6,slow=10,SNR=6.0						
COEN	**Coen**	**24.30**	**137**	*e*P	**P**	**03 56 01.8**	**-0.6**
PMG	**Port Moresby**	**24.51**	**123**	*e*P	**P**	**03 56 04.7**	**+0.3**
	8.3nm,0.9s						
WRAB	**Tennant Creek**	**24.95**	**162**	*e*P	**P**	**03 56 07.3**	**-0.9**
	8.3nm,0.7s						
WRA	**Warramunga Arr**	**24.95**	**162**	P	**P**	**03 56 06.9**	**-1.4**
WRA	**Warramunga Arr**	**24.95**	**162**	P	**P**	**03 56 06.9**	**-1.4**
	4.9nm,0.6s,baz=342,slow=10,SNR=58						
ASAR	**Alice Springs**	**28.37**	**166**	P	**P**	**03 56 38.4**	**-0.7**
ASAR	**Alice Springs**	**28.37**	**166**	P	**P**	**03 56 38.4**	**-0.7**
	0.4nm,0.3s,baz=349,slow=12,SNR=8.1						
CMAR	**Chiang Mai Arr**	**30.54**	**300**	P	**P**	**03 56 56.7**	**-1.7**
CMAR	**Chiang Mai Arr**	**30.54**	**300**	P	**P**	**03 56 56.7**	**-1.7**
	0.8nm,0.4s,baz=126,slow=9.2,SNR=2.4						
ENH	**Enshi**	**30.73**	**330**	*e*P	**P**	**03 56 59.7**	**-0.2**
	6.4nm,0.6s						
CTAO	**Charters Tower**	**30.78**	**142**	*e*P	**P**	**03 57 01.7**	**+1.2**
	5.4nm,1.0s						
KSAR	**Wonju Array Be**	**33.38**	**2**	P	**P**	**03 57 23.5**	**+0.5**
KSRS	**Korea Array**	**33.40**	**2**	P	**P**	**03 57 23.5**	**+0.4**
	1.9nm,0.7s,baz=180,slow=9.3,SNR=4.8						
BBOO	**Buckleboo**	**37.65**	**167**	*e*P	**P**	**03 57 59.3**	**-0.5**
EIDS	**Eidsvold**	**37.67**	**142**	*e*P	**P**	**03 57 59.6**	**-0.5**
	10nm,0.8s						
STKA	**Stephens Creek**	**38.41**	**159**	P	**P**	**03 58 05.8**	**-0.4**
STKA	**Stephens Creek**	**38.41**	**159**	P	**P**	**03 58 05.8**	**-0.4**
	10nm,0.6s,baz=337,slow=10,SNR=18						
ARMA	**Armidale**	**41.78**	**147**	*e*P	**P**	**03 58 35.4**	**+1.1**
	11nm,0.7s						
LSA	**Lhasa**	**42.11**	**311**	*e*P	**P**	**03 58 38.1**	**+0.7**
	4.3nm,0.6s						
ULN	**Ulaanbaatar**	**46.85**	**342**	*e*P	**P**	**03 59 14.6**	**-0.1**
	2.2nm,0.6s						
DZM	**Mont Dzumac**	**46.87**	**125**	*e*P	**P**	**03 59 15.7**	**+0.6**
	6.3nm,0.7s						
SONM	**Songino Array**	**47.03**	**342**	P	**P**	**03 59 16.4**	**+0.4**
SONM	**Songino Array**	**47.03**	**342**	P	**P**	**03 59 16.4**	**+0.4**
	1.8nm,0.6s,baz=156,slow=8.4,SNR=21						
PETK	**Petropavlovsk-**	**55.35**	**22**	P	**P**	**04 00 17.7**	**-0.5**
PETK	**Petropavlovsk-**	**55.35**	**22**	P	**P**	**04 00 17.7**	**-0.5**
	4.4nm,0.8s,baz=258,slow=7.4,SNR=3.7						
MK31	**Makanchi Array**	**57.24**	**325**	*e*P	**P**	**04 00 31.9**	**0.0**
MKAR	**Makanchi Array**	**57.24**	**325**	P	**P**	**04 00 31.7**	**-0.1**
MKAR	**Makanchi Array**	**57.24**	**325**	P	**P**	**04 00 31.7**	**-0.1**
	1.2nm,0.4s,baz=116,slow=7.5,SNR=27						
TKM2	**Tokmak 2**	**59.42**	**319**	*e*P	**P**	**04 00 47.6**	**+0.3**
	3.8nm,1.3s						
AAK	**Ala-Archa**	**60.03**	**318**	*e*P	**P**	**04 00 51.6**	**+0.1**
	5.2nm,0.8s						
ZALV	**Zalesovo Beam**	**60.29**	**333**	P	**P**	**04 00 52.0**	**-0.8**
ZALV	**Zalesovo Beam**	**60.29**	**333**	P	**P**	**04 00 52.0**	**-0.8**
	1.0nm,0.5s,baz=122,slow=7.6,SNR=7.0						
EKS2	**Erkin-Say**	**60.52**	**318**	*e*P	**P**	**04 00 55.4**	**+0.5**
	1.8nm,0.8s						
KURK	**Kurchatov**	**61.43**	**328**	*e*P	**P**	**04 01 00.4**	**-0.2**
	5.0nm,0.6s						
KKAR	**Karatay Array**	**62.91**	**317**	*e*P	**P**	**04 01 11.4**	**+0.7**
	2.9nm,1.0s						
BVAR	**Borovoye Array**	**67.01**	**327**	P	**P**	**04 01 38.7**	**+1.6**
BVAR	**Borovoye Array**	**67.01**	**327**	P	**P**	**04 01 38.7**	**+1.6**
	2.9nm,0.9s,baz=117,slow=8.7,SNR=12						
BRVK	**Borovoye**	**67.08**	**327**	*e*P	**P**	**04 01 38.6**	**+0.9**
	6.1nm,1.1s						
ABKAR	**Akbulak array**	**71.83**	**321**	*e*P	**P**	**04 02 06.7**	**-0.3**
	0.8nm,0.6s						
AKTO	**Aktyubinsk**	**73.34**	**322**	P	**P**	**04 02 16.1**	**+0.2**
AKTO	**Aktyubinsk**	**73.34**	**322**	P	**P**	**04 02 16.1**	**+0.2**
	2.4nm,0.8s,baz=103,slow=8.8,SNR=8.5						
COLD	**Coldfoot**	**83.82**	**23**	*e*P	**P**	**04 03 13.7**	**+0.4**
	2.3nm,0.8s						
ILAR	**Eielson Array**	**85.04**	**25**	P	**P**	**04 03 20.5**	**+1.0**
ILAR	**Eielson Array**	**85.04**	**25**	P	**P**	**04 03 20.5**	**+1.0**
	0.3nm,0.7s,baz=268,slow=7.1,SNR=3.5						
BMRM	**Bremner River**	**86.08**	**29**	*e*P	**P**	**04 03 25.0**	**+0.1**
	3.7nm,0.6s						
BRTR	**Keskin Array B**	**89.69**	**310**	P	**P**	**04 03 41.9**	**-0.9**
BRTR	**Keskin Array B**	**89.69**	**310**	P	**P**	**04 03 41.9**	**-0.9**
	0.8nm,0.8s,baz=113,slow=8.3,SNR=4.7						
FINES	**FINESS Array B**	**91.53**	**332**	P	**P**	**04 03 50.0**	**-0.6**
FINES	**FINESS Array B**	**91.53**	**332**	P	**P**	**04 03 50.0**	**-0.6**
	3.2nm,1.0s,baz=71,slow=9.1,SNR=5.3						
BUR08	**Bucovina Ar. S**	**94.68**	**318**	*e*P	**P**	**04 04 06.3**	**+0.7**
NOA	**NORSAR Array B**	**98.49**	**334**	P	**P**	**04 04 21.8**	**-0.7**
NOA	**NORSAR Array B**	**98.49**	**334**	P	**P**	**04 04 21.8**	**-0.7**
	0.8nm,0.8s,baz=66,slow=4.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**122.60**	**288**	PKP	**PKPdf**	**04 09 40.7**	**0.0**
TORD	**Torodi Ar. Bea**	**122.60**	**288**	PKP	**PKPdf**	**04 09 40.7**	**0.0**
	0.4nm,0.8s,baz=69,slow=0.7,SNR=2.7						

*IDC **15** 03:56:29.9±0.6, 1°.68N×96°.98E, h0km, mb4.6/22, mb1 4.7/23, mb1mx4.6/30, mbtmp4.6/23, ML4.0/2, MS4.1/16, Ms1 4.1/16, ms1mx3.9/34, Error ellipse: s-maj=19.8km s-min=13.2km az=41.0*

*BJI **15** 03:56:32.8, 1°.39N×97°.14E, h52km, mB5.1/32, mb4.9/48, Ms4.7/36, Ms7 4.5/34*

*ISCJB **15** 03:56:33.9±0.9, 1°.77N±0°.04×97°.02E±0°.03, h33km±6km, mb4.8/99, MS4.3/31, Error ellipse: s-maj=6.8km s-min=5.0km az=29.8*

*MOS **15** 03:56:33.9±0.9, 1°.82N×97°.17E, h33km, mb5.0/35, MS4.5/5, Error ellipse: s-maj=11.1km s-min=5.1km az=113.2*

*NEIC **15** 03:56:35.8±1.2, 1°.72N×97°.06E, h39km±10km, mb4.9/30, Error ellipse: s-maj=9.7km s-min=4.6km az=48.0*

*DJA **15** 03:56:36, 1°.93N×97°.21E, h10km, MLv4.8/11*

*SZGRF **15** 03:56:39.4, 1°.66N×96°.01E, h39km, mb4.9, Off west coast of northern Sumatera, Indonesia*

ISC 15 03:56:36.2±0.4, 1°.72N±0°.04×96°.99E±0°.05, h42km±2km, h42km:pP-P, n307, σ1°32/351, mb4.9/99, MS4.3/31, 11C-19D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.72**	**125**	P	**Pn**	**03 56 48.8**	**-1.2**
GSI				S	**Sn**	**03 56 59.3**	**-0.6**
TPTI		**1.54**	**7**	P	**Pn**	**03 56 59.2**	**-2.1**
PSI	**Prapat**	**2.21**	**61**	Pn	**Pn**	**03 57 09.2**	**-1.5**
PSI	**Prapat**	**2.21**	**61**	P	**Pn**	**03 57 08.9**	**-1.7**
PSI	**Prapat**	**2.21**	**61**	Pn	**Pn**	**03 57 09.2**	**-1.5**
	10nm,0.3s,baz=260,slow=7.7,SNR=36						
PSI				LR	LR	03 57 48.8	
	comp=Z,2μm,22.0s,baz=139,slow=36						
TSI	**Tuntungan**	**2.37**	**42**	P	**Pn**	**03 57 12.7**	**+0.1**
MNSI	**Mandailing Nat**	**2.75**	**109**	P	**Pn**	**03 57 16.4**	**-1.5**
LHMI	**Lhok Sumawe**	**3.48**	**359**	P	Pn	03 57 37.6	+10
BSI	**Banda Aceh**	**4.11**	**336**	P	**Pn**	**03 57 34.1**	**-2.5**
BSI				S	**Sn**	**03 58 19.7**	**-3.9**
BKNI	**Bangkinang**	**4.28**	**109**	P	**Pn**	**03 57 38.4**	**-0.5**
FRIM	**Kepong**	**4.87**	**72**	P	**Pn**	**03 57 46.4**	**-0.7**
IPM	**Ipoh**	**4.88**	**56**	*e*Pn	**Pn**	**03 57 46.8**	**-0.4**
IPM				*e*S	Sn	03 58 58.9	+16
IPM	**Ipoh**	**4.88**	**56**	P	**Pn**	**03 57 47.2**	**0.0**
IPM	**Ipoh**	**4.88**	**56**	P	**Pn**	**03 57 46.5**	**-0.6**
KULM	**Kulim**	**5.09**	**46**	*e*Pn	**Pn**	**03 57 49.4**	**-0.7**
KULM	**Kulim**	**5.09**	**46**	P	**Pn**	**03 57 49.9**	**-0.2**
KULM	**Kulim**	**5.09**	**46**	P	**Pn**	**03 57 48.4**	**-1.7**
	170nm,1.3s,1μm						
KRJI	**Kerinci**	**5.86**	**130**	P	Pn	03 58 09.1	+8.4
MYKOM	**Kota Tinggi**	**6.86**	**89**	P	**Pn**	**03 58 14.5**	**+0.1**
MYKOM	**Kota Tinggi**	**6.86**	**89**	P	**Pn**	**03 58 14.2**	**-0.2**
	57nm,1.1s,574nm						
KSI	**Kapahiang**	**7.74**	**134**	P	**Pn**	**03 58 26.3**	**-0.2**
KSM	**Kuching**	**13.32**	**91**	*e*Pn	**Pn**	**03 59 44.2**	**+1.3**
	6.1nm,1.0s						
SBUM	**Sibu**	**15.24**	**87**	P	**Pn**	**04 00 08.9**	**+0.2**
BTM	**Bintulu**	**16.15**	**84**	P	**P**	**04 00 24.0**	**+0.9**
BTM	**Bintulu**	**16.15**	**84**	P	**P**	**04 00 22.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**16.74**	**6**	Pn	**Pn**	**04 00 25.8**	**-2.1**
CMAR	**Chiang Mai Arr**	**16.74**	**6**	Pn	**Pn**	**04 00 25.8**	**-2.1**
	0.6nm,0.3s,baz=199,slow=11,SNR=20						
CMAR				LR	LR	04 07 38.7	
	comp=Z,768nm,18.5s,baz=188,slow=40						
CHTO	**Chiang Mai**	**17.10**	**6**	*e*P	**Pn**	**04 00 30.1**	**-2.2**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CHTO	**Chiang Mai**	**17.10**	**6**	*e*P	**Pn**	**04 00 30.1**	**-2.2**
	comp=Z,8.5nm,0.8s						
KKM	**Kota Kinabalu**	**19.65**	**77**	*e*P	**P**	**04 01 01.1**	**-0.8**
	comp=Z,31nm,1.0s						
KKM	**Kota Kinabalu**	**19.65**	**77**	P	**Pn**	**04 01 03.2**	**-0.3**
MDRS	**Chennai**	**20.05**	**305**	*e*PKP	**P**	**04 01 04.3**	**-1.7**
MDRS				AMb	AMB	04 02 55.5	
	comp=Z,75nm,0.2s						
SDKM	**Sandakan**	**20.54**	**79**	P	**P**	**04 01 11.8**	**+0.4**
VIS	**Vishakhapatnam**	**20.80**	**321**	*ex*	x	04 01 02.2	
VIS	**Vishakhapatnam**	**20.80**	**321**	*i* P	P	04 01 02.7	-11
VIS				*i* S	S	04 04 55.0	-9.1
VIS				*i* S	Sn	04 04 56.4	-15
TRD	**Trivandrum**	**21.05**	**289**	*e*PKP	**P**	**04 01 16.9**	**0.0**
MYLDM	**Lahad Datu**	**21.74**	**80**	P	**P**	**04 01 25.8**	**+1.5**
MYLDM	**Lahad Datu**	**21.74**	**80**	P	**P**	**04 01 24.9**	**+0.6**
KAPI	**Kappang**	**23.71**	**106**	*e*P	**P**	**04 01 43.4**	**-1.2**
	comp=Z,31nm,1.0s						
HYB	**Hyderabad**	**23.91**	**312**	*i* P	**P**	**04 01 47.0**	**+0.6**
KMI	**Kunming**	**23.92**	**13**	P	**P**	**04 01 46.8**	**+0.1**
KMI				pP	**pP**	**04 01 57.6**	**-0.4**
KMI				sP	**sP**	**04 02 03.6**	**+0.6**
KMI				PP	PP	04 02 24.5	
KMI				S	**S**	**04 06 00.3**	**-0.2**
KMI				SS	SS	04 06 52.4	
KMI				pmax	pmax		
	comp=Z,18nm,1.1s						
KMI				pmax	pmax		
	comp=Z,120nm,4.7s						
KMI				LR	LR		
	comp=N,1μm,14.7s						
KMI				LR	LR		
	comp=E,470nm,15.9s						
KMI				LR	LR		
	comp=Z,1μm,14.8s						
SHL	**Shillong**	**24.21**	**349**	*e*PKP	P	04 01 40.5	-8.8
SHL				*e*S	**S**	**04 06 07.0**	**+1.8**
NGP	**Nagpur**	**26.05**	**319**	*e*PKP	**P**	**04 02 06.0**	**0.0**
NGP				AMb	AMB	04 02 17.8	
	comp=Z,21nm,0.7s						
GYA	**Guiyang**	**26.30**	**20**	P	**P**	**04 02 10.4**	**+2.2**
GYA				pP	**pP**	**04 02 22.8**	**+3.3**
GYA				sP	**sP**	**04 02 28.4**	**+3.8**
GYA				PP	**PnPn**	**04 02 54.3**	**+5.5**
GYA				S	**S**	**04 06 38.9**	**+0.7**
GYA				sS	**sS**	**04 06 57.5**	**+0.2**
GYA				SS	**SnSn**	**04 07 47.8**	**+6.8**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.7s						
GYA				LR	LR		
	comp=N,530nm,15.7s						
GYA				LR	LR		
	comp=E,500nm,16.2s						
GYA				LR	LR		
	comp=Z,550nm,15.5s						
ODAN	**Odare**	**26.64**	**341**	*e*P	**P**	**04 02 12.3**	**+0.9**
	comp=Z,16nm,0.5s						
TAPN	**Taplejung**	**26.99**	**342**	*e*P	**P**	**04 02 15.5**	**+0.9**
	comp=Z,66nm,0.9s						
RAMN	**Ramite**	**27.00**	**339**	*e*P	**P**	**04 02 15.5**	**+0.9**
	comp=Z,36nm,0.9s						
AKL	**Akola**	**27.13**	**315**	*e*PKP	**P**	**04 02 14.2**	**-1.4**
AKL				AMb	AMB	04 02 29.9	
	comp=Z,20nm,0.6s						
JIRN	**Jiri**	**27.79**	**339**	*e*P	**P**	**04 02 22.6**	**+0.8**
	comp=Z,6.6nm,0.7s						
PKI	**Pulchoki**	**28.00**	**338**	*e*P	**P**	**04 02 24.3**	**+0.7**
GUN	**Gumba**	**28.13**	**339**	*e*P	**P**	**04 02 25.5**	**+0.6**
	comp=Z,33nm,0.6s						
DMN	**Daman**	**28.15**	**337**	*e*P	**P**	**04 02 25.4**	**+0.5**
	comp=Z,25nm,0.9s						
POO	**Poona**	**28.18**	**308**	*e*PKP	**P**	**04 02 24.3**	**-0.7**
KKN	**Kakani**	**28.24**	**338**	*e*P	**P**	**04 02 26.4**	**+0.7**
LSA	**Lhasa**	**28.37**	**349**	*e*P	**P**	**04 02 27.8**	**+0.6**
LSA				pmax	pmax		
	comp=Z,15nm,1.0s						
LSA	**Lhasa**	**28.37**	**349**	*e*P	**P**	**04 02 27.8**	**+0.6**
	comp=Z,15nm,1.0s						
GKN	**Gorkha**	**28.68**	**337**	*e*P	**P**	**04 02 30.3**	**+0.7**
KOLN	**Koldanda**	**28.90**	**335**	*e*P	**P**	**04 02 32.2**	**+0.6**
	comp=Z,21nm,0.7s						
DANN	**Dangsing**	**29.34**	**336**	*e*P	**P**	**04 02 36.0**	**+0.4**
	comp=Z,21nm,0.8s						
ENH	**Enshi**	**30.77**	**21**	P	**P**	**04 02 46.4**	**-1.5**
	comp=Z,40nm,1.1s						
QZH	**Quanzhou**	**31.11**	**40**	*e*P	P	04 02 42.1	-8.8
QZH				S	**S**	**04 07 55.5**	**+1.7**
QZH				LR	LR		
	comp=Z,2μm,23.5s						
SSLB	**Suanglung**	**31.93**	**45**	*e*P	**P**	**04 02 58.0**	**-0.3**
	comp=Z,26nm,1.0s						
WHN	**Wuhan**	**33.06**	**28**	⇓P	**P**	**04 03 07.8**	**-0.1**
WHN				pmax	pmax		
	comp=Z,62nm,0.8s						
WHN				LR	LR		
	comp=N,1μm,13.3s						
WHN				LR	LR		
	comp=E,1μm,12.5s						
WHN				LR	LR		
	comp=Z,2μm,18.5s						
XAN	**Xi'an**	**34.03**	**18**	P	**P**	**04 03 15.0**	**-1.5**
XAN				pP	**pP**	**04 03 27.0**	**-1.0**
XAN				sP	**sP**	**04 03 32.4**	**-0.6**
XAN				PP	**PnPn**	**04 04 28.4**	**-2.4**
XAN				S	**S**	**04 08 33.3**	**-5.9**
XAN				pmax	pmax		
	comp=Z,13nm,0.9s						
XAN				pmax	pmax		
	comp=Z,32nm,4.5s						
XAN				LR	LR		
	comp=N,440nm,15.7s						
XAN				LR	LR		
	comp=E,170nm,15.7s						
XAN				LR	LR		
	comp=Z,250nm,14.9s						
FITZ	**Fitzroy Crossi**	**34.40**	**126**	LR	LR	04 16 00.4	
	comp=Z,225nm,21.6s,baz=310,slow=34						
LZH	**Lanzhou**	**34.78**	**10**	*e*P	**P**	**04 03 21.9**	**-1.1**
LZH				pP	**pP**	**04 03 34.0**	**-0.6**
LZH				sP	**sP**	**04 03 39.5**	**-0.1**
LZH				PP	**PnPn**	**04 04 41.0**	**+0.8**
LZH				*e*S	**S**	**04 08 50.3**	**-0.6**
LZH				sS	**sS**	**04 09 10.5**	**+0.4**
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
LZH				pmax	pmax		
	comp=Z,140nm,5.1s						
LZH				LR	LR		
	comp=N,490nm,12.8s						
LZH				LR	LR		
	comp=E,570nm,13.0s						
LZH				LR	LR		
	comp=Z,760nm,17.0s						
NJ2	**Nanjing**	**36.54**	**32**	*e*P	**P**	**04 03 38.1**	**+0.2**
NJ2				pP	**pP**	**04 03 49.9**	**+0.4**
NJ2				sP	**sP**	**04 03 54.8**	**+0.2**
NJ2				PP	**PP**	**04 05 03.1**	**+1.4**
NJ2				S	S	04 09 24.0	+6.4
NJ2				sS	**ScP**	**04 09 42.0**	**-2.4**
NJ2				pmax	pmax		
	comp=Z,20nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,200nm,6.4s						
NJ2				LR	LR		
	comp=N,780nm,15.6s						
NJ2				LR	LR		
	comp=E,630nm,16.7s						
NJ2				LR

KSH ScS **ScS** **04 14 20.3 -4.0**
KSH LR LR
comp=N,140nm,4.5s
KSH LR LR
comp=E,160nm,5.0s
KSH LR LR
comp=Z,230nm,6.5s
WRA Warramunga Arr 42.49 122 P **P** **04 04 26.7 -1.1**
WRA Warramunga Arr 42.49 122 P **P** **04 04 26.7 -1.1**
comp=Z,4.5nm,0.8s,baz=302,slow=9.1,SNR=20
WRA LR LR 04 25 17.8
comp=Z,207nm,19.4s,baz=295,slow=41
WRAB Tennant Creek 42.49 122 *e*P **P** **04 04 27.3 -0.5**
WRAB pmax pmax
comp=Z,8.0nm,0.9s
WRAB Tennant Creek 42.49 122 *e*P **P** **04 04 27.2 -0.5**
comp=Z,8.4nm,0.9s
WMQ Urumqi 42.73 350 P **P** **04 04 30.9 +1.5**
WMQ pP **pP** **04 04 39.0 -2.2**
WMQ pmax pmax
comp=Z,16nm,1.6s
WMQ pmax pmax
comp=Z,180nm,5.4s
WMQ LR LR
comp=N,210nm,22.3s
WMQ LR LR
comp=E,430nm,27.2s
WMQ LR LR
comp=Z,210nm,26.0s
AS31 Alice Springs 43.88 127 *e*P **P** **04 04 38.9 -0.1**
ASAR Alice Springs 43.88 127 P **P** **04 04 38.7 -0.3**
ASAR Alice Springs 43.88 127 P **P** **04 04 38.7 -0.3**
comp=Z,3.4nm,1.0s,baz=312,slow=7.5,SNR=16
ULHL Ulahol 44.44 338 P **P** **04 04 43.7 +0.4**
SNR=7.4
JNU Nakatsue 44.56 42 P **P** **04 04 43.5 -0.8**
JNU Nakatsue 44.56 42 P **P** **04 04 43.5 -0.8**
comp=Z,13nm,1.0s,baz=158,slow=1.2,SNR=5.0
JNU LR LR 04 25 34.4
comp=Z,307nm,18.4s,baz=97,slow=39
KZA Kyzart 44.67 337 P **P** **04 04 46.8 +1.3**
SNR=6.8
TKM2 Tokmak 2 45.26 338 *e*P **P** **04 04 49.9 0.0**
TKM2 pmax pmax
comp=Z,29nm,1.3s
TKM2 Tokmak 2 45.26 338 *e*P **P** **04 04 49.9 0.0**
comp=Z,29nm,1.3s
TKM2 Tokmak 2 45.26 338 P **P** **04 04 51.0 +1.0**
SNR=19
KBK Karagaybulak 45.28 337 P **P** **04 04 51.7 +1.7**
SNR=17
AML Almayashu 45.34 336 P **P** **04 04 51.9 +1.1**
SNR=15
AAK Ala-Archa 45.44 337 *i* P **P** **04 04 51.9 +0.6**
AAK pmax pmax
comp=Z,21nm,1.2s
AAK Ala-Archa 45.44 337 *e*P **P** **04 04 52.5 +1.3**
comp=Z,49nm,1.3s
AAK Ala-Archa 45.44 337 P **P** **04 04 54.1 +2.8**
SNR=8.8
KSAR Wonju Array Be 45.51 35 P **P** **04 04 51.0 -0.7**
KSRS Korea Array 45.55 35 P **P** **04 04 51.0 -0.9**
comp=Z,8.1nm,1.0s,baz=226,slow=9.8,SNR=17
KSRS LR LR 04 25 22.2
comp=Z,190nm,18.4s,baz=117,slow=38
FRU Bishkek 45.56 337 *e*P **P** **04 04 52.0 -0.1**
FRU *e* 04 05 01.0
EKS2 Erkin-Say 45.75 336 *e*P **P** **04 04 55.0 +1.3**
EKS2 pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 45.75 336 *e*P **P** **04 04 55.0 +1.3**
comp=Z,10nm,0.8s
EKS2 Erkin-Say 45.75 336 P **P** **04 04 55.3 +1.6**
SNR=14
USP Ospenovka 45.97 337 P **P** **04 04 56.3 +1.0**
SNR=28
SNY Shenyang 46.54 27 ⇑P **P** **04 05 00.0 +0.3**
SNY pmax pmax
comp=Z,18nm,1.0s
SONM Songino Array 46.65 9 P **P** **04 05 00.9 +0.2**
SONM PcP **PcP** **04 06 34.3 +0.3**
SONM Songino Array 46.65 9 P **P** **04 05 00.9 +0.2**
comp=Z,5.8nm,0.4s,baz=190,slow=9.4,SNR=82
SONM PcP **PcP** **04 06 34.3 +0.3**
comp=Z,1.3nm,0.5s,baz=189,slow=4.3,SNR=6.0
MK31 Makanchi Array 46.69 346 *e*P **P** **04 05 01.1 +0.2**
MK31 Makanchi Array 46.69 346 *e*P **P** **04 05 01.1 +0.2**
MKAR Makanchi Array 46.69 346 *e*P **P** **04 05 01.4 +0.5**
MKAR Makanchi Array 46.69 346 *e*P **P** **04 05 01.4 +0.5**
MKAR Makanchi Array 46.69 346 P **P** **04 05 01.6 +0.7**
comp=Z,25nm,0.8s,baz=159,slow=7.7,SNR=220
MKAR LR LR 04 28 17.7
comp=Z,170nm,20.3s,baz=161,slow=41
ULN Ulaanbaatar 46.78 9 *e*P **P** **04 05 01.8 0.0**
comp=Z,18nm,1.2s
KK31 Karatay Array 47.50 334 *i* P **P** **04 05 07.6 +0.3**
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 47.50 334 *e*P **P** **04 05 08.0 +0.8**
KKAR pmax pmax
comp=Z,11nm,1.0s
KKAR Karatay Array 47.50 334 *e*P **P** **04 05 08.0 +0.8**
comp=Z,10nm,1.0s
COEN Coen 48.34 110 *e*P **P** **04 05 13.3 -0.9**
comp=Z,42nm,1.0s
ZAK Zakamensk 48.78 5 *e*P **P** **04 05 17.1 0.0**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
CN2 Changchun 48.94 27 *e*P **P** **04 05 18.0 -0.3**
CN2 *es*P **sP** **04 05 35.8 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,2μm,20.0s
CN2 LR LR
comp=E,900nm,20.0s
CN2 LR LR
comp=Z,300nm,19.0s
MOY Mondy 49.88 3 *e*P **P** **04 05 26.0 +0.5**
TLY Talaya 50.10 5 *e*P **P** **04 05 26.6 -0.4**
TLY *es*P S 04 12 43.1 +7.6
TLY pmax pmax
comp=Z,8.0nm,0.8s
TLY MLR MLR
comp=Z,302nm,18.0s
TLY Talaya 50.10 5 *e*P **P** **04 05 27.7 +0.7**
comp=Z,8.4nm,0.7s
IRK Irkutsk 50.72 6 *e*P P 04 05 39.7 +8.0
IRK pmax pmax
comp=Z,25nm,2.0s
PMG Port Moresby 51.18 103 *e*P **P** **04 05 34.8 -1.1**
comp=Z,8.1nm,0.8s
HIA Hailar 51.22 19 *e*P **P** **04 05 35.5 -0.1**
comp=Z,19nm,1.1s
KURK Kurchatov 51.24 345*c i*P **P** **04 05 36.1 +0.5**
KURK pmax pmax
comp=Z,39nm,1.2s
KURK Kurchatov 51.24 345 *e*P **P** **04 05 36.0 +0.5**
comp=Z,34nm,1.1s
MAT Matsushiro 51.45 43 P **P** **04 05 36.7 -0.8**
MJAR Matsushiro Arr 51.45 43 P **P** **04 05 37.0 -0.5**
MJAR Matsushiro Arr 51.45 43 P **P** **04 05 37.0 -0.5**
comp=Z,6.7nm,0.9s,baz=225,slow=6.2,SNR=14
USRK Ussuriysk Arra 52.44 31 P **P** **04 05 44.5 -0.2**
comp=Z,13nm,0.9s,baz=238,slow=7.0,SNR=12
CTA Charters Tower 52.92 117 P **P** **04 05 47.9 -0.8**
CTA Charters Tower 52.92 117 P **P** **04 05 47.9 -0.8**
comp=Z,5.9nm,0.9s,baz=298,slow=11,SNR=6.1
CTA LR LR 04 29 32.1
comp=Z,209nm,20.7s,baz=264,slow=38
CTAO Charters Tower 52.92 117 *e*P **P** **04 05 48.3 -0.4**
CTAO pmax pmax
comp=Z,8.0nm,0.9s
CTAO Charters Tower 52.92 117 *e*P **P** **04 05 48.3 -0.4**
comp=Z,7.7nm,0.9s
ZAA0 Zalesovo Array 53.01 351 *e*P **P** **04 05 49.1 +0.4**
ZALV Zalesovo Beam 53.01 351 P **P** **04 05 49.2 +0.4**
ZALV S **S** **04 13 16.8 +1.3**
ZALV Zalesovo Beam 53.01 351 P **P** **04 05 49.2 +0.4**
ZALV S **S** **04 13 16.8 +1.3**
ZALV Zalesovo Beam 53.01 351 P **P** **04 05 49.2 +0.4**
comp=Z,50nm,0.8s,baz=177,slow=7.2,SNR=223
ZALV S **S** **04 13 16.8 +1.3**
comp=Z,1.4nm,1.0s,baz=166,slow=14,SNR=5.7
ZALV LR LR 04 34 10.6
comp=Z,151nm,19.3s,baz=163,slow=43
STKA Stephens Creek 53.86 132 P **P** **04 05 54.4 -1.0**
STKA Stephens Creek 53.86 132 P **P** **04 05 54.4 -1.0**
comp=Z,4.5nm,1.0s,baz=294,slow=10.0,SNR=3.9
STKA LR LR 04 31 49.0
comp=Z,217nm,19.0s,baz=25,slow=39
NVS Novosibirsk 54.13 350⇑*i*P **P** **04 05 55.8 -1.1**
NVS *es* **S** **04 13 30.0 -0.5**
NVS pmax pmax
comp=N,21nm,1.1s
NVS pmax pmax
comp=E,14nm,1.1s
NVS pmax pmax
comp=Z,40nm,1.1s
NVS smax smax
comp=N,7.0nm,1.6s
NVS smax smax
comp=E,16nm,1.6s
BVAR Borovoye Array 55.69 341 P **P** **04 06 08.1 -0.2**
BVAR Borovoye Array 55.69 341 P **P** **04 06 08.1 -0.2**
BVAR Borovoye Array 55.69 341 P **P** **04 06 08.1 -0.2**
comp=E,11nm,0.9s,baz=139,slow=9.0,SNR=49
BRVK Borovoye 55.76 341 *e*P **P** **04 06 08.5 -0.2**
BRVK pmax pmax
comp=Z,11nm,0.9s
BRVK Borovoye 55.76 341 *e*P **P** **04 06 08.5 -0.2**
comp=Z,11nm,0.9s
KLR Kul'dur 55.89 27 *e*P P 04 06 06.0 -3.7
AB31 Akbulak array 56.96 332 P **P** **04 06 17.2 -0.1**
AB31 pmax pmax
comp=Z,18nm,0.9s
ABKAR Akbulak array 56.96 332 *e*P **P** **04 06 17.4 0.0**
BOD Bodaibo 57.54 11 *e*P **P** **04 06 21.1 -0.2**
BOD pmax pmax
comp=Z,17nm,1.1s
ASAJ Asahikawa 58.38 37 P **P** **04 06 27.8 +0.4**
ASAJ Asahikawa 58.38 37 P **P** **04 06 27.8 +0.4**
comp=Z,12nm,0.9s,baz=223,slow=24,SNR=3.3
AKTO Aktyubinsk 58.67 332 P **P** **04 06 28.3 -1.1**
AKTO pmax pmax
comp=Z,2.0nm,1.1s
AKTO Aktyubinsk 58.67 332 P **P** **04 06 28.7 -0.7**
AKTO Aktyubinsk 58.67 332 P **P** **04 06 28.7 -0.7**
comp=Z,5.6nm,0.9s,baz=120,slow=9.6,SNR=18
CLNS Chul'man 59.31 17 *e*P **P** **04 06 33.4 -0.3**
CLNS *e**PP **pP** **04 06 44.7 -1.2**
CLNS *e* 04 07 17.9
CLNS *e* 04 08 45.1
CLNS *e*PPP PPP 04 10 07.0
CLNS *es* **S** **04 14 41.7 +2.6**
CLNS *e*SSS SSS 04 21 03.3
CLNS pmax pmax
comp=Z,13nm,1.0s
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS pmax pmax
comp=Z,2.0nm,0.8s
CLNS pmax pmax
comp=N,2.0nm,0.8s
CLNS pmax pmax
comp=E,4.0nm,1.0s
CLNS smax smax
comp=E,276nm,14.2s
CLNS smax smax
comp=N,138nm,13.0s
CLNS MLR MLR
comp=Z,307nm,14.0s
CLNS MLR MLR
comp=E,313nm,15.0s
CLNS MLR MLR
comp=N,222nm,14.0s
YSS Yuzh-Sakhalins 60.04 35⇓*i*P **P** **04 06 40.0 +1.1**
YSS pmax pmax
comp=Z,70nm,1.1s
YSS Yuzh-Sakhalins 60.04 35 P **P** **04 06 39.8 +0.9**
comp=Z,68nm,0.9s
SVE Sverdlovsk 62.13 338⇑*i*P **P** **04 06 53.3 +0.5**
SVE pmax pmax
comp=Z,23nm,1.1s
ZEI Tsey 62.47 318 *e*P **P** **04 06 56.1 +0.4**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
ARU Arti 62.62 337*d i*P **P** **04 06 56.2 0.0**
ARU S **S** **04 15 25.3 +4.1**
ARU SS **SS** **04 19 29.1 +2.9**
ARU pmax pmax
comp=Z,11nm,1.0s
ARU Arti 62.62 337 *e*P **P** **04 06 55.9 -0.3**
comp=Z,12nm,1.1s
KIV Kislovodsk 63.78 319 *e*P **P** **04 07 04.2 0.0**
KIV *es* **S** **04 15 36.8 +0.5**
KIV pmax pmax
comp=Z,11nm,1.1s
KIV Kislovodsk 63.78 319 *e*P **P** **04 07 04.1 0.0**
comp=Z,14nm,1.2s
YAK Yakutsk 64.98 16 *e*P **P** **04 07 10.8 -0.8**
YAK *e**PP pP 04 07 17.4 -6.5
YAK *e* 04 07 43.1
YAK *es* **S** **04 15 51.1 +0.9**
YAK *e* 04 17 05.0
YAK *es*S **SS** **04 19 56.4 -6.3**
YAK pmax pmax
comp=Z,64nm,1.0s
YAK pmax pmax
comp=N,28nm,1.4s
YAK pmax pmax
comp=E,24nm,1.4s
YAK pmax pmax
comp=Z,160nm,5.6s
YAK pmax pmax
comp=N,237nm,3.8s
YAK pmax pmax
comp=E,357nm,5.1s
YAK smax smax
comp=E,201nm,6.6s
YAK smax smax
comp=N,114nm,5.9s
YAK MLR MLR
comp=Z,517nm,18.0s
YAK MLR MLR
comp=N,351nm,19.0s
YAK MLR MLR
comp=E,257nm,20.0s
YAK Yakutsk 64.98 16 *e*P **P** **04 07 11.0 -0.6**
comp=E,69nm,1.0s
SOKR Solikamsk 65.52 339⇓*i*P **P** **04 07 15.9 +0.8**
SOKR pmax pmax
comp=Z,20nm,1.5s
ANN Anapa 67.57 318 *e*P P 04 07 16.1 -12
ANN pmax pmax
comp=Z,40nm,1.2s
VRHR Novokhopersk 67.58 326 *e*P P 04 07 34.5 +6.1
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.7s
BR131 Keskin Array S 68.61 312 *e*P **P** **04 07 34.8 -0.5**
comp=E,1.5nm,0.7s
BRTR Keskin Array B 68.61 312 P **P** **04 07 35.0 -0.3**
BRTR Keskin Array B 68.61 312 P **P** **04 07 35.0 -0.3**
comp=E,2.7nm,0.8s,baz=131,slow=7.3,SNR=17
VORD Divnogorie 68.84 325 *e*P **P** **04 07 35.4 -0.9**
VORD pmax pmax
comp=Z,8.0nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.8s
VSR Storozhevoye 69.02 325 *e*P **P** **04 07 36.6 -0.9**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR pmax pmax
comp=N,6.0nm,1.2s
VSR pmax pmax
comp=E,9.0nm,0.9s
MOS Moscow 71.78 329 *e*P P 04 07 59.9 +5.7
MOS *e* 04 17 34.9
MOS pmax pmax
comp=Z,37nm,0.9s
OBN Obninsk 72.07 328⇓*i*P **P** **04 07 56.0 +0.1**
OBN *e* 04 10 38.8
OBN pmax pmax
comp=Z,36nm,2.5s
OBN MLR MLR
comp=Z,100nm,20.0s
MAW Mawson 73.17 193 LR LR 04 33 40.6
comp=Z,233nm,19.3s,baz=280,slow=30
KLMR Klimovskoe 73.19 334 *e*P **P** **04 08 01.2 -1.3**
KLMR pmax pmax
comp=Z,17nm,1.5s
SEY Seymchan 73.37 23⇑*i*P **P** **04 08 03.5 0.0**
AKASG Malin Array Be 74.72 322 P **P** **04 08 10.7 -0.9**
AKASG Malin Array Be 74.72 322 P **P** **04 08 10.7 -0.9**
AKASG Malin Array Be 74.72 322 P **P** **04 08 10.7 -0.9**
comp=Z,3.3nm,0.8s,baz=91,slow=4.8,SNR=8.5
BOSA Boshof 74.85 240 LR LR 04 39 53.8
comp=Z,206nm,18.4s,baz=260,slow=35
VRI Vrincioaia 75.09 317⇑P **P** **04 08 15.6 +1.6**
VRI Vrincioaia 75.09 317⇑*i*P **P** **04 08 15.6 +1.6**
PLOR Plostina 75.14 317⇓P **P** **04 08 15.7 +1.4**
PLOR Plostina 75.14 317⇓*i*P **P** **04 08 15.7 +1.4**
MLR Muntele Rosu 75.55 317 P **P** **04 08 16.4 -0.4**
MLR Muntele Rosu 75.55 317⇓*i*P **P** **04 08 17.7 +1.0**
MLR Muntele Rosu 75.55 317 P **P** **04 08 16.4 -0.4**
comp=Z,1.9nm,1.0s,baz=8.1,slow=7.1
BURAR Bucovina Array 76.50 319⇓*i*P **P** **04 08 23.6 +1.5**
BUR08 Bucovina Ar. S 76.51 319 *e*P **P** **04 08 23.1 +0.9**
VTS Vitosha 76.92 313⇓P **P** **04 08 24.7 +0.1**
VTS Vitosha 76.92 313⇓*i*P **P** **04 08 24.7 +0.1**
JOF Joensuu 77.59 335 *e*P **P** **04 08 27.4 -0.3**
JOF pmax pmax
comp=Z,3.0nm,0.9s
JOF Joensuu 77.59 335 *ep* **P** **04 08 27.4 -0.3**
comp=Z,3.1nm,0.9s
LVV L'vov 77.73 321 *e*P **P** **04 08 29.5 +0.7**
DRGR 78.01 317⇓P **P** **04 08 31.5 +1.0**
DRGR 78.01 317⇓*i*P **P** **04 08 31.5 +1.0**
KWP Kalwaria Pacla 78.54 320 *e*P **P** **04 08 34.4 +1.1**
KWP Kalwaria Pacla 78.54 320 *e*P **P** **04 08 34.4 +1.1**
KWP Kalwaria Pacla 78.54 320⇓P **P** **04 08 34.6 +1.3**
KWP Kalwaria Pacla 78.54 320⇓*i*P **P** **04 08 34.6 +1.3**
KOLS Kolonicke sedl 78.69 320 *e*P **P** **04 08 35.5 +1.4**
KOLS pmax pmax
comp=Z,8.0nm,1.0s
KOLS Kolonicke sedl 78.69 320 *e*P **P** **04 08 35.5 +1.4**
SUW Suwalki 79.13 325 *e*P **P** **04 08 36.7 +0.3**
SUW Suwalki 79.13 325 *e*P **P** **04 08 36.7 +0.3**
SUW Suwalki 79.13 325 *e*P **P** **04 08 36.7 +0.3**
SUW Suwalki 79.13 325 *e*P **P** **04 08 36.6 +0.2**
comp=Z,45nm,1.1s
CRVS Cervenica-Dubn 79.21 319 *e*P **P** **04 08 39.2 +2.2**
CRVS pmax pmax
comp=Z,13nm,1.6s
CRVS Cervenica-Dubn 79.21 319 *e*P **P** **04 08 39.2 +2.2**
FINES FINESS Array B 79.44 332 P **P** **04 08 38.1 +0.1**
FINES FINESS Array B 79.44 332 P **P** **04 08 38.1 +0.1**
comp=Z,6.9nm,0.9s,baz=83,slow=4.8,SNR=13
KAF Kangasniemi 79.53 333 *e*P **P** **04 08 36.4 -2.0**
KAF pmax pmax
comp=Z,5.0nm,0.8s
KAF Kangasniemi 79.53 333 *ep* **P** **04 08 36.4 -2.0**
comp=Z,4.7nm,0.8s
PSZ Piszkesteto 80.08 318⇓P **P** **04 08 42.2 +0.3**
PSZ Piszkesteto 80.08 318 *e*P **P** **04 08 42.1 +0.3**
comp=Z,6.7nm,0.8s
PSZ Piszkesteto 80.08 318⇓*i*P **P** **04 08 42.2 +0.3**
OJC Ojcow 80.49 321 *e*P **P** **04 08 44.0 +0.1**
OJC Ojcow 80.49 321 *e*P **P** **04 08 44.6 +0.7**
OJC pmax pmax
comp=Z,5.0nm,0.8s
OJC Ojcow 80.49 321 *e*P **P** **04 08 44.6 +0.7**
comp=Z,4.9nm,0.8s
TSUM Tsumeb 80.56 250 *e*P **P** **04 08 46.8 +1.7**
comp=Z,4.7nm,1.0s
PKSM Moragy 80.70 316⇑P **P** **04 08 45.5 +0.4**
PKSM Moragy 80.70 316⇑*i*P **P** **04 08 45.5 +0.4**
BILL Bilibino 80.76 21⇑*e*P **P** **04 08 44.9 0.0**
BILL *es* **S** **04 18 49.6 +0.1**
BILL pmax pmax
comp=Z,5.0nm,1.6s
BILL MLR MLR
comp=Z,400nm,17.0s
VYHS Vyhne 80.86 319 *e*P **P** **04 08 45.8 -0.2**
VYHS pmax pmax
comp=Z,223nm,5.1s
VYHS Vyhne 80.86 319 *e*P **P** **04 08 45.8 -0.2**
OKC Ostrava-Krasne 81.49 320 *e*P **P** **04 08 49.7 +0.5**
OKC *e* 04 08 58.4
OKC Ostrava-Krasne 81.49 320 *e*P **P** **04 08 49.7 +0.5**
OKC *ep*P **PcP** **04 08 58.4 +3.3**
MORC Moravsky Berou 81.87 320⇓P **P** **04 08 51.6 +0.3**
MORC Moravsky Berou 81.87 320 *e*P **P** **04 08 51.2 -0.1**
comp=Z,5.5nm,1.0s
MORC Moravsky Berou 81.87 320⇓*i*P **P** **04 08 51.6 +0.3**
ARCES ARCESS Array B 81.98 340 P **P** **04 08 51.8 +0.4**
ARCES ARCESS Array B 81.98 340 P **P** **04 08 51.8 +0.4**
comp=Z,5.5nm,0.8s,baz=98,slow=5.5,SNR=25
ARCES LR LR 04 52 38.7
comp=Z,102nm,18.1s,baz=347,slow=41
DPC Dobruska-Polom 82.72 320 *e*P **P** **04 08 56.7 +1.0**
DPC *e* 04 09 05.0
DPC Dobruska-Polom 82.72 320 *e*P **P** **04 08 56.7 +1.0**
DPC *ep*P **pP** **04 09 05.0 -3.4**
UPC Upice 82.93 321 *e*P **P** **04 08 58.3 +1.5**
UPC Upice 82.93 321 *e*P **P** **04 08 58.3 +1.5**
PRU Pruhonice 83.82 320 *e*P **P** **04 09 02.0 +0.6**
PRU Pruhonice 83.82 320 *e*P **P** **04 09 02.0 +0.6**
PVCC Panska Ves 83.85 320 *e*P **P** **04 09 01.9 +0.4**
PVCC Panska Ves 83.85 320 *e*P **P** **04 09 01.9 +0.4**
BRG Berggiesshubel 84.27 321 *e*P **P** **04 09 03.9 +0.3**
comp=Z,4.0nm,1.0s
GEC2 GERESS Array S 84.28 319 *e*P **P** **04 09 04.5 +0.6**
comp=Z,9.0nm,1.1s
GEC2 GERESS Array S 84.28 319 *e*P **P** **04 09 04.5 +0.6**
GEC2 pmax pmax
comp=Z,9.0nm,1.1s
GERES GERESS Array B 84.28 319 P **P** **04 09 04.7 +0.8**
GERES GERESS Array B 84.28 319 P **P** **04 09 04.7 +0.8**
comp=Z,5.4nm,1.0s,baz=115,slow=3.7,SNR=31
KHC Kasperske Hory 84.39 319 *e*P **P** **04 09 04.7 +0.4**
KHC *e* 04 09 13.4
KHC Kasperske Hory 84.39 319 *e*P **P** **04 09 04.7 +0.4**
KHC *ep*P **pP** **04 09 13.4 -3.6**
WET Wettzell 84.84 319 *e*P **P** **04 09 07.1 +0.5**
comp=Z,5.0nm,1.0s
WET Wettzell 84.84 319 *e*P **P** **04 09 07.1 +0.5**
WET pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 84.90 321 *e*P **P** **04 09 07.0 +0.3**
CLL *es* **S** **04 19 34.0 +1.8**
CLL pmax pmax
comp=Z,5.0nm,1.1s
CLL Collm 84.90 321 *e*P **P** **04 09 07.0 +0.3**
comp=Z,5.0nm,1.1s
CLL *es* **S** **04 19 34.0 +1.8**
CLL *e*PPS PPS 04 21 12.0
CLL *e* 04 26 06.0
CLL *e*SSS SSS 04 28 30.0
CLL *e*SSSS 04 32 00.0
CLL LmV 04 54 00.0
comp=Z,100nm,18.6s
NKC Novy Kostel 85.19 320 *e*P **P** **04 09 08.9 +0.6**
NKC Novy Kostel 85.19 320 *e*P **P** **04 09 08.9 +0.6**
ROTZ Rotzenmuhle 85.32 320 *e*P **P** **04 09 09.8 +0.9**
comp=Z,5.0nm,1.0s
GRF Grafenberg Arr 85.95 320 *e*P **P** **04 09 12.7 +0.6**
comp=Z,12nm,1.3s
GRF Grafenberg Arr 85.95 320 *e*P **P** **04 09 12.7 +0.6**
GRF pmax pmax
comp=Z,12nm,1.3s
NB2 NORSAR Subarra 86.45 331 P **P** **04 09 14.2 -0.1**
comp=Z,1.6nm,0.8s,baz=95,slow=4.8
NOA NORSAR Array B 86.45 331 P **P** **04 09 14.4 +0.1**
NOA NORSAR Array B 86.45 331 P **P** **04 09 14.4 +0.1**
comp=Z,3.4nm,0.9s,baz=93,slow=5.0,SNR=9.1
NOA LR LR 04 50 09.5
comp=Z,61nm,18.2s,baz=170,slow=37
CLZ Clausthal 86.56 322 *e*P **P** **04 09 16.0 +0.9**
comp=Z,5.0nm,1.0s
CLZ Clausthal 86.56 322 *e*P **P** **04 09 16.0 +0.9**
CLZ pmax pmax
comp=Z,5.0nm,1.0s
BSEG Bad Segeberg 86.65 324 *e*P **P** **04 09 16.7 +1.3**
comp=Z,24nm,1.2s
BSEG Bad Segeberg 86.65 324 *e*P **P** **04 09 16.7 +1.3**

BSEG				pmax		pmax			
	comp=Z,24nm,1.2s								
DAVOX	**Davos/Dischmat**	**86.77**	**317**	P		**P**	**04 09 16.9**	**+0.5**	
DAVOX	**Davos/Dischmat**	**86.77**	**317**	P		**P**	**04 09 16.9**	**+0.5**	
	comp=Z,5.5nm,0.9s,baz=53,slow=5.1								
PGF	**Pioggiola**	**87.36**	**312**	*eP*		**P**	**04 09 20.0**	**+0.7**	
	comp=Z,40nm,1.0s								
PGF	**Pioggiola**	**87.36**	**312**	*eP*		**P**	**04 09 20.0**	**+0.7**	
PGF	**Pioggiola**	**87.36**	**312**	*eP*		**P**	**04 09 20.0**	**+0.7**	
IBBN	**Ibbenburen**	**88.18**	**322**	*eP*		**P**	**04 09 23.7**	**+0.9**	
	comp=Z,13nm,1.0s								
BUG	**Bochum--Univer**	**88.49**	**321**	*eP*		**P**	**04 09 25.4**	**+1.1**	
	comp=Z,12nm,1.0s								
LPG	**La Plagne**	**88.95**	**315**	*eP*		**P**	**04 09 27.5**	**+0.5**	
LPG	**La Plagne**	**88.95**	**315**	*eP*		**P**	**04 09 27.5**	**+0.5**	
LPG	**La Plagne**	**88.95**	**315**	*eP*		**P**	**04 09 27.5**	**+0.5**	
LPL	**La Plagne**	**88.96**	**315**	*eP*		**P**	**04 09 27.6**	**+0.6**	
	comp=Z,27nm,1.2s								
LPL	**La Plagne**	**88.96**	**315**	*eP*		**P**	**04 09 27.6**	**+0.6**	
LPL	**La Plagne**	**88.96**	**315**	*eP*		**P**	**04 09 27.6**	**+0.6**	
SFTF	**Sexfontaines**	**90.03**	**318**	*eP*		**P**	**04 09 32.2**	**+0.6**	
	comp=Z,16nm,1.0s								
SFTF	**Sexfontaines**	**90.03**	**318**	*eP*		**P**	**04 09 32.2**	**+0.6**	
VIVF	**Saint-Julien-l**	**90.44**	**315**	*eP*		**P**	**04 09 34.5**	**+0.8**	
	comp=Z,12nm,1.0s								
VIVF	**Saint-Julien-l**	**90.44**	**315**	*eP*		**P**	**04 09 34.5**	**+0.8**	
VIVF	**Saint-Julien-l**	**90.44**	**315**	*eP*		**P**	**04 09 34.5**	**+0.8**	
BAIF	**Baives**	**90.48**	**320**	*eP*		**P**	**04 09 34.8**	**+1.2**	
	comp=Z,25nm,1.1s								
BAIF	**Baives**	**90.48**	**320**	*eP*		**P**	**04 09 34.8**	**+1.2**	
BAIF	**Baives**	**90.48**	**320**	*eP*		**P**	**04 09 34.8**	**+1.2**	
LOR	**Lormes**	**90.88**	**317**	*eP*		**P**	**04 09 36.3**	**+0.7**	
	comp=Z,16nm,1.2s								
LOR	**Lormes**	**90.88**	**317**	*eP*		**P**	**04 09 36.3**	**+0.7**	
BGF	**Bois d'Agland**	**91.62**	**316**	*eP*		**P**	**04 09 40.0**	**+1.0**	
BGF	**Bois d'Agland**	**91.62**	**316**	*eP*		**P**	**04 09 40.0**	**+1.0**	
BGF	**Bois d'Agland**	**91.62**	**316**	*eP*		**P**	**04 09 40.0**	**+1.0**	
TORD	**Torodi Ar. Bea**	**94.77**	**283**	LR		LR	04 51 56.8		
	comp=Z,113nm,18.3s,baz=140,slow=35								
ILAR	**Eielson Array**	**99.31**	**23**	PP		PP	04 14 16.0	-0.6	
ILAR	**Eielson Array**	**99.31**	**23**	PP		PP	04 14 16.0	-0.6	
	comp=Z,0.4nm,0.8s,baz=273,slow=5.5,SNR=4.1								
EVO	**Evora**	**100.63**	**310**	*eP*		**Pdif**	**04 10 21.4**	**+1.3**	
	comp=Z,31nm,1.5s								
EVOP	**Sao Brissos**	**100.71**	**310**	*eP*		**Pdif**	**04 10 21.4**	**+0.9**	
EVOP	**Sao Brissos**	**100.71**	**310**	*eP*		**Pdif**	**04 10 21.4**	**+0.9**	
YKA	**Yellowknife Ar**	**111.65**	**15**	PP		PP	04 15 48.6	+1.1	
YKA	**Yellowknife Ar**	**111.65**	**15**	PP		PP	04 15 48.6	+1.1	
	comp=Z,1.9nm,1.0s,baz=329,slow=7.1,SNR=12								
ULM	**Lac du Bonnet**	**127.07**	**10**	PKP		**PKPdf**	**04 15 35.4**	**-0.6**	
ULM	**Lac du Bonnet**	**127.07**	**10**	PKP		**PKPdf**	**04 15 35.4**	**-0.6**	
	comp=Z,1.7nm,0.7s,baz=220,slow=2.8,SNR=5.0								
TXAR	**Lajitas Array**	**143.34**	**31**	PKP		PKPbc	04 16 04.9	+0.8	
TXAR	**Lajitas Array**	**143.34**	**31**	PKP		PKPbc	04 16 04.9	+0.8	
	comp=Z,1.4nm,1.1s,baz=256,slow=3.6,SNR=5.4								
JCT	**Junction City**	**144.20**	**25**	*e*PKIKP		PKPbc	04 16 06.8	+0.3	
JCT	**Junction City**	**144.20**	**25**	*e*PKPdf		PKPbc	04 16 06.8	+0.3	
CPUP	**Villa Florida**	**145.24**	**223**	PKPbc		**PKPdf**	**04 16 10.6**	**+0.4**	
CPUP	**Villa Florida**	**145.24**	**223**	PKPbc		**PKPdf**	**04 16 10.6**	**+0.4**	
	comp=Z,3.3nm,0.7s,baz=95,slow=4.1,SNR=14								
HKT	**Hockley**	**146.21**	**20**	*e*PKP2		**PKPbc**	**04 16 12.6**	**-0.1**	
HKT	**Hockley**	**146.21**	**20**	*e*PKPbc		**PKPbc**	**04 16 12.6**	**-0.1**	

CSEM ***15*** *04:06:25.7, 42.36N×13.36E, h10km, MD1.9/10, After ROM*

ROM 15 04:06:25.7±0.1, 42.36N×13.36E, h10km±1km, Md1.9/10, Ml1.7/6, 6C-2D, Error ellipse: s-maj=1.7km s-min=1.7km az=1.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AQU	**L'Aquila**	**0.04**	**97**	⇓*i*	Pg	Pg	04 06 28.0	+0.4
AQU					Sg	Sg	04 06 29.3	+0.3
	530nm,0.2s							
AQU	**L'Aquila**	**0.04**	**97**	⇓*i*	Pg	Pg	04 06 28.0	+0.4
AQU					Sg	Sg	04 06 29.3	+0.3
	530nm,0.2s							
CAMP	**Campotosto**	**0.18**	**13**	⇑*i*	Pg	Pg	04 06 30.3	+0.5
CAMP					Sg	Sg	04 06 33.4	+0.8
	23nm,0.5s							
CAMP	**Campotosto**	**0.18**	**13**	⇑*i*	Pg	Pg	04 06 30.3	+0.5
CAMP					Sg	Sg	04 06 33.4	+0.8
	23nm,0.5s							
FAGN	**Fagnano**	**0.19**	**118**		Pg	Pg	04 06 30.4	+0.5
FAGN					Sg	Sg	04 06 33.8	+1.1
	509nm,0.3s							
FAGN	**Fagnano**	**0.19**	**118**		Pg	Pg	04 06 30.4	+0.5
FAGN					Sg	Sg	04 06 33.8	+1.1
	509nm,0.3s							
FIAM	**Fiamignano**	**0.20**	**243**	⇑*i*	Pg	Pg	04 06 30.7	+0.7
FIAM					Sg	Sg	04 06 34.1	+1.2
	65nm,0.4s							
FIAM	**Fiamignano**	**0.20**	**243**	⇑*i*	Pg	Pg	04 06 30.7	+0.7
FIAM					Sg	Sg	04 06 34.1	+1.2
	65nm,0.4s							
TERO	**Teramo**	**0.32**	**35**		Pg	Pg	04 06 32.2	0.0
TERO					Sg	Sg	04 06 37.2	+0.6
	140nm,1.0s							
TERO	**Teramo**	**0.32**	**35**		Pg	Pg	04 06 32.2	0.0
TERO					Sg	Sg	04 06 37.2	+0.6
	140nm,1.0s							
LNSS	**Leonessa**	**0.34**	**317**		Pg	Pg	04 06 33.3	+0.7
LNSS	**Leonessa**	**0.34**	**317**		Pg	Pg	04 06 33.3	+0.7
PTQR	**Pietraquaria**	**0.34**	**174**	⇑*i*	Pg	Pg	04 06 32.6	+0.1
	5.0nm,0.2s							
PTQR	**Pietraquaria**	**0.34**	**174**	⇑*i*	Pg	Pg	04 06 32.6	+0.1
	5.0nm,0.2s							
VCEL	**Villa Celiera**	**0.36**	**84**		Pg	Pb	04 06 34.2	-0.2
VCEL					Sg	Sb	04 06 40.1	-0.2
	183nm,0.6s							
VCEL	**Villa Celiera**	**0.36**	**84**		Pg	Pb	04 06 34.2	-0.2
VCEL					Sg	Sb	04 06 40.1	-0.2
	183nm,0.6s							
NRCA	**Norcia**	**0.51**	**340**		Pg	Pg	04 06 35.8	+0.1
NRCA					Sg	Sb	04 06 44.0	-0.5
NRCA	**Norcia**	**0.51**	**340**		Pg	Pg	04 06 35.8	+0.1
NRCA					Sg	Sb	04 06 44.0	-0.5
SDI	**San Donato**	**0.73**	**152**		Pg	Pg	04 06 39.4	-0.5
	5.0nm,0.2s							
SDI	**San Donato**	**0.73**	**152**		Pg	Pg	04 06 39.4	-0.5
	5.0nm,0.2s							

IDC 15 04:07:36.8±0.9, 3.23N×127.90E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.9/21, mbtmp3.9/10, MS3.9/1, Ms1 3.9/1, ms1mx2.8/35, Error ellipse: s-maj=75.4km s-min=14.9km az=74.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.31**	**186**	P		P	04 12 26.2	+0.9
	1.0nm,0.5s,baz=13,slow=18,SNR=3.2							
WRA	**Warramunga Arr**	**23.88**	**165**	P		P	04 12 52.1	-0.1
	2.2nm,0.7s,baz=344,slow=10,SNR=20							
ASAR	**Alice Springs**	**27.36**	**168**	P		P	04 13 24.1	+0.2
	0.2nm,0.5s,baz=351,slow=7.5,SNR=5.7							
KSRS	**Korea Array**	**34.06**	**0**	P		P	04 14 24.0	+1.1
	1.4nm,0.7s,baz=182,slow=11,SNR=4.3							
STKA	**Stephens Creek**	**37.26**	**161**	P		P	04 14 50.0	-0.5
	1.1nm,0.4s,baz=354,slow=9.1,SNR=4.5							
ASAJ	**Asahikawa**	**42.75**	**16**	LR		LR	04 30 54.8	
	comp=Z,158nm,20.9s,baz=8.4,slow=33							
SONM	**Songino Array**	**48.15**	**341**	P		P	04 16 19.2	+0.2
	0.6nm,0.7s,baz=154,slow=7.2,SNR=7.2							
MKAR	**Makanchi Array**	**58.63**	**325**	P		P	04 17 36.2	+0.3
	2.3nm,0.6s,baz=117,slow=8.4,SNR=59							
ZALV	**Zalesovo Beam**	**61.57**	**333**	P		P	04 17 55.2	-0.6
	0.4nm,0.4s,baz=98,slow=6.1,SNR=4.1							
BVAR	**Borovoye Array**	**68.38**	**327**	P		P	04 18 40.1	-0.1
	0.8nm,0.5s,baz=125,slow=5.0,SNR=6.1							
ARCES	**ARCESS Array B**	**91.32**	**340**	P		P	04 20 42.1	-2.1
	2.9nm,1.0s,baz=54,slow=9.1,SNR=3.7							

IDC 15 04:11:40.0±1.1, 3.39N×126.74E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.7/22, mbtmp3.7/7, MS2.7/1, Ms1 2.7/1, ms1mx2.2/35, Error ellipse: s-maj=94.5km s-min=17.1km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**3.84**	**342**	LR		LR	04 14 15.7	
	comp=Z,102nm,18.6s,baz=202,slow=41							
FITZ	**Fitzroy Crossi**	**21.38**	**183**	P		P	04 16 30.6	+1.3
	0.8nm,0.6s,baz=48,slow=14,SNR=2.3							
WRA	**Warramunga Arr**	**24.35**	**162**	P		P	04 17 00.6	+0.7
	5.4nm,0.8s,baz=340,slow=10,SNR=15							
ASAR	**Alice Springs**	**27.78**	**166**	P		P	04 17 30.9	0.0
	0.2nm,0.4s,baz=332,slow=6.1,SNR=6.2							
STKA	**Stephens Creek**	**37.80**	**159**	P		P	04 18 56.9	-1.4
	1.4nm,0.7s,baz=315,slow=4.3,SNR=3.3							
SONM	**Songino Array**	**47.63**	**342**	P		P	04 20 17.9	-0.1
	0.4nm,0.5s,baz=156,slow=8.7,SNR=3.5							
BVAR	**Borovoye Array**	**67.61**	**327**	P		P	04 22 38.8	+0.3
	1.1nm,0.7s,baz=120,slow=10,SNR=5.0							
AKTO	**Aktyubinsk**	**73.94**	**322**	P		P	04 23 16.7	-0.4
	1.1nm,0.7s,baz=92,slow=8.2,SNR=4.8							

IDC ***15*** *04:12:32.6±1.4, 1.86N×94.52E, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.8/24, mbtmp3.9/8, ML4.0/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/36, Error ellipse: s-maj=44.7km s-min=19.8km az=53.0*

ISCJB ***15*** *04:12:35.2±0.8, 2.09N±0.06×94.74E±0.06, h20km, mb3.9/6, Error ellipse: s-maj=11.0km s-min=6.3km az=43.1*

DJA ***15*** *04:12:42.1±1.1, 2.1N±5°×9.5E±°, h39km, M4.5/7, mb4.8/3, mB4.7/2, MLv4.3/7, Mw(mB)3.9/2*

ISC 15 04:12:36.7±1.1, 2.09N±0.08×94.70E±0.09, h20km, n18, σ1§10/21, mb3.9/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TPTI		**2.73**	**65**	P		**Pn**	**04 13 19.5**	**0.0**
GSI	**Gunungsitoli**	**2.98**	**105**	P		**Pn**	**04 13 22.9**	**0.0**
GSI				S		**Sn**	**04 13 55.8**	**-2.2**
BSI	**Banda Aceh**	**3.43**	**10**	P		**Pn**	**04 13 28.2**	**-0.9**
BSI				S		**Sn**	**04 14 08.3**	**-1.0**
TSI	**Tuntungan**	**4.11**	**70**	P		**Pb**	**04 13 48.0**	**-0.3**
PSI	**Prapat**	**4.28**	**80**	P		**Pn**	**04 13 41.7**	**+0.8**
PSI	**Prapat**	**4.28**	**80**	Pn		**Pn**	**04 13 41.5**	**+0.7**
	7.0nm,0.3s,baz=271,slow=6.7,SNR=16							
PSI					Sn	**Sn**	**04 14 30.4**	**+0.1**
	4.3nm,0.3s,baz=343,slow=10,SNR=6.0							
PSI					LR	LR	04 15 29.2	
	comp=Z,364nm,21.6s,baz=269,slow=39							
MNSI	**Mandailing Nat**	**5.04**	**105**	P		**Pn**	**04 13 52.1**	**+0.8**
MNSI				S		**Sn**	**04 14 47.8**	**-1.2**
KULM	**Kulim**	**6.73**	**62**	P		**Pn**	**04 14 15.2**	**+0.7**
	54nm,0.9s,576nm0.2nm							
IPM	**Ipoh**	**6.75**	**69**	P		**Pn**	**04 14 15.5**	**+0.8**
	31nm,0.8s,469nm0.1nm							
KRJI	**Kerinci**	**7.94**	**122**	P		Pn	04 14 42.4	+11
KSI	**Kapahiang**	**9.74**	**126**	P		**Pn**	**04 14 57.7**	**+1.9**
CMAR	**Chiang Mai Arr**	**16.79**	**14**	P		**Pn**	**04 16 31.6**	**+0.8**
	0.2nm,0.3s,baz=209,slow=12,SNR=32							
WRA	**Warramunga Arr**	**44.63**	**121**	P		**P**	**04 20 47.3**	**-0.9**
	0.9nm,0.6s,baz=300,slow=8.8,SNR=8.3							
MKAR	**Makanchi Array**	**45.82**	**348**	P		**P**	**04 20 57.9**	**+0.6**
	1.6nm,0.5s,baz=171,slow=9.0,SNR=21							
ASAR	**Alice Springs**	**45.93**	**126**	P		**P**	**04 20 57.8**	**-0.8**
	0.8nm,0.6s,baz=295,slow=7.7,SNR=14							
SONM	**Songino Array**	**46.68**	**11**	P		**P**	**04 21 05.0**	**+0.9**
	0.9nm,0.6s,baz=191,slow=8.8,SNR=9.8							
ZALV	**Zalesovo Beam**	**52.32**	**353**	P		**P**	**04 21 48.4**	**+1.4**
	0.8nm,0.4s,baz=178,slow=6.6,SNR=5.5							
GERES	**GERESS Array B**	**82.50**	**319**	P		**P**	**04 24 57.1**	**-1.1**
	0.3nm,0.8s,baz=136,slow=6.3,SNR=2.6							

IDC 15 04:21:44.5±1.4, 4.00N×126.22E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, Error ellipse: s-maj=167.4km s-min=18.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.09**	**162**	P		P	04 27 09.8	-1.2
	0.6nm,0.6s,baz=339,slow=10,SNR=8.3							
ASAR	**Alice Springs**	**28.50**	**165**	P		P	04 27 42.5	+0.7
	0.2nm,0.7s,baz=344,slow=12,SNR=3.1							
STKA	**Stephens Creek**	**38.56**	**159**	P		P	04 29 09.3	+0.3
	1.3nm,0.7s,baz=348,slow=8.2,SNR=3.1							
MKAR	**Makanchi Array**	**57.05**	**325**	P		P	04 31 34.1	+1.8
	0.3nm,0.4s,baz=120,slow=7.4,SNR=11							
ZALV	**Zalesovo Beam**	**60.12**	**333**	P		P	04 31 51.7	-1.9
	0.5nm,0.4s,baz=122,slow=5.2,SNR=3.7							

IDC ***15*** *04:27:20.7±0.6, 3.62N×126.39E, h0km, mb4.1/14, mb1 4.3/14, mb1mx4.2/20, mbtmp4.1/14, Error ellipse: s-maj=41.1km s-min=13.3km az=76.0*

NEIC ***15*** *04:27:25.9±0.2, 3.60N×126.58E, h35km, mb4.4/15, Error ellipse: s-maj=10.7km s-min=4.6km az=64.0*

ISCJB ***15*** *04:27:26.2±0.3, 3.77N±0.03×126.86E±0.06, h53km, mb4.3/28, Error ellipse: s-maj=9.1km s-min=4.7km az=169.2*

DJA ***15*** *04:27:29.6±1.3, 4°N±9°×12°7E±°, h65km, M4.7/3, mb4.9/1, MLv4.5/3*

ISC 15 04:27:28.0±0.4, 3.72N±0.05×126.76E±0.08, h53km, n54, σ1§20/60, mb4.3/28, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MNI	**Manado**	**2.96**	**220**	P		**Pn**	**04 28 13.8**	**+1.2**
MNI				S		**Sn**	**04 28 50.2**	**+3.3**
TNTI	**Ternate**	**2.99**	**168**	P		**Pn**	**04 28 13.6**	**+0.6**
TNTI				S		**Sn**	**04 28 49.4**	**+1.8**
CTBH	**Cotabato--PC H**	**4.29**	**324**	⇑*e*P		**Pn**	**04 28 31.6**	**+0.8**
LBMI	**Labuha**	**4.39**	**170**	P		**Pn**	**04 28 32.7**	**+0.5**
BUKP	**Musuan**	**4.47**	**338**	*e*P		**Pn**	**04 28 34.4**	**+1.1**
BUKP				*e*S		Px	04 28 50.9	
MRSI	**Marisa**	**5.79**	**236**	P		**Pn**	**04 28 53.3**	**+1.9**
KSM	**Kuching**	**16.58**	**263**	*e*Pn		**Pn**	**04 31 13.2**	**-3.9**
SSLB	**Suanglung**	**20.73**	**345**	*e*P		**P**	**04 32 03.9**	**-0.4**
	7.2nm,0.7s							
FITZ	**Fitzroy Crossi**	**21.71**	**183**	P		**P**	**04 32 12.8**	**-2.0**
FITZ	**Fitzroy Crossi**	**21.71**	**183**	P		**P**	**04 32 12.8**	**-2.0**
	2.6nm,0.6s,baz=18,slow=6.9,SNR=7.4							
COEN	**Coen**	**23.95**	**137**	*e*P		**P**	**04 32 36.2**	**-1.4**
PMG	**Port Moresby**	**24.15**	**123**	*e*P		**P**	**04 32 40.8**	**+1.4**
	5.1nm,0.8s							
WRAB	**Tennant Creek**	**24.66**	**163**	*e*P		**P**	**04 32 43.1**	**-0.9**
	17nm,0.6s							
WRA	**Warramunga Arr**	**24.66**	**163**	P		**P**	**04 32 43.0**	**-1.0**
WRA	**Warramunga Arr**	**24.66**	**163**	P		**P**	**04 32 43.0**	**-1.0**
	16nm,0.5s,baz=344,slow=10,SNR=138							
AS31	**Alice Springs**	**28.09**	**166**	*e*P		**P**	**04 33 14.6**	**-0.4**
ASAR	**Alice Springs**	**28.09**	**166**	P		**P**	**04 33 14.4**	**-0.5**
ASAR				PcP		**PcP**	**04 36 29.2**	**+0.7**
ASAR	**Alice Springs**	**28.09**	**166**	P		**P**	**04 33 14.4**	**-0.5**
	1.3nm,0.3s,baz=346,slow=12,SNR=30							
ASAR				PcP		**PcP**	**04 36 29.2**	**+0.7**
	0.7nm,0.4s,baz=347,slow=1.9,SNR=6.9							
CTAO	**Charters Tower**	**30.44**	**142**	*e*P		**P**	**04 33 33.8**	**-2.0**
	7.5nm,1.2s							
KSAR	**Wonju Array Be**	**33.58**	**2**	P		**P**	**04 34 03.2**	**0.0**
KSRS	**Korea Array**	**33.59**	**2**	P		**P**	**04 34 03.2**	**-0.1**
	0.9nm,0.5s,baz=175,slow=9.8,SNR=3.3							
EIDS	**Eidsvold**	**37.32**	**142**	*e*P		**P**	**04 34 35.1**	**-0.3**
	3.7nm,0.7s							
BBOO	**Buckleboo**	**37.38**	**167**	*e*P		**P**	**04 34 35.4**	**-0.4**
BJT	**Baijiatuzi**	**37.39**	**347**	*e*P		**P**	**04 34 36.8**	**+1.0**
	16nm,0.7s							
STKA	**Stephens Creek**	**38.11**	**159**	P		**P**	**04 34 41.8**	**-0.2**
STKA				PcP		**PcP**	**04 36 57.1**	**+0.9**
STKA	**Stephens Creek**	**38.11**	**159**	P		**P**	**04 34 41.8**	**-0.2**
	7.9nm,0.6s,baz=329,slow=8.2,SNR=22							
STKA				PcP		**PcP**	**04 36 57.1**	**+0.9**
	1.3nm,0.5s,baz=313,slow=5.3,SNR=3.2							
DZM	**Mont Dzumac**	**46.51**	**125**	*e*P		**P**	**04 35 51.4**	**+0.8**
	11nm,1.1s							
ULN	**Ulaanbaatar**	**47.14**	**342**	*e*P		**P**	**04 35 55.5**	**+0.2**
	2.5nm,0.9s							
SONM	**Songino Array**	**47.32**	**341**	P		**P**	**04 35 57.1**	**+0.5**
SONM	**Songino Array**	**47.32**	**341**	P		**P**	**04 35 57.1**	**+0.5**
	0.5nm,0.3s,baz=164,slow=8.0,SNR=8.8							
PETK	**Petropavlovsk-**	**55.43**	**22**	P		**P**	**04 36 58.2**	**+1.2**
PETK	**Petropavlovsk-**	**55.43**	**22**	P		**P**	**04 36 58.2**	**+1.2**
	2.6nm,0.6s,baz=234,slow=4.6,SNR=4.0							
MK31	**Makanchi Array**	**57.58**	**325**	*e*P		**P**	**04 37 12.0**	**-0.5**
MKAR	**Makanchi Array**	**57.58**	**325**	P		**P**	**04 37 11.9**	**-0.6**
MKAR	**Makanchi Array**	**57.58**	**325**	P		**P**	**04 37 11.9**	**-0.6**
	1.4nm,0.5s,baz=120,slow=7.8,SNR=28							
TKM2	**Tokmak 2**	**59.77**	**319**	*e*P		**P**	**04 37 27.8**	**-0.3**
	1.3nm,0.7s							
AAK	**Ala-Archa**	**60.38**	**318**	*e*P		**P**	**04 37 32.7**	**+0.5**
	5.0nm,0.7s							
ZALV	**Zalesovo Beam**	**60.61**	**333**	P		**P**	**04 37 32.1**	**-1.1**
ZALV	**Zalesovo Beam**	**60.61**	**333**	P		**P**	**04 37 32.1**	**-1.1**
	0.4nm,0.4s,baz=101,slow=5.1,SNR=3.4							
EKS2	**Erkin-Say**	**60.88**	**318**	*e*P		**P**	**04 37 36.0**	**+0.5**
	1.6nm,0.7s							
KURK	**Kurchatov**	**61.77**	**327**	*e*P		**P**	**04 37 41.0**	**-0.1**
	2.9nm,0.4s							
KKAR	**Karatay Array**	**63.26**	**317**	*e*P		**P**	**04 37 51.1**	**-0.2**
	0.9nm,0.6s							
BRVK	**Borovoye**	**67.42**	**327**	*e*P		**P**	**04 38 18.1**	**+0.1**
	2.0nm,0.6s							
ABKAR	**Akbulak array**	**72.18**	**321**	*e*P		**P**	**04 38 47.9**	**+0.6**
	1.2nm,0.6s							
ILAR	**Eielson Array**	**85.11**	**25**	P		**P**	**04 39 59.9**	**+1.8**
ILAR	**Eielson Array**	**85.11**	**25**	P		**P**	**04 39 59.9**	**+1.8**
	0.5nm,0.9s,baz=246,slow=5.2,SNR=9.7							
BRTR	**Keskin Array B**	**90.05**	**310**	P		**P**	**04 40 21.2**	**-1.4**
BRTR	**Keskin Array B**	**90.05**	**310**	P		**P**	**04 40 21.2**	**-1.4**
	1.3nm,1.0s,baz=72,slow=0.4,SNR=4.6							
ARCES	**ARCESS Array B**	**90.47**	**340**	P		**P**	**04 40 23.1**	**-0.7**
ARCES	**ARCESS Array B**	**90.47**	**340**	P		**P**	**04 40 23.1**	**-0.7**
	3.0nm,1.0s,baz=72,slow=5.8,SNR=6.4							
FINES	**FINESS Array B**	**91.86**	**332**	P		**P**	**04 40 29.9**	**-0.3**
FINES	**FINESS Array B**	**91.86**	**332**	P		**P**	**04 40 29.9**	**-0.3**
	2.6nm,1.1s,baz=108,slow=4.5,SNR=3.2							
AKASG	**Malin Array Be**	**91.92**	**321**	P		**P**	**04 40 29.7**	**-1.1**
AKASG	**Malin Array Be**	**91.92**	**321**	P		**P**	**04 40 29.7**	**-1.1**
	0.9nm,0.6s,baz=72,slow=3.8,SNR=3.3							

BJI ***15*** *04:40:29.6, 3.52N×126.76E, h33km, mB5.1/31, mb5.0/53, Ms4.7/31, Ms7 4.3/31*

ISCJB ***15*** *04:40:32.9±0.2, 4.03N±0.02×126.81E±0.03, h33km, mb5.0/118, MS4.0/30, Error ellipse: s-maj=4.4km s-min=3.2km az=166.8*

IDC ***15*** *04:40:32.9±2.2, 3.97N×126.64E, h20km±13km, mb4.6/24, mb1 4.7/24, mb1mx4.7/25, mbtmp4.6/24, MS4.0/18, Ms1 4.0/18, ms1mx3.7/35, Error ellipse: s-maj=18.6km s-min=8.8km az=75.0*

NEIC ***15*** *04:40:33.2±1.9, 3.97N×126.71E, h24km±13km, mb5.1/56, Error ellipse: s-maj=6.7km s-min=3.8km az=74.0*

MOS ***15*** *04:40:33.1±1.0, 3.95N×126.66E, h33km, mb5.3/40, Error ellipse: s-maj=11.6km s-min=5.1km az=117.7*

TEH ***15*** *04:40:35.0, 4.09N×126.93E, h35km, ML5.0*

DJA ***15*** *04:40:40.3, 3.91N×126.76E, h51km, mb5.0/35*

ISC 15 04:40:34.7±0.4, 3.98N±0.03×126.78E±0.05, h34km±1km, n420, σ1§41/480, mb5.1/115, MS4.0/30, 22C-36D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GSPH	**General Santos**	**2.78**	**319**	‖*eP*		**Pn**	**04 41 18.4**	**+1.4**
MATI	**Mati**	**2.99**	**350**	*eP*		**Pb**	**04 41 25.1**	**-2.2**
MNI	**Manado**	**3.18**	**218**	P		**Pn**	**04 41 23.4**	**+0.9**
TNTI	**Ternate**	**3.24**	**170**	P		Pn	04 41 27.1	+3.8
DAV	**Davao City (W)**	**3.29**	**339**	Pn		Pb	04 41 28.8	-3.7
DAV						Sn	04 42 19.0	+6.8
DAV	**Davao City (W)**	**3.29**	**339**	Pn		Pb	04 41 28.3	-4.2
	SNR=14							
DAV	**Davao City (W)**	**3.29**	**339**	P		**Pb**	**04 41 30.7**	**-1.8**
DAV	**Davao City (W)**	**3.29**	**339**	Pn		Pb	04 41 28.8	-3.7
	61n

QIZ	**Qiongzhong**	**22.30**	**313**	P	**P**	**04 45 30.6**	**+1.1**
QIZ				sP	**sP**	**04 45 43.0**	**+0.2**
QIZ				S	**S**	**04 49 35.5**	**+2.5**
QIZ				sS	**sS**	**04 49 48.9**	**+1.0**
QIZ				pmax	pmax		
	comp=Z,26nm,1.4s						
QIZ				LR	LR		
	comp=N,200nm,18.1s						
QIZ				LR	LR		
	comp=Z,380nm,18.6s						
QIZ	**Qiongzhong**	**22.30**	**313**	*e*P	**P**	**04 45 30.1**	**+0.6**
	comp=Z,92nm,1.5s						
JOW	**Kunigami**	**22.77**	**3**	P	**P**	**04 45 34.7**	**+0.4**
JOW	**Kunigami**	**22.77**	**3**	P	**P**	**04 45 34.7**	**+0.4**
	comp=Z,15nm,0.8s,baz=128,slow=11,SNR=4.1						
MYKOM	**Kota Tinggi**	**23.01**	**265**	P	**P**	**04 45 37.5**	**+0.6**
MYKOM	**Kota Tinggi**	**23.01**	**265**	P	**P**	**04 45 39.6**	**+2.6**
	comp=Z,29nm,1.0s,comp=Z,448nm						
COEN	**Coen**	**24.13**	**138**	*e*P	**P**	**04 45 45.9**	**-1.8**
	comp=Z,54nm,0.8s						
COEN	**Coen**	**24.13**	**138**	*e*P	**P**	**04 45 45.8**	**-1.9**
	comp=Z,36nm,0.6s						
KASI	**Kota Agung**	**24.18**	**247**	P	**P**	**04 45 50.9**	**+2.7**
	comp=Z,91nm,1.2s						
PMG	**Port Moresby**	**24.27**	**123**	P	**P**	**04 45 46.9**	**-2.2**
PMG	**Port Moresby**	**24.27**	**123**	P	**P**	**04 45 46.9**	**-2.2**
	comp=Z,5.3nm,0.7s,baz=339,slow=6.8,SNR=3.8						
WRAB	**Tennant Creek**	**24.90**	**163**	*e*P	**P**	**04 45 54.1**	**-0.6**
WRAB				*e*S	**S**	**04 50 17.7**	**+1.7**
WRAB				pmax	pmax		
	comp=Z,28nm,0.6s						
WRAB	**Tennant Creek**	**24.90**	**163**	*e*P	**P**	**04 45 54.1**	**-0.6**
	comp=Z,28nm,0.6s						
WRAB				*e*S	**S**	**04 50 17.7**	**+1.7**
WRAB	**Tennant Creek**	**24.90**	**163**	P	**P**	**04 45 54.9**	**+0.2**
	comp=Z,292nm,0.7s,SNR=35						
WRA	**Warramunga Arr**	**24.91**	**163**	P	**P**	**04 45 54.2**	**-0.6**
WRA				S	**S**	**04 50 18.8**	**+2.7**
WRA				ScP	**ScP**	**04 53 07.3**	**+0.5**
WRA	**Warramunga Arr**	**24.91**	**163**	P	**P**	**04 45 54.2**	**-0.6**
	comp=Z,34nm,0.7s,baz=344,slow=11,SNR=123						
WRA				S	**S**	**04 50 18.8**	**+2.7**
	comp=Z,4.9nm,1.0s,baz=339,slow=18,SNR=4.7						
WRA				ScP	**ScP**	**04 53 07.3**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=341,slow=3.2,SNR=6.9						
FRIM	**Kepong**	**25.12**	**269**	P	**P**	**04 45 58.0**	**+1.2**
IPM	**Ipoh**	**25.69**	**272**	*e*P	**P**	**04 46 00.7**	**-1.4**
	comp=Z,36nm,1.1s						
IPM	**Ipoh**	**25.69**	**272**	P	**P**	**04 46 03.3**	**+1.2**
IPM	**Ipoh**	**25.69**	**272**	P	**P**	**04 46 04.8**	**+2.8**
	comp=Z,32nm,1.5s						
MBWA	**Marble Bar**	**25.93**	**195**	*e*P	**P**	**04 46 03.7**	**-0.3**
	comp=Z,41nm,1.0s						
KULM	**Kulim**	**26.08**	**274**	*e*P	**P**	**04 46 03.5**	**-2.0**
	comp=Z,47nm,1.3s						
KULM	**Kulim**	**26.08**	**274**	P	**P**	**04 46 06.6**	**+1.1**
KULM	**Kulim**	**26.08**	**274**	P	**P**	**04 46 08.4**	**+2.9**
	comp=Z,30nm,1.5s						
CBIJ	**Chichi jima**	**27.29**	**31**	P	**P**	**04 46 16.4**	**+0.1**
CBIJ	**Chichi jima**	**27.29**	**31**	P	**P**	**04 46 16.4**	**+0.1**
	comp=Z,78nm,0.7s,baz=255,slow=19,SNR=2.1						
MNSI	**Mandailing Nat**	**27.36**	**264**	P	**P**	**04 46 21.1**	**+4.0**
	comp=Z,54nm,1.0s						
PSI	**Prapat**	**27.84**	**268**	P	**P**	**04 46 20.9**	**-0.6**
PSI	**Prapat**	**27.84**	**268**	P	**P**	**04 46 23.7**	**+2.2**
	comp=Z,15nm,1.0s						
PSI	**Prapat**	**27.84**	**268**	P	**P**	**04 46 20.9**	**-0.6**
	comp=Z,7.4nm,0.6s,baz=79,slow=1.8,SNR=6.7						
PSI				LR	LR	04 58 10.9	
	comp=Z,260nm,21.5s,baz=252,slow=38						
AS31	**Alice Springs**	**28.34**	**166**	*e*P	**P**	**04 46 26.0**	**+0.2**
ASAR	**Alice Springs**	**28.34**	**166**	P	**P**	**04 46 25.6**	**-0.1**
ASAR				PcP	**PcP**	**04 49 39.1**	**+1.0**
ASAR				S	S	04 51 20.6	+10
ASAR	**Alice Springs**	**28.34**	**166**	P	**P**	**04 46 25.6**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=346,slow=6.7,SNR=25						
ASAR				PcP	**PcP**	**04 49 39.1**	**+1.0**
	comp=Z,3.1nm,0.9s,baz=339,slow=2.7,SNR=5.8						
ASAR				S	S	04 51 20.6	+10
	comp=Z,1.9nm,0.8s,baz=350,slow=17,SNR=5.4						
NJ2	**Nanjing**	**28.90**	**346**	*e*P	**P**	**04 46 32.6**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
WHN	**Wuhan**	**28.91**	**337**	*e*P	**P**	**04 46 31.5**	**+0.8**
JNU	**Nakatsue**	**29.24**	**7**	P	**P**	**04 46 33.9**	**+0.2**
JNU	**Nakatsue**	**29.24**	**7**	P	**P**	**04 46 33.9**	**+0.2**
	comp=Z,5.0nm,0.7s,baz=117,slow=2.3,SNR=2.8						
GSI	**Gunungsitoli**	**29.30**	**266**	P	**P**	**04 46 34.5**	**+0.2**
	comp=Z,30nm,0.9s						
GYA	**Guiyang**	**29.50**	**321**	P	**P**	**04 46 39.0**	**+2.8**
GYA				pP	**pP**	**04 46 48.3**	**+2.4**
GYA				PP	**PnPn**	**04 47 34.9**	**+3.6**
GYA				PcP	**PcP**	**04 49 42.5**	**+1.3**
GYA				S	**S**	**04 51 30.0**	**+1.2**
GYA				sS	**sS**	**04 51 47.3**	**+2.4**
GYA				ScS	**ScS**	**04 57 13.3**	**-2.3**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=N,570nm,17.6s						
GYA				LR	LR		
	comp=E,550nm,18.2s						
GYA				LR	LR		
	comp=Z,590nm,17.9s						
CTA	**Charters Tower**	**30.63**	**142**	P	**P**	**04 46 45.1**	**-0.9**
CTA	**Charters Tower**	**30.63**	**142**	P	**P**	**04 46 45.1**	**-0.9**
	comp=Z,2.8nm,0.7s,baz=308,slow=12,SNR=2.2						
CTAO	**Charters Tower**	**30.63**	**142**	*e*P	**P**	**04 46 44.7**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.5s						
CTAO	**Charters Tower**	**30.63**	**142**	*e*P	**P**	**04 46 44.6**	**-1.4**
	comp=Z,2.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**30.79**	**300**	P	**P**	**04 46 47.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**30.79**	**300**	P	**P**	**04 46 47.6**	**+0.1**
	comp=Z,8.1nm,0.8s,baz=113,slow=7.0,SNR=31						
CMAR				LR	LR	04 59 26.6	
	comp=Z,144nm,20.4s,baz=309,slow=37						
ENH	**Enshi**	**30.84**	**330**	*e*P	**P**	**04 46 46.9**	**-0.9**
	comp=Z,50nm,0.8s						
CHTO	**Chiang Mai**	**30.94**	**301**	*e*P	**P**	**04 46 48.4**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,16nm,0.9s						
CHTO	**Chiang Mai**	**30.94**	**301**	*e*P	**P**	**04 46 48.4**	**-0.4**
	comp=Z,16nm,0.9s						
CHTO	**Chiang Mai**	**30.94**	**301**	P	**P**	**04 46 48.7**	**-0.1**
	SNR=8.8						
CHTO	**Chiang Mai**	**30.94**	**301**	P	**P**	**04 46 45.9**	**-2.9**
KMI	**Kunming**	**31.24**	**315**	P	**P**	**04 46 51.3**	**-0.4**
KMI				pP	**pP**	**04 47 01.3**	**-0.1**
KMI				sP	**sP**	**04 47 03.9**	**-1.7**
KMI				S	**S**	**04 51 58.6**	**+2.3**
KMI				SS	**SnSn**	**04 53 44.1**	**+3.6**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,140nm,4.0s						
KMI				LR	LR		
	comp=N,160nm,23.3s						
KMI				LR	LR		
	comp=E,210nm,24.1s						
KMI				LR	LR		
	comp=Z,370nm,23.3s						
JHJ	**Hachijo jima 2**	**31.43**	**21**	LR	LR	04 59 39.4	
	comp=Z,352nm,18.4s,baz=44,slow=36						
KSAR	**Wonju Array Be**	**33.31**	**2**	P	**P**	**04 47 10.2**	**+0.8**
KSAR				PcP	**PcP**	**04 49 52.4**	**+1.4**
KSRS	**Korea Array**	**33.33**	**2**	P	**P**	**04 47 10.2**	**+0.7**
	comp=Z,3.9nm,0.7s,baz=178,slow=11,SNR=13						
KSRS				PcP	**PcP**	**04 49 52.4**	**+1.3**
	comp=Z,2.6nm,0.8s,baz=202,slow=2.7,SNR=6.2						
MAT	**Matsushiro**	**34.07**	**17**	P	**P**	**04 47 14.2**	**-1.8**
MJAR	**Matsushiro Arr**	**34.07**	**17**	P	**P**	**04 47 14.9**	**-1.1**
MJAR				PcP	**PcP**	**04 49 54.4**	**+1.2**
MJAR	**Matsushiro Arr**	**34.07**	**17**	P	**P**	**04 47 14.9**	**-1.1**
	comp=Z,1.9nm,0.7s,baz=186,slow=11,SNR=5.8						
MJAR				PcP	**PcP**	**04 49 54.4**	**+1.2**
	comp=Z,2.3nm,0.8s,baz=202,slow=4.1,SNR=4.5						
MJAR				LR	LR	04 59 14.8	
	comp=Z,128nm,20.1s,baz=185,slow=33						
XAN	**Xi'an**	**34.22**	**333**	P	**P**	**04 47 16.4**	**-1.0**
XAN				pP	**pP**	**04 47 26.0**	**-1.2**
XAN				pmax	pmax		
	comp=Z,22nm,0.8s						
XAN				pmax	pmax		
	comp=Z,17nm,4.6s						
XAN				LR	LR		
	comp=N,170nm,14.5s						
XAN				LR	LR		
	comp=E,55nm,17.6s						
XAN				LR	LR		
	comp=Z,96nm,16.2s						
CD2	**Chengdu**	**34.47**	**324**	P	**P**	**04 47 19.0**	**-0.6**
CD2				pP	**pP**	**04 47 28.5**	**-1.0**
CD2				sP	**sP**	**04 47 32.8**	**-0.8**
CD2				PP	**PnPn**	**04 48 35.3**	**0.0**
CD2				S	**S**	**04 52 44.1**	**-1.9**
CD2				sS	**sS**	**04 53 00.9**	**-1.4**
CD2				pmax	pmax		
	comp=Z,40nm,1.0s						
CD2				pmax	pmax		
	comp=Z,160nm,6.5s						
CD2				LR	LR		
	comp=N,330nm,9.5s						
CD2				LR	LR		
	comp=Z,340nm,19.6s						
FORT	**Forrest**	**34.59**	**178**	*e*P	**P**	**04 47 20.6**	**+0.1**
	comp=Z,31nm,0.8s						
FORT	**Forrest**	**34.59**	**178**	*e*P	**P**	**04 47 19.1**	**-1.4**
	comp=Z,16nm,0.5s						
BLDU	**Ballidu**	**35.73**	**195**	*e*P	**P**	**04 47 29.6**	**-0.7**
KLBR	**Kellerberrin**	**36.41**	**193**	*e*P	**P**	**04 47 35.5**	**-0.7**
	comp=Z,20nm,0.6s						
BJT	**Baijiatuao**	**37.13**	**346**	*e*P	**P**	**04 47 43.2**	**+0.9**
	comp=Z,33nm,0.6s						
BJI	**Beijing**	**37.16**	**346**	P	**P**	**04 47 42.4**	**0.0**
BJI				S	**S**	**04 53 29.8**	**+3.1**
BJI				SS	**SnSn**	**04 56 01.9**	**-1.3**
BJI				pmax	pmax		
	comp=Z,41nm,0.8s						
BJI				pmax	pmax		
	comp=Z,150nm,4.5s						
BJI				LR	LR		
	comp=N,200nm,4.9s						
BJI				LR	LR		
	comp=E,290nm,5.8s						
BJI				LR	LR		
	comp=Z,110nm,22.3s						
EIDS	**Eidsvold**	**37.52**	**142**	*e*P	**P**	**04 47 46.6**	**+0.9**
	comp=Z,21nm,0.8s						
EIDS	**Eidsvold**	**37.52**	**142**	*e*P	**P**	**04 47 45.2**	**-0.5**
	comp=Z,96nm,0.7s						
BBOO	**Buckleboo**	**37.63**	**167**	*e*P	**P**	**04 47 46.7**	**+0.1**
	comp=Z,271nm,0.7s						
IMP	**Imphal**	**37.76**	**306**	*e*PKP	**P**	**04 47 45.0**	**-2.9**
SNY	**Shenyang**	**37.79**	**356**	⇑P	**P**	**04 47 50.0**	**+2.2**
SNY				pmax	pmax		
	comp=Z,20nm,0.7s						
NWAO	**Narrogin (SRO)**	**37.81**	**193**	*e*P	**P**	**04 47 48.2**	**+0.1**
	comp=Z,32nm,0.9s						
LZH	**Lanzhou**	**38.31**	**329**	*e*P	**P**	**04 47 52.8**	**+0.3**
LZH				pP	**pP**	**04 48 03.3**	**+0.9**
LZH				sP	**sP**	**04 48 07.0**	**+0.5**
LZH				PP	**PnPn**	**04 49 25.0**	**+2.6**
LZH				*e*S	**S**	**04 53 45.0**	**+0.2**
LZH				sS	**sS**	**04 54 02.1**	**+0.9**
LZH				pmax	pmax		
	comp=Z,81nm,1.5s						
LZH				pmax	pmax		
	comp=Z,180nm,5.4s						
LZH				LR	LR		
	comp=N,490nm,13.2s						
LZH				LR	LR		
	comp=E,580nm,13.5s						
LZH				LR	LR		
	comp=Z,780nm,17.3s						
STKA	**Stephens Creek**	**38.35**	**159**	*e*P	**P**	**04 47 52.8**	**+0.2**
	comp=Z,3.7nm,0.8s						
STKA				PcP	**PcP**	**04 50 06.4**	**+0.4**
STKA				*e*PcP	**PcP**	**04 50 06.6**	**+0.6**
STKA	**Stephens Creek**	**38.35**	**159**	*e*P	**P**	**04 47 52.8**	**+0.2**
	comp=Z,14nm,0.6s						
STKA	**Stephens Creek**	**38.35**	**159**	P	**P**	**04 47 53.0**	**+0.4**
	comp=Z,23nm,0.8s,baz=331,slow=8.0,SNR=35						
STKA				PcP	**PcP**	**04 50 06.4**	**+0.4**
	comp=Z,7.4nm,0.7s,baz=347,slow=7.3,SNR=3.2						
STKA				LR	LR	05 03 59.7	
	comp=Z,130nm,18.9s,baz=24,slow=37						
HHC	**Hu-ho-hao-te**	**39.18**	**342**	*e*P	**P**	**04 48 00.1**	**+0.5**
HHC				pP	**pP**	**04 48 09.8**	**+0.3**
HHC				sP	**sP**	**04 48 13.9**	**+0.3**
HHC				PP	**PnPn**	**04 49 35.4**	**+2.8**
HHC				S	**S**	**04 53 57.3**	**-0.3**
HHC				sS	**sS**	**04 54 14.3**	**+0.3**
HHC				pmax	pmax		
	comp=Z,25nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,3.6s						
HHC				LR	LR		
	comp=N,230nm,15.0s						
HHC				LR	LR		
	comp=E,300nm,12.1s						
HHC				LR	LR		
	comp=Z,370nm,14.5s						
CN2	**Changchun**	**39.67**	**358**	*e*P	**P**	**04 48 06.5**	**+3.0**
CN2				*e*sP	**sP**	**04 48 20.3**	**+2.8**
CN2				*e*S	**S**	**04 54 08.4**	**+3.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
SHL	**Shillong**	**39.77**	**306**	*e*PKP	**P**	**04 48 04.0**	**-0.9**
SHL				*e*S	**S**	**04 54 05.5**	**-1.6**
USRK	**Ussuriysk Arra**	**40.31**	**6**	P	**P**	**04 48 09.9**	**+1.0**
	comp=Z,3.1nm,0.6s,baz=191,slow=6.3,SNR=7.1						
MDJ	**Mudanjiang**	**40.54**	**3**	P	**P**	**04 48 11.8**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,15nm,1.1s						
MDJ	**Mudanjiang**	**40.54**	**3**	*e*P	**P**	**04 48 12.6**	**+1.8**
	comp=Z,10nm,0.8s						
LSA	**Lhasa**	**42.31**	**311**	P	**P**	**04 48 26.6**	**+0.5**
LSA				pmax	pmax		
	comp=Z,50nm,0.7s						
LSA	**Lhasa**	**42.31**	**311**	*e*P	**P**	**04 48 26.0**	**-0.1**
LSA				pmax	pmax		
	comp=Z,47nm,0.6s						
LSA	**Lhasa**	**42.31**	**311**	*e*P	**P**	**04 48 25.9**	**-0.1**
	comp=Z,47nm,0.6s						
ASAJ	**Asahikawa**	**42.34**	**17**	LR	LR	05 03 19.6	
	comp=Z,192nm,20.6s,baz=49,slow=32						
GTA	**Gaotai**	**42.91**	**329**	⇑P	**P**	**04 48 30.1**	**-0.3**
GTA				pP	**pP**	**04 48 40.0**	**-0.4**
GTA				sP	**sP**	**04 48 43.9**	**-0.6**
GTA				PcP	**PcP**	**04 50 22.0**	**+1.2**
GTA				S	**S**	**04 54 51.1**	**-2.1**
GTA				pmax	pmax		
	comp=Z,14nm,1.1s						
GTA				pmax	pmax		
	comp=Z,82nm,5.0s						
GTA				LR	LR		
	comp=N,190nm,19.0s						
GTA				LR	LR		
	comp=E,350nm,17.8s						
GTA				LR	LR		
	comp=Z,350nm,20.4s						
TAPN	**Taplejung**	**43.91**	**306**	*e*P	**P**	**04 48 37.9**	**-1.0**
	comp=Z,56nm,0.7s						
ODAN	**Odare**	**43.97**	**305**	*e*P	**P**	**04 48 38.2**	**-1.1**
	comp=Z,39nm,0.6s						
RAMN	**Ramite**	**44.65**	**305**	*e*P	**P**	**04 48 43.9**	**-0.8**
	comp=Z,33nm,0.6s						
TOO	**Toolangi**	**44.85**	**159**	*e*P	**P**	**04 48 47.9**	**+2.0**
	comp=Z,43nm,1.0s						
JIRN	**Jiri**	**45.27**	**306**	*e*P	**P**	**04 48 48.7**	**-1.1**
	comp=Z,16nm,0.9s						
KLR	**Kul'dur**	**45.28**	**5**	*e*P	**P**	**04 48 47.0**	**-2.1**
HIA	**Hailar**	**45.52**	**354**	*e*P	**P**	**04 48 51.6**	**+0.6**
	comp=Z,57nm,1.1s						
HIA				*e*		04 50 29.8	
GUN	**Gumba**	**45.62**	**306**	*e*P	**P**	**04 48 51.4**	**-1.2**
	comp=Z,66nm,0.7s						
PKI	**Pulchoki**	**45.87**	**305**	*e*P	**P**	**04 48 53.1**	**-1.4**
	comp=Z,10nm,0.5s						
KKN	**Kakani**	**46.06**	**305**	*e*P	**P**	**04 48 54.4**	**-1.5**
	comp=Z,20nm,0.7s						
DMN	**Daman**	**46.13**	**305**	*e*P	**P**	**04 48 55.0**	**-1.5**
	comp=Z,23nm,0.7s						
DZM	**Mont Dzumac**	**46.64**	**125**	*e*P	**P**	**04 49 01.1**	**+0.8**
	comp=Z,18nm,1.1s						
GKN	**Gorkha**	**46.67**	**305**	*e*P	**P**	**04 48 59.0**	**-1.6**
	comp=Z,27nm,0.7s						
ULN	**Ulaanbaatar**	**46.90**	**342**	*e*P	**P**	**04 49 02.3**	**+0.3**
	comp=Z,11nm,0.8s						
ULN	**Ulaanbaatar**	**46.90**	**342**	P	**P**	**04 49 02.7**	**+0.7**
	SNR=7.9						
SONM	**Songino Array**	**47.08**	**341**	P	**P**	**04 49 03.8**	**+0.4**
SONM				PcP	**PcP**	**04 50 35.7**	**+0.7**
SONM	**Songino Array**	**47.08**	**341**	P	**P**	**04 49 03.8**	**+0.4**
	comp=Z,8.3nm,0.8s,baz=154,slow=9.1,SNR=69						
SONM				PcP	**PcP**	**04 50 35.7**	**+0.7**
	comp=Z,3.6nm,0.7s,baz=162,slow=4.1,SNR=5.4						
SONM				LR	LR	05 10 39.9	
	comp=Z,141nm,19.4s,baz=135,slow=38						
KOLN	**Koldanda**	**47.42**	**305**	*e*P	**P**	**04 49 05.4**	**-1.1**
	comp=Z,73nm,0.6s						
DANN	**Dangsing**	**47.51**	**305**	*e*P	**P**	**04 49 06.1**	**-1.2**
	comp=Z,82nm,0.6s						
HYB	**Hyderabad**	**49.08**	**290**	*i* P	**P**	**04 49 18.0**	**-1.3**
ZAK	**Zakamensk**	**50.30**	**341**	*e*P	**P**	**04 49 25.5**	**-2.6**
ZAK				*e*		04 50 47.3	
ZAK				pmax	pmax		
	comp=Z,3.0nm,2.0s						
TLY	**Talaya**	**51.31**	**342**	*e*P	**P**	**04 49 35.1**	**-0.5**
TLY				pmax	pmax		
	comp=Z,11nm,0.8s						
TLY				MLR	MLR		
	comp=Z,99nm,18.0s						
TLY	**Talaya**	**51.31**	**342**	*e*P	**P**	**04 49 36.1**	**+0.5**
	comp=Z,13nm,0.8s						
IRK	**Irkutsk**	**51.60**	**343**	*e*P	**P**	**04 49 38.1**	**+0.3**
IRK				pmax	pmax		
	comp=Z,25nm,1.7s						
AGRA	**Agra**	**51.97**	**302**	*e*PKP	**P**	**04 49 39.1**	**-1.8**
MOY	**Mondy**	**52.16**	**340**	*e*P	**P**	**04 49 42.8**	**+0.7**
WMQ	**Urumqi**	**52.55**	**325**	P	**P**	**04 49 45.0**	**0.0**
WMQ				pP	**pP**	**04 49 55.0**	**-0.2**
WMQ				sP	**sP**	**04 49 59.0**	**-0.2**
WMQ				PcP	**PcP**	**04 50 57.0**	**+1.9**
WMQ				*e*S	**S**	**04 57 08.0**	**-1.8**
WMQ				ScS	**ScS**	**04 59 29.0**	**-3.5**
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,200nm,4.3s						
WMQ				LR	LR		
	comp=N,580nm,24.8s						
WMQ				LR	LR		
	comp=E,490nm,25.4s						
WMQ				LR	LR		
	comp=Z,420nm,23.2s						
CLNS	**Chul'man**	**52.73**	**359**	*e*P	**P**	**04 49 47.0**	**+1.0**
CLNS				*e*		04 50 55.8	
CLNS				*e*		04 51 45.2	
CLNS				*e*PPP	PPP	04 52 52.6	
CLNS				*e*S	**S**	**04 57 07.9**	**-3.7**
CLNS				*e*SS	**SS**	**05 00 43.9**	**-6.7**
CLNS				pmax	pmax		
	comp=Z,11nm,0.9s						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CLNS				pmax	pmax		
	comp=N,3.0nm,0.9s						
CLNS				smax	smax		
	comp=E,190nm,10.9s						
CLNS				smax	smax		
	comp=N,237nm,14.9s						
SONA	**Sohna**	**53.01**	**303**	*e*PKP	**P**	**04 49 46.3**	**-2.2**
SONA				AMb	AMB	04 49 47.8	
	comp=Z,44nm,0.7s						
AYAN	**Aya Nagar**	**53.04**	**303**	*e*PKP	**P**	**04 49 46.7**	**-2.1**
AYAN				AMb	AMB	04 49 48.8	
	comp=Z,26nm,0.8s						
KUDL	**Kundal**	**53.48**	**302**	*e*PKP	**P**	**04 49 49.9**	**-2.1**
KUDL				AMb	AMB	04 49 51.1	
	comp=Z,53nm,0.7s						
POO	**Poona**	**53.68**	**290**	*e*PKP	**P**	**04 49 51.0**	**-2.7**
KKR	**Kurukshetra**	**53.76**	**305**	*e*PKP	**P**	**04 49 53.3**	**-0.8**
KHET	**Khetri**	**54.03**	**302**	*e*PKP	**P**	**04 49 54.7**	**-1.4**
KHET				AMb	AMB	04 49 56.2	
	comp=Z,44nm,1.3s						
BOD	**Bodaibo**	**54.62**	**352**	*e*P	**P**	**04 50 00.8**	**+0.9**
BOD				pmax	pmax		
	comp=Z,14nm,1.1s						
PETK	**Petropavlovsk-**	**55.18**	**22**	P	**P**	**04 50 05.2**	**+1.2**
PETK	**Petropavlovsk-**	**55.18**	**22**	P	**P**	**04 50 05.2**	**+1.2**
PETK	**Petropavlovsk-**	**55.18**	**22**	P	**P**	**04 50 05.2**	**+1.2**
	comp=Z,2.3nm,0.4s,baz=189,slow=3.7,SNR=15						
PETK				LR	LR	05 13 28.8	
	comp=Z,92nm,18.6s,baz=110,slow=36						
MK31	**Makanchi Array**	**57.38**	**325**	*e*P	**P**	**04 50 19.2**	**-0.7**
MK31				*e*		04 51 14.3	
MK31	**Makanchi Array**	**57.38**	**325**	*e*P	**P**	**04 50 19.2**	**-0.7**
MK31				*e*PcP	**PcP**	**04 51 14.3**	**+0.8**
MKAR	**Makanchi Array**	**57.38**	**325**	P	**P**	**04 50 19.2**	**-0.7**
MKAR						04 51 13.8	
MKAR				S	**S**	**04 58 14.4**	**0.0**
MKAR	**Makanchi Array**	**57.38**	**325**	P	**P**	**04 50 19.2**	**-0.7**
MKAR				PcP	**PcP**	**04 51 13.8**	**+0.2**
MKAR				ScP	**ScP**	**04 55 14.4**	**+3.3**
MKAR				S	**S**	**04 58 14.3**	**0.0**
MKAR	**Makanchi Array**	**57.38**	**325**	P	**P**	**04 50 19.2**	**-0.7**
	comp=Z,12nm,0.6s,baz=124,slow=8.3,SNR=235						
MKAR				PcP	**PcP**	**04 51 13.8**	**+0.2**
	comp=Z,9.5nm,0.8s,baz=122,slow=4.6,SNR=3.6						
MKAR				ScP	**ScP**	**04 55 14.4**	**+3.3**
	comp=Z,0.9nm,0.7s,baz=127,slow=5.0,SNR=4.0						
MKAR				S	**S**	**04 58 14.3**	**0.0**
	comp=Z,0.5nm,0.9s,baz=125,slow=14,SNR=4.3						
MKAR				LR	LR	05 17 07.8	
	comp=Z,162nm,18.6s,baz=234,slow=38						
KSH	**Kashi**	**57.90**	**315**	P	**P**	**04 50 24.1**	**+0.3**
KSH				pP	**pP**	**04 50 34.0**	**-0.1**
KSH				sP	**sP**	**04 50 38.1**	**0.0**
KSH				PcP	**PcP**	**04 51 14.5**	**-1.4**
KSH				PP	**PP**	**04 52 35.3**	**+2.9**
KSH				ScP	**ScP**	**04 55 10.4**	**-3.3**
KSH				PcS	**PcS**	**04 55 14.5**	**-2.9**
KSH				S	**S**	**04 58 21.5**	**-0.2**
KSH				sS	**sS**	**04 58 38.4**	**-0.3**
KSH				ScS	**ScS**	**05 00 07.3**	**-3.9**
KSH				SS	**SS**	**05 02 14.5**	**+1.5**
KSH				LR	LR		
	comp=N,170nm,5.4s						
KS

SNR=8.9
AAK Ala-Archa 60.21 318 *i* P **P** **04 50 39.0 -0.8**
AAK pmax pmax
comp=Z,23nm,1.7s
AAK Ala-Archa 60.21 318 *eP* **P** **04 50 38.8 -1.0**
comp=Z,64nm,1.3s
AAK Ala-Archa 60.21 318 P **P** **04 50 40.3 +0.6**
SNR=5.5
AAK Ala-Archa 60.21 318 P **P** **04 50 40.2 +0.4**
SNR=6.5
AAK Ala-Archa 60.21 318 LR LR 05 18 45.7
comp=Z,304nm,21.7s,baz=82,slow=38
ZAA0 Zalesovo Array 60.39 333 *eP* **P** **04 50 38.9 -1.6**
ZALV Zalesovo Beam 60.39 333 P **P** **04 50 39.4 -1.2**
ZALV 04 52 53.8
ZALV Zalesovo Beam 60.39 333 P **P** **04 50 39.4 -1.2**
ZALV PP PP **04 52 53.8 -0.1**
ZALV Zalesovo Beam 60.39 333 P **P** **04 50 39.4 -1.2**
comp=Z,11nm,0.6s,baz=131,slow=6.6,SNR=84
ZALV PP PP **04 52 53.8 -0.1**
comp=Z,2.8nm,0.9s,baz=141,slow=9.3,SNR=3.7
ZALV LR LR 05 18 30.3
comp=Z,122nm,18.4s,baz=252,slow=38
USP Ospenovka 60.47 318 P **P** **04 50 40.7 -0.7**
SNR=28
AML Almayashu 60.54 317 P **P** **04 50 42.0 -0.3**
SNR=30
EKS2 Erkin-Say 60.70 318 *eP* **P** **04 50 42.9 -0.2**
EKS2 pmax pmax
comp=Z,15nm,0.8s
EKS2 Erkin-Say 60.70 318 *eP* **P** **04 50 42.9 -0.2**
comp=Z,15nm,0.8s
EKS2 Erkin-Say 60.70 318 P **P** **04 50 43.0 -0.1**
SNR=11
KBL Kabul 61.41 307 *eP* **P** **04 50 46.6 -1.6**
KBL pmax pmax
comp=Z,25nm,0.8s
KBL Kabul 61.41 307 *eP* **P** **04 50 46.6 -1.6**
comp=Z,25nm,0.8s
KURK Kurchatov 61.56 327 *c iP* **P** **04 50 47.5 -1.0**
KURK pmax pmax
comp=Z,26nm,0.6s
KURK Kurchatov 61.56 327 *eP* **P** **04 50 47.7 -0.8**
comp=Z,31nm,0.8s
KURK Kurchatov 61.56 327 P **P** **04 50 47.8 -0.8**
SNR=8.8
KURK Kurchatov 61.56 327 P **P** **04 50 47.6 -1.0**
comp=Z,254nm,0.6s,SNR=36
NVS Novosibirsk 61.67 333⇑ *iP* **P** **04 50 47.0 -2.2**
NVS pmax pmax
comp=Z,13nm,0.6s
NVS pmax pmax
comp=N,8.0nm,0.7s
NVS pmax pmax
comp=E,13nm,0.7s
SEY Seymchan 61.77 13⇓ *iP* **P** **04 50 50.9 +1.1**
KK31 Karatay Array 63.08 317 *i P* **P** **04 50 57.7 -1.3**
KK31 pmax pmax
comp=Z,16nm,0.8s
KKAR Karatay Array 63.08 317 *eP* **P** **04 50 57.6 -1.4**
KKAR pmax pmax
comp=Z,19nm,0.8s
KKAR Karatay Array 63.08 317 *eP* **P** **04 50 57.6 -1.4**
comp=Z,19nm,0.8s
BVAR Borovoye Array 67.14 327 LR LR 05 21 30.7
comp=Z,110nm,20.4s,baz=255,slow=37
BRVK Borovoye 67.21 327 *c iP* **P** **04 51 24.8 -0.7**
BRVK pmax pmax
comp=Z,19nm,1.0s
BRVK Borovoye 67.21 327 *eP* **P** **04 51 24.6 -0.9**
comp=Z,14nm,0.6s
BRVK Borovoye 67.21 327 P **P** **04 51 24.9 -0.6**
comp=Z,136nm,0.6s,SNR=12
BRVK Borovoye 67.21 327 P **P** **04 51 25.3 -0.3**
SNR=7.4
IDAH Dahanechah 68.48 304 *eP* **P** **04 51 33.7 -0.6**
BILL Bilibino 69.30 15⇓ *eP* **P** **04 51 38.9 +0.6**
BILL *eS* **S** **05 00 41.8 -0.4**
BILL pmax pmax
comp=Z,4.0nm,1.3s
BILL MLR MLR
comp=Z,100nm,20.0s
IEMG Emamgholi 70.27 308 *eP* **P** **04 51 43.8 -1.5**
CASY Casey 71.07 187 *eP* **P** **04 51 50.3 +1.2**
comp=Z,96nm,1.1s
AB31 Akbulak array 71.99 321 *i P* **P** **04 51 53.8 -1.3**
AB31 pmax pmax
comp=Z,12nm,0.8s
ABKAR Akbulak array 71.99 321 *eP* **P** **04 51 53.8 -1.2**
comp=Z,6.0nm,0.6s
SVE Sverdlovsk 73.77 328⇑ *iP* **P** **04 52 05.2 -0.3**
SVE pmax pmax
comp=Z,14nm,0.9s
ISRV Sarvestan 73.83 299 *eP* **P** **04 52 05.1 -1.7**
IPAR Pars 73.92 300 *eP* **P** **04 52 05.5 -1.8**
IALA Alasht 74.72 306 *eP* **P** **04 52 10.9 -0.9**
ARU Arti 74.75 328 *d iP* **P** **04 52 10.3 -0.9**
ARU 04 52 26.0
ARU 04 54 53.9
ARU PPP PPP 04 56 38.4
ARU S **S** **05 01 45.6 +0.4**
ARU pmax pmax
comp=Z,21nm,1.0s
ARU Arti 74.75 328 *eP* **P** **04 52 10.1 -1.1**
comp=Z,16nm,0.6s
ARU Arti 74.75 328 P **P** **04 52 10.6 -0.6**
comp=Z,153nm,0.6s,SNR=7.3
ISFB Sefidab 75.00 304 *eP* **P** **04 52 11.5 -1.8**
SOKR Solikamsk 76.52 331 *eP* **P** **04 52 18.6 -2.6**
SOKR pmax pmax
comp=Z,10.0nm,1.5s
ABPO Ambohimpanom 81.45 250 *eP* **P** **04 52 48.6 -0.7**
ABPO pmax pmax
comp=Z,5.0nm,0.6s
ABPO Ambohimpanom 81.45 250 *eP* **P** **04 52 48.6 -0.7**
comp=Z,5.5nm,0.6s
ZEI Tsey 82.09 312 *eP* **P** **04 52 51.5 -0.8**
ZEI pmax pmax
comp=Z,14nm,1.0s
KIV Kislovodsk 83.00 314 *eP* **P** **04 52 55.3 -1.6**
KIV pmax pmax
comp=Z,6.0nm,0.9s
TRF Thorofare Moun 83.29 27 *eP* **P** **04 52 58.5 +0.5**
COLD Coldfoot 83.64 23 *eP* **P** **04 53 01.2 +1.6**
comp=Z,16nm,1.1s
VNDA Vanda 83.67 173 *eP* **P** **04 53 00.0 +0.6**
comp=Z,13nm,0.9s
PMR Palmer 83.70 29 *eP* **P** **04 52 59.9 0.0**
PMR pmax pmax
comp=Z,22nm,1.1s
PMR Palmer 83.70 29 *eP* **P** **04 52 59.9 0.0**
comp=Z,22nm,1.1s
VRHR Novokhopersk 83.88 321 *eP* **P** **04 53 01.3 +0.2**
VRHR pmax pmax
comp=Z,20nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.7s
MCK McKinley 83.91 26 *eP* **P** **04 53 01.7 +0.7**
MCK pmax pmax
comp=Z,35nm,1.4s
MCK McKinley 83.91 26 *eP* **P** **04 53 01.7 +0.7**
comp=Z,36nm,1.4s
SML Sawmill 84.09 28 *eP* **P** **04 53 03.0 +1.0**
SML Sawmill 84.09 28 *eP* **P** **04 53 03.0 +1.0**
ILAR Eielson Array 84.85 25 P **P** **04 53 06.0 +0.2**
ILAR Eielson Array 84.85 25 P **P** **04 53 06.0 +0.2**
comp=Z,3.0nm,0.9s,baz=248,slow=6.4,SNR=26
KLMR Klimovskoe 85.21 331 *eP* **P** **04 53 06.3 -1.3**
KLMR pmax pmax
comp=Z,116nm,1.0s
DIV Divide 85.30 29 *eP* **P** **04 53 09.7 +1.5**
comp=Z,31nm,1.0s
VORD Divnogorie 85.35 321 *eP* **P** **04 53 07.5 -1.0**
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,8.0nm,0.6s
VSR Storozhevoye 85.43 321 *eP* **P** **04 53 08.1 -0.8**
VSR pmax pmax
comp=Z,1.0nm,0.8s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,20nm,1.2s
PAX Paxson 85.45 27 *eP* **P** **04 53 09.7 +0.8**
PAX pmax pmax
comp=Z,6.0nm,1.0s
PAX Paxson 85.45 27 *eP* **P** **04 53 09.7 +0.8**
comp=Z,6.2nm,1.0s
BMRM Bremner River 85.87 29 *eP* **P** **04 53 11.4 +0.4**
comp=Z,69nm,1.6s
MOS Moscow 86.26 325 *eP* **P** **04 53 10.2 -2.7**
MOS *e* 04 56 34.8
MOS pmax pmax
comp=Z,89nm,1.3s
MOS pmax pmax
comp=Z,90nm,1.2s
OBN Obninsk 86.89 325⇓ *eP* **P** **04 53 15.3 -0.7**
OBN *e* 04 56 39.2
OBN *eS* **S** **05 03 55.1 +3.3**
OBN pmax pmax
comp=Z,86nm,1.7s
OBN MLR MLR
comp=Z,100nm,19.0s
OBN Obninsk 86.89 325 *eP* **P** **04 53 15.8 -0.2**
comp=Z,18nm,0.6s
JOF Joensuu 88.98 333 *eP* **P** **04 53 24.2 -1.6**
JOF pmax pmax
comp=Z,22nm,0.8s
JOF Joensuu 88.98 333 *ep* **P** **04 53 24.2 -1.6**
comp=Z,22nm,0.8s
KMBO Kilima Mbogo 89.61 269 *eP* **P** **04 53 29.8 -0.3**
comp=Z,11nm,1.1s
KEV Kevo 89.67 340 *eP* **P** **04 53 28.5 -0.4**
KEV pmax pmax
comp=Z,4.0nm,0.7s
KEV Kevo 89.67 340 *ep* **P** **04 53 28.5 -0.4**
comp=Z,4.2nm,0.7s
BR131 Keskin Array S 89.90 310 *eP* **P** **04 53 29.7 -1.2**
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 89.90 310 P **P** **04 53 29.6 -1.3**
BRTR Keskin Array B 89.90 310 P **P** **04 53 29.6 -1.3**
comp=Z,6.7nm,0.9s,baz=107,slow=5.1,SNR=30
INK Inuvik 89.91 21 *eP* **P** **04 53 30.5 +0.4**
comp=Z,6.9nm,1.3s
ARCES ARCESS Array B 90.23 340 P **P** **04 53 31.1 -0.5**
ARCES ARCESS Array B 90.23 340 P **P** **04 53 31.1 -0.5**
comp=Z,6.0nm,0.6s,baz=88,slow=6.9,SNR=37
ARCES LR LR 05 37 05.7
comp=Z,58nm,19.1s,baz=171,slow=38
KAF Kangasniemi 91.40 332 *eP* **P** **04 53 35.6 -1.5**
KAF pmax pmax
comp=Z,9.0nm,0.7s
KAF Kangasniemi 91.40 332 *ep* **P** **04 53 35.6 -1.5**
comp=Z,9.0nm,0.7s
FINES FINESS Array B 91.64 332 P **P** **04 53 38.2 -0.1**
FINES FINESS Array B 91.64 332 P **P** **04 53 38.2 -0.1**
comp=Z,13nm,0.9s,baz=50,slow=5.1,SNR=32
FINES LR LR 05 39 02.5
comp=Z,89nm,19.2s,baz=113,slow=38
AKASG Malin Array Be 91.73 321 P **P** **04 53 37.9 -1.0**
AKASG Malin Array Be 91.73 321 P **P** **04 53 37.9 -1.0**
AKASG Malin Array Be 91.73 321 P **P** **04 53 37.9 -1.0**
comp=Z,8.4nm,0.7s,baz=71,slow=4.6,SNR=28
AKASG LR LR 05 40 19.6
comp=Z,59nm,21.5s,baz=15,slow=39
NACGM Naroch 92.51 325 *e* **P** **04 53 40.0 -2.4**
SYO Syowa Base 92.68 201⇑ *eP* **P** **04 53 42.3 -0.5**
LEOM Leova 93.01 317 ⇑ **P** **04 53 45.7 +0.8**
LEOM Leova 93.01 317⇑ *iP* **P** **04 53 45.7 +0.8**
CFR Carcaliu 93.29 316⇓ **P** **04 53 46.1 -0.1**
CFR Carcaliu 93.29 316⇓ *iP* **P** **04 53 46.1 -0.1**
QSPA South Pole Qui 93.89 180 *eP* **P** **04 53 49.3 +0.6**
comp=Z,12nm,1.0s
TESR 94.09 317⇑ *iP* **P** **04 53 49.5 -0.4**
VRI Vrincioaia 94.15 316⇓ **P** **04 53 50.5 +0.3**
VRI Vrincioaia 94.15 316⇓ *iP* **P** **04 53 50.5 +0.3**
PLOR Plostina 94.21 316⇓ **P** **04 53 50.5 0.0**
PLOR Plostina 94.21 316⇓ *iP* **P** **04 53 50.5 0.0**
SUW Suwalki 94.75 325 *eP* **P** **04 53 52.2 -0.6**
SUW Suwalki 94.75 325 *eP* **P** **04 53 52.2 -0.6**
SUW Suwalki 94.75 325 *eP* **P** **04 53 52.2 -0.6**
SUW Suwalki 94.75 325 *eP* **P** **04 53 52.1 -0.6**
comp=Z,75nm,1.0s
MLR Muntele Rosu 94.76 316⇓ *iP* **P** **04 53 53.1 -0.1**
BURAR Bucovina Array 94.85 318⇑ *iP* **P** **04 53 53.5 0.0**
BUR08 Bucovina Ar. S 94.85 318 *eP* **P** **04 53 53.2 -0.4**
LVV L'vov 95.17 321 *eP* **P** **04 53 58.3 +3.5**
VOIR 95.39 316⇓ **P** **04 53 58.6 +2.6**
VOIR 95.39 316⇓ *iP* **P** **04 53 58.6 +2.6**
KWP Kalwaria Pacla 96.05 321 *eP* **P** **04 53 58.9 +0.1**
KWP Kalwaria Pacla 96.05 321 *eP* **P** **04 53 58.9 +0.1**
KWP Kalwaria Pacla 96.05 321⇑ **P** **04 53 59.1 +0.3**
KWP Kalwaria Pacla 96.05 321 *eP* **P** **04 53 58.6 -0.2**
comp=Z,6.6nm,0.3s
KWP Kalwaria Pacla 96.05 321⇑ *iP* **P** **04 53 59.1 +0.3**
LOT Lotru 96.27 316⇓ *iP* **P** **04 54 00.5 +0.5**
KOLS Kolonicke sedl 96.49 320 *eP* **P** **04 54 00.7 -0.1**
KOLS pmax pmax
comp=Z,12nm,1.5s
KOLS Kolonicke sedl 96.49 320 *eP* **P** **04 54 00.7 -0.1**
UZH Uzhgorod 96.54 320⇑ *iP* **P** **04 54 01.0 -0.1**
BEL Belsk 96.69 323 *eP* **P** **04 54 01.9 +0.3**
BEL Belsk 96.69 323 *eP* **P** **04 54 01.9 +0.3**
BEL Belsk 96.69 323 *eP* **P** **04 54 01.9 +0.3**
DRGR 96.69 318⇑ **P** **04 54 01.5 -0.4**
DRGR 96.69 318⇑ *iP* **P** **04 54 01.5 -0.4**
GZR Gura Zlata 96.96 316⇓ **P** **04 54 02.5 -0.6**
GZR Gura Zlata 96.96 316⇓ *iP* **P** **04 54 02.5 -0.6**
CRVS Cervenica-Dubn 97.01 320 *eP* Pdif 04 54 03.5 +0.2
CRVS pmax pmax
comp=Z,15nm,0.9s
CRVS Cervenica-Dubn 97.01 320 *eP* Pdif 04 54 03.5 +0.2
VTS Vitosha 97.26 314⇓ **P** **04 54 03.7 -1.0**
VTS Vitosha 97.26 314⇓ *iP* **P** **04 54 03.7 -1.0**
RES Resolute Bay 97.56 10 *eP* Pdif 04 54 05.2 +0.1
comp=Z,1.6nm,0.9s
BZS Buzias 97.70 317⇑ **P** **04 54 05.5 -0.9**
BZS Buzias 97.70 317⇑ *iP* **P** **04 54 05.5 -0.9**
OJC Ojcow 97.72 322 *eP* **P** **04 54 06.0 -0.3**
OJC Ojcow 97.72 322 *eP* **P** **04 54 06.2 -0.2**
PSZ Piszkesteto 98.27 319 *eP* **P** **04 54 08.5 -0.5**
PSZ pmax pmax
comp=Z,5.0nm,1.1s
PSZ Piszkesteto 98.27 319 *eP* **P** **04 54 08.5 -0.5**
comp=Z,5.5nm,1.1s
NB2 NORSAR Subarra 98.58 334 P **P** **04 54 08.4 -1.7**
comp=Z,3.2nm,0.7s,baz=67,slow=4.6
NOA NORSAR Array B 98.58 334 P **P** **04 54 08.7 -1.4**
NOA NORSAR Array B 98.58 334 P **P** **04 54 08.7 -1.4**
comp=Z,2.7nm,0.7s,baz=67,slow=4.6,SNR=16
NOA LR LR 05 42 33.1
comp=Z,82nm,18.4s,baz=60,slow=38
VYHS Vyhne 98.80 320 *eP* **P** **04 54 10.8 -0.5**
VYHS Vyhne 98.80 320 PDIF **P** **04 54 10.8 -0.5**
OKC Ostrava-Krasne 98.85 322 *eP* Pdif 04 54 11.7 +0.3
OKC Ostrava-Krasne 98.85 322 *e*PDIFF Pdif 04 54 11.7 +0.3
MORC Moravsky Berou 99.24 322⇓ **P** **04 54 13.0 -0.3**
MORC Moravsky Berou 99.24 322 *eP* **Pdif** **04 54 12.9 -0.3**
comp=Z,2.1nm,0.8s
MORC Moravsky Berou 99.24 322⇓ *iP* **Pdif** **04 54 13.0 -0.3**
YKA Yellowknife Ar 99.25 24 P **Pdif** **04 54 13.6 +0.7**
YKA Yellowknife Ar 99.25 24 P **Pdif** **04 54 13.6 +0.7**
comp=Z,0.2nm,0.5s,baz=297,slow=4.3,SNR=6.6
PKSM Moragy 99.56 318⇓ **P** **Pdif** **04 54 14.4 -0.3**
PKSM Moragy 99.56 318⇓ *iP* **Pdif** **04 54 14.4 -0.3**
KSP Ksiaz 99.67 323 *eP* **Pdif** **04 54 15.5 +0.4**
KSP Ksiaz 99.67 323 *eP* **Pdif** **04 54 15.5 +0.4**
KSP Ksiaz 99.67 323 *eP* **Pdif** **04 54 15.2 +0.1**
DPC Dobruska-Polom 99.81 322 *eP* **Pdif** **04 54 16.2 +0.4**
DPC Dobruska-Polom 99.81 322 *e*PDIFF **Pdif** **04 54 16.2 +0.4**
UPC Upice 99.95 323 *eP* **Pdif** **04 54 16.7 +0.4**
UPC Upice 99.95 323 *e*PDIFF **Pdif** **04 54 16.7 +0.4**
VRAC Vranov 99.97 321⇓ *iP* **Pdif** **04 54 16.9 +0.4**
PVCC Panska Ves 100.81 323 *eP* **Pdif** **04 54 20.7 +0.5**
PVCC Panska Ves 100.81 323 *e*PDIFF **Pdif** **04 54 20.7 +0.5**
PRU Pruhonice 101.01 323 *eP* **Pdif** **04 54 21.2 +0.1**
PRU Pruhonice 101.01 323 *e*PDIFF **Pdif** **04 54 21.2 +0.1**
BRG Berggiesshubel 101.07 323 *eP* **Pdif** **04 54 21.4 +0.1**
comp=Z,9.2nm,0.9s
BRG Berggiesshubel 101.07 323 *e*Pdiff **Pdif** **04 54 21.2 -0.1**
BRG Berggiesshubel 101.07 323 *eP* **Pdif** **04 54 21.4 +0.1**
BRG pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 101.47 324 *e*Pdiff **Pdif** **04 54 22.9 -0.1**
CLL Collm 101.47 324 *eP* **Pdif** **04 54 23.0 -0.1**
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 101.47 324 *e*Pdif **Pdif** **04 54 23.0 -0.1**
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 101.90 322 *eP* **Pdif** **04 54 25.2 +0.1**
KHC Kasperske Hory 101.90 322 *e*PDIFF **Pdif** **04 54 25.2 +0.1**
GEC2 GERESS Array S 101.92 322 *e*Pdiff **Pdif** **04 54 25.3 0.0**
GEC2 GERESS Array S 101.92 322 *eP* **Pdif** **04 54 25.3 0.0**
GERES GERESS Array B 101.92 322 P **Pdif** **04 54 24.8 -0.4**
GERES GERESS Array B 101.92 322 P **Pdif** **04 54 24.8 -0.4**
comp=Z,2.6nm,0.9s,baz=59,slow=5.1,SNR=17
ROTZ Rotzenmuhle 102.50 323 *e*Pdiff **Pdif** **04 54 28.3 +0.6**
MOX Moxa 102.53 324 *e*Pdiff **Pdif** **04 54 28.5 +0.7**
MOX Moxa 102.53 324 *eP* **Pdif** **04 54 28.5 +0.7**
CLZ Clausthal 102.78 325 *e*Pdiff **Pdif** **04 54 29.8 +0.9**
CLZ Clausthal 102.78 325 *eP* **Pdif** **04 54 29.8 +0.9**
GRF Grafenberg Arr 103.12 323 *e*Pdiff **Pdif** **04 54 30.5 0.0**
GRF Grafenberg Arr 103.12 323 *eP* **Pdif** **04 54 30.5 0.0**
PDAR Pinedale Array 111.13 41 PKKPab PKKPab 05 10 11.2 -1.6
PDAR Pinedale Array 111.13 41 PKKPab PKKPab 05 10 11.2 -1.6
comp=Z,1.7nm,0.9s,baz=116,slow=6.1,SNR=10
ESDC Sonseca Array 117.30 319 PP PP 05 00 34.4 +6.6
ESDC Sonseca Array 117.30 319 PP PP 05 00 34.4 +6.6
comp=Z,0.7nm,0.7s,baz=46,slow=8.5,SNR=4.6
425A Indio Mountain 119.75 51⇓ **P** **PKPdf** **04 59 22.3 +0.1**
baz=120
Z27A Tatum 119.95 48⇓ **P** **PKPdf** **04 59 23.1 +0.5**
baz=120
SCHQ Schefferville 120.31 9 PKP **PKPdf** **04 59 23.4 +1.0**
SCHQ Schefferville 120.31 9 PKP **PKPdf** **04 59 23.4 +1.0**
comp=Z,2.4nm,0.9s,baz=45,slow=1.4,SNR=5.2
526A Mary Lane Ranc 120.76 52⇓ **P** **PKPdf** **04 59 25.0 +0.8**
baz=121
427A Hayter Ranch, 120.94 50⇑ **P** **PKPdf** **04 59 24.8 +0.3**
baz=121
Z29A Hungry Hill Ra 121.08 47⇓ **P** **PKPdf** **04 59 25.2 +0.6**
baz=121
328A Wristen Ranch, 121.15 50⇓ **P** **PKPdf** **04 59 25.7 +0.8**
baz=121
TXAR Lajitas Array 121.40 52 PKP **PKPdf** **04 59 26.5 +1.1**
TXAR Lajitas Array 121.40 52 PKP **PKPdf** **04 59 26.5 +1.1**
comp=Z,0.5nm,0.6s,baz=320,slow=3.3,SNR=6.3
428A Kincaid Ranch, 121.55 50⇑ **P** **PKPdf** **04 59 26.8 +1.1**
baz=122
627A Terlingua Ranc 121.57 52⇓ **P** **PKPdf** **04 59 26.7 +1.0**
baz=122
529A Stev Forest Ra 122.18 51⇓ **P** **PKPdf** **04 59 27.6 +0.8**
baz=122
429A Davenport Ranc 122.20 50⇑ **P** **PKPdf** **04 59 27.9 +1.0**
baz=122
430A Baggett Ranch, 122.62 49⇑ **P** **PKPdf** **04 59 28.5 +0.8**
baz=123
TORD Torodi Ar. Bea 122.89 288 PKP **PKPdf** **04 59 28.1 -0.4**
TORD Torodi Ar. Bea 122.89 288 PKP **PKPdf** **04 59 28.1 -0.4**
comp=Z,1.7nm,0.7s,baz=73,slow=1.4,SNR=18
ABTX Abilene, Hawle 122.91 47⇓ **P** **PKPdf** **04 59 29.0 +0.9**
baz=123
431A Sonora 123.15 49⇓ **P** **PKPdf** **04 59 29.6 +0.9**
baz=123
JCT Junction City 123.85 49 *e*PKIKP **PKPdf** **04 59 30.7 +0.7**
JCT Junction City 123.85 49 *e*PKPdf **PKPdf** **04 59 30.7 +0.7**
JCT Junction City 123.85 49⇓ **P** **PKPdf** **04 59 30.9 +0.8**
baz=124
DBIC Dimbokro 130.58 282 PKP **PKPdf** **04 59 42.5 -0.7**
DBIC Dimbokro 130.58 282 PKP **PKPdf** **04 59 42.5 -0.7**
comp=Z,2.3nm,0.7s,baz=131,slow=3.7,SNR=2.4
PLCA Paso Flores 140.22 159 *e*PKPdf **PKPdf** **05 00 00.0 -0.5**
PLCA PKP **PKPdf** **05 00 02.1 +1.5**
PLCA Paso Flores 140.22 159 PKP **PKPdf** **05 00 02.1 +1.5**
comp=Z,3.1nm,1.1s,baz=152,slow=5.2,SNR=4.5
TRQA Tornquist 145.15 168 *e*PKPdf **PKPab** **05 00 08.9 0.0**
JTS JuntasAbangare 145.36 66 *e*PKPbc **PKPab** **05 00 11.5 +1.2**
JTS JuntasAbangare 145.36 66 PKPbc **PKPab** **05 00 11.0 +0.6**
comp=Z,7.3nm,0.8s,baz=208,slow=8.0,SNR=3.6
LCO Las Campanas 150.08 148 *e*PKPbc **PKPbc** **05 00 24.1 +1.0**
CPUP Villa Florida 157.43 170 PKPab **PKPab** **05 01 00.9 +1.5**
CPUP Villa Florida 157.43 170 PKPab **PKPab** **05 01 00.9 +1.5**
comp=Z,10nm,0.7s,baz=171,slow=4.1,SNR=29
LPAZ La Paz 160.91 131 *e*PKPdf **PKPdf** **05 00 34.5 +1.3**
BDFB Brasilia 167.34 203 PKPab **PKPab** **05 01 43.4 +0.2**
BDFB Brasilia 167.34 203 PKPab **PKPab** **05 01 43.4 +0.2**
comp=Z,0.6nm,0.3s,baz=211,slow=5.9,SNR=3.2

IDC 15 04:51:31.7±1.3, 3.82N×126.15E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.7/6, Error ellipse: s-maj=198.9km s-min=17.4km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.95**	**161**	P	P	04 56 56.1	-0.9
	1.2nm,0.6s,baz=343,slow=9.7,SNR=16						
ASAR	**Alice Springs**	**28.35**	**165**	P	P	04 57 28.4	+0.8
	0.2nm,0.5s,baz=339,slow=10.0,SNR=2.7						
STKA	**Stephens Creek**	**38.42**	**159**	P	P	04 58 55.4	+0.2
	1.8nm,0.6s,baz=333,slow=11,SNR=3.6						
SONM	**Songino Array**	**47.03**	**342**	P	P	05 00 05.4	+0.3
	0.2nm,0.3s,baz=144,slow=8.4,SNR=3.1						
MKAR	**Makanchi Array**	**57.15**	**325**	P	P	05 01 20.5	+0.1
	0.6nm,0.4s,baz=117,slow=7.7,SNR=21						
ZALV	**Zalesovo Beam**	**60.24**	**333**	P	P	05 01 40.9	-0.8
	0.7nm,0.4s,baz=120,slow=5.2,SNR=4.2						

IDC 15 04:53:53.7±1.2, 3.78N×126.88E, h0km, mb3.7/6, mb1 3.8/6, mbtmp3.7/6, Error ellipse: s-maj=125.1km s-min=18.1km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.69**	**163**	P	P	04 59 15.8	-0.9
	2.1nm,0.7s,baz=344,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.13**	**166**	P	P	04 59 48.8	+1.1
	0.2nm,0.5s,baz=348,slow=8.5,SNR=4.2						
STKA	**Stephens Creek**	**38.12**	**160**	P	P	05 01 14.4	-0.2
	1.3nm,0.5s,baz=346,slow=11,SNR=2.9						
SONM	**Songino Array**	**47.30**	**341**	P	P	05 02 29.8	+0.6
	0.2nm,0.3s,baz=162,slow=7.6,SNR=4.1						
MKAR	**Makanchi Array**	**57.60**	**325**	P	P	05 03 44.4	-1.1
	0.5nm,0.5s,baz=124,slow=7.2,SNR=8.3						
BVAR	**Borovoye Array**	**67.36**	**327**	P	P	05 04 51.1	+0.4
	0.8nm,0.9s,baz=123,slow=7.3,SNR=4.1						

IDC 15 05:05:01.4±2.0, 4.08N×126.58E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/19, mbtmp3.7/3, Error ellipse: s-maj=171.8km s-min=26.9km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.06**	**163**	P	P	05 10 28.1	+0.4
	1.1nm,0.6s,baz=342,slow=10,SNR=13						
STKA	**Stephens Creek**	**38.50**	**159**	P	P	05 12 24.9	-0.8
	0.9nm,0.3s,baz=333,slow=6.8,SNR=3.0						
MKAR	**Makanchi Array**	**57.19**	**325**	P	P	05 14 50.3	0.0
	0.2nm,0.5s,baz=127,slow=7.5,SNR=5.8						

IDC ***15*** *05:12:26.3±1.1, 1.45N×127.22E, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, ML3.8/1, Error ellipse: s-maj=93.1km s-min=16.2km az=70.0*

ISCJB ***15*** *05:12:33.0±0.8, 1.39N±0.08×127.30E±0.08, h72km, mb3.9/6, Error ellipse: s-maj=12.7km s-min=9.8km az=38.4*

DJA ***15*** *05:12:32.6±1.5, 1.1°N±13°×12.7°E±, h25km±9km, M4.0/3, MLv4.0/3*

ISC 15 05:12:34.6±1.0, 1.3N±0.1×127.4E±0.1, h72km, n12, σ1.8s37/12, mb4.0/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.56**	**180**	P	**Pn**	**05 12 45.6**	**-2.6**
LBMI	**Labuha**	**1.96**	**176**	P	**Pn**	**05 13 06.4**	**+0.6**
MNI	**Manado**	**2.53**	**273**	P	Pn	05 13 08.1	-5.3
KMSI	**Cibinong**	**3.47**	**258**	P	**Pn**	**05 13 27.2**	**+1.0**
KMSI				S	**Sn**	**05 14 04.3**	**-1.8**
NLAI	**Namlea**	**4.55**	**183**	P	**Pn**	**05 13 40.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**19.39**	**185**	P	**Pn**	**05 16 56.6**	**-0.1**
	0.2nm,0.3s,baz=30,slow=12,SNR=6.3						
WRA	**Warramunga Arr**	**22.22**	**162**	P	**P**	**05 17 26.7**	**+1.2**
	5.1nm,0.6s,baz=339,slow=11,SNR=36						
ASAR	**Alice Springs**	**25.65**	**166**	P	**P**	**05 17 58.5**	**+0.8**
	4.2nm,0.8s,baz=336,slow=8.6,SNR=28						
STKA	**Stephens Creek**	**35.68**	**159**	P	**P**	**05 19 27.5**	**+1.5**
	2.9nm,0.7s,baz=329,slow=9.8,SNR=7.6						

SONM Songino Array 49.76 342 P **P** **05 21 19.2 -0.8**
0.3nm,0.7s,baz=151,slow=6.6,SNR=2.2
MKAR Makanchi Array 59.88 326 P **P** **05 22 32.9 -0.1**
0.4nm,0.5s,baz=120,slow=8.6,SNR=10
KURBB Kurchatov Arra 64.09 328 P **P** **05 23 01.3 +0.2**
1.1nm,0.6s,baz=125,slow=5.7,SNR=5.9

IDC 15 05:21:13.5±1.2, 3°.03N×127°.00E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, MS3.0/1, Ms1 3.0/1, ms1mx2.1/34, Error ellipse: s-maj=97.5km s-min=18.2km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.25**	**341**	LR	LR	05 23 20.3	
	comp=Z,172nm,20.4s,baz=221,slow=30						
FITZ	**Fitzroy Crossi**	**21.04**	**184**	P	P	05 26 00.6	+1.5
	2.2nm,0.8s,baz=18,slow=6.4,SNR=2.7						
WRA	**Warramunga Arr**	**23.94**	**163**	P	P	05 26 28.4	-1.2
	1.1nm,0.4s,baz=341,slow=10,SNR=9.9						
ASAR	**Alice Springs**	**27.38**	**166**	P	P	05 27 02.6	+1.9
	0.4nm,0.3s,baz=347,slow=12,SNR=5.6						
STKA	**Stephens Creek**	**37.38**	**159**	P	P	05 28 26.7	-1.5
	3.3nm,0.8s,baz=332,slow=5.6,SNR=4.7						
SONM	**Songino Array**	**48.04**	**341**	P	P	05 29 56.4	+1.7
	0.3nm,0.8s,baz=159,slow=8.1,SNR=3.4						
MKAR	**Makanchi Array**	**58.28**	**325**	P	P	05 31 08.1	-2.0
	0.3nm,0.5s,baz=118,slow=7.9,SNR=7.1						

*ISCJB **15** 05:34:35.7±0.7, 38°.93N±0°.04×9°.21W±0°.05, h28km±6km, Error ellipse: s-maj=7.1km s-min=6.1km az=138.8*
*MDD **15** 05:34:36.7±0.3, 38°.93N×9°.17W, h21km±2km, mbLg1.9/7, Error ellipse: s-maj=5.4km s-min=4.8km az=139.0, PRXIMO*
*CSEM **15** 05:34:36.2±0.2, 38°.91N×9°.16W, h19km, ML2.6/4, Error ellipse: s-maj=4.0km s-min=3.0km az=103.0*
*IGIL **15** 05:34:37.5, 38°.94N×9°.15W, h20km, ML1.8*
*INMG **15** 05:34:37.0±1.2, 38°.93N×9°.16W, h20km±2km, ML1.6, Error ellipse: s-maj=4.1km s-min=2.7km az=105.0*

ISC 15 05:34:35.9±1.1, 38°.96N±0°.03×9°.17W±0°.05, h23km±8km, n46, σ0°.95/64, 1D, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**0.09**	**268**	*i* Pg	**Pb**	**05 34 40.5**	**+0.3**
PMAFR				*i* Sg	**Sb**	**05 34 43.5**	**+0.3**
PMAFR				A	A	05 34 43.9	
	187nm,0.2s						
PMAFR	**Mafra**	**0.09**	**268**	Pg	**Pb**	**05 34 40.6**	**+0.3**
	114nm,0.3s,SNR=40						
PMAFR				Lg	Lg	05 34 43.5	
	169nm,0.1s,SNR=12						
PMAFR	**Mafra**	**0.09**	**268**	Pg	**Pb**	**05 34 40.6**	**+0.3**
	114nm,0.3s,SNR=40						
PMAFR				*i* Sg	**Sb**	**05 34 43.5**	**+0.3**
	187nm,0.2s						
PMAFR				Lg	Lg	05 34 43.5	
	169nm,0.1s,SNR=12						
INMG	**Instituto de M**	**0.19**	**170**	*e*Pg	**Pb**	**05 34 41.5**	**+0.3**
INMG	**Instituto de M**	**0.19**	**170**	Pg	**Pb**	**05 34 41.5**	**+0.3**
INMG	**Instituto de M**	**0.19**	**170**	Pg	**Pb**	**05 34 41.5**	**+0.3**
ALMR	**Almeirim**	**0.50**	**67**	*e*P	**Pb**	**05 34 46.8**	**+0.7**
ALMR				*e*S	**Sb**	**05 34 53.5**	**+0.5**
ALMR				AML	AML	05 34 55.5	
	comp=N,53nm,0.1s						
ALMR	**Almeirim**	**0.50**	**67**	*e*P	**Pb**	**05 34 46.8**	**+0.7**
ALMR				*e*S	**Sb**	**05 34 53.5**	**+0.5**
ALMR	**Almeirim**	**0.50**	**67**	Pg	**Pb**	**05 34 46.8**	**+0.7**
ALMR				Lg	Lg	05 34 53.5	
ALMR	**Almeirim**	**0.50**	**67**	*e*P	**Pb**	**05 34 46.8**	**+0.7**
ALMR				*e*S	**Sb**	**05 34 53.5**	**+0.5**
ALMR				Lg	Lg	05 34 53.5	
PMTG	**Montargil**	**0.74**	**81**	*e*Pg	**Pn**	**05 34 50.8**	**-0.2**
PMTG				*e*Sg	**Sb**	**05 35 00.6**	**+0.7**
PMTG				A	A	05 35 01.4	
	comp=N,28nm,0.1s						
PMTG	**Montargil**	**0.74**	**81**	*e*Pg	**Pn**	**05 34 50.8**	**-0.2**
PMTG				*e*Sg	**Sb**	**05 35 00.6**	**+0.7**
	comp=N,28nm,0.1s						
PTOM	**Tomar**	**0.88**	**41**	*i* P	**Pn**	**05 34 53.3**	**+0.4**
PTOM				*e*S	**Sn**	**05 35 05.1**	**+0.1**
PTOM				A	A	05 35 06.4	
	comp=N,13nm,0.1s						
PTOM	**Tomar**	**0.88**	**41**	⇓Pg	**Pn**	**05 34 53.3**	**+0.4**
PTOM				Lg	Lg	05 35 05.1	
	comp=N,6.6nm,0.1s						
PTOM	**Tomar**	**0.88**	**41**	Pg	**Pn**	**05 34 53.3**	**+0.4**
PTOM	**Tomar**	**0.88**	**41**	*e*S	**Sn**	**05 35 05.1**	**+0.1**
	comp=N,13nm,0.1s						
PNCL	**Nicolau / Gran**	**0.98**	**149**	*e*P	**Pb**	**05 34 54.1**	**-0.1**
PNCL				*e*S	**Sb**	**05 35 06.5**	**-0.3**
PNCL				A	A	05 35 08.2	
	comp=N,13nm,0.2s						
PNCL	**Nicolau / Gran**	**0.98**	**149**	*e*P	**Pb**	**05 34 54.1**	**-0.1**
PNCL				*e*S	**Sb**	**05 35 06.5**	**-0.3**
	comp=N,13nm,0.2s						
EVO	**Evora**	**1.00**	**115**	*e*P	**Pn**	**05 34 54.5**	**0.0**
EVO				*e*S	**Sn**	**05 35 08.1**	**+0.3**
EVO	**Evora**	**1.00**	**115**	Pg	**Pn**	**05 34 54.5**	**0.0**
EVO				Lg	Lg	05 35 08.1	
EVO	**Evora**	**1.00**	**115**	*e*P	**Pn**	**05 34 54.5**	**0.0**
EVO				Lg	Lg	05 35 08.1	
EVO				*e*S	**Sn**	**05 35 08.1**	**+0.3**
PESTR	**Estremoz**	**1.23**	**94**	*e*P	**Pb**	**05 34 58.6**	**+0.1**
PESTR	**Estremoz**	**1.23**	**94**	Pg	**Pb**	**05 34 58.6**	**+0.1**
PESTR	**Estremoz**	**1.23**	**94**	*e*P	**Pb**	**05 34 58.6**	**+0.1**
MESJ	**Messejana**	**1.34**	**146**	*e*P	**Pn**	**05 34 59.5**	**+0.3**
MESJ				*e*S	**Sn**	**05 35 14.9**	**-1.4**
MESJ				AML	AML	05 35 18.5	
	comp=E,10nm,0.1s						
MESJ	**Messejana**	**1.34**	**146**	*e*P	**Pn**	**05 34 59.5**	**+0.3**
MESJ				*e*S	**Sn**	**05 35 14.9**	**-1.4**
MESJ	**Messejana**	**1.34**	**146**	Pg	**Pn**	**05 34 59.5**	**+0.3**
MESJ				Lg	Lg	05 35 14.9	
MESJ	**Messejana**	**1.34**	**146**	*e*P	**Pn**	**05 34 59.5**	**+0.3**
MESJ				Lg	Lg	05 35 14.9	
MESJ				*e*S	**Sn**	**05 35 14.9**	**-1.4**
PCVE	**Castro Verde**	**1.59**	**146**	*e*P	**Pn**	**05 35 01.8**	**-0.9**
PCVE	**Castro Verde**	**1.59**	**146**	Pg	**Pn**	**05 35 01.8**	**-0.9**
PCVE	**Castro Verde**	**1.59**	**146**	*e*P	**Pn**	**05 35 01.8**	**-0.9**
PBAR	**Barrancos**	**1.84**	**114**	*e*Pg	**Pb**	**05 35 09.3**	**+0.4**
PBAR				*e*Sg	**Sb**	**05 35 33.7**	**+2.2**
PBAR				A	A	05 35 39.4	
	comp=E,2.3nm,0.1s						
PBAR	**Barrancos**	**1.84**	**114**	Pg	**Pb**	**05 35 09.3**	**+0.4**
PBAR				Lg	Lg	05 35 33.7	
	comp=E,2.3nm,0.1s						
PBAR	**Barrancos**	**1.84**	**114**	Pg	**Pb**	**05 35 09.3**	**+0.4**
PBAR				Lg	Lg	05 35 33.7	
	comp=E,2.3nm,0.1s						
PFVI	**Vila Bisbo**	**1.84**	**172**	Pg	**Pb**	**05 35 11.1**	**+2.2**
	SNR=7.9						
PFVI				Lg	Lg	05 35 32.3	
	comp=E,2.4nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**1.84**	**172**	Pg	**Pb**	**05 35 11.1**	**+2.2**
	SNR=7.9						
PFVI				Lg	Lg	05 35 32.3	
	comp=E,2.4nm,0.1s,SNR=7.9						
PVAQ	**Vaqueiros**	**1.93**	**143**	*e*Pn	**Pn**	**05 35 06.4**	**-0.9**
PVAQ	**Vaqueiros**	**1.93**	**143**	Pn	**Pn**	**05 35 06.4**	**-0.9**
PVAQ	**Vaqueiros**	**1.93**	**143**	Pn	**Pn**	**05 35 06.4**	**-0.9**
PBDV	**Barranco-do-Ve**	**1.97**	**150**	*e*Pn	**Pn**	**05 35 07.5**	**-0.4**
PBDV				*e*Sg	**Sb**	**05 35 36.6**	**+1.3**
PBDV				A	A	05 35 42.0	
	comp=E,2.6nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.97**	**150**	Pn	**Pn**	**05 35 07.5**	**-0.4**
PBDV				Lg	Lg	05 35 36.6	
	comp=E,2.6nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.97**	**150**	Pn	**Pn**	**05 35 07.5**	**-0.4**
PBDV				Lg	Lg	05 35 36.6	
	comp=E,2.6nm,0.5s						
EMIN	**Mina Concepcio**	**2.29**	**120**	Pn	**Pn**	**05 35 11.9**	**-0.4**
	SNR=7.9						
EMIN				Pg	**Pb**	**05 35 16.9**	**+0.3**
	SNR=7.9						
EMIN				Lg	Lg	05 35 46.8	
	comp=E,1.2nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.29**	**120**	Pn	**Pn**	**05 35 11.9**	**-0.4**
	SNR=7.9						
EPLA	**Plasencia**	**2.63**	**64**	Sn	**Sn**	**05 35 44.2**	**-3.9**
	SNR=7.9						
EPLA				Lg	Lg	05 35 57.4	
	comp=E,1.5nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**2.75**	**36**	Sn	**Sn**	**05 35 48.9**	**-2.2**
	SNR=7.9						
MVO				Lg	Lg	05 36 02.7	
	comp=E,0.9nm,0.2s,SNR=7.9						

*ISCJB **15** 05:34:49.1±0.4, 0°.00N±0°.04×123°.69E±0°.04, h139km±4km, mb3.8/13, Error ellipse: s-maj=7.5km s-min=6.9km az=143.4*
*DJA **15** 05:34:50, 0°.03S×123°.68E, h117km, MLv4.3/7*
*IDC **15** 05:34:50.5±4.5, 0°.06N×123°.61E, h131km±41km, mb3.6/12, mb1 3.7/13, mb1mx3.6/18, mbtmp3.6/13, Error ellipse: s-maj=28.5km s-min=12.1km az=72.0*

ISC 15 05:34:50.4±0.7, 0°.01S±0°.05×123°.69E±0°.05, h135km±6km, n25, σ1°.36/34, mb3.9/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.65**	**27**	P	**Pn**	**05 35 11.1**	**+0.1**
KMSI				S	**Sn**	**05 35 26.2**	**-0.4**
MRSI	**Marisa**	**1.82**	**285**	P	**Pn**	**05 35 21.2**	**-1.3**
MRSI				S	**Sn**	**05 35 44.9**	**-2.1**
MNI	**Manado**	**1.84**	**39**	P	**Pn**	**05 35 23.6**	**+0.7**
MNI				S	**Sn**	**05 35 50.1**	**+2.4**
APSI	**Ampana**	**2.23**	**246**	S	**Sn**	**05 35 58.2**	**+2.3**
LBMI	**Labuha**	**3.86**	**99**	P	**Pn**	**05 35 47.6**	**-0.9**
LBMI				S	**Sn**	**05 36 31.0**	**-2.5**
KDI	**Kendari**	**4.07**	**195**	P	**Pn**	**05 35 52.1**	**+0.9**
KDI				S	**Sn**	**05 36 37.2**	**-1.2**
NLAI	**Namlea**	**4.68**	**133**	P	**Pn**	**05 35 59.4**	**+0.1**
NLAI				S	**Sn**	**05 36 50.8**	**-2.2**
AAI	**Ambon**	**5.80**	**129**	P	**Pn**	**05 36 15.1**	**+0.8**
	128nm,0.5s,0.5nm						
MYLDM	**Lahad Datu**	**7.31**	**315**	P	Pn	05 36 43.8	+9.2
FITZ	**Fitzroy Crossi**	**18.08**	**174**	P	**Pn**	**05 38 53.0**	**-0.1**
	0.2nm,0.3s,baz=2.9,slow=12,SNR=3.8						
WRA	**Warramunga Arr**	**22.39**	**153**	P	**P**	**05 39 37.8**	**0.0**
	1.6nm,0.5s,baz=337,slow=10,SNR=24						
ASAR	**Alice Springs**	**25.52**	**158**	P	**P**	**05 40 09.3**	**+2.7**
	0.7nm,0.4s,baz=326,slow=7.9,SNR=18						
ASAR				PcP	**PcP**	**05 43 35.9**	**+1.2**
	1.1nm,0.6s,baz=341,slow=2.1,SNR=12						
CMAR	**Chiang Mai Arr**	**30.46**	**308**	P	**P**	**05 40 50.7**	**+0.1**
	0.7nm,0.3s,baz=137,slow=8.6,SNR=6.4						
STKA	**Stephens Creek**	**35.94**	**154**	P	**P**	**05 41 38.9**	**+0.9**
	1.2nm,0.6s,baz=0.0,slow=5.1,SNR=3.0						
STKA				PcP	**PcP**	**05 44 01.9**	**-0.2**
	1.1nm,0.4s,baz=337,slow=7.7,SNR=3.7						
MJAR	**Matsushiro Arr**	**38.78**	**19**	P	**P**	**05 42 00.9**	**-1.0**
	2.3nm,0.8s,baz=195,slow=9.4,SNR=5.8						
USRK	**Ussuriysk Arra**	**44.64**	**9**	P	**P**	**05 42 50.2**	**+0.8**
	1.1nm,0.3s,baz=197,slow=7.0,SNR=6.0						
SONM	**Songino Array**	**49.97**	**345**	P	**P**	**05 43 30.8**	**0.0**
	0.7nm,0.8s,baz=159,slow=7.7,SNR=5.8						
SONM				PcP	**PcP**	**05 44 49.4**	**+0.5**
	0.5nm,0.8s,baz=142,slow=5.6,SNR=3.5						
MKAR	**Makanchi Array**	**58.99**	**328**	P	**P**	**05 44 35.8**	**-0.1**
	1.8nm,0.5s,baz=126,slow=8.3,SNR=30						
MKAR				PcP	**PcP**	**05 45 22.9**	**-0.5**
	1.0nm,0.4s,baz=169,slow=3.1,SNR=16						
PETK	**Petropavlovsk-**	**60.02**	**23**	P	**P**	**05 44 44.4**	**+1.6**
	0.8nm,0.4s,baz=217,slow=2.4,SNR=9.1						
ZALV	**Zalesovo Beam**	**62.61**	**335**	P	**P**	**05 44 59.9**	**-0.3**
	0.5nm,0.5s,baz=147,slow=8.3,SNR=4.1						
ILAR	**Eielson Array**	**89.76**	**25**	P	**P**	**05 47 32.2**	**-1.0**
	0.2nm,0.6s,baz=240,slow=5.3,SNR=6.2						
ARCES	**ARCESS Array B**	**92.88**	**340**	P	**P**	**05 47 46.1**	**-1.5**
	2.4nm,0.8s,baz=62,slow=3.3,SNR=8.6						
FINES	**FINESS Array B**	**93.66**	**331**	P	**P**	**05 47 49.0**	**-2.3**
	0.7nm,0.7s,baz=102,slow=8.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**121.08**	**285**	PKP	**PKPdf**	**05 53 28.3**	**+0.1**
	0.7nm,0.7s,baz=106,slow=1.9,SNR=8.9						
SCHQ	**Schefferville**	**124.68**	**7**	PKP	**PKPdf**	**05 53 34.2**	**+0.2**
	1.2nm,0.7s,baz=342,slow=3.2,SNR=4.4						

IDC 15 05:37:53.8±1.6, 3°.55N×126°.77E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/19, mbtmp3.4/3, Error ellipse: s-maj=168.0km s-min=26.9km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.50**	**163**	P	P	05 43 15.1	0.0
	0.7nm,0.8s,baz=344,slow=10,SNR=4.6						
SONM	**Songino Array**	**47.48**	**341**	P	P	05 46 30.9	+0.2
	0.2nm,0.4s,baz=160,slow=9.1,SNR=3.2						
MKAR	**Makanchi Array**	**57.73**	**325**	P	P	05 47 46.0	-0.5
	0.3nm,0.5s,baz=125,slow=6.5,SNR=5.1						

IDC 15 05:41:36.9±2.0, 3°.07N×126°.01E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=187.4km s-min=25.9km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.29**	**161**	P	P	05 46 56.1	-0.1
	0.7nm,0.4s,baz=339,slow=10,SNR=12						
ASAR	**Alice Springs**	**27.67**	**164**	P	P	05 47 27.2	+0.5
	0.3nm,0.5s,baz=351,slow=7.3,SNR=7.2						
STKA	**Stephens Creek**	**37.78**	**158**	P	P	05 48 54.8	-0.2
	2.3nm,0.7s,baz=10.0,slow=7.7,SNR=3.8						
MKAR	**Makanchi Array**	**57.69**	**326**	P	P	05 51 29.0	-0.3
	0.2nm,0.4s,baz=122,slow=7.9,SNR=4.2						

*IDC **15** 06:03:32.7±2.0, 35°.59N×141°.07E, h0km, mb3.6/5, mb1 3.5/7, mb1mx3.4/25, mbtmp3.5/7, ML2.7/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/37, Error ellipse: s-maj=46.5km s-min=19.8km az=71.0*
*ISCJB **15** 06:03:35.6±1.2, 35°.68N±0°.04×140°.9E±0°.1, h31km±5km, mb3.5/6, Error ellipse: s-maj=15.7km s-min=5.6km az=171.6*
*JMA **15** 06:03:36.6±0.1, 35°.68N×140°.83E, h27km±1km, M3.0*

ISC 15 06:03:36.3±1.1, 35°.68N±0°.05×140°.91E±0°.08, h27km±6km, n18, σ0°.92/22, mb3.5/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.05**	**303**	P	**Pb**	**06 03 41.0**	**+0.1**
CHOJ				S	**Sb**	**06 03 44.0**	**0.0**
JCN	**Nagara**	**0.63**	**246**	P	**Pn**	**06 03 48.6**	**-0.9**
KTR	**Katsuura**	**0.72**	**223**	*e*S	**Sn**	**06 03 59.8**	**-0.9**
JYT	**Yasato**	**0.80**	**314**	P	**Pb**	**06 03 50.5**	**-1.0**
JYT				*e*S	**Sb**	**06 04 00.7**	**-1.3**
BSO3	**Boso 3**	**0.93**	**201**	P	**Pb**	**06 03 52.8**	**-0.8**
BSO3				*e*S	**Sn**	**06 04 05.9**	**+0.2**
JHO	**Hitachi**	**0.97**	**344**	P	**Pb**	**06 03 53.3**	**-1.2**
BSO1	**Boso 1**	**1.02**	**177**	P	**Pn**	**06 03 53.4**	**-1.0**
BSO1				*e*S	**Sn**	**06 04 08.3**	**+0.8**
JAG	**Ashikaga**	**1.40**	**303**	P	**Pn**	**06 03 59.0**	**-1.0**
MJAR	**Matsushiro Arr**	**2.35**	**292**	Pn	**Pn**	**06 04 13.2**	**+0.1**
	1.3nm,0.3s,baz=202,slow=4.4,SNR=17						
MJAR				Sn	**Sb**	**06 04 47.9**	**+1.4**
	4.7nm,0.3s,baz=285,slow=19,SNR=6.9						
MAT	**Matsushiro**	**2.35**	**292**	P	**Pn**	**06 04 13.8**	**+0.6**
MAT				S	**Sb**	**06 04 47.2**	**+0.6**
JHJ	**Hachijo jima 2**	**2.71**	**200**	Pn	**Pn**	**06 04 17.7**	**-0.4**
	4.7nm,0.3s,baz=72,slow=20,SNR=2.9						
JHJ				Sn	**Sn**	**06 04 49.7**	**-0.4**
	15nm,0.3s,baz=90,slow=19,SNR=2.6						
KSRS	**Korea Array**	**10.60**	**283**	LR	LR	06 10 17.0	
	comp=Z,59nm,19.0s,baz=168,slow=38						
SONM	**Songino Array**	**28.23**	**306**	P	P	06 09 30.7	+3.7
	0.3nm,0.6s,baz=101,slow=7.9,SNR=2.6						
ZALV	**Zalesovo Beam**	**42.54**	**313**	P	**P**	**06 11 30.3**	**+0.9**
	1.0nm,0.8s,baz=97,slow=6.1,SNR=4.5						
MKAR	**Makanchi Array**	**44.51**	**303**	P	**P**	**06 11 46.6**	**+1.3**
	0.3nm,0.7s,baz=87,slow=10,SNR=4.9						
KURBB	**Kurchatov Arra**	**46.52**	**309**	P	**P**	**06 12 02.0**	**+0.8**
	0.4nm,0.4s,baz=88,slow=7.5,SNR=5.0						
WRA	**Warramunga Arr**	**55.66**	**187**	P	**P**	**06 13 10.3**	**+0.2**
	0.5nm,0.6s,baz=5.5,slow=8.0,SNR=7.6						
ASAR	**Alice Springs**	**59.39**	**187**	P	P	06 13 41.6	+5.3
	0.2nm,0.6s,baz=21,slow=10,SNR=5.1						

IDC 15 06:17:14.5±3.8, 5°.33S×154°.29E, h216km±36km, mb3.6/9, mb1 3.9/11, mb1mx3.6/20, mbtmp3.7/11, MS2.7/1, Ms1 2.7/1, ms1mx2.5/30, Error ellipse: s-maj=22.5km s-min=18.6km az=48.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.94**	**126**	LR	LR	06 20 41.8	
	comp=Z,62nm,19.0s,baz=266,slow=30						
PMG	**Port Moresby**	**8.14**	**240**	P	Pn	06 19 09.2	-0.5
	1.2nm,0.3s,baz=44,slow=6.5,SNR=12						
PMG				S	S	06 20 46.9	+5.1
	0.5nm,0.3s,baz=247,slow=6.9,SNR=4.0						
CTA	**Charters Tower**	**16.62**	**207**	*e*P	Pn	06 20 56.2	+0.6
	11nm,0.5s						
CTA	**Charters Tower**	**16.62**	**207**	P	Pn	06 20 56.3	+0.7
	2.3nm,0.3s,baz=30,slow=12,SNR=31						
DZM	**Mont Dzumac**	**20.38**	**146**	P	P	06 21 35.0	-0.1
	2.9nm,0.7s,baz=126,slow=19,SNR=4.3						
WRA	**Warramunga Arr**	**24.24**	**231**	P	P	06 22 12.2	+0.2
	19nm,0.6s,baz=55,slow=9.9,SNR=72						
ASAR	**Alice Springs**	**26.79**	**225**	P	P	06 22 34.7	-0.2
	2.6nm,0.5s,baz=54,slow=9.0,SNR=48						
STKA	**Stephens Creek**	**28.96**	**203**	*e*P	P	06 22 53.5	-0.5
	3.1nm,0.6s						
STKA	**Stephens Creek**	**28.96**	**203**	P	P	06 22 54.1	+0.1
	3.9nm,0.7s,baz=36,slow=9.1,SNR=13						
FITZ	**Fitzroy Crossi**	**30.72**	**243**	*e*P	P	06 23 08.7	-1.0
	9.7nm,0.4s						
FITZ	**Fitzroy Crossi**	**30.72**	**243**	P	P	06 23 08.8	-0.9
	5.4nm,0.4s,baz=70,slow=9.1,SNR=16						
FORT	**Forrest**	**35.34**	**221**	*e*P	P	06 23 49.3	-0.2
	27nm,0.6s						
CMAR	**Chiang Mai Arr**	**59.44**	**295**	P	P	06 26 55.9	+0.8
	1.1nm,0.5s,baz=126,slow=5.4,SNR=3.0						
SONM	**Songino Array**	**67.56**	**327**	P	P	06 27 48.2	+0.3
	0.4nm,0.4s,baz=144,slow=5.6,SNR=4.3						
MKAR	**Makanchi Array**	**81.70**	**319**	P	P	06 29 09.1	+0.2
	0.3nm,0.4s,baz=90,slow=8.7,SNR=11						
ZALV	**Zalesovo Beam**	**82.41**	**326**	P	P	06 29 11.6	-0.8
	0.4nm,0.4s,baz=116,slow=5.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**151.88**	**288**	PKPbc	PKPbc	06 36 44.5	-0.3
	0.4nm,0.5s,baz=73,slow=1.9,SNR=6.0						
TORD				PKPab	PKPab	06 36 54.3	-0.5
	0.2nm,0.4s,baz=74,slow=3.9,SNR=4.7						

MAN 15 06:29:37, 12°.53N×123°.55E, h1km, mb4.5, ML3.3, MS3.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.09**	**91**	*e*P	Pb	06 29 58.4	-0.2
CNP				*e*S	Sn	06 30 15.9	+0.8
PVCP	**Virac**	**1.21**	**29**	*e*P	Pb	06 30 00.9	+0.1
GUIM	**Jordan**	**2.11**	**207**	*e*P	Pn	06 30 14.6	+1.1

IDC 15 06:34:07.8±1.3, 3°.68N×126°.74E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/20, mbtmp3.5/5, Error ellipse: s-maj=124.2km s-min=19.5km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.63**	**163**	P	P	06 39 30.2	0.0
	1.2nm,0.5s,baz=343,slow=10,SNR=15						
ASAR	**Alice Springs**	**28.06**	**166**	P	P	06 40 01.2	+0.1
	0.3nm,0.5s,baz=346,slow=7.4,SNR=2.5						
SONM	**Songino Array**	**47.35**	**341**	P	P	06 42 44.2	+0.6
	0.2nm,0.6s,baz=148,slow=8.5,SNR=2.5						
MKAR	**Makanchi Array**	**57.60**	**325**	P	P	06 43 59.3	-0.3
	0.4nm,0.6s,baz=123,slow=7.1,SNR=5.4						
KURBB	**Kurchatov Arra**	**61.78**	**327**	P	P	06 44 27.8	-0.5
	0.2nm,0.3s,baz=127,slow=6.4,SNR=3.6						

PRE 15 06:35:23.6±2.4, 21°.19S×33°.72E, h10km, ML3.8, 1C-1D, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.16**	**222**	⇓*i*P	Pn	06 36 15.1	+1.6
MOPA				*e*S	Sn	06 36 51.4	+0.2
MOPA				AML	AML	06 37 10.7	
	comp=Z,1μm,0.4s						
BLWY	**Bulawayo**	**4.89**	**281**	*i* P	Pn	06 36 35.1	-2.4
BLWY				*i*		06 36 35.3	
	baz=329,slow=7.9						
BLWY				*i* S	Sb	06 37 48.1	-0.7
SLR	**Silverton**	**6.73**	**227**	*e*P	Pn	06 37 04.7	+1.9
SLR				*e*S	Sn	06 38 19.7	0.0
SLR				AML	AML	06 39 00.4	
	comp=Z,93nm,0.5s						
ERPM	**east rand prop**	**7.17**	**223**	*e*P	Pn	06 37 09.4	+0.6
ERPM				*e*S	Sn	06 38 26.2	-4.4
ERPM				AML	AML	06 39 12.6	
	comp=Z,54nm,0.6s						
LBTB	**Lobatse**	**8.39**	**241**	⇑*i*P	Pn	06 37 25.2	-0.2
LBTB				*e*S	Sn	06 38 55.9	-4.4
LBTB				AML	AML	06 39 36.9	
	comp=Z,20nm,0.4s						
SEK	**Senekal**	**9.00**	**217**	*e*P	Pn	06 37 34.7	+0.8
SEK				*e*S	Sn	06 39 09.5	-6.1
SEK				AML	AML	06 40 20.1	
	comp=Z,33nm,0.8s						
BOSA	**Boshof**

CTA	**Charters Tower**	**32.95**	**265**	P	**P**	**06 47 52.7**	**+0.9**
	9.9nm,0.3s,baz=88,slow=11,SNR=40						
CTA				PcP	**PcP**	**06 50 17.9**	**-0.5**
	3.7nm,0.9s,baz=114,slow=3.1,SNR=3.0						
PMG	**Port Moresby**	**34.93**	**284**	*e*P	**P**	**06 48 08.9**	**+0.4**
	43nm,0.8s						
PMG	**Port Moresby**	**34.93**	**284**	P	**P**	**06 48 09.1**	**+0.6**
	49nm,0.7s,baz=91,slow=5.6,SNR=23						
COEN	**Coen**		**37.10**	**274**	*e*P	**P**	**06 48 27.2**	**+0.9**
	117nm,1.0s						
STKA	**Stephens Creek**	**37.16**	**245**	P	**P**	**06 48 26.9**	**+0.3**
STKA	**Stephens Creek**	**37.16**	**245**	P	**P**	**06 48 26.9**	**+0.3**
	2.2nm,0.5s,baz=79,slow=9.9,SNR=6.9						
AS31	**Alice Springs**	**43.93**	**257**	*e*P	**P**	**06 49 20.9**	**+0.3**
ASAR	**Alice Springs**	**43.94**	**257**	P	**P**	**06 49 21.0**	**+0.4**
ASAR				PcP	**PcP**	**06 50 53.9**	**+0.4**
ASAR				ScP	**ScP**	**06 53 52.5**	**+2.1**
ASAR				S	**S**	**06 55 08.7**	**-2.3**
ASAR	**Alice Springs**	**43.94**	**257**	P	**P**	**06 49 21.0**	**+0.4**
	15nm,0.7s,baz=96,slow=7.8,SNR=106						
ASAR				PcP	**PcP**	**06 50 53.9**	**+0.4**
	2.8nm,0.7s,baz=102,slow=4.0,SNR=9.5						
ASAR				ScP	**ScP**	**06 53 52.5**	**+2.1**
	0.9nm,0.8s,baz=118,slow=3.6,SNR=5.3						
ASAR				S	**S**	**06 55 08.7**	**-2.3**
	3.5nm,0.8s,baz=93,slow=16,SNR=19						
WRAB	**Tennant Creek**	**44.03**	**263**	*e*P	**P**	**06 49 21.0**	**-0.3**
	5.9nm,0.6s						
WRA	**Warramunga Arr**	**44.04**	**263**	P	**P**	**06 49 21.2**	**-0.2**
WRA				S	**S**	**06 55 08.8**	**-3.8**
WRA	**Warramunga Arr**	**44.04**	**263**	P	**P**	**06 49 21.2**	**-0.2**
	6.3nm,0.3s,baz=97,slow=7.5,SNR=178						
WRA				S	**S**	**06 55 08.8**	**-3.8**
	2.4nm,0.8s,baz=97,slow=13,SNR=11						
FITZ	**Fitzroy Crossi**	**52.47**	**263**	*e*P	**P**	**06 50 24.2**	**+0.2**
	9.7nm,1.0s						
FITZ	**Fitzroy Crossi**	**52.47**	**263**	P	**P**	**06 50 24.4**	**+0.5**
	3.9nm,0.3s,baz=114,slow=4.2,SNR=24						
MBWA	**Marble Bar**		**57.27**	**258**	*e*P	**P**	**06 50 57.1**	**-0.3**
	23nm,0.7s						
NWAO	**Narrogin (SRO)**	**57.74**	**244**	P	**P**	**06 51 00.8**	**+0.4**
NWAO	**Narrogin (SRO)**	**57.74**	**244**	P	**P**	**06 51 00.8**	**+0.4**
	6.8nm,0.8s,baz=116,slow=7.8,SNR=3.4						
QSPA	**South Pole Qui**	**69.19**	**180**	P	**P**	**06 52 13.7**	**+0.8**
QSPA	**South Pole Qui**	**69.19**	**180**	P	**P**	**06 52 13.6**	**+0.8**
	2.8nm,1.1s,baz=16,slow=17,SNR=3.5						
MJAR	**Matsushiro Arr**	**70.22**	**324**	P	**P**	**06 52 19.1**	**-0.1**
MJAR	**Matsushiro Arr**	**70.22**	**324**	P	**P**	**06 52 19.1**	**-0.1**
	6.0nm,0.6s,baz=158,slow=6.2,SNR=27						
MAJO	**Matsushiro**		**70.22**	**324**	*e*P	**P**	**06 52 19.3**	**+0.1**
	4.4nm,0.6s						
MAT	**Matsushiro**	**70.22**	**324**	P	**P**	**06 52 19.4**	**+0.2**
JNU	**Nakatsue**	**72.20**	**317**	P	**P**	**06 52 30.5**	**-0.5**
JNU	**Nakatsue**	**72.20**	**317**	P	**P**	**06 52 30.5**	**-0.5**
	6.0nm,0.8s,baz=112,slow=4.6,SNR=4.8						
KSM	**Kuching**	**72.96**	**278**	*e*P	**P**	**06 52 36.0**	**+0.3**
	16nm,0.9s						
TPUB	**Ta-pu**		**73.75**	**303**	*e*P	**P**	**06 52 39.4**	**-0.7**
	27nm,0.7s						
ASAJ	**Asahikawa**	**73.82**	**332**	P	**P**	**06 52 41.8**	**+1.9**
ASAJ	**Asahikawa**	**73.82**	**332**	P	**P**	**06 52 41.8**	**+1.9**
	10nm,0.8s,baz=90,slow=18,SNR=5.7						
PETK	**Petropavlovsk-**	**76.51**	**346**	P	**P**	**06 52 55.0**	**+0.4**
PETK	**Petropavlovsk-**	**76.51**	**346**	P	**P**	**06 52 55.0**	**+0.4**
	7.4nm,0.7s,baz=138,slow=7.9,SNR=12						
KSRS	**Korea Array**	**76.84**	**319**	P	**P**	**06 52 57.8**	**+1.1**
	2.1nm,0.6s,baz=129,slow=6.4,SNR=6.3						
KSAR	**Wonju Array Be**	**76.85**	**319**	P	**P**	**06 52 57.8**	**+1.0**
USRK	**Ussuriysk Arra**	**78.99**	**326**	P	**P**	**06 53 09.9**	**+1.8**
	5.6nm,0.7s,baz=140,slow=2.1,SNR=11						
IPM	**Ipoh**		**82.67**	**278**	*e*P	**P**	**06 53 28.6**	**+0.7**
	6.8nm,0.6s						
PSI	**Prapat**	**84.02**	**275**	P	**P**	**06 53 34.3**	**-0.4**
PSI	**Prapat**	**84.02**	**275**	P	**P**	**06 53 34.3**	**-0.4**
	5.5nm,0.6s,baz=139,slow=6.9,SNR=6.9						
TXAR	**Lajitas Array**	**87.69**	**58**	P	**P**	**06 53 54.1**	**+2.3**
TXAR	**Lajitas Array**	**87.69**	**58**	P	**P**	**06 53 54.1**	**+2.3**
	0.2nm,0.7s,baz=193,slow=5.1,SNR=3.6						
ILAR	**Eielson Array**	**88.80**	**13**	P	**P**	**06 53 55.5**	**-0.5**
ILAR	**Eielson Array**	**88.80**	**13**	P	**P**	**06 53 55.5**	**-0.5**
	0.9nm,0.4s,baz=217,slow=5.1,SNR=26						
CMAR	**Chiang Mai Arr**	**89.76**	**290**	P	**P**	**06 54 01.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**89.76**	**290**	P	**P**	**06 54 01.4**	**-0.2**
	6.7nm,0.9s,baz=122,slow=2.8,SNR=24						
SONM	**Songino Array**	**95.71**	**319**	P	**P**	**06 54 27.1**	**-1.1**
SONM	**Songino Array**	**95.71**	**319**	P	**P**	**06 54 27.1**	**-1.1**
	0.2nm,0.5s,baz=134,slow=4.2,SNR=2.2						
YKA	**Yellowknife Ar**	**97.07**	**25**	P	Pdif	06 54 33.4	-0.4
YKA	**Yellowknife Ar**	**97.07**	**25**	P	Pdif	06 54 33.4	-0.4
	0.2nm,0.7s,baz=238,slow=4.0,SNR=3.8						
ZALV	**Zalesovo Beam**	**110.47**	**321**	PKiKP	**PKiKP**	**06 59 29.8**	**-0.7**
ZALV	**Zalesovo Beam**	**110.47**	**321**	PKiKP	**PKiKP**	**06 59 29.8**	**-0.7**
	0.9nm,0.5s,baz=103,slow=2.5,SNR=6.8						
MKAR	**Makanchi Array**	**111.09**	**313**	PKiKP	**PKiKP**	**06 59 31.1**	**-0.9**
MKAR	**Makanchi Array**	**111.09**	**313**	PKiKP	**PKiKP**	**06 59 31.1**	**-0.9**
	0.5nm,0.4s,baz=153,slow=0.8,SNR=24						
KURK	**Kurchatov**	**113.93**	**317**	PKiKP	**PKiKP**	**06 59 36.4**	**-0.8**
KURBB	**Kurchatov Arra**	**113.98**	**317**	PKiKP	**PKiKP**	**06 59 36.4**	**-0.9**
	0.8nm,0.4s,baz=97,slow=1.9,SNR=10						
KKAR	**Karatay Array**	**119.08**	**308**	*e*PKPdf	**PKPdf**	**06 59 46.5**	**-0.9**
ARCES	**ARCESS Array B**	**129.20**	**349**	PKP	**PKPdf**	**07 00 05.7**	**-0.3**
ARCES	**ARCESS Array B**	**129.20**	**349**	PKP	**PKPdf**	**07 00 05.7**	**-0.3**
	1.7nm,0.5s,baz=110,slow=0.6,SNR=17						
FINES	**FINESS Array B**	**135.99**	**343**	PKPpre	PKPpre	07 00 10.1	
FINES				PKP	**PKPdf**	**07 00 19.1**	**+0.2**
FINES				SKP		07 02 58.2	
FINES	**FINESS Array B**	**135.99**	**343**	PKhKP	PKPpre	07 00 10.1	
	0.7nm,0.5s,baz=14,slow=4.6,SNR=4.7						
FINES				PKP	**PKPdf**	**07 00 19.1**	**+0.2**
	0.8nm,0.3s,baz=51,slow=2.5,SNR=10						
FINES				SKP		07 02 58.2	
	2.1nm,0.8s,baz=24,slow=2.3,SNR=5.4						
NB2	**NORSAR Subarra**	**139.29**	**353**	PKP	PKPpre	07 00 16.0	
	comp=Z,0.7nm,0.6s,baz=10,slow=3.1						
NOA	**NORSAR Array B**	**139.29**	**353**	PKPpre	PKPpre	07 00 15.5	
NOA	**NORSAR Array B**	**139.29**	**353**	PKhKP	PKPpre	07 00 15.5	
	comp=Z,0.8nm,0.6s,baz=10,slow=2.3,SNR=5.5						
AKASG	**Malin Array Be**	**143.09**	**330**	PKP	PKPab	07 00 29.5	-0.5
AKASG	**Malin Array Be**	**143.09**	**330**	PKP	PKPab	07 00 29.5	-0.5
	comp=Z,9.9nm,0.4s,baz=43,slow=4.2,SNR=74						
MUD	**Monsted U'grnd**	**144.01**	**353**	*i* P	PKPbc	07 00 32.9	-0.1
	comp=Z,12nm,1.0s						
BSD	**Bornholm Skovb**	**144.34**	**347**	*i* P	**PKPab**	**07 00 34.6**	**0.0**
	comp=Z,20nm,0.9s						
BSEG	**Bad Segeberg**	**146.31**	**351**	*e*PKPbc	**PKPbc**	**07 00 40.1**	**+0.3**
ASF	**Jabal al Asfar**	**146.50**	**297**	PKPbc	**PKPbc**	**07 00 41.4**	**+0.2**
ASF	**Jabal al Asfar**	**146.50**	**297**	PKPbc	**PKPbc**	**07 00 41.4**	**+0.2**
	comp=Z,3.8nm,0.7s,baz=84,slow=4.3,SNR=6.4						
BR131	**Keskin Array S**	**146.71**	**312**	*e*PKPbc	**PKPbc**	**07 00 41.6**	**-0.1**
BR131				*e*PKPab	**PKPab**	**07 00 45.0**	**+0.4**
BRTR	**Keskin Array B**	**146.71**	**312**	PKPbc	**PKPbc**	**07 00 41.6**	**-0.1**
BRTR	**Keskin Array B**	**146.71**	**312**	PKPbc	**PKPbc**	**07 00 41.6**	**-0.1**
	comp=Z,4.0nm,0.6s,baz=134,slow=4.8,SNR=25						
GHRR			**147.12**	**326**	⇑*i* P	**PKPbc**	**07 00 43.7**	**+1.4**
BUR08	**Bucovina Ar. S**	**147.12**	**330**	*e*PKPbc	**PKPbc**	**07 00 43.2**	**+0.8**
BUR08				*e*PKPab	**PKPab**	**07 00 47.0**	**+1.0**
BURAR	**Bucovina Array**	**147.14**	**330**	⇓*i* P	**PKPbc**	**07 00 43.2**	**+0.7**
TESR		**147.21**	**327**	⇑*i* P	**PKPbc**	**07 00 42.9**	**+0.4**
CFR	**Carcaliu**	**147.29**	**324**	⇓*i* P	**PKPbc**	**07 00 42.9**	**+0.1**
OJC	**Ojcow**	**147.32**	**338**	*e*PX	**PKPbc**	**07 00 42.1**	**-0.6**
TIRR	**Tirgusor**	**147.59**	**323**	⇓*i* P	**PKPbc**	**07 00 44.5**	**+1.0**
VRI	**Vrincioaia**	**147.60**	**326**	⇑*i* P	**PKPbc**	**07 00 44.0**	**+0.4**
NRDL	**Niedersach Rie**	**147.74**	**350**	*e*PKPbc	**PKPbc**	**07 00 43.8**	**+0.2**
CRVS	**Cervenica-Dubn**	**147.78**	**335**	*e*PKP	**PKPbc**	**07 00 44.8**	**+0.8**
CRVS				*e*		07 00 49.3	
TRPA	**Tarpa**	**147.95**	**333**	⇑*i* P	**PKPbc**	**07 00 43.7**	**-0.6**
DOPR	**Dopca**	**148.22**	**328**	⇑*i* P	**PKPbc**	**07 00 47.2**	**+2.0**
MLR	**Muntele Rosu**	**148.26**	**326**	⇑*i* P	**PKPbc**	**07 00 45.5**	**+0.1**
UPC	**Upice**	**148.28**	**342**	⇑*e*PKP	**PKPbc**	**07 00 45.3**	**+0.2**
UPC				*e*PKPAB	**PKPab**	**07 00 51.1**	**+0.6**
CLL	**Collm**	**148.31**	**346**	*e*PKPbc	**PKPbc**	**07 00 45.2**	**0.0**
CLL	**Collm**	**148.31**	**346**	⇓*i*PKPbc	**PKPbc**	**07 00 45.4**	**+0.2**
	comp=Z,10.0nm,0.8s						
CLL				⇑*i*PKPab	**PKPab**	**07 00 50.6**	**0.0**
	comp=Z,6.0nm,0.6s						
CLZ	**Clausthal**	**148.33**	**349**	*e*PKPbc	**PKPbc**	**07 00 45.6**	**+0.4**
DPC	**Dobruska-Polom**	**148.33**	**342**	⇑*e*PKP	**PKPbc**	**07 00 45.9**	**+0.6**
DPC				*e*PKPAB	**PKPab**	**07 00 51.6**	**+0.9**
MORC	**Moravsky Berou**	**148.46**	**340**	⇑*i*P	**PKPbc**	**07 00 45.9**	**+0.2**
BRG	**Berggiesshubel**	**148.50**	**345**	*e*P	**PKPbc**	**07 00 45.9**	**+0.2**
	comp=Z,8.1nm,1.0s						
BRG				*e*		07 00 51.5	
	comp=Z,3.5nm,0.7s						
BRG							
	comp=N,179nm,22.0s						
BRG							
	comp=E,96nm,21.3s						
BRG							
	comp=Z,267nm,19.4s						
BRG	**Berggiesshubel**	**148.50**	**345**	*e*PKPbc	**PKPbc**	**07 00 45.8**	**+0.2**
BRG				*e*PKPab	**PKPab**	**07 00 51.4**	**+0.1**
PVCC	**Panska Ves**	**148.66**	**344**	⇑*e*PKP	**PKPbc**	**07 00 46.4**	**+0.4**
NEUB	**Neuenburg**	**148.67**	**347**	*e*PKPbc	**PKPbc**	**07 00 46.3**	**+0.3**
VOIR		**148.76**	**327**	⇓*i*P	**PKPdf**	**07 00 38.2**	**-3.7**
DRGR		**148.90**	**331**	⇓*i*P	**PKPbc**	**07 00 47.2**	**+0.3**
VYHS	**Vyhne**	**149.12**	**337**	*e*PKP	**PKPbc**	**07 00 47.1**	**-0.2**
VYHS				*e*		07 00 55.0	
PRU	**Pruhonice**	**149.16**	**343**	⇑*e*PKP	**PKPbc**	**07 00 47.6**	**+0.3**
MOX	**Moxa**	**149.24**	**347**	*e*PKPbc	**PKPbc**	**07 00 47.5**	**0.0**
TANN	**Tannenbergstha**	**149.27**	**346**	*e*PKPbc	**PKPbc**	**07 00 47.7**	**+0.1**
TANN				*e*PKPab	**PKPab**	**07 00 55.1**	**+0.5**
PLN	**Plauen**	**149.27**	**347**	*e*PKPbc	**PKPbc**	**07 00 47.7**	**+0.1**
PLN				*e*PKPab	**PKPab**	**07 00 54.8**	**+0.2**
WERD	**Werda**	**149.27**	**346**	*e*PKPbc	**PKPbc**	**07 00 47.9**	**+0.3**
WERD				*e*PKPab	**PKPab**	**07 00 55.0**	**+0.4**
GUNZ	**Gunzen**	**149.35**	**346**	*e*PKPbc	**PKPbc**	**07 00 48.0**	**+0.2**
GUNZ				*e*PKPab	**PKPab**	**07 00 55.4**	**+0.5**
LOT	**Lotru**	**149.39**	**328**	⇑*i*P	**PKPbc**	**07 00 47.9**	**-0.2**
WERN	**Wernitzgruen**	**149.41**	**346**	*e*PKPbc	**PKPbc**	**07 00 48.4**	**+0.5**
WERN				*e*PKPab	**PKPab**	**07 00 55.8**	**+0.6**
ISP	**Isparta**	**149.73**	**310**	⇓*i*P	**PKPbc**	**07 00 48.4**	**-0.8**
GZR	**Gura Zlata**	**149.91**	**329**	⇑*i*P	**PKPbc**	**07 00 49.3**	**0.0**
ROTZ	**Rotzenmuhle**	**149.94**	**346**	*e*PKPbc	**PKPbc**	**07 00 49.4**	**+0.3**
ROTZ				*e*PKPab	**PKPab**	**07 00 57.8**	**+0.4**
KHC	**Kasperske Hory**	**150.19**	**344**	*e*PKPdf	**PKPdf**	**07 00 43.5**	**-0.5**
KHC				*e*PKPbc	**PKPbc**	**07 00 50.0**	**+0.2**
KHC				*e*PKPab	**PKPab**	**07 00 58.9**	**+0.4**
KHC	**Kasperske Hory**	**150.19**	**344**	⇑*e*PKP	**PKPbc**	**07 00 50.3**	**+0.5**
KHC				*e*PKPAB	**PKPab**	**07 00 59.2**	**+0.7**
TNS	**Taunus Mts**	**150.20**	**351**	*e*PKPbc	**PKPbc**	**07 00 50.0**	**+0.2**
GRF	**Grafenberg Arr**	**150.22**	**347**	*e*PKPbc	**PKPbc**	**07 00 49.4**	**-0.4**
GRF				*e*PKPab	**PKPab**	**07 00 59.3**	**+0.7**
BZS	**Buzias**	**150.28**	**331**	⇑*i*P	**PKPbc**	**07 00 49.9**	**-0.2**
WET	**Wettzell**	**150.36**	**345**	*e*PKPbc	**PKPbc**	**07 00 48.4**	**+0.5**
GEC2	**GERESS Array S**	**150.42**	**344**	*e*PKPbc	**PKPbc**	**07 00 55.8**	**+0.6**
GERES	**GERESS Array B**	**150.42**	**344**	PKPbc	**PKPbc**	**07 00 48.4**	**-0.8**
GERES	**GERESS Array B**	**150.42**	**344**	PKPbc	**PKPbc**	**07 00 50.6**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=29,slow=3.0,SNR=21						
CONA	**Conrad Observa**	**150.62**	**340**	⇑*i*PKiKP	**PKiKP**	**07 00 51.5**	**+0.1**
	comp=Z,5.4nm,0.6s						
WLF	**Walferdange**	**151.04**	**354**	*e*PKPbc	**PKPbc**	**07 00 52.2**	**+0.5**
PKSM	**Moragy**	**151.09**	**335**	⇑*i*P	**PKPbc**	**07 00 52.0**	**+0.1**
STU	**Stuttgart**	**151.49**	**349**	*e*PKPbc	**PKPbc**	**07 00 52.9**	**+0.2**
STU				*e*PKPab	**PKPab**	**07 01 04.0**	**+0.1**
VTS	**Vitosha**	**151.68**	**325**	⇓*i*P	**PKPbc**	**07 00 53.6**	**+0.1**
RJOB	**Jochberg**	**151.68**	**344**	*e*PKPab	**PKPab**	**07 01 05.9**	**+1.1**
SOKA	**Soboth**	**151.99**	**340**	⇓*i*PKPbc	**PKPbc**	**07 00 53.4**	**-0.6**
	comp=Z,1.0nm,0.5s						
BFO	**Black Forest**	**152.06**	**350**	*e*PKPbc	**PKPbc**	**07 00 53.8**	**-0.2**
BFO				*e*PKPab	**PKPab**	**07 01 06.6**	**+0.2**
WTTA	**Wattenberg**	**152.41**	**345**	⇑*i*PKiKP	**PKPbc**	**07 00 55.0**	**-0.1**
	comp=Z,3.4nm,0.4s						
ABTA	**Abfaltersbach**	**152.67**	**343**	⇑*i*PKiKP	**PKPbc**	**07 00 55.0**	**-0.5**
	comp=Z,4.3nm,0.6s						
ESDC	**Sonseca Array**	**160.70**	**13**	PKPab	**PKPab**	**07 01 44.6**	**+0.6**
ESDC	**Sonseca Array**	**160.70**	**13**	PKPab	**PKPab**	**07 01 44.6**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=324,slow=6.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**172.31**	**182**	PKP	**PKPdf**	**07 01 06.3**	**-1.2**
TORD	**Torodi Ar. Bea**	**172.31**	**182**	PKP	**PKPdf**	**07 01 06.3**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=19,slow=0.4,SNR=4.0						

BJI ***15*** *06:43:39.5,25.86N×96.28E,h16km,ML3.4/7,Ms7 3.2/2*
IDC ***15*** *06:43:43.3±0.9,25.34N×96.58E,h0km,mb3.7/11, mb1 3.8/11,mb1mx3.6/27,mbtmp3.7/11,MS3.6/2, Ms1 3.6/2,ms1mx2.7/44,Error ellipse: s-maj=42.2km s-min=17.5km az=55.0*
ISCJB ***15*** *06:43:45.5±0.6,25.4N±0.1×96.6E±0.2,h25km,mb3.7/11, MS3.6/2,Error ellipse: s-maj=23.9km s-min=8.3km az=142.3*

ISC 15 06:43:48.0±0.7,25.56N±0.08×96.75E±0.10,h25km,n15, σ1908/15,mb3.6/11,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**5.44**	**93**	Pg	**Pb**	**06 45 23.3**	**+0.9**
KMI				Sg	Sb	06 46 46.3	+19
KMI				smax	smax		
	comp=N,28nm,0.6s						
KMI				smax	smax		
	comp=E,27nm,0.8s						
KMI				LR	LR		
	comp=Z,360nm,9.8s						
LSA	**Lhasa**	**6.45**	**311**	Pg	Pn	06 45 23.8	+2.0
LSA				Sg	**Sn**	**06 46 35.9**	**+1.0**
LSA				smax	smax		
	comp=N,10.0nm,1.0s						
LSA				smax	smax		
	comp=E,10.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**7.36**	**164**	Pn	**Pn**	**06 45 33.4**	**-0.5**
	comp=E,0.4nm,0.3s,baz=332,slow=13,SNR=5.2						
CMAR				Pg	**Pb**	**06 45 56.9**	**+1.9**
	comp=E,0.2nm,0.3s,baz=335,slow=16,SNR=4.2						
CMAR				Lg	Lg	06 47 33.9	
	comp=E,0.5nm,0.3s,baz=343,slow=27,SNR=3.4						
SONM	**Songino Array**	**23.50**	**16**	P	**P**	**06 48 57.2**	**+1.2**
	comp=E,0.9nm,0.7s,baz=200,slow=11,SNR=9.2						
SONM				LR	LR	06 59 35.9	
	comp=E,51nm,18.5s,baz=339,slow=40						
MKAR	**Makanchi Array**	**24.11**	**335**	P	**P**	**06 49 02.8**	**+1.1**
	comp=E,2.2nm,0.4s,baz=139,slow=8.5,SNR=44						
AAK	**Ala-Archa**	**24.37**	**319**	P	**P**	**06 49 09.8**	**+0.1**
	comp=E,0.9nm,0.6s,baz=177,slow=11,SNR=4.6						
KURBB	**Kurchatov Arra**	**28.68**	**335**	P	**P**	**06 49 43.1**	**+0.3**
	comp=E,1.5nm,0.5s,baz=148,slow=9.4,SNR=5.8						
ZALV	**Zalesovo Beam**	**29.71**	**346**	P	**P**	**06 49 52.6**	**+0.8**
	comp=E,0.4nm,0.4s,baz=163,slow=8.1,SNR=4.6						
BRTR	**Keskin Array B**	**53.97**	**302**	P	**P**	**06 53 09.0**	**-1.0**
	comp=E,0.5nm,0.8s,baz=101,slow=7.5,SNR=3.5						
WRA	**Warramunga Arr**	**58.14**	**137**	P	**P**	**06 53 38.4**	**-1.5**
	comp=E,0.2nm,0.5s,baz=327,slow=7.5,SNR=4.0						
FINES	**FINESS Array B**	**58.67**	**328**	P	**P**	**06 53 43.3**	**+0.3**
	comp=E,1.4nm,0.9s,baz=104,slow=8.7,SNR=3.8						
ASAR	**Alice Springs**	**60.74**	**141**	P	**P**	**06 53 57.0**	**-0.8**
	comp=E,0.5nm,0.5s,baz=324,slow=6.8,SNR=5.9						
NOA	**NORSAR Array B**	**65.85**	**328**	P	**P**	**06 54 30.0**	**-1.2**
	comp=E,0.3nm,0.6s,baz=81,slow=5.3,SNR=2.6						
GERES	**GERESS Array B**	**66.77**	**314**	P	**P**	**06 54 36.9**	**-0.4**
	comp=E,0.3nm,0.4s,baz=71,slow=6.3,SNR=3.9						
SUR	**Sutherland**		**92.46**	**235**	LR	LR	07 39 45.0
	comp=E,76nm,19.6s,baz=291,slow=36						

MEX 15 07:00:28.9±0.9,16.74N×98.89W,h16km±9km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.81**	**115**	*e*P	Pb	07 00 42.1	-2.6
PNIG				*i* S	Sb	07 00 51.5	-3.9
CAIG	**El Cayaco**	**1.35**	**283**	*i* P	Pn	07 00 49.6	-3.5
CAIG				*i* S	Sn	07 01 04.9	-5.8
MEIG	**Mezcala**	**1.37**	**330**	*i* P	Pn	07 00 49.2	-4.2
MEIG				*i* S	Sn	07 01 05.9	-5.5
UTMO	**Huajuapan**	**1.50**	**44**	*e*P	Pn	07 00 51.7	-3.7
UTMO				*i* S	Sn	07 01 09.2	-5.7
PLIG	**Platanillo**	**1.74**	**341**	*i* P	Pn	07 00 56.1	-2.5
PLIG				*i* S	Sn	07 01 15.5	-5.1
VHO	**Vista Hermosa**	**2.09**	**81**	*i* P	Pn	07 00 59.9	-3.6
VHO				*i* S	Sn	07 01 25.0	-4.4
YAIG	**Yautepec**	**2.12**	**355**	*i* P	Pn	07 01 00.5	-3.4
YAIG				*i* S	Sn	07 01 25.4	-4.6
PPM	**Popocatepetl**	**2.33**	**6**	*i* P	Pn	07 01 04.4	-2.8

IDC 15 07:06:46.2±1.2,3.74N×126.70E,h0km,mb3.5/5, mb1 3.7/5,mb1mx3.5/19,mbtmp3.5/5,Error ellipse: s-maj=123.8km s-min=19.0km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.70**	**163**	P	P	07 12 08.3	-1.0
	1.0nm,0.7s,baz=343,slow=10,SNR=10						
ASAR	**Alice Springs**	**28.13**	**166**	P	P	07 12 41.0	+0.8
	0.1nm,0.5s,baz=338,slow=8.2,SNR=3.1						
STKA	**Stephens Creek**	**38.15**	**159**	P	P	07 14 07.5	+0.1
	1.5nm,0.8s,baz=346,slow=8.3,SNR=4.0						
SONM	**Songino Array**	**47.28**	**341**	P	P	07 15 21.8	+0.2
	0.2nm,0.7s,baz=150,slow=6.2,SNR=2.2						
MKAR	**Makanchi Array**	**57.53**	**325**	P	P	07 16 37.2	-0.4
	0.5nm,0.4s,baz=123,slow=7.0,SNR=14						

IDC ***15*** *07:15:29.3±0.6,0.26S×132.46E,h0km,mb4.5/15, mb1 4.6/18,mb1mx4.5/23,mbtmp4.5/18,ML4.3/3,MS4.4/19, Ms1 4.4/19,ms1mx4.2/30,Error ellipse: s-maj=23.7km s-min=10.3km az=80.0*
NEIC ***15*** *07:15:34.8±0.3,0.30S×132.47E,h35km,mb4.7/20,Error ellipse: s-maj=9.1km s-min=5.4km az=64.0*
BJI ***15*** *07:15:34.3,0.30S×132.40E,h35km,mB5.1/24,mb4.8/29, Ms4.7/24,Ms7 4.4/23*
ISCJB ***15*** *07:15:35.2±0.9,0.45S±0.04×132.45E±0.05,h55km±8km, mb4.7/45,MS4.4/26,Error ellipse: s-maj=9.3km s-min=5.3km az=152.1*
DJA ***15*** *07:15:42,0.68S×132.33E,h73km,mb5.0/32*
ISC 15 07:15:35.3±0.4,0.37S±0.04×132.46E±0.05,h35km±1km, n124,σ1997/163,mb4.8/45,MS4.4/26,1C,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**2.54**	**185**	P	**Pn**	**07 16 15.1**	**+0.9**
BAKI	**Biak**	**3.74**	**103**	P	**Pb**	**07 16 40.4**	**-0.3**
TNTI	**Ternate**	**5.22**	**283**	P	**Pn**	**07 16 50.1**	**-0.8**
	144nm,0.6s,3μm5μm0.7nm						
TLE	**Tual**	**5.24**	**177**	P	**Pn**	**07 16 53.3**	**+2.0**
NLAI	**Namlea**	**6.07**	**242**	P	**Pn**	**07 17 03.3**	**+0.7**
	158nm,0.8s,2μm0.6nm						
SMPI	**Sarmi**	**6.45**	**105**	P	Pb	07 17 17.3	-10
	56nm,1.2s,0.3nm						
DAV	**Davao City (W)**	**10.09**	**317**	LR	LR	07 21 17.2	
	comp=Z,1μm,20.3s,baz=152,slow=35						
KDI	**Kendari**	**10.46**	**250**	P	**Pn**	**07 18 04.0**	**+1.1**
	56nm,1.0s,815nm						
SPSI	**Sidrap Palu**	**13.17**	**254**	P	**Pn**	**07 18 38.7**	**-1.4**
	46nm,0.8s,1μm						
KAPI	**Kappang**	**13.51**	**250**	*e*Pn	**Pn**	**07 18 45.6**	**+1.0**
**KAP

comp=N,630nm,17.9s
NJ2 LR LR
comp=E,820nm,24.0s
NJ2 LR LR
comp=Z,640nm,20.6s
NWAO Narrogin (SRO) 35.42 202 P **P** **07 22 28.6 +0.4**
NWAO Narrogin (SRO) 35.42 202 P **P** **07 22 28.6 +0.4**
comp=Z,16nm,0.7s,baz=32,slow=9.1,SNR=9.3
GYA Guiyang 36.46 319 P **P** **07 22 39.8 +2.5**
GYA pP **pP** **07 22 49.8 +2.3**
GYA PP **PP** **07 24 03.5 +2.8**
GYA S **S** **07 28 18.9 +1.7**
GYA sS **sS** **07 28 35.4 +1.5**
GYA ScP **ScP** **07 28 45.0 -0.1**
GYA SS **SnSn** **07 30 45.4 -2.0**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,4.6s
GYA LR LR
comp=N,470nm,16.6s
GYA LR LR
comp=E,450nm,17.2s
GYA LR LR
comp=Z,490nm,16.9s
MJAR Matsushiro Arr 37.11 8 P P 07 22 39.0 -3.5
MJAR Matsushiro Arr 37.11 8 P P 07 22 39.0 -3.5
comp=Z,0.7nm,0.4s,baz=185,slow=9.7,SNR=4.6
MJAR LR LR 07 34 55.8
comp=Z,1μm,21.1s,baz=165,slow=32
KSAR Wonju Array Be 37.86 354 P **P** **07 22 47.7 -1.2**
KSRS Korea Array 37.87 354 P **P** **07 22 47.7 -1.2**
comp=Z,1.9nm,0.9s,baz=175,slow=9.4,SNR=4.9
KSRS LR LR 07 38 55.2
comp=Z,530nm,18.1s,baz=166,slow=37
CMAR Chiang Mai Arr 37.88 301 P **P** **07 22 47.9 -1.5**
CMAR Chiang Mai Arr 37.88 301 P **P** **07 22 47.9 -1.5**
comp=Z,0.7nm,0.3s,baz=116,slow=8.1,SNR=2.6
KMI Kunming 38.32 314 P **P** **07 22 54.5 +1.2**
KMI pP **pP** **07 23 05.3 +1.9**
KMI sP **sP** **07 23 09.5 +1.9**
KMI PP **PnPn** **07 24 27.3 +4.1**
KMI S **S** **07 28 45.3 -0.4**
KMI sS **sS** **07 29 03.1 +0.6**
KMI SS **SnSn** **07 31 24.5 -8.1**
KMI pmax pmax
comp=Z,7.0nm,1.0s
KMI pmax pmax
comp=Z,110nm,5.0s
KMI LR LR
comp=N,150nm,18.8s
KMI LR LR
comp=E,210nm,19.5s
KMI LR LR
comp=Z,280nm,21.3s
DZM Mont Dzumac 39.51 125 *e*LR LR 07 34 08.3
comp=Z,304nm,23.6s
SNY Shenyang 42.76 350 ⇑P P 07 23 38.4 +9.0
SNY pmax pmax
comp=Z,8.0nm,0.4s
BJI Beijing 42.88 342 P **P** **07 23 32.3 +1.9**
BJI PP **PP** **07 25 12.9 +2.5**
BJI S **S** **07 29 53.6 +0.9**
BJI pmax pmax
comp=Z,15nm,0.8s
BJI pmax pmax
comp=Z,140nm,6.0s
BJI LR LR
comp=N,470nm,15.2s
BJI LR LR
comp=E,360nm,18.9s
BJI LR LR
comp=Z,260nm,19.2s
USRK Ussuriysk Arra 44.37 360 P **P** **07 23 40.6 -1.7**
comp=Z,2.5nm,0.6s,baz=184,slow=7.8,SNR=3.5
USRK LR LR 07 41 47.4
comp=Z,412nm,18.1s,baz=337,slow=36
CN2 Changchun 44.42 353 *e*P P 07 23 46.8 +4.1
CN2 pmax pmax
comp=Z,10.0nm,0.7s
MDJ Mudanjiang 44.86 357 P **P** **07 23 47.6 +1.4**
MDJ pP **pP** **07 23 56.5 -0.1**
MDJ sP **sP** **07 24 00.3 -0.4**
MDJ PP **PP** **07 25 34.3 +2.8**
MDJ S **S** **07 30 25.3 +3.7**
MDJ sS **sS** **07 30 39.9 +1.3**
MDJ pmax pmax
comp=Z,7.0nm,1.2s
MDJ pmax pmax
comp=Z,130nm,6.4s
MDJ LR LR
comp=N,360nm,19.4s
MDJ LR LR
comp=E,270nm,17.2s
MDJ LR LR
comp=Z,490nm,18.6s
LZH Lanzhou 44.98 327 *e*P **P** **07 23 47.8 +0.2**
LZH pP **pP** **07 23 57.3 -0.6**
LZH sP **sP** **07 24 01.0 -1.1**
LZH PP **PP** **07 25 35.5 +2.3**
LZH *e*S **S** **07 30 24.0 0.0**
LZH sS **sS** **07 30 42.5 +1.5**
LZH SS ScS 07 33 34.1 -8.4
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,120nm,5.1s
LZH LR LR
comp=N,220nm,14.6s
LZH LR LR
comp=E,460nm,15.2s
LZH LR LR
comp=Z,1μm,17.1s
HHC Hu-ho-hao-te 45.21 338 *e*P **P** **07 23 49.4 +0.2**
HHC pP **pP** **07 23 58.8 -0.8**
HHC sP **sP** **07 24 04.3 +0.6**
HHC PP **PP** **07 25 35.4 0.0**
HHC PcS **PcS** **07 29 21.0 -1.9**
HHC S **S** **07 30 24.5 -2.4**
HHC sS **sS** **07 30 41.9 -2.1**
HHC SS **ScS** **07 33 41.3 -2.4**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,160nm,4.5s
HHC LR LR
comp=N,270nm,12.8s
HHC LR LR
comp=E,310nm,10.5s
HHC LR LR
comp=Z,270nm,12.1s
LSA Lhasa 49.43 311 P **P** **07 24 22.0 -0.7**
comp=Z,2.5nm,0.5s
GTA Gaotai 49.59 327 *e*P **P** **07 24 23.1 -0.3**
GTA pP **pP** **07 24 32.8 -1.0**
GTA sP **sP** **07 24 36.8 -1.1**
GTA PcP **PcP** **07 25 44.6 -0.1**
GTA S **S** **07 31 29.0 -0.4**
GTA sS **sS** **07 31 45.6 -1.0**
GTA SS **SS** **07 34 56.8 -5.2**
GTA pmax pmax
comp=Z,5.0nm,1.5s
GTA pmax pmax
comp=Z,100nm,4.8s
GTA LR LR
comp=N,300nm,20.4s
GTA LR LR
comp=E,400nm,19.0s
GTA LR LR
comp=Z,290nm,20.9s
ULN Ulaanbaatar 52.88 339 *e*P **P** **07 24 48.7 +0.8**
comp=Z,11nm,0.9s
SONM Songino Array 53.09 338 P **P** **07 24 49.4 0.0**
SONM Songino Array 53.09 338 P **P** **07 24 49.4 0.0**
comp=Z,1.3nm,0.5s,baz=150,slow=9.4,SNR=11
SONM LR LR 07 46 40.3
comp=Z,383nm,19.1s,baz=115,slow=35
PETK Petropavlovsk- 57.30 18 LR LR 07 46 00.8
comp=Z,317nm,21.2s,baz=121,slow=32
WMQ Urumqi 59.37 324 P **P** **07 25 34.4 +0.1**
WMQ pP **pP** **07 25 44.5 -0.4**
WMQ sP **sP** **07 25 48.0 -1.0**
WMQ *e*S **S** **07 33 39.0 -1.8**
WMQ SS **SS** **07 37 38.0 +1.8**
WMQ pmax pmax
comp=Z,7.0nm,0.6s
WMQ LR LR
comp=N,550nm,22.6s
WMQ LR LR
comp=E,300nm,24.3s
WMQ LR LR
comp=Z,260nm,19.3s
MK31 Makanchi Array 64.19 324 *e*P **P** **07 26 05.9 -0.7**
MKAR Makanchi Array 64.19 324 P **P** **07 26 05.8 -0.8**
MKAR Makanchi Array 64.19 324 P **P** **07 26 05.8 -0.8**
comp=Z,4.4nm,0.7s,baz=114,slow=8.4,SNR=25
MKAR LR LR 07 53 38.9
comp=Z,152nm,19.5s,baz=112,slow=36
KSH Kashi 64.97 315 *e*P **P** **07 26 13.1 +1.1**
KSH pP **pP** **07 26 23.0 +0.2**
KSH sP **sP** **07 26 27.3 +0.5**
KSH PcP **PcP** **07 26 45.4 +0.5**
KSH PP **PP** **07 28 39.6 +4.3**
KSH ScP 07 30 44.1
KSH PcS 07 30 48.3
KSH S **S** **07 34 52.4 +0.6**
KSH sS **sS** **07 35 09.0 -0.5**
KSH ScS **SKSac** **07 36 02.0 -2.6**
KSH SS **SS** **07 39 07.4 +3.2**
KSH LR LR
comp=N,53nm,7.1s
KSH LR LR
comp=E,69nm,5.3s
KSH LR LR
comp=Z,270nm,5.6s
TKM2 Tokmak 2 66.60 318 *e*P **P** **07 26 21.8 -0.7**
comp=Z,6.5nm,0.8s
ZAA0 Zalesovo Array 66.85 332 *e*P **P** **07 26 21.7 -1.9**
ZALV Zalesovo Beam 66.85 332 P **P** **07 26 21.9 -1.7**
ZALV Zalesovo Beam 66.85 332 P **P** **07 26 21.9 -1.7**
comp=Z,2.1nm,0.6s,baz=112,slow=6.8,SNR=12
ZALV LR LR 07 59 30.7
comp=Z,104nm,19.2s,baz=249,slow=40
AAK Ala-Archa 67.22 317 *e*P **P** **07 26 26.3 -0.2**
comp=Z,67nm,1.5s
AAK Ala-Archa 67.22 317 LR LR 07 58 21.3
comp=Z,173nm,18.6s,baz=91,slow=38
EKS2 Erkin-Say 67.72 317 *e*P **P** **07 26 30.3 +0.7**
comp=Z,5.6nm,0.8s
KURK Kurchatov 68.27 326 *e*P **P** **07 26 31.6 -1.1**
comp=Z,6.6nm,0.8s
KKAR Karatay Array 70.12 317 *e*P **P** **07 26 43.3 -1.0**
comp=Z,2.8nm,0.6s
BRVK Borovoye 73.94 326 *e*P **P** **07 27 06.5 -0.5**
comp=Z,7.7nm,0.8s
AKUT Akutan 74.14 33 *e*P **P** **07 27 09.6 +1.4**
comp=Z,118nm,0.8s
PPT2 Papeete2 78.42 108 *e*S **S** **07 37 29.7 +2.5**
comp=Z,234nm,23.8s
PPT2 *e*LR LR 07 52 05.5
comp=Z,146nm,23.5s
TBI Tubuai 78.91 114 *e*LR LR 07 52 17.4
comp=Z,114nm,29.8s
ABKAR Akbulak array 78.93 320 *e*P **P** **07 27 34.1 -1.2**
comp=Z,3.4nm,0.5s
ARU Arti 81.44 327 *e*P **P** **07 27 47.6 -1.2**
comp=Z,5.5nm,0.6s
MAW Mawson 81.98 201 LR LR 07 58 39.0
comp=Z,287nm,20.0s,baz=56,slow=32
PMR Palmer 84.81 28 *e*P **P** **07 28 04.6 -1.4**
comp=Z,4.5nm,0.8s
ILAR Eielson Array 86.34 25 P **P** **07 28 11.7 -1.9**
ILAR Eielson Array 86.34 25 P **P** **07 28 11.7 -1.9**
comp=Z,2.6nm,0.9s,baz=242,slow=5.5,SNR=29
ILAR LR LR 08 04 07.0
comp=Z,127nm,20.0s,baz=156,slow=34
FINES FINESS Array B 98.11 332 LR LR 08 15 12.9
comp=Z,191nm,19.8s,baz=319,slow=37
AKASG Malin Array Be 98.66 321 P **P** **07 29 10.3 -0.7**
AKASG Malin Array Be 98.66 321 P **P** **07 29 10.3 -0.7**
comp=Z,0.7nm,0.5s,baz=57,slow=9.6,SNR=4.7
YKA Yellowknife Ar 100.75 26 P **Pdif** **07 29 18.6 -1.5**
YKA PKKPbc **PKKPbc** **07 45 32.6 -3.4**
YKA Yellowknife Ar 100.75 26 P **Pdif** **07 29 18.5 -1.5**
comp=Z,0.2nm,0.5s,baz=294,slow=4.4,SNR=6.2
YKA PKKPbc **PKKPbc** **07 45 32.6 -3.4**
comp=Z,0.1nm,0.6s,baz=113,slow=2.6,SNR=4.1
TORD Torodi Ar. Bea 129.61 287 PKP **PKPdf** **07 34 42.4 +0.6**
TORD Torodi Ar. Bea 129.61 287 PKP **PKPdf** **07 34 42.4 +0.6**
comp=Z,0.3nm,0.7s,baz=100,slow=0.8,SNR=2.5
CPUP Villa Florida 151.83 161 PKPbc **PKPbc** **07 35 26.8 -0.5**
CPUP Villa Florida 151.83 161 PKPbc **PKPbc** **07 35 26.8 -0.5**
comp=Z,1.4nm,0.6s,baz=139,slow=3.6,SNR=7.5

IDC 15 07:26:31.2±1.5, 4.15N×127.00E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=140.5km s-min=19.9km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.00**	**163**	P	P	07 31 56.7	-0.3
	2.7nm,0.7s,baz=344,slow=11,SNR=22						
ASAR	**Alice Springs**	**28.46**	**167**	P	P	07 32 28.1	0.0
	0.2nm,0.3s,baz=344,slow=11,SNR=10.0						
STKA	**Stephens Creek**	**38.43**	**160**	P	P	07 33 55.0	+0.2
	1.8nm,0.6s,baz=336,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**57.37**	**325**	P	P	07 36 21.1	-0.4
	0.2nm,0.4s,baz=118,slow=7.7,SNR=10						
ZALV	**Zalesovo Beam**	**60.34**	**333**	P	P	07 36 42.4	+0.5
	0.3nm,0.4s,baz=148,slow=6.5,SNR=2.3						

KRSC 15 07:26:43.0±0.8, 56.38N×161.56E, h107km±26km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMKR	**Semkarok**	**0.21**	**346**	*e*P	Pn	07 26 59.0	+0.8
SMKR				*i* S	Sn	07 27 10.1	+0.6
BDR	**Baidarnaya**	**0.27**	**314**	*e*P	Pn	07 26 59.1	+0.7
BDR				*i* S	Sn	07 27 10.6	+0.7
SRKR	**Sorokina**	**0.35**	**322**	*e*P	Pn	07 26 59.5	+0.8
SRKR				*i* S	Sn	07 27 11.2	+0.7
KLY	**Klyuchi**	**0.51**	**263**	*e*P	Pn	07 27 09.2	-0.3
KLY				*i* S	Sn	07 27 11.3	-0.7
CIRR	**Tsirk**	**0.53**	**240**	*e*P	Pn	07 27 00.7	+0.8
CIRR				*i* S	Sn	07 27 13.4	+0.9
ZLN	**Zelenaya**	**0.56**	**230**	P	Pn	07 27 01.1	+1.0
ZLN				*i* S	Sn	07 27 14.3	+1.5
LGNR	**Loginova**	**0.57**	**239**	*e*P	Pn	07 27 01.1	+0.7
LGNR				*i* S	Sn	07 27 14.5	+1.1
KRSR	**Krestovskiy**	**0.58**	**254**	*e*P	Pn	07 27 00.4	+0.2
KRSR				*i* S	Sn	07 27 13.2	+0.1
BZGR	**Bezymyannyi-Gr**	**0.65**	**228**	*e*P	Pn	07 27 01.3	+0.5
BZGR				*i* S	Sn	07 27 13.9	-0.3
KBTR	**Krutoberegovo**	**0.72**	**103**	*e*P	Pn	07 27 02.1	+0.9
KBTR				*i* S	Sn	07 27 16.0	+1.1
BZWR	**Bezymyannyi-We**	**0.73**	**235**	*e*P	Pn	07 27 02.5	+1.0
BZWR				*i* S	Sn	07 27 16.6	+1.2
BZMR	**Bezymyannaya**	**0.75**	**234**	*e*P	Pn	07 27 02.5	+0.8
BZMR				*i* S	Sn	07 27 17.0	+1.3
KIRR	**Kirishev**	**0.81**	**238**	*e*P	Pn	07 27 02.9	+0.7
KIRR				*i* S	Sn	07 27 17.5	+0.9
KPT	**Kopyto**	**0.86**	**242**	*e*P	Pn	07 27 02.9	+0.3
KPT				*i* S	Sn	07 27 17.7	+0.4
KMNR	**Kamenistaya**	**0.97**	**230**	*e*P	Pn	07 27 04.7	+0.9
KMNR				*i* S	Sn	07 27 20.9	+1.5
KOZ	**Kozyrevsk**	**1.00**	**252**	*e*P	Pn	07 27 04.4	+0.5
KOZ				*i* S	Sn	07 27 20.2	+0.5
SRDR	**Sredinnyy**	**1.03**	**267**	*e*P	Pn	07 27 04.5	+0.2
SRDR				*i* S	Sn	07 27 20.1	-0.3
MKZ	**Mys Kozlova**	**1.83**	**177**	*e*P	Pn	07 27 14.6	+1.0
MKZ				*i* S	Sn	07 27 37.8	+0.8
BKI	**Bering**	**2.76**	**113**	*e*P	Pn	07 27 26.9	+1.3
BKI				*i* S	Sn	07 27 59.7	+1.3
SPN	**Mys Shipunski**	**3.41**	**196**	*e*P	Pn	07 27 35.7	+1.4
SPN				*i* S	Sn	07 28 14.3	+0.4
SDLR	**Sedlovina**	**3.47**	**208**	*e*P	Pn	07 27 38.3	+3.0
SMAR	**Somma**	**3.51**	**208**	*e*P	Pn	07 27 38.6	+2.7
AVH	**Avacha**	**3.52**	**209**	*e*P	Pn	07 27 39.0	+3.1
UGLR	**Uglovaya**	**3.55**	**208**	*e*P	Pn	07 27 39.4	+3.0
MTVR	**Mutnovka**	**4.37**	**208**	*e*P	Pn	07 27 50.7	+3.2
ASAK	**Asacha**	**4.54**	**210**	*e*P	Pn	07 27 52.2	+2.6

IDC ***15*** *07:29:00.3±0.8, 4.06S×34.84E, h0km, mb4.1/10, mb1 4.2/10, mb1mx3.9/25, mbtmp4.1/10, MS3.6/9, Ms1 3.6/9, ms1mx3.4/32, Error ellipse: s-maj=28.2km s-min=17.6km az=130.0*

ISCJB ***15*** *07:29:01.5±0.5, 4.05S×0.10×34.9E±0.1, h22km, mb4.1/13, MS3.6/7, Error ellipse: s-maj=20.7km s-min=7.2km az=37.8*

NEIC ***15*** *07:29:01.8±0.5, 4.05S×34.88E, h10km, mb4.5/3, Error ellipse: s-maj=20.2km s-min=8.7km az=126.0*

ISC 15 07:29:03.2±0.6, 4.15S±0.1×34.9E±0.1, h22km, n30, σ1s37/29, mb4.3/13, MS3.5/7, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**3.75**	**38**	*e*Pn	**Pn**	**07 29 57.4**	**-2.6**
KMBO				*e*Sn	**Sn**	**07 30 41.6**	**-2.1**
LSZ	**Lusaka**	**12.94**	**210**	*e*Pn	**Pn**	**07 32 06.0**	**-0.1**
	14nm,0.8s						
LSZ				*e*Sn	**Sn**	**07 34 26.8**	**-2.7**
ATD	**Arta Tunnel**	**17.41**	**27**	LR	LR	07 39 01.2	
	comp=Z,60nm,20.0s,baz=52,slow=34						
OPO	**Ambohidratompo**	**18.74**	**141**	LR	LR	07 41 30.9	
	comp=Z,230nm,18.7s,baz=269,slow=40						
TSUM	**Tsumeb**	**22.63**	**227**	P	**P**	**07 34 03.2**	**+0.2**
TSUM				Lg	Lg	07 41 05.3	
TSUM	**Tsumeb**	**22.63**	**227**	P	**P**	**07 34 03.2**	**+0.2**
	3.8nm,1.1s,baz=246,slow=22,SNR=3.1						
TSUM				Lg	Lg	07 41 05.3	
	14nm,1.1s,baz=289,slow=21,SNR=4.0						
TSUM				LR	LR	07 43 44.5	
	comp=Z,77nm,19.4s,baz=336,slow=39						
LBTB	**Lobatse**	**22.65**	**202**	P	**P**	**07 34 02.5**	**-0.7**
LBTB				Lg	Lg	07 40 45.8	
LBTB	**Lobatse**	**22.65**	**202**	P	**P**	**07 34 02.5**	**-0.7**
	9.5nm,0.9s,baz=23,slow=11,SNR=11						
LBTB				Lg	Lg	07 40 45.8	
	9.8nm,0.9s,baz=329,slow=18,SNR=4.9						
LBTB				LR	LR	07 42 32.8	
	comp=Z,115nm,21.1s,baz=46,slow=36						
BOSA	**Boshof**	**26.06**	**200**	P	**P**	**07 34 35.6**	**+0.3**
BOSA				Lg	Lg	07 42 41.3	
BOSA	**Boshof**	**26.06**	**200**	P	**P**	**07 34 35.6**	**+0.3**
	10nm,1.0s,baz=6.2,slow=8.3,SNR=3.2						
BOSA				Lg	Lg	07 42 41.3	
	16nm,1.1s,baz=112,slow=22,SNR=4.9						
BOSA				LR	LR	07 45 07.6	
	comp=Z,200nm,19.9s,baz=203,slow=37						
TORD	**Torodi Ar. Bea**	**37.17**	**298**	P	**P**	**07 36 13.0**	**0.0**
TORD	**Torodi Ar. Bea**	**37.17**	**298**	P	**P**	**07 36 13.0**	**0.0**
	1.1nm,0.8s,baz=104,slow=7.1,SNR=6.1						
TORD				LR	LR	07 50 19.5	
	comp=Z,116nm,20.8s,baz=185,slow=34						
DBIC	**Dimbokro**	**41.12**	**285**	P	**P**	**07 36 46.8**	**+0.7**
DBIC	**Dimbokro**	**41.12**	**285**	P	**P**	**07 36 46.8**	**+0.7**
	1.8nm,0.7s,baz=104,slow=7.5,SNR=3.6						
DBIC				LR	LR	07 53 43.9	
	comp=Z,64nm,20.6s,baz=200,slow=36						
KEST	**Kesra**	**46.30**	**331**	LR	LR	07 58 19.3	
	comp=Z,39nm,18.8s,baz=170,slow=38						
GERES	**GERESS Array B**	**55.87**	**343**	P	**P**	**07 38 38.3**	**-0.9**
GERES	**GERESS Array B**	**55.87**	**343**	P	**P**	**07 38 38.3**	**-0.9**
	0.6nm,0.8s,baz=197,slow=3.1,SNR=4.3						
KKAR	**Karatay Array**	**56.92**	**31**	*e*P	**P**	**07 38 47.9**	**+1.2**
	3.3nm,1.0s						
TKM2	**Tokmak 2**	**59.49**	**34**	*e*P	**P**	**07 39 05.9**	**+0.9**
	4.2nm,1.0s						
MK31	**Makanchi Array**	**65.63**	**34**	*e*P	**P**	**07 39 45.9**	**+0.2**
MKAR	**Makanchi Array**	**65.63**	**34**	P	**P**	**07 39 45.7**	**0.0**
MKAR	**Makanchi Array**	**65.63**	**34**	P	**P**	**07 39 45.7**	**0.0**
	1.6nm,0.7s,baz=230,slow=5.0,SNR=20						
KURK	**Kurchatov**	**66.19**	**29**	*e*P	**P**	**07 39 50.5**	**+1.3**
	7.8nm,1.3s						
KURK				*e*PcP	**PcP**	**07 40 17.3**	**-1.9**
CMAR	**Chiang Mai Arr**	**66.90**	**68**	P	**P**	**07 39 56.3**	**+2.0**
CMAR	**Chiang Mai Arr**	**66.90**	**68**	P	**P**	**07 39 56.3**	**+2.0**
	1.0nm,0.3s,baz=258,slow=7.6,SNR=5.0						
ZALV	**Zalesovo Beam**	**71.18**	**29**	P	**P**	**07 40 20.2**	**0.0**
ZALV	**Zalesovo Beam**	**71.18**	**29**	P	**P**	**07 40 20.2**	**0.0**
	0.8nm,0.6s,baz=248,slow=4.0,SNR=6.9						
SONM	**Songino Array**	**80.73**	**40**	P	**P**	**07 41 17.3**	**+2.3**
SONM	**Songino Array**	**80.73**	**40**	P	**P**	**07 41 17.3**	**+2.3**
	1.3nm,0.9s,baz=255,slow=4.1,SNR=8.0						
USRK	**Ussuriysk Arra**	**97.91**	**46**	LR	LR	08 26 00.0	
	comp=Z,108nm,19.5s,baz=6.4,slow=35						

MAN 15 07:29:30, 9.53N×125.89E, h1km, mb4.5, ML3.4, MS3.3, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**1.83**	**207**	*e*P	Pb	07 30 03.9	-0.5
TBP	**Tagbilaran**	**2.00**	**275**	*e*P	Pb	07 30 06.3	-1.0
TBP				*e*S	Sb	07 30 32.8	-0.1

WEL 15 07:38:50.1±0.2, 45.59S×166.95E, h12km, ML3.7/9, 3C-6D, Error ellipse: s-maj=2.2km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.18**	**53**	⇑P*	Pg	07 38 54.4	+0.2
DCZ				SG	Sg	07 38 57.3	+0.3
PYZ	**Puysegur Point**	**0.61**	**198**	⇓P*	Pg	07 39 01.5	-0.5
PYZ				S*	Sg	07 39 09.5	-0.6
WHZ	**Wether Hill Ro**	**0.77**	**114**	⇓P*	Pg	07 39 03.9	-1.1
WHZ				S*	Sg	07 39 13.8	-1.2
MLZ	**Mavora Lakes**	**0.90**	**75**	⇓P*	Pg	07 39 06.2	-1.3
MLZ				S*	Sg	07 39 17.6	-1.7
MSZ	**Milford Sound**	**1.15**	**38**	P*	Pb	07 39 10.5	-1.4
MSZ				S*	Sb	07 39 25.6	-1.2
APZ	**The Paps**	**1.44**	**150**	PN	Pn	07 39 15.2	-0.9
APZ				SN	Sn	07 39 33.4	-1.6
WKZ	**Wanaka**	**1.65**	**63**	PN	Pb	07 39 20.2	-0.4
EAZ	**Earnscleugh**	**1.70**	**79**	⇓PN	Pn	07 39 20.5	+0.9
SYZ	**Scrubby Hill**	**1.80**	**123**	⇓PN	Pn	07 39 21.0	0.0
SYZ				SN	Sn	07 39 43.7	0.0
TUZ	**Tuapeka**	**1.92**	**102**	⇑PN	Pn	07 39 23.2	+0.7
TUZ				SN	Sb	07 39 48.1	-0.7
JCZ	**Jackson Bay**	**1.99**	**41**	⇓PN	Pb	07 39 25.4	-1.0
LBZ	**Lake Benmore**	**2.59**	**64**	PN	Pn	07 39 32.6	+0.7
ODZ	**Otahua Downs**	**2.67**	**80**	⇑PN	Pn	07 39 33.1	+0.2

IDC 15 07:57:44.8±3.1, 2.03N×96.47E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/24, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=126.9km s-min=26.3km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.50**	**8**	Pn	Pn	08 01 39.2	+1.4
	0.1nm,0.3s,baz=200,slow=10,SNR=4.9						
WRA	**Warramunga Arr**	**43.09**	**122**	P	P	08 05 47.0	-0.1
	0.1nm,0.6s,baz=302,slow=9.1,SNR=2.3						
MKAR	**Makanchi Array**	**46.26**	**347**	P	P	08 06 11.2	-0.8
	0.5nm,0.6s,baz=160,slow=7.5,SNR=8.1						
KURBB	**Kurchatov Arra**	**50.74**	**345**	P	P	08 06 47.4	+1.0
	0.1nm,0.2s,baz=166,slow=6.8,SNR=6.4						
ZALV	**Zalesovo Beam**	**52.63**	**351**	P	P	08 06 59.7	-0.7
	1.0nm,0.5s,baz=172,slow=7.9,SNR=7.4						

BJI ***15*** *08:03:35.4, 3.08N×127.06E, h35km, mB5.0/28, mb4.8/40, Ms4.7/22, Ms7 4.2/25*

IDC ***15*** *08:03:37.3±0.6, 3.68N×126.69E, h0km, mb4.4/25, mb1 4.5/25, mb1mx4.5/26, mbtmp4.4/25, MS3.7/10, Ms1 3.7/10, ms1mx3.4/38, Error ellipse: s-maj=23.5km s-min=12.7km az=76.0*

ISCJB ***15*** *08:03:42.2±0.2, 3.74N±0.03×126.97E±0.05, h48km, mb4.6/58, MS3.8/19, Error ellipse: s-maj=6.9km s-min=3.9km az=167.3*

NEIC ***15*** *08:03:42.5±0.3, 3.78N×126.93E, h35km, mb4.8/27, Error ellipse: s-maj=9.4km s-min=6.2km az=76.0*

DJA ***15*** *08:03:46, 3.73N×127.00E, h54km, mb4.8/10*

ISC 15 08:03:43.8±0.4, 3.80N±0.04×126.93E±0.06, h48km, n130, σ1s73/161, mb4.7/57, MS3.7/19, 2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**3.04**	**172**	P	**Pn**	**08 04 30.2**	**+0.7**
TNTI				S	**Sn**	**08 05 04.4**	**-0.3**
MNI	**Manado**	**3.14**	**222**	P	**Pn**	**08 04 31.0**	**+0.2**
MNI				S	**Sn**	**08 05 11.3**	**+4.3**
MATI	**Mati**	**3.19**	**348**	*e*P	Pn	08 04 35.8	+4.3

DAV	Davao City (W)	3.51	338	*e*Pn		Pn	08 04 34.5	-1.5	
DAV	Davao City (W)	3.51	338	P		Pn	08 04 39.9	+4.0	
DAV	Davao City (W)	3.51	338	Pn		Pn	08 04 37.1	+1.2	
	40nm,0.3s,baz=353,slow=7.9,SNR=4.1								
CTBH	Cotabato--PC H	4.32	322	⇓*e*P		Pn	08 04 48.3	+1.3	
KMSI	Cibinong	4.35	223	P		Pn	08 04 49.5	+2.0	
LBMI	Labuha	4.45	173	P		Pn	08 04 41.1	-7.7	
LBMI				S		Sn	08 05 24.3	-15	
BUKP	Musuan	4.45	335	*e*P		Pn	08 04 51.8	+2.9	
BUTP	Butuan	5.29	346	*e*P		Pn	08 05 06.4	+6.0	
PAGZ	Pagadian	5.34	319	*e*P		Pn	08 05 03.7	+2.5	
MRSI	Marisa	5.98	237	P		Pn	08 05 10.7	+0.9	
	228nm,0.8s,2μm0.8nm								
SWI	Sorong	6.34	137	P		Pn	08 05 13.3	-1.5	
	66nm,0.7s,980nm0.2nm								
NLAI	Namlea	7.00	179	P		Pn	08 05 23.5	-0.3	
	42nm,0.6s,946nm0.2nm								
APSI	Ampana	7.05	228	P		Pn	08 05 15.6	-9.0	
MSAI	Masohi	7.38	164	P		Pn	08 05 15.7	-13	
MYLDM	Lahad Datu	8.51	280	P		Pn	08 05 48.6	+4.0	
FAKI	Fak Fak	8.54	141	P		Pn	08 05 51.2	+6.2	
KDI	Kendari	8.83	209	P		Pn	08 05 54.8	+5.9	
SPSI	Sidrap Palu	10.52	223	P		Pn	08 05 54.6	-17	
KKM	Kota Kinabalu	10.90	282	*e*Pn		Pn	08 06 17.7	+0.3	
KAPI	Kappang	11.32	219	*e*Pn		Pn	08 06 23.8	+0.8	
KSM	Kuching	16.76	262	*e*Pn		P	08 07 37.3	+0.3	
	15nm,0.9s								
YULB	Yu-li	20.22	345	*e*P		P	08 08 12.9	-2.0	
	9.7nm,0.4s								
TPUB	Ta-pu	20.32	343	*e*P		P	08 08 15.4	-0.6	
	68nm,1.1s								
SSLB	Suanglung	20.69	344	*e*P		P	08 08 19.4	-0.6	
	24nm,0.7s								
YHNB	Yeheng	21.42	346	P		P	08 08 26.3	-1.7	
	57nm,1.1s								
FITZ	Fitzroy Crossi	21.80	183	*e*P		P	08 08 31.7	-0.3	
FITZ	Fitzroy Crossi	21.80	183	P		P	08 08 30.6	-1.4	
	7.6nm,0.7s,baz=29,slow=9.1,SNR=10								
QIZ	Qiongzhong	22.53	314	P		P	08 08 40.6	+0.7	
QIZ				S		S	08 12 47.0	+3.1	
QIZ				pmax	pmax				
	comp=Z,18nm,1.1s								
QIZ				pmax	pmax				
	comp=Z,140nm,5.5s								
QIZ				LR	LR				
	comp=Z,220nm,19.7s								
JOW	Kunigami	22.93	3	P		P	08 08 45.5	+1.5	
JOW	Kunigami	22.93	3	P		P	08 08 45.5	+1.5	
	comp=Z,12nm,0.8s,baz=234,slow=14,SNR=4.6								
JOW				LR	LR		08 16 36.9		
	comp=Z,162nm,21.1s,baz=144,slow=34								
COEN	Coen	23.90	138	*e*P		P	08 08 51.6	-1.8	
	comp=Z,29nm,0.9s								
WRAB	Tennant Creek	24.69	163	*e*P		P	08 08 59.0	-1.6	
	comp=Z,34nm,0.9s								
WRA	Warramunga Arr	24.70	163	P		P	08 08 59.4	-1.2	
WRA				S		S	08 13 20.8	+1.5	
WRA	Warramunga Arr	24.70	163	P		P	08 08 59.4	-1.2	
	comp=Z,18nm,0.8s,baz=344,slow=10,SNR=66								
WRA				S		S	08 13 20.8	+1.5	
	comp=Z,0.8nm,0.7s,baz=330,slow=18,SNR=3.2								
IPM	Ipoh	25.84	272	*e*P		P	08 09 12.4	+1.3	
	comp=Z,9.0nm,0.9s								
PSI	Prapat	27.97	269	P		P	08 09 29.4	-1.0	
PSI	Prapat	27.97	269	P		P	08 09 29.4	-1.0	
	comp=Z,2.4nm,0.5s,baz=108,slow=6.4,SNR=5.4								
PSI				LR		LR	08 20 22.5		
	comp=Z,152nm,19.1s,baz=356,slow=36								
AS31	Alice Springs	28.14	166	*e*P		P	08 09 31.2	-0.4	
ASAR	Alice Springs	28.14	166	P		P	08 09 30.9	-0.8	
ASAR	Alice Springs	28.14	166	P		P	08 09 30.9	-0.8	
	comp=Z,1.3nm,0.6s,baz=346,slow=7.9,SNR=23								
NJ2	Nanjing	29.11	346	*e*P		P	08 09 41.8	+1.7	
NJ2				pP		pP	08 09 50.1	-2.5	
NJ2				sP		sP	08 09 54.3	-4.0	
NJ2				pmax	pmax				
	comp=Z,20nm,0.6s								
JNU	Nakatsue	29.40	7	LR		LR	08 21 09.5		
	comp=Z,103nm,21.9s,baz=160,slow=36								
GYA	Guiyang	29.73	321	P		P	08 09 47.8	+1.9	
GYA				pP		pP	08 09 57.8	-0.7	
GYA				S		S	08 14 41.0	+2.0	
GYA				sS		sS	08 14 58.3	-1.8	
GYA				ScP		ScP	08 16 28.8	+1.4	
GYA				ScS		ScS	08 20 22.0	-0.6	
GYA				pmax	pmax				
	comp=Z,20nm,0.8s								
GYA				pmax	pmax				
	comp=Z,120nm,5.0s								
GYA				LR	LR				
	comp=N,470nm,17.4s								
GYA				LR	LR				
	comp=E,450nm,18.1s								
GYA				LR	LR				
	comp=Z,490nm,17.7s								
CTAO	Charters Tower	30.40	142	P		P	08 09 51.0	-0.7	
	comp=Z,1.9nm,0.8s								
CMAR	Chiang Mai Arr	31.00	300	P		P	08 09 57.1	0.0	
CMAR	Chiang Mai Arr	31.00	300	P		P	08 09 57.1	0.0	
	comp=Z,2.0nm,0.7s,baz=128,slow=8.3,SNR=16								
CMAR				LR		LR	08 24 10.8		
	comp=Z,69nm,18.0s,baz=185,slow=40								
ENH	Enshi	31.06	330	*e*P		P	08 09 56.9	-0.6	
	comp=Z,20nm,0.8s								
CHTO	Chiang Mai	31.15	301	*e*P		P	08 09 58.0	-0.4	
	comp=Z,6.8nm,0.9s								
KMI	Kunming	31.47	315	P		P	08 10 03.5	+2.1	
KMI				pP		pP	08 10 13.8	-0.1	
KMI				sP		sP	08 10 17.6	-2.0	
KMI				S		S	08 15 09.4	+3.0	
KMI				SS		SS	08 17 00.5	-22	
KMI				pmax	pmax				
	comp=Z,9.0nm,0.7s								
KMI				pmax	pmax				
	comp=Z,95nm,3.9s								
KMI				LR	LR				
	comp=N,160nm,24.0s								
KMI				LR	LR				
	comp=E,180nm,25.8s								
KMI				LR	LR				
	comp=Z,170nm,23.1s								
KSAR	Wonju Array Be	33.49	1	P		P	08 10 20.9	+2.3	
KSRS	Korea Array	33.50	1	P		P	08 10 20.9	+2.2	
	comp=Z,3.1nm,0.8s,baz=181,slow=9.9,SNR=6.9								
MJAR	Matsushiro Arr	34.20	16	P		P	08 10 25.8	+1.0	
MJAR	Matsushiro Arr	34.20	16	P		P	08 10 25.8	+1.0	
	comp=Z,1.9nm,0.9s,baz=202,slow=13,SNR=3.0								
XAN	Xi'an	34.44	333	P		P	08 10 25.8	-1.2	
XAN				pP		pP	08 10 35.8	-3.9	
XAN				S		S	08 15 48.5	-3.5	
XAN				pmax	pmax				
	comp=Z,7.0nm,0.8s								
XAN				pmax	pmax				
	comp=Z,27nm,7.2s								
XAN				LR	LR				
	comp=N,150nm,14.2s								
XAN				LR	LR				
	comp=E,28nm,14.6s								
XAN				LR	LR				
	comp=Z,67nm,18.8s								
HNR	Honiara	35.44	112	LR		LR	08 23 16.3		
	comp=Z,77nm,21.4s,baz=279,slow=33								
BJT	Baijiatuan	37.34	346	*e*P		P	08 10 53.3	+1.6	
	comp=Z,134nm,1.0s								
BJI	Beijing	37.36	346	P		P	08 10 53.3	+1.5	
BJI				PP		PP	08 12 18.5	+0.7	
BJI				S		S	08 16 38.8	+2.4	
BJI				SS		SS	08 19 24.4	+2.8	
BJI				pmax	pmax				
	comp=Z,9.0nm,1.0s								
BJI				pmax	pmax				
	comp=Z,220nm,4.8s								
BJI				LR	LR				
	comp=Z,44nm,22.1s								
SNY	Shenyang	37.98	356	⇓P		P	08 10 59.0	+2.0	
SNY				pmax	pmax				
	comp=Z,17nm,1.1s								
STKA	Stephens Creek	38.13	160	*e*P		P	08 10 58.1	-0.4	
STKA	Stephens Creek	38.13	160	P		P	08 10 57.9	-0.6	
	comp=Z,5.1nm,0.6s,baz=327,slow=8.4,SNR=3.5								
LZH	Lanzhou	38.54	329	*e*P		P	08 11 02.3	+0.2	
LZH				pP		pP	08 11 12.5	-2.4	
LZH				sP		sP	08 11 16.6	-3.9	
LZH				PP		PP	08 12 35.3	+4.3	
LZH				*e*S		S	08 16 56.3	+1.5	
LZH				sS		sS	08 17 12.5	-3.7	
LZH				pmax	pmax				
	comp=Z,37nm,1.2s								
LZH				pmax	pmax				
	comp=Z,100nm,4.5s								
LZH				LR	LR				
	comp=N,420nm,13.2s								
LZH				LR	LR				
	comp=E,500nm,13.5s								
LZH				LR	LR				
	comp=Z,510nm,17.0s								
HHC	Hu-ho-hao-te	39.39	342	*e*P		P	08 11 10.0	+0.9	
HHC				pP		pP	08 11 19.8	-2.1	
HHC				sP		sP	08 11 23.6	-3.9	
HHC				PP		PP	08 12 45.3	+5.1	
HHC				S		S	08 17 09.3	+1.9	
HHC				pmax	pmax				
	comp=Z,13nm,1.0s								
HHC				pmax	pmax				
	comp=Z,100nm,4.0s								
HHC				LR	LR				
	comp=N,160nm,14.3s								
HHC				LR	LR				
	comp=E,190nm,15.5s								
HHC				LR	LR				
	comp=Z,210nm,15.1s								
CN2	Changchun	39.85	358	*e*P		P	08 11 15.3	+2.6	
CN2				*e*sP		sP	08 11 29.0	-2.2	
CN2				*e*S		S	08 17 18.4	+4.5	
CN2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
CN2				pmax	pmax				
	comp=Z,200nm,3.0s								
USRK	Ussuriysk Arra	40.48	6	P		P	08 11 18.6	+0.8	
	comp=Z,3.4nm,0.7s,baz=190,slow=7.2,SNR=5.5								
MDJ	Mudanjiang	40.71	3	P		P	08 11 20.9	+1.1	
MDJ				pmax	pmax				
	comp=Z,14nm,1.3s								
MDJ				pmax	pmax				
	comp=Z,83nm,4.4s								
MDJ	Mudanjiang	40.71	3	*e*P		P	08 11 20.9	+1.1	
	comp=Z,13nm,0.8s								
LSA	Lhasa	42.54	311	*e*P		P	08 11 36.0	+0.4	
	comp=Z,5.6nm,0.6s								
GTA	Gaotai	43.13	329	*e*P		P	08 11 40.8	+0.9	
GTA				pP		pP	08 11 50.8	-2.0	
GTA				sP		sP	08 11 54.6	-3.8	
GTA				S		S	08 18 06.5	+3.5	
GTA				sS		sS	08 18 22.4	-2.3	
GTA				SS		SS	08 21 13.8	-3.4	
GTA				pmax	pmax				
	comp=Z,6.0nm,1.2s								
GTA				pmax	pmax				
	comp=Z,100nm,6.2s								
GTA				LR	LR				
	comp=N,170nm,16.6s								
GTA				LR	LR				
	comp=E,210nm,17.1s								
GTA				LR	LR				
	comp=Z,260nm,19.5s								
HIA	Hailar	45.71	353	*e*P		P	08 12 02.0	+1.9	
	comp=Z,25nm,0.9s								
SONM	Songino Array	47.29	341	P		P	08 12 13.5	+0.8	
SONM				PcP		PcP	08 13 44.3	+1.1	
SONM	Songino Array	47.29	341	P		P	08 12 13.5	+0.8	
	comp=Z,2.6nm,0.6s,baz=160,slow=9.0,SNR=9.1								
SONM				PcP		PcP	08 13 44.3	+1.1	
	comp=Z,1.7nm,0.7s,baz=146,slow=3.3,SNR=4.0								
SONM				LR		LR	08 32 29.2		
	comp=Z,116nm,19.1s,baz=108,slow=37								
WMQ	Urumqi	52.78	325	*e*P		P	08 12 54.8	+0.5	
WMQ				LR		LR			
	comp=Z,300nm,25.6s								
PETK	Petropavlovsk-	55.29	22	P		P	08 13 14.8	+2.4	
PETK	Petropavlovsk-	55.29	22	P		P	08 13 14.8	+2.4	
	comp=Z,2.7nm,0.8s,baz=198,slow=9.1,SNR=3.0								
MK31	Makanchi Array	57.61	325	*e*P		P	08 13 28.7	-0.3	
MKAR	Makanchi Array	57.61	325	*e*P		P	08 13 28.9	-0.1	
MKAR	Makanchi Array	57.61	325	P		P	08 13 28.6	-0.4	
	comp=Z,1.9nm,0.4s,baz=121,slow=8.0,SNR=33								
MKAR				LR		LR	08 40 12.2		
	comp=Z,87nm,18.6s,baz=242,slow=38								
KSH	Kashi	58.13	315	P		P	08 13 34.3	+1.4	
KSH				pP		pP	08 13 44.3	-2.1	
KSH				sP		sP	08 13 48.3	-3.6	
KSH				PcP		PcP	08 14 24.4	+0.2	
KSH				PP		PP	08 15 45.5	+3.4	
KSH				ScP		ScP	08 18 20.3	-0.3	
KSH				PcS		PcS	08 18 24.4	-1.4	
KSH				S		S	08 21 32.8	+1.8	
KSH				sS		sS	08 21 49.6	-3.9	
KSH				ScS		ScS	08 23 17.4	-1.5	
KSH				SS		SS	08 25 26.0	+2.8	
KSH				LR	LR				
	comp=N,85nm,5.6s								
KSH				LR	LR				
	comp=E,98nm,6.0s								
KSH				LR	LR				
	comp=Z,160nm,7.2s								
YAK	Yakutsk	58.13	2	*e*P		P	08 13 33.9	+1.6	
	comp=Z,17nm,0.6s								
KZA	Kyzart	59.69	317	P		P	08 13 45.5	+1.4	
	SNR=7.6								
TKM2	Tokmak 2	59.82	318	*e*P		P	08 13 44.0	-0.7	
	comp=Z,5.8nm,0.8s								
TKM2	Tokmak 2	59.82	318	P		P	08 13 45.8	+1.1	
	SNR=8.5								
AAK	Ala-Archa	60.43	318	P		P	08 13 49.3	+0.5	
	comp=Z,0.6nm,1.0s								
AAK	Ala-Archa	60.43	318	P		P	08 13 49.3	+0.5	
	comp=Z,1.9nm,0.7s,baz=128,slow=6.1,SNR=6.5								
ZAA0	Zalesovo Array	60.61	333	*e*P		P	08 13 49.1	-0.5	
ZALV	Zalesovo Beam	60.61	333	P		P	08 13 49.1	-0.5	
ZALV	Zalesovo Beam	60.61	333	P		P	08 13 49.1	-0.5	
	comp=Z,1.4nm,0.4s,baz=116,slow=6.9,SNR=12								
ZALV				LR		LR	08 42 49.6		
	comp=Z,86nm,19.4s,baz=71,slow=39								
USP	Ospenovka	60.70	318	P		P	08 13 51.4	+0.9	
	SNR=9.4								
AML	Almayashu	60.77	317	P		P	08 13 52.4	+1.0	
	SNR=14								
EKS2	Erkin-Say	60.93	318	*e*P		P	08 13 52.3	+0.2	
	comp=Z,5.8nm,0.8s								
EKS2	Erkin-Say	60.93	318	P		P	08 13 52.4	+0.2	
	SNR=9.6								
KBL	Kabul	61.63	307	*e*P		P	08 13 56.3	-0.9	
	comp=Z,7.9nm,1.2s								
KURBB	Kurchatov Arra	61.78	327	P		P	08 13 57.0	-0.6	
	comp=Z,9.8nm,0.8s,baz=126,slow=5.8,SNR=71								
KURBB				LR		LR	08 41 29.3		
	comp=Z,40nm,20.0s,baz=120,slow=37								
KURK	Kurchatov	61.78	327	*e*P		P	08 13 56.9	-0.7	
	comp=Z,16nm,0.7s								
KKAR	Karatay Array	63.31	317	*e*P		P	08 14 08.2	+0.2	
BVAR	Borovoye Array	67.36	327	P		P	08 14 33.9	-0.2	
BVAR	Borovoye Array	67.36	327	P		P	08 14 33.9	-0.2	
	comp=Z,9.6nm,0.9s,baz=122,slow=7.2,SNR=34								
BRVK	Borovoye	67.44	327	*e*P		P	08 14 34.0	-0.4	
	comp=Z,15nm,1.0s								
ABKAR	Akbulak array	72.22	321	*e*P		P	08 15 03.4	-0.5	
AKTO	Aktyubinsk	73.72	322	P		P	08 15 12.7	-0.1	
AKTO	Aktyubinsk	73.72	322	P		P	08 15 12.7	-0.1	
	comp=Z,4.4nm,0.9s,baz=109,slow=5.3,SNR=8.4								
GAMB	Gambell	74.25	24	*e*P		P	08 15 17.5	+2.0	
	comp=Z,3.0nm,0.7s								
ARU	Arti	74.98	328	*e*P		P	08 15 19.6	-0.3	
	comp=Z,9.2nm,0.9s								
COLD	Coldfoot	83.75	23	P		P	08 16 06.9	-0.6	
	comp=Z,8.7nm,1.2s								
PMR	Palmer	83.79	29	P		P	08 16 08.9	+1.1	
	comp=Z,38nm,1.8s								
ILAR	Eielson Array	84.95	25	P		P	08 16 16.1	+2.4	
ILAR	Eielson Array	84.95	25	P		P	08 16 16.1	+2.4	
	comp=Z,0.4nm,0.5s,baz=252,slow=4.7,SNR=5.2								
KMBO	Kilima Mbogo	89.75	269	*e*P		P	08 16 38.6	+0.4	
	comp=Z,5.2nm,1.2s								
BRTR	Keskin Array B	90.12	310	P		P	08 16 38.5	-0.8	
BRTR	Keskin Array B	90.12	310	P		P	08 16 38.5	-0.8	
	comp=Z,1.8nm,0.9s,baz=99,slow=7.9,SNR=5.2								
ARCES	ARCESS Array B	90.45	340	P		P	08 16 40.1	+0.1	
ARCES	ARCESS Array B	90.45	340	P		P	08 16 40.1	+0.1	
	comp=Z,2.8nm,0.8s,baz=77,slow=5.0,SNR=11								
FINES	FINESS Array B	91.86	332	P		P	08 16 45.3	-1.4	
FINES	FINESS Array B	91.86	332	P		P	08 16 45.3	-1.4	
	comp=Z,1.9nm,0.7s,baz=153,slow=1.7,SNR=7.9								
AKASG	Malin Array Be	91.96	321	P		P	08 16 46.2	-1.1	
	comp=Z,2.1nm,0.8s,baz=71,slow=4.3,SNR=4.1								
BUR08	Bucovina Ar. S	95.08	318	*e*P		P	08 17 02.2	+0.2	
NB2	NORSAR Subarra	98.81	334	P		P	08 17 17.6	-0.9	
	comp=Z,3.7nm,1.1s,baz=67,slow=4.4								
NOA	NORSAR Array B	98.81	334	P		P	08 17 17.6	-0.9	
NOA	NORSAR Array B	98.81	334	P		P	08 17 17.6	-0.9	
	comp=Z,1.7nm,1.0s,baz=67,slow=4.7,SNR=3.0								
NOA				LR		LR	09 07 11.1		
	comp=Z,65nm,18.3s,baz=75,slow=39								
YKA	Yellowknife Ar	99.35	24	P		Pdif	08 17 21.8	+1.0	
YKA	Yellowknife Ar	99.35	24	P		Pdif	08 17 21.8	+1.0	
	comp=Z,0.3nm,0.8s,baz=298,slow=4.5,SNR=5.6								
TXAR	Lajitas Array	121.40	52	PKP		PKPdf	08 22 35.1	+2.4	
TXAR	Lajitas Array	121.40	52	PKP		PKPdf	08 22 35.1	+2.4	
	comp=Z,0.6nm,1.0s,baz=298,slow=1.9,SNR=2.9								
TORD	Torodi Ar. Bea	123.08	288	PKP		PKPdf	08 22 36.7	+0.5	
TORD	Torodi Ar. Bea	123.08	288	PKP		PKPdf	08 22 36.7	+0.5	
	comp=Z,0.5nm,0.6s,baz=49,slow=2.0,SNR=3.2								
JCT	Junction City	123.86	49	*e*PKPdf		PKPdf	08 22 39.1	+1.7	

MOS ***15*** *08:04:18.8±1.8,56.69N×118.75E,h3km,mb4.4/1,Error ellipse: s-maj=17.7km s-min=14.7km az=171.2*
BYKL ***15*** *08:04:19.4±0.4,56.71N×118.72E,h11km±5km*
ISC 15 08:04:19.7±0.7,56.54N±0.03×118.52E±0.02,h10km,n40,
σ2s14/61,6C-3D,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRS	Chara	0.38	339	*e*PG		Pg		08 04 25.4	-1.9
CRS				*e*				08 04 29.9	
CRS				pmax	pmax				
	comp=Z,3μm,0.6s								
CRS				smax	smax				
	comp=N,5μm,0.6s								
CRS	Chara	0.38	339	⇑*i*Pg		Pg		08 04 25.3	-2.0
CRS				Pmax				08 04 27.2	
	comp=N,3μm,0.7s								
CRS				*i* Sg		Sg		08 04 29.9	-2.5
CRS				Smax				08 04 35.4	
	comp=N,5μm,2.6s								
KHNR	Khani	0.89	64	*i*		Pg		08 04 34.0	-2.9
KHNR				*e*Sg		Sg		08 04 42.6	-5.9
NLYR	Nelyaty	1.56	269	⇑*i*PG		Pb		08 04 48.6	-0.1
NLYR				*e*				08 05 10.7	
NLYR				pmax	pmax				
	comp=Z,219nm,0.3s								
NLYR				smax	smax				
	comp=N,1μm,1.3s								
NLYR	Nelyaty	1.56	269	⇑*i*Pg		Pb		08 04 48.7	0.0
NLYR				⇓*i*				08 04 50.9	
NLYR				max				08 04 51.1	
	comp=N,219nm,0.4s								
NLYR				*i* Sg		Sg		08 05 11.4	+1.6
NLYR				Smax				08 05 15.7	
	comp=N,1μm,1.5s								
NLYR				Smax				08 05 17.1	
TUP	Tupik	2.27	158	*e*PN		Pn		08 04 59.0	+1.7
TUP				*e*				08 05 02.0	
TUP				*e*S		Sb		08 05 28.0	-1.0
TUP				*e*				08 05 32.8	
TUP				pmax	pmax				
	comp=Z,36nm,0.4s								
TUP				smax	smax				
	comp=E,321nm,0.7s								
TUP	Tupik	2.27	158	⇓*i*Pn		Pn		08 04 59.1	+1.7
TUP				⇑*i*Pg		Pg		08 05 02.1	-1.2
TUP				Pmax				08 05 04.7	
	comp=E,57nm,0.9s								
TUP				*i* Sg		Sg		08 05 33.4	+0.6
TUP				*e*SgSg		SnSn		08 05 39.8	+3.7
TUP				max				08 05 43.9	
	comp=E,502nm,2.9s								
BOD	Bodaibo	2.77	299	*e*PN		Pn		08 05 06.2	+2.1
BOD				*e*				08 05 10.4	
BOD				*e*S		Sn		08 05 38.7	+1.2
BOD				*e*				08 05 44.3	
BOD				pmax	pmax				
	comp=Z,68nm,0.9s								
BOD				smax	smax				
	comp=N,577nm,0.7s								
BOD	Bodaibo	2.77	299	*i* Sg		Sb		08 05 44.3	+1.1
BOD				Smax				08 05 53.3	
	comp=N,568nm,1.2s								
SVKR	Severomuysk	2.79	263	*e*PN		Pb		08 05 09.8	+0.1
SVKR				*e*				08 05 48.5	
SVKR				pmax	pmax				
	comp=Z,139nm,0.5s								
SVKR				smax	smax				
	comp=N,756nm,1.0s								
SVKR	Severomuysk	2.79	263	*e*Pg		Pg		08 05 11.4	-1.8
SVKR				Pmax				08 05 13.3	
	comp=N,149nm,0.6s								
SVKR				*e*Sg		Sg		08 05 48.7	-0.6
SVKR				Smax				08 06 03.6	
	comp=N,858nm,1.2s								
CLNS	Chul'man	3.53	83	*e*PN		Pn		08 05 16.3	+1.7
CLNS				*e*				08 05 21.4	
CLNS				*e*S		Sn		08 05 59.2	+2.8
CLNS				*e*				08 06 06.1	
CLNS				pmax	pmax				
	comp=Z,48nm,0.5s								
CLNS				pmax	pmax				
	comp=N,16nm,0.5s								
CLNS				pmax	pmax				
	comp=E,33nm,0.5s								
CLNS				smax	smax				
	comp=E,247nm,0.7s								
CLNS				smax	smax				
	comp=Z,47nm,0.5s								
CLNS				smax	smax				
	comp=N,278nm,0.6s								
CLNS	Chul'man	3.53	83	*e*		Pn		08 05 15.4	+0.8
CLNS				*e*Pg		Pb		08 05 21.5	-0.8
CLNS				*e*Sg		Sb		08 06 06.3	+1.2
CLNS				*e*				08 06 09.9	
IENR	Iengra	3.54	93	⇓*i*Pn		Pn		08 05 14.7	-0.1
IENR				*e*Pg		Pb		08 05 19.9	-2.5
IENR				*e*				08 05 24.8	
IENR				*i* Sg		Sb		08 06 05.3	-0.2
TNDR	Tynda	3.77	109	*e*Pg		Pb		08 05 26.1	-0.2
TNDR				*e*				08 06 02.6	
TNDR				*e*Sg		Sb		08 06 15.5	+3.5
YOA	Uoyan	3.80

NIZ				*e*			08 05 53.5	
NIZ				*e*			08 07 00.2	
NIZ				pmax	pmax			
	comp=Z,13nm,0.7s							
NIZ				smax	smax			
	comp=N,145nm,1.0s							
NIZ	**Nizh Angarsk**	**5.08**	**265**	*e*Pn	Pn		08 05 38.9	+3.1
NIZ				*e*Pg	Pg		08 05 52.6	-4.2
NIZ				Pmax			08 05 55.7	
	comp=N,12nm,0.8s							
NIZ				*e*			08 05 57.3	
NIZ				*e*Sg	**Sg**		**08 06 59.9**	**-2.6**
NIZ				*e*			08 07 06.9	
NIZ				max			08 07 07.9	
	comp=N,145nm,0.9s							
CIT	**Chita**	**5.38**	**215**	*e*	**Sn**		**08 06 37.9**	**-4.1**
CIT				*e*Sg	**Sg**		**08 07 09.4**	**-3.0**
CIT				Smax			08 07 25.9	
	comp=N,333nm,1.6s							
SYVR	**Suvo**	**5.68**	**243**	*e*PN	**Pn**		**08 05 46.2**	**+2.2**
SYVR				*e*			08 06 03.8	
SYVR				*e*			08 07 19.4	
SYVR				pmax	pmax			
	comp=Z,15nm,1.2s							
SYVR				smax	smax			
	comp=N,120nm,1.2s							
SYVR	**Suvo**	**5.68**	**243**	⇑*i*Pn	**Pn**		**08 05 46.3**	**+2.2**
SYVR				*e*			08 05 55.5	
SYVR				*e*Pg	Pg		08 06 04.0	-4.4
SYVR				Pmax			08 06 08.4	
SYVR				*e*			08 06 57.1	
SYVR				*e*Sg	**Sg**		**08 07 19.8**	**-2.1**
SYVR				Smax			08 07 26.4	
	comp=N,119nm,1.6s							
MXMB	**Maximikha**	**6.52**	**244**	*e*Pn	**Pn**		**08 05 58.2**	**+2.5**
MXMB				max			08 06 16.8	
	comp=N,10.0nm,0.1s							
MXMB				*e*Pg	Pg		08 06 20.9	-3.6
MXMB				*e*Sg	**Sg**		**08 07 48.3**	**-0.6**
MXMB				Smax			08 07 58.4	
	comp=N,209nm,1.4s							
MXMB				*e*			08 08 02.7	
OGRR	**Ongureny**	**6.91**	**250**	*e*PN	**Pn**		**08 06 03.0**	**+2.1**
OGRR				*e*			08 06 26.4	
OGRR				*e*			08 07 59.3	
OGRR				pmax	pmax			
	comp=Z,5.0nm,0.5s							
OGRR				smax	smax			
	comp=N,50nm,1.9s							
OGRR	**Ongureny**	**6.91**	**250**	*e*Pn	Pn		08 06 03.9	+3.0
OGRR				*e*Pg	Pg		08 06 27.8	-4.1
OGRR				Pmax			08 07 29.6	
	comp=N,2.0nm,0.7s							
OGRR				*e*			08 07 42.0	
OGRR				*e*Sg	**Sg**		**08 07 59.8**	**-1.4**
OGRR				Smax			08 08 07.9	
	comp=N,50nm,1.4s							
ZRHB	**Zarechye**	**7.72**	**244**	*e*	**Pb**		**08 06 35.0**	**+1.5**
ZRHB				*e*			08 08 01.3	
ZRHB				*e*Sg	**Sg**		**08 08 24.2**	**-3.0**
ZRHB				*e*			08 08 29.2	
ZRHB				max			08 08 48.7	
	comp=N,243nm,1.7s							
KPC	**Khapcheranga**	**7.78**	**211**	*e*Pn	**Pn**		**08 06 14.1**	**+1.1**
KPC				*e*			08 06 17.9	
KPC				*e*Pg	Pg		08 06 42.2	-6.3
KPC				*e*			08 08 01.4	
KPC				*e*Sg	**Sg**		**08 08 26.0**	**-3.2**
KPC				*e*			08 08 29.8	
KPC				max			08 08 55.5	
	comp=N,95nm,1.9s							
UUDB	**Ulan-Yde**	**7.90**	**238**	*e*Sg	**Sg**		**08 08 30.6**	**-2.3**
TRG	**Tyrgan**	**8.01**	**247**	*e*	**Pb**		**08 06 38.5**	**0.0**
TRG				*e*Pg	Pg		08 06 46.2	-6.7
TRG				Pmax			08 06 54.8	
	comp=N,1.0nm,0.5s							
TRG				*e*Sg	**Sg**		**08 08 33.7**	**-2.8**
TRG				Smax			08 08 46.6	
	comp=N,52nm,1.9s							
KAB	**Kabansk**	**8.27**	**242**	*e*			08 08 00.1	
KAB				*e*Sg	**Sg**		**08 08 43.1**	**-1.6**
KAB				Smax			08 09 05.6	
	comp=N,363nm,1.4s							
LSTR	**Listvyanka**	**9.28**	**245**	*e*			08 08 23.9	
LSTR				*e*Sg	Sn		08 09 12.9	+55
LSTR				Smax			08 09 22.1	
	comp=N,104nm,1.8s							
TLY	**Talaya**	**9.99**	**247**	*e*Sg	Sn		08 09 33.8	+58
TLY				Smax			08 09 45.1	
	comp=N,24nm,1.4s							
ARS	**Arshan**	**10.49**	**251**	*e*Sg			08 09 50.1	
ARS				Smax			08 10 05.1	
	comp=N,66nm,1.5s							
ZAK	**Zakamensk**	**10.97**	**242**	*e*Sg			08 10 02.6	
ZAK				*e*			08 10 06.0	
ZAK				max			08 10 46.0	
	comp=N,24nm,2.0s							
MOY	**Mondy**	**11.37**	**252**	*e*			08 09 27.7	
MOY				*e*			08 10 03.7	
MOY				*e*Sg			08 10 18.5	
MOY				Smax			08 10 35.0	
	comp=N,59nm,1.5s							
ORL	**Orlik**	**11.57**	**258**	*e*			08 09 48.9	
ORL				*e*Sg			08 10 19.3	
ORL				Smax			08 10 37.9	
	comp=N,57nm,2.0s							

IDC 15 08:15:01.0±2.0, 1°14N×96°34E, h0km, mb3.4/5, mb1 3.6/7, mb1mx3.4/25, mbtmp3.4/7, ML4.6/1, Error ellipse: s-maj=53.2km s-min=26.4km az=48.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.06**	**57**	Pn	Pn	08 15 50.1	-0.8
	0.7nm,0.3s,baz=243,slow=9.5,SNR=5.0						
CMAR	**Chiang Mai Arr**	**17.40**	**8**	P	P	08 19 06.2	-0.6
	0.7nm,0.3s,baz=206,slow=8.0,SNR=6.3						
WRA	**Warramunga Arr**	**42.74**	**121**	P	P	08 23 00.3	-0.1
	0.3nm,0.6s,baz=302,slow=9.2,SNR=5.5						
MKAR	**Makanchi Array**	**47.10**	**347**	P	P	08 23 35.1	+0.3
	0.3nm,0.7s,baz=154,slow=6.7,SNR=4.2						
KURBB	**Kurchatov Arra**	**51.57**	**346**	P	P	08 24 09.2	+0.4
	0.2nm,0.4s,baz=172,slow=7.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**53.48**	**352**	P	P	08 24 22.4	-0.6
	0.5nm,0.5s,baz=198,slow=9.1,SNR=3.7						
BVAR	**Borovoye Array**	**56.03**	**341**	P	P	08 24 40.8	-0.7
	0.5nm,0.7s,baz=146,slow=8.2,SNR=4.3						

ISC 15 08:22:55.7±13.0, 38°38N×1°0×74°1E±0°2, h10km, n9, σ1°42/6, 1C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.58**	**63**	Pg	**Pg**	**08 23 26.4**	**+0.3**
KSH				Sg	**Sn**	**08 23 43.1**	**-1.5**
KSH				smax	smax		
	comp=N,78nm,0.6s						
KSH				smax	smax		
	comp=E,89nm,0.6s						
AML	**Almayashu**	**3.32**	**354**	P	**Pn**	**08 23 47.1**	**-1.0**
	SNR=34						
KZA	**Kyzart**	**3.36**	**14**	P	Pn	08 23 50.8	+2.1
	SNR=14						
AAK	**Ala-Archa**	**3.82**	**4**	P	**Pn**	**08 23 55.2**	**+0.5**
	SNR=13						
EKS2	**Erkin-Say**	**3.85**	**356**	P	Pn	08 23 56.2	+1.1
	SNR=8.3						
KBK	**Karagaybulak**	**3.88**	**9**	P	**Pn**	**08 23 56.6**	**+1.0**
	SNR=9.1						
CHMS	**Chumysh**	**4.20**	**6**	P	Sn	08 24 50.6	+1.6
	SNR=5.3						
TKM2	**Tokmak 2**	**4.24**	**15**	⇓Pn	**Pn**	**08 24 01.8**	**+1.2**
	comp=E,1.7nm,0.4s						
TKM2				⇑Lg	Lg	08 24 54.4	
	comp=E,8.3nm,0.5s						
KK31	**Karatay Array**	**5.08**	**328**	Pn	Pn	08 24 10.2	-1.8
	comp=E,0.6nm,0.3s,baz=137,slow=12,SNR=28						
KK31				⇓Lg	Lg	08 25 16.9	
	comp=E,5.7nm,0.5s,baz=139,slow=27,SNR=5.1						

IDC 15 08:23:03.0±1.1, 3°97N×127°10E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, MS3.2/1, Ms1 3.2/1, ms1mx2.2/38, Error ellipse: s-maj=65.5km s-min=20.3km az=76.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.98**	**184**	P	P	08 27 58.9	+0.1
	0.9nm,0.5s,baz=346,slow=8.3,SNR=2.8						
FITZ				LR	LR	08 36 34.3	
	comp=Z,58nm,18.3s,baz=87,slow=37						
WRA	**Warramunga Arr**	**24.80**	**164**	P	P	08 28 26.7	-0.3
	2.5nm,0.5s,baz=342,slow=11,SNR=33						
ASAR	**Alice Springs**	**28.26**	**167**	P	P	08 28 58.4	+0.2
	0.3nm,0.5s,baz=346,slow=6.5,SNR=4.8						
MKAR	**Makanchi Array**	**57.57**	**325**	P	P	08 32 55.3	+0.6
	0.4nm,0.5s,baz=112,slow=8.1,SNR=3.2						
KURBB	**Kurchatov Arra**	**61.74**	**327**	P	P	08 33 22.7	-0.6
	0.5nm,0.5s,baz=116,slow=5.4,SNR=3.7						
ILAR	**Eielson Array**	**84.73**	**25**	P	P	08 35 38.8	-0.1
	0.5nm,0.9s,baz=282,slow=4.3,SNR=4.1						

IDC 15 08:24:05.8±0.9, 35°94N×70°19E, h89km±7km, mb3.5/10, mb1 3.7/13, mb1mx3.5/27, mbtmp3.6/13, MS3.4/2, Ms1 3.4/2, ms1mx2.5/44, Error ellipse: s-maj=16.9km s-min=13.5km az=64.0

NNC 15 08:24:05.5±2.8, 36°41N×70°05E, h0km, mb4.2, mpv4.3, Error ellipse: s-maj=29.0km s-min=20.5km az=152.0

ISCJB 15 08:24:06.4±0.4, 36°03N±0°03×70°47E±0°06, h110km, mb3.7/12, Error ellipse: s-maj=7.6km s-min=4.1km az=164.4

ISC 15 08:24:06.8±0.6, 35°99N±0°05×70°38E±0°08, h110km, n52, σ1°63/55, mb3.8/12, 7C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.50**	**149**	P	**Pn**	**08 24 47.4**	**+1.0**
CEP				S	**Sn**	**08 25 19.0**	**+2.3**
CHCP	**Chirah Chowk**	**3.32**	**134**	P	**Pn**	**08 24 58.2**	**+1.1**
THW	**Thamme Wali**	**3.38**	**160**	P	**Pn**	**08 24 57.6**	**-0.3**
SARP	**Sargodha**	**4.48**	**154**	P	**Pn**	**08 25 11.6**	**-1.1**
AML	**Almayashu**	**6.65**	**22**	P	**Sn**	**08 26 54.8**	**-2.1**
	SNR=8.4						
KK31	**Karatay Array**	**7.11**	**1**	⇑Pn	**Pn**	**08 25 46.4**	**-1.7**
	7.0nm,0.5s,baz=106,slow=28,SNR=6.9						
KK31				⇓Sn	**Sn**	**08 27 04.1**	**-3.2**
	19nm,0.5s,baz=189,slow=22,SNR=5.5						
KZA	**Kyzart**	**7.16**	**30**	P	**Pn**	**08 25 49.7**	**+0.4**
	SNR=13						
EKS2	**Erkin-Say**	**7.16**	**21**	P	**Pn**	**08 25 49.6**	**+0.6**
	SNR=24						
AAK	**Ala-Archa**	**7.36**	**24**	P	**Pn**	**08 25 51.8**	**+0.1**
	SNR=14						
AAK	**Ala-Archa**	**7.36**	**24**	P	**Pn**	**08 25 52.0**	**+0.3**
	7.6nm,0.3s,baz=174,slow=6.9,SNR=9.2						
AAK				S	**Sn**	**08 27 12.2**	**-1.5**
	4.7nm,0.3s,baz=145,slow=23,SNR=8.3						
AAK				LR	LR	08 29 19.4	
	comp=Z,60nm,18.6s,baz=132,slow=42						
SMLA	**Simla**	**7.45**	**129**	*i* P	**Pn**	**08 25 52.6**	**-0.3**
SMLA				*i* x	**Sn**	**08 27 14.6**	**-1.2**
SMLA						08 27 16.9	
	comp=N,560nm,0.3s						
SMLA				⇓		08 27 17.2	
	comp=E,1μm,0.3s						
KBK	**Karagaybulak**	**7.54**	**27**	P	**Pn**	**08 25 54.8**	**+0.6**
	SNR=5.5						
CHMS	**Chumysh**	**7.77**	**24**	P	**Pn**	**08 25 57.0**	**-0.1**
	SNR=8.6						
USP	**Ospenovka**	**7.93**	**22**	P	**Pn**	**08 25 58.9**	**-0.4**
	SNR=8.4						
TKM2	**Tokmak 2**	**8.01**	**29**	⇑Pn	**Pn**	**08 26 00.1**	**-0.5**
	comp=E,15nm,0.6s						
TKM2				⇑Sn	**Sn**	**08 27 29.3**	**-0.3**
	comp=E,20nm,0.6s						
TKM2	**Tokmak 2**	**8.01**	**29**	P	**Pn**	**08 26 00.9**	**+0.3**
	SNR=13						
DDI	**Dehra Dun**	**8.56**	**129**	*ex*	x	08 27 08.0	
KUDL	**Kundal**	**9.38**	**145**	*ex*	**Pn**	**08 26 17.4**	**-1.6**
KUDL				*ex*	Sn	08 27 55.0	-7.6
KUDL				AML	AML	08 28 00.7	
	comp=N,20nm,0.3s						
KUDL				AML	AML	08 28 02.1	
	comp=E,20nm,0.4s						
DANN	**Dangsing**	**13.64**	**120**	*e*P	**Pn**	**08 27 14.2**	**-1.9**
	comp=E,34nm,0.6s						
MK31	**Makanchi Array**	**14.00**	**36**	⇑P	**Pn**	**08 27 22.3**	**+2.1**
	comp=E,12nm,0.6s,baz=225,slow=12,SNR=6.5						
MKAR	**Makanchi Array**	**14.00**	**36**	P	**Pn**	**08 27 18.6**	**-1.6**
	comp=E,0.4nm,0.3s,baz=217,slow=10.0,SNR=21						
KKN	**Kakani**	**15.05**	**119**	*e*P	**Pn**	**08 27 32.6**	**-1.4**
	comp=E,29nm,0.6s						
AB31	**Akbulak array**	**15.30**	**333**	⇑P	**Pn**	**08 27 33.6**	**-3.1**
	comp=E,1.6nm,0.5s,baz=156,slow=12,SNR=8.2						
GUN	**Guma**	**15.41**	**117**	*e*P	**Pn**	**08 27 37.2**	**-1.4**
	comp=E,18nm,0.5s						
KURBB	**Kurchatov Arra**	**15.77**	**19**	P	**P**	**08 27 46.9**	**+2.8**
	comp=E,2.4nm,0.6s						
KURBB	**Kurchatov Arra**	**15.77**	**19**	P	**Pn**	**08 27 39.8**	**-2.7**
	comp=E,0.1nm,0.3s,baz=212,slow=11,SNR=13						
JIRN	**Jiri**	**15.78**	**117**	*e*P	**Pn**	**08 27 41.9**	**-1.4**
	comp=E,6.0nm,0.4s						
KURK	**Kurchatov**	**15.88**	**19**	⇑P	**P**	**08 27 47.7**	**+2.4**
	comp=E,7.7nm,0.8s						
RAMN	**Ramite**	**16.50**	**119**	*e*P	**Pn**	**08 27 51.8**	**-0.1**
	comp=E,28nm,0.6s						
VOSK	**Vostochnaya**	**16.74**	**1**	⇓P	**Pn**	**08 27 54.7**	**+0.3**
	comp=E,3.4nm,0.7s						
AKTO	**Aktyubinsk**	**16.98**	**332**	⇓P	**P**	**08 27 58.3**	**+0.7**
	comp=E,0.3nm,0.5s						
AKTO	**Aktyubinsk**	**16.98**	**332**	P	**Pn**	**08 27 57.1**	**-0.4**
	comp=E,0.5nm,0.3s,baz=145,slow=14,SNR=9.9						
ZRNK	**Zerenda**	**16.99**	**357**	⇓P	**Pn**	**08 27 57.6**	**+0.1**
	comp=E,2.7nm,0.6s						
BVA0	**Borovoye Array**	**17.03**	**0**	⇑P	**P**	**08 27 59.8**	**+1.6**
	comp=E,0.3nm,0.5s,baz=173,slow=10,SNR=8.1						
BVAR	**Borovoye Array**	**17.03**	**0**	P	**Pn**	**08 27 56.8**	**-1.2**
	comp=E,0.4nm,0.3s,baz=162,slow=9.6,SNR=14						
BVAR				S	**Sn**	**08 31 08.5**	**+1.1**
	comp=E,0.4nm,0.3s,baz=160,slow=22,SNR=5.3						
TAPN	**Taplejung**	**17.06**	**115**	*e*P	**Pn**	**08 27 58.5**	**-0.5**
	comp=E,38nm,0.5s						
GNI	**Garni**	**20.58**	**289**	P	Pn	08 28 39.3	-1.1
	comp=E,14nm,0.6s,baz=170,slow=4.4,SNR=12						
ZALV	**Zalesovo Beam**	**20.59**	**25**	P	Pn	08 28 39.3	-0.8
	comp=E,51nm,0.5s,baz=218,slow=11,SNR=265						
SONM	**Songino Array**	**29.04**	**55**	P	P	08 29 59.9	+3.3
	comp=E,1.6nm,0.8s,baz=263,slow=9.2,SNR=14						
BRTR	**Keskin Array B**	**29.12**	**289**	P	**P**	**08 29 57.4**	**0.0**
	comp=E,0.9nm,0.7s,baz=90,slow=9.3,SNR=6.0						
CMAR	**Chiang Mai Arr**	**30.86**	**117**	P	P	08 30 14.7	+3.7
	comp=E,0.9nm,0.3s,baz=294,slow=10,SNR=4.8						
JOF	**Joensuu**	**36.06**	**331**	*ep*	**P**	**08 30 59.2**	**+1.8**
	comp=E,2.4nm,0.5s						
FINES	**FINESS Array B**	**37.63**	**327**	P	**P**	**08 31 12.0**	**+1.4**
	comp=E,1.7nm,0.6s,baz=100,slow=9.9,SNR=7.1						
KAF	**Kangasniemi**	**37.79**	**328**	*ep*	**P**	**08 31 14.9**	**+2.9**
	comp=E,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**41.43**	**338**	P	**P**	**08 31 44.1**	**+2.1**
	comp=E,1.6nm,0.8s,baz=35,slow=4.4,SNR=8.2						
NB2	**NORSAR Subarra**	**44.49**	**323**	P	**P**	**08 32 07.6**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=97,slow=8.6						
NOA	**NORSAR Array B**	**44.49**	**323**	P	**P**	**08 32 07.7**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=98,slow=7.9,SNR=6.8						
DAV	**Davao City (W)**	**57.93**	**106**	LR	LR	09 00 37.8	
	comp=Z,157nm,18.7s,baz=233,slow=38						
TORD	**Torodi Ar. Bea**	**65.20**	**268**	P	**P**	**08 34 35.5**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=39,slow=6.4,SNR=4.7						
YKA	**Yellowknife Ar**	**81.78**	**2**	P	**P**	**08 36 14.6**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=350,slow=5.5,SNR=9.5						
YKA				pP	**pP**	**08 36 37.7**	**-3.5**
	comp=Z,0.2nm,0.7s,baz=350,slow=5.1,SNR=2.7						
WRA	**Warramunga Arr**	**82.15**	**121**	P	**P**	**08 36 16.4**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=323,slow=5.1,SNR=12						
WRA				pP	**pP**	**08 36 40.9**	**-2.9**
	comp=Z,0.5nm,0.5s,baz=324,slow=4.9,SNR=3.4						
ASAR	**Alice Springs**	**84.38**	**124**	P	**P**	**08 36 27.9**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=294,slow=5.3,SNR=4.6						
ASAR				pP	**pP**	**08 36 53.1**	**-2.3**
	comp=Z,0.7nm,0.9s,baz=323,slow=5.0,SNR=3.2						

ISCJB 15 08:29:40.6±0.5, 8°21S×0°09×68°19E±0°07, h10km, mb4.3/24, MS4.0/15, Error ellipse: s-maj=13.2km s-min=9.6km az=178.1

IDC 15 08:29:40.7±0.7, 8°31S×68°10E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.1/29, mbtmp4.2/18, MS4.0/15, Ms1 3.9/15, ms1mx3.6/38, Error ellipse: s-maj=24.8km s-min=15.4km az=42.0

NEIC 15 08:29:42.5±0.3, 8°27S×68°14E, h10km, mb4.6/7, Error ellipse: s-maj=10.8km s-min=8.0km az=173.0

ISC 15 08:29:42.5±0.5, 8°35S±0°1×68°13E±0°08, h10km, n63, σ0°90/59, mb4.3/24, MS4.0/15, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**4.38**	**78**	*e*Pn	Pn	08 30 44.2	-4.9
DGAR				*e*Sn	Sn	08 31 30.9	-9.2
MSEY	**Mahe Island**	**13.09**	**285**	*e*Pn	**Pn**	**08 32 49.5**	**+0.8**
ABPO	**Ambohimpanom**	**22.89**	**240**	*e*P	**P**	**08 34 48.5**	**+1.7**
	61nm,1.5s						
KMBO	**Kilima Mbogo**	**31.58**	**281**	*e*P	**P**	**08 36 04.4**	**-1.5**
	1.7nm,1.0s						
ATD	**Arta Tunnel**	**31.97**	**308**	LR	LR	08 45 15.8	
	comp=Z,103nm,21.8s,baz=130,slow=29						
PSI	**Prapat**	**32.64**	**71**	LR	LR	08 47 31.5	
	comp=Z,522nm,19.5s,baz=258,slow=33						
LSZ	**Lusaka**	**39.65**	**256**	*e*P	**P**	**08 37 15.5**	**+0.4**
	9.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**40.41**	**49**	P	**P**	**08 37 22.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**40.41**	**49**	P	**P**	**08 37 22.3**	**+1.1**
	4.2nm,0.9s,baz=243,slow=9.3,SNR=22						
CHTO	**Chiang Mai**	**40.63**	**48**	*e*P	**P**	**08 37 23.3**	**+0.3**
	2.9nm,0.6s						
KBL	**Kabul**	**42.65**	**1**	*e*P	**P**	**08 37 40.6**	**+1.1**
	14nm,1.3s						
BOSA	**Boshof**	**45.07**	**238**	LR	LR	08 56 49.7	
	comp=Z,149nm,18.9s,baz=334,slow=36						
AAK	**Ala-Archa**	**51.06**	**6**	*e*P	**P**	**08 38 44.9**	**-0.2**
	50nm,1.4s						
AAK	**Ala-Archa**	**51.06**	**6**	P	**P**	**08 38 44.9**	**-0.2**
	1.9nm,0.8s,baz=172,slow=7.9,SNR=7.9						
AAK				LR	LR	08 58 18.5	
	comp=Z,122nm,21.5s,baz=188,slow=34						
GNI	**Garni**	**52.87**	**338**	LR	LR	09 00 48.8	
	comp=Z,50nm,19.5s,baz=332,slow=35						
MK31	**Makanchi Array**	**56.32**	**12**	P	**P**	**08 39 22.2**	**-1.3**
MKAR	**Makanchi Array**	**56.32**	**12**	P	**P**	**08 39 22.2**	**-1.3**
MKAR	**Makanchi Array**	**56.32**	**12**	P	**P**	**08 39 22.2**	**-1.3**
	1.1nm,0.7s,baz=196,slow=7.6,SNR=10.0						
MKAR				LR	LR	09 02 52.5	
	comp=Z,73nm,19.3s,baz=70,slow=35						
FITZ	**Fitzroy Crossi**	**56.62**	**106**	P	**P**	**08 39 26.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**56.62**	**106**	P	**P**	**08 39 26.0**	**-0.3**
	2.9nm,0.9s,baz=258,slow=8.7,SNR=4.3						
FITZ				LR	LR	08 59 52.8	
	comp=Z,153nm,18.9s,baz=258,slow=32						
BRTR	**Keskin Array B**	**57.50**	**329**	P	**P**	**08 39 32.3**	**+0.1**
BRTR	**Keskin Array B**	**57.50**	**329**	P	**P**	**08 39 32.3**	**+0.1**
	2.0nm,0.9s,baz=144,slow=11,SNR=9.6						
AKTO	**Aktyubinsk**	**59.19**	**352**	P	**P**	**08 39 43.0**	**-0.6**
AKTO	**Aktyubinsk**	**59.19**	**352**	P	**P**	**08 39 43.0**	**-0.6**
	4.5nm,0.9s,baz=179,slow=7.0,SNR=9.7						
MAW	**Mawson**	**59.29**	**182**	LR	LR	08 57 34.0	
	comp=Z,150nm,19.3s,baz=181,slow=28						
KURBB	**Kurchatov Arra**	**59.41**	**8**	P	**P**	**08 39 44.1**	**-1.0**
	2.9nm,0.9s,baz=202,slow=7.2,SNR=9.4						
KURBB				LR	LR	09 03 47.8	
	comp=Z,91nm,21.0s,baz=175,slow=34						
KURK	**Kurchatov**	**59.51**	**8**	P	**P**	**08 39 44.1**	**-1.7**
BVAR	**Borovoye Array**	**61.15**	**2**	P	**P**	**08 39 56.6**	**-0.4**
BVAR	**Borovoye Array**	**61.15**	**2**	P	**P**	**08 39 56.6**	**-0.4**
	1.7nm,0.8s,baz=155,slow=7.4,SNR=9.7						
BVAR				LR	LR	09 05 28.9	
	comp=Z,81nm,19.9s,baz=4.3,slow=35						
BRVK	**Borovoye**	**61.18**	**1**	*e*P	**P**	**08 39 56.7**	**-0.5**
	6.2nm,1.0s						
ZAA0	**Zalesovo Array**	**63.63**	**11**	*e*P	**P**	**08 40 12.3**	**-1.3**
ZALV	**Zalesovo Beam**	**63.63**	**11**	P	**P**	**08 40 12.8**	**-0.8**
ZALV	**Zalesovo Beam**	**63.63**	**11**	P	**P**	**08 40 12.8**	**-0.8**
	1.4nm,0.8s,baz=222,slow=2.0,SNR=9.2						
ZALV				LR	LR	09 07 31.6	
	comp=Z,101nm,18.0s,baz=242,slow=36						
ASAR	**Alice Springs**	**64.54**	**112**	P	**P**	**08 40 20.2**	**-0.1**
ASAR	**Alice Springs**	**64.54**	**112**	P	**P**	**08 40 20.2**	**-0.1**
	2.2nm,0.8s,baz=275,slow=6.1,SNR=20						
WRA	**Warramunga Arr**	**64.88**	**108**	P	**P**	**08 40 22.9**	**+0.3**
WRA	**Warramunga Arr**	**64.88**	**108**	P	**P**	**08 40 22.9**	**+0.3**
	4.2nm,0.9s,baz=281,slow=6.4,SNR=26						
WRA				LR	LR	09 05 32.7	
	comp=Z,230nm,18.4s,baz=270,slow=33						
SONM	**Songino Array**	**65.35**	**27**	P	**P**	**08 40 24.7**	**-0.5**
SONM	**Songino Array**	**65.35**	**27**	P	**P**	**08 40 24.7**	**-0.5**
	1.8nm,1.0s,baz=225,slow=3.6,SNR=12						
TORD	**Torodi Ar. Bea**	**69.34**	**287**	P	**P**	**08 40 49.0**	**-1.9**
TORD	**Torodi Ar. Bea**	**69.34**	**287**	P	**P**	**08 40 49.0**	**-1.9**
	0.7nm,1.0s,baz=120,slow=5.7,SNR=3.1						
TORD				LR	LR	09 07 56.1	
	comp=Z,134nm,21.7s,baz=130,slow=33						
STKA	**Stephens Creek**	**71.62**	**121**	P	**P**	**08 41 04.0**	**-0.6**
STKA	**Stephens Creek**	**71.62**	**121**	P	**P**	**08 41 04.0**	**-0.6**
	1.7nm,0.8s,baz=316,slow=9.2,SNR=2.8						
STKA				LR	LR	09 07 05.1	
	comp=Z,128nm,20.4s,baz=27,slow=31						
DBIC	**Dimbokro**	**74.28**	**279**	P	**P**	**08 41 20.5**	**-0.2**
DBIC	**Dimbokro**	**74.28**	**279**	P	**P**	**08 41 20.5**	**-0.2**
	4.0

ASAR	**Alice Springs**	**28.48 167**	P	P	08 44 35.7	+0.6
	0.2nm,0.2s,baz=347,slow=7.9,SNR=3.6					
STKA	**Stephens Creek**	**38.44 160**	P	P	08 46 02.6	+1.0
	3.3nm,0.6s,baz=327,slow=11,SNR=4.7					
SONM	**Songino Array**	**46.97 341**	P	P	08 47 11.4	+0.5
	0.3nm,0.5s,baz=154,slow=8.5,SNR=3.4					
ZALV	**Zalesovo Beam**	**60.34 333**	P	P	08 48 47.4	-1.2
	0.4nm,0.5s,baz=110,slow=6.3,SNR=2.4					
KURBB	**Kurchatov Arra**	**61.54 327**	P	P	08 48 57.3	+0.4
	0.9nm,0.8s,baz=122,slow=6.4,SNR=9.3					
BVAR	**Borovoye Array**	**67.13 327**	P	P	08 49 33.6	+0.1
	0.3nm,0.4s,baz=117,slow=6.6,SNR=3.2					

IDC 15 08:40:19.4±1.4, 3.73N×126.03E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, Error ellipse: s-maj=171.8km s-min=17.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.90 161**		P	P	08 45 44.6	+0.4
	2.3nm,0.6s,baz=340,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**28.29 165**		P	P	08 46 14.5	-0.3
	0.1nm,0.4s,baz=340,slow=8.8,SNR=3.1						
STKA	**Stephens Creek**	**38.38 158**		P	P	08 47 42.2	-0.3
	2.2nm,0.7s,baz=341,slow=7.9,SNR=4.0						
MKAR	**Makanchi Array**	**57.16 326**		P	P	08 50 08.4	+0.2
	0.2nm,0.4s,baz=110,slow=7.8,SNR=1.9						
ZALV	**Zalesovo Beam**	**60.28 333**		P	P	08 50 29.5	-0.1
	0.3nm,0.4s,baz=148,slow=9.5,SNR=2.1						
KURBB	**Kurchatov Arra**	**61.37 328**		P	P	08 50 36.9	-0.2
	0.3nm,0.5s,baz=124,slow=7.8,SNR=3.4						

IDC 15 08:43:49.8±3.1, 22.08S×179.54W, h575km±33km, mb3.5/9, mb1 3.6/9, mb1mx3.4/20, mbtmp3.5/9, Error ellipse: s-maj=23.8km s-min=20.1km az=21.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.00 267**		P	P	08 46 42.7	+3.9
	0.9nm,0.3s,baz=125,slow=18,SNR=12						
CTA	**Charters Tower**	**31.94 267**		P	P	08 49 30.1	+0.4
	7.7nm,0.4s,baz=94,slow=11,SNR=14						
PMG	**Port Moresby**	**34.35 286**		P	P	08 49 50.4	+0.5
	9.8nm,0.6s,baz=69,slow=2.9,SNR=7.4						
STKA	**Stephens Creek**	**35.82 246**		P	P	08 50 02.3	+0.3
	3.0nm,0.5s,baz=96,slow=9.8,SNR=11						
ASAR	**Alice Springs**	**42.78 259**		P	P	08 50 57.8	-0.2
	8.4nm,0.8s,baz=96,slow=8.1,SNR=64						
WRA	**Warramunga Arr**	**42.99 264**		P	P	08 50 58.8	-0.8
	3.8nm,0.3s,baz=94,slow=8.0,SNR=168						
WRA				ScP	ScP	08 55 34.4	+0.8
	1.1nm,1.0s,baz=98,slow=4.6,SNR=5.0						
FITZ	**Fitzroy Crossi**	**51.42 264**		P	P	08 52 01.9	-0.8
	1.7nm,0.3s,baz=58,slow=6.0,SNR=12						
QSPA	**South Pole Qui**	**67.99 180**		P	P	08 53 52.3	+0.2
	2.3nm,0.5s,baz=297,slow=0.5,SNR=24						
TXAR	**Lajitas Array**	**89.11 58**		P	P	08 55 45.4	+0.5
	0.7nm,0.8s,baz=232,slow=4.4,SNR=5.4						
PDAR	**Pinedale Array**	**91.09 44**		P	P	08 55 53.7	-0.3
	0.4nm,0.8s,baz=238,slow=4.5,SNR=3.4						
ARCES	**ARCESS Array B**	**130.20 349**		PKP	PKPdf	09 01 53.1	-1.3
	4.7nm,1.0s,baz=75,slow=9.2,SNR=4.0						
GERES	**GERESS Array B**	**151.29 342**		PKPbc	PKPbc	09 02 38.5	-0.4
	0.2nm,0.5s,baz=96,slow=1.0,SNR=3.9						
TORD	**Torodi Ar. Bea**	**171.04 188**		PKPab	PKPab	09 04 15.5	-1.0
	0.5nm,0.7s,baz=199,slow=3.5,SNR=3.0						

IDC 15 08:50:27.5±5.0, 20.75S×178.55W, h605km±55km, mb3.1/9, mb1 3.4/9, mb1mx3.2/18, mbtmp3.1/9, Error ellipse: s-maj=74.6km s-min=26.8km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**32.95 265**		P	P	08 56 14.3	+0.1
	1.6nm,0.4s,baz=112,slow=11,SNR=3.8						
STKA	**Stephens Creek**	**37.22 244**		P	P	08 56 48.3	-1.0
	1.4nm,0.7s,baz=90,slow=5.1,SNR=3.5						
ASAR	**Alice Springs**	**43.96 257**		P	P	08 57 43.0	+0.2
	2.6nm,0.5s,baz=96,slow=7.5,SNR=56						
ASAR				PcP	PcP	08 59 15.4	+0.5
	0.6nm,0.6s,baz=102,slow=4.1,SNR=6.9						
WRA	**Warramunga Arr**	**44.06 262**		P	P	08 57 43.0	-0.6
	1.4nm,0.5s,baz=97,slow=7.9,SNR=23						
FITZ	**Fitzroy Crossi**	**52.49 263**		P	P	08 58 46.3	+0.4
	1.0nm,0.5s,baz=100,slow=6.1,SNR=3.7						
TXAR	**Lajitas Array**	**87.62 58**		P	P	09 02 14.2	+1.2
	0.8nm,0.9s,baz=217,slow=5.6,SNR=5.6						
ILAR	**Eielson Array**	**88.67 10**		P	P	09 02 16.2	-0.7
	0.5nm,0.7s,baz=215,slow=5.0,SNR=11						
PDAR	**Pinedale Array**	**89.50 43**		P	P	09 02 21.6	0.0
	0.6nm,0.6s,baz=212,slow=3.2,SNR=5.3						
CMAR	**Chiang Mai Arr**	**89.72 290**		P	P	09 02 24.6	+1.8
	0.4nm,0.3s,baz=120,slow=3.6,SNR=4.3						
MKAR	**Makanchi Array**	**111.00 313**		PKiKP	PKiKP	09 07 51.8	-1.2
	0.2nm,0.4s,baz=91,slow=1.2,SNR=5.7						
BVAR	**Borovoye Array**	**118.94 320**		PKP	PKPdf	09 08 07.6	-0.4
	0.7nm,0.3s,baz=138,slow=1.4,SNR=5.5						
ARCES	**ARCESS Array B**	**129.07 349**		PKP	PKPdf	09 08 25.8	-1.2
	5.5nm,1.0s,baz=26,slow=3.1,SNR=6.6						
FINES	**FINESS Array B**	**135.86 343**		PKP	PKPdf	09 08 39.9	0.0
	2.1nm,1.1s,baz=27,slow=1.6,SNR=3.8						
AKASG	**Malin Array Be**	**142.98 331**		PKP	PKPdf	09 08 50.4	-2.8
	2.1nm,0.4s,baz=42,slow=4.2,SNR=15						
BRTR	**Keskin Array B**	**146.62 312**		PKPbc	PKPbc	09 09 02.5	-0.1
	0.7nm,0.5s,baz=136,slow=6.6,SNR=4.6						
GERES	**GERESS Array B**	**150.30 344**		PKPbc	PKPbc	09 09 10.7	-0.7
	0.6nm,0.6s,baz=8.1,slow=2.8,SNR=5.7						

IDC 15 08:50:48.5±1.2, 4.20N×127.00E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, Error ellipse: s-maj=131.4km s-min=17.7km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.05 164**		P	P	08 56 13.7	-1.0
	1.4nm,0.8s,baz=345,slow=10,SNR=10						
ASAR	**Alice Springs**	**28.50 167**		P	P	08 56 45.8	+0.1
	0.2nm,0.4s,baz=335,slow=7.1,SNR=4.3						
STKA	**Stephens Creek**	**38.47 160**		P	P	08 58 13.2	+0.8
	2.8nm,0.7s,baz=332,slow=8.4,SNR=6.4						
SONM	**Songino Array**	**46.95 341**		P	P	08 59 21.6	+0.4
	0.4nm,0.5s,baz=159,slow=8.7,SNR=4.3						
MKAR	**Makanchi Array**	**57.33 325**		P	P	09 00 37.2	-1.2
	0.3nm,0.4s,baz=116,slow=7.4,SNR=12						
KURBB	**Kurchatov Arra**	**61.49 327**		P	P	09 01 07.8	+0.8
	0.8nm,0.6s,baz=125,slow=6.2,SNR=7.7						

IDC 15 08:56:04.5±1.2, 3.78N×126.68E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.6/5, Error ellipse: s-maj=120.8km s-min=19.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.75 163**		P	P	09 01 26.4	-1.6
	2.0nm,0.7s,baz=343,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.18 166**		P	P	09 02 00.9	+2.0
	0.4nm,0.7s,baz=344,slow=9.9,SNR=4.9						
SONM	**Songino Array**	**47.23 341**		P	P	09 04 40.4	+0.9
	0.6nm,0.7s,baz=160,slow=8.0,SNR=3.4						
SONM				PcP	PcP	09 06 10.8	-0.1
	0.3nm,0.5s,baz=134,slow=4.2,SNR=4.3						
MKAR	**Makanchi Array**	**57.48 325**		P	P	09 05 54.8	-0.8
	0.4nm,0.4s,baz=115,slow=8.6,SNR=9.9						
MKAR				PcP	PcP	09 06 48.9	-0.3
	0.3nm,0.6s,baz=129,slow=5.0,SNR=2.2						
KURBB	**Kurchatov Arra**	**61.66 327**		P	P	09 06 24.1	-0.1
	0.6nm,0.5s,baz=130,slow=6.5,SNR=7.7						

NEIC ***15*** *09:15:03.0, 18.97N×66.48W, h7km, MD2.7(RSPR), After RSPR.*

RSPR 15 09:15:01.8, 19.03N×66.52W, h51km±9km, MD2.7/3, 7C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**0.72 198**	⇑	*e*P	Pn	09 15 15.1	-0.8
AOPR	**Arecibo Observ**	**0.72 198**	⇑	*e*P	Pn	09 15 15.1	-0.8
AOPR	**Arecibo Observ**	**0.72 198**		*e*S	Sn	09 15 25.2	-0.8
AOPR	**Arecibo Observ**	**0.72 198**	⇑	*e*P	Pn	09 15 15.1	-0.8
AOPR				*e*S	Sn	09 15 25.2	-0.8
CBYP	**Canovanas**	**0.99 140**	⇓	*e*P	Pn	09 15 18.4	-1.1
CBYP				*e*S	Sn	09 15 31.2	-1.3
CBYP	**Canovanas**	**0.99 140**	⇓	*e*P	Pn	09 15 18.4	-1.1
CBYP				*e*S	Sn	09 15 31.2	-1.3
HUMP	**Col San Antoni**	**1.09 144**	⇑	*e*P	Pn	09 15 20.3	-0.5
HUMP	**Col San Antoni**	**1.09 144**	⇓	*e*P	Pn	09 15 19.7	-1.1
HUMP	**Col San Antoni**	**1.09 144**		*e*S	Sn	09 15 34.1	-0.8
HUMP	**Col San Antoni**	**1.09 144**	⇑	*e*P	Pn	09 15 20.3	-0.5
HUMP				*e*S	Sn	09 15 34.1	-0.8
MTP	**Monte Pirata**	**1.31 135**	⇑	*e*P	Pn	09 15 23.9	+0.1
MTP	**Monte Pirata**	**1.31 135**	⇓	*e*P	Pn	09 15 23.0	-0.8
MTP	**Monte Pirata**	**1.31 135**		*e*S	Sn	09 15 39.4	-0.8
MTP	**Monte Pirata**	**1.31 135**	⇑	*e*P	Pn	09 15 23.9	+0.1
MTP				*e*S	Sn	09 15 39.4	-0.8

JMA 15 09:23:21.9, 31.97N×130.97E, h9km±1km, M0.2, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTZ	**Takazaki**	**0.12 124**		P	Pg	09 23 24.6	-0.1
JTZ				S	Sg	09 23 26.6	-0.1
JZO	**Okuchi**	**0.36 298**		P	Pg	09 23 29.0	0.0
JZO				S	Sg	09 23 34.1	+0.3

NIED ***15*** *09:24:00, 40.30N×142.50E, h44km, Mw5.7 Best double couple: M0 4.06000×10*^{17} *NP1:*ϕ_s*23.00000°,* δ*72.00000°,* λ*92.00000°. NP2:*ϕ_s*198.00000°,* δ*18.00000°,* λ*85.00000°.*

MOS ***15*** *09:24:30.7±0.9, 40.36N×142.28E, h33km, mb6.4/152, MS5.5/83, Error ellipse: s-maj=5.9km s-min=3.7km az=104.2*

NEIC ***15*** *09:24:31.7±0.1, 40.24N×142.24E, h33km, mb6.1/273, ME5.8, MS5.5/159, MW5.7, MW5.6, MW5.7(NIED), Error ellipse: s-maj=2.7km s-min=2.0km az=148.0, Moment Tensor Solution. s68 Moment tensor: Scale 10*^{17}*Nm; Mrr2.01; Mθθ0.47; Mφφ-2.48; Mrθ1.57; Mφθ-0.78; Mφr2.18; Best double couple: M0 3.60000×10*^{17} *NP1:*ϕ_s*32.00000°,* δ*71.00000°,* λ*106.00000°. NP2:*ϕ_s*171.00000°,* δ*25.00000°,* λ*52.00000°. Principal axes: T 3.4000, Plg61.0000°, Azm325.0000°; N 0.3900, Plg14.0000°, Azm206.0000°; P -3.7900, Plg23.0000°, Azm109.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Felt [IV] at Misawa and [III] at Aomori. Also felt at Akita, Furukawa, Goshogawara, Hachinohe, Iwate, Mitsuke and Sendai. Felt at Hakodate, Obihiro and Sapporo, Hokkaido. Recorded [4 JMA] in Aomori; [3 JMA] in Akita, Iwate and Miyagi; [2 JMA] in Fukushima and Yamagata; [1 JMA] in Chiba and Saitama. Also recorded [3 JMA] in southwestern Hokkaido.

BJI ***15*** *09:24:31.5, 40.12N×142.21E, h51km, mB5.9/33, mb5.9/70, Ms5.5/80, Ms7 5.4/70*

JMA ***15*** *09:24:32.2±0.1, 40.25N×142.42E, h36km±1km, M5.9 Broadband fault plane solution: P waves. NP1: *ϕ_s*42.00000°,* δ*62.00000°,* λ*104.00000°. NP2: *ϕ_s*195.00000°,* δ*31.00000°,* λ*66.00000°. Principal axes: T Plg70.0000°, Azm341.0000°; N Plg12.0000°, Azm215.0000°; P Plg16.0000°, Azm122.0000°;*

JMA Felt IV J1.

ISCJB ***15*** *09:24:33.2±0.2, 40.28N±0.02×142.27E±0.02, h56km±2km, mb6.0/465, MS5.6/250 Error ellipse: s-maj=2.7km s-min=1.9km az=168.6*

IDC ***15*** *09:24:33.4±0.4, 40.26N×142.29E, h46km±3km, mb5.5/29, mb1 5.6/32, mb1mx5.6/32, mbtmp5.5/32, MS5.2/24, Ms1 5.2/24, ms1mx5.0/38, Error ellipse: s-maj=10.2km s-min=7.7km az=103.0*

SZGRF ***15*** *09:24:33.9, 40.92N×143.45E, h45km, mb6.2, MS5.4, Off east coast of Honshu, Japan*

TEH ***15*** *09:24:34.0, 40.27N×142.23E, h47km, ML5.9*

BGS ***15*** *09:24:34.3±1.4, 40.41N×141.00E, h33km, mb6.0, MS5.4*

NEIC ***15*** *09:24:41.7±0.0, 40.17N×143.13E, h54km, Moment Tensor Solution. s49 Moment tensor: Scale 10*^{17}*Nm; Mrr2.74; Mθθ0.11; Mφφ-2.85; Mrθ1.04; Mφθ-1.77; Mφr1.67; Best double couple: M0 3.80000×10*^{17} *NP1:*ϕ_s*30.00000°,* δ*61.00000°,* λ*96.00000°. NP2:*ϕ_s*198.00000°,* δ*30.00000°,* λ*80.00000°. Principal axes: T 3.3100, Plg73.0000°, Azm314.0000°; N 0.9200, Plg5.0000°, Azm207.0000°; P -4.2200, Plg15.0000°, Azm115.0000°;*

DJA ***15*** *09:24:48, 40.04N×141.56E, h146km, Mw5.7/30*

ISC 15 09:24:33.0±0.2, 40.26N±0.02×142.31E±0.02, h45km±1km, h45km:pP-P, n1936, σ1911/2163, mb6.1/464, MS5.6/253, 529C-256D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.47 227**	⇓	P	**Pn**	**09 24 43.2**	**-0.4**
JTH				*e*S	**Sn**	**09 24 50.8**	**-0.2**
JANG	**Nango**	**0.62 281**	⇓	P	**Pn**	**09 24 45.6**	**+0.1**
JANG				S	**Sn**	**09 24 55.3**	**+0.9**
MIYJ	**Miyakonagasawa**	**0.78 209**		P	**Pn**	**09 24 47.1**	**-0.5**
MIYJ				S	**Sn**	**09 24 57.9**	**-0.3**
JKZ	**Kuzumaki**	**0.80 250**	⇓	P	**Pn**	**09 24 48.4**	**+0.5**
JKZ				*e*S	**Sn**	**09 25 00.0**	**+1.2**
JTM	**Tenmabayashi**	**1.08 300**	⇓	P	**Pn**	**09 24 52.4**	**+0.7**
JTM				*e*S	**Sn**	**09 25 07.1**	**+1.5**
JOM	**Ohasama**	**1.11 225**	⇓	P	**Pn**	**09 24 52.8**	**+0.7**
JOM				*e*S	**Sn**	**09 25 07.6**	**+1.4**
OFUJ	**Ofunato**	**1.27 203**	⇓	P	**Pn**	**09 24 54.7**	**+0.3**
JAH	**Hinai**	**1.28 267**	⇓	P	**Pn**	**09 24 55.8**	**+1.3**
JOT	**Ohata**	**1.48 320**	⇓	P	**Pn**	**09 24 57.4**	**+0.3**
JOT				S	**Sn**	**09 25 16.2**	**+1.0**
JRG	**Rokugo**	**1.55 237**	⇓	P	**Pn**	**09 24 59.3**	**+1.2**
JMK	**Ichinoseki**	**1.55 213**	⇓	P	**Pn**	**09 24 59.1**	**+1.0**
JSI2	**Shiura 2**	**1.65 300**	⇓	P	**Pn**	**09 25 00.7**	**+1.2**
JYW	**Yuwa**	**1.77 247**	⇓	P	**Pn**	**09 25 03.0**	**+1.9**
ERM	**Erimo**	**1.87 20**	*d*	*i*P	**Pn**	**09 25 01.6**	**-0.9**
ERM	**Erimo**	**1.87 20**	*e*	Pn	**Pn**	**09 25 01.8**	**-0.7**
ERM	**Erimo**	**1.87 20**		Pn	**Pn**	**09 25 01.2**	**-1.3**
	46μm,0.6s						
JYK	**Kaneyama**	**2.01 229**	⇓	P	**Pn**	**09 25 05.9**	**+1.4**
JFT	**Otama**	**3.14 210**	⇑	P	**Pn**	**09 25 21.7**	**+1.7**
ONAJ	**Iwakimizuishiy**	**3.36 201**		P	**Pn**	**09 25 23.3**	**+0.2**
JNS	**Sasagawa**	**3.37 225**	⇑	P	**Pn**	**09 25 25.8**	**+2.7**
JFY	**Yanaizu**	**3.50 216**		P	**Pn**	**09 25 27.7**	**+2.8**
JSB	**Shiboa**	**3.78 210**		P	**Pn**	**09 25 31.1**	**+2.3**
ASAJ	**Asahikawa**	**3.86 3**	*e*	Pn	**Pn**	**09 25 29.9**	**+0.1**
ASAJ				S	**Sn**	**09 26 14.8**	**+0.8**
ASAJ				*e*S	Sn	09 26 27.2	+13
ASAJ	**Asahikawa**	**3.86 3**		P	**Pn**	**09 25 30.0**	**+0.1**
	73nm,0.3s,baz=217,slow=14,SNR=232						
ASAJ				S	**Sn**	**09 26 14.8**	**+0.8**
	165nm,0.3s,baz=322,slow=29,SNR=5.8						
ASAJ				LR	LR	09 27 28.5	
	comp=Z,67μm,21.4s,baz=193,slow=45						
JIZZ	**Izumozaki**	**3.91 227**	⇑	P	Pn	09 25 34.2	+3.7
JHK	**Hiroka**	**3.95 222**		P	**Pn**	**09 25 33.7**	**+2.5**
JKT	**Katashina**	**4.23 216**	⇑	P	Pn	09 25 38.3	+3.3
JAG	**Ashikaga**	**4.43 211**	⇑	P	**Pn**	**09 25 39.8**	**+2.0**
JJN	**Nakama**	**4.52 227**	⇑	P	Pn	09 25 42.5	+3.6
YUK	**Yuzh-Kuril'sk**	**4.61 34**	*d*	*i*P	**Pn**	**09 25 38.2**	**-1.9**
YUK				*i* S	**Sn**	**09 26 28.0**	**-4.3**
YUK				pmax	pmax		
	comp=N,3μm,0.6s						
YUK				pmax	pmax		
	comp=E,2μm,0.6s						
YUK				pmax	pmax		
	comp=Z,3μm,0.6s						
YUK				smax	smax		
	comp=N,23μm,0.6s						
YUK				smax	smax		
	comp=E,22μm,0.7s						
JGK	**Kuni**	**4.68 219**		P	Pn	09 25 44.7	+3.5
JSZ	**Suzu**	**4.77 236**	⇑	P	**Pn**	**09 25 45.0**	**+2.7**
JHG	**Hegura jima**	**4.83 242**		P	**Pn**	**09 25 45.8**	**+2.6**
MAJO	**Matsushiro**	**4.91 222**	*e*	P	Pn	09 25 47.6	+3.3
MAJO	**Matsushiro**	**4.91 222**	*e*	Pn	Pn	09 25 47.6	+3.3
MAT	**Matsushiro**	**4.91 222**	⇑	P	**Pn**	**09 25 47.4**	**+3.1**
MAT				S	Sn	09 26 54.6	+15
MAT	**Matsushiro**	**4.91 222**		P	**Pn**	**09 25 47.4**	**+3.1**
MJAR	**Matsushiro Arr**	**4.91 222**		P	Pn	09 25 47.5	+3.2
MJAR	**Matsushiro Arr**	**4.91 222**		P	Pn	09 25 47.5	+3.2
	comp=E,50nm,0.3s,baz=32,slow=12,SNR=1466						
MJAR				LR	LR	09 27 57.1	
	comp=E,32μm,21.1s,baz=35,slow=42						
JRY	**Ryogami san**	**5.01 213**		P	**Pn**	**09 25 47.2**	**+1.5**
JNG	**Nsakai**	**5.07 222**	⇑	P	Pn	09 25 49.9	+3.3
JOD2	**Odawara 2**	**5.60 208**		P	**Pn**	**09 25 53.8**	**0.0**
JGN	**Niukaw**	**5.63 226**	⇑	P	Pn	09 25 57.9	+3.7
JNY	**Yasuok**	**6.02 217**		P	**Pn**	**09 26 01.5**	**+1.9**
JGF	**Kuroka**	**6.08 222**		P	**Pn**	**09 26 03.1**	**+2.8**
JKG	**Kaga**	**6.16 232**		P	Pn	09 26 05.0	+3.7
JGM	**Miyama**	**6.34 226**		P	Pn	09 26 07.3	+3.4
YSS	**Yuzh-Sakhalins**	**6.70**	3	*u i*P	**Pn**	**09 26 09.7**	**+0.9**
YSS				*e*S	**Sn**	**09 27 20.0**	**-3.8**
YSS				pmax	pmax		
	comp=Z,1μm,1.0s						
YSS				pmax	pmax		
	comp=Z,4μm,3.0s						
YSS				MLR	MLR		
	comp=Z,24μm,19.0s						
YSS				MLR	MLR		
	comp=N,20μm,18.0s						
YSS				MLR	MLR		
	comp=E,8μm,13.0s						
YSS	**Yuzh-Sakhalins**	**6.70**	3	*e*Pn	**Pn**	**09 26 08.8**	**0.0**
	comp=E,2μm,1.0s						
JFM	**Mihama**	**6.88 229**		P	Pn	09 26 15.2	+4.0
JKY	**Yasaka**	**7.33 233**	⇑	P	Pn	09 26 21.4	+3.9
JWT	**Wachi**	**7.38 230**	⇑	P	Pn	09 26 22.3	+4.1
JHJ	**Hachijo jima 2**	**7.41 197**		P	**Pn**	**09 26 17.9**	**-0.6**
	comp=E,131nm,0.3s,baz=85,slow=16,SNR=34						
JHJ				S	**Sn**	**09 27 39.2**	**-2.0**
	comp=E,130nm,0.3s,baz=38,slow=23,SNR=8.5						
JKSM	**Kasumi**	**7.63 235**	⇑	P	Pn	09 26 25.5	+3.9
VLA	**Vladivostok**	**8.30 294**	⇑	*i*P	**Pn**	**09 26 32.6**	**+1.9**
VLA				*i* S	**Sn**	**09 28 06.6**	**+3.5**
USRK	**Ussuriysk Arra**	**8.60 301**		P	Pn	09 26 38.2	+3.4
	comp=E,8.3nm,0.3s,baz=107,slow=12,SNR=139						
USRK				LR	LR	09 29 54.3	
	comp=E,33μm,18.8s,baz=98,slow=37						
UGL	**Uglegorsk**	**8.82 359**	⇓	*i*P	**Pn**	**09 26 37.0**	**-0.8**
UGL				S	**Sn**	**09 28 15.0**	**-0.8**
UGL				pmax	pmax		
	comp=Z,250nm,1.0s						
UGL				smax	smax		
	comp=N,4μm,4.0s						
UGL				smax	smax		
	comp=E,3μm,4.0s						
UGL				MLR	MLR		
	comp=N,23μm,20.0s						
UGL				MLR	MLR		
	comp=E,22μm,19.0s						
HABR	**Khabarovsk**	**9.71 330**	*c*	*i*P	**Pn**	**09 26 50.6**	**+0.6**
HABR				*e*S	**Sn**	**09 28 41.9**	**+4.2**
HABR				pmax	pmax		
	comp=N,320nm,2.5s						
HABR				pmax	pmax		
	comp=E,385nm,2.5s						
HABR				pmax	pmax		
	comp=Z,654nm,2.5s						
HABR				MLR	MLR		
	comp=Z,23μm,16.0s						
MDJ	**Mudanjiang**	**10.36 299**		P	**Pn**	**09 27 01.8**	**+2.9**
MDJ				S	**Sn**	**09 28 58.6**	**+5.1**
MDJ				PcP	**PcP**	**09 33 01.8**	**-0.8**
MDJ				PcS	**PcS**	**09 36 35.9**	**-0.2**
MDJ				pmax	pmax		
	comp=Z,360nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,2μm,5.0s						
MDJ				LR	LR		
	comp=N,8μm,16.9s						
MDJ				LR	LR		
	comp=E,19μm,16.4s						
MDJ				LR	LR		
	comp=Z,28μm,17.8s						
MDJ	**Mudanjiang**	**10.36 299**	*e*	Pn	Pn	09 27 02.4	+3.5
	comp=Z,983nm,0.9s						
KSRS	**Korea Array**	**11.56 261**		P	**Pn**	**09 27 18.0**	**+2.7**
	comp=Z,1.2nm,0.3s,baz=71,slow=12,SNR=50						
KSRS				LR	LR	09 31 31.1	
	comp=Z,23μm,18.5s,baz=75,slow=36						
KSRS				ScP	**ScP**	**09 36 33.8**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=113,slow=1.0,SNR=5.5						
KSAR	**Wonju Array Be**	**11.59 261**		P	**Pn**	**09 27 18.0**	**+2.2**
KSAR				ScP	**ScP**	**09 36 33.8**	**+0.8**
JNU	**Nakatsue**	**11.61 236**	*e*	Pn	**Pn**	**09 27 17.8**	**+1.7**
JNU	**Nakatsue**	**11.61 236**		P	**Pn**	**09 27 18.0**	**+1.9**
	comp=Z,2.0nm,0.3s,baz=51,slow=9.5,SNR=37						
JNU				LR	LR	09 32 13.1	
	comp=Z,13μm,18.6s,baz=44,slow=40						
KLR	**Kuĭdur**	**11.69 324**	⇓	*i*P	**Pn**	**09 27 14.0**	**-3.0**
KLR				*e*		09 29 20.0	
INCN	**Inchon**	**12.53 262**	*e*	Pn	**Pn**	**09 27 31.2**	**+2.6**
CN2	**Changchun**	**13.02 291**	*e*	P	**Pn**	09 27 38.5	+3.2
CN2			*e*	pP	**P**	**09 27 46.8**	**+2.2**
CN2			*e*	sP		09 27 53.5	
CN2				*e*S	**Sn**	**09 30 02.6**	**+3.9**
CN2				pmax	pmax		
	comp=Z,70nm,1.1s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,10μm,18.0s						
CN2				LR	LR		
	comp=E,13μm,18.0s						
CN2				LR	LR		
	comp=E,15μm,18.0s						
CBIJ	**Chichi jima**	**13.13 180**		P	**Pn**	**09 27 34.1**	**-2.7**
CBIJ				S	Sn	09 29 50.4	-11
CBIJ	**Chichi jima**	**13.13 180**		P	**Pn**	**09 27 34.1**	**-2.7**
	comp=Z,24nm,0.3s,baz=324,slow=7.4,SNR=9.0						
CBIJ				S	Sn	09 29 50.4	-11

comp=Z,127nm,1.1s
JOW Kunigami 17.75 225 P **Pn** **09 28 34.4 -2.3**
comp=Z,1.9nm,0.3s,baz=43,slow=14,SNR=17
HIA Hailar 18.32 307 *e*P **P** **09 28 41.2 -2.2**
comp=Z,220nm,0.9s
SSE Sheshan 19.40 248 P **P** **09 28 53.8 -1.5**
SSE sP **sP** **09 29 11.9 +0.2**
SSE pmax pmax
comp=Z,390nm,1.0s
SSE pmax pmax
comp=Z,330nm,3.3s
SSE LR LR
comp=N,2μm,18.2s
SSE LR LR
comp=E,3μm,17.8s
SSE LR LR
comp=Z,5μm,20.6s
BJI Beijing 19.96 278 P **P** **09 28 59.6 -1.6**
BJI S S 09 32 29.0 -14
BJI pmax pmax
comp=Z,360nm,0.9s
BJI pmax pmax
comp=Z,2μm,3.8s
BJI LR LR
comp=N,3μm,19.8s
BJI LR LR
comp=E,10μm,18.3s
BJI LR LR
comp=Z,8μm,23.6s
BJT Baijiatuau 19.97 278 *e*P **P** **09 28 59.9 -1.4**
comp=Z,405nm,0.9s
CLNS Chul'man 20.10 331 *e*P **P** **09 29 00.4 -2.3**
CLNS *e* 09 29 13.5
CLNS *e*S **S** **09 32 40.3 -5.6**
CLNS *e*SS **SnSn** **09 33 13.0 +8.2**
CLNS *e* 09 33 14.9
CLNS *e* 09 40 35.2
CLNS pmax pmax
comp=Z,643nm,1.1s
CLNS pmax pmax
comp=N,151nm,0.6s
CLNS pmax pmax
comp=E,163nm,0.9s
CLNS pmax pmax
comp=Z,495nm,1.3s
CLNS pmax pmax
comp=N,870nm,1.2s
CLNS pmax pmax
comp=E,407nm,1.2s
CLNS smax smax
comp=N,1μm,12.8s
CLNS smax smax
comp=E,779nm,10.2s
CLNS MLR MLR
comp=N,9μm,18.0s
CLNS MLR MLR
comp=Z,13μm,18.0s
CLNS MLR MLR
comp=E,7μm,18.0s
TIA Tai'an 20.17 267 P **P** **09 29 01.8 -1.8**
TIA pP **pP** **09 29 10.8 -3.5**
TIA sP **sP** **09 29 15.9 -4.1**
TIA S **S** **09 32 41.3 -6.2**
TIA LR LR
comp=N,7μm,15.5s
TIA LR LR
comp=E,6μm,19.6s
TIA LR LR
comp=Z,18μm,14.8s
NJ2 Nanjing 20.59 254 *e*P **P** **09 29 06.4 -1.8**
NJ2 pP **pP** **09 29 16.1 -2.8**
NJ2 pmax pmax
comp=Z,520nm,0.7s
NJ2 pmax pmax
comp=Z,2μm,4.8s
NJ2 LR LR
comp=N,6μm,16.9s
NJ2 LR LR
comp=E,12μm,18.3s
NJ2 LR LR
comp=Z,11μm,17.8s
CIT Chita 22.98 310 *e*P **P** **09 29 30.4 -3.2**
CIT *e* 09 33 36.1
CIT pmax pmax
comp=Z,3μm,1.6s
YAK Yakutsk 23.11 345 *e*P **P** **09 29 31.1 -3.6**
YAK pmax pmax
comp=Z,2μm,0.9s
YAK MLR MLR
comp=Z,3μm,20.0s
YAK Yakutsk 23.11 345 *e*P **P** **09 29 31.1 -3.6**
comp=Z,2μm,0.9s
YAK LR LR
comp=Z,3μm,20.0s
TATO Taipei 23.15 235 *e*P **P** **09 29 34.9 -0.5**
comp=Z,334nm,0.9s
TATO *e* 09 29 48.8
TATO LR LR
comp=Z,7μm,20.0s
TATO Taipei 23.15 235 P **P** **09 29 34.5 -1.0**
SNR=5.9
TIY Taiyuan 23.31 273 *e*P **P** **09 29 34.4 -2.6**
TIY S S 09 33 37.3 -9.0
TIY LR LR
comp=N,2μm,8.9s
TIY LR LR
comp=E,2μm,12.6s
TIY LR LR
comp=Z,6μm,20.7s
HHC Hu-ho-hao-te 23.31 282 ⇑P **P** **09 29 34.8 -2.3**
HHC pP **pP** **09 29 46.0 -2.3**
HHC sP **sP** **09 29 51.9 -1.9**
HHC PP **PnPn** **09 30 06.4 +2.2**
HHC S S 09 33 38.8 -7.5
HHC sS sS 09 33 58.3 -7.8
HHC SS **SnSn** **09 34 27.1 +3.4**
HHC pmax pmax
comp=Z,170nm,1.1s
HHC pmax pmax
comp=Z,830nm,4.0s
HHC LR LR
comp=N,2μm,11.9s
HHC LR LR
comp=E,11μm,17.9s
HHC LR LR
comp=Z,14μm,17.4s
YHNB Yeheng 23.44 235 *e*P **P** **09 29 35.2 -3.1**
comp=Z,311nm,1.0s
YHNB LR LR
comp=Z,8μm,20.0s
SEY Seymchan 23.50 12*c***e**P **P** **09 29 36.0 -2.5**
NACB Ninganchiao 23.66 234 *e*P **P** **09 29 37.8 -2.6**
comp=Z,106nm,1.0s
SSLB Suanglung 24.34 234 *e*P **P** **09 29 44.0 -2.7**
comp=Z,104nm,0.8s
YULB Yu-li 24.43 233 *e*P **P** **09 29 45.4 -2.1**
comp=Z,99nm,0.8s
FX1 Attu Island--F 24.47 49 *e*P **P** **09 29 48.6 +1.0**
FX1 Attu Island--F 24.47 49 P **P** **09 29 48.0 +0.4**
comp=Z,158nm,0.9s,baz=274,slow=5.2,SNR=15
FX1 LR LR 09 38 34.4
comp=Z,2μm,21.9s,baz=250,slow=34
BTO Baotou 24.51 281 *e*P **P** **09 29 46.1 -2.1**
BTO S S 09 33 52.1 -14
BTO LR LR
comp=N,2μm,14.7s
BTO LR LR
comp=E,4μm,17.2s
WHN Wuhan 24.68 256 P **P** **09 29 46.5 -3.1**
WHN sP sP 09 30 01.3 -5.6
WHN S **S** **09 34 05.1 -3.1**
WHN LR LR
comp=N,11μm,14.6s
WHN LR LR
comp=E,18μm,15.2s
WHN LR LR
comp=Z,30μm,18.1s
TPUB Ta-pu 24.90 234 *e*P **P** **09 29 49.3 -2.5**
comp=Z,242nm,0.9s
SMY Shemya 24.97 49 *e*P **P** **09 29 52.1 0.0**
SMY pmax pmax
comp=Z,942nm,1.1s
SMY Shemya 24.97 49 *e*P **P** **09 29 52.1 0.0**
comp=Z,942nm,1.1s
TWG Pinlang 24.99 232 *e*P **P** **09 29 52.8 +0.3**
comp=Z,339nm,0.9s

QZH Quanzhou 25.04 240⇑*i*P **P** **09 29 53.3 +0.4**
QZH S **S** **09 34 10.0 -4.0**
QZH pmax pmax
comp=Z,750nm,1.3s
QZH LR LR
comp=N,5μm,15.0s
QZH LR LR
comp=E,5μm,17.4s
QZH LR LR
comp=Z,8μm,18.6s
BOD Bodaibo 25.27 324 *e*P **P** **09 29 52.9 -1.8**
BOD pmax pmax
comp=Z,686nm,1.1s
ULN Ulaanbaatar 26.27 299 *e*P **P** **09 30 03.9 -0.3**
comp=Z,331nm,1.3s
ULN LR LR
comp=Z,14μm,20.0s
ULN Ulaanbaatar 26.27 299 P **P** **09 30 04.2 0.0**
SNR=67
ULN Ulaanbaatar 26.27 299 P **P** **09 30 04.1 0.0**
comp=Z,207nm,1.2s,comp=Z,3μm
GUMO Guam 26.66 174 LR LR 09 39 12.6
comp=Z,4μm,21.8s,baz=31,slow=33
SONM Songino Array 26.71 298 P **P** **09 30 08.0 -0.1**
SONM ScP **ScP** **09 37 07.7 +0.9**
SONM *e* 10 02 52.1
SONM Songino Array 26.71 298 P **P** **09 30 08.0 -0.1**
comp=Z,97nm,0.9s,baz=97,slow=7.0,SNR=248
SONM ScP **ScP** **09 37 07.7 +0.9**
comp=Z,14nm,1.2s,baz=93,slow=3.0,SNR=5.7
SONM LR LR 09 41 18.1
comp=Z,16μm,18.6s,baz=82,slow=38
SONM P3KPbc 10 02 52.1
comp=Z,0.1nm,0.4s,baz=250,slow=4.3,SNR=3.6
XAN Xi'an 27.22 268 P **P** **09 30 11.3 -1.4**
XAN pP **pP** **09 30 23.8 -0.8**
XAN sP **sP** **09 30 29.3 -0.6**
XAN PP **PnPn** **09 30 58.3 +0.7**
XAN S **S** **09 34 42.6 -5.9**
XAN sS sS 09 35 02.8 -5.8
XAN SS **SnSn** **09 35 57.3 -1.9**
XAN pmax pmax
comp=Z,32nm,1.3s
XAN LR LR
comp=N,2μm,15.6s
XAN LR LR
comp=E,2μm,16.7s
XAN LR LR
comp=Z,2μm,16.1s
ENH Enshi 28.45 260 *e*P **P** **09 30 22.8 -0.8**
comp=Z,170nm,0.9s
ENH LR LR
comp=Z,9μm,19.0s
IRK Irkutsk 28.57 308 *e*P **P** **09 30 24.4 -0.1**
IRK *e* 09 30 39.6
IRK pmax pmax
comp=Z,380nm,1.7s
TLY Talaya 28.87 306*c i*P **P** **09 30 27.4 +0.2**
TLY *e*S **S** **09 35 15.3 +1.2**
TLY *e*SS **SnSn** **09 36 42.2 +3.3**
TLY *e*SSS SSS 09 37 07.6
TLY pmax pmax
comp=Z,170nm,1.1s
TLY MLR MLR
comp=Z,7μm,17.0s
TLY Talaya 28.87 306 *e*P **P** **09 30 27.6 +0.5**
comp=Z,247nm,1.2s
TLY LR LR
comp=Z,9μm,19.0s
TLY Talaya 28.87 306 P **P** **09 30 27.9 +0.7**
SNR=90
TLY Talaya 28.87 306 P **P** **09 30 27.0 -0.1**
comp=Z,882nm,1.2s,SNR=34
ZAK Zakamensk 28.94 304⇓*i*P **P** **09 30 27.8 -0.2**
ZAK pmax pmax
comp=Z,195nm,1.3s
WAKE Wake Island 29.55 128 PFAKE 09 30 50.0 +17
WAKE LR LR
comp=Z,6μm,20.0s
HKC Hong Kong Obse 29.79 242⇑*i*P **P** **09 30 34.0 -1.5**
GZH Guangzhou 29.82 244 P P 09 30 31.8 -4.0
GZH S S 09 35 23.4 -6.1
GZH LR LR
comp=N,5μm,16.1s
GZH LR LR
comp=E,4μm,13.2s
GZH LR LR
comp=Z,6μm,17.8s
LZH Lanzhou 30.36 275 ⇑P **P** **09 30 40.3 -0.4**
LZH pP **pP** **09 30 52.5 -0.2**
LZH sP **sP** **09 30 57.8 -0.3**
LZH PP **PnPn** **09 31 40.5 +0.4**
LZH S **S** **09 35 35.4 -2.8**
LZH sS **sS** **09 35 55.6 -2.6**
LZH SS **SnSn** **09 37 15.5 -0.4**
LZH pmax pmax
comp=Z,290nm,1.2s
LZH pmax pmax
comp=Z,710nm,5.0s
LZH LR LR
comp=N,3μm,13.0s
LZH LR LR
comp=E,4μm,14.0s
LZH LR LR
comp=Z,8μm,17.0s
MOY Mondy 30.50 306 *e*P **P** **09 30 41.9 +0.1**
MOY pmax pmax
comp=Z,390nm,2.5s
BILL Bilibino 30.74 17⇑*e*P **P** **09 30 42.6 -0.9**
BILL *e**PP **pP** **09 30 57.5 +2.0**
BILL *e* 09 31 43.1
BILL *i*S **S** **09 35 39.6 -3.5**
BILL *e*SS SS 09 37 44.5 -11
BILL pmax pmax
comp=Z,286nm,1.2s
BILL MLR MLR
comp=Z,6μm,20.0s
BILL Bilibino 30.74 17 *e*P **P** **09 30 42.7 -0.9**
comp=Z,521nm,1.3s
BILL LR LR
comp=Z,6μm,21.0s
GTA Gaotai 32.41 283 ⇑P **P** **09 30 58.9 +0.2**
GTA pP **pP** **09 31 11.0 +0.3**
GTA sP **sP** **09 31 16.3 +0.2**
GTA PP **PnPn** **09 32 07.8 +1.2**
GTA PcP **PcP** **09 33 45.5 +0.3**
GTA S **S** **09 36 09.6 -0.5**
GTA ScP **ScP** **09 37 24.3 -0.9**
GTA PcS **PcS** **09 37 29.3 -1.1**
GTA ScS **ScS** **09 41 22.8 -1.8**
GTA pmax pmax
comp=Z,130nm,1.6s
GTA pmax pmax
comp=Z,1μm,5.0s
GTA LR LR
comp=N,5μm,19.2s
GTA LR LR
comp=E,12μm,18.3s
GTA LR LR
comp=Z,15μm,19.0s
CD2 Chengdu 32.49 266 P **P** **09 30 58.1 -1.3**
CD2 pP **pP** **09 31 10.4 -1.0**
CD2 sP **sP** **09 31 16.0 -0.8**
CD2 PP **PnPn** **09 32 07.0 -0.7**
CD2 S **S** **09 36 07.8 -3.5**
CD2 sS **sS** **09 36 28.1 -3.4**
CD2 SS **SnSn** **09 38 05.1 -2.6**
CD2 pmax pmax
comp=Z,210nm,1.0s
CD2 pmax pmax
comp=Z,710nm,7.4s
CD2 LR LR
comp=N,4μm,20.2s
CD2 LR LR
comp=Z,5μm,22.6s
GYA Guiyang 32.57 256⇑*i*P **P** **09 30 59.4 -0.7**
GYA pP **pP** **09 31 14.0 +1.8**
GYA sP **sP** **09 31 20.4 +2.9**
GYA PP **PP** **09 32 11.8 -2.4**
GYA PcP **PcP** **09 33 47.5 +1.7**
GYA S **S** **09 36 12.5 -0.1**
GYA sS **sS** **09 36 33.0 +0.2**
GYA ScP **ScP** **09 37 26.8 +0.9**
GYA PcS **PcS** **09 37 32.5 +1.3**
GYA SS **SnSn** **09 38 10.0 +0.4**

GYA pmax pmax
comp=Z,240nm,1.0s
GYA pmax pmax
comp=Z,520nm,8.7s
GYA LR LR
comp=N,8μm,17.4s
GYA LR LR
comp=E,5μm,15.5s
GYA LR LR
comp=Z,11μm,16.4s
QIZ Qiongzhong 34.97 242 P **P** **09 31 22.6 +1.7**
QIZ pP **pP** **09 31 33.4 +0.4**
QIZ sP **sP** **09 31 37.9 -0.4**
QIZ PP **PP** **09 32 41.5 +0.7**
QIZ S **S** **09 36 50.9 +1.2**
QIZ pmax pmax
comp=Z,79nm,1.5s
QIZ pmax pmax
comp=Z,570nm,5.6s
QIZ LR LR
comp=N,4μm,16.8s
QIZ LR LR
comp=E,1μm,15.4s
QIZ LR LR
comp=Z,4μm,17.4s
QIZ Qiongzhong 34.97 242 *e*P **P** **09 31 22.2 +1.3**
comp=Z,83nm,1.0s
QIZ LR LR
comp=Z,3μm,21.0s
GAMB Gambell 35.62 33 *e*P **P** **09 31 25.8 -0.2**
comp=Z,53nm,1.0s
KMI Kunming 36.24 258 P **P** **09 31 32.0 0.0**
KMI pP **pP** **09 31 45.3 +1.1**
KMI sP **sP** **09 31 51.8 +2.3**
KMI PP **PP** **09 32 55.9 +0.9**
KMI S **S** **09 37 05.8 -3.7**
KMI sS **sS** **09 37 27.5 -2.3**
KMI SS **SnSn** **09 39 29.9 -8.9**
KMI pmax pmax
comp=Z,330nm,1.1s
KMI pmax pmax
comp=Z,2μm,3.5s
KMI LR LR
comp=N,7μm,16.2s
KMI LR LR
comp=E,6μm,17.2s
KMI LR LR
comp=Z,10μm,18.3s
DAV Davao City (W) 36.28 209 P **P** **09 31 32.6 +0.4**
DAV LR LR
comp=Z,3μm,19.0s
DAV Davao City (W) 36.28 209 P **P** **09 31 32.6 +0.4**
comp=Z,161nm,0.4s,baz=32,slow=5.6,SNR=4.1
TNA Tin City 37.72 31 *e*P **P** **09 31 45.3 +1.4**
comp=Z,246nm,1.0s
WMQ Urumqi 40.10 294 P **P** **09 32 05.0 +0.8**
WMQ pP **pP** **09 32 17.3 +0.9**
WMQ sP **sP** **09 32 22.4 +0.7**
WMQ PP **PnPn** **09 33 42.0 +1.4**
WMQ ScP **ScP** **09 37 51.0 -2.3**
WMQ S **S** **09 38 07.0 -0.2**
WMQ sS **sS** **09 38 28.0 +0.3**
WMQ pmax pmax
comp=Z,440nm,1.3s
WMQ pmax pmax
comp=Z,3μm,3.6s
WMQ LR LR
comp=N,5μm,13.7s
WMQ LR LR
comp=E,5μm,17.2s
WMQ LR LR
comp=Z,6μm,24.0s
KDM Kudat 40.28 221 P **P** **09 32 07.6 +1.8**
ZAA0 Zalesovo Array 40.33 310 *e*P **P** **09 32 05.7 -0.1**
ZALV Zalesovo Beam 40.33 310 P **P** **09 32 05.8 -0.1**
ZALV 09 34 08.6
ZALV Zalesovo Beam 40.33 310 P **P** **09 32 05.8 -0.1**
ZALV PcP **PcP** **09 34 08.6 +0.2**
ZALV *e* 10 02 06.9
ZALV Zalesovo Beam 40.33 310 P **P** **09 32 05.8 -0.1**
comp=Z,227nm,0.9s,baz=87,slow=7.6,SNR=611
ZALV PcP **PcP** **09 34 08.6 +0.2**
comp=Z,44nm,0.7s,baz=88,slow=3.4,SNR=4.3
ZALV LR LR 09 49 41.4
comp=Z,10μm,18.9s,baz=81,slow=37
ZALV P3KPbc 10 02 06.9
comp=Z,0.3nm,0.3s,baz=258,slow=2.7,SNR=3.6
MYLDM Lahad Datu 40.97 218 P **P** **09 32 14.7 +3.2**
MYLDM Lahad Datu 40.97 218 P **P** **09 32 13.9 +2.4**
comp=Z,520nm,1.2s,comp=Z,5μm
MYLDM Lahad Datu 40.97 218 P **P** **09 32 14.6 +3.2**
comp=Z,520nm,1.2s,comp=Z,5μm
NVS Novosibirsk 41.19 311⇑*i*P **P** **09 32 11.7 -1.2**
NVS *e**PP **pP** **09 32 23.4 -1.7**
NVS *i* 09 34 05.7
NVS *e*S **S** **09 38 22.3 -0.6**
NVS *e*SS SS 09 41 15.5 -11
NVS pmax pmax
comp=Z,557nm,1.7s
NVS pmax pmax
comp=N,78nm,1.6s
NVS pmax pmax
comp=E,366nm,1.7s
NVS smax smax
comp=N,63nm,1.8s
NVS smax smax
comp=E,105nm,1.8s
SDKM Sandakan 41.19 220 P **P** **09 32 14.5 +1.1**
KKM Kota Kinabalu 41.34 221 *e*P **P** **09 32 15.8 +1.2**
comp=E,198nm,1.1s
KKM LR LR
comp=Z,2μm,20.0s
KKM Kota Kinabalu 41.34 221 P **P** **09 32 16.4 +1.8**
KKM Kota Kinabalu 41.34 221 P **P** **09 32 16.1 +1.5**
comp=Z,176nm,1.4s
TNTI Ternate 41.59 203 P **P** **09 32 16.9 +0.4**
comp=Z,313nm,1.4s,comp=Z,4μm
MNI Manado 41.77 207 P **P** **09 32 18.7 +0.7**
comp=Z,351nm,0.8s,comp=Z,4μm
TSM Tawau 42.04 218 P **P** **09 32 21.8 +1.5**
SWI Sorong 42.15 197 P **P** **09 32 22.1 +1.0**
comp=Z,160nm,1.5s,comp=Z,2μm
SVW2 Sparrevohn 42.56 39 *e*P **P** **09 32 24.7 +0.6**
comp=Z,82nm,1.0s
LSA Lhasa 42.70 272 P **P** **09 32 27.5 +1.3**
LSA pmax pmax
comp=Z,30nm,1.0s
LSA Lhasa 42.70 272 *e*P **P** **09 32 27.4 +1.3**
LSA pmax pmax
comp=Z,165nm,0.8s
LSA MLR MLR
comp=Z,7μm,19.0s
LSA Lhasa 42.70 272 *e*P **P** **09 32 27.4 +1.3**
comp=Z,165nm,0.8s
LSA LR LR
comp=Z,7μm,19.0s
CHTO Chiang Mai 42.83 253 *e*P **P** **09 32 27.3 +0.6**
CHTO pmax pmax
comp=Z,225nm,1.1s
CHTO MLR MLR
comp=Z,2μm,20.0s
CHTO Chiang Mai 42.83 253 *e*P **P** **09 32 27.3 +0.6**
comp=Z,225nm,1.1s
CHTO LR LR
comp=Z,2μm,20.0s
CHTO Chiang Mai 42.83 253 P **P** **09 32 26.7 0.0**
comp=Z,239nm,1.2s,comp=Z,3μm
KMSI Cibinong 42.87 208 P **P** **09 32 28.2 +1.2**
comp=Z,974nm,1.0s,comp=Z,10μm
CMAR Chiang Mai Arr 43.06 253 P **P** **09 32 29.4 +0.9**
CMAR ScP **ScP** **09 38 07.1 +1.7**
CMAR Chiang Mai Arr 43.06 253 P **P** **09 32 29.4 +0.9**
comp=Z,48nm,0.9s,baz=50,slow=6.4,SNR=193
CMAR ScP **ScP** **09 38 07.1 +1.7**
comp=Z,4.1nm,0.9s,baz=26,slow=3.3,SNR=5.0
CMAR LR LR 09 52 25.2
comp=Z,2μm,18.0s,baz=177,slow=39
MK31 Makanchi Array 43.07 299 *e*P **P** **09 32 28.7 +0.2**
MK31 Makanchi Array 43.07 299 *e*P **P** **09 32 28.6 +0.2**
MKAR Makanchi Array 43.07 299 *e*P **P** **09 32 28.6 +0.2**
MKAR Makanchi Array 43.07 299 *e*P **P** **09 32 28.6 +0.2**
MKAR *e* 10 01 51.8
MKAR Makanchi Array 43.07 299 P **P** **09 32 28.6 +0.2**
comp=Z,196nm,0.9s,baz=83,slow=7.3,SNR=533
MKAR LR LR 09 51 16.4
comp=Z,7μm,20.2s,baz=84,slow=37

MKAR P3KPbc 10 01 51.8
comp=Z,0.4nm,0.8s,baz=288,slow=1.2,SNR=3.7
IMP Imphal 43.08 264 *e*PKP **P** **09 32 26.0 -2.8**
IMP *ex* x 09 38 56.0
MRSI Marisa 43.72 210 P **P** **09 32 34.4 +0.6**
comp=Z,692nm,1.3s,comp=Z,8µm
FAKI Fak Fak 43.95 195 P **P** **09 32 36.2 +0.6**
comp=Z,204nm,1.3s,comp=Z,3µm
RSO Redoubt South 43.97 40 *e*P **P** **09 32 36.9 +1.3**
SHL Shillong 44.22 267 *e*PKP **P** **09 32 38.4 +0.3**
SHL *e*S **S** **09 39 08.0 -0.6**
KDAK Kodiak Island 44.27 44 *e*P **P** **09 32 37.3 -0.4**
comp=Z,185nm,1.0s
KDAK LR LR
comp=Z,3µm,21.0s
KDAK Kodiak Island 44.27 44 P **P** **09 32 37.0 -0.8**
comp=Z,816nm,1.2s,SNR=9.5
KDAK Kodiak Island 44.27 44 P **P** **09 32 37.4 -0.4**
comp=Z,74nm,0.9s,baz=344,slow=2.8,SNR=27
SPU Mount Spurr 44.27 39 *e*P **P** **09 32 38.5 +0.6**
KURK Kurchatov 44.56 306*c i*P **P** **09 32 40.1 -0.1**
KURK pmax pmax
comp=Z,1µm,1.2s
KURK MLR MLR
comp=Z,4µm,20.0s
KURK Kurchatov 44.56 306 *e*P **P** **09 32 40.3 +0.1**
comp=Z,1µm,0.9s
KURK LR LR
comp=Z,3µm,20.0s
KURK Kurchatov 44.56 306 P **P** **09 32 40.6 +0.3**
SNR=368
KURK Kurchatov 44.56 306 P **P** **09 32 40.4 +0.2**
comp=Z,5µm,0.9s
KURBB Kurchatov Arra 44.63 306 P **P** **09 32 40.9 +0.1**
comp=Z,461nm,0.8s,baz=81,slow=8.4,SNR=1270
TRF Thorofare Moun 45.00 36 *e*P **P** **09 32 43.4 -0.3**
comp=Z,99nm,0.8s
COLD Coldfoot 45.01 31 *e*P **P** **09 32 44.2 +0.6**
comp=Z,228nm,1.0s
SLKM Skilak Lake 45.22 40 *e*P **P** **09 32 44.5 -0.8**
SLKM Skilak Lake 45.22 40 *e*P **P** **09 32 44.5 -0.8**
BTM Bintulu 45.37 223 P **P** **09 32 48.0 +0.9**
MCK McKinley 45.59 35 *e*P **P** **09 32 48.3 0.0**
MCK pmax pmax
comp=Z,212nm,1.2s
MCK McKinley 45.59 35 *e*P **P** **09 32 48.2 0.0**
comp=Z,212nm,1.2s
AGT Agartala 45.62 265 *e*PKP **P** **09 32 49.0 +0.1**
AGT *ex* x 09 34 05.0
SEW Seward 45.64 41 *e*P **P** **09 32 48.3 -0.3**
comp=Z,273nm,1.1s
PMR Palmer 45.65 38 *e*P **P** **09 32 48.4 -0.3**
PMR pmax pmax
comp=Z,146nm,1.1s
PMR Palmer 45.65 38 *e*P **P** **09 32 48.4 -0.3**
comp=Z,146nm,1.1s
COLA College 46.00 34 *e*P **P** **09 32 51.9 +0.5**
COLA pmax pmax
comp=Z,173nm,0.8s
COLA MLR MLR
comp=Z,2µm,20.0s
COLA College 46.00 34 *e*P **P** **09 32 51.9 +0.5**
comp=Z,173nm,0.8s
COLA LR LR
comp=Z,2µm,20.0s
SML Sawmill 46.01 38 *e*P **P** **09 32 51.7 +0.1**
SML pmax pmax
comp=Z,103nm,1.4s
SML Sawmill 46.01 38 *e*P **P** **09 32 51.7 +0.1**
comp=Z,103nm,1.4s
ILAR Eielson Array 46.42 34 P **P** **09 32 54.4 -0.4**
ILAR P'P' 10 04 13.7
ILAR Eielson Array 46.42 34 P **P** **09 32 54.4 -0.4**
comp=Z,60nm,0.8s,baz=266,slow=6.0,SNR=526
ILAR LR LR 09 55 01.8
comp=Z,2µm,18.6s,baz=291,slow=39
ILAR PKPPKP P'P'df 10 04 13.7 -11
comp=Z,0.9nm,0.9s,baz=142,slow=0.6,SNR=4.6
SBUM Sibu 46.46 224 P **P** **09 32 56.8 +1.2**
SBUM Sibu 46.46 224 P **P** **09 32 56.1 +0.5**
comp=Z,58nm,1.4s
TAPN Taplejung 46.49 271 *e*P **P** **09 32 57.0 +0.8**
comp=Z,714nm,1.1s
ODAN Odare 46.98 271 *e*P **P** **09 33 00.4 +0.4**
comp=Z,719nm,1.2s
PAX Paxson 47.21 36 *e*P **P** **09 33 01.3 +0.2**
PAX pmax pmax
comp=Z,65nm,1.1s
PAX Paxson 47.21 36 *e*P **P** **09 33 01.3 +0.2**
comp=Z,65nm,1.1s
DIV Divide 47.31 39 *e*P **P** **09 33 02.3 +0.5**
comp=Z,254nm,1.2s
JIRN Jiri 47.49 273 *e*P **P** **09 33 04.9 +0.8**
comp=Z,99nm,0.8s
RAMN Ramite 47.54 272 *e*P **P** **09 33 04.8 +0.5**
comp=Z,1µm,1.1s
GUN Gumba 47.60 273 *e*P **P** **09 33 05.7 +0.8**
comp=Z,1µm,0.9s
JOHN Johnston Islan 47.68 105 PFAKE 09 33 20.0 +15
JOHN LR LR
comp=Z,28nm,21.0s
DOT Dot Lake 47.76 35 *e*P **P** **09 33 04.8 -0.5**
comp=Z,64nm,0.8s
BMRM Bremner River 47.90 39 *e*P **P** **09 33 07.0 +0.6**
comp=Z,179nm,1.0s
MENT Mentasta 48.01 36 *e*P **P** **09 33 08.1 +0.9**
KKN Kakani 48.12 273 *e*P **P** **09 33 09.4 +0.6**
comp=Z,1µm,0.8s
PKI Pulchoki 48.13 273 *e*P **P** **09 33 09.3 +0.3**
comp=Z,841nm,1.3s
KSM Kuching 48.30 225 *e*P **P** **09 33 10.8 +0.9**
comp=Z,150nm,1.1s
KSM LR LR
comp=Z,638nm,21.0s
KSM Kuching 48.30 225 P **P** **09 33 11.4 +1.5**
DMN Daman 48.35 273 *e*P **P** **09 33 11.2 +0.6**
comp=Z,796nm,1.1s
GKN Gorkha 48.51 274 *e*P **P** **09 33 12.1 +0.4**
comp=Z,817nm,1.0s
ULHL Ulaho 48.57 295 P **P** **09 33 12.7 +0.6**
SNR=18
CAL Calcutta 48.59 266 *e*PKP **P** **09 33 11.8 -0.3**
CAL *ex* x 09 40 14.9
TKM2 Tokmak 2 48.77 296 *i* P **P** **09 33 14.4 +0.8**
TKM2 Tokmak 2 48.77 296 PFAKE 09 33 30.0 +16
TKM2 LR LR
comp=Z,7µm,21.0s
TKM2 Tokmak 2 48.77 296 P **P** **09 33 14.5 +0.8**
SNR=13
EGAK Eagle 48.86 34 *e*P **P** **09 33 13.4 -0.3**
comp=Z,196nm,0.9s
EGAK LR LR
comp=Z,2µm,22.0s
BVA0 Borovoye Array 48.97 310 P **P** **09 33 15.2 +0.5**
BVA0 pmax pmax
comp=Z,48nm,1.2s
BVAR Borovoye Array 48.97 310 P **P** **09 33 15.1 +0.4**
BVAR 09 34 38.9
BVAR Borovoye Array 48.97 310 P **P** **09 33 15.1 +0.4**
BVAR PcP **PcP** **09 34 38.9 +0.7**
BVAR Borovoye Array 48.97 310 P **P** **09 33 15.1 +0.4**
comp=Z,176nm,0.7s,baz=80,slow=9.2,SNR=668
BVAR PcP **PcP** **09 34 38.9 +0.7**
comp=Z,48nm,0.8s,baz=255,slow=2.9,SNR=3.6
DANN Dangsing 49.00 275 *e*P **P** **09 33 16.5 +0.9**
comp=Z,1µm,0.8s
BRVK Borovoye 49.02 310*c i*P **P** **09 33 15.3 +0.2**
BRVK pmax pmax
comp=Z,329nm,1.0s
BRVK MLR MLR
comp=Z,8µm,20.0s
BRVK Borovoye 49.02 310 *e*P **P** **09 33 15.6 +0.5**
comp=Z,270nm,0.9s
BRVK LR LR
comp=Z,6µm,19.0s
BRVK Borovoye 49.02 310 P **P** **09 33 15.6 +0.5**
comp=Z,2µm,0.8s
BRVK Borovoye 49.02 310 P **P** **09 33 15.9 +0.8**
SNR=118
KBK Karagaybulak 49.31 296 P **P** **09 33 18.5 +0.8**
SNR=286
KZA Kyzart 49.32 295 P **P** **09 33 19.4 +1.4**
SNR=112
CHMS Chumysh 49.33 297 P **P** **09 33 18.0 +0.4**
SNR=45
USP Ospenovka 49.40 297 P **P** **09 33 18.6 +0.4**
SNR=103

KOLN Koldanda 49.42 274 *e*P **P** **09 33 19.4 +0.7**
comp=Z,613nm,1.2s
FRU Bishkek 49.48 296 *i* P **P** **09 33 18.0 -0.8**
FRU *i* 09 33 32.0
FRU *e*S **S** **09 40 24.0 +1.0**
FRU pmax pmax
comp=Z,660nm,2.0s
FRU MLR MLR
comp=E,4µm,16.0s
KAPI Kappang 49.59 210 *e*P **P** **09 33 18.8 -1.0**
comp=E,383nm,1.3s
KAPI LR LR
comp=Z,744nm,20.0s
KAPI Kappang 49.59 210 P **P** **09 33 19.7 -0.1**
comp=Z,1µm,1.3s,SNR=16
PMG Port Moresby 49.62 174 *e*P **P** **09 33 21.1 +1.2**
comp=Z,50nm,1.0s
PMG Port Moresby 49.62 174 P **P** **09 33 20.1 +0.2**
PMG Port Moresby 49.62 174 LR LR 09 49 48.0
comp=Z,690nm,20.9s,baz=52,slow=30
AAK Ala-Archa 49.63 296*c i*P **P** **09 33 20.2 +0.1**
AAK pmax pmax
comp=Z,477nm,1.7s
AAK MLR MLR
comp=Z,15µm,22.0s
AAK Ala-Archa 49.63 296 *e*P **P** **09 33 20.4 +0.3**
comp=Z,1µm,1.1s
AAK LR LR
comp=Z,6µm,21.0s
AAK Ala-Archa 49.63 296 P **P** **09 33 20.0 -0.1**
comp=Z,550nm,0.9s,SNR=90
AAK Ala-Archa 49.63 296 P **P** **09 33 20.4 +0.3**
SNR=106
AAK Ala-Archa 49.63 296 P **P** **09 33 20.5 +0.3**
comp=Z,48nm,0.6s,baz=85,slow=5.6,SNR=170
UCH Uchtor 49.77 296 P **P** **09 33 22.5 +1.0**
SNR=14
KSH Kashi 49.79 292⇑ *i*P P 09 33 25.6 +4.3
KSH pP pP 09 33 38.1 +4.2
KSH sP sP 09 33 43.8 +4.7
KSH PcP **PcP** **09 34 46.4 +4.8**
KSH PP PP 09 35 21.5 +5.5
KSH ScP **ScP** **09 38 35.5 +2.1**
KSH PcS **PcS** **09 38 41.0 +2.4**
KSH S **S** **09 40 32.4 +4.8**
KSH sS sS 09 40 53.4 +4.9
KSH ScS **ScS** **09 43 10.0 +1.0**
KSH SS **SS** **09 44 01.8 +1.6**
KSH LR LR
comp=N,5µm,15.1s
KSH LR LR
comp=E,4µm,15.6s
KSH LR LR
comp=Z,9µm,18.0s
EKS2 Erkin-Say 50.12 297 *e*P **P** **09 33 24.1 +0.3**
EKS2 pmax pmax
comp=Z,206nm,0.8s
EKS2 MLR MLR
comp=Z,6µm,22.0s
EKS2 Erkin-Say 50.12 297 *e*P **P** **09 33 24.1 +0.3**
comp=Z,206nm,0.8s
EKS2 LR LR
comp=Z,6µm,22.0s
EKS2 Erkin-Say 50.12 297 P **P** **09 33 24.8 +1.0**
SNR=5.2
AML Almayashu 50.37 296 P **P** **09 33 26.9 +0.9**
SNR=270
PNL Peninsula 50.70 40 *e*P **P** **09 33 28.0 +0.2**
comp=Z,68nm,0.9s
KULM Kulim 51.07 238 *e*P **P** **09 33 32.0 +0.9**
comp=Z,239nm,0.9s
KULM LR LR
comp=Z,1µm,19.0s
KULM Kulim 51.07 238 P **P** **09 33 32.6 +1.5**
PTH Pithoragarh 51.10 278 *e*PKP **P** **09 33 31.0 -0.4**
PTH *ex* x 09 40 43.0
INK Inuvik 51.21 28 *e*P **P** **09 33 31.9 +0.5**
comp=Z,200nm,0.9s
INK Inuvik 51.21 28 P **P** **09 33 31.9 +0.5**
comp=Z,123nm,0.8s,baz=296,slow=7.0,SNR=429
IPM Ipoh 51.44 237 *e*P **P** **09 33 34.1 +0.3**
comp=Z,174nm,0.9s
IPM Ipoh 51.44 237 P **P** **09 33 34.6 +0.8**
MYKOM Kota Tinggi 51.76 232 P **P** **09 33 37.5 +1.3**
BWNR Bhubaneshwar 51.80 265 *e*PKP **P** **09 33 34.0 -2.4**
FRIM Kepong 52.01 236 P **P** **09 33 39.4 +1.3**
ALBI Allahabad 52.06 273 *ex* P 09 33 34.0 -4.4
HNR Honiara 52.06 158 P **P** **09 33 39.1 +0.7**
HNR Honiara 52.06 158 P **P** **09 33 39.1 +0.7**
comp=Z,21nm,0.5s,baz=24,slow=7.1,SNR=2.5
HNR LR LR 09 53 46.4
comp=Z,3µm,21.9s,baz=332,slow=34
KK31 Karatay Array 52.17 298 *i* P **P** **09 33 38.8 -0.2**
KK31 pmax pmax
comp=Z,300nm,0.9s
KKAR Karatay Array 52.17 298 *e*P **P** **09 33 38.9 -0.1**
KKAR pmax pmax
comp=Z,232nm,0.8s
KKAR Karatay Array 52.17 298 *e*P **P** **09 33 38.9 -0.1**
comp=Z,232nm,0.8s
DDI Dehra Dun 52.35 280 *e*PKP **P** **09 33 39.8 -0.8**
DDI *ex* x 09 41 34.8
SDNR Sundarnagar 52.59 282 *e*PKP **P** **09 33 43.4 +1.1**
SMLA Simla 52.63 282 *i* P **P** **09 33 42.7 +0.2**
SKAG Skagway 52.75 39 *e*P **P** **09 33 44.3 +1.3**
comp=Z,76nm,1.0s
DLH Dalhousie 52.84 284 *e*PKP **P** **09 33 45.0 +0.6**
DLH *ex* x 09 34 04.0
BHK Bhakra 53.05 282 *e*PKP **P** **09 33 45.0 -0.6**
THN Thein Dam 53.08 284 *e*PKP **P** **09 33 44.0 -1.8**
THN *ex* x 09 41 37.2
PONG Pong 53.14 283 *e*PKP **P** **09 33 45.0 -1.2**
SVE Sverdlovsk 53.23 317*d i*P **P** **09 33 47.3 +0.8**
SVE *e* 09 35 49.3
SVE *e*PPP PPP 09 36 52.0
SVE *e*S **S** **09 41 15.8 +1.7**
SVE pmax pmax
comp=Z,850nm,1.0s
SVE pmax pmax
comp=Z,257nm,8.1s
SVE MLR MLR
comp=Z,14µm,16.0s
SVE MLR MLR
comp=E,9µm,16.0s
OPA Opana 53.43 92 *e*P **P** **09 33 49.7 +1.2**
OPA Opana 53.43 92 *e*P **P** **09 33 49.7 +1.2**
SIT Sitka 53.51 42 *e*P **P** **09 33 50.2 +1.6**
SIT pmax pmax
comp=Z,124nm,1.0s
SIT Sitka 53.51 42 *e*P **P** **09 33 50.2 +1.6**
comp=Z,124nm,1.0s
KIP Kipapa 53.58 92 *e*P **P** **09 33 50.6 +1.0**
KIP pmax pmax
comp=Z,279nm,1.2s
KIP Kipapa 53.58 92 *e*P **P** **09 33 50.6 +1.0**
comp=Z,279nm,1.2s
COEN Coen 53.94 179 *e*P **P** **09 33 53.2 +1.0**
comp=Z,986nm,1.1s
SOKR Solikamsk 54.23 321*c i*P **P** **09 33 54.0 +0.2**
SOKR 09 35 56.7
SOKR S **S** **09 41 28.0 +0.4**
SOKR SS **SS** **09 45 15.2 +6.0**
SOKR pmax pmax
comp=Z,400nm,0.9s
SOKR MLR MLR
comp=Z,4µm,19.0s
ARU Arti 54.44 317 *i* P **P** **09 33 55.7 +0.3**
ARU *PP **pP** **09 34 10.8 +2.7**
ARU 09 35 00.2
ARU *e* 09 35 56.2
ARU PPP PPP 09 37 10.7
ARU S **S** **09 41 32.0 +1.4**
ARU 09 43 43.6
ARU SS **SS** **09 45 10.3 -2.4**
ARU pmax pmax
comp=Z,1µm,1.7s
ARU MLR MLR
comp=Z,11µm,16.0s
ARU Arti 54.44 317 *e*P **P** **09 33 55.0 -0.5**
comp=Z,723nm,1.0s
ARU LR LR
comp=Z,10µm,19.0s
ARU Arti 54.44 317 P **P** **09 33 55.9 +0.5**
comp=Z,4µm,0.9s
CRAG Craig 55.22 44 *e*P **P** **09 34 02.6 +1.6**
comp=Z,148nm,1.3s
WRAK Wrangell Islan 55.27 42 *e*P **P** **09 34 02.8 +1.4**
comp=Z,157nm,1.4s
WRAK LR LR
comp=Z,2µm,19.0s
DLBC Dease Lake 55.68 40 *e*P **P** **09 34 05.9 +1.5**
UGM Wanagama 56.19 219 *e*P **P** **09 34 07.9 -0.6**
comp=Z,503nm,1.1s
AB31 Akbulak array 56.43 309 P **P** **09 34 09.9 0.0**
AB31 pmax pmax
comp=Z,472nm,0.9s
ABKAR Akbulak array 56.43 309 *e*P **P** **09 34 10.0 +0.1**
comp=Z,425nm,0.9s
POHA Pohakuloa 56.43 92 *e*P **P** **09 34 10.8 +0.2**
comp=Z,276nm,1.0s
NGP Nagpur 56.47 270 *e*PKP **P** **09 34 08.2 -2.3**
NGP AMb AMB 09 34 09.5
comp=Z,316nm,0.8s
NGP *ex* x 09 41 56.0
ALE Alert 56.85 4 P **P** **09 34 12.0 -0.4**
comp=Z,1µm,1.0s
AJM Ajmer 56.90 278 *e*PKP **P** **09 34 13.0 -0.5**
KBL Kabul 56.96 289 *e*P **P** **09 34 13.9 -0.2**
KBL pmax pmax
comp=Z,616nm,0.9s
KBL Kabul 56.96 289 *e*P **P** **09 34 13.9 -0.2**
comp=Z,616nm,0.9s
HOPEN Hopen 57.09 346⇑ *i*P **P** **09 34 13.4 -0.7**
SPA0 Spitsbergen Ar 57.50 349⇑ *i*P **P** **09 34 16.9 -0.2**
SPB4 Spitsbergen Ar 57.51 349 *e*P **P** **09 34 17.0 0.0**
KBS Kingsbay 57.61 350⇑ *i*P **P** **09 34 18.1 +0.5**
KBS *e*S **S** **09 42 12.3 +0.2**
KBS AMS AMS 10 01 15.3
comp=Z,1µm,21.3s
KBS Kingsbay 57.61 350*c i*P **P** **09 34 18.2 +0.5**
KBS pmax pmax
comp=Z,279nm,1.2s
KBS Kingsbay 57.61 350 *e*P **P** **09 34 18.2 +0.5**
comp=Z,197nm,1.0s
KBS LR LR
comp=Z,1µm,20.0s
HYB Hyderabad 59.03 267 *i* P **P** **09 34 27.5 -1.1**
HYB *e*sP **sP** **09 34 45.5 -1.0**
HYB *e*PcP **PcP** **09 35 16.5 -0.6**
HYB *e*PP **PP** **09 36 38.0 -1.3**
HYB *e*S **S** **09 42 30.0 -2.2**
HYB *e*SS **SS** **09 46 30.0 +3.5**
RES Resolute Bay 59.31 15 *e*P **P** **09 34 29.2 -0.5**
comp=Z,283nm,0.9s
RES Resolute Bay 59.31 15 P **P** **09 34 29.1 -0.5**
comp=Z,133nm,0.8s,baz=308,slow=6.9,SNR=498
LVZ Lovozero 59.47 335*c i*P **P** **09 34 30.5 -0.4**
LVZ pmax pmax
comp=Z,193nm,0.8s
LVZ MLR MLR
comp=Z,3µm,18.0s
LVZ Lovozero 59.47 335 *e*P **P** **09 34 30.1 -0.7**
comp=Z,214nm,0.9s
LVZ LR LR
comp=Z,1µm,19.0s
LVZ Lovozero 59.47 335 P **P** **09 34 30.8 -0.1**
comp=Z,1µm,0.8s,SNR=21
BJO Bjornoya 59.50 345⇑ *i*P **P** **09 34 30.7 -0.2**
BJO *e*S **S** **09 42 36.6 0.0**
LATR Latur 59.96 269 *e*PKP **P** **09 34 35.3 +0.4**
APA Apatity 60.05 335 *i* P **P** **09 34 35.2 +0.4**
APA *i* S **S** **09 42 40.0 -3.9**
APA *i* PS **PnS** **09 43 04.0 +2.4**
APA pmax pmax
comp=Z,281nm,1.0s
APA MLR MLR
comp=Z,3µm,18.0s
FITZ Fitzroy Crossi 60.10 198 *e*P **P** **09 34 35.9 +0.2**
comp=Z,122nm,1.0s
FITZ P'P' 10 03 59.6
FITZ ⇑*e* 10 04 10.9
FITZ Fitzroy Crossi 60.10 198⇑ *i*P **P** **09 34 36.0 +0.3**
comp=Z,169nm,0.9s
FITZ *e*S **S** **09 42 41.4 -4.1**
FITZ Fitzroy Crossi 60.10 198 LR LR 09 59 00.1
comp=Z,294nm,20.6s,baz=16,slow=34
FITZ PKPPKP **P'P'df** **10 03 59.6 +5.0**
comp=Z,7.8nm,1.2s,baz=141,slow=4.5,SNR=3.2
FITZ PKP2bc 10 04 10.9
comp=Z,4.1nm,0.9s,baz=293,slow=3.8,SNR=4.1
CTA Charters Tower 60.15 176 *e*P **P** **09 34 35.3 -0.7**
comp=Z,15nm,1.1s
CTA *ep*P **pP** **09 34 47.6 -1.2**
CTA Charters Tower 60.15 176 LR LR 09 58 27.8
comp=Z,826nm,21.5s,baz=352,slow=34
CTA PKPPKP P'P'df 10 04 00.5 +6.4
comp=Z,1.7nm,0.3s,baz=272,slow=15,SNR=3.8
CTAO Charters Tower 60.15 176 *e*P **P** **09 34 35.5 -0.5**
CTAO pmax pmax
comp=Z,30nm,0.9s
CTAO MLR MLR
comp=Z,917nm,21.0s
CTAO Charters Tower 60.15 176 *e*P **P** **09 34 35.5 -0.5**
comp=Z,30nm,0.9s
CTAO LR LR
comp=Z,917nm,21.0s
WRAB Tennant Creek 60.34 189 *e*P **P** **09 34 36.2 -1.1**
WRAB pmax pmax
comp=Z,124nm,0.9s
WRAB MLR MLR
comp=Z,740nm,20.0s
WRAB Tennant Creek 60.34 189 *e*P **P** **09 34 36.1 -1.1**
comp=Z,124nm,0.9s
WRAB LR LR
comp=Z,740nm,20.0s
WRAB Tennant Creek 60.34 189 P **P** **09 34 36.0 -1.3**
comp=Z,772nm,0.9s,SNR=52
WRA Warramunga Arr 60.35 189 P **P** **09 34 36.5 -0.9**
WRA S **S** **09 42 45.4 -3.3**
WRA P'P' 10 04 02.6
WRA ⇑*e* 10 04 09.3
WRA P'P'ab **P'P'ab** **10 04 18.9 +4.5**
WRA Warramunga Arr 60.35 189 P **P** **09 34 36.5 -0.9**
comp=Z,85nm,0.8s,baz=5.5,slow=7.1,SNR=277
WRA S **S** **09 42 45.4 -3.3**
comp=Z,7.9nm,1.2s,baz=1.0,slow=12,SNR=8.6
WRA PKPPKP P'P'df 10 04 02.6 +8.7
comp=Z,5.6nm,1.1s,baz=200,slow=1.4,SNR=9.0
WRA PKP2bc 10 04 09.3
comp=Z,10nm,0.9s,baz=206,slow=1.9,SNR=20
WRA PKP2ab 10 04 18.9
comp=Z,26nm,1.0s,baz=206,slow=2.1,SNR=9.1
YKA Yellowknife Ar 60.68 31 P **P** **09 34 38.9 -0.3**
YKA P'P' 10 04 00.9
YKA Yellowknife Ar 60.68 31 P **P** **09 34 38.9 -0.3**
comp=Z,43nm,0.8s,baz=301,slow=6.4,SNR=538
YKA PKPPKP **P'P'df** **10 04 00.9 -3.3**
comp=Z,2.5nm,0.9s,baz=121,slow=1.8,SNR=16
KEV Kevo 60.69 339 *e*P **P** **09 34 39.2 +0.1**
KEV pmax pmax
comp=Z,268nm,0.8s
KEV MLR MLR
comp=Z,3µm,22.0s
KEV Kevo 60.69 339 *e*P **P** **09 34 39.2 +0.1**
comp=Z,268nm,0.8s
KEV LR LR
comp=Z,3µm,22.0s
KEV Kevo 60.69 339 *ep* P **09 34 39.0 -0.1**
comp=Z,180nm,0.8s
ARCES ARCESS Array B 61.24 339 P **P** **09 34 42.9 0.0**
ARCES ARCESS Array B 61.24 339 P **P** **09 34 42.9 0.0**
comp=Z,143nm,0.9s,baz=46,slow=8.7,SNR=126
ARCES LR LR 10 07 11.1
comp=Z,2µm,18.5s,baz=48,slow=42
ARE0 ARCESS Array S 61.24 339 *e*P **P** **09 34 43.6 +0.7**
ARE0 ARCESS Array S 61.24 339 *e*P **P** **09 34 42.4 -0.4**
KLMR Klimovskoe 61.42 327*c i*P **P** **09 34 44.2 0.0**
KLMR *e*PP **pP** **09 34 59.1 +2.0**
KLMR *i* 09 36 56.4
KLMR *e*S **S** **09 42 59.8 -1.8**
KLMR pmax pmax
comp=Z,705nm,1.1s
KLMR pmax pmax
comp=Z,157nm,3.3s
KLMR MLR MLR
comp=Z,4µm,18.0s
POO Poona 61.97 271 *e*PKP **P** **09 34 48.1 -0.5**
POO AMb AMB 09 34 51.0
comp=Z,421nm,1.6s
KTK1 Kautokeino 62.19 339⇑ *i*P **P** **09 34 49.3 0.0**
KTK1 AMB AMB 09 34 50.8

KTK1 eS S 09 43 11.6 +0.4
KTK1 eSS SS 09 47 16.4 +2.5
KTK1 AMS AMS 10 07 24.1
comp=Z,6µm,18.2s
DAG Danmarks Havn 62.63 355⇑ *i*P P 09 34 51.7 -0.4
DAG *i* S S 09 43 16.9 +0.5
DAG pmax pmax
comp=Z,130nm,0.9s
DAG MLR MLR
comp=Z,1µm,20.0s
DAG Danmarks Havn 62.63 355⇑ *i*P P 09 34 51.7 -0.4
comp=Z,1µm,0.9s
DAG *i* S S 09 43 16.9 +0.5
DAG
comp=Z,2µm,20.0s
TRO Tromso 62.90 341⇑ *i*P P 09 34 53.8 -0.2
TRO AMB AMB 09 34 55.3
comp=Z,605nm,0.0s
TRO eS S 09 43 19.8 -0.2
TRO AMS AMS 10 07 03.0
comp=Z,2µm,14.9s
ABKT Ailbek 62.91 298 P P 09 34 55.3 +0.6
comp=Z,2µm,0.9s
JOF Joensuu 63.46 331 *e*P P 09 34 57.6 -0.2
JOF pmax pmax
comp=Z,249nm,0.8s
JOF Joensuu 63.46 331 *e*p P 09 34 57.6 -0.2
comp=Z,248nm,0.8s
PGC Sidney 63.62 48 *e*P P 09 34 59.1 0.0
comp=Z,2.7nm,1.0s
GOA Goa 63.80 268⇑ *i*P P 09 35 01.0 +0.3
NLWA Neilton Lookou 64.05 49 *e*P P 09 35 03.2 +1.1
comp=Z,107nm,1.1s
NLWA LR LR
comp=Z,2µm,22.0s
AS31 Alice Springs 64.07 189 *e*P P 09 35 01.9 -0.4
ASAR Alice Springs 64.07 189 P P 09 35 02.1 -0.2
ASAR P'P' 10 03 52.6
ASAR ⇑*e* 10 03 57.3
ASAR P'P'ab **P'P'ab 10 04 04.1 +4.7**
ASAR Alice Springs 64.07 189 P P 09 35 02.1 -0.2
comp=Z,49nm,0.8s,baz=9.0,slow=5.6,SNR=404
ASAR PKPPKP **P'P'df 10 03 52.6 +4.7**
comp=Z,2.7nm,1.0s,baz=171,slow=2.8,SNR=4.4
ASAR PKP2bc 10 03 57.3
comp=Z,5.3nm,0.9s,baz=180,slow=1.7,SNR=8.2
ASAR PKP2ab 10 04 04.1
comp=Z,5.8nm,1.0s,baz=179,slow=2.2,SNR=8.1
HDW Hoodsport 64.38 48 P P 09 35 05.1 +0.9
IDAH Dahanechah 64.45 292 *e*P P 09 35 05.9 +0.7
MBWA Marble Bar 64.62 203 *e*P P 09 35 05.8 0.0
comp=Z,143nm,0.8s
MBWA LR LR
comp=Z,936nm,21.0s
MBWA Marble Bar 64.62 203 P P 09 35 06.6 +0.7
SNR=5.8
JCW Jim Creek 64.73 47 P P 09 35 07.0 +0.6
MOS Moscow 65.09 323 *e*P P 09 35 06.7 -1.9
MOS *e* 09 35 22.6
MOS *e* 09 35 41.4
MOS *e* 09 37 28.6
MOS eS S 09 43 44.9 -2.6
MOS pmax pmax
comp=Z,771nm,1.3s
MOS pmax pmax
comp=N,278nm,1.5s
MOS pmax pmax
comp=Z,2µm,1.8s
MOS pmax pmax
comp=N,700nm,2.0s
MOS pmax pmax
comp=E,700nm,2.4s
MOS MLR MLR
comp=N,5µm,16.0s
MOS MLR MLR
comp=Z,6µm,16.0s
MOS MLR MLR
comp=E,4µm,15.0s
IKOO Kooshah 65.23 292 *e*P P 09 35 10.8 +0.6
LON Longmire 65.58 49 *e*P P 09 35 12.5 +0.5
LON pmax pmax
comp=Z,50nm,0.9s
LON Longmire 65.58 49 *e*P P 09 35 12.5 +0.5
comp=Z,50nm,0.9s
WPW White Pass 65.76 49 P P 09 35 13.9 +0.6
KAF Kangasniemi 65.77 332 *e*P P 09 35 12.5 -0.4
KAF pmax pmax
comp=Z,188nm,0.8s
KAF Kangasniemi 65.77 332 *e*p P 09 35 12.5 -0.4
comp=Z,188nm,0.8s
PUL Pulkovo 65.78 329*c i*P P 09 35 13.2 +0.2
PUL pmax pmax
comp=Z,648nm,1.0s
PUL MLR MLR
comp=Z,6µm,20.0s
VRHR Novokhopersk 65.79 317*c i*P P 09 35 12.3 -0.9
VRHR *e**PP pP 09 35 24.9 -1.2
VRHR *e* 09 37 34.8
VRHR eS S 09 43 55.1 -1.1
VRHR ePPS PPS 09 44 18.6
VRHR pmax pmax
comp=Z,740nm,0.9s
VRHR pmax pmax
comp=N,150nm,1.0s
VRHR pmax pmax
comp=E,410nm,1.1s
VRHR pmax pmax
comp=Z,190nm,1.8s
VRHR pmax pmax
comp=N,150nm,1.0s
VRHR pmax pmax
comp=E,180nm,1.0s
VRHR smax smax
comp=E,300nm,4.0s
VRHR smax smax
comp=Z,150nm,4.0s
VRHR smax smax
comp=N,90nm,2.6s
VRHR MLR MLR
comp=Z,10µm,17.0s
VRHR MLR MLR
comp=N,2µm,16.0s
VRHR MLR MLR
comp=E,6µm,17.0s
EIDS Eidsvold 65.80 171 *e*P P 09 35 14.3 +0.9
comp=E,60nm,0.8s
COR Corvallis 65.89 51 *e*P P 09 35 15.6 +1.6
COR pmax pmax
comp=Z,355nm,1.4s
COR Corvallis 65.89 51 *e*P P 09 35 15.6 +1.6
comp=Z,355nm,1.4s
NOUC Port Laguerre 65.95 156 *e*P P 09 35 15.1 +0.7
OBN Obninsk 65.95 323⇑ *i*P P 09 35 13.8 -0.3
OBN *i* 09 37 38.6
OBN *i* S S 09 43 59.4 +1.4
OBN eSS SS 09 48 08.5 -4.2
OBN pmax pmax
comp=Z,982nm,1.7s
OBN MLR MLR
comp=Z,7µm,18.0s
OBN Obninsk 65.95 323 *e*P P 09 35 14.1 0.0
comp=Z,510nm,1.0s
OBN LR LR
comp=Z,3µm,21.0s
OBN Obninsk 65.95 323 P P 09 35 14.5 +0.4
comp=Z,3µm,1.0s,SNR=23
ETW Entiat 65.95 47 P P 09 35 14.8 +0.3
DZM Mont Dzumac 65.96 155 *e*P P 09 35 17.1 +2.5
comp=Z,142nm,1.1s
DZM eS S 09 43 57.2 -1.8
comp=Z,2µm,36.6s
DZM eLR LR 09 55 03.5
comp=Z,5µm,22.6s
DZM Mont Dzumac 65.96 155 *e*P P 09 35 14.7 0.0
DZM Mont Dzumac 65.96 155 *e*P P 09 35 16.1 +1.5
comp=Z,222nm,1.2s
TBM Table Mountain 66.04 48 P P 09 35 15.5 +0.5
WTV Waterville 66.11 47 P P 09 35 15.8 +0.4
EBG Ellensburg 66.20 48 P P 09 35 16.8 +0.8
KEBM Edson Butte 66.21 53 *e*P P 09 35 17.8 +1.6
comp=Z,366nm,1.2s
XMAS Kiritimati 66.28 109 PFAKE 09 35 30.0 +13
XMAS LR LR
comp=Z,8µm,20.0s
FINES FINESS Array B 66.30 332 P P 09 35 16.1 -0.1
FINES pP **pP** 09 35 28.1 -1.1
FINES FINESS Array B 66.30 332 P P 09 35 16.1 -0.1
comp=Z,352nm,0.8s,baz=46,slow=8.2,SNR=588
FINES pP **pP** 09 35 28.1 -1.1
comp=Z,144nm,0.8s,baz=40,slow=7.4,SNR=9.5
FINES LR LR 10 06 33.0
comp=Z,6µm,19.8s,baz=53,slow=38
MXC Moxie City 66.55 48 P P 09 35 19.3 +1.1
VFP Flag Point 66.57 50 P P 09 35 19.4 +0.8
MOR8 Mol Rana 66.59 340⇑ *i*P P 09 35 16.6 -1.5
MOR8 AMB AMB 09 35 18.5
comp=Z,617nm,0.9s
MSVF Nonsavu 66.60 143 *e*P P 09 35 20.4 +1.6
MSVF pmax pmax
comp=Z,93nm,1.0s
MSVF MLR MLR
comp=Z,2µm,19.0s
MSVF Nonsavu 66.60 143 *e*P P 09 35 20.4 +1.6
comp=Z,93nm,1.0s
MSVF LR LR
comp=Z,2µm,19.0s
MSVF Nonsavu 66.60 143 P P 09 35 20.0 +1.2
comp=Z,529nm,1.1s,SNR=5.6
VOR Voronezh 66.66 319⇑ *i*P P 09 35 17.0 -1.8
VOR pmax pmax
comp=Z,1µm,1.2s
IKIA Kiasar 66.83 298 *e*P P 09 35 21.4 +0.9
STOK Stokkvaagen 66.84 340⇑ *i*P P 09 35 19.1 -0.5
OD2 Odessa Site #2 66.98 47 P P 09 35 20.8 -0.1
VSR Storozhevoye 66.98 318*c i*P P 09 35 20.9 +0.1
VSR *e**PP **pP** 09 35 33.9 +0.1
VSR *e* 09 37 47.4
VSR eS S 09 44 09.1 -1.6
VSR ePPS PPS 09 44 32.7
VSR pmax pmax
comp=Z,730nm,0.9s
VSR pmax pmax
comp=N,530nm,0.8s
VSR pmax pmax
comp=E,650nm,1.0s
VSR pmax pmax
comp=Z,270nm,1.7s
VSR pmax pmax
comp=N,450nm,2.9s
VSR pmax pmax
comp=E,190nm,1.0s
VSR smax smax
comp=E,290nm,5.2s
VSR smax smax
comp=Z,90nm,3.2s
VSR smax smax
comp=N,230nm,3.0s
VSR MLR MLR
comp=N,3µm,19.0s
VSR MLR MLR
comp=Z,7µm,19.0s
VSR MLR MLR
comp=E,3µm,17.0s
MAK Makhachkala 67.04 307 *e*P P 09 35 21.1 -0.2
MAK *e* 09 35 49.9
MAK *e* 09 37 46.7
MAK *e*PPP PPP 09 39 29.6
MAK eS S 09 44 10.5 -1.1
MAK *e* 09 45 07.5
MAK pmax pmax
comp=Z,525nm,1.7s
MAK MLR MLR
comp=Z,3µm,17.0s
VORD Divnogorie 67.06 318*c i*P P 09 35 21.4 +0.1
VORD *e**PP pP 09 35 34.1 -0.2
VORD *e* 09 37 47.4
VORD pmax pmax
comp=Z,600nm,1.1s
VORD pmax pmax
comp=N,390nm,1.0s
VORD pmax pmax
comp=E,430nm,1.0s
VORD pmax pmax
comp=Z,200nm,2.6s
VORD pmax pmax
comp=N,660nm,2.5s
VORD pmax pmax
comp=E,620nm,2.5s
VORD MLR MLR
comp=Z,6µm,19.0s
VORD MLR MLR
comp=N,3µm,18.0s
VORD MLR MLR
comp=E,5µm,21.0s
COCO West Island 67.07 229 *i* P P 09 35 23.4 +1.7
COCO West Island 67.07 229 *e*P P 09 35 23.0 +1.3
comp=E,550nm,1.3s
HAWA Hanford 67.08 48 *e*P P 09 35 22.1 +0.5
comp=E,202nm,1.4s
HAWA LR LR
comp=Z,896nm,20.0s
IANJ Anjilo 67.09 298 *e*P P 09 35 23.2 +1.1
JMIC Jan Mayen 67.10 350 *e*P P 09 35 18.8 -2.5
HUMO Hull Mountain 67.20 53 *e*P P 09 35 23.9 +1.5
comp=Z,223nm,1.8s
ISHM Shahmirzad 67.32 298 *e*P P 09 35 23.8 +0.2
NEW Newport 67.35 45 *e*P P 09 35 23.5 +0.2
comp=Z,266nm,1.4s
NEW LR LR
comp=Z,1µm,20.0s
NEW Newport 67.35 45 ⇓P P 09 35 23.6 +0.2
baz=67,SNR=61
SUMG Summit 67.47 0⇑ *i*P P 09 35 24.7 +0.7
SUMG *i* *PP pP 09 35 39.2 +2.2
SUMG pmax pmax
comp=Z,230nm,0.9s
SUMG Summit 67.47 0 *e*P P 09 35 24.6 +0.5
comp=Z,544nm,1.1s
SUMG Summit 67.47 0⇑ *i*P P 09 35 24.7 +0.7
comp=Z,229nm,0.9s
SUMG *i* pP pP 09 35 39.2 +2.2
IALA Alasht 67.49 299 *e*P P 09 35 23.7 -1.0
KHMM Horse Mountain 67.70 55 *e*pP pP 09 35 35.2 -3.5
IPRN Peran 67.72 299 *e*P P 09 35 26.3 +0.4
A12A Yaak River Ran 67.75 44 ⇓P P 09 35 26.6 +0.7
baz=68,SNR=31
IFIR Firoozkooh 67.77 298 *e*P P 09 35 26.7 +0.2
ILAS Lasjerd 67.78 298 *e*P P 09 35 27.0 +0.5
YBH Yreka Blue Hor 67.84 54 *e*P P 09 35 27.6 +1.0
comp=Z,190nm,1.4s
VSU Vasula 68.04 329*c i*P P 09 35 27.5 +0.2
VSU pmax pmax
comp=Z,520nm,1.0s
VSU MLR MLR
comp=Z,5µm,18.0s
B12A Libby 68.06 45 ⇑P P 09 35 28.4 +0.6
baz=68,SNR=14
C11A Tepee Creek (N 68.07 45 ⇓P P 09 35 28.5 +0.6
baz=68
IDMV Damavand 68.29 299 *e*P P 09 35 30.1 +0.3
A13A Flathead Natio 68.41 44 ⇓P P 09 35 30.3 +0.3
baz=68
NSS Namsos 68.52 339 *e*P P 09 35 30.0 -0.3
C12B Naegeli Ranch, 68.57 45 ⇑P P 09 35 31.5 +0.5
baz=68,SNR=31
AFI Afiamalu 68.70 132 PFAKE 09 35 40.0 +7.9
AFI LR LR
comp=Z,3µm,21.0s
B13A Whitefish 68.72 44 ⇑P P 09 35 32.6 +0.7
baz=68,SNR=142
IVRN Varamin 68.83 298 *e*P P 09 35 33.0 +0.2
IVRN *e*P P 09 35 33.1 +0.2
ISFB Sefidab 68.85 297 *e*P P 09 35 32.7 -0.3
BSMT Bassoo Peak 68.86 45 *e*P P 09 35 33.5 +0.5
A14A Double T Ranch 68.91 43 ⇑P P 09 35 33.3 +0.1
baz=69,SNR=56
SCO Scoresbysund 68.98 354 *i* P P 09 35 33.4 +0.4
SCO pmax pmax
comp=Z,44nm,1.1s
SCO MLR MLR
comp=Z,1µm,26.0s
SCO Scoresbysund 68.98 354 *i* P P 09 35 33.4 +0.4
comp=Z,44nm,1.1s
SCO
comp=Z,1µm,26.0s
BLMT Blacktail Moun 68.99 44 *e*P P 09 35 34.5 +0.7
D12A Red Ives Fores 69.03 46 ⇓P P 09 35 34.0 +0.1
baz=69
IGZV Ghazvin 69.04 300 *e*P P 09 35 34.9 +0.6
C13A Hot Springs 69.08 45 ⇑P P 09 35 34.7 +0.6
baz=69,SNR=57
IMHD Mahdasht 69.14 299 *e*P P 09 35 35.2 +0.4
JTMT Jette 69.19 45 *e*P P 09 35 35.5 +0.6
DGRG David-gareji 69.20 307 P P 09 35 35.7 +0.6
MOD Modoc 69.22 52 *e*P P 09 35 35.8 +0.6
comp=Z,60nm,0.8s
BMO Blue Mountains 69.25 48 *e*P P 09 35 35.5 +0.2
BMO pmax pmax
comp=Z,116nm,1.4s
BMO MLR MLR
comp=Z,1µm,22.0s
BMO Blue Mountains 69.25 48 *e*P P 09 35 35.5 +0.2
comp=Z,116nm,1.4s
BMO LR LR
comp=Z,1µm,22.0s
A15A Johnson Ranch, 69.26 43 ⇑P P 09 35 35.0 -0.4
baz=69,SNR=54
YBMT Yellow Bay 69.27 44 *e*P P 09 35 35.8 +0.4
comp=Z,82nm,1.0s
E12A Beaver Dam Sad 69.29 46 ⇑P P 09 35 36.1 +0.5
baz=69,SNR=189
ZEI Tsey 69.32 309 *e*P P 09 35 35.2 -0.8
ZEI pmax pmax
comp=Z,227nm,1.0s
KIV Kislovodsk 69.34 310*c i*P P 09 35 36.6 +0.7
KIV *e* 09 35 55.7
KIV *e* 09 38 08.5
KIV eS S 09 44 39.9 +0.7
KIV eSS SS 09 49 07.8 +1.9
KIV pmax pmax
comp=Z,923nm,1.1s
KIV pmax pmax
comp=Z,381nm,3.9s
KIV MLR MLR
comp=Z,5µm,18.0s
KIV Kislovodsk 69.34 310 *e*P P 09 35 36.8 +0.9
comp=Z,730nm,0.9s
KIV LR LR
comp=Z,5µm,19.0s
KIV Kislovodsk 69.34 310 P P 09 35 36.7 +0.9
comp=Z,5µm,1.0s
B14A Marquette Ranc 69.36 44 ⇓P P 09 35 36.6 +0.6
baz=69,SNR=57
TBLG Delisi 69.43 308 *i* P P 09 35 37.1 +0.7
TBLG Delisi 69.43 308 P P 09 35 37.1 +0.7
C14A Swan Lake 69.47 44 ⇓P P 09 35 37.3 +0.7
baz=69
SWMT Swartz Lake 69.49 45 *e*P P 09 35 37.1 +0.3
D13A Huson 69.49 45 ⇓P P 09 35 36.9 +0.2
baz=69,SNR=87
IZEF Zefreh 69.62 296 *e*P P 09 35 38.1 +0.1
GOR Gori 69.66 308 P P 09 35 39.0 +1.2
B15A Bradely Ranch, 69.76 43 ⇑P P 09 35 38.6 +0.2
baz=70,SNR=144
IRAZ Razeghan 69.80 300 *e*P P 09 35 38.9 -0.1
F12A Elk City 69.87 47 ⇓P P 09 35 39.4 +0.3
baz=70,SNR=90
A16A West Butte Ran 69.87 42 ⇓P P 09 35 38.9 -0.3
baz=70
IKLH Kolahrood 69.89 297 *e*P P 09 35 39.7 0.0
WVOR Wild Horse Val 69.91 51 *e*P P 09 35 39.8 +0.4
WVOR pmax pmax
comp=Z,206nm,1.2s
WVOR MLR MLR
comp=Z,946nm,20.0s
WVOR Wild Horse Val 69.91 51 *e*P P 09 35 39.8 +0.4
comp=Z,206nm,1.2s
WVOR LR LR
comp=Z,946nm,20.0s
SLMT Seeley Lake 69.93 45 *e*P P 09 35 39.7 +0.2
MSO Missoula 69.94 45 *e*P P 09 35 39.6 +0.1
comp=Z,132nm,1.3s
MSO LR LR
comp=Z,748nm,22.0s
MSO Missoula 69.94 45 ⇑P P 09 35 39.6 +0.1
baz=70,SNR=53
D14A Greenough 70.02 45 ⇑P P 09 35 40.1 +0.1
baz=70,SNR=106
E13A Victor 70.04 46 ⇑P P 09 35 39.9 -0.3
baz=70,SNR=32
C15A Salmond Ranch, 70.07 44 ⇓P P 09 35 41.2 +0.9
baz=70,SNR=201
IGAR Gharneh 70.11 296 *e*P P 09 35 41.0 +0.1
B16A M & M Farms, S 70.15 43 ⇑P P 09 35 40.9 +0.2
baz=70,SNR=25
G12A Big Creek, Yel 70.21 47 ⇓P P 09 35 41.2 -0.1
baz=70,SNR=15
MICGM Minsk 70.23 326⇑ *i*P P 09 35 40.0 -1.0
MNK Minsk 70.25 326⇑ *i*P P 09 35 40.0 -1.1
MNK *e**PP pP 09 35 52.0 -2.2
MNK eS S 09 44 48.0 -1.3
MNK *e*SS sS 09 45 10.0 -1.2
MNK eSSS SSS 09 52 20.0
MNK pmax pmax
comp=Z,3µm,0.8s
MNK pmax pmax
comp=E,690nm,1.0s
MNK pmax pmax
comp=N,1µm,1.2s
MNK MLR MLR
comp=Z,12µm,18.0s
MNK MLR MLR
comp=N,5µm,18.0s
MNK MLR MLR
comp=E,6µm,18.0s
CHMT Chamberlain Mo 70.26 45 *e*P P 09 35 41.3 -0.3
A17A Triple J Farms 70.33 42 ⇑P P 09 35 41.9 0.0
baz=70,SNR=124
GNI Garni 70.36 306 *e*P P 09 35 43.3 +1.1
GNI comp=E,619nm,1.4s
comp=Z,3µm,19.0s
GNI LR LR
F13A Darby 70.36 46 ⇑P P 09 35 41.7 -0.5
baz=70,SNR=26
AKH Akhalkalaki 70.37 308 P P 09 35 43.6 +1.3
NACGM Naroch 70.43 326 *e*P P 09 35 40.0 -2.2
E14A Clinton 70.43 45 ⇑P P 09 35 42.5 -0.1
baz=70,SNR=43
C16A Fuhringer Ranc 70.51 43 ⇓P P 09 35 43.3 +0.3
baz=70,SNR=157
D15A Lincoln 70.57 44 ⇓P P 09 35 43.5 +0.1
baz=70,SNR=23
FFC Flin Flon 70.63 34 *e*P P 09 35 43.3 -0.1
FFC pmax pmax
comp=Z,215nm,0.9s
FFC MLR MLR
comp=Z,1µm,21.0s
FFC Flin Flon 70.63 34 *e*P P 09 35 43.3 -0.1
comp=Z,215nm,0.9s
FFC LR LR
comp=Z,1µm,21.0s
FFC Flin Flon 70.63 34 P P 09 35 43.8 +0.4
comp=Z,1µm,0.8s,SNR=98
B17A L&G Farms, Che 70.70 43 ⇓P P 09 35 44.3 +0.3
baz=70,SNR=113
IPIR Pirpir 70.73 297 *e*P P 09 35 45.9 +1.1
A18A Metzger Ranch, 70.79 42 ⇑P P 09 35 44.5 -0.1
baz=71,SNR=22
H12A Diamond D Ranc 70.83 48 ⇑P P 09 35 45.0 -0.1
baz=71,SNR=38
G13A Cobalt 70.84 47 ⇑P P 09 35 44.7 -0.4
baz=71,SNR=34
WBK Wadi Bani Khal 70.85 284 ⇓P P 09 35 46.3 +1.0
SNR=124
ARMA Armidale 70.85 171 *e*P P 09 35 46.2 +1.2
comp=Z,149nm,1.2s
ARMA Armidale 70.85 171 *e*P P 09 35 45.5 +0.5
ARMA *e*pP pP 09 35 58.6 +0.5
BANOM Banah 70.86 288 ⇓P P 09 35 45.9 +0.5
SNR=126
F14A Wisdom 70.88 46 ⇑P P 09 35 45.4 0.0
baz=71,SNR=42
E15A Deer Lodge 70.89 45 ⇑P P 09 35 45.6 +0.2
baz=71,SNR=141
IPAR Pars 70.89 293 *e*P P 09 35 46.4 +0.5
MFID Camas Ranch 70.96 49 *e*P P 09 35 46.5 +0.5
comp=Z,129nm,1.2s
MFID Camas Ranch 70.96 49 ⇓P P 09 35 46.4 +0.5
baz=71,SNR=23
WCN Washoe City 71.09 54 *e*P P 09 35 47.9 +1.2
WCN pmax pmax
comp=Z,118nm,1.1s
WCN Washoe City 71.09 54 *e*P P 09 35 47.9 +1.2
comp=Z,118nm,1.1s
WCN Washoe City 71.09 54 ⇓P P 09 35 47.5 +0.7
baz=71,SNR=7.9
D16A Dana Ranch, Ca 71.10 44 ⇑P P 09 35 47.0 +0.4

baz=71,SNR=72
ISRV Sarvestan 71.12 293 *e*P **P** 09 35 47.8 +0.5
I12A Atlanta 71.13 48 ⇓P **P** 09 35 47.4 +0.4
baz=71
C17A Wharram Farm, 71.13 43 ⇓P **P** 09 35 46.6 -0.2
baz=71,SNR=83
HRY Holter Researc 71.15 44 *e*P **P** 09 35 47.3 +0.4
H13A Challis 71.16 47 ⇑P **P** 09 35 47.2 +0.2
baz=71,SNR=77
B18A Beardsley Farm 71.16 42 ⇑P **P** 09 35 47.2 +0.3
baz=71,SNR=124
G14A Jackson 71.18 46 ⇑P **P** 09 35 46.6 -0.6
baz=71,SNR=15
SMDO Samad 71.26 285 ⇑P **P** 09 35 48.3 +0.4
SNR=69
SOC Sochi 71.28 312*c i*P **P** 09 35 47.6 0.0
SOC *e**PP **pP** 09 35 59.7 -1.0
SOC *e* 09 36 05.1
SOC *e* 09 38 27.2
SOC *e*S S 09 45 10.4 +8.7
SOC pmax pmax
comp=Z,338nm,1.2s
SOC MLR MLR
comp=Z,3µm,18.0s
MOL Molde 71.28 340 *e*P **P** 09 35 47.4 +0.1
DOMB Dombas 71.30 339 *e*P **P** 09 35 47.5 +0.1
DOMB AMB AMB 09 35 49.6
comp=Z,185nm,1.5s
F15A Butte 71.34 45 ⇑P **P** 09 35 48.6 +0.4
baz=71,SNR=167
A19A Klindworth Far 71.34 41 ⇑P **P** 09 35 48.3 +0.3
baz=71,SNR=158
E16A East Helena 71.34 44 ⇓P **P** 09 35 48.6 +0.5
baz=71,SNR=20
DYDN Diyadin 71.37 306 *i* P **P** 09 35 49.9 +1.4
LRM Limekiln Ridge 71.37 45 *e*P **P** 09 35 48.8 +0.3
EGMT Eagleton 71.41 42 *e*P **P** 09 35 48.6 +0.2
comp=Z,323nm,0.9s
EGMT LR LR
comp=Z,1µm,20.0s
EGMT Eagleton 71.41 42 ⇓P **P** 09 35 48.6 +0.2
baz=71,SNR=160
ARTV Artvin 71.45 308 *i* P **P** 09 35 50.1 +1.1
CMB Columbia Colle 71.45 56 *e*P **P** 09 35 49.7 +0.9
CMB pmax pmax
comp=Z,207nm,1.2s
CMB Columbia Colle 71.45 56 *e*P **P** 09 35 49.7 +0.9
comp=Z,207nm,1.2s
D17A Six Diamond Ra 71.48 43 ⇓P **P** 09 35 49.0 +0.1
baz=71,SNR=49
NB2 NORSAR Subarra 71.49 337 P **P** 09 35 48.6 0.0
baz=38,slow=6.2
NB2 NORSAR Subarra 71.49 337 P **P** 09 35 48.6 0.0
comp=Z,362nm,0.8s,baz=38,slow=6.2
NOA NORSAR Array B 71.49 337 P **P** 09 35 48.5 -0.2
NOA NORSAR Array B 71.49 337 P **P** 09 35 48.5 -0.2
comp=Z,263nm,0.8s,baz=37,slow=6.0,SNR=713
NOA LR LR 10 09 56.4
comp=Z,3µm,21.7s,baz=25,slow=38
HOQ Hoqain 71.50 285 ⇓P **P** 09 35 49.6 +0.4
SNR=106
DBOC Borcka 71.51 309 *i* P **P** 09 35 49.9 +0.8
DAGI Agillar 71.52 308 *i* P **P** 09 35 50.3 +1.1
B19A Brinkman Farms 71.54 42 ⇑P **P** 09 35 49.5 +0.4
baz=71,SNR=42
DLMT Dillon 71.58 46 *e*P **P** 09 35 50.0 +0.4
comp=Z,271nm,1.0s
H14A Leadore 71.62 47 ⇑P **P** 09 35 49.8 -0.1
baz=71,SNR=16
HATD Hatta, Dubai 71.63 287 ⇓P **P** 09 35 50.5 +0.5
SNR=167
JMDO Jabal Madar 71.63 284 ⇑P **P** 09 35 50.5 +0.4
SNR=107
NC602 NORSAR Array S 71.63 337 *e*P **P** 09 35 49.0 -0.4
NC602 *e*S **S** 09 45 05.3 +0.1
I13A Wildhorse Cree 71.64 48 ⇑P **P** 09 35 50.8 +0.8
baz=71,SNR=47
HLID Hailey 71.69 48 *e*P **P** 09 35 50.9 +0.6
comp=Z,107nm,1.3s
HLID LR LR
comp=Z,1µm,21.0s
HLID Hailey 71.69 48 ⇑P **P** 09 35 50.9 +0.6
baz=72,SNR=40
DDEM Demirkent 71.73 308 *i* P **P** 09 35 51.5 +1.0
NAO01 NORSAR Array S 71.74 337 *e*P **P** 09 35 49.5 -0.6
comp=Z,137nm,0.8s
NAO01 LR LR
comp=Z,4µm,20.0s
G15A Dillon 71.76 46 ⇓P **P** 09 35 50.9 +0.2
baz=72,SNR=165
ASHO Ashiyiah 71.77 287 ⇓P **P** 09 35 51.2 +0.3
SNR=138
STKA Stephens Creek 71.78 181 *e*P **P** 09 35 50.8 +0.3
comp=Z,8.3nm,0.9s
STKA pP **pP** 09 36 03.9 +0.3
STKA Stephens Creek 71.78 181 *e*P **P** 09 35 50.5 0.0
comp=Z,9.9nm,1.0s
STKA *e*pP **pP** 09 36 04.0 +0.4
STKA Stephens Creek 71.78 181 P **P** 09 35 51.0 +0.6
comp=Z,5.4nm,0.6s,baz=349,slow=5.4,SNR=12
STKA pP **pP** 09 36 03.9 +0.3
comp=Z,40nm,1.1s,baz=346,slow=9.1,SNR=16
STKA LR LR 10 06 37.4
comp=Z,872nm,22.0s,baz=13,slow=35
MCMT McKenzie Canyo 71.78 46 *e*P **P** 09 35 51.1 +0.2
comp=Z,24nm,1.1s
A20A Cobblestone Ra 71.78 41 ⇓P **P** 09 35 50.8 +0.2
baz=72,SNR=50
ANN Anapa 71.81 314*c i*P **P** 09 35 50.8 +0.1
ANN *e**PP **pP** 09 36 04.5 +0.7
ANN *e* 09 36 08.3
ANN *e* 09 38 26.4
ANN *e*PPP PPP 09 40 15.4
ANN *e*S **S** 09 45 09.1 +1.4
ANN *e*SS **SS** 09 49 46.2 +2.7
ANN pmax pmax
comp=N,122nm,1.6s
ANN pmax pmax
comp=E,132nm,1.6s
ANN pmax pmax
comp=Z,574nm,1.6s
ANN MLR MLR
comp=N,3µm,22.0s
ANN MLR MLR
comp=E,3µm,22.0s
ANN MLR MLR
comp=Z,3µm,22.0s
E17A Martinsdale 71.83 44 ⇑P **P** 09 35 51.7 +0.6
baz=72
F16A Kennard Place, 71.84 45 ⇓P **P** 09 35 51.5 +0.4
baz=72,SNR=112
NAZ Nazwa, Dubai 71.88 288 ⇓P **P** 09 35 51.5 0.0
SNR=68
FORT Forrest 71.90 193 *e*P **P** 09 35 51.3 +0.1
comp=Z,114nm,0.8s
FORT Forrest 71.90 193 *e*PKP **P** 09 35 51.2 0.0
comp=Z,67nm,0.6s
D18A Linhart Farms, 71.91 43 ⇓P **P** 09 35 52.0 +0.5
baz=72,SNR=53
J13A Cove Ranch, Pi 71.92 48 ⇓P **P** 09 35 52.5 +0.8
baz=72,SNR=42
BOZ Bozeman (W) 71.93 45 *e*P **P** 09 35 52.1 +0.4
BOZ pmax pmax
comp=Z,180nm,1.0s
BOZ MLR MLR
comp=Z,1µm,19.0s
BOZ Bozeman (W) 71.93 45 *e*P **P** 09 35 52.1 +0.4
comp=Z,180nm,1.0s
BOZ LR LR
comp=Z,1µm,19.0s
BOZ Bozeman (W) 71.93 45 ⇑P **P** 09 35 52.3 +0.6
baz=72,SNR=89
C19A Slack Wire Ran 71.96 42 ⇓P **P** 09 35 52.4 +0.7
baz=72,SNR=198
BMN Battle Mountai 71.96 52 *e*P **P** 09 35 52.5 +0.5
BMN pmax pmax
comp=Z,206nm,1.3s
BMN MLR MLR
comp=Z,1µm,20.0s
BMN Battle Mountai 71.96 52 *e*P **P** 09 35 52.5 +0.5
comp=Z,206nm,1.3s
BMN LR LR
comp=Z,1µm,20.0s
TUTA Tutak 71.99 307 *i* P **P** 09 35 53.6 +1.3
I14A Mackay 72.00 47 ⇑P **P** 09 35 52.8 +0.6
baz=72,SNR=47
B20A Solberg Farm, 72.02 41 ⇑P **P** 09 35 52.1 0.0
baz=72,SNR=70
H15A Lima 72.02 46 ⇑P **P** 09 35 52.2 -0.1
baz=72,SNR=14
BSY Bisya 72.08 285 ⇓P **P** 09 35 53.2 +0.4
SNR=105
G16A Moss Hill, Enn 72.10 46 ⇑P **P** 09 35 53.0 +0.2
baz=72,SNR=51
HOMI Horasan 72.16 308 *i* P **P** 09 35 54.6 +1.3
AKASG Malin Array Be 72.18 322 P **P** 09 35 52.8 -0.1
AKASG *PP **pP** 09 36 05.8 -0.2
AKASG Malin Array Be 72.18 322 P **P** 09 35 52.8 -0.1
AKASG pP **pP** 09 36 05.8 -0.2
AKASG P'P' 10 03 40.5
AKASG Malin Array Be 72.18 322 P **P** 09 35 52.8 -0.1
comp=Z,251nm,0.9s,baz=43,slow=6.2,SNR=464
AKASG pP **pP** 09 36 05.8 -0.2
comp=Z,160nm,0.7s,baz=46,slow=5.9,SNR=19
AKASG PKPPKP **P'P'df** **10 03 40.5 -4.0**
comp=Z,0.9nm,0.6s,baz=258,slow=9.5,SNR=4.0
AKASG LR LR 10 10 50.6
comp=Z,3µm,20.0s,baz=20,slow=38
AKBB Malin Array Si 72.18 322 *e*P **P** 09 35 52.6 -0.3
AKBB Malin Array Si 72.18 322 *e*P **P** 09 35 52.6 -0.3
KIEV Kiev 72.19 322 *e*P **P** 09 35 52.8 -0.1
KIEV pmax pmax
comp=Z,485nm,1.0s
KIEV MLR MLR
comp=Z,3µm,20.0s
KIEV Kiev 72.19 322 *e*P **P** 09 35 52.8 -0.1
comp=Z,485nm,1.0s
KIEV LR LR
comp=Z,3µm,20.0s
A21A Bergtoll Ranch 72.21 40 ⇓P **P** 09 35 53.5 +0.3
baz=72,SNR=97
ARQ Araqi 72.23 286 ⇑P **P** 09 35 54.3 +0.6
SNR=107
E18A Harlowton 72.26 44 ⇓P **P** 09 35 54.3 +0.7
baz=72,SNR=59
F17A Fitzpatrick Pl 72.29 44 ⇑P **P** 09 35 54.4 +0.6
baz=72,SNR=72
ASUD Al Ashush, Dub 72.33 287 ⇓P **P** 09 35 54.8 +0.5
SNR=75
J14A Carey 72.34 48 ⇓P **P** 09 35 55.6 +1.4
baz=72
D19A Cripps Ranch, 72.41 43 ⇓P **P** 09 35 54.9 +0.4
baz=72
I15A Monteview 72.50 47 ⇓P **P** 09 35 55.7 +0.6
baz=72,SNR=6.5
C20A Veseth Ranch, 72.50 42 ⇓P **P** 09 35 55.5 +0.6
baz=72,SNR=91
NVAR Mina Array Bea 72.52 54 P **P** 09 35 56.1 +0.6
NVAR pP **pP** 09 36 08.9 +0.3
NVAR Mina Array Bea 72.52 54 P **P** 09 35 56.1 +0.6
comp=Z,14nm,0.8s,baz=288,slow=5.9,SNR=45
NVAR pP **pP** 09 36 08.9 +0.3
comp=Z,74nm,1.0s,baz=293,slow=1.9,SNR=19
B21A Ellsworth Farm 72.53 41 ⇑P **P** 09 35 55.1 0.0
baz=72,SNR=36
SUW Suwalki 72.56 327 *e*P **P** 09 35 54.9 -0.2
comp=Z,900nm,1.8s
SUW LMZ LR 10 09 54.9
comp=Z,5µm,19.9s
SUW Suwalki 72.56 327 *e*P **P** 09 35 54.9 -0.2
comp=Z,900nm,1.8s
SUW LMZ LR 10 09 54.9
comp=Z,5µm,19.9s
SUW Suwalki 72.56 327⇑ *e*P **P** 09 35 54.8 -0.2
SUW pmax pmax
comp=Z,900nm,1.8s
SUW MLR MLR
comp=Z,5µm,19.9s
SUW Suwalki 72.56 327 *e*P **P** 09 35 54.8 -0.2
comp=Z,561nm,1.1s
HAKT HAKKARI 72.56 305 *i* P **P** 09 35 56.0 +0.3
QLMT Earthquake Lak 72.56 46 *e*P **P** 09 35 56.0 +0.5
ERZM Erzurum 72.57 308 *i* P **P** 09 35 57.1 +1.3
G17A Pierce Place, 72.62 45 ⇑P **P** 09 35 56.6 +0.8
baz=72,SNR=57
SFJD Kangerlussuaq 72.62 5 *e*P **P** 09 35 54.6 -0.5
comp=Z,276nm,1.2s
SFJD LR LR
comp=Z,3µm,20.0s
SFJD Kangerlussuaq 72.62 5⇑ *i*P **P** 09 35 55.1 -0.1
comp=Z,78nm,0.9s
SFJD *i* pP **pP** 09 36 09.8 +1.5
SFJD
comp=Z,3µm,20.0s
MLAC Mammoth Lakes 72.67 55 ⇑P **P** 09 35 57.3 +0.9
baz=72
A22A Carney Farms, 72.70 40 ⇑P **P** 09 35 56.1 0.0
baz=72,SNR=178
H16A Russell Place, 72.74 46 ⇓P **P** 09 35 57.2 +0.6
baz=72,SNR=44
FOO Floro 72.75 340 *e*P **P** 09 35 54.7 -1.3
F18A Big Timber 72.79 44 ⇑P **P** 09 35 57.4 +0.7
baz=73,SNR=117
D20A Manuel Ranch, 72.85 42 ⇓P **P** 09 35 57.6 +0.6
baz=73,SNR=114
MACK Trabzon 72.88 309 *i* P **P** 09 35 57.9 +0.6
GCMT Greycliff 72.89 44 *e*P **P** 09 35 58.1 +0.7
comp=Z,121nm,1.0s
C21A Desert Coulee 72.89 41 ⇑P **P** 09 35 57.4 +0.2
baz=73,SNR=47
J15A Blackfoot 72.91 47 ⇑P **P** 09 35 58.7 +1.2
baz=73,SNR=38
YMR Madison River 72.91 46 *e*P **P** 09 35 58.2 +0.5
comp=Z,77nm,0.9s
E19A Rath Farm, Rou 72.92 43 ⇑P **P** 09 35 58.1 +0.6
baz=73,SNR=93
BBOO Buckleboo 72.93 186 *e*P **P** 09 35 58.0 +0.7
comp=Z,2µm,1.3s
ELK Elko 72.96 51 *e*P **P** 09 35 58.7 +0.7
PTRM Twissleman Ran 73.00 58 *e*P **P** 09 35 59.4 +1.3
MTUM Tungsten Hills 73.02 55 *e*P **P** 09 35 59.4 +1.1
KOPT Kop Dagi 73.02 308 *i* P **P** 09 36 00.0 +1.6
K14A Jones Ranch, D 73.03 48 ⇑P **P** 09 35 59.3 +1.0
baz=73,SNR=30
YNR Norris Junctio 73.04 45 *e*P **P** 09 35 60.0 +1.5
comp=Z,138nm,1.2s
KONO Kongsberg 73.09 337 *e*P **P** 09 35 57.7 -0.4
KONO *e*S **S** 09 45 20.4 -1.4
KONO AMS AMS 10 10 37.9
comp=Z,3µm,24.2s
KONO Kongsberg 73.09 337 *e*P **P** 09 35 58.0 -0.1
KONO pmax pmax
comp=Z,93nm,0.8s
KONO MLR MLR
comp=Z,4µm,20.0s
KONO Kongsberg 73.09 337 *e*P **P** 09 35 58.0 -0.1
comp=Z,93nm,0.8s
KONO LR LR
comp=Z,4µm,20.0s
YFT Old Faithful 73.12 46 *e*P **P** 09 36 00.8 +1.9
comp=Z,274nm,1.1s
B22A Reddig Ranch S 73.13 40 ⇓P **P** 09 35 58.5 -0.1
baz=73,SNR=15
I16A Newdale 73.14 47 ⇓P **P** 09 36 00.3 +1.4
baz=73,SNR=62
A23A Redstone 73.23 39 ⇓P **P** 09 35 59.2 0.0
baz=73,SNR=29
F19A Roth Farm, Mol 73.23 44 ⇑P **P** 09 35 59.8 +0.4
baz=73,SNR=108
E20A Meyer Farm, Mu 73.23 43 ⇓P **P** 09 35 59.9 +0.6
baz=73,SNR=52
G18A Lazy EL Ranch, 73.25 44 ⇑P **P** 09 35 59.5 0.0
baz=73,SNR=7.1
BNGL BINGOL 73.29 307 *i* P **P** 09 36 01.3 +1.4
LKWY Lake 73.29 45 *e*P **P** 09 36 01.9 +2.0
LKWY pmax pmax
comp=Z,228nm,1.2s
LKWY MLR MLR
comp=Z,1µm,19.0s
LKWY Lake 73.29 45 *e*P **P** 09 36 01.9 +2.0
comp=Z,228nm,1.2s
LKWY LR LR
comp=Z,1µm,19.0s
H17A Grant Village 73.30 46 ⇑P **P** 09 36 02.2 +2.2
baz=73,SNR=82
K15A Arbon 73.31 48 ⇓P **P** 09 36 01.1 +1.2
baz=73,SNR=25
L14A Malta 73.32 49 ⇓P **P** 09 36 01.0 +1.0
baz=73,SNR=31
TIN Tinemaha 73.41 55 ⇓P **P** 09 36 01.5 +0.9
baz=73
TPH Tonopah 73.41 54 PFAKE 09 36 10.0 +9.3
TPH LR LR
comp=Z,945nm,20.0s
FLWY Flagg Ranch 73.44 46 *e*P **P** 09 36 02.1 +1.3
comp=Z,121nm,1.0s
D21A La Casta Ranch 73.45 42 ⇑P **P** 09 36 00.9 +0.3
baz=73,SNR=59
J16A Bone 73.45 47 ⇓P **P** 09 36 01.9 +1.1
baz=73,SNR=38
DCID1 Drake Creek 73.48 47 *e*P **P** 09 36 02.3 +1.3
comp=Z,274nm,1.1s
B23A Brockton 73.51 40 ⇓P **P** 09 36 01.1 +0.2
baz=73,SNR=138
SIM Simferopol' 73.53 315*c i*P **P** 09 36 01.3 +0.3
SIM *e**PP **pP** 09 36 14.8 +0.7
SIM S **S** 09 45 30.0 +2.7
SIM *e**SS **sS** 09 45 53.0 +3.7
SIM *e*PS PnS 09 46 26.0 +22
SIM *e*SS **SS** 09 50 07.0 -2.8
SIM pmax pmax
comp=Z,430nm,1.5s
SIM MLR MLR
comp=Z,5µm,21.1s
RLMT Red Lodge 73.54 44 *e*P **P** 09 36 01.9 +0.5
comp=Z,93nm,1.0s
RLMT LR LR
comp=Z,1µm,22.0s
RLMT Red Lodge 73.54 44 ⇓P **P** 09 36 02.0 +0.7
baz=73,SNR=43
C22A Vida 73.56 41 ⇑P **P** 09 36 00.9 -0.2
baz=73,SNR=11
RRI2 Red Ridge 73.57 47 *e*P **P** 09 36 02.5 +0.9
comp=Z,290nm,1.3s
I17A Pilgrim Ck. 73.61 46 ⇓P **P** 09 36 03.5 +1.8
baz=73,SNR=72
VES Vestal, Richgr 73.61 57 ⇓P **P** 09 36 01.4 -0.2
baz=73,SNR=8.8
H18A Shoshone NF, C 73.62 45 ⇓P **P** 09 36 02.5 +0.7
baz=73,SNR=35
MOOW Moose Ponds 73.63 46 *e*P **P** 09 36 02.9 +1.1
comp=Z,111nm,1.1s
ASK Askoy 73.65 339 *e*P **P** 09 36 00.8 -0.5
ASK AMB AMB 09 36 03.3
comp=Z,580nm,2.0s
RUND Rundenannen 73.66 339 *e*P **P** 09 36 00.1 -1.3
A24A Westby 73.68 39 ⇓P **P** 09 36 01.8 0.0
baz=74,SNR=38
TPAW Teton Pass 73.68 47 *e*P **P** 09 36 04.4 +2.2
comp=Z,170nm,1.3s
KELT Kelkit 73.68 309 *i* P **P** 09 36 03.5 +1.3
F20A Billings 73.69 43 ⇑P **P** 09 36 02.2 +0.1
baz=74,SNR=30
BER Bergen 73.69 339 *e*P **P** 09 36 00.9 -0.7
BER *e*S **S** 09 45 31.3 +2.7
ODD1 Odda 73.73 338⇑ *i*P **P** 09 36 02.3 +0.3
ODD1 AMB AMB 09 36 04.5
comp=Z,254nm,1.3s
ODD1 *e*sP **sP** 09 36 16.8 -3.5
HVU Hansel Valley 73.75 49 *e*P **P** 09 36 03.5 +1.0
HVU pmax pmax
comp=Z,125nm,1.1s
HVU Hansel Valley 73.75 49 *e*P **P** 09 36 03.5 +1.0
comp=Z,126nm,1.1s
K16A Soda Springs 73.75 47 ⇓P **P** 09 36 03.8 +1.2
baz=74,SNR=54
E21A Keefer Ranch, 73.76 42 ⇓P **P** 09 36 02.9 +0.6
baz=74,SNR=18
GRSN GIRESUNGRSN 73.78 310 *i* P **P** 09 36 02.4 -0.1
LOHW Long Hollow 73.79 46 *e*P **P** 09 36 03.7 +0.9
comp=Z,65nm,1.0s
D22A Cohagen 73.81 41 ⇑P **P** 09 36 02.9 +0.3
baz=74,SNR=76
SNOW Snow King Moun 73.81 46 *e*P **P** 09 36 04.1 +1.1
comp=Z,192nm,1.3s
EGD Espegrend 73.82 339 *e*P **P** 09 36 01.9 -0.4
EGD AMB AMB 09 36 02.8
comp=Z,318nm,1.1s
REDW Red Top Meadow 73.82 47 *e*P **P** 09 36 03.8 +0.8
comp=Z,114nm,1.2s
L15A Malad City 73.83 48 ⇑P **P** 09 36 03.5 +0.5
baz=74,SNR=23
C23A Lambert 73.86 40 ⇑P **P** 09 36 03.1 +0.1
baz=74,SNR=54
BEST Besiri 73.87 306 *i* P **P** 09 36 04.9 +1.7
CWC Cottonwood Cre 73.88 56 ⇓P **P** 09 36 03.9 +0.4
baz=74,SNR=8.8
DGMT Dagmar 73.90 39 *e*P **P** 09 36 03.2 +0.1
comp=Z,146nm,0.8s
DGMT LR LR
comp=Z,2µm,22.0s
DGMT Dagmar 73.90 39 ⇓P **P** 09 36 03.1 +0.1
baz=74,SNR=44
J17A Brown Place, J 73.90 47 ⇑P **P** 09 36 04.5 +1.0
baz=74,SNR=28
GRAC Grapevine Rang 73.98 55 ⇓P **P** 09 36 04.8 +1.0
baz=74,SNR=40
H19A Powell 73.99 45 ⇓P **P** 09 36 04.6 +0.7
baz=74,SNR=34
G20A Bridger 74.04 44 ⇑P **P** 09 36 04.0 -0.2
baz=74,SNR=37
AHID Auburn Hatcher 74.06 47 *e*P **P** 09 36 04.7 +0.2
comp=Z,96nm,1.2s
AHID LR LR
comp=Z,1µm,20.0s
ISA Isabella 74.11 57 *e*P **P** 09 36 04.6 -0.1
ISA pmax pmax
comp=Z,81nm,1.1s
ISA Isabella 74.11 57 *e*P **P** 09 36 04.6 -0.1
comp=Z,81nm,1.1s
ISA Isabella 74.11 57 ⇑P **P** 09 36 04.2 -0.4
baz=74,SNR=14
M15A Larsen Ranch, 74.14 49 ⇓P **P** 09 36 05.4 +0.7
baz=74,SNR=35
I18A Diamond G Ranc 74.17 46 ⇓P **P** 09 36 06.0 +1.0
baz=74,SNR=20
K17A Gardner Place, 74.18 47 ⇑P **P** 09 36 05.3 +0.2
baz=74
BLS5 Blasjo 74.19 338 *e*P **P** 09 36 05.0 +0.4
BLS5 AMB AMB 09 36 07.0
comp=Z,135nm,1.1s
BLS5 *e*pP **PcP** 09 36 20.1 +0.7
F21A Absaloka Mine, 74.21 43 ⇓P **P** 09 36 05.2 +0.1
baz=74
ARVC Arvin 74.21 57 ⇑P **P** 09 36 05.2 +0.1
baz=74,SNR=6.5
R11A Troy Canyon, C 74.25 53 ⇑P **P** 09 36 06.1 +0.6
baz=74,SNR=29
D23A Lindsay 74.28 41 ⇑P **P** 09 36 05.9 +0.5
baz=74,SNR=87
L16A Fish Haven 74.36 48 ⇑P **P** 09 36 06.9 +0.7
baz=74,SNR=7.9
J18A Kendall Valley 74.38 46 ⇑P **P** 09 36 06.8 +0.5
baz=74,SNR=48
I19A Meeteetse 74.40 45 ⇓P **P** 09 36 07.1 +0.7
baz=74,SNR=36
E22A Miles City 74.40 42 ⇓P **P** 09 36 06.3 +0.1
baz=74,SNR=52
C24A Savage 74.43 40 ⇑P **P** 09 36 06.5 +0.2
baz=74,SNR=37
N15A Stansbury Isla 74.46 49 ⇓P **P** 09 36 07.4 +0.7
baz=74,SNR=6.4
MPMC Manual Prospec 74.49 56 ⇑P **P** 09 36 07.4 +0.4
baz=74,SNR=34
MARD Mardin 74.54 306 *i* P **P** 09 36 08.3 +1.1
BORG Borgarnes 74.55 353 *e*P **P** 09 36 07.9 +1.3
comp=Z,263nm,1.0s
BORG Borgarnes 74.55 353 P **P** 09 36 08.0 +1.5
comp=Z,1µm,0.9s,SNR=9.9
HWUT Hardware Ranch 74.55 48 *e*P **P** 09 36 07.8 +0.5
comp=Z,232nm,1.4s
HWUT LR LR
comp=Z,737nm,19.0s
DIYA Diyarbakir 74.56 307 *i* P **P** 09 36 08.5 +1.3
G21A Lodge Grass 74.57 43 ⇓P **P** 09 36 07.2 0.0
baz=74,SNR=41
L17A Cokeville 74.62 48 ⇓P **P** 09 36 08.1 +0.4
baz=74,SNR=20
FURC Furnace Creek, 74.63 55 ⇑P **P** 09 36 08.3 +0.7
baz=74,SNR=50
H20A Greybull 74.64 44 ⇓P **P** 09 36 07.6 0.0
baz=74,SNR=52
E23A Ismay 74.69 41 ⇑P **P** 09 36 08.3 +0.5
baz=74,SNR=71
F22A Rosebud 74.69 42 ⇑P **P** 09 36 08.0 +0.2
baz=74,SNR=28
KEMA Kemaliye 74.70 309 *i* P **P** 09 36 09.5 +1.4
M16A Huntsville 74.70 49 ⇑P **P** 09 36 08.5 +0.4
baz=74
LRMC Laurel Mountai 74.73 56 ⇓P **P** 09 36 08.6 +0.3
baz=75,SNR=14

DUG	**Dugway**	**74.74**	**50**	*eP*	**P**	**09 36 09.1 +0.8**
DUG				pmax	pmax	
	comp=Z,144nm,1.0s					
DUG				MLR	MLR	
	comp=Z,1μm,21.0s					
DUG	**Dugway**	**74.74**	**50**	*eP*	**P**	**09 36 09.1 +0.8**
	comp=Z,144nm,1.0s					
DUG				LR	LR	
	comp=Z,1μm,21.0s					
DUG	**Dugway**	**74.74**	**50**	⇓P	**P**	**09 36 09.0 +0.8**
	baz=74,SNR=46					
K18A	**Toltan Ranch,**	**74.74**	**47**	⇓P	**P**	**09 36 09.1 +0.7**
	baz=74,SNR=22					
BHD	**Baghdad**	**74.75**	**301**	*ex*	**P**	**09 36 06.8 -1.5**
BHD				*ex*	**S**	**09 45 37.5 -3.9**
D24A	**Glendive**	**74.76**	**41**	⇓P	**P**	**09 36 08.6 +0.4**
	baz=74,SNR=42					
UMR	**Umm Al-Rimmam**	**74.78**	**296**	*eP*	**P**	**09 36 08.0 -0.5**
UMR				AMb	AMB	09 36 09.5
	comp=Z,527nm,1.3s					
STAV	**Stavanger**	**74.81**	**338**	*eP*	**P**	**09 36 07.2 -1.0**
ERBA	**Erbaa**	**74.82**	**311**	*i* P	**P**	**09 36 09.8 +1.2**
SNART	**Snartemo**	**74.87**	**337**	⇑*i*P	**P**	**09 36 08.9 +0.3**
SNART				AMB	AMB	09 36 10.9
	comp=Z,249nm,1.0s					
J19A	**Crowheart**	**74.88**	**46**	⇓P	**P**	**09 36 09.8 +0.7**
	baz=75,SNR=84					
O15A	**The Old Anders**	**74.88**	**50**	⇑P	**P**	**09 36 10.1 +0.9**
	baz=75,SNR=11					
MIB	**Mutribah**	**74.89**	**296**	*eP*	**P**	**09 36 08.3 -0.8**
MIB				AMb	AMB	09 36 10.1
	comp=Z,817nm,0.9s					
ELZG	**Elazig**	**74.89**	**308**	*i* P	**P**	**09 36 10.8 +1.5**
KIS	**Kishinev**	**74.90**	**319**α	*i*P	**P**	**09 36 08.0 -0.9**
KIS				*i*		09 36 24.0
KIS				*e*		09 38 56.0
KIS				*e*PPP	PPP	09 40 42.0
KIS				*e*S	**S**	**09 45 40.0 -2.6**
KIS				*e*PS	PnS	09 46 04.0 -18
KIS				pmax	pmax	
	comp=Z,800nm,1.5s					
KIS				pmax	pmax	
	comp=Z,1μm,16.0s					
KIS				MLR	MLR	
	comp=Z,4μm,16.0s					
KIS				MLR	MLR	
	comp=N,3μm,15.0s					
KIS				MLR	MLR	
	comp=E,2μm,16.0s					
KIS				MLR	MLR	
	comp=Z,5μm,18.0s					
KIS	**Kishinev**	**74.90**	**319**⇑	*i*P	**P**	**09 36 08.0 -0.9**
	comp=Z,800nm,1.5s					
KIS	**Kishinev**	**74.90**	**319**	*e*PP	PP	09 38 56.0 -0.3
KIS	**Kishinev**	**74.90**	**319**	*e*PS		09 46 04.0
KIS				LRM	MLR	10 12 00.0
	comp=Z,5μm,18.0s					
PD01	**Pinedale Array**	**74.91**	**46**	*eP*	**P**	**09 36 09.0 -0.3**
EDW2	**Edwards Air Fo**	**74.91**	**57**	⇑P	**P**	**09 36 09.8 +0.5**
	baz=75,SNR=34					
PD02	**Pinedale Array**	**74.91**	**46**	*eP*	**P**	**09 36 09.2 -0.2**
BW06	**Boulder Array**	**74.92**	**46**	*eP*	**P**	**09 36 09.4 -0.1**
	comp=Z,12μm,0.8s					
BW06				LR	LR	
	comp=Z,1μm,20.0s					
BW06	**Boulder Array**	**74.92**	**46**	⇑P	**P**	**09 36 09.6 +0.1**
	baz=75,SNR=38					
I20A	**Worland**	**74.92**	**45**	⇑P	**P**	**09 36 10.0 +0.7**
	baz=75,SNR=90					
PDAR	**Pinedale Array**	**74.92**	**46**	P	**P**	**09 36 09.4 -0.1**
PDAR				pP	**PcP**	**09 36 23.4 +0.3**
PDAR				P'P'		10 03 34.5
PDAR	**Pinedale Array**	**74.92**	**46**	P	**P**	**09 36 09.4 -0.1**
	comp=Z,15nm,0.7s,baz=262,slow=2.0,SNR=137					
PDAR				pP	**PcP**	**09 36 23.4 +0.3**
	comp=Z,69nm,1.1s,baz=2.4,slow=0.9,SNR=17					
PDAR				PKPPKP	P'P'df	10 03 34.5 -5.3
	comp=Z,0.8nm,1.0s,baz=98,slow=3.3,SNR=3.7					
BSD	**Bornholm Skovb**	**74.94**	**332**⇑	*i*P	**P**	**09 36 08.6 -0.4**
BSD				*i* *PP	**pP**	**09 36 21.4 -0.7**
BSD				pmax	pmax	
	comp=Z,180nm,1.0s					
BSD				MLR	MLR	
	comp=Z,4μm,18.0s					
BSD	**Bornholm Skovb**	**74.94**	**332**⇑	*i*P	**P**	**09 36 08.6 -0.4**
	comp=Z,180nm,1.0s					
BSD				*i* pP	**pP**	**09 36 21.4 -0.7**
BSD						
	comp=Z,4μm,18.0s					
KLBR	**Kellerberrin**	**75.02**	**202**	*e*PKP	**P**	**09 36 09.1 -0.5**
	comp=Z,76nm,0.9s					
G22A	**Birney**	**75.05**	**43**	⇑P	**P**	**09 36 10.0 +0.1**
	baz=75,SNR=18					
H21A	**Big Horn, Sher**	**75.05**	**44**	⇓P	**P**	**09 36 10.4 +0.4**
	baz=75,SNR=59					
DECC	**Green Verdugo**	**75.08**	**58**	⇓P	**P**	**09 36 10.6 +0.4**
	baz=75,SNR=12					
N16A	**Rees Ranch, Co**	**75.09**	**49**	⇓P	**P**	**09 36 11.1 +0.6**
	baz=75,SNR=14					
BEL	**Belsk**	**75.13**	**327**	*eP*	**P**	**09 36 11.1 +1.0**
	comp=Z,2μm,1.5s					
BEL				*e*pP	**PcP**	**09 36 23.8 +0.2**
BEL				LMZ	LR	10 11 15.4
	comp=Z,5μm,22.4s					
BEL	**Belsk**	**75.13**	**327**	*eP*	**P**	**09 36 11.1 +1.0**
	comp=Z,2μm,1.5s					
BEL				*e*pP	**PcP**	**09 36 23.8 +0.2**
BEL				LMZ	LR	10 11 15.4
	comp=Z,5μm,22.4s					
BEL	**Belsk**	**75.13**	**327**⇑	*eP*	**P**	**09 36 11.1 +1.0**
BEL				*e**PP	**PcP**	**09 36 23.8 +0.2**
BEL				pmax	pmax	
	comp=Z,2μm,1.5s					
BEL				MLR	MLR	
	comp=Z,5μm,22.4s					
QRN	**Al-Qurain**	**75.14**	**295**	*eP*	**P**	**09 36 10.2 -0.3**
QRN				AMb	AMB	09 36 11.7
	comp=Z,817nm,1.0s					
E24A	**Baker**	**75.15**	**41**	⇑P	**P**	**09 36 10.4 0.0**
	baz=75,SNR=28					
M17A	**Scullys Gap (B**	**75.15**	**48**	⇑P	**P**	**09 36 10.9 +0.1**
	baz=75,SNR=20					
F23A	**Volborg**	**75.17**	**42**	⇑P	**P**	**09 36 10.7 +0.2**
	baz=75,SNR=126					
LVV	**L'vov**	**75.19**	**324***d*	*i*P	**P**	**09 36 10.9 +0.3**
LVV				*e*		09 36 21.7
LVV				*e*		09 38 57.5
LVV				*e*PPP	PPP	09 40 42.5
LVV				*e*S	**S**	**09 45 46.5 +0.7**
LVV				*e*PS	**PnS**	**09 46 19.1 -6.4**
LVV				pmax	pmax	
	comp=Z,1μm,1.4s					
LVV				MLR	MLR	
	comp=E,3μm,15.0s					
LVV				MLR	MLR	
	comp=N,2μm,16.0s					
LVV				MLR	MLR	
	comp=Z,4μm,16.0s					
L18A	**Fontenelle, Gr**	**75.21**	**47**	⇑P	**P**	**09 36 11.6 +0.4**
	baz=75,SNR=44					
PASC	**Pasadena Art C**	**75.22**	**58**	*eP*	**P**	**09 36 11.0 -0.1**
	comp=Z,118nm,1.1s					
JLU	**Jordanelle**	**75.27**	**49**	*eP*	**P**	**09 36 12.1 +0.6**
	comp=Z,136nm,1.3s					
MWC	**Mount Wilson**	**75.27**	**58**	*eP*	**P**	**09 36 12.2 +0.6**
MWC				pmax	pmax	
	comp=Z,195nm,1.1s					
MWC	**Mount Wilson**	**75.27**	**58**	*eP*	**P**	**09 36 12.2 +0.6**
	comp=Z,195nm,1.1s					
K19A	**Absolon Red Bu**	**75.28**	**46**	⇑P	**P**	**09 36 10.9 -0.5**
	baz=75,SNR=30					
NAY	**Al-Naaiem**	**75.29**	**296**	*eP*	**P**	**09 36 10.8 -0.8**
NAY				AMb	AMB	09 36 12.4
	comp=Z,358nm,1.3s					
R13A	**O'Grain Ranch,**	**75.34**	**52**	⇑P	**P**	**09 36 12.7 +0.8**
	baz=75,SNR=19					
J20A	**Shoshoni**	**75.35**	**45**	⇓P	**P**	**09 36 12.2 +0.4**
	baz=75,SNR=42					
SHOC	**Shoshone**	**75.36**	**55**	⇓P	**P**	**09 36 12.3 +0.5**
	baz=75,SNR=18					
COP	**Copenhagen**	**75.36**	**333**⇑	*i*P	**P**	**09 36 11.9 +0.5**
COP				*i* *PP	**pP**	**09 36 24.4 -0.2**
COP				*e*		09 39 00.8
COP				pmax	pmax	
	comp=Z,180nm,0.9s					
COP				MLR	MLR	
	comp=Z,3μm,20.0s					
COP	**Copenhagen**	**75.36**	**333**⇑	*i*P	**P**	**09 36 11.9 +0.5**
	comp=Z,184nm,0.9s					
COP				*i* pP	**pP**	**09 36 24.4 -0.2**
COP				*e*		09 39 00.8
COP						
	comp=Z,3μm,20.0s					
IAS	**Iasi**	**75.39**	**320**	P	**P**	**09 36 12.2 +0.5**
GSC	**Goldstone**	**75.40**	**56**	*eP*	**P**	**09 36 12.5 +0.4**
GSC				pmax	pmax	
	comp=Z,102nm,1.1s					
GSC	**Goldstone**	**75.40**	**56**	*eP*	**P**	**09 36 12.5 +0.4**
	comp=Z,102nm,1.1s					
GSC	**Goldstone**	**75.40**	**56**	⇓P	**P**	**09 36 12.5 +0.4**
	baz=75,SNR=24					
N17A	**Moffit Pass**	**75.40**	**49**	⇑P	**P**	**09 36 12.7 +0.4**
	baz=75,SNR=54					
H22A	**Clearmont**	**75.44**	**43**	⇑P	**P**	**09 36 12.3 +0.1**
	baz=75,SNR=9.6					
P15A	**Leamington**	**75.45**	**50**	⇑P	**P**	**09 36 13.0 +0.6**
	baz=75,SNR=25					
CAN	**Canberra**	**75.46**	**174**	PFAKE		09 36 20.0 +7.9
CAN				LR	LR	
	comp=Z,1μm,21.0s					
I21A	**Big Trails, Te**	**75.47**	**45**	⇑P	**P**	**09 36 12.7 +0.3**
	baz=75,SNR=158					
L19A	**Farson**	**75.47**	**47**	⇑P	**P**	**09 36 12.8 +0.1**
	baz=75,SNR=16					
CNB	**Canberra Magne**	**75.48**	**174**	*e*PKP	pP	09 36 26.6 +1.2
	comp=Z,74nm,1.1s					
GKP	**Gorka Klasztor**	**75.49**	**329**	*eP*	**P**	**09 36 12.5 +0.4**
	comp=Z,800nm,1.6s					
GKP				*e*pP	**pP**	**09 36 25.4 0.0**
GKP				LMZ	LR	10 12 05.2
	comp=Z,4μm,19.0s					
GKP	**Gorka Klasztor**	**75.49**	**329**	*eP*	**P**	**09 36 12.5 +0.4**
	comp=Z,800nm,1.6s					
GKP				*e*pP	**pP**	**09 36 25.4 0.0**
GKP				LMZ	LR	10 12 05.2
	comp=Z,4μm,19.0s					
GKP	**Gorka Klasztor**	**75.49**	**329**⇑	*eP*	**P**	**09 36 12.5 +0.4**
GKP				*e**PP	**pP**	**09 36 25.4 0.0**
GKP				pmax	pmax	
	comp=Z,800nm,1.6s					
GKP				MLR	MLR	
	comp=Z,4μm,19.0s					
O16A	**Springville**	**75.49**	**49**	⇓P	**P**	**09 36 13.3 +0.6**
	baz=75					
DAU	**Daniels Canyon**	**75.50**	**49**	*eP*	**P**	**09 36 13.8 +0.9**
DAU	**Daniels Canyon**	**75.50**	**49**	*eP*	**P**	**09 36 13.8 +0.9**
M18A	**Lyman**	**75.52**	**48**	⇓P	**P**	**09 36 13.1 +0.2**
	baz=75,SNR=14					
BFSC	**Mount Baldy Ra**	**75.52**	**57**	⇑P	**P**	**09 36 13.0 +0.1**
	baz=75,SNR=20					
G23A	**Biddle**	**75.53**	**42**	⇓P	**P**	**09 36 12.7 0.0**
	baz=75,SNR=40					
RRX	**Edison Barstow**	**75.54**	**57**	⇑P	**P**	**09 36 13.5 +0.7**
	baz=75					
MPU	**Maple Canyon**	**75.54**	**50**	*eP*	**P**	**09 36 13.7 +0.7**
	comp=Z,154nm,1.1s					
LEOM	**Leova**	**75.55**	**319**	⇑P	**P**	**09 36 13.2 +0.6**
LEOM	**Leova**	**75.55**	**319**⇑	*i*P	**P**	**09 36 13.2 +0.6**
CIS	**Catalina Islan**	**75.56**	**58**	⇑P	**P**	**09 36 13.2 +0.2**
	baz=75,SNR=9.1					
F24A	**Ekalaka**	**75.57**	**42**	⇓P	**P**	**09 36 13.0 +0.1**
	baz=75,SNR=48					
AKCD	**Akcadag**	**75.66**	**308**	*i* P	**P**	**09 36 15.4 +1.8**
K20A	**Yellowstone Ra**	**75.67**	**46**	⇑P	**P**	**09 36 13.2 -0.5**
	baz=76,SNR=23					
J21A	**Lysite**	**75.70**	**45**	⇑P	**P**	**09 36 13.9 +0.1**
	baz=76,SNR=44					
LLD	**Lille Linde**	**75.72**	**333**	*i* P	**P**	**09 36 11.5 -1.9**
LLD				*i* *PP	**pP**	**09 36 27.9 +1.3**
LLD				pmax	pmax	
	comp=Z,18nm,0.8s					
LLD	**Lille Linde**	**75.72**	**333**	*i* P	**P**	**09 36 11.5 -1.9**
	comp=Z,18nm,0.8s					
LLD				*i* pP	**pP**	**09 36 27.9 +1.3**
P16A	**Fountain Green**	**75.79**	**50**	⇓P	**P**	**09 36 15.2 +0.8**
	baz=76,SNR=10					
MUD	**Monsted U'grnd**	**75.82**	**335**⇑	*i*P	**P**	**09 36 14.5 +0.5**
MUD				pmax	pmax	
	comp=Z,120nm,0.9s					
MUD				MLR	MLR	
	comp=Z,3μm,20.0s					
MUD	**Monsted U'grnd**	**75.82**	**335**⇑	*i*P	**P**	**09 36 14.5 +0.5**
	comp=Z,121nm,0.9s					
MUD						
	comp=Z,3μm,20.0s					
I22A	**9 Mile Ranch,**	**75.84**	**44**	⇓P	**P**	**09 36 14.8 +0.2**
	baz=76,SNR=52					
TUQ	**Turquoise Moun**	**75.87**	**56**	⇑P	**P**	**09 36 15.5 +0.6**
	baz=76,SNR=53					
ARUT	**Antelope Range**	**75.91**	**52**	*eP*	**P**	**09 36 15.5 +0.4**
ARUT				pmax	pmax	
	comp=Z,164nm,1.2s					
ARUT	**Antelope Range**	**75.91**	**52**	*eP*	**P**	**09 36 15.5 +0.4**
	comp=Z,164nm,1.2s					
KWP	**Kalwaria Pacla**	**75.92**	**324**	*eP*	**P**	**09 36 15.7 +0.9**
	comp=Z,2μm,1.9s					
KWP				*e*S	S	09 46 00.1 +6.2
KWP				*e*SKSac	**SKSac**	**09 46 20.3 -1.2**
KWP				LMZ	LR	10 12 42.8
	comp=Z,7μm,16.1s					
KWP	**Kalwaria Pacla**	**75.92**	**324**	*eP*	**P**	**09 36 15.7 +0.9**
	comp=Z,2μm,1.9s					
KWP				*e*S	S	09 46 00.1 +6.2
KWP				*e*SKSac	**SKSac**	**09 46 20.3 -1.2**
KWP				LMZ	LR	10 12 42.8
	comp=Z,7μm,16.1s					
KWP	**Kalwaria Pacla**	**75.92**	**324**⇑	*eP*	**P**	**09 36 15.7 +0.9**
KWP				*e*S	S	09 46 00.1 +6.2
KWP				*e*		09 46 20.3
KWP				pmax	pmax	
	comp=Z,2μm,1.9s					
KWP				MLR	MLR	
	comp=Z,7μm,16.1s					
KWP	**Kalwaria Pacla**	**75.92**	**324**	PFAKE		09 36 30.0 +15
KWP				LR	LR	
	comp=Z,3μm,20.0s					
G24A	**Alzada**	**75.94**	**42**	⇓P	**P**	**09 36 14.7 -0.4**
	baz=76,SNR=26					
O17A	**Robinson Place**	**75.94**	**49**	⇓P	**P**	**09 36 16.1 +0.8**
	baz=76,SNR=23					
RGN	**Rugen**	**75.96**	**332**	*eP*	**P**	**09 36 15.4 +0.6**
	comp=Z,404nm,1.0s					
RGN				*e*pP	**pP**	**09 36 28.2 +0.2**
H23A	**Clabaugh Cattl**	**75.96**	**43**	⇓P	**P**	**09 36 15.1 -0.1**
	baz=76					
ATAB	**Bozova**	**75.97**	**307**	*i* P	**P**	**09 36 17.0 +1.7**
M19A	**Rock Springs**	**75.98**	**47**	⇑P	**P**	**09 36 15.5 -0.1**
	baz=76,SNR=12					
CTKT	**Corum**	**75.99**	**312**	*i* P	**P**	**09 36 16.5 +1.0**
HEC	**Hector,Ludlow**	**76.00**	**56**	⇑P	**P**	**09 36 16.0 +0.4**
	baz=76,SNR=26					
N18A	**Larsen Ranch,**	**76.04**	**48**	⇓P	**P**	**09 36 15.8 0.0**
	baz=76					
L20A	**Wamsutter**	**76.10**	**46**	⇓P	**P**	**09 36 16.5 +0.3**
	baz=76,SNR=22					
CCUT	**Cedar City**	**76.11**	**52**	*eP*	**P**	**09 36 17.2 +0.9**
	comp=Z,139nm,1.2s					
TLCR		**76.15**	**318**	⇑P	**P**	**09 36 16.7 +0.6**
TLCR		**76.15**	**318**⇑	*i*P	**P**	**09 36 16.6 +0.5**
J22A	**Midwest**	**76.17**	**44**	⇓P	**P**	**09 36 16.6 +0.1**
	baz=76,SNR=93					
BALT	**Daday**	**76.18**	**313**	*i* P	**P**	**09 36 17.7 +1.1**
MVU	**Marysvale**	**76.18**	**51**	*eP*	**P**	**09 36 17.7 +1.0**
	comp=Z,78nm,1.1s					
MVU				LR	LR	
	comp=Z,872nm,20.0s					
MSU	**Marysvale**	**76.20**	**51**	*eP*	**P**	**09 36 17.9 +1.1**
MSU	**Marysvale**	**76.20**	**51**	*eP*	**P**	**09 36 17.9 +1.1**
BUR08	**Bucovina Ar. S**	**76.21**	**322**	*eP*	**P**	**09 36 17.0 +0.5**
MURC	**Murrieta**	**76.22**	**58**	⇓P	**P**	**09 36 16.9 +0.2**
	baz=76,SNR=12					
BURAR	**Bucovina Array**	**76.22**	**322**	P	**P**	**09 36 17.5 +0.9**
BURAR	**Bucovina Array**	**76.22**	**322**⇑	*i*P	**P**	**09 36 17.5 +0.9**
GHRR		**76.25**	**319**⇑	*i*P	**P**	**09 36 18.1 +1.4**
TMUT	**Trail Mountain**	**76.26**	**50**	*eP*	**P**	**09 36 18.2 +1.0**
	comp=Z,131nm,1.3s					
H24A	**Dirks Ranch, A**	**76.27**	**42**	⇓P	**P**	**09 36 16.6 -0.4**
	baz=76,SNR=44					
K21A	**Alcova**	**76.28**	**45**	⇑P	**P**	**09 36 17.2 +0.1**
	baz=76,SNR=53					
TESR		**76.31**	**320**⇑	*i*P	**P**	**09 36 17.6 +0.6**
O18A	**Roosevelt**	**76.32**	**49**	⇓P	**P**	**09 36 18.4 +1.0**
	baz=76,SNR=34					
PINB	**Pinarbasi**	**76.32**	**309**	*i* P	**P**	**09 36 18.8 +1.2**
R15A	**Junction**	**76.33**	**51**	⇓P	**P**	**09 36 18.8 +1.2**
	baz=76,SNR=30					
N19A	**John Jarvie Ra**	**76.38**	**48**	⇑P	**P**	**09 36 17.7 -0.1**
	baz=76,SNR=15					
P17A	**Butcher Ranch,**	**76.42**	**50**	⇑P	**P**	**09 36 18.7 +0.7**
	baz=76,SNR=34					
NWAO	**Narrogin (SRO)**	**76.42**	**202**	*eP*	**P**	**09 36 17.4 -0.2**
	comp=Z,191nm,1.5s					
NWAO				LR	LR	
	comp=Z,643nm,20.0s					
ULM	**Lac du Bonnet**	**76.44**	**34**	P	**P**	**09 36 16.9 -0.8**
ULM				pP	**pP**	**09 36 31.6 +0.7**
ULM	**Lac du Bonnet**	**76.44**	**34**	P	**P**	**09 36 16.9 -0.8**
	comp=Z,50nm,0.8s,baz=318,slow=6.7,SNR=92					
ULM				pP	**pP**	**09 36 31.6 +0.7**
	comp=Z,97nm,1.0s,baz=314,slow=6.6,SNR=18					
GMRC	**Granite Mounta**	**76.46**	**56**	⇓P	**P**	**09 36 18.7 +0.5**
	baz=76,SNR=50					
CFR	**Carcaliu**	**76.50**	**318**	⇑P	**P**	**09 36 18.5 +0.4**
CFR	**Carcaliu**	**76.50**	**318**⇑	*i*P	**P**	**09 36 18.5 +0.4**
MDND	**Maddock**	**76.52**	**38**	⇓P	**P**	**09 36 18.3 +0.1**
	baz=76,SNR=72					
Q16A	**Castle Valley**	**76.53**	**50**	⇑P	**P**	**09 36 19.4 +0.8**
	baz=76,SNR=18					
M20A	**Sweetwater, Wa**	**76.53**	**47**	⇑P	**P**	**09 36 19.3 +0.6**
	baz=76,SNR=25					
PETR		**76.58**	**319**⇑	*i*P	**P**	**09 36 20.3 +1.8**
P18A	**Preston Nutter**	**76.60**	**49**	⇑P	**P**	**09 36 19.7 +0.5**
	baz=76,SNR=28					
LDFC	**Landfair**	**76.61**	**55**	*eP*	**P**	**09 36 19.4 +0.3**
	comp=Z,212nm,1.0s					
KOLS	**Kolonicke sedl**	**76.63**	**324**	*eP*	**P**	**09 36 19.4 +0.6**
KOLS				pmax	pmax	
	comp=Z,134nm,1.2s					
KOLS	**Kolonicke sedl**	**76.63**	**324**	*eP*	**P**	**09 36 19.4 +0.6**
KOLS				*e*PP	**PP**	**09 39 10.0 -0.8**
KOLS				*e*S	**SKSac**	**09 46 21.1 -5.7**
KOLS				*e*SS	SS	09 51 52.0 +56
KOLS				*e*		10 18 57.1
K22A	**Casper**	**76.67**	**45**	⇓P	**P**	**09 36 19.3 0.0**
	baz=76,SNR=31					
L21A	**Rawlins**	**76.67**	**46**	⇑P	**P**	**09 36 19.5 +0.1**
	baz=76,SNR=40					
J23A	**Dilts Ranch, B**	**76.67**	**44**	⇓P	**P**	**09 36 19.0 -0.4**
	baz=76,SNR=7.7					
PFO	**Pinyon Flat Ob**	**76.69**	**57**	*eP*	**P**	**09 36 19.5 -0.1**
	comp=Z,164nm,1.3s					
PFO				LR	LR	
	comp=Z,2μm,22.0s					
PFO	**Pinyon Flat Ob**	**76.69**	**57**	P	**P**	**09 36 19.2 -0.4**
	comp=Z,140nm,0.8s,SNR=11					
PFO	**Pinyon Flat Ob**	**76.69**	**57**	⇑P	**P**	**09 36 19.6 +0.1**
	baz=76,SNR=19					
VRI	**Vrincioaia**	**76.73**	**320**	⇑P	**P**	**09 36 20.3 +0.9**
VRI	**Vrincioaia**	**76.73**	**320**⇑	*i*P	**P**	**09 36 20.3 +0.9**
109C	**Camp Elliot, M**	**76.73**	**58**	⇑P	**P**	**09 36 20.1 +0.5**
	baz=77					
BELC	**Belle Mtn. Jos**	**76.74**	**57**	⇓P	**P**	**09 36 19.8 0.0**
	baz=77,SNR=28					
OJC	**Ojcow**	**76.75**	**326**	*i* P	**P**	**09 36 20.0 +0.6**
OJC				*e*PcP	**pP**	**09 36 32.0 -0.7**
OJC				*e*PP	**PP**	**09 39 11.0 -0.8**
OJC				*e*S	**S**	**09 46 02.1 -1.0**
OJC				*e*SKSac	**SKKSac**	**09 46 28.1 -0.1**
OJC				L	L	10 12 45.0
	comp=Z,6μm,19.4s					
OJC	**Ojcow**	**76.75**	**326**	*eP*	**P**	**09 36 19.3 -0.2**
OJC	**Ojcow**	**76.75**	**326**⇑	*i*P	**P**	**09 36 20.2 +0.7**
OJC				*e*		09 36 32.1
OJC				*e*		09 39 11.4
OJC				*e*S	**S**	**09 46 02.7 -0.3**
OJC				*e*		09 46 28.9
OJC				MLR	MLR	
	comp=Z,6μm,19.4s					
OJC	**Ojcow**	**76.75**	**326**	*eP*	**P**	**09 36 19.3 -0.2**
R16A	**Teasdale**	**76.76**	**51**	⇓P	**P**	**09 36 21.3 +1.3**
	baz=77,SNR=50					
PLOR	**Plostina**	**76.78**	**320**	⇑P	**P**	**09 36 20.5 +0.8**
PLOR	**Plostina**	**76.78**	**320**⇑	*i*P	**P**	**09 36 20.5 +0.8**
SRU	**San Rafael**	**76.78**	**50**	*eP*	**P**	**09 36 20.5 +0.4**
SRU				pmax	pmax	
	comp=Z,165nm,1.0s					
SRU	**San Rafael**	**76.78**	**50**	*eP*	**P**	**09 36 20.4 +0.4**
	comp=Z,165nm,1.0s					
SRU	**San Rafael**	**76.78**	**50**	⇓P	**P**	**09 36 20.5 +0.4**
	baz=77,SNR=20					
O19A	**Miners Draw (B**	**76.80**	**48**	⇓P	**P**	**09 36 20.1 0.0**
	baz=77,SNR=19					
UZH	**Uzhgorod**	**76.84**	**324**⇓	*i*P	**P**	**09 36 19.4 -0.5**
UZH				*e*		09 36 30.6
UZH				*e*		09 39 09.4
UZH				*e*		09 41 00.0
UZH				*e*S	**S**	**09 46 01.0 -2.9**
UZH				*e*		09 46 22.0
UZH				*e*		09 46 41.9
UZH				*e*		09 54 11.8
UZH				MLR	MLR	
	comp=N,3μm,16.0s					
UZH				MLR	MLR	
	comp=E,4μm,16.0s					
UZH				MLR	MLR	
	comp=Z,3μm,16.0s					
I24A	**Kuemmerle Ranc**	**76.85**	**43**	⇑P	**P**	**09 36 19.7 -0.6**
	baz=77,SNR=17					
ELDT	**Eldivan**	**76.85**	**312**	*i* P	**P**	**09 36 21.5 +1.1**
TIRR	**Tirgusor**	**76.86**	**318**	⇑P	**P**	**09 36 20.6 +0.5**
TIRR	**Tirgusor**	**76.86**	**318**	*eP*	**P**	**09 36 20.4 +0.2**
	comp=Z,122nm,0.9s					
TIRR	**Tirgusor**	**76.86**	**318**⇑	*i*P	**P**	**09 36 20.6 +0.5**
CDAG	**Cicekdag**	**76.89**	**311**	*i* P	**P**	**09 36 21.4 +0.8**
M21A	**Separation Pea**	**76.91**	**46**	⇓P	**P**	**09 36 20.8 -0.1**
	baz=77,SNR=26					
N20A	**Spence Gulch,**	**76.93**	**47**	⇑P	**P**	**09 36 21.4 +0.5**
	baz=77					
RWWY	**Rawlins**	**76.94**	**46**	*eP*	**P**	**09 36 20.9 -0.1**
	comp=Z,193nm,1.1s					
GRER		**76.95**	**319**⇓	*i*P	**P**	**09 36 22.0 +1.4**
RSSD	**Black Hills**	**76.97**	**43**	*eP*	**P**	**09 36 20.8 -0.3**
RSSD				pmax	pmax	
	comp=Z,64nm,0.8s					
RSSD	**Black Hills**	**76.97**	**43**	*eP*	**P**	**09 36 20.8 -0.3**
	comp=Z,64nm,0.8s					
EFOR	**EFORIE**	**77.01**	**317**⇑	*i*P	**P**	**09 36 22.0 +1.0**
CRVS	**Cervenica-Dubn**	**77.01**	**324**	*eP*	**P**	**09 36 21.6 +0.7**
CRVS				pmax	pmax	
	comp=Z,304nm,1.8s					
CRVS	**Cervenica-Dubn**	**77.01**	**324**	*eP*	**P**	**09 36 21.6 +0

comp=Z,52nm,0.9s,baz=72,slow=3.3,SNR=160
BRTR PP **PP** 09 39 15.9 -0.5
comp=Z,15nm,0.9s,baz=90,slow=7.4,SNR=4.2
BRTR PKKPbc **PKKPbc** 09 55 28.2 +1.3
comp=Z,1.1nm,0.8s,baz=212,slow=4.4,SNR=3.7
BRTR LR LR 10 17 08.1
comp=Z,1µm,18.9s,baz=43,slow=41
PGOR Pogoanele 77.27 319⇑*i*P **P** 09 36 24.6 +2.2
BC3 Big Chuckawall 77.31 57⇑P **P** 09 36 23.2 +0.2
baz=77,SNR=37
DOPR Dopca 77.31 320⇑*i*P **P** 09 36 25.7 +3.0
P19A Cripple Cowboy 77.33 49⇓P **P** 09 36 23.4 +0.3
baz=77,SNR=53
W13A Hualapai Mount 77.37 55⇑P **P** 09 36 23.9 +0.4
baz=77,SNR=26
MLR Muntele Rosu 77.38 320⇑*i*P **P** 09 36 23.8 +0.6
N21A Black Mountain 77.40 47⇑P **P** 09 36 23.9 +0.4
baz=77,SNR=34
O20A White River Ci 77.41 48⇓P **P** 09 36 23.7 +0.1
baz=77,SNR=20
RUE Ruedersdorf 77.42 331 *e*P **P** 09 36 23.6 +0.5
comp=Z,634nm,1.5s
RUE *e*pP **pP** 09 36 36.5 +0.2
RUE Ruedersdorf 77.42 331 *e*P **P** 09 36 23.7 +0.5
comp=Z,511nm,1.5s
M22A Cedar Creek Ra 77.47 46⇑P **P** 09 36 24.1 +0.1
baz=77,SNR=35
L23A Garrett 77.48 45⇑P **P** 09 36 23.5 -0.5
baz=77,SNR=26
U15A North Rim 77.49 53⇑P **P** 09 36 25.3 +1.1
baz=77,SNR=59
RBK Rabkut 77.49 282⇓P **P** 09 36 23.5 -0.6
SNR=63
BSEG Bad Segeberg 77.50 333 *e*P **P** 09 36 24.0 +0.5
comp=Z,524nm,1.1s
BSEG Bad Segeberg 77.50 333 *e*P **P** 09 36 24.0 +0.5
BSEG pmax pmax
comp=Z,524nm,1.1s
TOO Toolangi 77.51 177 *e*PKP **P** 09 36 24.0 +0.4
comp=Z,113nm,0.9s
DVTC Desert V Tower 77.53 58⇑P **P** 09 36 24.4 +0.2
baz=77,SNR=8.7
K24A Anderson Ranch 77.53 44⇓P **P** 09 36 23.3 -0.9
baz=77
RAC Raciborz 77.53 327 *e*P **P** 09 36 25.0 +1.2
RAC *e**PP **pP** 09 36 38.0 +1.0
RAC MLR MLR
comp=Z,6µm,19.0s
SWSC Sam W. Stewart 77.54 57⇑P **P** 09 36 24.1 0.0
baz=77,SNR=8.5
S17A Black Ridge (B 77.59 51⇓P **P** 09 36 24.9 +0.4
baz=77,SNR=57
Q19A Hogan Spring (77.62 49⇑P **P** 09 36 24.8 +0.2
baz=77,SNR=24
R18A Canyonlands Na 77.63 50⇑P **P** 09 36 24.7 -0.1
baz=77,SNR=35
SECR 77.64 319⇑*i*P **P** 09 36 26.0 +1.5
BBAL Bala 77.66 312 *i*P **P** 09 36 25.7 +0.8
MDB Medias 77.68 321 P **P** 09 36 26.3 +1.6
PDMCI Parker Dam,Lak 77.72 55⇓P **P** 09 36 25.5 +0.3
baz=78,SNR=19
KSP Ksiaz 77.73 328 *e*P **P** 09 36 25.6 +0.7
comp=Z,1µm,4.2s
KSP *e*pP **pP** 09 36 38.5 +0.4
KSP *e*S **S** 09 46 14.6 +1.1
KSP *e*SKSac **ScS** 09 46 40.3 +0.3
KSP LMZ LR 10 13 24.6
comp=Z,5µm,19.6s
KSP Ksiaz 77.73 328 *e*P **P** 09 36 25.6 +0.7
comp=Z,1µm,4.2s
KSP *e*pP **pP** 09 36 38.5 +0.4
KSP *e*S **S** 09 46 14.6 +1.1
KSP *e*SKSac **ScS** 09 46 40.3 +0.3
KSP LMZ LR 10 13 24.6
comp=Z,5µm,19.6s
KSP Ksiaz 77.73 328⇑*i*P **P** 09 36 25.5 +0.6
KSP *e**PP **pP** 09 36 38.1 0.0
KSP *e* 09 39 17.5
KSP *e*S **S** 09 46 11.0 -2.6
KSP *e* 09 46 31.0
KSP MLR MLR
comp=Z,9µm,19.6s
OKC Ostrava-Krasne 77.74 327⇑*i*P **P** 09 36 25.6 +0.6
OKC *e**PP **pP** 09 36 38.5 +0.3
OKC *e*S **SKSac** 09 46 38.6 +3.8
OKC MLR MLR
comp=Z,5µm,18.0s
OKC Ostrava-Krasne 77.74 327*i*P **P** 09 36 25.6 +0.6
OKC *e*pP **pP** 09 36 38.5 +0.3
OKC *e*SKS **SKSac** 09 46 38.6 +3.8
OKC AMS AMS 10 13 10.0
comp=Z,5µm,18.0s
P20A De Beque 77.76 48⇓P **P** 09 36 25.4 -0.1
baz=78,SNR=14
O21A Pagoda 77.80 47⇓P **P** 09 36 26.0 +0.2
baz=78,SNR=7.6
SULR 77.80 319⇑*i*P **P** 09 36 24.6 -0.8
COBT Iskenderun 77.82 308 *i*P **P** 09 36 27.3 +1.3
Y12C Blythe 77.84 56⇓P **P** 09 36 26.4 +0.6
baz=78,SNR=26
AGMN Agassiz Nation 77.90 35 *e*P **P** 09 36 24.6 -1.3
comp=Z,193nm,1.1s
AGMN LR LR
comp=Z,1µm,22.0s
M23A Laramie 77.91 45⇓P **P** 09 36 26.4 +0.1
baz=78,SNR=34
LIKS Likavka 77.93 326 *e*P **P** 09 36 27.7 +1.6
LIKS pmax pmax
comp=Z,192nm,1.1s
LIKS Likavka 77.93 326 *e*P **P** 09 36 27.7 +1.6
L24A Wheatland 77.94 45⇑P **P** 09 36 26.6 +0.1
baz=78
N22A Wattenberg Ran 77.96 46⇑P **P** 09 36 27.2 +0.5
baz=78,SNR=34
DRGR 78.00 322⇑P **P** 09 36 27.2 +0.6
DRGR 78.00 322⇑*i*P **P** 09 36 27.2 +0.6
T17A Navajo Res., N 78.01 52⇑P **P** 09 36 27.0 0.0
baz=78,SNR=17
S18A Hurst Farm, BI 78.03 51⇓P **P** 09 36 27.4 +0.2
baz=78,SNR=50
HENT Hendek 78.04 314 *i*P **P** 09 36 26.9 0.0
MORC Moravsky Berou 78.04 327⇑P **P** 09 36 27.6 +0.9
MORC Moravsky Berou 78.04 327 *e*P **P** 09 36 27.3 +0.6
comp=Z,271nm,1.1s
MORC Moravsky Berou 78.04 327⇑*i*P **P** 09 36 27.6 +0.9
R19A Curley Farm, L 78.06 50⇑P **P** 09 36 27.5 +0.3
baz=78,SNR=29
GLA Glamis 78.09 57 *e*P **P** 09 36 28.4 +1.1
GLA pmax pmax
comp=Z,177nm,1.0s
GLA Glamis 78.09 57 *e*P **P** 09 36 28.4 +1.1
comp=Z,177nm,1.0s
GLA Glamis 78.09 57⇑P **P** 09 36 27.9 +0.6
baz=78,SNR=8.7
DPC Dobruska-Polom 78.10 328⇑*i*P **P** 09 36 27.9 +0.9
DPC *e**PP **pP** 09 36 41.1 +0.8
DPC *e* 09 39 21.7
DPC *e*S **S** 09 46 17.6 -0.1
DPC *e* 09 46 41.4
DPC MLR MLR
comp=Z,4µm,19.0s
DPC Dobruska-Polom 78.10 328⇑*i*P **P** 09 36 27.9 +0.9
DPC *e*pP **pP** 09 36 41.1 +0.8
DPC *e*PP **PP** 09 39 21.7 -1.4
DPC *e*S **S** 09 46 17.6 -0.1
DPC *e*SKS **ScS** 09 46 41.4 -1.7
DPC AMS AMS 10 13 20.0
comp=Z,4µm,19.0s
UPC Upice 78.10 328⇑*i*P **P** 09 36 27.8 +0.8
UPC *e**PP **pP** 09 36 41.1 +0.9
UPC Upice 78.10 328⇑*i*P **P** 09 36 27.8 +0.8
UPC *e*pP **pP** 09 36 41.1 +0.9
K25A Mack Ranch, Ha 78.11 44⇑P **P** 09 36 27.2 -0.1
baz=78
PV10 Paradox Valley 78.14 50 *e*P **P** 09 36 28.6 +0.9
comp=Z,7µm,1.0s
PHWY Pilot Hill 78.17 45 *e*P **P** 09 36 27.9 0.0
comp=Z,109nm,1.3s
Q20A Ridgley Place, 78.18 49⇓P **P** 09 36 27.9 +0.1
baz=78,SNR=33
N23A Red Feather La 78.18 46⇑P **P** 09 36 28.5 +0.6
baz=78,SNR=34
PV04 Paradox Valley 78.20 49 *e*P **P** 09 36 27.5 -0.5
YAYL Yayladag 78.23 307 *i*P **P** 09 36 28.8 +0.7
MVH1 Achvaich 78.23 342⇑*e*P **P** 09 36 27.5 0.0
MVH1 Achvaich 78.23 342 P **P** 09 36 27.5 0.0
ABTO Aybut 78.26 283⇑P **P** 09 36 27.9 -0.5
SNR=118
PRD Provadia 78.27 317 *i*P **P** 09 36 28.9 +0.9
P21A Newcastle 78.28 48⇓P **P** 09 36 28.8 +0.4
baz=78,SNR=8.4
MCD Coleburn Disti 78.33 342⇑*e*P **P** 09 36 28.2 +0.1
MCD Coleburn Disti 78.33 342 P **P** 09 36 28.2 +0.1
O22A Kremmling 78.35 47⇑P **P** 09 36 29.1 +0.2
baz=78,SNR=32
L25A Engebretsen Ra 78.38 44⇑P **P** 09 36 29.1 +0.2
baz=78,SNR=9.8
M24A Cheyenne 78.40 45⇑P **P** 09 36 29.7 +0.7
baz=78,SNR=42
RAO Raoul Island 78.40 145 PFAKE 09 36 40.0 +11
RAO LR LR
comp=Z,2µm,22.0s
K26A Motz Farm, Whi 78.41 43⇑P **P** 09 36 28.8 -0.2
baz=78,SNR=10
PSZ Piszkesteto 78.44 325⇑P **P** 09 36 30.0 +1.0
PSZ Piszkesteto 78.44 325 *e*P **P** 09 36 29.7 +0.7
comp=Z,293nm,1.1s
PSZ LR LR
comp=Z,5µm,19.0s
PSZ Piszkesteto 78.44 325⇑*i*P **P** 09 36 30.0 +1.0
PSZ Piszkesteto 78.44 325⇑*e* P **P** 09 36 29.9 +1.0
VYHS Vyhne 78.47 326 *e*P **P** 09 36 29.9 +0.8
VYHS *e* 09 36 42.7
VYHS *e* 09 39 24.0
VYHS pmax pmax
comp=Z,98nm,1.2s
VYHS Vyhne 78.47 326 *e*P **P** 09 36 29.9 +0.8
VYHS *e*pP **pP** 09 36 42.7 +0.4
VYHS *e*PP **PP** 09 39 24.0 -2.2
T18A Mexican Hat 78.47 51⇓P **P** 09 36 29.5 0.0
baz=78,SNR=34
MME1 Meikle Cairn 78.50 342⇑*e*P **P** 09 36 28.9 -0.1
MME1 Meikle Cairn 78.50 342 P **P** 09 36 28.9 -0.1
S19A Harvey Farm, M 78.50 50⇓P **P** 09 36 29.9 +0.2
baz=78,SNR=54
DEV Deva 78.57 322⇑P **P** 09 36 30.6 +1.0
DEV Deva 78.57 322⇑*i*P **P** 09 36 30.6 +1.0
PV01 Paradox Valley 78.57 49 *e*P **P** 09 36 30.4 +0.3
comp=Z,11µm,1.2s
P22A Eagle 78.62 47⇑P **P** 09 36 30.9 +0.6
baz=78,SNR=44
BRG Berggiesshubel 78.64 330⇑*i*P **P** 09 36 30.2 +0.3
comp=Z,149nm,1.2s
BRG *i* PCP **pP** 09 36 41.4 -1.7
comp=Z,107nm,1.1s
BRG PP PP 09 39 20.0 -7.5
BRG S **S** 09 46 28.0 +4.7
BRG SS **SS** 09 51 24.1 -2.5
BRG *e*PKPPKP **P'P'df** 10 03 29.8 -3.3
comp=Z,19nm,1.9s
BRG
comp=N,2µm,18.6s
BRG
comp=E,3µm,17.4s
BRG
comp=Z,2µm,17.4s
BRG Berggiesshubel 78.64 330 *e*P **P** 09 36 30.2 +0.3
comp=Z,150nm,1.2s
BRG *e*pP **pP** 09 36 42.9 -0.3
BRG Berggiesshubel 78.64 330⇑*i*P **P** 09 36 30.2 +0.3
BRG *i* 09 36 41.4
BRG S **S** 09 46 28.0 +4.7
BRG SS **SS** 09 51 24.1 -2.5
BRG pmax pmax
comp=Z,149nm,1.2s
BRG pmax pmax
comp=Z,107nm,1.1s
R20A Redvale 78.65 49⇑P **P** 09 36 31.0 +0.5
baz=78,SNR=27
WUAZ Wupatki 78.65 53 *e*P **P** 09 36 31.4 +0.9
comp=Z,207nm,1.0s
WUAZ LR LR
comp=Z,1µm,19.0s
WUAZ Wupatki 78.65 53⇓P **P** 09 36 31.3 +0.9
baz=78,SNR=44
CLL Collm 78.65 330 *e*P **P** 09 36 29.9 -0.1
comp=Z,215nm,1.0s
CLL Collm 78.65 330⇑*i*P **P** 09 36 30.1 +0.1
CLL *i**PP **pP** 09 36 42.4 -0.8
CLL *e*S **S** 09 46 27.0 +3.6
CLL pmax pmax
comp=Z,231nm,1.1s
PVCC Panska Ves 78.66 329⇑*i*P **P** 09 36 30.8 +0.7
PVCC MLR MLR
comp=Z,5µm,17.9s
PVCC Panska Ves 78.66 329⇑*i*P **P** 09 36 30.8 +0.7
PVCC AMS AMS 10 14 10.0
comp=Z,5µm,17.9s
O23A Lake Granby, G 78.67 46⇓P **P** 09 36 31.6 +0.9
baz=78,SNR=62
Q21A Lamborn Mesa, 78.67 48⇓P **P** 09 36 31.2 +0.6
baz=78,SNR=15
Y14A Wickenburg 78.67 55⇓P **P** 09 36 31.0 +0.5
baz=78,SNR=39
MDO Dochfour 78.71 342⇑*e*P **P** 09 36 30.1 -0.1
MDO Dochfour 78.71 342 P **P** 09 36 30.1 -0.1
NRDL Niedersach Rie 78.75 332 *e*P **P** 09 36 30.7 +0.3
comp=Z,562nm,2.2s
SMCO Snowmass 78.78 48 *e*P **P** 09 36 31.9 +0.4
comp=Z,99nm,1.1s
VRAC Vranov 78.80 327⇑*i*P **P** 09 36 31.9 +1.0
N24A Carr 78.81 45⇓P **P** 09 36 32.0 +0.7
baz=79,SNR=16
FBE Freiberg 78.82 330 *e*P **P** 09 36 31.4 +0.5
comp=Z,224nm,1.1s
M25A Palm-Egli Farm 78.83 45⇓P **P** 09 36 32.1 +0.7
baz=79,SNR=14
KAC Achnashellach 78.87 343⇑*i*P **P** 09 36 31.4 +0.3
KAC Achnashellach 78.87 343 P **P** 09 36 31.4 +0.3
S20A Disappointment 78.90 50⇓P **P** 09 36 32.3 +0.3
baz=79,SNR=33
K27A Fleckinger Fa 78.90 43⇑P **P** 09 36 31.4 -0.2
baz=79,SNR=20
KDHN Kadinhani 78.93 311 *i*P **P** 09 36 31.8 -0.1
L26A Underwood Farm 78.93 44⇓P **P** 09 36 32.1 +0.2
baz=79
BORA Eskisehir 78.94 313 *i*P **P** 09 36 32.1 +0.2
113A Mohawk Valley, 78.96 56⇑P **P** 09 36 32.3 +0.3
baz=79,SNR=24
SEYT Eskypehyr 78.96 313 *i*P **P** 09 36 32.2 +0.1
GZR Gura Zlata 78.99 321⇑P **P** 09 36 32.4 +0.3
GZR Gura Zlata 78.99 321⇑*i*P **P** 09 36 32.4 +0.3
R21A Cimarron 79.00 49⇓P **P** 09 36 33.3 +0.8
baz=79,SNR=28
Q22A Crested Butte, 79.03 48⇑P **P** 09 36 33.3 +0.6
baz=79,SNR=31
SMOL Smolenice 79.06 326 *e*P **P** 09 36 33.7 +1.4
SMOL *e* 09 36 47.3
SMOL Smolenice 79.06 326 *e*P **P** 09 36 33.6 +1.3
SMOL *e*pP **pP** 09 36 47.3 +1.7
PRA Prague 79.08 329⇑P **P** 09 36 33.0 +0.7
PRA pP **pP** 09 36 46.0 +0.4
PRA AMS AMS 10 14 30.0
Z14A Wintersburg 79.09 56⇑P **P** 09 36 33.0 +0.3
baz=79,SNR=10
PRU Pruhonice 79.10 329⇑*i*P **P** 09 36 33.1 +0.6
PRU *e**PP **pP** 09 36 46.1 +0.4
PRU MLR MLR
comp=Z,4µm,17.9s
PRU Pruhonice 79.10 329⇑*i*P **P** 09 36 33.1 +0.6
PRU *e*pP **pP** 09 36 46.1 +0.4
PRU *ex* x 09 46 13.1
PRU AMS AMS 10 14 20.0
comp=Z,4µm,17.9s
KPL Plockton 79.10 343⇑*e*P **P** 09 36 32.8 +0.5
KPL AMB AMB 09 36 33.6
comp=Z,343nm,1.0s
KPL Plockton 79.10 343 P **P** 09 36 32.8 +0.5
KPL AMB AMB 09 36 33.6
comp=Z,343nm,1.0s
ISCO Idaho Springs 79.12 47 *e*P **P** 09 36 33.7 +0.5
ISCO *e*pP **pP** 09 36 47.3 +1.7
ISCO pmax pmax
comp=Z,87nm,1.1s
ISCO MLR MLR
comp=Z,1µm,20.0s
ISCO Idaho Springs 79.12 47 *e*P **P** 09 36 33.7 +0.5
comp=Z,86nm,1.1s
ISCO LR LR
comp=Z,1µm,20.0s
ISCO Idaho Springs 79.12 47⇓P **P** 09 36 33.8 +0.7
baz=79,SNR=36
BUD Budapest 79.16 325⇑eSKKPdf **P** 09 36 33.6 +0.8
ELBA Catalca 79.16 315 *i*P **P** 09 36 33.7 +0.7
T19A Beclabito 79.18 51⇑P **P** 09 36 33.9 +0.5
baz=79,SNR=40
CLZ Clausthal 79.19 332 *e*P **P** 09 36 33.5 +0.5
comp=Z,367nm,1.2s
CLZ Clausthal 79.19 332 *e*P **P** 09 36 33.5 +0.5
CLZ pmax pmax
comp=Z,367nm,1.2s
NEUB Neuenburg 79.19 331 *e*P **P** 09 36 33.0 +0.1
comp=Z,285nm,1.2s
O24A Longmont 79.19 46⇓P **P** 09 36 34.2 +0.8
baz=79,SNR=17
JMB Yambol 79.21 317 P **P** 09 36 34.5 +1.3
JMB Yambol 79.21 317 *i*P **P** 09 36 34.2 +1.0
PKSN Nyarlorinc 79.22 324⇑eS **P** 09 36 34.3 +1.1
MVCO Mesa Verde 79.24 50 *e*P **P** 09 36 34.1 +0.3
comp=Z,240nm,1.3s
MVCO LR LR
comp=Z,1µm,21.0s
MVCO Mesa Verde 79.24 50⇑P **P** 09 36 34.3 +0.5
baz=79,SNR=24
N25A Grover 79.25 45⇓P **P** 09 36 34.3 +0.6
baz=79
TREC Trest 79.26 328⇑*i*P **P** 09 36 34.2 +0.8
TREC *e**PP **pP** 09 36 46.8 +0.1
TREC MLR MLR
comp=Z,4µm,19.0s
TREC Trest 79.26 328⇑*i*P **P** 09 36 34.2 +0.8
TREC *e*pP **pP** 09 36 46.8 +0.1
TREC *ex* x 09 37 00.2
TREC AMS AMS 10 14 10.0
comp=Z,4µm,19.0s
P23A Jefferson 79.29 47⇓P **P** 09 36 35.2 +1.0
baz=79,SNR=19
L27A T5 Ranch, Ells 79.30 43⇑P **P** 09 36 34.0 +0.2
baz=79,SNR=10
M26A McRoberts Ranc 79.30 44⇑P **P** 09 36 34.7 +0.8
baz=79,SNR=8.8
BRSD Miller 79.30 40⇓P **P** 09 36 33.4 -0.3
baz=79,SNR=32
X16A Lo Mia Camp, P 79.33 54⇓P **P** 09 36 35.2 +1.0
baz=79,SNR=57
S21A Coal Bank Pass 79.34 49⇓P **P** 09 36 35.4 +0.9
baz=79,SNR=36
BZS Buzias 79.38 322⇑P **P** 09 36 34.4 +0.4
BZS Buzias 79.38 322 P **P** 09 36 34.5 +0.4
BZS Buzias 79.38 322⇑*i*P **P** 09 36 34.4 +0.4
U19A Dine' College, 79.44 51⇑P **P** 09 36 35.5 +0.6
baz=79,SNR=66
ULDT Uludag 79.48 314 *i*P **P** 09 36 35.7 +0.7
HWQ Hawqa 79.49 306 *e*P **P** 09 36 35.2 +0.1
PKSG 79.50 325⇑eSKKPdf **P** 09 36 35.3 +0.6
114A Black Gap (USA 79.53 56⇑P **P** 09 36 36.0 +0.8
baz=79,SNR=43
R22A Saguache, Gunn 79.56 48⇓P **P** 09 36 36.7 +1.2
baz=79,SNR=32
TANN Tannenbergstha 79.57 330 *e*P **P** 09 36 35.4 +0.3
comp=Z,266nm,1.9s
TANN *e*pP **pP** 09 36 48.3 -0.1
PKS6 Bocsa 79.58 324⇑e **P** 09 36 35.7 +0.6
WERD Werda 79.60 330 *e*P **P** 09 36 35.5 +0.2
comp=Z,346nm,1.9s
WERD *e*pP **pP** 09 36 48.5 0.0
Q23A Hartsel 79.61 47⇓P **P** 09 36 36.3 +0.4
baz=79
PLN Plauen 79.63 330 *e*P **P** 09 36 35.9 +0.5
comp=Z,1µm,1.5s
PLN *e*pP **pP** 09 36 48.9 +0.3
M27A Reverse DX Ran 79.66 44⇓P **P** 09 36 36.0 +0.2
baz=79,SNR=12
GUNZ Gunzen 79.66 330 *e*P **P** 09 36 36.0 +0.4
comp=Z,142nm,1.1s
ESY Stoneypath 79.66 341⇑*i*P **P** 09 36 35.5 +0.1
ESY Stoneypath 79.66 341 P **P** 09 36 35.5 +0.1
DGAR Diego Garcia 79.69 251 *e*P **P** 09 36 35.4 -0.8
DGAR pmax pmax
comp=Z,222nm,0.9s
DGAR MLR MLR
comp=Z,895nm,20.0s
DGAR Diego Garcia 79.69 251 *e*P **P** 09 36 35.4 -0.8
comp=Z,222nm,0.9s
DGAR LR LR
comp=Z,895nm,20.0s
MOX Moxa 79.71 331 *e*P **P** 09 36 36.0 +0.2
comp=Z,666nm,2.2s
MOX Moxa 79.71 331 *e*P **P** 09 36 36.0 +0.2
MOX pmax pmax
comp=Z,666nm,2.2s
WERN Wernitzgruen 79.71 330 *e*P **P** 09 36 36.3 +0.5
comp=Z,578nm,2.1s
N26A Koester Ranch, 79.71 45⇑P **P** 09 36 36.5 +0.4
baz=80,SNR=8.1
P24A Kohler Place, 79.71 46⇓P **P** 09 36 37.0 +0.7
baz=80,SNR=27
IBBN Ibbenburen 79.72 334 *e*P **P** 09 36 35.9 +0.1
comp=Z,265nm,1.0s
NKC Novy Kostel 79.72 330⇑*i*P **P** 09 36 36.1 +0.2
NKC *e**PP **pP** 09 36 48.6 -0.6
NKC MLR MLR
comp=Z,2µm,21.6s
NKC Novy Kostel 79.72 330⇑*i*P **P** 09 36 36.1 +0.2
NKC *e*pP **pP** 09 36 48.6 -0.6
NKC AMS AMS 10 12 40.0
comp=Z,2µm,21.6s
O25A Wiggins 79.72 46⇓P **P** 09 36 36.5 +0.3
baz=80,SNR=9.5
PKST T''s 79.76 325⇑eSKKPdf **P** 09 36 35.9 -0.3
X17A Forest Lakes 79.78 54⇓P **P** 09 36 37.9 +1.1
baz=80,SNR=31
U20A Newcomb 79.79 51⇓P **P** 09 36 37.3 +0.5
baz=80,SNR=7.5
EDI Edinburgh 79.80 341 *e*P **P** 09 36 35.6 -0.5
EDI AMB AMB 09 36 36.9
comp=Z,106nm,2.3s
EDI Edinburgh 79.80 341 P **P** 09 36 35.6 -0.5
EDI AMB AMB 09 36 36.9
comp=Z,106nm,2.3s
PKS2 Kecel 79.82 324⇓e **P** 09 36 37.2 +0.8
EAB Aberfoyle 79.84 342⇑*e*P **P** 09 36 36.6 +0.2
EAB Aberfoyle 79.84 342 P **P** 09 36 36.6 +0.2
S22A 4UR Ranch, Cre 79.84 49⇓P **P** 09 36 38.0 +0.9
baz=80,SNR=39
EBL Broad Law 79.90 341⇑*i*P **P** 09 36 36.8 0.0
EBL Broad Law 79.90 341 P **P** 09 36 36.8 0.0
W18A Petrified Fore 79.91 52⇓P **P** 09 36 38.2 +0.8
baz=80
BHL Bhannes 79.92 306 *e*P **P** 09 36 37.7 +0.3
V19A Window Rock 79.92 52⇓P **P** 09 36 38.4 +0.9
baz=80,SNR=25
EAU Auchinoon 79.94 341⇑*i*P **P** 09 36 37.2 +0.3
EAU Auchinoon 79.94 341 P **P** 09 36 37.2 +0.3
T21A Navajo Lake 79.95 50⇓P **P** 09 36 38.5 +0.8
baz=80,SNR=12
Q24A Divide 79.96 47⇓P **P** 09 36 37.9 +0.2
baz=80,SNR=30
MPEP Malo Peshtene 80.01 319 *i*P **P** 09 36 38.2 +0.6
DIM Dimitrovgrad 80.05 318 *i*P **P** 09 36 38.7 +0.9
EYMN Ely 80.06 33 *e*P **P** 09 36 39.0 -0.8
comp=Z,262nm,1.1s
EYMN LR LR
comp=Z,2µm,21.0s
SOP Sopron 80.07 326⇑e **P** 09 36 39.0 +1.2
O26A Horse Wrangler 80.07 45⇓P **P** 09 36 38.1 0.0
baz=80,SNR=23
RCY Rachaya 80.08 306 *e*P **P** 09 36 39.0 +0.8
N27A Anderson Farm, 80.09 44⇑P **P** 09 36 38.4 +0.2
baz=80,SNR=26
214A Organ Pipe Nat 80.10 57⇓P **P** 09 36 38.8 +0.5
baz=80,SNR=15
R23A Moffat 80.11 48⇑P **P** 09 36 39.6 +1.0
baz=80,SNR=43
P25A Willow Gulch B 80.12 46⇓P **P** 09 36 39.0 +0.6
baz=80,SNR=48
SART Tekirdag 80.16 316 *i*P **P** 09 36 39.1 +0.6
KHC Kasperske Hory 80.16 329⇑*i*P **P** 09 36 38.8 +0.5
KHC *e**PP **pP** 09 36 51.4 -0.2
KHC *e* 09 39 49.5
KHC *e*S **S** 09 46 37.5 -2.1
KHC MLR MLR
comp=Z,5µm,19.4s
KHC Kasperske Hory 80.16 329 *e*P **P** 09 36 38.9 +0.5
comp=Z,230nm,1.0s
KHC Kasperske Hory 80.16 329⇑*i*P **P** 09 36 38.8 +0.5
KHC *e*pP **pP** 09 36 51.4 -0.2

KHC ex x 09 37 05.6
KHC eP P 09 39 49.5 +9.2
KHC ex x 09 39 57.5
KHC eS S 09 46 37.5 -2.1
KHC ex x 09 47 05.7
KHC AMS AMS 10 14 50.0
comp=Z,5µm,19.4s
UBBA Unterbreizbach 80.16 332 eP P 09 36 39.0 +0.9
comp=Z,206nm,1.6s
UBBA epP pP 09 36 51.8 +0.4
PKS9 Tamasi 80.17 325 ⇑e P 09 36 38.5 +0.2
X18A Snowflake 80.17 53 ⇑P P 09 36 39.6 +0.8
baz=80,SNR=22
CONA Conrad Observa 80.18 327⇑*i*P P 09 36 39.6 +1.1
comp=Z,243nm,1.2s
PHNC Paralimni 80.18 308 P P 09 36 39.0 +0.4
comp=Z,6.2nm,1.2s
ROTZ Rotzenmuhle 80.19 330 eP P 09 36 39.2 +0.8
comp=Z,744nm,2.0s
V20A Brimhall 80.21 51 ⇓P P 09 36 39.5 +0.5
baz=80,SNR=39
PGBU Glenifferbraes 80.22 342⇑eP P 09 36 38.9 +0.5
PGBU AMB AMB 09 36 39.8
comp=Z,468nm,1.1s
PGBU Glenifferbraes 80.22 342 P P 09 36 38.9 +0.5
PGBU AMB AMB 09 36 39.8
comp=Z,468nm,1.1s
OGNE Ogallala 80.26 44 eP P 09 36 38.9 -0.2
comp=Z,647nm,1.4s
OGNE LR LR
comp=Z,1µm,22.0s
OGNE Ogallala 80.26 44 ⇑P P 09 36 39.1 0.0
baz=80,SNR=27
U21A Nageezi 80.26 50 ⇑P P 09 36 39.9 +0.6
baz=80,SNR=30
PKSM Moragy 80.29 324 ⇑P P 09 36 38.9 -0.1
PKSM Moragy 80.29 324⇑*i*P P 09 36 38.9 -0.1
PKSM Moragy 80.29 324 ⇑e P 09 36 38.8 -0.2
T22A Edith 80.30 49 ⇑P P 09 36 40.5 +0.9
baz=80,SNR=47
ISP Isparta 80.32 312 eP P 09 36 39.2 -0.3
ISP pmax pmax
comp=Z,269nm,1.4s
ISP MLR MLR
comp=Z,1µm,19.0s
ISP Isparta 80.32 312 eP P 09 36 39.2 -0.3
comp=Z,269nm,1.4s
ISP LR LR
comp=Z,1µm,19.0s
ISP Isparta 80.32 312 P P 09 36 39.1 -0.4
WTSB Winterswijk 80.33 334 eP P 09 36 39.0 0.0
comp=Z,300nm,1.2s
GEC2 GERESS Array S 80.34 328 eP P 09 36 39.6 +0.2
comp=Z,115nm,1.1s
GEC2 GERESS Array S 80.34 328 eP P 09 36 39.6 +0.2
GEC2 pmax pmax
comp=Z,115nm,1.1s
GERES GERESS Array B 80.34 328 P P 09 36 39.5 +0.2
GERES PP PP 09 39 35.0 -6.8
GERES PKKPbc **PKKPbc** 09 55 20.8 +0.5
GERES P'P' 10 03 23.6
GERES GERESS Array B 80.34 328 P P 09 36 39.5 +0.2
comp=Z,42nm,0.8s,baz=35,slow=4.9,SNR=232
GERES PP PP 09 39 35.0 -6.8
comp=Z,14nm,1.0s,baz=39,slow=6.8,SNR=3.9
GERES PKKPbc **PKKPbc** 09 55 20.8 +0.5
comp=Z,1.2nm,0.9s,baz=191,slow=1.4,SNR=5.5
GERES PKPPKP P'P'df 10 03 23.6 -6.5
comp=Z,1.0nm,0.9s,baz=193,slow=5.5,SNR=4.3
GERES LR LR 10 15 24.9
comp=Z,4µm,19.9s,baz=35,slow=38
S23A Nye Farm, Mont 80.35 48 ⇑P P 09 36 40.8 +1.0
baz=80,SNR=16
ESK Eskdalemuir 80.35 341⇑eP P 09 36 38.9 -0.2
ESK AMB AMB 09 36 40.1
comp=Z,129nm,1.0s
ESK AMS AMS 10 16 41.6
comp=Z,2µm,19.8s
ESK Eskdalemuir 80.35 341 P P 09 36 38.9 -0.2
ESK AMB AMB 09 36 40.1
comp=Z,129nm,1.0s
ESK AMS AMS 10 16 41.6
comp=Z,2µm,19.8s
ESK Eskdalemuir 80.35 341 *i* P P 09 36 39.7 +0.6
ESK Eskdalemuir 80.35 341 eP P 09 36 39.1 0.0
comp=Z,108nm,0.9s
ESK LR LR
comp=Z,3µm,21.0s
ESK Eskdalemuir 80.35 341 P P 09 36 39.5 +0.4
comp=Z,721nm,0.8s,SNR=19
PGB Panagyurishte 80.39 319 *i* P P 09 36 40.5 +0.8
WET Wettzell 80.43 329 eP P 09 36 40.4 +0.7
comp=Z,241nm,1.2s
WET epP pP 09 36 53.1 +0.1
WET Wettzell 80.43 329 eP P 09 36 40.4 +0.7
WET e*PP pP 09 36 53.1 +0.1
WET pmax pmax
comp=Z,241nm,1.2s
PLD Plovdiv 80.44 318 P P 09 36 40.5 +0.6
PLD Plovdiv 80.44 318 *i* P P 09 36 40.1 +0.2
DEMI Demirci 80.48 314 *i* P P 09 36 40.5 +0.2
R24A Sanders Place, 80.49 47 ⇑P P 09 36 41.3 +0.8
baz=80,SNR=40
Q25A Bedland, Calha 80.49 47 ⇓P P 09 36 40.7 +0.1
baz=80,SNR=38
XAL Allendale 80.51 340⇑eP P 09 36 39.3 -0.8
XAL Allendale 80.51 340 P P 09 36 39.3 -0.8
KHAL Karahalli 80.52 313 *i* P P 09 36 40.7 +0.1
P26A Davis Ranch, A 80.54 46 ⇓P P 09 36 40.7 +0.1
baz=80,SNR=21
MAMC Mammari 80.56 308 P P 09 36 41.2 +0.6
O27A Beecher Island 80.56 45 ⇑P P 09 36 40.5 -0.2
baz=80,SNR=19
BALY Balya 80.59 315 *i* P P 09 36 41.3 +0.5
SDCO Great Sand Dun 80.61 48 eP P 09 36 41.5 +0.3
comp=Z,79nm,1.1s
SDCO LR LR
comp=Z,2µm,22.0s
SDCO Great Sand Dun 80.61 48 ⇓P P 09 36 41.8 +0.5
baz=80,SNR=36
ALN Alexandroupoli 80.61 316 P P 09 36 40.9 +0.1
ALN Alexandroupoli 80.61 316 eP P 09 36 40.6 -0.2
BUG Bochum--Univer 80.61 333 eP P 09 36 40.5 -0.1
comp=Z,234nm,1.2s
GRF Grafenberg Arr 80.63 330 eP P 09 36 41.4 +0.6
comp=Z,503nm,1.3s
GRF eL L 10 14 42.3
comp=Z,2µm,21.7s
GRF Grafenberg Arr 80.63 330 eP P 09 36 41.4 +0.6
GRF pmax pmax
comp=Z,503nm,1.3s
GRF MLR MLR
comp=Z,2µm,21.7s
GRFO Grafenberg 80.63 330 eP P 09 36 41.4 +0.6
GRFO pmax pmax
comp=Z,300nm,2.6s
GRFO Grafenberg 80.63 330 eP P 09 36 41.4 +0.6
comp=Z,300nm,2.6s
CSS Prodhromos 80.63 308 P P 09 36 40.8 -0.3
CSS Prodhromos 80.63 308 eP P 09 36 41.1 0.0
comp=Z,162nm,0.8s
CSS LR LR
comp=Z,1µm,20.0s
CSS Prodhromos 80.63 308 P P 09 36 41.2 +0.1
W20A Ramah 80.65 52 ⇓P P 09 36 41.9 +0.4
baz=80,SNR=31
RDO Rodhopi 80.70 317 P P 09 36 42.0 +0.7
RDO Rodhopi 80.70 317 eP P 09 36 41.9 +0.7
V21A Milan 80.70 51 ⇓P P 09 36 42.4 +0.7
baz=80,SNR=39
RHK3 Tenkes 80.72 324 ⇑e P 09 36 41.2 -0.1
U22A Llaves 80.77 50 ⇓P P 09 36 42.9 +0.9
baz=81,SNR=30
T23A Casias Ranch, 80.79 49 ⇓P P 09 36 43.1 +0.9
baz=81,SNR=20
VTS Vitosha 80.84 319 ⇑P P 09 36 43.1 +0.9
VTS Vitosha 80.84 319 P P 09 36 43.0 +0.9
VTS Vitosha 80.84 319⇑*i*P P 09 36 43.1 +0.9
S24A Houchin Ranch, 80.84 48 ⇑P P 09 36 43.3 +0.8
baz=81,SNR=23
ARSA Arzberg 80.85 326⇓*i*P P 09 36 42.7 +0.6
comp=Z,157nm,1.6s
Q26A Hugo 80.89 46 ⇓P P 09 36 42.6 0.0
baz=81,SNR=35
MOA Molln 80.90 328⇑*i*P P 09 36 42.8 +0.5
comp=Z,136nm,1.5s

BEHE Becsehely 80.92 325 ⇑e P 09 36 42.6 +0.2
ALFC Alevga 80.94 309 P P 09 36 42.3 -0.4
comp=Z,6.2nm,1.4s
GCD Castle Douglas 80.95 341⇑*i*P P 09 36 42.3 0.0
GCD Castle Douglas 80.95 341 P P 09 36 42.3 0.0
P27A Ficken Ranch, 80.96 45 ⇑P P 09 36 42.5 -0.3
baz=81,SNR=22
MANT Manisa 80.96 313 *i* P P 09 36 43.2 +0.1
ECSD EROS Data Cent 80.96 39 eP P 09 36 42.0 -0.7
comp=Z,784nm,1.8s
ECSD LR LR
comp=Z,2µm,19.0s
KESW Keswick, Cumbr 80.98 340⇑eP P 09 36 42.7 +0.2
KESW AMB AMB 09 36 43.9
comp=Z,318nm,1.2s
KESW AMS AMS 10 17 10.2
comp=Z,2µm,19.3s
KESW Keswick, Cumbr 80.98 340 P P 09 36 42.7 +0.2
KESW AMB AMB 09 36 43.9
comp=Z,318nm,1.2s
KESW AMS AMS 10 17 10.2
comp=Z,2µm,19.3s
Y19A Nutrioso 80.98 53 ⇓P P 09 36 44.4 +1.1
baz=81,SNR=17
KORT Korkueli 80.99 311 *i* P P 09 36 42.8 -0.3
R25A Fountain Ranch 81.01 47 ⇑P P 09 36 43.2 0.0
baz=81,SNR=35
X20A Quemado 81.05 52 ⇓P P 09 36 44.8 +1.2
baz=81,SNR=44
V22A San Miguel Ran 81.06 50 ⇓P P 09 36 44.2 +0.6
baz=81
AKHS Akhisar 81.10 314 *i* P P 09 36 43.7 +0.2
KOGS Kog 81.17 326 *i* P P 09 36 43.6 -0.1
KOGS *i* pP pP 09 36 56.6 -0.3
W21A San Fidel 81.17 51 ⇑P P 09 36 44.9 +0.7
baz=81,SNR=11
U23A El Rito 81.19 49 ⇑P P 09 36 45.4 +1.1
baz=81,SNR=63
TNS Taunus Mts 81.22 332 eP P 09 36 44.1 +0.2
comp=Z,253nm,1.6s
TNS epP pP 09 36 57.4 +0.1
TNS Taunus Mts 81.22 332 eP P 09 36 44.1 +0.2
TNS e*PP pP 09 36 57.4 +0.1
TNS pmax pmax
comp=Z,253nm,1.6s
DNZL Cakiroluk 81.25 312 *i* P P 09 36 45.2 +0.7
S25A Robets Cordova 81.27 48 ⇓P P 09 36 44.3 -0.4
baz=81,SNR=21
GOLH Golhisar 81.28 312 *i* P P 09 36 44.6 0.0
PPCY Paphos 81.28 309 P P 09 36 42.8 -1.6
DIVS Divibare 81.28 322 P P 09 36 44.6 +0.2
KSCO Kaye Shedlock' 81.32 46 ⇑P P 09 36 44.6 -0.2
baz=81,SNR=14
T24A Torres, Weston 81.33 48 ⇑P P 09 36 46.2 +1.1
baz=81,SNR=13
KAVA Kavala 81.34 317 P P 09 36 45.2 +0.5
BOZC Bozcaada 81.37 316 *i* P P 09 36 44.7 -0.2
R26A Arlington 81.37 47 ⇓P P 09 36 45.1 0.0
baz=81,SNR=48
AYVA Ayvalik 81.41 315 *i* P P 09 36 45.2 +0.2
NVR Nevrokopi 81.42 318 P P 09 36 45.5 +0.3
NVR Nevrokopi 81.42 318 eP P 09 36 45.7 +0.5
GROS Grobnik 81.48 326 *i* P P 09 36 45.5 +0.1
SOKA Soboth 81.51 326⇑*i*P P 09 36 46.0 +0.4
comp=Z,386nm,1.3s
AEU East Anglia Un 81.53 337⇑eP P 09 36 45.6 +0.1
AEU East Anglia Un 81.53 337 P P 09 36 45.6 +0.1
X21A Alamocita Cree 81.54 52 ⇑P P 09 36 47.4 +1.2
baz=81,SNR=47
Y20A Horse Springs, 81.55 53 ⇑P P 09 36 47.5 +1.2
baz=81,SNR=81
RJOB Jochberg 81.59 328 eP P 09 36 46.7 +0.7
comp=Z,219nm,1.1s
TOD Tromm 81.60 332 eP P 09 36 46.2 +0.3
TOD Tromm 81.60 332 eP P 09 36 46.2 +0.3
V23A Ortiz Mt. (NFS 81.60 50 ⇓P P 09 36 48.0 +1.6
baz=81,SNR=39
SPMN St. Paul 81.60 36 ⇑P P 09 36 45.2 -0.8
baz=81,SNR=8.0
HGN Heimansgroeve 81.64 334 eP P 09 36 45.9 -0.1
comp=Z,208nm,1.2s
HGN *i* P P 09 36 45.9 -0.1
comp=Z,208nm,1.2s
HGN Heimansgroeve 81.64 334 eS S 09 46 59.8 +5.0
HGN eS SKSac 09 46 60.0 -2.0
T25A Trinidad 81.65 48 ⇑P P 09 36 47.1 +0.4
baz=81,SNR=59
W22A Albuquerque 81.66 51 ⇓P P 09 36 48.1 +1.3
baz=82,SNR=7.9
U24A Moreno Valley 81.66 49 ⇓P P 09 36 48.2 +1.3
baz=82,SNR=26
PRK Paraskevi 81.68 315 P P 09 36 46.7 +0.2
BEBN Eben Emael 81.70 334 P P 09 36 46.3 -0.1
BEBN AP pP 09 36 59.1 -0.6
SRS Serrai 81.73 318 P P 09 36 46.8 0.0
R27A Eads 81.74 46 ⇓P P 09 36 46.8 -0.3
baz=82,SNR=25
MEM Membach 81.74 334 P P 09 36 46.6 0.0
comp=Z,85nm,1.2s
KBI1 Birley Grange 81.76 339⇑*i*P P 09 36 46.8 +0.2
KBI1 Birley Grange 81.76 339 P P 09 36 46.8 +0.2
GOLS Golise 81.78 326 *i* P P 09 36 47.0 +0.1
GOLS ePP PP 09 39 55.1 +1.4
ABH Alteburg 81.82 332 eP P 09 36 47.3 +0.2
S26A Kim 81.84 47 ⇓P P 09 36 47.3 -0.3
baz=82,SNR=20
OBKA Obir 81.84 327⇑*i*P P 09 36 47.5 +0.1
comp=Z,99nm,0.9s
FUR Furstenfeldbru 81.85 329 eP P 09 36 47.7 +0.4
comp=Z,327nm,0.9s
FUR Furstenfeldbru 81.85 329 eP P 09 36 47.7 +0.4
FUR pmax pmax
comp=Z,327nm,0.9s
SISC Sisak 81.88 325 P P 09 36 48.6 +1.1
KBA Koelnbreinsper 81.89 328⇑*i*P P 09 36 48.0 +0.3
comp=Z,201nm,1.0s
Y21A Point of Rocks 81.91 52 ⇓P P 09 36 49.4 +1.2
baz=82,SNR=33
AYDN Tasoluk 81.92 313 *i* P P 09 36 49.2 +1.2
BGNE Belgrade 81.94 41 ⇑P P 09 36 47.4 -0.5
baz=82,SNR=24
LAZ Ladron 81.96 51 eP P 09 36 48.9 +0.6
comp=Z,86nm,1.2s
Z20A Nine Sixteen R 81.96 53 ⇑P P 09 36 49.3 +1.0
baz=82,SNR=75
X22A Bernardo 81.97 51 ⇑P P 09 36 49.9 +1.5
baz=82,SNR=5.9
ANMO Albuquerque 81.99 51 eP P 09 36 49.2 +0.7
comp=Z,207nm,1.2s
ANMO LR LR
comp=Z,2µm,21.0s
GMM Mts of Mourne 82.00 342⇑*i*P P 09 36 48.0 +0.1
GMM Mts of Mourne 82.00 342 P P 09 36 48.0 +0.1
W23A Werner Place, 82.02 50 ⇑P P 09 36 49.8 +1.1
baz=82,SNR=28
KNT Kendrikon 82.05 318 P P 09 36 48.7 +0.2
SCHQ Schefferville 82.05 17 eP P 09 36 47.9 -0.3
comp=Z,160nm,0.9s
SCHQ P'P' 10 03 23.6
SCHQ LR LR
comp=Z,3µm,20.0s
SCHQ Schefferville 82.05 17 P P 09 36 48.1 -0.1
comp=Z,78nm,0.8s,baz=352,slow=5.8,SNR=119
SCHQ pP pP 09 37 03.0 +1.4
comp=Z,129nm,0.9s,baz=336,slow=5.3,SNR=23
SCHQ PKPPKP **P'P'df** **10 03 23.6 -3.4**
comp=Z,7.2nm,1.1s,baz=121,slow=2.2,SNR=4.5
SOH Sokhos 82.07 318 P P 09 36 48.6 0.0
T26A Comanche Natio 82.09 47 ⇑P P 09 36 48.8 -0.2
baz=82,SNR=60
STNC Stoke 82.09 339⇑eP P 09 36 48.1 -0.3
STNC AMB AMB 09 36 49.7
comp=Z,183nm,1.3s
STNC AMS AMS 10 12 12.5
comp=Z,1µm,26.1s
STNC Stoke 82.09 339 P P 09 36 48.1 -0.3
STNC AMB AMB 09 36 49.7
comp=Z,183nm,1.3s
STNC AMS AMS 10 12 12.5
comp=Z,1µm,26.1s
KTD Kalmit 82.10 332 eP P 09 36 48.8 +0.2
KTD Kalmit 82.10 332 eP P 09 36 48.8 +0.2
VAY Valandovo 82.10 319⇑*i*P P 09 36 48.8 +0.1
OUR Ouranopolis 82.10 317 P P 09 36 48.9 +0.2
S27A Las Animas 82.11 47 ⇓P P 09 36 48.8 -0.3
baz=82,SNR=5.1
MYKA Terra Mystica 82.13 327⇑*i*P P 09 36 48.6 -0.3
comp=Z,250nm,1.5s
UCC Uccle 82.13 335 P P 09 36 48.6 0.0
UCC AP pP 09 37 01.6 -0.4
URLA Izmir 82.14 314 *i* P P 09 36 49.0 0.0
BCLA Clavier 82.14 334 P P 09 36 48.5 -0.2
comp=Z,80nm,1.6s
RUP Ruppelstein 82.14 333 eP P 09 36 49.1 +0.3
RUP Ruppelstein 82.14 333 eP P 09 36 49.1 +0.3
STU Stuttgart 82.14 331 eP P 09 36 49.2 +0.4
comp=Z,259nm,0.9s
STU epP pP 09 37 02.1 0.0
STU Stuttgart 82.14 331 eP P 09 36 48.8 0.0
STU pmax pmax
comp=Z,236nm,0.9s
STU Stuttgart 82.14 331 eP P 09 36 48.8 0.0
comp=Z,236nm,0.9s
V24A Rampart Ranch, 82.14 49 ⇑P P 09 36 50.7 +1.3
baz=82,SNR=51
U25A Circle Dot Ran 82.17 48 ⇓P P 09 36 49.9 +0.4
baz=82,SNR=27
SKO Skopje 82.18 320⇑*i*P P 09 36 50.8 +1.7
LENM Lemitar 82.22 52 eP P 09 36 50.3 +0.6
comp=Z,102nm,1.3s
LJU Ljubljana 82.22 326 *i* P P 09 36 49.2 -0.1
LJU epP pP 09 37 02.0 -0.6
LJU *e* 09 47 27.4
GCAM G?zelcaml? 82.26 314 *i* P P 09 36 50.2 +0.6
Y22D IRIS PASSCAL I 82.32 52 ⇑P P 09 36 51.3 +1.1
baz=82,SNR=7.0
120A U Bar Ranch, L 82.32 54 ⇓P P 09 36 51.1 +0.8
baz=82,SNR=31
LPM Los Pinos Moun 82.33 51 eP P 09 36 51.2 +1.0
comp=Z,58nm,1.0s
BOJS Bojanci 82.34 326 *i* P P 09 36 49.8 -0.1
BOJS *e* 09 47 28.7
PLG Polygyros 82.35 318 P P 09 36 50.3 +0.2
PLG Polygyros 82.35 318 eP P 09 36 50.3 +0.2
HORT Hortiatis 82.36 318 P P 09 36 49.8 -0.4
WME Myndd Eilian 82.37 341⇑*i*P P 09 36 49.8 0.0
WME Myndd Eilian 82.37 341 P P 09 36 49.8 0.0
Y22A Socorro 82.39 52 ⇓P P 09 36 51.5 +0.9
baz=82,SNR=30
WPM1 Penmaenmawr 82.39 340⇑*i*P P 09 36 50.2 +0.2
WPM1 Penmaenmawr 82.39 340 P P 09 36 50.2 +0.2
Z21A St. Cloud Mine 82.39 53 ⇑P P 09 36 51.7 +1.1
baz=82,SNR=52
WATA Walderalm 82.40 329⇑*i*P P 09 36 50.6 +0.2
comp=Z,77nm,0.9s
X23A Hourglass Bar 82.40 51 ⇑P P 09 36 51.6 +0.9
baz=82
THE Thessaloniki 82.41 318 P P 09 36 49.9 -0.4
SNF Seneffe 82.41 334 P P 09 36 50.0 -0.1
comp=Z,82nm,1.4s
CADS Cadrg 82.41 327 *i* P P 09 36 49.3 -1.0
CHOS Chios island 82.41 315 P P 09 36 50.7 +0.2
CHOS Chios island 82.41 315 eP P 09 36 50.2 -0.3
W24A Lazy 6 Ranch, 82.42 50 ⇑P P 09 36 52.0 +1.3
baz=82,SNR=57
WTTA Wattenberg 82.44 329⇑*i*P P 09 36 50.9 +0.3
comp=Z,137nm,1.0s
BNM Barren Site 82.44 51 eP P 09 36 51.8 +0.9
comp=Z,132nm,1.2s
V25A Rancho No Teng 82.44 49 ⇓P P 09 36 51.7 +0.8
baz=82,SNR=32
GRG Griva 82.45 319 P P 09 36 50.6 0.0
LANF Langenberg 82.48 332 eP P 09 36 50.8 +0.2
LANF Langenberg 82.48 332 eP P 09 36 50.8 +0.2
WLF1 Llynfaes 82.49 341⇑eP P 09 36 50.1 -0.4
WLF1 AMB AMB 09 36 52.1
comp=Z,127nm,1.2s
WLF1 AMS AMS 10 17 36.6
comp=Z,2µm,20.8s
WLF1 Llynfaes 82.49 341 P P 09 36 50.1 -0.4
WLF1 AMB AMB 09 36 52.1
comp=Z,127nm,1.2s
WLF1 AMS AMS 10 17 36.6
comp=Z,2µm,20.8s
WLF Walferdange 82.49 333 P P 09 36 50.9 +0.3
WLF Walferdange 82.49 333 eP P 09 36 51.1 +0.5
comp=Z,104nm,1.3s
WLF Walferdange 82.49 333 eP P 09 36 50.8 +0.2
WLF pmax pmax
comp=Z,840nm,2.2s
WLF MLR MLR
comp=Z,4µm,19.0s
WLF Walferdange 82.49 333 eP P 09 36 50.8 +0.2
comp=Z,840nm,2.2s
WLF LR LR
comp=Z,4µm,19.0s
ABTA Abfaltersbach 82.50 328⇓*i*P P 09 36 50.1 -0.7
comp=Z,123nm,1.1s
VOY Vojsko 82.50 327 eP P 09 36 49.8 -1.0
VOY *e* 09 37 00.3
VOY *e* 09 37 15.7
VOY *e* 09 37 42.5
FOEL Foel Wylfa 82.54 340⇑eP P 09 36 51.2 +0.4
FOEL AMB AMB 09 36 52.1
comp=Z,344nm,1.0s
FOEL AMS AMS 10 17 39.2
comp=Z,2µm,18.8s
FOEL Foel Wylfa 82.54 340 P P 09 36 51.2 +0.4
FOEL AMB AMB 09 36 52.1
comp=Z,344nm,1.0s
U26A Atchley Ranch, 82.55 48 ⇓P P 09 36 51.8 +0.4
baz=82,SNR=33
PAIG Paliouri 82.56 317 P P 09 36 51.1 0.0
YRC Rhoscolyn 82.57 341⇑eP P 09 36 50.7 -0.2
YRC Rhoscolyn 82.57 341 P P 09 36 50.7 -0.2
GIVF Givet 82.58 334⇑*i*P P 09 36 50.9 -0.1
comp=Z,260nm,1.3s
GIVF Givet 82.58 334⇑*i*P P 09 36 50.9 -0.1
GIVF pmax pmax
comp=Z,260nm,1.3s
GIVF Givet 82.58 334⇑*i*P P 09 36 50.9 -0.1
comp=Z,260nm,1.3s
MOTA Moosalm 82.58 329⇑*i*P P 09 36 51.6 +0.3
comp=Z,180nm,0.9s
BDRM Kayabasi 82.59 313 *i* P P 09 36 52.1 +0.7
RETA Reutte 82.60 329⇓*i*P P 09 36 51.7 +0.4
comp=Z,200nm,0.9s
T27A Campo 82.66 47 ⇓P P 09 36 51.5 -0.4
baz=82,SNR=5.9
DOU Dourbes 82.66 334 P P 09 36 51.2 -0.2
comp=Z,47nm,1.4s
319A Douglas 82.72 55 ⇑P P 09 36 52.9 +0.7
baz=82,SNR=39
HLM1 Long Mynd 82.79 339⇑eP P 09 36 52.1 0.0
HLM1 AMB AMB 09 36 54.5
comp=Z,99nm,1.1s
HLM1 Long Mynd 82.79 339 P P 09 36 52.1 0.0
HLM1 AMB AMB 09 36 54.5
comp=Z,99nm,1.1s
ARG Arkhangelos 82.81 312 P P 09 36 53.0 +0.5
TRI Trieste 82.81 326 eP P 09 36 51.4 -0.9
TRI pmax pmax
comp=Z,249nm,1.3s
TRI Trieste 82.81 326 eP P 09 36 51.4 -0.9
comp=Z,250nm,1.3s
BAIF Baives 82.82 334⇑*i*P P 09 36 52.2 -0.1
comp=Z,200nm,1.2s
BAIF Baives 82.82 334⇑*i*P P 09 36 52.2 -0.1
BAIF pmax pmax
comp=Z,200nm,1.2s
BAIF Baives 82.82 334⇑*i*P P 09 36 52.2 -0.1
comp=Z,200nm,1.2s
220A Playas Peak, P 82.83 54 ⇓P P 09 36 53.5 +0.6
baz=83,SNR=35
BFO Black Forest 82.83 331 eP P 09 36 52.5 +0.1
comp=Z,184nm,1.1s
BFO Black Forest 82.83 331 eP P 09 36 52.5 +0.1
BFO pmax pmax
comp=Z,184nm,1.1s
BFO Black Forest 82.83 331 eP P 09 36 52.5 +0.1
comp=Z,167nm,1.1s
BFO LR LR
comp=Z,2µm,20.0s
BFO Black Forest 82.83 331 P P 09 36 52.6 +0.1
comp=Z,752nm,1.0s,SNR=55
ELSH Elham, Standar 82.85 337 eP P 09 36 52.5 +0.1
ELSH AMB AMB 09 36 53.2
comp=Z,332nm,1.0s
ELSH AMS AMS 10 17 55.0
comp=Z,2µm,16.9s
ELSH Elham, Standar 82.85 337 P P 09 36 52.5 +0.1

ELSH AMB AMB 09 36 53.2
comp=Z,332nm,1.0s
ELSH AMS AMS 10 17 55.0
comp=Z,2µm,16.9s
121A Cookes Peak, D 82.86 53 ⇓P P 09 36 54.0 +1.0
baz=83,SNR=38
Z22A Elephant Butte 82.86 52 ⇓P P 09 36 53.8 +0.7
baz=83,SNR=44
X24A Lazy VL Ranch, 82.86 50 ⇓P P 09 36 54.1 +1.0
baz=83,SNR=11
TAU Tasmania Unive 82.91 176 *e*P P 09 36 53.5 +1.0
TAU pmax pmax
comp=Z,39nm,1.0s
TAU MLR MLR
comp=Z,2µm,22.0s
TAU Tasmania Unive 82.91 176 *e*P P 09 36 53.5 +1.0
comp=Z,39nm,1.0s
TAU LR LR
comp=Z,2µm,22.0s
SKP1 Kophill 82.92 338⇑*e*P P 09 36 51.7 -1.1
SKP1 Kophill 82.92 338 P P 09 36 51.7 -1.1
Y23A Lovelace Mesa, 82.93 51 ⇑P P 09 36 54.2 +0.7
baz=83,SNR=73
BIA Bitola 82.95 319 *e*P P 09 36 52.8 -0.4
V26A Tequesquite Ra 82.95 48 ⇑P P 09 36 53.5 +0.1
baz=83,SNR=31
W25A X Bar L Ranch, 82.97 49 ⇓P P 09 36 54.4 +0.8
baz=83,SNR=68
FETA Feichten 82.99 329⇑*i*P P 09 36 53.7 +0.3
comp=Z,188nm,1.5s
SSW Stow on the Wo 83.00 339⇑*e*P P 09 36 53.3 +0.2
SSW Stow on the Wo 83.00 339 P P 09 36 53.3 +0.2
AOS Alonnisos 83.01 316 P P 09 36 53.4 -0.1
CBKS Cedar Bluff 83.02 44 *e*P P 09 36 52.9 -0.7
CBKS pmax pmax
comp=Z,222nm,1.0s
CBKS MLR MLR
comp=Z,1µm,20.0s
CBKS Cedar Bluff 83.02 44 *e*P P 09 36 52.9 -0.7
comp=Z,222nm,1.0s
CBKS LR LR
comp=Z,1µm,20.0s
CBKS Cedar Bluff 83.02 44 ⇓P P 09 36 52.8 -0.8
baz=83,SNR=20
NIS1 Nisyros Isl. 83.07 313 P P 09 36 53.1 -0.8
FNA Florina 83.10 319 P P 09 36 53.6 -0.4
DAVA Damuels 83.11 330⇓*i*P P 09 36 54.2 +0.2
comp=Z,169nm,0.9s
CDF Champ du Feu 83.15 332⇑*i*P P 09 36 54.3 +0.1
comp=Z,228nm,0.9s
CDF Champ du Feu 83.15 332⇑*i*P P 09 36 54.3 +0.1
CDF pmax pmax
comp=Z,228nm,0.9s
CDF Champ du Feu 83.15 332⇑*i*P P 09 36 54.3 +0.1
comp=Z,228nm,0.9s
320A Kipp Ranch, An 83.22 54 ⇑P P 09 36 55.6 +0.7
baz=83,SNR=24
221A Mesquite Ranch 83.22 54 ⇑P P 09 36 55.6 +0.8
baz=83
122A Conniff Cattle 83.22 53 ⇑P P 09 36 55.9 +1.0
baz=83,SNR=16
XOR Xorichti 83.22 317 P P 09 36 54.2 -0.4
LIBD Limburg 83.25 331 *e*P P 09 36 54.7 +0.2
LIBD Limburg 83.25 331 *e*P P 09 36 54.7 +0.2
NEO Neokhori 83.25 317 P P 09 36 54.3 -0.5
KZN Kozani 83.26 318 P P 09 36 54.2 -0.6
MCH1 Michaelchurch 83.29 339⇑*e*P P 09 36 54.5 -0.2
MCH1 AMB AMB 09 36 56.9
comp=Z,256nm,1.0s
MCH1 Michaelchurch 83.29 339 P P 09 36 54.5 -0.2
MCH1 AMB AMB 09 36 56.9
comp=Z,256nm,1.0s
STON Ston 83.29 322 P P 09 36 53.9 -0.9
Z23A Rita Site, Whi 83.29 52 ⇑P P 09 36 56.0 +0.7
baz=83,SNR=25
Y24A Capitan 83.31 51 ⇑P P 09 36 55.7 +0.4
baz=83,SNR=27
FYTO Fytoko, Volos 83.32 317 P pP 09 37 05.4 -3.0
FELD Feldberg im Sc 83.33 331 *e*P P 09 36 55.1 -0.1
X25A Clemmons Ranch 83.34 50 ⇑P P 09 36 56.3 +0.8
baz=83,SNR=28
ECH Echery 83.36 332 *e*P P 09 36 54.8 -0.3
ECH pmax pmax
comp=Z,119nm,0.9s
ECH MLR MLR
comp=Z,2µm,20.0s
ECH Echery 83.36 332 *e*P P 09 36 54.8 -0.3
comp=Z,119nm,0.9s
ECH LR LR
comp=Z,2µm,20.0s
SWN1 Swindon 83.39 338⇑*e*P P 09 36 55.3 +0.1
SWN1 AMB AMB 09 36 56.5
comp=Z,518nm,1.1s
SWN1 AMS AMS 10 17 41.3
comp=Z,2µm,22.5s
SWN1 Swindon 83.39 338 P P 09 36 55.3 +0.1
SWN1 AMB AMB 09 36 56.5
comp=Z,518nm,1.1s
WOL Wolverton 83.40 338⇑*e*P P 09 36 55.1 -0.1
WOL AMB AMB 09 36 56.0
comp=Z,270nm,0.9s
WOL AMS AMS 10 17 29.8
comp=Z,2µm,24.0s
WOL Wolverton 83.40 338 P P 09 36 55.1 -0.1
WOL AMB AMB 09 36 56.0
comp=Z,270nm,0.9s
WOL AMS AMS 10 17 29.8
comp=Z,2µm,24.0s
TIR Tirane 83.42 320 *e*P P 09 36 55.6 0.0
TIR pmax pmax
comp=Z,346nm,1.0s
TIR MLR MLR
comp=Z,4µm,22.0s
TIR Tirane 83.42 320 *e*P P 09 36 55.6 0.0
comp=Z,346nm,1.0s
TIR LR LR
comp=Z,4µm,22.0s
W26A Owens Ranch, T 83.46 49 ⇓P P 09 36 56.9 +0.8
baz=83,SNR=11
MRKA Markates 83.50 316 P P 09 36 55.3 -0.8
NEST Nestorio 83.54 319 P P 09 36 56.1 -0.2
MRMA Marmari 83.56 315 P P 09 36 56.0 -0.3
222A Williams Famil 83.57 53 ⇑P P 09 36 57.3 +0.6
baz=83
ERET Eretria 83.58 316 P P 09 36 56.0 -0.5
PAGF Fort de Pagny 83.58 333⇑*i*P P 09 36 56.7 +0.4
comp=Z,124nm,1.0s
PAGF Fort de Pagny 83.58 333⇑*i*P P 09 36 56.7 +0.4
comp=Z,124nm,1.0s
APE Apeiranthos 83.65 314 ⇑P P 09 36 55.6 -1.3
APE Apeiranthos 83.65 314 P P 09 36 55.5 -1.3
APE Apeiranthos 83.65 314 *e*P P 09 36 56.1 -0.8
APE Apeiranthos 83.65 314⇑*i*P P 09 36 55.6 -1.3
MOF Molkenrain 83.67 331 *e*P P 09 36 56.6 -0.3
MOF Molkenrain 83.67 331 *e*P P 09 36 56.6 -0.3
THL Klokotos Trika 83.69 318 P P 09 36 55.8 -1.1
THL Klokotos Trika 83.69 318 *e*P P 09 36 55.5 -1.4
123A Bell Site, Whi 83.71 52 ⇓P P 09 36 58.0 +0.7
baz=84,SNR=7.3
Y25A Mesa, Roswell 83.75 50 ⇑P P 09 36 57.7 +0.2
baz=84,SNR=29
Z24A Sheeppen Canyo 83.77 51 ⇑P P 09 36 58.2 +0.5
baz=84
THEF They Montfort 83.77 332 *e*P P 09 36 57.3 +0.1
THEF They Montfort 83.77 332 *e*P P 09 36 57.3 +0.1
HINF Hinteralfeld 83.80 332⇑*i*P P 09 36 57.2 -0.3
comp=Z,111nm,1.0s
HINF Hinteralfeld 83.80 332⇑*i*P P 09 36 57.2 -0.3
HINF pmax pmax
comp=Z,111nm,1.0s
HINF Hinteralfeld 83.80 332⇑*i*P P 09 36 57.2 -0.3
comp=Z,111nm,1.0s
ATAL Atalanti 83.81 317 P P 09 36 56.9 -0.7
X26A CR and CF Fran 83.82 49 ⇑P P 09 36 58.6 +0.6
baz=84,SNR=48
HAU Haudompre 83.83 332⇑*i*P P 09 36 57.4 -0.2
comp=Z,155nm,0.9s
HAU *e*R
comp=Z,4µm,20.5s
HAU Haudompre 83.83 332⇑*i*P P 09 36 57.4 -0.2
HAU pmax pmax
comp=Z,155nm,0.9s
HAU Haudompre 83.83 332⇑*i*P P 09 36 57.4 -0.2
comp=Z,155nm,0.9s
KARP Karpathos 83.84 312 P P 09 36 57.7 -0.1
PTL Penteli 83.84 316 P P 09 36 56.5 -1.3
PTL Penteli 83.84 316 *e*P P 09 36 56.7 -1.1
LKR Lokris 83.85 317 P P 09 36 56.8 -1.0
LKR Lokris 83.85 317 *e*P P 09 36 57.3 -0.5
BBS Basel-Blauen 83.86 331 *e*P P 09 36 57.9 +0.1
BBS Basel-Blauen 83.86 331 *e*P P 09 36 57.9 +0.1
MEZF Maizieres J'vi 83.86 333⇑*i*P P 09 36 58.1 +0.4
comp=Z,522nm,1.3s
MEZF Maizieres J'vi 83.86 333⇑*i*P P 09 36 58.1 +0.4
comp=Z,522nm,1.3s
V28A Channing 83.87 48 ⇓P P 09 36 58.0 -0.1
baz=84,SNR=11
W27A Bowe Ranch, En 83.89 49 ⇓P P 09 36 58.9 +0.7
baz=84,SNR=28
ATHU Athens Univers 83.94 316 P P 09 37 03.1 +4.8
AXAR Agios Charalam 83.95 317 P P 09 36 57.4 -0.9
ATH Athens Observa 83.97 316 P P 09 36 57.1 -1.3
SCIA State Center 83.98 38 *e*P P 09 36 58.5 +0.1
comp=Z,690nm,1.4s
SCIA LR LR
comp=Z,2µm,21.0s
TUE Stuetta 83.99 329 *e*P P 09 36 58.8 +0.1
comp=Z,203nm,1.1s
TUE LR LR
comp=Z,3µm,20.0s
MAKR Makrakomi, Fth 84.04 317 P P 09 36 57.9 -0.9
223A Chaparral, Ant 84.05 53 ⇑P P 09 36 59.7 +0.6
baz=84,SNR=6.6
SFTF Sexfontaines 84.12 333⇑*i*P P 09 36 59.2 +0.2
comp=Z,593nm,1.2s
SFTF Sexfontaines 84.12 333⇑*i*P P 09 36 59.2 +0.2
comp=Z,593nm,1.2s
124A Stngfield Ra 84.15 52 ⇑P P 09 37 00.1 +0.3
baz=84,SNR=33
X27A F and S Farms, 84.16 49 ⇓P P 09 37 00.4 +0.8
baz=84,SNR=32
V29A Stinnett 84.18 47 ⇓P P 09 36 59.6 -0.1
baz=84
Z25A Roswell 84.19 51 ⇓P P 09 37 00.5 +0.7
baz=84,SNR=52
LOMF Lomont 84.21 331 *e*P P 09 36 59.9 +0.3
LOMF Lomont 84.21 331 *e*P P 09 36 59.9 +0.3
JAN Janina 84.21 319 P P 09 37 00.0 +0.3
W28A Vega 84.24 48 ⇑P P 09 37 00.5 +0.5
baz=84,SNR=10.0
NAIG Nisos Aigina 84.25 316 *e*P P 09 36 58.3 -1.6
Y26A Elida 84.26 50 ⇑P P 09 37 00.5 +0.4
baz=84,SNR=6.1
DESF Desfina 84.28 317 P P 09 36 57.5 -2.6
DSF Desfina 84.28 317 P P 09 36 58.5 -1.6
LTK Loutraki 84.34 316 P P 09 36 58.5 -1.8
LTK Loutraki 84.34 316 *e*P P 09 36 58.0 -2.3
HEX Exmoor 84.34 339⇑*i*P P 09 37 00.3 +0.2
HEX Exmoor 84.34 339 P P 09 37 00.3 +0.2
URZ Urewera 84.39 153 *e*P P 09 36 59.7 -0.5
comp=Z,42nm,0.9s
KSU1 Kansas State U 84.44 42 *e*P P 09 36 59.8 -1.0
comp=Z,114nm,0.9s
KSU1 LR LR
comp=Z,3µm,22.0s
KALE Kalithea 84.50 317 P P 09 36 59.6 -1.6
224A Cornudas Mount 84.55 52 ⇓P P 09 37 02.1 +0.4
baz=84,SNR=60
TRIZ Trizonia 84.55 317 P P 09 37 00.3 -1.0
IGT Igoumenitsa 84.57 319 P P 09 37 01.9 +0.5
DID Didima 84.58 316 P P 09 36 58.9 -2.7
DID Didima 84.58 316 *e*P P 09 36 59.2 -2.4
EFP Efpalio 84.59 317 P P 09 37 01.0 -0.6
EFP Efpalio 84.59 317 *e*P P 09 37 01.7 +0.1
HTL Hartland 84.59 340⇑*e*P P 09 37 01.6 +0.3
HTL AMB AMB 09 37 02.6
comp=Z,306nm,1.2s
HTL AMS AMS 10 18 38.9
comp=Z,2µm,19.7s
HTL Hartland 84.59 340 P P 09 37 01.6 +0.3
HTL AMB AMB 09 37 02.6
comp=Z,306nm,1.2s
DIDY Didyma 84.61 316 P P 09 36 59.0 -2.8
Z26A Caprock 84.63 50 ⇓P P 09 37 02.3 +0.3
baz=84,SNR=73
W29A Amraillo 84.65 48 ⇑P P 09 37 02.3 +0.2
baz=84,SNR=8.9
125A Gardner Draw, 84.66 51 ⇓P P 09 37 02.6 +0.4
baz=84,SNR=53
Y27A Causey 84.67 49 ⇑P P 09 37 02.5 +0.3
baz=84,SNR=46
ZKR Zakros 84.68 312 P P 09 37 02.1 0.0
ZKR Zakros 84.68 312 *e*P P 09 37 02.4 +0.3
LAKA Lakka 84.69 317 P P 09 37 01.3 -0.8
KEK Kerkira 84.70 319 P P 09 37 01.9 -0.2
KEK Kerkira 84.70 319 *e*P P 09 37 01.8 -0.3
RGA Parga 84.72 319 P P 09 37 01.9 -0.3
GUR Goura 84.73 317 P P 09 37 01.2 -1.2
GUR Goura 84.73 317 *e*P P 09 37 01.4 -1.0
UPR University Cam 84.76 317 P P 09 37 02.3 -0.1
X28A Dimmitt 84.77 48 ⇑P P 09 37 02.9 +0.1
baz=85,SNR=9.3
AMTX Amarillo 84.81 48 *e*P P 09 37 03.1 +0.3
comp=Z,189nm,0.9s
AMTX LR LR
comp=Z,2µm,20.0s
AMTX Amarillo 84.81 48 ⇓P P 09 37 03.4 +0.5
baz=85,SNR=29
MSTX Muleshoe 84.84 49 ⇑P P 09 37 03.1 0.0
baz=85,SNR=26
PMOR Pomariorio Ree 84.85 114 *e*P P 09 37 03.1 +0.1
comp=Z,222nm,1.3s
MNTX Cornudas Mount 84.90 52 *e*P P 09 37 03.4 +0.1
comp=Z,218nm,0.6s
MNTX LR LR
comp=Z,4µm,20.0s
MNTX Cornudas Mount 84.90 52 ⇑P P 09 37 03.7 +0.4
baz=85,SNR=57
NPS Neapolis 84.92 313 P P 09 37 02.5 -0.8
NPS Neapolis 84.92 313 *e*P P 09 37 02.1 -1.2
225A Deer Hill, Car 84.95 52 ⇓P P 09 37 04.0 +0.3
baz=85,SNR=15
DYA Yadsworthy 84.95 339⇑*e*P P 09 37 03.1 0.0
DYA AMB AMB 09 37 04.0
comp=Z,307nm,1.4s
DYA AMS AMS 10 19 08.9
comp=Z,2µm,22.6s
DYA Yadsworthy 84.95 339 P P 09 37 03.1 0.0
DYA AMB AMB 09 37 04.0
comp=Z,307nm,1.4s
DYA AMS AMS 10 19 08.9
comp=Z,2µm,22.6s
LKD2 Lefkada island 84.97 318 P P 09 37 03.0 -0.5
LKD2 Lefkada island 84.97 318 *e*P P 09 37 03.4 -0.1
324A Moseley Ranch, 85.02 53 ⇓P P 09 37 04.0 -0.1
baz=85,SNR=36
126A Clayton Basin, 85.05 51 ⇓P P 09 37 04.2 +0.1
baz=85,SNR=17
Z27A Tatum 85.05 50 ⇓P P 09 37 04.3 +0.2
baz=85,SNR=104
LAST Lasithi 85.06 313 P P 09 37 03.9 -0.2
LAST Lasithi 85.06 313 *e*P P 09 37 04.5 +0.4
RLS Riolos of Patr 85.10 317 P P 09 37 04.2 +0.1
RLS Riolos of Patr 85.10 317 *e*P P 09 37 04.3 +0.1
CABF La Chapelle 85.10 331⇑*i*P P 09 37 04.2 +0.1
comp=Z,338nm,1.3s
CABF La Chapelle 85.10 331⇑*i*P P 09 37 04.2 +0.1
CABF pmax pmax
comp=Z,338nm,1.3s
CABF La Chapelle 85.10 331⇑*i*P P 09 37 04.2 +0.1
comp=Z,338nm,1.3s
X29A Tulia 85.11 48 ⇓P P 09 37 04.8 +0.4
baz=85,SNR=31
OG01 Vacheresse 85.12 331 *e*P P 09 37 04.1 -0.1
VLX Vlachokerasia 85.13 316 P P 09 37 03.1 -1.3
VLX Vlachokerasia 85.13 316 *e*P P 09 37 03.2 -1.2
XRY Khrisi 85.15 312 *e*P P 09 37 05.0 +0.6
GDL2 Guadalupe Moun 85.16 51 *e*P P 09 37 05.0 +0.3
comp=Z,417nm,1.0s
Y28A McKinney Farm, 85.18 49 ⇑P P 09 37 04.9 +0.2
baz=85,SNR=26
VLI Veliai 85.32 315 P P 09 37 03.3 -2.0
VLI Veliai 85.32 315 *e*P P 09 37 03.9 -1.4
LOR Lormes 85.33 333⇑*i*P P 09 37 05.2 0.0
comp=Z,688nm,1.0s
LOR *e*R
comp=Z,4µm,20.8s
LOR Lormes 85.33 333⇑*i*P P 09 37 05.2 0.0
comp=Z,688nm,1.0s
325A Bean Ranch, Si 85.38 52 ⇑P P 09 37 06.0 +0.1
baz=85,SNR=26
GLMI Grayling 85.39 31 *e*P P 09 37 05.2 -0.3
comp=Z,552nm,1.0s
GLMI LR LR
comp=Z,2µm,19.0s
CLNB Carlsbad 85.40 51 *e*P P 09 37 06.4 +0.5
comp=Z,44nm,1.1s
KFL Anninata 85.41 318 P P 09 37 05.4 -0.3
226A Malaga, Loving 85.41 51 ⇓P P 09 37 06.2 +0.3
baz=85,SNR=32
127A Arkansas Junct 85.42 50 ⇓P P 09 37 05.8 -0.1
baz=85,SNR=13
FLN La Foliniere 85.45 336⇑*i*P P 09 37 05.6 -0.1
comp=Z,400nm,1.3s
FLN *e*R
comp=Z,3µm,21.8s
FLN La Foliniere 85.45 336⇑*i*P P 09 37 05.6 -0.1
FLN pmax pmax
comp=Z,400nm,1.3s
FLN La Foliniere 85.45 336⇑*i*P P 09 37 05.6 -0.1
comp=Z,400nm,1.3s
VLS Valsamata 85.46 318 P P 09 37 05.4 -0.5
VLS Valsamata 85.46 318 *e*P P 09 37 05.5 -0.5
VLC Villacollemand 85.48 328 *e*P P 09 37 06.7 +0.7
comp=Z,249nm,1.3s
VLC LR LR
comp=Z,5µm,22.0s
PPT2 Papeete2 85.48 117 *e*P P 09 37 06.5 +0.2
comp=Z,109nm,1.2s
PPT2 *e*S S 09 47 31.9 -2.6
comp=Z,1µm,26.2s
PPT2 *e*LR LR 10 04 05.8
comp=Z,6µm,22.5s,baz=319
LDF La Druitiere 85.49 336⇑*i*P P 09 37 05.8 -0.1
comp=Z,628nm,1.6s
LDF La Druitiere 85.49 336⇑*i*P P 09 37 05.8 -0.1
LDF pmax pmax
comp=Z,628nm,1.6s
LDF La Druitiere 85.49 336⇑*i*P P 09 37 05.8 -0.1
comp=Z,628nm,1.6s
ITM Ithomi 85.51 316 P P 09 37 05.3 -0.9
ITM Ithomi 85.51 316 *e*P P 09 37 05.6 -0.6
PAE Paea 85.53 117 *e*P P 09 37 06.3 -0.1
comp=Z,20nm,1.3s
SIVA Sivas 85.54 313 P P 09 37 06.4 0.0
SIVA Sivas 85.54 313 *e*P P 09 37 06.7 +0.3
Z28A Tucker Farm, M 85.55 49 ⇓P P 09 37 06.7 +0.1
baz=85,SNR=32
Y29A Porterfield Fa 85.55 49 ⇓P P 09 37 06.9 +0.3
baz=85,SNR=19
JSA Saint Aubin 85.58 338⇑*e*P P 09 37 05.9 -0.3
JSA AMB AMB 09 37 07.3
comp=Z,320nm,1.1s
JSA AMS AMS 10 17 41.0
comp=Z,3µm,18.9s
JSA Saint Aubin 85.58 338 P P 09 37 05.9 -0.3
JSA AMB AMB 09 37 07.3
comp=Z,320nm,1.1s
KYTH Kithira 85.59 315 *e*P P 09 37 05.8 -0.9
VAM Vamos 85.60 314 P P 09 37 07.3 +0.6
VAM Vamos 85.60 314 *e*P P 09 37 07.0 +0.3
TIAR Tiarei 85.62 117 *e*P P 09 37 07.0 +0.1
comp=Z,143nm,1.2s
SSF Saint Saulge 85.64 333⇑*i*P P 09 37 06.8 +0.2
comp=Z,334nm,0.9s
SSF Saint Saulge 85.64 333⇑*i*P P 09 37 06.8 +0.2
SSF pmax pmax
comp=Z,334nm,0.9s
SSF Saint Saulge 85.64 333⇑*i*P P 09 37 06.8 +0.2
comp=Z,334nm,0.9s
AQU L'Aquila 85.65 325 *e*P P 09 37 07.1 +0.2
comp=Z,1µm,1.9s
AQU LR LR
comp=Z,4µm,19.0s
AQU L'Aquila 85.65 325⇑*i*P P 09 37 08.1 +1.2
RSL Roselend 85.68 331 *e*P P 09 37 08.1 +1.0
RSL Roselend 85.68 331 *e*P P 09 37 08.1 +1.0
HYF Humbligny 85.75 334⇑*i*P P 09 37 07.8 +0.6
HYF Humbligny 85.75 334⇑*i*P P 09 37 07.8 +0.6
KARN Karanos 85.76 314 P P 09 37 07.2 -0.3
425A Indio Mountain 85.78 53 ⇑P P 09 37 08.1 +0.3
baz=86,SNR=35
LPL La Plagne 85.79 330⇑*i*P P 09 37 08.0 +0.3
comp=Z,407nm,0.9s
LPL La Plagne 85.79 330⇑*i*P P 09 37 08.0 +0.3
LPL pmax pmax
comp=Z,407nm,0.9s
LPL La Plagne 85.79 330⇑*i*P P 09 37 08.0 +0.3
comp=Z,407nm,0.9s
LPG La Plagne 85.80 330⇑*i*P P 09 37 08.1 +0.3
comp=Z,469nm,0.9s
LPG La Plagne 85.80 330⇑*i*P P 09 37 08.1 +0.3
LPG pmax pmax
comp=Z,469nm,0.9s
LPG La Plagne 85.80 330⇑*i*P P 09 37 08.1 +0.3
comp=Z,469nm,0.9s
PYL PYLOS 85.83 316 P P 09 37 06.4 -1.4
PYL PYLOS 85.83 316 *e*P P 09 37 06.7 -1.1
TVO Taravao 85.84 117 *e*P P 09 37 08.4 +0.4
comp=Z,185nm,1.2s
GRR Gorron 85.90 336⇑*i*P P 09 37 08.1 +0.2
comp=Z,651nm,1.2s
GRR Gorron 85.90 336⇑*i*P P 09 37 08.1 +0.2
GRR pmax pmax
comp=Z,651nm,1.2s
GRR Gorron 85.90 336⇑*i*P P 09 37 08.1 +0.2
comp=Z,651nm,1.2s
227A Bennet, Jal 85.93 51 ⇑P P 09 37 08.6 +0.1
baz=86,SNR=12
Z29A Hungry Hill Ra 85.96 49 ⇑P P 09 37 09.1 +0.4
baz=86,SNR=133
128A Castleberry Fa 85.97 50 ⇓P P 09 37 08.8 +0.1
baz=86,SNR=37
326A Caldwell Ranch 86.01 52 ⇓P P 09 37 09.0 +0.1
baz=86,SNR=14
BNI Bardonecchia 86.20 330 *e*P P 09 37 09.5 -0.2
BNI pmax pmax
comp=Z,125nm,0.9s
BNI MLR MLR
comp=Z,3µm,21.0s
BNI Bardonecchia 86.20 330 *e*P P 09 37 09.5 -0.2
comp=Z,125nm,0.9s
BNI LR LR
comp=Z,3µm,21.0s
228A UT Block 9, Go 86.27 50 ⇓P P 09 37 10.4 +0.2
baz=86,SNR=9.8
327A Balmorhea Ranc 86.27 51 ⇓P P 09 37 10.6 +0.4
baz=86
BGF Bois d'Agland 86.30 333⇑*i*P P 09 37 10.2 +0.3
comp=Z,334nm,1.2s
BGF Bois d'Agland 86.30 333⇑*i*P P 09 37 10.2 +0.3
BGF pmax pmax
comp=Z,334nm,1.2s
BGF Bois d'Agland 86.30 333⇑*i*P P 09 37 10.2 +0.3
comp=Z,334nm,1.2s
129A Stewart Farms, 86.32 50 ⇓P P 09 37 10.3 -0.2
baz=86,SNR=10.0
SNZO South Karori 86.36 156 PFAKE 09 37 20.0 +10
SNZO LR LR
comp=Z,1µm,20.0s
CUC Castrocucco 86.42 322 *e*P P 09 37 10.0 -0.7
comp=Z,48nm,1.0s
CUC LR LR
comp=Z,2µm,19.0s
MBDF Montbardon 86.44 330⇑*i*P P 09 37 10.4 -0.5
comp=Z,149nm,0.9s
MBDF Montbardon 86.44 330⇑*i*P P 09 37 10.4 -0.5
MBDF pmax pmax
comp=Z,149nm,0.9s
MBDF Montbardon 86.44 330⇑*i*P P 09 37 10.4 -0.5
comp=Z,149nm,0.9s
426A McDonald Obser 86.44 52 ⇑P P 09 37 11.1 -0.2
baz=86,SNR=22
LBOS 86.44 285 *e*P P 09 37 11.9 +0.4
SGMF Saint Gilles 86.53 337⇑*i*P P 09 37 11.4 +0.4
comp=Z,709nm,1.2s
SGMF Saint Gilles 86.53 337⇑*i*P P 09 37 11.4 +0.4
SGMF pmax pmax
comp=Z,709nm,1.2s
SGMF Saint Gilles 86.53 337⇑*i*P P 09 37 11.4 +0.4
comp=Z,709nm,1.2s
WMOK Wichita Mounta 86.54 46 *e*P P 09 37 11.0 -0.3
WMOK pmax pmax
comp=Z,87nm,1.0s
WMOK MLR MLR
comp=Z,3µm,21.0s
WMOK Wichita Mounta 86.54 46 *e*P P 09 37 11.0 -0.3
comp=Z,87nm,1.0s

WMOK LR LR
comp=Z,3µm,21.0s
PLDF La Plantade 86.54 333 *e*P **P 09 37 11.8 +0.6**
PLDF La Plantade 86.54 333 *e*P **P 09 37 11.8 +0.6**
TIP Timpagrande 86.61 321 *e*P **P 09 37 11.6 -0.1**
comp=Z,339nm,1.5s
TIP LR LR
comp=Z,3µm,22.0s
ORIF Oris-en-Rattie 86.61 331⇑*i*P **P 09 37 11.8 +0.2**
comp=Z,188nm,1.0s
ORIF *e*R
comp=Z,2µm,21.8s
ORIF Oris-en-Rattie 86.61 331⇑*i*P **P 09 37 11.8 +0.2**
ORIF pmax pmax
comp=Z,188nm,1.0s
ORIF Oris-en-Rattie 86.61 331⇑*i*P **P 09 37 11.8 +0.2**
comp=Z,188nm,1.0s
DHBB Dhamar BB 86.62 286 *e*P **P 09 37 12.8 +0.4**
AGO Saint Agoulin 86.64 333 *e*P **P 09 37 12.2 +0.6**
ROSF Rostrenen 86.66 338⇑*i*P **P 09 37 12.2 +0.5**
comp=Z,832nm,1.1s
ROSF Rostrenen 86.66 338⇑*i*P **P 09 37 12.2 +0.5**
ROSF pmax pmax
comp=Z,832nm,1.1s
ROSF Rostrenen 86.66 338⇑*i*P **P 09 37 12.2 +0.5**
comp=Z,832nm,1.1s
328A Wristen Ranch, 86.67 51 ⇓P **P 09 37 12.2 +0.1**
baz=86,SNR=22
427A Hayter Ranch, 86.69 52 ⇓P **P 09 37 12.5 +0.2**
baz=86,SNR=24
TCF Toulx Ste Croi 86.75 334⇑*i*P **P 09 37 12.6 +0.4**
comp=Z,371nm,1.1s
TCF Toulx Ste Croi 86.75 334⇑*i*P **P 09 37 12.6 +0.4**
TCF pmax pmax
comp=Z,371nm,1.1s
TCF Toulx Ste Croi 86.75 334⇑*i*P **P 09 37 12.6 +0.4**
comp=Z,371nm,1.1s
SAOF Saorge 86.76 329 *e*P **P 09 37 11.3 -1.0**
SAOF Saorge 86.76 329 *e*P **P 09 37 11.3 -1.0**
AUTN L'Aution 86.80 329 *e*P **P 09 37 12.1 -0.6**
AUTN L'Aution 86.80 329 *e*P **P 09 37 12.1 -0.6**
229A Bryant Ranch, 86.84 50 ⇑P **P 09 37 13.4 +0.5**
baz=87,SNR=7.7
526A Mary Lane Ranc 86.84 53 ⇓P **P 09 37 13.4 +0.4**
baz=87,SNR=37
TOUF Mont Tournerai 86.86 329 *e*P **P 09 37 12.1 -0.9**
TOUF Mont Tournerai 86.86 329 *e*P **P 09 37 12.1 -0.9**
HDIL Hopedale 86.86 37 *e*P **P 09 37 12.5 -0.3**
comp=Z,561nm,1.3s
HDIL LR LR
comp=Z,2µm,20.0s
COLF Collangettes 86.90 332 *e*P **P 09 37 13.5 +0.5**
SBF Sospel 86.91 329⇑*i*P **P 09 37 12.2 -0.9**
comp=Z,163nm,0.9s
SBF Sospel 86.91 329⇑*i*P **P 09 37 12.2 -0.9**
SBF pmax pmax
comp=Z,163nm,0.9s
SBF Sospel 86.91 329⇑*i*P **P 09 37 12.2 -0.9**
comp=Z,163nm,0.9s
BST Brest 86.92 338 *e*P **P 09 37 13.3 +0.4**
PYM Petit Puy Mans 86.94 333 *e*P **P 09 37 13.7 +0.5**
PYM Petit Puy Mans 86.94 333 *e*P **P 09 37 13.7 +0.5**
MVIF Mont Vial 86.99 329 *e*P **P 09 37 12.8 -0.8**
MVIF Mont Vial 86.99 329 *e*P **P 09 37 12.8 -0.8**
OG25 Le Caire 87.01 330 *e*P **P 09 37 13.3 -0.3**
QUIF Quistinic 87.01 338⇑*i*P **P 09 37 13.6 +0.3**
comp=Z,333nm,1.2s
QUIF Quistinic 87.01 338⇑*i*P **P 09 37 13.6 +0.3**
QUIF pmax pmax
comp=Z,333nm,1.2s
QUIF Quistinic 87.01 338⇑*i*P **P 09 37 13.6 +0.3**
comp=Z,333nm,1.2s
REVF Revere 87.04 329 *e*P **P 09 37 13.0 -0.7**
REVF Revere 87.04 329 *e*P **P 09 37 13.0 -0.7**
527A Woodward Ranch 87.07 52 ⇓P **P 09 37 14.2 0.0**
baz=87,SNR=14
329A Wagon Wheel Ra 87.08 50 ⇓P **P 09 37 14.2 +0.1**
baz=87
VIVF Saint-Julien-l 87.12 331⇑*i*P **P 09 37 14.2 +0.2**
comp=Z,332nm,1.1s
VIVF Saint-Julien-l 87.12 331⇑*i*P **P 09 37 14.2 +0.2**
VIVF pmax pmax
comp=Z,332nm,1.1s
VIVF Saint-Julien-l 87.12 331⇑*i*P **P 09 37 14.2 +0.2**
comp=Z,332nm,1.1s
OCF Saint Nazaire 87.12 331 *e*P **P 09 37 14.5 +0.4**
VERF Verneugheol 87.13 333 *e*P **P 09 37 14.3 +0.2**
626A Big Bend Ranch 87.17 53 ⇑P **P 09 37 14.6 0.0**
baz=87,SNR=22
428A Kincaid Ranch, 87.21 51 ⇑P **P 09 37 15.3 +0.5**
baz=87,SNR=21
CALN Calern 87.22 329 *e*P **P 09 37 13.8 -0.8**
CALN Calern 87.22 329 *e*P **P 09 37 13.8 -0.8**
MFF Saint Martin d 87.26 335⇑*i*P **P 09 37 15.2 +0.6**
comp=Z,545nm,1.0s
MFF Saint Martin d 87.26 335⇑*i*P **P 09 37 15.2 +0.6**
MFF pmax pmax
comp=Z,545nm,1.0s
MFF Saint Martin d 87.26 335⇑*i*P **P 09 37 15.2 +0.6**
comp=Z,545nm,1.0s
TUL1 Tulsa 87.27 44 ⇓P **P 09 37 14.9 0.0**
baz=87,SNR=26
LBL Lubilhac 87.31 332 *e*P **P 09 37 15.3 +0.3**
LBL Lubilhac 87.31 332 *e*P **P 09 37 15.3 +0.3**
PGF Pioggiola 87.38 327⇑*i*P **P 09 37 14.5 -0.9**
comp=Z,227nm,1.5s
PGF Pioggiola 87.38 327⇑*i*P **P 09 37 14.5 -0.9**
PGF pmax pmax
comp=Z,227nm,1.5s
PGF Pioggiola 87.38 327⇑*i*P **P 09 37 14.5 -0.9**
comp=Z,227nm,1.5s
STOF St-Etienne Org 87.39 330 *e*P **P 09 37 15.4 +0.1**
STOF St-Etienne Org 87.39 330 *e*P **P 09 37 15.4 +0.1**
FRNF Fournols 87.41 333 *e*P **P 09 37 16.1 +0.7**
SMRF Simiane la Rot 87.53 330⇑*i*P **P 09 37 16.1 +0.1**
comp=Z,186nm,1.3s
SMRF Simiane la Rot 87.53 330⇑*i*P **P 09 37 16.1 +0.1**
comp=Z,186nm,1.3s
528A Cox Ranch, San 87.55 52 ⇓P **P 09 37 16.8 +0.3**
baz=87,SNR=30
VILF Villemus 87.58 330 *e*P **P 09 37 16.1 -0.2**
ABTX Abilene, Hawle 87.61 48 ⇑P **P 09 37 16.6 0.0**
baz=87
TXAR Lajitas Array 87.61 53 P **P 09 37 16.7 -0.1**
TXAR pP **pP 09 37 31.4 +1.2**
TXAR PKKPbc **PKKPbc 09 55 05.5 +2.3**
TXAR Lajitas Array 87.61 53 P **P 09 37 16.7 -0.1**
comp=Z,14nm,0.9s,baz=290,slow=3.5,SNR=79
TXAR pP **pP 09 37 31.4 +1.2**
comp=Z,95nm,1.0s,baz=294,slow=3.0,SNR=35
TXAR PKKPbc **PKKPbc 09 55 05.5 +2.3**
comp=Z,3.4nm,1.0s,baz=158,slow=5.3,SNR=12
TAVF Tavernes 87.65 330 *e*P **P 09 37 16.1 -0.5**
TRBA At Turbah 87.70 285 *e*P **P 09 37 17.9 +0.4**
TRBA AMb AMB 09 37 19.1
comp=Z,65nm,1.0s
627A Terlingua Ranc 87.70 53 ⇑P **P 09 37 17.2 0.0**
baz=88,SNR=14
LMR La Mourre 87.72 329⇑*i*P **P 09 37 16.3 -0.6**
comp=Z,242nm,1.3s
LMR La Mourre 87.72 329⇑*i*P **P 09 37 16.3 -0.6**
LMR pmax pmax
comp=Z,242nm,1.3s
LMR La Mourre 87.72 329⇑*i*P **P 09 37 16.3 -0.6**
comp=Z,242nm,1.3s
429A Davenport Ranc 87.76 51 ⇑P **P 09 37 17.0 -0.4**
baz=88
PRAF Pradon 87.83 330 *e*P **P 09 37 17.8 +0.3**
PRAF Pradon 87.83 330 *e*P **P 09 37 17.8 +0.3**
RJF Les Rejaudoux 87.85 333⇑*i*P **P 09 37 18.0 +0.5**
comp=Z,366nm,1.1s
RJF *e*R
comp=Z,3µm,19.8s
RJF Les Rejaudoux 87.85 333⇑*i*P **P 09 37 18.0 +0.5**
RJF pmax pmax
comp=Z,366nm,1.1s
RJF Les Rejaudoux 87.85 333⇑*i*P **P 09 37 18.0 +0.5**
comp=Z,366nm,1.1s
AAM Ann Arbor 87.88 32 *e*P **P 09 37 17.9 +0.3**
AAM pmax pmax
comp=Z,310nm,1.2s
AAM MLR MLR
comp=Z,3µm,22.0s
AAM Ann Arbor 87.88 32 *e*P **P 09 37 17.9 +0.3**
comp=Z,310nm,1.2s
AAM LR LR
comp=Z,3µm,22.0s
TREF Trevaresse 87.90 330 *e*P **P 09 37 18.2 +0.4**
TREF Trevaresse 87.90 330 *e*P **P 09 37 18.2 +0.4**
529A Stev Forest Ra 87.92 52 ⇓P **P 09 37 18.2 0.0**
baz=88
SLM Saint Louis 87.95 38 *e*P **P 09 37 17.4 -0.7**
SLM pmax pmax
comp=Z,547nm,1.4s
SLM Saint Louis 87.95 38 *e*P **P 09 37 17.4 -0.7**
comp=Z,548nm,1.4s
628A Black Gap, Mar 87.98 52 ⇑P **P 09 37 18.5 0.0**
baz=88,SNR=14
CAF Calviac 87.99 333⇑*i*P **P 09 37 19.1 +0.9**
comp=Z,302nm,1.0s
CAF Calviac 87.99 333⇑*i*P **P 09 37 19.1 +0.9**
CAF pmax pmax
comp=Z,302nm,1.0s
CAF Calviac 87.99 333⇑*i*P **P 09 37 19.1 +0.9**
comp=Z,302nm,1.0s
SFIN Scholer Farm 88.00 35 ⇑P **P 09 37 18.0 -0.2**
baz=88,SNR=19
430A Baggett Ranch, 88.03 50 ⇑P **P 09 37 18.2 -0.4**
baz=88
OSPF L'Ospedale 88.03 327 *e*P **P 09 37 17.9 -0.6**
BERF Bertagne 88.05 330 *e*P **P 09 37 18.5 -0.1**
LASF Ste Croix 88.08 331⇑*i*P **P 09 37 19.1 +0.5**
comp=Z,170nm,1.3s
LASF Ste Croix 88.08 331⇑*i*P **P 09 37 19.1 +0.5**
comp=Z,170nm,1.3s
GELF Grande-Etoile 88.09 330 *e*P **P 09 37 18.9 +0.2**
LFF La Frestale 88.43 334⇑*i*P **P 09 37 21.1 +0.9**
comp=Z,551nm,1.2s
LFF La Frestale 88.43 334⇑*i*P **P 09 37 21.1 +0.9**
LFF pmax pmax
comp=Z,551nm,1.2s
LFF La Frestale 88.43 334⇑*i*P **P 09 37 21.1 +0.9**
comp=Z,551nm,1.2s
431A Sonora 88.47 50 ⇓P **P 09 37 20.6 -0.2**
baz=88
MSNY Massena 88.80 25 *e*P **P 09 37 21.7 -0.2**
comp=Z,981nm,1.0s
OLIL Olney 88.88 37 *e*P **P 09 37 22.3 -0.1**
comp=Z,531nm,1.3s
RFTA Piano 88.98 46 *e*P **P 09 37 23.3 +0.3**
JCT Junction City 89.09 50 *e*P **P 09 37 23.5 -0.2**
JCT pmax pmax
comp=Z,106nm,0.9s
JCT MLR MLR
comp=Z,3µm,21.0s
JCT Junction City 89.09 50 *e*P **P 09 37 23.5 -0.2**
comp=Z,106nm,0.9s
JCT LR LR
comp=Z,3µm,21.0s
JCT Junction City 89.09 50⇑P **P 09 37 23.5 -0.2**
baz=89,SNR=35
SIUC Southern Illin 89.17 38 *e*P **P 09 37 23.8 0.0**
comp=Z,500nm,1.0s
LONY Lake Ozonia 89.23 25 *e*P **P 09 37 23.2 -0.8**
comp=Z,138nm,1.9s
LONY LR LR
comp=Z,2µm,20.0s
BLO Bloomington 89.24 36 *e*P **P 09 37 23.7 -0.4**
BLO pmax pmax
comp=Z,282nm,1.3s
BLO Bloomington 89.24 36 *e*P **P 09 37 23.7 -0.4**
comp=Z,282nm,1.3s
WHTX Lake Whitney 89.32 47⇑P **P 09 37 24.6 -0.1**
89
PQI Presque Isle 89.32 20 *e*P **P 09 37 24.2 -0.2**
comp=Z,152nm,0.9s
FRNY Flat Rock 89.36 25 *e*P **P 09 37 23.9 -0.7**
MIAR Mount Ida 89.48 43 *e*P **P 09 37 25.4 0.0**
MIAR pmax pmax
comp=Z,200nm,0.9s
MIAR MLR MLR
comp=Z,4µm,22.0s
MIAR Mount Ida 89.48 43 *e*P **P 09 37 25.4 0.0**
comp=Z,200nm,0.9s
MIAR LR LR
comp=Z,4µm,22.0s
ERPA Erie 89.49 30 *e*P **P 09 37 25.7 +0.4**
comp=Z,485nm,1.1s
ERPA LR LR
comp=Z,7µm,20.0s
LRDF Laroque-de-Fa 89.55 332 *e*P **P 09 37 26.1 +0.6**
TBI Tubuai 89.59 121 *e*P **P 09 37 26.5 +0.7**
comp=Z,196nm,1.2s
TBI *e*S **S 09 48 13.4 0.0**
comp=Z,779nm,26.2s
TBI *e*SS **SS 09 54 12.2 +1.3**
comp=Z,339nm,28.2s
TBI *e*LR LR 10 05 46.0
comp=Z,3µm,26.5s,baz=318
USIN University of 89.70 37 *e*P **P 09 37 26.6 +0.3**
comp=Z,289nm,1.4s
PARMO **Parma 89.75 39** *e*P **P 09 37 27.1 +0.6**
FILF Fillols 89.87 331 *e*P **P 09 37 27.1 0.0**
ACSO Alum Creek Sta 89.89 33 *e*P **P 09 37 27.1 0.0**
comp=Z,329nm,1.1s
ACSO LR LR
comp=Z,9µm,21.0s
NCB Newcomb 89.92 25 *e*P **P 09 37 26.9 -0.4**
comp=Z,151nm,1.2s
NCB LR LR
comp=Z,2µm,20.0s
UALR University of 89.94 42 *e*P **P 09 37 27.2 -0.3**
comp=Z,211nm,1.5s
MLS Moulis 90.05 333 *e*P **P 09 37 28.3 +0.4**
WCI Wyandotte Cave 90.11 36 *e*P **P 09 37 27.9 -0.3**
WCI pmax pmax
comp=Z,220nm,1.3s
WCI Wyandotte Cave 90.11 36 *e*P **P 09 37 27.9 -0.3**
comp=Z,220nm,1.3s
GNAR Gosnell 90.18 40 *e*P **P 09 37 28.7 +0.1**
comp=Z,5µm,1.3s
HBAR Harrisburg 90.19 41 *e*P **P 09 37 29.3 +0.7**
VALF Valcebollere 90.21 332 *e*P **P 09 37 29.3 +0.5**
MDV Middlebury 90.24 25 *e*P **P 09 37 28.4 -0.3**
comp=Z,1µm,0.7s
EPF Esparros 90.25 333⇑*i*P **P 09 37 28.7 -0.2**
comp=Z,62nm,1.0s
EPF Esparros 90.25 333⇑*i*P **P 09 37 28.7 -0.2**
EPF pmax pmax
comp=Z,62nm,1.0s
EPF Esparros 90.25 333⇑*i*P **P 09 37 28.7 -0.2**
comp=Z,62nm,1.0s
GLAT Glass 90.29 39 *e*P **P 09 37 29.1 0.0**
WDD Wield Dalam 90.31 320 PFAKE 09 37 40.0 +11
WDD LR LR
comp=Z,2µm,22.0s
LBNH Lisbon 90.42 24 *e*P **P 09 37 29.3 -0.3**
LBNH pmax pmax
comp=Z,22nm,0.9s
LBNH MLR MLR
comp=Z,2µm,20.0s
LBNH Lisbon 90.42 24 *e*P **P 09 37 29.3 -0.3**
comp=Z,22nm,0.9s
LBNH LR LR
comp=Z,2µm,20.0s
RESF Ens 90.44 333 *e*P **P 09 37 30.6 +0.7**
REYF Montagne du Re 90.47 334 *e*P **P 09 37 31.0 +1.1**
VIEF Viey 90.49 333 *e*P **P 09 37 31.0 +1.0**
HALT Halls 90.55 40 *e*P **P 09 37 30.3 0.0**
MSEY Mahe Island 90.57 264 PFAKE 09 37 40.0 +9.3
MSEY LR LR
comp=Z,1µm,22.0s
ACCN Adirondack Com 90.63 25 *e*P **P 09 37 30.3 -0.3**
comp=Z,183nm,1.2s
ETSF Etsaut 90.67 334⇑*i*P **P 09 37 31.7 +0.8**
comp=Z,136nm,1.1s
ETSF Etsaut 90.67 334⇑*i*P **P 09 37 31.7 +0.8**
ETSF pmax pmax
comp=Z,136nm,1.1s
ETSF Etsaut 90.67 334⇑*i*P **P 09 37 31.7 +0.8**
comp=Z,136nm,1.1s
SJPF Ste Jean 90.71 334⇑*i*P **P 09 37 31.7 +0.8**
comp=Z,57nm,0.9s
SJPF Ste Jean 90.71 334⇑*i*P **P 09 37 31.7 +0.8**
SJPF pmax pmax
comp=Z,57nm,0.9s
SJPF Ste Jean 90.71 334⇑*i*P **P 09 37 31.7 +0.8**
comp=Z,57nm,0.9s
HNH Hanover 90.78 24 *e*P **P 09 37 33.0 +1.7**
comp=Z,50nm,1.0s
MET Memphis--Engin 90.89 40 *e*P **P 09 37 34.1 +2.2**
comp=Z,93nm,0.8s
BINY Binghamton 90.89 27 *e*P **P 09 37 31.8 -0.1**
comp=Z,183nm,1.0s
BINY LR LR
comp=Z,3µm,22.0s
NATX Nacogdoches 91.04 46 *e*P **P 09 37 34.1 +1.4**
comp=Z,326nm,1.7s
NATX LR LR
comp=Z,3µm,21.0s
WVT Waverly 91.10 38 *e*P **P 09 37 32.8 -0.1**
WVT pmax pmax
comp=Z,161nm,1.3s
WVT Waverly 91.10 38 *e*P **P 09 37 32.8 -0.1**
comp=Z,161nm,1.3s
FFD Franklin Falls 91.19 24 *e*P **P 09 37 34.0 +0.8**
comp=Z,352nm,1.6s
TRY Troy 91.21 26 *e*P **P 09 37 33.2 0.0**
comp=Z,278nm,1.1s
EMMW East Machias 91.28 21 *e*P **P 09 37 33.8 +0.3**
comp=Z,213nm,1.4s
SSPA Standing Stone 91.56 29 *e*P **P 09 37 35.2 +0.3**
comp=Z,212nm,1.1s
OXF Oxford 91.63 40 *e*P **P 09 37 34.9 -0.4**
OXF pmax pmax
comp=Z,445nm,1.2s
OXF MLR MLR
comp=Z,3µm,22.0s
OXF Oxford 91.63 40 *e*P **P 09 37 34.9 -0.4**
comp=Z,445nm,1.2s
OXF LR LR
comp=Z,3µm,22.0s
HKT Hockley 91.77 48 *e*P **P 09 37 36.6 +0.6**
HKT pmax pmax
comp=Z,130nm,1.6s
HKT Hockley 91.77 48 *e*P **P 09 37 36.5 +0.6**
comp=Z,130nm,1.6s
PLAL Pickwick Lake 91.91 39 *e*P P 09 37 41.0 +4.4
comp=Z,74nm,1.0s
PLAL LR LR
comp=Z,4µm,20.0s
HRV Adam Dziewonsk 92.09 24 *e*P **P 09 37 37.8 +0.4**
HRV pmax pmax
comp=Z,128nm,1.0s
HRV Adam Dziewonsk 92.09 24 *e*P **P 09 37 37.8 +0.4**
comp=Z,128nm,1.0s
WES Weston 92.28 24 *e*P **P 09 37 38.6 +0.4**
WES pmax pmax
comp=Z,296nm,1.4s
WES Weston 92.28 24 *e*P **P 09 37 38.6 +0.4**
comp=Z,296nm,1.4s
KVTX Kingsville 92.38 50 PFAKE 09 37 50.0 +11
KVTX LR LR
comp=Z,6µm,19.0s
PAL Palisades 92.67 27 *e*P **P 09 37 40.1 +0.1**
PAL pmax pmax
comp=Z,11nm,0.7s
PAL Palisades 92.67 27 *e*P **P 09 37 40.1 +0.1**
comp=Z,11nm,0.7s
BRNJ Basking Ridge 92.73 27 *e*P **P 09 37 40.5 +0.2**
comp=Z,23µm,0.9s
SWET Sewanee 92.74 38 *e*P **P 09 37 39.6 -0.9**
comp=Z,158nm,1.2s
KEST Kesra 92.87 323 *e*P **P 09 37 40.6 -0.5**
KEST PP **PP 09 41 24.4 +1.3**
KEST Kesra 92.87 323 P **P 09 37 41.2 0.0**
comp=Z,10nm,0.9s,baz=190,slow=1.5,SNR=12
KEST PP **PP 09 41 24.4 +1.3**
comp=Z,4.6nm,1.0s,baz=317,slow=13,SNR=2.7
VBMS Vicksburg 92.89 43 *e*P **P 09 37 42.0 +0.8**
comp=Z,347nm,1.5s
VBMS LR LR
comp=Z,3µm,22.0s
CMAH Djebel Manchou 92.99 325 P **P 09 37 40.4 -1.3**
CPCT Cooper Cave 93.20 37 *e*P **P 09 37 42.0 -0.6**
CKFL Kef-Lekhel 93.48 326 P **P 09 37 43.5 -0.5**
BLA Blacksburg 93.51 33 *e*P **P 09 37 43.8 -0.3**
BLA pmax pmax
comp=Z,141nm,1.1s
BLA MLR MLR
comp=Z,5µm,20.0s
BLA Blacksburg 93.51 33 *e*P **P 09 37 43.8 -0.3**
comp=Z,141nm,1.1s
BLA LR LR
comp=Z,5µm,20.0s
PBRG Braganca 93.62 337 *e*P **P 09 37 44.2 -0.3**
comp=Z,75nm,1.8s
PBRG Braganca 93.62 337 *e*PP PP 09 41 28.4 -0.3
CASM Ain Smara 93.70 326 P **P 09 37 44.1 -0.8**
DFRA Djebel Bou Aff 93.72 326 P **P 09 37 44.5 -0.6**
CBN Corbin 93.87 30 *e*P **P 09 37 45.3 -0.3**
CBN LR LR
comp=Z,4µm,20.0s
PGAV Gavieira, Arco 93.92 338 *e*P **P 09 37 45.7 -0.2**
comp=Z,92nm,1.7s
LRAL Lakeview Retre 94.01 40 *e*P **P 09 37 46.0 -0.4**
comp=Z,27nm,0.9s
LRAL LR LR
comp=Z,3µm,20.0s
MVO Moncorvo 94.30 337 *e*P **P 09 37 47.3 -0.3**
comp=Z,68nm,1.7s
MVO Moncorvo 94.30 337 *e*PP PP 09 41 34.3 +0.3
CKHR Kef el Ahmar 94.32 326 P **P 09 37 47.9 0.0**
POLO Lamas de Olo 94.33 338 *e*P **P 09 37 47.6 -0.2**
comp=Z,44nm,1.5s
POLO Lamas de Olo 94.33 338 *e*PP PP 09 41 33.8 -0.4
PVRL Vila Real 94.40 338 *e*P **P 09 37 47.8 -0.2**
comp=Z,81nm,1.8s
ESDC Sonseca Array 94.70 335 P **P 09 37 49.2 -0.2**
ESDC pP **pP 09 38 03.2 +0.2**
ESDC PP **PP 09 41 37.3 +0.1**
ESDC Sonseca Array 94.70 335 P **P 09 37 49.2 -0.2**
comp=Z,17nm,0.7s,baz=18,slow=4.2,SNR=78
ESDC pP **pP 09 38 03.2 +0.2**
comp=Z,13nm,0.8s,baz=18,slow=4.0,SNR=9.3
ESDC PP **PP 09 41 37.3 +0.1**
comp=Z,18nm,1.2s,baz=23,slow=7.8,SNR=6.5
ESLA Sonseca Array 94.70 335 *e*P **P 09 37 49.0 -0.4**
comp=Z,3.2nm,0.8s
ESLA LR LR
comp=Z,10µm,20.0s
KMSC Kings Mountain 94.88 35 ⇓P **P 09 37 50.0 -0.3**
baz=95,SNR=8.3
PAB San Pablo 94.94 335 *e*P **P 09 37 50.1 -0.5**
PAB pmax pmax
comp=Z,17nm,0.8s
PAB MLR MLR
comp=Z,3µm,19.0s
PAB San Pablo 94.94 335 *e*P **P 09 37 50.1 -0.5**
comp=Z,17nm,0.8s
PAB LR LR
comp=Z,3µm,19.0s
GOGA Godfrey 95.38 37 *e*P **P 09 37 52.1 -0.5**
GOGA pmax pmax
comp=Z,92nm,1.3s
GOGA MLR MLR
comp=Z,13µm,20.0s
GOGA Godfrey 95.38 37 *e*P **P 09 37 52.1 -0.5**
comp=Z,92nm,1.3s
GOGA LR LR
comp=Z,13µm,20.0s
BRAL Brewton 95.62 41 *e*P **P 09 37 53.6 -0.1**
comp=Z,49nm,0.7s
BRAL LR LR
comp=Z,3µm,21.0s
JSC Jenkinsville 95.64 35 *e*P **P 09 37 53.7 -0.1**
JSC Jenkinsville 95.64 35 *e*P **P 09 37 53.7 -0.1**
PMRV Marv??o 96.00 337 *e*P **P 09 37 54.9 -0.5**
comp=Z,42nm,1.0s
PTOM Tomar 96.13 338 *e*P **P 09 37 55.7 -0.2**
comp=Z,44nm,1.6s
CNNC Cliffs of the 96.24 32 *e*P **P 09 37 56.5 0.0**
comp=Z,54nm,1.0s
CNNC LR LR
comp=Z,5µm,22.0s
PESTR Estremoz 96.58 337 *e*P P 09 37 54.5 -3.5
comp=Z,41nm,1.8s
PESTR Estremoz 96.58 337 *e*PP PP 09 41 46.5 -5.1
PMTG Montargil 96.58 337 *e*P **P 09 37 58.0 0.0**
comp=Z,36nm,1.6s
PMTG Montargil 96.58 337 *e*PP PP 09 41 47.4 -4.2
COW Cow Castle Cre 96.65 35 *e*P **P 09 37 58.2 -0.2**
PMAFR **Mafra 97.00 338** *e*P **P 09 37 59.8 -0.1**
comp=Z,105nm,1.6s
EVO Evora 97.02 337 *e*P **P 09 37 59.9 -0.1**
comp=Z,32nm,1.3s
EVO Evora 97.02 337 *e*PP PP 09 41 56.9 +2.0
EVO Evora 97.02 337 *e*P Pdif 09 38 00.9 +0.9
comp=Z,32nm,1.1s
EVO *e*R

comp=Z,3μm,20.8s
PBAR Barrancos 97.05 336 *e*P **P** 09 37 59.8 **-0.3**
comp=Z,37nm,1.7s
PBAR Barrancos 97.05 336 *e*PP PP 09 41 50.9 -4.3
EVOP Sao Brissos 97.05 337 *e*P Pdif 09 38 00.9 +0.7
EVOP pmax pmax
comp=Z,32nm,1.1s
EVOP Sao Brissos 97.05 337 *e*P Pdif 09 38 00.9 +0.7
comp=Z,32nm,1.1s
NHSC New Hope 97.11 35 PFAKE 09 38 10.0 +9.5
NHSC LR LR
comp=Z,9μm,21.0s
PNCL Nicolau / Gran 97.56 337 *e*P **P** **09 38 02.0 -0.4**
comp=Z,38nm,1.4s
PNCL Nicolau / Gran 97.56 337 *e*PP PP 09 41 51.2 -7.9
PCVE Castro Verde 97.85 337 *e*P **P** **09 38 03.7 0.0**
comp=Z,43nm,1.5s
PCVE Castro Verde 97.85 337 *e*PP PP 09 42 02.0 +0.6
PVAQ Vaqueiros 97.97 336 *e*P **P** **09 38 03.3 -0.9**
comp=Z,39nm,1.8s
PVAQ Vaqueiros 97.97 336 *e*PP PP 09 42 03.0 +0.7
PBDV Barranco-do-Ve 98.18 336 *e*PP PP 09 42 05.1 +1.2
RKT Rikitea 99.33 112 *e*SKSac **SKSac** **09 48 45.2 +0.1**
comp=Z,575nm,30.1s
RKT *e*SS **SS** **09 56 31.2 +1.5**
comp=Z,678nm,33.5s
RKT *e*LR LR 10 10 20.5
comp=Z,3μm,32.5s,baz=306
RTC Rabat Centre 100.83 334 PFAKE 09 38 30.0 +13
RTC LR LR
comp=Z,1μm,20.0s
CMLA Cha da Macela 101.56 350 PFAKE 09 38 30.0 +10
CMLA LR LR
comp=Z,3μm,20.0s
KMBO Kilima Mbogo 102.20 279 *e*Pdif **Pdif** **09 38 23.6 -0.2**
comp=Z,19nm,1.0s
KMBO LR LR
comp=Z,598nm,20.0s
KMBO Kilima Mbogo 102.20 279 P **Pdif** **09 38 24.4 +0.6**
SNR=8.1
BBSR BB Station 103.53 23 PFAKE 09 38 40.0 +11
BBSR LR LR
comp=Z,4μm,21.0s
TAM Tamanrasset 105.47 319 PFAKE 09 43 00.0
TAM LR LR
comp=Z,1μm,20.0s
ABPO Ambohimpanom 105.82 258 PFAKE 09 43 00.0
ABPO LR LR
comp=Z,904nm,20.0s
DRV Dumont d'Urvil 106.61 181 PP PP 09 42 34.0 -34
DRV SKKS 09 49 04.0
DRV SS SKKPbc 09 57 42.0 -13
GTBY Guantanamo Bay 110.72 38 PFAKE 09 43 10.0
GTBY LR LR
comp=Z,6μm,19.0s
MTDJ Mount Denham 111.00 41 PFAKE 09 43 10.0
MTDJ LR LR
comp=Z,10μm,19.0s
GRTK Grand Turk 111.10 33 PFAKE 09 43 10.0
GRTK LR LR
comp=Z,8μm,19.0s
SDDR Presa de Saban 113.27 35 PFAKE 09 43 20.0
SDDR LR LR
comp=Z,14μm,20.0s
JTS JuntasAbangare 113.38 52 PFAKE 09 43 20.0
JTS LR LR
comp=Z,7μm,20.0s
TOA0 Torodi Ar. Sit 115.51 317 *e*PKPdf **PKPdf** **09 43 09.0 -1.4**
TORD Torodi Ar. Bea 115.51 317 PKP **PKPdf** **09 43 09.9 -0.6**
TORD PP **PP** **09 44 10.0 -1.7**
TORD PKKPbc **PKKPbc** **09 53 43.4 +1.0**
TORD Torodi Ar. Bea 115.51 317 PKP **PKPdf** **09 43 09.9 -0.6**
comp=Z,10nm,1.0s,baz=352,slow=1.7,SNR=18
TORD PP **PP** **09 44 10.0 -1.7**
comp=Z,27nm,1.0s,baz=35,slow=5.7,SNR=12
TORD PKKPbc **PKKPbc** **09 53 43.4 +1.0**
comp=Z,1.8nm,0.7s,baz=227,slow=3.6,SNR=6.7
SJG San Juan 116.17 30 PFAKE 09 43 20.0 +8.4
SJG LR LR
comp=Z,22μm,20.0s
BCIP Isla Barro Col 117.28 48 PFAKE 09 43 30.0 +16
BCIP LR LR
comp=Z,5μm,19.0s
LSZ Lusaka 118.06 273 *e*PKPdf **PKPdf** **09 43 15.4 0.0**
LSZ LR LR
comp=Z,1μm,21.0s
VNDA Vanda 118.12 175 PFAKE 09 43 30.0 +16
VNDA LR LR
comp=Z,3μm,19.0s
ANWB Willy Bob 118.16 26 PFAKE 09 43 30.0 +15
ANWB LR LR
comp=Z,16μm,22.0s
PAYG Puerto Ayora 118.19 64 PFAKE 09 43 30.0 +14
PAYG LR LR
comp=Z,1μm,19.0s
SBA Scott Base 118.78 174 PFAKE 09 43 30.0 +15
SBA LR LR
comp=Z,4μm,20.0s
RPN Rapa Nui 120.45 101 PFAKE 09 43 30.0 +10
RPN LR LR
comp=Z,23μm,22.0s
FDF Fort de France 121.10 27 PFAKE 09 43 30.0 +8.7
FDF LR LR
comp=Z,18μm,19.0s
SDV Santo Domingo 122.40 40 *e*PKPdf **PKPdf** **09 43 23.5 -0.5**
SDV LR LR
comp=Z,2μm,21.0s
MAW Mawson 122.74 207 PKP **PKPdf** **09 43 23.2 +0.6**
MAW Mawson 122.74 207 PKP **PKPdf** **09 43 23.2 +0.6**
comp=Z,28nm,0.8s,baz=236,slow=6.8,SNR=6.0
BBGH Gun Hill 123.12 26 PFAKE 09 43 40.0 +15
BBGH LR LR
comp=Z,28μm,22.0s
GRGR Grenville 123.33 28 PFAKE 09 43 40.0 +14
GRGR LR LR
comp=Z,21μm,19.0s
SACV Santiago Islan 123.52 344 PFAKE 09 43 40.0 +14
SACV LR LR
comp=Z,12μm,22.0s
DBIC Dimbokro 124.36 319 *e*PKPdf **PKPdf** **09 43 26.4 -1.1**
DBIC PKP **PKPdf** **09 43 26.7 -0.8**
DBIC pPKP **pPKPdf** **09 43 40.8 -0.6**
DBIC PP **PP** **09 45 09.5 -3.0**
DBIC LR LR
comp=Z,27μm,20.0s
DBIC Dimbokro 124.36 319 PKP **PKPdf** **09 43 26.7 -0.8**
comp=Z,25nm,0.8s,baz=45,slow=2.3,SNR=24
DBIC pPKP **pPKPdf** **09 43 40.8 -0.6**
comp=Z,18nm,0.7s,baz=346,slow=2.7,SNR=8.4
DBIC PP **PP** **09 45 09.5 -3.0**
comp=Z,49nm,1.0s,baz=8.5,slow=7.8,SNR=12
LIC Lamto 124.83 319⇑ *i*PKIKP **PKPdf** **09 43 27.5 -0.9**
comp=Z,88nm,1.0s
LIC Lamto 124.83 319⇑ *i*PKPdf **PKPdf** **09 43 27.5 -0.9**
OTAV Otavalo 125.24 53 *e*PKPdf **PKPdf** **09 43 29.7 -0.1**
OTAV LR LR
comp=Z,3μm,20.0s
LBTB Lobatse 125.64 266 *e*PKPdf **PKPdf** **09 43 29.6 -0.1**
LBTB LR LR
comp=Z,1μm,20.0s
BOSA Boshof 127.78 262 *e*PKPdf **PKPdf** **09 43 33.9 +0.2**
BOSA LR LR
comp=Z,7μm,20.0s
BOSA Boshof 127.78 262 PKP **PKPdf** **09 43 34.0 +0.2**
comp=Z,27nm,1.0s,baz=54,slow=0.8,SNR=15
TSUM Tsumeb 128.49 277 *e*PKPdf **PKPdf** **09 43 36.0 +0.7**
TSUM LR LR
comp=Z,14μm,19.0s
QSPA South Pole Qui 130.00 180 *e*PKPdf **PKPdf** **09 43 35.7 -1.0**
QSPA LR LR
comp=Z,3μm,21.0s
ATAH Atahualpa 130.93 59 PKP **PKPdf** **09 43 42.1 +1.6**
ATAH SKPbc **SKPab** **09 47 02.6 +1.3**
ATAH Atahualpa 130.93 59 PKP **PKPdf** **09 43 42.1 +1.6**
comp=Z,38nm,0.9s,baz=354,slow=2.4,SNR=15
ATAH SKPbc **SKPab** **09 47 02.6 +1.3**
comp=Z,9.2nm,1.0s,baz=110,slow=15,SNR=4.5
SYO Syowa Base 131.39 208⇑ *e*PKPdf **PKPdf** **09 43 38.0 -1.1**
SYO Syowa Base 131.39 208⇓ *e*PP PP 09 46 02.4 +3.6
SUR Sutherland 132.95 260 PFAKE 09 44 00.0 +16
SUR LR LR
comp=Z,7μm,20.0s
NNA Nana 135.52 62 *e*PKPdf **PKPdf** **09 43 47.9 -0.7**
NNA PKP **PKPdf** **09 43 49.3 +0.7**
NNA LR LR
comp=Z,3μm,20.0s
NNA Nana 135.52 62 PKP **PKPdf** **09 43 49.3 +0.7**
comp=Z,12nm,0.7s,baz=322,slow=4.9,SNR=9.4
NVL N'lazarevskaya 140.53 203 *e*PKHKP PKPpre 09 43 51.1
NVL *e*S **PP** **09 46 58.7 +2.7**
NVL pmax pmax
comp=Z,27nm,0.9s
MAIT Maitri 140.55 203 *e*P PKPdf 09 43 50.4 -5.7
SAML Samuel 141.44 43 *e*PPpre PKPpre 09 43 52.9
SAML LR LR
comp=Z,5μm,22.0s
SHEL Horse Pasture 143.18 302 PFAKE 09 44 10.0 +7.5
SHEL LR LR
comp=Z,12μm,20.0s
SNAA Sanae 144.03 198 *e*PKPpre PKPpre 09 43 52.6
LPAZ La Paz 144.40 57 *e*PKPdf **PKPab** **09 44 03.2 -0.4**
LPAZ LR LR
comp=Z,3μm,21.0s
RCBR Riachuelo 145.68 357 *e*PKPdf **PKPdf** **09 44 06.8 -0.2**
RCBR PKPbc **PKPdf** **09 44 07.1 +0.1**
RCBR pPKPbc pPKPbc 09 44 21.9 +0.8
RCBR Riachuelo 145.68 357 PKPbc **PKPdf** **09 44 07.1 +0.1**
comp=Z,192nm,1.0s,baz=357,slow=4.0,SNR=49
RCBR pPKPbc pPKPbc 09 44 21.9 +0.8
comp=Z,294nm,1.0s,baz=27,slow=7.1,SNR=18
SIV San Ignacio 148.41 47 PKP **PKPdf** **09 44 11.7 +0.3**
SIV PKPbc **PKPbc** **09 44 14.9 -0.1**
SIV San Ignacio 148.41 47 PKP **PKPdf** **09 44 11.7 +0.3**
comp=Z,108nm,0.8s,baz=317,slow=0.2,SNR=100
SIV PKPbc **PKPbc** **09 44 14.9 -0.1**
comp=Z,108nm,0.8s,baz=298,slow=1.9,SNR=135
LCO Las Campanas 150.77 78 *e*PKPbc **PKPbc** **09 44 21.0 +0.2**
LCO LR LR
comp=Z,3μm,19.0s
PMSA Palmer Station 151.10 157 PFAKE 09 44 30.0 +2.2
PMSA LR LR
comp=Z,3μm,19.0s
BDFB Brasilia 153.88 23 PKP **PKPdf** **09 44 20.4 +0.5**
BDFB PKPbc **PKiKP** **09 44 28.4 +0.4**
BDFB PKPab **PKPab** **09 44 41.8 +0.8**
BDFB LR LR
comp=Z,7μm,22.0s
BDFB Brasilia 153.88 23 PKP **PKPdf** **09 44 20.4 +0.5**
comp=Z,8.8nm,1.1s,baz=352,slow=4.1,SNR=7.1
BDFB PKPbc **PKiKP** **09 44 28.4 +0.4**
comp=Z,25nm,0.8s,baz=230,slow=0.8,SNR=30
BDFB PKPab **PKPab** **09 44 41.8 +0.8**
comp=Z,50nm,0.9s,baz=256,slow=3.6,SNR=15
CFAA Coronel Fontan 153.90 80 PKP **PKPdf** **09 44 18.9 -0.5**
CFAA PKPbc **PKPbc** **09 44 27.4 0.0**
CFAA PKPab **PKPab** **09 44 41.4 +0.6**
CFAA Coronel Fontan 153.90 80 PKP **PKPdf** **09 44 18.9 -0.5**
comp=Z,1.9nm,1.0s,baz=294,slow=2.7,SNR=18
CFAA PKPbc **PKPbc** **09 44 27.4 0.0**
comp=Z,2.7nm,0.8s,baz=303,slow=3.4,SNR=25
CFAA PKPab **PKPab** **09 44 41.4 +0.6**
comp=Z,4.6nm,0.8s,baz=282,slow=2.2,SNR=14
USHA Ushuaia 154.90 136 PKPbc **PKPbc** **09 44 29.7 +1.1**
USHA PKPab **PKPab** **09 44 43.3 -0.9**
USHA Ushuaia 154.90 136 PKPbc **PKPbc** **09 44 29.7 +1.1**
comp=Z,23nm,0.9s,baz=140,slow=0.8,SNR=5.8
USHA PKPab **PKPab** **09 44 43.3 -0.9**
comp=Z,52nm,1.1s,baz=305,slow=3.8,SNR=5.4
PLCA Paso Flores 155.08 102 *e*PKPdf **PKPdf** **09 44 20.4 -0.4**
PLCA PKP PKPab 09 44 20.6 -25
PLCA *e*PKPbc 09 44 30.2
PLCA PKPbc 09 44 30.6
PLCA LR LR
comp=Z,3μm,20.0s
PLCA Paso Flores 155.08 102 PKP **PKPdf** **09 44 20.6 -0.2**
comp=Z,8.8nm,1.2s,baz=344,slow=3.2,SNR=5.5
PLCA PKPbc PKPab 09 44 30.6 -15
comp=Z,7.6nm,0.8s,baz=246,slow=4.0,SNR=21
CPUP Villa Florida 158.56 56 PKP **PKPdf** **09 44 25.4 -0.1**
CPUP LR LR
comp=Z,296nm,19.0s
CPUP Villa Florida 158.56 56 PKP **PKPdf** **09 44 25.4 -0.1**
comp=Z,9.5nm,1.0s,baz=202,slow=1.1,SNR=10
TRIS Tristan da Cun 159.95 271 PFAKE 09 44 40.0 +13
TRIS LR LR
comp=Z,5μm,19.0s
TRQA Tornquist 161.05 91 *e*PKPdf **PKPdf** **09 44 25.6 -2.5**
TRQA LR LR
comp=Z,3μm,20.0s
SPB Sao Paulo 161.46 29 PFAKE 09 44 40.0 +11
SPB LR LR
comp=Z,3μm,20.0s
EFI East Falkland 161.88 136 PFAKE 09 44 40.0 +12
EFI LR LR
comp=Z,7μm,19.0s

MAN 15 09:32:55.9±2.6N×126.4±0.4E, h0km, mb4.4, ML3.3, MS3.1, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.00**	**230**	*e*P	Pg	09 33 14.7	+0.5
BUTP				*e*S	Sn	09 33 31.4	+0.1
BUKP	**Musuan**	**2.18**	**217**	*e*P	Pn	09 33 33.2	+0.6
BUKP				*e*S	Sg	09 34 06.0	+0.8
TBP	**Tagbilaran**	**2.50**	**272**	*e*P	Pn	09 33 37.8	+0.8

IDC 15 09:43:52.2±3.1, 0.33S×136.47E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.3/16, mbtmp3.2/3, Error ellipse: s-maj=123.3km s-min=30.7km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.60**	**186**	P	P	09 48 21.6	-0.6
	0.1nm,0.3s,baz=8.1,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**23.33**	**186**	P	P	09 49 02.6	+0.4
	0.5nm,0.5s,baz=7.1,slow=11,SNR=8.0						
MKAR	**Makanchi Array**	**66.55**	**323**	P	P	09 54 44.1	0.0
	0.4nm,0.8s,baz=104,slow=6.1,SNR=3.0						

ISCJB ***15*** *09:50:47.0±0.7, 36.94N±0.04×28.32E±0.04, h11km±6km, Error ellipse: s-maj=7.5km s-min=5.6km az=7.3*
ISK ***15*** *09:50:47.0, 36.97N×28.30E, h14km, MD2.5*
DDA ***15*** *09:50:47.8, 36.98N×28.25E, h7km, MD2.8*
CSEM ***15*** *09:50:47.5±0.1, 36.95N×28.32E, h2km, MD2.5, Error ellipse: s-maj=3.7km s-min=2.7km az=17.0*
ISC 15 09:50:47.1±1.0, 36.95N±0.04×28.32E±0.03, h14km±9km, n14, σ0.925/26, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.18**	**350**	*e*PG	**Pg**	**09 50 51.4**	**0.0**
YER				*e*SG	**Sg**	**09 50 54.5**	**+0.2**
YER	**Yerkesik**	**0.18**	**350**	*e*Pg	**Pg**	**09 50 51.4**	**0.0**
YER				*e*Sg	**Sg**	**09 50 54.6**	**+0.2**
TURN	**Turunc**	**0.24**	**110**	*i* P	**Pg**	**09 50 51.9**	**-0.3**
TURN				*i* S	**Sg**	**09 50 55.6**	**-0.1**
TURN	**Turunc**	**0.24**	**110**	*i* P	**Pg**	**09 50 51.9**	**-0.3**
TURN				*i* S	**Sg**	**09 50 55.6**	**-0.1**
DAT	**Datca**	**0.64**	**250**	*e*PG	**Pg**	**09 50 59.6**	**0.0**
DAT				*e*SG	**Sb**	**09 51 08.8**	**-0.2**
DAT	**Datca**	**0.64**	**250**	*e*Pg	**Pg**	**09 50 59.6**	**0.0**
DAT				*e*Sg	**Sb**	**09 51 08.8**	**-0.2**
FETY	**Fethiye**	**0.69**	**117**	*e*PG	**Pb**	**09 51 01.3**	**+0.4**
FETY	**Fethiye**	**0.69**	**117**	*e*Pg	**Pb**	**09 51 01.3**	**+0.4**
BDRM	**Kayabasi**	**0.71**	**279**	*i* P	**Pb**	**09 51 01.5**	**+0.2**
BDRM				*i* S	**Sg**	**09 51 10.1**	**-0.3**
BDRM	**Kayabasi**	**0.71**	**279**	*i* P	**Pb**	**09 51 01.5**	**+0.2**
BDRM				*i* S	**Sg**	**09 51 10.1**	**-0.3**
AYDN	**Tasoluk**	**0.79**	**333**	*i* P	**Pg**	**09 51 02.2**	**-0.2**
AYDN				*i* S	**Sb**	**09 51 13.0**	**-0.3**
AYDN	**Tasoluk**	**0.79**	**333**	*i* P	**Pg**	**09 51 02.2**	**-0.2**
AYDN				*i* S	**Sb**	**09 51 13.0**	**-0.3**
BODT	**Bodrum**	**0.82**	**278**	*e*PG	**Pg**	**09 51 02.8**	**-0.2**
BODT				*e*SG	**Sb**	**09 51 14.3**	**+0.3**
BODT	**Bodrum**	**0.82**	**278**	*e*Pg	**Pg**	**09 51 02.8**	**-0.2**
BODT				*e*Sg	**Sb**	**09 51 14.3**	**+0.3**

BGS ***15*** *10:04:42.5±1.4, 6.17S×82.68W, h20km, mb6.0, MS5.6*
IDC ***15*** *10:04:46.0±0.4, 5.78S×80.98W, h0km, mb5.6/26, mb1 5.6/27, mb1mx5.6/27, mbtmp5.5/27, ML4.5/1, MS5.7/20, Ms1 5.7/20, ms1mx5.7/22, Error ellipse: s-maj=19.0km s-min=10.1km az=64.0*

NEIC ***15*** *10:04:49.3±0.1, 5.85S×80.89W, h21km, mb5.8/236, ME5.7, MS5.7/169, MW6.1, MW5.9, ML5.8(ARE), Error ellipse: s-maj=3.8km s-min=2.5km az=50.0, Moment Tensor Solution. s75 Moment tensor: Scale 10^{17}Nm; M_{rr}5.13; $M_{\theta\theta}$0.37; $M_{\phi\phi}$-5.50; $M_{r\theta}$1.06; $M_{\theta\phi}$-2.19; $M_{r\phi}$-6.02; Best double couple: $M_0$8.40000×10^{17} NP1:ϕ_s40.00000°, δ27.00000°, λ130.00000°. NP2:ϕ_s178.00000°, δ70.00000°, λ72.00000°. Principal axes: T 8.2900, Plg61.0000°, Azm60.0000°; N 0.2000, Plg16.0000°, Azm183.0000°; P -8.5000, Plg22.0000°, Azm281.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Sechura; [III] at Paita and Piura; [II] at Cajamarca, Chulucanas, Huancabamba, Mancora and Sullana. Also felt at Ayabaca, Catacaos, Chiclayo, Chota, Colan, Jaen, La Union, Marcavelica, Morrope, Morropon, Olmos, Pucara, Querecotillo, Talara, Tambo Grande, Trujillo, Tumbes and Zorritos. Felt [II] at Guayaquil, Ecuador. Also felt at Cuenca, Machala and Playas.
ISCJB ***15*** *10:04:49.6±0.9, 5.78S±0.03×80.91W±0.02, h33km±7km, mb5.7/327, MS5.7/232 Error ellipse: s-maj=6.1km s-min=3.1km az=29.9*
MOS ***15*** *10:04:50.2±0.8, 5.68S×80.91W, h33km, mb6.0/102, MS5.6/54, Error ellipse: s-maj=6.9km s-min=4.4km az=90.8*
BJI ***15*** *10:04:50.4, 5.90S×80.90W, h34km, mB6.0/27, Ms6.1/38, Ms7 5.9/40*
SZGRF ***15*** *10:04:53.4, 5.60S×80.47W, h33km, mb5.7, MS5.6, Near coast of northern Peru*
NEIC ***15*** *10:05:07.0±0.0, 5.84S×80.77W, h25km, Moment Tensor Solution. s149 Moment tensor: Scale 10^{18}Nm; M_{rr}0.92; $M_{\theta\theta}$-0.11; $M_{\phi\phi}$-0.81; $M_{r\theta}$0.00; $M_{\theta\phi}$0.13; $M_{r\phi}$-1.48; Best double couple: $M_0$1.70000×10^{18} NP1:ϕ_s344.00000°, δ16.00000°, λ76.00000°. NP2:ϕ_s178.00000°, δ75.00000°, λ94.00000°. Principal axes: T 1.7700, Plg60.0000°, Azm93.0000°; N -0.1000, Plg3.0000°, Azm357.0000°; P -1.6700, Plg29.0000°, Azm265.0000°;*
ISC 15 10:04:50.2±0.4, 5.82S±0.04×80.92W±0.05, h30km±2km, h30km:pP-P,n1430,σ1s15/1496, mb5.8/320, MS5.7/232, 389C-210D, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.82**	**118**	Pn	**Pb**	**10 05 37.2**	**-3.1**
ATAH				Sn	**Sb**	**10 06 14.9**	**+0.3**
ATAH	**Atahualpa**	**2.82**	**118**	Pn	**Pb**	**10 05 37.2**	**-3.1**
	297nm,0.3s,baz=300,slow=12,SNR=325						
ATAH				Sn	**Sb**	**10 06 14.9**	**+0.3**
	788nm,0.3s,baz=320,slow=15,SNR=4.7						
OTAV	**Otavalo**	**6.50**	**22**	*e*Pn	**Pn**	**10 06 25.2**	**+0.8**
NNA	**Nana**	**7.33**	**147**	*e*Pn	**Pn**	**10 06 34.9**	**-0.5**
NNA				*e*S	**Sb**	**10 08 24.0**	**+0.2**
NNA	**Nana**	**7.33**	**147**	Pn	**Pn**	**10 06 35.6**	**+0.3**
	3μm,0.8s,SNR=21						
NNA	**Nana**	**7.33**	**147**	Pn	**Pn**	**10 06 35.6**	**+0.3**
	7.5nm,0.3s,baz=321,slow=11,SNR=51						
NNA				Sn	Sn	10 08 06.5	+8.9
	50nm,0.3s,baz=240,slow=11,SNR=2.3						
NNA				LR	LR	10 09 19.9	
	comp=Z,45μm,18.5s,baz=297,slow=37						
PAYG	**Puerto Ayora**	**10.66**	**298**	*e*Pn	**Pn**	**10 07 21.0**	**0.0**
	276nm,0.9s						
BCIP	**Isla Barro Col**	**14.93**	**4**	*e*P	**Pn**	**10 08 18.3**	**-1.0**
LPAZ	**La Paz**	**16.28**	**131**	*e*P	**P**	**10 08 39.4**	**-0.9**
	907nm,1.4s						
JTS	**JuntasAbangare**	**16.51**	**346**	*e*P	**P**	**10 08 41.9**	**-0.2**
	1μm,1.7s						
JTS	**JuntasAbangare**	**16.51**	**346**	Pn	**P**	**10 08 42.3**	**+0.2**
	1μm,1.7s,SNR=28						
JTS	**JuntasAbangare**	**16.51**	**346**	Pn	**P**	**10 08 42.1**	**0.0**
	0.2nm,0.3s,baz=264,slow=4.2,SNR=13						
JTS				Sn	**S**	**10 11 48.5**	**-4.9**
	0.2nm,0.3s,baz=201,slow=8.7,SNR=1.5						
JTS				LR	LR	10 13 47.8	
	comp=Z,19μm,20.3s,baz=170,slow=33						
SDV	**Santo Domingo**	**17.85**	**35**	*e*P	**Pn**	**10 08 55.4**	**-1.3**
	264nm,1.1s						
SAML	**Samuel**	**17.86**	**101**	*e*P	**Pn**	**10 08 56.0**	**-0.6**
	12nm,1.4s						
SIV	**San Ignacio**	**21.93**	**119**	P	**P**	**10 09 42.4**	**+1.0**
SIV	**San Ignacio**	**21.93**	**119**	P	**P**	**10 09 42.4**	**+1.0**
	276nm,1.0s,baz=306,slow=11,SNR=439						
SIV				LR	LR	10 18 36.6	
	comp=Z,46μm,19.9s,slow=38						
MCJ	**Malvern**	**23.81**	**8**	*i* P	**P**	**10 10 04.0**	**+3.2**
HOJ	**Hope**	**24.03**	**10**	*i* P	**P**	**10 10 06.3**	**+3.5**
NEJ	**Negril**	**24.06**	**6**	*i* P	**P**	**10 10 06.1**	**+3.1**
STH	**Stony Hill**	**24.09**	**10**	*i* P	**P**	**10 10 06.1**	**+2.7**
GWJ	**Greenwich**	**24.10**	**10**	*i* P	**P**	**10 10 06.0**	**+2.4**
MTDJ	**Mount Denham**	**24.13**	**8**	*e*P	**P**	**10 10 06.4**	**+2.6**
	2μm,1.5s						
MTDJ				LR	LR		
	comp=Z,10μm,19.0s						
CMJ	**Castle Mountai**	**24.23**	**11**	*i* P	**P**	**10 10 07.6**	**+3.0**
BBJ	**Bamboo Saint A**	**24.32**	**8**	*i* P	**P**	**10 10 08.4**	**+2.9**
LCO	**Las Campanas**	**25.01**	**158**	*e*P	**P**	**10 10 13.0**	**+1.1**
	comp=Z,95nm,0.9s						
LCO				LR	LR		
	comp=Z,8μm,19.0s						
GRGR	**Grenville**	**26.17**	**47**	*e*P	**P**	**10 10 21.7**	**-0.6**
	comp=Z,563nm,1.0s						
GRGR				LR	LR		
	comp=Z,21μm,19.0s						
GTBY	**Guantanamo Bay**	**26.22**	**12**	*e*P	**P**	**10 10 25.1**	**+2.5**
	comp=Z,524nm,1.1s						
GTBY				LR	LR		
	comp=Z,6μm,19.0s						
SDDR	**Presa de Saban**	**26.41**	**21**	*e*P	**P**	**10 10 27.1**	**+2.6**
	comp=Z,335nm,1.1s						
SDDR				LR	LR		
	comp=Z,14μm,20.0s						
TOSP	**Speyside**	**26.47**	**50**	*e*P	**P**	**10 10 26.1**	**+1.1**
CMIG	**Matias Romero**	**26.63**	**329**	P	**P**	**10 10 26.7**	**+0.3**
CMIG	**Matias Romero**	**26.63**	**329**	P	**P**	**10 10 26.7**	**+0.3**
	comp=Z,10nm,1.1s,baz=140,slow=7.0,SNR=12						
CMIG				LR	LR	10 18 53.2	
	comp=Z,13μm,21.3s,baz=149,slow=32						
TEIG	**Tepich**	**26.88**	**345**	P	**P**	**10 10 29.4**	**+0.8**
TEIG	**Tepich**	**26.88**	**345**	P	**P**	**10 10 29.4**	**+0.8**
	comp=Z,116nm,1.1s,baz=172,slow=6.8,SNR=17						
TEIG				LR	LR	10 19 50.5	
	comp=Z,8μm,20.9s,baz=162,slow=34						
CRPR	**Cabo Rojo, PR**	**27.32**	**30**	*e*P	**P**	**10 10 34.9**	**+2.3**
	comp=Z,129nm,1.1s						
LSP	**Las Mesas**	**27.48**	**30**	*e*P	**P**	**10 10 36.2**	**+2.2**
MPR	**Mayaguez**	**27.48**	**29**	*e*P	**P**	**10 10 35.6**	**+1.6**
	comp=Z,420nm,0.9s						
OBIP	**Obispado Ponce**	**27.60**	**30**	*e*P	**P**	**10 10 36.9**	**+1.8**
	comp=Z,872nm,1.3s						
CELP	**Cerrillos**	**27.64**	**31**	*e*P	**P**	**10 10 37.1**	**+1.6**
AGP	**Aguadilla**	**27.65**	**29**	*e*P	**P**	**10 10 37.7**	**+2.2**
	comp=Z,1μm,1.3s						
LRS	**Lares**	**27.69**	**30**	*e*P	**P**	**10 10 37.4**	**+1.4**
LRS				*e*PcP	**PcP**	**10 13 53.3**	**+0.5**
AGPR	**Aguadilla, PR**	**27.71**	**29**	*e*P	**P**	**10 10 38.4**	**+2.3**
	comp=Z,1μm,1.3s						
AOPR	**Arecibo Observ**	**27.79**	**30**	*e*P	**P**	**10 10 38.2**	**+1.4**
	comp=Z,1μm,1.3s						
SJG	**San Juan**	**27.89**	**31**	*e*P	**P**	**10 10 38.5**	**+0.8**
	comp=Z,1μm,1.2s						
SJG				LR	LR		
	comp=Z,22μm,20.0s						
SJG	**San Juan**	**27.89**	**31**	P	**P**	**10 10 38.9**	**+1.2**
	comp=Z,577nm,1.0s,baz=270,slow=3.1,SNR=90						
HUMP	**Col San Antoni**	**28.07**	**32**	*e*P	**P**	**10 10 40.5**	**+1.2**
	comp=Z,340nm,1.1s						
CBYP	**Canovanas**	**28.18**	**32**	*e*P	**P**	**10 10 41.2**	**+0.8**
	comp=Z,1μm,1.1s						
MTP	**Monte Pirata**	**28.19**	**32**	*e*P	**P**	**10 10 40.8**	**+0.4**
	comp=Z,354nm,1.1s						
CFAA	**Coronel Fontan**	**28.26**	**157**	P	**P**	**10 10 42.1**	**+1.1**
CFAA	**Coronel Fontan**	**28.26**	**157**	P	**P**	**10 10 42.1**	**+1.1**
	comp=Z,8.1nm,1.0s,baz=335,slow=8.5,SNR=89						
CFAA				LR	LR	10 21 08.4	
	comp=Z,942nm,18.8s,baz=86,slow=35						
FDF	**Fort de France**	**28.31**	**44**	*e*P	**P**	**10 10 40.4**	**-1.1**
FDF				pmax	pmax		
	comp=Z,173nm,1.0s						
FDF				MLR	MLR		
	comp=Z,18μm,19.0s						
FDF	**Fort de France**	**28.31**	**44**	*e*P	**P**	**10 10 40.4**	**-1.1**

FDF comp=Z,173nm,1.0s LR LR
CDVI St. Croix 28.34 34 *e*P P 10 10 42.8 +1.1 comp=Z,248nm,1.1s
BBGH Gun Hill 28.38 48 PFAKE 10 10 50.0 +7.9
BBGH LR LR
GRTK Grand Turk 28.81 19 *e*P P 10 10 48.1 +2.2 comp=Z,281nm,1.1s
GRTK *e* 10 10 56.5
GRTK LR LR
HMG Houelmont 28.83 41 *e*P P 10 10 43.6 -2.6 comp=Z,8µm,19.0s
SKI Saint Kitts 29.19 38 *e*P P 10 10 47.5 -1.8
ANWB Willy Bob 30.03 39 *e*P P 10 10 56.3 -0.4 comp=Z,743nm,1.0s
ANWB LR LR
CPUP Villa Florida 30.38 135 *e*P P 10 11 00.8 +1.1 comp=Z,16µm,22.0s
CPUP Villa Florida 30.38 135 P P 10 11 00.9 +1.1 comp=Z,578nm,1.1s
CPUP LR LR 10 24 41.1 comp=Z,112nm,1.0s,baz=307,slow=9.9,SNR=143
BDFB Brasilia 33.72 109 P P 10 11 30.1 +0.8 comp=Z,19µm,19.9s,baz=302,slow=39
BDFB Brasilia 33.72 109 P P 10 11 30.1 +0.8 comp=Z,121nm,0.9s,baz=273,slow=11,SNR=112
BDFB LR LR 10 26 26.0 comp=Z,73µm,18.1s,baz=56,slow=38
DWPF Disney 33.74 359 *e*P P 10 11 29.9 +0.7 comp=Z,54nm,0.9s
RPN Rapa Nui 34.35 229 LR LR 10 21 39.3 comp=Z,21µm,21.0s,baz=44,slow=30
PLCA Paso Flores 35.98 167 *e*P P 10 11 49.2 +0.7 comp=Z,93nm,1.1s
PLCA PcP PcP 10 14 16.0 +1.2
PLCA Paso Flores 35.98 167 P P 10 11 49.5 +1.0 comp=Z,53nm,0.9s,baz=337,slow=10,SNR=92
PLCA PcP PcP 10 14 16.0 +1.2 comp=Z,40nm,1.0s,baz=348,slow=5.2,SNR=6.7
PLCA LR LR 10 23 33.2 comp=Z,7µm,20.4s,baz=358,slow=31
TRQA Tornquist 36.41 154 *e*P P 10 11 52.2 0.0 comp=Z,122nm,0.9s
TRQA *e*PcP PcP 10 14 16.5 +0.4
TRQA LR LR comp=Z,7µm,19.0s
SPB Sao Paulo 36.74 122 *e*P P 10 11 54.9 -0.3 comp=Z,412nm,0.9s
SPB LR LR comp=Z,16µm,21.0s
KVTX Kingsville 37.01 334 PFAKE 10 12 10.0 +13
KVTX LR LR comp=Z,6µm,19.0s
BRAL Brewton 37.09 351 *e*P P 10 12 00.8 +2.8 comp=Z,138nm,1.1s
BRAL LR LR comp=Z,3µm,21.0s
HKT Hockley 38.34 339 *e*P P 10 12 09.8 +1.3
HKT pmax pmax comp=Z,215nm,1.3s
HKT Hockley 38.34 339 *e*P P 10 12 09.8 +1.3 comp=Z,214nm,1.3s
NHSC New Hope 38.72 1 *e*P P 10 12 12.5 +0.8 comp=Z,578nm,1.1s
NHSC LR LR comp=Z,9µm,21.0s
VBMS Vicksburg 38.92 347 *e*P P 10 12 14.5 +1.2 comp=Z,206nm,1.1s
VBMS *e*PcP PcP 10 14 25.1 +1.3
VBMS LR LR comp=Z,3µm,22.0s
COW Cow Castle Cre 38.99 0 *e*P P 10 12 14.5 +0.5
COW *e*PcP PcP 10 14 24.6 +0.6
LRAL Lakeview Retre 39.07 352 *e*P P 10 12 14.9 +0.2 comp=Z,70nm,1.1s
LRAL LR LR comp=Z,3µm,20.0s
GOGA Godfrey 39.09 357 *e*P P 10 12 14.8 -0.1
GOGA *e* 10 14 23.6
GOGA pmax pmax comp=Z,126nm,1.1s
GOGA MLR MLR comp=Z,13µm,20.0s
GOGA Godfrey 39.09 357 *e*P P 10 12 14.8 -0.1 comp=Z,126nm,1.1s
GOGA *e*PcP PcP 10 14 23.6 -0.7
GOGA LR LR comp=Z,13µm,20.0s
NATX Nacogdoches 39.61 341 *e*P P 10 12 20.8 +1.6 comp=Z,189nm,1.1s
NATX LR LR comp=Z,3µm,21.0s
JSC Jenkinsville 39.89 360 *e*P P 10 12 21.7 +0.2
JSC *e* 10 14 26.9
JSC Jenkinsville 39.89 360 *e*P P 10 12 21.7 +0.2
JSC *e*PcP PcP 10 14 26.9 +0.1
JCT Junction City 40.38 334 *e*P P 10 12 26.8 +1.2
JCT pmax pmax comp=Z,121nm,1.3s
JCT MLR MLR comp=Z,3µm,21.0s
JCT Junction City 40.38 334 *e*P P 10 12 26.8 +1.2 comp=Z,121nm,1.3s
JCT LR LR comp=Z,3µm,21.0s
JCT Junction City 40.38 334 ⇓P P 10 12 26.9 +1.2 baz=41,SNR=44
KMSC Kings Mountain 40.75 359 ⇓P P 10 12 28.4 -0.2 baz=41,SNR=58
WHTX Lake Whitney 40.78 338 ⇓P P 10 12 29.7 +0.8 baz=41
431A Sonora 40.90 334 ⇓P P 10 12 31.1 +1.1 baz=41
OXF Oxford 40.91 349 *e*P P 10 12 29.9 0.0
OXF pmax pmax comp=Z,149nm,1.1s
OXF MLR MLR comp=Z,3µm,22.0s
OXF Oxford 40.91 349 *e*P P 10 12 29.9 0.0 comp=Z,149nm,1.1s
OXF LR LR comp=Z,3µm,22.0s
CNNC Cliffs of the 40.94 4 *e*P P 10 12 30.6 +0.4 comp=Z,111nm,1.2s
CNNC LR LR comp=Z,5µm,22.0s
628A Black Gap, Mar 40.97 330 ⇓P P 10 12 32.2 +1.6 baz=41,SNR=18
BBSR BB Station 41.00 21 *e*P P 10 12 32.1 +1.4 comp=Z,120nm,0.9s
BBSR *e* 10 12 40.5
BBSR LR LR comp=Z,4µm,21.0s
SWET Sewanee 41.09 354 *e*P P 10 12 31.1 -0.4 comp=Z,79nm,1.0s
PLAL Pickwick Lake 41.15 351 *e*P P 10 12 35.9 +4.1 comp=Z,68nm,1.1s
PLAL *e*PcP PcP 10 14 35.6 +4.8
PLAL LR LR comp=Z,4µm,20.0s
529A Stev Forest Ra 41.17 331 ⇓P P 10 12 33.4 +1.2 baz=41
627A Terlingua Ranc 41.19 330 ⇑P P 10 12 33.6 +1.1 baz=41,SNR=12
CPCT Cooper Cave 41.19 356 *e*P P 10 12 32.1 -0.1
TXAR Lajitas Array 41.24 329 P P 10 12 33.4 +0.6
TXAR PcP PcP 10 14 32.4 +1.0
TXAR Lajitas Array 41.24 329 P P 10 12 33.4 +0.6 comp=Z,4.5nm,0.8s,baz=150,slow=10,SNR=36
TXAR PcP PcP 10 14 32.4 +1.0 comp=Z,7.2nm,0.9s,baz=165,slow=6.5,SNR=4.1
TXAR LR LR 10 27 58.5 comp=Z,6µm,19.3s,baz=135,slow=34
430A Baggett Ranch, 41.27 333 ⇓P P 10 12 34.0 +1.0 baz=42
RFTA Plano 41.43 340 *e*P P 10 12 35.9 +1.7
429A Davenport Ranc 41.44 332 ⇑P P 10 12 35.5 +1.1 baz=42
528A Cox Ranch, San 41.48 331 ⇑P P 10 12 35.9 +1.1 baz=42,SNR=22
626A Big Bend Ranch 41.65 329 ⇑P P 10 12 37.4 +1.2 baz=42,SNR=28
UALR University of 41.80 346 *e*P P 10 12 38.0 +0.8 comp=Z,220nm,1.3s
527A Woodward Ranch 41.87 330 ⇓P P 10 12 39.0 +1.0 baz=42,SNR=52
428A Kincaid Ranch, 41.89 331 ⇑P P 10 12 39.6 +1.4 baz=42,SNR=26
MIAR Mount Ida 41.89 344 *e*P P 10 12 39.0 +1.0
MIAR pmax pmax comp=Z,140nm,1.1s
MIAR MLR MLR comp=Z,4µm,22.0s
MIAR Mount Ida 41.89 344 *e*P P 10 12 39.0 +1.0 comp=Z,140nm,1.1s
MIAR LR LR comp=Z,4µm,22.0s
526A Mary Lane Ranc 42.04 329 ⇑P P 10 12 40.6 +1.2 baz=42,SNR=41
HBAR Harrisburg 42.17 348 *e*P P 10 12 41.1 +0.9
ABTX Abilene, Hawle 42.18 336 ⇑P P 10 12 41.7 +1.3 baz=42
329A Wagon Wheel Ra 42.20 333 ⇑P P 10 12 41.7 +1.1 baz=42
WVT Waverly 42.23 352 *e*P P 10 12 39.4 -1.3
WVT *e* 10 14 34.0
WVT pmax pmax comp=Z,84nm,1.2s
WVT Waverly 42.23 352 *e*P P 10 12 39.4 -1.3 comp=Z,84nm,1.2s
WVT *e*PcP PcP 10 14 34.0 -0.5
HALT Halls 42.26 350 *e*P P 10 12 40.9 0.0
427A Hayter Ranch, 42.34 331 ⇓P P 10 12 42.8 +1.0 baz=45,SNR=23
GNAR Gosnell 42.44 349 *e*P P 10 12 43.3 +1.0 comp=Z,2µm,1.2s
328A Wristen Ranch, 42.50 332 ⇓P P 10 12 44.0 +0.9 baz=43,SNR=38
426A McDonald Obser 42.50 330 ⇑P P 10 12 44.2 +0.9 baz=43,SNR=46
229A Bryant Ranch, 42.53 333 ⇑P P 10 12 44.0 +0.7 baz=43,SNR=10
GLAT Glass 42.60 350 *e*P P 10 12 44.2 +0.5
327A Bainorhea Ranc 42.81 331 ⇑P P 10 12 46.8 +1.2 baz=43
BLA Blacksburg 42.81 1 *e*P P 10 12 45.6 +0.1
BLA pmax pmax comp=Z,148nm,1.4s
BLA MLR MLR comp=Z,5µm,20.0s
BLA Blacksburg 42.81 1 *e*P P 10 12 45.5 +0.1 comp=Z,148nm,1.4s
BLA LR LR comp=Z,5µm,20.0s
326A Caldwell Ranch 43.01 331 ⇓P P 10 12 48.2 +1.0 baz=43,SNR=35
228A UT Block 9, Go 43.01 333 ⇑P P 10 12 47.8 +0.5 baz=43,SNR=17
PARMO Parma 43.07 350 *e*P P 10 12 48.0 +0.5
425A Indio Mountain 43.08 329 ⇑P P 10 12 48.8 +0.9 baz=43,SNR=52
129A Stewart Farms, 43.12 334 ⇑P P 10 12 48.7 +0.5 baz=43,SNR=17
227A Bennet, Jal 43.25 332 ⇑P P 10 12 50.3 +1.1 baz=44,SNR=13
JSRW J. Sargeant Re 43.39 4 *e*P P 10 12 49.9 -0.1
JSRW *e*PcP PcP 10 14 39.0 +0.8
128A Castleberry Fa 43.39 333 ⇓P P 10 12 50.8 +0.5 baz=44,SNR=27
325A Bean Ranch, Si 43.54 330 ⇓P P 10 12 52.2 +0.5 baz=44,SNR=34
Z29A Hungry Hill Ra 43.59 334 ⇑P P 10 12 52.3 +0.4 baz=44,SNR=37
226A Malaga, Loving 43.67 331 ⇑P P 10 12 54.2 +1.6 baz=44,SNR=27
WMOK Wichita Mounta 43.73 339 *e*P P 10 12 53.4 +0.5
WMOK pmax pmax comp=Z,110nm,1.0s
WMOK MLR MLR comp=Z,3µm,21.0s
WMOK Wichita Mounta 43.73 339 *e*P P 10 12 53.4 +0.5 comp=Z,110nm,1.0s
WMOK LR LR comp=Z,3µm,21.0s
CLNB Carlsbad 43.73 331 *e*P P 10 12 54.3 +1.2 comp=Z,39nm,0.8s
TUL1 Tulsa 43.80 342 ⇑P P 10 12 54.1 +0.7 baz=44,SNR=132
127A Arkansas Junct 43.83 332 ⇓P P 10 12 54.6 +0.7 baz=44,SNR=15
324A Moseley Ranch, 43.86 329 ⇑P P 10 12 54.4 +0.3 baz=44,SNR=46
Z28A Tucker Farm, M 43.91 334 ⇑P P 10 12 54.8 +0.4 baz=44,SNR=42
GDL2 Guadalupe Moun 43.91 331 *e*P P 10 12 56.0 +1.4
CBN Corbin 43.93 4 *e*P P 10 12 54.8 +0.4 comp=Z,154nm,1.0s
CBN LR LR comp=Z,4µm,20.0s
SIUC Southern Illin 44.00 351 *e*P P 10 12 55.0 0.0 comp=Z,191nm,0.9s
SIUC *e*PcP PcP 10 14 39.5 -0.8
MNTX Cornudas Mount 44.01 329 *e*P P 10 12 55.5 +0.2 comp=Z,57nm,1.3s
MNTX LR LR comp=Z,4µm,20.0s
MNTX Cornudas Mount 44.01 329 ⇑P P 10 12 55.8 +0.6 baz=44,SNR=61
USIN University of 44.02 352 *e*P P 10 12 55.0 -0.1 comp=Z,189nm,1.0s
USIN *e*PcP PcP 10 14 40.7 +0.3
225A Deer Hill, Car 44.07 330 ⇑P P 10 12 57.0 +1.1 baz=44,SNR=26
Y29A Porterfield Fa 44.09 335 ⇑P P 10 12 56.7 +0.8 baz=44,SNR=35
WCI Wyandotte Cave 44.11 354 *e*P P 10 12 54.7 -1.2
WCI *e* 10 14 40.1
WCI pmax pmax comp=Z,109nm,1.1s
WCI Wyandotte Cave 44.11 354 *e*P P 10 12 54.7 -1.2 comp=Z,109nm,1.1s
WCI *e*PcP PcP 10 14 40.1 -0.7
126A Clayton Basin, 44.12 332 ⇑P P 10 12 57.3 +1.1 baz=44,SNR=19
Z27A Tatum 44.30 333 ⇑P P 10 12 58.3 +0.7 baz=44,SNR=54
CPRX Cap Rock 44.36 332 *e*P P 10 13 00.2 +2.0 comp=Z,28nm,0.8s
Y28A McKinney Farm, 44.38 334 ⇑P P 10 12 58.9 +0.7 baz=45,SNR=62
224A Cornudas Mount 44.39 330 ⇑P P 10 12 58.9 +0.5 baz=45,SNR=24
125A Gardner Draw, 44.43 331 ⇓P P 10 12 59.7 +1.0 baz=45,SNR=63
FVM French Village 44.47 349 *e*P P 10 12 58.7 -0.1
FVM pmax pmax comp=Z,138nm,1.1s
FVM French Village 44.47 349 *e*P P 10 12 58.6 -0.1 comp=Z,138nm,1.1s
X29A Tulia 44.61 335 ⇓P P 10 13 00.8 +0.7 baz=45,SNR=53
Z26A Caprock 44.62 332 ⇓P P 10 13 01.4 +1.3 baz=45,SNR=104
MSTX Muleshoe 44.66 334 ⇑P P 10 13 01.2 +0.7 baz=45,SNR=73
Y27A Causey 44.76 333 ⇓P P 10 13 02.0 +0.7 baz=45,SNR=69
RCBR Riachuelo 44.77 92 *e*P P 10 13 02.5 +0.8
RCBR LR LR comp=Z,89nm,1.1s
RCBR *e*PcP PcP 10 14 43.5 +0.4 comp=Z,27µm,20.0s
223A Chaparral, Ant 44.79 329 ⇓P P 10 13 02.3 +0.7 baz=45
OLIL Olney 44.83 352 *e*P P 10 13 00.8 -0.8 comp=Z,127nm,1.0s
OLIL *e*PcP PcP 10 14 43.5 +0.4
124A Stringfield Ra 44.85 330 ⇓P P 10 13 03.6 +1.3 baz=45,SNR=49
X28A Dimmit 44.88 335 ⇑P P 10 13 02.9 +0.7 baz=45,SNR=19
Z25A Roswell 44.97 331 ⇑P P 10 13 04.0 +1.0 baz=45,SNR=37
AMTX Amarillo 44.98 336 *e*P P 10 13 03.7 +0.7
AMTX LR LR comp=Z,119nm,1.1s
AMTX *e*PcP PcP 10 14 43.5 +0.4 comp=Z,2µm,20.0s
AMTX Amarillo 44.98 336 ⇑P P 10 13 03.7 +0.7 baz=45,SNR=42
BLO Bloomington 45.07 354 *e*P P 10 13 02.9 -0.6
BLO *e* 10 14 44.2
BLO pmax pmax comp=Z,52nm,1.0s
BLO Bloomington 45.07 354 *e*P P 10 13 02.9 -0.6 comp=Z,52nm,1.0s
BLO *e*PcP PcP 10 14 44.2 +0.2
SLM Saint Louis 45.07 350 *e*P P 10 13 03.9 +0.4
SLM *e* 10 14 44.3
SLM pmax pmax comp=Z,154nm,1.1s
SLM Saint Louis 45.07 350 *e*P P 10 13 03.9 +0.4 comp=Z,154nm,1.1s
SLM *e*PcP PcP 10 14 44.3 +0.2
Y26A Elida 45.09 333 ⇓P P 10 13 04.9 +0.9 baz=45
SDMD Soldier's Deli 45.16 4 *e*P P 10 13 04.8 +0.5 comp=Z,70nm,1.0s
SDMD *e*PcP PcP 10 14 44.8 +0.5
W29A Amraillo 45.17 336 ⇑P P 10 13 05.1 +0.6 baz=45,SNR=20
123A Bell Site, Whi 45.21 329 ⇓P P 10 13 06.3 +1.5 baz=45,SNR=14
Z24A Sheeppen Canyo 45.32 331 ⇑P P 10 13 07.0 +1.2 baz=46,SNR=92
X27A F and S Farms, 45.37 334 ⇑P P 10 13 07.0 +0.8 baz=46,SNR=18
320A Kipp Ranch, An 45.40 326 ⇓P P 10 13 07.8 +1.4 baz=46,SNR=28
Y25A Mesa, Roswell 45.49 332 ⇑P P 10 13 07.9 +0.8 baz=46,SNR=49
221A Mesquite Ranch 45.51 327 ⇓P P 10 13 09.0 +1.7 baz=46,SNR=7.7
W28A Vega 45.52 335 ⇑P P 10 13 08.1 +0.9 baz=46,SNR=16
X26A CR and CF Fran 45.61 333 ⇑P P 10 13 08.9 +0.9 baz=46,SNR=44
122A Conniff Cattle 45.63 329 ⇓P P 10 13 10.1 +1.8 baz=46,SNR=19
Z23A Rita Site, Whi 45.69 330 ⇑P P 10 13 10.2 +1.5 baz=46,SNR=27
W27A Bowe Ranch, En 45.71 334 ⇓P P 10 13 09.7 +0.9 baz=46,SNR=93
V29A Stinnett 45.77 336 ⇓P P 10 13 10.0 +0.7 baz=46
MVL Millersville 45.79 5 *e*P P 10 13 09.8 +0.6 comp=Z,182nm,1.1s
220A Playas Peak, P 45.83 327 ⇑P P 10 13 11.2 +1.4 baz=46,SNR=42
Y24A Capitan 45.84 331 ⇓P P 10 13 10.9 +0.9 baz=46,SNR=33
319A Douglas 45.85 326 ⇑P P 10 13 11.4 +1.4 baz=46,SNR=44
ACSO Alum Creek Sta 45.87 358 *e*P P 10 13 09.3 -0.6 comp=Z,120nm,1.0s
ACSO LR LR comp=Z,9µm,21.0s
121A Cookes Peak, D 45.91 328 ⇑P P 10 13 12.1 +1.5 baz=46,SNR=19
V28A Channing 45.95 336 ⇓P P 10 13 11.6 +0.9 baz=46,SNR=22
X25A Clemmons Ranch 45.97 332 ⇓P P 10 13 11.7 +0.7 baz=46,SNR=11
W26A Owens Ranch, T 46.04 334 ⇓P P 10 13 12.5 +1.1 baz=46,SNR=46
Z22A Elephant Butte 46.06 329 ⇓P P 10 13 13.1 +1.4 baz=46,SNR=35
Y23A Lovelace Mesa, 46.15 331 ⇓P P 10 13 13.7 +1.4 baz=46
SSPA Standing Stone 46.31 3 *e*P P 10 13 13.3 -0.1 comp=Z,150nm,1.2s
SFIN Scholer Farm 46.33 353 ⇓P P 10 13 11.9 -1.5 baz=47,SNR=16
X24A Lazy VL Ranch, 46.36 332 ⇑P P 10 13 15.0 +0.9 baz=47
120A U Bar Ranch, L 46.38 327 ⇑P P 10 13 15.5 +1.3 baz=47,SNR=15
W25A X Bar L Ranch, 46.45 333 ⇓P P 10 13 15.5 +0.8 baz=47,SNR=42
Z21A St. Cloud Mine 46.46 329 ⇑P P 10 13 16.6 +1.7 baz=47,SNR=16
Y22A Socorro 46.60 330 ⇓P P 10 13 17.4 +1.5 baz=47,SNR=49
BNM Barren Site 46.60 330 *e*P P 10 13 17.1 +1.1 comp=Z,41nm,1.2s
V26A Tequesquite Ra 46.64 334 ⇑P P 10 13 17.2 +1.0 baz=47,SNR=96
Y22D IRIS PASSCAL I 46.69 330 ⇓P P 10 13 18.2 +1.6 baz=47
LPM Los Pinos Moun 46.73 330 *e*P P 10 13 18.2 +1.3
X23A Hourglass Bar 46.73 331 ⇓P P 10 13 18.0 +1.0 baz=47,SNR=31
LENM Lemitar 46.78 330 *e*P P 10 13 19.0 +1.6
LENM *e*PcP PcP 10 14 51.6 +1.2
HDIL Hopedale 46.79 351 *e*P P 10 13 16.3 -0.8 comp=Z,141nm,1.0s
HDIL LR LR comp=Z,4µm,20.0s
Z20A Nine Sixteen R 46.79 328 ⇑P P 10 13 19.1 +1.7 baz=47,SNR=55
W24A Lazy 6 Ranch, 46.88 332 ⇓P P 10 13 19.1 +1.0 baz=47,SNR=41
KSU1 Kansas State U 47.00 343 *e*P P 10 13 19.4 +0.6 comp=Z,288nm,1.0s
KSU1 LR LR comp=Z,3µm,22.0s
Y21A Point of Rocks 47.01 329 ⇓P P 10 13 21.1 +1.9 baz=47,SNR=56
PAL Palisades 47.04 7 *e*P P 10 13 19.4 +0.4
PAL pmax pmax comp=Z,72nm,1.0s
PAL Palisades 47.04 7 *e*P P 10 13 19.4 +0.4 comp=Z,72nm,1.0s
V25A Rancho No Teng 47.04 333 ⇓P P 10 13 20.5 +1.1 baz=47,SNR=114
LAZ Ladron 47.06 330 *e*P P 10 13 21.1 +1.6 comp=Z,16nm,1.1s
X22A Bernardo 47.08 330 ⇑P P 10 13 21.7 +2.1 baz=47,SNR=7.6
U26A Atchley Ranch, 47.13 335 ⇑P P 10 13 20.9 +0.8 baz=47,SNR=99
ANMO Albuquerque 47.16 331 *e*P P 10 13 20.6 +0.3 comp=Z,82nm,1.1s
ANMO LR LR comp=Z,5µm,20.0s
W23A Werner Place, 47.19 332 ⇑P P 10 13 21.9 +1.4 baz=47,SNR=79
V24A Rampart Ranch, 47.24 333 ⇑P P 10 13 21.8 +0.8 baz=48,SNR=65
ALLY Alegheny Colle 47.25 1 *e*P P 10 13 19.7 -0.9 comp=Z,109nm,1.2s
T27A Campo 47.28 336 ⇓P P 10 13 21.8 +0.7 baz=48,SNR=98
Y20A Horse Springs, 47.30 329 ⇑P P 10 13 22.9 +1.5 baz=48,SNR=37
TUC Tucson 47.40 325 *e*P P 10 13 22.6 +0.6
TUC pmax pmax comp=Z,32nm,1.1s
TUC Tucson 47.40 325 *e*P P 10 13 22.6 +0.6 comp=Z,32nm,1.1s
X21A Alamocita Cree 47.41 330 ⇑P P 10 13 24.1 +1.8 baz=48,SNR=69
U25A Circle Dot Ran 47.42 334 ⇓P P 10 13 23.3 +1.0 baz=48,SNR=86
W22A Albuquerque 47.46 331 ⇑P P 10 13 24.2 +1.6 baz=48,SNR=12
YLE Yale 47.48 8 *e*P P 10 13 23.3 +0.9 comp=Z,463nm,1.4s
V23A Ortiz Mt. (NFS 47.68 332 ⇑P P 10 13 25.9 +1.5 baz=48,SNR=32
CBKS Cedar Bluff 47.72 340 *e*P P 10 13 25.4 +1.0
CBKS pmax pmax comp=Z,258nm,1.0s
CBKS MLR MLR comp=Z,2µm,22.0s
CBKS Cedar Bluff 47.72 340 *e*P P 10 13 25.4 +1.0 comp=Z,258nm,1.0s
CBKS LR LR comp=Z,2µm,22.0s
CBKS Cedar Bluff 47.72 340 ⇑P P 10 13 25.3 +0.9 baz=48,SNR=63
ERPA Erie 47.72 1 *e*P P 10 13 24.0 -0.3 comp=Z,138nm,1.1s
ERPA LR LR comp=Z,7µm,20.0s
T26A Comanche Natio 47.73 335 ⇓P P 10 13 25.7 +1.0 baz=48,SNR=51
Y19A Nutrioso 47.79 328 ⇓P P 10 13 26.9 +1.6 baz=48,SNR=29
U24A Moreno Valley 47.81 333 ⇑P P 10 13 27.2 +1.7 baz=48,SNR=50
X20A Quemado 47.85 329 ⇑P P 10 13 27.4 +1.6

baz=48,SNR=24
W21A San Fidel 47.88 330 ⇑P P 10 13 27.2 +1.3
baz=48
S27A Las Animas 47.89 336 ⇑P P 10 13 26.7 +0.8
baz=48,SNR=7.3
AAM Ann Arbor 47.96 357 eP P 10 13 25.6 -0.5
AAM pmax pmax
comp=Z,167nm,1.1s
AAM MLR MLR
comp=Z,11µm,21.0s
AAM Ann Arbor 47.96 357 eP P 10 13 25.6 -0.5
comp=Z,167nm,1.1s
AAM LR LR
comp=Z,11µm,21.0s
BINY Binghamton 48.01 5 eP P 10 13 26.6 +0.1
comp=Z,216nm,0.9s
BINY LR LR
comp=Z,3µm,20.0s
T25A Trinidad 48.05 335 ⇓P P 10 13 28.6 +1.4
baz=48,SNR=97
S26A Kim 48.06 336 ⇑P P 10 13 28.5 +1.3
baz=48,SNR=108
V22A San Miguel Ran 48.16 331 ⇓P P 10 13 29.6 +1.5
baz=48
U23A El Rito 48.16 332 ⇑P P 10 13 29.3 +1.2
baz=48,SNR=60
T24A Torres, Weston 48.27 334 ⇓P P 10 13 30.5 +1.5
baz=48,SNR=7.3
BRYW Bryant College 48.28 9 eP P 10 13 29.0 +0.4
comp=Z,228nm,1.1s
W20A Ramah 48.31 329 ⇑P P 10 13 30.7 +1.4
baz=48,SNR=20
214A Organ Pipe Nat 48.32 323 ⇑P P 10 13 30.4 +1.2
baz=48,SNR=31
R27A Eads 48.37 337 ⇓P P 10 13 30.1 +0.6
baz=49,SNR=106
V21A Milan 48.42 331 ⇓P P 10 13 31.7 +1.5
baz=49,SNR=52
S25A Robets Cordova 48.50 335 ⇑P P 10 13 31.6 +1.0
baz=49,SNR=68
QUA2 Belchertown 48.51 8 eP P 10 13 30.2 -0.1
comp=Z,206nm,1.1s
U22A Llaves 48.51 332 ⇑P P 10 13 32.5 +1.7
baz=49,SNR=55
X18A Snowflake 48.60 328 ⇑P P 10 13 32.9 +1.4
baz=49,SNR=9.8
R26A Arlington 48.64 336 ⇑P P 10 13 32.7 +1.1
baz=49,SNR=193
T23A Casias Ranch, 48.67 333 ⇑P P 10 13 33.2 +1.2
baz=49,SNR=62
WES Weston 48.77 9 eP P 10 13 33.2 +0.8
WES pmax pmax
comp=Z,272nm,1.2s
WES Weston 48.77 9 eP P 10 13 33.1 +0.8
comp=Z,272nm,1.2s
TRY Troy 48.77 7 eP P 10 13 33.2 +0.8
S24A Houchin Ranch, 48.81 334 ⇑P P 10 13 34.5 +1.3
baz=49,SNR=26
SCIA State Center 48.81 348 eP P 10 13 33.3 +0.6
comp=Z,273nm,0.9s
SCIA LR LR
comp=Z,3µm,22.0s
V20A Brimhall 48.82 330 ⇑P P 10 13 34.3 +1.1
baz=49,SNR=28
R25A Fountain Ranch 48.85 335 ⇓P P 10 13 34.1 +0.9
baz=49,SNR=59
HRV Adam Dziewonsk 48.85 9 eP P 10 13 34.1 +1.1
HRV pmax pmax
comp=Z,155nm,1.2s
HRV Adam Dziewonsk 48.85 9 eP P 10 13 34.0 +1.1
comp=Z,155nm,1.2s
X17A Forest Lakes 48.92 327 ⇑P P 10 13 35.6 +1.6
baz=49,SNR=26
U21A Nageezi 48.93 331 ⇓P P 10 13 35.4 +1.3
baz=49,SNR=60
114A Black Gap (USA 48.93 324 ⇓P P 10 13 34.9 +1.1
baz=49,SNR=41
KSCO Kaye Shedlock' 48.93 338 ⇑P P 10 13 34.8 +0.9
baz=49,SNR=37
W18A Petrified Fore 48.94 328 ⇓P P 10 13 35.4 +1.3
baz=49,SNR=23
SDCO Great Sand Dun 49.02 334 eP P 10 13 35.6 +0.8
comp=Z,84nm,1.0s
SDCO LR LR
comp=Z,2µm,19.0s
SDCO Great Sand Dun 49.02 334 ⇑P P 10 13 35.8 +1.0
baz=49,SNR=138
V19A Window Rock 49.05 329 ⇑P P 10 13 36.2 +1.2
baz=49,SNR=12
T22A Edith 49.05 332 ⇓P P 10 13 36.4 +1.5
baz=49,SNR=39
Q26A Hugo 49.20 337 ⇓P P 10 13 37.0 +1.0
baz=49,SNR=54
S23A Nye Farm, Mont 49.21 334 ⇑P P 10 13 37.3 +1.1
baz=49,SNR=21
R24A Sanders Place, 49.26 335 ⇑P P 10 13 37.8 +1.2
baz=50,SNR=39
U20A Newcomb 49.31 330 ⇑P P 10 13 38.0 +1.1
baz=50,SNR=35
X16A Lo Mia Camp, P 49.32 326 ⇑P P 10 13 38.4 +1.4
baz=50,SNR=25
T21A Navajo Lake 49.33 332 ⇑P P 10 13 38.5 +1.5
baz=50,SNR=20
P27A Ficken Ranch, 49.39 338 ⇑P P 10 13 38.2 +0.9
baz=50,SNR=43
Z14A Wintersburg 49.41 324 ⇓P P 10 13 38.6 +1.1
baz=50,SNR=6.8
ACCN Adirondack Com 49.42 7 eP P 10 13 37.7 +0.3
comp=Z,232nm,1.2s
113A Mohawk Valley, 49.47 323 ⇓P P 10 13 38.9 +1.0
baz=50,SNR=25
EFI East Falkland 49.48 161 eP P 10 13 39.3 +1.6
EFI pmax pmax
comp=Z,163nm,1.1s
EFI MLR MLR
comp=Z,7µm,19.0s
EFI East Falkland 49.48 161 eP P 10 13 39.2 +1.6
comp=Z,163nm,1.1s
EFI LR LR
comp=Z,7µm,19.0s
Q25A Bedland, Calha 49.49 336 ⇑P P 10 13 38.8 +0.6
baz=50,SNR=76
R23A Moffat 49.54 334 ⇓P P 10 13 39.8 +1.1
baz=50,SNR=32
BGNE Belgrade 49.58 343 ⇓P P 10 13 39.0 +0.4
baz=50,SNR=21
U19A Dine' College, 49.58 330 ⇓P P 10 13 39.6 +0.6
baz=50,SNR=24
S22A 4UR Ranch, Cre 49.61 333 ⇑P P 10 13 40.4 +1.1
baz=50,SNR=43
P26A Davis Ranch, A 49.69 337 ⇑P P 10 13 40.6 +0.9
baz=50,SNR=55
FFD Franklin Falls 49.78 9 eP P 10 13 41.0 +1.0
comp=Z,347nm,1.1s
Y14A Wickenburg 49.85 325 ⇑P P 10 13 41.9 +1.0
baz=50,SNR=23
USHA Ushuaia 49.89 171 P P 10 13 41.8 +1.0
USHA Ushuaia 49.89 171 P P 10 13 41.8 +1.0
comp=Z,46nm,0.8s,baz=316,slow=3.7,SNR=18
Q24A Divide 49.90 335 ⇓P P 10 13 42.3 +0.9
baz=50,SNR=40
O27A Beecher Island 49.91 338 ⇓P P 10 13 42.2 +0.9
baz=50,SNR=13
HNH Hanover 49.91 8 eP P 10 13 43.3 +2.2
comp=Z,530nm,1.3s
HNH ePcP PcP 10 15 03.1 +2.0
T19A Beclabito 49.91 330 ⇑P P 10 13 42.1 +0.6
baz=50,SNR=32
NCB Newcomb 49.93 6 eP P 10 13 41.4 +0.1
comp=Z,101nm,1.3s
NCB LR LR
comp=Z,5µm,19.0s
MVCO Mesa Verde 49.96 331 eP P 10 13 42.9 +1.0
comp=Z,51nm,1.0s
MVCO LR LR
comp=Z,7µm,19.0s
MVCO Mesa Verde 49.96 331 ⇓P P 10 13 42.8 +0.9
baz=50,SNR=22
P25A Willow Gulch B 49.97 336 ⇓P P 10 13 42.8 +1.0
baz=50,SNR=51
R22A Saguache, Gunn 49.98 333 ⇑P P 10 13 43.2 +1.1
baz=50,SNR=30
S21A Coal Bank Pass 49.99 332 ⇓P P 10 13 43.1 +0.9
baz=50,SNR=13
MDV Middlebury 50.08 7 eP P 10 13 42.2 -0.1
WUAZ Wupatki 50.11 327 eP P 10 13 44.3 +1.4
comp=Z,136nm,1.3s
WUAZ LR LR
comp=Z,16µm,19.0s
WUAZ Wupatki 50.11 327 ⇓P P 10 13 44.3 +1.4
baz=50,SNR=28
Q23A Hartsel 50.14 335 ⇑P P 10 13 44.2 +0.9
baz=50,SNR=7.5
O26A Horse Wrangler 50.27 338 ⇓P P 10 13 44.9 +0.9
baz=50,SNR=26
P24A Kohler Place, 50.27 336 ⇑P P 10 13 45.2 +1.1
baz=50,SNR=43
GLA Glamis 50.30 322 eP P 10 13 45.9 +1.6
GLA pmax pmax
comp=Z,95nm,1.4s
GLA Glamis 50.30 322 eP P 10 13 45.9 +1.6
comp=Z,95nm,1.4s
GLA Glamis 50.30 322 ⇑P P 10 13 45.5 +1.1
baz=50,SNR=9.8
S20A Disappointment 50.39 332 ⇓P P 10 13 46.4 +1.3
baz=51,SNR=58
OGNE Ogallala 50.41 339 eP P 10 13 45.5 +0.4
comp=Z,183nm,1.2s
OGNE LR LR
comp=Z,2µm,19.0s
OGNE Ogallala 50.41 339 ⇑P P 10 13 45.8 +0.7
baz=51,SNR=24
R21A Cimarron 50.45 333 ⇓P P 10 13 46.5 +0.9
baz=51,SNR=65
O25A Wiggins 50.46 337 ⇑P P 10 13 46.4 +0.9
baz=51,SNR=54
N27A Anderson Farm, 50.47 339 ⇑P P 10 13 46.4 +0.9
baz=51,SNR=24
LBNH Lisbon 50.49 8 eP P 10 13 45.9 +0.4
LBNH pmax pmax
comp=Z,130nm,1.1s
LBNH MLR MLR
comp=Z,3µm,19.0s
LBNH Lisbon 50.49 8 eP P 10 13 45.9 +0.4
comp=Z,130nm,1.1s
LBNH LR LR
comp=Z,3µm,19.0s
GLMI Grayling 50.53 357 eP P 10 13 44.4 -1.4
comp=Z,138nm,1.1s
GLMI LR LR
comp=Z,15µm,20.0s
P23A Jefferson 50.53 335 ⇓P P 10 13 47.8 +1.5
baz=51,SNR=190
LONY Lake Lenzonia 50.53 6 eP P 10 13 44.9 -0.9
comp=Z,173nm,1.3s
LONY LR LR
comp=Z,4µm,19.0s
Q22A Crested Butte, 50.57 334 ⇓P P 10 13 47.7 +1.1
baz=51,SNR=38
T18A Mexican Hat 50.58 330 ⇓P P 10 13 47.1 +0.7
baz=51,SNR=51
Y12C Blythe 50.61 323 ⇓P P 10 13 47.7 +1.1
baz=51,SNR=30
R20A Redvale 50.69 332 ⇑P P 10 13 48.7 +1.3
baz=51,SNR=126
S19A Harvey Farm, M 50.69 331 ⇓P P 10 13 48.1 +0.7
baz=51,SNR=72
PV01 Paradox Valley 50.73 332 eP P 10 13 49.2 +1.5
comp=Z,7µm,1.1s
N26A Koester Ranch, 50.74 338 ⇓P P 10 13 48.6 +1.0
baz=51,SNR=11
PDMCI Pder Dam Lak 50.77 324 ⇓P P 10 13 48.9 +1.1
baz=51,SNR=7.6
ISCO Idaho Springs 50.80 335 eP P 10 13 49.3 +1.0
ISCO pmax pmax
comp=Z,80nm,1.0s
ISCO MLR MLR
comp=Z,4µm,20.0s
ISCO Idaho Springs 50.80 335 eP P 10 13 49.3 +1.0
comp=Z,80nm,1.0s
ISCO LR LR
comp=Z,4µm,20.0s
ISCO Idaho Springs 50.80 335 ⇑P P 10 13 49.2 +0.9
baz=51,SNR=81
DVTC Desert V Tower 50.82 321 ⇑P P 10 13 49.6 +1.3
baz=51,SNR=12
SWSC Sam W. Stewart 50.82 322 ⇓P P 10 13 49.4 +1.2
baz=51,SNR=8.4
Q21A Lamborn Mesa, 50.84 333 ⇑P P 10 13 49.3 +0.8
baz=51,SNR=23
O24A Longmont 50.85 336 ⇑P P 10 13 49.5 +1.0
baz=51,SNR=52
FRNY Flat Rock 50.86 7 eP P 10 13 48.1 -0.1
comp=Z,150nm,1.1s
SMCO Snowmass 50.86 334 eP P 10 13 50.0 +1.1
comp=Z,155nm,1.7s
MSNY Massena 50.88 6 eP P 10 13 47.9 -0.5
comp=Z,1µm,1.0s
T17A Navajo Res., N 50.94 329 ⇑P P 10 13 50.8 +1.6
baz=51,SNR=77
N25A Grover 51.05 337 ⇑P P 10 13 51.2 +1.2
baz=51,SNR=13
M27A Reverse DX Ran 51.05 339 ⇓P P 10 13 50.6 +0.7
baz=51,SNR=5.5
S18A Hurst Farm, Bl 51.07 330 ⇓P P 10 13 51.2 +0.9
baz=51,SNR=86
PV04 Paradox Valley 51.10 332 eP P 10 13 51.6 +1.2
BC3 Big Chuckawall 51.10 323 ⇑P P 10 13 51.4 +1.0
baz=51,SNR=32
P22A Eagle 51.11 334 ⇑P P 10 13 51.4 +0.9
baz=51,SNR=48
PV10 Paradox Valley 51.15 332 eP P 10 13 51.5 +0.6
comp=Z,1µm,1.1s
WVL Waterville 51.17 10 eP P 10 13 51.3 +0.8
comp=Z,279nm,1.1s
MONP Monument Peak 51.17 321 ⇓P P 10 13 52.2 +1.1
baz=51,SNR=8.0
R19A Curley Farm, L 51.19 331 ⇓P P 10 13 51.6 +0.5
baz=51,SNR=61
BAR Barrett 51.19 321 eP P 10 13 52.4 +1.4
comp=Z,62nm,1.4s
W13A Hualapai Mount 51.19 325 ⇑P P 10 13 52.6 +1.4
baz=51,SNR=26
IRM Iron Mountain 51.27 323 ⇑P P 10 13 52.6 +1.1
baz=52,SNR=69
Q20A Ridgley Place, 51.27 333 ⇑P P 10 13 52.2 +0.6
baz=52,SNR=21
O23A Lake Granby, G 51.27 335 ⇑P P 10 13 53.0 +1.2
baz=52,SNR=106
M26A McRoberts Ranc 51.27 339 ⇓P P 10 13 52.6 +1.1
baz=52,SNR=9.4
U15A North Rim 51.28 327 ⇓P P 10 13 53.4 +1.5
baz=52,SNR=22
ECSD EROS Data Cent 51.33 345 eP P 10 13 51.1 -0.7
comp=Z,53nm,0.8s
ECSD LR LR
comp=Z,3µm,20.0s
P21A Newcastle 51.35 334 ⇑P P 10 13 53.9 +1.6
baz=52,SNR=74
N24A Carr 51.37 337 ⇑P P 10 13 53.8 +1.4
baz=52,SNR=37
S17A Black Ridge (B 51.43 330 ⇑P P 10 13 53.9 +1.1
baz=52,SNR=36
O22A Kremmling 51.49 335 ⇑P P 10 13 54.1 +0.7
baz=52,SNR=56
L27A T5 Ranch, Ells 51.52 340 ⇑P P 10 13 54.1 +0.7
baz=52,SNR=5.8
R18A Canyonlands Na 51.56 331 ⇓P P 10 13 54.5 +0.6
baz=52,SNR=20
M25A Palm-Egli Farm 51.58 338 ⇑P P 10 13 54.9 +1.0
baz=52,SNR=12
109C Camp Elliot, M 51.60 321 ⇑P P 10 13 55.1 +1.1
baz=52,SNR=10
BELC Belle Mtn. Jos 51.66 323 ⇓P P 10 13 55.7 +1.0
baz=52,SNR=14
PFO Pinyon Flat Ob 51.68 322 eP P 10 13 55.8 +1.0
comp=Z,68nm,1.2s
PFO LR LR
comp=Z,5µm,19.0s
PFO Pinyon Flat Ob 51.68 322 P P 10 13 55.3 +0.5
comp=Z,255nm,1.1s,SNR=15
PFO Pinyon Flat Ob 51.68 322 ⇑P P 10 13 55.9 +1.1
baz=52,SNR=20
Q19A Hogan Spring (51.71 332 ⇑P P 10 13 55.7 +0.8
baz=52,SNR=28
L26A Underwood Farm 51.75 339 ⇑P P 10 13 55.6 +0.5
baz=52,SNR=11
P20A De Beque 51.75 333 ⇓P P 10 13 56.1 +0.8
baz=52,SNR=24
N23A Red Feather La 51.85 336 ⇓P P 10 13 56.8 +0.7
baz=52,SNR=19
LDFC Landfair 51.88 324 eP P 10 13 57.7 +1.4
comp=Z,95nm,1.4s
S16A Wepprer Ranch, 51.90 329 ⇑P P 10 13 57.3 +0.9
baz=52,SNR=44
M24A Cheyenne 51.90 337 ⇑P P 10 13 57.3 +1.0
baz=52,SNR=32
SPMN St. Paul 51.92 349 ⇑P P 10 13 55.7 -0.5
baz=52,SNR=44
O21A Pagoda 51.93 334 ⇓P P 10 13 58.0 +1.4
baz=52,SNR=11
N22A Wattenberg Ran 51.99 335 ⇑P P 10 13 58.2 +1.1
baz=52,SNR=34
R17A Hanksville Air 51.99 330 ⇑P P 10 13 57.8 +0.8
baz=52,SNR=41
GMRC Granite Mounta 52.00 323 ⇑P P 10 13 58.4 +1.2
baz=52,SNR=38
PHWY Pilot Hill 52.01 337 eP P 10 13 58.1 +0.8
comp=Z,66nm,1.2s
K27A Flueckinger Fa 52.04 340 ⇓P P 10 13 57.8 +0.6
baz=52,SNR=20
P19A Cripple Cowboy 52.13 333 ⇑P P 10 13 58.9 +0.7
baz=52,SNR=36
MURC Murrieta 52.13 321 ⇓P P 10 13 58.9 +0.8
baz=52,SNR=12
L25A Engebretsen Ra 52.17 338 ⇓P P 10 13 59.4 +1.1
baz=52,SNR=7.5
O20A White River Ci 52.20 334 ⇑P P 10 13 59.7 +1.1
baz=52,SNR=40
Q18A Rafter H Ranch 52.24 331 ⇓P P 10 13 59.8 +0.9
baz=52,SNR=66
M23A Laramie 52.25 336 ⇑P P 10 13 59.7 +0.7
baz=52,SNR=10
R16A Teasdale 52.27 330 ⇑P P 10 14 00.3 +1.1
baz=52,SNR=38
K26A Motz Farm, Whi 52.37 339 ⇓P P 10 14 00.6 +0.9
baz=53,SNR=7.6
N21A Black Mountain 52.40 335 ⇓P P 10 14 01.7 +1.5
baz=53,SNR=54
HEC Hector,Ludlow 52.43 323 ⇓P P 10 14 01.8 +1.5
baz=53,SNR=11
L24A Wheatland 52.44 338 ⇑P P 10 14 01.3 +1.0
baz=53
SRU San Rafael 52.44 331 eP P 10 14 01.3 +0.9
SRU pmax pmax
comp=Z,116nm,1.2s
SRU San Rafael 52.44 331 eP P 10 14 01.3 +0.9
comp=Z,116nm,1.2s
SRU San Rafael 52.44 331 ⇑P P 10 14 01.1 +0.7
baz=53,SNR=63
K25A Mack Ranch, Ha 52.53 339 ⇑P P 10 14 02.0 +1.0
baz=53
M22A Cedar Creek Ra 52.55 336 ⇑P P 10 14 02.2 +1.0
baz=53,SNR=26
SCI San Clemente I 52.58 320 ⇓P P 10 14 02.2 +0.9
baz=53
Q16A Castle Valley 52.60 330 ⇓P P 10 14 02.7 +1.1
baz=53,SNR=26
BRSD Miller 52.61 344 ⇑P P 10 14 00.8 -0.6
baz=53,SNR=39
TUQ Turquoise Moun 52.61 324 ⇑P P 10 14 02.7 +1.1
baz=53,SNR=28
R15A Junction 52.62 329 ⇓P P 10 14 02.8 +1.1
baz=53,SNR=29
CCUT Cedar City 52.69 328 eP P 10 14 04.1 +1.8
comp=Z,117nm,1.2s
P18A Preston Nutter 52.71 332 ⇓P P 10 14 03.5 +0.9
baz=53,SNR=41
O19A Miners Draw (B 52.73 333 ⇓P P 10 14 03.3 +0.8
baz=53,SNR=44
CIS Catalina Islan 52.76 320 ⇓P P 10 14 03.3 +0.6
baz=53
N20A Spence Gulch, 52.78 334 ⇑P P 10 14 03.9 +1.0
baz=53
L23A Garrett 52.79 337 ⇓P P 10 14 03.4 +0.4
baz=53,SNR=26
MSU Marysvale 52.80 329 eP P 10 14 04.3 +1.2
MSU Marysvale 52.80 329 eP P 10 14 04.3 +1.2
MVU Marysvale 52.81 329 eP P 10 14 03.9 +0.7
comp=Z,68nm,1.1s
MVU LR LR
comp=Z,8µm,20.0s
P17A Butcher Ranch, 52.83 331 ⇓P P 10 14 04.1 +0.9
baz=53,SNR=47
BFSC Mount Baldy Ra 52.84 322 ⇑P P 10 14 04.3 +0.9
baz=53,SNR=20
ARUT Antelope Range 52.91 328 eP P 10 14 05.1 +1.2
ARUT pmax pmax
comp=Z,175nm,1.2s
ARUT Antelope Range 52.91 328 eP P 10 14 05.1 +1.2
comp=Z,175nm,1.2s
TMUT Trail Mountain 52.91 331 eP P 10 14 05.3 +1.2
comp=Z,54nm,1.2s
K24A Anderson Ranch 52.98 338 ⇓P P 10 14 05.0 +0.7
baz=53,SNR=14
L22A Ellis Ranch, M 53.01 336 ⇑P P 10 14 05.9 +1.3
baz=53
M21A Separation Pea 53.03 335 ⇑P P 10 14 05.8 +1.0
baz=53,SNR=75
GSC Goldstone 53.04 323 eP P 10 14 06.2 +1.4
GSC pmax pmax
comp=Z,146nm,1.6s
GSC Goldstone 53.04 323 eP P 10 14 06.2 +1.4
comp=Z,146nm,1.6s
GSC Goldstone 53.04 323 ⇓P P 10 14 06.0 +1.2
baz=53,SNR=32
RWWY Rawlins 53.04 335 eP P 10 14 05.9 +1.0
comp=Z,206nm,1.1s
MWC Mount Wilson 53.08 321 eP P 10 14 06.6 +1.4
MWC pmax pmax
comp=Z,70nm,1.3s
MWC Mount Wilson 53.08 321 eP P 10 14 06.6 +1.4
comp=Z,70nm,1.3s
O18A Roosevelt 53.10 332 ⇑P P 10 14 06.6 +1.4
baz=53,SNR=79
PASC Pasadena Art C 53.12 321 eP P 10 14 07.1 +1.7
comp=Z,88nm,1.4s
SHOC Shoshone 53.14 324 ⇑P P 10 14 06.8 +1.3
baz=53,SNR=23
N19A John Jarvie Ra 53.23 333 ⇓P P 10 14 06.7 +0.5
baz=54,SNR=43
DECC Green Verdugo 53.27 321 ⇓P P 10 14 07.7 +1.3
baz=54,SNR=12
M20A Sweetwater, Wa 53.28 335 ⇓P P 10 14 07.4 +0.8
baz=54,SNR=94
K23A Bowen Ranch, D 53.31 337 ⇓P P 10 14 07.1 +0.4
baz=54,SNR=38
L21A Rawlins 53.33 336 ⇑P P 10 14 07.5 +0.5
baz=54,SNR=84
P16A Fountain Green 53.38 331 ⇓P P 10 14 08.6 +1.3
baz=54,SNR=20
O17A Robinson Place 53.39 332 ⇑P P 10 14 08.7 +1.3
baz=54,SNR=47
J24A Dixon Ranch, L 53.45 339 ⇑P P 10 14 08.6 +0.9
baz=54,SNR=19
EDW2 Edwards Air Fo 53.47 322 ⇓P P 10 14 08.5 +0.6
baz=54,SNR=24
R13A O'Grain Ranch, 53.48 328 ⇓P P 10 14 09.9 +1.8
baz=54,SNR=28
PQI Presque Isle 53.51 11 eP P 10 14 08.6 +0.8
comp=Z,368nm,1.2s
N18A Larsen Ranch, 53.52 333 ⇑P P 10 14 09.1 +0.7
baz=54
K22A Casper 53.57 337 ⇑P P 10 14 09.2 +0.5
baz=54,SNR=54
P15A Leamington 53.65 330 ⇑P P 10 14 10.4 +1.1
baz=54,SNR=31
MPU Maple Canyon 53.68 331 eP P 10 14 11.0 +1.4
comp=Z,71nm,1.2s
LRMC Laurel Mountai 53.69 323 ⇓P P 10 14 10.6 +1.0
baz=54,SNR=22
M19A Rock Springs 53.72 334 ⇑P P 10 14 10.0 +0.2
baz=54,SNR=18
O16A Springville 53.76 331 ⇑P P 10 14 11.1 +1.0
baz=54
L20A Wamsutter 53.77 335 ⇓P P 10 14 10.7 +0.5
baz=54,SNR=21
DAU Daniels Canyon 53.81 331 eP P 10 14 11.9 +1.3
DAU Daniels Canyon 53.81 331 eP P 10 14 11.9 +1.3
J23A Dilts Ranch, B 53.84 338 ⇓P P 10 14 11.5 +0.9
baz=54,SNR=5.9
K21A Alcova 53.84 336 ⇑P P 10 14 11.4 +0.7
baz=54,SNR=95
FURC Furnace Creek, 53.87 324 ⇑P P 10 14 12.0 +1.3
baz=54,SNR=23
I24A Kuemmerle Ranc 53.89 339 ⇑P P 10 14 11.6 +0.7
baz=54,SNR=13
RSSD Black Hills 53.91 340 eP P 10 14 12.1 +0.9
RSSD pmax pmax
comp=Z,79nm,1.0s
RSSD Black Hills 53.91 340 eP P 10 14 12.1 +0.9
comp=Z,79nm,1.0s
MPMC Manual Prospec 53.96 323 ⇓P P 10 14 12.4 +0.8
baz=54,SNR=18

N17A **Moffit Pass** 54.02 332 ⇓P P 10 14 13.3 +1.1
baz=54,SNR=22
JLU **Jordanelle** 54.05 331 eP P 10 14 13.5 +1.3
comp=Z,143nm,1.3s
M18A **Lyman** 54.06 333 ⇓P P 10 14 12.5 +0.2
baz=54,SNR=48
ARVC **Arvin** 54.15 322 ⇑P P 10 14 13.9 +1.1
baz=54,SNR=9.4
J22A **Midwest** 54.20 337 ⇓P P 10 14 13.6 +0.4
baz=54,SNR=115
CTU **Camp Tracy** 54.26 331 eP P 10 14 15.6 +1.8
comp=Z,122nm,1.2s
N16A **Rees Ranch, Co** 54.26 332 ⇓P P 10 14 15.1 +1.3
baz=54,SNR=29
I23A **Meade Ranch, G** 54.28 338 ⇓P P 10 14 14.7 +0.9
baz=54
ISA **Isabella** 54.29 322 eP P
ISA pmax pmax
comp=Z,64nm,1.4s
ISA **Isabella** 54.29 322 eP P 10 14 14.9 +1.0
comp=Z,64nm,1.4s
ISA **Isabella** 54.29 322 ⇓P P 10 14 15.3 +1.4
baz=54,SNR=13
L19A **Farson** 54.29 334 ⇑P P 10 14 14.8 +0.8
baz=54,SNR=67
O15A **The Old Anders** 54.29 330 ⇓P P 10 14 15.7 +1.7
baz=54
K20A **Yellowstone Ra** 54.31 335 ⇓P P 10 14 14.5 +0.4
baz=54,SNR=105
EYMN **Ely** 54.35 351 eP P 10 14 13.8 -0.3
EYMN LR LR
comp=Z,170nm,1.0s
comp=Z,5μm,20.0s
M17A **Scullys Gap (B** 54.37 333 ⇑P P 10 14 14.9 +0.3
baz=55,SNR=50
DUG **Dugway** 54.40 330 eP P 10 14 16.1 +1.4
DUG pmax pmax
comp=Z,88nm,1.1s
DUG MLR MLR
comp=Z,5μm,21.0s
DUG **Dugway** 54.40 330 eP P 10 14 16.1 +1.4
comp=Z,88nm,1.1s
DUG LR LR
comp=Z,5μm,21.0s
DUG **Dugway** 54.40 330 ⇑P P 10 14 16.0 +1.4
baz=55,SNR=64
L18A **Fontenelle, Gr** 54.44 333 ⇑P P 10 14 15.6 +0.5
baz=55,SNR=41
R11A **Troy Canyon, C** 54.47 327 ⇓P P 10 14 16.7 +1.4
baz=55,SNR=37
J21A **Lysite** 54.52 336 ⇓P P 10 14 16.4 +0.8
baz=55,SNR=125
GRAC **Grapevine Rang** 54.53 324 ⇓P P 10 14 17.4 +1.7
baz=55,SNR=8.3
CWC **Cottonwood Cre** 54.57 323 ⇓P P 10 14 17.4 +1.3
baz=55,SNR=9.7
I22A **9 Mile Ranch,** 54.61 337 ⇓P P 10 14 16.6 +0.5
baz=55,SNR=69
H24A **Dirks Ranch, A** 54.64 339 ⇑P P 10 14 16.6 +0.2
baz=55,SNR=86
K19A **Absolon Red Bu** 54.66 335 ⇓P P 10 14 16.7 +0.1
baz=55,SNR=127
M16A **Huntsville** 54.69 332 ⇑P P 10 14 17.6 +0.7
baz=55
RKT **Rikitea** 54.76 246 eS S 10 21 53.9 -2.7
comp=Z,9μm,26.8s
VES **Vestal, Richgr** 54.78 322 ⇑P P 10 14 18.3 +1.0
baz=55,SNR=16
H23A **Clabaugh Cattl** 54.78 339 ⇑P P 10 14 17.5 +0.2
baz=55,SNR=11
J20A **Shoshoni** 54.78 336 ⇓P P 10 14 18.4 +1.0
baz=55,SNR=73
N15A **Stansbury Isla** 54.78 331 ⇓P P 10 14 18.3 +0.8
baz=55
I21A **Big Trails, Te** 54.85 337 ⇑P P 10 14 18.2 +0.2
baz=55,SNR=117
HWUT **Hardware Ranch** 54.89 332 eP P 10 14 18.7 +0.4
comp=Z,154nm,1.0s
HWUT LR LR
comp=Z,10μm,20.0s
BW06 **Boulder Array** 54.91 334 eP P 10 14 18.4 -0.1
comp=Z,90nm,1.2s
BW06 LR LR
comp=Z,8μm,19.0s
BW06 **Boulder Array** 54.91 334 ⇓P P 10 14 18.7 +0.1
baz=55,SNR=56
PDAR **Pinedale Array** 54.91 334 P P 10 14 18.6 +0.1
PDAR PcP PcP 10 15 20.3 0.0
PDAR P'P' 10 44 30.5
PDAR ⇑e 10 44 42.3
PDAR e 10 51 35.6
PDAR **Pinedale Array** 54.91 334 P P 10 14 18.6 +0.1
comp=Z,51nm,1.1s,baz=138,slow=7.2,SNR=156
PDAR PcP PcP 10 15 20.3 0.0
comp=Z,26nm,1.0s,baz=172,slow=5.0,SNR=4.5
PDAR LR LR 10 37 29.8
comp=Z,7μm,19.0s,baz=142,slow=36
PDAR PKPPKP P'P'df 10 44 30.5 +4.4
comp=Z,0.9nm,1.0s,baz=329,slow=1.7,SNR=4.1
PDAR PKP2bc 10 44 42.3
comp=Z,2.0nm,1.0s,baz=298,slow=3.2,SNR=5.3
PDAR P4KPbc 10 51 35.6
comp=Z,0.8nm,1.0s,baz=134,slow=4.3,SNR=4.3
PD02 **Pinedale Array** 54.93 334 eP P 10 14 18.5 -0.1
L17A **Cokeville** 54.96 333 ⇓P P 10 14 19.0 +0.1
baz=55,SNR=12
K18A **Toltan Ranch,** 55.02 334 ⇓P P 10 14 20.4 +1.1
baz=55,SNR=199
G24A **Alzada** 55.10 340 ⇑P P 10 14 19.9 +0.3
baz=55,SNR=64
J19A **Crowheart** 55.11 335 ⇑P P 10 14 20.1 +0.2
baz=55,SNR=127
L16A **Fish Haven** 55.15 333 ⇓P P 10 14 20.5 +0.3
baz=55,SNR=35
H22A **Clearmont** 55.15 338 ⇑P P 10 14 20.2 +0.1
baz=55,SNR=39
RCTC **Rector, Farmer** 55.18 322 ⇑P P 10 14 20.8 +0.5
baz=55,SNR=6.1
M15A **Larsen Ranch,** 55.19 331 ⇑P P 10 14 20.9 +0.5
baz=55,SNR=29
TPH **Tonopah** 55.19 325 PFAKE 10 14 30.0 +9.4
TPH LR LR
comp=Z,7μm,19.0s
I20A **Worland** 55.30 336 ⇓P P 10 14 21.7 +0.5
baz=56,SNR=72
G23A **Biddle** 55.33 339 ⇑P P 10 14 21.5 +0.2
baz=56,SNR=53
PTRM **Twissleman Ran** 55.35 321 eP P 10 14 21.9 +0.3
H21A **Big Horn, Sher** 55.44 338 ⇑P P 10 14 21.9 -0.3
baz=56,SNR=24
AGMN **Agassiz Nation** 55.47 348 eP P 10 14 21.8 -0.3
comp=Z,170nm,0.9s
AGMN LR LR
comp=Z,3μm,21.0s
MTUM **Tungsten Hills** 55.47 324 eP P 10 14 23.9 +1.3
J18A **Kendall Valley** 55.47 334 ⇓P P 10 14 22.8 +0.2
baz=56,SNR=94
K17A **Gardner Place,** 55.50 333 ⇓P P 10 14 23.1 +0.4
baz=56,SNR=30
F24A **Ekalaka** 55.56 340 ⇑P P 10 14 23.1 +0.1
baz=56,SNR=128
L15A **Malad City** 55.58 332 ⇓P P 10 14 23.3 0.0
baz=56,SNR=66
AHID **Auburn Hatcher** 55.59 333 eP P 10 14 24.3 +0.9
comp=Z,95nm,1.0s
AHID LR LR
comp=Z,6μm,20.0s
HVU **Hansel Valley** 55.59 331 eP P 10 14 24.4 +1.0
HVU pmax pmax
comp=Z,52nm,1.1s
HVU **Hansel Valley** 55.59 331 eP P 10 14 24.4 +1.0
comp=Z,52nm,1.1s
G22A **Birney** 55.67 338 ⇓P P 10 14 23.7 0.0
baz=56,SNR=58
H20A **Greybull** 55.69 337 ⇑P P 10 14 23.9 -0.1
baz=56,SNR=114
I19A **Meeteetse** 55.72 336 ⇓P P 10 14 24.7 +0.5
baz=56,SNR=25
F23A **Volborg** 55.78 339 ⇓P P 10 14 24.8 +0.3
baz=56,SNR=97
I18A **Diamond G Ranc** 55.78 335 ⇑P P 10 14 25.2 +0.4
baz=56,SNR=70
K16A **Soda Springs** 55.86 333 ⇑P P 10 14 26.0 +0.7
baz=56,SNR=75
J17A **Brown Place, J** 55.90 334 ⇓P P 10 14 26.3 +0.7
baz=56,SNR=129
MDND **Maddock** 55.92 345 ⇓P P 10 14 25.8 +0.4
baz=56,SNR=117

REDW **Red Top Meadow** 55.96 334 eP P 10 14 26.6 +0.5
comp=Z,235nm,1.3s
SNOW **Snow King Moun** 55.99 334 eP P 10 14 26.9 +0.5
comp=Z,89nm,1.2s
L14A **Malta** 56.01 331 ⇓P P 10 14 26.6 +0.2
baz=56,SNR=63
G21A **Lodge Grass** 56.01 338 ⇓P P 10 14 26.0 -0.2
baz=56,SNR=52
ELK **Elko** 56.03 329 eP P 10 14 27.6 +0.9
LOHW **Long Hollow** 56.05 334 eP P 10 14 27.1 +0.4
comp=Z,79nm,1.3s
NVAR **Mina Array Bea** 56.05 325 P P 10 14 27.8 +1.0
NVAR PcP PcP 10 15 26.2 +1.4
NVAR ⇑e 10 44 39.2
NVAR **Mina Array Bea** 56.05 325 P P 10 14 27.8 +1.0
comp=Z,20nm,0.9s,baz=144,slow=7.0,SNR=41
NVAR PcP PcP 10 15 26.2 +1.4
comp=Z,16nm,1.0s,baz=148,slow=4.1,SNR=4.4
NVAR LR LR 10 37 37.3
comp=Z,4μm,18.4s,baz=228,slow=35
NVAR PKP2bc 10 44 39.2
comp=Z,1.9nm,0.8s,baz=261,slow=2.5,SNR=5.3
TPAW **Teton Pass** 56.10 334 eP P 10 14 28.7 +1.6
comp=Z,132nm,1.2s
F22A **Rosebud** 56.13 339 ⇓P P 10 14 26.9 -0.1
baz=56,SNR=23
E24A **Baker** 56.14 341 ⇓P P 10 14 27.5 +0.4
baz=56,SNR=30
RRI2 **Red Ridge** 56.15 334 eP P 10 14 28.0 +0.5
comp=Z,157nm,1.0s
K15A **Arbon** 56.18 332 ⇑P P 10 14 28.0 +0.5
baz=56,SNR=39
MOOW **Moose Ponds** 56.22 334 eP P 10 14 28.2 +0.3
comp=Z,49nm,1.1s
J16A **Bone** 56.22 333 ⇑P P 10 14 28.7 +0.8
baz=56,SNR=170
H19A **Powell** 56.24 336 ⇑P P 10 14 28.0 +0.1
baz=56,SNR=21
I17A **Pilgrim Ck.** 56.28 335 ⇑P P 10 14 29.2 +0.9
baz=56,SNR=34
DCID1 **Drake Creek** 56.29 334 eP P 10 14 29.1 +0.8
comp=Z,198nm,1.3s
K14A **Jones Ranch, D** 56.37 332 ⇑P P 10 14 29.1 +0.3
baz=57,SNR=68
G20A **Bridger** 56.39 337 ⇑P P 10 14 28.6 -0.4
baz=57,SNR=59
E23A **Ismay** 56.42 340 ⇓P P 10 14 29.0 -0.1
baz=57,SNR=26
FLWY **Flagg Ranch** 56.47 335 eP P 10 14 30.2 +0.6
comp=Z,160nm,1.3s
F21A **Absaloka Mine,** 56.49 338 ⇓P P 10 14 29.7 +0.1
baz=57
H18A **Shoshone NF, C** 56.52 336 ⇓P P 10 14 29.9 -0.1
baz=57,SNR=43
E22A **Miles City** 56.59 339 ⇑P P 10 14 30.0 -0.3
baz=57,SNR=46
D24A **Glendive** 56.64 341 ⇓P P 10 14 31.4 +0.8
baz=57,SNR=32
I16A **Newdale** 56.64 334 ⇑P P 10 14 31.8 +0.9
baz=57,SNR=117
J15A **Blackfoot** 56.69 333 ⇑P P 10 14 31.8 +0.6
baz=57,SNR=107
RLMT **Red Lodge** 56.72 336 eP P 10 14 31.5 0.0
comp=Z,54nm,1.1s
RLMT LR LR
comp=Z,8μm,19.0s
RLMT **Red Lodge** 56.72 336 ⇓P P 10 14 31.7 +0.3
baz=57,SNR=46
LKWY **Lake** 56.73 335 eP P 10 14 31.9 +0.3
LKWY MLR MLR
comp=Z,11μm,19.0s
LKWY **Lake** 56.73 335 eP P 10 14 31.9 +0.3
LKWY LR LR
comp=Z,11μm,19.0s
BMN **Battle Mountai** 56.85 327 eP P 10 14 33.1 +0.8
BMN pmax pmax
comp=Z,94nm,1.3s
BMN MLR MLR
comp=Z,10μm,19.0s
BMN **Battle Mountai** 56.85 327 eP P 10 14 33.1 +0.8
comp=Z,94nm,1.3s
BMN LR LR
comp=Z,10μm,19.0s
F20A **Billings** 56.85 338 ⇓P P 10 14 32.2 0.0
baz=57,SNR=32
YNR **Norris Junctio** 56.97 335 eP P 10 14 34.3 +1.1
comp=Z,57nm,1.2s
D23A **Lindsay** 56.98 340 ⇑P P 10 14 33.8 +0.8
baz=57,SNR=37
CMB **Columbia Colle** 57.00 323 eP P 10 14 33.6 +0.3
CMB pmax pmax
comp=Z,26nm,1.2s
CMB **Columbia Colle** 57.00 323 eP P 10 14 33.6 +0.3
comp=Z,26nm,1.2s
G18A **Lazy EL Ranch,** 57.00 336 ⇓P P 10 14 33.6 +0.3
baz=57,SNR=70
C24A **Savage** 57.03 341 ⇓P P 10 14 34.1 +0.7
baz=57,SNR=60
YMR **Madison River** 57.05 335 eP P 10 14 34.8 +1.0
comp=Z,129nm,1.2s
E21A **Keefer Ranch,** 57.08 339 ⇑P P 10 14 33.9 +0.2
baz=57
J14A **Carey** 57.13 332 ⇓P P 10 14 35.6 +1.3
baz=57
I15A **Monteview** 57.18 333 ⇓P P 10 14 36.1 +1.5
baz=57,SNR=57
F19A **Roth Farm, Mol** 57.20 337 ⇓P P 10 14 34.9 +0.2
baz=57,SNR=133
H16A **Russell Place,** 57.20 335 ⇑P P 10 14 36.2 +1.4
baz=57,SNR=108
D22A **Cohagen** 57.29 340 ⇑P P 10 14 36.1 +0.9
baz=58,SNR=107
ULM **Lac du Bonnet** 57.33 349 P P 10 14 34.9 -0.5
ULM PcP PcP 10 15 29.7 +0.5
ULM ⇑e 10 44 30.1
ULM **Lac du Bonnet** 57.33 349 P P 10 14 34.9 -0.5
comp=Z,131nm,1.0s,baz=166,slow=7.0,SNR=96
ULM PcP PcP 10 15 29.7 +0.5
comp=Z,66nm,1.1s,baz=171,slow=4.0,SNR=5.0
ULM LR LR 10 38 32.1
comp=Z,2μm,21.2s,baz=155,slow=35
ULM PKP2bc 10 44 30.1
comp=Z,2.6nm,1.0s,baz=86,slow=3.9,SNR=3.4
QLMT **Earthquake Lak** 57.38 335 eP P 10 14 37.7 +1.6
GCMT **Greycliff** 57.43 336 eP P 10 14 37.1 +0.7
comp=Z,181nm,1.1s
E20A **Meyer Farm, Mu** 57.44 338 ⇓P P 10 14 37.0 +0.7
baz=58,SNR=124
WCN **Washoe City** 57.48 325 eP P 10 14 38.1 +1.3
WCN pmax pmax
comp=Z,35nm,1.0s
WCN **Washoe City** 57.48 325 eP P 10 14 38.1 +1.3
comp=Z,35nm,1.0s
WCN **Washoe City** 57.48 325 ⇑P P 10 14 38.0 +1.1
baz=58,SNR=7.6
G17A **Pierce Place,** 57.48 335 ⇑P P 10 14 38.4 +1.6
baz=58,SNR=126
J13A **Cove Ranch, Pi** 57.49 332 ⇑P P 10 14 37.7 +0.9
baz=58,SNR=84
D21A **La Casta Ranch** 57.50 339 ⇑P P 10 14 37.4 +0.7
baz=58,SNR=81
C23A **Lambert** 57.52 341 ⇓P P 10 14 37.3 +0.5
baz=58,SNR=37
F18A **Big Timber** 57.55 337 ⇓P P 10 14 37.7 +0.6
baz=58,SNR=262
I14A **Mackay** 57.56 333 ⇑P P 10 14 38.5 +1.1
baz=58,SNR=111
E19A **Rath Farm, Rou** 57.65 338 ⇓P P 10 14 38.3 +0.5
baz=58,SNR=132
C22A **Vida** 57.70 340 ⇑P P 10 14 38.7 +0.6
baz=58,SNR=71
HLID **Hailey** 57.73 332 eP P 10 14 39.4 +0.9
comp=Z,92nm,1.0s
HLID LR LR
comp=Z,4μm,21.0s
HLID **Hailey** 57.73 332 ⇑P P 10 14 39.7 +1.1
baz=58,SNR=141
H15A **Lima** 57.74 334 ⇑P P 10 14 40.1 +1.5
baz=58,SNR=240
DGMT **Dagmar** 57.79 342 eP P 10 14 39.3 +0.6
comp=Z,108nm,1.0s
DGMT LR LR
comp=Z,3μm,20.0s
DGMT **Dagmar** 57.79 342 ⇓P P 10 14 39.3 +0.6
baz=58,SNR=27
G16A **Moss Hill, Enn** 57.86 335 ⇑P P 10 14 40.4 +1.0
baz=58,SNR=51
I13A **Wildhorse Cree** 57.86 332 ⇓P P 10 14 40.8 +1.3
baz=58,SNR=132
F17A **Fitzpatrick Pl** 57.93 336 ⇓P P 10 14 40.8 +1.0
baz=58,SNR=93
D20A **Manuel Ranch,** 57.93 338 ⇑P P 10 14 40.4 +0.7
baz=58,SNR=105
MCMT **McKenzie Canyo** 57.99 334 eP P 10 14 41.2 +0.7
comp=Z,52nm,1.3s
B23A **Brockton** 58.04 341 ⇑P P 10 14 41.4 +1.0
baz=58,SNR=80
H14A **Leadore** 58.06 333 ⇓P P 10 14 42.0 +1.2
baz=58,SNR=140
G15A **Dillon** 58.10 334 ⇑P P 10 14 41.9 +0.8
baz=58,SNR=98
BOZ **Bozeman (W)** 58.12 335 eP P 10 14 41.5 +0.3
BOZ pmax pmax
comp=Z,140nm,1.1s
BOZ MLR MLR
comp=Z,5μm,20.0s
BOZ **Bozeman (W)** 58.12 335 eP P 10 14 41.5 +0.3
comp=Z,140nm,1.1s
BOZ LR LR
comp=Z,5μm,20.0s
BOZ **Bozeman (W)** 58.12 335 ⇑P P 10 14 41.6 +0.4
baz=58,SNR=84
A24A **Westby** 58.14 342 ⇓P P 10 14 42.1 +1.0
baz=58,SNR=59
E18A **Harlowton** 58.17 337 ⇑P P 10 14 42.2 +0.7
baz=58,SNR=80
C21A **Desert Coulee** 58.19 340 ⇓P P 10 14 42.0 +0.5
baz=58,SNR=140
B22A **Reddig Ranch S** 58.22 341 ⇑P P 10 14 42.4 +0.7
baz=58,SNR=15
F16A **Kennard Place,** 58.23 335 ⇑P P 10 14 42.7 +0.8
baz=58,SNR=79
I12A **Atlanta** 58.25 331 ⇓P P 10 14 43.1 +0.9
baz=58
D19A **Cripps Ranch,** 58.27 338 ⇓P P 10 14 42.6 +0.5
baz=58
MFID **Camas Ranch** 58.30 331 eP P 10 14 43.6 +1.1
MFID **Camas Ranch** 58.30 331 ⇑P P 10 14 43.6 +1.1
baz=58,SNR=151
DLMT **Dillon** 58.30 334 eP P 10 14 43.3 +0.8
comp=Z,158nm,1.1s
C20A **Veseth Ranch,** 58.41 339 ⇑P P 10 14 43.2 +0.2
baz=59,SNR=29
H13A **Challis** 58.42 333 ⇑P P 10 14 44.3 +1.0
baz=59,SNR=92
A23A **Redstone** 58.44 342 ⇓P P 10 14 44.0 +0.8
baz=59,SNR=14
E17A **Martinsdale** 58.46 336 ⇑P P 10 14 44.2 +0.6
baz=59
G14A **Jackson** 58.59 334 ⇓P P 10 14 45.0 +0.4
baz=59,SNR=64
LRM **Limekiln Ridge** 58.61 335 eP P 10 14 45.2 +0.5
F15A **Butte** 58.64 335 ⇓P P 10 14 45.5 +0.6
baz=59,SNR=54
D18A **Linhart Farms,** 58.65 337 ⇓P P 10 14 45.4 +0.7
baz=59,SNR=55
B21A **Ellsworth Farm** 58.67 340 ⇑P P 10 14 45.5 +0.7
baz=59,SNR=37
H12A **Diamond D Ranc** 58.69 332 ⇑P P 10 14 46.2 +0.9
baz=59,SNR=128
A22A **Carney Farms,** 58.80 341 ⇓P P 10 14 46.6 +0.9
baz=59,SNR=70
C19A **Slack Wire Ran** 58.81 338 ⇓P P 10 14 46.5 +0.6
baz=59,SNR=93
G13A **Cobalt** 58.82 333 ⇑P P 10 14 46.8 +0.7
baz=59,SNR=81
E16A **East Helena** 58.85 336 ⇓P P 10 14 46.8 +0.5
baz=59,SNR=109
D17A **Six Diamond Ra** 58.95 337 ⇑P P 10 14 47.5 +0.5
baz=59,SNR=86
F14A **Wisdom** 58.99 334 ⇓P P 10 14 48.1 +0.7
baz=59,SNR=97
WVOR **Wild Horse Val** 59.01 328 eP P 10 14 47.8 +0.3
WVOR pmax pmax
comp=Z,120nm,1.2s
WVOR MLR MLR
comp=Z,10μm,21.0s
WVOR **Wild Horse Val** 59.01 328 eP P 10 14 47.8 +0.3
comp=Z,120nm,1.2s
WVOR LR LR
comp=Z,10μm,21.0s
B20A **Solberg Farm,** 59.03 339 ⇑P P 10 14 47.8 +0.4
baz=59,SNR=91
HRY **Holter Researc** 59.06 336 eP P 10 14 48.2 +0.6
A21A **Bergtoll Ranch** 59.13 340 ⇓P P 10 14 48.6 +0.6
baz=59,SNR=113
E15A **Deer Lodge** 59.16 335 ⇑P P 10 14 48.9 +0.5
baz=59,SNR=69
D16A **Dana Ranch, Ca** 59.20 336 ⇑P P 10 14 49.2 +0.5
baz=59,SNR=113
EGMT **Eagleton** 59.31 338 eP P 10 14 49.5 +0.2
comp=Z,163nm,1.1s
EGMT LR LR
comp=Z,4μm,19.0s
EGMT **Eagleton** 59.31 338 ⇓P P 10 14 49.7 +0.4
baz=60,SNR=89
G12A **Big Creek, Yel** 59.35 332 ⇑P P 10 14 50.2 +0.4
baz=60,SNR=67
A20A **Cobblestone Ra** 59.37 340 ⇑P P 10 14 50.1 +0.4
baz=60,SNR=29
B19A **Brinkman Farms** 59.38 339 ⇓P P 10 14 50.2 +0.5
baz=60,SNR=54
C17A **Wharram Farm,** 59.38 337 ⇓P P 10 14 50.2 +0.4
baz=60,SNR=116
F13A **Darby** 59.40 333 ⇑P P 10 14 50.7 +0.7
baz=60,SNR=146
E14A **Clinton** 59.52 334 ⇑P P 10 14 51.4 +0.5
baz=60,SNR=106
MOD **Modoc** 59.54 327 eP P 10 14 52.1 +1.0
comp=Z,130nm,1.1s
D15A **Lincoln** 59.60 335 ⇓P P 10 14 52.0 +0.6
baz=60,SNR=40
B18A **Beardsley Farm** 59.63 338 ⇓P P 10 14 52.1 +0.6
baz=60,SNR=120
A19A **Klindworth Far** 59.70 339 ⇓P P 10 14 52.5 +0.5
baz=60,SNR=134
F12A **Elk City** 59.79 333 ⇓P P 10 14 53.3 +0.5
baz=60,SNR=88
CHMT **Chamberlain Mo** 59.81 335 eP P 10 14 53.6 +0.6
E13A **Victor** 59.84 334 ⇓P P 10 14 53.8 +0.7
baz=60,SNR=105
C16A **Fuhringer Ranc** 59.90 336 ⇓P P 10 14 54.1 +0.7
baz=60,SNR=80
B17A **L&G Farms, Che** 59.93 337 ⇑P P 10 14 53.6 0.0
baz=60,SNR=23
MSO **Missoula** 60.04 334 eP P 10 14 55.2 +0.8
comp=Z,147nm,1.1s
MSO LR LR
comp=Z,4μm,20.0s
MSO **Missoula** 60.04 334 ⇓P P 10 14 55.2 +0.8
baz=60,SNR=231
D14A **Greenough** 60.05 335 ⇓P P 10 14 54.9 +0.4
baz=60,SNR=49
PMSA **Palmer Station** 60.06 172 eP P 10 14 55.3 +1.2
comp=Z,63nm,0.8s
PMSA LR LR
comp=Z,3μm,19.0s
BMO **Blue Mountains** 60.08 331 eP P 10 14 54.3 -0.5
BMO pmax pmax
comp=Z,43nm,1.4s
BMO MLR MLR
comp=Z,4μm,19.0s
BMO **Blue Mountains** 60.08 331 eP P 10 14 54.2 -0.5
comp=Z,43nm,1.4s
BMO LR LR
comp=Z,4μm,19.0s
A18A **Metzger Ranch,** 60.09 338 ⇑P P 10 14 54.9 +0.2
baz=60,SNR=90
SLMT **Seeley Lake** 60.17 335 eP P 10 14 55.9 +0.5
C15A **Salmond Ranch,** 60.23 336 ⇑P P 10 14 56.6 +0.9
baz=60,SNR=54
B16A **M & M Farms, S** 60.38 337 ⇑P P 10 14 56.9 +0.2
baz=61,SNR=58
A17A **Triple J Farms** 60.43 338 ⇓P P 10 14 57.3 +0.3
baz=61,SNR=66
SACV **Santiago Islan** 60.43 69 eP P 10 14 58.0 +0.4
comp=Z,198nm,1.1s
SACV LR LR
comp=Z,12μm,22.0s
E12A **Beaver Dam Sad** 60.43 333 ⇑P P 10 14 57.4 +0.2
baz=61,SNR=108
D13A **Huson** 60.47 334 ⇓P P 10 14 58.1 +0.8
baz=61,SNR=77
SWMT **Swartz Lake** 60.59 335 eP P 10 14 59.0 +0.8
B15A **Bradely Ranch,** 60.64 336 ⇑P P 10 14 59.0 +0.5
baz=61,SNR=99

C14A Swan Lake 60.69 335 ⇑P P 10 14 59.8 +1.0
baz=61
YBH Yreka Blue Hor 60.77 325 eP P 10 14 58.6 -0.9
comp=Z,58nm,1.2s
A16A West Butte Ran 60.77 337 ⇑P P 10 14 59.9 +0.5
baz=61
D12A Red Ives Fores 60.82 334 ⇓P P 10 15 00.1 +0.4
baz=61
YBMT Yellow Bay 60.87 335 eP P 10 15 01.3 +1.2
comp=Z,115nm,1.0s
JTMT Jette 60.90 335 eP P 10 15 01.3 +1.0
B14A Marquette Ranc 60.96 336 ⇓P P 10 15 01.6 +0.8
baz=61,SNR=154
C13A Hot Springs 60.97 335 ⇑P P 10 15 01.6 +0.9
baz=61,SNR=59
BLMT Blacktail Moun 61.14 335 eP P 10 15 03.2 +1.2
BSMT Bassoo Peak 61.19 335 eP P 10 15 03.2 +0.9
A15A Johnson Ranch, 61.24 337 ⇑P P 10 15 02.7 +0.2
baz=62,SNR=51
KRMB Red Mountain 61.32 324 eP P 10 15 04.7 +1.4
comp=Z,163nm,1.4s
C12B Naegeli Ranch, 61.38 334 ⇑P P 10 15 04.6 +1.2
baz=62,SNR=83
B13A Whitefish 61.46 335 ⇑P P 10 15 04.9 +0.8
baz=62,SNR=35
VIPM Ingram Point 61.49 329 P P 10 15 06.1 +1.6
VIPM Ingram Point 61.49 329 P P 10 15 06.1 +1.6
A14A Double T Ranch 61.51 336 ⇑P P 10 15 05.0 +0.6
baz=62,SNR=80
SCHQ Schefferville 61.57 9 eP P 10 15 03.4 -1.1
comp=Z,59nm,1.0s
SCHQ PcP **PcP** 10 15 46.9 +0.9
SCHQ Schefferville 61.57 9 P P 10 15 03.7 -0.8
comp=Z,60nm,1.0s,baz=201,slow=5.5,SNR=55
SCHQ PcP **PcP** 10 15 46.9 +0.9
comp=Z,37nm,1.1s,baz=188,slow=4.2,SNR=4.7
SCHQ LR LR 10 42 29.8
comp=Z,3µm,19.9s,baz=197,slow=37
C11A Tepee Creek (N 61.82 334 ⇓P P 10 15 07.4 +0.9
baz=62
A13A Flathead Natio 61.88 336 ⇓P P 10 15 08.1 +1.2
baz=62
B12A Libby 62.01 335 ⇓P P 10 15 08.9 +1.2
baz=62,SNR=99
HAWA Hanford 62.27 331 eP P 10 15 10.3 +0.9
comp=Z,65nm,1.3s
HAWA LR LR
comp=Z,6µm,20.0s
A12A Yaak River Ran 62.40 335 ⇓P P 10 15 11.5 +1.2
baz=63,SNR=69
KEBM Edson Butte 62.42 325 eP P 10 15 12.0 +1.4
comp=Z,218nm,1.3s
VFP Flag Point 62.49 329 P P 10 15 12.1 +1.0
NEW Newport 62.52 334 eP P 10 15 11.6 +0.5
comp=Z,70nm,1.0s
NEW LR LR
comp=Z,3µm,21.0s
NEW Newport 62.52 334 ⇑P P 10 15 11.8 +0.7
baz=63,SNR=66
OD2 Odessa Site #2 62.60 332 P P 10 15 12.5 +0.8
FFC Flin Flon 62.84 346 eP P 10 15 12.3 -0.7
FFC pmax pmax
comp=Z,48nm,1.1s
FFC MLR MLR
comp=Z,4µm,20.0s
FFC Flin Flon 62.84 346 eP P 10 15 12.3 -0.7
comp=Z,48nm,1.1s
FFC LR LR
comp=Z,4µm,20.0s
FFC Flin Flon 62.84 346 P P 10 15 12.9 -0.1
comp=Z,205nm,1.0s,SNR=15
COR Corvallis 62.96 327 eP P 10 15 15.4 +1.3
COR pmax pmax
comp=Z,277nm,1.3s
COR Corvallis 62.96 327 eP P 10 15 15.4 +1.3
comp=Z,277nm,1.3s
SAW Saint Andrews 63.15 332 P P 10 15 16.9 +1.6
TBM Table Mountain 63.34 331 P P 10 15 18.0 +1.3
ETW Entiat 63.52 331 P P 10 15 18.9 +1.1
LON Longmire 63.64 330 eP P 10 15 19.2 +0.6
LON Longmire 63.64 330 eP P 10 15 19.2 +0.6
JCW Jim Creek 64.70 331 P P 10 15 25.7 +0.2
NLWA Neilton Lookou 65.11 329 eP P 10 15 29.6 +1.4
comp=Z,144nm,1.2s
NLWA LR LR
comp=Z,12µm,20.0s
VDB Vedder Mountai 65.36 332 P P 10 15 30.1 +0.4
PGC Sidney 65.75 331 eP P 10 15 33.4 +1.2
comp=Z,5.3nm,1.1s
ADH Angra Heroismo 66.50 43 eP P 10 15 38.5 +1.2
comp=Z,199nm,0.8s
PSET Sete Cidades 67.16 45 eP P 10 15 42.5 +1.0
comp=Z,43nm,0.7s
PDA Ponta Delgada 67.17 45 eP P 10 15 40.5 -1.0
comp=Z,206nm,1.1s
PSMN Pico do Norte, 67.25 46 eP P 10 15 40.8 -1.3
comp=Z,88nm,0.8s
PSMN eLQ LQ 10 32 25.0
PSMN eLR LR 10 36 49.4
comp=Z,464nm,18.4s
CMLA Cha da Macela 67.27 45 eP P 10 15 41.5 -0.7
comp=Z,171nm,1.1s
CMLA eLQ LQ 10 32 33.9
CMLA eLR LR 10 37 16.1
comp=Z,571nm,18.4s
CMLA Cha da Macela 67.27 45 PFAKE 10 15 50.0 +7.8
CMLA LR LR
comp=Z,5µm,20.0s
PPT2 Papeete2 67.94 253 eS S 10 24 41.3 -3.0
comp=Z,14µm,29.5s
PPT2 eLR LR 10 36 15.5
comp=Z,14µm,25.8s,baz=88
TBI Tubuai 68.03 247 eS S 10 24 42.6 -2.5
comp=Z,9µm,31.0s
TBI eLR LR 10 36 19.5
comp=Z,6µm,26.8s,baz=76
TRIS Tristan da Cun 69.46 127 PFAKE 10 16 10.0 +14
TRIS LR LR
comp=Z,5µm,19.0s
PMOZ Porto Moniz, M 71.55 53 eELR LR 10 41 23.1
PMOZ A A 10 43 54.1
comp=Z,3µm,22.0s
YKA Yellowknife Ar 72.84 344 P P 10 16 14.9 -0.9
YKA ⇑e 10 43 48.5
YKA Yellowknife Ar 72.84 344 P P 10 16 14.9 -0.9
comp=Z,37nm,1.0s,baz=139,slow=5.6,SNR=252
YKA PKP2bc 10 43 48.5
comp=Z,0.4nm,1.0s,baz=359,slow=2.7,SNR=4.3
SHEL Horse Pasture 74.19 105 PFAKE 10 16 40.0 +15
SHEL LR LR
comp=Z,12µm,20.0s
WRAK Wrangell Islan 74.88 333 eP P 10 16 28.3 +0.4
comp=Z,55nm,1.0s
WRAK LR LR
comp=Z,4µm,20.0s
DLBC Dease Lake 75.12 336 eP P 10 16 30.3 +1.0
SFJD Kangerlussuaq 75.82 12 eP P 10 16 32.5 -0.6
comp=Z,148nm,1.4s
SFJD LR LR
comp=Z,3µm,20.0s
SFJD Kangerlussuaq 75.82 12⇑iP P 10 16 32.7 -0.4
comp=Z,28nm,1.1s
SFJD e 10 26 10.9
SFJD
comp=Z,2µm,22.0s
SFJD Kangerlussuaq 75.82 12 P P 10 16 33.0 -0.1
comp=Z,39nm,1.0s,baz=200,slow=5.6,SNR=16
LIC Lamto 76.69 82⇑iP P 10 16 40.1 +0.9
comp=Z,593nm,1.5s,baz=257
LIC eR
comp=Z,43µm,20.0s
LIC Lamto 76.69 82⇑iP P 10 16 40.1 +0.9
comp=Z,593nm,1.5s
XMAS Kiritimati 76.82 273 PFAKE 10 16 50.0 +10
XMAS LR LR
comp=Z,9µm,19.0s
DBIC Dimbokro 76.91 82 eP P 10 16 41.5 +1.0
comp=Z,241nm,1.2s
DBIC Dimbokro 76.91 82 P P 10 16 41.1 +0.7
comp=Z,113nm,1.0s,baz=249,slow=5.8,SNR=65
DBIC LR LR 10 49 33.2
comp=Z,26µm,18.8s,baz=245,slow=35
RAR Rarotonga 77.55 250 PFAKE 10 17 00.0 +16
RAR LR LR
comp=Z,6µm,21.0s
SKAG Skagway 77.94 335 eP P 10 16 45.5 +0.3
comp=Z,64nm,1.4s

PFVI Vila Bisbo 79.40 51 eP P 10 16 55.0 +1.2
comp=Z,300nm,1.3s
PMAFR Mafra 79.55 49 eP P 10 16 54.4 -0.2
comp=Z,145nm,1.8s
MORF Marmelete 79.58 51 eP P 10 16 55.3 +0.5
comp=Z,232nm,1.0s
MORF Marmelete 79.58 51 eP P 10 16 55.1 +0.3
MORF eS S 10 26 53.8 -1.2
LIS Lisbon 79.59 49 eP P 10 16 55.2 +0.5
LIS eSS SS 10 32 04.4 +0.9
LIS AMS AMS 10 50 21.5
comp=Z,7µm,19.9s
LIS Lisbon 79.59 49 eP P 10 16 55.2 +0.5
LIS eSS SS 10 32 04.4 +0.9
PNL Peninsula 79.80 334 eP P 10 16 56.9 +1.5
comp=Z,110nm,1.1s
PNCL Nicolau / Gran 79.89 50 eP P 10 16 55.5 -0.9
comp=Z,95nm,2.2s
MESJ Messejana 80.05 50 eP P 10 16 58.0 +0.6
MESJ AMS AMS 10 50 10.9
comp=Z,4µm,20.5s
MESJ Messejana 80.05 50 eP P 10 16 57.9 +0.6
PBDV Barranco-do-Ve 80.12 51 eP P 10 16 58.4 +0.7
comp=Z,102nm,1.5s
ALMR Almeirim 80.14 49 eP P 10 16 58.1 +0.4
ALMR Almeirim 80.14 49 eP P 10 16 58.1 +0.4
PCVE Castro Verde 80.14 50 eP P 10 16 58.5 +0.7
comp=Z,123nm,1.3s
RTC Rabat Centre 80.16 54 PFAKE 10 17 10.0 +12
RTC LR LR
comp=Z,2µm,19.0s
EVOP Sao Brissos 80.31 49⇑iP P 10 16 59.8 +1.2
EVOP pmax pmax
comp=Z,185nm,1.2s
EVOP Sao Brissos 80.31 49⇑iP P 10 16 59.8 +1.2
comp=Z,185nm,1.2s
PVAQ Vaqueiros 80.33 51 eP P 10 16 59.8 +1.0
comp=Z,57nm,1.4s
PVAQ eLR LR 10 42 50.8
comp=Z,4µm,16.0s
PMTG Montargil 80.38 49 eP P 10 16 59.1 +0.1
comp=Z,142nm,1.4s
PTOM Tomar 80.39 48 eP P 10 17 00.3 +1.3
comp=Z,126nm,0.9s
EVO Evora 80.39 49 eP P 10 16 57.8 -1.3
comp=Z,75nm,1.6s
EVO Evora 80.39 49⇑iP P 10 16 59.8 +0.7
comp=Z,185nm,1.2s
EVO eR
comp=Z,7µm,20.2s
PESTR Estremoz 80.80 49 eP P 10 17 01.7 +0.4
comp=Z,118nm,1.7s
RES Resolute Bay 80.83 356 eP P 10 17 00.0 -0.6
comp=Z,54nm,1.1s
RES Resolute Bay 80.83 356 P P 10 17 00.2 -0.5
PBAR Barrancos 81.04 50 eP P 10 17 01.3 -1.3
comp=Z,52nm,1.4s
PMRV Marv??o 81.10 49 eP P 10 17 02.8 -0.1
comp=Z,58nm,1.4s
PMRV eLQ LQ 10 38 58.5
PMRV eLR LR 10 43 24.0
comp=Z,5µm,18.0s
PGAV Gavieira, Arco 81.13 46 eP P 10 17 01.1 -2.0
comp=Z,64nm,1.6s
PGAV eLQ LQ 10 39 12.7
PGAV eELR LR 10 45 19.8
PGAV A A 10 51 35.1
comp=Z,4µm,18.0s
PCAB Cabril 81.24 46 eP P 10 17 04.5 +0.9
comp=Z,110nm,1.8s
POLO Lamas de Olo 81.31 47 eP P 10 17 03.3 -0.8
comp=Z,49nm,1.5s
PVRL Vila Real 81.34 47 eP P 10 17 05.3 +1.1
comp=Z,81nm,1.6s
MVO Moncorvo 81.81 47 eP P 10 17 05.1 -1.6
comp=Z,107nm,1.6s
MVO eLQ LQ 10 38 49.9
MVO eLR LR 10 44 24.9
comp=Z,3µm,22.0s
PBRG Braganca 82.19 47 eP P 10 17 09.0 +0.4
comp=Z,108nm,1.8s
INK Inuvik 82.47 343 eP P 10 17 09.3 -0.1
comp=Z,177nm,1.1s
BMRM Bremner River 82.70 334 eP P 10 17 10.9 0.0
comp=Z,70nm,1.2s
SUMG Summit 82.82 12⇑iP P 10 17 12.1 +0.4
SUMG pmax pmax
comp=Z,97nm,1.0s
SUMG MLR MLR
comp=Z,4µm,24.0s
SUMG Summit 82.82 12 eP P 10 17 11.7 0.0
comp=Z,150nm,1.1s
SUMG Summit 82.82 12⇑iP P 10 17 12.1 +0.4
comp=Z,97nm,1.0s
SUMG
comp=Z,4µm,24.0s
BORG Borgarnes 82.82 22 eP P 10 17 13.1 +1.8
comp=Z,386nm,1.0s
BORG LR LR
comp=Z,2µm,19.0s
BORG Borgarnes 82.82 22 P P 10 17 13.3 +2.0
comp=Z,2µm,1.0s,SNR=6.8
BORG Borgarnes 82.82 22 P P 10 17 13.5 +2.2
comp=Z,320nm,1.0s,baz=221,slow=3.3,SNR=21
EGAK Eagle 83.08 338 eP P 10 17 12.6 0.0
comp=Z,248nm,1.1s
EGAK LR LR
comp=Z,3µm,20.0s
MENT Mentasta 83.20 336 eP P 10 17 13.3 -0.2
PAB San Pablo 83.41 49 eP P 10 17 15.9 +0.8
PAB pmax pmax
comp=Z,70nm,1.1s
PAB MLR MLR
comp=Z,5µm,20.0s
PAB San Pablo 83.41 49 eP P 10 17 15.8 +0.8
comp=Z,70nm,1.1s
PAB LR LR
comp=Z,5µm,20.0s
DOT Dot Lake 83.67 336 eP P 10 17 15.7 -0.1
comp=Z,30nm,1.2s
ESDC Sonseca Array 83.73 49 P P 10 17 17.9 +1.2
ESDC Sonseca Array 83.73 49 P P 10 17 17.9 +1.2
comp=Z,81nm,1.1s,baz=271,slow=4.7,SNR=130
ESDC LR LR 10 52 31.0
comp=Z,4µm,19.7s,baz=255,slow=34
ESLA Sonseca Array 83.73 49 eP P 10 17 16.8 +0.1
comp=Z,40nm,1.2s
ESLA LR LR
comp=Z,24µm,19.0s
PAX Paxson 83.94 335 eP P 10 17 16.7 -0.5
PAX pmax pmax
comp=Z,85nm,1.2s
PAX Paxson 83.94 335 eP P 10 17 16.7 -0.5
comp=Z,85nm,1.2s
TOA0 Torodi Ar. Sit 84.15 76 eP P 10 17 19.8 +0.5
TORD Torodi Ar. Bea 84.15 76 P P 10 17 19.9 +0.6
TORD PKKPbc PKKPbc 10 35 41.5 +8.6
TORD Torodi Ar. Bea 84.15 76 P P 10 17 19.9 +0.6
comp=Z,81nm,0.9s,baz=288,slow=5.2,SNR=287
TORD PKKPbc PKKPbc 10 35 41.5 +8.6
comp=Z,1.3nm,0.7s,baz=68,slow=2.5,SNR=5.6
QSPA South Pole Qui 84.27 180 eP P 10 17 19.2 +0.2
comp=Z,0.7nm,0.5s
QSPA LR LR
comp=Z,3µm,21.0s
SML Sawmill 84.68 334 eP P 10 17 20.7 -0.3
SML pmax pmax
comp=Z,24nm,1.1s
SML Sawmill 84.68 334 eP P 10 17 20.7 -0.3
comp=Z,24nm,1.1s
PMR Palmer 84.95 334 eP P 10 17 21.4 -0.9
PMR pmax pmax
comp=Z,31nm,1.2s
PMR Palmer 84.95 334 eP P 10 17 21.4 -0.9
comp=Z,31nm,1.2s
SLKM Skilak Lake 85.05 332 eP P 10 17 23.0 +0.2
SLKM Skilak Lake 85.05 332 eP P 10 17 23.0 +0.2
ILAR Eielson Array 85.27 337 P P 10 17 23.4 -0.5
ILAR PP PP 10 20 43.5 +1.8
ILAR Eielson Array 85.27 337 P P 10 17 23.4 -0.5
comp=Z,18nm,1.1s,baz=143,slow=3.3,SNR=65
ILAR PP PP 10 20 43.5 +1.8
comp=Z,2.2nm,0.8s,baz=117,slow=4.9,SNR=5.3
ILAR LR LR 10 56 48.6
comp=Z,5µm,18.9s,baz=118,slow=37
KDAK Kodiak Island 85.27 329 PFAKE 10 17 40.0 +16
KDAK LR LR

comp=Z,3µm,21.0s
DLF Lyons Farm 85.40 35 eP P 10 17 23.9 -0.8
MAIT Maitri 85.42 161 eP P 10 17 26.0 +1.5
NVL N'lazarevskaya 85.45 161⇓iP P 10 17 25.3 +0.6
NVL e*SP sP 10 17 35.2 -2.6
NVL pmax pmax
comp=Z,83nm,0.9s
SCO Scoresbysund 85.56 17⇑iP P 10 17 25.6 +0.5
SCO i 10 27 53.4
SCO pmax pmax
comp=Z,57nm,1.0s
SCO MLR MLR
comp=Z,3µm,24.0s
SCO Scoresbysund 85.56 17⇑iP P 10 17 25.6 +0.5
comp=Z,57nm,1.0s
SCO i 10 27 53.4
SCO
comp=Z,3µm,24.0s
BST Brest 85.64 41 eP P 10 17 26.8 +0.8
BST Brest 85.64 41 eP P 10 17 26.8 +0.8
MCK McKinley 85.67 336 eP P 10 17 25.6 -0.3
MCK pmax pmax
comp=Z,39nm,1.1s
MCK McKinley 85.67 336 eP P 10 17 25.6 -0.3
comp=Z,39nm,1.1s
COLA College 85.68 337 eP P 10 17 25.8 -0.1
COLA pmax pmax
comp=Z,23nm,1.0s
COLA MLR MLR
comp=Z,4µm,20.0s
COLA College 85.68 337 eP P 10 17 25.8 -0.1
comp=Z,23nm,1.0s
COLA LR LR
comp=Z,4µm,20.0s
GMM Mts of Mourne 85.99 35⇑eP P 10 17 28.0 +0.3
GMM Mts of Mourne 85.99 35 P P 10 17 28.0 +0.3
HTL Hartland 86.02 38⇑eP P 10 17 28.5 +0.7
HTL AMB AMB 10 17 30.0
comp=Z,117nm,1.2s
HTL AMS AMS 10 47 54.0
comp=Z,3µm,27.6s
HTL Hartland 86.02 38 P P 10 17 28.5 +0.7
HTL AMB AMB 10 17 30.0
comp=Z,117nm,1.2s
HTL AMS AMS 10 47 54.0
comp=Z,3µm,27.6s
TRF Thorofare Moun 86.13 335 eP P 10 17 27.0 -1.4
comp=Z,38nm,1.1s
QUIF Quistinic 86.13 41⇑iP P 10 17 28.7 +0.2
comp=Z,99nm,1.1s
QUIF Quistinic 86.13 41⇑iP P 10 17 28.7 +0.2
QUIF pmax pmax
comp=Z,99nm,1.1s
QUIF Quistinic 86.13 41⇑iP P 10 17 28.7 +0.2
comp=Z,99nm,1.1s
ROSF Rostrenen 86.16 41⇑iP P 10 17 28.9 +0.3
comp=Z,174nm,1.4s
ROSF Rostrenen 86.16 41⇑iP P 10 17 28.9 +0.3
ROSF pmax pmax
comp=Z,174nm,1.4s
ROSF Rostrenen 86.16 41⇑iP P 10 17 28.9 +0.3
comp=Z,174nm,1.4s
DYA Yadsworthy 86.23 39 AMS AMS 10 54 01.6
comp=Z,3µm,18.4s
HEX Exmoor 86.46 38⇑eP P 10 17 30.6 +0.5
HEX Exmoor 86.46 38 P P 10 17 30.6 +0.5
SJPF Ste Jean 86.46 46⇑iP P 10 17 30.7 +0.5
comp=Z,65nm,1.2s
SJPF Ste Jean 86.46 46⇑iP P 10 17 30.7 +0.5
SJPF pmax pmax
comp=Z,65nm,1.2s
SJPF Ste Jean 86.46 46⇑iP P 10 17 30.7 +0.5
comp=Z,65nm,1.2s
YRC Rhoscolyn 86.53 36 eP P 10 17 30.6 +0.4
YRC Rhoscolyn 86.53 36 P P 10 17 30.6 +0.4
SGMF Saint Gilles 86.61 41⇑iP P 10 17 30.8 0.0
comp=Z,220nm,1.6s
SGMF Saint Gilles 86.61 41⇑iP P 10 17 30.8 0.0
SGMF pmax pmax
comp=Z,221nm,1.6s
SGMF Saint Gilles 86.61 41⇑iP P 10 17 30.8 0.0
comp=Z,220nm,1.6s
WME Myndd Eilian 86.72 36 eP P 10 17 30.7 -0.5
WME Myndd Eilian 86.72 36 P P 10 17 30.7 -0.5
GAL1 Galloway 86.85 34 AMS AMS 10 51 35.5
comp=Z,3µm,24.9s
ETSF Etsaut 86.90 47⇑iP P 10 17 32.9 +0.4
comp=Z,84nm,1.4s
ETSF Etsaut 86.90 47⇑iP P 10 17 32.9 +0.4
ETSF pmax pmax
comp=Z,84nm,1.4s
ETSF Etsaut 86.90 47⇑iP P 10 17 32.9 +0.4
comp=Z,84nm,1.4s
WPM1 Pennaenmawr 86.92 36⇑eP P 10 17 32.4 +0.1
WPM1 Penmaenmawr 86.92 36 P P 10 17 32.4 +0.1
KPL Plockton 86.99 32⇑eP P 10 17 31.9 -0.5
KPL AMB AMB 10 17 34.0
comp=Z,221nm,1.0s
KPL Plockton 86.99 32 P P 10 17 31.9 -0.5
KPL AMB AMB 10 17 34.0
comp=Z,221nm,1.0s
REYF Montagne du Re 87.05 46 eP P 10 17 33.7 +0.5
REYF Montagne du Re 87.05 46 eP P 10 17 33.7 +0.5
JSA Saint Aubin 87.06 40 eP P 10 17 33.4 +0.4
JSA AMB AMB 10 17 34.4
comp=Z,83nm,1.4s
JSA AMS AMS 10 50 15.2
comp=Z,3µm,20.5s
JSA Saint Aubin 87.06 40 P P 10 17 33.4 +0.4
JSA AMB AMB 10 17 34.4
comp=Z,83nm,1.4s
JSA AMS AMS 10 50 15.2
comp=Z,3µm,20.5s
MCH1 Michaelchurch 87.16 37⇑eP P 10 17 33.2 -0.2
MCH1 AMB AMB 10 17 35.0
comp=Z,91nm,1.2s
MCH1 AMS AMS 10 53 31.0
comp=Z,3µm,18.6s
MCH1 Michaelchurch 87.16 37 P P 10 17 33.2 -0.2
MCH1 AMB AMB 10 17 35.0
comp=Z,91nm,1.2s
MCH1 AMS AMS 10 53 31.0
comp=Z,3µm,18.6s
KAC Achnashellach 87.22 32⇑eP P 10 17 33.4 -0.1
KAC Achnashellach 87.22 32 P P 10 17 33.4 -0.1
PGBU Glenifferbraes 87.22 33⇑eP P 10 17 33.2 -0.4
PGBU AMB AMB 10 17 34.8
comp=Z,192nm,1.2s
PGBU Glenifferbraes 87.22 33 P P 10 17 33.2 -0.4
PGBU AMB AMB 10 17 34.8
comp=Z,192nm,1.2s
FOEL Foel Wylfa 87.24 36⇑eP P 10 17 33.8 0.0
FOEL AMB AMB 10 17 34.9
comp=Z,92nm,1.1s
FOEL AMS AMS 10 51 06.8
comp=Z,3µm,23.9s
FOEL Foel Wylfa 87.24 36 P P 10 17 33.8 0.0
FOEL AMB AMB 10 17 34.9
comp=Z,92nm,1.1s
FOEL AMS AMS 10 51 06.8
comp=Z,3µm,23.9s
GCD Castle Douglas 87.28 34⇑eP P 10 17 34.2 +0.3
GCD Castle Douglas 87.28 34 P P 10 17 34.2 +0.3
VIEF Viey 87.32 47 eP P 10 17 34.8 +0.3
VIEF Viey 87.32 47 eP P 10 17 34.8 +0.3
HLM1 Long Mynd 87.35 37⇑eP P 10 17 34.5 +0.2
HLM1 AMB AMB 10 17 35.6
comp=Z,124nm,1.2s
HLM1 Long Mynd 87.35 37 P P 10 17 34.5 +0.2
HLM1 AMB AMB 10 17 35.6
comp=Z,124nm,1.2s
EAB Aberfoyle 87.39 33⇑eP P 10 17 34.5 0.0
EAB Aberfoyle 87.39 33 P P 10 17 34.5 0.0
COLD Coldfoot 87.47 339 eP P 10 17 35.2 +0.6
comp=Z,96nm,1.1s
EPF Esparros 87.57 47⇑iP P 10 17 35.9 +0.2
comp=Z,83nm,1.3s
EPF Esparros 87.57 47⇑iP P 10 17 35.9 +0.2
EPF pmax pmax
comp=Z,83nm,1.3s
EPF Esparros 87.57 47⇑iP P 10 17 35.9 +0.2
comp=Z,83nm,1.3s
MDO Dochfour 87.69 32⇑eP P 10 17 35.6 -0.2
MDO Dochfour 87.69 32 P P 10 17 35.6 -0.2
KESW Keswick, Cumbr 87.69 35⇑eP P 10 17 36.2 +0.3

KESW AMB AMB 10 17 37.2
comp=Z,206nm,1.2s
KESW AMS AMS 10 52 22.7
comp=Z,3µm,24.1s
KESW Keswick, Cumbr 87.69 35 P P 10 17 36.2 +0.3
KESW AMB AMB 10 17 37.2
comp=Z,206nm,1.2s
KESW AMS AMS 10 52 22.7
comp=Z,3µm,24.1s
GRR Gorron 87.74 41⇑*iP* P 10 17 36.3 0.0
comp=Z,86nm,1.0s
GRR Gorron 87.74 41⇑*iP* P 10 17 36.3 0.0
GRR pmax pmax
comp=Z,86nm,1.0s
GRR Gorron 87.74 41⇑*iP* P 10 17 36.3 0.0
comp=Z,86nm,1.0s
SWN1 Swindon 87.78 38 *eP* P 10 17 36.4 0.0
SWN1 AMB AMB 10 17 37.7
comp=Z,253nm,1.2s
SWN1 AMS AMS 10 55 05.3
comp=Z,3µm,16.7s
SWN1 Swindon 87.78 38 P P 10 17 36.4 0.0
SWN1 AMB AMB 10 17 37.7
comp=Z,253nm,1.2s
SWN1 AMS AMS 10 55 05.3
comp=Z,3µm,16.7s
EAU Auchinoon 87.79 33⇑*eP* P 10 17 35.7 -0.6
EAU Auchinoon 87.79 33 P P 10 17 35.7 -0.6
ESK Eskdalemuir 87.80 34‖*eP* P 10 17 36.5 +0.1
ESK AMB AMB 10 17 37.5
comp=Z,176nm,1.2s
ESK AMS AMS 10 52 16.6
comp=Z,3µm,20.6s
ESK Eskdalemuir 87.80 34 P P 10 17 36.5 +0.1
ESK AMB AMB 10 17 37.5
comp=Z,176nm,1.2s
ESK AMS AMS 10 52 16.6
comp=Z,3µm,20.6s
ESK Eskdalemuir 87.80 34 *eP* P 10 17 36.9 +0.5
ESK pmax pmax
comp=Z,178nm,1.0s
ESK MLR MLR
comp=Z,3µm,22.0s
ESK Eskdalemuir 87.80 34 *eP* P 10 17 36.9 +0.5
comp=Z,178nm,1.0s
ESK LR LR
comp=Z,3µm,22.0s
ESK Eskdalemuir 87.80 34 P P 10 17 37.6 +1.2
comp=Z,891nm,1.1s,SNR=20
SSW Stow on the Wo 87.85 37⇑*eP* P 10 17 37.1 +0.4
SSW Stow on the Wo 87.85 37 P P 10 17 37.1 +0.4
STNC Stoke 87.88 36 *eP* P 10 17 37.8 +0.9
STNC AMB AMB 10 17 38.5
comp=Z,219nm,1.4s
STNC AMS AMS 10 51 24.9
comp=Z,3µm,25.8s
STNC Stoke 87.88 36 P P 10 17 37.8 +0.9
STNC AMB AMB 10 17 38.5
comp=Z,219nm,1.4s
STNC AMS AMS 10 51 24.9
comp=Z,3µm,25.8s
MFF Saint Martin d 87.88 43⇑*iP* P 10 17 36.9 -0.1
comp=Z,79nm,1.0s
MFF Saint Martin d 87.88 43⇑*iP* P 10 17 36.9 -0.1
MFF pmax pmax
comp=Z,79nm,1.0s
MFF Saint Martin d 87.88 43⇑*iP* P 10 17 36.9 -0.1
comp=Z,79nm,1.0s
MVH1 Achvaich 87.90 31⇑*eP* P 10 17 36.9 0.0
MVH1 Achvaich 87.90 31 P P 10 17 36.9 0.0
EDI Edinburgh 87.95 33⇑*eP* P 10 17 37.0 -0.1
EDI AMB AMB 10 17 39.8
comp=Z,128nm,1.2s
EDI AMS AMS 10 52 09.2
comp=Z,2µm,20.2s
EDI Edinburgh 87.95 33 P P 10 17 37.0 -0.1
EDI AMB AMB 10 17 39.8
comp=Z,128nm,1.2s
EDI AMS AMS 10 52 09.2
comp=Z,2µm,20.2s
EBL Broad Law 88.00 34⇑*eP* P 10 17 37.1 -0.2
EBL Broad Law 88.00 34 P P 10 17 37.1 -0.2
FLN La Foliniere 88.06 41⇑*iP* P 10 17 38.0 +0.2
comp=Z,142nm,1.1s
FLN *eR*
comp=Z,4µm,23.0s
FLN La Foliniere 88.06 41⇑*iP* P 10 17 38.0 +0.2
FLN pmax pmax
comp=Z,143nm,1.1s
FLN La Foliniere 88.06 41⇑*iP* P 10 17 38.0 +0.2
comp=Z,142nm,1.1s
WOL Wolverton 88.09 38⇑*eP* P 10 17 38.0 +0.1
WOL AMB AMB 10 17 39.0
comp=Z,138nm,2.5s
WOL AMS AMS 10 49 07.3
comp=Z,2µm,28.6s
WOL Wolverton 88.09 38 P P 10 17 38.0 +0.1
WOL AMB AMB 10 17 39.0
comp=Z,138nm,2.5s
WOL AMS AMS 10 49 07.3
comp=Z,2µm,28.6s
SALF Salau 88.14 47 *eP* P 10 17 39.0 +0.6
SALF Salau 88.14 47 *eP* P 10 17 39.0 +0.6
LFF La Frestale 88.19 45⇑*iP* P 10 17 38.3 -0.2
comp=Z,114nm,1.1s
LFF La Frestale 88.19 45⇑*iP* P 10 17 38.3 -0.2
LFF pmax pmax
comp=Z,114nm,1.1s
LFF La Frestale 88.19 45⇑*iP* P 10 17 38.3 -0.2
comp=Z,114nm,1.1s
XAL Allendale 88.25 35⇑*eP* P 10 17 38.6 -0.1
XAL Allendale 88.25 35 P P 10 17 38.6 -0.1
LDF La Druitiere 88.26 41⇑*iP* P 10 17 38.8 0.0
comp=Z,85nm,1.0s
LDF La Druitiere 88.26 41⇑*iP* P 10 17 38.8 0.0
LDF pmax pmax
comp=Z,85nm,1.0s
LDF La Druitiere 88.26 41⇑*iP* P 10 17 38.8 0.0
comp=Z,85nm,1.0s
ESY Stoneypath 88.27 33⇑*eP* P 10 17 37.7 -0.9
ESY Stoneypath 88.27 33 P P 10 17 37.7 -0.9
MCD Coleburn Disti 88.31 32‖*eP* P 10 17 38.8 +0.1
MCD Coleburn Disti 88.31 32 P P 10 17 38.8 +0.1
KBI1 Birley Grange 88.31 36‖*eP* P 10 17 39.2 +0.3
KBI1 Birley Grange 88.31 36 P P 10 17 39.2 +0.3
SKP1 Kophill 88.43 38⇑*eP* P 10 17 39.7 +0.2
SKP1 Kophill 88.43 38 P P 10 17 39.7 +0.2
ALE Alert 88.63 2 P P 10 17 39.0 -0.9
comp=Z,605nm,1.1s,SNR=65
RJF Les Rejaudoux 88.79 44⇑*iP* P 10 17 41.0 -0.4
comp=Z,103nm,1.2s
RJF *eR*
comp=Z,4µm,22.2s
RJF Les Rejaudoux 88.79 44⇑*iP* P 10 17 41.0 -0.4
RJF pmax pmax
comp=Z,103nm,1.2s
RJF Les Rejaudoux 88.79 44⇑*iP* P 10 17 41.0 -0.4
comp=Z,103nm,1.2s
SBA Scott Base 88.94 191 PFAKE 10 17 50.0 +8.5
SBA LR LR
comp=Z,4µm,20.0s
TAM Tamanrasset 88.96 67 *eP* P 10 17 43.8 +1.0
TAM pmax pmax
comp=Z,108nm,1.1s
TAM MLR MLR
comp=Z,16µm,22.0s
TAM Tamanrasset 88.96 67 *eP* P 10 17 43.8 +1.0
comp=Z,108nm,1.1s
TAM LR LR
comp=Z,16µm,22.0s
CAF Calviac 89.12 45⇑*iP* P 10 17 42.6 -0.3
comp=Z,97nm,1.3s
CAF Calviac 89.12 45⇑*iP* P 10 17 42.6 -0.3
CAF pmax pmax
comp=Z,97nm,1.3s
CAF Calviac 89.12 45⇑*iP* P 10 17 42.6 -0.3
comp=Z,97nm,1.3s
TCF Toulx Ste Croi 89.43 44⇑*iP* P 10 17 43.9 -0.5
comp=Z,68nm,1.2s
TCF Toulx Ste Croi 89.43 44⇑*iP* P 10 17 43.9 -0.5
TCF pmax pmax
comp=Z,69nm,1.2s
TCF Toulx Ste Croi 89.43 44⇑*iP* P 10 17 43.9 -0.5
comp=Z,68nm,1.2s
AFI Afiamalu 89.45 256 *eP* P 10 17 47.6 +2.4
comp=Z,177nm,1.6s

AFI LR LR
comp=Z,2µm,19.0s
DAG Danmarks Havn 89.51 12⇑*iP* P 10 17 44.2 +0.2
DAG *i* *PP pP 10 17 54.2 +0.4
DAG *i* 10 28 31.9
DAG pmax pmax
comp=Z,94nm,1.0s
DAG MLR MLR
comp=Z,4µm,20.0s
DAG Danmarks Havn 89.51 12⇑*iP* P 10 17 44.2 +0.2
comp=Z,937nm,1.0s
DAG *i* pP pP 10 17 54.2 +0.4
DAG *i* 10 28 31.9
DAG
comp=Z,5µm,20.0s
ELSH Elham, Standar 89.52 39 AMS AMS 10 50 04.2
comp=Z,2µm,27.8s
VERF Verneugheol 89.53 44 *eP* P 10 17 45.1 +0.2
VERF Verneugheol 89.53 44 *eP* P 10 17 45.1 +0.2
HYF Humbligny 89.87 43 *eP* P 10 17 46.4 0.0
HYF Humbligny 89.87 43 *eP* P 10 17 46.4 0.0
PYM Petit Puy Mans 89.90 44 *eP* P 10 17 46.9 +0.3
PYM Petit Puy Mans 89.90 44 *eP* P 10 17 46.9 +0.3
PYM Petit Puy Mans 89.90 44 *eP* P 10 17 46.9 +0.3
BGF Bois d'Agland 89.91 43⇑*iP* P 10 17 46.4 -0.2
comp=Z,183nm,1.1s
BGF Bois d'Agland 89.91 43⇑*iP* P 10 17 46.4 -0.2
BGF pmax pmax
comp=Z,183nm,1.1s
BGF Bois d'Agland 89.91 43⇑*iP* P 10 17 46.4 -0.2
comp=Z,183nm,1.1s
LBL Lubilhac 89.99 45 *eP* P 10 17 47.4 +0.3
LBL Lubilhac 89.99 45 *eP* P 10 17 47.4 +0.3
LBL Lubilhac 89.99 45 *eP* P 10 17 47.4 +0.3
AGO Saint Agoulin 90.03 44 *eP* P 10 17 47.0 -0.2
AGO Saint Agoulin 90.03 44 *eP* P 10 17 47.0 -0.2
VNDA Vanda 90.04 191 PFAKE 10 18 00.0 +13
VNDA LR LR
comp=Z,3µm,19.0s
LASF Ste Croix 90.26 46⇑*iP* P 10 17 48.5 +0.2
comp=Z,128nm,1.5s
LASF Ste Croix 90.26 46⇑*iP* P 10 17 48.5 +0.2
comp=Z,128nm,1.5s
PLDF La Plantade 90.35 44 *eP* P 10 17 48.8 0.0
PLDF La Plantade 90.35 44 *eP* P 10 17 48.8 0.0
PLDF La Plantade 90.35 44 *eP* P 10 17 48.8 0.0
SSF Saint Saulge 90.43 43⇑*iP* P 10 17 48.3 -0.7
comp=Z,60nm,1.1s
SSF Saint Saulge 90.43 43⇑*iP* P 10 17 48.3 -0.7
SSF pmax pmax
comp=Z,60nm,1.1s
SSF Saint Saulge 90.43 43⇑*iP* P 10 17 48.3 -0.7
comp=Z,60nm,1.1s
LOR Lormes 90.69 43⇑*iP* P 10 17 49.7 -0.5
comp=Z,50nm,1.1s
LOR *eR*
comp=Z,3µm,20.8s
LOR Lormes 90.69 43⇑*iP* P 10 17 49.7 -0.5
comp=Z,50nm,1.1s
DFRA Djebel Bou Aff 90.86 54 P P 10 17 53.0 +1.6
SSB Saint Sauveur 90.90 45 *eP* P 10 17 51.8 +0.5
SSB Saint Sauveur 90.90 45 *eP* P 10 17 51.8 +0.5
SSB Saint Sauveur 90.90 45 *eP* P 10 17 51.8 +0.5
VIVF Saint-Julien-l 90.94 45⇑*iP* P 10 17 51.7 +0.2
comp=Z,101nm,1.2s
VIVF Saint-Julien-l 90.94 45⇑*iP* P 10 17 51.7 +0.2
VIVF pmax pmax
comp=Z,101nm,1.2s
VIVF Saint-Julien-l 90.94 45⇑*iP* P 10 17 51.7 +0.2
comp=Z,101nm,1.2s
BAIF Baives 91.29 40⇑*iP* P 10 17 53.1 +0.2
comp=Z,55nm,1.4s
BAIF Baives 91.29 40⇑*iP* P 10 17 53.1 +0.2
BAIF pmax pmax
comp=Z,55nm,1.4s
BAIF Baives 91.29 40⇑*iP* P 10 17 53.1 +0.2
comp=Z,55nm,1.4s
CASM Aim Smara 91.32 54 P P 10 17 53.6 +0.2
SNF Seneffe 91.40 40 P P 10 17 54.0 +0.7
SNF AP **pP 10 18 01.8 -1.3**
comp=Z,24nm,2.2s
SMRF Simiane la Rot 91.48 46⇑*iP* P 10 17 54.4 +0.4
comp=Z,96nm,1.4s
SMRF Simiane la Rot 91.48 46⇑*iP* P 10 17 54.4 +0.4
comp=Z,96nm,1.4s
UCC Uccle 91.48 39 P P 10 17 54.6 +0.8
UCC AP **pP 10 18 02.5 -1.0**
CKFL Kef-Lekhel 91.52 54 P P 10 17 55.5 +1.1
DOU Dourbes 91.55 40 P P 10 17 54.6 +0.5
comp=Z,26nm,1.5s
DOU AP **pP 10 18 02.0 -1.8**
SFTF Sexfontaines 91.60 42⇑*iP* P 10 17 54.2 -0.2
comp=Z,97nm,1.1s
SFTF Sexfontaines 91.60 42⇑*iP* P 10 17 54.2 -0.2
comp=Z,97nm,1.1s
MEZF Maizieres J'vi 91.65 42⇑*iP* P 10 17 54.6 0.0
comp=Z,130nm,1.3s
MEZF Maizieres J'vi 91.65 42⇑*iP* P 10 17 54.6 0.0
comp=Z,130nm,1.3s
GIVF Givet 91.69 40⇑*iP* P 10 17 55.2 +0.4
comp=Z,154nm,1.2s
GIVF Givet 91.69 40⇑*iP* P 10 17 55.2 +0.4
GIVF pmax pmax
comp=Z,154nm,1.2s
GIVF Givet 91.69 40⇑*iP* P 10 17 55.2 +0.4
comp=Z,154nm,1.2s
OG35 Corcelles 91.71 44 *eP* P 10 17 54.9 -0.2
ORIF Oris-en-Rattie 91.80 45⇑*iP* P 10 17 56.0 +0.5
comp=Z,146nm,1.3s
ORIF *eR*
comp=Z,6µm,20.2s
ORIF Oris-en-Rattie 91.80 45⇑*iP* P 10 17 56.0 +0.5
ORIF pmax pmax
comp=Z,146nm,1.3s
ORIF Oris-en-Rattie 91.80 45⇑*iP* P 10 17 56.0 +0.5
comp=Z,146nm,1.3s
BCLA Clavier 92.03 40 P P 10 17 56.9 +0.5
comp=Z,21nm,1.6s
BCLA AP **pP 10 18 05.2 -0.8**
LMR La Mourre 92.08 47⇑*iP* P 10 17 56.6 -0.1
comp=Z,105nm,1.5s
LMR La Mourre 92.08 47⇑*iP* P 10 17 56.6 -0.1
LMR pmax pmax
comp=Z,105nm,1.5s
LMR La Mourre 92.08 47⇑*iP* P 10 17 56.6 -0.1
comp=Z,105nm,1.5s
PAGF Fort de Pagny 92.10 42⇑*iP* P 10 17 57.0 +0.3
comp=Z,34nm,1.1s
PAGF Fort de Pagny 92.10 42⇑*iP* P 10 17 57.0 +0.3
comp=Z,34nm,1.1s
CMAH Djebel Manchou 92.10 54 P P 10 17 57.1 0.0
ABSA Djebel Ababsia 92.11 54 P P 10 17 58.1 +0.9
CABF La Chapelle 92.13 44⇑*iP* P 10 17 57.0 0.0
comp=Z,114nm,1.2s
CABF La Chapelle 92.13 44⇑*iP* P 10 17 57.0 0.0
CABF pmax pmax
comp=Z,115nm,1.2s
CABF La Chapelle 92.13 44⇑*iP* P 10 17 57.0 0.0
comp=Z,114nm,1.2s
THEF They Montfort 92.23 42 *eP* P 10 17 57.7 +0.3
THEF They Montfort 92.23 42 *eP* P 10 17 57.7 +0.3
THEF They Montfort 92.23 42 *eP* P 10 17 57.7 +0.3
BEBN Eben Emael 92.31 39 P P 10 17 58.2 +0.6
BEBN XP **sP 10 18 08.5 -2.3**
BNI Bardonecchia 92.38 45 *eP* P 10 17 59.2 +1.0
BNI pmax pmax
comp=Z,18nm,1.1s
BNI MLR MLR
comp=Z,6µm,20.0s
BNI Bardonecchia 92.38 45 *eP* P 10 17 59.2 +1.0
comp=Z,18nm,1.1s
BNI LR LR
comp=Z,6µm,20.0s
RSL Roselend 92.41 45 *eP* P 10 17 59.7 +1.3
RSL Roselend 92.41 45 *eP* P 10 17 59.7 +1.3
RSL Roselend 92.41 45 *eP* P 10 17 59.7 +1.3
MBDF Montbardon 92.41 45⇑*iP* P 10 17 58.7 +0.3
comp=Z,87nm,1.4s
MBDF Montbardon 92.41 45⇑*iP* P 10 17 58.7 +0.3
MBDF pmax pmax
comp=Z,87nm,1.4s
MBDF Montbardon 92.41 45⇑*iP* P 10 17 58.7 +0.3
comp=Z,87nm,1.4s
HAU Haudompre 92.45 42⇑*iP* P 10 17 58.1 -0.3
comp=Z,75nm,1.5s

HAU *eR*
comp=Z,3µm,20.5s
HAU Haudompre 92.45 42⇑*iP* P 10 17 58.1 -0.3
HAU pmax pmax
comp=Z,75nm,1.5s
HAU Haudompre 92.45 42⇑*iP* P 10 17 58.1 -0.3
comp=Z,75nm,1.5s
LPL La Plagne 92.46 45⇑*iP* P 10 17 59.3 +0.6
LPL La Plagne 92.46 45⇑*iP* P 10 17 59.3 +0.6
LPL La Plagne 92.46 45⇑*iP* P 10 17 59.3 +0.6
LPG La Plagne 92.47 45⇑*iP* P 10 17 59.5 +0.6
comp=Z,132nm,1.5s
LPG La Plagne 92.47 45⇑*iP* P 10 17 59.5 +0.6
LPG pmax pmax
comp=Z,133nm,1.5s
LPG La Plagne 92.47 45⇑*iP* P 10 17 59.5 +0.6
comp=Z,132nm,1.5s
WLF Walferdange 92.50 41 P P 10 17 59.5 +1.0
comp=Z,52nm,1.3s
WLF AP **pP 10 18 07.5 -0.7**
WLF Walferdange 92.50 41 *eP* P 10 17 59.3 +0.8
comp=Z,76nm,1.1s
WLF Walferdange 92.50 41 *eP* P 10 17 59.7 +1.2
WLF pmax pmax
comp=Z,68nm,1.0s
WLF MLR MLR
comp=Z,3µm,21.0s
WLF Walferdange 92.50 41 *eP* P 10 17 59.6 +1.2
comp=Z,68nm,1.0s
WLF LR LR
comp=Z,3µm,21.0s
MEM Membach 92.50 40 P P 10 17 58.6 +0.1
MEM XP **sP 10 18 08.7 -3.0**
LOMF Lomont 92.71 43 *eP* P 10 17 59.9 +0.2
LOMF Lomont 92.71 43 *eP* P 10 17 59.9 +0.2
LOMF Lomont 92.71 43 *eP* P 10 17 59.9 +0.2
HINF Hinteralfeld 92.77 42⇑*iP* P 10 17 59.5 -0.4
comp=Z,72nm,1.5s
HINF Hinteralfeld 92.77 42⇑*iP* P 10 17 59.5 -0.4
HINF pmax pmax
comp=Z,73nm,1.5s
HINF Hinteralfeld 92.77 42⇑*iP* P 10 17 59.5 -0.4
comp=Z,72nm,1.5s
SBF Sospel 92.80 46 *eP* P 10 18 00.1 -0.1
comp=Z,122nm,1.5s
SBF Sospel 92.80 46 *eP* P 10 18 00.1 -0.1
SBF pmax pmax
comp=Z,122nm,1.5s
SBF Sospel 92.80 46 *eP* P 10 18 00.1 -0.1
comp=Z,122nm,1.5s
MOF Molkenrain 92.96 42 *eP* P 10 18 00.9 +0.1
MOF Molkenrain 92.96 42 *eP* P 10 18 00.9 +0.1
MOF Molkenrain 92.96 42 *eP* P 10 18 00.9 +0.1
ECH Echery 93.01 42 *eP* P 10 18 00.6 -0.4
ECH pmax pmax
comp=Z,42nm,1.2s
ECH MLR MLR
comp=Z,2µm,21.0s
ECH Echery 93.01 42 *eP* P 10 18 00.6 -0.4
comp=Z,42nm,1.2s
ECH LR LR
comp=Z,2µm,21.0s
ECH Echery 93.01 42 *eP* P 10 18 01.2 +0.2
RUP Ruppelstein 93.09 41 *eP* P 10 18 02.0 +0.7
RUP Ruppelstein 93.09 41 *eP* P 10 18 02.0 +0.7
CDF Champ du Feu 93.11 42⇑*iP* P 10 18 01.3 -0.2
comp=Z,78nm,1.4s
CDF Champ du Feu 93.11 42⇑*iP* P 10 18 01.3 -0.2
CDF pmax pmax
comp=Z,78nm,1.4s
CDF Champ du Feu 93.11 42⇑*iP* P 10 18 01.3 -0.2
comp=Z,78nm,1.4s
WIT Witteveen 93.13 37 *eP* P 10 18 03.3 +2.0
WTSB Winterswijk 93.13 38 *eP* P 10 18 01.9 +0.5
comp=Z,123nm,1.2s
BBS Basel-Blauen 93.18 43 *eP* P 10 18 02.0 +0.2
BBS Basel-Blauen 93.18 43 *eP* P 10 18 02.0 +0.2
BUG Bochum--Univer 93.38 39 *eP* P 10 18 03.1 +0.6
comp=Z,84nm,1.4s
BUG *ep*P **pP 10 18 12.8 +0.6**
ABH Alteburg 93.42 40 *eP* P 10 18 03.3 +0.5
LANF Langenberg 93.51 41 *eP* P 10 18 03.7 +0.5
LANF Langenberg 93.51 41 *eP* P 10 18 03.7 +0.5
LANF Langenberg 93.51 41 *eP* P 10 18 03.7 +0.5
KEST Kesra 93.57 55 *eP* P 10 18 04.9 +1.0
KEST Kesra 93.57 55 P P 10 18 04.4 +0.5
comp=Z,7.8nm,1.1s,baz=189,slow=14,SNR=3.3
KEST LR LR 10 59 31.0
comp=Z,1µm,19.7s,baz=195,slow=35
IBBN Ibbenburen 93.75 38 *eP* P 10 18 04.9 +0.7
comp=Z,57nm,1.1s
IBBN *ep*P **pP 10 18 14.6 +0.7**
BFO Black Forest 93.80 42 *eP* P 10 18 04.4 -0.2
comp=Z,24nm,1.4s
BFO Black Forest 93.80 42 *eP* P 10 18 04.4 -0.2
BFO pmax pmax
comp=Z,24nm,1.4s
BFO Black Forest 93.80 42 *eP* P 10 18 04.4 -0.2
comp=Z,20nm,1.4s
BFO LR LR
comp=Z,2µm,19.0s
BFO Black Forest 93.80 42 P P 10 18 04.8 +0.2
comp=Z,53nm,1.3s,SNR=5.8
PGF Pioggiola 93.83 48⇑*iP* P 10 18 04.8 -0.2
comp=Z,107nm,1.4s
PGF Pioggiola 93.83 48⇑*iP* P 10 18 04.8 -0.2
PGF pmax pmax
comp=Z,107nm,1.4s
PGF Pioggiola 93.83 48⇑*iP* P 10 18 04.8 -0.2
comp=Z,107nm,1.4s
TNA Tin City 94.02 335 *eP* P 10 18 07.1 +2.0
comp=Z,23nm,1.1s
TNS Taunus Mts 94.02 40 *eP* P 10 18 06.1 +0.5
comp=Z,38nm,1.3s
TNS *ep*P **pP 10 18 16.1 +0.8**
TNS Taunus Mts 94.02 40 *eP* P 10 18 06.1 +0.5
TNS *e**PP **pP 10 18 16.1 +0.8**
TNS pmax pmax
comp=Z,38nm,1.3s
TUE Stuetta 94.36 44 *eP* P 10 18 07.5 0.0
comp=Z,33nm,1.4s
TUE LR LR
comp=Z,2µm,21.0s
STU Stuttgart 94.41 42 *eP* P 10 18 07.6 +0.3
comp=Z,47nm,1.3s
STU Stuttgart 94.41 42 *eP* P 10 18 08.1 +0.8
STU pmax pmax
comp=Z,32nm,1.2s
STU Stuttgart 94.41 42 *eP* P 10 18 08.1 +0.8
comp=Z,32nm,1.2s
DAVOX Davos/Dischmat 94.75 44 P P 10 18 09.5 +0.3
DAVOX Davos/Dischmat 94.75 44 P P 10 18 09.5 +0.3
comp=Z,13nm,0.9s,baz=259,slow=7.4,SNR=14
DAVA Damuels 94.78 43 *i* PcP PcP 10 18 10.0 +0.4
comp=Z,30nm,1.1s,SNR=10
MUD Monsted U'grnd 94.86 34 *eP* P 10 18 10.7 +1.5
MUD pmax pmax
comp=Z,16nm,1.1s
MUD MLR MLR
comp=Z,2µm,20.0s
MUD Monsted U'grnd 94.86 34 *i* P P 10 18 10.7 +1.5
comp=Z,16nm,1.1s
MUD
comp=Z,2µm,20.0s
VLC Villacollemand 94.95 46 PFAKE 10 18 20.0 +10
VLC LR LR
comp=Z,3µm,20.0s
SYO Syowa Base 95.05 162‖*eP* P 10 18 09.4 -0.4
SYO Syowa Base 95.05 162‖*eX* PcP 10 18 12.4 +2.3
UBBA Unterbreizbach 95.05 40 *eP* P 10 18 11.8 +1.7
comp=Z,132nm,3.0s
NRDL Niedersach Rie 95.20 38 *eP* P 10 18 11.9 +1.1
comp=Z,50nm,1.3s
KONO Kongsberg 95.24 31 PFAKE 10 18 20.0 +9.1
KONO LR LR
comp=Z,2µm,20.0s
CLZ Clausthal 95.33 39 *eP* P 10 18 12.5 +0.9
comp=Z,46nm,1.0s
CLZ *e*PP **PP 10 22 00.8 -1.3**
CLZ Clausthal 95.33 39 *eP* P 10 18 12.5 +0.9
CLZ *e* 10 22 00.8
CLZ pmax pmax
comp=Z,46nm,1.0s
FETA Feichten 95.34 43‖*i*PcP PcP 10 18 12.7 +0.5
comp=Z,38nm,1.1s,SNR=21
RETA Reutte 95.38 43⇑*i*PcP PcP 10 18 12.6 +0.4

comp=Z,18nm,1.2s,SNR=6.0
BSEG Bad Segeberg 95.39 36 *e*P **P 10 18 12.5 +0.8**
comp=Z,102nm,1.2s
BSEG *e*pP **pP 10 18 22.2 +0.8**
BSEG Bad Segeberg 95.39 36 *e*P **P 10 18 12.5 +0.8**
BSEG *e**PP **pP 10 18 22.2 +0.8**
BSEG pmax pmax
comp=Z,102nm,1.2s
MOTA Moosalm 95.61 43⇓*i*PcP **PcP 10 18 13.5 +0.2**
comp=Z,23nm,1.0s,SNR=9.9
FUR Furstenfeldbru 95.76 42 *e*P **P 10 18 14.0 +0.4**
comp=Z,49nm,1.4s
FUR *e*pP **pP 10 18 23.4 +0.1**
FUR Furstenfeldbru 95.76 42 *e*P **P 10 18 14.0 +0.4**
FUR *e**PP **pP 10 18 23.4 +0.1**
FUR pmax pmax
comp=Z,49nm,1.4s
GRFO Grafenberg 95.78 41 *e*P **P 10 18 14.8 +1.2**
GRFO pmax pmax
comp=Z,11nm,1.4s
GRFO Grafenberg 95.78 41 *e*P **P 10 18 14.8 +1.2**
comp=Z,11nm,1.4s
GRF Grafenberg Arr 95.78 41 *e*P **P 10 18 14.5 +0.9**
comp=Z,43nm,1.6s
GRF *e*L L 11 02 44.8
comp=Z,2µm,19.9s
GRF Grafenberg Arr 95.78 41 *e*P **P 10 18 14.5 +0.9**
GRF pmax pmax
comp=Z,43nm,1.6s
GRF MLR MLR
comp=Z,2µm,19.9s
NAO01 NORSAR Array S 95.92 29 PFAKE 10 18 30.0 +16
NAO01 LR LR
comp=Z,3µm,19.0s
WATA Walderalm 95.93 43⇓*i*PcP **PcP 10 18 14.8 +0.1**
comp=Z,18nm,1.3s,SNR=6.1
WTTA Wattenberg 95.97 43⇑*i*PcP **PcP 10 18 15.4 +0.4**
comp=Z,29nm,1.2s,SNR=9.0
MOX Moxa 96.07 40 *e*P **P 10 18 15.7 +0.8**
comp=Z,29nm,1.4s
MOX *e*PP **PP 10 22 08.3 +0.5**
MOX Moxa 96.07 40 *e*P **P 10 18 15.7 +0.8**
MOX *e* 10 22 08.3
MOX pmax pmax
comp=Z,29nm,1.4s
TSUM Tsumeb 96.08 110 *e*P **P 10 18 16.5 +0.6**
comp=Z,123nm,1.0s
TSUM LR LR
comp=Z,14µm,19.0s
NB2 NORSAR Subarra 96.09 29 P **P 10 18 14.8 0.0**
baz=266,slow=4.6
NB2 NORSAR Subarra 96.09 29 P **P 10 18 14.8 0.0**
comp=Z,22nm,1.0s,baz=266,slow=4.6
NOA NORSAR Array B 96.09 29 P **P 10 18 14.7 0.0**
NOA NORSAR Array B 96.09 29 P **P 10 18 14.7 0.0**
comp=Z,15nm,1.0s,baz=268,slow=4.6,SNR=22
NOA LR LR 10 59 23.7
comp=Z,2µm,20.9s,baz=265,slow=34
NEUB Neuenburg 96.19 39 *e*P **P 10 18 16.3 +0.9**
comp=Z,40nm,1.3s
KBS Kingsbay 96.23 11*ce*P **P 10 18 16.2 +1.2**
KBS pmax pmax
comp=Z,47nm,2.5s
KBS Kingsbay 96.23 11 PFAKE 10 18 30.0 +15
KBS LR LR
comp=Z,2µm,19.0s
PLN Plauen 96.41 40 *e*P **P 10 18 17.4 +1.0**
comp=Z,136nm,1.2s
ROTZ Rotzenmuhle 96.42 41 *e*P **P 10 18 17.6 +1.1**
comp=Z,26nm,1.4s
ROTZ *e*pP **pP 10 18 27.2 +0.9**
ROTZ *e*PP **PP 10 22 09.6 -1.0**
WERD Werda 96.50 40 *e*P **P 10 18 17.7 +0.8**
comp=Z,24nm,1.2s
WERD *e*pP **pP 10 18 27.5 +0.9**
GUNZ Gunzen 96.52 40 *e*P **P 10 18 17.9 +0.9**
comp=Z,17nm,1.1s
WERN Wernitzgruen 96.55 40 *e*P **P 10 18 18.2 +1.1**
comp=Z,32nm,1.3s
WERN *e*pP **pP 10 18 27.5 +0.7**
ABTA Abfaltersbach 96.55 44⇑*i*PcP **PcP 10 18 17.8 +0.3**
comp=Z,26nm,1.2s,SNR=6.8
NKC Novy Kostel 96.59 40 *e*P **P 10 18 17.9 +0.6**
NKC *e* 10 18 24.3
NKC Novy Kostel 96.59 40 *e*P **P 10 18 17.9 +0.6**
NKC *e*pP **pP 10 18 24.3 -2.7**
TANN Tannenbergstha 96.60 40 *e*P **P 10 18 18.4 +1.0**
comp=Z,30nm,1.0s
TANN *e*pP **pP 10 18 27.7 +0.6**
SUR Sutherland 96.74 123 *e*P **P 10 18 19.8 +1.1**
comp=Z,31nm,0.9s
SUR LR LR
comp=Z,7µm,20.0s
RJOB Jochberg 96.77 43 *e*P **P 10 18 18.4 +0.2**
comp=Z,16nm,1.0s
RJOB *e*PP **PP 10 22 12.7 -0.7**
WET Wettzell 96.85 41 *e*P **P 10 18 19.3 +0.8**
comp=Z,32nm,1.5s
WET Wettzell 96.85 41 *e*P **P 10 18 19.3 +0.8**
WET pmax pmax
comp=Z,32nm,1.5s
SNZO South Karori 96.88 227 PFAKE 10 18 30.0 +11
SNZO LR LR
comp=Z,5µm,20.0s
CLL Collm 96.96 39 *e*P **P 10 18 19.7 +0.8**
comp=Z,37nm,1.5s
CLL *e*pP **pP 10 18 29.8 +1.2**
CLL *e*PP **PP 10 22 13.3 -1.3**
CLL Collm 96.96 39⇑*i*P **P 10 18 19.9 +1.0**
CLL *i* 10 18 29.2
CLL *i* 10 22 13.3
CLL pmax pmax
comp=Z,36nm,1.5s
CLL pmax pmax
comp=Z,24nm,1.5s
CLL Collm 96.96 39⇑*i*P **P 10 18 19.9 +1.0**
comp=Z,36nm,1.5s
CLL *e*pP **pP 10 18 26.0 -2.6**
CLL *i* sP **sP 10 18 29.2 -2.9**
comp=Z,34nm,1.4s
CLL *i* PP **PP 10 22 13.3 -1.3**
comp=Z,24nm,1.5s
CLL *i* pPP 10 22 21.8
CLL *e*(sPP) 10 22 26.0
CLL *e*SKSac SKSac 10 29 02.0 +8.2
CLL *e*S ScS 10 29 48.0 +8.3
CLL *e*PS **PS 10 31 06.0 +1.6**
CLL *es*PS 10 31 23.0
CLL *e*PPS PPS 10 31 50.0
CLL *e*SS SS 10 36 24.0 +8.1
CLL *e*SSS SSS 10 39 48.0
CLL *e* 10 41 42.0
CLL LmH 11 08 00.0
comp=N,2µm,19.9s
CLL LmH 11 08 00.0
comp=E,1µm,19.4s
CLL Lmax 11 17 00.0
AQU L'Aquila 97.08 48 PFAKE 10 18 30.0 +10
AQU LR LR
comp=Z,2µm,20.0s
KBA Koelnbreinsper 97.13 43⇑*i*P **P 10 18 19.9 -0.1**
comp=Z,16nm,1.1s
SPITS Spitsbergen Ar 97.16 12 P Pdif 10 18 19.8 +0.4
SPITS Spitsbergen Ar 97.16 12 P Pdif 10 18 19.8 +0.4
comp=Z,14nm,1.0s,baz=57,slow=6.1,SNR=5.9
FBE Freiberg 97.18 40 *e*P Pdif 10 18 21.1 +1.1
comp=Z,22nm,1.1s
KHC Kasperske Hory 97.31 41 *e*P Pdif 10 18 20.7 0.0
KHC *e* 10 18 30.6
KHC *e* 10 22 15.1
KHC *e* 10 28 59.6
KHC MLR MLR
comp=Z,2µm,18.1s
KHC Kasperske Hory 97.31 41 *e*P Pdif 10 18 21.2 +0.5
comp=Z,8.1nm,0.9s
KHC Kasperske Hory 97.31 41 *e*P Pdif 10 18 20.7 0.0
KHC *e*pP pP 10 18 30.6 +0.3
KHC *ex* x 10 21 46.0
KHC *e*PP **PP 10 22 15.1 -2.3**
KHC *e*SKS **SKSac 10 28 59.6 +3.7**
KHC AMS AMS 11 03 00.0
comp=Z,2µm,18.1s
HFS Hagfors 97.31 30 P Pdif 10 18 20.4 0.0
HFS Hagfors 97.31 30 P Pdif 10 18 20.4 0.0
comp=Z,15nm,1.0s,baz=225,slow=1.9,SNR=11

MYKA Terra Mystica 97.33 44⇑*i*PcP Pdif 10 18 21.0 +0.1
comp=Z,22nm,1.1s
CADS Cadrg 97.39 44 *e*P Pdif 10 18 21.3 +0.2
GEC2 GERESS Array S 97.39 42 *e*P Pdif 10 18 21.2 +0.1
comp=Z,11nm,1.3s
GEC2 *e*PP **PP 10 22 17.0 -1.1**
GEC2 GERESS Array S 97.39 42 *e*P Pdif 10 18 21.2 +0.1
GEC2 *e* 10 22 17.0
GEC2 pmax pmax
comp=Z,11nm,1.3s
GERES GERESS Array B 97.39 42 P Pdif 10 18 21.3 +0.2
GERES PP **PP 10 22 17.4 -0.8**
GERES PKKPbc **PKKPbc 10 34 59.3 -1.5**
GERES GERESS Array B 97.39 42 P Pdif 10 18 21.3 +0.2
comp=Z,4.6nm,0.9s,baz=250,slow=2.7,SNR=20
GERES PP **PP 10 22 17.4 -0.8**
comp=Z,4.6nm,1.2s,baz=280,slow=8.0,SNR=5.0
GERES PKKPbc **PKKPbc 10 34 59.3 -1.5**
comp=Z,0.7nm,0.8s,baz=134,slow=3.9,SNR=3.7
GERES LR LR 11 00 46.2
comp=Z,2µm,20.3s,baz=257,slow=34
RUE Ruedersdorf 97.44 38 *e*P Pdif 10 18 21.8 +0.7
comp=Z,63nm,1.3s
BRG Berggiesshubel 97.55 40 *e*PDIF Pdif 10 18 22.4 +0.8
comp=Z,30nm,1.5s
BRG *e* 10 18 32.0
comp=Z,15nm,1.2s
BRG SKS **SKSac 10 28 56.0 -0.9**
BRG S pS 10 29 56.0 -1.1
BRG
comp=N,974nm,19.8s
BRG
comp=E,1µm,17.2s
BRG
comp=Z,2µm,15.6s
BRG Berggiesshubel 97.55 40 *e*P Pdif 10 18 22.5 +0.9
comp=Z,24nm,1.3s
BRG Berggiesshubel 97.55 40 *e*P Pdif 10 18 22.4 +0.8
BRG *e* 10 18 32.0
BRG 10 28 56.0
BRG pmax pmax
comp=Z,30nm,1.5s
BRG pmax pmax
comp=Z,15nm,1.2s
BRG MLR MLR
comp=N,974nm,19.8s
BRG MLR MLR
comp=E,1µm,17.2s
BRG MLR MLR
comp=Z,2µm,15.6s
JAVS Javornik 97.61 45 *e*P Pdif 10 18 22.9 +0.7
MOA Molln 97.76 43⇑*i*PcP Pdif 10 18 23.3 +0.6
comp=Z,28nm,1.2s,SNR=9.6
WDD Wield Dalam 97.78 55 PFAKE 10 18 30.0 +7.0
WDD LR LR
comp=Z,5µm,20.0s
CEY Cerknica 97.86 45 *e*P **P 10 18 23.2 +0.1**
PRA Prague 97.86 40 P Pdif 10 18 24.0 +0.9
PRU Pruhonice 97.94 40 *e*P Pdif 10 18 24.6 +1.2
PRU *e* 10 22 20.8
PRU *e* 10 29 49.9
PRU MLR MLR
comp=Z,2µm,20.4s
PRU Pruhonice 97.94 40 *e*P Pdif 10 18 24.6 +1.2
PRU *e*PP **PP 10 22 20.8 -1.4**
PRU *e*S **S 10 29 49.9 +2.1**
PRU *ex* x 10 36 04.6
PRU AMS AMS 11 03 50.0
comp=Z,2µm,20.4s
PVCC Panska Ves 97.95 40 *e*P Pdif 10 18 23.8 +0.4
PVCC MLR MLR
comp=Z,2µm,18.7s
PVCC Panska Ves 97.95 40 *e*P Pdif 10 18 23.8 +0.4
PVCC AMS AMS 11 03 50.0
comp=Z,2µm,18.7s
VNDS Vrh nad Dolski 98.06 44 *e*P Pdif 10 18 24.7 +0.6
BSD Bornholm Skovb 98.08 35 *i* P Pdif 10 18 25.9 +2.0
BSD MLR MLR
comp=Z,2µm,22.0s
BSD Bornholm Skovb 98.08 35 *i* P Pdif 10 18 25.9 +2.0
BSD
comp=Z,2µm,22.0s
TREC Trest 98.56 41 AMS AMS 11 03 30.0
comp=Z,2µm,19.6s
ARSA Arzberg 98.61 43⇑*i*Pdiff Pdif 10 18 26.8 +0.3
comp=Z,11nm,1.1s
MSVF Nonsavu 98.68 251 PFAKE 10 18 40.0 +12
MSVF LR LR
comp=Z,4µm,22.0s
CONA Conrad Observa 98.83 43⇑*i*Pdiff Pdif 10 18 28.2 +0.7
comp=Z,20nm,1.1s
CUC Castrocucco 98.87 51 PFAKE 10 18 40.0 +12
CUC LR LR
comp=Z,1µm,20.0s
UPC Upice 98.87 40 *e*P Pdif 10 18 28.6 +1.1
UPC *e* 10 18 37.3
UPC *e* 10 22 28.6
UPC Upice 98.87 40 *e*P Pdif 10 18 28.6 +1.1
UPC *ep*P pP 10 18 37.3 0.0
UPC *e*PP **PP 10 22 28.6 -0.7**
KSP Ksiaz 99.04 40 *e*P **Pdif 10 18 29.6 +1.3**
KSP Ksiaz 99.04 40 *e*P **Pdif 10 18 29.6 +1.3**
KSP Ksiaz 99.04 40⇑*e*P **Pdif 10 18 29.5 +1.3**
KSP *e* 10 29 05.0
KSP *e*S **S 10 30 00.0 +2.9**
KSP MLR MLR
comp=Z,6µm,19.1s
DPC Dobruska-Polom 99.07 40 *e*P **Pdif 10 18 29.5 +1.0**
DPC *e* 10 18 38.8
DPC *e* 10 29 00.4
DPC MLR MLR
comp=Z,2µm,21.1s
DPC Dobruska-Polom 99.07 40 *e*P **Pdif 10 18 29.5 +1.0**
DPC *ep*P **pP 10 18 38.8 +0.5**
DPC *e*SKS **SKSac 10 29 00.4 -4.4**
DPC AMS AMS 11 03 20.0
comp=Z,2µm,21.1s
VRAC Vranov 99.28 41 P **Pdif 10 18 29.9 +0.4**
VRAC PP **PP 10 22 30.3 -2.2**
VRAC Vranov 99.28 41 P **Pdif 10 18 29.9 +0.4**
comp=Z,5.2nm,0.9s,baz=308,slow=5.6,SNR=7.5
VRAC PP **PP 10 22 30.3 -2.2**
comp=Z,1.7nm,0.8s,baz=251,slow=9.6,SNR=3.7
TIP Timpagrande 99.59 51 PFAKE 10 18 40.0 +8.9
TIP LR LR
comp=Z,3µm,20.0s
OKC Ostrava-Krasne 100.27 41 *e*P **Pdif 10 18 35.0 +1.2**
OKC MLR MLR
comp=Z,1µm,18.8s
OKC Ostrava-Krasne 100.27 41 *e*P **Pdif 10 18 35.0 +1.2**
OKC *ep*P pP 10 18 46.2 +2.6
OKC AMS AMS 11 04 10.0
comp=Z,1µm,18.8s
VYHS Vyhne 100.80 42 *e*P **Pdif 10 18 36.9 +0.7**
VYHS pmax pmax
comp=Z,10.0nm,1.5s
VYHS Vyhne 100.80 42 PDIF **Pdif 10 18 36.9 +0.7**
ARCES ARCESS Array B 101.14 20 P **Pdif 10 18 36.5 -0.8**
ARCES PP **PP 10 22 43.6 -2.3**
ARCES ARCESS Array B 101.14 20 P **Pdif 10 18 36.5 -0.8**
comp=Z,5.9nm,1.0s,baz=282,slow=7.3,SNR=7.1
ARCES PP **PP 10 22 43.6 -2.3**
comp=Z,8.4nm,1.2s,baz=255,slow=7.4,SNR=4.3
BOSA Boshof 101.28 121 P **Pdif 10 18 39.1 +0.2**
BOSA PKKPbc **PKKPbc 10 34 48.6 -0.3**
BOSA LR LR
comp=Z,7µm,20.0s
BOSA Boshof 101.28 121 P **Pdif 10 18 39.1 +0.2**
comp=Z,14nm,1.0s,baz=256,slow=3.6,SNR=8.5
BOSA PKKPbc **PKKPbc 10 34 48.6 -0.3**
comp=Z,3.0nm,0.8s,baz=292,slow=14,SNR=4.5
OJC Ojcow 101.31 40 *e*Pdiff **Pdif 10 18 39.0 +0.7**
OJC *e*PP **PP 10 22 47.0 -0.8**
OJC Ojcow 101.31 40 *e*P **Pdif 10 18 39.4 +1.0**
OJC *e* 10 22 47.0
PSZ Piszkesteto 101.54 42 PFAKE 10 18 50.0 +10
PSZ LR LR
comp=Z,2µm,21.0s
KEV Kevo 101.60 20 PFAKE 10 18 50.0 +11
KEV LR LR
comp=Z,1µm,19.0s
TIR Tirane 101.92 49 PFAKE 10 18 50.0 +8.7
TIR LR LR
comp=Z,3µm,20.0s
LBTB Lobatse 102.37 117 PFAKE 10 19 00.0 +16

LBTB LR LR
comp=Z,10µm,19.0s
CRVS Cervenica-Dubn 102.50 41 *e*P **Pdif 10 18 45.2 +1.5**
CRVS pmax pmax
comp=Z,11nm,1.5s
CRVS Cervenica-Dubn 102.50 41 PDIF **Pdif 10 18 45.2 +1.5**
UZH Uzhgorod 103.08 42 *e*P **Pdif 10 18 47.3 +1.0**
UZH *e*S **Sdif 10 30 28.0 -2.9**
UZH *e* 10 32 09.0
KAF Kangasniemi 103.15 27 *e*P **Pdif 10 18 45.1 -1.2**
KAF pmax pmax
comp=Z,6.0nm,1.0s
KAF Kangasniemi 103.15 27 *ep* **Pdif 10 18 45.1 -1.2**
comp=Z,6.3nm,1.0s
FINES FINESS Array B 103.19 28 Pdif **Pdif 10 18 46.5 +0.1**
FINES PP **PP 10 22 59.7 -1.8**
FINES PKKPbc **PKKPbc 10 34 42.3 -2.1**
FINES PKKP **PKKPdf 10 34 50.8 -1.6**
FINES FINESS Array B 103.19 28 Pdiff **Pdif 10 18 46.5 +0.1**
comp=Z,11nm,0.9s,baz=228,slow=2.3,SNR=20
FINES PP **PP 10 22 59.7 -1.8**
comp=Z,15nm,1.1s,baz=264,slow=11,SNR=8.5
FINES PKKPbc **PKKPbc 10 34 42.3 -2.1**
comp=Z,3.9nm,0.9s,baz=65,slow=9.0,SNR=7.4
FINES PKKP **PKKPdf 10 34 50.8 -1.6**
comp=Z,3.6nm,0.8s,baz=124,slow=3.4,SNR=6.6
KWP Kalwaria Pacla 103.24 40 PFAKE 10 19 00.0 +13
KWP LR LR
comp=Z,2µm,21.0s
BILL Bilibino 103.80 339⇑*i*P **Pdif 10 18 49.3 +0.2**
BILL pmax pmax
comp=Z,12nm,1.5s
BILL Bilibino 103.80 339 PFAKE 10 19 00.0 +11
BILL LR LR
comp=Z,2µm,21.0s
APA Apatity 104.50 21⇓*e*P **Pdif 10 18 52.4 +0.2**
JOF Joensuu 105.18 26 *e*P **Pdif 10 18 53.8 -1.5**
JOF pmax pmax
comp=Z,3.0nm,0.9s
JOF Joensuu 105.18 26 *ep* **Pdif 10 18 53.8 -1.5**
comp=Z,3.1nm,0.9s
MIGMG Minsk 105.60 35 *e* **PP 10 23 19.0 -0.6**
TARA Tarawa 106.21 270 PFAKE 10 23 20.0
TARA LR LR
comp=Z,3µm,20.0s
LSZ Lusaka 106.73 108 PFAKE 10 23 30.0
LSZ LR LR
comp=Z,9µm,22.0s
KIEV Kiev 107.19 39 PFAKE 10 23 30.0
KIEV LR LR
comp=Z,2µm,21.0s
AKASG Malin Array Be 107.19 39 PP PP 10 23 30.4 -1.1
AKASG PKKPbc **PKKPbc 10 34 30.9 -0.9**
AKASG PKKP PKKPab 10 34 50.6 +5.6
AKASG Malin Array Be 107.19 39 PP PP 10 23 30.4 -1.1
comp=Z,2.3nm,0.9s,baz=281,slow=8.0,SNR=4.2
AKASG PKKPbc **PKKPbc 10 34 30.9 -0.9**
comp=Z,0.4nm,0.4s,baz=126,slow=1.3,SNR=4.5
AKASG PKKP PKKPab 10 34 50.6 +5.6
comp=Z,2.5nm,0.9s,baz=86,slow=4.4,SNR=6.6
CASY Casey 107.59 185 PFAKE 10 23 30.0
CASY LR LR
comp=Z,3µm,20.0s
DZM Mont Dzumac 108.52 245 *e*PP PP 10 23 37.4 -4.7
comp=Z,462nm,26.1s
DZM *e*SKSac **SKSac 10 29 46.5 -3.2**
comp=Z,3µm,29.6s
DZM Mont Dzumac 108.52 245 *e*PS PS 10 33 02.6 -5.1
comp=Z,2µm,24.9s
DZM *e*SS SS 10 38 50.7 -6.2
comp=Z,2µm,25.4s
KLMR Klimovskoe 109.55 27 *e*P **Pdif 10 19 13.8 -1.0**
KLMR pmax pmax
comp=Z,28nm,1.9s
OBN Obninsk 110.26 33⇓*i*PKIKP **PKiKP 10 23 19.1 0.0**
OBN *i* PS **PS 10 33 22.7 -0.9**
OBN *e*SS SS 10 39 13.0 -5.3
OBN pmax pmax
comp=Z,2.0nm,0.6s
OBN MLR MLR
comp=Z,2µm,22.0s
OBN Obninsk 110.26 33 PFAKE 10 23 30.0
OBN LR LR
comp=Z,2µm,20.0s
ISP Isparta 110.46 52 PFAKE 10 23 30.0
ISP LR LR
comp=Z,2µm,20.0s
MBAR Mbarara 111.47 93 PFAKE 10 23 30.0
MBAR LR LR
comp=Z,702nm,19.0s
BR131 Keskin Array S 112.52 49 *e*PKPdf **PKiKP 10 23 24.3 +0.1**
BR131 LR LR
comp=Z,1µm,19.0s
BRTR Keskin Array B 112.52 49 PKiKP **PKiKP 10 23 24.2 +0.1**
BRTR PP **PP 10 24 10.1 -0.5**
BRTR PKKPbc **PKKPbc 10 34 14.4 -0.1**
BRTR PKKPab **PKKPab 10 34 20.9 -0.8**
BRTR Keskin Array B 112.52 49 PKiKP **PKiKP 10 23 24.2 +0.1**
comp=Z,4.2nm,1.0s,baz=256,slow=3.0,SNR=9.7
BRTR PP **PP 10 24 10.1 -0.5**
comp=Z,1.1nm,0.8s,baz=256,slow=4.6,SNR=3.9
BRTR PKKPbc **PKKPbc 10 34 14.4 -0.1**
comp=Z,0.7nm,0.4s,baz=61,slow=14,SNR=5.6
BRTR PKKPab **PKKPab 10 34 20.9 -0.8**
comp=Z,2.2nm,0.8s,baz=143,slow=5.1,SNR=8.3
PET Petropavlovsk 112.63 326 PFAKE 10 23 40.0
PET LR LR
comp=Z,708nm,20.0s
CSS Prodhromos 113.15 55 PFAKE 10 23 40.0
CSS LR LR
comp=Z,3µm,22.0s
ANN Anapa 114.02 43 *i* PKIKP PKPdf 10 23 36.6 +10
ANN pmax pmax
comp=Z,70nm,1.7s
TAU Tasmania Unive 114.74 217 PFAKE 10 23 40.0 +12
TAU LR LR
comp=Z,3µm,19.0s
MALT Malatya 116.47 50 PFAKE 10 23 40.0 +8.3
MALT LR LR
comp=Z,39nm,21.0s
HNR Honiara 117.49 256 PFAKE 10 23 50.0 +16
HNR LR LR
comp=Z,2µm,20.0s
CAN Canberra 117.77 225 PFAKE 10 23 50.0 +16
CAN LR LR
comp=Z,3µm,19.0s
KIV Kislovodsk 117.86 43 *i* PKIKP **PKPdf 10 23 33.0 -1.2**
KIV *e* 10 24 46.9
KIV *e*PS **PS 10 34 31.0 -3.0**
KIV *e*SS SS 10 40 56.8 -2.7
KIV pmax pmax
comp=Z,4.0nm,0.8s
KIV MLR MLR
comp=Z,1µm,20.0s
KIV Kislovodsk 117.86 43 PFAKE 10 23 50.0 +16
KIV LR LR
comp=Z,1µm,21.0s
KMBO Kilima Mbogo 117.88 94 PFAKE 10 23 50.0 +15
KMBO LR LR
comp=Z,7µm,20.0s
YAK Yakutsk 119.52 344 PFAKE 10 23 50.0 +13
YAK LR LR
comp=Z,2µm,21.0s
PAF Port-aux-Franc 119.57 159 PFAKE 10 23 50.0 +13
PAF LR LR
comp=Z,4µm,19.0s
ARU Arti 120.26 25 *i* PKIKP **PKPdf 10 23 38.2 -0.1**
ARU 10 25 03.0
ARU PPP PPP 10 27 36.7
ARU 10 30 31.7
ARU PS **PS 10 34 48.2 -6.4**
ARU SS SS 10 41 27.1 -1.9
ARU MLR MLR
comp=Z,3µm,22.0s
ARU Arti 120.26 25 *e*PKPdf **PKPdf 10 23 38.1 -0.1**
ARU LR LR
comp=Z,3µm,22.0s
GNI Garni 120.62 46 PKP **PKPdf 10 23 40.4 +0.7**
GNI PP **PP 10 25 07.9 +0.8**
GNI LR LR
comp=Z,2µm,22.0s
GNI Garni 120.62 46 PKP **PKPdf 10 23 40.4 +0.7**
comp=Z,1.5nm,0.3s,baz=19,slow=14,SNR=4.5
GNI PP **PP 10 25 07.9 +0.8**
comp=Z,4.0nm,0.6s,baz=4.8,slow=14,SNR=3.1

SVE	**Sverdlovsk**	**120.83**	**23**	*i* PKIKP	**PKPdf**	**10 23 39.5**	**+0.1**	MDJ			LR	LR			
SVE				*e*		10 25 04.9			comp=Z,2μm,20.7s						
SVE				*e*PS	**PS**	**10 35 03.1**	**+3.4**	**MDJ**	**Mudanjiang**	**133.06**	**330**	PFAKE		10 24 20.0	+17
SVE				*e*		10 36 25.1		MDJ				LR	LR		
SVE				pmax	pmax				comp=Z,2μm,22.0s						
	comp=Z,10.0nm,1.2s							**HIA**	**Hailar**	**133.31**	**341**	PFAKE		10 24 20.0	+17
MAK	**Makhachkala**	**121.49**	**42**	*i* PKIKP	PKPdf	10 23 46.4	+5.4	HIA				LR	LR		
MAK				*e*		10 25 12.3			comp=Z,2μm,20.0s						
MAK				*e*PS	**PS**	**10 35 10.9**	**+4.7**	**IRK**	**Irkutsk**	**133.53**	**356**	*e*PKIKP	**PKPdf**	**10 24 03.1**	**-0.7**
MAK				*e*SS	SS	10 41 56.0	+10	IRK				*e*		10 26 29.4	
MAK				pmax	pmax			IRK				pmax	pmax		
	comp=Z,228nm,1.4s								comp=Z,39nm,1.8s						
ABPO	**Ambohimpanom**	**123.28**	**117**	PFAKE		10 24 00.0	+15	**TLY**	**Talaya**	**134.13**	**356**	*e*PKIKP	**PKPdf**	**10 24 04.4**	**-0.6**
ABPO				LR	LR			TLY				*e*SS	SS	10 44 15.8	-5.2
	comp=Z,12μm,20.0s							**TLY**	**Talaya**	**134.13**	**356**	PFAKE		10 24 20.0	+15
OPO	**Ambohidratompo**	**123.40**	**117**	PKP	**PKPdf**	**10 23 47.0**	**+1.4**	TLY				LR	LR		
OPO				PP	**PP**	**10 25 27.0**	**+0.4**		comp=Z,2μm,21.0s						
OPO	**Ambohidratompo**	**123.40**	**117**	PKP	**PKPdf**	**10 23 47.0**	**+1.4**	**GUMO**	**Guam**	**134.28**	**283**	PFAKE		10 24 20.0	+14
	comp=Z,8.6nm,0.9s,baz=257,slow=1.3,SNR=6.7							GUMO				LR	LR		
OPO				PP	**PP**	**10 25 27.0**	**+0.4**		comp=Z,3μm,20.0s						
	comp=Z,0.7nm,0.3s,baz=294,slow=16,SNR=2.6							**ASHO**	**Ashiyiah**	**134.71**	**61**	⇓P	**PKPdf**	**10 24 06.4**	**-0.4**
AKTO	**Aktyubinsk**	**123.86**	**30**	PKIKP	**PKPdf**	**10 23 46.1**	**+0.6**		SNR=7.4						
AKTO						10 25 28.3		**HATD**	**Hatta, Dubai**	**134.73**	**61**	⇑P	**PKPdf**	**10 24 07.0**	**+0.1**
AKTO	**Aktyubinsk**	**123.86**	**30**	PKP	**PKPdf**	**10 23 46.0**	**+0.6**		SNR=6.6						
AKTO				PP	**PP**	**10 25 28.3**	**0.0**	**KKAR**	**Karatay Array**	**135.12**	**30**	*e*PKIKP	**PKPdf**	**10 24 07.6**	**+0.6**
AKTO				PKKPbc	**PKKPab**	**10 33 32.6**	**+0.8**	**KKAR**	**Karatay Array**	**135.12**	**30**	*e*PKPdf	**PKPdf**	**10 24 07.6**	**+0.6**
AKTO	**Aktyubinsk**	**123.86**	**30**	PKP	**PKPdf**	**10 23 46.0**	**+0.6**	**AS31**	**Alice Springs**	**135.12**	**228**	*e*PKPdf	**PKPdf**	**10 24 07.2**	**-0.5**
	comp=Z,6.1nm,0.9s,baz=276,slow=2.0,SNR=18							**ASAR**	**Alice Springs**	**135.12**	**228**	PKPpre	PKPpre	10 23 57.6	
AKTO				PP	**PP**	**10 25 28.3**	**0.0**	ASAR				PKP	**PKPdf**	**10 24 07.4**	**-0.3**
	comp=Z,2.9nm,0.9s,baz=269,slow=7.6,SNR=4.2							ASAR				SKPbc	**SKPbc**	**10 27 38.1**	**+1.6**
AKTO				PKKPbc	**PKKPab**	**10 33 32.6**	**+0.8**	**ASAR**	**Alice Springs**	**135.12**	**228**	PKhKP	PKPpre	10 23 57.6	
	comp=Z,1.8nm,0.8s,baz=99,slow=3.8,SNR=6.6								comp=Z,2.2nm,0.9s,baz=126,slow=4.2,SNR=13						
YUK	**Yuzh-Kuril'sk**	**124.14**	**321**	*e*PKIKP	PKPdf	10 23 37.2	-8.9	ASAR				PKP	**PKPdf**	**10 24 07.4**	**-0.3**
YUK				*e*		10 25 31.2			comp=Z,19nm,0.9s,baz=120,slow=2.2,SNR=67						
YSS	**Yuzh-Sakhalins**	**124.50**	**325**	PFAKE		10 24 00.0	+13	ASAR				SKPbc	**SKPbc**	**10 27 38.1**	**+1.6**
YSS				LR	LR				comp=Z,3.5nm,1.2s,baz=123,slow=2.5,SNR=4.4						
	comp=Z,566nm,19.0s							**MSEY**	**Mahe Island**	**135.23**	**103**	*e*PKPdf	**PKPdf**	**10 24 08.6**	**+0.4**
STKA	**Stephens Creek**	**124.82**	**224**	*e*PKPdf	**PKPdf**	**10 23 47.7**	**-0.1**	MSEY				LR	LR		
STKA				PKP	**PKPdf**	**10 23 48.0**	**+0.2**		comp=Z,6μm,20.0s						
STKA				PKKPbc	PKKPbc	10 33 35.2	+5.8	**ZAK**	**Zakamensk**	**135.45**	**356**	*e*PKHKP	PKPpre	10 23 47.8	
STKA	**Stephens Creek**	**124.82**	**224**	*e*PKP	**PKPdf**	**10 23 47.3**	**-0.6**	ZAK				pmax	pmax		
	comp=Z,16nm,1.1s								comp=Z,5.0nm,1.2s						
STKA	**Stephens Creek**	**124.82**	**224**	PKP	**PKPdf**	**10 23 48.0**	**+0.2**	**CN2**	**Changchun**	**135.64**	**333**	*e*PKP	PKPdf	10 24 01.1	-6.9
	comp=Z,20nm,1.0s,baz=68,slow=2.0,SNR=15							CN2				*es*PKP		10 24 38.5	
STKA				PKKPbc	PKKPbc	10 33 35.2	+5.8	CN2				PP	**PP**	**10 26 43.6**	**-1.3**
	comp=Z,1.2nm,0.5s,baz=152,slow=19,SNR=2.8							CN2				SS	SS	10 44 30.3	-10
CLNS	**Chul'man**	**125.20**	**343**	*e*PKIKP	**PKPdf**	**10 23 45.2**	**-2.6**	CN2				AMB	AMB		
CLNS				pmax	pmax				comp=Z,400nm,10.0s						
	comp=Z,14nm,1.1s							CN2				LR	LR		
CLNS				pmax	pmax				comp=N,1μm,18.0s						
	comp=N,3.0nm,0.9s							CN2				LR	LR		
CLNS				pmax	pmax				comp=E,500nm,18.0s						
	comp=E,4.0nm,1.0s							CN2				LR	LR		
AB31	**Akbulak array**	**125.57**	**31**	*i* PKIKP	**PKPdf**	**10 23 48.8**	**+0.1**		comp=Z,1μm,24.0s						
AB31				pmax	pmax			**MK31**	**Makanchi Array**	**136.69**	**17**	*e*PKIKP	**PKPdf**	**10 24 09.7**	**-0.2**
	comp=Z,18nm,0.9s							**MK31**	**Makanchi Array**	**136.69**	**17**	*e*PKPdf	**PKPdf**	**10 24 09.7**	**-0.2**
ABKAR	**Akbulak array**	**125.57**	**31**	*e*PKPdf	**PKPdf**	**10 23 49.2**	**+0.5**	**MKAR**	**Makanchi Array**	**136.69**	**17**	PKIKP	**PKPdf**	**10 24 10.1**	**+0.2**
MIB	**Mutribah**	**125.82**	**57**	*e*P	**PKPdf**	**10 23 48.5**	**-1.2**	MKAR						10 26 46.9	
MIB				AMb	AMB	10 23 51.3		**MKAR**	**Makanchi Array**	**136.69**	**17**	PKP	**PKPdf**	**10 24 10.1**	**+0.2**
	comp=Z,94nm,1.1s							MKAR				PP	**PP**	**10 26 46.9**	**-4.3**
NAY	**Al-Naaiem**	**125.89**	**58**	*e*P	**PKPdf**	**10 23 48.6**	**-1.3**	**MKAR**	**Makanchi Array**	**136.69**	**17**	PKP	**PKPdf**	**10 24 10.1**	**+0.2**
NAY				AMb	AMB	10 23 51.9			comp=Z,8.1nm,0.8s,baz=331,slow=1.9,SNR=33						
	comp=Z,28nm,1.0s							MKAR				PP	**PP**	**10 26 46.9**	**-4.3**
QRN	**Al-Qurain**	**126.59**	**58**	*e*P	**PKPdf**	**10 23 49.3**	**-2.0**		comp=Z,1.2nm,0.8s,baz=184,slow=24,SNR=5.1						
QRN				AMb	AMB	10 23 54.5		**WRAB**	**Tennant Creek**	**136.89**	**233**	*e*PKHKP	PKPpre	10 24 04.6	
	comp=Z,132nm,1.3s							WRAB				*e*		10 24 11.2	
BOD	**Bodaibo**	**126.84**	**350**	*e*PKIKP	**PKPdf**	**10 23 47.8**	**-3.1**	WRAB				MLR	MLR		
BOD				*e*		10 25 44.7			comp=Z,3μm,22.0s						
BOD				pmax	pmax			**WRAB**	**Tennant Creek**	**136.89**	**233**	*e*PKPpre	PKPpre	10 24 04.6	
	comp=Z,1.0nm,1.2s							WRAB				*e*PKPdf	**PKPdf**	**10 24 11.2**	**+0.1**
ERM	**Erimo**	**126.86**	**320**	PFAKE		10 24 00.0	+8.6	WRAB				LR	LR		
ERM				LR	LR				comp=Z,3μm,22.0s						
	comp=Z,2μm,20.0s							**WRA**	**Warramunga Arr**	**136.90**	**233**	PKPpre	PKPpre	10 24 01.9	
CTA	**Charters Tower**	**126.96**	**240**	*e*PKP	**PKPdf**	**10 23 52.3**	**0.0**	WRA				PKP	**PKPdf**	**10 24 11.1**	**+0.1**
	comp=Z,23nm,1.0s							WRA				SKPbc	**SKPbc**	**10 27 43.1**	**+1.1**
CTAO	**Charters Tower**	**126.96**	**240**	*e*PKIKP	**PKPdf**	**10 23 52.0**	**-0.3**	**WRA**	**Warramunga Arr**	**136.90**	**233**	PKhKP	PKPpre	10 24 01.9	
CTAO				MLR	MLR				comp=Z,4.0nm,1.1s,baz=117,slow=1.4,SNR=13						
	comp=Z,4μm,22.0s							WRA				PKP	**PKPdf**	**10 24 11.1**	**+0.1**
CTAO	**Charters Tower**	**126.96**	**240**	*e*PKPdf	**PKPdf**	**10 23 52.0**	**-0.3**		comp=Z,44nm,1.0s,baz=120,slow=1.7,SNR=83						
CTAO				LR	LR			WRA				SKPbc	**SKPbc**	**10 27 43.1**	**+1.1**
	comp=Z,4μm,22.0s								comp=Z,6.6nm,1.0s,baz=114,slow=2.8,SNR=6.5						
BRVK	**Borovoye**	**127.34**	**21***c*	*i* PKIKP	**PKPdf**	**10 23 52.0**	**0.0**	**EKS2**	**Erkin-Say**	**137.01**	**28**	*e*PKHKP	PKPpre	10 24 00.2	
BRVK				pmax	pmax			EKS2				*e*		10 24 12.4	
	comp=Z,12nm,1.0s							EKS2				MLR	MLR		
BRVK	**Borovoye**	**127.34**	**21**	*e*PKPdf	**PKPdf**	**10 23 51.9**	**0.0**		comp=Z,2μm,19.0s						
BRVK				LR	LR			**EKS2**	**Erkin-Say**	**137.01**	**28**	*e*PKPpre	PKPpre	10 24 00.2	
	comp=Z,3μm,22.0s							EKS2				*e*PKPdf	**PKiKP**	**10 24 12.4**	**-0.1**
BVA0	**Borovoye Array**	**127.41**	**21**	*i* PKIKP	**PKPdf**	**10 23 51.9**	**-0.2**	EKS2				LR	LR		
BVA0				pmax	pmax				comp=Z,2μm,19.0s						
	comp=Z,3.0nm,1.2s							**FRU**	**Bishkek**	**137.26**	**27**	*e*PKIKP	**PKPdf**	**10 24 10.0**	**-1.1**
BVAR	**Borovoye Array**	**127.41**	**21**	PKIKP	**PKPdf**	**10 23 52.6**	**+0.5**	FRU				*e*		10 24 20.0	
BVAR						10 25 52.5		FRU				pmax	pmax		
BVAR	**Borovoye Array**	**127.41**	**21**	PKP	**PKPdf**	**10 23 52.6**	**+0.5**		comp=Z,80nm,2.0s						
BVAR				PP	**PP**	**10 25 52.5**	**+0.9**	**AAK**	**Ala-Archa**	**137.36**	**27***c*	*i* PKIKP	**PKPdf**	**10 24 12.3**	**+0.9**
BVAR	**Borovoye Array**	**127.41**	**21**	PKP	**PKPdf**	**10 23 52.6**	**+0.5**	AAK				MLR	MLR		
	comp=Z,13nm,1.0s,baz=294,slow=1.5,SNR=24								comp=Z,2μm,19.0s						
BVAR				PP	**PP**	**10 25 52.5**	**+0.9**	**AAK**	**Ala-Archa**	**137.36**	**27**	*e*PKPdf	**PKPdf**	**10 24 12.9**	**+1.4**
	comp=Z,3.8nm,0.9s,baz=305,slow=5.2,SNR=3.8							AAK				LR	LR		
HABR	**Khabarovsk**	**127.67**	**330**	*e*PKIKP	**PKPdf**	**10 23 52.3**	**-0.4**		comp=Z,2μm,21.0s						
HABR				*e*		10 24 07.9		**ULN**	**Ulaanbaatar**	**137.56**	**352**	*e*PKPdf	**PKPdf**	**10 24 11.3**	**-0.3**
HABR				*e*SS	SS	10 43 04.2	+1.4	ULN				LR	LR		
HABR				SSS	SSS	10 47 47.5			comp=Z,2μm,20.0s						
HABR				pmax	pmax			**TKM2**	**Tokmak 2**	**137.62**	**26**	*e*PKHKP	PKPpre	10 24 01.2	
	comp=N,35nm,2.8s							TKM2				*e*		10 24 09.9	
HABR				pmax	pmax			TKM2				MLR	MLR		
	comp=Z,43nm,1.4s								comp=Z,2μm,22.0s						
HABR				pmax	pmax			**TKM2**	**Tokmak 2**	**137.62**	**26**	*e*PKPpre	PKPpre	10 24 01.2	
	comp=E,50nm,2.8s							TKM2				*e*PKPdf	**PKPdf**	**10 24 09.9**	**-2.1**
BBOO	**Buckleboo**	**127.95**	**220**	*e*PKPdf	**PKPdf**	**10 23 53.9**	**+0.1**	TKM2				LR	LR		
KLR	**Kul'dur**	**128.69**	**333**	*e*PKIKP	**PKPdf**	**10 23 51.2**	**-3.5**		comp=Z,2μm,22.0s						
NVS	**Novosibirsk**	**129.48**	**12**⇑	*i* PKIKP	**PKPdf**	**10 23 54.3**	**-1.7**	**SONM**	**Songino Array**	**137.68**	**353**	PKPpre	PKPpre	10 23 58.3	
NVS				pmax	pmax			SONM				PKP	**PKPdf**	**10 24 12.2**	**+0.4**
	comp=N,5.0nm,1.4s							SONM				PP	**PP**	**10 26 53.8**	**-3.6**
NVS				pmax	pmax			SONM				SKPab	**SKPab**	**10 27 56.0**	**+5.2**
	comp=E,8.0nm,1.4s							**SONM**	**Songino Array**	**137.68**	**353**	PKhKP	PKPpre	10 23 58.3	
RER	**Riviere de l'E**	**129.74**	**124**	PFAKE		10 24 10.0	+12		comp=Z,5.1nm,0.9s,baz=346,slow=1.9,SNR=24						
RER				LR	LR			SONM				PKP	**PKPdf**	**10 24 12.2**	**+0.4**
	comp=Z,6μm,20.0s								comp=Z,10nm,1.1s,baz=35,slow=0.9,SNR=8.1						
PMG	**Port Moresby**	**129.76**	**253**	*e*PKPdf	**PKPdf**	**10 23 57.8**	**+0.1**	SONM				PP	**PP**	**10 26 53.8**	**-3.6**
PMG				LR	LR				comp=Z,4.4nm,1.0s,baz=358,slow=4.8,SNR=5.2						
	comp=Z,2μm,20.0s							SONM				SKPab	**SKPab**	**10 27 56.0**	**+5.2**
ZAA0	**Zalesovo Array**	**130.64**	**11**	*e*PKPdf	**PKPdf**	**10 23 57.7**	**-0.5**		comp=Z,6.1nm,1.1s,baz=0.0,slow=4.4,SNR=3.9						
ZALV	**Zalesovo Beam**	**130.64**	**11**	PKHKP	PKPpre	10 23 42.0		**NWAO**	**Narrogin (SRO)**	**137.78**	**203**	PFAKE		10 24 20.0	+7.7
ZALV						10 23 58.1		NWAO				LR	LR		
ZALV	**Zalesovo Beam**	**130.64**	**11**	PKPpre	PKPpre	10 23 42.0			comp=Z,2μm,20.0s						
ZALV				PKP	**PKPdf**	**10 23 58.1**	**-0.1**	**KSRS**	**Korea Array**	**138.99**	**324**	PKhKP	PKPpre	10 24 05.7	
ZALV				SKPbc	**SKPab**	**10 27 21.3**	**+1.3**		comp=Z,3.5nm,1.0s,baz=90,slow=2.5,SNR=6.2						
ZALV	**Zalesovo Beam**	**130.64**	**11**	PKhKP	PKPpre	10 23 42.0		KSRS				PKP	**PKPdf**	**10 24 14.5**	**+0.2**
	comp=Z,2.8nm,0.9s,baz=258,slow=4.4,SNR=4.3								comp=Z,18nm,1.0s,baz=43,slow=0.8,SNR=20						
ZALV				PKP	**PKPdf**	**10 23 58.1**	**-0.1**	**KSAR**	**Wonju Array Be**	**139.02**	**324**	PKPpre	PKPpre	10 24 05.7	
	comp=Z,39nm,0.9s,baz=345,slow=5.2,SNR=7.0							KSAR				PKP	**PKPdf**	**10 24 14.5**	**+0.1**
ZALV				SKPbc	**SKPab**	**10 27 21.3**	**+1.3**	**INCN**	**Inchon**	**139.71**	**325**	PFAKE		10 24 30.0	+14
	comp=Z,6.6nm,0.9s,baz=339,slow=2.1,SNR=4.7							INCN				LR	LR		
COEN	**Coen**	**132.04**	**245**	*e*PKPdf	**PKPdf**	**10 24 01.4**	**-0.6**		comp=Z,2μm,20.0s						
KURK	**Kurchatov**	**132.10**	**17***c*	*i* PKIKP	**PKPdf**	**10 24 00.8**	**-0.3**	**KBL**	**Kabul**	**140.16**	**40**	*e*PKIKP	**PKPdf**	**10 24 16.3**	**-0.6**
KURK	**Kurchatov**	**132.10**	**17**	*e*PKPdf	**PKPdf**	**10 24 01.3**	**+0.2**	**KBL**	**Kabul**	**140.16**	**40**	*e*PKPdf	**PKPdf**	**10 24 16.3**	**-0.6**
KURK				LR	LR			**KSH**	**Kashi**	**140.51**	**29**	PKP	**PKPdf**	**10 24 14.1**	**-3.1**
	comp=Z,2μm,21.0s							KSH				sPKP		10 24 28.3	
KURK	**Kurchatov**	**132.10**	**17**	P	**PKPdf**	**10 24 01.7**	**+0.6**	KSH				PP	**PP**	**10 27 15.8**	**+0.5**
	SNR=17							KSH				PKS	PKSdf	10 27 47.9	-5.4
USRK	**Ussuriysk Arra**	**132.12**	**328**	PKP	**PKPdf**	**10 24 01.8**	**+0.5**	KSH				SKS	**SKSdf**	**10 31 18.6**	**-7.1**
	comp=Z,12nm,1.1s,baz=0.0,slow=2.9,SNR=6.8							KSH				SKKS	**SKKSac**	**10 34 01.8**	**-6.2**
MJAR	**Matsushiro Arr**	**132.95**	**316**	PKPpre	PKPpre	10 23 53.4		KSH				SS	**SS**	**10 45 35.3**	**-2.6**
MJAR				PKP	**PKiKP**	**10 24 04.3**	**-0.1**	KSH				LR	LR		
MJAR				SKPbc	**SKPbc**	**10 27 28.1**	**-0.8**		comp=N,830nm,16.5s						
MJAR	**Matsushiro Arr**	**132.95**	**316**	PKhKP	PKPpre	10 23 53.4		KSH				LR	LR		
	comp=Z,3.2nm,1.1s,baz=280,slow=1.4,SNR=5.6								comp=E,2μm,16.8s						
MJAR				PKP	**PKiKP**	**10 24 04.3**	**-0.1**	KSH				LR	LR		
	comp=Z,2.9nm,0.9s,baz=115,slow=0.6,SNR=6.8								comp=Z,3μm,18.7s						
MJAR				SKPbc	**SKPbc**	**10 27 28.1**	**-0.8**	**WMQ**	**Urumqi**	**140.85**	**13**	PKP	PKPdf	10 24 12.0	-5.7
	comp=Z,12nm,1.0s,baz=77,slow=0.8,SNR=14							WMQ				PP	**PP**	**10 27 18.4**	**+1.5**
MAJO	**Matsushiro**	**132.95**	**316**	PFAKE		10 24 20.0	+17	WMQ				PKS	PKSdf	10 27 46.0	-7.6
MAJO				LR	LR			WMQ				SKS	SKSdf	10 31 17.0	-8.9
	comp=Z,2μm,21.0s							WMQ				SS	**SS**	**10 45 39.0**	**-2.0**
MAT	**Matsushiro**	**132.95**	**316**	PKP	**PKPdf**	**10 24 00.9**	**-2.3**	WMQ				AMB	AMB		
MDJ	**Mudanjiang**	**133.06**	**330**	PKP	**PKPdf**	**10 24 04.0**	**+0.9**		comp=Z,670nm,8.4s						
MDJ				sPKP		10 24 17.5		WMQ				LR	LR		
MDJ				PP	**PP**	**10 26 30.1**	**+1.5**		comp=N,3μm,19.4s						
MDJ				SS	SS	10 44 11.8	+2.8	WMQ				LR	LR		
MDJ				AMB	AMB				comp=E,2μm,16.6s						
	comp=Z,900nm,12.5s							WMQ				LR	LR		
MDJ				LR	LR				comp=Z,3μm,23.4s						
	comp=N,1μm,22.1s							**DL2**	**Dalian**	**141.26**	**331**	*e*PKP	**PKPdf**	**10 24 16.6**	**-1.8**
MDJ				LR	LR			DL2				*e*PP	**PP**	**10 27 21.5**	**+1.8**
	comp=E,2μm,22.9s														

DL2			SS	SS	10 45 49.3	+2.9		
DL2			LR	LR				
	comp=E,400nm,27.4s							
DL2			LR	LR				
	comp=Z,500nm,22.6s							
BJI	**Beijing**	**142.62**	**338**	PKP	PKPdf	10 24 15.4	-5.4	
BJI				SS	SS	10 46 03.9	+2.1	
BJI				AMB	AMB			
	comp=Z,410nm,10.4s							
BJI				LR	LR			
	comp=N,2μm,20.5s							
BJI				LR	LR			
	comp=E,590nm,19.6s							
BJI				LR	LR			
	comp=Z,2μm,26.0s							
BJT	**Baijiatuau**	**142.65**	**338**	*e*PKPdf	**PKPdf**	**10 24 16.8**	**-4.1**	
BJT				LR	LR			
	comp=Z,2μm,20.0s							
NIL	**Nilore**	**143.38**	**38**	PFAKE		10 24 30.0	+7.6	
NIL				LR	LR			
	comp=Z,98nm,20.0s							
HHC	**Hu-ho-hao-te**	**143.38**	**344**	*e*PKP	PKPab	10 24 18.8	+0.5	
HHC				pPKP	pPKPdf	10 24 29.3	-3.0	
HHC				sPKP		10 24 32.9		
HHC				PP	**PP**	**10 27 32.1**	**-0.2**	
HHC				SKKS		10 34 19.0		
HHC				SS	**SS**	**10 46 07.3**	**-3.2**	
HHC				AMB	AMB			
	comp=Z,520nm,7.9s							
HHC				LR	LR			
	comp=N,2μm,20.0s							
HHC				LR	LR			
	comp=E,330nm,13.5s							
HHC				LR	LR			
	comp=Z,2μm,17.9s							
BTO	**Baotou**	**144.01**	**346**	*e*PKP	**PKPab**	**10 24 20.0**	**-0.7**	
FITZ	**Fitzroy Crossi**	**144.62**	**227**	*e*PKPdf	**PKPab**	**10 24 23.5**	**0.0**	
FITZ	**Fitzroy Crossi**	**144.62**	**227**	*e*PKP	PKPbc	10 24 23.6	-0.1	
	comp=Z,453nm,0.9s							
JOW	**Kunigami**	**145.22**	**310**	*e*PKPdf	**PKPbc**	**10 24 25.4**	**0.0**	
THN	**Thein Dam**	**145.70**	**37**	*e*PKP	**PKPdf**	**10 24 25.1**	**-1.3**	
PONG	**Pong**	**146.18**	**37**	*e*PKP	**PKPdf**	**10 24 25.5**	**-1.7**	
MBWA	**Marble Bar**	**146.39**	**216**	*e*PKPdf	**PKPdf**	**10 24 27.8**	**-0.1**	
MBWA				LR	LR			
	comp=Z,3μm,19.0s							
GTA	**Gaotai**	**146.56**	**359**	⇑PKPbc	**PKPdf**	**10 24 27.8**	**-0.1**	
GTA				PKPab	**PKiKP**	**10 24 31.3**	**-0.9**	
GTA				pPKP	**pPKPdf**	**10 24 38.5**	**+0.6**	
GTA				sPKP		10 24 42.3		
GTA				PP	**PP**	**10 27 54.0**	**+2.9**	
GTA				PKS	**PKSdf**	**10 28 02.0**	**-1.3**	
GTA				SKS	**SKSdf**	**10 31 31.3**	**-3.6**	
GTA				SKKS	**SKKSac**	**10 34 39.3**	**-3.2**	
GTA				AMB	AMB			
	comp=Z,870nm,9.7s							
GTA				LR	LR			
	comp=N,1μm,20.9s							
GTA				LR	LR			
	comp=E,1μm,20.9s							
GTA				LR	LR			
	comp=Z,2μm,21.4s							
BHK	**Bhakra**	**146.84**	**37**	*e*PKP	**PKPdf**	**10 24 29.0**	**+0.6**	
SDNR	**Sundarnagar**	**147.11**	**36**	*e*PKP	**PKPdf**	**10 24 28.0**	**-0.9**	
SSE	**Sheshan**	**147.41**	**323**	PKPbc	**PKPdf**	**10 24 30.1**	**+0.8**	
SSE				LR	LR			
	comp=N,650nm,24.6s							
SSE				LR	LR			
	comp=E,1μm,22.9s							
SSE				LR	LR			
	comp=Z,2μm,22.1s							
SMLA	**Simla**	**147.50**	**37**	*i* P	**PKPdf**	**10 24 30.1**	**+0.7**	
NJ2	**Nanjing**	**148.03**	**327**	*e*PKPbc	**PKPdf**	**10 24 29.9**	**-0.4**	
NJ2				PKPab	**PKPab**	**10 24 35.9**	**-0.2**	
NJ2				pPKP	**pPKPdf**	**10 24 41.1**	**+0.8**	
NJ2				sPKP		10 24 43.6		
NJ2				PP	**PP**	**10 28 04.0**	**+3.7**	
NJ2				SKS	**SKSdf**	**10 31 37.0**	**0.0**	
NJ2				AMB	AMB			
	comp=Z,240nm,11.2s							
NJ2				LR	LR			
	comp=N,9μm,26.3s							
NJ2				LR	LR			
	comp=E,8μm,28.4s							
NJ2				LR	LR			
	comp=Z,10μm,21.9s							
DDI	**Dehra Dun**	**148.61**	**37**	*e*PKP	**PKPdf**	**10 24 32.0**	**+0.6**	
AJM	**Ajmer**	**148.93**	**46**	*e*PKP	**PKPdf**	**10 24 30.0**	**-2.0**	
LZH	**Lanzhou**	**149.57**	**352**	⇑PKPbc	**PKPdf**	**10 24 33.6**	**+0.6**	
LZH				pPKP	**pPKPdf**	**10 24 45.1**	**+2.1**	
LZH				sPKP		10 24 48.8		
LZH				PKS	**PKSdf**	**10 28 06.5**	**-1.6**	
LZH				PP	**PP**	**10 28 11.5**	**+2.7**	
LZH				SKS	**SKSdf**	**10 31 37.0**	**-2.3**	
LZH				SS	**SS**	**10 47 20.1**	**-0.5**	
LZH				AMB	AMB			
	comp=Z,560nm,8.2s							
LZH				LR	LR			
	comp=N,2μm,18.5s							
LZH				LR	LR			
	comp=E,2μm,17.0s							
LZH				LR	LR			
	comp=Z,4μm,19.4s							
DGAR	**Diego Garcia**	**150.35**	**116**	PFAKE		10 24 50.0	+3.9	
DGAR				LR	LR			
	comp=Z,5μm,20.0s							
XAN	**Xi'an**	**150.48**	**343**	PKPbc	**PKPdf**	**10 24 33.8**	**-0.5**	
XAN				PKPab	**PKPab**	**10 24 44.0**	**-2.1**	
XAN				sPKP		10 24 48.8		
XAN				PP	**PP**	**10 28 13.8**	**-0.3**	
XAN				SKS	SKSdf	10 31 31.1	-9.2	
XAN				AMB	AMB			
	comp=Z,130nm,13.2s							
XAN				LR	LR			
	comp=N,950nm,21.6s							
XAN				LR	LR			
	comp=E,600nm,21.6s							
XAN				LR	LR			
	comp=Z,560nm,22.4s							
TATO	**Taipei**	**151.30**	**314**	PFAKE		10 24 50.0	+0.3	
TATO				LR	LR			
	comp=Z,2μm,21.0s							
WHN	**Wuhan**	**151.53**	**332**	⇑PKPbc	**PKPbc**	**10 24 41.3**	**-0.8**	
WHN				pPKP	**PKPab**	**10 24 49.1**	**-1.3**	
WHN				PP	PP	10 28 26.6	+6.2	
WHN				LR	LR			
	comp=

CD2	**Chengdu**	**154.66**	**351**	PKPbc	**PKPdf**	**10 24 39.3**	**-1.2**
CD2				pPKP	**pPKPdf**	**10 24 50.8**	**+0.2**
CD2				sPKP		10 24 54.6	
CD2				PKPab	**PKPab**	**10 25 04.8**	**+1.2**
CD2				SKS	**SKSdf**	**10 31 40.4**	**-5.1**
CD2				SKKS	**SKKSac**	**10 35 24.8**	**-2.4**
CD2				SS	**SS**	**10 48 16.6**	**+0.1**
CD2				LR	LR		
	comp=N,1μm,21.4s						
CD2				LR	LR		
	comp=Z,2μm,25.0s						
GUN	**Gumba**	**154.71**	**28**	*e*P	**PKPdf**	**10 24 40.9**	**-0.2**
	comp=Z,341nm,1.1s						
LATR	**Latur**	**154.71**	**58**	*e*PKP	**PKPdf**	**10 24 41.3**	**+0.5**
PKI	**Pulchoki**	**154.76**	**29**	*e*P	**PKPdf**	**10 24 40.6**	**-0.6**
	comp=Z,152nm,1.2s						
MNGI	**Mangalore**	**155.06**	**72**	*ex*	x	10 24 56.9	
LSA	**Lhasa**	**155.10**	**17**	PKP	**PKPdf**	**10 24 42.6**	**+0.8**
LSA	**Lhasa**	**155.10**	**17**	*e*PKIKP	**PKPdf**	**10 24 42.5**	**+0.8**
LSA				MLR	MLR		
	comp=Z,5μm,19.0s						
LSA	**Lhasa**	**155.10**	**17**	*e*PKPdf	**PKPdf**	**10 24 42.5**	**+0.7**
LSA				LR	LR		
	comp=Z,5μm,19.0s						
NGP	**Nagpur**	**155.32**	**50**	*i* P	**PKPdf**	**10 24 39.5**	**-2.2**
NGP				*ex*	x	10 28 58.0	
RAMN	**Ramite**	**155.86**	**28**	*e*P	**PKPdf**	**10 24 42.2**	**-0.3**
	comp=Z,104nm,1.1s						
TAPN	**Taplejung**	**156.01**	**26**	*e*P	**PKPdf**	**10 24 42.8**	**0.0**
	comp=Z,197nm,1.1s						
ODAN	**Odare**	**156.30**	**27**	*e*P	**PKPdf**	**10 24 42.8**	**-0.3**
	comp=Z,266nm,1.1s						
KAPI	**Kappang**	**156.72**	**243**	*e*PKPdf	**PKPdf**	**10 24 42.8**	**-0.9**
KAPI				LR	LR		
	comp=Z,2μm,21.0s						
HYB	**Hyderabad**	**156.85**	**58**	*i* PKP	**PKPdf**	**10 24 42.5**	**-1.3**
HYB				*e*PKPAB	**PKPab**	**10 25 13.0**	**-0.5**
HYB				*e*PP	**PP**	**10 28 52.0**	**+0.3**
GYA	**Guiyang**	**158.24**	**341**	PKP	**PKPdf**	**10 24 44.0**	**-1.4**
GYA				sPKP		10 25 00.6	
GYA				PKPab	**PKPab**	**10 25 18.8**	**-0.4**
GYA				PKS	**PKSdf**	**10 28 17.0**	**-2.3**
GYA				PP	**PP**	**10 29 02.5**	**+4.7**
GYA				SKKS		10 35 45.0	
GYA				SS	**SS**	**10 48 55.6**	**+0.2**
GYA				AMB	AMB		
	comp=Z,470nm,7.8s						
GYA				LR	LR		
	comp=N,6μm,25.8s						
GYA				LR	LR		
	comp=E,5μm,26.5s						
GYA				LR	LR		
	comp=Z,9μm,25.4s						
SHL	**Shillong**	**159.19**	**19**	*e*PKP	**PKPdf**	**10 24 44.6**	**-2.0**
KMI	**Kunming**	**160.49**	**350**	PKP	**PKPdf**	**10 24 47.4**	**-0.8**
KMI				pPKP	**pPKPdf**	**10 24 59.6**	**+1.4**
KMI				sPKP		10 25 04.4	
IMP	**Imphal**	**160.51**	**14**	*e*PKP	**PKPdf**	**10 24 46.0**	**-2.0**
IMP				*ex*	x	10 29 12.0	
MYLDM	**Lahad Datu**	**160.66**	**269**	P	**PKPdf**	**10 24 49.5**	**+1.1**
TSM	**Tawau**	**161.22**	**266**	P	**PKPdf**	**10 24 50.0**	**+1.1**
COCO	**West Island**	**161.96**	**173**	PFAKE		10 25 00.0	+10
COCO				LR	LR		
	comp=Z,3μm,19.0s						
SDKM	**Sandakan**	**161.98**	**270**	P	**PKPdf**	**10 24 49.8**	**-0.1**
KKM	**Kota Kinabalu**	**162.96**	**272**	*e*PKPdf	**PKPdf**	**10 24 51.2**	**+0.3**
KKM				LR	LR		
	comp=Z,4μm,22.0s						
KKM	**Kota Kinabalu**	**162.96**	**272**	P	**PKPdf**	**10 24 51.4**	**+0.5**
QIZ	**Qiongzhong**	**163.20**	**322**	PKP	**PKPdf**	**10 24 51.3**	**+0.5**
QIZ				PP	**PP**	**10 29 25.5**	**+0.4**
QIZ				SS	SS	10 49 51.0	+2.4
QIZ				LR	LR		
	comp=N,2μm,22.3s						
QIZ				LR	LR		
	comp=Z,3μm,23.4s						
QIZ	**Qiongzhong**	**163.20**	**322**	PFAKE		10 25 00.0	+9.2
QIZ				LR	LR		
	comp=Z,2μm,22.0s						
SBUM	**Sibu**	**166.48**	**256**	P	**PKPdf**	**10 24 54.3**	**+0.5**
CHTO	**Chiang Mai**	**167.09**	**1**	*e*PKIKP	**PKPdf**	**10 24 53.3**	**-0.8**
CHTO				MLR	MLR		
	comp=Z,2μm,19.0s						
CHTO	**Chiang Mai**	**167.09**	**1**	*e*PKPdf	**PKPdf**	**10 24 53.3**	**-0.8**
CHTO				LR	LR		
	comp=Z,2μm,19.0s						
CHTO	**Chiang Mai**	**167.09**	**1**	P	**PKPdf**	**10 24 53.8**	**-0.3**
	SNR=11						
CM31	**Chiang Mai Arr**	**167.44**	**1**	*e*PKPdf	**PKPdf**	**10 24 54.5**	**+0.1**
CM31				LR	LR		
	comp=Z,2μm,20.0s						
CMAR	**Chiang Mai Arr**	**167.44**	**1**	PKP	**PKPdf**	**10 24 54.5**	**+0.1**
CMAR				PKPab	**PKPab**	**10 25 59.1**	**-0.4**
CMAR				SKP		10 28 28.4	
CMAR				PP	**PP**	**10 29 46.8**	**+0.6**
CMAR	**Chiang Mai Arr**	**167.44**	**1**	PKP	**PKPdf**	**10 24 54.5**	**+0.1**
	comp=Z,20nm,1.0s,baz=291,slow=1.8,SNR=81						
CMAR				PKPab	**PKPab**	**10 25 59.1**	**-0.4**
	comp=Z,45nm,1.0s,baz=342,slow=5.3,SNR=28						
CMAR				SKP		10 28 28.4	
	comp=Z,1.3nm,0.5s,baz=296,slow=4.0,SNR=4.1						
CMAR				PP	**PP**	**10 29 46.8**	**+0.6**
	comp=Z,11nm,1.0s,baz=344,slow=5.9,SNR=11						
KSM	**Kuching**	**168.00**	**249**	*e*PKPdf	**PKPdf**	**10 24 54.1**	**-0.9**
KSM				LR	LR		
	comp=Z,4μm,19.0s						
KSM	**Kuching**	**168.00**	**249**	P	**PKPdf**	**10 24 55.4**	**+0.5**
MYKOM	**Kota Tinggi**	**173.78**	**230**	P	**PKPdf**	**10 24 57.9**	**-0.1**
FRIM	**Kepong**	**176.39**	**225**	P	**PKPdf**	**10 24 58.5**	**-0.2**
IPM	**Ipoh**	**177.65**	**235**	*e*PKPdf	**PKPdf**	**10 24 57.9**	**-1.0**
IPM	**Ipoh**	**177.65**	**235**	P	**PKPdf**	**10 24 58.7**	**-0.3**
KULM	**Kulim**	**178.35**	**251**	*e*PKPdf	**PKPdf**	**10 24 57.7**	**-1.3**
KULM				LR	LR		
	comp=Z,5μm,20.0s						
KULM	**Kulim**	**178.35**	**251**	P	**PKPdf**	**10 24 58.7**	**-0.3**

PRE 15 10:12:28.8±0.7, 26°42S×27°60E, h2km, ML1.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.07**	**5**	*e*P	Pg	10 12 30.6	+0.1
KLOF				*e*S	Sg	10 12 31.4	-0.2
KLOF				AML	AML	10 12 34.3	
	comp=Z,235nm,0.2s						
ERPM	**east rand prop**	**0.58**	**83**	*e*P	Pg	10 12 40.1	-0.1
ERPM				*e*S	Sg	10 12 48.7	+0.9
ERPM				AML	AML	10 12 50.0	
	comp=Z,9.9nm,0.2s						
LBTB	**Lobatse**	**2.29**	**307**	*e*P	Pn	10 13 08.9	+1.1
LBTB				*e*S	Sn	10 13 36.8	+0.2
LBTB				AML	AML	10 13 40.2	
	comp=Z,5.4nm,0.7s						

IDC 15 10:30:19.8±0.9, 4°04N×126°79E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/20, mbtmp3.7/7, Error ellipse: s-maj=51.0km s-min=17.7km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.03**	**183**	P	P	10 35 16.9	+0.8
	1.1nm,0.6s,baz=349,slow=15,SNR=3.1						
WRA	**Warramunga Arr**	**24.96**	**163**	P	P	10 35 44.9	-0.4
	1.9nm,0.5s,baz=344,slow=10,SNR=16						
ASAR	**Alice Springs**	**28.40**	**166**	P	P	10 36 16.1	-0.2
	0.7nm,0.5s,baz=344,slow=7.1,SNR=10						
CMAR	**Chiang Mai Arr**	**30.77**	**300**	P	P	10 36 37.9	+0.5
	0.6nm,0.4s,baz=97,slow=6.7,SNR=5.4						
SONM	**Songino Array**	**47.02**	**341**	P	P	10 38 53.3	+0.1
	0.4nm,0.6s,baz=160,slow=8.4,SNR=3.7						
SONM				PcP	PcP	10 40 25.4	0.0
	0.3nm,0.5s,baz=137,slow=4.9,SNR=2.9						
MKAR	**Makanchi Array**	**57.33**	**325**	P	P	10 40 08.7	-1.1
	0.9nm,0.7s,baz=120,slow=8.2,SNR=6.9						
MKAR				PcP	PcP	10 41 03.7	-0.3
	0.6nm,0.6s,baz=111,slow=3.8,SNR=4.7						
ILAR	**Eielson Array**	**84.80**	**25**	P	P	10 42 56.5	+0.5
	0.2nm,0.6s,baz=247,slow=6.7,SNR=4.3						

IDC 15 10:40:39.0±1.4, 42°62S×72°76W, h0km, mb3.7/5, mb1 4.1/7, mb1mx4.0/15, mbtmp3.8/7, ML3.6/2, Error ellipse: s-maj=33.5km s-min=17.7km az=136.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**2.51**	**42**	Pn	Pn	10 41 21.3	+0.1
	3.7nm,0.3s,baz=218,slow=16,SNR=74						
PLCA				Pg	Pb	10 41 24.6	-0.4
	9.7nm,0.3s,baz=224,slow=17,SNR=120						
PLCA				Lg	Lg	10 42 00.5	
	17nm,0.3s,baz=117,slow=7.8,SNR=16						
USHA	**Ushuaia**	**12.54**	**168**	Pn	Pn	10 43 40.7	+2.1
	0.2nm,0.3s,baz=347,slow=12,SNR=2.7						
CPUP	**Villa Florida**	**20.58**	**43**	P	P	10 45 19.6	+0.1
	1.3nm,0.8s,baz=215,slow=12,SNR=3.6						
SIV	**San Ignacio**	**28.37**	**24**	P	P	10 46 33.3	-1.7
	0.9nm,0.7s,baz=233,slow=12,SNR=3.7						
TXAR	**Lajitas Array**	**77.05**	**333**	P	P	10 52 34.1	+0.3
	0.4nm,0.8s,baz=155,slow=9.1,SNR=4.2						
NVAR	**Mina Array Bea**	**90.67**	**326**	P	P	10 53 44.8	+1.3
	0.4nm,0.4s,baz=145,slow=6.5,SNR=2.6						
PDAR	**Pinedale Array**	**91.22**	**334**	P	P	10 53 46.0	+0.1
	0.4nm,0.8s,baz=142,slow=4.5,SNR=3.6						
AKTO	**Aktyubinsk**	**145.79**	**59**	PKPbc	PKPdf	11 00 17.2	-1.6
	1.7nm,1.0s,baz=300,slow=3.7,SNR=5.6						

IDC 15 10:46:17.9±1.1, 4°04N×126°35E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.5/21, mbtmp3.6/7, MS3.8/2, Ms1 3.8/2, ms1mx3.6/30, Error ellipse: s-maj=123.1km s-min=17.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.10**	**346**	LR	LR	10 48 27.8	
	comp=Z,450nm,19.8s,baz=212,slow=42						
WRA	**Warramunga Arr**	**25.10**	**162**	P	P	10 51 43.1	-1.4
	1.0nm,0.6s,baz=342,slow=11,SNR=14						
PSI	**Prapat**	**27.41**	**268**	LR	LR	11 02 38.7	
	comp=Z,669nm,20.6s,baz=36,slow=36						
STKA	**Stephens Creek**	**38.55**	**159**	P	P	10 53 43.8	+1.3
	1.2nm,0.8s,baz=349,slow=10,SNR=2.7						
SONM	**Songino Array**	**46.88**	**342**	P	P	10 54 50.6	+0.4
	0.3nm,0.6s,baz=154,slow=8.4,SNR=2.9						
MKAR	**Makanchi Array**	**57.08**	**325**	P	P	10 56 06.0	-0.1
	0.4nm,0.4s,baz=117,slow=8.0,SNR=7.1						
ZALV	**Zalesovo Beam**	**60.14**	**333**	P	P	10 56 26.6	-0.6
	0.4nm,0.5s,baz=169,slow=8.2,SNR=2.9						
KURBB	**Kurchatov Arra**	**61.27**	**327**	P	P	10 56 34.6	-0.4
	0.5nm,0.4s,baz=128,slow=6.0,SNR=14						
BVAR	**Borovoye Array**	**66.85**	**327**	P	P	10 57 12.2	+0.5
	0.4nm,0.5s,baz=139,slow=9.0,SNR=3.6						

NNC ***15*** *10:51:56.9±3.0, 39°35N×74°55E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=24.1km s-min=14.6km az=163.0*
ISC 15 10:51:57.1±4.1, 39°2N±0°3×74°6E±0°1, h10km, n15, σ0s99/15, 2C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.14**	**74**	Pg	Pb	10 52 06.9	-12
KSH				Sg	Sb	10 52 16.1	-18
KSH				smax	smax		
	comp=N,2μm,0.6s						
KSH				smax	smax		
	comp=E,2μm,1.1s						
KZA	**Kyzart**	**2.92**	**10**	P	Pn	10 52 43.0	-0.9
	SNR=28						
AML	**Almayashu**	**2.99**	**348**	P	**Pn**	**10 52 45.4**	**+0.5**
	SNR=44						
UCH	**Uchtor**	**3.02**	**359**	P	**Pn**	**10 52 45.8**	**+0.4**
	SNR=8.0						
ULHL	**Ulahol**	**3.29**	**22**	P	**Pn**	**10 52 50.1**	**+1.2**
	SNR=14						
AAK	**Ala-Archa**	**3.42**	**359**	P	**Pn**	**10 52 51.5**	**+0.8**
	SNR=12						
KBK	**Karagaybulak**	**3.46**	**5**	P	**Pn**	**10 52 51.8**	**+0.6**
	SNR=11						
EKS2	**Erkin-Say**	**3.50**	**351**	P	**Pn**	**10 52 54.0**	**+2.3**
	SNR=8.1						
CHMS	**Chumysh**	**3.79**	**2**	P	**Pn**	**10 52 56.3**	**+0.7**
	SNR=14						
TKM2	**Tokmak 2**	**3.79**	**12**	⇓Pn	**Pn**	**10 52 55.3**	**-0.5**
	comp=E,11nm,0.5s						
TKM2				⇓Sn	**Sn**	**10 53 39.7**	**-0.9**
	comp=E,42nm,0.7s						
TKM2	**Tokmak 2**	**3.79**	**12**	P	**Pn**	**10 52 56.3**	**+0.6**
	SNR=30						
USP	**Ospenovka**	**4.06**	**359**	P	**Pn**	**10 52 59.4**	**+0.2**
	SNR=8.0						
KK31	**Karatay Array**	**4.95**	**323**	Pn	**Pn**	**10 53 11.8**	**+0.3**
	comp=E,0.7nm,0.2s,baz=125,slow=12,SNR=71						
KK31				⇑Pg	**Pb**	**10 53 23.9**	**+0.1**
	comp=E,3.0nm,0.5s,baz=133,slow=15,SNR=6.2						
KK31				⇓Sn	**Sn**	**10 54 09.0**	**+0.3**
	comp=E,4.9nm,0.5s						
KK31				⇑Lg	Lg	10 54 31.3	
	comp=E,3.6nm,0.5s						
AB31	**Akbulak array**	**14.49**	**319**	P	Pn	10 55 18.8	-3.3
	comp=E,0.9nm,0.5s,baz=124,slow=13,SNR=24						
AKTO	**Aktyubinsk**	**16.20**	**319**	⇓P	**Pn**	**10 55 43.3**	**-1.3**
	comp=E,0.2nm,0.8s						

ISCJB ***15*** *11:05:40.7±0.5, 39°35N±0°03×29°14E±0°03, h5km±5km, Error ellipse: s-maj=4.3km s-min=3.7km az=160.8*
ISK ***15*** *11:05:40.2, 39°33N×29°13E, h8km, MD2.7*
DDA ***15*** *11:05:40.9, 39°34N×29°16E, h8km, MD2.7*
CSEM ***15*** *11:05:41.0±0.1, 39°35N×29°14E, h10km, MD2.7, Error ellipse: s-maj=2.5km s-min=2.3km az=152.0*
ISC 15 11:05:41.0±0.9, 39°35N±0°02×29°13E±0°02, h12km±9km, n36, σ0s48/54, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.27**	**68**	*e*PG	**Pg**	**11 05 46.8**	**0.0**
TVSB				*e*SG	**Sg**	**11 05 50.6**	**0.0**
TVSB	**Tavsanli**	**0.27**	**68**	*e*Pg	**Pg**	**11 05 46.8**	**0.0**
TVSB				*e*Sg	**Sg**	**11 05 50.6**	**0.0**
GDZ	**Gediz**	**0.38**	**134**	*i* P	**Pg**	**11 05 48.3**	**-0.3**
GDZ				*i* S	**Sg**	**11 05 53.1**	**-0.5**
GDZ	**Gediz**	**0.38**	**134**	*i* P	**Pg**	**11 05 48.3**	**-0.3**
GDZ				*i* S	**Sg**	**11 05 53.1**	**-0.5**
DEMI	**Demirci**	**0.45**	**227**	*i* P	**Pg**	**11 05 50.3**	**+0.4**
DEMI				*i* S	**Sg**	**11 05 56.5**	**+0.6**
DEMI	**Demirci**	**0.45**	**227**	*i* P	**Pg**	**11 05 50.3**	**+0.4**
DEMI				*i* S	**Sg**	**11 05 56.5**	**+0.6**
DURS	**Dursunbey**	**0.57**	**296**	*i* P	**Pb**	**11 05 53.0**	**0.0**
DURS				*i* S	**Sb**	**11 06 00.9**	**-0.2**
DURS	**Dursunbey**	**0.57**	**296**	*i* P	**Pb**	**11 05 53.0**	**0.0**
DURS				*i* S	**Sb**	**11 06 00.9**	**-0.2**
ALT	**Altintas**	**0.81**	**111**	*e*PG	**Pg**	**11 05 56.4**	**-0.4**
ALT				*e*SG	**Sb**	**11 06 07.8**	**-0.3**
ALT	**Altintas**	**0.81**	**111**	*e*Pg	**Pg**	**11 05 56.4**	**-0.4**
ALT				*e*Sg	**Sb**	**11 06 07.8**	**-0.3**
KULA	**Kula-Manisa**	**0.91**	**204**	*e*PG	**Pg**	**11 05 58.4**	**-0.3**
KULA				*e*SG	**Sg**	**11 06 10.1**	**-0.5**
KULA	**Kula-Manisa**	**0.91**	**204**	*e*Pg	**Pg**	**11 05 58.4**	**-0.3**
KULA				*e*Sg	**Sg**	**11 06 10.1**	**-0.5**
MANT	**Manisa**	**0.97**	**208**	*i* P	**Pg**	**11 05 59.6**	**-0.1**
MANT				*i* S	**Sb**	**11 06 12.5**	**-0.2**
MANT	**Manisa**	**0.97**	**208**	*i* P	**Pg**	**11 05 59.6**	**-0.1**
MANT				*i* S	**Sb**	**11 06 12.5**	**-0.2**
CAVI	**Cavuskoy**	**1.01**	**32**	*e*PG	**Pg**	**11 06 00.1**	**-0.5**
CAVI	**Cavuskoy**	**1.01**	**32**	*e*Pg	**Pg**	**11 06 00.1**	**-0.5**
BALB	**Balikesir**	**1.01**	**287**	*e*PG	**Pg**	**11 05 59.9**	**-0.7**
BALB	**Balikesir**	**1.01**	**287**	*e*Pg	**Pg**	**11 05 59.9**	**-0.7**
KHAL	**Karahalli**	**1.02**	**164**	*i* P	**Pb**	**11 06 00.9**	**+0.3**
KHAL				*i* S	**Sg**	**11 06 13.7**	**-0.2**
KHAL	**Karahalli**	**1.02**	**164**	*i* P	**Pb**	**11 06 00.9**	**+0.3**
KHAL				*i* S	**Sg**	**11 06 13.7**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.04**	**349**	*e*PG	**Pg**	**11 06 00.2**	**-0.8**
MDNY	**Mudanya-Bursa**	**1.04**	**349**	*e*Pg	**Pg**	**11 06 00.2**	**-0.8**
YLV	**Yalova**	**1.23**	**8**	*e*PN	**Pg**	**11 06 05.0**	**+0.3**
YLV	**Yalova**	**1.23**	**8**	*e*Pn	**Pg**	**11 06 05.0**	**+0.3**
ARMT	**Armutlu**	**1.23**	**350**	*e*PN	**Pn**	**11 06 04.5**	**+0.4**
ARMT	**Armutlu**	**1.23**	**350**	*e*Pn	**Pn**	**11 06 04.5**	**+0.4**
GONE	**Gonen-Balikesi**	**1.32**	**302**	*e*PN	**Pn**	**11 06 05.4**	**+0.2**
GONE	**Gonen-Balikesi**	**1.32**	**302**	*e*Pn	**Pn**	**11 06 05.4**	**+0.2**
ESKT	**Eskisehir**	**1.34**	**82**	*e*PN	**Pn**	**11 06 06.1**	**+0.4**
ESKT	**Eskisehir**	**1.34**	**82**	*e*Pn	**Pn**	**11 06 06.1**	**+0.4**
SEYT	**Eskypehyr**	**1.34**	**82**	*i* P	**Pn**	**11 06 04.7**	**-0.9**
SEYT				*i* S	**Sg**	**11 06 25.0**	**+0.8**
SEYT	**Eskypehyr**	**1.34**	**82**	*i* P	**Pn**	**11 06 04.7**	**-0.9**
SEYT				*i* S	**Sg**	**11 06 25.0**	**+0.8**
GULT	**Gulveren**	**1.52**	**44**	*e*PN	**Pn**	**11 06 08.4**	**+0.4**
GULT	**Gulveren**	**1.52**	**44**	*e*Pn	**Pn**	**11 06 08.5**	**+0.4**
SVRH	**Sivrihisar-ESK**	**1.85**	**86**	*e*PN	**Pn**	**11 06 13.5**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.85**	**86**	*e*Pn	**Pn**	**11 06 13.5**	**+0.8**

ISK ***15*** *11:10:20.1, 38°96N×41°79E, h5km, MD3.3*
CSEM ***15*** *11:10:20.5±0.5, 38°90N×41°65E, h20km, MD3.3, Error ellipse: s-maj=13.8km s-min=6.7km az=175.0*
ISCJB ***15*** *11:10:22.3±1.0, 39°10N±0°05×41°77E±0°06, h4km±9km, Error ellipse: s-maj=10.6km s-min=5.7km az=139.4*
DDA ***15*** *11:10:22.6, 39°08N×41°77E, h7km, MD3.3*
ISC 15 11:10:21.2±1.3, 39°06N±0°04×41°79E±0°03, h0km±11km, n19, σ1s15/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRTB	**Varto-Mus**	**0.28**	**291**	*e*PG	**Pg**	**11 10 27.7**	**+1.2**
VRTB	**Varto-Mus**	**0.28**	**291**	*e*Pg	**Pg**	**11 10 27.7**	**+1.2**
BNGL	**BINGOL**	**0.51**	**258**	*i* P	**Pg**	**11 10 31.5**	**+0.6**
BNGL				*i* S	**Sb**	**11 10 40.1**	**-1.1**
BNGB	**Bing¯¶l**	**0.86**	**266**	*e*PG	**Pg**	**11 10 37.8**	**-0.1**
BNGB				*e*SG	**Sb**	**11 10 50.9**	**-0.5**
TUTA	**Tutak**	**0.87**	**67**	*i* P	**Pg**	**11 10 38.6**	**+0.7**
TUTA				*i* S	**Sn**	**11 10 53.6**	**-0.8**
TUTA	**Tutak**	**0.87**	**67**	*i* P	**Pg**	**11 10 38.6**	**+0.7**
TUTA				*i* S	**Sn**	**11 10 53.6**	**-0.8**
ERZM	**Erzurum**	**0.90**	**339**	*i* P	**Pb**	**11 10 40.1**	**+0.1**
ERZM				*i* S	**Sn**	**11 10 56.9**	**+1.5**
ERZM	**Erzurum**	**0.90**	**339**	*i* P	**Pb**	**11 10 40.1**	**+0.1**
ERZM				*i* S	**Sn**	**11 10 56.9**	**+1.5**
EZM	**Erzurum**	**0.90**	**339**	*e*PG	**Pb**	**11 10 40.6**	**+0.6**
BINT	**Bingol**	**1.03**	**260**	*e*Pg	**Pg**	**11 10 37.8**	**-3.2**
BINT				*e*Sg	**Sg**	**11 10 50.9**	**-3.4**
AGRB	**Hanur-Agry**	**1.07**	**61**	*e*PN	**Pg**	**11 10 42.6**	**+0.9**
AGRB				*e*SN	**Sn**	**11 10 59.2**	**-0.1**
AGRB	**Hanur-Agry**	**1.07**	**61**	*e*Pn	**Pg**	**11 10 42.6**	**+0.9**
AGRB				*e*Sn	**Sn**	**11 10 59.2**	**-0.1**
BEST	**Besiri**	**1.24**	**199**	*i* P	**Pg**	**11 10 47.0**	**+2.0**
BEST				*i* S	**Sn**	**11 11 04.2**	**+0.8**
CLDR	**Caldiran**	**1.66**	**87**	*e*PN	**Pn**	**11 10 51.7**	**-0.2**
CLDR	**Caldiran**	**1.66**	**87**	*e*Pn	**Pn**	**11 10 51.7**	**-0.2**
ERZN	**Erzincan**	**1.69**	**289**	*e*PN	**Pn**	**11 10 52.5**	**+0.4**
PTK	**Pertek**	**1.87**	**266**	*e*PN	**Pn**	**11 10 54.6**	**-0.1**
EZC	**Erzincan**	**2.01**	**291**	*e*Pn	Pn	11 10 52.5	-4.0
SVRC	**Sivrice-ELAZID**	**2.06**	**251**	*e*PN	**Pn**	**11 10 57.5**	**+0.3**

ISCJB ***15*** *11:10:44.4±0.9, 67°68N±0°03×34°1E±0°1, h0km, Error ellipse: s-maj=7.2km s-min=4.7km az=174.7*
HEL ***15*** *11:10:46.4±0.4, 67°70N×34°05E, h0km, ML2.3, ML2.9(BER), ML2.9(NAO), Explosion*
CSEM ***15*** *11:10:47.5±0.4, 67°62N×33°78E, h1km, ML2.9, Error ellipse: s-maj=7.7km s-min=4.3km az=81.0, Mining explosion.*
NAO ***15*** *11:10:48.3±1.5, 67°60N×33°78E, ML2.9*
IDC ***15*** *11:10:51.1±1.7, 67°72N×33°39E, h0km, mb1 3.3/5, mb1mx3.1/27, mbtmp3.3/5, ML2.9/5, Error ellipse: s-maj=16.6km s-min=9.4km az=91.0*
ISC 15 11:10:45.9±1.4, 67°62N±0°03×33°83E±0°07, h0km, n42, σ1s48/77, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.32**	**268**	Pg	**Pb**	**11 10 53.9**	**-0.6**
	baz=90,slow=16						
APA0				Lg	Lg	11 10 59.0	
	baz=94,slow=37						
APA0	**Apatity Array**	**0.32**	**268**	Pg	**Pb**	**11 10 53.9**	**-0.6**
	baz=90,slow=16						
APA0				Lg	Lg	11 10 59.0	
	baz=94,slow=37						
APA0	**Apatity Array**	**0.32**	**268**	*i* P	**Pb**	**11 10 53.9**	**-0.6**
APA0				*i* S	**Sb**	**11 10 59.0**	**-1.2**
APA0	**Apatity Array**	**0.32**	**268**	P	**Pb**	**11 10 53.9**	**-0.6**
APA0				S	**Sb**	**11 10 59.0**	**-1.2**
APA0				Lg	Lg	11 10 59.0	
	baz=94,slow=33,SNR=213						
VRF	**Varrio**	**1.62**	**276**	*e*P	**Pn**	**11 11 16.6**	**+0.9**
VRF				*e*S	**Sg**	**11 11 37.6**	**-0.2**
VRF	**Varrio**	**1.62**	**276**	P	**Pn**	**11 11 16.6**	**+0.9**
VRF				S	**Sg**	**11 11 37.6**	**-0.2**
KU6	**Riekki**	**2.23**	**226**	*e*PB	**Pb**	**11 11 27.4**	**+0.2**
KU6				*e*SB	**Sg**	**11 11 57.4**	**-0.2**
KU6				MSG		11 12 00.3	
	comp=Z,9.1nm,0.2s						
KU6	**Riekki**	**2.23**	**226**	Pb	**Pb**	**11 11 27.3**	**+0.2**
KU6				Sb	**Sg**	**11 11 57.4**	**-0.2**
MSF	**Maaselka**	**2.56**	**230**	*e*PB	**Pb**	**11 11 33.4**	**+0.7**
MSF				*e*SB	**Sg**	**11 12 07.3**	**-0.8**
MSF

	comp=Z,8.9nm,0.3s						
KJN	**Kajaani**	**4.35 218**	P	**Pn**	**11 11 56.3**	**+3.2**
KJN			S	**Sn**	**11 12 46.8**	**+2.4**
JOF	**Joensuu**	**4.84 194**	*e*P	**Pn**	**11 12 00.9**	**+1.0**
JOF			*e*S	**Sn**	**11 12 56.0**	**-0.5**
JOF			MSG		11 13 19.7	
	comp=Z,3.6nm,0.2s						
JOF	**Joensuu**	**4.84 194**	P	**Pn**	**11 12 00.8**	**+1.0**
JOF			S	**Sn**	**11 12 56.0**	**-0.5**
FIA0	**FINESS Array S**	**7.04 212**	Pn	**Pn**	**11 12 31.6**	**+1.5**
	baz=24,slow=14						
FIA0			Sn	**Sn**	**11 13 47.5**	**-3.2**
	baz=23,slow=22						
FIA0			Lg	Lg	11 14 24.0		
	baz=24,slow=37						
FIA0	**FINESS Array S**	**7.04 212**	*e*P	**Pn**	**11 12 31.6**	**+1.5**
FIA0			*e*S	**Sn**	**11 13 47.5**	**-3.2**
FIA0			*e*SG	Sg	11 14 24.0	-7.7
FIA0	**FINESS Array S**	**7.04 212**	P	**Pn**	**11 12 31.5**	**+1.5**
FIA0			Lg	Lg	11 14 24.0	
	baz=24,slow=28						
FINES	**FINESS Array B**	**7.04 212**	Pn	**Pn**	**11 12 32.3**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=26,slow=11,SNR=1.4						
FINES			Sn	**Sn**	**11 13 50.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=27,slow=21,SNR=3.0						
FINES			Lg	Lg	11 14 24.7		
	comp=Z,0.8nm,0.3s,baz=26,slow=28,SNR=10						
HFS	**Hagfors**	**11.57 239**	Pn	**Pn**	**11 13 32.8**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=46,slow=13,SNR=2.1						
HFS			Sn	Sn	11 15 34.6	-7.1
	comp=Z,0.1nm,0.3s,baz=51,slow=36,SNR=1.7						
HFS			Lg	Lg	11 16 50.4		
	comp=Z,0.2nm,0.3s,baz=54,slow=27,SNR=2.8						
SPITS	**Spitsbergen Ar**	**11.69 342**	Pn	**Pn**	**11 13 33.5**	**-0.2**
	baz=153,slow=18,SNR=10						
NOA	**NORSAR Array B**	**11.76 247**	Pn	**Pn**	**11 13 35.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=45,slow=11,SNR=4.0						
NOA			Sn	Sn	11 15 41.0	-5.5
	comp=Z,0.1nm,0.3s,baz=114,slow=17,SNR=1.7						
NOA			Lg	Lg	11 16 55.1		
	comp=Z,0.3nm,0.3s,baz=44,slow=25,SNR=4.2						

CRAAG ***15*** *11:11:05.0, 36°.88N×3°.48E, Ml3.2*
CSEM ***15*** *11:11:06.8±0.2, 36°.76N×3°.44E, h20km, ML3.2, Error ellipse: s-maj=7.2km s-min=5.2km az=65.0*
MDD ***15*** *11:11:10.1±0.6, 37°.01N×3°.15E, h0km, mb3.7/6, Error ellipse: s-maj=9.0km s-min=5.2km az=70.0, PRXIMO SOLUCIN POBRE*

ISC 15 11:11:05.4±1.7, 36°.96N±0°.05×3°.39E±0°.04, h0km±16km, n34, σ1s39/40, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ABMS	**Boumerdes**	**0.22**	**161**	P			Pg	11 11 17.2	+7.6
ABMS	**Boumerdes**	**0.22**	**161**	P			Pg	11 11 17.2	+7.6
ABMS	**Boumerdes**	**0.22**	**161**	P			Pg	11 11 17.2	+7.6
ABA	**Alger-Bouzarea**	**0.33**	**242**	P			**Pb**	**11 11 14.0**	**-0.1**
ABA	**Alger-Bouzarea**	**0.33**	**242**	P			**Pb**	**11 11 14.0**	**-0.1**
ABA	**Alger-Bouzarea**	**0.33**	**242**	P			**Pb**	**11 11 14.0**	**-0.1**
ADJB	**Djebel Djouab**	**0.80**	**177**	P			Pg	11 11 18.0	-2.7
ADJB	**Djebel Djouab**	**0.80**	**177**	P			Pg	11 11 18.0	-2.7
ADJB	**Djebel Djouab**	**0.80**	**177**	P			Pg	11 11 18.0	-2.7
EMHD	**Djebel Mahouad**	**0.83**	**205**	P			**Pg**	**11 11 20.7**	**-0.7**
EMHD	**Djebel Mahouad**	**0.83**	**205**	P			**Pg**	**11 11 20.7**	**-0.7**
EMHD	**Djebel Mahouad**	**0.83**	**205**	P			**Pg**	**11 11 20.7**	**-0.7**
AKET	**Djebel Ketaf**	**0.99**	**156**	P			**Pn**	**11 11 28.0**	**+1.3**
AKET	**Djebel Ketaf**	**0.99**	**156**	P			**Pn**	**11 11 28.0**	**+1.3**
AKET	**Djebel Ketaf**	**0.99**	**156**	P			**Pn**	**11 11 28.0**	**+1.3**
AKF	**Akfadou**	**0.99**	**109**	P			**Pg**	**11 11 24.0**	**-0.5**
AKF	**Akfadou**	**0.99**	**109**	P			**Pg**	**11 11 24.0**	**-0.5**
AKF	**Akfadou**	**0.99**	**109**	P			**Pg**	**11 11 24.0**	**-0.5**
EIBI	**Ibiza**	**2.63**	**323**	P			**Pn**	**11 11 50.5**	**+1.4**
	4.6nm,0.1s,SNR=7.9								
EIBI				S			**Sn**	**11 12 21.7**	**0.0**
	33nm,1.2s,SNR=7.9								
EIBI	**Ibiza**	**2.63**	**323**	P			**Pn**	**11 11 50.5**	**+1.4**
	4.6nm,0.1s,SNR=7.9								
EIBI				S			**Sn**	**11 12 21.7**	**0.0**
	33nm,1.2s,SNR=7.9								
ETOS	**Mallorca**	**2.84**	**351**	P			**Pn**	**11 11 53.1**	**+1.0**
	0.3nm,0.1s,SNR=7.9								
ETOS				S			**Sn**	**11 12 25.7**	**-1.4**
	25nm,0.9s,SNR=7.9								
ETOS	**Mallorca**	**2.84**	**351**	P			**Pn**	**11 11 53.1**	**+1.0**
	0.3nm,0.1s,SNR=7.9								
ETOS				S			**Sn**	**11 12 25.7**	**-1.4**
	25nm,0.9s,SNR=7.9								
EBEN	**Beniarda**	**3.35**	**302**	P			**Pn**	**11 12 00.4**	**+1.2**
	0.1nm,0.1s,SNR=7.5								
EBEN				S			**Sn**	**11 12 39.4**	**-0.3**
	27nm,0.9s,SNR=7.9								
EBEN	**Beniarda**	**3.35**	**302**	P			**Pn**	**11 12 00.4**	**+1.2**
	0.1nm,0.1s,SNR=7.5								
EBEN				S			**Sn**	**11 12 39.4**	**-0.3**
	27nm,0.9s,SNR=7.9								
ETOB	**Tobarra**	**4.26**	**295**	P			**Pn**	**11 12 13.2**	**+1.6**
	1.3nm,0.2s,SNR=7.9								
ETOB				S			**Sn**	**11 13 01.2**	**-0.9**
	6.1nm,3.0s,SNR=7.9								
ETOB	**Tobarra**	**4.26**	**295**	P			**Pn**	**11 12 13.2**	**+1.6**
	1.3nm,0.2s,SNR=7.9								
ETOB				S			**Sn**	**11 13 01.2**	**-0.9**
	6.1nm,3.0s,SNR=7.9								
ECHE	**Chera**	**4.32**	**309**	P			**Pn**	**11 12 14.1**	**+1.6**
	2.5nm,0.2s,SNR=7.9								
ECHE	**Chera**	**4.32**	**309**	P			**Pn**	**11 12 14.1**	**+1.6**
	2.5nm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**	**4.55**	**320**	P			**Pn**	**11 12 17.0**	**+1.3**
	0.5nm,0.2s,SNR=7.9								
EMOS				S			**Sn**	**11 13 07.4**	**-2.0**
	4.4nm,1.1s,SNR=7.9								
EMOS	**Mosqueruela**	**4.55**	**320**	P			**Pn**	**11 12 17.0**	**+1.3**
	0.5nm,0.2s,SNR=7.9								
EMOS				S			**Sn**	**11 13 07.4**	**-2.0**
	4.4nm,1.1s,SNR=7.9								
EJON	**La Jonquera**	**5.50**	**356**	P			**Pn**	**11 12 30.5**	**+1.9**
	0.5nm,0.1s,SNR=7.9								
EJON	**La Jonquera**	**5.50**	**356**	P			**Pn**	**11 12 30.5**	**+1.9**
	0.5nm,0.1s,SNR=7.9								
CSOR	**Sort**	**5.69**	**343**	P			**Pn**	**11 12 33.4**	**+2.1**
	0.6nm,0.2s,SNR=7.9								
CSOR				S			**Sn**	**11 13 35.2**	**-2.0**
	14nm,3.2s,SNR=4.0								
CSOR	**Sort**	**5.69**	**343**	P			**Pn**	**11 12 33.4**	**+2.1**
	0.6nm,0.2s,SNR=7.9								
CSOR				S			**Sn**	**11 13 35.2**	**-2.0**
	14nm,3.2s,SNR=4.0								

KRSC 15 11:12:28.1±0.5, 55°.38N×160°.89E, h141km±31km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.44**	**257**	S			Sn	11 13 05.4	+1.9
KMNR	**Kamenistaya**	**0.53**	**316**	*e*P			Pn	11 12 49.6	+0.9
KMNR				*e*S			Sn	11 13 05.8	+1.5
BZGR	**Bezymyannyi-Gr**	**0.57**	**349**	*e*P			Pn	11 12 50.0	+1.1
BZGR				*e*S			Sn	11 13 05.7	+0.9
BZMR	**Bezymyannaya**	**0.60**	**338**	*e*P			Pn	11 12 50.1	+1.0
BZMR				*e*S			Sn	11 13 06.1	+0.9
BZWR	**Bezymyannyi-We**	**0.63**	**339**	*e*P			Pn	11 12 50.2	+0.9
BZWR				*e*S			Sn	11 13 06.6	+1.1
ZLN	**Zelenaya**	**0.64**	**356**	P			Pn	11 12 50.3	+1.0
ZLN				*e*S			Sn	11 13 06.7	+1.1
KIRR	**Kirishev**	**0.65**	**332**	*e*P			Pn	11 12 50.1	+0.6
KIRR				*e*S			Sn	11 13 06.8	+1.0
KPT	**Kopyto**	**0.70**	**327**	*e*P			Pn	11 12 50.1	+0.4
KPT				*e*S			Sn	11 13 07.2	+1.0
LGNR	**Loginova**	**0.71**	**351**	*e*P			Pn	11 12 51.3	+1.2
LGNR				*e*S			Sn	11 13 08.5	+1.7
CIRR	**Tsirk**	**0.74**	**354**	*e*P			Pn	11 12 50.2	+0.1
CIRR				*e*S			Sn	11 13 06.8	-0.1
KRSR	**Krestovskiy**	**0.86**	**348**	*e*P			Pn	11 12 51.3	+0.4
KRSR				*e*S			Sn	11 13 08.4	0.0
KOZ	**Kozyrevsk**	**0.89**	**320**	*e*P			Pn	11 12 51.6	+0.5
KOZ				*e*S			Sn	11 13 09.4	+0.8
KLY	**Klyuchi**	**0.94**	**352**	*e*P			Pn	11 12 52.2	+0.7
KLY				*e*S			Sn	11 13 10.7	+1.4
MKZ	**Mys Kozlova**	**0.96**	**149**	*e*P			Pn	11 12 53.1	+1.5
MKZ				*e*S			Sn	11 13 11.7	+2.3
SRDR	**Sredinnyy**	**1.15**	**325**	*e*P			Pn	11 12 53.4	0.0
KBTR	**Krutoberegovo**	**1.37**	**52**	*e*P			Pn	11 12 57.0	+1.5
KBTR				*e*S			Sn	11 13 17.7	+1.2
SPN	**Mys Shipunski**	**2.34**	**193**	*e*P			Pn	11 13 06.4	-0.4
SPN				*e*S			Sn	11 13 34.7	-1.8
SDLR	**Sedlovina**	**2.41**	**210**	*e*P			Pn	11 13 09.5	+1.7
SMAR	**Somma**	**2.45**	**211**	*e*P			Pn	11 13 10.1	+1.7
AVH	**Avacha**	**2.47**	**212**	*e*P			Pn	11 13 10.5	+2.1
AVH				*e*S			Sn	11 13 41.7	+2.3
KOK	**Koryaka**	**2.47**	**213**	*e*P			Pn	11 13 10.3	+1.7
UGLR	**Uglovaya**	**2.49**	**210**	*e*P			Pn	11 13 10.0	+1.2
PET	**Petropavlovsk**	**2.70**	**210**	*e*P			Pn	11 13 13.3	+2.0
BKI	**Bering**	**2.91**	**91**	*e*P			Pn	11 13 15.8	+1.9
BKI				*e*S			Sn	11 13 50.0	+0.8
RUS	**Russkaya**	**3.27**	**206**	*e*P			Pn	11 13 20.1	+1.6
MTVR	**Mutnovka**	**3.31**	**210**	*e*P			Pn	11 13 21.6	+2.3
MTVR				*e*S			Sn	11 13 59.4	+0.5
ASAK	**Asacha**	**3.48**	**212**	*e*P			Pn	11 13 22.9	+1.4

NEIC ***15*** *11:22:25.5, 18°.96N×66°.46W, h4km, MD2.8(RSPR), After RSPR.*

RSPR 15 11:22:25.5, 18°.96N×66°.46W, h4km±3km, MD2.8/5, 12C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.67**	**204**	⇓*e*P			Pg	11 22 37.9	-0.5
AOPR	**Arecibo Observ**	**0.67**	**204**	⇑*e*P			Pg	11 22 37.6	-0.8
AOPR	**Arecibo Observ**	**0.67**	**204**	*e*S			Sg	11 22 47.9	+0.7
AOPR	**Arecibo Observ**	**0.67**	**204**	⇑*e*P			Pg	11 22 37.6	-0.8
AOPR				⇓*e*P			Pb	11 22 37.9	-1.8
AOPR				*e*S			Sg	11 22 47.9	+0.7
CBYP	**Canovanas**	**0.90**	**140**	⇓*e*P			Pg	11 22 41.2	-1.5
CBYP	**Canovanas**	**0.90**	**140**	⇑*e*P			Pg	11 22 41.5	-1.3
CBYP	**Canovanas**	**0.90**	**140**	*e*S			Sg	11 22 54.1	-0.4
CBYP	**Canovanas**	**0.90**	**140**	⇓*e*P			Pg	11 22 41.2	-1.5
CBYP				⇑*e*P			Pb	11 22 41.5	-2.2
CBYP				*e*S			Sg	11 22 54.1	-0.4
SJG	**San Juan**	**0.90**	**160**	⇑*e*P			Pg	11 22 41.5	-1.2
SJG	**San Juan**	**0.90**	**160**	*e*S			Sg	11 22 54.6	+0.3
SJG	**San Juan**	**0.90**	**160**	⇑*e*P			Pg	11 22 41.5	-1.2
SJG				*e*S			Sg	11 22 54.6	+0.3
OBIP	**Obispado Ponce**	**0.92**	**188**	*e*S			Sg	11 22 54.8	-0.4
OBIP	**Obispado Ponce**	**0.92**	**188**	*e*S			Sg	11 22 55.0	-0.2
LSP	**Las Mesas**	**0.98**	**217**	*e*S			Sg	11 22 55.9	-1.2
HUMP	**Col San Antoni**	**1.00**	**144**	⇓*e*P			Pg	11 22 43.4	-1.3
HUMP	**Col San Antoni**	**1.00**	**144**	*e*S			Sg	11 22 56.8	-0.9
HUMP	**Col San Antoni**	**1.00**	**144**	⇓*e*P			Pg	11 22 43.4	-1.3
HUMP				*e*S			Sg	11 22 56.8	-0.9
CRPR	**Cabo Rojo, PR**	**1.13**	**213**	⇑*e*P			Pg	11 22 45.3	-1.9
CRPR	**Cabo Rojo, PR**	**1.13**	**213**	⇑*e*P			Pg	11 22 44.8	-2.3
CRPR	**Cabo Rojo, PR**	**1.13**	**213**	*e*S			Sg	11 23 00.5	-1.3
CRPR	**Cabo Rojo, PR**	**1.13**	**213**	⇑*e*P			Pg	11 22 44.8	-2.3
CRPR				⇑*e*P			Pb	11 22 45.3	-2.3
CRPR				*e*S			Sg	11 23 00.5	-1.3
MTP	**Monte Pirata**	**1.22**	**135**	⇑*e*P			Pg	11 22 46.5	-2.3
MTP	**Monte Pirata**	**1.22**	**135**	⇓*e*P			Pg	11 22 46.6	-2.3
MTP	**Monte Pirata**	**1.22**	**135**	*e*S			Sg	11 23 01.7	-3.0
MTP	**Monte Pirata**	**1.22**	**135**	⇑*e*P			Pg	11 22 46.5	-2.3
MTP				*e*S			Sg	11 23 01.7	-3.0

ISK ***15*** *11:27:42.3, 39°.97N×39°.60E, h8km, MD2.7*
ISCJB ***15*** *11:27:43.2±0.5, 39°.97N±0°.03×39°.51E±0°.05, h10km±5km, Error ellipse: s-maj=6.4km s-min=4.3km az=171.9*
DDA ***15*** *11:27:43.5, 39°.93N×39°.43E, h7km, MD2.9*
CSEM ***15*** *11:27:43.7±0.3, 39°.99N×39°.47E, h12km, MD2.9, Error ellipse: s-maj=8.2km s-min=5.6km az=107.0*

ISC 15 11:27:43.1±0.9, 39°.97N±0°.02×39°.48E±0°.03, h14km±9km, n23, σ0s60/35, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.23**	**204**	*e*PG			**Pg**	**11 27 48.2**	**-0.1**
EZC				*e*SG			**Sb**	**11 27 53.3**	**0.0**
EZC	**Erzincan**	**0.23**	**204**	*e*Pg			**Pb**	**11 27 50.7**	**+1.5**
EZC				*e*Sg			**Sb**	**11 27 53.3**	**0.0**
KELT	**Kelkit**	**0.25**	**317**	*i* P			**Pg**	**11 27 49.1**	**+0.5**
KELT				*i* S			**Sb**	**11 27 53.0**	**-0.8**
KELT	**Kelkit**	**0.25**	**317**	*i* P			**Pg**	**11 27 49.1**	**+0.5**
KELT				*i* S			**Sb**	**11 27 53.0**	**-0.8**
ERZN	**Erzincan**	**0.42**	**154**	*e*PG			**Pg**	**11 27 50.7**	**-0.9**
ERZN				*e*SG			**Sg**	**11 27 56.5**	**-0.9**
GUMT	**Gumushane**	**0.49**	**0**	*e*PG			**Pg**	**11 27 52.9**	**0.0**
GUMT				*e*SG			**Sg**	**11 27 59.8**	**+0.3**
GUMT	**Gumushane**	**0.49**	**0**	*e*Pg			**Pg**	**11 27 52.9**	**0.0**
GUMT				*e*Sg			**Sg**	**11 27 59.8**	**+0.3**
ILIC	**ilic-Erzincan**	**0.87**	**234**	*e*PG			**Pn**	**11 28 01.0**	**0.0**
ILIC	**ilic-Erzincan**	**0.87**	**234**	*e*Pg			**Pn**	**11 28 01.0**	**0.0**
KEMA	**Kemaliye**	**1.03**	**228**	*i* P			**Pb**	**11 28 02.5**	**-0.2**
KEMA				*i* S			**Sb**	**11 28 16.4**	**+0.3**
KEMA	**Kemaliye**	**1.03**	**228**	*i* P			**Pb**	**11 28 02.5**	**-0.2**
KEMA				*i* S			**Sb**	**11 28 16.4**	**+0.3**
KTUT	**Trabzon**	**1.04**	**12**	*e*PG			**Pb**	**11 28 02.7**	**-0.2**
KTUT	**Trabzon**	**1.04**	**12**	*e*Pg			**Pb**	**11 28 02.7**	**-0.2**
PTK	**Pertek**	**1.07**	**184**	*e*PN			**Pb**	**11 28 03.7**	**+0.1**
PTK	**Pertek**	**1.07**	**184**	*e*Pn			**Pb**	**11 28 03.7**	**+0.1**
GRSN	**GIRESUNGRSN**	**1.33**	**316**	*i* P			**Pb**	**11 28 07.7**	**-0.1**
GRSN				*i* S			**Sb**	**11 28 24.6**	**-0.1**
GRSN	**GIRESUNGRSN**	**1.33**	**316**	*i* P			**Pb**	**11 28 07.7**	**-0.1**
GRSN				*i* S			**Sb**	**11 28 24.6**	**-0.1**
EZM	**Erzurum**	**1.45**	**92**	*e*PN			**Pn**	**11 28 08.2**	**-0.9**
ERZM	**Erzurum**	**1.45**	**92**	*i* P			**Pg**	**11 28 11.6**	**+0.6**
ERZM	**Erzurum**	**1.45**	**92**	*i* P			**Pg**	**11 28 11.6**	**+0.6**
RSDY	**Resadiye-TOKAT**	**1.70**	**285**	*e*PN			**Pb**	**11 28 14.5**	**+0.3**
RSDY	**Resadiye-TOKAT**	**1.70**	**285**	*e*Pn			**Pb**	**11 28 14.5**	**+0.3**
DAGI	**Agillar**	**2.16**	**58**	*i* P			**Pb**	**11 28 22.1**	**0.0**
DAGI				*i* S			**Sb**	**11 28 50.6**	**+1.8**

IDC 15 11:47:11.7±2.1, 4°.36N×127°.22E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=158.6km s-min=25.8km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.15**	**164**	P			P	11 52 37.1	-1.7
	0.5nm,0.6s,baz=344,slow=10,SNR=7.4								
ASAR	**Alice Springs**	**28.61**	**167**	P			P	11 53 10.4	+0.4
	0.3nm,0.7s,baz=348,slow=8.5,SNR=4.6								
STKA	**Stephens Creek**	**38.55**	**160**	P			P	11 54 37.6	+1.3
	2.7nm,0.9s,baz=336,slow=10,SNR=4.3								
MKAR	**Makanchi Array**	**57.32**	**325**	P			P	11 57 01.5	-0.1
	0.2nm,0.4s,baz=120,slow=7.8,SNR=4.8								

WEL 15 12:03:02.3±0.4, 37°.07S×176°.97E, h238km±3km, ML4.2/20, 11C-7D, Error ellipse: s-maj=5.8km s-min=4.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.84**	**203**	PN			Pn	12 03 35.0	-0.1
OPRZ				SN			S	12 04 00.9	-0.2
MARZ	**Manawahe**	**0.94**	**195**	⇑PN			Pn	12 03 36.0	+0.2
MARZ				SN			S	12 04 03.5	+1.4
MXZ	**Matakaoa Point**	**1.17**	**115**	⇓PN			Pn	12 03 37.7	+0.6
MXZ				SN			S	12 04 03.3	-1.1
URZ	**Urewera**	**1.19**	**175**	⇑PN			Pn	12 03 36.9	-0.2
URZ				SN			S	12 04 03.0	-1.7
TARZ	**Mount Tarawera**	**1.22**	**198**	PN			Pn	12 03 38.1	+0.5
RRRZ	**Republican Roa**	**1.32**	**196**	⇑PN			Pn	12 03 38.3	+0.2
RRRZ				SN			S	12 04 05.2	-1.1
MWZ	**Matawai**	**1.33**	**161**	⇑PN			Pn	12 03 38.3	0.0
MWZ				SN			S	12 04 05.5	-1.1
TOZ	**Tahuroa Road**	**1.34**	**240**	⇑PN			Pn	12 03 38.2	-0.1
PUZ	**Puketiti**	**1.43**	**135**	⇑PN			Pn	12 03 39.6	+0.7
PUZ				SN			S	12 04 06.9	-0.8
PRRZ	**Plateau Road**	**1.50**	**198**	PN			Pn	12 03 39.6	+0.2
CNGZ	**Carnagh Statio**	**1.71**	**146**	⇓PN			Pn	12 03 42.6	+1.4
RAHZ	**Arahi**	**1.84**	**177**	PN			Pn	12 03 42.9	+0.5
RAHZ				SN			S	12 04 13.6	-0.3
HATZ	**Hinemaiaia**	**1.94**	**201**	PN			Pn	12 03 42.9	-0.3
PRGZ	**Paritu Road**	**1.98**	**159**	PN			Pn	12 03 44.4	+0.8
KNZ	**Kokohu**	**2.02**	**164**	PN			Pn	12 03 44.1	+0.3
NMHZ	**Naumai**	**2.03**	**184**	⇓PN			Pn	12 03 44.8	+0.7
RITZ	**Rihia Road**	**2.10**	**205**	PN			Pn	12 03 44.6	0.0
BKZ	**Black Stump Fm**	**2.12**	**190**	⇑PN			Pn	12 03 44.4	-0.6
BKZ				SN			S	12 04 16.2	-2.5
MHGZ	**Mahia Peninsul**	**2.20**	**161**	PN			Pn	12 03 46.2	+0.6
HIZ	**Hauiti**	**2.21**	**229**	⇓PN			Pn	12 03 45.8	0.0
KRVZ	**Karewarewa**	**2.28**	**207**	PN			Pn	12 03 46.3	-0.3
WTVZ	**West Tongariro**	**2.31**	**208**	PN			Pn	12 03 46.5	-0.4
OTVZ	**Oturere**	**2.33**	**206**	⇓PN			Pn	12 03 47.1	-0.1
TWVZ	**Taurewa**	**2.33**	**211**	PN			Pn	12 03 46.8	-0.3
NGZ	**Ngauruhoe**	**2.36**	**207**	PN			Pn	12 03 47.3	-0.1
MCHZ	**McNeill Hill**	**2.38**	**185**	PN			Pn	12 03 47.7	+0.3
WPVZ	**Whakapapa**	**2.41**	**207**	PN			Pn	12 03 46.4	-1.5
TUVZ	**Tukino**	**2.43**	**205**	⇑PN			Pn	12 03 47.7	-0.4
FWVZ	**Far West T-bar**	**2.45**	**207**	PN			Pn	12 03 47.7	-0.7
TRVZ	**Turoa**	**2.49**	**206**	PN			Pn	12 03 48.4	-0.5
WNVZ	**Wahianoa**	**2.50**	**205**	PN			Pn	12 03 48.3	-0.6
BHHZ	**Black Hill Sta**	**2.52**	**196**	⇑PN			Pn	12 03 48.1	-0.8
BHHZ				SN			S	12 04 22.5	-3.2
MOVZ	**Moawhango**	**2.52**	**202**	PN			Pn	12 03 48.0	-1.0
CKHZ	**Cape Kidnapper**	**2.58**	**178**	PN			Pn	12 03 49.0	-0.5
MTVZ	**Mangateitei**	**2.59**	**207**	PN			Pn	12 03 49.4	-0.3
VRZ	**Vera Road**	**2.69**	**220**	PN			Pn	12 03 50.4	-0.2
KAHZ	**Kahuranaki**	**2.72**	**182**	PN			Pn	12 03 50.8	-0.2
PNHZ	**Pukenui**	**2.90**	**192**	PN			Pn	12 03 51.8	-1.1
PNHZ				SN			S	12 04 30.5	-2.5
PXZ	**Pawanui**	**2.96**	**182**	PN			Pn	12 03 52.7	-0.7
WPHZ	**Waipukurau**	**3.02**	**188**	PN			Pn	12 03 53.4	-0.8
TSZ	**Takapari Road**	**3.09**	**195**	PN			Pn	12 03 53.8	-1.2
WAZ	**Wanganui**	**3.10**	**210**	⇓PN			Pn	12 03 54.4	-0.7
PRHZ	**Porangahau**	**3.20**	**185**	PN			Pn	12 03 55.3	-0.9
DVHZ	**Dannevirke**	**3.28**	**191**	PN			Pn	12 03 55.8	-1.4
POWZ	**Post Office Ro**	**3.45**	**196**	PN			Pn	12 03 57.5	-1.5
SFZ	**Birch Farm**	**3.55**	**189**	PN			Pn	12 03 58.0	-1.4
MRZ	**Mangatainoka R**	**3.75**	**196**	⇑PN			Pn	12 04 00.5	-2.0
TIWZ	**Tintock**	**3.79**	**193**	PN			Pn	12 04 01.5	-1.6
OGWZ	**Otaki Gorge**	**4.00**	**200**	PN			Pn	12 04 03.3	-2.1
KIW	**Kapiti Island**	**4.11**	**202**	PN			Pn	12 04 04.5	-2.3
TMWZ	**Te Maipa**	**4.12**	**191**	PN			Pn	12 04 05.3	-1.6
MTW	**Mount Morrison**	**4.24**	**195**	PN			Pn	12 04 05.9	-2.5
CAW	**Cannon Point**	**4.29**	**200**	PN			Pn	12 04 06.5	-2.5
DUWZ	**D'Urville Isla**	**4.42**	**212**	PN			Pn	12 04 07.9	-2.7
TRWZ	**Traveller**	**4.43**	**193**	PN			Pn	12 04 09.0	-1.7
PAWZ	**Paruwai Farm**	**4.47**	**195**	PN			Pn	12 04 09.0	-2.1
MSWZ	**Moikau Station**	**4.54**	**197**	PN			Pn	12 04 09.2	-2.8
WEL	**Wellington**	**4.54**	**201**	PN			Pn	12 04 09.2	-2.8
SNZO	**South Karori**	**4.58**	**202**	PN			Pn	12 04 09.5	-2.9
BHW	**Baring Head**	**4.63**	**200**	PN			Pn	12 04 10.2	-2.7
**

ISCJB ***15*** *12:20:06.9±0.4, 12.2°N±0.09°×87.09°W±0.07°, h86km±6km, mb3.9/17, Error ellipse: s-maj=18.0km s-min=3.9km az=38.4*

IDC ***15*** *12:20:06.6±1.9, 12.4°N×86.89°W, h63km±17km, mb3.7/15, mb1 3.9/17, mb1mx3.7/28, mbtmp3.7/17, MS3.3/1, Ms1 3.3/1, ms1mx3.0/29, Error ellipse: s-maj=31.8km s-min=11.1km az=61.0*

CASC ***15*** *12:20:07.7±3.0, 11.79°N×87.44°W, h35km±25km, MD4.4*

ISC 15 12:20:07.9±0.9, 12.24N±0.09°×87.12W±0.08, h76km±9km, n41, σ1°19/53, mb4.0/17, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GBS2	**Las Lilas**	**2.15**	**130**	*iP*	**Pn**	**12 20 40.1**	**-1.6**
GB1A	**Borinquen Arri**	**2.20**	**130**	*iP*	**Pn**	**12 20 41.7**	**-0.8**
GB1A				*iS*	**Sn**	**12 21 09.2**	**+0.3**
LAPC	**Finca la Perla**	**2.21**	**131**	*iP*	**Pn**	**12 20 41.6**	**-0.9**
NY14	**Universidad de**	**2.22**	**135**	*iP*	**Pn**	**12 20 42.2**	**-0.4**
NY14				*iS*	**Sn**	**12 21 09.4**	**+0.2**
MESS	**Mesas**	**2.41**	**128**	*iP*	**Pn**	**12 20 44.6**	**-0.6**
MESS				*iS*	**Sn**	**12 21 13.1**	**-0.7**
CUI	**Cuipilapa**	**2.48**	**129**	*iP*	**Pn**	**12 20 46.0**	**-0.2**
PTEN	**Parque Tenorio**	**2.58**	**126**	*iP*	**Pn**	**12 20 46.8**	**-0.8**
AMAS	**Alto Masis**	**2.64**	**128**	*iP*	**Pn**	**12 20 48.6**	**+0.2**
JTS	**JuntasAbangare**	**2.88**	**132**	P	**Pn**	**12 20 50.8**	**-0.7**
	52nm,0.3s,baz=320,slow=20,SNR=48						
JTS				S	**Sn**	**12 21 25.9**	**+0.8**
	63nm,0.3s,baz=306,slow=21,SNR=6.2						
MRL	**Marmol**	**3.76**	**319**	*eP*	Pn	12 21 08.4	+4.8
MRL				*eS*	Sn	12 21 54.6	+7.7
SJS	**Escuela Geolog**	**3.78**	**127**	*eP*	**Pn**	**12 21 05.2**	**+1.3**
PCG	**Pacaya**	**4.01**	**303**	*eP*	**Pn**	**12 21 07.8**	**+0.6**
PCG				*eS*	**Sn**	**12 21 53.5**	**+0.3**
QCR	**Quepos**	**4.03**	**134**	*eP*	**Pn**	**12 21 08.2**	**+0.9**
FUG	**Fuego 3**	**4.24**	**302**	*eP*	**Pn**	**12 21 11.2**	**+1.0**
FUG				*eS*	**Sn**	**12 21 58.2**	**-0.3**
BUS	**Buena Vista**	**4.25**	**129**	*eP*	**Pn**	**12 21 12.5**	**+1.9**
TP2	**Tecpan 2**	**4.56**	**304**	*eP*	**Pn**	**12 21 16.9**	**+2.2**
TP2				*eS*	**Sn**	**12 22 08.6**	**+1.9**
ACR	**Cerro Adams**	**5.27**	**132**	*eP*	**Pn**	**12 21 25.5**	**+1.2**
TEIG	**Tepich**	**8.02**	**352**	P	**Pn**	**12 22 02.8**	**+1.1**
	1.0nm,0.3s,baz=161,slow=22,SNR=7.0						
CMIG	**Matias Romero**	**8.93**	**304**	P	**Pn**	**12 22 13.9**	**-0.2**
	0.7nm,0.3s,baz=112,slow=12,SNR=9.6						
CMIG				S	**Sn**	**12 23 51.8**	**-1.2**
	0.4nm,0.3s,baz=69,slow=23,SNR=3.9						
CMIG				LR	LR	12 26 19.1	
	comp=Z,191nm,21.7s,baz=80,slow=41						
SJG	**San Juan**	**21.06**	**71**	P	**P**	**12 24 48.4**	**+2.6**
	4.9nm,0.7s,baz=195,slow=0.4,SNR=3.8						
ATAH	**Atahualpa**	**21.11**	**155**	P	**P**	**12 24 49.1**	**+2.2**
	9.1nm,0.9s,baz=314,slow=9.8,SNR=6.0						
TXAR	**Lajitas Array**	**22.94**	**320**	P	**P**	**12 25 05.5**	**-0.4**
	7.1nm,0.6s,baz=139,slow=9.3,SNR=93						
TXAR				PcP	**PcP**	**12 28 54.6**	**+0.9**
	0.7nm,0.9s,baz=138,slow=5.6,SNR=4.9						
TXAR				ScP	**ScP**	**12 32 28.1**	**+3.1**
	0.4nm,0.7s,baz=144,slow=5.8,SNR=5.6						
TKL	**Tuckaleechee C**	**23.51**	**7**	P	**P**	**12 25 12.9**	**+1.8**
	9.1nm,0.8s,baz=196,slow=12,SNR=8.4						
ANMO	**Albuquerque**	**28.62**	**325**	P	**P**	**12 25 58.5**	**+1.2**
	0.8nm,0.6s,baz=159,slow=8.9,SNR=5.5						
PDAR	**Pinedale Array**	**36.11**	**332**	P	**P**	**12 27 02.7**	**-0.1**
	1.2nm,0.8s,baz=130,slow=9.9,SNR=8.8						
NVAR	**Mina Array Bea**	**38.07**	**319**	P	**P**	**12 27 19.7**	**+0.2**
	0.7nm,0.4s,baz=130,slow=8.2,SNR=4.8						
NVAR				PcP	**PcP**	**12 29 33.9**	**+0.6**
	0.8nm,0.6s,baz=120,slow=5.3,SNR=3.4						
SIV	**San Ignacio**	**38.09**	**137**	P	**P**	**12 27 18.7**	**-0.9**
	10nm,0.8s,baz=324,slow=9.2,SNR=46						
ULM	**Lac du Bonnet**	**38.58**	**351**	P	**P**	**12 27 21.4**	**-1.7**
	1.3nm,0.5s,baz=164,slow=12,SNR=3.6						
SCHQ	**Schefferville**	**45.39**	**16**	P	**P**	**12 28 18.1**	**-0.6**
	2.4nm,0.8s,baz=20,slow=19,SNR=7.3						
CPUP	**Villa Florida**	**48.05**	**143**	P	**P**	**12 28 39.8**	**0.0**
	0.3nm,0.3s,baz=212,slow=8.5,SNR=2.7						
FRB	**Frobisher Bay**	**53.08**	**10**	P	**P**	**12 29 14.9**	**-2.2**
	1.2nm,0.6s,baz=225,slow=9.4,SNR=2.4						
YKA	**Yellowknife Ar**	**53.90**	**345**	P	**P**	**12 29 21.7**	**-1.4**
	0.6nm,0.8s,baz=139,slow=7.6,SNR=12						
YKA				PcP	**PcP**	**12 30 26.7**	**-1.0**
	0.2nm,0.6s,baz=147,slow=4.2,SNR=5.1						
PLCA	**Paso Flores**	**54.89**	**165**	P	**P**	**12 29 30.9**	**+0.2**
	4.1nm,0.9s,baz=333,slow=7.7,SNR=9.7						
RES	**Resolute Bay**	**62.58**	**358**	P	**P**	**12 30 22.0**	**-1.5**
	0.8nm,0.6s,baz=192,slow=8.3,SNR=6.7						
INK	**Inuvik**	**63.50**	**342**	P	**P**	**12 30 29.7**	**+0.1**
	0.9nm,1.0s,baz=250,slow=3.9,SNR=2.9						
ILAR	**Eielson Array**	**66.34**	**336**	P	**P**	**12 30 48.4**	**+0.2**
	0.2nm,0.5s,baz=151,slow=4.0,SNR=7.2						
SONM	**Songino Array**	**119.00**	**350**	PKP	**PKPdf**	**12 38 47.2**	**-0.9**
	0.2nm,0.5s,baz=347,slow=1.6,SNR=3.0						
KSRS	**Korea Array**	**120.62**	**328**	PKP	**PKPdf**	**12 38 50.8**	**-0.5**
	0.8nm,0.6s,baz=41,slow=2.2,SNR=4.2						
STKA	**Stephens Creek**	**131.26**	**238**	PKP	**PKPdf**	**12 39 12.1**	**+0.3**
	1.5nm,0.7s,baz=34,slow=3.6,SNR=3.9						
ASAR	**Alice Springs**	**139.49**	**248**	PKP	**PKPdf**	**12 39 27.8**	**+0.3**
	1.1nm,0.9s,baz=88,slow=1.4,SNR=10						
CMAR	**Chiang Mai Arr**	**148.92**	**349**	PKP	**PKPdf**	**12 39 44.1**	**+0.2**
	0.6nm,0.6s,baz=89,slow=4.8,SNR=5.7						
CMAR				PKPbc	**PKPbc**	**12 39 47.2**	**-0.7**
	1.4nm,0.7s,baz=345,slow=3.5,SNR=11						

ISCJB ***15*** *12:33:21.5±1.5, 6.58°N±0.09°×127.0°E±0.1, h65km±14km, mb3.9/9, Error ellipse: s-maj=22.3km s-min=11.9km az=154.2*

IDC ***15*** *12:33:22.3±4.0, 6.61°N×126.91°E, h56km±35km, mb3.7/9, mb1 3.9/9, mb1mx3.5/24, mbtmp3.7/9, Error ellipse: s-maj=41.6km s-min=12.6km az=65.0*

MAN ***15*** *12:33:24, 6.67°N×126.65°E, h4km, mb4.8, ML3.7, MS3.8*

ISC 15 12:33:24.1±2.2, 6.52N±0.09°×126.8E±0.2, h70km±21km, n19, σ1°22/23, mb3.9/9, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.71**	**307**	*eP*	Pn	12 33 34.2	-4.8
MATI				*eS*	Sn	12 33 41.7	-8.5
DAV	**Davao City (W)**	**1.35**	**294**	P	**Pn**	**12 33 45.7**	**-1.5**
	41nm,0.3s,baz=106,slow=2.3,SNR=6.9						
DAV				S	**Sn**	**12 34 03.0**	**-1.4**
	213nm,0.3s,baz=270,slow=22,SNR=15						
DMPH	**Davao City--Mi**	**1.42**	**293**	*eP*	**Pn**	**12 33 46.6**	**-1.4**
DMPH				*iS*	**Sn**	**12 34 08.8**	**+2.7**
KCP	**Kidapawan**	**1.79**	**286**	*iP*	**Pn**	**12 33 53.2**	**+0.2**
KCP				*iS*	**Sn**	**12 34 14.9**	**-0.1**
BUKP	**Musuan**	**2.21**	**308**	*eP*	**Pn**	**12 33 57.0**	**-1.7**
CTBH	**Cotabato--PC H**	**2.66**	**285**	*iP*	**Pn**	**12 34 06.4**	**+1.8**
BUTP	**Butuan**	**2.71**	**334**	*eP*	**Pn**	**12 34 06.7**	**+1.3**
CGP	**Cagayan de Oro**	**2.86**	**312**	*iP*	**Pn**	**12 34 08.9**	**+1.5**
CGP				*iS*	**Sn**	**12 34 41.5**	**+0.8**
PAGZ	**Pagadian**	**3.66**	**291**	*eP*	**Pn**	**12 34 18.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**24.49**	**183**	P	**P**	**12 38 37.3**	**+0.4**
	5.8nm,0.9s,baz=6.9,slow=4.0,SNR=6.6						
WRA	**Warramunga Arr**	**27.32**	**164**	P	**P**	**12 39 01.6**	**-0.9**
	1.9nm,0.6s,baz=344,slow=10,SNR=19						
ASAR	**Alice Springs**	**30.79**	**167**	P	**P**	**12 39 33.4**	**0.0**
	0.9nm,0.3s,baz=342,slow=6.9,SNR=37						
ASAR				PcP	**PcP**	**12 42 29.6**	**+0.2**
	0.4nm,0.6s,baz=350,slow=2.9,SNR=4.7						
NWAO	**Narrogin (SRO)**	**40.28**	**193**	P	**P**	**12 40 55.3**	**+0.9**
	4.9nm,0.6s,baz=37,slow=8.4,SNR=6.6						
STKA	**Stephens Creek**	**40.70**	**161**	P	**P**	**12 40 58.2**	**+0.3**
	2.6nm,0.5s,baz=308,slow=6.8,SNR=14						
MKAR	**Makanchi Array**	**55.35**	**324**	P	**P**	**12 42 50.4**	**-0.5**
	0.5nm,0.4s,baz=116,slow=8.0,SNR=14						
KURBB	**Kurchatov Arra**	**59.47**	**326**	P	**P**	**12 43 19.0**	**-0.7**
	0.4nm,0.4s,baz=127,slow=6.0,SNR=5.4						
BVAR	**Borovoye Array**	**65.06**	**326**	P	**P**	**12 43 56.8**	**-0.3**
	0.5nm,0.5s,baz=140,slow=7.4,SNR=3.8						
ILAR	**Eielson Array**	**82.56**	**26**	P	**P**	**12 45 38.5**	**-0.7**
	0.3nm,0.7s,baz=235,slow=5.2,SNR=5.9						
TORD	**Torodi Ar. Bea**	**122.11**	**290**	PKP	**PKPdf**	**12 52 11.0**	**-0.8**
	0.4nm,0.6s,baz=59,slow=1.4,SNR=2.4						

IDC 15 12:36:27.2±1.8, 16.39S×176.14W, h366km±69km, mb2.9/3, mb1 3.2/4, mb1mx3.0/18, mbtmp3.0/4, Error ellipse: s-maj=299.1km s-min=24.4km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.88**	**60**	P	Pn	12 37 47.2	+0.8
	4.1nm,0.3s,baz=8.0,slow=20,SNR=8.7						
AFI				S	S	12 38 50.3	-0.1
	1.3nm,0.3s,baz=52,slow=23,SNR=2.9						
WRA	**Warramunga Arr**	**47.06**	**258**	P	P	12 44 23.4	-0.6
	0.1nm,0.4s,baz=92,slow=8.3,SNR=7.8						
ASAR	**Alice Springs**	**47.30**	**253**	P	P	12 44 25.9	+0.1
	1.2nm,0.4s,baz=90,slow=7.7,SNR=38						
ILAR	**Eielson Array**	**83.94**	**12**	P	P	12 48 16.6	0.0
	0.2nm,0.4s,baz=220,slow=4.5,SNR=8.3						

IDC 15 12:47:55.6±1.2, 3.68N×126.81E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/20, mbtmp3.6/6, MS3.2/1, Ms1 3.2/1, ms1mx2.4/27, Error ellipse: s-maj=120.3km s-min=17.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.67**	**183**	LR	LR	13 01 54.0	
	comp=Z,76nm,21.3s,baz=200,slow=39						
WRA	**Warramunga Arr**	**24.61**	**163**	P	P	12 53 17.4	-0.5
	2.6nm,0.6s,baz=344,slow=11,SNR=38						
ASAR	**Alice Springs**	**28.05**	**166**	P	P	12 53 49.1	+0.2
	0.2nm,0.4s,baz=345,slow=10,SNR=14						
STKA	**Stephens Creek**	**38.05**	**159**	P	P	12 55 16.3	+0.3
	0.9nm,0.5s,baz=330,slow=13,SNR=3.2						
SONM	**Songino Array**	**47.37**	**341**	P	P	12 56 32.4	+0.8
	0.2nm,0.3s,baz=152,slow=6.4,SNR=3.1						
MKAR	**Makanchi Array**	**57.64**	**325**	P	P	12 57 45.8	-2.0
	0.2nm,0.4s,baz=129,slow=7.3,SNR=5.0						
KURBB	**Kurchatov Arra**	**61.83**	**327**	P	P	12 58 17.2	+0.8
	0.3nm,0.3s,baz=125,slow=6.4,SNR=4.3						

NIED ***15*** *12:54:00, 37.70N×142.10E, h32km, Mw3.9 Best double couple: M0 8.38000×10^14 NP1: φs 329.00000°, δ84.00000°, λ-93.00000°. NP2: φs 173.00000°, δ7.00000°, λ-66.00000°.*

ISCJB ***15*** *12:54:12.4±0.8, 37.69°N±0.03°×142.26E±0.05, h33km±7km, mb4.0/24, Error ellipse: s-maj=7.3km s-min=4.6km az=19.9*

JMA ***15*** *12:54:13.1±0.1, 37.70N×142.14E, h33km±2km, M4.5*

JMA Felt I J1.

NEIC ***15*** *12:54:13.1, 37.70N×142.14E, h33km, mb4.5/7, MW3.9(NIED), After JMA.*

NEIC Recorded [1 JMA] in Miyagi.

IDC ***15*** *12:54:15.3±2.4, 37.67N×142.22E, h39km±22km, mb3.7/16, mb1 3.9/23, mb1mx3.8/32, mbtmp3.8/23, ML3.8/6, MS3.2/4, Ms1 3.2/4, ms1mx2.9/38, Error ellipse: s-maj=17.7km s-min=12.5km az=113.0*

ISC 15 12:54:13.3±2.7, 37.72N±0.05°×142.15E±0.07, h24km±18km, n70, σ0°77/76, mb4.0/24, 4C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.96**	**319**	*i*P	**Pn**	**12 54 30.7**	**-0.7**
JIO				S	**Sb**	**12 54 43.1**	**-0.6**
JFK	**Kawauchi**	**1.07**	**251**	*i*P	**Pn**	**12 54 31.7**	**-1.2**
JFK				*eS*	**Sn**	**12 54 45.2**	**-1.9**
JMM	**Marumori**	**1.08**	**278**	*i*P	**Pn**	**12 54 32.2**	**-0.8**
JMM				S	**Sn**	**12 54 45.9**	**-1.3**
JOU	**Okura**	**1.33**	**299**	P	**Pn**	**12 54 36.8**	**+0.3**
JOU				S	**Sn**	**12 54 53.7**	**+0.1**
JMK	**Ichinoseki**	**1.43**	**330**	P	**Pn**	**12 54 37.6**	**-0.2**
JMK				S	**Sn**	**12 54 55.4**	**-0.4**
JFT	**Otama**	**1.45**	**262**	*i*P	**Pn**	**12 54 38.3**	**+0.2**
JFT				S	**Sn**	**12 54 56.4**	**0.0**
JYS	**Shirataka**	**1.72**	**287**	P	**Pn**	**12 54 42.1**	**+0.3**
JYK	**Kaneyama**	**1.84**	**311**	P	**Pn**	**12 54 44.1**	**+0.6**
JYK				*eS*	**Sn**	**12 55 06.3**	**+0.2**
JOM	**Ohasama**	**1.87**	**339**	P	**Pn**	**12 54 43.9**	**0.0**
JOM				*eS*	**Sn**	**12 55 07.0**	**+0.2**
JFY	**Yanaizu**	**1.97**	**262**	P	**Pn**	**12 54 45.9**	**+0.7**
JFY				S	**Sn**	**12 55 10.4**	**+1.3**
JRG	**Rokugo**	**2.05**	**325**	*i*P	**Pn**	**12 54 47.4**	**+1.1**
JRG				*eS*	**Sn**	**12 55 12.9**	**+1.8**
JYA	**Atsumi**	**2.11**	**295**	P	**Pn**	**12 54 47.8**	**+0.7**
JYA				*eS*	**Sn**	**12 55 13.3**	**+0.8**
MJAR	**Matsushiro Arr**	**3.36**	**251**	Pn	**Pn**	**12 55 06.0**	**+1.6**
MJAR	**Matsushiro Arr**	**3.36**	**251**	Pn	**Pn**	**12 55 05.9**	**+1.6**
	6.7nm,0.3s,baz=64,slow=14,SNR=56						
MJAR				LR	LR	12 56 39.2	
	comp=Z,724nm,19.6s,baz=75,slow=43						
MAJO	**Matsushiro**	**3.36**	**251**	*e*Pn	**Pn**	**12 55 05.8**	**+1.4**
MAT	**Matsushiro**	**3.36**	**251**	P	**Pn**	**12 55 05.8**	**+1.4**
MAT				S	**Sb**	**12 55 52.2**	**-0.5**
ERM	**Erimo**	**4.36**	**10**	*e*Pn	**Pn**	**12 55 17.3**	**-0.8**
ERM				*e*Sn	**Sn**	**12 56 05.6**	**-2.4**
JHJ	**Hachijo jima 2**	**4.98**	**203**	Pn	**Pn**	**12 55 25.9**	**-0.7**
	37nm,0.3s,baz=36,slow=4.7,SNR=20						
JHJ				Sn	**Sn**	**12 56 22.2**	**-1.3**
	26nm,0.3s,baz=67,slow=23,SNR=6.4						
JHJ				LR	LR	12 57 12.7	
	comp=Z,138nm,18.3s,baz=142,slow=36						
ASAJ	**Asahikawa**	**6.40**	**3**	*e*Pn	**Pn**	**12 55 45.8**	**-0.3**
ASAJ				Sn	**Sn**	**12 56 58.1**	**-0.2**
ASAJ	**Asahikawa**	**6.40**	**3**	Pn	**Pn**	**12 55 46.4**	**+0.4**
	6.2nm,0.3s,baz=208,slow=5.4,SNR=27						
ASAJ				Sn	**Sn**	**12 56 58.1**	**-0.2**
	2.0nm,0.3s,baz=35,slow=30,SNR=2.5						
USRK	**Ussuriysk Arra**	**10.03**	**313**	Pn	Pn	12 56 39.7	+3.9
	0.2nm,0.3s,baz=143,slow=50,SNR=3.1						
JNU	**Nakatsue**	**10.28**	**247**	Pn	Pn	12 56 42.5	+3.1
JNU	**Nakatsue**	**10.28**	**247**	Pn	Pn	12 56 42.5	+3.1
	0.2nm,0.3s,baz=77,slow=10.0,SNR=3.6						
KSRS	**Korea Array**	**11.29**	**273**	Pn	Pn	12 56 58.2	+5.1
	0.2nm,0.3s,baz=86,slow=14,SNR=5.8						
KSRS				LR	LR	13 00 33.0	
	comp=Z,97nm,20.3s,baz=191,slow=33						
KSAR	**Wonju Array Be**	**11.32**	**273**	Pn	Pn	12 56 58.2	+4.6
JOW	**Kunigami**	**15.97**	**231**	Pn	**Pn**	**12 57 57.4**	**+1.0**
JOW	**Kunigami**	**15.97**	**231**	Pn	**Pn**	**12 57 57.4**	**+1.0**
	0.6nm,0.3s,baz=90,slow=29,SNR=3.1						
PETK	**Petropavlovsk-**	**18.80**	**30**	P	**Pn**	**12 58 31.6**	**+0.1**
PETK	**Petropavlovsk-**	**18.80**	**30**	P	**Pn**	**12 58 31.6**	**+0.1**
	0.1nm,0.3s,baz=218,slow=8.9,SNR=3.6						
PETK				LR	LR	13 04 28.3	
	comp=Z,106nm,20.5s,baz=212,slow=33						
ULN	**Ulaanbaatar**	**27.46**	**303**	*e*P	**P**	**12 59 57.8**	**+0.2**
	2.4nm,0.5s						
SONM	**Songino Array**	**27.89**	**303**	P	**P**	**13 00 02.1**	**+0.7**
SONM	**Songino Array**	**27.89**	**303**	P	**P**	**13 00 02.1**	**+0.7**
	3.0nm,0.7s,baz=101,slow=8.8,SNR=26						
ENH	**Enshi**	**27.98**	**264**	*e*P	**P**	**13 00 01.6**	**-0.6**
	9.3nm,0.8s						
ZALV	**Zalesovo Beam**	**41.89**	**312**	P	**P**	**13 02 01.6**	**+0.1**
ZALV	**Zalesovo Beam**	**41.89**	**312**	P	**P**	**13 02 01.6**	**+0.1**
	0.7nm,0.4s,baz=82,slow=7.9,SNR=4.8						
CMAR	**Chiang Mai Arr**	**42.24**	**255**	P	**P**	**13 02 05.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**42.24**	**255**	P	**P**	**13 02 05.1**	**+0.3**
	1.1nm,1.0s,baz=69,slow=8.1,SNR=4.2						
MK31	**Makanchi Array**	**44.25**	**302**	*e*P	**P**	**13 02 20.2**	**-0.5**
MKAR	**Makanchi Array**	**44.25**	**302**	P	**P**	**13 02 21.1**	**+0.3**
MKAR	**Makanchi Array**	**44.25**	**302**	P	**P**	**13 02 21.1**	**+0.3**
	1.1nm,0.7s,baz=88,slow=8.6,SNR=18						
KURK	**Kurchatov**	**45.97**	**308**	*e*P	**P**	**13 02 34.1**	**-0.2**
	5.3nm,0.7s						
KURBB	**Kurchatov Arra**	**46.04**	**308**	P	**P**	**13 02 34.6**	**-0.3**
	1.8nm,0.5s,baz=82,slow=8.0,SNR=11						
KDAK	**Kodiak Island**	**46.20**	**42**	P	**P**	**13 02 35.7**	**-0.3**
KDAK	**Kodiak Island**	**46.20**	**42**	P	**P**	**13 02 35.7**	**-0.3**
	5.9nm,0.9s,baz=171,slow=23,SNR=3.8						
ILAR	**Eielson Array**	**48.60**	**33**	P	**P**	**13 02 54.5**	**-0.1**
ILAR	**Eielson Array**	**48.60**	**33**	P	**P**	**13 02 54.5**	**-0.1**
	0.9nm,0.6s,baz=262,slow=6.2,SNR=15						
TKM2	**Tokmak 2**	**49.82**	**298**	*e*P	**P**	**13 03 04.8**	**+0.3**
	3.7nm,0.6s						
BVAR	**Borovoye Array**	**50.54**	**312**	P	P	13 03 16.4	+6.8
BVAR	**Borovoye Array**	**50.54**	**312**	P	P	13 03 16.4	+6.8
	0.6nm,0.5s,baz=88,slow=11,SNR=5.0						
PNL	**Peninsula**	**52.73**	**39**	*e*P	P	13 03 22.6	-3.3
	17nm,0.5s						
INK	**Inuvik**	**53.51**	**27**	P	**P**	**13 03 31.9**	**+0.6**
INK	**Inuvik**	**53.51**	**27**	P	**P**	**13 03 31.9**	**+0.6**
	0.3nm,0.5s,baz=223,slow=20,SNR=4.9						
WRAB	**Tennant Creek**	**57.81**	**189**	*e*P	**P**	**13 04 01.8**	**-1.1**
	2.2nm,0.5s						
WRA	**Warramunga Arr**	**57.83**	**189**	P	**P**	**13 04 02.1**	**-0.8**
WRA	**Warramunga Arr**	**57.83**	**189**	P	**P**	**13 04 02.1**	**-0.8**
	2.9nm,0.6s,baz=6.2,slow=7.3,SNR=49						
ABKAR	**Akbulak array**	**57.94**	**310**	*e*P	**P**	**13 04 03.0**	**-0.5**
	1.1nm,0.5s						
ASAR	**Alice Springs**	**61.55**	**189**	P	**P**	**13 04 28.1**	**-0.4**
	0.9nm,0.7s,baz=16,slow=7.3,SNR=15						
YKA	**Yellowknife Ar**	**62.92**	**31**	P	**P**	**13 04 37.1**	**-0.2**
YKA	**Yellowknife Ar**	**62.92**	**31**	P	**P**	**13 04 37.1**	**-0.2**
	0.3nm,0.6s,baz=303,slow=6.7,SNR=9.6						
FINES	**FINESS Array B**	**68.48**	**332**	P	**P**	**13 05 13.2**	**0.0**
FINES	**FINESS Array B**	**68.48**	**332**	P	**P**	**13 05 13.1**	**0.0**
	0.9nm,0.6s,baz=24,slow=10,SNR=4.9						
NOA	**NORSAR Array B**	**73.78**	**337**	P	P	13 05 47.2	+1.9
NOA	**NORSAR Array B**	**73.78**	**337**	P	P	13 05 47.2	+1.9
	0.8nm,0.9s,baz=40,slow=6.0,SNR=2.7						
AKASG	**Malin Array Be**	**74.11**	**322**	P	**P**	**13 05 47.4**	**0.0**
AKASG	**Malin Array Be**	**74.11**	**322**	P	**P**	**13 05 47.4**	**0.0**
	0.2nm,0.3s,baz=44,slow=6.3,SNR=2.6						
PDAR	**Pinedale Array**	**76.77**	**46**	P	**P**	**13 06 03.1**	**0.0**
PDAR	**Pinedale Array**	**76.77**	**46**	P	**P**	**13 06 03.1**	**0.0**
	0.4nm,0.6s,baz=268,slow=1.8,SNR=5.0						
TXAR	**Lajitas Array**	**89.24**	**53**	P	**P**	**13 07 07.6**	**-0.1**
TXAR	**Lajitas Array**	**89.24**	**53**	P	**P**	**13 07 07.6**	**-0.1**
	0.3nm,0.5s,baz=296,slow=2.5,SNR=8.5						

KRSC 15 13:10:34.8±0.9, 49.42N×158.06E, h20km±20km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAK	**Asacha**	**2.97**	**358**	*eP*	Pn	13 11 22.3	+1.4
ASAK				*iS*	Sn	13 11 57.8	+1.8
RUS	**Russkaya**	**3.03**	**5**	*eP*	Pn	13 11 22.9	+1.3
RUS				*iS*	Sn	13 11 58.6	+1.4
MTVR	**Mutnovka**	**3.07**	**1**	*eP*	Pn	13 11 23.3	+1.0
MTVR				*iS*	Sn	13 11 58.9	+0.4
UGLR	**Uglovaya**	**3.82**	**7**	*eP*	Pn	13 11 35.3	+2.6
AVH	**Avacha**	**3.87**	**6**	*eP*	Pn	13 11 35.9	+2.6
AVH				*iS*	Sn	13 12 19.3	+1.1
SMAR	**Somma**	**3.88**	**7**	*eP*	Pn	13 11 36.1	+2.6
SDLR	**Sedlovina**	**3.90**	**7**	*eP*	Pn	13 11 36.2	+2.5
KBTR	**Krutoberegovo**	**7.38**	**21**	*eP*	Pn	13 12 25.2	+3.9

NEIC ***15*** *13:13:09.0±2.4, 52.63N×170.86W, h264km±19km, MG3.4(AEIC), Error ellipse: s-maj=92.5km s-min=7.3km az=163.0*

IDC ***15*** *13:13:16.1±6.5, 53.56N×171.44W, h273km±69km, mb3.1/7, mb1 3.4/9, mb1mx3.0/28, mbtmp3.1/9, Error ellipse: s-maj=42.3km s-min=17.1km az=160.0*

ISC 15 13:13:13.9±1.1, 53.5N±0.2°×171.4W±0.1, h250km, n30, σ0°69/11, mb3.2/7, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**1.61**	**109**	P	Pn	13 13 46.9	-6.1
NIKO				S	S	13 14 14.9	-8.9
OKAK	**Okmok**	**1.79**	**87**	P	Pn	13 13 49.8	-4.8
OKRE	**Okmok R'deer P**	**1.91**	**89**	P	Pn	13 13 51.6	-4.0
OKTU	**Okmok Mt. Tuli**	**1.99**	**93**	P	Pn	13 13 52.1	-4.3
KOFP	**Korovin Flat P**	**2.08**	**234**	P	Pn	13 13 53.1	-4.0
KOFP				S	S	13 14 25.3	-5.9
KOKL	**Mount Kliuchef**	**2.10**	**236**	P	Pn	13 13 53.4	-3.9
ATKA	**Atka Island**	**2.17**	**233**	P	Pn	13 13 52.8	-5.1
AT

*ROM **15** 13:41:08.3±0.4, 42°.22N×15°.86E, h9km±6km, Md2.8/42, Ml3.0/22, Error ellipse: s-maj=5.3km s-min=2.4km az=38.0*

ISC 15 13:41:07.9±1.1, **42°.24N**±0°.03×**15°.89E**±0°.02, **h15**km±9km, **n94**, σ0**s62**/122, **4C-2D, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGRT	**San Giovanni R**	**0.50**	**192**	Pg	**Pg**	**13 41 17.8**	**0.0**
SGRT				Sg	**Sg**	**13 41 24.7**	**+0.2**
	2µm,0.3s						
SGRT	**San Giovanni R**	**0.50**	**192**	Pg	**Pg**	**13 41 17.8**	**0.0**
SGRT				Sg	**Sg**	**13 41 24.7**	**+0.2**
	2µm,0.3s						
MSAG	**Monte S. Angel**	**0.53**	**178**	⇓*i*Pg	**Pg**	**13 41 18.4**	**0.0**
MSAG				Sg	**Sb**	**13 41 26.1**	**-0.3**
	3µm,0.5s						
MSAG	**Monte S. Angel**	**0.53**	**178**	⇓*i*Pg	**Pg**	**13 41 18.4**	**0.0**
MSAG				Sg	**Sb**	**13 41 26.1**	**-0.3**
	3µm,0.5s						
MS1	**Monte Sant'Ang**	**0.54**	**175**	*e*Pg	**Pb**	**13 41 18.8**	**-0.3**
MS1				*e*Sg	**Sb**	**13 41 26.7**	**+0.1**
RGNG	**Rignano Grg**	**0.61**	**202**	⇑*i*Pg	**Pg**	**13 41 19.5**	**-0.4**
RGNG				Sg	**Sg**	**13 41 28.1**	**+0.1**
RGNG	**Rignano Grg**	**0.61**	**202**	⇑*i*Pg	**Pg**	**13 41 19.5**	**-0.4**
RGNG				Sg	**Sg**	**13 41 28.1**	**+0.1**
FG2	**Serracapriola**	**0.69**	**231**	⇑*i*Pg	**Pb**	**13 41 21.3**	**-0.4**
	312nm,0.2s						
FG2	**Serracapriola**	**0.69**	**231**	⇑*i*Pg	**Pb**	**13 41 21.3**	**-0.4**
	312nm,0.2s						
FRES	**Fresagrandinar**	**0.94**	**254**	Pn	**Pb**	**13 41 26.0**	**0.0**
FRES	**Fresagrandinar**	**0.94**	**254**	Pn	**Pb**	**13 41 26.0**	**0.0**
MOCO	**Biccari - m.te**	**1.03**	**212**	Pg	**Pg**	**13 41 27.2**	**-0.6**
MOCO				Sg	**Sb**	**13 41 41.5**	**+0.8**
	163nm,0.6s						
FG5	**Orsara di Pugl**	**1.06**	**206**	Pg	**Pb**	**13 41 28.0**	**0.0**
	97nm,0.2s						
FG5	**Orsara di Pugl**	**1.06**	**206**	Pg	**Pb**	**13 41 28.0**	**0.0**
	97nm,0.2s						
TRIV	**Trivento**	**1.10**	**245**	Pn	**Pn**	**13 41 28.9**	**+0.1**
TRIV	**Trivento**	**1.10**	**245**	Pn	**Pn**	**13 41 28.9**	**+0.1**
CAFR	**Castel Frentan**	**1.14**	**270**	Pn	**Pn**	**13 41 30.0**	**+0.6**
CAFR	**Castel Frentan**	**1.14**	**270**	Pn	**Pn**	**13 41 30.0**	**+0.6**
SGTA	**Sant Agata di**	**1.17**	**200**	Pg	**Pb**	**13 41 29.1**	**-0.8**
	195nm,0.4s						
SGTA	**Sant Agata di**	**1.17**	**200**	Pg	**Pb**	**13 41 29.1**	**-0.8**
	195nm,0.4s						
CDT	**Castel del Mon**	**1.20**	**166**	*e*Pg	**Pb**	**13 41 30.0**	**-0.3**
CDT				*e*Sg	**Sn**	**13 41 47.8**	**+1.7**
MRVN	**Minervino Murg**	**1.20**	**169**	Pg	**Pb**	**13 41 29.8**	**-0.6**
	133nm,0.3s						
MRVN	**Minervino Murg**	**1.20**	**169**	Pg	**Pb**	**13 41 29.8**	**-0.6**
	133nm,0.3s						
SACR	**S. Croce Del S**	**1.22**	**227**	Pn	**Pb**	**13 41 30.1**	**-0.6**
SACR	**S. Croce Del S**	**1.22**	**227**	Pn	**Pb**	**13 41 30.1**	**-0.6**
LPEL	**Lama dei Pelig**	**1.28**	**262**	Pn	**Pn**	**13 41 30.7**	**-0.6**
LPEL				Sg	**Sn**	**13 41 48.7**	**+0.5**
	236nm,0.2s						
LPEL	**Lama dei Pelig**	**1.28**	**262**	Pn	**Pn**	**13 41 30.7**	**-0.6**
LPEL				Sg	**Sn**	**13 41 48.7**	**+0.5**
	236nm,0.2s						
PTRJ	**Pietraroja**	**1.34**	**230**	Pn	**Pn**	**13 41 31.9**	**-0.3**
PTRJ				Sg	**Sb**	**13 41 50.1**	**+0.3**
	147nm,0.3s						
PTRJ	**Pietraroja**	**1.34**	**230**	Pn	**Pn**	**13 41 31.9**	**-0.3**
PTRJ				Sg	**Sb**	**13 41 50.1**	**+0.3**
	147nm,0.3s						
BAI	**Bari**	**1.36**	**146**	*e*Pn	**Pn**	**13 41 31.2**	**-1.1**
BAI				*e*Sn	**Sg**	**13 41 52.8**	**+1.2**
MIDA	**Miranda**	**1.36**	**244**	Pg	**Pb**	**13 41 33.0**	**0.0**
MIDA				Sn	**Sb**	**13 41 50.3**	**+0.1**
	91nm,0.4s						
MIDA	**Miranda**	**1.36**	**244**	Pg	**Pb**	**13 41 33.0**	**0.0**
MIDA				Sn	**Sb**	**13 41 50.3**	**+0.1**
	91nm,0.4s						
SNAL	**S. Angelo Dei**	**1.41**	**201**	Pn	**Pn**	**13 41 33.0**	**-0.1**
SNAL				Sn	**Sg**	**13 41 53.1**	**-0.3**
	204nm,0.6s						
SNAL	**S. Angelo Dei**	**1.41**	**201**	Pn	**Pn**	**13 41 33.0**	**-0.1**
SNAL				Sn	**Sg**	**13 41 53.1**	**-0.3**
	204nm,0.6s						
SGG	**Gregorio Mates**	**1.41**	**233**	Pn	**Pb**	**13 41 33.8**	**-0.2**
	64nm,0.5s						
SGG	**Gregorio Mates**	**1.41**	**233**	Pn	**Pb**	**13 41 33.8**	**-0.2**
	64nm,0.5s						
AMUR	**Altamura**	**1.44**	**158**	Pg	**Pb**	**13 41 34.5**	**+0.1**
	149nm,0.4s						
AMUR	**Altamura**	**1.44**	**158**	Pg	**Pb**	**13 41 34.5**	**+0.1**
	149nm,0.4s						
ACER	**Acerenza**	**1.45**	**178**	Pn	**Pb**	**13 41 34.8**	**+0.1**
	302nm,0.5s						
ACER	**Acerenza**	**1.45**	**178**	Pn	**Pb**	**13 41 34.8**	**+0.1**
	302nm,0.5s						
STON	**Ston**	**1.48**	**64**	*e*Pn	**Pn**	**13 41 33.5**	**-0.5**
STON				Sn	**Sb**	**13 41 53.7**	**0.0**
STON	**Ston**	**1.48**	**64**	*e*Pn	**Pn**	**13 41 33.5**	**-0.5**
STON				Sn	**Sb**	**13 41 53.7**	**0.0**
VAGA	**Valle Agricola**	**1.48**	**237**	Pn	**Pb**	**13 41 35.2**	**0.0**
	81nm,0.3s						
VAGA	**Valle Agricola**	**1.48**	**237**	Pn	**Pb**	**13 41 35.2**	**0.0**
	81nm,0.3s						
INTR	**Introdacqua**	**1.49**	**262**	Pn	**Pn**	**13 41 34.0**	**-0.2**
	214nm,0.4s						
INTR	**Introdacqua**	**1.49**	**262**	Pn	**Pn**	**13 41 34.0**	**-0.2**
	214nm,0.4s						
MRLC	**Muro Lucano**	**1.51**	**191**	Pn	**Pb**	**13 41 35.6**	**-0.1**
	193nm,0.4s						
MRLC	**Muro Lucano**	**1.51**	**191**	Pn	**Pb**	**13 41 35.6**	**-0.1**
	193nm,0.4s						
SG1	**Sgolgore (BA)**	**1.52**	**157**	*e*Pn	**Pb**	**13 41 36.1**	**+0.3**
SG1				*e*Sn	**Sg**	**13 41 57.8**	**+0.9**
CSSN	**Cassano Irpino**	**1.52**	**205**	Pn	**Pb**	**13 41 36.3**	**+0.4**
	40nm,0.3s						
CSSN	**Cassano Irpino**	**1.52**	**205**	Pn	**Pb**	**13 41 36.3**	**+0.4**
	40nm,0.3s						
VCEL	**Villa Celiera**	**1.52**	**276**	Pn	**Pn**	**13 41 37.7**	**+0.5**
CERA	**Filignano**	**1.53**	**246**	Pn	**Pn**	**13 41 35.1**	**+0.3**
CERA	**Filignano**	**1.53**	**246**	Pn	**Pn**	**13 41 35.1**	**+0.3**
MCRV	**Calabrutti - M**	**1.55**	**200**	Pn	**Pb**	**13 41 36.7**	**+0.3**
	131nm,0.4s						
MCRV	**Calabrutti - M**	**1.55**	**200**	Pn	**Pb**	**13 41 36.7**	**+0.3**
	131nm,0.4s						
SDI	**San Donato**	**1.64**	**252**	Pn	**Pb**	**13 41 37.7**	**-0.1**
	35nm,0.3s						
SDI	**San Donato**	**1.64**	**252**	Pn	**Pb**	**13 41 37.7**	**-0.1**
	35nm,0.3s						
NOCI	**Noci**	**1.70**	**148**	Pn	**Pn**	**13 41 35.4**	**-1.6**
RFI	**Roccamonfina**	**1.70**	**237**	Pn	**Pg**	**13 41 39.8**	**-0.8**
	6.0nm,0.4s						
RFI	**Roccamonfina**	**1.70**	**237**	Pn	**Pg**	**13 41 39.8**	**-0.8**
	6.0nm,0.4s						
MATE	**Matera**	**1.71**	**159**	Pn	**Pb**	**13 41 39.0**	**+0.1**
	158nm,0.3s						
MATE	**Matera**	**1.71**	**159**	Pn	**Pb**	**13 41 39.0**	**+0.1**
	158nm,0.3s						
FAGN	**Fagnano**	**1.71**	**272**	Pn	**Pg**	**13 41 39.5**	**-1.2**
	214nm,0.5s						
FAGN	**Fagnano**	**1.71**	**272**	Pn	**Pg**	**13 41 39.5**	**-1.2**
	214nm,0.5s						
PTRP	**Pietrapertosa**	**1.72**	**176**	Pn	**Pg**	**13 41 40.6**	**-0.4**
	796nm,2.6s						
PTRP	**Pietrapertosa**	**1.72**	**176**	Pn	**Pg**	**13 41 40.6**	**-0.4**
	796nm,2.6s						
VVLD	**Villa Vallelon**	**1.73**	**258**	Pn	**Pn**	**13 41 37.9**	**+0.4**
	120nm,0.5s						
VVLD	**Villa Vallelon**	**1.73**	**258**	Pn	**Pn**	**13 41 37.9**	**+0.4**
	120nm,0.5s						
TERO	**Teramo**	**1.73**	**283**	Pn	**Pn**	**13 41 37.9**	**+0.4**
TERO	**Teramo**	**1.73**	**283**	Pn	**Pn**	**13 41 37.9**	**+0.4**
MSC	**Monte Massico**	**1.77**	**234**	Pn	**Pg**	**13 41 41.1**	**-0.9**
MSC	**Monte Massico**	**1.77**	**234**	Pn	**Pg**	**13 41 41.1**	**-0.9**
CDRU	**Civita di Ruta**	**1.80**	**194**	Pg	**Pb**	**13 41 40.6**	**-0.1**
	56nm,0.4s						
CDRU	**Civita di Ruta**	**1.80**	**194**	Pg	**Pb**	**13 41 40.6**	**-0.1**
	56nm,0.4s						
PTQR	**Pietraquaria**	**1.86**	**264**	Pn	**Pn**	**13 41 40.2**	**+0.9**
	29nm,1.0s						
PTQR	**Pietraquaria**	**1.86**	**264**	Pn	**Pn**	**13 41 40.2**	**+0.9**
	29nm,1.0s						
MCEL	**Monticello**	**1.92**	**182**	Pn	**Pn**	**13 41 38.8**	**-1.3**
CRAC	**Craco**	**1.92**	**167**	Pn	**Pb**	**13 41 43.3**	**+0.7**
	202nm,0.5s						
CRAC	**Craco**	**1.92**	**167**	Pn	**Pb**	**13 41 43.3**	**+0.7**
	202nm,0.5s						
TAR1	**Taranto**	**2.01**	**148**	*e*Pn	**Pn**	**13 41 40.1**	**-1.2**
SIRI	**Monte Sirino -**	**2.06**	**180**	Pn	**Pn**	**13 41 43.5**	**+1.5**
SIRI	**Monte Sirino -**	**2.06**	**180**	Pn	**Pn**	**13 41 43.5**	**+1.5**
SNTG	**Esanatoglia**	**2.39**	**296**	Pn	**Pn**	**13 41 46.4**	**-0.2**
SNTG	**Esanatoglia**	**2.39**	**296**	Pn	**Pn**	**13 41 46.4**	**-0.2**
PIEI	**Pieia**	**2.78**	**299**	Pn	**Pn**	**13 41 51.6**	**-0.3**
PIEI	**Pieia**	**2.78**	**299**	Pn	**Pn**	**13 41 51.6**	**-0.3**
BOJS	**Bojanci**	**3.29**	**352**	*i* Pn	**Pn**	**13 42 00.3**	**+1.4**
BOJS				*i* Sn	**Sn**	**13 42 37.4**	**-0.4**
BOJS	**Bojanci**	**3.29**	**352**	*i* Pn	**Pn**	**13 42 00.3**	**+1.4**
BOJS				*i* Sn	**Sn**	**13 42 37.4**	**-0.4**
GBRS	**Gornja Briga**	**3.38**	**347**	*i* Pn	**Pn**	**13 42 01.5**	**+1.3**
GBRS				*i* Sn	**Sn**	**13 42 41.3**	**+1.3**
VISS	**Visnje**	**3.64**	**348**	*i* Pn	**Pn**	**13 42 04.4**	**+0.7**
VISS				*i* Sn	**Sn**	**13 42 46.0**	**-0.4**
VISS	**Visnje**	**3.64**	**348**	*i* Pn	**Pn**	**13 42 04.4**	**+0.7**
VISS				*i* Sn	**Sn**	**13 42 46.0**	**-0.4**
VOY	**Vojsko**	**4.05**	**340**	*e*Pn	**Pn**	**13 42 09.5**	**+0.1**
VOY				*e*Sn	**Sn**	**13 42 55.9**	**-0.7**
VOY				*e*		13 43 30.9	
VOY	**Vojsko**	**4.05**	**340**	*e*Pn	**Pn**	**13 42 09.5**	**+0.1**
VOY				*e*Sn	**Sn**	**13 42 55.9**	**-0.7**

IDC 15 13:41:46.9±1.0, **3°.74N**×**126°.02E**, **h0**km, **mb3.7**/8, **mb1 3.8**/8, **mb1mx3.6**/22, **mbtmpg3.7**/8, **Error ellipse: s-maj=94.0km s-min=14.9km az=69.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.71**	**181**	P	P	13 46 41.3	+1.6
	1.3nm,0.5s,baz=17,slow=7.9,SNR=3.4						
WRA	**Warramunga Arr**	**24.91**	**161**	P	P	13 47 10.3	-1.6
	1.3nm,0.4s,baz=336,slow=11,SNR=17						
ASAR	**Alice Springs**	**28.30**	**165**	P	P	13 47 43.1	+0.7
	0.4nm,0.6s,baz=342,slow=7.7,SNR=17						
STKA	**Stephens Creek**	**38.40**	**158**	P	P	13 49 09.6	-0.5
	2.6nm,0.9s,baz=336,slow=11,SNR=6.8						
SONM	**Songino Array**	**47.06**	**342**	P	P	13 50 20.1	-0.4
	0.2nm,0.5s,baz=159,slow=8.9,SNR=2.6						
MKAR	**Makanchi Array**	**57.14**	**326**	P	P	13 51 35.6	+0.1
	0.4nm,0.5s,baz=122,slow=7.7,SNR=18						
KURBB	**Kurchatov Arra**	**61.35**	**328**	P	P	13 52 04.5	0.0
	0.9nm,0.8s,baz=126,slow=6.5,SNR=12						
BVAR	**Borovoye Array**	**66.92**	**327**	P	P	13 52 41.2	+0.1
	0.7nm,0.8s,baz=126,slow=2.6,SNR=4.2						

*ISK **15** 13:42:03.8, 37°.03N×28°.30E, h19km, MD2.6*
*CSEM **15** 13:42:04.5±0.3, 36°.95N×28°.29E, h2km, MD2.6, Error ellipse: s-maj=8.6km s-min=5.5km az=177.0*
*DDA **15** 13:42:05.8, 36°.90N×28°.15E, h6km, MD2.6*

ISC 15 13:42:03.3±1.0, **36°.93N**±0°.05×**28°.30E**±0°.03, **h13**km±8km, **n14**, σ0**s75**/24, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.21**	**357**	*e*PG	**Pg**	**13 42 08.1**	**+0.1**
YER				*e*SG	**Sg**	**13 42 11.0**	**-0.1**
YER	**Yerkesik**	**0.21**	**357**	*e*Pg	**Pg**	**13 42 08.1**	**+0.1**
YER				*e*Sg	**Sg**	**13 42 11.0**	**-0.1**
TURN	**Turunc**	**0.25**	**102**	*i* P	**Pg**	**13 42 08.5**	**-0.1**
TURN				*i* S	**Sg**	**13 42 12.0**	**-0.2**
TURN	**Turunc**	**0.25**	**102**	*i* P	**Pg**	**13 42 08.5**	**-0.1**
TURN				*i* S	**Sg**	**13 42 12.0**	**-0.2**
DAT	**Datca**	**0.61**	**251**	*e*PG	**Pg**	**13 42 16.7**	**+1.4**
DAT				*e*SG	**Sn**	**13 42 26.8**	**-0.8**
DAT	**Datca**	**0.61**	**251**	*e*Pg	**Pg**	**13 42 16.7**	**+1.4**
DAT				*e*Sg	**Sn**	**13 42 26.8**	**-0.8**
FETY	**Fethiye**	**0.69**	**115**	*e*PG	**Pn**	**13 42 19.0**	**+0.1**
FETY	**Fethiye**	**0.69**	**115**	*e*Pg	**Pn**	**13 42 19.0**	**+0.1**
BDRM	**Kayabasi**	**0.70**	**282**	*i* P	**Pg**	**13 42 16.7**	**-0.2**
BDRM				*i* S	**Sg**	**13 42 26.7**	**+0.6**
BDRM	**Kayabasi**	**0.70**	**282**	*i* P	**Pg**	**13 42 16.7**	**-0.2**
BDRM				*i* S	**Sg**	**13 42 26.7**	**+0.6**
BODT	**Bodrum**	**0.80**	**280**	*e*PG	**Pn**	**13 42 19.3**	**-1.1**
BODT				*e*SG	**Sn**	**13 42 31.8**	**-0.4**
BODT	**Bodrum**	**0.80**	**280**	*e*Pg	**Pn**	**13 42 19.3**	**-1.1**
BODT				*e*Sg	**Sn**	**13 42 31.8**	**-0.4**
DNZL	**Cakiroluk**	**0.97**	**38**	*i* P	**Pn**	**13 42 23.9**	**+1.1**
DNZL				*i* S	Sn	13 42 41.6	+5.1
DNZL	**Cakiroluk**	**0.97**	**38**	*i* P	**Pn**	**13 42 23.9**	**+1.1**

IDC 15 13:43:52.5±1.4, **4°.30N**×**127°.01E**, **h0**km, **mb3.7**/7, **mb1 3.8**/7, **mb1mx3.6**/21, **mbtmpg3.7**/7, **MS2.9**/1, **Ms1 2.9**/1, **ms1mx2.6**/26, **Error ellipse: s-maj=159.3km s-min=16.6km az=66.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.10**	**333**	LR	LR	13 45 32.8	
	comp=Z,176nm,19.4s,baz=207,slow=32						
WRA	**Warramunga Arr**	**25.14**	**164**	P	P	13 49 18.2	-1.4
	0.9nm,0.5s,baz=343,slow=10,SNR=4.5						
ASAR	**Alice Springs**	**28.60**	**167**	P	P	13 49 52.4	+1.7
	0.1nm,0.4s,baz=344,slow=9.8,SNR=3.4						
STKA	**Stephens Creek**	**38.56**	**160**	P	P	13 51 16.8	-0.4
	3.6nm,1.1s,baz=344,slow=8.7,SNR=2.8						
MKAR	**Makanchi Array**	**57.25**	**325**	P	P	13 53 42.2	+0.3
	0.6nm,0.5s,baz=119,slow=7.9,SNR=9.6						
ZALV	**Zalesovo Beam**	**60.21**	**333**	P	P	13 54 02.2	-0.1
	0.4nm,0.4s,baz=138,slow=6.7,SNR=3.8						
KURBB	**Kurchatov Arra**	**61.41**	**327**	P	P	13 54 10.9	+0.3
	1.3nm,0.8s,baz=122,slow=6.8,SNR=8.7						
BVAR	**Borovoye Array**	**67.00**	**327**	P	P	13 54 46.5	-0.7
	0.2nm,0.6s,baz=97,slow=7.4,SNR=2.7						

*BJI **15** 13:52:59.4, 36°.50N×83°.80E, h15km, mB4.5/2, mb4.0/6, ML4.5/8, Ms4.1/4, Ms7 3.7/3*
*IDC **15** 13:53:00.9±0.9, 36°.68N×83°.81E, h0km, mb3.7/11, mb1 4.0/15, mb1mx3.8/29, mbtmpg3.8/15, ML4.0/4, MS3.5/8, Ms1 3.5/8, ms1mx3.2/29, Error ellipse: s-maj=28.2km s-min=16.2km az=47.0*
*ISCJB **15** 13:53:04.1±0.6, 36°.78N±0°.06×83°.85E±0°.05, h33km, mb3.7/11, MS3.5/5, Error ellipse: s-maj=9.4km s-min=5.9km az=12.5*
*MOS **15** 13:53:04.4±1.5, 36°.90N×83°.93E, h33km, mb4.0/8, Error ellipse: s-maj=17.1km s-min=6.8km az=109.1*

ISC 15 13:53:05.8±0.7, **36°.80N**±0°.08×**84°.04E**±0°.06, **h35**km, **n45**, σ1**s46**/46, **mb3.7**/11, **MS3.6**/5, **2C, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**6.91**	**296**	Pn	**Pn**	**13 54 44.1**	**-0.6**
KSH				*e*Sn	**Sn**	**13 55 59.8**	**-2.3**
KSH				smax	smax		
	comp=N,1µm,1.6s						
KSH				smax	smax		
	comp=E,230nm,0.8s						
WMQ	**Urumqi**	**7.55**	**21**	P	Pn	13 54 56.0	+2.6
WMQ				S	Sn	13 56 29.9	+12
WMQ				smax	smax		
	comp=N,140nm,0.9s						
WMQ				smax	smax		
	comp=E,140nm,0.9s						
ULHL	**Ulahol**	**8.12**	**314**	P	**Pn**	**13 55 01.1**	**-0.2**
	SNR=21						
TKM2	**Tokmak 2**	**8.92**	**316**	*i* P	**Pn**	**13 55 11.6**	**-0.6**
TKM2	**Tokmak 2**	**8.92**	**316**	P	**Pn**	**13 55 11.7**	**-0.6**
	SNR=20						
KBK	**Karagaybulak**	**9.12**	**313**	P	**Pn**	**13 55 15.9**	**+0.8**
	SNR=7.5						
AAK	**Ala-Archa**	**9.38**	**311**	P	**Pn**	**13 55 18.2**	**-0.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AAK				MLR	MLR		
	comp=Z,253nm,18.1s						
AAK	**Ala-Archa**	**9.38**	**311**	P	**Pn**	**13 55 19.1**	**+0.5**
	SNR=16						
AAK	**Ala-Archa**	**9.38**	**311**	Pn	**Pn**	**13 55 18.2**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=102,slow=6.4,SNR=42						
AAK				Lg	Lg	13 57 57.5	
	comp=Z,0.9nm,0.3s,baz=328,slow=15,SNR=3.1						
AAK				LR	LR	13 59 18.1	
	comp=Z,253nm,18.1s,baz=116,slow=40						
FRU	**Bishkek**	**9.43**	**313**	*e*P	**Pn**	**13 55 16.0**	**-3.0**
AML	**Almayashu**	**9.61**	**307**	P	**Pn**	**13 55 21.3**	**-0.6**
	SNR=19						
EKS2	**Erkin-Say**	**9.83**	**310**	P	**Pn**	**13 55 23.7**	**-1.0**
	SNR=6.7						
MK31	**Makanchi Array**	**10.08**	**353**	*e*P	**Pn**	**13 55 27.8**	**-0.1**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**10.08**	**353**	P	**Pn**	**13 55 27.7**	**-0.2**
MKAR						13 57 17.5	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR				smax	smax		
	comp=N,4.0nm,0.3s						
MKAR	**Makanchi Array**	**10.08**	**353**	Pn	**Pn**	**13 55 27.7**	**-0.2**
	comp=N,1.8nm,0.3s,baz=175,slow=14,SNR=44						
MKAR				Sn	**Sn**	**13 57 17.5**	**-2.1**
	comp=N,3.5nm,0.3s,baz=181,slow=22,SNR=6.3						
MKAR				Lg	Lg	13 58 30.0	
	comp=N,1.3nm,0.3s,baz=179,slow=27,SNR=2.8						
GTA	**Gaotai**	**12.70**	**73**	*e*P	P	13 56 09.1	-5.6
GTA				pP	Pn	13 56 13.4	+9.5
GTA				sP		13 56 16.1	
GTA				S	Sn	13 58 36.3	+12
GTA				sS		13 58 42.4	
GTA				pmax	pmax		
	comp=Z,4.0nm,1.7s						
GTA				LR	LR		
	comp=N,290nm,16.9s						
GTA				LR	LR		
	comp=E,340nm,17.8s						
GTA				LR	LR		
	comp=Z,280nm,16.9s						
KURBB	**Kurchatov Arra**	**14.38**	**346**	Pn	**Pn**	**13 56 23.8**	**-2.9**
	comp=Z,0.1nm,0.3s,baz=169,slow=12,SNR=16						
KURBB				Sn	**Sn**	**13 59 09.3**	**+4.6**
	comp=Z,0.1nm,0.3s,baz=183,slow=30,SNR=3.0						
KURBB				Lg	Lg	14 00 45.7	
	comp=Z,0.0nm,0.3s,baz=159,slow=31,SNR=4.6						
KURBB				LR	LR	14 02 59.8	
	comp=Z,174nm,18.6s,baz=175,slow=42						
KURK	**Kurchatov**	**14.45**	**346**	P	Pn	13 56 23.8	-3.8
KURK						13 59 09.3	
KURK				MLR	MLR		
	comp=Z,174nm,18.6s						
LZH	**Lanzhou**	**15.96**	**87**	*e*P	**Pn**	**13 56 46.0**	**-1.7**
LZH				PP	**pP**	**13 56 59.5**	**-0.6**
LZH				*e*S	**Sn**	**13 59 44.1**	**+0.5**
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
LZH				pmax	pmax		
	comp=Z,100nm,4.1s						
LZH				LR	LR		
	comp=N,470nm,10.2s						
LZH				LR	LR		
	comp=E,220nm,9.5s						
LZH				LR	LR		
	comp=Z,440nm,11.0s						
ZALV	**Zalesovo Beam**	**17.16**	**2**	P	**Pn**	**13 57 00.0**	**-2.6**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				MLR	MLR		
	comp=Z,45nm,21.3s						
ZALV	**Zalesovo Beam**	**17.16**	**2**	P	**Pn**	**13 56 60.0**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=184,slow=13,SNR=38						
ZALV				LR	LR	14 04 15.1	
	comp=Z,45nm,21.3s,baz=222,slow=39						
BVA0	**Borovoye Array**	**18.83**	**334**	P	**Pn**	**13 57 22.4**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**18.83**	**334**	P	**Pn**	**13 57 22.4**	**-0.7**
BVAR	**Borovoye Array**	**18.83**	**334**	P	**Pn**	**13 57 22.4**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=131,slow=11,SNR=16						
BVAR				Lg	Lg	14 03 06.0	
	comp=Z,0.0nm,0.3s,baz=116,slow=26,SNR=3.3						
BRVK	**Borovoye**	**18.90**	**334**	*c i*P	**Pn**	**13 57 25.7**	**+1.8**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BRVK				MLR	MLR		
	comp=Z,196nm,21.0s						
ZAK	**Zakamensk**	**19.38**	**39**	*e*P	**Pn**	**13 57 29.9**	**0.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
ORY	**Orie**	**19.73**	**19**	⇑*i*P	**P**	**13 57 32.2**	**0.0**
ORY				S	**S**	**14 01 11.4**	**-1.1**
SONM	**Songino Array**	**19.80**	**49**	P	**Pn**	**13 57 36.6**	**+1.7**
	comp=Z,1.4nm,0.7s,baz=242,slow=11,SNR=11						
SONM				Lg	Lg	14 03 35.9	
	comp=Z,1.9nm,1.1s,baz=247,slow=30,SNR=6.7						
SONM				LR	LR	14 05 48.4	
	comp=Z,197nm,19.6s,baz=249,slow=38						
CMAR	**Chiang Mai Arr**	**22.49**	**140**	P	**P**	**13 58 01.6**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=322,slow=8.9,SNR=16						
AKTO	**Aktyubinsk**	**23.11**	**314**	P	**P**	**13 58 07.9**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
AKTO				MLR	MLR		
	comp=Z,90nm,19.4s						
AKTO	**Aktyubinsk**	**23.11**	**314**	P	**P**	**13 58 07.9**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=110,slow=14,SNR=5.2						
AKTO				LR	LR	14 08 12.

AOPR	**Arecibo Observ**	**0.32**	**6**	*e*S	Sg	14 05 55.1	+0.5

*ISCJB **15** 14:18:22.0±0.3,2.4°40S±0.0°03×78.3°39W±0.0°08,h150km, mb3.5/8,Error ellipse: s-maj=11.2km s-min=3.7km az=2.6*
*IGQ **15** 14:18:21.0,2.4°42S×78.3°16W,h142km±15km,Mb4.5,Ms4.3, Error ellipse: s-maj=5.0km s-min=1.7km az=4.7*
*IDC **15** 14:18:22.9±0.8,2.2°65S×77.9°5W,h115km±6km, mb3.4/8, mb1 3.7/10,mb1mx3.6/21,mbtmp3.5/10,Error ellipse: s-maj=32.0km s-min=14.2km az=74.0*

ISC 15 14:18:22.1±0.8,**2°36S**±0.05×**78.2W**±0.1,**h150**km,**n57,** σ1**9**35/46,**mb3.5**/8,**11C-29D,Ecuador**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PAT1	**Patacocha**	**0.88**	**345**	⇓P		**Pn**		**14 18 44.5**	**-2.0**
ARRY	**Arrayan**	**0.88**	**344**	⇓P		**Pn**		**14 18 44.1**	**-2.3**
BMAS	**Trigal station**	**0.89**	**343**	⇓S		**Sn**		**14 19 04.3**	**-0.8**
BMAS	**Trigal station**	**0.89**	**343**	⇓P		**Pn**		**14 18 44.4**	**-2.1**
ULBA	**Ulba**	**0.93**	**348**	⇓P		**Pn**		**14 18 44.9**	**-1.9**
RETU	**Refugio**	**0.93**	**346**	⇓P		**Pn**		**14 18 45.1**	**-1.9**
BBIL	**Ulba Tungurahu**	**0.94**	**343**	⇓P		**Pn**		**14 18 45.0**	**-1.9**
BIL2	**Estacion Bilba**	**0.94**	**342**	⇓P		**Pn**		**14 18 45.1**	**-1.7**
BRUN	**Tungurahua Vol**	**0.95**	**348**	⇓P		**Pn**		**14 18 45.1**	**-1.8**
IGUA	**Igualata**	**0.96**	**334**	⇓P		**Pn**		**14 18 45.6**	**-1.7**
RUN5	**Runtun**	**0.96**	**347**	⇓P		**Pn**		**14 18 45.1**	**-1.9**
JUI6	**Juive**	**0.96**	**345**	⇓P		**Pn**		**14 18 45.1**	**-1.9**
PISA	**Pisayambo**	**1.30**	**352**	⇑P		**Pn**		**14 18 49.5**	**-0.8**
YANT	**Yantaza**	**1.59**	**200**	⇑P		Pn		14 18 51.4	-1.4
YANT	**Yantaza**	**1.59**	**200**	⇑S		Sn		14 19 12.9	-3.3
BMOR	**Cotopaxi Volca**	**1.64**	**351**	⇓P		**Pn**		**14 18 53.9**	**+0.1**
MOV1	**Cotopaxi Vol s**	**1.65**	**352**	⇓P		**Pn**		**14 18 53.8**	**-0.2**
TAMB	**Tambo**	**1.66**	**355**	⇓P		**Pn**		**14 18 54.1**	**+0.1**
BTAM	**Cotopaxi Volca**	**1.69**	**354**	⇓S		**Sn**		**14 19 19.9**	**+1.0**
BTAM	**Cotopaxi Volca**	**1.69**	**354**	⇓P		**Pn**		**14 18 54.5**	**+0.2**
COV1	**Cotopaxi Volc**	**1.69**	**356**	⇓P		**Pn**		**14 18 54.9**	**+0.4**
BREF	**Cotopaxi Volca**	**1.69**	**352**	⇓P		**Pn**		**14 18 54.9**	**+0.4**
BREF	**Cotopaxi Volca**	**1.69**	**352**	⇓S		**Sn**		**14 19 20.8**	**+1.5**
BVC2	**Cotopaxi Volca**	**1.70**	**353**	⇓S		**Sn**		**14 19 19.6**	**+0.3**
BVC2	**Cotopaxi Volca**	**1.70**	**353**	⇓P		**Pn**		**14 18 54.8**	**+0.2**
VC1	**Cotopaxi 1**	**1.72**	**354**	⇓P		**Pn**		**14 18 54.9**	**+0.3**
NAS2	**Nasa**	**1.72**	**352**	⇓P		**Pn**		**14 18 55.3**	**+0.6**
PITA	**Cotopaxi Volc**	**1.80**	**353**	⇓P		**Pn**		**14 18 55.9**	**+0.3**
ANTI	**Antisana**	**1.90**	**2**	⇓P		**Pn**		**14 18 56.6**	**-0.1**
CATE	**Catamayo**	**1.97**	**216**	⇑S		Sn		14 19 22.4	-1.5
CATE	**Catamayo**	**1.97**	**216**	⇑P		Pn		14 18 56.0	-1.0
JUA2	**San Juan 2**	**2.17**	**350**	⇓P		**Pn**		**14 19 00.2**	**+0.5**
GGP	**Refugio Guagua**	**2.21**	**350**	⇑P		**Pn**		**14 19 01.0**	**+0.7**
TERV	**Terraza Guagua**	**2.21**	**350**	⇑P		**Pn**		**14 19 01.1**	**+0.8**
PINO	**Pino**	**2.22**	**350**	⇑P		**Pn**		**14 19 00.7**	**+0.1**
CHAR	**Charly**	**2.32**	**14**	P		**Pn**		**14 19 01.4**	**-0.2**
LAV4	**Lava4-Reventad**	**2.33**	**15**	⇑P		**Pn**		**14 19 00.9**	**-0.6**
CONE	**Cono NE Rev Vo**	**2.35**	**14**	⇑P		**Pn**		**14 19 01.4**	**-0.4**
PECV	**Mancha de Ca P**	**2.42**	**311**	P		**Pn**		**14 19 04.9**	**+2.6**
CAYA	**Cayambe**	**2.43**	**5**	⇑P		**Pn**		**14 19 03.7**	**+0.8**
OTAV	**Otavalo**	**2.59**	**355**	⇓S		**Sn**		**14 19 39.2**	**+1.4**
OTAV	**Otavalo**	**2.59**	**355**	⇓P		**Pn**		**14 19 05.3**	**+0.5**
COTA	**Cotacachi**	**2.68**	**357**	P		**Pn**		**14 19 07.2**	**+1.2**
GOLV	**Golondrinas**	**2.71**	**340**	P		**Pn**		**14 19 06.7**	**+0.7**
CHIS	**Cerro-Chispas-**	**2.83**	**297**	P		Pn		14 19 06.1	-1.3
JAMA	**Jama**	**2.88**	**316**	P		**Pn**		**14 19 06.9**	**-1.2**
ATAH	**Atahualpa**	**4.75**	**182**	P		**Pn**		**14 19 34.0**	**+1.4**
	23nm,0.3s,baz=13,slow=8.4,SNR=66								
ATAH				S		**Sn**		**14 20 26.0**	**-1.5**
	15nm,0.3s,baz=204,slow=21,SNR=10								
NNA	**Nana**	**9.66**	**172**	P		**Pn**		**14 20 40.2**	**+2.5**
	6.8nm,0.3s,baz=332,slow=12,SNR=9.3								
NNA				S		Sn		14 22 15.5	-9.5
	5.9nm,0.3s,baz=275,slow=20,SNR=6.2								
SIV	**San Ignacio**	**21.64**	**130**	P		**P**		**14 23 02.5**	**+1.7**
	3.3nm,0.6s,baz=302,slow=13,SNR=14								
CPUP	**Villa Florida**	**31.15**	**142**	P		P		14 24 30.4	+3.5
	0.5nm,0.4s,baz=306,slow=8.9,SNR=4.1								
PLCA	**Paso Flores**	**38.82**	**171**	P		P		14 25 37.1	+4.6
	1.7nm,0.8s,baz=347,slow=10,SNR=3.5								
SCHQ	**Schefferville**	**57.77**	**8**	P		P		14 28 00.9	+3.6
	3.5nm,0.9s,baz=223,slow=9.4,SNR=3.5								
YKA	**Yellowknife Ar**	**70.29**	**343**	P		P		14 29 22.9	+4.0
	0.2nm,0.5s,baz=138,slow=5.9,SNR=6.5								
YKA				pP		pP		14 29 51.9	-3.4
	0.5nm,0.9s,baz=138,slow=6.1,SNR=4.5								
YKA				sP		sP		14 30 05.9	-5.5
	0.1nm,0.5s,baz=145,slow=8.7,SNR=2.3								
ESDC	**Sonseca Array**	**79.44**	**49**	P		P		14 30 15.6	+3.5
	0.2nm,0.4s,baz=266,slow=6.6,SNR=4.2								
TORD	**Torodi Ar. Bea**	**80.72**	**76**	P		P		14 30 22.9	+3.5
	0.2nm,0.3s,baz=272,slow=5.4,SNR=6.8								
TORD				pP		pP		14 30 51.2	-5.4
	0.6nm,1.1s,baz=281,slow=6.1,SNR=2.1								
ILAR	**Eielson Array**	**83.18**	**336**	P		P		14 30 36.3	+5.1
	0.2nm,0.6s,baz=122,slow=5.1,SNR=4.2								
ILAR				sP		sP		14 31 17.9	-6.6
	0.2nm,0.6s,baz=83,slow=9.1,SNR=2.0								
WRA	**Warramunga Arr**	**141.12**	**234**	PKhKP		PKPpre		14 37 35.0	
	0.4nm,0.6s,baz=116,slow=2.9,SNR=6.0								
WRA				PKP		**PKiKP**		**14 37 40.5**	**+2.0**
	0.5nm,0.5s,baz=115,slow=1.9,SNR=6.7								

IDC 15 14:27:18.8±2.2,**4°03N**×**127°05E,h0**km,**mb3.3**/3, **mb1 3.5**/3,**mb1mx3.3**/19,**mbtmp3.3**/3,**Error ellipse: s-maj=156.2km s-min=27.6km az=66.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.88**	**164**	P		P		14 32 43.4	-0.2
	1.1nm,0.7s,baz=343,slow=11,SNR=14								
ASAR	**Alice Springs**	**28.33**	**167**	P		P		14 33 14.8	+0.2
	0.4nm,1.0s,baz=344,slow=11,SNR=4.4								
MKAR	**Makanchi Array**	**57.49**	**325**	P		P		14 37 09.8	0.0
	0.1nm,0.4s,baz=120,slow=8.4,SNR=4.4								

*NEIC **15** 14:28:19.1±0.9, 12.7°77N×88.2°23W,h15km, mb4.2/9, MD4.4(SNET), Error ellipse: s-maj=40.7km s-min=10.1km az=46.0*
NEIC Felt [II] at Usulutan.
*ISCJB **15** 14:28:22.7±0.5, 12.6°60N±0.05×88.3°31W±0.0°04, h69km±2km, mb4.1/15, Error ellipse: s-maj=9.6km s-min=3.8km az=36.8*
*CASC **15** 14:28:22.2±2.3, 12.5°59N×88.4°49W, h7km±9km, MD4.2, ML4.3, mb4.2(NEIC)*
*IDC **15** 14:28:23.0±1.0, 12.8°82N×88.2°17W, h56km±7km, mb3.7/7, mb1 3.9/9, mb1mx3.6/23, mbtmp3.7/9, Error ellipse: s-maj=39.7km s-min=10.2km az=46.0*

ISC 15 14:28:22.9±0.8,**12°60N**±0.07×**88°35W**±0.05,**h57**km±7km, **n166,** σ1**9**15/183,**mb4.1**/15,**62C-58D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.82**	**5**	*i* P		**Pn**		**14 28 38.9**	**0.0**
CNCH	**Conchagua**	**0.84**	**37**	*i* P		**Pn**		**14 28 38.8**	**-0.1**
CNCH				*e*S		**Sn**		**14 28 53.1**	**+2.5**
BLLM	**Bellamira**	**0.84**	**7**	*i* P		**Pn**		**14 28 38.8**	**-0.1**
BLLM				*e*S		**Sn**		**14 28 51.6**	**+0.9**
SNVI	**San Vicente**	**1.11**	**335**	*i* P		**Pn**		**14 28 42.1**	**-0.4**
SNVI				*e*S		**Sn**		**14 28 57.3**	**+0.2**
CAHU	**Cacacuatique**	**1.17**	**6**	*i* P		**Pn**		**14 28 43.8**	**+0.5**
CAHU				*e*S		**Sn**		**14 29 01.6**	**+3.1**
LFRS	**El Faro**	**1.23**	**326**	⇑*i* P		**Pn**		**14 28 43.3**	**-0.8**
LBRS	**Las Brisas**	**1.32**	**329**	*i* P		**Pn**		**14 28 45.2**	**-0.1**
SNET	**Serv Nac Est T**	**1.38**	**321**	*i* P		**Pn**		**14 28 45.6**	**-0.4**
SNET				*e*S		**Sn**		**14 29 02.8**	**-0.6**
SNET				AML		AML		14 29 04.5	
	comp=Z,6μm,0.2s								
BOQS	**Boqueron**	**1.45**	**321**	*i* P		**Pn**		**14 28 46.9**	**-0.2**
BOQS				*e*S		**Sn**		**14 29 05.2**	**0.0**
SBLS	**San Blas**	**1.75**	**315**	*i* P		**Pn**		**14 28 51.0**	**-0.2**
SBLS				*e*S		**Sn**		**14 29 13.5**	**+0.9**
SNJE	**San Jose**	**1.76**	**316**	⇑*i* P		**Pn**		**14 28 51.3**	**0.0**
RTR	**El Retiro**	**1.81**	**316**	*i* P		**Pn**		**14 28 52.0**	**+0.1**
RTR				*e*S		**Sn**		**14 29 15.6**	**+1.7**
RBDL	**Robledal**	**1.99**	**319**	*i* P		**Pn**		**14 28 54.7**	**+0.3**
MTO2	**Montecristo 2**	**2.04**	**331**	*e*P		**Pn**		**14 28 55.5**	**+0.3**
NBG	**Las Nubes**	**2.77**	**316**	*e*P		**Pn**		**14 29 06.8**	**+1.6**
NBG				*e*S		**Sn**		**14 29 40.4**	**+2.8**
MRL	**Marmol**	**2.78**	**332**	*e*P		**Pn**		**14 29 07.0**	**+1.8**
MRL				*e*S		**Sn**		**14 29 43.0**	**+5.5**
PCG	**Pacaya**	**2.83**	**309**	*e*P		**Pn**		**14 29 08.0**	**+2.0**
PCG				*e*S		**Sn**		**14 29 42.6**	**+3.6**
FUG	**Fuego 3**	**3.04**	**307**	*e*P		**Pn**		**14 29 09.7**	**+0.9**
FUG				*e*S		**Sn**		**14 29 45.3**	**+1.2**
FG6		**3.14**	**309**	*e*P		**Pn**		**14 29 12.2**	**+1.9**
FG6				*e*S		**Sn**		**14 29 49.2**	**+2.5**
TP2	**Tecpan 2**	**3.38**	**310**	*e*P		**Pn**		**14 29 15.5**	**+1.8**
TP2				*e*S		**Sn**		**14 29 57.4**	**+4.5**
JTS	**JuntasAbangare**	**4.04**	**124**	P		**Pn**		**14 29 23.6**	**+1.3**
	comp=Z,6.1nm,0.3s,baz=323,slow=18,SNR=29								
JTS				S		**Sn**		**14 30 08.5**	**0.0**
	comp=Z,7.4nm,0.3s,baz=301,slow=10,SNR=3.7								
LAJ	**Bijagual**	**4.96**	**123**	*e*P		**Pn**		**14 29 33.5**	**-1.6**
SJS	**Escuela Geolog**	**4.97**	**122**	*e*P		Pn		14 29 40.2	+4.9
QCR	**Quepos**	**5.18**	**127**	⇓*e*P		**Pn**		**14 29 40.3**	**+2.4**
QCR				*e*S		Sn		14 29 44.5	-52
URSC	**Urasca**	**5.26**	**121**	⇓*e*P		Pn		14 29 43.6	+4.4
BUS	**Buena Vista**	**5.43**	**123**	*e*P		**Pn**		**14 29 44.9**	**+3.2**
ACR	**Cerro Adams**	**6.43**	**127**	*e*P		**Pn**		**14 29 57.1**	**+2.0**
TEIG	**Tepich**	**7.58**	**1**	P		**Pn**		**14 30 13.7**	**+2.9**
	comp=Z,2.3nm,0.3s,baz=171,slow=8.2,SNR=10								
CMIG	**Matias Romero**	**7.74**	**306**	P		**Pn**		**14 30 13.8**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=130,slow=12,SNR=9.8								
CMIG				S		**Sn**		**14 31 38.9**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=230,slow=15,SNR=2.6								
SDV	**Santo Domingo**	**17.79**	**100**	P		**Pn**		**14 32 26.0**	**-0.9**
	comp=Z,5.8nm,0.9s								
JCT	**Junction City**	**20.71**	**331**	P		**P**		**14 32 56.9**	**-1.8**
	comp=Z,10nm,0.6s								
JCT	**Junction City**	**20.71**	**331**	⇑P		**P**		**14 32 58.9**	**+0.2**
	baz=21								
431A	**Sonora**	**21.27**	**330**	⇓P		**P**		**14 33 05.7**	**+1.0**
	baz=21								
628A	**Black Gap, Mar**	**21.56**	**323**	⇓P		**P**		**14 33 08.6**	**+0.7**
	baz=22,SNR=8.1								
529A	**Stev Forest Ra**	**21.66**	**326**	⇑P		**P**		**14 33 09.1**	**+0.2**
	baz=22								
430A	**Baggett Ranch,**	**21.66**	**329**	⇑P		**P**		**14 33 10.0**	**+1.1**
	baz=22								
627A	**Terlingua Ranc**	**21.83**	**322**	⇑P		**P**		**14 33 11.7**	**+0.9**
	baz=22,SNR=11								
429A	**Davenport Ranc**	**21.88**	**327**	⇓P		**P**		**14 33 12.1**	**+0.9**
	baz=22								
TXAR	**Lajitas Array**	**21.91**	**322**	P		**P**		**14 33 12.5**	**+0.9**
	comp=Z,4.8nm,0.6s,baz=139,slow=9.6,SNR=56								
528A	**Cox Ranch, San**	**22.01**	**325**	⇑P		**P**		**14 33 12.6**	**-0.1**
	baz=22								
626A	**Big Bend Ranch**	**22.35**	**321**	⇓P		**P**		**14 33 16.8**	**+0.4**
	baz=22,SNR=8.6								
527A	**Woodward Ranch**	**22.47**	**323**	⇑P		**P**		**14 33 17.6**	**-0.1**
	baz=22								
329A	**Wagon Wheel Ra**	**22.61**	**328**	⇑P		**P**		**14 33 18.7**	**-0.4**
	baz=23								
526A	**Mary Lane Ranc**	**22.69**	**322**	⇓P		**P**		**14 33 20.0**	**0.0**
	baz=23,SNR=7.4								
328A	**Wristen Ranch,**	**22.96**	**327**	⇓P		**P**		**14 33 21.9**	**-0.8**
	baz=23,SNR=19								
426A	**McDonald Obser**	**23.10**	**324**	⇓P		**P**		**14 33 23.6**	**-0.7**
	baz=23,SNR=6.5								
228A	**UT Block 9, Go**	**23.42**	**328**	⇓P		**P**		**14 33 26.1**	**-1.1**
	baz=23								
129A	**Stewart Farms,**	**23.47**	**330**	⇑P		**P**		**14 33 26.8**	**-0.9**
	baz=24,SNR=8.2								
326A	**Caldwell Ranch**	**23.55**	**325**	⇑P		**P**		**14 33 27.8**	**-0.7**
	baz=24								
128A	**Castleberry Fa**	**23.77**	**329**	⇓P		**P**		**14 33 29.7**	**-0.8**
	baz=24,SNR=6.5								
Z29A	**Hungry Hill Ra**	**23.91**	**331**	⇑P		**P**		**14 33 30.9**	**-0.9**
	baz=24,SNR=11								
WMOK	**Wichita Mounta**	**23.99**	**338**	*e*P		**P**		**14 33 31.9**	**-0.4**
	comp=Z,8.1nm,1.2s								
325A	**Bean Ranch, Si**	**24.16**	**323**	⇑P		**P**		**14 33 33.2**	**-0.9**
	baz=24								
226A	**Malaga, Loving**	**24.18**	**326**	⇑P		**P**		**14 33 34.1**	**-0.1**
	baz=24,SNR=5.7								
Z28A	**Tucker Farm, M**	**24.26**	**330**	⇑P		**P**		**14 33 34.6**	**-0.3**
	baz=24								
Y29A	**Porterfield Fa**	**24.40**	**332**	⇑P		**P**		**14 33 36.2**	**+0.1**
	baz=24								
324A	**Moseley Ranch,**	**24.51**	**323**	⇑P		**P**		**14 33 36.8**	**-0.5**
	baz=24,SNR=6.7								
225A	**Deer Hill, Car**	**24.62**	**325**	⇓P		**P**		**14 33 38.6**	**+0.3**
	baz=25,SNR=7.1								
MNTX	**Cornudas Mount**	**24.64**	**323**	⇓P		**P**		**14 33 38.2**	**-0.1**
	baz=25								
Z27A	**Tatum**	**24.69**	**329**	⇓P		**P**		**14 33 38.2**	**-0.7**
	baz=25,SNR=11								
Y28A	**McKinney Farm,**	**24.70**	**331**	⇓P		**P**		**14 33 38.7**	**-0.3**
	baz=25,SNR=5.9								
X29A	**Tulia**	**24.90**	**333**	⇑P		**P**		**14 33 40.8**	**+0.1**
	baz=25								
125A	**Gardner Draw,**	**24.94**	**326**	⇓P		**P**		**14 33 40.9**	**-0.3**
	baz=25,SNR=7.1								
224A	**Cornudas Mount**	**24.99**	**324**	⇓P		**P**		**14 33 42.2**	**+0.6**
	baz=25,SNR=11								
MSTX	**Muleshoe**	**25.00**	**331**	⇑P		**P**		**14 33 41.5**	**-0.2**
	baz=25,SNR=14								
Z26A	**Caprock**	**25.05**	**328**	⇓P		**P**		**14 33 42.1**	**0.0**
	baz=25,SNR=7.4								
Y27A	**Causey**	**25.12**	**330**	⇓P		**P**		**14 33 42.6**	**-0.2**
	baz=25								
X28A	**Dimmitt**	**25.19**	**332**	⇑P		**P**		**14 33 43.4**	**0.0**
	baz=25								
AMTX	**Amarillo**	**25.27**	**334**	⇑P		**P**		**14 33 44.5**	**+0.4**
	baz=25								
124A	**Stringfield Ra**	**25.41**	**325**	⇑P		**P**		**14 33 46.8**	**+1.2**
	baz=25,SNR=9.3								
Z25A	**Roswell**	**25.44**	**327**	⇑P		**P**		**14 33 46.5**	**+0.8**
	baz=25,SNR=8.7								
Y26A	**Elida**	**25.48**	**329**	⇑P		**P**		**14 33 46.4**	**+0.4**
	baz=26								
X27A	**F and S Farms,**	**25.71**	**331**	⇑P		**P**		**14 33 48.3**	**+0.2**
	baz=26								
Z24A	**Sheeppen Canyo**	**25.83**	**326**	⇓P		**P**		**14 33 51.1**	**+1.7**
	baz=26								
Y25A	**Mesa, Roswell**	**25.93**	**328**	⇑P		**P**		**14 33 51.0**	**+0.9**
	baz=26,SNR=11								
W27A	**Bowe Ranch, En**	**26.04**	**332**	⇑P		**P**		**14 33 51.6**	**+0.6**
	baz=26,SNR=8.3								
V28A	**Channing**	**26.23**	**334**	⇑P		**P**		**14 33 53.3**	**+0.5**
	baz=26								
Y24A	**Capitan**	**26.32**	**327**	⇓P		**P**		**14 33 55.0**	**+1.2**
	baz=26,SNR=10								
Y23A	**Lovelace Mesa,**	**26.66**	**326**	⇓P		**P**		**14 33 58.2**	**+1.4**
	baz=27,SNR=6.4								
121A	**Cookes Peak, D**	**26.66**	**321**	⇑P		**P**		**14 33 58.1**	**+1.2**
	baz=27								
W25A	**X Bar L Ranch,**	**26.83**	**330**	⇑P		**P**		**14 33 59.2**	**+0.9**
	baz=27,SNR=5.8								
V26A	**Tequesquite Ra**	**26.97**	**332**	⇓P		**P**		**14 34 00.1**	**+0.6**
	baz=27,SNR=8.5								
BNM	**Barren Site**	**27.14**	**325**	P		**P**		**14 34 01.6**	**+0.5**
	comp=Z,2.0nm,0.6s								
Y22A	**Socorro**	**27.18**	**324**	⇑P		**P**		**14 34 03.0**	**+1.5**
	baz=27								
W24A	**Lazy 6 Ranch,**	**27.30**	**328**	⇑P		**P**		**14 34 03.5**	**+1.0**
	baz=27								
V25A	**Rancho No Teng**	**27.40**	**330**	⇑P		**P**		**14 34 04.3**	**+0.9**
	baz=27,SNR=8.3								
U26A	**Atchley Ranch,**	**27.45**	**332**	⇓P		**P**		**14 34 04.1**	**+0.3**
	baz=27								
T27A	**Campo**	**27.56**	**335**	⇑P		**P**		**14 34 04.5**	**-0.2**
	baz=28								
V24A	**Rampart Ranch,**	**27.63**	**329**	⇓P		**P**		**14 34 06.3**	**+0.7**
	baz=28								
W23A	**Werner Place,**	**27.64**	**327**	⇑P		**P**		**14 34 06.4**	**+0.8**
	baz=28								
ANMO	**Albuquerque**	**27.65**	**327**	P		**P**		**14 34 08.2**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=152,slow=15,SNR=3.6								
T25A	**Trinidad**	**28.36**	**332**	⇓P		**P**		**14 34 12.1**	**+0.1**
	baz=28								
U23A	**El Rito**	**28.57**	**329**	⇓P		**P**		**14 34 15.3**	**+1.4**
	baz=29,SNR=5.5								
T24A	**Torres, Weston**	**28.60**	**331**	⇑P		**P**		**14 34 15.6**	**+1.3**
	baz=29								
R27A	**Eads**	**28.64**	**336**	⇑P		**P**		**14 34 15.0**	**+0.7**
	baz=29								
R26A	**Arlington**	**28.91**	**335**	⇑P		**P**		**14 34 17.3**	**+0.5**
	baz=29								
R25A	**Fountain Ranch**	**29.14**	**334**	⇓P		**P**		**14 34 19.7**	**+0.9**
	baz=29								
SDCO	**Great Sand Dun**	**29.36**	**332**	⇓P		**P**		**14 34 21.9**	**+0.9**
	baz=29								
Q25A	**Bedland, Calha**	**29.77**	**334**	⇑P		**P**		**14 34 25.2**	**+0.8**
	baz=30								
S22A	**4UR Ranch, Cre**	**29.99**	**330**	⇓P		**P**		**14 34 27.6**	**+1.0**
	baz=30								
P23A	**Jefferson**	**30.84**	**333**	⇓P		**P**		**14 34 35.3**	**+1.3**
	baz=31								
O22A	**Kremmling**	**31.79**	**333**	⇓P		**P**		**14 34 42.4**	**0.0**
	baz=32								
SAML	**Samuel**	**32.92**	**129**	*e*P		**P**		**14 34 51.5**	**-0.6**
	comp=Z,5.5nm,1.1s								
N20A	**Spence Gulch,**	**33.11**	**332**	⇑P		**P**		**14 34 54.8**	**+0.9**
	baz=33								
M21A	**Separation Pea**	**33.33**	**334**	⇓P		**P**		**14 34 57.0**	**+1.3**
	baz=33								
L21A	**Rawlins**	**33.62**	**334**	⇑P		**P**		**14 34 58.7**	**+0.5**
	baz=34								
LPAZ	**La Paz**	**34.98**	**145**	*e*P		**P**		**14 35 13.3**	**+2.6**
J20A	**Shoshoni**	**35.06**	**335**	⇑P		**P**		**14 35 11.7**	**+1.1**
	baz=35								
BW06	**Boulder Array**	**35.23**	**332**	⇓P		**P**		**14 35 12.3**	**+0.1**
	baz=35								
PDAR	**Pinedale Array**	**35.23**	**332**	P		**P**		**14 35 11.9**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=127,slow=12,SNR=9.0								
J19A	**Crowheart**	**35.40**	**334**	⇓P		**P**		**14 35 13.7**	**0.0**
	baz=35								
L16A	**Fish Haven**	**35.53**	**330**	⇓P		**P**		**14 35 15.0**	**+0.2**
	baz=36								
J18A	**Kendall Valley**	**35.79**	**333**	⇓P		**P**		**14 35 17.1**	**+0.1**
	baz=36,SNR=5.9								
I18A	**Diamond G Ranc**	**36.09**	**333**	⇓P		**P**		**14 35 20.0**	**+0.5**
	baz=36,SNR=5.5								
J17A	**Brown Place, J**	**36.22**	**332**	⇑P		**P**		**14 35 21.3**	**+0.7**
	baz=36								
REDW	**Red Top Meadow**	**36.29**	**332**	*e*P		**P**		**14 35 21.8**	**+0.5**
	comp=Z,14nm,1.0s								
K14A	**Jones Ranch, D**	**36.80**	**329**	⇓P		**P**		**14 35 25.6**	**+0.2**
	baz=37								
H18A	**Shoshone NF, C**	**36.80**	**334**	⇓P		**P**		**14 35 25.8**	**+0.2**
	baz=37,SNR=12								
RLMT	**Red Lodge**	**37.00**	**335**	⇑P		**P**		**14 35 27.2**	**0.0**
	baz=37								
G18A	**Lazy EL Ranch,**	**37.28**	**335**	⇓P		**P**		**14 35 29.4**	**-0.2**
	baz=37								
F19A	**Roth Farm, Mol**	**37.47**	**336**	⇓P		**P**		**14 35 31.0**	**-0.1**
	baz=37								
D22A	**Cohagen**	**37.56**	**340**	⇓P		**P**		**14 35 31.6**	**-0.2**
	baz=38								
E20A	**Meyer Farm, Mu**	**37.70**	**338**	⇓P		**P**		**14 35 33.2**	**+0.3**
	baz=38								
F18A	**Big Timber**	**37.82**	**335**	⇓P		**P**		**14 35 34.0**	**0.0**
	baz=38,SNR=5.5								
C22A	**Vida**	**37.98**	**341**	⇓P		**P**		**14 35 35.6**	**+0.3**
	baz=38								
ULM	**Lac du Bonnet**	**38.05**	**352**	P		**P**		**14 35 33.4**	**-2.4**
	comp=Z,2.2nm,0.5s,baz=153,sl

ATAB				*i* S	**Sg**	14 37 43.5	+0.1
ATAB	**Bozova**	**0.36**	**180**	*i* P	**Pg**	14 37 37.9	-0.6
ATAB				*i* S	**Sg**	14 37 43.5	+0.1
MALT	**Malatya**	**0.49**	**12**	*e*PG	**Pg**	14 37 40.1	-0.7
MALT				*e*SG	**Sg**	14 37 46.7	-0.7
GZT	**Gaziantep**	**0.76**	**231**	*i* P	**Pg**	14 37 45.4	-0.4
GZT				*i* S	**Sn**	14 37 58.8	-0.5
KUZU	**Kuzuini**	**1.44**	**223**	*i* P	**Pb**	14 37 58.4	+0.4
KUZU				*i* S	**Sg**	14 38 18.4	+0.8
KUZU	**Kuzuini**	**1.44**	**223**	*i* P	**Pb**	14 37 58.4	+0.4
KUZU				*i* S	**Sg**	14 38 18.4	+0.8
DIYA	**Diyarbakir**	**1.45**	**86**	*i* P	**Pg**	14 37 59.0	0.0
DIYA				*i* S	**Sg**	14 38 19.7	+1.9
DIYA	**Diyarbakir**	**1.45**	**86**	*i* P	**Pg**	14 37 59.0	0.0
DIYA				*i* S	**Sg**	14 38 19.7	+1.9
DIY	**Diyarbakir**	**1.53**	**87**	*e*PN	**Pb**	14 37 59.4	-0.1
ANDN	**Andirin**	**1.57**	**261**	*i* P	**Pb**	14 38 00.3	0.0
ANDN				*i* S	**Sg**	14 38 23.7	+2.0
ANDN	**Andirin**	**1.57**	**261**	*i* P	**Pb**	14 38 00.3	0.0
ANDN				*i* S	**Sg**	14 38 23.7	+2.0
MARD	**Mardin**	**2.04**	**104**	*e*P	**Pn**	14 38 04.6	-1.0
MARD				*i* S	**Sg**	14 38 38.0	+1.2
EZC	**Erzincan**	**2.08**	**23**	*e*PN	**Pn**	14 38 06.0	-0.2

*ISCJB **15** 15:02:19.4±0.5,24°.79N±0°.04×122°.42E±0°.02,h1km±4km, Error ellipse: s-maj=6.5km s-min=3.4km az=9.8*
*TAP **15** 15:02:20.9,24°.76N×122°.29E,h6km, ML3.3,D*
*JMA **15** 15:02:20.3±0.3,25°.03N×122°.74E,h0km,M2.5*
ISC 15 15:02:19.5±1.2,**24°.78N**±0°.04×**122°.44E**±0°.03,**h0**km±11km, **n33,**σ0°**83**/53,**2C,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=312	**0.47**	**300**	⇑*i*P		**Pg**		**15 02 28.8**	**+0.4**
TWB1				*i* S		**Sg**		**15 02 34.1**	**-0.4**
TWC	**Suao** baz=248	**0.56**	**253**	*i* P		**Pg**		**15 02 30.0**	**-0.2**
TWC				*i* S		**Sg**		**15 02 36.6**	**-0.9**
YOJ	**Yonaguni jima**	**0.61**	**121**	P		**Pg**		**15 02 32.6**	**+1.4**
YOJ				S		**Sg**		**15 02 41.2**	**+2.1**
ILA	**Ilan** baz=270	**0.63**	**269**	*e*P		**Pg**		**15 02 31.6**	**+0.2**
NWF	**Wu-fen Shan** baz=303	**0.66**	**296**	P		**Pg**		**15 02 33.1**	**+0.9**
NWF				S		**Sg**		**15 02 41.8**	**+1.0**
TWE	**Neicheng** baz=265	**0.70**	**266**	⇑*i*P		**Pg**		**15 02 32.6**	**-0.3**
TWE				*e*S		**Sg**		**15 02 42.2**	**+0.2**
ENA	**Nanau** baz=235	**0.72**	**241**	*e*P		**Pg**		**15 02 33.1**	**-0.2**
ENA				*e*S		**Sg**		**15 02 43.0**	**+0.3**
ENTT	**Nioudou** baz=259	**0.80**	**260**	P		**Pg**		**15 02 34.8**	**-0.1**
ENTT				S		**Sg**		**15 02 45.7**	**+0.4**
TWY	**Chenhua** baz=309	**0.91**	**303**	*e*P		**Pg**		**15 02 36.9**	**0.0**
TWY				*e*S		**Sg**		**15 02 48.8**	**+0.1**
TWS1	**Kuangyinshan** baz=293	**0.98**	**289**	*e*P		**Pg**		**15 02 38.6**	**+0.3**
TWS1				*e*S		**Sg**		**15 02 50.5**	**-0.4**
NSK	**Sanguang** baz=263	**0.99**	**264**	*e*P		**Pg**		**15 02 37.7**	**-0.7**
NSK				*e*S		**Sg**		**15 02 49.7**	**-1.4**
NNS	**Nan Shan** baz=248	**1.02**	**251**	*e*P		**Pg**		**15 02 39.0**	**-0.1**
NNS				*e*S		**Sg**		**15 02 52.2**	**-0.2**
TWD	**Chiawan** baz=222	**1.03**	**228**	*e*P		**Pg**		**15 02 39.4**	**+0.1**
TWD				*e*S		**Sg**		**15 02 52.7**	**0.0**
WHF	**Hehuan Shan** baz=236	**1.24**	**240**	P		**Pg**		**15 02 43.0**	**-0.2**
WHF				*e*S		**Sg**		**15 02 57.9**	**-1.4**
IRIF	**Iriomote-Funau**	**1.26**	**110**	P		**Pg**		**15 02 42.2**	**-1.4**
TWT	**Tachien** baz=243	**1.26**	**246**	*e*P		**Pg**		**15 02 43.7**	**+0.1**
TWT				*e*S		**Sg**		**15 03 00.1**	**+0.1**
NSTT	**Nanjuang** baz=263	**1.31**	**264**	*e*P		**Pg**		**15 02 43.5**	**-1.1**
NSTT				*e*S		**Sg**		**15 03 01.7**	**0.0**
ESL	**Shilin** baz=219	**1.33**	**224**	*e*P		**Pg**		**15 02 44.7**	**-0.2**
HATJ	**Hateruma jima**	**1.44**	**120**	P		**Pn**		**15 02 46.9**	**+0.1**
JKRS	**Kuro-shima**	**1.53**	**110**	P		**Pn**		**15 02 46.5**	**-1.5**
NSY	**Sanyi** baz=255	**1.57**	**257**	*e*P		**Pg**		**15 02 49.7**	**+0.2**
TWQ1	**Liyutan** baz=253	**1.57**	**255**	*e*P		**Pb**		**15 02 49.7**	**+0.2**
TWQ1				*e*S		**Sn**		**15 03 08.9**	**-0.8**
JIJ	**Ishigaki jima**	**1.61**	**104**	P		**Pn**		**15 02 47.6**	**-1.5**
SMLT	**Sun Moon Lake** baz=235	**1.66**	**238**	*e*P		**Pb**		**15 02 51.1**	**+0.1**
SMLT				*e*S		**Sb**		**15 03 12.2**	**-0.3**
TYC	**Yuchr** baz=236	**1.68**	**239**	*e*P		**Pn**		**15 02 50.7**	**+0.5**
TWF1	**Yuli** baz=212	**1.76**	**217**	*e*P		**Pn**		**15 02 50.3**	**-0.9**
ALS	**Alishan** baz=227	**1.95**	**230**	*e*P		**Pn**		**15 02 54.9**	**+0.8**
CHN5	**Tsauling** baz=231	**1.99**	**234**	*e*P		**Pb**		**15 02 56.2**	**-0.4**
ELDTW	**Lidau** baz=216	**2.05**	**220**	*e*P		**Pn**		**15 02 54.7**	**-0.6**
STYT	**Tauyuan** baz=221	**2.22**	**224**	*e*P		**Pn**		**15 02 58.7**	**+1.1**
WTP	**Ta-pu** baz=225	**2.26**	**228**	*e*P		**Pn**		**15 02 59.7**	**+1.6**
WTP				*e*S		**Sn**		**15 03 27.9**	**+1.2**
TWK	**Hsinying** baz=227	**2.33**	**230**	*e*P		**Pn**		**15 02 59.7**	**+0.5**
TWK				*e*S		**Sn**		**15 03 29.2**	**+0.7**
CHN1	**Nanshi** baz=225	**2.36**	**228**	*e*P		**Pn**		**15 03 00.9**	**+1.4**
CHN1				*e*S		**Sn**		**15 03 29.3**	**+0.2**

*ISCJB **15** 15:05:15.6±0.6,24°.18N±0°.05×122°.52E±0°.02, h49km±16km, Error ellipse: s-maj=8.1km s-min=3.4km az=173.7*
*TAP **15** 15:05:15.7,24°.22N×122°.49E,h44km±1km, ML2.7,D*
*JMA **15** 15:05:15.7±0.2,24°.42N×122°.55E,h67km,M1.7*
ISC 15 15:05:16.1±1.4,**24°.19N**±0°.06×**122°.51E**±0°.03,**h45**km±27km, **n25,**σ0°**49**/43,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.53**	**60**	P		**Pn**		**15 05 27.5**	**+0.1**
YOJ				*e*S		**Sn**		**15 05 36.1**	**+0.6**
TWC	**Suao** baz=303	**0.73**	**305**	*e*P		**Pn**		**15 05 29.4**	**-0.7**
TWC				S		**Sn**		**15 05 39.8**	**-0.4**
ENA	**Nanau** baz=286	**0.74**	**289**	*e*P		**Pn**		**15 05 30.1**	**-0.1**
ENA				*e*S		**Sn**		**15 05 40.6**	**+0.3**
TWD	**Chiawan** baz=260	**0.84**	**262**	*e*P		**Pn**		**15 05 30.9**	**-0.6**
TWD				*e*S		**Sn**		**15 05 43.3**	**+0.5**
TWE	**Neicheng** baz=304	**0.93**	**305**	*e*P		**Pn**		**15 05 32.9**	**+0.1**
TWE				*e*S		**Sn**		**15 05 44.8**	**-0.1**
ENTT	**Nioudou**	**0.97**	**298**	*e*P		**Pn**		**15 05 33.4**	**+0.1**
	baz=296								
ENTT				*e*S		**Sn**		**15 05 46.3**	**+0.4**
	baz=296								
ESL	**Shilin** baz=247	**1.05**	**249**	*e*P		**Pn**		**15 05 34.3**	**-0.2**
NNS	**Nan Shan** baz=282	**1.07**	**284**	*e*P		**Pn**		**15 05 34.8**	**+0.1**
NNS				*e*S		**Sn**		**15 05 48.2**	**-0.3**
	baz=282								
IRIF	**Iriomote-Funau**	**1.12**	**83**	P		**Pn**		**15 05 35.0**	**-0.3**
IRIF				S		**Sn**		**15 05 49.7**	**+0.1**
WHF	**Hehuan Shan** baz=266	**1.14**	**268**	P		**Pn**		**15 05 35.7**	**-0.2**
WHF				S		**Sn**		**15 05 50.4**	**-0.2**
	baz=266								
NSK	**Sanguang** baz=293	**1.16**	**295**	*e*P		**Pn**		**15 05 35.8**	**0.0**
NSK				*e*S		**Sn**		**15 05 50.4**	**-0.2**
	baz=293								
TWT	**Tachien** baz=271	**1.22**	**273**	*e*P		**Pn**		**15 05 37.4**	**+0.6**
TWT				S		**Sn**		**15 05 52.8**	**+0.5**
	baz=271								
EHY	**Hungye** baz=236	**1.28**	**238**	*e*P		**Pn**		**15 05 37.7**	**+0.1**
EHY				*e*S		**Sn**		**15 05 53.3**	**-0.4**
	baz=236								
JKRS	**Kuro-shima**	**1.37**	**88**	P		**Pn**		**15 05 39.0**	**+0.3**
JKRS				*e*S		**Sn**		**15 05 56.4**	**+0.7**
TWF1	**Yuli** baz=231	**1.39**	**233**	*e*P		**Pn**		**15 05 39.0**	**0.0**
TWF1				*e*S		**Sn**		**15 05 55.9**	**-0.4**
	baz=231								
JIJ	**Ishigaki jima**	**1.50**	**83**	P		**Pn**		**15 05 39.9**	**-0.6**
JIJ				S		**Sn**		**15 05 58.4**	**-0.5**
SMLT	**Sun Moon Lake** baz=256	**1.50**	**258**	*e*P		**Pn**		**15 05 41.2**	**+0.5**
CHKT	**Chengkung** baz=222	**1.51**	**224**	*e*P		**Pn**		**15 05 41.1**	**+0.4**
CHKT				*e*S		**Sn**		**15 05 58.3**	**-0.9**
	baz=222								
TYC	**Yuchr** baz=258	**1.54**	**260**	*e*P		**Pn**		**15 05 40.6**	**-0.5**
ELDTW	**Lidau** baz=232	**1.69**	**234**	*e*P		**Pn**		**15 05 43.4**	**+0.1**
ELDTW				*e*S		**Sn**		**15 06 03.4**	**-0.5**
	baz=232								
ALS	**Alishan** baz=245	**1.70**	**247**	*e*P		**Pn**		**15 05 43.9**	**+0.3**
CHN5	**Tsauling** baz=249	**1.78**	**251**	*e*P		**Pn**		**15 05 45.6**	**+1.2**
WTP	**Ta-pu** baz=240	**1.98**	**242**	*e*P		**Pn**		**15 05 48.4**	**+1.2**
WTP				*e*S		**Sn**		**15 06 10.9**	**+0.2**
	baz=240								
JTJ	**Tarama**	**2.05**	**77**	P		**Pn**		**15 05 47.9**	**-0.1**
CHN1	**Nanshi** baz=240	**2.08**	**241**	*e*P		**Pn**		**15 05 48.1**	**-0.4**

*KRSC **15** 15:05:57.7±0.9,50°.20N×157°.55E,h73km±76km,ML4.2*
*MOS **15** 15:05:58.5±1.8,50°.25N×156°.89E,h54km,mb4.3/1,Error ellipse: s-maj=26.6km s-min=10.1km az=77.5*
*IDC **15** 15:06:04.2±2.9,50°.36N×156°.68E,h91km±25km,mb2.9/5, mb1 3.2/7,mb1mx3.0/26,mbtmp3.1/7,Error ellipse: s-maj=33.6km s-min=18.9km az=136.0*
ISC 15 15:05:58.8±3.5,**50°.1N**±0°.2×**157°.4E**±0°.2,**h42**km±31km,**n23,** σ1°**35**/26,**mb3.3/5,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.98**	**307**	*e*PN			Pn	15 06 11.0	-5.1
SKR				*e*S			Sn	15 06 22.0	-6.8
SKR	comp=N,280nm,0.3s			pmax		pmax			
SKR	comp=Z,630nm,0.3s			pmax		pmax			
SKR	comp=E,160nm,0.4s			pmax		pmax			
SKR	comp=N,120nm,0.3s			smax		smax			
SKR	comp=E,8μm,0.3s			smax		smax			
SKR	comp=N,15μm,1.0s			smax		smax			
SKR	comp=E,10μm,1.0s			smax		smax			
ASAK	**Asacha**	**2.32**	**8**	*e*P			**Pn**	**15 06 34.3**	**-0.3**
ASAK				*i* S			**Sn**	**15 07 01.4**	**-0.5**
MTVR	**Mutnovka**	**2.45**	**12**	*e*P			**Pn**	**15 06 36.0**	**-0.4**
MTVR				*i* S			**Sn**	**15 07 03.7**	**-1.5**
RUS	**Russkaya**	**2.46**	**17**	PN			**Pn**	**15 06 36.2**	**-0.1**
RUS				S			**Sn**	**15 07 04.0**	**-1.1**
RUS	**Russkaya**	**2.46**	**17**	P			**Pn**	**15 06 36.2**	**-0.1**
RUS				*i* S			**Sn**	**15 07 04.0**	**-1.1**
PETK	**Petropavlovsk-**	**3.03**	**4**	PN			**Pn**	**15 06 45.8**	**+1.6**
PETK				S			**Sn**	**15 07 21.6**	**+2.4**
PETK	comp=Z,4.0nm,0.3s			pmax		pmax			
PETK	comp=N,2.0nm,0.3s			smax		smax			
PETK	**Petropavlovsk-** comp=N,3.8nm,0.3s,baz=197,slow=16,SNR=126	**3.03**	**4**	P			**Pn**	**15 06 45.8**	**+1.6**
PETK	comp=N,2.1nm,0.3s,baz=172,slow=23,SNR=3.7			S			**Sn**	**15 07 21.6**	**+2.4**
PET	**Petropavlovsk**	**3.05**	**15**	*e*PN			**Pn**	**15 06 46.1**	**+1.7**
PET				*e*S			**Sn**	**15 07 19.1**	**-0.5**
PET	comp=Z,17nm,0.4s			pmax		pmax			
PET	comp=E,205nm,0.6s			smax		smax			
PET	comp=N,196nm,0.5s			smax		smax			
PET	**Petropavlovsk**	**3.05**	**15**	*e*P			**Pn**	**15 06 44.8**	**+0.4**
PET				*i* S			**Sn**	**15 07 18.5**	**-1.1**
SDLR	**Sedlovina**	**3.33**	**16**	*e*P			**Pn**	**15 06 48.6**	**+0.1**
SDLR				*i* S			**Sn**	**15 07 25.1**	**-1.7**
SPN	**Mys Shipunski**	**3.44**	**28**	PN			**Pn**	**15 06 49.7**	**-0.2**
SPN				S			Sn	15 07 26.7	-2.6
SPN	**Mys Shipunski**	**3.44**	**28**	*e*P			**Pn**	**15 06 49.7**	**-0.2**
SPN				*i* S			Sn	15 07 26.7	-2.6
MKZ	**Mys Kozlova**	**5.22**	**29**	PN			**Pn**	**15 07 14.7**	**+0.5**
MKZ	**Mys Kozlova**	**5.22**	**29**	*e*P			**Pn**	**15 07 14.7**	**+0.5**
ASAJ	**Asahikawa** comp=N,0.5nm,0.3s,baz=154,slow=26,SNR=6.3	**11.69**	**245**	P			Pn	15 08 45.0	+2.2
SEY	**Seymchan**	**13.15**	**350**	*i* PN			Pn	15 09 04.3	+1.5
YKA	**Yellowknife Ar** comp=N,0.1nm,0.7s,baz=296,slow=7.3,SNR=2.9	**46.55**	**40**	P			**P**	**15 14 22.7**	**+0.8**
KURK	**Kurchatov**	**47.89**	**303**	P			**P**	**15 14 29.6**	**-2.8**
MKAR	**Makanchi Array**	**47.94**	**297**	P			P	15 14 28.8	-4.1
MKAR	**Makanchi Array** comp=N,0.1nm,0.3s,baz=58,slow=6.3,SNR=3.8	**47.94**	**297**	P			P	15 14 28.8	-4.1
KURBB	**Kurchatov Arra** comp=N,0.2nm,0.4s,baz=63,slow=7.8,SNR=3.9	**47.99**	**303**	P			P	15 14 29.6	-3.6
TXAR	**Lajitas Array** comp=N,0.4nm,0.8s,baz=319,slow=4.0,SNR=4.3	**73.44**	**64**	P			**P**	**15 17 28.2**	**+1.4**
ASAR	**Alice Springs** comp=N,0.2nm,0.5s,baz=17,slow=5.6,SNR=3.7	**76.32**	**202**	P			**P**	**15 17 43.6**	**+0.3**

*ATH **15** 15:31:00.9,36°.28N×21°.79E,h13km±1km,MD3.1/7*
*CSEM **15** 15:31:01.3±0.7,36°.27N×21°.84E,h2km,ML2.7/2,Error ellipse: s-maj=13.0km s-min=5.4km az=45.0*
*THE **15** 15:31:02.6,36°.32N×21°.88E,h0km±6km,ML2.7/2,Error ellipse: s-maj=7.7km s-min=1.3km az=213.0*
ISC 15 15:31:02.2±2.3,**36°.32N**±0°.08×**21°.84E**±0°.07,**h3**km±14km, **n29,**σ0°**58**/43,**Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.58**	**352**	P			**Pg**	**15 31 13.6**	**+0.1**
PYL				S			**Sb**	**15 31 23.0**	**-0.8**
PYL	**PYLOS**	**0.58**	**352**	*e*PG			**Pg**	**15 31 12.6**	**-0.8**
PYL				*e*SB			**Sg**	**15 31 21.9**	**+0.8**
PYL	**PYLOS**	**0.58**	**352**	*e*Pg			**Pg**	**15 31 12.6**	**-0.8**
PYL	**PYLOS**	**0.58**	**352**	P			**Pg**	**15 31 13.6**	**+0.1**
PYL				*e*Sb			**Sg**	**15 31 21.9**	**+0.8**
PYL				S			**Sb**	**15 31 23.0**	**-0.8**
ITM	**Ithomi**	**0.87**	**5**	P			**Pg**	**15 31 18.2**	**-0.6**
ITM				S			**Sb**	**15 31 32.2**	**+0.3**
ITM	**Ithomi**	**0.87**	**5**	*e*PB			**Pg**	**15 31 18.1**	**-0.7**
ITM				*e*SB			**Sg**	**15 31 30.8**	**+0.7**
ITM	**Ithomi**	**0.87**	**5**	P			**Pg**	**15 31 18.2**	**-0.6**
ITM				*e*Sb			**Sg**	**15 31 30.8**	**+0.7**
ITM				S			**Sb**	**15 31 32.2**	**+0.3**
KYTH	**Kithira**	**0.97**	**92**	P			**Pg**	**15 31 20.5**	**-0.3**
KYTH	**Kithira**	**0.97**	**92**	*e*PB			**Pg**	**15 31 20.2**	**-0.6**
KYTH	**Kithira**	**0.97**	**92**	*e*Pb			**Pg**	**15 31 20.2**	**-0.6**
KYTH	**Kithira**	**0.97**	**92**	P			**Pg**	**15 31 20.5**	**-0.3**
VLI	**Veliai**	**0.97**	**65**	P			**Pg**	**15 31 20.3**	**-0.5**
VLI				S			**Sb**	**15 31 34.6**	**-0.3**
VLI	**Veliai**	**0.97**	**65**	*e*PB			**Pg**	**15 31 20.4**	**-0.4**
VLI				*e*SB			**Sb**	**15 31 34.7**	**-0.2**
VLI	**Veliai**	**0.97**	**65**	*e*Pb			**Pg**	**15 31 20.4**	**-0.4**
VLI				S			**Sb**	**15 31 34.6**	**-0.3**
VLX	**Vlachokerasia**	**1.14**	**22**	P			**Pg**	**15 31 23.0**	**-1.1**
VLX				S			**Sb**	**15 31 39.8**	**-0.1**
VLX	**Vlachokerasia**	**1.14**	**22**	*e*PN			**Pg**	**15 31 23.0**	**-1.1**
VLX				*e*SB			**Sb**	**15 31 40.0**	**+0.1**
VLX	**Vlachokerasia**	**1.14**	**22**	P			**Pg**	**15 31 23.0**	**-1.1**
VLX				*e*Sb			**Sb**	**15 31 40.0**	**+0.1**
DID	**Didima**	**1.63**	**43**	P			**Pn**	**15 31 32.0**	**+0.1**
DID	**Didima**	**1.63**	**43**	*e*PB			**Pn**	**15 31 32.2**	**+0.3**
DID	**Didima**	**1.63**	**43**	P			**Pn**	**15 31 32.0**	**+0.1**
GUR	**Goura**	**1.67**	**14**	P			**Pn**	**15 31 32.6**	**+0.1**
GUR	**Goura**	**1.67**	**14**	*e*PN			**Pn**	**15 31 32.6**	**+0.1**
GUR	**Goura**	**1.67**	**14**	P			**Pn**	**15 31 32.6**	**+0.1**
RLS	**Riolos of Patr**	**1.77**	**350**	*e*PN			**Pn**	**15 31 33.7**	**0.0**
RLS	**Riolos of Patr**	**1.77**	**350**	*e*Pn			**Pn**	**15 31 33.7**	**0.0**
LTK	**Loutraki**	**1.93**	**28**	*e*PN			**Pn**	**15 31 36.6**	**+0.6**
LTK	**Loutraki**	**1.93**	**28**	*e*Pn			**Pn**	**15 31 36.6**	**+0.6**
EFP	**Efpalio**	**2.11**	**1**	*e*PN			**Pn**	**15 31 38.7**	**+0.3**
EFP	**Efpalio**	**2.11**	**1**	*e*Pn			**Pn**	**15 31 38.7**	**+0.3**

IDC 15 15:31:48.4±14.0,**34°.65N**×**23°.99E,h0km,mb3.8/5, mb1 3.8/6,mb1mx3.5/27,mbtmp3.7/6,ML3.6/1,Error ellipse: s-maj=287.0km s-min=44.1km az=31.0,Crete**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GERES	**GERESS Array B** 0.1nm,0.3s,baz=153,slow=13,SNR=6.5	**16.10**	**335**	Pn		P		15 35 38.2	-1.4
AAK	**Ala-Archa** 0.5nm,0.6s,baz=247,slow=13,SNR=3.9	**39.75**	**63**	P		P		15 39 24.0	+1.1
KURBB	**Kurchatov Arra** 1.5nm,0.7s,baz=276,slow=8.6,SNR=18	**42.19**	**51**	P		P		15 39 42.3	-0.4
MKAR	**Makanchi Array** 1.5nm,0.6s,baz=278,slow=6.8,SNR=29	**44.86**	**56**	P		P		15 40 04.3	0.0
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=272,slow=7.6,SNR=3.5	**46.05**	**46**	P		P		15 40 12.8	-0.8
SONM	**Songino Array** 0.2nm,0.3s,baz=270,slow=5.8,SNR=2.8	**60.55**	**50**	P		P		15 42 00.1	-0.5

IDC 15 15:35:05.2±3.5,**5.79S**×**128°.62E,h426**km±43km,**mb2.9/3, mb1 2.8/5,mb1mx2.6/17,mbtmp2.7/5,Error ellipse: s-maj=97.6km s-min=13.9km az=69.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=338,slow=11,SNR=10	**15.12**	**159**	P		P		15 38 18.7	+0.4
WRA				S		S		15 40 56.6	-1.5
ASAR	**Alice Springs** 0.1nm,0.3s,baz=345,slow=12,SNR=7.6	**18.48**	**165**	P		P		15 38 53.7	-0.2
ASAR				S		S		15 42 02.5	+0.9
STKA	**Stephens Creek** 3.5nm,0.9s,baz=315,slow=10.0,SNR=3.2	**28.65**	**157**	P		P		15 40 25.3	-0.1
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=124,slow=7.8,SNR=7.6	**66.47**	**327**	P		P		15 45 11.0	0.0
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=133,slow=5.3,SNR=4.9	**70.77**	**329**	P		P		15 45 37.1	0.0

MAN 15 15:39:32,10°.34N×125°.93E,h27km,mb4.9,ML3.9,MS3.9, 2D,Leyte

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.25**	**311**	⇓*e*P			Pn	15 39 53.7	0.0
PLP				*i* S			Sb	15 40 10.6	0.0
BUTP	**Butuan**	**1.39**	**193**	*e*P			Pn	15 39 56.1	+0.4
LLP	**Lapu-Lapu**	**1.93**	**270**	*e*P			Pn	15 40 04.2	+1.1
LLP				*e*S			Sb	15 40 28.5	-1.8
TBP	**Tagbilaran**	**2.14**	**253**	*e*P			Pb	15 40 09.0	-1.1
CGP	**Cagayan de Oro**	**2.23**	**213**	⇓*e*P			Pn	15 40 08.4	+1.2
CGP				*e*S			Sn	15 40 34.9	+0.9
BUKP	**Musuan**	**2.59**	**199**	*e*P			Pn	15 40 14.0	+1.8
MATI	**Mati**	**3.38**	**174**	*e*P			Pn	15 40 25.4	+2.3
PAGZ	**Pagadian**	**3.53**	**226**	*e*P			Pn	15 40 27.8	+2.7

IDC 15 15:45:43.5±1.1,**3.45N**×**126°.33E,h0**km,**mb3.5/6, mb1 3.7/6,mb1mx3.5/20,mbtmp3.5/6,Error ellipse: s-maj=126.5km s-min=17.8km az=68.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=342,slow=10,SNR=8.0	**24.54**	**162**	P		P		15 51 04.7	-0.4
ASAR	**Alice Springs** 0.4nm,0.9s,baz=337,slow=8.5,SNR=2.6	**27.94**	**165**	P		P		15 51 35.7	-0.1
STKA	**Stephens Creek** 2.0nm,1.0s,baz=333,slow=14,SNR=2.9	**38.01**	**159**	P		P		15 53 04.0	+0.5
SONM	**Songino Array** 0.3nm,0.5s,baz=145,slow=6.3,SNR=2.7	**47.44**	**342**	P		P		15 54 20.4	+0.4
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=121,slow=7.9,SNR=6.1	**57.56**	**326**	P		P		15 55 34.6	-0.4
KURBB	**Kurchatov Arra** 0.6nm,0.6s,baz=131,slow=6.5,SNR=12	**61.77**	**328**	P		P		15 56 03.7	-0.2

*NIED **15** 15:46:00,40°.30N×142°.00E,h62km,Mw4.2 Best double couple: M0 2.26000×10^15 NP1:φs193.00000°,δ77.00000°, λ93.00000°. NP2:φs360.00000°,δ14.00000°,λ77.00000°.*
*ISCJB **15** 15:46:13.4±0.5,40°.33N±0°.03×141°.97E±0°.09,h77km±4km, mb3.5/10,Error ellipse: s-maj=10.9km s-min=5.7km az=3.9*
*JMA **15** 15:46:14.5±0.1,40°.31N×141°.96E,h72km±1km,M3.7*
JMA Felt II J1.
*IDC **15** 15:46:15.5±2.1,40°.44N×141°.81E,h75km±19km,mb3.3/10, mb1 3.4/12,mb1mx3.3/26,mbtmp3.3/12,MS3.8/1, Ms1 3.8/1,ms1mx2.5/20,Error ellipse: s-maj=20.6km s-min=12.8km az=112.0*
ISC 15 15:46:14.5±0.8,**40°.32N**±0°.04×**141°.95E**±0°.08,**h72**km±7km, **n25,**σ0°**85**/34,**mb3.6**/10,**7C-3D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.34**	**280**	⇑P			**Pn**	**15 46 26.2**	**0.0**
JANG				S			**Sn**	**15 46 34.7**	**0.0**
JTH	**Tanohata**	**0.38**	**190**	⇑P			**Pn**	**15 46 26.6**	**+0.1**
JTH				S			**Sn**	**15 46 35.3**	**0.0**
JKZ	**Kuzumaki**	**0.58**	**235**	⇑P			**Pn**	**15 46 28.5**	**+0.2**
JKZ				S			**Sn**	**15 46 38.7**	**+0.2**
JTM	**Tenmabayashi**	**0.82**	**305**	⇓P			**Pn**	**15 46 30.7**	**-0.2**
JTM				S			**Sn**	**15 46 42.8**	**-0.3**
JOM	**Ohasama**	**0.98**	**211**	⇑P			**Pn**	**15 46 32.7**	**-0.2**
JOM				S			**Sn**	**15 46 46.1**	**-0.4**
JAH	**Hinai**	**1.01**	**263**	⇑P			**Pn**	**15 46 33.2**	**-0.1**

1.0nm,0.6s,baz=86,slow=8.6,SNR=3.9
MKAR Makanchi Array 42.81 299 P **P** 15 54 04.8 -0.3
0.7nm,0.4s,baz=84,slow=12,SNR=17
KURBB **Kurchatov Arra 44.38 305** P **P** 15 54 16.5 -1.1
1.0nm,0.3s,baz=84,slow=11,SNR=26
KDAK Kodiak Island 44.42 44 LR LR 16 11 35.4
comp=Z,102nm,19.6s,baz=96,slow=34
ILAR Eielson Array 46.52 34 P **P** 15 54 34.7 +0.3
0.4nm,0.6s,baz=265,slow=5.9,SNR=11
INK Inuvik 51.29 28 P **P** 15 55 11.4 +0.7
1.0nm,0.6s,baz=302,slow=5.7,SNR=7.2
WRA Warramunga Arr 60.36 188 P **P** 15 56 17.1 +1.0
0.2nm,0.3s,baz=4.6,slow=7.1,SNR=8.4
YKA Yellowknife Ar 60.77 31 P **P** 15 56 17.9 -0.6
0.1nm,0.5s,baz=298,slow=5.9,SNR=4.2
ASAR Alice Springs 64.09 188 P **P** 15 56 42.6 +1.6
0.1nm,0.4s,baz=0.7,slow=7.1,SNR=10
PDAR Pinedale Array 75.08 46 P **P** 15 57 49.1 +0.3
0.3nm,0.8s,baz=280,slow=7.0,SNR=2.7

IDC 15 15:58:45.8±1.9, 3°94'N×126°51'E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=158.3km s-min=23.8km az=65.0, Talaud Islands

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.95 162**	P	P	16 04 11.0	-0.1
	0.6nm,0.5s,baz=343,slow=11,SNR=10					
ASAR	**Alice Springs**	**28.37 166**	P	P	16 04 41.6	-0.4
	0.2nm,0.5s,baz=342,slow=7.3,SNR=8.4					
STKA	**Stephens Creek**	**38.41 159**	P	P	16 06 09.5	+0.3
	2.6nm,1.1s,baz=324,slow=8.7,SNR=2.3					
MKAR	**Makanchi Array**	**57.26 325**	P	P	16 08 35.2	0.0
	0.1nm,0.5s,baz=129,slow=7.8,SNR=4.2					

*IDC **15** 16:06:05.5±1.5, 17°.86S×168°.04E, h0km, mb4.2/10, mb1 4.3/12, mb1mx4.2/20, mbtmp4.3/12, ML4.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.8/24, Error ellipse: s-maj=35.1km s-min=22.0km az=119.0*
*ISCJB **15** 16:06:09.2±1.3, 17°.86S±0°.05×167°.7E±0°.2, h23km, mb4.0/10, Error ellipse: s-maj=26.5km s-min=7.1km az=0.2*

ISC 15 16:06:10.6±1.2, 17°.81S±0°.07×167°.8E±0°.2, h23km, n17, σ1°43/19, mb4.1/9, Vanuatu Islands

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.42 196**	Pn	**Pn**	**16 07 15.8**	**-0.5**
	15nm,0.3s,baz=47,slow=20,SNR=97					
DZM			Sn	**Sn**	**16 08 05.9**	**-1.1**
	13nm,0.3s,baz=145,slow=22,SNR=3.3					
NOUC	**Port Laguerre**	**4.48 198**	*e*P	**Pn**	**16 07 17.4**	**+0.2**
NOUC			*e*S	**Sn**	**16 08 08.3**	**-0.3**
HNR	**Honiara**	**11.27 317**	Pn	**Pn**	**16 08 50.5**	**+0.2**
	5.4nm,0.3s,baz=192,slow=6.3,SNR=4.2					
HNR			Sn	**Sn**	**16 10 52.7**	**-2.8**
	2.0nm,0.3s,baz=317,slow=23,SNR=1.4					
HNR			LR	LR	16 12 17.2	
	comp=Z,77nm,21.8s,baz=75,slow=32					
CTA	**Charters Tower**	**20.46 260**	*e*P	Pn	16 10 48.8	-0.2
	10nm,0.7s					
CTA	**Charters Tower**	**20.46 260**	P	Pn	16 10 49.3	+0.3
	16nm,0.8s,baz=97,slow=11,SNR=5.2					
PMG	**Port Moresby**	**21.68 290**	P	**P**	**16 11 02.2**	**+2.3**
	7.9nm,0.9s,baz=117,slow=5.5,SNR=3.3					
STKA	**Stephens Creek**	**27.47 234**	*e*P	**P**	**16 11 56.3**	**+1.2**
	2.8nm,0.6s					
STKA	**Stephens Creek**	**27.47 234**	P	**P**	**16 11 55.6**	**+0.5**
	3.4nm,0.7s,baz=51,slow=8.4,SNR=11					
WRA	**Warramunga Arr**	**31.66 261**	P	**P**	**16 12 31.3**	**-1.1**
	1.4nm,0.8s,baz=81,slow=6.5,SNR=15					
WRA			PcP	**PcP**	**16 15 24.0**	**-0.3**
	0.7nm,0.9s,baz=78,slow=2.4,SNR=4.2					
ASAR	**Alice Springs**	**32.14 254**	P	**P**	**16 12 36.1**	**-0.6**
	5.8nm,0.6s,baz=80,slow=8.9,SNR=166					
FITZ	**Fitzroy Crossi**	**40.01 263**	*e*P	**P**	**16 13 44.0**	**+0.1**
	24nm,0.6s					
FITZ	**Fitzroy Crossi**	**40.01 263**	P	**P**	**16 13 44.3**	**+0.3**
	14nm,0.7s,baz=101,slow=7.7,SNR=28					
MJAR	**Matsushiro Arr**	**60.84 333**	P	**P**	**16 16 23.7**	**+2.6**
	1.1nm,0.7s,baz=172,slow=8.1,SNR=3.8					
CMAR	**Chiang Mai Arr**	**76.64 295**	P	**P**	**16 18 00.7**	**+0.7**
	0.4nm,0.4s,baz=126,slow=4.4,SNR=4.8					
SONM	**Songino Array**	**85.24 324**	P	**P**	**16 18 44.7**	**-0.7**
	1.2nm,0.8s,baz=146,slow=5.0,SNR=9.7					
ILAR	**Eielson Array**	**89.30 18**	P	**P**	**16 19 02.2**	**-2.2**
	0.2nm,0.7s,baz=258,slow=4.5,SNR=3.6					
MKAR	**Makanchi Array**	**99.74 316**	P	**Pdif**	**16 19 53.9**	**+1.2**
	0.1nm,0.7s,baz=90,slow=5.3,SNR=2.2					

*ATH **15** 16:07:33.9, 40°.60N×26°.09E, h22km, MD3.0/4*
*CSEM **15** 16:07:33.9±0.1, 40°.59N×26°.13E, h12km, MD3.0, Error ellipse: s-maj=3.7km s-min=2.6km az=39.0*
*THE **15** 16:07:34.7, 40°.57N×26°.08E, h10km±1km, ML2.5/5, Error ellipse: s-maj=1.9km s-min=0.8km az=54.0*
*DDA **15** 16:07:34.5, 40°.53N×26°.24E, h7km, MD3.2*

ISC 15 16:07:34.0±1.0, 40°.58N±0°.03×26°.12E±0°.03, h11km±9km, n28, σ0°47/47, Turkey

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
ALN	**Alexandroupoli**	**0.33 350**	P	**Pg**	**16 07 40.6**	**0.0**
ALN			S	**Sg**	**16 07 45.3**	**+0.3**
ALN	**Alexandroupoli**	**0.33 350**	*e*PB	**Pg**	**16 07 40.6**	**0.0**
ALN			*e*SB	**Sg**	**16 07 45.3**	**+0.3**
ALN	**Alexandroupoli**	**0.33 350**	P	**Pg**	**16 07 40.6**	**0.0**
ALN			S	**Sg**	**16 07 45.3**	**+0.3**
RDO	**Rodhopi**	**0.72 322**	P	**Pg**	**16 07 47.7**	**-0.3**
RDO			S	**Sb**	**16 07 59.3**	**+0.7**
RDO	**Rodhopi**	**0.72 322**	*e*PN	**Pg**	**16 07 47.5**	**-0.5**
RDO	**Rodhopi**	**0.72 322**	P	**Pg**	**16 07 47.7**	**-0.3**
RDO			S	**Sb**	**16 07 59.3**	**+0.7**
BOZC	**Bozcaada**	**0.74 184**	*i* P	**Pg**	**16 07 48.0**	**-0.3**
BOZC			*i* S	**Sg**	**16 07 58.5**	**+0.6**
SART	**Tekirdag**	**0.81 82**	*i* P	**Pg**	**16 07 48.7**	**-1.0**
SART			*i* S	**Sg**	**16 08 00.6**	**+0.2**
SART	**Tekirdag**	**0.81 82**	*i* P	**Pg**	**16 07 48.7**	**-1.0**
SART			*i* S	**Sg**	**16 08 00.6**	**+0.2**
LIA	**Limnos Island**	**0.99 227**	P	**Pg**	**16 07 52.8**	**-0.3**
LIA			S	**Sb**	**16 08 06.4**	**+0.2**
LIA	**Limnos Island**	**0.99 227**	*e*PN	**Pg**	**16 07 52.7**	**-0.3**
LIA			*e*SN	**Sb**	**16 08 06.4**	**+0.2**
LIA	**Limnos Island**	**0.99 227**	P	**Pg**	**16 07 52.8**	**-0.3**
LIA			S	**Sb**	**16 08 06.4**	**+0.2**
KAVA	**Kavala**	**1.29 289**	P	**Pn**	**16 07 58.0**	**-0.1**
KAVA			S	**Sb**	**16 08 14.2**	**-0.8**
KAVA	**Kavala**	**1.29 289**	P	**Pn**	**16 07 58.0**	**-0.1**
KAVA			S	**Sb**	**16 08 14.2**	**-0.8**
PRK	**Paraskevi**	**1.33 175**	P	**Pn**	**16 07 58.5**	**-0.1**
PRK			S	**Sn**	**16 08 16.8**	**+0.4**
PRK	**Paraskevi**	**1.33 175**	P	**Pn**	**16 07 58.5**	**-0.1**
PRK			S	**Sn**	**16 08 16.8**	**+0.4**
AYVA	**Ayvalik**	**1.34 161**	*i* P	**Pn**	**16 07 58.9**	**+0.2**
AYVA			*i* S	**Sn**	**16 08 16.9**	**+0.4**
AYVA	**Ayvalik**	**1.34 161**	*i* P	**Pn**	**16 07 58.9**	**+0.2**
AYVA			*i* S	**Sn**	**16 08 16.9**	**+0.4**
BALY	**Balya**	**1.42 126**	*i* P	**Pn**	**16 07 59.8**	**-0.1**
BALY			*i* S	**Sb**	**16 08 19.0**	**+0.3**
BALY	**Balya**	**1.42 126**	*i* P	**Pn**	**16 07 59.8**	**-0.1**
BALY			*i* S	**Sb**	**16 08 19.0**	**+0.3**
OUR	**Ouranopolis**	**1.65 262**	P	**Pn**	**16 08 02.1**	**-0.9**
OUR	**Ouranopolis**	**1.65 262**	P	**Pn**	**16 08 02.1**	**-0.9**
NVR	**Nevrokopi**	**1.88 295**	P	**Pn**	**16 08 05.8**	**-0.4**
NVR	**Nevrokopi**	**1.88 295**	*e*PN	**Pn**	**16 08 06.3**	**+0.1**
NVR	**Nevrokopi**	**1.88 295**	P	**Pn**	**16 08 05.8**	**-0.4**
NVR	**Nevrokopi**	**1.88 295**	*e*Pn	**Pn**	**16 08 06.3**	**+0.1**
SRS	**Serrai**	**1.99 287**	P	**Pn**	**16 08 07.4**	**-0.4**
SRS	**Serrai**	**1.99 287**	P	**Pn**	**16 08 07.4**	**-0.4**

*ATH **15** 16:08:50.6, 40°.59N×26°.25E, h27km±2km, MD2.7/3*
*ISCJB **15** 16:08:52.1±2.0, 40°.59N±0°.05×26°.05E±0°.09, h15km±16km, Error ellipse: s-maj=13.2km s-min=7.0km az=150.9*
*CSEM **15** 16:08:52.6±0.2, 40°.62N×26°.06E, h20km, MD2.7, Error ellipse: s-maj=9.3km s-min=5.5km az=64.0*
*DDA **15** 16:08:53.2, 40°.54N×26°.25E, h7km, MD2.7*

ISC 15 16:08:51.0±1.7, 40°.61N±0°.04×26°.17E±0°.06, h3km±15km, n9, σ0°60/16, Turkey

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
ALN	**Alexandroupoli**	**0.30 342**	*e*PB	**Pb**	**16 08 58.7**	**-0.4**
ALN			*e*SB	**Sb**	**16 09 03.4**	**-1.0**
ALN	**Alexandroupoli**	**0.30 342**	*e*Pb	**Pb**	**16 08 58.7**	**-0.4**
ALN			*e*Sb	**Sb**	**16 09 03.4**	**-1.0**
RDO	**Rodhopi**	**0.72 318**	*e*PN	**Pb**	**16 09 06.4**	**+0.2**
RDO			*e*SN	**Sb**	**16 09 17.1**	**+0.7**
RDO	**Rodhopi**	**0.72 318**	*e*Pn	**Pb**	**16 09 06.4**	**+0.2**
RDO			*e*Sn	**Sb**	**16 09 17.1**	**+0.7**
BOZC	**Bozcaada**	**0.77 187**	*i* P	**Pg**	**16 09 05.8**	**0.0**
BOZC			*i* S	**Sb**	**16 09 17.5**	**-0.4**
LIA	**Limnos Island**	**1.04 227**	*e*PN	**Pb**	**16 09 11.2**	**-0.3**
LIA	**Limnos Island**	**1.04 227**	*e*Pn	**Pb**	**16 09 11.2**	**-0.3**
BALY	**Balya**	**1.41 128**	*i* P	**Pg**	**16 09 18.3**	**+0.3**
BALY			*i* S	**Sn**	**16 09 37.1**	**+0.4**
BALY	**Balya**	**1.41 128**	*i* P	**Pg**	**16 09 18.3**	**+0.3**
BALY			*i* S	**Sn**	**16 09 37.1**	**+0.4**

IDC 15 16:13:05.5±1.7, 15°.08S×174°.89W, h216km±24km, mb3.4/5, mb1 3.7/6, mb1mx3.4/19, mbtmp3.5/6, Error ellipse: s-maj=41.0km s-min=24.2km az=151.0, Tonga Islands

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.23 69**	P	Pn	16 13 59.4	+0.6
	14nm,0.3s,baz=158,slow=1.1,SNR=37					
AFI			S	S	16 14 40.5	+0.3
	2.7nm,0.3s,baz=118,slow=14,SNR=1.2					
STKA	**Stephens Creek**	**42.96 239**	P	P	16 20 43.1	-0.4
	2.8nm,1.0s,baz=78,slow=9.3,SNR=3.6					
WRA	**Warramunga Arr**	**48.52 257**	P	P	16 21 26.6	-0.5
	0.3nm,0.3s,baz=92,slow=7.7,SNR=19					
ASAR	**Alice Springs**	**48.85 252**	P	P	16 21 29.8	+0.3
	6.6nm,0.5s,baz=88,slow=7.9,SNR=290					
QSPA	**South Pole Qui**	**74.96 180**	P	P	16 24 22.8	+0.1
	0.9nm,0.9s,baz=109,slow=2.6,SNR=3.7					
ILAR	**Eielson Array**	**82.42 12**	P	P	16 25 03.0	0.0
	0.6nm,1.1s,baz=238,slow=5.2,SNR=4.0					

*IDC **15** 16:16:47.6±0.4, 3°.92N×126°.62E, h0km, mb4.7/29, mb1 4.7/29, mb1mx4.7/29, mbtmp4.7/29, MS4.1/18, Ms1 4.1/18, ms1mx3.9/30, Error ellipse: s-maj=17.1km s-min=8.1km az=79.0*
*MOS **15** 16:16:51.1±0.9, 4°.03N×126°.61E, h33km, mb5.3/36, MS4.1/8, Error ellipse: s-maj=12.5km s-min=5.3km az=115.8*
*NEIC **15** 16:16:53.0±0.2, 4°.03N×126°.62E, h35km, mb5.0/45, Error ellipse: s-maj=6.6km s-min=3.7km az=74.0*
*BJI **15** 16:16:54.0, 3°.77N×126°.56E, h76km, mB5.1/33, mb4.9/56, Ms4.5/37, Ms7 4.4/40*
*ISCJB **15** 16:16:55.2±0.4, 4°.01N±0°.02×126°.72E±0°.03, h71km±4km, mb4.8/115, Error ellipse: s-maj=5.1km s-min=3.5km az=162.5*
*DJA **15** 16:16:57, 3°.93N×126°.81E, h59km, mb4.9/17*

ISC 15 16:16:57.4±0.3, 3°.95N±0°.03×126°.67E±0°.05, h75km±2km, n412, σ1°55/486, mb4.9/114, 34C-41D, Talaud Islands

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
MATI	**Mati**	**3.00 352**	*e*P	**Pn**	**16 17 43.8**	**+1.0**
MNI	**Manado**	**3.09 216**	P	**Pn**	**16 17 43.8**	**-0.1**
MNI			S	**Sn**	**16 18 20.1**	**+0.3**
TNTI	**Ternate**	**3.23 167**	P	**Pn**	**16 17 44.2**	**-1.7**
TNTI			S	**Sn**	**16 18 19.9**	**-3.5**
DAV	**Davao City (W)**	**3.28 341**	*e*Pn	**Pn**	**16 17 46.0**	**-0.5**
DAV			Sn	**Sn**	**16 18 29.4**	**+4.8**
DAV	**Davao City (W)**	**3.28 341**	Pn	**Pn**	**16 17 46.1**	**-0.5**
	SNR=18					
DAV	**Davao City (W)**	**3.28 341**	P	**Pn**	**16 17 47.1**	**+0.5**
DAV	**Davao City (W)**	**3.28 341**	Pn	**Pn**	**16 17 45.8**	**-0.8**
	22nm,0.3s,baz=12,slow=14,SNR=12					
DAV			Sn	**Sn**	**16 18 29.3**	**+4.8**
	55nm,0.3s,baz=332,slow=23,SNR=1.7					
DMPH	**Davao City--Mi**	**3.32 340**	*e*P	**Pn**	**16 17 45.9**	**-1.2**
DMPH			*i* S	Sn	16 18 44.0	+19
KCP	**Kidapawan**	**3.42 333**	*e*P	Pn	16 17 52.4	+3.9
CTBH	**Cotabato--PC H**	**4.04 324**	*e*P	**Pn**	**16 17 54.5**	**-2.5**
BUKP	**Musuan**	**4.22 338**	*e*P	**Pn**	**16 17 59.0**	**-0.4**
KMSI	**Cibinong**	**4.29 219**	P	**Pn**	**16 18 02.1**	**+1.7**
LBMI	**Labuha**	**4.63 170**	P	**Pn**	**16 18 04.8**	**-0.2**
CGP	**Cagayan de Oro**	**4.88 336**	*e*P	Pn	16 18 12.5	+4.0
PAGZ	**Pagadian**	**5.07 320**	*e*P	**Pn**	**16 18 09.6**	**-1.3**
BUTP	**Butuan**	**5.09 348**	*e*P	**Pn**	**16 18 11.6**	**+0.3**
MRSI	**Marisa**	**5.85 234**	P	**Pn**	**16 18 21.7**	**+0.1**
	384nm,0.9s,4μm1.2nm					
SWI	**Sorong**	**6.63 136**	P	**Pn**	**16 18 29.6**	**-2.7**
	126nm,1.0s,2μm0.5nm					
LLP	**Lapu-Lapu**	**6.87 337**	*e*P	**Pn**	**16 18 34.2**	**-1.4**
LLP			*e*S	**Sn**	**16 19 56.5**	**+4.2**
MSAI	**Masohi**	**7.59 163**	P	**Pn**	**16 18 47.8**	**+2.3**
	24nm,1.6s					
AAI	**Ambon**	**7.74 169**	P	Pn	16 18 54.1	+6.6
MYLDM	**Lahad Datu**	**8.23 279**	P	**Pn**	**16 18 56.2**	**+2.0**
MYLDM	**Lahad Datu**	**8.23 279**	P	**Pn**	**16 18 56.4**	**+2.2**
	238nm,1.4s,3μm					
TSM	**Tawau**	**8.78 273**	P	**Pn**	**16 19 01.0**	**-0.6**
FAKI	**Fak Fak**	**8.81 141**	P	**Pn**	**16 19 00.5**	**-1.7**
	100nm,1.1s,1μm					
KDI	**Kendari**	**8.84 207**	P	**Pn**	**16 19 01.7**	**-0.7**
	52nm,1.1s,815nm					
SDKM	**Sandakan**	**9.59 280**	P	**Pn**	**16 19 14.5**	**+1.7**
TTSI	**Tana Toraja**	**9.75 225**	P	**Pn**	**16 19 16.6**	**+1.6**
	100nm,1.5s,1μm					
KDM	**Kudat**	**10.22 287**	P	**Pn**	**16 19 24.1**	**+2.7**
SMKI	**Samarinda**	**10.41 245**	P	Pn	16 19 28.5	+4.5
	106nm,1.0s					
SPSI	**Sidrap Palu**	**10.46 221**	P	**Pn**	**16 19 27.6**	**+3.0**
	53nm,1.0s					
KKM	**Kota Kinabalu**	**10.62 282**	*e*P	**Pn**	**16 19 27.6**	**+0.7**
KKM	**Kota Kinabalu**	**10.62 282**	P	**Pn**	**16 19 29.0**	**+2.1**
KKM	**Kota Kinabalu**	**10.62 282**	P	**Pn**	**16 19 29.2**	**+2.3**
	64nm,2.0s,1μm					
BAKI	**Biak**	**10.73 118**	P	**Pn**	**16 19 28.6**	**+0.3**
	231nm,1.3s,2μm					
KAPI	**Kappang**	**11.27 218**	*e*P	**Pn**	**16 19 35.7**	**0.0**
	21nm,0.9s					
KAPI	**Kappang**	**11.27 218**	P	**Pn**	**16 19 36.8**	**+1.1**
	27nm,1.6s					
TLE	**Tual**	**11.29 147**	P	**Pn**	**16 19 36.7**	**+0.7**
	204nm,1.3s					
BKSI	**Bukumba**	**11.29 215**	P	**Pn**	**16 19 36.8**	**+0.8**
	23nm,1.1s					
MMRI	**Maumere**	**13.26 199**	P	P	16 20 15.3	+5.5
SMPI	**Sarmi**	**13.41 116**	P	**Pn**	**16 20 04.1**	**-0.5**
	74nm,1.4s					
BBKI	**Banjar Baru**	**13.92 238**	P	**P**	**16 20 14.9**	**-2.3**
	134nm,1.2s					
JAY	**Jayapura**	**15.43 114**	P	P	16 20 43.8	+10
STKI	**Sintang**	**15.66 256**	P	**P**	**16 20 38.4**	**+1.9**
PBKI	**Pangkalan Bun**	**16.38 246**	P	**P**	**16 20 45.1**	**+0.6**
	130nm,1.1s					
KHKI	**Kahang-Kahang**	**16.47 222**	P	**P**	**16 20 46.2**	**+0.8**
	74nm,1.2s					
KSM	**Kuching**	**16.52 262**	*e*P	**P**	**16 20 46.5**	**+0.4**
	48nm,0.9s					
KSM	**Kuching**	**16.52 262**	P	**Pn**	**16 20 45.0**	**+0.3**
KSM	**Kuching**	**16.52 262**	P	**P**	**16 20 47.0**	**+0.9**
	64nm,1.1s,551nm					
SJI	**Sawahan**	**18.86 232**	P	**Pn**	**16 21 14.2**	**+1.0**
	45nm,1.6s					
PWJI	**Pagerwojo**	**19.01 231**	P	**P**	**16 21 12.0**	**-1.4**
	42nm,1.1s					
YULB	**Yu-li**	**20.01 345**	*e*P	**P**	**16 21 20.1**	**-4.2**
	56nm,1.4s					
TPUB	**Ta-pu**	**20.10 344**	*e*P	**P**	**16 21 21.7**	**-3.6**
	44nm,0.7s					
GUMO	**Guam**	**20.36 61**	LR	LR	16 27 25.0	
	comp=Z,537nm,22.0s,baz=237,slow=31					
SSLB	**Suanglung**	**20.48 345**	*e*P	**P**	**16 21 26.4**	**-2.9**
	36nm,1.0s					
NACB	**Ninganchiao**	**20.69 347**	*e*P	**P**	**16 21 27.7**	**-3.9**
	16nm,0.8s					
YHNB	**Yeheng**	**21.22 347**	*e*P	**P**	**16 21 34.2**	**-3.1**
PPBI	**Pangkal Pinang**	**21.40 254**	P	**P**	**16 21 42.9**	**+3.6**
	21nm,1.2s,809nm					
LEM	**Lembang**	**21.82 241**	P	**P**	**16 21 45.7**	**+1.7**
	48nm,1.6s					
FITZ	**Fitzroy Crossi**	**21.94 183**	*e*P	**P**	**16 21 44.4**	**-0.6**
	17nm,0.8s					
FITZ			S	**S**	**16 25 41.2**	**-2.0**
FITZ	**Fitzroy Crossi**	**21.94 183**	*e*P	**P**	**16 21 43.8**	**-1.1**
	28nm,0.7s					
FITZ	**Fitzroy Crossi**	**21.94 183**	P	**P**	**16 21 44.3**	**-0.6**
	7.0nm,0.4s,baz=358,slow=10,SNR=22					
FITZ			S	**S**	**16 25 41.2**	**-2.0**
	6.2nm,0.9s,baz=179,slow=18,SNR=4.5					
QIZ	**Qiongzhong**	**22.24 314**	P	**P**	**16 21 47.8**	**-0.5**
QIZ			pP	**pP**	**16 22 03.1**	**-0.7**
QIZ			sP	**sP**	**16 22 11.8**	**-1.3**
QIZ			S	**S**	**16 25 49.6**	**+1.0**
QIZ			pmax	pmax		
	comp=Z,27nm,1.4s					
QIZ			LR	LR		
	comp=N,270nm,18.6s					
QIZ			LR	LR		
	comp=E,210nm,22.5s					
QIZ			LR	LR		
	comp=Z,630nm,23.3s					
QIZ	**Qiongzhong**	**22.24 314**	*e*P	**P**	**16 21 48.5**	**+0.2**
	comp=Z,38nm,1.4s					
QZH	**Quanzhou**	**22.27 340**	P	**P**	**16 21 48.3**	**-0.2**
QZH			S	**S**	**16 25 44.8**	**-4.2**
QZH			LR	LR		
	comp=Z,2μm,17.4s					
JOW	**Kunigami**	**22.80 4**	*e*P	**P**	**16 21 52.4**	**-1.8**
	comp=Z,12nm,0.9s					
JOW	**Kunigami**	**22.80 4**	P	**P**	**16 21 53.4**	**-0.8**
	comp=Z,18nm,0.7s,baz=192,slow=7.8,SNR=9.9					
MYKOM	**Kota Tinggi**	**22.89 265**	P	**P**	**16 21 55.4**	**+0.2**
MYKOM	**Kota Tinggi**	**22.89 265**	P	**P**	**16 21 56.6**	**+1.4**
	comp=Z,30nm,1.1s,comp=Z,496nm					
KLSI		**23.54 249**	P	P	16 22 10.4	+9.1
COEN	**Coen**	**24.18 138**	*e*P	**P**	**16 22 06.9**	**-0.2**
WRAB	**Tennant Creek**	**24.91 163**	*e*P	**P**	**16 22 12.6**	**-1.1**
WRAB			pmax	pmax		
	comp=Z,81nm,1.1s					
WRAB	**Tennant Creek**	**24.91 163**	*e*P	**P**	**16 22 12.6**	**-1.1**
	comp=Z,81nm,1.1s					
WRAB	**Tennant Creek**	**24.91 163**	P	**P**	**16 22 13.0**	**-0.7**
	comp=Z,402nm,0.7s,SNR=18					
WRA	**Warramunga Arr**	**24.91 163**	P	**P**	**16 22 12.6**	**-1.1**
WRA			S	**S**	**16 26 34.4**	**+2.5**
WRA	**Warramunga Arr**	**24.91 163**	P	**P**	**16 22 12.6**	**-1.1**
	comp=Z,33nm,0.7s,baz=344,slow=10,SNR=131					
WRA			S	**S**	**16 26 34.4**	**+2.5**
	comp=Z,2.5nm,0.9s,baz=340,slow=16,SNR=5.7					
FRIM	**Kepong**	**25.00 269**	P	**P**	**16 22 14.3**	**-0.3**
IPM	**Ipoh**	**25.58 272**	*e*P	**P**	**16 22 19.2**	**-0.6**
	comp=Z,26nm,1.0s					
IPM	**Ipoh**	**25.58 272**	P	**P**	**16 22 19.8**	**-0.1**
IPM	**Ipoh**	**25.58 272**	P	**P**	**16 22 20.0**	**+0.1**
	comp=Z,30nm,1.2s					
MBWA	**Marble Bar**	**25.86 195**	*e*P	**P**	**16 22 29.9**	**+0.6**
KULM	**Kulim**	**25.96 274**	*e*P	**P**	**16 22 22.8**	**-0.5**
	comp=Z,23nm,1.1s					
KULM	**Kulim**	**25.96 274**	P	**P**	**16 22 23.3**	**0.0**
KULM	**Kulim**	**25.96 274**	P	**P**	**16 22 22.8**	**-0.5**
	comp=Z,21nm,1.2s					
MNSI	**Mandailing Nat**	**27.24 264**	P	**P**	**16 22 37.0**	**+2.2**
	comp=Z,29nm,1.2s					
CBIJ	**Chichi jima**	**27.38 31**	P	**P**	**16 22 36.5**	**+0.6**
CBIJ	**Chichi jima**	**27.38 31**	P	**P**	**16 22 36.5**	**+0.6**
	comp=Z,107nm,0.6s,baz=191,slow=16,SNR=3.8					
SSE	**Sheshan**	**27.49 350**	P	**P**	**16 22 36.8**	**0.0**
SSE			S	**S**	**16 27 15.4**	**+3.1**
SSE			pmax	pmax		
	comp=Z,16nm,0.8s					
SSE			pmax	pmax		
	comp=Z,190nm,3.9s					
SSE			LR	LR		
	comp=N,190nm,23.1s					
SSE			LR	LR		
	comp=E,83nm,24.2s					
SSE			LR	LR		
	comp=Z,210nm,25.1s					
PSI	**Prapat**	**27.72 269**	P	**P**	**16 22 38.3**	**-0.9**
PSI	**Prapat**	**27.72 269**	P	**P**	**16 22 39.4**	**+0.2**
	comp=Z,20nm,1.1s					
PSI	**Prapat**	**27.72 269**	P	**P**	**16 22 38.3**	**-0.9**
	comp=Z,9.6nm,0.7s,baz=15,slow=1.3,SNR=8.0					
AS31	**Alice Springs**	**28.34 166**	*e*P	**P**	**16 22 44.2**	**-0.3**
ASAR	**Alice Springs**	**28.34 166**	P	**P**	**16 22 44.0**	**-0.5**
ASAR			S	**S**	**16 27 29.7**	**+3.7**
ASAR	**Alice Springs**	**28.34 166**	P	**P**	**16 22 44.0**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=344,slow=7.1,SNR=64					
ASAR			S	**S**	**16 27 29.7**	**+3.7**
	comp=Z,1.4nm,1.0s,baz=355,slow=21,SNR=4.3					
WHN	**Wuhan**	**28.89 338**	P	**P**	**16 22 48.0**	**-1.3**
WHN			*e*S	S	16 27 40.9	+6.4
WHN			pmax	pmax		
	comp=Z,38nm,0.9s					
WHN			LR	LR		
	comp=Z,2μm,21.2s					
NJ2	**Nanjing**	**28.90 346**	*e*P	**P**	**16 22 49.1**	**-0.3**
NJ2			pP	**pP**	**16 23 05.8**	**-1.1**
NJ2			sP	**sP**	**16 23 15.3**	**-0.4**
NJ2			S	**S**	**16 27 34.0**	**-0.5**
NJ2			sS	**sS**	**16 28 06.5**	**+1.7**
NJ2			pmax	pmax		
	comp=Z,30nm,1.2s					
NJ2			pmax	pmax		
	comp=Z,250nm,4.7s					
NJ2			LR	LR		
	comp=N,290nm,22.8s					
NJ2			LR	LR		
	comp=E,420nm,24.0s					
NJ2			LR	LR		
	comp=Z,390nm,21.5s					
GSI	**Gunungsitoli**	**29.18 266**	P	**P**	**16 22 50.6**	**-1.5**

comp=Z,84nm,3.9s
KMI LR LR
comp=N,220nm,24.6s
KMI LR LR
comp=E,390nm,20.4s
KMI LR LR
comp=Z,540nm,25.4s
JHJ Hachijo jima 2 31.50 21 LR LR 16 33 37.5
comp=Z,321nm,20.1s,baz=54,slow=32
KSAR Wonju Array Be 33.35 2 P **P** **16 23 27.7 -0.7**
KSAR PcP **PcP** **16 26 10.5 +1.7**
KSRS Korea Array 33.36 2 P **P** **16 23 27.7 -0.8**
comp=Z,2.6nm,0.6s,baz=183,slow=9.9,SNR=8.3
KSRS PcP **PcP** **16 26 10.5 +1.7**
comp=Z,3.1nm,0.7s,baz=180,slow=2.1,SNR=8.1
KSRS LR LR 16 36 04.7
comp=Z,170nm,19.0s,baz=187,slow=35
MJAR Matsushiro Arr 34.13 17 P **P** **16 23 32.5 -2.8**
MJAR PcP **PcP** **16 26 12.8 +1.7**
MJAR Matsushiro Arr 34.13 17 P **P** **16 23 32.4 -2.8**
comp=Z,1.3nm,0.6s,baz=189,slow=8.7,SNR=6.3
MJAR PcP **PcP** **16 26 12.8 +1.7**
comp=Z,3.7nm,1.0s,baz=199,slow=4.1,SNR=6.3
MJAR LR LR 16 35 21.0
comp=Z,192nm,20.5s,baz=190,slow=33
XAN Xi'an 34.19 333 P **P** **16 23 33.8 -2.1**
XAN pP **pP** **16 23 52.0 -1.7**
XAN sP **sP** **16 24 01.0 -1.4**
XAN PP **PnPn** **16 24 49.0 -3.3**
XAN S **S** **16 28 51.3 -5.9**
XAN pmax pmax
comp=Z,13nm,1.2s
XAN pmax pmax
comp=Z,14nm,3.4s
XAN LR LR
comp=N,310nm,17.6s
XAN LR LR
comp=E,140nm,18.3s
XAN LR LR
comp=Z,160nm,18.7s
CD2 Chengdu 34.43 324 P **P** **16 23 37.0 -1.0**
CD2 PP **PnPn** **16 24 53.4 -1.9**
CD2 S **S** **16 29 01.9 +1.0**
CD2 SS **SnSn** **16 31 13.8 -4.8**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,90nm,4.9s
CD2 LR LR
comp=N,530nm,17.8s
CD2 LR LR
comp=Z,580nm,19.6s
FORT Forrest 34.56 178 *e*P **P** **16 23 38.6 -0.4**
comp=Z,63nm,1.0s
FORT Forrest 34.56 178 *e*P **P** **16 23 38.6 -0.4**
comp=Z,46nm,1.0s
DL2 Dalian 35.09 353 P **P** **16 23 43.8 +0.3**
DL2 pmax pmax
comp=Z,30nm,1.2s
HNR Honiara 35.73 112 LR LR 16 36 22.6
comp=Z,280nm,21.7s,baz=283,slow=33
KLBR Kellerberrin 36.35 193 *e*P **P** **16 23 54.2 -0.2**
comp=Z,122nm,1.9s
BJT Baijiatuau 37.14 347 *e*P **P** **16 24 00.3 -0.7**
comp=Z,26nm,0.6s
BJI Beijing 37.16 347 P **P** **16 24 00.4 -0.7**
BJI pP **pP** **16 24 18.6 -0.5**
BJI sP **sP** **16 24 27.0 -0.7**
BJI PP **PnPn** **16 25 31.1 +2.6**
BJI S **S** **16 29 43.4 +1.1**
BJI pmax pmax
comp=Z,19nm,0.6s
BJI LR LR
comp=N,160nm,14.5s
BJI LR LR
comp=E,370nm,15.9s
BJI LR LR
comp=Z,130nm,18.4s
EIDS Eidsvold 37.56 142 *e*P **P** **16 24 04.9 +0.1**
BBOO Buckleboo 37.63 167 *e*P **P** **16 24 05.2 0.0**
comp=Z,2µm,1.8s
NWAO Narrogin (SRO) 37.75 193 P **P** **16 24 06.1 -0.2**
NWAO Narrogin (SRO) 37.75 193 P **P** **16 24 06.1 -0.2**
comp=Z,10nm,0.6s,baz=53,slow=8.4,SNR=12
SNY Shenyang 37.81 356 ⇑P **P** **16 24 06.4 -0.2**
SNY pmax pmax
comp=Z,15nm,0.7s
LZH Lanzhou 38.28 330 *e*P **P** **16 24 10.3 -0.6**
LZH PcP **PcP** **16 26 26.4 +2.7**
LZH *e*S **S** **16 29 59.3 -0.5**
LZH SS **SS** **16 32 42.5 -8.8**
LZH pmax pmax
comp=Z,59nm,1.0s
LZH pmax pmax
comp=Z,99nm,5.2s
LZH LR LR
comp=N,500nm,14.0s
LZH LR LR
comp=E,260nm,14.8s
LZH LR LR
comp=Z,560nm,14.8s
STKA Stephens Creek 38.36 159 *e*P **P** **16 24 11.6 +0.3**
comp=Z,6.0nm,0.8s
STKA Stephens Creek 38.36 159 *e*P **P** **16 24 11.0 -0.4**
comp=Z,24nm,0.8s
STKA Stephens Creek 38.36 159 P **P** **16 24 11.8 +0.4**
comp=Z,26nm,0.8s,baz=336,slow=8.8,SNR=81
STKA LR LR 16 40 33.1
comp=Z,258nm,21.1s,baz=2.5,slow=37
HHC Hu-ho-hao-te 39.17 342 *e*P **P** **16 24 17.8 -0.4**
HHC pP **pP** **16 24 35.9 -0.4**
HHC sP **sP** **16 24 44.8 -0.1**
HHC PP **PnPn** **16 25 52.5 -0.2**
HHC S **S** **16 30 11.8 -1.2**
HHC sS **sS** **16 30 43.0 -0.8**
HHC SS **SS** **16 33 01.3 -7.3**
HHC pmax pmax
comp=Z,24nm,0.9s
HHC pmax pmax
comp=Z,89nm,4.3s
HHC LR LR
comp=N,400nm,14.2s
HHC LR LR
comp=E,310nm,12.9s
HHC LR LR
comp=Z,310nm,16.1s
SHL Shillong 39.70 306 *e*PKP **P** **16 24 23.0 +0.1**
SHL *e*S **S** **16 30 19.0 -2.4**
CN2 Changchun 39.70 359 *e*P **P** **16 24 24.3 +1.9**
CN2 *e*pP **pP** **16 24 42.5 +2.0**
CN2 *e*S **S** **16 30 22.8 +2.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
USRK Ussuriysk Arra 40.36 6 P **P** **16 24 27.2 -0.6**
comp=Z,1.9nm,0.5s,baz=181,slow=8.2,SNR=5.3
MDJ Mudanjiang 40.58 3 P **P** **16 24 30.0 +0.3**
MDJ PP **PP** **16 26 03.8 -0.8**
MDJ S **S** **16 30 37.5 +3.8**
MDJ pmax pmax
comp=Z,15nm,1.5s
MDJ pmax pmax
comp=Z,310nm,4.8s
MDJ LR LR
comp=N,110nm,25.6s
MDJ LR LR
comp=E,130nm,26.8s
MDJ LR LR
comp=Z,110nm,20.9s
MDJ Mudanjiang 40.58 3 P **P** **16 24 28.7 -1.0**
comp=Z,25nm,1.3s
ARMA Armidale 41.69 147 *e*P **P** **16 24 40.1 +1.0**
LSA Lhasa 42.25 311 P **P** **16 24 43.8 -0.3**
LSA pmax pmax
comp=Z,40nm,1.0s
LSA Lhasa 42.25 311 *e*P **P** **16 24 43.8 -0.3**
LSA pmax pmax
comp=Z,8.0nm,0.6s
LSA Lhasa 42.25 311 *e*P **P** **16 24 43.8 -0.3**
comp=Z,8.4nm,0.6s
ASAJ Asahikawa 42.40 17 P **P** **16 24 44.5 -0.1**
ASAJ Asahikawa 42.40 17 P **P** **16 24 44.5 -0.1**
comp=Z,4.8nm,0.4s,baz=167,slow=30,SNR=5.0
GTA Gaotai 42.88 329 *e*P **P** **16 24 47.5 -1.2**
GTA pP **pP** **16 25 06.0 -1.0**
GTA sP **sP** **16 25 15.0 -0.5**
GTA PcP **PcP** **16 26 40.4 +1.9**
GTA S **S** **16 31 06.9 -1.2**
GTA sS **sS** **16 31 38.8 -0.5**
GTA SS SS 16 34 13.6 -8.5
GTA pmax pmax
comp=Z,9.0nm,1.3s
GTA pmax pmax
comp=Z,61nm,4.7s
GTA LR LR
comp=N,380nm,19.5s
GTA LR LR
comp=E,420nm,18.5s
GTA LR LR
comp=Z,580nm,20.4s
TAPN Taplejung 43.84 306 *e*P **P** **16 24 55.5 -1.3**
comp=Z,18nm,0.5s
ODAN Odare 43.89 305 *e*P **P** **16 24 55.7 -1.5**
comp=Z,48nm,1.0s
CAN Canberra 44.34 154 *e*P **P** **16 25 01.8 +1.4**
CAN pmax pmax
comp=Z,43nm,1.0s
CAN Canberra 44.34 154 *e*P **P** **16 25 01.8 +1.4**
comp=Z,43nm,1.0s
CNB Canberra Magne 44.49 153 *e*P **P** **16 25 01.5 -0.1**
comp=Z,110nm,1.0s
RAMN Ramite 44.57 305 *e*P **P** **16 25 01.5 -1.2**
comp=Z,86nm,1.3s
TOO Toolangi 44.87 159 *e*P **P** **16 25 05.7 +1.2**
comp=Z,47nm,0.8s
HABR Khabarovsk 44.94 8 *e*P **P** **16 25 03.4 -1.4**
HABR *e**PP pP 16 25 12.3 -11
HABR *e**SP sP 16 25 16.4 -15
HABR *e* 16 26 43.3
HABR *e*S **S** **16 31 39.8 +2.3**
HABR *e**SS sS 16 31 55.7 -13
HABR *e* 16 34 57.0
HABR pmax pmax
comp=Z,38nm,1.6s
HABR pmax pmax
comp=E,68nm,2.1s
HABR pmax pmax
comp=N,53nm,3.1s
HABR MLR MLR
comp=Z,140nm,17.0s
JIRN Jiri 45.19 306 *e*P **P** **16 25 06.3 -1.4**
comp=Z,10nm,0.9s
HIA Hailar 45.54 354 *e*P **P** **16 25 09.5 -0.2**
comp=Z,44nm,1.1s
GUN Gumba 45.55 306 *e*P **P** **16 25 08.9 -1.6**
comp=Z,49nm,0.9s
PKI Pulchoki 45.79 305 *e*P **P** **16 25 10.8 -1.6**
KKN Kakani 45.98 305 *e*P **P** **16 25 12.1 -1.7**
comp=Z,44nm,1.3s
DMN Daman 46.05 305 *e*P **P** **16 25 12.8 -1.6**
comp=Z,47nm,1.2s
GKN Gorkha 46.59 305 *e*P **P** **16 25 16.9 -1.6**
comp=Z,7.5nm,0.4s
DZM Mont Dzumac 46.71 125 P **P** **16 25 18.8 -0.7**
DZM Mont Dzumac 46.71 125 P **P** **16 25 18.8 -0.7**
comp=Z,12nm,1.2s,baz=270,slow=5.1,SNR=5.3
ULN Ulaanbaatar 46.89 342 *e*P **P** **16 25 19.6 -0.9**
comp=Z,11nm,0.8s
ULN Ulaanbaatar 46.89 342 P **P** **16 25 20.7 +0.3**
SNR=8.4
SONM Songino Array 47.07 341 P **P** **16 25 21.2 -0.6**
SONM PcP **PcP** **16 26 53.7 +0.9**
SONM ScP ScP 16 30 52.7 +12
SONM Songino Array 47.07 341 P **P** **16 25 21.2 -0.6**
comp=Z,6.3nm,1.0s,baz=164,slow=8.0,SNR=30
SONM PcP **PcP** **16 26 53.7 +0.9**
comp=Z,1.5nm,0.6s,baz=185,slow=3.6,SNR=4.9
SONM ScP ScP 16 30 52.7 +12
comp=Z,0.4nm,0.8s,baz=195,slow=2.2,SNR=3.0
SONM LR LR 16 46 04.6
comp=Z,239nm,21.9s,baz=166,slow=37
KOLN Koldanda 47.35 305 *e*P **P** **16 25 23.2 -1.2**
comp=Z,27nm,0.4s
DANN Dangsing 47.44 305 *e*P **P** **16 25 23.5 -1.7**
comp=Z,54nm,0.6s
HYB Hyderabad 48.98 290 *i* P **P** **16 25 35.5 -1.5**
CIT Chita 49.14 349 *e*P **P** **16 25 36.1 -1.5**
CIT pmax pmax
comp=Z,150nm,1.7s
ZAK Zakamensk 50.30 341 *e*P **P** **16 25 45.1 -1.4**
ZAK *e* 16 27 05.0
ZAK pmax pmax
comp=Z,3.0nm,1.2s
TLY Talaya 51.30 342 *e*P **P** **16 25 52.5 -1.4**
TLY *e*S **S** **16 33 10.6 +3.2**
TLY *e*SSS SSS 16 38 25.7
TLY pmax pmax
comp=Z,8.0nm,0.8s
TLY MLR MLR
comp=Z,188nm,19.0s
TLY Talaya 51.30 342 *e*P **P** **16 25 54.2 +0.3**
comp=Z,12nm,1.0s
TLY Talaya 51.30 342 P **P** **16 25 54.7 +0.8**
SNR=6.7
MOY Mondy 52.15 340 *e*P **P** **16 26 00.8 +0.4**
WMQ Urumqi 52.51 325 P **P** **16 26 02.3 -0.8**
WMQ pP **pP** **16 26 21.0 -0.9**
WMQ sP **sP** **16 26 30.0 -0.4**
WMQ PcP **PcP** **16 27 13.0 +0.3**
WMQ PP **PP** **16 28 04.0 +1.3**
WMQ *e*S **S** **16 33 22.0 -2.3**
WMQ pmax pmax
comp=Z,15nm,1.4s
WMQ pmax pmax
comp=Z,190nm,6.4s
WMQ LR LR
comp=N,990nm,17.2s
WMQ LR LR
comp=E,580nm,17.2s
WMQ LR LR
comp=Z,690nm,20.0s
POO Poona 53.58 290 ⇓*i* P P 16 26 08.0 -3.4
comp=Z,40nm,1.0s
BOD Bodaibo 54.64 352 *e*P **P** **16 26 18.1 -0.2**
BOD pmax pmax
comp=Z,21nm,1.9s
PETK Petropavlovsk- 55.25 22 P **P** **16 26 22.5 -0.4**
PETK Petropavlovsk- 55.25 22 P **P** **16 26 22.5 -0.4**
PETK Petropavlovsk- 55.25 22 P **P** **16 26 22.5 -0.4**
comp=Z,2.8nm,0.4s,baz=195,slow=6.2,SNR=28
PETK LR LR 16 47 09.3
comp=Z,133nm,21.1s,baz=99,slow=33
MK31 Makanchi Array 57.34 325 *i* P **P** **16 26 36.7 -1.2**
MK31 pmax pmax
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 57.34 325 *e*P **P** **16 26 36.6 -1.2**
MKAR Makanchi Array 57.34 325 *e*P **P** **16 26 36.9 -1.0**
MKAR 16 27 32.0
MKAR Makanchi Array 57.34 325 *e*P **P** **16 26 36.9 -1.0**
MKAR PcP **PcP** **16 27 32.0 +0.8**
MKAR ScP **ScP** **16 31 30.4 +5.8**
MKAR Makanchi Array 57.34 325 P **P** **16 26 36.8 -1.1**
comp=Z,6.1nm,0.6s,baz=124,slow=7.4,SNR=57
MKAR PcP **PcP** **16 27 32.0 +0.8**
comp=Z,3.2nm,0.6s,baz=119,slow=3.7,SNR=4.2
MKAR ScP **ScP** **16 31 30.4 +5.8**
comp=Z,1.6nm,0.9s,baz=130,slow=4.6,SNR=7.4
MKAR LR LR 16 53 14.0
comp=Z,357nm,18.7s,baz=122,slow=38
KSH Kashi 57.84 315 P **P** **16 26 42.3 +0.6**
KSH pP **pP** **16 27 01.4 +0.6**
KSH sP **sP** **16 27 10.0 +0.8**
KSH PcP **PcP** **16 27 32.6 -0.9**
KSH PP **PP** **16 28 53.4 +2.7**
KSH ScP **ScP** **16 31 25.3 -1.8**
KSH PcS **PcS** **16 31 32.6 -2.4**
KSH S **S** **16 34 35.3 -0.6**
KSH sS **sS** **16 35 08.4 +0.1**
KSH ScS **ScS** **16 36 21.3 -3.4**
KSH SS **SS** **16 38 29.5 +1.8**
KSH LR LR
comp=N,120nm,5.1s
KSH LR LR
comp=E,120nm,5.5s
KSH LR LR
comp=Z,200nm,19.0s
YAK Yakutsk 57.99 2 *e*P **P** **16 26 40.5 -1.6**
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,21nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.6s
YAK Yakutsk 57.99 2 *e*P **P** **16 26 41.7 -0.4**
comp=E,41nm,0.8s
KZA Kyzart 59.41 317 P **P** **16 26 54.3 +1.4**
SNR=10
TKM2 Tokmak 2 59.54 318 *e*P **P** **16 26 52.9 -0.6**
TKM2 pmax pmax
comp=Z,27nm,0.7s
TKM2 Tokmak 2 59.54 318 *e*P **P** **16 26 52.9 -0.6**
comp=Z,27nm,0.7s
TKM2 Tokmak 2 59.54 318 P **P** **16 26 53.0 -0.6**
SNR=7.2
KBK Karagaybulak 59.86 318 P **P** **16 26 56.4 +0.7**
SNR=7.4
AAK Ala-Archa 60.15 318⇑ *e*P **P** **16 26 58.6 +0.9**
AAK pmax pmax
comp=Z,26nm,1.7s
AAK MLR MLR
comp=Z,865nm,20.0s
AAK Ala-Archa 60.15 318 *e*P **P** **16 26 58.0 +0.3**
comp=Z,31nm,1.1s
AAK Ala-Archa 60.15 318 P **P** **16 26 58.1 +0.5**
SNR=6.0
AAK Ala-Archa 60.15 318 LR LR 16 54 05.6
comp=Z,100nm,19.4s,baz=88,slow=37
ZAA0 Zalesovo Array 60.36 333 *e*P **P** **16 26 56.2 -2.4**
ZALV Zalesovo Beam 60.36 333 P **P** **16 26 56.8 -1.8**
ZALV Zalesovo Beam 60.36 333 P **P** **16 26 56.8 -1.8**
ZALV Zalesovo Beam 60.36 333 P **P** **16 26 56.8 -1.8**
comp=Z,1.7nm,0.5s,baz=132,slow=5.9,SNR=12
ZALV LR LR 16 54 55.0
comp=Z,146nm,18.9s,baz=252,slow=38
USP Ospenovka 60.41 318 P **P** **16 26 58.2 -1.1**
SNR=19
AML Almayashu 60.49 317 P **P** **16 27 01.5 +1.2**
SNR=14
EKS2 Erkin-Say 60.64 318 *e*P **P** **16 27 00.4 -0.6**
EKS2 pmax pmax
comp=Z,18nm,1.2s
EKS2 Erkin-Say 60.64 318 *e*P **P** **16 27 00.4 -0.6**
comp=Z,18nm,1.2s
EKS2 Erkin-Say 60.64 318 P **P** **16 27 00.6 -0.4**
SNR=6.3
KBL Kabul 61.34 307 *e*P **P** **16 27 04.4 -1.5**
KBL pmax pmax
comp=Z,23nm,1.1s
KBL Kabul 61.34 307 *e*P **P** **16 27 04.4 -1.5**
comp=Z,23nm,1.1s
KURBB Kurchatov Arra 61.52 327 LR LR 16 57 52.7
comp=Z,82nm,19.3s,baz=85,slow=40
KURK Kurchatov 61.52 327*c i*P **P** **16 27 05.4 -1.2**
KURK pmax pmax
comp=Z,23nm,1.0s
KURK MLR MLR
comp=Z,108nm,20.0s
KURK Kurchatov 61.52 327 *e*P **P** **16 27 04.9 -1.7**
comp=Z,22nm,1.1s
KURK Kurchatov 61.52 327 P **P** **16 27 05.9 -0.6**
SNR=8.4
KURK Kurchatov 61.52 327 P **P** **16 27 05.3 -1.3**
comp=Z,113nm,0.6s,SNR=21
NVS Novosibirsk 61.65 333⇑ *i*P P 16 27 03.9 -3.4
NVS *e*S S 16 35 35.9 +12
NVS pmax pmax
comp=Z,32nm,2.3s
NVS pmax pmax
comp=N,13nm,1.8s
NVS pmax pmax
comp=E,19nm,2.2s
NVS smax smax
comp=N,18nm,2.3s
NVS smax smax
comp=E,14nm,3.3s
SEY Seymchan 61.83 13⇓ *e*P **P** **16 27 09.6 +1.2**
KKAR Karatay Array 63.03 317 *e*P **P** **16 27 16.2 -0.6**
KKAR Karatay Array 63.03 317 *e*P **P** **16 27 16.2 -0.6**
BVA0 Borovoye Array 67.10 327 *i* P **P** **16 27 41.9 -1.1**
BVA0 pmax pmax
comp=Z,3.0nm,1.2s
BVAR Borovoye Array 67.10 327 LR LR 16 58 51.2
comp=Z,179nm,19.4s,baz=349,slow=38
BRVK Borovoye 67.17 327⇓ *e*P **P** **16 27 42.8 -0.7**
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK MLR MLR
comp=Z,225nm,23.0s
BRVK Borovoye 67.17 327 *e*P **P** **16 27 42.4 -1.1**
comp=Z,15nm,1.1s
BRVK Borovoye 67.17 327 P **P** **16 27 42.8 -0.7**
comp=Z,76nm,1.1s,SNR=12
BRVK Borovoye 67.17 327 P **P** **16 27 43.0 -0.5**
SNR=7.4
ZRNK Zerenda 67.83 326 P **P** **16 27 46.2 -1.4**
ZRNK pmax pmax
comp=Z,11nm,1.0s
BILL Bilibino 69.36 15⇓ *i*P **P** **16 27 56.8 0.0**
BILL *e*S **S** **16 37 00.5 +2.9**
BILL pmax pmax
comp=Z,14nm,2.5s
BILL MLR MLR
comp=Z,100nm,17.0s
BILL Bilibino 69.36 15 *e*P **P** **16 27 56.9 +0.1**
comp=Z,6.3nm,1.2s
ABKT Ailbek 70.70 309 P **P** **16 28 06.8 +1.0**
comp=Z,82nm,1.1s,SNR=7.8
AB31 Akbulak array 71.94 321 *i* P **P** **16 28 11.1 -1.8**
AB31 pmax pmax
comp=Z,9.0nm,0.8s
ABKAR Akbulak array 71.94 321 *e*P **P** **16 28 11.3 -1.6**
AKTO Aktyubinsk 73.45 322 P **P** **16 28 20.3 -1.5**
AKTO pmax pmax
comp=Z,4.0nm,1.2s
AKTO Aktyubinsk 73.45 322 LR LR 17 03 18.5
comp=Z,274nm,19.8s,baz=104,slow=38
SVE Sverdlovsk 73.74 328⇑ *e*P **P** **16 28 22.9 -0.5**
SVE pmax pmax
comp=Z,20nm,1.2s
ARU Arti 74.72 328*d i*P **P** **16 28 28.6 -0.5**
ARU PPP PPP 16 33 03.2
ARU S **S** **16 38 02.7 +3.3**
ARU SS **SS** **16 42 46.7 -1.5**
ARU pmax pmax
comp=Z,11nm,1.0s
ARU Arti 74.72 328 *e*P **P** **16 28 27.6 -1.5**
comp=Z,7.3nm,0.7s
ARU Arti 74.72 328 P **P** **16 28 28.7 -0.4**
comp=Z,66nm,0.6s,SNR=5.4
SOKR Solikamsk 76.49 331 *e*P **P** **16 28 38.4 -0.7**
SOKR pmax pmax
comp=Z,10.0nm,1.4s
SOKR MLR MLR
comp=Z,110nm,15.0s
OPO Ambohidratompo 81.31 251 P **P** **16 29 07.2 +0.6**
OPO Ambohidratompo 81.31 251 P **P** **16 29 07.2 +0.6**
comp=Z,2.0nm,0.3s,baz=90,slow=5.6,SNR=5.9
KDAK Kodiak Island 81.74 32 P **P** **16 29 08.8 +1.0**
KDAK Kodiak Island 81.74 32 P **P** **16 29 08.8 +1.0**
comp=Z,7.9nm,0.5s,baz=340,slow=3.6,SNR=13
ZEI Tsey 82.02 312 *e*P **P** **16 29 08.9 -1.1**
ZEI pmax pmax
comp=Z,9.0nm,1.0s
TRF Thorofare Moun 83.37 27 *e*P **P** **16 29 16.4 0.0**
comp=Z,27nm,1.2s
COLD Coldfoot 83.72 23 *e*P **P** **16 29 18.9 +1.0**
comp=Z,25nm,1.2s
PMR Palmer 83.78 29 *e*P **P** **16 29 18.4 +0.1**
PMR pmax pmax
comp=Z,60nm,1.4s
PMR Palmer 83.78 29 *e*P **P** **16 29 18.4 +0.1**
comp=Z,60nm,1.4s
VRHR Novokhopersk 83.83 321 *e*P **P** **16 29 17.3 -1.5**
VRHR pmax pmax
comp=N,4.0nm,0.8s
VRHR pmax pmax
comp=E,3.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
MAW Mawson 83.94 200 P **P** **16 29 19.6 +0.6**
MAW Mawson 83.94 200 P **P** **16 29 19.6 +0.6**
comp=Z,19nm,1.0s,baz=177,slow=19,SNR=2.9
MCK McKinley 84.00 26 *e*P **P** **16 29 19.1 -0.4**
MCK pmax pmax
comp=Z,55nm,1.5s
MCK McKinley 84.00 26 *e*P **P** **16 29 19.1 -0.4**
comp=Z,55nm,1.5s

SML	**Sawmill**	**84.17**	**28**	*e*P		**P**	**16 29 21.4**	**+1.0**		
SML				pmax		pmax				
	comp=Z,10.0nm,1.0s									
SML	**Sawmill**	**84.17**	**28**	*e*P		**P**	**16 29 21.4**	**+1.0**		
	comp=Z,9.7nm,1.0s									
ILAR	**Eielson Array**	**84.93**	**25**	P		**P**	**16 29 24.1**	**-0.1**		
ILAR	**Eielson Array**	**84.93**	**25**	P		**P**	**16 29 24.1**	**-0.1**		
	comp=Z,2.8nm,1.0s,baz=246,slow=5.2,SNR=21									
KLMR	**Klimovskoe**	**85.18**	**331**	*c*	*i*P	**P**	**16 29 24.4**	**-1.0**		
KLMR					pmax	pmax				
	comp=Z,159nm,1.4s									
PPT2	**Papeete2**	**85.24**	**108**	*e*SS		SS	16 45 23.5	-4.2		
	comp=Z,99nm,27.5s									
PPT2				*e*LR		LR	16 56 16.7			
	comp=Z,144nm,26.8s									
VORD	**Divnogorie**	**85.30**	**321**	*e*P		**P**	**16 29 26.0**	**-0.2**		
VORD				pmax		pmax				
	comp=N,70nm,0.7s									
VORD				pmax		pmax				
	comp=Z,10.0nm,0.7s									
VORD				pmax		pmax				
	comp=E,8.0nm,0.2s									
VSR	**Storozhevoye**	**85.38**	**321**	*e*P		**P**	**16 29 25.6**	**-1.0**		
VSR				pmax		pmax				
	comp=N,4.0nm,0.9s									
VSR				pmax		pmax				
	comp=E,10.0nm,0.9s									
VSR				pmax		pmax				
	comp=Z,10.0nm,0.9s									
PAX	**Paxson**	**85.53**	**27**	*e*P		**P**	**16 29 26.8**	**-0.5**		
PAX				pmax		pmax				
	comp=Z,22nm,1.4s									
PAX	**Paxson**	**85.53**	**27**	*e*P		**P**	**16 29 26.8**	**-0.5**		
	comp=Z,22nm,1.4s									
TBI	**Tubuai**	**85.94**	**114**	*e*SS		SS	16 45 38.0	+0.6		
	comp=Z,71nm,32.2s									
TBI				*e*LR		LR	16 56 37.5			
	comp=Z,180nm,26.8s									
MOS	**Moscow**	**86.22**	**325**	*e*P		**P**	**16 29 29.3**	**-1.4**		
MOS				*e*			16 29 47.3			
MOS				pmax		pmax				
	comp=Z,95nm,1.3s									
MOS				pmax		pmax				
	comp=Z,200nm,1.5s									
OBN	**Obninsk**	**86.84**	**325**	⇓	*i*P	**P**	**16 29 33.6**	**-0.1**		
OBN				*e*			16 33 02.7			
OBN				*e*S		**S**	**16 40 00.6**	**-5.1**		
OBN				pmax		pmax				
	comp=Z,87nm,1.2s									
OBN				MLR		MLR				
	comp=Z,100nm,18.0s									
OBN	**Obninsk**	**86.84**	**325**	P		**P**	**16 29 32.4**	**-1.3**		
	comp=Z,169nm,1.6s									
JOF	**Joensuu**	**88.95**	**333**	*e*P		**P**	**16 29 42.3**	**-1.3**		
JOF				pmax		pmax				
	comp=Z,9.0nm,0.6s									
JOF	**Joensuu**	**88.95**	**333**	*e*p		**P**	**16 29 42.3**	**-1.3**		
	comp=Z,8.5nm,0.6s									
KMBO	**Kilima Mbogo**	**89.49**	**269**	*e*P		**P**	**16 29 47.1**	**-0.4**		
	comp=Z,16nm,1.1s									
BR131	**Keskin Array S**	**89.83**	**310**	*e*P		**P**	**16 29 47.8**	**-0.7**		
	comp=Z,5.2nm,0.9s									
BRTR	**Keskin Array B**	**89.83**	**310**	P		**P**	**16 29 47.4**	**-1.0**		
BRTR	**Keskin Array B**	**89.83**	**310**	P		**P**	**16 29 47.4**	**-1.0**		
	comp=Z,4.2nm,0.8s,baz=133,slow=4.6,SNR=19									
ARCES	**ARCESS Array B**	**90.22**	**340**	P		**P**	**16 29 48.8**	**-0.7**		
ARCES	**ARCESS Array B**	**90.22**	**340**	P		**P**	**16 29 48.8**	**-0.7**		
	comp=Z,1.4nm,0.6s,baz=86,slow=5.6,SNR=13									
ARCES				LR		LR	17 13 20.4			
	comp=Z,156nm,19.8s,baz=358,slow=38									
KAF	**Kangasniemi**	**91.37**	**332**	*e*P		**P**	**16 29 53.2**	**-1.7**		
KAF				pmax		pmax				
	comp=Z,4.0nm,0.6s									
KAF	**Kangasniemi**	**91.37**	**332**	*e*p		**P**	**16 29 53.2**	**-1.7**		
	comp=Z,4.0nm,0.6s									
FINES	**FINESS Array B**	**91.61**	**332**	P		**P**	**16 29 55.7**	**-0.3**		
FINES	**FINESS Array B**	**91.61**	**332**	P		**P**	**16 29 55.7**	**-0.3**		
	comp=Z,9.7nm,1.0s,baz=58,slow=4.8,SNR=22									
FINES				LR		LR	17 14 11.8			
	comp=Z,128nm,18.9s,baz=315,slow=38									
AKASG	**Malin Array Be**	**91.68**	**321**	P		**P**	**16 29 55.6**	**-1.0**		
AKASG	**Malin Array Be**	**91.68**	**321**	P		**P**	**16 29 55.6**	**-1.0**		
AKASG	**Malin Array Be**	**91.68**	**321**	P		**P**	**16 29 55.6**	**-1.0**		
	comp=Z,6.7nm,0.8s,baz=74,slow=4.2,SNR=16									
AKASG				LR		LR	17 13 39.8			
	comp=Z,108nm,19.8s,baz=110,slow=37									
KIEV	**Kiev**	**91.69**	**321**	*e*P		**P**	**16 29 55.8**	**-0.8**		
KIEV				pmax		pmax				
	comp=Z,13nm,1.1s									
KIEV	**Kiev**	**91.69**	**321**	*e*P		**P**	**16 29 55.8**	**-0.8**		
	comp=Z,13nm,1.1s									
VSU	**Vasula**	**91.85**	**329**	⇓	*e*P	**P**	**16 29 56.5**	**-0.7**		
VSU				pmax		pmax				
	comp=Z,27nm,1.1s									
VSU				MLR		MLR				
	comp=Z,161nm,27.0s									
QSPA	**South Pole Qui**	**93.86**	**180**	*e*P		**P**	**16 30 07.8**	**+1.4**		
	comp=Z,148nm,2.7s									
QSPA	**South Pole Qui**	**93.86**	**180**	P		**P**	**16 30 07.9**	**+1.5**		
	comp=Z,5.1nm,1.1s,baz=295,slow=2.1,SNR=8.6									
TESR		**94.03**	**317**	⇓	*i*P	**P**	**16 30 07.0**	**-0.6**		
VRI	**Vrincioaia**	**94.09**	**316**	⇑	P	**P**	**16 30 08.2**	**+0.3**		
VRI	**Vrincioaia**	**94.09**	**316**	⇑	*i*P	**P**	**16 30 08.2**	**+0.3**		
VRI	**Vrincioaia**	**94.09**	**316**	⇑	*i*P	**P**	**16 30 08.2**	**+0.3**		
PLOR	**Plostina**	**94.15**	**316**	⇑	P	**P**	**16 30 08.5**	**+0.3**		
PLOR	**Plostina**	**94.15**	**316**	⇑	*i*P	**P**	**16 30 08.5**	**+0.3**		
PLOR	**Plostina**	**94.15**	**316**	⇑	*i*P	**P**	**16 30 08.5**	**+0.3**		
MLR	**Muntele Rosu**	**94.70**	**316**	⇓	*i*P	**P**	**16 30 10.6**	**-0.2**		
SUW	**Suwalki**	**94.71**	**325**	*e*P		**P**	**16 30 09.5**	**-0.9**		
SUW	**Suwalki**	**94.71**	**325**	*e*P		**P**	**16 30 09.5**	**-0.9**		
SUW	**Suwalki**	**94.71**	**325**	*e*P		**P**	**16 30 09.5**	**-0.9**		
SUW	**Suwalki**	**94.71**	**325**	*e*P		**P**	**16 30 10.0**	**-0.5**		
	comp=Z,62nm,1.0s									
BURAR	**Bucovina Array**	**94.80**	**318**	⇑	*i*P	**P**	**16 30 11.1**	**-0.1**		
BUR08	**Bucovina Ar. S**	**94.80**	**318**	*e*P		**P**	**16 30 10.8**	**-0.4**		
LVV	**L'vov**	**95.12**	**321**	*e*P		P	16 30 16.1	+3.6		
KWP	**Kalwaria Pacla**	**96.00**	**321**	*e*P		**P**	**16 30 16.5**	**0.0**		
KWP				pmax		pmax				
	comp=Z,13nm,0.8s									
KWP	**Kalwaria Pacla**	**96.00**	**321**	*e*P		**P**	**16 30 16.5**	**0.0**		
	comp=Z,12nm,0.8s									
KWP	**Kalwaria Pacla**	**96.00**	**321**	⇑	*i*P	**P**	**16 30 16.6**	**0.0**		
LOT	**Lotru**	**96.21**	**316**	⇓	*i*P	**P**	**16 30 17.6**	**-0.1**		
KOLS	**Kolonicke sedl**	**96.44**	**320**	*e*P		**P**	**16 30 18.1**	**-0.4**		
KOLS	**Kolonicke sedl**	**96.44**	**320**	*e*P		**P**	**16 30 18.1**	**-0.4**		
UZH	**Uzhgorod**	**96.49**	**320**	⇑	*i*P	**P**	**16 30 18.9**	**+0.2**		
UZH				*i*			16 30 30.9			
DRGR		**96.64**	**318**	⇓	P	**P**	**16 30 19.4**	**-0.1**		
DRGR		**96.64**	**318**	⇓	*i*P	**P**	**16 30 19.4**	**-0.1**		
GZR	**Gura Zlata**	**96.90**	**316**	⇓	P	**P**	**16 30 20.9**	**+0.1**		
GZR	**Gura Zlata**	**96.90**	**316**	⇓	*i*P	**P**	**16 30 20.9**	**+0.1**		
CRVS	**Cervenica-Dubn**	**96.96**	**320**	*e*P		**P**	**16 30 21.2**	**+0.3**		
CRVS				pmax		pmax				
	comp=Z,17nm,1.1s									
CRVS	**Cervenica-Dubn**	**96.96**	**320**	*e*P		**P**	**16 30 21.2**	**+0.3**		
OJC	**Ojcow**	**97.67**	**322**	*e*P		**P**	**16 30 24.0**	**0.0**		
OJC	**Ojcow**	**97.67**	**322**	*e*P		**P**	**16 30 24.0**	**0.0**		
PSZ	**Piszkesteto**	**98.22**	**319**	⇓	P	Pdif	16 30 26.8	+0.1		
PSZ	**Piszkesteto**	**98.22**	**319**	⇓	*i*P	Pdif	16 30 26.8	+0.1		
NOA	**NORSAR Array B**	**98.56**	**334**	P		**P**	**16 30 27.0**	**-0.9**		
NOA	**NORSAR Array B**	**98.56**	**334**	P		**P**	**16 30 27.0**	**-0.9**		
	comp=Z,1.4nm,0.8s,baz=68,slow=4.7,SNR=4.7									
VYHS	**Vyhne**	**98.75**	**320**	*e*P		**P**	**16 30 28.7**	**-0.2**		
VYHS				pmax		pmax				
	comp=Z,4.0nm,1.6s									
VYHS	**Vyhne**	**98.75**	**320**	PDIF		**P**	**16 30 28.7**	**-0.2**		
VYHS	**Vyhne**	**98.75**	**320**	*e*P		**P**	**16 30 28.7**	**-0.2**		
	comp=Z,3.9nm,1.6s									
OKC	**Ostrava-Krasne**	**98.80**	**322**	*e*P		Pdif	16 30 29.3	+0.2		
OKC	**Ostrava-Krasne**	**98.80**	**322**	*e*PDIFF		Pdif	16 30 29.3	+0.2		
MORC	**Moravsky Berou**	**99.19**	**322**	⇓	P	**Pdif**	**16 30 31.3**	**+0.4**		
MORC	**Moravsky Berou**	**99.19**	**322**	⇓	*i*P	**Pdif**	**16 30 31.3**	**+0.4**		
YKA	**Yellowknife Ar**	**99.33**	**24**	P		**Pdif**	**16 30 31.2**	**+0.1**		
YKA				PKiKP		**PKiKP**	**16 35 01.7**	**+1.2**		
YKA	**Yellowknife Ar**	**99.33**	**24**	P		**Pdif**	**16 30 31.2**	**+0.1**		
	comp=Z,0.4nm,0.8s,baz=296,slow=4.1,SNR=6.3									
YKA				PKiKP		**PKiKP**	**16 35 01.7**	**+1.2**		
	comp=Z,0.2nm,0.6s,baz=300,slow=1.8,SNR=4.3									
PKSM	**Moragy**	**99.50**	**318**	⇓	P	**Pdif**	**16 30 30.0**	**-2.3**		
PKSM	**Moragy**	**99.50**	**318**	⇓	*i*P	**Pdif**	**16 30 30.0**	**-2.3**		
KSP	**Ksiaz**	**99.63**	**323**	*e*P		**Pdif**	**16 30 33.2**	**+0.5**		
KSP	**Ksiaz**	**99.63**	**323**	*e*P		**Pdif**	**16 30 33.2**	**+0.5**		
KSP	**Ksiaz**	**99.63**	**323**	*e*P		**Pdif**	**16 30 32.9**	**+0.1**		
DPC	**Dobruska-Polom**	**99.77**	**322**	*e*P		**Pdif**	**16 30 33.8**	**+0.3**		
DPC				*e*			16 30 42.5			
DPC	**Dobruska-Polom**	**99.77**	**322**	*e*PDIFF		**Pdif**	**16 30 33.8**	**+0.3**		
DPC				*e*pP		pP	16 30 42.5	-11		
UPC	**Upice**	**99.91**	**323**	*e*P		**Pdif**	**16 30 33.8**	**-0.2**		
UPC	**Upice**	**99.91**	**323**	*e*PDIFF		**Pdif**	**16 30 33.8**	**-0.2**		
UPC				*ex*		x	16 30 37.4			
VRAC	**Vranov**	**99.92**	**321**	⇓	*i*P	**Pdif**	**16 30 35.0**	**+0.9**		
PVCC	**Panska Ves**	**100.77**	**323**	*e*P		**Pdif**	**16 30 38.7**	**+0.9**		
PVCC	**Panska Ves**	**100.77**	**323**	*e*PDIFF		**Pdif**	**16 30 38.7**	**+0.9**		
PRU	**Pruhonice**	**100.97**	**322**	*e*P		**Pdif**	**16 30 38.6**	**-0.1**		
PRU	**Pruhonice**	**100.97**	**322**	*e*PDIFF		**Pdif**	**16 30 38.6**	**-0.1**		
PRU				*e*pP		pP	16 30 43.9	-15		
BRG	**Berggiesshubel**	**101.02**	**323**	*e*P		**Pdif**	**16 30 39.3**	**+0.3**		
	comp=Z,7.2nm,0.9s									
BRG	**Berggiesshubel**	**101.02**	**323**	*e*Pdiff		**Pdif**	**16 30 39.5**	**+0.5**		
BRG	**Berggiesshubel**	**101.02**	**323**	*e*P		**Pdif**	**16 30 39.3**	**+0.3**		
BRG				pmax		pmax				
	comp=Z,7.0nm,0.9s									
CLL	**Collm**	**101.42**	**324**	*e*Pdiff		**Pdif**	**16 30 40.9**	**+0.2**		
CLL	**Collm**	**101.42**	**324**	*i*P		**Pdif**	**16 30 40.5**	**-0.2**		
CLL				pmax		pmax				
	comp=Z,9.0nm,1.5s									
KHC	**Kasperske Hory**	**101.85**	**322**	*e*P		**Pdif**	**16 30 42.9**	**+0.1**		
KHC	**Kasperske Hory**	**101.85**	**322**	*e*PDIFF		**Pdif**	**16 30 42.9**	**+0.1**		
KHC				*e*pP		pP	16 30 47.8	-16		
GEC2	**GERESS Array S**	**101.87**	**322**	*e*Pdiff		**Pdif**	**16 30 43.2**	**+0.2**		
GEC2	**GERESS Array S**	**101.87**	**322**	*e*P		**Pdif**	**16 30 43.2**	**+0.2**		
GERES	**GERESS Array B**	**101.87**	**322**	P		**Pdif**	**16 30 43.2**	**+0.2**		
GERES	**GERESS Array B**	**101.87**	**322**	P		**Pdif**	**16 30 43.2**	**+0.2**		
	comp=Z,2.5nm,1.0s,baz=57,slow=4.9,SNR=14									
TANN	**Tannenbergstha**	**102.07**	**323**	*e*Pdiff		**Pdif**	**16 30 44.1**	**+0.4**		
NKC	**Novy Kostel**	**102.14**	**323**	*e*P		**Pdif**	**16 30 44.4**	**+0.4**		
NKC	**Novy Kostel**	**102.14**	**323**	*e*PDIFF		**Pdif**	**16 30 44.4**	**+0.4**		
WET	**Wettzell**	**102.28**	**322**	*e*Pdiff		**Pdif**	**16 30 45.2**	**+0.6**		
WET	**Wettzell**	**102.28**	**322**	*e*P		**Pdif**	**16 30 45.2**	**+0.6**		
ROTZ	**Rotzenmuhle**	**102.46**	**323**	*e*Pdiff		**Pdif**	**16 30 46.3**	**+0.9**		
CLZ	**Clausthal**	**102.74**	**325**	*e*Pdiff		**Pdif**	**16 30 47.6**	**+1.0**		
CLZ	**Clausthal**	**102.74**	**325**	*e*P		**Pdif**	**16 30 47.6**	**+1.0**		
PDAR	**Pinedale Array**	**111.23**	**41**	PKKPab		PKKPab	16 46 29.3	-1.0		
PDAR				PKKP		**PKKPdf**	**16 46 37.9**	**-0.6**		
PDAR	**Pinedale Array**	**111.23**	**41**	PKKPab		PKKPab	16 46 29.3	-1.0		
	comp=Z,1.1nm,1.0s,baz=117,slow=5.2,SNR=5.7									
PDAR				PKKP		**PKKPdf**	**16 46 37.9**	**-0.6**		
	comp=Z,0.7nm,0.9s,baz=117,slow=5.2,SNR=4.5									
J22A	**Midwest**	**112.91**	**39**	⇓	P	**PKiKP**	**16 35 27.2**	**+0.8**		
	baz=113									
N20A	**Spence Gulch,**	**112.98**	**42**	⇓	P	**PKiKP**	**16 35 28.0**	**+1.3**		
	baz=113									
K26A	**Motz Farm, Whi**	**115.34**	**39**	⇑	P	**PKPdf**	**16 35 31.8**	**+0.8**		
	baz=115									
P26A	**Davis Ranch, A**	**116.89**	**42**	⇑	P	**PKPdf**	**16 35 35.1**	**+0.9**		
	baz=117									
V24A	**Rampart Ranch,**	**117.43**	**46**	⇑	P	**PKPdf**	**16 35 36.5**	**+1.0**		
	baz=117									
U25A	**Circle Dot Ran**	**117.73**	**45**	⇑	P	**PKPdf**	**16 35 37.5**	**+1.6**		
	baz=118									
V25A	**Rancho No Teng**	**117.85**	**46**	⇑	P	**PKPdf**	**16 35 38.5**	**+2.3**		
	baz=118									
T26A	**Comanche Natio**	**117.92**	**44**	⇑	P	**PKPdf**	**16 35 37.4**	**+1.1**		
	baz=118									
Y24A	**Capitan**	**118.13**	**48**	⇓	P	**PKPdf**	**16 35 37.8**	**+1.0**		
	baz=118									
Y25A	**Mesa, Roswell**	**118.69**	**48**	⇑	P	**PKPdf**	**16 35 38.8**	**+1.0**		
	baz=119									
Z25A	**Roswell**	**118.96**	**48**	⇓	P	**PKPdf**	**16 35 39.5**	**+1.2**		
	baz=119									
X26A	**CR and CF Fran**	**119.04**	**47**	⇓	P	**PKPdf**	**16 35 39.7**	**+1.2**		
	baz=119									
MNTX	**Cornudas Mount**	**119.16**	**50**	⇓	P	**PKPdf**	**16 35 39.8**	**+1.2**		
	baz=119									
324A	**Moseley Ranch,**	**119.19**	**51**	⇑	P	**PKPdf**	**16 35 39.8**	**+1.0**		
	baz=119									
325A	**Bean Ranch, Si**	**119.62**	**50**	⇑	P	**PKPdf**	**16 35 41.6**	**+1.9**		
	baz=120									
Y27A	**Causey**	**119.83**	**47**	⇓	P	**PKPdf**	**16 35 41.1**	**+1.2**		
	baz=120									
425A	**Indio Mountain**	**119.86**	**51**	⇑	P	**PKPdf**	**16 35 41.1**	**+1.0**		
	baz=120									
Z27A	**Tatum**	**120.06**	**48**	⇑	P	**PKPdf**	**16 35 41.8**	**+1.3**		
	baz=120									
MSTX	**Muleshoe**	**120.07**	**47**	⇓	P	**PKPdf**	**16 35 41.6**	**+1.2**		
	baz=120									
SCHQ	**Schefferville**	**120.36**	**9**	PKP		**PKPdf**	**16 35 41.4**	**+1.1**		
SCHQ	**Schefferville**	**120.36**	**9**	PKP		**PKPdf**	**16 35 41.4**	**+1.1**		
	comp=Z,2.2nm,0.5s,baz=294,slow=8.9,SNR=14									
326A	**Caldwell Ranch**	**120.40**	**50**	⇓	P	**PKPdf**	**16 35 42.1**	**+1.0**		
	baz=120									
526A	**Mary Lane Ranc**	**120.87**	**51**	⇑	P	**PKPdf**	**16 35 43.5**	**+1.4**		
	baz=121									
Y29A	**Porterfield Fa**	**120.92**	**46**	⇓	P	**PKPdf**	**16 35 43.6**	**+1.5**		
	baz=121									
626A	**Big Bend Ranch**	**121.05**	**52**	⇓	P	**PKPdf**	**16 35 43.5**	**+1.1**		
	baz=121									
Z29A	**Hungry Hill Ra**	**121.19**	**47**	⇑	P	**PKPdf**	**16 35 44.1**	**+1.6**		
	baz=121									
527A	**Woodward Ranch**	**121.20**	**51**	⇓	P	**PKPdf**	**16 35 44.4**	**+1.7**		
	baz=121									
328A	**Wristen Ranch,**	**121.26**	**50**	⇓	P	**PKPdf**	**16 35 44.2**	**+1.5**		
	baz=121									
KSU1	**Kansas State U**	**121.48**	**39**	*e*PKPdf		**PKPdf**	**16 35 44.0**	**+1.1**		
TXAR	**Lajitas Array**	**121.52**	**52**	PKP		**PKPdf**	**16 35 44.8**	**+1.5**		
TXAR	**Lajitas Array**	**121.52**	**52**	PKP		**PKPdf**	**16 35 44.8**	**+1.5**		
	comp=Z,1.3nm,0.9s,baz=256,slow=1.0,SNR=7.9									
428A	**Kincaid Ranch,**	**121.66**	**50**	⇓	P	**PKPdf**	**16 35 45.0**	**+1.5**		
	baz=122									
627A	**Terlingua Ranc**	**121.68**	**52**	⇑	P	**PKPdf**	**16 35 45.1**	**+1.5**		
	baz=122									
528A	**Cox Ranch, San**	**121.83**	**51**	⇑	P	**PKPdf**	**16 35 44.8**	**+0.9**		
	baz=122									
529A	**Stev Forest Ra**	**122.29**	**51**	⇓	P	**PKPdf**	**16 35 46.2**	**+1.4**		
	baz=122									
429A	**Davenport Ranc**	**122.31**	**50**	⇓	P	**PKPdf**	**16 35 46.2**	**+1.4**		
	baz=122									
430A	**Baggett Ranch,**	**122.73**	**49**	⇑	P	**PKPdf**	**16 35 47.1**	**+1.6**		
	baz=123									
TORD	**Torodi Ar. Bea**	**122.79**	**288**	PKP		**PKPdf**	**16 35 46.2**	**+0.2**		
TORD				PP		**PP**	**16 37 25.8**	**+1.0**		
TORD	**Torodi Ar. Bea**	**122.79**	**288**	PKP		**PKPdf**	**16 35 46.2**	**+0.2**		
	comp=Z,2.0nm,0.7s,baz=73,slow=1.8,SNR=11									
TORD				PP		**PP**	**16 37 25.8**	**+1.0**		
	comp=Z,1.4nm,1.0s,baz=80,slow=5.6,SNR=3.7									
431A	**Sonora**	**123.26**	**49**	⇑	P	**PKPdf**	**16 35 48.0**	**+1.4**		
	baz=123									
TUL1	**Tulsa**	**123.89**	**41**	⇓	P	**PKPdf**	**16 35 49.0**	**+1.5**		
	baz=124									
JCT	**Junction City**	**123.96**	**49**	*e*PKIKP		**PKPdf**	**16 35 49.6**	**+1.7**		
JCT	**Junction City**	**123.96**	**49**	*e*PKPdf		**PKPdf**	**16 35 49.6**	**+1.7**		
JCT	**Junction City**	**123.96**	**49**	⇑	P	**PKPdf**	**16 35 49.5**	**+1.6**		
	comp=Z,12nm,0.8s									
TRQA	**Tornquist**	**145.15**	**168**	*e*PKP		**PKPdf**	**16 36 27.3**	**+0.4**		
CPUP	**Villa Florida**	**157.42**	**171**	PKPab		**PKPab**	**16 37 18.2**	**+0.9**		
CPUP	**Villa Florida**	**157.42**	**171**	PKPab		**PKPab**	**16 37 18.2**	**+0.9**		
	comp=Z,1.9nm,0.8s,baz=172,slow=9.5,SNR=3.9									

*IDC **15** 16:23:53.2±0.9,25°.71S×69°.71E,h0km,mb4.3/11, mb1 4.4/11,mb1mx4.1/24,mbtmp4.3/11,MS3.9/5, Ms1 3.9/5,ms1mx3.4/30,Error ellipse: s-maj=30.3km s-min=19.3km az=61.0*

*ISCJB **15** 16:23:54.2±0.9,25°.7S±0°.1×69°.7E±0°.2,h21km,mb4.3/15, MS3.9/5,Error ellipse: s-maj=29.3km s-min=14.4km az=145.9*

*NEIC **15** 16:23:54.5±0.5,25°.71S×69°.68E,h10km,mb4.7/6,Error ellipse: s-maj=16.9km s-min=9.4km az=56.0*

ISC 15 16:23:56.3±0.8,25.7S±0°.2×69.7E±0°.2,h21km,n40, σ0s57/36,mb4.5/15,MS4.0/5,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**21.97**	**284**		LR	LR	16 35 20.1	
	comp=Z,158nm,19.9s,baz=351,slow=31							
MAW	**Mawson**	**42.10**	**184**		LR	LR	16 44 47.0	
	comp=Z,327nm,19.4s,baz=189,slow=30							
FITZ	**Fitzroy Crossi**	**52.18**	**94**	P		**P**	**16 33 06.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**52.18**	**94**	P		**P**	**16 33 06.1**	**+0.3**
	1.8nm,0.7s,baz=252,slow=6.4,SNR=3.5							
CMAR	**Chiang Mai Arr**	**52.34**	**36**	P		**P**	**16 33 08.1**	**+1.2**
CMAR	**Chiang Mai Arr**	**52.34**	**36**	P		**P**	**16 33 08.1**	**+1.2**
	0.8nm,0.8s,baz=245,slow=7.2,SNR=8.2							
CMAR				LR		LR	16 50 56.7	
	comp=Z,78nm,18.8s,baz=194,slow=31							
ASAR	**Alice Springs**	**57.89**	**103**	P		**P**	**16 33 46.5**	**-0.6**
ASAR	**Alice Springs**	**57.89**	**103**	P		**P**	**16 33 46.5**	**-0.6**
	4.8nm,0.7s,baz=249,slow=6.3,SNR=72							
WRA	**Warramunga Arr**	**59.39**	**99**	P		**P**	**16 33 57.1**	**-0.5**
WRA	**Warramunga Arr**	**59.39**	**99**	P		**P**	**16 33 57.1**	**-0.5**
	3.8nm,0.8s,baz=254,slow=6.9,SNR=26							
WRAB	**Tennant Creek**	**59.40**	**99**	*e*P		**P**	**16 33 57.0**	**-0.7**
	4.7nm,0.7s							
SNAA	**Sanae**	**60.31**	**200**	*e*P		P	16 33 56.7	-6.5
	4.5nm,0.7s							
STKA	**Stephens Creek**	**62.31**	**114**	*e*P		**P**	**16 34 16.8**	**-0.5**
	1.4nm,0.9s							
STKA	**Stephens Creek**	**62.31**	**114**	P		**P**	**16 34 17.1**	**-0.2**
	7.2nm,0.9s,baz=300,slow=3.0,SNR=13							
STKA				LR		LR	16 58 45.6	
	comp=Z,130nm,18.2s,baz=205,slow=34							
QSPA	**South Pole Qui**	**64.41**	**180**	*e*P		**P**	**16 34 30.8**	**0.0**
	6.8nm,0.9s							
QSPA	**South Pole Qui**	**64.41**	**180**	P		**P**	**16 34 31.2**	**+0.4**
	6.7nm,0.8s,baz=276,slow=3.6,SNR=13							
KKAR	**Karatay Array**	**68.49**	**1**	*e*P		**P**	**16 34 56.5**	**-0.4**
	8.0nm,1.4s							
TKM2	**Tokmak 2**	**68.52**	**5**	*e*P		**P**	**16 34 56.6**	**-0.6**
CTA	**Charters Tower**	**69.89**	**103**	P		**P**	**16 35 06.5**	**+0.3**
CTA	**Charters Tower**	**69.89**	**103**	P		**P**	**16 35 06.5**	**+0.3**
	3.4nm,0.8s,baz=246,slow=12,SNR=3.7							
MK31	**Makanchi Array**	**73.07**	**9**	*e*P		**P**	**16 35 24.2**	**-0.5**
MKAR	**Makanchi Array**	**73.07**	**9**	P		**P**	**16 35 24.6**	**-0.1**
MKAR	**Makanchi Array**	**73.07**	**9**	P		**P**	**16 35 24.6**	**-0.1**
	2.9nm,0.7s,baz=195,slow=5.6,SNR=23							
BRTR	**Keskin Array B**	**73.26**	**332**	P		**P**	**16 35 26.4**	**+0.2**
BRTR	**Keskin Array B**	**73.26**	**332**	P		**P**	**16 35 26.4**	**+0.2**
	1.6nm,0.9s,baz=147,slow=7.1,SNR=6.7							
ABKAR	**Akbulak array**	**75.14**	**353**	*e*P		**P**

ROCH AML AML 16 35 57.5
comp=E,349nm,0.6s
LMEL Las Melosas 0.60 152 ⇑*iP* Pb 16 35 46.9 -0.4
LMEL *iS* Sb 16 35 56.1 +0.7
LMEL AML AML 16 36 00.1
comp=N,175nm,0.3s
CHNG Los Chungos 1.65 330 ⇓*iP* Pn 16 36 02.8 0.0
CHNG *iS* Sb 16 36 24.8 -0.4
CHNG AML AML 16 36 27.3
comp=E,113nm,0.4s
TLL Tololo Astrono 3.15 356 *eP* Pn 16 36 25.1 +1.3
TLL AML AML 16 37 14.6
comp=N,59nm,0.7s

IDC 15 16:47:10.5±1.4, 3°89'N×127°16'E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/19, mbtmp3.3/4, Error ellipse: s-maj=131.6km s-min=21.4km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.71**	**164**	P	P	16 52 32.3	-1.3
	1.0nm,0.7s,baz=344,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**28.17**	**167**	P	P	16 53 06.3	+1.5
	0.2nm,0.7s,baz=337,slow=10,SNR=5.5						
SONM	**Songino Array**	**47.28**	**341**	P	P	16 55 46.2	+0.4
	0.2nm,0.6s,baz=140,slow=7.2,SNR=2.3						
MKAR	**Makanchi Array**	**57.67**	**325**	P	P	16 57 02.3	-0.5
	0.3nm,0.5s,baz=120,slow=9.0,SNR=2.3						

PRE 15 16:47:35.1±1.0, 26°40'S×27°67'E, h2km, ML1.8, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.08**	**315**	*eP*	Pg	16 47 36.8	-0.1
KLOF				*eS*	Sg	16 47 38.4	+0.4
KLOF				AML	AML	16 47 41.0	
	comp=Z,421nm,0.3s						
ERPM	**east rand prop**	**0.52**	**84**	*eP*	Pg	16 47 45.9	+0.6
ERPM				*eS*	Sg	16 47 52.8	+0.6
ERPM				AML	AML	16 47 56.6	
	comp=Z,10.0nm,0.4s						
SLR	**Silverton**	**0.86**	**40**	*eP*	Pg	16 47 52.0	+0.1
SLR				*eS*	Sg	16 48 03.3	+0.1
SLR				AML	AML	16 48 13.1	
	comp=Z,8.0nm,0.5s						
LBTB	**Lobatse**	**2.33**	**306**	*eP*	Pn	16 48 14.8	+0.2
LBTB				*eS*	Sn	16 48 43.8	0.0
LBTB				AML	AML	16 48 45.2	
	comp=Z,17nm,0.7s						
BOSA	**Boshof**	**3.07**	**224**	*eP*	Pn	16 48 25.0	+0.1
BOSA				*eS*	Sn	16 49 02.7	+0.4
BOSA				AML	AML	16 49 06.1	
	comp=Z,3.1nm,0.8s						

IDC 15 17:20:35.0±19.0, 21°14'S×68°28'W, h0km, mb3.8/2, mb1 3.9/2, mb1mx3.7/12, mbtmp3.8/2, MS3.4/1, Ms1 3.4/1, ms1mx2.9/22, Error ellipse: s-maj=807.7km s-min=65.1km az=19.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**19.62**	**185**	LR	LR	17 33 13.1	
	comp=Z,115nm,19.5s,baz=171,slow=39						
TORD	**Torodi Ar. Bea**	**76.68**	**70**	P	P	17 32 28.2	-0.2
	0.7nm,0.5s,baz=260,slow=5.2,SNR=7.0						
YKA	**Yellowknife Ar**	**91.05**	**340**	P	P	17 33 40.5	-0.3
	0.1nm,0.5s,baz=134,slow=4.3,SNR=4.6						
MKAR	**Makanchi Array**	**145.00**	**36**	PKPbc	PKPbc	17 40 13.3	-0.3
	0.3nm,0.7s,baz=335,slow=3.6,SNR=3.2						

ISK 15 17:32:23.3, 37°88N×29°19E, h5km, MD2.7
ISCJB 15 17:32:24.5±0.6, 37°88N±0°03×29°18E±0°04, h1km±7km, Error ellipse: s-maj=4.9km s-min=4.3km az=14.8
DDA 15 17:32:24.4, 37°88N×29°23E, h6km, MD3.1
CSEM 15 17:32:24.5±0.1, 37°87N×29°20E, h2km, MD3.1, Error ellipse: s-maj=3.1km s-min=2.8km az=121.0
ISC 15 17:32:24.6±1.1, 37°89N±0°02×29°21E±0°02, h8km±9km, n29, σ0°76/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.23**	**214**	*iP*	**Pg**	**17 32 29.3**	**0.0**
DNZL	**Cakiroluk**	**0.23**	**214**	*iP*	**Pg**	**17 32 29.3**	**0.0**
KHL	**Karahalli**	**0.50**	**29**	*e*PG	**Pg**	**17 32 34.1**	**-0.2**
KHL				*e*SG	**Sb**	**17 32 42.8**	**-0.4**
KHL	**Karahalli**	**0.50**	**29**	*e*Pg	**Pg**	**17 32 34.1**	**-0.2**
KHL				*e*Sg	**Sb**	**17 32 42.8**	**-0.4**
KHAL	**Karahalli**	**0.53**	**25**	*iP*	**Pg**	**17 32 34.4**	**-0.5**
KHAL				*iS*	**Sg**	**17 32 42.2**	**+0.3**
KHAL	**Karahalli**	**0.53**	**25**	*iP*	**Pg**	**17 32 34.4**	**-0.5**
KHAL				*iS*	**Sg**	**17 32 42.2**	**+0.3**
GOLH	**Golhisar**	**0.70**	**157**	*iP*	**Pg**	**17 32 38.1**	**-0.1**
GOLH				*iS*	**Sn**	**17 32 50.8**	**-1.2**
GOLH	**Golhisar**	**0.70**	**157**	*iP*	**Pg**	**17 32 38.1**	**-0.1**
KULA	**Kula-Manisa**	**0.76**	**326**	*e*PG	**Pg**	**17 32 39.3**	**+0.1**
KULA				*e*SG	**Sb**	**17 32 50.8**	**0.0**
KULA	**Kula-Manisa**	**0.76**	**326**	*e*Pg	**Pg**	**17 32 39.3**	**+0.1**
KULA				*e*Sg	**Sb**	**17 32 50.8**	**0.0**
MANT	**Manisa**	**0.79**	**320**	*iP*	**Pg**	**17 32 40.0**	**+0.1**
MANT				*iS*	**Sb**	**17 32 50.9**	**-0.9**
MANT	**Manisa**	**0.79**	**320**	*iP*	**Pg**	**17 32 40.0**	**+0.1**
MANT				*iS*	**Sb**	**17 32 50.9**	**-0.9**
ISP	**Isparta**	**1.04**	**93**	*e*PG	**Pg**	**17 32 44.6**	**+0.1**
ISP				*e*SG	**Sn**	**17 33 00.9**	**+0.5**
ISP	**Isparta**	**1.04**	**93**	*e*Pg	**Pg**	**17 32 44.6**	**+0.1**
ISP				*e*Sg	**Sn**	**17 33 00.9**	**+0.5**
YER	**Yerkesik**	**1.05**	**225**	*e*PG	**Pg**	**17 32 43.9**	**-0.9**
YER	**Yerkesik**	**1.05**	**225**	*e*Pg	**Pg**	**17 32 43.9**	**-0.9**
AYDN	**Tasoluk**	**1.08**	**258**	*iP*	**Pg**	**17 32 45.0**	**-0.3**
AYDN				*iS*	**Sg**	**17 32 58.4**	**-0.9**
AYDN	**Tasoluk**	**1.08**	**258**	*iP*	**Pg**	**17 32 45.0**	**-0.3**
AYDN				*iS*	**Sg**	**17 32 58.4**	**-0.9**
DEMI	**Demirci**	**1.22**	**342**	*iP*	**Pn**	**17 32 48.2**	**+0.2**
DEMI				*iS*	**Sg**	**17 33 03.7**	**-0.1**
DEMI	**Demirci**	**1.22**	**342**	*iP*	**Pn**	**17 32 48.2**	**+0.2**
DEMI				*iS*	**Sg**	**17 33 03.7**	**-0.1**
GDZ	**Gediz**	**1.22**	**10**	*iP*	**Pb**	**17 32 47.4**	**-0.6**
GDZ				*iS*	**Sn**	**17 33 04.9**	**0.0**
GDZ	**Gediz**	**1.22**	**10**	*iP*	**Pb**	**17 32 47.4**	**-0.6**
GDZ				*iS*	**Sn**	**17 33 04.9**	**0.0**
AKS	**Akhisar**	**1.48**	**313**	*e*PN	**Pg**	**17 32 52.6**	**-0.3**
AKS	**Akhisar**	**1.48**	**313**	*e*Pn	**Pg**	**17 32 52.6**	**-0.3**
GCAM	**G?zelcaml?**	**1.58**	**264**	*iP*	**Pg**	**17 32 55.9**	**+1.1**
GCAM				*iS*	**Sg**	**17 33 18.6**	**+3.3**
BLCB	**Balcova**	**1.78**	**287**	*e*PN	**Pn**	**17 32 56.4**	**+0.7**
BLCB	**Balcova**	**1.78**	**287**	*e*Pn	**Pn**	**17 32 56.4**	**+0.7**
ESKT	**Eskisehir**	**2.08**	**38**	*e*PN	**Pn**	**17 33 00.9**	**+1.0**
ESKT	**Eskisehir**	**2.08**	**38**	*e*Pn	**Pn**	**17 33 00.9**	**+1.0**

IDC 15 17:49:28.7±1.2, 8°82S×157°77E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/17, mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=36.2km s-min=24.3km az=154.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.23**	**106**	Pn	Pn	17 50 06.8	-0.1
	12nm,0.3s,baz=232,slow=2.4,SNR=18						
HNR				Sn	Sg	17 50 42.3	+1.7
	37nm,0.3s,baz=281,slow=12,SNR=4.2						
CTA	**Charters Tower**	**15.79**	**224**	Pn	P	17 53 17.0	+0.4
	0.4nm,0.3s,baz=36,slow=8.7,SNR=3.6						
WRA	**Warramunga Arr**	**25.21**	**241**	P	P	17 54 56.3	0.0
	0.9nm,0.6s,baz=68,slow=9.5,SNR=12						
ASAR	**Alice Springs**	**27.19**	**234**	P	P	17 55 13.7	-0.6
	0.3nm,0.8s,baz=68,slow=10,SNR=3.8						
STKA	**Stephens Creek**	**27.42**	**211**	P	P	17 55 16.5	+0.2
	2.1nm,0.7s,baz=34,slow=14,SNR=4.4						
ILAR	**Eielson Array**	**84.08**	**21**	P	P	18 02 00.8	-0.3
	0.4nm,0.7s,baz=251,slow=5.4,SNR=4.6						
MKAR	**Makanchi Array**	**86.59**	**318**	P	P	18 02 14.8	+0.8
	0.1nm,0.4s,baz=95,slow=6.2,SNR=2.7						

IDC 15 17:49:34.8±1.2, 31°20N×142°32E, h0km, mb3.4/6, mb1 3.6/8, mb1mx3.5/23, mbtmp3.5/8, ML3.2/2, Error ellipse: s-maj=35.5km s-min=19.9km az=73.0

ISCJB 15 17:49:38.3±0.8, 31°44N±0°06×142°3E±0°1, h49km, mb3.4/6, Error ellipse: s-maj=14.0km s-min=7.3km az=153.8
JMA 15 17:49:38.1±0.5, 31°61N×142°08E, h0km, M4.0
ISC 15 17:49:39.9±1.3, 31°45N±0°09×142°4E±0°1, h49km, n19, σ1°42/22, mb3.3/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.76**	**308**	P	**Pn**	**17 50 20.0**	**-1.6**
JHJ	**Hachijo jima 2**	**2.79**	**307**	Pn	**Pn**	**17 50 20.2**	**-1.8**
	6.8nm,0.3s,baz=103,slow=12,SNR=11						
JHJ				Sn	**Sn**	**17 50 52.1**	**-2.3**
	13nm,0.3s,baz=275,slow=23,SNR=1.7						
BSO1	**Boso 1**	**3.42**	**340**	P	**Pn**	**17 50 30.2**	**0.0**
JHU	**Hanno**	**5.11**	**330**	P	**Pn**	**17 50 55.6**	**+1.7**
JYT	**Yasato**	**5.11**	**339**	P	**Pn**	**17 50 54.9**	**+1.0**
JHO	**Hitachi**	**5.37**	**344**	P	**Pn**	**17 50 56.7**	**-0.8**
JRY	**Ryogami san**	**5.42**	**328**	P	**Pn**	**17 50 58.5**	**+0.4**
JRY				*e*S	**Sn**	**17 51 59.7**	**+0.5**
JAG	**Ashikaga**	**5.54**	**334**	P	**Pn**	**17 51 00.3**	**+0.5**
JFK	**Kawauchi**	**6.04**	**348**	P	**Pn**	**17 51 06.6**	**-0.1**
JFK				*e*S	**Sn**	**17 52 10.9**	**-3.5**
MJAR	**Matsushiro Arr**	**6.17**	**327**	Pn	**Pn**	**17 51 09.0**	**+0.6**
	0.8nm,0.3s,baz=159,slow=11,SNR=12						
MJAR				Sn	**Sn**	**17 52 18.4**	**+0.8**
	0.6nm,0.3s,baz=258,slow=24,SNR=1.7						
MAT	**Matsushiro**	**6.17**	**327**	P	**Pn**	**17 51 09.7**	**+1.3**
MAT				*e*S	**Sn**	**17 52 18.4**	**+0.8**
JMK	**Ichinoseki**	**7.55**	**353**	P	**Pn**	**17 51 27.2**	**-0.1**
ASAJ	**Asahikawa**	**12.64**	**1**	Pn	**Pn**	**17 52 36.0**	**-1.0**
	0.3nm,0.3s,baz=180,slow=16,SNR=3.6						
SONM	**Songino Array**	**31.86**	**311**	P	P	17 56 03.8	+3.5
	0.2nm,0.4s,baz=116,slow=7.6,SNR=3.4						
CMAR	**Chiang Mai Ar**	**41.23**	**262**	P	**P**	**17 57 19.9**	**-0.5**
	0.2nm,0.3s,baz=64,slow=6.3,SNR=4.3						
MKAR	**Makanchi Array**	**47.96**	**307**	P	**P**	**17 58 15.8**	**+2.1**
	0.2nm,0.4s,baz=90,slow=8.3,SNR=6.5						
WRA	**Warramunga Arr**	**51.69**	**190**	P	**P**	**17 58 41.6**	**-0.5**
	0.8nm,0.7s,baz=5.4,slow=7.7,SNR=8.1						
ILAR	**Eielson Array**	**53.83**	**30**	P	P	17 59 00.4	+3.0
	0.2nm,0.5s,baz=262,slow=7.0,SNR=4.1						
ASAR	**Alice Springs**	**55.41**	**189**	P	**P**	**17 59 09.1**	**-0.3**
	0.1nm,0.4s,baz=4.8,slow=6.0,SNR=11						

IDC 15 17:56:14.7±2.0, 3°23N×126°32E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=189.7km s-min=24.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.34**	**161**	P	P	18 01 34.1	-0.3
	0.8nm,0.5s,baz=341,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**27.74**	**165**	P	P	18 02 05.5	+0.4
	0.3nm,0.6s,baz=340,slow=7.7,SNR=3.7						
STKA	**Stephens Creek**	**37.81**	**159**	P	P	18 03 33.2	+0.2
	2.8nm,0.8s,baz=11,slow=5.2,SNR=4.0						
MKAR	**Makanchi Array**	**57.73**	**326**	P	P	18 06 07.1	-0.4
	0.1nm,0.3s,baz=125,slow=7.4,SNR=6.6						

NIED 15 18:06:00, 34°90N×139°80E, h41km, Mw3.5 Best double couple: M₀2.28000×10¹⁴ NP1:ϕs37.00000°, δ70.00000°, λ95.00000°. NP2:ϕs203.00000°, δ21.00000°, λ77.00000°.
ISCJB 15 18:06:36.3±0.3, 34°86N±0°04×139°84E±0°04, h54km±3km, mb3.6/10, Error ellipse: s-maj=6.3km s-min=4.3km az=28.6
JMA 15 18:06:36.6±0.1, 34°87N×139°86E, h48km±1km, M3.5 Broadband fault plane solution: P waves. NP1: ϕs35.00000°, δ53.00000°, λ103.00000°. NP2: ϕs194.00000°, δ39.00000°, λ73.00000°. Principal axes: T Plg77.0000°, Azm352.0000°; N Plg11.0000°, Azm207.0000°; P Plg7.0000°, Azm116.0000°;
JMA Felt II J1.
IDC 15 18:06:38.5±1.3, 34°81N×139°74E, h58km±12km, mb3.4/10, mb1 3.5/11, mb1mx3.4/25, mbtmp3.4/11 Error ellipse: s-maj=28.5km s-min=5.6km az=72.0
ISC 15 18:06:37.3±0.8, 34°86N±0°04×139°82E±0°03, h46km±6km, n26, σ0°67/40, mb3.6/10, 3C-8D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATJ	**Tateyama 2**	**0.18**	**18**	⇑P	**Pn**	**18 06 44.8**	**-0.2**
TATJ				S	**Sn**	**18 06 51.0**	**+0.5**
JIM2	**Oshima 3**	**0.35**	**246**	⇑P	**Pn**	**18 06 46.4**	**-0.3**
JIM2				S	**Sn**	**18 06 53.0**	**-0.3**
JYO	**Yokosk**	**0.38**	**340**	⇓P	**Pn**	**18 06 46.8**	**-0.1**
JYO				S	**Sn**	**18 06 54.6**	**+0.9**
BSO4	**Boso 4**	**0.44**	**73**	⇑P	**Pn**	**18 06 47.3**	**-0.2**
BSO4				S	**Sn**	**18 06 55.8**	**+1.1**
BSO3	**Boso 3**	**0.57**	**96**	⇓P	**Pn**	**18 06 48.6**	**-0.3**
BSO3				S	**Sn**	**18 06 58.1**	**+0.9**
KTJJ	**Kamata 2**	**0.63**	**276**	⇓P	**Pn**	**18 06 49.4**	**-0.6**
KTJJ				S	**Sn**	**18 06 58.3**	**-0.7**
JOD2	**Odawara 2**	**0.72**	**304**	⇓P	**Pn**	**18 06 50.5**	**-0.7**
JOD2				S	**Sn**	**18 07 00.4**	**-0.9**
JIZS	**Izushimoda**	**0.79**	**260**	⇓P	**Pn**	**18 06 52.0**	**-0.1**
JIZS				S	**Sn**	**18 07 03.0**	**+0.1**
JMY	**Miyakejima3**	**0.83**	**198**	P	**Pn**	**18 06 53.2**	**+0.5**
BSO1	**Boso 1**	**0.97**	**102**	⇓P	**Pn**	**18 06 53.1**	**-1.0**
BSO1				S	**Sn**	**18 07 05.3**	**-1.2**
JYN	**Shimob**	**1.23**	**301**	⇓P	**Pn**	**18 06 57.9**	**-0.2**
JYN				S	**Sn**	**18 07 13.8**	**+0.3**
SHZ3	**Shizuoka 3**	**1.34**	**279**	P	**Pn**	**18 07 00.3**	**+0.6**
JRY	**Ryogami san**	**1.38**	**327**	⇓P	**Pn**	**18 06 59.7**	**-0.4**
JRY				S	**Sn**	**18 07 16.3**	**-0.9**
JHJ	**Hachijo jima 2**	**1.74**	**181**	P	**Pn**	**18 07 05.8**	**+0.8**
	35nm,0.3s,baz=68,slow=20,SNR=33						
JHJ				S	**Sn**	**18 07 26.5**	**+0.5**
	257nm,0.3s,baz=238,slow=23,SNR=12						
MJAR	**Matsushiro Arr**	**2.13**	**322**	P	**Pn**	**18 07 11.1**	**+0.6**
	22nm,0.3s,baz=154,slow=20,SNR=324						
MJAR				S	**Sn**	**18 07 36.7**	**+1.1**
	24nm,0.3s,baz=191,slow=22,SNR=8.0						
MAT	**Matsushiro**	**2.13**	**322**	P	**Pn**	**18 07 11.2**	**+0.8**
MAT				S	**Sn**	**18 07 36.4**	**+0.7**
ZALV	**Zalesovo Beam**	**42.46**	**314**	P	**P**	**18 14 27.9**	**+0.3**
	0.7nm,0.7s,baz=85,slow=6.1,SNR=3.2						
MKAR	**Makanchi Array**	**44.21**	**304**	P	**P**	**18 14 41.8**	**-0.1**
	0.2nm,0.6s,baz=88,slow=9.1,SNR=3.8						
ILAR	**Eielson Array**	**52.01**	**31**	P	**P**	**18 15 42.8**	**+1.1**
	0.3nm,0.7s,baz=277,slow=6.2,SNR=4.0						
WRA	**Warramunga Arr**	**54.75**	**186**	P	**P**	**18 16 01.2**	**-1.1**
	0.4nm,0.5s,baz=2.8,slow=7.6,SNR=7.0						
ASAR	**Alice Springs**	**58.48**	**186**	P	**P**	**18 16 28.2**	**-0.6**
	0.2nm,0.5s,baz=12,slow=8.7,SNR=9.4						
RES	**Resolute Bay**	**65.02**	**14**	P	**P**	**18 17 12.6**	**+0.5**
	0.4nm,0.5s,baz=302,slow=2.9,SNR=4.2						
ARCES	**ARCESS Array B**	**65.57**	**339**	P	**P**	**18 17 15.8**	**-0.1**
	3.2nm,0.9s,baz=40,slow=7.2,SNR=3.3						
YKA	**Yellowknife Ar**	**66.33**	**29**	P	**P**	**18 17 20.5**	**-0.2**
	0.2nm,0.7s,baz=299,slow=6.6,SNR=4.2						
FINES	**FINESS Array B**	**70.13**	**332**	P	**P**	**18 17 44.4**	**-0.1**
	1.4nm,0.8s,baz=55,slow=7.3,SNR=6.5						
AKASG	**Malin Array Be**	**75.22**	**322**	P	**P**	**18 18 14.4**	**-0.5**
	0.6nm,0.4s,baz=46,slow=6.8,SNR=5.4						

PRE 15 18:24:39.5±0.5, 26°42S×27°38E, h2km, ML2.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.22**	**73**	*eP*	Pg	18 24 44.1	+0.1
KLOF				*eS*	Sg	18 24 46.8	-0.3
KLOF				AML	AML	18 24 48.5	
	comp=Z,195nm,0.2s						
SLR	**Silverton**	**1.06**	**50**	*eP*	Pg	18 24 59.8	-0.2
SLR				*eS*	Sg	18 25 14.6	+0.6
SLR				AML	AML	18 25 20.1	
	comp=Z,27nm,0.2s						
SEK	**Senekal**	**1.91**	**173**	*eP*	Pn	18 25 14.4	+1.0
SEK				*eS*	Sn	18 25 38.7	+0.5
SEK				AML	AML	18 25 41.3	
	comp=Z,9.2nm,0.2s						
LBTB	**Lobatse**	**2.12**	**311**	*eP*	Pn	18 25 16.9	+0.7
LBTB				*eS*	Sn	18 25 44.0	+0.7
LBTB				AML	AML	18 25 48.8	
	comp=Z,21nm,0.3s						
BOSA	**Boshof**	**2.89**	**220**	*eP*	Pn	18 25 27.3	+0.6
BOSA				*eS*	Sn	18 26 02.5	+0.4
BOSA				AML	AML	18 26 15.2	
	comp=Z,1.6nm,0.4s						

ISCJB 15 18:27:25.5±0.8, 36°4S±0°1×96°8W±0°2, h10km, mb4.1/7, MS4.2/8, Error ellipse: s-maj=22.1km s-min=16.8km az=20.1
NEIC 15 18:27:27.8±0.8, 36°37S×96°63W, h10km, mb4.6/2, Error ellipse: s-maj=31.1km s-min=24.4km az=84.0
IDC 15 18:27:27.9±3.0, 35°98S×96°58W, h0km, mb3.9/6, mb1 4.2/6, mb1mx4.1/13, mbtmp3.9/6, MS4.1/8, Ms1 4.1/8, ms1mx4.0/14, Error ellipse: s-maj=105.7km s-min=28.0km az=34.0
ISC 15 18:27:27.4±0.8, 36°4S±0°2×96°7W±0°1, h10km, n30, σ1°39/25, mb4.3/7, MS4.2/8, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**20.89**	**110**	P	Pn	18 32 13.6	+1.2
PLCA	**Paso Flores**	**20.89**	**110**	P	Pn	18 32 13.6	+1.2
	7.0nm,0.9s,baz=264,slow=12,SNR=4.1						
PLCA				LR	LR	18 37 06.2	
	comp=Z,188nm,21.8s,baz=88,slow=28						
LPAZ	**La Paz**	**32.35**	**59**	*eP*	**P**	**18 33 57.2**	**-0.6**
	10nm,0.9s						
CPUP	**Villa Florida**	**34.91**	**85**	LR	LR	18 45 45.0	
	comp=Z,185nm,19.3s,baz=56,slow=32						
BDFB	**Brasilia**	**47.86**	**78**	P	**P**	**18 36 04.4**	**-1.4**
BDFB	**Brasilia**	**47.86**	**78**	P	**P**	**18 36 04.4**	**-1.4**
	1.7nm,0.6s,baz=225,slow=10,SNR=2.3						
PPT2	**Papeete2**	**50.04**	**277**	*e*S	**S**	**18 43 31.9**	**-1.8**
	70nm,27.0s						
PPT2				*e*LR	LR	18 49 58.8	
	86nm,26.2s,baz=123						
QSPA	**South Pole Qui**	**53.79**	**180**	*eP*	**P**	**18 36 49.5**	**-0.5**
	3.7nm,0.9s						
TXAR	**Lajitas Array**	**65.74**	**353**	P	**P**	**18 38 12.4**	**-0.1**
TXAR	**Lajitas Array**	**65.74**	**353**	P	**P**	**18 38 12.4**	**-0.1**
	0.3nm,0.8s,baz=185,slow=7.0,SNR=3.3						
TXAR				LR	LR	19 01 52.0	
	comp=Z,97nm,18.8s,baz=0.0,slow=32						
PV01	**Paradox Valley**	**75.00**	**350**	*eP*	**P**	**18 39 07.8**	**-1.3**
MAW	**Mawson**	**75.14**	**172**	LR	LR	19 09 57.3	
	comp=Z,205nm,18.0s,baz=318,slow=34						
NVAR	**Mina Array Bea**	**77.11**	**343**	P	**P**	**18 39 19.9**	**-1.2**
NVAR	**Mina Array Bea**	**77.11**	**343**	P	**P**	**18 39 19.9**	**-1.2**
	1.1nm,0.6s,baz=178,slow=5.8,SNR=3.4						
PDAR	**Pinedale Array**	**79.69**	**350**	P	**P**	**18 39 33.2**	**-2.0**
PDAR	**Pinedale Array**	**79.69**	**350**	P	**P**	**18 39 33.2**	**-2.0**
	0.7nm,0.7s,baz=152,slow=7.9,SNR=6.1						
PDAR				LR	LR	19 09 57.4	
	comp=Z,99nm,18.5s,baz=121,slow=32						
PD01	**Pinedale Array**	**79.70**	**350**	*eP*	**P**	**18 39 35.8**	**+0.5**
ULM	**Lac du Bonnet**	**86.31**	**1**	P	**P**	**18 40 10.8**	**+1.8**
ULM	**Lac du Bonnet**	**86.31**	**1**	P	**P**	**18 40 10.8**	**+1.8**
	2.7nm,1.0s,baz=249,slow=4.5,SNR=2.7						
STKA	**Stephens Creek**	**92.83**	**226**	LR	LR	19 12 32.2	
	comp=Z,200nm,21.9s,baz=47,slow=29						
BOSA	**Boshof**	**95.39**	**131**	LR	LR	19 20 06.4	
	comp=Z,147nm,18.2s,baz=68,slow=33						
DBIC	**Dimbokro**	**95.42**	**86**	LR	LR	19 18 58.6	
	comp=Z,89nm,20.3s,baz=208,slow=32						
KULM	**Kulim**	**145.14**	**211**	*e*PKPdf	**PKPdf**	**18 47 07.6**	**+1.8**
ABKAR	**Akbulak array**	**158.74**	**46**	*e*PKPdf	**PKPdf**	**18 47 27.4**	**+2.5**
ZALV	**Zalesovo Beam**	**162.45**	**357**	PKP	**PKPdf**	**18 47 28.5**	**-0.3**
ZALV				PKPab	**PKPab**	**18 48 16.8**	**+0.3**
ZALV	**Zalesovo Beam**	**162.45**	**357**	PKP	**PKPdf**	**18 47 28.5**	**-0.3**
	0.3nm,0.4s,baz=336,slow=3.3,SNR=3.7						
ZALV				PKPab	**PKPab**	**18 48 16.8**	**+0.3**
	0.4nm,0.5s,baz=2.2,slow=7.5,SNR=2.1						
KURK	**Kurchatov**	**165.34**	**12**	PKPab	**PKPab**	**18 48 30.5**	**+1.2**
KURBB	**Kurchatov Arra**	**165.41**	**12**	PKPab	**PKPab**	**18 48 30.5**	**+0.9**
	0.6nm,0.8s,baz=332,slow=7.0,SNR=4.3						
MKAR	**Makanchi Array**	**169.62**	**4**	PKPab	**PKPab**	**18 48 49.7**	**+1.3**
MKAR	**Makanchi Array**	**169.62**	**4**	PKPab	**PKPab**	**18 48 49.7**	**+1.3**
	0.2nm,0.8s,baz=35,slow=5.3,SNR=2.8						

IDC 15 18:31:59.9±2.7, 0°05S×132°32E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/18, mbtmp3.5/5, ML3.7/1, Error ellipse: s-maj=201.1km s-min=20.3km az=72.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.87**	**174**	P	P	18 36 33.0	0.0
	0.2nm,0.3s,baz=354,slow=11,SNR=12						
ASAR	**Alice Springs**	**23.53**	**176**	P	P	18 37 12.6	+0.7
	0.6nm,0.3s,baz=355,slow=11,SNR=31						
STKA	**Stephens Creek**	**32.85**	**165**	P	P	18 38 34.7	-0.8
	0.8nm,0.5s,baz=358,slow=9.9,SNR=4.4						
MKAR	**Makanchi Array**	**63.84**	**324**	P	P	18 42 33.0	-1.3
	0.1nm,0.4s,baz=118,slow=7.8,SNR=5.7						
KURBB	**Kurchatov Arra**	**67.93**	**326**	P	P	18 43 01.7	+1.1
	0.2nm,0.5s,baz=129,slow=6.1,SNR=3.9						

CSEM 15 18:36:22.8±5.0, 26°41N×58°77E, h10km, ML4.2/1, Error ellipse: s-maj=147.3km s-min=30.3km az=35.0
OMAN 15 18:36:24.1±0.7, 26°35N×58°69E, h15km, Error ellipse: s-maj=1.9km s-min=0.4km az=43.0
**IS

Ms1 3.7/17,ms1mx3.5/36,Error ellipse: s-maj=17.4km s-min=9.0km az=27.0
*BJI **15** 19:34:54.5,61°.65N×146°.20W,h27km,mB5.0/6,mb4.6/14, Ms5.0/4,Ms7 4.5/4*
*MOS **15** 19:34:57.8±1.6,62°.54N×147°.57W,h10km,mb4.9/26, Error ellipse: s-maj=23.8km s-min=6.2km az=85.0*
*ISCJB **15** 19:34:58.5±0.2,61°.67N±0°.02×146°.42W±0°.04,h45km±2km, mb4.4/73,MS3.7/19,Error ellipse: s-maj=3.6km s-min=2.3km az=37.6*
*NEIC **15** 19:35:00.1,61°.60N×146°.33W,h37km,mb4.5/33, ML4.3(AEIC),MW4.5(USGS), After AEIC.*
NEIC Felt [III] at Valdez. Also felt at Anchorage, Chitina, Chugiak, Copper Center, Eagle River, Glennallen, Talkeetna and Trapper Creek.

ISC 15 19:34:57.9±0.5,61°.65N±0°.02×146°.42W±0°.02,h30km±3km, h29km:pP-P,n392,σ1$30/411,mb4.5/73,MS3.6/19, 76C-77D,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLU	**Klutina**	**0.28**	**122**	P	**Pn**	**19 35 07.1**	**+1.0**
KLU				S	**Sn**	**19 35 13.2**	**+1.7**
SCM	**Sheep Creek Mo**	**0.47**	**294**	P	**Pn**	**19 35 09.9**	**+1.1**
SCM	**Sheep Creek Mo**	**0.47**	**294**	P	**Pn**	**19 35 09.8**	**+1.1**
VLZ	**Valdez**	**0.52**	**175**	P	**Pn**	**19 35 09.2**	**-0.1**
DIV	**Divide**	**0.60**	**149**	*e*Pn	**Pn**	**19 35 10.2**	**-0.3**
DIV				*e*Sb	**Sb**	**19 35 18.6**	**+0.2**
SML	**Sawmill**	**0.93**	**281**	*e*P	**Pb**	**19 35 15.8**	**+0.4**
SML	**Sawmill**	**0.93**	**281**	*e*Pn	**Pb**	**19 35 15.8**	**+0.4**
HARP	**HAARP**	**0.97**	**37**	P	**Pb**	**19 35 16.8**	**+0.6**
HARP				S	**Sb**	**19 35 30.0**	**+1.4**
KNK	**Knik Glacier**	**1.00**	**257**	P	**Pb**	**19 35 17.4**	**+0.6**
WASW	**Wrangell South**	**1.10**	**74**	P	**Pb**	**19 35 18.3**	**-0.3**
BMRM	**Bremner River**	**1.11**	**127**	*e*Pn	**Pn**	**19 35 17.3**	**-0.2**
EYAK	**Cordova Ski Ar**	**1.15**	**163**	P	**Pb**	**19 35 18.7**	**-0.4**
EYAK				S	**Sb**	**19 35 33.9**	**+0.3**
GHO	**Glory Hole Cre**	**1.20**	**277**	P	**Pb**	**19 35 20.0**	**-0.1**
GLB	**Gilahina Butte**	**1.27**	**98**	P	**Pn**	**19 35 19.7**	**0.0**
SGAM	**Sherman Glacie**	**1.29**	**152**	P	**Pn**	**19 35 20.5**	**+0.6**
PMR	**Palmer**	**1.30**	**269**	*e*P	**Pb**	**19 35 21.5**	**-0.1**
PMR	**Palmer**	**1.30**	**269**	*e*Pn	**Pb**	**19 35 21.5**	**-0.1**
GOAT	**Goat Mountain**	**1.35**	**142**	P	**Pn**	**19 35 21.4**	**+0.6**
GOAT				S	**Sn**	**19 35 38.1**	**+0.4**
PAX	**Paxson**	**1.40**	**18**	*e*P	**Pn**	**19 35 22.8**	**+1.2**
PAX	**Paxson**	**1.40**	**18**	*e*Pn	**Pn**	**19 35 22.8**	**+1.2**
DHY	**Denali Highway**	**1.50**	**343**	P	**Pb**	**19 35 24.6**	**-0.7**
DHY				S	**Sb**	**19 35 44.3**	**+0.3**
RAGM	**Ragged Mountai**	**1.52**	**145**	P	**Pn**	**19 35 24.0**	**+0.9**
BERG	**Berg Lake**	**1.82**	**132**	P	**Pn**	**19 35 27.7**	**+0.4**
NICHA	**Nichawak Mount**	**1.85**	**139**	P	**Pn**	**19 35 28.1**	**+0.4**
FIB	**Fire Island**	**1.87**	**257**	P	**Pb**	**19 35 30.8**	**-0.6**
FIB	**Fire Island**	**1.87**	**257**	P	**Pb**	**19 35 30.8**	**-0.6**
TRAP	**Trapper Creek**	**1.93**	**293**	P	**Pb**	**19 35 31.2**	**-1.2**
KHIT	**Khitrov Hills**	**1.96**	**127**	P	**Pn**	**19 35 29.5**	**+0.3**
GRIN	**Grindle Hills**	**2.04**	**131**	P	**Pn**	**19 35 30.6**	**+0.4**
BALM	**Baldy**	**2.06**	**105**	P	**Pn**	**19 35 31.0**	**+0.5**
BALM	**Baldy**	**2.06**	**105**	P	**Pn**	**19 35 31.0**	**+0.5**
SUA	**Susitna One**	**2.08**	**267**	P	**Pn**	**19 35 32.4**	**+1.5**
RND	**Reindeer**	**2.10**	**329**	P	**Pn**	**19 35 33.2**	**+2.1**
RND	**Reindeer**	**2.10**	**329**	P	**Pn**	**19 35 33.2**	**+2.1**
SEW	**Seward**	**2.14**	**225**	*e*Pn	**Pn**	**19 35 33.4**	**+1.8**
SLKM	**Skilak Lake**	**2.17**	**240**	*e*P	**Pn**	**19 35 33.5**	**+1.4**
SLKM	**Skilak Lake**	**2.17**	**240**	*e*Pn	**Pn**	**19 35 33.5**	**+1.4**
MID	**Middleton Isla**	**2.23**	**179**	*e*P	**Pn**	**19 35 33.4**	**+0.7**
MID	**Middleton Isla**	**2.23**	**179**	*e*Pn	**Pn**	**19 35 33.4**	**+0.7**
ISLE	**Juniper Island**	**2.24**	**116**	P	**Pn**	**19 35 33.1**	**0.0**
BARK	**Barkley Ridge**	**2.28**	**121**	P	**Pn**	**19 35 34.0**	**+0.4**
KULT	**Kultieth River**	**2.28**	**126**	P	**Pn**	**19 35 34.0**	**+0.3**
DOT	**Dot Lake**	**2.29**	**27**	*e*Pn	**Pn**	**19 35 35.7**	**+2.0**
MCK	**McKinley**	**2.40**	**332**	*e*P	**Pn**	**19 35 37.5**	**+2.4**
MCK	**McKinley**	**2.40**	**332**	*e*Pn	**Pn**	**19 35 37.5**	**+2.4**
BAGL	**Bagley Icefiel**	**2.40**	**117**	P	**Pn**	**19 35 35.6**	**+0.5**
SKT	**Skwentna**	**2.45**	**280**	P	**Pn**	**19 35 37.7**	**+1.8**
TRF	**Thorofare Moun**	**2.55**	**317**	*e*Pn	**Pn**	**19 35 38.8**	**+1.4**
BCA3	**Beaver Creek A**	**2.59**	**55**	P	**Pn**	**19 35 39.5**	**+1.7**
STLK	**Strandline Lak**	**2.59**	**269**	P	**Pn**	**19 35 39.5**	**+1.6**
MESA	**MESA**	**2.63**	**122**	P	**Pn**	**19 35 38.9**	**+0.4**
SPCG	**Spurr Capps Gl**	**2.71**	**265**	P	**Pn**	**19 35 41.0**	**+1.5**
SPU	**Mount Spurr**	**2.75**	**263**	*e*Pn	**Pn**	**19 35 41.4**	**+1.4**
RKAV	**Rock Avalanche**	**2.82**	**116**	P	**Pn**	**19 35 41.7**	**+0.6**
TABL	**Table Mountain**	**2.84**	**113**	P	**Pn**	**19 35 41.4**	**0.0**
BGL	**Barrier Glacie**	**2.89**	**265**	P	**Pn**	**19 35 43.0**	**+1.0**
BRLK	**Bradley Lake**	**2.90**	**231**	P	**Pn**	**19 35 43.3**	**+1.3**
WRH	**Wood River Hil**	**2.94**	**346**	P	**Pn**	**19 35 44.3**	**+1.8**
PPLA	**Purkeypile**	**2.98**	**298**	P	**Pn**	**19 35 45.1**	**+1.9**
CHX	**Chaix Hills**	**3.04**	**119**	P	**Pn**	**19 35 44.7**	**+0.6**
CCB	**Clear Creek Bu**	**3.08**	**349**	P	**Pn**	**19 35 46.0**	**+1.5**
ILAR	**Eielson Array**	**3.15**	**356**	Pn	**Pn**	**19 35 45.8**	**+0.4**
ILAR				Sn	**Sn**	**19 36 17.0**	**-4.9**
ILAR				Lg	Lg	19 36 29.0	
ILAR	**Eielson Array**	**3.15**	**356**	Pn	**Pn**	**19 35 45.8**	**+0.4**
	48nm,0.3s,baz=178,slow=13,SNR=207						
ILAR				Pg	Pb	19 35 49.4	-3.7
	53nm,0.3s,baz=183,slow=13,SNR=382						
ILAR				Sn	**Sn**	**19 36 17.0**	**-4.9**
	40nm,0.3s,baz=174,slow=14,SNR=10						
ILAR				Lg	Lg	19 36 29.0	
	61nm,0.3s,baz=179,slow=21,SNR=12						
SAMH	**Samovar Hills**	**3.15**	**116**	P	**Pn**	**19 35 46.2**	**+0.7**
IL1	**Eielson Array**	**3.15**	**356**	P	**Pn**	**19 35 46.5**	**+1.0**
NEA	**Nenana**	**3.18**	**339**	P	**Pn**	**19 35 47.2**	**+1.3**
DFR	**Drift River**	**3.22**	**254**	P	**Pn**	**19 35 47.4**	**+0.9**
RSO	**Redoubt South**	**3.30**	**252**	*e*Pn	**Pb**	**19 35 54.7**	**-1.1**
COLA	**College**	**3.31**	**349**	P	**Pn**	**19 35 49.0**	**+1.4**
COLA	**College**	**3.31**	**349**	P	**Pn**	**19 35 49.0**	**+1.4**
NCT	**North Crescent**	**3.34**	**254**	P	**Pn**	**19 35 49.1**	**+0.9**
MDM	**Murphy Dome**	**3.43**	**347**	P	**Pn**	**19 35 50.5**	**+1.2**
ILW	**Iliamna West**	**3.65**	**247**	P	**Pn**	**19 35 53.5**	**+1.0**
OPT	**Oil Point**	**3.90**	**242**	P	**Pn**	**19 35 57.9**	**+2.1**
PRP	**Porcupine Dome**	**3.91**	**5**	P	**Pn**	**19 35 57.8**	**+1.6**
MLY	**Manley**	**3.92**	**332**	P	**Pn**	**19 35 57.6**	**+1.6**
EGAK	**Eagle**	**3.94**	**35**	*e*Pn	**Pn**	**19 35 58.7**	**+2.4**
PNL	**Peninsula**	**3.98**	**117**	*e*Pn	**Pn**	**19 35 56.7**	**-0.2**
HYT	**Haines Junctio**	**4.39**	**97**	P	**Pn**	**19 36 03.3**	**+0.7**
SVW2	**Sparrevohn**	**4.44**	**267**	*e*Pn	**Pn**	**19 36 03.3**	**+0.1**
FOPK	**Fourpeaked Vol**	**4.56**	**234**	P	**Pn**	**19 36 06.7**	**+1.9**
TT01	**Tatalina**	**4.66**	**290**	P	**Pn**	**19 36 06.8**	**+0.5**
KDAK	**Kodiak Island**	**4.97**	**222**	P	**Pn**	**19 36 10.8**	**+0.3**
KDAK				Pn	**Pn**	**19 36 10.9**	**+0.4**
KDAK	**Kodiak Island**	**4.97**	**222**	Pn	**Pn**	**19 36 10.9**	**+0.4**
	4.2nm,0.3s,baz=71,slow=11,SNR=38						
KDAK				Sn	**Sn**	**19 37 04.0**	**-2.9**
	11nm,0.3s,baz=326,slow=23,SNR=17						
KDAK				Lg	Lg	19 37 32.0	
	4.7nm,0.3s,baz=328,slow=22,SNR=2.4						
KDAK				LR	LR	19 38 31.7	
	comp=Z,581nm,19.9s,baz=53,slow=44						
IM3	**Indian Mountai**	**5.43**	**326**	P	**Pn**	**19 36 17.9**	**+1.2**
KABR	**Katmai Barrier**	**5.56**	**234**	P	**Pn**	**19 36 20.3**	**+1.7**
GCSA	**Galena City Sc**	**5.66**	**308**	P	**Pn**	**19 36 21.1**	**+1.2**
WHY	**Whitehorse**	**5.67**	**95**	P	**Pn**	**19 36 20.1**	**-0.1**
COLD	**Coldfoot**	**5.84**	**345**	*e*Pn	**Pn**	**19 36 25.0**	**+2.7**
BM3	**Burnt Mountain**	**5.85**	**7**	P	**Pn**	**19 36 24.1**	**+1.5**
SKAG	**Skagway**	**5.89**	**107**	*e*Pn	**Pn**	**19 36 24.5**	**+1.4**
INK	**Inuvik**	**8.62**	**34**	Pn	**Pn**	**19 37 00.9**	**+0.5**
INK				Sn	**Sn**	**19 38 35.9**	**-0.5**
INK				Lg	Lg	19 39 29.5	
INK	**Inuvik**	**8.62**	**34**	Pn	**Pn**	**19 37 00.9**	**+0.5**
	1.3nm,0.3s,baz=229,slow=16,SNR=55						
INK				Sn	**Sn**	**19 38 35.9**	**-0.5**
	0.7nm,0.3s,baz=213,slow=19,SNR=3.1						
INK				Lg	Lg	19 39 29.5	
	0.1nm,0.3s,baz=168,slow=8.0,SNR=4.7						
INK				LR	LR	19 40 45.5	
	comp=Z,279nm,18.3s,baz=351,slow=41						
DLBC	**Dease Lake**	**8.80**	**104**	Pn	**Pn**	**19 37 05.1**	**+2.0**
DLBC				Sn	**Sn**	**19 38 46.1**	**+4.9**
DLBC				Lg	Lg	19 39 37.2	
DLBC	**Dease Lake**	**8.80**	**104**	Pn	**Pn**	**19 37 05.1**	**+2.0**
	0.9nm,0.3s,baz=275,slow=7.1,SNR=13						
DLBC				Sn	**Sn**	**19 38 46.1**	**+4.9**
	1.3nm,0.3s,baz=230,slow=15,SNR=4.6						
DLBC				Lg	Lg	19 39 37.2	
	0.4nm,0.3s,baz=103,slow=15,SNR=6.0						
TNA	**Tin City**	**10.32**	**302**	*e*Pn	**Pn**	**19 37 25.8**	**+2.0**
	48nm,1.0s						
YKA	**Yellowknife Ar**	**14.85**	**73**	Pn	**Pn**	**19 38 25.0**	**-0.5**
YKA				Lg	Lg	19 42 50.7	
YKA	**Yellowknife Ar**	**14.85**	**73**	Pn	**Pn**	**19 38 25.0**	**-0.5**
	0.1nm,0.3s,baz=276,slow=12,SNR=20						
YKA				Lg	Lg	19 42 50.7	
	baz=79,slow=28,SNR=3.7						
BILL	**Bilibino**	**20.62**	**308**	*e*P	**P**	**19 39 34.4**	**0.0**
BILL				pmax	pmax		
	comp=Z,18nm,2.5s						
BILL				MLR	MLR		
	comp=Z,200nm,20.0s						
BILL	**Bilibino**	**20.62**	**308**	*e*P	**P**	**19 39 32.4**	**-2.0**
	comp=Z,9.1nm,0.9s						
NEW	**Newport**	**21.26**	**116**	*e*P	**P**	**19 39 43.5**	**+2.0**
	comp=Z,25nm,1.4s						
NEW	**Newport**	**21.26**	**116**	⇓P	**P**	**19 39 42.9**	**+1.4**
	baz=21,SNR=13						
A12A	**Yaak River Ran**	**21.40**	**112**	⇑P	**P**	**19 39 44.4**	**+1.4**
	baz=21						
B12A	**Libby**	**21.77**	**113**	⇑P	**P**	**19 39 49.0**	**+2.0**
	baz=22,SNR=6.1						
RES	**Resolute Bay**	**22.18**	**33**	*e*P	**P**	**19 39 49.8**	**-1.2**
	comp=Z,9.5nm,1.1s						
RES	**Resolute Bay**	**22.18**	**33**	P	**P**	**19 39 50.4**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=248,slow=19,SNR=12						
B13A	**Whitefish**	**22.34**	**112**	⇓P	**P**	**19 39 54.7**	**+1.6**
	baz=22,SNR=10						
A14A	**Double T Ranch**	**22.36**	**109**	⇑P	**P**	**19 39 54.3**	**+0.8**
	baz=22,SNR=12						
BSMT	**Bassoo Peak**	**22.59**	**113**	*e*P	**P**	**19 39 57.8**	**+1.9**
BLMT	**Blacktail Moun**	**22.66**	**112**	*e*P	**P**	**19 39 59.0**	**+2.3**
A15A	**Johnson Ranch,**	**22.67**	**109**	⇓P	**P**	**19 39 57.0**	**+0.3**
	baz=22,SNR=8.5						
C13A	**Hot Springs**	**22.82**	**113**	⇓P	**P**	**19 39 59.5**	**+1.3**
	baz=23,SNR=7.0						
B14A	**Marquette Ranc**	**22.88**	**110**	⇓P	**P**	**19 39 59.6**	**+0.7**
	baz=23,SNR=7.7						
JTMT	**Jette**	**22.89**	**113**	*e*P	**P**	**19 40 01.3**	**+2.3**
JTMT				*e*pP	**pP**	**19 40 08.1**	**+1.1**
YBMT	**Yellow Bay**	**22.92**	**112**	*e*P	**P**	**19 40 00.5**	**+1.2**
	comp=Z,9.9nm,1.0s						
D12A	**Red Ives Fores**	**22.96**	**115**	⇑P	**P**	**19 40 00.4**	**+0.8**
	baz=23						
C14A	**Swan Lake**	**23.11**	**112**	⇓P	**P**	**19 40 02.0**	**+0.8**
	baz=23						
FX1	**Attu Island--F**	**23.19**	**266**	LR	LR	19 47 59.8	
	comp=Z,151nm,20.1s,baz=255,slow=34						
SWMT	**Swartz Lake**	**23.20**	**113**	*e*P	**P**	**19 40 02.6**	**+0.5**
B15A	**Bradely Ranch,**	**23.23**	**109**	⇑P	**P**	**19 40 02.5**	**0.0**
	baz=23,SNR=6.8						
D13A	**Huson**	**23.31**	**114**	⇑P	**P**	**19 40 03.5**	**+0.3**
	baz=23						
C15A	**Salmond Ranch,**	**23.61**	**110**	⇑P	**P**	**19 40 06.4**	**+0.2**
	baz=24,SNR=7.1						
SLMT	**Seeley Lake**	**23.62**	**112**	*e*P	**P**	**19 40 06.7**	**+0.4**
	comp=Z,5.9nm,1.0s						
D14A	**Greenough**	**23.74**	**113**	⇓P	**P**	**19 40 07.5**	**+0.1**
	baz=24						
BMO	**Blue Mountains**	**23.89**	**121**	*e*P	**P**	**19 40 10.5**	**+1.6**
	comp=Z,85nm,2.5s						
E13A	**Vicor**	**23.94**	**115**	⇑P	**P**	**19 40 08.8**	**-0.5**
	baz=24						
CHMT	**Chamberlain Mo**	**23.98**	**113**	*e*P	**P**	**19 40 08.4**	**-1.4**
	comp=Z,5.1nm,1.3s						
C16A	**Fuhringer Ranc**	**23.98**	**109**	⇓P	**P**	**19 40 09.5**	**-0.1**
	baz=24,SNR=14						
FFC	**Flin Flon**	**24.01**	**86**	*e*P	**P**	**19 40 09.3**	**-0.4**
FFC				pmax	pmax		
	comp=Z,79nm,2.6s						
FFC	**Flin Flon**	**24.01**	**86**	*e*P	**P**	**19 40 09.3**	**-0.4**
	comp=Z,79nm,2.6s						
F12A	**Elk City**	**24.02**	**117**	⇓P	**P**	**19 40 10.4**	**+0.4**
	baz=24,SNR=8.2						
B17A	**L&G Farms, Che**	**24.05**	**107**	⇓P	**P**	**19 40 10.3**	**+0.1**
	baz=24,SNR=11						
F13A	**Darby**	**24.39**	**116**	⇑P	**P**	**19 40 13.9**	**+0.5**
	baz=24,SNR=17						
B18A	**Beardsley Farm**	**24.44**	**106**	⇑P	**P**	**19 40 13.8**	**0.0**
	baz=24,SNR=7.8						
YBH	**Yreka Blue Hor**	**24.51**	**134**	P	**P**	**19 40 16.5**	**+2.0**
YBH	**Yreka Blue Hor**	**24.51**	**134**	P	**P**	**19 40 16.5**	**+2.0**
	comp=Z,5.3nm,0.9s,baz=79,slow=3.1,SNR=5.9						
YBH				LR	LR	19 49 28.6	
	comp=Z,129nm,20.3s,baz=340,slow=36						
A19A	**Klindworth Far**	**24.54**	**104**	⇑P	**P**	**19 40 14.4**	**-0.3**
	baz=24,SNR=6.9						
C17A	**Wharram Farm,**	**24.55**	**108**	⇓P	**P**	**19 40 14.3**	**-0.5**
	baz=24,SNR=16						
D16A	**Dana Ranch, Ca**	**24.65**	**110**	⇓P	**P**	**19 40 16.4**	**+0.6**
	baz=24,SNR=14						
EGMT	**Eagleton**	**24.72**	**107**	*e*P	**P**	**19 40 16.5**	**+0.1**
	comp=Z,21nm,1.1s						
EGMT	**Eagleton**	**24.72**	**107**	⇓P	**P**	**19 40 16.2**	**-0.2**
	baz=25,SNR=10						
B19A	**Brinkman Farms**	**24.78**	**105**	⇑P	**P**	**19 40 17.1**	**+0.2**
	baz=25,SNR=17						
F14A	**Wisdom**	**24.78**	**115**	⇑P	**P**	**19 40 17.7**	**+0.6**
	baz=25,SNR=7.2						
D17A	**Six Diamond Ra**	**24.95**	**109**	⇓P	**P**	**19 40 17.8**	**-0.7**
	baz=25,SNR=9.3						
E16A	**East Helena**	**24.97**	**111**	⇓P	**P**	**19 40 18.8**	**+0.1**
	baz=25,SNR=16						
G13A	**Cobalt**	**24.98**	**117**	⇓P	**P**	**19 40 18.4**	**-0.4**
	baz=25						
F15A	**Butte**	**25.14**	**113**	⇑P	**P**	**19 40 20.8**	**+0.4**
	baz=25,SNR=5.2						
LRM	**Limekiln Ridge**	**25.18**	**113**	*e*P	**P**	**19 40 21.6**	**+0.9**
B20A	**Solberg Farm,**	**25.22**	**104**	⇑P	**P**	**19 40 21.7**	**+0.9**
	baz=25,SNR=6.2						
C19A	**Slack Wire Ran**	**25.26**	**106**	⇑P	**P**	**19 40 21.3**	**+0.1**
	baz=25						
A21A	**Bergtoll Ranch**	**25.34**	**102**	⇑P	**P**	**19 40 22.7**	**+0.8**
	baz=25,SNR=13						
H13A	**Challis**	**25.40**	**117**	⇓P	**P**	**19 40 22.1**	**-0.4**
	baz=25						
DLMT	**Dillon**	**25.47**	**114**	*e*P	**P**	**19 40 26.7**	**+3.4**
	comp=Z,14nm,1.2s						
D19A	**Cripps Ranch,**	**25.76**	**107**	⇑P	**P**	**19 40 25.7**	**-0.1**
	baz=26						
MCMT	**McKenzie Canyo**	**25.79**	**115**	*e*P	**P**	**19 40 26.0**	**-0.2**
	comp=Z,3.3nm,1.2s						
I13A	**Wildhorse Cree**	**25.98**	**118**	⇓P	**P**	**19 40 28.4**	**+0.4**
	baz=26,SNR=7.2						
D20A	**Manuel Ranch,**	**26.15**	**106**	⇑P	**P**	**19 40 29.9**	**+0.5**
	baz=26,SNR=6.6						
QLMT	**Earthquake Lak**	**26.40**	**113**	*e*P	**P**	**19 40 33.3**	**+1.5**
H16A	**Russell Place,**	**26.58**	**113**	⇓P	**P**	**19 40 34.4**	**+1.0**
	baz=26,SNR=8.3						
J14A	**Carey**	**26.71**	**118**	⇓P	**P**	**19 40 35.2**	**+0.7**
	baz=27						
F19A	**Roth Farm, Mol**	**26.71**	**109**	⇑P	**P**	**19 40 35.0**	**+0.5**
	baz=27						
YMR	**Madison River**	**26.73**	**113**	*e*P	**P**	**19 40 35.1**	**+0.3**
	comp=Z,9.9nm,0.8s						
G18A	**Lazy EL Ranch,**	**26.85**	**110**	⇑P	**P**	**19 40 36.3**	**+0.6**
	baz=27						
DGMT	**Dagmar**	**26.98**	**100**	*e*P	**P**	**19 40 41.1**	**+4.3**
	comp=Z,19nm,1.3s						
J15A	**Blackfoot**	**27.11**	**117**	⇓P	**P**	**19 40 39.4**	**+1.4**
	baz=27						
RLMT	**Red Lodge**	**27.13**	**110**	*e*P	**P**	**19 40 39.6**	**+1.3**
	comp=Z,15nm,1.1s						
RLMT	**Red Lodge**	**27.13**	**110**	⇑P	**P**	**19 40 39.1**	**+0.8**
	baz=27,SNR=10						
I16A	**Newdale**	**27.14**	**115**	⇓P	**P**	**19 40 39.6**	**+1.2**
	baz=27,SNR=7.1						
H18A	**Shoshone NF, C**	**27.30**	**111**	⇑P	**P**	**19 40 40.7**	**+0.8**
	baz=27,SNR=5.4						
K14A	**Jones Ranch, D**	**27.50**	**119**	⇓P	**P**	**19 40 42.5**	**+1.0**
	baz=27						
C24A	**Savage**	**27.55**	**101**	⇑P	**P**	**19 40 42.6**	**+0.8**
	baz=27						
J16A	**Bone**	**27.57**	**116**	⇓P	**P**	**19 40 43.4**	**+1.1**
	baz=27						
H19A	**Powell**	**27.61**	**111**	⇓P	**P**	**19 40 43.5**	**+1.0**
	baz=28						
RRI2	**Red Ridge**	**27.63**	**115**	*e*P	**P**	**19 40 44.6**	**+1.6**
	comp=Z,4.4nm,0.8s						
TPAW	**Teton Pass**	**27.68**	**115**	*e*P	**P**	**19 40 46.2**	**+2.9**
	comp=Z,15nm,1.4s						
LOHW	**Long Hollow**	**27.73**	**114**	*e*P	**P**	**19 40 46.2**	**+2.4**
	comp=Z,8.9nm,1.2s						
LOHW				*e*pP	pP	19 41 01.0	+8.6
REDW	**Red Top Meadow**	**27.82**	**115**	*e*P	**P**	**19 40 46.1**	**+1.5**
	comp=Z,15nm,1.4s						
I19A	**Meeteetse**	**28.10**	**111**	⇓P	**P**	**19 40 47.9**	**+0.9**
	baz=28,SNR=5.7						
ELK	**Elko**	**28.16**	**124**	*e*P	**P**	**19 40 49.6**	**+2.0**
	comp=Z,77nm,2.9s						
H20A	**Greybull**	**28.19**	**110**	⇑P	**P**	**19 40 48.5**	**+0.7**
	baz=28						
J18A	**Kendall Valley**	**28.31**	**114**	⇑P	**P**	**19 40 49.7**	**+0.8**
	baz=28,SNR=5.4						
K18A	**Toltan Ranch,**	**28.76**	**115**	⇑P	**P**	**19 40 54.3**	**+1.4**
	baz=29						
PD02	**Pinedale Array**	**28.85**	**114**	*e*P	**P**	**19 40 54.2**	**+0.4**
BW06	**Boulder Array**	**28.86**	**114**	*e*P	**P**	**19 40 54.7**	**+0.9**
	comp=Z,6.4nm,1.1s						
BW06				*e*pP	pP	19 41 10.3	+7.9
BW06	**Boulder Array**	**28.86**	**114**	⇑P	**P**	**19 40 54.5**	**+0.6**
	baz=29,SNR=6.0						
PDAR	**Pinedale Array**	**28.86**	**114**	P	**P**	**19 40 54.8**	**+0.9**
PDAR				PcP	**PcP**	**19 44 01.3**	**-1.2**
PDAR	**Pinedale Array**	**28.86**	**114**	P	**P**	**19 40 54.8**	**+0.9**
	comp=Z,2.5nm,1.0s,baz=321,slow=6.6,SNR=12						
PDAR				PcP	**PcP**	**19 44 01.3**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=327,slow=4.4,SNR=3.5						
PDAR				LR	LR	19 53 17.2	
	comp=Z,156nm,19.1s,baz=347,slow=38						
NVAR	**Mina Array Bea**	**29.00**	**130**	P	**P**	**19 40 55.8**	**+0.7**
NVAR	**Mina Array Bea**	**29.00**	**130**	P	**P**	**19 40 55.8**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=316,slow=6.2,SNR=7.7						
NVAR				LR	LR	19 52 34.4	
	comp=Z,103nm,18.3s,baz=279,slow=36						
I21A	**Big Trails, Te**	**29.04**	**110**	⇑P	**P**	**19 40 56.0**	**+0.7**
	baz=29						
J20A	**Shoshoni**	**29.05**	**111**	⇓P	**P**	**19 40 56.3**	**+0.9**
	baz=29,SNR=5.4						
K19A	**Absolon Red Bu**	**29.13**	**113**	⇓P	**P**	**19 40 57.3**	**+1.2**
	baz=29						
I22A	**9 Mile Ranch,**	**29.34**	**109**	⇑P	**P**	**19 40 58.8**	**+0.9**
	baz=29,SNR=6.0						
L19A	**Farson**	**29.49**	**114**	⇑P	**P**	**19 40 59.8**	**+0.4**
	baz=29						
MDND	**Maddock**	**29.60**	**96**	⇓P	**P**	**19 41 00.5**	**+0.4**
	baz=29						
DUG	**Dugway**	**29.61**	**121**	⇓P	**P**	**19 41 01.5**	**+1.2**
	baz=30						
ULM	**Lac du Bonnet**	**29.72**	**89**	P	**P**	**19 41 00.0**	**-1.0**
ULM	**Lac du Bonnet**	**29.72**	**89**	P	**P**	**19 41 00.0**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=318,slow=7.2,SNR=3.0						
ULM				LR	LR	19 53 11.8	
	comp=Z,150nm,18.4s,baz=323,slow=37						
J22A	**Midwest**	**29.72**	**109**	⇑P	**P**	**19 41 02.3**	**+1.0**
	baz=30						
R11A	**Troy Canyon, C**	**30.09**	**127**	⇑P	**P**	**19 41 05.6**	**+1.0**
	baz=30,SNR=7.3						
K22A	**Casper**	**30.30**	**110**	⇑P	**P**	**19 41 07.1**	**+0.6**
	baz=30						
PETK	**Petropavlovsk-**	**30.41**	**280**	LR	LR	19 51 57.0	
	comp=Z,114nm,19.9s,baz=316,slow=34						
O17A	**Robinson Place**	**30.47**	**118**	⇓P	**P**	**19 41 08.9**	**+0.8**
	baz=30						
L21A	**Rawlins**	**30.47**	**112**	⇓P	**P**	**19 41 08.7**	**+0.6**
	baz=30						
N19A	**John Jarvie Ra**	**30.55**	**116**	⇓P	**P**	**19 41 09.3**	**+0.5**
	baz=30						
M21A	**Separation Pea**	**30.76**	**113**	⇓P	**P**	**19 41 11.3**	**+0.6**
	baz=31						
R13A	**O'Grain Ranch,**	**30.86**	**124**	⇑P	**P**	**19 41 13.3**	**+1.7**
	baz

baz=36
V22A San Miguel Ran 35.70 118 ⇓P **P** 19 41 54.5 +0.9
baz=36
W20A Ramah 35.71 120 ⇓P **P** 19 41 54.4 +0.6
baz=36,SNR=7.7
T26A Comanche Natio 36.06 113 ⇑P **P** 19 41 57.2 +0.5
baz=36,SNR=5.2
U25A Circle Dot Ran 36.36 114 ⇓P **P** 19 42 00.5 +1.2
baz=36,SNR=17
Y19A Nutrioso 36.41 122 ⇑P **P** 19 42 01.8 +1.9
baz=36,SNR=12
U26A Atchley Ranch, 36.65 114 ⇓P **P** 19 42 02.8 +1.0
baz=36,SNR=5.1
V25A Rancho No Teng 36.74 115 ⇑P **P** 19 42 03.8 +1.3
baz=37,SNR=5.7
V26A Tequesquite Ra 37.13 114 ⇓P **P** 19 42 06.9 +1.0
baz=37,SNR=11
W25A X Bar L Ranch, 37.33 115 ⇓P **P** 19 42 08.0 +0.5
baz=37
Y23A Lovelace Mesa, 37.75 118 ⇓P **P** 19 42 12.0 +0.9
baz=38
Z22A Elephant Butte 37.96 120 ⇑P **P** 19 42 13.9 +1.0
baz=38,SNR=5.4
Y24A Capitan 38.02 118 ⇑P **P** 19 42 14.6 +1.2
baz=38
X26A CR and CF Fran 38.18 115 ⇑P **P** 19 42 15.6 +1.0
baz=38
Y25A Mesa, Roswell 38.34 117 ⇓P **P** 19 42 17.0 +1.0
baz=38,SNR=5.1
220A Playas Peak, P 38.50 123 ⇑P **P** 19 42 18.8 +1.4
baz=38,SNR=15
Z24A Sheeppen Canyo 38.56 118 ⇑P **P** 19 42 19.0 +1.0
baz=38
319A Douglas 38.67 124 ⇓P **P** 19 42 20.3 +1.5
baz=39
Y27A Causey 39.03 115 ⇑P **P** 19 42 22.5 +0.7
baz=39,SNR=5.7
124A Stringfield Ra 39.07 119 ⇑P **P** 19 42 23.2 +1.0
baz=39
MSTX Muleshoe 39.12 115 ⇓P **P** 19 42 23.1 +0.6
baz=39,SNR=7.0
Z26A Caprock 39.20 117 ⇓P **P** 19 42 24.2 +1.0
baz=39
125A Gardner Draw, 39.44 118 ⇑P **P** 19 42 25.7 +0.5
baz=39
Z27A Tatum 39.49 116 ⇑P **P** 19 42 26.1 +0.5
baz=39
SCHQ Schefferville 39.95 62 P **P** 19 42 28.4 -0.7
SCHQ Schefferville 39.95 62 P **P** 19 42 28.4 -0.7
comp=Z,4.0nm,0.9s,baz=347,slow=14,SNR=5.5
SCHQ LR LR 19 59 32.8
comp=Z,170nm,20.9s,baz=34,slow=37
324A Moseley Ranch, 40.15 120 ⇑P **P** 19 42 31.9 +0.8
baz=40
Z29A Hungry Hill Ra 40.19 114 ⇑P **P** 19 42 31.6 +0.2
baz=40,SNR=8.4
WMOK Wichita Mounta 40.24 110 *eP* **P** 19 42 32.2 +0.5
WMOK pmax pmax
comp=Z,10.0nm,1.1s
WMOK Wichita Mounta 40.24 110 *eP* **P** 19 42 32.2 +0.5
comp=Z,9.9nm,1.1s
425A Indio Mountain 40.93 120 ⇓P **P** 19 42 38.8 +1.2
baz=41,SNR=11
329A Wagon Wheel Ra 41.59 116 ⇑P **P** 19 42 43.4 +0.5
baz=42
526A Mary Lane Ranc 41.93 119 ⇓P **P** 19 42 46.5 +0.7
baz=42
428A Kincaid Ranch, 41.95 117 ⇓P **P** 19 42 46.8 +1.0
baz=42
527A Woodward Ranch 42.06 119 ⇓P **P** 19 42 47.6 +0.7
baz=42
626A Big Bend Ranch 42.36 120 ⇓P **P** 19 42 50.2 +0.9
baz=42
429A Davenport Ranc 42.37 116 ⇑P **P** 19 42 49.5 +0.2
baz=42
528A Cox Ranch, San 42.39 118 ⇑P **P** 19 42 50.4 +0.9
baz=42,SNR=10.0
430A Baggett Ranch, 42.51 115 ⇓P **P** 19 42 50.7 +0.3
baz=42
TXAR Lajitas Array 42.74 119 P **P** 19 42 52.5 +0.2
TXAR Lajitas Array 42.74 119 P **P** 19 42 52.5 +0.2
comp=Z,1.4nm,0.8s,baz=330,slow=6.8,SNR=15
TXAR LR LR 20 02 38.0
comp=Z,61nm,18.8s,baz=345,slow=39
627A Terlingua Ranc 42.76 119 ⇑P **P** 19 42 53.0 +0.4
baz=43
431A Sonora 42.88 115 ⇓P **P** 19 42 53.8 +0.4
baz=43
628A Black Gap, Mar 42.94 118 ⇑P **P** 19 42 54.4 +0.5
baz=43
JCT Junction City 43.40 114 *eP* **P** 19 42 58.0 +0.4
JCT pmax pmax
comp=Z,19nm,1.4s
JCT Junction City 43.40 114 *eP* **P** 19 42 58.0 +0.4
comp=Z,20nm,1.4s
JCT Junction City 43.40 114 ⇓P **P** 19 42 57.8 +0.1
baz=43
BOD Bodaibo 45.59 312 *eP* P 19 43 03.3 -11
BOD pmax pmax
comp=Z,7.0nm,1.8s
USRK Ussuriysk Arra 48.64 289 LR LR 20 03 36.1
comp=Z,59nm,21.7s,baz=306,slow=36
ARCES ARCESS Array B 48.98 4 P **P** 19 43 40.0 -0.9
ARCES PcP **PcP** 19 45 03.9 -0.6
ARCES ARCESS Array B 48.98 4 P **P** 19 43 40.0 -0.9
comp=Z,1.9nm,0.6s,baz=21,slow=7.0,SNR=6.8
ARCES PcP **PcP** 19 45 03.9 -0.6
comp=Z,3.1nm,0.9s,baz=348,slow=3.8,SNR=4.3
MJAR Matsushiro Arr 51.83 278 P **P** 19 44 02.9 -0.1
MJAR Matsushiro Arr 51.83 278 P **P** 19 44 02.9 -0.1
comp=Z,1.0nm,0.8s,baz=99,slow=15,SNR=4.1
CN2 Changchun 51.88 293 *eP* **P** 19 44 05.4 +2.2
TLY Talaya 54.11 314 *eP* P 19 44 31.7 +12
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY MLR MLR
comp=Z,45nm,15.0s
KSRS Korea Array 55.89 287 LR LR 20 08 21.0
comp=Z,57nm,18.8s,baz=120,slow=36
SONM Songino Array 56.34 309 P **P** 19 44 35.7 -0.1
SONM Songino Array 56.34 309 P **P** 19 44 35.7 -0.1
comp=Z,1.5nm,0.7s,baz=41,slow=8.7,SNR=9.1
SONM LR LR 20 10 31.3
comp=Z,118nm,18.0s,baz=319,slow=38
FINES FINESS Array B 57.10 4 P **P** 19 44 39.9 -0.9
FINES FINESS Array B 57.10 4 P **P** 19 44 39.9 -0.9
comp=Z,0.8nm,0.4s,baz=360,slow=8.0,SNR=22
KLMR Klimovskoe 57.74 357 *eP* **P** 19 44 43.2 -2.1
KLMR pmax pmax
comp=Z,22nm,1.2s
SOKR Solikamsk 57.79 346 *eP* P 19 44 42.2 -3.5
SOKR pmax pmax
comp=Z,10.0nm,1.1s
ZALV Zalesovo Beam 57.86 327 P **P** 19 44 45.5 -0.7
ZALV Zalesovo Beam 57.86 327 P **P** 19 44 45.5 -0.7
ZALV Zalesovo Beam 57.86 327 P **P** 19 44 45.5 -0.7
comp=Z,0.5nm,0.6s,baz=19,slow=9.2,SNR=2.7
SVE Sverdlovsk 59.98 343 ⇓*eP* **P** 19 45 00.6 -0.3
SVE pmax pmax
comp=Z,10.0nm,1.0s
HHC Hu-ho-hao-te 60.19 301 *eP* P 19 45 05.9 +3.1
HHC pP pP 19 45 11.9 0.0
HHC sP sP 19 45 16.8 +1.4
HHC PP PP 19 47 20.8 +5.6
HHC S **S** **19 53 15.1 +0.8**
HHC sS sS 19 53 28.0 -1.3
HHC SS **SS** **19 57 13.8 +2.9**
HHC pmax pmax
comp=Z,8.0nm,1.0s
HHC pmax pmax
comp=Z,96nm,5.1s
HHC LR LR
comp=N,120nm,14.3s
HHC LR LR
comp=E,200nm,14.3s
HHC LR LR
comp=Z,180nm,14.3s
ARU Arti 60.65 344 *d iP* **P** **19 45 04.5 -1.0**
ARU 19 47 12.7
ARU S **S** **19 53 19.9 +0.5**
ARU SS SS 19 57 04.5 -12
ARU pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 60.65 344 *eP* **P** **19 45 04.1 -1.4**
comp=Z,8.5nm,1.0s
BRVK Borovoye 62.00 336 *i* P **P** **19 45 13.7 -1.0**
BRVK pmax pmax
comp=Z,7.0nm,2.3s
BVAR Borovoye Array 62.01 336 LR LR 20 12 02.4
comp=Z,60nm,21.9s,baz=82,slow=36
KURK Kurchatov 62.37 329 P **P** **19 45 16.5 -0.7**
KURK Kurchatov 62.37 329 P **P** **19 45 16.4 -0.7**
KURBB Kurchatov Arra 62.48 330 P **P** **19 45 16.4 -1.4**
comp=Z,0.5nm,0.5s,baz=27,slow=6.3,SNR=3.3
OBN Obninsk 63.56 358 ⇓*iP* **P** **19 45 24.5 -0.5**
OBN *eS* **S** **19 53 54.9 -1.2**
OBN pmax pmax
comp=Z,22nm,1.0s
OBN MLR MLR
comp=Z,100nm,19.0s
NJ2 Nanjing 64.49 290 *eP* **P** **19 45 33.3 +1.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
MKAR Makanchi Array 65.04 325 P **P** **19 45 33.1 -1.8**
MKAR Makanchi Array 65.04 325 P **P** **19 45 33.1 -1.8**
MKAR Makanchi Array 65.04 325 P **P** **19 45 33.1 -1.8**
comp=Z,0.3nm,0.5s,baz=42,slow=6.9,SNR=5.6
MKAR LR LR 20 16 27.3
comp=Z,68nm,21.0s,baz=354,slow=38
GTA Gaotai 66.01 309 *eP* **P** **19 45 41.3 -0.1**
GTA pP **pP** **19 45 52.6 +2.0**
GTA sP **sP** **19 45 57.5 +3.4**
GTA pmax pmax
comp=Z,6.0nm,1.1s
CLL Collm 66.20 14 *eP* **P** **19 45 40.0 -2.3**
AKTO Aktyubinsk 66.57 343 LR LR 20 15 33.5
comp=Z,34nm,18.8s,baz=139,slow=37
UPC Upice 67.32 12 *eP* **P** **19 45 49.4 0.0**
UPC Upice 67.32 12 *eP* **P** **19 45 49.4 0.0**
LZH Lanzhou 67.38 304 *eP* **P** **19 45 47.5 -2.7**
LZH pP **pP** **19 45 56.5 -3.0**
LZH sP **sP** **19 46 00.0 -2.9**
LZH pmax pmax
comp=Z,15nm,1.0s
VSR Storozhevoye 67.40 356 *eP* **P** 19 45 47.4 -2.5
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,6.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VRHR Novokhopersk 67.43 355 *eP* P 19 45 44.5 -5.6
VRHR pmax pmax
comp=N,7.0nm,0.5s
VRHR pmax pmax
comp=E,5.0nm,0.5s
VRHR pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 67.45 342 *eP* **P** **19 45 49.6 -0.6**
DPC Dobruska-Polom 67.50 12 *eP* **P** **19 45 50.4 -0.3**
DPC Dobruska-Polom 67.50 12 *eP* **P** **19 45 49.3 -1.4**
comp=Z,19nm,1.4s
DPC Dobruska-Polom 67.50 12 *eP* **P** **19 45 50.4 -0.3**
DPC *ex* x 19 46 12.2
GRF Grafenberg Arr 67.58 16 *eP* **P** **19 45 50.0 -1.1**
comp=Z,10.0nm,1.4s
GRF Grafenberg Arr 67.58 16 *eP* **P** **19 45 50.0 -1.1**
GRF pmax pmax
comp=Z,10.0nm,1.4s
VORD Divnogorie 67.65 356 *eP* P 19 45 47.6 -3.8
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,4.0nm,1.0s
VORD pmax pmax
comp=Z,10.0nm,1.0s
PRU Pruhonice 67.68 13 *eP* **P** **19 45 51.8 +0.1**
PRU Pruhonice 67.68 13 *eP* **P** **19 45 51.8 +0.1**
PRU *ex* x 19 46 13.0
AKASG Malin Array Be 67.95 3 P **P** **19 45 52.0 -1.3**
AKASG Malin Array Be 67.95 3 P **P** **19 45 52.0 -1.3**
AKASG Malin Array Be 67.95 3 P **P** **19 45 52.0 -1.3**
comp=Z,8.7nm,0.8s,baz=359,slow=6.1,SNR=15
KIEV Kiev 67.96 3 *eP* **P** **19 45 52.4 -1.0**
KIEV pmax pmax
comp=Z,11nm,1.1s
KIEV Kiev 67.96 3 *eP* **P** **19 45 52.4 -1.0**
comp=Z,11nm,1.1s
OKC Ostrava-Krasne 68.18 11 *eP* **P** **19 45 53.8 -1.1**
OKC Ostrava-Krasne 68.18 11 *eP* **P** **19 45 53.8 -1.1**
KHC Kasperske Hory 68.42 14 *eP* **P** **19 45 56.4 0.0**
KHC *e* 19 46 18.7
KHC Kasperske Hory 68.42 14 *eP* **P** **19 45 56.4 0.0**
KHC *ex* x 19 46 18.7
GERES GERESS Array B 68.71 14 P **P** **19 45 57.8 -0.5**
GERES GERESS Array B 68.71 14 P **P** **19 45 57.8 -0.5**
comp=Z,0.3nm,0.6s,baz=5.3,slow=7.2,SNR=4.9
CRVS Cervenica-Dubn 69.38 9 *eP* **P** **19 46 02.1 -0.2**
CRVS pmax pmax
comp=Z,5.0nm,1.6s
CRVS Cervenica-Dubn 69.38 9 *eP* **P** **19 46 02.1 -0.2**
KOLS Kolonicke sedl 69.40 8 *eP* **P** **19 46 02.4 -0.1**
KOLS pmax pmax
comp=Z,6.0nm,1.3s
KOLS Kolonicke sedl 69.40 8 *eP* **P** **19 46 02.4 -0.1**
VYHS Vyhne 69.58 10 *eP* **P** **19 46 03.3 -0.3**
VYHS pmax pmax
comp=Z,2.0nm,1.2s
VYHS Vyhne 69.58 10 *eP* **P** **19 46 03.3 -0.3**
PSZ Piszkesteto 70.23 10 *eP* **P** **19 46 07.9 +0.2**
PSZ pmax pmax
comp=Z,8.0nm,1.0s
PSZ Piszkesteto 70.23 10 *eP* **P** **19 46 07.9 +0.2**
comp=Z,7.5nm,1.0s
AAK Ala-Archa 70.93 329 *i* P **P** **19 46 10.8 -1.4**
AAK pmax pmax
comp=Z,4.0nm,0.9s
EKS2 Erkin-Say 71.08 330 *eP* **P** **19 46 12.8 -0.2**
EKS2 pmax pmax
comp=Z,35nm,2.4s
EKS2 Erkin-Say 71.08 330 *eP* **P** **19 46 12.8 -0.2**
comp=Z,35nm,2.4s
KSH Kashi 73.49 327 *eP* P 19 46 32.8 +5.3
KSH pP **PcP** **19 46 41.3 -2.2**
KSH sP sP 19 46 44.0 +3.8
KSH PcP pP 19 46 49.5 +13
KSH PP PP 19 49 18.8 +8.1
KSH S **SKiKP** **19 56 00.6 +5.4**
KSH sS sS 19 56 13.1 +2.8
KSH SKS **SKKSac** **19 56 32.8 +1.0**
KSH ScS **ScS** **19 56 37.0 +2.8**
KSH SS SS 20 00 46.6 +10
KSH LR LR
comp=N,93nm,4.9s
KSH LR LR
comp=E,84nm,4.9s
KSH LR LR
comp=Z,220nm,5.0s
KIV Kislovodsk 74.50 353 *eP* **P** **19 46 31.6 -1.6**
KIV pmax pmax
comp=Z,8.0nm,1.1s
ESDC Sonseca Array 74.54 29 P **P** **19 46 32.5 -1.0**
ESDC Sonseca Array 74.54 29 P **P** **19 46 32.5 -1.0**
comp=Z,0.7nm,0.6s,baz=341,slow=6.5,SNR=5.8
KMI Kunming 77.47 300 P **P** **19 46 52.1 +1.5**
KMI pP **PcP** **19 47 04.0 +3.1**
KMI pmax pmax
comp=Z,8.0nm,1.0s
LSA Lhasa 77.86 311 *eP* **P** **19 46 53.7 +0.7**
LSA Lhasa 77.86 311 *eP* **P** **19 46 53.7 +0.7**
BRTR Keskin Array B 78.98 360 P **P** **19 46 58.0 -0.7**
BRTR Keskin Array B 78.98 360 P **P** **19 46 58.0 -0.7**
comp=Z,4.2nm,1.1s,baz=20,slow=3.9,SNR=8.9
KEST Kesra 80.99 20 P **P** **19 47 08.3 -1.1**
KEST Kesra 80.99 20 P **P** **19 47 08.3 -1.1**
comp=Z,1.4nm,0.9s,baz=253,slow=17,SNR=5.9
CMAR Chiang Mai Arr 84.97 300 P **P** **19 47 29.0 -1.2**
CMAR Chiang Mai Arr 84.97 300 P **P** **19 47 29.0 -1.2**
comp=Z,4.0nm,0.9s,baz=3.8,slow=6.0,SNR=34
CMAR LR LR 20 29 08.7
comp=Z,34nm,19.1s,baz=190,slow=38
BOSA Boshof 146.51 13 PKPbc **PKPdf** **19 54 34.1 -0.2**
BOSA Boshof 146.51 13 PKPbc **PKPdf** **19 54 34.1 -0.2**
comp=Z,6.2nm,0.7s,baz=353,slow=2.7,SNR=14

IDC ***15*** *19:35:55.2±0.8,25°.96N×90°.13E, h0km, mb4.0/12, mb1 4.1/13, mb1mx3.9/28, mbtmp4.0/13, ML4.1/1, MS3.4/3, Ms1 3.4/3, ms1mx3.0/33, Error ellipse: s-maj=33.8km s-min=15.1km az=55.0*

DMN ***15*** *19:35:58.2±0.4,25°.78N×90°.41E, h60km, Ml5.3/8, Error ellipse: s-maj=26.8km s-min=7.8km az=23.0*

ISC 15 19:35:56.8±3.9,25°.85N±0°.05×90°.19E±0°.04, h14km±25km, n50, σ1ᵖ43/56, mb4.2/12, MS3.3/3, 3D, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**1.55**	**100**	*e*PKP	**Pn**	**19 36 25.3**	**+1.1**
SHL				*e*S	**Sn**	**19 36 43.0**	**-1.2**
SLGI	**Shiliguri**	**1.81**	**298**	*e*PKP	**Pn**	**19 36 28.9**	**+1.4**
SLGI				*ex*	Sg	19 36 58.3	+3.4
GTK	**Gangtok**	**2.04**	**317**	*e*PKP	**Pn**	**19 36 30.5**	**-0.5**
GTK				*e*S	**Sn**	**19 36 56.5**	**+0.1**
AGT	**Agartala**	**2.18**	**154**	*ex*	Pg	19 36 42.0	+3.4
AGT				*ex*	x	19 38 06.0	
SHBG	**Sahibganj**	**2.37**	**255**	*e*PKP	**Pn**	**19 36 36.2**	**+1.0**
SHBG				*ex*	x	19 36 43.2	
TAPN	**Taplejung**	**2.68**	**305**	*e*Pn	**Pn**	**19 36 41.5**	**+1.7**
TAPN				*e*Sn	**Sn**	**19 37 14.5**	**+2.3**
	3μm,0.4s						
ODAN	**Odare**	**2.71**	**292**	*e*Pn	**Pn**	**19 36 42.5**	**+2.3**
ODAN				*e*Sn	**Sn**	**19 37 15.5**	**+2.6**
	8μm,0.4s						
RAMN	**Ramite**	**3.40**	**290**	*e*Pn	**Pn**	**19 36 52.1**	**+2.4**
RAMN				*e*Sn	**Sn**	**19 37 31.8**	**+1.8**
	4μm,0.5s						
IMP	**Imphal**	**3.55**	**107**	*e*PKP	**Pn**	**19 36 52.0**	**+0.4**
IMP				*ex*	Sg	19 37 49.0	-1.9
CAL	**Calcutta**	**3.71**	**208**	*e*PKP	**Pn**	**19 36 55.2**	**+1.6**
CAL				*e*S	**Sn**	**19 37 37.6**	**+0.6**
CAL				AML	AML	19 38 07.1	
	comp=E,3μm,0.4s						
CAL				AML	AML	19 38 08.1	
	comp=N,3μm,0.3s						
JIRN	**Jiri**	**4.01**	**298**	*e*Pn	**Pn**	**19 37 00.2**	**+2.1**
GUN	**Gumba**	**4.37**	**299**	*e*Pn	**Pn**	**19 37 05.1**	**+2.1**
BOK	**Bokaro**	**4.41**	**243**	*e*PKP	**Pn**	**19 37 06.0**	**+2.6**
BOK				*e*S	**Sn**	**19 37 53.5**	**-1.2**
PKI	**Pulchoki**	**4.61**	**293**	*e*Pn	**Pn**	**19 37 08.0**	**+1.6**
KKN	**Kakani**	**4.80**	**295**	*e*Pn	**Pn**	**19 37 10.3**	**+1.4**
KKN				*e*Sn	**Sn**	**19 38 03.5**	**-0.9**
	comp=N,338nm,0.2s						
DMN	**Daman**	**4.88**	**292**	*e*Pn	**Pn**	**19 37 11.2**	**+1.2**
DMN				*e*Sn	**Sn**	**19 38 05.4**	**-0.9**
	comp=N,955nm,0.6s						
GKN	**Gorkha**	**5.40**	**295**	*e*Pn	**Pn**	**19 37 18.6**	**+1.5**
GKN				*e*Sn	**Sn**	**19 38 18.6**	**-0.7**
	comp=N,519nm,0.3s						
KOLN	**Koldanda**	**6.19**	**289**	*e*Pn	**Pn**	**19 37 28.7**	**+0.7**
KOLN				*e*Sn	**Sn**	**19 38 37.2**	**-1.6**
	comp=N,341nm,0.3s						
DANN	**Dangsing**	**6.25**	**295**	*e*Pn	**Pn**	**19 37 29.2**	**+0.3**
DANN				*e*Sn	**Sn**	**19 38 38.6**	**-1.7**
	comp=N,553nm,0.5s						
BWNR	**Bhubaneshwar**	**6.84**	**217**	*ex*	**Pn**	**19 37 35.0**	**-1.8**
BWNR				*ex*	Sg	19 39 40.0	+3.5
ALBI	**Allahabad**	**7.59**	**268**	*ex*	Pn	19 37 40.5	-6.5
PTH	**Pithoragarh**	**9.58**	**295**	*e*PKP	**Pn**	**19 38 14.5**	**0.0**
PTH				*e*S	Sn	19 39 54.5	-7.5
VIS	**Vishakhapatnam**	**10.29**	**220**	*e*PKP	**Pn**	**19 38 24.0**	**-0.1**
VIS				*i* x	x	19 40 03.0	
VIS				*ex*	x	19 40 14.1	
	comp=E,32nm,1.1s						
VIS				*ex*	x	19 40 14.7	
	comp=N,38nm,1.1s						
CMAR	**Chiang Mai Arr**	**10.94**	**130**	Pn	**Pn**	**19 38 33.5**	**+0.4**
	comp=N,0.4nm,0.3s,baz=310,slow=13,SNR=9.5						
NGP	**Nagpur**	**11.24**	**248**	*e*PKP	**Pn**	**19 38 35.9**	**-1.2**
NGP				*e*S	Sn	19 40 36.5	-6.2
DDI	**Dehra Dun**	**11.60**	**295**	*e*PKP	**Pn**	**19 38 40.0**	**-2.1**
DDI				*ex*	x	19 42 40.6	
BHPL	**Bhopal**	**11.91**	**260**	*ex*	Pn	19 38 43.1	-3.1
SDNR	**Sundarnagar**	**12.90**	**299**	*e*PKP	**Pn**	**19 38 59.0**	**-0.8**
HYB	**Hyderabad**	**13.68**	**235**	*i* P	**Pn**	**19 39 08.0**	**-2.6**
HYB				*e*S	**Sn**	**19 41 41.0**	**-1.5**
AJM	**Ajmer**	**13.98**	**276**	*ex*	Pn	19 39 10.0	-4.6
AJM				*ex*	x	19 41 37.0	
THN	**Thein Dam**	**14.24**	**301**	*ex*	Pn	19 39 12.9	-5.2
LATR	**Latur**	**14.63**	**242**	*e*PKP	**Pn**	**19 39 25.2**	**+1.8**
POO	**Poona**	**16.79**	**248**	*ex*	x	19 40 00.0	
POO				*ex*	x	19 42 46.4	
AAK	**Ala-Archa**	**21.13**	**326**	P	**P**	**19 40 41.7**	**+0.4**
	comp=N,10nm,1.3s,baz=151,slow=12,SNR=6.6						
AAK				LR	LR	19 49 37.3	
	comp=N,43nm,18.6s,baz=159,slow=39						
MKAR	**Makanchi Array**	**21.83**	**345**	P	**P**	**19 40 47.7**	**-1.0**
	comp=N,8.2nm,0.6s,baz=160,slow=12,SNR=77						
SONM	**Songino Array**	**25.39**	**26**	P	**P**	**19 41 23.7**	**-0.1**
	comp=N,1.2nm,0.5s,baz=216,slow=9.6,SNR=15						
KURBB	**Kurchatov Arra**	**26.31**	**343**	P	**P**	**19 41 31.6**	**-0.4**
	comp=N,6.4nm,0.7s,baz=161,slow=9.1,SNR=54						
ZALV	**Zalesovo Beam**	**28.35**	**353**	P	**P**	**19 41 49.3**	**-0.9**
	comp=N,1.0nm,0.6s,baz=179,slow=7.7,SNR=8.4						
VRI	**Vrincioaia**	**53.74**	**309**	⇓*iP*	**P**	**19 45 19.3**	**+0.7**
PLOR	**Plostina**	**53.79**	**309**	⇓*iP*	**P**	**19 45 20.0**	**+1.0**
MLR	**Muntele Rosu**	**54.30**	**309**	⇓*iP*	**P**	**19 45 23.8**	**+1.0**
FINES	**FINESS Array B**	**55.30**	**328**	P	**P**	**19 45 28.9**	**-0.6**
	comp=N,1.7nm,0.6s,baz=90,slow=4.8,SNR=5.0						
ARCES	**ARCESS Array B**	**57.22**	**338**	P	**P**	**19 45 43.3**	**+0.1**
	comp=N,3.4nm,0.9s,baz=96,slow=5.5,SNR=4.8						
GERES	**GERESS Array B**	**62.32**	**314**	P	**P**	**19 46 18.6**	**-0.2**
	comp=N,1.5nm,0.6s,baz=73,slow=6.3,SNR=16						
NB2	**NORSAR Subarra**	**62.44**	**327**	P	**P**	**19 46 17.9**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=86,slow=6.9						
NOA	**NORSAR Array B**	**62.44**	**327**	P	**P**	**19 46 18.2**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=86,slow=6.6,SNR=8.1						
NOA				LR	LR	20 14 28.3	
	comp=Z,20nm,20.9s,baz=250,slow=37						
WRA	**Warramunga Arr**	**62.53**	**132**	P	**P**	**19 46 22.1**	**+1.7**
	comp=Z,1.8nm,0.4s,baz=326,slow=7.0,SNR=35						
ASAR	**Alice Springs**	**64.90**	**136**	P	**P**	**19 46 37.5**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=316,slow=6.3,SNR=7.1						
TORD	**Torodi Ar. Bea**	**83.05**	**281**	P	**P**	**19 48 22.7**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=44,slow=4.7,SNR=3.5						
DBIC	**Dimbokro**	**91.65**	**278**	LR	LR	20 34 52.5	
	comp=Z,51nm,18.2s,baz=193,slow=39						

GUC 15 19:44:17.7±1.0,29°.69S×71°.35W, h38km±5km, ML3.9, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLL	**Tololo Astrono**	**0.67**	**136**	⇓*iP*	Pn	19 44 31.9	+0.7
TLL				*i* S	Sn	19 44 41.7	+1.1
TLL				AML	AML	19 44 43.6	
	comp=N,7μm,0.5s						
LCO	**Las Campanas**	**0.88**	**40**	⇓*iP*	Pn	19 44 34.7	+0.8
LCO				*i* S	Sn	19 44 47.0	+1.3
OVCH	**Ovalle**	**0.93**	**172**	*eP*	Pn	19 44 34.6	+0.4
OVCH				*i* S	Sn	19 44 46.8	+0.4
OVCH				AML	AML	19 44 50.7	
	comp=N,4μm,0.4s						
VACH	**Vallenar**	**1.22**	**25**	*eP*	Pn	19 44 37.5	-0.8
VACH				*i* S	Sn	19 44 53.5	-0.1
VACH				AML	AML	19 44 58.0	
	comp=E,2μm,0.1s						
CHNG	**Los Chungos**	**2.19**	**183**	⇓*iP*	Pn	19 44 52.9	+1.3
CHNG				*i* S	Sn	19 45 18.9	+1.4
CHNG				AML	AML	19 45 29.4	
	comp=E,747nm,0.6s						
CPCH	**Copiapo**	**2.48**	**21**	⇑*iP*	Pn	19 44 59.1	+3.5
CPCH				*i* S	Sn	19 45 28.8	+4.2
CPCH				AML	AML	19 45 31.3	
	comp=N,2μm,0.1s						
PTCH	**Petorca**	**2.59**	**172**	*i* S	Sn	19 45 29.2	+1.7
ROCH	**El Roble**	**3.29**	**175**	⇑*iP*	Pn	19 45 08.3	+1.3
ROCH				*i* S	Sn	19 45 47.2	+2.2
ROCH				AML	AML	19 45 59.7	
	comp=N,847nm,0.4s						
PEL	**Peldehue**	**3.49**	**171**	*eP*	Pn	19 45 11.5	+1.9
PEL				*i* S	Sn	19 45 53.7	+4.0
FCH	**Farellones**	**3.74**	**166**	*i* P	Pn	19 45 10.1	-3.2
FCH				*i* S	Sn	19 45 54.1	-2.3

ISCJB ***15*** *19:45:34.4±0.5,45°.27N×0°.08×137°.21E±0°.10, h350km, mb3.4/13, Error ellipse: s-maj=10.9km s-min=9.3km az=166.2*

IDC ***15*** *19:45:35.4±1.0,45°.24N×137°.08E, h345km±10km, mb3.2/13, mb1 3.2/17, mb1mx3.1/28, mbtmp3.1/17, Error ellipse: s-maj=14.4km s-min=11.9km az=24.0*

ISC 15 19:45:35.6±0.7, 45°20′N±0°10′×137°12′E±0°08, h350km, n26, σ0°65/27, mb3.6/13, Primorye

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Arra**	**3.78**	**257**	P		**Pn**		**19 46 41.6**	**-0.7**
	1.5nm,0.3s,baz=64,slow=11,SNR=22								
USRK				S		**S**		**19 47 36.4**	**+0.2**
	0.1nm,0.3s,baz=83,slow=16,SNR=2.2								
ASAJ	**Asahikawa**	**4.06**	**103**	P		**Pn**		**19 46 44.1**	**-1.1**
	9.2nm,0.3s,baz=262,slow=8.6,SNR=15								
MJAR	**Matsushiro Arr**	**8.69**	**174**	P		**Pn**		**19 47 37.2**	**-0.8**
	0.8nm,0.3s,baz=349,slow=11,SNR=13								
KSRS	**Korea Array**	**10.37**	**225**	P		**P**		**19 47 59.1**	**0.0**
	0.5nm,0.3s,baz=46,slow=10,SNR=10								
SONM	**Songino Array**	**21.24**	**288**	P		**P**		**19 49 54.2**	**-0.6**
	3.5nm,0.9s,baz=83,slow=9.1,SNR=20								
ZALV	**Zalesovo Beam**	**34.31**	**304**	P		**P**		**19 51 49.5**	**-0.4**
	2.3nm,0.5s,baz=90,slow=8.9,SNR=16								
MKAR	**Makanchi Array**	**37.47**	**293**	P		**P**		**19 52 16.4**	**-0.2**
	1.1nm,0.7s,baz=82,slow=10.0,SNR=15								
KURBB	**Kurchatov Arra**	**38.75**	**300**	P		**P**		**19 52 26.9**	**-0.2**
	2.2nm,0.3s,baz=76,slow=8.9,SNR=54								
TAPN	**Taplejung**	**42.91**	**263**	*e*P		**P**		**19 53 02.1**	**+0.7**
	7.7nm,0.6s								
ODAN	**Odare**	**43.44**	**262**	*e*P		**P**		**19 53 05.8**	**+0.3**
	4.1nm,0.4s								
JIRN	**Jiri**	**43.79**	**264**	*e*P		**P**		**19 53 09.2**	**+0.8**
	3.5nm,0.6s								
GUN	**Gumba**	**43.86**	**265**	*e*P		**P**		**19 53 09.5**	**+0.6**
	8.3nm,0.4s								
RAMN	**Ramite**	**43.94**	**263**	*e*P		**P**		**19 53 10.0**	**+0.6**
	8.0nm,0.4s								
AAK	**Ala-Archa**	**44.18**	**290**	P		**P**		**19 53 11.8**	**+0.7**
	1.0nm,0.3s,baz=104,slow=4.9,SNR=9.8								
KKN	**Kakani**	**44.35**	**265**	*e*P		**P**		**19 53 13.1**	**+0.4**
	7.1nm,0.6s								
ILAR	**Eielson Array**	**44.58**	**36**	P		**P**		**19 53 13.9**	**+0.3**
	0.3nm,0.6s,baz=286,slow=6.9,SNR=6.6								
GKN	**Gorkha**	**44.68**	**266**	*e*P		**P**		**19 53 15.5**	**+0.4**
	8.3nm,0.4s								
DANN	**Dangsing**	**45.09**	**267**	*e*P		**P**		**19 53 19.3**	**+0.8**
	16nm,0.4s								
KOLN	**Koldanda**	**45.55**	**266**	*e*P		**P**		**19 53 22.7**	**+0.7**
	4.6nm,0.2s								
ARCES	**ARCESS Array B**	**55.22**	**337**	P		**P**		**19 54 32.3**	**-0.5**
	5.7nm,1.1s,baz=37,slow=12,SNR=3.8								
YKA	**Yellowknife Ar**	**58.44**	**31**	P		**P**		**19 54 56.4**	**+1.2**
	0.1nm,0.5s,baz=305,slow=6.2,SNR=3.4								
FINES	**FINESS Array B**	**60.12**	**329**	P		**P**		**19 55 06.1**	**-0.5**
	1.0nm,0.4s,baz=59,slow=7.7,SNR=14								
WRA	**Warramunga Arr**	**64.87**	**183**	P		**P**		**19 55 38.4**	**+0.1**
	0.5nm,0.5s,baz=358,slow=7.1,SNR=5.0								
NOA	**NORSAR Array B**	**65.42**	**334**	P		**P**		**19 55 41.1**	**-0.3**
	0.5nm,0.6s,baz=37,slow=6.6,SNR=2.8								
AKASG	**Malin Array Be**	**65.94**	**318**	P		**P**		**19 55 44.0**	**-0.7**
	0.9nm,0.5s,baz=47,slow=6.4,SNR=5.2								
ASAR	**Alice Springs**	**68.59**	**183**	P		**P**		**19 56 02.5**	**+1.1**
	0.4nm,0.3s,baz=353,slow=6.6,SNR=7.5								

IDC 15 19:50:01.2±1.9, 7.70S×127.18E, h0km, mb3.4/1, mb1 3.7/3, mb1mx3.4/15, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=136.1km s-min=31.6km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.02**	**151**	Pn			Pn	19 53 21.0	-0.2
	0.1nm,0.3s,baz=328,slow=12,SNR=7.5								
WRA				Sn			Sn	19 55 47.1	-11
	0.3nm,0.3s,baz=330,slow=23,SNR=5.5								
ASAR	**Alice Springs**	**17.14**	**159**	P			Pn	19 54 02.5	+0.1
	0.2nm,0.3s,baz=343,slow=12,SNR=16								
MKAR	**Makanchi Array**	**67.31**	**328**	P			P	20 00 58.0	0.0
	0.2nm,0.6s,baz=129,slow=5.5,SNR=6.6								

NIED ***15*** *20:21:00, 37.00N×141.90E, h26km, Mw3.5 Best double couple: M₀2.01000×10¹⁴ NP1:φ=2.00000°, δ64.00000°, λ77.00000°. NP2:φ=210.00000°, δ29.00000°, λ115.00000°.*
ISCJB ***15*** *20:21:11.9±1.3, 36.99N±0.04×141.99E±0.07, h15km±7km, mb3.3/4, Error ellipse: s-maj=9.4km s-min=6.6km az=1.3*
JMA ***15*** *20:21:14.4±0.2, 36.98N×141.86E, h46km±4km, M3.6*
IDC ***15*** *20:21:20.0±8.1, 36.84N×141.58E, h58km±57km, mb3.3/4, mb1 3.4/6, mb1mx3.2/24, mbtmp3.4/6, ML3.4/2, Error ellipse: s-maj=87.2km s-min=18.5km az=74.0*

ISC 15 20:21:11.9±3.6, 37.00N±0.04×141.97E±0.08, h12km±24km, n18, σ1°45/25, mb3.4/4, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.94**	**276**	⇓P			**Pb**	**20 21 30.1**	**-0.1**
JFK	**Kawauchi**	**0.94**	**293**	⇓P			**Pb**	**20 21 30.3**	**0.0**
JFK				*e*S			**Sb**	**20 21 42.1**	**-0.7**
JHO	**Hitachi**	**1.19**	**251**	P			**Pn**	**20 21 33.4**	**-1.0**
JHO				*e*S			**Sb**	**20 21 47.1**	**-2.6**
JMM	**Marumori**	**1.27**	**313**	⇓P			**Pn**	**20 21 35.5**	**0.0**
JMM				*e*S			**Sb**	**20 21 51.3**	**-0.8**
JFT	**Otama**	**1.40**	**292**	⇓P			**Pn**	**20 21 37.8**	**+0.5**
JFT				*e*S			**Sn**	**20 21 54.8**	**-0.9**
JIO	**Ouri**	**1.53**	**342**	⇓P			**Pn**	**20 21 39.8**	**+0.7**
JIO				*e*S			**Sn**	**20 21 56.9**	**-2.0**
JOU	**Okura**	**1.71**	**323**	P			**Pn**	**20 21 42.4**	**+0.8**
JOU				*e*S			**Sn**	**20 22 02.8**	**-0.6**
JFY	**Yanaizu**	**1.85**	**283**	P			**Pn**	**20 21 44.5**	**+1.0**
JFY				*e*S			**Sn**	**20 22 06.5**	**-0.4**
JYS	**Shirataka**	**1.94**	**309**	P			**Pn**	**20 21 45.8**	**+1.1**
JYS				*e*S			**Sn**	**20 22 09.5**	**+0.5**
JMK	**Ichinoseki**	**2.03**	**343**	P			**Pn**	**20 21 47.2**	**+1.2**
JAG	**Ashikaga**	**2.10**	**255**	⇑P			**Pn**	**20 21 47.0**	**+0.1**
MJAR	**Matsushiro Arr**	**3.05**	**262**	P			**Pn**	**20 22 01.2**	**+1.2**
	6.3nm,0.3s,baz=86,slow=15,SNR=76								
MJAR				S			**Sn**	**20 22 39.9**	**+3.4**
	2.7nm,0.3s,baz=97,slow=7.3,SNR=5.4								
MAT	**Matsushiro**	**3.05**	**262**	P			Pn	20 22 02.0	+1.9
MAT				S			**Sn**	**20 22 39.1**	**+2.6**
JHJ	**Hachijo jima 2**	**4.27**	**205**	P			**Pn**	**20 22 18.2**	**+1.5**
	7.4nm,0.3s,baz=169,slow=21,SNR=11								
JHJ				S			**Sn**	**20 23 04.8**	**-1.7**
	16nm,0.3s,baz=68,slow=22,SNR=9.1								
SONM	**Songino Array**	**28.17**	**304**	P			P	20 27 05.6	+1.3
	0.6nm,0.6s,baz=100,slow=8.8,SNR=6.2								
ZALV	**Zalesovo Beam**	**42.26**	**312**	P			P	20 29 06.8	+1.9
	0.3nm,0.5s,baz=79,slow=7.5,SNR=2.7								
MKAR	**Makanchi Array**	**44.51**	**302**	P			**P**	**20 29 23.4**	**+0.1**
	0.6nm,0.9s,baz=90,slow=9.6,SNR=6.0								
WRA	**Warramunga Arr**	**57.09**	**189**	P			P	20 30 59.2	+1.0
	0.1nm,0.5s,baz=8.0,slow=7.2,SNR=5.1								

VIE ***15*** *20:28:42.5±0.8, 46.59N×6.67E, h10km, mb2.3/5, ML2.8/6, Error ellipse: s-maj=10.0km s-min=3.3km az=131.0 6 km NNE of Lausanne*
ISCJB ***15*** *20:28:42.1±0.2, 46.510N±0.010×6.96E±0.02, h8km±2km, Error ellipse: s-maj=2.1km s-min=1.7km az=10.5*
CSEM ***15*** *20:28:42.8±0.1, 46.49N×7.02E, h2km, ML3.1/30, Error ellipse: s-maj=2.3km s-min=2.0km az=97.0*
ZUR ***15*** *20:28:43.4, 46.48N×7.11E, h9km, ML2.6/19*
LDG ***15*** *20:28:43.7±0.1, 46.48N×7.07E, h7km, Md3.3/2, Ml3.0/34, Error ellipse: s-maj=1.3km s-min=1.0km az=108.0*
SZGRF ***15*** *20:28:44.8, 46.50N×7.03E, h10km, mb3.0, Switzerland*
STR ***15*** *20:28:44.4±0.2, 46.52N×7.01E, h5km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
GEN ***15*** *20:28:44.0, 46.45N×7.08E, h2km, ML2.4*
PRU ***15*** *20:28:46.0, 46.44N×7.17E, h24km*

ISC 15 20:28:42.6±0.8, 46.50N±0.01×7.02E±0.01, h13km±6km, n195, σ1°32/302, 33C-10D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AIGLE	**Aigle**	**0.16**	**196**	*i* Sg			**Sg**	**20 28 47.5**	**-1.7**
	7µm,0.3s								
AIGLE	**Aigle**	**0.16**	**196**	⇑*i*Pg			**Pb**	**20 28 50.0**	**+2.4**
	7µm,0.3s								
AIGLE	**Aigle**	**0.16**	**196**	⇑*i*Pg			**Pg**	**20 28 47.1**	**+0.6**
	7µm,0.3s								
AIGLE				*i* Sg			**Pb**	**20 28 50.0**	**+2.4**
	7µm,0.3s								
SENIN	**Lac Senin/Sane**	**0.24**	**125**	⇑*i*Pg			**Pg**	**20 28 47.1**	**-0.7**
	4µm,0.2s								
SENIN	**Lac Senin/Sane**	**0.24**	**125**	⇑*i*Pg			**Pg**	**20 28 47.5**	**-0.3**
	4µm,0.2s								
GRYON	**Gryon**	**0.26**	**166**	⇑*i*Pg			**Pg**	**20 28 48.1**	**0.0**
	616nm,0.5s								
GRYON	**Gryon**	**0.26**	**166**	⇑*i*Pg			**Pg**	**20 28 48.1**	**0.0**
	616nm,0.5s								
TORNY	**Torny/Romont**	**0.28**	**351**	⇑*i*Pg			**Pb**	**20 28 50.2**	**+0.7**
	4µm,0.4s								
TORNY				*e*Sg			**Sb**	**20 28 55.1**	**+0.9**
	4µm,0.4s								
TORNY	**Torny/Romont**	**0.28**	**351**	*e*Pg			**Pb**	**20 28 50.2**	**+0.7**
	4µm,0.4s								
OG01	**Vacheresse**	**0.29**	**234**	Pg			**Pb**	**20 28 50.4**	**+0.7**
OG01				Sg			**Sb**	**20 28 54.9**	**+0.4**
OG01	**Vacheresse**	**0.29**	**234**	Pg			**Pb**	**20 28 50.4**	**+0.7**
OG01				Sg			**Sb**	**20 28 54.9**	**+0.4**
SALAN	**Lac Salanfe**	**0.36**	**185**	⇑*i*Pg			**Pg**	**20 28 50.3**	**+0.4**
	352nm,0.2s								
SALAN				*e*Sg			**Sg**	**20 28 55.2**	**+0.4**
	352nm,0.2s								
SALAN	**Lac Salanfe**	**0.36**	**185**	⇑*i*Pg			**Pg**	**20 28 50.3**	**+0.4**
	352nm,0.2s								
SALAN				*e*Sg			**Sg**	**20 28 55.2**	**+0.4**
	352nm,0.2s								
LKBD	**Leukerbad**	**0.44**	**105**	⇓*i*Pg			**Pg**	**20 28 50.9**	**-0.4**
	464nm,0.4s								
LKBD	**Leukerbad**	**0.44**	**105**	⇓*i*Pg			**Pg**	**20 28 50.9**	**-0.4**
	464nm,0.4s								
WIMIS	**Wimmis**	**0.45**	**68**	⇓*i*Pg			**Pg**	**20 28 51.3**	**-0.2**
	834nm,0.7s								
WIMIS	**Wimmis**	**0.45**	**68**	⇓*i*Pg			**Pg**	**20 28 51.3**	**-0.2**
	834nm,0.7s								
LKBD2	**Leukerbad 2**	**0.45**	**106**	⇓*i*Pg			**Pg**	**20 28 51.2**	**-0.4**
	70nm,0.2s								
LKBD2	**Leukerbad 2**	**0.45**	**106**	⇓*i*Pg			**Pg**	**20 28 51.2**	**-0.4**
	70nm,0.2s								
DIX	**Grande Dixence**	**0.50**	**147**	*e*Pg			**Pg**	**20 28 52.6**	**+0.1**
	562nm,0.3s								
DIX	**Grande Dixence**	**0.50**	**147**	⇑*e*Pg			**Pg**	**20 28 52.6**	**+0.1**
	562nm,0.3s								
GIMEL	**St. Georges /**	**0.52**	**274**	*e*Pg			Pn	**20 28 55.1**	**-0.8**
	424nm,0.3s								
GIMEL	**St. Georges /**	**0.52**	**274**	⇑*i*P			Pn	**20 28 55.1**	**-0.8**
	424nm,0.3s								
CABF	**La Chapelle**	**0.65**	**280**	*e*Pg			Pn	**20 28 57.3**	**-0.4**
CABF	**La Chapelle**	**0.65**	**280**	*e*Pn			Pn	**20 28 58.2**	**+0.5**
	SNR=1.0								
CABF				*e*Sg			**Sb**	**20 29 05.7**	**+0.7**
CABF				*e*Sn			Sn	**20 29 08.4**	**+0.5**
	229nm,0.8s,SNR=1.0								
CABF	**La Chapelle**	**0.65**	**280**	*e*Pg			Pn	**20 28 57.3**	**-0.4**
CABF	**La Chapelle**	**0.65**	**280**	*e*Pn			Pn	**20 28 58.2**	**+0.5**
	SNR=1.0								
CABF				*e*Sg			**Sb**	**20 29 05.7**	**+0.7**
CABF				*e*Sn			**Sn**	**20 29 08.4**	**+0.5**
	115nm,0.8s,SNR=1.0								
HASLI	**Hasliberg/Brie**	**0.82**	**71**	*e*P			**Pg**	**20 28 58.5**	**0.0**
	393nm,0.4s								
RSL	**Roseland**	**0.86**	**199**	Pg			**Pn**	**20 29 00.6**	**+0.1**
RSL	**Roseland**	**0.86**	**199**	Pg			**Pn**	**20 29 00.6**	**+0.1**
LOMF	**Lomont**	**0.86**	**351**	Pg			**Pn**	**20 29 00.9**	**+0.3**
LOMF				Sg			**Sn**	**20 29 13.1**	**0.0**
LOMF	**Lomont**	**0.86**	**351**	Pg			**Pn**	**20 29 00.9**	**+0.3**
LOMF				Sg			**Sn**	**20 29 13.1**	**0.0**
BOURR	**Bourrignon**	**0.91**	**9**	⇑*i*Pg			**Pn**	**20 29 01.4**	**+0.2**
	692nm,0.7s								
BOURR	**Bourrignon**	**0.91**	**9**	⇑*i*P			**Pn**	**20 29 01.4**	**+0.2**
	692nm,0.7s								
BALST	**Balsthal**	**0.96**	**29**	⇑*i*Pg			**Pg**	**20 29 01.7**	**+0.7**
	959nm,0.3s								
BALST	**Balsthal**	**0.96**	**29**	⇑*i*Pn			**Pg**	**20 29 01.8**	**+0.7**
	959nm,0.3s								
LPL	**La Plagne**	**1.00**	**192**	*e*Pn			**Pg**	**20 29 02.4**	**+0.4**
	SNR=1.0								
LPL				*e*Sg			**Sg**	**20 29 15.7**	**+0.6**
	90nm,0.3s,SNR=1.0								
LPL	**La Plagne**	**1.00**	**192**	*e*Pn			**Pg**	**20 29 02.4**	**+0.4**
	SNR=1.0								
LPL				*e*Sg			**Sg**	**20 29 15.7**	**+0.6**
	45nm,0.3s,SNR=1.0								
LPG	**La Plagne**	**1.02**	**191**	*e*Pn			**Pg**	**20 29 02.7**	**+0.4**
	SNR=1.0								
LPG				*e*Sg			**Sb**	**20 29 16.0**	**+0.3**
	139nm,0.4s,SNR=1.0								
LPG	**La Plagne**	**1.02**	**191**	*e*Pn			**Pg**	**20 29 02.7**	**+0.4**
	SNR=1.0								
LPG				*e*Sg			**Sb**	**20 29 16.0**	**+0.3**
	69nm,0.4s,SNR=1.0								
BBS	**Basel-Blauen**	**1.02**	**19**	Sg			**Sn**	**20 29 17.7**	**+0.7**
LSD	**Lago del Serru**	**1.04**	**176**	P			**Pb**	**20 29 02.8**	**+0.1**
LSD				S			**Sb**	**20 29 15.7**	**-0.7**
OG35	**Corcelles**	**1.10**	**246**	Pg			**Pg**	**20 29 06.1**	**+2.3**
OG35				Sg			**Sn**	**20 29 20.3**	**+1.3**
MUO	**Muotathal**	**1.21**	**67**	*e*P			**Pg**	**20 29 06.2**	**+0.3**
	348nm,0.4s								
SULZ	**Cheisacher**	**1.27**	**36**	⇑*i*Pn			Pb	**20 29 06.8**	**+0.3**
	364nm,0.7s								
SULZ	**Cheisacher**	**1.27**	**36**	⇑*i*Pn			Pb	**20 29 06.8**	**+0.3**
	364nm,0.7s								
HINF	**Hinteralfeld**	**1.32**	**355**	*e*Pn			Pg	**20 29 08.0**	**-0.1**
	SNR=1.0								
HINF	**Hinteralfeld**	**1.32**	**355**	*e*Pg			Pg	**20 29 09.1**	**+1.0**
	SNR=1.0								
HINF				*e*Sg			**Sg**	**20 29 25.6**	**+0.3**
	97nm,0.2s								
MOF	**Molkenrain**	**1.35**	**3**	Pg			**Pg**	**20 29 09.7**	**+1.0**
RSP	**Reno Superiore**	**1.36**	**173**	P			**Pb**	**20 29 08.1**	**0.0**
RSP				S			**Sn**	**20 29 24.5**	**-1.0**
FLACH	**Flaach**	**1.51**	**44**	⇑*i*Pn			Pn	**20 29 10.0**	**+0.6**
	107nm,0.6s								
FLACH	**Flaach**	**1.51**	**44**	⇑*i*Pn			Pb	**20 29 11.1**	**+0.6**
	107nm,0.6s								
MUGIO	**Muggio**	**1.52**	**112**	*e*P			Pn	**20 29 10.0**	**+0.4**
	125nm,0.7s								
FELD	**Feldberg im Sc**	**1.53**	**26**	Pg			**Pg**	**20 29 12.7**	**+0.6**
FELD				Sg			**Sg**	**20 29 32.7**	**+0.7**
HAU	**Haudompre**	**1.57**	**343**	*e*Pn			**Pn**	**20 29 10.6**	**+0.3**
	SNR=1.0								
HAU	**Haudompre**	**1.57**	**343**	*e*Pg			**Pg**	**20 29 13.4**	**+0.6**
HAU				*e*Sg			**Sg**	**20 29 33.9**	**+0.6**
WILA	**Wila**	**1.58**	**54**	⇑*i*Pn			**Pn**	**20 29 11.1**	**+0.6**
	683nm,0.3s								
WILA	**Wila**	**1.58**	**54**	⇑*i*Pn			Pn	**20 29 11.1**	**+0.6**
	683nm,0.3s								
SLE	**Schleitheim**	**1.62**	**38**	⇑*i*Pn			Pn	**20 29 11.4**	**+0.5**
	272nm,0.3s								
SLE	**Schleitheim**	**1.62**	**38**	⇑*i*Pn			Pn	**20 29 11.4**	**+0.5**
	272nm,0.3s								
LIBD	**Limburg**	**1.70**	**13**	Pg			**Pg**	**20 29 16.3**	**+1.1**
PLONS	**Plons/SG**	**1.71**	**70**	⇑*i*Pn			**Pb**	**20 29 13.9**	**-0.1**
	187nm,0.5s								
PLONS	**Plons/SG**	**1.71**	**70**	⇑*i*Pn			**Pb**	**20 29 13.9**	**-0.1**
	187nm,0.5s								
ECH	**Echery**	**1.72**	**3**	Pn			Pn	**20 29 12.1**	**-0.2**
ECH	**Echery**	**1.72**	**3**	Pn			Pn	**20 29 12.1**	**-0.2**
ORIF	**Oris-en-Rattie**	**1.77**	**207**	*e*Pn			Pn	**20 29 13.2**	**+0.1**
	SNR=1.0								
ORIF	**Oris-en-Rattie**	**1.77**	**207**	*e*Pg			Pg	**20 29 16.5**	**-0.1**
	SNR=1.0								
ORIF				*e*Sn			**Sn**	**20 29 34.4**	**-1.1**
	SNR=1.0								
ORIF				*e*Sg			**Sg**	**20 29 39.7**	**+0.1**
	48nm,0.3s,SNR=1.0								
ORIF	**Oris-en-Rattie**	**1.77**	**207**	*e*Pg			Pg	**20 29 16.5**	**-0.1**
	SNR=1.0								
ORIF				*e*Sn			**Sn**	**20 29 34.4**	**-1.1**
	SNR=1.0								
ORIF				*e*Sg			**Sg**	**20 29 39.7**	**+0.1**
	24nm,0.3s,SNR=1.0								
MBDF	**Montbardon**	**1.78**	**186**	*e*Pg			Pg	**20 29 16.3**	**-0.5**
	SNR=1.0								
MBDF				*e*Sn			**Sn**	**20 29 34.0**	**-1.8**
MBDF				*e*Sg			**Sg**	**20 29 39.5**	**-0.4**
	42nm,0.4s,SNR=1.0								
MBDF	**Montbardon**	**1.78**	**186**	*e*Pg			Pg	**20 29 16.3**	**-0.5**
	SNR=1.0								
MBDF				*e*Sn			**Sn**	**20 29 34.0**	**-1.8**
MBDF				*e*Sg			**Sg**	**20 29 39.5**	**-0.4**
	21nm,0.4s,SNR=1.0								
THEF	**They Montfort**	**1.86**	**338**	Pn			Pn	**20 29 15.3**	**+1.0**
LIENZ	**Kamor/St.Gall**	**1.87**	**64**	⇑*i*Pn			Pn	**20 29 15.9**	**+1.3**
	159nm,0.6s								
LIENZ	**Kamor/St.Gall**	**1.87**	**64**	⇑*i*Pn			Pn	**20 29 15.9**	**+1.3**
	159nm,0.6s								
CDF	**Champ du Feu**	**1.92**	**5**	*e*Pn			Pn	**20 29 15.8**	**+0.7**
	SNR=1.0								
CDF	**Champ du Feu**	**1.92**	**5**	*e*Pg			Pg	**20 29 19.4**	**-0.1**
CDF				*e*Sn			**Sn**	**20 29 37.7**	**-1.5**
	SNR=1.0								
CDF				*e*Sg			**Sg**	**20 29 44.5**	**+0.1**
	15nm,0.2s								
CDF	**Champ du Feu**	**1.92**	**5**	*e*Pn			Pn	**20 29 15.8**	**+0.7**
	SNR=1.0								
CDF	**Champ du Feu**	**1.92**	**5**	*e*Pg			Pg	**20 29 19.4**	**-0.1**
CDF				*e*Sn			**Sn**	**20 29 37.7**	**-1.5**
	SNR=1.0								
CDF				*e*Sg			**Sg**	**20 29 44.5**	**+0.1**
	7.6nm,0.2s								
DAVOX	**Davos/Dischmat**	**1.99**	**81**	⇑*i*Pn			Pb	**20 29 19.0**	**+0.2**
	107nm,0.5s								
DAVOX	**Davos/Dischmat**	**1.99**	**81**	⇑*i*Pn			Pb	**20 29 19.0**	**+0.2**
	107nm,0.5s								
PZZ	**Stroppo**	**1.99**	**178**	P			Pb	**20 29 19.0**	**+0.2**
PZZ				S			**Sn**	**20 29 42.0**	**+0.9**
BFO	**Black Forest**	**2.04**	**25**	*e*Pn			Pn	**20 29 16.5**	**-0.2**
BFO				*e*Sg			**Sg**	**20 29 47.6**	**-0.5**
DAVA	**Damuels**	**2.12**	**67**	*e*Pg			Pg	**20 29 23.0**	**-0.2**
DAVA				*e*Sg			**Sg**	**20 29 50.9**	**+0.3**
DAVA	**Damuels**	**2.12**	**67**	⇓*i*Pn			Pb	**20 29 21.6**	**+0.7**
DAVA				⇑*i*Sn			**Sg**	**20 29 50.5**	**-0.1**
DAVA	**Damuels**	**2.12**	**67**	Pn			Pn	**20 29 21.6**	**+0.7**
DAVA				Sn			**Sg**	**20 29 50.5**	**-0.1**
SSB	**Saint Sauveur**	**2.12**	**236**	Pn			Pn	**20 29 19.1**	**+1.3**
SSB	**Saint Sauveur**	**2.12**	**236**	Pn			Pn	**20 29 19.1**	**+1.3**
SFTF	**Sexfontaines**	**2.17**	**322**	*e*P			Pb	**20 29 21.0**	**-0.8**
	baz=144								
SFTF	**Sexfontaines**	**2.17**	**322**	*e*Pg			Pg	**20 29 24.6**	**+0.3**
	baz=141								
SFTF				*e*Sn			**Sn**	**20 29 44.4**	**-0.9**
SFTF				*e*Sg			**Sg**	**20 29 53.0**	**+0.5**
	28nm,0.2s								
SFTF	**Sexfontaines**	**2.17**	**322**	*e*Pg			Pg	**20 29 24.6**	**+0.3**
	baz=141								
SFTF				*e*Sn			**Sn**	**20 29 44.4**	**-0.9**
SFTF				*e*Sg			**Sg**	**20 29 53.0**	**+0.5**
	14nm,0.2s								
SMF	**Signal de Mont**	**2.20**	**275**	*e*P			Pb	**20 29 21.5**	**-0.7**
	SNR=1.0								
SMF	**Signal de Mont**	**2.20**	**275**	*e*Pg			Pg	**20 29 25.5**	**+0.8**
SMF				*e*Sg			**Sg**	**20 29 54.6**	**+1.4**
	17nm,0.2s,SNR=1.0								
SMF	**Signal de Mont**	**2.20**	**275**	*e*P			Pb	**20 29 21.5**	**-0.7**
	SNR=1.0								
SMF				*e*Sg			**Sg**	**20 29 54.6**	**+1.4**
	8.4nm,0.2s,SNR=1.0								
PAGF	**Fort de Pagny**	**2.24**	**337**	*e*P			Pb	**20 29 21.9**	**-1.0**
PAGF	**Fort de Pagny**	**2.24**	**337**	*e*Pg			Pg	**20 29 25.7**	**+0.2**
PAGF				*e*Sn			**Sn**	**20 29 45.6**	**-1.3**
PAGF				*e*Sg			**Sg**	**20 29 54.6**	**+0.1**
	3.5nm,0.2s								
PAGF	**Fort de Pagny**	**2.24**	**337**	*e*P			Pb	**20 29 21.9**	**-1.0**
PAGF	**Fort de Pagny**	**2.24**	**337**	*e*Pg			Pg	**20 29 25.7**	**+0.2**
PAGF				*e*Sn			**Sn**	**20 29 45.6**	**-1.3**
PAGF				*e*Sg			**Sg**	**20 29 54.6**	**+0.1**
	1.8nm,0.2s								
LOR	**Lormes**	**2.30**	**291**	*e*Pn			Pn	**20 29 20.8**	**+0.5**
	baz=118,SNR=1.0								
LOR	**Lormes**	**2.30**	**291**	*e*Pg			Pg	**20 29 27.1**	**+0.4**
	baz=111								
LOR				*e*S

WLF	**Walferdange**	**3.22**	**350**	*e*Sg	**Sg**	**20 30 27.9**	**+1.9**
WTTA	**Wattenberg**	**3.26**	**75**	*e*Pn	**Pn**	**20 29 36.1**	**+2.5**
WTTA	**Wattenberg**	**3.26**	**75**	⇑*i*Pn	**Pn**	**20 29 36.3**	**+2.7**
WTTA				⇓*i*Sn	**Sb**	**20 30 19.4**	**-0.7**
WTTA	**Wattenberg**	**3.26**	**75**	Pn	**Pn**	**20 29 36.3**	**+2.7**
LASF	**Ste Croix**	**3.29**	**224**	*e*Pn	**Pn**	**20 29 35.2**	**+1.3**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**20 30 10.8**	**-2.2**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**20 30 27.2**	**-1.2**
	13nm,0.4s,SNR=1.0						
LASF	**Ste Croix**	**3.29**	**224**	*e*Pn	**Pn**	**20 29 35.2**	**+1.3**
	SNR=1.0						
LASF				*e*Sg	**Sg**	**20 30 27.2**	**-1.2**
	6.7nm,0.4s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.33**	**268**	*e*Pn	**Pn**	**20 29 35.5**	**+1.0**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**20 30 12.7**	**-1.3**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**20 30 29.6**	**-0.1**
	12nm,0.6s,SNR=1.0						
FUR	**Furstenfeldbru**	**3.34**	**59**	*e*Sg	**Sg**	**20 30 30.6**	**+0.7**
CAF	**Calviac**	**3.81**	**247**	*e*Pn	**Pn**	**20 29 41.1**	**+0.1**
CAF				*e*Sg	**Sg**	**20 30 44.3**	**-0.6**
	5.8nm,0.4s,SNR=1.0						
CAF	**Calviac**	**3.81**	**247**	*e*Pn	**Pn**	**20 29 41.1**	**+0.1**
CAF				*e*Sg	**Sg**	**20 30 44.3**	**-0.6**
	2.9nm,0.4s,SNR=1.0						
TNS	**Taunus Mts**	**3.85**	**14**	*e*Pn	**Pn**	**20 29 41.8**	**+0.3**
TNS				*e*Sn	**Sn**	**20 30 27.3**	**+0.7**
GIVF	**Givet**	**3.89**	**339**	*e*Pn	**Pn**	**20 29 42.4**	**+0.3**
GIVF	**Givet**	**3.89**	**339**	*e*P	**Pn**	**20 29 45.3**	**+3.2**
GIVF				*e*Sg	**Sg**	**20 30 45.9**	**-1.6**
	13nm,0.5s						
GIVF	**Givet**	**3.89**	**339**	*e*Pn	**Pn**	**20 29 42.4**	**+0.3**
GIVF	**Givet**	**3.89**	**339**	*e*P	**Pn**	**20 29 45.3**	**+3.2**
GIVF				*e*Sg	**Sg**	**20 30 45.9**	**-1.6**
	6.4nm,0.5s						
DOU	**Dourbes**	**3.95**	**337**	P	**Pn**	**20 29 46.1**	**+3.2**
DOU	**Dourbes**	**3.95**	**337**	P	**Pn**	**20 29 46.0**	**+3.2**
RJF	**Les Rejaudoux**	**4.02**	**255**	*e*Sg	**Sg**	**20 30 51.5**	**-0.2**
	5.7nm,0.4s						
RJF	**Les Rejaudoux**	**4.02**	**255**	*e*Sg	**Sg**	**20 30 51.5**	**-0.2**
	2.8nm,0.4s						
BAIF	**Baives**	**4.03**	**333**	*e*P	**Pn**	**20 29 46.8**	**+2.9**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**20 30 28.5**	**-2.5**
	7.6nm,0.5s,SNR=1.0						
BAIF				*e*Sg	**Sg**	**20 30 50.4**	**-1.4**
	7.6nm,0.6s						
BAIF	**Baives**	**4.03**	**333**	*e*P	**Pn**	**20 29 46.8**	**+2.9**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**20 30 28.5**	**-2.5**
	3.8nm,0.5s,SNR=1.0						
BAIF				*e*Sg	**Sg**	**20 30 50.4**	**-1.4**
	3.8nm,0.6s						
RJOB	**Jochberg**	**4.13**	**70**	*e*Pn	**Pn**	**20 29 47.4**	**+1.9**
RJOB				*e*Sn	**Sn**	**20 30 34.5**	**+0.8**
MEM	**Membach**	**4.17**	**351**	P	**Pn**	**20 29 48.2**	**+2.3**
MEM	**Membach**	**4.17**	**351**	P	**Pn**	**20 29 48.2**	**+2.3**
GRF	**Grafenberg Arr**	**4.26**	**40**	*e*Sg	**Sg**	**20 30 59.5**	**+0.2**
LFF	**La Frestale**	**4.67**	**253**	*e*Sg	**Sg**	**20 31 11.4**	**-0.9**
	6.8nm,0.4s						
LFF	**La Frestale**	**4.67**	**253**	*e*Sg	**Sg**	**20 31 11.4**	**-0.9**
	3.4nm,0.4s						
WET	**Wettzell**	**4.75**	**54**	*e*Pn	**Pn**	**20 29 53.7**	**-0.3**
WET				*e*Sn	**Sn**	**20 30 46.3**	**-2.6**
ROTZ	**Rotzenmuhle**	**4.77**	**45**	*e*Sg	**Sg**	**20 31 14.6**	**-1.1**
MFF	**Saint Martin d**	**4.94**	**274**	*e*Pn	**Pn**	**20 29 58.0**	**+1.4**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**20 30 51.1**	**-2.5**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**20 31 19.9**	**-1.3**
	2.8nm,0.4s,SNR=1.0						
MFF	**Saint Martin d**	**4.94**	**274**	*e*Pn	**Pn**	**20 29 58.0**	**+1.4**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**20 30 51.1**	**-2.5**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**20 31 19.9**	**-1.3**
	1.4nm,0.4s,SNR=1.0						
GEC2	**GERESS Array S**	**5.09**	**60**	*e*Pn	**Pn**	**20 29 59.0**	**+0.4**
GEC2				*e*Sn	**Sn**	**20 30 54.9**	**-2.4**
MOA	**Molln**	**5.12**	**72**	*e*Sn	**Sn**	**20 30 56.1**	**-2.0**
KHC	**Kasperske Hory**	**5.14**	**57**	*e*PN	**Pn**	**20 29 59.2**	**-0.1**
KHC				*e*PG	Pg	20 30 17.1	-4.0
KHC				*e*SN	**Sn**	**20 30 56.7**	**-1.9**
KHC				*e*SG	**Sg**	**20 31 27.2**	**-0.4**
	comp=Z,3.1nm,0.5s						
KHC	**Kasperske Hory**	**5.14**	**57**	Pn	**Pn**	**20 29 59.2**	**-0.1**
LDF	**La Druitiere**	**5.27**	**296**	*e*Pn	**Pn**	**20 30 02.5**	**+1.5**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**20 30 58.9**	**-2.7**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**20 31 30.0**	**-1.7**
	3.1nm,0.4s						
LDF	**La Druitiere**	**5.27**	**296**	*e*Pn	**Pn**	**20 30 02.5**	**+1.5**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**20 30 58.9**	**-2.7**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**20 31 30.0**	**-1.7**
	1.5nm,0.4s						
FLN	**La Foliniere**	**5.55**	**297**	*e*Pn	**Pn**	**20 30 06.6**	**+1.7**
	baz=114,SNR=1.0						
FLN				*e*Sg	**Sg**	**20 31 39.1**	**-1.6**
	6.5nm,0.4s,SNR=1.0						
FLN	**La Foliniere**	**5.55**	**297**	*e*Pn	**Pn**	**20 30 06.6**	**+1.7**
	baz=114,SNR=1.0						
FLN				*e*Sg	**Sg**	**20 31 39.1**	**-1.6**
	3.2nm,0.4s,SNR=1.0						
GRR	**Gorron**	**5.67**	**292**	*e*Pn	**Pn**	**20 30 08.3**	**+1.8**
	SNR=1.0						
GRR				*e*Sg	**Sg**	**20 31 42.6**	**-1.8**
	1.3nm,0.3s						
GRR	**Gorron**	**5.67**	**292**	*e*Pn	**Pn**	**20 30 08.3**	**+1.8**
	SNR=1.0						
GRR				*e*Sg	**Sg**	**20 31 42.6**	**-1.8**
	0.6nm,0.3s						
PRU	**Pruhonice**	**6.12**	**52**	*e*SG	**Sg**	**20 31 59.6**	**+0.8**
	comp=Z,1.9nm,0.6s						
PRU	**Pruhonice**	**6.12**	**52**	Sg	**Sg**	**20 31 59.6**	**+0.8**
	1.9nm,0.6s						
CLL	**Collm**	**6.22**	**37**	*e*(Sg)	Sg	20 32 13.0	+11
BRG	**Berggiesshubel**	**6.34**	**44**	SG	**Sg**	**20 32 11.3**	**+5.4**
	3.7nm,1s						
SGMF	**Saint Gilles**	**6.74**	**289**	*e*Pn	**Pn**	**20 30 22.0**	**+0.8**
	SNR=1.0						
SGMF	**Saint Gilles**	**6.74**	**289**	*e*Pn	**Pn**	**20 30 22.0**	**+0.8**
	SNR=1.0						
QUIF	**Quistinic**	**7.08**	**285**	*e*Pn	**Pn**	**20 30 26.5**	**+0.6**
	SNR=1.0						
QUIF	**Quistinic**	**7.08**	**285**	*e*Pn	**Pn**	**20 30 26.5**	**+0.6**
	SNR=1.0						
ROSF	**Rostrenen**	**7.22**	**288**	*e*Pn	**Pn**	**20 30 29.7**	**+1.9**
	SNR=1.0						
ROSF	**Rostrenen**	**7.22**	**288**	*e*Pn	**Pn**	**20 30 29.7**	**+1.9**
	SNR=1.0						

IDC 15 21:01:06.7±1.1,3°92N×126°73E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.7/19,mbtmp3.7/5,MS3.4/1,Ms1 3.4/1, ms1mx2.5/35,1C,Error ellipse: s-maj=138.3km s-min=19.1km az=70.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.11**	**323**	⇑*i*P	Pb	21 02 16.1	-3.9
GUMO	**Guam**	**20.32**	**61**	LR	LR	21 12 44.6	
	comp=Z,99nm,20.2s,baz=78,slow=34						
WRA	**Warramunga Arr**	**24.86**	**163**	P	P	21 06 31.1	-0.1
	3.4nm,0.7s,baz=343,slow=11,SNR=20						
ASAR	**Alice Springs**	**28.29**	**166**	P	P	21 07 01.6	-0.6
	0.2nm,0.3s,baz=352,slow=7.8,SNR=4.4						
STKA	**Stephens Creek**	**38.30**	**159**	P	P	21 08 29.6	+0.4
	3.4nm,0.8s,baz=321,slow=14,SNR=6.5						
SONM	**Songino Array**	**47.12**	**341**	P	P	21 09 41.2	+0.4
	0.3nm,0.7s,baz=144,slow=9.0,SNR=2.4						
ZALV	**Zalesovo Beam**	**60.42**	**333**	P	P	21 11 17.4	-0.5
	0.2nm,0.3s,baz=121,slow=7.0,SNR=2.3						

*ISCJB **15** 21:02:43.0±0.8,51°37N±0°04×16°16E±0°04,h0km, Error ellipse: s-maj=6.0km s-min=2.9km az=20.7*
*IPEC **15** 21:02:43.5±0.2,51°46N×16°23E,h0km,ML1.6/3, Error ellipse: s-maj=1.4km s-min=0.8km az=27.0*
*CSEM **15** 21:02:44.9±0.3,51°35N×16°14E,h2km,ML2.8/8, Error ellipse: s-maj=6.2km s-min=3.0km az=23.0*
*PRU **15** 21:02:45.2,51°37N×16°15E,h0km*

ISC 15 21:02:44.2±1.2,51°40N±0°05×16°15E±0°03,h0km,n29, σ0s56/54,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.56**	**171**	*e*Pg	**Pg**	**21 02 55.6**	**+0.7**
KSP				*e*Sg	**Sb**	**21 03 04.0**	**-1.5**
KSP	**Ksiaz**	**0.56**	**171**	*e*Pg	**Pg**	**21 02 55.6**	**+0.7**
KSP				*e*Sg	**Sb**	**21 03 04.0**	**-1.5**
KSP	**Ksiaz**	**0.56**	**171**	*e*Pg	**Pg**	**21 02 55.5**	**+0.5**
	baz=356						
KSP				*e*Sg	**Sg**	**21 03 02.9**	**+0.7**
	baz=356						
UPC	**Upice**	**0.90**	**186**	*e*PG	**Pg**	**21 03 01.8**	**+0.4**
UPC	**Upice**	**0.90**	**186**	*e*Pg	**Pg**	**21 03 01.8**	**+0.4**
	baz=8.1						
DPC	**Dobruska-Polom**	**1.05**	**174**	*e*PG	**Pg**	**21 03 04.6**	**+0.2**
DPC				*e*SG	**Sg**	**21 03 18.1**	**+0.1**
	comp=Z,9.1nm,0.2s						
DPC	**Dobruska-Polom**	**1.05**	**174**	*e*Pg	**Pg**	**21 03 04.5**	**+0.2**
	baz=357						
DPC				Sg	**Sg**	**21 03 18.1**	**+0.1**
	9.1nm,0.2s						
PVCC	**Panska Ves**	**1.33**	**230**	*e*PG	**Pn**	**21 03 10.0**	**+0.1**
PVCC				*e*SG	**Sb**	**21 03 27.7**	**+0.2**
	comp=Z,35nm,0.2s						
PVCC	**Panska Ves**	**1.33**	**230**	*e*Pn	**Pn**	**21 03 10.1**	**+0.1**
	baz=48						
PVCC				Sg	**Sb**	**21 03 27.7**	**+0.2**
	35nm,0.2s						
KRLC	**Kraliky**	**1.38**	**163**	*e*PG	**Pg**	**21 03 10.7**	**0.0**
KRLC				*e*SG	**Sg**	**21 03 29.0**	**+0.4**
KRLC	**Kraliky**	**1.38**	**163**	Pg	**Pg**	**21 03 10.7**	**0.0**
KRLC				Sg	**Sg**	**21 03 29.0**	**+0.4**
BRG	**Berggiesshubel**	**1.49**	**250**	*e*Pn	**Pn**	**21 03 11.9**	**-0.3**
	baz=67						
BRG				*e*Sg	**Sn**	**21 03 32.6**	**+0.3**
	baz=67						
BRG	**Berggiesshubel**	**1.49**	**250**	PG	**Pn**	**21 03 12.2**	**0.0**
BRG				SG	**Sn**	**21 03 32.7**	**+0.4**
	19nm,0.4s						
PRU	**Pruhonice**	**1.74**	**217**	*e*PG	**Pb**	**21 03 16.9**	**-0.2**
PRU				*e*SG	**Sg**	**21 03 39.9**	**-0.3**
	comp=Z,9.5nm,0.2s						
PRU	**Pruhonice**	**1.74**	**217**	*e*Pn	**Pn**	**21 03 14.9**	**-0.8**
	baz=35						
PRU	**Pruhonice**	**1.74**	**217**	Pg	**Pb**	**21 03 16.9**	**-0.2**
PRU				*e*Sg	**Sg**	**21 03 40.1**	**-0.1**
	baz=35						
FBE	**Freiberg**	**1.82**	**256**	*e*Pn	**Pb**	**21 03 18.3**	**-0.2**
	baz=72						
FBE				*e*Sg	**Sg**	**21 03 42.4**	**-0.4**
	baz=72						
MORC	**Moravsky Berou**	**1.85**	**151**	*e*Pn	**Pn**	**21 03 16.5**	**-0.7**
	baz=334						
MORC				*e*Sg	**Sb**	**21 03 42.1**	**-0.5**
	3.4nm,0.3s,baz=334						
CLL	**Collm**	**1.98**	**269**	*e*Pg	**Pb**	**21 03 21.0**	**0.0**
CLL				*e*Sg	**Sg**	**21 03 48.0**	**+0.3**
OKC	**Ostrava-Krasne**	**2.01**	**140**	*e*PG	**Pg**	**21 03 22.7**	**-0.1**
OKC				*e*SG	**Sb**	**21 03 47.2**	**-0.1**
	comp=Z,4.4nm,0.6s						
OKC	**Ostrava-Krasne**	**2.01**	**140**	Pg	**Pg**	**21 03 22.7**	**-0.1**
OKC				Sg	**Sb**	**21 03 47.2**	**-0.1**
	4.4nm,0.6s						
VRAC	**Vranov**	**2.11**	**172**	*e*Pn	**Pn**	**21 03 21.6**	**+0.8**
	baz=354						
VRAC				*e*Sg	**Sg**	**21 03 51.2**	**-0.8**
	5.4nm,0.3s,baz=354						
KRUC	**Moravsky**	**2.34**	**176**	*e*Pn	**Pn**	**21 03 24.5**	**+0.5**
	baz=358						
KRUC	**Moravsky**	**2.34**	**176**	*e*Pg	**Pb**	**21 03 27.4**	**+0.1**
	baz=358						
KRUC				*e*Sg	**Sg**	**21 03 59.4**	**0.0**
	1.8nm,0.2s,baz=358						
OJC	**Ojcow**	**2.60**	**116**	*e*Pg	**Pb**	**21 03 32.1**	**+0.5**
OJC				*e*Sg	**Sg**	**21 04 07.1**	**-0.5**
NKC	**Novy Kostel**	**2.62**	**245**	*e*PG	**Pg**	**21 03 34.9**	**+0.5**
NKC				*e*SG	**Sg**	**21 04 07.7**	**-0.7**
	comp=Z,8.4nm,0.3s						
NKC	**Novy Kostel**	**2.62**	**245**	Pg	**Pg**	**21 03 34.9**	**+0.5**
NKC				Sg	**Sg**	**21 04 07.7**	**-0.7**
	8.4nm,0.3s						
KHC	**Kasperske Hory**	**2.81**	**217**	*e*PN	**Pn**	**21 03 30.2**	**-0.2**
KHC				*e*PG	**Pb**	**21 03 36.3**	**+1.1**
KHC				*e*SG	**Sg**	**21 04 12.9**	**-1.4**
	comp=Z,3.7nm,0.3s						
KHC	**Kasperske Hory**	**2.81**	**217**	Pn	**Pn**	**21 03 30.2**	**-0.2**

*IDC **15** 21:09:52.9±0.6,21°05S×173°64E,h0km,mb4.6/20, mb1 4.7/23,mb1mx4.7/27,mbtmp4.7/23,ML4.5/1,MS4.3/20, Ms1 4.3/20,ms1mx4.2/27, Error ellipse: s-maj=20.6km s-min=13.4km az=160.0*
*NEIC **15** 21:09:56.7±2.7,20°83S×173°68E,h26km±20km,mb5.1/24, Error ellipse: s-maj=9.6km s-min=7.0km az=156.0*
*DJA **15** 21:09:59,23°08S×174°14E,h91km,mb4.9/12*
*BJI **15** 21:10:00.4,20°80S×173°90E,h72km,mB5.3/18,mb4.8/26, Ms5.2/13,Ms7 4.8/11*
*ISCJB **15** 21:10:01.1±0.2,21°03S±0°05×173°53E±0°04,h72km, mb4.8/59, Error ellipse: s-maj=6.9km s-min=5.2km az=172.4*

ISC 15 21:10:02.1±0.4,20°97S±0°06×173°66E±0°05,h71km±2km, h71km:pP-P,n170,σ1s72/203,mb4.9/59,12C-16D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.25**	**53**	*e*Pn	Pn	21 11 12.6	-5.6
MSVF	**Nonsavu**	**5.25**	**53**	Pn	Pn	21 11 12.9	-5.2
	430nm,0.9s,SNR=11						
DZM	**Mont Dzumac**	**6.81**	**259**	*e*Pn	Pn	21 11 34.3	-5.2
	998nm,1.5s						
DZM				*e*LR	LR	21 13 01.0	
	8µm,24.4s						
DZM	**Mont Dzumac**	**6.81**	**259**	*e*P	Pn	21 11 32.8	-6.6
DZM	**Mont Dzumac**	**6.81**	**259**	*e*Pn	Pn	21 11 33.8	-5.7
	946nm,1.6s						
DZM	**Mont Dzumac**	**6.81**	**259**	Pn	Pn	21 11 34.4	-5.1
	9.4nm,0.3s,baz=70,slow=19,SNR=71						
NOUC	**Port Laguerre**	**6.94**	**259**	*e*P	Pn	21 11 35.7	-5.5
OUZ	**Omahuta**	**14.20**	**180**	*e*Pn	**Pn**	**21 13 18.9**	**-0.8**
AFI	**Afiamalu**	**15.56**	**66**	*e*P	Pn	21 13 32.6	-4.9
	36nm,0.9s						
AFI	**Afiamalu**	**15.56**	**66**	Pn	**Pn**	**21 13 33.4**	**-4.0**
	0.3nm,0.3s,baz=296,slow=13,SNR=4.0						
AFI				LR	LR	21 18 03.0	
	comp=Z,1µm,21.8s,baz=248,slow=31						
URZ	**Urewera**	**17.49**	**171**	*e*Pn	**P**	**21 14 01.9**	**+0.5**
	69nm,1.1s						
HNR	**Honiara**	**17.50**	**309**	*e*P	**P**	**21 14 03.8**	**+2.1**
HNR	**Honiara**	**17.50**	**309**	P	**Pn**	**21 13 59.0**	**-2.5**
	3.1nm,0.3s,baz=191,slow=10,SNR=2.4						
HNR				LR	LR	21 20 09.8	
	comp=Z,514nm,18.1s,baz=141,slow=35						
SNZO	**South Karori**	**20.30**	**178**	P	**P**	**21 14 31.3**	**-0.7**
EIDS	**Eidsvold**	**21.21**	**254**	*e*P	**P**	**21 14 41.9**	**-0.2**
	284nm,2.1s						
KHZ	**Kahutara**	**21.38**	**180**	*e*P	**P**	**21 14 42.5**	**-1.2**
	108nm,1.0s						
ARMA	**Armidale**	**21.94**	**240**	*e*P	**P**	**21 14 50.1**	**+0.1**
	29nm,0.9s						
ARMA	**Armidale**	**21.94**	**240**	*e*P	**P**	**21 14 50.8**	**+0.8**
RPZ	**Rata Peaks**	**22.79**	**185**	*e*P	**P**	**21 14 58.4**	**-0.4**
	66nm,1.2s						
RAR	**Rarotonga**	**24.78**	**95**	*e*P	**P**	**21 15 15.9**	**-1.5**
	49nm,1.0s						
RAR	**Rarotonga**	**24.78**	**95**	P	**P**	**21 15 15.9**	**-1.5**
	29nm,0.9s,baz=241,slow=4.5,SNR=6.7						
RAR				LR	LR	21 23 04.3	
	comp=Z,404nm,21.8s,baz=278,slow=32						
WHZ	**Wether Hill Ro**	**25.30**	**189**	*e*P	**P**	**21 15 22.4**	**+0.5**
CTA	**Charters Tower**	**25.67**	**267**	P	**P**	**21 15 25.4**	**-0.3**
CTA	**Charters Tower**	**25.67**	**267**	*e*P	**P**	**21 15 24.9**	**-0.7**
	17nm,0.9s						
CTA	**Charters Tower**	**25.67**	**267**	P	**P**	**21 15 25.4**	**-0.3**
	21nm,1.1s,baz=95,slow=11,SNR=12						
CTAO	**Charters Tower**	**25.67**	**267**	*e*P	**P**	**21 15 26.2**	**+0.6**
	24nm,0.9s						
PMG	**Port Moresby**	**27.99**	**290**	P	**P**	**21 15 46.4**	**-0.1**
PMG	**Port Moresby**	**27.99**	**290**	P	**P**	**21 15 46.4**	**-0.1**
	19nm,0.9s,baz=128,slow=2.2,SNR=3.2						

COEN	**Coen**	**29.87**	**279**	*e*P	**P**	**21 16 04.0**	**+0.8**
	316nm,1.5s						
STKA	**Stephens Creek**	**30.59**	**243**	*e*P	**P**	**21 16 09.2**	**-0.2**
STKA	**Stephens Creek**	**30.59**	**243**	*e*P	**P**	**21 16 08.6**	**-0.8**
	6.5nm,1.4s						
STKA	**Stephens Creek**	**30.59**	**243**	P	**P**	**21 16 07.0**	**-2.4**
	6.4nm,0.7s,baz=96,slow=11,SNR=13						
STKA				LR	LR	21 27 13.6	
	comp=Z,527nm,19.7s,baz=66,slow=34						
TAU	**Tasmania Unive**	**31.05**	**219**	P	**P**	**21 16 13.2**	**-0.1**
TBI	**Tubuai**	**34.18**	**101**	*e*P	**P**	**21 16 41.9**	**+1.1**
	65nm,1.2s						
TBI				*e*S	**S**	**21 22 04.6**	**+2.3**
	153nm,25.5s						
TBI				*e*LQ	LQ	21 24 13.2	
	1µm,29.5s						
TBI				*e*LR	LR	21 25 52.4	
	862nm,31.0s,baz=262						
PAE	**Paea**	**34.80**	**91**	*e*P	**P**	**21 16 46.6**	**+0.4**
	7.3nm,1.1s						
PPT2	**Papeete2**	**34.82**	**91**	*e*P	**P**	**21 16 47.1**	**+0.6**
	44nm,1.3s						
PPT2				*e*S	**S**	**21 22 13.8**	**+1.4**
	185nm,26.2s						
PPT2				*e*LQ	LQ	21 24 25.5	
	899nm,32.0s						
PPT2				*e*LR	LR	21 26 14.2	
	1µm,26.5s,baz=261						
TIAR	**Tiarei**	**35.04**	**91**	*e*P	**P**	**21 16 49.3**	**+1.0**
	38nm,1.1s						
TVO	**Taravao**	**35.08**	**91**	*e*P	**P**	**21 16 49.6**	**+0.8**
	73nm,1.3s						
BBOO	**Buckleboo**	**35.37**	**243**	*e*P	**P**	**21 16 50.5**	**-0.5**
	565nm,1.0s						
MEH	**Mehetia**	**36.17**	**92**	*e*P	**P**	**21 16 58.8**	**+0.8**
	71nm,1.0s						
WRAB	**Tennant Creek**	**36.78**	**264**	*e*P	**P**	**21 17 03.0**	**-0.3**
	13nm,0.9s						
WRA	**Warramunga Arr**	**36.79**	**264**	P	**P**	**21 17 01.0**	**-2.4**
WRA	**Warramunga Arr**	**36.79**	**264**	P	**P**	**21 17 01.0**	**-2.4**
	8.4nm,0.7s,baz=97,slow=8.4,SNR=30						
WRA				LR	LR	21 31 58.0	
	comp=Z,1µm,18.6s,baz=85,slow=36						
AS31	**Alice Springs**	**36.80**	**258**	*e*P	**P**	**21 17 01.4**	**-1.9**
ASAR	**Alice Springs**	**36.80**	**258**	P	**P**	**21 17 02.1**	**-1.2**
ASAR	**Alice Springs**	**36.80**	**258**	P	**P**	**21 17 02.1**	**-1.2**
	17nm,0.8s,baz=84,slow=8.8,SNR=65						
PMOR	**Pomariorio Ree**	**36.98**	**87**	*e*P	**P**	**21 17 05.4**	**+0.5**
	61nm,1.0s						
FORT	**Forrest**	**41.93**	**247**	*e*P	**P**	**21 17 47.0**	**+1.0**
	65nm,0.7s						
FORT	**Forrest**	**41.93**	**247**	*e*P	**P**	**21 17 47.1**	**+1.0**
	54nm,0.7s						
GUMO	**Guam**	**44.49**	**318**	LR	LR	21 34 11.7	
	comp=Z,305nm,20.7s,baz=125,slow=33						
FITZ	**Fitzroy Crossi**	**45.22**	**265**	*e*P	**P**	**21 18 12.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**45.22**	**265**	*e*P	**P**	**21 18 12.3**	**-0.2**
	67nm,0.8s						
FITZ	**Fitzroy Crossi**	**45.22**	**265**	P	**P**	**21 18 11.5**	**-1.1**
	33nm,0.8s,baz=127,slow=7.7,SNR=27						
FITZ				LR	LR	21 37 08.4	
	comp=Z,936nm,19.1s,baz=111,slow=36						
MBWA	**Marble Bar**	**50.11**	**260**	*e*P	**P**	**21 18 50.5**	**+0.1**
	40nm,0.8s						
DRV	**Dumont d'Urvil**	**50.49**	**197**	PP	PP	21 20 34.0	-15
DRV				S	S	21 25 53.0	-7.8
DRV				L	L	21 30 00.0	
DRV				R		21 33 00.0	
KLBR	**Kellerberrin**	**50.76**	**246**	*e*P	**P**	**21 18 56.3**	**+1.1**
	43nm,0.7s						
NWAO	**Narrogin (SRO)**	**51.16**	**244**	*e*P	**P**	**21 18 58.8**	**+0.7**
NWAO	**Narrogin (SRO)**	**51.16**	**244**	P	**P**	**21 18 57.5**	**-0.7**
	29nm,1.0s,baz=83,slow=7.1,SNR=9.1						
NWAO				LR	LR	21 39 49.2	
	comp=Z,542nm,18.4s,baz=97,slow=35						
QSPA	**South Pole Qui**	**69.09**	**180**	*e*P	**P**	**21 21 00.6**	**+0.1**
	22nm,1.0s						
QSPA	**South Pole Qui**	**69.09**	**180**	P	**P**	**21 21 00.6**	**+0.1**
	18nm,0.9s,baz=12,slow=2.8,SNR=26						
ASAJ	**Asahikawa**	**70.75**	**337**	LR	LR	21 45 34.5	
	comp=Z,258nm,21.6s,baz=137,slow=30						
FX1	**Attu Island--F**	**73.54**	**360**	LR	LR	21 51 21.6	
	comp=Z,106nm,18.9s,baz=70,slow=34						
QIZ	**Qiongzhong**	**74.05**	**298**	P	**P**	**21 21 30.3**	**-0.5**
QIZ				pP	**pP**	**21 21 48.5**	**-1.4**
QIZ				sP	**sP**	**21 21 56.6**	**-1.1**
QIZ				S	**S**	**21 30 59.1**	**+0.8**
QIZ				sS	**SKSac**	**21 31 31.6**	**-0.7**
QIZ				pmax	pmax		
	comp=Z,6.0nm,1.4s						
QIZ				pmax	pmax		
	comp=Z,160nm,6.5s						
NJ2	**Nanjing**	**74.37**	**314**	*e*P	**P**	**21 21 32.3**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PETK	**Petropavlovsk-**	**75.06**	**350**	P	**P**	**21 21 37.5**	**+1.6**
PETK	**Petropavlovsk-**	**75.06**

GYA					LR	LR			
	comp=Z,480nm,19.4s								
BJI	**Beijing**	**80.93**	**319**		P	**P**	**21 22 07.3**	**-1.4**	
BJI					pP	**pP**	**21 22 27.3**	**-0.7**	
BJI					sP	**sP**	**21 22 35.1**	**-0.7**	
BJI					PP	**PP**	**21 25 14.8**	**+0.4**	
BJI					S	**S**	**21 32 11.5**	**-0.4**	
BJI					SS	**SS**	**21 37 29.4**	**+1.5**	
BJI					pmax	pmax			
	comp=Z,13nm,1.3s								
BJI					LR	LR			
	comp=Z,170nm,18.4s								
KMI	**Kunming**	**82.72**	**300**		P	**P**	**21 22 18.8**	**0.0**	
KMI					pP	**pP**	**21 22 38.3**	**+0.1**	
KMI					sP	**sP**	**21 22 46.3**	**+0.4**	
KMI					S	**S**	**21 32 31.8**	**+0.3**	
KMI					SS	**SS**	**21 37 58.0**	**+2.4**	
KMI					pmax	pmax			
	comp=Z,7.0nm,1.3s								
KMI					pmax	pmax			
	comp=Z,52nm,3.4s								
KMI					LR	LR			
	comp=N,160nm,17.4s								
KMI					LR	LR			
	comp=E,160nm,16.3s								
CM31	**Chiang Mai Arr**	**83.00**	**293**	*e*P		**P**	**21 22 18.9**	**-1.2**	
	comp=E,3.0nm,0.8s								
CMAR	**Chiang Mai Arr**	**83.00**	**293**		P	**P**	**21 22 20.7**	**+0.6**	
CMAR	**Chiang Mai Arr**	**83.00**	**293**		P	**P**	**21 22 20.7**	**+0.6**	
	comp=E,3.3nm,1.0s,baz=133,slow=3.9,SNR=15								
CHTO	**Chiang Mai**	**83.15**	**293**	*e*P		**P**	**21 22 19.4**	**-1.5**	
	comp=E,14nm,1.0s								
CHTO	**Chiang Mai**	**83.15**	**293**		P	P	21 22 24.3	+3.4	
	comp=E,16nm,1.0s								
HHC	**Hu-ho-hao-te**	**84.26**	**318**	*e*P		**P**	**21 22 25.8**	**-0.4**	
HHC					pP	**pP**	**21 22 45.9**	**+0.3**	
HHC					sP	**sP**	**21 22 54.9**	**+1.5**	
HHC					PP	**PP**	**21 25 43.8**	**+1.8**	
HHC					S	**SKSac**	**21 32 44.3**	**+0.7**	
HHC					sS	**sS**	**21 33 19.3**	**+0.1**	
HHC					SS	**SS**	**21 38 19.1**	**+1.4**	
HHC					pmax	pmax			
	comp=Z,12nm,0.8s								
HHC					pmax	pmax			
	comp=Z,210nm,4.2s								
HHC					LR	LR			
	comp=N,190nm,13.1s								
HHC					LR	LR			
	comp=E,160nm,10.1s								
HHC					LR	LR			
	comp=Z,260nm,17.8s								
CD2	**Chengdu**	**84.60**	**306**		P	**P**	**21 22 28.0**	**-0.1**	
CD2					pP	**pP**	**21 22 47.9**	**+0.4**	
CD2					sP	**sP**	**21 22 56.0**	**+0.8**	
CD2					PP	**PP**	**21 25 47.0**	**+2.2**	
CD2					SKS	**SKSac**	**21 32 42.3**	**-3.8**	
CD2					S	**S**	**21 32 49.0**	**-0.8**	
CD2					sS	**sS**	**21 33 23.4**	**+0.6**	
CD2					SS	**SS**	**21 38 25.8**	**+3.0**	
CD2					pmax	pmax			
	comp=Z,20nm,0.6s								
CD2					pmax	pmax			
	comp=Z,40nm,4.5s								
CD2					LR	LR			
	comp=N,550nm,12.0s								
CD2					LR	LR			
	comp=Z,470nm,13.2s								
GAMB	**Gambell**	**85.24**	**6**	*e*P		**P**	**21 22 29.8**	**-0.6**	
	comp=Z,23nm,1.1s								
YBH	**Yreka Blue Hor**	**85.71**	**42**		P	**P**	**21 22 34.5**	**+1.1**	
YBH	**Yreka Blue Hor**	**85.71**	**42**		P	**P**	**21 22 34.5**	**+1.1**	
	comp=Z,6.0nm,1.2s,baz=146,slow=9.7,SNR=4.9								
HUMO	**Hull Mountain**	**86.04**	**41**	*e*P		**P**	**21 22 31.8**	**-3.1**	
	comp=Z,10nm,0.8s								
NVAR	**Mina Array Bea**	**86.89**	**47**		P	**P**	**21 22 40.7**	**+1.3**	
NVAR	**Mina Array Bea**	**86.89**	**47**		P	**P**	**21 22 40.7**	**+1.3**	
	comp=Z,0.4nm,0.3s,baz=267,slow=12,SNR=3.2								
LZH	**Lanzhou**	**86.99**	**310**	*e*P		**P**	**21 22 39.5**	**-0.4**	
LZH					pP	**pP**	**21 23 00.1**	**+0.7**	
LZH					sP	**sP**	**21 23 08.6**	**+1.5**	
LZH				*e*PP		**PP**	**21 26 07.0**	**+2.7**	
LZH				SKS		**SKSac**	**21 32 57.8**	**-3.3**	
LZH				*e*S		**S**	**21 33 12.0**	**-1.2**	
LZH					pmax	pmax			
	comp=Z,14nm,1.5s								
LZH					pmax	pmax			
	comp=Z,120nm,8.6s								
U15A	**North Rim**	**90.18**	**51**	⇑P		**P**	**21 22 56.3**	**+1.1**	
	baz=90								
WUAZ	**Wupatki**	**90.46**	**52**	⇓P		**P**	**21 22 58.3**	**+1.9**	
	baz=90								
ILAR	**Eielson Array**	**90.70**	**16**		P	**P**	**21 22 56.0**	**-0.5**	
ILAR	**Eielson Array**	**90.70**	**16**		P	**P**	**21 22 56.0**	**-0.5**	
	comp=Z,0.8nm,0.7s,baz=229,slow=5.0,SNR=8.1								
ILAR					LR	LR	21 57 37.7		
	comp=Z,110nm,21.7s,baz=314,slow=32								
ULN	**Ulaanbaatar**	**90.76**	**322**	*e*P		**P**	**21 22 55.7**	**-1.7**	
	comp=Z,5.2nm,1.0s								
MFID	**Camas Ranch**	**90.94**	**43**	⇑P		**P**	**21 23 00.1**	**+1.8**	
	baz=91								
SONM	**Songino Array**	**91.12**	**322**		P	**P**	**21 22 59.7**	**+0.7**	
SONM	**Songino Array**	**91.12**	**322**		P	**P**	**21 22 59.7**	**+0.7**	
	comp=Z,1.3nm,1.0s,baz=119,slow=2.3,SNR=6.2								
SONM					LR	LR	22 02 01.2		
	comp=Z,114nm,19.4s,baz=145,slow=34								
GTA	**Gaotai**	**91.35**	**312**	*e*P		**P**	**21 23 03.3**	**+3.0**	
GTA					pP	**pP**	**21 23 23.8**	**+3.9**	
GTA					sP	**sP**	**21 23 31.8**	**+4.2**	
GTA				SKS		**SKSac**	**21 33 25.9**	**-0.7**	
GTA				S		**S**	**21 33 49.3**	**-4.5**	
GTA					sS	**sS**	**21 34 24.8**	**-2.5**	
GTA					pmax	pmax			
	comp=Z,4.0nm,1.5s								
GTA					pmax	pmax			
	comp=Z,200nm,4.7s								
GTA					LR	LR			
	comp=N,150nm,15.7s								
GTA					LR	LR			
	comp=E,110nm,17.3s								
Y19A	**Nutrioso**	**91.39**	**54**	⇓P		**P**	**21 23 02.5**	**+1.7**	
	baz=91								
DUG	**Dugway**	**91.47**	**47**	⇓P		**P**	**21 23 02.4**	**+1.5**	
	baz=92								
T17A	**Navajo Res., N**	**91.51**	**51**	⇑P		**P**	**21 23 03.2**	**+2.0**	
	baz=92								
J13A	**Cove Ranch, Pi**	**92.00**	**44**	⇓P		**P**	**21 23 05.0**	**+1.7**	
	baz=92								
G12A	**Big Creek, Yel**	**92.07**	**42**	⇓P		**P**	**21 23 04.7**	**+1.1**	
	baz=92								
H12A	**Diamond D Ranc**	**92.09**	**43**	⇓P		**P**	**21 23 04.1**	**+0.4**	
	baz=92								
T18A	**Mexican Hat**	**92.24**	**51**	⇓P		**P**	**21 23 05.7**	**+1.2**	
	baz=92								
EGAK	**Eagle**	**92.25**	**18**	*e*P		**P**	**21 23 01.2**	**-2.5**	
	comp=E,12nm,1.0s								
F12A	**Elk City**	**92.40**	**42**	⇑P		**P**	**21 23 05.8**	**+0.7**	
	baz=92								
C11A	**Tepee Creek (N**	**92.78**	**39**	⇓P		**P**	**21 23 07.4**	**+0.7**	
	baz=93								
J15A	**Blackfoot**	**93.14**	**45**	⇑P		**P**	**21 23 09.6**	**+1.0**	
	baz=93								
U21A	**Nageezi**	**93.58**	**52**	⇓P		**P**	**21 23 11.8**	**+1.0**	
	baz=94								
J16A	**Bone**	**93.62**	**45**	⇓P		**P**	**21 23 12.1**	**+1.2**	
	baz=94								
W22A	**Albuquerque**	**93.64**	**54**	⇓P		**P**	**21 23 12.5**	**+1.4**	
	baz=94								
TXAR	**Lajitas Array**	**93.98**	**60**		P	**P**	**21 23 14.6**	**+1.9**	
TXAR	**Lajitas Array**	**93.98**	**60**		P	**P**	**21 23 14.6**	**+1.9**	
	comp=E,0.9nm,1.0s,baz=221,slow=4.8,SNR=5.9								
TXAR					LR	LR	21 56 09.2		
	comp=E,216nm,19.7s,baz=5.0,slow=30								
LSA	**Lhasa**	**93.98**	**300**	*e*P		**P**	**21 23 10.7**	**-2.4**	
F15A	**Butte**	**94.17**	**42**	⇑P		**P**	**21 23 14.4**	**+1.2**	
	baz=94								
PLCA	**Paso Flores**	**94.46**	**137**		P	**P**	**21 23 15.1**	**+0.3**	
PLCA	**Paso Flores**	**94.46**	**137**	LR		LR	21 56 54.2		
	comp=E,125nm,18.9s,baz=244,slow=30								
J18A	**Kendall Valley**	**94.65**	**45**	⇑P		**P**	**21 23 16.5**	**+0.9**	
	baz=95								
PDAR	**Pinedale Array**	**94.78**	**46**	LR		LR	21 59 02.4		
	comp=E,211nm,19.3s,baz=271,slow=31								
INK	**Inuvik**	**96.91**	**17**		P	**P**	**21 23 23.9**	**-1.0**	
INK	**Inuvik**	**96.91**	**17**		P	**P**	**21 23 23.9**	**-1.0**	
	comp=E,2.0nm,1.1s,baz=224,slow=4.9,SNR=3.6								
YKA	**Yellowknife Ar**	**100.32**	**27**		P	**Pdif**	**21 23 39.5**	**-0.8**	
	comp=E,0.1nm,0.3s,baz=251,slow=3.8,SNR=3.3								
WMQ	**Urumqi**	**101.41**	**313**	*e*P		**Pdif**	**21 23 44.8**	**-1.0**	
WMQ					pmax	pmax			
	comp=Z,7.0nm,1.3s								
WMQ					pmax	pmax			
	comp=Z,150nm,4.4s								
WMQ					LR	LR			
	comp=Z,200nm,24.0s								
KSH	**Kashi**	**108.80**	**306**	*e*Pdif		**Pdif**	**21 24 16.3**	**-2.5**	
KSH					PP	**PP**	**21 28 52.9**	**+1.6**	
KSH					SS	SS	21 44 03.5	-0.9	
TRPA	**Tarpa**	**144.33**	**326**	⇑*i*P		**PKPdf**	**21 29 29.5**	**-0.4**	
TRPA	**Tarpa**	**144.33**	**326**	⇑ePKPdf		PKPdf	21 29 35.8	+5.9	
HUMR	**Humele**	**145.06**	**320**	⇑*i*P		**PKPdf**	**21 29 31.5**	**+0.2**	
DRGR		**145.07**	**324**	⇓*i*P		**PKPdf**	**21 29 31.6**	**+0.2**	
OKC	**Ostrava-Krasne**	**145.27**	**332**	*e*PKP		**PKPab**	**21 29 31.7**	**+0.1**	
OKC				*ep*PKP		**PKiKP**	**21 29 38.3**	**+2.8**	
DPC	**Dobruska-Polom**	**145.66**	**334**	*e*PKP		**PKPab**	**21 29 33.5**	**+0.4**	
DPC				*ex*		x	21 29 36.9		
UPC	**Upice**	**145.66**	**335**	*e*PKP		**PKPab**	**21 29 36.4**	**+3.4**	
PSZ	**Piszkesteto**	**145.81**	**328**	⇓ePKPdf		PKPab	21 29 40.1	+6.4	
PRU	**Pruhonice**	**146.65**	**335**	*e*PKP		**PKPab**	**21 29 40.0**	**+3.2**	
PRU				*ep*PKP		**pPKPdf**	**21 29 47.9**	**-6.4**	
VTS	**Vitosha**	**147.17**	**318**	⇑*i*P		**PKPab**	**21 29 40.3**	**+1.0**	
NKC	**Novy Kostel**	**147.24**	**338**	*e*P		**PKPab**	**21 29 41.7**	**+2.6**	
NKC				*e*			21 29 49.1		
NKC	**Novy Kostel**	**147.24**	**338**	*e*PKP		**PKPab**	**21 29 41.7**	**+2.6**	
NKC				*ex*		x	21 29 49.1		
PKSM	**Moragy**	**147.59**	**327**	⇓ePKPdf		**PKPbc**	**21 29 38.8**	**+0.5**	
KHC	**Kasperske Hory**	**147.72**	**335**	*e*PKP		**PKPab**	**21 29 43.3**	**+2.2**	
MEM	**Membach**	**148.86**	**345**	XPKPab		sPKPab	21 30 16.9	+3.9	
BCLA	**Clavier**	**149.21**	**345**	XPKPab		sPKPab	21 30 20.2	+5.8	
SNF	**Seneffe**	**149.35**	**347**	PKP		**PKPdf**	**21 29 38.6**	**+0.3**	
SNF				XPKPab			21 30 25.1		
RUP	**Ruppelstein**	**149.42**	**343**	PKP		**PKPab**	**21 29 47.5**	**-0.4**	
DOU	**Dourbes**	**149.67**	**346**	PKPab		**PKPab**	**21 29 47.6**	**-1.2**	
DOU				APKP		**pPKPdf**	**21 29 54.8**	**-4.4**	
DOU				XPKPab			21 30 23.4		
WLF	**Walferdange**	**149.69**	**344**	PKPab		**PKPab**	**21 29 48.6**	**-0.3**	
RETA	**Reutte**	**150.14**	**336**	⇑*i*PKPbc		**PKPbc**	**21 29 42.5**	**-2.4**	
	comp=Z,9.8nm,1.0s,SNR=6.6								
SPAK	**Spaichingen-Ko**	**150.31**	**339**	PKP		**PKPab**	**21 29 49.7**	**-2.0**	
FETA	**Feichten**	**150.54**	**336**	⇓*i*PKPbc		**PKPdf**	**21 29 42.8**	**+2.2**	
	comp=Z,16nm,0.8s,SNR=8.3								
DAVA	**Damuels**	**150.64**	**337**	⇓*i*PKPdf		**PKPab**	**21 29 50.1**	**-3.1**	
	comp=Z,24nm,0.9s,SNR=8.8								
ECH	**Echery**	**150.73**	**341**	PKP		**PKPab**	**21 29 52.9**	**-0.4**	
FELD	**Feldberg im Sc**	**150.77**	**340**	PKP		**PKPab**	**21 29 55.5**	**+1.8**	
LOMF	**Lomont**	**151.60**	**341**	P		**PKPab**	**21 29 54.9**	**-2.2**	
LOMF	**Lomont**	**151.60**	**341**	PKP		**PKPab**	**21 29 54.9**	**-2.2**	
LOMF	**Lomont**	**151.60**	**341**	PKP		**PKPab**	**21 29 54.9**	**-2.2**	
TORD	**Torodi Ar. Bea**	**169.07**	**226**	PKP		**PKPdf**	**21 30 03.0**	**+1.0**	
TORD				PKPab		**PKPab**	**21 31 15.4**	**+1.8**	
TORD	**Torodi Ar. Bea**	**169.07**	**226**	PKP		**PKPdf**	**21 30 03.0**	**+1.0**	
	comp=Z,1.0nm,1.1s,baz=100,slow=0.4,SNR=3.5								
TORD				PKPab		**PKPab**	**21 31 15.4**	**+1.8**	
	comp=Z,1.9nm,0.8s,baz=109,slow=4.6,SNR=7.8								

IDC 15 21:11:21.1±1.3, 7.61S×121.27E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.7/20, mbtmp3.7/7, ML3.7/2, Error ellipse: s-maj=129.6km s-min=20.6km az=60.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.27**	**158**	Pn	Pn	21 14 04.8	+1.3
	0.1nm,0.3s,baz=333,slow=14,SNR=2.9						
FITZ				Sn	Sn	21 16 00.7	-10
	0.7nm,0.3s,baz=120,slow=14,SNR=8.8						
WRA	**Warramunga Arr**	**17.63**	**135**	P	Pn	21 15 27.8	-0.6
	0.5nm,0.3s,baz=310,slow=13,SNR=52						
WRA				S	Sn	21 18 39.2	-6.4
	0.3nm,0.3s,baz=317,slow=25,SNR=5.6						
ASAR	**Alice Springs**	**20.05**	**144**	P	P	21 15 55.8	-0.3
	1.5nm,0.4s,baz=326,slow=14,SNR=6.9						
SONM	**Songino Array**	**56.75**	**348**	P	P	21 21 08.1	+1.2
	0.2nm,0.5s,baz=165,slow=7.2,SNR=4.3						
MKAR	**Makanchi Array**	**64.28**	**331**	P	P	21 21 58.4	+0.1
	0.3nm,0.6s,baz=137,slow=8.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**68.57**	**338**	P	P	21 22 24.5	-1.1
	1.3nm,0.5s,baz=136,slow=4.2,SNR=7.1						
KURBB	**Kurchatov Arra**	**68.75**	**332**	P	P	21 22 26.8	0.0
	0.2nm,0.2s,baz=139,slow=6.0,SNR=4.5						

IDC 15 21:13:30.0±2.3, 0.10S×133.23E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.8/19, mbtmp3.8/8, Error ellipse: s-maj=181.6km s-min=17.4km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.75**	**177**	P	P	21 18 01.5	-0.2
	0.4nm,0.3s,baz=358,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**23.44**	**178**	P	P	21 18 41.2	+0.1
	3.2nm,0.6s,baz=355,slow=12,SNR=17						
STKA	**Stephens Creek**	**32.59**	**167**	P	P	21 20 03.2	0.0
	3.3nm,0.7s,baz=339,slow=5.0,SNR=4.2						
SONM	**Songino Array**	**53.13**	**338**	P	P	21 22 49.6	-0.1
	0.2nm,0.7s,baz=134,slow=6.2,SNR=2.7						
MKAR	**Makanchi Array**	**64.42**	**324**	P	P	21 24 08.6	+0.4
	1.2nm,0.7s,baz=107,slow=8.3,SNR=12						
ZALV	**Zalesovo Beam**	**66.98**	**331**	P	P	21 24 25.1	+0.5
	0.3nm,0.6s,baz=110,slow=7.8,SNR=2.5						
KURBB	**Kurchatov Arra**	**68.48**	**326**	P	P	21 24 34.1	+0.1
	1.2nm,1.0s,baz=128,slow=6.1,SNR=5.9						
BVAR	**Borovoye Array**	**74.07**	**326**	P	P	21 25 06.4	-1.4
	1.5nm,1.1s,baz=130,slow=6.0,SNR=3.8						

IDC 15 21:13:55.6±1.1, 29.29N×105.06E, h0km, mb3.9/10, mb1 3.9/12, mb1mx3.7/27, mbtmp3.8/12, ML2.9/2, Error ellipse: s-maj=29.3km s-min=22.2km az=57.0

ISCJB 15 21:13:56.2±0.4, 29.38N±0.03×105.09E±0.05, h10km, mb3.8/9, Error ellipse: s-maj=6.4km s-min=3.8km az=159.0

BJI 15 21:13:57.6, 29.39N×105.08E, h9km, mb4.0/4, ML3.9/20, Ms3.9/7, Ms7 3.7/8

ISC 15 21:13:57.4±0.6, 29.33N±0.04×105.13E±0.05, h10km, n19, σ2s30/27, mb3.9/9, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.97**	**323**	Pn	**Pb**	**21 14 31.9**	**-1.5**
CD2				Pg	**Pg**	**21 14 35.3**	**+0.1**
CD2				Sg	**Sg**	**21 14 58.3**	**-2.5**
CD2				smax	smax		
	comp=N,3μm,0.6s						
CD2				smax	smax		
	comp=E,4μm,0.6s						
GYA	**Guiyang**	**3.17**	**154**	Pn	Pb	21 14 49.8	-4.0
GYA				Pg	Pg	21 14 59.8	+1.7
GYA				Sn	**Sg**	**21 15 35.3**	**-3.8**
GYA				Sg	Sb	21 15 44.8	+12
GYA				smax	smax		
	comp=N,170nm,0.6s						
GYA				smax	smax		
	comp=E,240nm,0.7s						
KMI	**Kunming**	**4.70**	**207**	Pn	Pn	21 15 10.5	+2.0
KMI				Sn	**Sn**	**21 16 04.8**	**+1.6**
KMI				Sg	**Sg**	**21 16 29.9**	**+1.6**
KMI				smax	smax		
	comp=N,51nm,0.9s						
KMI				smax	smax		
	comp=E,49nm,1.2s						
KMI				LR	LR		
	comp=N,540nm,5.3s						
KMI				LR	LR		
	comp=E,770nm,4.8s						
KMI				LR	LR		
	comp=Z,390nm,5.3s						
XAN	**Xi'an**	**5.70**	**34**	Pn	**Pn**	**21 15 23.5**	**+1.3**
XAN				Pg	Pg	21 15 41.3	-5.3
XAN				Sn	**Sn**	**21 16 32.1**	**+4.4**
XAN				Sg	**Sg**	**21 16 57.0**	**-3.5**
XAN				smax	smax		
	comp=N,190nm,0.9s						
XAN				smax	smax		
	comp=E,52nm,0.8s						
XAN				LR	LR		
	comp=N,230nm,3.9s						
XAN				LR	LR		
	comp=E,170nm,4.6s						
XAN				LR	LR		
	comp=Z,190nm,4.4s						
LZH	**Lanzhou**	**6.83**	**351**	*e*Pn	**Pn**	**21 15 37.6**	**-0.1**
LZH				Pg	Pg	21 16 02.3	-5.8
LZH				Sn	**Sn**	**21 16 55.3**	**-0.3**
LZH				Sg	**Sg**	**21 17 31.6**	**-4.9**
LZH				smax	smax		
	comp=N,250nm,1.1s						
LZH				smax	smax		
	comp=E,77nm,0.8s						
LZH				LR	LR		
	comp=N,540nm,4.6s						
LZH				LR	LR		
	comp=E,220nm,7.6s						
LZH				LR	LR		
	comp=Z,410nm,5.0s						
WHN	**Wuhan**	**8.10**	**79**	P	Pn	21 15 57.8	+2.8
WHN				S	**Sn**	**21 17 28.3**	**+1.7**
GTA	**Gaotai**	**10.97**	**338**	P	Pn	21 16 36.5	+2.0
GTA				pP		21 16 40.8	
GTA				sP		21 16 43.5	
GTA				S	**Sn**	**21 18 40.8**	**+3.5**
GTA				sS		21 18 45.8	
GTA				SS	**SnSn**	**21 18 54.3**	**+4.8**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				LR	LR		
	comp=N,160nm,11.2s						
GTA				LR	LR		
	comp=E,210nm,12.1s						
GTA				LR	LR		
	comp=Z,100nm,11.9s						
CMAR	**Chiang Mai Arr**	**12.21**	**209**	Pn	**Pn**	**21 16 50.5**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=18,slow=12,SNR=2.9						
SONM	**Songino Array**	**18.50**	**3**	P	**Pn**	**21 18 15.1**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=182,slow=12,SNR=9.7						
KSRS	**Korea Array**	**20.65**	**61**	P	**P**	**21 18 36.6**	**-0.5**
	comp=Z,2.5nm,0.9s,baz=249,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**24.90**	**321**	P	**P**	**21 19 20.4**	**0.0**
	comp=Z,2.1nm,0.8s,baz=127,slow=11,SNR=22						
ZALV	**Zalesovo Beam**	**28.70**	**335**	P	**P**	**21 19 54.3**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=134,slow=9.0,SNR=11						
KURBB	**Kurchatov Arra**	**29.19**	**324**	P	**P**	**21 19 58.5**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=127,slow=9.8,SNR=11						
FINES	**FINESS Array B**	**59.53**	**327**	P	**P**	**21 24 00.2**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=163,slow=2.0,SNR=4.3						
NOA	**NORSAR Array B**	**66.63**	**328**	P	**P**	**21 24 46.8**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=89,slow=7.1,SNR=2.8						
GERES	**GERESS Array B**	**69.42**	**315**	P	**P**	**21 25 05.7**	**0.0**
	comp=Z,0.6nm,0.8s,baz=91,slow=6.7,SNR=4.2						
STKA	**Stephens Creek**	**70.04**	**147**	P	**P**	**21 25 09.4**	**0.0**
	comp=Z,2.9nm,0.8s,baz=336,slow=13,SNR=4.2						
INK	**Inuvik**	**73.53**	**19**	P	**P**	**21 25 30.4**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=316,slow=4.6,SNR=5.7						
YKA	**Yellowknife Ar**	**83.12**	**17**	P	**P**	**21 26 23.3**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=330,slow=5.3,SNR=5.1						

NEIC 15 21:14:23.5±1.0, 33.01S×179.20W, h42km±8km, mb4.8/10, Error ellipse: s-maj=9.9km s-min=8.6km az=98.0

ISCJB 15 21:14:24.8±0.6, 33.28S±0.03×179.5W±0.1, h55km, mb4.9/15, Error ellipse: s-maj=12.2km s-min=4.5km az=7.5

IDC 15 21:14:39.5±3.1, 32.90S×179.63W, h165km±26km, mb4.5/8, mb1 4.5/9, mb1mx4.1/20, mbtmp4.4/9, Error ellipse: s-maj=23.5km s-min=14.3km az=29.0

ISC 15 21:14:26.4±0.5, 33.28S±0.05×179.43W±0.09, h55km, n99, σ1s58/97, mb4.9/15, 2D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.22**	**18**	*e*Pn	Pn	21 15 19.9	-8.4
RAO				*e*Sg	**Sn**	**21 16 19.7**	**+3.5**
MXZ	**Matakaoa Point**	**4.66**	**203**	*e*PN	**Pn**	**21 15 36.0**	**+1.8**
MXZ				*e*SN	**Sn**	**21 16 28.9**	**+2.0**
PUZ	**Puketiti**	**5.14**	**201**	*e*PN	**Pn**	**21 15 42.5**	**+1.7**
PUZ				*e*SN	**Sn**	**21 16 38.4**	**-0.4**
CNGZ	**Carnagh Statio**	**5.54**	**200**	*e*PN	**Pn**	**21 15 48.3**	**+2.0**
OPRZ	**Ohinepanea**	**5.61**	**215**	*e*PN	**Pn**	**21 15 50.0**	**+2.7**
MWZ	**Matawai**	**5.62**	**205**	PN	**Pn**	**21 15 48.6**	**+1.1**
MWZ				*e*SN	**Sn**	**21 16 52.3**	**+1.7**
URZ	**Urewera**	**5.71**	**209**	*e*Pn	**Pn**	**21 15 50.7**	**+2.1**
URZ				*e*Sn	**Sn**	**21 16 54.5**	**+1.7**
URZ	**Urewera**	**5.71**	**209**	*e*PN	**Pn**	**21 15 50.0**	**+1.4**
URZ				*e*SN	**Sn**	**21 16 55.2**	**+2.4**
MKAZ	**Moumakai**	**5.85**	**228**	*e*PN	Pn	21 15 56.5	+5.9
PRGZ	**Paritu Road**	**6.04**	**200**	*e*PN	**Pn**	**21 15 54.0**	**+0.9**
OUZ	**Omahuta**	**6.09**	**250**	Pn	**Pn**	**21 15 55.3**	**+1.4**
	44nm,0.9s						
KNZ	**Kokohu**	**6.19**	**201**	*e*PN	**Pn**	**21 15 55.4**	**+0.3**
MHGZ	**Mahia Peninsul**	**6.25**	**199**	*e*PN	**Pn**	**21 15 56.1**	**+0.1**
RAHZ	**Arahi**	**6.29**	**206**	*e*PN	**Pn**	**21 15 57.9**	**+1.2**
RAHZ				*e*SN	**Sn**	**21 17 08.0**	**+0.8**
NMHZ	**Naumai**	**6.56**	**207**	*e*PN	**Pn**	**21 16 00.9**	**+0.7**
BKZ	**Black Stump Fm**	**6.74**	**208**	*e*PN	**Pn**	**21 16 02.8**	**+0.1**
BKZ				*e*SN	**Sn**	**21 17 17.1**	**-1.0**
MCHZ	**McNeill Hill**	**6.90**	**206**	PN	**Pn**	**21 16 05.2**	**+0.3**
KAHZ	**Kahuranaki**	**7.15**	**204**	*e*P

NWAO **Narrogin (SRO)** 52.30 252 *e*P **P** 21 23 32.2 -0.3
MBWA **Marble Bar** 54.77 266 *e*P **P** 21 23 50.4 -0.3
QSPA **South Pole Qui** 56.84 180 *e*P **P** 21 24 06.8 +1.8
55nm,0.6s
QSPA **South Pole Qui** 56.84 180 P P 21 24 09.8 +4.7
50nm,0.6s,baz=29,slow=1.7,SNR=146
MAW **Mawson** 69.19 201 *e*P **P** 21 25 27.0 +0.2
KKM **Kota Kinabalu** 72.34 290 *e*P **P** 21 25 45.6 -1.2
SYO **Syowa Base** 74.04 194⇓ *e*P **P** 21 25 53.8 -2.1
SYO **Syowa Base** 74.04 194⇓ *i*P **P** 21 25 57.4 +1.5
PLCA **Paso Flores** 81.42 133 *e*P **P** 21 26 37.1 -0.6
KULM **Kulim** 84.50 280 *e*P **P** 21 26 52.1 -1.7
3.0nm,0.6s
PSI **Prapat** 84.55 277 P P 21 26 51.4 -2.8
PSI **Prapat** 84.55 277 P P 21 26 51.4 -2.8
1.6nm,0.5s,baz=214,slow=8.6,SNR=4.6
MKAR **Makanchi Array** 118.67 309 PKP **PKPdf** 21 33 08.2 +0.2
MKAR **Makanchi Array** 118.67 309 PKP **PKPdf** 21 33 08.2 +0.2
0.2nm,0.5s,baz=218,slow=1.1,SNR=5.3
KURK **Kurchatov** 122.14 313 PKP **PKPdf** 21 33 13.1 -1.3
KURBB **Kurchatov Arra** 122.17 313 PKP **PKPdf** 21 33 13.1 -1.4
0.8nm,0.3s,baz=119,slow=1.6,SNR=4.1
BVAR **Borovoye Array** 127.58 314 PKP **PKPdf** 21 33 24.5 -0.3
BVAR **Borovoye Array** 127.58 314 PKP **PKPdf** 21 33 24.5 -0.3
0.8nm,0.6s,baz=116,slow=3.4,SNR=4.0
ARCES **ARCESS Array B** 141.12 346 PKP **PKPdf** 21 33 48.7 -0.9
ARCES **ARCESS Array B** 141.12 346 PKP **PKPdf** 21 33 48.7 -0.9
2.7nm,0.9s,baz=78,slow=1.7,SNR=6.8
JOF **Joensuu** 144.60 336 *e*pkp **PKPab** 21 33 52.4 -2.2
1.0nm,0.5s
KAF **Kangasniemi** 146.81 338 *e*pkp **PKPdf** 21 33 59.4 -0.3
2.4nm,0.5s
FINES **FINESS Array B** 147.38 337 PKPbc **PKPdf** 21 34 01.4 +0.7
FINES **FINESS Array B** 147.38 337 PKPbc **PKPdf** 21 34 01.4 +0.7
3.1nm,0.5s,baz=45,slow=4.5,SNR=31
EIL **Elat** 150.54 272 PKPbc **PKPbc** 21 34 12.2 0.0
EIL **Elat** 150.54 272 PKPbc **PKPbc** 21 34 12.2 0.0
4.8nm,0.8s,baz=24,slow=7.1,SNR=5.7
MMAI **Mount Meron Ar** 150.92 279 PKPbc **PKPbc** 21 34 11.5 -1.7
MMAI **Mount Meron Ar** 150.92 279 PKPbc **PKPbc** 21 34 11.5 -1.7
9.2nm,0.7s,baz=87,slow=7.6,SNR=11
NB2 **NORSAR Subarra** 151.38 349 PKP **PKPbc** 21 34 12.1 -1.2
comp=Z,1.6nm,0.7s,baz=19,slow=2.5
NOA **NORSAR Array B** 151.38 349 PKPbc **PKPdf** 21 34 11.1 +4.0
NOA **NORSAR Array B** 151.38 349 PKPbc **PKPdf** 21 34 11.1 +4.0
comp=Z,1.0nm,0.7s,baz=22,slow=4.6,SNR=9.7
AKASG **Malin Array Be** 152.75 318 PKPbc **PKPbc** 21 34 15.0 -1.6
AKASG **Malin Array Be** 152.75 318 PKPbc **PKPbc** 21 34 15.0 -1.6
comp=Z,0.4nm,0.4s,baz=46,slow=2.8,SNR=4.3
BRTR **Keskin Array B** 152.76 293 PKPbc **PKPbc** 21 34 14.8 -2.4
BRTR **Keskin Array B** 152.76 293 PKPbc **PKPbc** 21 34 14.8 -2.4
comp=Z,1.9nm,0.7s,baz=154,slow=4.1,SNR=7.0
DBIC **Dimbokro** 153.04 168 PKPbc **PKPbc** 21 34 18.1 -0.3
DBIC PKPab **PKPab** 21 34 32.8 +3.1
DBIC **Dimbokro** 153.04 168 PKPbc **PKPbc** 21 34 18.1 -0.3
comp=Z,3.6nm,0.4s,baz=196,slow=1.7,SNR=12
DBIC PKPab **PKPab** 21 34 32.8 +3.1
comp=Z,19nm,0.8s,baz=162,slow=5.4,SNR=14
TORD **Torodi Ar. Bea** 159.93 183 PKPab **PKPab** 21 34 59.0 -0.2
TORD **Torodi Ar. Bea** 159.93 183 PKPab **PKPab** 21 34 59.0 -0.2
comp=Z,6.9nm,0.8s,baz=171,slow=3.5,SNR=14

IDC ***15*** *21:22:16.9±0.5, 30.93N×57.13E, h0km, mb4.4/28, mb1 4.5/34, mb1mx4.5/39, mbtmp4.4/34, ML4.1/5, MS3.7/16, Ms1 3.7/16, ms1mx3.5/43, Error ellipse: s-maj=13.8km s-min=10.3km az=11.0*

CSEM ***15*** *21:22:18.5±0.1, 31.07N×57.11E, h2km, mb4.8/37, Ms4.6, Error ellipse: s-maj=3.6km s-min=3.3km az=142.0*

ISCJB ***15*** *21:22:19.3±0.7, 31.02N±0.02×57.07E±0.02, h21km±5km, mb4.6/97, MS3.8/21, Error ellipse: s-maj=3.4km s-min=3.0km az=29.7*

THR ***15*** *21:22:19.2±0.4, 31.06N×57.00E, h18km±3km, ML4.6*

TEH ***15*** *21:22:20.0, 31.09N×57.03E, h2km, ML4.9*

MOS ***15*** *21:22:20.9±1.3, 30.95N×57.16E, h33km, mb4.9/37, Error ellipse: s-maj=6.6km s-min=4.5km az=114.6*

NEIC ***15*** *21:22:22.0, 31.07N×57.07E, h18km, mb4.9/34, ML4.6(THR), MN4.9(TEH), After TEH.*

NEIC Felt [II] at Kerman. Also felt at Bardsir and Zarand.

SZGRF ***15*** *21:22:23.5, 31.17N×56.48E, h12km, mb4.8, Northern and central Iran*

BJI ***15*** *21:22:23.7, 31.25N×56.89E, h73km, mB5.0/24, mb4.7/34, Ms4.6/21, Ms7 4.2/20*

OMAN ***15*** *21:22:24.8±10.0, 30.89N×57.19E, h49km, Error ellipse: s-maj=3.6km s-min=1.5km az=239.0*

DJA ***15*** *21:22:30, 30.82N×57.23E, h95km, mb4.5/9*

ISC 15 21:22:19.9±0.8, 30.99N±0.03×57.12E±0.02, h16km±4km, n513, σ1§45/549, mb4.7/97, MS3.8/21, 30C-16D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**1.05**	**197**	P		**Pb**		**21 22 39.7**	**-0.2**
KRBR	**Kerman**	**1.05**	**197**	*e*Pg		**Pb**		**21 22 39.8**	**-0.2**
KRBR				AML		AML		21 22 57.9	
	comp=N,17μm,0.4s								
KRBR	**Kerman**	**1.05**	**197**	P		**Pb**		**21 22 39.7**	**-0.2**
IBAF	**Bafgh**	**1.45**	**295**	P	*e*Pn	**Pn**		**21 22 43.7**	**-1.9**
IBAF	**Bafgh**	**1.45**	**295**	P	*e*Pg	**Pn**		**21 22 43.8**	**-1.9**
IBAF					*e*Sg	**Sn**		**21 22 02.2**	**-2.3**
IBAF					*e*			21 23 07.0	
	comp=Z,77μm,0.2s								
IBAF	**Bafgh**	**1.45**	**295**	P	*e*Pg	**Pn**		**21 22 43.8**	**-1.9**
IBAF					*e*Sg	**Sn**		**21 23 02.2**	**-2.3**
IKOO	**Kooshah**	**2.15**	**48**	*e*Pn		**Pn**		**21 22 55.2**	**-0.2**
IKOO					*e*Sg	**Sg**		**21 23 28.0**	**-1.2**
IKOO					*e*			21 23 29.1	
	comp=Z,68μm,0.2s								
IKOO	**Kooshah**	**2.15**	**48**	*e*Pn		**Pn**		**21 22 55.2**	**-0.2**
IKOO					*e*Sg	**Sg**		**21 23 28.0**	**-1.2**
IMEH	**Mehriz**	**2.18**	**281**	Pn		**Pn**		**21 22 55.7**	**-0.1**
IMEH	**Mehriz**	**2.18**	**281**	*e*Pn		**Pn**		**21 22 55.8**	**-0.1**
IMEH					*e*Sg	**Sb**		**21 23 25.4**	**-0.7**
IMEH					*e*			21 23 26.1	
	comp=Z,89μm,0.2s								
IMEH	**Mehriz**	**2.18**	**281**	Pn		**Pn**		**21 22 55.7**	**-0.1**
IMEH					*e*Sg	**Sb**		**21 23 25.4**	**-0.7**
ITEG	**Tejag**	**2.35**	**36**	*e*Pn		**Pn**		**21 22 57.4**	**-0.7**
ITEG					*e*Sg	**Sb**		**21 23 31.4**	**+0.4**
ITEG					*e*			21 23 36.9	
	comp=Z,58μm,0.2s								
ITEG	**Tejag**	**2.35**	**36**	*e*Pn		**Pn**		**21 22 57.4**	**-0.7**
ITEG					*e*Sg	**Sb**		**21 23 31.4**	**+0.4**
ICHK	**Chekchek**	**2.63**	**299**	Pn		**Pn**		**21 23 01.5**	**-0.4**
ICHK					Sn	**Sn**		**21 23 32.3**	**-1.3**
ICHK	**Chekchek**	**2.63**	**299**	*e*Pn		**Pn**		**21 23 01.7**	**-0.2**
ICHK					*e*Sg	**Sb**		**21 23 38.1**	**-0.8**
ICHK					*e*			21 23 51.2	
	comp=Z,69μm,0.5s								
ICHK	**Chekchek**	**2.63**	**299**	*e*Pn		**Pn**		**21 23 01.7**	**-0.2**
ICHK					Sn	**Sn**		**21 23 32.3**	**-1.3**
ICHK					*e*Sg	**Sb**		**21 23 38.1**	**-0.8**
TABS	**Tabas**	**2.65**	**0**	*e*PN5				21 23 01.9	
TABS					*e*Sg	**Sb**		**21 23 39.9**	**+0.4**
IDAH	**Dahanechah**	**2.92**	**53**	*e*				21 23 19.1	
	comp=Z,29μm,0.2s								
IDAH					*e*Pn	**Pn**		**21 23 07.0**	**+1.1**
IDAH					*e*Sg	**Sg**		**21 23 53.1**	**-0.7**
ISAD	**Sadrabad**	**3.07**	**288**	*e*Sg		**Sb**		**21 23 51.5**	**-0.3**
ISAD					*e*Pn	**Pn**		**21 23 08.1**	**0.0**
ISAD					*e*			21 24 08.5	
	comp=Z,44μm,0.4s								
IMON	**Monand**	**3.08**	**44**	*e*Sg		**Sg**		**21 23 57.0**	**-2.0**
IMON					*e*Pn	**Pn**		**21 23 08.9**	**+0.7**
IMON					*e*			21 24 04.6	
	comp=Z,34μm,0.3s								
IBND	**Bandar-abas**	**3.56**	**188**	*e*Pn		**Pn**		**21 23 17.1**	**+2.5**
IBND					*e*			21 24 25.3	
	comp=Z,50μm,0.4s								
IBND	**Bandar-abas**	**3.56**	**188**	*e*Pn		**Pn**		**21 23 17.1**	**+2.5**
IPAR	**Pars**	**3.69**	**253**	Pn		**Pn**		**21 23 18.4**	**+1.7**
IPAR	**Pars**	**3.69**	**253**	*e*Pn		**Pn**		**21 23 17.2**	**+0.5**
IPAR					*e*			21 24 22.8	
	comp=Z,16μm,0.5s								
IPAR	**Pars**	**3.69**	**253**	*e*Pn		**Pn**		**21 23 17.2**	**+0.5**
SHRT	**Shahrakht**	**3.77**	**45**	*e*PN5				21 23 19.1	
NASN	**Na'in**	**4.08**	**297**	P		**Pn**		**21 23 21.5**	**-0.5**
NASN	**Na'in**	**4.08**	**297**	*e*Pn		**Pn**		**21 23 21.6**	**-0.5**
NASN	**Na'in**	**4.08**	**297**	P		**Pn**		**21 23 21.5**	**-0.5**
SHI	**Shiraz**	**4.20**	**253**	*e*Sg		**Sg**		**21 24 31.3**	**-3.6**
SHI					*e*			21 24 50.4	
	comp=Z,10μm,0.4s								
IZEF	**Zefreh**	**4.49**	**296**	Pn		**Pn**		**21 23 27.6**	**0.0**
IZEF	**Zefreh**	**4.49**	**296**	*e*Pn		**Pn**		**21 23 27.6**	**0.0**
IZEF					*e*Sg	**Sb**		**21 24 37.3**	**+4.7**
IZEF					*e*			21 24 50.8	
	comp=Z,10μm,0.4s								
IZEF	**Zefreh**	**4.49**	**296**	*e*Pn		**Pn**		**21 23 27.6**	**0.0**
IZEF					*e*Sg	**Sb**		**21 24 37.3**	**+4.7**
GHIR	**Ghir-Karzin**	**4.49**	**234**	P		**Pn**		**21 23 28.1**	**+0.6**
GHIR	**Ghir-Karzin**	**4.49**	**234**	*e*Pn		**Pn**		**21 23 28.3**	**+0.8**
GHIR				AML		AML		21 24 55.7	
	comp=N,396nm,0.9s								
GHIR	**Ghir-Karzin**	**4.49**	**234**	P		**Pn**		**21 23 28.1**	**+0.6**
IGAR	**Gharneh**	**4.55**	**289**	*e*Pn		**Pn**		**21 23 28.0**	**-0.3**
IGAR					*e*Sg	**Sb**		**21 24 38.6**	**+4.4**
IGAR					*e*			21 24 56.9	
	comp=Z,10μm,0.8s								
BANOM	**Banah**	**5.10**	**188**	P		**Pn**		**21 23 37.6**	**+1.9**
	SNR=76								
BANOM	**Banah**	**5.10**	**188**	P		**Pn**		**21 23 37.6**	**+1.9**
	SNR=76								
IANJ	**Anjilo**	**5.21**	**330**	Pn		**Pn**		**21 23 36.0**	**-1.3**
IANJ	**Anjilo**	**5.21**	**330**	*e*Pn		**Pn**		**21 23 36.1**	**-1.3**
IANJ					*e*			21 25 08.3	
	comp=Z,6μm,0.3s								
IANJ	**Anjilo**	**5.21**	**330**	*e*Pn		**Pn**		**21 23 36.1**	**-1.3**
IKLH	**Kolahrood**	**5.24**	**298**	Pn		**Pn**		**21 23 38.7**	**+0.9**
IKLH	**Kolahrood**	**5.24**	**298**	*e*Pn		**Pn**		**21 23 37.3**	**-0.5**
IKLH					*e*			21 25 22.9	
	comp=Z,7μm,0.4s								
IKLH	**Kolahrood**	**5.24**	**298**	*e*Pn		**Pn**		**21 23 37.3**	**-0.5**
ISFB	**Sefidab**	**5.30**	**310**	Pn		**Pn**		**21 23 37.7**	**-0.8**
ISFB	**Sefidab**	**5.30**	**310**	*e*Pn		**Pn**		**21 23 37.8**	**-0.8**
ISFB					*e*Sg	Sb		21 25 01.6	+5.8
ISFB					*e*			21 25 32.1	
	comp=Z,8μm,0.6s								
ISFB	**Sefidab**	**5.30**	**310**	*e*Pn		**Pn**		**21 23 37.8**	**-0.8**
ISFB					*e*Sg	Sb		21 25 01.6	+5.8
IMOG	**Moghan**	**5.43**	**19**	Pn		**Pn**		**21 23 40.6**	**+0.1**
IMOG	**Moghan**	**5.43**	**19**	*e*Pn		**Pn**		**21 23 41.2**	**+0.7**
IMOG					*e*			21 25 41.9	
	comp=Z,9μm,0.9s								
IMOG	**Moghan**	**5.43**	**19**	*e*Pn		**Pn**		**21 23 41.2**	**+0.7**
IPIR	**Pirpir**	**5.56**	**289**	Pn		**Pn**		**21 23 44.2**	**+1.9**
IPIR	**Pirpir**	**5.56**	**289**	*e*Pn		**Pn**		**21 23 41.8**	**-0.5**
IPIR					*e*			21 25 37.6	
	comp=Z,6μm,0.5s								
IPIR	**Pirpir**	**5.56**	**289**	*e*Pn		**Pn**		**21 23 41.8**	**-0.5**
ILAS	**Lasjerd**	**5.60**	**323**	Pn		**Pn**		**21 23 43.1**	**+0.4**
ILAS	**Lasjerd**	**5.60**	**323**	*e*Pn		**Pn**		**21 23 41.9**	**-0.8**
ILAS					*e*			21 25 39.8	
	comp=Z,5μm,0.3s								
ILAS	**Lasjerd**	**5.60**	**323**	*e*Pn		**Pn**		**21 23 41.9**	**-0.8**
ISRO	**Mashad**	**5.66**	**20**	*e*Pn		**Pn**		**21 23 43.4**	**0.0**
ISRO	**Mashad**	**5.66**	**20**	*e*Pn		**Pn**		**21 23 43.4**	**0.0**
MHI	**Mashad**	**5.66**	**20**	*e*Pn		**Pn**		**21 23 43.9**	**+0.5**
MHI	**Mashad**	**5.66**	**20**	*e*Pn		**Pn**		**21 23 43.9**	**+0.5**
IPAY	**Payeh**	**5.67**	**16**	Pn		**Pn**		**21 23 44.3**	**+0.6**
IPAY	**Payeh**	**5.67**	**16**	*e*Pn		**Pn**		**21 23 43.5**	**-0.2**
IPAY					*e*			21 25 31.0	
	comp=Z,4μm,0.4s								
IPAY	**Payeh**	**5.67**	**16**	*e*Pn		**Pn**		**21 23 43.5**	**-0.2**
ISHM	**Shahmirzad**	**5.77**	**327**	Pn		**Pn**		**21 23 44.4**	**-0.8**
ISHM	**Shahmirzad**	**5.77**	**327**	*e*Pn		**Pn**		**21 23 44.3**	**-0.9**
ISHM					*e*			21 25 33.5	
	comp=Z,9μm,0.4s								
ISHM	**Shahmirzad**	**5.77**	**327**	*e*Pn		**Pn**		**21 23 44.3**	**-0.9**
IKRD	**Kardeh**	**5.89**	**11**	Pn		Pn		21 23 50.3	+3.6
IKRD	**Kardeh**	**5.89**	**11**	*e*Pn		Pn		21 23 49.8	+3.1
IKRD					*e*			21 25 48.3	
	comp=Z,4μm,0.5s								
IKRD	**Kardeh**	**5.89**	**11**	*e*Pn		Pn		21 23 49.8	+3.1
IMYA	**Miami**	**5.89**	**24**	Pn		**Pn**		**21 23 46.7**	**0.0**
IMYA	**Miami**	**5.89**	**24**	*e*Pn		**Pn**		**21 23 46.6**	**-0.1**
IMYA					*e*			21 25 39.7	
	comp=Z,6μm,0.6s								
IMYA	**Miami**	**5.89**	**24**	*e*Pn		**Pn**		**21 23 46.6**	**-0.1**
IFIR	**Firoozkooh**	**5.90**	**323**	Pn		**Pn**		**21 23 46.0**	**-1.0**
IFIR	**Firoozkooh**	**5.90**	**323**	*e*Pn		**Pn**		**21 23 46.2**	**-0.8**
IFIR					*e*			21 24 46.2	
	comp=Z,1μm,0.2s								
IFIR					*e*Sg	Sb		21 25 20.6	+7.4
IFIR	**Firoozkooh**	**5.90**	**323**	*e*Pn		**Pn**		**21 23 46.2**	**-0.8**
IFIR					*e*Sg	Sb		21 25 20.6	+7.4
IKIA	**Kiasar**	**5.94**	**332**	Pn		**Pn**		**21 23 47.9**	**+0.5**
IKIA	**Kiasar**	**5.94**	**332**	*e*Pn		**Pn**		**21 23 47.1**	**-0.3**
IKIA					*e*			21 25 39.1	
	comp=Z,7μm,0.6s								
IKIA	**Kiasar**	**5.94**	**332**	*e*Pn		**Pn**		**21 23 47.1**	**-0.3**
IVRN	**Varamin**	**6.04**	**313**	Pn		**Pn**		**21 23 48.4**	**-0.2**
IVRN	**Varamin**	**6.04**	**313**	*e*Pn		**Pn**		**21 23 47.9**	**-0.7**
IVRN					*e*Pn	**Pn**		**21 23 47.9**	**-0.7**
IVRN					*e*			21 25 52.2	
	comp=Z,3μm,0.4s								
IVRN	**Varamin**	**6.04**	**313**	*e*Pn		**Pn**		**21 23 47.9**	**-0.7**
ISFR	**Sfrayin**	**6.09**	**7**	Pn		**Pn**		**21 23 50.1**	**+0.5**
ISFR	**Sfrayin**	**6.09**	**7**	*e*Pn		**Pn**		**21 23 49.4**	**-0.2**
ISFR					*e*			21 24 19.3	
	comp=Z,4μm,0.4s								
NAZ	**Nazwa. Dubai**	**6.12**	**192**	P		**Pn**		**21 23 52.0**	**+2.3**
HATD	**Hatta. Dubai**	**6.20**	**188**	P		**Pn**		**21 23 53.0**	**+2.1**
IALA	**Alasht**	**6.22**	**326**	Pn		**Pn**		**21 23 51.8**	**+0.4**
IALA	**Alasht**	**6.22**	**326**	*e*Pn		**Pn**		**21 23 50.6**	**-0.8**
IALA					*e*			21 25 52.3	
	comp=Z,3μm,0.2s								
IALA	**Alasht**	**6.22**	**326**	*e*Pn		**Pn**		**21 23 50.6**	**-0.8**
ASHO	**Ashiyiah**	**6.35**	**189**	⇓P		**Pn**		**21 23 54.8**	**+1.9**
	SNR=45								
ASHO	**Ashiyiah**	**6.35**	**189**	P		**Pn**		**21 23 54.8**	**+1.9**
	SNR=45								
FAQ	**Al Faqa, Dubai**	**6.37**	**193**	P		**Pn**		**21 23 55.0**	**+1.9**
IEMG	**Emamgholi**	**6.53**	**11**	Pn		**Pn**		**21 23 56.8**	**+1.2**
IEMG	**Emamgholi**	**6.53**	**11**	*e*Pn		**Pn**		**21 23 55.1**	**-0.5**
IEMG					*e*			21 26 00.6	
	comp=Z,4μm,0.7s								
IEMG	**Emamgholi**	**6.53**	**11**	*e*Pn		**Pn**		**21 23 55.1**	**-0.5**
ASUD	**Al Ashush, Dub**	**6.54**	**194**	P		**Pn**		**21 23 57.8**	**+2.4**
	SNR=21								
ISHV	**Shirvan**	**6.55**	**4**	Pn		**Pn**		**21 23 56.1**	**+0.4**
ISHV	**Shirvan**	**6.55**	**4**	*e*Pn		**Pn**		**21 23 55.2**	**-0.5**
ISHV					*e*			21 26 26.8	
	comp=Z,11μm,0.6s								
ISHV	**Shirvan**	**6.55**	**4**	*e*Pn		**Pn**		**21 23 55.2**	**-0.5**
IPRN	**Peran**	**6.58**	**324**	Pn		**Pn**		**21 23 56.7**	**+0.6**
IPRN	**Peran**	**6.58**	**324**	*e*Pn		**Pn**		**21 23 55.3**	**-0.8**
IPRN					*e*			21 25 57.7	
	comp=Z,5μm,0.4s								
IR3	**Iran Long-Peri**	**6.79**	**313**	*e*Pn		**Pn**		**21 23 58.1**	**-0.8**
IR3	**Iran Long-Peri**	**6.79**	**313**	*e*Pn		**Pn**		**21 23 58.1**	**-0.8**
IR5	**Iran Long-Peri**	**6.91**	**309**	*e*Pn		**Pn**		**21 24 00.7**	**0.0**
IMHD	**Mahdasht**	**7.14**	**313**	Pn		**Pn**		**21 24 03.5**	**-0.3**
IMHD	**Mahdasht**	**7.14**	**313**	*e*Pn		**Pn**		**21 24 02.9**	**-0.9**
IMHD					*e*			21 26 54.5	
	comp=Z,2μm,0.6s								
IMHD	**Mahdasht**	**7.14**	**313**	*e*Pn		**Pn**		**21 24 02.9**	**-0.9**
HOQ	**Hoqain**	**7.38**	**179**	⇓P		**Pn**		**21 24 08.1**	**+1.0**
	SNR=32								
HOQ	**Hoqain**	**7.38**	**179**	P		**Pn**		**21 24 08.1**	**+1.0**
	SNR=32								
IRAZ	**Razeghan**	**7.46**	**308**	Pn		**Pn**		**21 24 08.4**	**+0.1**
IRAZ	**Razeghan**	**7.46**	**308**	*e*Pn		**Pn**		**21 24 07.1**	**-1.2**
IRAZ					*e*			21 26 28.7	
	comp=Z,3μm,0.4s								
IRAZ	**Razeghan**	**7.46**	**308**	*e*Pn		**Pn**		**21 24 07.1**	**-1.2**
ARQ	**Araqi**	**7.64**	**184**	⇑P		**Pn**		**21 24 13.1**	**+2.4**
	SNR=23								
ARQ	**Araqi**	**7.64**	**184**	P		**Pn**		**21 24 13.1**	**+2.4**
	SNR=23								
IGZV	**Ghazvin**	**7.87**	**315**	Pn		**Pn**		**21 24 13.7**	**-0.3**
IGZV	**Ghazvin**	**7.87**	**315**	*e*Pn		**Pn**		**21 24 12.9**	**-1.1**
IGZV					*e*			21 26 57.5	
	comp=Z,1μm,0.4s								
IGZV	**Ghazvin**	**7.87**	**315**	*e*Pn		**Pn**		**21 24 12.9**	**-1.1**
SMDO	**Samad**	**7.94**	**174**	⇓P		**Pn**		**21 24 15.8**	**+0.9**
	SNR=11								
SMDO	**Samad**	**7.94**	**174**	P		**Pn**		**21 24 15.8**	**+0.9**
	SNR=11								
BSY	**Bisya**	**8.21**	**179**	⇓P		**Pn**		**21 24 21.2**	**+2.7**
	SNR=24								
BSYO	**Bisya**	**8.23**	**179**	P		**Pn**		**21 24 21.2**	**+2.5**
	SNR=24								
QRN	**Al-Qurain**	**8.29**	**257**	*e*P		**Pn**		**21 24 19.2**	**-0.3**
QRN					AML	AML		21 25 51.8	
	comp=Z,56nm,0.5s								
WBK	**Wadi Bani Khal**	**8.51**	**168**	⇑P		**Pn**		**21 24 23.4**	**+0.8**
	SNR=11								
WBK	**Wadi Bani Khal**	**8.51**	**168**	P		**Pn**		**21 24 23.4**	**+0.8**
	SNR=11								
MIB	**Mutribah**	**8.53**	**265**	*e*P		**Pn**		**21 24 22.6**	**-0.2**
MIB	**Mutribah**	**8.53**	**265**	*e*P		**Pn**		**21 24 22.6**	**-0.2**
RDF	**Al-Radifah**	**8.55**	**258**	*e*P		**Pn**		**21 24 22.9**	**-0.2**
RDF					AML	AML		21 25 54.7	
	comp=Z,33nm,0.7s								
RDF	**Al-Radifah**	**8.55**	**258**	*e*P		**Pn**		**21 24 22.9**	**-0.2**
JMDO	**Jabal Madar**	**8.63**	**174**	⇓P		**Pn**		**21 24 26.2**	**+2.0**
	SNR=11								
JMDO	**Jabal Madar**	**8.63**	**174**	P		**Pn**		**21 24 26.2**	**+2.0**
	SNR=11								
IKOM	**Komasi**	**8.70**	**294**	Pn		**Pn**		**21 24 25.3**	**0.0**
IKOM	**Komasi**	**8.70**	**294**	*e*Pn		**Pn**		**21 24 24.9**	**-0.4**
IKOM					*e*			21 27 39.5	
	comp=Z,831nm,0.5s								
IKOM	**Komasi**	**8.70**	**294**	*e*Pn		**Pn**		**21 24 24.9**	**-0.4**
NAY	**Al-Naaiem**	**8.73**	**261**	*e*P		**Pn**		**21 24 25.5**	**0.0**
NAY					AML	AML		21 26 02.2	
	comp=Z,28nm,0.7s								
NAY	**Al-Naaiem**	**8.73**	**261**	*e*P		**Pn**		**21 24 25.5**	**0.0**
ISRB	**Sarab**	**10.36**	**314**	*e*Pn		**Pn**		**21 24 46.5**	**-1.5**
ISRB					*e*			21 25 39.2	
	comp=Z,481nm,0.1s								
ISRB	**Sarab**	**10.36**	**314**	*e*Pn		**Pn**		**21 24 46.5**	**-1.5**
KBL	**Kabul**	**10.65**	**67**	*e*P		Pn		21 24 56.5	+4.5
KBL	**Kabul**	**10.65**	**67**	*e*Pn		Pn		21 24 56.5	+4.5
IBST	**Bostanabad**	**10.78**	**311**	*e*Pn		**Pn**		**21 24 52.3**	**-1.5**
IBST	**Bostanabad**	**10.78**	**311**	*e*Pn		**Pn**		**21 24 52.3**	**-1.5**
IHRS	**Heris**	**11.05**	**314**	Pn		**Pn**		**21 25 00.0**	**+2.5**
IHRS	**Heris**	**11.05**	**314**	*e*Pn		**Pn**		**21 24 56.0**	**-1.5**
IHRS					*e*			21 25 37.9	
	comp=Z,220nm,0.3s								
IHRS	**Heris**	**11.05**	**314**	*e*Pn		**Pn**		**21 24 56.0**	**-1.5**
GNI	**Garni**	**13.59**	**316**	*e*Pn		Pn		21 25 36.3	+4.2
GNI	**Garni**	**13.59**	**316**	Pn		**Pn**		**21 25 35.1**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=338,slow=19,SNR=1.8								
GNI					LR	LR		21 30 53.9	
	comp=Z,208nm,20.2s,baz=206,slow=38								
DGRG	**David-gareji**	**14.09**	**321**	P		P		21 25 54.0	+7.5
MAK	**Makhachkala**	**14.19**	**330**	*e*P		**Pn**		**21 25 37.9**	**-2.3**
MAK					*e*S	**Sn**		**21 28 14.6**	**-2.6**
MAK					MLR	MLR			
	comp=Z,566nm,17.0s								
TBLG	**Delisi**	**14.62**	**321**	*e*P		**Pn**		**21 25 47.9**	**+1.8**
TBLG	**Delisi**	**14.62**	**321**	P		**Pn**		**21 25 47.9**	**+1.8**
AKH	**Akhalkalaki**	**15.12**	**317**	P		**P**		**21 25 57.1**	**-1.0**
GOR	**Gori**	**15.14**	**320**	P		Pn		21 25 45.5	-7.7
ZEI	**Tsey**	**15.79**	**322**	*e*P		**P**		**21 26 08.5**	**+2.9**
ZEI					pmax	pmax			
	comp=Z,19nm,1.6s								
KKAR	**Karatay Array**	**16.11**	**38**	*e*P		**Pn**		**21 26 07.0**	**+1.2**
KKAR	**Karatay Array**	**16.11**	**38**	*e*Pn		**Pn**		**21 26 07.0**	**+1.2**

ISP pmax pmax
comp=Z,26nm,1.0s
ISP Isparta 22.93 295 *e*P **P 21 27 24.4 +1.0**
comp=Z,26nm,1.0s
ISP Isparta 22.93 295 *e*P **P 21 27 24.4 +1.0**
comp=Z,26nm,1.0s
VRHR Novokhopersk 23.15 335 *e*P **P 21 27 29.2 +3.8**
VRHR pmax pmax
comp=N,7.0nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,1.0s
VRHR pmax pmax
comp=Z,10.0nm,1.0s
KOLN Koldanda 23.28 91 *e*P **P 21 27 27.4 +0.2**
comp=Z,21nm,0.9s
DANN Dangsing 23.28 90 *e*P **P 21 27 27.6 +0.3**
comp=Z,156nm,1.1s
ATD Arta Tunnel 23.44 217 LR LR 21 37 54.0
comp=Z,167nm,20.6s,baz=23,slow=40
HYB Hyderabad 23.71 120 *i*P **P 21 27 32.0 +0.7**
VORD Divnogorie 23.95 332 *e*P **P 21 27 33.7 +0.5**
VORD pmax pmax
comp=N,6.0nm,0.8s
VORD pmax pmax
comp=E,4.0nm,0.8s
VORD pmax pmax
comp=Z,4.0nm,0.8s
VORD Divnogorie 23.95 332 *e*P **P 21 27 33.7 +0.5**
BRVK Borovoye 24.05 20 *e*P **P 21 27 34.4 +0.3**
BRVK pmax pmax
comp=Z,20nm,1.2s
BRVK Borovoye 24.05 20 *e*P **P 21 27 34.4 +0.3**
comp=Z,20nm,1.2s
BRVK Borovoye 24.05 20 P **P 21 27 38.5 +4.4**
SNR=6.8
BRVK Borovoye 24.05 20 *e*P **P 21 27 34.4 +0.3**
comp=Z,20nm,1.2s
BVAR Borovoye Array 24.05 20 P **P 21 27 34.4 +0.2**
BVAR 21 31 15.3
BVAR Borovoye Array 24.05 20 P **P 21 27 34.4 +0.2**
BVAR PcP **PcP 21 31 15.3 -0.2**
BVAR Borovoye Array 24.05 20 P **P 21 27 34.4 +0.2**
comp=Z,4.8nm,0.7s,baz=191,slow=6.0,SNR=18
BVAR PcP **PcP 21 31 15.3 -0.2**
comp=Z,2.9nm,0.8s,baz=253,slow=1.5,SNR=5.1
BVAR LR LR 21 38 38.0
comp=Z,214nm,18.4s,baz=208,slow=41
BVAR Borovoye Array 24.05 20 P **P 21 27 34.4 +0.2**
BVAR Borovoye Array 24.05 20 PcP **PcP 21 31 15.3 -0.2**
GKN Gorkha 24.11 90 *e*P **P 21 27 35.2 0.0**
comp=Z,40nm,0.8s
VSR Storozhevoye 24.19 332 *e*P **P 21 27 34.9 -0.6**
VSR pmax pmax
comp=N,3.0nm,0.4s
VSR pmax pmax
comp=E,2.0nm,0.4s
VSR pmax pmax
comp=Z,3.0nm,0.4s
VSR Storozhevoye 24.19 332 *e*P **P 21 27 34.9 -0.6**
DMN Daman 24.61 91 *e*P **P 21 27 40.0 +0.1**
comp=Z,26nm,0.8s
KKN Kakani 24.72 90 *e*P **P 21 27 41.0 +0.2**
comp=Z,35nm,1.0s
PKI Pulchoki 24.88 91 *e*P **P 21 27 42.8 +0.4**
comp=Z,99nm,1.2s
MK31 Makanchi Array 25.01 44 *e*P **P 21 27 43.6 +0.6**
MK31 Makanchi Array 25.01 44 *e*P **P 21 27 43.6 +0.6**
MK31 Makanchi Array 25.01 44 *e*P **P 21 27 43.6 +0.6**
MKAR Makanchi Array 25.01 44 P **P 21 27 43.3 +0.3**
MKAR 21 31 16.9
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR MLR MLR
comp=Z,142nm,20.6s
MKAR Makanchi Array 25.01 44 *e*P **P 21 27 43.2 +0.3**
MKAR PcP **PcP 21 31 16.9 -0.8**
MKAR Makanchi Array 25.01 44 P **P 21 27 43.3 +0.3**
comp=Z,1.6nm,0.5s,baz=229,slow=8.9,SNR=41
MKAR PcP **PcP 21 31 16.9 -0.8**
comp=Z,1.2nm,0.7s,baz=254,slow=1.6,SNR=5.2
MKAR LR LR 21 38 31.5
comp=Z,142nm,20.6s,baz=218,slow=39
MKAR Makanchi Array 25.01 44 P **P 21 27 43.3 +0.3**
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 25.01 44 PcP **PcP 21 31 16.9 -0.8**
GUN Gumba 25.20 90 *e*P **P 21 27 46.0 +0.7**
comp=Z,84nm,1.0s
KURBB Kurchatov Arra 25.28 33 P **P 21 27 45.5 +0.1**
comp=Z,6.2nm,0.8s,baz=232,slow=8.7,SNR=17
KURBB PcP **PcP 21 31 18.0 -0.2**
comp=Z,0.5nm,0.7s,baz=229,slow=2.8,SNR=4.2
KURBB LR LR 21 38 17.5
comp=Z,112nm,21.2s,baz=250,slow=38
KURK Kurchatov 25.39 33⇑ *e*P **P 21 27 46.5 +0.2**
KURK pmax pmax
comp=Z,15nm,1.2s
KURK MLR MLR
comp=Z,177nm,15.0s
KURK Kurchatov 25.39 33 *e*P **P 21 27 46.6 +0.3**
comp=Z,13nm,1.1s
KURK PcP **PcP 21 31 18.0 -0.4**
KURK Kurchatov 25.39 33 *e*P **P 21 27 46.6 +0.3**
comp=Z,13nm,1.1s
ARU Arti 25.45 2*d i*P **P 21 27 48.3 +1.4**
ARU 21 28 22.0
ARU S **S 21 32 15.5 +2.4**
ARU SS **SnSn 21 33 11.3 +5.5**
ARU pmax pmax
comp=Z,21nm,1.7s
ARU Arti 25.45 2 *e*P **P 21 27 47.9 +1.0**
comp=Z,101nm,2.3s
ARU Arti 25.45 2 *e*P **P 21 27 47.9 +1.0**
comp=Z,101nm,2.3s
JIRN Jiri 25.53 90 *e*P **P 21 27 48.9 +0.6**
comp=Z,20nm,0.9s
SVE Sverdlovsk 25.95 4 *e*P **P 21 27 54.0 +2.6**
SVE *e*S **S 21 32 15.9 -5.0**
SVE pmax pmax
comp=Z,20nm,1.7s
SVE MLR MLR
comp=Z,257nm,14.0s
RAMN Ramite 26.07 91 *e*P **P 21 27 53.2 +0.1**
comp=Z,67nm,0.9s
ODAN Odare 26.77 91 *e*P **P 21 27 59.7 +0.3**
comp=Z,86nm,1.1s
TAPN Taplejung 26.92 90 *e*P **P 21 28 01.1 +0.3**
comp=Z,72nm,1.6s
WMQ Urumqi 27.29 53 *e*P **P 21 28 04.8 +1.0**
WMQ pP pP 21 28 19.0 +10
WMQ sP sP 21 28 25.0 +14
WMQ PP **PnPn 21 28 51.0 +3.4**
WMQ *e*S **S 21 32 38.0 -4.6**
WMQ sS sS 21 33 04.0 +13
WMQ pmax pmax
comp=Z,10.0nm,0.9s
WMQ pmax pmax
comp=Z,170nm,4.8s
WMQ LR LR
comp=N,840nm,8.0s
WMQ LR LR
comp=E,530nm,7.0s
WMQ LR LR
comp=Z,770nm,14.3s
OBN Obninsk 28.19 335⇓ *e*P **P 21 28 11.6 +0.1**
OBN pmax pmax
comp=Z,29nm,1.9s
OBN MLR MLR
comp=Z,100nm,14.0s
OBN Obninsk 28.19 335 *e*P **P 21 28 11.6 +0.1**
comp=Z,100nm,14.0s
MLR Muntele Rosu 28.23 310 P **P 21 28 14.0 +1.8**
MLR Muntele Rosu 28.23 310⇑ *i*P **P 21 28 14.3 +2.1**
MLR Muntele Rosu 28.23 310 P **P 21 28 14.0 +1.8**
comp=Z,2.7nm,0.8s,baz=99,slow=4.3,SNR=18
MLR Muntele Rosu 28.23 310 P **P 21 28 14.0 +1.8**
MOS Moscow 28.31 337 *e*P **P 21 28 12.2 -0.4**
MOS *e* 21 29 06.0
MOS Moscow 28.31 337 *e*P **P 21 28 12.2 -0.4**
SOKR Solikamsk 28.58 360 *e*P **P 21 28 14.3 -0.6**
SOKR pmax pmax
comp=Z,5.0nm,0.8s
SOKR MLR MLR
comp=Z,360nm,23.0s
SOKR Solikamsk 28.58 360 *e*P **P 21 28 14.3 -0.6**
comp=Z,360nm,23.0s
AKASG Malin Array Be 28.59 322 P **P 21 28 16.4 +1.3**
AKASG Malin Array Be 28.59 322 P **P 21 28 16.4 +1.3**
AKASG Malin Array Be 28.59 322 P **P 21 28 16.4 +1.3**
comp=Z,1.6nm,0.7s,baz=111,slow=8.2,SNR=7.7
AKASG Malin Array Be 28.59 322 P **P 21 28 16.4 +1.3**
KIEV Kiev 28.59 322 *e*P **P 21 28 16.4 +1.2**
KIEV pmax pmax
comp=Z,77nm,2.4s
KIEV Kiev 28.59 322 *e*P **P 21 28 16.4 +1.2**
comp=Z,77nm,2.4s
KIEV Kiev 28.59 322 *e*P **P 21 28 16.4 +1.2**
comp=Z,77nm,2.4s
VOIR 28.81 309⇑ P **P 21 28 20.1 +2.8**
VOIR 28.81 309⇑ *i*P **P 21 28 20.1 +2.8**
BURAR Bucovina Array 29.48 313⇑ *i*P **P 21 28 26.0 +2.8**
BUR08 Bucovina Ar. S 29.50 313 *e*P **P 21 28 22.9 -0.5**
BUR08 Bucovina Ar. S 29.50 313 *e*P **P 21 28 22.9 -0.5**
NVS Novosibirsk 30.23 30 *e*P **P 21 28 28.6 -1.1**
NVS *e* 21 29 31.6
NVS pmax pmax
comp=Z,23nm,2.2s
NVS pmax pmax
comp=N,7.0nm,1.6s
NVS pmax pmax
comp=E,16nm,2.6s
NVS Novosibirsk 30.23 30 *e*P **P 21 28 28.6 -1.1**
comp=E,7.0nm,1.6s
ZAA0 Zalesovo Array 30.38 33 *e*P **P 21 28 30.6 -0.4**
ZAA0 Zalesovo Array 30.38 33 *e*P **P 21 28 30.6 -0.4**
ZALV Zalesovo Beam 30.38 33 P **P 21 28 30.7 -0.3**
ZALV 21 31 29.3
ZALV Zalesovo Beam 30.38 33 P **P 21 28 30.7 -0.3**
ZALV PcP **PcP 21 31 29.3 -1.2**
ZALV Zalesovo Beam 30.38 33 P **P 21 28 30.7 -0.3**
comp=E,8.9nm,0.8s,baz=241,slow=8.8,SNR=22
ZALV PcP **PcP 21 31 29.3 -1.2**
comp=E,1.0nm,0.6s,baz=235,slow=5.1,SNR=3.1
ZALV LR LR 21 42 13.3
comp=E,92nm,19.0s,baz=241,slow=39
ZALV Zalesovo Beam 30.38 33 P **P 21 28 30.7 -0.3**
ZALV Zalesovo Beam 30.38 33 PcP **PcP 21 31 29.3 -1.2**
BZS Buzias 31.17 308⇑ P **P 21 28 40.2 +2.2**
BZS Buzias 31.17 308⇑ *i*P **P 21 28 40.2 +2.2**
BZS Buzias 31.17 308 P **P 21 28 40.2 +2.2**
UZH Uzhgorod 31.67 314 *e*P **P 21 28 44.5 +2.1**
UZH 21 29 45.9
UZH Uzhgorod 31.67 314 *e*P **P 21 28 44.5 +2.1**
KOLS Kolonicke sedl 31.79 314 *e*P **P 21 28 44.8 +1.3**
KOLS pmax pmax
comp=Z,28nm,1.0s
KOLS Kolonicke sedl 31.79 314 *e*P **P 21 28 44.8 +1.3**
KOLS Kolonicke sedl 31.79 314 *e*P **P 21 28 44.8 +1.3**
comp=Z,28nm,1.0s
KWP Kalwaria Pacla 31.79 316⇓ P **P 21 28 47.0 +3.5**
KWP Kalwaria Pacla 31.79 316 *e*P **P 21 28 46.2 +2.7**
comp=Z,15nm,1.0s
KWP Kalwaria Pacla 31.79 316⇓ *i*P P 21 28 47.0 +3.5
CRVS Cervenica-Dubn 32.28 314 *e*P **P 21 28 50.9 +3.1**
CRVS pmax pmax
comp=Z,46nm,2.5s
CRVS Cervenica-Dubn 32.28 314 *e*P **P 21 28 50.9 +3.1**
PSZ Piszkesteto 32.95 312⇓ P **P 21 28 56.8 +3.0**
PSZ Piszkesteto 32.95 312⇓ *i*P **P 21 28 56.8 +3.0**
PKSM Moragy 33.33 308⇑ P **P 21 28 59.2 +2.2**
PKSM Moragy 33.33 308⇑ *i*P **P 21 28 59.2 +2.2**
PKSM Moragy 33.33 308 P **P 21 28 59.2 +2.2**
OJC Ojcow 33.76 316 *e*P **P 21 28 59.1 -1.6**
OJC Ojcow 33.76 316 *e*P **P 21 28 59.9 -0.8**
OJC Ojcow 33.76 316 *e*P **P 21 29 01.1 +0.4**
comp=Z,19nm,1.1s
OJC Ojcow 33.76 316 *e*P **P 21 29 01.1 +0.4**
comp=Z,19nm,1.1s
VYHS Vyhne 33.80 312 *e*P **P 21 29 02.5 +1.4**
VYHS pmax pmax
comp=Z,37nm,2.5s
VYHS Vyhne 33.80 312 *e*P **P 21 29 02.5 +1.4**
VYHS *e* 21 29 33.9
VYHS Vyhne 33.80 312 *e*P **P 21 29 02.5 +1.4**
comp=Z,37nm,2.5s
VSU Vasula 34.38 332 *i*P **P 21 29 08.7 +2.7**
VSU pmax pmax
comp=Z,25nm,1.6s
OKC Ostrava-Krasne 34.64 314 *e*P P 21 29 19.7 +11
MORC Moravsky Berou 34.99 314⇓ P **P 21 29 13.7 +2.3**
MORC Moravsky Berou 34.99 314 *e*P **P 21 29 13.5 +2.1**
comp=Z,9.0nm,0.9s
MORC Moravsky Berou 34.99 314⇓ *i*P **P 21 29 13.7 +2.3**
MORC Moravsky Berou 34.99 314 *e*P **P 21 29 13.5 +2.1**
comp=Z,9.0nm,0.9s
SOP Sopron 35.06 310⇓ P **P 21 29 14.3 +2.3**
SOP Sopron 35.06 310⇓ *e*P **P 21 29 14.3 +2.3**
GTA Gaotai 35.62 64⇑ P **P 21 29 18.1 +1.0**
GTA pP pP 21 29 36.4 +14
GTA sP sP 21 29 45.4 +21
GTA S **S 21 34 49.1 -3.6**
GTA sS ScP 21 35 19.3 -12
GTA SS **SnSn 21 37 13.1 -0.6**
GTA pmax pmax
comp=Z,16nm,1.2s
GTA pmax pmax
comp=Z,83nm,5.5s
GTA LR LR
comp=N,280nm,14.7s
GTA LR LR
comp=E,200nm,15.9s
GTA LR LR
comp=Z,270nm,14.2s
DPC Dobruska-Polom 35.91 314 *e*P **P 21 29 21.8 +2.4**
DPC Dobruska-Polom 35.91 314 *e*P **P 21 29 21.8 +2.4**
DPC Dobruska-Polom 35.91 314 *e*P **P 21 29 21.8 +2.4**
KSP Ksiaz 36.08 315 *e*P **P 21 29 21.0 +0.3**
KSP Ksiaz 36.08 315 *e*P **P 21 29 21.0 +0.3**
TREC Trest 36.14 312 *e*P **P 21 29 23.7 +2.4**
TREC Trest 36.14 312 *e*P **P 21 29 23.7 +2.4**
TREC Trest 36.14 312 *e*P **P 21 29 23.7 +2.4**
UPC Upice 36.15 315 *e*P **P 21 29 23.9 +2.6**
UPC Upice 36.15 315 *e*P **P 21 29 23.9 +2.6**
UPC Upice 36.15 315 *e*P **P 21 29 23.9 +2.6**
FINES FINESS Array B 36.59 335 P **P 21 29 24.1 -0.9**
FINES FINESS Array B 36.59 335 P **P 21 29 24.1 -0.9**
comp=Z,1.5nm,0.7s,baz=114,slow=10,SNR=6.3
FINES FINESS Array B 36.59 335 P **P 21 29 24.1 -0.9**
PRU Pruhonice 36.91 313 *e*P **P 21 29 28.7 +0.8**
PRU Pruhonice 36.91 313 *e*P **P 21 29 28.7 +0.8**
PRU Pruhonice 36.91 313 *e*P **P 21 29 28.7 +0.8**
KMBO Kilima Mbogo 37.11 214 *e*P **P 21 29 31.8 +1.7**
comp=Z,8.2nm,1.2s
KMBO Kilima Mbogo 37.11 214 *e*P **P 21 29 31.8 +1.7**
comp=Z,8.0nm,1.2s
GEC2 GERESS Array S 37.18 311 *e*P **P 21 29 29.4 -0.9**
comp=Z,20nm,0.9s
GEC2 *e*pP **pP 21 29 32.3 -2.9**
GEC2 GERESS Array S 37.18 311 *e*P **P 21 29 29.4 -0.9**
GEC2 pmax pmax
comp=Z,20nm,0.9s
GEC2 GERESS Array S 37.18 311 *e*P **P 21 29 29.4 -0.9**
comp=Z,20nm,0.9s
GERES GERESS Array B 37.18 311 P **P 21 29 29.6 -0.7**
GERES GERESS Array B 37.18 311 P **P 21 29 29.6 -0.7**
comp=Z,11nm,0.8s,baz=107,slow=8.7,SNR=45
GERES LR LR 21 47 05.3
comp=Z,69nm,18.1s,baz=118,slow=40
GERES GERESS Array B 37.18 311 P **P 21 29 29.6 -0.7**
KHC Kasperske Hory 37.32 312 *e*P **P 21 29 30.5 -0.9**
KHC Kasperske Hory 37.32 312 *e*P **P 21 29 30.5 -0.9**
comp=Z,18nm,1.1s
KHC Kasperske Hory 37.32 312 *e*P **P 21 29 30.5 -0.9**
KHC Kasperske Hory 37.32 312 *e*P **P 21 29 30.5 -0.9**
comp=Z,18nm,1.1s
BRG Berggiesshubel 37.51 315 *e*P **P 21 29 34.6 +1.7**
comp=Z,3.2nm,0.9s
BRG *e* 21 29 38.7
comp=Z,6.9nm,0.8s
BRG Berggiesshubel 37.51 315 *e*P **P 21 29 34.6 +1.7**
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG Berggiesshubel 37.51 315 *e*P **P 21 29 34.6 +1.7**
comp=Z,3.0nm,0.9s
RJOB Jochberg 37.56 309 *e*P **P 21 29 32.3 -1.1**
comp=Z,17nm,1.0s
WET Wettzell 37.77 312 *e*P **P 21 29 34.1 -1.1**
comp=Z,13nm,1.2s
WET *e*pP **pP 21 29 37.1 -3.0**
WET Wettzell 37.77 312 *e*P **P 21 29 34.1 -1.1**
WET pmax pmax
comp=Z,13nm,1.2s
WET Wettzell 37.77 312 *e*P **P 21 29 34.1 -1.1**
comp=Z,13nm,1.2s
FBE Freiberg 37.89 315 *e*P **P 21 29 38.8 +2.7**
comp=Z,19nm,1.0s
MOY Mondy 38.15 44 *e*P **P 21 29 40.5 +2.0**
MOY Mondy 38.15 44 *e*P **P 21 29 40.5 +2.0**
CLL Collm 38.20 315 *e*P **P 21 29 38.5 -0.1**
comp=Z,26nm,1.1s
CLL Collm 38.20 315 *e*P P 21 29 33.0 -5.7
CLL *i* 21 29 40.9
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 38.20 315 *e*PKPbc P 21 29 34.0 -4.7
comp=Z,5.0nm,0.8s
CLL *i* PKiKP **P 21 29 38.6 -0.1**
comp=Z,13nm,0.9s
CLL *i* pPKPbc pwP 21 29 40.9 -2.7
comp=Z,26nm,1.1s
TANN Tannenbergstha 38.31 314 *e*P **P 21 29 38.6 -1.2**
comp=Z,6.0nm,1.0s
ROTZ Rotzenmuhle 38.33 312 *e*P **P 21 29 39.1 -0.8**
comp=Z,19nm,1.6s
FUR Furstenfeldbru 38.64 310 *e*P **P 21 29 41.0 -1.5**
comp=Z,18nm,1.1s
FUR Furstenfeldbru 38.64 310 *e*P **P 21 29 41.0 -1.5**
FUR pmax pmax
comp=Z,18nm,1.1s
MOX Moxa 38.89 314 *e*P **P 21 29 43.8 -0.8**
comp=Z,14nm,1.3s
MOX Moxa 38.89 314 *e*P **P 21 29 43.8 -0.8**
MOX pmax pmax
comp=Z,14nm,1.3s
GRF Grafenberg Arr 38.94 312 *e*P **P 21 29 44.4 -0.6**
comp=Z,19nm,1.1s
GRF Grafenberg Arr 38.94 312 *e*P **P 21 29 44.4 -0.6**
GRF pmax pmax
comp=Z,19nm,1.1s
LZH Lanzhou 38.99 70 *e*P **P 21 29 47.1 +1.3**
LZH pP pP 21 30 04.3 +14
LZH sP sP 21 30 13.9 +21
LZH PcP **PcP 21 31 56.8 +0.8**
LZH *e*S **ScP 21 35 38.3 -5.4**
LZH sS sS 21 36 09.5 +17
LZH SS SnSn 21 38 22.0 -13
LZH pmax pmax
comp=Z,17nm,1.0s
LZH pmax pmax
comp=Z,120nm,4.7s
LZH LR LR
comp=N,200nm,14.4s
LZH LR LR
comp=E,380nm,14.6s
LZH LR LR
comp=Z,260nm,14.8s
FUORN Ofenpass-Fuorn 39.10 307 *e*P **P 21 29 46.2 -0.5**
comp=Z,26nm,1.1s
FUORN Ofenpass-Fuorn 39.10 307 *e*P **P 21 29 46.2 -0.5**
comp=Z,26nm,1.1s
LVZ Lovozero 39.23 347 *e*P **P 21 29 47.1 -0.1**
LVZ pmax pmax
comp=Z,310nm,2.6s
LVZ Lovozero 39.23 347 *e*P **P 21 29 47.1 -0.1**
comp=Z,310nm,2.6s
LVZ Lovozero 39.23 347 *e*P **P 21 29 47.1 -0.1**
comp=Z,310nm,2.6s
ZAK Zakamensk 39.25 47 *e*P **P 21 29 48.4 +0.7**
ZAK *e* 21 31 55.8
ZAK pmax pmax
comp=Z,2.0nm,1.4s
CHTO Chiang Mai 39.61 98 *e*P **P 21 29 51.1 +0.1**
CHTO pmax pmax
comp=Z,17nm,1.1s
CHTO Chiang Mai 39.61 98 *e*P **P 21 29 51.1 +0.1**
comp=Z,16nm,1.1s
CHTO Chiang Mai 39.61 98 P **P 21 29 50.8 -0.1**
SNR=10.0
CHTO Chiang Mai 39.61 98 P **P 21 29 51.0 +0.1**
comp=Z,17nm,1.3s
CHTO Chiang Mai 39.61 98 *e*P **P 21 29 51.1 +0.1**
comp=Z,16nm,1.1s
TUE Stuetta 39.72 307 *e*P P 21 29 48.6 -3.1
comp=Z,12nm,1.0s
TLY Talaya 39.75 45 *e*P **P 21 29 51.8 0.0**
TLY pmax pmax
comp=Z,4.0nm,0.9s
TLY MLR MLR
comp=Z,142nm,14.0s
CMAR Chiang Mai Arr 39.77 98 P **P 21 29 51.5 -0.7**
CMAR PcP **PcP 21 31 57.7 -0.8**
CMAR Chiang Mai Arr 39.77 98 P **P 21 29 51.5 -0.7**
comp=Z,2.3nm,0.9s,baz=295,slow=8.3,SNR=22
CMAR PcP **PcP 21 31 57.7 -0.8**
comp=Z,1.8nm,0.7s,baz=286,slow=4.8,SNR=7.7
CMAR LR LR 21 49 08.5
comp=Z,88nm,19.1s,baz=290,slow=40
CMAR Chiang Mai Arr 39.77 98 P **P 21 29 51.5 -0.7**
CMAR Chiang Mai Arr 39.77 98 PcP **PcP 21 31 57.7 -0.8**
KEST Kesra 39.87 290 *e*P **P 21 29 53.7 +0.7**
KEST Kesra 39.87 290 P **P 21 29 53.7 +0.7**
comp=Z,3.1nm,0.9s,baz=296,slow=9.9,SNR=5.2
KEST Kesra 39.87 290 *e*P **P 21 29 53.7 +0.7**
CLZ Clausthal 39.92 315 *e*P **P 21 29 53.3 +0.1**
comp=Z,40nm,1.3s
CLZ Clausthal 39.92 315 *e*P **P 21 29 53.3 +0.1**
CLZ pmax pmax
comp=Z,40nm,1.3s
BSEG Bad Segeberg 40.47 318 *e*P **P 21 29 57.6 +0.1**
comp=Z,34nm,1.1s
BSEG *e*pP **pP 21 30 00.9 -1.6**
BSEG Bad Segeberg 40.47 318 *e*P **P 21 29 57.6 +0.1**
BSEG pmax pmax
comp=Z,34nm,1.1s
KMI Kunming 40.47 87 P **P 21 29 57.3 -1.0**
KMI pmax pmax
comp=Z,13nm,1.0s
TNS Taunus Mts 40.80 312 *e*P **P 21 30 00.4 -0.1**
comp=Z,40nm,1.3s
TNS *e*pP **pP 21 30 03.6 -1.9**
TNS Taunus Mts 40.80 312 *e*P **P 21 30 00.4 -0.1**
TNS pmax pmax
comp=Z,40nm,1.3s
SONM Songino Array 40.88 51 P **P 21 30 01.6 +0.3**
SONM PcP **PcP 21 32 00.9 -0.8**
SONM Songino Array 40.88 51 P **P 21 30 01.6 +0.3**
comp=Z,5.8nm,1.3s,baz=261,slow=9.6,SNR=12
SONM PcP **PcP 21 32 00.9 -0.8**
comp=Z,1.0nm,0.8s,baz=247,slow=3.4,SNR=4.3
SONM Songino Array 40.88 51 P **P 21 30 01.6 +0.3**
SONM Songino Array 40.88 51 PcP **PcP 21 32 00.9 -0.8**
ULN Ulaanbaatar 41.33 51 *e*P **P 21 30 05.9 +0.9**
comp=Z,22nm,2.0s
ULN Ulaanbaatar 41.33 51 P P 21 30 09.2 +4.2
comp=Z,4.8nm,1.6s
ULN Ulaanbaatar 41.33 51 *e*P **P 21 30 05.9 +0.9**
comp=Z,22nm,2.0s
LPG La Plagne 41.45 305 *e*P **P 21 30 08.7 +2.5**
comp=Z,25nm,1.2s
LPG La Plagne 41.45 305 *e*P **P 21 30 08.7 +2.5**
LPG pmax pmax
comp=Z,25nm,1.2s
LPG La Plagne 41.45 305 *e*P **P 21 30 08.7 +2.5**
comp=Z,25nm,1.2s
LPG La Plagne 41.45 305 *e*P **P 21 30 08.7 +2.5**
comp=Z,25nm,1.2s
LPL La Plagne 41.47 305 *e*P **P 21 30 08.9 +2.7**
comp=Z,40nm,1.3s
LPL La Plagne 41.47 305 *e*P **P 21 30 08.9 +2.7**
LPL pmax pmax
comp=Z,40nm,1.3s
LPL La Plagne 41.47 305 *e*P **P 21 30 08.9 +2.7**
comp=Z,40nm,1.3s
LPL La Plagne 41.47 305 *e*P **P 21 30 08.9 +2.7**
comp=Z,40nm,1.3s
BNI Bardonecchia 41.49 304 *e*P **P 21 30 06.2 -0.1**
BNI pmax pmax
comp=Z,12nm,1.0s
BNI Bardonecchia 41.49 304 *e*P **P 21 30 06.2 -0.1**
comp=Z,12nm,1.0s
BNI Bardonecchia 41.49 304 *e*P **P 21 30 06.2 -0.1**
comp=Z,12nm,1.0s
IBBN Ibbenburen 41.60 315 *e*P **P 21 30 07.2 +0.3**
comp=Z,31nm,1.1s
IBBN *e*pP **pP 21 30 10.5 -1.4**

BUG	**Bochum--Univer**	**41.74**	**314**	*eP*		**P**	**21 30 08.4**	**+0.3**
	comp=Z,35nm,1.1s								
BUG				*ep*	P	**pP**	**21 30 11.4**	**-1.7**
WLF	**Walferdange**	**42.19**	**311**	*eP*		**P**	**21 30 10.9**	**-0.9**
	comp=Z,21nm,1.1s								
NB2	**NORSAR Subarra**	**42.40**	**329**	P		**P**	**21 30 11.9**	**-1.5**
	comp=Z,4.6nm,1.0s,baz=113,slow=8.6								
NB2	**NORSAR Subarra**	**42.40**	**329**	P		**P**	**21 30 11.9**	**-1.5**
	comp=Z,4.6nm,1.0s,SNR=4.4								
NOA	**NORSAR Array B**	**42.40**	**329**	P		**P**	**21 30 11.9**	**-1.5**
NOA	**NORSAR Array B**	**42.40**	**329**	P		**P**	**21 30 11.9**	**-1.5**
	comp=Z,2.4nm,0.9s,baz=115,slow=8.2,SNR=4.6								
NOA					LR	LR	21 50 18.9		
	comp=Z,51nm,18.2s,baz=0.0,slow=40								
NOA	**NORSAR Array B**	**42.40**	**329**	P		**P**	**21 30 11.9**	**-1.5**
ARCES	**ARCESS Array B**	**42.54**	**344**	P		**P**	**21 30 14.9**	**+0.5**
ARCES	**ARCESS Array B**	**42.54**	**344**	P		**P**	**21 30 14.9**	**+0.5**
	comp=Z,5.2nm,1.0s,baz=110,slow=5.2,SNR=4.0								
ARCES					LR	LR	21 50 18.2		
	comp=Z,112nm,18.6s,baz=336,slow=40								
ARCES	**ARCESS Array B**	**42.54**	**344**	P		**P**	**21 30 14.9**	**+0.5**
SFTF	**Sexfontaines**	**42.78**	**309**	⇑*iP*		**P**	**21 30 18.0**	**+1.3**
	comp=Z,48nm,1.1s								
SFTF	**Sexfontaines**	**42.78**	**309**	⇑*iP*		**P**	**21 30 18.0**	**+1.3**
	comp=Z,48nm,1.1s								
SFTF	**Sexfontaines**	**42.78**	**309**	⇑*iP*		**P**	**21 30 18.0**	**+1.3**
	comp=Z,48nm,1.1s								
GIVF	**Givet**	**43.09**	**312**	⇑*iP*		**P**	**21 30 22.0**	**+2.8**
	comp=Z,83nm,1.3s								
GIVF	**Givet**	**43.09**	**312**	⇑*iP*		**P**	**21 30 22.0**	**+2.8**
GIVF					pmax	pmax			
	comp=Z,83nm,1.3s								
GIVF	**Givet**	**43.09**	**312**	⇑*iP*		**P**	**21 30 22.0**	**+2.8**
	comp=Z,83nm,1.3s								
GYA	**Guiyang**	**43.40**	**83**	P		**P**	**21 30 22.9**	**+0.8**
GYA				pP		pP	21 30 41.6	+14	
GYA				sP		sP	21 30 52.5	+23	
GYA				PP		**PP**	**21 32 06.8**	**+3.8**	
GYA				ScP		ScP	21 35 53.0	-8.3	
GYA				S		S	21 36 43.3	-6.5	
GYA				sS		sS	21 37 16.8	+19	
GYA				SS		SS	21 39 51.0	-13	
GYA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
GYA					pmax	pmax			
	comp=Z,90nm,5.2s								
GYA					LR	LR			
	comp=N,420nm,18.8s								
GYA					LR	LR			
	comp=E,370nm,19.5s								
GYA					LR	LR			
	comp=Z,440nm,17.4s								
XAN	**Xi'an**	**43.41**	**72**	P		**P**	**21 30 21.8**	**-0.2**
XAN					pmax	pmax			
	comp=Z,4.0nm,1.1s								
BAIF	**Baives**	**43.48**	**312**	⇑*iP*		**P**	**21 30 25.3**	**+3.0**
	comp=Z,96nm,1.4s								
BAIF	**Baives**	**43.48**	**312**	⇑*iP*		**P**	**21 30 25.3**	**+3.0**
BAIF					pmax	pmax			
	comp=Z,96nm,1.4s								
BAIF	**Baives**	**43.48**	**312**	⇑*iP*		**P**	**21 30 25.3**	**+3.0**
	comp=Z,96nm,1.4s								
HHC	**Hu-ho-hao-te**	**44.55**	**62**	*eP*		**P**	**21 30 32.3**	**+1.1**
HHC				pP		pP	21 30 50.8	+15	
HHC				sP		sP	21 30 59.3	+21	
HHC				PP		**PP**	**21 32 16.6**	**+1.5**	
HHC				S		S	21 37 00.8	-5.5	
HHC				sS		sS	21 37 31.8	+17	
HHC				SS		SS	21 40 12.6	-13	
HHC					pmax	pmax			
	comp=Z,11nm,1.0s								
HHC					pmax	pmax			
	comp=Z,130nm,3.7s								
HHC					LR	LR			
	comp=N,180nm,12.2s								
HHC					LR	LR			
	comp=E,260nm,13.1s								
HHC					LR	LR			
	comp=Z,260nm,17.8s								
TCF	**Toulx Ste Croi**	**44.64**	**306**	⇑*iP*		**P**	**21 30 33.0**	**+1.3**
TCF	**Toulx Ste Croi**	**44.64**	**306**	⇑*iP*		**P**	**21 30 33.0**	**+1.3**
TCF	**Toulx Ste Croi**	**44.64**	**306**	⇑*iP*		**P**	**21 30 33.0**	**+1.3**
TCF	**Toulx Ste Croi**	**44.64**	**306**	⇑*iP*		**P**	**21 30 33.0**	**+1.3**
TAM	**Tamanrasset**	**46.39**	**273**	*eP*		**P**	**21 30 47.0**	**+1.0**
TAM					pmax	pmax			
	comp=Z,2.0nm,0.9s								
TAM	**Tamanrasset**	**46.39**	**273**	*eP*		**P**	**21 30 47.0**	**+1.0**
	comp=Z,2.0nm,0.9s								
TAM	**Tamanrasset**	**46.39**	**273**	*eP*		**P**	**21 30 47.0**	**+1.0**
	comp=Z,2.0nm,0.9s								
BOD	**Bodaibo**	**46.85**	**38**	*eP*		**P**	**21 30 48.7**	**-0.2**
BOD					pmax	pmax			
	comp=Z,9.0nm,1.2s								
KULM	**Kulim**	**48.17**	**113**	*eP*		**P**	**21 30 59.6**	**-0.1**
	comp=Z,30nm,1.3s								
KULM	**Kulim**	**48.17**	**113**	P		**P**	**21 31 00.3**	**+0.6**
	comp=Z,18nm,1.2s,comp=Z,549nm								
KULM	**Kulim**	**48.17**	**113**	*eP*		**P**	**21 30 59.7**	**-0.1**
	comp=Z,30nm,1.3s								
PSI	**Prapat**	**48.38**	**117**	P		**P**	**21 31 00.0**	**-1.5**
PSI	**Prapat**	**48.38**	**117**	P		**P**	**21 31 00.8**	**-0.7**
	comp=Z,13nm,1.1s								
PSI	**Prapat**	**48.38**	**117**	P		**P**	**21 31 00.0**	**-1.5**
	comp=Z,6.4nm,0.7s,baz=291,slow=7.4,SNR=9.0								
ESK	**Eskdalemuir**	**48.44**	**318**	*eP*		**P**	**21 31 00.4**	**-0.9**
ESK					pmax	pmax			
	comp=Z,197nm,2.7s								
ESK	**Eskdalemuir**	**48.44**	**318**	*eP*		**P**	**21 31 00.4**	**-0.9**
	comp=Z,197nm,2.7s								
ESK	**Eskdalemuir**	**48.44**	**318**	*eP*		**P**	**21 31 00.4**	**-0.9**
	comp=Z,197nm,2.7s								
IPM	**Ipoh**	**48.96**	**114**	*eP*		**P**	**21 31 05.0**	**-0.8**
	comp=Z,40nm,0.9s								
IPM	**Ipoh**	**48.96**	**114**	*eP*		**P**	**21 31 05.0**	**-0.8**
	comp=Z,40nm,0.9s								
ESDC	**Sonseca Array**	**49.73**	**298**	P		**P**	**21 31 09.8**	**-1.8**
ESDC	**Sonseca Array**	**49.73**	**298**	P		**P**	**21 31 09.8**	**-1.8**
	comp=Z,1.7nm,0.8s,baz=53,slow=5.9,SNR=11								
ESDC	**Sonseca Array**	**49.73**	**298**	P		**P**	**21 31 09.8**	**-1.8**
NJ2	**Nanjing**	**51.98**	**72**	*eP*		**P**	**21 31 28.0**	**-0.5**
NJ2					pmax	pmax			
	comp=Z,20nm,1.2s								
MYKOM	**Kota Tinggi**	**52.83**	**114**	P		**P**	**21 31 34.6**	**-0.3**
TOA0	**Torodi Ar. Sit**	**53.80**	**264**	*eP*		**P**	**21 31 40.8**	**-1.3**
TOA0	**Torodi Ar. Sit**	**53.80**	**264**	*eP*		**P**	**21 31 40.8**	**-1.3**
TORD	**Torodi Ar. Bea**	**53.80**	**264**	P		**P**	**21 31 40.7**	**-1.5**
TORD	**Torodi Ar. Bea**	**53.80**	**264**	P		**P**	**21 31 40.7**	**-1.5**
	comp=Z,13nm,1.0s,baz=58,slow=7.2,SNR=44								
TORD	**Torodi Ar. Bea**	**53.80**	**264**	P		**P**	**21 31 40.7**	**-1.5**
CN2	**Changchun**	**54.34**	**56**	*eP*		**P**	**21 31 47.1**	**+1.4**
MDJ	**Mudanjiang**	**57.09**	**54**	P		**P**	**21 32 04.4**	**-1.0**
MDJ					pmax	pmax			
	comp=Z,13nm,2.4s								
MDJ					pmax	pmax			
	comp=Z,320nm,4.5s								
KSAR	**Wonju Array Be**	**57.63**	**63**	P		**P**	**21 32 09.3**	**0.0**
KSAR	**Wonju Array Be**	**57.63**	**63**	P		**P**	**21 32 09.4**	**0.0**
KSRS	**Korea Array**	**57.66**	**63**	P		**P**	**21 32 09.3**	**-0.2**
	comp=Z,5.8nm,0.9s,baz=282,slow=7.9,SNR=9.4								
KSM	**Kuching**	**58.17**	**110**	*eP*		**P**	**21 32 12.6**	**-0.8**
	comp=Z,17nm,1.1s								
KSM	**Kuching**	**58.17**	**110**	*eP*		**P**	**21 32 12.6**	**-0.8**
	comp=Z,17nm,1.1s								
SUMG	**Summit**	**62.39**	**340**	*eP*		**P**	**21 32 45.0**	**+3.1**
SUMG					pmax	pmax			
	comp=Z,113nm,2.6s								
SUMG	**Summit**	**62.39**	**340**	*eP*		**P**	**21 32 45.0**	**+3.1**
	comp=Z,113nm,2.6s								
SUMG	**Summit**	**62.39**	**340**	*eP*		**P**	**21 32 45.0**	**+3.1**
	comp=Z,113nm,2.6s								
DBIC	**Dimbokro**	**62.62**	**261**	*eP*		**P**	**21 32 42.6**	**-1.2**
	comp=Z,14nm,1.1s								
DBIC	**Dimbokro**	**62.62**	**261**	P		**P**	**21 32 44.2**	**+0.4**
	comp=Z,9.9nm,1.1s,baz=9.6,slow=8.4,SNR=5.3								
DBIC					LR	LR	22 01 00.9		
	comp=Z,94nm,19.7s,baz=235,slow=37								
DBIC	**Dimbokro**	**62.62**	**261**	*eP*		**P**	**21 32 42.6**	**-1.2**
	comp=Z,14nm,1.1s								
LBTB	**Lobatse**	**63.34**	**212**	*eP*		**P**	**21 32 49.4**	**+1.0**
	comp=Z,15nm,1.1s								
LBTB	**Lobatse**	**63.34**	**212**	*eP*		**P**	**21 32 49.4**	**+1.0**
	comp=Z,15nm,1.1s								
SEY	**Seymchan**	**65.19**	**30**	*i* P		**P**	**21 32 59.9**	**-0.2**
BOSA	**Boshof**	**66.60**	**210**	P		**P**	**21 33 09.7**	**0.0**
BOSA	**Boshof**	**66.60**	**210**	P		**P**	**21 33 09.7**	**0.0**
	comp=Z,6.0nm,0.7s,baz=29,slow=7.7,SNR=15								
BOSA	**Boshof**	**66.60**	**210**	P		**P**	**21 33 09.6**	**0.0**
BILL	**Bilibino**	**68.36**	**22**	⇓*iP*		**P**	**21 33 20.5**	**+0.3**
BILL				*e*			21 35 48.8		
BILL					pmax	pmax			
	comp=Z,10.0nm,1.9s								
BILL					MLR	MLR			
	comp=Z,100nm,15.0s								
INK	**Inuvik**	**80.69**	**4**	P		**P**	**21 34 31.1**	**-0.6**
INK	**Inuvik**	**80.69**	**4**	P		**P**	**21 34 31.1**	**-0.6**
	comp=Z,5.2nm,0.9s,baz=12,slow=5.6,SNR=12								
INK	**Inuvik**	**80.69**	**4**	P		**P**	**21 34 31.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**81.91**	**117**	P		**P**	**21 34 38.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**81.91**	**117**	P		**P**	**21 34 38.9**	**-0.1**
	comp=Z,6.7nm,1.0s,baz=335,slow=3.4,SNR=5.9								
FITZ	**Fitzroy Crossi**	**81.91**	**117**	P		**P**	**21 34 38.9**	**-0.1**
SCHQ	**Schefferville**	**81.93**	**331**	P		**P**	**21 34 38.0**	**-0.6**
SCHQ	**Schefferville**	**81.93**	**331**	P		**P**	**21 34 38.0**	**-0.6**
	comp=Z,4.4nm,0.8s,baz=59,slow=4.1,SNR=9.2								
SCHQ	**Schefferville**	**81.93**	**331**	P		**P**	**21 34 38.0**	**-0.6**
COLA	**College**	**82.48**	**10**	*eP*		**P**	**21 34 40.4**	**-0.9**
COLA					pmax	pmax			
	comp=Z,5.0nm,0.9s								
COLA	**College**	**82.48**	**10**	*eP*		**P**	**21 34 40.4**	**-0.9**
	comp=Z,5.2nm,0.9s								
COLA	**College**	**82.48**	**10**	*eP*		**P**	**21 34 40.4**	**-0.9**
	comp=Z,5.2nm,0.9s								
ILAR	**Eielson Array**	**82.72**	**10**	P		**P**	**21 34 41.4**	**-1.2**
ILAR	**Eielson Array**	**82.72**	**10**	P		**P**	**21 34 41.4**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=326,slow=3.8,SNR=16								
ILAR	**Eielson Array**	**82.72**	**10**	P		**P**	**21 34 41.3**	**-1.2**
MCK	**McKinley**	**83.36**	**11**	*eP*		**P**	**21 34 45.3**	**-0.7**
MCK					pmax	pmax			
	comp=Z,21nm,1.3s								
MCK	**McKinley**	**83.36**	**11**	*eP*		**P**	**21 34 45.2**	**-0.7**
	comp=Z,21nm,1.3s								
MCK	**McKinley**	**83.36**	**11**	*eP*		**P**	**21 34 45.2**	**-0.7**
	comp=Z,21nm,1.3s								
NWAO	**Narrogin (SRO)**	**85.26**	**133**	P		**P**	**21 34 55.5**	**-0.4**
NWAO	**Narrogin (SRO)**	**85.26**	**133**	P		**P**	**21 34 55.5**	**-0.4**
	comp=Z,13nm,0.8s,baz=302,slow=8.2,SNR=6.4								
NWAO	**Narrogin (SRO)**	**85.26**	**133**	P		**P**	**21 34 55.5**	**-0.4**
YKA	**Yellowknife Ar**	**86.61**	**356**	P		**P**	**21 35 01.4**	**-0.8**
YKA	**Yellowknife Ar**	**86.61**	**356**	P		**P**	**21 35 01.4**	**-0.8**
	comp=Z,3.0nm,1.1s,baz=359,slow=5.3,SNR=26								
YKA	**Yellowknife Ar**	**86.61**	**356**	P		**P**	**21 35 01.4**	**-0.8**
WRA	**Warramunga Arr**	**89.72**	**113**	P		**P**	**21 35 17.0**	**-0.7**
WRA	**Warramunga Arr**	**89.72**	**113**	P		**P**	**21 35 17.0**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=318,slow=3.9,SNR=25								
WRA	**Warramunga Arr**	**89.72**	**113**	P		**P**	**21 35 17.0**	**-0.7**
ASAR	**Alice Springs**	**91.41**	**117**	P		**P**	**21 35 24.8**	**-0.8**
ASAR	**Alice Springs**	**91.41**	**117**	P		**P**	**21 35 24.8**	**-0.8**
	comp=Z,3.3nm,0.8s,baz=306,slow=4.8,SNR=22								
ASAR	**Alice Springs**	**91.41**	**117**	P		**P**	**21 35 24.8**	**-0.8**

IDC 15 21:26:05.9±2.6, 0.36S×132.60E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=135.6km s-min=26.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.54**	**175**	P		P	21 30 34.9	-0.4
	0.1nm,0.3s,baz=355,slow=11,SNR=4.7							
ASAR	**Alice Springs**	**23.20**	**177**	P		P	21 31 14.8	+0.1
	0.6nm,0.7s,baz=354,slow=8.5,SNR=5.9							
MKAR	**Makanchi Array**	**64.26**	**324**	P		P	21 36 43.1	+0.1
	0.1nm,0.5s,baz=125,slow=8.2,SNR=3.0							

IDC 15 22:02:52.2±1.9, 39.59N×73.40E, h0km, mb3.8/3, mb1 3.6/8, mb1mx3.3/30, mbtmp3.5/8, ML3.1/4, MS2.9/1, Ms1 2.9/1, ms1mx2.2/40, Error ellipse: s-maj=30.9km s-min=15.3km az=132.0

ISC 15 22:02:52.8±1.8, 39.6N±0.1×73.6E±0.1, h10km, n17, σ1s98/16, mb3.6/3, 2C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AML	**Almayashu**	**2.54**	**2**	P		**Pn**	**22 03 36.1**	**+1.6**
	SNR=34							
UCH	**Uchtor**	**2.73**	**15**	P		**Sb**	**22 04 16.9**	**+1.1**
	SNR=6.4							
KZA	**Kyzart**	**2.79**	**26**	P		**Pb**	**22 03 41.1**	**-2.0**
	SNR=12							
AAK	**Ala-Archa**	**3.12**	**13**	P		**Pn**	**22 03 44.8**	**+2.5**
	SNR=22							
AAK	**Ala-Archa**	**3.12**	**13**	Pn		**Pn**	**22 03 45.0**	**+2.7**
	3.5nm,0.3s,baz=160,slow=7.3,SNR=28							
AAK					Sn	**Sb**	**22 04 26.1**	**-0.6**
	2.0nm,0.3s,baz=50,slow=17,SNR=4.5							
AAK					Lg	Lg	22 04 31.2	
	5.6nm,0.3s,baz=76,slow=19,SNR=8.7							
KBK	**Karagaybulak**	**3.24**	**18**	P		**Pb**	**22 03 47.7**	**-2.8**
	SNR=17							
CHMS	**Chumysh**	**3.52**	**14**	P		**Pn**	**22 03 50.0**	**+2.3**
	SNR=6.7							
TKM2	**Tomak 2**	**3.66**	**24**	⇑Pn		**Pn**	**22 03 52.1**	**+2.3**
	2.9nm,0.4s							
TKM2				⇓Lg		Lg	22 04 45.8	
	15nm,0.6s							
KK31	**Karatay Array**	**4.21**	**328**	Pn		**Pn**	**22 03 59.6**	**+2.6**
	1.6nm,0.4s,baz=138,slow=14,SNR=20							
KK31				⇑Lg		Lg	22 05 07.1	
	8.1nm,0.5s,baz=133,slow=29							
MKAR	**Makanchi Array**	**9.61**	**39**	Pn		Pn	22 05 15.6	+4.5
	0.0nm,0.3s,baz=220,slow=13,SNR=2.2							
BVAR	**Borovoye Array**	**13.62**	**352**	Pn		**Pn**	**22 06 05.1**	**-0.8**
	0.1nm,0.3s,baz=159,slow=13,SNR=7.2							
AKTO	**Aktyubinsk**	**15.42**	**320**	Pn		**Pn**	**22 06 29.4**	**-0.9**
	0.1nm,0.3s,baz=126,slow=14,SNR=4.5							
ZALV	**Zalesovo Beam**	**16.27**	**24**	Pn		**Pn**	**22 06 42.4**	**+1.1**
	0.1nm,0.3s,baz=217,slow=11,SNR=4.4							
MLR	**Muntele Rosu**	**35.17**	**296**	LR		LR	22 25 49.6	
	comp=Z,18nm,20.7s,baz=84,slow=39							
FINES	**FINESS Array B**	**36.15**	**323**	P		**P**	**22 09 55.5**	**+0.6**
	0.5nm,0.6s,baz=108,slow=10,SNR=5.6							
ARCES	**ARCESS Array B**	**39.13**	**336**	P		**P**	**22 10 19.9**	**-0.1**
	5.1nm,1.0s,baz=108,slow=8.7,SNR=6.1							
TORD	**Torodi Ar. Bea**	**67.82**	**269**	P		**P**	**22 13 50.4**	**-1.0**
	0.5nm,1.0s,baz=45,slow=4.8,SNR=5.4							

MEX 15 22:25:08.2±0.6, 16.46N×100.69W, h18km±18km, MD4.4
ISCJB 15 22:25:09.5±1.1, 16.55N±0.06×100.52W±0.04, h29km±6km, mb4.3/23, MS3.6/4, Error ellipse: s-maj=9.8km s-min=5.6km az=7.4
NEIC 15 22:25:11.0, 16.64N×100.61W, h5km, mb4.5/17, MD4.4(MEX), After MEX.
IDC 15 22:25:13.0±2.9, 17.39N×100.26W, h0km, mb4.1/7, mb1 4.1/10, mb1mx3.9/24, mbtmp3.8/10, ML3.1/3, MS3.7/5, Ms1 3.6/5, ms1mx3.2/37, Error ellipse: s-maj=58.1km s-min=23.7km az=18.0

ISC 15 22:25:09.4±1.6, 16.61N±0.06×100.57W±0.04, h15km±9km, n171, σ1s18/182, mb4.4/24, MS3.6/4, 53C-56D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAIG	**El Cayaco**	**0.53**	**33**	*i* P		**Pg**	**22 25 19.5**	**-0.4**
CAIG				*eS*		**Sb**	**22 25 28.2**	**+0.5**
CAIG	**El Cayaco**	**0.53**	**33**	*i* P		**Pg**	**22 25 19.4**	**-0.4**
CAIG				*i* S		**Sb**	**22 25 28.4**	**+0.7**
ACX	**Acapulco**	**0.73**	**69**	*i* P		**Pb**	**22 25 23.7**	**-0.1**
ACX				*i* S		**Sg**	**22 25 34.2**	**+0.9**
ACX	**Acapulco**	**0.73**	**69**	*i* P		**Pb**	**22 25 23.5**	**-0.3**
ACX				*i* S		**Sb**	**22 25 33.3**	**-0.3**
ZIIG	**Zihuatanejo**	**1.31**	**319**	*i* P		**Pn**	**22 25 31.6**	**-1.6**
ZIIG				*eS*		**Sn**	**22 25 48.1**	**-2.4**
ZIIG	**Zihuatanejo**	**1.31**	**319**	*eP*		Pn	22 25 28.9	-4.3
ZIIG				*eS*		Sn	22 25 45.0	-5.4
PLIG	**Platanillo**	**2.05**	**30**	*i* P		**Pn**	**22 25 42.7**	**-0.7**
PLIG				*eS*		**Sn**	**22 26 08.2**	**-0.5**
PLIG	**Platanillo**	**2.05**	**30**	*eP*		**Pn**	**22 25 42.2**	**-1.2**
PLIG				*eS*		**Sn**	**22 26 08.2**	**-0.5**
PNIG	**Pinotepa**	**2.35**	**95**	*i* P		**Pn**	**22 25 47.2**	**-0.3**
PNIG				*eS*		**Sn**	**22 26 16.8**	**+0.7**
PNIG	**Pinotepa**	**2.35**	**95**	*i* P		**Pn**	**22 25 45.3**	**-2.2**
PNIG				*i* S		**Sn**	**22 26 13.4**	**-2.7**
YAIG	**Yautepec**	**2.66**	**32**	*i* P		**Pn**	**22 25 51.2**	**-0.7**
YAIG				*i* S		**Sn**	**22 26 24.4**	**+0.5**
YAIG	**Yautepec**	**2.66**	**32**	*eP*		**Pn**	**22 25 50.0**	**-1.9**
YAIG				*i* S		**Sn**	**22 26 24.0**	**0.0**
PPM	**Popocatepetl**	**3.07**	**37**	*i* P		**Pn**	**22 25 57.5**	**-0.3**
PPM				*eS*		**Sn**	**22 26 35.5**	**+1.0**
PPM	**Popocatepetl**	**3.07**	**37**	*i* P		**Pn**	**22 25 56.2**	**-1.6**
PPM				*i* S		**Sn**	**22 26 34.1**	**-0.4**
MMIG	**Aquila**	**3.13**	**303**	*i* P		**Pn**	**22 25 57.8**	**-0.5**
MMIG				*eS*		**Sn**	**22 26 34.9**	**-0.5**
MMIG	**Aquila**	**3.13**	**303**	*i* P		Pn	22 25 53.9	-4.4
MMIG				*i* S		Sn	22 26 29.6	-5.8
CMIG	**Matias Romero**	**5.46**	**84**	Pn		**Pn**	**22 26 31.6**	**+1.3**
CMIG						Sn	**Sn**	**22 27 30.9**	**-2.0**
CMIG						Lg	Lg	22 28 04.9	
CMIG	**Matias Romero**	**5.46**	**84**	Pn		**Pn**	**22 26 31.6**	**+1.3**
	0.5nm,0.3s,baz=252,slow=13,SNR=5.4							
CMIG						Sn	**Sn**	**22 27 30.9**	**-2.0**
	1.1nm,0.3s,baz=289,slow=19,SNR=5.6							
CMIG						Lg	Lg	22 28 04.9	
	2.5nm,0.3s,baz=200,slow=6.9,SNR=7.2							
TXAR	**Lajitas Array**	**12.98**	**348**	Pn		Pn	22 28 11.0	-2.5
TXAR	**Lajitas Array**	**12.98**	**348**	Pn		Pn	22 28 11.0	-2.5
	0.0nm,0.3s,baz=156,slow=14,SNR=3.4							
529A	**Stev Forest Ra**	**13.54**	**354**	⇓P		**Pn**	**22 28 22.6**	**+1.5**
	baz=14							
430A	**Baggett Ranch,**	**14.13**	**358**	⇑P		**Pn**	**22 28 30.9**	**+1.7**
	baz=14							
325A	**Bean Ranch, Si**	**15.24**	**346**	⇓P		**P**	**22 28 48.6**	**-0.6**
	baz=15,SNR=9.4							
324A	**Moseley Ranch,**	**15.43**	**344**	⇑P		**P**	**22 28 51.2**	**-0.1**
	baz=15,SNR=7.0							
GDL2	**Guadalupe Moun**	**15.90**	**348**	*e*Pn		**Pn**	**22 28 54.3**	**+1.5**
225A	**Deer Hill, Car**	**15.91**	**347**	⇓P		**P**	**22 28 56.1**	**-0.5**
	baz=16							
224A	**Cornudas Mount**	**16.05**	**345**	⇓P		**P**	**22 28 57.5**	**-0.6**
	baz=16,SNR=5.3							
125A	**Gardner Draw,**	**16.41**	**348**	⇑P		**P**	**22 29 01.0**	**-1.1**
	baz=16							
Y23A	**Lovelace Mesa,**	**17.95**	**345**	⇑P		**P**	**22 29 19.2**	**+0.1**
	baz=18,SNR=7.7							
Y22A	**Socorro**	**18.19**	**343**	⇑P		**P**	**22 29 22.9**	**+1.1**
	baz=18							
Y20A	**Horse Springs,**	**18.61**	**339**	⇓P		**Pn**	**22 29 27.7**	**+0.9**
	baz=19							
214A	**Organ Pipe Nat**	**18.90**	**326**	⇑P		**Pn**	**22 29 30.2**	**+0.1**
	baz=19							
ANMO	**Albuquerque**	**19.02**	**345**	*eP*		**P**	**22 29 31.2**	**+0.3**
ANMO	**Albuquerque**	**19.02**	**345**	P		**P**	**22 29 30.2**	**-0.7**
	0.1nm,0.3s,baz=144,slow=10,SNR=4.5							
ANMO						LR	LR	22 37 24.3	
	comp=Z,275nm,19.7s,baz=172,slow=40							
X16A	**Lo Mia Camp, P**	**20.24**	**333**	⇓P		**P**	**22 29 45.3**	**+0.9**
	baz=20							
U23A	**El Rito**	**20.27**	**347**	⇑P		**P**	**22 29 45.2**	**+0.5**
	baz=20							
U21A	**Nageezi**	**20.72**	**344**	⇓P		**P**	**22 29 49.6**	**+0.1**
	baz=21							
U19A	**Dine' College,**	**21.06**	**340**	⇓P		**P**	**22 29 56.8**	**+3.6**
	baz=21,SNR=12							
WUAZ	**Wupatki**	**21.16**	**335**	*eP*		**P**	**22 29 55.5**	**+1.3**
WUAZ	**Wupatki**	**21.16**	**335**	⇑P		**P**	**22 29 55.5**	**+1.3**
	baz=21,SNR=10							
Y12C	**Blythe**	**21.20**	**326**	⇓P		**P**	**22 29 55.3**	**+0.9**
	baz=21							
S25A	**Robets Cordova**	**21.25**	**352**	⇑P		**P**	**22 29 55.1**	**-0.1**
	baz=21,SNR=6.1							
S24A	**Houchin Ranch,**	**21.35**	**350**	⇓P		**P**	**22 29 56.9**	**+0.5**
	baz=21							
PLAL	**Pickwick Lake**	**21.44**	**29**	*eP*		P	22 30 02.9	+5.8
	12nm,1.1s							
T19A	**Beclabito**	**21.49**	**341**	⇑P		**P**	**22 29 59.3**	**+1.5**
	baz=22							
SDCO	**Great Sand Dun**	**21.50**	**349**	*eP*		**P**

2.7nm,0.9s,baz=146,slow=9.0,SNR=18

L15A	**Malad City**	27.27	341	⇓P	P	22 30 53.9	+0.5
	baz=27						
K17A	**Gardner Place,**	27.52	343	⇓P	P	22 30 56.1	+0.5
	baz=28,SNR=7.5						
J18A	**Kendall Valley**	27.71	345	⇑P	P	22 30 57.9	+0.4
	baz=28,SNR=8.5						
K16A	**Soda Springs**	27.78	342	⇓P	P	22 30 58.8	+0.8
	baz=28						
K15A	**Arbon**	27.93	341	⇓P	P	22 30 59.9	+0.7
	baz=28,SNR=7.0						
K14A	**Jones Ranch, D**	28.01	340	⇓P	P	22 31 01.0	+1.1
	baz=28,SNR=5.5						
J17A	**Brown Place, J**	28.03	344	⇑P	P	22 31 00.9	+0.7
	baz=28						
REDW	**Red Top Meadow**	28.07	344	*e*P	P	22 31 01.2	+0.6
	8.6nm,1.1s						
RRI2	**Red Ridge**	28.18	343	*e*P	P	22 31 02.4	+0.8
	8.1nm,1.1s						
J16A	**Bone**	28.20	343	⇓P	P	22 31 02.5	+0.8
	baz=28,SNR=8.1						
TPAW	**Teton Pass**	28.21	344	*e*P	P	22 31 04.5	+2.6
	84nm,2.8s						
LOHW	**Long Hollow**	28.24	344	*e*P	P	22 31 02.7	+0.7
	7.9nm,1.3s						
MOOW	**Moose Ponds**	28.40	344	*e*P	P	22 31 04.1	+0.6
	42nm,2.5s						
J15A	**Blackfoot**	28.55	342	⇓P	P	22 31 05.2	+0.4
	baz=29,SNR=5.9						
J14A	**Carey**	28.82	340	⇑P	P	22 31 07.8	+0.6
	baz=29						
HLID	**Hailey**	29.33	339	⇓P	P	22 31 12.9	+1.2
	baz=29						
I13A	**Wildhorse Cree**	29.55	340	⇑P	P	22 31 14.4	+0.7
	baz=30						
I12A	**Atlanta**	29.79	338	⇑P	P	22 31 17.0	+1.3
	baz=30						
G17A	**Pierce Place,**	29.87	346	⇑P	P	22 31 18.5	+2.0
	baz=30						
G16A	**Moss Hill, Enn**	30.06	344	⇑P	P	22 31 19.8	+1.6
	baz=30						
H13A	**Challis**	30.17	340	⇑P	P	22 31 20.5	+1.4
	baz=30						
G15A	**Dillon**	30.18	343	⇑P	P	22 31 20.6	+1.4
	baz=30,SNR=6.7						
F18A	**Big Timber**	30.20	347	⇓P	P	22 31 19.8	+0.6
	baz=30						
E21A	**Keefer Ranch,**	30.34	351	⇓P	P	22 31 20.8	+0.4
	baz=30						
H12A	**Diamond D Ranc**	30.35	340	⇓P	P	22 31 21.6	+0.9
	baz=30						
DLMT	**Dillon**	30.39	343	*e*P	P	22 31 22.3	+1.2
	11nm,1.0s						
BOZ	**Bozeman (W)**	30.40	345	*e*P	P	22 31 22.0	+0.9
	57nm,3.0s						
BOZ	**Bozeman (W)**	30.40	345	⇓P	P	22 31 21.6	+0.5
	baz=30						
F17A	**Fitzpatrick Pl**	30.41	346	⇓P	P	22 31 22.5	+1.3
	baz=30						
F16A	**Kennard Place,**	30.53	345	⇓P	P	22 31 23.5	+1.3
	baz=31						
G14A	**Jackson**	30.53	342	⇓P	P	22 31 23.2	+0.8
	baz=31						
E19A	**Rath Farm, Rou**	30.54	349	⇑P	P	22 31 23.1	+0.8
	baz=31						
G13A	**Cobalt**	30.64	341	⇑P	P	22 31 23.7	+0.5
	baz=31						
LRM	**Limekiln Ridge**	30.78	344	*e*P	P	22 31 25.7	+1.1
F15A	**Butte**	30.81	344	⇓P	P	22 31 25.5	+0.8
	baz=31,SNR=6.3						
D22A	**Cohagen**	30.81	353	⇓P	P	22 31 24.2	-0.4
	baz=31						
E18A	**Harlowton**	30.87	347	⇑P	P	22 31 25.5	+0.3
	baz=31						
E17A	**Martinsdale**	30.98	346	⇓P	P	22 31 26.5	+0.3
	baz=31						
G12A	**Big Creek, Yel**	31.02	340	⇓P	P	22 31 27.8	+1.2
	baz=31						
F14A	**Wisdom**	31.02	343	⇓P	P	22 31 27.2	+0.5
	baz=31						
D19A	**Cripps Ranch,**	31.24	349	⇓P	P	22 31 28.9	+0.5
	baz=31						
E16A	**East Helena**	31.24	345	⇑P	P	22 31 29.2	+0.7
	baz=31,SNR=8.5						
F13A	**Darby**	31.29	341	⇓P	P	22 31 29.8	+0.8
	baz=31,SNR=8.6						
E15A	**Deer Lodge**	31.39	344	⇓P	P	22 31 30.1	+0.3
	baz=31,SNR=6.4						
F12A	**Elk City**	31.55	340	⇓P	P	22 31 32.1	+0.8
	baz=32,SNR=8.3						
D17A	**Six Diamond Ra**	31.59	347	⇓P	P	22 31 32.0	+0.4
	baz=32,SNR=7.8						
E14A	**Clinton**	31.61	343	⇓P	P	22 31 32.5	+0.7
	baz=32						
E13A	**Victor**	31.84	342	⇓P	P	22 31 34.4	+0.6
	baz=32,SNR=6.7						
D15A	**Lincoln**	31.92	344	⇓P	P	22 31 34.9	+0.3
	baz=32						
C17A	**Wharram Farm,**	32.06	347	⇑P	P	22 31 36.2	+0.5
	baz=32,SNR=8.2						
MSO	**Missoula**	32.12	343	*e*P	P	22 31 36.8	+0.7
	4.7nm,1.1s						
MSO	**Missoula**	32.12	343	⇓P	P	22 31 36.7	+0.5
	baz=32						
D14A	**Greenough**	32.22	343	⇑P	P	22 31 37.5	+0.3
	baz=32						
E12A	**Beaver Dam Sad**	32.24	340	⇑P	P	22 31 37.6	+0.2
	baz=32						
C16A	**Fuhringer Ranc**	32.44	346	⇑P	P	22 31 39.4	+0.4
	baz=32,SNR=5.1						
D13A	**Huson**	32.51	342	⇑P	P	22 31 39.9	+0.4
	baz=32,SNR=8.4						
A20A	**Cobblestone Ra**	32.74	351	⇑P	P	22 31 41.8	+0.2
	baz=33						
SWMT	**Swartz Lake**	32.75	343	*e*P	P	22 31 42.1	+0.3
A19A	**Klindworth Far**	32.92	350	⇑P	P	22 31 43.9	+0.7
	baz=33						
B15A	**Bradely Ranch,**	33.12	345	⇑P	P	22 31 44.7	-0.2
	baz=33						
B14A	**Marquette Ranc**	33.34	345	⇑P	P	22 31 47.4	+0.5
	baz=33						
SADO	**Sadowa**	33.37	28	P	P	22 31 45.0	-2.1
SADO	**Sadowa**	33.37	28	P	P	22 31 45.0	-2.1
	1.8nm,0.5s,baz=230,slow=9.6,SNR=5.5						
SADO				LR	LR	22 48 13.5	
	comp=Z,109nm,18.4s,baz=252,slow=42						
B13A	**Whitefish**	33.67	343	⇑P	P	22 31 50.3	+0.6
	baz=34						
ULM	**Lac du Bonnet**	33.77	5	LR	LR	22 48 07.8	
	comp=Z,100nm,21.3s,baz=333,slow=42						
A14A	**Double T Ranch**	33.94	345	⇓P	P	22 31 52.4	+0.2
	baz=34						
A13A	**Flathead Natio**	34.16	344	⇓P	P	22 31 54.7	+0.7
	baz=34						
FFC	**Flin Flon**	38.06	359	*e*P	P	22 32 25.4	-1.7
	44nm,2.6s						
SCHQ	**Schefferville**	46.13	26	P	P	22 33 32.6	-0.5
SCHQ	**Schefferville**	46.13	26	P	P	22 33 32.6	-0.5
	2.3nm,0.7s,baz=192,slow=6.4,SNR=5.9						
YKA	**Yellowknife Ar**	46.89	351	P	P	22 33 38.3	-0.5
YKA				PcP	PcP	22 35 16.1	+4.7
YKA	**Yellowknife Ar**	46.89	351	P	P	22 33 38.3	-0.5
	3.0nm,0.9s,baz=161,slow=7.4,SNR=41						
YKA				PcP	PcP	22 35 16.0	+4.7
	0.3nm,0.8s,baz=159,slow=4.4,SNR=4.2						
ILAR	**Eielson Array**	57.29	338	P	P	22 34 56.5	+0.3
ILAR	**Eielson Array**	57.29	338	P	P	22 34 56.5	+0.3
	1.4nm,0.9s,baz=146,slow=5.0,SNR=12						
ARCES	**ARCESS Array B**	86.14	17	LR	LR	23 15 10.6	
	comp=Z,53nm,19.7s,baz=1.0,slow=35						

IDC 15 22:29:31.5±1.9, 4.00N×126.80E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/19, mbtmp3.8/3, Error ellipse: s-maj=163.9km s-min=26.1km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	24.92	163	P	P	22 34 56.1	-0.5
	3.0nm,0.7s,baz=343,slow=10,SNR=15						
STKA	**Stephens Creek**	38.36	160	P	P	22 36 54.9	+0.4
	2.0nm,0.6s,baz=336,slow=8.3,SNR=4.0						
MKAR	**Makanchi Array**	57.37	325	P	P	22 39 21.7	-0.1
	0.1nm,0.4s,baz=117,slow=7.9,SNR=7.0						

*NIED **15** 22:39:00, 38.20N×141.70E, h68km, Mw4.4 Best double couple: M₀4.51000×10¹⁵ NP1:φ₀175.00000°, δ84.00000°, λ-124.00000°. NP2:φ₀76.00000°, δ34.00000°, λ-11.00000°.*

*ISCJB **15** 22:39:03.0±0.9, 38.17N±0.04×141.73E±0.09, h55km±6km, mb3.6/6, Error ellipse: s-maj=12.9km s-min=5.5km az=19.3*

*JMA **15** 22:39:03.9±0.1, 38.18N×141.69E, h50km±1km, M4.0*

JMA Felt II J1.

*IDC **15** 22:39:06.2±1.7, 38.12N×141.68E, h71km±8km, mb3.4/6, mb1 3.5/9, mb1mx3.3/25, mbtmp3.5/9, Error ellipse: s-maj=44.2km s-min=17.5km az=74.0*

ISC 15 22:39:05.0±1.0, 38.19N±0.05×141.69E±0.08, h57km±7km, n21, σ1°48/33, mb3.8/6, 11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	0.37	315	⇓P	Pn	22 39 14.0	-1.5
JIO				*i* S	Sn	22 39 20.8	-2.2
JMM	**Marumori**	0.78	245	⇓P	Pn	22 39 18.3	-1.8
JMM				S	Sn	22 39 28.8	-2.3
JOU	**Okura**	0.82	282	⇓P	Pn	22 39 19.6	-1.1
JOU				S	Sn	22 39 31.0	-1.1
JMK	**Ichinoseki**	0.84	334	⇓P	Pn	22 39 19.9	-1.0
JMK				S	Sn	22 39 31.1	-1.4
OFUJ	**Ofunato**	0.89	359	⇓P	Pn	22 39 20.1	-1.4
OFUJ				S	Sn	22 39 31.5	-2.1
JFK	**Kawauchi**	1.05	218	P	Pn	22 39 21.9	-1.7
JFK				S	Sn	22 39 35.1	-2.3
JFT	**Otama**	1.26	238	⇓P	Pn	22 39 25.6	-0.9
JFT				S	Sn	22 39 41.6	-0.9
JYK	**Kaneyama**	1.27	305	⇓P	Pn	22 39 25.7	-0.8
JYS	**Shirataka**	1.28	272	⇓P	Pn	22 39 25.9	-0.7
JYS				*e*S	Sn	22 39 41.9	-0.9
JOM	**Ohasama**	1.31	347	⇓P	Pn	22 39 26.4	-0.8
JOM				*e*S	Sn	22 39 42.8	-0.9
JRG	**Rokugo**	1.46	326	⇓P	Pn	22 39 28.8	-0.2
JYA	**Atsumi**	1.60	285	⇓P	Pn	22 39 30.4	-0.6
MJAR	**Matsushiro Arr**	3.22	240	P	Pn	22 39 53.4	+0.2
	1.5nm,0.3s,baz=39,slow=12,SNR=9.1						
JHJ	**Hachijo jima 2**	5.29	198	P	Pn	22 40 21.4	-0.2
	8.8nm,0.3s,baz=246,slow=20,SNR=5.4						
USRK	**Ussuriysk Arra**	9.45	312	P	Pn	22 41 18.8	+0.5
	0.3nm,0.3s,baz=124,slow=14,SNR=6.7						
SONM	**Songino Array**	27.34	302	P	P	22 44 45.8	+1.3
	0.3nm,0.5s,baz=105,slow=8.9,SNR=4.9						
ZALV	**Zalesovo Beam**	41.30	311	P	P	22 46 44.5	-0.2
	0.9nm,0.4s,baz=87,slow=7.2,SNR=6.6						
ZALV				pP	pP	22 47 01.9	+2.6
	0.9nm,0.6s,baz=91,slow=8.2,SNR=4.4						
MKAR	**Makanchi Array**	43.70	301	P	P	22 47 04.0	-0.3
	0.5nm,0.6s,baz=86,slow=9.3,SNR=10						
MKAR				pP	pP	22 47 22.0	+3.0
	1.0nm,0.7s,baz=85,slow=9.6,SNR=11						
WRA	**Warramunga Arr**	58.24	188	P	P	22 48 52.7	-0.9
	0.3nm,0.4s,baz=6.3,slow=7.3,SNR=6.6						
WRA				pP	pP	22 49 11.1	+2.2
	0.2nm,0.4s,baz=6.0,slow=7.5,SNR=2.2						
FINES	**FINESS Array B**	67.89	332	P	P	22 49 57.2	+0.2
	0.7nm,0.6s,baz=235,slow=6.7,SNR=3.5						
AKASG	**Malin Array Be**	73.51	322	P	P	22 50 30.8	-0.7
	0.4nm,0.4s,baz=48,slow=7.3,SNR=4.6						

IDC 15 23:00:45.0±1.6, 3.89N×126.68E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/20, mbtmp3.6/4, Error ellipse: s-maj=165.5km s-min=21.5km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	24.86	163	P	P	23 06 09.3	-0.2
	0.6nm,0.5s,baz=342,slow=10,SNR=8.1						
STKA	**Stephens Creek**	38.30	159	P	P	23 08 07.5	0.0
	2.2nm,1.0s,baz=349,slow=5.2,SNR=2.3						
MKAR	**Makanchi Array**	57.39	325	P	P	23 10 35.3	0.0
	0.2nm,0.4s,baz=113,slow=7.8,SNR=8.9						
KURBB	**Kurchatov Arra**	61.57	327	P	P	23 11 04.0	-0.1
	0.3nm,0.4s,baz=127,slow=6.6,SNR=5.7						

IDC 15 23:04:46.3±1.6, 0.62S×133.17E, h0km, mb3.7/5, mb1 3.8/7, mb1mx3.6/20, mbtmp3.7/7, ML3.5/2, Error ellipse: s-maj=85.9km s-min=18.4km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	18.88	203	P	P	23 09 08.2	-0.3
	0.2nm,0.3s,baz=29,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	19.23	177	P	Pn	23 09 13.1	-0.1
	0.1nm,0.3s,baz=355,slow=11,SNR=6.4						
ASAR	**Alice Springs**	22.92	178	P	P	23 09 52.8	+0.6
	1.2nm,0.3s,baz=358,slow=11,SNR=17						
STKA	**Stephens Creek**	32.09	166	P	P	23 11 14.2	-1.1
	2.2nm,0.9s,baz=318,slow=8.6,SNR=4.1						
MKAR	**Makanchi Array**	64.81	324	P	P	23 15 27.5	+0.4
	0.3nm,0.4s,baz=113,slow=7.8,SNR=10						
KURBB	**Kurchatov Arra**	68.88	326	P	P	23 15 52.5	-0.4
	0.2nm,0.3s,baz=121,slow=6.0,SNR=5.4						
BVAR	**Borovoye Array**	74.48	326	P	P	23 16 26.6	0.0
	0.3nm,0.6s,baz=126,slow=7.3,SNR=3.6						

*BJI **15** 23:27:21.4, 20.33S×66.07E, h18km, mB5.3/7, mb4.6/17*

*ISCJB **15** 23:27:22.2±0.4, 20.17S±0.08×66.41E±0.08, h10km, mb4.7/42, MS4.0/12, Error ellipse: s-maj=11.9km s-min=9.6km az=33.8*

*IDC **15** 23:27:22.3±0.5, 20.21S×66.36E, h0km, mb4.5/23, mb1 4.6/23, mb1mx4.5/30, mbtmp4.5/23, MS3.9/13, Ms1 3.9/13, ms1mx3.6/37, Error ellipse: s-maj=16.9km s-min=14.1km az=30.0*

*NEIC **15** 23:27:23.9±0.2, 20.19S×66.36E, h10km, mb4.8/20, Error ellipse: s-maj=7.7km s-min=6.8km az=214.0*

ISC 15 23:27:24.0±0.5, 20.35±0.1×66.36E±0.1, h10km, n98, σ0.83/100, mb4.7/42, MS4.0/12, 2C-3D, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	18.12	272	LR	LR	23 36 56.9	
	comp=Z,144nm,21.6s,baz=270,slow=32						
LBTB	**Lobatse**	37.78	255	*e*P	P	23 34 40.8	+0.1
	11nm,0.9s						
LBTB	**Lobatse**	37.78	255	P	P	23 34 40.9	+0.1
	6.5nm,0.9s,baz=69,slow=8.1,SNR=7.4						
BOSA	**Boshof**	38.15	249	*e*P	P	23 34 45.0	+1.2
	17nm,1.3s						
BOSA	**Boshof**	38.15	249	P	P	23 34 44.0	+0.2
	3.4nm,0.7s,baz=124,slow=15,SNR=7.8						
BOSA				LR	LR	23 48 49.7	
	comp=Z,140nm,18.9s,baz=102,slow=34						
MAW	**Mawson**	47.40	182	LR	LR	23 50 02.4	
	comp=Z,356nm,21.3s,baz=183,slow=29						
CM31	**Chiang Mai Arr**	50.04	42	*e*P	P	23 36 18.8	-0.3
CMAR	**Chiang Mai Arr**	50.04	42	P	P	23 36 19.4	+0.4
CMAR	**Chiang Mai Arr**	50.04	42	P	P	23 36 19.4	+0.4
	2.5nm,0.8s,baz=236,slow=8.0,SNR=22						
CMAR				LR	LR	23 53 12.0	
	comp=Z,142nm,21.4s,baz=217,slow=31						
CHTO	**Chiang Mai**	50.30	42	*e*P	P	23 36 20.9	-0.2
	1.0nm,0.7s						
CHTO				PcP	PcP	23 37 39.9	0.0
QRN	**Al-Qurain**	51.84	339	*e*P	P	23 36 31.6	-0.9
QRN				AMb	AMB	23 36 40.7	
	comp=Z,70nm,1.1s						
NAY	**Al-Naaiem**	52.53	339	*e*P	P	23 36 36.4	-1.2
NAY				AMb	AMB	23 36 38.8	
	comp=Z,22nm,1.0s						
UMR	**Umm Al-Rimmam**	52.66	340	*e*P	P	23 36 37.7	-0.8
UMR				AMb	AMB	23 36 44.5	
	comp=Z,51nm,1.4s						
KBL	**Kabul**	54.55	3	*e*P	P	23 36 52.2	-0.4
	comp=Z,5.8nm,0.9s						
KBL				*e*PcP	PcP	23 37 56.2	+0.4
LSA	**Lhasa**	55.12	26	*e*P	P	23 36 57.1	0.0
	comp=Z,31nm,1.8s						
FITZ	**Fitzroy Crossi**	55.82	99	*e*P	P	23 37 02.0	+0.1
	comp=Z,14nm,0.9s						
FITZ	**Fitzroy Crossi**	55.82	99	P	P	23 37 01.5	-0.3
	comp=Z,12nm,0.8s,baz=245,slow=6.4,SNR=15						
ASF	**Jabal al Asfar**	59.25	331	LR	LR	23 59 44.4	
	comp=Z,98nm,18.6s,baz=193,slow=33						
ASAR	**Alice Springs**	62.26	107	P	P	23 37 45.9	-0.7
ASAR	**Alice Springs**	62.26	107	P	P	23 37 45.9	-0.7
	comp=Z,12nm,0.8s,baz=261,slow=6.2,SNR=94						
AS31	**Alice Springs**	62.26	107	*e*P	P	23 37 45.9	-0.7
AML	**Almayashu**	62.44	6	P	P	23 37 47.7	0.0
	SNR=11						
EKS2	**Erkin-Say**	62.97	6	*e*P	P	23 37 51.0	+0.1
	comp=Z,7.3nm,0.8s						
EKS2	**Erkin-Say**	62.97	6	P	P	23 37 51.3	+0.3
	SNR=12						
AAK	**Ala-Archa**	63.02	7	*e*P	P	23 37 50.7	-0.6
	comp=Z,66nm,1.4s						
AAK	**Ala-Archa**	63.02	7	P	P	23 37 50.9	-0.4
	SNR=7.7						
KBK	**Karagaybulak**	63.09	7	P	P	23 37 51.6	-0.2
	SNR=5.7						
KKAR	**Karatay Array**	63.15	3	*e*P	P	23 37 51.3	-0.7
	comp=Z,1.7nm,0.6s						
GNI	**Garni**	63.36	342	*e*P	P	23 37 53.8	+0.1
	comp=Z,17nm,0.9s						
GNI	**Garni**	63.36	342	P	P	23 37 54.2	+0.5
	comp=Z,8.9nm,0.8s,baz=258,slow=3.1,SNR=12						
GNI				LR	LR	00 03 47.9	
	comp=Z,79nm,18.2s,baz=95,slow=34						
TKM2	**Tokmak 2**	63.43	8	*e*P	P	23 37 52.7	-1.4
	comp=Z,11nm,0.8s						
TKM2	**Tokmak 2**	63.43	8	P	P	23 37 53.6	-0.4
	SNR=19						
WRA	**Warramunga Arr**	63.44	103	P	P	23 37 54.0	-0.5
WRA	**Warramunga Arr**	63.44	103	P	P	23 37 54.0	-0.5
	comp=Z,19nm,0.9s,baz=259,slow=5.9,SNR=98						
WRAB	**Tennant Creek**	63.45	103	*e*P	P	23 37 54.0	-0.6
	comp=Z,48nm,1.3s						
USP	**Ospenovka**	63.65	7	P	P	23 37 55.1	-0.2
	SNR=13						
LZH	**Lanzhou**	66.34	33	*e*P	P	23 38 19.5	+6.4
LZH				pP	PcP	23 38 30.5	-12
LZH				sP	sP	23 38 35.4	+18
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
WMQ	**Urumqi**	66.70	17	P	P	23 38 15.3	+0.1
WMQ				pP	pP	23 38 25.4	+7.0
WMQ				pmax	pmax		
	comp=Z,8.0nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,150nm,4.0s						
BR131	**Keskin Array S**	67.01	333	*e*P	P	23 38 17.1	-0.2
	comp=Z,4.3nm,0.9s						
BRTR	**Keskin Array B**	67.01	333	P	P	23 38 17.4	+0.1
BRTR	**Keskin Array B**	67.01	333	P	P	23 38 17.4	+0.1
	comp=Z,1.7nm,0.8s,baz=154,slow=7.4,SNR=11						
BRTR				LR	LR	00 03 56.3	
	comp=Z,66nm,20.9s,baz=134,slow=33						
GTA	**Gaotai**	67.11	28	*e*P	P	23 38 18.4	+0.5
GTA				pP	pP	23 38 23.8	+2.6
GTA				sP	sP	23 38 26.9	+4.5
GTA				pmax	pmax		
	comp=Z,11nm,0.8s						
STKA	**Stephens Creek**	67.43	117	*e*P	P	23 38 19.3	-0.8
	comp=Z,1.6nm,1.1s						
STKA	**Stephens Creek**	67.43	117	P	P	23 38 19.7	-0.4
	comp=Z,8.6nm,1.1s,baz=281,slow=11,SNR=4.9						
STKA				LR	LR	00 02 11.0	
	comp=Z,106nm,20.2s,baz=207,slow=31						
MK31	**Makanchi Array**	68.27	12	*e*P	P	23 38 23.8	-1.1
MKAR	**Makanchi Array**	68.27	12	P	P	23 38 24.1	-0.8
MKAR	**Makanchi Array**	68.27	12	P	P	23 38 24.1	-0.8
	comp=Z,3.5nm,0.8s,baz=201,slow=6.4,SNR=41						
MKAR				LR	LR	00 07 23.6	
	comp=Z,88nm,18.8s,baz=223,slow=35						
ABKAR	**Akbulak array**	69.42	356	*e*P	P	23 38 31.2	-0.8
	comp=Z,5.8nm,0.7s						
QSPA	**South Pole Qui**	69.86	180	*e*P	P	23 38 34.9	0.0
	comp=Z,1.1nm,1.1s						
QSPA	**South Pole Qui**	69.86	180	P	P	23 38 35.4	+0.6
	comp=Z,3.9nm,0.9s,baz=308,slow=5.5,SNR=7.6						
AKTO	**Aktyubinsk**	70.75	354	P	P	23 38 40.0	-0.1
AKTO	**Aktyubinsk**	70.75	354	P	P	23 38 40.0	-0.1
	comp=Z,2.3nm,0.8s,baz=159,slow=4.6,SNR=8.1						
KURBB	**Kurchatov Arra**	71.38	8	P	P	23 38 43.7	-0.2
	comp=Z,4.4nm,0.8s,baz=205,slow=6.6,SNR=22						
KURK	**Kurchatov**	71.48	8	*e*P	P	23 38 43.5	-1.0
	comp=Z,9.7nm,1.1s						
BVAR	**Borovoye Array**	73.05	3	P	P	23 38 53.3	-0.6
BVAR	**Borovoye Array**	73.05	3	P	P	23 38 53.3	-0.6
	comp=Z,3.3nm,0.7s,baz=163,slow=7.3,SNR=33						
BRVK	**Borovoye**	73.08	3	*e*P	P	23 38 52.7	-1.3
	comp=Z,6.1nm,0.9s						
CTA	**Charters Tower**	74.24	106	P	P	23 39 02.4	+0.6
CTA	**Charters Tower**	74.24	106	P	P	23 39 02.4	+0.6
	comp=Z,7.3nm,0.9s,baz=262,slow=8.5,SNR=6.1						
DBIC	**Dimbokro**	74.85	283	P	P	23 39 05.2	-0.1
DBIC	**Dimbokro**	74.85	283	P	P	23 39 05.8	+0.4
	comp=Z,3.5nm,1.0s,baz=87,slow=9.2,SNR=4.7						
VRI	**Vrincioaia**	74.96	333	⇓*i*P	P	23 39 06.3	+1.0
PLOR	**Plostina**	74.98	332	⇑*i*P	P	23 39 06.3	+0.9
MLR	**Muntele Rosu**	75.01	332	⇓*i*P	P	23 39 06.8	+1.1
ZAA0	**Zalesovo Array**	75.59	11	*e*P	P	23 39 07.7	-1.0
ZALV	**Zalesovo Beam**	75.59	11	P	P	23 39 08.1	-0.6
ZALV	**Zalesovo Beam**	75.59	11	P	P	23 39 08.1	-0.6
	comp=Z,7.1nm,0.7s,baz=205,slow=5.1,SNR=53						
ZALV				LR	LR	00 11 18.6	
	comp=Z,54nm,18.3s,baz=248,slow=35						
ARU	**Arti**	76.66	356	*e*P	P	23 39 13.8	-0.9
	comp=Z,12nm,1.2s						
SONM	**Songino Array**	76.72	26	P	P	23 39 15.6	+0.2
SONM	**Songino Array**	76.72	26	P	P	23 39 15.6	+0.2
	comp=Z,3.7nm,0.8s,baz=218,slow=5.7,SNR=39						
SONM				LR	LR	00 12 01.0	
	comp=Z,90nm,18.1s,baz=264,slow=35						
ULN	**Ulaanbaatar**	77.02	27	*e*P	P	23 39 15.8	-1.3
	comp=Z,4.1nm,1.1s						
BZS	**Buzias**	77.09	330	⇓*i*P	P	23 39 17.9	+0.5
AKASG	**Malin Array Be**	77.83

s-maj=44.3km s-min=23.1km az=171.0

ISC 15 23:27:48.7±0.7, 37°59N±0'05×76°0E±0'1, h105km, n26, σ1°71/28, mb3.4/4, 2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.93**	**358**	P	**Pn**	**23 28 19.0**	**-1.7**
KSH				S	**Sn**	**23 28 40.9**	**-4.1**
KSH	comp=N,470nm,0.6s			smax	smax		
KSH	comp=E,480nm,0.4s			smax	smax		
CHCP	**Chirah Chowk**	**4.53**	**211**	⇓P	**Pn**	**23 28 58.3**	**+3.1**
DLH	**Dalhousie**	**5.04**	**181**	*e*PKP	Pn	23 29 06.0	+3.8
DLH				*e*S	**Sn**	**23 29 58.0**	**-1.3**
CEP	**Cherat**	**5.04**	**223**	⇓P	**Pn**	**23 29 04.0**	**+1.8**
CEP				S	Sn	23 29 54.0	-5.3
THN	**Thein Dam**	**5.15**	**183**	*e*PKP	**Pn**	**23 29 04.0**	**+0.5**
THN				*e*S	**Sn**	**23 30 00.3**	**-1.4**
AAK	**Ala-Archa**	**5.18**	**347**	P	**Pn**	**23 29 06.8**	**+2.9**
AAK	comp=E,0.4nm,0.3s,baz=162,slow=13,SNR=10			S	**Sn**	**23 30 02.8**	**+0.3**
THW	**Thamme Wali**	**5.94**	**218**	P	**Pn**	**23 29 15.1**	**+0.9**
SARP	**Sargodha**	**6.30**	**207**	P	**Pn**	**23 29 20.3**	**+1.2**
SONA	**Sohna**	**9.35**	**174**	*e*PKP	**Pn**	**23 30 00.6**	**0.0**
SONA				*e*S	Sn	23 31 37.3	-6.6
SONA	comp=N,11nm,0.2s			AML	AML	23 31 43.3	
SONA	comp=E,14nm,0.3s			AML	AML	23 31 44.5	
KUDL	**Kundal**	**9.43**	**178**	*e*PKP	**Pn**	**23 30 02.5**	**+0.9**
KUDL				*e*S	Sn	23 31 38.0	-7.7
KUDL	comp=E,11nm,0.2s			AML	AML	23 31 45.8	
KUDL	comp=N,11nm,0.2s			AML	AML	23 31 46.0	
KHET	**Khetri**	**9.49**	**181**	*e*PKP	**Pn**	**23 30 04.1**	**+1.6**
KHET				*e*S	Sn	23 31 41.3	-6.0
KHET	comp=N,11nm,0.3s			AML	AML	23 31 47.8	
KHET	comp=E,13nm,0.2s			AML	AML	23 31 49.1	
MKAR	**Makanchi Array**	**10.30**	**25**	P	**Pn**	**23 30 14.4**	**+1.1**
MKAR	comp=E,0.2nm,0.3s,baz=207,slow=14,SNR=14			S	**Sn**	**23 32 09.3**	**+2.6**
AGRA	**Agra**	**10.45**	**171**	*e*S	Sn	23 32 02.6	-8.0
AGRA	comp=N,40nm,0.3s			AML	AML	23 32 38.8	
AGRA	comp=E,40nm,0.4s			AML	AML	23 32 40.0	
DANN	**Dangsing**	**11.26**	**143**	*e*P	**Pn**	**23 30 25.1**	**-1.6**
	comp=E,6.8nm,0.4s						
KOLN	**Koldanda**	**11.67**	**145**	*e*P	Pn	23 30 28.5	-3.6
	comp=E,3.3nm,0.3s						
GKN	**Gorkha**	**11.98**	**140**	*e*P	**Pn**	**23 30 35.3**	**-0.9**
	comp=E,8.2nm,0.5s						
JIRN	**Jiri**	**13.07**	**136**	*e*P	**Pn**	**23 30 50.9**	**+0.1**
	comp=E,2.6nm,0.3s						
KURBB	**Kurchatov Arra**	**13.15**	**7**	P	**Pn**	**23 30 50.1**	**-1.2**
	comp=E,0.0nm,0.3s,baz=188,slow=12,SNR=4.3						
RAMN	**Ramite**	**13.86**	**137**	*e*P	**Pn**	**23 30 59.2**	**-1.6**
	comp=E,10nm,0.6s						
ODAN	**Odare**	**14.36**	**135**	*e*P	**Pn**	**23 31 05.9**	**-1.4**
	comp=E,3.5nm,0.4s						
BVAR	**Borovoye Array**	**15.93**	**347**	P	**Pn**	**23 31 27.5**	**+0.8**
	comp=E,0.1nm,0.3s,baz=148,slow=8.8,SNR=4.2						
ZALV	**Zalesovo Beam**	**17.45**	**18**	P	**Pn**	**23 31 44.9**	**-0.3**
	comp=E,0.2nm,0.3s,baz=218,slow=10,SNR=7.5						
SONM	**Songino Array**	**24.40**	**56**	P	**P**	**23 32 58.5**	**+1.3**
	comp=E,0.5nm,0.5s,baz=256,slow=9.5,SNR=8.7						
FINES	**FINESS Array B**	**38.90**	**324**	P	**P**	**23 35 03.8**	**+0.1**
	comp=E,0.8nm,0.8s,baz=110,slow=8.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**69.75**	**271**	P	**P**	**23 38 46.7**	**-1.1**
	comp=E,0.9nm,0.8s,baz=115,slow=3.0,SNR=6.2						
YKA	**Yellowknife Ar**	**79.89**	**5**	P	**P**	**23 39 44.5**	**-0.9**
	comp=E,0.1nm,0.4s,baz=343,slow=5.4,SNR=4.7						

IDC 15 23:30:22.9±2.0, 5°62S×151°14E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.4/15, mbtmp3.5/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/20, Error ellipse: s-maj=129.2km s-min=29.2km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.66**	**227**	P	P	23 35 15.2	-0.1
	0.6nm,0.5s,baz=53,slow=10,SNR=9.4						
DZM	**Mont Dzumac**	**22.06**	**139**	LR	LR	23 42 11.1	
	comp=Z,500nm,18.7s,baz=17,slow=32						
ASAR	**Alice Springs**	**24.43**	**221**	P	P	23 35 43.6	0.0
	1.0nm,0.6s,baz=55,slow=9.3,SNR=12						
ILAR	**Eielson Array**	**83.54**	**22**	P	P	23 42 52.4	-0.3
	0.9nm,1.1s,baz=236,slow=6.4,SNR=5.1						
TORD	**Torodi Ar. Bea**	**148.96**	**286**	PKPbc	PKPbc	23 50 13.7	-0.3
	0.8nm,0.6s,baz=76,slow=2.3,SNR=14						

IDC 15 23:39:11.7±14.0, 19°28N×145°27E, h316km±152km, mb3.1/10, mb1 3.4/10, mb1mx3.1/23, mbtmp3.1/10, Error ellipse: s-maj=30.6km s-min=21.7km az=50.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.43**	**196**	P	P	23 46 20.0	-0.3
	0.3nm,0.5s,baz=13,slow=8.9,SNR=9.4						
CMAR	**Chiang Mai Arr**	**43.74**	**277**	P	P	23 46 47.6	+0.7
	0.7nm,0.4s,baz=64,slow=4.3,SNR=6.0						
ASAR	**Alice Springs**	**44.10**	**195**	P	P	23 46 49.3	-0.4
	0.7nm,0.9s,baz=17,slow=6.8,SNR=3.3						
MKAR	**Makanchi Array**	**57.77**	**314**	P	P	23 48 30.4	-0.1
	0.1nm,0.3s,baz=90,slow=8.4,SNR=4.7						
ILAR	**Eielson Array**	**63.31**	**26**	P	P	23 49 06.5	-0.8
	0.2nm,0.5s,baz=254,slow=5.9,SNR=7.3						
BVAR	**Borovoye Array**	**65.77**	**320**	P	P	23 49 23.3	0.0
	0.4nm,0.4s,baz=101,slow=8.8,SNR=7.1						
YKA	**Yellowknife Ar**	**77.67**	**28**	P	P	23 50 33.9	+0.5
	0.4nm,0.6s,baz=289,slow=5.4,SNR=9.7						
ARCES	**ARCESS Array B**	**81.82**	**342**	P	P	23 50 55.4	-0.1
	3.1nm,0.9s,baz=61,slow=9.4,SNR=3.5						
NVAR	**Mina Array Bea**	**83.10**	**52**	P	P	23 51 04.4	+1.4
	1.5nm,0.5s,baz=126,slow=2.0,SNR=5.9						
FINES	**FINESS Array B**	**86.19**	**335**	P	P	23 51 16.6	-1.0
	0.7nm,0.5s,baz=72,slow=4.6,SNR=13						

*IDC **15** 23:55:58.4±0.7, 4°00S×34°93E, h0km, mb3.9/17, mb1 4.0/18, mb1mx4.0/28, mbtmp3.9/18, ML3.6/1, MS3.7/14, Ms1 3.7/14, ms1mx3.5/36, Error ellipse: s-maj=21.8km s-min=15.6km az=105.0*

*ISCJB **15** 23:55:59.6±0.4, 4°02S±0'06×34°97E±0'08, h22km, mb4.0/22, MS3.8/14, Error ellipse: s-maj=12.1km s-min=7.1km az=31.1*

*NEIC **15** 23:55:59.7±0.3, 4°02S×34°97E, h10km, mb4.5/4, Error ellipse: s-maj=9.1km s-min=6.8km az=114.0*

ISC 15 23:56:01.6±0.6, 4°02S±0'08×34°98E±0'10, h22km, n53, σ0°72/49, mb4.0/22, MS3.7/14, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**3.66**	**38**	*e*Pn	**Pn**	**23 56 55.4**	**-1.9**
KMBO				*e*Sn	**Sn**	**23 57 40.2**	**+0.2**
BLWY	**Bulawayo**	**17.18**	**201**	*i* P	Pn	23 59 55.8	-4.8
BLWY	baz=258,slow=2.8			*i*		23 59 56.5	
BLWY				*i* S	S	00 03 37.6	+17
OPO	**Ambohidratompo**	**18.75**	**141**	P	**P**	**00 00 19.3**	**-0.1**
OPO	**Ambohidratompo**	**18.75**	**141**	P	**P**	**00 00 19.3**	**-0.1**
OPO	0.2nm,0.3s,baz=287,slow=17,SNR=2.5			LR	LR	00 06 56.9	
TSUM	**Tsumeb**	**22.72**	**227**	*e*P	**P**	**00 01 02.5**	**+0.1**
	comp=Z,302nm,20.5s,baz=348,slow=35						
TSUM	**Tsumeb**	**22.72**	**227**	P	**P**	**00 01 03.3**	**+0.9**
	11nm,0.8s						
TSUM	1.6nm,0.5s,baz=65,slow=11,SNR=4.2			LR	LR	00 10 14.6	
LBTB	comp=Z,265nm,18.5s,baz=182,slow=38 **Lobatse**	**22.74**	**203**	P	**P**	**00 01 02.1**	**-0.4**
LBTB	6.2nm,0.8s,baz=24,slow=13,SNR=7.3			LR	LR	00 09 21.4	
BOSA	comp=Z,170nm,21.0s,baz=39,slow=35 **Boshof**	**26.15**	**200**	P	**P**	**00 01 33.7**	**-0.9**
BOSA	**Boshof**	**26.15**	**200**	P	**P**	**00 01 33.7**	**-0.9**
	2.8nm,0.6s,baz=1.5,slow=9.5,SNR=5.3						
BOSA	comp=Z,77nm,19.2s,baz=22,slow=38			LR	LR	00 12 36.3	
SUR	**Sutherland**	**31.18**	**204**	P	**P**	**00 02 18.8**	**-0.7**
EIL	**Elat**	**33.50**	**360**	LR	LR	00 16 05.4	
	comp=Z,102nm,18.3s,baz=349,slow=36						
TORD	**Torodi Ar. Bea**	**37.20**	**298**	P	**P**	**00 03 11.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**37.20**	**298**	P	**P**	**00 03 11.0**	**-0.6**
	1.2nm,0.7s,baz=107,slow=7.4,SNR=11						
TORD	comp=Z,190nm,21.9s,baz=115,slow=35			LR	LR	00 17 42.7	
DBIC	**Dimbokro**	**41.16**	**285**	*e*P	**P**	**00 03 44.5**	**-0.4**
	1.0nm,0.5s						
DBIC	**Dimbokro**	**41.16**	**285**	LR	LR	00 20 50.4	
	comp=Z,136nm,18.2s,baz=82,slow=36						
BRTR	**Keskin Array B**	**43.55**	**358**	P	**P**	**00 04 04.4**	**+0.3**
BRTR	**Keskin Array B**	**43.55**	**358**	P	**P**	**00 04 04.4**	**+0.3**
	0.4nm,0.7s,baz=181,slow=10,SNR=3.4						
BRTR	comp=Z,40nm,18.3s,baz=11,slow=37			LR	LR	00 22 44.6	
KEST	**Kesra**	**46.27**	**331**	LR	LR	00 25 36.1	
	comp=Z,99nm,18.0s,baz=179,slow=38						
AKASG	**Malin Array Be**	**54.73**	**356**	P	**P**	**00 05 29.4**	**+0.1**
AKASG	**Malin Array Be**	**54.73**	**356**	P	**P**	**00 05 29.4**	**+0.1**
	0.2nm,0.2s,baz=345,slow=7.1,SNR=4.1						
GERES	**GERESS Array B**	**55.82**	**343**	P	**P**	**00 05 37.2**	**-0.1**
GERES	**GERESS Array B**	**55.82**	**343**	P	**P**	**00 05 37.2**	**-0.1**
	0.8nm,0.8s,baz=177,slow=4.7,SNR=4.3						
GERES	comp=Z,85nm,18.3s,baz=215,slow=42			LR	LR	00 34 32.2	
ESDC	**Sonseca Array**	**56.33**	**324**	P	**P**	**00 05 41.4**	**+0.3**
ESDC	**Sonseca Array**	**56.33**	**324**	P	**P**	**00 05 41.4**	**+0.3**
	0.4nm,0.7s,baz=132,slow=7.1,SNR=4.8						
ESDC	comp=Z,139nm,18.6s,baz=140,slow=38			LR	LR	00 31 58.8	
KKAR	**Karatay Array**	**56.83**	**31**	*e*P	**P**	**00 05 45.1**	**+0.5**
	7.5nm,1.3s						
ABKAR	**Akbulak array**	**57.32**	**19**	*e*P	**P**	**00 05 48.0**	**+0.1**
AKTO	**Aktyubinsk**	**57.76**	**17**	P	**P**	**00 05 50.2**	**-0.7**
AKTO	**Aktyubinsk**	**57.76**	**17**	P	**P**	**00 05 50.2**	**-0.7**
	0.4nm,0.6s,baz=196,slow=4.5,SNR=3.6						
MK31	**Makanchi Array**	**65.54**	**34**	*e*P	**P**	**00 06 43.1**	**-0.4**
MKAR	**Makanchi Array**	**65.54**	**34**	P	**P**	**00 06 43.8**	**+0.2**
MKAR	**Makanchi Array**	**65.54**	**34**	P	**P**	**00 06 43.8**	**+0.2**
	1.3nm,0.6s,baz=231,slow=5.3,SNR=21						
MKAR	comp=Z,32nm,20.6s,baz=259,slow=37			LR	LR	00 36 37.8	
FINES	**FINESS Array B**	**65.64**	**355**	P	**P**	**00 06 43.4**	**-0.4**
FINES	**FINESS Array B**	**65.64**	**355**	P	**P**	**00 06 43.4**	**-0.4**
	1.1nm,0.8s,baz=145,slow=7.0,SNR=3.8						
KURK	**Kurchatov**	**66.10**	**29**	*e*P	**P**	**00 06 47.7**	**+0.7**
	11nm,1.4s						
HFS	**Hagfors**	**66.12**	**349**	P	**P**	**00 06 46.9**	**0.0**
HFS	**Hagfors**	**66.12**	**349**	P	**P**	**00 06 46.9**	**0.0**
	1.1nm,0.8s,baz=142,slow=13,SNR=4.6						
CM31	**Chiang Mai Arr**	**66.81**	**68**	P	**P**	**00 06 52.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**66.81**	**68**	P	**P**	**00 06 53.5**	**+1.3**
CMAR	**Chiang Mai Arr**	**66.81**	**68**	P	**P**	**00 06 53.5**	**+1.3**
	1.2nm,0.6s,baz=251,slow=7.2,SNR=11						
NOA	**NORSAR Array B**	**67.45**	**348**	P	**P**	**00 06 53.9**	**-1.6**
NOA	**NORSAR Array B**	**67.45**	**348**	P	**P**	**00 06 53.9**	**-1.6**
	0.8nm,0.7s,baz=154,slow=6.0,SNR=3.8						
NOA	comp=Z,33nm,18.1s,baz=150,slow=41			LR	LR	00 42 04.3	
ZALV	**Zalesovo Beam**	**71.09**	**29**	P	**P**	**00 07 18.1**	**0.0**
ZALV	**Zalesovo Beam**	**71.09**	**29**	P	**P**	**00 07 18.1**	**0.0**
	0.5nm,0.6s,baz=224,slow=4.1,SNR=5.7						
ZALV	comp=Z,44nm,18.6s,baz=355,slow=39			LR	LR	00 42 39.0	
ARCES	**ARCESS Array B**	**73.69**	**357**	P	**P**	**00 07 33.9**	**+0.5**
ARCES	**ARCESS Array B**	**73.69**	**357**	P	**P**	**00 07 33.9**	**+0.5**
	2.0nm,0.8s,baz=148,slow=7.1,SNR=6.0						
SONM	**Songino Array**	**80.63**	**40**	P	**P**	**00 08 13.6**	**+0.7**
SONM	**Songino Array**	**80.63**	**40**	P	**P**	**00 08 13.6**	**+0.7**
	1.7nm,1.2s,baz=247,slow=5.0,SNR=6.8						
SPITS	**Spitsbergen Ar**	**82.72**	**356**	P	**P**	**00 08 23.3**	**+0.1**
SPITS	**Spitsbergen Ar**	**82.72**	**356**	P	**P**	**00 08 23.3**	**+0.1**
	6.4nm,0.3s,baz=148,slow=23,SNR=192						
SFJD	**Kangerlussuaq**	**91.95**	**337**	P	**P**	**00 09 09.4**	**+1.3**
SFJD	**Kangerlussuaq**	**91.95**	**337**	P	**P**	**00 09 09.4**	**+1.3**
	11nm,0.9s,baz=194,slow=1.0,SNR=4.6						
WRA	**Warramunga Arr**	**97.41**	**111**	LR	LR	00 48 01.0	
	comp=Z,720nm,20.4s,baz=45,slow=32						
WRAB	**Tennant Creek**	**97.42**	**111**	P	**P**	**00 09 34.0**	**-0.3**

IDC 16 00:01:05.5±1.2, 5°02S×34°49E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/25, mbtmp3.8/7, Error ellipse: s-maj=38.1km s-min=21.7km az=123.0, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**21.64**	**202**	P	P	00 05 58.6	+0.9
	3.7nm,0.7s,baz=325,slow=12,SNR=3.2						
TSUM	**Tsumeb**	**21.69**	**228**	P	**P**	00 05 56.8	-1.6
	3.2nm,0.8s,baz=83,slow=16,SNR=3.0						
TORD	**Torodi Ar. Bea**	**37.24**	**299**	P	P	00 08 19.8	+0.6
	0.5nm,0.8s,baz=125,slow=8.6,SNR=2.2						
GERES	**GERESS Array B**	**56.63**	**344**	P	P	00 10 50.3	-0.1
	0.7nm,0.8s,baz=159,slow=12,SNR=3.1						
FINES	**FINESS Array B**	**66.59**	**356**	P	P	00 11 57.0	-0.2
	2.7nm,0.9s,baz=177,slow=8.4,SNR=4.2						
MKAR	**Makanchi Array**	**66.63**	**34**	P	P	00 11 56.7	-1.2
	0.8nm,0.7s,baz=229,slow=6.8,SNR=12						
SONM	**Songino Array**	**81.70**	**40**	P	P	00 13 28.1	+2.0
	0.4nm,0.8s,baz=260,slow=5.5,SNR=4.7						

IDC 16 00:05:49.0±1.3, 3°77N×126°37E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/18, mbtmp3.7/5, MS3.3/1, Ms1 3.3/1, ms1mx2.6/31, Error ellipse: s-maj=208.0km s-min=17.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**23.00**	**4**	LR	LR	00 19 47.2	
	comp=Z,71nm,19.6s,baz=99,slow=36						
WRA	**Warramunga Arr**	**24.84**	**162**	P	P	00 11 13.0	-0.4
	3.5nm,0.6s,baz=338,slow=11,SNR=27						
ASAR	**Alice Springs**	**28.25**	**165**	P	P	00 11 44.2	+0.1
	0.3nm,0.5s,baz=343,slow=10,SNR=4.9						
STKA	**Stephens Creek**	**38.30**	**159**	P	P	00 13 11.7	+0.2
	1.3nm,0.4s,baz=354,slow=9.9,SNR=4.6						
SONM	**Songino Array**	**47.14**	**342**	P	P	00 14 23.4	+0.1
	0.2nm,0.6s,baz=151,slow=6.6,SNR=3.8						
MKAR	**Makanchi Array**	**57.31**	**325**	P	P	00 15 39.2	+0.3
	0.4nm,0.5s,baz=124,slow=7.9,SNR=7.6						
ZALV	**Zalesovo Beam**	**60.38**	**333**	P	P	00 15 59.1	-0.9
	0.3nm,0.4s,baz=131,slow=6.5,SNR=3.6						

*ATH **16** 00:26:29.1, 40°11N×21°12E, h38km±1km, MD2.9/4*

*CSEM **16** 00:26:30.8±0.4, 40°02N×21°23E, h20km, MD2.9, Error ellipse: s-maj=10.1km s-min=6.4km az=117.0*

ISC 16 00:26:29.8±1.7, 40°03N±0'04×21°26E±0'05, h10km±13km, n16, σ1°49/24, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.48**	**54**	*e*PN	**Pb**	**00 26 41.2**	**+0.8**
KZN				*e*SN	**Sn**	**00 26 49.8**	**+4.2**
KZN	**Kozani**	**0.48**	**54**	*e*Pn	**Pb**	**00 26 41.2**	**+0.8**
KZN				*e*Sn	**Sn**	**00 26 49.8**	**+4.2**
JAN	**Janina**	**0.49**	**221**	*e*PB	**Pb**	**00 26 40.1**	**-0.4**
JAN				*e*SB	**Sb**	**00 26 48.0**	**+0.3**
JAN	**Janina**	**0.49**	**221**	*e*Pb	**Pb**	**00 26 40.1**	**-0.4**
JAN				*e*Sb	**Sb**	**00 26 48.0**	**+0.3**
THL	**Klokotos Trika**	**0.74**	**128**	*e*PN	**Pn**	**00 26 46.0**	**-0.3**
THL				*e*SN	**Sn**	**00 26 58.8**	**+1.1**
THL	**Klokotos Trika**	**0.74**	**128**	*e*Pn	**Pn**	**00 26 46.0**	**-0.3**
THL				*e*Sn	**Sn**	**00 26 58.8**	**+1.1**
BIA	**Bitola**	**0.99**	**3**	*e*Pn	**Pn**	**00 26 50.3**	**+0.4**
BIA	**Bitola**	**0.99**	**3**	*e*Pn	**Pn**	**00 26 50.3**	**+0.4**
EVR	**Evrytania**	**1.19**	**159**	*e*PN	**Pg**	**00 26 52.7**	**+0.1**
EVR				*e*SN	**Sn**	**00 27 09.5**	**+0.7**
EVR	**Evrytania**	**1.19**	**159**	*e*Pn	**Pg**	**00 26 52.7**	**+0.1**
EVR				*e*Sn	**Sn**	**00 27 09.5**	**+0.7**
EFP	**Efpalio**	**1.67**	**162**	*e*PB	**Pb**	**00 27 00.0**	**-0.7**
EFP	**Efpalio**	**1.67**	**162**	*e*Pb	**Pb**	**00 27 00.0**	**-0.7**
PLG	**Polygyros**	**1.71**	**78**	*e*PN	**Pn**	**00 26 58.7**	**-1.0**
PLG	**Polygyros**	**1.71**	**78**	*e*Pn	**Pn**	**00 26 58.7**	**-1.0**
LKR	**Lokris**	**1.93**	**135**	*e*PN	**Pn**	**00 27 03.0**	**+0.4**
LKR	**Lokris**	**1.93**	**135**	*e*Pn	**Pn**	**00 27 03.0**	**+0.4**

IDC 16 00:30:24.0±3.7, 3°64S×149°48E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/16, mbtmp3.6/3, Error ellipse: s-maj=125.0km s-min=47.6km az=114.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.92**	**221**	P	P	00 35 18.9	-0.2
	1.1nm,0.6s,baz=45,slow=10,SNR=8.2						
ASAR	**Alice Springs**	**24.95**	**216**	P	P	00 35 49.1	-0.2
	0.6nm,0.6s,baz=53,slow=7.8,SNR=4.9						
FITZ	**Fitzroy Crossi**	**27.41**	**237**	P	P	00 36 12.0	+0.4
	1.6nm,0.6s,baz=85,slow=6.7,SNR=4.7						
TORD	**Torodi Ar. Bea**	**146.80**	**288**	PKPbc	PKPdf	00 50 08.2	+0.8
	0.5nm,0.8s,baz=63,slow=4.3,SNR=2.9						

*IDC **16** 00:33:35.0±1.4, 3°64S×149°54E, h0km, mb4.0/9, mb1 4.3/9, mb1mx4.1/16, mbtmp4.0/9, MS4.2/7, Ms1 4.2/7, ms1mx3.9/20, Error ellipse: s-maj=46.2km s-min=20.0km az=116.0*

*ISCJB **16** 00:33:36.0±0.7, 3°72S±0'06×149°6E±0'1, h20km, mb4.0/15, MS4.2/6, Error ellipse: s-maj=18.9km s-min=8.9km az=4.7*

*NEIC **16** 00:33:36.0±0.5, 3°66S×149°61E, h10km, mb4.4/7, Error ellipse: s-maj=13.9km s-min=6.3km az=95.0*

ISC 16 00:33:38.0±0.8, 3°68S±0'09×149°6E±0'2, h20km, n46, σ0°75/35, mb4.1/15, MS4.2/6, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.17**	**203**	Pn	**Pn**	**00 35 09.3**	**+1.4**
PMG				Sn	Sb	00 36 27.4	-11
PMG	**Port Moresby**	**6.17**	**203**	Pn	Pn	00 35 12.3	+4.3
	1.0nm,0.3s,baz=252,slow=3.1,SNR=2.8						
PMG	0.6nm,0.3s,baz=46,slow=3.7,SNR=3.6			Sn	Sb	00 36 27.4	-11
COEN	**Coen**	**11.99**	**211**	*e*Pn	**Pn**	**00 36 27.6**	**-0.3**
CTAO	**Charters Tower**	**16.62**	**191**	*e*Pn	**Pn**	**00 37 29.9**	**0.0**
GUMO	**Guam**	**17.77**	**345**	LR	LR	00 42 59.4	
	comp=Z,667nm,21.1s,baz=276,slow=32						
WRAB	**Tennant Creek**	**21.93**	**221**	*e*P	**P**	**00 38 30.8**	**+0.5**
	20nm,1.0s						
WRA	**Warramunga Arr**	**21.94**	**221**	P	**P**	**00 38 30.1**	**-0.4**
WRA	**Warramunga Arr**	**21.94**	**221**	P	**P**	**00 38 30.1**	**-0.4**
	11nm,0.9s,baz=42,slow=11,SNR=26						
DZM	**Mont Dzumac**	**24.56**	**140**	*e*LR	LR	00 45 01.1	
	2µm,27.1s						
DZM	**Mont Dzumac**	**24.56**	**140**	LR	LR	00 45 30.1	
	comp=Z,346nm,19.2s,baz=29,slow=29						
ASAR	**Alice Springs**	**24.96**	**216**	P	**P**	**00 39 01.6**	**+1.3**
ASAR	**Alice Springs**	**24.96**	**216**	P	**P**	**00 39 01.6**	**+1.3**
	3.0nm,0.8s,baz=51,slow=8.1,SNR=19						
ARMA	**Armidale**	**26.67**	**176**	*e*P	**P**	**00 39 15.1**	**-0.8**
	23nm,1.2s						
FITZ	**Fitzroy Crossi**	**27.45**	**237**	*e*P	**P**	**00 39 22.8**	**0.0**
	11nm,0.9s						
FITZ	**Fitzroy Crossi**	**27.45**	**237**	P	**P**	**00 39 22.3**	**-0.5**
	15nm,0.8s,baz=71,slow=8.3,SNR=16						
FITZ	comp=Z,1µm,18.9s,baz=38,slow=39			LR	LR	00 51 19.7	
STKA	**Stephens Creek**	**29.03**	**194**	*e*P	**P**	**00 39 36.1**	**-0.7**
CAN	**Canberra**	**31.49**	**181**	P	**P**	**00 39 57.0**	**-1.6**
MBWA	**Marble Bar**	**33.79**	**237**	P	**P**	**00 40 18.8**	**-0.1**
KKM	**Kota Kinabalu**	**34.66**	**286**	P	**P**	**00 40 26.2**	**-0.4**
KSM	**Kuching**	**39.55**	**277**	P	**P**	**00 41 07.8**	**-0.3**
JNU	**Nakatsue**	**40.65**	**336**	LR	LR	00 56 29.7	
	comp=Z,233nm,19.6s,baz=129,slow=34						
MJAR	**Matsushiro Arr**	**41.39**	**346**	LR	LR	00 57 48.2	
	comp=Z,258nm,19.1s,baz=165,slow=35						
NWAO	**Narrogin (SRO)**	**41.94**	**222**	*e*P	**P**	**00 41 27.2**	**-0.3**
	12nm,1.0s						
USRK	**Ussuriysk Arra**	**50.20**	**344**	LR	LR	01 03 17.6	
	comp=Z,229nm,19.1s,baz=102,slow=36						
CMAR	**Chiang Mai Arr**	**54.47**	**296**	P	**P**	**00 43 05.2**	**+0.6**
CMAR	**Chiang Mai Arr**	**54.47**	**296**	P	**P**	**00 43 05.2**	**+0.6**
	0.7nm,0.3s,baz=108,slow=6.7,SNR=7.5						
PPT2	**Papeete2**	**61.16**	**108**	*e*LR	LR	01 01 54.0	
	168nm,25.2s						
TBI	**Tubuai**	**61.97**	**114**	*e*LR	LR	01 02 17.3	
	355nm,30.5s						
SONM	**Songino Array**	**63.68**	**329**	P	**P**	**00 44 08.7**	**+0.6**
SONM	**Songino Array**	**63.68**	**329**	P	**P**	**00 44 08.7**	**+0.6**
	0.9nm,0.7s,baz=145,slow=5.8,SNR=7.2						
LSA	**Lhasa**	**64.94**	**305**	P	**P**	**00 44 16.8**	**-0.3**
	1.7nm,0.9s						
RKT	**Rikitea**	**75.21**	**113**	*e*LR	LR	01 08 25.1	
	272nm,27.0s						
MK31	**Makanchi Array**	**77.36**	**320**	*e*P	**P**	**00 45 31.2**	**-0.4**
**MK

IDC 16 00:39:55.6±3.7,3°69S×149°52E,h0km,mb3.7/5, mb1 4.0/5,mb1mx3.7/16,mbtmp3.7/5,Error ellipse: s-maj=113.5km s-min=25.4km az=104.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.91**	**221**	P	P	00 44 49.9	-0.8
	2.5nm,0.7s,baz=45,slow=10,SNR=19						
ASAR	**Alice Springs**	**24.94**	**216**	P	P	00 45 20.8	-0.1
	1.0nm,0.7s,baz=48,slow=7.6,SNR=7.8						
FITZ	**Fitzroy Crossi**	**27.42**	**237**	P	P	00 45 44.1	+0.8
	4.7nm,0.7s,baz=62,slow=8.7,SNR=8.6						
SONM	**Songino Array**	**63.67**	**329**	P	P	00 50 28.6	-0.3
	0.2nm,0.7s,baz=147,slow=6.0,SNR=2.9						
MKAR	**Makanchi Array**	**77.36**	**320**	P	P	00 51 53.2	+0.8
	0.5nm,1.0s,baz=104,slow=5.2,SNR=3.2						
TORD	**Torodi Ar. Bea**	**146.86**	**288**	PKPbc	PKPdf	00 59 39.5	+0.3
	0.3nm,0.7s,baz=66,slow=1.7,SNR=2.6						

*IDC **16** 00:43:34.6±0.6,15°.21S×173°.46W,h0km,mb4.5/14, mb1 4.7/14,mb1mx4.5/23,mbtmp4.5/14,MS4.2/3, Ms1 4.2/3,ms1mx3.6/33,Error ellipse: s-maj=32.1km s-min=14.6km az=141.0*

*ISCJB **16** 00:43:37.8±0.3,15°.19S±0°.10×173°.58W±0°.08,h30km, mb4.7/64,MS4.8/2,Error ellipse: s-maj=16.4km s-min=7.5km az=143.2*

*SZGRF **16** 00:43:39.2,16°.00S×174°.40W,h33km,Tonga Islands*

*NEIC **16** 00:43:40.2±0.2,15°.18S×173°.51W,h35km,mb4.8/49, Error ellipse: s-maj=11.9km s-min=5.0km az=142.0*

ISC 16 00:43:39.3±0.5,15°.2S±0°.1×173°.5W±0°.1,h30km,n512, σ0°44/495,mb4.8/64,177C-184D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.11**	**53**	*e*Pn	Pn	00 44 06.0	-6.7
AFI				eSn	Sn	00 44 25.7	-12
AFI	**Afiamalu**	**2.11**	**53**	Pn	Pn	00 44 06.1	-6.6
	252nm,0.3s,baz=101,slow=1.2,SNR=211						
AFI				Sn	Sn	00 44 25.9	-12
	1µm,0.3s,baz=207,slow=18,SNR=24						
AFI				LR	LR	00 44 39.8	
	comp=Z,715nm,20.4s,baz=188,slow=31						
MSVF	**Nonsavu**	**8.48**	**252**	*e*Pn	Pn	00 45 50.1	+10
RAR	**Rarotonga**	**14.36**	**117**	Pn	Pn	00 46 53.6	-7.0
RAR	**Rarotonga**	**14.36**	**117**	Pn	Pn	00 46 53.6	-7.0
	1.5nm,0.3s,baz=285,slow=6.3,SNR=5.8						
DZM	**Mont Dzumac**	**20.17**	**247**	*e*LR	LR	00 53 16.0	
	698nm,26.8s						
DZM	**Mont Dzumac**	**20.17**	**247**	P	**P**	**00 48 12.5**	**+0.9**
DZM	**Mont Dzumac**	**20.17**	**247**	P	**P**	**00 48 12.5**	**+0.9**
	7.5nm,0.7s,baz=67,slow=21,SNR=6.8						
PAE	**Paea**	**23.08**	**99**	*e*T	T	01 11 31.9	
	4.5nm,0.3s						
PPT2	**Papeete2**	**23.09**	**99**	*e*LR	LR	00 53 52.1	
	236nm,26.2s						
PPT2				*e*T	T	01 11 32.4	
	6.1nm,0.3s						
TIAR	**Tiarei**	**23.30**	**99**	*e*T	T	01 11 47.4	
	13nm,0.3s						
TVO	**Taravao**	**23.40**	**100**	*e*T	T	01 11 55.3	
	7.6nm,0.2s						
TBI	**Tubuai**	**24.08**	**113**	*e*LR	LR	00 54 23.9	
	189nm,27.8s						
TBI				*e*T	T	01 13 01.7	
	16nm,0.3s						
URZ	**Urewera**	**24.42**	**198**	*e*P	**P**	**00 48 56.7**	**+1.5**
	9.9nm,0.5s						
PMOR	**Pomariorio Ree**	**24.73**	**93**	*e*T	T	01 13 29.2	
	3.8nm,0.2s						
ARMA	**Armidale**	**35.35**	**239**	*e*P	**P**	**00 50 29.8**	**-2.7**
RKT	**Rikitea**	**37.16**	**108**	*e*T	T	01 29 15.7	
	6.9nm,0.3s						
STKA	**Stephens Creek**	**44.04**	**240**	*e*P	**P**	**00 51 43.8**	**-0.8**
	1.1nm,0.6s						
STKA	**Stephens Creek**	**44.04**	**240**	P	**P**	**00 51 44.2**	**-0.4**
	4.9nm,0.5s,baz=95,slow=10,SNR=21						
WRA	**Warramunga Arr**	**49.78**	**257**	P	**P**	**00 52 29.4**	**-0.2**
WRA				PcP	**PcP**	**00 53 50.2**	**-0.1**
WRA	**Warramunga Arr**	**49.78**	**257**	P	**P**	**00 52 29.4**	**-0.2**
	5.5nm,0.8s,baz=91,slow=7.3,SNR=30						
WRA				PcP	**PcP**	**00 53 50.2**	**-0.1**
	1.3nm,0.8s,baz=88,slow=3.7,SNR=3.9						
AS31	**Alice Springs**	**50.07**	**252**	*e*P	**P**	**00 52 31.9**	**+0.1**
ASAR	**Alice Springs**	**50.07**	**252**	P	**P**	**00 52 31.2**	**-0.6**
ASAR	**Alice Springs**	**50.07**	**252**	P	**P**	**00 52 31.2**	**-0.6**
	9.4nm,0.6s,baz=87,slow=7.7,SNR=105						
MURC	**Murrieta**	**72.33**	**47**	⇓P	**P**	**00 55 02.6**	**+0.1**
	baz=72						
BFSC	**Mount Baldy Ra**	**72.36**	**46**	⇑P	**P**	**00 55 02.9**	**+0.1**
	baz=72						
EDW2	**Edwards Air Fo**	**72.48**	**45**	⇑P	**P**	**00 55 03.2**	**-0.2**
	baz=73						
MONP	**Monument Peak**	**72.51**	**48**	⇑P	**P**	**00 55 03.5**	**-0.3**
	baz=73						
ISA	**Isabella**	**72.58**	**44**	⇓P	**P**	**00 55 04.0**	**+0.1**
	baz=73						
PFO	**Pinyon Flat Ob**	**72.87**	**47**	⇓P	**P**	**00 55 06.0**	**+0.2**
	baz=73						
LRMC	**Laurel Mountai**	**73.02**	**45**	⇑P	**P**	**00 55 06.8**	**+0.2**
	baz=73						
MPMC	**Manual Prospec**	**73.47**	**44**	⇑P	**P**	**00 55 09.7**	**+0.3**
	baz=74						
YBH	**Yreka Blue Hor**	**73.50**	**37**	P	**P**	**00 55 09.3**	**0.0**
YBH	**Yreka Blue Hor**	**73.50**	**37**	P	**P**	**00 55 09.3**	**0.0**
	7.2nm,0.9s,baz=82,slow=1.7,SNR=8.8						
YBH				LR	LR	01 19 43.1	
	comp=Z,594nm,21.4s,baz=334,slow=30						
GSC	**Goldstone**	**73.52**	**45**	⇑P	**P**	**00 55 09.8**	**+0.2**
	baz=74						
BC3	**Big Chuckawall**	**73.60**	**48**	⇓P	**P**	**00 55 09.9**	**-0.2**
	baz=74						
GMRC	**Granite Mounta**	**74.04**	**46**	⇑P	**P**	**00 55 12.3**	**-0.3**
	baz=74						
IRM	**Iron Mountain**	**74.08**	**47**	⇑P	**P**	**00 55 12.8**	**0.0**
	baz=74						
TUQ	**Turquoise Moun**	**74.20**	**46**	⇓P	**P**	**00 55 13.7**	**+0.1**
	baz=74						
NVAR	**Mina Array Bea**	**74.25**	**42**	P	**P**	**00 55 13.7**	**-0.3**
NVAR	**Mina Array Bea**	**74.25**	**42**	P	**P**	**00 55 13.7**	**-0.3**
	2.6nm,0.6s,baz=226,slow=9.9,SNR=6.9						
Y12C	**Blythe**	**74.31**	**48**	⇓P	**P**	**00 55 14.4**	**+0.3**
	baz=74						
113A	**Mohawk Valley,**	**74.37**	**49**	⇑P	**P**	**00 55 14.5**	**+0.1**
	baz=74						
LDFC	**Landfair**	**74.58**	**46**	*e*P	**P**	**00 55 16.8**	**+1.0**
	9.9nm,1.0s						
214A	**Organ Pipe Nat**	**74.67**	**50**	⇓P	**P**	**00 55 16.3**	**+0.1**
	baz=75						
QSPA	**South Pole Qui**	**74.85**	**180**	P	**P**	**00 55 17.2**	**+0.3**
QSPA	**South Pole Qui**	**74.85**	**180**	P	**P**	**00 55 17.2**	**+0.3**
	7.9nm,0.8s,baz=32,slow=1.8,SNR=36						
PDMCI	**Parker Dam,Lak**	**74.87**	**48**	⇑P	**P**	**00 55 17.5**	**+0.2**
	baz=75						
114A	**Black Gap (USA**	**75.00**	**49**	⇓P	**P**	**00 55 18.3**	**+0.1**
	baz=75						
MOD	**Modoc**	**75.03**	**38**	*e*P	**P**	**00 55 18.8**	**+0.5**
	8.6nm,0.8s						
Z14A	**Wintersburg**	**75.26**	**49**	⇓P	**P**	**00 55 20.2**	**+0.6**
	baz=75						
W13A	**Hualapai Mount**	**75.45**	**47**	⇑P	**P**	**00 55 21.2**	**+0.2**
	baz=76						
Y14A	**Wickenburg**	**75.50**	**48**	⇑P	**P**	**00 55 21.3**	**+0.3**
	baz=76						
R11A	**Troy Canyon, C**	**75.99**	**43**	⇑P	**P**	**00 55 24.1**	**+0.2**
	baz=76						
X16A	**Lo Mia Camp, P**	**76.86**	**49**	⇓P	**P**	**00 55 29.2**	**+0.2**
	baz=77						
R13A	**O'Grain Ranch,**	**76.98**	**44**	⇑P	**P**	**00 55 29.8**	**+0.3**
	baz=77						
319A	**Douglas**	**77.06**	**52**	⇓P	**P**	**00 55 30.2**	**+0.1**
	baz=77,SNR=6.9						
ARUT	**Antelope Range**	**77.14**	**45**	P	**P**	**00 55 30.2**	**-0.2**
	2.3nm,0.6s						
U15A	**North Rim**	**77.24**	**46**	⇓P	**P**	**00 55 31.7**	**+0.6**
	baz=77,SNR=8.7						
X17A	**Forest Lakes**	**77.29**	**49**	⇓P	**P**	**00 55 31.9**	**+0.5**
	baz=77,SNR=7.5						
WUAZ	**Wupatki**	**77.44**	**48**	*e*P	**P**	**00 55 32.4**	**+0.2**
	12nm,1.2s						
WUAZ	**Wupatki**	**77.44**	**48**	⇑P	**P**	**00 55 32.7**	**+0.5**
	baz=78						
ELK	**Elko**	**77.50**	**41**	*e*P	**P**	**00 55 32.6**	**+0.1**
	7.8nm,1.3s						
320A	**Kipp Ranch, An**	**77.61**	**53**	⇓P	**P**	**00 55 33.6**	**+0.5**
	baz=78						
220A	**Playas Peak, P**	**77.87**	**52**	⇓P	**P**	**00 55 34.9**	**+0.4**
	baz=78,SNR=9.4						
X18A	**Snowflake**	**78.00**	**49**	⇓P	**P**	**00 55 35.8**	**+0.5**
	baz=78						
120A	**U Bar Ranch, L**	**78.07**	**51**	⇑P	**P**	**00 55 36.1**	**+0.3**
	baz=78						
R15A	**Junction**	**78.14**	**45**	⇓P	**P**	**00 55 36.6**	**+0.6**
	baz=78						
HAWA	**Hanford**	**78.17**	**35**	*e*P	**P**	**00 55 36.1**	**+0.4**
	16nm,1.4s						
Y19A	**Nutrioso**	**78.25**	**50**	⇑P	**P**	**00 55 37.2**	**+0.4**
	baz=78,SNR=15						
MVU	**Marysvale**	**78.33**	**45**	*e*P	**P**	**00 55 38.0**	**+0.9**
	11nm,1.2s						
Z20A	**Nine Sixteen R**	**78.36**	**51**	⇑P	**P**	**00 55 37.5**	**+0.2**
	baz=78,SNR=10						
MSU	**Marysvale**	**78.36**	**45**	*e*P	**P**	**00 55 37.6**	**+0.3**
S16A	**Weppner Ranch,**	**78.36**	**46**	⇑P	**P**	**00 55 37.3**	**0.0**
	baz=78,SNR=6.4						
221A	**Mesquite Ranch**	**78.48**	**52**	⇑P	**P**	**00 55 38.4**	**+0.5**
	baz=79						
BMO	**Blue Mountains**	**78.53**	**37**	*e*P	**P**	**00 55 37.6**	**-0.3**
	4.9nm,0.9s						
T17A	**Navajo Res., N**	**78.56**	**47**	⇓P	**P**	**00 55 38.8**	**+0.4**
	baz=79,SNR=7.6						
MFID	**Camas Ranch**	**78.60**	**39**	*e*P	**P**	**00 55 38.3**	**0.0**
	10nm,0.9s						
MFID	**Camas Ranch**	**78.60**	**39**	⇑P	**P**	**00 55 38.5**	**+0.1**
	baz=79						
121A	**Cookes Peak, D**	**78.71**	**52**	⇑P	**P**	**00 55 39.9**	**+0.7**
	baz=79						
R16A	**Teasdale**	**78.72**	**45**	⇑P	**P**	**00 55 39.7**	**+0.4**
	baz=79,SNR=6.0						
DUG	**Dugway**	**78.79**	**43**	*e*P	**P**	**00 55 39.6**	**+0.1**
	7.6nm,1.1s						
DUG	**Dugway**	**78.79**	**43**	⇑P	**P**	**00 55 39.5**	**+0.1**
	baz=79,SNR=7.3						
P15A	**Leamington**	**78.82**	**44**	⇑P	**P**	**00 55 40.2**	**+0.5**
	baz=79						
S17A	**Black Ridge (B**	**78.87**	**46**	⇓P	**P**	**00 55 39.9**	**-0.1**
	baz=79,SNR=5.9						
Y20A	**Horse Springs,**	**78.88**	**50**	⇑P	**P**	**00 55 40.8**	**+0.6**
	baz=79,SNR=11						
222A	**Williams Famil**	**79.04**	**52**	⇑P	**P**	**00 55 41.4**	**+0.3**
	baz=79						
X20A	**Quemado**	**79.07**	**50**	⇑P	**P**	**00 55 41.5**	**+0.2**
	baz=79						
Z21A	**St. Cloud Mine**	**79.14**	**51**	⇑P	**P**	**00 55 42.4**	**+0.8**
	baz=79,SNR=13						
V19A	**Window Rock**	**79.21**	**48**	⇑P	**P**	**00 55 42.5**	**+0.5**
	baz=79						
DIV	**Divide**	**79.22**	**13**	*e*P	**P**	**00 55 42.0**	**+0.8**
	26nm,1.0s						
I12A	**Atlanta**	**79.23**	**39**	⇑P	**P**	**00 55 42.2**	**+0.3**
	baz=79,SNR=18						
Q16A	**Castle Valley**	**79.24**	**45**	⇓P	**P**	**00 55 42.5**	**+0.4**
	baz=79						
T18A	**Mexican Hat**	**79.28**	**47**	⇓P	**P**	**00 55 42.9**	**+0.6**
	baz=79,SNR=29						
R17A	**Hanksville Air**	**79.31**	**45**	⇑P	**P**	**00 55 42.5**	**+0.1**
	baz=80,SNR=7.4						
W20A	**Ramah**	**79.33**	**49**	⇑P	**P**	**00 55 43.4**	**+0.7**
	baz=80,SNR=20						
U19A	**Dine' College,**	**79.36**	**48**	⇓P	**P**	**00 55 43.2**	**+0.4**
	baz=80,SNR=11						
TMUT	**Trail Mountain**	**79.41**	**44**	*e*P	**P**	**00 55 44.0**	**+0.9**
	25nm,1.2s						
Y21A	**Point of Rocks**	**79.44**	**50**	⇓P	**P**	**00 55 43.6**	**+0.3**
	baz=80						
S18A	**Hurst Farm, BI**	**79.46**	**46**	⇓P	**P**	**00 55 43.5**	**+0.2**
	baz=80						
L14A	**Malta**	**79.46**	**41**	⇓P	**P**	**00 55 43.3**	**+0.2**
	baz=80						
HLID	**Hailey**	**79.54**	**39**	*e*P	**P**	**00 55 43.9**	**+0.3**
	13nm,0.9s						
HLID	**Hailey**	**79.54**	**39**	⇑P	**P**	**00 55 44.2**	**+0.6**
	baz=80,SNR=21						
X21A	**Alamocita Cree**	**79.55**	**50**	⇓P	**P**	**00 55 43.7**	**-0.2**
	baz=80						
J13A	**Cove Ranch, Pi**	**79.60**	**40**	⇓P	**P**	**00 55 44.4**	**+0.6**
	baz=80,SNR=14						
HVU	**Hansel Valley**	**79.63**	**42**	*e*P	**P**	**00 55 44.3**	**+0.3**
	7.6nm,0.9s						
Z22A	**Elephant Butte**	**79.64**	**51**	⇓P	**P**	**00 55 44.8**	**+0.4**
	baz=80,SNR=12						
V20A	**Brimhall**	**79.67**	**49**	⇓P	**P**	**00 55 44.4**	**0.0**
	baz=80						
M15A	**Larsen Ranch,**	**79.67**	**42**	⇓P	**P**	**00 55 44.3**	**0.0**
	baz=80,SNR=7.4						
T19A	**Beclabito**	**79.74**	**47**	⇓P	**P**	**00 55 45.3**	**+0.5**
	baz=80,SNR=9.5						
K14A	**Jones Ranch, D**	**79.77**	**41**	⇑P	**P**	**00 55 45.0**	**+0.2**
	baz=80,SNR=8.1						
SRU	**San Rafael**	**79.78**	**45**	*e*P	**P**	**00 55 45.4**	**+0.4**
	12nm,1.2s						
SRU	**San Rafael**	**79.78**	**45**	⇓P	**P**	**00 55 45.2**	**+0.2**
	baz=80,SNR=5.2						
P17A	**Butcher Ranch,**	**79.81**	**44**	⇓P	**P**	**00 55 45.6**	**+0.5**
	baz=80,SNR=5.2						
H12A	**Diamond D Ranc**	**79.81**	**38**	⇑P	**P**	**00 55 44.9**	**-0.1**
	baz=80,SNR=10						
G12A	**Big Creek, Yel**	**79.85**	**38**	⇑P	**P**	**00 55 45.1**	**-0.1**
	baz=80						
R18A	**Canyonlands Na**	**79.86**	**46**	⇑P	**P**	**00 55 45.6**	**+0.1**
	baz=80,SNR=9.6						
U20A	**Newcomb**	**79.89**	**48**	⇑P	**P**	**00 55 46.0**	**+0.4**
	baz=80						
JLU	**Jordanelle**	**79.89**	**43**	*e*P	**P**	**00 55 45.9**	**+0.2**
	13nm,1.2s						
I13A	**Wildrose Cree**	**79.91**	**39**	⇓P	**P**	**00 55 45.8**	**+0.2**
	baz=80,SNR=7.4						
Y22A	**Socorro**	**79.94**	**51**	⇓P	**P**	**00 55 46.1**	**+0.2**
	baz=80,SNR=7.2						
W21A	**San Fidel**	**79.95**	**49**	⇑P	**P**	**00 55 46.3**	**+0.3**
	baz=80						
J14A	**Carey**	**79.97**	**40**	⇓P	**P**	**00 55 46.4**	**+0.5**
	baz=80						
L15A	**Malad City**	**79.99**	**42**	⇓P	**P**	**00 55 45.6**	**-0.4**
	baz=80,SNR=7.2						
324A	**Moseley Ranch,**	**80.01**	**54**	⇑P	**P**	**00 55 46.1**	**-0.3**
	baz=80,SNR=7.8						
Q18A	**Rafter H Ranch**	**80.04**	**45**	⇑P	**P**	**00 55 46.2**	**-0.1**
	baz=80,SNR=7.8						
N16A	**Rees Ranch, Co**	**80.04**	**43**	⇑P	**P**	**00 55 46.6**	**+0.2**
	baz=80						
S19A	**Harvey Farm, M**	**80.09**	**47**	⇑P	**P**	**00 55 46.7**	**0.0**
	baz=80,SNR=9.0						
425A	**Indio Mountain**	**80.13**	**54**	⇑P	**P**	**00 55 46.7**	**-0.3**
	baz=80,SNR=8.6						
O17A	**Robinson Place**	**80.16**	**44**	⇓P	**P**	**00 55 47.4**	**+0.3**
	baz=80,SNR=11						
H13A	**Challis**	**80.18**	**39**	⇓P	**P**	**00 55 47.2**	**+0.2**
	baz=80,SNR=10						
MNTX	**Cornudas Mount**	**80.19**	**53**	⇓P	**P**	**00 55 46.9**	**-0.2**
	baz=80,SNR=7.8						
Z23A	**Rita Site, Whi**	**80.20**	**52**	⇓P	**P**	**00 55 47.1**	**-0.3**
	baz=80						
P18A	**Preston Nutter**	**80.22**	**44**	⇑P	**P**	**00 55 47.4**	**-0.1**
	baz=80						
F12A	**Elk City**	**80.24**	**37**	⇑P	**P**	**00 55 46.9**	**-0.3**
	baz=80,SNR=25						
224A	**Cornudas Mount**	**80.24**	**53**	⇓P	**P**	**00 55 47.7**	**+0.1**
	baz=80,SNR=8.7						
K15A	**Arbon**	**80.25**	**41**	⇑P	**P**	**00 55 47.1**	**-0.2**
	baz=80						
R19A	**Curley Farm, L**	**80.25**	**46**	⇓P	**P**	**00 55 47.6**	**0.0**
	baz=80,SNR=7.5						
V21A	**Milan**	**80.27**	**49**	⇑P	**P**	**00 55 47.8**	**0.0**
	baz=80						
BNM	**Barren Site**	**80.28**	**51**	*e*P	**P**	**00 55 46.9**	**-1.0**
	8.7nm,1.2s						
MVCO	**Mesa Verde**	**80.29**	**47**	⇓P	**P**	**00 55 47.8**	**0.0**
	baz=80						
626A	**Big Bend Ranch**	**80.31**	**56**	⇑P	**P**	**00 55 47.7**	**-0.2**
	baz=80,SNR=9.5						
HWUT	**Hardware Ranch**	**80.32**	**42**	*e*P	**P**	**00 55 47.7**	**-0.2**
	6.5nm,1.1s						
I14A	**Mackay**	**80.33**	**39**	⇑P	**P**	**00 55 47.9**	**+0.1**
	baz=80,SNR=5.7						
LPM	**Los Pinos Moun**	**80.35**	**51**	*e*P	**P**	**00 55 48.6**	**+0.4**
325A	**Bean Ranch, Si**	**80.38**	**54**	⇓P	**P**	**00 55 48.1**	**-0.3**
	baz=80,SNR=8.4						
E12A	**Beaver Dam Sad**	**80.42**	**36**	⇓P	**P**	**00 55 47.9**	**-0.3**
	baz=81						
TRF	**Thorofare Moun**	**80.45**	**10**	*e*P	**P**	**00 55 48.2**	**+0.2**
	13nm,1.1s						
N17A	**Moffit Pass**	**80.47**	**43**	⇓P	**P**	**00 55 48.7**	**0.0**
	baz=81						
G13A	**Cobalt**	**80.48**	**38**	⇑P	**P**	**00 55 48.4**	**-0.2**
	baz=81,SNR=9.6						
W22A	**Albuquerque**	**80.51**	**50**	⇓P	**P**	**00 55 49.5**	**+0.5**
	baz=81						
U21A	**Nageezi**	**80.53**	**48**	⇑P	**P**	**00 55 49.4**	**+0.2**
	baz=81,SNR=31						
526A	**Mary Lane Ranc**	**80.54**	**55**	⇑P	**P**	**00 55 49.0**	**-0.3**
	baz=81,SNR=10						
PV04	**Paradox Valley**	**80.55**	**46**	*e*P	**P**	**00 55 49.6**	**+0.5**
124A	**Stringfield Ra**	**80.56**	**52**	⇑P	**P**	**00 55 49.2**	**-0.1**
	baz=81,SNR=6.0						
Q19A	**Hogan Spring (**	**80.57**	**45**	⇓P	**P**	**00 55 49.4**	**+0.3**
	baz=81,SNR=6.9						
TXAR	**Lajitas Array**	**80.59**	**56**	P	**P**	**00 55 49.6**	**+0.2**
TXAR	**Lajitas Array**	**80.59**	**56**	P	**P**	**00 55 49.6**	**+0.2**
	6.0nm,1.1s,baz=224,slow=5.2,SNR=26						
NEW	**Newport**	**80.60**	**34**	*e*P	**P**	**00 55 48.5**	**-0.5**
	22nm,1.8s						
NEW	**Newport**	**80.60**	**34**	⇑P	**P**	**00 55 48.6**	**-0.5**
	baz=81						
L16A	**Fish Haven**	**80.61**	**42**	⇓P	**P**	**00 55 49.2**	**-0.2**
	baz=81,SNR=8.3						
Y23A	**Lovelace Mesa,**	**80.62**	**51**	⇑P	**P**	**00 55 49.4**	**-0.2**
	baz=81						
PV01	**Paradox Valley**	**80.66**	**46**	*e*P	**P**	**00 55 49.0**	**-0.9**
	2µm,1.4s						
S20A	**Disappointment**	**80.67**	**47**	⇑P	**P**	**00 55 50.1**	**+0.2**
	baz=81,SNR=8.6						
J15A	**Blackfoot**	**80.68**	**40**	⇑P	**P**	**00 55 50.3**	**+0.6**
	baz=81,SNR=15						
H14A	**Leadore**	**80.74**	**39**	⇓P	**P**	**00 55 50.3**	**+0.2**
	baz=81,SNR=9.8						
ANMO	**Albuquerque**	**80.76**	**50**	*e*P	**P**	**00 55 50.5**	**+0.2**
ANMO	**Albuquerque**	**80.76**	**50**	P	**P**	**00 55 50.2**	**-0.1**
	4.4nm,0.8s,baz=227,slow=6.9,SNR=13						
F13A	**Darby**	**80.79**	**37**	⇑P	**P**	**00 55 49.9**	**-0.3**
	baz=81,SNR=9.5						
225A	**Deer Hill, Car**	**80.80**	**53**	⇓P	**P**	**00 55 50.8**	**+0.2**
	baz=81,SNR=8.7						
R20A	**Redvale**	**80.82**	**46**	⇑P	**P**	**00 55 50.8**	**+0.1**
	baz=81						
426A	**McDonald Obser**	**80.83**	**55**	⇓P	**P**	**00 55 50.7**	**-0.2**
	baz=81,SNR=15						
C11A	**Tepee Creek (N**	**80.83**	**35**	⇑P	**P**	**00 55 50.3**	**0.0**
	baz=81						
M17A	**Scullys Gap (B**	**80.84**	**43**	⇑P	**P**	**00 55 50.3**	**-0.4**
	baz=81						
V22A	**San Miguel Ran**	**80.85**	**49**	⇓P	**P**	**00 55 50.9**	**+0.1**
	baz=81						
627A	**Terlingua Ranc**	**80.86**	**56**	⇓P	**P**	**00 55 51.1**	**+0.1**
	baz=81,SNR=12						
T21A	**Navajo Lake**	**80.88**	**48**	⇑P	**P**	**00 55 51.1**	**+0.1**
	baz=81						
Z24A	**Sheeppen Canyo**	**80.89**	**52**	⇓P	**P**	**00 55 51.1**	**0.0**
	baz=81						
D12A	**Red Ives Fores**	**80.90**	**36**	⇓P	**P**	**00 55 50.1**	**-0.6**
	baz=81,SNR=7.6						
K16A	**Soda Springs**	**80.92**	**41**	⇓P	**P**	**00 55 51.1**	**0.0**
	baz=81,SNR=7.5						
MCK	**McKinley**	**80.94**	**11**	*e*P	**P**	**00 55 50.6**	**+0.2**
	17nm,0.9s						
527A	**Woodward Ranch**	**80.95**	**55**	⇓P	**P**	**00 55 51.2**	**-0.3**
	baz=81,SNR=13						
S21A	**Coal Bank Pass**	**80.99**	**47**	⇑P	**P**	**00 55 52.2**	**+0.5**
	baz=81,SNR=14						
L17A	**Cokeville**	**81.01**	**42**	⇓P	**P**	**00 55 51.3**	**-0.2**
	baz=81						
G14A	**Jackson**	**81.02**	**38**	⇓P	**P**	**00 55 51.4**	**-0.1**
	baz=81,SNR=8.5						
W23A	**Werner Place,**	**81.08**	**50**	⇑P	**P**	**00 55 51.9**	**-0.2**
	baz=81,SNR=7.2						
P19A	**Cripple Cowboy**	**81.08**	**45**	⇓P	**P**	**00 55 52.0**	**0.0**
	baz=81						
Y24A	**Capitan**	**81.08**	**51**	⇓P	**P**	**00 55 52.1**	**0.0**
	baz=81,SNR=9.1						
U22A	**Llaves**	**81.09**	**49**	⇓P	**P**	**00 55 52.2**	**+0.1**
	baz=81						
J16A	**Bone**	**81.13**	**41**	⇓P	**P**	**00 55 52.3**	**+0.1**
	baz=81,SNR=7.2						
326A	**Caldwell Ranch**	**81.13**	**54**	⇓P	**P**	**00 55 52.2**	**-0.1**
	baz=81						
125A	**Gardner Draw,**	**81.15**	**53**	⇑P	**P**	**00 55 52.2**	**-0.2**
	baz=81						
MCMT	**McKenzie Canyo**	**81.17**	**39**	*e*P	**P**	**00 55 52.1**	**-0.3**
	6.6nm,1.1s						
H15A	**Lima**	**81.18**	**39**	⇓P	**P**	**00 55 52.7**	**+0.3**
	baz=81,SNR=8.2						
GDL2	**Guadalupe Moun**	**81.19**	**53**	*e*P	**P**	**00 55 53.1**	**+0.5**
M18A	**Lyman**	**81.21**	**43**	⇑P	**P**	**00 55 52.5**	**-0.2**
	baz=81						
Q20A	**Ridgley Place,**	**81.23**	**46**	⇑P	**P**	**00 55 52.8**	**0.0**
	baz=81,SNR=9.0						
E13A	**Victor**	**81.23**	**37**	⇑P	**P**	**00 55 52.2**	**-0.3**
	baz=81,SNR=14

SNOW	Snow King Moun 21nm,1.1s	81.77	41	eP	P	00 55 56.2	+0.6
K18A	Toltan Ranch, baz=82,SNR=7.0	81.81	42	⇓P	P	00 55 56.2	+0.3
O20A	White River Ci baz=82	81.81	45	⇓P	P	00 55 56.4	+0.6
DOT	Dot Lake 12nm,1.0s	81.83	13	eP	P	00 55 55.5	+0.3
CPRX	Cap Rock 12nm,0.9s	81.91	53	P	P	00 55 56.2	-0.3
F15A	Butte baz=82,SNR=8.3	81.91	38	⇑P	P	00 55 55.9	-0.3
MOOW	Moose Ponds 7.2nm,1.2s	81.91	41	eP	P	00 55 56.5	+0.1
X25A	Clemmons Ranch baz=82,SNR=7.0	81.92	51	⇑P	P	00 55 56.2	-0.3
428A	Kincaid Ranch, baz=82,SNR=6.8	81.92	55	⇓P	P	00 55 56.6	+0.1
Z26A	Caprock baz=82,SNR=15	81.92	52	⇑P	P	00 55 56.2	-0.3
LRM	Limekiln Ridge	81.93	38	eP	P	00 55 56.4	0.0
LOHW	Long Hollow 8.8nm,1.1s	81.94	41	eP	P	00 55 56.7	+0.2
V24A	Rampart Ranch, baz=82	81.97	50	⇑P	P	00 55 57.2	+0.4
D14A	Greenough baz=82,SNR=11	81.97	37	⇓P	P	00 55 55.8	-0.7
R22A	Saguache, Gunn baz=82,SNR=8.9	81.98	47	⇓P	P	00 55 57.6	+0.7
L19A	Farson baz=82	82.00	43	⇑P	P	00 55 56.8	+0.1
G16A	Moss Hill, Enn baz=82	82.01	39	⇑P	P	00 55 56.9	+0.2
CHMT	Chamberlain Mo	82.03	37	eP	P	00 55 56.0	-0.8
QLMT	Earthquake Lak	82.03	39	eP	P	00 55 57.9	+1.0
529A	Stev Forest Ra baz=82	82.06	56	⇑P	P	00 55 56.9	-0.3
328A	Wristen Ranch, baz=82	82.08	55	⇓P	P	00 55 57.0	-0.2
P21A	Newcastle baz=82,SNR=5.1	82.08	46	⇓P	P	00 55 57.5	+0.2
H16A	Russell Place, baz=82,SNR=30	82.08	40	⇓P	P	00 55 58.1	+0.9
I17A	Pilgrim Ck. baz=82,SNR=8.4	82.11	41	⇑P	P	00 55 57.7	+0.4
J18A	Kendall Valley baz=82,SNR=19	82.11	41	⇓P	P	00 55 57.2	-0.2
N20A	Spence Gulch, baz=82,SNR=6.3	82.12	44	⇓P	P	00 55 57.4	-0.1
B13A	Whitefish baz=82	82.13	35	⇓P	P	00 55 56.7	-0.4
E15A	Deer Lodge baz=82,SNR=7.3	82.13	38	⇑P	P	00 55 57.1	-0.2
Q22A	Crested Butte, baz=82,SNR=13	82.15	46	⇑P	P	00 55 58.0	+0.2
127A	Arkansas Junct baz=82	82.16	53	⇑P	P	00 55 57.5	-0.3
PD01	Pinedale Array	82.18	42	eP	P	00 55 56.5	-1.2
COLA	College 18nm,1.0s	82.18	11	eP	P	00 55 56.5	-0.4
BW06	Boulder Array 12nm,1.2s	82.19	42	eP	P	00 55 57.6	-0.2
BW06	Boulder Array baz=82,SNR=8.0	82.19	42	⇑P	P	00 55 57.2	-0.6
PDAR	Pinedale Array	82.19	42	P	P	00 55 57.5	-0.4
PDAR	Pinedale Array 3.8nm,0.9s,baz=220,slow=3.3,SNR=28	82.19	42	P	P	00 55 57.5	-0.4
PDAR	comp=Z,309nm,19.8s,baz=276,slow=30			LR	LR	01 25 15.6	
C14A	Swan Lake baz=82	82.20	36	⇓P	P	00 55 57.0	-0.6
SMCO	Snowmass 27nm,1.5s	82.25	46	eP	P	00 55 58.9	+0.4
U24A	Moreno Valley baz=82	82.25	49	⇑P	P	00 55 59.4	+1.0
ILAR	Eielson Array	82.27	11	P	P	00 55 57.0	-0.5
ILAR	Eielson Array 1.8nm,0.5s,baz=216,slow=5.8,SNR=31	82.27	11	P	P	00 55 57.0	-0.5
S23A	Nye Farm, Mont baz=82	82.28	48	⇓P	P	00 55 58.9	+0.5
Y26A	Elida baz=82	82.30	52	⇓P	P	00 55 58.4	0.0
BOZ	Bozeman (W) 13nm,1.3s	82.33	39	eP	P	00 55 58.7	+0.3
BOZ	Bozeman (W) baz=82,SNR=5.9	82.33	39	⇓P	P	00 55 58.4	+0.1
H17A	Grant Village baz=82,SNR=7.7	82.34	40	⇑P	P	00 55 59.6	+1.0
W25A	X Bar L Ranch, baz=82,SNR=6.1	82.35	50	⇑P	P	00 55 58.2	-0.5
O21A	Pagoda baz=82	82.38	45	⇓P	P	00 55 59.0	+0.1
F16A	Kennard Place, baz=83	82.40	39	⇓P	P	00 55 59.0	+0.3
A13A	Flathead Natio baz=83,SNR=5.7	82.47	35	⇑P	P	00 55 58.8	-0.2
I18A	Diamond G Ranc baz=83,SNR=5.6	82.48	41	⇓P	P	00 55 59.1	-0.2
M20A	Sweetwater, Wa baz=83	82.48	44	⇑P	P	00 55 59.5	+0.1
V25A	Rancho No Teng baz=83,SNR=18	82.50	50	⇓P	P	00 55 59.5	0.0
429A	Davenport Ranc baz=83	82.51	56	⇑P	P	00 55 59.2	-0.3
D15A	Lincoln baz=83,SNR=21	82.52	37	⇓P	P	00 55 59.2	-0.1
Z27A	Tatum baz=83	82.52	53	⇓P	P	00 55 59.5	-0.2
228A	UT Block 9, Go baz=83	82.53	54	⇑P	P	00 55 59.6	0.0
LKWY	Lake 14nm,0.9s	82.53	40	eP	P	00 56 01.3	+1.7
X26A	CR and CF Fran baz=83	82.57	51	⇑P	P	00 56 00.3	+0.4
P22A	Eagle baz=83,SNR=6.8	82.59	46	⇓P	P	00 56 00.1	+0.2
N21A	Black Mountain baz=83,SNR=10.0	82.59	44	⇓P	P	00 56 00.2	+0.3
L20A	Wamsutter baz=83,SNR=17	82.62	43	⇓P	P	00 56 00.5	+0.5
R23A	Moffat baz=83,SNR=9.4	82.62	47	⇓P	P	00 56 00.4	+0.2
SDCO	Great Sand Dun 15nm,1.4s	82.66	48	eP	P	00 56 00.2	-0.2
SDCO	Great Sand Dun baz=83,SNR=9.6	82.66	48	⇑P	P	00 56 00.6	+0.2
K19A	Absolon Red Bu baz=83,SNR=7.4	82.68	42	⇑P	P	00 56 00.0	-0.3
T24A	Torres, Weston baz=83,SNR=15	82.70	49	⇑P	P	00 56 01.2	+0.6
G17A	Pierce Place, baz=83	82.70	39	⇓P	P	00 56 00.8	+0.4
J19A	Crowheart baz=83,SNR=12	82.75	42	⇑P	P	00 56 00.7	0.0
E16A	East Helena baz=83,SNR=17	82.75	38	⇑P	P	00 56 00.6	+0.1
HRY	Holter Researc	82.75	38	eP	P	00 56 00.4	-0.1
Y27A	Causey baz=83,SNR=5.6	82.79	52	⇓P	P	00 56 00.5	-0.5
B14A	Marquette Ranc baz=83,SNR=6.5	82.79	36	⇑P	P	00 56 00.3	-0.4
128A	Castleberry Fa baz=83,SNR=6.4	82.81	54	⇓P	P	00 56 01.1	0.0
W26A	Owens Ranch, T baz=83	82.82	51	⇑P	P	00 56 01.5	+0.3
S24A	Houchin Ranch, baz=83,SNR=9.9	82.82	48	⇑P	P	00 56 01.8	+0.5
C15A	Salmond Ranch, baz=83,SNR=12	82.86	36	⇓P	P	00 56 00.7	-0.3
U25A	Circle Dot Ran baz=83,SNR=15	82.88	49	⇑P	P	00 56 01.5	0.0
K20A	Yellowstone Ra baz=83	82.92	42	⇓P	P	00 56 01.6	0.0
O22A	Kremmling baz=83,SNR=11	82.98	45	⇑P	P	00 56 02.0	-0.1
A14A	Double T Ranch baz=83,SNR=7.8	83.03	35	⇓P	P	00 56 01.6	-0.3
F17A	Fitzpatrick Pl baz=83,SNR=12	83.04	39	⇓P	P	00 56 02.5	+0.4
H18A	Shoshone NF, C baz=83,SNR=5.6	83.05	40	⇓P	P	00 56 02.4	+0.1
M21A	Separation Pea baz=83,SNR=13	83.08	44	⇑P	P	00 56 02.3	-0.2
D16A	Dana Ranch, Ca baz=83	83.08	37	⇓P	P	00 56 02.3	+0.1
229A	Bryant Ranch, baz=83	83.09	54	⇓P	P	00 56 02.2	-0.3
V26A	Tequesquite Ra baz=83,SNR=5.4	83.09	50	⇑P	P	00 56 02.3	-0.3
430A	Baggett Ranch, baz=83	83.09	56	⇓P	P	00 56 02.4	-0.2
MSTX	Muleshoe baz=83	83.12	52	⇑P	P	00 56 02.5	-0.2
P23A	Jefferson baz=83,SNR=5.8	83.13	46	⇓P	P	00 56 03.5	+0.6
X27A	F and S Farms, baz=83	83.14	51	⇓P	P	00 56 02.7	-0.1
R24A	Sanders Place, baz=83,SNR=9.2	83.15	48	⇑P	P	00 56 03.3	+0.4
Z28A	Tucker Farm, M baz=83	83.15	53	⇑P	P	00 56 02.9	+0.1
I19A	Meeteetse baz=83,SNR=11	83.16	41	⇑P	P	00 56 02.9	+0.2
B15A	Bradely Ranch, baz=83,SNR=6.2	83.17	36	⇑P	P	00 56 01.6	-1.0
T25A	Trinidad baz=83	83.19	49	⇑P	P	00 56 03.4	+0.3
E17A	Martinsdale baz=83,SNR=5.5	83.20	38	⇑P	P	00 56 03.0	+0.1
RWWY	Rawlins 31nm,1.2s	83.22	44	eP	P	00 56 03.2	-0.1
L21A	Rawlins baz=83,SNR=6.8	83.24	43	⇑P	P	00 56 02.8	-0.4
N22A	Wattenberg Ran baz=84,SNR=13	83.33	45	⇑P	P	00 56 04.1	+0.3
W27A	Bowe Ranch, En baz=84,SNR=14	83.34	51	⇓P	P	00 56 03.4	-0.4
C16A	Fuhringer Ranc baz=84,SNR=12	83.37	37	⇓P	P	00 56 03.4	-0.2
U26A	Atchley Ranch, baz=84,SNR=17	83.37	50	⇑P	P	00 56 03.8	-0.3
S25A	Robets Cordova baz=84	83.39	48	⇑P	P	00 56 04.0	-0.1
J20A	Shoshoni baz=84,SNR=19	83.42	42	⇓P	P	00 56 04.3	+0.2
A15A	Johnson Ranch, baz=84,SNR=9.7	83.42	35	⇓P	P	00 56 03.4	-0.5
G18A	Lazy EL Ranch, baz=84,SNR=9.6	83.42	40	⇓P	P	00 56 04.2	+0.2
Q24A	Divide baz=84,SNR=9.3	83.43	47	⇑P	P	00 56 04.5	+0.1
O23A	Lake Granby, G baz=84,SNR=5.1	83.44	45	⇓P	P	00 56 04.5	+0.1
H19A	Powell baz=84,SNR=12	83.47	40	⇑P	P	00 56 04.9	+0.6
ISCO	Idaho Springs 5.3nm,1.0s	83.47	46	eP	P	00 56 04.8	+0.2
ISCO	Idaho Springs baz=84,SNR=5.0	83.47	46	⇑P	P	00 56 04.6	0.0
Y28A	McKinney Farm, baz=84	83.50	52	⇓P	P	00 56 04.3	-0.3
M22A	Cedar Creek Ra baz=84,SNR=6.6	83.50	44	⇑P	P	00 56 04.4	-0.3
RLMT	Red Lodge 13nm,1.0s	83.51	40	eP	P	00 56 04.8	+0.2
RLMT	Red Lodge baz=84,SNR=12	83.51	40	⇑P	P	00 56 05.1	+0.5
F18A	Big Timber baz=84,SNR=10	83.62	39	⇑P	P	00 56 05.4	+0.4
K21A	Alcova baz=84,SNR=14	83.63	43	⇓P	P	00 56 04.9	-0.4
D17A	Six Diamond Ra baz=84,SNR=21	83.65	38	⇓P	P	00 56 05.6	+0.4
Z29A	Hungry Hill Ra baz=84	83.66	53	⇑P	P	00 56 05.0	-0.5
I20A	Worland baz=84	83.67	41	⇑P	P	00 56 05.3	0.0
R25A	Fountain Ranch baz=84,SNR=6.6	83.70	48	⇓P	P	00 56 05.2	-0.4
B16A	M M Farms, S baz=84,SNR=12	83.70	36	⇓P	P	00 56 04.5	-0.8
N23A	Red Feather La baz=84,SNR=7.2	83.72	45	⇓P	P	00 56 05.8	-0.1
X28A	Dimmitt baz=84	83.78	52	⇑P	P	00 56 05.9	-0.1
T26A	Comanche Natio baz=84	83.80	49	⇑P	P	00 56 05.8	-0.5
E18A	Harlowton baz=84,SNR=17	83.82	38	⇓P	P	00 56 06.1	+0.1
J21A	Lysite baz=84,SNR=27	83.83	42	⇓P	P	00 56 06.3	+0.1
C17A	Wharram Farm, baz=84,SNR=40	83.85	37	⇓P	P	00 56 06.3	+0.1
L22A	Ellis Ranch, M baz=84,SNR=5.0	83.89	44	⇓P	P	00 56 06.7	+0.1
Y29A	Porterfield Fa baz=84,SNR=7.5	83.92	53	⇓P	P	00 56 06.4	-0.4
O24A	Longmont baz=84	83.98	46	⇑P	P	00 56 06.9	-0.1
H20A	Greybull baz=84,SNR=5.1	84.00	41	⇑P	P	00 56 06.5	-0.5
A16A	West Butte Ran baz=84	84.05	36	⇓P	P	00 56 06.9	-0.2
W28A	Vega baz=84	84.06	51	⇑P	P	00 56 07.2	-0.3
F19A	Roth Farm, Mol baz=84,SNR=19	84.06	39	⇓P	P	00 56 07.1	-0.2
S26A	Kim baz=84	84.07	49	⇓P	P	00 56 07.1	-0.4
K22A	Casper baz=84	84.11	43	⇑P	P	00 56 07.7	+0.1
X29A	Tulia baz=84	84.12	52	⇑P	P	00 56 07.8	0.0
I21A	Big Trails, Te baz=84,SNR=21	84.14	42	⇑P	P	00 56 07.4	-0.3
B17A	L&G Farms, Che baz=84,SNR=9.3	84.16	37	⇓P	P	00 56 07.4	-0.2
D18A	Linhart Farms, baz=84	84.20	38	⇓P	P	00 56 08.4	+0.5
G20A	Bridger baz=84	84.21	40	⇑P	P	00 56 08.2	+0.1
PHWY	Pilot Hill 6.6nm,0.9s	84.23	45	eP	P	00 56 08.3	-0.2
V28A	Channing baz=84	84.24	51	⇓P	P	00 56 08.0	-0.4
AMTX	Amarillo 27nm,1.0s	84.31	52	eP	P	00 56 08.2	-0.6
AMTX	Amarillo baz=84,SNR=7.2	84.31	52	⇓P	P	00 56 08.3	-0.4
P25A	Willow Gulch B baz=84	84.36	47	⇓P	P	00 56 09.4	+0.4
R26A	Arlington baz=84,SNR=12	84.36	48	⇓P	P	00 56 08.8	-0.2
T27A	Campo baz=84	84.39	49	⇑P	P	00 56 08.9	-0.3
N24A	Carr baz=84,SNR=5.8	84.42	45	⇑P	P	00 56 09.5	+0.2
L23A	Garrett baz=85,SNR=11	84.42	44	⇓P	P	00 56 09.2	-0.2
W29A	Amraillo baz=84	84.43	52	⇓P	P	00 56 09.2	-0.1
E19A	Rath Farm, Rou baz=85,SNR=11	84.45	39	⇑P	P	00 56 09.5	+0.3
J22A	Midwest baz=85,SNR=11	84.48	42	⇑P	P	00 56 09.1	-0.5
F20A	Billings baz=85	84.53	40	⇑P	P	00 56 09.6	0.0
A17A	Triple J Farms baz=85,SNR=14	84.55	36	⇑P	P	00 56 09.5	-0.1
Q26A	Hugo baz=85	84.57	47	⇓P	P	00 56 09.9	-0.2
EGMT	Eagleton 8.9nm,0.9s	84.64	37	eP	P	00 56 10.1	0.0
EGMT	Eagleton baz=85,SNR=6.4	84.64	37	⇓P	P	00 56 10.0	-0.1
H21A	Big Horn, Sher baz=85	84.67	41	⇓P	P	00 56 10.5	0.0
I22A	9 Mile Ranch, baz=85,SNR=8.8	84.70	42	⇓P	P	00 56 10.7	+0.1
M24A	Cheyenne baz=85	84.73	45	⇓P	P	00 56 10.7	-0.1
D19A	Cripps Ranch, baz=85	84.73	38	⇓P	P	00 56 10.7	+0.1
K23A	Bowen Ranch, D baz=85,SNR=5.7	84.75	43	⇑P	P	00 56 10.6	-0.3
B18A	Beardsley Farm baz=85,SNR=6.5	84.81	37	⇓P	P	00 56 10.9	0.0
R27A	Eads baz=85	84.83	48	⇓P	P	00 56 10.9	-0.4
G21A	Lodge Grass baz=85	84.84	41	⇓P	P	00 56 11.1	-0.1
E20A	Meyer Farm, Mu baz=85,SNR=8.6	84.87	39	⇓P	P	00 56 11.6	+0.3
C19A	Slack Wire Ran baz=85,SNR=22	84.91	38	⇓P	P	00 56 12.1	+0.7
P26A	Davis Ranch, A baz=85	84.95	47	⇑P	P	00 56 12.1	+0.1
A18A	Metzger Ranch, baz=85	85.03	36	⇑P	P	00 56 12.0	0.0
D20A	Manuel Ranch, baz=85,SNR=9.8	85.14	39	⇓P	P	00 56 12.9	+0.3
B19A	Brinkman Farms baz=86	85.32	37	⇓P	P	00 56 13.7	+0.3
G22A	Birney baz=86	85.42	41	⇑P	P	00 56 13.9	-0.2
C20A	Veseth Ranch, baz=86,SNR=6.5	85.52	38	⇑P	P	00 56 14.7	+0.3
E21A	Keefer Ranch, baz=86,SNR=5.5	85.53	39	⇑P	P	00 56 15.2	+0.7
A19A	Klindworth Far baz=86,SNR=8.2	85.67	37	⇓P	P	00 56 15.0	-0.2
B20A	Solberg Farm, baz=86,SNR=6.7	85.85	37	⇑P	P	00 56 16.3	+0.1
C21A	Desert Coulee baz=86	86.11	38	⇓P	P	00 56 17.6	+0.2
A20A	Cobblestone Ra baz=86,SNR=8.9	86.12	37	⇓P	P	00 56 17.3	-0.1
F23A	Volborg baz=86	86.20	41	⇓P	P	00 56 18.0	+0.1
H24A	Dirks Ranch, A baz=86,SNR=8.3	86.32	42	⇓P	P	00 56 18.4	-0.1
D22A	Cohagen baz=86	86.36	39	⇑P	P	00 56 18.8	+0.2
RSSD	Black Hills 9.9nm,1.4s	86.39	43	eP	P	00 56 18.4	-0.7
B21A	Ellsworth Farm baz=87	86.44	38	⇓P	P	00 56 19.3	+0.3
WMOK	Wichita Mounta 35nm,2.3s	86.47	53	eP	P	00 56 18.3	-1.1
A21A	Bergtoll Ranch baz=87,SNR=6.1	86.75	37	⇓P	P	00 56 20.6	+0.1
B22A	Reddig Ranch S baz=87	86.98	38	⇑P	P	00 56 21.9	+0.2
C23A	Lambert baz=87	87.25	39	⇓P	P	00 56 23.2	+0.2
A22A	Carney Farms, baz=88	87.34	38	⇑P	P	00 56 23.1	-0.3
D24A	Glendive baz=88	87.48	40	⇓P	P	00 56 24.3	+0.2
C24A	Savage baz=88	87.59	39	⇓P	P	00 56 25.1	+0.5
B23A	Brockton baz=88	87.66	38	⇓P	P	00 56 24.9	0.0
INK	Inuvik	88.10	14	P	P	00 56 26.5	0.0
INK	Inuvik 2.1nm,1.0s,baz=200,slow=7.1,SNR=5.2	88.10	14	P	P	00 56 26.5	0.0
DGMT	Dagmar 15nm,1.1s	88.14	39	eP	P	00 56 27.4	+0.3
DGMT	Dagmar baz=88	88.14	39	⇑P	P	00 56 27.5	+0.3
A24A	Westby baz=89	88.45	38	⇑P	P	00 56 28.8	+0.2
YKA	Yellowknife Ar	89.96	23	P	P	00 56 35.2	-0.1
YKA	Yellowknife Ar 2.3nm,1.0s,baz=238,slow=4.3,SNR=23	89.96	23	P	P	00 56 35.2	-0.1
MDND	Maddock baz=91	90.71	40	⇓P	P	00 56 38.7	-0.5
CFAA	Coronel Fontan	94.66	124	P	P	00 56 57.5	-0.6
CFAA	Coronel Fontan 0.1nm,0.5s,baz=307,slow=3.8,SNR=4.2	94.66	124	P	P	00 56 57.5	-0.6
ARCES	ARCESS Array B	124.39	352	PKP	PKPdf	01 02 34.5	-0.4
ARCES	ARCESS Array B 5.4nm,0.8s,baz=66,slow=1.5,SNR=14	124.39	352	PKP	PKPdf	01 02 34.5	-0.4
FINES	FINESS Array B	131.72	348	PKP	PKPdf	01 02 49.1	+0.1
FINES	FINESS Array B 2.4nm,0.8s,baz=104,slow=3.9,SNR=6.3	131.72	348	PKP	PKPdf	01 02 49.1	+0.1
OJC	Ojcow	143.44	346	ePKP	PKPbc	01 03 08.0	-0.1
KOLS	Kolonicke sedl	143.95	342	ePKP	PKPdf	01 03 12.1	+0.3
DPC	Dobruska-Polom	144.04	349	ePKP	PKPdf	01 03 11.1	-0.9
DPC				ex	x	01 03 19.1	
BUR08	Bucovina Ar. S	144.12	338	ePKPdf	PKPbc	01 03 11.1	+0.7
BURAR	Bucovina Array	144.14	338	⇑iP	PKPdf	01 03 12.2	-0.1
OKC	Ostrava-Krasne	144.17	347	ePKP	PKPbc	01 03 11.2	+0.9
CRVS	Cervenica-Dubn	144.21	343	ePKP	PKPdf	01 03 11.5	-0.8
MORC	Moravsky Berou	144.35	348	ePKPdf	PKPbc	01 03 11.7	+0.7
MORC	Moravsky Berou	144.35	348	⇓iP	PKPdf	01 03 12.1	-0.5
MOX	Moxa	144.40	354	ePKPbc	PKPbc	01 03 11.2	+0.2
PLN	Plauen	144.50	354	ePKPbc	PKPbc	01 03 11.5	+0.2
TESR		144.52	336	⇓iP	PKPdf	01 03 12.4	-0.5
TANN	Tannenbergstha	144.54	353	ePKPbc	PKPdf	01 03 12.7	-0.2
TRPA	Tarpa	144.58	341	⇓iP	PKPdf	01 03 12.6	-0.3
GUNZ	Gunzen	144.61	354	ePKPbc	PKPbc	01 03 11.9	+0.2
TLCR		144.66	332	⇓iP	PKPdf	01 03 13.8	+0.7
WERN	Wernitzgruen	144.68	353	ePKPbc	PKPbc	01 03 12.5	+0.6
PRU	Pruhonice	144.69	351	ePKP	PKPdf	01 03 12.7	-0.4
PRU				epPKP	PKiKP	01 03 19.1	+2.3
NKC	Novy Kostel	144.72	353	ePKPbc	PKPbc	01 03 12.5	+0.4
NKC	Novy Kostel	144.72	353	ePKP	PKPdf	01 03 12.8	-0.4
CFR	Carcaliu	144.97	333	⇓iP	PKPbc	01 03 13.3	+0.4
VRAC	Vranov	144.99	348	⇓iP	PKPdf	01 03 13.8	+0.2
VRI	Vrincioaia	145.01	335	⇑iP	PKPdf	01 03 13.9	+0.1
TNS	Taunus Mts	145.03	358	ePKPbc	PKPdf	01 03 13.6	-0.1
PLOR	Plostina	145.06	335	⇑iP	PKPdf	01 03 14.0	+0.1
TREC	Trest	145.21	350	ePKP	PKPab	01 03 13.9	+0.2
ROTZ	Rotzenmuhle	145.21	353	ePKPbc	PKPdf	01 03 14.2	+0.2
VYHS	Vyhne	145.27	346	ePKP	PKPdf	01 03 15.0	+0.8
GRF	Grafenberg Arr	145.38	355	ePKPbc	PKPab	01 03 15.1	+0.7
TIRR	Tirgusor	145.41	332	⇑iP	PKPab	01 03 14.6	0.0
DOPR	Dopca	145.46	337	⇓iP	PKPab	01 03 17.2	+2.4
PSZ	Piszkesteto	145.54	344	⇓iP	PKPab	01 03 15.3	+0.2
WLF	Walferdange	145.62	0	ePKPbc	PKPab	01 03 15.7	+0.5
WLF	Walferdange	145.62	0	ePKP	PKPab	01 03 15.3	+0.1
MLR	Muntele Rosu	145.64	335	⇑iP	PKPab	01 03 16.7	+1.1
KHC	Kasperske Hory	145.66	352	ePKP	PKPdf	01 03 14.6	-0.2
KHC	Kasperske Hory	145.66	352	ePKP	PKPab	01 03 15.8	+0.4
KHC				epPKP	pPKPdf	01 03 23.7	-1.1
ISR	Istrita	145.70	334	⇑iP	PKPab	01 03 16.6	+0.9
DRGR		145.71	340	⇓iP	PKPab	01 03 16.0	+0.2
WET	Wettzell	145.74	353	ePKPbc	PKPab	01 03 16.1	+0.4
GEC2	GERESS Array S	145.93	351	ePKPbc	PKPab	01 03 16.4	-0.1
GERES	GERESS Array B	145.93	351	PKPbc	PKPab	01 03 16.6	+0.1
GERES	GERESS Array B 11nm,1.1s,baz=40,slow=2.3,SNR=19	145.93	351	PKPbc	PKPab	01 03 16.6	+0.1
BR131	Keskin Array S	145.93	321	ePKPdf	PKPab	01 03 16.8	-0.1
BRTR	Keskin Array B	145.93	321	PKPbc	PKPab	01 03 17.4	+0.4
BRTR	Keskin Array B 9.1nm,0.9s,baz=120,slow=1.2,SNR=30	145.93	321	PKPbc	PKPab	01 03 17.4	+0.4
SECR		145.96	335	⇑iP	PKPab	01 03 17.5	+0.8
VOIR		146.04	336	⇑iP	PKPab	01 03 17.9	+0.9
STU	Stuttgart	146.44	357	ePKPbc	PKPbc	01 03 17.9	+0.4
CONA	Conrad Observa 10nm,0.8s	146.45	349	⇑iPKPab	PKPbc	01 03 18.1	+0.5
LOT	Lotru	146.51	338	⇑iP	PKPbc	01 03 18.1	+0.2
MOA	Molln 18nm,1.4s,SNR=8.7	146.81	350	iPKPab	PKPbc	01 03 19.0	+0.5
FUR	Furstenfeldbru	146.89	354	ePKPbc	PKPab	01 03 19.6	-0.5
GZR	Gura Zlata	146.91	339	⇓iP	PKPbc	01 03 19.6	+0.6
BFO	Black Forest	146.93	358	ePKPbc	PKPbc	01 03 19.1	+0.2
BFO	Black Forest	146.93	358	ePKP	PKPbc	01 03 18.9	0.0
BZS	Buzias	147.11	340	⇑iP	PKPbc	01 03 20.1	+0.6
RJOB	Jochberg	147.13	352	ePKPbc	PKPbc	01 03 19.8	+0.2
PKSM	Moragy	147.44	344	⇓iP	PKPbc	01 03 20.4	0.0
MOTA	Moosalm 6.2nm,1.0s,SNR=5.5	147.72	354	⇓iPKPab	PKPbc	01 03 21.6	+0.3
SOKA	Soboth 17nm,1.2s	147.81	349	⇑iPKPab	PKPbc	01 03 21.7	+0.2
MYKA	Terra Mystica 8.8nm,0.7s	148.09	351	⇑iPKPbc	PKPbc	01 03 22.0	-0.2
ABTA	Abfaltersbach 17nm,1.2s,SNR=9.4	148.14	352	iPKPbc	PKPbc	01 03 22.4	0.0
TUE	Stuetta	148.73	356	ePKPbc	PKPbc	01 03 24.4	+0.4
VTS	Vitosha	149.14	336	⇓iP	PKPbc	01 03 25.6	+0.4
BNI	Bardonecchia	150.24	360	ePKPdf	PKPdf	01 03 23.3	+0.7
ESDC	Sonseca Array	153.95	19	PKPbc	PKPbc	01 03 36.1	-0.2
ESDC				PKPab	PKPab	01 03 49.1	-0.3
ESDC	Sonseca Array 1.7nm,1.0s,baz=331,slow=3.4,SNR=5.1	153.95	19	PKPbc	PKPbc	01 03 36.1	-0.2
ESDC	0.3nm,0.5s,baz=319,slow=2.6,SNR=5.6			PKPab	PKPab	01 03 49.1	-0.3

IDC 16 00:47:53.2s-3.0,**4°28S×133°36E,h0km,mb3.4/1, mb1 3.9/4,mb1mx3.6/14,mbtmp3.7/4,ML3.9/2,Error ellipse: s-maj=131.2km s-min=29.0km az=80.0,Irian Jaya region**

| Code | Station Name |

0.0nm,0.3s,baz=0.0,slow=23,SNR=3.6
FITZ Fitzroy Crossi 15.68 208 Pn Pn 00 51 35.5 -0.1
0.5nm,0.3s,baz=49,slow=12,SNR=7.7
FITZ Sn Sn 00 54 23.2 -6.9
0.3nm,0.3s,baz=184,slow=13,SNR=4.4
ASAR Alice Springs 19.28 178 P Pn 00 52 20.6 -0.1
0.3nm,0.3s,baz=3.8,slow=13,SNR=19
MKAR Makanchi Array 67.87 325 P P 00 58 53.5 -0.1
0.4nm,0.7s,baz=118,slow=7.6,SNR=5.5

IDC 16 00:51:11.4±6.2, 3°58'S×149°37'E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/15, mbtmp3.5/3, MS3.8/5, Ms1 3.8/5, ms1mx3.4/16, Error ellipse: s-maj=219.9km s-min=32.4km az=103.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**17.63**	**345**	LR	LR	01 00 35.1	
	comp=Z,237nm,21.2s,baz=139,slow=32						
WRA	**Warramunga Arr**	**21.89**	**221**	P	P	00 56 06.5	+0.3
	3.2nm,1.0s,baz=42,slow=11,SNR=7.2						
DZM	**Mont Dzumac**	**24.75**	**139**	LR	LR	01 04 40.3	
	comp=Z,260nm,21.0s,baz=235,slow=33						
ASAR	**Alice Springs**	**24.94**	**215**	P	P	00 56 36.4	-0.2
	0.7nm,0.6s,baz=51,slow=7.4,SNR=4.0						
FITZ	**Fitzroy Crossi**	**27.35**	**236**	LR	LR	01 08 53.2	
	comp=Z,362nm,18.5s,baz=61,slow=39						
MJAR	**Matsushiro Arr**	**41.25**	**346**	LR	LR	01 11 59.1	
	comp=Z,159nm,20.1s,baz=205,slow=30						
KSRS	**Korea Array**	**45.44**	**336**	LR	LR	01 16 53.4	
	comp=Z,70nm,21.0s,baz=348,slow=34						
MKAR	**Makanchi Array**	**77.17**	**320**	P	P	01 03 07.3	0.0
	0.2nm,0.6s,baz=90,slow=5.8,SNR=3.1						
TORD	**Torodi Ar. Bea**	**146.67**	**289**	PKPbc	PKPbc	01 10 55.6	-0.7
	0.4nm,0.7s,baz=50,slow=2.3,SNR=3.5						

IDC 16 00:52:32.0±4.2, 3°40S×149°23E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.7/16, mbtmp4.0/3, MS3.7/1, Ms1 3.7/1, ms1mx2.8/21, Error ellipse: s-maj=144.1km s-min=50.8km az=112.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.94**	**220**	P	P	00 57 26.4	-1.1
	3.7nm,1.0s,baz=42,slow=11,SNR=4.9						
WRA				LR	LR	01 06 31.2	
	comp=Z,194nm,18.5s,baz=60,slow=38						
ASAR	**Alice Springs**	**25.00**	**215**	P	P	00 57 57.9	0.0
	1.6nm,1.0s,baz=52,slow=9.0,SNR=4.5						
FITZ	**Fitzroy Crossi**	**27.34**	**236**	P	P	00 58 20.1	+1.1
	6.1nm,1.0s,baz=56,slow=11,SNR=3.0						
TORD	**Torodi Ar. Bea**	**146.49**	**289**	PKPbc	PKPdf	01 12 15.4	+0.4
	0.9nm,0.9s,baz=61,slow=3.9,SNR=4.5						

*NEIC **16** 01:03:39.0, 35°.30N×119°.43W, h15km, ML3.9(PAS), After PAS.*
NEIC Felt [III] at Buttonwillow, Fellows, Taft and Tupman and [II] at Bakersfield. Also felt at Arvin and Maricopa.
*IDC **16** 01:03:39.1±1.6, 35°.40N×119°.53W, h0km, mb3.6/5, mb1 3.7/8, mb1mx3.6/26, mbtmp3.4/8, ML3.5/3, Error ellipse: s-maj=24.7km s-min=16.4km az=86.0*
ISC 16 01:03:37.4±1.2, 35°27'N±0°.02×119°42'W±0°.03, h1km±9km, n56, σ1°30'/77, mb3.6/6, 15C-14D, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMMC	**Simmler**	**0.47**	**275**	⇑P	**Pb**	**01 03 47.7**	**-0.8**
	baz=0.5						
SMMC				⇑S	**Sb**	**01 03 55.4**	**-0.7**
	baz=0.5						
PKM	**Peak Mountain**	**0.50**	**221**	⇑P	**Pb**	**01 03 48.4**	**-0.7**
	baz=0.5						
VES	**Vestal, Richgr**	**0.63**	**26**	⇑P	**Pg**	**01 03 50.1**	**+0.6**
	baz=0.6						
VES				⇓S	**Sb**	**01 03 59.5**	**-1.0**
	baz=0.6						
PTRM	**Twissleman Ran**	**0.75**	**301**	*e*Pg	**Pg**	**01 03 52.5**	**+0.7**
ISA	**Isabella**	**0.86**	**63**	*e*Pg	**Pg**	**01 03 54.3**	**+0.3**
ISA				*e*S	**Sg**	**01 04 06.1**	**+0.8**
ISA	**Isabella**	**0.86**	**63**	⇑P	**Pg**	**01 03 54.2**	**+0.3**
	baz=0.9						
ISA				⇑S	**Sg**	**01 04 06.2**	**+1.0**
	baz=0.9						
SBC	**Santa Barbara**	**0.86**	**196**	⇓P	**Pb**	**01 03 55.7**	**+0.5**
	baz=0.9						
RCTC	**Rector, Farmer**	**1.04**	**8**	⇑P	**Pg**	**01 03 56.6**	**-0.9**
	baz=1.0						
RCTC				⇑S	**Sg**	**01 04 11.1**	**+0.1**
	baz=1.0						
BLG	**Laguna Peak**	**1.20**	**166**	⇓P	**Pb**	**01 04 00.6**	**-0.3**
	baz=1.2						
BLG				⇑S	**Sn**	**01 04 17.2**	**-0.9**
	baz=1.2						
EDW2	**Edwards Air Fo**	**1.24**	**108**	⇓P	**Pg**	**01 04 00.5**	**-0.6**
	baz=1.2						
BSC	**Santa Cruz Isl**	**1.29**	**188**	⇓P	**Pg**	**01 04 01.9**	**-0.2**
	baz=1.3						
BSC				⇓S	**Sn**	**01 04 19.7**	**-0.7**
	baz=1.3						
DECC	**Green Verdugo**	**1.36**	**138**	⇑Pb	**Pn**	**01 04 03.4**	**-0.1**
	baz=1.4						
LRMC	**Laurel Mountai**	**1.43**	**81**	⇓Pb	**Pn**	**01 04 04.4**	**-0.2**
	baz=1.4						
PASC	**Pasadena Art C**	**1.50**	**137**	*e*Pn	**Pn**	**01 04 05.3**	**-0.1**
PASC				*e*S	**Sn**	**01 04 27.5**	**+1.9**
MWC	**Mount Wilson**	**1.54**	**133**	*e*Pn	**Pb**	**01 04 06.4**	**-0.3**
MWC				*e*S	**Sg**	**01 04 29.8**	**+3.1**
CWC	**Cottonwood Cre**	**1.59**	**43**	⇑Pb	**Pn**	**01 04 07.0**	**+0.2**
	baz=1.6						
CWC				⇑Sb	**Sn**	**01 04 28.6**	**+0.4**
	baz=1.6						
MPMC	**Manual Prospec**	**1.76**	**63**	⇓Pb	**Pn**	**01 04 09.3**	**+0.2**
	baz=1.7						
FMP	**Fort Macarthur**	**1.81**	**149**	⇓Pb	**Pb**	**01 04 10.9**	**-0.5**
	baz=1.8						
TIN	**Tinemaha**	**2.02**	**28**	⇑Pb	**Pb**	**01 04 14.1**	**-0.9**
	baz=2.0						
TIN				⇑Sb	**Sb**	**01 04 41.1**	**+0.3**
	baz=2.0						
CIS	**Catalina Islan**	**2.04**	**155**	⇑Pn	**Pn**	**01 04 12.7**	**-0.2**
	baz=2.1						
CIS				⇓Sb	**Sg**	**01 04 42.4**	**-0.7**
	baz=2.1						
GSC	**Goldstone**	**2.14**	**88**	*e*Pn	**Pn**	**01 04 13.9**	**-0.4**
MTUM	**Tungsten Hills**	**2.19**	**18**	*e*Pn	**Pn**	**01 04 16.5**	**+1.5**
SAO	**San Andreas Ge**	**2.22**	**313**	*e*Pn	**Pn**	**01 04 14.7**	**-0.6**
MLAC	**Mammoth Lakes**	**2.40**	**11**	⇓Pb	**Pn**	**01 04 19.3**	**+1.3**
	baz=2.4						
MLAC				⇓Sb	**Sb**	**01 04 51.6**	**-0.1**
	baz=2.4						
CMB	**Columbia Colle**	**2.86**	**345**	*e*Pn	**Pn**	**01 04 24.4**	**+0.2**
CMB				*e*S	**Sn**	**01 05 00.2**	**+0.9**
PFO	**Pinyon Flat Ob**	**2.96**	**123**	*e*Pn	**Pn**	**01 04 25.3**	**-0.3**
PFO				*e*S	**Sn**	**01 05 04.4**	**+2.6**
PFO	**Pinyon Flat Ob**	**2.96**	**123**	⇓Pn	**Pn**	**01 04 25.4**	**-0.3**
	baz=3.0						
NVAR	**Mina Array Bea**	**3.27**	**16**	Pn	**Pn**	**01 04 31.3**	**+1.3**
NVAR				Pg	**Pb**	**01 04 36.8**	**+0.4**
NVAR				Lg	Lg	01 05 20.2	
NVAR	**Mina Array Bea**	**3.27**	**16**	Pn	**Pn**	**01 04 31.3**	**+1.3**
	5.7nm,0.3s,baz=203,slow=14,SNR=11						
NVAR				Pg	**Pb**	**01 04 36.8**	**+0.4**
	10nm,0.3s,baz=205,slow=15,SNR=37						
NVAR				Lg	Lg	01 05 20.2	
	13nm,0.3s,baz=189,slow=17,SNR=6.9						
SAC	**San Andreas**	**3.34**	**315**	*e*Pn	**Pn**	**01 04 29.8**	**-0.9**
MONP	**Monument Peak**	**3.44**	**133**	⇓Pn	**Pn**	**01 04 32.3**	**0.0**
	baz=3.5						
BAR	**Barrett**	**3.45**	**138**	*e*Pn	**Pn**	**01 04 32.2**	**-0.1**
BAR				*e*S	**Sn**	**01 05 09.7**	**-4.1**
LDFC	**Landfair**	**3.54**	**92**	*e*Pn	**Pn**	**01 04 32.5**	**-1.0**
GLA	**Glamis**	**4.41**	**119**	*e*Pn	**Pn**	**01 04 44.4**	**-1.1**
GLA				*e*Pg	**Pg**	**01 05 04.2**	**+2.3**
CCUT	**Cedar City**	**5.39**	**63**	Pn	**Pn**	**01 04 57.7**	**-1.4**
CCUT				*e*Pg	**Pg**	**01 05 19.4**	**-1.3**
BMN	**Battle Mountai**	**5.43**	**18**	Pn	**Pn**	**01 04 58.0**	**-1.7**
BMN				*e*Pg	**Pg**	**01 05 21.5**	**0.0**
BMN				*e*S	Sb	01 06 25.6	+6.6
ELK	**Elko**	**6.38**	**30**	*e*Pn	**Pn**	**01 05 12.3**	**-0.4**
ELK				*e*S	**Sg**	**01 06 58.6**	**-3.8**
WUAZ	**Wupatki**	**6.58**	**86**	*e*Pn	**Pn**	**01 05 13.2**	**-2.2**
WUAZ				*e*Pg	**Pg**	**01 05 41.2**	**-2.2**
WUAZ				*e*S	**Sg**	**01 07 10.1**	**+1.4**
MSU	**Marysvale**	**6.64**	**59**	*e*Pn	**Pn**	**01 05 15.3**	**-1.0**
MOD	**Modoc**	**6.66**	**354**	*e*Pn	**Pn**	**01 05 18.4**	**+2.0**
PDAR	**Pinedale Array**	**10.71**	**43**	Pn	Pn	01 06 17.2	+5.1
PDAR	**Pinedale Array**	**10.71**	**43**	Pn	Pn	01 06 17.2	+5.1
	0.1nm,0.3s,baz=250,slow=9.5,SNR=2.5						
LOHW	**Long Hollow**	**10.76**	**37**	*e*Pn	Pn	01 06 20.1	+7.4
TXAR	**Lajitas Array**	**14.57**	**110**	Pn	**P**	**01 07 11.8**	**+0.3**
TXAR	**Lajitas Array**	**14.57**	**110**	Pn	**P**	**01 07 11.8**	**+0.3**
	0.1nm,0.3s,baz=274,slow=13,SNR=5.7						
ULM	**Lac du Bonnet**	**22.73**	**42**	P	**P**	**01 08 40.2**	**-0.4**
ULM	**Lac du Bonnet**	**22.73**	**42**	P	**P**	**01 08 40.2**	**-0.4**
	1.9nm,0.6s,baz=215,slow=9.8,SNR=4.2						
YKA	**Yellowknife Ar**	**27.41**	**5**	P	**P**	**01 09 24.0**	**-0.2**
YKA	**Yellowknife Ar**	**27.41**	**5**	P	**P**	**01 09 24.0**	**-0.2**
	0.3nm,0.8s,baz=188,slow=8.8,SNR=8.3						
ILAR	**Eielson Array**	**33.84**	**339**	P	**P**	**01 10 21.8**	**+0.8**
ILAR	**Eielson Array**	**33.84**	**339**	P	**P**	**01 10 21.8**	**+0.8**
	0.5nm,0.8s,baz=154,slow=7.7,SNR=6.8						
INK	**Inuvik**	**34.03**	**351**	P	**P**	**01 10 23.4**	**+0.9**
INK	**Inuvik**	**34.03**	**351**	P	**P**	**01 10 23.4**	**+0.9**
	1.4nm,1.0s,baz=175,slow=5.6,SNR=5.9						
RES	**Resolute Bay**	**41.23**	**10**	P	**P**	**01 11 25.7**	**+2.4**
RES	**Resolute Bay**	**41.23**	**10**	P	**P**	**01 11 25.7**	**+2.4**
	0.3nm,0.3s,baz=28,slow=6.6,SNR=6.1						
MDJ	**Mudanjiang**	**78.86**	**317**	P	**P**	**01 15 39.8**	**-2.4**
MDJ				pmax	pmax		
	comp=Z,9.0nm,2.8s						
MDJ				pmax	pmax		
	comp=Z,140nm,4.5s						

PRE 16 01:10:03.0±2.2, 26°.94S×26°.90E, h2km, ML2.9, 3C-3D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOAB	**Moab Khotsong**	**0.10**	**243**	⇓*i*P	Pg	01 10 06.7	+1.5
MOAB				*e*S	Sg	01 10 07.8	+1.1
MOAB				AML	AML	01 10 08.0	
	comp=Z,2μm,0.1s						
BFSD	**Buffelsfontein**	**0.13**	**307**	⇑*i*P	Pg	01 10 05.6	-0.1
BFSD				*e*S	Sg	01 10 06.4	-1.1
BFSD				AML	AML	01 10 06.5	
	comp=Z,6μm,0.1s						
TLEK	**Tau Lekoa**	**0.20**	**264**	⇓*i*P	Pg	01 10 07.2	0.0
TLEK				*e*S	Sg	01 10 09.3	-0.7
KLOF	**Kloof**	**0.87**	**47**	*e*P	Pb	01 10 20.9	-0.2
KLOF				*e*S	Sg	01 10 31.0	-0.4
KLOF				AML	AML	01 10 38.1	
	comp=Z,384nm,0.3s						
SEK	**Senekal**	**1.52**	**155**	*e*P	Pg	01 10 33.1	+0.7
SEK				*e*S	Sb	01 10 52.0	0.0
SEK				AML	AML	01 10 56.4	
	comp=Z,81nm,0.2s						
SLR	**Silverton**	**1.73**	**46**	⇑*i*P	Pb	01 10 35.4	-0.2
SLR				*e*S	Sb	01 10 57.6	-0.4
SLR				AML	AML	01 11 00.7	
	comp=Z,196nm,0.5s						
BOSA	**Boshof**	**2.21**	**221**	⇑*i*P	Pn	01 10 41.1	+0.2
BOSA				*e*S	Sn	01 11 07.6	-1.4
BOSA				AML	AML	01 11 22.1	
	comp=Z,29nm,0.5s						
LBTB	**Lobatse**	**2.25**	**328**	⇓*i*P	Pn	01 10 41.8	+0.3
LBTB				*e*S	Sn	01 11 10.6	+0.7
LBTB				AML	AML	01 11 12.5	
	comp=Z,100nm,0.4s						
SUR	**Sutherland**	**7.58**	**223**	*e*P	Pn	01 11 55.3	+0.5
SUR				*e*S	Sn	01 13 17.7	-3.7
SUR				AML	AML	01 14 17.2	
	comp=Z,3.3nm,0.5s						

*PGC **16** 01:10:26.8±2.3, 48°.90N×129°.50W, h10km, ML3.2/7, Mw3.8, 250km southwest of Pt. Hardy, Bc Vancouver Island Region*
*IDC **16** 01:10:29.3±1.3, 49°.10N×129°.51W, h0km, mb3.6/5, mb1 3.9/12, mb1mx3.8/28, mbtmp3.7/12, ML3.6/7, MS3.7/1, Ms1 3.7/1, ms1mx2.9/44, Error ellipse: s-maj=26.1km s-min=11.6km az=69.0*
*NEIC **16** 01:10:32.2±0.8, 49°.30N×129°.00W, h10km, mb4.2/5, Error ellipse: s-maj=12.2km s-min=5.8km az=63.0*
ISC 16 01:10:31.2±2.5, 49°27'N±0°.05×129°07'W±0°.07, h7km±14km, n57, σ1°25'/67, mb3.6/7, 2C-4D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.23**	**43**	⇑Pn	**Pb**	**01 10 54.1**	**-0.6**
BPBC				Sn	**Sn**	**01 11 14.3**	**+2.6**
BPBC	**Brooks Peninsu**	**1.23**	**43**	⇑Pn	**Pb**	**01 10 54.1**	**-0.6**
BPBC				⇑Sn	**Sn**	**01 11 14.3**	**+2.6**
EDB	**Eliza Dome**	**1.41**	**64**	⇑Pn	**Pn**	**01 10 55.8**	**-1.5**
EDB				Sn	**Sg**	**01 11 17.7**	**+1.3**
EDB	**Eliza Dome**	**1.41**	**64**	⇑Pn	**Pn**	**01 10 55.8**	**-1.5**
EDB				⇓Sn	**Sg**	**01 11 17.7**	**+1.3**
HOLB	**Holberg**	**1.50**	**23**	Pn	**Pn**	**01 10 58.1**	**-0.5**
HOLB	**Holberg**	**1.50**	**23**	⇑Pn	**Pn**	**01 10 58.1**	**-0.5**
MAYB	**Maynard**	**1.67**	**47**	⇑Pn	**Pn**	**01 11 00.5**	**-0.6**
MAYB				⇓Sn	**Sg**	**01 11 25.9**	**+1.0**
PHC	**Port Hardy**	**1.79**	**36**	⇑Pn	**Pn**	**01 11 02.2**	**-0.2**
PHC				⇑Sn	**Sg**	**01 11 27.9**	**-0.7**
WOSB	**Woss**	**1.85**	**60**	⇓Pn	**Pn**	**01 11 03.3**	**-0.1**
GDR	**Gold River**	**2.04**	**74**	⇑Pn	**Pn**	**01 11 05.1**	**-0.9**
BTB	**Buttle Lake**	**2.33**	**84**	Pn	**Pn**	**01 11 08.8**	**-1.3**
BTB				⇑Sn	**Sn**	**01 11 38.8**	**-0.2**
OZB	**Mount Ozzard**	**2.37**	**96**	Pn	**Pn**	**01 11 08.0**	**-2.5**
OZB				⇓Sn	**Sn**	**01 11 38.4**	**-1.5**
BBB	**Bella Bella**	**2.98**	**11**	Pn	**Pn**	**01 11 18.8**	**0.0**
BBB				Sn	**Sb**	**01 11 58.8**	**-2.4**
BBB	**Bella Bella**	**2.98**	**11**	Pn	**Pn**	**01 11 18.8**	**0.0**
	4.2nm,0.3s,baz=207,slow=13,SNR=50						
BBB				Sn	**Sb**	**01 11 58.8**	**-2.4**
	7.1nm,0.3s,baz=63,slow=13,SNR=3.6						
PGC	**Sidney**	**3.75**	**97**	*e*Pn	**Pn**	**01 11 27.6**	**-1.9**
NLWA	**Neilton Lookou**	**3.94**	**116**	*e*Pn	**Pn**	**01 11 32.8**	**+0.6**
VDB	**Vedder Mountai**	**4.58**	**90**	P	**Pn**	**01 11 40.5**	**-0.4**
MBW	**Mount Baker**	**4.74**	**93**	P	**Pn**	**01 11 43.3**	**+0.1**
TDL	**Tradedollar La**	**5.46**	**120**	P	**Pn**	**01 11 53.6**	**+0.5**
LON	**Longmire**	**5.49**	**115**	*e*Pn	**Pn**	**01 11 53.0**	**-0.3**
	9.1nm,0.5s						
TWW	**Teanaway**	**5.88**	**108**	P	**Pn**	**01 11 59.9**	**+1.1**
ASR	**Mount Adams--S**	**5.93**	**119**	P	**Pn**	**01 11 59.9**	**+0.4**
COR	**Corvallis**	**6.13**	**138**	*e*Pn	**Pn**	**01 12 01.8**	**-0.3**
VFP	**Flag Point**	**6.51**	**125**	P	**Pn**	**01 12 08.3**	**+0.8**
SNIWA	**Snively Ranch**	**6.92**	**110**	P	Pn	01 12 18.1	+5.1
HAWA	**Hanford**	**7.04**	**111**	*e*Pn	**Pn**	**01 12 14.4**	**-0.1**
	3.4nm,0.5s						
NEW	**Newport**	**7.96**	**93**	*e*Pn	**Pn**	**01 12 26.5**	**-0.8**
	2.5nm,0.4s						
YBH	**Yreka Blue Hor**	**8.76**	**147**	Pn	**Pn**	**01 12 37.8**	**-0.4**
YBH	**Yreka Blue Hor**	**8.76**	**147**	Pn	**Pn**	**01 12 37.8**	**-0.4**
	0.2nm,0.3s,baz=355,slow=11,SNR=12						
BMO	**Blue Mountains**	**9.16**	**114**	*e*Pn	**Pn**	**01 12 43.9**	**0.0**
	2.3nm,0.6s						
DLBC	**Dease Lake**	**9.21**	**357**	LR	LR	01 16 33.1	
	comp=Z,496nm,20.2s,baz=160,slow=39						
BSMT	**Bassoo Peak**	**9.58**	**93**	*e*Pn	**Pn**	**01 12 50.1**	**+0.5**
	2.1nm,0.5s						
NVAR	**Mina Array Bea**	**13.32**	**140**	Pn	**Pn**	**01 13 41.7**	**+0.9**
NVAR				Sn	**Sn**	**01 16 08.4**	**-0.7**
NVAR	**Mina Array Bea**	**13.32**	**140**	Pn	**Pn**	**01 13 41.7**	**+0.9**
	0.2nm,0.3s,baz=314,slow=12,SNR=2.4						
NVAR				Sn	**Sn**	**01 16 08.4**	**-0.7**
	0.6nm,0.3s,baz=56,slow=22,SNR=3.1						
PDAR	**Pinedale Array**	**15.01**	**108**	Pn	**P**	**01 14 09.2**	**-0.2**
PDAR	**Pinedale Array**	**15.01**	**108**	Pn	**P**	**01 14 09.2**	**-0.2**
	0.1nm,0.3s,baz=317,slow=10,SNR=14						
YKA	**Yellowknife Ar**	**15.48**	**26**	Pn	**Pn**	**01 14 09.6**	**-0.2**
YKA	**Yellowknife Ar**	**15.48**	**26**	Pn	**Pn**	**01 14 09.5**	**-0.2**
	0.2nm,0.3s,baz=213,slow=12,SNR=18						
FFC	**Flin Flon**	**17.49**	**62**	*e*Pn	**P**	**01 14 36.6**	**+0.1**
	12nm,0.7s						
RSSD	**Black Hills**	**17.89**	**97**	*e*P	**Pn**	**01 14 40.2**	**-0.5**
	4.0nm,0.9s						
ILAR	**Eielson Array**	**18.20**	**335**	P	**Pn**	**01 14 44.0**	**0.0**
ILAR	**Eielson Array**	**18.20**	**335**	P	**Pn**	**01 14 44.0**	**0.0**
	0.0nm,0.3s,baz=150,slow=10,SNR=9.0						
MVCO	**Mesa Verde**	**19.16**	**121**	*e*P	**P**	**01 14 55.9**	**+0.6**
	8.2nm,0.9s						
INK	**Inuvik**	**19.23**	**355**	P	**Pn**	**01 14 57.7**	**+1.2**
INK	**Inuvik**	**19.23**	**355**	P	**Pn**	**01 14 57.7**	**+1.2**
	0.1nm,0.3s,baz=171,slow=7.8,SNR=5.7						
ULM	**Lac du Bonnet**	**21.37**	**75**	P	**P**	**01 15 20.6**	**+1.7**
	5.8nm,0.8s,baz=292,slow=11,SNR=9.5						
AGMN	**Agassiz Nation**	**21.81**	**80**	*e*P	**P**	**01 15 24.0**	**+0.3**
	18nm,1.3s						
ANMO	**Albuquerque**	**21.93**	**122**	P	**P**	**01 15 28.0**	**+2.7**
ANMO	**Albuquerque**	**21.93**	**122**	P	**P**	**01 15 28.0**	**+2.7**
	2.4nm,0.9s,baz=323,slow=11,SNR=9.7						
EYMN	**Ely**	**24.72**	**79**	*e*P	**P**	**01 15 53.6**	**+0.7**
	6.5nm,0.8s						
TXAR	**Lajitas Array**	**27.76**	**126**	P	**P**	**01 16 20.7**	**+0.1**
TXAR	**Lajitas Array**	**27.76**	**126**	P	**P**	**01 16 20.7**	**+0.1**
	0.5nm,0.8s,baz=340,slow=10,SNR=5.8						
SONM	**Songino Array**	**72.05**	**324**	P	**P**	**01 21 54.2**	**-1.6**
SONM	**Songino Array**	**72.05**	**324**	P	**P**	**01 21 54.2**	**-1.6**
	0.3nm,0.7s,baz=57,slow=4.5,SNR=3.1						
ESDC	**Sonseca Array**	**79.06**	**40**	P	**P**	**01 22 38.5**	**+2.5**
ESDC	**Sonseca Array**	**79.06**	**40**	P	**P**	**01 22 38.5**	**+2.5**
	0.4nm,0.6s,baz=327,slow=5.1,SNR=3.1						

*ISCJB **16** 01:14:21.3±0.5, 34°.34N±0°.07×25°.67E±0°.05, h70km±12km, Error ellipse: s-maj=13.0km s-min=4.9km az=19.6*
*THE **16** 01:14:22.1, 34°.40N×25°.63E, h0km, ML3.5/1, Error ellipse: s-maj=1.3km s-min=0.5km az=184.0*
*CSEM **16** 01:14:23.1±0.2, 34°.36N×25°.67E, h40km, ML3.5/1, Error ellipse: s-maj=7.2km s-min=2.9km az=34.0*
*ATH **16** 01:14:24.6, 34°.64N×25°.58E, h68km±2km*
ISC 16 01:14:23.1±1.1, 34°43'N±0°.08×25°61'E±0°.04, h58km±15km, n60, σ1°29'/78, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**0.74**	**352**	P	**Pn**	**01 14 37.3**	**-0.5**
LAST				S	**Sn**	**01 14 49.5**	**+1.0**
LAST	**Lasithi**	**0.74**	**352**	*e*P	**Pn**	**01 14 37.5**	**-0.3**
LAST				*e*S	**Sn**	**01 14 48.2**	**-0.3**
LAST	**Lasithi**	**0.74**	**352**	*e*P	**Pn**	**01 14 37.5**	**-0.3**
LAST				S	**Sn**	**01 14 49.5**	**+1.0**
NPS	**Neapolis**	**0.83**	**0**	P	**Pn**	**01 14 39.0**	**+0.1**
NPS				S	**Sn**	**01 14 52.2**	**+1.7**
NPS	**Neapolis**	**0.83**	**0**	*e*P	**Pn**	**01 14 38.8**	**-0.1**
NPS				*e*S	**Sn**	**01 14 49.0**	**-1.5**
NPS	**Neapolis**	**0.83**	**0**	P	**Pn**	**01 14 39.0**	**+0.1**
NPS				S	**Sn**	**01 14 52.2**	**+1.7**
ZKR	**Zakros**	**0.85**	**36**	P	**Pn**	**01 14 39.0**	**-0.1**
ZKR				S	**Sn**	**01 14 52.5**	**+1.6**
ZKR	**Zakros**	**0.85**	**36**	*e*P	**Pn**	**01 14 39.2**	**+0.2**
ZKR				*e*S	**Sn**	**01 14 51.5**	**+0.6**
ZKR	**Zakros**	**0.85**	**36**	*e*P	**Pn**	**01 14 39.3**	**+0.2**
ZKR				*e*S	**Sn**	**01 14 51.5**	**+0.6**
SIVA	**Sivas**	**0.88**	**312**	P	**Pn**	**01 14 40.1**	**+0.6**
SIVA				S	**Sn**	**01 14 54.0**	**+2.4**
SIVA	**Sivas**	**0.88**	**312**	*e*P	**Pn**	**01 14 40.2**	**+0.7**
SIVA				*e*S	**Sn**	**01 14 52.1**	**+0.5**
SIVA	**Sivas**	**0.88**	**312**	*e*P	**Pn**	**01 14 40.2**	**+0.7**
SIVA				*e*S	**Sn**	**01 14 52.1**	**+0.5**
GVD	**Gavdhos**	**1.32**	**289**	*e*P	**Pn**	**01 14 47.3**	**+2.0**
GVD	**Gavdhos**	**1.32**	**289**	*e*P	**Pn**	**01 14 47.3**	**+2.0**
VAM	**Vamos**	**1.52**	**311**	P	**Pn**	**01 14 49.7**	**+1.8**
VAM	**Vamos**	**1.52**	**311**	*e*P	**Pn**	**01 14 49.2**	**+1.3**
VAM				*e*S	**Sn**	**01 15 06.4**	**-0.2**
VAM	**Vamos**	**1.52**	**311**	*e*P	**Pn**	**01 14 49.2**	**+1.3**
VAM				*e*S	**Sn**	**01 15 06.4**	**-0.2**
KARP	**Karpathos**	**1.69**	**48**	P	**Pn**	**01 14 51.9**	**+1.5**
KARP				S	**Sn**	**01 15 14.8**	**+3.8**
KARP	**Karpathos**	**1.69**	**48**	*e*P	**Pn**	**01 14 52.1**	**+1.7**
KARP				*e*S	**Sn**	**01 15 11.3**	**+0.3**
KARP	**Karpathos**	**1.69**	**48**	P	**Pn**	**01 14 51.9**	**+1.5**
KARP				*e*S	**Sn**	**01 15 11.3**	**+0.3**
KARN	**Karanos**	**1.70**	**305**	*e*P	**Pn**	**01 14 52.3**	**+1.9**
KARN				*e*S	**Sn**	**01 15 10.8**	**-0.3**
KARN	**Karanos**	**1.70**	**305**	*e*P	**Pn**	**01 14 52.3**	**+1.9**
KARN				*e*S	**Sn**	**01 15 10.8**	**-0.3**
APE	**Apeiranthos**	**2.64**	**359**	*e*P	**Pn**	**01 15 03.2**	**-0.1**
APE	**Apeiranthos**	**2.64**	**359**	*e*P	**Pn**	**01 15 03.2**	**-0.1**
ARG	**Arkhangelos**	**2.72**	**48**	P	**Pn**	**01 15 06.0**	**+1.6**
ARG	**Arkhangelos**	**2.72**

OPRZ	Ohinepanea	4.76	224	PN	Pn	01 20 26.9 -1.4
URZ	Urewera	4.78	216	ePN	Pn	01 20 26.0 -2.4
URZ				SN	S	01 21 23.9 -6.4
TARZ	Mount Tarawera	5.07	221	PN	Pn	01 20 32.8 +1.0
KNZ	Kokohu	5.17	207	PN	Pn	01 20 31.9 -0.9
MHGZ	Mahia Peninsul	5.20	205	ePN	Pn	01 20 33.0 -0.1
RAHZ	Arahi	5.32	212	ePN	Pn	01 20 34.7 +0.2
PRRZ	Plateau Road	5.32	219	ePN	Pn	01 20 34.4 -0.1
NMHZ	Naumai	5.59	213	PN	Pn	01 20 35.8 -1.8
BKZ	Black Stump Fm	5.79	214	ePN	Pn	01 20 36.9 -3.0
MCHZ	McNeill Hill	5.92	212	ePN	Pn	01 20 40.4 -1.0
CKHZ	Cape Kidnapper	5.95	208	ePN	Pn	01 20 43.3 +1.7
KAHZ	Kahuranaki	6.14	209	ePN	Pn	01 20 43.4 -0.5
KRVZ	Karewarewa	6.16	220	PN	Pn	01 20 45.3 +1.1
NGZ	Ngauruhoe	6.24	219	PN	Pn	01 20 45.9 +0.8
BHHZ	Black Hill Sta	6.25	215	ePN	Pn	01 20 45.2 0.0
TWVZ	Taurewa	6.25	221	PN	Pn	01 20 46.0 +0.7
TUVZ	Tukino	6.28	219	ePN	Pn	01 20 45.6 0.0
FWVZ	Far West T-bar	6.32	219	ePN	Pn	01 20 46.4 +0.2
MOVZ	Moawhango	6.33	217	PN	Pn	01 20 46.4 +0.2
PXZ	Pawanui	6.35	208	ePN	Pn	01 20 45.0 -1.3
PXZ				SN	S	01 22 00.5 -2.3
WNVZ	Wahianoa	6.35	219	PN	Pn	01 20 46.8 +0.3
TRVZ	Turoa	6.36	219	PN	Pn	01 20 47.2 +0.6
MTVZ	Mangateitei	6.46	219	ePN	Pn	01 20 48.3 +0.6
PNHZ	Pukenui	6.53	212	ePN	Pn	01 20 49.1 +0.7
WPHZ	Waipukurau	6.55	210	PN	Pn	01 20 50.2 +1.6
PRHZ	Porangahau	6.64	208	ePN	Pn	01 20 51.3 +1.6
TSZ	Takapari Road	6.75	213	ePN	Pn	01 20 51.1 +0.1
DVHZ	Dannevirke	6.86	210	ePN	Pn	01 20 52.6 +0.4
ANWZ	Angora Road	6.87	208	ePN	Pn	01 20 54.4 +2.1
WAZ	Wanganui	6.99	219	ePN	Pn	01 20 54.4 +0.6
POWZ	Post Office Ro	7.11	212	ePN	Pn	01 20 55.2 0.0
BFZ	Birch Farm	7.15	208	ePN	Pn	01 20 55.5 -0.2
PRWZ	Pori Road	7.16	210	ePN	Pn	01 20 57.1 +1.4
TIWZ	Tintock	7.38	210	ePN	Pn	01 20 58.4 +0.1
MRZ	Mangatainoka R	7.41	212	ePN	Pn	01 20 58.3 -0.5
HOWZ	Holdsworth Sta	7.63	211	ePN	Pn	01 21 01.8 +0.5
TMWZ	Te Maipa	7.65	208	ePN	Pn	01 21 03.6 +2.0
OGWZ	Otaki Gorge	7.72	213	ePN	Pn	01 21 01.7 -0.7
MTW	Mount Morrison	7.85	210	ePN	Pn	01 21 03.8 -0.2
KIW	Kapiti Island	7.87	214	ePN	Pn	01 21 03.7 -0.5
TRWZ	Traveller	7.98	208	ePN	Pn	01 21 07.1 +1.5
CAW	Cannon Point	8.00	212	ePN	Pn	01 21 06.1 +0.4
PAWZ	Paruwai Farm	8.07	210	ePN	Pn	01 21 08.1 +1.6
MSWZ	Moikau Station	8.17	210	ePN	Pn	01 21 08.7 +0.9
PLWZ	Palliser	8.30	210	ePN	Pn	01 21 10.3 +1.0
DUWZ	D'Urville Isla	8.31	218	ePN	Pn	01 21 09.5 +0.1
SNZO	South Karori	8.32	213	ePN	Pn	01 21 09.4 -0.2
BHW	Baring Head	8.33	212	PN	Pn	01 21 10.9 +1.3
TCW	Tory Channel	8.44	215	ePN	Pn	01 21 11.6 +0.6
NNZ	Nelson	8.89	218	PN	Pn	01 21 17.0 +0.6
BSWZ	Blackbirch Sta	9.02	215	ePN	Pn	01 21 18.9 +1.0
QRZ	Quartz Range	9.08	223	PN	Pn	01 21 18.0 -0.7
THZ	Tophouse	9.53	218	ePN	Pn	01 21 24.4 +0.3
KHZ	Kahutara	9.73	213	ePN	P	01 21 28.6 0.0
MQZ	McQueen's Vall	11.15	212	PN	P	01 21 45.9 +1.6
MQZ				SN	S	01 23 45.4 -2.8
WVZ	Waitaha Valley	11.59	219	ePN	P	01 21 51.0 +1.8
ODZ	Otahua Downs	13.09	213	ePN	Pn	01 22 11.4 +4.9
ODZ				SN	S	01 24 34.1 +4.3
JCZ	Jackson Bay	13.32	220	ePN	Pn	01 22 12.3 +3.0
ASAR	Alice Springs 1.1nm,0.6s,baz=109,slow=7.4,SNR=16	41.97	272	P	P	01 26 41.2 +10
WRA	Warramunga Arr 0.8nm,0.4s,baz=115,slow=8.1,SNR=20	43.33	277	P	P	01 26 51.5 +10
QSPA	South Pole Qui 4.3nm,0.6s,baz=68,slow=4.4,SNR=17	55.66	180	P	P	01 28 40.5 +27
FINES	FINESS Array B 0.7nm,0.4s,baz=36,slow=2.6,SNR=9.8	148.50	337	PKPbc	PKPab	01 38 34.8 +12
TORD	Torodi Ar. Bea 0.3nm,0.5s,baz=189,slow=3.5,SNR=5.2	158.77	183	PKPab	PKPab	01 39 31.3 +24

IDC 16 01:22:44.1±1.8, 2.09S×139.80E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/14, mbtmp3.5/5, ML3.6/1, MS3.5/1, Ms1 3.7/1, ms1mx2.6/22, Error ellipse: s-maj=78.1km s-min=25.7km az=92.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr 0.2nm,0.3s,baz=17,slow=12,SNR=9.1	18.52	196	P	Pn	01 27 04.1	+1.7
ASAR	Alice Springs 0.5nm,0.7s,baz=21,slow=12,SNR=4.3	22.19	194	P	P	01 27 40.8	-1.4
CMAR	Chiang Mai Arr comp=Z,52nm,18.4s,baz=33,slow=36	45.09	299	LR	LR	01 49 42.1	
MKAR	Makanchi Array 0.7nm,0.8s,baz=114,slow=7.5,SNR=9.3	69.97	322	P	P	01 33 57.3	-0.3
ZALV	Zalesovo Beam 0.3nm,0.4s,baz=94,slow=4.3,SNR=2.7	71.96	329	P	P	01 34 09.7	+0.3
ILAR	Eielson Array 0.2nm,0.8s,baz=273,slow=5.1,SNR=3.0	84.83	24	P	P	01 35 20.4	+0.1

IDC 16 01:35:01.8±2.4, 34.98N×141.42E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.2/25, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=50.1km s-min=25.5km az=77.0
ISCJB 16 01:35:06.3±1.0, 35.19N±0.05×140.88E±0.09, h57km±7km, mb3.3/2, Error ellipse: s-maj=13.2km s-min=7.5km az=151.5
JMA 16 01:35:06.7±0.2, 35.17N×140.91E, h50km±3km, M2.8
ISC 16 01:35:07.4±1.4, 35.19N±0.05×140.88E±0.08, h49km±10km, n13, σ0.96, 9/18, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO2	Boso 2	0.45	194	S	Sn	01 35 25.6	+0.6
KTR	Katsuura	0.47	265	P	Pn	01 35 17.7	-0.5
KTR				S	Sn	01 35 25.6	-0.3
BSO4	Boso 4	0.49	246	P	Pn	01 35 18.1	-0.2
BSO4				S	Sn	01 35 26.6	+0.4
BSO3	Boso 3	0.49	219	P	Pn	01 35 17.8	-0.4
BSO3				S	Sn	01 35 27.4	+1.4
CHOJ	Chosi	0.52	358	P	Pn	01 35 18.2	-0.6
BSO1	Boso 1	0.54	172	P	Pn	01 35 17.9	-0.5
BSO1				eS	Sn	01 35 27.0	+0.5
JCN	Nagara	0.60	293	P	Pn	01 35 20.1	+0.2
JOD2	Odawara 2	1.47	274	P	Pn	01 35 31.0	-0.5
JOD2				S	Sn	01 35 47.6	-2.0
JHJ	Hachijo jima 2 9.4nm,0.3s,baz=188,slow=16,SNR=6.7	2.25	204	Pn	Pn	01 35 41.7	-0.5
JHJ				Sn	Sn	01 36 09.8	+1.0
	33nm,0.3s,baz=105,slow=20,SNR=4.3						
MJAR	Matsushiro Arr 2.1nm,0.3s,baz=141,slow=13,SNR=6.7	2.56	303	Pn	Pn	01 35 50.8	+4.4
MAT	Matsushiro	2.56	303	P	Pn	01 35 48.2	+1.8
MAT				eS	Sn	01 36 16.3	-0.1
MKAR	Makanchi Array 0.1nm,0.6s,baz=81,slow=8.9,SNR=2.8	44.76	304	P	P	01 43 20.7	+4.7
WRA	Warramunga Arr 0.5nm,0.5s,baz=5.2,slow=7.8,SNR=18	55.18	188	P	P	01 44 35.0	-0.1

CASC 16 01:43:19.8±1.3, 13.26N×89.74W, h40km±24km, MD3.5, ML2.9, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	San Blas	0.59	11	eP	Pn	01 43 31.8	-0.3
SNJE	San Jose	0.62	12	eP	Pn	01 43 32.1	-0.3
SNJE				eS	Sn	01 43 42.4	+1.0
RTR	El Retiro	0.64	8	eP	Pn	01 43 32.7	0.0
RTR				eS	Sn	01 43 42.6	+0.7
BOQS	Boqueron	0.65	43	eP	Pn	01 43 32.8	-0.1
BOQS				eS	Sn	01 43 43.9	+1.8
SNET	Serv Nac Est T	0.65	49	eP	Pn	01 43 32.3	-0.4
SNET				AML	AML	01 43 52.1	
	comp=Z,427nm,0.2s						
LFRS	El Faro	0.75	61	eP	Pn	01 43 33.8	-0.2
LFRS				eS	Sn	01 43 44.6	+0.3
LBRS	Las Brisas	0.82	55	eP	Pn	01 43 35.2	+0.1
SNVI	San Vicente	0.94	68	eP	Pn	01 43 36.8	0.0
SNVI				eS	Sn	01 43 50.0	+0.8
IXG	Ixpaco	1.15	323	eP	Pn	01 43 39.0	-0.6
IXG				eS	Sn	01 43 54.0	-0.3
MTO2	Montecristo 2	1.19	18	eP	Pn	01 43 40.7	+0.4
VSM	San Miguel	1.43	83	eP	Pn	01 43 44.1	+0.4
NBG	Las Nubes	1.45	336	eP	Pn	01 43 45.2	+1.3
NBG				eS	Sn	01 44 03.3	+1.4
BLLM	Bellamira	1.47	83	eP	Pn	01 43 44.2	+0.3
CAHU	Cacacuatique	1.57	71	eP	Pn	01 43 45.6	+0.1
FUG	Fuego 3	1.60	318	eP	Pn	01 43 46.0	+0.2
FUG				eS	Sn	01 44 05.9	+0.5
MRL	Marmol	1.80	1	eP	Pn	01 43 48.7	+0.2
MRL				eS	Sn	01 44 10.6	+0.3
CNCH	Conchagua	1.85	89	eP	Pn	01 43 49.2	-0.1
CNCH				eS	Sn	01 44 12.5	+1.0
TP2	Tecpan 2	1.96	321	eP	Pn	01 43 52.3	+1.2
TP2				eS	Sn	01 44 16.6	+1.7

DDA 16 01:47:36.0, 38.89N×26.97E, h24km, ML3.9
ISK 16 01:47:35.9, 38.89N×26.95E, h13km, ML3.7
ATH 16 01:47:36.2, 38.87N×26.97E, h26km±1km, ML3.5
ISCJB 16 01:47:36.1±0.5, 38.90N±0.01×26.94E±0.02, h10km±4km, mb3.3/6, MS3.0/1, Error ellipse: s-maj=2.3km s-min=2.2km az=141.9
CSEM 16 01:47:36.9±0.1, 38.87N×26.97E, h10km, ML3.9, Error ellipse: s-maj=1.4km s-min=1.4km az=47.0
THE 16 01:47:38.4, 38.85N×26.85E, h13km±1km, ML3.8/4, Error ellipse: s-maj=1.9km s-min=0.8km az=269.0
IDC 16 01:47:38.5±1.2, 39.38N×27.17E, h0km, mb3.4/5, mb1 3.5/7, mb1mx3.3/25, mbtmp3.4/7, ML2.7/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/25, Error ellipse: s-maj=20.5km s-min=18.4km az=156.0
SOF 16 01:47:39.1, 39.23N×26.83E, h2km, MD3.4
ISC 16 01:47:37.0±1.0, 38.88N±0.02×26.97E±0.02, h12km±7km, n273, σ0.70/319, mb3.5/6, 19C-9D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AYVA	Ayvalik	0.48	333	iP	Pg	01 47 46.2	-0.3
AYVA				iS	Sg	01 47 53.0	+0.1
AYVA	Ayvalik	0.48	333	iP	Pg	01 47 46.2	-0.3
AYVA				iS	Sg	01 47 53.0	+0.1
BLCB	Balcova	0.49	174	PG	Pg	01 47 46.5	-0.1
BLCB				eSG	Sb	01 47 54.1	-0.6
BLCB	Balcova	0.49	174	iPg	Pg	01 47 46.5	-0.1
BLCB				eSg	Sb	01 47 54.1	-0.6
URLA	Izmir	0.59	210	iP	Pg	01 47 48.5	0.0
URLA				iS	Sb	01 47 58.1	+0.4
URLA	Izmir	0.59	210	iP	Pg	01 47 48.5	0.0
URLA				iS	Sb	01 47 58.1	+0.4
AKS	Akhisar	0.66	89	ePG	Pg	01 47 49.7	0.0
AKS	Akhisar	0.66	89	ePg	Pg	01 47 49.7	0.0
AKHS	Akhisar	0.66	90	iP	Pg	01 47 50.1	+0.4
AKHS				iS	Sg	01 47 58.6	+0.2
AKHS	Akhisar	0.66	90	iP	Pg	01 47 50.1	+0.4
AKHS				iS	Sg	01 47 58.6	+0.2
PRK	Paraskevi	0.66	304	P	Pg	01 47 49.3	-0.5
PRK				S	Sb	01 47 59.1	-0.4
PRK	Paraskevi	0.66	304	ePN	Pg	01 47 49.5	-0.3
PRK				eSN	Sg	01 47 58.7	+0.3
PRK	Paraskevi	0.66	304	P	Pg	01 47 49.3	-0.5
PRK				eSn	Sg	01 47 58.7	+0.3
PRK				S	Sb	01 47 59.1	-0.4
CHOS	Chios island	0.87	236	P	Pg	01 47 53.4	-0.3
CHOS				S	Sg	01 48 04.3	-0.8
CHOS	Chios island	0.87	236	ePN	Pg	01 47 53.4	-0.3
CHOS	Chios island	0.87	236	P	Pg	01 47 53.4	-0.3
CHOS				S	Sg	01 48 04.3	-0.8
BALY	Balya	1.00	30	iP	Pb	01 47 56.1	-0.2
BALY				iS	Sg	01 48 09.7	+0.5
BALY	Balya	1.00	30	iP	Pb	01 47 56.1	-0.2
BALY				iS	Sg	01 48 09.7	+0.5
BALB	Balikesir	1.04	42	ePG	Pb	01 47 55.9	-1.0
BALB	Balikesir	1.04	42	ePg	Pb	01 47 55.9	-1.0
EZN	Ezine	1.07	332	ePG	Pb	01 47 56.2	-1.3
EZN	Ezine	1.07	332	ePg	Pb	01 47 56.2	-1.3
GCAM	G?zelcaml?	1.19	170	iP	Pb	01 47 59.6	+0.1
GCAM				iS	Sn	01 48 15.9	+0.4
GCAM	G?zelcaml?	1.19	170	iP	Pb	01 47 59.6	+0.1
GCAM				iS	Sn	01 48 15.9	+0.4
BOZC	Bozcaada	1.20	324	iP	Pn	01 47 58.8	-0.7
BOZC				iS	Sn	01 48 16.1	+0.3
GONE	Gonen-Balikesi	1.29	25	ePN	Pn	01 48 00.3	-0.5
GONE	Gonen-Balikesi	1.29	25	ePn	Pn	01 48 00.3	-0.5
MANT	Manisa	1.30	107	iP	Pn	01 48 01.0	-0.2
MANT				iS	Sn	01 48 19.1	+0.5
MANT	Manisa	1.30	107	iP	Pn	01 48 01.0	-0.2
MANT				iS	Sn	01 48 19.1	+0.5
DEMI	Demirci	1.37	82	iP	Pn	01 48 02.0	0.0
DEMI				iS	Sb	01 48 20.4	+0.3
DEMI	Demirci	1.37	82	iP	Pn	01 48 02.0	0.0
DEMI				iS	Sb	01 48 20.4	+0.3
KULA	Kula-Manisa	1.37	105	ePN	Pn	01 48 01.2	-0.8
KULA	Kula-Manisa	1.37	105	ePn	Pn	01 48 01.2	-0.8
DURS	Dursunbey	1.37	58	iP	Pn	01 48 01.6	-0.4
DURS				iS	Sn	01 48 20.0	-0.2
DURS	Dursunbey	1.37	58	iP	Pn	01 48 01.6	-0.4
DURS				iS	Sn	01 48 20.0	-0.2
AYDN	Tasoluk	1.41	149	iP	Pn	01 48 02.4	-0.1
AYDN				iS	Sg	01 48 22.2	-0.1
AYDN	Tasoluk	1.41	149	iP	Pn	01 48 02.4	-0.1
AYDN				iS	Sg	01 48 22.2	-0.1
DST	Dursunbey	1.47	60	ePN	Pn	01 48 03.3	-0.1
DST	Dursunbey	1.47	60	ePn	Pn	01 48 03.3	-0.1
LPK	Lapseki	1.50	354	ePN	Pn	01 48 03.1	-0.6
LPK	Lapseki	1.50	354	ePn	Pn	01 48 03.1	-0.6
KRBG	Karabiga-Canak	1.54	9	ePN	Pn	01 48 03.9	-0.3
KRBG	Karabiga-Canak	1.54	9	ePn	Pn	01 48 03.9	-0.3
BNT	Bandirma	1.65	26	ePN	Pn	01 48 05.2	-0.6
BNT	Bandirma	1.65	26	ePn	Pn	01 48 05.2	-0.6
LIA	Limnos Island	1.72	307	P	Pn	01 48 06.2	-0.4
LIA				S	Sn	01 48 27.0	-1.6
LIA	Limnos Island	1.72	307	ePB	Pn	01 48 06.2	-0.5
LIA				eSN	Sn	01 48 28.6	0.0
LIA	Limnos Island	1.72	307	P	Pn	01 48 06.2	-0.5
LIA				S	Sn	01 48 27.0	-1.6
LIA				eSn	Sn	01 48 28.6	0.0
KCTX	Karacabey (Bur	1.75	37	ePN	Pn	01 48 06.8	-0.4
KCTX	Karacabey (Bur	1.75	37	ePn	Pn	01 48 06.8	-0.4
RKY	Sarkoy-Tekirda	1.82	5	ePN	Pn	01 48 07.6	-0.5
RKY	Sarkoy-Tekirda	1.82	5	ePn	Pn	01 48 07.6	-0.5
SART	Tekirdag	1.82	5	iP	Pn	01 48 07.8	-0.4
SART				iS	Sn	01 48 31.4	+0.3
SART	Tekirdag	1.82	5	iP	Pn	01 48 07.8	-0.4
SART				iS	Sn	01 48 31.4	+0.3
ERIK	Erikli-Kesan	1.83	349	ePN	Pn	01 48 07.8	-0.4
ERIK	Erikli-Kesan	1.83	349	ePn	Pn	01 48 07.8	-0.4
BDRM	Kayabasi	1.85	168	iP	Pn	01 48 08.1	-0.4
BDRM				iS	Sg	01 48 35.5	-0.8
BDRM	Kayabasi	1.85	168	iP	Pn	01 48 08.1	-0.4
ENEZ	Enez	1.96	342	ePN	Pn	01 48 09.8	-0.2
ENEZ	Enez	1.96	342	ePn	Pn	01 48 09.8	-0.2
GDZ	Gediz	1.97	83	iP	Pn	01 48 10.2	-0.1
GDZ				iS	Sb	01 48 38.7	+1.3
GDZ	Gediz	1.97	83	iP	Pn	01 48 10.2	-0.1
DNZL	Cakiroluk	2.02	125	iP	Pn	01 48 11.3	+0.3
DNZL	Cakiroluk	2.02	125	iP	Pn	01 48 11.3	+0.3
TVSB	Tavsanli	2.02	73	ePN	Pn	01 48 10.9	0.0
TVSB	Tavsanli	2.02	73	ePn	Pn	01 48 10.9	0.0
YER	Yerkesik	2.02	149	ePN	Pn	01 48 10.8	-0.2
YER	Yerkesik	2.02	149	ePn	Pn	01 48 10.8	-0.2
KHAL	Karahalli	2.04	104	iP	Pn	01 48 11.7	+0.5
KHAL	Karahalli	2.04	104	iP	Pn	01 48 11.7	+0.5
KHL	Karahalli	2.07	105	ePN	Pn	01 48 12.1	+0.4
KHL	Karahalli	2.07	105	ePn	Pn	01 48 12.1	+0.4
MDNY	Mudanya-Bursa	2.10	44	ePN	Pn	01 48 11.5	-0.4
MDNY	Mudanya-Bursa	2.10	44	ePn	Pn	01 48 11.5	-0.4
APE	Apeiranthos	2.13	213	ePN	Pn	01 48 12.1	-0.3
APE	Apeiranthos	2.13	213	P	Pn	01 48 11.2	-1.2
APE				S	Sn	01 48 37.9	-1.0
APE	Apeiranthos	2.13	213	ePN	Pn	01 48 11.3	-1.2
APE				eSN	Sn	01 48 38.7	-0.2
APE	Apeiranthos	2.13	213	iP	Pb	01 48 16.6	+1.0
APE	Apeiranthos	2.13	213	P	Pn	01 48 11.2	-1.2
APE	Apeiranthos	2.13	213	ePn	Pn	01 48 12.1	-0.3
APE				S	Sn	01 48 37.9	-1.0
APE				eSn	Sn	01 48 38.7	-0.2
ALN	Alexandroupoli	2.14	341	P	Pn	01 48 12.3	-0.2
ALN				S	Sn	01 48 39.1	+0.1
ALN	Alexandroupoli	2.14	341	ePN	Pn	01 48 12.2	-0.2
ALN				eSN	Sn	01 48 38.7	-0.3
ALN	Alexandroupoli	2.14	341	P	Pn	01 48 12.3	-0.2
ALN				eSn	Sn	01 48 38.7	-0.3
ALN				S	Sn	01 48 39.1	+0.1
TKR	Tekirdag	2.16	11	ePN	Pn	01 48 12.8	+0.1
TKR	Tekirdag	2.16	11	ePn	Pn	01 48 12.8	+0.1
DAT	Datca	2.20	167	ePN	Pn	01 48 13.0	-0.4
DAT	Datca	2.20	167	ePn	Pn	01 48 13.0	-0.4
ARMT	Armutlu	2.23	40	ePN	Pn	01 48 13.6	-0.2
ARMT	Armutlu	2.23	40	ePn	Pn	01 48 13.6	-0.2
CRLT	Corlu	2.33	14	ePN	Pn	01 48 14.8	-0.3
CRLT	Corlu	2.33	14	ePn	Pn	01 48 14.8	-0.3
TURN	Turunc	2.38	147	iP	Pn	01 48 14.5	-1.3
TURN				iS	Sg	01 48 52.6	-0.8
TURN	Turunc	2.38	147	iP	Pn	01 48 14.5	-1.3
ALT	Altintas	2.45	85	ePN	Pn	01 48 16.6	-0.3
ALT	Altintas	2.45	85	ePn	Pn	01 48 16.6	-0.3
RDO	Rodhopi	2.52	335	P	Pn	01 48 18.0	+0.3
RDO	Rodhopi	2.52	335	ePN	Pn	01 48 18.0	+0.3
RDO	Rodhopi	2.52	335	P	Pn	01 48 18.0	+0.3
SLVT	Silivri	2.54	22	ePN	Pn	01 48 17.9	-0.1
SLVT	Silivri	2.54	22	ePN	Pn	01 48 17.9	-0.1
PTL	Penteli	2.58	252	ePN	Pn	01 48 18.3	-0.2
PTL	Penteli	2.58	252	ePn	Pn	01 48 18.3	-0.2
CAVI	Cavuskoy	2.58	58	ePN	Pn	01 48 19.1	+0.4
CAVI	Cavuskoy	2.58	58	ePn	Pn	01 48 19.1	+0.4
CTKS	Kestanelik-??a	2.64	26	ePN	Pn	01 48 19.6	+0.4
CTKS	Kestanelik-??a	2.64	26	ePn	Pn	01 48 19.7	+0.4
ADVT	Abdulvahap	2.64	53	ePN	Pn	01 48 19.9	+0.5
ADVT	Abdulvahap	2.64	53	ePn	Pn	01 48 19.9	+0.5
MRKA	Markates	2.65	267	P	Pn	01 48 19.1	-0.4
MRKA	Markates	2.65	267	P	Pn	01 48 19.1	-0.4
BGKT	Bogazkoy	2.69	30	ePN	Pn	01 48 20.1	+0.1
BGKT	Bogazkoy	2.69	30	ePn	Pn	01 48 20.1	+0.1
ATH	Athens Observa	2.71	252	ePN	Pn	01 48 20.7	+0.4
ATH	Athens Observa	2.71	252	ePn	Pn	01 48 20.7	+0.4
ISK	Istanbul-Kandi	2.71	36	ePN	Pn	01 48 20.6	+0.2
ISK	Istanbul-Kandi	2.71	36	ePn	Pn	01 48 20.6	+0.2
OUR	Ouranopolis	2.73	303	P	Pn	01 48 20.4	-0.2
OUR	Ouranopolis	2.73	303	P	Pn	01 48 20.4	-0.2
CTYL	Yal??k??y-??at	2.79	21	ePN	Pn	01 48 21.1	-0.2
CTYL	Yal??k??y-??at	2.79	21	ePn	Pn	01 48 21.1	-0.2
FETY	Fethiye	2.79	143	ePN	Pn	01 48 21.9	+0.4
FETY	Fethiye	2.79	143	ePn	Pn	01 48 21.9	+0.4
ARG	Arkhangelos	2.81	161	P	Pn	01 48 22.2	+0.5
ARG	Arkhangelos	2.81	161	ePN	Pn	01 48 22.5	+0.8
ARG	Arkhangelos	2.81	161	P	Pn	01 48 22.2	+0.5
ARG	Arkhangelos	2.81	161	ePn	Pn	01 48 22.5	+0.8
SHUT	Suhut-Afyon	2.82	95	ePN	Pn	01 48 22.1	+0.2
SHUT	Suhut-Afyon	2.82	95	ePn	Pn	01 48 22.2	+0.2
KAVA	Kavala	2.84	319	P	Pn	01 48 22.2	+0.1
KAVA	Kavala	2.84	319	P	Pn	01 48 22.2	+0.1
HRT	Hereke	2.84	46	ePN	Pn	01 48 22.9	+0.7
HRT	Hereke	2.84	46	ePn	Pn	01 48 22.9	+0.7
BORA	Eskisehir	2.88	69	iP	Pn	01 48 22.7	0.0
BORA				iS	Sg	01 48 38.5	-1.4
BORA	Eskisehir	2.88	69	iP	Pn	01 48 22.7	0.0
GPA	Golpazari	2.94	60	ePN	Pn	01 48 23.5	-0.1
GPA	Golpazari	2.94	60	ePn	Pn	01 48 23.5	-0.1
NEO	Neokhori	2.95	280	ePN	Pn	01 48 24.2	+0.6
NEO	Neokhori	2.95	280	ePn	Pn	01 48 24.2	+0.6
NAIG	Nisos Aigina	2.96	249	ePN	Pn	01 48 24.0	+0.3
NAIG	Nisos Aigina	2.96	249	ePn	Pn	01 48 24.0	+0.3
EDRB	Edirne	2.97	357	ePN	Pn	01 48 24.1	+0.1
EDRB	Edirne	2.97	357	ePn	Pn	01 48 24.1	+0.1
ISP	Isparta	2.98	110	ePN	Pn	01 48 24.0	-0.2
ISP	Isparta	2.98	110	ePn	Pn	01 48 24.0	-0.2
KDZ	Kurdzhali	3.02	337	P	Pn	01 48 24.6	0.0
KDZ	Kurdzhali	3.02	337	P	Pn	01 48 24.6	0.0
SILT	Sile	3.06	41	ePN	Pn	01 48 25.8	+0.6
SILT	Sile	3.06	41	ePn	Pn	01 48 25.8	+0.6
SEYT	Eskypehyr	3.08	77	iP	Pn	01 48 25.8	+0.2
SEYT	Eskypehyr	3.08	77	iP	Pn	01 48 25.8	+0.2
PLG	Polygyros	3.11	300	P	Pn	01 48 25.7	-0.1
PLG	Polygyros	3.11	300

BOLS	**Boljevac**	**6.22**	**324**	*e*Pn	**Pn**	**01 49 08.1**	**-0.5**
CFR	**Carcaliu**	**6.36**	**7**	⇑*i*P	**Pn**	**01 49 10.1**	**-0.3**
CFR	**Carcaliu**	**6.36**	**7**	⇑*i*P	**Pn**	**01 49 10.1**	**-0.3**
TLCR		**6.45**	**12**	⇑*i*P	**Pn**	**01 49 12.4**	**+0.7**
TLCR		**6.45**	**12**	⇑*i*P	**Pn**	**01 49 12.4**	**+0.7**
MLR	**Muntele Rosu**	**6.65**	**354**	⇑*i*P	**Pn**	**01 49 15.4**	**+0.8**
MLR	**Muntele Rosu**	**6.65**	**354**	Pn	**Pn**	**01 49 12.8**	**-1.9**
	0.0nm,0.3s,baz=124,slow=18,SNR=2.1						
MLR				Pg	Pb	01 49 24.7	-7.9
	0.4nm,0.3s,baz=340,slow=6.5,SNR=9.7						
MLR	**Muntele Rosu**	**6.65**	**354**	⇑*i*P	**Pn**	**01 49 15.4**	**+0.8**
GRUS	**Gruza**	**6.87**	**319**	*e*Pn	**Pn**	**01 49 18.2**	**+0.7**
IVAS	**Ivanjica**	**6.96**	**315**	*e*Pn	**Pn**	**01 49 20.4**	**+1.6**
PLOR	**Plostina**	**6.97**	**358**	⇑*i*P	**Pn**	**01 49 19.4**	**+0.4**
PLOR	**Plostina**	**6.97**	**358**	⇑*i*P	**Pn**	**01 49 19.4**	**+0.4**
LOT	**Lotru**	**6.98**	**341**	⇓*i*P	**Pn**	**01 49 19.3**	**+0.1**
LOT	**Lotru**	**6.98**	**341**	⇓*i*P	**Pn**	**01 49 19.3**	**+0.1**
VRI	**Vrincioaia**	**6.99**	**359**	⇓*i*P	**Pn**	**01 49 20.8**	**+1.7**
VRI	**Vrincioaia**	**6.99**	**359**	⇓*i*P	**Pn**	**01 49 20.8**	**+1.7**
DOPR	**Dopca**	**7.18**	**351**	⇑*i*P	**Pn**	**01 49 22.5**	**+0.7**
DOPR	**Dopca**	**7.18**	**351**	⇑*i*P	**Pn**	**01 49 22.5**	**+0.7**
GZR	**Gura Zlata**	**7.22**	**336**	⇑*i*P	**Pn**	**01 49 22.0**	**-0.3**
GZR	**Gura Zlata**	**7.22**	**336**	⇑*i*P	**Pn**	**01 49 22.0**	**-0.3**
DIVS	**Divibare**	**7.39**	**317**	*e*Pn	**Pn**	**01 49 25.2**	**+0.5**
TESR		**7.63**	**358**	⇓*i*P	**Pn**	**01 49 29.1**	**+1.1**
TESR		**7.63**	**358**	⇓*i*P	**Pn**	**01 49 29.1**	**+1.1**
BZS	**Buzias**	**7.82**	**331**	⇑*i*P	**Pn**	**01 49 31.2**	**+0.7**
BZS	**Buzias**	**7.82**	**331**	⇑*i*P	**Pn**	**01 49 31.2**	**+0.7**
DRGR		**8.51**	**340**	⇑*i*P	**Pn**	**01 49 41.4**	**+1.4**
DRGR		**8.51**	**340**	⇑*i*P	**Pn**	**01 49 41.4**	**+1.4**
BURAR	**Bucovina Array**	**8.83**	**352**	⇓*i*P	**Pn**	**01 49 46.2**	**+1.8**
BURAR	**Bucovina Array**	**8.83**	**352**	⇓*i*P	**Pn**	**01 49 46.2**	**+1.8**
MMAI	**Mount Meron Ar**	**8.99**	**128**	Pn	**Pn**	**01 49 45.9**	**-0.8**
	1.5nm,0.3s,baz=316,slow=12,SNR=13						
MMAI				Sn	**Sn**	**01 51 23.8**	**-4.2**
	1.2nm,0.3s,baz=311,slow=26,SNR=4.3						
FINES	**FINESS Array B**	**22.60**	**359**	P	**P**	**01 52 38.2**	**+1.0**
	1.6nm,0.9s,baz=176,slow=11,SNR=3.7						
HFS	**Hagfors**	**22.87**	**343**	LR	LR	02 01 51.9	
	comp=Z,53nm,18.6s,baz=67,slow=38						
ESDC	**Sonseca Array**	**23.91**	**282**	P	**P**	**01 52 53.1**	**+2.5**
	0.2nm,0.6s,baz=80,slow=10,SNR=4.3						
AKTO	**Aktyubinsk**	**24.74**	**52**	P	**P**	**01 52 56.3**	**-1.8**
	0.5nm,0.5s,baz=233,slow=10,SNR=3.0						
TORD	**Torodi Ar. Bea**	**34.02**	**228**	P	P	01 54 28.7	+7.9
	0.5nm,0.9s,baz=43,slow=8.7,SNR=2.9						
MKAR	**Makanchi Array**	**40.59**	**60**	P	**P**	**01 55 16.5**	**+0.1**
	0.5nm,0.5s,baz=273,slow=8.0,SNR=11						
ZALV	**Zalesovo Beam**	**41.43**	**49**	P	**P**	**01 55 22.9**	**-0.2**
	0.7nm,0.6s,baz=282,slow=6.9,SNR=3.0						

*ISCJB **16** 01:52:59.1±0.3, 16°.67N±0°.04×94°.67W±0°.03, h117km±3km, mb4.3/34, Error ellipse: s-maj=7.0km s-min=3.5km az=29.2*
*IDC **16** 01:52:59.3±0.5, 16°.82N×94°.57W, h100km±4km, mb3.5/11, mb1 3.7/13, mb1mx3.6/24, mbtmp3.6/13, MS3.5/1, Ms1 3.4/1, ms1mx2.6/27, Error ellipse: s-maj=15.9km s-min=11.5km az=77.0*
*MEX **16** 01:53:01.9±1.3, 16°.65N×94°.71W, h104km±11km, MD4.2*
*NEIC **16** 01:53:02.0, 16°.61N×94°.72W, h98km, mb4.7/28, MD4.2(MEX), After MEX.*
*CASC **16** 01:53:20.8±2.0, 16°.34N×92°.85W, h0km±798km, MD4.6, mb4.7(NEIC)*

ISC 16 01:52:59.8±0.6, 16°.73N±0°.05×94°.67W±0°.03, h109km±5km, n132, σ0.98/144, mb4.4/35, 18C-17D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.41**	**330**	*i* P	**Pn**	**01 53 16.4**	**+0.4**
CMIG				*e*S	**Sn**	**01 53 28.0**	**-0.2**
CMIG	**Matias Romero**	**0.41**	**330**	P	**Pn**	**01 53 15.8**	**-0.3**
	1μm,0.3s,baz=167,slow=5.2						
CMIG				S	**Sn**	**01 53 27.7**	**-0.5**
	414nm,0.3s,baz=285,slow=20,SNR=84						
TGIG		**1.49**	**88**	*i* P	**Pn**	**01 53 27.3**	**+0.9**
TGIG				*e*S	**Sn**	**01 53 47.3**	**+0.6**
HUIG	**Huatulco**	**1.68**	**235**	*e*P	**Pn**	**01 53 27.3**	**-1.4**
HUIG				*e*S	**Sn**	**01 53 49.6**	**-1.2**
PCIG		**1.73**	**126**	*i* P	**Pn**	**01 53 30.6**	**+1.2**
PCIG				*i* S	**Sn**	**01 53 52.5**	**+0.6**
OXX	**Oaxaca**	**1.99**	**280**	*e*P	**Pn**	**01 53 33.5**	**+0.7**
OXX				*i* S	**Sn**	**01 53 57.9**	**-0.2**
VHO	**Vista Hermosa**	**2.00**	**280**	*i* P	**Pn**	**01 53 33.9**	**+1.0**
VHO				*i* S	**Sn**	**01 53 58.4**	**+0.1**
UTMO	**Huajuapan**	**3.18**	**290**	*i* P	**Pn**	**01 53 49.7**	**+1.3**
UTMO				*e*S	**Sn**	**01 54 26.8**	**+0.9**
PNIG	**Pinotepa**	**3.33**	**265**	*e*P	**Pn**	**01 53 48.9**	**-1.3**
PNIG				*e*S	**Sn**	**01 54 27.8**	**-1.4**
TP2	**Tecpan 2**	**4.01**	**118**	*e*P	**Pn**	**01 54 01.5**	**+1.8**
FUG	**Fuego 3**	**4.33**	**121**	*e*P	Pn	01 54 06.8	+3.0
FUG				*e*S	Sn	01 54 40.8	-13
IXG	**Ixpaco**	**4.80**	**121**	*e*P	**Pn**	**01 54 11.9**	**+1.8**
IXG				*e*S	Sn	01 54 52.1	-13
MRL	**Marmol**	**5.07**	**108**	*e*P	**Pn**	**01 54 14.3**	**+0.5**
MRL				*e*S	**Sn**	**01 55 10.0**	**-1.3**
TEIG	**Tepich**	**6.99**	**59**	P	**Pn**	**01 54 38.0**	**-1.5**
	42nm,0.3s,baz=261,slow=4.8,SNR=101						
TEIG				S	**Sn**	**01 55 53.8**	**-3.8**
	41nm,0.3s,baz=41,slow=20,SNR=12						
JTS	**JuntasAbangare**	**11.41**	**123**	P	**Pn**	**01 55 39.9**	**+0.3**
	1.7nm,0.3s,baz=323,slow=18,SNR=8.5						
JTS				S	**Sn**	**01 57 44.2**	**-1.0**
	0.4nm,0.3s,baz=330,slow=20,SNR=3.0						
HKT	**Hockley**	**13.20**	**356**	*e*Pn	**P**	**01 56 08.4**	**-0.4**
JCT	**Junction City**	**14.46**	**342**	*e*Pn	**P**	**01 56 24.8**	**+1.9**
	16nm,0.7s						
JCT				*e*S	Sn	01 58 47.2	-12
JCT	**Junction City**	**14.46**	**342**	⇑P	**P**	**01 56 25.1**	**+2.2**
	baz=15,SNR=8.0						
628A	**Black Gap, Mar**	**14.76**	**331**	⇑P	**Pn**	**01 56 25.0**	**+1.8**
	baz=15,SNR=6.6						
627A	**Terlingua Ranc**	**14.97**	**329**	⇓P	**P**	**01 56 28.2**	**-0.5**
	baz=15						
529A	**Stev Forest Ra**	**15.01**	**334**	⇑P	**P**	**01 56 29.2**	**+0.1**
	baz=15						
TXAR	**Lajitas Array**	**15.02**	**328**	P	**Pn**	**01 56 27.9**	**+1.5**
	0.1nm,0.3s,baz=150,slow=15,SNR=7.8						
430A	**Baggett Ranch,**	**15.22**	**338**	⇓P	**P**	**01 56 31.9**	**+0.6**
	baz=15						
528A	**Cox Ranch, San**	**15.29**	**332**	⇑P	**P**	**01 56 32.2**	**0.0**
	baz=15						
429A	**Davenport Ranc**	**15.32**	**336**	⇓P	**P**	**01 56 33.0**	**+0.6**
	baz=16						
626A	**Big Bend Ranch**	**15.43**	**327**	⇓P	**Pn**	**01 56 33.0**	**+1.4**
	baz=16						
527A	**Woodward Ranch**	**15.66**	**330**	⇓P	**P**	**01 56 36.3**	**0.0**
	baz=16						
428A	**Kincaid Ranch,**	**15.73**	**334**	⇓P	**P**	**01 56 37.6**	**+0.6**
	baz=16						
526A	**Mary Lane Ranc**	**15.82**	**329**	⇑P	**Pn**	**01 56 37.9**	**+1.4**
	baz=16,SNR=5.4						
427A	**Hayter Ranch,**	**16.15**	**332**	⇑P	**P**	**01 56 42.4**	**+0.7**
	baz=16						
426A	**McDonald Obser**	**16.29**	**330**	⇑P	**P**	**01 56 44.7**	**+1.3**
	baz=16,SNR=7.3						
RFTA	**Plano**	**16.31**	**354**	*e*Pn	**P**	**01 56 46.2**	**+2.9**
328A	**Wristen Ranch,**	**16.36**	**335**	⇑P	**P**	**01 56 45.6**	**+1.7**
	baz=16,SNR=9.8						
DWPF	**Disney**	**16.66**	**45**	*e*Pn	**Pn**	**01 56 45.4**	**-1.2**
DWPF				*e*S	Sn	01 59 39.2	-12
425A	**Indio Mountain**	**16.86**	**328**	⇓P	**Pn**	**01 56 50.1**	**+0.8**
	baz=17						
129A	**Stewart Farms,**	**17.11**	**339**	⇓P	**Pn**	**01 56 53.8**	**+1.5**
	baz=17						
128A	**Castleberry Fa**	**17.33**	**337**	⇓P	**Pn**	**01 56 55.8**	**+0.9**
	baz=18						
Z29A	**Hungry Hill Ra**	**17.64**	**340**	⇓P	**Pn**	**01 57 00.4**	**+1.8**
	baz=18,SNR=8.2						
LRAL	**Lakeview Retre**	**17.65**	**22**	*e*Pn	**P**	**01 56 57.3**	**-0.8**
	27nm,1.8s						
MIAR	**Mount Ida**	**17.77**	**3**	*e*P	**P**	**01 56 59.5**	**+0.1**
	13nm,1.0s						
MIAR				*e*S	S	02 00 00.7	-17
Z28A	**Tucker Farm, M**	**17.89**	**339**	⇓P	**Pn**	**01 57 02.7**	**+1.0**
	baz=18						
224A	**Cornudas Mount**	**18.17**	**329**	⇓P	**P**	**01 57 04.7**	**+0.7**
	baz=18						
Z27A	**Tatum**	**18.22**	**337**	⇑P	**Pn**	**01 57 06.4**	**+0.7**
	baz=18,SNR=9.6						
125A	**Gardner Draw,**	**18.25**	**332**	⇑P	**P**	**01 57 05.6**	**+0.8**
	baz=18						
WMOK	**Wichita Mounta**	**18.30**	**349**	*e*P	**P**	**01 57 05.1**	**-0.1**
	8.5nm,0.8s						
Y28A	**McKinney Farm,**	**18.41**	**340**	⇑P	**Pn**	**01 57 08.8**	**+0.9**
	baz=19						
Z26A	**Caprock**	**18.48**	**335**	⇑P	**Pn**	**01 57 09.1**	**+0.2**
	baz=19						
MSTX	**Muleshoe**	**18.64**	**339**	⇓P	**P**	**01 57 10.4**	**+1.3**
	baz=19						
AMTX	**Amarillo**	**19.13**	**342**	*e*P	**P**	**01 57 15.5**	**+1.1**
	16nm,1.0s						
AMTX	**Amarillo**	**19.13**	**342**	⇓P	**Pn**	**01 57 16.3**	**-0.1**
	baz=19						
W28A	**Vega**	**19.64**	**341**	⇓P	**Pn**	**01 57 22.7**	**+0.3**
	baz=20						
W27A	**Bowe Ranch, En**	**19.73**	**339**	⇓P	**P**	**01 57 22.4**	**+1.4**
	baz=20						
W25A	**X Bar L Ranch,**	**20.38**	**336**	⇑P	**P**	**01 57 29.5**	**+1.5**
	baz=20						
ANMO	**Albuquerque**	**20.98**	**332**	P	**P**	**01 57 35.1**	**+0.6**
	0.5nm,0.5s,baz=126,slow=15,SNR=3.2						
V25A	**Rancho No Teng**	**20.99**	**337**	⇑P	**P**	**01 57 36.9**	**+2.4**
	baz=21						
V24A	**Rampart Ranch,**	**21.14**	**335**	⇑P	**P**	**01 57 37.6**	**+1.3**
	baz=21						
U26A	**Atchley Ranch,**	**21.17**	**339**	⇑P	**P**	**01 57 38.6**	**+2.1**
	baz=21						
TKL	**Tuckaleechee C**	**21.20**	**25**	P	**P**	**01 57 35.9**	**-0.8**
	2.0nm,0.5s,baz=198,slow=11,SNR=6.3						
TKL				S	**S**	**02 01 25.6**	**-0.6**
	2.3nm,0.7s,baz=87,slow=19,SNR=3.3						
X20A	**Quemado**	**21.63**	**328**	⇑P	**P**	**01 57 41.3**	**-0.2**
	baz=22						
WCI	**Wyandotte Cave**	**22.64**	**17**	*e*P	**P**	**01 57 49.5**	**-2.3**
	8.9nm,0.6s						
R26A	**Arlington**	**22.83**	**342**	⇓P	**P**	**01 57 55.0**	**+1.4**
	baz=23						
SDCO	**Great Sand Dun**	**23.00**	**338**	⇑P	**P**	**01 57 56.6**	**+1.0**
	baz=23						
BLO	**Bloomington**	**23.46**	**16**	*e*P	**P**	**01 57 58.0**	**-1.5**
	38nm,1.4s						
SCIA	**State Center**	**25.12**	**3**	*e*P	**P**	**01 58 13.6**	**-0.8**
	24nm,0.6s						
ECSD	**EROS Data Cent**	**26.96**	**357**	*e*P	**P**	**01 58 30.6**	**-0.5**
	4.1nm,0.6s						
EYMN	**Ely**	**31.24**	**4**	*e*P	**P**	**01 59 06.8**	**-2.1**
	116nm,3.0s						
AGMN	**Agassiz Nation**	**31.49**	**358**	*e*P	**P**	**01 59 10.0**	**-1.1**
	18nm,0.6s						
ULM	**Lac du Bonnet**	**33.45**	**359**	P	**P**	**01 59 26.5**	**-1.6**
	3.3nm,0.8s,baz=178,slow=7.9,SNR=6.8						
ULM				LR	LR	02 15 24.3	
	comp=Z,74nm,18.6s,baz=102,slow=40						
FFC	**Flin Flon**	**38.33**	**353**	*e*P	**P**	**02 00 09.3**	**-0.4**
	89nm,3.0s						
SCHQ	**Schefferville**	**43.65**	**23**	P	P	02 00 49.5	-3.9
	1.2nm,0.6s,baz=228,slow=12,SNR=3.7						
SIV	**San Ignacio**	**46.43**	**133**	P	**P**	**02 01 15.4**	**-0.4**
	1.7nm,0.5s,baz=303,slow=9.0,SNR=10						
YKA	**Yellowknife Ar**	**47.80**	**348**	P	**P**	**02 01 25.6**	**-0.2**
	0.4nm,0.7s,baz=154,slow=7.4,SNR=7.9						
YKA				pP	**pP**	**02 01 51.5**	**0.0**
	0.8nm,0.6s,baz=154,slow=7.5,SNR=10						
CFAA	**Coronel Fontan**	**54.35**	**152**	P	**P**	**02 02 16.4**	**+1.2**
	0.3nm,0.5s,baz=349,slow=7.2,SNR=9.0						
BDFB	**Brasilia**	**56.16**	**122**	P	**P**	**02 02 29.0**	**+0.4**
	1.5nm,0.6s,baz=270,slow=7.1,SNR=2.7						
PLCA	**Paso Flores**	**61.41**	**159**	P	**P**	**02 03 04.8**	**+0.3**
	1.8nm,0.7s,baz=307,slow=5.1,SNR=5.1						
ROSF	**Rostrenen**	**78.61**	**43**	*e*P	**P**	**02 04 49.0**	**-0.5**
ROSF	**Rostrenen**	**78.61**	**43**	*e*P	**P**	**02 04 49.0**	**-0.5**
QUIF	**Quistinic**	**78.77**	**43**	*e*P	**P**	**02 04 49.9**	**-0.5**
	10nm,0.8s						
QUIF	**Quistinic**	**78.77**	**43**	*e*P	**P**	**02 04 49.9**	**-0.5**
	10nm,0.8s						
ESDC	**Sonseca Array**	**80.05**	**52**	P	**P**	**02 04 57.0**	**-0.7**
	0.4nm,0.6s,baz=272,slow=3.8,SNR=3.6						
GRR	**Gorron**	**80.16**	**42**	*e*P	**P**	**02 04 57.7**	**-0.3**
	15nm,0.7s						
GRR	**Gorron**	**80.16**	**42**	*e*P	**P**	**02 04 57.7**	**-0.3**
	15nm,0.7s						
FLN	**La Foiniere**	**80.31**	**42**	*e*P	**P**	**02 04 58.6**	**-0.2**
	18nm,0.8s						
FLN	**La Foiniere**	**80.31**	**42**	*e*P	**P**	**02 04 58.6**	**-0.2**
	18nm,0.8s						
LDF	**La Druitiere**	**80.59**	**42**	*e*P	**P**	**02 04 59.9**	**-0.3**
	14nm,0.8s						
LDF	**La Druitiere**	**80.59**	**42**	*e*P	**P**	**02 04 59.9**	**-0.3**
	14nm,0.8s						
MFF	**Saint Martin d**	**81.08**	**44**	*e*P	**P**	**02 05 02.4**	**-0.5**
MFF	**Saint Martin d**	**81.08**	**44**	*e*P	**P**	**02 05 02.4**	**-0.5**
ETSF	**Etsaut**	**81.75**	**48**	*e*P	**P**	**02 05 06.5**	**-0.1**
ETSF	**Etsaut**	**81.75**	**48**	*e*P	**P**	**02 05 06.5**	**-0.1**
LFF	**La Frestale**	**82.11**	**46**	*e*P	**P**	**02 05 08.2**	**-0.1**
	7.2nm,0.5s						
LFF	**La Frestale**	**82.11**	**46**	*e*P	**P**	**02 05 08.2**	**-0.1**
	7.2nm,0.5s						
EPF	**Esparros**	**82.35**	**47**	*e*P	**P**	**02 05 09.5**	**-0.2**
EPF	**Esparros**	**82.35**	**47**	*e*P	**P**	**02 05 09.5**	**-0.2**
RJF	**Les Rejaudoux**	**82.54**	**45**	*e*P	**P**	**02 05 10.2**	**-0.4**
RJF	**Les Rejaudoux**	**82.54**	**45**	*e*P	**P**	**02 05 10.2**	**-0.4**
TCF	**Toulx Ste Croi**	**82.73**	**44**	*e*P	**P**	**02 05 11.0**	**-0.6**
	2.3nm,0.4s						
TCF	**Toulx Ste Croi**	**82.73**	**44**	*e*P	**P**	**02 05 11.0**	**-0.6**
	2.3nm,0.4s						
BAIF	**Baives**	**82.91**	**40**	*e*P	**P**	**02 05 12.4**	**0.0**
BAIF	**Baives**	**82.91**	**40**	*e*P	**P**	**02 05 12.4**	**0.0**
NB2	**NORSAR Subarra**	**82.97**	**28**	P	**P**	**02 05 12.5**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=291,slow=5.3						
NOA	**NORSAR Array B**	**82.97**	**28**	P	**P**	**02 05 13.0**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=292,slow=5.3,SNR=5.0						
CAF	**Calviac**	**83.02**	**45**	*e*P	**P**	**02 05 12.7**	**-0.4**
	comp=Z,2.6nm,0.5s						
CAF	**Calviac**	**83.02**	**45**	*e*P	**P**	**02 05 12.7**	**-0.4**
	comp=Z,2.6nm,0.5s						
BGF	**Bois d'Agland**	**83.07**	**44**	*e*P	**P**	**02 05 12.9**	**-0.4**
	comp=Z,18nm,0.9s						
BGF	**Bois d'Agland**	**83.07**	**44**	*e*P	**P**	**02 05 12.9**	**-0.4**
	comp=Z,18nm,0.9s						
GIVF	**Givet**	**83.27**	**40**	*e*P	**P**	**02 05 14.3**	**0.0**
GIVF	**Givet**	**83.27**	**40**	*e*P	**P**	**02 05 14.3**	**0.0**
SSF	**Saint Saulge**	**83.36**	**43**	*e*P	**P**	**02 05 14.2**	**-0.6**
	comp=Z,11nm,0.9s						
SSF	**Saint Saulge**	**83.36**	**43**	*e*P	**P**	**02 05 14.2**	**-0.6**
	comp=Z,11nm,0.9s						
LOR	**Lormes**	**83.53**	**43**	*e*P	**P**	**02 05 15.3**	**-0.4**
	comp=Z,5.0nm,0.6s						
LOR	**Lormes**	**83.53**	**43**	*e*P	**P**	**02 05 15.3**	**-0.4**
	comp=Z,5.0nm,0.6s						
MEZF	**Maizieres J'vi**	**83.91**	**41**	*e*P	**P**	**02 05 17.6**	**0.0**
	comp=Z,9.0nm,0.6s						
MEZF	**Maizieres J'vi**	**83.91**	**41**	*e*P	**P**	**02 05 17.6**	**0.0**
	comp=Z,9.0nm,0.6s						
SFTF	**Sexfontaines**	**84.00**	**42**	*e*P	**P**	**02 05 17.8**	**-0.2**
	comp=Z,6.0nm,0.5s						
SFTF	**Sexfontaines**	**84.00**	**42**	*e*P	**P**	**02 05 17.8**	**-0.2**
	comp=Z,6.0nm,0.5s						
PAGF	**Fort de Pagny**	**84.32**	**41**	*e*P	**P**	**02 05 19.9**	**+0.3**
	comp=Z,2.3nm,0.5s						
PAGF	**Fort de Pagny**	**84.32**	**41**	*e*P	**P**	**02 05 19.9**	**+0.3**
	comp=Z,2.3nm,0.5s						
ARCES	**ARCESS Array B**	**84.35**	**18**	P	**P**	**02 05 19.7**	**+0.3**
	comp=Z,4.2nm,1.0s,baz=304,slow=6.4,SNR=6.9						
HAU	**Haudompre**	**84.89**	**41**	*e*P	**P**	**02 05 22.6**	**0.0**
	comp=Z,16nm,0.8s						
HAU	**Haudompre**	**84.89**	**41**	*e*P	**P**	**02 05 22.6**	**0.0**
	comp=Z,16nm,0.8s						
CABF	**La Chapelle**	**85.18**	**43**	*e*P	**P**	**02 05 24.1**	**0.0**
CABF	**La Chapelle**	**85.18**	**43**	*e*P	**P**	**02 05 24.1**	**0.0**
HINF	**Hinteralfeld**	**85.28**	**42**	*e*P	**P**	**02 05 24.3**	**-0.2**
	comp=Z,4.6nm,0.7s						
HINF	**Hinteralfeld**	**85.28**	**42**	*e*P	**P**	**02 05 24.3**	**-0.2**
	comp=Z,4.6nm,0.7s						
CDF	**Champ du Feu**	**85.34**	**41**	*e*P	**P**	**02 05 24.8**	**-0.1**
	comp=Z,7.9nm,0.9s						
CDF	**Champ du Feu**	**85.34**	**41**	*e*P	**P**	**02 05 24.8**	**-0.1**
	comp=Z,7.9nm,0.9s						
LMR	**La Mourre**	**86.55**	**46**	*e*P	**P**	**02 05 30.9**	**+0.1**
LMR	**La Mourre**	**86.55**	**46**	*e*P	**P**	**02 05 30.9**	**+0.1**
SBF	**Sospel**	**87.01**	**45**	*e*P	**P**	**02 05 32.9**	**-0.2**
	comp=Z,14nm,0.8s						
SBF	**Sospel**	**87.01**	**45**	*e*P	**P**	**02 05 32.9**	**-0.2**
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**133.49**	**258**	PKP	**PKPdf**	**02 12 04.2**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=354,slow=0.9,SNR=8.4						

*ISK **16** 02:02:23.6, 39°.42N×26°.17E, h8km, ML3.7*
*DDA **16** 02:02:24.6, 39°.46N×26°.34E, h24km, MD3.5, ML3.6*

*THE **16** 02:02:24.3, 39°.45N×26°.42E, h0km±3km, ML3.6/5, Error ellipse: s-maj=4.2km s-min=1.5km az=94.0*
*CSEM **16** 02:02:25.1±0.1, 39°.43N×26°.30E, h2km, MD3.9, Error ellipse: s-maj=2.5km s-min=2.3km az=56.0*
*ISCJB **16** 02:02:25.2±0.5, 39°.44N±0°.01×26°.31E±0°.02, h8km±3km, Error ellipse: s-maj=2.7km s-min=2.3km az=169.3*
*ATH **16** 02:02:26.2, 39°.39N×26°.31E, h27km±1km, MD3.9/17*

ISC 16 02:02:25.7±0.8, 39°.44N±0°.01×26°.33E±0°.02, h15km±6km, n215, σ1$37/246, 11C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.20**	**193**	P	**Pg**	**02 02 29.0**	**-1.4**
PRK				S	**Sg**	**02 02 34.8**	**+1.3**
PRK	**Paraskevi**	**0.20**	**193**	*e*PB	**Pg**	**02 02 31.0**	**+0.6**
PRK				*e*SB	**Sg**	**02 02 34.7**	**+1.3**
PRK	**Paraskevi**	**0.20**	**193**	P	**Pg**	**02 02 29.0**	**-1.4**
PRK				S	**Sg**	**02 02 34.8**	**+1.3**
AYVA	**Ayvalik**	**0.31**	**116**	*i* P	**Pg**	**02 02 30.8**	**-1.3**
AYVA				*i* S	**Sb**	**02 02 36.5**	**-1.3**
AYVA	**Ayvalik**	**0.31**	**116**	*i* P	**Pg**	**02 02 30.8**	**-1.3**
AYVA				*i* S	**Sb**	**02 02 36.5**	**-1.3**
EZN	**Ezine**	**0.38**	**359**	*e*PG	**Pg**	**02 02 32.4**	**-1.0**
EZN				*e*SG	**Sb**	**02 02 38.9**	**-1.0**
EZN	**Ezine**	**0.38**	**359**	*e*Pg	**Pg**	**02 02 32.4**	**-1.0**
EZN				*e*Sg	**Sb**	**02 02 38.9**	**-1.0**
BOZC	**Bozcaada**	**0.45**	**332**	*i* P	**Pg**	**02 02 33.7**	**-1.1**
LPK	**Lapseki**	**0.98**	**19**	*e*PG	**Pb**	**02 02 44.3**	**-0.2**
LPK				*e*SG	**Sn**	**02 02 59.1**	**+0.4**
LPK	**Lapseki**	**0.98**	**19**	*e*Pg	**Pb**	**02 02 44.3**	**-0.2**
LPK				*e*Sg	**Sn**	**02 02 59.1**	**+0.4**
LIA	**Limnos Island**	**1.00**	**298**	P	**Pg**	**02 02 43.4**	**-1.5**
LIA				S	**Sn**	**02 02 59.2**	**+0.3**
LIA	**Limnos Island**	**1.00**	**298**	*e*PN	**Pn**	**02 02 45.8**	**+0.7**
LIA				*e*SN	**Sn**	**02 03 00.4**	**+1.5**
LIA	**Limnos Island**	**1.00**	**298**	P	**Pg**	**02 02 43.4**	**-1.5**
LIA	**Limnos Island**	**1.00**	**298**	*e*Pn	**Pn**	**02 02 45.8**	**+0.7**
LIA				S	**Sn**	**02 02 59.2**	**+0.3**
LIA				*e*Sn	**Sn**	**02 03 00.4**	**+1.5**
BALY	**Balya**	**1.04**	**73**	*i* P	**Pg**	**02 02 44.1**	**-1.7**
BALY				*i* S	**Sn**	**02 02 59.8**	**-0.3**
BALY	**Balya**	**1.04**	**73**	*i* P	**Pg**	**02 02 44.1**	**-1.7**
BALY				*i* S	**Sn**	**02 02 59.8**	**-0.3**
CHOS	**Chios island**	**1.08**	**192**	P	**Pg**	**02 02 44.0**	**-2.5**
CHOS				S	**Sn**	**02 03 00.8**	**-0.2**
CHOS	**Chios island**	**1.08**	**192**	*e*PN	**Pn**	**02 02 46.8**	**+0.5**
CHOS				*e*SN	**Sn**	**02 03 01.0**	**0.0**
CHOS	**Chios island**	**1.08**	**192**	P	**Pg**	**02 02 44.0**	**-2.5**
CHOS	**Chios island**	**1.08**	**192**	*e*Pn	**Pn**	**02 02 46.8**	**+0.5**
CHOS				*e*Sn	**Sn**	**02 03 01.0**	**0.0**
URLA	**Izmir**	**1.10**	**169**	*i* P	**Pb**	**02 02 45.7**	**-0.7**
URLA				*i* S	**Sg**	**02 03 00.6**	**-0.7**
URLA	**Izmir**	**1.10**	**169**	*i* P	**Pb**	**02 02 45.7**	**-0.7**
URLA				*i* S	**Sg

CTYL	Yal??k??y-??at	2.52	36	*e*PN		Pn		02 03 07.3	+1.2
CTYL	Yal??k??y-??at	2.52	36	*e*Pn		Pn		02 03 07.3	+1.2
BDRM	Kayabasi	2.53	159	*i* P		Pn		02 03 06.6	+0.4
BDRM	Kayabasi	2.53	159	*i* P		Pn		02 03 06.6	+0.4
BGKT	Bogazkoy	2.55	46	*e*PN		Pn		02 03 08.2	+1.7
BGKT	Bogazkoy	2.55	46	*e*Pn		Pn		02 03 08.2	+1.7
BUY	Buyukada	2.56	56	*i* P		Pn		02 03 07.5	+0.9
BUY	Buyukada	2.56	56	*i* P		Pn		02 03 07.5	+0.9
YLV	Yalova	2.59	63	*e*PN		Pn		02 03 09.2	+2.1
YLV	Yalova	2.59	63	*e*Pn		Pn		02 03 09.2	+2.1
ISK	Istanbul-Kandi	2.64	51	*e*PN		Pn		02 03 09.4	+1.7
ISK	Istanbul-Kandi	2.64	51	*e*Pn		Pn		02 03 09.4	+1.7
NVR	Nevrokopi	2.68	316	*e*PN		Pn		02 03 09.5	+1.2
NVR	Nevrokopi	2.68	316	*e*Pn		Pn		02 03 09.5	+1.2
KHAL	Karahalli	2.69	112	*i* P		Pn		02 03 09.8	+1.3
KHAL	Karahalli	2.69	112	*i* P		Pn		02 03 09.8	+1.3
LKR	Lokris	2.71	254	*e*PN		Pn		02 03 09.2	+0.5
LKR	Lokris	2.71	254	*e*Pn		Pn		02 03 09.2	+0.5
KHL	Karahalli	2.73	113	*e*PN		Pn		02 03 10.2	+1.1
KHL	Karahalli	2.73	113	*e*Pn		Pn		02 03 10.2	+1.1
DNZL	Cakiroluk	2.76	129	*i* P		Pn		02 03 10.9	+1.4
DNZL	Cakiroluk	2.76	129	*i* P		Pn		02 03 10.9	+1.4
YER	Yerkesik	2.77	146	*e*PN		Pn		02 03 10.7	+1.1
YER	Yerkesik	2.77	146	*e*Pn		Pn		02 03 10.7	+1.1
NAIG	Nisos Aigina	2.79	234	*e*PN		Pn		02 03 10.2	+0.4
NAIG	Nisos Aigina	2.79	234	*e*Pn		Pn		02 03 10.2	+0.4
ADVT	Abdulvahap	2.80	68	*e*PN		Pn		02 03 11.9	+2.1
ADVT	Abdulvahap	2.80	68	*e*Pn		Pn		02 03 12.0	+2.1
CAVI	Cavuskoy	2.81	73	*e*PN		Pn		02 03 12.2	+2.2
CAVI	Cavuskoy	2.81	73	*e*Pn		Pn		02 03 12.2	+2.2
DAT	Datca	2.88	160	*e*PN		Pn		02 03 11.6	+0.4
DAT	Datca	2.88	160	*e*Pn		Pn		02 03 11.6	+0.4
HRT	Hereke	2.91	61	*e*PN		Pn		02 03 13.4	+2.0
HRT	Hereke	2.91	61	*e*Pn		Pn		02 03 13.4	+2.0
ALT	Altintas	2.96	96	*e*PN		Pn		02 03 13.4	+1.2
ALT	Altintas	2.96	96	*e*Pn		Pn		02 03 13.4	+1.2
SILT	Sile	3.06	55	*e*PN		Pn		02 03 15.2	+1.8
SILT	Sile	3.06	55	*e*Pn		Pn		02 03 15.2	+1.8
TURN	Turunc	3.13	144	*i* P		Pn		02 03 14.2	-0.2
TURN	Turunc	3.13	144	*i* P		Pn		02 03 14.2	-0.2
GPA	Golpazari	3.18	73	*e*PN		Pn		02 03 17.1	+2.0
GPA	Golpazari	3.18	73	*e*Pn		Pn		02 03 17.1	+2.0
BORA	Eskisehir	3.21	81	*i* P		Pn		02 03 17.7	+2.0
BORA	Eskisehir	3.21	81	*i* P		Pn		02 03 17.7	+2.0
SPNC	Sapanca-Adapaz	3.29	67	*e*PN		Pn		02 03 19.0	+2.3
SPNC	Sapanca-Adapaz	3.29	67	*e*Pn		Pn		02 03 19.0	+2.3
THL	Klokotos Trika	3.34	273	*e*PN		Pn		02 03 19.0	+1.6
THL	Klokotos Trika	3.34	273	*e*Pn		Pn		02 03 19.0	+1.6
GOLH	Golhisar	3.36	130	*i* P		Pn		02 03 19.4	+1.6
GOLH	Golhisar	3.36	130	*i* P		Pn		02 03 19.4	+1.6
GULT	Gulveren	3.37	72	*e*PN		Pn		02 03 20.3	+2.5
GULT	Gulveren	3.37	72	*e*Pn		Pn		02 03 20.3	+2.5
VAY	Valandovo	3.43	304	*e*Pn		Pb		02 03 25.6	-0.5
ESKT	Eskisehir	3.50	87	*e*PN		Pn		02 03 21.6	+1.9
ESKT	Eskisehir	3.50	87	*e*Pn		Pn		02 03 21.6	+1.9
SEYT	Eskypehyr	3.50	87	*i* P		Pn		02 03 20.2	+0.6
SEYT	Eskypehyr	3.50	87	*i* P		Pn		02 03 20.2	+0.6
ARG	Arkhangelos	3.52	156	*e*PN		Pn		02 03 21.3	+1.5
ARG	Arkhangelos	3.52	156	*e*Pn		Pn		02 03 21.3	+1.5
FETY	Fethiye	3.55	141	*e*PN		Pn		02 03 21.6	+1.5
FETY	Fethiye	3.55	141	*e*Pn		Pn		02 03 21.7	+1.5
EVR	Evrytania	3.55	263	*e*PN		Pn		02 03 22.6	+2.2
EVR	Evrytania	3.55	263	*e*Pn		Pn		02 03 22.6	+2.2
ISP	Isparta	3.66	115	*e*PN		Pn		02 03 24.6	+2.7
ISP	Isparta	3.66	115	*e*Pn		Pn		02 03 24.6	+2.7
BOLV	Bolvadin	3.67	100	*i* P		Pn		02 03 24.6	+2.6
BOLV	Bolvadin	3.67	100	*i* P		Pn		02 03 24.6	+2.6
VLI	Veliai	3.82	226	*e*PN		Pn		02 03 24.5	+0.6
VLI	Veliai	3.82	226	*e*Pn		Pn		02 03 24.5	+0.6
MDUB	Mudurnu	3.88	73	*e*PN		Pn		02 03 27.5	+2.6
MDUB	Mudurnu	3.88	73	*e*Pn		Pn		02 03 27.5	+2.6
BCK	Bucak	3.88	119	*e*PN		Pn		02 03 26.4	+1.5
BCK	Bucak	3.88	119	*e*Pn		Pn		02 03 26.4	+1.5
ELL	Elmali	3.90	133	*e*PN		Pn		02 03 26.9	+1.8
ELL	Elmali	3.90	133	*e*Pn		Pn		02 03 26.9	+1.8
VTS	Vitosha	3.93	324	⇓*i*P		Pn		02 03 28.2	+2.6
VTS	Vitosha	3.93	324	⇓*i*P		Pn		02 03 28.2	+2.6
KORT	Korkueli	4.00	126	*i* P		Pn		02 03 28.7	+2.2
KORT	Korkueli	4.00	126	*i* P		Pn		02 03 28.7	+2.2
SVRH	Sivrihisar-ESK	4.02	88	*e*PN		Pn		02 03 28.6	+1.8
SVRH	Sivrihisar-ESK	4.02	88	*e*Pn		Pn		02 03 28.6	+1.8
KYTH	Kithira	4.09	221	*e*PN		Pn		02 03 28.5	+0.7
KYTH	Kithira	4.09	221	*e*Pn		Pn		02 03 28.5	+0.7
ITM	Ithomi	4.14	238	*e*PN		Pn		02 03 30.8	+2.5
ITM	Ithomi	4.14	238	*e*Pn		Pn		02 03 30.8	+2.5
KIZT	Kizilcal	4.35	96	*e*PN		Pn		02 03 33.5	+2.2
KIZT	Kizilcal	4.35	96	*e*Pn		Pn		02 03 33.5	+2.2
MLR	Muntele Rosu	6.05	357	⇑*i*P		Pn		02 03 57.5	+2.8
MLR	Muntele Rosu	6.05	357	⇑*i*P		Pn		02 03 57.5	+2.8
VOIR		6.06	351	⇑*i*P		Pn		02 03 56.5	+1.6
VOIR		6.06	351	⇑*i*P		Pn		02 03 56.5	+1.6
LOT	Lotru	6.29	343	⇓*i*P		Pn		02 03 59.7	+1.7
LOT	Lotru	6.29	343	⇓*i*P		Pn		02 03 59.7	+1.7
PLOR	Plostina	6.41	2	⇑*i*P		Pn		02 04 02.8	+3.3
PLOR	Plostina	6.41	2	⇑*i*P		Pn		02 04 02.8	+3.3
VRI	Vrincioaia	6.43	2	⇑*i*P		Pn		02 04 06.0	+6.2
GZR	Gura Zlata	6.50	337	⇑*i*P		Pn		02 04 01.5	+0.7
GZR	Gura Zlata	6.50	337	⇑*i*P		Pn		02 04 01.5	+0.7
TESR		7.07	2	⇓*i*P		Pn		02 04 10.8	+2.2
TESR		7.07	2	⇓*i*P		Pn		02 04 10.8	+2.2
BZS	Buzias	7.08	332	⇓*i*P		Pn		02 04 10.3	+1.6
BZS	Buzias	7.08	332	⇓*i*P		Pn		02 04 10.3	+1.6
DRGR		7.81	341	⇑*i*P		Pb		02 04 29.7	-11
BURAR	Bucovina Array	8.21	355	⇑*i*P		Pn		02 04 30.0	+5.7

DJA ***16*** *02:22:41, 29.˚70S×69.˚65W, h10km, mb5.6/3*

ISCJB ***16*** *02:22:47.4±0.4, 29.˚02S±0.˚03×69.˚69W±0.˚04, h79km±3km, mb5.5/214, Error ellipse: s-maj=5.5km s-min=4.1km az=163.1*

MOS ***16*** *02:22:47.3±0.9, 28.˚86S×69.˚77W, h72km, mb5.9/67, Error ellipse: s-maj=10.2km s-min=6.0km az=96.8*

LDG ***16*** *02:22:47.7±0.2, 28.˚73S×69.˚98W, h80km, Mb5.4/33, Ms4.0/9, Error ellipse: s-maj=23.4km s-min=11.8km az=113.0*

BJI ***16*** *02:22:48.3, 29.˚00S×69.˚60W, h84km, mB5.3/25, Ms5.3/16, Ms7 5.1/21*

NEIC ***16*** *02:22:50.0, 29.˚13S×69.˚81W, h75km, mb5.7/195, MD5.6(SJA), After GUC.*

NEIC Felt [III] at La Rioja and San Juan. Felt [IV] at Coquimbo, La Higuera, La Serena and Vicuna; [III] at Copiapo and Vallenar; [II] at Alto del Carmen, Caldera, Chanaral, Freirina and Huasco, Chile. Also felt at Diego de Almagro, Ovalle and Salamanca.

GUC ***16*** *02:22:50.5±0.8, 29.˚13S×69.˚81W, h75km, ML5.6*

IDC ***16*** *02:22:52.4±0.7, 29.˚13S×69.˚84W, h111km±6km, mb5.1/15, mb1 5.2/17, mb1mx5.1/18, mbtmp5.1/17, MS4.2/14, Ms1 4.2/14, ms1mx4.1/24, Error ellipse: s-maj=15.7km s-min=8.5km az=70.0*

ISC 16 02:22:48.6±0.3, 29.˚10S±0.˚03×69.˚83W±0.˚04, h82km±2km, h81km:pP-P, n1131, σ1.˚08/1227, mb5.6/211, 237C-239D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LCO	Las Campanas	0.76	276	*e*P			Pn	02 23 07.8	+2.5
LCO				*i* S			Sn	02 23 20.6	+2.8
LCO	Las Campanas	0.76	276	*e*P			Pn	02 23 07.8	+2.5
LCO				*i* S			Sn	02 23 20.6	+2.8
VACH	Vallenar	0.96	302	⇑*i*P			Pn	02 23 07.5	+0.2
VACH				*i* S			Sn	02 23 21.7	+0.4
VACH	Vallenar	0.96	302	⇑*i*P			Pn	02 23 07.5	+0.2
VACH				*i* S			Sn	02 23 21.7	+0.4
VACH					AML	AML	02 23 24.5		
	comp=N,312μm,0.6s								
TLL	Tololo Astrono	1.36	218	⇓*i*P			Pn	02 23 14.8	+2.4
TLL				*i* S			Sn	02 23 32.6	+2.2
TLL	Tololo Astrono	1.36	218	⇓*i*P			Pn	02 23 14.8	+2.4
TLL				*i* S			Sn	02 23 32.6	+2.2
TLL					AML	AML	02 23 33.5		
	comp=E,76μm,0.5s								
CPCH	Copiapo	1.79	345	*e*P			Pn	02 23 20.5	+2.7
CPCH				*i* S			Sn	02 23 43.1	+3.1
CPCH	Copiapo	1.79	345	*e*P			Pn	02 23 20.5	+2.7
CPCH				*i* S			Sn	02 23 43.1	+3.1
CPCH					AML	AML	02 23 46.2		
	comp=E,112μm,0.1s								
CFAA	Coronel Fontan	2.86	152	P			Pn	02 23 36.1	+4.1
CFAA				S			Sn	02 24 10.0	+4.5
CFAA	Coronel Fontan	2.86	152	P			Pn	02 23 36.1	+4.1
	comp=E,96nm,0.3s,baz=320,slow=13,SNR=5260								
CFAA				S			Sn	02 24 10.0	+4.5
	comp=E,308nm,0.3s,baz=234,slow=19,SNR=42								
CHNG	Los Chungos	3.13	207	P			Pn	02 23 36.0	+0.3
CHNG				*e*S			Sn	02 24 10.7	-1.3
CHNG	Los Chungos	3.13	207	⇑*e*P			Pn	02 23 36.0	+0.3
CHNG				*e*S			Sn	02 24 10.7	-1.3
JACH	Jahuel	3.63	190	*e*P			Pn	02 23 44.8	+2.1
JACH	Jahuel	3.63	190	*e*P			Pn	02 23 44.8	+2.1
ROCH	El Roble	3.99	194	⇑*i*P			Pn	02 23 47.7	0.0
PEL	Peldehue	4.10	190	⇓*e*P			Pn	02 23 50.0	+1.0
SAN	Santiago	4.40	189	P			Pn	02 23 54.0	+1.0
SAN	Santiago	4.40	189	*e*P			Pn	02 23 54.0	+1.0
PCH	Pirque	4.55	187	*e*P			Pn	02 23 56.6	+1.5
PCH	Pirque	4.55	187	*e*P			Pn	02 23 56.6	+1.5
TACH	Talagante	4.64	191	P			Pn	02 23 56.1	-0.2
TACH	Talagante	4.64	191	*e*P			Pn	02 23 56.1	-0.2
LMEL	Las Melosas	4.75	184	⇑*e*P			Pn	02 23 59.8	+1.9
LMEL				*e*S			Sn	02 24 53.2	+1.4
LMEL	Las Melosas	4.75	184	⇑*e*P			Pn	02 23 59.8	+1.9
LMEL				*e*S			Sn	02 24 53.2	+1.4
MECH	Mejillones	5.99	355	P			Pn	02 24 14.1	-0.6
MECH	Mejillones	5.99	355	*e*P			Pn	02 24 14.1	-0.6
LVC	Limon Verde	6.51	8	*e*Pn			Pn	02 24 22.4	+0.4
TRQA	Tornquist	11.08	146	*e*Pn			Pn	02 25 24.3	+0.2
TRQA				*e*Sn			Sn	02 27 16.7	-9.3
CPUP	Villa Florida	11.42	79	*e*Pn			Pn	02 25 27.7	-1.0
CPUP	Villa Florida	11.42	79	P			Pn	02 25 28.6	-0.1
	comp=E,11nm,0.3s,baz=234,slow=15,SNR=57								
CPUP					LR		LR	02 30 33.9	
	comp=E,989nm,19.5s,baz=241,slow=40								
PLCA	Paso Flores	11.62	183	*e*Pn			Pn	02 25 30.0	-1.5
PLCA	Paso Flores	11.62	183	P			Pn	02 25 31.1	-0.4
	comp=E,2.7nm,0.3s,baz=354,slow=13,SNR=17								
PLCA					LR		LR	02 30 45.5	
	comp=E,731nm,20.2s,baz=13,slow=41								
LPAZ	La Paz	12.84	7	*e*Pn			Pn	02 25 47.0	-1.6
SIV	San Ignacio	15.34	34	P			Pn	02 26 17.8	-2.8
SIV	San Ignacio	15.34	34	P			Pn	02 26 17.8	-2.8
	comp=E,4.7nm,0.3s,baz=226,slow=13,SNR=54								
SIV					LR		LR	02 33 12.6	
	comp=E,1μm,20.3s,slow=40								
NNA	Nana	18.23	338	*e*Pn			P	02 26 55.9	+0.3
NNA	Nana	18.23	338	P			Pn	02 26 58.4	+2.1
	comp=E,2.0nm,0.3s,baz=166,slow=12,SNR=42								
SPB	Sao Paulo	20.80	80	*e*P			Pn	02 27 25.1	-1.4
	comp=E,133nm,0.9s								
SAML	Samuel	20.99	19	*e*P			P	02 27 26.4	+1.0
	comp=E,33nm,0.4s								
ATAH	Atahualpa	23.29	338	P			P	02 27 51.7	+1.8
ATAH	Atahualpa	23.29	338	P			P	02 27 51.7	+1.8
	comp=E,20nm,0.7s,baz=158,slow=7.1,SNR=47								
BDFB	Brasilia	24.16	61	*e*P			P	02 27 57.8	+0.3
BDFB	Brasilia	24.16	61	P			P	02 27 58.4	+1.0
	comp=E,49nm,0.9s,baz=227,slow=10,SNR=62								
BDFB					LR		LR	02 39 06.6	
	comp=E,571nm,21.3s,baz=114,slow=40								
EFI	East Falkland	24.21	162	c *i*P			P	02 27 58.0	+0.6
EFI	East Falkland	24.21	162	*e*P			P	02 27 57.7	+0.3
	comp=E,251nm,0.8s								
USHA	Ushuaia	25.74	178	P			P	02 28 11.7	+0.5
USHA	Ushuaia	25.74	178	P			P	02 28 11.7	+0.5
	comp=E,421nm,0.9s,baz=337,slow=6.7,SNR=44								
OTAV	Otavalo	30.31	343	*e*P			P	02 28 54.6	+1.7
	comp=E,11nm,1.2s								
OTAV					*e*PcP		PcP	02 31 52.1	+0.5
PAYG	Puerto Ayora	34.35	322	*e*P			P	02 29 29.4	+1.6
	comp=E,48nm,0.7s								
PAYG					*e*PcP		PcP	02 32 03.0	+0.8
PMSA	Palmer Station	35.88	176	*e*P			P	02 29 41.2	+0.9
	comp=E,55nm,0.9s								
PMSA	Palmer Station	35.88	176	P			P	02 29 41.2	+0.9
	comp=E,44nm,0.9s,baz=342,slow=12,SNR=4.5								
SDV	Santo Domingo	37.77	359	*e*P			P	02 29 56.2	-0.9
	comp=E,71nm,1.0s								
BCIP	Isla Barro Col	39.24	344	*e*P			P	02 30 10.5	+1.3
	comp=E,320nm,1.6s								
RCBR	Riachuelo	39.53	61	*e*P			P	02 30 13.7	+1.8
	comp=E,49nm,1.0s								
RCBR					*e*PcP		PcP	02 32 18.4	+0.4
GRGR	Grenville	41.74	12	*e*P			P	02 30 29.4	-0.4
	comp=E,115nm,0.5s								
JTS	JuntasAbangare	41.79	337	*e*P			P	02 30 31.6	+1.4
	comp=E,103nm,0.9s								
JTS					*e*PcP		PcP	02 32 24.9	-0.2
BIM	Bigot	44.17	12	*e*P			P	02 30 49.0	-0.5
FDF	Fort de France	44.37	12	*e*P			P	02 30 49.6	-1.5
FDF					pmax		pmax		
	comp=E,84nm,0.6s								
FDF	Fort de France	44.37	12	*e*P			P	02 30 49.6	-1.5
	comp=E,84nm,0.6s								
FDF	Fort de France	44.37	12	*e*P			P	02 30 50.6	-0.5
CRPR	Cabo Rojo, PR	46.90	4	*e*P			P	02 31 10.1	-0.8
	comp=E,104nm,0.9s								
OBIP	Obispado Ponce	46.97	4	*e*P			P	02 31 10.3	-1.1
	comp=E,124nm,0.8s								
CELP	Cerrillos	47.00	4	*e*P			P	02 31 10.8	-0.9
SJG	San Juan	47.06	5	*e*P			P	02 31 10.4	-1.8
	comp=E,99nm,1.0s								
LSP	Las Mesas	47.07	4	*e*P			P	02 31 12.1	-0.2
MTP	Monte Pirata	47.10	6	*e*P			P	02 31 10.2	-2.2
	comp=E,59nm,1.0s								
MTP					*e*PP		PP	02 33 05.1	+0.9
HUMP	Col San Antoni	47.12	5	*e*P			P	02 31 11.4	-1.2
	comp=E,23nm,1.1s								
LRS	Lares	47.20	4	*e*P			P	02 31 12.4	-0.9
LRS					*e*PcP		PcP	02 32 43.8	+0.2
CBYP	Canovanas	47.25	5	*e*P			P	02 31 12.8	-0.9
	comp=E,126nm,1.0s								
MTDJ	Mount Denham	47.63	350	*e*P			P	02 31 16.6	-0.1
	comp=E,101nm,0.9s								
SDDR	Presa de Saban	47.82	358	*e*P			P	02 31 18.0	-0.1
	comp=E,106nm,1.4s								
THIG		48.82	331	P			P	02 31 17.9	-7.9
GTBY	Guantanamo Bay	49.00	353	*e*P			P	02 31 26.8	-0.3
	comp=E,224nm,1.2s								
PCIG		49.94	330	P			P	02 31 33.9	-0.4
CCIG	Comitan	49.99	332	P			P	02 31 35.2	+0.3
TGIG		50.85	331	P			P	02 31 41.3	0.0
HUIG	Huatulco	51.32	327	P			P	02 31 42.7	-2.1
CMIG	Matias Romero	51.90	329	P			P	02 31 49.7	+0.7
VHO	Viste Hermosa	52.74	327	P			P	02 31 55.3	-0.3
PNIG	Pinotepa	52.84	325	P			P	02 31 56.5	+0.5
UTMO	Huajuapan	53.91	326	P			P	02 32 05.5	+1.5
TPIG	Tehuac#an	54.20	327	P			P	02 32 07.1	+0.9
SNAA	Sanae	55.45	159	*e*P			P	02 32 07.0	-7.4
	comp=Z,93nm,1.0s								
SNAA					*e*pP		pP	02 32 35.0	+0.2
MOIG	Morelia	57.16	324	P			P	02 32 28.3	+1.0
RKT	Rikitea	58.16	260	*e*S			S	02 40 29.2	-0.4
	comp=E,243nm,25.8s								
RKT					*e*LQ		LQ	02 47 12.0	
	comp=E,386nm,30.2s								
RKT					*e*LR		LR	02 49 51.8	
	comp=E,165nm,29.8s								
MAIT	Maitri	60.07	158	*e*P			P	02 32 48.5	+1.9
MAIT				*e*				02 33 16.5	
NVL	N'lazarevskaya	60.10	158	*e*P			P	02 32 47.7	+0.8
NVL				*e**PP			pP	02 33 15.4	+7.8
NVL					pmax		pmax		
	comp=Z,48nm,1.2s								
QSPA	South Pole Qui	61.13	180	*e*P			P	02 32 54.4	+0.2
	comp=Z,77nm,0.9s								
QSPA					pP		pP	02 33 22.0	+7.1
QSPA	South Pole Qui	61.13	180	P			P	02 32 54.8	+0.7
	comp=Z,63nm,0.8s,baz=147,slow=3.2,SNR=183								
QSPA					pP		pP	02 33 22.0	+7.1
	comp=Z,56nm,0.9s,baz=133,slow=4.1,SNR=6.9								
QSPA					LR		LR	02 57 25.4	
	comp=Z,304nm,20.9s,baz=68,slow=34								
BRAL	Brewton	61.98	343	*e*P			P	02 33 00.9	+0.9
	comp=Z,189nm,0.9s								
KVTX	Kingsville	62.41	332	*e*P			P	02 33 04.5	+1.6
	comp=Z,268nm,1.1s								
NHSC	New Hope	62.64	350	*e*P			P	02 33 04.9	+0.6
	comp=Z,364nm,1.1s								
COW	Cow Castle Cre	62.98	350	*e*P			P	02 33 05.7	-0.9
GOGA	Godfrey	63.49	347	*e*P			P	02 33 09.3	-0.8
GOGA					pmax		pmax		
	comp=Z,212nm,1.8s								
GOGA	Godfrey	63.49	347	*e*P			P	02 33 09.2	-0.8
	comp=Z,212nm,1.8s								
HKT	Hockley	63.74	335	*e*P			P	02 33 12.3	+0.6
HKT					pmax		pmax		
	comp=Z,90nm,1.3s								
HKT	Hockley	63.74	335	*e*P			P	02 33 12.3	+0.6
	comp=Z,90nm,1.3s								
LRAL	Lakeview Retre	63.90	344	*e*P			P	02 33 12.0	-0.7
	comp=Z,70nm,1.1s								
JSC	Jenkinsville	63.95	349	*e*P			P	02 33 12.8	-0.2
JSC	Jenkinsville	63.95	349	*e*P			P	02 33 12.8	-0.2
VBMS	Vicksburg	64.06	341	*e*P			P	02 33 14.4	+0.6
	comp=Z,194nm,0.9s								
CNNC	Cliffs of the	64.44	353	*e*P			P	02 33 16.8	+0.6
	comp=Z,173nm,0.8s								
KMSC	Kings Mountain	64.81	350	⇓P			P	02 33 18.5	-0.1
	baz=65,SNR=30								
NATX	Nacogdoches	64.96	337	*e*P			P	02 33 20.8	+1.1
	comp=Z,296nm,0.9s								
CPCT	Cooper Cave	65.68	347	*e*P			P	02 33 23.9	-0.3
SWET	Sewanee	65.75	346	*e*P			P	02 33 24.4	-0.3
	comp=Z,162nm,0.8s								
JCT	Junction City	65.77	332	*e*P			P	02 33 25.7	+0.7
JCT					pmax		pmax		
	comp=Z,209nm,1.1s								
JCT	Junction City	65.77	332	*e*P			P	02 33 25.7	+0.7
	comp=Z,209nm,1.1s								
JCT	Junction City	65.77	332	⇓P			P	02 33 25.7	+0.7
	baz=66,SNR=49								
OXF	Oxford	65.91	342	*e*P			P	02 33 25.0	-0.8
OXF					pmax		pmax		
	comp=Z,262nm,1.1s								
OXF	Oxford	65.91	342	*e*P			P	02 33 25.0	-0.8
	comp=Z,262nm,1.1s								
PLAL	Pickwick Lake	66.02	344	*e*P			P	02 33 30.5	+4.0
	comp=Z,86nm,0.9s								
628A	Black Gap, Mar	66.25	329	⇓P			P	02 33 29.2	+1.1
	baz=67,SNR=90								
627A	Terlingua Ranc	66.46	328	⇓P			P	02 33 30.2	+0.7
	baz=67								
TXAR	Lajitas Array	66.48	328	P			P	02 33 30.3	+0.6
TXAR					P'P'ab		P'P'ab	03 02 04.9	0.0
TXAR	Lajitas Array	66.48	328	P			P	02 33 30.3	+0.6
	comp=Z,25nm,0.8s,baz=152,slow=8.2,SNR=226								
TXAR					PKP2ab			03 02 04.9	
	comp=Z,0.6nm,0.8s,baz=209,slow=2.3,SNR=4.8								
529A	Stev Forest Ra	66.50	330	⇑P			P	02 33 30.6	+0.9
	baz=67								
TZTN	Tazewell	66.55	348	*e*P			P	02 33 39.9	+10
	comp=Z,131nm,1.4s								
MET	Memphis--Engin	66.63	342	*e*P			P	02 33 31.9	+1.6
	comp=Z,237nm,1.0s								
430A	Baggett Ranch,	66.64	331	⇓P			P	02 33 31.3	+0.7
	baz=67								
BLA	Blacksburg	66.70	351	*e*P			P	02 33 30.8	0.0
BLA					pmax		pmax		
	comp=Z,46nm,0.8s								
BLA	Blacksburg	66.70	351	*e*P			P	02 33 30.8	0.0
	comp=Z,46nm,0.8s						

Z27A Tatum 69.67 331 ⇓P P 02 33 49.5 -0.1
baz=70,SNR=70

BLO Bloomington 69.68 346 eP P 02 33 48.4 -0.9
BLO pmax pmax
comp=Z,88nm,0.7s

BLO Bloomington 69.68 346 eP P 02 33 48.4 -0.9
comp=Z,88nm,0.7s

CPRX Cap Rock 69.71 330 eP P 02 33 50.5 +0.7
comp=Z,93nm,1.1s

125A Gardner Draw, 69.74 329 ⇓P P 02 33 50.0 -0.1
baz=70,SNR=65

Y28A McKinney Farm, 69.77 332 ⇑P P 02 33 50.2 0.0
baz=70,SNR=15

SSPA Standing Stone 69.78 353 eP P 02 33 50.0 +0.1
comp=Z,107nm,1.2s

PAL Palisades 69.85 357 eP P 02 33 50.9 +0.6
PAL pmax pmax
comp=Z,65nm,1.1s

PAL Palisades 69.85 357 eP P 02 33 50.9 +0.6
comp=Z,65nm,1.1s

Z26A Caprock 69.96 330 ⇓P P 02 33 51.8 +0.4
baz=70,SNR=165

X29A Tulia 70.01 332 ⇓P P 02 33 51.8 +0.2
baz=70,SNR=67

223A Chaparral, Ant 70.01 327 ⇓P P 02 33 52.4 +0.7
baz=70,SNR=7.1

SLM Saint Louis 70.03 343 eP P 02 33 51.4 -0.1
SLM pmax pmax
comp=Z,120nm,0.8s

SLM Saint Louis 70.03 343 eP P 02 33 51.4 -0.1
comp=Z,120nm,0.8s

MSTX Muleshoe 70.04 331 ⇑P P 02 33 52.0 +0.2
baz=70,SNR=90

ACSO Alum Creek Sta 70.05 349 eP P 02 33 51.2 -0.4
comp=Z,176nm,0.9s

YLE Yale 70.11 358 eP P 02 33 53.0 +1.1
comp=Z,443nm,1.3s

Y27A Causey 70.13 331 ⇑P P 02 33 52.3 -0.1
baz=70

124A Stringfield Ra 70.14 329 ⇓P P 02 33 53.2 +0.6
baz=70,SNR=64

X28A Dimmitt 70.27 332 ⇑P P 02 33 53.4 +0.2
baz=71,SNR=29

Z25A Roswell 70.29 329 ⇓P P 02 33 53.4 0.0
baz=71,SNR=62

AMTX Amarillo 70.38 333 eP P 02 33 54.1 +0.2
comp=Z,156nm,1.2s

AMTX Amarillo 70.38 333 ⇑P P 02 33 54.0 +0.2
baz=71,SNR=55

TBI Tubuai 70.40 254 eP P 02 33 55.0 +0.8
comp=Z,122nm,1.1s

TBI eS S 02 43 00.3 -0.5

TBI eLR LR 02 55 34.4
comp=Z,94nm,25.2s
comp=Z,207nm,32.8s

222A Williams Famil 70.41 327 ⇓P P 02 33 55.2 +1.0
baz=71,SNR=6.4

Y26A Elida 70.45 330 ⇓P P 02 33 54.6 +0.3
baz=71,SNR=8.2

123A Bell Site, Whi 70.46 328 ⇑P P 02 33 55.1 +0.7
baz=71

320A Kipp Ranch, An 70.48 325 ⇓P P 02 33 55.7 +1.1
baz=71,SNR=36

W29A Amraillo 70.57 333 ⇑P P 02 33 55.1 +0.1
baz=71

Z24A Sheeppen Canyo 70.63 329 ⇓P P 02 33 56.2 +0.7
baz=71

221A Mesquite Ranch 70.66 326 ⇑P P 02 33 57.0 +1.3
baz=71,SNR=9.6

BRYW Bryant College 70.68 359 eP P 02 33 56.0 +0.6
comp=Z,469nm,1.4s

X27A F and S Farms, 70.76 331 ⇓P P 02 33 56.2 0.0
baz=71,SNR=13

Y25A Mesa, Roswell 70.83 330 ⇑P P 02 33 56.5 -0.1
baz=71,SNR=26

122A Conniff Cattle 70.86 327 ⇑P P 02 33 58.3 +1.5
baz=71,SNR=6.2

319A Douglas 70.89 325 ⇑P P 02 33 58.3 +1.2
baz=71,SNR=47

W28A Vega 70.92 332 ⇑P P 02 33 57.6 +0.5
baz=71,SNR=16

220A Playas Peak, P 70.94 326 ⇑P P 02 33 58.4 +1.0
baz=71,SNR=65

SFIN Scholer Farm 70.96 346 ⇓P P 02 33 55.8 -1.3
baz=71,SNR=16

Z23A Rita Site, Whi 70.97 328 ⇓P P 02 33 58.8 +1.3
baz=71,SNR=57

X26A CR and CF Fran 70.98 331 ⇑P P 02 33 58.2 +0.6
baz=71,SNR=41

ALLY Alegheny Colle 71.03 352 eP P 02 33 57.3 -0.2
comp=Z,113nm,1.0s

QUA2 Belchertown 71.06 358 eP P 02 33 58.1 +0.5
comp=Z,60nm,1.0s

121A Cookes Peak, D 71.09 327 ⇑P P 02 33 59.8 +1.4
baz=71,SNR=26

W27A Bowe Ranch, En 71.10 332 ⇓P P 02 33 58.5 +0.3
baz=71,SNR=36

Y24A Capitan 71.16 329 ⇓P P 02 33 59.2 +0.5
baz=72,SNR=18

BINY Binghamton 71.17 355 eP P 02 33 59.0 +0.7
comp=Z,100nm,1.0s

V29A Stinnett 71.18 333 ⇓P P 02 33 59.0 +0.4
baz=72,SNR=7.0

HRV Adam Dziewonsk 71.26 359 eP P 02 33 59.7 +0.8
HRV pmax pmax
comp=Z,142nm,1.4s

HRV Adam Dziewonsk 71.26 359 eP P 02 33 59.7 +0.8
comp=Z,142nm,1.4s

Z22A Elephant Butte 71.30 328 ⇑P P 02 34 01.1 +1.5
baz=72,SNR=96

X25A Clemmons Ranch 71.33 330 ⇑P P 02 33 59.8 +0.1
baz=72,SNR=15

V28A Channing 71.35 333 ⇓P P 02 34 00.5 +0.7
baz=72,SNR=26

W26A Owens Ranch, T 71.42 331 ⇑P P 02 34 01.0 +0.8
baz=72,SNR=87

LIC Lamto 71.44 72 ⇓*i*P P 02 34 00.8 +0.2
LIC eR
comp=Z,104nm,0.8s
comp=Z,106nm,21.2s

LIC Lamto 71.44 72 ⇓*i*P P 02 34 00.8 +0.2
comp=Z,104nm,0.8s

Y23A Lovelace Mesa, 71.44 329 ⇓P P 02 34 01.7 +1.2
baz=72,SNR=63

ERPA Erie 71.48 352 eP P 02 34 00.1 0.0
comp=Z,144nm,0.9s

MEH Mehetia 71.48 259 eP P 02 34 02.0 +1.1
comp=Z,86nm,0.9s

120A U Bar Ranch, L 71.52 326 ⇑P P 02 34 02.2 +1.3
baz=72,SNR=45

TRY Troy 71.56 357 eP P 02 34 01.8 +1.1

HDIL Hopedale 71.61 344 eP P 02 34 00.7 -0.4
comp=Z,126nm,0.8s

Z21A St. Cloud Mine 71.68 327 ⇓P P 02 34 03.2 +1.3
baz=72,SNR=43

X24A Lazy VL Ranch, 71.70 330 ⇓P P 02 34 02.8 +0.8
baz=72,SNR=14

W25A X Bar L Ranch, 71.82 331 ⇑P P 02 34 03.1 +0.5
baz=72,SNR=71

DBIC Dimbokro 71.83 71 eP P 02 34 03.6 +0.6

DBIC Dimbokro 71.83 71 P P 02 34 03.7 +0.8
comp=Z,69nm,0.8s,baz=214,slow=8.2,SNR=86
DBIC LR LR 03 03 15.8
comp=Z,96nm,18.4s,baz=216,slow=34

Y22A Socorro 71.86 328 ⇓P P 02 34 04.1 +1.2
baz=72,SNR=19

BNM Barren Site 71.89 328 eP P 02 34 04.2 +1.0
comp=Z,59nm,1.5s
BNM ePcP PcP 02 34 22.9 +1.4

Z20A Nine Sixteen R 71.96 326 ⇓P P 02 34 05.1 +1.6
baz=72,SNR=57

Y22D IRIS PASSCAL I 71.96 328 ⇑P P 02 34 05.0 +1.5
baz=72

LPM Los Pinos Moun 72.02 329 eP P 02 34 05.0 +1.1

V26A Tequesquite Ra 72.03 331 ⇑P P 02 34 04.2 +0.4
baz=72,SNR=54

X23A Hourglass Bar 72.05 329 ⇓P P 02 34 05.3 +1.3
baz=72,SNR=63

LENM Lemitar 72.06 328 eP P 02 34 05.3 +1.2

AAM Ann Arbor 72.18 349 eP P 02 34 03.8 -0.5
AAM pmax pmax
comp=Z,105nm,1.1s

AAM Ann Arbor 72.18 349 eP P 02 34 03.8 -0.5
comp=Z,105nm,1.1s

ACCN Adirondack Com 72.21 357 eP P 02 34 05.4 +0.8
comp=Z,126nm,1.4s

W24A Lazy 6 Ranch, 72.23 330 ⇑P P 02 34 05.7 +0.6
baz=73,SNR=42

FFD Franklin Falls 72.23 359 eP P 02 34 05.9 +1.3
comp=Z,495nm,1.4s

Y21A Point of Rocks 72.25 328 ⇓P P 02 34 07.0 +1.6
baz=73,SNR=64

KSU1 Kansas State U 72.30 338 eP P 02 34 05.0 -0.2
comp=Z,52nm,0.8s

LAZ Ladron 72.33 328 eP P 02 34 06.9 +1.2
comp=Z,30nm,1.1s

X22A Bernardo 72.36 328 ⇓P P 02 34 07.5 +1.6
baz=73,SNR=9.7

TUC Tucson 72.40 324 eP P 02 34 06.5 +0.5
TUC pmax pmax
comp=Z,45nm,1.3s

TUC Tucson 72.40 324 eP P 02 34 06.5 +0.5
comp=Z,9.8nm,1.3s

V25A Rancho No Teng 72.42 331 ⇑P P 02 34 06.8 +0.5
baz=73,SNR=72

ANMO Albuquerque 72.47 329 eP P 02 34 07.3 +0.7
comp=Z,57nm,1.2s

HNH Hanover 72.48 358 eP P 02 34 07.5 +1.4

Y20A Horse Springs, 72.50 327 ⇑P P 02 34 08.2 +1.4
baz=73,SNR=74

W23A Werner Place, 72.51 329 ⇑P P 02 34 08.1 +1.3
baz=73,SNR=48

U26A Atchley Ranch, 72.53 332 ⇑P P 02 34 07.4 +0.5
baz=73,SNR=54

TVO Taravao 72.54 259 eP P 02 34 08.2 +0.9
comp=Z,108nm,1.2s

V24A Rampart Ranch, 72.60 330 ⇑P P 02 34 08.0 +0.6
baz=73,SNR=32

X21A Alamocita Cree 72.67 328 ⇑P P 02 34 09.2 +1.4
baz=73,SNR=61

T27A Campo 72.69 333 ⇑P P 02 34 08.3 +0.5
baz=73,SNR=61

W22A Albuquerque 72.76 329 ⇓P P 02 34 09.9 +1.6
baz=73,SNR=16

MDV Millerly 72.80 357 eP P 02 34 08.6 +0.5

U25A Circle Dot Ran 72.81 331 ⇑P P 02 34 09.4 +0.8
baz=73,SNR=56

NCB Newcomb 72.82 357 eP P 02 34 08.3 +0.1
comp=Z,51nm,1.0s

PAE Paea 72.88 259 eP P 02 34 10.0 +0.8
comp=Z,11nm,0.9s

PPT2 Papeete2 72.91 259 eP P 02 34 10.5 +1.0
comp=Z,73nm,0.9s
PPT2 eS S 02 43 30.5 +0.6
comp=Z,112nm,25.0s
PPT2 eLR LR 02 56 46.6
comp=Z,151nm,24.5s

Y19A Nutrioso 72.96 326 ⇓P P 02 34 11.4 +1.7
baz=73

LBNH Lisbon 73.00 358 eP P 02 34 10.1 +0.8
LBNH pmax pmax
comp=Z,64nm,0.9s

LBNH Lisbon 73.00 358 eP P 02 34 10.1 +0.8
comp=Z,64nm,0.9s

V23A Ortiz Mt. (NFS 73.02 330 ⇓P P 02 34 11.4 +1.6
baz=73,SNR=38

X20A Quemado 73.08 327 ⇓P P 02 34 11.6 +1.4
baz=73,SNR=42

CBKS Cedar Bluff 73.10 336 eP P 02 34 10.8 +0.8
CBKS pmax pmax
comp=Z,144nm,0.8s

CBKS Cedar Bluff 73.10 336 eP P 02 34 10.8 +0.8
comp=Z,144nm,0.8s

CBKS Cedar Bluff 73.10 336 ⇓P P 02 34 10.6 +0.6
baz=74,SNR=22

T26A Comanche Natio 73.14 332 ⇑P P 02 34 11.3 +0.8
baz=74,SNR=18

W21A San Fidel 73.16 328 ⇑P P 02 34 12.1 +1.5
baz=74,SNR=28

214A Organ Pipe Nat 73.17 323 ⇓P P 02 34 12.1 +1.5
baz=74,SNR=96

U24A Moreno Valley 73.19 331 ⇓P P 02 34 12.2 +1.3
baz=74,SNR=11

S27A Las Animas 73.30 333 ⇑P P 02 34 11.8 +0.4
baz=74

WVL Waterville 73.30 0 eP P 02 34 11.7 +0.7
comp=Z,109nm,1.1s

T25A Trinidad 73.44 332 ⇓P P 02 34 13.6 +1.3
baz=74,SNR=38

S26A Kim 73.47 333 ⇑P P 02 34 13.4 +1.0
baz=74,SNR=71

V22A San Miguel Ran 73.48 329 ⇓P P 02 34 14.4 +1.8
baz=74

LONY Lake Ozonia 73.49 356 eP P 02 34 12.1 0.0
comp=Z,58nm,0.9s

U23A El Rito 73.51 330 ⇓P P 02 34 14.1 +1.4
baz=74,SNR=33

W20A Ramah 73.56 328 ⇓P P 02 34 14.3 +1.3
baz=74,SNR=36

T24A Torres, Weston 73.65 331 ⇑P P 02 34 15.1 +1.5
baz=74,SNR=67

FRNY Flat Rock 73.65 357 eP P 02 34 13.4 +0.4
comp=Z,74nm,0.9s

V21A Milan 73.72 329 ⇑P P 02 34 15.4 +1.5
baz=74,SNR=16

X18A Snowflake 73.76 326 ⇑P P 02 34 15.5 +1.3
baz=74,SNR=44

R27A Eads 73.78 334 ⇓P P 02 34 14.6 +0.5
baz=74,SNR=44

114A Black Gap (USA 73.83 323 ⇓P P 02 34 15.7 +1.3
baz=74,SNR=63

U22A Llaves 73.84 330 ⇑P P 02 34 16.4 +1.8
baz=74,SNR=64

SCIA State Center 73.88 342 eP P 02 34 14.4 0.0
comp=Z,220nm,1.5s

MSNY Massena 73.88 356 eP P 02 34 15.0 +0.7
comp=Z,792nm,1.0s

S25A Robets Cordova 73.89 332 ⇓P P 02 34 16.1 +1.2
baz=74

X17A Forest Lakes 74.03 326 ⇓P P 02 34 17.4 +1.6
baz=74,SNR=66

T23A Casias Ranch, 74.04 331 ⇑P P 02 34 17.1 +1.2
baz=74,SNR=40

R26A Arlington 74.05 333 ⇑P P 02 34 16.5 +0.9
baz=74,SNR=65

V20A Brimhall 74.09 328 ⇑P P 02 34 17.2 +1.1
baz=74,SNR=26

W18A Petrified Fore 74.14 327 ⇑P P 02 34 17.7 +1.4
baz=74,SNR=13

S24A Houchin Ranch, 74.20 331 ⇓P P 02 34 18.4 +1.6
baz=74,SNR=53

U21A Nageezi 74.24 329 ⇑P P 02 34 18.3 +1.3
baz=75,SNR=91

R25A Fountain Ranch 74.25 332 ⇑P P 02 34 17.6 +0.7
baz=75,SNR=24

V19A Window Rock 74.30 328 ⇓P P 02 34 18.7 +1.4
baz=75,SNR=91

113A Mohawk Valley, 74.31 323 ⇑P P 02 34 18.2 +1.1
baz=75,SNR=13

Z14A Wintersburg 74.34 324 ⇓P P 02 34 18.5 +1.1
baz=75,SNR=11

KSCO Kaye Shedlock' 74.34 334 ⇑P P 02 34 18.4 +1.1
baz=75,SNR=28

T22A Edith 74.40 330 ⇑P P 02 34 19.4 +1.5
baz=75,SNR=70

X16A Lo Mia Camp, P 74.41 325 ⇑P P 02 34 19.3 +1.4
baz=75

SDCO Great Sand Dun 74.41 331 eP P 02 34 19.0 +1.0
comp=Z,127nm,1.5s

SDCO Great Sand Dun 74.41 331 ⇑P P 02 34 19.2 +1.1
baz=75,SNR=72

S23A Nye Farm, Mont 74.59 331 ⇓P P 02 34 20.4 +1.4
baz=75,SNR=20

U20A Newcomb 74.59 328 ⇑P P 02 34 20.0 +1.0
baz=75,SNR=37

Q26A Hugo 74.61 333 ⇓P P 02 34 20.1 +1.1
baz=75,SNR=24

T21A Navajo Lake 74.66 329 ⇑P P 02 34 20.7 +1.3
baz=75,SNR=47

R24A Sanders Place, 74.66 332 ⇓P P 02 34 20.8 +1.4
baz=75,SNR=47

GLMI Grayling 74.79 349 eP P 02 34 19.1 -0.6
comp=Z,143nm,1.2s

P27A Ficken Ranch, 74.80 334 ⇑P P 02 34 20.9 +1.0
baz=75,SNR=20

Y14A Wickenburg 74.82 324 ⇓P P 02 34 21.3 +1.1
baz=75,SNR=40

U19A Dine' College, 74.84 328 ⇑P P 02 34 21.1 +0.7
baz=75,SNR=68

BGNE Belgrade 74.88 338 ⇑P P 02 34 20.6 +0.3
baz=75,SNR=34

Q25A Bedland, Calha 74.89 333 ⇑P P 02 34 21.2 +0.6
baz=75,SNR=11

R23A Moffat 74.92 331 ⇓P P 02 34 22.1 +1.1
baz=75,SNR=59

S22A 4UR Ranch, Cre 74.98 330 ⇑P P 02 34 22.4 +1.1
baz=75,SNR=35

P26A Davis Ranch, A 75.09 334 ⇑P P 02 34 22.7 +1.0
baz=76,SNR=6.8

GLA Glamis 75.10 322 eP P 02 34 23.0 +1.2
GLA pmax pmax
comp=Z,282nm,1.9s

GLA Glamis 75.10 322 eP P 02 34 23.0 +1.2
comp=Z,282nm,1.9s

GLA Glamis 75.10 322 ⇑P P 02 34 23.0 +1.2
baz=75,SNR=22

T19A Beclabito 75.20 328 ⇓P P 02 34 23.4 +1.0
baz=76,SNR=145

WUAZ Wupatki 75.25 326 eP P 02 34 23.6 +0.8
comp=Z,149nm,1.0s

WUAZ Wupatki 75.25 326 ⇑P P 02 34 24.2 +1.4
baz=76,SNR=110

MVCO Mesa Verde 75.27 329 eP P 02 34 24.1 +1.1
comp=Z,129nm,0.9s

MVCO Mesa Verde 75.27 329 ⇑P P 02 34 24.1 +1.1
baz=76,SNR=94

Q24A Divide 75.30 332 ⇓P P 02 34 24.3 +1.2
baz=76,SNR=49

O27A Beecher Island 75.31 335 ⇓P P 02 34 24.1 +1.2
baz=76,SNR=52

S21A Coal Bank Pass 75.33 330 ⇑P P 02 34 24.6 +1.3
baz=76,SNR=90

R22A Saguache, Gunn 75.35 331 ⇓P P 02 34 24.7 +1.3
baz=76,SNR=32

P25A Willow Gulch B 75.37 333 ⇑P P 02 34 24.7 +1.3
baz=76,SNR=30

Y12C Blythe 75.47 323 ⇑P P 02 34 25.2 +1.4
baz=76,SNR=50

DVTC Desert V Tower 75.49 321 ⇓P P 02 34 25.3 +1.2
baz=76,SNR=5.4

Q23A Hartsel 75.53 332 ⇑P P 02 34 25.2 +0.8
baz=76

SWSC Sam W. Stewart 75.54 321 ⇓P P 02 34 25.4 +1.2
baz=76,SNR=28

SUR Sutherland 75.55 119 LR LR 03 00 57.5
comp=Z,204nm,19.7s,baz=230,slow=30

P24A Kohler Place, 75.67 333 ⇑P P 02 34 26.4 +1.3
baz=76,SNR=9.3

O26A Horse Wrangler 75.67 334 ⇑P P 02 34 26.3 +1.2
baz=76,SNR=9.2

PDMCI Parker Dam,Lak 75.69 323 ⇑P P 02 34 25.9 +0.8
baz=76,SNR=8.2

S20A Disappointment 75.72 329 ⇑P P 02 34 27.1 +1.6
baz=76,SNR=88

OGNE Ogallala 75.81 335 eP P 02 34 26.2 +0.5
comp=Z,73nm,0.9s

OGNE Ogallala 75.81 335 ⇓P P 02 34 26.5 +0.8
baz=76,SNR=21

R21A Cimarron 75.81 330 ⇑P P 02 34 27.4 +1.4
baz=76,SNR=69

BAR Barrett 75.82 321 eP P 02 34 26.9 +1.0
comp=Z,74nm,1.0s

T18A Mexican Hat 75.84 328 ⇑P P 02 34 27.1 +1.1
baz=76,SNR=107

MONP Monument Peak 75.84 321 ⇑P P 02 34 27.4 +1.2
baz=76,SNR=31

N27A Anderson Farm, 75.87 335 ⇓P P 02 34 27.1 +1.0
baz=76,SNR=27

O25A Wiggins 75.87 334 ⇓P P 02 34 27.6 +1.4
baz=76,SNR=6.7

BC3 Big Chuckawall 75.89 322 ⇑P P 02 34 27.5 +1.1
baz=76,SNR=74

P23A Jefferson 75.93 332 ⇓P P 02 34 28.2 +1.4
baz=76,SNR=17

Q22A Crested Butte, 75.95 331 ⇑P P 02 34 28.2 +1.3
baz=76,SNR=45

S19A Harvey Farm, M 76.00 329 ⇑P P 02 34 28.2 +1.2
baz=76,SNR=166

R20A Redvale 76.02 330 ⇑P P 02 34 28.8 +1.6
baz=76,SNR=139

PV01 Paradox Valley 76.06 329 eP P 02 34 28.8 +1.3
comp=Z,10µm,1.2s

IRM Iron Mountain 76.12 323 ⇑P P 02 34 28.8 +1.2
baz=76,SNR=53

N26A Koester Ranch, 76.15 335 ⇑P P 02 34 28.9 +1.3
baz=76

T17A Navajo Res., N 76.16 327 ⇓P P 02 34 29.7 +1.8
baz=76,SNR=91

W13A Hualapai Mount 76.18 324 ⇓P P 02 34 29.5 +1.4
baz=76,SNR=44

ISCO Idaho Springs 76.20 332 eP P 02 34 29.3 +1.0
ISCO pmax pmax
comp=Z,57nm,1.0s

ISCO Idaho Springs 76.20 332 eP P 02 34 29.2 +1.0
comp=Z,57nm,1.0s

ISCO Idaho Springs 76.20 332 ⇓P P 02 34 29.3 +1.0
baz=76,SNR=55

Q21A Lamborn Mesa, 76.21 331 ⇑P P 02 34 29.3 +1.2
baz=77,SNR=14

109C Camp Elliot, M 76.22 320 ⇑P P 02 34 29.1 +1.0
baz=76,SNR=7.8

SMCO Snowmass 76.24 331 eP P 02 34 30.0 +1.4
comp=Z,142nm,1.0s

O24A Longmont 76.26 333 ⇑P P 02 34 29.4 +1.0
baz=77,SNR=11

NEE2 Needles Airpor 76.30 323 ⇑P P 02 34 29.5 +1.0
baz=77

S18A Hurst Farm, Bl 76.34 328 ⇓P P 02 34 30.5 +1.4
baz=77,SNR=272

PFO Pinyon Flat Ob 76.40 321 eP P 02 34 30.6 +1.3
comp=Z,66nm,1.3s

PFO Pinyon Flat Ob 76.40 321 ⇑P P 02 34 30.7 +1.4
baz=77,SNR=36

U15A North Rim 76.42 326 ⇓P P 02 34 31.2 +1.6
baz=77,SNR=93

PV04 Paradox Valley 76.42 329 eP P 02 34 30.5 +1.1

M27A Reverse DX Ran 76.45 335 ⇑P P 02 34 30.4 +1.0
baz=77,SNR=14

BELC Belle Mtn. Jos 76.45 322 ⇓P P 02 34 30.8 +1.2
baz=77,SNR=15

N25A Grover 76.46 334 ⇓P P 02 34 30.8 +1.2
baz=77

P22A Eagle 76.50 331 ⇓P P 02 34 31.1 +1.3
baz=77,SNR=48

R19A Curley Farm, L 76.50 329 ⇓P P 02 34 30.9 +1.0
baz=77,SNR=122

ECSD EROS Data Cent 76.52 340 eP P 02 34 29.6 0.0
comp=Z,99nm,0.8s

Q20A Ridgley Place, 76.62 330 ⇑P P 02 34 31.4 +0.9
baz=77,SNR=24

M26A McRoberts Ranc 76.67 335 ⇑P P 02 34 31.6 +1.0
baz=77

O23A Lake Granby, G 76.67 332 ⇓P P 02 34 32.2 +1.3
baz=77,SNR=40

S17A Black Ridge (B 76.67 328 ⇓P P 02 34 32.1 +1.4
baz=77,SNR=23

P21A Newcastle 76.73 331 ⇑P P 02 34 32.7 +1.6
baz=77,SNR=44

N24A Carr 76.78 333 ⇓P P 02 34 32.7 +1.4
baz=77,SNR=10

LDFC Landfair 76.80 323 eP P 02 34 33.2 +1.7
comp=Z,85nm,0.9s

MURC Murrieta 76.80 321 ⇓P P 02 34 32.7 +1.3
baz=77,SNR=40

GMRC Granite Mounta 76.86 323 ⇑P P 02 34 33.4 +1.5
baz=77,SNR=73

R18A Canyonlands Na 76.86 329 ⇓P P 02 34 32.8 +0.9
baz=77,SNR=46

SPMN St. Paul 76.87 344 ⇑P P 02 34 30.9 -0.6
baz=77,SNR=27

O22A Kremmling 76.89 332 ⇑P P 02 34 33.2 +1.0
baz=77,SNR=70

L27A T5 Ranch, Ells 76.91 336 ⇑P P 02 34 32.9 +1.0
baz=77

M25A Palm-Egli Farm 76.98 334 ⇑P P 02 34 33.5 +1.0
baz=77,SNR=12

Q19A Hogan Spring (77.05 329 ⇓P P 02 34 33.8 +1.0
baz=77,SNR=18

SCI San Clemente I 77.10 320 ⇓P P 02 34 34.2 +1.1
baz=77,SNR=7.2

P20A De Beque 77.11 330 ⇑P P 02 34 34.6 +1.4
baz=78,SNR=67

S16A Weppner Ranch, 77.12 327 ⇓P P 02 34 34.2 +0.9
baz=78,SNR=52

L26A Underwood Farm 77.14 335 ⇓P P 02 34 34.4 +1.1
baz=78

BBRC Big Bear Solar 77.15 322 ⇑P P 02 34 35.2 +1.5
baz=78

HEC Hector,Ludlow 77.26 322 ⇑P P 02 34 35.6 +1.5
baz=78,SNR=51

N23A Red Feather La 77.26 333 ⇓P P 02 34 35.3 +1.1
baz=78,SNR=31

R17A Hanksville Air 77.27 328 ⇓P P 02 34 35.1 +1.1
baz=78,SNR=104

M24A **Cheyenne** 77.31 334 ⇓P P 02 34 35.7 +1.4
baz=78,SNR=29
O21A **Pagoda** 77.31 331 ⇓P P 02 34 36.0 +1.5
baz=78,SNR=30
MAW **Mawson** 77.33 163 eP P 02 34 35.0 +1.1
comp=Z,9.3nm,0.6s
MAW **Mawson** 77.33 163 P P 02 34 35.0 +1.1
comp=Z,53nm,0.7s,baz=210,slow=7.2,SNR=12
MAW LR LR 03 07 24.5
comp=Z,203nm,18.5s,baz=46,slow=35
CIS **Catalina Islan** 77.33 320 ⇓P P 02 34 35.6 +1.1
baz=78,SNR=17
N22A **Wattenberg Ran** 77.39 332 ⇑P P 02 34 36.3 +1.5
baz=78,SNR=54
PHWY **Pilot Hill** 77.41 333 eP P 02 34 35.9 +0.9
comp=Z,227nm,1.8s
K27A **Fluecklinger Fa** 77.42 336 ⇓P P 02 34 35.9 +1.1
baz=78,SNR=34
P19A **Cripple Cowboy** 77.48 330 ⇓P P 02 34 36.8 +1.4
baz=78,SNR=143
FMP **Fort Macarthur** 77.50 320 ⇓P P 02 34 36.4 +1.2
baz=78
TUQ **Turquoise Moun** 77.50 323 ⇓P P 02 34 36.7 +1.2
baz=78,SNR=27
R16A **Teasdale** 77.52 328 ⇓P P 02 34 36.6 +1.0
baz=78,SNR=60
BFSC **Mount Baldy Ra** 77.53 321 ⇑P P 02 34 36.7 +1.0
baz=78,SNR=25
Q18A **Rafter H Ranch** 77.56 329 ⇓P P 02 34 36.8 +1.1
baz=78,SNR=76
L25A **Engebretsen Ra** 77.57 335 ⇓P P 02 34 36.7 +1.0
baz=78
O20A **White River Ci** 77.57 331 ⇓P P 02 34 37.1 +1.2
baz=78,SNR=117
RRX **Edison Barstow** 77.66 322 ⇑P P 02 34 37.7 +1.5
baz=78
M23A **Laramie** 77.66 333 ⇑P P 02 34 37.3 +1.0
baz=78,SNR=14
SRU **San Rafael** 77.74 329 eP P 02 34 37.6 +0.9
SRU pmax pmax
comp=Z,132nm,0.9s
SRU **San Rafael** 77.74 329 eP P 02 34 37.6 +0.9
comp=Z,132nm,0.9s
SRU **San Rafael** 77.74 329 ⇑P P 02 34 37.7 +0.9
baz=78,SNR=101
MWC **Mount Wilson** 77.74 321 eP P 02 34 38.0 +1.1
MWC pmax pmax
comp=Z,80nm,0.9s
MWC **Mount Wilson** 77.74 321 eP P 02 34 38.0 +1.1
comp=Z,80nm,0.9s
K26A **Motz Farm, Whi** 77.76 336 ⇑P P 02 34 37.7 +1.0
baz=78,SNR=5.6
PASC **Pasadena Art C** 77.78 321 eP P 02 34 38.1 +1.3
comp=Z,82nm,1.0s
N21A **Black Mountain** 77.79 332 ⇑P P 02 34 38.5 +1.4
baz=78,SNR=57
R15A **Junction** 77.83 327 ⇑P P 02 34 38.6 +1.3
baz=78,SNR=78
L24A **Wheatland** 77.84 334 ⇓P P 02 34 38.3 +1.1
baz=78,SNR=12
GSC **Goldstone** 77.87 322 eP P 02 34 38.7 +1.3
GSC pmax pmax
comp=Z,42nm,0.9s
GSC **Goldstone** 77.87 322 eP P 02 34 38.7 +1.3
comp=Z,42nm,0.9s
GSC **Goldstone** 77.87 322 ⇓P P 02 34 38.7 +1.3
baz=78,SNR=31
BRSD **Miller** 77.87 339 ⇑P P 02 34 37.1 -0.1
baz=78
Q16A **Castle Valley** 77.88 328 ⇑P P 02 34 38.7 +1.2
baz=78,SNR=64
DECC **Green Verdugo** 77.91 321 ⇓P P 02 34 38.9 +1.3
baz=78,SNR=8.1
K25A **Mack Ranch, Ha** 77.93 335 ⇑P P 02 34 39.0 +1.3
baz=78
M22A **Cedar Creek Ra** 77.95 333 ⇑P P 02 34 39.1 +1.1
baz=78,SNR=29
MSU **Marysvale** 78.03 327 eP P 02 34 39.8 +1.4
MSU **Marysvale** 78.03 327 eP P 02 34 39.8 +1.4
P18A **Preston Nutter** 78.03 329 ⇓P P 02 34 39.8 +1.3
baz=78,SNR=130
MVU **Marysvale** 78.03 327 eP P 02 34 39.8 +1.3
comp=Z,103nm,0.8s
SHOC **Shoshone** 78.04 323 ⇑P P 02 34 39.1 +0.8
baz=78
ARUT **Antelope Range** 78.06 326 eP P 02 34 40.2 +1.6
ARUT pmax pmax
comp=Z,133nm,0.9s
ARUT **Antelope Range** 78.06 326 eP P 02 34 40.2 +1.6
comp=Z,134nm,0.9s
O19A **Miners Draw (B** 78.09 330 ⇑P P 02 34 39.6 +1.0
baz=78,SNR=52
P17A **Butcher Ranch,** 78.13 329 ⇑P P 02 34 39.9 +1.0
baz=78,SNR=61
N20A **Spence Gulch,** 78.16 331 ⇓P P 02 34 40.1 +0.9
baz=78,SNR=56
EDW2 **Edwards Air Fo** 78.19 321 ⇓P P 02 34 40.0 +0.8
baz=78,SNR=36
L23A **Garrett** 78.20 334 ⇓P P 02 34 40.1 +0.8
baz=79,SNR=16
TMUT **Trail Mountain** 78.20 328 eP P 02 34 40.6 +1.1
comp=Z,196nm,1.6s
BLG **Laguna Peak** 78.22 320 ⇓P P 02 34 40.3 +1.0
baz=78,SNR=7.4
K24A **Anderson Ranch** 78.38 334 ⇓P P 02 34 41.5 +1.4
baz=79,SNR=7.7
L22A **Ellis Ranch, M** 78.42 333 ⇓P P 02 34 41.8 +1.4
baz=79,SNR=11
M21A **Separation Pea** 78.44 332 ⇑P P 02 34 41.6 +1.0
baz=79,SNR=41
RWWY **Rawlins** 78.44 332 eP P 02 34 41.8 +1.2
comp=Z,146nm,0.9s
O18A **Roosevelt** 78.45 330 ⇓P P 02 34 41.9 +1.3
baz=79,SNR=60
BSC **Santa Cruz Isl** 78.46 320 ⇓P P 02 34 41.8 +1.1
baz=79,SNR=7.5
LRMC **Laurel Mountai** 78.47 322 ⇓P P 02 34 41.9 +1.1
baz=79,SNR=28
N19A **John Jarvie Ra** 78.60 331 ⇑P P 02 34 42.2 +0.7
baz=79,SNR=110
R13A **O'Grain Ranch,** 78.62 326 ⇑P P 02 34 43.3 +1.5
baz=79,SNR=21
P16A **Fountain Green** 78.66 328 ⇑P P 02 34 43.3 +1.5
baz=79,SNR=16
M20A **Sweetwater, Wa** 78.68 332 ⇓P P 02 34 42.8 +0.9
baz=79,SNR=50
O17A **Robinson Place** 78.72 329 ⇓P P 02 34 43.5 +1.4
baz=79,SNR=165
K23A **Bowen Ranch, D** 78.72 334 ⇓P P 02 34 43.1 +1.1
baz=79,SNR=50
TSUM **Tsumeb** 78.73 106 eP P 02 34 43.4 +0.7
comp=Z,65nm,1.1s
TSUM esP sP 02 35 11.9 -1.3
L21A **Rawlins** 78.74 332 ⇓P P 02 34 43.0 +0.8
baz=79,SNR=142
DRLN **Deer Lake** 78.77 8 eP P 02 34 42.6 +0.7
comp=Z,93nm,0.9s
FURC **Furnace Creek,** 78.78 323 ⇑P P 02 34 43.5 +1.3
baz=79,SNR=18
MPMC **Manual Prospec** 78.80 322 ⇓P P 02 34 43.5 +0.8
baz=79,SNR=20
SBC **Santa Barbara** 78.83 320 ⇓P P 02 34 43.6 +1.0
baz=79
ARVC **Arvin** 78.84 321 ⇑P P 02 34 43.6 +1.0
baz=79
J24A **Dixon Ranch, L** 78.84 335 ⇓P P 02 34 44.0 +1.3
baz=79,SNR=30
N18A **Larsen Ranch,** 78.88 330 ⇑P P 02 34 43.8 +0.7
baz=79
P15A **Leamington** 78.92 328 ⇓P P 02 34 44.2 +1.0
baz=79,SNR=57
MPU **Maple Canyon** 78.97 329 eP P 02 34 44.6 +1.0
comp=Z,104nm,0.9s
K22A **Casper** 78.98 333 ⇓P P 02 34 44.4 +0.9
baz=79,SNR=44
ISA **Isabella** 79.04 321 eP P 02 34 45.1 +1.2
ISA pmax pmax
comp=Z,63nm,0.9s
ISA **Isabella** 79.04 321 eP P 02 34 45.1 +1.2
comp=Z,63nm,0.9s
ISA **Isabella** 79.04 321 ⇑P P 02 34 45.1 +1.2
baz=79,SNR=34
M19A **Rock Springs** 79.10 331 ⇑P P 02 34 44.8 +0.6
baz=79,SNR=56
EYMN **Ely** 79.12 345 eP P 02 34 43.4 -0.5
comp=Z,64nm,0.9s
DAU **Daniels Canyon** 79.12 329 eP P 02 34 45.6 +1.1
DAU **Daniels Canyon** 79.12 329 eP P 02 34 45.6 +1.1

L20A **Wamsutter** 79.17 332 ⇓P P 02 34 45.4 +0.8
baz=80,SNR=56
PKM **Peak Mountain** 79.22 320 ⇑P P 02 34 46.3 +1.3
baz=80,SNR=18
J23A **Dilts Ranch, B** 79.24 334 ⇑P P 02 34 45.6 +0.8
baz=80
K21A **Alcova** 79.25 333 ⇑P P 02 34 46.0 +1.0
baz=80,SNR=104
I24A **Kuemmerle Ranc** 79.29 335 ⇑P P 02 34 46.0 +0.9
baz=80,SNR=19
RSSD **Black Hills** 79.30 336 eP P 02 34 45.5 +0.3
RSSD pmax pmax
comp=Z,49nm,1.0s
RSSD **Black Hills** 79.30 336 eP P 02 34 45.5 +0.3
comp=Z,49nm,1.0s
N17A **Moffit Pass** 79.36 330 ⇑P P 02 34 46.8 +1.0
baz=80,SNR=87
CWC **Cottonwood Cre** 79.40 322 ⇑P P 02 34 47.1 +1.1
baz=80,SNR=12
M18A **Lyman** 79.42 330 ⇑P P 02 34 46.2 +0.2
baz=80,SNR=22
GRAC **Grapevine Rang** 79.45 323 ⇓P P 02 34 47.2 +1.2
baz=80,SNR=13
VES **Vestal, Richgr** 79.50 321 ⇓P P 02 34 47.3 +1.0
baz=80,SNR=24
R11A **Troy Canyon, C** 79.56 325 ⇓P P 02 34 48.0 +1.2
baz=80,SNR=93
O15A **The Old Anders** 79.57 328 ⇑P P 02 34 47.9 +1.1
baz=80,SNR=16
CTU **Camp Tracy** 79.57 329 eP P 02 34 47.7 +0.9
comp=Z,40nm,0.8s
N16A **Rees Ranch, Co** 79.59 329 ⇑P P 02 34 47.9 +1.0
baz=80,SNR=20
J22A **Midwest** 79.61 334 ⇑P P 02 34 47.3 +0.4
baz=80,SNR=68
SMMC **Simmler** 79.62 320 ⇓P P 02 34 48.6 +1.6
baz=80,SNR=12
DUG **Dugway** 79.66 328 eP P 02 34 48.2 +1.0
DUG pmax pmax
comp=Z,430nm,1.9s
DUG **Dugway** 79.66 328 eP P 02 34 48.2 +1.0
comp=Z,430nm,1.9s
DUG **Dugway** 79.66 328 ⇓P P 02 34 48.2 +1.0
baz=80,SNR=96
L19A **Farson** 79.67 331 ⇑P P 02 34 48.3 +1.0
baz=80,SNR=125
I23A **Meade Ranch, G** 79.69 335 ⇑P P 02 34 47.4 +0.2
baz=80
K20A **Yellowstone Ra** 79.71 332 ⇑P P 02 34 47.9 +0.4
baz=80,SNR=43
M17A **Scullys Gap (B** 79.72 330 ⇑P P 02 34 47.7 +0.1
baz=80,SNR=63
L18A **Fontenelle, Gr** 79.82 331 ⇑P P 02 34 48.8 +0.6
baz=80,SNR=94
J21A **Lysite** 79.93 333 ⇓P P 02 34 49.4 +0.7
baz=80,SNR=41
RCTC **Rector, Farmer** 79.94 321 ⇓P P 02 34 48.8 +0.2
baz=80
TIN **Tinemaha** 79.94 323 ⇓P P 02 34 50.0 +1.3
baz=80,SNR=13
PTRM **Twissleman Ran** 79.99 320 eP P 02 34 50.8 +1.8
I22A **9 Mile Ranch,** 80.01 334 ⇑P P 02 34 49.6 +0.6
baz=80,SNR=88
H24A **Dirks Ranch, A** 80.03 336 ⇓P P 02 34 49.3 +0.3
baz=80,SNR=59
K19A **Absolon Red Bu** 80.06 332 ⇓P P 02 34 49.7 +0.3
baz=80,SNR=86
N15A **Stansbury Isla** 80.08 329 ⇑P P 02 34 50.0 +0.5
baz=80,SNR=15
H23A **Clabaugh Cattl** 80.18 335 ⇓P P 02 34 50.1 +0.2
baz=80
J20A **Shoshoni** 80.19 333 ⇑P P 02 34 51.0 +1.0
baz=80,SNR=78
HWUT **Hardware Ranch** 80.22 330 eP P 02 34 50.6 +0.3
comp=Z,126nm,0.8s
I21A **Big Trails, Te** 80.26 333 ⇑P P 02 34 50.7 +0.3
baz=81,SNR=84
BW06 **Boulder Array** 80.31 331 eP P 02 34 50.9 +0.1
comp=Z,54nm,0.9s
BW06 **Boulder Array** 80.31 331 ⇓P P 02 34 51.0 +0.2
baz=81,SNR=97
PDAR **Pinedale Array** 80.31 331 P P 02 34 50.8 0.0
PDAR **Pinedale Array** 80.31 331 P P 02 34 50.8 0.0
comp=Z,37nm,0.9s,baz=128,slow=7.3,SNR=125
PDAR LR LR 03 06 50.7
comp=Z,111nm,20.1s,baz=142,slow=33
PD02 **Pinedale Array** 80.32 331 eP P 02 34 50.7 -0.1
L17A **Cokeville** 80.32 330 ⇓P P 02 34 51.0 +0.2
baz=81,SNR=42
PD01 **Pinedale Array** 80.32 331 eP P 02 34 50.9 0.0
MTUM **Tungsten Hills** 80.34 323 eP P 02 34 52.3 +1.3
K18A **Toltan Ranch,** 80.40 331 ⇓P P 02 34 52.3 +1.0
baz=81,SNR=175
G24A **Alzada** 80.48 336 ⇓P P 02 34 51.9 +0.5
baz=81,SNR=24
L16A **Fish Haven** 80.50 330 ⇑P P 02 34 52.2 +0.4
baz=81,SNR=124
AGMN **Agassiz Nation** 80.50 343 eP P 02 34 51.1 -0.3
comp=Z,70nm,0.9s
M15A **Larsen Ranch,** 80.50 329 ⇓P P 02 34 52.2 +0.5
baz=81,SNR=75
J19A **Crowheart** 80.51 332 ⇓P P 02 34 52.3 +0.6
baz=81,SNR=123
H22A **Clearmont** 80.56 334 ⇓P P 02 34 52.1 +0.2
baz=81,SNR=16
BOSA **Boshof** 80.67 117 eP P 02 34 53.1 0.0
comp=Z,23nm,0.8s
BOSA pP pP 02 35 21.4 +6.7
BOSA esP sP 02 35 22.0 -1.6
BOSA **Boshof** 80.67 117 P P 02 34 53.5 +0.4
comp=Z,28nm,0.8s,baz=256,slow=4.9,SNR=45
BOSA pP pP 02 35 21.4 +6.7
comp=Z,21nm,0.8s,baz=246,slow=4.4,SNR=7.6
BOSA LR LR 03 03 54.0
comp=Z,183nm,20.6s,baz=203,slow=30
MLAC **Mammoth Lakes** 80.69 323 ⇑P P 02 34 54.1 +1.1
baz=81,SNR=12
I20A **Worland** 80.70 333 ⇑P P 02 34 53.4 +0.7
baz=81,SNR=95
G23A **Biddle** 80.72 335 ⇓P P 02 34 53.0 +0.2
baz=81,SNR=44
TOA0 **Torodi Ar. Sit** 80.75 69 eP P 02 34 53.7 +0.3
TOA0 esP sP 02 35 22.8 -1.2
TORD **Torodi Ar. Bea** 80.75 69 P P 02 34 53.9 +0.4
TORD pP pP 02 35 22.9 +7.7
TORD **Torodi Ar. Bea** 80.75 69 P P 02 34 53.9 +0.4
comp=Z,74nm,0.8s,baz=249,slow=5.3,SNR=315
TORD pP pP 02 35 22.9 +7.7
comp=Z,24nm,0.7s,baz=259,slow=5.1,SNR=3.7
TORD LR LR 03 08 02.0
comp=Z,130nm,18.6s,baz=200,slow=34
H21A **Big Horn, Sher** 80.85 334 ⇑P P 02 34 53.5 0.0
baz=81,SNR=25
J18A **Kendall Valley** 80.86 331 ⇑P P 02 34 54.1 +0.4
baz=81,SNR=165
K17A **Gardner Place,** 80.87 331 ⇑P P 02 34 54.2 +0.5
baz=81,SNR=67
HVU **Hansel Valley** 80.91 329 eP P 02 34 54.1 +0.2
HVU pmax pmax
comp=Z,69nm,0.9s
HVU **Hansel Valley** 80.91 329 eP P 02 34 54.1 +0.2
comp=Z,69nm,0.9s
L15A **Malad City** 80.91 329 ⇑P P 02 34 54.1 +0.2
baz=81,SNR=83
F24A **Ekalaka** 80.94 336 ⇑P P 02 34 54.1 +0.3
baz=81,SNR=40
AHID **Auburn Hatcher** 80.96 331 eP P 02 34 54.4 +0.2
comp=Z,130nm,1.2s
NVAR **Mina Array Bea** 81.01 323 P P 02 34 55.5 +0.9
NVAR **Mina Array Bea** 81.01 323 P P 02 34 55.5 +0.9
comp=Z,39nm,0.8s,baz=152,slow=5.1,SNR=96
G22A **Birney** 81.07 335 ⇑P P 02 34 54.8 +0.2
baz=81,SNR=25
H20A **Greybull** 81.10 333 ⇑P P 02 34 55.0 +0.2
baz=82,SNR=188
I19A **Meeteetse** 81.12 333 ⇓P P 02 34 55.6 +0.6
baz=82,SNR=56
MDND **Maddock** 81.13 340 ⇓P P 02 34 55.2 +0.5
baz=82,SNR=98
F23A **Volborg** 81.17 336 ⇓P P 02 34 55.3 +0.2
baz=82,SNR=70
I18A **Diamond G Ranc** 81.18 332 ⇓P P 02 34 56.2 +0.8
baz=82,SNR=197
K16A **Soda Springs** 81.22 330 ⇓P P 02 34 56.6 +1.0
baz=82,SNR=95
ELK **Elko** 81.24 327 eP P 02 34 56.2 +0.4
comp=Z,994nm,0.9s
J17A **Brown Place, J** 81.28 331 ⇑P P 02 34 56.5 +0.6
baz=82,SNR=16
L14A **Malta** 81.32 329 ⇑P P 02 34 56.4 +0.4
baz=82,SNR=45
REDW **Red Top Meadow** 81.34 331 eP P 02 34 56.6 +0.4
comp=Z,74nm,1.1s
SNOW **Snow King Moun** 81.38 331 eP P 02 34 57.0 +0.5
comp=Z,57nm,0.9s
G21A **Lodge Grass** 81.42 334 ⇓P P 02 34 56.9 +0.4
baz=82,SNR=38
LOHW **Long Hollow** 81.44 331 eP P 02 34 56.7 0.0
comp=Z,42nm,0.8s
SAO **San Andreas Ge** 81.48 320 eP P 02 34 58.2 +1.3
SAO pmax pmax
comp=Z,383nm,2.3s
SAO **San Andreas Ge** 81.48 320 eP P 02 34 58.2 +1.3
comp=Z,383nm,2.3s
TPAW **Teton Pass** 81.48 331 eP P 02 34 58.6 +1.5
comp=Z,65nm,0.9s
E24A **Baker** 81.51 337 ⇑P P 02 34 57.5 +0.7
baz=82,SNR=23
K15A **Arbon** 81.52 330 ⇓P P 02 34 57.5 +0.4
baz=82,SNR=46
RRI2 **Red Ridge** 81.52 331 eP P 02 34 57.8 +0.5
comp=Z,76nm,1.0s
F22A **Rosebud** 81.53 335 ⇑P P 02 34 57.2 +0.2
baz=82,SNR=75
J16A **Bone** 81.59 331 ⇓P P 02 34 58.0 +0.4
baz=82,SNR=31
MOOW **Moose Ponds** 81.61 331 eP P 02 34 57.9 +0.2
comp=Z,21nm,0.9s
H19A **Powell** 81.64 333 ⇓P P 02 34 58.3 +0.6
baz=82,SNR=54
DCID1 **Drake Creek** 81.67 331 eP P 02 34 58.7 +0.8
comp=Z,70nm,0.9s
I17A **Pilgrim Ck.** 81.67 332 ⇓P P 02 34 59.1 +1.1
baz=82,SNR=80
K14A **Jones Ranch, D** 81.69 329 ⇓P P 02 34 58.1 +0.1
baz=82
G20A **Bridger** 81.80 334 ⇓P P 02 34 58.7 +0.2
baz=82,SNR=201
E23A **Ismay** 81.80 336 ⇓P P 02 34 58.4 +0.1
baz=82,SNR=23
CMB **Columbia Colle** 81.82 322 eP P 02 34 59.2 +0.5
CMB pmax pmax
comp=Z,49nm,1.4s
CMB **Columbia Colle** 81.82 322 eP P 02 34 59.2 +0.5
comp=Z,49nm,1.4s
FLWY **Flagg Ranch** 81.86 332 eP P 02 34 59.7 +0.7
comp=Z,98nm,0.8s
DRV **Dumont d'Urvil** 81.88 192 P P 02 35 03.0 +4.4
DRV **Dumont d'Urvil** 81.88 192 PP PP 02 37 47.0 -19
DRV S S 02 45 01.0 -4.2
DRV SS SS 02 50 30.0 +6.2
DRV L L 02 57 00.0
DRV R 03 01 00.0
F21A **Absaloka Mine,** 81.89 335 ⇓P P 02 34 59.4 +0.5
baz=82,SNR=9.2
H18A **Shoshone NF, C** 81.92 333 ⇑P P 02 34 59.8 +0.6
baz=82,SNR=197
BMN **Battle Mountai** 81.97 325 eP P 02 34 59.6 +0.1
BMN pmax pmax
comp=Z,23nm,0.9s
BMN **Battle Mountai** 81.97 325 eP P 02 34 59.6 +0.1
comp=Z,23nm,0.9s
E22A **Miles City** 81.98 336 ⇑P P 02 34 59.4 +0.1
baz=82
D24A **Glendive** 81.99 337 ⇓P P 02 35 00.2 +0.8
baz=82,SNR=23
I16A **Newdale** 82.02 331 ⇓P P 02 35 00.4 +0.7
baz=82,SNR=75
J15A **Blackfoot** 82.05 330 ⇑P P 02 35 00.6 +0.8
baz=82,SNR=49
H17A **Grant Village** 82.06 332 ⇓P P 02 35 01.0 +0.9
baz=82,SNR=24
LKWY **Lake** 82.13 332 eP P 02 35 01.8 +1.4
LKWY pmax pmax
comp=Z,31nm,0.9s
LKWY **Lake** 82.13 332 eP P 02 35 01.8 +1.4
comp=Z,31nm,0.9s
RLMT **Red Lodge** 82.13 333 eP P 02 35 01.0 +0.6
comp=Z,68nm,0.8s
RLMT **Red Lodge** 82.13 333 ⇓P P 02 35 00.9 +0.6
baz=82,SNR=73
YFT **Old Faithful** 82.22 332 eP P 02 35 02.6 +1.7
comp=Z,43nm,0.8s
F20A **Billings** 82.26 334 ⇓P P 02 35 01.1 +0.3
baz=83,SNR=17
ULM **Lac du Bonnet** 82.31 343 P P 02 35 00.4 -0.4
ULM **Lac du Bonnet** 82.31 343 P P 02 35 00.4 -0.4
comp=Z,86nm,0.9s,baz=156,slow=5.5,SNR=110
D23A **Lindsay** 82.35 337 ⇓P P 02 35 02.0 +0.8
baz=83
YNR **Norris Junctio** 82.37 332 eP P 02 35 02.4 +0.8
comp=Z,24nm,0.9s
C24A **Savage** 82.39 337 ⇓P P 02 35 02.1 +0.7
baz=83,SNR=93
G18A **Lazy EL Ranch,** 82.41 333 ⇓P P 02 35 02.0 +0.3
baz=83,SNR=93
YMR **Madison River** 82.45 332 eP P 02 35 03.1 +1.1
comp=Z,149nm,0.9s
J14A **Carey** 82.46 329 ⇓P P 02 35 02.9 +0.9
baz=83
E21A **Keefer Ranch,** 82.48 335 ⇑P P 02 35 02.3 +0.4
baz=83,SNR=44
I15A **Monteview** 82.55 330 ⇓P P 02 35 03.6 +1.1
baz=83,SNR=31
H16A **Russell Place,** 82.59 332 ⇓P P 02 35 03.8 +1.0
baz=83,SNR=53
F19A **Roth Farm, Mol** 82.61 334 ⇑P P 02 35 02.9 +0.2
baz=83,SNR=94
LBTB **Lobatse** 82.63 114 eP P 02 35 03.5 +0.1
comp=Z,54nm,1.0s
LBTB esP sP 02 35 31.9 -2.1
D22A **Cohagen** 82.67 336 ⇓P P 02 35 03.6 +0.7
baz=83,SNR=50
QLMT **Earthquake Lak** 82.77 332 eP P 02 35 04.8 +1.1
J13A **Cove Ranch, Pi** 82.82 329 ⇑P P 02 35 04.8 +0.9
baz=83,SNR=85
E20A **Meyer Farm, Mu** 82.84 334 ⇑P P 02 35 04.5 +0.6
baz=83,SNR=130
GCMT **Greycliff** 82.84 333 eP P 02 35 04.1 +0.2
comp=Z,50nm,0.9s
C23A **Lambert** 82.88 337 ⇑P P 02 35 04.5 +0.5
baz=83,SNR=54
G17A **Pierce Place,** 82.89 332 ⇓P P 02 35 05.1 +0.9
baz=83,SNR=25
D21A **La Casta Ranch** 82.89 335 ⇑P P 02 35 04.6 +0.5
baz=83,SNR=78
I14A **Mackay** 82.92 330 ⇓P P 02 35 05.5 +1.1
baz=83,SNR=64
F18A **Big Timber** 82.95 333 ⇑P P 02 35 05.0 +0.5
baz=83,SNR=165
HLID **Hailey** 83.05 329 eP P 02 35 06.0 +0.8
comp=Z,85nm,1.0s
HLID **Hailey** 83.05 329 ⇓P P 02 35 06.1 +0.9
baz=83,SNR=126
E19A **Rath Farm, Rou** 83.06 334 ⇑P P 02 35 05.3 +0.4
baz=83,SNR=166
C22A **Vida** 83.08 336 ⇑P P 02 35 05.3 +0.3
baz=83,SNR=36
H15A **Lima** 83.11 331 ⇑P P 02 35 06.4 +0.9
baz=84,SNR=27
DGMT **Dagmar** 83.12 338 eP P 02 35 05.8 +0.6
comp=Z,230nm,1.0s
DGMT **Dagmar** 83.12 338 ⇑P P 02 35 05.8 +0.6
baz=84,SNR=61
I13A **Wildhorse Cree** 83.20 329 ⇓P P 02 35 06.9 +1.0
baz=84,SNR=123
G16A **Moss Hill, Enn** 83.25 332 ⇓P P 02 35 06.5 +0.4
baz=84,SNR=13
F17A **Fitzpatrick Pl** 83.33 333 ⇓P P 02 35 07.2 +0.8
baz=84,SNR=49
D20A **Manuel Ranch,** 83.33 335 ⇑P P 02 35 06.6 +0.3
baz=84,SNR=115
MCMT **McKenzie Canyo** 83.37 331 eP P 02 35 07.7 +0.8
comp=Z,31nm,0.8s
B23A **Brockton** 83.39 337 ⇑P P 02 35 06.9 +0.4
baz=84,SNR=25
H14A **Leadore** 83.42 330 ⇑P P 02 35 07.9 +0.8
baz=84,SNR=53
A24A **Westby** 83.45 338 ⇑P P 02 35 07.4 +0.6
baz=84,SNR=23
G15A **Dillon** 83.49 331 ⇓P P 02 35 08.0 +0.7
baz=84,SNR=65
BOZ **Bozeman (W)** 83.52 332 eP P 02 35 07.2 -0.2
BOZ pmax pmax
comp=Z,10.0nm,0.7s
BOZ **Bozeman (W)** 83.52 332 eP P 02 35 07.2 -0.2

comp=Z,9.5nm,0.7s
BOZ Bozeman (W) 83.52 332 ⇑P P P 02 35 07.5 +0.1
baz=84,SNR=9.0
I12A Atlanta 83.56 329 ⇓P P P 02 35 08.4 +0.6
baz=84,SNR=59
C21A Desert Coulee 83.57 336 ⇓P P P 02 35 07.6 +0.1
baz=84,SNR=88
E18A Harlowton 83.58 333 ⇑P P P 02 35 08.1 +0.4
baz=84,SNR=37
MFID Camas Ranch 83.58 328 *e*P P P 02 35 08.2 +0.4
comp=Z,138nm,1.8s
MFID Camas Ranch 83.58 328 ⇓P P P 02 35 08.4 +0.6
baz=84,SNR=24
B22A Reddig Ranch S 83.59 337 ⇑P P P 02 35 08.0 +0.4
baz=84,SNR=55
SCHQ Schefferville 83.62 2 *e*P P P 02 35 07.0 -0.5
comp=Z,87nm,1.2s
SCHQ Schefferville 83.62 2 P P P 02 35 07.2 -0.3
comp=Z,42nm,0.9s,baz=175,slow=7.2,SNR=37
SCHQ LR LR 03 09 00.4
comp=Z,220nm,21.2s,baz=235,slow=33
F16A Kennard Place, 83.63 332 ⇓P P P 02 35 08.4 +0.4
baz=84,SNR=13
D19A Cripps Ranch, 83.68 334 ⇑P P P 02 35 08.2 +0.1
baz=84
DLMT Dillon 83.69 331 *e*P P P 02 35 08.6 +0.3
comp=Z,55nm,1.1s
H13A Challis 83.77 330 ⇑P P P 02 35 09.5 +0.8
baz=84,SNR=112
A23A Redstone 83.77 338 ⇓P P P 02 35 08.6 +0.1
baz=84,SNR=9.2
C20A Veseth Ranch, 83.81 335 ⇓P P P 02 35 08.6 -0.2
baz=84,SNR=37
E17A Martinsdale 83.87 333 ⇑P P P 02 35 09.5 +0.3
baz=84,SNR=42
G14A Jackson 83.96 331 ⇓P P P 02 35 10.3 +0.5
baz=84,SNR=9.7
LRM Limekiln Ridge 84.00 332 *e*P P P 02 35 10.4 +0.4
H12A Diamond D Ranc 84.03 329 ⇓P P P 02 35 10.5 +0.5
baz=84,SNR=34
F15A Butte 84.03 332 ⇓P P P 02 35 10.8 +0.7
baz=84,SNR=39
B21A Ellsworth Farm 84.05 336 ⇑P P P 02 35 10.2 +0.2
baz=84,SNR=22
D18A Linhart Farms, 84.05 334 ⇑P P P 02 35 10.5 +0.4
baz=84,SNR=60
A22A Carney Farms, 84.15 337 ⇓P P P 02 35 10.8 +0.3
baz=84,SNR=79
WVOR Wild Horse Val 84.17 326 *e*P P P 02 35 10.9 +0.1
WVOR pmax pmax
comp=Z,96nm,1.6s
WVOR Wild Horse Val 84.17 326 *e*P P P 02 35 10.9 +0.1
comp=Z,96nm,1.6s
G13A Cobalt 84.18 330 ⇓P P P 02 35 11.5 +0.7
baz=84,SNR=115
C19A Slack Wire Ran 84.21 335 ⇑P P P 02 35 11.0 +0.1
baz=85,SNR=52
E16A East Helena 84.25 332 ⇑P P P 02 35 11.7 +0.6
baz=85,SNR=56
D17A Six Diamond Ra 84.36 333 ⇓P P P 02 35 12.1 +0.5
baz=85,SNR=141
F14A Wisdom 84.38 331 ⇑P P P 02 35 12.9 +1.0
baz=85,SNR=63
B20A Solberg Farm, 84.42 336 ⇑P P P 02 35 11.9 0.0
baz=85,SNR=49
HRY Holter Researc 84.46 332 *e*P P P 02 35 12.7 +0.6
A21A Bergtoll Ranch 84.50 336 ⇓P P P 02 35 12.1 -0.1
baz=85,SNR=28
E15A Deer Lodge 84.56 332 ⇑P P P 02 35 13.2 +0.5
baz=85,SNR=32
D16A Dana Ranch, Ca 84.61 333 ⇓P P P 02 35 13.5 +0.6
baz=85,SNR=108
MOD Modoc 84.61 325 *e*P P P 02 35 13.6 +0.5
comp=Z,89nm,0.9s
G12A Big Creek, Yel 84.69 330 ⇓P P P 02 35 13.4 0.0
baz=85
EGMT Eagleton 84.72 334 *e*P P P 02 35 13.2 -0.2
comp=Z,83nm,1.1s
EGMT Eagleton 84.72 334 ⇓P P P 02 35 13.2 -0.2
baz=85,SNR=50
A20A Cobblestone Ra 84.76 336 ⇑P P P 02 35 13.5 0.0
baz=85,SNR=77
F13A Darby 84.77 330 ⇑P P P 02 35 14.1 +0.4
baz=85,SNR=120
KIPM Iron Peak 84.77 321 *e*P P P 02 35 15.3 +1.4
comp=Z,109nm,1.2s
B19A Brinkman Farms 84.78 335 ⇓P P P 02 35 13.7 +0.1
baz=85,SNR=62
C17A Wharram Farm, 84.78 334 ⇑P P P 02 35 13.8 0.0
baz=85,SNR=103
E14A Clinton 84.91 331 ⇑P P P 02 35 15.2 +0.7
baz=85,SNR=35
D15A Lincoln 85.01 332 ⇓P P P 02 35 15.5 +0.6
baz=85,SNR=49
B18A Beardsley Farm 85.03 335 ⇓P P P 02 35 15.1 +0.1
baz=85,SNR=89
A19A Klindworth Far 85.10 335 ⇑P P P 02 35 15.0 -0.2
baz=85,SNR=33
F12A Elk City 85.14 330 ⇑P P P 02 35 15.9 +0.3
baz=86,SNR=74
CHMT Chamberlain Mo 85.20 332 *e*P P P 02 35 16.4 +0.4
E13A Victor 85.22 331 ⇓P P P 02 35 16.6 +0.7
baz=86,SNR=93
C16A Fuhringer Ranc 85.31 333 ⇑P P P 02 35 16.6 +0.3
baz=86,SNR=117
B17A L&G Farms, Che 85.34 334 ⇑P P P 02 35 16.3 -0.2
baz=86,SNR=26
BMO Blue Mountains 85.37 328 *e*P P P 02 35 16.6 -0.1
BMO pmax pmax
comp=Z,25nm,0.9s
BMO Blue Mountains 85.37 328 *e*P P P 02 35 16.6 -0.1
comp=Z,31nm,0.9s
MSO Missoula 85.42 331 *e*P P P 02 35 17.4 +0.4
comp=Z,18nm,1.0s
MSO Missoula 85.42 331 ⇑P P P 02 35 17.6 +0.6
baz=86,SNR=30
D14A Greenough 85.44 332 ⇓P P P 02 35 17.5 +0.4
baz=86,SNR=49
A18A Metzger Ranch, 85.49 335 ⇓P P P 02 35 16.9 -0.2
baz=86,SNR=46
SLMT Seeley Lake 85.56 332 *e*P P P 02 35 18.0 +0.3
C15A Salmond Ranch, 85.63 333 ⇓P P P 02 35 18.6 +0.6
baz=86,SNR=173
YBH Yreka Blue Hor 85.72 323 *e*P P P 02 35 17.7 -0.8
comp=Z,19nm,0.7s
B16A M & M Farms, S 85.79 334 ⇑P P P 02 35 18.5 -0.2
baz=86,SNR=47
E12A Beaver Dam Sad 85.80 330 ⇓P P P 02 35 18.9 0.0
baz=86
A17A Triple J Farms 85.83 334 ⇓P P P 02 35 19.0 +0.1
baz=86,SNR=124
D13A Huson 85.85 331 ⇑P P P 02 35 19.6 +0.6
baz=86,SNR=82
SWMT Swartz Lake 85.99 332 *e*P P P 02 35 20.1 +0.3
B15A Bradely Ranch, 86.05 333 ⇓P P P 02 35 19.7 -0.3
baz=86,SNR=102
C14A Swan Lake 86.09 332 ⇓P P P 02 35 20.6 +0.4
baz=86
A16A West Butte Ran 86.18 334 ⇓P P P 02 35 20.9 +0.2
baz=86
D12A Red Ives Fores 86.20 331 ⇑P P P 02 35 21.1 +0.3
baz=86
KRMB Red Mountain 86.21 322 *e*P P P 02 35 22.4 +1.4
YBMT Yellow Bay 86.27 332 *e*P P P 02 35 21.6 +0.5
comp=Z,46nm,0.8s
JTMT Jette 86.29 332 *e*P P P 02 35 21.6 +0.4
C13A Hot Springs 86.36 332 ⇓P P P 02 35 22.0 +0.5
baz=87,SNR=86
B14A Marquette Ranc 86.37 333 ⇓P P P 02 35 21.5 -0.2
baz=87,SNR=62
HUMO Hull Mountain 86.48 324 *e*P P P 02 35 21.9 -0.2
comp=Z,191nm,2.5s
BLMT Blacktail Moun 86.53 332 *e*P P P 02 35 22.9 +0.3
BSMT Bassoo Peak 86.58 332 *e*P P P 02 35 23.0 +0.2
A15A Johnson Ranch, 86.65 333 ⇑P P P 02 35 22.4 -0.5
baz=87,SNR=54
VIPM Ingram Point 86.68 326 P P P 02 35 24.2 +0.9
VIPM Ingram Point 86.68 326 P P P 02 35 24.2 +0.9
C12B Naegeli Ranch, 86.76 331 ⇑P P P 02 35 23.8 +0.4
baz=87,SNR=65
B13A Whitefish 86.86 332 ⇑P P P 02 35 24.2 +0.3
baz=87,SNR=63
A14A Double T Ranch 86.92 333 ⇓P P P 02 35 24.2 -0.1
baz=87,SNR=75
C11A Tepee Creek (N 87.20 331 ⇓P P P 02 35 25.4 -0.1
baz=88,SNR=114
A13A Flathead Natio 87.28 332 ⇑P P P 02 35 26.6 +0.5
baz=88

KEBM Edson Butte 87.38 323 *e*P P 02 35 28.0 +1.4
comp=Z,119nm,0.9s
B12A Libby 87.40 331 ⇑P P P 02 35 26.8 +0.3
baz=88,SNR=8.6
BROR Big Rock Looko 87.41 325 P P P 02 35 26.8 +0.2
HAWA Hanford 87.56 328 *e*P P P 02 35 27.8 +0.5
comp=Z,67nm,0.8s
A12A Yaak River Ran 87.79 332 ⇑P P P 02 35 28.5 +0.1
baz=88,SNR=32
GL2 New Goldendale 87.84 327 P P P 02 35 29.5 +0.8
VLL Laurance Lake 87.89 326 P P P 02 35 29.9 +0.9
NEW Newport 87.89 331 *e*P P P 02 35 28.2 -0.7
comp=Z,116nm,1.8s
NEW Newport 87.89 331 ⇑P P P 02 35 28.2 -0.7
baz=88,SNR=21
OD2 Odessa Site #2 87.93 329 P P P 02 35 29.2 +0.2
FFC Flin Flon 87.95 342 *i* P P P 02 35 28.4 -0.5
FFC Flin Flon 87.95 342 *e*P P P 02 35 27.8 -1.1
comp=Z,34nm,1.2s
KHZ Kahutara 88.01 221 *e*P P P 02 35 30.3 +0.6
comp=Z,46nm,0.8s
PCVE Castro Verde 88.04 44 *e*P P P 02 35 30.9 +1.1
comp=Z,54nm,1.6s
PNCL Nicolau / Gran 88.04 44 *e*P P P 02 35 30.6 +0.8
comp=Z,45nm,1.6s
COR Corvallis 88.06 325 *e*P P P 02 35 30.9 +1.2
COR pmax pmax
comp=Z,201nm,0.8s
COR Corvallis 88.06 325 *e*P P P 02 35 30.9 +1.2
comp=Z,201nm,0.8s
PVAQ Vaqueiros 88.09 45 *e*SKS S 02 46 13.3 +6.0
PMAFR Mafra 88.13 43 *e*SKS S 02 45 58.7 -9.0
URZ Urewera 88.37 226 *e*P P P 02 35 32.0 +0.5
comp=Z,118nm,1.9s
NAC Naches 88.41 328 P P P 02 35 32.1 +0.8
EVOP Sao Brissos 88.55 44 ⇓*i*P P P 02 35 32.5 +0.3
EVOP pmax pmax
comp=Z,30nm,0.9s
EVOP Sao Brissos 88.55 44 ⇓*i*P P P 02 35 32.5 +0.3
comp=Z,30nm,0.9s
RPZ Rata Peaks 88.60 219 *e*P P P 02 35 32.8 +0.2
comp=Z,33nm,0.8s
EVO Evora 88.62 44 *e*P P P 02 35 32.8 +0.3
comp=Z,21nm,2.2s
EVO Evora 88.62 44 ⇓*i*P P P 02 35 32.5 0.0
comp=Z,30nm,0.9s
EVO *e*R
comp=Z,176nm,22.8s
TBM Table Mountain 88.62 328 P P P 02 35 33.1 +0.7
WTV Waterville 88.72 329 P P P 02 35 33.1 +0.3
ETW Entiat 88.82 329 P P P 02 35 33.5 +0.1
PMTG Montargil 88.84 43 *e*P P P 02 35 33.9 +0.4
comp=Z,31nm,0.9s
LON Longmire 88.89 327 *e*P P P 02 35 33.3 -0.3
LON pmax pmax
comp=Z,31nm,0.8s
LON Longmire 88.89 327 *e*P P P 02 35 33.3 -0.3
comp=Z,31nm,0.8s
TAM Tamanrasset 88.98 63 *e*P P P 02 35 34.9 +0.2
TAM pmax pmax
comp=Z,15nm,0.8s
TAM Tamanrasset 88.98 63 *e*P P P 02 35 34.9 +0.2
comp=Z,15nm,0.8s
PBAR Barrancos 88.99 45 *e*P P P 02 35 32.5 -1.7
PBAR *e*SKS S 02 46 10.5 -5.3
PTOM Tomar 89.08 43 *e*P P P 02 35 35.4 +0.8
comp=Z,30nm,1.0s
PESTR Estremoz 89.09 44 *e*P P P 02 35 35.5 +0.8
comp=Z,16nm,1.9s
PESTR *e*SKS S 02 46 06.8 -10
RMW Rattlesnake Mo 89.40 328 P P P 02 35 35.7 -0.3
RMW Rattlesnake Mo 89.40 328 P P P 02 35 35.7 -0.3
LSZ Lusaka 89.50 107 *e*P P P 02 35 38.8 +1.4
comp=Z,25nm,1.3s
LSZ *es*P sP 02 36 07.9 -0.3
PMRV Marv??o 89.57 43 *e*P P P 02 35 36.2 -0.7
comp=Z,32nm,1.2s
NLWA Neilton Lookou 90.33 327 *e*P P P 02 35 40.5 +0.2
comp=Z,48nm,1.1s
PVRL Vila Real 90.54 42 *e*P P P 02 35 42.2 +0.7
comp=Z,21nm,1.6s
PGAV Gavieira, Arco 90.66 41 *e*SKS S 02 46 35.6 +4.3
MVO Moncorvo 90.87 42 *e*P P P 02 35 43.3 +0.2
comp=Z,20nm,0.9s
PGC Sidney 91.02 328 *e*P P P 02 35 43.3 -0.1
comp=Z,3.1nm,0.9s
ESDC Sonseca Array 91.81 45 P P P 02 35 47.9 +0.5
ESDC Sonseca Array 91.81 45 P P P 02 35 47.9 +0.5
comp=Z,3.3nm,0.8s,baz=239,slow=5.3,SNR=20
ESDC LR LR 03 15 43.8
comp=Z,85nm,18.1s,baz=180,slow=34
SJPF Ste Jean 95.49 43 *e*P P P 02 36 04.5 +0.3
comp=Z,50nm,1.0s
SJPF Ste Jean 95.49 43 *e*P P P 02 36 04.5 +0.3
SJPF pmax pmax
comp=Z,50nm,1.0s
SJPF Ste Jean 95.49 43 *e*P P P 02 36 04.5 +0.3
comp=Z,50nm,1.0s
ETSF Etsaut 95.77 44 *e*P P P 02 36 05.9 +0.3
comp=Z,18nm,0.8s
ETSF Etsaut 95.77 44 *e*P P P 02 36 05.9 +0.3
ETSF pmax pmax
comp=Z,18nm,0.8s
ETSF Etsaut 95.77 44 *e*P P P 02 36 05.9 +0.3
comp=Z,18nm,0.8s
EPF Esparros 96.39 44 *e*P P P 02 36 08.4 0.0
comp=Z,12nm,0.9s
EPF Esparros 96.39 44 *e*P P P 02 36 08.4 0.0
EPF pmax pmax
comp=Z,12nm,0.9s
EPF Esparros 96.39 44 *e*P P P 02 36 08.4 0.0
comp=Z,12nm,0.9s
QUIF Quistinic 97.17 39 *e*P P P 02 36 11.5 -0.1
QUIF Quistinic 97.17 39 *e*P P P 02 36 11.5 -0.1
QUIF Quistinic 97.17 39 *e*P P P 02 36 11.5 -0.1
ROSF Rostrenen 97.36 38 *e*P P P 02 36 12.3 -0.2
comp=Z,21nm,1.1s
ROSF Rostrenen 97.36 38 *e*P P P 02 36 12.3 -0.2
ROSF pmax pmax
comp=Z,21nm,1.1s
ROSF Rostrenen 97.36 38 *e*P P P 02 36 12.3 -0.2
comp=Z,21nm,1.1s
LFF La Frestale 97.69 43 *e*P P P 02 36 13.9 -0.2
comp=Z,51nm,1.2s
LFF La Frestale 97.69 43 *e*P P P 02 36 13.9 -0.2
LFF pmax pmax
comp=Z,51nm,1.2s
LFF La Frestale 97.69 43 *e*P P P 02 36 13.9 -0.2
comp=Z,51nm,1.2s
SGMF Saint Gilles 97.70 38 *e*P P P 02 36 13.5 -0.5
comp=Z,39nm,1.3s
SGMF Saint Gilles 97.70 38 *e*P P P 02 36 13.5 -0.5
SGMF pmax pmax
comp=Z,39nm,1.3s
SGMF Saint Gilles 97.70 38 *e*P P P 02 36 13.5 -0.5
comp=Z,39nm,1.3s
YKA Yellowknife Ar 98.05 341 P P P 02 36 14.5 -0.8
YKA Yellowknife Ar 98.05 341 P P P 02 36 14.5 -0.8
comp=Z,8.2nm,0.8s,baz=142,slow=4.3,SNR=206
MFF Saint Martin d 98.10 41 *e*P P P 02 36 15.5 -0.4
comp=Z,57nm,1.2s
MFF Saint Martin d 98.10 41 *e*P P P 02 36 15.5 -0.4
MFF pmax pmax
comp=Z,57nm,1.2s
MFF Saint Martin d 98.10 41 *e*P P P 02 36 15.5 -0.4
comp=Z,57nm,1.2s
RJF Les Rejaudoux 98.35 43 *e*P P P 02 36 16.7 -0.4
comp=Z,23nm,1.1s
RJF *e*R
comp=Z,160nm,22.8s
RJF Les Rejaudoux 98.35 43 *e*P P P 02 36 16.7 -0.4
RJF pmax pmax
comp=Z,23nm,1.1s
RJF Les Rejaudoux 98.35 43 *e*P P P 02 36 16.7 -0.4
comp=Z,23nm,1.1s
CAF Calviac 98.47 43 *e*P P P 02 36 17.4 -0.3
comp=Z,9.9nm,0.8s
CAF Calviac 98.47 43 *e*P P P 02 36 17.4 -0.3
CAF pmax pmax
comp=Z,10.0nm,0.8s
CAF Calviac 98.47 43 *e*P P P 02 36 17.4 -0.3
comp=Z,9.9nm,0.8s
KEST Kesra 98.49 54 LR LR LR 03 25 26.0
comp=Z,86nm,20.5s,baz=201,slow=38
GRR Gorron 98.70 39 *e*P P P 02 36 17.5 -1.0
comp=Z,22nm,1.0s

GRR Gorron 98.70 39 *e*P P 02 36 17.5 -1.0
GRR pmax pmax
comp=Z,22nm,1.0s
GRR Gorron 98.70 39 *e*P P P 02 36 17.5 -1.0
comp=Z,22nm,1.0s
LASF Ste Croix 99.10 44 *e*P Pdif P 02 36 20.4 -0.1
comp=Z,25nm,1.2s
LASF Ste Croix 99.10 44 *e*P Pdif P 02 36 20.4 -0.1
comp=Z,25nm,1.2s
FLN La Foliniere 99.12 39 *e*P Pdif P 02 36 20.4 0.0
comp=Z,29nm,1.1s
FLN *e*R
comp=Z,96nm,20.0s
FLN La Foliniere 99.12 39 *e*P Pdif P 02 36 20.4 0.0
FLN pmax pmax
comp=Z,29nm,1.1s
FLN La Foliniere 99.12 39 *e*P Pdif P 02 36 20.4 0.0
comp=Z,29nm,1.1s
LDF La Druitiere 99.22 39 *e*P Pdif P 02 36 20.0 -0.9
comp=Z,26nm,1.0s
LDF La Druitiere 99.22 39 *e*P Pdif P 02 36 20.0 -0.9
LDF pmax pmax
comp=Z,26nm,1.0s
LDF La Druitiere 99.22 39 *e*P Pdif P 02 36 20.0 -0.9
comp=Z,26nm,1.0s
TCF Toulx Ste Croi 99.29 42 *e*P Pdif P 02 36 20.7 -0.6
comp=Z,16nm,1.1s
TCF Toulx Ste Croi 99.29 42 *e*P Pdif P 02 36 20.7 -0.6
TCF pmax pmax
comp=Z,16nm,1.1s
TCF Toulx Ste Croi 99.29 42 *e*P Pdif P 02 36 20.7 -0.6
comp=Z,16nm,1.1s
BGF Bois d'Agland 99.81 42 *e*P Pdif P 02 36 23.2 -0.3
comp=Z,16nm,0.9s
BGF Bois d'Agland 99.81 42 *e*P Pdif P 02 36 23.2 -0.3
BGF pmax pmax
comp=Z,16nm,0.9s
BGF Bois d'Agland 99.81 42 *e*P Pdif P 02 36 23.2 -0.3
comp=Z,16nm,0.9s
VIVF Saint-Julien-l 100.01 44 *e*P Pdif P 02 36 24.8 +0.3
comp=Z,20nm,1.0s
VIVF Saint-Julien-l 100.01 44 *e*P Pdif P 02 36 24.8 +0.3
VIVF pmax pmax
comp=Z,20nm,1.0s
VIVF Saint-Julien-l 100.01 44 *e*P Pdif P 02 36 24.8 +0.3
comp=Z,20nm,1.0s
HYF Humbligny 100.06 41 *e*P Pdif P 02 36 24.3 -0.4
HYF Humbligny 100.06 41 *e*P Pdif P 02 36 24.3 -0.4
SMRF Simiane la Rot 100.11 45 *e*P Pdif P 02 36 25.6 +0.6
comp=Z,25nm,1.2s
SMRF Simiane la Rot 100.11 45 *e*P Pdif P 02 36 25.6 +0.6
comp=Z,25nm,1.2s
LMR La Mourre 100.37 46 *e*P Pdif P 02 36 26.3 +0.2
comp=Z,20nm,1.1s
LMR La Mourre 100.37 46 *e*P Pdif P 02 36 26.3 +0.2
LMR pmax pmax
comp=Z,20nm,1.1s
LMR La Mourre 100.37 46 *e*P Pdif P 02 36 26.3 +0.2
comp=Z,20nm,1.1s
SSF Saint Saulge 100.46 42 *e*P Pdif P 02 36 25.7 -0.7
comp=Z,20nm,1.3s
SSF Saint Saulge 100.46 42 *e*P Pdif P 02 36 25.7 -0.7
SSF pmax pmax
comp=Z,20nm,1.3s
SSF Saint Saulge 100.46 42 *e*P Pdif P 02 36 25.7 -0.7
comp=Z,20nm,1.3s
LOR Lormes 100.77 42 *e*P Pdif P 02 36 27.1 -0.7
comp=Z,31nm,1.4s
LOR *e*R
comp=Z,85nm,22.2s
LOR Lormes 100.77 42 *e*P Pdif P 02 36 27.1 -0.7
comp=Z,31nm,1.4s
ORIF Oris-en-Rattie 100.78 44 *e*P Pdif P 02 36 28.7 +0.7
comp=Z,22nm,0.9s
ORIF *e*R
comp=Z,144nm,22.8s
ORIF Oris-en-Rattie 100.78 44 *e*P Pdif P 02 36 28.7 +0.7
ORIF pmax pmax
comp=Z,22nm,0.9s
ORIF Oris-en-Rattie 100.78 44 *e*P Pdif P 02 36 28.7 +0.7
comp=Z,22nm,0.9s
MBDF Montbardon 101.23 45 *e*P Pdif P 02 36 30.7 +0.6
comp=Z,21nm,1.3s
MBDF Montbardon 101.23 45 *e*P Pdif P 02 36 30.7 +0.6
MBDF pmax pmax
comp=Z,21nm,1.3s
MBDF Montbardon 101.23 45 *e*P Pdif P 02 36 30.7 +0.6
comp=Z,21nm,1.3s
LPL La Plagne 101.60 44 *e*P Pdif P 02 36 32.5 +0.7
comp=Z,19nm,1.0s
LPL La Plagne 101.60 44 *e*P Pdif P 02 36 32.5 +0.7
LPL pmax pmax
comp=Z,19nm,1.0s
LPL La Plagne 101.60 44 *e*P Pdif P 02 36 32.5 +0.7
comp=Z,19nm,1.0s
LPG La Plagne 101.60 44 *e*P Pdif P 02 36 32.7 +0.8
comp=Z,23nm,1.0s
LPG La Plagne 101.60 44 *e*P Pdif P 02 36 32.7 +0.8
LPG pmax pmax
comp=Z,23nm,1.0s
LPG La Plagne 101.60 44 *e*P Pdif P 02 36 32.7 +0.8
comp=Z,23nm,1.0s
CABF La Chapelle 101.75 43 *e*P Pdif P 02 36 32.4 +0.1
comp=Z,12nm,1.0s
CABF La Chapelle 101.75 43 *e*P Pdif P 02 36 32.4 +0.1
CABF pmax pmax
comp=Z,12nm,1.0s
CABF La Chapelle 101.75 43 *e*P Pdif P 02 36 32.4 +0.1
comp=Z,12nm,1.0s
SFTF Sexfontaines 101.94 41 *e*P Pdif P 02 36 32.4 -0.6
SFTF Sexfontaines 101.94 41 *e*P Pdif P 02 36 32.4 -0.6
BAIF Baives 102.40 39 *e*P Pdif P 02 36 35.0 0.0
BAIF Baives 102.40 39 *e*P Pdif P 02 36 35.0 0.0
BAIF Baives 102.40 39 *e*P Pdif P 02 36 35.0 0.0
PAGF Fort de Pagny 102.51 41 *e*P Pdif P 02 36 35.4 -0.1
comp=Z,3.2nm,0.9s
PAGF Fort de Pagny 102.51 41 *e*P Pdif P 02 36 35.4 -0.1
comp=Z,3.2nm,0.9s
HAU Haudompre 102.60 42 *e*P Pdif P 02 36 35.4 -0.5
comp=Z,8.7nm,0.9s
HAU *e*R
comp=Z,65nm,20.0s
HAU Haudompre 102.60 42 *e*P Pdif P 02 36 35.4 -0.5
HAU pmax pmax
comp=Z,9.0nm,0.9s
HAU Haudompre 102.60 42 *e*P Pdif P 02 36 35.4 -0.5
comp=Z,8.7nm,0.9s
GIVF Givet 102.77 40 *e*P Pdif P 02 36 36.2 -0.4
GIVF Givet 102.77 40 *e*P Pdif P 02 36 36.2 -0.4
GIVF Givet 102.77 40 *e*P Pdif P 02 36 36.2 -0.4
HINF Hinteralfeld 102.80 42 *e*P Pdif P 02 36 36.4 -0.5
comp=Z,3.3nm,0.7s
HINF Hinteralfeld 102.80 42 *e*P Pdif P 02 36 36.4 -0.5
HINF pmax pmax
comp=Z,3.0nm,0.7s
HINF Hinteralfeld 102.80 42 *e*P Pdif P 02 36 36.4 -0.5
comp=Z,3.3nm,0.7s
CDF Champ du Feu 103.34 42 *e*P Pdif P 02 36 38.8 -0.5
comp=Z,8.6nm,1.0s
CDF Champ du Feu 103.34 42 *e*P Pdif P 02 36 38.8 -0.5
CDF pmax pmax
comp=Z,9.0nm,1.0s
CDF Champ du Feu 103.34 42 *e*P Pdif P 02 36 38.8 -0.5
comp=Z,8.6nm,1.0s
DZM Mont Dzumac 105.66 233 *e*LR LR 03 11 36.6
comp=Z,291nm,27.8s
GRF Grafenberg Arr 106.23 42 *e*Pdiff Pdif P 02 36 53.0 +1.0
GRF *e*PP PP 02 41 13.9 -3.6
GRF Grafenberg Arr 106.23 42 *e*P Pdif P 02 36 53.0 +1.0
GRF *e* 02 41 13.9
GERES GERESS Array B 107.34 43 PKiKP PKiKP 02 41 04.7 -0.8
GERES GERESS Array B 107.34 43 PKiKP PKiKP 02 41 04.7 -0.8
comp=Z,1.3nm,0.8s,baz=222,slow=1.3,SNR=6.8
CLL Collm 107.94 41 *e*SP SP 02 50 44.0 +0.2
CLL *es*PS 02 51 24.0
CLL *e*PPS PPS 02 52 03.0
CLL *e*SS SS 02 57 05.0 +29
CLL *e*(sSS) 03 04 18.0
CLL *e* 03 07 54.0
VRAC Vranov 109.27 44 ⇓*i*P PKiKP 02 41 09.6 +0.7
ILAR Eielson Array 110.67 333 PKKPbc PKKPbc 02 52 08.0 -4.1
ILAR Eielson Array 110.67 333 PKKPbc PKKPbc 02 52 08.0 -4.1
comp=Z,0.4nm,0.6s,baz=302,slow=3.1,SNR=5.6
BZS Buzias 111.11 49 ⇓PKiKP PKiKP 02 41 12.4 -0.1
BZS Buzias 111.11 49 ⇓*i*P PKiKP 02 41 12.4 -0.1
DRGR 112.22 48 ⇑PKiKP PKiKP 02 41 14.8 +0.2

DRGR			**112.22**	**48**	⇑*iP*	**PKiKP**	**02 41 14.8**	**+0.2**	
TRPA	**Tarpa**		**112.55**	**46**	⇓*iP*	**PKiKP**	**02 41 15.6**	**+0.5**	
COLD	**Coldfoot**		**112.87**	**335**	*e*PKPdf	**PKiKP**	**02 41 15.6**	**+0.4**	
KWP	**Kalwaria Pacla**		**113.13**	**45**	⇑PKIKP	**PKiKP**	**02 41 16.8**	**+0.6**	
KWP	**Kalwaria Pacla**		**113.13**	**45**	*e*PKPdf	**PKiKP**	**02 41 16.6**	**+0.4**	
KWP	**Kalwaria Pacla**		**113.13**	**45**	⇑*iP*	**PKiKP**	**02 41 16.8**	**+0.6**	
MLR	**Muntele Rosu**		**113.94**	**50**	⇑*iP*	**PKiKP**	**02 41 18.2**	**+0.1**	
BUR08	**Bucovina Ar. S**		**114.10**	**48**	*e*PKPdf	PKPdf	02 41 17.9	-0.3	
BURAR	**Bucovina Array**		**114.10**	**48**	⇑*iP*	PKPdf	02 41 18.7	+0.5	
VRI	**Vrincioaia**		**114.58**	**50**	⇑PKIKP	PKPdf	02 41 18.6	-0.5	
VRI	**Vrincioaia**		**114.58**	**50**	⇑*iP*	PKPdf	02 41 18.6	-0.5	
CFR	**Carcaliu**		**115.33**	**51**	⇓PKIKP	**PKPdf**	**02 41 20.1**	**-0.4**	
CFR	**Carcaliu**		**115.33**	**51**	⇓*iP*	**PKPdf**	**02 41 20.1**	**-0.4**	
TLCR			**115.79**	**51**	⇑PKIKP	**PKPdf**	**02 41 21.5**	**+0.1**	
TLCR			**115.79**	**51**	⇑*iP*	**PKPdf**	**02 41 21.5**	**+0.1**	
KIEV	**Kiev**		**117.44**	**45**	*e*PKIKP	**PKPdf**	**02 41 23.3**	**-1.1**	
KIEV	**Kiev**		**117.44**	**45**	*e*PKPdf	**PKPdf**	**02 41 23.3**	**-1.1**	
AKASG	**Malin Array Be**		**117.45**	**45**	PKIKP	**PKPdf**	**02 41 23.3**	**-1.1**	
AKASG					pmax	pmax			
	comp=Z,4.0nm,0.6s								
AKASG	**Malin Array Be**		**117.45**	**45**	PKP	**PKPdf**	**02 41 23.3**	**-1.1**	
AKASG	**Malin Array Be**		**117.45**	**45**	PKP	**PKPdf**	**02 41 23.3**	**-1.1**	
	comp=Z,4.3nm,0.6s,baz=261,slow=2.6,SNR=20								
AKBB	**Malin Array Si**		**117.45**	**45**	*e*PKIKP	**PKPdf**	**02 41 23.2**	**-1.2**	
AKBB	**Malin Array Si**		**117.45**	**45**	*e*PKPdf	**PKPdf**	**02 41 23.2**	**-1.2**	
BR131	**Keskin Array S**		**117.72**	**58**	*e*PKPdf	**PKPdf**	**02 41 25.2**	**-0.3**	
BRTR	**Keskin Array B**		**117.72**	**58**	PKP	**PKPdf**	**02 41 25.3**	**-0.3**	
BRTR					PKKPab	**PKKPab**	**02 51 49.7**	**+0.7**	
BRTR	**Keskin Array B**		**117.72**	**58**	PKP	**PKPdf**	**02 41 25.3**	**-0.3**	
	comp=Z,5.2nm,0.8s,baz=191,slow=3.0,SNR=26								
BRTR					PKKPab	**PKKPab**	**02 51 49.7**	**+0.7**	
	comp=Z,1.2nm,0.6s,baz=118,slow=3.3,SNR=7.1								
FINES	**FINESS Array B**		**117.88**	**33**	PKP	**PKPdf**	**02 41 25.0**	**+0.1**	
FINES					PKKPab	**PKKPab**	**02 51 45.0**	**-1.9**	
FINES	**FINESS Array B**		**117.88**	**33**	PKP	**PKPdf**	**02 41 25.0**	**+0.1**	
	comp=Z,2.4nm,0.8s,baz=126,slow=1.9,SNR=8.3								
FINES					PKKPab	**PKKPab**	**02 51 45.0**	**-1.9**	
	comp=Z,1.3nm,0.5s,baz=75,slow=5.9,SNR=10								
ARCES	**ARCESS Array B**		**118.78**	**24**	PKP	**PKPdf**	**02 41 26.2**	**-0.3**	
ARCES					PKKPab	**PKKPab**	**02 51 42.7**	**0.0**	
ARCES	**ARCESS Array B**		**118.78**	**24**	PKP	**PKPdf**	**02 41 26.2**	**-0.3**	
	comp=Z,5.5nm,1.0s,baz=251,slow=2.8,SNR=9.5								
ARCES					PKKPab	**PKKPab**	**02 51 42.7**	**0.0**	
	comp=Z,1.8nm,0.6s,baz=90,slow=4.9,SNR=13								
TNA	**Tin City**		**119.42**	**332**	*e*PKPdf	**PKPdf**	**02 41 28.5**	**+0.8**	
LVZ	**Lovozero**		**122.05**	**26**	⇑*iP*	**PKPdf**	**02 41 31.8**	**-1.0**	
LVZ					pmax	pmax			
	comp=Z,34nm,1.7s								
OBN	**Obninsk**		**122.54**	**41**	*d iP*	**PKPdf**	**02 41 33.4**	**-0.7**	
OBN					*e*		02 43 11.0		
OBN					pmax	pmax			
	comp=Z,40nm,1.2s								
OBN	**Obninsk**		**122.54**	**41**	*e*PKPdf	**PKPdf**	**02 41 33.3**	**-0.7**	
ASAR	**Alice Springs**		**122.78**	**206**	PKP	**PKPdf**	**02 41 34.5**	**-1.3**	
ASAR					SKP		02 45 01.2		
ASAR					PKKPbc	**PKKPbc**	**02 51 28.2**	**-0.1**	
ASAR	**Alice Springs**		**122.78**	**206**	PKP	**PKPdf**	**02 41 34.5**	**-1.3**	
	comp=Z,11nm,0.8s,baz=141,slow=1.9,SNR=79								
ASAR					SKP		02 45 01.2		
	comp=Z,2.6nm,1.1s,baz=175,slow=2.6,SNR=4.6								
ASAR					PKKPbc	**PKKPbc**	**02 51 28.2**	**-0.1**	
	comp=Z,2.1nm,0.7s,baz=335,slow=3.2,SNR=19								
AS31	**Alice Springs**		**122.78**	**206**	*e*PKPdf	**PKPdf**	**02 41 34.4**	**-1.3**	
SOC	**Sochi**		**123.04**	**55**	*e*PKIKP	**PKPdf**	**02 41 35.1**	**-0.3**	
SOC					*e*		02 48 40.2		
SOC					*e*SS	SS	02 59 47.1	-7.4	
SOC					pmax	pmax			
	comp=Z,47nm,0.9s								
VSR	**Storozhevoye**		**123.73**	**46**	*e*PKIKP	**PKPdf**	**02 41 35.9**	**-0.6**	
VSR					pmax	pmax			
	comp=N,7.0nm,1.3s								
VSR					pmax	pmax			
	comp=E,10.0nm,1.3s								
VSR					pmax	pmax			
	comp=Z,20nm,1.3s								
VORD	**Divnogorie**		**123.79**	**46**	*e*PKIKP	**PKPdf**	**02 41 35.8**	**-0.8**	
VORD					pmax	pmax			
	comp=N,10.0nm,0.9s								
VORD					pmax	pmax			
	comp=Z,10.0nm,0.9s								
VORD					pmax	pmax			
	comp=E,5.0nm,0.5s								
KLMR	**Klimovskoe**		**124.32**	**34**	*e*PKIKP	**PKPdf**	**02 41 36.1**	**-1.2**	
KLMR					pmax	pmax			
	comp=Z,62nm,1.4s								
KIV	**Kislovodsk**		**125.22**	**55**	*i* PKIKP	**PKPdf**	**02 41 39.6**	**-0.1**	
KIV					*e*		03 04 56.2		
KIV					pmax	pmax			
	comp=Z,37nm,1.1s								
KIV	**Kislovodsk**		**125.22**	**55**	*e*PKPdf	**PKPdf**	**02 41 39.8**	**+0.1**	
VRHR	**Novokhopersk**		**125.27**	**46**	*e*PKIKP	**PKPdf**	**02 41 39.1**	**-0.3**	
VRHR					pmax	pmax			
	comp=Z,20nm,1.1s								
VRHR					pmax	pmax			
	comp=N,9.0nm,1.0s								
VRHR					pmax	pmax			
	comp=E,7.0nm,0.6s								
NAY	**Al-Naaiem**		**125.68**	**73**	*e*P	**PKPdf**	**02 41 40.4**	**-0.5**	
NAY					AMb	AMB	02 41 43.2		
	comp=Z,14nm,1.5s								
MIB	**Mutribah**		**125.92**	**73**	*e*P	**PKPdf**	**02 41 41.4**	**0.0**	
MIB					AMb	AMB	02 41 45.2		
	comp=Z,19nm,1.0s								
ZEI	**Tsey**		**125.92**	**56**	*i* PKIKP	**PKPdf**	**02 41 41.2**	**-0.1**	
ZEI					pmax	pmax			
	comp=Z,15nm,1.0s								
WRA	**Warramunga Arr**		**125.95**	**208**	PKP	**PKPdf**	**02 41 41.0**	**-0.9**	
WRA					PKKPab	**PKKPbc**	**02 51 15.8**	**-0.2**	
WRA	**Warramunga Arr**		**125.95**	**208**	PKP	**PKPdf**	**02 41 41.0**	**-0.9**	
	comp=Z,24nm,0.7s,baz=166,slow=1.6,SNR=244								
WRA					PKKPab	**PKKPbc**	**02 51 15.8**	**-0.2**	
	comp=Z,0.4nm,0.6s,baz=339,slow=4.3,SNR=5.4								
WRAB	**Tennant Creek**		**125.96**	**208**	*e*PKIKP	**PKPdf**	**02 41 41.3**	**-0.6**	
WRAB	**Tennant Creek**		**125.96**	**208**	*e*PKPdf	**PKPdf**	**02 41 41.3**	**-0.6**	
GNI	**Garni**		**126.14**	**60**	PKP	**PKPdf**	**02 41 41.2**	**-0.5**	
GNI					PKKPbc	**PiKiP**	**02 41 42.3**	**+0.2**	
GNI	**Garni**		**126.14**	**60**	PKP	**PKPdf**	**02 41 41.2**	**-0.5**	
	comp=Z,8.2nm,0.8s,baz=256,slow=4.2,SNR=9.7								
UMR	**Umm Al-Rimmam**		**126.16**	**73**	*e*P	**PKPdf**	**02 41 41.6**	**-0.2**	
UMR					AMb	AMB	02 41 43.1		
	comp=Z,37nm,0.8s								
BILL	**Bilibino**		**129.19**	**336**	*d iP*	**PKPdf**	**02 41 46.6**	**+0.2**	
BILL					*i*		02 43 55.6		
BILL					pmax	pmax			
	comp=Z,34nm,1.2s								
BILL	**Bilibino**		**129.19**	**336**	*e*PKPdf	**PKPdf**	**02 41 46.6**	**+0.2**	
FITZ	**Fitzroy Crossi**		**130.76**	**200**	PKP	**PKPdf**	**02 41 50.4**	**-0.6**	
FITZ	**Fitzroy Crossi**		**130.76**	**200**	PKP	**PKPdf**	**02 41 50.4**	**-0.6**	
	comp=Z,9.0nm,0.7s,baz=224,slow=3.2,SNR=15								
SOKR	**Solikamsk**		**133.01**	**34**	*e*PKIKP	**PKPdf**	**02 41 53.4**	**-0.5**	
SOKR					pmax	pmax			
	comp=Z,20nm,1.4s								
ARU	**Arti**		**134.77**	**38**	*i* PKIKP	**PKPdf**	**02 41 57.7**	**+0.4**	
ARU							02 44 30.4		
ARU					SS	SS	03 02 14.0	-4.2	
ARU	**Arti**		**134.77**	**38**	*e*PKPdf	**PKPdf**	**02 41 57.7**	**+0.4**	
ARU					*e*SKPbc	**SKPbc**	**02 45 18.4**	**-1.9**	
AKTO	**Aktyubinsk**		**135.67**	**46**	PKIKP	**PKPdf**	**02 41 58.6**	**-0.6**	
AKTO					pmax	pmax			
	comp=Z,2.0nm,1.1s								
AKTO	**Aktyubinsk**		**135.67**	**46**	PKP	**PKPdf**	**02 41 59.3**	**+0.1**	
AKTO	**Aktyubinsk**		**135.67**	**46**	PKP	**PKPdf**	**02 41 59.3**	**+0.1**	
	comp=Z,5.5nm,0.9s,baz=319,slow=1.8,SNR=17								
SEY	**Seymchan**		**136.61**	**333**	*i* PKIKP	**PKPdf**	**02 42 01.1**	**+0.6**	
AB31	**Akbulak array**		**137.08**	**48**	*i* PKIKP	**PKPdf**	**02 42 02.1**	**+0.3**	
AB31					pmax	pmax			
	comp=Z,14nm,0.8s								
ABKAR	**Akbulak array**		**137.08**	**48**	*e*PKPdf	**PKPdf**	**02 42 02.4**	**+0.5**	
ABKAR					*e*SKPbc	**SKPbc**	**02 45 25.8**	**-1.9**	
PETK	**Petropavlovsk-**		**137.92**	**318**	PKIKP	**PKPdf**	**02 42 04.7**	**+1.4**	
PETK					pmax	pmax			
	comp=Z,21nm,0.8s								
PETK	**Petropavlovsk-**		**137.92**	**318**	PKP	**PKPdf**	**02 42 04.7**	**+1.4**	
PETK	**Petropavlovsk-**		**137.92**	**318**	PKP	**PKPdf**	**02 42 04.7**	**+1.4**	
	comp=Z,20nm,0.8s,baz=123,slow=5.3,SNR=14								
BRVK	**Borovoye**		**142.28**	**39**	*i* PKIKP	**PKPdf**	**02 42 12.3**	**+1.1**	
BRVK	**Borovoye**		**142.28**	**39**	*e*PKPdf	PKPpre	02 42 07.6		
BVA0	**Borovoye Array**		**142.36**	**39**	PKIKP	PKPpre	02 42 07.7		
BVA0					pmax	pmax			
	comp=Z,2.0nm,0.9s								
BVAR	**Borovoye Array**		**142.36**	**39**	PKIKP	PKPpre	02 42 07.5		
BVAR					pmax	pmax			
	comp=Z,3.0nm,0.6s								
BVAR					pmax	pmax			
	comp=N,1.0nm,1.0s								
BVAR	**Borovoye Array**		**142.36**	**39**	PKPpre	PKPpre	02 42 07.5		
BVAR					SKKPab	SKKPab	02 53 53.8	-5.6	
BVAR	**Borovoye Array**		**142.36**	**39**	PKhKP	PKPpre	02 42 07.5		
	comp=N,3.3nm,0.6s,baz=297,slow=2.6,SNR=18								
BVAR					SKKPab	SKKPab	02 53 53.8	-5.6	
	comp=N,1.2nm,1.0s,baz=123,slow=5.3,SNR=3.7								
PWJI	**Pagerwojo**		**143.06**	**183**	PKP	**PKPdf**	**02 42 13.8**	**0.0**	
NLAI	**Namlea**		**143.98**	**210**	PKP	PKPab	02 42 10.7	-2.1	
SWI	**Sorong**		**144.02**	**218**	PKP	**PKPab**	**02 42 12.0**	**-1.0**	
LEM	**Lembang**		**144.20**	**176**	PKP	**PKPab**	**02 42 10.4**	**-3.4**	
TGJI	**Tegal**		**144.23**	**178**	PKP	**PKPab**	**02 42 12.3**	**-1.4**	
GUMO	**Guam**		**144.35**	**252**	PKP	**PKPab**	**02 42 13.7**	**-0.5**	
GUMO	**Guam**		**144.35**	**252**	PKP	**PKPab**	**02 42 13.7**	**-0.5**	
	comp=N,390nm,0.7s,baz=176,slow=6.9,SNR=14								
DBJI	**Dramaga**		**144.41**	**174**	PKP	**PKPab**	**02 42 12.9**	**-1.5**	
BKSI	**Bulukumba**		**144.47**	**197**	PKP	**PKPab**	**02 42 13.8**	**-0.8**	
YAK	**Yakutsk**		**144.64**	**344**	*d i*PKIKP	**PKPab**	**02 42 13.7**	**-0.2**	
YAK					*e*		02 42 42.6		
YAK					*e*		02 45 28.5		
YAK					pmax	pmax			
	comp=Z,377nm,0.9s								
YAK					pmax	pmax			
	comp=E,35nm,1.2s								
YAK					pmax	pmax			
	comp=N,51nm,1.2s								
YAK					pmax	pmax			
	comp=Z,64nm,1.4s								
YAK					pmax	pmax			
	comp=E,15nm,1.5s								
YAK					pmax	pmax			
	comp=N,61nm,1.6s								
YAK	**Yakutsk**		**144.64**	**344**	*e*PKPdf	**PKPab**	**02 42 13.6**	**-0.2**	
KBL	**Kabul**		**144.81**	**70**	*e*PKIKP	**PKPab**	**02 42 14.8**	**-0.9**	
KBL	**Kabul**		**144.81**	**70**	*e*PKPdf	**PKPab**	**02 42 14.8**	**-0.9**	
KAPI	**Kappang**		**144.86**	**197**	*e*PKPdf	**PKPab**	**02 42 15.1**	**-1.0**	
KAPI	**Kappang**		**144.86**	**197**	PKP	**PKPab**	**02 42 15.0**	**-1.0**	
KDI	**Kendari**		**145.03**	**202**	PKP	**PKPbc**	**02 42 16.3**	**-0.4**	
KASI	**Kota Agung**		**145.15**	**170**	PKP	**PKPbc**	**02 42 16.6**	**-0.5**	
POO	**Poona**		**145.28**	**99**	⇑*ix*	x	02 42 16.0		
KK31	**Karatay Array**		**145.38**	**55**	*i* PKP2	**PKPdf**	**02 42 16.1**	**-0.9**	
KK31					pmax	pmax			
	comp=Z,33nm,0.7s								
KKAR	**Karatay Array**		**145.38**	**55**	*e*PKIKP	**PKPdf**	**02 42 16.8**	**-0.2**	
KKAR	**Karatay Array**		**145.38**	**55**	*e*PKPdf	**PKPdf**	**02 42 16.8**	**-0.2**	
BLSI	**Bandar Lampung**		**145.41**	**171**	PKP	**PKPbc**	**02 42 15.3**	**-2.6**	
LWLI	**Liwa**		**145.58**	**169**	PKP	**PKPdf**	**02 42 14.7**	**-3.6**	
SPSI	**Sidrap Palu**		**145.86**	**197**	PKP	**PKPbc**	**02 42 19.3**	**0.0**	
LBMI	**Labuha**		**146.10**	**212**	PKP	**PKPbc**	**02 42 20.3**	**+0.2**	
KSI	**Kapahiang**		**146.64**	**166**	PKP	**PKPab**	**02 42 22.4**	**-0.4**	
TTSI	**Tana Toraja**		**146.73**	**198**	PKP	**PKPbc**	**02 42 21.5**	**-0.4**	
BBKI	**Banjar Baru**		**147.32**	**189**	PKP	**PKPdf**	**02 42 20.3**	**-0.8**	
TNTI	**Ternate**		**147.40**	**213**	PKP	**PKPdf**	**02 42 19.3**	**-2.0**	
LATR	**Latur**		**147.56**	**102**	*e*PKP	**PKPdf**	**02 42 22.6**	**+1.3**	
LUWI	**Luwuk**		**147.70**	**204**	PKP	**PKPdf**	**02 42 22.7**	**+1.0**	
NVS	**Novosibirsk**		**147.78**	**29**	⇓*i*PKIKP	**PKPdf**	**02 42 20.1**	**-0.5**	
NVS					pmax	pmax			
	comp=Z,182nm,1.3s								
NVS					pmax	pmax			
	comp=N,8.0nm,0.9s								
NVS					pmax	pmax			
	comp=E,45nm,1.2s								
EKS2	**Erkin-Say**		**147.81**	**55**	*e*PKIKP	**PKPdf**	**02 42 22.4**	**+1.1**	
EKS2	**Erkin-Say**		**147.81**	**55**	*e*PKPdf	**PKPdf**	**02 42 22.4**	**+1.1**	
EKS2	**Erkin-Say**		**147.81**	**55**	P	**PKPdf**	**02 42 22.3**	**+1.1**	
	SNR=86								
AML	**Almayashu**		**147.87**	**56**	P	**PKPdf**	**02 42 22.9**	**+1.2**	
	SNR=66								
KRJI	**Kerinci**		**147.89**	**163**	PKP	**PKPbc**	**02 42 24.9**	**-0.3**	
KURBB	**Kurchatov Arra**		**147.95**	**39**	PKP	**PKPdf**	**02 42 21.3**	**+0.4**	
	comp=E,59nm,0.8s,baz=305,slow=3.0,SNR=126								
KURBB					PKPbc	**PKPbc**	**02 42 24.6**	**+0.5**	
	comp=E,59nm,0.8s,baz=302,slow=3.1,SNR=137								
KURK	**Kurchatov**		**147.95**	**39**	*d i*PKIKP	**PKPdf**	**02 42 21.1**	**+0.1**	
KURK	**Kurchatov**		**147.95**	**39**	PKP	**PKPdf**	**02 42 21.3**	**+0.4**	
KURK					*e*PKPdf	**PKPbc**	**02 42 21.7**	**-2.5**	
KURK					PKPbc	**PKiKP**	**02 42 24.6**	**-1.3**	
USP	**Ospenovka**		**148.19**	**54**	P	**PKPdf**	**02 42 22.4**	**+0.6**	
	SNR=69								
AAK	**Ala-Archa**		**148.34**	**55**	*d i*PKIKP	**PKPdf**	**02 42 22.8**	**+0.7**	
AAK					pmax	pmax			
	comp=Z,386nm,1.2s								
AAK	**Ala-Archa**		**148.34**	**55**	PKP	**PKPdf**	**02 42 23.0**	**+0.8**	
AAK					*e*PKPdf	**PKPbc**	**02 42 23.4**	**-2.3**	
AAK					PKPbc	**PKPbc**	**02 42 26.3**	**+0.7**	
AAK					*e*PKPbc	**PKPab**	**02 42 26.9**	**-2.1**	
AAK	**Ala-Archa**		**148.34**	**55**	P	**PKPdf**	**02 42 23.9**	**+1.7**	
	SNR=100								
AAK	**Ala-Archa**		**148.34**	**55**	PKP	**PKPdf**	**02 42 23.0**	**+0.8**	
	comp=Z,87nm,0.8s,baz=222,slow=3.1,SNR=50								
AAK					PKPbc	**PKPbc**	**02 42 26.3**	**+0.7**	
	comp=Z,87nm,0.8s,baz=208,slow=3.1,SNR=50								
PBKI	**Pangkalan Bun**		**148.35**	**183**	PKP	**PKPdf**	**02 42 23.6**	**+0.8**	
FRU	**Bishkek**		**148.38**	**55**	*i* PKIKP	**PKPdf**	**02 42 22.0**	**0.0**	
FRU					pmax	pmax			
	comp=Z,300nm,2.1s								
CHMS	**Chumysh**		**148.43**	**54**	P	**PKPbc**	**02 42 26.3**	**+0.6**	
	SNR=54								
UCH	**Uchtor**		**148.44**	**56**	P	**PKPbc**	**02 42 28.0**	**+1.6**	
	SNR=7.5								
PLKI	**Palangkaraya**		**148.65**	**187**	PKP	**PKPbc**	**02 42 26.4**	**-0.7**	
KBK	**Karagaybulak**		**148.66**	**55**	P	**PKPdf**	**02 42 23.8**	**+1.1**	
	SNR=54								
PPBI	**Pangkal Pinang**		**148.68**	**172**	PKP	**PKPdf**	**02 42 24.3**	**+0.9**	
HYB	**Hyderabad**		**148.81**	**105**	*i* PKP	**PKPdf**	**02 42 23.0**	**-0.5**	
HYB					*e*		02 42 26.5		
HYB					*e*PKPAB	PKPab	02 42 37.0	+5.5	
HYB					*ep*PKP	pPKPdf	02 42 56.0	+10	
KZA	**Kyzart**		**149.01**	**56**	P	**PKPdf**	**02 42 25.3**	**+1.7**	
	SNR=24								
YSS	**Yuzh-Sakhalins**		**149.04**	**314**	⇓*e*PKP2	**PKPbc**	**02 42 27.5**	**+0.4**	
YSS					pmax	pmax			
	comp=Z,120nm,1.0s								
YSS	**Yuzh-Sakhalins**		**149.04**	**314**	*e*PKPbc	**PKPbc**	**02 42 26.7**	**-0.4**	
YSS					*e*PKPab	**PKPab**	**02 42 31.5**	**0.0**	
TKM2	**Tokmak 2**		**149.05**	**54**	P	**PKPdf**	**02 42 24.1**	**+0.7**	
	SNR=24								
ZAAO	**Zalesovo Array**		**149.06**	**29**	*e*PKPdf	**PKPdf**	**02 42 22.8**	**+0.1**	
ZALV	**Zalesovo Beam**		**149.06**	**29**	PKIKP	**PKPdf**	**02 42 23.1**	**+0.4**	
ZALV							02 42 26.9		
ZALV					pmax	pmax			
	comp=Z,126nm,0.7s								
ZALV					pmax	pmax			
	comp=Z,125nm,0.7s								
ZALV	**Zalesovo Beam**		**149.06**	**29**	PKP	**PKPdf**	**02 42 23.1**	**+0.4**	
ZALV					PKPbc	**PKPbc**	**02 42 26.9**	**0.0**	
ZALV	**Zalesovo Beam**		**149.06**	**29**	PKP	**PKPdf**	**02 42 23.1**	**+0.4**	
	comp=Z,126nm,0.7s,baz=298,slow=2.1,SNR=65								
ZALV					PKPbc	**PKPbc**	**02 42 26.9**	**0.0**	
	comp=Z,126nm,0.7s,baz=306,slow=3.3,SNR=97								
MNI	**Manado**		**149.15**	**210**	PKP	**PKPbc**	**02 42 27.6**	**-0.8**	
PPI	**Padang Panjang**		**149.16**	**161**	PKP	**PKPdf**	**02 42 26.1**	**+2.0**	
MRSI	**Marisa**		**149.40**	**204**	PKP	**PKPdf**	**02 42 26.1**	**+1.6**	
ULHL	**Ulahol**		**149.69**	**55**	P	**PKPbc**	**02 42 30.5**	**+1.4**	
	SNR=23								
RGRI	**Rengat**		**149.78**	**164**	PKP	**PKPab**	**02 42 36.2**	**+0.9**	
SMKI	**Samarinda**		**149.86**	**194**	PKP	**PKPbc**	**02 42 30.7**	**+0.6**	
GSI	**Gunungsitoli**		**149.87**	**154**	PKP	**PKPbc**	**02 42 30.4**	**+0.3**	
KHET	**Khetri**		**149.87**	**83**	*e*PKP	**PKPdf**	**02 42 25.1**	**+0.3**	
KSH	**Kashi**		**150.06**	**61**	PKPbc	**PKPdf**	**02 42 25.9**	**+0.9**	
KSH					PKS	**PKSdf**	**02 46 00.8**	**+0.9**	
KSH					PP	**PP**	**02 46 08.8**	**+3.3**	
KSH					SKS	**SKSdf**	**02 49 23.0**	**-2.7**	
KSH					SKKS	**SKKSac**	**02 52 46.6**	**-2.3**	
KSH					SS	**SS**	**03 05 13.1**	**-3.6**	
KSH					AMB	AMB			
	comp=Z,92nm,4.9s								
KSH					LR	LR			
	comp=N,110nm,4.6s								
KSH					LR	LR			
	comp=E,150nm,4.9s								
KSH					LR	LR			
	comp=Z,170nm,5.5s								
BKNI	**Bangkinang**		**150.09**	**161**	PKP	**PKPbc**	**02 42 29.8**	**-0.9**	
MNSI	**Mandailing Nat**		**150.10**	**158**	PKP	**PKPbc**	**02 42 30.1**	**-0.6**	
ASAJ	**Asahikawa**		**150.19**	**309**	PKP	**PKPdf**	**02 42 26.1**	**+1.2**	
ASAJ					PKPbc	**PKPbc**	**02 42 29.7**	**-0.3**	
ASAJ					*e*PKPbc	**PKiKP**	**02 42 29.8**	**-1.0**	
ASAJ	**Asahikawa**		**150.19**	**309**	PKP	**PKPdf**	**02 42 26.1**	**+1.2**	
	comp=Z,82nm,0.9s,baz=288,slow=1.6,SNR=4.4								
ASAJ					PKPbc	**PKPbc**	**02 42 29.7**	**-0.3**	
	comp=Z,82nm,0.9s,baz=128,slow=0.9,SNR=14								
CLNS	**Chul'man**		**150.38**	**344**	*e*PKIKP	**PKPdf**	**02 42 25.3**	**+0.5**	
CLNS					pmax	pmax			
	comp=Z,50nm,0.8s								
CLNS					pmax	pmax			
	comp=N,34nm,1.0s								
CLNS					pmax	pmax			
	comp=E,23nm,0.9s								
KUDL	**Kundal**		**150.48**	**84**	*e*PKP	**PKPdf**	**02 42 26.8**	**+1.1**	
SBSI	**Sibolga**		**150.57**	**157**	PKP	**PKPdf**	**02 42 26.6**	**+0.2**	
BHGR	**Bahadurgarh**		**150.96**	**83**	*e*PKP	**PKPdf**	**02 42 28.0**	**+1.5**	
KKR	**Kurukshetra**		**151.03**	**80**	*e*PKP	**PKPdf**	**02 42 28.3**	**+1.7**	
AYAN	**Aya Nagar**		**151.09**	**83**	*e*PKP	**PKPdf**	**02 42 27.1**	**+0.4**	
BOD	**Bodaibo**		**151.16**	**356**	*e*PKIKP	**PKPdf**	**02 42 24.4**	**-1.5**	
BOD					pmax	pmax			
	comp=E,67nm,1.1s								
PSI	**Prapat**		**151.75**	**156**	PKP	**PKPdf**	**02 42 28.3**	**0.0**	
PSI					PKPbc	**PKPbc**	**02 42 33.9**	**-0.8**	
PSI	**Prapat**		**151.75**	**156**	PKP	**PKPdf**	**02 42 28.3**	**0.0**	
	comp=Z,11nm,0.9s,baz=144,slow=4.3,SNR=10								
PSI					PKPbc	**PKPbc**	**02 42 33.9**	**-0.8**	
	comp=Z,34nm,0.6s,baz=135,slow=4.3,SNR=30								
MK31	**Makanchi Array**		**152.01**	**43**	*e*PKIKP	**PKPdf**	**02 42 27.2**	**-0.4**	
MK31					*e*		02 42 44.6		
MK31	**Makanchi Array**		**152.01**	**43**	*e*PKPdf	**PKPdf**	**02 42 27.2**	**-0.4**	
MK31					*e*PKPbc	**PKPbc**	**02 42 34.2**	**0.0**	
MK31					*e*PKPab	**PKPab**	**02 42 44.6**	**+0.8**	
MKAR	**Makanchi Array**		**152.01**	**43**	PKIKP	**PKPdf**	**02 42 27.2**	**-0.4**	
MKAR							02 42 44.5		
MKAR					pmax	pmax			
	comp=Z,6.0nm,0.8s								
MKAR					pmax	pmax			
	comp=Z,50nm,0.7s								
MKAR					pmax	pmax			
	comp=Z,40nm,0.8s								
MKAR	**Makanchi Array**		**152.01**	**43**	PKP	**PKPdf**	**02 42 27

CHTO	Chiang Mai	165.52	133	ePKPdf	PKPdf	02 42 44.4	+0.1
GTA	Gaotai	166.63	37	‖PKP	PKPdf	02 42 45.6	+0.9
GTA				pPKP	pPKPdf	02 43 07.9	+0.1
GTA				sPKP		02 43 16.8	
GTA				PKPab	PKPab	02 43 48.0	+0.5
GTA				PP	PP	02 47 38.3	+3.1
GTA				SKS	SKSdf	02 49 38.3	-3.3
GTA				SKKS	SKKSac	02 54 13.6	-1.9
GTA				SS	SS	03 08 09.3	-1.9
GTA				AMB	AMB		
	comp=Z,100nm,4.5s						
GTA				LR	LR		
	comp=N,100nm,15.2s						
GTA				LR	LR		
	comp=E,92nm,16.2s						
GTA				LR	LR		
	comp=Z,100nm,16.6s						
BJI	Beijing	168.02	337	PKP	PKPdf	02 42 46.1	+0.6
BJI				PP	PP	02 47 43.9	+2.3
BJI				SS	SS	03 08 28.4	+4.4
BJI				LR	LR		
	comp=Z,120nm,52.4s						
HHC	Hu-ho-hao-te	168.22	355	ePKP	PKPdf	02 42 42.3	-3.5
HHC				pPKP	pPKPdf	02 43 07.0	-1.9
HHC				sPKP		02 43 17.6	
HHC				PKS	PKSdf	02 46 13.8	-4.6
HHC				PP	PP	02 47 42.9	+0.4
HHC				SKS	SKSdf	02 49 34.8	-7.6
HHC				SS	SS	03 08 23.5	-2.3
HHC				AMB	AMB		
	comp=Z,170nm,8.0s						
HHC				LR	LR		
	comp=N,360nm,17.8s						
HHC				LR	LR		
	comp=E,460nm,15.5s						
HHC				LR	LR		
	comp=Z,440nm,14.3s						
QIZ	Qiongzhong	169.97	178	PKP	PKPdf	02 42 47.9	+0.5
QIZ				pPKP	pPKPdf	02 43 09.4	-1.1
QIZ				sPKP		02 43 16.4	
QIZ				PP	PP	02 47 54.6	+3.4
QIZ				SS	SS	03 08 45.5	+2.5
QIZ				LR	LR		
	comp=Z,190nm,9.7s						
LZH	Lanzhou	171.22	36	⇑PKP	PKPdf	02 42 48.3	+0.5
LZH				pPKP	pPKPdf	02 43 11.0	+0.1
LZH				sPKP		02 43 18.8	
LZH				PP	PP	02 48 01.0	+2.6
LZH				SKS	SKSdf	02 49 42.3	-1.8
LZH				SS	SS	03 08 55.0	-2.0
LZH				AMB	AMB		
	comp=Z,160nm,5.2s						
LZH				LR	LR		
	comp=N,180nm,18.0s						
LZH				LR	LR		
	comp=E,200nm,16.0s						
LZH				LR	LR		
	comp=Z,280nm,20.1s						
NJ2	Nanjing	171.95	294	ePKP	PKPdf	02 42 47.9	-0.1
KMI	Kunming	172.29	119	PKP	PKPdf	02 42 48.4	-0.3
KMI				sPKP		02 43 18.6	
KMI				PP	PP	02 48 06.3	+1.7
KMI				SS	SS	03 09 06.5	-2.7
KMI				AMB	AMB		
	comp=Z,170nm,4.9s						
KMI				LR	LR		
	comp=Z,88nm,38.8s						
CD2	Chengdu	174.16	70	PKP	PKPdf	02 42 47.8	-1.2
CD2				pPKP	pPKPdf	02 43 10.6	-1.5
CD2				sPKP		02 43 19.3	
CD2				PKPab	PKPab	02 44 22.6	+1.4
CD2				PKS	PKSdf	02 46 18.5	-2.9
CD2				PP	PP	02 48 15.8	+2.0
CD2				SKS	SKSdf	02 49 40.9	-4.2
CD2				SKKS	SKKSac	02 54 52.1	-0.6
CD2				SS	SS	03 09 26.0	-1.4
CD2				AMB	AMB		
	comp=Z,290nm,5.5s						
XAN	Xi'an	174.96	12	PKP	PKPdf	02 42 49.3	+0.1
XAN				PKS	PKSdf	02 46 17.0	-4.4
GYA	Guiyang	175.94	129	PKP	PKPdf	02 42 49.8	0.0
GYA				sPKP		02 43 20.3	
GYA				PKPab	PKPab	02 44 30.8	+1.6
GYA				PKS	PKSdf	02 46 20.4	-1.7
GYA				PP	PP	02 48 23.1	+1.3
GYA				SKKS		02 55 01.0	
GYA				SS	SS	03 09 41.6	-1.8
GYA				AMB	AMB		
	comp=Z,140nm,8.0s						
GYA				LR	LR		
	comp=N,310nm,25.2s						
GYA				LR	LR		
	comp=E,240nm,26.3s						
GYA				LR	LR		
	comp=Z,380nm,24.5s						
WHN	Wuhan	176.09	293	PKP	PKPdf	02 42 50.1	+0.6
WHN				PKPab	PKPab	02 44 29.5	-0.2
ENH	Enshi	178.69	27	ePKPdf	PKPdf	02 42 49.8	-0.2

IDC 16 02:56:24.2±1.1, 3°98'N×126°45'E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/20, mbtmpb3.8/7, MS3.8/1, Ms1 3.7/1, ms1mx2.6/31, Error ellipse: s-maj=109.4km s-min=15.8km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.95	182	P	P	03 01 19.9	+0.2
	1.7nm,0.8s,baz=11,slow=11,SNR=3.8						
WRA	Warramunga Arr	25.00	162	P	P	03 01 49.6	-0.4
	3.5nm,0.7s,baz=342,slow=11,SNR=26						
ASAR	Alice Springs	28.42	166	P	P	03 02 20.9	+0.1
	0.4nm,0.5s,baz=348,slow=9.3,SNR=7.0						
STKA	Stephens Creek	38.46	159	P	P	03 03 48.1	+0.1
	4.5nm,0.7s,baz=342,slow=9.3,SNR=11						
STKA				LR	LR	03 20 16.0	
	comp=Z,124nm,19.5s,baz=206,slow=37						
SONM	Songino Array	46.98	342	P	P	03 04 58.1	+0.9
	0.4nm,0.4s,baz=152,slow=6.5,SNR=5.6						
MKAR	Makanchi Array	57.20	325	P	P	03 06 13.6	+0.4
	0.5nm,0.4s,baz=118,slow=7.5,SNR=23						
ZALV	Zalesovo Beam	60.24	333	P	P	03 06 32.8	-1.4
	0.5nm,0.5s,baz=132,slow=6.0,SNR=3.0						

IDC 16 03:00:48.6±1.2, 3°52'N×126°89'E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.6/20, mbtmpb3.6/6, Error ellipse: s-maj=91.9km s-min=18.8km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.52	183	P	P	03 05 40.3	+0.8
	1.2nm,0.6s,baz=12,slow=14,SNR=2.7						
WRA	Warramunga Arr	24.44	163	P	P	03 06 08.4	-0.9
	1.9nm,0.7s,baz=342,slow=10,SNR=8.6						
ASAR	Alice Springs	27.88	166	P	P	03 06 40.5	+0.2
	0.4nm,0.8s,baz=341,slow=9.0,SNR=3.5						
STKA	Stephens Creek	37.88	159	P	P	03 08 07.5	0.0
	1.5nm,0.6s,baz=344,slow=9.4,SNR=4.1						
SONM	Songino Array	47.54	341	P	P	03 09 26.1	+0.1
	0.2nm,0.5s,baz=160,slow=4.6,SNR=3.2						
MKAR	Makanchi Array	57.81	325	P	P	03 10 41.5	-0.4
	0.2nm,0.4s,baz=132,slow=6.0,SNR=4.8						

*ISCJB **16** 03:27:30.8±1.8, 39°41N±0°03×26°32E±0°04, h14km±12km, Error ellipse: s-maj=6.0km s-min=5.4km az=139.9*
*ATH **16** 03:27:30.4, 39°42N×26°32E, h21km±2km, MD2.9/3*
*CSEM **16** 03:27:30.7±0.4, 39°42N×26°31E, h17km±3km, MD2.9, Error ellipse: s-maj=8.6km s-min=6.4km az=45.0*
*DDA **16** 03:27:34.6, 39°41N×26°73E, h7km, MD2.9*
ISC 16 03:27:31.1±0.9, 39°42N±0°03×26°33E±0°03, h17km±7km, n16, σ0§64/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.18	195	ePB	Pg	03 27 35.6	0.0
PRK				eSB	Sg	03 27 38.8	+0.1
PRK	Paraskevi	0.18	195	ePb	Pg	03 27 35.6	0.0
PRK				eSb	Sg	03 27 38.8	+0.1
LIA	Limnos Island	1.01	299	ePB	Pb	03 27 48.7	-1.4
LIA				eSN	Sg	03 28 04.0	+0.1
LIA	Limnos Island	1.01	299	ePb	Pb	03 27 48.7	-1.4
LIA				eSn	Sg	03 28 04.0	+0.1
BALY	Balya	1.05	72	i P	Pb	03 27 50.6	-0.2
BALY				i S	Sb	03 28 03.5	-0.8
BALY	Balya	1.05	72	iP	Pb	03 27 50.6	-0.2
BALY				i S	Sb	03 28 03.5	-0.8
CHOS	Chios island	1.05	192	ePN	Pb	03 27 50.7	-0.2
CHOS				eSN	Sb	03 28 05.1	+0.7
CHOS	Chios island	1.05	192	ePn	Pb	03 27 50.7	-0.2
CHOS				eSn	Sb	03 28 05.1	+0.7
AKHS	Akhisar	1.27	114	i P	Pn	03 27 54.0	-0.1
AKHS				i S	Sb	03 28 09.7	-1.0
AKHS	Akhisar	1.27	114	iP	Pn	03 27 54.0	-0.1
AKHS				i S	Sb	03 28 09.7	-1.0
ALN	Alexandroupoli	1.50	352	ePN	Pb	03 27 58.4	0.0
ALN				eSN	Sb	03 28 17.9	+0.8
ALN	Alexandroupoli	1.50	352	ePn	Pb	03 27 58.4	0.0
ALN				eSn	Sb	03 28 17.9	+0.8
RDO	Rodhopi	1.83	341	ePB	Pn	03 28 02.3	+0.5
RDO	Rodhopi	1.83	341	ePb	Pn	03 28 02.3	+0.5
DEMI	Demirci	1.89	101	i P	Pb	03 28 05.6	+0.4
DEMI				i S	Sn	03 28 26.3	+0.2
DEMI	Demirci	1.89	101	iP	Pb	03 28 05.6	+0.4
DEMI				i S	Sn	03 28 26.3	+0.2

*ISCJB **16** 03:34:55.3±0.3, 7°01S±0°04×125°23E±0°04, h554km±4km, mb4.4/25, Error ellipse: s-maj=6.6km s-min=4.9km az=149.5*
*IDC **16** 03:34:55.5±0.9, 7°00S×125°29E, h544km±10km, mb3.7/18, mb1 3.9/21, mb1mx3.8/25, mbtmpb3.8/21, Error ellipse: s-maj=13.6km s-min=7.1km az=67.0*
*DJA **16** 03:34:56, 7°27S×125°29E, h521km, mb4.8/22*
ISC 16 03:34:55.3±0.6, 7°04S±0°05×125°29E±0°06, h544km±5km, n81, σ1§13/92, mb4.7/35, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	Bau Bau	3.11	300	P	P	03 36 12.1	+1.5
MMRI	Maumere	3.41	242	S	S	03 37 13.9	-1.5
KDI	Kendari	4.05	319	P	P	03 36 18.7	+1.5
NLAI	Namlea	4.18	26	S	S	03 37 24.1	-1.6
MSAI	Masohi	5.16	45	S	S	03 37 39.6	-0.7
BNDI	Bandanaira	5.23	62	S	S	03 37 43.6	+2.2
BKSI	Bulukumba	5.41	288	P	P	03 36 29.7	+1.3
	286nm,0.8s,2μm0.9nm						
WSI	Waingapu	5.59	242	S	S	03 37 43.8	-3.4
KAPI	Kappang	5.86	290	P	P	03 36 32.3	-0.1
	347nm,0.9s,3μm1.0nm						
SPSI	Sidrap Palu	6.28	299	P	P	03 36 37.3	+1.0
	342nm,0.7s,3μm1.2nm						
LUWI	Luwuk	6.46	337	P	P	03 36 39.1	+1.1
	271nm,1.0s,2μm0.9nm						
TTSI	Tana Toraja	6.74	306	P	P	03 36 42.1	+1.5
	216nm,0.9s,2μm0.8nm						
KMSI	Cibinong	7.67	350	P	P	03 36 51.0	+1.3
	434nm,0.7s,5μm1.5nm						
KMSI				S	S	03 38 24.3	+1.0
	434nm,0.7s,5μm1.5nm						
FAKI	Fak Fak	8.05	60	S	S	03 38 26.6	-3.6
MRSI	Marisa	8.18	336	P	P	03 36 54.9	+0.2
	151nm,0.8s,1μm						
MRSI				S	S	03 38 31.9	-0.6
	151nm,0.8s,1μm						
SWI	Sorong	8.55	44	P	P	03 37 02.5	+4.1
KHKI	Kahang-Kahang	9.68	262	P	P	03 37 10.1	+0.1
	77nm,1.0s						
KBKI	Kotabaru	9.81	292	P	P	03 37 12.3	+1.0
	98nm,0.9s,5μm						
BYJI	Banyuwangi	10.90	263	P	P	03 37 23.5	+1.0
	261nm,0.9s,15μm						
BBKI	Banjar Baru	10.99	288	P	P	03 37 25.5	+2.0
	142nm,0.8s						
FITZ	Fitzroy Crossi	11.00	178	P	P	03 37 24.3	+0.8
	2.6nm,0.3s,baz=353,slow=8.0,SNR=16						
FITZ				S	S	03 39 23.6	-1.8
	1.1nm,0.3s,baz=26,slow=19,SNR=9.5						
JAGI	Jajag, Banyuwa	11.13	262	P	P	03 37 23.3	-1.6
	115nm,0.7s						
BLJI	Banyuglugur	11.62	266	P	P	03 37 30.2	+0.3
	110nm,0.7s,5μm						
GMJI	Gumukmas	11.80	263	P	P	03 37 30.5	-1.4
	35nm,1.2s						
WRA	Warramunga Arr	15.55	146	P	P	03 38 10.2	-0.4
	16nm,0.3s,baz=337,slow=9.3,SNR=376						
WRA				S	S	03 40 50.4	-0.4
	0.5nm,0.3s,baz=319,slow=19,SNR=6.0						
WRA				ScP	ScP	03 45 17.5	-0.7
	0.1nm,0.3s,baz=326,slow=1.8,SNR=5.6						
KKM	Kota Kinabalu	15.84	325	P	P	03 38 19.9	+6.2
ASAR	Alice Springs	18.49	154	P	P	03 38 39.1	+1.1
	15nm,0.3s,baz=346,slow=15,SNR=572						
ASAR				S	S	03 41 39.8	+0.6
	0.1nm,0.3s,baz=343,slow=20,SNR=13						
ASAR				ScP	ScP	03 45 23.4	-0.9
	0.4nm,0.3s,baz=354,slow=2.2,SNR=13						
COEN	Coen	18.88	113	eP	P	03 38 41.8	+0.2
	161nm,0.4s						
FORT	Forrest	23.76	174	eP	P	03 39 26.0	+0.6
	42nm,0.6s						
RGRI	Rengat	23.84	285	P	P	03 39 28.6	+2.3
CTA	Charters Tower	24.12	125	eP	P	03 39 27.4	-1.3
	12nm,0.9s						
CTA	Charters Tower	24.12	125	P	P	03 39 29.0	+0.3
	12nm,0.8s,baz=302,slow=11,SNR=16						
CTA				ScP	ScP	03 45 38.4	-0.1
	2.2nm,0.5s,baz=280,slow=6.1,SNR=3.9						
NWAO	Narrogin (SRO)	26.83	195	P	P	03 39 52.9	+0.4
	3.8nm,0.3s,baz=43,slow=5.6,SNR=11						
PSI	Prapat	28.07	290	P	P	03 40 03.2	-0.5
	21nm,0.9s						
PSI	Prapat	28.07	290	P	P	03 40 03.1	-0.6
	13nm,0.8s,baz=126,slow=5.3,SNR=12						
STKA	Stephens Creek	29.02	151	eP	P	03 40 12.7	+1.1
	30nm,0.8s						
STKA	Stephens Creek	29.02	151	P	P	03 40 12.7	+1.1
	43nm,0.8s,baz=322,slow=9.0,SNR=90						
TPTI		29.86	289	P	P	03 40 26.9	+7.7
CMSA	Cobar Meteorol	30.94	145	eP	P	03 40 29.6	+1.4
	120nm,0.4s						
ARMA	Armidale	33.93	137	eP	P	03 40 55.8	+2.1
YNG	Young	34.51	145	eP	P	03 41 00.3	+1.9
	18nm,0.5s						
TOO	Toolangi	35.51	152	eP	P	03 41 08.9	+2.2
	54nm,0.4s						
CAN	Canberra	35.59	146	eP	P	03 41 09.7	+2.3
	22nm,0.6s						
CMAR	Chiang Mai Arr	36.29	315	P	P	03 41 13.3	-0.1
	6.2nm,0.6s,baz=143,slow=6.8,SNR=10						
CMAR				PcP	PcP	03 43 23.5	0.0
	2.5nm,0.6s,baz=160,slow=3.8,SNR=7.0						
CMAR				ScP	S	03 46 17.5	+1.7
	1.5nm,0.6s,baz=160,slow=2.9,SNR=6.3						
CHTO	Chiang Mai	36.53	315	P	P	03 41 16.0	+0.6
	14nm,0.7s						
DZM	Mont Dzumac	42.38	115	P	P	03 42 03.2	+0.7
	6.9nm,0.7s,baz=246,slow=7.3,SNR=5.1						
KSRS	Korea Array	44.33	3	P	P	03 42 17.1	-0.1
	3.1nm,0.8s,baz=178,slow=8.9,SNR=7.8						
KSRS				PcP	PcP	03 43 49.7	+0.2
	1.5nm,0.6s,baz=192,slow=3.4,SNR=4.3						
MJAR	Matsushiro Arr	45.01	15	P	P	03 42 21.5	-1.0
	5.5nm,0.8s,baz=194,slow=9.3,SNR=9.0						
ODAN	Odare	49.83	314	eP	P	03 42 59.5	+0.3
	36nm,0.8s						
TAPN	Taplejung	49.90	315	eP	P	03 43 00.0	+0.3
	22nm,0.5s						
RAMN	Ramite	50.45	314	eP	P	03 43 04.3	+0.6
	71nm,0.7s						
JIRN	Jiri	51.17	314	eP	P	03 43 09.4	+0.4
	6.6nm,0.7s						
USRK	Ussuriysk Arra	51.36	6	P	P	03 43 09.6	0.0
	6.9nm,0.6s,baz=201,slow=8.0,SNR=12						
GUN	Gumba	51.54	314	eP	P	03 43 12.0	+0.3
	31nm,0.5s						
PKI	Pulchoki	51.67	313	eP	P	03 43 12.7	0.0
	19nm,0.5s						
KKN	Kakani	51.90	314	eP	P	03 43 14.3	+0.2
DMN	Daman	51.91	313	eP	P	03 43 14.6	+0.3
	38nm,0.9s						
GKN	Gorkha	52.48	313	eP	P	03 43 18.5	+0.3
	25nm,0.4s						
KOLN	Koldanda	53.10	313	eP	P	03 43 23.1	+0.4
	46nm,0.8s						
DANN	Dangsing	53.31	313	eP	P	03 43 24.5	+0.2
	37nm,0.7s						
ULN	Ulaanbaatar	56.99	345	P	P	03 43 49.7	+0.3
	13nm,1.1s						
SONM	Songino Array	57.13	345	P	P	03 43 50.2	-0.1
	4.9nm,0.7s,baz=161,slow=8.7,SNR=49						
SONM				PcP	PcP	03 44 37.2	-0.2
	1.1nm,0.7s,baz=158,slow=4.2,SNR=4.2						
MKAR	Makanchi Array	65.77	329	P	P	03 44 47.1	+0.4
	9.8nm,0.6s,baz=125,slow=7.4,SNR=190						
PETK	Petropavlovsk-	65.92	21	P	P	03 44 47.9	+0.5
	4.6nm,0.5s,baz=208,slow=6.4,SNR=8.8						
AAK	Ala-Archa	67.61	322	P	P	03 44 59.2	+0.9
	5.7nm,0.6s,baz=135,slow=6.1,SNR=22						
ZALV	Zalesovo Beam	69.62	336	P	P	03 45 09.4	-0.5
	14nm,0.4s,baz=135,slow=4.9,SNR=91						
OPO	Ambohidratompo	76.55	253	P	P	03 45 50.8	+0.2
	1.1nm,0.5s,baz=102,slow=9.3,SNR=3.5						
QSPA	South Pole Qui	82.94	180	P	P	03 46 23.3	+0.1
	0.4nm,0.5s,baz=343,slow=20,SNR=2.5						
ILAR	Eielson Array	95.38	25	P	P	03 47 19.2	-2.0
	0.3nm,0.7s,baz=254,slow=5.0,SNR=6.2						
BRTR	Keskin Array B	95.71	309	P	P	03 47 22.4	-1.2
	0.9nm,0.8s,baz=116,slow=4.1,SNR=5.4						
FINES	FINESS Array B	100.55	331	P	Pdif	03 47 43.8	-0.6
	0.2nm,0.3s,baz=356,slow=10,SNR=4.9						
YKA	Yellowknife Ar	109.81	25	PKiKP	PKiKP	03 52 24.0	-0.3
	0.2nm,0.6s,baz=306,slow=1.8,SNR=6.3						
PDAR	Pinedale Array	120.21	44	PKP	PKPdf	03 52 44.5	-0.8
	0.4nm,0.7s,baz=107,slow=0.9,SNR=2.9						
TORD	Torodi Ar. Bea	124.23	281	PKP	PKPdf	03 52 53.1	-0.3
	2.0nm,0.6s,baz=67,slow=1.8,SNR=22						
TXAR	Lajitas Array	128.93	58	PKP	PKPdf	03 53 01.2	-0.9
	0.2nm,0.4s,baz=5.7,slow=3.6,SNR=4.8						
TXAR				SKPbc	SKiKP	03 55 32.9	-15
	0.3nm,0.6s,baz=234,slow=4.2,SNR=4.5						
PLCA	Paso Flores	130.28	164	SKPbc	SKPab	03 55 37.3	-0.2
	1.9nm,0.7s,baz=203,slow=3.0,SNR=4.1						
DBIC	Dimbokro	130.52	273	PKP	PKPdf	03 53 05.3	-0.1
	1.8nm,0.6s,baz=163,slow=6.8,SNR=5.0						
DBIC				SKPbc	SKPbc	03 55 38.4	-0.3
	2.3nm,0.7s,baz=87,slow=3.7,SNR=6.4						
SCHQ	Schefferville	131.35	9	PKP	PKPdf	03 53 05.4	-0.5
	1.2nm,0.5s,baz=39,slow=7.0,SNR=6.7						
SCHQ				SKPbc	SKPbc	03 55 40.0	-0.5
	2.4nm,1.0s,baz=333,slow=9.0,SNR=4.3						
CFAA	Coronel Fontan	139.46	162	SKPbc	SKPbc	03 56 06.3	+0.1
	0.1nm,0.5s,baz=237,slow=5.8,SNR=5.6						
CPUP	Villa Florida	146.74	176	PKPbc	PKPbc	03 53 37.4	+0.2
	0.5nm,0.4s,baz=225,slow=4.3,SNR=3.9						
SIV	San Ignacio	156.27	165	PKP	PKPdf	03 53 49.4	+0.4
	1.6nm,1.2s,baz=288,slow=10.0,SNR=3.9						

IDC 16 03:54:27.7±2.2, 12°50N×57°41E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/25, mbtmpb3.8/8, MS3.4/4, Ms1 3.4/4, ms1mx2.8/45, Error ellipse: s-maj=58.0km s-min=28.0km az=67.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	Elat	26.95	313	LR	LR	04 11 34.9	
	comp=Z,36nm,20.1s,baz=146,slow=38						
MKAR	Makanchi Array	40.09	27	P	P	04 02 04.5	-0.6
	0.3nm,0.6s,baz=213,slow=9.2,SNR=5.2						
MKAR				LR	LR	04 19 17.7	
	comp=Z,52nm,18.9s,baz=110,slow=37						
CMAR	Chiang Mai Arr	40.40	76	P	P	04 02 07.9	-0.1
	1.1nm,0.3s,baz=276,slow=9.0,SNR=3.3						
KURBB	Kurchatov Arra	41.75	20	P	P	04 02 19.2	+0.6
	0.8nm,0.9s,baz=216,slow=8.0,SNR=7.2						
ZALV	Zalesovo Beam	46.69	22	P	P	04 02 57.5	-0.7
	1.3nm,0.7s,baz=224,slow=6.2,SNR=6.8						
ZALV				LR	LR	04 21 37.7	
	comp=Z,35nm,18.5s,baz=43,slow=35						
BOSA	Boshof	51.36	217	LR	LR	04 25 02.5	
	comp=Z,77nm,18.2s,baz=353,slow=36						
SONM	Songino Array	53.79	39	P	P	04 03 52.5	+0.1
	0.3nm,0.8s,baz=227,slow=5.9,SNR=4.4						
FINES	FINESS Array B	53.88	342	P	P	04 03 52.5	-0.1
	1.3nm,0.9s,baz=149,slow=4.4,SNR=3.4						
WRA	Warramunga Arr	82.25	112	P	P	04 06 51.2	-0.4
	0.8nm,0.7s,baz=291,slow=6.0,SNR=6.6						
ASAR	Alice Springs	82.92	116	P	P	04 06 55.5	+0.4
	0.7nm,0.7s,baz=300,slow=5.4,SNR=6.4						

MEX 16 03:58:05.2±0.7, 17°31N×101°36W, h8km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.32	341	i P	Pg	03 58 11.1	-0.4
ZIIG				i S	Sg	03 58 15.7	0.0
CAIG	El Cayaco	1.07	104	eP	Pg	03 58 22.1	-3.7
CAIG				i S	Sg	03 58 36.5	-3.2
ACX	Acapulco	1.50	107	i P	Pn	03 58 28.4	-4.0
ACX				i S	Sn	03 58 45.9	-6.2
MEIG	Mezcala	1.77	69	i P	Pn	03 58 33.0	-3.2
MEIG				i S	Sn	03 58 53.9	-5.1
PLIG	Platanillo	2.07	58	eP	Pn	03 58 37.7	-2.7
PLIG				i S	Sn	03 59 01.6	-4.9
MMIG	Aquila	2.13	298	i P	Pn	03 58 38.6	-2.6
MMIG				i S	Sn	03 59 03.1	-4.8
MOIG	Morelia	2.37	4	i P	Pn	03 58 41.0	-3.7
MOIG				i S	Sn	03 59 10.2	-4.0
YAIG	Yautepec	2.67	54	i P	Pn	03 58 45.1	-3.6
YAIG				i S	Sn	03 59 18.4	-3.1
PPM	Popocatepetl	3.13	56	eP	Pn	03 58 53.0	-2.6
PPM				i S	Sn	03 59 29.9	-3.7
PNIG	Pinotepa	3.22	106	i P	Pn	03 58 54.3	-1.8
PNIG				i S	Sn	03 59 31.4	-3.4
UTMO	Huajuapan	3.43	81	i P	Pn	03 58 56.2	-3.1
UTMO				i S	Sn	03 59 36.9	-3.4

IDC 16 04:00:21.6±2.8, 5°00S×152°93E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.6/16, mbtmpb3.5/5, MS3.2/1, Ms1 3.2/1, ms1mx2.5/16, Error ellipse: s-maj=99.9km s-min=26.9km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.41	229	P	P	04 05 31.4	-1.1
	1.4nm,0.8s,baz=53,slow=9.8,SNR=7.5						
WRA				PcP	PcP	04 09 18.9	-0.5
	0.4nm,1.1s,baz=49,slow=2.0,SNR=5.0						
ASAR	Alice Springs	26.09	223	P	P	04 05 58.3	+1.0
	0.2nm,0.3s,baz=55,slow=8.3,SNR=3.9						
KSRS	Korea Array	48.23	333	LR	LR	04 25 47.2	
	comp=Z,27nm,21.7s,baz=353,slow=32						
SONM	Songino Array	66.56	328	P	P	04 11 13.9	+0.2
	0.4nm,0.5s,baz=143,slow=5.5,SNR=8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**167**	*e*Pg	**Pg**	**04 27 52.7**	**+0.1**
KSP				*e*Sg	**Sg**	**04 28 01.0**	**-0.1**
KSP	**Ksiaz**	**0.66**	**167**	*e*Pg	**Pg**	**04 27 52.7**	**+0.1**
KSP				*e*Sg	**Sg**	**04 28 01.0**	**-0.1**
KSP	**Ksiaz**	**0.66**	**167**	*e*Pg	**Pg**	**04 27 52.7**	**+0.1**
KSP				*e*Sg	**Sg**	**04 28 02.1**	**+0.9**
UPC	**Upice**	**0.98**	**182**	*e*PG	**Pg**	**04 27 58.9**	**+0.2**
UPC				*e*SG	**Sg**	**04 28 12.1**	**+0.7**
UPC	**Upice**	**0.98**	**182**	Pg	**Pg**	**04 27 58.9**	**+0.2**
UPC				Sg	**Sg**	**04 28 12.1**	**+0.7**
DPC	**Dobruska-Polom**	**1.15**	**171**	*e*PG	**Pg**	**04 28 01.5**	**-0.5**
DPC				*e*SG	**Sg**	**04 28 16.5**	**-0.3**
	comp=Z,8.7nm,0.2s						
DPC	**Dobruska-Polom**	**1.15**	**171**	Pg	**Pg**	**04 28 01.5**	**-0.5**
DPC				Sg	**Sg**	**04 28 16.5**	**-0.3**
	8.7nm,0.2s						
PVCC	**Panska Ves**	**1.34**	**225**	*e*PG	**Pn**	**04 28 06.1**	**+0.1**
PVCC				*e*SG	**Sb**	**04 28 24.0**	**+0.3**
	comp=Z,23nm,0.2s						
PVCC	**Panska Ves**	**1.34**	**225**	Pg	**Pn**	**04 28 06.1**	**+0.1**
PVCC				Sg	**Sb**	**04 28 24.0**	**+0.3**
	23nm,0.2s						
BRG	**Berggiesshubel**	**1.46**	**246**	PG	**Pn**	**04 28 07.9**	**+0.2**
BRG				SG	**Sn**	**04 28 28.5**	**+1.0**
	17nm,0.3s						
BRG				PG		04 50 04.0	
BRG				SG		04 50 24.7	
	9.2nm,0.4s						
PRU	**Pruhonice**	**1.78**	**213**	*e*PG	**Pb**	**04 28 13.1**	**-0.4**
PRU				*e*SG	**Sg**	**04 28 37.6**	**+0.4**
	comp=Z,9.0nm,0.3s						
PRU	**Pruhonice**	**1.78**	**213**	Pg	**Pb**	**04 28 13.1**	**-0.4**
PRU				Sg	**Sg**	**04 28 37.6**	**+0.4**
	9.0nm,0.3s						
CLL	**Collm**	**1.92**	**266**	*e*Pn	**Pn**	**04 28 13.0**	**-1.0**
CLL				*i* Pg	**Pb**	**04 28 16.1**	**+0.2**
CLL				*i*		04 28 19.1	
CLL				*i* Sg	**Sg**	**04 28 42.3**	**+0.6**
	comp=Z,5.0nm,0.6s						
MORC	**Moravsky Berou**	**1.95**	**150**	*e*Pn	**Pn**	**04 28 13.2**	**-1.3**
OKC	**Ostrava-Krasne**	**2.12**	**140**	*e*PG	**Pg**	**04 28 20.4**	**-0.2**
OKC	**Ostrava-Krasne**	**2.12**	**140**	Pg	**Pg**	**04 28 20.4**	**-0.2**
VRAC	**Vranov**	**2.21**	**171**	*e*Pn	**Pn**	**04 28 17.8**	**-0.1**
VRAC				*e*Sg	**Sg**	**04 28 49.9**	**-0.9**
NKC	**Novy Kostel**	**2.61**	**243**	*e*PG	**Pg**	**04 28 29.6**	**-0.4**
NKC				*e*SG	**Sg**	**04 29 03.3**	**-0.4**
	comp=Z,9.9nm,0.4s						
NKC	**Novy Kostel**	**2.61**	**243**	Pg	**Pg**	**04 28 29.6**	**-0.4**
NKC				Sg	**Sg**	**04 29 03.3**	**-0.4**
	comp=Z,9.9nm,0.4s						
OJC	**Ojcow**	**2.69**	**117**	*e*Pg	**Pb**	**04 28 29.0**	**0.0**
OJC				*e*Sg	**Sb**	**04 29 04.1**	**+1.6**
KHC	**Kasperske Hory**	**2.84**	**215**	*e*PN	**Pn**	**04 28 27.1**	**+0.4**
KHC				*e*PG	**Pb**	**04 28 32.6**	**+1.0**
KHC				*e*SN	**Sn**	**04 29 00.0**	**-1.6**
KHC				*e*SG	**Sg**	**04 29 10.1**	**-1.1**
	comp=Z,2.0nm,0.3s						
KHC	**Kasperske Hory**	**2.84**	**215**	Pn	**Pn**	**04 28 27.1**	**+0.4**

IDC 16 04:30:57.5±5.1, 30°.41S×178°.30W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.8/14, mbtmp3.9/2, Error ellipse: s-maj=194.9km s-min=54.5km az=154.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.85**	**267**	P	P	04 38 57.4	-0.4
	0.8nm,0.8s,baz=108,slow=7.4,SNR=6.2						
WRA	**Warramunga Arr**	**43.84**	**272**	P	P	04 39 06.0	+0.2
	1.4nm,0.5s,baz=113,slow=8.3,SNR=12						
FINES	**FINESS Array B**	**145.06**	**340**	PKPbc	PKPbc	04 50 34.5	-1.1
	1.7nm,0.8s,baz=34,slow=1.8,SNR=9.6						

IDC 16 04:32:22.5±1.6, 3°.48N×126°.71E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/19, mbtmp3.4/3, Error ellipse: s-maj=148.4km s-min=25.8km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.45**	**162**	P	P	04 37 42.8	-0.6
	1.0nm,0.5s,baz=342,slow=9.3,SNR=13						
SONM	**Songino Array**	**47.53**	**342**	P	P	04 41 00.2	+0.5
	0.1nm,0.3s,baz=166,slow=9.4,SNR=3.9						
MKAR	**Makanchi Array**	**57.75**	**325**	P	P	04 42 15.4	0.0
	1.2nm,1.2s,baz=118,slow=8.2,SNR=4.9						

*ISCJB **16** 04:49:33.2±1.1, 51°.54N±0°.05×16°.12E±0°.05, h0km, Error ellipse: s-maj=7.5km s-min=4.2km az=9.8*
*CSEM **16** 04:49:34.1±1.1, 51°.56N×16°.10E, h2km, ML2.7/5, Error ellipse: s-maj=17.2km s-min=9.8km az=177.0*
*PRU **16** 04:49:36.3, 51°.49N×16°.12E, h0km*
*WAR **16** 04:49:36.9, 51°.47N×16°.10E*

ISC 16 04:49:35.7±1.4, 51°.51N±0°.06×16°.14E±0°.04, h0km, n16, σ0s71/29, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**172**	*e*Pg	**Pg**	**04 49 48.1**	**-0.4**
KSP				*e*Sg	**Sg**	**04 49 57.1**	**-0.1**
UPC	**Upice**	**1.00**	**185**	*e*PG	**Pg**	**04 49 54.9**	**0.0**
UPC				*e*SG	**Sg**	**04 50 08.1**	**+0.2**
	comp=Z,4.1nm,0.2s						
UPC	**Upice**	**1.00**	**185**	Pg	**Pg**	**04 49 54.9**	**0.0**
UPC				Sg	**Sg**	**04 50 08.1**	**+0.2**
	4.1nm,0.2s						
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*PG	**Pg**	**04 49 57.7**	**-0.3**
DPC				*e*SG	**Sg**	**04 50 13.7**	**+0.7**
	comp=Z,5.5nm,0.3s						
DPC	**Dobruska-Polom**	**1.16**	**174**	Pg	**Pg**	**04 49 57.7**	**-0.3**
DPC				Sg	**Sg**	**04 50 13.7**	**+0.7**
	5.5nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**226**	*e*PG	**Pg**	**04 50 02.3**	**-0.1**
PVCC				*e*SG	**Sb**	**04 50 20.9**	**0.0**
	comp=Z,16nm,0.2s						
PVCC	**Panska Ves**	**1.40**	**226**	Pg	**Pg**	**04 50 02.3**	**-0.1**
PVCC				Sg	**Sb**	**04 50 20.9**	**0.0**
	16nm,0.2s						
PRU	**Pruhonice**	**1.83**	**214**	*e*PG	**Pn**	**04 50 09.0**	**+0.7**
PRU				*e*SG	**Sb**	**04 50 33.7**	**+0.3**
	comp=Z,3.2nm,0.3s						
PRU	**Pruhonice**	**1.83**	**214**	Pg	**Pn**	**04 50 09.0**	**+0.7**
PRU				Sg	**Sb**	**04 50 33.7**	**+0.3**
	3.2nm,0.3s						
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**04 50 09.1**	**-0.9**
CLL	**Collm**	**1.98**	**265**	*i* Pg	**Pg**	**04 50 13.4**	**-0.1**
CLL				*i*		04 50 15.1	
CLL				*e*Sg	**Sg**	**04 50 39.0**	**-0.1**
	comp=Z,6.0nm,0.7s						
OJC	**Ojcow**	**2.65**	**118**	*e*Pg	**Pg**	**04 50 26.0**	**-0.4**
OJC				*e*Sg	**Sg**	**04 51 01.1**	**+0.2**
NKC	**Novy Kostel**	**2.66**	**243**	*e*SG	**Sg**	**04 51 00.9**	**-0.3**
	comp=Z,5.7nm,0.4s						
NKC	**Novy Kostel**	**2.66**	**243**	Sg	**Sg**	**04 51 00.9**	**-0.3**
	comp=Z,5.7nm,0.4s						
KHC	**Kasperske Hory**	**2.89**	**216**	*e*PG	**Pb**	**04 50 28.6**	**+0.5**
KHC				*e*SG	**Sg**	**04 51 06.4**	**-2.1**
KHC	**Kasperske Hory**	**2.89**	**216**	Pg	**Pb**	**04 50 28.6**	**+0.5**
KHC				Sg	**Sg**	**04 51 06.4**	**-2.1**

IDC 16 04:58:02.0±2.4, 3°.98N×126°.71E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/19, mbtmp3.3/3, MS3.8/1, Ms1 3.8/1, ms1mx2.5/20, Error ellipse: s-maj=206.5km s-min=25.5km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.93**	**163**	P	P	05 03 27.2	+0.1
	0.3nm,0.4s,baz=342,slow=11,SNR=9.3						
ASAR	**Alice Springs**	**28.36**	**166**	P	P	05 03 57.8	-0.3
	0.1nm,0.3s,baz=340,slow=12,SNR=3.2						
DZM	**Mont Dzumac**	**46.69**	**125**	LR	LR	05 25 56.2	
	comp=Z,110nm,20.0s,baz=359,slow=36						
MKAR	**Makanchi Array**	**57.34**	**325**	P	P	05 07 52.0	0.0
	0.1nm,0.4s,baz=115,slow=7.3,SNR=3.7						

*GUC **16** 05:02:02.8±0.6, 42°.87S×72°.57W, h20km±5km, ML3.3*

*ISCJB **16** 05:02:04.1±0.7, 42°.80S±0°.06×72°.7W±0°.1, h10km, mb4.0/6, Error ellipse: s-maj=12.4km s-min=5.1km az=34.0*
*IDC **16** 05:02:04.3±1.0, 42°.79S×72°.50W, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.9/15, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=31.5km s-min=14.2km az=113.0*

ISC 16 05:02:03.7±0.9, 42.79S±0.07×72.60W±0.08, h10km, n11, σ1s74/13, mb3.8/6, 2D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUNY	**Huinay**	**0.43**	**18**	*i* P	**Pb**	**05 02 12.6**	**-0.8**
HUNY				*i* S	**Sb**	**05 02 20.3**	**+0.3**
HUNY				AML	AML	05 02 24.4	
	comp=E,1μm,0.4s						
ILCA	**Isla Las Cabra**	**0.73**	**3**	*i* P	**Pg**	**05 02 17.8**	**0.0**
ILCA				*i* S	**Sb**	**05 02 29.4**	**+0.9**
ILCA				AML	AML	05 02 32.0	
	comp=E,564nm,0.5s						
QLLN	**Quelln**	**0.82**	**247**	*e*P	**Pb**	**05 02 18.5**	**-1.4**
QLLN				*i* S	**Sb**	**05 02 29.1**	**-1.9**
QLLN				AML	AML	05 02 38.4	
	comp=N,3μm,0.4s						
PLCA	**Paso Flores**	**2.56**	**37**	Pn	**Pb**	**05 02 47.6**	**-2.2**
	comp=N,5.0nm,0.3s,baz=216,slow=17,SNR=80						
PLCA				Pg	**Pg**	**05 02 50.1**	**-2.7**
	comp=N,5.9nm,0.3s,baz=216,slow=16,SNR=77						
PLCA				Lg	Lg	05 03 26.4	
	comp=N,17nm,0.3s,baz=292,slow=15,SNR=18						
PMSA	**Palmer Station**	**22.55**	**170**	P	**P**	**05 07 05.6**	**+2.0**
	comp=N,37nm,0.3s,baz=348,slow=19,SNR=49						
SIV	**San Ignacio**	**28.48**	**24**	P	**P**	**05 07 59.2**	**+0.2**
	comp=N,0.6nm,0.7s,baz=214,slow=11,SNR=4.8						
QSPA	**South Pole Qui**	**47.46**	**180**	P	P	05 10 41.2	+2.9
	comp=N,4.2nm,1.0s,baz=142,slow=4.1,SNR=7.6						
TXAR	**Lajitas Array**	**77.26**	**332**	P	P	05 14 01.2	+3.2
	comp=N,0.5nm,1.1s,baz=147,slow=7.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**87.64**	**70**	P	**P**	**05 14 52.9**	**+0.4**
	comp=N,0.4nm,1.0s,baz=233,slow=4.3,SNR=2.9						
PDAR	**Pinedale Array**	**91.42**	**334**	P	P	05 15 12.7	+2.8
	comp=N,0.5nm,0.8s,baz=188,slow=5.5,SNR=4.2						
MKAR	**Makanchi Array**	**161.76**	**69**	PKP	**PKPdf**	**05 22 06.8**	**+2.3**
	comp=N,0.2nm,0.6s,baz=270,slow=2.9,SNR=4.1						
MKAR				PKPab	**PKPab**	**05 22 51.2**	**+1.2**
	comp=N,0.4nm,0.8s,baz=268,slow=3.6,SNR=3.6						

*BJI **16** 05:04:21.4, 3°.48N×126°.98E, h30km, mB5.2/29, mb4.8/43, Ms4.6/29, Ms7 4.4/29*
*IDC **16** 05:04:22.9±0.4, 4°.08N×126°.71E, h0km, mb4.6/22, mb1 4.7/22, mb1mx4.7/24, mbtmp4.6/22, MS3.9/6, Ms1 3.9/6, ms1mx3.4/39, Error ellipse: s-maj=23.7km s-min=9.0km az=73.0*
*ISCJB **16** 05:04:27.1±0.2, 4°.14N±0°.02×126°.85E±0°.04, h36km, mb4.8/73, MS4.1/17, Error ellipse: s-maj=6.2km s-min=3.2km az=164.7*
*NEIC **16** 05:04:28.6±0.2, 4°.08N×126°.75E, h35km, mb4.9/38, Error ellipse: s-maj=8.9km s-min=4.7km az=66.0*
*DJA **16** 05:04:35, 3°.91N×126°.93E, h88km, mb4.8/23*

ISC 16 05:04:28.7±0.3, 4°.11N±0°.04×126°.78E±0°.06, h36km, n196, σ1s45/222, mb4.9/72, MS4.2/18, 3D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**2.87**	**349**	*e*P	Pn	05 05 17.0	+5.1
MATI				*e*S	**Sn**	**05 05 45.4**	**+0.2**
DAV	**Davao City (W)**	**3.18**	**338**	Pn	Pn	05 05 23.6	+7.4
DAV				Sn	Sn	05 06 13.8	+21
DAV	**Davao City (W)**	**3.18**	**338**	Pn	Pn	05 05 23.6	+7.4
	48nm,0.3s,baz=84,slow=5.1,SNR=5.6						
DAV				Sn	Sn	05 06 13.7	+21
	123nm,0.3s,baz=78,slow=22,SNR=8.2						
MNI	**Manado**	**3.28**	**216**	P	**Pn**	**05 05 19.9**	**+2.2**
KCP	**Kidapawan**	**3.34**	**330**	*e*P	Pn	05 05 25.1	+6.6
TNTI	**Ternate**	**3.37**	**170**	P	**Pn**	**05 05 20.1**	**+1.3**
TNTI				S	**Sn**	**05 05 59.3**	**+1.8**
CTBH	**Cotabato--PC H**	**3.99**	**321**	*e*P	Pn	05 05 22.9	-4.5
BUKP	**Musuan**	**4.12**	**336**	*e*P	Pn	05 05 34.2	+5.1
KMSI	**Cibinong**	**4.49**	**219**	P	Pn	05 05 38.0	+3.7
LBMI	**Labuha**	**4.77**	**171**	P	**Pn**	**05 05 39.4**	**+1.3**
CGP	**Cagayan de Oro**	**4.79**	**334**	*e*P	Pn	05 05 48.5	+10
PAGZ	**Pagadian**	**5.02**	**318**	*e*P	Pn	05 05 45.4	+3.8
MRSI	**Marisa**	**6.04**	**233**	P	**Pn**	**05 05 58.4**	**+2.9**
	402nm,0.7s,4μm1.6nm						
LUWI	**Luwuk**	**6.50**	**218**	P	Pn	05 06 08.1	+6.2
SWI	**Sorong**	**6.66**	**138**	P	**Pn**	**05 06 05.2**	**+1.1**
	89nm,0.6s,1μm0.3nm						
NLAI	**Namlea**	**7.31**	**178**	P	**Pn**	**05 06 13.0**	**0.0**
	73nm,0.6s,3μm0.8nm						
NLAI				S	**Sn**	**05 07 33.6**	**-1.1**
	73nm,0.6s,3μm0.8nm						
MSAI	**Masohi**	**7.71**	**164**	P	Pn	05 06 24.9	+6.4
MYLDM	**Lahad Datu**	**8.32**	**278**	P	Pn	05 06 32.6	+5.6
MYLDM	**Lahad Datu**	**8.32**	**278**	P	Pn	05 06 37.8	+11
FAKI	**Fak Fak**	**8.86**	**142**	P	**Pn**	**05 06 36.2**	**+1.8**
	37nm,1.4s						
KDI	**Kendari**	**9.03**	**207**	P	**Pn**	**05 06 36.9**	**+0.3**
	41nm,0.8s,736nm						
BNDI	**Bandanaira**	**9.12**	**160**	P	**Pn**	**05 06 40.2**	**+2.3**
	283nm,1.5s						
SDKM	**Sandakan**	**9.68**	**279**	P	Pn	05 06 51.4	+5.9
TTSI	**Tana Toraja**	**9.95**	**225**	P	Pn	05 06 53.0	+3.8
	58nm,1.2s,2μm						
KDM	**Kudat**	**10.29**	**286**	P	Pn	05 06 60.0	+6.1
SPSI	**Sidrap Palu**	**10.65**	**221**	P	Pn	05 07 02.3	+3.4
	25nm,0.8s						
KKM	**Kota Kinabalu**	**10.70**	**281**	*e*Pn	Pn	05 07 05.9	+6.2
	29nm,1.0s						
KKM	**Kota Kinabalu**	**10.70**	**281**	P	Pn	05 07 05.5	+5.9
KKM	**Kota Kinabalu**	**10.70**	**281**	P	Pn	05 07 07.5	+7.8
	20nm,1.1s						
KAPI	**Kappang**	**11.47**	**218**	P	Pn	05 07 25.0	+15
BBKI	**Banjar Baru**	**14.11**	**238**	P	P	05 07 56.8	+3.5
SBUM	**Sibu**	**14.63**	**264**	P	**P**	**05 07 59.8**	**+0.7**
KSM	**Kuching**	**16.66**	**261**	*e*Pn	**P**	**05 08 23.9**	**+2.2**
	34nm,0.7s						
KSM	**Kuching**	**16.66**	**261**	P	**P**	**05 08 23.9**	**+2.2**
KSM	**Kuching**	**16.66**	**261**	P	**P**	**05 08 23.7**	**+2.0**
	47nm,0.8s						
YULB	**Yu-li**	**19.89**	**345**	*e*P	**P**	**05 08 55.3**	**-1.9**
	13nm,0.6s						
SSLB	**Suanglung**	**20.36**	**344**	*e*P	**P**	**05 09 02.4**	**+0.1**
	17nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.10**	**183**	*e*P	**P**	**05 09 20.1**	**-0.9**
	16nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.10**	**183**	*e*P	**P**	**05 09 20.0**	**-0.9**
	29nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.10**	**183**	P	**P**	**05 09 18.9**	**-2.0**
	16nm,0.5s,baz=13,slow=9.0,SNR=24						
QIZ	**Qiongzhong**	**22.22**	**313**	P	**P**	**05 09 23.6**	**+1.3**
QIZ				S	**S**	**05 13 24.3**	**-0.7**
QIZ				pmax	pmax		
	comp=Z,26nm,1.1s						
QIZ				LR	LR		
	comp=N,290nm,12.4s						
QIZ				LR	LR		
	comp=Z,370nm,18.6s						
QIZ	**Qiongzhong**	**22.22**	**313**	*e*P	**P**	**05 09 24.4**	**+2.1**
	comp=Z,16nm,0.7s						
MYKOM	**Kota Tinggi**	**23.02**	**265**	P	**P**	**05 09 31.8**	**+1.0**
MYKOM	**Kota Tinggi**	**23.02**	**265**	P	**P**	**05 09 31.6**	**+0.8**
	comp=Z,29nm,1.0s						
COEN	**Coen**	**24.22**	**138**	*e*P	**P**	**05 09 41.7**	**-0.6**
	comp=Z,49nm,0.9s						
WRAB	**Tennant Creek**	**25.02**	**163**	*e*P	**P**	**05 09 48.4**	**-1.2**
	comp=Z,36nm,0.8s						
WRA	**Warramunga Arr**	**25.03**	**163**	P	**P**	**05 09 48.3**	**-1.3**
WRA				S	**S**	**05 14 11.5**	**0.0**
WRA	**Warramunga Arr**	**25.03**	**163**	P	**P**	**05 09 48.3**	**-1.3**
	comp=Z,31nm,0.7s,baz=344,slow=11,SNR=115						
WRA				S	**S**	**05 14 11.5**	**0.0**
	comp=Z,3.4nm,1.1s,baz=348,slow=20,SNR=4.5						
FRIM	**Kepong**	**25.12**	**269**	P	**P**	**05 09 54.2**	**+3.6**
IPM	**Ipoh**	**25.69**	**272**	*e*P	**P**	**05 09 57.5**	**+1.8**
	comp=Z,18nm,1.0s						
IPM	**Ipoh**	**25.69**	**272**	P	**P**	**05 09 59.3**	**+3.5**
MBWA	**Marble Bar**	**26.05**	**195**	*e*P	**P**	**05 09 59.2**	**+0.4**
KULM	**Kulim**	**26.07**	**274**	*e*P	**P**	**05 10 00.1**	**+0.9**
	comp=Z,21nm,1.1s						
KULM	**Kulim**	**26.07**	**274**	P	**P**	**05 10 02.5**	**+3.4**
KULM	**Kulim**	**26.07**	**274**	P	**P**	**05 09 58.9**	**-0.3**
	comp=Z,18nm,1.2s						
PSI	**Prapat**	**27.84**	**268**	P	**P**	**05 10 14.0**	**-1.2**
PSI	**Prapat**	**27.84**	**268**	P	**P**	**05 10 15.4**	**+0.2**
	comp=Z,17nm,1.0s						
PSI	**Prapat**	**27.84**	**268**	P	**P**	**05 10 14.0**	**-1.2**
	comp=Z,12nm,0.9s,baz=2.4,slow=2.3,SNR=8.4						
AS31	**Alice Springs**	**28.47**	**166**	*e*P	**P**	**05 10 20.2**	**-0.4**
ASAR	**Alice Springs**	**28.47**	**166**	P	**P**	**05 10 19.3**	**-1.2**
ASAR				S	S	05 15 13.6	+7.8
ASAR	**Alice Springs**	**28.47**	**166**	P	**P**	**05 10 19.3**	**-1.2**
	comp=Z,3.3nm,0.5s,baz=349,slow=7.2,SNR=58						
ASAR				S	S	05 15 13.6	+7.8
	comp=Z,0.5nm,0.6s,baz=346,slow=17,SNR=2.9						
NJ2	**Nanjing**	**28.78**	**346**	*e*P	P	05 10 27.8	+4.6
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
WHN	**Wuhan**	**28.80**	**337**	P	**P**	**05 10 25.1**	**+1.7**
WHN				*e*S	S	05 15 20.1	+9.3
WHN				LR	LR		
	comp=Z,2μm,21.0s						
GYA	**Guiyang**	**29.41**	**321**	P	P	05 10 32.0	+3.0
GYA				pP	pP	05 10 41.3	+2.0
GYA				PP	**PnPn**	**05 11 28.8**	**+5.0**
GYA				S	**S**	**05 15 22.0**	**+1.2**
GYA				ScP	**ScP**	**05 17 13.4**	**-0.5**
GYA				ScS	**ScS**	**05 21 07.8**	**-0.8**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,460nm,16.8s						
GYA				LR	LR		
	comp=E,520nm,17.0s						
GYA				LR	LR		
	comp=Z,480nm,17.4s						
CTA	**Charters Tower**	**30.73**	**142**	LR	LR	05 24 20.8	
	comp=Z,141nm,19.3s,baz=231,slow=39						
CMAR	**Chiang Mai Arr**	**30.73**	**300**	P	**P**	**05 10 40.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**30.73**	**300**	P	**P**	**05 10 40.8**	**+0.1**
	comp=Z,5.4nm,0.7s,baz=116,slow=7.0,SNR=26						
ENH	**Enshi**	**30.73**	**330**	*e*P	**P**	**05 10 40.2**	**-0.4**
	comp=Z,14nm,0.7s						
CHTO	**Chiang Mai**	**30.88**	**300**	*e*P	**P**	**05 10 43.3**	**+1.3**
	comp=Z,10nm,0.8s						
CHTO	**Chiang Mai**	**30.88**	**300**	P	**P**	**05 10 42.4**	**+0.4**
	comp=Z,16nm,0.8s						
KMI	**Kunming**	**31.15**	**314**	P	P	05 10 48.4	+3.8
KMI				pP	pP	05 10 57.9	+3.0
KMI				sP	sP	05 11 01.9	+2.6
KMI				PP	**PP**	**05 11 51.6**	**-3.8**
KMI				S	**S**	**05 15 52.5**	**+4.1**
KMI				SS	**SnSn**	**05 17 38.8**	**+6.7**
	comp=Z,8.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,120nm,5.6s						
KMI				LR	LR		
	comp=N,310nm,14.9s						
KMI				LR	LR		
	comp=E,150nm,22.9s						
KMI				LR	LR		
	comp=Z,280nm,17.1s						
KSAR	**Wonju Array Be**	**33.19**	**2**	P	**P**	**05 11 01.8**	**-0.3**
KSRS	**Korea Array**	**33.20**	**2**	P	**P**	**05 11 01.8**	**-0.4**
	comp=Z,4.2nm,0.8s,baz=177,slow=9.8,SNR=8.6						
KSRS				LR	LR	05 25 07.9	
	comp=Z,127nm,19.3s,baz=334,slow=38						
XAN	**Xi'an**	**34.10**	**333**	P	**P**	**05 11 08.9**	**-1.2**
XAN				pmax	pmax		
	comp=Z,12nm,0.7s						
XAN				LR	LR		
	comp=N,200nm,18.4s						
XAN				LR	LR		
	comp=E,63nm,14.4s						
XAN				LR	LR		
	comp=Z,120nm,18.4s						
CD2	**Chengdu**	**34.37**	**323**	P	**P**	**05 11 13.0**	**+0.5**
CD2				pP	**pP**	**05 11 22.8**	**-0.1**
CD2				sP	**sP**	**05 11 26.6**	**-0.6**
CD2				PP	**PP**	**05 12 29.3**	**-1.5**
CD2				PcP	**PcP**	**05 13 48.1**	**+0.2**
CD2				S	**S**	**05 16 38.1**	**+0.1**
CD2				sS	**sS**	**05 16 54.1**	**-1.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,90nm,5.2s						
CD2				LR	LR		
	comp=E,550nm,17.6s						
CD2				LR	LR		
	comp=Z,510nm,16.7s						
FORT	**Forrest**	**34.71**	**178**	*e*P	**P**	**05 11 15.0**	**-0.4**
	comp=Z,48nm,0.7s						
FORT	**Forrest**	**34.71**	**178**	*e*P	**P**	**05 11 14.8**	**-0.5**
	comp=Z,43nm,0.7s						
HNR	**Honiara**	**35.68**	**112**	LR	LR	05 25 23.8	
	comp=Z,140nm,18.5s,baz=313,slow=35						
KLBR	**Kellerberrin**	**36.53**	**193**	*e*P	**P**	**05 11 30.4**	**-0.5**
	comp=Z,14nm,0.4s						
BJT	**Baijiatuao**	**37.01**	**346**	*e*P	**P**	**05 11 36.0**	**+1.1**
	comp=Z,16nm,0.5s						
BJI	**Beijing**	**37.03**	**346**	P	**P**	**05 11 36.1**	**+1.0**
BJI				pmax	pmax		
	comp=Z,37nm,1.1s						
EIDS	**Eidsvold**	**37.62**	**142**	*e*P	**P**	**05 11 40.0**	**-0.3**
	comp=Z,16nm,0.8s						
EIDS	**Eidsvold**	**37.62**	**142**	*e*P	**P**	**05 11 39.8**	**-0.5**
	comp=Z,87nm,0.8s						
BBOO	**Buckleboo**	**37.76**	**167**	*e*P	**P**	**05 11 41.3**	**-0.1**
	comp=Z,512nm,1.1s						
BBOO	**Buckleboo**	**37.76**	**167**	*e*P	**P**	**05 11 41.1**	**-0.2**
	comp=Z,94nm,0.5s						
LZH	**Lanzhou**	**38.21

ARMA	**Armidale**	**41.75**	**147**	*e*P		**P**	**05 12 15.8**	**+1.0**
	comp=E,21nm,0.7s							
ARMA	**Armidale**	**41.75**	**147**	*e*P		**P**	**05 12 15.6**	**+0.8**
LSA	**Lhasa**	**42.23**	**311**	P		**P**	**05 12 19.8**	**+0.6**
LSA				pmax	pmax			
	comp=Z,100nm,0.6s							
LSA	**Lhasa**	**42.23**	**311**	*e*P		**P**	**05 12 19.7**	**+0.6**
	comp=Z,7.9nm,0.6s							
GTA	**Gaotai**	**42.80**	**329**	*e*P		**P**	**05 12 22.9**	**-0.3**
GTA				pP		**pP**	**05 12 32.8**	**-1.0**
GTA				sP		**sP**	**05 12 36.8**	**-1.3**
GTA				PcP		**PcP**	**05 14 15.6**	**+1.4**
GTA				S		**S**	**05 18 43.3**	**-1.9**
GTA				pmax	pmax			
	comp=Z,11nm,0.7s							
GTA				pmax	pmax			
	comp=Z,66nm,7.4s							
GTA				LR	LR			
	comp=N,300nm,18.8s							
GTA				LR	LR			
	comp=E,410nm,19.5s							
GTA				LR	LR			
	comp=Z,410nm,17.6s							
TAPN	**Taplejung**	**43.84**	**306**	*e*P		**P**	**05 12 31.2**	**-0.8**
	comp=Z,26nm,0.8s							
ODAN	**Odare**	**43.90**	**305**	*e*P		**P**	**05 12 31.6**	**-0.8**
	comp=Z,31nm,0.7s							
RAMN	**Ramite**	**44.58**	**305**	*e*P		**P**	**05 12 37.5**	**-0.4**
	comp=Z,27nm,0.8s							
JIRN	**Jiri**	**45.20**	**306**	*e*P		**P**	**05 12 42.0**	**-0.9**
	comp=Z,7.2nm,0.8s							
HIA	**Hailar**	**45.39**	**354**	*e*P		**P**	**05 12 45.2**	**+1.5**
	comp=Z,18nm,1.1s							
GUN	**Gumba**	**45.55**	**306**	*e*P		**P**	**05 12 44.7**	**-1.0**
	comp=Z,40nm,0.8s							
PKI	**Pulchoki**	**45.80**	**305**	*e*P		**P**	**05 12 46.6**	**-1.0**
KKN	**Kakani**	**45.99**	**305**	*e*P		**P**	**05 12 47.9**	**-1.1**
DMN	**Daman**	**46.06**	**305**	*e*P		**P**	**05 12 48.6**	**-1.0**
GKN	**Gorkha**	**46.59**	**305**	*e*P		**P**	**05 12 52.3**	**-1.4**
	comp=Z,19nm,0.9s							
ULN	**Ulaanbaatar**	**46.78**	**342**	*e*P		**P**	**05 12 55.2**	**+0.4**
	comp=Z,5.2nm,0.7s							
SONM	**Songino Array**	**46.96**	**341**	P		**P**	**05 12 56.2**	**0.0**
SONM				PcP		**PcP**	**05 14 28.2**	**-0.1**
SONM	**Songino Array**	**46.96**	**341**	P		**P**	**05 12 56.2**	**0.0**
	comp=Z,2.8nm,0.6s,baz=155,slow=8.5,SNR=35							
SONM				PcP		**PcP**	**05 14 28.2**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=164,slow=3.9,SNR=8.0							
KOLN	**Koldanda**	**47.35**	**304**	*e*P		**P**	**05 12 59.1**	**-0.6**
	comp=Z,34nm,0.6s							
DANN	**Dangsing**	**47.44**	**305**	*e*P		**P**	**05 12 59.4**	**-1.1**
	comp=Z,46nm,0.6s							
TLY	**Talaya**	**51.19**	**342**	*e*P		**P**	**05 13 29.3**	**+0.9**
	comp=Z,5.6nm,0.9s							
WMQ	**Urumqi**	**52.45**	**325**	P		**P**	**05 13 37.6**	**-0.4**
WMQ				pP		**pP**	**05 13 47.5**	**-1.3**
WMQ				sP		**sP**	**05 13 51.0**	**-2.0**
WMQ				*e*S		**S**	**05 21 00.0**	**-1.9**
WMQ				pmax	pmax			
	comp=Z,12nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,170nm,4.7s							
WMQ				LR	LR			
	comp=N,680nm,18.5s							
WMQ				LR	LR			
	comp=E,470nm,12.0s							
WMQ				LR	LR			
	comp=Z,400nm,19.2s							
MSVF	**Nonsavu**	**55.02**	**115**	*e*Pn		**P**	**05 13 58.5**	**+1.2**
PETK	**Petropavlovsk-**	**55.06**	**22**	P		**P**	**05 13 57.2**	**+0.4**
PETK	**Petropavlovsk-**	**55.06**	**22**	P		**P**	**05 13 57.2**	**+0.4**
	comp=Z,5.4nm,0.8s,baz=192,slow=3.7,SNR=5.7							
MK31	**Makanchi Array**	**57.28**	**325**	*e*P		**P**	**05 14 11.8**	**-1.0**
MKAR	**Makanchi Array**	**57.28**	**325**	P		**P**	**05 14 12.3**	**-0.5**
MKAR	**Makanchi Array**	**57.28**	**325**	P		**P**	**05 14 12.3**	**-0.5**
	comp=Z,10nm,0.5s,baz=121,slow=8.4,SNR=172							
KSH	**Kashi**	**57.81**	**315**	*e*P		**P**	**05 14 17.1**	**+0.2**
KSH				pP		**pP**	**05 14 27.0**	**-0.8**
KSH				sP		**sP**	**05 14 31.1**	**-0.9**
KSH				PcP		**PcP**	**05 15 07.5**	**-1.8**
KSH				PP		**PP**	**05 16 27.0**	**+1.7**
KSH				ScP		**ScP**	**05 19 04.6**	**-2.2**
KSH				PcS		**PcS**	**05 19 07.5**	**-3.2**
KSH				S		**S**	**05 22 12.9**	**-1.2**
KSH				sS		**sS**	**05 22 29.8**	**-2.2**
KSH				ScS		**ScS**	**05 24 00.3**	**-3.7**
KSH				pmax	pmax			
	comp=Z,3.0nm,0.4s							
KSH				pmax	pmax			
	comp=Z,110nm,4.7s							
KSH				LR	LR			
	comp=N,110nm,5.5s							
KSH				LR	LR			
	comp=E,110nm,5.7s							
KSH				LR	LR			
	comp=Z,140nm,16.6s							
TKM2	**Tokmak 2**	**59.50**	**318**	*e*P		**P**	**05 14 28.2**	**-0.5**
	comp=Z,7.3nm,1.1s							
AAK	**Ala-Archa**	**60.11**	**318**	LR		LR	05 42 33.0	
	comp=Z,256nm,21.9s,baz=85,slow=38							
ZAA0	**Zalesovo Array**	**60.28**	**333**	*e*P		**P**	**05 14 32.4**	**-1.1**
ZALV	**Zalesovo Beam**	**60.28**	**333**	P		**P**	**05 14 32.4**	**-1.1**
ZALV	**Zalesovo Beam**	**60.28**	**333**	P		**P**	**05 14 32.4**	**-1.1**
	comp=Z,3.5nm,0.5s,baz=124,slow=6.7,SNR=23							
ZALV				LR		LR	05 42 01.1	
	comp=Z,99nm,18.8s,baz=74,slow=38							
EKS2	**Erkin-Say**	**60.61**	**317**	*e*P		**P**	**05 14 35.7**	**-0.5**
	comp=Z,7.1nm,0.9s							
KURK	**Kurchatov**	**61.45**	**327**	*e*P		**P**	**05 14 41.0**	**-0.6**
	comp=Z,20nm,0.6s							
KKAR	**Karatay Array**	**62.99**	**317**	*e*P		**P**	**05 14 52.0**	**-0.1**
	comp=Z,9.6nm,0.9s							
BRVK	**Borovoye**	**67.11**	**327**	*e*P		**P**	**05 15 18.4**	**-0.2**
	comp=Z,17nm,0.8s							
ABKAR	**Akbulak array**	**71.89**	**321**	*e*P		**P**	**05 15 47.1**	**-1.1**
AKTO	**Aktyubinsk**	**73.40**	**322**	P		**P**	**05 15 56.6**	**-0.5**
AKTO	**Aktyubinsk**	**73.40**	**322**	P		**P**	**05 15 56.6**	**-0.5**
	comp=Z,7.2nm,0.8s,baz=95,slow=9.5,SNR=24							
ARU	**Arti**	**74.65**	**328**	*e*P		**P**	**05 16 03.6**	**-0.6**
	comp=Z,13nm,1.0s							
TRF	**Thorofare Moun**	**83.18**	**27**	*e*P		**P**	**05 16 51.0**	**-0.1**
	comp=Z,16nm,1.1s							
COLD	**Coldfoot**	**83.52**	**23**	*e*P		**P**	**05 16 54.2**	**+1.6**
	comp=Z,12nm,1.0s							
PMR	**Palmer**	**83.59**	**29**	*e*P		**P**	**05 16 53.4**	**+0.4**
	comp=Z,15nm,0.9s							
MCK	**McKinley**	**83.80**	**26**	*e*P		**P**	**05 16 54.6**	**+0.4**
	comp=Z,19nm,1.0s							
SML	**Sawmill**	**83.98**	**28**	*e*P		**P**	**05 16 56.0**	**+0.8**
	comp=Z,6.5nm,0.9s							
ILAR	**Eielson Array**	**84.74**	**25**	P		**P**	**05 16 58.5**	**-0.4**
ILAR	**Eielson Array**	**84.74**	**25**	P		**P**	**05 16 58.5**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=242,slow=6.3,SNR=21							
DIV	**Divide**	**85.19**	**29**	*e*P		**P**	**05 17 02.5**	**+1.2**
	comp=Z,92nm,1.6s							
PAX	**Paxson**	**85.34**	**27**	*e*P		**P**	**05 17 03.4**	**+1.4**
	comp=Z,15nm,1.4s							
JOF	**Joensuu**	**88.87**	**333**	*e*p		**P**	**05 17 18.6**	**-0.4**
	comp=Z,6.3nm,0.7s							
KEV	**Kevo**	**89.56**	**340**	*e*p		**P**	**05 17 20.0**	**-2.1**
KMBO	**Kilima Mbogo**	**89.61**	**269**	*e*P		**P**	**05 17 24.4**	**+0.5**
	comp=Z,8.7nm,1.2s							
INK	**Inuvik**	**89.79**	**21**	*e*P		**P**	**05 17 23.2**	**0.0**
	comp=Z,40nm,2.3s							
BRTR	**Keskin Array B**	**89.82**	**310**	P		**P**	**05 17 23.3**	**-0.9**
BRTR	**Keskin Array B**	**89.82**	**310**	P		**P**	**05 17 23.3**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=104,slow=5.2,SNR=6.0							
ARCES	**ARCESS Array B**	**90.11**	**340**	P		**P**	**05 17 23.7**	**-1.1**
ARCES				PKiKP		**PKiKP**	**05 22 18.3**	**-2.1**
ARCES	**ARCESS Array B**	**90.11**	**340**	P		**P**	**05 17 23.7**	**-1.1**
	comp=Z,2.5nm,0.6s,baz=81,slow=7.5,SNR=21							
ARCES				PKiKP		**PKiKP**	**05 22 18.3**	**-2.1**
	comp=Z,3.2nm,1.0s,baz=107,slow=1.3,SNR=6.5							
KAF	**Kangasniemi**	**91.29**	**332**	*e*p		**P**	**05 17 28.0**	**-2.3**
	comp=Z,2.2nm,0.4s							
FINES	**FINESS Array B**	**91.53**	**332**	P		**P**	**05 17 30.1**	**-1.4**
FINES				PKiKP		**PKiKP**	**05 22 22.7**	**-0.2**
FINES	**FINESS Array B**	**91.53**	**332**	P		**P**	**05 17 30.0**	**-1.4**
	comp=Z,3.6nm,0.8s,baz=84,slow=5.9,SNR=8.5							
FINES				PKiKP		**PKiKP**	**05 22 22.7**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=132,slow=4.1,SNR=2.4							
AKASG	**Malin Array Be**	**91.63**	**321**	P		**P**	**05 17 31.1**	**-1.1**
AKASG	**Malin Array Be**	**91.63**	**321**	P		**P**	**05 17 31.1**	**-1.1**
	comp=Z,2.8nm,0.6s,baz=68,slow=4.9,SNR=7.1							
KIEV	**Kiev**	**91.64**	**321**	*e*P		**P**	**05 17 31.5**	**-0.7**
	comp=Z,9.9nm,1.3s							
SUW	**Suwalki**	**94.65**	**325**	*e*P		**P**	**05 17 45.7**	**-0.2**
SUW	**Suwalki**	**94.65**	**325**	*e*P		**P**	**05 17 45.7**	**-0.2**
SUW	**Suwalki**	**94.65**	**325**	*e*P		**P**	**05 17 46.1**	**+0.1**
	comp=Z,35nm,1.0s							
MLR	**Muntele Rosu**	**94.67**	**316**	P		**P**	**05 17 45.8**	**-0.6**
MLR	**Muntele Rosu**	**94.67**	**316**	P		**P**	**05 17 45.8**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=103,slow=6.5,SNR=6.2							
BUR08	**Bucovina Ar. S**	**94.76**	**318**	*e*P		**P**	**05 17 47.2**	**+0.4**
KWP	**Kalwaria Pacla**	**95.95**	**321**	*e*P		**P**	**05 17 52.4**	**+0.3**
KWP	**Kalwaria Pacla**	**95.95**	**321**	*e*P		**P**	**05 17 52.4**	**+0.3**
KWP	**Kalwaria Pacla**	**95.95**	**321**	*e*P		**P**	**05 17 52.3**	**+0.2**
	comp=Z,4.7nm,0.9s							
KOLS	**Kolonicke sedl**	**96.39**	**320**	*e*P		**P**	**05 17 53.6**	**-0.5**
CRVS	**Cervenica-Dubn**	**96.92**	**320**	*e*P		**P**	**05 17 56.6**	**+0.1**
HFS	**Hagfors**	**97.71**	**332**	P		**P**	**05 17 59.0**	**-0.7**
HFS	**Hagfors**	**97.71**	**332**	P		**P**	**05 17 59.0**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=97,slow=3.7,SNR=5.3							
NB2	**NORSAR Subarra**	**98.47**	**334**	P		**P**	**05 18 02.0**	**-1.2**
	comp=Z,2.1nm,0.8s,baz=90,slow=5.3							
NOA	**NORSAR Array B**	**98.47**	**334**	P		**P**	**05 18 02.2**	**-1.0**
NOA	**NORSAR Array B**	**98.47**	**334**	P		**P**	**05 18 02.2**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=68,slow=4.5,SNR=3.3							
NOA				LR		LR	06 08 31.4	
	comp=Z,64nm,18.5s,baz=55,slow=39							
VYHS	**Vyhne**	**98.70**	**320**	PDIF		Pdif	05 18 04.6	+0.1
YKA	**Yellowknife Ar**	**99.13**	**24**	P		**Pdif**	**05 18 05.9**	**-0.2**
YKA	**Yellowknife Ar**	**99.13**	**24**	P		**Pdif**	**05 18 05.9**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=299,slow=4.4,SNR=10							
BRG	**Berggiesshubel**	**100.97**	**324**	*e*PKP		**Pdif**	**05 18 14.6**	**+0.1**
	comp=Z,5.0nm,0.8s							
GERES	**GERESS Array B**	**101.82**	**322**	P		**Pdif**	**05 18 18.3**	**-0.2**
GERES	**GERESS Array B**	**101.82**	**322**	P		**Pdif**	**05 18 18.3**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=64,slow=4.5,SNR=2.8							
SCHQ	**Schefferville**	**120.19**	**9**	PKP		**PKPdf**	**05 23 16.1**	**+0.2**
SCHQ	**Schefferville**	**120.19**	**9**	PKP		**PKPdf**	**05 23 16.1**	**+0.2**
	comp=Z,3.1nm,0.6s,baz=354,slow=1.1,SNR=12							
TXAR	**Lajitas Array**	**121.32**	**52**	PKP		**PKPdf**	**05 23 19.5**	**+0.5**
TXAR	**Lajitas Array**	**121.32**	**52**	PKP		**PKPdf**	**05 23 19.5**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=7.3,slow=1.7,SNR=6.2							
TORD	**Torodi Ar. Bea**	**122.85**	**288**	PKP		**PKPdf**	**05 23 21.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**122.85**	**288**	PKP		**PKPdf**	**05 23 21.9**	**-0.2**
	comp=Z,1.4nm,0.7s,baz=82,slow=1.8,SNR=14							
JCT	**Junction City**	**123.77**	**49**	*e*PKPdf		**PKPdf**	**05 23 24.8**	**+1.3**
MIAR	**Mount Ida**	**125.96**	**41**	*e*PKPdf		**PKPdf**	**05 23 29.5**	**+1.9**
JTS	**JuntasAbangare**	**145.31**	**65**	*e*PKPbc		**PKPdf**	**05 24 04.8**	**+0.9**
LCO	**Las Campanas**	**150.19**	**148**	*e*PKPbc		**PKPbc**	**05 24 17.6**	**+0.7**
LCO				*e*PKPab		**PKPab**	**05 24 23.2**	**+0.2**
CPUP	**Villa Florida**	**157.56**	**170**	PKPab		**PKPab**	**05 24 54.1**	**+0.5**
CPUP	**Villa Florida**	**157.56**	**170**	PKPab		**PKPab**	**05 24 54.1**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=269,slow=20,SNR=7.2							
SDV	**Santo Domingo**	**158.36**	**53**	*e*PKPdf		**PKPdf**	**05 24 24.6**	**+1.0**
SIV	**San Ignacio**	**165.89**	**147**	PKPab		**PKPab**	**05 25 30.3**	**-0.1**
SIV	**San Ignacio**	**165.89**	**147**	PKPab		**PKPab**	**05 25 30.3**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=190,slow=3.3,SNR=3.6							

IDC 16 05:12:06.4±3.4, 25°.19S×178°.52W, h0km, mb3.8/3, mb1 4.1/4, mb1mx3.9/17, mbtmp4.0/4, ML2.3/1, Error ellipse: s-maj=144.6km s-min=33.7km az=148.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AFI	**Afiamalu**	**12.89**	**31**	Pn		Pn	05 15 12.6	+1.5
	0.9nm,0.3s,baz=143,slow=20,SNR=2.3							
AFI				Sn		Sn	05 17 32.6	-2.8
	2.0nm,0.3s,baz=210,slow=20,SNR=5.1							
ASAR	**Alice Springs**	**43.17**	**262**	P		P	05 20 08.7	-0.6
	0.4nm,0.3s,baz=95,slow=8.4,SNR=4.1							
WRA	**Warramunga Arr**	**43.68**	**267**	P		P	05 20 13.2	-0.2
	0.7nm,0.4s,baz=104,slow=7.8,SNR=11							
FITZ	**Fitzroy Crossi**	**52.08**	**266**	P		P	05 21 19.3	+0.8
	1.5nm,0.7s,baz=98,slow=14,SNR=2.9							
NB2	**NORSAR Subarra**	**143.55**	**352**	PKP		PKPpre	05 31 34.2	
	comp=Z,1.0nm,0.8s,baz=10,slow=3.2							
NOA	**NORSAR Array B**	**143.55**	**352**	PKhKP		PKPpre	05 31 33.6	
	comp=Z,1.6nm,0.7s,baz=18,slow=2.8,SNR=7.9							
HFS	**Hagfors**	**144.06**	**350**	PKhKP		PKPpre	05 31 36.5	
	comp=Z,3.1nm,0.6s,baz=60,slow=4.1,SNR=14							
AKASG	**Malin Array Be**	**146.78**	**327**	PKPbc		PKPdf	05 31 47.6	-0.8
	comp=Z,2.3nm,0.6s,baz=45,slow=4.7,SNR=7.0							
BRTR	**Keskin Array B**	**149.43**	**306**	PKP		PKPdf	05 31 51.8	-1.6
	comp=Z,0.9nm,1.0s,baz=82,slow=2.6,SNR=3.1							
BRTR				PKPbc		PKiKP	05 31 58.5	-0.4
	comp=Z,0.9nm,0.6s,baz=86,slow=1.6,SNR=8.9							

IDC 16 05:15:11.5±3.4, 30°.12S×138°.70E, h0km, mb1 3.1/3, mb1mx3.0/13, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=110.7km s-min=17.0km az=45.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.04**	**126**	Pn		Pn	05 16 01.4	+0.5
	0.4nm,0.3s,baz=310,slow=11,SNR=5.5							
STKA				Pg		Pb	05 16 07.8	+1.3
	1.9nm,0.3s,baz=306,slow=18,SNR=14							
STKA				Sn		Sn	05 16 37.1	-1.0
	2.0nm,0.3s,baz=315,slow=25,SNR=5.1							
STKA				Lg		Lg	05 16 47.4	
	2.1nm,0.3s,baz=310,slow=8.7,SNR=4.4							
BBOO	**Buckleboo**	**3.51**	**219**	*e*P		Pn	05 16 00.5	-6.8
	36nm,0.4s							
BBOO				*e*			05 16 35.2	
ASAR	**Alice Springs**	**7.72**	**325**	Pn		Pn	05 17 04.4	-0.8
	0.0nm,0.3s,baz=150,slow=12,SNR=2.5							
WRA	**Warramunga Arr**	**10.87**	**338**	Pn		Pn	05 17 48.8	+0.3
	0.1nm,0.3s,baz=154,slow=12,SNR=5.7							

IDC 16 05:15:26.1±1.8, 51°.75N×31°.78W, h0km, mb3.3/8, mb1 3.6/8, mb1mx3.4/30, mbtmp3.4/8, MS3.1/4, Ms1 3.1/4, ms1mx2.7/23, Error ellipse: s-maj=54.6km s-min=20.9km az=2.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FRB	**Frobisher Bay**	**22.63**	**316**	P		P	05 20 27.9	-0.2
	3.2nm,1.1s,baz=99,slow=13,SNR=3.8							
NOA	**NORSAR Array B**	**25.10**	**51**	LR		LR	05 29 01.6	
	comp=Z,39nm,18.6s,baz=10.0,slow=32							
HFS	**Hagfors**	**26.32**	**54**	LR		LR	05 29 50.7	
	comp=Z,56nm,19.0s,baz=252,slow=33							
DAVOX	**Davos/Dischmat**	**27.35**	**84**	LR		LR	05 31 01.2	
	comp=Z,30nm,18.2s,baz=101,slow=34							
GERES	**GERESS Array B**	**28.84**	**78**	LR		LR	05 32 02.7	
	comp=Z,32nm,18.1s,baz=303,slow=35							
YKA	**Yellowknife Ar**	**43.13**	**318**	P		P	05 23 27.7	0.0
	0.4nm,0.9s,baz=65,slow=8.7,SNR=3.3							
BRTR	**Keskin Array B**	**45.73**	**78**	P		P	05 23 49.2	+0.2
	0.4nm,0.6s,baz=309,slow=8.9,SNR=2.8							
PDAR	**Pinedale Array**	**51.19**	**293**	P		P	05 24 31.5	+0.4
	0.3nm,0.7s,baz=66,slow=7.0,SNR=2.0							
ILAR	**Eielson Array**	**53.52**	**331**	P		P	05 24 47.8	0.0
	0.2nm,0.8s,baz=25,slow=9.0,SNR=4.2							
TXAR	**Lajitas Array**	**56.60**	**276**	P		P	05 25 10.2	-0.5
	0.1nm,0.6s,baz=76,slow=7.5,SNR=2.0							
MKAR	**Makanchi Array**	**66.74**	**43**	P		P	05 26 18.2	-0.6
	0.4nm,0.6s,baz=328,slow=5.1,SNR=3.3							
SONM	**Songino Array**	**74.53**	**28**	P		P	05 27 06.7	+0.3
	0.4nm,0.8s,baz=338,slow=6.2,SNR=3.4							

*IDC **16** 05:19:52.2±4.2, 21°.70S×171°.38E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.6/16, mbtmp3.5/4, ML4.1/1, Error ellipse: s-maj=140.8km s-min=40.9km az=154.0*
*NOU **16** 05:19:54.6±1.3, 18°.70S×170°.14E, h30km, MD3.4, ML3.7*

ISC 16 05:19:59.1±5.2, 23°.3S±4°×171°.3E±0°.6, h35km, n7, σ0°.35/7, mb3.5/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NORM	**Noumea**	**4.46**	**275**	*e*P		**Pn**	**05 21 04.3**	**+0.1**
DZM	**Mont Dzumac**	**4.52**	**277**	*e*P		**Pn**	**05 21 05.0**	**-0.1**
DZM				*e*S		**Sn**	**05 21 56.3**	**-0.2**
DZM				AMP			05 22 14.5	
	comp=Z,1μm,2.6s							
DZM	**Mont Dzumac**	**4.52**	**277**	Pn		**Pn**	**05 21 05.3**	**+0.2**
	comp=Z,8.2nm,0.3s,baz=105,slow=18,SNR=201							
DZM				Sn		**Sn**	**05 21 57.0**	**+0.5**
	comp=Z,10.0nm,0.3s,baz=76,slow=23,SNR=4.8							
NOUC	**Port Laguerre**	**4.64**	**277**	*e*P		**Pn**	**05 21 06.6**	**-0.1**
NOUC				*e*S		**Sn**	**05 21 59.1**	**-0.3**
NOUC				AMP			05 22 20.0	
	comp=Z,48nm,2.5s							
ASAR	**Alice Springs**	**34.30**	**261**	P		P	05 26 43.4	+0.9
	comp=Z,0.4nm,0.6s,baz=94,slow=9.1,SNR=5.4							
WRA	**Warramunga Arr**	**34.46**	**268**	P		P	05 26 42.0	-1.8
	comp=Z,0.2nm,0.5s,baz=96,slow=8.5,SNR=3.3							
SONM	**Songino Array**	**91.13**	**322**	P		P	05 32 55.7	-4.5
	comp=Z,0.1nm,0.4s,baz=116,slow=6.6,SNR=1.7							

IDC 16 05:20:01.7±1.2, 22°.41S×171°.51E, h0km, mb4.2/10, mb1 4.4/11, mb1mx4.2/20, mbtmp4.2/11, ML4.6/1, Error ellipse: s-maj=28.8km s-min=24.6km az=29.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.71**	**273**	Pn		Pn	05 21 16.3	+2.2
	25nm,0.3s,baz=103,slow=20,SNR=30							
DZM				Sn		Sn	05 22 08.5	-1.1
	12nm,0.3s,baz=101,slow=22,SNR=4.2							
CTA	**Charters Tower**	**23.65**	**271**	P		P	05 25 15.4	+0.5
	2.7nm,0.6s,baz=96,slow=7.7,SNR=3.8							
STKA	**Stephens Creek**	**28.17**	**244**	P		P	05 25 55.3	-0.6
	1.4nm,0.8s,baz=81,slow=4.3,SNR=3.4							
ASAR	**Alice Springs**	**34.57**	**260**	P		P	05 26 52.5	+0.1
	5.0nm,0.8s,baz=86,slow=9.0,SNR=47							
WRA	**Warramunga Arr**	**34.70**	**267**	P		P	05 26 53.0	-0.6
	0.9nm,0.4s,baz=97,slow=8.4,SNR=32							
FITZ	**Fitzroy Crossi**	**43.13**	**267**	P		P	05 28 04.4	+0.2
	4.2nm,0.7s,baz=126,slow=9.1,SNR=11							
NWAO	**Narrogin (SRO)**	**48.74**	**245**	P		P	05 28 47.9	-0.5
	8.9nm,0.9s,baz=90,slow=8.1,SNR=3.7							
MJAR	**Matsushiro Arr**	**66.54**	**331**	P		P	05 30 52.8	-0.8
	1.9nm,0.4s,baz=173,slow=9.9,SNR=2.9							
QSPA	**South Pole Qui**	**67.66**	**180**	P		P	05 31 00.6	+0.1
	2.3nm,0.6s,baz=44,slow=2.6,SNR=23							
CMAR	**Chiang Mai Arr**	**81.73**	**294**	P		P	05 32 22.6	-0.1
	0.3nm,0.2s,baz=147,slow=3.6,SNR=4.1							
SONM	**Songino Array**	**91.02**	**322**	P		P	05 33 08.8	+0.8
	0.2nm,0.8s,baz=132,slow=2.1,SNR=4.1							
TORD	**Torodi Ar. Bea**	**166.63**	**228**	PKP		PKPdf	05 40 09.8	-0.3
	0.6nm,0.9s,baz=130,slow=0.9,SNR=4.9							
TORD				PKPab		PKPab	05 41 12.2	-0.2
	0.8nm,0.7s,baz=127,slow=4.2,SNR=24							

IDC 16 05:28:01.0±1.5, 3°.72N×127°.00E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.7/6, Error ellipse: s-maj=211.5km s-min=17.3km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.60**	**163**	P		P	05 33 22.6	-0.6
	3.3nm,0.8s,baz=340,slow=9.0,SNR=18							
ASAR	**Alice Springs**	**28.04**	**166**	P		P	05 33 54.5	+0.3
	0.2nm,0.3s,baz=341,slow=9.2,SNR=3.1							
STKA	**Stephens Creek**	**38.03**	**160**	P		P	05 35 21.4	+0.2
	1.7nm,0.5s,baz=340,slow=8.5,SNR=6.8							
SONM	**Songino Array**	**47.39**	**341**	P		P	05 36 37.0	-0.2
	0.3nm,0.6s,baz=157,slow=7.7,SNR=3.6							
MKAR	**Makanchi Array**	**57.71**	**325**	P		P	05 37 53.6	-0.1
	0.5nm,0.5s,baz=122,slow=7.7,SNR=17							
ZALV	**Zalesovo Beam**	**60.72**	**333**	P		P	05 38

comp=Z,66nm,1.0s,comp=Z,1µm
WRAB Tennant Creek 24.09 236 *e*P **P** **05 59 43.8 +0.6**
WRAB pmax pmax
comp=Z,83nm,1.1s
WRAB Tennant Creek 24.09 236 *e*P **P** **05 59 43.8 +0.6**
comp=Z,82nm,1.1s
WRAB Tennant Creek 24.09 236 P **P** **05 59 44.0 +0.8**
comp=Z,311nm,0.8s,SNR=50
WRA Warramunga Arr 24.11 236 P **P** **05 59 43.7 +0.4**
WRA PcP **PcP** **06 03 23.9 +1.2**
WRA PKiKP **PKiKP** **06 11 04.2 -1.5**
WRA Warramunga Arr 24.11 236 P **P** **05 59 43.7 +0.4**
comp=Z,21nm,0.5s,baz=60,slow=9.5,SNR=205
WRA PcP **PcP** **06 03 23.9 +1.2**
comp=Z,4.8nm,0.5s,baz=66,slow=2.6,SNR=12
WRA PKiKP **PKiKP** **06 11 04.2 -1.5**
comp=Z,0.8nm,0.6s,baz=324,slow=0.8,SNR=5.3
MSVF Nonsavu 24.63 118 *e*P **P** **05 59 48.1 -0.1**
MSVF pmax pmax
comp=Z,70nm,0.8s
MSVF Nonsavu 24.63 118 *e*P **P** **05 59 48.1 -0.1**
comp=Z,70nm,0.8s
MSVF Nonsavu 24.63 118 P **P** **05 59 48.4 +0.2**
comp=Z,553nm,0.7s,SNR=11
AS31 Alice Springs 26.44 229 *e*P **P** **06 00 04.7 +0.2**
ASAR Alice Springs 26.44 229 P **P** **06 00 04.7 +0.1**
ASAR PcP **PcP** **06 03 28.9 +1.0**
ASAR ScP ScP 06 07 08.6 +8.2
ASAR Alice Springs 26.44 229 P **P** **06 00 04.7 +0.1**
comp=Z,7.7nm,0.5s,baz=64,slow=9.0,SNR=105
ASAR PcP **PcP** **06 03 28.9 +1.0**
comp=Z,5.1nm,0.6s,baz=65,slow=2.8,SNR=10
ASAR ScP ScP 06 07 08.6 +8.2
comp=Z,1.1nm,0.6s,baz=64,slow=4.2,SNR=2.9
STKA Stephens Creek 27.92 206 *e*P **P** **06 00 17.3 -0.3**
comp=Z,3.1nm,0.6s
STKA PcP **PcP** **06 03 31.7 +0.4**
STKA Stephens Creek 27.92 206 *e*P **P** **06 00 17.2 -0.4**
comp=Z,12nm,0.6s
STKA Stephens Creek 27.92 206 P **P** **06 00 16.4 -1.2**
comp=Z,6.4nm,0.8s,baz=341,slow=9.0,SNR=9.1
STKA PcP **PcP** **06 03 31.7 +0.4**
comp=Z,7.3nm,0.6s,baz=48,slow=3.1,SNR=7.6
STKA LR LR 06 11 08.8
comp=Z,931nm,18.9s,baz=3.5,slow=36
LBMI Labuha 28.44 282 P **P** **06 00 25.3 +2.9**
comp=Z,123nm,0.9s
FITZ Fitzroy Crossi 30.96 246 *e*P **P** **06 00 44.9 +0.2**
comp=Z,24nm,0.6s
FITZ PcP **PcP** **06 03 39.4 +0.1**
FITZ Fitzroy Crossi 30.96 246 P **P** **06 00 44.7 0.0**
comp=Z,24nm,0.6s,baz=79,slow=8.1,SNR=71
FITZ PcP **PcP** **06 03 39.4 +0.1**
comp=Z,11nm,0.7s,baz=130,slow=3.1,SNR=5.4
FITZ LR LR 06 13 04.0
comp=Z,540nm,21.2s,baz=77,slow=36
KMSI Cibinong 32.14 282 P **P** **06 00 57.0 +1.9**
comp=Z,231nm,0.9s
BBSI Bau Bau 32.58 271 P P 06 01 07.9 +8.9
LUWI Luwuk 32.97 279 P **P** **06 01 03.0 +0.6**
comp=Z,87nm,1.0s
AFI Afiamalu 33.07 105 P **P** **06 01 00.5 -2.8**
AFI Afiamalu 33.07 105 P **P** **06 01 00.5 -2.8**
comp=Z,20nm,0.7s,baz=262,slow=23,SNR=5.1
AFI LR LR 06 12 46.2
comp=Z,360nm,18.8s,baz=279,slow=34
MRSI Marisa 34.10 281 P **P** **06 01 13.9 +1.7**
comp=Z,22nm,0.8s
FORT Forrest 34.84 224 *e*P **P** **06 01 17.6 -0.8**
comp=Z,55nm,0.7s
FORT Forrest 34.84 224 *e*P **P** **06 01 17.6 -0.8**
comp=Z,59nm,0.7s
BKSI Bulukumba 35.02 271 P **P** **06 01 20.3 +0.1**
comp=Z,36nm,1.3s,comp=Z,584nm
KAPI Kappang 35.41 271 P **P** **06 01 23.1 -0.4**
comp=Z,402nm,0.7s,SNR=8.2
KAPI Kappang 35.41 271 P **P** **06 01 23.4 -0.1**
comp=Z,68nm,0.9s,comp=Z,745nm
SPSI Sidrap Palu 35.50 273 P **P** **06 01 24.4 +0.1**
comp=Z,20nm,1.1s
CBIJ Chichi jima 36.15 340 LR LR 06 15 48.4
comp=Z,91nm,18.1s,baz=156,slow=36
URZ Urewera 36.90 151 *e*P **P** **06 01 37.5 +1.6**
comp=Z,4.5nm,0.6s
MBWA Marble Bar 37.18 244 *e*P **P** **06 01 38.6 +0.1**
MYLDM Lahad Datu 38.66 287 P **P** **06 01 52.2 +1.1**
comp=Z,41nm,0.9s
MEEK Meekatharra 40.00 236 *e*P **P** **06 02 02.3 +0.2**
comp=Z,104nm,0.8s
KKM Kota Kinabalu 41.09 287 *e*P **P** **06 02 11.4 +0.1**
comp=Z,39nm,0.8s
KKM Kota Kinabalu 41.09 287 P **P** **06 02 11.0 -0.3**
comp=Z,57nm,1.1s,comp=Z,613nm
JOW Kunigami 42.59 323 LR LR 06 16 29.5
comp=Z,196nm,19.9s,baz=132,slow=31
KLBR Kellerberrin 42.76 230 *e*P **P** **06 02 24.1 -0.5**
comp=Z,18nm,0.6s
PWJI Pagerwojo 43.14 266 P **P** **06 02 25.6 -2.3**
SJI Sawahan 43.18 266 P **P** **06 02 27.8 -0.5**
comp=Z,46nm,1.2s,comp=Z,3µm
NWAO Narrogin (SRO) 43.76 229 P **P** **06 02 32.5 -0.2**
NWAO Narrogin (SRO) 43.76 229 P **P** **06 02 32.5 -0.2**
comp=Z,9.6nm,0.6s,baz=8.3,slow=1.1,SNR=6.9
YULB Yu-li 44.88 313 *e*P **P** **06 02 41.1 -0.5**
comp=Z,16nm,0.7s
TPUB Ta-pu 45.30 313 *e*P **P** **06 02 44.2 -0.8**
comp=Z,31nm,0.6s
SSLB Suanglung 45.37 313 *e*P **P** **06 02 46.0 +0.5**
comp=Z,20nm,0.8s
YHNB Yeheng 45.61 315 *e*P **P** **06 02 47.6 +0.1**
comp=Z,23nm,0.7s
KSM Kuching 45.68 279 *e*P **P** **06 02 48.8 +0.6**
comp=Z,13nm,0.7s
JNU Nakatsue 46.12 331 P **P** **06 02 49.7 -1.6**
JNU Nakatsue 46.12 331 P **P** **06 02 49.7 -1.6**
comp=Z,8.8nm,0.7s,baz=94,slow=6.6,SNR=5.9
MJAR Matsushiro Arr 46.14 341 P **P** **06 02 48.7 -2.6**
MJAR PcP **PcP** **06 04 25.7 -0.4**
MJAR Matsushiro Arr 46.14 341 P **P** **06 02 48.7 -2.6**
comp=Z,4.3nm,0.8s,baz=167,slow=8.9,SNR=6.7
MJAR PcP **PcP** **06 04 25.7 -0.4**
comp=Z,5.7nm,0.9s,baz=164,slow=4.2,SNR=4.4
CISI Cisompet, Garu 47.10 266 P **P** **06 02 58.6 -0.8**
KSRS Korea Array 51.04 332 P **P** **06 03 27.7 -1.2**
comp=Z,3.5nm,0.6s,baz=152,slow=9.0,SNR=9.0
KSAR Wonju Array Be 51.05 332 P **P** **06 03 27.7 -1.3**
QIZ Qiongzhong 51.70 301 P **P** **06 03 35.3 +1.1**
QIZ pP **pP** **06 03 53.4 -1.9**
QIZ sP **sP** **06 04 03.3 -1.7**
QIZ S **S** **06 10 48.9 -0.8**
QIZ sS **sS** **06 11 25.0 -0.8**
QIZ pmax pmax
comp=Z,45nm,0.8s
QIZ LR LR
comp=Z,250nm,27.4s
NJ2 Nanjing 52.08 320 *e*P **P** **06 03 37.8 +1.0**
NJ2 pmax pmax
comp=Z,50nm,1.1s
ASAJ Asahikawa 52.11 348 P **P** **06 03 35.8 -0.9**
ASAJ Asahikawa 52.11 348 P **P** **06 03 35.8 -0.9**
comp=Z,14nm,0.7s,baz=235,slow=13,SNR=9.1
WHN Wuhan 54.12 316 P **P** **06 03 51.5 -0.3**
PPT2 Papeete2 54.71 107 *e*S **S** **06 11 35.4 +4.7**
comp=Z,88nm,24.0s
PPT2 *e*LR LR 06 20 07.2
comp=Z,213nm,22.0s
USRK Ussuriysk Arra 55.09 340 P **P** **06 03 56.8 -1.7**
comp=Z,11nm,0.7s,baz=129,slow=5.8,SNR=14
IPM Ipoh 55.36 280 *e*P **P** **06 04 00.8 -0.4**
comp=Z,25nm,0.7s
TBI Tubuai 55.41 114 *e*S **S** **06 11 44.4 +4.6**
comp=Z,100nm,26.8s
TBI *e*LR LR 06 20 27.4
comp=Z,539nm,26.2s
KULM Kulim 55.89 281 *e*P **P** **06 04 04.5 -0.4**
comp=Z,14nm,0.7s
MDJ Mudanjiang 56.31 338 P **P** **06 04 08.4 +1.1**
MDJ pP **pP** **06 04 26.3 -2.4**
MDJ S **S** **06 11 56.6 +5.6**
MDJ pmax pmax
comp=Z,190nm,4.6s
MDJ LR LR
comp=N,230nm,21.0s
MDJ LR LR
comp=E,190nm,25.2s
MDJ LR LR
comp=Z,290nm,22.4s

CN2 Changchun 57.28 335 ⇓P **P** **06 04 13.4 -0.8**
CN2 *e*pP **pP** **06 04 34.5 -1.1**
CN2 *e*S **S** **06 12 02.6 -1.2**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,800nm,16.0s
CN2 LR LR
comp=E,600nm,16.0s
CN2 LR LR
comp=Z,900nm,17.0s
ENH Enshi 57.44 313 *e*P **P** **06 04 15.6 0.0**
comp=Z,15nm,0.8s
GYA Guiyang 57.67 307 P **P** **06 04 19.0 +1.6**
GYA pP **pP** **06 04 40.8 +1.9**
GYA sP **sP** **06 04 51.3 +2.8**
GYA PP **PP** **06 06 30.0 +3.7**
GYA ScP **ScP** **06 09 02.4 +0.3**
GYA S **S** **06 12 09.0 -0.8**
GYA sS **sS** **06 12 46.6 +0.1**
GYA SS **SS** **06 16 02.4 +0.8**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.4s
GYA LR LR
comp=N,660nm,18.8s
GYA LR LR
comp=E,590nm,19.0s
GYA LR LR
comp=Z,540nm,18.4s
BJI Beijing 59.06 326 P **P** **06 04 25.8 -0.8**
BJI SS SS 06 16 17.9 -4.7
BJI pmax pmax
comp=Z,14nm,0.6s
BJI LR LR
comp=N,170nm,17.8s
BJI LR LR
comp=E,480nm,17.2s
BJI LR LR
comp=Z,350nm,17.4s
KLR Kul'dur 59.61 342 *e*P P 06 04 26.2 -4.1
PETK Petropavlovsk- 59.85 2 P **P** **06 04 32.6 +0.7**
PETK pmax pmax
comp=Z,49nm,0.8s
PETK MLR MLR
comp=Z,161nm,19.3s
PETK Petropavlovsk- 59.85 2 P **P** **06 04 32.6 +0.7**
PETK Petropavlovsk- 59.85 2 P **P** **06 04 32.6 +0.7**
comp=Z,49nm,0.8s,baz=169,slow=8.4,SNR=33
PETK LR LR 06 29 56.3
comp=Z,161nm,19.3s,baz=183,slow=36
XAN Xi'an 59.89 316 P **P** **06 04 32.1 -0.5**
XAN pmax pmax
comp=Z,7.0nm,0.8s
XAN LR LR
comp=N,150nm,14.2s
XAN LR LR
comp=E,95nm,16.9s
XAN LR LR
comp=Z,97nm,15.1s
KMI Kunming 60.25 304 P **P** **06 04 37.0 +1.6**
KMI PP **PP** **06 06 52.8 +3.5**
KMI S **S** **06 12 45.3 +1.9**
KMI sS **sS** **06 13 19.0 -1.3**
KMI pmax pmax
comp=Z,14nm,1.1s
KMI pmax pmax
comp=Z,70nm,4.3s
KMI LR LR
comp=N,200nm,28.9s
KMI LR LR
comp=E,180nm,24.9s
KMI LR LR
comp=Z,230nm,24.2s
CM31 Chiang Mai Arr 61.05 295 *e*P **P** **06 04 42.1 +1.4**
comp=Z,67nm,0.7s
CMAR Chiang Mai Arr 61.05 295 P **P** **06 04 42.0 +1.3**
CMAR Chiang Mai Arr 61.05 295 P **P** **06 04 42.0 +1.3**
comp=Z,66nm,0.7s,baz=123,slow=5.3,SNR=260
CHTO Chiang Mai 61.16 296 *e*P **P** **06 04 41.8 +0.3**
CHTO pmax pmax
comp=Z,39nm,0.8s
CHTO Chiang Mai 61.16 296 *e*P **P** **06 04 41.8 +0.3**
comp=Z,39nm,0.8s
FX1 Attu Island--F 61.50 12 P **P** **06 04 42.1 -0.9**
FX1 Attu Island--F 61.50 12 P **P** **06 04 42.1 -0.9**
comp=Z,18nm,0.5s,baz=198,slow=20,SNR=7.1
CD2 Chengdu 62.02 310 P **P** **06 04 47.8 +0.7**
CD2 pP **pP** **06 05 10.4 +1.6**
CD2 sP **sP** **06 05 20.0 +1.7**
CD2 PcP **PcP** **06 05 28.4 +1.5**
CD2 PP **PP** **06 07 08.8 +4.2**
CD2 S **S** **06 13 05.6 +0.2**
CD2 sS **sS** **06 13 42.4 0.0**
CD2 SS **SS** **06 17 11.3 +1.7**
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,160nm,6.8s
CD2 LR LR
comp=N,400nm,24.5s
CD2 LR LR
comp=Z,370nm,24.0s
HHC Hu-ho-hao-te 62.24 324 *e*P **P** **06 04 51.5 +3.1**
HHC pP **pP** **06 05 12.1 +1.9**
HHC sP **sP** **06 05 21.6 +2.0**
HHC PP PP 06 07 12.3 +5.9
HHC S **S** **06 13 11.4 +3.5**
HHC sS **sS** **06 13 44.8 -0.2**
HHC ScS **SKSac** **06 14 32.3 -0.5**
HHC pmax pmax
comp=Z,12nm,1.2s
HHC pmax pmax
comp=Z,130nm,3.8s
HHC LR LR
comp=N,800nm,19.0s
HHC LR LR
comp=E,600nm,14.3s
HHC LR LR
comp=Z,1µm,14.3s
HIA Hailar 64.01 335 *e*P **P** **06 05 00.0 +0.2**
comp=Z,9.2nm,0.6s
LZH Lanzhou 64.50 315 *e*P **P** **06 05 04.6 +1.1**
LZH pP **pP** **06 05 25.3 -0.1**
LZH sP **sP** **06 05 33.8 -1.0**
LZH PP **PP** **06 07 29.5 +3.0**
LZH *e*S **S** **06 13 37.0 +0.7**
LZH sS **sS** **06 14 11.5 -2.1**
LZH pmax pmax
comp=Z,31nm,1.4s
LZH pmax pmax
comp=Z,150nm,7.1s
LZH LR LR
comp=N,580nm,14.7s
LZH LR LR
comp=E,450nm,14.1s
LZH LR LR
comp=Z,600nm,16.0s
CLNS Chul'man 68.27 343 *e*P **P** **06 05 28.5 +1.5**
CLNS pmax pmax
comp=Z,12nm,0.6s
CLNS pmax pmax
comp=E,4.0nm,0.7s
RKT Rikitea 68.67 112 *e*LR LR 06 26 33.7
comp=E,582nm,25.8s
GTA Gaotai 68.92 317 ⇓P **P** **06 05 32.3 +0.8**
GTA pP **pP** **06 05 52.3 -1.3**
GTA sP **sP** **06 06 00.8 -2.2**
GTA S **S** **06 14 29.8 +0.3**
GTA sS **sS** **06 15 03.4 -3.8**
GTA SS **SS** **06 18 58.8 +2.1**
GTA pmax pmax
comp=Z,12nm,1.2s
GTA pmax pmax
comp=Z,140nm,4.5s
GTA LR LR
comp=N,300nm,15.7s
GTA LR LR
comp=E,350nm,14.7s
GTA LR LR
comp=Z,560nm,16.1s
ULN Ulaanbaatar 69.13 327 *e*P **P** **06 05 32.7 0.0**

comp=Z,12nm,0.9s
SONM Songino Array 69.46 327 P **P** **06 05 34.9 +0.2**
SONM ⇑*e* 06 33 39.7
SONM Songino Array 69.46 327 P **P** **06 05 34.9 +0.2**
comp=Z,14nm,0.9s,baz=132,slow=5.8,SNR=69
SONM PKP2bc 06 33 39.7
comp=Z,2.3nm,1.0s,baz=277,slow=1.2,SNR=4.1
SEY Seymchan 69.71 359 *e*P **P** **06 05 35.6 -0.1**
LSA Lhasa 71.50 304 *e*P **P** **06 05 49.1 +1.2**
LSA pmax pmax
comp=Z,15nm,0.7s
LSA Lhasa 71.50 304 *e*P **P** **06 05 49.1 +1.2**
comp=Z,15nm,0.7s
YAK Yakutsk 71.57 348 *e*P **P** **06 05 46.0 -1.0**
YAK pmax pmax
comp=Z,26nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.2s
CAL Calcutta 71.75 296 *e*PKP **P** **06 05 48.9 -0.1**
ZAK Zakamensk 72.62 328 ⇑*i*P **P** **06 05 53.5 -0.2**
ZAK pmax pmax
comp=Z,12nm,1.0s
BOD Bodaibo 72.68 338 *e*P **P** **06 05 52.8 -1.0**
BOD pmax pmax
comp=Z,6.0nm,1.1s
TLY Talaya 73.18 329 *e*P **P** **06 05 55.3 -1.6**
TLY pmax pmax
comp=Z,6.0nm,1.0s
TAPN Taplejung 73.65 301 *e*P **P** **06 06 00.8 +0.3**
comp=Z,64nm,0.7s
ODAN Odare 73.78 300 *e*P **P** **06 06 01.5 +0.3**
comp=Z,144nm,0.6s
RAMN Ramite 74.48 300 *e*P **P** **06 06 05.7 +0.4**
comp=Z,34nm,0.5s
MOY Mondy 74.53 328 *e*P **P** **06 06 05.6 +0.7**
GAMB Gambell 74.79 15 *e*P **P** **06 06 06.4 +0.4**
comp=Z,11nm,0.7s
JIRN Jiri 75.03 301 *e*P **P** **06 06 09.1 +0.5**
comp=Z,14nm,0.7s
BILL Bilibino 75.21 4 *c i*P **P** **06 06 08.6 +0.3**
BILL *i* 06 06 18.6
BILL pmax pmax
comp=Z,11nm,1.0s
BILL MLR MLR
comp=Z,200nm,20.0s
BILL Bilibino 75.21 4 *e*P **P** **06 06 08.8 +0.5**
comp=Z,11nm,0.8s
GUN Gumba 75.36 301 *e*P **P** **06 06 10.7 +0.2**
comp=Z,112nm,0.6s
PKI Pulchoki 75.67 301 *e*P **P** **06 06 12.7 +0.5**
comp=Z,37nm,0.6s
KKN Kakani 75.84 301 *e*P **P** **06 06 13.7 +0.6**
comp=Z,49nm,0.6s
DMN Daman 75.94 301 *e*P **P** **06 06 14.0 +0.3**
comp=Z,79nm,0.6s
GKN Gorkha 76.44 301 *e*P **P** **06 06 16.6 +0.2**
comp=Z,69nm,0.8s
KDAK Kodiak Island 76.98 26 P **P** **06 06 18.2 -0.3**
KDAK Kodiak Island 76.98 26 P **P** **06 06 18.2 -0.3**
comp=Z,10nm,0.8s,baz=242,slow=2.9,SNR=6.3
MDRS Chennai 77.16 285 *e*PKP **P** **06 06 19.3 -1.1**
TNA Tin City 77.19 15 *e*P **P** **06 06 21.1 +1.6**
comp=Z,9.5nm,0.8s
KOLN Koldanda 77.27 300 *e*P **P** **06 06 21.2 +0.1**
comp=Z,35nm,0.7s
DANN Dangsing 77.28 301 *e*P **P** **06 06 20.8 -0.5**
comp=Z,33nm,0.6s
WMQ Urumqi 79.00 317 *e*P **P** **06 06 30.3 +0.1**
WMQ pmax pmax
comp=Z,10.0nm,1.3s
HYB Hyderabad 79.55 289 *i*P **P** **06 06 32.0 -1.7**
HYB *e* 06 06 42.5
SLKM Skilak Lake 79.56 24 *e*P **P** **06 06 33.0 +0.2**
SLKM Skilak Lake 79.56 24 *e*P **P** **06 06 33.0 +0.2**
TRD Trivandrum 79.60 280 *e*PKP **P** **06 06 32.3 -1.6**
SEW Seward 79.65 25 *e*P **P** **06 06 33.5 +0.3**
comp=Z,15nm,0.8s
NGP Nagpur 79.81 293 *e*PKP **P** **06 06 32.6 -2.4**
NGP AMb AMB 06 06 33.6
comp=Z,40nm,1.2s
PMR Palmer 80.61 24 *e*P **P** **06 06 38.2 -0.2**
PMR pmax pmax
comp=Z,15nm,0.6s
PMR Palmer 80.61 24 *e*P **P** **06 06 38.2 -0.2**
comp=Z,15nm,0.6s
SML Sawmill 81.05 24 *e*P **P** **06 06 41.0 +0.2**
SML pmax pmax
comp=Z,10.0nm,1.0s
SML Sawmill 81.05 24 *e*P **P** **06 06 41.0 +0.2**
comp=Z,9.9nm,1.0s
TRF Thorofare Moun 81.23 22 *e*P **P** **06 06 40.5 -1.3**
comp=Z,22nm,0.8s
MCK McKinley 81.89 22 *e*P **P** **06 06 44.6 -0.6**
MCK pmax pmax
comp=Z,41nm,0.8s
MCK McKinley 81.89 22 *e*P **P** **06 06 44.6 -0.6**
comp=Z,41nm,0.8s
BMRM Bremner River 82.14 25 *e*P **P** **06 06 48.2 +1.6**
comp=Z,95nm,2.0s
MNGI Mangalore 82.35 284 *e*PKP **P** **06 06 46.5 -2.0**
PAX Paxson 82.80 23 *e*P **P** **06 06 50.0 0.0**
PAX pmax pmax
comp=Z,3.0nm,0.6s
PAX Paxson 82.80 23 *e*P **P** **06 06 50.0 0.0**
comp=Z,2.9nm,0.6s
COLA College 82.92 21 *e*P **P** **06 06 49.7 -0.7**
COLA pmax pmax
comp=Z,18nm,0.8s
COLA College 82.92 21 *e*P **P** **06 06 49.7 -0.7**
comp=Z,18nm,0.8s
QSPA South Pole Qui 83.03 180 P **P** **06 06 52.5 +1.2**
QSPA PKKP **PKKPdf** **06 25 07.5 +1.4**
QSPA PKKPbc **PKKPbc** **06 25 12.6 -3.7**
QSPA South Pole Qui 83.03 180 P **P** **06 06 52.5 +1.2**
comp=Z,29nm,0.7s,baz=351,slow=1.1,SNR=185
QSPA PKKP **PKKPdf** **06 25 07.4 +1.4**
comp=Z,0.7nm,0.6s,baz=231,slow=2.8,SNR=3.7
QSPA PKKPbc **PKKPbc** **06 25 12.5 -3.7**
comp=Z,2.4nm,0.6s,baz=213,slow=1.6,SNR=17
QSPA LR LR 06 36 59.5
comp=Z,106nm,21.2s,baz=2.4,slow=31
ILAR Eielson Array 83.21 21 P **P** **06 06 50.5 -1.4**
ILAR PKKPbc **PKKPbc** **06 25 12.8 -2.8**
ILAR Eielson Array 83.21 21 P **P** **06 06 50.5 -1.4**
comp=Z,8.9nm,0.8s,baz=254,slow=4.9,SNR=70
ILAR PKKPbc **PKKPbc** **06 25 12.8 -2.8**
comp=Z,0.3nm,0.6s,baz=350,slow=1.9,SNR=6.7
ILAR LR LR 06 42 23.8
comp=Z,475nm,19.1s,baz=56,slow=35
COLD Coldfoot 83.46 19 *e*P **P** **06 06 54.0 +0.8**
comp=Z,38nm,1.7s
MENT Mentasta 83.48 24 *e*P **P** **06 06 53.7 +0.3**
MK31 Makanchi Array 83.57 319 *e*P **P** **06 06 54.0 -0.3**
MK31 Makanchi Array 83.57 319 *e*P **P** **06 06 54.0 -0.3**
MKAR Makanchi Array 83.57 319 P **P** **06 06 53.9 -0.4**
MKAR pmax pmax
comp=Z,8.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 83.57 319 P **P** **06 06 53.9 -0.4**
MKAR PKKP **PKKPdf** **06 25 06.9 +1.7**
MKAR PKKPbc **PKKPbc** **06 25 12.2 -1.8**
MKAR Makanchi Array 83.57 319 P **P** **06 06 53.9 -0.4**
comp=Z,7.7nm,0.8s,baz=100,slow=5.9,SNR=54
MKAR PKKP **PKKPdf** **06 25 06.9 +1.7**
comp=Z,0.1nm,0.3s,baz=329,slow=6.4,SNR=2.4
MKAR PKKPbc **PKKPbc** **06 25 12.2 -1.8**
comp=Z,0.7nm,0.7s,baz=282,slow=2.3,SNR=8.3
DOT Dot Lake 83.69 23 *e*P **P** **06 06 54.7 +0.2**
comp=Z,19nm,0.8s
POO Poona 84.15 289 *e*PKP **P** **06 06 57.3 -0.5**
ZAA0 Zalesovo Array 84.31 326 *e*P **P** **06 06 56.5 -1.3**
ZALV Zalesovo Beam 84.31 326 P **P** **06 06 56.5 -1.3**
ZALV pmax pmax
comp=Z,7.0nm,0.8s
ZALV pmax pmax
comp=Z,1.0nm,0.4s
ZALV Zalesovo Beam 84.31 326 P **P** **06 06 56.5 -1.3**
ZALV PKKPbc **PKKPbc** **06 25 09.0 -3.5**
ZALV Zalesovo Beam 84.31 326 P **P** **06 06 56.5 -1.3**
comp=Z,6.6nm,0.8s,baz=111,slow=5.6,SNR=23
ZALV PKKPbc **PKKPbc** **06 25 09.0 -3.5**
comp=Z,1.0nm,0.4s,baz=304,slow=2.6,SNR=6.3
MAW Mawson 84.57 203 P **P** **06 06 59.7 +0.9**

MAW	**Mawson**	84.57	203		P		**P**	06 06 59.7	+0.9
	comp=Z,48nm,1.1s,baz=93,slow=9.5,SNR=5.1								
EGAK	**Eagle**	85.35	23	*eP*			**P**	06 07 03.4	+0.7
	comp=Z,13nm,0.7s								
KSH	**Kashi**	86.22	310		P		**P**	06 07 09.6	+1.8
KSH					pP		**pP**	06 07 34.8	+4.1
KSH					PP		**PP**	06 10 33.5	+3.7
KSH					SKS		**SKSac**	06 17 23.8	-2.9
KSH					S		**S**	06 17 36.1	-0.1
KSH					SS		**SS**	06 23 20.8	+3.6
KSH					pmax	pmax			
	comp=Z,4.0nm,0.7s								
KSH					pmax	pmax			
	comp=Z,90nm,6.1s								
KSH					LR	LR			
	comp=N,120nm,10.2s								
KSH					LR	LR			
	comp=E,140nm,6.1s								
KSH					LR	LR			
	comp=Z,260nm,15.9s								
KURK	**Kurchatov**	86.99	322		PKKPbc	PKKPbc		06 25 03.9	-2.0
KURBB	**Kurchatov Arra**	87.02	322		PKKPbc	PKKPbc		06 25 03.9	-1.9
	comp=Z,1.1nm,0.6s,baz=297,slow=3.0,SNR=14								
DLBC	**Dease Lake**	87.94	31	*eP*			**P**	06 07 16.8	+1.1
AAK	**Ala-Archa**	87.94	313	*eP*			**P**	06 07 16.1	-0.1
AAK					pmax	pmax			
	comp=Z,11nm,0.6s								
AAK	**Ala-Archa**	87.94	313				**P**	06 07 16.1	-0.1
	comp=Z,11nm,0.6s								
AAK					PKKPbc	PKKPbc	**PKKPbc**	06 25 02.9	-0.5
AAK	**Ala-Archa**	87.94	313		PKKPbc	PKKPbc		06 25 02.9	-0.5
	comp=Z,0.9nm,0.5s,baz=202,slow=5.4,SNR=3.8								
EKS2	**Erkin-Say**	88.47	313	*eP*			**P**	06 07 19.1	+0.5
EKS2					pmax	pmax			
	comp=Z,3.0nm,0.8s								
EKS2	**Erkin-Say**	88.47	313	*eP*			**P**	06 07 19.1	+0.5
	comp=Z,2.7nm,0.8s								
INK	**Inuvik**	89.56	21	P			**P**	06 07 22.9	0.0
INK	**Inuvik**	89.56	21	P			**P**	06 07 22.9	0.0
	comp=Z,13nm,0.5s,baz=250,slow=3.8,SNR=40								
ISA	**Isabella**	90.93	54	⇓P			**P**	06 07 30.9	+0.7
	baz=91								
EDW2	**Edwards Air Fo**	91.22	55	⇓P			**P**	06 07 32.4	+0.9
	baz=91								
BFSC	**Mount Baldy Ra**	91.41	56	⇓P			**P**	06 07 33.2	+0.6
	baz=91								
NVAR	**Mina Array Bea**	91.44	52	P			**P**	06 07 32.8	+0.1
NVAR	**Mina Array Bea**	91.44	52	P			**P**	06 07 32.8	+0.1
	comp=Z,4.3nm,0.7s,baz=250,slow=6.4,SNR=14								
LRMC	**Laurel Mountai**	91.54	55	⇓P			**P**	06 07 33.6	+0.5
	baz=92								
HAWA	**Hanford**	91.64	44	*eP*			**P**	06 07 33.2	+0.1
	comp=Z,23nm,1.9s								
MPMC	**Manual Prospec**	91.78	54	⇑P			**P**	06 07 35.3	+1.0
	baz=92								
GSC	**Goldstone**	92.24	55	⇓P			**P**	06 07 36.9	+0.6
	baz=92								
MONP	**Monument Peak**	92.27	57	⇓P			**P**	06 07 37.3	+0.6
	baz=92								
PFO	**Pinyon Flat Ob**	92.33	57	⇑P			**P**	06 07 37.6	+0.8
	baz=92								
FURC	**Furnace Creek,**	92.33	54	⇓P			**P**	06 07 37.6	+1.1
	baz=92								
BVAR	**Borovoye Array**	92.44	323		PKKPbc	PKKPbc		06 24 50.1	-2.3
BVAR	**Borovoye Array**	92.44	323		PKKPbc	PKKPbc		06 24 50.1	-2.3
	comp=Z,0.7nm,0.6s,baz=294,slow=1.4,SNR=5.7								
SYO	**Syowa Base**	92.48	199	⇓*eP*			**P**	06 07 35.8	-0.7
BRVK	**Borovoye**	92.51	323	*c iP*			**P**	06 07 36.1	-0.9
BRVK					pmax	pmax			
	comp=Z,8.0nm,2.5s								
BRVK	**Borovoye**	92.51	323	*eP*			**P**	06 07 35.6	-1.3
	comp=Z,1.6nm,0.8s								
HEC	**Hector,Ludlow**	92.57	55	⇑P			**P**	06 07 38.6	+0.7
	baz=93								
BELC	**Belle Mtn. Jos**	92.75	56	⇑P			**P**	06 07 39.4	+0.7
	baz=93								
GMRC	**Granite Mounta**	93.11	56	⇓P			**P**	06 07 40.6	+0.3
	baz=93								
IRM	**Iron Mountain**	93.47	56	⇑P			**P**	06 07 42.7	+0.8
	baz=94								
NEW	**Newport**	93.51	42	*eP*			**P**	06 07 41.6	-0.1
	comp=Z,43nm,2.4s								
R11A	**Troy Canyon, C**	93.55	52	⇑P			**P**	06 07 43.2	+0.8
	baz=94								
LDFC	**Landfair**	93.59	55	*eP*			**P**	06 07 43.6	+1.1
	comp=Z,6.7nm,0.8s								
C11A	**Tepee Creek (N**	94.04	42	⇓P			**P**	06 07 43.5	-0.8
	baz=94								
E12A	**Beaver Dam Sad**	94.36	44	⇑P			**P**	06 07 45.1	-0.8
	baz=94								
G12A	**Big Creek, Yel**	94.42	45	⇑P			**P**	06 07 47.0	+0.8
	baz=94								
D12A	**Red Ives Fores**	94.57	43	⇓P			**P**	06 07 45.0	-1.7
	baz=95								
W13A	**Hualapai Mount**	94.59	55	⇑P			**P**	06 07 47.3	0.0
	baz=95								
R13A	**O'Grain Ranch,**	94.80	52	⇑P			**P**	06 07 47.4	-0.7
	baz=95								
H13A	**Challis**	95.12	46	⇓P			**P**	06 07 48.6	-0.9
	baz=95								
F13A	**Darby**	95.17	45	⇑P			**P**	06 07 48.2	-1.4
	baz=95								
I13A	**Wildhorse Cree**	95.17	47	⇑P			**P**	06 07 49.0	-0.8
	baz=95								
B13A	**Whitefish**	95.28	42	⇓P			**P**	06 07 49.6	-0.3
	baz=95								
A13A	**Flathead Natio**	95.36	41	⇓P			**P**	06 07 49.1	-1.2
	baz=95								
L14A	**Malta**	95.67	48	⇓P			**P**	06 07 51.0	-0.9
	baz=96								
K14A	**Jones Ranch, D**	95.75	48	⇑P			**P**	06 07 52.6	+0.3
	baz=96								
YKA	**Yellowknife Ar**	96.14	28	P			**P**	06 07 53.3	-0.1
YKA					PKiKP		**PKiKP**	06 12 31.6	+0.3
YKA					PKKPbc		**PKKPbc**	06 24 39.1	-3.7
YKA	**Yellowknife Ar**	96.14	28	P			**P**	06 07 53.3	-0.1
	comp=Z,4.4nm,0.5s,baz=266,slow=4.5,SNR=156								
YKA					PKiKP		**PKiKP**	06 12 31.6	+0.3
	comp=Z,0.7nm,0.6s,baz=269,slow=1.4,SNR=14								
YKA					PKKPbc		**PKKPbc**	06 24 39.1	-3.7
	comp=Z,0.8nm,0.7s,baz=88,slow=2.9,SNR=20								
M15A	**Larsen Ranch,**	96.22	49	⇑P			**P**	06 07 54.5	+0.1
	baz=96								
K15A	**Arbon**	96.24	48	⇑P			**P**	06 07 54.8	+0.3
	baz=96								
L15A	**Malad City**	96.30	49	⇓P			**P**	06 07 54.6	-0.2
	baz=96								
J15A	**Blackfoot**	96.35	47	⇓P			**P**	06 07 53.5	-1.6
	baz=96								
A15A	**Johnson Ranch,**	96.47	42	⇓P			**P**	06 07 54.2	-1.1
	baz=96								
C15A	**Salmond Ranch,**	96.48	43	⇑P			**P**	06 07 54.5	-1.0
	baz=96								
S16A	**Weppner Ranch,**	96.64	53	⇓P			**P**	06 07 57.1	+0.6
	baz=97								
R16A	**Teasdale**	96.76	52	⇓P			**P**	06 07 58.2	+1.1
	baz=97								
HWUT	**Hardware Ranch**	96.89	49	*eP*			**P**	06 07 57.5	-0.1
	comp=Z,40nm,2.5s								
G16A	**Moss Hill, Enn**	96.91	45	⇓P			**P**	06 07 57.3	-0.2
	baz=97								
J16A	**Bone**	96.94	47	⇓P			**P**	06 07 58.0	+0.2
	baz=97								
L16A	**Fish Haven**	97.01	49	⇑P			**P**	06 07 57.8	-0.3
	baz=97								
I16A	**Newdale**	97.07	47	⇑P			**P**	06 07 57.9	-0.4
	baz=97								
A16A	**West Butte Ran**	97.21	42	⇑P			**P**	06 07 57.5	-1.2
	baz=97								
R17A	**Hanksville Air**	97.38	52	⇓P			Pdif	06 08 00.2	+0.4
	baz=97								
L17A	**Cokeville**	97.43	48	⇑P			**P**	06 07 59.6	-0.4
	baz=97								
O17A	**Robinson Place**	97.44	50	⇓P			Pdif	06 08 00.4	+0.1
	baz=98								
M17A	**Scullys Gap (B**	97.56	49	⇓P			**P**	06 07 59.2	-1.4
	baz=98								
A17A	**Triple J Farms**	97.81	42	⇓P			**P**	06 07 59.9	-1.5
	baz=98								
Q18A	**Rafter H Ranch**	97.86	52	⇓P			**P**	06 08 00.3	-1.6
	baz=98								
M18A	**Lyman**	98.01	49	⇑P			**P**	06 08 02.4	-0.2
	baz=98								
R18A	**Canyonlands Na**	98.02	52	⇑P			Pdif	06 08 02.8	+0.1
	baz=98								
K18A	**Toltan Ranch,**	98.07	48	⇓P			**P**	06 08 02.7	-0.2
	baz=98								
N18A	**Larsen Ranch,**	98.29	50	⇓P			**P**	06 08 02.8	-1.1
	baz=98								
BW06	**Boulder Array**	98.43	48	*eP*			**P**	06 08 04.2	-0.3
	comp=Z,67nm,2.8s								
BW06	**Boulder Array**	98.43	48	⇑P			**P**	06 08 03.6	-0.9
	baz=98								
PDAR	**Pinedale Array**	98.43	48	P			**P**	06 08 03.8	-0.7
PDAR					PKKPbc		**PKKPbc**	06 24 34.8	-1.4
PDAR	**Pinedale Array**	98.43	48	P			**P**	06 08 03.8	-0.7
	comp=Z,1.7nm,0.7s,baz=234,slow=2.5,SNR=15								
PDAR					PKKPbc		**PKKPbc**	06 24 34.7	-1.4
	comp=Z,0.2nm,0.6s,baz=133,slow=5.0,SNR=3.5								
L19A	**Farson**	98.56	49	⇑P			**P**	06 08 04.7	-0.4
	baz=99								
K19A	**Absolon Red Bu**	98.95	48	⇑P			**P**	06 08 06.1	-0.7
	baz=99								
P20A	**De Beque**	99.22	51	⇓P			**Pdif**	06 08 08.7	+0.6
	baz=99								
L20A	**Wamsutter**	99.31	49	⇑P			**Pdif**	06 08 08.2	-0.3
	baz=99								
A20A	**Cobblestone Ra**	99.63	42	⇑P			**Pdif**	06 08 08.9	-0.7
	baz=100								
J21A	**Lysite**	99.99	47	⇑P			**Pdif**	06 08 10.8	-0.6
	baz=100								
A21A	**Bergtoll Ranch**	100.29	42	⇓P			**Pdif**	06 08 12.0	-0.4
	baz=100								
Q22A	**Crested Butte,**	100.36	52	⇓P			**Pdif**	06 08 13.8	+0.5
	baz=100								
J22A	**Midwest**	100.69	47	⇑P			**Pdif**	06 08 14.5	0.0
	baz=101								
D22A	**Cohagen**	100.84	43	⇑P			**Pdif**	06 08 14.7	-0.2
	baz=101								
RES	**Resolute Bay**	101.83	15	P			**Pdif**	06 08 18.9	+0.3
RES	**Resolute Bay**	101.83	15	P			**Pdif**	06 08 18.9	+0.3
	comp=Z,1.2nm,0.7s,baz=352,slow=3.2,SNR=6.8								
TXAR	**Lajitas Array**	102.96	62		PKKPbc	PKKPbc		06 24 20.9	-1.5
TXAR	**Lajitas Array**	102.96	62		PKKPbc	PKKPbc		06 24 20.9	-1.5
	comp=Z,0.4nm,0.6s,baz=180,slow=2.5,SNR=5.9								
SPITS	**Spitsbergen Ar**	105.78	352		PKiKP		**PKiKP**	06 12 48.0	-0.5
SPITS	**Spitsbergen Ar**	105.78	352		PKiKP		**PKiKP**	06 12 48.0	-0.5
	comp=Z,5.0nm,1.1s,baz=339,slow=25,SNR=5.5								
ULM	**Lac du Bonnet**	107.31	40		PKiKP		**PKiKP**	06 12 50.9	-1.1
ULM	**Lac du Bonnet**	107.31	40		PKiKP		**PKiKP**	06 12 50.9	-1.1
	comp=Z,1.4nm,0.6s,baz=290,slow=3.2,SNR=3.8								
ARCES	**ARCESS Array B**	109.63	343		PKiKP		**PKiKP**	06 12 55.0	-0.8
ARCES					PKKPbc		**PKKPbc**	06 24 00.1	-2.9
ARCES	**ARCESS Array B**	109.63	343		PKiKP		**PKiKP**	06 12 55.0	-0.8
	comp=Z,2.3nm,0.6s,baz=106,slow=2.6,SNR=17								
ARCES					PKKPbc		**PKKPbc**	06 24 00.1	-2.9
	comp=Z,3.1nm,0.8s,baz=62,slow=2.1,SNR=7.3								
FINES	**FINESS Array B**	114.02	336		PKiKP	PKPdf		06 13 03.9	-0.3
FINES					PKKPbc		**PKKPbc**	06 23 46.0	-2.3
FINES	**FINESS Array B**	114.02	336		PKiKP	PKPdf		06 13 03.9	-0.3
	comp=Z,1.6nm,0.7s,baz=129,slow=1.2,SNR=4.5								
FINES					PKKPbc		**PKKPbc**	06 23 46.0	-2.3
	comp=Z,2.2nm,0.7s,baz=158,slow=2.1,SNR=6.3								
ANN	**Anapa**	114.51	316	*i*	PKiKP	PKPdf		06 13 03.9	-1.8
ANN					pmax	pmax			
	comp=Z,101nm,1.5s								
AKASG	**Malin Array Be**	117.68	325		PKiKP		**PKPdf**	06 13 11.1	-0.5
AKASG					pmax	pmax			
	comp=Z,3.0nm,0.6s								
AKASG					pmax	pmax			
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	117.68	325		PKP		**PKPdf**	06 13 11.1	-0.5
AKASG					PKKPbc		**PKKPbc**	06 23 33.2	-2.0
AKASG	**Malin Array Be**	117.68	325		PKP		**PKPdf**	06 13 11.1	-0.5
	comp=Z,3.1nm,0.6s,baz=67,slow=2.2,SNR=13								
AKASG					PKKPbc		**PKKPbc**	06 23 33.2	-2.0
	comp=Z,1.2nm,0.6s,baz=266,slow=3.7,SNR=6.3								
BRTR	**Keskin Array B**	118.59	312		PKP		**PKPdf**	06 13 13.8	-0.2
BRTR					PKKPbc		**PKKPbc**	06 23 29.6	-2.2
BRTR	**Keskin Array B**	118.59	312		PKP		**PKPdf**	06 13 13.8	-0.2
	comp=Z,1.3nm,0.6s,baz=118,slow=2.7,SNR=7.7								
BRTR					PKKPbc		**PKKPbc**	06 23 29.6	-2.2
	comp=Z,0.9nm,0.8s,baz=212,slow=4.4,SNR=3.7								
HFS	**Hagfors**	119.57	339		PKP		**PKPdf**	06 13 14.0	-1.0
HFS	**Hagfors**	119.57	339		PKP		**PKPdf**	06 13 14.0	-1.0
	comp=Z,2.9nm,0.5s,baz=97,slow=4.6,SNR=16								
SADO	**Sadowa**	119.69	42		PKP		**PKPdf**	06 13 14.8	-1.0
SADO	**Sadowa**	119.69	42		PKP		**PKPdf**	06 13 14.8	-1.0
	comp=Z,7.9nm,0.7s,baz=297,slow=1.9,SNR=9.6								
NB2	**NORSAR Subarra**	119.75	341		PKPdf		**PKPdf**	06 13 14.7	-0.7
	comp=Z,1.8nm,0.7s,baz=39,slow=1.9								
NOA	**NORSAR Array B**	119.75	341		PKP		**PKPdf**	06 13 15.4	0.0
NOA					PKKPbc		**PKKPab**	06 23 25.6	-2.0
NOA	**NORSAR Array B**	119.75	341		PKP		**PKPdf**	06 13 15.4	0.0
	comp=Z,3.6nm,0.6s,baz=45,slow=1.9,SNR=26								
NOA					PKKPbc		**PKKPab**	06 23 25.6	-2.0
	comp=Z,0.6nm,0.8s,baz=249,slow=5.0,SNR=4.5								
ERPA	**Erie**	120.05	45	*e*	PKPdf		**PKPdf**	06 13 15.8	-0.7
BOSA	**Boshof**	120.30	231		PKP		**PKPdf**	06 13 17.6	0.0
BOSA					PKKPbc		**PKKPbc**	06 23 22.6	-2.7
BOSA	**Boshof**	120.30	231		PKP		**PKPdf**	06 13 17.6	0.0
	comp=Z,3.5nm,0.8s,baz=153,slow=16,SNR=7.5								
BOSA					PKKPbc		**PKKPbc**	06 23 22.6	-2.7
	comp=Z,4.2nm,1.1s,baz=302,slow=4.9,SNR=3.6								
SCHQ	**Schefferville**	121.59	27		PKP		**PKPdf**	06 13 18.8	-0.3
SCHQ					PKKPbc		**PKKPab**	06 23 20.0	+0.2
SCHQ	**Schefferville**	121.59	27		PKP		**PKPdf**	06 13 18.8	-0.3
	comp=Z,4.3nm,0.6s,baz=315,slow=1.4,SNR=18								
SCHQ					PKKPbc		**PKKPab**	06 23 20.0	+0.2
	comp=Z,1.5nm,0.6s,baz=110,slow=7.1,SNR=5.4								
SUR	**Sutherland**	121.65	225		PKP		**PKPdf**	06 13 21.0	+0.8
SUR	**Sutherland**	121.65	225		PKP		**PKPdf**	06 13 21.0	+0.8
	comp=Z,6.2nm,0.6s,baz=164,slow=6.6,SNR=6.9								
LBTB	**Lobatse**	121.67	235		PKP		**PKPdf**	06 13 20.8	+0.5
LBTB	**Lobatse**	121.67	235		PKP		**PKPdf**	06 13 20.8	+0.5
	comp=Z,2.7nm,0.8s,baz=155,slow=3.2,SNR=5.8								
SSPA	**Standing Stone**	122.04	46	*e*	PKPdf		**PKPdf**	06 13 19.9	-0.5
KOLS	**Kolonicke sedl**	122.49	325	*e*	PKIKP		**PKPdf**	06 13 21.8	+0.8
KOLS	**Kolonicke sedl**	122.49	325	*e*	PKP		**PKPdf**	06 13 21.8	+0.8
UZH	**Uzhgorod**	122.63	325	*e*	PKIKP	PKPdf		06 13 37.2	+16
CRVS	**Cervenica-Dubn**	122.96	325	*e*	PKIKP		**PKPdf**	06 13 23.1	+1.2
CRVS	**Cervenica-Dubn**	122.96	325	*e*	PKP		**PKPdf**	06 13 23.1	+1.2
LCO	**Las Campanas**	123.09	131	*e*	PKPdf		**PKPdf**	06 13 23.6	+0.5
LSZ	**Lusaka**	123.15	247	*e*	PKPdf		**PKPdf**	06 13 24.7	+1.3
OKC	**Ostrava-Krasne**	124.26	328	*e*	PKIKP		**PKPdf**	06 13 25.9	+1.6
OKC	**Ostrava-Krasne**	124.26	328	*e*	PKPdf		**PKPdf**	06 13 25.9	+1.6
VYHS	**Vyhne**	124.65	326	*e*	PKIKP		**PKPdf**	06 13 25.9	+0.7
VYHS	**Vyhne**	124.65	326	*e*	PKP		**PKPdf**	06 13 25.9	+0.7
DPC	**Dobruska-Polom**	124.90	329	*e*	PKIKP		**PKPdf**	06 13 26.8	+1.2
DPC	**Dobruska-Polom**	124.90	329	*e*	PKPdf		**PKPdf**	06 13 26.8	+1.2
BSEG	**Bad Segeberg**	125.29	335	*e*	PKPdf		**PKPdf**	06 13 27.1	+1.0
BSEG	**Bad Segeberg**	125.29	335	*e*	PKIKP		**PKPdf**	06 13 27.1	+1.0
PVCC	**Panska Ves**	125.67	330	*e*	PKIKP		**PKPdf**	06 13 28.2	+1.2
PVCC				*e*				06 13 38.2	
PVCC	**Panska Ves**	125.67	330	*e*	PKPdf		**PKPdf**	06 13 28.2	+1.2
PVCC				*ex*			x	06 13 38.2	
BRG	**Berggiesshubel**	125.75	331	*e*	PKP		**PKPdf**	06 13 28.0	+0.9
	comp=Z,9.4nm,1.0s								
BRG	**Berggiesshubel**	125.75	331	*e*	PKPdf		**PKPdf**	06 13 27.9	+0.7
CLL	**Collm**	125.92	332	*e*	PKPdf		**PKPdf**	06 13 28.0	+0.5
CLL	**Collm**	125.92	332	⇓*i*	PKIKP		**PKPdf**	06 13 28.0	+0.5
CLL				*i*				06 13 38.2	
CLL					pmax	pmax			
	comp=Z,8.0nm,0.9s								
CLL	**Collm**	125.92	332	⇓*i*	PKPdf		**PKPdf**	06 13 28.0	+0.5
	comp=Z,8.0nm,0.9s								
CLL				*i*				06 13 38.2	
NRDL	**Niedersach Rie**	126.41	334	*e*	PKPdf		**PKPdf**	06 13 29.5	+1.2
CONA	**Conrad Observa**	126.60	327	⇓*i*	PKPdf		**PKPdf**	06 13 26.6	-2.4
	comp=Z,6.0nm,1.2s								
CLZ	**Clausthal**	126.75	334	*e*	PKPdf		**PKPdf**	06 13 30.2	+1.1
CLZ	**Clausthal**	126.75	334	*e*	PKIKP		**PKPdf**	06 13 30.2	+1.1
TANN	**Tannenbergstha**	126.77	331	*e*	PKPdf		**PKPdf**	06 13 30.1	+0.9
GUNZ	**Gunzen**	126.86	331	*e*	PKPdf		**PKPdf**	06 13 30.4	+1.0
NKC	**Novy Kostel**	126.89	331	*e*	PKIKP		**PKPdf**	06 13 30.5	+1.1
NKC	**Novy Kostel**	126.89	331	*e*	PKPdf		**PKPdf**	06 13 30.5	+1.1
MOX	**Moxa**	127.01	332	*e*	PKPdf		**PKPdf**	06 13 30.3	+0.7
MOX	**Moxa**	127.01	332	*e*	PKIKP		**PKPdf**	06 13 30.3	+0.7
KHC	**Kasperske Hory**	127.05	329	*e*	PKIKP		**PKPdf**	06 13 30.8	+1.0
KHC				*e*				06 13 40.4	
KHC	**Kasperske Hory**	127.05	329	*e*	PKPdf		**PKPdf**	06 13 30.8	+1.0
KHC	**Kasperske Hory**	127.05	329	*e*	PKPdf		**PKPdf**	06 13 30.8	+1.0
KHC				*ex*			x	06 13 40.4	
GEC2	**GERESS Array S**	127.17	329	*e*	PKPdf		**PKPdf**	06 13 30.7	+0.6
GEC2	**GERESS Array S**	127.17	329	*e*	PKIKP		**PKPdf**	06 13 30.7	+0.6
GERES	**GERESS Array B**	127.17	329		PKP		**PKPdf**	06 13 30.6	+0.6
GERES	**GERESS Array B**	127.17	329		PKP		**PKPdf**	06 13 30.6	+0.6
	comp=Z,3.5nm,0.7s,baz=22,slow=1.4,SNR=13								
ROTZ	**Rotzenmuhle**	127.32	331	*e*	PKPdf		**PKPdf**	06 13 31.3	+1.1
WET	**Wettzell**	127.40	330	*e*	PKPdf		**PKPdf**	06 13 31.5	+1.1
WET	**Wettzell**	127.40	330	*e*	PKIKP		**PKPdf**	06 13 31.5	+1.1
GRF	**Grafenberg Arr**	127.84	331	*e*	PKPdf		**PKPdf**	06 13 32.2	+1.0
GRF	**Grafenberg Arr**	127.84	331	*e*	PKIKP		**PKPdf**	06 13 32.2	+1.0
RJOB	**Jochberg**	128.34	328	*e*	PKPdf		**PKPdf**	06 13 32.6	+0.3
ABTA	**Abfaltersbach**	129.12	328	⇑*i*	PKiKP		**PKPdf**	06 13 34.1	+0.3
	comp=Z,13nm,1.5s								
WLF	**Walferdange**	130.18	334	*e*	PKPdf		**PKPdf**	06 13 37.5	+1.9
GIVF	**Givet**	130.41	335	*e*	PKIKP		**PKPdf**	06 13 37.1	+1.0
GIVF	**Givet**	130.41	335	*e*	PKIKP		**PKPdf**	06 13 37.1	+1.0
GIVF	**Givet**	130.41	335	*e*	PKPdf		**PKPdf**	06 13 37.1	+1.0
CDF	**Champ du Feu**	130.59	332	*e*	PKIKP		**PKPdf**	06 13 37.0	+0.4
CDF	**Champ du Feu**	130.59	332	*e*	PKIKP		**PKPdf**	06 13 37.0	+0.4
CDF	**Champ du Feu**	130.59	332	*e*	PKIKP		**PKPdf**	06 13 37.0	+0.4
BAIF	**Baives**	130.69	336	*e*	PKIKP		**PKPdf**	06 13 37.7	+1.1
	comp=Z,17nm,1.1s								
BAIF	**Baives**	130.69	336	*e*	PKIKP		**PKPdf**	06 13 37.7	+1.1
BAIF	**Baives**	130.69	336	*e*	PKPdf		**PKPdf**	06 13 37.7	+1.1
TSUM	**Tsumeb**	130.92	237		PKP		**PKPdf**	06 13 38.0	-0.1
TSUM	**Tsumeb**	130.92	237		PKP		**PKPdf**	06 13 38.0	-0.1
	comp=Z,2.6nm,0.7s,baz=102,slow=5.5,SNR=6.3								
TUE	**Stuetta**	130.95	329	*e*	PKPdf		**PKPdf**	06 13 36.1	-1.4
LPAZ	**La Paz**	131.21	119	*e*	PKPdf		**PKPdf**	06 13 38.2	-1.1
HINF	**Hinteralfeld**	131.22	332	*e*	PKIKP		**PKPdf**	06 13 38.4	+0.6
	comp=Z,17nm,1.0s								
HINF	**Hinteralfeld**	131.22	332	*e*	PKIKP		**PKPdf**	06 13 38.4	+0.6
HINF	**Hinteralfeld**	131.22	332	*e*	PKPdf		**PKPdf**	06 13 38.4	+0.6
HAU	**Haudompre**	131.32	333	*e*	PKIKP		**PKPdf**	06 13 38.7	+0.8
	comp=Z,13nm,0.7s								
HAU				*e*	R				
	comp=Z,137nm,21.8s								
HAU	**Haudompre**	131.32	333	*e*	PKIKP		**PKPdf**	06 13 38.7	+0.8
HAU	**Haudompre**	131.32	333	*e*	PKPdf		**PKPdf**	06 13 38.7	+0.8

PFVI	**Vila Bisbo**	**146.66 337**	*e*PKPdf	**PKPab**	**06 14 09.0**	**+0.1**
TAM	**Tamanrasset**	**146.93 302**	*e*PKP2	**PKPab**	**06 14 10.4**	**-0.3**
TAM	**Tamanrasset**	**146.93 302**	*e*PKPbc	**PKPab**	**06 14 10.4**	**-0.3**
BDFB	**Brasilia**	**147.79 134**	PKPbc	**PKPdf**	**06 14 10.0**	**+1.3**
BDFB	**Brasilia**	**147.79 134**	PKPbc	**PKPdf**	**06 14 10.0**	**+1.3**
	comp=Z,45nm,0.6s,baz=262,slow=2.0,SNR=99					
TOA0	**Torodi Ar. Sit**	**153.32 285**	*e*PKPdf	**PKPdf**	**06 14 17.3**	**+0.2**
TOA0			*e*PKPbc	**PKPbc**	**06 14 24.6**	**-0.1**
TOA0			*e*PKPab	**PKPab**	**06 14 37.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**153.32 285**	PKP	**PKPdf**	**06 14 16.9**	**-0.2**
TORD			PKPbc	**PKPbc**	**06 14 24.7**	**0.0**
TORD	**Torodi Ar. Bea**	**153.32 285**	PKP	**PKPdf**	**06 14 16.9**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=34,slow=1.1,SNR=13					
TORD			PKPbc	**PKPbc**	**06 14 24.7**	**0.0**
	comp=Z,9.6nm,0.7s,baz=82,slow=1.7,SNR=38					
DBIC	**Dimbokro**	**160.31 270**	PKP	**PKPdf**	**06 14 26.9**	**+0.8**
DBIC			PKPab	**PKPab**	**06 15 07.0**	**-0.1**
DBIC	**Dimbokro**	**160.31 270**	PKP	**PKPdf**	**06 14 26.9**	**+0.8**
	comp=Z,2.3nm,0.9s,baz=129,slow=6.2,SNR=2.5					
DBIC			PKPab	**PKPab**	**06 15 07.0**	**-0.1**
	comp=Z,8.6nm,0.8s,baz=83,slow=6.6,SNR=7.3					
LIC	**Lamto**	**160.46 269**	*e*PKP2	**PKPab**	**06 15 08.1**	**+0.3**
	comp=Z,24nm,0.8s					
LIC			*e*R			
	comp=Z,156nm,20.8s					
LIC	**Lamto**	**160.46 269**	*e*PKPab	**PKPab**	**06 15 08.1**	**+0.3**

IDC ***16*** *05:59:16.4≐0.4,6.85S×155.51E,h0km,mb4.8/24, mb1 4.9/24,mb1mx4.9/25,mbtmp4.8/24,MS4.1/1, Ms1 4.1/1,ms1mx3.1/25,Error ellipse: s-maj=19.4km s-min=12.7km az=104.0*

MOS ***16*** *05:59:21.6≐1.2,6.62S×155.19E,h33km,mb5.1/13,Error ellipse: s-maj=10.9km s-min=9.1km az=86.1*

BJI ***16*** *05:59:27.7,7.02S×155.58E,h113km,mB5.2/26,mb4.8/36*

ISCJB ***16*** *05:59:28.9≐0.2,6.96S≐0.04×155.26E≐0.03,h102km, mb4.8/63,Error ellipse: s-maj=5.3km s-min=4.6km az=4.6*

NEIC ***16*** *05:59:29.0≐0.8,6.85S×155.30E,h91km⊥7km,mb5.0/20, Error ellipse: s-maj=6.2km s-min=5.4km az=170.0*

DJA ***16*** *06:00:09,7.12S×153.47E,h375km,mb4.8/15*

ISC 16 05:59:30.8≐0.3,7.05S≐0.05×155.33E≐0.05,h110km⊥2km, n270,σ1§28/340,mb4.9/64,15C-7D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**		**5.15 118**	Pn		**Pn**		**06 00 45.3**	**-0.4**
HNR				Sn		**Sn**		**06 01 48.2**	**+4.2**
HNR	**Honiara**		**5.15 118**	Pn		**Pn**		**06 00 45.3**	**-0.4**
	24nm,0.3s,baz=340,slow=12,SNR=2.6								
HNR				Sn		**Sn**		**06 01 48.2**	**+4.2**
	26nm,0.3s,baz=315,slow=20,SNR=3.7								
PMG	**Port Moresby**		**8.42 253**	*e*Pn		**Pn**		**06 01 29.8**	**-0.2**
PMG				Sn		**Sn**		**06 03 02.3**	**-1.1**
PMG	**Port Moresby**		**8.42 253**	Pn		**Pn**		**06 01 28.7**	**-1.3**
	2.4nm,0.3s,baz=41,slow=13,SNR=4.7								
PMG				Sn		**Sn**		**06 03 02.3**	**-1.1**
	2.7nm,0.3s,baz=86,slow=16,SNR=12								
COEN	**Coen**		**13.78 239**	*e*Pn		**Pn**		**06 02 41.1**	**-0.5**
CTA	**Charters Tower**		**15.67 213**	Pn		**Pn**		**06 03 05.8**	**+0.2**
CTA	**Charters Tower**		**15.67 213**	*e*P		**Pn**		**06 03 05.5**	**-0.1**
	20nm,0.8s								
CTA	**Charters Tower**		**15.67 213**	Pn		**Pn**		**06 03 05.8**	**+0.2**
	0.3nm,0.3s,baz=32,slow=14,SNR=3.9								
CTAO	**Charters Tower**		**15.67 213**	*e*P		**Pn**		**06 03 06.1**	**+0.5**
CTAO				pmax		pmax			
	comp=Z,33nm,0.9s								
CTAO	**Charters Tower**		**15.67 213**	*e*Pn		**Pn**		**06 03 06.1**	**+0.5**
	comp=Z,33nm,0.9s								
DZM	**Mont Dzumac**		**18.39 145**	*e*P		**Pn**		**06 03 39.4**	**+0.6**
DZM				*e*S		**Sn**		**06 06 56.5**	**-5.6**
DZM	**Mont Dzumac**		**18.39 145**	P		**Pn**		**06 03 39.0**	**+0.2**
	comp=Z,1.4nm,0.3s,baz=321,slow=6.2,SNR=10								
DZM				LR		LR		06 09 54.2	
	comp=Z,500nm,18.5s,baz=204,slow=35								
ARMA	**Armidale**		**23.51 188**	*e*P		**P**		**06 04 32.3**	**+1.2**
WRAB	**Tennant Creek**		**24.04 236**	*e*P		**P**		**06 04 36.6**	**+0.6**
WRAB				pmax		pmax			
	comp=Z,50nm,1.0s								
WRAB	**Tennant Creek**		**24.04 236**	*e*P		**P**		**06 04 36.6**	**+0.6**
	comp=Z,50nm,1.0s								
WRAB	**Tennant Creek**		**24.04 236**	P		**P**		**06 04 36.2**	**+0.2**
	comp=Z,308nm,0.6s,SNR=17								
WRA	**Warramunga Arr**		**24.06 236**	P		**P**		**06 04 36.7**	**+0.6**
WRA				PcP		**PcP**		**06 08 16.1**	**+1.0**
WRA				PKiKP		**PKiKP**		**06 15 57.3**	**-0.7**
WRA	**Warramunga Arr**		**24.06 236**	P		**P**		**06 04 36.7**	**+0.6**
	comp=Z,28nm,0.6s,baz=60,slow=9.5,SNR=22								
WRA				PcP		**PcP**		**06 08 16.1**	**+1.0**
	comp=Z,3.7nm,0.6s,baz=69,slow=2.7,SNR=8.7								
WRA				PKiKP		**PKiKP**		**06 15 57.3**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=327,slow=0.7,SNR=5.9								
MSVF	**Nonsavu**		**24.57 118**	*e*P		**P**		**06 04 40.8**	**-0.1**
MSVF				pmax		pmax			
	comp=Z,44nm,0.8s								
MSVF	**Nonsavu**		**24.57 118**	*e*P		**P**		**06 04 40.8**	**-0.1**
	comp=Z,44nm,0.8s								
MSVF	**Nonsavu**		**24.57 118**	P		**P**		**06 04 40.8**	**-0.1**
	comp=Z,240nm,1.0s,SNR=9.2								
SWI	**Sorong**		**24.77 283**	P		**P**		**06 04 42.7**	**+0.1**
	comp=Z,130nm,0.8s,comp=Z,1μm								
AS31	**Alice Springs**		**26.38 229**	*e*P		**P**		**06 04 57.4**	**+0.2**
ASAR	**Alice Springs**		**26.38 229**	P		**P**		**06 04 57.1**	**-0.1**
ASAR				PcP		**PcP**		**06 08 21.5**	**+1.2**
ASAR				ScP		ScP		06 11 59.9	+10
ASAR	**Alice Springs**		**26.38 229**	P		**P**		**06 04 57.1**	**-0.1**
	comp=Z,10nm,0.7s,baz=62,slow=9.3,SNR=28								
ASAR				PcP		**PcP**		**06 08 21.5**	**+1.2**
	comp=Z,3.4nm,0.7s,baz=72,slow=2.6,SNR=8.7								
ASAR				ScP		ScP		06 11 59.9	+10
	comp=Z,0.4nm,0.5s,baz=51,slow=2.1,SNR=4.7								
STKA	**Stephens Creek**		**27.83 206**	*e*P		**P**		**06 05 12.6**	**+2.7**
	comp=Z,3.1nm,1.0s								
STKA				PcP		**PcP**		**06 08 24.5**	**+1.0**
STKA	**Stephens Creek**		**27.83 206**	*e*P		**P**		**06 05 09.7**	**-0.2**
	comp=Z,5.9nm,0.6s								
STKA	**Stephens Creek**		**27.83 206**	P		**P**		**06 05 09.8**	**-0.1**
	comp=Z,5.6nm,1.0s,baz=33,slow=14,SNR=3.7								
STKA				PcP		**PcP**		**06 08 24.5**	**+1.0**
	comp=Z,4.3nm,0.6s,baz=23,slow=2.8,SNR=6.7								
LBMI	**Labuha**		**28.47 282**	P		**P**		**06 05 16.1**	**+0.2**
	comp=Z,136nm,0.9s,comp=Z,2μm								
FITZ	**Fitzroy Crossi**		**30.93 246**	*e*P		**P**		**06 05 37.3**	**-0.3**
	comp=Z,22nm,0.7s								
FITZ				PcP		**PcP**		**06 08 33.3**	**+1.6**
FITZ				*e*PcP		PcP		06 08 33.5	+1.9
FITZ	**Fitzroy Crossi**		**30.93 246**	*e*P		**P**		**06 05 37.2**	**-0.4**
	comp=Z,40nm,0.6s								
FITZ	**Fitzroy Crossi**		**30.93 246**	P		**P**		**06 05 37.4**	**-0.3**
	comp=Z,22nm,0.6s,baz=82,slow=7.8,SNR=21								
FITZ				PcP		**PcP**		**06 08 33.3**	**+1.6**
	comp=Z,10nm,0.8s,baz=106,slow=1.8,SNR=5.0								
BBSI	**Bau Bau**		**32.59 271**	P		**P**		**06 05 52.4**	**+0.2**
	comp=Z,78nm,1.0s								
WSI	**Waingapu**		**34.74 263**	P		P		06 06 14.2	+3.3
FORT	**Forrest**		**34.78 224**	*e*P		**P**		**06 06 11.6**	**+0.7**
	comp=Z,34nm,0.6s								
FORT	**Forrest**		**34.78 224**	*e*P		**P**		**06 06 11.0**	**+0.1**
	comp=Z,34nm,0.7s								
BKSI	**Bulukumba**		**35.03 271**	P		**P**		**06 06 13.4**	**0.0**
	comp=Z,33nm,0.9s								
KAPI	**Kappang**		**35.43 271**	*e*P		**P**		**06 06 16.0**	**-0.8**
	comp=Z,43nm,0.8s								
KAPI	**Kappang**		**35.43 271**	P		**P**		**06 06 16.2**	**-0.6**
	comp=Z,322nm,0.7s,SNR=7.4								
KAPI	**Kappang**		**35.43 271**	P		**P**		**06 06 16.1**	**-0.7**
	comp=Z,58nm,0.9s								
MYLDM	**Lahad Datu**		**38.71 287**	P		**P**		**06 06 45.5**	**+1.0**
	comp=Z,34nm,1.0s								
KKM	**Kota Kinabalu**		**41.13 288**	*e*P		**P**		**06 07 04.2**	**-0.5**
	comp=Z,40nm,0.9s								
KKM	**Kota Kinabalu**		**41.13 288**	P		**P**		**06 07 04.0**	**-0.7**
	comp=Z,55nm,1.1s								
KLBR	**Kellerberrin**		**42.70 230**	*e*P		**P**		**06 07 16.8**	**-0.4**
	comp=Z,19nm,0.6s								
NWAO	**Narrogin (SRO)**		**43.70 229**	P		**P**		**06 07 25.8**	**+0.6**
NWAO	**Narrogin (SRO)**		**43.70 229**	P		**P**		**06 07 25.8**	**+0.6**
	comp=Z,10nm,0.7s,baz=75,slow=6.1,SNR=5.7								
JNU	**Nakatsue**		**46.22 331**	P		**P**		**06 07 42.6**	**-2.4**
JNU	**Nakatsue**		**46.22 331**	P		**P**		**06 07 42.6**	**-2.4**
	comp=Z,8.1nm,0.6s,baz=74,slow=18,SNR=6.6								
MJAR	**Matsushiro Arr**		**46.24 341**	P		**P**		**06 07 42.6**	**-2.5**
MJAR				PcP		**PcP**		**06 09 19.1**	**+0.1**
MJAR	**Matsushiro Arr**		**46.24 341**	P		**P**		**06 07 42.6**	**-2.5**
	comp=Z,4.2nm,0.8s,baz=170,slow=8.0,SNR=7.1								
MJAR				PcP		**PcP**		**06 09 19.1**	**+0.1**
	comp=Z,2.7nm,0.7s,baz=174,slow=3.4,SNR=4.5								
KSRS	**Korea Array**		**51.14 332**	P		**P**		**06 08 20.6**	**-2.0**
	comp=Z,3.7nm,0.6s,baz=146,slow=6.4,SNR=10								
KSAR	**Wonju Array Be**		**51.15 332**	P		**P**		**06 08 20.6**	**-2.1**
QIZ	**Qiongzhong**		**51.77 301**	P		**P**		**06 08 28.1**	**+0.5**
QIZ				pP		**pP**		**06 08 52.0**	**-1.7**
QIZ				S		**S**		**06 15 43.3**	**+1.7**
QIZ				pmax		pmax			
	comp=Z,31nm,0.8s								
QIZ				LR		LR			
	comp=Z,250nm,25.4s								
QIZ	**Qiongzhong**		**51.77 301**	*e*P		**P**		**06 08 26.3**	**-1.3**
	comp=Z,16nm,0.8s								
NJ2	**Nanjing**		**52.16 320**	*e*P		**P**		**06 08 28.8**	**-1.5**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.7s								
ASAJ	**Asahikawa**		**52.21 348**	P		**P**		**06 08 29.4**	**-1.0**
ASAJ	**Asahikawa**		**52.21 348**	P		**P**		**06 08 29.4**	**-1.0**
	comp=Z,13nm,0.7s,baz=221,slow=16,SNR=6.4								
WHN	**Wuhan**		**54.21 316**	P		**P**		**06 08 45.0**	**-0.3**
USRK	**Ussuriysk Arra**		**55.19 340**	P		**P**		**06 08 50.9**	**-1.3**
	comp=Z,6.6nm,0.7s,baz=156,slow=5.4,SNR=8.5								
IPM	**Ipoh**		**55.39 280**	*e*P		**P**		**06 08 53.5**	**-0.7**
	comp=Z,18nm,0.7s								
IPM	**Ipoh**		**55.39 280**	P		**P**		**06 08 53.6**	**-0.7**
	comp=Z,30nm,1.0s								
KULM	**Kulim**		**55.92 281**	P		**P**		**06 08 57.8**	**-0.2**
	comp=Z,18nm,0.9s								
MDJ	**Mudanjiang**		**56.41 338**	P		**P**		**06 09 02.8**	**+1.9**
MDJ				pP		**pP**		**06 09 26.8**	**-0.6**
MDJ				sP		**sP**		**06 09 38.1**	**-1.4**
MDJ				pmax		pmax			
	comp=Z,260nm,4.2s								
CN2	**Changchun**		**57.38 335**	*e*P		**P**		**06 09 10.0**	**+2.3**
CN2				*e*pP		**pP**		**06 09 34.0**	**-0.3**
CN2				*e*S		**S**		**06 16 57.0**	**+1.0**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CN2				pmax		pmax			
	comp=Z,200nm,3.0s								
GYA	**Guiyang**		**57.75 307**	P		**P**		**06 09 13.0**	**+2.2**
GYA				pP		**pP**		**06 09 38.8**	**+1.4**
GYA				sP		**sP**		**06 09 51.3**	**+1.8**
GYA				PcP		**PcP**		**06 10 03.6**	**+1.1**
GYA				PP		**PP**		**06 11 23.4**	**+3.3**
GYA				ScP		**ScP**		**06 13 53.0**	**+0.4**
GYA				PcS		**PcS**		**06 14 03.8**	**-0.4**
GYA				S		**S**		**06 17 02.3**	**+0.6**
GYA				sS		**sS**		**06 17 46.5**	**-0.8**
GYA				ScS		**ScS**		**06 18 49.0**	**-1.3**
GYA				pmax		pmax			
	comp=Z,20nm,1.0s								
GYA				pmax		pmax			
	comp=Z,120nm,5.4s								
HABR	**Khabarovsk**		**58.09 344**	*e*P		**P**		**06 09 10.4**	**-2.2**
HABR				*e*				06 10 01.1	
HABR				*e*				06 11 19.1	
HABR				S		**S**		**06 17 05.0**	**0.0**
HABR				*e*				06 18 51.5	
HABR				*e*SS		**SS**		**06 20 58.1**	**-0.3**
HABR				pmax		pmax			
	comp=N,193nm,4.0s								
HABR				pmax		pmax			
	comp=Z,162nm,2.4s								
HABR				pmax		pmax			
	comp=E,178nm,4.0s								
HABR				MLR		MLR			
	comp=Z,98nm,15.0s								
BJI	**Beijing**		**59.15 326**	P		**P**		**06 09 21.8**	**+1.7**
BJI				pP		**pP**		**06 09 46.1**	**-0.7**
BJI				sP		**sP**		**06 09 57.5**	**-1.4**
BJI				PP		**PP**		**06 11 33.1**	**+1.0**
BJI				SS		**SS**		**06 21 18.1**	**+2.7**
BJI				pmax		pmax			
	comp=Z,12nm,0.7s								
KLR	**Kul'dur**		**59.72 342**	*e*P		P		06 09 20.0	-3.8
KLR				*e*				06 10 14.6	
XAN	**Xi'an**		**59.97 316**	P		**P**		**06 09 24.5**	**-1.5**
XAN				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KMI	**Kunming**		**60.32 304**	P		**P**		**06 09 29.9**	**+1.2**
KMI				PP		**PP**		**06 11 47.4**	**+4.3**
KMI				S		**S**		**06 17 35.0**	**-0.2**
KMI				SS		**SS**		**06 21 38.1**	**+3.4**
KMI				pmax		pmax			
	comp=Z,16nm,1.1s								
KMI				pmax		pmax			
	comp=Z,92nm,4.8s								
KMI				LR		LR			
	comp=N,290nm,16.9s								
KMI				LR		LR			
	comp=E,170nm,19.4s								
KMI				LR		LR			
	comp=Z,250nm,19.6s								
CM31	**Chiang Mai Arr**		**61.10 295**	*e*P		**P**		**06 09 34.8**	**+0.8**
	comp=Z,40nm,0.7s								
CMAR	**Chiang Mai Arr**		**61.10 295**	P		**P**		**06 09 34.6**	**+0.7**
CMAR	**Chiang Mai Arr**		**61.10 295**	P		**P**		**06 09 34.6**	**+0.7**
	comp=Z,45nm,0.7s,baz=121,slow=5.0,SNR=53								
CHTO	**Chiang Mai**		**61.22 296**	*e*P		**P**		**06 09 35.0**	**+0.3**
CHTO				pmax		pmax			
	comp=Z,29nm,0.9s								
CHTO	**Chiang Mai**		**61.22 296**	*e*P		**P**		**06 09 35.0**	**+0.3**
	comp=Z,29nm,0.9s								
CHTO	**Chiang Mai**		**61.22 296**	P		**P**		**06 09 34.8**	**+0.1**
HHC	**Hu-ho-hao-te**		**62.33 324**	*e*P		**P**		**06 09 45.0**	**+3.1**
HHC				pP		**pP**		**06 10 11.4**	**+2.6**
HHC				sP		**sP**		**06 10 22.1**	**+1.3**
HHC				S		**S**		**06 18 02.3**	**+2.4**
HHC				pmax		pmax			
	comp=Z,140nm,4.2s								
HHC				LR		LR			
	comp=N,800nm,19.0s								
HHC				LR		LR			
	comp=E,600nm,13.1s								
HHC				LR		LR			
	comp=Z,1μm,15.5s								
LZH	**Lanzhou**		**64.58 315**	*e*P		**P**		**06 09 57.0**	**+0.1**
LZH				pP		**pP**		**06 10 22.1**	**-1.9**
LZH				sP		**sP**		**06 10 33.0**	**-2.9**
LZH				PP		**PP**		**06 12 21.5**	**+1.1**
LZH				*e*S		**S**		**06 18 27.3**	**-0.9**
LZH				pmax		pmax			
	comp=Z,23nm,1.2s								
LZH				pmax		pmax			
	comp=Z,100nm,7.3s								
LZH				LR		LR			
	comp=N,560nm,16.0s								
LZH				LR		LR			
	comp=E,450nm,15.1s								
LZH				LR		LR			
	comp=Z,550nm,18.0s								
CLNS	**Chul'man**		**68.38 343**	*e*P		**P**		**06 10 22.5**	**+2.1**
CLNS				pmax		pmax			
	comp=E,5.0nm,0.6s								
CLNS				pmax		pmax			
	comp=N,7.0nm,0.6s								
CLNS				pmax		pmax			
	comp=Z,677nm,13.5s								
CLNS	**Chul'man**		**68.38 343**	*e*P		**P**		**06 10 22.5**	**+2.1**
CLNS				pmax		pmax			
	comp=E,5.0nm,0.6s								
CLNS				pmax		pmax			
	comp=N,7.0nm,0.6s								
CLNS				MLR		MLR			
	comp=E,559nm,13.0s								
CLNS				MLR		MLR			
	comp=N,190nm,18.0s								
GTA	**Gaotai**		**69.00 317**	⇓P		**P**		**06 10 24.8**	**0.0**
GTA				pP		**pP**		**06 10 51.1**	**-1.1**
GTA				sP		**sP**		**06 11 02.1**	**-2.0**
GTA				S		**S**		**06 19 20.6**	**-0.6**
GTA				sS		**SKiKP**		**06 20 05.3**	**0.0**
GTA				SS		**SS**		**06 23 50.0**	**+0.7**
GTA				pmax		pmax			
	comp=Z,8.0nm,1.0s								
GTA				pmax		pmax			
	comp=Z,150nm,4.0s								
GTA				LR		LR			
	comp=N,190nm,15.7s								
GTA				LR		LR			
	comp=E,170nm,16.4s								
GTA				LR		LR			
	comp=Z,150nm,17.3s								
ULN	**Ulaanbaatar**		**69.22 327**	*e*P		**P**		**06 10 25.6**	**-0.4**
	comp=Z,10nm,1.0s								
SONM	**Songino Array**		**69.56 327**	P		**P**		**06 10 27.4**	**-0.7**
SONM			⇑	*e*				06 38 31.0	
SONM	**Songino Array**		**69.56 327**	P		**P**		**06 10 27.4**	**-0.7**
	comp=Z,10nm,0.9s,baz=133,slow=5.8,SNR=36								
SONM				PKP2bc				06 38 31.0	
	comp=Z,0.3nm,0.7s,baz=290,slow=1.7,SNR=3.0								
LSA	**Lhasa**		**71.57 304**	*e*P		**P**		**06 10 41.2**	**+0.1**
LSA				pmax		pmax			
	comp=Z,12nm,0.9s								
LSA	**Lhasa**		**71.57 304**	*e*P		**P**		**06 10 41.2**	**+0.1**
	comp=Z,12nm,0.9s								
ZAK	**Zakamensk**		**72.71 328**	*e*P		**P**		**06 10 46.0**	**-1.0**
ZAK				pmax		pmax			
	comp=Z,9.0nm,1.0s								
BOD	**Bodaibo**		**72.79 338**	*e*P		**P**		**06 10 45.5**	**-1.6**
BOD				pmax		pmax			
	comp=Z,3.0nm,0.9s								
TLY	**Talaya**		**73.28 329**	*e*P		**P**		**06 10 48.1**	**-2.1**
TLY				pmax		pmax			
	comp=Z,5.0nm,1.0s								
TLY	**Talaya**		**73.28 329**	*e*P		**P**		**06 10 49.7**	**-0.5**
	comp=Z,5.2nm,0.9s								
TAPN	**Taplejung**		**73.71 301**	*e*P		**P**		**06 10 53.9**	**+0.3**
	comp=Z,62nm,0.9s								
ODAN	**Odare**		**73.84 300**	*e*P		**P**		**06 10 54.6**	**+0.3**
	comp=Z,94nm,0.6s								
RAMN	**Ramite**		**74.54 300**	*e*P		**P**		**06 10 58.4**	**0.0**
	comp=Z,25nm,0.7s								
JIRN	**Jiri**		**75.09 301**	*e*P		**P**		**06 11 02.0**	**+0.3**
	comp=Z,9.9nm,0.6s								
BILL	**Bilibino**		**75.31**	4⇑	*i*P	**P**		**06 11 02.1**	**+0.5**
BILL					*i*			06 11 12.2	
BILL				pmax		pmax			
	comp=Z,28nm,2.1s								
BILL	**Bilibino**		**75.31**	**4**	*e*Sn	**P**		**06 11 03.9**	**+2.3**
GUN	**Gumba**		**75.43 301**		*e*P	**P**		**06 11 03.9**	**+0.3**
	comp=Z,76nm,0.7s								
PKI	**Pulchoki**		**75.73 301**		*e*P	**P**		**06 11 05.4**	**+0.1**
KKN	**Kakani**		**75.90 301**		*e*P	**P**		**06 11 06.3**	**+0.2**
	comp=Z,32nm,0.6s								
DMN	**Daman**		**76.00 301**		*e*P	**P**		**06 11 07.2**	**+0.4**
	comp=Z,63nm,0.7s								
GKN	**Gorkha**		**76.51 301**		*e*P	**P**		**06 11 09.5**	**0.0**
KOLN	**Koldanda**		**77.33 300**		*e*P	**P**		**06 11 14.1**	**-0.1**
	comp=Z,19nm,0.6s								
DANN	**Dangsing**		**77.35 301**		*e*P	**P**		**06 11 14.1**	**-0.3**
	comp=Z,28nm,0.7s								
WMQ	**Urumqi**		**79.09 317**		*e*P	**P**		**06 11 22.6**	**-0.7**
WMQ				pmax		pmax			
	comp=Z,6.0nm,0.8s								
HYB	**Hyderabad**		**79.60 289**		*i*P	**P**		**06 11 25.0**	**-1.6**
HYB					*e*			06 11 35.0	
PMR	**Palmer**		**80.71**	**24**	*e*P	**P**		**06 11 30.9**	**-0.6**
	comp=Z,19nm,1.0s								
SML	**Sawmill**		**81.14**	**24**	*e*P	**P**		**06 11 33.9**	**-0.1**
	comp=Z,7.9nm,0.8s								
MCK	**McKinley**		**81.98**	**22**	*e*P	**P**		**06 11 36.5**	**-1.8**
	comp=Z,34nm,0.9s								
PAX	**Paxson**		**82.89**	**23**	*e*P	**P**		**06 11 44.2**	**+1.1**
	comp=Z,21nm,1.5s								
QSPA	**South Pole Qui**		**82.93 180**		P	**P**		**06 11 45.1**	**+1.8**
QSPA					PKKPbc	**PKKPbc**		**06 30 04.7**	**-4.3**
QSPA	**South Pole Qui**		**82.93 180**		P	**P**		**06 11 45.1**	**+1.8**
	comp=Z,21nm,0.7s,baz=357,slow=1.5,SNR=55								
QSPA					PKKPbc	**PKKPbc**		**06 30 04.7**	**-4.3**
	comp=Z,1.7nm,0.7s,baz=237,slow=2.3,SNR=6.4								
ILAR	**Eielson Array**		**83.30**	**21**	P	**P**		**06 11 43.4**	**-1.8**
ILAR	**Eielson Array**		**83.30**	**21**	P	**P**		**06 11 43.4**	**-1.8**
	comp=Z,8.4nm,0.8s,baz=256,slow=5.8,SNR=11								
MK31	**Makanchi Array**		**83.66 319**		*e*P	**P**		**06 11 46.5**	**-0.9**
MK31	**Makanchi Array**		**83.66 319**		*e*P	**P**		**06 11 46.5**	**-0.9**
MKAR	**Makanchi Array**		**83.66 319**		*e*P	**P**		**06 11 46.7**	**-0.7**
MKAR	**Makanchi Array**		**83.66 319**		*e*P	**P**		**06 11 46.6**	**-0.7**
MKAR					PKKPbc	**PKKPbc**		**06 30 04.7**	**-1.5**
MKAR	**Makanchi Array**		**83.66 319**		P	**P**		**06 11 46.5**	**-0.9**
	comp=Z,6.8nm,0.7s,baz=105,slow=5.6,SNR=27								
MKAR					PKKPbc	**PKKPbc**		**06 30 04.7**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=268,slow=1.9,SNR=4.4								
POO	**Poona**		**84.20 289**		*ex*	**P**		**06 11 49.0**	**-1.7**
ZALV	**Zalesovo Beam**		**84.41 326**		P	**P**		**06 11 49.1**	**-1.8**
ZALV	**Zalesovo Beam**		**84.41 326**		P	**P**		**06 11 49.1**	**-1.8**
ZALV	**Zalesovo Beam**		**84.41 326**		P	**P**		**

YKA	**Yellowknife Ar**	**96.23**	**28**	P	**P**	06 12 46.0	-0.4
YKA				PKiKP	**PKiKP**	06 17 23.6	-0.3
YKA				PKKPbc	**PKKPbc**	06 29 32.1	-3.0
YKA	**Yellowknife Ar**	**96.23**	**28**	P	**P**	06 12 46.0	-0.4
	comp=Z,3.9nm,0.7s,baz=264,slow=4.4,SNR=35						
YKA				PKiKP	**PKiKP**	06 17 23.6	-0.3
	comp=Z,0.4nm,0.7s,baz=265,slow=1.5,SNR=5.0						
YKA				PKKPbc	**PKKPbc**	06 29 32.1	-3.0
	comp=Z,0.5nm,0.7s,baz=86,slow=2.7,SNR=16						
M15A	**Larsen Ranch,**	**96.28**	**49**	⇑P	**P**	06 12 47.4	0.0
	baz=96						
O17A	**Robinson Place**	**97.50**	**50**	⇓P	Pdif	06 12 53.4	+0.4
	baz=97						
PDAR	**Pinedale Array**	**98.49**	**48**	P	**P**	06 12 56.5	-1.0
PDAR	**Pinedale Array**	**98.49**	**48**	P	**P**	06 12 56.5	-1.0
	comp=Z,1.6nm,1.0s,baz=232,slow=2.2,SNR=7.5						
K19A	**Absolon Red Bu**	**99.02**	**48**	⇑P	**Pdif**	06 12 59.0	-0.7
	baz=99						
TXAR	**Lajitas Array**	**103.00**	**62**	PKKPbc	PKKPbc	06 29 13.6	-1.3
TXAR	**Lajitas Array**	**103.00**	**62**	PKKPbc	PKKPbc	06 29 13.6	-1.3
	comp=Z,0.3nm,0.6s,baz=161,slow=5.7,SNR=4.1						
FINES	**FINESS Array B**	**114.12**	**336**	PKiKP	PKPdf	06 17 56.9	0.0
FINES				PKKPbc	**PKKPbc**	06 28 38.0	-2.5
FINES	**FINESS Array B**	**114.12**	**336**	PKiKP	PKPdf	06 17 56.9	0.0
	comp=Z,2.8nm,0.8s,baz=55,slow=5.6,SNR=3.4						
FINES				PKKPbc	**PKKPbc**	06 28 38.0	-2.5
	comp=Z,1.3nm,0.7s,baz=194,slow=5.3,SNR=4.7						
PLCA	**Paso Flores**	**116.48**	**142**	PKP	**PKPdf**	06 18 03.3	+1.0
PLCA	**Paso Flores**	**116.48**	**142**	PKP	**PKPdf**	06 18 03.3	+1.0
	comp=Z,3.1nm,0.6s,baz=199,slow=6.5,SNR=6.2						
AKASG	**Malin Array Be**	**117.77**	**325**	PKiKP	**PKPdf**	06 18 04.2	-0.1
AKASG	**Malin Array Be**	**117.77**	**325**	PKP	**PKPdf**	06 18 04.2	-0.1
AKASG	**Malin Array Be**	**117.77**	**325**	PKP	**PKPdf**	06 18 04.2	-0.1
	comp=Z,1.2nm,0.5s,baz=65,slow=1.8,SNR=4.3						
HFS	**Hagfors**	**119.67**	**339**	PKP	**PKPdf**	06 18 07.0	-0.7
HFS	**Hagfors**	**119.67**	**339**	PKP	**PKPdf**	06 18 07.0	-0.7
	comp=Z,2.8nm,0.6s,baz=141,slow=5.0,SNR=4.0						
SADO	**Sadowa**	**119.76**	**42**	PKP	**PKPdf**	06 18 07.5	-0.8
SADO	**Sadowa**	**119.76**	**42**	PKP	**PKPdf**	06 18 07.5	-0.8
	comp=Z,4.1nm,0.8s,baz=280,slow=1.6,SNR=5.2						
NB2	**NORSAR Subarra**	**119.86**	**341**	PKPdf	**PKPdf**	06 18 07.1	-1.0
	comp=Z,0.7nm,0.6s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**119.86**	**341**	PKP	**PKPdf**	06 18 08.0	-0.1
NOA	**NORSAR Array B**	**119.86**	**341**	PKP	**PKPdf**	06 18 08.0	-0.1
	comp=Z,1.9nm,0.7s,baz=46,slow=2.0,SNR=8.3						
BOSA	**Boshof**	**120.24**	**231**	PKP	**PKPdf**	06 18 10.0	0.0
BOSA	**Boshof**	**120.24**	**231**	PKP	**PKPdf**	06 18 10.0	0.0
	comp=Z,2.8nm,0.7s,baz=147,slow=9.8,SNR=5.9						
SUR	**Sutherland**	**121.59**	**225**	PKP	**PKPdf**	06 18 13.9	+1.4
SUR	**Sutherland**	**121.59**	**225**	PKP	**PKPdf**	06 18 14.0	+1.4
	comp=Z,10nm,1.0s,baz=61,slow=3.0,SNR=4.5						
LBTB	**Lobatse**	**121.62**	**235**	PKP	**PKPdf**	06 18 13.2	+0.6
LBTB	**Lobatse**	**121.62**	**235**	PKP	**PKPdf**	06 18 13.2	+0.6
	comp=Z,2.5nm,0.8s,baz=154,slow=8.3,SNR=3.9						
SCHQ	**Schefferville**	**121.67**	**27**	PKP	**PKPdf**	06 18 11.1	-0.6
SCHQ	**Schefferville**	**121.67**	**27**	PKP	**PKPdf**	06 18 11.1	-0.6
	comp=Z,3.0nm,0.8s,baz=19,slow=10,SNR=3.8						
KOLS	**Kolonicke sedl**	**122.58**	**325**	*e*PKiKP	**PKPdf**	06 18 15.1	+1.5
KOLS	**Kolonicke sedl**	**122.58**	**325**	*e*PKP	**PKPdf**	06 18 15.1	+1.5
CRVS	**Cervenica-Dubn**	**123.05**	**325**	*e*PKiKP	**PKPdf**	06 18 15.1	+0.5
CRVS	**Cervenica-Dubn**	**123.05**	**325**	*e*PKP	**PKPdf**	06 18 15.1	+0.5
VYHS	**Vyhne**	**124.74**	**326**	*e*PKiKP	**PKPdf**	06 18 17.8	0.0
VYHS	**Vyhne**	**124.74**	**326**	*e*PKP	**PKPdf**	06 18 17.8	0.0
CLL	**Collm**	**126.01**	**332**	⇓*i*PKiKP	**PKPdf**	06 18 20.9	+0.8
CLL				*e*		06 18 31.0	
CLL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CLL	**Collm**	**126.01**	**332**	⇓*i*PKPdf	**PKPdf**	06 18 20.9	+0.8
	comp=Z,7.0nm,0.8s						
GERES	**GERESS Array B**	**127.27**	**329**	PKP	**PKPdf**	06 18 23.5	+0.7
GERES	**GERESS Array B**	**127.27**	**329**	PKP	**PKPdf**	06 18 23.5	+0.7
	comp=Z,2.6nm,0.7s,baz=35,slow=3.3,SNR=6.4						
GIVF	**Givet**	**130.51**	**335**	*e*PKiKP	**PKPdf**	06 18 29.6	+0.9
	comp=Z,16nm,0.9s						
GIVF	**Givet**	**130.51**	**335**	*e*PKiKP	**PKPdf**	06 18 29.6	+0.9
GIVF	**Givet**	**130.51**	**335**	*e*PKPdf	**PKPdf**	06 18 29.6	+0.9
CDF	**Champ du Feu**	**130.69**	**332**	*e*PKiKP	**PKPdf**	06 18 29.6	+0.3
CDF	**Champ du Feu**	**130.69**	**332**	*e*PKiKP	**PKPdf**	06 18 29.6	+0.3
CDF	**Champ du Feu**	**130.69**	**332**	*e*PKPdf	**PKPdf**	06 18 29.6	+0.3
BAIF	**Baives**	**130.79**	**336**	*e*PKiKP	**PKPdf**	06 18 30.0	+0.7
BAIF	**Baives**	**130.79**	**336**	*e*PKiKP	**PKPdf**	06 18 30.0	+0.7
BAIF	**Baives**	**130.79**	**336**	*e*PKPdf	**PKPdf**	06 18 30.0	+0.7
TSUM	**Tsumeb**	**130.87**	**237**	PKP	**PKPdf**	06 18 31.6	+1.1
TSUM	**Tsumeb**	**130.87**	**237**	PKP	**PKPdf**	06 18 31.6	+1.1
	comp=Z,1.5nm,0.6s,baz=139,slow=7.8,SNR=3.6						
HINF	**Hinteralfeld**	**131.32**	**332**	*e*PKiKP	**PKPdf**	06 18 30.9	+0.5
HINF	**Hinteralfeld**	**131.32**	**332**	*e*PKiKP	**PKPdf**	06 18 30.9	+0.5
HINF	**Hinteralfeld**	**131.32**	**332**	*e*PKPdf	**PKPdf**	06 18 30.9	+0.5
HAU	**Haudompre**	**131.41**	**333**	*e*PKiKP	**PKPdf**	06 18 31.0	+0.4
	comp=Z,17nm,1.1s						
HAU	**Haudompre**	**131.41**	**333**	*e*PKiKP	**PKPdf**	06 18 31.0	+0.4
HAU	**Haudompre**	**131.41**	**333**	*e*PKPdf	**PKPdf**	06 18 31.0	+0.4
MEZF	**Maizieres J'vi**	**131.63**	**334**	*e*PKiKP	**PKPdf**	06 18 32.0	+1.1
MEZF	**Maizieres J'vi**	**131.63**	**334**	*e*PKPdf	**PKPdf**	06 18 32.0	+1.1
CABF	**La Chapelle**	**132.55**	**331**	*e*PKiKP	**PKPdf**	06 18 33.4	+0.5
	comp=Z,5.8nm,0.7s						
CABF	**La Chapelle**	**132.55**	**331**	*e*PKiKP	**PKPdf**	06 18 33.4	+0.5
CABF	**La Chapelle**	**132.55**	**331**	*e*PKPdf	**PKPdf**	06 18 33.4	+0.5
LPL	**La Plagne**	**133.02**	**330**	*e*PKiKP	**PKPdf**	06 18 34.1	+0.2
	comp=Z,6.9nm,0.8s						
LPL	**La Plagne**	**133.02**	**330**	*e*PKiKP	**PKPdf**	06 18 34.1	+0.2
LPL	**La Plagne**	**133.02**	**330**	*e*PKPdf	**PKPdf**	06 18 34.1	+0.2
LPG	**La Plagne**	**133.03**	**330**	*e*PKiKP	**PKPdf**	06 18 34.3	+0.3
	comp=Z,7.4nm,0.8s						
LPG	**La Plagne**	**133.03**	**330**	*e*PKiKP	**PKPdf**	06 18 34.3	+0.3
LPG	**La Plagne**	**133.03**	**330**	*e*PKPdf	**PKPdf**	06 18 34.3	+0.3
LOR	**Lormes**	**133.09**	**334**	*e*PKiKP	**PKPdf**	06 18 34.7	+1.0
	comp=Z,5.9nm,0.8s						
LOR	**Lormes**	**133.09**	**334**	*e*PKPdf	**PKPdf**	06 18 34.7	+1.0
SSF	**Saint Saulge**	**133.40**	**334**	*e*PKiKP	**PKPdf**	06 18 35.4	+1.1
	comp=Z,7.1nm,0.8s						
SSF	**Saint Saulge**	**133.40**	**334**	*e*PKiKP	**PKPdf**	06 18 35.4	+1.1
SSF	**Saint Saulge**	**133.40**	**334**	*e*PKPdf	**PKPdf**	06 18 35.4	+1.1
PGF	**Pioggiola**	**133.83**	**325**	*e*PKiKP	**PKPdf**	06 18 36.1	+0.7
PGF	**Pioggiola**	**133.83**	**325**	*e*PKiKP	**PKPdf**	06 18 36.1	+0.7
PGF	**Pioggiola**	**133.83**	**325**	*e*PKPdf	**PKPdf**	06 18 36.1	+0.7
BGF	**Bois d'Agland**	**134.08**	**334**	*e*PKiKP	**PKPdf**	06 18 34.6	-1.0
BGF	**Bois d'Agland**	**134.08**	**334**	*e*PKiKP	**PKPdf**	06 18 34.6	-1.0
BGF	**Bois d'Agland**	**134.08**	**334**	*e*PKPdf	**PKPdf**	06 18 34.6	-1.0
GRR	**Gorron**	**134.12**	**338**	*e*PKiKP	**PKPdf**	06 18 35.9	+0.3
	comp=Z,21nm,1.0s						
GRR	**Gorron**	**134.12**	**338**	*e*PKiKP	**PKPdf**	06 18 35.9	+0.3
GRR	**Gorron**	**134.12**	**338**	*e*PKPdf	**PKPdf**	06 18 35.9	+0.3
CPUP	**Villa Florida**	**134.12**	**138**	PKP	**PKPdf**	06 18 37.5	+1.2
CPUP	**Villa Florida**	**134.12**	**138**	PKP	**PKPdf**	06 18 37.5	+1.2
	comp=Z,4.4nm,0.7s,baz=158,slow=0.7,SNR=15						
SDV	**Santo Domingo**	**134.47**	**84**	*e*PKPdf	**PKPdf**	06 18 37.8	+0.3
VIVF	**Saint-Julien-l**	**134.51**	**331**	*e*PKiKP	**PKPdf**	06 18 36.8	+0.3
	comp=Z,16nm,1.1s						
VIVF	**Saint-Julien-l**	**134.51**	**331**	*e*PKiKP	**PKPdf**	06 18 36.8	+0.3
VIVF	**Saint-Julien-l**	**134.51**	**331**	*e*PKPdf	**PKPdf**	06 18 36.8	+0.3
TCF	**Toulx Ste Croi**	**134.56**	**334**	*e*PKiKP	**PKPdf**	06 18 37.1	+0.5
	comp=Z,6.5nm,0.7s						
TCF	**Toulx Ste Croi**	**134.56**	**334**	*e*PKiKP	**PKPdf**	06 18 37.1	+0.5
TCF	**Toulx Ste Croi**	**134.56**	**334**	*e*PKPdf	**PKPdf**	06 18 37.1	+0.5
MFF	**Saint Martin d**	**135.31**	**336**	*e*PKiKP	**PKPdf**	06 18 37.9	0.0
	comp=Z,6.4nm,0.6s						
MFF	**Saint Martin d**	**135.31**	**336**	*e*PKiKP	**PKPdf**	06 18 37.9	0.0
MFF	**Saint Martin d**	**135.31**	**336**	*e*PKPdf	**PKPdf**	06 18 37.9	0.0
LASF	**Ste Croix**	**135.48**	**331**	*e*PKiKP	**PKPdf**	06 18 38.7	+0.4
	comp=Z,23nm,1.2s						
LASF	**Ste Croix**	**135.48**	**331**	*e*PKPdf	**PKPdf**	06 18 38.7	+0.4
ETSF	**Etsaut**	**138.45**	**333**	*e*PKiKP	**PKPdf**	06 18 43.9	0.0
ETSF	**Etsaut**	**138.45**	**333**	*e*PKiKP	**PKPdf**	06 18 43.9	0.0
ETSF	**Etsaut**	**138.45**	**333**	*e*PKPdf	**PKPdf**	06 18 43.9	0.0
SAML	**Samuel**	**138.46**	**112**	*e*PKPdf	**PKPdf**	06 18 45.1	+0.5
EVO	**Evora**	**145.22**	**337**	*e*PKiKP	**PKPbc**	06 18 55.3	-0.6
	comp=Z,31nm,1.0s						
EVOP	**Sao Brissos**	**145.27**	**337**	*e*PKiKP	**PKPbc**	06 18 55.3	-0.7
EVOP	**Sao Brissos**	**145.27**	**337**	*e*PKPdf	**PKPbc**	06 18 55.3	-0.7
TAM	**Tamanrasset**	**146.99**	**302**	*e*PKiKP	**PKPdf**	06 18 59.2	-0.5
TAM				*e*		06 19 02.0	
TAM	**Tamanrasset**	**146.99**	**302**	*e*PKPdf	**PKPdf**	06 18 59.2	-0.5
TAM				*e*PKPbc	**PKPbc**	06 19 02.0	+0.2
BDFB	**Brasilia**	**147.71**	**134**	PKPbc	**PKPdf**	06 19 02.4	+1.4
BDFB	**Brasilia**	**147.71**	**134**	PKPbc	**PKPdf**	06 19 02.4	+1.4
	comp=Z,29nm,0.6s,baz=274,slow=1.6,SNR=33						
TOA0	**Torodi Ar. Sit**	**153.36**	**285**	*e*PKPdf	**PKPdf**	06 19 09.8	+0.2
TOA0				*e*PKPbc	**PKiKP**	06 19 17.4	+0.1
TOA0				*e*PKPab	**PKPab**	06 19 29.9	+0.1
TORD	**Torodi Ar. Bea**	**153.36**	**285**	PKP	**PKPdf**	06 19 09.8	+0.1
TORD				PKPbc	**PKPbc**	06 19 17.2	0.0
TORD	**Torodi Ar. Bea**	**153.36**	**285**	PKP	**PKPdf**	06 19 09.8	+0.1
	comp=Z,0.9nm,0.7s,baz=49,slow=0.5,SNR=4.5						
TORD				PKPbc	**PKPbc**	06 19 17.2	0.0
	comp=Z,5.0nm,0.7s,baz=93,slow=1.7,SNR=20						
DBIC	**Dimbokro**	**160.32**	**270**	PKPab	**PKPab**	06 20 00.0	+0.2
DBIC	**Dimbokro**	**160.32**	**270**	PKPab	**PKPab**	06 20 00.0	+0.2
	comp=Z,7.7nm,0.8s,baz=83,slow=6.9,SNR=7.5						
LIC	**Lamto**	**160.47**	**269**	*e*PKP2	**PKPab**	06 20 00.8	+0.4
	comp=Z,30nm,0.9s						

PDG ***16*** *06:05:10.8±0.3, 43.°53N×17.°45E, h2km, ML2.7/10, Error ellipse: s-maj=0.6km s-min=0.8km az=0.0*
BEO ***16*** *06:05:11.9±0.6, 43.°62N×17.°43E, h14km±4km, ML2.4/1*
CSEM ***16*** *06:05:11.7±0.3, 43.°70N×17.°57E, h2km, ML2.7/10, Error ellipse: s-maj=8.0km s-min=4.1km az=47.0*

ISC 16 06:05:10.5±1.2, 43.°58N±0.°03×17.°49E±0.°03, h0km±11km, n52, σ1s54/81, 13C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.72**	**168**	*i*		Pg	**Pg**	06 05 22.3	-2.0
STON						Sg	**Sb**	06 05 33.4	-2.9
BRY	**Bratogost**	**1.02**	**131**	⇓*i*		Pg	**Pg**	06 05 29.6	-0.4
BRY						*e*Sg	**Sn**	06 05 45.8	-1.5
UPM	**Unac-Piva**	**1.09**	**109**	⇑*i*		Pg	**Pg**	06 05 30.9	-0.6
UPM						*e*Sg	**Sn**	06 05 49.6	+0.4
UPM	**Unac-Piva**	**1.09**	**109**	⇑*i*		Pg	**Pg**	06 05 30.9	-0.6
UPM						*e*Sg	**Sn**	06 05 49.6	+0.4
BLY	**Banja Luka**	**1.19**	**349**	*e*		Pg	**Pg**	06 05 32.6	-0.8
BLY						*e*Sg	**Sb**	06 05 50.7	+0.7
BLY	**Banja Luka**	**1.19**	**349**	*e*		Pg	**Pg**	06 05 32.6	-0.8
BLY						*e*Sg	**Sb**	06 05 50.7	+0.7
NKY	**Niksic**	**1.34**	**124**	⇑*i*		Pg	**Pg**	06 05 35.5	-0.6
NKY						*e*Sg	**Sn**	06 05 57.0	+2.0
HCY	**Herceg Novi**	**1.34**	**147**	⇑*i*		Pg	**Pb**	06 05 35.9	-0.7
HCY						*e*Sg	**Sn**	06 05 55.9	+0.8
PLE	**Pljevlja**	**1.40**	**99**	⇓*i*		Pg	**Pn**	06 05 37.2	-0.2
PLE						*e*Sg	**Sn**	06 05 59.7	+3.0
PLE	**Pljevlja**	**1.40**	**99**	⇓*i*		Pg	**Pn**	06 05 37.2	-0.2
BUM	**Brajici-Budva**	**1.64**	**141**	⇑*i*		Pn	**Pb**	06 05 40.9	-0.7
BUM						*e*Sn	**Sg**	06 06 05.8	+2.7
BUM	**Brajici-Budva**	**1.64**	**141**	⇑*i*		Pn	**Pb**	06 05 40.9	-0.7
BUM						*e*Sn	**Sg**	06 06 05.8	+2.7
PDG	**Podgorica**	**1.73**	**131**	*e*		Pn	**Pg**	06 05 43.1	-0.5
PDG						*e*Sg	**Sg**	06 06 07.8	+1.8
PDG	**Podgorica**	**1.73**	**131**	*e*		Pn	**Pg**	06 05 43.1	-0.5
PDG						*e*Sg	**Sg**	06 06 07.8	+1.8
PDG						*e*Sn	**Sg**	06 06 08.6	+2.6
TTG	**Podgorica**	**1.73**	**131**	⇓*i*		Pn	**Pb**	06 05 42.4	-0.7
TTG						*e*Sn	**Sg**	06 06 08.6	+2.5
TEKS	**Tekeris**	**1.76**	**56**	*e*		Pn	**Pn**	06 05 42.1	-0.2
TEKS	**Tekeris**	**1.76**	**56**	*e*		Pn	**Pn**	06 05 42.1	-0.2
DIVS	**Divibare**	**1.88**	**73**	*e*		Pn	**Pn**	06 05 44.7	+0.7
DIVS						*e*Sn	**Sn**	06 06 07.7	-0.8
DIVS	**Divibare**	**1.88**	**73**	*e*		Pn	**Pn**	06 05 44.7	+0.7
DIVS						*e*Sn	**Sn**	06 06 07.7	-0.8
BEY	**Berane**	**1.89**	**111**	*e*		Pn	**Pb**	06 05 45.9	0.0
IVA	**Berane**	**1.89**	**111**	*e*		Pn	**Pb**	06 05 45.9	-0.1
IVA						*e*Sn	**Sg**	06 06 13.0	+1.7
IVAS	**Ivanjica**	**1.93**	**89**	*e*		Pn	**Pn**	06 05 45.2	+0.5
IVAS	**Ivanjica**	**1.93**	**89**	*e*		Pn	**Pn**	06 05 45.2	+0.5
PVY	**Plav**	**2.06**	**118**	⇓*i*		Pn	**Pn**	06 05 47.5	-1.3
PVY						*e*Sn	**Sg**	06 06 16.3	-0.2
ULC	**Ulcinj**	**2.06**	**141**	⇑*i*		Pn	**Pb**	06 05 48.1	-0.7
ULC						*e*Sn	**Sg**	06 06 16.7	-0.1
ULC	**Ulcinj**	**2.06**	**141**	⇑*i*		Pn	**Pb**	06 05 48.1	-0.7
ULC						*e*Sn	**Sg**	06 06 16.7	-0.1
NVLJ	**Novalja**	**2.13**	**299**	*e*		Pn	**Pb**	06 05 47.9	-2.1
NVLJ						Sn	**Sb**	06 06 16.0	-1.0
NVLJ	**Novalja**	**2.13**	**299**	*e*		Pn	**Pb**	06 05 47.9	-2.1
NVLJ						Sn	**Sb**	06 06 16.0	-1.0
TRUS	**Trudelj**	**2.20**	**72**	*e*		Pn	**Pn**	06 05 46.3	-2.0
TRUS	**Trudelj**	**2.20**	**72**	*e*		Pn	**Pn**	06 05 46.3	-2.0
FGSL	**Fruska Gora**	**2.29**	**46**	*e*		Pn	**Pn**	06 05 47.4	-2.2
FRGS	**Fruska Gora**	**2.29**	**46**	*e*		Pn	**Pn**	06 05 47.4	-2.2
GRUS	**Gruza**	**2.36**	**81**	*e*		Pn	**Pn**	06 05 51.7	+1.3
GRUS						*e*Sg	**Sg**	06 06 29.2	+3.0
GRUS	**Gruza**	**2.36**	**81**	*e*		Pn	**Pn**	06 05 51.7	+1.3
GRUS						*e*Sg	**Sg**	06 06 29.2	+3.0
BOJS	**Bojanci**	**2.51**	**321**	*e*		Pn	**Pn**	06 05 52.9	+0.7
BOJS	**Bojanci**	**2.51**	**321**	*e*		Pn	**Pn**	06 05 53.2	+0.7
SELS	**Selova**	**2.67**	**96**	*e*		Pn	**Pn**	06 05 55.7	+1.0
SELS	**Selova**	**2.67**	**96**	*e*		Pn	**Pn**	06 05 55.7	+1.0
PKSM	**Moragy**	**2.76**	**17**	⇑*i*		P	**Pn**	06 05 54.4	-1.6
PKSM	**Moragy**	**2.76**	**17**	*e*		Pn	**Pn**	06 05 53.6	-2.4
PKSM	**Moragy**	**2.76**	**17**	*e*		Pn	**Pn**	06 05 53.6	-2.4
PKSM	**Moragy**	**2.76**	**17**	⇑*i*		P	**Pn**	06 05 54.4	-1.6
BARS	**Barje**	**3.25**	**102**	*e*		Pn	**Pn**	06 06 02.8	+0.1
BARS	**Barje**	**3.25**	**102**	*e*		Pn	**Pn**	06 06 02.8	+0.1
VOY	**Vojsko**	**3.55**	**315**	*e*		Pn	**Pn**	06 06 08.7	+1.8
VOY				*e*				06 06 10.0	
VOY				*e*		Sn	**Sn**	06 06 53.1	+3.5
VOY	**Vojsko**	**3.55**	**315**	*e*		Pn	**Pn**	06 06 08.7	+1.8
VOY				*e*		Sn	**Sn**	06 06 53.1	+3.5
BZS	**Buzias**	**3.58**	**54**	⇑*i*		P	**Pn**	06 06 06.6	-0.7
BZS	**Buzias**	**3.58**	**54**	*e*		Pn	**Pn**	06 06 06.7	-0.6
BZS				*e*		Sn	**Sn**	06 06 48.3	-2.0
BZS	**Buzias**	**3.58**	**54**	*e*		Pn	**Pn**	06 06 06.7	-0.6
ZAPS	**Zavoj**	**3.76**	**93**	*e*		Pn	**Pn**	06 06 10.5	+0.8
ZAPS				*e*		Sn	**Sn**	06 06 54.9	+0.2
GZR	**Gura Zlata**	**4.20**	**63**	⇑*i*		P	**Pn**	06 06 16.0	+0.2
GZR	**Gura Zlata**	**4.20**	**63**	⇑*i*		P	**Pn**	06 06 16.0	+0.2

BGS ***16*** *06:05:36.0±2.1, 52.°39N×167.°99E, h40km, mb4.8*
IDC ***16*** *06:05:47.0±0.4, 54.°79N×161.°86E, h0km, mb4.6/33, mb1 4.8/35, mb1mx4.8/35, mbtmp4.7/35, ML4.7/2, MS4.0/15, Ms1 4.0/15, ms1mx3.8/37, Error ellipse: s-maj=11.7km s-min=9.1km az=167.0*
KRSC ***16*** *06:05:50.8±0.1, 54.°62N×162.°18E, h28km±18km, ML5.1*
BJI ***16*** *06:05:50.5, 54.°89N×162.°41E, h56km, mB5.0/20, mb4.6/27, Ms4.7/17, Ms7 4.4/17*
MOS ***16*** *06:05:50.5±1.1, 54.°82N×161.°75E, h31km, mb5.2/97, MS4.0/15, Error ellipse: s-maj=9.4km s-min=5.0km az=82.5*
ISCJB ***16*** *06:05:53.9±0.2, 54.°70N±0.°02×161.°85E±0.°02, h63km±2km, mb4.8/202, Error ellipse: s-maj=3.0km s-min=2.2km az=154.2*
NEIC ***16*** *06:05:54.2±0.7, 54.°78N×161.°73E, h47km±6km, mb4.9/110, Error ellipse: s-maj=5.3km s-min=2.9km az=172.0*
NEIC Felt at Petropavlovsk-Kamchatskiy and Ust'-Kamchatsk.
SZGRF ***16*** *06:05:59.8, 55.°86N×162.°30E, h33km, mb5.2, Near east coast of Kamchatka Peninsula, Russia*

ISC 16 06:05:54.7±0.3, 54.°70N±0.°03×161.°90E±0.°03, h58km±2km, h57km: pP-P, n949, σ1s14/1024, mb4.9/202, MS4.2/26, 254C-204D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.18**	**214**	PN		PN	Pn	06 05 58.2	-5.6
MKZ	**Mys Kozlova**	**0.18**	**214**	P		Pn	Pn	06 05 58.2	-5.6
TUMR	**Tumrok**	**1.17**	**301**	*e*		P	**Pn**	06 06 14.1	-0.9
BZGR	**Bezymyannyi-Gr**	**1.42**	**331**	*e*		P	**Pn**	06 06 17.9	-0.5
KMNR	**Kamenistaya**	**1.42**	**319**	P		P	**Pn**	06 06 18.0	-0.4
BZMR	**Bezymyannaya**	**1.48**	**327**	*e*		P	**Pn**	06 06 18.4	-0.7
BZMR				*i*		S	**Sn**	06 06 38.7	+1.2
BZWR	**Bezymyannyi-We**	**1.50**	**328**	*e*		P	**Pn**	06 06 18.9	-0.6
BZWR				*i*		S	**Sn**	06 06 38.7	+0.6
KIRR	**Kirishev**	**1.54**	**325**	*e*		P	**Pn**	06 06 19.6	-0.4
KIRR				*i*		S	**Sn**	06 06 41.3	+2.3
LGNR	**Loginova**	**1.55**	**334**	P		P	**Pn**	06 06 20.0	-0.2
LGNR				*i*		S	**Sn**	06 06 41.4	+2.0
CIRR	**Tsirk**	**1.56**	**336**	*e*		P	**Pn**	06 06 19.9	-0.4
KPT	**Kopyto**	**1.59**	**324**	*e*		P	**Pn**	06 06 20.3	-0.3
KPT				*i*		S	**Sn**	06 06 42.2	+2.1
KBTR	**Krutoberegovo**	**1.60**	**19**	PN		Pn	Pn	06 06 17.4	-3.2
KBTR				S			**Sn**	06 06 36.7	-3.5
KBTR	**Krutoberegovo**	**1.60**	**19**	*e*		P	Pn	06 06 17.4	-3.2
KBTR				*i*		S	**Sn**	06 06 36.7	-3.5
KRSR	**Krestovskiy**	**1.70**	**334**	*e*		P	**Pn**	06 06 21.1	-1.0
KRSR				*i*		S	**Sn**	06 06 43.7	+0.9
KLY	**Klyuchi**	**1.76**	**337**	PN		Pn	**Pn**	06 06 21.6	-1.3
KLY				S			**Sn**	06 06 43.8	-0.4
KLY	**Klyuchi**	**1.76**	**337**	*e*		P	**Pn**	06 06 21.6	-1.3
KLY				*i*		S	**Sn**	06 06 43.8	-0.4
KOZR	**Kozyr**	**1.78**	**321**	PN		Pn	**Pn**	06 06 23.4	+0.2
KOZ	**Kozyrevsk**	**1.78**	**320**	*e*		P	**Pn**	06 06 23.4	+0.2
KOZ				*i*		S	**Sn**	06 06 47.3	+2.5
SMKR	**Semkarok**	**1.90**	**353**	*e*		P	**Pn**	06 06 24.4	-0.4

BDR	**Baidarnaya**	**1.91**	**348**	*e*	P	**Pn**	06 06 24.1	-0.9
BDR				*i*	S	**Sn**	06 06 48.0	+0.1
SPN	**Mys Shipunski**	**1.96**	**215**	PN	Pn	Pn	06 06 21.7	-

TRF Thorofare Moun 25.49 51 eP P 06 11 17.3 0.0
comp=Z,21nm,0.8s
COLD Coldfoot 25.63 42 eP P 06 11 18.1 -0.3
comp=Z,14nm,1.0s
CN2 Changchun 25.88 260 eP P 06 11 21.5 +0.7
CN2 epP pP 06 11 35.5 +0.4
CN2 eS S 06 15 43.5 -2.9
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,3.0s
PMR Palmer 26.18 55 eP P 06 11 25.1 +1.8
comp=Z,19nm,1.0s
COLA College 26.51 47 eP P 06 11 26.4 +0.1
comp=Z,1.8nm,0.6s
ILAR Eielson Array 26.93 48 P P 06 11 29.3 -0.8
ILAR Eielson Array 26.93 48 P P 06 11 29.3 -0.8
comp=Z,3.6nm,0.7s,baz=266,slow=8.5,SNR=39
ILAR LR LR 06 23 36.8
comp=Z,155nm,18.2s,baz=144,slow=40
PAX Paxson 27.71 51 eP P 06 11 38.5 +1.3
comp=Z,21nm,1.5s
DOT Dot Lake 28.25 50 eP P 06 11 42.0 0.0
comp=Z,14nm,0.8s
MENT Mentasta 28.50 51 eP P 06 11 45.1 +0.9
KSRS Korea Array 28.82 247 P P 06 11 48.9 +1.7
comp=Z,1.8nm,0.6s,baz=42,slow=8.9,SNR=3.2
KSAR Wonju Array Be 28.85 247 P P 06 11 48.9 +1.4
EGAK Eagle 29.37 47 eP P 06 11 51.0 -0.9
comp=Z,11nm,0.8s
JNU Nakatsue 30.65 238 LR LR 06 25 54.2
comp=Z,164nm,18.4s,baz=259,slow=39
BJI Beijing 33.61 263 P P 06 12 28.3 -0.9
BJI pmax pmax
comp=Z,5.0nm,0.8s
TLY Talaya 34.17 289 eP P 06 12 47.9 +14
TLY e 06 14 03.2
TLY eSS SS 06 20 32.1 +6.6
TLY pmax pmax
comp=Z,3.0nm,0.9s
TLY MLR MLR
comp=Z,401nm,18.0s
SONM Songino Array 34.59 282 P P 06 12 39.9 +2.0
SONM PcP PcP 06 15 12.1 +1.0
SONM Songino Array 34.59 282 P P 06 12 39.9 +2.0
comp=Z,2.1nm,0.5s,baz=47,slow=6.5,SNR=5.5
SONM PcP PcP 06 15 12.1 +1.0
comp=Z,4.1nm,0.5s,baz=85,slow=1.9,SNR=6.6
SONM LR LR 06 28 26.8
comp=Z,234nm,19.1s,baz=55,slow=39
ZAK Zakamensk 35.01 288 eP P 06 12 45.5 +4.1
HHC Hu-ho-hao-te 35.75 268 eP P 06 12 48.3 +0.5
HHC pP pP 06 13 02.9 +0.5
HHC sP sP 06 13 10.1 +0.9
HHC PP PP 06 14 10.8 +1.0
HHC S S 06 18 19.3 -1.3
HHC sS sS 06 18 45.4 0.0
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,120nm,4.5s
HHC LR LR
comp=N,870nm,17.8s
HHC LR LR
comp=E,600nm,15.5s
HHC LR LR
comp=Z,920nm,15.5s
NJ2 Nanjing 37.79 251 eP P 06 13 04.3 -0.8
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
YKA Yellowknife Ar 41.26 44 P P 06 13 33.8 +0.2
YKA PcP PcP 06 15 31.7 +0.5
YKA Yellowknife Ar 41.26 44 P P 06 13 33.8 +0.2
comp=Z,7.8nm,0.6s,baz=300,slow=7.9,SNR=38
YKA PcP PcP 06 15 31.7 +0.5
comp=Z,1.4nm,0.7s,baz=305,slow=3.5,SNR=8.0
RES Resolute Bay 41.42 23 eP P 06 13 35.1 +0.3
comp=Z,39nm,2.1s
RES Resolute Bay 41.42 23 P P 06 13 35.1 +0.3
comp=Z,2.9nm,0.6s,baz=308,slow=7.8,SNR=10
ZALV Zalesovo Beam 42.82 302 P P 06 13 43.7 -2.7
ZALV MLR MLR
comp=Z,372nm,18.5s
ZALV Zalesovo Beam 42.82 302 P P 06 13 43.7 -2.7
ZALV Zalesovo Beam 42.82 302 P P 06 13 43.7 -2.7
comp=Z,1.4nm,0.7s,baz=67,slow=8.0,SNR=2.9
ZALV LR LR 06 33 17.1
comp=Z,372nm,18.5s,baz=70,slow=39
NVS Novosibirsk 43.09 304 i P P 06 13 45.5 -3.1
NVS e 06 15 23.6
NVS pmax pmax
comp=E,10.0nm,1.1s
NVS pmax pmax
comp=Z,13nm,1.1s
NVS pmax pmax
comp=N,5.0nm,1.2s
LZH Lanzhou 43.42 269 eP P 06 13 52.0 +0.2
LZH pP pP 06 14 07.5 +0.8
LZH sP sP 06 14 15.1 +1.7
LZH ePP PP 06 15 36.0 +2.6
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,57nm,6.0s
LZH LR LR
comp=N,360nm,15.0s
LZH LR LR
comp=E,300nm,14.7s
LZH LR LR
comp=Z,370nm,17.5s
GTA Gaotai 43.50 276 eP P 06 13 51.3 -1.0
GTA pP pP 06 14 06.8 -0.4
GTA sP sP 06 14 13.9 0.0
GTA S S 06 20 13.5 -3.2
GTA sS sS 06 20 40.1 -1.8
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA pmax pmax
comp=Z,95nm,5.0s
GTA LR LR
comp=N,270nm,17.1s
GTA LR LR
comp=E,210nm,16.1s
GTA LR LR
comp=Z,180nm,16.9s
SPITS Spitsbergen Ar 45.72 351 P P 06 14 08.8 -0.5
SPITS Spitsbergen Ar 45.72 351 P P 06 14 08.8 -0.5
comp=Z,24nm,0.6s,baz=57,slow=7.2,SNR=75
SPB4 Spitsbergen Ar 45.72 351 eP P 06 14 09.3 0.0
WMQ Urumqi 47.45 289 P P 06 14 24.1 +0.7
WMQ pP pP 06 14 39.0 +0.5
WMQ sP sP 06 14 46.0 +0.8
WMQ PcP PcP 06 15 55.3 +2.4
WMQ sS sS 06 21 39.3 +0.4
WMQ pmax pmax
comp=Z,18nm,0.6s
WMQ pmax pmax
comp=Z,180nm,5.9s
WMQ LR LR
comp=N,590nm,10.0s
WMQ LR LR
comp=E,440nm,12.8s
WMQ LR LR
comp=Z,510nm,20.0s
KURK Kurchatov 47.80 302 eP P 06 14 23.7 -2.2
KURK e*PP pP 06 14 40.7 -0.3
KURK e 06 15 54.1
KURK 06 16 21.8
KURK pmax pmax
comp=Z,10.0nm,0.6s
KURK Kurchatov 47.80 302 eP P 06 14 23.7 -2.2
comp=Z,10nm,0.6s
KURK P P 06 14 24.2 -1.6
KURK epP pP 06 14 40.7 -0.3
KURK PcP PcP 06 15 54.0 +0.1
KURK ePcP PcP 06 15 54.1 +0.3
KURK PP PP 06 16 21.8 +4.1
KURBB Kurchatov Arra 47.90 301 P P 06 14 24.2 -2.4
comp=Z,8.1nm,0.6s,baz=56,slow=8.0,SNR=24
KURBB PcP PcP 06 15 54.0 -0.3
comp=Z,3.7nm,0.6s,baz=46,slow=3.4,SNR=6.5
KURBB PP PP 06 16 21.8 +3.1
comp=Z,1.2nm,0.4s,baz=51,slow=11,SNR=4.4
KURBB LR LR 06 35 23.0
comp=Z,154nm,21.3s,baz=55,slow=37

NEW Newport 48.19 62 eP P 06 14 29.5 +0.5
NEW Newport 48.19 62 ⇓P P 06 14 29.0 0.0
baz=48
MK31 Makanchi Array 48.42 295 eP P 06 14 29.2 -1.6
MK31 Makanchi Array 48.42 295 eP P 06 14 29.2 -1.6
MKAR Makanchi Array 48.42 295 P P 06 14 28.3 -2.5
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR Makanchi Array 48.42 295 P P 06 14 28.3 -2.5
MKAR Makanchi Array 48.42 295 P P 06 14 28.3 -2.5
comp=Z,3.0nm,0.5s,baz=46,slow=6.9,SNR=16
A12A Yaak River Ran 48.51 61 ⇓P P 06 14 32.0 +0.6
baz=48
DAG Danmarks Havn 48.79 0 i P P 06 14 32.9 -0.3
DAG pmax pmax
comp=Z,7.0nm,0.7s
DAG Danmarks Havn 48.79 0 i P P 06 14 32.9 -0.3
comp=Z,67nm,0.7s
GYA Guiyang 48.89 258 eP P 06 14 35.0 +0.3
GYA pP pP 06 14 51.3 +1.4
GYA sP sP 06 14 58.9 +2.4
GYA PP PP 06 16 29.3 +1.0
GYA ScP ScP 06 19 48.3 +0.3
GYA S S 06 21 32.0 -2.1
GYA pmax pmax
comp=Z,10.0nm,0.8s
C11A Tepee Creek (N 48.91 62 ⇓P P 06 14 34.9 +0.3
baz=49
A13A Flathead Natio 49.13 60 ⇓P P 06 14 36.6 +0.3
baz=49
C12B Naegeli Ranch, 49.39 62 ⇓P P 06 14 38.7 +0.5
baz=49,SNR=5.7
B13A Whitefish 49.47 61 ⇑P P 06 14 39.4 +0.6
baz=49,SNR=9.1
A14A Double T Ranch 49.61 59 ⇑P P 06 14 39.9 0.0
baz=49,SNR=6.4
BSMT Bassoo Peak 49.65 61 eP P 06 14 41.5 +1.2
BLMT Blacktail Moun 49.76 61 eP P 06 14 42.1 +0.9
C13A Hot Springs 49.87 61 ⇑P P 06 14 42.6 +0.7
baz=50,SNR=16
D12A Red Ives Fores 49.88 62 ⇑P P 06 14 42.1 +0.1
baz=50
A15A Johnson Ranch, 49.95 59 ⇓P P 06 14 42.0 -0.5
baz=50,SNR=8.1
JTMT Jette 49.98 61 eP P 06 14 43.8 +1.1
YBMT Yellow Bay 50.04 61 eP P 06 14 44.1 +0.9
comp=Z,12nm,1.2s
YBMT epP pP 06 14 58.2 -0.2
B14A Marquette Ranc 50.08 60 ⇑P P 06 14 43.8 +0.2
baz=50
E12A Beaver Dam Sad 50.19 63 ⇓P P 06 14 44.6 +0.1
baz=50
BVAR Borovoye Array 50.23 308 P P 06 14 42.7 -1.8
BVAR 06 16 02.5
BVAR pmax pmax
comp=Z,5.0nm,0.8s
BVAR MLR MLR
comp=Z,268nm,18.5s
BVAR Borovoye Array 50.23 308 P P 06 14 42.7 -1.8
BVAR PcP PcP 06 16 02.5 -0.2
BVAR Borovoye Array 50.23 308 P P 06 14 42.7 -1.8
comp=Z,4.8nm,0.8s,baz=53,slow=7.9,SNR=17
BVAR PcP PcP 06 16 02.5 -0.2
comp=Z,1.3nm,0.3s,baz=67,slow=3.1,SNR=8.7
BVAR LR LR 06 38 43.1
comp=Z,268nm,18.5s,baz=65,slow=39
C14A Swan Lake 50.23 61 ⇑P P 06 14 45.3 +0.6
baz=50
BRVK Borovoye 50.26 308 c iP P 06 14 43.8 -0.8
BRVK pmax pmax
comp=Z,6.0nm,0.7s
BRVK Borovoye 50.26 308 eP P 06 14 43.1 -1.6
comp=Z,7.1nm,0.8s
SWMT Swartz Lake 50.28 61 eP P 06 14 46.0 +0.9
D13A Huson 50.32 62 ⇑P P 06 14 45.3 +0.1
baz=50,SNR=5.3
BMO Blue Mountains 50.32 66 eP P 06 14 45.9 +0.5
comp=Z,15nm,1.9s
B15A Bradely Ranch, 50.47 60 ⇑P P 06 14 46.1 -0.4
baz=50,SNR=7.6
A16A West Butte Ran 50.53 58 ⇓P P 06 14 46.9 -0.1
baz=50
MOD Modoc 50.70 71 eP P 06 14 50.3 +2.0
comp=Z,50nm,2.0s
SLMT Seeley Lake 50.71 61 eP P 06 14 49.1 +0.8
MSO Missoula 50.76 62 eP P 06 14 49.3 +0.7
comp=Z,6.3nm,1.3s
MSO Missoula 50.76 62 ⇑P P 06 14 48.8 +0.1
baz=51,SNR=5.9
F12A Elk City 50.80 64 ⇓P P 06 14 49.4 +0.4
baz=51,SNR=8.5
C15A Salmond Ranch, 50.80 60 ⇓P P 06 14 49.5 +0.4
baz=51,SNR=12
D14A Greenough 50.81 61 ⇓P P 06 14 49.3 +0.2
baz=51,SNR=11
B16A M & M Farms, S 50.83 59 ⇑P P 06 14 48.9 -0.3
baz=51,SNR=6.4
E13A Victor 50.89 62 ⇑P P 06 14 50.5 +0.9
baz=51,SNR=5.3
A17A Triple J Farms 50.98 58 ⇓P P 06 14 50.1 -0.1
baz=51,SNR=12
CHMT Chamberlain Mo 51.05 61 eP P 06 14 51.5 +0.5
FFC Flin Flon 51.14 48 i P P 06 14 51.8 +0.5
FFC Flin Flon 51.14 48 eP P 06 14 51.7 +0.5
comp=Z,7.6nm,0.9s
G12A Big Creek, Yel 51.18 64 ⇑P P 06 14 52.0 +0.1
baz=51
C16A Fuhringer Ranc 51.22 60 ⇓P P 06 14 52.2 +0.1
baz=51,SNR=9.2
F13A Darby 51.25 63 ⇑P P 06 14 52.6 +0.1
baz=51,SNR=5.4
E14A Clinton 51.26 62 ⇑P P 06 14 52.7 +0.2
baz=51,SNR=9.3
D15A Lincoln 51.34 61 ⇓P P 06 14 53.4 +0.3
baz=51,SNR=5.8
B17A L&G Farms, Che 51.36 59 ⇓P P 06 14 53.0 -0.1
baz=51
A18A Metzger Ranch, 51.41 58 ⇑P P 06 14 53.2 -0.3
baz=51,SNR=8.7
KEV Kevo 51.62 342 eP P 06 14 52.9 -1.7
KEV pmax pmax
comp=Z,4.0nm,0.5s
KEV Kevo 51.62 342 ep P 06 14 52.9 -1.7
comp=Z,3.7nm,0.5s
E15A Deer Lodge 51.69 61 ⇑P P 06 14 56.0 +0.3
baz=52,SNR=5.1
F14A Wisdom 51.73 63 ⇓P P 06 14 56.0 -0.1
baz=52
G13A Cobalt 51.77 64 ⇓P P 06 14 56.5 +0.1
baz=52,SNR=6.4
B18A Beardsley Farm 51.80 58 ⇑P P 06 14 56.6 +0.2
baz=52,SNR=15
C17A Wharram Farm, 51.82 59 ⇓P P 06 14 56.6 0.0
baz=52,SNR=11
D16A Dana Ranch, Ca 51.84 60 ⇑P P 06 14 57.3 +0.6
baz=52,SNR=9.6
HRY Holter Researc 51.91 61 eP P 06 14 58.4 +1.1
A19A Klindworth Far 51.94 57 ⇑P P 06 14 57.6 +0.2
baz=52,SNR=11
EGMT Eagleton 52.06 58 eP P 06 14 58.6 +0.2
comp=Z,8.5nm,1.0s
EGMT Eagleton 52.06 58 ⇓P P 06 14 58.3 0.0
baz=52,SNR=5.5
MFID Camas Ranch 52.08 66 eP P 06 14 59.5 +0.9
comp=Z,18nm,1.7s
MFID Camas Ranch 52.08 66 ⇓P P 06 14 59.3 +0.7
baz=52
ARCES ARCESS Array B 52.09 342 P P 06 14 56.8 -1.3
ARCES PcP PcP 06 16 09.6 +0.3
ARCES ARCESS Array B 52.09 342 P P 06 14 56.8 -1.3
comp=Z,6.5nm,0.7s,baz=35,slow=7.5,SNR=31
ARCES PcP PcP 06 16 09.6 +0.3
comp=Z,1.8nm,0.5s,baz=14,slow=4.2,SNR=6.9
ARCES LR LR 06 39 43.9
comp=Z,92nm,20.4s,baz=199,slow=39
E16A East Helena 52.11 61 ⇑P P 06 14 59.4 +0.6
baz=52,SNR=10
H13A Challis 52.12 64 ⇓P P 06 14 59.1 +0.1
baz=52,SNR=5.1
KMI Kunming 52.15 260 P P 06 15 00.5 +1.0
KMI pP pP 06 15 13.8 -1.0
KMI sP sP 06 15 21.0 -0.4
KMI S S 06 22 17.3 -2.4
KMI sS sS 06 22 43.3 -2.2
KMI SS SS 06 25 54.1 -3.2
KMI pmax pmax
comp=Z,7.0nm,0.7s
KMI pmax pmax
comp=Z,100nm,3.7s
F15A Butte 52.16 62 ⇓P P 06 14 59.6 +0.3
baz=52
B19A Brinkman Farms 52.17 57 ⇑P P 06 14 59.4 +0.4
baz=52,SNR=6.3
D17A Six Diamond Ra 52.19 60 ⇑P P 06 14 59.8 +0.4
baz=52,SNR=11
I12A Atlanta 52.19 65 ⇓P P 06 14 59.8 +0.4
baz=52
SUMG Summit 52.23 8 i P P 06 14 59.6 0.0
SUMG pmax pmax
comp=Z,31nm,0.9s
SUMG Summit 52.23 8 eP P 06 14 59.5 0.0
comp=Z,45nm,1.0s
SUMG Summit 52.23 8 i P P 06 14 59.6 0.0
comp=Z,31nm,0.9s
A20A Cobblestone Ra 52.37 56 ⇓P P 06 15 01.3 +0.7
baz=52,SNR=20
DLMT Dillon 52.44 62 eP P 06 15 01.9 +0.7
comp=Z,6.5nm,1.1s
H14A Leadore 52.55 64 ⇑P P 06 15 02.1 -0.1
baz=52
E17A Martinsdale 52.57 60 ⇓P P 06 15 03.3 +1.0
baz=52,SNR=15
D18A Linhart Farms, 52.60 59 ⇓P P 06 15 02.8 +0.5
baz=52
C19A Slack Wire Ran 52.60 58 ⇑P P 06 15 03.1 +0.7
baz=52,SNR=13
B20A Solberg Farm, 52.63 57 ⇓P P 06 15 02.8 +0.3
baz=52,SNR=12
G15A Dillon 52.63 63 ⇓P P 06 15 03.1 +0.4
baz=52,SNR=9.7
I13A Wildhorse Cree 52.64 65 ⇓P P 06 15 03.5 +0.7
baz=52,SNR=6.8
F16A Kennard Place, 52.65 61 ⇑P P 06 15 03.0 +0.2
baz=52
MCMT McKenzie Canyo 52.67 63 eP P 06 15 03.7 +0.5
comp=Z,0.8nm,0.7s
HLID Hailey 52.73 65 eP P 06 15 04.5 +1.0
comp=Z,24nm,2.1s
HLID Hailey 52.73 65 ⇓P P 06 15 03.9 +0.5
baz=53
BOZ Bozeman (W) 52.74 62 ⇑P P 06 15 03.7 +0.2
baz=53
A21A Bergtoll Ranch 52.78 56 ⇓P P 06 15 04.4 +0.8
baz=53,SNR=13
H15A Lima 52.92 63 ⇓P P 06 15 05.1 +0.2
baz=53
ARU Arti 52.94 317 d iP P 06 15 03.0 -1.5
ARU 06 16 11.4
ARU 06 16 59.5
ARU PPP PPP 06 18 07.0
ARU S S 06 22 27.1 -2.0
ARU SS SS 06 26 02.1 -5.8
ARU pmax pmax
comp=Z,17nm,0.7s
ARU MLR MLR
comp=Z,358nm,19.0s
ARU Arti 52.94 317 eP P 06 15 03.3 -1.3
comp=Z,16nm,0.8s
G16A Moss Hill, Enn 52.94 62 ⇑P P 06 15 05.6 +0.7
baz=53,SNR=10.0
J13A Cove Ranch, Pi 52.97 65 ⇑P P 06 15 06.0 +0.8
baz=53
E18A Harlowton 52.98 60 ⇑P P 06 15 06.2 +1.0
baz=53,SNR=7.5
I14A Mackay 52.98 64 ⇑P P 06 15 06.5 +1.2
baz=53,SNR=6.2
F17A Fitzpatrick Pl 53.05 61 ⇓P P 06 15 06.7 +0.9
baz=53,SNR=5.5
D19A Cripps Ranch, 53.08 59 ⇑P P 06 15 06.5 +0.6
baz=53
B21A Ellsworth Farm 53.12 56 ⇓P P 06 15 06.5 +0.3
baz=53
C20A Veseth Ranch, 53.13 58 ⇑P P 06 15 07.0 +0.7
baz=53,SNR=18
A22A Carney Farms, 53.26 55 ⇑P P 06 15 07.8 +0.7
baz=53,SNR=13
J14A Carey 53.36 65 ⇑P P 06 15 09.7 +1.6
baz=53
QLMT Earthquake Lak 53.40 62 eP P 06 15 09.7 +1.3
G17A Pierce Place, 53.42 61 ⇓P P 06 15 09.8 +1.3
baz=53
C21A Desert Coulee 53.50 57 ⇑P P 06 15 09.7 +0.8
baz=53,SNR=8.4
D20A Manuel Ranch, 53.50 58 ⇑P P 06 15 09.9 +1.0
baz=53,SNR=9.8
F18A Big Timber 53.53 60 ⇑P P 06 15 10.5 +1.2
baz=53,SNR=10
H16A Russell Place, 53.59 62 ⇓P P 06 15 10.7 +0.9
baz=53,SNR=9.6
E19A Rath Farm, Rou 53.61 59 ⇑P P 06 15 10.5 +0.7
baz=53
B22A Reddig Ranch S 53.70 56 ⇓P P 06 15 11.2 +0.8
baz=54
YMR Madison River 53.75 62 eP P 06 15 12.3 +1.3
comp=Z,7.0nm,0.8s
A23A Redstone 53.78 55 ⇓P P 06 15 11.6 +0.7
baz=54
E20A Meyer Farm, Mu 53.91 59 ⇑P P 06 15 12.7 +0.7
baz=54,SNR=5.4
F19A Roth Farm, Mol 53.95 60 ⇓P P 06 15 13.3 +0.9
baz=54
G18A Lazy EL Ranch, 54.02 61 ⇓P P 06 15 13.3 +0.4
baz=54
I16A Newdale 54.04 63 ⇓P P 06 15 14.2 +1.2
baz=54,SNR=6.3
B23A Brockton 54.07 55 ⇑P P 06 15 13.5 +0.4
baz=54,SNR=9.8
D21A La Casta Ranch 54.08 58 ⇑P P 06 15 14.1 +0.9
baz=54,SNR=8.3
K14A Jones Ranch, D 54.09 65 ⇑P P 06 15 14.7 +1.3
baz=54
LKWY Lake 54.12 62 eP P 06 15 15.5 +1.8
LKWY pmax pmax
comp=Z,38nm,0.4s
LKWY Lake 54.12 62 eP P 06 15 15.5 +1.8
comp=Z,38nm,0.4s
C22A Vida 54.14 56 ⇑P P 06 15 14.3 +0.7
baz=54,SNR=7.5
H17A Grant Village 54.14 62 ⇑P P 06 15 15.9 +1.9
baz=54,SNR=9.0
NVAR Mina Array Bea 54.21 72 P P 06 15 15.8 +1.3
NVAR Mina Array Bea 54.21 72 P P 06 15 15.8 +1.3
comp=Z,5.7nm,0.9s,baz=299,slow=7.7,SNR=13
A24A Westby 54.22 54 ⇑P P 06 15 14.8 +0.7
baz=54,SNR=7.1
ELK Elko 54.25 68 eP P 06 15 16.5 +1.8
comp=Z,64nm,2.7s
FLWY Flagg Ranch 54.30 62 eP P 06 15 17.0 +2.0
comp=Z,151nm,2.8s
RLMT Red Lodge 54.30 61 eP P 06 15 16.2 +1.2
comp=Z,16nm,0.9s
RLMT Red Lodge 54.30 61 ⇓P P 06 15 16.1 +1.1
baz=54,SNR=16
K15A Arbon 54.33 65 ⇑P P 06 15 16.5 +1.4
baz=54,SNR=7.3
F20A Billings 54.39 59 ⇓P P 06 15 16.4 +0.9
baz=54
J16A Bone 54.39 64 ⇓P P 06 15 17.0 +1.3
baz=54
E21A Keefer Ranch, 54.40 58 ⇑P P 06 15 16.8 +1.2
baz=54,SNR=7.5
L14A Malta 54.41 66 ⇓P P 06 15 17.2 +1.4
baz=54,SNR=10.0
H18A Shoshone NF, C 54.41 61 ⇑P P 06 15 17.0 +1.2
baz=54,SNR=5.3
D22A Cohagen 54.42 57 ⇓P P 06 15 16.4 +0.8
baz=54,SNR=15
C23A Lambert 54.44 56 ⇑P P 06 15 16.9 +1.2
baz=54,SNR=12
DGMT Dagmar 54.44 55 eP P 06 15 16.5 +0.8
comp=Z,16nm,1.0s
DGMT Dagmar 54.44 55 ⇓P P 06 15 16.4 +0.7
baz=54
I17A Pilgrim Ck. 54.48 63 ⇑P P 06 15 17.8 +1.5
baz=54
MOOW Moose Ponds 54.51 63 eP P 06 15 17.7 +1.1
comp=Z,5.7nm,1.2s
TPAW Teton Pass 54.59 63 eP P 06 15 19.6 +2.5
comp=Z,5.6nm,0.9s
LOHW Long Hollow 54.68 63 eP P 06 15 19.1 +1.3
comp=Z,10nm,1.2s
SNOW Snow King Moun 54.71 63 eP P 06 15 19.9 +1.9
comp=Z,17nm,1.4s
K16A Soda Springs 54.72 64 ⇓P P 06 15 19.6 +1.6

baz=55,SNR=5.4
REDW Red Top Meadow 54.73 63 *e*P P 06 15 19.7 +1.6
comp=Z,6.6nm,1.1s
H19A Powell 54.76 61 ⇑P P 06 15 19.3 +1.1
baz=55,SNR=5.5
G20A Bridger 54.77 60 ⇓P P 06 15 18.7 +0.4
baz=55,SNR=9.4
J17A Brown Place, J 54.80 63 ⇓P P 06 15 20.1 +1.5
baz=55
HVU Hansel Valley 54.84 66 *e*P P 06 15 19.7 +0.9
HVU pmax pmax
comp=Z,53nm,2.3s
HVU Hansel Valley 54.84 66 *e*P P 06 15 19.7 +0.9
comp=Z,53nm,2.3s
D23A Lindsay 54.87 56 ⇓P P 06 15 19.8 +0.9
baz=55,SNR=6.4
L15A Malad City 54.88 65 ⇓P P 06 15 20.3 +1.1
baz=55,SNR=7.8
C24A Savage 54.99 56 ⇓P P 06 15 20.8 +1.1
baz=55
I18A Diamond G Ranc 55.02 62 ⇓P P 06 15 21.8 +1.6
baz=55
E22A Miles City 55.03 57 ⇓P P 06 15 20.8 +0.7
baz=55,SNR=12
SCO Scoresbysund 55.09 2 *i* P P 06 15 19.9 -0.1
SCO pmax pmax
comp=Z,4.0nm,0.9s
SCO Scoresbysund 55.09 2 *i* P P 06 15 19.9 -0.1
comp=Z,3.6nm,0.9s
K17A Gardner Place, 55.12 64 ⇓P P 06 15 21.8 +0.8
baz=55
RCTC Rector, Farmer 55.20 75 ⇓P P 06 15 22.8 +1.5
baz=55
I19A Meeteetse 55.20 61 ⇓P P 06 15 22.2 +0.6
baz=55
M15A Larsen Ranch, 55.23 66 ⇑P P 06 15 22.7 +1.1
baz=55
J18A Kendall Valley 55.26 63 ⇑P P 06 15 23.1 +1.1
baz=55
G21A Lodge Grass 55.27 59 ⇓P P 06 15 22.3 +0.4
baz=55
AAK Ala-Archa 55.33 296⇑ *e*P P 06 15 20.4 -2.0
AAK pmax pmax
comp=Z,6.0nm,0.6s
AAK Ala-Archa 55.33 296 *e*P P 06 15 20.5 -1.8
comp=Z,18nm,0.8s
AAK P P 06 15 20.9 -1.4
AAK Ala-Archa 55.33 296 P P 06 15 20.9 -1.4
comp=Z,2.3nm,0.5s,baz=90,slow=4.3,SNR=7.6
AAK LR LR 06 40 31.8
comp=Z,226nm,18.6s,baz=73,slow=38
D24A Glendive 55.34 56 ⇓P P 06 15 23.3 +1.1
baz=55,SNR=6.1
F22A Rosebud 55.34 58 ⇓P P 06 15 23.2 +0.8
baz=55
L16A Fish Haven 55.38 65 ⇓P P 06 15 24.2 +1.4
baz=55
H20A Greybull 55.39 60 ⇑P P 06 15 23.3 +0.6
baz=55
HWUT Hardware Ranch 55.60 65 *e*P P 06 15 26.1 +1.8
comp=Z,8.4nm,0.9s
L17A Cokeville 55.61 64 ⇓P P 06 15 25.7 +1.2
baz=56,SNR=5.9
VES Vestal, Richgr 55.63 75 ⇓P P 06 15 25.3 +0.9
baz=56
K18A Toltan Ranch, 55.66 63 ⇑P P 06 15 26.6 +1.8
baz=56,SNR=17
EKS2 Erkin-Say 55.68 297 *e*P P 06 15 23.3 -1.5
EKS2 pmax pmax
comp=Z,5.0nm,0.7s
EKS2 Erkin-Say 55.68 297 *e*P P 06 15 23.3 -1.5
comp=Z,4.5nm,0.7s
I20A Worland 55.71 61 ⇓P P 06 15 26.1 +1.1
baz=56
J19A Crowheart 55.72 62 ⇓P P 06 15 26.6 +1.4
baz=56
G22A Birney 55.73 59 ⇓P P 06 15 26.1 +0.9
baz=56
E24A Baker 55.74 56 ⇑P P 06 15 26.3 +1.2
baz=56
GRAC Grapevine Rang 55.75 73 ⇓P P 06 15 27.1 +1.8
baz=56
CWC Cottonwood Cre 55.76 74 ⇑P P 06 15 27.2 +1.6
baz=56
R11A Troy Canyon, C 55.76 71 ⇑P P 06 15 27.0 +1.4
baz=56
M16A Huntsville 55.77 65 ⇑P P 06 15 27.0 +1.3
baz=56
H21A Big Horn, Sher 55.77 60 ⇓P P 06 15 26.7 +1.2
baz=56
PD01 Pinedale Array 55.80 63 *e*P P 06 15 26.5 +0.7
F23A Volborg 55.80 58 ⇓P P 06 15 26.7 +1.1
baz=56,SNR=8.4
PD02 Pinedale Array 55.80 63 *e*P P 06 15 26.3 +0.4
BW06 Boulder Array 55.82 63 *e*P P 06 15 26.9 +0.9
comp=Z,18nm,1.3s
BW06 Boulder Array 55.82 63 ⇑P P 06 15 27.0 +0.9
baz=56,SNR=12
PDAR Pinedale Array 55.82 63 P P 06 15 26.8 +0.8
PDAR Pinedale Array 55.82 63 P P 06 15 26.8 +0.8
comp=Z,5.5nm,0.8s,baz=327,slow=2.9,SNR=30
DUG Dugway 55.94 67 *e*P P 06 15 28.6 +1.8
DUG pmax pmax
comp=Z,11nm,0.9s
DUG Dugway 55.94 67 *e*P P 06 15 28.6 +1.8
comp=Z,11nm,0.9s
DUG Dugway 55.94 67 ⇓P P 06 15 28.1 +1.3
baz=56,SNR=12
KLMR Klimovskoe 56.09 330 *e*P P 06 15 26.1 -1.2
KLMR pmax pmax
comp=Z,26nm,1.4s
KLMR MLR MLR
comp=Z,360nm,18.0s
ISA Isabella 56.10 75 ⇓P P 06 15 29.1 +1.3
baz=56
H22A Clearmont 56.14 59 ⇓P P 06 15 29.2 +1.0
baz=56
K19A Absolon Red Bu 56.14 62 ⇑P P 06 15 28.5 +0.3
baz=56
J20A Shoshoni 56.16 61 ⇓P P 06 15 29.6 +1.3
baz=56,SNR=8.9
M17A Scullys Gap (B 56.16 65 ⇑P P 06 15 29.5 +1.0
baz=56,SNR=13
L18A Fontenelle, Gr 56.17 64 ⇓P P 06 15 29.7 +1.2
baz=56,SNR=7.6
G23A Biddle 56.18 58 ⇑P P 06 15 29.1 +0.7
baz=56
F24A Ekalaka 56.19 57 ⇑P P 06 15 29.2 +0.8
baz=56
SFJD Kangerlussuaq 56.19 15 *i* P P 06 15 26.9 -1.0
comp=Z,12nm,0.9s
I21A Big Trails, Te 56.23 61 ⇓P P 06 15 29.5 +0.6
baz=56
ARVC Arvin 56.29 76 ⇑P P 06 15 30.1 +1.0
baz=56
MPMC Manual Prospec 56.36 74 ⇑P P 06 15 30.6 +0.7
baz=56
JLU Jordanelle 56.38 66 *e*P P 06 15 31.6 +1.6
comp=Z,6.2nm,1.0s
L19A Farson 56.40 63 ⇑P P 06 15 30.5 +0.4
baz=56
FURC Furnace Creek, 56.41 73 ⇓P P 06 15 31.7 +1.7
baz=56,SNR=5.8
N17A Moffit Pass 56.46 65 ⇓P P 06 15 31.5 +0.9
baz=56
J21A Lysite 56.48 61 ⇓P P 06 15 31.4 +0.7
baz=56
M18A Lyman 56.51 64 ⇓P P 06 15 31.6 +0.7
baz=56
K20A Yellowstone Ra 56.52 62 ⇓P P 06 15 31.7 +0.8
baz=56
JOF Joensuu 56.55 335 *e*P P 06 15 29.5 -1.1
JOF pmax pmax
comp=Z,20nm,0.5s
JOF Joensuu 56.55 335 *ep* P 06 15 29.5 -1.1
comp=Z,20nm,0.5s
G24A Alzada 56.57 58 ⇓P P 06 15 31.9 +0.8
baz=56
I22A 9 Mile Ranch, 56.58 60 ⇑P P 06 15 32.3 +1.0
baz=56,SNR=6.3
LRMC Laurel Mountai 56.67 74 ⇓P P 06 15 33.2 +1.2
baz=57
P15A Leamington 56.67 67 ⇑P P 06 15 33.5 +1.4
baz=56,SNR=5.2
MPU Maple Canyon 56.70 67 *e*P P 06 15 34.1 +1.9
comp=Z,8.1nm,0.9s
R13A O'Grain Ranch, 56.77 70 ⇓P P 06 15 33.8 +1.1
baz=57
KSH Kashi 56.77 293 *e*P P 06 15 35.4 +2.7
KSH pP pP 06 15 51.0 +2.8
KSH sP sP 06 15 58.8 +4.0
KSH PcP PcP 06 16 29.8 +1.8
KSH PP PP 06 17 44.0 +5.0
KSH ScP ScP 06 20 22.6 +0.4
KSH PcS PcS 06 20 29.8 +0.9
KSH S S 06 23 22.9 +1.6
KSH sS sS 06 23 50.8 +3.5
KSH ScS ScS 06 25 15.6 -1.0
KSH SS SS 06 27 13.0 +3.7
KSH pmax pmax
comp=Z,5.0nm,1.4s
KSH pmax pmax
comp=Z,62nm,6.2s
KSH LR LR
comp=N,120nm,4.5s
KSH LR LR
comp=E,130nm,5.2s
KSH LR LR
comp=Z,160nm,10.3s
H24A Dirks Ranch, A 56.92 58 ⇑P P 06 15 34.3 +0.7
baz=57
J22A Midwest 56.93 60 ⇓P P 06 15 34.9 +1.1
baz=57,SNR=7.1
M19A Rock Springs 56.93 64 ⇑P P 06 15 34.6 +0.7
baz=57
EDW2 Edwards Air Fo 56.94 75 ⇓P P 06 15 35.4 +1.5
baz=57
ULM Lac du Bonnet 56.94 48 P P 06 15 33.9 +0.4
ULM Lac du Bonnet 56.94 48 P P 06 15 33.9 +0.4
comp=Z,8.3nm,0.9s,baz=323,slow=7.3,SNR=9.3
L20A Wamsutter 56.99 63 ⇓P P 06 15 35.3 +1.0
baz=57,SNR=7.0
KKAR Karatay Array 57.03 299 *e*P P 06 15 33.6 -0.8
KKAR *e**PP pP 06 15 49.9 0.0
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 57.03 299 *e*P P 06 15 33.6 -0.8
comp=Z,1.8nm,0.5s
KKAR *e*pP pP 06 15 49.9 0.0
MDND Maddock 57.03 53 ⇑P P 06 15 35.6 +1.3
baz=57,SNR=5.7
N18A Larsen Ranch, 57.04 64 ⇓P P 06 15 35.5 +0.8
baz=57
O17A Robinson Place 57.05 66 ⇑P P 06 15 35.8 +1.1
baz=57
K21A Alcova 57.10 62 ⇓P P 06 15 35.8 +0.7
baz=57,SNR=7.3
SHOC Shoshone 57.15 73 ⇑P P 06 15 36.7 +1.4
baz=57
GSC Goldstone 57.29 74 *e*P P 06 15 38.0 +1.6
GSC pmax pmax
comp=Z,11nm,1.0s
GSC Goldstone 57.29 74 *e*P P 06 15 38.0 +1.6
comp=Z,11nm,1.0s
GSC Goldstone 57.29 74 ⇑P P 06 15 37.8 +1.5
baz=57,SNR=5.3
N19A John Jarvie Ra 57.36 64 ⇑P P 06 15 37.9 +1.0
baz=57
O18A Roosevelt 57.38 65 ⇑P P 06 15 38.9 +1.9
baz=57,SNR=12
M20A Sweetwater, Wa 57.44 63 ⇑P P 06 15 38.8 +1.2
baz=57,SNR=5.3
K22A Casper 57.45 61 ⇓P P 06 15 38.7 +1.1
baz=57
L21A Rawlins 57.52 62 ⇑P P 06 15 38.7 +0.6
baz=57
AKTO Aktyubinsk 57.52 313 LR LR 06 42 51.7
comp=Z,132nm,20.6s,baz=254,slow=39
CCUT Cedar City 57.55 70 *e*P P 06 15 40.1 +1.8
comp=Z,3.4nm,0.9s
ABKAR Akbulak array 57.56 311 *e*P P 06 15 37.2 -0.7
P17A Butcher Ranch, 57.57 66 ⇑P P 06 15 39.5 +1.2
baz=57
BFSC Mount Baldy Ra 57.59 75 ⇑P P 06 15 39.1 +0.6
baz=58
RSSD Black Hills 57.63 58 *e*P P 06 15 39.7 +0.9
RSSD pmax pmax
comp=Z,14nm,0.9s
RSSD Black Hills 57.63 58 *e*P P 06 15 39.7 +0.9
comp=Z,14nm,0.9s
TUQ Turquoise Moun 57.69 73 ⇑P P 06 15 40.3 +1.1
baz=58
P18A Preston Nutter 57.72 66 ⇑P P 06 15 40.7 +1.1
baz=58
Q16A Castle Valley 57.74 67 ⇑P P 06 15 40.6 +1.0
baz=58
M21A Separation Pea 57.78 62 ⇓P P 06 15 40.8 +0.8
baz=58
O19A Miners Draw (B 57.82 65 ⇑P P 06 15 40.7 +0.6
baz=58
K23A Bowen Ranch, D 57.83 60 ⇓P P 06 15 40.8 +0.6
baz=58
N20A Spence Gulch, 57.88 64 ⇓P P 06 15 42.2 +1.6
baz=58,SNR=12
HEC Hector,Ludlow 57.90 74 ⇑P P 06 15 42.0 +1.3
baz=58
SRU San Rafael 57.95 67 *e*P P 06 15 42.7 +1.7
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU San Rafael 57.95 67 *e*P P 06 15 42.7 +1.7
comp=Z,9.1nm,0.8s
SRU San Rafael 57.95 67 ⇓P P 06 15 42.4 +1.4
baz=58,SNR=10.0
L22A Ellis Ranch, M 57.95 61 ⇑P P 06 15 42.5 +1.5
baz=58,SNR=6.4
R16A Teasdale 58.03 68 ⇑P P 06 15 43.3 +1.6
baz=58,SNR=5.7
Q18A Rafter H Ranch 58.16 66 ⇓P P 06 15 43.5 +1.1
baz=58
L23A Garrett 58.26 61 ⇓P P 06 15 44.0 +0.7
baz=58,SNR=9.6
GMRC Granite Mounta 58.31 74 ⇑P P 06 15 45.1 +1.5
baz=58,SNR=6.3
MURC Murrieta 58.32 76 ⇓P P 06 15 44.6 +1.1
baz=58
N21A Black Mountain 58.32 63 ⇑P P 06 15 44.3 +0.6
baz=58
M22A Cedar Creek Ra 58.33 62 ⇑P P 06 15 44.3 +0.6
baz=58
R17A Hanksville Air 58.35 67 ⇓P P 06 15 45.0 +1.2
baz=58,SNR=7.4
P19A Cripple Cowboy 58.38 65 ⇓P P 06 15 44.9 +0.8
baz=58
S16A Weppner Ranch, 58.38 68 ⇓P P 06 15 45.8 +1.7
baz=58,SNR=7.2
AGMN Agassiz Nation 58.40 50 *e*P P 06 15 44.3 +0.5
comp=Z,8.2nm,1.0s
LDFC Landfair 58.40 73 *e*P P 06 15 45.5 +1.3
comp=Z,9.8nm,0.8s
O20A White River Ci 58.40 64 ⇓P P 06 15 45.2 +0.9
baz=58,SNR=5.2
KAF Kangasniemi 58.42 337 *e*P P 06 15 41.9 -1.8
KAF pmax pmax
comp=Z,16nm,0.5s
KAF Kangasniemi 58.42 337 *ep* P 06 15 41.9 -1.8
comp=Z,16nm,0.5s
BELC Belle Mtn. Jos 58.70 74 ⇓P P 06 15 47.1 +0.8
baz=59
M23A Laramie 58.73 61 ⇓P P 06 15 47.0 +0.5
baz=59
Q19A Hogan Spring (58.73 66 ⇑P P 06 15 47.2 +0.8
baz=59,SNR=8.4
PFO Pinyon Flat Ob 58.73 75 ⇑P P 06 15 47.1 +0.6
baz=59
O21A Pagoda 58.74 64 ⇑P P 06 15 47.5 +0.9
baz=59
P20A De Beque 58.79 65 ⇓P P 06 15 47.3 +0.4
baz=59
R18A Canyonlands Na 58.81 67 ⇓P P 06 15 47.7 +0.6
baz=59,SNR=9.7
N22A Wattenberg Ran 58.84 62 ⇑P P 06 15 48.5 +1.2
baz=59,SNR=6.8
S17A Black Ridge (B 58.88 68 ⇑P P 06 15 48.6 +1.1
baz=59,SNR=7.8
109C Camp Elliot, M 58.90 76 ⇑P P 06 15 48.6 +1.1
baz=59
U15A North Rim 58.96 70 ⇑P P 06 15 49.2 +1.0
baz=59
N23A Red Feather La 59.03 62 ⇓P P 06 15 49.7 +1.1
baz=59,SNR=8.2
IRM Iron Mountain 59.05 74 ⇓P P 06 15 49.9 +1.3
baz=59,SNR=7.4
FINES FINESS Array B 59.06 337 P P 06 15 47.3 -0.8
FINES FINESS Array B 59.06 337 P P 06 15 47.3 -0.8
comp=Z,23nm,0.4s,baz=32,slow=7.4,SNR=102
FINES LR LR 06 45 05.4
comp=Z,131nm,20.7s,baz=130,slow=40
W13A Hualapai Mount 59.06 72 ⇓P P 06 15 49.4 +0.5
baz=59
K26A Motz Farm, Whi 59.10 59 ⇑P P 06 15 49.5 +0.6
baz=59
TAPN Taplejung 59.15 275 *e*P P 06 15 50.0 +0.3
comp=Z,16nm,0.6s
M24A Cheyenne 59.18 61 ⇓P P 06 15 51.0 +1.4
baz=59,SNR=5.0
R19A Curley Farm, L 59.22 66 ⇑P P 06 15 50.8 +0.9
baz=59,SNR=8.0
Q20A Ridgley Place, 59.24 65 ⇓P P 06 15 50.8 +0.8
baz=59
BC3 Big Chuckawall 59.26 74 ⇓P P 06 15 50.9 +0.7
baz=59
P21A Newcastle 59.26 64 ⇑P P 06 15 51.3 +1.0
baz=59
S18A Hurst Farm, Bl 59.27 67 ⇓P P 06 15 51.3 +1.0
baz=59,SNR=11
MONP Monument Peak 59.28 76 ⇓P P 06 15 51.2 +0.7
baz=59
PV04 Paradox Valley 59.33 66 *e*P P 06 15 52.1 +1.4
T17A Navajo Res., N 59.34 68 ⇑P P 06 15 51.2 +0.4
baz=59
PDMCI Parker Dam,Lak 59.51 73 ⇑P P 06 15 53.2 +1.4
baz=59
O23A Lake Granby, G 59.55 63 ⇓P P 06 15 53.8 +1.5
baz=59,SNR=9.5
CMAR Chiang Mai Arr 59.55 259 P P 06 15 53.0 +0.8
CMAR Chiang Mai Arr 59.55 259 P P 06 15 53.0 +0.8
comp=Z,2.1nm,0.5s,baz=22,slow=7.2,SNR=12
CMAR LR LR 06 44 32.0
comp=Z,130nm,18.0s,baz=35,slow=39
K27A Flueckinger Fa 59.56 58 ⇑P P 06 15 52.5 +0.4
baz=59
P22A Eagle 59.57 64 ⇓P P 06 15 53.5 +1.1
baz=59,SNR=5.2
M25A Palm-Egli Farm 59.60 60 ⇑P P 06 15 53.6 +1.1
baz=59
S19A Harvey Farm, M 59.69 67 ⇓P P 06 15 54.2 +1.0
baz=60,SNR=12
Y12C Blythe 59.71 74 ⇓P P 06 15 54.2 +1.1
baz=60
ODAN Odare 59.71 274 *e*P P 06 15 54.4 +0.9
Q21A Lamborn Mesa, 59.71 65 ⇓P P 06 15 54.2 +1.0
baz=60,SNR=5.2
T18A Mexican Hat 59.74 68 ⇑P P 06 15 54.1 +0.6
baz=60,SNR=7.9
R20A Redvale 59.76 66 ⇑P P 06 15 54.4 +0.7
baz=60
SMCO Snowmass 59.77 64 *e*P P 06 15 55.3 +1.4
comp=Z,6.1nm,0.9s
GUN Gumba 59.78 276 *e*P P 06 15 54.3 +0.2
comp=Z,8.8nm,0.4s
ISCO Idaho Springs 60.01 63 *e*P P 06 15 57.2 +1.7
ISCO pmax pmax
comp=Z,12nm,1.3s
ISCO Idaho Springs 60.01 63 *e*P P 06 15 57.2 +1.7
comp=Z,12nm,1.3s
ISCO Idaho Springs 60.01 63 ⇓P P 06 15 57.1 +1.7
baz=60,SNR=8.2
Q22A Crested Butte, 60.03 64 ⇑P P 06 15 56.7 +1.1
baz=60,SNR=5.8
S20A Disappointment 60.04 66 ⇓P P 06 15 56.8 +1.2
baz=60
O24A Longmont 60.05 62 ⇓P P 06 15 56.8 +1.2
baz=60
GLA Glamis 60.06 74 *e*P P 06 15 57.2 +1.7
GLA pmax pmax
comp=Z,8.0nm,0.8s
GLA Glamis 60.06 74 *e*P P 06 15 57.2 +1.7
comp=Z,8.4nm,0.8s
GLA Glamis 60.06 74 ⇑P P 06 15 56.9 +1.3
baz=60
R21A Cimarron 60.06 65 ⇓P P 06 15 57.1 +1.3
baz=60,SNR=11
RAMN Ramite 60.10 275 *e*P P 06 15 56.2 +0.1
comp=Z,26nm,0.5s
WUAZ Wupatki 60.13 70 *e*P P 06 15 58.1 +1.9
comp=Z,10nm,1.2s
WUAZ Wupatki 60.13 70 ⇓P P 06 15 57.5 +1.3
baz=60,SNR=5.1
P23A Jeffson 60.21 63 ⇓P P 06 15 58.0 +1.1
baz=60
PKI Pulchoki 60.31 277 *e*P P 06 15 57.7 0.0
comp=Z,16nm,0.7s
M27A Reverse DX Ran 60.36 59 ⇑P P 06 15 58.7 +1.1
baz=60
Y14A Wickenburg 60.41 72 ⇓P P 06 15 59.6 +1.6
baz=60,SNR=6.2
MVCO Mesa Verde 60.42 67 ⇑P P 06 15 59.3 +1.1
baz=60
T19A Beclabito 60.42 67 ⇓P P 06 15 59.6 +1.4
baz=60,SNR=11
GKN Gorkha 60.43 277 *e*P P 06 15 57.2 -1.1
DMN Daman 60.46 277 *e*P P 06 15 58.1 -0.5
S21A Coal Bank Pass 60.46 66 ⇑P P 06 16 00.2 +1.6
baz=60,SNR=9.1
O25A Wiggins 60.55 61 ⇓P P 06 16 00.2 +1.3
baz=60
EYMN Ely 60.57 48 *e*P P 06 15 58.8 0.0
comp=Z,11nm,1.1s
R22A Saguache, Gunn 60.59 65 ⇑P P 06 16 01.0 +1.6
baz=60
P24A Kohler Place, 60.59 62 ⇑P P 06 16 00.8 +1.5
baz=60
DANN Dangsing 60.67 278 *e*P P 06 15 59.1 -1.0
comp=Z,20nm,0.8s
U19A Dine' College, 60.73 68 ⇓P P 06 16 01.6 +1.3
baz=61
N27A Anderson Farm, 60.83 60 ⇑P P 06 16 01.8 +1.0
baz=61
113A Mohawk Valley, 60.86 74 ⇑P P 06 16 02.0 +1.0
baz=61
S22A 4UR Ranch, Cre 60.91 65 ⇓P P 06 16 03.0 +1.4
baz=61,SNR=6.8
X16A Lo Mia Camp, P 60.91 71 ⇑P P 06 16 03.2 +1.7
baz=61
P25A Willow Gulch B 60.97 62 ⇓P P 06 16 03.3 +1.4
baz=61
OGNE Ogallala 60.98 59 ⇑P P 06 16 03.4 +1.6
baz=61
U20A Newcomb 61.03 67 ⇑P P 06 16 03.6 +1.3
baz=61
T21A Navajo Lake 61.10 66 ⇓P P 06 16 04.3 +1.5
baz=61
R23A Moffat 61.10 64 ⇓P P 06 16 04.2 +1.4
baz=61
KOLN Koldanda 61.20 278 *e*P P 06 16 02.2 -1.4
comp=Z,8.0nm,0.5s
O27A Beecher Island 61.32 60 ⇑P P 06 16 05.2 +1.1
baz=61
X17A Forest Lakes 61.32 70 ⇓P P 06 16 05.8 +1.4
baz=61
P26A Davis Ranch, A 61.35 61 ⇓P P 06 16 05.6 +1.2
baz=61
114A Black Gap (USA 61.36 73 ⇑P P 06 16 06.2 +1.8
baz=61
S23A Nye Farm, Mont 61.37 65 ⇑P P 06 16 06.2 +1.5
baz=61
Q25A Bedland, Calha 61.38 62 ⇓P P 06 16 05.6 +0.9
baz=61,SNR=5.7
T22A Edith 61.42 66 ⇑P P 06 16 06.4 +1.4
baz=61
R24A Sanders Place, 61.45 64 ⇑P P 06 16 06.4 +1.3
baz=61
U21A Nageezi 61.45 67 ⇑P P 06 16 06.6 +1.4
baz=61
ECSD EROS Data Cent 61.50 54 *e*P P 06 16 05.4 +0.2
comp=Z,36nm,1.9s
SDCO Great Sand Dun 61.60 64 *e*P P 06 16 07.8 +1.4
comp=Z,5.1nm,1.1s
SDCO Great Sand Dun 61.60 64 ⇑P P 06 16 07.4 +1.1
baz=61,SNR=5.8
X18A Snowflake 61.64 70 ⇓P P 06 16 08.4 +1.9
baz=62
OBN Obninsk 61.73 328 *e*P P 06 16 06.6 +0.2
OBN *e* 06 16 45.9
OBN *e* 06 18 21.0
OBN pmax pmax
comp=Z,27nm,1.6s
OBN MLR MLR
comp=Z,200nm,17.0s
Q26A Hugo 61.74 62 ⇓P P 06 16 08.3 +1.2
baz=62
P27A Ficken Ranch, 61.75 61 ⇓P P 06 16 07.8 +0.7
baz=62

U22A	Llaves	61.92	66	⇓P		P		06 16 09.6	+1.2
	baz=62									
V21A	Milan	61.93	67	⇓P		P		06 16 09.6	+1.1
	baz=62									
R25A	Fountain Ranch	61.94	63	⇓P		P		06 16 09.5	+1.1
	baz=62									
W20A	Ramah	61.98	68	⇑P		P		06 16 09.7	+0.9
	baz=62,SNR=5.8									
214A	Organ Pipe Nat	62.00	74	⇑P		P		06 16 09.9	+1.2
	baz=62,SNR=6.3									
SPMN	St. Paul	62.10	50	⇓P		P		06 16 09.8	+0.6
	baz=62									
S25A	Robets Cordova	62.22	64	⇓P		P		06 16 11.3	+1.0
	baz=62									
V22A	San Miguel Ran	62.24	67	⇓P		P		06 16 11.6	+1.1
	baz=62									
R26A	Arlington	62.25	62	⇓P		P		06 16 11.3	+0.9
	baz=62,SNR=9.5									
NB2	NORSAR Subarra	62.28	344	P		P		06 16 09.4	-0.8
	baz=20,slow=6.9									
NB2	NORSAR Subarra	62.28	344	P		P		06 16 09.4	-0.8
	comp=Z,12nm,0.7s,baz=20,slow=6.9									
NOA	NORSAR Array B	62.28	344	P		P		06 16 09.7	-0.5
NOA	NORSAR Array B	62.28	344	P		P		06 16 09.7	-0.5
	comp=Z,9.7nm,0.6s,baz=19,slow=6.7,SNR=54									
U23A	El Rito	62.31	66	⇑P		P		06 16 12.4	+1.5
	baz=62,SNR=7.9									
T24A	Torres, Weston	62.34	64	⇓P		P		06 16 12.4	+1.1
	baz=62									
X20A	Quemado	62.42	69	⇑P		P		06 16 13.3	+1.6
	baz=62,SNR=7.9									
W21A	San Fidel	62.45	68	⇓P		P		06 16 13.1	+1.2
	baz=62									
Y19A	Nutrioso	62.45	70	⇓P		P		06 16 13.9	+1.9
	baz=62									
NAO01	NORSAR Array S	62.52	344	*e*P		P		06 16 11.0	-0.7
	comp=Z,3.9nm,0.6s									
R27A	Eads	62.59	62	⇓P		P		06 16 13.5	+0.8
	baz=62									
HFS	Hagfors	62.74	343	P		P		06 16 12.4	-0.8
HFS	Hagfors	62.74	343	P		P		06 16 12.4	-0.8
	comp=Z,9.1nm,0.5s,baz=41,slow=4.7,SNR=54									
V23A	Ortiz Mt. (NFS	62.75	66	⇓P		P		06 16 16.1	+2.1
	baz=63,SNR=5.6									
S26A	Kim	62.75	63	⇓P		P		06 16 14.3	+0.5
	baz=63									
X21A	Alamocita Cree	62.88	68	⇑P		P		06 16 16.7	+1.9
	baz=63,SNR=14									
Y20A	Horse Springs,	62.97	69	⇑P		P		06 16 17.3	+1.9
	baz=63,SNR=6.9									
U25A	Circle Dot Ran	63.19	64	⇓P		P		06 16 17.7	+0.9
	baz=63,SNR=5.1									
ANMO	Albuquerque	63.21	67	*e*P		P		06 16 17.8	+0.8
	comp=Z,3.5nm,1.0s									
W23A	Werner Place,	63.21	67	⇑P		P		06 16 18.4	+1.4
	baz=63									
X22A	Bernardo	63.25	68	⇑P		P		06 16 19.0	+1.9
	baz=63									
V24A	Rampart Ranch,	63.25	66	⇓P		P		06 16 18.5	+1.2
	baz=63,SNR=5.8									
Y21A	Point of Rocks	63.27	68	⇑P		P		06 16 19.7	+2.3
	baz=63,SNR=5.6									
VRHR	Novokhopersk	63.42	322	*e*P		P		06 16 15.7	-2.1
VRHR					pmax	pmax				
	comp=E,10.0nm,0.5s									
VRHR					pmax	pmax				
	comp=Z,10.0nm,0.5s									
VRHR					pmax	pmax				
	comp=N,3.0nm,0.3s									
Z20A	Nine Sixteen R	63.45	70	⇑P		P		06 16 20.1	+1.6
	baz=63									
V25A	Rancho No Teng	63.51	65	⇑P		P		06 16 19.9	+1.0
	baz=63									
U26A	Atchley Ranch,	63.54	64	⇓P		P		06 16 19.6	+0.5
	baz=63									
T27A	Campo	63.57	63	⇓P		P		06 16 19.7	+0.5
	baz=63									
W24A	Lazy 6 Ranch,	63.57	66	⇑P		P		06 16 20.2	+0.9
	baz=63									
Y22A	Socorro	63.70	68	⇑P		P		06 16 21.6	+1.4
	baz=64,SNR=6.4									
SCHQ	Schefferville	63.72	29	P		P		06 16 19.1	-0.7
SCHQ	Schefferville	63.72	29	P		P		06 16 19.1	-0.7
	comp=N,4.2nm,0.6s,baz=354,slow=7.8,SNR=14									
CBKS	Cedar Bluff	63.74	60	⇓P		P		06 16 20.3	+0.1
	baz=64									
Z21A	St. Cloud Mine	63.80	69	⇑P		P		06 16 22.5	+1.6
	baz=64,SNR=5.7									
120A	U Bar Ranch, L	63.86	70	⇓P		P		06 16 22.7	+1.5
	baz=64,SNR=6.2									
V26A	Tequesquite Ra	63.98	64	⇑P		P		06 16 22.4	+0.5
	baz=64									
W25A	X Bar L Ranch,	64.06	65	⇓P		P		06 16 23.2	+0.7
	baz=64,SNR=6.0									
KBL	Kabul	64.17	294	*e*P		P		06 16 22.1	-1.2
KBL					pmax	pmax				
	comp=Z,9.0nm,0.7s									
KBL	Kabul	64.17	294	*e*P		P		06 16 22.1	-1.2
	comp=Z,9.1nm,0.7s									
VSR	Storozhevoye	64.17	324	*e*P		P		06 16 22.7	0.0
VSR					pmax	pmax				
	comp=N,1.0nm,0.5s									
VSR					pmax	pmax				
	comp=Z,7.0nm,0.5s									
VSR					pmax	pmax				
	comp=E,1.0nm,0.3s									
Y23A	Lovelace Mesa,	64.20	67	⇓P		P		06 16 24.9	+1.5
	baz=64,SNR=12									
Z22A	Elephant Butte	64.22	68	⇓P		P		06 16 25.0	+1.4
	baz=64,SNR=5.4									
121A	Cookes Peak, D	64.33	70	⇓P		P		06 16 25.6	+1.3
	baz=64									
319A	Douglas	64.40	71	⇓P		P		06 16 26.2	+1.6
	baz=64,SNR=7.1									
220A	Playas Peak, P	64.41	71	⇑P		P		06 16 25.9	+1.1
	baz=64									
Y24A	Capitan	64.53	67	⇑P		P		06 16 27.1	+1.5
	baz=64,SNR=16									
Z23A	Rita Site, Whi	64.61	68	⇓P		P		06 16 27.5	+1.4
	baz=64									
122A	Conniff Cattle	64.63	69	⇓P		P		06 16 27.8	+1.6
	baz=64									
221A	Mesquite Ranch	64.73	70	⇑P		P		06 16 28.5	+1.6
	baz=65									
320A	Kipp Ranch, An	64.84	71	⇑P		P		06 16 28.9	+1.3
	baz=65									
X26A	CR and CF Fran	64.92	65	⇑P		P		06 16 29.2	+1.1
	baz=65									
Y25A	Mesa, Roswell	64.93	66	⇓P		P		06 16 29.2	+1.0
	baz=65,SNR=11									
Z24A	Sheeppen Canyo	65.03	67	⇑P		P		06 16 29.9	+1.0
	baz=65									
222A	Williams Famil	65.03	69	⇓P		P		06 16 30.2	+1.4
	baz=65									
Z25A	Roswell	65.41	67	⇑P		P		06 16 32.3	+1.1
	baz=65									
124A	Stringfield Ra	65.46	68	⇓P		P		06 16 32.7	+0.9
	baz=65									
Y27A	Causey	65.77	65	⇓P		P		06 16 34.5	+0.9
	baz=66									
Z26A	Caprock	65.81	66	⇓P		P		06 16 34.6	+0.8
	baz=66,SNR=8.4									
224A	Cornudas Mount	65.91	68	⇑P		P		06 16 35.7	+1.2
	baz=66,SNR=7.6									
MSTX	Muleshoe	65.91	65	⇓P		P		06 16 35.0	+0.5
	baz=66									
125A	Gardner Draw,	65.92	67	⇓P		P		06 16 35.5	+1.0
	baz=66,SNR=7.1									
X29A	Tulia	66.11	64	⇑P		P		06 16 36.4	+0.8
	baz=66									
Z27A	Tatum	66.18	66	⇑P		P		06 16 36.9	+0.7
	baz=66									
126A	Clayton Basin,	66.27	67	⇑P		P		06 16 37.4	+0.6
	baz=66									
MNTX	Cornudas Mount	66.27	68	⇑P		P		06 16 37.8	+1.1
	baz=66,SNR=11									
324A	Moseley Ranch,	66.42	69	⇑P		P		06 16 38.6	+0.8
	baz=66									
SUW	Suwalki	66.42	335	*e*P		P		06 16 36.9	-0.3
SUW	Suwalki	66.42	335	*e*P		P		06 16 36.9	-0.3
SUW	Suwalki	66.42	335	*e*P		P		06 16 37.3	0.0
SUW					pmax	pmax				
	comp=Z,100nm,1.6s									
SUW	Suwalki	66.42	335	*e*P		P		06 16 37.3	0.0
	comp=Z,100nm,1.6s									
GDL2	Guadalupe Moun	66.43	67	*e*P		P		06 16 39.0	+1.1
	comp=Z,1.5nm,0.4s									
Y29A	Porterfield Fa	66.57	64	⇑P		P		06 16 39.3	+0.7
	baz=66									
127A	Arkansas Junct	66.60	66	⇓P		P		06 16 39.4	+0.4
	baz=66									
Z28A	Tucker Farm, M	66.64	65	⇓P		P		06 16 39.6	+0.4
	baz=66									
226A	Malaga, Loving	66.68	67	⇑P		P		06 16 40.0	+0.6
	baz=66									
325A	Bean Ranch, Si	66.75	68	⇑P		P		06 16 40.7	+0.8
	baz=67,SNR=5.5									
Z29A	Hungry Hill Ra	67.02	65	⇓P		P		06 16 42.1	+0.6
	baz=67									
128A	Castleberry Fa	67.11	66	⇑P		P		06 16 42.7	+0.6
	baz=67									
425A	Indio Mountain	67.19	69	⇑P		P		06 16 43.7	+1.0
	baz=67,SNR=8.3									
326A	Caldwell Ranch	67.33	68	⇓P		P		06 16 44.3	+0.8
	baz=67									
HDIL	Hopedale	67.36	51	*e*P		P		06 16 43.1	-0.3
	comp=Z,13nm,0.7s									
WMOK	Wichita Mounta	67.39	62	*e*P		P		06 16 43.9	+0.2
WMOK					pmax	pmax				
	comp=Z,9.0nm,0.9s									
WMOK	Wichita Mounta	67.39	62	*e*P		P		06 16 43.9	+0.2
	comp=Z,8.9nm,0.9s									
228A	UT Block 9, Go	67.44	66	⇑P		P		06 16 44.9	+0.7
	baz=67									
AKASG	Malin Array Be	67.77	330	P		P		06 16 45.1	-0.7
AKASG					pmax	pmax				
	comp=Z,8.0nm,0.3s									
AKASG	Malin Array Be	67.77	330	P		P		06 16 45.1	-0.7
AKASG	Malin Array Be	67.77	330	P		P		06 16 45.1	-0.7
	comp=Z,8.3nm,0.3s,baz=27,slow=7.1,SNR=37									
AKBB	Malin Array Si	67.77	330	*e*P		P		06 16 45.5	-0.3
AKBB	Malin Array Si	67.77	330	*e*P		P		06 16 45.5	-0.3
KIEV	Kiev	67.78	330	*e*P		P		06 16 45.5	-0.4
KIEV					pmax	pmax				
	comp=Z,17nm,0.9s									
KIEV	Kiev	67.78	330	*e*P		P		06 16 45.5	-0.4
	comp=Z,17nm,0.9s									
426A	McDonald Obser	67.80	68	⇓P		P		06 16 47.3	+0.6
	baz=68									
MAK	Makhachkala	67.85	314	*e*P		P		06 16 42.7	-3.8
328A	Wristen Ranch,	67.90	67	⇓P		P		06 16 47.7	+0.7
	baz=68,SNR=5.6									
TUL1	Tulsa	67.97	59	⇓P		P		06 16 47.4	0.0
	baz=68									
427A	Hayter Ranch,	68.00	68	⇓P		P		06 16 48.5	+0.8
	baz=68									
526A	Mary Lane Ranc	68.24	69	⇓P		P		06 16 50.2	+0.9
	baz=68,SNR=5.4									
527A	Woodward Ranch	68.43	68	⇑P		P		06 16 51.3	+0.7
	baz=68									
428A	Kincaid Ranch,	68.48	67	⇑P		P		06 16 51.9	+1.1
	baz=68,SNR=11									
626A	Big Bend Ranch	68.61	69	⇑P		P		06 16 52.3	+0.7
	baz=68,SNR=5.7									
EAB	Aberfoyle	68.90	352	⇑*e*P		P		06 16 52.7	-0.1
EAB	Aberfoyle	68.90	352	P		P		06 16 52.7	-0.1
429A	Davenport Ranc	68.98	67	⇓P		P		06 16 54.1	+0.3
	baz=69									
KIV	Kislovodsk	68.98	318	*e*P		P		06 16 54.1	+0.4
KIV					pmax	pmax				
	comp=Z,10.0nm,1.1s									
KIV					MLR	MLR				
	comp=Z,184nm,19.0s									
BEL	Belsk	69.00	335	*e*P		P		06 16 53.9	+0.4
BEL	Belsk	69.00	335	*e*P		P		06 16 53.9	+0.4
BEL	Belsk	69.00	335	*e*P		P		06 16 53.9	+0.4
ESY	Stoneypath	69.01	351	⇑*e*P		P		06 16 53.2	-0.3
ESY	Stoneypath	69.01	351	P		P		06 16 53.2	-0.3
TXAR	Lajitas Array	69.04	69	P		P		06 16 55.1	+0.8
TXAR	Lajitas Array	69.04	69	P		P		06 16 55.1	+0.8
	comp=Z,4.8nm,0.6s,baz=301,slow=4.5,SNR=67									
TXAR					LR	LR		06 46 38.0		
	comp=Z,156nm,19.2s,baz=265,slow=36									
627A	Terlingua Ranc	69.09	69	⇑P		P		06 16 55.6	+1.0
	baz=69,SNR=8.3									
EAU	Auchinoon	69.16	351	*e*P		P		06 16 55.0	+0.5
EAU	Auchinoon	69.16	351	P		P		06 16 55.0	+0.5
EBL	Broad Law	69.20	351	*e*P		P		06 16 54.2	-0.5
EBL	Broad Law	69.20	351	P		P		06 16 54.2	-0.5
529A	Stev Forest Ra	69.20	67	⇑P		P		06 16 56.0	+0.8
	baz=69									
430A	Baggett Ranch,	69.20	66	⇓P		P		06 16 55.5	+0.3
	baz=69									
PGBU	Glenifferbraes	69.28	352	*e*P		P		06 16 54.3	-0.9
PGBU	Glenifferbraes	69.28	352	P		P		06 16 54.3	-0.9
628A	Black Gap, Mar	69.34	68	⇓P		P		06 16 56.9	+0.9
	baz=69									
ESK	Eskdalemuir	69.66	351	*e*P		P		06 16 57.4	-0.2
ESK	Eskdalemuir	69.66	351	P		P		06 16 57.4	-0.2
ECK	Cauldkaine Hil	69.79	351	⇑*e*P		P		06 16 58.1	-0.2
ECK	Cauldkaine Hil	69.79	351	P		P		06 16 58.1	-0.2
JCT	Junction City	70.20	65	*e*P		P		06 17 01.8	+0.5
JCT					pmax	pmax				
	comp=Z,9.0nm,0.8s									
JCT	Junction City	70.20	65	*e*P		P		06 17 01.8	+0.5
	comp=Z,8.5nm,0.8s									
JCT	Junction City	70.20	65	⇓P		P		06 17 01.5	+0.2
	baz=70,SNR=6.6									
ACSO	Alum Creek Sta	70.41	47	*e*P		P		06 17 02.3	-0.1
	comp=Z,20nm,1.2s									
KWP	Kalwaria Pacla	70.55	333	*e*P		P		06 17 03.8	+0.7
KWP	Kalwaria Pacla	70.55	333	*e*P		P		06 17 03.8	+0.7
KWP	Kalwaria Pacla	70.55	333	*e*P		P		06 17 03.8	+0.7
KWP	Kalwaria Pacla	70.55	333	*e*P		P		06 17 04.0	+0.9
	comp=Z,52nm,1.0s									
NRDL	Niedersach Rie	70.63	342	*e*P		P		06 17 03.6	+0.2
	comp=Z,6.0nm,0.9s									
OJC	Ojcow	70.74	335	*e*P		P		06 17 04.1	-0.2
OJC	Ojcow	70.74	335	*e*P		P		06 17 05.0	+0.8
OJC					pmax	pmax				
	comp=Z,35nm,1.3s									
OJC	Ojcow	70.74	335	*e*P		P		06 17 05.0	+0.8
	comp=Z,34nm,1.3s									
GMM	Mts of Mourne	70.96	352	*e*P		P		06 17 04.4	-1.1
GMM	Mts of Mourne	70.96	352	P		P		06 17 04.4	-1.1
KSP	Ksiaz	70.97	338	*e*P		P		06 17 06.0	+0.4
KSP	Ksiaz	70.97	338	*e*P		P		06 17 06.0	+0.4
KSP	Ksiaz	70.97	338	⇑*e*P		P		06 17 05.9	+0.4
CLZ	Clausthal	71.21	342	*e*P		P		06 17 07.5	+0.4
	comp=Z,21nm,1.0s									
CLZ	Clausthal	71.21	342	*e*P		P		06 17 07.5	+0.4
CLZ					pmax	pmax				
	comp=Z,21nm,1.0s									
IBBN	Ibbenburen	71.21	344	*e*P		P		06 17 07.5	+0.5
	comp=Z,28nm,1.2s									
CLL	Collm	71.22	340	*e*P		P		06 17 07.1	0.0
	comp=Z,46nm,1.6s									
CLL	Collm	71.22	340	*i* P		P		06 17 07.1	0.0
CLL				*e**PP		pP		06 17 24.0	+1.0
CLL					pmax	pmax				
	comp=Z,45nm,1.5s									
CLL	Collm	71.22	340	*i* P		P		06 17 07.1	0.0
	comp=Z,45nm,1.5s									
CLL				*e*(pP)		pP		06 17 23.0	0.0
CLL				Lm		MLR		06 48 00.0		
	comp=Z,100nm,21.7s									
KOLS	Kolonicke sedl	71.30	333	*e*P		P		06 17 08.1	+0.4
KOLS					pmax	pmax				
	comp=Z,7.0nm,0.8s									
KOLS	Kolonicke sedl	71.30	333	*e*P		P		06 17 08.1	+0.4
UPC	Upice	71.34	338	*e*P		P		06 17 08.7	+0.8
UPC	Upice	71.34	338	*e*P		P		06 17 08.7	+0.8
NIE	Niedzica	71.35	335	*e*P		P		06 17 08.1	+0.1
NIE	Niedzica	71.35	335	*e*P		P		06 17 08.8	+0.8
DPC	Dobruska-Polom	71.42	338	*e*P		P		06 17 09.3	+0.8
DPC					pmax	pmax				
	comp=Z,27nm,1.1s									
DPC	Dobruska-Polom	71.42	338	*e*P		P		06 17 09.3	+0.8
	comp=Z,27nm,1.1s									
DPC	Dobruska-Polom	71.42	338	*e*P		P		06 17 09.2	+0.8
BRG	Berggiesshubel	71.44	339	*e*P		P		06 17 08.6	+0.2
	comp=Z,11nm,0.9s									
BRG	Berggiesshubel	71.44	339	*e*		P		06 17 08.6	+0.2
	comp=Z,11nm,0.9s									
OKC	Ostrava-Krasne	71.49	336	*e*P		P		06 17 09.7	+1.0
OKC	Ostrava-Krasne	71.49	336	*e*P		P		06 17 09.7	+1.0
FBE	Freiberg	71.51	340	*e*P		P		06 17 09.4	+0.5
	comp=Z,29nm,1.2s									
CRVS	Cervenica-Dubn	71.54	334	*e*P		P		06 17 08.9	-0.2
CRVS					pmax	pmax				
	comp=Z,4.0nm,0.8s									
CRVS	Cervenica-Dubn	71.54	334	*e*P		P		06 17 08.9	-0.2
NEUB	Neuenburg	71.55	341	*e*P		P		06 17 09.3	+0.2
	comp=Z,17nm,0.9s									
PVCC	Panska Ves	71.64	339	*e*P		P		06 17 10.4	+0.8
PVCC	Panska Ves	71.64	339	*e*P		P		06 17 10.4	+0.8
BUR08	Bucovina Ar. S	71.68	331	*e*P		P		06 17 10.1	0.0
MORC	Moravsky Berou	71.69	337	⇓P		P		06 17 10.8	+0.8
MORC	Moravsky Berou	71.69	337	*e*P		P		06 17 10.5	+0.5
	comp=Z,13nm,1.0s									
MORC	Moravsky Berou	71.69	337	⇓*i*P		P		06 17 10.8	+0.8
BURAR	Bucovina Array	71.70	331	⇓*i*P		P		06 17 10.6	+0.4
TRPA	Tarpa	71.97	333	⇓*i*P		P		06 17 12.5	+0.9
FOEL	Foel Wylfa	72.06	351	*e*P		P		06 17 10.9	-1.3
FOEL					AMB	AMB		06 17 18.8		
	comp=Z,21nm,1.6s									
FOEL	Foel Wylfa	72.06	351	P		P		06 17 10.9	-1.3
FOEL					AMB	AMB		06 17 18.8		
	comp=Z,21nm,1.6s									
MOX	Moxa	72.12	341	*e*P		P		06 17 12.9	+0.3
	comp=Z,14nm,1.0s									
MOX	Moxa	72.12	341	*e*P		P		06 17 12.9	+0.3
MOX					pmax	pmax				
	comp=Z,14nm,1.0s									
BUG	Bochum-Univer	72.13	344	*e*P		P		06 17 12.6	+0.1
	comp=Z,17nm,1.0s									
PRU	Pruhonice	72.15	339	*e*P		P		06 17 13.4	+0.7
PRU	Pruhonice	72.15	339	*e*P		P		06 17 13.4	+0.7
PLN	Plauen	72.17	340	*e*P		P		06 17 13.4	+0.6
	comp=Z,57nm,0.9s									
WERD	Werda	72.17	340	*e*P		P		06 17 13.4	+0.5
	comp=Z,17nm,1.0s									
TANN	Tannenbergstha	72.17	340	*e*P		P		06 17 13.5	+0.6
	comp=Z,26nm,1.7s									
GUNZ	Gunzen	72.25	340	*e*P		P		06 17 13.9	+0.5
	comp=Z,18nm,1.2s									
UBBA	Unterbreizbach	72.26	342	*e*P		P		06 17 14.5	+1.3
	comp=Z,18nm,1.6s									
WERN	Wernitzgruen	72.31	340	*e*P		P		06 17 14.3	+0.6
	comp=Z,20nm,0.9s									
NKC	Novy Kostel	72.35	340	*e*P		P		06 17 14.7	+0.8
NKC	Novy Kostel	72.35	340	*e*P		P		06 17 14.7	+0.8
HLM1	Long Mynd	72.40	350	*e*P		P		06 17 13.6	-0.6
HLM1					AMB	AMB		06 17 17.6		
	comp=Z,43nm,3.5s									
HLM1	Long Mynd	72.40	350	P		P		06 17 13.6	-0.6
HLM1					AMB	AMB		06 17 17.6		
	comp=Z,43nm,3.5s									
PLAL	Pickwick Lake	72.45	54	*e*P		P		06 17 19.3	+4.5
	comp=Z,16nm,1.2s									
VYHS	Vyhne	72.58	335	*e*P		P		06 17 16.1	+0.8
VYHS					pmax	pmax				
	comp=Z,13nm,1.6s									
VYHS	Vyhne	72.58	335	*e*P		P		06 17 16.1	+0.8
TREC	Trest	72.60	338	*e*P		P		06 17 16.3	+0.8
TREC	Trest	72.60	338	*e*P		P		06 17 16.3	+0.8
ROTZ	Rotzenmuhle	72.84	340	*e*P		P		06 17 17.7	+0.8
	comp=Z,213nm,3.5s									
PSZ	Piszkesteto	72.85	334	*e*P		P		06 17 18.3	+1.3
PSZ					pmax	pmax				
	comp=Z,15nm,1.1s									
PSZ	Piszkesteto	72.85	334	*e*P		P		06 17 18.3	+1.3
	comp=Z,15nm,1.1s									
MCH1	Michaelchurch	72.93	350	*e*P		P		06 17 17.0	-0.3
MCH1					AMB	AMB		06 17 17.3		
	comp=Z,35nm,2.3s									
MCH1	Michaelchurch	72.93	350	P		P		06 17 17.0	-0.3
MCH1					AMB	AMB		06 17 17.3		
	comp=Z,35nm,2.3s									
CFR	Carcaliu	73.04	328	⇓P		P		06 17 18.2	+0.2
CFR	Carcaliu	73.04	328	⇓*i*P		P		06 17 18.2	+0.2
GRF	Grafenberg Arr	73.11	341	*e*P		P		06 17 19.3	+0.9
	comp=Z,22nm,0.8s									
GRF	Grafenberg Arr	73.11	341	*e*P		P		06 17 19.3	+0.9
GRF					pmax	pmax				
	comp=Z,22nm,0.8s									
TNS	Taunus Mts	73.11	343	*e*P		P		06 17 18.8	+0.3
	comp=Z,8.0nm,0.9s									
TNS	Taunus Mts	73.11	343	*e*P		P		06 17 18.8	+0.3
TNS					pmax	pmax				
	comp=Z,8.0nm,0.9s									
GRFO	Grafenberg	73.11	341	*e*P		P		06 17 19.0	+0.6
GRFO					pmax	pmax				
	comp=Z,20nm,0.7s									
GRFO	Grafenberg	73.11	341	*e*P		P		06 17 18.9	+0.6
	comp=Z,20nm,0.7s									
DRGR		73.15	332	⇓P		P		06 17 19.2	+0.4
DRGR		73.15	332	⇓*i*P		P		06 17 19.2	+0.4
KHC	Kasperske Hory	73.17	339	*e*P		P		06 17 19.7	+0.9
KHC	Kasperske Hory	73.17	339	*e*P		P		06 17 19.8	+0.9
	comp=Z,12nm,1.0

ECH	**Echery**	**75.27 343**	*e*P	**P**	**06 17 30.9**	**-0.1**
ECH			pmax	pmax		
	comp=Z,21nm,1.3s					
ECH	**Echery**	**75.27 343**	*e*P	**P**	**06 17 30.9**	**-0.1**
	comp=Z,21nm,1.3s					
ECH	**Echery**	**75.27 343**	*e*P	**P**	**06 17 31.0**	**-0.1**
MEZF	**Maizieres J'vi**	**75.33 344**⇑*i*P		**P**	**06 17 31.6**	**+0.2**
	comp=Z,23nm,0.7s					
MEZF	**Maizieres J'vi**	**75.33 344**⇑*i*P		**P**	**06 17 31.6**	**+0.2**
	comp=Z,23nm,0.7s					
OBKA	**Obir**	**75.44 337**⇑*i*P		**P**	**06 17 33.1**	**+0.9**
	comp=Z,19nm,0.8s,SNR=7.2					
FELD	**Feldberg im Sc**	**75.45 342** *e*P		**P**	**06 17 32.1**	**-0.1**
THEF	**They Montfort**	**75.45 344** *e*P		**P**	**06 17 32.1**	**0.0**
THEF	**They Montfort**	**75.45 344** *e*P		**P**	**06 17 32.1**	**0.0**
THEF	**They Montfort**	**75.45 344** *e*P		**P**	**06 17 32.1**	**0.0**
HAU	**Haudompre**	**75.61 343**⇑*i*P		**P**	**06 17 32.9**	**-0.1**
	comp=Z,18nm,0.6s					
HAU			*e*R			
	comp=Z,62nm,18.5s					
HAU	**Haudompre**	**75.61 343**⇑*i*P		**P**	**06 17 32.9**	**-0.1**
HAU			pmax	pmax		
	comp=Z,18nm,0.6s					
HAU	**Haudompre**	**75.61 343**⇑*i*P		**P**	**06 17 32.9**	**-0.1**
	comp=Z,18nm,0.6s					
MOF	**Molkenrain**	**75.62 343** *e*P		**P**	**06 17 33.2**	**0.0**
MOF	**Molkenrain**	**75.62 343** *e*P		**P**	**06 17 33.2**	**0.0**
MOF	**Molkenrain**	**75.62 343** *e*P		**P**	**06 17 33.2**	**0.0**
SFTF	**Sexfontaines**	**75.62 344**⇑*i*P		**P**	**06 17 33.1**	**0.0**
	comp=Z,32nm,0.5s					
SFTF	**Sexfontaines**	**75.62 344**⇑*i*P		**P**	**06 17 33.1**	**0.0**
	comp=Z,32nm,0.5s					
ABTA	**Abfaltersbach**	**75.66 339** *i*P		**P**	**06 17 33.9**	**+0.5**
	comp=Z,12nm,0.8s,SNR=9.1					
CTA	**Charters Tower**	**75.69 195** P		**P**	**06 17 34.0**	**+0.4**
CTA	**Charters Tower**	**75.69 195** P		**P**	**06 17 34.0**	**+0.4**
	comp=Z,7.9nm,0.7s,baz=9.3,slow=6.8,SNR=8.2					
HINF	**Hinteralfeld**	**75.70 343**⇑*i*P		**P**	**06 17 33.3**	**-0.3**
	comp=Z,9.6nm,0.9s					
HINF	**Hinteralfeld**	**75.70 343**⇑*i*P		**P**	**06 17 33.3**	**-0.3**
HINF			pmax	pmax		
	comp=Z,10.0nm,0.9s					
HINF	**Hinteralfeld**	**75.70 343**⇑*i*P		**P**	**06 17 33.3**	**-0.3**
	comp=Z,9.6nm,0.9s					
FETA	**Feichten**	**75.76 340**⇑*i*P		**P**	**06 17 34.8**	**+0.8**
	comp=Z,18nm,0.9s,SNR=15					
FLN	**La Foliniere**	**75.84 348**⇑*i*P		**P**	**06 17 33.9**	**-0.4**
	comp=Z,18nm,0.6s					
FLN			*e*R			
	comp=Z,72nm,20.2s					
FLN	**La Foliniere**	**75.84 348**⇑*i*P		**P**	**06 17 33.9**	**-0.4**
FLN			pmax	pmax		
	comp=Z,18nm,0.6s					
FLN	**La Foliniere**	**75.84 348**⇑*i*P		**P**	**06 17 33.9**	**-0.4**
	comp=Z,18nm,0.6s					
BBS	**Basel-Blauen**	**75.93 342** *e*P		**P**	**06 17 34.9**	**0.0**
BBS	**Basel-Blauen**	**75.93 342** *e*P		**P**	**06 17 34.9**	**0.0**
LDF	**La Druitiere**	**75.97 348**⇑*i*P		**P**	**06 17 34.5**	**-0.5**
	comp=Z,6.3nm,0.4s					
LDF	**La Druitiere**	**75.97 348**⇑*i*P		**P**	**06 17 34.5**	**-0.5**
LDF			pmax	pmax		
	comp=Z,6.0nm,0.4s					
LDF	**La Druitiere**	**75.97 348**⇑*i*P		**P**	**06 17 34.5**	**-0.5**
	comp=Z,6.3nm,0.4s					
BR131	**Keskin Array S**	**76.04 321** *e*P		**P**	**06 17 36.0**	**+0.2**
	comp=Z,5.9nm,0.7s					
BRTR	**Keskin Array B**	**76.04 321** P		**P**	**06 17 36.0**	**+0.2**
BRTR	**Keskin Array B**	**76.04 321** P		**P**	**06 17 36.0**	**+0.2**
	comp=Z,6.6nm,0.7s,baz=26,slow=2.7,SNR=29					
BRTR			LR	LR	06 53 03.6	
	comp=Z,54nm,21.5s,baz=21,slow=37					
LOMF	**Lomont**	**76.16 343** *e*P		**P**	**06 17 36.4**	**+0.2**
LOMF	**Lomont**	**76.16 343** *e*P		**P**	**06 17 36.4**	**+0.2**
LOMF	**Lomont**	**76.16 343** *e*P		**P**	**06 17 36.4**	**+0.2**
FUORN	**Ofenpass-Fuorn**	**76.23 340** *e*P		**P**	**06 17 38.3**	**+1.4**
	comp=Z,77nm,2.0s					
GRR	**Gorron**	**76.26 348**⇑*i*P		**P**	**06 17 36.5**	**-0.1**
	comp=Z,22nm,0.5s					
GRR	**Gorron**	**76.26 348**⇑*i*P		**P**	**06 17 36.5**	**-0.1**
GRR			pmax	pmax		
	comp=Z,22nm,0.5s					
GRR	**Gorron**	**76.26 348**⇑*i*P		**P**	**06 17 36.5**	**-0.1**
	comp=Z,22nm,0.5s					
TUE	**Stuetta**	**76.55 341** *e*P		**P**	**06 17 39.4**	**+0.8**
	comp=Z,11nm,0.7s					
ROSF	**Rostrenen**	**76.58 350**⇑*i*P		**P**	**06 17 38.5**	**+0.1**
	comp=Z,12nm,0.7s					
ROSF	**Rostrenen**	**76.58 350**⇑*i*P		**P**	**06 17 38.5**	**+0.1**
ROSF			pmax	pmax		
	comp=Z,12nm,0.7s					
ROSF	**Rostrenen**	**76.58 350**⇑*i*P		**P**	**06 17 38.5**	**+0.1**
	comp=Z,12nm,0.7s					
SGMF	**Saint Gilles**	**76.58 349**⇑*i*P		**P**	**06 17 38.5**	**0.0**
	comp=Z,21nm,0.7s					
SGMF	**Saint Gilles**	**76.58 349**⇑*i*P		**P**	**06 17 38.5**	**0.0**
SGMF			pmax	pmax		
	comp=Z,21nm,0.7s					
SGMF	**Saint Gilles**	**76.58 349**⇑*i*P		**P**	**06 17 38.5**	**0.0**
	comp=Z,21nm,0.7s					
LOR	**Lormes**	**76.72 345**⇑*i*P		**P**	**06 17 39.2**	**-0.1**
	comp=Z,19nm,0.8s					
LOR			*e*R			
	comp=Z,67nm,19.8s					
LOR	**Lormes**	**76.72 345**⇑*i*P		**P**	**06 17 39.2**	**-0.1**
	comp=Z,19nm,0.8s					
VTS	**Vitosha**	**76.87 330**⇓P		**P**	**06 17 40.4**	**0.0**
VTS	**Vitosha**	**76.87 330**⇓*i*P		**P**	**06 17 40.4**	**0.0**
HYF	**Humbligny**	**76.90 346** *e*P		**P**	**06 17 40.6**	**+0.3**
HYF	**Humbligny**	**76.90 346** *e*P		**P**	**06 17 40.6**	**+0.3**
SSF	**Saint Saulge**	**76.97 345**⇑*i*P		**P**	**06 17 40.7**	**0.0**
	comp=Z,7.9nm,0.7s					
SSF	**Saint Saulge**	**76.97 345**⇑*i*P		**P**	**06 17 40.7**	**0.0**
SSF			pmax	pmax		
	comp=Z,8.0nm,0.7s					
SSF	**Saint Saulge**	**76.97 345**⇑*i*P		**P**	**06 17 40.7**	**0.0**
	comp=Z,7.9nm,0.7s					
QUIF	**Quistinic**	**76.98 350**⇑*i*P		**P**	**06 17 40.6**	**-0.1**
	comp=Z,20nm,0.8s					
QUIF	**Quistinic**	**76.98 350**⇑*i*P		**P**	**06 17 40.6**	**-0.1**
QUIF			pmax	pmax		
	comp=Z,20nm,0.8s					
QUIF	**Quistinic**	**76.98 350**⇑*i*P		**P**	**06 17 40.6**	**-0.1**
	comp=Z,20nm,0.8s					
CABF	**La Chapelle**	**77.00 343**⇑*i*P		**P**	**06 17 41.4**	**+0.4**
	comp=Z,21nm,0.7s					
CABF	**La Chapelle**	**77.00 343**⇑*i*P		**P**	**06 17 41.4**	**+0.4**
CABF			pmax	pmax		
	comp=Z,21nm,0.7s					
CABF	**La Chapelle**	**77.00 343**⇑*i*P		**P**	**06 17 41.4**	**+0.4**
	comp=Z,21nm,0.7s					
RDO	**Rodhopi**	**77.49 328** *e*P		**P**	**06 17 44.2**	**+0.5**
ALN	**Alexandroupoli**	**77.56 327** *e*P		**P**	**06 17 44.2**	**+0.1**
BGF	**Bois d'Agland**	**77.56 345** *e*P		**P**	**06 17 44.2**	**+0.2**
BGF	**Bois d'Agland**	**77.56 345** *e*P		**P**	**06 17 44.2**	**+0.2**
BGF	**Bois d'Agland**	**77.56 345** *e*P		**P**	**06 17 44.2**	**+0.2**
RSL	**Roselend**	**77.81 343** *e*P		**P**	**06 17 47.2**	**+1.6**
RSL	**Roselend**	**77.81 343** *e*P		**P**	**06 17 47.2**	**+1.6**
RSL	**Roselend**	**77.81 343** *e*P		**P**	**06 17 47.2**	**+1.6**
NVR	**Nevrokopi**	**77.82 329** *e*P		**P**	**06 17 45.9**	**+0.3**
TCF	**Toulx Ste Croi**	**77.92 346**⇑*i*P		**P**	**06 17 46.2**	**+0.1**
	comp=Z,11nm,0.9s					
TCF	**Toulx Ste Croi**	**77.92 346**⇑*i*P		**P**	**06 17 46.2**	**+0.1**
TCF			pmax	pmax		
	comp=Z,11nm,0.9s					
TCF	**Toulx Ste Croi**	**77.92 346**⇑*i*P		**P**	**06 17 46.2**	**+0.1**
	comp=Z,11nm,0.9s					
MFF	**Saint Martin d**	**77.93 347**⇑*i*P		**P**	**06 17 46.2**	**+0.2**
MFF	**Saint Martin d**	**77.93 347**⇑*i*P		**P**	**06 17 46.2**	**+0.2**
MFF	**Saint Martin d**	**77.93 347**⇑*i*P		**P**	**06 17 46.2**	**+0.2**
LPL	**La Plagne**	**77.95 342**⇑*i*P		**P**	**06 17 47.6**	**+1.1**
	comp=Z,35nm,0.9s					
LPL	**La Plagne**	**77.95 342**⇑*i*P		**P**	**06 17 47.6**	**+1.1**
LPL			pmax	pmax		
	comp=Z,35nm,0.9s					
LPL	**La Plagne**	**77.95 342**⇑*i*P		**P**	**06 17 47.6**	**+1.1**
	comp=Z,35nm,0.9s					
LPG	**La Plagne**	**77.97 342**⇑*i*P		**P**	**06 17 47.9**	**+1.2**
	comp=Z,48nm,0.9s					
LPG	**La Plagne**	**77.97 342**⇑*i*P		**P**	**06 17 47.9**	**+1.2**
LPG			pmax	pmax		
	comp=Z,48nm,0.9s					
LPG	**La Plagne**	**77.97 342**⇑*i*P		**P**	**06 17 47.9**	**+1.2**
	comp=Z,48nm,0.9s					
WRA	**Warramunga Arr**	**78.00 206** P		**P**	**06 17 47.1**	**+0.5**
WRA	**Warramunga Arr**	**78.00 206** P		**P**	**06 17 47.1**	**+0.5**
	comp=Z,7.4nm,0.7s,baz=19,slow=6.0,SNR=46					

AGO	**Saint Agoulin**	**78.02 345** *e*P		**P**	**06 17 48.0**	**+1.4**
AGO	**Saint Agoulin**	**78.02 345** *e*P		**P**	**06 17 48.0**	**+1.4**
PLDF	**La Plantade**	**78.02 345** *e*P		**P**	**06 17 47.8**	**+1.1**
PLDF	**La Plantade**	**78.02 345** *e*P		**P**	**06 17 47.8**	**+1.1**
PLDF	**La Plantade**	**78.02 345** *e*P		**P**	**06 17 47.8**	**+1.1**
BNI	**Bardonecchia**	**78.41 342** *e*P		**P**	**06 17 50.4**	**+1.5**
BNI			pmax	pmax		
	comp=Z,17nm,1.4s					
BNI	**Bardonecchia**	**78.41 342** *e*P		**P**	**06 17 50.4**	**+1.5**
	comp=Z,17nm,1.4s					
ORIF	**Oris-en-Rattie**	**78.68 343**⇑*i*P		**P**	**06 17 51.5**	**+1.1**
	comp=Z,22nm,0.8s					
ORIF			*e*R			
	comp=Z,77nm,19.8s					
ORIF	**Oris-en-Rattie**	**78.68 343**⇑*i*P		**P**	**06 17 51.5**	**+1.1**
ORIF			pmax	pmax		
	comp=Z,22nm,0.8s					
ORIF	**Oris-en-Rattie**	**78.68 343**⇑*i*P		**P**	**06 17 51.5**	**+1.1**
	comp=Z,22nm,0.8s					
MBDF	**Montbardon**	**78.71 342** *e*P		**P**	**06 17 51.4**	**+0.8**
	comp=Z,12nm,0.7s					
MBDF	**Montbardon**	**78.71 342** *e*P		**P**	**06 17 51.4**	**+0.8**
MBDF			pmax	pmax		
	comp=Z,12nm,0.7s					
MBDF	**Montbardon**	**78.71 342** *e*P		**P**	**06 17 51.4**	**+0.8**
	comp=Z,12nm,0.7s					
LIA	**Limnos Island**	**78.74 327** *e*P		**P**	**06 17 50.7**	**+0.1**
LBL	**Lubilhac**	**78.80 345** *e*P		**P**	**06 17 52.3**	**+1.3**
LBL	**Lubilhac**	**78.80 345** *e*P		**P**	**06 17 52.3**	**+1.3**
LBL	**Lubilhac**	**78.80 345** *e*P		**P**	**06 17 52.3**	**+1.3**
FITZ	**Fitzroy Crossi**	**78.84 215** P		**P**	**06 17 52.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**78.84 215** P		**P**	**06 17 52.4**	**+1.2**
	comp=Z,10nm,0.9s,baz=39,slow=3.0,SNR=14					
PLG	**Polygyros**	**78.84 329** *e*P		**P**	**06 17 51.0**	**-0.2**
MIB	**Mutribah**	**78.87 306** *e*P		**P**	**06 17 50.6**	**-0.9**
MIB			AMb	AMB	06 17 51.7	
	comp=Z,37nm,0.6s					
VIVF	**Saint-Julien-l**	**78.94 344**⇑*i*P		**P**	**06 17 52.5**	**+0.8**
	comp=Z,13nm,0.8s					
VIVF	**Saint-Julien-l**	**78.94 344**⇑*i*P		**P**	**06 17 52.5**	**+0.8**
VIVF			pmax	pmax		
	comp=Z,13nm,0.8s					
VIVF	**Saint-Julien-l**	**78.94 344**⇑*i*P		**P**	**06 17 52.5**	**+0.8**
	comp=Z,13nm,0.8s					
RJF	**Les Rejaudoux**	**78.98 346** *e*P		**P**	**06 17 52.2**	**+0.3**
RJF			*e*R			
	comp=Z,70nm,20.5s					
RJF	**Les Rejaudoux**	**78.98 346** *e*P		**P**	**06 17 52.2**	**+0.3**
RJF	**Les Rejaudoux**	**78.98 346** *e*P		**P**	**06 17 52.2**	**+0.3**
CAF	**Calviac**	**79.28 346** *e*P		**P**	**06 17 54.4**	**+0.9**
	comp=Z,16nm,0.9s					
CAF	**Calviac**	**79.28 346** *e*P		**P**	**06 17 54.4**	**+0.9**
CAF			pmax	pmax		
	comp=Z,16nm,0.9s					
CAF	**Calviac**	**79.28 346** *e*P		**P**	**06 17 54.4**	**+0.9**
	comp=Z,16nm,0.9s					
SAOF	**Saorge**	**79.28 341** *e*P		**P**	**06 17 54.2**	**+0.6**
SAOF	**Saorge**	**79.28 341** *e*P		**P**	**06 17 54.2**	**+0.6**
SAOF	**Saorge**	**79.28 341** *e*P		**P**	**06 17 54.2**	**+0.6**
TOUF	**Mont Tournerai**	**79.31 342** *e*P		**P**	**06 17 54.8**	**+0.8**
TOUF	**Mont Tournerai**	**79.31 342** *e*P		**P**	**06 17 54.8**	**+0.8**
TOUF	**Mont Tournerai**	**79.31 342** *e*P		**P**	**06 17 54.8**	**+0.8**
SBF	**Sospel**	**79.43 342** *e*P		**P**	**06 17 55.1**	**+0.7**
SBF	**Sospel**	**79.43 342** *e*P		**P**	**06 17 55.1**	**+0.7**
SBF	**Sospel**	**79.43 342** *e*P		**P**	**06 17 55.1**	**+0.7**
LFF	**La Frestale**	**79.45 347** *e*P		**P**	**06 17 55.1**	**+0.7**
LFF	**La Frestale**	**79.45 347** *e*P		**P**	**06 17 55.1**	**+0.7**
LFF	**La Frestale**	**79.45 347** *e*P		**P**	**06 17 55.1**	**+0.7**
QRN	**Al-Qurain**	**79.49 305** *e*P		**P**	**06 17 54.0**	**-0.9**
QRN			AMb	AMB	06 17 59.6	
	comp=Z,59nm,1.3s					
RDF	**Al-Radifah**	**79.51 306** *e*P		**P**	**06 17 54.4**	**-0.6**
RDF			AMb	AMB	06 17 57.3	
	comp=Z,46nm,1.1s					
SMRF	**Simiane la Rot**	**79.65 343** *e*P		**P**	**06 17 57.1**	**+1.5**
SMRF	**Simiane la Rot**	**79.65 343** *e*P		**P**	**06 17 57.1**	**+1.5**
LASF	**Ste Croix**	**79.83 344**⇑*i*P		**P**	**06 17 57.7**	**+1.1**
LASF	**Ste Croix**	**79.83 344**⇑*i*P		**P**	**06 17 57.7**	**+1.1**
CHOS	**Chios island**	**79.84 326** *e*P		**P**	**06 17 56.2**	**-0.6**
LMR	**La Mourre**	**80.11 342**⇑*i*P		**P**	**06 17 58.6**	**+0.6**
	comp=Z,10nm,0.8s					
LMR	**La Mourre**	**80.11 342**⇑*i*P		**P**	**06 17 58.6**	**+0.6**
LMR			pmax	pmax		
	comp=Z,11nm,0.8s					
LMR	**La Mourre**	**80.11 342**⇑*i*P		**P**	**06 17 58.6**	**+0.6**
	comp=Z,10nm,0.8s					
PGF	**Pioggiola**	**80.40 340**⇑*i*P		**P**	**06 18 00.1**	**+0.4**
	comp=Z,21nm,0.6s					
PGF	**Pioggiola**	**80.40 340**⇑*i*P		**P**	**06 18 00.1**	**+0.4**
PGF			pmax	pmax		
	comp=Z,21nm,0.6s					
PGF	**Pioggiola**	**80.40 340**⇑*i*P		**P**	**06 18 00.1**	**+0.4**
	comp=Z,21nm,0.6s					
EFP	**Efpalio**	**81.09 329** *e*P		**P**	**06 18 02.7**	**-0.7**
PMOR	**Pomariorio Ree**	**81.40 131** *e*T		T	07 47 41.6	
	comp=Z,15nm,0.2s					
SJPF	**Ste Jean**	**81.50 348**⇑*i*P		**P**	**06 18 06.8**	**+1.3**
	comp=Z,18nm,0.9s					
SJPF	**Ste Jean**	**81.50 348**⇑*i*P		**P**	**06 18 06.8**	**+1.3**
SJPF			pmax	pmax		
	comp=Z,18nm,0.9s					
SJPF	**Ste Jean**	**81.50 348**⇑*i*P		**P**	**06 18 06.8**	**+1.3**
	comp=Z,18nm,0.9s					
DID	**Didima**	**81.54 328** *e*P		**P**	**06 18 03.3**	**-2.5**
RLS	**Riolos of Patr**	**81.56 329** *e*P		**P**	**06 18 06.0**	**+0.1**
ETSF	**Etsaut**	**81.62 347** *e*P		**P**	**06 18 07.4**	**+1.2**
	comp=Z,17nm,0.8s					
ETSF	**Etsaut**	**81.62 347** *e*P		**P**	**06 18 07.4**	**+1.2**
ETSF			pmax	pmax		
	comp=Z,17nm,0.8s					
ETSF	**Etsaut**	**81.62 347** *e*P		**P**	**06 18 07.4**	**+1.2**
	comp=Z,17nm,0.8s					
AS31	**Alice Springs**	**81.67 206** *e*P		**P**	**06 18 07.7**	**+1.2**
ASAR	**Alice Springs**	**81.67 206** P		**P**	**06 18 07.3**	**+0.9**
ASAR	**Alice Springs**	**81.67 206** P		**P**	**06 18 07.3**	**+0.9**
	comp=Z,12nm,0.8s,baz=16,slow=5.4,SNR=93					
VLS	**Valsamata**	**81.71 330** *e*P		**P**	**06 18 06.0**	**-0.7**
TIP	**Timpagrande**	**81.83 333** *e*P		**P**	**06 18 08.1**	**+0.7**
	comp=Z,70nm,1.3s					
VLX	**Vlachokerasia**	**81.93 329** *e*P		**P**	**06 18 06.3**	**-1.6**
KARP	**Karpathos**	**82.06 324** *e*P		**P**	**06 18 06.8**	**-1.8**
ITM	**Ithomi**	**82.24 329** *e*P		**P**	**06 18 08.6**	**-0.9**
PPT2	**Papeete2**	**82.99 134** *e*LR		LR	06 44 24.6	
	comp=Z,109nm,22.0s					
VAM	**Vamos**	**83.17 326** *e*P		**P**	**06 18 13.8**	**-0.5**
PBRG	**Braganca**	**83.38 351** *e*P		**P**	**06 18 15.9**	**+0.6**
MVO	**Moncorvo**	**84.03 352** *e*P		**P**	**06 18 19.4**	**+0.7**
	comp=Z,29nm,1.3s					
ESDC	**Sonseca Array**	**85.21 349** P		**P**	**06 18 25.4**	**+0.8**
ESDC	**Sonseca Array**	**85.21 349** P		**P**	**06 18 25.4**	**+0.8**
	comp=Z,5.5nm,0.7s,baz=2.0,slow=5.3,SNR=23					
PMRV	**Marv??o**	**85.79 352** *ep*P		pP	06 18 53.2	+9.3
PMRV			A	A	06 18 56.8	
	comp=Z,20nm,2.3s					
PMTG	**Montargil**	**86.21 352** *ep*P		pP	06 18 55.4	+9.4
PMTG			A	A	06 19 06.3	
	comp=Z,28nm,1.8s					
PESTR	**Estremoz**	**86.36 352** *ep*P		pP	06 18 54.7	+8.0
PESTR			A	A	06 18 55.9	
	comp=Z,22nm,1.0s					
PMAFR	**Mafra**	**86.40 353** *ep*P		pP	06 18 57.2	+10
PMAFR			A	A	06 18 58.9	
	comp=Z,84nm,1.3s					
EVO	**Evora**	**86.73 352** *ep*P		pP	06 18 56.9	+8.4
EVO			A	A	06 18 57.1	
	comp=Z,20nm,1.0s					
EVO	**Evora**	**86.73 352**⇑*i*P		**P**	**06 18 32.2**	**+0.1**
	comp=Z,21nm,1.1s					
EVOP	**Sao Brissos**	**86.74 352**⇑*i*P		**P**	**06 18 32.2**	**+0.1**
EVOP			pmax	pmax		
	comp=Z,21nm,1.1s					
EVOP	**Sao Brissos**	**86.74 352**⇑*i*P		**P**	**06 18 32.2**	**+0.1**
	comp=Z,21nm,1.1s					
KEST	**Kesra**	**86.88 338** P		**P**	**06 18 33.9**	**+0.9**
KEST	**Kesra**	**86.88 338** P		**P**	**06 18 33.9**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=83,slow=23,SNR=7.2					
PBAR	**Barrancos**	**87.00 351** *ep*P		pP	06 18 56.0	+6.1
PNCL	**Nicolau / Gran**	**87.19 352** *ep*P		pP	06 18 58.5	+7.8
PNCL			A	A	06 18 59.1	
	comp=Z,51nm,1.0s					
PCVE	**Castro Verde**	**87.63 352** *ep*P		pP	06 18 59.0	+6.1
PCVE			A	A	06 19 00.4	
	comp=Z,38nm,1.1s					
STKA	**Stephens Creek**	**87.99 197** P		**P**	**06 18 38.8**	**+0.9**
STKA			PP	**PP**	**06 22 08.3**	**+2.8**

STKA	**Stephens Creek**	**87.99 197** P		**P**	**06 18 38.8**	**+0.9**
	comp=Z,2.6nm,0.7s,baz=357,slow=9.1,SNR=6.5					
STKA			PP	**PP**	**06 22 08.3**	**+2.8**
	comp=Z,1.3nm,1.0s,baz=53,slow=8.7,SNR=2.9					
TBI	**Tubuai**	**88.19 136** *e*LR		LR	06 46 49.0	
	comp=Z,88nm,25.0s					
QSPA	**South Pole Qui**	**144.45 180** PKP		**PKPab**	**06 25 21.0**	**-0.4**
QSPA	**South Pole Qui**	**144.45 180** PKP		**PKPab**	**06 25 21.0**	**-0.4**
	comp=Z,8.1nm,0.8s,baz=14,slow=2.5,SNR=16					
SUR	**Sutherland**	**144.70 293** PKP		**PKPdf**	**06 25 24.7**	**+0.2**
SUR	**Sutherland**	**144.70 293** PKP		**PKPdf**	**06 25 24.7**	**+0.2**
	comp=Z,6.0nm,0.9s,baz=104,slow=4.2,SNR=3.7					
TRQA	**Tornquist**	**146.11 79** *e*PKPbc		**PKPbc**	**06 25 27.9**	**+0.2**
SYO	**Syowa Base**	**150.62 218**⇑*e*P		**PKPbc**	**06 25 37.2**	**-1.2**

ISCJB ***16*** *06:16:59.4±1.0,4.°43S±0.°07×133.°7E±0.°1,h21km,mb3.7/3, MS3.5/3,Error ellipse: s-maj=17.9km s-min=6.9km az=155.7*

IDC ***16*** *06:17:00.5±1.2,4.°56S×133.°16E,h0km,mb3.9/4, mb1 4.3/7,mb1mx4.0/15,mbtmp4.0/7,ML4.0/3,MS3.6/4, Ms1 3.6/4,ms1mx3.1/25,Error ellipse: s-maj=45.2km s-min=21.8km az=68.0*

DJA ***16*** *06:17:12.4±1.2,4.°S±6.°×13.°3E±1.°2,h17km±17km,M4.5/5, mb4.5/1,MLv4.4/5*

ISC 16 06:17:01.0±1.1,4.°50S±0.°07×133.°7E±0.°1,h21km,n17, σ2°41/15,mb3.7/3,MS3.5/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**1.45 219**		P		**Sn**	**06 17 42.1**	**-2.3**
FAKI	**Fak Fak**	**2.10 318**		P		**Pn**	**06 17 32.7**	**-2.2**
BNDI	**Bandanaira**	**3.73 269**		P		**Pn**	**06 17 59.7**	**+2.3**
SWI	**Sorong**	**4.33 326**		P		**Pn**	**06 18 05.0**	**-0.5**
AAI	**Ambon**	**5.50 278**		P		**Pn**	**06 18 23.5**	**+1.8**
NLAI	**Namlea**	**6.65 281**		P		**Pn**	**06 18 40.1**	**+2.6**
DAV	**Davao City (W)**	**14.03 325**		LR		LR	06 24 38.0	
	comp=Z,167nm,21.5s,baz=184,slow=33							
WRA	**Warramunga Arr**	**15.37 178**		Pn		**Pn**	**06 20 36.4**	**-0.4**
	0.4nm,0.3s,baz=353,slow=13,SNR=13							
WRA				Sn		**Sn**	**06 23 25.5**	**-1.0**
	0.4nm,0.3s,baz=360,slow=23,SNR=5.3							
FITZ	**Fitzroy Crossi**	**15.63 209**		Pn		**Pn**	**06 20 40.3**	**+0.2**
	1.5nm,0.3s,baz=29,slow=13,SNR=15							
FITZ				Sn		**Sn**	**06 23 27.6**	**-5.2**
	1.8nm,0.3s,baz=167,slow=15,SNR=10							
ASAR	**Alice Springs**	**19.06 179**		P		**Pn**	**06 21 25.1**	**+2.2**
	0.4nm,0.3s,baz=2.1,slow=11,SNR=25							
ASAR				S		**Sn**	**06 24 53.6**	**-2.4**
	0.1nm,0.3s,baz=357,slow=24,SNR=5.5							
CTA	**Charters Tower**	**19.77 143**		P		**Pn**	**06 21 33.7**	**+2.2**
	10nm,0.8s,baz=320,slow=11,SNR=9.2							
GUMO	**Guam**	**21.14 32**		LR		LR	06 28 13.8	
	comp=Z,155nm,20.5s,baz=111,slow=31							
STKA	**Stephens Creek**	**28.24 166**		LR		LR	06 34 33.3	
	comp=Z,182nm,20.5s,baz=14,slow=37							
CMAR	**Chiang Mai Arr**	**41.11 305**		P		**P**	**06 24 44.1**	**+0.4**
	0.6nm,0.3s,baz=133,slow=5.7,SNR=6.3							
KSRS	**Korea Array**	**42.07 353**		LR		LR	06 40 30.1	
	comp=Z,73nm,20.6s,baz=65,slow=34							
MKAR	**Makanchi Array**	**58.21 325**		P		**P**	**06 27 59.9**	**-0.1**
	0.3nm,0.5s,baz=118,slow=7.1,SNR=7.3							
ILAR	**Eielson Array**	**89.55 25**		P		P	06 30 02.8	+6.2
	0.3nm,0.7s,baz=248,slow=4.8,SNR=4.9							

MEX 16 06:25:40.8±0.6,16.°28N×96.°11W,h69km±7km,MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.51 180**		*i*P		Pn	06 25 52.4	-1.3
HUIG				*i*S		Sn	06 26 01.2	-1.9
VHO	**Vista Hermosa**	**0.99 323**		*i*P		Pn	06 25 58.1	-1.2
VHO				*e*S		Sn	06 26 11.1	-2.0
OXX	**Oaxaca**	**0.99 324**		*e*P		Pn	06 25 58.4	-1.0
OXX				*e*S		Sn	06 26 11.2	-2.0
CMIG	**Matias Romero**	**1.42 55**		*i*P		Pn	06 26 02.9	-1.9
CMIG				*e*S		Sn	06 26 21.4	-1.3
PNIG	**Pinotepa**	**1.94 273**		*i*P		Pn	06 26 10.8	-0.8
PNIG				*e*S		Sn	06 26 32.7	-2.5
UTMO	**Huajuapan**	**2.23 314**		*i*P		Pn	06 26 14.2	-1.7
UTMO				*e*S		Sn	06 26 40.3	-2.4

	comp=E,290nm,0.5s							
YUK				*i* S	**Sb**	**06 45 03.5**	**-2.1**	
YUK				A	A	06 45 05.8		
	comp=E,480nm,0.4s							
YUK				A	A	06 45 05.8		
	comp=E,810nm,0.4s							
YUK				AMS	AMS	06 45 38.3		
	comp=E,112nm,9.2s							
YUK				AMS	AMS	06 45 38.3		
	comp=E,313nm,9.2s							
YUK				AMS	AMS	06 45 38.3		
	comp=E,241nm,9.2s							
JRA	**Rausu**	**2.68**	**229**	P	**Pn**	**06 44 39.8**	**-0.2**	
NEM2	**Nemuro 2**	**2.84**	**214**	P	**Pn**	**06 44 41.7**	**-0.5**	
JNK	**Nakash**	**3.14**	**228**	P	**Pn**	**06 44 46.6**	**+0.3**	
JTKR	**Abashiri--Toko**	**3.35**	**240**	P	**Pn**	**06 44 48.9**	**-0.4**	
JTKR				*e*S	**Sn**	**06 45 28.5**	**+0.2**	
YSS	**Yuzh-Sakhalins**	**3.77**	**291**	*e*PN	**Pn**	**06 44 56.3**	**+1.3**	
YSS	**Yuzh-Sakhalins**	**3.77**	**291**	*e*P	**Pn**	**06 44 56.3**	**+1.3**	
YSS				*e*S	**Sn**	**06 45 37.2**	**-1.4**	
YSS				A	A	06 45 40.2		
	comp=E,60nm,1.0s							
ASAJ	**Asahikawa**	**4.11**	**249**	P	**Pn**	**06 45 01.6**	**+1.9**	
	comp=E,1.9nm,0.3s,baz=115,slow=11,SNR=6.3							
JKK2	**Kamakawa 2**	**4.12**	**245**	P	**Pn**	**06 45 00.3**	**+0.4**	
JKK2				*e*S	**Sn**	**06 45 47.6**	**+0.3**	
JCH	**Churui**	**4.53**	**228**	P	**Pn**	**06 45 07.4**	**+2.0**	
ERM	**Erimo**	**5.07**	**224**	*i* PN	**Pn**	**06 45 15.4**	**+2.6**	
TYV	**Tymovskoe**	**6.21**	**328**	*e*P	**Pn**	**06 45 28.0**	**-0.5**	
TYV				AMB	AMB	06 45 29.5		
	comp=E,13nm,0.8s							
TYV				AMB	AMB	06 45 29.5		
	comp=E,22nm,0.8s							
TYV				AMB	AMB	06 45 29.5		
	comp=E,9.0nm,1.0s							
NKL	**Nikolayevsk**	**8.78**	**330**	*e*P	Pn	06 46 00.5	-3.2	
NKL				AMB	AMB	06 46 01.5		
	comp=E,10.0nm,0.8s							
PETK	**Petropavlovsk-**	**9.74**	**37**	PN	**Pn**	**06 46 17.8**	**+0.9**	
PETK	**Petropavlovsk-**	**9.74**	**37**	P	**Pn**	**06 46 17.8**	**+0.9**	
	comp=E,0.2nm,0.3s,baz=246,slow=12,SNR=3.2							
USRK	**Ussuriysk Arra**	**11.38**	**268**	LR	LR	06 51 09.5		
	comp=E,152nm,18.3s,baz=199,slow=38							
SEY	**Seymchan**	**17.41**		7‖ *e*P	**P**	**06 48 03.6**	**+3.0**	
YAK	**Yakutsk**	**19.41**	**334**	*e*P	Pn	06 48 35.1	+11	
YAK				pmax	pmax			
	comp=Z,28nm,1.2s							
YAK				pmax	pmax			
	comp=E,11nm,1.1s							
YAK				pmax	pmax			
	comp=N,13nm,1.2s							
BOD	**Bodaibo**	**23.93**	**313**	*e*P	P	06 49 01.3	-8.9	
BOD				pmax	pmax			
	comp=Z,8.0nm,1.9s							
ZAK	**Zakamensk**	**29.84**	**295**	*e*P	P	06 49 55.9	-7.7	
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.4s							
GTA	**Gaotai**	**35.54**	**277**	*e*P	P	06 50 58.8	+5.2	
GTA				pP	pP	06 51 02.6	+1.7	
GTA				sP	sP	06 51 04.8	+1.0	
GTA				pmax	pmax			
	comp=Z,2.0nm,1.2s							
ILAR	**Eielson Array**	**39.57**	**38**	P	**P**	**06 51 26.4**	**-0.8**	
	comp=Z,2.8nm,0.9s,baz=270,slow=7.7,SNR=29							
MKAR	**Makanchi Array**	**44.17**	**296**	P	**P**	**06 52 05.0**	**0.0**	
MKAR						06 53 49.9		
MKAR				pmax	pmax			
	comp=Z,1.0nm,1.0s							
MKAR	**Makanchi Array**	**44.17**	**296**	P	**P**	**06 52 05.0**	**0.0**	
	comp=Z,0.3nm,0.6s,baz=72,slow=8.0,SNR=6.0							
MKAR				PcP	**PcP**	**06 53 49.9**	**+0.3**	
	comp=Z,0.7nm,0.9s,baz=65,slow=4.2,SNR=3.2							
KURK	**Kurchatov**	**44.89**	**303**	P	**P**	**06 52 11.2**	**+0.5**	
KURK						06 53 52.1		
KURK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
KURBB	**Kurchatov Arra**	**44.98**	**302**	P	**P**	**06 52 11.2**	**-0.1**	
	comp=Z,0.5nm,0.5s,baz=72,slow=8.5,SNR=3.7							
KURBB				PcP	**PcP**	**06 53 52.1**	**-0.1**	
	comp=Z,0.3nm,0.3s,baz=76,slow=3.1,SNR=4.1							
CMAR	**Chiang Mai Arr**	**48.62**	**253**	LR	LR	07 16 00.2		
	comp=Z,106nm,19.0s,baz=286,slow=40							
BRVK	**Borovoye**	**48.72**	**308**	*e*P	**P**	**06 52 43.7**	**+3.1**	
BRVK				pmax	pmax			
	comp=Z,2.0nm,1.2s							
YKA	**Yellowknife Ar**	**53.85**	**35**	P	**P**	**06 53 18.2**	**-0.7**	
	comp=Z,1.7nm,0.8s,baz=301,slow=6.8,SNR=27							
FINES	**FINESS Array B**	**63.35**	**333**	P	**P**	**06 54 23.1**	**-2.0**	
	comp=Z,0.6nm,0.5s,baz=51,slow=11,SNR=3.7							
FFC	**Flin Flon**	**63.78**	**37**	*i* P	**P**	**06 54 28.4**	**+0.4**	
NVAR	**Mina Array Bea**	**66.07**	**59**	P	**P**	**06 54 43.8**	**+0.2**	
	comp=Z,1.9nm,0.7s,baz=281,slow=6.0,SNR=8.1							
WRA	**Warramunga Arr**	**66.52**	**194**	P	**P**	**06 54 45.1**	**-1.0**	
	comp=Z,1.6nm,0.9s,baz=8.5,slow=6.6,SNR=7.5							
PDAR	**Pinedale Array**	**68.22**	**51**	P	**P**	**06 54 57.1**	**0.0**	
	comp=Z,1.4nm,0.8s,baz=268,slow=1.8,SNR=13							
ASAR	**Alice Springs**	**70.24**	**194**	P	**P**	**06 55 10.2**	**+0.9**	
	comp=Z,1.0nm,0.8s,baz=9.2,slow=5.7,SNR=7.2							
AKASG	**Malin Array Be**	**70.30**	**324**	P	**P**	**06 55 08.2**	**-1.3**	
AKASG	**Malin Array Be**	**70.30**	**324**	P	**P**	**06 55 08.2**	**-1.3**	
	comp=Z,0.3nm,0.3s,baz=39,slow=7.0,SNR=3.5							
TXAR	**Lajitas Array**	**81.10**	**57**	P	**P**	**06 56 11.6**	**-0.2**	
	comp=Z,2.1nm,0.8s,baz=299,slow=4.1,SNR=22							
PLCA	**Paso Flores**	**151.73**	**94**	PKPdf	**PKPdf**	**07 03 42.2**	**-2.0**	
	comp=Z,2.0nm,0.9s,baz=225,slow=0.7,SNR=2.4							
PLCA				PKPbc	**PKPbc**	**07 03 50.4**	**-0.1**	
	comp=Z,2.7nm,1.0s,baz=273,slow=0.8,SNR=4.9							

IDC ***16*** *06:50:51.5±0.5, 1.21S×127.65E, h0km, mb4.6/18, mb1 4.7/20,mb1mx4.6/24, mbtmp4.6/20,ML4.8/2, MS3.8/10, Ms1 3.7/10,ms1mx3.5/30,Error ellipse: s-maj=22.0km s-min=11.5km az=64.0*

BJI ***16*** *06:50:54.2, 1.78S×127.44E, h40km, mB5.1/21, mb4.9/30, Ms4.6/16,Ms7 4.3/17*

ISCJB ***16*** *06:50:55.6±0.5, 1.24S±0.03×127.76E±0.03, h39km±5km, mb4.8/51, MS3.9/16, Error ellipse: s-maj=5.9km s-min=4.2km az=149.7*

DJA ***16*** *06:50:55, 1.23S×127.80E, h10km, mb5.2/25*

NEIC ***16*** *06:50:56.7±0.3, 1.26S×127.73E, h35km, mb4.9/22, Error ellipse: s-maj=10.7km s-min=6.1km az=59.0*

ISC 16 06:50:56.8±0.4,**1.27S**±0.03×**127.75E**±0.05,**h33**km±2km, **n175,**σ1s**59**/208,**mb4.9**/51,**MS3.7**/16,**2C-1D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**0.68**	**338**	P	Pb	06 51 06.3	-4.0
LBMI				S	**Sb**	**06 51 17.6**	**-1.8**
NLAI	**Namlea**	**2.06**	**198**	P	**Pn**	**06 51 29.2**	**0.0**
NLAI				S	**Sn**	**06 51 54.8**	**+1.0**
TNTI	**Ternate**	**2.06**	**349**	P	**Pn**	**06 51 28.2**	**-1.0**
TNTI				S	**Sn**	**06 51 56.3**	**+2.5**
MSAI	**Masohi**	**2.37**	**150**	P	**Pb**	**06 51 36.4**	**-2.6**
MSAI				S	**Sb**	**06 52 07.2**	**-0.6**
MSAI				S	**Sb**	**06 52 07.3**	**-0.6**
AAI	**Ambon**	**2.44**	**170**	P	**Pn**	**06 51 36.3**	**+1.8**
SWI	**Sorong**	**3.53**	**83**	P	**Pn**	**06 51 50.7**	**+1.3**
BNDI	**Bandanaira**	**3.88**	**146**	P	**Pn**	**06 51 56.5**	**+2.3**
KMSI	**Cibinong**	**4.19**	**296**	P	**Pn**	**06 51 58.3**	**-0.2**
KMSI				S	**Sn**	**06 52 47.2**	**+0.8**
FAKI	**Fak Fak**	**4.78**	**110**	P	**Pn**	**06 52 06.9**	**+0.2**
LUWI	**Luwuk**	**4.99**	**273**	P	**Pn**	**06 52 07.9**	**-1.5**
MRSI	**Marisa**	**6.07**	**287**	P	**Pn**	**06 52 22.4**	**-1.9**
	573nm,0.7s,8μm2.2nm						
BBSI	**Bau Bau**	**6.66**	**231**	P	Pn	06 52 38.0	+5.6
TTSI	**Tana Toraja**	**8.12**	**257**	P	**Pn**	**06 52 52.1**	**-0.4**
	524nm,0.7s,5μm						
SPSI	**Sidrap Palu**	**8.41**	**251**	P	**Pn**	**06 52 57.1**	**+0.6**
	475nm,0.6s,5μm1.7nm						
BKSI	**Bulukumba**	**8.62**	**242**	P	**Pn**	**06 53 01.9**	**+2.6**
	681nm,0.5s,10μm55μm						
BKSI				S	**Sn**	**06 54 39.4**	**+4.0**
	681nm,0.5s,10μm55μm						
KAPI	**Kappang**	**8.81**	**245**	*e*Pn	**Pn**	**06 53 01.7**	**-0.3**
KAPI				*e*Sn	**Sn**	**06 54 37.8**	**-2.5**
KAPI	**Kappang**	**8.81**	**245**	P	**Pn**	**06 53 02.7**	**+0.7**
	331nm,0.6s,3μm						
SMKI	**Samarinda**	**10.57**	**274**	P	Pn	06 53 29.4	+3.2
	233nm,0.8s						
MYLDM	**Lahad Datu**	**11.24**	**305**	P	Pn	06 53 38.7	+3.4
MYLDM	**Lahad Datu**	**11.24**	**305**	P	Pn	06 53 39.1	+3.7
	120nm,0.8s						
TSM	**Tawau**	**11.31**	**299**	P	**Pn**	**06 53 36.5**	**+0.2**
KBKI	**Kotabaru**	**11.75**	**260**	P	Pn	06 53 49.9	+7.6
SDKM	**Sandakan**	**12.58**	**303**	P	Pn	06 53 57.3	+3.6
BBKI	**Banjar Baru**	**13.08**	**260**	P	P	06 54 14.2	+3.8
KKM	**Kota Kinabalu**	**13.62**	**302**	*e*Pn	**Pn**	**06 54 08.3**	**+0.3**
KKM	**Kota Kinabalu**	**13.62**	**302**	P	**Pn**	**06 54 09.5**	**+1.5**
KKM	**Kota Kinabalu**	**13.62**	**302**	P	**Pn**	**06 54 08.2**	**+0.3**
	32nm,1.4s,653nm						
GMJI	**Gumukmas**	**15.86**	**244**	P	**P**	**06 54 42.5**	**+1.3**
	87nm,1.0s						
SBUM	**Sibu**	**15.96**	**283**	P	**Pn**	**06 54 38.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**16.86**	**187**	*e*P	**Pn**	**06 54 49.9**	**-0.5**
	33nm,1.2s						
FITZ	**Fitzroy Crossi**	**16.86**	**187**	*e*P	**Pn**	**06 54 49.4**	**-1.0**
	20nm,0.6s						
FITZ	**Fitzroy Crossi**	**16.86**	**187**	Pn	**Pn**	**06 54 50.1**	**-0.3**
	0.8nm,0.3s,baz=21,slow=8.4,SNR=13						
FITZ				LR	LR	07 01 30.1	
	comp=Z,309nm,21.3s,baz=3.8,slow=38						
KSM	**Kuching**	**17.65**	**279**	*e*Pn	**Pn**	**06 54 58.9**	**-1.6**
	31nm,0.8s						
KSM	**Kuching**	**17.65**	**279**	P	**Pn**	**06 54 59.2**	**-1.2**
KSM	**Kuching**	**17.65**	**279**	P	**P**	**06 55 02.5**	**+1.4**
	44nm,0.9s						
WRAB	**Tennant Creek**	**19.64**	**161**	*e*P	**P**	**06 55 21.3**	**-1.6**
	78nm,0.7s						
WRA	**Warramunga Arr**	**19.65**	**161**	P	**P**	**06 55 21.2**	**-1.8**
WRA				S	S	06 58 52.9	-10
WRA	**Warramunga Arr**	**19.65**	**161**	P	**P**	**06 55 21.2**	**-1.8**
	6.1nm,0.3s,baz=346,slow=12,SNR=173						
WRA				S	S	06 58 52.9	-10
	baz=331,slow=24,SNR=5.5						
COEN	**Coen**	**19.79**	**130**	*e*P	**P**	**06 55 23.0**	**-1.6**
	441nm,1.0s						
CISI	**Cisompet, Garu**	**20.83**	**252**	P	**P**	**06 55 35.5**	**-0.5**
	68nm,1.3s,2μm						
PMG	**Port Moresby**	**20.93**	**113**	*e*P	**P**	**06 55 36.7**	**-0.3**
	28nm,0.9s						
PMG	**Port Moresby**	**20.93**	**113**	P	**P**	**06 55 38.3**	**+1.3**
	36nm,1.2s						
PMG	**Port Moresby**	**20.93**	**113**	P	Pn	06 55 38.5	-1.1
	18nm,0.6s,baz=228,slow=12,SNR=3.1						
MBWA	**Marble Bar**	**21.26**	**201**	*e*P	**P**	**06 55 39.5**	**-1.0**
	90nm,1.3s						
PPBI	**Pangkal Pinang**	**21.62**	**267**	P	**P**	**06 55 44.6**	**+0.1**
	60nm,1.2s,3μm						
AS31	**Alice Springs**	**23.05**	**165**	*e*P	**P**	**06 55 58.0**	**-1.5**
ASAR	**Alice Springs**	**23.05**	**165**	P	**P**	**06 55 57.5**	**-2.0**
ASAR				PcP	**PcP**	**06 59 48.7**	**+0.3**
ASAR	**Alice Springs**	**23.05**	**165**	P	**P**	**06 55 57.5**	**-2.0**
	34nm,0.7s,baz=346,slow=11,SNR=145						
ASAR				PcP	**PcP**	**06 59 48.7**	**+0.3**
	2.5nm,0.6s,baz=343,slow=2.3,SNR=5.7						
KLSI		**23.24**	**261**	P	P	06 56 16.7	+15
KASI	**Kota Agung**	**23.59**	**259**	P	**P**	**06 56 08.1**	**+3.1**
	80nm,1.0s						
LWLI	**Liwa**	**23.95**	**261**	P	P	06 56 19.9	+11
MYKOM	**Kota Tinggi**	**24.09**	**277**	P	**P**	**06 56 13.0**	**+3.3**
MYKOM	**Kota Tinggi**	**24.09**	**277**	P	**P**	**06 56 11.4**	**+1.7**
	29nm,1.0s						
CTA	**Charters Tower**	**26.02**	**137**	P	**P**	**06 56 27.8**	**+0.6**
CTA	**Charters Tower**	**26.02**	**137**	*e*P	**P**	**06 56 28.9**	**+1.7**
	8.8nm,0.6s						
CTA	**Charters Tower**	**26.02**	**137**	P	**P**	**06 56 27.8**	**+0.6**
	18nm,0.9s,baz=316,slow=13,SNR=11						
CTAO	**Charters Tower**	**26.02**	**137**	*e*P	**P**	**06 56 29.4**	**+2.2**
	26nm,1.0s						
KRJI	**Kerinci**	**26.29**	**268**	P	P	06 56 41.6	+12
FRIM	**Kepong**	**26.50**	**280**	P	**P**	**06 56 34.9**	**+3.4**
QIZ	**Qiongzhong**	**26.77**	**320**	P	**P**	**06 56 35.1**	**+1.2**
QIZ				S	**S**	**07 01 09.1**	**+1.2**
QIZ				pmax	pmax		
	comp=Z,16nm,0.8s						
QIZ				LR	LR		
	comp=Z,220nm,24.5s						
IPM	**Ipoh**	**27.31**	**282**	*e*P	**P**	**06 56 40.2**	**+1.4**
	comp=Z,20nm,0.8s						
IPM	**Ipoh**	**27.31**	**282**	P	**P**	**06 56 40.1**	**+1.2**
IPM	**Ipoh**	**27.31**	**282**	P	**P**	**06 56 41.8**	**+2.9**
	comp=Z,28nm,0.9s						
KULM	**Kulim**	**27.84**	**284**	*e*P	P	06 56 49.0	+5.4
	comp=Z,15nm,0.9s						
KULM	**Kulim**	**27.84**	**284**	P	**P**	**06 56 48.2**	**+4.5**
KULM	**Kulim**	**27.84**	**284**	P	**P**	**06 56 45.8**	**+2.1**
	comp=Z,18nm,1.2s						
JOW	**Kunigami**	**27.94**	**1**	LR	LR	07 07 00.6	
	comp=Z,223nm,20.4s,baz=165,slow=35						
PSI	**Prapat**	**29.10**	**278**	P	**P**	**06 56 53.9**	**-1.1**
PSI	**Prapat**	**29.10**	**278**	P	**P**	**06 56 55.1**	**+0.1**
	comp=Z,33nm,0.9s						
PSI	**Prapat**	**29.10**	**278**	P	**P**	**06 56 53.9**	**-1.1**
	comp=Z,16nm,0.9s,baz=104,slow=3.4,SNR=12						
FORT	**Forrest**	**29.35**	**179**	*e*P	**P**	**06 56 56.7**	**-0.1**
	comp=Z,18nm,0.6s						
GSI	**Gunungsitoli**	**30.28**	**275**	P	**P**	**06 57 04.9**	**-0.4**
	comp=Z,42nm,0.7s						
CBIJ	**Chichi jima**	**31.44**	**25**	LR	LR	07 07 38.4	
	comp=Z,143nm,19.2s,baz=146,slow=32						
BBOO	**Buckleboo**	**32.33**	**167**	*e*P	**P**	**06 57 23.7**	**+0.5**
	comp=Z,3μm,2.8s						
STKA	**Stephens Creek**	**33.13**	**158**	*e*P	**P**	**06 57 30.5**	**+0.3**
	comp=Z,6.4nm,1.2s						
STKA	**Stephens Creek**	**33.13**	**158**	*e*P	**P**	**06 57 30.1**	**0.0**
	comp=Z,14nm,0.9s						
STKA	**Stephens Creek**	**33.13**	**158**	P	**P**	**06 57 30.4**	**+0.3**
	comp=Z,19nm,0.9s,baz=332,slow=7.8,SNR=20						
STKA				LR	LR	07 09 11.0	
	comp=Z,85nm,21.8s,baz=161,slow=33						
WHN	**Wuhan**	**34.12**	**339**	P	**P**	**06 57 40.0**	**+1.3**
NJ2	**Nanjing**	**34.20**	**346**	*e*P	**P**	**06 57 40.3**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,50nm,1.1s						
GYA	**Guiyang**	**34.26**	**325**	⇑ P	**P**	**06 57 40.8**	**+0.6**
GYA				pP	**pP**	**06 57 52.8**	**+3.1**
GYA				PP	**PP**	**06 58 59.3**	**+1.1**
GYA				ScP	**ScP**	**07 03 59.0**	**-0.2**
GYA				ScS	**ScS**	**07 08 01.3**	**-0.6**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,460nm,16.8s						
GYA				LR	LR		
	comp=E,390nm,17.0s						
GYA				LR	LR		
	comp=Z,440nm,16.4s						
CMAR	**Chiang Mai Arr**	**34.45**	**306**	P	**P**	**06 57 42.0**	**+0.1**
CMAR	**Chiang Mai Arr**	**34.45**	**306**	P	**P**	**06 57 42.0**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=137,slow=7.9,SNR=15						
CHTO	**Chiang Mai**	**34.64**	**307**	*e*P	**P**	**06 57 43.7**	**+0.3**
	comp=Z,8.4nm,0.7s						
CHTO	**Chiang Mai**	**34.64**	**307**	P	**P**	**06 57 43.9**	**+0.5**
	comp=Z,18nm,1.1s						
KMI	**Kunming**	**35.71**	**319**	P	**P**	**06 57 54.4**	**+1.6**
KMI				pP	**pP**	**06 58 05.1**	**+2.7**
KMI				sP	sP	06 58 09.8	+3.5
KMI				S	**S**	**07 03 30.3**	**+2.4**
KMI				pmax	pmax		
	comp=Z,29nm,1.2s						
KMI				pmax	pmax		
	comp=Z,210nm,4.8s						
KMI				LR	LR		
	comp=N,190nm,21.6s						
KMI				LR	LR		
	comp=E,230nm,17.3s						
KMI				LR	LR		
	comp=Z,230nm,25.1s						
ENH	**Enshi**	**35.88**	**332**	*e*P	**P**	**06 57 54.0**	**0.0**
	comp=Z,40nm,0.9s						
ARMA	**Armidale**	**36.79**	**144**	*e*P	**P**	**06 58 03.1**	**+1.2**
KSAR	**Wonju Array Be**	**38.52**	**0**	P	**P**	**06 58 16.2**	**0.0**
KSAR				PcP	**PcP**	**07 00 29.4**	**+0.7**
KSRS	**Korea Array**	**38.53**	**0**	P	**P**	**06 58 16.2**	**-0.1**
	comp=Z,1.9nm,0.7s,baz=180,slow=10.0,SNR=4.1						
KSRS				PcP	**PcP**	**07 00 29.4**	**+0.7**
	comp=Z,2.4nm,0.7s,baz=184,slow=3.4,SNR=4.8						
KSRS				LR	LR	07 13 09.6	
	comp=Z,106nm,21.9s,baz=347,slow=35						
MJAR	**Matsushiro Arr**	**38.86**	**13**	P	**P**	**06 58 17.6**	**-1.5**
MJAR				PcP	**PcP**	**07 00 30.7**	**+0.9**
MJAR	**Matsushiro Arr**	**38.86**	**13**	P	**P**	**06 58 17.6**	**-1.5**
	comp=Z,1.6nm,0.5s,baz=195,slow=9.6,SNR=3.7						
MJAR				PcP	**PcP**	**07 00 30.7**	**+0.9**
	comp=Z,3.2nm,0.6s,baz=190,slow=4.6,SNR=5.4						
CAN	**Canberra**	**39.23**	**152**	*e*P	**P**	**06 58 23.9**	**+1.6**
	comp=Z,10nm,0.8s						
CD2	**Chengdu**	**39.30**	**327**	P	**P**	**06 58 22.8**	**-0.2**
CD2				pP	**pP**	**06 58 32.5**	**-0.1**
CD2				sP	**sP**	**06 58 36.5**	**-0.1**
CD2				PP	**PnPn**	**06 59 58.0**	**+1.5**
CD2				PcP	**PcP**	**07 00 31.0**	**-0.4**
CD2				S	**S**	**07 04 22.3**	**+0.3**
CD2				sS	**sS**	**07 04 38.4**	**+0.5**
CD2				SS	**SS**	**07 07 09.8**	**-6.7**
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
CD2				pmax	pmax		
	comp=Z,140nm,5.8s						
XAN	**Xi'an**	**39.33**	**335**	P	**P**	**06 58 22.3**	**-0.9**
XAN				pP	**pP**	**06 58 31.4**	**-1.4**
XAN				sP	**sP**	**06 58 35.9**	**-0.8**
XAN				pmax	pmax		
	comp=Z,5.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,25nm,4.8s						
TOO	**Toolangi**	**39.65**	**158**	*e*P	**P**	**06 58 28.2**	**+2.4**
	comp=Z,73nm,1.2s						
BJI	**Beijing**	**42.45**	**347**	P	**P**	**06 58 51.3**	**+2.6**
BJI				S	**S**	**07 05 13.1**	**+4.6**
LZH	**Lanzhou**	**43.33**	**331**	*e*P	**P**	**06 58 56.5**	**+0.4**
LZH				pP	**pP**	**06 59 07.0**	**+1.2**
LZH				sP	**sP**	**06 59 10.6**	**+0.9**
LZH				PP	**PP**	**07 00 39.6**	**+2.3**
LZH				*e*S	**S**	**07 05 22.4**	**+0.6**
LZH				sS	**sS**	**07 05 39.5**	**+1.7**
LZH				pmax	pmax		
	comp=Z,27nm,1.3s						
LZH				pmax	pmax		
	comp=Z,180nm,5.0s						
LZH				LR	LR		
	comp=N,230nm,14.0s						
LZH				LR	LR		
	comp=E,200nm,14.5s						
LZH				LR	LR		
	comp=Z,260nm,16.6s						
CN2	**Changchun**	**44.92**	**358**	*e*P	P	06 59 11.8	+3.3
CN2				*e*pP	pP	06 59 22.0	+3.8
CN2				*e*S	**S**	**07 05 48.8**	**+4.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
USRK	**Ussuriysk Arra**	**45.43**	**4**	P	**P**	**06 59 11.6**	**-0.9**
	comp=Z,3.0nm,0.6s,baz=162,slow=5.9,SNR=6.5						
USRK				LR	LR	07 16 25.4	
	comp=Z,92nm,18.6s,baz=119,slow=34						
MDJ	**Mudanjiang**	**45.71**	**2**	P	**P**	**06 59 14.8**	**0.0**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.5s						
MDJ				pmax	pmax		
	comp=Z,66nm,3.4s						
MDJ				LR	LR		
	comp=N,89nm,27.0s						
MDJ				LR	LR		
	comp=E,92nm,30.7s						
MDJ				LR	LR		
	comp=Z,100nm,27.0s						
LSA	**Lhasa**	**46.57**	**314**	*e*P	**P**	**06 59 23.5**	**+1.1**
	comp=Z,49nm,0.7s						
TAPN	**Taplejung**	**47.88**	**310**	*e*P	**P**	**06 59 32.8**	**+0.4**
	comp=Z,42nm,0.4s						
ODAN	**Odare**	**47.88**	**309**	*e*P	**P**	**06 59 32.7**	**+0.3**
	comp=Z,164nm,0.9s						
GTA	**Gaotai**	**47.91**	**331**	‖P	**P**	**06 59 31.9**	**-0.3**
GTA				pP	pP	06 59 47.3	+5.3
GTA				sP	sP	06 59 54.5	+8.6
GTA				S	**S**	**07 06 26.6**	**-1.1**
GTA				sS	**sS**	**07 06 43.4**	**-0.4**
GTA				SS	SS	07 09 50.4	-6.4
GTA				pmax	pmax		
	comp=Z,11nm,1.1s						
GTA				pmax	pmax		
	comp=Z,150nm,4.5s						
GTA				LR	LR		
	comp=N,120nm,16.9s						
GTA				LR	LR		
	comp=E,150nm,15.2s						
GTA				LR	LR		
	comp=Z,120nm,15.7s						
RAMN	**Ramite**	**48.55**	**308**	*e*P	**P**	**06 59 38.1**	**+0.6**
	comp=Z,188nm,0.5s						
JIRN	**Jiri**	**49.20**	**309**	*e*P	**P**	**06 59 42.8**	**+0.1**
	comp=Z,16nm,0.5s						
GUN	**Gumba**	**49.57**	**309**	*e*P	**P**	**06 59 45.5**	**0.0**
	comp=Z,84nm,0.5s						
PKI	**Pulchoki**	**49.77**	**308**	*e*P	**P**	**06 59 46.8**	**-0.2**
	comp=Z,27nm,0.5s						
KKN	**Kakani**	**49.98**	**309**	*e*P	**P**	**06 59 48.3**	**-0.1**
DMN	**Daman**	**50.03**	**308**	*e*P	**P**	**06 59 48.9**	**0.0**
	comp=Z,116nm,0.9s						
GKN	**Gorkha**	**50.58**	**309**	*e*P	**P**	**06 59 52.9**	**0.0**
KOLN	**Koldanda**	**51.29**	**308**	*e*P	**P**	**06 59 58.6**	**+0.3**
	comp=Z,116nm,0.6s						
DANN	**Dangsing**	**51.42**	**308**	*e*P	**P**	**06 59 59.5**	**+0.1**
	comp=Z,143nm,0.7s						
HYB	**Hyderabad**	**51.89**	**293**	*i* P	**P**	**07 00 01.0**	**-1.8**
ULN	**Ulaanbaatar**	**52.16**	**342**	*e*P	**P**	**07 00 02.2**	**-2.2**
	comp=Z,10nm,0.9s						
ULN	**Ulaan

comp=Z,11nm,0.8s

EKS2	**Erkin-Say**	**65.24**	**319**	P		**P**	07 01 35.4	**-0.1**
	SNR=12							
KBL	**Kabul**	**65.40**	**309**	*e*P		**P**	07 01 36.0	**-0.8**
	comp=Z,6.8nm,0.6s							
ZAA0	**Zalesovo Array**	**65.49**	**334**	*e*P		**P**	07 01 34.5	**-2.1**
ZALV	**Zalesovo Beam**	**65.49**	**334**	P		**P**	07 01 34.5	**-2.2**
ZALV	**Zalesovo Beam**	**65.49**	**334**	P		**P**	07 01 34.5	**-2.2**
	comp=Z,5.6nm,1.0s,baz=108,slow=4.8,SNR=19							
ZALV				LR		LR	07 34 17.1	
	comp=Z,39nm,20.8s,baz=76,slow=40							
KURBB	**Kurchatov Area**	**66.49**	**328**	P		**P**	07 01 41.6	**-1.6**
	comp=Z,21nm,0.9s,baz=129,slow=5.9,SNR=157							
KURK	**Kurchatov**	**66.49**	**328**	P		**P**	07 01 41.6	**-1.6**
KKAR	**Karatay Array**	**67.59**	**318**	*e*P		**P**	07 01 49.2	**-1.2**
	comp=Z,7.2nm,0.8s							
BVAR	**Borovoye Array**	**72.05**	**328**	P		**P**	07 02 15.8	**-1.9**
BVAR	**Borovoye Array**	**72.05**	**328**	P		**P**	07 02 15.8	**-1.9**
	comp=Z,9.4nm,0.8s,baz=126,slow=7.5,SNR=57							
BRVK	**Borovoye**	**72.12**	**328**	*e*P		**P**	07 02 16.8	**-1.2**
	comp=Z,14nm,0.9s							
ABKAR	**Akbulak array**	**76.66**	**321**	*e*P		**P**	07 02 42.9	**-1.6**
	comp=Z,7.5nm,0.8s							
MAW	**Mawson**	**79.46**	**201**	LR		LR	07 31 53.0	
	comp=Z,168nm,19.7s,baz=177,slow=31							
ARU	**Arti**	**79.69**	**328**	*e*P		**P**	07 02 59.5	**-1.6**
	comp=Z,4.5nm,0.3s							
SYO	**Syowa Base**	**88.16**	**201**⇑	*e*X		P	07 03 39.6	-4.5
ILAR	**Eielson Array**	**89.15**	**25**	P		**P**	07 03 47.0	**-1.9**
ILAR	**Eielson Array**	**89.15**	**25**	P		**P**	07 03 47.0	**-1.9**
	comp=Z,1.2nm,0.7s,baz=246,slow=5.1,SNR=21							
ARCES	**ARCESS Array B**	**95.46**	**340**	P		**P**	07 04 15.4	**-2.5**
ARCES	**ARCESS Array B**	**95.46**	**340**	P		**P**	07 04 15.4	**-2.5**
	comp=Z,4.4nm,0.9s,baz=72,slow=7.8,SNR=11							
AKASG	**Malin Array Be**	**96.39**	**321**	LR		LR	07 53 03.3	
	comp=Z,48nm,19.6s,baz=65,slow=39							
YKA	**Yellowknife Ar**	**103.58**	**25**	Pdif		**Pdif**	07 04 54.9	**+0.5**
YKA				PKiKP		**PKiKP**	07 09 13.0	**+0.2**
YKA				PKKPbc		**PKKPbc**	07 20 46.3	**-3.2**
YKA	**Yellowknife Ar**	**103.58**	**25**	Pdiff		**Pdif**	07 04 54.9	**+0.5**
	comp=Z,0.2nm,0.8s,baz=299,slow=5.1,SNR=4.6							
YKA				PKiKP		**PKiKP**	07 09 13.0	**+0.2**
	comp=Z,0.3nm,0.6s,baz=296,slow=1.7,SNR=9.8							
YKA				PKKPbc		**PKKPbc**	07 20 46.3	**-3.2**
	comp=Z,0.2nm,0.6s,baz=113,slow=2.9,SNR=6.1							
PDAR	**Pinedale Array**	**114.36**	**43**	PKP		PKPdf	07 09 34.2	+0.2
PDAR	**Pinedale Array**	**114.36**	**43**	PKP		PKPdf	07 09 34.2	+0.2
	comp=Z,0.2nm,0.6s,baz=257,slow=2.4,SNR=2.6							
ULM	**Lac du Bonnet**	**118.78**	**30**	PKP		**PKPdf**	07 09 40.3	**-1.6**
ULM	**Lac du Bonnet**	**118.78**	**30**	PKP		**PKPdf**	07 09 40.3	**-1.6**
	comp=Z,1.8nm,0.7s,baz=198,slow=3.5,SNR=4.5							
TXAR	**Lajitas Array**	**123.72**	**55**	PKP		**PKPdf**	07 09 52.8	**+0.7**
TXAR	**Lajitas Array**	**123.72**	**55**	PKP		**PKPdf**	07 09 52.8	**+0.7**
	comp=Z,0.6nm,1.0s,baz=198,slow=1.8,SNR=4.4							
SCHQ	**Schefferville**	**125.29**	**10**	PKP		**PKPdf**	07 09 54.6	**+0.4**
SCHQ	**Schefferville**	**125.29**	**10**	PKP		**PKPdf**	07 09 54.6	**+0.4**
	comp=Z,4.5nm,0.9s,baz=52,slow=4.3,SNR=8.7							
TORD	**Torodi Ar. Bea**	**125.32**	**285**	PKP		**PKPdf**	07 09 54.9	**-0.5**
TORD	**Torodi Ar. Bea**	**125.32**	**285**	PKP		**PKPdf**	07 09 54.9	**-0.5**
	comp=Z,1.6nm,0.7s,baz=66,slow=1.8,SNR=12							
JCT	**Junction City**	**126.41**	**52**	*e*PKPdf		**PKPdf**	07 09 58.0	**+0.8**
PLCA	**Paso Flores**	**134.99**	**160**	PKP		**PKPdf**	07 10 15.4	**+2.2**
PLCA	**Paso Flores**	**134.99**	**160**	PKP		**PKPdf**	07 10 15.4	**+2.2**
	comp=Z,1.9nm,0.6s,baz=112,slow=6.8,SNR=5.6							
LCO	**Las Campanas**	**145.09**	**151**	*e*PKPbc		**PKPdf**	07 10 32.7	**+0.6**
JTS	**JuntasAbangare**	**146.28**	**73**	*e*PKPbc		**PKPab**	07 10 36.6	**+0.5**
LVC	**Limon Verde**	**151.24**	**147**	*e*PKPbc		**PKPbc**	07 10 50.1	**+1.9**
CPUP	**Villa Florida**	**152.13**	**170**	PKPbc		**PKPbc**	07 10 50.3	**+0.6**
CPUP	**Villa Florida**	**152.13**	**170**	PKPbc		**PKPbc**	07 10 50.3	**+0.6**
	comp=Z,6.9nm,1.0s,baz=252,slow=2.3,SNR=10.0							

IDC 16 06:55:46.4±1.3, 3.58N×126.87E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/19, mbtmp4.0/5, MS3.7/2, Ms1 3.8/2, ms1mx3.0/31, Error ellipse: s-maj=162.5km s-min=19.6km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.50**	**163**	P		P	07 01 06.6	**-1.0**
	5.9nm,0.9s,baz=342,slow=11,SNR=4.6							
ASAR	**Alice Springs**	**27.93**	**166**	P		P	07 01 39.7	+1.1
	0.8nm,0.7s,baz=357,slow=7.4,SNR=2.3							
STKA	**Stephens Creek**	**37.94**	**159**	P		P	07 03 05.8	-0.1
	3.9nm,0.8s,baz=343,slow=12,SNR=4.6							
ASAJ	**Asahikawa**	**42.70**	**17**	LR		LR	07 19 42.9	
	comp=Z,88nm,19.5s,baz=351,slow=34							
SONM	**Songino Array**	**47.49**	**341**	P		P	07 04 23.5	+0.1
	0.5nm,0.6s,baz=144,slow=8.5,SNR=4.0							
MKAR	**Makanchi Array**	**57.76**	**325**	P		P	07 05 38.9	-0.5
	0.5nm,0.3s,baz=120,slow=6.9,SNR=6.5							
NOA	**NORSAR Array B**	**98.98**	**334**	LR		LR	07 59 45.7	
	comp=Z,34nm,19.0s,baz=180,slow=39							

IDC 16 07:00:45.2±2.1, 4.18N×126.83E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, MS2.8/1, Ms1 2.8/1, ms1mx2.7/23, Error ellipse: s-maj=153.1km s-min=27.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.13**	**337**	LR		LR	07 02 52.7	
	comp=Z,149nm,18.4s,baz=226,slow=41							
WRA	**Warramunga Arr**	**25.08**	**163**	P		P	07 06 09.9	-1.7
	1.2nm,0.5s,baz=343,slow=10,SNR=7.7							
ASAR	**Alice Springs**	**28.52**	**166**	P		P	07 06 44.2	+1.6
	0.2nm,0.3s,baz=339,slow=10,SNR=3.0							
MKAR	**Makanchi Array**	**57.25**	**325**	P		P	07 10 34.5	0.0
	0.2nm,0.6s,baz=120,slow=7.2,SNR=4.4							

IDC 16 07:38:06.5±5.4, 4.70S×132.50E, h0km, mb3.7/1, mb1 4.1/3, mb1mx3.7/14, mbtmp3.9/3, ML3.9/2, MS3.7/4, Ms1 3.7/4, ms1mx3.2/26, Error ellipse: s-maj=348.0km s-min=30.2km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.26**	**173**	Pn		Pn	07 41 41.5	**-2.1**
	0.6nm,0.3s,baz=352,slow=13,SNR=23							
WRA				Sn		Sn	07 44 29.8	-3.6
	0.3nm,0.3s,baz=355,slow=23,SNR=5.8							
ASAR	**Alice Springs**	**18.91**	**176**	P		Pn	07 42 29.8	+0.3
	0.3nm,0.3s,baz=356,slow=11,SNR=24							
ASAR				S		Sn	07 45 55.8	-6.1
	0.1nm,0.3s,baz=358,slow=25,SNR=3.7							
STKA	**Stephens Creek**	**28.36**	**164**	LR		LR	07 56 51.2	
	comp=Z,156nm,18.4s,baz=202,slow=40							
KSRS	**Korea Array**	**42.15**	**355**	LR		LR	08 05 04.3	
	comp=Z,55nm,18.5s,baz=153,slow=38							
AFI	**Afiamalu**	**55.64**	**104**	LR		LR	08 09 05.7	
	comp=Z,114nm,18.0s,baz=65,slow=33							
MKAR	**Makanchi Array**	**67.71**	**325**	P		P	07 49 05.9	0.0
	0.5nm,0.6s,baz=112,slow=8.3,SNR=6.7							
AAK	**Ala-Archa**	**70.43**	**318**	LR		LR	08 22 26.4	
	comp=Z,37nm,18.0s,baz=272,slow=38							

IDC 16 07:41:53.5±2.2, 4.03N×126.73E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=207.5km s-min=27.0km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.97**	**163**	P		P	07 47 18.7	**-0.3**
	0.5nm,0.5s,baz=343,slow=10,SNR=2.7							
STKA	**Stephens Creek**	**38.41**	**159**	P		P	07 49 17.1	+0.2
	0.7nm,0.6s,baz=328,slow=8.0,SNR=3.1							
MKAR	**Makanchi Array**	**57.30**	**325**	P		P	07 51 43.2	-0.1
	0.4nm,0.8s,baz=118,slow=7.9,SNR=6.2							

IDC 16 07:51:59.8±2.2, 6.67S×129.40E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=81.2km s-min=29.0km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.94**	**198**	Pn		Pn	07 54 53.0	+1.7
	0.1nm,0.3s,baz=18,slow=9.6,SNR=4.3							
FITZ				Sn		Sn	07 56 51.8	-14
	0.4nm,0.3s,baz=137,slow=19,SNR=3.9							
WRA	**Warramunga Arr**	**14.03**	**160**	Pn		Pn	07 55 18.1	-2.0
	0.3nm,0.3s,baz=338,slow=13,SNR=18							
WRA				Sn		Sn	07 57 41.5	-15
	0.5nm,0.3s,baz=334,slow=22,SNR=9.1							
ASAR	**Alice Springs**	**17.44**	**166**	P		Pn	07 56 04.7	0.0
	0.3nm,0.3s,baz=342,slow=10,SNR=14							
MKAR	**Makanchi Array**	**67.63**	**327**	P		P	08 02 58.5	0.0
	0.1nm,0.4s,baz=124,slow=7.9,SNR=4.1							

*ISK **16** 07:52:06.5, 39.49N×39.98E, h5km, MD2.6*
*CSEM **16** 07:52:07.9±0.3, 39.48N×39.95E, h8km, MD2.6, Error ellipse: s-maj=8.1km s-min=5.6km az=6.0*
*DDA **16** 07:52:08.5, 39.54N×39.93E, h7km, MD2.9*

ISC 16 07:52:08.0±1.2, 39.48N±0.04×39.97E±0.03, h5km±11km, n15, σ0.50/25, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ERZN	**Erzincan**	**0.22**	**298**	*e*PG		**Pg**	07 52 12.0	**-0.3**
ERZN				*e*SG		**Sg**	07 52 15.9	**+0.7**
EZC	**Erzincan**	**0.55**	**299**	*e*PG		**Pg**	07 52 18.1	**-0.5**
EZC				*e*SG		**Sb**	07 52 27.8	**-0.6**
EZC	**Erzincan**	**0.55**	**299**	*e*Pg		**Pg**	07 52 18.1	**-0.5**
EZC				*e*Sg		**Sb**	07 52 27.8	**-0.6**
BINT	**Bingol**	**0.73**	**146**	*e*Pg		**Pg**	07 52 21.4	**-0.6**
BINT				*e*Sg		**Sb**	07 52 33.2	**-0.3**
BNGB	**Bing˜¶l**	**0.74**	**132**	*e*PG		**Pg**	07 52 21.4	**-0.7**
BNGB				*e*SG		**Sb**	07 52 33.2	**-0.6**
BAYT	**Ayd¨–ntepe-Bay**	**0.92**	**8**	*e*PG		**Pg**	07 52 25.2	**-0.4**
BAYT	**Ayd¨–ntepe-Bay**	**0.92**	**8**	*e*Pg		**Pg**	07 52 25.2	**-0.4**
BNGL	**BINGOL**	**1.06**	**120**	*i* P		**Pb**	07 52 29.4	**+0.5**
BNGL				*i* S		**Sn**	07 52 45.8	**+1.0**
ILIC	**ilic-Erzincan**	**1.09**	**269**	*e*PN		**Pg**	07 52 28.9	**+0.1**
ILIC	**ilic-Erzincan**	**1.09**	**269**	*e*Pn		**Pg**	07 52 28.9	**+0.1**
EZM	**Erzurum**	**1.15**	**68**	*e*PN		**Pg**	07 52 29.9	**-0.2**
ERZM	**Erzurum**	**1.16**	**68**	*i* P		**Pn**	07 52 31.3	**+0.3**
ERZM				*i* S		**Sn**	07 52 47.1	**-0.2**
ERZM	**Erzurum**	**1.16**	**68**	*i* P		**Pn**	07 52 31.3	**+0.3**
ERZM				*i* S		**Sn**	07 52 47.1	**-0.2**
KEMA	**Kemaliye**	**1.17**	**260**	*i* P		**Pg**	07 52 30.0	**-0.3**
KEMA				*i* S		**Sn**	07 52 47.0	**-0.3**
KEMA	**Kemaliye**	**1.17**	**260**	*i* P		**Pg**	07 52 30.0	**-0.3**
KEMA				*i* S		**Sn**	07 52 47.0	**-0.3**

IDC 16 08:04:46.1±2.6, 17.02S×168.63E, h233km±22km, mb3.6/10, mb1 3.7/11, mb1mx3.6/21, mbtmp3.6/11, Error ellipse: s-maj=25.0km s-min=23.3km az=143.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.43**	**202**	*e*P		Pn	08 06 06.7	-0.1
DZM				*e*S		S	08 07 11.0	0.0
DZM	**Mont Dzumac**	**5.43**	**202**	P		Pn	08 06 06.8	0.0
	2.1nm,0.3s,baz=29,slow=18,SNR=53							
DZM				S		S	08 07 11.6	+0.6
	1.6nm,0.3s,baz=269,slow=14,SNR=4.3							
CTA	**Charters Tower**	**21.42**	**258**	P		P	08 09 16.7	+0.4
	4.8nm,0.9s,baz=81,slow=13,SNR=5.0							
STKA	**Stephens Creek**	**28.60**	**234**	P		P	08 10 21.1	+0.1
	3.8nm,0.8s,baz=68,slow=8.7,SNR=7.8							
WRA	**Warramunga Arr**	**32.62**	**259**	P		P	08 10 55.3	-1.0
	0.3nm,0.3s,baz=91,slow=8.1,SNR=20							
ASAR	**Alice Springs**	**33.16**	**253**	P		P	08 11 00.3	-0.7
	8.0nm,0.6s,baz=79,slow=9.1,SNR=98							
ASAR				ScP		ScP	08 16 59.8	-0.6
	0.4nm,0.6s,baz=99,slow=4.2,SNR=5.1							
FITZ	**Fitzroy Crossi**	**40.93**	**262**	P		P	08 12 06.4	+0.2
	8.2nm,0.7s,baz=106,slow=9.3,SNR=15							
QSPA	**South Pole Qui**	**73.02**	**180**	P		P	08 15 50.9	+0.5
	1.9nm,1.1s,baz=218,slow=4.3,SNR=3.8							
CMAR	**Chiang Mai Arr**	**77.07**	**294**	P		P	08 16 15.2	+1.1
	1.9nm,0.8s,baz=122,slow=4.3,SNR=10							
SONM	**Songino Array**	**85.10**	**323**	P		P	08 16 56.4	+0.4
	0.5nm,0.6s,baz=144,slow=5.4,SNR=4.6							
ILAR	**Eielson Array**	**88.30**	**17**	P		P	08 17 09.6	-1.2
	0.2nm,0.6s,baz=235,slow=5.8,SNR=5.0							
MKAR	**Makanchi Array**	**99.75**	**316**	P		Pdif	08 18 03.4	-0.3
	0.2nm,0.6s,baz=97,slow=4.6,SNR=3.3							
ARCES	**ARCESS Array B**	**122.78**	**345**	PKP		PKPdf	08 23 13.2	-0.5
	1.0nm,0.7s,baz=56,slow=2.3,SNR=7.2							
TORD	**Torodi Ar. Bea**	**166.81**	**255**	PKPab		PKPab	08 25 28.6	-0.6
	0.3nm,0.7s,baz=107,slow=4.8,SNR=2.7							

*IDC **16** 08:05:22.8±4.0, 36.32N×70.88E, h190km±33km, mb3.2/5, mb1 3.2/10, mb1mx3.0/29, mbtmp3.1/10, Error ellipse: s-maj=29.5km s-min=23.0km az=2.0*
*NNC **16** 08:05:26.2±12.0, 36.61N×70.02E, h161km±123km, mb2.4, mpv3.7, Error ellipse: s-maj=108.6km s-min=83.4km az=33.0*

ISC 16 08:05:23.0±1.1, 36.38N±0.10×70.8E±0.1, h188km, n24, σ1.952/25, mb3.4/5, 1C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.17**	**21**	P		**Pn**	**08 06 54.1**	**+1.4**
	SNR=82							
UCH	**Uchtor**	**6.52**	**25**	P		Sn	08 08 10.1	-1.9
	SNR=6.2							
KZA	**Kyzart**	**6.67**	**30**	P		**Pn**	**08 07 00.2**	**+1.1**
	SNR=9.5							
EKS2	**Erkin-Say**	**6.69**	**19**	P		**Pn**	**08 07 01.2**	**+2.1**
	SNR=8.5							
KK31	**Karatay Array**	**6.71**	**358**	⇑P		**Pn**	**08 07 00.3**	**+0.9**
	2.8nm,0.4s,baz=180,slow=12,SNR=45							
KK31				S		**Sn**	**08 08 12.6**	**-3.1**
	2.9nm,0.4s,baz=185,slow=25,SNR=4.9							
AAK	**Ala-Archa**	**6.88**	**24**	P		**Pn**	**08 07 03.3**	**+1.7**
	SNR=36							
AAK	**Ala-Archa**	**6.88**	**24**	P		**Pn**	**08 07 03.2**	**+1.7**
	4.7nm,0.3s,baz=203,slow=7.7,SNR=83							
AAK				S		**Sn**	**08 08 18.1**	**-1.5**
	1.1nm,0.3s,baz=302,slow=21,SNR=9.4							
KBK	**Karagaybulak**	**7.05**	**26**	P		**Pn**	**08 07 06.0**	**+2.1**
	SNR=7.3							
ULHL	**Ulahol**	**7.23**	**34**	P		**Pn**	**08 07 07.8**	**+1.5**
	SNR=7.0							
CHMS	**Chumysh**	**7.29**	**24**	P		**Pn**	**08 07 08.8**	**+1.9**
	SNR=7.2							
TKM2	**Tokmak 2**	**7.52**	**28**	P		**Pn**	**08 07 11.5**	**+1.4**
	SNR=11							
MKAR	**Makanchi Array**	**13.50**	**36**	P		**Pn**	**08 08 27.5**	**+0.5**
	0.3nm,0.3s,baz=214,slow=14,SNR=11							
AB31	**Akbulak array**	**15.10**	**332**	P		**Pn**	**08 08 46.9**	**+0.2**
	0.4nm,0.5s,baz=147,slow=12,SNR=22							
KURBB	**Kurchatov Arra**	**15.29**	**19**	P		**Pn**	**08 08 47.9**	**-1.2**
	0.1nm,0.3s,baz=204,slow=11,SNR=4.1							
BVA0	**Borovoye Array**	**16.64**	**359**	⇓P		**Pn**	**08 09 07.5**	**+2.1**
	0.4nm,1.2s,baz=162,slow=11,SNR=6.1							
BVAR	**Borovoye Array**	**16.64**	**359**	P		**P**	**08 09 05.6**	**+1.0**
	0.3nm,0.3s,baz=169,slow=11,SNR=7.8							
AKTO	**Aktyubinsk**	**16.79**	**331**	⇓P		P	08 09 00.8	-5.3
	0.3nm,1.4s							
AKTO				⇓S		**S**	**08 12 10.2**	**-1.3**
	0.3nm,1.4s							
AKTO	**Aktyubinsk**	**16.79**	**331**	P		**Pn**	**08 09 08.1**	**+0.9**
	0.2nm,0.3s,baz=141,slow=14,SNR=2.7							
ZALV	**Zalesovo Beam**	**20.10**	**25**	P		**P**	**08 09 41.2**	**-0.8**
	1.9nm,0.5s,baz=217,slow=10,SNR=8.4							
ARCES	**ARCESS Array B**	**41.18**	**338**	P		**P**	**08 12 49.3**	**+0.7**
	4.3nm,1.1s,baz=110,slow=7.8,SNR=4.8							
PETK	**Petropavlovsk-**	**60.19**	**44**	P		**P**	**08 15 10.4**	**-0.3**
	15nm,1.1s,baz=284,slow=5.8,SNR=3.5							
TORD	**Torodi Ar. Bea**	**65.52**	**269**	P		**P**	**08 15 46.1**	**-0.5**
	0.2nm,0.4s,baz=51,slow=5.5,SNR=4.0							
YKA	**Yellowknife Ar**	**81.37**	**3**	P		**P**	**08 17 17.9**	**-0.3**
	0.2nm,0.4s,baz=350,slow=5.3,SNR=11							
WRA	**Warramunga Arr**	**82.09**	**122**	P		**P**	**08 17 21.6**	**-1.0**
	0.3nm,0.4s,baz=321,slow=4.8,SNR=6.9							

MAN 16 08:09:20, 11.11N×124.70E, h1km, mb4.2, ML3.0, MS2.7, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.10**	**236**	*e*P		Pg	08 09 21.9	-0.1
OCLP				*e*S		Sg	08 09 27.7	+4.3
PLP	**Palo**	**0.28**	**78**	*i*P		Pg	08 09 25.5	0.0
PLP				*i* S		Sg	08 09 29.1	-0.1
MSLP	**Maasin**	**0.98**	**171**	*e*P		Pn	08 09 40.8	-0.2
MSLP				*e*S		Sn	08 09 56.9	+1.4

TAP 16 08:21:10.3, 22.42N×120.52E, h22km, ML3.5, 4C-5D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SCZT	**Fangliau**	**0.10**	**119**	⇑*i*P		Pb	08 21 14.6	-1.8
	baz=111							
SCZT				*i* S		Sb	08 21 18.5	-2.3
	baz=111							
TWP	**Hsiaoliuchiu**	**0.17**	**243**	⇓P		Pb	08 21 16.4	+0.4
	baz=235							
TWP				S		Sb	08 21 22.2	+2.2
	baz=235							
KAU	**Kaohsiung**	**0.25**	**306**	*e*P		Pb	08 21 17.9	+1.6
	baz=297							
KAU				*e*S		Sb	08 21 24.4	+3.8
	baz=297							
SGLT	**Jiouru**	**0.30**	**354**	*e*P		Pn	08 21 19.2	-0.3
	baz=5.0							
SGLT				*e*S		Sn	08 21 26.7	+1.4
	baz=5.0							
EAST	**Anshuo**	**0.30**	**97**⇑	*i*P		Pb	08 21 18.2	+1.0
	baz=94							
EAST				S		Sn	08 21 24.3	-1.1
	baz=94							
SSD	**Sandimen**	**0.34**	**17**⇑	*i*P		Pb	08 21 18.4	+0.8
	baz=27							
SSD				*e*S		Sb	08 21 24.1	+1.5
	baz=27							
TAW	**Tawu**	**0.35**	**101**	⇓*i*P		Pb	08 21 18.7	+0.9
	baz=101							
TAW				S		Sn	08 21 25.2	-1.2
	baz=101							
TWM1	**Shoushan**	**0.41**	**347**	*e*P		Pn	08 21 21.2	+0.3
	baz=346							
TWM1				*e*S		Sn	08 21 29.3	+1.3
	baz=346							
ECL	**Taimali**	**0.43**	**66**	P		Pn	08 21 20.3	-1.0
	baz=76							
ECL				*e*S		Sn	08 21 27.1	-1.4
	baz=76							
HEN	**Hengchun**	**0.46**	**154**	P		Pb	08 21 20.4	+0.8
	baz=155							
HEN				S		Sn	08 21 28.5	-0.6
	baz=155							
TWK1	**Hengchun**	**0.54**	**151**	⇓*i*P		Pb	08 21 21.8	+0.6
	baz=152							
TWK1				*i* S		Sn	08 21 30.7	-0.5
	baz=152							
TSEB	**Hengchuen, Pin**	**0.63**	**146**	⇓P		Pb	08 21 22.8	+0.2
	baz=150							
TSEB				*i* S		Sn	08 21 32.7	-0.6
	baz=150							
TWG	**Pinlang**	**0.64**	**52**	⇓*i*P		Pn	08 21 23.9	-0.3
	baz=45							
TWG				S		Sn	08 21 33.1	-0.6
	baz=45							
SGST	**Jiashian**	**0.66**	**5**	P		Pn	08 21 24.6	+0.2
	baz=4.0							
SGST				*e*S		Sn	08 21 35.2	+1.1
	baz=4.0							
TTN	**Taitung**	**0.66**	**60**	⇑P		Pn	08 21 25.1	+0.7
	baz=55							
TTN				*e*S		Sn	08 21 35.7	+1.5
	baz=55							
CHN3	**Shinhua**	**0.67**	**347**	*e*P		Pn	08 21 25.1	+0.7
	baz=346							
TAI1	**Yung-k'ang**	**0.67**	**336**	*e*P		Pn	08 21 24.4	-0.1
	baz=335							
TAI1				*e*S		Sn	08 21 34.9	+0.6
	baz=335							
CHN1	**Nanshi**	**0.76**	**0**	*e*P		Pn	08 21 25.5	-0.3
	baz=339							
CHN1				*e*S		Sn	08 21 37.5	+0.9
	baz=339							
STYT	**Tauyuan**	**0.77**	**16**	P		Pn	08 21 26.0	0.0
	baz=15							
STYT				*e*S		Sn	08 21 38.1	+1.2
	baz=15							
SCLT	**Jiali**	**0.81**	**338**	*e*P		Pb	08 21 24.0	-1.7
	baz=336							
SCLT				*e*S		Sb	08 21 38.8	+1.1
	baz=336							
WTP	**Ta-pu**	**0.82**	**6**	*e*P		Pb	08 21 26.3	+0.3
	baz=346							
WTP				*e*S		Sn	08 21 39.9	+1.6
	baz=346							
TWK	**Hsinying**	**0.84**	**358**	*e*P		Pn	08 21 27.0	+0.1
	baz=357							
ELDTW	**Lidau**	**0.89**	**31**	*e*P		Pn	08 21 27.7	+0.1
	baz=29							
ELDTW				*e*S		Sn	08 21 41.3	+1.3
	baz=29							
LAY	**L

OPO Ambohidratompo 18.91 141 P **P 08 28 43.2 0.0**
0.2nm,0.3s,baz=303,slow=11,SNR=7.6
OPO S **S 08 32 20.8 +3.8**
0.2nm,0.3s,baz=327,slow=17,SNR=1.8
OPO LR LR 08 36 01.2
comp=Z,965nm,18.7s,baz=353,slow=37
ABPO Ambohimpanom 19.27 142 *eP* **Pn 08 28 48.3 +0.1**
ABPO pmax pmax
comp=Z,20nm,1.2s
ABPO Ambohimpanom 19.27 142 *eP* **Pn 08 28 48.3 +0.1**
comp=Z,20nm,1.2s
SLR Silverton 22.59 196 *eP* **P 08 29 22.3 -0.7**
SLR AMB AMB 08 29 25.4
comp=Z,61nm,2.1s
TSUM Tsumeb 22.70 227 *eP* **P 08 29 24.1 -0.1**
comp=Z,44nm,0.8s
TSUM Tsumeb 22.70 227 P **P 08 29 24.0 -0.1**
comp=Z,11nm,1.0s,baz=55,slow=12,SNR=13
TSUM LR LR 08 38 42.2
comp=Z,1μm,18.8s,baz=51,slow=38
TSUM Tsumeb 22.70 227 *eP* **P 08 29 26.1 +1.9**
LBTB Lobatse 22.79 202 *eP* **P 08 29 24.3 -0.7**
comp=Z,191nm,1.8s
LBTB Lobatse 22.79 202 P **P 08 29 24.1 -0.8**
comp=Z,15nm,0.9s,baz=20,slow=9.3,SNR=14
LBTB LR LR 08 38 36.4
comp=Z,1μm,18.3s,baz=40,slow=38
LBTB Lobatse 22.79 202 *eP* **P 08 29 23.2 -1.7**
LBTB AMB AMB 08 29 30.4
comp=Z,76nm,1.9s
PRYS Parys 23.98 197 *eP* **P 08 29 35.4 -1.4**
PRYS AMB AMB 08 29 39.6
comp=Z,77nm,3.0s
SWZ Schweizer 24.86 201 *eP* **P 08 29 43.8 -1.0**
SWZ AMB AMB 08 29 46.5
comp=Z,41nm,3.6s
SEK Senekal 25.23 195 *eP* **P 08 29 47.3 -0.9**
SEK AMB AMB 08 30 00.5
comp=Z,65nm,4.0s
BOSA Boshof 26.20 199 *eP* **P 08 29 56.9 -0.1**
comp=Z,85nm,1.5s
BOSA Boshof 26.20 199 P **P 08 29 56.5 -0.5**
comp=Z,13nm,1.0s,baz=23,slow=9.8,SNR=8.5
BOSA LR LR 08 39 45.3
comp=Z,864nm,19.1s,baz=24,slow=35
BOSA Boshof 26.20 199 *eP* **P 08 29 56.6 -0.4**
EIL Elat 33.40 0 LR LR 08 44 27.3
comp=Z,363nm,19.2s,baz=2.5,slow=36
ASF Jabal al Asfar 35.94 3 LR LR 08 45 54.5
comp=Z,527nm,19.2s,baz=62,slow=36
MMAI Mount Meron Ar 36.73 1 LR LR 08 45 01.0
comp=Z,220nm,21.0s,baz=145,slow=34
TOA0 Torodi Ar. Sit 37.03 298 *eP* **P 08 31 32.5 +0.4**
TORD Torodi Ar. Bea 37.03 298 P **P 08 31 32.2 +0.1**
TORD Torodi Ar. Bea 37.03 298 P **P 08 31 32.2 +0.1**
comp=Z,7.6nm,1.0s,baz=106,slow=6.6,SNR=25
TORD LR LR 08 46 01.9
comp=Z,983nm,18.1s,baz=110,slow=35
BHD Baghdad 38.07 13 *ex* P 08 31 34.5 -6.2
BHD *ex* S 08 37 25.5 -6.7
TAM Tamanrasset 39.05 314 *eP* **P 08 31 51.5 +2.2**
TAM pmax pmax
comp=Z,4.0nm,0.9s
TAM Tamanrasset 39.05 314 *eP* **P 08 31 51.5 +2.2**
comp=Z,3.8nm,0.9s
DBIC Dimbokro 41.01 285 *eP* **P 08 32 06.2 +0.7**
comp=Z,10nm,0.8s
DBIC Dimbokro 41.01 285 P **P 08 32 05.8 +0.2**
comp=Z,12nm,1.0s,baz=86,slow=9.7,SNR=9.7
DBIC LR LR 08 49 02.9
comp=Z,308nm,20.2s,baz=88,slow=36
LIC Lamto 41.07 284 *eP* **P 08 32 06.0 -0.1**
comp=Z,26nm,0.9s
LIC Lamto 41.07 284 *eP* **P 08 32 06.0 -0.1**
comp=Z,26nm,0.9s
BRTR Keskin Array B 43.44 359 P **P 08 32 25.6 +0.4**
BRTR Keskin Array B 43.44 359 P **P 08 32 25.6 +0.4**
comp=Z,1.8nm,0.9s,baz=181,slow=11,SNR=7.0
GNI Garni 44.78 11 LR LR 08 50 47.7
comp=Z,226nm,19.6s,baz=48,slow=36
KEST Kesra 46.12 331 LR LR 08 53 49.1
comp=Z,260nm,20.1s,baz=176,slow=38
KIV Kislovodsk 48.17 8 *eP* **P 08 33 03.9 +1.5**
KIV *eS* **S 08 39 59.2 -1.1**
KIV pmax pmax
comp=Z,11nm,1.0s
KIV MLR MLR
comp=Z,194nm,17.0s
ANN Anapa 48.55 2 *eP* **P 08 33 08.3 +3.2**
ANN pmax pmax
comp=Z,62nm,1.0s
MLR Muntele Rosu 49.83 352⇑ *iP* **P 08 33 16.4 +1.3**
VOIR 49.91 351 ⇑P P 08 33 05.4 -10
VOIR 49.91 351⇑ *iP* P 08 33 05.4 -10
PLOR Plostina 50.08 353 ⇓P P 08 33 20.7 +3.8
PLOR Plostina 50.08 353 ⇓ *iP* P 08 33 20.7 +3.8
VRI Vrincioaia 50.09 353 ⇑P **P 08 33 17.0 +0.1**
VRI Vrincioaia 50.09 353⇑ *iP* **P 08 33 17.0 +0.1**
TESR 50.73 353 ⇓ *iP* P 08 33 10.3 -11
DRGR 51.62 349 ⇓P **P 08 33 29.5 +1.0**
DRGR 51.62 349 ⇓ *iP* **P 08 33 29.5 +1.0**
BURAR Bucovina Array 52.01 352 ⇓ *iP* **P 08 33 32.9 +1.5**
BUR08 Bucovina Ar. S 52.04 352 *eP* **P 08 33 32.6 +0.9**
TRPA Tarpa 52.94 350⇑ *iP* **P 08 33 35.3 -2.9**
PSZ Piszkesteto 53.26 347 *eP* **P 08 33 41.5 +0.8**
PSZ pmax pmax
comp=Z,48nm,1.8s
PSZ Piszkesteto 53.26 347 *eP* **P 08 33 41.5 +0.8**
comp=Z,48nm,1.8s
PSZ Piszkesteto 53.26 347 ⇓ *iP* **P 08 33 41.8 +1.2**
SOKA Soboth 53.34 343 ⇓ *iP* **P 08 33 42.7 +1.4**
comp=Z,18nm,1.6s
ARSA Arzberg 53.72 344⇑ *iP* **P 08 33 45.3 +1.3**
comp=Z,8.0nm,1.1s
KOLS Kolonicke sedl 53.76 350 *eP* **P 08 33 45.4 +1.2**
KOLS pmax pmax
comp=Z,11nm,1.9s
KOLS Kolonicke sedl 53.76 350 *eP* **P 08 33 45.4 +1.2**
CRVS Cervenica-Dubn 53.88 349 *eP* **P 08 33 46.2 +1.1**
CRVS pmax pmax
comp=Z,8.0nm,1.3s
CRVS Cervenica-Dubn 53.88 349 *eP* **P 08 33 46.2 +1.1**
VYHS Vyhne 54.04 347 *eP* **P 08 33 46.9 +0.6**
VYHS pmax pmax
comp=Z,58nm,3.3s
VYHS Vyhne 54.04 347 *eP* **P 08 33 46.9 +0.6**
CONA Conrad Observa 54.25 344⇑ *iP* **P 08 33 48.8 +0.9**
comp=Z,11nm,1.1s
KWP Kalwaria Pacla 54.36 350 ⇓P **P 08 33 49.5 +0.9**
KWP Kalwaria Pacla 54.36 350 ⇓ *iP* **P 08 33 49.5 +0.9**
MBDF Montbardon 54.56 336 *eP* **P 08 33 50.9 +0.6**
comp=Z,22nm,1.2s
MBDF Montbardon 54.56 336 *eP* **P 08 33 50.9 +0.6**
MBDF pmax pmax
comp=Z,23nm,1.2s
MBDF Montbardon 54.56 336 *eP* **P 08 33 50.9 +0.6**
comp=Z,22nm,1.2s
AKASG Malin Array Be 54.62 356 P **P 08 33 50.2 -0.2**
AKASG Malin Array Be 54.62 356 P **P 08 33 50.2 -0.2**
AKASG Malin Array Be 54.62 356 P **P 08 33 50.2 -0.2**
comp=Z,0.6nm,0.4s,baz=178,slow=6.3,SNR=6.9
MOA Molln 54.62 343⇑ *iP* **P 08 33 51.3 +0.7**
comp=Z,19nm,1.6s
BNI Bardonecchia 54.86 336 *eP* **P 08 33 54.2 +1.7**
BNI pmax pmax
comp=Z,10.0nm,1.2s
BNI Bardonecchia 54.86 336 *eP* **P 08 33 54.2 +1.7**
comp=Z,10nm,1.2s
LPG La Plagne 55.20 336 *eP* **P 08 33 56.5 +1.4**
comp=Z,30nm,1.2s
LPG La Plagne 55.20 336 *eP* **P 08 33 56.5 +1.4**
LPG pmax pmax
comp=Z,30nm,1.2s
LPG La Plagne 55.20 336 *eP* **P 08 33 56.5 +1.4**
comp=Z,30nm,1.2s
LPL La Plagne 55.22 336 *eP* **P 08 33 56.7 +1.5**
LPL La Plagne 55.22 336 *eP* **P 08 33 56.7 +1.5**
LPL La Plagne 55.22 336 *eP* **P 08 33 56.7 +1.5**
VRAC Vranov 55.33 346 P **P 08 33 55.5 -0.1**
VRAC Vranov 55.33 346 ⇓ *iP* **P 08 33 56.3 +0.7**
VRAC Vranov 55.33 346 P **P 08 33 55.5 -0.1**
comp=Z,3.3nm,0.3s,baz=158,slow=5.4,SNR=4.0
MORC Moravsky Berou 55.54 346⇑P **P 08 33 56.1 -1.1**
MORC Moravsky Berou 55.54 346 *eP* **P 08 33 57.7 +0.5**
comp=Z,50nm,2.2s
MORC Moravsky Berou 55.54 346⇑ *iP* **P 08 33 56.1 -1.1**
GEC2 GERESS Array S 55.68 343 *eP* **P 08 33 58.3 0.0**
comp=Z,12nm,1.3s
GEC2 GERESS Array S 55.68 343 *eP* **P 08 33 58.3 0.0**
GEC2 pmax pmax
comp=Z,12nm,1.3s
GERES GERESS Array B 55.68 343 P **P 08 33 58.1 -0.2**
GERES GERESS Array B 55.68 343 P **P 08 33 58.1 -0.2**
comp=Z,4.6nm,0.9s,baz=152,slow=9.0,SNR=11
GERES LR LR 09 02 44.7
comp=Z,281nm,18.0s,baz=311,slow=41
KHC Kasperske Hory 55.98 343 *eP* **P 08 34 00.1 -0.3**
KHC pmax pmax
comp=Z,9.0nm,1.0s
KHC Kasperske Hory 55.98 343 *eP* **P 08 34 00.1 -0.3**
comp=Z,9.4nm,1.0s
KHC Kasperske Hory 55.98 343 *eP* **P 08 34 00.0 -0.3**
ESDC Sonseca Array 56.16 324 P **P 08 34 02.2 +0.3**
ESDC Sonseca Array 56.16 324 P **P 08 34 02.2 +0.3**
comp=Z,7.9nm,0.9s,baz=131,slow=7.1,SNR=17
ESDC LR LR 08 59 52.1
comp=Z,353nm,19.8s,baz=135,slow=38
EPF Esparros 56.17 330 *eP* **P 08 34 03.1 +1.3**
comp=Z,24nm,1.4s
EPF Esparros 56.17 330 *eP* **P 08 34 03.1 +1.3**
EPF pmax pmax
comp=Z,24nm,1.4s
EPF Esparros 56.17 330 *eP* **P 08 34 03.1 +1.3**
comp=Z,24nm,1.4s
WET Wettzell 56.19 343 *eP* **P 08 34 00.5 -1.3**
comp=Z,5.0nm,1.0s
WET Wettzell 56.19 343 *eP* **P 08 34 00.5 -1.3**
WET pmax pmax
comp=Z,5.0nm,1.0s
DPC Dobruska-Polom 56.36 346 *eP* **P 08 34 03.1 0.0**
DPC Dobruska-Polom 56.36 346 *eP* **P 08 34 03.1 0.0**
CABF La Chapelle 56.37 337 *eP* **P 08 34 03.9 +0.6**
comp=Z,25nm,1.2s
CABF La Chapelle 56.37 337 *eP* **P 08 34 03.9 +0.6**
CABF pmax pmax
comp=Z,25nm,1.2s
CABF La Chapelle 56.37 337 *eP* **P 08 34 03.9 +0.6**
comp=Z,25nm,1.2s
ETSF Etsaut 56.53 329 *eP* **P 08 34 05.9 +1.5**
comp=Z,52nm,1.5s
ETSF Etsaut 56.53 329 *eP* **P 08 34 05.9 +1.5**
ETSF pmax pmax
comp=Z,52nm,1.5s
ETSF Etsaut 56.53 329 *eP* **P 08 34 05.9 +1.5**
comp=Z,52nm,1.5s
KKAR Karatay Array 56.80 31 *eP* **P 08 34 07.1 +0.8**
KKAR pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 56.80 31 *eP* **P 08 34 07.1 +0.8**
comp=Z,2.3nm,0.7s
ROTZ Rotzenmuhle 56.95 343 *eP* **P 08 34 07.1 -0.1**
comp=Z,8.0nm,1.3s
HINF Hinteralfeld 57.07 338 *eP* **P 08 34 08.6 +0.5**
HINF Hinteralfeld 57.07 338 *eP* **P 08 34 08.6 +0.5**
HINF Hinteralfeld 57.07 338 *eP* **P 08 34 08.6 +0.5**
GRF Grafenberg Arr 57.18 342 *eP* **P 08 34 09.1 +0.3**
comp=Z,67nm,2.6s
GRF *eL* L 08 59 29.0
comp=Z,182nm,21.0s
GRF Grafenberg Arr 57.18 342 *eP* **P 08 34 09.1 +0.3**
GRF pmax pmax
comp=Z,67nm,2.6s
GRF MLR MLR
comp=Z,200nm,21.0s
ECH Echery 57.29 338 *eP* **P 08 34 10.1 +0.5**
ECH pmax pmax
comp=Z,10.0nm,1.3s
ECH Echery 57.29 338 *eP* **P 08 34 10.1 +0.5**
comp=Z,10.0nm,1.3s
RJF Les Rejaudoux 57.30 333 *eP* **P 08 34 10.1 +0.3**
RJF Les Rejaudoux 57.30 333 *eP* **P 08 34 10.1 +0.3**
RJF Les Rejaudoux 57.30 333 *eP* **P 08 34 10.1 +0.3**
CDF Champ du Feu 57.41 339 *eP* **P 08 34 10.9 +0.3**
comp=Z,13nm,0.9s
CDF Champ du Feu 57.41 339 *eP* **P 08 34 10.9 +0.3**
CDF pmax pmax
comp=Z,13nm,0.9s
CDF Champ du Feu 57.41 339 *eP* **P 08 34 10.9 +0.3**
comp=Z,13nm,0.9s
HAU Haudompre 57.42 338 *eP* **P 08 34 11.1 +0.5**
comp=Z,19nm,1.1s
HAU Haudompre 57.42 338 *eP* **P 08 34 11.1 +0.5**
HAU pmax pmax
comp=Z,19nm,1.1s
HAU Haudompre 57.42 338 *eP* **P 08 34 11.1 +0.5**
comp=Z,19nm,1.1s
KSH Kashi 57.43 37 *eP* P 08 34 07.4 -3.5
KSH pP pP 08 34 10.6 -7.3
KSH sP sP 08 34 14.4 -6.2
KSH PcP **PcP 08 35 00.8 -3.8**
KSH PP **PP 08 36 14.8 -3.8**
KSH ScP **ScP 08 38 59.1 -4.3**
KSH PcS **PcS 08 39 00.8 -5.0**
KSH S S 08 41 59.1 -7.9
KSH sS sS 08 42 07.4 -11
KSH ScS **ScS 08 43 52.4 -7.0**
KSH SS SS 08 45 48.3 -8.7
KSH pmax pmax
comp=Z,92nm,5.9s
KSH LR LR
comp=N,310nm,9.2s
KSH LR LR
comp=E,330nm,14.6s
KSH LR LR
comp=Z,170nm,8.8s
TANN Tannenbergstha 57.45 343 *eP* **P 08 34 12.2 +1.4**
comp=Z,31nm,2.0s
AKTO Aktyubinsk 57.70 17 P **P 08 34 12.7 +0.3**
AKTO Aktyubinsk 57.70 17 P **P 08 34 12.7 +0.3**
AKTO Aktyubinsk 57.70 17 P **P 08 34 12.7 +0.3**
comp=Z,2.2nm,0.8s,baz=208,slow=5.9,SNR=8.0
TCF Toulx Ste Croi 57.74 334 *eP* **P 08 34 12.9 0.0**
comp=Z,105nm,1.7s
TCF Toulx Ste Croi 57.74 334 *eP* **P 08 34 12.9 0.0**
TCF pmax pmax
comp=Z,105nm,1.7s
TCF Toulx Ste Croi 57.74 334 *eP* **P 08 34 12.9 0.0**
comp=Z,105nm,1.7s
LOR Lormes 57.81 336 *eP* **P 08 34 13.7 +0.4**
LOR Lormes 57.81 336 *eP* **P 08 34 13.7 +0.4**
EVO Evora 57.90 321 *eP* **P 08 34 15.3 +1.2**
comp=Z,28nm,1.2s
MOX Moxa 57.90 343 *eP* **P 08 34 14.6 +0.7**
comp=Z,9.0nm,1.4s
MOX Moxa 57.90 343 *eP* **P 08 34 14.6 +0.7**
MOX pmax pmax
comp=Z,9.0nm,1.4s
EVOP Sao Brissos 57.96 321 *eP* **P 08 34 15.3 +0.8**
EVOP pmax pmax
comp=Z,28nm,1.2s
EVOP Sao Brissos 57.96 321 *eP* **P 08 34 15.3 +0.8**
comp=Z,28nm,1.2s
SFTF Sexfontaines 58.09 337 *eP* **P 08 34 15.8 +0.6**
comp=Z,14nm,0.8s
SFTF Sexfontaines 58.09 337 *eP* **P 08 34 15.8 +0.6**
comp=Z,14nm,0.8s
CLL Collm 58.10 344 *eP* **P 08 34 15.0 -0.2**
CLL MLR MLR
comp=Z,300nm,18.4s
CLL Collm 58.10 344 *eP* **P 08 34 15.0 -0.2**
CLL *eSS* SS 08 46 06.0 -0.9
CLL Lm MLR 09 03 00.0
comp=Z,300nm,18.4s
PAGF Fort de Pagny 58.11 338 *eP* **P 08 34 15.6 +0.2**
PAGF Fort de Pagny 58.11 338 *eP* **P 08 34 15.6 +0.2**
AAK Ala-Archa 58.59 33 *eP* **P 08 34 19.4 +0.3**
AAK pmax pmax
comp=Z,25nm,1.7s
AAK Ala-Archa 58.59 33 *eP* **P 08 34 20.1 +1.0**
comp=Z,119nm,1.9s
AAK Ala-Archa 58.59 33 P **P 08 34 19.4 +0.3**
comp=Z,0.8nm,0.7s,baz=240,slow=9.6,SNR=7.8
OBN Obninsk 58.84 1 *eP* **P 08 34 20.6 +0.3**
OBN *i* 08 35 11.1
OBN *i* 08 36 32.9
OBN *eS* S 08 42 40.9 +16
OBN pmax pmax
comp=Z,17nm,1.2s
OBN MLR MLR
comp=Z,100nm,15.0s
TKM2 Tokmak 2 59.39 34 *eP* **P 08 34 25.1 +0.4**
TKM2 pmax pmax
comp=Z,9.0nm,1.4s
TKM2 Tokmak 2 59.39 34 *eP* **P 08 34 25.1 +0.4**
comp=Z,8.6nm,1.4s
GIVF Givet 59.71 338 *eP* **P 08 34 27.0 +0.5**
GIVF Givet 59.71 338 *eP* **P 08 34 27.0 +0.5**
GIVF Givet 59.71 338 *eP* **P 08 34 27.0 +0.5**
ARU Arti 63.19 14*d iP* **P 08 34 50.2 +0.4**
ARU 08 37 05.7
ARU S **S 08 43 23.1 +3.2**
ARU pmax pmax
comp=Z,19nm,2.5s
ARU MLR MLR
comp=Z,337nm,21.0s
LSA Lhasa 63.37 54 *eP* **P 08 34 53.3 +1.1**
LSA pmax pmax
comp=Z,3.0nm,0.7s
LSA Lhasa 63.37 54 *eP* **P 08 34 53.2 +1.1**
comp=Z,2.9nm,0.7s
BRVK Borovoye 64.11 23*ceP* **P 08 34 57.5 +1.5**
BRVK pmax pmax
comp=Z,6.0nm,2.5s
PSI Prapat 64.38 85 LR LR 08 59 47.5
comp=Z,117nm,19.2s,baz=216,slow=33
KLMR Klimovskoe 64.68 3 *eP* **P 08 34 58.3 -1.3**
KLMR pmax pmax
comp=Z,16nm,1.3s
KLMR MLR MLR
comp=Z,245nm,16.0s
SYO Syowa Base 65.07 178‖ *eX* **PcP 08 35 31.0 -3.6**
MKAR Makanchi Array 65.52 34 P **P 08 35 05.6 +0.2**
MKAR Makanchi Array 65.52 34 P **P 08 35 05.6 +0.2**
MKAR Makanchi Array 65.52 34 P **P 08 35 05.6 +0.2**
comp=Z,3.2nm,0.7s,baz=230,slow=7.0,SNR=26
MKAR LR LR 09 04 47.9
comp=Z,148nm,18.2s,baz=170,slow=37
FINES FINESS Array B 65.53 355 P **P 08 35 05.2 +0.2**
FINES FINESS Array B 65.53 355 P **P 08 35 05.2 +0.2**
comp=Z,4.6nm,0.7s,baz=169,slow=8.3,SNR=14
HFS Hagfors 65.99 349 P **P 08 35 08.2 +0.2**
HFS Hagfors 65.99 349 P **P 08 35 08.2 +0.2**
comp=Z,2.2nm,0.7s,baz=167,slow=7.1,SNR=4.8
KURK Kurchatov 66.07 29 *eP* **P 08 35 09.7 +0.9**
KURK pmax pmax
comp=Z,7.0nm,0.8s
KURK Kurchatov 66.07 29 *eP* **P 08 35 09.7 +0.9**
comp=Z,6.6nm,0.8s
KAF Kangasniemi 66.17 356 *eP* **P 08 35 08.1 -1.1**
KAF pmax pmax
comp=Z,5.0nm,0.8s
KAF Kangasniemi 66.17 356 *ep* **P 08 35 08.1 -1.1**
comp=Z,4.5nm,0.8s
MAW Mawson 66.41 169 LR LR 09 00 29.5
comp=Z,389nm,19.1s,baz=325,slow=33
IPM Ipoh 66.64 83 *eP* **P 08 35 14.8 +1.5**
comp=Z,41nm,1.3s
IPM Ipoh 66.64 83 P **P 08 35 14.4 +1.2**
comp=Z,27nm,1.7s
JOF Joensuu 66.71 358 *eP* **P 08 35 10.4 -2.2**
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 66.71 358 *ep* **P 08 35 10.4 -2.2**
comp=Z,2.5nm,0.7s
CMAR Chiang Mai Arr 66.89 68 P **P 08 35 15.3 +0.6**
CMAR Chiang Mai Arr 66.89 68 P **P 08 35 15.3 +0.6**
comp=Z,2.7nm,0.9s,baz=259,slow=7.8,SNR=19
CMAR LR LR 09 04 17.1
comp=Z,66nm,20.8s,baz=39,slow=36
CHTO Chiang Mai 66.97 68 P **P 08 35 17.0 +1.8**
comp=Z,9.9nm,2.0s
WMQ Urumqi 67.09 39 P **P 08 35 16.8 +1.3**
WMQ pP **pP 08 35 24.0 +1.4**
WMQ *eS* **S 08 44 09.0 +0.5**
WMQ pmax pmax
comp=Z,11nm,1.0s
WMQ pmax pmax
comp=Z,200nm,4.6s
WMQ LR LR
comp=N,220nm,21.2s
WMQ LR LR
comp=E,290nm,24.0s
WMQ LR LR
comp=Z,240nm,25.8s
NAO01 NORSAR Array S 67.21 348 *eP* **P 08 35 15.5 -0.4**
comp=Z,9.8nm,0.9s
NB2 NORSAR Subarra 67.32 348 P **P 08 35 16.3 -0.3**
comp=Z,13nm,1.2s,baz=155,slow=6.2
NOA NORSAR Array B 67.32 348 P **P 08 35 16.8 +0.2**
NOA NORSAR Array B 67.32 348 P **P 08 35 16.8 +0.2**
comp=Z,3.6nm,0.8s,baz=156,slow=5.8,SNR=11
NOA LR LR 09 10 35.6
comp=Z,85nm,18.4s,baz=165,slow=41
NVS Novosibirsk 70.86 27 *i P* **P 08 35 38.5 -0.1**
NVS pmax pmax
comp=Z,73nm,2.1s
NVS pmax pmax
comp=N,28nm,2.0s
NVS pmax pmax
comp=E,24nm,2.3s
ZALV Zalesovo Beam 71.06 29 P **P 08 35 39.1 -0.8**
ZALV Zalesovo Beam 71.06 29 P **P 08 35 39.1 -0.8**
ZALV Zalesovo Beam 71.06 29 P **P 08 35 39.1 -0.8**
comp=E,2.5nm,0.8s,baz=213,slow=5.0,SNR=4.4
ZALV LR LR 09 07 47.8
comp=E,187nm,18.8s,baz=235,slow=37
KMI Kunming 71.83 62 P **P 08 35 43.9 -1.6**
KMI pP **pP 08 35 50.5 -2.1**
KMI sP **sP 08 35 52.1 -3.1**
KMI pmax pmax
comp=Z,14nm,1.2s
KMI pmax pmax
comp=Z,250nm,4.4s
KMI LR LR
comp=Z,55nm,29.5s
GTA Gaotai 73.49 47 P **P 08 35 56.1 +1.2**
GTA pP **pP 08 36 00.9 -1.2**
GTA sP **sP 08 36 03.3 -1.4**
GTA S **SKiKP 08 45 27.3 +2.6**
GTA sS **sS 08 45 35.6 +0.1**
GTA pmax pmax
comp=Z,7.0nm,1.6s
GTA pmax pmax
comp=Z,80nm,6.4s
GTA LR LR
comp=N,170nm,17.1s
GTA LR LR
comp=E,200nm,16.6s
GTA LR LR
comp=Z,130nm,15.2s
ARCES ARCESS Array B 73.58 357 P **P 08 35 54.4 -0.2**
ARCES ARCESS Array B 73.58 357 P **P 08 35 54.4 -0.2**
comp=Z,4.1nm,0.8s,baz=183,slow=6.0,SNR=9.9
ARCES LR LR 09 13 24.8
comp=Z,130nm,19.0s,baz=76,slow=40
LZH Lanzhou 75.53 51 *eP* **P 08 36 08.5 +1.6**
LZH pP **pP 08 36 11.8 -2.3**
LZH sP **sP 08 36 13.3 -3.4**
LZH PP **PP 08 39 00.3 +3.9**
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,66nm,7.5s
LZH LR LR
comp=N,350nm,17.0s
LZH LR LR
comp=E,300nm,16.8s
LZH LR LR
comp=Z,350nm,18.6s
GYA Guiyang 75.58 62 P **P 08 36 08.3 +1.0**
GYA PP **PP 08 39 00.8 +3.8**
GYA S **S 08 45 48.4 +0.9**
GYA SKS **SKSac 08 46 13.8 -2.8**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,90nm,4.9s
GYA LR LR
comp=N,560nm,19.8s
GYA LR LR
comp=E,490nm,20.0s
GYA LR LR
comp=Z,540nm,19.4s
ZAK Zakamensk 79.47 37 *eP* **P 08 36 29.7 +1.1**
ZAK pmax pmax
comp=Z,2.0nm,2.2s

SONM	Songino Array	80.64	40	P		P	08 36 36.2	+1.3
SONM	Songino Array	80.64	40	P		P	08 36 36.2	+1.3
	comp=Z,2.4nm,0.9s,baz=249,slow=4.3,SNR=12							
SONM				LR		LR	09 14 45.5	
	comp=Z,127nm,18.2s,baz=70,slow=38							
ULN	Ulaanbaatar	81.07	40	eP		P	08 36 37.6	+0.3
	comp=Z,7.8nm,1.3s							
ULN	Ulaanbaatar	81.07	40	P		P	08 36 39.3	+2.0
BDFB	Brasilia	82.09	255	LR		LR	09 09 06.5	
	comp=Z,93nm,18.1s,baz=36,slow=33							
HHC	Hu-ho-hao-te	82.55	48	eP		P	08 36 46.0	+0.8
HHC				sP		sP	08 36 51.6	-3.4
HHC				PP		PP	08 39 57.1	+2.4
HHC				S		S	08 47 01.8	+0.6
HHC				sS		SKKSac	08 47 08.8	-0.3
HHC				pmax	pmax			
	comp=Z,21nm,0.6s							
HHC				pmax	pmax			
	comp=Z,230nm,3.8s							
HHC				LR	LR			
	comp=N,130nm,15.5s							
HHC				LR	LR			
	comp=E,260nm,14.3s							
HHC				LR	LR			
	comp=Z,170nm,15.5s							
WHN	Wuhan	82.96	59	P		P	08 36 42.0	-5.4
BJI	Beijing	85.87	50	P		P	08 37 02.3	+0.4
BJI				S		S	08 47 32.6	-1.6
BJI				LR	LR			
	comp=Z,47nm,23.5s							
NJ2	Nanjing	86.98	58	eP		P	08 37 07.1	-0.5
NJ2				pmax	pmax			
	comp=Z,30nm,1.2s							
BOD	Bodaibo	87.53	32	eP		P	08 37 08.6	-1.0
BOD				pmax	pmax			
	comp=Z,4.0nm,1.7s							
FITZ	Fitzroy Crossi	89.55	108	LR		LR	09 12 34.1	
	comp=Z,157nm,20.0s,baz=267,slow=32							
CN2	Changchun	93.11	46	eP		P	08 37 36.8	+0.7
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
MDJ	Mudanjiang	96.11	46	P		P	08 37 49.8	0.0
MDJ				pmax	pmax			
	comp=Z,210nm,4.9s							
WRA	Warramunga Arr	97.57	111	LR		LR	09 17 59.8	
	comp=Z,102nm,18.0s,baz=210,slow=33							
SCHQ	Schefferville	99.92	325	LR		LR	09 24 05.5	
	comp=Z,191nm,18.1s,baz=20,slow=36							
YKA	Yellowknife Ar	117.33	345	PKP		PKPdf	08 43 07.5	+0.4
YKA	Yellowknife Ar	117.33	345	PKP		PKPdf	08 43 07.5	+0.4
	comp=Z,0.2nm,0.9s,baz=28,slow=2.5,SNR=3.7							
ILAR	Eielson Array	119.25	1	PKP		PKPdf	08 43 10.7	-0.1
ILAR	Eielson Array	119.25	1	PKP		PKPdf	08 43 10.7	-0.1
	comp=Z,0.6nm,0.9s,baz=316,slow=2.5,SNR=5.2							
C22A	Vida	124.85	329	↑P		PKPdf	08 43 23.3	+1.2
	baz=125							
D22A	Cohagen	125.38	328	↓P		PKPdf	08 43 24.8	+1.7
	baz=125							
C21A	Desert Coulee	125.42	329	↓P		PKPdf	08 43 24.8	+1.6
	baz=125							
D21A	La Casta Ranch	125.86	329	↓P		PKPdf	08 43 25.4	+1.3
	baz=126							
B19A	Brinkman Farms	125.91	331	↓P		PKPdf	08 43 25.3	+1.2
	baz=126							
H24A	Dirks Ranch, A	125.97	325	↑P		PKPdf	08 43 25.1	+0.7
	baz=126							
A18A	Metzger Ranch,	126.02	332	↓P		PKPdf	08 43 25.4	+1.1
	baz=126							
DZM	Mont Dzumac	126.09	121	eLR		LR	09 22 41.3	
	comp=Z,168nm,24.5s							
CBKS	Cedar Bluff	126.12	316	↑P		PKPdf	08 43 25.4	+0.7
	baz=126							
B18A	Beardsley Farm	126.36	331	↓P		PKPdf	08 43 26.4	+1.4
	baz=126							
D20A	Manuel Ranch,	126.43	329	↑P		PKPdf	08 43 26.7	+1.5
	baz=126							
C19A	Slack Wire Ran	126.46	330	↑P		PKPdf	08 43 26.5	+1.3
	baz=126							
EGMT	Eagleton	126.60	331	↑P		PKPdf	08 43 26.5	+1.0
	baz=126							
D19A	Cripps Ranch,	126.76	330	↓P		PKPdf	08 43 27.1	+1.3
	baz=127							
A16A	West Butte Ran	126.81	333	↑P		PKPdf	08 43 27.4	+1.5
	baz=127							
B17A	L&G Farms, Che	126.91	332	↑P		PKPdf	08 43 27.1	+1.0
	baz=127							
B16A	M & M Farms, S	127.25	333	↑P		PKPdf	08 43 27.6	+0.9
	baz=127							
A15A	Johnson Ranch,	127.30	334	↓P		PKPdf	08 43 27.6	+0.8
	baz=127							
C17A	Wharram Farm,	127.36	331	↓P		PKPdf	08 43 28.1	+1.1
	baz=127							
A14A	Double T Ranch	127.60	334	↑P		PKPdf	08 43 28.7	+1.3
	baz=128							
D17A	Six Diamond Ra	127.66	331	↑P		PKPdf	08 43 29.2	+1.6
	baz=128							
F19A	Roth Farm, Mol	127.67	329	↑P		PKPdf	08 43 29.0	+1.4
	baz=128							
C16A	Fuhringer Ranc	127.71	332	↓P		PKPdf	08 43 28.6	+1.0
	baz=128							
G20A	Bridger	127.71	328	↑P		PKPdf	08 43 28.8	+1.1
	baz=128							
B15A	Bradely Ranch,	127.71	333	↑P		PKPdf	08 43 28.4	+0.8
	baz=128							
B14A	Marquette Ranc	128.00	333	↑P		PKPdf	08 43 29.1	+0.9
	baz=128							
A13A	Flathead Natio	128.06	335	↓P		PKPdf	08 43 29.2	+0.9
	baz=128							
P26A	Davis Ranch, A	128.17	319	↑P		PKPdf	08 43 29.5	+0.7
	baz=128							
R27A	Eads	128.47	317	↓P		PKPdf	08 43 30.2	+0.8
	baz=128							
I20A	Worland	128.48	326	↑P		PKPdf	08 43 30.2	+1.0
	baz=128							
B13A	Whitefish	128.51	334	↑P		PKPdf	08 43 30.4	+1.3
	baz=128							
F17A	Fitzpatrick Pl	128.52	330	↓P		PKPdf	08 43 30.5	+1.2
	baz=128							
D15A	Lincoln	128.62	332	↓P		PKPdf	08 43 30.2	+0.7
	baz=128							
C14A	Swan Lake	128.65	333	↑P		PKPdf	08 43 30.8	+1.4
	baz=129							
I19A	Meeteetse	128.90	327	↑P		PKPdf	08 43 30.8	+0.6
	baz=129							
D14A	Greenough	129.05	333	↑P		PKPdf	08 43 31.0	+0.7
	baz=129							
C13A	Hot Springs	129.08	334	↓P		PKPdf	08 43 31.3	+1.1
	baz=129							
Q25A	Bedland, Calha	129.10	319	↑P		PKPdf	08 43 31.7	+1.0
	baz=129							
S26A	Kim	129.27	317	↑P		PKPdf	08 43 31.8	+0.8
	baz=129							
MSO	Missoula	129.44	333	↑P		PKPdf	08 43 32.3	+1.3
	baz=129							
C12B	Naegeli Ranch,	129.46	334	↓P		PKPdf	08 43 32.1	+1.2
	baz=129							
D13A	Huson	129.47	333	↑P		PKPdf	08 43 32.3	+1.3
	baz=129							
R25A	Fountain Ranch	129.54	318	↓P		PKPdf	08 43 32.9	+1.4
	baz=130							
E13A	Victor	129.84	332	↑P		PKPdf	08 43 32.7	+1.0
	baz=130							
P23A	Jefferson	129.88	320	↑P		PKPdf	08 43 33.4	+1.1
	baz=130							
D12A	Red Ives Fores	129.90	334	↓P		PKPdf	08 43 32.8	+1.0
	baz=130							
G15A	Dillon	129.95	330	↓P		PKPdf	08 43 33.8	+1.7
	baz=130							
J18A	Kendall Valley	130.00	327	↓P		PKPdf	08 43 33.4	+1.1
	baz=130							
PDAR	Pinedale Array	130.04	326	PKP		PKPdf	08 43 32.7	+0.3
PDAR	Pinedale Array	130.04	326	PKP		PKPdf	08 43 32.7	+0.3
	comp=Z,0.9nm,0.9s,baz=45,slow=1.7,SNR=6.9							
BW06	Boulder Array	130.04	326	↑P		PKPdf	08 43 33.8	+1.4
	baz=130							
Y28A	McKinney Farm,	130.20	312	↑P		PKPdf	08 43 34.3	+1.5
	baz=130							
P22A	Eagle	130.34	321	↓P		PKPdf	08 43 34.0	+0.9
	baz=130							
R23A	Moffat	130.54	319	↓P		PKPdf	08 43 34.2	+0.6
	baz=130							
U25A	Circle Dot Ran	130.54	316	↑P		PKPdf	08 43 34.8	+1.3
	baz=130							
430A	Baggett Ranch,	130.77	308	↑P		PKPdf	08 43 35.5	+1.6
	baz=131							
G13A	Cobalt	130.86	331	↓P		PKPdf	08 43 35.2	+1.4
	baz=131							
J14A	Carey	131.78	329	↓P		PKPdf	08 43 36.7	+1.2
	baz=132							
T22A	Edith	131.90	318	↑P		PKPdf	08 43 37.4	+1.2
	baz=132							
L15A	Malad City	132.11	327	↓P		PKPdf	08 43 37.8	+1.6
	baz=132							
R20A	Redvale	132.19	320	↓P		PKPdf	08 43 37.9	+1.4
	baz=132							
S20A	Disappointment	132.38	320	↑P		PKPdf	08 43 38.2	+1.2
	baz=132							
Y23A	Lovelace Mesa,	132.96	314	↓P		PKPdf	08 43 39.7	+1.6
	baz=133							
426A	McDonald Obser	133.00	309	↑P		PKPdf	08 43 39.6	+1.3
	baz=133							
224A	Cornudas Mount	133.49	312	↑P		PKPdf	08 43 41.0	+1.8
	baz=133							
MNTX	Cornudas Mount	133.56	311	↑P		PKPdf	08 43 39.7	+0.6
	baz=134							
X21A	Alamocita Cree	133.91	316	↓P		PKPdf	08 43 41.8	+1.8
	baz=134							
Y21A	Point of Rocks	134.07	315	↑P		PKPdf	08 43 41.6	+1.3
	baz=134							
Y20A	Horse Springs,	134.61	316	↓P		PKPdf	08 43 42.5	+1.2
	baz=135							
121A	Cookes Peak, D	134.92	314	↓P		PKPdf	08 43 42.6	+0.8
	baz=135							
Y19A	Nutrioso	135.19	316	↓P		PKPdf	08 43 43.6	+1.2
	baz=135							
220A	Playas Peak, P	135.78	313	↓P		PKPdf	08 43 45.0	+1.6
	baz=136							
320A	Kipp Ranch, An	136.08	313	↓P		PKPdf	08 43 46.0	+2.0
	baz=136							
319A	Douglas	136.61	313	↓P		PKPdf	08 43 47.0	+2.1
	baz=137							
TBI	Tubuai	152.58	171	eLR		LR	09 35 01.5	
	comp=Z,188nm,26.5s							
PPT2	Papeete2	158.19	169	eLR		LR	09 37 38.4	
	comp=Z,212nm,25.2s							

*IDC **16** 08:25:01.0±0.5, 3°.63N×126°.66E, h0km, mb4.2/17, mb1 4.3/18, mb1mx4.3/24, mbtmp4.2/18, ML4.2/1, MS3.4/4, Ms1 3.4/4, ms1mx2.8/29, Error ellipse: s-maj=31.3km s-min=9.1km az=73.0*

*ISCJB **16** 08:25:05.1±0.4, 3°.77N±0°.04×126°.82E±0°.08, h36km, mb4.2/20, MS3.3/4, Error ellipse: s-maj=10.9km s-min=6.2km az=176.3*

*DJA **16** 08:25:05.6±0.6, 4°.4S×12°.7E±°, h10km, M4.7/7, mb4.7/5, mB5.1/3, MLv4.8/7, Mw(mB)4.4/3*

*NEIC **16** 08:25:06.5±0.3, 3°.65N×126°.59E, h35km, mb4.2/5, Error ellipse: s-maj=18.3km s-min=6.7km az=71.0*

ISC 16 08:25:07.2±0.5, 3°.84N±0°.06×126°.79E±0°.09, h36km, n56, σ1§47/49, mb4.2/19, MS3.4/4, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
					Op	ISC	h m s	ISC
GSPH	General Santos	2.89	321	↑eP	Pn	Pn	08 25 53.3	+2.4
MNI	Manado	3.07	219	P	Pn	Pn	08 25 52.4	-0.9
TNTI	Ternate	3.10	169	P	Pn	Pn	08 25 52.8	-0.8
DAV	Davao City (W)	3.43	339	Pn	Pn	Pn	08 25 57.6	-0.6
DAV				Sn	Sn	Sn	08 26 48.0	+10
DAV	Davao City (W)	3.43	339	P	Pn	Pn	08 26 02.8	+4.6
DAV	Davao City (W)	3.43	339	Pn	Pn	Pn	08 25 57.6	-0.6
	20nm,0.3s,baz=205,slow=14,SNR=1.9							
DAV				Sn	Sn	Sn	08 26 48.0	+10
	20nm,0.3s,baz=162,slow=20,SNR=3.0							
CTBH	Cotabato--PC H	4.21	323	↑iP	Pn	Pn	08 26 13.7	+4.8
KMSI	Cibinong	4.29	221	P	Pn	Pn	08 26 14.8	+4.8
LBMI	Labuha	4.50	171	P	Pn	Pn	08 26 07.3	-5.6
MRSI	Marisa	5.88	236	P	Pn	Pn	08 26 31.3	-0.6
	137nm,0.9s,1μm0.5nm							
LUWI	Luwuk	6.29	220	P	Pn	Pn	08 26 39.4	+1.8
	196nm,0.9s,2μm0.8nm							
MSAI	Masohi	7.45	163	P	Pn	Pn	08 26 55.7	+2.2
	8.3nm,0.5s,1μm0.2nm							
MYLDM	Lahad Datu	8.37	279	P	Pn	Pn	08 27 12.4	+6.3
	35nm,1.2s							
TTSI	Tana Toraja	9.76	226	P	Pn	Pn	08 27 26.9	+1.7
FITZ	Fitzroy Crossi	21.83	183	eP	P	P	08 29 53.6	-3.0
	2.4nm,0.6s							
FITZ	Fitzroy Crossi	21.83	183	P	P	P	08 29 53.8	-2.8
	2.6nm,0.5s,baz=353,slow=9.9,SNR=7.4							
WRAB	Tennant Creek	24.76	163	eP	P	P	08 30 23.2	-2.6
	22nm,0.8s							
WRA	Warramunga Arr	24.77	163	P	P	P	08 30 22.5	-3.3
WRA				S	S	S	08 34 46.0	+0.1
WRA	Warramunga Arr	24.77	163	P	P	P	08 30 22.5	-3.3
	16nm,0.8s,baz=345,slow=11,SNR=87							
WRA				S	S	S	08 34 46.0	+0.1
	0.9nm,0.7s,baz=332,slow=21,SNR=4.3							
AS31	Alice Springs	28.20	166	eP	P	P	08 30 56.7	0.0
ASAR	Alice Springs	28.20	166	P	P	P	08 30 54.0	-2.8
ASAR				S	S	S	08 35 42.1	+1.9
ASAR	Alice Springs	28.20	166	P	P	P	08 30 54.0	-2.8
	0.9nm,0.5s,baz=345,slow=6.9,SNR=23							
ASAR				S	S	S	08 35 42.1	+1.9
	0.4nm,0.8s,baz=329,slow=14,SNR=3.0							
JNU	Nakatsue	29.38	7	LR	LR	LR	08 41 34.5	
	comp=Z,54nm,21.4s,baz=232,slow=34							
CMAR	Chiang Mai Arr	30.87	300	P	P	P	08 31 19.4	-1.0
CMAR	Chiang Mai Arr	30.87	300	P	P	P	08 31 19.5	-1.0
	1.2nm,0.4s,baz=107,slow=7.0,SNR=8.4							
JHJ	Hachijo jima 2	31.56	21	LR	LR		08 43 47.8	
	comp=Z,39nm,20.1s,baz=356,slow=35							
KSAR	Wonju Array Be	33.46	2	P	P	P	08 31 43.7	+0.8
KSRS	Korea Array	33.47	2	P	P	P	08 31 43.7	+0.7
	2.0nm,0.7s,baz=183,slow=9.8,SNR=5.6							
MJAR	Matsushiro Arr	34.20	16	LR	LR	LR	08 43 44.0	
	comp=Z,97nm,18.2s,baz=155,slow=33							
STKA	Stephens Creek	38.21	159	eP	P	P	08 32 22.0	-1.7
	1.8nm,0.8s							
STKA	Stephens Creek	38.21	159	P	P	P	08 32 21.2	-2.4
	7.7nm,0.6s,baz=337,slow=7.8,SNR=16							
USRK	Ussuriysk Arra	40.46	6	P	P	P	08 32 43.3	+1.0
	1.1nm,0.5s,baz=210,slow=8.9,SNR=3.2							
SONM	Songino Array	47.22	341	P	P	P	08 33 36.8	+0.1
SONM	Songino Array	47.22	341	P	P	P	08 33 36.8	+0.1
	0.7nm,0.5s,baz=160,slow=8.3,SNR=8.0							
SONM				LR	LR	LR	08 53 42.9	
	comp=Z,54nm,18.4s,baz=40,slow=36							
MSVF	Nonsavu	54.90	115	eP	P	P	08 34 36.5	+1.6
	30nm,1.8s							
PETK	Petropavlovsk-	55.31	22	P	P	P	08 34 38.5	+1.4
PETK	Petropavlovsk-	55.31	22	P	P	P	08 34 38.5	+1.4
	6.2nm,1.0s,baz=132,slow=0.6,SNR=4.4							
MK31	Makanchi Array	57.50	325	eP	P	P	08 34 52.9	-0.1
MKAR	Makanchi Array	57.50	325	P	P	P	08 34 52.3	-0.7
MKAR	Makanchi Array	57.50	325	P	P	P	08 34 52.3	-0.7
	1.9nm,0.5s,baz=120,slow=8.1,SNR=35							
AAK	Ala-Archa	60.32	318	P	P	P	08 35 12.6	-0.2
AAK	Ala-Archa	60.32	318	P	P	P	08 35 12.6	-0.2
	0.9nm,0.6s,baz=159,slow=8.6,SNR=2.2							
ZALV	Zalesovo Beam	60.52	333	P	P	P	08 35 13.7	+0.1
ZALV	Zalesovo Beam	60.52	333	P	P	P	08 35 13.7	+0.1
	0.4nm,0.3s,baz=122,slow=7.0,SNR=1.5							
BVAR	Borovoye Array	67.26	327	P	P	P	08 35 58.2	+0.1
BVAR	Borovoye Array	67.26	327	P	P	P	08 35 58.2	+0.1
	3.3nm,0.8s,baz=131,slow=7.9,SNR=4.5							
ABKAR	Akbulak array	72.11	321	eP	P	P	08 36 28.4	+0.4
	1.0nm,0.6s							
AKTO	Aktyubinsk	73.61	322	P	P	P	08 36 37.3	+0.4
AKTO	Aktyubinsk	73.61	322	P	P	P	08 36 37.3	+0.4
	1.8nm,0.7s,baz=117,slow=6.8,SNR=5.0							
ILAR	Eielson Array	84.98	25	P	P	P	08 37 39.4	+0.8
ILAR	Eielson Array	84.98	25	P	P	P	08 37 39.4	+0.8
	0.6nm,0.8s,baz=250,slow=5.8,SNR=4.8							
ARCES	ARCESS Array B	90.37	340	P	P	P	08 38 03.6	-0.9
ARCES	ARCESS Array B	90.37	340	P	P	P	08 38 03.6	-0.9
	5.4nm,1.0s,baz=72,slow=7.8,SNR=5.1							
YKA	Yellowknife Ar	99.38	24	P	Pdif	P	08 38 45.9	+0.2
YKA	Yellowknife Ar	99.38	24	P	Pdif	P	08 38 45.9	+0.2
	0.1nm,0.6s,baz=289,slow=3.8,SNR=2.8							
KHC	Kasperske Hory	102.02	322	ePdif	Pdif	Pdif	08 38 54.8	-3.0
	3.3nm,0.4s							

IDC 16 08:37:16.9±1.9, 3°.98N×126°.85E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=145.2km s-min=24.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.89	163	P	P	08 42 41.0	-0.6
	3.0nm,0.8s,baz=343,slow=11,SNR=13						
ASAR	Alice Springs	28.33	166	P	P	08 43 13.3	+0.6
	0.2nm,0.6s,baz=338,slow=7.5,SNR=3.5						
STKA	Stephens Creek	38.32	160	P	P	08 44 39.4	-0.1
	2.4nm,0.8s,baz=342,slow=9.7,SNR=6.0						
MKAR	Makanchi Array	57.42	325	P	P	08 47 07.4	0.0
	0.2nm,0.4s,baz=124,slow=7.8,SNR=6.4						

IDC 16 08:39:57.6±1.1, 3°.18N×126°.14E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, Error ellipse: s-maj=134.7km s-min=17.8km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.35	161	P	P	08 45 17.6	+0.1
	1.6nm,0.5s,baz=339,slow=11,SNR=14						
ASAR	Alice Springs	27.73	165	P	P	08 45 47.4	-0.6
	0.3nm,0.8s,baz=356,slow=9.7,SNR=4.2						
STKA	Stephens Creek	37.83	158	P	P	08 47 16.6	+0.5
	1.8nm,0.6s,baz=329,slow=9.0,SNR=8.2						
SONM	Songino Array	47.63	342	P	P	08 48 34.8	-0.9
	0.6nm,0.6s,baz=159,slow=8.4,SNR=5.6						
MKAR	Makanchi Array	57.67	326	P	P	08 49 49.7	-0.3
	0.8nm,0.6s,baz=125,slow=7.7,SNR=13						
BVAR	Borovoye Array	67.46	327	P	P	08 50 55.9	+0.7
	1.1nm,0.9s,baz=106,slow=4.8,SNR=3.7						

*IDC **16** 09:07:37.1±0.8, 3°.92N×126°.66E, h0km, mb3.9/9, mb1 4.1/9, mb1mx3.9/20, mbtmp3.9/9, Error ellipse: s-maj=55.6km s-min=14.9km az=69.0*

*ISCJB **16** 09:07:41.3±0.6, 3°.87N±0°.09×126°.5E±0°.1, h45km, mb3.9/10, Error ellipse: s-maj=21.8km s-min=10.6km az=154.5*

*NEIC **16** 09:07:42.2±0.5, 3°.86N×126°.57E, h35km, mb4.1/2, Error ellipse: s-maj=15.6km s-min=7.7km az=65.0*

ISC 16 09:07:43.4±0.8, 3°.9N±0°.1×126°.6E±0°.2, h45km, n21, σ0§49/25, mb3.9/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSM	Kuching	16.39	262	Pn	Pn	09 11 29.8	-0.6
FITZ	Fitzroy Crossi	21.83	182	P	P	09 12 32.0	0.0
FITZ	Fitzroy Crossi	21.83	182	P	P	09 12 32.0	0.0
	2.1nm,0.6s,baz=7.7,slow=11,SNR=4.0						
WRAB	Tennant Creek	24.84	162	eP	P	09 13 01.3	-0.5
	11nm,0.8s						
WRA	Warramunga Arr	24.85	162	P	P	09 13 01.6	-0.2
WRA	Warramunga Arr	24.85	162	P	P	09 13 01.6	-0.2
	10nm,0.7s,baz=344,slow=11,SNR=71						
ASAR	Alice Springs	28.27	166	P	P	09 13 32.6	0.0
ASAR	Alice Springs	28.27	166	P	P	09 13 32.6	0.0
	0.8nm,0.6s,baz=341,slow=7.6,SNR=11						
CMAR	Chiang Mai Arr	30.66	300	P	P	09 13 54.8	+0.9
CMAR	Chiang Mai Arr	30.66	300	P	P	09 13 54.8	+0.9
	0.9nm,0.3s,baz=120,slow=6.8,SNR=4.9						
STKA	Stephens Creek	38.30	159	eP	P	09 14 59.7	-0.1
	0.9nm,0.8s						
STKA	Stephens Creek	38.30	159	P	P	09 14 59.9	+0.1
	3.4nm,0.6s,baz=335,slow=8.9,SNR=7.0						
SONM	Songino Array	47.13	342	P	P	09 16 11.0	-0.3
SONM				PcP	PcP	09 17 42.6	+0.1
SONM	Songino Array	47.13	342	P	P	09 16 11.0	-0.3
	0.4nm,0.5s,baz=158,slow=8.1,SNR=4.1						
SONM				PcP	PcP	09 17 42.6	+0.1
	0.5nm,0.8s,baz=151,slow=3.3,SNR=3.5						
MK31	Makanchi Array	57.36	325	eP	P	09 17 26.3	-0.8
MKAR	Makanchi Array	57.36	325	P	P	09 17 26.4	-0.7
MKAR				PcP	PcP	09 18 21.2	+0.4
MKAR	Makanchi Array	57.36	325	P	P	09 17 26.4	-0.7
	1.0nm,0.5s,baz=119,slow=8.3,SNR=14						
MKAR				PcP	PcP	09 18 21.2	+0.4
	0.5nm,0.6s,baz=116,slow=4.2,SNR=2.9						
ZALV	Zalesovo Beam	60.40	333	P	P	09 17 47.7	-0.4
ZALV	Zalesovo Beam	60.40	333	P	P	09 17 47.7	-0.4
	0.4nm,0.5s,baz=151,slow=6.6,SNR=3.5						
YKA	Yellowknife Ar	99.47	24	P	Pdif	09 21 21.6	+0.4
YKA	Yellowknife Ar	99.47	24	P	Pdif	09 21 21.6	+0.4
	0.1nm,0.7s,baz=298,slow=4.9,SNR=3.1						

MEX 16 09:26:39.5±0.9, 16°.83N×98°.39W, h10km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.51	150	iP	Pg	09 26 47.8	-1.6
PNIG				eS	Sg	09 26 56.7	+0.6
UTMO	Huajuapan	1.14	29	eP	Pb	09 26 57.0	-4.6
UTMO				iS	Sb	09 27 12.2	-4.6
MEIG	Mezcala	1.60	313	iP	Pn	09 27 04.9	-3.1
MEIG				iS	Sn	09 27 24.2	-4.6
VHO	Vista Hermosa	1.61	81	iP	Pn	09 27 05.2	-3.1
VHO				iS	Sn	09 27 24.8	-4.4
CAIG	El Cayaco	1.81	277	iP	Pn	09 27 07.6	-3.1
CAIG				iS	Sn	09 27 28.9	-4.8
PLIG	Platanillo	1.88	326	eP	Pn	09 27 09.1	-2.7
PLIG				iS	Sn	09 27 31.6	-4.1
YAIG	Yautepec	2.12	342	eP	Pn	09 27 11.8	-3.5
YAIG				iS	Sn	09 27 38.1	-3.7
PPM	Popocatepetl	2.23	354	iP	Pn	09 27 13.9	-3.3
PPM				iS	Sn	09 27 41.1	-4.3
HUIG	Huatulco	2.44	115	eP	Pn	09 27 16.4	-3.0
HUIG				iS	Sn	09 27 45.6	-3.7

**KRSC 16 09:30:19.2±0.6, 52°.83N×159°.73E, h51km±31km, ML3.6, Off east coast of Kamchat

MS3.9/10,Error ellipse: s-maj=18.6km s-min=12.3km az=33.0
*NEIC **16** 10:05:41.4±0.3,60.37S×26.92W,h35km,mb4.8/4,Error ellipse: s-maj=12.9km s-min=8.7km az=205.0*

ISC 16 10:05:38.9±0.5,60.4S±0.1×26.9W±0.1,h19km,n53, σ0.80/49,mb4.5/12,MS3.8/10,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMSA	**Palmer Station**	**17.46**	**240**	LR		LR	10 15 08.2	
	comp=Z,272nm,19.4s,baz=81,slow=33							
MAIT	**Maitri**	**18.62**	**140**	*eP*		**P**	**10 09 52.7**	**-2.2**
USHA	**Ushuaia**	**22.63**	**266**	LR		LR	10 17 21.6	
	comp=Z,336nm,19.6s,baz=90,slow=31							
QSPA	**South Pole Qui**	**29.82**	**180**	*eP*		**P**	**10 11 45.0**	**+0.6**
	7.7nm,0.6s							
QSPA	**South Pole Qui**	**29.82**	**180**	LR		LR	10 21 17.5	
	comp=Z,137nm,18.7s,baz=357,slow=32							
TRQA	**Tornquist**	**31.41**	**299**	*eP*		**P**	**10 11 59.3**	**+0.7**
PLCA	**Paso Flores**	**33.17**	**286**	P		**P**	**10 12 14.5**	**+0.6**
PLCA	**Paso Flores**	**33.17**	**286**	P		**P**	**10 12 14.5**	**+0.6**
	1.6nm,0.8s,baz=70,slow=9.9,SNR=3.6							
PLCA				LR		LR	10 23 34.0	
	comp=Z,144nm,19.6s,baz=244,slow=32							
MAW	**Mawson**	**36.60**	**140**	LR		LR	10 26 22.8	
	comp=Z,209nm,18.5s,baz=113,slow=34							
CFAA	**Coronel Fontan**	**39.60**	**298**	P		**P**	**10 13 08.9**	**0.0**
CFAA	**Coronel Fontan**	**39.60**	**298**	P		**P**	**10 13 08.9**	**0.0**
	1.3nm,0.7s,baz=145,slow=7.2,SNR=20							
CPUP	**Villa Florida**	**39.92**	**315**	P		**P**	**10 13 11.7**	**+0.2**
CPUP	**Villa Florida**	**39.92**	**315**	P		**P**	**10 13 11.7**	**+0.2**
	2.1nm,0.3s,baz=140,slow=6.3,SNR=19							
CPUP				LR		LR	10 28 21.6	
	comp=Z,137nm,18.1s,baz=154,slow=34							
LCO	**Las Campanas**	**42.91**	**297**	P		**P**	**10 13 36.1**	**-0.2**
BOSA	**Boshof**	**47.05**	**72**	P		**P**	**10 14 09.9**	**+0.8**
BOSA	**Boshof**	**47.05**	**72**	P		**P**	**10 14 09.9**	**+0.8**
	3.9nm,0.9s,baz=204,slow=10,SNR=4.9							
BOSA				LR		LR	10 29 47.1	
	comp=Z,136nm,18.6s,baz=212,slow=31							
BDFB	**Brasilia**	**47.27**	**332**	LR		LR	10 31 22.8	
	comp=Z,105nm,21.5s,baz=5.8,slow=33							
LVC	**Limon Verde**	**47.74**	**303**	*eP*		**P**	**10 14 15.1**	**+0.3**
	0.4nm,0.4s							
LPAZ	**La Paz**	**53.11**	**308**	*eP*		**P**	**10 14 55.9**	**+0.1**
	6.5nm,0.5s							
SAML	**Samuel**	**58.05**	**316**	*eP*		**P**	**10 15 29.5**	**-1.0**
	4.2nm,0.6s							
DBIC	**Dimbokro**	**69.10**	**24**	P		**P**	**10 16 42.8**	**-0.6**
DBIC	**Dimbokro**	**69.10**	**24**	P		**P**	**10 16 42.8**	**-0.6**
	4.9nm,0.8s,baz=176,slow=6.9,SNR=5.6							
DBIC				LR		LR	10 39 11.8	
	comp=Z,77nm,19.8s,baz=338,slow=29							
TOA0	**Torodi Ar. Sit**	**76.81**	**29**	*eP*		**P**	**10 17 29.4**	**+0.4**
TORD	**Torodi Ar. Bea**	**76.81**	**29**	P		**P**	**10 17 29.7**	**+0.6**
TORD	**Torodi Ar. Bea**	**76.81**	**29**	P		**P**	**10 17 29.7**	**+0.6**
	19nm,0.6s,baz=199,slow=6.3,SNR=200							
TORD				LR		LR	10 47 39.7	
	comp=Z,44nm,18.2s,baz=175,slow=33							
SDV	**Santo Domingo**	**77.24**	**316**	*eP*		**P**	**10 17 31.0**	**-0.7**
	8.1nm,0.7s							
STKA	**Stephens Creek**	**87.55**	**170**	LR		LR	10 56 34.9	
	comp=Z,129nm,18.1s,baz=205,slow=35							
ASAR	**Alice Springs**	**94.76**	**162**	P		**P**	**10 19 00.5**	**+1.4**
ASAR				PKKPbc		**PKKPbc**	**10 35 53.7**	**+0.9**
ASAR	**Alice Springs**	**94.76**	**162**	P		**P**	**10 19 00.5**	**+1.4**
	0.3nm,0.5s,baz=182,slow=4.1,SNR=4.5							
ASAR				PKKPbc		**PKKPbc**	**10 35 53.7**	**+0.9**
	0.4nm,1.0s,baz=41,slow=2.1,SNR=4.4							
PDAR	**Pinedale Array**	**122.74**	**300**	PKP		**PKPdf**	**10 24 32.3**	**-0.4**
PDAR	**Pinedale Array**	**122.74**	**300**	PKP		**PKPdf**	**10 24 32.3**	**-0.4**
	0.5nm,0.6s,baz=125,slow=5.5,SNR=4.7							
NVAR	**Mina Array Bea**	**123.17**	**290**	PKP		**PKPdf**	**10 24 31.9**	**-1.8**
NVAR	**Mina Array Bea**	**123.17**	**290**	PKP		**PKPdf**	**10 24 31.9**	**-1.8**
	1.1nm,0.4s,baz=49,slow=4.2,SNR=3.1							
NOA	**NORSAR Array B**	**124.64**	**21**	PKP		**PKPdf**	**10 24 35.9**	**+0.4**
NOA	**NORSAR Array B**	**124.64**	**21**	PKP		**PKPdf**	**10 24 35.9**	**+0.4**
	0.6nm,0.7s,baz=170,slow=1.6,SNR=3.6							
FRB	**Frobisher Bay**	**127.79**	**338**	PKP		**PKPdf**	**10 24 41.2**	**-0.1**
FRB	**Frobisher Bay**	**127.79**	**338**	PKP		**PKPdf**	**10 24 41.2**	**-0.1**
	1.9nm,0.6s,baz=99,slow=4.6,SNR=12							
FINES	**FINESS Array B**	**128.16**	**29**	PKP		**PKPdf**	**10 24 42.0**	**0.0**
FINES	**FINESS Array B**	**128.16**	**29**	PKP		**PKPdf**	**10 24 42.0**	**0.0**
	2.2nm,0.6s,baz=101,slow=1.9,SNR=9.1							
ABKAR	**Akbulak array**	**129.64**	**58**	*e*PKPdf		**PKPdf**	**10 24 44.8**	**-0.5**
ARCES	**ARCESS Array B**	**134.93**	**23**	PKP		**PKPdf**	**10 24 55.8**	**+1.1**
ARCES	**ARCESS Array B**	**134.93**	**23**	PKP		**PKPdf**	**10 24 55.8**	**+1.1**
	2.1nm,0.7s,baz=122,slow=1.6,SNR=5.2							
YKA	**Yellowknife Ar**	**139.45**	**314**	PKP		**PKPdf**	**10 25 02.4**	**-0.9**
YKA	**Yellowknife Ar**	**139.45**	**314**	PKhKP		PKPpre	10 24 52.9	
	0.1nm,0.4s,baz=123,slow=3.4,SNR=4.2							
YKA				PKP		**PKPdf**	**10 25 02.3**	**-0.9**
	1.3nm,0.7s,baz=130,slow=2.4,SNR=32							
INK	**Inuvik**	**149.18**	**316**	*e*PKPbc		**PKPbc**	**10 25 23.2**	**-1.0**
INK	**Inuvik**	**149.18**	**316**	PKPbc		**PKPbc**	**10 25 23.8**	**-0.4**
	5.5nm,0.7s,baz=82,slow=2.7,SNR=39							
SONM	**Songino Array**	**150.55**	**94**	PKPbc		**PKPbc**	**10 25 28.0**	**-0.3**
SONM	**Songino Array**	**150.55**	**94**	PKPbc		**PKPbc**	**10 25 28.0**	**-0.3**
	1.8nm,0.9s,baz=216,slow=2.9,SNR=7.9							
DOT	**Dot Lake**	**151.42**	**304**	*e*PKPbc		**PKPbc**	**10 25 30.1**	**+0.4**
KDAK	**Kodiak Island**	**152.65**	**289**	PKPbc		**PKPbc**	**10 25 32.9**	**+0.3**
KDAK	**Kodiak Island**	**152.65**	**289**	PKPbc		**PKPbc**	**10 25 32.9**	**+0.3**
	6.9nm,0.6s,baz=139,slow=14,SNR=9.1							
ILAR	**Eielson Array**	**152.97**	**305**	PKPbc		**PKPbc**	**10 25 33.1**	**-0.1**
ILAR	**Eielson Array**	**152.97**	**305**	PKPbc		**PKPbc**	**10 25 33.1**	**-0.1**
	1.9nm,0.8s,baz=157,slow=2.4,SNR=24							

IDC 16 10:11:30.0±1.8,2.26N×124.05E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/19,mbtmp3.3/3,Error ellipse: s-maj=202.9km s-min=25.8km az=63.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**24.27**	**156**	P		P	10 16 48.2	-0.9
	0.8nm,0.6s,baz=334,slow=11,SNR=9.5							
ASAR	**Alice Springs**	**27.50**	**160**	P		P	10 17 19.9	+1.6
	0.3nm,0.6s,baz=345,slow=8.4,SNR=4.3							
MKAR	**Makanchi Array**	**57.27**	**327**	P		P	10 21 19.0	-0.5
	0.3nm,0.4s,baz=116,slow=7.5,SNR=6.8							

*IDC **16** 10:11:35.9±1.0,31.11N×103.85E,h0km,mb3.8/9, mb1 3.9/10,mb1mx3.7/27,mbtmp3.8/10,ML3.2/1,MS3.3/1, Ms1 3.3/1,ms1mx2.2/36,Error ellipse: s-maj=37.2km s-min=17.1km az=59.0*
*ISCJB **16** 10:11:36.9±0.5,31.19N±0.05×103.99E±0.08,h14km, mb3.7/8,MS3.2/1,Error ellipse: s-maj=10.9km s-min=5.8km az=33.5*
*BJI **16** 10:11:37.5,31.13N×103.82E,h12km,ML3.6/14*

ISC 16 10:11:38.2±0.7,31.22N±0.05×103.88E±0.08,h14km,n15, σ1.58/18,mb3.7/8,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CD2	**Chengdu**	**0.33**	**198**	Pg		**Pg**	**10 11 43.9**	**-1.0**
CD2				Sg		**Sb**	**10 11 50.6**	**-0.4**
CD2				smax	smax			
	comp=N,15μm,0.5s							
CD2				smax	smax			
	comp=E,8μm,0.6s							
LZH	**Lanzhou**	**4.85**	**360**	Pg		Pb	10 13 07.4	+4.3
LZH				Sg		**Sg**	**10 14 10.8**	**-3.2**
LZH				smax	smax			
	comp=N,59nm,1.0s							
LZH				smax	smax			
	comp=E,80nm,1.1s							
XAN	**Xi'an**	**5.10**	**55**	Pn		**Pn**	**10 12 53.8**	**-0.4**
XAN				Pg		**Pb**	**10 13 10.0**	**+2.8**
XAN				Sn		**Sn**	**10 13 53.4**	**+0.4**
XAN				Sg		**Sg**	**10 14 18.3**	**-3.6**
XAN				smax	smax			
	comp=N,79nm,0.8s							
XAN				smax	smax			
	comp=E,42nm,0.8s							
GYA	**Guiyang**	**5.34**	**152**	Pn		**Pn**	**10 12 57.3**	**-0.3**
GYA				Sn		Sn	10 14 04.5	+5.5
GYA				smax	smax			
	comp=N,80nm,0.9s							
GYA				smax	smax			
	comp=E,60nm,0.8s							
SONM	**Songino Array**	**16.70**	**6**	Pn		**P**	**10 15 34.0**	**-0.2**
	comp=E,0.1nm,0.3s,baz=182,slow=12,SNR=7.7							
KSRS	**Korea Array**	**20.78**	**66**	P		**P**	**10 16 19.6**	**+0.7**
	comp=E,1.7nm,0.7s,baz=259,slow=10,SNR=6.6							
MKAR	**Makanchi Array**	**22.76**	**319**	P		**P**	**10 16 40.9**	**+0.9**
	comp=E,1.6nm,0.9s,baz=126,slow=12,SNR=12							
ZALV	**Zalesovo Beam**	**26.53**	**334**	P		**P**	**10 17 16.0**	**+0.8**
	comp=E,0.9nm,0.7s,baz=144,slow=11,SNR=5.0							
KURBB	**Kurchatov Arra**	**27.03**	**323**	P		**P**	**10 17 20.2**	**+0.5**
	comp=E,0.8nm,0.4s,baz=129,slow=9.2,SNR=5.6							
ASAJ	**Asahikawa**	**32.94**	**56**	LR		LR	10 33 37.6	
	comp=E,48nm,18.1s,baz=105,slow=40							
WRA	**Warramunga Arr**	**58.68**	**146**	P		**P**	**10 21 34.8**	**-0.6**
	comp=E,1.3nm,0.4s,baz=338,slow=7.8,SNR=44							
SPITS	**Spitsbergen Ar**	**59.18**	**346**	P		**P**	**10 21 39.1**	**+0.9**
	comp=E,4.2nm,0.9s,baz=87,slow=16,SNR=3.7							
ASAR	**Alice Springs**	**61.69**	**149**	P		**P**	**10 21 55.5**	**-0.5**
	comp=E,0.3nm,0.5s,baz=338,slow=6.8,SNR=8.5							
INK	**Inuvik**	**72.11**	**19**	P		**P**	**10 23 02.4**	**+0.7**
	comp=E,1.1nm,1.0s,baz=322,slow=3.4,SNR=3.8							
YKA	**Yellowknife Ar**	**81.64**	**17**	P		**P**	**10 23 54.9**	**-0.6**
	comp=E,0.2nm,0.6s,baz=330,slow=5.2,SNR=8.3							

IDC 16 10:30:29.4±1.9,3.99N×127.06E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.4/19,mbtmp3.5/4,Error ellipse: s-maj=151.6km s-min=24.0km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**24.84**	**164**	P		P	10 35 52.8	-0.9
	1.4nm,0.8s,baz=343,slow=11,SNR=11							
ASAR	**Alice Springs**	**28.29**	**167**	P		P	10 36 25.7	+0.9
	0.1nm,0.3s,baz=354,slow=8.4,SNR=4.6							
STKA	**Stephens Creek**	**38.26**	**160**	P		P	10 37 51.4	0.0
	1.6nm,0.9s,baz=322,slow=12,SNR=2.2							
MKAR	**Makanchi Array**	**57.53**	**325**	P		P	10 40 20.6	-0.1
	0.1nm,0.6s,baz=120,slow=7.2,SNR=2.3							

IDC 16 10:52:24.8±2.0,4.07N×127.12E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/19,mbtmp3.6/4,Error ellipse: s-maj=144.8km s-min=25.9km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**24.90**	**164**	P		P	10 57 49.0	-0.6
	1.5nm,0.7s,baz=344,slow=11,SNR=18							
ASAR	**Alice Springs**	**28.35**	**167**	P		P	10 58 20.8	0.0
	0.5nm,1.0s,baz=344,slow=11,SNR=3.3							
STKA	**Stephens Creek**	**38.31**	**160**	P		P	10 59 48.0	+0.6
	2.4nm,0.9s,baz=303,slow=8.3,SNR=3.9							
MKAR	**Makanchi Array**	**57.50**	**325**	P		P	11 02 15.8	-0.1
	0.1nm,0.4s,baz=122,slow=7.9,SNR=4.6							

*IDC **16** 10:54:59.8±0.8,3.33S×135.72E,h0km,mb4.0/7, mb1 4.2/8,mb1mx4.0/13,mbtmp4.0/8,ML4.0/1,MS3.2/4, Ms1 3.2/4,ms1mx2.7/27,Error ellipse: s-maj=54.4km s-min=17.8km az=76.0*
*ISCJB **16** 10:55:01.3±0.4,3.53S±0.04×135.52E±0.04,h22km, mb3.9/6,MS3.4/2,Error ellipse: s-maj=5.4km s-min=5.3km az=173.4*
*NEIC **16** 10:55:04.9±0.6,3.50S×135.43E,h35km,mb4.1/1,Error ellipse: s-maj=14.5km s-min=10.6km az=66.0*
*DJA **16** 10:55:05,3.24S×135.47E,h20km,MLv4.3/4*

ISC 16 10:55:02.6±0.6,3.54S±0.06×135.56E±0.05,h22km,n39, σ1.45/37,mb4.0/6,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BAKI	**Biak**	**2.40**	**13**	P		**Pn**	**10 55 40.0**	**-0.7**
BAKI				S		**Sn**	**10 56 08.7**	**-0.7**
FAKI	**Fak Fak**	**3.36**	**281**	P		**Pn**	**10 55 54.6**	**+0.7**
FAKI				S		**Sn**	**10 56 34.6**	**+1.5**
TLE	**Tual**	**3.50**	**233**	P		Pn	10 56 00.4	+4.7
SMPI	**Sarmi**	**3.51**	**64**	P		**Pn**	**10 55 57.2**	**+1.3**
SMPI				S		**Sn**	**10 56 38.4**	**+1.7**
SWI	**Sorong**	**5.05**	**302**	P		**Pn**	**10 56 18.1**	**+1.0**
SWI				S		**Sn**	**10 57 13.0**	**-1.9**
LBMI	**Labuha**	**8.55**	**290**	P		**Pn**	**10 57 06.3**	**+1.1**
	65nm,1.0s							
COEN	**Coen**	**12.79**	**144**	*e*Pn		**Pn**	**10 58 04.1**	**+0.8**
	42nm,0.5s							
PMG	**Port Moresby**	**12.91**	**117**	Pn		Pn	10 58 09.4	+4.5
PMG	**Port Moresby**	**12.91**	**117**	Pn		Pn	10 58 09.4	+4.5
	0.7nm,0.3s,baz=285,slow=5.3,SNR=6.1							
KDI	**Kendari**	**12.92**	**268**	P		**Pn**	**10 58 06.4**	**+1.4**
MRSI	**Marisa**	**14.18**	**286**	P		P	10 58 33.1	+3.5
KAPI	**Kappang**	**15.83**	**264**	*e*Pn		**Pn**	**10 58 44.6**	**+0.3**
WRAB	**Tennant Creek**	**16.33**	**184**	*e*Pn		**Pn**	**10 58 49.2**	**-1.5**
	9.8nm,0.6s							
WRA	**Warramunga Arr**	**16.34**	**184**	Pn		**Pn**	**10 58 48.7**	**-2.2**
WRA				Sn		Sn	11 01 43.0	-8.8
WRA	**Warramunga Arr**	**16.34**	**184**	Pn		**Pn**	**10 58 48.7**	**-2.2**
	0.4nm,0.3s,baz=10,slow=13,SNR=20							
WRA				Sn		Sn	11 01 43.0	-8.8
	0.9nm,0.3s,baz=1.6,slow=23,SNR=5.8							
WRA				LR		LR	11 04 23.8	
	comp=Z,28nm,21.4s,baz=75,slow=34							
FITZ	**Fitzroy Crossi**	**17.43**	**213**	*e*Pn		**Pn**	**10 59 03.8**	**-0.7**
FITZ				S		Sn	11 02 06.4	-12
FITZ	**Fitzroy Crossi**	**17.43**	**213**	P		**Pn**	**10 59 03.7**	**-0.9**
	0.4nm,0.3s,baz=46,slow=9.1,SNR=8.7							
FITZ				S		Sn	11 02 06.4	-12
	1.1nm,0.3s,baz=181,slow=14,SNR=4.1							
FITZ				LR		LR	11 05 57.8	
	comp=Z,63nm,19.8s,baz=143,slow=37							
CTA	**Charters Tower**	**19.47**	**148**	P		**Pn**	**10 59 31.0**	**+1.5**
CTA	**Charters Tower**	**19.47**	**148**	P		**Pn**	**10 59 31.0**	**+1.5**
	0.3nm,0.3s,baz=336,slow=11,SNR=3.7							
CTAO	**Charters Tower**	**19.47**	**148**	*e*P		**Pn**	**10 59 30.2**	**+0.7**
AS31	**Alice Springs**	**20.07**	**184**	*e*P		Pn	10 59 37.4	+0.9
ASAR	**Alice Springs**	**20.07**	**184**	P		Pn	10 59 37.4	+0.8
ASAR				S		**S**	**11 03 15.9**	**-3.5**
ASAR	**Alice Springs**	**20.07**	**184**	P		Pn	10 59 37.4	+0.8
	15nm,0.6s,baz=8.7,slow=10,SNR=102							
ASAR				S		**S**	**11 03 15.9**	**-3.5**
	0.9nm,0.6s,baz=0.3,slow=27,SNR=4.6							
MBWA	**Marble Bar**	**23.31**	**220**	*e*P		**P**	**11 00 09.6**	**+0.2**
STKA	**Stephens Creek**	**28.75**	**169**	P		**P**	**11 00 59.8**	**+1.1**
STKA	**Stephens Creek**	**28.75**	**169**	P		**P**	**11 00 59.8**	**+1.1**
	1.6nm,0.7s,baz=7.9,slow=15,SNR=2.3							
STKA				LR		LR	11 14 16.2	
	comp=Z,77nm,20.4s,baz=206,slow=40							
MJAR	**Matsushiro Arr**	**39.95**	**3**	P		**P**	**11 02 34.5**	**-1.0**
MJAR	**Matsushiro Arr**	**39.95**	**3**	P		**P**	**11 02 34.5**	**-1.0**
	0.9nm,0.7s,baz=191,slow=9.6,SNR=4.1							
ASAJ	**Asahikawa**	**47.86**	**7**	LR		LR	11 21 19.6	
	comp=Z,50nm,19.3s,baz=159,slow=33							
SONM	**Songino Array**	**57.19**	**337**	P		**P**	**11 04 48.2**	**0.0**
SONM	**Songino Array**	**57.19**	**337**	P		**P**	**11 04 48.2**	**0.0**
	0.4nm,0.7s,baz=158,slow=8.2,SNR=4.0							
MKAR	**Makanchi Array**	**68.56**	**324**	P		**P**	**11 06 04.4**	**+0.7**
MKAR	**Makanchi Array**	**68.56**	**324**	P		**P**	**11 06 04.4**	**+0.7**
	1.2nm,0.7s,baz=111,slow=8.3,SNR=10							
ZALV	**Zalesovo Beam**	**71.10**	**331**	P		**P**	**11 06 18.9**	**-0.3**
ZALV	**Zalesovo Beam**	**71.10**	**331**	P		**P**	**11 06 18.9**	**-0.3**
	1.0nm,0.6s,baz=112,slow=6.3,SNR=5.6							
ILAR	**Eielson Array**	**87.90**	**25**	P		**P**	**11 07 49.0**	**-1.4**
ILAR	**Eielson Array**	**87.90**	**25**	P		**P**	**11 07 49.0**	**-1.4**
	0.8nm,0.6s,baz=262,slow=4.4,SNR=11							
CPUP	**Villa Florida**	**147.79**	**158**	PKPbc		**PKPbc**	**11 14 48.0**	**+1.4**
CPUP	**Villa Florida**	**147.79**	**158**	PKPbc		**PKPbc**	**11 14 48.0**	**+1.4**
	0.5nm,0.4s,baz=220,slow=4.7,SNR=4.6							

NNC 16 11:01:13.0±7.0,52.11N×75.16E,h0km,mb2.5,mpv2.1, 9C-6D,Error ellipse: s-maj=49.4km s-min=39.1km az=124.0,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KURK	**Kurchatov**	**2.58**	**121**	⇓Pn		Pn	11 01 56.3	+0.3
	1.9nm,0.6s							
KURK				⇑Sn		Sn	11 02 28.1	+0.1
	5.9nm,0.9s							
KURK	**Kurchatov**	**2.58**	**121**	⇓Pn		Pn	11 01 56.3	+0.3
	1.9nm,0.6s							
KURK				⇑Sn		Sn	11 02 28.1	+0.1
	5.9nm,0.9s							
KURBB	**Kurchatov Arra**	**2.59**	**124**	⇑Pn		Pn	11 01 55.7	-0.4
	0.2nm,0.5s,baz=302,slow=18							
KURBB				⇓Sn		Sn	11 02 30.2	+2.0
	2.6nm,0.7s,baz=309,slow=28							
KURBB	**Kurchatov Arra**	**2.59**	**124**	⇑Pn		Pn	11 01 55.7	-0.4
	0.2nm,0.5s,baz=302,slow=18							
KURBB				⇓Sn		Sn	11 02 30.2	+2.0
	2.6nm,0.7s,baz=309,slow=28							
VOSK	**Vostochnaya**	**2.63**	**285**	⇓Pn		Pg	11 02 07.0	+3.5
	2.0nm,0.6s							
VOSK				⇑Sn		Sg	11 02 45.2	+7.6
	10nm,1.4s							
BVA0	**Borovoye Array**	**3.05**	**289**	⇑Sn		Sg	11 02 57.8	+6.7
	0.8nm,1.0s							
BRVK	**Borovoye**	**3.12**	**290**	⇑Sn		Sg	11 02 59.2	+5.9
	6.2nm,1.1s							
ZRNK	**Zerenda**	**3.85**	**285**	⇓Sn		Sg	11 03 21.1	+4.4
	4.6nm,0.8s							
MK31	**Makanchi Array**	**7.06**	**136**	⇑Lg		Lg	11 04 51.6	
	1.2nm,0.8s,baz=324,slow=26,SNR=5.2							
MK31	**Makanchi Array**	**7.06**	**136**	⇑Lg		Lg	11 04 51.6	
	1.2nm,0.8s,baz=324,slow=26,SNR=5.2							

IDC 16 11:08:07.3±2.1,8.28S×129.00E,h0km,mb3.4/1, mb1 3.5/3,mb1mx3.3/15,mbtmp3.3/3,ML3.0/2,Error ellipse: s-maj=96.8km s-min=32.9km az=66.0,Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**12.69**	**157**	Pn		Pn	11 11 11.0	+1.7
	0.1nm,0.3s,baz=335,slow=13,SNR=30							
ASAR	**Alice Springs**	**16.00**	**163**	Pn		Pn	11 11 51.8	-2.2
	0.1nm,0.3s,baz=347,slow=12,SNR=8.8							
MKAR	**Makanchi Array**	**68.76**	**328**	P		P	11 19 13.2	0.0
	0.2nm,0.7s,baz=137,slow=6.1,SNR=3.8							

IDC 16 11:17:20.5±7.2,5.61S×154.32E,h174km±41km,mb3.7/5, mb1 3.8/7,mb1mx3.4/20,mbtmp3.8/7,Error ellipse: s-maj=83.8km s-min=23.3km az=12.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**8.03**	**242**	P		Pn	11 19 15.5	+1.3
	7.8nm,0.3s,baz=56,slow=9.3,SNR=24							
PMG				S		Sn	11 20 42.9	-1.4
	3.2nm,0.3s,baz=100,slow=11,SNR=4.7							
CTA	**Charters Tower**	**16.39**	**208**	P		Pn	11 21 01.1	+0.3
	0.2nm,0.3s,baz=26,slow=15,SNR=4.7							
DZM	**Mont Dzumac**	**20.13**	**146**	P		P	11 21 40.8	-0.5
	15nm,0.5s,baz=301,slow=7.9,SNR=32							
WRA	**Warramunga Arr**	**24.09**	**232**	P		P	11 22 20.8	+0.6
	5.5nm,0.6s,baz=54,slow=9.8,SNR=113							
ASAR	**Alice Springs**	**26.61**	**226**	P		P	11 22 43.1	+0.2
	0.9nm,0.5s,baz=57,slow=9.4,SNR=51							
STKA	**Stephens Creek**	**28.71**	**203**	P		P	11 23 00.8	-0.6
	1.4nm,0.6s,baz=61,slow=10,SNR=4.0							
FITZ	**Fitzroy Crossi**	**30.62**	**244**	P		P	11 23 17.9	-0.6
	0.7nm,0.4s,baz=45,slow=5.9,SNR=3.6							

IDC 16 11:32:54.0±6.0,39.41N×110.81E,h0km,mb3.3/3, mb1 3.5/4,mb1mx3.3/25,mbtmp3.4/4,ML2.7/1,Error ellipse: s-maj=124.3km s-min=30.3km az=84.0,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SONM	**Songino Array**	**9.01**	**341**	Pn		Pn	11 35 05.4	0.0
	0.1nm,0.3s,baz=156,slow=14,SNR=7.7							
MKAR	**Makanchi Array**	**22.01**	**299**	P		P	11 37 49.3	-0.5
	1.0nm,0.7s,baz=37,slow=13,SNR=16							
CMAR	**Chiang Mai Arr**	**23.27**	**210**	P		P	11 38 03.2	-0.1
	0.9nm,0.7s,baz=15,slow=9.1,SNR=5.3							
KURBB	**Kurchatov Arra**	**25.23**	**307**	P		P	11 38 21.8	+0.5
	0.6nm,0.9s,baz=104,slow=10,SNR=3.6							

IDC 16 11:39:24.5±1.8,3.04N×126.03E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/18,mbtmp3.5/4,Error ellipse: s-maj=169.9km s-min=24.1km az=64.0,Talaud Islands

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

WHFN				SN	Sn	11 51 51.4	-15
CTLN	**Castor Lake**	**17.88**	**263**	PN	Pn	11 49 10.0	-3.3
CTLN				SN	Sn	11 52 19.7	-12
GALN	**Gameti Lake**	**18.49**	**264**	PN	P	11 49 18.9	-1.6
GALN				SN	Sn	11 52 36.9	-10
SCHQ	**Schefferville**	**18.65**	**172**	PN	P	11 49 19.6	-2.8
SCHQ				SN	Sn	11 52 32.4	-18
YKW3	**Yellowknife Ar**	**18.93**	**258**	PN	P	11 49 21.5	-3.9
YKW3				SN	Sn	11 52 37.7	-19
SILO	**Sutton Inlier**	**19.72**	**204**	PN	Pn	11 49 36.4	+0.8
SILO				SN	S	11 52 58.9	-16
WEMQ	**Wemindji, Queb**	**20.53**	**191**	PN	Pn	11 49 47.2	+2.2
WEMQ				SN	S	11 53 16.2	-15

GUC 16 11:47:10.7±0.5, 19°.97S × 69°.25W, h105km±4km, ML3.5, 3C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMBC	**Humberstone**	**0.67**	**243** ⇓	*i* P	Pn	11 47 28.8	+0.3
HMBC				*i* S	Sn	11 47 42.7	+0.9
HMBC				AML	AML	11 47 44.4	
	comp=E,1μm,0.3s						
MNMC	**Minimini**	**0.90**	**339** ⇑	*i* P	Pn	11 47 31.3	+0.5
MNMC				*i* S	Sn	11 47 46.7	+0.8
MNMC				AML	AML	11 47 47.4	
	comp=E,2μm,0.3s						
PSGC	**Pisagua**	**0.90**	**294** ⇑	*i* P	Pn	11 47 30.9	+0.3
PSGC				*i* S	Sn	11 47 46.2	+0.7
PSGC				AML	AML	11 47 49.6	
	comp=N,591nm,0.1s						
PB01	**Plate Boundary**	**1.09**	**192** ⇓	*i* P	Pn	11 47 33.0	+0.4
PB01				*i* S	Sn	11 47 49.9	+0.8
PB01				AML	AML	11 47 51.5	
	comp=N,1μm,0.3s						
ARCH	**Arica**	**1.77**	**326**	*e*P	Pn	11 47 41.5	+0.8
ARCH				*i* S	Sn	11 48 04.2	+0.9
ARCH				AML	AML	11 48 08.9	
	comp=E,650nm,0.2s						
PB09	**Plate Boundary**	**1.82**	**180** ⇑	*i* P	Pn	11 47 42.1	+0.7
PB09				AML	AML	11 48 11.3	
	comp=E,1μm,0.3s						
PB07	**Plate Boundary**	**1.84**	**199** ⇓	*i* P	Pn	11 47 42.3	+0.6
PB07				AML	AML	11 48 13.7	
	comp=E,813nm,0.2s						
PB04	**Plate Boundary**	**2.29**	**185** ⇓	*i* P	Pn	11 47 51.7	+4.5
PB04				AML	AML	11 48 33.3	
	comp=E,270nm,0.3s						

KRSC ***16*** *11:50:41.1±0.0, 60°.81N × 166°.07E, h9km±15km, ML5.0*
MOS ***16*** *11:50:42.7±1.1, 60°.84N × 165°.71E, h11km, mb4.7/37, Error ellipse: s-maj=11.9km s-min=5.9km az=87.6*
BJI ***16*** *11:50:42.6, 61°.09N × 166°.18E, h27km, mB5.1/14, mb4.6/18, Ms4.6/8, Ms7 4.4/8*
ISCJB ***16*** *11:50:43.8±0.1, 60°.86N±0°.03 × 165°.56E±0°.03, h15km, mb4.5/62, MS3.9/24, Error ellipse: s-maj=3.7km s-min=2.2km az=163.5*
IDC ***16*** *11:50:43.1±0.5, 60°.87N × 165°.65E, h0km, mb4.2/22, mb1 4.3/24, mb1mx4.2/32, mbtmp4.2/24, ML3.5/2, MS3.8/16, Ms1 3.8/16, ms1mx3.6/32, Error ellipse: s-maj=12.7km s-min=11.4km az=180.0*
NERS ***16*** *11:50:44.5, 60°.86N × 165°.49E, h11km*
NEIC ***16*** *11:50:48.2±0.8, 60°.85N × 165°.69E, h36km±7km, mb4.6/25, Error ellipse: s-maj=7.5km s-min=4.3km az=165.0*
ISC 16 11:50:45.7±0.3, 60°.90N±0°.04 × 165°.52E±0°.03, h15km, n333, σ1ᵗ17/357, mb4.5/62, MS3.9/25, 79C-94D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	**Tilichiki**	**0.55**	**146**	*e*P	Pg	11 50 50.5	-6.0
TILK				*i* S	Sg	11 50 56.4	-7.4
EVEN	**Evensk**	**3.19**	**291**	*e*P	**Pn**	**11 51 36.5**	**+1.2**
EVEN				Pmax		11 51 38.7	
	240nm,0.2s						
EVEN				*e*Pg	**Pb**	**11 51 42.6**	**+0.5**
EVEN				*e*S	**Sn**	**11 52 12.4**	**-0.7**
EVEN				*e*Sg	**Sg**	**11 52 24.9**	**-3.3**
EVEN				Sgmax		11 52 42.6	
	1μm,0.6s						
PALN	**Palana**	**3.33**	**239**	*e*P	**Pn**	**11 51 35.6**	**-1.6**
KBTR	**Krutoberegovo**	**4.91**	**198**	PN	**Pn**	**11 51 56.4**	**-2.5**
KBTR	**Krutoberegovo**	**4.91**	**198**	*e*P	**Pn**	**11 51 56.4**	**-2.5**
KBTR				*i* S	**Sn**	**11 52 53.6**	**-1.8**
OMS	**Omsukchan**	**4.92**	**294**	*e*P	**Pn**	**11 52 00.8**	**+1.8**
OMS				Pmax		11 52 01.5	
	90nm,0.6s						
OMS				*e*Sg	**Sg**	**11 53 20.7**	**-2.6**
OMS				Sgmax		11 53 28.7	
	210nm,0.7s						
KLY	**Klyuchi**	**5.25**	**211**	PN	**Pn**	**11 52 00.9**	**-2.7**
KLY	**Klyuchi**	**5.25**	**211**	P	**Pn**	**11 52 00.9**	**-2.7**
KRSR	**Krestovskiy**	**5.36**	**211**	P	**Pn**	**11 52 05.0**	**-0.2**
SRDR	**Sredinnyy**	**5.50**	**216**	P	**Pn**	**11 52 08.2**	**+1.1**
BZGR	**Bezymyannyi-Gr**	**5.58**	**209**	*e*P	**Pn**	**11 52 07.6**	**-0.6**
BZWR	**Bezymyannyi-We**	**5.61**	**210**	*e*P	**Pn**	**11 52 08.7**	**+0.1**
BZMR	**Bezymyannaya**	**5.63**	**210**	*e*P	**Pn**	**11 52 09.1**	**+0.1**
KIRR	**Kirishev**	**5.66**	**211**	P	**Pn**	**11 52 09.5**	**+0.2**
KOZR	**Kozyr**	**5.67**	**214**	PN	**Pn**	**11 52 09.6**	**+0.2**
KOZ	**Kozyrevsk**	**5.69**	**214**	P	**Pn**	**11 52 09.6**	**0.0**
BKI	**Bering**	**5.71**	**177**	PN	**Pn**	**11 52 07.3**	**-2.6**
BKI	**Bering**	**5.71**	**177**	*e*P	**Pn**	**11 52 07.3**	**-2.6**
KMNR	**Kamenistaya**	**5.86**	**211**	P	**Pn**	**11 52 11.5**	**-0.5**
TUMR	**Tumrok**	**6.31**	**209**	P	**Pn**	**11 52 19.1**	**+0.9**
TLAR	**Talaya**	**6.39**	**278**	*e*P	**Pn**	**11 52 22.3**	**+3.1**
TLAR				Pmax		11 52 23.0	
	70nm,0.8s						
TLAR				Pmax		11 52 23.0	
	120nm,0.8s						
TLAR				Pmax		11 52 23.0	
	130nm,0.8s						
TLAR				*e*S	**Sn**	**11 53 33.2**	**+1.4**
TLAR				*e*		11 53 37.7	
SEY	**Seymchan**	**6.53**	**294**	*ce*PN	**Pn**	**11 52 22.5**	**+1.3**
SEY	**Seymchan**	**6.53**	**294**	*e*P	**Pn**	**11 52 22.5**	**+1.3**
SEY				Pmax		11 52 24.0	
	20nm,0.9s						
SEY				*e*Pg	Pb	11 52 44.8	+5.9
SEY				Pgmax		11 52 51.2	
	20nm,0.6s						
SEY				Pgmax		11 52 51.2	
	30nm,0.6s						
SEY				*e*S	**Sn**	**11 53 34.3**	**-1.0**
SEY				*e*Sg	**Sg**	**11 54 12.8**	**-2.3**
SEY				Sgmax		11 54 24.4	
	230nm,0.8s						
MKZ	**Mys Kozlova**	**6.67**	**199**	PN	**Pn**	**11 52 23.9**	**+0.8**
MKZ	**Mys Kozlova**	**6.67**	**199**	P	**Pn**	**11 52 23.9**	**+0.8**
BILL	**Bilibino**	**7.18**	**2**	*e*PN	**Pn**	**11 52 32.0**	**+2.0**
BILL				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BILL	**Bilibino**	**7.18**	**2**	*e*Pn	**Pn**	**11 52 31.3**	**+1.3**
	comp=Z,21nm,0.6s						
BILL				*e*Sn	**Sn**	**11 53 53.1**	**+2.0**
BILL	**Bilibino**	**7.18**	**2**	*e*P	**Pn**	**11 52 31.7**	**+1.7**
BILL				*i* S	**Sn**	**11 53 54.0**	**+2.8**
BILL	**Bilibino**	**7.18**	**2**	*e*P	**Pn**	**11 52 32.0**	**+2.0**
BILL				Pmax		11 52 35.3	
	comp=Z,60nm,0.6s						
BILL				Pmax		11 52 35.3	
	comp=Z,50nm,0.6s						
BILL				Pmax		11 52 35.3	
	comp=Z,60nm,0.6s						
BILL				*e*S	**Sn**	**11 53 48.8**	**-2.4**
SNGR	**Sinegor'e**	**7.33**	**286**	*e*P	**Pn**	**11 52 32.3**	**+0.1**
SNGR				Pmax		11 52 34.6	
	comp=Z,40nm,0.6s						
SNGR				*e*S	**Sn**	**11 53 50.9**	**-4.1**
SNGR				*e*Sg	**Sg**	**11 54 36.5**	**-4.3**
SNGR				Sgmax		11 54 52.4	
	comp=Z,120nm,0.9s						
MGD	**Magadan 1**	**7.36**	**270**	*e*P	**Pn**	**11 52 32.5**	**0.0**
MGD				Pmax		11 52 37.0	
	comp=Z,80nm,0.3s						
MGD				*e*S	**Sn**	**11 53 52.8**	**-2.9**
MGD				*e*Sg	**Sg**	**11 54 39.0**	**-2.7**
MGD				Sgmax		11 54 53.3	
	comp=Z,100nm,1.0s						
SUUS	**Susuman**	**8.42**	**290**	*e*P	**Pn**	**11 52 49.5**	**+2.4**
SUUS				Pmax		11 52 49.7	
	comp=Z,10.0nm,0.6s						
SUUS				*e*		11 52 53.3	
SUUS				*e*S	**Sn**	**11 54 25.7**	**+4.0**
SMAR	**Somma**	**8.48**	**208**	P	**Pn**	**11 52 48.4**	**+0.3**
OCHR	**Omchak**	**8.54**	**283**	*e*P	Pn	11 53 01.8	+13
OCHR				Pmax		11 53 07.5	
	comp=Z,20nm,0.3s						
OCHR				Pmax		11 53 07.5	
	comp=Z,60nm,0.3s						
OCHR				*e*S	Sn	11 54 39.6	+15
OCHR				*e*S	Sn	11 55 40.2	+76
OCHR				Sgmax		11 55 42.5	
	comp=Z,70nm,0.6s						
PET	**Petropavlovsk**	**8.73**	**208**	*e*PN	**Pn**	**11 52 54.2**	**+2.9**
PET				*e*S	**Sn**	**11 54 34.8**	**+5.4**
PET				pmax	pmax		
	comp=Z,21nm,0.9s						
PET				MLR	MLR		
	comp=Z,700nm,20.0s						
PETK	**Petropavlovsk-**	**8.89**	**212**	PN	**Pn**	**11 52 54.0**	**+0.4**
PETK	**Petropavlovsk-**	**8.89**	**212**	Pn	**Pn**	**11 52 54.0**	**+0.4**
PETK	**Petropavlovsk-**	**8.89**	**212**	Pn	**Pn**	**11 52 54.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=50,slow=13,SNR=3.3						
FX1	**Attu Island--F**	**9.05**	**149**	Pn	Pn	11 52 52.4	-3.3
FX1	**Attu Island--F**	**9.05**	**149**	Pn	Pn	11 52 52.4	-3.3
	comp=Z,3.1nm,0.3s,baz=346,slow=4.2,SNR=7.2						
GAMB	**Gambell**	**10.95**	**65**	*e*Pn	**Pn**	**11 53 23.2**	**+1.6**
	comp=Z,8.1nm,0.9s						
TNA	**Tin City**	**12.78**	**57**	*e*Pn	**Pn**	**11 53 47.0**	**+0.4**
	comp=Z,7.0nm,0.8s						
YAK	**Yakutsk**	**17.03**	**289**	*e*P	**P**	**11 54 45.6**	**+0.9**
YAK				*e*S	**Sn**	**11 57 56.0**	**+4.3**
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,82nm,0.9s						
YAK				pmax	pmax		
	comp=E,32nm,1.0s						
YAK				pmax	pmax		
	comp=Z,31nm,1.2s						
YAK				pmax	pmax		
	comp=N,33nm,1.5s						
YAK				pmax	pmax		
	comp=E,42nm,1.7s						
YAK				smax	smax		
	comp=N,89nm,3.5s						
YAK				MLR	MLR		
	comp=Z,449nm,15.0s						
YAK				MLR	MLR		
	comp=E,279nm,13.0s						
YAK	**Yakutsk**	**17.03**	**289**	*e*Pn	**Pn**	**11 54 43.5**	**+0.5**
	comp=E,108nm,0.8s						
COLD	**Coldfoot**	**19.98**	**53**	*e*P	**P**	**11 55 16.6**	**-0.5**
	comp=E,25nm,0.9s						
TRF	**Thorofare Moun**	**20.47**	**64**	*e*P	**P**	**11 55 22.2**	**-0.4**
	comp=E,110nm,1.5s						
MCK	**McKinley**	**21.00**	**62**	*e*P	**P**	**11 55 28.2**	**0.0**
MCK				pmax	pmax		
	comp=Z,72nm,1.0s						
MCK	**McKinley**	**21.00**	**62**	*e*P	**P**	**11 55 28.2**	**0.0**
	comp=Z,72nm,1.0s						
CLNS	**Chul'man**	**21.14**	**277**	*e*P	**P**	**11 55 28.9**	**-0.9**
CLNS				pmax	pmax		
	comp=Z,11nm,1.1s						
CLNS				pmax	pmax		
	comp=N,6.0nm,1.4s						
CLNS				MLR	MLR		
	comp=Z,281nm,10.0s						
CLNS				MLR	MLR		
	comp=E,183nm,9.0s						
CLNS				MLR	MLR		
	comp=N,243nm,12.0s						
COLA	**College**	**21.22**	**59**	*e*P	**P**	**11 55 29.3**	**-1.2**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
COLA	**College**	**21.22**	**59**	*e*P	**P**	**11 55 29.3**	**-1.2**
	comp=Z,8.9nm,0.8s						
KDAK	**Kodiak Island**	**21.32**	**80**	P	**P**	**11 55 32.1**	**+0.5**
KDAK	**Kodiak Island**	**21.32**	**80**	P	**P**	**11 55 32.1**	**+0.5**
	comp=Z,5.1nm,0.7s,baz=300,slow=11,SNR=4.5						
HABR	**Khabarovsk**	**21.32**	**248**	*e*P	**P**	**11 55 32.3**	**+0.6**
HABR				*e**PP	**pP**	**11 55 41.1**	**+5.1**
HABR				*e*		11 55 52.7	
HABR				*e*S	**S**	**11 59 28.5**	**+0.6**
HABR				*e*SSS	SSS	12 00 07.6	
HABR				*e*		12 06 53.3	
HABR				pmax	pmax		
	comp=Z,62nm,1.6s						
HABR				pmax	pmax		
	comp=E,82nm,2.0s						
HABR				pmax	pmax		
	comp=N,50nm,1.6s						
HABR				MLR	MLR		
	comp=Z,462nm,16.0s						
ILAR	**Eielson Array**	**21.64**	**59**	P	**P**	**11 55 34.8**	**-0.3**
ILAR	**Eielson Array**	**21.64**	**59**	P	**P**	**11 55 34.8**	**-0.3**
	comp=Z,16nm,0.8s,baz=269,slow=8.6,SNR=38						
ILAR				LR	LR	12 04 55.6	
	comp=Z,328nm,18.2s,baz=296,slow=40						
ASAJ	**Asahikawa**	**21.65**	**230**	P	**P**	**11 55 37.5**	**+2.2**
ASAJ	**Asahikawa**	**21.65**	**230**	P	**P**	**11 55 37.5**	**+2.2**
	comp=Z,5.0nm,0.7s,baz=203,slow=22,SNR=5.2						
ASAJ				LR	LR	12 03 35.9	
	comp=Z,218nm,19.9s,baz=2.0,slow=36						
PAX	**Paxson**	**22.71**	**63**	*e*P	**P**	**11 55 44.6**	**-2.0**
PAX				pmax	pmax		
	comp=Z,31nm,1.4s						
PAX	**Paxson**	**22.71**	**63**	*e*P	**P**	**11 55 44.6**	**-2.0**
	comp=Z,31nm,1.4s						
DOT	**Dot Lake**	**23.12**	**61**	*e*P	**P**	**11 55 49.3**	**-1.5**
	comp=Z,7.3nm,0.9s						
MENT	**Mentasta**	**23.48**	**63**	*e*P	**P**	**11 55 52.1**	**-2.3**
EGAK	**Eagle**	**24.03**	**58**	*e*P	**P**	**11 55 57.3**	**-2.3**
	comp=Z,38nm,0.9s						
BOD	**Bodaibo**	**25.88**	**286**	*e*P	**P**	**11 56 16.4**	**-0.1**
BOD				pmax	pmax		
	comp=Z,30nm,1.4s						
USRK	**Ussuriysk Arra**	**25.95**	**245**	LR	LR	12 06 41.2	
	comp=Z,262nm,19.1s,baz=45,slow=37						
INK	**Inuvik**	**26.09**	**48**	P	**P**	**11 56 18.0**	**-0.3**
INK	**Inuvik**	**26.09**	**48**	P	**P**	**11 56 18.0**	**-0.3**
	comp=Z,11nm,0.9s,baz=285,slow=14,SNR=24						
INK				LR	LR	12 07 43.4	
	comp=Z,257nm,21.6s,baz=166,slow=39						
MJAR	**Matsushiro Arr**	**29.89**	**228**	P	**P**	**11 56 54.1**	**+1.5**
MJAR	**Matsushiro Arr**	**29.89**	**228**	P	**P**	**11 56 54.1**	**+1.5**
	comp=Z,2.4nm,0.9s,baz=30,slow=11,SNR=3.7						
MJAR				LR	LR	12 09 42.6	
	comp=Z,127nm,18.1s,baz=40,slow=38						
KSRS	**Korea Array**	**33.23**	**242**	LR	LR	12 12 21.3	
	comp=Z,120nm,19.6s,baz=265,slow=39						
ULN	**Ulaanbaatar**	**35.21**	**275**	*e*P	**P**	**11 57 39.5**	**+0.4**
	comp=Z,7.8nm,1.0s						
ZAK	**Zakamensk**	**35.32**	**282**	*e*P	**P**	**11 57 40.1**	**+0.1**
SONM	**Songino Array**	**35.55**	**276**	P	**P**	**11 57 42.6**	**+0.6**
SONM				PcP	**PcP**	**12 00 10.5**	**-0.2**
SONM	**Songino Array**	**35.55**	**276**	P	**P**	**11 57 42.6**	**+0.6**
	comp=Z,4.3nm,0.7s,baz=58,slow=6.6,SNR=19						
SONM				PcP	**PcP**	**12 00 10.5**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=25,slow=2.0,SNR=4.1						
SONM				LR	LR	12 13 19.6	
	comp=Z,86nm,19.7s,baz=13,slow=38						
MOY	**Mondy**	**35.57**	**285**	*e*P	**P**	**11 57 43.1**	**+1.0**
MOY				pmax	pmax		
	comp=Z,24nm,1.8s						
YKA	**Yellowknife Ar**	**35.66**	**52**	P	**P**	**11 57 41.8**	**-0.8**
YKA				PcP	**PcP**	**12 00 11.0**	**+0.4**
YKA	**Yellowknife Ar**	**35.66**	**52**	P	**P**	**11 57 41.7**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=303,slow=8.3,SNR=21						
YKA				PcP	**PcP**	**12 00 11.0**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=307,slow=3.5,SNR=4.1						
BJI	**Beijing**	**36.53**	**258**	P	**P**	**11 57 50.4**	**+0.1**
BJI				pmax	pmax		
	comp=Z,31nm,1.3s						
BJI				pmax	pmax		
	comp=Z,150nm,4.9s						
BJI				LR	LR		
	comp=N,280nm,11.2s						
BJI				LR	LR		
	comp=E,440nm,12.8s						
BJI				LR	LR		
	comp=Z,71nm,19.2s						
BJT	**Baijiatuan**	**36.55**	**258**	*e*P	**P**	**11 57 50.2**	**-0.4**
	comp=Z,25nm,0.8s						
CBIJ	**Chichi jima**	**37.31**	**216**	LR	LR	12 11 53.5	
	comp=Z,45nm,19.8s,baz=208,slow=34						
SPITS	**Spitsbergen Ar**	**39.91**	**351**	P	**P**	**11 58 18.7**	**+0.4**
SPITS	**Spitsbergen Ar**	**39.91**	**351**	P	P	**11 58 18.7**	**+0.4**
	comp=Z,9.5nm,0.9s,baz=60,slow=9.8,SNR=8.9						
ZALV	**Zalesovo Beam**	**41.38**	**298**	P	**P**	**11 58 30.8**	**0.0**
ZALV						12 00 09.2	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZALV				MLR	MLR		
	comp=Z,218nm,18.9s						
ZALV	**Zalesovo Beam**	**41.38**	**298**	P	**P**	**11 58 30.8**	**0.0**
ZALV				PP	**PnPn**	**12 00 09.2**	**-1.5**
ZALV	**Zalesovo Beam**	**41.38**	**298**	P	**P**	**11 58 30.8**	**0.0**
	comp=Z,1.0nm,0.8s,baz=5.7,slow=4.5,SNR=4.3						
ZALV				PP	**PnPn**	**12 00 09.2**	**-1.5**
	comp=Z,1.7nm,0.8s,baz=46,slow=9.1,SNR=4.2						
ZALV				LR	LR	12 17 19.5	
	comp=Z,218nm,18.9s,baz=63,slow=38						
NVS	**Novosibirsk**	**41.45**	**300**	*e*P	**P**	**11 58 30.4**	**-0.9**
NVS				pmax	pmax		
	comp=Z,16nm,1.1s						
NVS				pmax	pmax		
	comp=N,8.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.2s						
NEW	**Newport**	**43.90**	**70** ⇓	P	**P**	**11 58 50.8**	**-0.6**
	baz=44						
A12A	**Yaak River Ran**	**44.09**	**68** ⇓	P	**P**	**11 58 52.2**	**-0.7**
	baz=44						
C11A	**Tepee Creek (N**	**44.61**	**70** ⇓	P	**P**	**11 58 56.3**	**-0.8**
	baz=44						
A13A	**Flathead Natio**	**44.65**	**68** ⇑	P	**P**	**11 58 56.8**	**-0.6**
	baz=44						
GTA	**Gaotai**	**44.98**	**273**	P	**P**	**11 59 00.6**	**+0.4**
GTA				pP	**pP**	**11 59 05.3**	**+0.4**
GTA				sP	**sP**	**11 59 07.6**	**+0.9**
GTA				S	S	12 05 27.8	-10
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,140nm,5.0s						
GTA				LR	LR		
	comp=N,280nm,18.5s						
GTA				LR	LR		
	comp=E,360nm,19.2s						
GTA				LR	LR		
	comp=Z,430nm,17.6s						
B13A	**Whitefish**	**45.03**	**68** ⇓	P	**P**	**11 58 59.7**	**-0.7**
	baz=45						
A14A	**Double T Ranch**	**45.07**	**67** ⇑	P	**P**	**11 59 00.3**	**-0.4**
	baz=45						
A15A	**Johnson Ranch,**	**45.37**	**66** ⇑	P	**P**	**11 59 02.4**	**-0.7**
	baz=45						
C13A	**Hot Springs**	**45.50**	**69** ⇓	P	**P**	**11 59 03.9**	**-0.2**
	baz=45						
JTMT	**Jette**	**45.58**	**69**	*e*P	**P**	**11 59 04.2**	**-0.7**
B14A	**Marquette Ranc**	**45.58**	**67** ⇓	P	**P**	**11 59 04.3**	**-0.6**
	baz=45						
D12A	**Red Ives Fores**	**45.60**	**70** ⇑	P	**P**	**11 59 03.9**	**-1.1**
	baz=45						
LZH	**Lanzhou**	**45.62**	**266**	*e*P	**P**	**11 59 05.4**	**+0.1**
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
FFC	**Flin Flon**	**45.72**	**54**	*ce*P	P	11 59 09.1	+3.4
SUMG	**Summit**	**45.79**	**10**	*e*P	P	11 59 09.8	+3.3
SUMG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SUMG	**Summit**	**45.79**	**10**	*i* P	P	11 59 09.8	+3.3
	comp=Z,6.1nm,0.9s						
A16A	**West Butte Ran**	**45.90**	**66** ⇑	P	**P**	**11 59 06.6**	**-0.7**
	baz=46						
B15A	**Bradely Ranch,**	**45.94**	**67** ⇓	P	**P**	**11 59 07.0**	**-0.7**
	baz=46						
D13A	**Huson**	**45.98**	**69** ⇑	P	**P**	**11 59 07.2**	**-0.8**
	baz=46						
B16A	**M & M Farms, S**	**46.25**	**66** ⇓	P	**P**	**11 59 09.2**	**-0.8**
	baz=46						
A17A	**Triple J Farms**	**46.30**	**65** ⇓	P	**P**	**11 59 09.5**	**-0.9**
	baz=46						
SLMT	**Seeley Lake**	**46.31**	**69**	*e*P	**P**	**11 59 09.9**	**-0.8**
	comp=Z,3.4nm,0.7s						
C15A	**Salmond Ranch,**	**46.32**	**67** ⇓	P	**P**	**11 59 09.2**	**-1.5**
	baz=46						
KURK	**Kurchatov**	**46.36**	**299**	*ce*P	**P**	**11 59 11.0**	**+0.3**
KURK				pmax	pmax		
	comp=Z,38nm,1.4s						
KURK				MLR	MLR		
	comp=Z,183nm,19.0s						
KURK	**Kurchatov**	**46.36**	**299**	P	**P**	**11 59 11.9**	**+1.1**
KURK				PP	**PP**	**12 00 58.1**	**-1.2**
MSO	**Missoula**	**46.42**	**69** ⇑	P	**P**	**11 59 10.1**	**-1.4**
	baz=46						
KURBB	**Kurchatov Arra**	**46.46**	**299**	P	**P**	**11 59 11.9**	**+0.3**
	comp=Z,16nm,0.8s,baz=42,slow=7.8,SNR=139						
KURBB				PP	**PP**	**12 00 58.1**	**-2.4**
	comp=Z,5.4nm,1.0s,baz=48,slow=9.7,SNR=4.6						
E13A	**Victor**	**46.59**	**70** ⇓	P	**P**	**11 59 11.6**	**-1.2**
	baz=46						
F12A	**Elk City**	**46.62**	**71** ⇑	P	**P**	**11 59 12.2**	**-0.9**
	baz=46						
C16A	**Fuhringer Ranc**	**46.69**	**67** ⇑	P	**P**	**11 59 12.3**	**-1.2**
	baz=46						
A18A	**Metzger Ranch,**	**46.70**	**64** ⇓	P	**P**	**11 59 13.0**	**-0.6**
	baz=46						
B17A	**L&G Farms, Che**	**46.74**	**66** ⇓	P	**P**	**11 59 13.4**	**-0.6**
	baz=46						
ARCES	**ARCESS Array B**	**46.77**	**342**	P	**P**	**11 59 13.4**	**-0.4**
ARCES	**ARCESS Array B**	**46.77**	**342**	P	**P**	**11 59 13.4**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=44,slow=10,SNR=2.9						
ARCES				LR	LR	12 22 22.9	
	comp=Z,58nm,20.6s,baz=26,slow=41						
D15A	**Lincoln**	**46.90**	**68** ⇑	P	**P**	**11 59 14.4**	**-0.9**
	baz=47						
E14A	**Clinton**	**46.93**	**69** ⇓	P	**P**	**11 59 14.9**	**-0.7**
	baz=47,SNR=7.2						
F13A	**Darby**	**47.02**	**70** ⇓	P	**P**	**11 59 15.8**	**-0.3**
	baz=47						
G12A	**Big Creek, Yel**	**47.05**	**72** ⇓	P	**P**	**11 59 15.7**	**-0.9**
	baz=47						
B18A	**Beardsley Farm**	**47.12**	**65** ⇑	P	**P**	**11 59 16.3**	**-0.6**
	baz=47						
A19A	**Klindworth Far**	**47.18**	**64** ⇓	P	**P**	**11 59 16.7**	**-0.6**
	baz=47						
C17A	**Wharram Farm,**	**47.25**	**66** ⇓	P	**P**	**11 59 16.7**	**-1.2**
	baz=47						
E15A	**Deer Lodge**	**47.31**	**69** ⇓	P	**P**	**11 59 17.5**	**-1.0**
	baz=47						
D16A	**Dana Ranch, Ca**	**47.35**	**67** ⇓	P	**P**	**11 59

D18A	**Linhart Farms,** baz=48	**48.01**	**66**	⇓P		**P**	**11 59 23.5**	**-0.3**
BRVK	**Borovoye**	**48.04**	**306**	*ce*P		**P**	**11 59 24.4**	**+0.5**
BRVK	comp=Z,33nm,1.7s			pmax	pmax			
BRVK	**Borovoye**	**48.04**	**306**	*e*P		**P**	**11 59 24.1**	**+0.2**
	comp=Z,28nm,1.3s							
E17A	**Martinsdale** baz=48,SNR=9.1	**48.09**	**67**	⇑P		**P**	**11 59 24.6**	**0.0**
MFID	**Camas Ranch** baz=48	**48.12**	**74**	⇓P		**P**	**11 59 24.1**	**-0.7**
F16A	**Kennard Place,** baz=48	**48.26**	**69**	⇑P		**P**	**11 59 25.2**	**-0.6**
G15A	**Dillon** baz=48	**48.34**	**70**	⇓P		**P**	**11 59 26.0**	**-0.5**
H14A	**Leadore** baz=48	**48.35**	**71**	⇓P		**P**	**11 59 25.8**	**-0.8**
C20A	**Veseth Ranch,** baz=48	**48.42**	**64**	⇓P		**P**	**11 59 26.7**	**-0.2**
E18A	**Harlowton** baz=48	**48.44**	**67**	⇓P		**P**	**11 59 26.7**	**-0.5**
D19A	**Cripps Ranch,** baz=48	**48.45**	**65**	⇓P		**P**	**11 59 26.3**	**-0.8**
I13A	**Wildhorse Cree** baz=48,SNR=9.9	**48.54**	**72**	⇑P		**P**	**11 59 27.1**	**-1.0**
G16A	**Moss Hill, Enn** baz=48	**48.60**	**69**	⇑P		**P**	**11 59 28.0**	**-0.5**
F17A	**Fitzpatrick Pl** baz=48	**48.60**	**68**	⇓P		**P**	**11 59 28.2**	**-0.3**
HLID	**Hailey** baz=48	**48.67**	**72**	⇓P		**P**	**11 59 28.6**	**-0.5**
SVE	**Sverdlovsk**	**48.73**	**315**	*e*P		**P**	**11 59 30.0**	**+0.9**
SVE	comp=Z,20nm,1.3s			pmax	pmax			
SCO	**Scoresbysund**	**48.80**	**3**	*e*P		**P**	**11 59 30.8**	**+1.4**
SCO	comp=Z,14nm,1.0s			pmax	pmax			
SCO	**Scoresbysund** comp=Z,14nm,1.0s	**48.80**	**3**	*i* P		**P**	**11 59 30.8**	**+1.4**
A23A	**Redstone** baz=49	**48.83**	**61**	⇓P		**P**	**11 59 30.1**	**+0.1**
D20A	**Manuel Ranch,** baz=49	**48.83**	**65**	⇓P		**P**	**11 59 29.9**	**-0.2**
I14A	**Mackay** baz=49	**48.84**	**71**	⇓P		**P**	**11 59 29.9**	**-0.5**
J13A	**Cove Ranch, Pi** baz=49	**48.91**	**72**	⇓P		**P**	**11 59 30.1**	**-0.8**
E19A	**Rath Farm, Rou** baz=49	**49.02**	**66**	⇑P		**P**	**11 59 31.9**	**+0.3**
F18A	**Big Timber** baz=49	**49.03**	**67**	⇓P		**P**	**11 59 31.4**	**-0.3**
GCMT	**Greycliff** comp=Z,3.9nm,0.9s	**49.14**	**67**	*e*P		**P**	**11 59 31.4**	**-1.1**
A24A	**Westby** baz=49	**49.23**	**61**	⇑P		**P**	**11 59 33.8**	**+0.7**
H16A	**Russell Place,** baz=49	**49.26**	**69**	⇓P		**P**	**11 59 33.1**	**-0.5**
E20A	**Meyer Farm, Mu** baz=49	**49.28**	**65**	⇓P		**P**	**11 59 33.4**	**-0.2**
C22A	**Vida** baz=49	**49.32**	**63**	⇓P		**P**	**11 59 34.3**	**+0.5**
D21A	**La Casta Ranch** baz=49	**49.35**	**64**	⇑P		**P**	**11 59 34.2**	**+0.1**
F19A	**Roth Farm, Mol** baz=49	**49.42**	**67**	⇑P		**P**	**11 59 34.6**	**-0.1**
DGMT	**Dagmar** baz=49	**49.49**	**61**	⇓P		**P**	**11 59 35.2**	**0.0**
G18A	**Lazy EL Ranch,** baz=49	**49.55**	**67**	⇑P		**P**	**11 59 35.7**	**0.0**
C23A	**Lambert** baz=49	**49.58**	**62**	⇓P		**P**	**11 59 36.0**	**+0.2**
D22A	**Cohagen** baz=49	**49.65**	**64**	⇑P		**P**	**11 59 36.3**	**-0.1**
E21A	**Keefer Ranch,** baz=50	**49.72**	**65**	⇓P		**P**	**11 59 37.1**	**+0.2**
ARU	**Arti**	**49.75**	**316**	*c i*P		**P**	**11 59 37.4**	**+0.5**
ARU							12 01 26.4	
ARU				S		**S**	**12 06 46.5**	**+1.5**
ARU				SS		**SS**	**12 10 16.9**	**+0.2**
ARU	comp=Z,17nm,1.7s			pmax	pmax			
ARU	**Arti** comp=Z,5.8nm,1.0s	**49.75**	**316**	*e*P		**P**	**11 59 36.7**	**-0.2**
LKWY	**Lake**	**49.75**	**69**	*e*P		**P**	**11 59 38.2**	**+0.8**
LKWY	comp=Z,4.0nm,0.8s			pmax	pmax			
LKWY	**Lake** comp=Z,4.4nm,0.8s	**49.75**	**69**	*e*P		**P**	**11 59 38.2**	**+0.8**
I16A	**Newdale** baz=50	**49.78**	**70**	⇓P		**P**	**11 59 37.4**	**-0.2**
H17A	**Grant Village** baz=50	**49.80**	**69**	⇓P		**P**	**11 59 37.9**	**+0.1**
F20A	**Billings** baz=50	**49.81**	**66**	⇑P		**P**	**11 59 37.6**	**-0.1**
RLMT	**Red Lodge** baz=50,SNR=5.3	**49.83**	**67**	⇓P		**P**	**11 59 38.0**	**0.0**
FLWY	**Flagg Ranch** comp=Z,4.7nm,0.8s	**49.99**	**69**	*e*P		**P**	**11 59 39.3**	**+0.1**
H18A	**Shoshone NF, C** baz=50	**50.00**	**68**	⇑P		**P**	**11 59 39.0**	**-0.2**
K14A	**Jones Ranch, D** baz=50	**50.03**	**72**	⇓P		**P**	**11 59 39.7**	**+0.3**
D23A	**Lindsay** baz=50	**50.05**	**63**	⇑P		**P**	**11 59 39.9**	**+0.4**
I17A	**Pilgrim Ck.** baz=50	**50.17**	**69**	⇑P		**P**	**11 59 40.6**	**0.0**
G20A	**Bridger** baz=50	**50.23**	**67**	⇓P		**P**	**11 59 40.2**	**-0.7**
H19A	**Powell** baz=50	**50.31**	**68**	⇑P		**P**	**11 59 41.4**	**-0.1**
F22A	**Rosebud** baz=50	**50.67**	**65**	⇑P		**P**	**11 59 44.3**	**+0.2**
L15A	**Malad City** baz=51	**50.82**	**72**	⇑P		**P**	**11 59 45.2**	**-0.3**
J18A	**Kendall Valley** baz=51	**50.97**	**70**	⇓P		**P**	**11 59 46.3**	**-0.4**
G22A	**Birney** baz=51	**51.09**	**65**	⇓P		**P**	**11 59 47.4**	**+0.1**
F23A	**Volborg** baz=51	**51.09**	**64**	⇑P		**P**	**11 59 47.5**	**+0.2**
M15A	**Larsen Ranch,** baz=51	**51.22**	**73**	⇑P		**P**	**11 59 48.6**	**+0.2**
H21A	**Big Horn, Sher** baz=51	**51.22**	**66**	⇓P		**P**	**11 59 48.8**	**+0.5**
L16A	**Fish Haven** baz=51	**51.26**	**72**	⇑P		**P**	**11 59 49.0**	**+0.2**
I20A	**Worland** baz=51	**51.26**	**68**	⇓P		**P**	**11 59 48.9**	**+0.3**
J19A	**Crowheart** baz=51	**51.37**	**69**	⇑P		**P**	**11 59 50.0**	**+0.4**
K18A	**Toltan Ranch,** baz=51,SNR=7.1	**51.41**	**70**	⇑P		**P**	**11 59 50.2**	**+0.3**
F24A	**Ekalaka** baz=51	**51.42**	**63**	⇓P		**P**	**11 59 50.1**	**+0.3**
L17A	**Cokeville** baz=51	**51.45**	**71**	⇓P		**P**	**11 59 50.7**	**+0.5**
G23A	**Biddle** baz=51	**51.50**	**65**	⇑P		**P**	**11 59 50.7**	**+0.3**
PD01	**Pinedale Array**	**51.51**	**70**	*e*P		**P**	**11 59 49.6**	**-1.1**
PD02	**Pinedale Array**	**51.52**	**70**	*e*P		**P**	**11 59 49.4**	**-1.3**
BW06	**Boulder Array** baz=51,SNR=6.0	**51.53**	**70**	⇑P		**P**	**11 59 50.6**	**-0.2**
PDAR	**Pinedale Array**	**51.53**	**70**	P		**P**	**11 59 50.4**	**-0.4**
PDAR	**Pinedale Array** comp=Z,3.1nm,0.7s,baz=325,slow=3.3,SNR=24	**51.53**	**70**	P		**P**	**11 59 50.4**	**-0.4**
PDAR				LR		LR	12 21 51.3	
ULM	**Lac du Bonnet**	**51.54**	**54**	P		**P**	**11 59 50.3**	**-0.2**
ULM	**Lac du Bonnet** comp=Z,2.0nm,0.7s,baz=331,slow=9.5,SNR=3.8	**51.54**	**54**	P		**P**	**11 59 50.3**	**-0.2**
ULM	comp=Z,124nm,18.7s,baz=163,slow=38			LR		LR	12 23 31.6	
KLMR	**Klimovskoe**	**51.69**	**330**	*e*P		**P**	**11 59 51.1**	**-0.3**
KLMR	comp=Z,17nm,1.5s			pmax	pmax			
KLMR	comp=Z,194nm,17.0s			MLR	MLR			
M16A	**Huntsville** baz=52	**51.71**	**72**	⇓P		**P**	**11 59 51.9**	**-0.3**
J20A	**Shoshoni** baz=52	**51.74**	**68**	⇓P		**P**	**11 59 52.5**	**+0.2**
K19A	**Absolon Red Bu** baz=52	**51.81**	**69**	⇑P		**P**	**11 59 52.5**	**-0.4**
DUG	**Dugway** baz=52	**52.04**	**74**	⇓P		**P**	**11 59 54.5**	**-0.1**
I22A	**9 Mile Ranch,** baz=52	**52.04**	**66**	⇓P		**P**	**11 59 54.5**	**0.0**
H24A	**Dirks Ranch, A** baz=52	**52.23**	**64**	⇓P		**P**	**11 59 55.4**	**-0.4**
N18A	**Larsen Ranch,** baz=53	**52.89**	**71**	⇓P		**P**	**12 00 00.8**	**-0.1**
K22A	**Casper** baz=53	**53.00**	**67**	⇑P		**P**	**12 00 01.6**	**-0.1**
LRMC	**Laurel Mountai** baz=53	**53.47**	**81**	⇑P		**P**	**12 00 05.1**	**0.0**
N20A	**Spence Gulch,** baz=53,SNR=8.7	**53.65**	**70**	⇑P		**P**	**12 00 06.4**	**-0.2**
TKM2	**Tokmak 2**	**53.67**	**294**	*e*P		**P**	**12 00 07.0**	**+0.3**
TKM2	comp=Z,3.0nm,0.8s			pmax	pmax			
TKM2	**Tokmak 2** comp=Z,3.2nm,0.8s	**53.67**	**294**	*e*P		**P**	**12 00 07.0**	**+0.3**
O19A	**Miners Draw (B** baz=53	**53.68**	**71**	⇑P		**P**	**12 00 06.4**	**-0.3**
L23A	**Garrett** baz=54	**53.80**	**67**	⇑P		**P**	**12 00 07.5**	**-0.2**
M22A	**Cedar Creek Ra** baz=54	**53.96**	**68**	⇑P		**P**	**12 00 09.2**	**+0.4**
N21A	**Black Mountain** baz=54	**54.05**	**70**	⇑P		**P**	**12 00 09.7**	**+0.2**
FINES	**FINESS Array B**	**54.09**	**337**	P		**P**	**12 00 08.5**	**-0.6**
FINES	**FINESS Array B** comp=Z,0.9nm,0.5s,baz=358,slow=6.1,SNR=3.8	**54.09**	**337**	P		**P**	**12 00 08.5**	**-0.6**
FINES	comp=Z,50nm,18.9s,baz=76,slow=42			LR		LR	12 28 54.4	
O20A	**White River Ci** baz=54	**54.22**	**71**	⇓P		**P**	**12 00 10.9**	**+0.2**
AAK	**Ala-Archa**	**54.39**	**295**	*ce*P		**P**	**12 00 12.2**	**+0.3**
AAK	comp=Z,30nm,1.7s			pmax	pmax			
AAK	**Ala-Archa**	**54.39**	**295**	P		**P**	**12 00 12.9**	**+1.0**
AAK	**Ala-Archa** comp=Z,5.6nm,1.0s,baz=62,slow=5.2,SNR=12	**54.39**	**295**	P		**P**	**12 00 12.9**	**+1.0**
N22A	**Wattenberg Ran** baz=54	**54.50**	**69**	⇓P		**P**	**12 00 12.7**	**-0.1**
Q19A	**Hogan Spring (** baz=54	**54.69**	**72**	⇑P		**P**	**12 00 13.8**	**-0.2**
EKS2	**Erkin-Say**	**54.69**	**295**	*e*P		**P**	**12 00 14.2**	**+0.2**
EKS2	comp=Z,10.0nm,1.2s			pmax	pmax			
EKS2	**Erkin-Say** comp=Z,10nm,1.2s	**54.69**	**295**	*e*P		**P**	**12 00 14.2**	**+0.2**
M24A	**Cheyenne** baz=54	**54.71**	**67**	⇓P		**P**	**12 00 14.1**	**-0.1**
GMRC	**Granite Mounta** baz=55	**55.01**	**80**	⇑P		**P**	**12 00 16.7**	**+0.3**
ABKAR	**Akbulak array** comp=Z,3.1nm,0.7s	**55.04**	**310**	*e*P		**P**	**12 00 16.4**	**+0.2**
O23A	**Lake Granby, G** baz=55	**55.22**	**69**	⇑P		**P**	**12 00 18.1**	**+0.1**
T17A	**Navajo Res., N** baz=55	**55.54**	**75**	⇑P		**P**	**12 00 21.2**	**+0.9**
Q21A	**Lamborn Mesa,** baz=55	**55.57**	**71**	⇑P		**P**	**12 00 20.7**	**+0.3**
ISCO	**Idaho Springs** baz=55	**55.69**	**69**	⇑P		**P**	**12 00 21.6**	**+0.2**
R20A	**Redvale** baz=56	**55.71**	**72**	⇓P		**P**	**12 00 21.7**	**+0.2**
IRM	**Iron Mountain** baz=56	**55.76**	**80**	⇓P		**P**	**12 00 22.3**	**+0.6**
KKAR	**Karatay Array** comp=Z,5.0nm,0.9s	**55.76**	**298**	*e*P		**P**	**12 00 21.8**	**+0.3**
KKAR				pmax	pmax			
KKAR	**Karatay Array** comp=Z,4.7nm,0.9s	**55.76**	**298**	*e*P		**P**	**12 00 21.8**	**+0.3**
Q22A	**Crested Butte,** baz=56	**55.85**	**70**	⇑P		**P**	**12 00 22.4**	**-0.2**
T18A	**Mexican Hat** baz=56	**55.86**	**74**	⇑P		**P**	**12 00 22.3**	**-0.2**
O26A	**Horse Wrangler** baz=56	**56.38**	**67**	⇓P		**P**	**12 00 27.2**	**+1.1**
Y12C	**Blythe** baz=56	**56.39**	**80**	⇓P		**P**	**12 00 27.0**	**+0.8**
S21A	**Coal Bank Pass** baz=56	**56.41**	**72**	⇑P		**P**	**12 00 27.3**	**+0.7**
WUAZ	**Wupatki** baz=56	**56.47**	**76**	⇓P		**P**	**12 00 27.0**	**+0.1**
T19A	**Beclabito** baz=56	**56.51**	**74**	⇓P		**P**	**12 00 27.6**	**+0.4**
P25A	**Willow Gulch B** baz=56	**56.58**	**68**	⇓P		**P**	**12 00 27.7**	**0.0**
S22A	**4UR Ranch, Cre** baz=56	**56.79**	**71**	⇓P		**P**	**12 00 29.3**	**0.0**
NB2	**NORSAR Subarra** comp=Z,2.5nm,0.8s,baz=14,slow=7.4	**56.79**	**345**	P		**P**	**12 00 28.2**	**-0.5**
NOA	**NORSAR Array B**	**56.79**	**345**	P		**P**	**12 00 28.4**	**-0.3**
NOA	**NORSAR Array B** comp=Z,2.0nm,0.8s,baz=14,slow=7.3,SNR=4.0	**56.79**	**345**	P		**P**	**12 00 28.4**	**-0.3**
Y14A	**Wickenburg** baz=57	**56.97**	**79**	⇑P		**P**	**12 00 30.9**	**+0.5**
Q25A	**Bedland, Calha** baz=57	**57.03**	**68**	⇑P		**P**	**12 00 30.9**	**+0.1**
QIZ	**Qiongzhong**	**57.08**	**249**	P		**P**	**12 00 30.8**	**-0.4**
QIZ				S		**S**	**12 08 21.6**	**-3.8**
QIZ	comp=E,150nm,11.6s			LR	LR			
QIZ	comp=Z,170nm,9.4s			LR	LR			
P27A	**Ficken Ranch,** baz=57	**57.26**	**67**	⇓P		**P**	**12 00 32.6**	**+0.2**
T22A	**Edith** baz=57	**57.35**	**72**	⇑P		**P**	**12 00 33.4**	**+0.2**
SCHQ	**Schefferville**	**57.40**	**33**	P		**P**	**12 00 30.6**	**-2.4**
SCHQ	**Schefferville** comp=Z,4.0nm,1.0s,baz=314,slow=4.6,SNR=4.3	**57.40**	**33**	P		**P**	**12 00 30.6**	**-2.4**
SCHQ	comp=Z,132nm,19.9s,baz=357,slow=38			LR		LR	12 26 52.9	
SDCO	**Great Sand Dun** baz=57	**57.40**	**70**	⇓P		**P**	**12 00 33.5**	**-0.1**
OBN	**Obninsk**	**57.49**	**328**	*e*P		**P**	**12 00 34.0**	**+0.4**
OBN				*i*			12 02 40.6	
OBN	comp=Z,4.0nm,0.8s			pmax	pmax			
OBN	comp=Z,100nm,15.0s			MLR	MLR			
113A	**Mohawk Valley,** baz=57	**57.56**	**80**	⇑P		**P**	**12 00 34.7**	**+0.3**
R26A	**Arlington** baz=58	**57.89**	**68**	⇑P		**P**	**12 00 37.1**	**+0.2**
X18A	**Snowflake** baz=58	**57.95**	**76**	⇓P		**P**	**12 00 38.1**	**+0.7**
S25A	**Robles Cordova** baz=58	**57.96**	**69**	⇓P		**P**	**12 00 37.7**	**+0.2**
W20A	**Ramah** baz=58	**58.14**	**74**	⇓P		**P**	**12 00 39.4**	**+0.6**
T24A	**Torres, Weston** baz=58	**58.16**	**70**	⇓P		**P**	**12 00 39.1**	**+0.2**
R27A	**Eads** baz=58	**58.20**	**68**	⇓P		**P**	**12 00 39.4**	**+0.4**
U23A	**El Rito** baz=58	**58.24**	**72**	⇑P		**P**	**12 00 40.1**	**+0.6**
S26A	**Kim** baz=58	**58.44**	**69**	⇑P		**P**	**12 00 41.1**	**+0.4**
Y19A	**Nutrioso** baz=58	**58.74**	**76**	⇓P		**P**	**12 00 43.7**	**+0.7**
T26A	**Comanche Natio** baz=58	**58.74**	**69**	⇓P		**P**	**12 00 43.5**	**+0.5**
U25A	**Circle Dot Ran** baz=59	**59.01**	**70**	⇓P		**P**	**12 00 45.1**	**+0.3**
X21A	**Alamocita Cree** baz=59	**59.04**	**74**	⇓P		**P**	**12 00 45.4**	**+0.4**
V24A	**Rampart Ranch,** baz=59	**59.16**	**71**	⇓P		**P**	**12 00 46.3**	**+0.4**
Y20A	**Horse Springs,** baz=59	**59.20**	**75**	⇓P		**P**	**12 00 46.8**	**+0.6**
V25A	**Rancho No Teng** baz=59	**59.37**	**71**	⇑P		**P**	**12 00 47.7**	**+0.4**
VRHR	**Novokhopersk**	**59.66**	**323**	*e*P		**P**	**12 00 47.5**	**-1.3**
VRHR	comp=E,6.0nm,0.6s			pmax	pmax			
VRHR	comp=Z,6.0nm,0.6s			pmax	pmax			
VRHR	comp=N,2.0nm,0.3s			pmax	pmax			
V26A	**Tequesquite Ra** baz=60	**59.79**	**70**	⇑P		**P**	**12 00 51.1**	**+1.1**
VSR	**Storozhevoye**	**60.27**	**324**	*e*P		**P**	**12 00 53.2**	**+0.2**
VSR	comp=N,6.0nm,0.6s			pmax	pmax			
VSR	comp=Z,7.0nm,0.6s			pmax	pmax			
VSR	comp=E,1.0nm,0.3s			pmax	pmax			
KSU1	**Kansas State U** comp=E,9.1nm,0.7s	**60.27**	**63**	*e*P		**P**	**12 00 51.9**	**-1.3**
VORD	**Divnogorie**	**60.46**	**324**	*e*P		**P**	**12 00 54.2**	**0.0**
VORD	comp=E,10.0nm,0.7s			pmax	pmax			
VORD	comp=Z,4.0nm,0.7s			pmax	pmax			
VORD	comp=N,2.0nm,0.3s			pmax	pmax			
319A	**Douglas** baz=61	**60.86**	**77**	⇓P		**P**	**12 00 58.8**	**+1.4**
Z26A	**Caprock** baz=62	**61.78**	**72**	⇑P		**P**	**12 01 04.0**	**+0.3**
X29A	**Tulia** baz=62	**61.86**	**69**	⇓P		**P**	**12 01 05.2**	**+1.1**
125A	**Gardner Draw,** baz=62	**61.98**	**73**	⇓P		**P**	**12 01 06.1**	**+1.1**
MNTX	**Cornudas Mount** baz=62	**62.44**	**74**	⇓P		**P**	**12 01 08.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**62.68**	**259**	P		**P**	**12 01 09.2**	**-0.5**
CMAR	**Chiang Mai Arr** comp=N,0.4nm,0.3s,baz=12,slow=5.8,SNR=5.2	**62.68**	**259**	P		**P**	**12 01 09.2**	**-0.5**
226A	**Malaga, Loving** baz=62	**62.73**	**73**	⇓P		**P**	**12 01 10.4**	**+0.4**
Z29A	**Hungry Hill Ra** baz=63	**62.85**	**70**	⇓P		**P**	**12 01 11.2**	**+0.5**
WMOK	**Wichita Mounta**	**62.94**	**67**	*e*P		**P**	**12 01 10.5**	**-0.8**
WMOK	comp=Z,5.0nm,0.9s			pmax	pmax			
WMOK	**Wichita Mounta** comp=Z,4.7nm,0.9s	**62.94**	**67**	*e*P		**P**	**12 01 10.5**	**-0.8**
128A	**Castleberry Fa** baz=63	**63.02**	**71**	⇓P		**P**	**12 01 13.5**	**+1.6**
AKASG	**Malin Array Be**	**63.35**	**331**	P		**P**	**12 01 13.7**	**0.0**
AKASG	comp=Z,3.0nm,0.8s			pmax	pmax			
AKASG	**Malin Array Be**	**63.35**	**331**	P		**P**	**12 01 13.7**	**0.0**
AKASG	**Malin Array Be** comp=Z,2.8nm,0.8s,baz=26,slow=6.9,SNR=4.6	**63.35**	**331**	P		**P**	**12 01 13.7**	**0.0**
326A	**Caldwell Ranch** baz=63	**63.41**	**73**	⇑P		**P**	**12 01 16.2**	**+1.6**
526A	**Mary Lane Ranc** baz=64	**64.41**	**74**	⇑P		**P**	**12 01 22.8**	**+1.6**
428A	**Kincaid Ranch,** baz=64	**64.51**	**72**	⇑P		**P**	**12 01 23.0**	**+1.3**
527A	**Woodward Ranch** baz=64	**64.56**	**74**	⇓P		**P**	**12 01 23.4**	**+1.2**
626A	**Big Bend Ranch** baz=65	**64.81**	**74**	⇑P		**P**	**12 01 24.9**	**+1.2**
TXAR	**Lajitas Array**	**65.22**	**74**	P		**P**	**12 01 25.9**	**-0.4**
TXAR	**Lajitas Array** comp=Z,0.7nm,0.9s,baz=350,slow=4.6,SNR=5.4	**65.22**	**74**	P		**P**	**12 01 25.9**	**-0.4**
627A	**Terlingua Ranc** baz=65	**65.25**	**74**	⇑P		**P**	**12 01 26.7**	**+0.1**
KIV	**Kislovodsk**	**65.67**	**318**	*e*P		**P**	**12 01 30.2**	**+1.1**
KIV	comp=Z,12nm,1.0s			pmax	pmax			
KIV	comp=Z,42nm,19.0s			MLR	MLR			
WVT	**Waverly**	**66.50**	**58**	*e*P		**P**	**12 01 33.0**	**-1.5**
WVT	comp=Z,6.0nm,0.7s			pmax	pmax			
WVT	**Waverly** comp=Z,5.7nm,0.7s	**66.50**	**58**	*e*P		**P**	**12 01 33.0**	**-1.5**
ANN	**Anapa**	**66.55**	**322**	*e*P		**P**	**12 01 35.4**	**+0.8**
ANN				*e*PPP	PPP		12 05 40.9	
ANN				*e*S		**S**	**12 10 24.1**	**-0.5**
ANN				*e*SS		**SS**	**12 14 40.0**	**-0.7**
GERES	**GERESS Array B** comp=Z,72nm,18.9s,baz=36,slow=39	**68.27**	**340**	LR	LR		12 35 07.7	
WRA	**Warramunga Arr**	**84.39**	**209**	P		**P**	**12 03 15.4**	**-1.7**
WRA	**Warramunga Arr** comp=Z,1.8nm,0.8s,baz=19,slow=5.6,SNR=16	**84.39**	**209**	P		**P**	**12 03 15.4**	**-1.7**
ASAR	**Alice Springs**	**88.08**	**209**	P		**P**	**12 03 36.3**	**+1.1**
ASAR	**Alice Springs** comp=Z,0.4nm,0.6s,baz=9.6,slow=4.8,SNR=9.8	**88.08**	**209**	P		**P**	**12 03 36.3**	**+1.1**
QSPA	**South Pole Qui**	**150.66**	**180**	PKPbc		**PKPbc**	**12 10 33.5**	**-2.0**
QSPA	**South Pole Qui** comp=Z,3.5nm,0.7s,baz=183,slow=1.9,SNR=14	**150.66**	**180**	PKPbc		**PKPbc**	**12 10 33.4**	**-2.0**

PRE 16 12:11:34.7±1.2, 28.07S×26.85E, h2km, ML1.8, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SEK	**Senekal**	**0.72**	**110**	*e*P	Pg	12 11 49.2	+0.4
SEK				*e*S	Sg	12 11 58.1	-0.3
SEK	comp=Z,14nm,0.2s			AML	AML	12 12 02.1	
PRYS	**Parys**	**1.23**	**22**	*e*P	Pg	12 11 58.3	-0.1
PRYS				*e*S	Sb	12 12 15.3	0.0
PRYS	comp=Z,26nm,0.2s			AML	AML	12 12 19.1	
BOSA	**Boshof**	**1.51**	**249**	*e*P	Pg	12 12 03.9	+0.1
BOSA				*e*S	Sg	12 12 24.2	+0.7
BOSA	comp=Z,3.1nm,0.3s			AML	AML	12 12 27.2	
SWZ	**Schweizer**	**1.61**	**303**	*e*P	Pg	12 12 05.8	-0.1
SWZ				*e*S	Sb	12 12 26.4	-0.1
SWZ	comp=Z,11nm,0.1s			AML	AML	12 12 30.1	

IDC 16 13:06:04.5±1.3, 3.68N×127.09E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.6/5, Error ellipse: s-maj=125.7km s-min=19.4km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 1.7nm,0.6s,baz=343,slow=10,SNR=14	**24.53**	**163**	P	P	13 11 25.9	-0.1
ASAR	**Alice Springs** 0.3nm,0.4s,baz=349,slow=9.4,SNR=5.8	**27.98**	**167**	P	P	13 11 57.6	+0.5
STKA	**Stephens Creek** 1.5nm,0.6s,baz=318,slow=9.5,SNR=3.7	**37.95**	**160**	P	P	13 13 23.5	-0.5
SONM	**Songino Array** 0.3nm,0.7s,baz=147,slow=3.4,SNR=2.5	**47.47**	**341**	P	P	13 14 41.0	-0.3
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=126,slow=7.1,SNR=4.5	**57.80**	**325**	P	P	13 15 57.8	0.0

*IDC **16** 13:19:38.8±8.6, 34.12N×69.38E, h0km, mb3.5/2, mb1 3.5/5, mb1mx3.2/28, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=266.9km s-min=29.6km az=95.0*
*ISCJB **16** 13:19:47.0±1.3, 34.31N±0.08×70.6E±0.2, h33km, mb3.4/2, Error ellipse: s-maj=27.0km s-min=10.9km az=178.1*

ISC 16 13:19:47.7±1.7, 34.2N±0.1×70.5E±0.3, h35km, n7, σ0.82/8, 1C-2D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array** 0.5nm,0.4s,baz=182,slow=13,SNR=7.2	**8.87**	**0**	⇓Pn	**Pn**	**13 21 53.8**	**+0.5**
KK31	0.3nm,0.3s,baz=183,slow=22,SNR=3.7			⇓Sn	**Sn**	**13 23 32.4**	**+0.3**
AAK	**Ala-Archa** 0.2nm,0.3s,baz=186,slow=9.2,SNR=4.0	**8.98**	**19**	Pn	Pn	13 21 56.6	+1.7
AAK	0.1nm,0.3s,baz=319,slow=23,SNR=2.9			Sn	**Sn**	**13 23 35.4**	**+0.5**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=208,slow=9.6,SNR=5.7	**15.43**	**32**	Pn	**P**	**13 23 25.5**	**-1.3**
AB31	**Akbulak array** 0.4nm,0.5s,baz=162,slow=13,SNR=16	**16.93**	**336**	⇑Pn	**P**	**13 23 42.9**	**-0.4**
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=201,slow=10,SNR=3.1	**17.42**	**17**	P	**P**	**13 23 48.0**	**-0.8**
WRA	**Warramunga Arr** 0.5nm,1.1s,baz=322,slow=5.1,SNR=5.0	**81.17**	**121**	P	**P**	**13 32 00.3**	**+0.4**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=309,slow=5.4,SNR=5.0	**83.32**	**124**	P	**P**	**13 32 11.6**	**+0.4**

*IDC **16** 13:20:22.2±1.1, 3.95N×126.94E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/21, mbtmp3.7/7, Error ellipse: s-maj=71.5km s-min=17.0km az=64.0*
*ISCJB **16** 13:20:25.7±1.0, 3.9N±0.2×126.9E±0.4, h36km, mb3.6/7, Error ellipse: s-maj=66.5km s-min=13.9km az=153.6*
*MAN **16** 13:20:57, 5.67N×125.84E, h81km, mb4.4, ML3.3, MS3.1*

ISC 16 13:20:27.5±1.2, 3.9N±0.3×126.9E±0.5, h36km, n9, σ0.60/7, mb3.8/7, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.22**	**321**	⇓*i*P	Pn	13 21 33.3	+4.0
BUKP	**Musuan**	**4.34**	**335**	*e*P	Pn	13 21 35.8	+4.8
WRA	**Warramunga Arr** 1.7nm,0.7s,

CMAR	**Chiang Mai Arr**	**30.94**	**300**	P		**P**	**13**	**26**	**41.4**	**0.0**
	0.2nm,0.4s,baz=118,slow=7.5,SNR=3.7									
STKA	**Stephens Creek**	**38.25**	**160**	P		**P**	**13**	**27**	**43.9**	**-0.4**
	2.6nm,0.8s,baz=344,slow=5.5,SNR=4.7									
SONM	**Songino Array**	**47.17**	**341**	P		**P**	**13**	**28**	**57.1**	**+0.5**
	0.3nm,0.6s,baz=180,slow=4.3,SNR=3.1									
KURBB	**Kurchatov Arra**	**61.67**	**327**	P		**P**	**13**	**30**	**41.5**	**-0.3**
	0.5nm,0.6s,baz=122,slow=7.0,SNR=6.1									
AKTO	**Aktyubinsk**	**73.62**	**322**	P		**P**	**13**	**31**	**57.0**	**-0.2**
	1.2nm,0.8s,baz=129,slow=4.8,SNR=5.9									

KRSC 16 13:26:54.5±0.6, 50.94N×157.74E, h5km±5km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
ASAK	**Asacha**	**1.45**	**4**	*eP*		Pb	13	27	22.1	0.0
ASAK				*i* S		Sg	13	27	41.8	+0.5
MTVR	**Mutnovka**	**1.57**	**10**	*eP*		Pb	13	27	23.9	-0.3
MTVR				*i* S		Sg	13	27	45.3	0.0
RUS	**Russkaya**	**1.57**	**18**	*eP*		Pn	13	27	23.5	+0.5
RUS				*i* S		Sg	13	27	44.6	-0.4
PET	**Petropavlovsk**	**2.16**	**15**	*eP*		Pn	13	27	31.5	+0.4
PET				*i* S		Sn	13	27	59.1	+0.8
UGLR	**Uglovaya**	**2.37**	**16**	*eP*		Pn	13	27	35.1	+0.9
AVH	**Avacha**	**2.41**	**14**	*eP*		Pn	13	27	35.7	+1.0
SMAR	**Somma**	**2.42**	**15**	*eP*		Pn	13	27	35.8	+0.8
KOK	**Koryaka**	**2.42**	**13**	*eP*		Pn	13	27	36.0	+1.2
SDLR	**Sedlovina**	**2.45**	**16**	*eP*		Pn	13	27	36.2	+1.0
SDLR				*i* S		Sn	13	28	07.1	+1.5
SPN	**Mys Shipunski**	**2.58**	**32**	P		Pn	13	27	38.8	+1.9
SPN				*i* S		Sb	13	28	11.4	-1.8
KBTR	**Krutoberegovo**	**6.08**	**28**	*eP*		Pn	13	28	24.9	-0.1

MEX 16 13:41:51.0±0.3, 14.17N×92.52W, h16km±18km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
THIG		**0.78**	**18**	*eP*		Pb	13	42	03.1	-3.0
THIG				*eS*		Sg	13	42	12.3	-4.1
PCIG		**1.67**	**336**	*eP*		Pn	13	42	15.9	-3.8
PCIG				*eS*		Sn	13	42	35.9	-4.9
CCIG	**Comitan**	**2.13**	**10**	*eP*		Pn	13	42	23.0	-3.2
CCIG				*i* S		Sn	13	42	47.8	-4.8
CCIG				*eS*		Sb	13	42	47.9	-8.1
TGIG		**2.66**	**347**	*eP*		Pn	13	42	31.2	-2.1
TGIG				*eS*		Sn	13	43	01.1	-4.3
CMIG	**Matias Romero**	**3.70**	**322**	*eP*		Pn	13	42	45.1	-2.4
CMIG				*eS*		Sn	13	43	27.1	-3.7
HUIG	**Huatulco**	**3.82**	**295**	*eP*		Pn	13	42	46.9	-2.3
HUIG				*i* S		Sn	13	43	29.6	-4.2

PRE 16 13:52:49.4±0.4, 26.41S×27.63E, h2km, ML1.9, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
KLOF	**Kloof**	**0.06**	**346**	*eP*		Pg	13	52	50.8	0.0
KLOF				*eS*		Sg	13	52	51.3	-0.5
KLOF				AML		AML	13	52	51.6	
	comp=Z,2μm,0.2s									
PRYS	**Parys**	**0.57**	**205**	*eP*		Pg	13	53	00.5	0.0
PRYS				*eS*		Sg	13	53	08.2	+0.1
PRYS				AML		AML	13	53	09.1	
	comp=Z,13nm,0.1s									
LBTB	**Lobatse**	**2.29**	**307**	*eP*		Pn	13	53	29.1	+0.6
LBTB				*eS*		Sn	13	53	58.1	+0.8
LBTB				AML		AML	13	54	01.1	
	comp=Z,4.6nm,0.3s									

IDC 16 13:57:21.1±2.7, 20.85S×178.73W, h625km±31km, mb3.5/11, mb1 3.7/11, mb1mx3.5/18, mbtmp3.5/11, 1D, Error ellipse: s-maj=18.2km s-min=14.4km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
AFI	**Afiamalu**	**9.58**	**45**	P		P	13	59	28.8	-7.7
	6.8nm,0.3s,baz=40,slow=4.8,SNR=13									
AFI				S		S	14	01	15.3	-12
	9.3nm,0.3s,baz=37,slow=23,SNR=10									
ARMA	**Armidale**	**28.30**	**244**	P		P	14	02	27.2	+0.1
CTA	**Charters Tower**	**32.77**	**265**	*eP*		P	14	03	04.9	-0.3
	9.3nm,0.3s									
PMG	**Port Moresby**	**34.76**	**284**	P		P	14	03	21.7	-0.1
	7.6nm,0.6s,baz=99,slow=7.8,SNR=4.0									
STKA	**Stephens Creek**	**37.02**	**244**	*eP*		P	14	03	40.0	-0.1
	4.2nm,0.5s									
STKA	**Stephens Creek**	**37.02**	**244**	P		P	14	03	40.4	+0.2
	5.0nm,0.5s,baz=90,slow=9.8,SNR=17									
ASAR	**Alice Springs**	**43.77**	**257**	P		P	14	04	33.5	-0.2
	16nm,0.5s,baz=93,slow=7.9,SNR=234									
ASAR				PcP		PcP	14	06	06.5	+0.4
	1.8nm,0.6s,baz=101,slow=4.0,SNR=6.7									
ASAR				S		S	14	10	20.9	+0.2
	1.0nm,0.9s,baz=92,slow=16,SNR=7.6									
WRA	**Warramunga Arr**	**43.87**	**263**	P		P	14	04	33.9	-0.6
	7.8nm,0.3s,baz=97,slow=7.6,SNR=411									
FORT	**Forrest**	**48.53**	**247**	*eP*		P	14	05	08.8	-0.5
	23nm,0.5s									
FITZ	**Fitzroy Crossi**	**52.30**	**263**	*eP*		P	14	05	37.0	+0.1
	8.9nm,0.4s									
KLBR	**Kellerberrin**	**57.29**	**245**	*eP*		P	14	06	10.2	-1.1
	24nm,1.0s									
QSPA	**South Pole Qui**	**69.22**	**180**	P		P	14	07	27.0	+0.2
	1.0nm,0.6s,baz=331,slow=2.7,SNR=22									
MJAR	**Matsushiro Arr**	**70.09**	**324**	P		P	14	07	31.3	-0.9
	1.8nm,0.6s,baz=159,slow=6.7,SNR=5.5									
USRK	**Ussuriysk Arra**	**78.86**	**326**	P		P	14	08	22.5	+1.6
	2.5nm,0.7s,baz=90,slow=4.6,SNR=5.2									
NVAR	**Mina Array Bea**	**81.75**	**44**	P		P	14	08	36.9	+0.5
	0.9nm,0.3s,baz=225,slow=8.7,SNR=3.5									
ILAR	**Eielson Array**	**88.81**	**13**	P		P	14	09	08.4	-1.0
	0.7nm,0.4s,baz=216,slow=5.1,SNR=13									
CMAR	**Chiang Mai Arr**	**89.59**	**290**	P		P	14	09	16.1	+1.9
	2.5nm,0.9s,baz=127,slow=2.8,SNR=15									
PDAR	**Pinedale Array**	**89.69**	**43**	P		P	14	09	14.4	+0.1
	1.0nm,0.6s,baz=211,slow=3.9,SNR=10									
ZALV	**Zalesovo Beam**	**110.33**	**321**	PKiKP		PKiKP	14	14	41.8	-1.4
	0.6nm,0.5s,baz=142,slow=2.0,SNR=4.1									
MKAR	**Makanchi Array**	**110.94**	**313**	PKiKP		PKiKP	14	14	43.6	-1.0
	0.3nm,0.4s,baz=162,slow=1.0,SNR=4.2									
ARCES	**ARCESS Array B**	**129.14**	**349**	PKP		PKPdf	14	15	18.0	-0.8
	1.7nm,0.6s,baz=90,slow=0.1,SNR=12									
FINES	**FINESS Array B**	**135.91**	**343**	PKP		PKPdf	14	15	31.6	-0.1
	0.6nm,0.4s,baz=64,slow=4.4,SNR=6.1									
AKASG	**Malin Array Be**	**142.98**	**330**	PKP		PKPdf	14	15	42.2	-2.6
	5.2nm,0.4s,baz=43,slow=4.2,SNR=30									
BRTR	**Keskin Array B**	**146.56**	**311**	PKPbc		PKPbc	14	15	54.4	+0.1
	2.1nm,0.6s,baz=136,slow=5.0,SNR=10									
CLL	**Collm**	**148.24**	**346**	*i* PKPbc		PKPbc	14	15	58.2	+0.2
	comp=Z,7.0nm,0.8s									
CLL				*i* PKPab		PKPab	14	16	03.5	0.0
	comp=Z,4.0nm,0.7s									
BRG	**Berggiesshubel**	**148.42**	**345**	*eP*		PKPbc	14	15	58.5	+0.1
	comp=Z,2.9nm,0.8s									
GERES	**GERESS Array B**	**150.34**	**343**	PKPbc		PKPbc	14	16	02.9	-0.3
	comp=Z,1.3nm,0.6s,baz=29,slow=3.0,SNR=9.4									
TORD	**Torodi Ar. Bea**	**172.33**	**183**	PKP		PKPdf	14	16	19.2	-1.2
	comp=Z,0.7nm,0.9s,baz=212,slow=4.9,SNR=4.1									
TORD				PKPab		PKPab	14	17	48.8	-0.3
	comp=Z,0.3nm,0.7s,baz=206,slow=3.0,SNR=2.8									

NIED ***16*** *13:59:00, 35.40N×138.60E, h17km, Mw3.8 Best double couple: M0 5.34000×10^14 NP1:φs275.00000°, δ65.00000°, λ113.00000°. NP2:φs50.00000°, δ34.00000°, λ51.00000°.*

IDC ***16*** *13:59:14.5±0.9, 35.33N×138.37E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.4/24, mbtmp3.5/5, ML3.3/1, MS3.5/2, Ms1 3.5/2, ms1mx2.6/34, Error ellipse: s-maj=31.6km s-min=11.5km az=85.0*

ISCJB ***16*** *13:59:17.2±0.4, 35.40N±0.03×138.56E±0.04, h27km±3km, mb3.5/4, MS3.9/1, Error ellipse: s-maj=5.8km s-min=4.7km az=161.1*

JMA ***16*** *13:59:17.9, 35.41N×138.55E, h20km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs264.00000°, δ47.00000°, λ105.00000°. NP2: φs62.00000°, δ45.00000°, λ74.00000°. Principal axes: T Plg79.0000°, Azm247.0000°; N Plg11.0000°, Azm73.0000°; P Plg1.0000°, Azm343.0000°;*

JMA Felt III J1.

ISC 16 13:59:17.6±0.8, 35.42N±0.03×138.56E±0.03, h21km±3km, n20, σ0.962/27, mb3.5/4, 1C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
JYN	**Shimob**	**0.08**	**351**	⇑P		**Pb**	**13**	**59**	**21.4**	**-0.2**
JYN				S		**Sb**	**13**	**59**	**24.4**	**0.0**
SHZ3	**Shizuoka 3**	**0.45**	**219**	⇓P		**Pb**	**13**	**59**	**26.6**	**-0.3**
SHZ3				S		**Sb**	**13**	**59**	**33.3**	**+0.1**
JOD2	**Odawara 2**	**0.46**	**110**	P		**Pb**	**13**	**59**	**27.2**	**+0.2**
JOD2				S		**Sb**	**13**	**59**	**33.9**	**+0.6**
JNT	**Takato**	**0.57**	**323**	⇓P		**Pb**	**13**	**59**	**28.7**	**-0.4**
JNT				*eS*		**Sb**	**13**	**59**	**36.6**	**-0.3**
JNY	**Yasuok**	**0.57**	**264**	⇓P		**Pb**	**13**	**59**	**28.8**	**-0.3**
JNY				*eS*		**Sb**	**13**	**59**	**37.0**	**+0.1**
JRY	**Ryogami san**	**0.66**	**25**	⇓P		**Pb**	**13**	**59**	**30.5**	**0.0**
JRY				*eS*		**Sb**	**13**	**59**	**39.4**	**+0.1**
JIZS	**Izushimoda**	**0.75**	**159**	⇓P		**Pb**	**13**	**59**	**31.4**	**-0.5**
JIZS				*eS*		**Sb**	**13**	**59**	**41.2**	**-0.5**
JIM2	**Oshima 3**	**1.00**	**134**	P		**Pb**	**13**	**59**	**36.1**	**-0.2**
MJAR	**Matsushiro Arr**	**1.16**	**346**	Pg		**Pn**	**13**	**59**	**38.2**	**-0.4**
	99nm,0.3s,baz=177,slow=16,SNR=800									
MJAR				Lg		Lg	13	59	53.1	
	78nm,0.3s,baz=173,slow=28,SNR=18									
MAT	**Matsushiro**	**1.16**	**346**	P		**Pb**	**13**	**59**	**38.6**	**-0.3**
MAT				S		**Sn**	**13**	**59**	**54.2**	**+0.4**
JHJ	**Hachijo jima 2**	**2.51**	**156**	Pn		**Pn**	**13**	**59**	**57.0**	**-0.1**
	15nm,0.3s,baz=229,slow=18,SNR=2.6									
JNU	**Nakatsue**	**6.76**	**252**	Pn		**Pn**	**14**	**00**	**57.5**	**+1.9**
	1.3nm,0.3s,baz=98,slow=10,SNR=20									
CBIJ	**Chichi jima**	**8.86**	**159**	LR		LR	14	04	20.5	
	comp=Z,99nm,19.1s,baz=331,slow=35									
ZALV	**Zalesovo Beam**	**41.33**	**314**	PcP		**PcP**	**14**	**08**	**59.5**	**-0.2**
	0.5nm,0.5s,baz=89,slow=4.1,SNR=4.0									
KURBB	**Kurchatov Arra**	**45.20**	**309**	P		**P**	**14**	**07**	**32.7**	**-0.2**
	0.2nm,0.2s,baz=84,slow=6.9,SNR=4.0									
KURBB				PcP		**PcP**	**14**	**09**	**12.1**	**-0.7**
	0.3nm,0.7s,baz=96,slow=3.8,SNR=4.3									
ILAR	**Eielson Array**	**52.08**	**32**	P		**P**	**14**	**08**	**26.6**	**+0.9**
	0.3nm,0.6s,baz=269,slow=5.5,SNR=5.1									
WRA	**Warramunga Arr**	**55.20**	**185**	P		**P**	**14**	**08**	**47.8**	**-1.2**
	0.8nm,0.7s,baz=4.0,slow=7.8,SNR=6.8									
ASAR	**Alice Springs**	**58.93**	**185**	P		**P**	**14**	**09**	**16.0**	**+0.7**
	0.3nm,0.8s,baz=13,slow=11,SNR=4.3									
NWAO	**Narrogin (SRO)**	**70.87**	**199**	LR		LR	14	40	25.3	
	comp=Z,77nm,20.9s,baz=268,slow=35									
QSPA	**South Pole Qui**	**125.17**	**180**	PKP		**PKPdf**	**14**	**18**	**14.9**	**-0.7**
	1.3nm,1.0s,baz=300,slow=1.9,SNR=4.0									

IDC 16 14:09:49.6±4.9, 0.70S×131.57E, h0km, mb3.3/2, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=333.0km s-min=25.6km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
WRA	**Warramunga Arr**	**19.32**	**172**	P		P	14	14	16.9	+0.4
	0.2nm,0.3s,baz=353,slow=12,SNR=11									
ASAR	**Alice Springs**	**22.94**	**175**	P		P	14	14	55.5	-0.2
	0.7nm,0.6s,baz=357,slow=11,SNR=16									
MKAR	**Makanchi Array**	**63.94**	**325**	P		P	14	20	24.5	-0.1
	0.2nm,0.4s,baz=130,slow=6.5,SNR=2.7									

BJI ***16*** *14:13:50.1, 2.99N×126.98E, h32km, mB5.1/28, mb4.8/40, Ms4.5/23, Ms7 4.3/26*

IDC ***16*** *14:13:50.6±0.4, 3.49N×126.73E, h0km, mb4.6/28, mb1 4.6/28, mb1mx4.6/28, mbtmp4.6/28, MS3.9/5, Ms1 4.0/5, ms1mx3.3/34, Error ellipse: s-maj=18.2km s-min=10.0km az=81.0*

ISCJB ***16*** *14:13:55.5±0.2, 3.52N±0.03×127.01E±0.04, h48km, mb4.8/75, MS4.0/17, Error ellipse: s-maj=5.3km s-min=3.6km az=172.4*

NEIC ***16*** *14:13:55.7±0.2, 3.46N×126.80E, h35km, mb4.9/30, Error ellipse: s-maj=9.3km s-min=5.0km az=74.0*

DJA ***16*** *14:13:59, 3.44N×127.13E, h56km, mb4.9/23*

ISC 16 14:13:57.1±0.3, 3.53N±0.04×126.92E±0.06, h48km, n173, σ1.971/207, mb4.8/79, MS4.0/17, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
TNTI	**Ternate**	**2.78**	**171**	P		**Pn**	**14**	**14**	**37.6**	**-1.5**
MNI	**Manado**	**2.93**	**225**	P		**Pn**	**14**	**14**	**43.0**	**+1.8**
MNI				S		**Sn**	**14**	**15**	**18.3**	**+3.1**
MATI	**Mati**	**3.45**	**349**	*eP*		**Pn**	**14**	**14**	**50.6**	**+2.2**
DAV	**Davao City (W)**	**3.76**	**339**	Pn		**Pn**	**14**	**14**	**54.5**	**+1.9**
DAV				Sn		Sn	14	15	50.7	+15
DAV	**Davao City (W)**	**3.76**	**339**	Pn		**Pn**	**14**	**14**	**54.5**	**+1.9**
	19nm,0.3s,baz=81,slow=17,SNR=3.6									
DAV				Sn		Sn	14	15	50.7	+15
	24nm,0.3s,baz=60,slow=20,SNR=3.7									
KMSI	**Cibinong**	**4.15**	**225**	P		**Pn**	**14**	**15**	**00.5**	**+2.6**
LBMI	**Labuha**	**4.18**	**172**	P		**Pn**	**14**	**14**	**58.8**	**+0.4**
CTBH	**Cotabato--PC H**	**4.53**	**324**	⇓*i*P		**Pn**	**14**	**15**	**04.8**	**+1.7**
BUKP	**Musuan**	**4.70**	**337**	*eP*		Pn	14	15	09.0	+3.5
PAGZ	**Pagadian**	**5.54**	**321**	*eP*		**Pn**	**14**	**15**	**19.0**	**+1.9**
MRSI	**Marisa**	**5.82**	**239**	P		**Pn**	**14**	**15**	**23.0**	**+2.1**
	228nm,0.9s,2μm0.8nm									
IPIL	**Ipil**	**6.05**	**315**	*eP*		**Pn**	**14**	**15**	**25.4**	**+1.4**
LUWI	**Luwuk**	**6.15**	**222**	P		Pn	14	15	30.0	+4.6
	307nm,0.7s,3μm									
SWI	**Sorong**	**6.16**	**135**	P		**Pn**	**14**	**15**	**26.2**	**+0.7**
	141nm,0.8s,1μm0.5nm									
MYLDM	**Lahad Datu**	**8.55**	**281**	P		Pn	14	16	04.0	+5.7
MYLDM	**Lahad Datu**	**8.55**	**281**	P		Pn	14	16	02.8	+4.5
	111nm,0.9s									
KDI	**Kendari**	**8.59**	**210**	P		**Pn**	**14**	**16**	**01.6**	**+2.7**
	44nm,0.8s									
TSM	**Tawau**	**9.05**	**275**	P		**Pn**	**14**	**16**	**08.3**	**+3.1**
TTSI	**Tana Toraja**	**9.64**	**227**	P		**Pn**	**14**	**16**	**15.5**	**+2.2**
SDKM	**Sandakan**	**9.91**	**283**	P		Pn	14	16	21.6	+4.6
KKM	**Kota Kinabalu**	**10.95**	**284**	P		Pn	14	16	37.9	+6.6
BTM	**Bintulu**	**13.81**	**269**	P		P	14	17	21.5	+4.0
SBUM	**Sibu**	**14.71**	**266**	P		**Pn**	**14**	**17**	**25.4**	**+3.0**
KSM	**Kuching**	**16.71**	**263**	*eP*		**Pn**	**14**	**17**	**49.9**	**+1.9**
	20nm,0.7s									
KSM	**Kuching**	**16.71**	**263**	P		**P**	**14**	**17**	**51.5**	**+1.7**
GUMO	**Guam**	**20.35**	**60**	LR		LR	14	26	20.4	
	comp=Z,231nm,18.5s,baz=282,slow=36									
YULB	**Yu-li**	**20.48**	**345**	*eP*		**P**	**14**	**18**	**27.5**	**-3.5**
	30nm,0.9s									
TPUB	**Ta-pu**	**20.57**	**343**	*eP*		**P**	**14**	**18**	**30.0**	**-2.0**
	83nm,0.8s									
SSLB	**Suanglung**	**20.95**	**345**	*eP*		**P**	**14**	**18**	**33.5**	**-2.5**
	71nm,0.8s									
FITZ	**Fitzroy Crossi**	**21.53**	**183**	*eP*		**P**	**14**	**18**	**41.0**	**-1.3**
	53nm,1.3s									
FITZ				S		Sn	14	22	47.4	-1.6
FITZ	**Fitzroy Crossi**	**21.53**	**183**	*eP*		**P**	**14**	**18**	**40.5**	**-1.8**
	32nm,0.9s									
FITZ	**Fitzroy Crossi**	**21.53**	**183**	P		**P**	**14**	**18**	**41.0**	**-1.3**
	12nm,0.7s,baz=30,slow=10,SNR=17									
FITZ				S		Sn	14	22	47.4	-1.6
	6.2nm,1.0s,baz=163,slow=21,SNR=3.3									
YHNB	**Yeheng**	**21.68**	**346**	*eP*		**P**	**14**	**18**	**43.9**	**-0.1**
	78nm,1.0s									
QIZ	**Qiongzhong**	**22.71**	**314**	P		**P**	**14**	**18**	**56.8**	**+1.8**
QIZ				S		**S**	**14**	**23**	**03.3**	**+3.1**
QIZ				pmax		pmax				
	comp=Z,150nm,7.3s									
QIZ				LR		LR				
	comp=Z,230nm,17.2s									
MYKOM	**Kota Tinggi**	**23.10**	**266**	P		**P**	**14**	**19**	**00.4**	**+1.3**
WRAB	**Tennant Creek**	**24.44**	**163**	*eP*		**P**	**14**	**19**	**10.3**	**-1.1**
	comp=Z,87nm,0.8s									
WRA	**Warramunga Arr**	**24.44**	**163**	P		**P**	**14**	**19**	**10.3**	**-1.3**
WRA				S		**S**	**14**	**23**	**31.5**	**+3.0**
WRA	**Warramunga Arr**	**24.44**	**163**	P		**P**	**14**	**19**	**10.3**	**-1.3**
	comp=Z,91nm,0.7s,baz=339,slow=11,SNR=224									
WRA				S		**S**	**14**	**23**	**31.5**	**+3.0**
	comp=Z,3.3nm,1.0s,baz=332,slow=16,SNR=3.8									
FRIM	**Kepong**	**25.25**	**270**	P		**P**	**14**	**19**	**22.6**	**+3.6**
IPM	**Ipoh**	**25.84**	**273**	*eP*		**P**	**14**	**19**	**22.3**	**-2.1**
	comp=Z,9.2nm,0.7s									
IPM	**Ipoh**	**25.84**	**273**	P		**P**	**14**	**19**	**25.1**	**+0.7**
AS31	**Alice Springs**	**27.88**	**166**	*eP*		**P**	**14**	**19**	**41.3**	**-1.3**
ASAR	**Alice Springs**	**27.88**	**166**	P		**P**	**14**	**19**	**41.6**	**-1.0**
ASAR				S		S	14	24	33.2	+10
ASAR	**Alice Springs**	**27.88**	**166**	P		**P**	**14**	**19**	**41.6**	**-1.0**
	comp=Z,7.2nm,0.8s,baz=344,slow=7.2,SNR=67									
ASAR				S		S	14	24	33.2	+10
	comp=Z,1.1nm,1.0s,baz=342,slow=24,SNR=3.3									
PSI	**Prapat**	**27.96**	**269**	P		**P**	**14**	**19**	**41.7**	**-1.8**
PSI	**Prapat**	**27.96**	**269**	P		**P**	**14**	**19**	**41.7**	**-1.8**
	comp=Z,7.1nm,0.8s,baz=94,slow=2.8,SNR=5.0									
NJ2	**Nanjing**	**29.36**	**346**	*eP*		**P**	**14**	**19**	**56.9**	**+1.3**
NJ2				pmax		pmax				
	comp=Z,10.0nm,0.5s									
WHN	**Wuhan**	**29.37**	**338**	P		**P**	**14**	**19**	**56.3**	**+0.6**
WHN				*eS*		**S**	**14**	**24**	**48.1**	**+1.9**
WHN				LR		LR				
	comp=Z,890nm,15.4s									
JNU	**Nakatsue**	**29.67**	**7**	P		**P**	**14**	**19**	**58.2**	**-0.2**
JNU	**Nakatsue**	**29.67**	**7**	P		**P**	**14**	**19**	**58.2**	**-0.2**
	comp=Z,11nm,0.9s,baz=278,slow=23,SNR=4.9									
GYA	**Guiyang**	**29.94**	**322**	P		**P**	**14**	**20**	**03.8**	**+2.9**
GYA				pP		**pP**	**14**	**20**	**13.3**	**-0.2**
GYA				PP		PP	14	21	01.3	-7.9
GYA				PcP		**PcP**	**14**	**23**	**05.0**	**+2.1**
GYA				S		**S**	**14**	**24**	**58.8**	**+3.4**
GYA				sS		**sS**	**14**	**25**	**15.5**	**-1.0**
GYA				SS		**ScP**	**14**	**26**	**37.1**	**-4.2**
GYA				ScP		ScP	14	26	43.9	+2.6
GYA				ScS		**ScS**	**14**	**30**	**37.4**	**+0.6**
GYA				pmax		pmax				
	comp=Z,20nm,0.8s									
GYA				pmax		pmax				
	comp=Z,120nm,4.6s									
GYA				LR		LR				
	comp=N,530nm,17.8s									
GYA				LR		LR				
	comp=E,490nm,18.0s									
GYA				LR		LR				
	comp=Z,510nm,16.4s									
CM31	**Chiang Mai Arr**	**31.13**	**301**	*eP*		**P**	**14**	**20**	**13.0**	**+1.6**
	comp=Z,4.8nm,0.8s									
CMAR	**Chiang Mai Arr**	**31.13**	**301**	P		**P**	**14**	**20**	**11.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**31.13**	**301**	P		**P**	**14**	**20**	**11.1**	**-0.4**
	comp=Z,4.9nm,0.9s,baz=120,slow=7.2,SNR=25									
CHTO	**Chiang Mai**	**31.28**	**301**	*eP*		**P**	**14**	**20**	**12.2**	**-0.6**
	comp=Z,5.3nm,0.8s									
ENH	**Enshi**	**31.29**	**330**	*eP*		**P**	**14**	**20**	**12.0**	**-0.7**
	comp=Z,14nm,0.7s									
KMI	**Kunming**	**31.65**	**315**	P		**P**	**14**	**20**	**19.3**	**+3.1**
KMI				pP		**pP**	**14**	**20**	**28.6**	**-0.2**
KMI				sP		**sP**	**14**	**20**	**33.3**	**-1.2**
KMI				PP		PP	14	21	24.9	-3.5
KMI				S		**S**	**14**	**25**	**25.5**	**+3.0**
KMI				sS		**sS**	**14**	**25**	**42.6**	**-1.0**
KMI				SS		SS	14	27	17.8	-22
KMI				pmax		pmax				
	comp=Z,10.0nm,1.0s									
KMI				pmax		pmax				
	comp=Z,120nm,4.7s									
KMI				LR		LR				
	comp=N,160nm,13.7s									
KMI				LR		LR				
	comp=E,130nm,15.0s									
KMI				LR		LR				
	comp=Z,190nm,13.6s									
JHJ	**Hachijo jima 2**	**31.80**	**21**	P		P	14	20	19.9	+2.8
	comp=Z,

MDJ					pmax	pmax		
	comp=Z,17nm,2.2s							
MDJ					pmax	pmax		
	comp=Z,150nm,4.1s							
MDJ					LR	LR		
	comp=N,62nm,22.7s							
MDJ					LR	LR		
	comp=E,37nm,25.9s							
ARMA	**Armidale**	**41.20**	**147**	*e*P	**P**		**14 21 37.7**	**+0.3**
LSA	**Lhasa**	**42.71**	**311**	P	**P**		**14 21 50.1**	**-0.1**
LSA	**Lhasa**	**42.71**	**311**	*e*P	**P**		**14 21 50.1**	**-0.1**
	comp=E,12nm,0.6s							
ASAJ	**Asahikawa**	**42.73**	**17**	P	**P**		**14 21 50.8**	**+1.3**
ASAJ	**Asahikawa**	**42.73**	**17**	P	**P**		**14 21 50.8**	**+1.3**
	comp=E,18nm,1.1s,baz=100,slow=31,SNR=4.8							
GTA	**Gaotai**	**43.36**	**329**	P	**P**		**14 21 55.5**	**+0.6**
GTA				pP	**pP**		**14 22 05.4**	**-2.5**
GTA				sP	**sP**		**14 22 09.3**	**-4.2**
GTA				S	**S**		**14 28 20.6**	**+1.0**
GTA				sS	**sS**		**14 28 36.9**	**-4.3**
GTA				SS	SS		14 31 27.8	-7.0
GTA				pmax	pmax			
	comp=Z,4.0nm,1.4s							
GTA				pmax	pmax			
	comp=Z,100nm,4.8s							
GTA				LR	LR			
	comp=N,170nm,18.0s							
GTA				LR	LR			
	comp=E,240nm,17.6s							
GTA				LR	LR			
	comp=Z,270nm,17.6s							
CAN	**Canberra**	**43.85**	**154**	*e*P	**P**		**14 22 00.0**	**+1.2**
	comp=Z,20nm,0.9s							
TAPN	**Taplejung**	**44.28**	**306**	*e*P	**P**		**14 22 02.1**	**-0.6**
	comp=Z,26nm,1.0s							
ODAN	**Odare**	**44.33**	**306**	*e*P	**P**		**14 22 02.4**	**-0.6**
	comp=Z,18nm,0.7s							
RAMN	**Ramite**	**45.01**	**305**	*e*P	**P**		**14 22 08.0**	**-0.5**
	comp=Z,17nm,0.8s							
JIRN	**Jiri**	**45.64**	**306**	*e*P	**P**		**14 22 12.9**	**-0.7**
	comp=Z,5.2nm,0.7s							
GUN	**Gumba**	**45.99**	**306**	*e*P	**P**		**14 22 15.6**	**-0.7**
	comp=Z,29nm,0.8s							
PKI	**Pulchoki**	**46.23**	**305**	*e*P	**P**		**14 22 17.0**	**-1.2**
DZM	**Mont Dzumac**	**46.27**	**125**	P	**P**		**14 22 19.6**	**+1.4**
DZM	**Mont Dzumac**	**46.27**	**125**	P	**P**		**14 22 19.6**	**+1.4**
	comp=Z,12nm,0.7s,baz=134,slow=23,SNR=7.8							
KKN	**Kakani**	**46.43**	**306**	*e*P	**P**		**14 22 18.5**	**-1.1**
DMN	**Daman**	**46.49**	**305**	*e*P	**P**		**14 22 19.2**	**-1.0**
GKN	**Gorkha**	**47.03**	**306**	*e*P	**P**		**14 22 23.1**	**-1.2**
ULN	**Ulaanbaatar**	**47.36**	**342**	*e*P	**P**		**14 22 27.6**	**+1.1**
	comp=Z,4.5nm,0.6s							
SONM	**Songino Array**	**47.54**	**341**	P	**P**		**14 22 28.6**	**+0.7**
SONM				PcP	**PcP**		**14 23 58.3**	**+1.0**
SONM	**Songino Array**	**47.54**	**341**	P	**P**		**14 22 28.6**	**+0.7**
	comp=Z,4.3nm,0.6s,baz=155,slow=8.6,SNR=41							
SONM				PcP	**PcP**		**14 23 58.3**	**+1.0**
	comp=Z,2.8nm,0.9s,baz=156,slow=4.2,SNR=5.2							
KOLN	**Koldanda**	**47.79**	**305**	*e*P	**P**		**14 22 29.6**	**-0.6**
	comp=Z,36nm,0.7s							
DANN	**Dangsing**	**47.88**	**306**	*e*P	**P**		**14 22 30.2**	**-0.8**
	comp=Z,38nm,0.6s							
HYB	**Hyderabad**	**49.36**	**290**	*i* P	**P**		**14 22 40.0**	**-2.2**
TLY	**Talaya**	**51.77**	**342**	*e*P	**P**		**14 23 00.9**	**+1.0**
	comp=Z,8.4nm,0.7s							
WMQ	**Urumqi**	**52.99**	**325**	*e*P	**P**		**14 23 09.1**	**0.0**
WMQ				pP	**pP**		**14 23 18.5**	**-3.9**
WMQ				sP	sP		14 23 21.9	-6.0
WMQ				PcP	**PcP**		**14 24 15.0**	**-2.3**
WMQ				*e*S	**S**		**14 30 34.5**	**-0.9**
WMQ				ScS	**ScS**		**14 32 52.0**	**-2.8**
WMQ				pmax	pmax			
	comp=Z,8.0nm,1.1s							
WMQ				pmax	pmax			
	comp=Z,270nm,5.2s							
WMQ				LR	LR			
	comp=N,250nm,28.2s							
WMQ				LR	LR			
	comp=E,230nm,20.9s							
WMQ				LR	LR			
	comp=Z,230nm,24.6s							
POO	**Poona**	**53.96**	**290**	*ex*	x		14 23 14.0	
PETK	**Petropavlovsk-**	**55.54**	**22**	P	**P**		**14 23 28.7**	**+1.3**
PETK	**Petropavlovsk-**	**55.54**	**22**	P	**P**		**14 23 28.7**	**+1.3**
	comp=Z,9.4nm,0.9s,baz=183,slow=5.0,SNR=13							
MK31	**Makanchi Array**	**57.82**	**325**	*e*P	**P**		**14 23 43.2**	**-0.5**
MKAR	**Makanchi Array**	**57.82**	**325**	P	**P**		**14 23 43.5**	**-0.2**
MKAR	**Makanchi Array**	**57.82**	**325**	P	**P**		**14 23 43.5**	**-0.2**
	comp=Z,6.3nm,0.6s,baz=123,slow=7.3,SNR=42							
MKAR				LR	LR		14 50 49.4	
	comp=Z,82nm,19.4s,baz=234,slow=38							
KSH	**Kashi**	**58.31**	**315**	P	**P**		**14 23 48.0**	**+0.6**
KSH				pP	**pP**		**14 23 57.6**	**-3.3**
KSH				sP	**sP**		**14 24 01.8**	**-4.6**
KSH				PcP	**PcP**		**14 24 38.1**	**0.0**
KSH				PP	**PP**		**14 25 58.9**	**+1.9**
KSH				ScP	**ScP**		**14 28 34.0**	**-0.7**
KSH				PcS	**PcS**		**14 28 38.1**	**-1.7**
KSH				S	**S**		**14 31 48.0**	**+1.4**
KSH				sS	sS		14 32 04.6	-4.5
KSH				ScS	**ScS**		**14 33 31.1**	**-2.4**
KSH				SS	**SS**		**14 35 42.6**	**+3.3**
KSH				pmax	pmax			
	comp=Z,19nm,2.0s							
KSH				pmax	pmax			
	comp=Z,140nm,4.7s							
KSH				LR	LR			
	comp=N,98nm,5.3s							
KSH				LR	LR			
	comp=E,140nm,5.4s							
KSH				LR	LR			
	comp=Z,160nm,5.2s							
YAK	**Yakutsk**	**58.40**	**2**	*e*P	**P**		**14 23 48.0**	**+0.6**
	comp=Z,13nm,0.6s							
AAK	**Ala-Archa**	**60.63**	**318**	*e*P	**P**		**14 24 05.1**	**+1.7**
AAK	**Ala-Archa**	**60.63**	**318**	P	**P**		**14 24 03.7**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=167,slow=8.5,SNR=9.4							
ZAA0	**Zalesovo Array**	**60.85**	**333**	*e*P	**P**		**14 24 03.7**	**-0.7**
ZALV	**Zalesovo Beam**	**60.85**	**333**	P	**P**		**14 24 03.7**	**-0.7**
ZALV	**Zalesovo Beam**	**60.85**	**333**	P	**P**		**14 24 03.7**	**-0.7**
	comp=Z,4.3nm,0.9s,baz=126,slow=7.7,SNR=13							
EKS2	**Erkin-Say**	**61.12**	**318**	*e*P	**P**		**14 24 07.0**	**+0.3**
	comp=Z,5.5nm,0.8s							
KURBB	**Kurchatov Arra**	**62.00**	**327**	P	**P**		**14 24 11.9**	**-0.4**
	comp=Z,10.0nm,0.7s,baz=125,slow=6.2,SNR=56							
KURK	**Kurchatov**	**62.01**	**327**	*e*P	**P**		**14 24 11.9**	**-0.4**
	comp=Z,18nm,0.8s							
KKAR	**Karatay Array**	**63.50**	**317**	*e*P	**P**		**14 24 22.2**	**-0.3**
	comp=Z,10.0nm,1.0s							
BRVK	**Borovoye**	**67.66**	**327**	*e*P	**P**		**14 24 48.6**	**-0.5**
	comp=Z,10nm,0.7s							
ABKAR	**Akbulak array**	**72.42**	**321**	*e*P	**P**		**14 25 17.8**	**-0.5**
	comp=Z,4.6nm,0.6s							
GAMB	**Gambell**	**74.50**	**24**	*e*P	**P**		**14 25 31.5**	**+1.2**
	comp=Z,17nm,0.9s							
ARU	**Arti**	**75.20**	**328**	*e*P	**P**		**14 25 33.8**	**-0.7**
	comp=Z,4.3nm,0.6s							
QRN	**Al-Qurain**	**78.66**	**298**	*e*P	**P**		**14 25 53.4**	**-1.1**
QRN				AMb	AMB		14 25 56.3	
	comp=Z,59nm,1.1s							
MIB	**Mutribah**	**79.21**	**300**	*e*P	**P**		**14 25 56.2**	**-1.3**
MIB				AMb	AMB		14 25 58.7	
	comp=Z,29nm,0.7s							
NAY	**Al-Naaiem**	**79.27**	**299**	*e*P	**P**		**14 25 56.7**	**-1.2**
NAY				AMb	AMB		14 26 01.1	
	comp=Z,16nm,0.9s							
ABPO	**Ambohimpanom**	**81.42**	**250**	*e*P	**P**		**14 26 09.5**	**-0.3**
	comp=Z,8.7nm,0.7s							
KDAK	**Kodiak Island**	**81.96**	**32**	P	**P**		**14 26 12.9**	**+1.3**
KDAK	**Kodiak Island**	**81.96**	**32**	P	**P**		**14 26 12.9**	**+1.3**
	comp=Z,6.8nm,0.6s,baz=294,slow=22,SNR=7.7							
MAW	**Mawson**	**83.63**	**200**	P	**P**		**14 26 21.9**	**+1.8**
MAW	**Mawson**	**83.63**	**200**	P	**P**		**14 26 21.9**	**+1.8**
	comp=Z,15nm,0.8s,baz=189,slow=16,SNR=3.7							
COLD	**Coldfoot**	**84.00**	**23**	*e*P	**P**		**14 26 22.7**	**+0.7**
	comp=Z,7.0nm,0.9s							
MCK	**McKinley**	**84.26**	**26**	*e*P	**P**		**14 26 23.5**	**+0.1**
	comp=Z,7.5nm,0.9s							
SML	**Sawmill**	**84.42**	**28**	*e*P	**P**		**14 26 25.3**	**+0.9**
	comp=Z,9.7nm,1.1s							
ILAR	**Eielson Array**	**85.20**	**25**	P	**P**		**14 26 28.4**	**+0.3**
ILAR	**Eielson Array**	**85.20**	**25**	P	**P**		**14 26 28.4**	**+0.3**
	comp=Z,1.5nm,0.9s,baz=249,slow=5.9,SNR=10							
KMBO	**Kilima Mbogo**	**89.73**	**269**	*e*P	**P**		**14 26 51.8**	**+0.4**
	comp=Z,10nm,1.3s							
INK	**Inuvik**	**90.28**	**22**	P	**P**		**14 26 52.7**	**+0.3**

	comp=Z,1.6nm,0.8s,baz=301,slow=6.3,SNR=7.4							
BRTR	**Keskin Array B**	**90.29**	**310**	P	**P**		**14 26 52.3**	**-1.0**
BRTR	**Keskin Array B**	**90.29**	**310**	P	**P**		**14 26 52.3**	**-1.0**
	comp=Z,2.1nm,0.9s,baz=108,slow=6.1,SNR=8.3							
ARCES	**ARCESS Array B**	**90.70**	**340**	P	**P**		**14 26 54.4**	**0.0**
ARCES	**ARCESS Array B**	**90.70**	**340**	P	**P**		**14 26 54.4**	**0.0**
	comp=Z,3.2nm,0.6s,baz=64,slow=6.1,SNR=11							
FINES	**FINESS Array B**	**92.09**	**332**	P	**P**		**14 27 00.0**	**-0.9**
FINES	**FINESS Array B**	**92.09**	**332**	P	**P**		**14 27 00.0**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=70,slow=6.3,SNR=4.4							
AKASG	**Malin Array Be**	**92.16**	**321**	P	**P**		**14 27 00.3**	**-1.2**
AKASG	**Malin Array Be**	**92.16**	**321**	P	**P**		**14 27 00.3**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=52,slow=3.9,SNR=5.2							
RES	**Resolute Bay**	**97.97**	**10**	P	Pdif		14 27 28.6	+1.0
RES	**Resolute Bay**	**97.97**	**10**	P	Pdif		14 27 28.6	+1.0
	comp=Z,2.4nm,0.8s,baz=321,slow=6.3,SNR=8.7							
NOA	**NORSAR Array B**	**99.05**	**334**	P	**Pdif**		**14 27 31.6**	**-1.2**
NOA	**NORSAR Array B**	**99.05**	**334**	P	**Pdif**		**14 27 31.6**	**-1.2**
	comp=Z,1.1nm,0.8s,baz=67,slow=4.5,SNR=3.4							
NOA				LR	LR		15 17 20.0	
	comp=Z,75nm,19.8s,baz=110,slow=38							
YKA	**Yellowknife Ar**	**99.60**	**24**	P	**Pdif**		**14 27 36.0**	**+0.9**
YKA				PKKPbc	**PKKPbc**		**14 43 56.5**	**-2.9**
YKA	**Yellowknife Ar**	**99.60**	**24**	P	**Pdif**		**14 27 36.0**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=298,slow=4.7,SNR=11							
YKA				PKKPbc	**PKKPbc**		**14 43 56.4**	**-2.9**
	comp=Z,0.2nm,0.9s,baz=118,slow=3.3,SNR=4.2							
PDAR	**Pinedale Array**	**111.38**	**41**	PKKPab	PKKPab		14 43 31.6	-0.7
PDAR	**Pinedale Array**	**111.38**	**41**	PKKPab	PKKPab		14 43 31.6	-0.7
	comp=Z,0.6nm,0.9s,baz=91,slow=4.5,SNR=4.3							
TXAR	**Lajitas Array**	**121.57**	**52**	PKP	**PKPdf**		**14 32 47.9**	**+1.6**
TXAR	**Lajitas Array**	**121.57**	**52**	PKP	**PKPdf**		**14 32 47.9**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=318,slow=1.7,SNR=5.4							
TORD	**Torodi Ar. Bea**	**123.16**	**288**	PKP	**PKPdf**		**14 32 50.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**123.16**	**288**	PKP	**PKPdf**		**14 32 50.0**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=51,slow=2.0,SNR=15							
JCT	**Junction City**	**124.05**	**49**	*e*PKPdf	**PKPdf**		**14 32 51.9**	**+0.9**
CFAA	**Coronel Fontan**	**148.64**	**155**	PKPbc	**PKPbc**		**14 33 40.5**	**+0.8**
CFAA	**Coronel Fontan**	**148.64**	**155**	PKPbc	**PKPbc**		**14 33 40.5**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=213,slow=4.2,SNR=9.8							
LCO	**Las Campanas**	**149.63**	**148**	*e*PKPbc	**PKPbc**		**14 33 44.0**	**+1.5**
CPUP	**Villa Florida**	**156.97**	**170**	PKPab	**PKPab**		**14 34 17.2**	**-0.8**
CPUP	**Villa Florida**	**156.97**	**170**	PKPab	**PKPab**		**14 34 17.2**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=164,slow=4.4,SNR=4.7							
SIV	**San Ignacio**	**165.34**	**148**	PKPab	**PKPab**		**14 34 56.9**	**+2.0**
SIV	**San Ignacio**	**165.34**	**148**	PKPab	**PKPab**		**14 34 56.9**	**+2.0**
	comp=Z,1.3nm,0.9s,baz=229,slow=9.1,SNR=4.3							

IDC 16 14:19:17.3±1.8, 3°.26N×126°.78E, h0km, mb 3.7/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, Error ellipse: s-maj=138.4km s-min=24.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.22**	**162**	P	P	14 24 35.8	-0.2
	1.4nm,0.5s,baz=343,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**27.65**	**166**	P	P	14 25 07.7	+0.6
	0.5nm,0.6s,baz=341,slow=11,SNR=4.3						
STKA	**Stephens Creek**	**37.67**	**159**	P	P	14 26 34.5	-0.1
	2.7nm,0.8s,baz=321,slow=6.5,SNR=3.8						
MKAR	**Makanchi Array**	**57.97**	**325**	P	P	14 29 11.4	-0.3
	0.2nm,0.4s,baz=120,slow=6.7,SNR=2.5						

*IDC **16** 14:24:20.0±0.6, 3°.85N×126°.43E, h0km, mb4.1/18, mb1 4.2/18, mb1mx4.1/23, mbtmp4.1/18, Error ellipse: s-maj=29.8km s-min=12.7km az=75.0*
*ISCJB **16** 14:24:23.7±0.5, 3°.96N±0°.04×126°.81E±0°.07, h36km, mb4.1/18, Error ellipse: s-maj=10.0km s-min=6.0km az=9.0*
*DJA **16** 14:24:27.8±2.2, 4°.1N±13°.1×127°.7E±1°.2, h13km±29km, M5.0/4, mb5.2/4, mB6.5/2, MLv4.9/4, Mw(mB)6.3/2*

ISC 16 14:24:25.5±0.6, 3°.94N±0°.06×126°.8E±0°.1, h36km, n30, σ1s50/30, mb4.2/18, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.83**	**319**	*i*P	Pn	14 25 05.7	-2.7
MNI	**Manado**	**3.17**	**219**	P	**Pn**	**14 25 13.2**	**+0.3**
MNI				S	**Sn**	**14 25 50.2**	**+0.8**
TNTI	**Ternate**	**3.19**	**170**	P	**Pn**	**14 25 14.9**	**+1.7**
DAV	**Davao City (W)**	**3.34**	**338**	Sn	Sn	14 26 02.9	+9.0
	53nm,0.3s,baz=282,slow=19,SNR=3.0						
CTBH	**Cotabato--PC H**	**4.14**	**322**	*e*P	**Pn**	**14 25 27.4**	**+1.2**
KMSI	**Cibinong**	**4.38**	**220**	P	Pn	14 25 47.3	+18
PAGZ	**Pagadian**	**5.17**	**319**	*e*P	**Pn**	**14 25 42.3**	**+1.8**
MRSI	**Marisa**	**5.96**	**235**	P	**Pn**	**14 25 51.2**	**-0.1**
	68nm,0.6s,776nm0.2nm						
APSI	**Ampana**	**7.06**	**227**	P	**Pn**	**14 26 09.0**	**+2.6**
	13µm,0.6s,238nm						
MYLDM	**Lahad Datu**	**8.38**	**279**	P	**Pn**	**14 26 27.5**	**+3.0**
	52nm,1.0s						
TTSI	**Tana Toraja**	**9.85**	**225**	P	**Pn**	**14 26 45.9**	**+1.2**
FITZ	**Fitzroy Crossi**	**21.93**	**183**	P	**P**	**14 29 15.0**	**-1.0**
	1.6nm,0.6s,baz=10,slow=8.6,SNR=3.8						
WRA	**Warramunga Arr**	**24.86**	**163**	P	**P**	**14 29 43.6**	**-1.3**
	5.9nm,0.8s,baz=342,slow=10,SNR=32						
ASAR	**Alice Springs**	**28.30**	**166**	P	**P**	**14 30 16.8**	**+1.0**
	0.7nm,0.4s,baz=344,slow=12,SNR=15						
JNU	**Nakatsue**	**29.28**	**7**	P	**P**	**14 30 26.4**	**+1.8**
	5.2nm,1.0s,baz=129,slow=6.5,SNR=3.6						
CMAR	**Chiang Mai Arr**	**30.84**	**300**	P	**P**	**14 30 37.2**	**-1.2**
	0.9nm,0.7s,baz=120,slow=8.1,SNR=8.8						
KSRS	**Korea Array**	**33.37**	**2**	P	**P**	**14 31 02.1**	**+1.7**
	1.2nm,0.5s,baz=182,slow=9.9,SNR=5.2						
STKA	**Stephens Creek**	**38.29**	**159**	P	**P**	**14 31 42.5**	**-0.2**
	3.9nm,0.7s,baz=329,slow=8.4,SNR=12						
USRK	**Ussuriysk Arra**	**40.36**	**6**	P	**P**	**14 31 59.9**	**+0.2**
	1.7nm,0.5s,baz=198,slow=5.7,SNR=4.9						
SONM	**Songino Array**	**47.13**	**341**	P	**P**	**14 32 54.0**	**-0.3**
	2.0nm,0.6s,baz=157,slow=8.2,SNR=13						
SONM				PcP	**PcP**	**14 34 26.1**	**+0.4**
	0.8nm,0.8s,baz=141,slow=0.9,SNR=3.1						
PETK	**Petropavlovsk-**	**55.21**	**22**	P	**P**	**14 33 56.3**	**+1.6**
	3.1nm,0.8s,baz=208,slow=7.7,SNR=2.5						
MKAR	**Makanchi Array**	**57.43**	**325**	P	**P**	**14 34 09.5**	**-1.3**
	2.0nm,0.4s,baz=119,slow=7.5,SNR=41						
MKAR				PcP	**PcP**	**14 35 04.4**	**+0.1**
	0.9nm,0.6s,baz=113,slow=4.7,SNR=2.3						
AAK	**Ala-Archa**	**60.26**	**318**	P	**P**	**14 34 29.1**	**-1.5**
	0.4nm,0.4s,baz=162,slow=9.6,SNR=2.8						
ZALV	**Zalesovo Beam**	**60.44**	**333**	P	**P**	**14 34 29.6**	**-1.9**
	0.9nm,0.5s,baz=124,slow=10.0,SNR=7.2						
KURBB	**Kurchatov Arra**	**61.61**	**327**	P	**P**	**14 34 38.1**	**-1.3**
	4.1nm,0.5s,baz=125,slow=6.4,SNR=39						
ILAR	**Eielson Array**	**84.88**	**25**	P	**P**	**14 36 58.0**	**+1.5**
	0.3nm,0.9s,baz=264,slow=5.2,SNR=4.8						
BRTR	**Keskin Array B**	**90.95**	**310**	P	**P**	**14 37 19.7**	**-1.9**
	0.7nm,0.8s,baz=110,slow=6.7,SNR=4.1						
ARCES	**ARCESS Array B**	**90.28**	**340**	P	**P**	**14 37 21.0**	**-1.4**
	1.8nm,0.8s,baz=69,slow=6.6,SNR=5.7						
FINES	**FINESS Array B**	**91.69**	**332**	P	**P**	**14 37 27.7**	**-1.3**
	1.3nm,0.7s,baz=44,slow=6.4,SNR=6.4						
TORD	**Torodi Ar. Bea**	**122.93**	**288**	PKP	**PKPdf**	**14 43 17.8**	**-1.3**
	0.6nm,0.8s,baz=20,slow=2.3,SNR=2.8						

*ISCJB **16** 14:32:13.9±0.4, 38°.71N±0°.02×22°.58E±0°.03, h10km±3km, Error ellipse: s-maj=4.0km s-min=3.0km az=148.1*
*THE **16** 14:32:13.7, 38°.70N×22°.60E, h16km±1km, ML2.1/3, Error ellipse: s-maj=1.2km s-min=0.5km az=152.0*
*CSEM **16** 14:32:13.6±0.1, 38°.71N×22°.59E, h12km, ML2.1/3, Error ellipse: s-maj=2.1km s-min=1.9km az=143.0*
*ATH **16** 14:32:14.0, 38°.70N×22°.59E, h13km±4km, MD3.1/9*

ISC 16 14:32:13.8±0.9, 38°.71N±0°.02×22°.58E±0°.02, h14km±5km, n36, σ0s35/66, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AXAR	**Agios Charalam**	**0.09**	**48**	P	**Pg**	**14 32 16.9**	**0.0**
AXAR				S	**Sg**	**14 32 19.1**	**+0.2**
AXAR	**Agios Charalam**	**0.09**	**48**	P	**Pg**	**14 32 16.9**	**0.0**
AXAR				S	**Sg**	**14 32 19.1**	**+0.2**
DESF	**Desfina**	**0.30**	**187**	P	**Pg**	**14 32 18.9**	**-1.1**
DESF				S	**Sg**	**14 32 24.0**	**-0.3**
DESF	**Desfina**	**0.30**	**187**	P	**Pg**	**14 32 18.9**	**-1.1**
DESF				S	**Sg**	**14 32 24.0**	**-0.3**
LKR	**Lokris**	**0.34**	**100**	P	**Pg**	**14 32 20.5**	**-0.2**
LKR				S	**Sg**	**14 32 25.7**	**+0.3**
LKR	**Lokris**	**0.34**	**100**	*e*PB	**Pg**	**14 32 20.5**	**-0.2**
LKR				*e*SB	**Sg**	**14 32 25.2**	**-0.2**
LKR	**Lokris**	**0.34**	**100**	P	**Pg**	**14 32 20.5**	**-0.2**
LKR				*e*Sb	**Sg**	**14 32 25.2**	**-0.2**
LKR				S	**Sg**	**14 32 25.7**	**+0.3**
ATAL	**Atalanti**	**0.35**	**92**	P	**Pg**	**14 32 20.8**	**-0.1**
ATAL				S	**Sg**	**14 32 26.0**	**+0.2**
ATAL	**Atalanti**	**0.35**	**92**	P	**Pg**	**14 32 20.8**	**-0.1**
ATAL				S	**Sg**	**14 32 26.0**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.46**	**311**	P	**Pg**	**14 32 23.1**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.46**	**311**	P	**Pg**	**14 32 23.1**	**+0.1**
KALE	**Kalithea**	**0.47**	**227**	P	**Pg**	**14 32 22.8**	**-0.3**
KALE				S	**Sb**	**14 32 30.4**	**-0.1**
KALE	**Kalithea**	**0.47**	**227**	P	**Pg**	**14 32 22.8**	**-0.3**
KALE				S	**Sb**	**14 32 30.4**	**-0.1**
TRIZ	**Trizonia**	**0.52**	**229**	P	**Pg**	**14 32 24.3**	**+0.2**
TRIZ				S	**Sb**	**14 32 32.1**	**0.0**
TRIZ	**Trizonia**	**0.52**	**229**	P	**Pg**	**14 32 24.3**	**+0.2**
TRIZ				S	**Sb**	**14 32 32.1**	**0.0**
EFP	**Efpalio**	**0.60**	**242**	P	**Pg**	**14 32 25.6**	**+0.1**
EFP				S	**Sb**	**14 32 34.8**	**+0.6**
EFP	**Efpalio**	**0.60**	**242**	*e*PG	**Pg**	**14 32 25.4**	**-0.1**
EFP				*e*SB	**Sb**	**14 32 34.5**	**+0.3**
EFP	**Efpalio**	**0.60**	**242**	P	**Pg**	**14 32 25.6**	**+0.1**
EFP				*e*Sb	**Sb**	**14 32 34.5**	**+0.3**
EFP				S	**Sb**	**14 32 34.8**	**+0.6**
EVR	**Evrytania**	**0.63**	**289**	*e*PG	**Pg**	**14 32 26.1**	**-0.1**
EVR				*e*SB	**Sb**	**14 32 35.5**	**+0.1**
EVR	**Evrytania**	**0.63**	**289**	*e*Pg	**Pg**	**14 32 26.1**	**-0.1**
EVR				*e*Sb	**Sb**	**14 32 35.5**	**+0.1**
LTK	**Loutraki**	**0.75**	**156**	P	**Pg**	**14 32 28.0**	**-0.4**
LTK	**Loutraki**	**0.75**	**156**	*e*PB	**Pg**	**14 32 28.3**	**-0.1**
LTK				*e*SB	**Sb**	**14 32 38.7**	**0.0**
LTK	**Loutraki**	**0.75**	**156**	P	**Pg**	**14 32 28.0**	**-0.4**
LTK	**Loutraki**	**0.75**	**156**	*e*Pb	**Pg**	**14 32 28.3**	**-0.1**
LTK				*e*Sb	**Sb**	**14 32 38.7**	**0.0**
NEO	**Neokhori**	**0.78**	**40**	*e*PB	**Pg**	**14 32 28.8**	**-0.2**
NEO				*e*SB	**Sb**	**14 32 40.1**	**+0.5**
NEO	**Neokhori**	**0.78**	**40**	*e*Pb	**Pg**	**14 32 28.8**	**-0.2**
NEO				*e*Sb	**Sb**	**14 32 40.1**	**+0.5**
GUR	**Goura**	**0.79**	**193**	*e*PB	**Pg**	**14 32 29.1**	**-0.1**
GUR				*e*SB	**Sb**	**14 32 40.2**	**+0.2**
GUR	**Goura**	**0.79**	**193**	*e*Pb	**Pg**	**14 32 29.1**	**-0.1**
GUR				*e*Sb	**Sb**	**14 32 40.2**	**+0.2**
XOR	**Xorichti**	**0.81**	**36**	P	**Pg**	**14 32 28.8**	**-0.8**
XOR				S	**Sg**	**14 32 40.0**	**-0.3**
XOR	**Xorichti**	**0.81**	**36**	P	**Pg**	**14 32 28.8**	**-0.8**
XOR				S	**Sg**	**14 32 40.0**	**-0.3**
THL	**Klokotos Trika**	**0.96**	**333**	*e*PG	**Pb**	**14 32 31.9**	**-0.3**
THL				*e*SB	**Sn**	**14 32 46.1**	**-0.1**
THL	**Klokotos Trika**	**0.96**	**333**	*e*Pg	**Pb**	**14 32 31.9**	**-0.3**
THL				*e*Sb	**Sn**	**14 32 46.1**	**-0.1**
NAIG	**Nisos Aigina**	**1.19**	**143**	*e*PB	**Pg**	**14 32 36.9**	**+0.2**
NAIG	**Nisos Aigina**	**1.19**	**143**	*e*Pb	**Pg**	**14 32 36.9**	**+0.2**
DID	**Didima**	**1.31**	**156**	*e*PB	**Pb**	**14 32 38.5**	**+0.4**
DID	**Didima**	**1.31**	**156**	*e*Pb	**Pb**	**14 32 38.5**	**+0.4**

**IDC 16 14:36:17.2±5.9, 23°.74S×176°.32W, h41km±9km, mb 3.7/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=191.8km s-min=67.

CTA	**Charters Tower**	**15.83 223**	Pn		**P**	**15 06 27.5**	**-1.2**	
	0.5nm,0.3s,baz=42,slow=13,SNR=7.3							
CTAO	**Charters Tower**	**15.83 223**	*e*P		**P**	**15 06 27.5**	**-1.2**	
	36nm,1.2s							
EIDS	**Eidsvold**	**17.72 200**	*e*P		**P**	**15 06 52.2**	**+2.6**	
	42nm,1.1s							
MSVF	**Nonsavu**	**21.70 116**	P		**P**	**15 07 36.2**	**+3.1**	
	15nm,1.1s							
ARMA	**Armidale**	**22.32 194**	*e*P		**P**	**15 07 42.5**	**+2.8**	
WRAB	**Tennant Creek**	**25.20 241**	*e*P		**P**	**15 08 06.3**	**-1.1**	
	26nm,0.8s							
WRA	**Warramunga Arr**	**25.21 241**	P		**P**	**15 08 06.6**	**-1.0**	
WRA			PcP		**PcP**	**15 11 41.5**	**+0.7**	
WRA	**Warramunga Arr**	**25.21 241**	P		**P**	**15 08 06.6**	**-1.0**	
	19nm,0.8s,baz=67,slow=9.3,SNR=81							
WRA			PcP		**PcP**	**15 11 41.5**	**+0.7**	
	2.3nm,0.8s,baz=69,slow=3.0,SNR=6.9							
WRA			LR		LR	15 17 18.1		
	comp=Z,884nm,21.2s,baz=65,slow=35							
AS31	**Alice Springs**	**27.20 234**	*e*P		**P**	**15 08 23.6**	**-2.0**	
ASAR	**Alice Springs**	**27.20 234**	P		**P**	**15 08 24.0**	**-1.6**	
ASAR			PcP		**PcP**	**15 11 45.5**	**+0.1**	
ASAR	**Alice Springs**	**27.20 234**	P		**P**	**15 08 24.0**	**-1.6**	
	3.3nm,0.9s,baz=62,slow=9.4,SNR=22							
ASAR			PcP		**PcP**	**15 11 45.5**	**+0.1**	
	1.9nm,1.1s,baz=72,slow=2.6,SNR=5.8							
STKA	**Stephens Creek**	**27.48 211**	*e*P		**P**	**15 08 29.1**	**+1.2**	
STKA	**Stephens Creek**	**27.48 211**	*e*P		**P**	**15 08 29.3**	**+1.4**	
	9.5nm,0.8s							
STKA	**Stephens Creek**	**27.48 211**	P		**P**	**15 08 29.0**	**+1.0**	
	5.4nm,0.7s,baz=37,slow=15,SNR=6.9							
STKA			LR		LR	15 18 51.6		
	comp=Z,337nm,19.9s,baz=24,slow=35							
AFI	**Afiamalu**	**30.34 103**	LR		LR	15 19 20.7		
	comp=Z,299nm,20.2s,baz=303,slow=33							
FITZ	**Fitzroy Crossi**	**32.52 250**	*e*P		**P**	**15 09 11.5**	**-1.2**	
FITZ	**Fitzroy Crossi**	**32.52 250**	*e*P		**P**	**15 09 11.6**	**-1.1**	
	2.6nm,0.4s							
FITZ	**Fitzroy Crossi**	**32.52 250**	P		**P**	**15 09 11.4**	**-1.2**	
	2.6nm,0.7s,baz=80,slow=11,SNR=3.5							
FITZ			LR		LR	15 21 52.7		
	comp=Z,343nm,19.6s,baz=79,slow=36							
CBIJ	**Chichi jima**	**38.66 338**	LR		LR	15 23 57.6		
	comp=Z,175nm,20.7s,baz=65,slow=33							
NWAO	**Narrogin (SRO)**	**44.45 231**	LR		LR	15 29 42.3		
	comp=Z,239nm,19.4s,baz=19,slow=36							
MJAR	**Matsushiro Arr**	**48.62 339**	P		**P**	**15 11 23.9**	**-1.4**	
MJAR	**Matsushiro Arr**	**48.62 339**	P		**P**	**15 11 23.9**	**-1.4**	
	3.7nm,0.9s,baz=161,slow=7.7,SNR=4.5							
MJAR			LR		LR	15 28 37.2		
	comp=Z,68nm,18.8s,baz=130,slow=32							
JNU	**Nakatsue**	**48.83 330**	P		**P**	**15 11 27.3**	**+0.3**	
JNU	**Nakatsue**	**48.83 330**	P		**P**	**15 11 27.3**	**+0.3**	
	12nm,0.9s,baz=92,slow=12,SNR=4.1							
PPT2	**Papeete2**	**51.93 105**	*e*LR		LR	15 26 47.9		
	339nm,29.0s							
TBI	**Tubuai**	**52.52 113**	*e*LQ		LQ	15 24 55.0		
	632nm,30.2s							
TBI			*e*LR		LR	15 27 07.1		
	157nm,35.2s							
KSRS	**Korea Array**	**53.74 331**	P		**P**	**15 12 03.2**	**-0.4**	
	13nm,1.2s,baz=153,slow=7.6,SNR=8.1							
KSRS			LR		LR	15 33 42.9		
	comp=Z,61nm,19.3s,baz=78,slow=35							
KSAR	**Wonju Array Be**	**53.75 331**	P		**P**	**15 12 03.2**	**-0.5**	
QIZ	**Qiongzhong**	**54.66 301**	P		**P**	**15 12 09.9**	**-0.8**	
QIZ			S		**S**	**15 19 46.4**	**-2.2**	
QIZ			pmax		pmax			
	comp=Z,140nm,7.0s							
NJ2	**Nanjing**	**54.96 319**	*e*P		**P**	**15 12 12.1**	**-0.6**	
NJ2			pmax		pmax			
	comp=Z,40nm,1.2s							
WHN	**Wuhan**	**57.05 315**	*e*P		**P**	**15 12 26.1**	**-1.6**	
USRK	**Ussuriysk Arra**	**57.59 338**	P		**P**	**15 12 30.8**	**-0.4**	
	comp=Z,6.8nm,1.0s,baz=122,slow=7.2,SNR=4.8							
MDJ	**Mudanjiang**	**58.85 337**	P		**P**	**15 12 40.6**	**+0.6**	
MDJ			sP		sP	15 12 53.9	-1.4	
MDJ			S		**S**	**15 20 43.8**	**+0.6**	
MDJ			pmax		pmax			
	comp=Z,9.0nm,1.6s							
MDJ			pmax		pmax			
	comp=Z,200nm,4.0s							
MDJ			LR		LR			
	comp=Z,70nm,28.1s							
CN2	**Changchun**	**59.91 333**	*e*P		**P**	**15 12 49.8**	**+2.5**	
CN2			*es*P		sP	15 13 03.8	+1.2	
CN2			*e*S		**S**	**15 20 57.6**	**+0.7**	
CN2			pmax		pmax			
	comp=Z,10.0nm,1.3s							
CN2			pmax		pmax			
	comp=Z,200nm,4.0s							
CN2			LR		LR			
	comp=N,300nm,15.0s							
CN2			LR		LR			
	comp=E,300nm,15.0s							
CN2			LR		LR			
	comp=Z,500nm,16.0s							
ENH	**Enshi**	**60.39 312**	*e*P		**P**	**15 12 49.3**	**-1.6**	
	comp=Z,55nm,1.5s							
GYA	**Guiyang**	**60.64 307**	P		**P**	**15 12 54.0**	**+1.2**	
GYA			pP		pP	15 13 04.8	+0.9	
GYA			PcP		**PcP**	**15 13 38.3**	**+1.4**	
GYA			PP		**PP**	**15 15 10.4**	**+3.5**	
GYA			S		**S**	**15 21 06.5**	**-0.6**	
GYA			sS		sS	15 21 24.8	-0.5	
GYA			SS		**SS**	**15 25 06.3**	**0.0**	
GYA			pmax		pmax			
	comp=Z,20nm,1.0s							
GYA			pmax		pmax			
	comp=Z,120nm,4.8s							
GYA			LR		LR			
	comp=N,580nm,16.8s							
GYA			LR		LR			
	comp=E,520nm,17.0s							
GYA			LR		LR			
	comp=Z,540nm,18.4s							
PETK	**Petropavlovsk-**	**61.59 360**	P		**P**	**15 12 59.0**	**+0.5**	
PETK	**Petropavlovsk-**	**61.59 360**	P		**P**	**15 12 59.0**	**+0.5**	
	comp=Z,6.0nm,0.9s,baz=162,slow=6.8,SNR=3.7							
PETK			LR		LR	15 37 03.2		
	comp=Z,210nm,19.0s,baz=168,slow=34							
BJI	**Beijing**	**61.87 325**	P		**P**	**15 13 01.4**	**+0.7**	
XAN	**Xi'an**	**62.82 315**	P		**P**	**15 13 07.0**	**-0.3**	
XAN			pP		pP	15 13 19.9	+1.6	
XAN			pmax		pmax			
	comp=Z,3.0nm,1.8s							
KMI	**Kunming**	**63.21 304**	P		**P**	**15 13 11.6**	**+1.3**	
KMI			pP		pP	15 13 22.8	+1.4	
KMI			sP		sP	15 13 26.5	+0.9	
KMI			PP		**PP**	**15 15 33.4**	**+3.7**	
KMI			S		**S**	**15 21 36.6**	**-3.3**	
KMI			sS		sS	15 21 56.6	-1.6	
KMI			pmax		pmax			
	comp=Z,23nm,1.1s							
KMI			pmax		pmax			
	comp=Z,160nm,4.5s							
KMI			LR		LR			
	comp=N,160nm,10.7s							
KMI			LR		LR			
	comp=E,100nm,12.8s							
KMI			LR		LR			
	comp=Z,120nm,16.2s							
CM31	**Chiang Mai Arr**	**63.96 295**	*e*P		**P**	**15 13 14.7**	**-0.3**	
CMAR	**Chiang Mai Arr**	**63.96 295**	P		**P**	**15 13 15.5**	**+0.4**	
CMAR	**Chiang Mai Arr**	**63.96 295**	P		**P**	**15 13 15.5**	**+0.4**	
	comp=Z,6.4nm,0.9s,baz=117,slow=4.8,SNR=42							
CHTO	**Chiang Mai**	**64.08 296**	*e*P		**P**	**15 13 14.7**	**-1.2**	
	comp=Z,30nm,1.4s							
HHC	**Hu-ho-hao-te**	**65.08 323**	*e*P		**P**	**15 13 23.5**	**+1.4**	
HHC			pP		pP	15 13 34.0	+0.8	
HHC			sP		sP	15 13 37.5	+0.1	
HHC			PP		**PP**	**15 15 48.4**	**+2.7**	
HHC			S		**S**	**15 22 01.8**	**-0.5**	
HHC			sS		sS	15 22 18.4	-2.2	
HHC			ScS		**SKSac**	**15 23 12.0**	**-2.5**	
HHC			pmax		pmax			
	comp=Z,6.0nm,0.7s							
HHC			pmax		pmax			
	comp=Z,150nm,5.3s							
HHC			LR		LR			
	comp=N,210nm,15.5s							
HHC			LR		LR			
	comp=E,230nm,16.6s							
HHC			LR		LR			
	comp=Z,120nm,17.8s							
LZH	**Lanzhou**	**67.43 315**	*e*P		**P**	**15 13 37.8**	**+0.4**	
LZH			pP		pP	15 13 48.6	+0.1	
LZH			sP		sP	15 13 52.3	-0.4	
LZH			PP		**PP**	**15 16 09.0**	**+2.5**	
LZH			pmax		pmax			
	comp=Z,21nm,1.3s							
LZH			pmax		pmax			
	comp=Z,75nm,7.0s							
LZH			LR		LR			
	comp=N,320nm,16.0s							
LZH			LR		LR			
	comp=E,300nm,16.5s							
LZH			LR		LR			
	comp=Z,330nm,18.2s							
GTA	**Gaotai**	**71.84 316**	P		**P**	**15 14 04.9**	**+0.5**	
GTA			pP		pP	15 14 15.3	-0.4	
GTA			sP		sP	15 14 19.3	-0.6	
GTA			S		**S**	**15 23 23.6**	**+0.8**	
GTA			sS		**SKiKP**	**15 23 40.3**	**+0.4**	
GTA			SS		**SS**	**15 28 01.0**	**+1.2**	
GTA			pmax		pmax			
	comp=Z,8.0nm,1.4s							
GTA			pmax		pmax			
	comp=Z,97nm,6.2s							
GTA			LR		LR			
	comp=N,100nm,15.4s							
GTA			LR		LR			
	comp=E,57nm,15.4s							
GTA			LR		LR			
	comp=Z,180nm,15.0s							
ULN	**Ulaanbaatar**	**71.91 327**	*e*P		**P**	**15 14 04.2**	**-0.4**	
	comp=Z,7.1nm,1.1s							
SONM	**Songino Array**	**72.25 326**	P		**P**	**15 14 06.5**	**-0.1**	
SONM	**Songino Array**	**72.25 326**	P		**P**	**15 14 06.5**	**-0.1**	
	comp=Z,3.8nm,1.0s,baz=132,slow=5.0,SNR=18							
SONM			LR		LR	15 44 04.9		
	comp=Z,81nm,18.8s,baz=29,slow=34							
SHL	**Shillong**	**72.49 300**	*e*PKP		**P**	**15 14 09.0**	**+0.3**	
YAK	**Yakutsk**	**73.83 347**	P		**P**	**15 14 14.4**	**-1.1**	
	comp=Z,13nm,0.8s							
LSA	**Lhasa**	**74.47 304**	P		**P**	**15 14 20.8**	**+0.2**	
LSA	**Lhasa**	**74.47 304**	*e*P		**P**	**15 14 19.7**	**-0.9**	
	comp=Z,20nm,1.0s							
TAPN	**Taplejung**	**76.60 301**	*e*P		**P**	**15 14 31.9**	**-0.7**	
	comp=Z,53nm,1.2s							
ODAN	**Odare**	**76.73 300**	*e*P		**P**	**15 14 32.7**	**-0.6**	
	comp=Z,37nm,0.9s							
BILL	**Bilibino**	**76.81 3**	*e*P		**P**	**15 14 31.4**	**-1.2**	
	comp=Z,6.6nm,0.9s							
RAMN	**Ramite**	**77.43 300**	*e*P		**P**	**15 14 36.6**	**-0.7**	
	comp=Z,51nm,1.6s							
KDAK	**Kodiak Island**	**77.57 25**	P		**P**	**15 14 37.0**	**0.0**	
KDAK	**Kodiak Island**	**77.57 25**	P		**P**	**15 14 37.0**	**0.0**	
	comp=Z,11nm,0.9s,baz=270,slow=8.1,SNR=3.9							
JIRN	**Jiri**	**77.98 301**	*e*P		**P**	**15 14 38.9**	**-1.6**	
GUN	**Gumba**	**78.31 301**	*e*P		**P**	**15 14 41.1**	**-1.2**	
	comp=Z,49nm,1.2s							
PKI	**Pulchoki**	**78.62 300**	*e*P		**P**	**15 14 42.5**	**-1.5**	
KKN	**Kakani**	**78.79 301**	*e*P		**P**	**15 14 43.7**	**-1.1**	
DMN	**Daman**	**78.89 300**	*e*P		**P**	**15 14 44.8**	**-0.6**	
GKN	**Gorkha**	**79.39 301**	*e*P		**P**	**15 14 47.2**	**-0.8**	
	comp=Z,73nm,1.4s							
KOLN	**Koldanda**	**80.22 300**	*e*P		**P**	**15 14 51.4**	**-1.1**	
	comp=Z,16nm,0.8s							
DANN	**Dangsing**	**80.23 301**	*e*P		**P**	**15 14 51.1**	**-1.6**	
	comp=Z,45nm,1.3s							
QSPA	**South Pole Qui**	**81.26 180**	*e*P		**P**	**15 14 57.9**	**+0.6**	
QSPA	**South Pole Qui**	**81.26 180**	P		**P**	**15 14 57.7**	**+0.4**	
	comp=Z,3.3nm,0.9s,baz=337,slow=1.4,SNR=17							
PMR	**Palmer**	**81.30 23**	*e*P		**P**	**15 14 55.3**	**-2.0**	
	comp=Z,20nm,1.0s							
SML	**Sawmill**	**81.74 23**	*e*P		**P**	**15 15 00.7**	**+1.1**	
	comp=Z,13nm,1.4s							
WMQ	**Urumqi**	**81.92 317**	*e*P		**P**	**15 15 00.8**	**-0.3**	
WMQ			pP		**pP**	**15 15 11.0**	**-1.5**	
WMQ			pmax		pmax			
	comp=Z,7.0nm,1.0s							
WMQ			pmax		pmax			
	comp=Z,150nm,5.1s							
WMQ			LR		LR			
	comp=Z,140nm,19.2s							
TRF	**Thorofare Moun**	**82.01 21**	*e*P		**P**	**15 14 59.4**	**-1.8**	
	comp=Z,15nm,0.9s							
HYB	**Hyderabad**	**82.38 289**	*i* P		**P**	**15 15 03.5**	**-0.5**	
MCK	**McKinley**	**82.67 21**	*e*P		**P**	**15 15 03.3**	**-1.1**	
	comp=Z,55nm,1.0s							
COLA	**College**	**83.73 20**	*e*P		**P**	**15 15 08.4**	**-1.4**	
	comp=Z,23nm,0.9s							
MAW	**Mawson**	**83.85 203**	LR		LR	15 50 10.4		
	comp=Z,204nm,18.4s,baz=313,slow=34							
ILAR	**Eielson Array**	**84.00 21**	P		**P**	**15 15 09.8**	**-1.4**	
ILAR	**Eielson Array**	**84.00 21**	P		**P**	**15 15 09.8**	**-1.4**	
	comp=Z,9.4nm,1.1s,baz=248,slow=4.2,SNR=33							
ILAR			LR		LR	15 51 55.3		
	comp=Z,127nm,18.2s,baz=254,slow=35							
MENT	**Mentasta**	**84.16 23**	*e*P		**P**	**15 15 12.0**	**-0.2**	
DOT	**Dot Lake**	**84.40 22**	*e*P		**P**	**15 15 13.5**	**+0.1**	
	comp=Z,8.8nm,1.0s							
EGAK	**Eagle**	**86.08 22**	*e*P		**P**	**15 15 21.7**	**0.0**	
	comp=Z,15nm,1.1s							
MK31	**Makanchi Array**	**86.48 318**	*e*P		**P**	**15 15 22.8**	**-1.3**	
MKAR	**Makanchi Array**	**86.48 318**	P		**P**	**15 15 23.3**	**-0.8**	
MKAR	**Makanchi Array**	**86.48 318**	P		**P**	**15 15 23.3**	**-0.8**	
	comp=Z,1.8nm,0.8s,baz=103,slow=5.9,SNR=15							
ZALV	**Zalesovo Beam**	**87.12 326**	P		**P**	**15 15 25.3**	**-1.7**	
ZALV	**Zalesovo Beam**	**87.12 326**	P		**P**	**15 15 25.3**	**-1.7**	
	comp=Z,0.6nm,0.4s,baz=101,slow=3.8,SNR=3.8							
ZALV			LR		LR	15 53 43.7		
	comp=Z,48nm,20.1s,baz=182,slow=35							
KSH	**Kashi**	**89.18 310**	P		**P**	**15 15 38.1**	**+0.8**	
KSH			pP		pP	15 15 47.9	-0.9	
KSH			sP		sP	15 15 52.1	-0.9	
KSH			PP		**PP**	**15 19 11.3**	**+3.2**	
KSH			SKS		**SKSac**	**15 26 03.0**	**-1.8**	
KSH			S		**S**	**15 26 23.8**	**-0.4**	
KSH			sS		sS	15 26 40.9	-2.3	
KSH			SS		**SS**	**15 32 22.5**	**+3.6**	
KSH			pmax		pmax			
	comp=Z,3.0nm,1.0s							
KSH			pmax		pmax			
	comp=Z,99nm,4.6s							
KSH			LR		LR			
	comp=N,64nm,6.0s							
KSH			LR		LR			
	comp=E,88nm,4.8s							
KSH			LR		LR			
	comp=Z,240nm,5.6s							
KURK	**Kurchatov**	**89.85 321**	P		**P**	**15 15 39.7**	**-0.3**	
KURBB	**Kurchatov Arra**	**89.89 321**	P		**P**	**15 15 39.7**	**-0.5**	
	comp=Z,0.7nm,0.8s,baz=88,slow=2.7,SNR=4.5							
NVAR	**Mina Array Bea**	**90.68 51**	P		**P**	**15 15 46.1**	**+1.6**	
NVAR	**Mina Array Bea**	**90.68 51**	P		**P**	**15 15 46.1**	**+1.6**	
	comp=Z,1.2nm,0.4s,baz=248,slow=7.8,SNR=6.0							
AAK	**Ala-Archa**	**90.89 313**	*e*P		**P**	**15 15 44.5**	**-0.8**	
	comp=Z,6.2nm,0.8s							
AAK	**Ala-Archa**	**90.89 313**	P		**P**	**15 15 44.7**	**-0.7**	
	comp=Z,0.9nm,0.5s,baz=158,slow=7.4,SNR=5.9							
BVAR	**Borovoye Array**	**95.29 323**	P		**P**	**15 16 03.3**	**-1.9**	
BVAR	**Borovoye Array**	**95.29 323**	P		**P**	**15 16 03.3**	**-1.9**	
	comp=Z,1.4nm,0.9s,baz=106,slow=5.4,SNR=6.2							
YKA	**Yellowknife Ar**	**96.59 28**	P		**P**	**15 16 10.1**	**-0.7**	
YKA	**Yellowknife Ar**	**96.59 28**	P		**P**	**15 16 10.1**	**-0.7**	
	comp=Z,1.1nm,0.8s,baz=265,slow=4.6,SNR=16							
PDAR	**Pinedale Array**	**97.85 48**	P		**P**	**15 16 17.4**	**+0.2**	
PDAR	**Pinedale Array**	**97.85 48**	P		**P**	**15 16 17.4**	**+0.2**	
	comp=Z,0.8nm,0.8s,baz=294,slow=1.5,SNR=5.8							
PDAR			LR		LR	15 55 51.4		
	comp=Z,124nm,18.4s,baz=120,slow=33							
LPAZ	**La Paz**	**128.27 119**	PKP		**PKPdf**	**15 21 50.1**	**+0.7**	
LPAZ	**La Paz**	**128.27 119**	PKP		**PKPdf**	**15 21 50.1**	**+0.7**	
	comp=Z,2.1nm,1.0s,baz=188,slow=3.6,SNR=4.6							
BDFB	**Brasilia**	**144.85 133**	PKP		**PKPdf**	**15 22 19.5**	**+0.1**	
BDFB	**Brasilia**	**144.85 133**	PKP		**PKPdf**	**15 22 19.5**	**+0.1**	
	comp=Z,7.3nm,0.8s,baz=252,slow=2.0,SNR=7.7							
ESDC	**Sonseca Array**	**145.10 335**	PKPbc		**PKPbc**	**15 22 18.5**	**-0.1**	
ESDC	**Sonseca Array**	**145.10 335**	PKPbc		**PKPbc**	**15 22 18.5**	**-0.1**	
	comp=Z,0.8nm,0.5s,baz=38,slow=3.3,SNR=5.0							
TORD	**Torodi Ar. Bea**	**156.06 283**	PKP		**PKPdf**	**15 22 36.3**	**-0.3**	
TORD	**Torodi Ar. Bea**	**156.06 283**	PKP		**PKPdf**	**15 22 36.3**	**-0.3**	
	comp=Z,0.6nm,0.9s,baz=335,slow=1.8,SNR=3.4							

WEL 16 15:04:03.5±0.5, 38.51S×175.84E, h161km±4km, ML3.5/15, 9C-1D, Error ellipse: s-maj=2.4km s-min=2.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WTVZ	**West Tongariro**	**0.63**	**198**	PN	Pn	15 04 26.9	-0.1
TWVZ	**Taurewa**	**0.64**	**209**	⇑PN	Pn	15 04 26.9	-0.1
OTVZ	**Oturere**	**0.67**	**192**	⇑PN	Pn	15 04 27.5	+0.3
NGZ	**Ngauruhoe**	**0.69**	**195**	⇑PN	Pn	15 04 27.4	+0.1
WPVZ	**Whakapapa**	**0.73**	**198**	⇑PN	Pn	15 04 27.6	0.0
TUVZ	**Tukino**	**0.77**	**191**	PN	Pn	15 04 27.8	0.0
TUVZ				SN	Sn	15 04 45.7	-0.8
HIZ	**Hauiti**	**0.77**	**270**	PN	Pn	15 04 27.5	-0.2
FWVZ	**Far West T-bar**	**0.78**	**197**	PN	Pn	15 04 27.7	-0.2
TRVZ	**Turoa**	**0.82**	**196**	PN	Pn	15 04 28.3	0.0
BKZ	**Black Stump Fm**	**0.83**	**142**	⇑PN	Pn	15 04 28.0	-0.1
BKZ				SN	Sn	15 04 45.7	-1.4
WNVZ	**Wahianoa**	**0.84**	**193**	⇑PN	Pn	15 04 28.3	0.0
MOVZ	**Moawhango**	**0.90**	**184**	⇑PN	Pn	15 04 28.3	-0.3
MTVZ	**Mangateitei**	**0.92**	**198**	PN	Pn	15 04 28.8	0.0
NMHZ	**Naumai**	**0.96**	**128**	PN	Pn	15 04 30.1	+1.0
NMHZ				SN	Sn	15 04 49.0	+0.3
BHHZ	**Black Hill Sta**	**0.99**	**170**	PN	Pn	15 04 29.1	-0.3
URZ	**Urewera**	**1.03**	**76**	PN	Pn	15 04 28.9	-0.7
VRZ	**Vera Road**	**1.04**	**234**	⇑PN	Pn	15 04 29.6	0.0
RAHZ	**Arahi**	**1.06**	**113**	PN	Pn	15 04 30.2	+0.4
MCHZ	**McNeill Hill**	**1.15**	**145**	PN	Pn	15 04 31.4	+0.8
MWZ	**Matawai**	**1.34**	**83**	⇓PN	Pn	15 04 31.9	-0.5
WAZ	**Wanganui**	**1.41**	**208**	PN	Pn	15 04 32.6	-0.4
PNHZ	**Pukenui**	**1.43**	**169**	PN	Pn	15 04 33.0	-0.3
KAHZ	**Kahuranaki**	**1.52**	**148**	PN	Pn	15 04 34.4	+0.3
WPHZ	**Waipukurau**	**1.62**	**163**	PN	Pn	15 04 34.9	-0.3
WPHZ				SN	Sn	15 04 57.3	-2.3
PXZ	**Pawanui**	**1.71**	**153**	PN	Pn	15 04 35.9	-0.2
MHGZ	**Mahia Peninsul**	**1.74**	**112**	PN	Pn	15 04 36.6	+0.2
DVHZ	**Dannevirke**	**1.80**	**172**	PN	Pn	15 04 36.3	-0.8
PRHZ	**Porangahau**	**1.86**	**161**	PN	Pn	15 04 37.4	-0.4
CNGZ	**Carnagh Statio**	**1.86**	**90**	PN	Pn	15 04 38.0	+0.3
POWZ	**Post Office Ro**	**1.88**	**182**	PN	Pn	15 04 37.1	-0.8
PUZ	**Puketiti**	**1.95**	**78**	PN	Pn	15 04 38.1	-0.7
MRZ	**Mangatainoka R**	**2.16**	**185**	⇑PN	Pn	15 04 39.7	-1.4
MXZ	**Matakaoa Point**	**2.17**	**65**	PN	Pn	15 04 40.8	-0.5
TIWZ	**Tintock**	**2.26**	**179**	PN	Pn	15 04 41.1	-1.3
OGWZ	**Otaki Gorge**	**2.36**	**192**	PN	Pn	15 04 42.1	-1.3
HOWZ	**Holdsworth Sta**	**2.40**	**186**	PN	Pn	15 04 42.3	-1.7
KIW	**Kapiti Island**	**2.45**	**197**	PN	Pn	15 04 42.8	-1.8
TMWZ	**Te Maipa**	**2.59**	**179**	PN	Pn	15 04 44.6	-1.7
MTW	**Mount Morrison**	**2.66**	**185**	PN	Pn	15 04 44.9	-2.2
CAW	**Cannon Point**	**2.66**	**193**	PN	Pn	15 04 45.2	-1.9
DUWZ	**D'Urville Isla**	**2.73**	**212**	SN	Sn	15 05 20.4	-2.0
PAWZ	**Paruwai Farm**	**2.88**	**186**	PN	Pn	15 04 47.6	-2.2
MSWZ	**Moikau Station**	**2.94**	**189**	PN	Pn	15 04 48.1	-2.4
TCW	**Tory Channel**	**2.95**	**204**	PN	Pn	15 04 48.6	-2.1
PLWZ	**Palliser**	**3.09**	**188**	PN	Pn	15 04 49.8	-2.6
TUWZ	**Tuamarina**	**3.26**	**206**	PN	Pn	15 04 51.8	-2.7
NNZ	**Nelson**	**3.30**	**214**	PN	Pn	15 04 52.1	-2.9
QRZ	**Quartz Range**	**3.44**	**227**	PN	Pn	15 04 53.7	-3.2
KHZ	**Kahutara**	**4.28**	**203**	PN	Pn	15 05 04.7	-2.9
LTZ	**Lake Taylor**	**5.06**	**211**	PN	Pn	15 05 14.0	-3.8
CRLZ	**Canterbury Las**	**5.61**	**205**	SN	Sn	15 06 20.1	-9.0
MQZ	**McQueen's Vall**	**5.72**	**204**	SN	Sn	15 06 22.1	-9.4

*IDC **16** 15:07:10.8±0.6, 3.43N×126.49E, h0km, mb4.0/14, mb1 4.1/14, mb1mx4.1/22, mbtmp4.0/14, Error ellipse: s-maj=39.8km s-min=13.3km az=74.0*
*ISCJB **16** 15:07:16.6±0.5, 3.65N±0.05×126.92E±0.10, h53km, mb4.0/15, Error ellipse: s-maj=14.0km s-min=6.0km az=165.6*
*DJA **16** 15:07:18.4±0.6, 4.N±5°×12.7E±°, h55km±51km, M4.5/6, mb4.8/2, mB4.7/1, MLv4.4/6, Mw(mB)3.9/1*

ISC 16 15:07:18.4±0.6, 3.60N±0.06×126.9E±0.1, h53km, n23, σ1ş39/23, mb4.0/15, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.84**	**171**	P	**Pn**	**15 08 01.5**	**+0.2**
TNTI				S	**Sn**	**15 08 36.8**	**+2.5**
MNI	**Manado**	**2.97**	**224**	P	**Pn**	**15 08 05.1**	**+2.0**
DAV	**Davao City (W)**	**3.70**	**339**	P	**Pn**	**15 08 11.9**	**-1.2**
LBMI	**Labuha**	**4.25**	**172**	P	**Pn**	**15 08 21.5**	**+0.9**
CTBH	**Cotabato--PC H**	**4.47**	**324**	⇑*i*P	**Pn**	**15 08 24.3**	**+0.6**
MRSI	**Marisa**	**5.85**	**238**	P	**Pn**	**15 08 42.5**	**-0.1**
	55nm,0.7s,640nm0.2nm						
SWI	**Sorong**	**6.21**	**135**	P	**Pn**	**15 08 47.8**	**+0.3**
FITZ	**Fitzroy Crossi**	**21.60**	**183**	P	**P**

ARCES	**ARCESS Array B**	**128.26**	**350**	PKP	**PKPdf**	**15 26 58.3**	**-0.3**
	1.8nm,0.8s,baz=37,slow=0.6,SNR=6.4						
FINES	**FINESS Array B**	**135.17**	**344**	PKP	**PKPdf**	**15 27 12.6**	**+0.9**
	0.7nm,0.5s,baz=90,slow=1.9,SNR=5.2						
NOA	**NORSAR Array B**	**138.29**	**354**	PKP	**PKPdf**	**15 27 19.4**	**+1.8**
	0.6nm,0.7s,baz=14,slow=3.8,SNR=2.7						
AKASG	**Malin Array Be**	**142.55**	**332**	PKhKP	PKPpre	15 27 21.2	
	1.5nm,0.4s,baz=43,slow=4.3,SNR=9.7						
BRTR	**Keskin Array B**	**146.63**	**313**	PKPbc	**PKPdf**	**15 27 35.0**	**+1.9**
	1.9nm,0.6s,baz=144,slow=5.2,SNR=12						
CLL	**Collm**	**147.43**	**348**	*e*PKPbc	**PKPbc**	**15 27 37.6**	**+0.4**
CLL	**Collm**	**147.43**	**348**	⇓*i*P	**PKPbc**	**15 27 37.4**	**+0.2**
	comp=Z,9.0nm,0.8s						
BRG	**Berggiesshubel**	**147.63**	**346**	*e*PKP	**PKPbc**	**15 27 38.2**	**+0.4**
	comp=Z,6.0nm,1.0s						
BRG	**Berggiesshubel**	**147.63**	**346**	*e*PKPbc	**PKPbc**	**15 27 38.2**	**+0.4**
MOX	**Moxa**	**148.32**	**349**	*e*PKPbc	**PKPbc**	**15 27 39.8**	**+0.2**
WERD	**Werda**	**148.38**	**348**	*e*PKPbc	**PKPbc**	**15 27 40.2**	**+0.4**
TANN	**Tannenbergstha**	**148.38**	**348**	*e*PKPbc	**PKPbc**	**15 27 40.2**	**+0.4**
ROTZ	**Rotzenmuhle**	**149.05**	**348**	*e*PKPbc	**PKPbc**	**15 27 41.9**	**+0.5**
TNS	**Taunus Mts**	**149.22**	**352**	*e*PKPbc	**PKPbc**	**15 27 42.1**	**+0.3**
GRF	**Grafenberg Arr**	**149.31**	**349**	*e*PKPbc	**PKPbc**	**15 27 42.3**	**+0.3**
KHC	**Kasperske Hory**	**149.35**	**346**	*e*P	**PKPbc**	**15 27 42.0**	**-0.2**
GEC2	**GERESS Array S**	**149.59**	**345**	*e*PKPbc	**PKPbc**	**15 27 43.0**	**+0.2**
GERES	**GERESS Array B**	**149.59**	**345**	PKPbc	**PKPbc**	**15 27 42.9**	**0.0**
	comp=Z,1.6nm,0.6s,baz=5.7,slow=4.0,SNR=9.0						

IDC ***16*** *15:12:12.5±0.7, 4.°13N×126.°73E, h0km, mb3.9/16, mb1 4.0/16, mb1mx4.0/23, mbtmp3.9/16, Error ellipse: s-maj=37.2km s-min=13.4km az=73.0*

ISCJB ***16*** *15:12:15.8±0.5, 4.°17N±0.°08×126.°8E±0.°2, h36km, mb4.0/18, Error ellipse: s-maj=25.2km s-min=8.9km az=163.8*

NEIC ***16*** *15:12:17.6±0.3, 4.°14N×126.°81E, h35km, mb4.7/2, Error ellipse: s-maj=20.3km s-min=6.9km az=74.0*

ISC 16 15:12:17.7±0.6, 4.°15N±0.°10×126.°9E±0.°2, h36km, n38, σ0s78/42, mb4.0/18, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.06**	**319**	⇓*i*P	**Pn**	**15 13 19.2**	**+2.0**
FITZ	**Fitzroy Crossi**	**22.14**	**183**	P	**P**	**15 17 10.6**	**+0.2**
FITZ	**Fitzroy Crossi**	**22.14**	**183**	P	**P**	**15 17 10.9**	**+0.5**
	1.2nm,0.4s,baz=6.0,slow=8.3,SNR=3.9						
WRAB	**Tennant Creek**	**25.02**	**163**	*e*P	**P**	**15 17 39.2**	**+0.7**
WRA	**Warramunga Arr**	**25.02**	**163**	P	**P**	**15 17 38.1**	**-0.5**
WRA	**Warramunga Arr**	**25.02**	**163**	P	**P**	**15 17 38.1**	**-0.5**
	2.8nm,0.6s,baz=344,slow=11,SNR=12						
ASAR	**Alice Springs**	**28.47**	**166**	P	**P**	**15 18 09.2**	**-0.4**
ASAR	**Alice Springs**	**28.47**	**166**	P	**P**	**15 18 09.2**	**-0.4**
	0.2nm,0.5s,baz=345,slow=6.7,SNR=4.6						
CMAR	**Chiang Mai Arr**	**30.84**	**300**	P	**P**	**15 18 30.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**30.84**	**300**	P	**P**	**15 18 30.1**	**-0.5**
	1.0nm,0.7s,baz=108,slow=7.0,SNR=7.2						
KSAR	**Wonju Array Be**	**33.15**	**1**	P	**P**	**15 18 51.3**	**+0.6**
KSRS	**Korea Array**	**33.16**	**1**	P	**P**	**15 18 51.3**	**+0.5**
	0.4nm,0.4s,baz=182,slow=9.8,SNR=2.9						
MJAR	**Matsushiro Arr**	**33.87**	**16**	P	**P**	**15 18 57.8**	**+0.8**
MJAR	**Matsushiro Arr**	**33.87**	**16**	P	**P**	**15 18 57.8**	**+0.8**
	0.4nm,0.3s,baz=199,slow=6.7,SNR=2.8						
STKA	**Stephens Creek**	**38.45**	**160**	P	**P**	**15 19 37.0**	**+0.9**
STKA	**Stephens Creek**	**38.45**	**160**	P	**P**	**15 19 37.0**	**+0.9**
	3.5nm,0.8s,baz=325,slow=7.8,SNR=6.0						
SONM	**Songino Array**	**46.97**	**341**	P	**P**	**15 20 45.5**	**+0.3**
SONM				PcP	**PcP**	**15 22 17.4**	**0.0**
SONM	**Songino Array**	**46.97**	**341**	P	**P**	**15 20 45.5**	**+0.3**
	0.5nm,0.6s,baz=156,slow=8.8,SNR=5.1						
SONM				PcP	**PcP**	**15 22 17.4**	**0.0**
	0.3nm,0.6s,baz=138,slow=2.1,SNR=2.9						
MK31	**Makanchi Array**	**57.33**	**325**	*e*P	**P**	**15 22 01.5**	**-0.7**
MKAR	**Makanchi Array**	**57.33**	**325**	P	**P**	**15 22 01.3**	**-0.9**
MKAR				PcP	**PcP**	**15 22 56.5**	**+0.5**
MKAR	**Makanchi Array**	**57.33**	**325**	P	**P**	**15 22 01.3**	**-0.9**
	0.7nm,0.4s,baz=114,slow=7.8,SNR=6.8						
MKAR				PcP	**PcP**	**15 22 56.5**	**+0.5**
	0.9nm,0.7s,baz=114,slow=4.6,SNR=4.9						
YAK	**Yakutsk**	**57.79**	**2**	P	**P**	**15 22 03.2**	**-1.8**
	7.3nm,0.6s						
ZALV	**Zalesovo Beam**	**60.31**	**333**	P	**P**	**15 22 22.0**	**-0.7**
ZALV	**Zalesovo Beam**	**60.31**	**333**	P	**P**	**15 22 22.0**	**-0.7**
	0.3nm,0.4s,baz=114,slow=9.6,SNR=2.7						
KURBB	**Kurchatov Arra**	**61.50**	**327**	P	**P**	**15 22 29.9**	**-0.9**
	1.1nm,0.6s,baz=129,slow=6.1,SNR=11						
KURK	**Kurchatov**	**61.50**	**327**	*e*P	**P**	**15 22 29.9**	**-0.9**
	1.6nm,0.5s						
BVAR	**Borovoye Array**	**67.08**	**327**	P	**P**	**15 23 07.2**	**-0.2**
BVAR	**Borovoye Array**	**67.08**	**327**	P	**P**	**15 23 07.2**	**-0.2**
	1.3nm,1.0s,baz=128,slow=9.6,SNR=5.3						
AKTO	**Aktyubinsk**	**73.46**	**322**	P	**P**	**15 23 45.2**	**-1.2**
AKTO	**Aktyubinsk**	**73.46**	**322**	P	**P**	**15 23 45.2**	**-1.2**
	1.1nm,0.7s,baz=92,slow=8.5,SNR=4.1						
BRTR	**Keskin Array B**	**89.91**	**310**	P	**P**	**15 25 13.2**	**-0.4**
BRTR	**Keskin Array B**	**89.91**	**310**	P	**P**	**15 25 13.2**	**-0.4**
	0.3nm,0.5s,baz=74,slow=6.2,SNR=2.7						
ARCES	**ARCESS Array B**	**90.13**	**340**	P	**P**	**15 25 14.7**	**+0.9**
ARCES	**ARCESS Array B**	**90.13**	**340**	P	**P**	**15 25 14.7**	**+0.9**
	5.1nm,1.0s,baz=69,slow=8.0,SNR=2.8						
FINES	**FINESS Array B**	**91.56**	**332**	P	**P**	**15 25 21.0**	**+0.5**
FINES	**FINESS Array B**	**91.56**	**332**	P	**P**	**15 25 21.0**	**+0.5**
	2.0nm,0.9s,baz=89,slow=6.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**122.98**	**288**	PKP	**PKPdf**	**15 31 11.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**122.98**	**288**	PKP	**PKPdf**	**15 31 11.1**	**-0.3**
	0.4nm,0.8s,baz=53,slow=3.8,SNR=2.6						

ISCJB ***16*** *15:19:20.7±1.2, 1.°87S±0.°07×129.°89E±0.°08, h10km, mb3.7/2, Error ellipse: s-maj=13.9km s-min=7.7km az=38.3*

DJA ***16*** *15:19:20.5±0.6, 2.°5S±4.°×13.°0E±.°, h10km, M3.5/3, MLv3.5/3*

IDC ***16*** *15:19:22.2±12.0, 0.°87S×133.°41E, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.3/17, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=192.2km s-min=115.7km az=155.0*

ISC 16 15:19:20.5±1.5, 1.°88S±0.°09×129.°96E±0.°08, h10km, n7, σ2s90/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**1.65**	**52**	P	**Pb**	**15 19 50.4**	**-0.5**
SWI				S	**Sg**	**15 20 13.3**	**-0.2**
FAKI	**Fak Fak**	**2.51**	**114**	P	**Pn**	**15 20 02.4**	**+1.0**
FAKI				S	**Sb**	**15 20 34.8**	**-1.9**
AAI	**Ambon**	**2.52**	**224**	P	**Pn**	**15 20 01.7**	**+0.2**
BNDI	**Bandanaira**	**2.63**	**181**	S	**Sb**	**15 20 37.2**	**-2.9**
WRA	**Warramunga Arr**	**18.46**	**167**	P	Pn	15 23 46.2	+10
	0.1nm,0.3s,baz=356,slow=11,SNR=11						
WRA				S	**S**	**15 27 12.0**	**+4.5**
	0.1nm,0.3s,baz=357,slow=23,SNR=3.7						
ASAR	**Alice Springs**	**22.00**	**170**	P	P	15 24 25.9	+11
	0.7nm,0.5s,baz=355,slow=12,SNR=23						
STKA	**Stephens Creek**	**31.80**	**161**	P	P	15 25 47.7	+2.4
	2.3nm,1.0s,baz=339,slow=11,SNR=6.3						

IDC 16 15:27:14.1±1.1, 3.°94N×126.°72E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.7/20, mbtmp3.7/8, MS3.7/1, Ms1 3.7/1, ms1mx2.6/30, Error ellipse: s-maj=66.2km s-min=15.2km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.93**	**183**	P	P	15 32 08.6	-0.7
	0.9nm,0.5s,baz=1.0,slow=6.7,SNR=2.9						
WRA	**Warramunga Arr**	**24.89**	**163**	P	P	15 32 38.5	-0.3
	1.7nm,0.5s,baz=342,slow=11,SNR=22						
ASAR	**Alice Springs**	**28.32**	**166**	P	P	15 33 09.6	-0.2
	0.2nm,0.3s,baz=342,slow=7.8,SNR=11						
CMAR	**Chiang Mai Arr**	**30.75**	**300**	P	P	15 33 32.4	+0.9
	0.4nm,0.8s,baz=125,slow=8.9,SNR=3.1						
STKA	**Stephens Creek**	**38.33**	**159**	P	P	15 34 37.5	+0.7
	3.4nm,0.7s,baz=330,slow=8.9,SNR=7.9						
DZM	**Mont Dzumac**	**46.67**	**125**	LR	LR	15 53 28.8	
	comp=Z,80nm,19.3s,baz=249,slow=34						
SONM	**Songino Array**	**47.10**	**341**	P	P	15 35 48.0	0.0
	0.2nm,0.3s,baz=161,slow=9.7,SNR=3.0						
MKAR	**Makanchi Array**	**57.38**	**325**	P	P	15 37 02.7	-1.7
	0.4nm,0.4s,baz=123,slow=7.4,SNR=6.3						
ZALV	**Zalesovo Beam**	**60.40**	**333**	P	P	15 37 25.7	+0.5
	0.4nm,0.4s,baz=132,slow=4.3,SNR=2.6						

DJA 16 15:29:03.3±2.1, 0.°5S±19.°×13.°2E±.°, h10km, M4.2/6, mb4.2/3, mB5.1/2, MLv4.2/6, Mw(mB)4.5/2, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**1.06**	**246**	P	Pg	15 29 21.6	-2.2
SWI				S	Sg	15 29 37.2	-0.5
FAKI	**Fak Fak**	**2.48**	**180**	P	Pn	15 29 42.9	-0.9
MSAI	**Masohi**	**4.40**	**229**	P	Pn	15 30 12.3	+2.1
BNDI	**Bandanaira**	**4.69**	**210**	P	Pn	15 30 14.8	+0.6
AAI	**Ambon**	**5.18**	**231**	P	Pn	15 30 21.2	+0.3
	23nm,0.7s,1μm0.1nm						
TLE	**Tual**	**5.21**	**174**	P	Pn	15 30 21.4	+0.1

IDC 16 15:40:35.7±1.2, 10.°55N×91.°46E, h25km±4km, mb3.5/6, mb1 3.6/7, mb1mx3.4/24, mbtmp3.4/7, Error ellipse: s-maj=47.3km s-min=14.9km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.69**	**42**	Pn	Pn	15 43 08.4	+1.1
	baz=232,slow=14,SNR=3.1						
MKAR	**Makanchi Array**	**36.95**	**350**	P	P	15 47 42.5	-0.4
	0.8nm,0.6s,baz=168,slow=8.7,SNR=12						
MKAR				pP	pP	15 47 50.3	+0.1
	1.8nm,0.7s,baz=170,slow=7.9,SNR=14						
SONM	**Songino Array**	**39.24**	**16**	P	P	15 48 01.6	-0.7
	0.3nm,0.8s,baz=210,slow=10,SNR=3.2						
ZALV	**Zalesovo Beam**	**43.61**	**354**	P	P	15 48 37.9	0.0
	0.7nm,0.4s,baz=210,slow=8.3,SNR=4.6						
ZALV				pP	pP	15 48 44.9	-0.4
	0.6nm,0.4s,baz=176,slow=8.9,SNR=3.4						
WRA	**Warramunga Arr**	**51.96**	**126**	P	P	15 49 43.1	0.0
	0.4nm,0.7s,baz=306,slow=8.4,SNR=4.9						
WRA				pP	pP	15 49 50.6	-0.2
	1.2nm,0.6s,baz=305,slow=8.6,SNR=9.5						
ASAR	**Alice Springs**	**53.65**	**130**	P	P	15 49 55.4	-0.2
	1.0nm,0.8s,baz=292,slow=5.4,SNR=9.7						
ASAR				pP	pP	15 50 03.2	0.0
	0.9nm,0.7s,baz=304,slow=6.4,SNR=5.8						
FINES	**FINESS Array B**	**69.12**	**332**	P	P	15 51 39.8	+0.2
	1.2nm,0.7s,baz=93,slow=8.6,SNR=3.6						
FINES				pP	pP	15 51 47.6	+0.2
	1.6nm,0.7s,baz=65,slow=5.0,SNR=3.4						

IDC 16 15:42:28.7±0.9, 8.°46S×157.°53E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/17, mbtmp3.8/8, ML4.2/1, Error ellipse: s-maj=26.2km s-min=20.6km az=160.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.58**	**112**	Pn	Pn	15 43 13.2	+1.4
	42nm,0.3s,baz=255,slow=8.2,SNR=8.4						
HNR				Sn	Sn	15 43 44.6	+0.7
	104nm,0.3s,baz=77,slow=23,SNR=10.0						
WRA	**Warramunga Arr**	**25.17**	**241**	P	P	15 47 55.8	-0.3
	1.1nm,0.7s,baz=66,slow=9.5,SNR=14						
ASAR	**Alice Springs**	**27.20**	**233**	P	P	15 48 14.4	0.0
	0.3nm,0.7s,baz=61,slow=11,SNR=3.7						
STKA	**Stephens Creek**	**27.61**	**210**	P	P	15 48 17.4	-0.5
	1.3nm,0.7s,baz=55,slow=12,SNR=2.8						
CMAR	**Chiang Mai Arr**	**63.67**	**295**	P	P	15 53 03.9	+1.5
	0.2nm,0.3s,baz=123,slow=6.5,SNR=4.1						
ILAR	**Eielson Array**	**83.83**	**21**	P	P	15 54 59.1	-0.7
	0.6nm,0.6s,baz=249,slow=5.2,SNR=13						
MKAR	**Makanchi Array**	**86.16**	**318**	P	P	15 55 10.8	-1.1
	0.3nm,0.5s,baz=90,slow=3.5,SNR=4.1						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	P	15 55 59.5	-0.1
	0.1nm,0.6s,baz=267,slow=4.9,SNR=4.1						

ISCJB ***16*** *15:44:21.1±0.5, 45.°70N±0.°02×15.°32E±0.°03, h7km±5km, Error ellipse: s-maj=4.5km s-min=2.8km az=42.3*

LJU ***16*** *15:44:21.1, 45.°70N×15.°33E, h10km, ML2.0*

VIE ***16*** *15:44:21.2±0.4, 45.°70N×15.°34E, h7km±1km, mb1.9/4, ML2.1/4, Error ellipse: s-maj=2.5km s-min=1.2km az=153.0 29 km NW of Karlovac*

CSEM ***16*** *15:44:21.2±0.1, 45.°69N×15.°34E, h10km, ML2.7/12, Error ellipse: s-maj=2.7km s-min=1.7km az=138.0*

ISC 16 15:44:21.5±1.0, 45.°69N±0.°02×15.°34E±0.°02, h7km±8km, n48, σ0s61/79, 11C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRES	**Cresnjev**	**0.16**	**31**	⇓*i*Pg	**Pg**	**15 44 24.3**	**-0.5**
CRES				*i* Sg	**Sg**	**15 44 26.5**	**-0.6**
CRES							
	comp=Z,354nm,0.1s						
CRES	**Cresnjev**	**0.16**	**31**	⇓*i*Pg	**Pg**	**15 44 24.3**	**-0.5**
CRES				*i* Sg	**Sg**	**15 44 26.5**	**-0.6**
	comp=Z,354nm,0.1s						
BOJS	**Bojanci**	**0.19**	**198**	⇓*i*Pg	**Pg**	**15 44 25.3**	**0.0**
BOJS				*i* Sg	**Sg**	**15 44 28.7**	**+0.8**
BOJS							
	comp=Z,216nm,0.1s						
BOJS	**Bojanci**	**0.19**	**198**	⇓*i*Pg	**Pg**	**15 44 25.3**	**0.0**
BOJS				*i* Sg	**Sg**	**15 44 28.7**	**+0.8**
	comp=Z,216nm,0.1s						
LEGS	**Legarje**	**0.26**	**357**	⇓*i*Pg	**Pg**	**15 44 26.2**	**-0.5**
LEGS				*e*Sg	**Sg**	**15 44 30.3**	**+0.1**
LEGS	**Legarje**	**0.26**	**357**	⇓*i*Pg	**Pg**	**15 44 26.2**	**-0.5**
LEGS				*e*Sg	**Sg**	**15 44 30.3**	**+0.1**
GCIS	**Gornji Cirnik**	**0.27**	**48**	*e*Pg	**Pg**	**15 44 26.4**	**-0.4**
GCIS				*i* Sg	**Sg**	**15 44 31.2**	**+0.7**
GCIS							
	comp=Z,179nm,0.1s						
GCIS	**Gornji Cirnik**	**0.27**	**48**	*e*Pg	**Pg**	**15 44 26.4**	**-0.4**
GCIS				*i* Sg	**Sg**	**15 44 31.2**	**+0.7**
	comp=Z,179nm,0.1s						
CESS	**Cesta pri Krsk**	**0.30**	**17**	*e*Pg	**Pg**	**15 44 26.9**	**-0.5**
CESS				*i* Sg	**Sg**	**15 44 31.8**	**+0.4**
CESS							
	comp=Z,146nm,0.2s						
CESS	**Cesta pri Krsk**	**0.30**	**17**	*e*Pg	**Pg**	**15 44 26.9**	**-0.5**
CESS				*i* Sg	**Sg**	**15 44 31.8**	**+0.4**
	comp=Z,146nm,0.2s						
VISS	**Visnje**	**0.37**	**289**	*i* Pg	**Pg**	**15 44 28.4**	**-0.3**
VISS				*i* Sg	**Sg**	**15 44 34.2**	**+0.7**
VISS							
	comp=Z,94nm,0.2s						
VISS	**Visnje**	**0.37**	**289**	*i* Pg	**Pg**	**15 44 28.4**	**-0.3**
VISS				*i* Sg	**Sg**	**15 44 34.2**	**+0.7**
	comp=Z,94nm,0.2s						
GOLS	**Golise**	**0.38**	**32**	*i* Pg	**Pg**	**15 44 29.1**	**+0.2**
GOLS				*i* Sg	**Sg**	**15 44 34.9**	**+0.9**
GOLS							
	comp=Z,110nm,0.2s						
GOLS	**Golise**	**0.38**	**32**	*i* Pg	**Pg**	**15 44 29.1**	**+0.2**
GOLS				*i* Sg	**Sg**	**15 44 34.9**	**+0.9**
	comp=Z,110nm,0.2s						
GBRS	**Gornja Briga**	**0.40**	**247**	*i* Pg	**Pg**	**15 44 29.5**	**+0.2**
GBRS				*i* Sg	**Sg**	**15 44 35.2**	**+0.6**
	comp=Z,27nm,0.1s						
PDKS	**Podkum**	**0.44**	**328**	⇑*i*Pg	**Pg**	**15 44 30.3**	**+0.2**
PDKS							
	comp=Z,55nm,0.1s						
PDKS	**Podkum**	**0.44**	**328**	⇑*i*Pg	**Pg**	**15 44 30.3**	**+0.2**
	comp=Z,55nm,0.1s						
DOBS	**Dobrina**	**0.47**	**11**	*i* Pg	**Pg**	**15 44 30.7**	**+0.1**
DOBS				*i* Sg	**Sg**	**15 44 38.0**	**+1.2**
DOBS							
	comp=Z,42nm,0.1s						
DOBS	**Dobrina**	**0.47**	**11**	*i* Pg	**Pg**	**15 44 30.7**	**+0.1**
DOBS				*i* Sg	**Sg**	**15 44 38.0**	**+1.2**
	comp=Z,42nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.61**	**313**	⇑*i*Pg	**Pg**	**15 44 33.4**	**+0.1**
LJU	**Ljubljana**	**0.67**	**303**	*i* Pg	**Pg**	**15 44 34.6**	**+0.2**
LJU				*i* Sg	**Sg**	**15 44 42.9**	**-0.2**
LJU	**Ljubljana**	**0.67**	**303**	*i* Pg	**Pg**	**15 44 34.6**	**+0.2**
LJU				*i* Sg	**Sg**	**15 44 42.9**	**-0.2**
KNDS	**Knezji Dol**	**0.69**	**257**	*i* Sg	**Sb**	**15 44 44.9**	**-0.8**
KNDS	**Knezji Dol**	**0.69**	**257**	*i* Sg	**Sb**	**15 44 44.9**	**-0.8**
GROS	**Grobnik**	**0.78**	**8**	*i* Pg	**Pg**	**15 44 36.4**	**-0.2**
GROS							
	comp=Z,47nm,0.2s						
GROS	**Grobnik**	**0.78**	**8**	*i* Pg	**Pg**	**15 44 36.4**	**-0.2**
	comp=Z,47nm,0.2s						
CRNS	**Crni Vrh**	**0.85**	**298**	⇑*i*Pg	**Pg**	**15 44 37.8**	**0.0**
CRNS							
	comp=Z,36nm,0.4s						
JAVS	**Javornik**	**0.91**	**284**	*i* Pg	**Pg**	**15 44 38.7**	**-0.3**
JAVS							
	comp=Z,16nm,0.2s						
JAVS	**Javornik**	**0.91**	**284**	*i* Pg	**Pg**	**15 44 38.7**	**-0.3**
	comp=Z,16nm,0.2s						
BISS	**Bistriski jare**	**0.97**	**351**	*i* Pg	**Pg**	**15 44 39.6**	**-0.6**
BISS	**Bistriski jare**	**0.97**	**351**	*i* Pg	**Pg**	**15 44 39.6**	**-0.6**
OBKA	**Obir**	**0.99**	**327**	⇓*i*Pg	**Pg**	**15 44 40.8**	**+0.3**
OBKA				⇑*i*Sg	**Sg**	**15 44 53.8**	**+0.5**
	comp=Z,46nm,0.3s						
OBKA	**Obir**	**0.99**	**327**	Pg	**Pg**	**15 44 40.8**	**+0.3**
OBKA				Sg	**Sg**	**15 44 53.8**	**+0.5**
	comp=Z,46nm,0.3s						
SOKA	**Soboth**	**1.01**	**348**	⇑*i*Pg	**Pg**	**15 44 40.5**	**-0.5**
SOKA				⇑*i*Sg	**Sg**	**15 44 54.1**	**0.0**
	comp=Z,9.8nm,0.2s						
SOKA	**Soboth**	**1.01**	**348**	Pg	**Pg**	**15 44 40.5**	**-0.5**
SOKA				Sg	**Sg**	**15 44 54.1**	**0.0**
	comp=Z,9.8nm,0.2s						
VOY	**Vojsko**	**1.07**	**289**	*e*Pg	**Pg**	**15 44 41.9**	**-0.1**
VOY				*e*Sg	**Sb**	**15 44 56.2**	**-0.4**
VOJS	**Vojsko**	**1.07**	**289**	*i* Pg	**Pg**	**15 44 41.5**	**-0.6**
VOJS							
	comp=Z,10.0nm,0.2s						
VOJS	**Vojsko**	**1.07**	**289**	*i* Pg	**Pg**	**15 44 41.5**	**-0.6**
	comp=Z,10.0nm,0.2s						
GORS	**Gorjuse**	**1.13**	**304**	*i* Pg	**Pg**	**15 44 42.7**	**-0.4**
GORS							
	comp=Z,19nm,0.3s						
GORS	**Gorjuse**	**1.13**	**304**	*i* Pg	**Pg**	**15 44 42.7**	**-0.4**
	comp=Z,19nm,0.3s						
NVLJ	**Novalja**	**1.17**	**197**	Sg	**Sn**	**15 45 00.1**	**-0.4**
NVLJ	**Novalja**	**1.17**	**197**	Sg	**Sn**	**15 45 00.1**	**-0.4**
CADS	**Cadrg**	**1.24**	**296**	*i* Pg	**Pn**	**15 44 44.6**	**-0.8**
CADS							
	comp=Z,12nm,0.2s						
CADS	**Cadrg**	**1.24**	**296**	*i* Pg	**Pn**	**15 44 44.6**	**-0.8**
	comp=Z,12nm,0.2s						
MYKA	**Terra Mystica**	**1.51**	**309**	⇑*i*Pg	**Pn**	**15 44 49.3**	**+0.2**
MYKA				⇑*i*Sn	**Sg**	**15 45 09.6**	**-0.4**
MYKA				⇓*i*Sg	**Sb**	**15 45 11.2**	**+1.9**
	comp=Z,5.2nm,0.3s						
MYKA	**Terra Mystica**	**1.51**	**309**	Pg	**Pn**	**15 44 49.3**	**+0.2**
MYKA				Sn	**Sg**	**15 45 09.6**	**-0.4**
MYKA				Sg	**Sb**	**15 45 11.2**	**+1.9**
	comp=Z,5.2nm,0.3s						
ARSA	**Arzberg**	**1.57**	**5**	⇓*i*Pn	**Pn**	**15 44 49.2**	**-0.7**
ARSA				⇑*i*Pg	**Pb**	**15 44 51.3**	**+0.4**
ARSA				⇑*i*Sn	**Sn**	**15 45 10.4**	**-0.2**
ARSA				⇓*i*Sg	**Sg**	**15 45 13.3**	**+1.3**
	comp=Z,5.0nm,0.3s						
ARSA	**Arzberg**	**1.57**	**5**	Pn	**Pn**	**15 44 49.2**	**-0.7**

IDC 16 15:47:52.5±2.0, 4.°12N×127.°23E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=152.4km s-min=24.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.91**	**164**	P	P	15 53 16.1	-1.3
	0.8nm,0.7s,baz=343,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.37**	**167**	P	P	15 53 50.4	+1.8
	0.2nm,0.5s,baz=343,slow=11,SNR=8.9						
STKA	**Stephens Creek**	**38.32**	**160**	P	P	15 55 14.4	-0.6
	1.6nm,0.8s,baz=329,slow=12,SNR=3.4						
MKAR	**Makanchi Array**	**57.53**	**325**	P	P	15 57 43.7	-0.1
	0.2nm,0.5s,baz=123,slow=6.8,SNR=5.6						

IDC 16 16:07:58.6±2.3, 3.°76N×126.°19E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/19, mbtmp3.3/3, Error ellipse: s-maj=200.3km s-min=26.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.88**	**162**	P	P	16 13 23.0	-0.3
	1.1nm,0.7s,baz=340,slow=11,SNR=9.2						
ASAR	**Alice Springs**	**

SMPI	**Sarmi**	**7.45**	**77**	P	**Pn**	**16 41 14.5**	**+1.3**
	57nm,1.4s						
KDI	**Kendari**	**8.80**	**268**	P	Pn	16 41 38.9	+7.2
	19nm,1.3s,0.1nm						
MRSI	**Marisa**	**10.34**	**293**	P	**Pn**	**16 41 54.4**	**+1.6**
FITZ	**Fitzroy Crossi**	**15.44**	**201**	Pn	**Pn**	**16 42 59.0**	**-3.1**
	0.3nm,0.3s,baz=54,slow=8.5,SNR=9.7						
FITZ				Sn	Sn	16 45 38.7	-14
	0.2nm,0.3s,baz=120,slow=11,SNR=2.4						
WRA	**Warramunga Arr**	**16.43**	**170**	Pn	**Pn**	**16 43 12.5**	**-2.5**
	0.2nm,0.3s,baz=355,slow=13,SNR=9.5						
WRA				Sn	Sn	16 46 06.7	-10
	0.4nm,0.3s,baz=0.8,slow=19,SNR=5.5						
ASAR	**Alice Springs**	**20.03**	**173**	P	Pn	16 43 58.5	-0.6
	0.6nm,0.3s,baz=352,slow=9.8,SNR=63						
ASAR				S	**S**	**16 47 35.6**	**-5.9**
	0.1nm,0.3s,baz=360,slow=26,SNR=6.5						
CTA	**Charters Tower**	**21.80**	**140**	P	**P**	**16 44 17.9**	**+1.5**
	4.5nm,0.5s,baz=327,slow=12,SNR=12						
STKA	**Stephens Creek**	**29.65**	**162**	P	**P**	**16 45 30.2**	**+0.6**
	2.0nm,0.7s,baz=323,slow=9.1,SNR=3.9						
CMAR	**Chiang Mai Arr**	**38.83**	**306**	P	**P**	**16 46 50.9**	**+1.5**
	1.1nm,0.9s,baz=134,slow=7.3,SNR=12						
KSRS	**Korea Array**	**41.03**	**356**	LR	LR	17 03 05.3	
	comp=Z,37nm,19.9s,baz=144,slow=34						
MKAR	**Makanchi Array**	**66.27**	**325**	P	**P**	**16 50 13.6**	**+1.4**
	0.9nm,0.8s,baz=126,slow=8.1,SNR=9.7						
ZALV	**Zalesovo Beam**	**69.27**	**333**	P	**P**	**16 50 31.4**	**+0.6**
	0.4nm,0.3s,baz=84,slow=6.1,SNR=3.6						
ILAR	**Eielson Array**	**89.74**	**25**	P	P	16 52 26.6	+4.7
	0.5nm,0.8s,baz=267,slow=4.5,SNR=5.4						

PRE 16 16:40:47.7±1.2, 26.42S×27.48E, h2km, ML1.8, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.52**	**192**	*eP*	Pg	16 40 58.1	+0.2
PRYS				*eS*	Sg	16 41 04.7	0.0
PRYS				AML	AML	16 41 06.7	
	comp=Z,15nm,0.2s						
ERPM	**east rand prop**	**0.69**	**84**	*eP*	Pg	16 41 01.8	+0.6
ERPM				*eS*	Sg	16 41 11.0	+0.8
ERPM				AML	AML	16 41 13.1	
	comp=Z,11nm,0.3s						
SLR	**Silverton**	**0.99**	**47**	*eP*	Pg	16 41 06.2	-0.7
SLR				*eS*	Sg	16 41 20.6	+0.6
SLR				AML	AML	16 41 28.6	
	comp=Z,12nm,0.4s						
SEK	**Senekal**	**1.90**	**176**	*eP*	Pn	16 41 22.2	+0.8
SEK				*eS*	Sn	16 41 46.8	+0.7
SEK				AML	AML	16 41 49.1	
	comp=Z,7.8nm,0.2s						
SWZ	**Schweizer**	**2.07**	**248**	*eP*	Pn	16 41 23.6	0.0
SWZ				*eS*	Sn	16 41 49.9	-0.2
SWZ				AML	AML	16 41 51.9	
	comp=Z,8.4nm,0.4s						
LBTB	**Lobatse**	**2.20**	**309**	*eP*	Pn	16 41 26.4	+1.0
LBTB				*eS*	Sn	16 41 54.6	+1.2
LBTB				AML	AML	16 41 56.7	
	comp=Z,13nm,0.3s						
BOSA	**Boshof**	**2.95**	**222**	*eP*	Pn	16 41 36.6	+0.9
BOSA				*eS*	Sn	16 42 13.1	+1.3
BOSA				AML	AML	16 42 17.2	
	comp=Z,3.4nm,0.3s						

IDC 16 16:49:43.7±2.2, 4.04N×126.95E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=168.2km s-min=26.1km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.92**	**163**	P	P	16 55 07.0	-1.7
	1.4nm,0.7s,baz=343,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.36**	**166**	P	P	16 55 41.5	+1.7
	0.1nm,0.3s,baz=347,slow=12,SNR=11						
MKAR	**Makanchi Array**	**57.43**	**325**	P	P	16 59 34.3	-0.1
	0.3nm,0.5s,baz=131,slow=6.9,SNR=5.9						

IDC 16 17:02:26.2±0.9, 4.04N×126.51E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.8/20, mbtmp3.8/9, 1C, Error ellipse: s-maj=50.4km s-min=15.6km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**3.88**	**325**	*eP*	Pn	17 03 31.1	+3.8
FITZ	**Fitzroy Crossi**	**22.02**	**182**	P	P	17 07 23.3	+1.0
	1.9nm,0.7s,baz=21,slow=8.6,SNR=3.9						
WRA	**Warramunga Arr**	**25.04**	**162**	P	P	17 07 52.0	-0.4
	2.8nm,0.6s,baz=343,slow=10,SNR=8.4						
ASAR	**Alice Springs**	**28.46**	**166**	P	P	17 08 22.9	-0.3
	0.6nm,0.6s,baz=355,slow=7.3,SNR=4.1						
CMAR	**Chiang Mai Arr**	**30.53**	**300**	P	P	17 08 41.4	-0.2
	0.3nm,0.4s,baz=103,slow=6.8,SNR=5.5						
STKA	**Stephens Creek**	**38.49**	**159**	P	P	17 09 50.1	-0.2
	3.3nm,0.7s,baz=341,slow=5.8,SNR=5.8						
SONM	**Songino Array**	**46.94**	**342**	P	P	17 11 00.3	+1.4
	0.3nm,0.5s,baz=163,slow=7.8,SNR=5.1						
MKAR	**Makanchi Array**	**57.18**	**325**	P	P	17 12 14.8	-0.3
	0.9nm,0.5s,baz=123,slow=8.2,SNR=10						
ZALV	**Zalesovo Beam**	**60.22**	**333**	P	P	17 12 35.3	-0.8
	0.5nm,0.5s,baz=102,slow=6.1,SNR=3.4						
ILAR	**Eielson Array**	**84.92**	**25**	P	P	17 15 02.9	-0.1
	0.2nm,0.5s,baz=260,slow=5.8,SNR=4.3						

IDC 16 17:02:40.7±3.7, 7.99S×147.82E, h67km±27km, mb3.6/6, mb1 3.9/8, mb1mx3.6/17, mbtmp3.7/8, ML4.2/2, Error ellipse: s-maj=44.7km s-min=23.1km az=85.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.55**	**205**	P	Pn	17 03 04.9	-1.4
	168nm,0.3s,baz=23,slow=7.2,SNR=781						
PMG				S	Sn	17 03 26.0	+0.4
	315nm,0.3s,baz=33,slow=18,SNR=38						
CTA	**Charters Tower**	**12.12**	**187**	P	Pn	17 05 31.8	+1.1
	1.1nm,0.3s,baz=1.2,slow=14,SNR=9.9						
WRA	**Warramunga Arr**	**17.65**	**226**	P	Pn	17 06 40.9	-1.4
	0.7nm,0.3s,baz=52,slow=12,SNR=33						
ASAR	**Alice Springs**	**20.52**	**219**	P	P	17 07 13.3	-0.3
	2.5nm,0.7s,baz=56,slow=9.9,SNR=67						
FITZ	**Fitzroy Crossi**	**23.80**	**243**	P	P	17 07 47.3	-0.2
	2.0nm,0.4s,baz=69,slow=9.1,SNR=6.3						
STKA	**Stephens Creek**	**24.46**	**193**	P	P	17 07 53.1	-0.4
	2.9nm,0.8s,baz=4.2,slow=10,SNR=11						
SONM	**Songino Array**	**66.53**	**331**	P	P	17 13 23.7	0.0
	0.3nm,0.7s,baz=114,slow=3.5,SNR=2.9						
MKAR	**Makanchi Array**	**79.54**	**321**	P	P	17 14 40.6	+0.2
	0.5nm,0.4s,baz=111,slow=5.8,SNR=5.1						
QSPA	**South Pole Qui**	**81.99**	**180**	P	P	17 14 53.2	-0.1
	3.2nm,0.6s,baz=294,slow=1.0,SNR=30						
TORD	**Torodi Ar. Bea**	**146.33**	**282**	PKPbc	PKPbc	17 22 14.9	0.0
	1.7nm,0.7s,baz=83,slow=3.2,SNR=12						

*BJI **16** 17:13:10.7, 4.20N×126.86E, h25km, mB4.9/6, mb4.6/11*
*ISCJB **16** 17:13:11.7±0.3, 4.23N±0.03×126.89E±0.05, h36km, mb4.4/21, MS3.5/8, Error ellipse: s-maj=7.7km s-min=4.5km az=169.0*
*MAN **16** 17:13:13, 4.08N×126.40E, h1km, mb4.9, ML3.8, MS3.9*
*IDC **16** 17:13:15.4±2.6, 4.08N×126.71E, h50km±23km, mb4.0/16, mb1 4.2/17, mb1mx4.1/21, mbtmp4.0/17, ML4.8/1, MS3.5/8, Ms1 3.6/8, ms1mx3.3/31, Error ellipse: s-maj=30.2km s-min=10.4km az=74.0*
*DJA **16** 17:13:19, 4.05N×126.87E, h56km, mb4.6/10*
ISC 16 17:13:13.6±0.5, 4.17N±0.05×126.84E±0.08, h36km, n62, σ1°26/51, mb4.4/20, MS3.5/8, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.68**	**315**	*eP*	**Pn**	**17 13 54.2**	**-0.1**
MATI	**Mati**	**2.81**	**348**	*eP*	Pn	17 14 00.6	+4.5
DAV	**Davao City (W)**	**3.14**	**336**	P	Pn	17 14 05.1	+4.6
DAV	**Davao City (W)**	**3.14**	**336**	P	Pn	17 14 04.8	+4.2
	110nm,0.3s,baz=72,slow=15,SNR=5.9						
DAV				S	Sn	17 14 54.9	+18
	61nm,0.3s,baz=154,slow=22,SNR=3.9						
MNI	**Manado**	**3.37**	**216**	P	**Pn**	**17 14 05.3**	**+1.6**
MNI				S	**Sn**	**17 14 45.1**	**+2.6**
TNTI	**Ternate**	**3.42**	**171**	P	**Pn**	**17 14 06.5**	**+2.1**
TNTI				S	**Sn**	**17 14 44.7**	**+1.0**
BUKP	**Musuan**	**4.08**	**334**	*eP*	Pn	17 14 17.9	+4.3
KMSI	**Cibinong**	**4.58**	**219**	P	**Pn**	**17 14 21.7**	**+1.4**
LBMI	**Labuha**	**4.83**	**172**	P	Pn	17 14 27.5	+3.8
PAGZ	**Pagadian**	**5.02**	**317**	*eP*	**Pn**	**17 14 29.0**	**+2.7**
MRSI	**Marisa**	**6.12**	**233**	P	**Pn**	**17 14 42.6**	**+1.1**
	155nm,0.9s,2µm0.5nm						
MSLP	**Maasin**	**6.24**	**342**	*eP*	Pn	17 14 50.2	+7.0
LUWI	**Luwuk**	**6.59**	**218**	P	Pn	17 14 51.5	+3.6
	294nm,1.1s,2µm0.8nm						
SWI	**Sorong**	**6.67**	**138**	P	Pn	17 14 52.1	+3.0
	41nm,0.7s,0.1nm						
APSI	**Ampana**	**7.24**	**226**	P	**Pn**	**17 14 59.8**	**+2.9**
	12µm,0.7s,298nm						
MYLDM	**Lahad Datu**	**8.38**	**277**	P	Pn	17 15 17.2	+4.7
FAKI	**Fak Fak**	**8.88**	**142**	P	**Pn**	**17 15 20.3**	**+0.9**
	42nm,1.2s						
KDI	**Kendari**	**9.11**	**208**	P	**Pn**	**17 15 21.6**	**-1.0**
	28nm,1.0s						
TTSI	**Tana Toraja**	**10.04**	**224**	P	**Pn**	**17 15 37.3**	**+2.0**
MTN	**Manton Dam**	**17.44**	**166**	*eP*	**Pn**	**17 17 11.8**	**-2.3**
GUMO	**Guam**	**20.10**	**61**	LR	LR	17 24 21.7	
	comp=Z,145nm,21.6s,baz=295,slow=33						
FITZ	**Fitzroy Crossi**	**22.17**	**183**	*eP*	**P**	**17 18 05.0**	**-1.6**
	9.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.17**	**183**	P	**P**	**17 18 06.6**	**0.0**
	8.5nm,0.8s,baz=35,slow=4.3,SNR=13						
WRA	**Warramunga Arr**	**25.07**	**163**	P	**P**	**17 18 33.8**	**-1.0**
	23nm,0.8s,baz=344,slow=10,SNR=125						
WRA				S	**S**	**17 22 57.1**	**0.0**
	0.8nm,1.0s,baz=349,slow=13,SNR=3.6						
CBIJ	**Chichi jima**	**27.10**	**31**	LR	LR	17 28 27.9	
	comp=Z,98nm,21.6s,baz=320,slow=34						
ASAR	**Alice Springs**	**28.52**	**166**	P	**P**	**17 19 05.2**	**-0.7**
	1.7nm,0.6s,baz=356,slow=8.4,SNR=48						
CMAR	**Chiang Mai Arr**	**30.75**	**300**	P	**P**	**17 19 26.1**	**+0.3**
	1.5nm,0.8s,baz=112,slow=6.7,SNR=18						
MEEK	**Meekatharra**	**31.65**	**194**	*eP*	**P**	**17 19 32.3**	**-1.2**
	63nm,0.9s						
KSRS	**Korea Array**	**33.14**	**2**	P	**P**	**17 19 47.9**	**+1.5**
	2.8nm,0.8s,baz=178,slow=10,SNR=5.8						
KSRS				LR	LR	17 33 00.6	
	comp=Z,53nm,19.5s,baz=14,slow=36						
MJAR	**Matsushiro Arr**	**33.87**	**17**	LR	LR	17 34 11.5	
	comp=Z,82nm,18.8s,baz=190,slow=37						
XAN	**Xi'an**	**34.07**	**333**	P	**P**	**17 19 53.9**	**-0.8**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FORT	**Forrest**	**34.78**	**178**	*eP*	**P**	**17 19 59.6**	**-1.1**
	comp=Z,18nm,0.7s						
HNR	**Honiara**	**35.65**	**112**	LR	LR	17 32 42.5	
	comp=Z,96nm,18.5s,baz=267,slow=33						
BBOO	**Buckleboo**	**37.81**	**167**	*eP*	**P**	**17 20 26.3**	**-0.3**
	comp=Z,55nm,0.6s						
LZH	**Lanzhou**	**38.18**	**329**	*eP*	P	17 20 26.5	-3.5
LZH				pmax	pmax		
	comp=Z,15nm,1.2s						
STKA	**Stephens Creek**	**38.50**	**160**	*eP*	**P**	**17 20 32.4**	**-0.1**
	comp=Z,13nm,0.8s						
STKA	**Stephens Creek**	**38.50**	**160**	P	**P**	**17 20 32.8**	**+0.3**
	comp=Z,24nm,1.0s,baz=341,slow=7.3,SNR=26						
ARMA	**Armidale**	**41.77**	**147**	*eP*	**P**	**17 21 00.8**	**+1.0**
TAPN	**Taplejung**	**43.85**	**306**	*eP*	**P**	**17 21 15.6**	**-1.3**
	comp=Z,7.0nm,0.6s						
ODAN	**Odare**	**43.91**	**305**	*eP*	**P**	**17 21 16.6**	**-0.7**
	comp=Z,14nm,0.7s						
RAMN	**Ramite**	**44.59**	**305**	*eP*	**P**	**17 21 22.5**	**-0.3**
	comp=Z,10.0nm,0.7s						
JIRN	**Jiri**	**45.21**	**305**	*eP*	**P**	**17 21 27.3**	**-0.6**
	comp=Z,2.8nm,0.6s						
GUN	**Gumba**	**45.56**	**306**	*eP*	**P**	**17 21 30.0**	**-0.6**
	comp=Z,14nm,0.6s						
KKN	**Kakani**	**46.00**	**305**	*eP*	**P**	**17 21 33.0**	**-0.9**
	comp=Z,9.3nm,0.9s						
DMN	**Daman**	**46.07**	**305**	*eP*	**P**	**17 21 33.6**	**-1.0**
	comp=Z,8.0nm,0.8s						
GKN	**Gorkha**	**46.60**	**305**	*eP*	**P**	**17 21 38.1**	**-0.5**
	comp=Z,4.3nm,0.4s						
SONM	**Songino Array**	**46.92**	**341**	P	**P**	**17 21 41.3**	**+0.6**
	comp=Z,1.3nm,0.7s,baz=160,slow=6.3,SNR=14						
SONM				PcP	**PcP**	**17 23 14.3**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=159,slow=4.1,SNR=4.2						
SONM				LR	LR	17 42 54.2	
	comp=Z,65nm,20.4s,baz=180,slow=38						
KOLN	**Koldanda**	**47.37**	**304**	*eP*	**P**	**17 21 43.9**	**-0.7**
	comp=Z,23nm,0.6s						
DANN	**Dangsing**	**47.45**	**305**	*eP*	**P**	**17 21 44.1**	**-1.3**
	comp=Z,22nm,0.5s						
PETK	**Petropavlovsk-**	**54.98**	**22**	P	**P**	**17 22 43.1**	**+2.0**
	comp=Z,3.1nm,0.8s,baz=169,slow=3.0,SNR=5.4						
MKAR	**Makanchi Array**	**57.26**	**325**	P	**P**	**17 22 57.4**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=127,slow=8.2,SNR=14						
ZALV	**Zalesovo Beam**	**60.25**	**333**	P	**P**	**17 23 17.0**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=130,slow=7.0,SNR=8.9						
ZALV				LR	LR	17 50 39.6	
	comp=Z,38nm,19.8s,baz=78,slow=37						
ILAR	**Eielson Array**	**84.66**	**25**	P	**P**	**17 25 42.7**	**-0.6**
	comp=Z,1.1nm,0.9s,baz=247,slow=6.4,SNR=12						
BRTR	**Keskin Array B**	**89.83**	**310**	P	**P**	**17 26 08.3**	**-0.7**
	comp=Z,1.0nm,1.0s,baz=92,slow=7.5,SNR=3.8						
ARCES	**ARCESS Array B**	**90.07**	**340**	P	**P**	**17 26 09.6**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=77,slow=5.5,SNR=6.3						
FINES	**FINESS Array B**	**91.50**	**332**	P	**P**	**17 26 16.3**	**+0.2**
	comp=Z,2.4nm,0.9s,baz=165,slow=7.9,SNR=4.0						
AKASG	**Malin Array Be**	**91.62**	**321**	P	**P**	**17 26 16.3**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=72,slow=4.0,SNR=4.3						
NOA	**NORSAR Array B**	**98.44**	**334**	LR	LR	18 16 17.7	
	comp=Z,38nm,18.1s,baz=25,slow=38						
YKA	**Yellowknife Ar**	**99.05**	**24**	P	**Pdif**	**17 26 50.7**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=299,slow=4.9,SNR=5.1						
SCHQ	**Schefferville**	**120.11**	**9**	PKP	**PKPdf**	**17 32 01.8**	**+1.2**
	comp=Z,2.3nm,1.0s,baz=207,slow=2.3,SNR=4.6						
TXAR	**Lajitas Array**	**121.24**	**52**	PKP	**PKPdf**	**17 32 05.2**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=0.0,slow=0.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**122.89**	**288**	PKP	**PKPdf**	**17 32 07.5**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=50,slow=2.3,SNR=3.4						

*DJA **16** 17:24:57.0±1.5, 4.7S±5.5×13.4E±1.1, h10km, M4.4/6, mb4.5/3, mB5.5/2, MLv4.3/6, Mw(mB)4.9/2*
*IDC **16** 17:25:13.2±3.7, 5.14S×133.63E, h0km, mb4.1/1, mb1 4.2/5, mb1mx3.8/15, mbtmp4.1/5, ML3.9/4, MS3.5/2, Ms1 3.4/2, ms1mx2.9/24, Error ellipse: s-maj=62.3km s-min=27.8km az=103.0*
ISC 16 17:25:03.3±1.7, 4.34S±0.06×134.1E±0.1, h21km, n11, σ2°18/13, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**1.88**	**227**	P	**Pb**	**17 25 36.1**	**-0.8**
TLE				S	**Sb**	**17 26 02.2**	**+2.2**
FAKI	**Fak Fak**	**2.33**	**307**	P	**Pn**	**17 25 39.0**	**-1.4**
FAKI				S	**Sb**	**17 26 13.0**	**0.0**
BNDI	**Bandanaira**	**4.20**	**267**	P	**Pn**	**17 26 05.9**	**-0.2**
SWI	**Sorong**	**4.47**	**320**	P	**Pb**	**17 26 21.6**	**+0.4**
MSAI	**Masohi**	**5.26**	**281**	P	**Pn**	**17 26 20.7**	**-0.1**
	12nm,0.6s,0.1nm						
AAI	**Ambon**	**5.94**	**276**	P	**Pn**	**17 26 28.9**	**-1.1**
WRA	**Warramunga Arr**	**15.51**	**179**	Pn	**Pn**	**17 28 42.0**	**+1.1**
	0.4nm,0.3s,baz=356,slow=13,SNR=12						
WRA				Sn	**Sn**	**17 31 30.7**	**-1.6**
	0.1nm,0.3s,baz=354,slow=23,SNR=4.7						
FITZ	**Fitzroy Crossi**	**15.99**	**211**	Pn	**Pn**	**17 28 46.5**	**-0.7**
	0.5nm,0.3s,baz=34,slow=9.8,SNR=10						
FITZ				Sn	Sn	17 31 34.6	-9.3
	0.6nm,0.3s,baz=197,slow=16,SNR=6.1						
ASAR	**Alice Springs**	**19.22**	**181**	P	**Pn**	**17 29 31.4**	**+4.2**
	0.3nm,0.3s,baz=4.1,slow=13,SNR=38						
ASAR				S	**Sn**	**17 32 58.0**	**-4.0**
	0.0nm,0.3s,baz=355,slow=28,SNR=4.0						
CTA	**Charters Tower**	**19.62**	**144**	P	Pn	17 29 38.2	+6.2
	0.4nm,0.3s,baz=331,slow=11,SNR=7.9						
CTA				LR	LR	17 36 55.7	
	comp=Z,89nm,19.5s,baz=327,slow=36						
STKA	**Stephens Creek**	**28.28**	**166**	P	P	17 31 03.4	+8.1
	2.1nm,1.0s,baz=350,slow=11,SNR=3.1						
STKA				LR	LR	17 43 13.4	
	comp=Z,127nm,19.8s,baz=25,slow=39						

*DDA **16** 17:30:49.1, 36.89N×30.76E, h9km, MD3.1*
*ISK **16** 17:30:50.5, 36.82N×30.51E, h16km, MD3.1*
*CSEM **16** 17:30:51.0±0.3, 36.84N×30.53E, h10km, MD3.1, Error ellipse: s-maj=6.9km s-min=3.6km az=141.0*
ISC 16 17:30:49.2±1.4, 36.86N±0.04×30.68E±0.04, h5km±11km, n37, σ1°11/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KORT	**Korkueli**	**0.30**	**298**	*i* P	**Pg**	**17 30 55.5**	**+0.4**
KORT				*i* S	**Sg**	**17 30 58.9**	**-0.2**
KORT	**Korkueli**	**0.30**	**298**	*i* P	**Pg**	**17 30 55.5**	**+0.4**
KORT				*i* S	**Sg**	**17 30 58.9**	**-0.2**
BCK	**Bucak**	**0.60**	**353**	*e*PG	**Pb**	**17 31 02.6**	**+0.2**
BCK				*e*SG	**Sn**	**17 31 13.4**	**-1.4**
BCK	**Bucak**	**0.60**	**353**	*e*Pg	**Pb**	**17 31 02.6**	**+0.2**
BCK				*e*Sg	**Sn**	**17 31 13.4**	**-1.4**
ELL	**Elmali**	**0.63**	**260**	*e*PG	**Pg**	**17 31 00.6**	**-0.8**
ELL				*e*SG	**Sg**	**17 31 08.2**	**-1.4**
ELL	**Elmali**	**0.63**	**260**	*e*Pg	**Pg**	**17 31 00.6**	**-0.8**
SUTC	**Sutluce-Ispart**	**0.66**	**22**	*e*PG	**Pn**	**17 31 06.2**	**+0.7**
SUTC	**Sutluce-Ispart**	**0.66**	**22**	*e*Pg	**Pn**	**17 31 06.2**	**+0.7**
ISP	**Isparta**	**0.97**	**352**	*e*PG	**Pn**	**17 31 10.2**	**+0.6**
ISP	**Isparta**	**0.97**	**352**	*e*Pg	**Pn**	**17 31 10.2**	**+0.6**
GOLH	**Golhisar**	**0.97**	**293**	*i* P	**Pg**	**17 31 08.2**	**+0.3**
GOLH				*i* S	Sn	17 31 29.9	+5.9
GOLH	**Golhisar**	**0.97**	**293**	*i* P	**Pg**	**17 31 08.2**	**+0.3**
AKAS	**Kas**	**1.07**	**235**	*i* P	**Pb**	**17 31 10.0**	**-0.3**
AKAS				*i* S	**Sn**	**17 31 28.9**	**+2.5**
AKAS	**Kas**	**1.07**	**235**	*i* P	**Pb**	**17 31 10.0**	**-0.3**
DNZL	**Cakiroluk**	**1.54**	**303**	*i* P	**Pb**	**17 31 18.8**	**+0.3**
DNZL				*i* S	**Sg**	**17 31 39.7**	**+0.8**
DNZL	**Cakiroluk**	**1.54**	**303**	*i* P	**Pb**	**17 31 18.8**	**+0.3**
TURN	**Turunc**	**1.67**	**271**	*i* P	Pg	17 31 25.3	+4.1
TURN				*i* S	Sg	17 31 51.4	+8.5
SHUT	**Suhut-Afyon**	**1.69**	**356**	*e*PN	**Pg**	**17 31 20.7**	**-1.0**
SHUT	**Suhut-Afyon**	**1.69**	**356**	*e*Pn	**Pg**	**17 31 20.7**	**-1.0**
KONT	**Konya--Tatoy**	**1.72**	**50**	*e*PN	**Pg**	**17 31 22.5**	**+0.3**
KONT	**Konya--Tatoy**	**1.72**	**50**	*e*Pn	**Pg**	**17 31 22.5**	**+0.3**
KHL	**Karahalli**	**1.73**	**328**	*e*PN	**Pn**	**17 31 20.2**	**+0.2**
KHL	**Karahalli**	**1.73**	**328**	*e*Pn	**Pn**	**17 31 20.2**	**+0.2**
KHAL	**Karahalli**	**1.78**	**328**	*i* P	**Pb**	**17 31 21.4**	**-1.0**
KHAL				*i* S	**Sg**	**17 31 50.6**	**+4.2**
KHAL	**Karahalli**	**1.78**	**328**	*i* P	**Pb**	**17 31 21.4**	**-1.0**
LADK	**Ladik-KONYA**	**1.89**	**45**	*e*PN	**Pg**	**17 31 25.1**	**-0.4**
LADK	**Ladik-KONYA**	**1.89**	**45**	*e*Pn	**Pg**	**17 31 25.1**	**-0.4**
YER	**Yerkesik**	**1.94**	**279**	*e*PN	**Pn**	**17 31 22.5**	**-0.5**
YER	**Yerkesik**	**1.94**	**279**	*e*Pn	**Pn**	**17 31 22.5**	**-0.5**
ALT	**Altintas**	**2.24**	**348**	*e*PN	**Pb**	**17 31 28.2**	**-2.0**
ALT	**Altintas**	**2.24**	**348**	*e*Pn	**Pb**	**17 31 28.2**	**-2.0**
KULA	**Kula-Manisa**	**2.30**	**316**	*e*PN	**Pn**	**17 31 27.9**	**0.0**
KULA	**Kula-Manisa**	**2.30**	**316**	*e*Pn	**Pn**	**17 31 28.0**	**0.0**
MANT	**Manisa**	**2.34**	**315**	*i* P	**Pn**	**17 31 28.9**	**+0.2**
MANT				*i* S	Sg	17 32 11.5	+7.0
MANT	**Manisa**	**2.34**	**315**	*i* P	**Pn**	**17 31 28.9**	**+0.2**
TVSB	**Tavsanli**	**2.76**	**340**	*e*PN	**Pn**	**17 31 35.1**	**+0.9**
TVSB	**Tavsanli**	**2.76**	**340**	*e*Pn	**Pn**	**17 31 35.2**	**+0.9**

IDC 16 17:34:04.6±1.1, 3.24N×127.13E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.7/20, mbtmp3.7/8, MS3.2/1, Ms1 3.2/1, ms1mx2.4/29, Error ellipse: s-maj=70.6km s-min=13.4km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**20.32**	**59**	LR	LR	17 44 10.9	
	comp=Z,68nm,21.5s,baz=193,slow=30						
FITZ	**Fitzroy Crossi**	**21.26**	**184**	P	P	17 38 53.0	+0.5
	2.9nm,0.7s,baz=18,slow=2.7,SNR=5.5						
WRA	**Warramunga Arr**	**24.10**	**163**	P	P	17 39 22.2	0.0
	1.2nm,0.5s,baz=339,slow=11,SNR=16						
ASAR	**Alice Springs**	**27.55**	**166**	P	P	17 39 54.1	+0.8
	0.5nm,0.7s,baz=341,slow=5.9,SNR=8.8						
ASAR				S	S	17 44 34.8	-1.0
	0.2nm,0.7s,baz=342,slow=14,SNR=4.3						
**

IDC 16 19:00:10.4±1.9, 3°.20N×125°.36E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, Error ellipse: s-maj=182.9km s-min=26.3km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.63**	**159**	P	P	19 05 32.0	-0.8
	0.8nm,0.5s,baz=337,slow=11,SNR=19						
ASAR	**Alice Springs**	**27.97**	**163**	P	P	19 06 04.9	+1.9
	0.2nm,0.4s,baz=342,slow=10.0,SNR=5.1						
STKA	**Stephens Creek**	**38.14**	**157**	P	P	19 07 30.7	-0.8
	1.5nm,0.7s,baz=333,slow=10.0,SNR=5.4						
MKAR	**Makanchi Array**	**57.22**	**326**	P	P	19 09 59.3	-0.3
	0.2nm,0.5s,baz=110,slow=7.3,SNR=4.0						

IDC ***16*** *19:06:22.3±0.8, 10°.68N×91°.60E, h0km, mb4.0/13, mb1 4.1/14, mb1mx4.0/25, mbtmp4.0/14, ML3.5/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/36, Error ellipse: s-maj=31.0km s-min=15.6km az=53.0*

ISCJB ***16*** *19:06:23.0±0.6, 10°.69N±0°.08×91°.64E±0°.08, h17km, mb4.0/14, MS3.4/2, Error ellipse: s-maj=14.1km s-min=8.3km az=136.3*

ISC 16 19:06:25.0±0.8, 10°.7N±0°.1×91°.64E±0°.10, h17km, n31, σ0s76/29, mb4.0/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.43**	**42**	Pn	**Pn**	**19 08 53.1**	**-0.8**
	0.1nm,0.3s,baz=231,slow=13,SNR=8.5						
BWNR	**Bhubaneshwar**	**11.04**	**330**	*e*PKP	Pn	19 08 57.0	-5.2
BWNR				*e*S	Sn	19 10 52.0	-13
HYB	**Hyderabad**	**14.32**	**299**	*e*P	**Pn**	**19 09 45.0**	**-2.2**
HYB				*e*S	**Sn**	**19 12 27.0**	**+1.3**
ODAN	**Odare**	**16.53**	**347**	*e*P	**Pn**	**19 10 16.9**	**+0.5**
	12nm,0.5s						
RAMN	**Ramite**	**16.81**	**344**	*e*P	**Pn**	**19 10 19.5**	**-0.5**
	23nm,0.7s						
TAPN	**Taplejung**	**16.94**	**348**	*e*P	**Pn**	**19 10 20.9**	**-0.7**
	24nm,0.8s						
JIRN	**Jiri**	**17.60**	**344**	*e*P	**Pn**	**19 10 30.1**	**+0.2**
PKI	**Pulchoki**	**17.74**	**342**	*e*P	**Pn**	**19 10 31.6**	**-0.1**
DMN	**Daman**	**17.88**	**341**	*e*P	**P**	**19 10 33.8**	**0.0**
	24nm,0.8s						
GUN	**Gumba**	**17.92**	**343**	*e*P	**P**	**19 10 34.7**	**+0.3**
KKN	**Kakani**	**17.99**	**341**	*e*P	**P**	**19 10 35.3**	**+0.3**
GKN	**Gorkha**	**18.39**	**340**	*e*P	**Pn**	**19 10 39.9**	**+0.4**
KOLN	**Koldanda**	**18.55**	**337**	*e*P	**Pn**	**19 10 42.6**	**+1.1**
	12nm,0.5s						
DANN	**Dangsing**	**19.02**	**338**	*e*P	**Pn**	**19 10 47.3**	**+0.1**
AAK	**Ala-Archa**	**35.13**	**338**	P	**P**	**19 13 19.0**	**+1.1**
	3.2nm,0.9s,baz=168,slow=7.8,SNR=5.5						
MKAR	**Makanchi Array**	**36.80**	**349**	P	**P**	**19 13 32.7**	**+0.7**
	3.5nm,0.8s,baz=166,slow=8.2,SNR=34						
SONM	**Songino Array**	**39.01**	**16**	P	**P**	**19 13 51.2**	**+0.5**
	0.4nm,0.5s,baz=201,slow=8.6,SNR=5.5						
KSRS	**Korea Array**	**42.06**	**45**	LR	LR	19 35 17.6	
	comp=Z,31nm,19.1s,baz=225,slow=41						
ZALV	**Zalesovo Beam**	**43.44**	**354**	P	**P**	**19 14 27.4**	**+0.5**
	2.8nm,0.8s,baz=179,slow=8.9,SNR=15						
WRA	**Warramunga Arr**	**51.93**	**126**	P	**P**	**19 15 33.0**	**-0.3**
	1.0nm,0.6s,baz=307,slow=8.4,SNR=15						
ASAR	**Alice Springs**	**53.63**	**130**	P	**P**	**19 15 45.6**	**-0.3**
	3.7nm,0.8s,baz=310,slow=7.1,SNR=38						
BRTR	**Keskin Array B**	**58.70**	**310**	P	**P**	**19 16 21.8**	**-0.4**
	1.0nm,0.8s,baz=124,slow=8.9,SNR=5.0						
STKA	**Stephens Creek**	**63.86**	**133**	P	**P**	**19 16 57.6**	**+0.7**
	0.8nm,0.6s,baz=328,slow=9.7,SNR=4.6						
JOF	**Joensuu**	**67.22**	**334**	*ep*	**P**	**19 17 17.3**	**-0.8**
	4.8nm,0.6s						
FINES	**FINESS Array B**	**69.04**	**332**	P	**P**	**19 17 30.1**	**+0.5**
	3.0nm,0.7s,baz=101,slow=9.9,SNR=12						
ARCES	**ARCESS Array B**	**71.75**	**340**	LR	LR	19 52 41.0	
	comp=Z,37nm,18.5s,baz=169,slow=39						
GERES	**GERESS Array B**	**74.06**	**318**	P	**P**	**19 18 00.7**	**+0.4**
	0.9nm,0.8s,baz=64,slow=4.6,SNR=6.4						
NB2	**NORSAR Subarra**	**76.04**	**330**	P	**P**	**19 18 11.1**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=98,slow=5.3						
NOA	**NORSAR Array B**	**76.04**	**330**	P	**P**	**19 18 11.2**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=94,slow=5.6,SNR=4.6						
ESDC	**Sonseca Array**	**87.50**	**310**	P	**P**	**19 19 11.3**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=91,slow=5.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**87.55**	**283**	P	**P**	**19 19 13.5**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=90,slow=5.7,SNR=2.9						

IDC ***16*** *19:18:28.3±0.8, 3°.87N×126°.78E, h0km, mb3.9/9, mb1 4.1/9, mb1mx4.0/20, mbtmp4.0/9, Error ellipse: s-maj=49.0km s-min=15.4km az=70.0*

ISCJB ***16*** *19:18:31.9±0.7, 3°.8N±0°.1×126°.8E±0°.2, h36km, mb3.9/9, Error ellipse: s-maj=36.2km s-min=9.8km az=154.3*

ISC 16 19:18:33.7±0.9, 3°.9N±0°.1×126°.9E±0°.3, h36km, n12, σ1s09/11, mb3.8/9,1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.24**	**322**	*e*P	**Pn**	**19 19 36.0**	**+0.2**
BUKP	**Musuan**	**4.38**	**336**	*e*P	Pn	19 19 45.2	+7.4
BUKP				*e*S	Px	19 19 56.4	
PAGZ	**Pagadian**	**5.26**	**319**	*e*P	**Pn**	**19 19 50.6**	**+0.7**
PAGZ				*e*S	Px	19 19 57.3	
FITZ	**Fitzroy Crossi**	**21.84**	**183**	P	**P**	**19 23 23.4**	**+0.2**
	2.7nm,0.7s,baz=5.3,slow=8.9,SNR=5.2						
WRA	**Warramunga Arr**	**24.76**	**163**	P	**P**	**19 23 51.7**	**-0.6**
	16nm,0.6s,baz=345,slow=11,SNR=81						
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**	**19 24 23.0**	**-0.3**
	0.7nm,0.4s,baz=347,slow=7.3,SNR=27						
CMAR	**Chiang Mai Arr**	**30.91**	**300**	P	**P**	**19 24 48.0**	**+0.6**
	0.3nm,0.7s,baz=131,slow=7.6,SNR=4.2						
STKA	**Stephens Creek**	**38.20**	**159**	P	**P**	**19 25 50.2**	**+0.1**
	3.4nm,0.4s,baz=343,slow=9.3,SNR=40						
SONM	**Songino Array**	**47.23**	**341**	P	**P**	**19 27 03.2**	**-0.1**
	0.5nm,0.6s,baz=151,slow=8.7,SNR=4.4						
MKAR	**Makanchi Array**	**57.53**	**325**	P	**P**	**19 28 18.0**	**-1.6**
	1.0nm,0.6s,baz=127,slow=7.9,SNR=18						
ZALV	**Zalesovo Beam**	**60.54**	**333**	P	**P**	**19 28 38.3**	**-1.9**
	0.4nm,0.5s,baz=124,slow=7.2,SNR=3.3						
ILAR	**Eielson Array**	**84.95**	**25**	P	**P**	**19 31 06.3**	**+1.3**
	0.6nm,0.9s,baz=245,slow=5.5,SNR=5.2						

IDC 16 19:20:08.6±2.9, 14°.02N×146°.65E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.7/4, Error ellipse: s-maj=71.8km s-min=25.0km az=152.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.78**	**256**	Pn	Pn	19 20 39.7	-1.0
	52nm,0.3s,baz=250,slow=2.3,SNR=12						
GUMO				Sn	Sn	19 21 03.5	-0.4
	32nm,0.3s,baz=252,slow=20,SNR=4.4						
KSRS	**Korea Array**	**28.68**	**328**	P	P	19 26 07.3	0.0
	3.7nm,1.1s,baz=147,slow=9.4,SNR=4.2						
ZALV	**Zalesovo Beam**	**62.29**	**324**	P	P	19 30 32.8	+0.2
	0.3nm,0.4s,baz=104,slow=6.1,SNR=2.7						
MKAR	**Makanchi Array**	**62.39**	**316**	P	P	19 30 33.8	+0.4
	0.6nm,0.5s,baz=92,slow=8.5,SNR=5.7						
ILAR	**Eielson Array**	**67.45**	**25**	P	P	19 31 04.6	-1.4
	0.5nm,0.8s,baz=256,slow=5.1,SNR=5.0						
DBIC	**Dimbokro**	**145.04**	**304**	PKPbc	PKPdf	19 39 49.3	+0.2
	3.5nm,0.8s,baz=45,slow=4.1,SNR=6.3						

IDC 16 19:20:58.2±2.5, 10°.21N×90°.82E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/24, mbtmp3.4/4, ML3.4/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/23, Error ellipse: s-maj=69.7km s-min=30.2km az=68.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.36**	**43**	Pn	Pn	19 23 40.5	-1.5
	0.1nm,0.3s,baz=231,slow=17,SNR=4.1						
MKAR	**Makanchi Array**	**37.17**	**350**	P	P	19 28 10.4	-0.6
	0.5nm,0.6s,baz=168,slow=8.1,SNR=9.3						
SONM	**Songino Array**	**39.74**	**16**	P	P	19 28 33.8	+1.1
	0.5nm,0.7s,baz=202,slow=8.4,SNR=4.2						
SONM				LR	LR	19 45 15.1	
	comp=Z,36nm,18.6s,baz=358,slow=3.7						
ASAR	**Alice Springs**	**53.92**	**129**	P	P	19 30 23.8	-0.2
	0.5nm,0.7s,baz=306,slow=6.6,SNR=4.9						

IDC 16 19:23:07.6±1.7, 3°.69S×141°.77E, h0km, mb3.7/5, mb1 4.1/6, mb1mx3.8/15, mbtmp3.8/6, ML4.5/1, Error ellipse: s-maj=63.5km s-min=23.4km az=106.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.70**	**204**	P	P	19 27 17.0	+0.3
	1.5nm,0.3s,baz=24,slow=12,SNR=20						
ASAR	**Alice Springs**	**21.26**	**200**	P	P	19 27 55.2	-0.5
	1.3nm,0.6s,baz=32,slow=9.7,SNR=16						
FITZ	**Fitzroy Crossi**	**21.32**	**227**	P	P	19 27 56.0	-0.2
	2.8nm,0.8s,baz=52,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**72.44**	**322**	P	P	19 34 36.3	+0.4
	0.3nm,0.5s,baz=119,slow=7.7,SNR=5.8						
ZALV	**Zalesovo Beam**	**74.33**	**329**	P	P	19 34 46.3	-0.6
	0.7nm,0.7s,baz=114,slow=7.0,SNR=3.5						
ILAR	**Eielson Array**	**85.47**	**24**	P	P	19 35 47.3	+0.2
	0.6nm,0.7s,baz=247,slow=4.7,SNR=5.9						

ISCJB ***16*** *19:49:34.8±0.2, 61°.74N±0°.02×150°.75W±0°.05, h82km±3km, mb3.8/3, Error ellipse: s-maj=4.3km s-min=3.2km az=37.4*

IDC ***16*** *19:49:35.7±1.6, 61°.75N×150°.84W, h71km±29km, mb3.4/3, mb1 3.6/7, mb1mx3.3/25, mbtmp3.5/7, Error ellipse: s-maj=44.0km s-min=10.0km az=113.0*

NEIC ***16*** *19:49:37.1, 61°.74N×150°.79W, h66km, ML3.5(AEIC), After AEIC.*

NEIC Felt at Anchorage, Chugiak, Girdwood, Talkeetna and Wasilla.

ISC 16 19:49:36.1±0.8, 61°.73N±0°.03×150°.76W±0°.03, h73km±6km, n79, σ0s82/93, mb4.0/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUA	**Susitna One**	**0.27**	**178**	P	**Pn**	**19 49 47.5**	**-0.1**
SUA				S	**Sn**	**19 49 55.9**	**-0.1**
SKT	**Skwentna**	**0.44**	**305**	P	**Pn**	**19 49 47.9**	**-0.9**
SKT				S	**Sn**	**19 49 57.1**	**-1.0**
TRAP	**Trapper Creek**	**0.66**	**22**	P	**Pn**	**19 49 50.5**	**-0.3**
TRAP				S	**Sn**	**19 50 01.7**	**+0.1**
CUT	**Chulitna**	**0.72**	**19**	P	**Pn**	**19 49 51.3**	**-0.2**
SPCG	**Spurr Capps Gl**	**0.75**	**235**	P	**Pn**	**19 49 51.9**	**0.0**
SPCG				S	**Sn**	**19 50 03.2**	**-0.3**
PMR	**Palmer**	**0.79**	**99**	P	**Pn**	**19 49 51.9**	**-0.4**
PMR				S	**Sn**	**19 50 04.2**	**0.0**
SPU	**Mount Spurr**	**0.83**	**229**	P	**Pn**	**19 49 52.6**	**-0.2**
BGL	**Barrier Glacie**	**0.91**	**240**	P	**Pn**	**19 49 53.8**	**0.0**
CKL	**Chakachamna La**	**0.93**	**236**	P	**Pn**	**19 49 53.8**	**-0.2**
SML	**Sawmill**	**1.16**	**85**	P	**Pn**	**19 49 56.6**	**-0.2**
SML				S	**Sn**	**19 50 12.4**	**+0.2**
SLKM	**Skilak Lake**	**1.25**	**168**	P	**Pn**	**19 49 57.6**	**-0.4**
PPLA	**Purkeypile**	**1.35**	**331**	P	**Pn**	**19 49 59.1**	**-0.2**
PPLA				S	**Sn**	**19 50 15.9**	**-0.9**
DFR	**Drift River**	**1.47**	**220**	P	**Pn**	**19 50 01.1**	**+0.2**
RDN	**Redoubt North**	**1.56**	**219**	P	**Pn**	**19 50 02.3**	**+0.2**
NCT	**North Crescent**	**1.57**	**223**	P	**Pn**	**19 50 02.6**	**+0.4**
SCM	**Sheep Creek Mo**	**1.64**	**85**	P	**Pn**	**19 50 02.9**	**-0.1**
TRF	**Thorofare Moun**	**1.74**	**7**	P	**Pn**	**19 50 03.8**	**-0.7**
SEW	**Seward**	**1.75**	**158**	*e*P	**Pn**	**19 50 04.6**	**+0.2**
RND	**Reindeer**	**1.90**	**27**	P	**Pn**	**19 50 06.4**	**-0.2**
BRLK	**Bradley Lake**	**1.97**	**182**	P	**Pn**	**19 50 07.2**	**-0.3**
INE	**Iliamna NE**	**2.02**	**215**	P	**Pn**	**19 50 08.3**	**+0.1**
ILW	**Iliamna West**	**2.04**	**216**	P	**Pn**	**19 50 08.7**	**+0.2**
DHY	**Denali Highway**	**2.08**	**48**	P	**Pn**	**19 50 09.0**	**0.0**
MCK	**McKinley**	**2.18**	**22**	P	**Pn**	**19 50 10.5**	**+0.2**
VLZ	**Valdez**	**2.21**	**104**	P	**Pn**	**19 50 09.7**	**-1.0**
KLU	**Klutina**	**2.33**	**94**	P	**Pn**	**19 50 11.7**	**-0.6**
OPT	**Oil Point**	**2.41**	**211**	P	**Pn**	**19 50 14.0**	**+0.6**
DIV	**Divide**	**2.47**	**102**	*e*P	**Pn**	**19 50 12.6**	**-1.7**
EYAK	**Cordova Ski Ar**	**2.70**	**114**	P	**Pn**	**19 50 16.1**	**-1.2**
AUW	**Augustine West**	**2.72**	**211**	P	**Pn**	**19 50 18.3**	**+0.8**
TT01	**Tatalina**	**2.73**	**298**	P	**Pn**	**19 50 16.8**	**-0.8**
HARP	**HAARP**	**2.73**	**73**	P	**Pn**	**19 50 18.4**	**+0.8**
PAX	**Paxson**	**2.77**	**61**	P	**Pn**	**19 50 18.7**	**+0.5**
NEA	**Nenana**	**2.96**	**14**	P	**Pn**	**19 50 20.2**	**-0.6**
WRH	**Wood River Hil**	**3.01**	**23**	P	**Pn**	**19 50 21.2**	**-0.2**
DDM	**Donnelly Dome**	**3.06**	**45**	P	**Pn**	**19 50 24.0**	**+1.9**
BMRM	**Bremner River**	**3.06**	**102**	P	**Pn**	**19 50 20.6**	**-1.6**
HDA	**Harding Lake**	**3.20**	**31**	P	**Pn**	**19 50 24.1**	**+0.1**
CCB	**Clear Creek Bu**	**3.22**	**23**	P	**Pn**	**19 50 24.0**	**-0.3**
MLY	**Manley**	**3.32**	**0**	P	**Pn**	**19 50 25.4**	**-0.3**
COLA	**College**	**3.42**	**21**	P	**Pn**	**19 50 26.7**	**-0.3**
MDM	**Murphy Dome**	**3.44**	**18**	P	**Pn**	**19 50 27.0**	**-0.3**
MENT	**Mentasta**	**3.50**	**67**	*e*P	**Pn**	**19 50 28.2**	**0.0**
IL1	**Eielson Array**	**3.52**	**28**	P	**Pn**	**19 50 27.9**	**-0.5**
ILAR	**Eielson Array**	**3.52**	**28**	P	**Pn**	**19 50 28.1**	**-0.3**
ILAR				S	**Sn**	**19 51 08.6**	**-0.2**
ILAR	**Eielson Array**	**3.52**	**28**	P	**Pn**	**19 50 28.1**	**-0.3**
	6.4nm,0.3s,baz=216,slow=15,SNR=262						
ILAR				S	**Sn**	**19 51 08.6**	**-0.2**
	7.1nm,0.3s,baz=232,slow=16,SNR=4.8						
GLM	**Gilmore Dome**	**3.61**	**23**	P	**Pn**	**19 50 29.4**	**-0.2**
KAPH	**Katmai Pasha**	**3.62**	**211**	P	**Pn**	**19 50 30.0**	**+0.2**
DOT	**Dot Lake**	**3.64**	**55**	P	**Pn**	**19 50 30.3**	**+0.3**
KAKN	**Katmai Knife C**	**4.06**	**214**	P	**Pn**	**19 50 35.9**	**0.0**
KDAK	**Kodiak Island**	**4.06**	**194**	P	**Pn**	**19 50 34.5**	**-1.2**
KDAK				S	**Sn**	**19 51 23.1**	**+1.1**
KDAK	**Kodiak Island**	**4.06**	**194**	P	**Pn**	**19 50 34.6**	**-1.2**
	3.4nm,0.3s,baz=63,slow=6.4,SNR=142						
KDAK				S	**Sn**	**19 51 23.1**	**+1.1**
	6.1nm,0.3s,baz=204,slow=20,SNR=3.5						
GCSA	**Galena City Sc**	**4.10**	**320**	P	**Pn**	**19 50 36.6**	**+0.4**
KCE	**Katmai Mt Cerb**	**4.14**	**214**	P	**Pn**	**19 50 37.7**	**+0.8**
KABU	**Katmai Buttres**	**4.14**	**215**	P	**Pn**	**19 50 37.4**	**+0.4**
KABR	**Katmai Barrier**	**4.18**	**212**	P	**Pn**	**19 50 37.6**	**+0.1**
BCA3	**Beaver Creek A**	**4.39**	**68**	P	**Pn**	**19 50 40.5**	**+0.3**
PRP	**Porcupine Dome**	**4.46**	**29**	P	**Pn**	**19 50 42.0**	**+0.7**
IM3	**Indian Mountai**	**4.47**	**344**	P	**Pn**	**19 50 41.0**	**-0.3**
MESA	**MESA**	**4.57**	**106**	P	**Pn**	**19 50 42.1**	**-0.8**
RKAV	**Rock Avalanche**	**4.80**	**103**	P	**Pn**	**19 50 45.8**	**-0.1**
TABL	**Table Mountain**	**4.84**	**101**	P	**Pn**	**19 50 45.7**	**-0.9**
SAMH	**Samovar Hills**	**5.12**	**104**	P	**Pn**	**19 50 50.5**	**+0.1**
EGAK	**Eagle**	**5.31**	**51**	P	**Pn**	**19 50 52.7**	**0.0**
COLD	**Coldfoot**	**5.53**	**2**	P	**Pn**	**19 50 55.8**	**+0.1**
BM3	**Burnt Mountain**	**6.30**	**22**	P	**Pn**	**19 51 06.2**	**0.0**
HYT	**Haines Junctio**	**6.46**	**92**	P	**Pn**	**19 51 08.2**	**-0.3**
TNA	**Tin City**	**8.54**	**304**	*e*P	**Pn**	**19 51 38.0**	**+1.3**
TNA				*e*Sn	**Sn**	**19 53 09.2**	**-2.0**
INK	**Inuvik**	**9.80**	**40**	*e*P	**Pn**	**19 51 53.1**	**-0.9**
INK				S	**Sn**	**19 53 45.2**	**+3.1**
INK	**Inuvik**	**9.80**	**40**	P	**Pn**	**19 51 52.8**	**-1.1**
	0.7nm,0.3s,baz=241,slow=15,SNR=14						
INK				S	**Sn**	**19 53 45.2**	**+3.1**
	0.2nm,0.3s,baz=107,slow=17,SNR=2.0						
GAMB	**Gambell**	**9.81**	**291**	*e*P	**Pn**	**19 51 54.6**	**+0.5**
YKA	**Yellowknife Ar**	**16.80**	**71**	P	**Pn**	**19 53 26.1**	**-0.2**
YKA	**Yellowknife Ar**	**16.80**	**71**	P	**Pn**	**19 53 26.0**	**-0.2**
	0.2nm,0.3s,baz=279,slow=12,SNR=8.4						
SONM	**Songino Array**	**54.65**	**306**	P	**P**	**19 58 57.5**	**+0.4**
SONM	**Songino Array**	**54.65**	**306**	P	**P**	**19 58 57.5**	**+0.4**
	1.2nm,0.8s,baz=40,slow=7.5,SNR=8.3						
ZALV	**Zalesovo Beam**	**56.62**	**324**	P	**P**	**19 59 10.0**	**-0.9**
ZALV	**Zalesovo Beam**	**56.62**	**324**	P	**P**	**19 59 10.0**	**-0.9**
	0.4nm,0.3s,baz=38,slow=7.3,SNR=3.0						
MKAR	**Makanchi Array**	**63.75**	**322**	P	**P**	**19 59 58.6**	**-1.1**
MKAR	**Makanchi Array**	**63.75**	**322**	P	**P**	**19 59 58.6**	**-1.1**
	0.3nm,0.4s,baz=23,slow=5.0,SNR=12						

KRSC 16 19:53:06.6±0.0, 59°.56N×160°.50E, h0km, ML4.2, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALN	**Palana**	**0.55**	**210**	*e*P	Pb	19 53 19.7	+0.7
PALN				*i* S	Sb	19 53 29.1	+1.7
SRKR	**Sorokina**	**2.94**	**173**	*e*P	Pn	19 53 56.0	+1.4
TILK	**Tilichiki**	**2.97**	**70**	*e*P	Pn	19 53 57.6	+2.7
TILK				*i* S	Sb	19 54 36.1	-1.0
BDR	**Baidarnaya**	**3.02**	**173**	*e*P	Pn	19 53 57.8	+2.0
SMKR	**Semkarok**	**3.03**	**170**	*e*P	Pn	19 53 56.9	+1.0
SRDR	**Sredinnyy**	**3.28**	**188**	*e*P	Pb	19 54 03.7	-2.0
SRDR				*i* S	Sb	19 54 47.1	+0.9
KMNR	**Kamenistaya**	**3.82**	**182**	*e*P	Pb	19 54 11.5	-3.4

NIED ***16*** *19:54:00, 35°.30N×140°.30E, h20km, Mw4.5 Best double couple: M0:6.74000×10^15 NP1:φs222.00000°, δ73.00000°, λ-80.00000°. NP2:φs11.00000°, δ20.00000°, λ-119.00000°.*

BJI ***16*** *19:54:23.1, 35°.12N×140°.50E, h33km, mB4.9/16, mb4.6/29, Ms4.6/14, Ms7 4.2/13*

NEIC ***16*** *19:54:25.9±2.0, 35°.14N×140°.00E, h18km±12km, mb4.9/49, MW4.5(NIED), Error ellipse: s-maj=4.4km s-min=4.2km az=151.0*

NEIC Felt at Ebina, Narashino, Yokohama, Yokosuka and Zushi. Recorded [4 JMA] in Chiba; [2 JMA] in Kanagawa, Saitama, Shizuoka and Tokyo; [1 JMA] in Ibaraki, Tochigi and Yamanashi. Also recorded [2 JMA] on O-shima and [1 JMA] on Miyake-jima and To-shima.

MOS ***16*** *19:54:26.8±1.1, 35°.23N×140°.09E, h33km, mb4.9/51, MS4.0/18, Error ellipse: s-maj=8.6km s-min=4.7km az=111.1*

ISCJB ***16*** *19:54:27.1±0.4, 35°.17N±0°.03×139°.96E±0°.02, h31km±3km, mb4.7/109, MS4.1/30, Error ellipse: s-maj=4.8km s-min=3.3km az=176.2*

JMA ***16*** *19:54:28.0±0.1, 35°.28N×140°.23E, h31km±1km, M4.6 Broadband fault plane solution: P waves. NP1: φs2.00000°, δ55.00000°, λ-113.00000°. NP2:φs218.00000°, δ41.00000°, λ-61.00000°. Principal axes: T Plg7.0000°, Azm108.0000°; N Plg19.0000°, Azm16.0000°; P Plg70.0000°, Azm217.0000°;*

JMA Felt IV J1.

IDC ***16*** *19:54:30.1±1.1, 35°.07N×140°.10E, h53km±10km, mb4.2/25, mb1 4.4/30, mb1mx4.3/33, mbtmp4.2/30, MS3.9/16, Ms1 4.0/16, ms1mx3.7/34 Error ellipse: s-maj=12.4km s-min=5.9km az=74.0*

SZGRF ***16*** *19:54:34.2, 34°.57N×138°.20E, h56km, mb4.9, Near south coast of eastern Honshu, Japan*

ISC 16 19:54:27.5±0.5, 35°.16N±0°.04×140°.09E±0°.03, h30km±3km, h29km:pP-P, n543, σ1s19/551, mb4.8/110, MS4.1/30, 128C-126D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTR	**Katsuura**	**0.19**	**93**	↑P	**Pb**	**19 54 33.5**	**0.0**
TATJ	**Tateyama 2**	**0.21**	**232**	↑P	**Pb**	**19 54 36.7**	**+2.2**
BSO4	**Boso 4**	**0.27**	**129**	↑P	**Pb**	**19 54 35.9**	**+0.6**
JCN	**Nagara**	**0.28**	**20**	↓P	**Pb**	**19 54 34.2**	**-0.4**
JCN				*e*S	**Sb**	**19 54 38.7**	**-0.8**
BSO3	**Boso 3**	**0.50**	**136**	↓P	**Pn**	**19 54 38.8**	**+0.5**
JIM2	**Oshima 3**	**0.70**	**231**	↑P	**Pn**	**19 54 42.3**	**+1.0**
JIM2				*e*S	**Sn**	**19 54 53.3**	**+2.2**
JOD2	**Odawara 2**	**0.83**	**278**	↑P	**Pb**	**19 54 43.7**	**+0.4**
JOD2				*e*S	**Sn**	**19 54 55.1**	**+0.8**
BSO1	**Boso 1**	**0.89**	**124**	↓P	**Pn**	**19 54 42.9**	**-0.5**
JHU	**Hanno**	**0.95**	**317**	↑P	**Pn**	**19 54 44.9**	**0.0**
JHU				*e*S	**Sb**	**19 54 58.4**	**+0.6**
JHJ	**Hachijo jima 2**	**2.05**	**187**	P	**Pn**	**19 55 01.3**	**+1.4**
	714nm,0.3s,baz=83,slow=21,SNR=82						
JHJ				S	**Sn**	**19 55 24.9**	**+0.4**
	666nm,0.3s,baz=253,slow=19,SNR=13						
MJAR	**Matsushiro Arr**	**2.06**	**313**	P	**Pn**	**19 55 01.1**	**+1.1**
MJAR				S	**Sb**	**19 55 29.5**	**+0.1**
MJAR	**Matsushiro Arr**	**2.06**	**313**	P	**Pn**	**19 55 01.1**	**+1.1**
	127nm,0.3s,baz=130,slow=11,SNR=870						
MJAR				S	**Sb**	**19 55 29.5**	**+0.1**
	98nm,0.3s,baz=139,slow=28,SNR=5.1						
MAJO	**Matsushiro**	**2.06**	**313**	*e*P	**Pn**	**19 55 00.3**	**+0.2**
MAJO	**Matsushiro**	**2.06**	**313**	*e*P	**Pn**	**19 55 00.3**	**+0.2**
MAT	**Matsushiro**	**2.06**	**313**	P	**Pn**	**19 55 01.0**	**+0.9**
MAT				S	**Sn**	**19 55 26.4**	**+1.6**
ERM	**Erimo**	**7.25**	**18**	*e*P	**Pn**	**19 56 11.4**	**0.0**
JNU	**Nakatsue**	**7.90**	**258**	*e*P	Pn	19 56 23.8	+3.5
	16nm,1.0s						
JNU	**Nakatsue**	**7.90**	**258**	P	Pn	19 56 23.7	+3.4
	baz=114,slow=19						
CBIJ	**Chichi jima**	**8.23**	**167**	P	**Pn**	**19 56 23.8**	**-1.1**
CBIJ				S	**Sn**	**19 57 53.8**	**-3.2**
CBIJ	**Chichi jima**	**8.23**	**167**	P	**Pn**	**19 56 23.8**	**-1.

YAK pmax pmax
comp=Z,28nm,1.5s
YAK pmax pmax
comp=N,18nm,1.5s
YAK pmax pmax
comp=E,7.0nm,1.6s
YAK pmax pmax
comp=Z,38nm,1.5s
YAK pmax pmax
comp=E,33nm,1.9s
YAK pmax pmax
comp=N,36nm,1.8s
YAK smax smax
comp=N,22nm,6.2s
YAK smax smax
comp=E,16nm,5.6s
YAK MLR MLR
comp=Z,457nm,19.0s
YAK MLR MLR
comp=N,251nm,15.0s
YAK MLR MLR
comp=E,53nm,14.0s
YAK Yakutsk 27.69 349 *e*P **P 20 00 11.4 -1.2**
comp=E,19nm,0.8s
SONM Songino Array 28.00 307 P **P 20 00 14.6 -1.2**
SONM Songino Array 28.00 307 P **P 20 00 14.6 -1.2**
comp=E,1.9nm,0.6s,baz=107,slow=9.0,SNR=11
SONM LR LR 20 12 07.3
comp=E,566nm,18.8s,baz=114,slow=38
BOD Bodaibo 28.59 331 *e*P **P 20 00 19.6 -1.1**
BOD pmax pmax
comp=Z,11nm,1.0s
SEY Seymchan 28.84 12*ce*P **P 20 00 24.1 +1.3**
LZH Lanzhou 29.37 282 *e*P **P 20 00 30.0 +1.9**
LZH pP **pP 20 00 40.3 +3.5**
LZH sP **sP 20 00 44.5 +4.0**
LZH pmax pmax
comp=Z,18nm,1.4s
GYA Guiyang 29.88 262‖ *i*P **P 20 00 31.3 -1.3**
GYA pmax pmax
comp=Z,20nm,0.8s
ZAK Zakamensk 30.64 311 *e*P **P 20 00 37.9 -1.2**
ZAK pmax pmax
comp=Z,2.0nm,1.0s
TLY Talaya 30.80 314 *e*P **P 20 00 41.4 +1.0**
TLY *e* 20 01 48.1
TLY *e*S S 20 05 32.1 -10
TLY pmax pmax
comp=Z,3.0nm,0.7s
TLY MLR MLR
comp=Z,289nm,16.0s
GTA Gaotai 32.14 290 *e*P **P 20 00 52.8 +0.4**
GTA pP **pP 20 00 57.3 -3.9**
GTA pmax pmax
comp=Z,4.0nm,1.3s
KMI Kunming 33.64 263 P **P 20 01 06.0 +0.2**
KMI pmax pmax
comp=Z,5.0nm,0.9s
KMI LR LR
comp=N,300nm,14.7s
KMI LR LR
comp=E,390nm,16.2s
KMI LR LR
comp=Z,370nm,17.0s
BILL Bilibino 36.12 16 *e*P **P 20 01 26.5 0.0**
BILL *e* 20 03 53.2
BILL pmax pmax
comp=Z,2.0nm,0.9s
BILL MLR MLR
comp=Z,100nm,16.0s
CHTO Chiang Mai 39.80 257 *e*P **P 20 01 57.4 -0.7**
CHTO pmax pmax
comp=Z,3.0nm,0.9s
CHTO Chiang Mai 39.80 257 *e*P **P 20 01 57.4 -0.7**
comp=Z,3.1nm,0.9s
CM31 Chiang Mai Arr 40.00 256 *e*P **P 20 01 59.9 +0.1**
comp=Z,1.9nm,0.6s
CMAR Chiang Mai Arr 40.00 256 P **P 20 01 59.3 -0.4**
CMAR PcP **PcP 20 04 04.3 -0.2**
CMAR Chiang Mai Arr 40.00 256 P **P 20 01 59.3 -0.4**
comp=Z,1.8nm,0.8s,baz=47,slow=7.7,SNR=23
CMAR PcP **PcP 20 04 04.3 -0.2**
comp=Z,1.2nm,0.8s,baz=3.3,slow=1.9,SNR=5.4
CMAR LR LR 20 20 36.3
comp=Z,144nm,18.5s,baz=250,slow=39
WMQ Urumqi 40.76 299 P **P 20 02 06.9 +1.1**
WMQ pP **pP 20 02 14.0 -0.7**
WMQ sP **sP 20 02 17.5 -0.8**
WMQ PP **PnPn 20 03 44.0 -0.1**
WMQ *e*S **S 20 08 10.0 -4.6**
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ pmax pmax
comp=Z,130nm,4.8s
WMQ LR LR
comp=N,210nm,18.4s
WMQ LR LR
comp=E,270nm,19.9s
WMQ LR LR
comp=Z,250nm,21.6s
LSA Lhasa 41.33 277 *e*P **P 20 02 11.8 +0.6**
LSA pmax pmax
comp=Z,3.0nm,0.6s
LSA Lhasa 41.33 277 *e*P **P 20 02 11.8 +0.6**
comp=Z,3.3nm,0.6s
ZAA0 Zalesovo Array 42.41 314 *e*P **P 20 02 18.6 -0.5**
ZALV Zalesovo Beam 42.41 314 P **P 20 02 18.8 -0.3**
ZALV 20 04 11.9
ZALV pmax pmax
comp=Z,19nm,0.8s
ZALV pmax pmax
comp=Z,4.0nm,0.6s
ZALV MLR MLR
comp=Z,65nm,20.5s
ZALV Zalesovo Beam 42.41 314 P **P 20 02 18.8 -0.3**
ZALV PcP **PcP 20 04 11.9 +0.1**
ZALV Zalesovo Beam 42.41 314 P **P 20 02 18.8 -0.3**
comp=Z,19nm,0.8s,baz=92,slow=6.5,SNR=106
ZALV PcP **PcP 20 04 11.9 +0.1**
comp=Z,4.3nm,0.6s,baz=99,slow=3.5,SNR=9.4
ZALV LR LR 20 19 13.7
comp=Z,65nm,20.5s,baz=69,slow=35
NVS Novosibirsk 43.38 315‖ *i*P **P 20 02 25.8 -1.2**
NVS pmax pmax
comp=N,6.0nm,0.9s
NVS pmax pmax
comp=E,7.0nm,0.9s
NVS pmax pmax
comp=Z,29nm,0.9s
MK31 Makanchi Array 44.23 304 *e*P **P 20 02 34.2 +0.2**
MK31 Makanchi Array 44.23 304 *e*P **P 20 02 34.2 +0.2**
MKAR Makanchi Array 44.23 304 P **P 20 02 34.2 +0.2**
MKAR pmax pmax
comp=Z,13nm,0.8s
MKAR MLR MLR
comp=Z,280nm,18.5s
MKAR Makanchi Array 44.23 304 P **P 20 02 34.2 +0.2**
MKAR Makanchi Array 44.23 304 P **P 20 02 34.2 +0.2**
comp=Z,13nm,0.8s,baz=89,slow=9.6,SNR=124
MKAR LR LR 20 22 00.7
comp=Z,280nm,18.5s,baz=88,slow=37
TAPN Taplejung 45.02 275 *e*P **P 20 02 41.4 +0.6**
comp=Z,8.7nm,0.8s
ODAN Odare 45.48 275 *e*P **P 20 02 44.1 -0.3**
comp=Z,4.5nm,0.4s
RAMN Ramite 46.09 275 *e*P **P 20 02 49.1 -0.1**
comp=Z,16nm,0.5s
JIRN Jiri 46.14 276 *e*P **P 20 02 50.1 +0.4**
comp=Z,4.0nm,0.4s
KURK Kurchatov 46.27 309*ce*P **P 20 02 49.9 -0.1**
KURK pmax pmax
comp=Z,100nm,0.7s
KURK Kurchatov 46.27 309 *e*P **P 20 02 49.7 -0.3**
comp=Z,97nm,0.8s
GUN Gumba 46.29 277 *e*P **P 20 02 51.1 +0.2**
PKI Pulchoki 46.81 277 *e*P **P 20 02 54.6 -0.4**
KKN Kakani 46.83 277 *e*P **P 20 02 54.9 -0.1**
DMN Daman 47.04 277 *e*P **P 20 02 56.5 -0.2**
comp=Z,11nm,0.9s
GKN Gorkha 47.26 277 *e*P **P 20 02 58.3 0.0**
comp=Z,35nm,0.9s
DANN Dangsing 47.84 278 *e*P **P 20 03 03.3 +0.3**
comp=Z,46nm,0.8s
KOLN Koldanda 48.20 278 *e*P **P 20 03 05.8 +0.2**
KDAK Kodiak Island 49.21 41 P **P 20 03 13.1 +0.4**
KDAK Kodiak Island 49.21 41 P **P 20 03 13.1 +0.4**
comp=Z,4.0nm,0.4s,baz=280,slow=6.5,SNR=13
TKM2 Tokmak 2 49.60 299 *i*P **P 20 03 17.5 +1.4**
TKM2 Tokmak 2 49.60 299 P **P 20 03 17.6 +1.4**
SNR=26
KZA Kyzart 50.05 298 P **P 20 03 21.7 +1.8**
SNR=13
KBK Karagaybulak 50.12 299 P **P 20 03 21.3 +1.2**
SNR=28
CHMS Chumysh 50.18 300 P **P 20 03 21.2 +0.8**
SNR=8.9
USP Ospenovka 50.29 300 P **P 20 03 22.1 +0.8**
SNR=11
AAK Ala-Archa 50.45 299 *i*P **P 20 03 23.4 +0.8**
AAK Ala-Archa 50.45 299 *e*P **P 20 03 23.1 +0.4**
comp=Z,40nm,0.8s
AAK Ala-Archa 50.45 299 P **P 20 03 23.5 +0.8**
SNR=13
EKS2 Erkin-Say 50.96 300 *e*P **P 20 03 26.3 -0.1**
EKS2 pmax pmax
comp=Z,6.0nm,0.7s
EKS2 Erkin-Say 50.96 300 *e*P **P 20 03 26.3 -0.1**
comp=Z,5.9nm,0.7s
EKS2 Erkin-Say 50.96 300 P **P 20 03 27.2 +0.8**
SNR=9.1
BRVK Borovoye 51.11 313*ce*P **P 20 03 27.3 +0.1**
BRVK pmax pmax
comp=Z,9.0nm,1.2s
BRVK Borovoye 51.11 313 *e*P **P 20 03 26.6 -0.6**
comp=Z,7.1nm,0.8s
AML Almayashu 51.16 299 P **P 20 03 29.7 +1.5**
SNR=47
COLA College 51.23 31 *e*P **P 20 03 29.3 +1.4**
COLA pmax pmax
comp=Z,6.0nm,0.6s
COLA College 51.23 31 *e*P **P 20 03 29.3 +1.4**
comp=Z,6.1nm,0.6s
ILAR Eielson Array 51.65 32 P **P 20 03 31.2 +0.1**
ILAR Eielson Array 51.65 32 P **P 20 03 31.2 +0.1**
comp=Z,4.6nm,0.8s,baz=270,slow=6.4,SNR=42
KKAR Karatay Array 53.15 301 *e*P **P 20 03 43.0 +0.4**
KKAR pmax pmax
comp=Z,17nm,0.9s
KKAR Karatay Array 53.15 301 *e*P **P 20 03 43.0 +0.4**
comp=Z,17nm,0.9s
MENT Mentasta 53.19 34 *e*P **P 20 03 43.6 +1.1**
FITZ Fitzroy Crossi 54.72 197 *e*P **P 20 03 54.9 +0.9**
comp=Z,5.6nm,0.5s
WRAB Tennant Creek 55.06 187 *e*P **P 20 03 56.2 -0.3**
WRAB pmax pmax
comp=Z,43nm,1.1s
WRAB Tennant Creek 55.06 187 *e*P **P 20 03 56.2 -0.3**
comp=Z,43nm,1.1s
WRA Warramunga Arr 55.07 187 P **P 20 03 56.3 -0.3**
WRA Warramunga Arr 55.07 187 P **P 20 03 56.3 -0.3**
comp=Z,18nm,0.7s,baz=2.0,slow=7.6,SNR=190
SVE Sverdlovsk 55.85 319‖ *i e*P **P 20 04 02.6 +0.7**
SVE *e* 20 07 30.7
SVE pmax pmax
comp=Z,16nm,0.9s
SVE MLR MLR
comp=Z,334nm,17.0s
INK Inuvik 56.54 26 *e*P **P 20 04 07.0 +0.4**
comp=Z,3.8nm,0.8s
INK Inuvik 56.54 26 P **P 20 04 07.2 +0.6**
comp=Z,1.9nm,0.6s,baz=291,slow=6.4,SNR=11
ARU Arti 57.06 319*c i*P **P 20 04 10.4 -0.1**
ARU 20 06 16.1
ARU S **S 20 12 03.6 +0.5**
ARU SS **SS 20 15 46.7 -4.8**
ARU pmax pmax
comp=Z,31nm,1.7s
ARU MLR MLR
comp=Z,276nm,17.0s
ARU Arti 57.06 319 *e*P **P 20 04 10.2 -0.3**
comp=Z,12nm,0.8s
HYB Hyderabad 57.09 269 *i*P **P 20 04 10.5 -0.8**
KBL Kabul 57.09 292 *e*P **P 20 04 11.1 -0.3**
KBL pmax pmax
comp=Z,10.0nm,1.1s
KBL Kabul 57.09 292 *e*P **P 20 04 11.1 -0.3**
comp=Z,10nm,1.1s
ABKAR Akbulak array 58.34 311 *e*P **P 20 04 19.6 0.0**
comp=Z,7.4nm,0.5s
AS31 Alice Springs 58.79 187 *e*P **P 20 04 23.2 +0.2**
ASAR Alice Springs 58.80 187 P **P 20 04 22.9 -0.1**
ASAR Alice Springs 58.80 187 P **P 20 04 22.9 -0.1**
comp=Z,3.5nm,0.6s,baz=9.8,slow=8.9,SNR=50
MBWA Marble Bar 59.25 202 P **P 20 04 26.5 +0.3**
DLBC Dease Lake 60.76 37 P **P 20 04 37.8 +1.5**
DLBC Dease Lake 60.76 37 P **P 20 04 37.8 +1.5**
comp=Z,2.2nm,0.7s,baz=307,slow=9.9,SNR=4.3
RES Resolute Bay 64.68 14 *e*P **P 20 05 01.9 -0.1**
comp=Z,7.7nm,0.9s
RES Resolute Bay 64.68 14 P **P 20 05 02.5 +0.5**
comp=Z,4.7nm,0.6s,baz=299,slow=6.3,SNR=21
KLMR Klimovskoe 64.77 328 *e*P **P 20 05 02.0 -0.8**
KLMR pmax pmax
comp=Z,11nm,1.0s
KEV Kevo 64.81 339 *e*P P 20 04 57.7 -5.2
KEV pmax pmax
comp=Z,4.0nm,0.7s
KEV Kevo 64.81 339 *ep* P 20 04 57.7 -5.2
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 65.37 339 P **P 20 05 06.1 -0.5**
ARCES ARCESS Array B 65.37 339 P **P 20 05 06.1 -0.5**
comp=Z,5.7nm,0.9s,baz=56,slow=7.0,SNR=7.6
ARCES LR LR 20 36 59.4
comp=Z,123nm,19.4s,baz=171,slow=39
YKA Yellowknife Ar 65.97 29 P **P 20 05 10.6 0.0**
YKA Yellowknife Ar 65.97 29 P **P 20 05 10.5 0.0**
comp=Z,2.6nm,0.9s,baz=303,slow=6.4,SNR=34
FORT Forrest 66.56 191 *e*P **P 20 05 14.7 +0.1**
comp=Z,38nm,0.7s
STKA Stephens Creek 66.70 179 P **P 20 05 15.7 +0.2**
STKA Stephens Creek 66.70 179 *e*P **P 20 05 14.7 -0.7**
comp=Z,3.4nm,0.8s
STKA Stephens Creek 66.70 179 P **P 20 05 15.7 +0.2**
comp=Z,2.3nm,0.6s,baz=350,slow=8.4,SNR=9.3
JOF Joensuu 67.11 332 *e*P **P 20 05 16.6 -1.2**
JOF pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 67.11 332 *ep* **P 20 05 16.6 -1.2**
comp=Z,5.8nm,0.6s
DAG Danmarks Havn 67.54 355 *i*P **PcP 20 05 46.1 -1.3**
comp=Z,28nm,0.9s
VRHR Novokhopersk 68.35 318 *e*P **P 20 05 24.3 -1.6**
VRHR pmax pmax
comp=N,5.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=E,1.0nm,0.3s
MAK Makhachkala 68.77 308 *e*P P 20 05 25.2 -3.4
MAK *e* 20 07 59.4
MAK *e*S **S 20 14 27.0 -3.1**
MAK pmax pmax
comp=Z,57nm,0.8s
MAK MLR MLR
comp=Z,323nm,18.0s
OBN Obninsk 68.95 323 *e*P **P 20 05 29.6 +0.1**
OBN *i* 20 05 54.0
OBN *i* 20 08 03.1
OBN pmax pmax
comp=Z,5.0nm,1.0s
OBN MLR MLR
comp=Z,200nm,15.0s
KAF Kangasniemi 69.48 333 *e*P **P 20 05 31.7 -0.9**
KAF pmax pmax
comp=Z,6.0nm,0.6s
KAF Kangasniemi 69.48 333 *ep* **P 20 05 31.7 -0.9**
comp=Z,6.4nm,0.6s
VSR Storozhevoye 69.63 319 *e*P **P 20 05 33.3 -0.5**
VSR pmax pmax
comp=N,6.0nm,0.9s
VSR pmax pmax
comp=E,8.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
KLBR Kellerberrin 69.64 200 *e*P **P 20 05 33.9 0.0**
comp=Z,32nm,1.0s
VORD Divnogorie 69.69 319 *e*P **P 20 05 33.3 -0.9**
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,20nm,0.9s
VORD pmax pmax
comp=Z,8.0nm,0.9s
FINES FINESS Array B 69.97 332 P **P 20 05 35.5 -0.2**
FINES FINESS Array B 69.97 332 P **P 20 05 35.5 -0.2**
comp=Z,11nm,0.7s,baz=72,slow=6.0,SNR=38
FINES LR LR 20 38 20.0
comp=Z,100nm,19.1s,baz=135,slow=38
ZEI Tsey 71.17 309 *e*P **P 20 05 45.9 +2.2**
ZEI pmax pmax
comp=Z,5.0nm,1.0s
KIV Kislovodsk 71.32 311 *e*P **P 20 05 45.3 +0.9**
KIV pmax pmax
comp=Z,26nm,1.0s
KIV MLR MLR
comp=Z,81nm,19.0s
KIV Kislovodsk 71.32 311 *e*P **P 20 05 45.1 +0.7**
comp=Z,20nm,0.8s
NEW Newport 72.22 43 ⇓P **P 20 05 50.7 +1.0**
baz=72
YBH Yreka Blue Hor 72.35 51 P **P 20 05 51.4 +0.8**
YBH Yreka Blue Hor 72.35 51 P **P 20 05 51.4 +0.8**
comp=Z,2.4nm,0.7s,baz=339,slow=8.6,SNR=6.8
SUMG Summit 72.55 360 *i*P **P 20 05 52.7 +1.1**
SUMG pmax pmax
comp=Z,7.0nm,0.7s
SUMG Summit 72.55 360 *e*P **P 20 05 52.5 +0.9**
comp=Z,7.8nm,0.6s
SUMG Summit 72.55 360 *i*P **P 20 05 52.7 +1.1**
comp=Z,7.3nm,0.7s
A12A Yaak River Ran 72.67 42 ⇓P **P 20 05 53.9 +1.5**
baz=72
C12B Naegeli Ranch, 73.45 43 ⇑P **P 20 05 58.7 +1.7**
baz=73
B13A Whitefish 73.64 42 ⇑P **P 20 05 59.2 +1.1**
baz=74,SNR=10
NACGM Naroch 73.70 326 *e* **P 20 05 56.0 -2.2**
A14A Double T Ranch 73.86 41 ⇑P **P 20 06 00.4 +0.9**
baz=74,SNR=5.8
SCO Scoresbysund 73.86 354 *i*P **P 20 06 00.6 +1.7**
SCO pmax pmax
comp=Z,5.0nm,0.8s
SCO Scoresbysund 73.86 354 *i*P **P 20 06 00.6 +1.7**
comp=Z,5.4nm,0.8s
C13A Hot Springs 73.97 43 ⇓P **P 20 06 01.3 +1.2**
baz=74,SNR=11
JTMT Jette 74.10 43 *e*P **P 20 06 01.7 +0.9**
comp=Z,9.8nm,1.0s
E12A Beaver Dam Sad 74.13 44 ⇓P **P 20 06 02.0 +0.9**
baz=74,SNR=15
YBMT Yellow Bay 74.18 42 *e*P **P 20 06 02.7 +1.4**
comp=Z,3.1nm,0.5s
A15A Johnson Ranch, 74.23 41 ⇑P **P 20 06 02.3 +0.7**
baz=74,SNR=8.1
B14A Marquette Ranc 74.30 42 ⇓P **P 20 06 03.1 +1.1**
baz=74,SNR=8.7
D13A Huson 74.37 43 ⇓P **P 20 06 03.5 +1.1**
baz=74
C14A Swan Lake 74.38 42 ⇓P **P 20 06 03.5 +1.1**
baz=74,SNR=6.2
SWMT Swartz Lake 74.39 43 *e*P **P 20 06 03.8 +1.2**
comp=Z,11nm,1.2s
F12A Elk City 74.68 45 ⇓P **P 20 06 05.5 +1.2**
baz=74,SNR=17
B15A Bradely Ranch, 74.71 41 ⇓P **P 20 06 05.4 +1.0**
baz=74,SNR=15
MSO Missoula 74.81 43 ⇓P **P 20 06 06.4 +1.3**
baz=75
SLMT Seeley Lake 74.82 43 *e*P **P 20 06 05.9 +0.8**
comp=Z,12nm,0.8s
E13A Victor 74.90 44 ⇑P **P 20 06 06.7 +1.2**
baz=75
G12A Big Creek, Yel 75.00 45 ⇑P **P 20 06 07.0 +0.8**
baz=75
C15A Salmond Ranch, 75.00 42 ⇑P **P 20 06 07.3 +1.1**
baz=75,SNR=15
B16A M & M Farms, S 75.11 41 ⇓P **P 20 06 07.9 +1.3**
baz=75
AKASG Malin Array Be 75.12 322 P **P 20 06 06.1 -0.4**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG MLR MLR
comp=Z,331nm,18.6s
AKASG Malin Array Be 75.12 322 P **P 20 06 06.1 -0.4**
AKASG Malin Array Be 75.12 322 P **P 20 06 06.1 -0.4**
comp=Z,3.8nm,0.6s,baz=48,slow=5.9,SNR=15
AKASG LR LR 20 42 09.4
comp=Z,330nm,18.6s,baz=50,slow=38
AKBB Malin Array Si 75.12 322 *e*P **P 20 06 06.1 -0.4**
AKBB Malin Array Si 75.12 322 *e*P **P 20 06 06.1 -0.4**
KIEV Kiev 75.13 322 *e*P **P 20 06 06.3 -0.3**
KIEV pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 75.13 322 *e*P **P 20 06 06.2 -0.3**
comp=Z,3.5nm,0.6s
F13A Darby 75.19 44 ⇑P **P 20 06 08.2 +1.0**
baz=75
E14A Clinton 75.31 43 ⇑P **P 20 06 08.9 +1.0**
baz=75
A17A Triple J Farms 75.33 40 ⇓P **P 20 06 08.9 +1.0**
baz=75,SNR=9.7
UMR Umm Al-Rimmam 75.42 296 *e*P **P 20 06 08.6 0.0**
UMR AMb AMb 20 06 12.7
comp=Z,25nm,1.4s
D15A Lincoln 75.48 42 ⇑P **P 20 06 09.9 +1.0**
baz=75
NB2 NORSAR Subarra 75.49 337 P **P 20 06 08.5 -0.1**
comp=Z,3.7nm,0.6s,baz=41,slow=5.9
NOA NORSAR Array B 75.49 337 P **P 20 06 08.5 -0.1**
NOA NORSAR Array B 75.49 337 P **P 20 06 08.5 -0.1**
comp=Z,7.2nm,0.8s,baz=40,slow=5.8,SNR=24
NOA LR LR 20 42 18.6
comp=Z,111nm,18.5s,baz=30,slow=38
MIB Mutribah 75.56 296 *e*P **P 20 06 09.1 -0.3**
MIB AMb AMb 20 06 14.6
comp=Z,16nm,1.0s
H12A Diamond D Ranc 75.61 45 ⇓P **P 20 06 10.7 +1.0**
baz=75
G13A Cobalt 75.65 45 ⇑P **P 20 06 11.0 +1.1**
baz=76
B17A L&G Farms, Che 75.67 41 ⇑P **P 20 06 11.0 +1.2**
baz=76,SNR=14
E15A Deer Lodge 75.78 43 ⇓P **P 20 06 11.4 +0.8**
baz=76
A18A Metzger Ranch, 75.79 40 ⇓P **P 20 06 11.4 +0.8**
baz=76,SNR=8.1
FFC Flin Flon 75.86 32*ce*P **P 20 06 11.5 +0.8**
FFC Flin Flon 75.86 32 *e*P **P 20 06 11.1 +0.4**
comp=Z,8.3nm,1.0s
NAY Al-Naaiem 75.93 296 *e*P **P 20 06 10.9 -0.7**
NAY AMb AMb 20 06 12.7
comp=Z,11nm,0.8s
H13A Challis 75.95 45 ⇓P **P 20 06 12.7 +1.0**
baz=76,SNR=7.5
D16A Dana Ranch, Ca 76.02 42 ⇓P **P 20 06 13.1 +1.1**
baz=76,SNR=5.4
C17A Wharram Farm, 76.09 41 ⇑P **P 20 06 12.9 +0.7**
baz=76,SNR=5.3
B18A Beardsley Farm 76.15 40 ⇓P **P 20 06 13.8 +1.2**
baz=76,SNR=13
F15A Butte 76.20 43 ⇑P **P 20 06 14.2 +1.1**
baz=76,SNR=22
LRM Limekiln Ridge 76.24 43 *e*P **P 20 06 14.3 +0.9**
comp=Z,158nm,1.2s
A19A Klindworth Far 76.36 39 ⇓P **P 20 06 14.8 +1.0**
baz=76,SNR=13
EGMT Eagleton 76.39 40 *e*P **P 20 06 14.8 +0.9**
comp=Z,21nm,1.1s
EGMT Eagleton 76.39 40 ⇓P **P 20 06 14.9 +0.9**
baz=76
I13A Wildhorse Cree 76.41 46 ⇑P **P 20 06 15.5 +1.2**
baz=76,SNR=5.5
D17A Six Diamond Ra 76.42 42 ⇓P **P 20 06 15.3 +1.0**
baz=76,SNR=9.1
DLMT Dillon 76.43 44 *e*P **P 20 06 15.4 +1.1**
comp=Z,16nm,1.2s
HLID Hailey 76.44 46 ⇓P **P 20 06 16.0 +1.5**
baz=76
B19A Brinkman Farms 76.55 40 ⇑P **P 20 06 16.0 +1.1**
baz=76,SNR=12
G15A Dillon 76.61 44 ⇑P **P 20 06 16.5 +1.1**
baz=76,SNR=6.9
J13A Cove Ranch, Pi 76.68 46 ⇑P **P 20 06 17.6 +1.8**
baz=76
F16A Kennard Place, 76.73 43 ⇑P **P 20 06 17.1 +1.1**
baz=76,SNR=6.5
E17A Martinsdale 76.74 42 ⇓P **P 20 06 17.5 +1.3**
baz=77,SNR=8.4
I14A Mackay 76.79 45 ⇑P **P 20 06 18.0 +1.5**
baz=77,SNR=12

BOZ **Bozeman (W)** 76.81 43 ⇑P P 20 06 17.6 +1.1
baz=77,SNR=7.7
D18A **Linhart Farms,** 76.87 41 ⇓P P 20 06 18.2 +1.4
baz=77
C19A **Slack Wire Ran** 76.94 40 ⇑P P 20 06 18.3 +1.2
baz=77,SNR=19
G16A **Moss Hill, Enn** 76.96 44 ⇑P P 20 06 18.5 +1.1
baz=77
NVAR **Mina Array Bea** 76.98 52 P P 20 06 18.8 +1.1
NVAR **Mina Array Bea** 76.98 52 P P 20 06 18.8 +1.1
comp=Z,3.2nm,0.8s,baz=302,slow=5.2,SNR=15
NVAR LR LR 20 37 14.3
comp=Z,75nm,21.4s,baz=114,slow=33
F17A **Fitzpatrick Pl** 77.19 43 ⇓P P 20 06 19.7 +1.1
baz=77,SNR=6.3
E18A **Harlowton** 77.20 42 ⇑P P 20 06 19.9 +1.3
baz=77,SNR=7.2
A21A **Bergtoll Ranch** 77.26 38 ⇓P P 20 06 19.7 +0.9
baz=77,SNR=8.9
C20A **Veseth Ranch,** 77.51 40 ⇓P P 20 06 21.5 +1.2
baz=77,SNR=5.9
B21A **Ellsworth Farm** 77.57 39 ⇓P P 20 06 22.1 +1.5
baz=77
H16A **Russell Place,** 77.59 44 ⇑P P 20 06 22.4 +1.4
baz=77
F18A **Big Timber** 77.71 42 ⇓P P 20 06 22.7 +1.2
baz=78,SNR=7.4
A22A **Carney Farms,** 77.77 38 ⇓P P 20 06 22.6 +0.9
baz=78,SNR=7.5
K14A **Jones Ranch, D** 77.77 46 ⇑P P 20 06 23.5 +1.6
baz=78
GCMT **Greycliff** 77.81 42 *eP* P 20 06 22.6 +0.5
comp=Z,3.3nm,1.0s
D20A **Manuel Ranch,** 77.83 40 ⇓P P 20 06 23.3 +1.2
baz=78,SNR=9.1
E19A **Rath Farm, Rou** 77.87 41 ⇑P P 20 06 23.6 +1.2
baz=78,SNR=6.1
C21A **Desert Coulee** 77.91 39 ⇑P P 20 06 24.0 +1.5
baz=78
I16A **Newdale** 77.96 45 ⇓P P 20 06 24.6 +1.6
baz=78
L14A **Malta** 78.04 47 ⇑P P 20 06 25.4 +2.0
baz=78
K15A **Arbon** 78.07 46 ⇓P P 20 06 25.5 +1.9
baz=78
H17A **Grant Village** 78.16 44 ⇓P P 20 06 27.0 +2.8
baz=78,SNR=5.7
F19A **Roth Farm, Mol** 78.17 42 ⇓P P 20 06 24.9 +0.9
baz=78,SNR=5.2
E20A **Meyer Farm, Mu** 78.20 41 ⇑P P 20 06 25.4 +1.3
baz=78,SNR=6.3
J16A **Bone** 78.25 45 ⇑P P 20 06 26.3 +1.6
baz=78
A23A **Redstone** 78.31 38 ⇓P P 20 06 25.4 +0.7
baz=78
RLMT **Red Lodge** 78.44 43 ⇑P P 20 06 27.2 +1.4
baz=78
I17A **Pilgrim Ck.** 78.45 44 ⇓P P 20 06 27.6 +1.8
baz=78,SNR=5.4
K16A **Soda Springs** 78.53 45 ⇑P P 20 06 28.3 +2.0
baz=78,SNR=6.0
L15A **Malad City** 78.56 46 ⇓P P 20 06 28.1 +1.8
baz=78
B23A **Brockton** 78.58 38 ⇑P P 20 06 27.2 +1.0
baz=78
E21A **Keefer Ranch,** 78.74 40 ⇑P P 20 06 28.4 +1.3
baz=78
R11A **Troy Canyon, C** 78.77 51 ⇓P P 20 06 29.2 +1.6
baz=79
A24A **Westby** 78.77 37 ⇓P P 20 06 28.2 +1.0
baz=79
D22A **Cohagen** 78.82 40 ⇑P P 20 06 28.6 +1.1
baz=79,SNR=5.9
M15A **Larsen Ranch,** 78.85 47 ⇑P P 20 06 29.4 +1.4
baz=79,SNR=6.6
MPMC **Manual Prospec** 78.86 54 ⇓P P 20 06 29.6 +1.4
baz=79
C23A **Lambert** 78.91 39 ⇓P P 20 06 29.3 +1.2
baz=79
G20A **Bridger** 78.96 42 ⇓P P 20 06 29.8 +1.4
baz=79
DGMT **Dagmar** 78.97 38 ⇑P P 20 06 29.3 +1.0
baz=79
KWP **Kalwaria Pacla** 79.02 324 *eP* P 20 06 29.4 +0.9
KWP **Kalwaria Pacla** 79.02 324 *eP* P 20 06 29.4 +0.9
KWP **Kalwaria Pacla** 79.02 324 ⇓*iP* P 20 06 29.8 +1.3
KWP **Kalwaria Pacla** 79.02 324 ⇓*iP* P 20 06 29.8 +1.3
FURC **Furnace Creek,** 79.04 53 ⇓P P 20 06 31.0 +2.1
baz=79
TESR 79.08 320 ⇑*iP* P 20 06 27.7 -1.2
BUR08 **Bucovina Ar. S** 79.10 321 *eP* P 20 06 29.4 +0.3
BURAR **Bucovina Array** 79.11 321 ⇓*iP* P 20 06 30.1 +0.9
L16A **Fish Haven** 79.12 46 ⇑P P 20 06 31.1 +1.6
baz=79
CFR **Carcaliu** 79.13 318 ⇑P P 20 06 29.4 +0.3
CFR **Carcaliu** 79.13 318 ⇑*iP* P 20 06 29.4 +0.3
F21A **Absaloka Mine,** 79.17 41 ⇓P P 20 06 30.8 +1.3
baz=79
J18A **Kendall Valley** 79.21 44 ⇓P P 20 06 31.2 +1.3
baz=79,SNR=5.8
I19A **Meeteetse** 79.28 43 ⇑P P 20 06 31.5 +1.2
baz=79
BR131 **Keskin Array S** 79.28 311 *eP* P 20 06 31.6 +1.2
comp=Z,1.8nm,0.6s
BRTR **Keskin Array B** 79.28 311 P P 20 06 30.7 +0.4
BRTR **Keskin Array B** 79.28 311 P P 20 06 30.7 +0.4
comp=Z,2.8nm,0.6s,baz=106,slow=4.0,SNR=13
BRTR LR LR 20 45 56.9
comp=Z,46nm,19.5s,baz=185,slow=39
D23A **Lindsay** 79.31 39 ⇑P P 20 06 31.5 +1.2
baz=79
DUG **Dugway** 79.40 48 ⇑P P 20 06 32.2 +1.3
baz=79,SNR=5.8
M16A **Huntsville** 79.43 47 ⇑P P 20 06 32.6 +1.5
baz=79
VRI **Vrincioaia** 79.45 319 ⇓P P 20 06 32.0 +1.0
VRI **Vrincioaia** 79.45 319 ⇓*iP* P 20 06 32.0 +1.0
PLOR **Plostina** 79.50 319 ⇓P P 20 06 32.8 +1.5
PLOR **Plostina** 79.50 319 ⇓*iP* P 20 06 32.8 +1.5
G21A **Lodge Grass** 79.51 42 ⇓P P 20 06 32.7 +1.3
baz=79
H20A **Greybull** 79.55 42 ⇑P P 20 06 33.3 +1.7
baz=79
F22A **Rosebud** 79.67 41 ⇓P P 20 06 33.8 +1.7
baz=80
KOLS **Kolonicke sedl** 79.70 324 *eP* P 20 06 33.4 +1.2
KOLS pmax pmax
comp=Z,4.0nm,1.1s
KOLS **Kolonicke sedl** 79.70 324 *eP* P 20 06 33.4 +1.2
J19A **Crowheart** 79.72 44 ⇑P P 20 06 33.9 +1.1
baz=80,SNR=7.0
BW06 **Boulder Array** 79.75 45 ⇓P P 20 06 33.8 +0.9
baz=80
PDAR **Pinedale Array** 79.75 45 P P 20 06 33.1 +0.1
PDAR **Pinedale Array** 79.75 45 P P 20 06 33.1 +0.1
comp=Z,1.5nm,0.7s,baz=270,slow=2.4,SNR=13
GSC **Goldstone** 79.76 54 ⇓P P 20 06 34.9 +1.9
baz=80
I20A **Worland** 79.81 43 ⇓P P 20 06 34.7 +1.6
baz=80
M17A **Scullys Gap (B** 79.91 46 ⇑P P 20 06 35.4 +1.6
baz=80
H21A **Big Horn, Sher** 79.98 42 ⇑P P 20 06 35.1 +1.1
baz=80
OJC **Ojcow** 79.99 326 *eP* P 20 06 34.0 +0.3
OJC **Ojcow** 79.99 326 *eP* P 20 06 34.2 +0.4
L18A **Fontenelle, Gr** 80.00 45 ⇓P P 20 06 35.8 +1.6
baz=80
G22A **Birney** 80.01 41 ⇑P P 20 06 35.1 +1.0
baz=80
DOPR **Dopca** 80.10 320 ⇑*iP* P 20 06 39.0 +4.5
P15A **Leamington** 80.10 48 ⇑P P 20 06 36.7 +1.9
baz=80
CRVS **Cervenica-Dubn** 80.11 324 *eP* P 20 06 35.0 +0.5
CRVS pmax pmax
comp=Z,3.0nm,1.0s
CRVS **Cervenica-Dubn** 80.11 324 *eP* P 20 06 35.0 +0.5
K19A **Absolon Red Bu** 80.12 44 ⇓P P 20 06 35.8 +0.9
baz=80
J20A **Shoshoni** 80.22 43 ⇓P P 20 06 36.8 +1.4
baz=80
L19A **Farson** 80.28 45 ⇓P P 20 06 37.3 +1.6
baz=80
M18A **Lyman** 80.29 46 ⇑P P 20 06 37.1 +1.2
baz=80
NIE **Niedzica** 80.31 325 *eP* P 20 06 36.0 +0.5
NIE **Niedzica** 80.31 325 *eP* P 20 06 36.5 +1.0

I21A **Big Trails, Te** 80.37 43 ⇓P P 20 06 37.6 +1.5
baz=80
H22A **Clearmont** 80.38 42 ⇓P P 20 06 37.4 +1.2
baz=80
P16A **Fountain Green** 80.46 48 ⇓P P 20 06 38.4 +1.7
baz=80
ARUT **Antelope Range** 80.46 50 *eP* P 20 06 38.0 +1.2
ARUT pmax pmax
comp=Z,6.0nm,1.1s
ARUT **Antelope Range** 80.46 50 *eP* P 20 06 38.0 +1.2
comp=Z,6.0nm,1.1s
G23A **Biddle** 80.50 41 ⇑P P 20 06 38.1 +1.4
baz=80
O17A **Robinson Place** 80.66 47 ⇓P P 20 06 39.7 +1.8
baz=80
I22A **9 Mile Ranch,** 80.76 42 ⇓P P 20 06 39.7 +1.5
baz=81
MVU **Marysvale** 80.80 49 *eP* P 20 06 40.6 +1.9
comp=Z,4.5nm,0.9s
N18A **Larsen Ranch,** 80.80 46 ⇑P P 20 06 39.7 +1.2
baz=81
GMRC **Granite Mounta** 80.82 54 ⇓P P 20 06 40.0 +1.3
baz=81
DRGR 80.93 322 ⇓P P 20 06 32.8 -6.2
DRGR 80.93 322 ⇓*iP* P 20 06 32.8 -6.2
OKC **Ostrava-Krasne** 81.02 326 AMS AMS 20 46 20.0
comp=Z,200nm,19.0s
O18A **Roosevelt** 81.05 47 ⇓P P 20 06 41.4 +1.5
baz=81
J22A **Midwest** 81.08 43 ⇑P P 20 06 40.9 +1.0
baz=81,SNR=7.9
P17A **Butcher Ranch,** 81.10 48 ⇓P P 20 06 41.4 +1.3
baz=81
N19A **John Jarvie Ra** 81.15 46 ⇓P P 20 06 41.8 +1.4
baz=81
K21A **Alcova** 81.15 44 ⇓P P 20 06 41.5 +1.1
baz=81,SNR=8.8
Q16A **Castle Valley** 81.18 48 ⇓P P 20 06 42.1 +1.4
baz=81
H24A **Dirks Ranch, A** 81.25 41 ⇓P P 20 06 41.2 +0.5
baz=81
LOT **Lotru** 81.29 320 ⇓*iP* P 20 06 41.9 +0.9
P18A **Preston Nutter** 81.30 47 ⇑P P 20 06 43.3 +1.9
baz=81,SNR=5.6
MORC **Moravsky Berou** 81.33 326 ⇓P P 20 06 42.0 +1.0
MORC **Moravsky Berou** 81.33 326 *eP* P 20 06 41.5 +0.5
comp=Z,3.5nm,0.9s
MORC **Moravsky Berou** 81.33 326 ⇓*iP* P 20 06 42.0 +1.0
R16A **Teasdale** 81.38 49 ⇑P P 20 06 43.7 +1.9
baz=81,SNR=11
SRU **San Rafael** 81.46 48 ⇓P P 20 06 43.3 +1.2
baz=81,SNR=7.0
DPC **Dobruska-Polom** 81.47 327 *eP* P 20 06 42.8 +1.1
DPC *e* 20 06 52.7
DPC MLR MLR
comp=Z,100nm,12.2s
DPC **Dobruska-Polom** 81.47 327 *eP* P 20 06 42.8 +1.1
DPC *ex* x 20 06 52.7
DPC AMS AMS 20 46 50.0
comp=Z,100nm,12.2s
VYHS **Vyhne** 81.65 325 *eP* P 20 06 43.3 +0.6
VYHS pmax pmax
comp=Z,2.0nm,1.1s
VYHS **Vyhne** 81.65 325 *eP* P 20 06 43.3 +0.6
S16A **Weppner Ranch,** 81.66 50 ⇓P P 20 06 44.7 +1.6
baz=82
Q18A **Rafter H Ranch** 81.70 48 ⇓P P 20 06 44.8 +1.5
baz=82
N20A **Spence Gulch,** 81.72 45 ⇑P P 20 06 45.0 +1.5
baz=82,SNR=7.6
M21A **Separation Pea** 81.75 44 ⇑P P 20 06 44.5 +0.8
baz=82
I24A **Kuemmerle Ranc** 81.80 41 ⇑P P 20 06 43.9 +0.2
baz=82
GZR **Gura Zlata** 81.84 321 ⇑P P 20 06 44.7 +0.9
GZR **Gura Zlata** 81.84 321 ⇑*iP* P 20 06 44.7 +0.9
U15A **North Rim** 82.02 51 ⇑P P 20 06 46.9 +1.7
baz=82
P19A **Cripple Cowboy** 82.06 47 ⇑P P 20 06 46.5 +1.2
baz=82,SNR=7.2
VRAC **Vranov** 82.10 327 ⇑*iP* P 20 06 45.9 +0.9
BRG **Berggiesshubel** 82.11 329 *eP* P 20 06 45.7 +0.7
comp=Z,4.2nm,0.9s
BRG *e* 20 06 55.1
comp=Z,6.5nm,1.1s
PDMCI **Parker Dam,Lak** 82.11 54 ⇑P P 20 06 47.3 +2.0
baz=82
CLL **Collm** 82.18 330 *eP* P 20 06 45.4 0.0
comp=Z,7.0nm,0.8s
CLL **Collm** 82.18 330 *iP* P 20 06 45.4 0.0
CLL *i* 20 06 55.6
CLL pmax pmax
comp=Z,7.0nm,0.8s
O20A **White River Ci** 82.18 46 ⇓P P 20 06 46.9 +1.0
baz=82
N21A **Black Mountain** 82.20 45 ⇑P P 20 06 47.4 +1.4
baz=82
S17A **Black Ridge (B** 82.21 49 ⇑P P 20 06 47.1 +1.1
baz=82,SNR=7.5
BZS **Buzias** 82.29 321 ⇓P P 20 06 46.5 +0.4
BZS **Buzias** 82.29 321 ⇓*iP* P 20 06 46.5 +0.4
R18A **Canyonlands Na** 82.30 48 ⇓P P 20 06 47.4 +0.9
baz=82,SNR=5.1
M22A **Cedar Creek Ra** 82.32 44 ⇓P P 20 06 48.3 +1.7
baz=82
L23A **Garrett** 82.36 43 ⇑P P 20 06 47.2 +0.3
baz=82,SNR=5.8
PRU **Pruhonice** 82.51 328 *eP* P 20 06 47.8 +0.7
PRU *e* 20 06 57.3
PRU MLR MLR
comp=Z,100nm,15.1s
PRU **Pruhonice** 82.51 328 *eP* P 20 06 47.8 +0.7
PRU *ex* x 20 06 57.3
PRU AMS AMS 20 46 50.0
comp=Z,100nm,15.1s
T17A **Navajo Res., N** 82.60 50 ⇓P P 20 06 49.2 +1.1
baz=82
S18A **Hurst Farm, Bl** 82.67 49 ⇑P P 20 06 49.6 +1.0
baz=82
R19A **Curley Farm, L** 82.74 48 ⇓P P 20 06 50.4 +1.5
baz=83
M23A **Laramie** 82.77 44 ⇑P P 20 06 49.9 +0.9
baz=83
N22A **Wattenberg Ran** 82.79 45 ⇓P P 20 06 50.6 +1.4
baz=83
Q20A **Ridgley Place,** 82.90 47 ⇓P P 20 06 51.0 +1.3
baz=83
N23A **Red Feather La** 83.02 44 ⇓P P 20 06 51.9 +1.5
baz=83
P21A **Newcastle** 83.04 46 ⇑P P 20 06 51.9 +1.5
baz=83
Y14A **Wickenburg** 83.08 53 ⇓P P 20 06 51.8 +1.3
baz=83
T18A **Mexican Hat** 83.09 49 ⇑P P 20 06 51.3 +0.7
baz=83,SNR=7.2
O22A **Kremmling** 83.15 45 ⇓P P 20 06 51.9 +0.8
baz=83,SNR=7.0
S19A **Harvey Farm, M** 83.16 48 ⇑P P 20 06 52.1 +1.0
baz=83,SNR=6.8
WUAZ **Wupatki** 83.16 51 ⇓P P 20 06 51.9 +0.9
baz=83
M24A **Cheyenne** 83.28 43 ⇑P P 20 06 52.8 +1.2
baz=83
R20A **Redvale** 83.34 48 ⇑P P 20 06 53.2 +1.3
baz=83,SNR=7.5
K26A **Motz Farm, Whi** 83.36 42 ⇑P P 20 06 52.7 +0.9
baz=83
P22A **Eagle** 83.40 46 ⇓P P 20 06 53.5 +1.2
baz=83,SNR=6.8
O23A **Lake Granby, G** 83.48 45 ⇓P P 20 06 54.3 +1.5
baz=83
VTS **Vitosha** 83.51 318 ⇑P P 20 06 53.6 +0.9
VTS **Vitosha** 83.51 318 ⇑*iP* P 20 06 53.6 +0.9
KHC **Kasperske Hory** 83.57 328 *eP* P 20 06 53.6 +0.9
KHC *e* 20 07 03.0
KHC MLR MLR
comp=Z,300nm,14.1s
KHC **Kasperske Hory** 83.57 328 *eP* P 20 06 53.6 +0.9
KHC *ex* x 20 07 03.0
KHC AMS AMS 20 47 50.0
comp=Z,300nm,14.1s
N24A **Carr** 83.67 44 ⇓P P 20 06 55.1 +1.5
baz=84
R21A **Cimarron** 83.72 47 ⇓P P 20 06 55.4 +1.5
baz=84,SNR=11
GERES **GERESS Array B** 83.73 328 P P 20 06 53.6 +0.1
GERES **GERESS Array B** 83.73 328 P P 20 06 53.6 +0.1
comp=Z,0.8nm,0.5s,baz=39,slow=6.3,SNR=11
GERES LR LR 20 48 22.4
comp=Z,97nm,18.4s,baz=35,slow=39
Q22A **Crested Butte,** 83.78 46 ⇓P P 20 06 55.8 +1.4
baz=84,SNR=8.2
X16A **Lo Mia Camp, P** 83.80 52 ⇑P P 20 06 56.4 +2.0
baz=84
T19A **Beclabito** 83.81 49 ⇓P P 20 06 56.3 +1.9
baz=84
MVCO **Mesa Verde** 83.89 48 *eP* P 20 06 55.8 +1.0
comp=Z,9.1nm,1.1s
MVCO **Mesa Verde** 83.89 48 ⇓P P 20 06 56.0 +1.1
baz=84
ISCO **Idaho Springs** 83.93 45 ⇑P P 20 06 56.6 +1.5
baz=84
S21A **Coal Bank Pass** 84.03 48 ⇑P P 20 06 57.4 +1.7
baz=84
U19A **Dine' College,** 84.04 49 ⇑P P 20 06 57.0 +1.4
baz=84
P23A **Jefferson** 84.08 45 ⇓P P 20 06 57.2 +1.3
baz=84
GRF **Grafenberg Arr** 84.15 329 *eP* P 20 06 56.3 +0.7
comp=Z,9.0nm,0.9s
GRF **Grafenberg Arr** 84.15 329 *eP* P 20 06 56.3 +0.7
GRF pmax pmax
comp=Z,9.0nm,0.9s
R22A **Saguache, Gunn** 84.29 47 ⇑P P 20 06 58.5 +1.5
baz=84
PMOR **Pomariorio Ree** 84.43 113 *eT* T 21 39 37.1
comp=Z,9.8nm,0.2s
V19A **Window Rock** 84.51 50 ⇑P P 20 07 00.0 +2.0
baz=84
S22A **4UR Ranch, Cre** 84.56 47 ⇑P P 20 06 59.9 +1.6
baz=84,SNR=12
O25A **Wiggins** 84.58 44 ⇑P P 20 06 59.5 +1.3
baz=84
T21A **Navajo Lake** 84.62 48 ⇑P P 20 07 00.2 +1.6
baz=84
GROS **Grobnik** 84.68 325 *iP* P 20 06 58.3 -0.1
SOKA **Soboth** 84.74 326 ⇑*iP* P 20 06 58.9 +0.1
comp=Z,6.7nm,0.9s
PPT2 **Papeete2** 84.79 116 *e*LR LR 20 33 44.1
comp=Z,95nm,23.5s
V20A **Brimhall** 84.82 49 ⇓P P 20 07 00.9 +1.3
baz=85
R23A **Moffat** 84.87 46 ⇑P P 20 07 01.6 +1.7
baz=85,SNR=9.7
U21A **Nageezi** 84.91 49 ⇓P P 20 07 01.5 +1.5
baz=85
TIAR **Tiarei** 84.94 115 *e*T T 21 40 16.7
comp=Z,18nm,0.3s
P25A **Willow Gulch B** 84.95 44 ⇑P P 20 07 01.3 +1.2
baz=85
T22A **Edith** 84.99 48 ⇓P P 20 07 02.1 +1.6
baz=85,SNR=7.3
N27A **Anderson Farm,** 85.00 43 ⇑P P 20 07 01.3 +1.0
baz=85
W20A **Ramah** 85.23 50 ⇓P P 20 07 03.0 +1.3
baz=85
R24A **Sanders Place,** 85.26 46 ⇑P P 20 07 03.0 +1.2
baz=85,SNR=5.4
Q25A **Bedland, Calha** 85.31 45 ⇑P P 20 07 02.8 +0.9
baz=85
V21A **Milan** 85.33 49 ⇓P P 20 07 03.6 +1.5
baz=85
SDCO **Great Sand Dun** 85.35 46 *eP* P 20 07 03.6 +1.2
comp=Z,7.4nm,1.3s
SDCO **Great Sand Dun** 85.35 46 ⇑P P 20 07 03.5 +1.2
baz=85,SNR=8.0
U22A **Llaves** 85.44 48 ⇑P P 20 07 04.0 +1.4
baz=85
VISS **Visnje** 85.48 325 *iP* P 20 07 02.3 -0.1
BOJS **Bojanci** 85.50 325 *iP* P 20 07 02.4 -0.1
S24A **Houchin Ranch,** 85.59 46 ⇓P P 20 07 05.0 +1.5
baz=85
JAVS **Javornik** 85.77 326 *iP* P 20 07 03.5 -0.4
R25A **Fountain Ranch** 85.80 45 ⇑P P 20 07 05.6 +1.3
baz=86
ABTA **Abfaltersbach** 85.84 327 ⇑*iP* P 20 07 04.1 -0.2
comp=Z,2.7nm,0.8s
RETA **Reutte** 86.04 328 ⇑*iP*cP P 20 07 05.6 +0.4
comp=Z,4.2nm,0.9s
T24A **Torres, Weston** 86.07 47 ⇑P P 20 07 07.4 +1.6
baz=86
MEH **Mehetia** 86.09 115 *e*T T 21 41 42.4
comp=Z,146nm,0.3s
Y20A **Horse Springs,** 86.09 51 ⇓P P 20 07 07.4 +1.4
baz=86
X21A **Alamocita Cree** 86.12 50 ⇑P P 20 07 07.7 +1.7
baz=86
KSCO **Kaye Shedlock'** 86.17 44 ⇓P P 20 07 07.6 +1.5
baz=86
R26A **Arlington** 86.19 45 ⇑P P 20 07 06.9 +0.7
baz=86,SNR=9.0
T25A **Trinidad** 86.40 46 ⇓P P 20 07 08.7 +1.3
baz=86
Z20A **Nine Sixteen R** 86.46 52 ⇑P P 20 07 09.6 +1.9
baz=86
Y21A **Point of Rocks** 86.47 50 ⇑P P 20 07 09.7 +1.9
baz=86
R27A **Eads** 86.57 45 ⇓P P 20 07 09.0 +0.9
baz=86
S26A **Kim** 86.63 45 ⇑P P 20 07 09.7 +1.3
baz=86
CDF **Champ du Feu** 86.76 331 *eP* P 20 07 08.6 -0.2
comp=Z,8.5nm,0.9s
CDF **Champ du Feu** 86.76 331 *eP* P 20 07 08.6 -0.2
CDF pmax pmax
comp=Z,9.0nm,0.9s
CDF **Champ du Feu** 86.76 331 *eP* P 20 07 08.6 -0.2
comp=Z,8.5nm,0.9s
T26A **Comanche Natio** 86.86 46 ⇑P P 20 07 11.0 +1.4
baz=87
U25A **Circle Dot Ran** 86.90 47 ⇓P P 20 07 11.8 +1.9
baz=87
W24A **Lazy 6 Ranch,** 87.09 48 ⇓P P 20 07 12.5 +1.7
baz=87
V25A **Rancho No Teng** 87.15 47 ⇑P P 20 07 12.6 +1.6
baz=87,SNR=7.0
PAGF **Fort de Pagny** 87.26 332 *eP* P 20 07 11.2 +0.1
comp=Z,6.3nm,1.0s
PAGF **Fort de Pagny** 87.26 332 *eP* P 20 07 11.2 +0.1
comp=Z,6.3nm,1.0s
HINF **Hinteralfeld** 87.41 331 *eP* P 20 07 11.2 -0.7
HINF **Hinteralfeld** 87.41 331 *eP* P 20 07 11.2 -0.7
HINF **Hinteralfeld** 87.41 331 *eP* P 20 07 11.2 -0.7
SCHQ **Schefferville** 87.43 15 P P 20 07 12.1 +0.3
SCHQ **Schefferville** 87.43 15 P P 20 07 12.1 +0.3
comp=Z,5.6nm,0.8s,baz=350,slow=6.5,SNR=8.6
Y23A **Lovelace Mesa,** 87.54 50 ⇑P P 20 07 14.9 +1.9
baz=87
SFTF **Sexfontaines** 87.81 332 *eP* P 20 07 13.7 0.0
comp=Z,12nm,0.8s
SFTF **Sexfontaines** 87.81 332 *eP* P 20 07 13.7 0.0
comp=Z,12nm,0.8s
Y25A **Mesa, Roswell** 88.39 49 ⇓P P 20 07 18.9 +2.0
baz=88
TBI **Tubuai** 88.51 120 *e*T T 21 44 47.3
comp=Z,12nm,0.3s
W27A **Bowe Ranch, En** 88.61 47 ⇑P P 20 07 19.7 +1.7
baz=88
CABF **La Chapelle** 88.69 330 *eP* P 20 07 17.6 -0.4
comp=Z,8.9nm,0.9s
CABF **La Chapelle** 88.69 330 *eP* P 20 07 17.6 -0.4
CABF pmax pmax
comp=Z,9.0nm,0.9s
CABF **La Chapelle** 88.69 330 *eP* P 20 07 17.6 -0.4
comp=Z,8.9nm,0.9s
AQU **L'Aquila** 88.74 324 ⇓*iP* P 20 07 19.7 +1.4
224A **Cornudas Mount** 89.10 51 ⇑P P 20 07 21.7 +1.3
baz=89
LPL **La Plagne** 89.31 329 *eP* P 20 07 20.9 -0.2
LPL **La Plagne** 89.31 329 *eP* P 20 07 20.9 -0.2
LPL **La Plagne** 89.31 329 *eP* P 20 07 20.9 -0.2
LPG **La Plagne** 89.31 329 *eP* P 20 07 21.2 0.0
comp=Z,4.3nm,0.7s
LPG **La Plagne** 89.31 329 *eP* P 20 07 21.2 0.0
LPG pmax pmax
comp=Z,4.0nm,0.7s
LPG **La Plagne** 89.31 329 *eP* P 20 07 21.2 0.0
comp=Z,4.3nm,0.7s
Y27A **Causey** 89.35 48 ⇓P P 20 07 22.6 +1.2
baz=89
324A **Moseley Ranch,** 89.55 51 ⇑P P 20 07 23.4 +1.0
baz=89
Z27A **Tatum** 89.71 48 ⇓P P 20 07 24.4 +1.3
baz=90
GRR **Gorron** 89.82 335 *eP* P 20 07 23.0 -0.1

	comp=Z,21nm,1.1s							
GRR	**Gorron**	**89.82**	**335**	*e*P		**P**	**20 07 23.0**	**-0.1**
GRR				pmax		pmax		
	comp=Z,21nm,1.1s							
GRR	**Gorron**	**89.82**	**335**	*e*P		**P**	**20 07 23.0**	**-0.1**
	comp=Z,21nm,1.1s							
MBDF	**Montbardon**	**89.92**	**329**	*e*P		**P**	**20 07 23.9**	**0.0**
	comp=Z,4.5nm,0.8s							
MBDF	**Montbardon**	**89.92**	**329**	*e*P		**P**	**20 07 23.9**	**0.0**
MBDF				pmax		pmax		
	comp=Z,5.0nm,0.8s							
MBDF	**Montbardon**	**89.92**	**329**	*e*P		**P**	**20 07 23.9**	**0.0**
	comp=Z,4.5nm,0.8s							
SBF	**Sospel**	**90.33**	**328**	*e*P		**P**	**20 07 25.7**	**0.0**
	comp=Z,12nm,0.7s							
SBF	**Sospel**	**90.33**	**328**	*e*P		**P**	**20 07 25.7**	**0.0**
SBF				pmax		pmax		
	comp=Z,13nm,0.7s							
SBF	**Sospel**	**90.33**	**328**	*e*P		**P**	**20 07 25.7**	**0.0**
	comp=Z,12nm,0.7s							
SGMF	**Saint Gilles**	**90.51**	**336**	*e*P		**P**	**20 07 26.5**	**+0.1**
SGMF	**Saint Gilles**	**90.51**	**336**	*e*P		**P**	**20 07 26.5**	**+0.1**
SGMF	**Saint Gilles**	**90.51**	**336**	*e*P		**P**	**20 07 26.5**	**+0.1**
Z29A	**Hungry Hill Ra**	**90.66**	**48**	⇓P		**P**	**20 07 29.1**	**+1.6**
	baz=90							
ROSF	**Rostrenen**	**90.67**	**337**	*e*P		**P**	**20 07 27.4**	**+0.3**
	comp=Z,28nm,1.2s							
ROSF	**Rostrenen**	**90.67**	**337**	*e*P		**P**	**20 07 27.4**	**+0.3**
ROSF				pmax		pmax		
	comp=Z,28nm,1.2s							
ROSF	**Rostrenen**	**90.67**	**337**	*e*P		**P**	**20 07 27.4**	**+0.3**
	comp=Z,28nm,1.2s							
VIVF	**Saint-Julien-l**	**90.69**	**330**	*e*P		**P**	**20 07 27.2**	**-0.2**
	comp=Z,12nm,1.0s							
VIVF	**Saint-Julien-l**	**90.69**	**330**	*e*P		**P**	**20 07 27.2**	**-0.2**
VIVF				pmax		pmax		
	comp=Z,12nm,1.0s							
VIVF	**Saint-Julien-l**	**90.69**	**330**	*e*P		**P**	**20 07 27.2**	**-0.2**
	comp=Z,12nm,1.0s							
MFF	**Saint Martin d**	**91.09**	**334**	*e*P		**P**	**20 07 29.4**	**+0.3**
	comp=Z,12nm,0.9s							
MFF	**Saint Martin d**	**91.09**	**334**	*e*P		**P**	**20 07 29.4**	**+0.3**
MFF				pmax		pmax		
	comp=Z,12nm,0.9s							
MFF	**Saint Martin d**	**91.09**	**334**	*e*P		**P**	**20 07 29.4**	**+0.3**
	comp=Z,12nm,0.9s							
LMR	**La Mourre**	**91.16**	**328**	*e*P		**P**	**20 07 29.0**	**-0.5**
LMR	**La Mourre**	**91.16**	**328**	*e*P		**P**	**20 07 29.0**	**-0.5**
LMR	**La Mourre**	**91.16**	**328**	*e*P		**P**	**20 07 29.0**	**-0.5**
526A	**Mary Lane Ranc**	**91.36**	**51**	⇓P		**P**	**20 07 32.7**	**+1.8**
	baz=91							
RJF	**Les Rejaudoux**	**91.57**	**332**	*e*P		**P**	**20 07 31.7**	**+0.3**
	comp=Z,11nm,0.9s							
RJF				*e*R				
	comp=Z,147nm,18.5s							
RJF	**Les Rejaudoux**	**91.57**	**332**	*e*P		**P**	**20 07 31.7**	**+0.3**
RJF				pmax		pmax		
	comp=Z,11nm,0.9s							
RJF	**Les Rejaudoux**	**91.57**	**332**	*e*P		**P**	**20 07 31.7**	**+0.3**
	comp=Z,11nm,0.9s							
LASF	**Ste Croix**	**91.67**	**330**	*e*P		**P**	**20 07 32.0**	**+0.1**
	comp=Z,14nm,1.0s							
LASF	**Ste Croix**	**91.67**	**330**	*e*P		**P**	**20 07 32.0**	**+0.1**
	comp=Z,14nm,1.0s							
CAF	**Calviac**	**91.68**	**332**	*e*P		**P**	**20 07 32.6**	**+0.7**
CAF	**Calviac**	**91.68**	**332**	*e*P		**P**	**20 07 32.6**	**+0.7**
CAF	**Calviac**	**91.68**	**332**	*e*P		**P**	**20 07 32.6**	**+0.7**
428A	**Kincaid Ranch,**	**91.80**	**50**	⇓P		**P**	**20 07 35.0**	**+2.1**
	baz=92							
528A	**Cox Ranch, San**	**92.12**	**50**	⇑P		**P**	**20 07 35.9**	**+1.5**
	baz=92							
TXAR	**Lajitas Array**	**92.12**	**52**	P		**P**	**20 07 34.8**	**+0.5**
TXAR	**Lajitas Array**	**92.12**	**52**	P		**P**	**20 07 34.8**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=264,slow=3.4,SNR=7.8							
LFF	**La Frestale**	**92.17**	**332**	*e*P		**P**	**20 07 34.7**	**+0.5**
	comp=Z,8.3nm,0.6s							
LFF	**La Frestale**	**92.17**	**332**	*e*P		**P**	**20 07 34.7**	**+0.5**
LFF				pmax		pmax		
	comp=Z,8.0nm,0.6s							
LFF	**La Frestale**	**92.17**	**332**	*e*P		**P**	**20 07 34.7**	**+0.5**
	comp=Z,8.3nm,0.6s							
EPF	**Esparros**	**93.94**	**332**	*e*P		**P**	**20 07 42.7**	**+0.3**
EPF	**Esparros**	**93.94**	**332**	*e*P		**P**	**20 07 42.7**	**+0.3**
EPF	**Esparros**	**93.94**	**332**	*e*P		**P**	**20 07 42.7**	**+0.3**
KEST	**Kesra**	**95.84**	**322**	LR		LR	20 56 10.3	
	comp=Z,45nm,20.3s,baz=269,slow=39							
TORD	**Torodi Ar. Bea**	**117.86**	**313**	PKP		**PKPdf**	**20 13 11.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**117.86**	**313**	PKP		**PKPdf**	**20 13 11.1**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=30,slow=1.8,SNR=5.4							
DBIC	**Dimbokro**	**126.88**	**314**	PKP		**PKPdf**	**20 13 29.6**	**+0.7**
DBIC	**Dimbokro**	**126.88**	**314**	PKP		**PKPdf**	**20 13 29.6**	**+0.7**
	comp=Z,3.6nm,1.0s,baz=45,slow=1.4,SNR=3.6							
SDV	**Santo Domingo**	**127.45**	**39**	*e*PKPdf		**PKPdf**	**20 13 30.8**	**+0.5**
SAML	**Samuel**	**146.33**	**45**	*e*PKPdf		**PKPbc**	**20 14 05.9**	**+0.1**
LPAZ	**La Paz**	**148.56**	**61**	PKPbc		**PKPbc**	**20 14 11.3**	**-1.4**
LPAZ	**La Paz**	**148.56**	**61**	PKPbc		**PKPbc**	**20 14 11.3**	**-1.4**
	comp=Z,4.8nm,0.8s,baz=14,slow=4.2,SNR=20							
LVC	**Limon Verde**	**151.81**	**71**	*e*PKPbc		**PKPbc**	**20 14 21.6**	**+1.7**

IDC 16 20:02:54.9±3.3, 11°.14N×92°.06E, h0km, mb3.2/4, mb1 3.5/4, mb1mx3.3/23, mbtmp3.2/4, Error ellipse: s-maj=127.9km s-min=23.2km az=66.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**36.48**	**349**	P	P	20 10 02.1	+0.3
	0.2nm,0.6s,baz=168,slow=8.5,SNR=3.5						
SONM	**Songino Array**	**38.51**	**16**	P	P	20 10 18.5	-0.6
	0.2nm,0.7s,baz=188,slow=8.7,SNR=2.3						
WRA	**Warramunga Arr**	**51.83**	**126**	P	P	20 12 05.1	-0.1
	0.3nm,0.3s,baz=300,slow=10.0,SNR=15						
ASAR	**Alice Springs**	**53.58**	**131**	P	P	20 12 18.1	0.0
	0.3nm,0.6s,baz=302,slow=6.9,SNR=9.3						

IDC 16 20:10:59.3±2.1, 3°.76N×126°.28E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, Error ellipse: s-maj=209.4km s-min=27.1km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.85**	**162**	P	P	20 16 23.0	-0.8
	0.5nm,0.7s,baz=341,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**38.32**	**159**	P	P	20 18 22.6	+0.7
	1.9nm,1.0s,baz=333,slow=9.0,SNR=3.5						
MKAR	**Makanchi Array**	**57.27**	**325**	P	P	20 20 48.8	-0.1
	0.1nm,0.4s,baz=116,slow=7.7,SNR=5.9						

IDC 16 20:35:22.2±1.2, 3°.59N×126°.52E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/20, mbtmp3.7/6, MS3.6/1, Ms1 3.6/1, ms1mx2.4/32, Error ellipse: s-maj=89.1km s-min=17.8km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.57**	**182**	P	P	20 40 13.4	-0.2
	1.7nm,0.7s,baz=12,slow=9.3,SNR=2.5						
WRA	**Warramunga Arr**	**24.61**	**162**	P	P	20 40 44.0	-0.5
	3.4nm,0.7s,baz=343,slow=10,SNR=21						
CBIJ	**Chichi jima**	**27.77**	**31**	LR	LR	20 51 04.7	
	comp=Z,110nm,19.1s,baz=216,slow=34						
ASAR	**Alice Springs**	**28.03**	**165**	P	P	20 41 16.1	+0.8
	0.4nm,0.4s,baz=352,slow=14,SNR=7.9						
STKA	**Stephens Creek**	**38.07**	**159**	P	P	20 42 42.5	-0.2
	1.5nm,0.5s,baz=339,slow=8.6,SNR=8.2						
SONM	**Songino Array**	**47.36**	**342**	P	P	20 43 58.8	+0.6
	0.3nm,0.7s,baz=157,slow=8.4,SNR=3.2						
MKAR	**Makanchi Array**	**57.55**	**325**	P	P	20 45 13.0	-0.7
	0.3nm,0.4s,baz=116,slow=7.5,SNR=11						

CASC 16 20:50:06.9±2.1, 8°.12N×83°.44W, h5km±17km, MD3.9, 2C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.59**	**27**	⇓*i*P	Pg	20 50 19.0	+0.7
ACR				*e*S	Sb	20 50 28.1	-0.4
BRU2	**Volcan**	**0.99**	**48**	*i* P	Pg	20 50 25.9	-0.3
BRU2				*e*S	Sg	20 50 39.8	+0.5
TBS2		**1.02**	**49**	*e*S	Sn	20 50 42.9	0.0
BUS	**Buena Vista**	**1.46**	**347**	⇑*e*P	Pn	20 50 33.2	-1.3
BUS				*e*S	Sn	20 50 50.4	-4.0
QCR	**Quepos**	**1.48**	**331**	⇓*e*P	Pn	20 50 32.6	-1.6
QCR				*e*S	Sn	20 50 53.6	-0.4
URSC	**Ursaca**	**1.73**	**349**	⇑*e*P	Pn	20 50 37.2	-0.7
URSC				*e*S	Sn	20 51 01.1	+0.4
SJS	**Escuela Geolog**	**1.91**	**341**	*e*S	Sb	20 51 06.0	-0.7
CGA2	**Cerro Gallo 2**	**2.14**	**332**	⇓*e*P	Pn	20 50 44.5	+1.0
BCIP	**Isla Barro Col**	**3.71**	**73**	*e*P	Pb	20 51 10.2	-2.7
PTP	**Ponta Puerca**	**20.03**	**58**	⇓*i*P	x	20 50 18.2	
PTP				*e*S	x	20 50 26.0	

ISCJB ***16*** *20:50:57.0±0.5, 43°.90N±0°.06×138°.65E±0°.07, h264km, mb3.5/5, Error ellipse: s-maj=9.2km s-min=5.9km az=34.2*
JMA ***16*** *20:50:58.1±0.3, 43°.96N×138°.73E, h265km, M3.0*
IDC ***16*** *20:50:60.0±3.3, 43°.78N×138°.20E, h271km±36km, mb3.2/5, mb1 3.2/7, mb1mx2.9/24, mbtmp3.0/7, Error ellipse: s-maj=54.4km s-min=31.1km az=45.0*

ISC 16 20:50:57.4±0.9, 43.89N±0°.07×138.77E±0°.07, h264km, n22, σ1§57/28, mb3.7/5, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSH	**Shimam**	**1.56**	**143**	P	Pn	**20 51 38.8**	**+1.3**
JOSM	**Okushiri--Mats**	**1.88**	**164**	P	Pn	**20 51 41.9**	**+1.8**
JHR	**Hokuryu**	**2.14**	**93**	P	Pn	**20 51 43.6**	**+1.3**
JEW	**Eniwo**	**2.22**	**117**	P	Pn	**20 51 44.8**	**+1.8**
JKB	**Kayabe**	**2.60**	**140**	P	Pn	**20 51 48.0**	**+1.3**
JWK2	**Keihoku**	**2.65**	**56**	P	Pn	**20 51 48.3**	**+1.2**
JBT2	**Biratori 2**	**2.85**	**112**	P	Pn	**20 51 50.6**	**+1.4**
JBT2				*e*S	S	**20 52 32.6**	**+2.4**
JKK2	**Kamakawa 2**	**2.88**	**89**	P	Pn	**20 51 50.7**	**+1.2**
JOT	**Ohata**	**3.02**	**145**	P	Pn	**20 51 52.3**	**+1.3**
JNBK	**Urakawa-nobuka**	**3.33**	**118**	P	Pn	**20 51 55.4**	**+1.1**
JCH	**Churui**	**3.59**	**109**	P	Pn	**20 51 56.7**	**-0.5**
JCH				*e*S	S	**20 52 42.6**	**-2.1**
JAR	**Ashorobuto**	**3.68**	**98**	P	Pn	**20 51 59.3**	**+1.1**
JAR				*e*S	S	**20 52 46.7**	**+0.2**
JANG	**Nango**	**4.06**	**149**	P	Pn	**20 52 03.1**	**+0.4**
JANG				*e*S	S	**20 52 53.5**	**-1.1**
USRK	**Ussuriysk Arra**	**4.89**	**276**	P	Pn	**20 52 10.7**	**-1.5**
	0.3nm,0.3s,baz=86,slow=14,SNR=4.6						
NEM2	**Nemuro 2**	**5.09**	**94**	P	Pn	**20 52 15.0**	**+0.3**
NEM2				*e*S	S	**20 53 12.3**	**-4.1**
JMK	**Ichinoseki**	**5.27**	**159**	P	Pn	**20 52 17.7**	**+0.8**
JMK				*e*S	S	**20 53 19.2**	**-1.3**
MJAR	**Matsushiro Arr**	**7.35**	**184**	P	Pn	**20 52 43.9**	**+1.1**
	0.3nm,0.3s,baz=350,slow=14,SNR=3.4						
SONM	**Songino Array**	**22.79**	**291**	P	P	**20 55 36.4**	**-1.1**
	0.4nm,0.6s,baz=87,slow=8.3,SNR=4.6						
ZALV	**Zalesovo Beam**	**36.03**	**306**	P	P	**20 57 32.2**	**-1.3**
	0.9nm,0.3s,baz=91,slow=8.2,SNR=6.8						
MKAR	**Makanchi Array**	**39.08**	**295**	P	P	**20 57 58.5**	**-0.6**
	0.4nm,0.6s,baz=83,slow=9.9,SNR=10.0						
ARCES	**ARCESS Array B**	**56.89**	**337**	P	P	**21 00 15.6**	**+1.1**
	4.4nm,0.9s,baz=50,slow=8.1,SNR=3.5						
FINES	**FINESS Array B**	**61.84**	**330**	P	P	**21 00 49.8**	**+1.5**
	0.8nm,0.4s,baz=47,slow=8.4,SNR=8.6						

CASC 16 21:02:30.5±2.0, 13°.37N×89°.60W, h61km±9km, MD3.6, 5D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.46**	**357**	⇓*i*P	Pn	21 02 42.1	-0.4
BOQS	**Boqueron**	**0.47**	**41**	*e*P	Pn	21 02 42.3	-0.3
BOQS				*e*S	Sn	21 02 52.3	+1.0
SNET	**Serv Nac Est T**	**0.47**	**49**	*e*P	Pn	21 02 42.2	-0.2
SNET				*e*S	Sn	21 02 52.0	+1.0
SNJE	**San Jose**	**0.49**	**359**	⇓*i*P	Pn	21 02 42.3	-0.4
RTR	**El Retiro**	**0.52**	**355**	*e*P	Pn	21 02 42.5	-0.5
LFRS	**El Faro**	**0.58**	**65**	⇓*e*P	Pn	21 02 43.3	-0.2
LFRS				*e*S	Sn	21 02 53.7	+0.6
LBRS	**Las Brisas**	**0.65**	**56**	*e*P	Pn	21 02 43.9	-0.4
RBDL	**Robledal**	**0.74**	**353**	⇓*i*P	Pn	21 02 44.6	-0.9
SNVI	**San Vicente**	**0.78**	**72**	*e*P	Pn	21 02 45.6	-0.4
SNVI				*e*S	Sn	21 02 58.2	+0.9
MTO2	**Montecristo 2**	**1.05**	**13**	⇓*i*P	Pn	21 02 48.5	-1.0
MTO2				*e*S	Sn	21 03 02.5	-1.1
IXG	**Ixpaco**	**1.15**	**314**	*e*P	Pn	21 02 50.4	-0.4
IXG				*e*S	Sn	21 03 06.0	+0.1
VSM	**San Miguel**	**1.29**	**87**	*e*P	Pn	21 02 52.5	-0.2
VSM				*e*S	Sn	21 03 11.8	+2.4
BLLM	**Bellamira**	**1.33**	**87**	*e*P	Pn	21 02 52.9	0.0
CAHU	**Cacacuatique**	**1.41**	**74**	*e*P	Pn	21 02 53.5	-0.8
CAHU				*e*S	Sn	21 03 12.9	+0.9
NBG	**Las Nubes**	**1.41**	**329**	*e*P	Pn	21 02 55.2	+0.8
NBG				*e*S	Sn	21 03 14.4	+2.2
PCG	**Pacaya**	**1.41**	**316**	*e*P	Pn	21 02 54.0	-0.4
PCG				*e*S	Sn	21 03 13.3	+1.0
FUG	**Fuego 3**	**1.61**	**312**	*e*P	Pn	21 02 57.4	+0.4
FUG				*e*S	Sn	21 03 18.3	+1.3
MRL	**Marmol**	**1.68**	**357**	*e*P	Pn	21 02 58.5	+0.5
MRL				*e*S	Sn	21 03 20.4	+1.7
FG6		**1.72**	**314**	*e*P	Pn	21 02 59.6	+1.1
FG6				*e*S	Sn	21 03 22.0	+2.3
CNCH	**Conchagua**	**1.72**	**93**	*e*P	Pn	21 02 57.9	-0.5
TP2	**Tecpan 2**	**1.97**	**316**	*e*P	Pn	21 03 02.7	+0.7
TP2				*e*S	Sn	21 03 32.1	+6.1

ISCJB ***16*** *21:03:08.4±0.5, 55°.89N±0°.04×157°.64W±0°.06, h63km±4km, mb4.1/22, Error ellipse: s-maj=8.2km s-min=3.3km az=146.4*
NEIC ***16*** *21:03:10.8, 55°.86N×157°.64W, h47km, mb4.2/3, ML3.8(AEIC), After AEIC.*
IDC ***16*** *21:03:11.3±1.0, 56°.08N×157°.65W, h65km±6km, mb3.7/19, mb1 3.9/22, mb1mx3.8/30, mbtmp3.7/22, MS3.4/8, Ms1 3.4/8, ms1mx3.1/42, Error ellipse: s-maj=18.6km s-min=12.8km az=180.0*

ISC 16 21:03:10.1±0.7, 55.85N±0°.06×157.64W±0°.05, h62km±5km, n72, σ1§10/84, mb4.2/22, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNSG	**Veniaminof 6**	**0.86**	**290**	P	Pn	**21 03 25.3**	**-1.2**
VNSG				S	Sn	**21 03 36.1**	**-2.4**
VNHG	**Veniaminof 1**	**0.94**	**294**	P	Pn	**21 03 26.8**	**-0.7**
VNHG				S	Sn	**21 03 38.5**	**-1.7**
ANPK	**Aniakchak Peak**	**1.03**	**345**	P	Pn	**21 03 27.4**	**-1.4**
ANPK				S	Sn	**21 03 41.7**	**-0.8**
AZAC	**Aniakchak**	**1.10**	**343**	P	Pn	**21 03 28.7**	**-0.9**
VNFG	**Veniaminof 2**	**1.16**	**293**	P	Pn	**21 03 30.6**	**+0.3**
ANNW	**Aniakchak Nort**	**1.17**	**344**	P	Pn	**21 03 29.8**	**-0.7**
SDPT	**Sand Point**	**1.69**	**254**	P	Pn	**21 03 36.3**	**-1.0**
SDPT				S	Sn	**21 03 57.1**	**-0.7**
PVV	**Pavlof Volcano**	**2.40**	**260**	P	Pn	**21 03 46.6**	**-0.4**
PS4A	**Pavlof South-4**	**2.44**	**260**	P	Pn	**21 03 46.8**	**-0.8**
DOL	**Dolgoi Island**	**2.50**	**256**	P	Pn	**21 03 47.8**	**-0.6**
DTNA	**Dutton South F**	**2.71**	**257**	P	Pn	**21 03 50.2**	**-1.1**
KABR	**Katmai Barrier**	**2.72**	**31**	P	Pn	**21 03 50.5**	**-0.9**
DT1	**Dutton Round H**	**2.74**	**256**	P	Pn	**21 03 50.6**	**-1.1**
KABU	**Katmai Buttres**	**2.75**	**27**	P	Pn	**21 03 51.7**	**-0.1**
KCE	**Katmai Mt Cerb**	**2.75**	**28**	P	Pn	**21 03 51.7**	**-0.1**
DRIA	**Deer Island**	**2.78**	**253**	P	Pn	**21 03 51.5**	**-0.7**
KAKN	**Katmai Knife C**	**2.83**	**29**	P	Pn	**21 03 52.8**	**-0.1**
KAPH	**Katmai Pasha**	**3.29**	**32**	P	Pn	**21 03 58.9**	**-0.2**
KDAK	**Kodiak Island**	**3.39**	**53**	*e*Pn	Pn	**21 03 58.7**	**-1.8**
KDAK				*e*Sn	Sn	**21 04 39.6**	**+0.2**
KDAK	**Kodiak Island**	**3.39**	**53**	P	Pn	**21 03 58.3**	**-2.1**
	5.8nm,0.3s,baz=224,slow=6.3,SNR=82						
FALS	**False Pass**	**3.44**	**256**	P	Pn	**21 04 00.3**	**-0.8**
WESE	**West Dahl East**	**4.21**	**254**	P	Pn	**21 04 11.4**	**-0.4**
OPT	**Oil Point**	**4.49**	**30**	P	Pn	**21 04 15.0**	**-0.6**
AKUT	**Akutan**	**4.99**	**253**	*e*Pn	Pn	**21 04 22.0**	**-0.3**
AKUT				*e*Sn	Sn	**21 05 18.1**	**-0.4**
BRLK	**Bradley Lake**	**5.33**	**40**	P	Pn	**21 04 24.7**	**-2.3**
NCT	**North Crescent**	**5.34**	**26**	P	Pn	**21 04 27.2**	**-0.1**
DFR	**Drift River**	**5.43**	**27**	P	Pn	**21 04 28.6**	**+0.1**
UNV	**Unalaska Valle**	**5.50**	**252**	*e*Pn	Pn	**21 04 28.6**	**-0.7**
UNV				*e*Sn	Sn	**21 05 32.0**	**+1.0**
SLKM	**Skilak Lake**	**6.10**	**37**	*e*Pn	Pn	**21 04 37.1**	**-0.5**
SUA	**Susitna One**	**6.68**	**30**	P	Pn	**21 04 44.4**	**-1.2**
SKT	**Skwentna**	**6.92**	**25**	P	Pn	**21 04 47.6**	**-1.1**
PMR	**Palmer**	**7.26**	**34**	*e*Pn	Pn	**21 04 53.4**	**0.0**
	14nm,0.9s						
TRF	**Thorofare Moun**	**8.48**	**23**	*e*Pn	Pn	**21 05 08.7**	**-1.6**
	6.3nm,0.4s						
TRF				*e*Sn	Sn	**21 06 44.3**	**-0.1**
BMRM	**Bremner River**	**8.55**	**48**	*e*Pn	Pn	**21 05 09.1**	**-1.9**
BMRM				*e*Sn	Sn	**21 06 40.5**	**-5.3**
MCK	**McKinley**	**9.04**	**25**	*e*Pn	Pn	**21 05 17.6**	**0.0**
	5.1nm,0.4s						
MCK				*e*Sn	Sn	**21 06 57.4**	**-0.4**
PAX	**Paxson**	**9.45**	**36**	*e*Pn	Pn	**21 05 23.3**	**0.0**
	9.7nm,0.8s						
PAX				*e*Sn	Sn	**21 07 08.1**	**+0.2**
MENT	**Mentasta**	**10.03**	**39**	*e*Pn	Pn	**21 05 31.3**	**+0.1**
COLA	**College**	**10.26**	**24**	*e*Pn	Pn	**21 05 33.7**	**-0.5**
	9.2nm,0.9s						
ILAR	**Eielson Array**	**10.40**	**26**	P	Pn	21 05 32.9	-3.4
	0.9nm,0.3s,baz=222,slow=14,SNR=36						
ILAR				S	Sn	21 07 22.6	-8.4
	0.2nm,0.3s,baz=219,slow=8.1,SNR=3.2						
ILAR				LR	LR	21 10 07.8	
	comp=Z,85nm,21.7s,baz=156,slow=41						
PNL	**Peninsula**	**10.46**	**61**	*e*Pn	Pn	**21 05 36.7**	**-0.4**
GAMB	**Gambell**	**10.62**	**324**	*e*Pn	Pn	**21 05 40.0**	**+0.8**
	14nm,0.7s						
TNA	**Tin City**	**10.95**	**337**	*e*Pn	Pn	**21 05 45.5**	**+1.8**
	7.6nm,0.7s						
TNA				*e*Sn	Sn	**21 07 44.6**	**+0.2**
INK	**Inuvik**	**16.67**	**32**	*e*Pn	Pn	**21 06 59.0**	**-0.2**
	6.5nm,0.5s						
INK	**Inuvik**	**16.67**	**32**	P	Pn	**21 06 58.4**	**-0.8**
	1.5nm,0.3s,baz=227,slow=12,SNR=30						
INK				LR	LR	21 14 19.9	
	comp=Z,82nm,19.4s,baz=222,slow=41						
BBB	**Bella Bella**	**17.66**	**90**	LR	LR	21 12 38.1	
	comp=Z,114nm,21.8s,baz=62,slow=32						
YKA	**Yellowknife Ar**	**22.66**	**55**	P	P	**21 08 04.8**	**-1.0**
	0.2nm,0.4s,baz=275,slow=10,SNR=9.8						
PETK	**Petropavlovsk-**	**25.75**	**283**	P	P	**21 08 33.9**	**-0.7**
	2.9nm,0.6s,baz=64,slow=10,SNR=2.9						
YBH	**Yreka Blue Hor**	**26.66**	**107**	LR	LR	21 16 21.5	
	comp=Z,165nm,20.5s,baz=336,slow=30						
NVAR	**Mina Array Bea**	**31.38**	**107**	P	P	**21 09 26.6**	**+1.6**
	0.4nm,0.4s,baz=304,slow=8.4,SNR=4.0						
PDAR	**Pinedale Array**	**33.26**	**93**	P	P	**21 09 43.0**	**+1.4**
	0.7nm,0.9s,baz=316,slow=4.1,SNR=4.6						
TXAR	**Lajitas Array**	**46.20**	**102**	P	P	**21 11 30.0**	**+1.2**
	0.7nm,0.6s,baz=286,slow=6.5,SNR=5.5						
TXAR				LR	LR	21 29 23.5	
	comp=Z,46nm,20.4s,baz=200,slow=34						
KSRS	**Korea Array**	**51.65**	**282**	P	P	**21 12 10.2**	**0.0**
	1.5nm,0.7s,baz=51,slow=7.3,SNR=3.8						
ARCES	**ARCESS Array B**	**54.90**	**359**	P	P	**21 12 33.2**	**-0.5**
	1.4nm,0.6s,baz=11,slow=6.8,SNR=12						
ARCES				pP	pP	**21 12 50.1**	**+0.2**
	2.1nm,0.8s,baz=28,slow=8.4,SNR=1.4						
BORG	**Borgarnes**	**55.18**	**21**	P	P	**21 12 36.7**	**+1.0**
	25nm,0.9s,baz=347,slow=4.7,SNR=3.4						
SONM	**Songino Array**	**55.20**	**305**	P	P	**21 12 36.3**	**0.0**
	4.2nm,0.7s,baz=44,slow=6.9,SNR=38						
SONM				sP	sP	**21 13 00.8**	**+1.3**
	1.3nm,0.9s,baz=45,slow=7.0,SNR=3.3						
SONM				LR	LR	21 37 52.6	
	comp=Z,57nm,19.5s,baz=178,slow=38						
ZAA0	**Zalesovo Array**	**59.21**	**322**	*e*P	P	**21 13 03.3**	**-1.0**
ZALV	**Zalesovo Beam**	**59.21**	**322**	P	P	**21 13 04.3**	**0.0**
	0.8nm,0.3s,baz=28,slow=6.0,SNR=7.1						
ZALV				LR	LR	21 39 04.4	
	comp=Z,44nm,18.3s,baz=74,slow=36						
FINES	**FINESS Array B**	**63.02**	**358**	P	P	**21 13 29.6**	**-0.2**
	1.0nm,0.4s,baz=0.6,slow=8.4,SNR=9.7						
NB2	**NORSAR Subarra**	**63.12**	**6**	P	P	**21 13 30.7**	**0.0**
	comp=Z,1.8nm,0.7s,baz=354,slow=6.9						
NOA	**NORSAR Array B**	**63.12**	**6**	P	P	**21 13 30.1**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=354,slow=6.8,SNR=6.2						
HFS	**Hagfors**	**64.16**	**5**	P	P	**21 13 36.9**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=34,slow=5.6,SNR=9.1				

s-maj=44.4km s-min=39.5km az=7.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.85**	**243**	P	P	21 16 59.7	-0.2
	2.1nm,0.9s,baz=108,slow=6.4,SNR=3.2						
WRA	**Warramunga Arr**	**46.30**	**260**	P	P	21 17 52.2	-0.1
	0.5nm,0.3s,baz=96,slow=7.7,SNR=29						
ASAR	**Alice Springs**	**46.35**	**255**	P	P	21 17 52.7	0.0
	1.2nm,0.6s,baz=88,slow=8.4,SNR=15						
QSPA	**South Pole Qui**	**71.27**	**180**	P	P	21 20 45.5	-0.1
	1.8nm,0.7s,baz=51,slow=1.6,SNR=9.6						
BRTR	**Keskin Array B**	**146.72**	**315**	PKPbc	PKPdf	21 29 07.0	-0.1
	0.3nm,0.5s,baz=79,slow=3.1,SNR=4.4						
GERES	**GERESS Array B**	**148.91**	**347**	PKPbc	PKPbc	21 29 14.4	+0.2
	0.5nm,0.8s,baz=25,slow=3.5,SNR=4.5						

IDC 16 21:12:19.3±1.9, 3.82N×126.53E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, MS3.6/1, Ms1 3.6/1, ms1mx2.7/28, Error ellipse: s-maj=163.6km s-min=23.6km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.83**	**162**	P	P	21 17 43.6	+0.1
	2.1nm,0.9s,baz=343,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.25**	**166**	P	P	21 18 13.4	-0.9
	0.2nm,0.3s,baz=347,slow=12,SNR=3.2						
HNR	**Honiara**	**35.81**	**112**	LR	LR	21 34 24.4	
	comp=Z,87nm,18.2s,baz=173,slow=37						
STKA	**Stephens Creek**	**38.29**	**159**	P	P	21 19 42.2	+0.6
	1.6nm,0.7s,baz=336,slow=8.3,SNR=3.8						
MKAR	**Makanchi Array**	**57.37**	**325**	P	P	21 22 09.4	-0.1
	0.2nm,0.5s,baz=120,slow=7.3,SNR=8.4						

IDC 16 21:17:19.5±2.1, 3.81N×126.63E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/19, mbtmp3.4/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/23, Error ellipse: s-maj=185.1km s-min=28.0km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.40**	**342**	LR	LR	21 19 52.1	
	comp=Z,137nm,18.4s,baz=161,slow=45						
WRA	**Warramunga Arr**	**24.79**	**162**	P	P	21 22 43.3	-0.1
	0.4nm,0.6s,baz=342,slow=10.0,SNR=6.4						
STKA	**Stephens Creek**	**38.24**	**159**	P	P	21 24 41.4	-0.1
	0.8nm,0.7s,baz=318,slow=14,SNR=2.3						
MKAR	**Makanchi Array**	**57.43**	**325**	P	P	21 27 10.1	-0.1
	0.1nm,0.4s,baz=114,slow=7.3,SNR=4.0						

IDC 16 21:27:11.2±2.0, 0.27N×126.66E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/17, mbtmp3.2/3, Error ellipse: s-maj=177.1km s-min=26.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.45**	**160**	P	P	21 32 02.5	+1.2
	0.4nm,0.4s,baz=339,slow=10,SNR=9.7						
ASAR	**Alice Springs**	**24.81**	**164**	P	P	21 32 34.2	-1.0
	0.3nm,0.5s,baz=347,slow=7.6,SNR=5.6						
MKAR	**Makanchi Array**	**60.36**	**326**	P	P	21 37 22.2	+0.1
	0.2nm,0.5s,baz=120,slow=8.1,SNR=5.8						

*IDC **16** 21:32:29.2±4.7, 2.72S×139.89E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.3/14, mbtmp3.2/3, ML3.6/1, Error ellipse: s-maj=179.9km s-min=30.9km az=89.0*
*ISCJB **16** 21:32:35.8±0.9, 2.9S±0.1×139.33E±0.08, h46km, mb3.2/2, Error ellipse: s-maj=15.3km s-min=10.6km az=159.2*
*DJA **16** 21:32:36.9±0.5, 3°S±6°×13°9E±°, h10km, M3.8/3, MLv3.8/3*

ISC 16 21:32:37.1±1.1, 2.8S±0.1×139.33E±0.08, h46km, n6, σ0§97/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**1.04**	**324**	P	**Pn**	**21 32 55.1**	**-0.2**
WAMI	**Wamena**	**1.21**	**211**	P	Pn	21 33 04.3	+6.7
JAY	**Jayapura**	**1.41**	**77**	P	**Pn**	**21 33 00.6**	**+0.2**
JAY				S	**Sn**	**21 33 17.1**	**-0.7**
WRA	**Warramunga Arr**	**17.69**	**196**	P	**Pn**	**21 36 39.1**	**-1.1**
	0.2nm,0.3s,baz=18,slow=12,SNR=12						
ASAR	**Alice Springs**	**21.36**	**194**	P	**P**	**21 37 21.6**	**+0.8**
	0.7nm,0.6s,baz=23,slow=9.6,SNR=6.4						
MKAR	**Makanchi Array**	**70.27**	**322**	P	**P**	**21 43 46.2**	**+0.6**
	0.2nm,0.6s,baz=114,slow=8.0,SNR=3.7						

NNC 16 21:33:32.2±10.0, 37.39N×70.18E, h0km, mb3.6, mpv3.4, 3C-1D, Error ellipse: s-maj=125.4km s-min=83.6km az=83.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.71**	**2**	⇑Pn	Pn	21 35 02.0	+3.7
	1.9nm,0.4s,baz=180,slow=13,SNR=33						
KK31				⇑Sn	Sn	21 36 11.0	+6.3
	1.8nm,0.5s,baz=187,slow=26,SNR=12						
TKM2	**Tokmak 2**	**6.91**	**35**	⇓Pn	Pn	21 35 11.3	-3.7
	1.4nm,0.6s						
AB31	**Akbulak array**	**13.99**	**331**	⇑Pn	Pn	21 36 50.8	-0.8
	0.2nm,0.3s,baz=150,slow=12,SNR=14						

*ISCJB **16** 21:39:10.0±0.4, 51.18N±0.07×155.80E±0.09, h179km±4km, mb3.6/11, Error ellipse: s-maj=13.1km s-min=6.3km az=144.3*
*MOS **16** 21:39:10.1±1.4, 51.31N×155.62E, h179km, mb4.0/3, Error ellipse: s-maj=20.3km s-min=9.7km az=58.8*
*KRSC **16** 21:39:10.7±0.4, 51.11N×156.44E, h200km±50km, ML4.3*
*IDC **16** 21:39:12.5±1.4, 51.33N×155.57E, h185km±14km, mb3.4/11, mb1 3.6/16, mb1mx3.4/27, mbtmp3.4/16, MS3.5/1, Ms1 3.6/1, ms1mx2.5/33, Error ellipse: s-maj=19.2km s-min=10.0km az=145.0*

ISC 16 21:39:10.8±0.7, 51.13N±0.08×155.92E±0.07, h175km±6km, n49, σ1§20/59, mb3.7/15, 1D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.46**	**164**	⇓*i*PN	**Pn**	**21 39 34.5**	**-0.3**
SKR				*i* S	**Sn**	**21 39 53.0**	**-0.3**
SKR				pmax	pmax		
	comp=N,1μm,0.5s						
SKR				pmax	pmax		
	comp=E,230nm,0.5s						
SKR				pmax	pmax		
	comp=Z,410nm,0.5s						
SKR				smax	smax		
	comp=N,850nm,0.5s						
SKR				smax	smax		
	comp=E,460nm,0.5s						
SKR				smax	smax		
	comp=Z,150nm,0.5s						
ASAK	**Asacha**	**1.76**	**44**	*e*P	**Pn**	**21 39 46.6**	**+1.6**
MTVR	**Mutnovka**	**1.95**	**45**	*e*P	**Pn**	**21 39 48.8**	**+1.7**
MTVR				*e*S	**Sn**	**21 40 16.3**	**+1.0**
APC	**Apacha**	**1.95**	**23**	*e*P	**Pn**	**21 39 48.3**	**+1.4**
APC				*e*S	**Sn**	**21 40 16.6**	**+1.5**
RUS	**Russkaya**	**2.07**	**50**	*e*S	**Sn**	**21 40 16.7**	**-0.6**
PETK	**Petropavlovsk-**	**2.27**	**28**	PN	**Pn**	**21 39 52.0**	**+1.6**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK	**Petropavlovsk-**	**2.27**	**28**	P	**Pn**	**21 39 52.0**	**+1.6**
	comp=Z,1.7nm,0.3s,baz=189,slow=12,SNR=36						
PET	**Petropavlovsk**	**2.54**	**41**	PN	**Pn**	**21 39 53.4**	**-0.1**
PET				S	**Sn**	**21 40 25.4**	**-1.5**
PET	**Petropavlovsk**	**2.54**	**41**	P	**Pn**	**21 39 53.4**	**-0.1**
PET				S	**Sn**	**21 40 25.4**	**-1.5**
SMAR	**Somma**	**2.78**	**39**	*e*P	**Pn**	**21 39 57.2**	**+0.6**
SMAR				*e*S	**Sn**	**21 40 30.0**	**-2.4**
SPN	**Mys Shipunski**	**3.21**	**50**	PN	**Pn**	**21 40 02.2**	**+0.6**
SPN				S	**Sn**	**21 40 39.0**	**-2.4**
SPN	**Mys Shipunski**	**3.21**	**50**	*e*P	**Pn**	**21 40 02.2**	**+0.6**
SPN				*e*S	**Sn**	**21 40 39.0**	**-2.4**
MKZ	**Mys Kozlova**	**4.92**	**43**	PN	**Pn**	**21 40 23.3**	**-0.1**
MKZ	**Mys Kozlova**	**4.92**	**43**	*e*P	**Pn**	**21 40 23.3**	**-0.1**
MKZ				*e*S	Sn	21 41 14.4	-6.0
KMNR	**Kamenistaya**	**5.30**	**27**	*e*P	**Pn**	**21 40 29.7**	**+1.1**
KBTR	**Krutoberegovo**	**6.53**	**36**	PN	**Pn**	**21 40 46.3**	**+1.7**
KBTR	**Krutoberegovo**	**6.53**	**36**	*e*P	**Pn**	**21 40 46.3**	**+1.7**
BKI	**Bering**	**7.29**	**52**	PN	**Pn**	**21 40 53.7**	**-0.8**
BKI	**Bering**	**7.29**	**52**	*e*P	**Pn**	**21 40 53.7**	**-0.8**
BKI				*e*S	Sn	21 42 08.3	-8.1
FX1	**Attu Island--F**	**10.78**	**74**	P	Pn	21 41 44.1	+3.8
	comp=Z,1.0nm,0.3s,baz=290,slow=18,SNR=2.8						
FX1				S	**Sn**	**21 43 39.5**	**-0.4**
	comp=Z,5.6nm,0.3s,baz=355,slow=23,SNR=12						
ASAJ	**Asahikawa**	**11.39**	**237**	P	**Pn**	**21 41 49.9**	**+1.5**
	comp=Z,1.5nm,0.3s,baz=63,slow=9.8,SNR=5.7						
USRK	**Ussuriysk Array**	**17.49**	**256**	P	**P**	**21 43 01.4**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=73,slow=12,SNR=5.7						
YAK	**Yakutsk**	**17.96**	**317**	*e*P	**P**	**21 43 05.8**	**-1.7**
YAK				pmax	pmax		
	comp=E,13nm,1.0s						
YAK				pmax	pmax		
	comp=Z,40nm,1.0s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
MJAR	**Matsushiro Arr**	**19.31**	**228**	P	**P**	**21 43 22.9**	**+0.5**
	comp=N,1.0nm,0.3s,baz=323,slow=18,SNR=12						
SONM	**Songino Array**	**31.86**	**284**	P	**P**	**21 45 18.9**	**-0.2**
	comp=N,0.4nm,0.7s,baz=60,slow=8.5,SNR=3.6						
ILAR	**Eielson Array**	**32.02**	**43**	P	**P**	**21 45 20.6**	**+0.4**
	comp=N,1.2nm,0.6s,baz=262,slow=6.3,SNR=20						
ILAR				LR	LR	21 58 02.3	
	comp=N,71nm,18.7s,baz=121,slow=35						
ZAK	**Zakamensk**	**32.72**	**290**	*e*P	**P**	**21 45 26.7**	**+0.1**
ZALV	**Zalesovo Beam**	**41.67**	**303**	PcP	**PcP**	**21 48 34.3**	**-0.5**
	comp=N,0.3nm,0.3s,baz=46,slow=4.3,SNR=4.1						
YKA	**Yellowknife Ar**	**46.34**	**40**	P	**P**	**21 47 19.6**	**+1.0**
	comp=N,1.0nm,0.7s,baz=300,slow=7.8,SNR=21						
YKA				PcP	**PcP**	**21 48 51.1**	**+0.5**
	comp=N,0.3nm,0.7s,baz=307,slow=3.9,SNR=5.6						
MKAR	**Makanchi Array**	**46.67**	**295**	P	**P**	**21 47 19.9**	**-1.6**
MKAR	**Makanchi Array**	**46.67**	**295**	P	**P**	**21 47 19.9**	**-1.6**
	comp=N,0.4nm,0.3s,baz=66,slow=7.6,SNR=24						
ARCES	**ARCESS Array B**	**54.32**	**341**	P	**P**	**21 48 15.4**	**-3.1**
	comp=N,3.5nm,1.0s,baz=30,slow=7.9,SNR=5.5						
CMAR	**Chiang Mai Arr**	**55.23**	**256**	P	**P**	**21 48 25.3**	**-0.3**
	comp=N,0.6nm,0.4s,baz=29,slow=7.6,SNR=4.9						
CMAR				PcP	**PcP**	**21 49 24.9**	**+0.5**
	comp=N,0.6nm,0.6s,baz=2.8,slow=2.7,SNR=6.2						
TAPN	**Taplejung**	**55.74**	**272**	*e*P	**P**	**21 48 30.0**	**+0.4**
ODAN	**Odare**	**56.29**	**272**	*e*P	**P**	**21 48 33.0**	**-0.4**
JIRN	**Jiri**	**56.48**	**274**	*e*P	**P**	**21 48 35.7**	**+0.8**
GUN	**Gumba**	**56.50**	**274**	*e*P	**P**	**21 48 34.8**	**-0.2**
	comp=N,12nm,0.7s						
RAMN	**Ramite**	**56.72**	**273**	*e*P	**P**	**21 48 36.4**	**0.0**
KKN	**Kakani**	**56.96**	**274**	*e*P	**P**	**21 48 38.2**	**+0.1**
	comp=N,11nm,0.6s						
PKI	**Pulchoki**	**57.03**	**274**	*e*P	**P**	**21 48 38.5**	**-0.2**
DMN	**Daman**	**57.20**	**274**	*e*P	**P**	**21 48 40.1**	**+0.3**
	comp=N,14nm,0.8s						
GKN	**Gorkha**	**57.22**	**275**	*e*P	**P**	**21 48 39.8**	**0.0**
DANN	**Dangsing**	**57.52**	**276**	*e*P	**P**	**21 48 42.4**	**+0.3**
	comp=N,23nm,0.6s						
KOLN	**Koldanda**	**58.03**	**276**	*e*P	**P**	**21 48 45.7**	**+0.2**
PDAR	**Pinedale Array**	**60.74**	**57**	P	**P**	**21 49 05.6**	**+1.7**
	comp=N,0.9nm,0.9s,baz=327,slow=3.0,SNR=6.3						
SCHQ	**Scheffervill e**	**68.55**	**25**	P	**P**	**21 49 53.6**	**-0.4**
	comp=N,0.5nm,0.3s,baz=16,slow=12,SNR=6.8						
WRA	**Warramunga Arr**	**73.26**	**201**	P	**P**	**21 50 22.7**	**0.0**
	comp=N,0.9nm,0.7s,baz=18,slow=6.3,SNR=6.0						
TXAR	**Lajitas Array**	**73.80**	**63**	P	**P**	**21 50 27.8**	**+1.8**
	comp=N,0.6nm,0.6s,baz=309,slow=5.7,SNR=3.4						
ASAR	**Alice Springs**	**76.96**	**201**	P	**P**	**21 50 45.0**	**+1.3**
	comp=N,0.9nm,0.6s,baz=11,slow=5.0,SNR=12						

MAN 16 21:47:31, 9.90N×123.50E, h6km, mb3.9, ML2.7, MS2.4, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.41**	**120**	*e*P	Pb	21 47 39.9	-0.8
TBP				*e*S	Sg	21 47 45.0	+0.6
LLP	**Lapu-Lapu**	**0.62**	**48**	*e*P	Pb	21 47 44.0	-0.3
LLP				*e*S	Sb	21 47 53.9	+0.6
GUIM	**Jordan**	**1.15**	**309**	*e*P	Pb	21 47 53.4	+0.1
GUIM				*e*S	Sn	21 48 09.9	+0.1
DCPH	**Dipolog City**	**1.31**	**186**	*e*P	Sb	21 48 10.4	-2.8
MSLP	**Maasin**	**1.36**	**80**	*e*P	Pn	21 47 56.5	0.0
MSLP				*e*S	Sn	21 48 15.2	+0.3

IDC 16 21:55:14.3±2.8, 0.19S×132.93E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/17, mbtmp3.1/3, ML3.3/1, Error ellipse: s-maj=148.3km s-min=26.7km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.68**	**176**	P	P	21 59 44.7	-0.5
	0.1nm,0.3s,baz=355,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**23.36**	**178**	P	P	22 00 25.0	+0.4
	0.6nm,0.7s,baz=355,slow=10,SNR=5.9						
MKAR	**Makanchi Array**	**64.32**	**324**	P	P	22 05 51.8	0.0
	0.1nm,0.6s,baz=127,slow=6.9,SNR=2.6						

*NEIC **16** 21:58:18.9, 37.25S×176.87E, h241km, MG4.1(WEL), After WEL.*

WEL 16 21:58:19.0±0.4, 37.26S×176.89E, h242km±3km, ML4.1/17, 11C, Error ellipse: s-maj=3.9km s-min=3.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.64**	**204**	⇑PN	Pn	21 58 51.4	+0.1
OPRZ	**Ohinepanea**	**0.64**	**204**	Pn	Pn	21 58 51.4	+0.1
URZ	**Urewera**	**1.01**	**170**	⇑PN	Pn	21 58 52.8	-0.4
URZ				SN	S	21 59 19.3	-0.7
URZ	**Urewera**	**1.01**	**170**	Pn	Pn	21 58 52.8	-0.3
URZ				Sn	S	21 59 19.3	-0.7
TARZ	**Mount Tarawera**	**1.02**	**197**	PN	Pn	21 58 53.7	+0.4
TARZ	**Mount Tarawera**	**1.02**	**197**	Pn	Pn	21 58 53.9	+0.6
RRRZ	**Republican Roa**	**1.12**	**195**	⇑PN	Pn	21 58 53.8	0.0
RRRZ	**Republican Roa**	**1.12**	**195**	Pn	Pn	21 58 53.9	0.0
MXZ	**Matakaoa Point**	**1.17**	**105**	⇑PN	Pn	21 58 54.1	0.0
MXZ	**Matakaoa Point**	**1.17**	**105**	Pn	Pn	21 58 54.1	0.0
MWZ	**Matawai**	**1.19**	**155**	⇑PN	Pn	21 58 54.1	-0.2
MWZ				SN	S	21 59 22.1	0.0
MWZ	**Matawai**	**1.19**	**155**	Pn	Pn	21 58 54.1	-0.1
MWZ				Sn	S	21 59 22.1	0.0
PUZ	**Puketiti**	**1.36**	**127**	⇑PN	Pn	21 58 55.4	-0.1
PUZ				SN	S	21 59 23.9	-0.2
PUZ	**Puketiti**	**1.36**	**127**	Pn	Pn	21 58 55.4	-0.1
PUZ				Sn	S	21 59 23.9	-0.2
ALRZ	**Allen Road**	**1.37**	**198**	⇑PN	Pn	21 58 55.7	+0.2
ALRZ	**Allen Road**	**1.37**	**198**	Pn	Pn	21 58 55.7	+0.2
CNGZ	**Carnagh Statio**	**1.61**	**140**	⇑PN	Pn	21 58 57.8	+0.5
CNGZ	**Carnagh Statio**	**1.61**	**140**	Pn	Pn	21 58 57.8	+0.5
RAHZ	**Arahi**	**1.66**	**175**	⇑PN	Pn	21 58 57.9	+0.2
RAHZ	**Arahi**	**1.66**	**175**	Pn	Pn	21 58 57.9	+0.2
NMHZ	**Naumai**	**1.83**	**182**	PN	Pn	21 58 59.5	+0.1
NMHZ				SN	S	21 59 31.4	+0.3
NMHZ	**Naumai**	**1.83**	**182**	Pn	Pn	21 58 59.5	+0.1
PRGZ	**Paritu Road**	**1.84**	**155**	PN	Pn	21 58 59.0	-0.3
PRGZ	**Paritu Road**	**1.84**	**155**	Pn	Pn	21 58 59.0	-0.3
KNZ	**Kokohu**	**1.86**	**161**	⇑PN	Pn	21 58 59.1	-0.3
KNZ	**Kokohu**	**1.86**	**161**	Pn	Pn	21 58 59.1	-0.3
BKZ	**Black Stump Fm**	**1.93**	**189**	⇑PN	Pn	21 58 59.3	-0.9
BKZ	**Black Stump Fm**	**1.93**	**189**	Pn	Pn	21 58 59.3	-0.9
MHGZ	**Mahia Peninsul**	**2.05**	**157**	PN	Pn	21 59 01.1	-0.1
MHGZ	**Mahia Peninsul**	**2.05**	**157**	Pn	Pn	21 59 01.1	-0.1
OTVZ	**Oturere**	**2.13**	**206**	PN	Pn	21 59 01.7	-0.5
OTVZ	**Oturere**	**2.13**	**206**	Pn	Pn	21 59 01.7	-0.5
TWVZ	**Taurewa**	**2.14**	**212**	*e*PN	Pn	21 59 01.3	-0.9
TWVZ	**Taurewa**	**2.14**	**212**	Pn	Pn	21 59 01.4	-0.7
NGZ	**Ngauruhoe**	**2.16**	**207**	PN	Pn	21 59 02.0	-0.4
NGZ	**Ngauruhoe**	**2.16**	**207**	Pn	Pn	21 59 02.1	-0.3
MCHZ	**McNeill Hill**	**2.18**	**184**	PN	Pn	21 59 02.1	-0.3
MCHZ				SN	S	21 59 36.8	0.0
MCHZ	**McNeill Hill**	**2.18**	**184**	Pn	Pn	21 59 02.1	-0.3
TUVZ	**Tukino**	**2.23**	**205**	PN	Pn	21 59 02.1	-1.0
TUVZ	**Tukino**	**2.23**	**205**	Pn	Pn	21 59 02.3	-0.8
FWVZ	**Far West T-bar**	**2.25**	**207**	PN	Pn	21 59 02.7	-0.7
FWVZ	**Far West T-bar**	**2.25**	**207**	Pn	Pn	21 59 02.7	-0.7
TRVZ	**Turoa**	**2.29**	**207**	PN	Pn	21 59 02.8	-0.9
TRVZ	**Turoa**	**2.29**	**207**	Pn	Pn	21 59 03.0	-0.8
WNVZ	**Wahianoa**	**2.30**	**206**	PN	Pn	21 59 02.8	-1.0
WNVZ	**Wahianoa**	**2.30**	**206**	Pn	Pn	21 59 02.8	-1.0
BHHZ	**Black Hill Sta**	**2.31**	**196**	PN	Pn	21 59 02.7	-1.2
BHHZ	**Black Hill Sta**	**2.31**	**196**	Pn	Pn	21 59 02.7	-1.1
MOVZ	**Moawhango**	**2.32**	**202**	PN	Pn	21 59 02.6	-1.2
MOVZ	**Moawhango**	**2.32**	**202**	Pn	Pn	21 59 02.6	-1.2
MTVZ	**Mangateitei**	**2.39**	**207**	PN	Pn	21 59 03.6	-1.0
MTVZ	**Mangateitei**	**2.39**	**207**	Pn	Pn	21 59 03.6	-1.0
CKHZ	**Cape Kidnapper**	**2.40**	**176**	PN	Pn	21 59 04.1	-0.4
CKHZ	**Cape Kidnapper**	**2.40**	**176**	Pn	Pn	21 59 04.1	-0.4
KAHZ	**Kahuranaki**	**2.53**	**180**	PN	Pn	21 59 05.2	-0.7
KAHZ	**Kahuranaki**	**2.53**	**180**	Pn	Pn	21 59 05.2	-0.7
PNHZ	**Pukenui**	**2.70**	**191**	PN	Pn	21 59 05.9	-1.8
PNHZ	**Pukenui**	**2.70**	**191**	Pn	Pn	21 59 06.4	-1.3
PXZ	**Pawanui**	**2.77**	**180**	PN	Pn	21 59 06.7	-1.6
PXZ				SN	S	21 59 42.7	-4.6
PXZ	**Pawanui**	**2.77**	**180**	Pn	Pn	21 59 07.0	-1.3
PRHZ	**Porangahau**	**3.01**	**184**	*e*PN	Pn	21 59 09.2	-1.8
PRHZ	**Porangahau**	**3.01**	**184**	Pn	Pn	21 59 09.3	-1.7
DVHZ	**Dannevirke**	**3.08**	**190**	PN	Pn	21 59 10.2	-1.6
DVHZ	**Dannevirke**	**3.08**	**190**	Pn	Pn	21 59 10.2	-1.6
POWZ	**Post Office Ro**	**3.25**	**195**	*e*PN	Pn	21 59 12.2	-1.4
POWZ	**Post Office Ro**	**3.25**	**195**	Pn	Pn	21 59 12.3	-1.3
BFZ	**Birch Farm**	**3.45**	**188**	*e*PN	Pn	21 59 13.7	-2.2
BFZ	**Birch Farm**	**3.45**	**188**	Pn	Pn	21 59 13.9	-2.0
MRZ	**Mangatainoka R**	**3.54**	**196**	PN	Pn	21 59 14.0	-3.0
MRZ	**Mangatainoka R**	**3.54**	**196**	Pn	Pn	21 59 14.3	-2.7
TIWZ	**Tintock**	**3.59**	**192**	*e*PN	Pn	21 59 15.6	-2.1
TIWZ	**Tintock**	**3.59**	**192**	Pn	Pn	21 59 16.0	-1.7
HOWZ	**Holdsworth Sta**	**3.78**	**196**	PN	Pn	21 59 16.6	-3.2
HOWZ	**Holdsworth Sta**	**3.78**	**196**	Pn	Pn	21 59 16.9	-3.0
OGWZ	**Otaki Gorge**	**3.79**	**200**	PN	Pn	21 59 16.9	-3.0
OGWZ	**Otaki Gorge**	**3.79**	**200**	Pn	Pn	21 59 17.0	-2.9
KIW	**Kapiti Island**	**3.91**	**203**	PN	Pn	21 59 17.7	-3.5
KIW	**Kapiti Island**	**3.91**	**203**	Pn	Pn	21 59 18.0	-3.2
MTW	**Mount Morrison**	**4.04**	**195**	*e*PN	Pn	21 59 18.7	-4.1
MTW	**Mount Morrison**	**4.04**	**195**	Pn	Pn	21 59 19.2	-3.6
CAW	**Cannon Point**	**4.09**	**200**	*e*PN	Pn	21 59 20.2	-3.3
CAW	**Cannon Point**	**4.09**	**200**	Pn	Pn	21 59 20.1	-3.4
DUWZ	**D'Urville Isla**	**4.22**	**212**	*e*PN	Pn	21 59 21.6	-3.4
DUWZ				SN	S	22 00 13.9	-3.6
DUWZ	**D'Urville Isla**	**4.22**	**212**	Pn	Pn	21 59 21.9	-3.1
TRWZ	**Traveller**	**4.23**	**192**	SN	S	22 00 13.9	-3.7
MSWZ	**Moikau Station**	**4.34**	**196**	*e*PN	Pn	21 59 23.4	-2.9
MSWZ	**Moikau Station**	**4.34**	**196**	Pn	Pn	21 59 22.6	-3.7
SNZO	**South Karori**	**4.38**	**202**	*e*Pn	Pn	21 59 24.8	-2.0
TCW	**Tory Channel**	**4.43**	**206**	PN	Pn	21 59 24.0	-3.5
TCW	**Tory Channel**	**4.43**	**206**	Pn	Pn	21 59 24.0	-3.5
PLWZ	**Palliser**	**4.48**	**196**	PN	Pn	21 59 24.5	-3.7
PLWZ	**Palliser**	**4.48**	**196**	Pn	Pn	21 59 24.6	-3.6
TUWZ	**Tuamarina**	**4.75**	**208**	PN	Pn	21 59 27.7	-3.6
TUWZ	**Tuamarina**	**4.75**	**208**	Pn	Pn	21 59 27.9	-3.4
NNZ	**Nelson**	**4.80**	**213**	PN	Pn	21 59 28.1	-3.8
NNZ				SN	S	22 00 24.6	-5.3
NNZ	**Nelson**	**4.80**	**213**	Pn	Pn	21 59 28.2	-3.7
QRZ	**Quartz Range**	**4.92**	**222**	*e*PN	Pn	21 59 28.4	-5.0
QRZ	**Quartz Range**	**4.92**	**222**	Pn	Pn	21 59 28.7	-4.7
THZ	**Tophouse**	**5.45**	**213**	*e*PN	Pn	21 59 36.0	-4.0
THZ	**Tophouse**	**5.45**	**213**	Pn	Pn	21 59 36.9	-3.2
KHZ	**Kahutara**	**5.76**	**206**	PN	Pn	21 59 40.0	-3.8
KHZ	**Kahutara**	**5.76**	**206**	Pn	Pn	21 59 40.1	-3.6
DSZ	**Denniston Nort**	**5.96**	**220**	SN	S	22 00 47.4	-8.8
LTZ	**Lake Taylor**	**6.55**	**211**	*e*PN	Pn	21 59 49.2	-4.7
LTZ	**Lake Taylor**	**6.55**	**211**	Pn	Pn	21 59 49.2	-4.7
MQZ	**McQueen's Vall**	**7.20**	**205**	SN	S	22 01 15.2	-9.3
CAN	**Canberra**	**22.53**	**266**	*e*P	P	22 02 57.3	-1.3
TAU	**Tasmania Unive**	**23.24**	**247**	P	P	22 03 04.5	-0.3

**IDC 16 21:59:02.3±2.4, 0.19S×132.81E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/18, mb

CRVS	**Cervenica-Dubn**	**2.14**	**128**	*e*PN	**Pb**	**22**	**12 51.4 0.0**
CRVS				*e*SN	**Sb**	**22**	**13 17.9 -0.6**
CRVS	**Cervenica-Dubn**	**2.14**	**128**	*e*Pn	**Pb**	**22**	**12 51.4 0.0**
CRVS				*e*Sn	**Sb**	**22**	**13 17.9 -0.6**
KOLS	**Kolonicke sedl**	**2.55**	**120**	*e*PN	**Pb**	**22**	**12 58.5 +0.1**
KOLS				*e*SN	**Sn**	**22**	**13 26.6 +0.4**
KOLS	**Kolonicke sedl**	**2.55**	**120**	*e*Pn	**Pb**	**22**	**12 58.5 +0.1**
KOLS				*e*Sn	**Sn**	**22**	**13 26.6 +0.4**
PVCC	**Panska Ves**	**2.79**	**277**	*e*SG	**Sb**	**22**	**13 39.4 +2.1**
	comp=Z,6.6nm,0.4s						
PVCC	**Panska Ves**	**2.79**	**277**	Sg	**Sb**	**22**	**13 39.4 +2.1**
	6.6nm,0.4s						
PRU	**Pruhonice**	**2.83**	**266**	*e*SG	**Sb**	**22**	**13 39.9 +1.7**
	comp=Z,2.6nm,0.3s						
PRU	**Pruhonice**	**2.83**	**266**	Sg	**Sb**	**22**	**13 39.9 +1.7**
	2.6nm,0.3s						
BRG	**Berggiesshubel**	**3.23**	**283**	SG	**Sg**	**22**	**13 55.8 +0.3**
	2.0nm,0.3s						
KHC	**Kasperske Hory**	**3.64**	**254**	*e*SG	**Sb**	**22**	**14 05.0 +3.3**
	comp=Z,7.6nm,0.6s						
KHC	**Kasperske Hory**	**3.64**	**254**	Sg	**Sb**	**22**	**14 05.0 +3.3**
	7.6nm,0.6s						

IDC **16** *22:21:53.7±0.9, 3.77N×126.71E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.9/22, mbtmp3.9/10, MS2.9/2, Ms1 2.9/2, ms1mx2.6/34, Error ellipse: s-maj=66.7km s-min=11.9km az=67.0*
ISCJB **16** *22:21:57.8±0.5, 3.92N±0.05×126.9E±0.1, h45km, mb3.9/13, MS2.8/2, Error ellipse: s-maj=15.6km s-min=5.8km az=160.7*
NEIC **16** *22:21:59.0±0.5, 3.69N×126.56E, h35km, mb4.1/5, Error ellipse: s-maj=35.8km s-min=7.2km az=68.0*
DJA **16** *22:22:04.5±5.7, 3.7N±15×12.7E±, h21km, ϐ3km, M4.5/4, mb5.0/2, mB4.9/1, MLv4.2/4, Mw(mB)4.1/1*

ISC 16 22:22:00.2±0.7, **3.86N**±0.08×**126.8E**±0.1, **h45**km, **n43,** σ**1**º**21**/42, **mb3.9**/13, **1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**3.06**	**218**	P	**Pn**	**22 22 47.5**	**+1.4**
TNTI	**Ternate**	**3.13**	**169**	P	**Pn**	**22 22 47.7**	**+0.7**
TNTI				S	**Sn**	**22 23 22.5**	**-0.7**
CTBH	**Cotabato--PC H**	**4.17**	**323**	||*i*P	Pn	22 23 07.0	+5.7
LBMI	**Labuha**	**4.53**	**170**	P	**Pn**	**22 23 07.4**	**+1.1**
MRSI	**Marisa**	**5.86**	**235**	P	**Pn**	**22 23 26.8**	**+2.2**
	106nm,0.6s,955nm0.4nm						
SWI	**Sorong**	**6.51**	**136**	P	**Pn**	**22 23 36.0**	**+2.5**
APSI	**Ampana**	**6.96**	**227**	P	Pn	22 23 45.4	+5.8
FITZ	**Fitzroy Crossi**	**21.85**	**183**	*e*P	**P**	**22 26 46.3**	**-2.8**
	5.2nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.85**	**183**	P	**P**	**22 26 47.9**	**-1.2**
	3.2nm,0.8s,baz=4.7,slow=11,SNR=4.2						
WRAB	**Tennant Creek**	**24.80**	**163**	*e*P	**P**	**22 27 16.9**	**-1.2**
	13nm,1.0s						
WRA	**Warramunga Arr**	**24.80**	**163**	P	**P**	**22 27 17.3**	**-0.9**
WRA				S	**S**	**22 31 40.5**	**+2.6**
WRA	**Warramunga Arr**	**24.80**	**163**	P	**P**	**22 27 17.3**	**-0.9**
	4.7nm,0.6s,baz=341,slow=10,SNR=31						
WRA				S	**S**	**22 31 40.5**	**+2.6**
	0.8nm,0.8s,baz=333,slow=19,SNR=4.7						
PSI	**Prapat**	**27.79**	**269**	LR	LR	22 36 47.1	
	comp=Z,17nm,21.8s,baz=162,slow=32						
ASAR	**Alice Springs**	**28.23**	**166**	P	**P**	**22 27 48.0**	**-1.2**
ASAR	**Alice Springs**	**28.23**	**166**	P	**P**	**22 27 48.0**	**-1.2**
	0.2nm,0.4s,baz=356,slow=7.5,SNR=3.1						
CMAR	**Chiang Mai Arr**	**30.82**	**300**	P	**P**	**22 28 11.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**30.82**	**300**	P	**P**	**22 28 11.6**	**-0.5**
	0.5nm,0.4s,baz=98,slow=8.4,SNR=4.4						
MJAR	**Matsushiro Arr**	**34.20**	**17**	LR	LR	22 40 22.0	
	comp=Z,31nm,21.9s,baz=125,slow=32						
STKA	**Stephens Creek**	**38.24**	**159**	*e*P	**P**	**22 29 15.1**	**-0.9**
	0.5nm,0.7s						
STKA	**Stephens Creek**	**38.24**	**159**	P	**P**	**22 29 15.5**	**-0.5**
	1.5nm,0.4s,baz=346,slow=8.4,SNR=7.7						
TAPN	**Taplejung**	**43.95**	**306**	*e*P	**P**	**22 30 03.2**	**-0.3**
	2.6nm,0.5s						
ODAN	**Odare**	**44.01**	**305**	*e*P	**P**	**22 30 03.3**	**-0.6**
	6.0nm,0.7s						
RAMN	**Ramite**	**44.69**	**305**	*e*P	**P**	**22 30 09.2**	**-0.1**
	5.1nm,0.6s						
JIRN	**Jiri**	**45.31**	**306**	*e*P	**P**	**22 30 13.6**	**-0.8**
GUN	**Gumba**	**45.66**	**306**	*e*P	**P**	**22 30 16.8**	**-0.4**
	4.5nm,0.5s						
KKN	**Kakani**	**46.10**	**305**	*e*P	**P**	**22 30 19.7**	**-0.8**
	3.1nm,0.4s						
SONM	**Songino Array**	**47.18**	**341**	P	**P**	**22 30 29.7**	**+1.2**
SONM	**Songino Array**	**47.18**	**341**	P	**P**	**22 30 29.7**	**+1.2**
	0.6nm,0.6s,baz=160,slow=8.4,SNR=6.3						
KOLN	**Koldanda**	**47.46**	**305**	*e*P	**P**	**22 30 30.7**	**-0.4**
	7.5nm,0.5s						
DANN	**Dangsing**	**47.55**	**305**	*e*P	**P**	**22 30 31.3**	**-0.6**
	8.6nm,0.4s						
MK31	**Makanchi Array**	**57.46**	**325**	*e*P	**P**	**22 31 44.8**	**+0.1**
MKAR	**Makanchi Array**	**57.46**	**325**	P	**P**	**22 31 44.7**	**+0.1**
MKAR	**Makanchi Array**	**57.46**	**325**	P	**P**	**22 31 44.7**	**+0.1**
	1.3nm,0.4s,baz=120,slow=7.5,SNR=41						
ZALV	**Zalesovo Beam**	**60.48**	**333**	P	**P**	**22 32 04.2**	**-1.2**
ZALV	**Zalesovo Beam**	**60.48**	**333**	P	**P**	**22 32 04.2**	**-1.2**
	0.3nm,0.4s,baz=126,slow=7.3,SNR=2.9						
KURK	**Kurchatov**	**61.64**	**327**	*e*P	**P**	**22 32 13.2**	**-0.1**
	2.6nm,0.4s						
BVAR	**Borovoye Array**	**67.22**	**327**	P	**P**	**22 32 50.6**	**+0.8**
BVAR	**Borovoye Array**	**67.22**	**327**	P	**P**	**22 32 50.6**	**+0.8**
	0.7nm,0.5s,baz=133,slow=10,SNR=8.9						
ABKAR	**Akbulak array**	**72.06**	**321**	*e*P	**P**	**22 33 19.4**	**-0.2**
	0.9nm,0.5s						
AKTO	**Aktyubinsk**	**73.57**	**322**	P	**P**	**22 33 29.5**	**+0.9**
AKTO	**Aktyubinsk**	**73.57**	**322**	P	**P**	**22 33 29.5**	**+0.9**
	1.1nm,0.7s,baz=117,slow=9.0,SNR=5.3						
TORD	**Torodi Ar. Bea**	**122.89**	**288**	PKP	**PKPdf**	**22 40 52.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**122.89**	**288**	PKP	**PKPdf**	**22 40 52.4**	**-0.2**
	0.4nm,1.0s,baz=64,slow=3.0,SNR=3.0						

IDC 16 22:37:41.7±1.3, **3.94N×126.84E, h0**km, **mb3.5**/4, **mb1 3.7**/4, **mb1mx3.5**/19, **mbtmp3.5**/4, **Error ellipse: s-maj=148.2km s-min=21.3km az=67.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.85**	**163**	P	P	22 43 05.8	-0.3
	0.4nm,0.3s,baz=341,slow=10,SNR=8.3						
STKA	**Stephens Creek**	**38.28**	**160**	P	P	22 45 04.2	+0.2
	1.8nm,0.9s,baz=320,slow=7.9,SNR=3.8						
SONM	**Songino Array**	**47.14**	**341**	P	P	22 46 15.4	-0.5
	0.2nm,0.5s,baz=157,slow=7.8,SNR=3.8						
MKAR	**Makanchi Array**	**57.45**	**325**	P	P	22 47 32.7	+0.2
	0.4nm,0.4s,baz=118,slow=7.4,SNR=22						

IDC **16** *22:38:13.2±1.2, 3.46N×126.39E, h0km, mb4.0/8, mb1 4.0/8, mb1mx3.9/21, mbtmp4.0/8, Error ellipse: s-maj=157.8km s-min=16.0km az=67.0*
NEIC **16** *22:38:18.2±0.6, 3.44N×126.40E, h35km, mb4.0/5, Error ellipse: s-maj=50.3km s-min=7.2km az=69.0*

ISC 16 22:38:20.2±1.0, **3.5N**±0.2×**126.5E**±0.5, **h53**km, **n23,** σ**0**º**64**/23, **mb4.0**/12, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.44**	**182**	*e*P	**P**	**22 43 03.3**	**-0.8**
	4.7nm,1.1s						
WRAB	**Tennant Creek**	**24.50**	**162**	*e*P	**P**	**22 43 34.4**	**-0.2**
	16nm,1.4s						
WRA	**Warramunga Arr**	**24.50**	**162**	P	**P**	**22 43 34.0**	**-0.7**
WRA	**Warramunga Arr**	**24.50**	**162**	P	**P**	**22 43 34.0**	**-0.7**
	4.1nm,0.8s,baz=338,slow=11,SNR=13						
ASAR	**Alice Springs**	**27.91**	**165**	P	**P**	**22 44 05.8**	**+0.2**
ASAR	**Alice Springs**	**27.91**	**165**	P	**P**	**22 44 05.8**	**+0.2**
	0.2nm,0.3s,baz=345,slow=10,SNR=3.2						
STKA	**Stephens Creek**	**37.96**	**159**	*e*P	**P**	**22 45 33.1**	**+0.2**
	0.7nm,0.7s						
STKA	**Stephens Creek**	**37.96**	**159**	P	**P**	**22 45 33.2**	**+0.3**
	3.3nm,0.8s,baz=340,slow=8.3,SNR=5.2						
SONM	**Songino Array**	**47.48**	**342**	P	**P**	**22 46 50.1**	**+0.2**
SONM	**Songino Array**	**47.48**	**342**	P	**P**	**22 46 50.1**	**+0.2**
	1.1nm,0.6s,baz=157,slow=8.7,SNR=11						
MK31	**Makanchi Array**	**57.64**	**325**	*e*P	**P**	**22 48 05.4**	**+0.4**
MKAR	**Makanchi Array**	**57.64**	**325**	P	**P**	**22 48 05.2**	**+0.1**
MKAR	**Makanchi Array**	**57.64**	**325**	P	**P**	**22 48 05.2**	**+0.1**
	1.2nm,0.5s,baz=119,slow=7.7,SNR=17						
ZALV	**Zalesovo Beam**	**60.72**	**333**	P	**P**	**22 48 24.9**	**-1.2**
ZALV	**Zalesovo Beam**	**60.72**	**333**	P	**P**	**22 48 24.9**	**-1.2**
	0.7nm,0.5s,baz=118,slow=8.8,SNR=4.5						
KURK	**Kurchatov**	**61.84**	**328**	*e*P	**P**	**22 48 33.6**	**-0.1**
	1.5nm,0.6s						
BVAR	**Borovoye Array**	**67.42**	**327**	P	**P**	**22 49 10.4**	**+0.2**
BVAR	**Borovoye Array**	**67.42**	**327**	P	**P**	**22 49 10.4**	**+0.2**
	0.9nm,0.6s,baz=120,slow=8.5,SNR=8.2						
ABKAR	**Akbulak array**	**72.21**	**321**	*e*P	**P**	**22 49 38.5**	**-1.1**
	1.0nm,0.6s						
AKTO	**Aktyubinsk**	**73.72**	**322**	P	**P**	**22 49 48.4**	**-0.2**
AKTO	**Aktyubinsk**	**73.72**	**322**	P	**P**	**22 49 48.4**	**-0.2**
	1.6nm,0.8s,baz=100,slow=5.9,SNR=7.5						
TORD	**Torodi Ar. Bea**	**122.77**	**288**	PKP	**PKPdf**	**22 57 12.2**	**+0.9**
TORD	**Torodi Ar. Bea**	**122.77**	**288**	PKP	**PKPdf**	**22 57 12.2**	**+0.9**
	0.4nm,0.8s,baz=88,slow=1.7,SNR=4.3						

IDC 16 22:55:33.8±1.8, **3.90N×126.55E, h0**km, **mb3.6**/4, **mb1 3.8**/4, **mb1mx3.5**/19, **mbtmp3.6**/4, **Error ellipse: s-maj=146.4km s-min=23.0km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.90**	**162**	P	P	23 00 58.4	-0.2
	1.3nm,0.6s,baz=342,slow=11,SNR=16						
ASAR	**Alice Springs**	**28.32**	**166**	P	P	23 01 29.1	-0.4
	0.3nm,0.8s,baz=338,slow=7.3,SNR=2.6						
STKA	**Stephens Creek**	**38.35**	**159**	P	P	23 02 57.2	+0.5
	1.5nm,0.6s,baz=344,slow=7.4,SNR=5.1						
MKAR	**Makanchi Array**	**57.31**	**325**	P	P	23 05 23.6	-0.1
	0.3nm,0.5s,baz=123,slow=7.3,SNR=11						

IDC **16** *23:02:45.5±0.5, 3.59N×126.83E, h0km, mb4.3/21, mb1 4.5/21, mb1mx4.4/25, mbtmp4.3/21, MS4.2/9, Ms1 4.2/9, ms1mx3.9/39, Error ellipse: s-maj=32.4km s-min=9.3km az=71.0*
BJI **16** *23:02:47.0, 3.60N×127.00E, h20km, mB5.0/8, mb4.5/15, Ms4.4/4, Ms7 4.2/4*
ISCJB **16** *23:02:50.1±0.3, 3.76N±0.03×127.05E±0.06, h48km, mb4.5/39, MS4.0/11, Error ellipse: s-maj=8.1km s-min=4.1km az=166.1*
NEIC **16** *23:02:50.6±0.3, 3.65N×126.96E, h35km, mb4.6/13, Error ellipse: s-maj=14.0km s-min=6.6km az=73.0*
DJA **16** *23:02:59, 3.21N×127.01E, h62km, mb4.8/9*

ISC 16 23:02:52.2±0.4, **3.69N**±0.05×**126.98E**±0.07, **h48**km, **n103,** σ**1**º**34**/98, **mb4.5**/41, **MS4.0**/11, **1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.93**	**172**	P	**Pn**	**23 03 36.9**	**+0.5**
TNTI				S	**Sn**	**23 04 12.5**	**+2.2**
MNI	**Manado**	**3.09**	**224**	P	**Pn**	**23 03 39.8**	**+1.2**
DAV	**Davao City (W)**	**3.63**	**337**	Pn	Pn	23 03 52.2	+6.2
	23nm,0.3s,baz=246,slow=18,SNR=2.4						
KMSI	**Cibinong**	**4.31**	**224**	P	**Pn**	**23 03 57.7**	**+2.4**
LBMI	**Labuha**	**4.33**	**173**	P	**Pn**	**23 03 57.2**	**+1.5**
CTBH	**Cotabato--PC H**	**4.44**	**322**	||*i*P	Pn	23 04 00.8	+3.8
MRSI	**Marisa**	**5.96**	**238**	P	**Pn**	**23 04 19.9**	**+1.9**
SWI	**Sorong**	**6.23**	**137**	P	**Pn**	**23 04 22.0**	**+0.3**
	79nm,1.1s,1μm0.3nm						
APSI	**Ampana**	**7.02**	**229**	P	Pn	23 04 36.1	+3.5
MSAI	**Masohi**	**7.26**	**164**	P	Pn	23 04 40.0	+4.2
FAKI	**Fak Fak**	**8.42**	**141**	P	**Pn**	**23 04 53.6**	**+1.9**
	66nm,1.0s,804nm						
MYLDM	**Lahad Datu**	**8.58**	**280**	P	Pn	23 04 57.9	+3.9
	86nm,1.5s,1μm						
KDI	**Kendari**	**8.76**	**210**	P	**Pn**	**23 04 55.5**	**-0.9**
TTSI	**Tana Toraja**	**9.80**	**227**	P	**Pn**	**23 05 12.4**	**+1.7**
KSM	**Kuching**	**16.80**	**263**	*e*Pn	**Pn**	**23 06 45.2**	**+0.9**
	25nm,1.0s						
MTN	**Manton Dam**	**16.94**	**166**	*e*P	**Pn**	**23 06 43.9**	**-2.1**
GUMO	**Guam**	**20.21**	**60**	LR	LR	23 13 42.1	
	comp=Z,420nm,21.4s,baz=218,slow=32						
YULB	**Yu-li**	**20.34**	**345**	*e*P	**P**	**23 07 23.8**	**-0.9**
SSLB	**Suanglung**	**20.81**	**344**	*e*P	**P**	**23 07 29.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**21.70**	**183**	*e*P	**P**	**23 07 38.3**	**-1.0**
	21nm,1.1s						
FITZ				*e*S	**S**	**23 11 36.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**21.70**	**183**	*e*P	**P**	**23 07 38.4**	**-0.9**
	12nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.70**	**183**	P	**P**	**23 07 38.1**	**-1.2**
	5.4nm,0.5s,baz=3.0,slow=12,SNR=8.1						
JOW	**Kunigami**	**23.04**	**3**	LR	LR	23 15 36.4	
	comp=Z,520nm,18.9s,baz=354,slow=33						
WRAB	**Tennant Creek**	**24.57**	**163**	*e*P	**P**	**23 08 06.7**	**-1.1**
	35nm,0.7s						
WRAB				*e*S	**S**	**23 12 28.8**	**+3.1**
WRA	**Warramunga Arr**	**24.58**	**163**	P	**P**	**23 08 06.5**	**-1.5**
WRA				S	**S**	**23 12 30.1**	**+4.3**
WRA	**Warramunga Arr**	**24.58**	**163**	P	**P**	**23 08 06.5**	**-1.5**
	35nm,0.7s,baz=344,slow=11,SNR=205						
WRA				S	**S**	**23 12 30.1**	**+4.3**
	2.8nm,1.0s,baz=331,slow=21,SNR=5.5						
AS31	**Alice Springs**	**28.02**	**166**	*e*P	**P**	**23 08 38.8**	**-0.2**
AS31				*e*PP	PP	23 09 39.3	-3.8
ASAR	**Alice Springs**	**28.02**	**166**	P	**P**	**23 08 38.6**	**-0.4**
ASAR				S	**S**	**23 13 23.4**	**+3.1**
ASAR	**Alice Springs**	**28.02**	**166**	P	**P**	**23 08 38.6**	**-0.4**
	1.4nm,0.4s,baz=334,slow=7.7,SNR=21						
ASAR				S	**S**	**23 13 23.4**	**+3.1**
	0.7nm,0.8s,baz=353,slow=23,SNR=3.6						
PSI	**Prapat**	**28.03**	**269**	LR	LR	23 21 19.8	
	comp=Z,287nm,18.2s,baz=268,slow=40						
JNU	**Nakatsue**	**29.50**	**7**	LR	LR	23 19 54.7	
	comp=Z,347nm,20.5s,baz=46,slow=35						
CMAR	**Chiang Mai Arr**	**31.11**	**300**	P	**P**	**23 09 07.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**31.11**	**300**	P	**P**	**23 09 07.1**	**+0.7**
	1.1nm,0.3s,baz=119,slow=7.4,SNR=8.8						
CMAR				LR	LR	23 23 38.7	
	comp=Z,316nm,18.9s,baz=311,slow=40						
MEEK	**Meekatharra**	**31.22**	**195**	*e*P	**P**	**23 09 06.8**	**-0.5**
	48nm,0.9s						
KSAR	**Wonju Array Be**	**33.60**	**1**	P	**P**	**23 09 28.6**	**+0.6**
KSRS	**Korea Array**	**33.61**	**1**	P	**P**	**23 09 28.6**	**+0.5**
	2.5nm,0.9s,baz=171,slow=8.6,SNR=4.8						
KSRS				LR	LR	23 21 57.6	
	comp=Z,294nm,19.3s,baz=198,slow=34						
MJAR	**Matsushiro Arr**	**34.28**	**16**	LR	LR	23 22 36.5	
	comp=Z,548nm,20.6s,baz=200,slow=35						
FORT	**Forrest**	**34.30**	**178**	*e*P	**P**	**23 09 33.7**	**-0.4**
	24nm,0.7s						
XAN	**Xi'an**	**34.56**	**333**	P	**P**	**23 09 36.8**	**+0.3**
XAN				pP	pP	23 09 41.8	-7.3
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s						
XAN				LR	LR		
	comp=N,280nm,20.9s						
XAN				LR	LR		
	comp=E,74nm,23.5s						
XAN				LR	LR		
	comp=Z,100nm,24.9s						
BBOO	**Buckleboo**	**37.31**	**167**	*e*P	**P**	**23 09 59.2**	**-0.7**
	comp=Z,37nm,0.5s						
BJI	**Beijing**	**37.48**	**346**	P	**P**	**23 10 01.5**	**+0.2**
BJI				pmax	pmax		
	comp=Z,18nm,1.2s						
BJI				pmax	pmax		
	comp=Z,160nm,5.1s						
BJI				LR	LR		
	comp=N,280nm,28.1s						
BJI				LR	LR		
	comp=E,490nm,26.0s						
BJI				LR	LR		
	comp=Z,270nm,22.3s						
STKA	**Stephens Creek**	**38.01**	**160**	*e*P	**P**	**23 10 05.1**	**-0.7**
	comp=Z,2.2nm,0.8s						
STKA	**Stephens Creek**	**38.01**	**160**	*e*P	**P**	**23 10 05.2**	**-0.7**
	comp=Z,11nm,0.8s						
STKA	**Stephens Creek**	**38.01**	**160**	P	**P**	**23 10 05.3**	**-0.6**
	comp=Z,8.4nm,0.7s,baz=338,slow=8.0,SNR=27						
LZH	**Lanzhou**	**38.66**	**329**	*e*P	P	23 10 15.0	+3.5
LZH				pP	pP	23 10 18.3	-6.0
LZH				sP	sP	23 10 19.8	-10
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
USRK	**Ussuriysk Arra**	**40.58**	**6**	LR	LR	23 26 52.2	
	comp=Z,316nm,18.8s,baz=2.6,slow=36						
ASAJ	**Asahikawa**	**42.55**	**17**	LR	LR	23 27 49.5	
	comp=Z,591nm,19.7s,baz=190,slow=35						
GTA	**Gaotai**	**43.26**	**329**	*e*P	P	23 10 54.5	+5.2
GTA				pP	pP	23 10 59.3	-2.9
GTA				sP	sP	23 11 01.6	-6.2
GTA				pmax	pmax		
	comp=Z,4.0nm,1.5s						

TAPN	**Taplejung**	**44.24**	**306**	*e*P	**P**	**23 10 56.2**	**-1.4**
RAMN	**Ramite**	**44.98**	**305**	*e*P	**P**	**23 11 01.8**	**-1.6**
	comp=Z,7.8nm,0.6s						
JIRN	**Jiri**	**45.60**	**306**	*e*P	**P**	**23 11 07.5**	**-0.9**
GUN	**Gumba**	**45.95**	**306**	*e*P	**P**	**23 11 10.9**	**-0.3**
PKI	**Pulchoki**	**46.19**	**305**	*e*P	**P**	**23 11 11.7**	**-1.4**
KKN	**Kakani**	**46.39**	**306**	*e*P	**P**	**23 11 14.0**	**-0.5**
DMN	**Daman**	**46.46**	**305**	*e*P	**P**	**23 11 14.2**	**-0.9**
GKN	**Gorkha**	**46.99**	**305**	*e*P	**P**	**23 11 18.2**	**-0.9**
SONM	**Songino Array**	**47.41**	**341**	P	**P**	**23 11 22.5**	**+0.5**
SONM				PcP	**PcP**	**23 12 52.4**	**+0.4**
SONM	**Songino Array**	**47.41**	**341**	P	**P**	**23 11 22.5**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=154,slow=8.4,SNR=13						
SONM				PcP	**PcP**	**23 12 52.4**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=176,slow=3.0,SNR=2.3						
KOLN	**Koldanda**	**47.75**	**305**	*e*P	**P**	**23 11 24.1**	**-1.0**
	comp=Z,16nm,0.5s						
DANN	**Dangsing**	**47.84**	**305**	*e*P	**P**	**23 11 25.7**	**-0.2**
	comp=Z,24nm,0.7s						
TLY	**Talaya**	**51.64**	**342**	*e*P	**P**	**23 11 54.5**	**+0.4**
	comp=Z,5.9nm,0.9s						
PETK	**Petropavlovsk-**	**55.37**	**22**	P	**P**	**23 12 22.5**	**+1.2**
PETK	**Petropavlovsk-**	**55.37**	**22**	P	**P**	**23 12 22.5**	**+1.2**
	comp=Z,2.7nm,0.7s,baz=198,slow=6.8,SNR=4.3						
MK31	**Makanchi Array**	**57.73**	**325**	*e*P	**P**	**23 12 38.0**	**-0.2**
MKAR	**Makanchi Array**	**57.73**	**325**	P	**P**	**23 12 37.8**	**-0.5**
MKAR	**Makanchi Array**	**57.73**	**325**	P	**P**	**23 12 37.8**	**-0.5**
	comp=Z,3.0nm,0.6s,baz=120,slow=6.9,SNR=45						
TKM2	**Tokmak 2**	**59.94**	**318**	*e*P	**P**	**23 12 52.6**	**-1.3**
	comp=Z,2.9nm,0.8s						
AAK	**Ala-Archa**	**60.55**	**318**	*e*P	**P**	**23 12 58.7**	**+0.6**
	comp=Z,7.4nm,0.6s						
AAK	**Ala-Archa**	**60.55**	**318**	P	**P**	**23 12 59.8**	**+1.7**
	comp=Z,1.4nm,0.9s,baz=80,slow=7.1,SNR=5.0						
ZAA0	**Zalesovo Array**	**60.73**	**333**	*e*P	**P**	**23 12 58.3**	**-0.6**
ZALV	**Zalesovo Beam**	**60.73**	**333**	P	**P**	**23 12 58.2**	**-0.7**
ZALV	**Zalesovo Beam**	**60.73**	**333**	P	**P**	**23 12 58.2**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=132,slow=6.4,SNR=9.2						
KBL	**Kabul**	**61.74**	**307**	*e*P	**P**	**23 13 05.8**	**-0.5**
	comp=Z,4.1nm,0.8s						
KURBB	**Kurchatov Arra**	**61.90**	**327**	P	**P**	**23 13 06.7**	**-0.1**
	comp=Z,5.0nm,0.6s,baz=126,slow=6.2,SNR=26						
KURK	**Kurchatov**	**61.91**	**327**	*e*P	**P**	**23 13 06.0**	**-0.9**
	comp=Z,8.5nm,0.6s						
KKAR	**Karatay Array**	**63.43**	**317**	*e*P	**P**	**23 13 18.1**	**+0.9**
	comp=Z,2.2nm,0.8s						
BVAR	**Borovoye Array**	**67.49**	**327**	P	**P**	**23 13 43.5**	**+0.3**
BVAR	**Borovoye Array**	**67.49**	**327**	P	**P**	**23 13 43.5**	**+0.3**
	comp=Z,3.7nm,0.9s,baz=126,slow=7.4,SNR=10						
ABKAR	**Akbulak array**	**72.34**	**321**	*e*P	**P**	**23 14 12.1**	**-1.0**
	comp=Z,2.9nm,0.8s						
AKTO	**Aktyubinsk**	**73.84**	**322**	P	**P**	**23 14 21.9**	**-0.1**
AKTO	**Aktyubinsk**	**73.84**	**322**	P	**P**	**23 14 21.9**	**-0.1**
	comp=Z,4.4nm,0.8s,baz=96,slow=7.9,SNR=12						
ARU	**Arti**	**75.10**	**328**	*e*P	**P**	**23 14 28.1**	**-1.0**
	comp=Z,10nm,0.9s						
QRN	**Al-Qurain**	**78.65**	**298**	*e*P	**P**	**23 14 48.6**	**-1.0**
MIB	**Mutribah**	**79.19**	**299**	*e*P	**P**	**23 14 51.4**	**-1.2**
MIB				AMb	AMB	23 14 52.9	
	comp=Z,11nm,0.7s						
NAY	**Al-Naaiem**	**79.25**	**299**	*e*P	**P**	**23 14 51.3**	**-1.7**
NAY				AMb	AMB	23 15 00.9	
	comp=Z,12nm,1.9s						
ILAR	**Eielson Array**	**85.03**	**25**	P	**P**	**23 15 24.8**	**+2.3**
ILAR	**Eielson Array**	**85.03**	**25**	P	**P**	**23 15 24.8**	**+2.3**
	comp=Z,0.6nm,0.8s,baz=231,slow=5.7,SNR=4.2						
OBN	**Obninsk**	**87.23**	**325**	*e*P	**P**	**23 15 33.8**	**+0.3**
	comp=Z,32nm,1.3s						
BRTR	**Keskin Array B**	**90.24**	**310**	P	**P**	**23 15 47.6**	**-0.6**
BRTR	**Keskin Array B**	**90.24**	**310**

s-min=2.7km az=168.9
NNC ***16*** *23:13:52.0±4.4,39˚.01N×75˚.24E,h0km,mb4.8,mpv4.7,*
Error ellipse: s-maj=43.9km s-min=21.9km az=7.0
NEIC ***16*** *23:13:55.0±0.9,38˚.78N×75˚.62E,h54km±8km,mb4.8/8,*
Error ellipse: s-maj=9.4km s-min=7.7km az=151.0
NEIC Felt at Kashi.
ISC 16 23:13:52.7±0.6,38˚.75N±0˚.03×75˚.52E±0˚.04,h30km±3km,
n226,σ2ˢ17/253,mb4.5/46,MS4.2/9,38C-37D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KSH	**Kashi**	**0.84**	**24**	⇑*i*Pg		Pn	23 13 59.5	-9.2
KSH				Sg		Sn	23 14 05.1	-15
KSH				smax		smax		
	comp=N,310μm,0.3s							
KSH				smax		smax		
	comp=E,239μm,0.2s							
KZA	**Kyzart**	**3.33**	**356**	P		**Pn**	**23 14 45.4**	**+2.2**
	SNR=24							
ULHL	**Ulahol**	**3.54**	**9**	P		Pn	23 14 49.0	+3.2
	SNR=37							
UCH	**Uchtor**	**3.56**	**348**	P		**Pn**	**23 14 49.0**	**+2.6**
	SNR=21							
AML	**Almayashu**	**3.66**	**338**	P		**Pn**	**23 14 50.1**	**+2.4**
	SNR=66							
KBK	**Karagaybulak**	**3.93**	**354**	P		Pn	23 14 54.3	+3.2
	SNR=58							
AAK	**Ala-Archa**	**3.96**	**349**	PN		Pn	23 14 54.8	+3.2
AAK							23 15 03.9	
AAK							23 15 42.0	
AAK				pmax		pmax		
	comp=Z,19nm,0.3s							
AAK				pmax		pmax		
	comp=Z,72nm,0.3s							
AAK				smax		smax		
	comp=N,66nm,0.3s							
AAK				MLR		MLR		
	comp=Z,2μm,20.9s							
AAK	**Ala-Archa**	**3.96**	**349**	*e*Pn		**Pn**	**23 14 54.6**	**+3.0**
AAK				*e*Sn		**Sn**	**23 15 37.1**	**0.0**
AAK				Lg		Lg	23 16 02.0	
AAK	**Ala-Archa**	**3.96**	**349**	P		**Pn**	**23 14 54.6**	**+3.0**
	SNR=91							
AAK	**Ala-Archa**	**3.96**	**349**	Pn		Pn	23 14 54.8	+3.2
	comp=Z,19nm,0.3s,baz=149,slow=8.6,SNR=210							
AAK				Pg		**Pb**	**23 15 03.9**	**+2.0**
	comp=Z,72nm,0.3s,baz=150,slow=16,SNR=51							
AAK				Sn		**Sn**	**23 15 42.0**	**+4.9**
	comp=Z,66nm,0.3s,baz=327,slow=18,SNR=9.2							
AAK				Lg		Lg	23 16 02.0	
	comp=Z,72nm,0.3s,baz=348,slow=17,SNR=7.0							
AAK				LR		LR	23 16 50.9	
	comp=Z,2μm,20.9s,baz=161,slow=44							
EKS2	**Erkin-Say**	**4.13**	**342**	*e*PN		Pn	23 14 57.1	+3.2
EKS2	**Erkin-Say**	**4.13**	**342**	*e*Pn		Pn	23 14 57.1	+3.2
EKS2				*e*Sn		**Sn**	**23 15 43.0**	**+1.8**
EKS2	**Erkin-Say**	**4.13**	**342**	P		**Pn**	**23 14 56.9**	**+3.0**
	SNR=7.1							
FRU	**Bishkek**	**4.14**	**351**	*e*PN		Pn	23 14 57.0	+3.1
FRU				*i*			23 15 07.0	
FRU				*i* S		Sb	23 16 05.0	+11
FRU				pmax		pmax		
	comp=Z,1μm,1.8s							
FRU				smax		smax		
	comp=N,2μm,1.8s							
TKM2	**Tokmak 2**	**4.17**	**1**	⇑Pn		**Pn**	**23 14 57.2**	**+2.7**
	comp=N,213nm,0.7s							
TKM2				⇑Lg		Lg	23 15 59.9	
	comp=N,556nm,0.7s							
TKM2	**Tokmak 2**	**4.17**	**1**	*e*PN		**Pn**	**23 14 57.3**	**+2.7**
TKM2	**Tokmak 2**	**4.17**	**1**	*e*Pn		**Pn**	**23 14 57.3**	**+2.8**
TKM2				*e*Sn		**Sn**	**23 15 40.9**	**-1.4**
TKM2	**Tokmak 2**	**4.17**	**1**	P		**Pn**	**23 14 57.2**	**+2.7**
	SNR=72							
CHMS	**Chumysh**	**4.29**	**352**	P		Pn	23 14 59.0	+3.0
	SNR=26							
USP	**Ospenovka**	**4.58**	**351**	P		**Pn**	**23 15 02.7**	**+2.6**
	SNR=21							
KNDC	**Almaty**	**4.60**	**13**	⇓Pn		**Pn**	**23 15 03.0**	**+2.8**
	comp=N,217nm,0.8s							
KNDC				⇓Lg		Lg	23 16 14.3	
	comp=N,2μm,1.2s							
AAA	**Alma-Ata**	**4.65**	**13**	*e*PN		**Pb**	**23 15 14.8**	**+1.3**
AAA				pmax		pmax		
	comp=Z,173nm,0.4s							
CHCP	**Chirah Chowk**	**5.40**	**200**	P		Pn	23 15 16.8	+5.6
CEP	**Cherat**	**5.71**	**212**	P		Pn	23 15 20.1	+4.4
CEP				S		Sn	23 16 27.0	+6.7
KK31	**Karatay Array**	**5.77**	**321**	Pn		**Pn**	**23 15 18.1**	**+1.7**
	comp=Z,5.6nm,0.2s,baz=119,slow=12,SNR=1031							
KK31				⇓Sn		**Sn**	**23 16 22.0**	**+0.4**
	comp=Z,142nm,0.6s,baz=139,slow=22,SNR=6.1							
KK31				⇓Lg		Lg	23 16 46.9	
	comp=Z,57nm,0.3s							
KKAR	**Karatay Array**	**5.77**	**321**	*e*PN		**Pn**	**23 15 18.0**	**+1.7**
KKAR	**Karatay Array**	**5.77**	**321**	*e*Pn		**Pn**	**23 15 18.0**	**+1.7**
KKAR				*e*Sn		**Sn**	**23 16 22.1**	**+0.5**
DLH	**Dalhousie**	**6.20**	**177**	*e*PKP		Pn	23 15 26.5	+4.0
DLH				*e*S		**Sn**	**23 16 35.5**	**+3.0**
THN	**Thein Dam**	**6.30**	**179**	*e*PKP		**Pn**	**23 15 26.6**	**+3.0**
THN				*e*S		**Sn**	**23 16 37.0**	**+2.4**
THW	**Thamme Wali**	**6.69**	**208**	P		Pn	23 15 32.9	+4.0
KBL	**Kabul**	**6.69**	**233**	*e*PN		Pn	23 15 32.8	+3.7
KBL				*e*			23 16 49.0	
KBL	**Kabul**	**6.69**	**233**	*e*Pn		Pn	23 15 32.8	+3.7
KBL				*e*Sn		**Sn**	**23 16 49.0**	**+4.5**
SARP	**Sargodha**	**7.20**	**200**	P		Pn	23 15 40.2	+4.3
SDNR	**Sundarnagar**	**7.33**	**170**	*ex*		Pn	23 15 43.0	+5.3
SDNR				*e*S		**Sn**	**23 17 01.0**	**+1.1**
BHK	**Bhakra**	**7.35**	**174**	*e*PKP		Pn	23 15 46.0	+8.0
BHK				*e*S		**Sn**	**23 17 04.0**	**+3.6**
SMLA	**Simla**	**7.72**	**169**	*i* P		**Pn**	**23 15 46.0**	**+3.0**
SMLA				*i* S		**Sn**	**23 17 09.0**	**-0.5**
SMLA				⇓AML		AML	23 17 15.0	
	comp=E,5μm,0.4s							
SMLA				⇓AML		AML	23 17 15.3	
	comp=N,6μm,0.3s							
DDI	**Dehra Dun**	**8.66**	**165**	*ex*		Pn	23 16 01.0	+5.0
DDI				*ex*		**Sn**	**23 17 34.5**	**+1.8**
MK31	**Makanchi Array**	**9.45**	**30**	Pn		**Pn**	**23 16 07.4**	**+0.6**
	comp=N,4.8nm,0.5s,baz=208,slow=12,SNR=179							
MK31				⇑Lg		Lg	23 18 46.8	
	comp=N,40nm,0.8s							
MK31	**Makanchi Array**	**9.45**	**30**	*e*P		**Pn**	**23 16 07.6**	**+0.8**
MK31				*e*			23 17 51.3	
MK31	**Makanchi Array**	**9.45**	**30**	*e*Pn		**Pn**	**23 16 07.6**	**+0.8**
MK31				*e*Sn		**Sn**	**23 17 51.3**	**-0.7**
MKAR	**Makanchi Array**	**9.45**	**30**	P		**Pn**	**23 16 07.6**	**+0.7**
MKAR				pmax		pmax		
	comp=Z,3.0nm,0.3s							
MKAR				MLR		MLR		
	comp=Z,776nm,20.0s							
MKAR	**Makanchi Array**	**9.45**	**30**	*e*Pn		**Pn**	**23 16 07.5**	**+0.7**
MKAR				Lg		Lg	23 18 49.4	
MKAR	**Makanchi Array**	**9.45**	**30**	Pn		**Pn**	**23 16 07.6**	**+0.7**
	comp=Z,2.8nm,0.3s,baz=206,slow=13,SNR=110							
MKAR				Lg		Lg	23 18 49.4	
	comp=Z,0.9nm,0.3s,baz=214,slow=26,SNR=4.1							
MKAR				LR		LR	23 20 09.8	
	comp=Z,776nm,20.0s,baz=210,slow=40							
PTH	**Pithoragarh**	**9.96**	**156**	*e*PKP		**Pn**	**23 16 16.0**	**+2.0**
PTH				*ex*		**Sn**	**23 18 09.9**	**+5.0**
LGTI	**Lohaghat**	**10.06**	**156**	*e*PKP		Pn	23 16 23.1	+7.9
LGTI				*e*S		**Sn**	**23 18 09.8**	**+2.7**
WMQ	**Urumqi**	**10.47**	**57**	P		**Pn**	**23 16 19.9**	**-0.8**
WMQ				pP			23 16 26.5	
WMQ				sP			23 16 31.0	
WMQ				S		**Sn**	**23 18 12.8**	**-4.1**
WMQ				pmax		pmax		
	comp=Z,13nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,170nm,4.0s							
WMQ				LR		LR		
	comp=Z,850nm,9.7s							
KUDL	**Kundal**	**10.61**	**175**	*e*PKP		**Pn**	**23 16 23.8**	**+1.2**
KUDL				*e*S		**Sn**	**23 18 16.0**	**-4.3**
KHET	**Khetri**	**10.65**	**179**	*e*PKP		**Pn**	**23 16 25.1**	**+1.8**
KHET				*e*S		**Sn**	**23 18 16.7**	**-4.7**
AGRA	**Agra**	**11.66**	**169**	*e*PKP		**Pn**	**23 16 39.3**	**+2.2**
AGRA				*e*S		Sn	23 18 40.1	-6.1
AGRA				AML		AML	23 18 51.7	
	comp=N,84nm,0.5s							
AGRA				AML		AML	23 18 51.7	
	comp=E,91nm,0.4s							
KURBB	**Kurchatov Arra**	**12.06**	**9**	Pn		**Pn**	**23 16 42.0**	**-0.5**
	comp=E,0.2nm,0.3s,baz=192,slow=12,SNR=8.8							
KURBB				Lg		Lg	23 20 11.4	
	comp=E,0.3nm,0.3s,baz=197,slow=31,SNR=11							
KURBB				LR		LR	23 21 50.5	
	comp=E,464nm,20.0s,baz=195,slow=40							
KURK	**Kurchatov**	**12.17**	**9**	⇑Pn		**Pn**	**23 16 41.4**	**-2.4**
	comp=E,9.9nm,0.9s							
KURK				⇓Lg		Lg	23 20 14.0	
	comp=E,156nm,1.5s							
KURK	**Kurchatov**	**12.17**	**9**	*e*P		**Pn**	**23 16 43.3**	**-0.6**
KURK				*e*			23 18 57.5	
KURK	**Kurchatov**	**12.17**	**9**	*e*Pn		**Pn**	**23 16 43.3**	**-0.6**
KURK				*e*Sn		**Sn**	**23 18 57.5**	**-0.9**
KURK				Lg		Lg	23 20 11.4	
AJM	**Ajmer**	**12.26**	**184**	*ex*		**Pn**	**23 16 46.0**	**+0.7**
AJM				*e*S		**Sn**	**23 18 57.0**	**-3.9**
DANN	**Dangsing**	**12.43**	**144**	*e*P		**Pn**	**23 16 45.3**	**-2.6**
	comp=E,60nm,0.4s							
DANN				*e*S		Sn	23 18 57.4	-8.1
KOLN	**Koldanda**	**12.86**	**146**	*e*P		**Pn**	**23 16 52.5**	**-1.1**
	comp=E,46nm,0.4s							
KOLN				*e*S		Sn	23 19 08.7	-7.1
GKN	**Gorkha**	**13.14**	**142**	*e*P		**Pn**	**23 16 55.0**	**-2.4**
	comp=E,48nm,0.3s							
GKN				*e*S		Sn	23 19 14.0	-8.6
KKN	**Kakani**	**13.63**	**140**	*e*P		Pn	23 17 00.8	-3.4
	comp=E,34nm,0.4s							
DMN	**Daman**	**13.69**	**141**	*e*P		**Pn**	**23 17 02.3**	**-2.8**
	comp=E,28nm,0.4s							
GUN	**Gumba**	**13.84**	**138**	*e*P		**Pn**	**23 17 04.2**	**-2.9**
	comp=E,42nm,0.4s							
PKI	**Pulchoki**	**13.87**	**141**	*e*P		**Pn**	**23 17 04.5**	**-3.1**
	comp=E,37nm,0.4s							
JIRN	**Jiri**	**14.20**	**138**	*e*P		Pn	23 17 08.7	-3.4
	comp=E,29nm,0.4s							
VOSK	**Vostochnaya**	**14.33**	**349**	⇓P		**Pn**	**23 17 11.6**	**-1.8**
	comp=E,8.0nm,0.7s							
BVAR	**Borovoye Array**	**14.71**	**348**	P		**Pn**	**23 17 17.9**	**-0.7**
BVAR				MLR		MLR		
	comp=Z,679nm,19.3s							
BVAR	**Borovoye Array**	**14.71**	**348**	Pn		**Pn**	**23 17 17.9**	**-0.7**
BVAR				Lg		Lg	23 21 36.7	
BVAR	**Borovoye Array**	**14.71**	**348**	Pn		**Pn**	**23 17 17.9**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=163,slow=16,SNR=9.7							
BVAR				Lg		Lg	23 21 36.7	
	comp=Z,0.6nm,0.3s,baz=152,slow=29,SNR=5.8							
BVAR				LR		LR	23 23 13.0	
	comp=Z,679nm,19.3s,baz=164,slow=38							
BRVK	**Borovoye**	**14.76**	**348**	*e*P		**P**	**23 17 25.2**	**+0.2**
BRVK				pmax		pmax		
	comp=Z,75nm,1.2s							
BRVK	**Borovoye**	**14.76**	**348**	*e*Pn		**Pn**	**23 17 20.6**	**+1.3**
BRVK				*e*Sn		**Sn**	**23 19 59.0**	**-2.8**
ZRNK	**Zerenda**	**14.90**	**345**	⇑P		**Pn**	**23 17 19.6**	**-1.5**
	comp=Z,28nm,1.1s							
RAMN	**Ramite**	**14.98**	**138**	*e*P		Pn	23 17 18.1	-4.6
	comp=Z,107nm,0.7s							
TAPN	**Taplejung**	**15.27**	**135**	*e*P		**Pn**	**23 17 22.4**	**-4.0**
	comp=Z,48nm,0.7s							
AB31	**Akbulak array**	**15.33**	**318**	⇓Pn		**Pn**	**23 17 25.3**	**-1.6**
	comp=Z,28nm,0.8s,baz=126,slow=13,SNR=189							
AB31				Sn		**Sn**	**23 20 09.0**	**-6.6**
	comp=Z,20nm,1.1s,baz=123,slow=25,SNR=7.6							
ABKAR	**Akbulak array**	**15.33**	**318**	*e*Pn		**Pn**	**23 17 25.5**	**-1.3**
ABKAR				*e*Sn		**Sn**	**23 20 09.5**	**-6.1**
ODAN	**Odare**	**15.47**	**136**	*e*P		**Pn**	**23 17 24.4**	**-4.7**
	comp=Z,74nm,0.6s							
ZAA0	**Zalesovo Array**	**16.48**	**20**	*e*Pn		**Pn**	**23 17 40.7**	**-0.8**
ZAA0				*e*S		**S**	**23 20 52.3**	**-2.3**
ZALV	**Zalesovo Beam**	**16.48**	**20**	P		**Pn**	**23 17 40.5**	**-1.0**
ZALV				pmax		pmax		
	comp=Z,2.0nm,0.3s							
ZALV	**Zalesovo Beam**	**16.48**	**20**	Pn		**Pn**	**23 17 40.5**	**-1.0**
ZALV	**Zalesovo Beam**	**16.48**	**20**	Pn		**Pn**	**23 17 40.5**	**-1.0**
	comp=Z,2.3nm,0.3s,baz=209,slow=12,SNR=28							
NVS	**Novosibirsk**	**16.93**	**15**	*e*P		**Pn**	**23 17 47.5**	**+0.4**
NVS				*e*S		**Sn**	**23 20 58.2**	**+4.1**
NVS				pmax		pmax		
	comp=N,9.0nm,0.9s							
NVS				pmax		pmax		
	comp=Z,10.0nm,0.9s							
NVS				smax		smax		
	comp=N,38nm,2.0s							
AKTO	**Aktyubinsk**	**17.04**	**319**	⇑Pn		**Pn**	**23 17 48.2**	**-0.4**
	comp=N,9.8nm,1.4s							
AKTO	**Aktyubinsk**	**17.04**	**319**	P		**Pn**	**23 17 48.3**	**-0.4**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**17.04**	**319**	Pn		**Pn**	**23 17 48.3**	**-0.4**
AKTO	**Aktyubinsk**	**17.04**	**319**	Pn		**Pn**	**23 17 48.3**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=118,slow=12,SNR=19							
GTA	**Gaotai**	**18.86**	**80**	⇓P		**Pn**	**23 18 12.3**	**+1.1**
GTA				pP		**pP**	**23 18 16.8**	**-1.7**
GTA				sP		**sP**	**23 18 19.4**	**-2.9**
GTA				S		**S**	**23 21 45.8**	**+2.5**
GTA				sS		**sS**	**23 21 51.9**	**-4.3**
GTA				pmax		pmax		
	comp=Z,8.0nm,0.9s							
GTA				pmax		pmax		
	comp=Z,64nm,4.8s							
GTA				LR		LR		
	comp=N,570nm,19.0s							
GTA				LR		LR		
	comp=E,790nm,18.1s							
GTA				LR		LR		
	comp=Z,780nm,19.5s							
SHL	**Shillong**	**19.05**	**129**	*e*PKP		**P**	**23 18 12.0**	**-0.8**
SHL				*ex*		x	23 21 34.0	
POO	**Poona**	**20.20**	**185**	*e*PKP		Pn	23 18 29.0	+1.8
SVE	**Sverdlovsk**	**20.59**	**336**	*e*P		Pn	23 18 30.7	-0.7
SVE				pmax		pmax		
	comp=Z,46nm,1.1s							
IMP	**Imphal**	**20.89**	**126**	*e*PKP		**P**	**23 18 31.0**	**-1.7**
ORY	**Orie**	**20.95**	**33**	⇑*i*P		**P**	**23 18 32.5**	**-0.4**
ORY				*e*			23 18 54.0	
ORY				*e*S		**S**	**23 22 27.1**	**+2.5**
ARU	**Arti**	**20.96**	**333**	*c i*P		Pn	23 18 34.5	-1.3
ARU							23 18 54.2	
ARU				S		Sn	23 22 29.3	-2.3
ARU				SS		**SnSn**	**23 22 50.3**	**+3.8**
ARU				pmax		pmax		
	comp=Z,30nm,1.2s							
ARU	**Arti**	**20.96**	**333**	*e*P		**P**	**23 18 33.5**	**+0.4**
	comp=Z,30nm,0.8s							
KAD	**Karad**	**21.39**	**184**	*e*PKP		**P**	**23 18 41.0**	**+3.0**
HYB	**Hyderabad**	**21.42**	**172**	*i* P		**P**	**23 18 38.0**	**-0.3**
HYB				*e*S		**S**	**23 22 28.5**	**-5.9**
MOY	**Mondy**	**21.97**	**46**	*e*P		**P**	**23 18 44.7**	**+0.6**
LZH	**Lanzhou**	**22.61**	**88**	*e*P		**P**	**23 18 52.0**	**+0.8**
LZH				PP		**PnPn**	**23 19 21.0**	**+5.9**
LZH				*e*S		**S**	**23 22 50.1**	**-7.1**
LZH				pmax		pmax		
	comp=Z,21nm,1.0s							
LZH				pmax		pmax		
	comp=Z,110nm,4.1s							
LZH				LR		LR		
	comp=N,480nm,11.5s							
LZH				LR		LR		
	comp=E,1μm,13.0s							
LZH				LR		LR		
	comp=Z,910nm,15.2s							
ZAK	**Zakamensk**	**22.80**	**50**	*e*P		**P**	**23 18 53.4**	**+0.4**
ZAK				pmax		pmax		
	comp=Z,7.0nm,1.2s							
DGRG	**David-gareji**	**23.17**	**286**	P		**P**	**23 18 58.2**	**+1.4**
TLY	**Talaya**	**23.49**	**47**	*e*P		**P**	**23 18 59.3**	**-0.5**
TLY				*e*S		**S**	**23 23 08.7**	**-2.7**
TLY				pmax		pmax		
	comp=Z,2.0nm,1.1s							
TLY				MLR		MLR		
	comp=Z,128nm,12.0s							
TBLG	**Delisi**	**23.63**	**287**	P		**P**	**23 19 02.1**	**+0.9**
TBLG	**Delisi**	**23.63**	**287**	P		**P**	**23 19 02.1**	**+0.9**
GNI	**Garni**	**23.76**	**283**	P		**P**	**23 19 05.5**	**+2.8**
GNI	**Garni**	**23.76**	**283**	P		**P**	**23 19 05.4**	**+2.8**
	comp=Z,8.0nm,0.7s,baz=87,slow=6.4,SNR=7.3							
SOKR	**Solikamsk**	**24.01**	**336**	*c i*P		**P**	**23 19 05.3**	**+0.8**
SOKR				pmax		pmax		
	comp=Z,10.0nm,0.9s							
GOR	**Gori**	**24.08**	**288**	P		**P**	**23 19 08.3**	**+2.8**
SONM	**Songino Array**	**24.10**	**58**	P		**P**	**23 19 05.9**	**+0.1**
SONM	**Songino Array**	**24.10**	**58**	P		**P**	**23 19 05.9**	**+0.1**
	comp=Z,3.5nm,0.8s,baz=258,slow=9.9,SNR=28							
ZEI	**Tsey**	**24.21**	**290**	*e*P		**P**	**23 19 05.3**	**-1.6**
ZEI				pmax		pmax		
	comp=Z,5.0nm,0.6s							
CD2	**Chengdu**	**24.39**	**100**	P		**P**	**23 19 08.3**	**-0.2**
CD2				PP		**PnPn**	**23 19 44.9**	**+5.5**
CD2				S		**S**	**23 23 21.3**	**-5.0**
CD2				SS		**SnSn**	**23 24 17.4**	**+6.4**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				pmax		pmax		
	comp=Z,130nm,5.5s							
CD2				LR		LR		
	comp=N,750nm,14.2s							
CD2				LR		LR		
	comp=E,670nm,20.1s							
CD2				LR		LR		
	comp=Z,760nm,19.1s							
KIV	**Kislovodsk**	**25.09**	**293**	*e*P		**P**	**23 19 11.2**	**-3.5**
KIV				pmax		pmax		
	comp=Z,8.0nm,0.9s							
KMI	**Kunming**	**26.68**	**113**	P		**P**	**23 19 32.0**	**+2.6**
KMI				PP		**PnPn**	**23 20 17.5**	**+6.7**
KMI				S		**S**	**23 24 03.0**	**0.0**
KMI				pmax		pmax		
	comp=Z,7.0nm,1.1s							
KMI				pmax		pmax		
	comp=Z,74nm,3.9s							
KMI				LR		LR		
	comp=N,210nm,12.4s							
KMI				LR		LR		
	comp=E,310nm,14.0s							
KMI				LR		LR		
	comp=Z,450nm,16.2s							
VRHR	**Novokhopersk**	**26.74**	**309**	*e*P		**P**	**23 19 30.2**	**+0.8**
VRHR				pmax		pmax		
	comp=Z,10.0nm,0.8s							
VRHR				pmax		pmax		
	comp=N,8.0nm,0.4s							
VRHR				pmax		pmax		
	comp=E,20nm,0.8s							
XAN	**Xi'an**	**27.20**	**90**	P		**P**	**23 19 33.4**	**-0.4**
XAN				pP		**pP**	**23 19 41.3**	**-1.2**
HHC	**Hu-ho-hao-te**	**27.65**	**74**	*e*P		**P**	**23 19 39.6**	**+1.7**
HHC				PP		**PnPn**	**23 20 29.0**	**+5.2**
HHC				S		**S**	**23 24 17.3**	**-0.6**
HHC				SS		**SnSn**	**23 25 37.0**	**+6.5**
HHC				pmax		pmax		
	comp=Z,10.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,87nm,5.2s							
HHC				LR		LR		
	comp=N,340nm,14.3s							
HHC				LR		LR		
	comp=E,360nm,13.1s							
HHC				LR		LR		
	comp=Z,460nm,16.7s							
VORD	**Divnogorie**	**28.15**	**308**	*e*P		**P**	**23 19 42.2**	**+0.2**
VORD				pmax		pmax		
	comp=N,2.0nm,0.6s							
VORD				pmax		pmax		
	comp=E,10.0nm,0.6s							
VORD				pmax		pmax		
	comp=Z,4.0nm,0.6s							
VSR	**Storozhevoye**	**28.28**	**308**	*e*P		**P**	**23 19 42.7**	**-0.5**
VSR				pmax		pmax		
	comp=Z,3.0nm,0.5s							
VSR				pmax		pmax		
	comp=N,1.0nm,0.3s							
VSR				pmax		pmax		
	comp=E,4.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**28.69**	**128**	P		**P**	**23 19 46.5**	**-0.7**
CMAR				PcP		**PcP**	**23 22 56.5**	**-0.8**
CMAR				ScP		**ScP**	**23 26 37.3**	**+0.9**
CMAR	**Chiang Mai Arr**	**28.69**	**128**	P		**P**	**23 19 46.5**	**-0.7**
	comp=E,0.5nm,0.3s,baz=309,slow=8.2,SNR=4.7							
CMAR				PcP		**PcP**	**23 22 56.5**	**-0.8**
	comp=E,0.7nm,0.3s,baz=312,slow=3.4,SNR=4.4							
CMAR				ScP		**ScP**	**23 26 37.3**	**+0.9**
	comp=E,0.7nm,0.3s,baz=311,slow=4.7,SNR=4.9							
GYA	**Guiyang**	**28.81**	**106**	P		**P**	**23 19 51.0**	**+2.6**
GYA				PP		**PnPn**	**23 20 45.8**	**+6.0**
GYA				PcP		**PcP**	**23 23 01.3**	**+3.6**
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,120nm,4.9s							
GYA				LR		LR		
	comp=N,510nm,18.8s							
GYA				LR		LR		
	comp=E,460nm,19.0s							
GYA				LR		LR		
	comp=Z,490nm,18.4s							
OBN	**Obninsk**	**30.73**	**315**	*e*P		**P**	**23 20 05.6**	**+0.7**
OBN				*i*			23 21 00.0	
OBN				pmax		pmax		
	comp=Z,36nm,2.5s							
OBN	**Obninsk**	**30.73**	**315**	*e*P		**P**	**23 20 05.3**	**+0.4**
	comp=Z,47nm,1.6s							
BJI	**Beijing**	**31.25**	**75**	P		**P**	**23 20 11.5**	**+1.8**
BJI				S		**S**	**23 25 14.1**	**-0.1**
BJI				pmax		pmax		
	comp=Z,2.0nm,0.5s							
BJI				LR		LR		
	comp=N,170nm,19.2s							
BJI				LR		LR		
	comp=E,370nm,15.6s							
BJI				LR		LR		
	comp=Z,320nm,19.2s							
BOD	**Bodaibo**	**31.34**	**40**	*e*P		**P**	**23 20 08.2**	**-2.0**
KLMR	**Klimovskoe**	**31.44**	**327**	*e*P		P	23 20 06.8	-4.3
KLMR				pmax		pmax		
	comp=Z,32nm,1.6s							
MIGMM	**Minsk**	**35.55**	**312**	⇓*i*P		**P**	**23 20 44.0**	**-2.9**
QIZ	**Qiongzhong**	**35.61**	**114**	P		**P**	**23 20 49.6**	**+1.8**
QIZ				pP		**pP**	**23 21 00.3**	**+3.7**
QIZ				S		**S**	**23 26 23.0**	**+0.9**
QIZ				pmax		pmax		
	comp=Z,11nm,2.5s							
JOF	**Joensuu**	**35.83**	**327**	*e*P		**P**	**23 20 48.6**	**-0.6**
JOF				pmax		pmax		
	comp=Z,7.0nm,0.5s							
JOF	**Joens

SPITS	**Spitsbergen Ar**	**46.16**	**346**	P		**P**	**23 22 14.9**	**+0.9**
	comp=Z,5.1nm,0.3s,baz=139,slow=12,SNR=126							
MJAR	**Matsushiro Arr**	**48.81**	**72**	P		**P**	**23 22 34.4**	**-0.9**
MJAR	**Matsushiro Arr**	**48.81**	**72**	P		**P**	**23 22 34.4**	**-0.9**
	comp=Z,4.1nm,0.7s,baz=284,slow=9.8,SNR=6.8							
SEY	**Seymchan**	**50.53**	**35**	*ceP*		**P**	**23 22 49.2**	**+1.3**
BILL	**Bilibino**	**54.99**	**27**	*eP*		**P**	**23 23 21.2**	**+0.5**
BILL					pmax	pmax		
	comp=Z,22nm,2.5s							
ESDC	**Sonseca Array**	**59.57**	**298**	P		**P**	**23 23 53.6**	**0.0**
ESDC	**Sonseca Array**	**59.57**	**298**	P		**P**	**23 23 53.6**	**0.0**
	comp=Z,8.9nm,0.6s,baz=55,slow=6.9,SNR=17							
SUMG	**Summit**	**60.09**	**341**	*eP*		**P**	**23 23 56.8**	**-0.3**
SUMG					pmax	pmax		
	comp=Z,25nm,1.0s							
SUMG	**Summit**	**60.09**	**341**	*eP*		**P**	**23 23 56.8**	**-0.3**
	comp=Z,24nm,1.0s							
RES	**Resolute Bay**	**66.67**	**357**	*eP*		**P**	**23 24 40.1**	**+0.1**
	comp=Z,2.1nm,0.8s							
COLD	**Coldfoot**	**68.80**	**17**	*eP*		**P**	**23 24 53.4**	**-0.2**
	comp=Z,7.6nm,1.1s							
TORD	**Torodi Ar. Bea**	**69.33**	**270**	P		**P**	**23 24 56.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**69.33**	**270**	P		**P**	**23 24 56.8**	**-0.8**
	comp=Z,8.3nm,0.4s,baz=49,slow=5.8,SNR=43							
INK	**Inuvik**	**71.07**	**11**	*eP*		**P**	**23 25 07.0**	**-0.5**
	comp=Z,16nm,1.3s							
ILAR	**Eielson Array**	**71.59**	**18**	P		**P**	**23 25 09.6**	**-1.1**
ILAR	**Eielson Array**	**71.59**	**18**	P		**P**	**23 25 09.6**	**-1.1**
	comp=Z,3.2nm,0.8s,baz=316,slow=5.1,SNR=37							
YKA	**Yellowknife Ar**	**78.78**	**5**	P		**P**	**23 25 51.5**	**-0.5**
YKA	**Yellowknife Ar**	**78.78**	**5**	P		**P**	**23 25 51.5**	**-0.5**
	comp=Z,8.4nm,0.8s,baz=346,slow=5.5,SNR=124							
TSUM	**Tsumeb**	**79.14**	**235**	P		**P**	**23 25 54.4**	**-0.4**
TSUM	**Tsumeb**	**79.14**	**235**	P		**P**	**23 25 54.4**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=62,slow=4.0,SNR=12							
SCHQ	**Schefferville**	**81.36**	**339**	P		**P**	**23 26 05.7**	**-0.5**
SCHQ	**Schefferville**	**81.36**	**339**	P		**P**	**23 26 05.7**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=38,slow=6.1,SNR=8.3							
BOSA	**Boshof**	**81.81**	**223**	P		**P**	**23 26 07.5**	**-1.5**
BOSA	**Boshof**	**81.81**	**223**	P		**P**	**23 26 07.5**	**-1.5**
	comp=Z,3.8nm,0.9s,baz=90,slow=9.0,SNR=5.2							
ASAR	**Alice Springs**	**82.70**	**128**	P		**P**	**23 26 11.4**	**-2.2**
ASAR	**Alice Springs**	**82.70**	**128**	P		**P**	**23 26 11.4**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=324,slow=5.9,SNR=10							
FFC	**Flin Flon**	**86.87**	**359**	*eP*		**P**	**23 26 33.3**	**-0.9**
FFC					pmax	pmax		
	comp=Z,20nm,1.3s							
FFC	**Flin Flon**	**86.87**	**359**	*eP*		**P**	**23 26 33.3**	**-0.9**
	comp=Z,20nm,1.3s							
ULM	**Lac du Bonnet**	**91.06**	**354**	P		**P**	**23 26 52.9**	**-1.2**
ULM	**Lac du Bonnet**	**91.06**	**354**	P		**P**	**23 26 52.9**	**-1.2**
	comp=Z,4.5nm,0.8s,baz=359,slow=5.2,SNR=6.9							
A14A	**Double T Ranch**	**92.30**	**6**	⇓P		**P**	**23 26 59.4**	**-0.6**
	baz=92							
A15A	**Johnson Ranch,**	**92.35**	**5**	⇓P		**P**	**23 26 59.8**	**-0.4**
	baz=92							
A17A	**Triple J Farms**	**92.51**	**4**	⇓P		**P**	**23 27 00.7**	**-0.3**
	baz=92							
A18A	**Metzger Ranch,**	**92.58**	**4**	⇑P		**P**	**23 27 00.9**	**-0.4**
	baz=92,SNR=7.3							
A21A	**Bergtoll Ranch**	**92.61**	**2**	⇑P		**P**	**23 27 01.4**	**0.0**
	baz=92,SNR=6.6							
A19A	**Klindworth Far**	**92.62**	**3**	⇑P		**P**	**23 27 01.4**	**0.0**
	baz=92							
A22A	**Carney Farms,**	**92.63**	**1**	⇑P		**P**	**23 27 00.9**	**-0.5**
	baz=92							
NEW	**Newport**	**92.64**	**8**	⇑P		**P**	**23 27 01.6**	**+0.1**
	baz=92							
A20A	**Cobblestone Ra**	**92.70**	**2**	⇑P		**P**	**23 27 01.6**	**-0.1**
	baz=92							
A24A	**Westby**	**92.71**	**360**	⇓P		**P**	**23 27 01.8**	**0.0**
	baz=92							
B13A	**Whitefish**	**92.81**	**7**	⇓P		**P**	**23 27 02.0**	**-0.3**
	baz=92							
B14A	**Marquette Ranc**	**92.92**	**6**	⇑P		**P**	**23 27 02.7**	**-0.3**
	baz=92							
B16A	**M & M Farms, S**	**92.98**	**5**	⇓P		**P**	**23 27 01.9**	**-1.2**
	baz=93							
B15A	**Bradely Ranch,**	**93.02**	**5**	⇑P		**P**	**23 27 02.4**	**-1.0**
	baz=93,SNR=5.4							
B19A	**Brinkman Farms**	**93.09**	**3**	⇑P		**P**	**23 27 03.3**	**-0.3**
	baz=93							
B17A	**L&G Farms, Che**	**93.16**	**4**	⇓P		**P**	**23 27 03.5**	**-0.4**
	baz=93							
B23A	**Brockton**	**93.17**	**0**	⇑P		**P**	**23 27 04.2**	**+0.3**
	baz=93							
B21A	**Ellsworth Farm**	**93.17**	**2**	⇑P		**P**	**23 27 04.2**	**+0.3**
	baz=93							
BSMT	**Bassoo Peak**	**93.29**	**7**	*eP*		**P**	**23 27 04.6**	**-0.1**
	comp=Z,3.6nm,0.8s							
EGMT	**Eagleton**	**93.48**	**4**	⇓P		**P**	**23 27 05.0**	**-0.4**
	baz=93							
C13A	**Hot Springs**	**93.48**	**7**	⇓P		**P**	**23 27 05.1**	**-0.3**
	baz=93,SNR=5.7							
C15A	**Salmond Ranch,**	**93.55**	**5**	⇑P		**P**	**23 27 05.2**	**-0.6**
	baz=93							
MDND	**Maddock**	**93.67**	**357**	⇑P		**P**	**23 27 05.8**	**-0.5**
	baz=93							
C21A	**Desert Coulee**	**93.77**	**2**	⇓P		**P**	**23 27 06.2**	**-0.5**
	baz=93,SNR=6.4							
C19A	**Slack Wire Ran**	**93.80**	**3**	⇓P		**P**	**23 27 06.3**	**-0.6**
	baz=93							
C17A	**Wharram Farm,**	**93.82**	**4**	⇑P		**P**	**23 27 06.3**	**-0.7**
	baz=93							
C23A	**Lambert**	**93.83**	**0**	⇑P		**P**	**23 27 07.6**	**+0.6**
	baz=93,SNR=8.1							
C22A	**Vida**	**93.88**	**1**	⇑P		**P**	**23 27 07.6**	**+0.4**
	baz=94							
D13A	**Huson**	**94.07**	**7**	⇑P		**P**	**23 27 07.4**	**-0.7**
	baz=94							
D17A	**Six Diamond Ra**	**94.30**	**4**	⇑P		**P**	**23 27 09.0**	**-0.3**
	baz=94,SNR=5.5							
D16A	**Dana Ranch, Ca**	**94.37**	**5**	⇓P		**P**	**23 27 08.8**	**-0.8**
	baz=94							
D22A	**Cohagen**	**94.47**	**1**	⇑P		**P**	**23 27 10.5**	**+0.6**
	baz=94,SNR=5.6							
E14A	**Clinton**	**94.83**	**6**	⇓P		**P**	**23 27 11.0**	**-0.7**
	baz=94							
E16A	**East Helena**	**94.86**	**5**	⇓P		**P**	**23 27 11.8**	**0.0**
	baz=94							
E18A	**Harlowton**	**94.93**	**4**	⇓P		**P**	**23 27 12.5**	**+0.3**
	baz=94							
E19A	**Rath Farm, Rou**	**95.08**	**3**	⇓P		**P**	**23 27 12.9**	**+0.1**
	baz=95							
F13A	**Darby**	**95.38**	**7**	⇓P		**P**	**23 27 13.8**	**-0.5**
	baz=95							
F14A	**Wisdom**	**95.44**	**6**	⇑P		**P**	**23 27 14.4**	**-0.1**
	baz=95							
F15A	**Butte**	**95.48**	**6**	⇑P		**P**	**23 27 14.6**	**-0.2**
	baz=95							
F17A	**Fitzpatrick Pl**	**95.55**	**4**	⇓P		**P**	**23 27 14.8**	**-0.2**
	baz=95							
F18A	**Big Timber**	**95.60**	**4**	⇑P		**P**	**23 27 15.2**	**-0.1**
	baz=95							
G13A	**Cobalt**	**96.08**	**7**	⇓P		**P**	**23 27 17.0**	**-0.5**
	baz=96							
G20A	**Bridger**	**96.34**	**3**	⇓P		**P**	**23 27 18.5**	**-0.1**
	baz=96							
H12A	**Diamond D Ranc**	**96.56**	**7**	⇓P		**P**	**23 27 19.7**	**+0.1**
	baz=96							
H13A	**Challis**	**96.60**	**7**	⇓P		**P**	**23 27 20.1**	**+0.2**
	baz=96							
H18A	**Shoshone NF, C**	**96.83**	**4**	⇑P		**P**	**23 27 20.6**	**-0.4**
	baz=96							
I12A	**Atlanta**	**97.27**	**8**	⇑P		**P**	**23 27 22.5**	**-0.5**
	baz=97							
I14A	**Mackay**	**97.31**	**7**	⇓P		**P**	**23 27 22.8**	**-0.2**
	baz=97							
I16A	**Newdale**	**97.51**	**5**	⇓P		Pdif	23 27 24.1	+0.1
	baz=97							
I21A	**Big Trails, Te**	**97.78**	**2**	⇓P		**P**	**23 27 25.0**	**-0.2**
	baz=97							
J19A	**Crowheart**	**98.26**	**3**	⇑P		Pdif	23 27 27.6	+0.2
	baz=98							
PLCA	**Paso Flores**	**153.93**	**255**	PKPbc		**PKPbc**	**23 33 48.4**	**-0.7**
PLCA	**Paso Flores**	**153.93**	**255**	PKPbc		**PKPbc**	**23 33 48.4**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=180,slow=2.0,SNR=3.8							

NEIC ***16*** *23:16:33.5±0.0,36°.46'N×20°.74E,h10km,Moment Tensor Solution. s90 Moment tensor: Scale 10¹⁷Nm; Mrr0.49; Mθθ0.41; Mϕϕ-0.91; Mrθ0.47; Mθϕ1.02; Mϕr0.44; Best double couple: Mo1.40000×10¹⁷ NP1:ϕs112.00000°,δ62.00000°, λ23.00000°. Principal axes: T 1.4000, Plg34.0000°, Azm329.0000°; N 0.0700, Plg54.0000°, Azm160.0000°; P*

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-1.4800, Plg5.0000°, Azm62.0000°;
SZGRF ***16*** *23:16:36.5,37°.07'N×21°.33E,h10km,mb5.8,MS5.1, Southern Greece*
BGS ***16*** *23:16:36.3±1.6,36°.84N×20°.88E,h10km,mb5.6,MS5.2*
ROM ***16*** *23:16:36.1±0.6,37°.03N×21°.01E,h10km,Ml5.7/28,Error ellipse: s-maj=10.4km s-min=2.8km az=118.0*
BJI ***16*** *23:16:37.6,37°.48N×21°.13E,h8km,mB5.7/30,mb5.3/59, Ms5.7/56,Ms7 5.3/52*
ISCJB ***16*** *23:16:37.3±0.3,37°.28N±0°.01×20°.857E±0°.009,h1km±1km, mb5.5/260,MS5.3/107,Error ellipse: s-maj=1.8km s-min=1.1km az=19.9*
IDC ***16*** *23:16:37.8±0.4,37°.25N×20°.97E,h0km,mb5.2/34, mb1 5.2/45,mb1mx5.2/47,mbtmp5.1/45,ML4.7/9,MS5.2/31, Ms1 5.2/31,ms1mx5.0/50,Error ellipse: s-maj=10.7km s-min=9.2km az=133.0*
NEIC ***16*** *23:16:38.5,37°.13N×20°.78E,h15km,mb5.5/159,MS5.2/29, MW5.4,MW5.4,ML5.5(ATH),Moment Tensor Solution. s37 Moment tensor: Scale 10¹⁷Nm; Mrr0.54; Mθθ0.56; Mϕϕ-1.10; Mrθ1.16; Mθϕ0.85; Mϕr-0.21; Best double couple: Mo1.70000×10¹⁷ NP1:ϕs15.00000°,δ46.00000°, λ161.00000°. NP2:ϕs118.00000°,δ77.00000°,λ45.00000°. Principal axes: T 1.7900, Plg40.0000°, Azm346.0000°; N -0.1100, Plg43.0000°, Azm130.0000°; P -1.6800, Plg19.0000°, Azm239.0000°; After ATH.*
NEIC Felt [II] at Eleousa, Kalamata, Patrai and Preveza, Greece. Also felt at Ambelokipoi, Archaia Olympia, Athens, Athikia, Kiparissos, Larisa, Lithakia, Lixourion, Piraeus, Planos, Tripolis, Valsamata, Varda, Zakinthos and Zitsa. Felt at Gjirokaster, Albania.
ATH ***16*** *23:16:38.5,37°.13N×20°.78E,h15km±2km,ML5.5*
THE ***16*** *23:16:38.2,37°.08N×20°.75E,h0km±1km,ML5.7/13,Error ellipse: s-maj=2.2km s-min=0.7km az=237.0*
PDG ***16*** *23:16:38.7±0.6,37°.15N×20°.76E,h12km±1km,MD5.5/5, ML5.4/9,Error ellipse: s-maj=0.7km s-min=0.5km az=90.0*
IGIL ***16*** *23:16:38.8,37°.21N×20°.80E,h10km,mb5.3*
CSEM ***16*** *23:16:39.6±0.1,37°.21N×20°.82E,h10km,mb5.6/21,Ms5.5, Mw5.5,Error ellipse: s-maj=2.5km s-min=1.6km az=17.0*
SFS ***16*** *23:16:40.0,37°.41N×21°.07E,h10km,ML5.6*
MOS ***16*** *23:16:40.8±1.1,37°.34N×20°.86E,h33km,mb5.7/78, MS5.3/65,Error ellipse: s-maj=4.3km s-min=2.4km az=99.8*
DJA ***16*** *23:16:41,37°.35N×21°.06E,h10km,mb5.3/10*
HLW ***16*** *23:16:41.3,37°.15N×21°.53E,h30km±28km,Md5.2,Ml5.4*
TEH ***16*** *23:16:41.0,37°.41N×21°.07E,h10km,ML5.6*
BEO ***16*** *23:16:59.0±5.0,38°.73N×20°.57E,h0km,ML5.0/1*
ISC 16 23:16:39.9±0.2,37°.24N±0°.01×20°.90E±0°.01,h13km±1km, h13km:pP-P,n2269,σ1s33/2419,mb5.5/265,MS5.3/109, 375C-234D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.76**	**117**	P	**Pg**	**23 16 53.7**	**-0.9**
PYL				S	**Sb**	**23 17 05.8**	**+0.7**
PYL	**PYLOS**	**0.76**	**117**	*e*PN	**Pg**	**23 16 54.0**	**-0.6**
PYL				*e*SN	**Sb**	**23 17 05.3**	**+0.2**
PYL	**PYLOS**	**0.76**	**117**	P	**Pg**	**23 16 53.7**	**-0.9**
PYL	**PYLOS**	**0.76**	**117**	*e*Pn	**Pg**	**23 16 54.0**	**-0.6**
PYL				*e*Sn	**Sb**	**23 17 05.3**	**+0.2**
PYL				S	**Sb**	**23 17 05.8**	**+0.7**
ITM	**Ithomi**	**0.82**	**94**	P	**Pg**	**23 16 55.4**	**-0.4**
ITM				S	**Sn**	**23 17 10.1**	**+0.9**
ITM	**Ithomi**	**0.82**	**94**	*e*PB	**Pg**	**23 16 55.2**	**-0.6**
ITM				*e*SN	**Sn**	**23 17 09.0**	**-0.2**
ITM	**Ithomi**	**0.82**	**94**	P	**Pg**	**23 16 55.4**	**-0.4**
ITM				S	**Sb**	**23 17 08.2**	**+1.2**
ITM				*e*Sn	**Sn**	**23 17 09.0**	**-0.2**
KFL	**Anninata**	**0.87**	**354**	P	**Pn**	**23 16 57.2**	**-0.7**
KFL				S	**Sn**	**23 17 12.9**	**+2.5**
KFL	**Anninata**	**0.87**	**354**	P	**Pn**	**23 16 57.2**	**-0.7**
KFL				S	**Sn**	**23 17 12.9**	**+2.5**
RLS	**Riolos of Patr**	**0.93**	**29**	P	**Pn**	**23 16 58.9**	**+0.3**
RLS				S	**Sn**	**23 17 16.8**	**+4.9**
RLS	**Riolos of Patr**	**0.93**	**29**	*e*PN	**Pn**	**23 16 59.0**	**+0.3**
RLS				*e*SN	**Sn**	**23 17 13.6**	**+1.7**
RLS	**Riolos of Patr**	**0.93**	**29**	P	**Pn**	**23 16 58.9**	**+0.3**
RLS				*e*Sn	**Sn**	**23 17 13.6**	**+1.7**
VLS	**Valsamata**	**0.97**	**345**	P	**Pb**	**23 16 58.5**	**0.0**
VLS				S	**Sn**	**23 17 15.7**	**+2.9**
VLS	**Valsamata**	**0.97**	**345**	*e*PN	**Pb**	**23 16 58.6**	**0.0**
VLS				*e*SN	**Sn**	**23 17 13.7**	**+0.9**
VLS	**Valsamata**	**0.97**	**345**	P	**Pb**	**23 16 58.5**	**0.0**
VLS				*e*Sn	**Sn**	**23 17 13.7**	**+0.9**
VLS				S	**Sn**	**23 17 15.7**	**+2.9**
VLX	**Vlachokerasia**	**1.19**	**83**	P	**Pn**	**23 17 02.4**	**+0.2**
VLX				S	**Sn**	**23 17 22.8**	**+4.5**
VLX	**Vlachokerasia**	**1.19**	**83**	*e*PN	**Pn**	**23 17 02.5**	**+0.2**
VLX				*e*SN	**Sn**	**23 17 21.1**	**+2.8**
VLX	**Vlachokerasia**	**1.19**	**83**	*e*Pn	**Pn**	**23 17 02.5**	**+0.2**
VLX				*e*Sn	**Sn**	**23 17 21.1**	**+2.8**
UPR	**University Cam**	**1.26**	**34**	P	**Pg**	**23 17 04.8**	**+0.7**
UPR	**University Cam**	**1.26**	**34**	*e*PN	**Pg**	**23 17 05.1**	**+1.0**
UPR	**University Cam**	**1.26**	**34**	P	**Pg**	**23 17 04.8**	**+0.7**
UPR	**University Cam**	**1.26**	**34**	*e*Pn	**Pg**	**23 17 05.1**	**+1.0**
LAKA	**Lakka**	**1.31**	**40**	P	**Pg**	**23 17 05.0**	**-0.2**
LAKA				S	Sg	23 17 27.8	+5.5
LAKA	**Lakka**	**1.31**	**40**	P	**Pg**	**23 17 05.2**	**0.0**
GUR	**Goura**	**1.34**	**58**	P	**Pb**	**23 17 04.9**	**0.0**
GUR				S	Sg	23 17 28.3	+5.2
GUR	**Goura**	**1.34**	**58**	*e*PN	**Pb**	**23 17 05.4**	**+0.5**
GUR				*e*SN	**Sg**	**23 17 27.0**	**+3.9**
GUR	**Goura**	**1.34**	**58**	P	**Pb**	**23 17 04.9**	**0.0**
GUR	**Goura**	**1.34**	**58**	*e*Pn	**Pb**	**23 17 05.4**	**+0.5**
GUR				*e*Sn	**Sg**	**23 17 27.0**	**+3.9**
GUR				S	Sg	23 17 28.3	+5.2
EFP	**Efpalio**	**1.43**	**34**	P	**Pg**	**23 17 07.0**	**-0.3**
EFP	**Efpalio**	**1.43**	**34**	*e*PN	**Pg**	**23 17 07.7**	**+0.4**
EFP	**Efpalio**	**1.43**	**34**	P	**Pg**	**23 17 07.0**	**-0.3**
EFP	**Efpalio**	**1.43**	**34**	*e*Pn	**Pg**	**23 17 07.7**	**+0.4**
TRIZ	**Trizonia**	**1.46**	**39**	P	**Pg**	**23 17 07.5**	**-0.4**
TRIZ	**Trizonia**	**1.46**	**39**	P	**Pg**	**23 17 07.5**	**-0.4**
KALE	**Kalithea**	**1.51**	**40**	P	**Pg**	**23 17 08.5**	**-0.4**
KALE				S	**Sg**	**23 17 33.0**	**+4.4**
KALE	**Kalithea**	**1.51**	**40**	P	**Pg**	**23 17 08.5**	**-0.4**
LKD2	**Lefkada island**	**1.56**	**353**	P	**Pb**	**23 17 08.8**	**+0.1**
LKD2				S	**Sg**	**23 17 33.1**	**+3.0**
LKD2	**Lefkada island**	**1.56**	**353**	*e*PN	**Pg**	**23 17 09.5**	**-0.3**
LKD2	**Lefkada island**	**1.56**	**353**	P	**Pb**	**23 17 08.7**	**+0.1**
LKD2	**Lefkada island**	**1.56**	**353**	*e*Pn	**Pg**	**23 17 09.5**	**-0.3**
LKD2				S	**Sg**	**23 17 33.1**	**+3.0**
VLI	**Veliai**	**1.71**	**107**	P	**Pb**	**23 17 11.1**	**-0.1**
VLI				S	**Sg**	**23 17 35.0**	**0.0**
VLI	**Veliai**	**1.71**	**107**	*e*PN	**Pb**	**23 17 12.0**	**+0.8**
VLI	**Veliai**	**1.71**	**107**	P	**Pb**	**23 17 11.1**	**-0.1**
VLI	**Veliai**	**1.71**	**107**	*e*Pn	**Pb**	**23 17 12.0**	**+0.8**
VLI				S	**Sg**	**23 17 35.0**	**0.0**
DSF	**Desfina**	**1.74**	**47**	P	**Pb**	**23 17 12.4**	**+0.7**
DSF	**Desfina**	**1.74**	**47**	P	**Pb**	**23 17 12.2**	**+0.5**
DESF	**Desfina**	**1.74**	**47**	P	**Pb**	**23 17 11.2**	**-0.6**
DESF	**Desfina**	**1.74**	**47**	P	**Pb**	**23 17 11.2**	**-0.6**
LTK	**Loutraki**	**1.82**	**64**	P	**Pb**	**23 17 13.2**	**+0.2**
LTK				S	**Sg**	**23 17 39.1**	**+0.7**
LTK	**Loutraki**	**1.82**	**64**	*e*PN	**Pb**	**23 17 13.3**	**+0.2**
LTK	**Loutraki**	**1.82**	**64**	P	**Pb**	**23 17 13.1**	**+0.1**
LTK				S	**Sg**	**23 17 39.1**	**+0.7**
EVR	**Evrytania**	**1.82**	**23**	P	**Pb**	**23 17 13.8**	**+0.7**
EVR				S	**Sg**	**23 17 40.2**	**+1.7**
EVR	**Evrytania**	**1.82**	**23**	*e*PN	**Pg**	**23 17 15.4**	**+0.6**
EVR	**Evrytania**	**1.82**	**23**	P	**Pb**	**23 17 13.8**	**+0.7**
EVR	**Evrytania**	**1.82**	**23**	*e*Pn	**Pg**	**23 17 15.4**	**+0.6**
EVR				S	**Sg**	**23 17 40.2**	**+1.7**
DIDY	**Didyma**	**1.86**	**82**	P	**Pb**	**23 17 12.8**	**-0.9**
DIDY	**Didyma**	**1.86**	**82**	P	**Pb**	**23 17 12.8**	**-0.9**
DID	**Didima**	**1.88**	**81**	P	**Pb**	**23 17 13.2**	**-0.9**
DID				S	**Sg**	**23 17 40.4**	**0.0**
DID	**Didima**	**1.88**	**81**	*e*PN	**Pb**	**23 17 14.1**	**0.0**
DID	**Didima**	**1.88**	**81**	P	**Pb**	**23 17 13.1**	**-1.0**
DID	**Didima**	**1.88**	**81**	*e*Pn	**Pb**	**23 17 14.1**	**0.0**
DID				S	**Sg**	**23 17 39.8**	**-0.6**
KYTH	**Kithira**	**1.96**	**119**	P	**Pb**	**23 17 14.5**	**-1.0**
KYTH	**Kithira**	**1.96**	**119**	*e*PN	**Pb**	**23 17 15.0**	**-0.5**
KYTH	**Kithira**	**1.96**	**119**	P	**Pb**	**23 17 14.5**	**-1.0**
KYTH	**Kithira**	**1.96**	**119**	*e*Pn	**Pb**	**23 17 15.0**	**-0.5**
MAKR	**Makrakomi, Fth**	**2.02**	**28**	P	**Pb**	**23 17 16.7**	**+0.2**
MAKR	**Makrakomi, Fth**	**2.02**	**28**	P	**Pb**	**23 17 16.7**	**+0.2**
AXAR	**Agios Charalam**	**2.06**	**42**	P	**Pb**	**23 17 17.7**	**+0.5**
AXAR	**Agios Charalam**	**2.06**	**42**	P	**Pb**	**23 17 17.7**	**+0.5**
NAIG	**Nisos Aigina**	**2.12**	**75**	*e*PB	**Pn**	**23 17 16.5**	**+1.5**
NAIG	**Nisos Aigina**	**2.12**	**75**	*e*Pb	**Pn**	**23 17 16.5**	**+1.5**
RGA	**Parga**	**2.12**	**348**	P	**Pb**	**23 17 16.8**	**-1.5**
RGA	**Parga**	**2.12**	**348**	P	**Pb**	**23 17 16.7**	**-1.5**
LKR	**Lokris**	**2.18**	**49**	P	**Pb**	**23 17 18.5**	**-0.6**
LKR				S	**Sg**	**23 17 48.4**	**-1.4**
LKR	**Lokris**	**2.18**	**49**	*e*PN	**Pb**	**23 17 18.6**	**-0.6**
LKR	**Lokris**	**2.18**	**49**	P	**Pb**	**23 17 18.5**	**-0.6**
LKR				S	**Sg**	**23 17 48.4**	**-1.4**
ATAL	**Atalanti**	**2.22**	**48**	P	**Pb**	**23 17 19.2**	**-0.6**
ATAL				S	**Sg**	**23 17 49.5**	**-1.6**
ATAL	**Atalanti**	**2.22**	**48**	P	**Pb**	**23 17 19.2**	**-0.6**
ATAL				S	**Sg**	**23 17 49.5**	**-1.6**
IGT	**Igoumenitsa**	**2.33**	**349**	P	**Pn**	**23 17 19.0**	**+1.1**
IGT				S	**Sb**	**23 17 51.8**	**+1.3**
IGT	**Igoumenitsa**	**2.33**	**349**	P	**Pn**	**23 17 19.0**	**+1.1**
IGT				S	**Sb**	**23 17 51.8**	**+1.3**
ATH	**Athens Observa**	**2.35**	**71**	P	**Pn**	**23 17 19.6**	**+1.4**
ATH	**Athens Observa**	**2.35**	**71**	*e*PN	**Pn**	**23 17 19.6**	**+1.4**
ATH	**Athens Observa**	**2.35**	**71**	P	**Pn**	**23 17 19.6**	**+1.4**
JAN	**Janina**	**2.41**	**359**	P	**Pb**	**23 17 21.5**	**-1.6**
JAN	**Janina**	**2.41**	**359**	*e*PB	**Pb**	**23 17 21.6**	**-1.6**
JAN	**Janina**	**2.41**	**359**	P	**Pb**	**23 17 21.5**	**-1.6**
THL	**Klokotos Trika**	**2.48**	**20**	P	**Pb**	**23 17 23.2**	**-1.0**
THL				S	**Sb**	**23 17 55.2**	**+0.5**
THL	**Klokotos Trika**	**2.48**	**20**	*e*PB	**Pb**	**23 17 23.3**	**-1.0**
THL	**Klokotos Trika**	**2.48**	**20**	*e*Pb	**Pb**	**23 17 23.3**	**-1.0**
THL				S	**Sb**	**23 17 55.2**	**+0.5**
PTL	**Penteli**	**2.49**	**70**	P	**Pn**	**23 17 21.4**	**+1.3**
PTL	**Penteli**	**2.49**	**70**	*e*PN	**Pn**	**23 17 21.4**	**+1.3**
PTL	**Penteli**	**2.49**	**70**	P	**Pn**	**23 17 21.4**	**+1.3**
MEV	**Metsovon**	**2.55**	**6**	P	**Pb**	**23 17 23.7**	**-2.0**
MEV	**Metsovon**	**2.55**	**6**	P	**Pb**	**23 17 23.7**	**-2.0**
MRKA	**Markates**	**2.58**	**55**	P	**Pn**	**23 17 23.5**	**+2.2**
MRKA	**Markates**	**2.58**	**55**	P	**Pn**	**23 17 23.5**	**+2.2**
ERET	**Eretria**	**2.59**	**62**	P	**Pn**	**23 17 23.8**	**+2.2**
ERET	**Eretria**	**2.59**	**62**	P	**Pn**	**23 17 23.8**	**+2.2**
KEK	**Kerkira**	**2.62**	**341**	Pn	**Pn**	**23 17 22.5**	**+0.7**
KEK					Sn	**Sb**	**23 17 56.2**	**-2.5**
	59μm,1.8s							
KEK	**Kerkira**	**2.62**	**341**	P	**Pn**	**23 17 22.6**	**+0.7**
KEK	**Kerkira**	**2.62**	**341**	*e*PN	**Pn**	**23 17 22.6**	**+0.7**
KEK	**Kerkira**	**2.62**	**341**	Pn	**Pn**	**23 17 22.5**	**+0.7**
KEK					Sn	**Sb**	**23 17 56.2**	**-2.5**
	59μm,1.8s							
NEO	**Neokhori**	**2.76**	**41**	P	**Pn**	**23 17 26.4**	**+2.6**
NEO	**Neokhori**	**2.76**	**41**	*e*PN	**Pn**	**23 17 26.5**	**+2.6**
NEO	**Neokhori**	**2.76**	**41**	P	**Pn**	**23 17 26.4**	**+2.6**
XOR	**Xorichti**	**2.79**	**40**	P	**Pn**	**23 17 26.7**	**+2.5**
XOR	**Xorichti**	**2.79**	**40**	P	**Pn**	**23 17 26.7**	**+2.5**
SKIA	**Skiathos**	**2.79**	**46**	P	**Pb**	**23 17 27.0**	**-2.6**
SKIA	**Skiathos**	**2.79**	**46**	P	**Pb**	**23 17 27.0**	**-2.6**
MRMA	**Marmari**	**2.88**	**72**	P	**Pn**	**23 17 26.7**	**+1.2**
MRMA	**Marmari**	**2.88**	**72**	P	**Pn**	**23 17 26.7**	**+1.2**
AOS	**Alonnisos**	**3.04**	**50**	P	**Pn**	**23 17 29.6**	**+2.0**
AOS	**Alonnisos**	**3.04**	**50**	P	**Pn**	**23 17 29.6**	**

VAY	Valandovo	4.28	17	⇑iPn	Pn	23 17 46.8	+2.2	LPK	Lapseki	5.54	54 eP	Pn	23 18 04.5	+2.5
LIA	Limnos Island	4.28	50	P	Pn	23 17 46.6	+1.9	ERIK	Erikli-Kesan	5.55	50 eP	Pn	23 18 04.0	+1.8
NPS	Neapolis	4.29	116	P	Pn	23 17 45.3	+0.4	BARS	Barje	5.61	7⇑iPn	Pn	23 18 04.4	+1.4
NPS	Neapolis	4.29	116	ePN	Pn	23 17 46.9	+2.0	BARS	Barje	5.61	7⇑iPn	Pn	23 18 04.4	+1.4
NPS	Neapolis	4.29	116	P	Pn	23 17 45.3	+0.4	KDZ	Kurdzhali	5.62	37 iP	Pn	23 18 04.0	+0.8
NPS	Neapolis	4.29	116	ePn	Pn	23 17 46.9	+2.0	KDZ	Kurdzhali	5.62	37 iP	Pn	23 18 04.0	+0.8
TAR1	Taranto	4.33	320	ePn	Pn	23 17 45.9	+0.6	VTS	Vitosha	5.63	18⇑P	Pn	23 18 05.9	+2.5
TAR1				eSn	Sn	23 18 34.9	-0.7	VTS	Vitosha	5.63	18 P	Pn	23 18 05.8	+2.4
MSRU	Castanea 86µm,1.9s	4.39	285	Pn	Pn	23 17 46.0	-0.3	VTS	Vitosha	5.63	18⇑iP	Pn	23 18 05.9	+2.5
MSRU	Castanea 86µm,1.9s	4.39	285	Pn	Pn	23 17 46.0	-0.3	VTS	Vitosha	5.63	18 iP	Pn	23 18 06.6	+3.2
SRS	Serrai	4.40	28	P	Pn	23 17 48.3	+1.9	VTS	Vitosha	5.63	18⇑iPn	Pn	23 18 05.8	+2.4
SRS	Serrai	4.40	28	P	Pn	23 17 48.3	+1.9	VTS	Vitosha	5.63	18 P	Pn	23 18 05.8	+2.4
AGST	Augusta-Monte 14µm,1.3s	4.53	272	Pn	Pn	23 17 45.8	-2.3	PLD	Plovdiv	5.67	30 P	Pn	23 18 06.6	+2.8
AGST	Augusta-Monte 14µm,1.3s	4.53	272	Pn	Pn	23 17 45.8	-2.3	PLD	Plovdiv	5.67	30 P	Pn	23 18 06.6	+2.8
MMME	Mongiuffi-Meli 13µm,1.3s	4.54	280	Pn	Pn	23 17 47.6	-0.7	IVA	Berane	5.68	353⇓iPn	Pn	23 18 05.3	+1.3
MMME	Mongiuffi-Meli 13µm,1.3s	4.54	280	Pn	Pn	23 17 47.6	-0.7	IVA			eSn	Sn	23 19 10.8	+1.8
HAGA	Augusta 13µm,1.3s	4.58	272	Pn	Pn	23 17 46.6	-2.3	BEY	Berane	5.68	352⇓iPn	Pn	23 18 05.3	+1.3
HAGA	Augusta 13µm,1.3s	4.58	272	Pn	Pn	23 17 46.6	-2.3	BEY			eSn	Sn	23 19 10.8	+1.7
HAVL	Avola 18µm,0.9s	4.63	268	Pn	Pn	23 17 47.6	-1.9	AKS	Akhisar	5.70	71 eP	Pn	23 18 06.0	+1.9
HAVL	Avola 18µm,0.9s	4.63	268	Pn	Pn	23 17 47.6	-1.9	MCRV	Calabrutti - M 4µm,0.7s	5.70	310 Pn	Pn	23 18 04.5	+0.2
NOCI	Noci 17µm,1.8s	4.63	321	Pn	Pn	23 17 49.2	-0.4	MCRV	Calabrutti - M 4µm,0.7s	5.70	310 Pn	Pn	23 18 04.5	+0.2
NOCI	Noci 17µm,1.8s	4.63	321	Pn	Pn	23 17 49.2	-0.4	LTBQ	Tobruq SNR=45	5.74	153 eP	Pn	23 18 04.4	-0.4
SSY	Sortino 18µm,1.3s	4.65	271	Pn	Pn	23 17 47.6	-2.3	NKY	Niksic	5.75	346⇑iPn	Pn	23 18 05.5	+0.4
SSY	Sortino 18µm,1.3s	4.65	271	Pn	Pn	23 17 47.6	-2.3	NKY			eSn	Sn	23 19 11.7	+0.7
PRK	Paraskevi	4.68	63	P	Pn	23 17 51.5	+1.3	NKY	Niksic	5.75	346⇑iPn	Pn	23 18 05.5	+0.4
HCRL	Carlentini 31µm,1.5s	4.68	272	Pn	Pn	23 17 48.1	-2.1	NKY			eSn	Sn	23 19 11.7	+0.7
HCRL	Carlentini 31µm,1.5s	4.68	272	Pn	Pn	23 17 48.1	-2.1	SNAL	S. Angelo Dei 3µm,1.2s	5.76	311 Pn	Pn	23 18 05.3	+0.2
KAVA	Kavala	4.69	36	P	Pn	23 17 51.7	+1.4	SNAL	S. Angelo Dei 3µm,1.2s	5.76	311 Pn	Pn	23 18 05.3	+0.2
KAVA	Kavala	4.69	36	P	Pn	23 17 51.7	+1.4	CAFE	Carife 847nm,1.1s	5.80	312 Pn	Pn	23 18 06.2	+0.5
NVR	Nevrokopi	4.70	28	P	Pn	23 17 52.7	+2.1	CAFE	Carife 847nm,1.1s	5.80	312 Pn	Pn	23 18 06.2	+0.5
NVR	Nevrokopi	4.70	28	P	Pn	23 17 52.7	+2.1	BALY	Balya	5.83	63 iP	Pn	23 18 07.9	+1.8
SKO	Skopje	4.74	5	⇑iPn	Pn	23 17 53.4	+2.3	BALY	Balya	5.83	63 iP	Pn	23 18 07.9	+1.8
SKO	Skopje	4.74	5	⇑iPn	Pn	23 17 53.9	+2.8	PGB	Panagyurishte	5.87	24 iP	Pn	23 18 10.9	+4.3
SCHR	S. Chirico Rap 3µm,0.8s	4.79	310	Pn	Pn	23 17 52.2	+0.4	MS1	Monte Sant'Ang MS1	5.88	321 iPn	Pn	23 18 06.8	0.0
SCHR	S. Chirico Rap 3µm,0.8s	4.79	310	Pn	Pn	23 17 52.2	+0.4	ARG	Arkhangelos	5.89	98 P	Pn	23 18 09.0	+2.1
ZKR	Zakros	4.79	115	P	Pn	23 17 53.1	+1.3	ARG	Arkhangelos	5.89	98 ePN	Pn	23 18 09.9	+3.0
ZKR	Zakros	4.79	115	ePN	Pn	23 17 53.8	+2.0	ARG	Arkhangelos	5.89	98 P	Pn	23 18 09.0	+2.1
ZKR	Zakros	4.79	115	P	Pn	23 17 53.1	+1.3	ARG	Arkhangelos	5.89	98 ePn	Pn	23 18 09.9	+3.0
ZKR	Zakros	4.79	115	ePn	Pn	23 17 53.8	+2.0	YER	Yerkesik	5.89	89 eP	Pn	23 18 09.6	+2.6
BOZC	Bozcaada	4.80	56	iP	Pn	23 17 51.9	0.0	MSAG	Monte S. Angel 6µm,2.2s	5.90	321 Pn	Pn	23 18 06.7	-0.4
MIGL	Miglionico 30µm,1.2s	4.83	315	Pn	Pn	23 17 52.6	+0.3	MSAG	Monte S. Angel 6µm,2.2s	5.90	321 Pn	Pn	23 18 06.7	-0.4
MIGL	Miglionico 30µm,1.2s	4.83	315	Pn	Pn	23 17 52.6	+0.3	KRBG	Karabiga-Canak	5.90	56 eP	Pn	23 18 09.8	+2.8
CUC	Castrocucco 7µm,1.1s	4.84	306	Pn	Pn	23 17 52.4	0.0	BRY	Bratogost	5.94	343⇑iPn	Pn	23 18 07.9	+0.3
CUC	Castrocucco 7µm,1.1s	4.84	306	⇑iPn	Pn	23 17 52.6	+0.2	BRY			eSn	Sn	23 19 15.9	+0.4
CUC				Sn	Sn	23 18 49.5	+1.2	BRY	Bratogost	5.94	343⇑iPn	Pn	23 18 07.9	+0.3
CUC	Castrocucco 7µm,1.1s	4.84	306	Pn	Pn	23 17 52.4	0.0	BRY			eSn	Sn	23 19 15.9	+0.4
SG1	Sgolgore (BA)	4.87	319	ePn	Pn	23 17 52.7	-0.1	SELS	Selova	5.97	2⇓iPn	Pn	23 18 07.9	-0.1
SG1				eSn	Sn	23 18 47.5	-1.6	BALB	Balikesir	5.98	64 eP	Pn	23 18 11.2	+3.1
ULC	Ulcinj	4.89	345	⇑iPn	Pn	23 17 53.4	+0.3	RKY	Sarkoy-Tekirda	5.98	53 eP	Pn	23 18 10.5	+2.4
ULC				eSn	Sn	23 18 51.2	+1.7	GONE	Gonen-Balikesi	6.00	60 eP	Pn	23 18 11.8	+3.4
ULC	Ulcinj	4.89	345	⇑iPn	Pn	23 17 53.4	+0.3	SGRT	San Giovanni R 4µm,0.8s	6.02	320 Pn	Pn	23 18 08.2	-0.5
ULC				eSn	Sn	23 18 51.2	+1.7	SGRT	San Giovanni R 4µm,0.8s	6.02	320 Pn	Pn	23 18 08.2	-0.5
HMDC	Modica 35µm,1.3s	4.90	269	Pn	Pn	23 17 51.5	-1.8	SJES	Sjenica	6.06	354⇑iPn	Pn	23 18 09.0	-0.2
HMDC	Modica 35µm,1.3s	4.90	269	Pn	Pn	23 17 51.5	-1.8	SJES	Sjenica	6.06	354⇑iPn	Pn	23 18 09.0	-0.2
SIRI	Monte Sirino - 20µm,2.3s	4.91	308	Pn	Pn	23 17 53.7	+0.2	MOCO	Biccari - m.te 1µm,1.1s	6.07	315 Pn	Pn	23 18 10.1	+0.7
SIRI	Monte Sirino - 20µm,2.3s	4.91	308	Pn	Pn	23 17 53.7	+0.2	CORL	Corleone	6.07	278 Pn	Pn	23 18 10.1	+0.7
KKB	Krupnik	4.92	19	iP	Pn	23 17 56.5	+3.0	CORL	Corleone	6.07	278 Pn	Pn	23 18 10.1	+0.7
KKB	Krupnik	4.92	19	iP	Pn	23 17 56.5	+3.0	MFT	Murefte	6.10	53 eP	Pn	23 18 12.7	+2.9
AMUR	Altamura 6µm,1.0s	4.96	319	Pn	Pn	23 17 53.9	-0.1	STON	Ston	6.14	337 iPn	Pn	23 18 09.3	-0.9
AMUR	Altamura 6µm,1.0s	4.96	319	Pn	Pn	23 17 53.9	-0.1	STON			Sn	Sn	23 19 18.5	-1.7
BAI	Bari	4.97	322	ePn	Pn	23 17 54.2	+0.1	STON	Ston	6.14	337 iPn	Pn	23 18 09.3	-0.9
BAI				eSn	Sn	23 18 52.3	+0.9	STON			Sn	Sn	23 19 18.4	-1.7
BLCB	Balcova	5.00	75	eP	Pn	23 17 56.4	+1.9	UPM	Unac-Piva	6.15	346⇑iPn	Pn	23 18 11.1	+0.6
MCEL	Monticello 7µm,1.2s	5.04	309	Pn	Pn	23 17 55.5	+0.3	UPM			eSn	Sn	23 19 21.2	+0.4
MCEL	Monticello 7µm,1.2s	5.04	309	Pn	Pn	23 17 55.5	+0.3	UPM	Unac-Piva	6.15	346⇑iPn	Pn	23 18 11.1	+0.6
GCAM	G?zelcami?	5.06	83	iP	Pn	23 17 54.0	-1.4	UPM			eSn	Sn	23 19 21.2	+0.4
GCAM	G?zelcami?	5.06	83	iP	Pn	23 17 54.0	-1.4	ZAPS	Zavoj	6.17	12⇑iPn	Pn	23 18 12.9	+2.2
NIS1	Nisyros Isl.	5.07	95	P	Pn	23 17 58.4	+2.8	TURN	Turunc	6.17	91 iP	Pn	23 18 08.8	-4.9
NIS1	Nisyros Isl.	5.07	95	P	Pn	23 17 58.4	+2.8	PSB1	Pescosannita 2µm,1.2s	6.18	312 Pn	Pn	23 18 11.5	+0.7
BODT	Bodrum	5.12	90	eP	Pn	23 17 56.0	-0.3	PSB1	Pescosannita 2µm,1.2s	6.18	312 Pn	Pn	23 18 11.5	+0.7
BULG	Bulgheria - Ca 2µm,0.8s	5.17	305	Pn	Pn	23 17 56.2	-0.8	MANT	Manisa	6.19	76 iP	Pn	23 18 11.1	0.0
BULG	Bulgheria - Ca 2µm,0.8s	5.17	305	Pn	Pn	23 17 56.2	-0.8	MANT	Manisa	6.19	76 iP	Pn	23 18 11.1	0.0
BDRM	Kayabasi	5.23	90	iP	Pn	23 17 56.2	-1.6	PLE	Pljevlja	6.19	350⇓iPn	Pn	23 18 11.6	+0.5
BDRM	Kayabasi	5.23	90	iP	Pn	23 17 56.2	-1.6	PLE			eSn	Sn	23 19 23.0	+1.2
ACER	Acerenza 3µm,1.2s	5.24	314	Pn	Pn	23 17 57.7	-0.2	PLE	Pljevlja	6.19	350⇓iPn	Pn	23 18 11.6	+0.5
ACER	Acerenza 3µm,1.2s	5.24	314	Pn	Pn	23 17 57.7	-0.2	PLE			eSn	Sn	23 19 23.0	+1.2
CDT	Castel del Mon	5.26	318	ePn	Pn	23 17 58.6	+0.4	OVO	Vesuviano	6.20	307 Pn	Pn	23 18 11.6	+0.5
CDT				eSn	Sn	23 18 57.8	-0.8	OVO	Vesuviano	6.20	307 Pn	Pn	23 18 11.6	+0.5
MRVN	Minervino Murg 1µm,0.6s	5.28	318	Pn	Pn	23 17 57.9	-0.6	EDC	Edincik	6.26	58 eP	Pn	23 18 14.2	+2.9
MRVN	Minervino Murg 1µm,0.6s	5.28	318	Pn	Pn	23 17 57.9	-0.6	KULA	Kula-Manisa	6.27	76 eP	Pn	23 18 15.3	+3.1
BUM	Brajici-Budva 12µm,0.7s	5.29	344	⇑iPn	Pn	23 17 58.8	+0.2	BNT	Bandirma	6.30	58 eP	Pn	23 18 15.5	+3.0
BUM				eSn	Sn	23 19 01.2	+1.8	MELA	Melanico ??? S 5µm,1.6s	6.31	317 Pn	Pn	23 18 13.0	+0.4
BUM	Brajici-Budva 12µm,0.7s	5.29	344	⇑iPn	Pn	23 17 58.8	+0.2	MELA	Melanico ??? S 5µm,1.6s	6.31	317 Pn	Pn	23 18 13.0	+0.4
BUM				eSn	Sn	23 19 01.2	+1.8	LJBD	Adjabya SNR=43	6.34	185 eP	Pn	23 18 10.7	-2.3
RDO	Rodhopi	5.31	41	P	Pn	23 18 00.3	+1.5	IVAS	Ivanjica	6.36	355⇓iPn	Pn	23 18 13.4	+0.1
RDO	Rodhopi	5.31	41	P	Pn	23 18 00.3	+1.5	IVAS	Ivanjica	6.36	355⇓iPn	Pn	23 18 13.4	+0.1
WDD	Wield Dalam 12µm,0.7s	5.31	257	Pn	Pn	23 17 57.5	-1.4	TKR	Tekirdag	6.37	52 eP	Pn	23 18 16.5	+3.0
WDD	Wield Dalam 12µm,0.7s	5.31	257	⇓iPn	Pn	23 17 57.3	-1.6	CIGN	Sant'Elia a Pi 5µm,2.0s	6.40	315 Pn	Pn	23 18 14.6	+0.8
WDD				Sn	Sn	23 18 53.1	-6.9	CIGN	Sant'Elia a Pi 5µm,2.0s	6.40	315 Pn	Pn	23 18 14.6	+0.8
WDD	Wield Dalam 12µm,0.7s	5.31	257	Pn	Pn	23 17 57.5	-1.4	EDRB	Edirne	6.45	43 eP	Pn	23 18 18.3	+3.8
KARP	Karpathos	5.33	107	P	Pn	23 18 00.1	+1.0	DNZL	Cakiroluk	6.50	84 iP	Pn	23 18 16.4	+1.1
KARP	Karpathos	5.33	107	ePN	Pn	23 18 00.3	+1.2	DNZL	Cakiroluk	6.50	84 iP	Pn	23 18 16.4	+1.1
KARP	Karpathos	5.33	107	ePn	Pn	23 18 00.3	+1.2	DST	Dursunbey	6.50	66 eP	Pn	23 18 17.6	+2.3
PALZ	Palazzo San Ge 8µm,1.6s	5.33	315	Pn	Pn	23 17 59.5	+0.3	KCTX	Karacabey (Bur	6.56	60 eP	Pn	23 18 18.8	+2.8
PALZ	Palazzo San Ge 8µm,1.6s	5.33	315	Pn	Pn	23 17 59.5	+0.3	CRLT	Corlu	6.58	52 eP	Pn	23 18 19.4	+3.2
TTG	Podgorica	5.33	347	⇓iPn	Pn	23 17 59.6	+0.4	FETY	Fethiye	6.58	93 eP	Pn	23 18 19.9	+3.5
TTG				eSn	Sn	23 19 01.9	+1.5	BOLS	Boljevac	6.63	7⇑iPn	Pn	23 18 16.1	-0.9
PDG	Podgorica 2µm,1.4s	5.34	347	Pn	Pn	23 17 59.2	0.0	BOLS	Boljevac	6.63	7⇑iPn	Pn	23 18 16.1	-0.9
PDG	Podgorica	5.34	347	⇓iPn	Pn	23 17 59.6	+0.4	VAGA	Valle Agricola 1µm,0.9s	6.64	311 Pn	Pn	23 18 17.0	-0.2
PDG				eSn	Sn	23 19 01.9	+1.4	VAGA	Valle Agricola 1µm,0.9s	6.64	311 Pn	Pn	23 18 17.0	-0.2
CMPR	Campora 660nm,0.8s	5.34	307	Pn	Pn	23 17 58.7	-0.7	GRUS	Gruza	6.64	359⇑iPn	Pn	23 18 17.4	+0.3
CMPR	Campora 660nm,0.8s	5.34	307	Pn	Pn	23 17 58.7	-0.7	GRUS	Gruza	6.64	359⇑iPn	Pn	23 18 17.4	+0.3
DAT	Datca	5.37	93	eP	Pn	23 18 02.5	+2.7	TRIV	Trivento 2µm,0.9s	6.67	315 Pn	Pn	23 18 18.4	+0.8
ENEZ	Enez	5.38	48	eP	Pn	23 18 01.7	+1.9	TRIV	Trivento 2µm,0.9s	6.67	315 Pn	Pn	23 18 18.4	+0.8
PVY	Plav	5.40	353	⇑iPn	Pn	23 18 01.6	+1.4	MODR	Mondragone 222nm,1.0s	6.70	308 Pn	Pn	23 18 17.7	-0.3
PVY				eSn	Sn	23 19 03.3	+1.1	MODR	Mondragone 222nm,1.0s	6.70	308 Pn	Pn	23 18 17.7	-0.3
PVY	Plav	5.40	353	⇑iPn	Pn	23 18 01.6	+1.4	SLUM		6.75	147 P	Pn	23 18 12.5	-6.2
PVY				eSn	Sn	23 19 03.3	+1.1	SLUM			S	Sn	23 19 22.2	-13
ALN	Alexandroupoli	5.42	46	P	Pn	23 18 01.8	+1.5	SLUM		6.75	147 P	Pn	23 18 12.5	-6.2
ALN	Alexandroupoli	5.42	46	P	Pn	23 18 01.8	+1.5		baz=150					
CDRU	Civita di Ruta	5.44	308	Pn	Pn	23 18 00.1	-0.6	JMB	Yambol	6.81	38 iP	Pn	23 18 23.5	+4.1
CDRU	Civita di Ruta	5.44	308	Pn	Pn	23 18 00.1	-0.6	ORLT	Orhaneli	6.86	63 eP	Pn	23 18 22.7	+2.5
MRLC	Muro Lucano 943nm,0.8s	5.49	311	Pn	Pn	23 18 01.5	+0.2	RNI2	Rionero Sannit	6.86	313 Pn	Pn	23 18 21.1	+0.8
MRLC	Muro Lucano 943nm,0.8s	5.49	311	Pn	Pn	23 18 01.5	+0.2	RNI2	Rionero Sannit	6.86	313 Pn	Pn	23 18 21.1	+0.8
HCY	Herceg Novi	5.52	341	⇑iPn	Pn	23 18 01.4	-0.3	DIVS	Divibare	6.89	355 P	Pn	23 18 20.3	-0.3
HCY				eSn	Sn	23 19 05.6	+0.5	DIVS	Divibare	6.89	355 iPn	Pn	23 18 20.4	-0.2
HCY	Herceg Novi	5.52	341	⇑iPn	Pn	23 18 01.4	-0.3	DIVS	Divibare	6.89	355⇑iPn	Pn	23 18 20.4	-0.2
HCY				eSn	Sn	23 19 05.6	+0.5	KHL	Karahalli	6.91	78 eP	Pn	23 18 23.6	+2.7
								SLVT	Silivri	6.93	53 eP	Pn	23 18 25.2	+4.1
								MDNY	Mudanya-Bursa	6.97	61 eP	Pn	23 18 19.4	-2.3
								TRUS	Trudelj	6.99	357⇑iPn	Pn	23 18 20.7	-1.2
								TRUS	Trudelj	6.99	357⇑iPn	Pn	23 18 20.7	-1.2
								SVIS	Svilajnac	7.02	2⇑iPn	Pn	23 18 22.0	-0.3
								ARMT	Armutlu	7.04	59 eP	Pn	23 18 25.2	+2.6
								AKAS	Kas	7.06	96 iP	Pn	23 18 20.7	-2.3
								LPEL	Lama dei Pelig 964nm,1.0s	7.06	315 Pn	Pn	23 18 23.6	+0.6
								LPEL	Lama dei Pelig 964nm,1.0s	7.06	315 Pn	Pn	23 18 23.6	+0.6
								TVSB	Tavsanli	7.08	69 eP	Pn	23 18 25.8	+2.5
								CAFR	Castel Frentan 6µm,1.5s	7.09	317 Pn	Pn	23 18 24.0	+0.7
								CAFR	Castel Frentan 6µm,1.5s	7.09	317 Pn	Pn	23 18 24.0	+0.7
								CTYL	Yal??k??y-??at	7.12	51 eP	Pn	23 18 27.1	+3.4
								CTKS	Kestanelik-??a	7.12	54 eP	Pn	23 18 27.6	+3.8

POFI	Posta Fibreno 993nm,1.4s	7.13	311	Pn	Pn	23 18 23.7	-0.3	
POFI	Posta Fibreno 993nm,1.4s	7.13	311	Pn	Pn	23 18 23.7	-0.3	
PTS	Pantelleria 933nm,1.3s	7.14	269	Pn	Pn	23 18 22.8	-1.1	
PTS	Pantelleria 933nm,1.3s	7.14	269	Pn	Pn	23 18 22.8	-1.1	
INTR	Introdacqua 3µm,1.4s	7.20	314	Pn	Pn	23 18 25.6	+0.7	
INTR	Introdacqua 3µm,1.4s	7.20	314	Pn	Pn	23 18 25.6	+0.7	
ELL	Elmali	7.23	91	eP	Pn	23 18 28.6	+3.3	
BGKT	Bogazkoy	7.27	55	eP	Pn	23 18 28.9	+3.2	
VVLD	Villa Vallelon 1µm,1.0s	7.28	312	Pn	Pn	23 18 26.0	0.0	
VVLD	Villa Vallelon 1µm,1.0s	7.28	312	Pn	Pn	23 18 26.0	0.0	
TEKS	Tekeris	7.38	352	ePn	Pn	23 18 26.1	-1.1	
TEKS	Tekeris	7.38	352	ePn	Pn	23 18 26.1	-1.1	
YLV	Yalova	7.39	61	eP	Pn	23 18 30.7	+3.2	
ISK	Istanbul-Kandi	7.40	56	eP	Pn	23 18 31.4	+3.8	
ALT	Altintas	7.48	73	eP	Pn	23 18 32.1	+3.3	
DJES	Djerdap	7.52	9	⇓iPn	Pn	23 18 29.7	+0.5	
BEO	Beograd	7.57	358	ePn	Pn	23 18 28.9	-0.9	
CAVI	Cavuskoy	7.59	64	eP	Pn	23 18 32.1	+1.9	
ADVT	Abdulvahap	7.60	62	eP	Pn	23 18 33.5	+3.2	
HRT	Hereke	7.70	60	eP	Pn	23 18 35.6	+3.9	
AQU	L'Aquila	7.71	314	⇑ePn	Pn	23 18 32.8	+1.0	
AQU				eSn	Sn	23 20 01.2	+2.3	
AQU	L'Aquila	7.71	314	⇑iP	Pn	23 18 33.7	+1.9	
AQU	L'Aquila	7.71	314	eP	Pn	23 18 32.8	+1.0	
AQU				eS	Sn	23 20 01.2	+2.3	
LTRP	Tripoli SNR=43	7.71	238	eP	Pn	23 18 29.3	-2.5	
BCK	Bucak	7.72	85	eP	Pn	23 18 34.9	+2.9	
SHUT	Suhut-Afyon	7.74	77	eP	Pn	23 18 35.6	+3.2	
PRD	Provadia	7.75	38	iP	Pn	23 18 34.8	+2.4	
PRD	Provadia	7.75	38	iP	Pn	23 18 34.8	+2.4	
TERO	Teramo 418nm,0.8s	7.76	316	Pn	Pn	23 18 33.1	+0.5	
TERO	Teramo 418nm,0.8s	7.76	316	Pn	Pn	23 18 33.1	+0.5	
CAMP	Campotosto 165nm,1.1s	7.82	315	Pn	Pn	23 18 34.3	+0.9	
CAMP	Campotosto 165nm,1.1s	7.82	315	Pn	Pn	23 18 34.3	+0.9	
SILT	Sile	7.83	57	eP	Pn	23 18 37.0	+3.6	
HUMR	Humele	7.91	22	⇑iP	Pn	23 18 36.4	+1.9	
HUMR	Humele	7.91	22	⇑iP	Pn	23 18 36.4	+1.9	
OFFI	Offida 2µm,0.7s	7.93	318	Pn	Pn	23 18 36.1	+1.3	
OFFI	Offida 2µm,0.7s	7.93	318	Pn	Pn	23 18 36.1	+1.3	
FGSL	Fruska Gora	7.95	354	⇓iPn	Pn	23 18 34.3	-0.8	
FRGS	Fruska Gora	7.95	354	⇓iPn	Pn	23 18 34.3	-0.8	
GPA	Golpazari	7.96	65	eP	Pn	23 18 38.4	+3.2	
BLY	Banja Luka	8.01	341	⇑iPn	Pn	23 18 35.3	-0.6	
BLY	Banja Luka	8.01	341	⇑iPn	Pn	23 18 35.3	-0.6	
SUTC	Sutluce-Ispart	8.05	85	eP	Pn	23 18 39.8	+3.3	
BOLV	Bolvadin	8.07	76	iP	Pn	23 18 38.9	+2.0	
BOLV	Bolvadin	8.07	76	iP	Pn	23 18 38.9	+2.0	
SPNC	Sapanca-Adapaz	8.10	62	eP	Pn	23 18 39.8	+2.7	
ESKT	Eskisehir	8.14	71	eP	Pn	23 18 39.8	+2.0	
SEYT	Eskypehyr	8.14	71	iP	Pn	23 18 37.8	0.0	
SEYT	Eskypehyr	8.14	71	iP	Pn	23 18 37.8	0.0	
GULT	Gulveren	8.15	64	eP	Pn	23 18 40.5	+2.6	
NRCA	Norcia 676nm,1.2s	8.18	316	Pn	Pn	23 18 39.2	+0.9	
NRCA	Norcia 676nm,1.2s	8.18	316	Pn	Pn	23 18 39.2	+0.9	
GZR	Gura Zlata	8.27	9	⇑iP	Pn	23 18 40.2	+0.7	
GZR	Gura Zlata	8.27	9	⇑iP	Pn	23 18 40.2	+0.7	
FDMO	Fiordimonte 445nm,1.0s	8.32	316	Pn	Pn	23 18 40.9	+0.7	
FDMO	Fiordimonte 445nm,1.0s	8.32	316	Pn	Pn	23 18 40.9	+0.7	
BZS	Buzias	8.39	3	⇓iP	Pn	23 18 40.6	-0.5	
BZS	Buzias	8.39	3	⇑iPn	Pn	23 18 40.1	-1.0	
BZS	Buzias	8.39	3	⇑iPn	Pn	23 18 40.1	-1.0	
BZS	Buzias	8.39	3	⇓iP	Pn	23 18 40.6	-0.5	
CESI	CESI - Serrava 760nm,1.9s	8.40	316	Pn	Pn	23 18 42.5	+1.1	
CESI	CESI - Serrava 760nm,1.9s	8.40	316	Pn	Pn	23 18 42.5	+1.1	
AOI	Ancona 600nm,0.9s	8.41	321	Pn	Pn	23 18 40.9	-0.5	
AOI	Ancona 600nm,0.9s	8.41	321	Pn	Pn	23 18 40.9	-0.5	
SULR		8.46	27	⇑iP	Pn	23 18 43.0	+0.9	
SULR		8.46	27	⇑iP	Pn	23 18 43.0	+0.9	
LOT	Lotru	8.48	14	⇑iP	Pn	23 18 43.5	+1.1	
LOT	Lotru	8.48	14	⇑iP	Pn	23 18 43.5	+1.1	
CING	Cingoli 769nm,1.5s	8.49	319	Pn	Pn	23 18 42.2	-0.4	
CING	Cingoli 769nm,1.5s	8.49	319	Pn	Pn	23 18 42.2	-0.4	
PSN	Preselentsi	8.49	39	iP	Pn	23 18 43.8	+1.2	
PSN	Preselentsi	8.49	39	iP	Pn	23 18 43.8	+1.2	
NVLJ	Novalja	8.62	330	iPn	Pn	23 18 44.9	+0.7	
NVLJ				Sn	Sn	23 20 16.0	-5.3	
NVLJ	Novalja	8.62	330	iPn	Pn	23 18 44.9	+0.7	
SVRH	Sivrihisar-ESK	8.63	72	eP	Pn	23 18 47.6	+3.0	
MDUB	Mudurnu	8.66	65	eP	Pn	23 18 47.6	+2.7	
VOIR		8.76	20	⇓P	Pn	23 18 48.6	+2.3	
VO

RSM **Repubblica di** 9.27 319 Pn Pn 23 18 53.3 +0.1
comp=E,460nm,1.9s
RSM **Repubblica di** 9.27 319 Pn Pn 23 18 53.3 +0.1
comp=E,460nm,1.9s
BOJS **Bojanci** 9.28 335 *i* Pn Pn 23 18 52.9 -0.4
BOJS *i* Sn Sn 23 20 33.9 -3.6
BOJS **Bojanci** 9.28 335 *i* Pn Pn 23 18 52.9 -0.4
VSL **Villasalto** 9.33 287 Pn Pn 23 18 52.8 -1.2
comp=E,136nm,0.9s
VSL **Villasalto** 9.33 287 *e*Pn Pn 23 18 53.0 -1.0
VSL Sn Sn 23 20 38.1 -0.5
VSL **Villasalto** 9.33 287 *e*Pn Pn 23 18 53.0 -1.0
VSL Sn Sn 23 20 38.2 -0.5
PKS2 **Kecel** 9.33 353 ⇓*e*Pn Pn 23 18 53.5 -0.5
PKS2 **Kecel** 9.33 353⇓*e*P Pn 23 18 53.5 -0.5
CRE **Caprese Michel** 9.33 316 Pn Pn 23 18 54.4 +0.3
comp=E,471nm,2.0s
CRE **Caprese Michel** 9.33 316 Pn Pn 23 18 54.4 +0.3
comp=E,471nm,2.0s
PKS6 **Bocsa** 9.40 354 ⇓*e*Pn Pn 23 18 54.5 -0.5
PKS6 **Bocsa** 9.40 354⇓*e*P Pn 23 18 54.5 -0.5
KEST **Kesra** 9.43 264 *e*Pn Pn 23 18 55.6 +0.1
KEST Sn Sn 23 20 37.6 -3.7
KEST *e*Sn Sn 23 20 38.9 -2.5
KEST **Kesra** 9.43 264 Pn Pn 23 18 55.8 +0.4
comp=E,2.7nm,0.3s,baz=55,slow=15,SNR=111
KEST Sn Sn 23 20 37.6 -3.7
comp=E,4.6nm,0.3s,baz=45,slow=19,SNR=8.1
KEST LR LR 23 22 55.3
comp=E,4µm,19.7s,baz=23,slow=40
KEST **Kesra** 9.43 264 *e*Pn Pn 23 18 55.6 +0.1
CASP **Castiglione de** 9.48 309 Pn Pn 23 18 56.5 +0.4
comp=E,931nm,3.2s
CASP **Castiglione de** 9.48 309 Pn Pn 23 18 56.5 +0.4
comp=E,931nm,3.2s
ASQU **Asqua** 9.54 316 Pn Pn 23 18 56.7 -0.2
comp=E,2µm,2.8s
ASQU **Asqua** 9.54 316 Pn Pn 23 18 56.7 -0.2
comp=E,2µm,2.8s
PKS9 **Tamasi** 9.54 349 ⇓*e*Pn Pn 23 18 56.0 -0.9
PKS9 **Tamasi** 9.54 349⇓*e*P Pn 23 18 56.0 -0.9
CSNT **Castellina Chi** 9.62 313 Pn Pn 23 18 58.8 +0.8
comp=E,949nm,2.4s
CSNT **Castellina Chi** 9.62 313 Pn Pn 23 18 58.8 +0.8
comp=E,949nm,2.4s
PLOR **Plostina** 9.62 25 ⇓*i*P Pn 23 19 00.6 +2.6
PLOR **Plostina** 9.62 25⇓*i*P Pn 23 19 00.6 +2.6
PLOR **Plostina** 9.62 25 P Pn 23 19 00.6 +2.6
DRGR 9.64 7 ⇑P Pn 23 18 59.7 +1.4
DRGR 9.64 7⇑*i*P Pn 23 18 59.7 +1.4
DRGR 9.64 7 P Pn 23 18 59.7 +1.4
VRI **Vrincioaia** 9.66 25⇓*i*P Pn 23 19 01.2 +2.7
VRI **Vrincioaia** 9.66 25⇓*i*P Pn 23 19 01.2 +2.7
LOD **Lodumlu** 9.66 70 *e*P Pn 23 19 00.9 +2.3
PETR 9.71 27⇑*i*P Pn 23 19 02.2 +3.0
PETR 9.71 27⇑*i*P Pn 23 19 02.2 +3.0
BEHE **Becsehely** 9.72 343 ⇑*e*Pn Pn 23 18 58.3 -1.0
BEHE **Becsehely** 9.72 343⇑*e*P Pn 23 18 58.3 -1.0
AFSR **Af˘ar-Bala (A** 9.81 73 *e*P Pn 23 19 02.4 +1.6
LEF **Lefka** 9.92 99 *e*P Pn 23 19 05.2 +3.0
TLCR 9.92 34 ⇑P Pn 23 19 04.0 +1.9
TLCR 9.92 34⇑*i*P Pn 23 19 04.0 +1.9
TLCR 9.92 34 P Pn 23 19 04.0 +1.9
SAFT **Safranbolu** 9.98 63 *e*P Pn 23 19 05.9 +3.0
CRMI **Carmignano** 9.99 314 Pn Pn 23 19 03.9 +0.8
comp=E,717nm,1.9s
CRMI **Carmignano** 9.99 314 Pn Pn 23 19 03.9 +0.8
comp=E,717nm,1.9s
LJU **Ljubljana** 10.00 334 *i* Pn Pn 23 19 02.2 -1.0
LJU *i* Sn Sn 23 20 51.3 -4.0
LJU **Ljubljana** 10.00 334 *i* Pn Pn 23 19 02.2 -1.0
TRI **Trieste** 10.01 330 Pn Pn 23 19 01.7 -1.6
TRI **Trieste** 10.01 330 *e*P Pn 23 19 02.1 -1.2
TRI 23 20 54.9
TRI **Trieste** 10.01 330 *e*Pn Pn 23 19 02.1 -1.2
TRI Sn Sn 23 20 54.9 -0.5
TRI **Trieste** 10.01 330 *e*P Pn 23 19 02.1 -1.2
TRI S Sn 23 20 54.9 -0.5
SULT **Sultanhani-AKS** 10.04 81 *e*P Pn 23 19 06.6 +2.7
JAVS **Javornik** 10.04 332 *i* Pn Pn 23 19 03.7 -0.2
JAVS *i* Sn Sn 23 20 50.9 -5.6
JAVS **Javornik** 10.04 332 *i* Pn Pn 23 19 03.7 -0.2
GROS **Grobnik** 10.05 338 *i* Pn Pn 23 19 02.7 -1.3
GROS **Grobnik** 10.05 338 *i* Pn Pn 23 19 02.7 -1.3
MTRZ **Monterenzio** 10.09 318 Pn Pn 23 19 05.6 +1.1
comp=E,1µm,1.6s
MTRZ **Monterenzio** 10.09 318 Pn Pn 23 19 05.6 +1.1
comp=E,1µm,1.6s
TESR 10.20 23⇑*i*P Pn 23 19 07.3 +1.3
TESR 10.20 23⇑*i*P Pn 23 19 07.3 +1.3
VOY **Vojsko** 10.22 331 *e*Pn Pn 23 19 05.0 -1.4
VOY *e* 23 19 05.8
VOY *e*Sn Sn 23 20 55.3 -5.6
VOY **Vojsko** 10.22 331 *e*Pn Pn 23 19 05.0 -1.4
PKST **T˘'s** 10.23 349 ⇓*e*Pn Pn 23 19 05.6 -0.8
PKST **T˘'s** 10.23 349⇓*e*P Pn 23 19 05.6 -0.8
BR131 **Keskin Array S** 10.29 72 *e*Pn Pn 23 19 11.2 +3.9
BR131 **Keskin Array S** 10.29 72 *e*Pn Pn 23 19 11.2 +3.9
BRTR **Keskin Array B** 10.29 72 Pn Pn 23 19 10.4 +3.1
BRTR **Keskin Array B** 10.29 72 Pn Pn 23 19 10.4 +3.1
comp=E,1.6nm,0.3s,baz=254,slow=12,SNR=32
BRTR LR LR 23 23 23.2
comp=E,14µm,21.7s,baz=251,slow=40
BRTR **Keskin Array B** 10.29 72 Pn Pn 23 19 10.4 +3.1
SABO **M.te Sabotino** 10.30 330 Pn Pn 23 19 05.6 -1.7
SABO **M.te Sabotino** 10.30 330 Pn Pn 23 19 05.6 -1.7
CSS **Prodhromos** 10.31 99 *e*P Pn 23 19 11.2 +3.6
CSS **Prodhromos** 10.31 99 *e*Pn Pn 23 19 07.1 -0.4
CSS *e*Sn Sn 23 21 02.7 -0.3
CSS **Prodhromos** 10.31 99 *e*Pn Pn 23 19 07.1 -0.4
CSS *e*Sn Sn 23 21 02.7 -0.3
PKSG 10.31 350 ⇓*e*Pn Pn 23 19 07.6 +0.2
PKSG 10.31 350⇓*e*P Pn 23 19 07.6 +0.2
BUD **Budapest** 10.33 353 ⇑*e*Pn Pn 23 19 07.6 -0.1
BUD **Budapest** 10.33 353⇑*e*P Pn 23 19 07.6 -0.1
MAIM **Mastiano** 10.34 313 Pn Pn 23 19 08.5 +0.6
comp=E,419nm,1.5s
MAIM **Mastiano** 10.34 313 Pn Pn 23 19 08.5 +0.6
comp=E,419nm,1.5s
LFK **Lefkose** 10.39 97 *e*P Pn 23 19 10.8 +2.2
SOKA **Soboth** 10.39 337 ⇑*i*Pn Pn 23 19 07.2 -1.4
SOKA **Soboth** 10.39 337 Sn Sn 23 20 53.2 -12
SOKA **Soboth** 10.39 337 Pn Pn 23 19 07.2 -1.4
OBKA **Obir** 10.40 335 *e*Pn Pn 23 19 08.4 -0.3
OBKA **Obir** 10.40 335 ⇑*i*Pn Pn 23 19 07.2 -1.5
SNR=28
OBKA ⇑*i*Sn Sn 23 20 56.1 -8.9
OBKA **Obir** 10.40 335 Pn Pn 23 19 07.2 -1.5
SNR=28
CANT **Cankiri** 10.46 67 *e*P Pn 23 19 11.5 +1.9
VLC **Villacollemand** 10.55 314 Pn Pn 23 19 11.0 +0.2
comp=E,514nm,1.9s
VLC **Villacollemand** 10.55 314⇑*e*Pn Pn 23 19 09.4 -1.4
VLC *e*Sn Sn 23 21 08.2 -0.6
VLC **Villacollemand** 10.55 314 Pn Pn 23 19 11.0 +0.2
comp=E,514nm,1.9s
VLC *e*Sn Sn 23 21 08.2 -0.6
PGF **Pioggiola** 10.57 304 *e*P Pn 23 19 11.3 +0.3
comp=E,760nm,1.3s
PGF **Pioggiola** 10.57 304 *e*P Pn 23 19 11.3 +0.3
PGF pmax pmax
comp=Z,760nm,1.3s
PGF **Pioggiola** 10.57 304 *e*P Pn 23 19 11.3 +0.3
comp=Z,760nm,1.3s
PGF **Pioggiola** 10.57 304 *e*P Pn 23 19 11.3 +0.3
comp=Z,760nm,1.3s
BALT **Daday** 10.57 62 *i* P Pn 23 19 13.0 +1.8
BALT **Daday** 10.57 62 *i* P Pn 23 19 13.0 +1.8
BMR **Baia Mare** 10.60 10 ⇓P Pn 23 19 13.0 +1.6
BMR **Baia Mare** 10.60 10 ⇓*i*P Pn 23 19 13.0 +1.6
BMR **Baia Mare** 10.60 10 P Pn 23 19 13.0 +1.6
VINO **Villanova** 10.65 330 Pn Pn 23 19 10.4 -1.7
VINO **Villanova** 10.65 330 Pn Pn 23 19 10.4 -1.7
PSZ **Piszkesteto** 10.70 356 *e*P Pn 23 19 11.8 -1.0
PSZ 23 21 09.3
PSZ **Piszkesteto** 10.70 356 *e*Pn Pn 23 19 11.8 -1.0
PSZ Sn Sn 23 21 09.3 -3.1
PSZ **Piszkesteto** 10.70 356 ⇑*i*P Pn 23 19 12.0 -0.7
PSZ **Piszkesteto** 10.70 356 ⇑*e*Pn Pn 23 19 12.1 -0.7
PSZ **Piszkesteto** 10.70 356 *e*P Pn 23 19 11.8 -1.0
GEPF **Gemona** 10.72 330 Pn Pn 23 19 11.7 -1.3
comp=Z,153nm,1.0s

ARSA **Arzberg** 10.76 340 *e*Pn Pn 23 19 13.2 -0.5
ARSA **Arzberg** 10.76 340⇓*i*Pn Pn 23 19 12.6 -1.1
SNR=62
ARSA **Arzberg** 10.76 340 Sn Sn 23 21 04.5 -9.4
ARSA **Arzberg** 10.76 340 Pn Pn 23 19 12.6 -1.1
SNR=62
CMAH **Djebel Manchou** 10.81 271 P Pn 23 19 16.0 +1.6
CMAH **Djebel Manchou** 10.81 271 P Pn 23 19 16.0 +1.6
ABSA **Djebel Ababsia** 10.81 269 P Pn 23 19 16.5 +2.0
ABSA **Djebel Ababsia** 10.81 269 P Pn 23 19 16.5 +2.0
MYKA **Terra Mystica** 10.82 332 ⇓*i*Pn Pn 23 19 14.2 -0.3
MYKA ⇑*i*Sn Sn 23 21 07.5 -8.0
MYKA **Terra Mystica** 10.82 332 Pn Pn 23 19 14.2 -0.3
EREN **Erenkoy** 10.83 95 *e*P Pn 23 19 17.9 +3.2
BURAR **Bucovina Array** 10.85 16 ⇑P Pn 23 19 16.7 +1.9
BURAR **Bucovina Array** 10.85 16⇑*i*P Pn 23 19 16.7 +1.9
BURAR **Bucovina Array** 10.85 16⇑*i*P Pn 23 19 16.7 +1.9
BUR08 **Bucovina Ar. S** 10.87 16 *e*Pn Pn 23 19 14.5 -0.7
BUR08 *e*Sn Sn 23 21 17.9 +1.2
BUR08 **Bucovina Ar. S** 10.87 16 *e*Pn Pn 23 19 14.5 -0.7
BUR08 *e*Sn Sn 23 21 17.9 +1.2
TOS **Tosya** 10.87 66 *e*P Pn 23 19 17.9 +2.6
MERS **Mersin** 10.89 88 *e*P Pn 23 19 17.9 +2.3
SOP **Sopron** 10.91 344 ⇑*e*Pn Pn 23 19 14.6 -1.1
SOP **Sopron** 10.91 344⇑*e*P Pn 23 19 14.6 -1.1
TRPA **Tarpa** 10.95 6⇑*i*P Pn 23 19 16.6 +0.4
TRPA **Tarpa** 10.95 6 ⇑*e*Pn Pn 23 19 16.7 +0.5
TRPA **Tarpa** 10.95 6⇑*e*P Pn 23 19 16.7 +0.5
CGRP **Cima Grappa** 10.99 325 Pn Pn 23 19 14.9 -2.0
CGRP **Cima Grappa** 10.99 325 Pn Pn 23 19 14.9 -2.0
GULE **Gulek** 11.06 86 *i* P Pn 23 19 24.8 +6.9
HMYD **Mayadein** 11.10 129 P Pn 23 19 12.9 -5.4
HMYD **Mayadein** 11.10 129 P Pn 23 19 12.9 -5.4
baz=130
HNAT **Natroun** 11.10 130 P Pn 23 19 12.7 -5.7
HNAT **Natroun** 11.10 130 P Pn 23 19 12.7 -5.7
baz=132
CORM **Corum** 11.12 71 *e*P Pn 23 19 20.7 +2.0
AWBH 11.15 141 P Pn 23 19 14.0 -5.0
AWBH 11.15 141 P Pn 23 19 14.0 -5.0
baz=142
BZK **Bozkurt** 11.15 61 *e*P Pn 23 19 21.4 +2.4
CAEH **'Ain El Ouahch** 11.25 272 P Pn 23 19 24.0 +3.7
CONA **Conrad Observa** 11.30 342 ⇑*i*Pn Pn 23 19 19.3 -1.8
SNR=21
CONA ⇑*i*Sn Sn 23 21 18.7 -8.6
CONA **Conrad Observa** 11.30 342 Pn Pn 23 19 19.3 -1.8
SNR=21
KBA **Koelnbreinsper** 11.31 333 *e*Pn Pn 23 19 19.8 -1.5
KBA *e*Sn Sn 23 21 25.0 -2.6
KBA **Koelnbreinsper** 11.31 333⇑*i*Pn Pn 23 19 19.9 -1.4
SNR=86
KBA ⇓*i*Sn Sn 23 21 20.3 -7.3
KBA **Koelnbreinsper** 11.31 333 Pn Pn 23 19 19.9 -1.4
SNR=86
VYHS **Vyhne** 11.35 353 *e*P Pn 23 19 21.1 -0.5
VYHS MLR MLR
comp=Z,6µm,20.2s
VYHS **Vyhne** 11.35 353 *e*PN Pn 23 19 21.1 -0.5
VYHS **Vyhne** 11.35 353 *e*SG 23 22 33.9
VYHS **Vyhne** 11.35 353 *e*P Pn 23 19 21.1 -0.5
comp=Z,6µm,20.2s
ABTA **Abfaltersbach** 11.36 329 ⇓*i*Pn Pn 23 19 20.7 -1.2
SNR=55
ABTA ⇓*i*Sn Sn 23 21 21.5 -7.1
ABTA **Abfaltersbach** 11.36 329 Pn Pn 23 19 20.7 -1.2
SNR=55
KIS **Kishinev** 11.38 29*c* *i*P Pn 23 19 22.0 0.0
KIS *e*S Sn 23 21 32.0 +3.1
KIS pmax pmax
comp=Z,2µm,3.5s
KIS pmax pmax
comp=Z,2µm,4.0s
KIS MLR MLR
comp=Z,41µm,8.0s
KIS MLR MLR
comp=N,38µm,10.0s
KIS MLR MLR
comp=E,36µm,10.0s
KIS MLR MLR
comp=Z,39µm,12.0s
KIS **Kishinev** 11.38 29⇑*i*P Pn 23 19 22.0 0.0
comp=Z,2µm,3.5s
KIS **Kishinev** 11.38 29 *i* PP PnPn 23 19 32.0 +2.2
comp=Z,2µm,4.4s
KIS *e*S Sn 23 21 32.0 +3.1
KIS *i* Li 23 21 43.0
KIS *i* LQ LQ 23 22 40.0
KIS **Kishinev** 11.38 29 *i* P Pn 23 19 22.0 0.0
comp=Z,2µm,4.0s
KIS *e*S Sn 23 21 32.0 +3.1
comp=Z,39µm,12.0s
CKFL **Kef-Lekhel** 11.40 270 P Pn 23 19 25.0 +2.5
SALO **Salr** 11.43 320 Pn Pn 23 19 21.3 -1.4
comp=Z,1µm,1.5s
SALO **Salr** 11.43 320 Pn Pn 23 19 21.3 -1.4
comp=Z,1µm,1.5s
UZH **Uzhgorod** 11.43 5 *e*P Pn 23 19 23.3 +0.6
UZH *e*S Sn 23 21 30.5 +0.3
UZH MLR MLR
comp=N,35µm,10.0s
UZH MLR MLR
comp=Z,26µm,10.0s
UZH **Uzhgorod** 11.43 5 *e*P Pn 23 19 23.3 +0.6
UZH *e*S Sn 23 21 30.5 +0.3
BOB **Bobbio (Coli)** 11.46 315 Pn Pn 23 19 23.2 0.0
comp=Z,2µm,2.7s
BOB **Bobbio (Coli)** 11.46 315 Pn Pn 23 19 23.2 0.0
comp=Z,2µm,2.7s
SMOL **Smolenice** 11.55 348 *e*P Pn 23 19 23.9 -0.5
SMOL **Smolenice** 11.55 348 *e*PN Pn 23 19 23.9 -0.5
SMOL **Smolenice** 11.55 348 *e*P Pn 23 19 23.9 -0.5
YOZ **Yozgat** 11.56 74 *e*P Pn 23 19 27.0 +2.3
CASM **Ain Smara** 11.60 270 P Pn 23 19 29.0 +3.8
KRTS **Karatas** 11.61 89 *e*P Pn 23 19 27.7 +2.5
CRVS **Cervenica-Dubn** 11.66 2 *e*P Pn 23 19 26.1 +0.2
CRVS MLR MLR
comp=Z,7µm,18.1s
CRVS **Cervenica-Dubn** 11.66 2 *e*PN Pn 23 19 26.1 +0.2
CRVS **Cervenica-Dubn** 11.66 2 *e*P Pn 23 19 26.1 +0.2
comp=Z,7µm,18.1s
KOT **Kottamia** 11.67 126 P Pn 23 19 20.4 -5.7
KOT **Kottamia** 11.67 126 P Pn 23 19 20.4 -5.7
baz=127
MOA **Molln** 11.67 337 *e*Pn Pn 23 19 25.2 -0.9
MOA **Molln** 11.67 337⇑*i*Pn Pn 23 19 25.0 -1.0
SNR=153
MOA ⇑*i*Sn Sn 23 21 27.5 -8.7
MOA **Molln** 11.67 337 Pn Pn 23 19 25.0 -1.0
SNR=153
APPI **Appiano** 11.70 325 Pn Pn 23 19 25.5 -1.1
comp=Z,1µm,2.5s
APPI **Appiano** 11.70 325 Pn Pn 23 19 25.5 -1.1
comp=Z,1µm,2.5s
CTEI **Djebel Teioual** 11.70 269 P Pn 23 19 30.0 +3.3
KOLS **Kolonicke sedl** 11.73 4 *e*P Pn 23 19 27.7 +0.8
KOLS MLR MLR
comp=Z,21µm,13.8s
KOLS **Kolonicke sedl** 11.73 4 *e*PN Pn 23 19 27.7 +0.8
KOLS *e*SN Sn 23 21 15.4 -22
KOLS *e*SG 23 23 00.6
KOLS **Kolonicke sedl** 11.73 4 *e*P Pn 23 19 27.7 +0.8
comp=Z,21µm,13.8s
HFRF **Wahat Farafira** 11.85 146 P Pn 23 19 23.8 -4.8
HFRF **Wahat Farafira** 11.85 146 P Pn 23 19 23.8 -4.8
baz=148
CEYT **Ceyhan** 11.86 87 *e*P Pn 23 19 31.2 +2.6
LIKS **Likavka** 11.88 354 *e*P Pn 23 19 29.0 +0.2
LIKS **Likavka** 11.88 354 *e*PN Pn 23 19 29.0 +0.2
LIKS **Likavka** 11.88 354 *e*P Pn 23 19 29.0 +0.2
KOZT **Kozan** 11.88 84 *e*P Pn 23 19 31.2 +2.2
BNN **Bunyan** 11.89 78 *e*P Pn 23 19 30.5 +1.2
DIKM **Dikmen** 11.94 64 *e*P Pn 23 19 31.2 +1.5
HBNS **Bani Suwayf** 11.95 131 P Pn 23 19 24.2 -5.8
HBNS **Bani Suwayf** 11.95 131 P Pn 23 19 24.2 -5.8
baz=132
DFRA **Djebel Bou Aff** 12.05 271 P Pn 23 19 32.0 +0.6
DFRA **Djebel Bou Aff** 12.05 271 P Pn 23 19 32.0 +0.6
RJOB **Jochberg** 12.07 333 *e*Pn Pn 23 19 31.3 -0.2
AMAG **Maghara** 12.15 119 P Pn 23 19 27.2 -5.5
AMAG **Maghara** 12.15 119 P Pn 23 19 27.2 -5.5
baz=120
NIE **Niedzica** 12.18 358 *e*P Pn 23 19 33.1 +0.1
NIE **Niedzica** 12.18 358 *e*P Pn 23 19 33.9 +0.9

NIE **Niedzica** 12.18 358 *e*P Pn 23 19 33.9 +0.9
SBF **Sospel** 12.19 307 *e*P Pn 23 19 33.4 +0.3
comp=Z,824nm,1.2s
SBF **Sospel** 12.19 307 *e*P Pn 23 19 33.4 +0.3
SBF pmax pmax
comp=Z,824nm,1.2s
SBF **Sospel** 12.19 307 *e*P Pn 23 19 33.4 +0.3
comp=Z,824nm,1.2s
SBF **Sospel** 12.19 307 *e*P Pn 23 19 33.4 +0.3
comp=Z,824nm,1.2s
WATA **Walderalm** 12.21 329 ⇑*i*Pn Pn 23 19 33.0 -0.6
SNR=27
WATA ⇑*i*Sn Sn 23 21 42.5 -7.2
WATA **Walderalm** 12.21 329 Pn Pn 23 19 33.0 -0.6
SNR=27
FUORN **Ofenpass-Fuorn** 12.26 323 *e*Pn Pn 23 19 35.5 +1.2
FUORN **Ofenpass-Fuorn** 12.26 323 *e*Pn Pn 23 19 35.5 +1.2
RSH 12.33 117 P Pn 23 19 29.2 -5.9
RSH 12.33 117 P Pn 23 19 29.2 -5.9
baz=117
FETA **Feichten** 12.34 326 ⇑*i*Pn Pn 23 19 34.8 -0.5
SNR=27
FETA ⇓*i*Sn Sn 23 21 44.1 -8.6
FETA **Feichten** 12.34 326 Pn Pn 23 19 34.8 -0.5
SNR=27
KVT **Kavak** 12.37 67 *e*P Pn 23 19 36.9 +1.3
MOTA **Moosalm** 12.42 327 ⇑*i*Pn Pn 23 19 36.0 -0.4
SNR=75
MOTA ⇑*i*Sn Sn 23 21 46.9 -7.8
MOTA **Moosalm** 12.42 327 Pn Pn 23 19 36.0 -0.4
SNR=75
CKHR **Kef el Ahmar** 12.43 269 P Pn 23 19 37.0 +0.5
CKHR **Kef el Ahmar** 12.43 269 P Pn 23 19 37.0 +0.5
KWP **Kalwaria Pacla** 12.46 5 *e*P Pn 23 19 38.5 +1.7
KWP **Kalwaria Pacla** 12.46 5 *e*P Pn 23 19 38.5 +1.7
KWP **Kalwaria Pacla** 12.46 5⇑*e*P Pn 23 19 37.1 +0.3
KWP 23 21 58.6
KWP **Kalwaria Pacla** 12.46 5⇑*e*Pn Pn 23 19 37.1 +0.3
KWP Sn Sn 23 21 58.6 +3.3
KWP **Kalwaria Pacla** 12.46 5⇑*i*P Pn 23 19 38.7 +1.9
KWP **Kalwaria Pacla** 12.46 5 *e*P Pn 23 19 37.1 +0.3
VRAC **Vranov** 12.46 347 Pn Pn 23 19 36.0 -0.9
VRAC **Vranov** 12.46 347⇑*i*P Pn 23 19 36.5 -0.3
VRAC **Vranov** 12.46 347 Pn Pn 23 19 36.0 -0.9
comp=Z,1.4nm,0.3s,baz=179,slow=13,SNR=61
VRAC **Vranov** 12.46 347 P Pn 23 19 36.0 -0.9
comp=Z,1.0nm,0.3s
SET **Setif** 12.48 270 P Pn 23 19 40.0 +2.7
TOKA **Tokat** 12.54 71 *i* P Pn 23 19 39.7 +1.7
TOKA **Tokat** 12.54 71 *i* P Pn 23 19 39.7 +1.7
LMR **La Mourre** 12.55 303 *e*P Pn 23 19 37.2 -0.9
comp=Z,393nm,1.5s
LMR **La Mourre** 12.55 303 *e*P Pn 23 19 37.2 -0.9
LMR pmax pmax
comp=Z,393nm,1.5s
LMR **La Mourre** 12.55 303 *e*P Pn 23 19 37.2 -0.9
comp=Z,393nm,1.5s
LMR **La Mourre** 12.55 303 *e*P Pn 23 19 37.2 -0.9
comp=Z,393nm,1.5s
DAVOX **Davos/Dischmat** 12.56 323 Pn Pn 23 19 39.4 +1.1
DAVOX Sn Sn 23 21 54.0 -4.1
DAVOX **Davos/Dischmat** 12.56 323 Pn Pn 23 19 39.4 +1.1
baz=134,slow=13
DAVOX Sn Sn 23 21 54.0 -4.1
comp=Z,2.6nm,0.3s,baz=301,slow=20,SNR=3.8
DAVOX **Davos/Dischmat** 12.56 323 Pn Pn 23 19 39.4 +1.1
HWQ **Hawqa** 12.57 99 *e*P Pn 23 19 38.0 -0.6
HWQ **Hawqa** 12.57 99 *e*P Pn 23 19 38.0 -0.6
SIM **Simferopol'** 12.59 48*c* *i*P Pn 23 19 39.6 +1.1
SIM S Sn 23 22 07.0 +8.5
SIM pmax pmax
comp=Z,91nm,1.1s
SIM MLR MLR
comp=Z,6µm,16.2s
SIM **Simferopol'** 12.59 48 *i* P Pn 23 19 39.6 +1.1
comp=Z,91nm,1.1s
MMAI **Mount Meron Ar** 12.60 105 Pn Pn 23 19 37.6 -1.2
MMAI Sn Sn 23 21 49.7 -9.3
MMAI **Mount Meron Ar** 12.60 105 Pn Pn 23 19 37.6 -1.2
comp=Z,6.8nm,0.3s,baz=300,slow=13,SNR=21
MMAI Sn Sn 23 21 49.7 -9.3
comp=Z,34nm,0.3s,baz=305,slow=24,SNR=12
MMAI **Mount Meron Ar** 12.60 105 Pn Pn 23 19 37.6 -1.2
TUE **Stuetta** 12.61 321 *e*Pn Pn 23 19 39.2 +0.2
TUE *e*Sn Sn 23 21 53.5 -5.8
TUE **Stuetta** 12.61 321 *e*Pn Pn 23 19 39.2 +0.2
TREC **Trest** 12.67 344 *e*P Pn 23 19 39.4 -0.4
TREC MLR MLR
comp=Z,20µm,8.5s
TREC **Trest** 12.67 344 *e*PN Pn 23 19 39.4 -0.4
TREC *ex* x 23 19 53.5
TREC AMS AMS 23 25 10.0
comp=Z,20µm,8.5s
TREC **Trest** 12.67 344 *e*P Pn 23 19 39.4 -0.4
comp=Z,20µm,8.5s
RETA **Reutte** 12.68 327 ⇑*i*Pn Pn 23 19 39.3 -0.6
SNR=20
RETA ⇑*i*Sn Sn 23 21 51.7 -9.2
RETA **Reutte** 12.68 327 Pn Pn 23 19 39.3 -0.6
SNR=20
GEC2 **GERESS Array S** 12.73 338 *e*Pn Pn 23 19 39.5 -1.1
GEC2 **GERESS Array S** 12.73 338 *e*P Pn 23 19 39.5 -1.1
GEC2 **GERESS Array S** 12.73 338 *e*P Pn 23 19 39.5 -1.1
GERES **GERESS Array B** 12.73 338 Pn Pn 23 19 40.0 -0.6
GERES Sn Sn 23 21 58.9 -3.2
GERES **GERESS Array B** 12.73 338 Pn Pn 23 19 40.0 -0.6
comp=Z,1.9nm,0.3s,baz=160,slow=14,SNR=51
GERES Sn Sn 23 21 58.9 -3.2
comp=Z,3.3nm,0.3s,baz=151,slow=25,SNR=6.0
GERES **GERESS Array B** 12.73 338 P Pn 23 19 40.0 -0.6
comp=Z,2.0nm,0.3s
KMRS **Kahramanmaras** 12.73 84 *e*P Pn 23 19 43.2 +2.5
OKC **Ostrava-Krasne** 12.75 352 *e*P Pn 23 19 40.2 -0.5
OKC MLR MLR
comp=Z,20µm,11.2s
OKC **Ostrava-Krasne** 12.75 352 *e*PN Pn 23 19 40.2 -0.5
OKC *ex* x 23 19 54.8
OKC AMS AMS 23 25 50.0
comp=Z,20µm,11.2s
OKC **Ostrava-Krasne** 12.75 352 *e*P Pn 23 19 40.2 -0.5
comp=Z,20µm,11.2s
RCY **Rachaya** 12.75 103 *e*P Pn 23 19 37.8 -3.2
MORC **Moravsky Berou** 12.76 350 ⇑P Pn 23 19 41.3 +0.3
MORC **Moravsky Berou** 12.76 350 *e*Pn Pn 23 19 40.0 -1.0
MORC *e*Sn Sn 23 22 02.4 -0.5
MORC **Moravsky Berou** 12.76 350⇑*i*P Pn 23 19 41.3 +0.3
MORC **Moravsky Berou** 12.76 350 *e*Pn Pn 23 19 40.0 -1.0
MORC **Moravsky Berou** 12.76 350 P Pn 23 19 41.3 +0.3
LVV **L'vov** 12.78 9 *e*P Pn 23 19 42.4 +1.3
LVV *e*S Sn 23 22 06.1 +3.0
LVV MLR MLR
comp=Z,12µm,11.0s
LVV **L'vov** 12.78 9 *e*P Pn 23 19 42.4 +1.3
comp=Z,12µm,11.0s
SURF **Saint Ours** 12.88 309 *e*P Pn 23 19 43.9 +1.2
SURF **Saint Ours** 12.88 309 *e*P Pn 23 19 43.9 +1.2
SURF **Saint Ours** 12.88 309 *e*P Pn 23 19 43.9 +1.2
DAVA **Damuels** 12.92 324 *e*Pn Pn 23 19 44.1 +0.8
DAVA **Damuels** 12.92 324 ⇓*i*Pn Pn 23 19 43.7 +0.4
SNR=37
DAVA ⇑*i*Sn Sn 23 22 00.2 -6.8
DAVA **Damuels** 12.92 324 Pn Pn 23 19 43.7 +0.4
SNR=37
TAVF **Tavernes** 12.97 304 *e*P Pn 23 19 44.3 +0.4
TAVF **Tavernes** 12.97 304 *e*P Pn 23 19 44.3 +0.4
TAVF **Tavernes** 12.97 304 *e*P Pn 23 19 44.3 +0.4
RAC **Raciborz** 12.99 352 *e*P Pn 23 19 42.8 -1.2
RAC MLR MLR
comp=Z,10µm,8.0s
RAC **Raciborz** 12.99 352 *e*P Pn 23 19 42.8 -1.2
comp=Z,10µm,8.0s
OJC **Ojcow** 13.00 357 *i* P Pn 23 19 43.1 -1.1
OJC *e*PP P 23 19 54.1 -0.6
OJC *e*SS SnSn 23 22 19.1 -1.8
OJC L L 23 25 49.0
comp=Z,38µm,14.3s
OJC **Ojcow** 13.00 357⇑*i*P Pn 23 19 43.8 -0.4
OJC MLR MLR
comp=Z,38µm,14.3s
OJC **Ojcow** 13.00 357 *e*Pn Pn 23 19 43.1 -1.1
OJC **Ojcow** 13.00 357 *e*Pn Pn 23 19 43.1 -1.1
OJC **Ojcow** 13.00 357 *i* P Pn 23 19 43.8 -0.4
comp=Z,38µm,14.3s
GAZ **Gaziantep** 13.01 85 *e*P Pn 23 19 46.0 +1.6

KHC	Kasperske Hory	13.02 338	eP	Pn	23 19 42.9	-1.6			
KHC			e		23 22 09.7				
KHC	Kasperske Hory	13.02 338	ePn	Pn	23 19 42.9	-1.6			
KHC			eSn	Sn	23 22 09.7	+0.5			
KHC	Kasperske Hory	13.02 338	ePN	Pn	23 19 42.8	-1.7			
KHC			ex	x	23 19 57.4				
KHC			AMS	AMS	23 26 00.0				
	comp=Z,23µm,12.0s								
KHC	Kasperske Hory	13.02 338	eP	Pn	23 19 42.9	-1.6			
MBDF	Montbardon	13.02 309	eP	Pn	23 19 45.0	+0.3			
	comp=Z,398nm,1.0s								
MBDF	Montbardon	13.02 309	eP	Pn	23 19 45.0	+0.3			
MBDF			pmax	pmax					
	comp=Z,398nm,1.0s								
MBDF	Montbardon	13.02 309	eP	Pn	23 19 45.0	+0.3			
	comp=Z,398nm,1.0s								
MBDF	Montbardon	13.02 309	eP	Pn	23 19 45.0	+0.3			
	comp=Z,398nm,1.0s								
BERF	Bertagne	13.10 302	eP	Pn	23 19 45.4	-0.2			
BERF	Bertagne	13.10 302	eP	Pn	23 19 45.4	-0.2			
BERF	Bertagne	13.10 302	eP	Pn	23 19 45.4	-0.2			
HNKL	Nakhl	13.11 120	P	Pn	23 19 40.8	-5.0			
HNKL	Nakhl	13.11 120	P	Pn	23 19 40.8	-5.0			
	baz=121								
KRLC	Kraliky	13.17 348	ePN	Pn	23 19 45.8	-0.7			
KRLC			ex	x	23 19 58.7				
KRLC	Kraliky	13.17 348	Pn	Pn	23 19 45.8	-0.7			
STOF	St-Etienne Org	13.23 305	eP	Pn	23 19 49.7	+2.3			
STOF	St-Etienne Org	13.23 305	eP	Pn	23 19 49.7	+2.3			
STOF	St-Etienne Org	13.23 305	eP	Pn	23 19 49.7	+2.3			
BNI	Bardonecchia	13.24 311	eP	Pn	23 19 48.2	+0.5			
BNI			e		23 22 17.1				
BNI	Bardonecchia	13.24 311	ePn	Pn	23 19 48.1	+0.5			
BNI			eSn	Sn	23 22 17.1	+2.2			
BNI	Bardonecchia	13.24 311	eP	Pn	23 19 48.2	+0.5			
WET	Wettzell	13.25 336	ePn	Pn	23 19 46.8	-0.8			
WET	Wettzell	13.25 336	eP	Pn	23 19 46.8	-0.8			
WET	Wettzell	13.25 336	eP	Pn	23 19 46.8	-0.8			
GZT	Gaziantep	13.27 84	i P	Pn	23 19 45.1	-3.0			
TREF	Trevaresse	13.42 303	eP	Pn	23 19 50.1	+0.1			
TREF	Trevaresse	13.42 303	eP	Pn	23 19 50.1	+0.1			
TREF	Trevaresse	13.42 303	eP	Pn	23 19 50.1	+0.1			
DARE	Darende-Malaty	13.43 78	eP	Pn	23 19 48.8	-1.3			
LPG	La Plagne	13.44 312	eP	Pn	23 19 51.0	+0.5			
	comp=Z,166nm,1.0s								
LPG	La Plagne	13.44 312	eP	Pn	23 19 51.0	+0.5			
LPG			pmax	pmax					
	comp=Z,166nm,1.0s								
LPG	La Plagne	13.44 312	eP	Pn	23 19 51.0	+0.5			
	comp=Z,166nm,1.0s								
LPG	La Plagne	13.44 312	eP	Pn	23 19 51.0	+0.5			
	comp=Z,166nm,1.0s								
SMRF	Simiane la Rot	13.44 305	eP	Pn	23 19 49.3	-0.9			
	comp=Z,778nm,1.8s								
SMRF	Simiane la Rot	13.44 305	eP	Pn	23 19 49.3	-0.9			
	comp=Z,778nm,1.8s								
SMRF	Simiane la Rot	13.44 305	eP	Pn	23 19 49.3	-0.9			
	comp=Z,778nm,1.8s								
LPL	La Plagne	13.46 312	eP	Pn	23 19 51.7	+1.0			
	comp=Z,167nm,1.1s								
LPL	La Plagne	13.46 312	eP	Pn	23 19 51.7	+1.0			
LPL			pmax	pmax					
	comp=Z,167nm,1.1s								
LPL	La Plagne	13.46 312	eP	Pn	23 19 51.7	+1.0			
	comp=Z,167nm,1.1s								
LPL	La Plagne	13.46 312	eP	Pn	23 19 51.7	+1.0			
	comp=Z,167nm,1.1s								
DPC	Dobruska-Polom	13.51 347	eP	Pn	23 19 50.4	-0.8			
DPC			MLR	MLR					
	comp=Z,20µm,10.2s								
DPC	Dobruska-Polom	13.51 347	ePn	Pn	23 19 50.5	-0.8			
DPC	Dobruska-Polom	13.51 347	ePN	Pn	23 19 50.4	-0.8			
DPC			ex	x	23 20 03.8				
DPC			AMS	AMS	23 26 20.0				
	comp=Z,20µm,10.2s								
DPC	Dobruska-Polom	13.51 347	ePn	Pn	23 19 50.5	-0.8			
PRU	Pruhonice	13.54 342	eP	Pn	23 19 50.2	-1.4			
PRU			MLR	MLR					
	comp=Z,21µm,9.4s								
PRU	Pruhonice	13.54 342	ePN	Pn	23 19 50.2	-1.4			
PRU			AMS	AMS	23 26 10.0				
	comp=Z,21µm,9.4s								
PRU	Pruhonice	13.54 342	eP	Pn	23 19 50.2	-1.4			
	comp=Z,21µm,9.4s								
SENIN	Lac Senin/Sane	13.62 316	ePn	Pn	23 19 52.4	-0.6			
SENIN	Lac Senin/Sane	13.62 316	ePn	Pn	23 19 52.3	-0.6			
PRAF	Pradon	13.63 304	eP	Pn	23 19 52.7	-0.2			
PRAF	Pradon	13.63 304	eP	Pn	23 19 52.7	-0.2			
PRAF	Pradon	13.63 304	eP	Pn	23 19 52.7	-0.2			
PRA	Prague	13.64 342	PN	Pn	23 19 52.0	-1.0			
PRA			ex	x	23 20 03.0				
PRA			ex	x	23 22 24.0				
PRA			AMS	AMS	23 25 30.0				
GDM	Grand'Maison	13.66 310	eP	Pn	23 19 55.1	+1.7			
GDM	Grand'Maison	13.66 310	eP	Pn	23 19 55.1	+1.7			
GDM	Grand'Maison	13.66 310	eP	Pn	23 19 55.1	+1.7			
ORIF	Oris-en-Rattie	13.67 309	eP	Pn	23 19 54.5	+1.1			
	comp=Z,1µm,1.8s								
ORIF			eR						
	comp=Z,12µm,20.0s								
ORIF	Oris-en-Rattie	13.67 309	eP	Pn	23 19 54.5	+1.1			
ORIF			pmax	pmax					
	comp=Z,1µm,1.8s								
ORIF	Oris-en-Rattie	13.67 309	eP	Pn	23 19 54.5	+1.1			
	comp=Z,1µm,1.8s								
ORIF	Oris-en-Rattie	13.67 309	eP	Pn	23 19 54.5	+1.1			
	comp=Z,1µm,1.8s								
UPC	Upice	13.72 347	eP	Pn	23 19 53.3	-0.7			
UPC	Upice	13.72 347	ePN	Pn	23 19 53.3	-0.7			
UPC			ex	x	23 20 05.1				
UPC	Upice	13.72 347	eP	Pn	23 19 53.3	-0.7			
ATAB	Bozova	13.84 84	i P	Pn	23 19 56.8	+1.0			
ATAB	Bozova	13.84 84	i P	Pn	23 19 56.8	+1.0			
MYA	Malataya	13.91 80	eP	Pn	23 19 58.0	+1.3			
MALT	Malatya	13.91 80	eP	Pn	23 19 58.6	+1.8			
GRN	Grenoble	13.91 310	eP	Pn	23 19 57.9	+1.2			
GRN	Grenoble	13.91 310	eP	Pn	23 19 57.9	+1.2			
GRN	Grenoble	13.91 310	eP	Pn	23 19 57.9	+1.2			
GRN	Grenoble	13.91 310	eP	Pn	23 19 57.9	+1.2			
EIL	Elat	13.94 119	Pn	Pn	23 19 55.3	-1.8			
EIL			Sn	Sn	23 22 17.5	-14			
EIL	Elat	13.94 119	Pn	Pn	23 19 55.3	-1.8			
	comp=Z,3.8nm,0.3s,baz=314,slow=7.1,SNR=32								
EIL			Sn	Sn	23 22 17.5	-14			
	comp=Z,15nm,0.3s,baz=49,slow=12,SNR=9.8								
KSP	Ksiaz	13.99 348	eP	Pn	23 19 56.6	-1.2			
KSP			eS	S	23 22 53.2	-1.2			
KSP	Ksiaz	13.99 348	eP	Pn	23 19 56.6	-1.2			
KSP			eS	S	23 22 53.2	-1.2			
KSP	Ksiaz	13.99 348⇑	eP	Pn	23 19 56.3	-1.4			
KSP	Ksiaz	13.99 348⇑	eP	Pn	23 19 56.3	-1.4			
ROTZ	Rotzenmuhle	14.01 336	ePn	Pn	23 19 56.7	-1.2			
PVCC	Panska Ves	14.04 343	eP	Pn	23 19 56.8	-1.5			
PVCC			MLR	MLR					
	comp=Z,21µm,10.7s								
PVCC	Panska Ves	14.04 343	ePN	Pn	23 19 56.8	-1.5			
PVCC			AMS	AMS	23 26 00.0				
	comp=Z,21µm,10.7s								
PVCC	Panska Ves	14.04 343	Pn	Pn	23 19 56.8	-1.5			
HBST	Basata	14.06 121	P	Pn	23 19 54.0	-4.8			
HBST	Basata	14.06 121	P	Pn	23 19 54.0	-4.8			
	baz=121								
ASF	Jabal al Asfar	14.09 106	Pn	Pn	23 19 58.4	-0.9			
ASF	Jabal al Asfar	14.09 106	Pn	Pn	23 19 58.4	-0.9			
	comp=Z,1.3nm,0.3s,baz=166,slow=7.4,SNR=13								
AKRG	Al Kharijah	14.28 142	P	Pn	23 19 57.4	-4.3			
	baz=144								
GRF	Grafenberg Arr	14.28 334	ePn	Pn	23 19 59.5	-2.1			
GRF			eSn	Sn	23 22 30.4	-9.4			
GRF			eL	L	23 26 59.8				
	comp=Z,12µm,18.8s								
GRF	Grafenberg Arr	14.28 334	eP	Pn	23 19 59.5	-2.1			
GRF			e		23 22 30.4				
GRF			MLR	MLR					
	comp=Z,12µm,18.8s								
GRFO	Grafenberg	14.28 334	eP	Pn	23 20 01.4	-0.2			
GRFO	Grafenberg	14.28 334	ePn	Pn	23 20 01.4	-0.2			
GRFO	Grafenberg	14.28 334	ePn	Pn	23 20 01.4	-0.2			
GTR	Jabal at Tayr	14.30 142	P	Pn	23 19 58.3	-3.8			
GTR	Jabal at Tayr	14.30 142	P	Pn	23 19 58.3	-3.8			
	baz=144								
ESPY	Espiye-Giresun	14.32 70	eP	Pn	23 20 04.3	+2.0			
TR1		14.33 126	P	Pn	23 19 57.8	-4.7			
	baz=127								
STU	Stuttgart	14.34 327	eP	Pn	23 20 02.0	-0.5			
STU	Stuttgart	14.34 327	ePn	Pn	23 20 02.0	-0.5			
STU	Stuttgart	14.34 327	ePn	Pn	23 20 02.0	-0.5			
NKC	Novy Kostel	14.34 338	eP	Pn	23 20 01.3	-1.2			
NKC			MLR	MLR					
	comp=Z,27µm,11.7s								
NKC	Novy Kostel	14.34 338	ePN	Pn	23 20 01.3	-1.2			
NKC			epP	P	23 20 12.4	+2.8			
NKC			AMS	AMS	23 26 50.0				
	comp=Z,27µm,11.7s								
NKC	Novy Kostel	14.34 338	Pn	Pn	23 20 01.3	-1.2			
BFO	Black Forest	14.40 324	ePn	Pn	23 20 02.9	-0.5			
BFO	Black Forest	14.40 324	eP	Pn	23 20 02.7	-0.7			
BFO	Black Forest	14.40 324	ePn	Pn	23 20 02.7	-0.7			
BFO	Black Forest	14.40 324	ePn	Pn	23 20 02.7	-0.7			
VIVF	Saint-Julien-l	14.40 307	eP	Pn	23 20 02.7	-0.7			
	comp=Z,643nm,1.7s								
VIVF	Saint-Julien-l	14.40 307	eP	Pn	23 20 02.7	-0.7			
VIVF			pmax	pmax					
	comp=Z,643nm,1.7s								
VIVF	Saint-Julien-l	14.40 307	eP	Pn	23 20 02.7	-0.7			
	comp=Z,643nm,1.7s								
WERN	Wernitzgruen	14.41 338	ePn	Pn	23 20 03.9	+0.4			
CABF	La Chapelle	14.44 315	eP	Pn	23 20 01.5	-2.5			
	comp=Z,86nm,0.7s								
CABF	La Chapelle	14.44 315	eP	Pn	23 20 01.5	-2.5			
CABF			pmax	pmax					
	comp=Z,86nm,0.7s								
CABF	La Chapelle	14.44 315	eP	Pn	23 20 01.5	-2.5			
	comp=Z,86nm,0.7s								
GUNZ	Gunzen	14.49 338	ePn	Pn	23 20 05.1	+0.5			
TANN	Tannenbergstha	14.50 338	ePn	Pn	23 20 05.2	+0.5			
BRG	Berggiesshubel	14.51 342	i P	Pn	23 20 03.8	-0.9			
	comp=Z,30nm,1.2s								
BRG			i		23 20 14.6				
	comp=Z,279nm,1.3s								
BRG			i PCP	PcP	23 25 22.4	+3.4			
	comp=Z,191nm,2.1s								
BRG			e		23 55 28.5				
	comp=Z,6.9nm,1.4s								
BRG									
	comp=N,17µm,10.9s								
BRG									
	comp=E,9µm,9.5s								
BRG									
	comp=Z,17µm,9.9s								
BRG	Berggiesshubel	14.51 342	ePn	Pn	23 20 03.6	-1.2			
ANN	Anapa	14.57 54c	i P	Pn	23 20 05.0	-0.7			
ANN			i		23 20 13.8				
ANN			i PPP	PPP	23 20 18.6				
ANN			pmax	pmax					
	comp=Z,125nm,1.1s								
ANN			MLR	MLR					
	comp=Z,10µm,13.0s								
ANN	Anapa	14.57 54c	i P	Pn	23 20 05.0	-0.7			
ANN			eS	Sn	23 22 45.9	-1.0			
ANN			pmax	pmax					
	comp=Z,125nm,1.1s								
WERD	Werda	14.57 338	ePn	Pn	23 20 06.2	+0.5			
BEL	Belsk	14.60 360	eP	Pn	23 20 05.9	0.0			
BEL			eS	S	23 23 05.5	-1.1			
BEL			e		23 23 12.7				
BEL	Belsk	14.60 360	eP	Pn	23 20 05.9	0.0			
BEL			eS	S	23 23 05.5	-1.1			
BEL			e		23 23 12.7				
BEL	Belsk	14.60 360⇑	eP	Pn	23 20 05.9	0.0			
HDK2	Wahat Dakhilah	14.61 150	P	Pn	23 20 02.6	-3.7			
HDK2	Wahat Dakhilah	14.61 150	P	Pn	23 20 02.6	-3.7			
	baz=151								
LASF	Ste Croix	14.62 303	eP	Pn	23 20 04.9	-1.4			
	comp=Z,254nm,1.3s								
LASF	Ste Croix	14.62 303	eP	Pn	23 20 04.9	-1.4			
	comp=Z,254nm,1.3s								
HHRG	Al Ghardaqah	14.64 129	P	Pn	23 20 02.0	-4.7			
HHRG	Al Ghardaqah	14.64 129	P	Pn	23 20 02.0	-4.7			
	baz=131								
PLN	Plauen	14.65 337	ePn	Pn	23 20 05.5	-1.2			
FBE	Freiberg	14.70 341	ePn	Pn	23 20 07.0	-0.4			
AKASG	Malin Array Be	14.72 21	P	Pn	23 20 07.0	-0.7			
AKASG			pmax	pmax					
	comp=Z,4.0nm,0.3s								
AKASG			MLR	MLR					
	comp=Z,8µm,21.6s								
AKASG	Malin Array Be	14.72 21	Pn	Pn	23 20 07.0	-0.7			
AKASG			PcP	PcP	23 25 19.6	+0.4			
AKASG	Malin Array Be	14.72 21	Pn	Pn	23 20 07.0	-0.7			
	comp=Z,4.0nm,0.3s,baz=205,slow=12,SNR=20								
AKASG			PcP	PcP	23 25 19.6	+0.4			
	comp=Z,2.1nm,0.3s,baz=226,slow=1.1,SNR=5.2								
AKASG			LR	LR	23 25 59.4				
	comp=Z,8µm,21.6s,baz=200,slow=38								
AKASG	Malin Array Be	14.72 21	Pn	Pn	23 20 06.9	-0.7			
AKBB	Malin Array Si	14.72 21	eP	Pn	23 20 06.5	-1.1			
AKBB	Malin Array Si	14.72 21	ePn	Pn	23 20 06.5	-1.1			
AKBB			eS	S	23 23 08.0	-1.1			
AKBB	Malin Array Si	14.72 21	ePn	Pn	23 20 06.5	-1.1			
HINF	Hinteralfeld	14.77 320	eP	Pn	23 20 06.5	-2.0			
	comp=Z,721nm,1.4s								
HINF	Hinteralfeld	14.77 320	eP	Pn	23 20 06.5	-2.0			
HINF			pmax	pmax					
	comp=Z,721nm,1.4s								
HINF	Hinteralfeld	14.77 320	eP	Pn	23 20 06.5	-2.0			
	comp=Z,721nm,1.4s								
GUMT	Gumushane	14.83 72	eP	Pn	23 20 10.0	+0.6			
ECH	Echery	14.88 322⇑	eP	Pn	23 20 09.5	-0.4			
ECH			e		23 22 56.6				
ECH			pmax	pmax					
	comp=Z,382nm,1.1s								
ECH	Echery	14.88 322⇑	ePn	Pn	23 20 09.5	-0.4			
	comp=Z,382nm,1.1s								
ECH			eSn	Sn	23 22 56.6	+2.0			
ECH	Echery	14.88 322⇑	ePn	Pn	23 20 09.5	-0.4			
	comp=Z,382nm,1.1s								
ERZN	Erzincan	14.94 75	eP	Pn	23 20 11.4	+0.5			
MOX	Moxa	14.96 337	ePn	Pn	23 20 09.5	-1.4			
MOX			eL	L	23 27 28.6				
	comp=Z,12µm,15.8s								
MOX	Moxa	14.96 337	eP	Pn	23 20 09.5	-1.4			
MOX			MLR	MLR					
	comp=Z,12µm,15.8s								
CDF	Champ du Feu	14.96 323	eP	Pn	23 20 10.3	-0.7			
	comp=Z,442nm,0.9s								
CDF	Champ du Feu	14.96 323	eP	Pn	23 20 10.3	-0.7			
CDF			pmax	pmax					
	comp=Z,442nm,0.9s								
CDF	Champ du Feu	14.96 323	eP	Pn	23 20 10.3	-0.7			
	comp=Z,442nm,0.9s								
KTUT	Trabzon	15.11 70	eP	Pn	23 20 14.9	+1.9			
CLL	Collm	15.14 341	ePn	Pn	23 20 11.5	-1.9			
CLL	Collm	15.14 341	eP	Pn	23 20 15.0	+1.6			
CLL			pmax	pmax					
	comp=Z,107nm,1.5s								
CLL	Collm	15.14 341	eP	Pn	23 20 15.0	+1.6			
	comp=Z,107nm,1.5s								
CLL			eSP	sP	23 20 18.0	-5.9			
CLL			i PP	pP	23 20 21.7	-0.5			
	comp=Z,848nm,1.6s								
CLL			i SS	SnSn	23 23 15.0	+1.4			
CLL			Lmax		23 29 00.0				
HAU	Haudompre	15.15 320	eP	Pn	23 20 11.6	-2.0			
	comp=Z,1µm,1.2s								
HAU			eR						
	comp=Z,9µm,18.8s								
HAU	Haudompre	15.15 320	eP	Pn	23 20 11.6	-2.0			
HAU			pmax	pmax					
	comp=Z,1µm,1.2s								
HAU	Haudompre	15.15 320	eP	Pn	23 20 11.6	-2.0			
	comp=Z,1µm,1.2s								
BAYT	Ayd¨-ntepe-Bay	15.32 72	eP	Pn	23 20 17.7	+1.7			
DIY	Diyarbakir	15.34 82	eP	Pn	23 20 17.0	+0.8			
EBNR	Beni Rached	15.56 272	P	P	23 20 21.0	-2.2			
EBNR	Beni Rached	15.56 272	P	P	23 20 21.0	-2.2			
UBBA	Unterbreizbach	15.65 334	eP	Pn	23 20 17.9	-2.0			
SOC	Sochi	15.66 60c	i P	Pn	23 20 19.3	-0.8			
SOC			e		23 23 12.1				
SOC			pmax	pmax					
	comp=Z,35nm,0.6s								
SOC			MLR	MLR					
	comp=Z,10µm,15.0s								
ECHA	Ech Chlef	15.71 272	P	Pn	23 20 22.0	+1.2			
TNS	Taunus Mts	15.76 329	eP	Pn	23 20 20.6	-0.9			
TNS	Taunus Mts	15.76 329	eP	Pn	23 20 20.6	-0.9			
PAGF	Fort de Pagny	15.83 320	eP	Pn	23 20 21.9	-0.4			
	comp=Z,684nm,1.9s,baz=142								
PAGF	Fort de Pagny	15.83 320	eP	Pn	23 20 21.9	-0.4			
	comp=Z,684nm,1.8s								
ETRT	Tiaret	15.91 269	P	Pn	23 20 24.5	+0.9			
EANR	'Ain N'Sour	15.96 271	P	Pn	23 20 24.0	-0.1			
SFTF	Sexfontaines	15.96 318	eP	Pn	23 20 22.9	-1.2			
	comp=Z,624nm,1.2s,baz=127								
SFTF	Sexfontaines	15.96 318	eP	Pn	23 20 22.9	-1.2			
	comp=Z,624nm,1.2s								
PZAR	Pazar-Rize	15.99 70	eP	Pn	23 20 25.4	+1.1			
SALF	Salau	16.07 296	eP	P	23 20 28.7	-0.2			
SALF	Salau	16.07 296	eP	P	23 20 28.7	-0.2			
SALF	Salau	16.07 296	eP	P	23 20 28.7	-0.2			
LOR	Lormes	16.08 314	eP	Pn	23 20 22.6	-3.0			
	comp=Z,225nm,1.1s,baz=127								
LOR			eR						
	comp=Z,7µm,22.5s								
LOR	Lormes	16.08 314	eP	Pn	23 20 22.6	-3.0			
	comp=Z,225nm,1.1s								
CAF	Calviac	16.12 304	eP	Pn	23 20 26.4	+0.2			
	comp=Z,159nm,1.3s								
CAF	Calviac	16.12 304	eP	Pn	23 20 26.4	+0.2			
CAF			pmax	pmax					
	comp=Z,159nm,1.3s								
CAF	Calviac	16.12 304	eP	Pn	23 20 26.4	+0.2			
	comp=Z,159nm,1.3s								
MEZF	Maizieres J'vi	16.14 319	eP	Pn	23 20 26.1	-0.2			
	comp=Z,3µm,1.8s,baz=137								
MEZF	Maizieres J'vi	16.14 319	eP	Pn	23 20 26.1	-0.2			
	comp=Z,3µm,1.8s								
SSF	Saint Saulge	16.18 313	eP	Pn	23 20 24.3	-2.5			
	comp=Z,184nm,1.0s								
SSF	Saint Saulge	16.18 313	eP	Pn	23 20 24.3	-2.5			
SSF			pmax	pmax					
	comp=Z,184nm,1.0s								
SSF	Saint Saulge	16.18 313	eP	Pn	23 20 24.3	-2.5			
	comp=Z,184nm,1.0s								
MLS	Moulis	16.18 297	eP	P	23 20 29.9	-0.2			
MLS	Moulis	16.18 297	eP	P	23 20 29.9	-0.2			
MLS	Moulis	16.18 297	eP	P	23 20 29.9	-0.2			
EZM	Erzurum	16.22 74	eP	Pn	23 20 29.0	+1.3			
GKP	Gorka Klasztor	16.23 352	eP	P	23 20 31.5	+1.0			
GKP			epP	pP	23 20 34.0	-0.2			
GKP			eS	S	23 23 43.5	+3.4			
GKP	Gorka Klasztor	16.23 352	eP	P	23 20 31.5	+1.0			
GKP			epP	pP	23 20 34.0	-0.2			
GKP			eS	S	23 23 43.5	+3.4			
GKP	Gorka Klasztor	16.23 352	eP	P	23 20 31.5	+1.0			
GKP	Gorka Klasztor	16.23 352	eP	P	23 20 31.5	+1.0			
VRTB	Varto-Mus	16.27 77	eP	P	23 20 30.4	-0.9			
OKGL	Djebel Kef Gue	16.31 272	P	P	23 20 34.0	+2.5			
OKGL	Djebel Kef Gue	16.31 272	P	P	23 20 34.0	+2.5			
BGF	Bois d'Agland	16.32 310	eP	Pn	23 20 27.1	-1.5			
	comp=Z,563nm,1.3s								
BGF	Bois d'Agland	16.32 310	eP	Pn	23 20 27.1	-1.5			
BGF			pmax	pmax					
	comp=Z,563nm,1.3s								
BGF	Bois d'Agland	16.32 310	eP	Pn	23 20 27.1	-1.5			
	comp=Z,563nm,1.3s								
BTMT	Batman	16.32 80	eP	Pn	23 20 28.3	-0.5			
OJGS	Djebel Guires	16.32 270	P	Pn	23 20 23.0	-5.9			
WLF	Walferdange	16.36 324	P	P	23 20 30.8	-1.1			
	comp=Z,404nm,2.2s								
WLF	Walferdange	16.36 324	eP	Pn	23 20 28.1	-1.0			
	comp=Z,887nm,1.3s								
WLF	Walferdange	16.36 324	eP	P	23 20 32.0	0.0			
WLF			pmax	pmax					
	comp=Z,793nm,1.2s								
WLF	Walferdange	16.36 324	ePn	P	23 20 31.9	0.0			
	comp=Z,793nm,1.2s								
WLF	Walferdange	16.36 324	eP	P	23 20 32.0	0.0			
	comp=Z,793nm,1.2s								
CLZ	Clausthal	16.39 336	eP	Pn	23 20 29.6	+0.1			
	comp=Z,3µm,2.3s								
CLZ	Clausthal	16.39 336	eP	Pn	23 20 29.6	+0.1			
CLZ			pmax	pmax					
	comp=Z,3µm,2.3s								
BCA	Borcka	16.56 69	eP	P	23 20 33.9	-0.5			
TCF	Toulx Ste Croi	16.59 309	eP	Pn	23 20 30.4	-1.7			
	comp=Z,880nm,1.9s								
TCF	Toulx Ste Croi	16.59 309	eP	Pn	23 20 30.4	-1.7			
TCF			pmax	pmax					
	comp=Z,880nm,1.9s								
TCF	Toulx Ste Croi	16.59 309	eP	Pn	23 20 30.4	-1.7			
	comp=Z,880nm,1.9s								
RJF	Les Rejaudoux	16.62 305	eP	Pn	23 20 31.9	-0.6			
	comp=Z,100nm,1.0s								
RJF			eR						
	comp=Z,5µm,19.8s								
RJF	Les Rejaudoux	16.62 305	eP	Pn	23 20 31.9	-0.6			
RJF			pmax	pmax					
	comp=Z,100nm,1.0s								
RJF	Les Rejaudoux	16.62 305	eP	Pn	23 20 31.9	-0.6			
	comp=Z,100nm,1.0s								
OJBR	Djebel Berber	16.63 270	P	Pn	23 20 22.0	-11			
HADB		16.65 131	P	Pn	23 20 30.9	-2.1			
HADB		16.65 131	P	Pn	23 20 30.9	-2.1			
	baz=133								
EPF	Esparros	16.74 297	eP	Pn	23 20 34.2	+0.2			
	comp=Z,185nm,1.4s								
EPF	Esparros	16.

ETSF	**Etsaut**	17.35	296	*e*P		Pn	23 20 40.8	+1.0	
	comp=Z,352nm,1.1s								
ETSF	**Etsaut**	17.35	296	*e*P		Pn	23 20 40.8	-1.0	
	comp=Z,352nm,1.1s								
BEBN	**Eben Emael**	17.37	326	P		P	23 20 43.4	+0.3	
	comp=Z,80nm,2.2s								
BEBN	**Eben Emael**	17.37	326	P		P	23 20 43.4	+0.3	
	comp=Z,80nm,2.2s								
DOU	**Dourbes**	17.39	323	P		P	23 20 43.8	+0.4	
DOU	**Dourbes**	17.39	323	P		P	23 20 43.8	+0.4	
CART	**Cartagena**	17.40	278	*i* P		Pn	23 20 42.1	-0.2	
AGRB	**Hanur-Agry**	17.47	76	*e*P		P	23 20 45.9	+1.3	
ATE	**Arette**	17.49	296	*e*P		Pn	23 20 43.1	-0.4	
ATE	**Arette**	17.49	296	*e*P		Pn	23 20 43.1	-0.4	
ATE	**Arette**	17.49	296	*e*P		Pn	23 20 43.1	-0.4	
BAIF	**Baives**	17.56	322	*e*P		P	23 20 44.6	-0.6	
	comp=Z,186nm,0.8s								
BAIF	**Baives**	17.56	322	*e*P		P	23 20 44.6	-0.6	
BAIF				pmax		pmax			
	comp=Z,186nm,0.8s								
BAIF	**Baives**	17.56	322	*e*P		P	23 20 44.6	-0.6	
	comp=Z,186nm,0.8s								
BAIF	**Baives**	17.56	322	*e*P		P	23 20 44.6	-0.6	
	comp=Z,186nm,0.8s								
KARS	**Kars**	17.58	72	*e*P		P	23 20 47.0	+1.3	
HAGS	**Hagol**	17.60	133	P		Pn	23 20 44.3	-0.6	
HAGS	**Hagol**	17.60	133	P		Pn	23 20 44.3	-0.6	
	baz=134								
IBBN	**Ibbenburen**	17.68	333	*e*P		Pn	23 20 45.5	-0.1	
	comp=Z,950nm,2.1s								
ORDF	**Ordiarp**	17.69	296	*e*P		P	23 20 47.3	+0.6	
ORDF	**Ordiarp**	17.69	296	*e*P		P	23 20 47.3	+0.6	
ORDF	**Ordiarp**	17.69	296	*e*P		P	23 20 47.3	+0.6	
LARF	**Larrau**	17.69	296	*e*P		P	23 20 46.2	-0.6	
LARF	**Larrau**	17.69	296	*e*P		P	23 20 46.2	-0.6	
LARF	**Larrau**	17.69	296	*e*P		P	23 20 46.2	-0.6	
VANB	**Van**	17.79	79	*e*P		P	23 20 51.1	+3.1	
SNF	**Seneffe**	17.82	323	P		P	23 20 49.3	+1.3	
	comp=Z,146nm,1.9s								
SNF	**Seneffe**	17.82	323	P		P	23 20 49.3	+1.3	
	comp=Z,146nm,1.9s								
KIV	**Kislovodsk**	17.83	61	*c i* P		P	23 20 48.2	-0.2	
KIV				*e*S		Sn	23 24 04.0	-2.2	
KIV				pmax		pmax			
	comp=Z,153nm,1.1s								
KIV				MLR		MLR			
	comp=Z,2μm,12.0s								
KIV	**Kislovodsk**	17.83	61	*e*P		P	23 20 49.8	+1.4	
	comp=Z,134nm,0.8s								
KIV	**Kislovodsk**	17.83	61	P		P	23 20 50.7	+2.4	
	SNR=16								
KIV	**Kislovodsk**	17.83	61	Pn		P	23 20 50.2	+1.8	
	comp=Z,844nm,1.3s,SNR=12								
KIV	**Kislovodsk**	17.83	61	*e*P		P	23 20 49.8	+1.4	
	comp=Z,134nm,0.8s								
SJPF	**Ste Jean**	17.88	296	*e*P		Pn	23 20 46.2	-2.0	
	comp=Z,194nm,0.9s								
SJPF	**Ste Jean**	17.88	296	*e*P		Pn	23 20 46.2	-2.0	
SJPF				pmax		pmax			
	comp=Z,194nm,0.9s								
SJPF	**Ste Jean**	17.88	296	*e*P		Pn	23 20 46.2	-2.0	
	comp=Z,194nm,0.9s								
OSSF	**Osses**	17.93	296	*e*P		P	23 20 49.9	+0.5	
OSSF	**Osses**	17.93	296	*e*P		P	23 20 49.9	+0.5	
OSSF	**Osses**	17.93	296	*e*P		P	23 20 49.9	+0.5	
AKH	**Akhalkalaki**	17.96	70	P		P	23 20 54.7	+4.8	
UCC	**Uccle**	17.98	324	P		P	23 20 50.8	+0.9	
UCC	**Uccle**	17.98	324	P		P	23 20 50.7	+0.9	
RGN	**Rugen**	18.08	346	*e*P		Pn	23 20 50.0	-0.5	
	comp=Z,4μm,2.4s								
RGN	**Rugen**	18.08	346	*e*P		P	23 20 51.1	+0.2	
	comp=Z,2μm,1.9s								
RGN	**Rugen**	18.08	346	*e*P		P	23 20 51.1	+0.2	
	comp=Z,2μm,1.9s								
CUKT	**Cukurca**	18.08	83	*e*P		Pn	23 20 50.0	-0.8	
NACGM	**Naroch**	18.12	11	*e*P		Pn	23 20 46.0	-5.0	
CLDR	**Caldiran**	18.19	77	*e*P		P	23 20 54.8	+2.3	
MFF	**Saint Martin d**	18.20	308	*e*P		Pn	23 20 51.4	-0.7	
	comp=Z,677nm,1.4s								
MFF	**Saint Martin d**	18.20	308	*e*P		Pn	23 20 51.4	-0.7	
MFF				pmax		pmax			
	comp=Z,677nm,1.4s								
MFF	**Saint Martin d**	18.20	308	*e*P		Pn	23 20 51.4	-0.7	
	comp=Z,677nm,1.4s								
MFF	**Saint Martin d**	18.20	308	*e*P		Pn	23 20 51.4	-0.7	
	comp=Z,677nm,1.4s								
BSEG	**Bad Segeberg**	18.23	340	*e*P		Pn	23 20 52.2	-0.2	
	comp=Z,2μm,1.8s								
BSEG	**Bad Segeberg**	18.23	340	*e*P		Pn	23 20 52.2	-0.2	
BSEG				pmax		pmax			
	comp=Z,2μm,1.8s								
BSEG	**Bad Segeberg**	18.23	340	*e*P		Pn	23 20 52.2	-0.2	
	comp=Z,2μm,1.8s								
BSD	**Bornholm Skovb**	18.34	349	⇑ *i* P		Pn	23 20 52.7	-1.0	
BSD				pmax		pmax			
	comp=Z,110nm,0.8s								
BSD				MLR		MLR			
	comp=Z,11μm,12.0s								
BSD	**Bornholm Skovb**	18.34	349	⇑ *i* P		Pn	23 20 52.7	-1.0	
	comp=Z,112nm,0.8s								
BSD				*e*S		S	23 24 23.1	+0.1	
BSD									
	comp=Z,11μm,12.0s								
BSD	**Bornholm Skovb**	18.34	349	*i* P		Pn	23 20 52.7	-1.0	
	comp=Z,11μm,12.0s								
BSD				*e*S		S	23 24 23.2	+0.2	
	SNR=47								
ZEI	**Tsey**	18.44	65	*e*P		Pn	23 20 56.2	+0.9	
ZEI				*e*S		S	23 24 24.8	-0.9	
ZEI				pmax		pmax			
	comp=Z,148nm,0.5s								
ZEI				MLR		MLR			
	comp=Z,2μm,8.0s								
ZEI	**Tsey**	18.44	65	*e*P		Pn	23 20 56.2	+0.9	
	comp=Z,148nm,0.5s								
GNI	**Garni**	18.82	74	*e*P		Pn	23 20 59.8	-0.1	
GNI	**Garni**	18.82	74	P		Pn	23 21 00.4	+0.4	
GNI	**Garni**	18.82	74	P		Pn	23 21 00.4	+0.4	
	comp=Z,4.8nm,0.3s,baz=297,slow=2.9,SNR=21								
GNI	**Garni**	18.82	74	P		P	23 20 58.1	-1.3	
	SNR=14								
VORD	**Divnogorie**	18.97	38	*e*P		P	23 21 00.3	-0.5	
VORD				*e*S		Sn	23 24 32.5	-1.1	
VORD				pmax		pmax			
	comp=N,110nm,0.6s								
VORD				pmax		pmax			
	comp=E,160nm,0.6s								
VORD				pmax		pmax			
	comp=Z,110nm,0.6s								
VORD				smax		smax			
	comp=N,200nm,1.1s								
VORD				smax		smax			
	comp=E,260nm,1.1s								
VORD				smax		smax			
	comp=Z,160nm,1.1s								
VORD				MLR		MLR			
	comp=N,8μm,12.0s								
VORD				MLR		MLR			
	comp=E,12μm,12.0s								
VORD				MLR		MLR			
	comp=Z,17μm,12.0s								
VORD	**Divnogorie**	18.97	38	*e*P		P	23 21 00.3	-0.5	
LLD	**Lille Linde**	19.04	345	*i* P		Pn	23 21 03.5	+1.3	
LLD				pmax		pmax			
	comp=Z,230nm,0.9s								
LLD	**Lille Linde**	19.04	345	*i* P		Pn	23 21 03.5	+1.3	
	comp=Z,228nm,0.9s								
LLD	**Lille Linde**	19.04	345	*i* P		Pn	23 21 03.5	+1.3	
	comp=Z,230nm,0.9s								
LDF	**La Druitiere**	19.06	313	*e*P		P	23 21 00.5	-1.3	
	comp=Z,365nm,1.2s								
LDF	**La Druitiere**	19.06	313	*e*P		P	23 21 00.5	-1.3	
LDF				pmax		pmax			
	comp=Z,365nm,1.2s								
LDF	**La Druitiere**	19.06	313	*e*P		P	23 21 00.5	-1.3	
	comp=Z,365nm,1.2s								
LDF	**La Druitiere**	19.06	313	*e*P		P	23 21 00.5	-1.3	
	comp=Z,365nm,1.2s								
VSR	**Storozhevoye**	19.07	37	*e*P		P	23 21 01.3	-0.5	
VSR				*e*S		Sn	23 24 29.5	-6.5	
VSR				pmax		pmax			
	comp=N,20nm,0.5s								
VSR				pmax		pmax			
	comp=E,30nm,0.5s								
VSR				pmax		pmax			
	comp=Z,120nm,0.5s								
VSR				smax		smax			
	comp=E,310nm,2.0s								
VSR				smax		smax			
	comp=N,140nm,1.0s								
VSR				smax		smax			
	comp=Z,20nm,1.0s								
VSR				MLR		MLR			
	comp=N,6μm,13.0s								
VSR				MLR		MLR			
	comp=E,12μm,13.0s								
VSR				MLR		MLR			
	comp=Z,19μm,13.0s								
VSR	**Storozhevoye**	19.07	37	*e*P		P	23 21 01.3	-0.5	
HLG	**Helgoland**	19.18	336	*e*P		Pn	23 21 03.7	-0.2	
MELI	**Melilla**	19.31	271	*i* P		Pn	23 21 04.9	-0.7	
COP	**Copenhagen**	19.32	345	⇑ *i* P		Pn	23 21 05.6	0.0	
COP				*i* S		S	23 24 43.8	+1.0	
COP				pmax		pmax			
	comp=Z,100nm,0.9s								
COP	**Copenhagen**	19.32	345	⇑ *i* P		Pn	23 21 05.6	0.0	
	comp=Z,104nm,0.9s								
COP				*i* S		S	23 24 43.8	+1.0	
COP				*i*			23 24 43.9		
COP	**Copenhagen**	19.32	345	*i* P		Pn	23 21 05.6	0.0	
	comp=Z,100nm,0.9s								
COP				*i* S		S	23 24 43.8	+1.0	
	SNR=47								
FLN	**La Foliniere**	19.35	313	*e*P		P	23 21 04.2	-0.7	
	comp=Z,214nm,0.8s,baz=122								
FLN				*e*R					
	comp=Z,5μm,19.8s								
FLN	**La Foliniere**	19.35	313	*e*P		P	23 21 04.2	-0.7	
FLN				pmax		pmax			
	comp=Z,214nm,0.8s								
FLN	**La Foliniere**	19.35	313	*e*P		P	23 21 04.2	-0.7	
	comp=Z,214nm,0.8s								
FLN	**La Foliniere**	19.35	313	*e*P		P	23 21 04.2	-0.7	
	comp=Z,214nm,0.8s								
GRR	**Gorron**	19.39	312	*e*P		P	23 21 04.9	-0.5	
	comp=Z,285nm,1.1s								
GRR	**Gorron**	19.39	312	*e*P		P	23 21 04.9	-0.5	
GRR				pmax		pmax			
	comp=Z,285nm,1.0s								
GRR	**Gorron**	19.39	312	*e*P		P	23 21 04.9	-0.5	
	comp=Z,285nm,1.0s								
GRR	**Gorron**	19.39	312	*e*P		P	23 21 04.9	-0.5	
	comp=Z,285nm,1.0s								
VOR	**Voronezh**	19.42	36	*e*P		P	23 21 04.0	-1.7	
VOR				pmax		pmax			
	comp=Z,850nm,2.4s								
BHD	**Baghdad**	19.57	95	*ex*		P	23 21 09.8	+2.4	
BHD				*ex*		S	23 24 41.8	-6.2	
BHD	**Baghdad**	19.57	95	*e*P		P	23 21 09.8	+2.4	
TAM	**Tamanrasset**	19.57	227	*e*P		P	23 21 07.8	+0.1	
TAM				pmax		pmax			
	comp=Z,177nm,1.4s								
TAM	**Tamanrasset**	19.57	227	*e*P		P	23 21 07.8	+0.1	
	comp=Z,177nm,1.4s								
TAM				*e*S		Sn	23 24 53.4	+4.6	
TAM	**Tamanrasset**	19.57	227	*e*P		P	23 21 07.8	+0.1	
	comp=Z,177nm,1.4s								
IMRD	**Marand**	19.60	78	*e*P		P	23 21 08.4	+0.5	
IMRD	**Marand**	19.60	78	*e*P		P	23 21 08.4	+0.5	
ESDC	**Sonseca Array**	19.61	285	P		Pn	23 21 09.2	-0.2	
ESDC				ScP		ScP	23 29 03.9	+0.8	
ESDC	**Sonseca Array**	19.61	285	P		Pn	23 21 09.2	-0.2	
	comp=Z,1.2nm,0.3s,baz=84,slow=11,SNR=83								
ESDC				ScP		ScP	23 29 03.9	+0.8	
	comp=Z,0.2nm,0.3s,baz=97,slow=5.6,SNR=4.4								
ESDC	**Sonseca Array**	19.61	285	P		Pn	23 21 09.1	-0.2	
ESLA	**Sonseca Array**	19.61	285	*e*P		Pn	23 21 10.3	+1.0	
ESLA	**Sonseca Array**	19.61	285	*e*P		Pn	23 21 10.3	+1.0	
ITBZ	**Tabriz**	19.98	79	*e*P		P	23 21 11.7	-0.4	
ITBZ	**Tabriz**	19.98	79	*e*P		P	23 21 11.7	-0.4	
VRHR	**Novokhopersk**	20.22	40	*e*P		Pn	23 21 15.7	-0.7	
VRHR				*e*S		S	23 25 00.8	-0.1	
VRHR				pmax		pmax			
	comp=N,230nm,0.6s								
VRHR				pmax		pmax			
	comp=E,210nm,0.6s								
VRHR				pmax		pmax			
	comp=Z,380nm,0.6s								
VRHR				smax		smax			
	comp=E,660nm,1.4s								
VRHR				smax		smax			
	comp=Z,420nm,2.8s								
VRHR				smax		smax			
	comp=N,330nm,1.4s								
VRHR				MLR		MLR			
	comp=N,6μm,13.0s								
VRHR				MLR		MLR			
	comp=E,10μm,13.0s								
VRHR				MLR		MLR			
	comp=Z,15μm,13.0s								
VRHR	**Novokhopersk**	20.22	40	*e*P		Pn	23 21 15.7	-0.7	
EMAL	**Malaga-Limoner**	20.22	276	*i* P		P	23 21 14.5	-0.1	
SGMF	**Saint Gilles**	20.36	310	*e*P		P	23 21 15.1	-0.9	
	comp=Z,219nm,0.9s								
SGMF	**Saint Gilles**	20.36	310	*e*P		P	23 21 15.1	-0.9	
SGMF				pmax		pmax			
	comp=Z,219nm,0.9s								
SGMF	**Saint Gilles**	20.36	310	*e*P		P	23 21 15.1	-0.9	
	comp=Z,219nm,0.9s								
SGMF	**Saint Gilles**	20.36	310	*e*P		P	23 21 15.1	-0.9	
	comp=Z,219nm,0.9s								
JSA	**Saint Aubin**	20.53	313	⇑ *e*P		P	23 21 17.4	-0.4	
JSA				AMB		AMB	23 21 20.6		
	comp=Z,354nm,2.3s								
JSA				AMS		AMS	23 31 44.3		
	comp=Z,8μm,12.6s								
JSA	**Saint Aubin**	20.53	313	P		P	23 21 17.4	-0.4	
JSA				AMB		AMB	23 21 20.6		
	comp=Z,354nm,2.3s								
JSA				AMS		AMS	23 31 44.3		
	comp=Z,8μm,12.6s								
JSA	**Saint Aubin**	20.53	313	⇑ *e*P		P	23 21 17.4	-0.4	
QUIF	**Quistinic**	20.60	309	*e*P		P	23 21 17.6	-1.0	
	comp=Z,293nm,0.8s								
QUIF	**Quistinic**	20.60	309	*e*P		P	23 21 17.6	-1.0	
QUIF				pmax		pmax			
	comp=Z,293nm,0.8s								
QUIF	**Quistinic**	20.60	309	*e*P		P	23 21 17.6	-1.0	
	comp=Z,293nm,0.8s								
QUIF	**Quistinic**	20.60	309	*e*P		P	23 21 17.6	-1.0	
	comp=Z,293nm,0.8s								
DBC	**Dubki**	20.61	66	*i* P		P	23 21 18.6	-0.2	
DBC	**Dubki**	20.61	66	*i* P		P	23 21 18.6	-0.2	
IBST	**Bostanabad**	20.62	81	*e*P		P	23 21 17.7	-1.4	
AEU	**East Anglia Un**	20.64	324	⇑ *e*P		Pn	23 21 20.1	-1.1	
AEU	**East Anglia Un**	20.64	324	P		Pn	23 21 20.1	-1.1	
AEU	**East Anglia Un**	20.64	324	⇑ *e*P		Pn	23 21 20.1	-1.1	
IHRS	**Heris**	20.67	79	*e*P		P	23 21 18.4	-1.3	
IDHR	**Dehrash**	20.77	89	*e*P		P	23 21 20.3	-0.4	
IDHR	**Dehrash**	20.77	89	*e*P		P	23 21 20.3	-0.4	
MUD	**Monsted U'grnd**	20.77	341	⇑ *i*P		P	23 21 21.0	+0.7	
MUD				pmax		pmax			
	comp=Z,160nm,0.9s								
MUD				MLR		MLR			
	comp=Z,9μm,10.0s								
MUD	**Monsted U'grnd**	20.77	341	⇑ *i*P		P	23 21 21.0	+0.7	
	comp=Z,163nm,0.9s								
MUD									
	comp=Z,9μm,10.0s								
MUD	**Monsted U'grnd**	20.77	341	*i* P		P	23 21 21.0	+0.7	
	comp=Z,9μm,10.0s								
OBN	**Obninsk**	20.82	26	*e*P		P	23 21 20.1	-0.8	
OBN				*i*			23 21 37.7		
OBN				*i* S		S	23 25 09.5	-3.2	
OBN				pmax		pmax			
	comp=Z,445nm,0.8s								
OBN				MLR		MLR			
	comp=Z,8μm,13.0s								
OBN	**Obninsk**	20.82	26	*e*P		P	23 21 20.3	-0.6	
	comp=Z,2μm,1.6s								
OBN				LR		LR			
	comp=Z,14μm,22.0s								
OBN	**Obninsk**	20.82	26	P		P	23 21 20.8	-0.1	
	comp=Z,4μm,0.7s,SNR=51								
OBN	**Obninsk**	20.82	26	*e*P		P	23 21 20.3	-0.6	
	comp=Z,2μm,1.6s								
ROSF	**Rostrenen**	20.83	310	*e*P		P	23 21 19.9	-1.2	
	comp=Z,651nm,1.3s								
ROSF	**Rostrenen**	20.83	310	*e*P		P	23 21 19.9	-1.2	
ROSF				pmax		pmax			
	comp=Z,651nm,1.3s								
ROSF	**Rostrenen**	20.83	310	*e*P		P	23 21 19.9	-1.2	
	comp=Z,651nm,1.3s								
ROSF	**Rostrenen**	20.83	310	*e*P		P	23 21 19.9	-1.2	
	comp=Z,651nm,1.3s								
LIJA	**Lijar**	20.97	277	*i* P		Pn	23 21 24.4	-1.0	
IGHG	**Ghaleghazi**	21.01	90	*e*P		P	23 21 22.3	-1.0	
IGHG	**Ghaleghazi**	21.01	90	*e*P		P	23 21 22.3	-1.0	
WOL	**Wolverton**	21.07	319	*e*P		P	23 21 23.7	+0.1	
WOL				AMB		AMB	23 21 26.3		
	comp=Z,471nm,2.0s								
WOL				AMS		AMS	23 31 35.9		
	comp=Z,10μm,9.8s								
WOL	**Wolverton**	21.07	319	P		P	23 21 23.7	+0.1	
WOL				AMB		AMB	23 21 26.3		
	comp=Z,471nm,2.0s								
WOL				AMS		AMS	23 31 35.9		
	comp=Z,10μm,9.8s								
WOL	**Wolverton**	21.07	319	*e*P		P	23 21 23.7	+0.1	
SKP1	**Kophill**	21.09	320	⇑ *e*P		P	23 21 24.1	+0.3	
SKP1	**Kophill**	21.09	320	P		P	23 21 24.1	+0.3	
SKP1	**Kophill**	21.09	320	⇑ *e*P		P	23 21 24.1	+0.3	
MAK	**Makhachkala**	21.09	66	*e*P		P	23 21 24.2	+0.3	
MAK				*e*			23 21 41.8		
MAK				*e*S		S	23 25 20.0	+1.7	
MAK				*e*SS		SnSn	23 25 38.0	-1.6	
MAK				*e*SSS		SSS	23 25 54.7		
MAK				pmax		pmax			
	comp=Z,2μm,1.5s								
MAK				MLR		MLR			
	comp=Z,7μm,11.0s								
MAK	**Makhachkala**	21.09	66	*e*P		P	23 21 24.2	+0.3	
	comp=Z,2μm,1.5s								
ILIN	**Lien**	21.17	88	*e*P		P	23 21 24.3	-0.8	
ILIN	**Lien**	21.17	88	*e*P		P	23 21 24.3	-0.8	
IVIS	**Veis**	21.18	90	*e*P		P	23 21 24.0	-1.1	
IVIS	**Veis**	21.18	90	*e*P		P	23 21 24.0	-1.1	
ISRB	**Sarab**	21.21	80	*e*P		P	23 21 23.3	-2.2	
MDT	**Midelt**	21.33	266	P		P	23 21 26.2	-0.5	
MDT	**Midelt**	21.33	266	P		P	23 21 26.2	-0.5	
	comp=Z,45nm,0.8s,baz=82,slow=11,SNR=58								
MDT				LR		LR	23 30 48.5		
	comp=Z,4μm,21.5s,baz=296,slow=40								
MDT	**Midelt**	21.33	266	P		P	23 21 26.2	-0.5	
ZFT	**Errachidia**	21.39	263	*i* P		P	23 21 28.0	+0.5	
SWN1	**Swindon**	21.49	319	⇑ *e*P		P	23 21 28.1	0.0	
SWN1				AMB		AMB	23 21 33.4		
	comp=Z,811nm,2.3s								
SWN1				*e*			23 25 24.7		
SWN1				AMS		AMS	23 31 55.9		
	comp=Z,8μm,18.2s								
SWN1	**Swindon**	21.49	319	P		P	23 21 28.1	0.0	
SWN1				AMB		AMB	23 21 33.4		
	comp=Z,811nm,2.3s								
SWN1				*e*			23 25 24.7		
SWN1				AMS		AMS	23 31 55.9		
	comp=Z,8μm,18.2s								
SWN1	**Swindon**	21.49	319	⇑ *e*P		P	23 21 28.1	0.0	
VSU	**Vasula**	21.58	8	*e* P		P	23 21 28.7	-0.2	
VSU	**Vasula**	21.58	8	*i* P		P	23 21 28.7	-0.2	
CZD	**Col de Zad**	21.60	267	*i* P		P	23 21 30.0	+0.2	
MOS	**Moscow**	21.69	26	*e*P		P	23 21 25.9	-4.3	
MOS				*e*			23 21 42.0		
MOS				*e*S		S	23 25 23.8	-6.0	
MOS				pmax		pmax			
	comp=Z,623nm,0.9s								
MOS				pmax		pmax			
	comp=Z,4μm,2.3s								
MOS				pmax		pmax			
	comp=N,3μm,3.2s								
MOS				pmax		pmax			
	comp=E,2μm,3.2s								
MOS				MLR		MLR			
	comp=E,11μm,12.0s								
MOS				MLR		MLR			
	comp=Z,16μm,12.0s								
MOS				MLR		MLR			
	comp=N,16μm,11.0s								
RSA	**Sarsar**	21.71	272	*i* P		P	23 21 32.0	+1.3	
SSW	**Stow on the Wo**	21.76	320	⇑ *e*P		P	23 21 31.5	+0.5	
SSW	**Stow on the Wo**	21.76	320	P		P	23 21 31.5	+0.5	
SSW	**Stow on the Wo**	21.76	320	⇑ *e*P		P	23 21 31.5	+0.5	
PBRG	**Braganca**	21.76	291	*e*P		P	23 21 31.8	+0.6	
	comp=N,318nm,1.3s								
PBRG				*i* S		S	23 25 26.5	-5.1	
PBRG	**Braganca**	21.76	291	*e*P		P	23 21 31.8	+0.6	
	comp=N,318nm,1.3s								
IKOM	**Komasi**	21.80	90	*e*P		P	23 21 30.7	-1.1	
IKOM	**Komasi**	21.80	90	*e*P		P	23 21 30.7	-1.1	
MVO	**Moncorvo**	21.95	289	*e*P		P	23 21 33.5	+0.2	
	comp=N,540nm,1.2s								
MVO				*i* S		S	23 25 28.3	-7.1	
MVO				*e*LR		LR	23 27 51.1		
	comp=N,3μm,16.0s								
MVO	**Moncorvo**	21.95	289	*e*P		P	23 21 33.5	+0.2	
	comp=N,540nm,1.2s								
PBAR	**Barrancos**	22.10	281	*e*P		P	23 21 36.6	+1.8	
	comp=N,183nm,1.4s								
PBAR				*i* S		S	23 25 36.9	-1.1	
PBAR	**Barrancos**	22.10	281	*e*P		P	23 21 36.6	+1.8	
	comp=N,183nm,1.4s								
PMRV	**Marv??o**	22.27	284	*e*P		P	23 21 36.6	0.0	
	comp=N,358nm,1.6s								
PMRV				*i* S		S	23 25 37.5	-3.8	
PMRV				*e*LR		LR	23 28 30.5		
	comp=N,2μm,18.0s								
PMRV	**Marv??o**	22.27	284	*e*P		P	23 21 36.6	0.0	
	comp=N,358nm,1.6s								
HEX	**Exmoor**	22.34	316	⇑ *e*P		P	23 21 37.1	-0.2	
HEX	**Exmoor**	22.34	316	P		P	23 21 37.1	-0.2	
HEX	**Exmoor**	22.34	316	⇑ *e*P		P	23 21 37.1	-0.2	
KBI1	**Birley Grange**	22.34	323	⇑ *e*P		P	23 21 37.1	-0.2

HTL AMS AMS 23 33 00.3
comp=Z,10µm,14.2s
HTL Hartland 22.68 315 P **P** **23 21 41.0 +0.1**
HTL AMB AMB 23 21 49.3
comp=Z,266nm,2.4s
HTL 23 25 47.8
HTL AMS AMS 23 33 00.3
comp=Z,10µm,14.2s
HTL Hartland 22.68 315 *e*P **P** **23 21 41.0 +0.1**
PCAB Cabril 22.72 290 *e*P **P** **23 21 40.5 -0.9**
comp=Z,311nm,1.2s
PCAB Cabril 22.72 290 *e*P **P** **23 21 40.5 -0.9**
comp=Z,311nm,1.2s
PVAQ Vaqueiros 22.73 279 *e*P **P** **23 21 42.9 +1.4**
comp=Z,187nm,1.2s
PVAQ *i* S **S** **23 25 49.7 0.0**
PVAQ A A 23 32 55.7
comp=Z,1µm,18.0s
PBEJ Beja 22.76 281 *e*P **P** **23 21 42.7 +0.8**
comp=Z,111nm,2.1s
PBEJ *i* S **S** **23 25 52.1 +1.7**
RTC Rabat Centre 22.77 270 *e*P **P** **23 21 46.0 +4.0**
comp=Z,348nm,1.2s
RTC Rabat Centre 22.77 270 *i* P **P** **23 21 44.0 +2.1**
EVO Evora 22.82 282 *e*P **P** **23 21 42.3 -0.2**
comp=Z,114nm,1.4s
EVO *i* S **S** **23 25 44.8 -6.6**
EVO Evora 22.82 282 *e*P **P** **23 21 42.0 -0.5**
comp=Z,212nm,1.3s
EVO *e*R
comp=Z,2µm,20.0s
HSA Swansea 22.86 317 *e*P **P** **23 21 42.7 -0.1**
HSA Swansea 22.86 317 P **P** **23 21 42.7 -0.1**
EVOP Sao Brissos 22.91 282 *e*P **P** **23 21 42.0 -1.4**
EVOP pmax pmax
comp=Z,212nm,1.3s
EVOP Sao Brissos 22.91 282 *e*P **P** **23 21 42.0 -1.4**
comp=Z,212nm,1.3s
EVOP Sao Brissos 22.91 282 *e*P **P** **23 21 42.0 -1.4**
comp=Z,212nm,1.3s
PGAV Gavieira, Arco 22.91 291 *e*P **P** **23 21 43.6 +0.1**
comp=Z,160nm,1.3s
PGAV *i* S **S** **23 25 48.5 -4.6**
PGAV *e*LR LR 23 30 25.2
comp=Z,4µm,16.0s
PBDV Barranco-do-Ve 22.92 279 *e*P **P** **23 21 45.0 +1.4**
comp=Z,295nm,1.3s
PBDV *i* S **S** **23 25 50.3 -2.9**
SNART Snartemo 22.94 341 *e*P **P** **23 21 44.2 +0.7**
SNART AMB AMB 23 21 48.2
comp=Z,273nm,1.4s
PCVE Castro Verde 22.95 280 *e*P **P** **23 21 44.6 +0.8**
comp=Z,125nm,1.4s
PCVE *i* S **S** **23 25 51.5 -2.1**
FOEL Foel Wylfa 22.96 321⇑ *e*P **P** **23 21 43.6 -0.2**
FOEL AMB AMB 23 21 45.3
comp=Z,456nm,1.1s
FOEL *e* 23 25 51.5
FOEL AMS AMS 23 32 22.8
comp=Z,6µm,13.0s
FOEL Foel Wylfa 22.96 321 P **P** **23 21 43.6 -0.2**
FOEL AMB AMB 23 21 45.3
comp=Z,456nm,1.1s
FOEL 23 25 51.5
FOEL AMS AMS 23 32 22.8
comp=Z,6µm,13.0s
PTOM Tomar 23.04 285 *e*P **P** **23 21 45.7 +0.9**
comp=Z,235nm,1.1s
PTOM *i* S **S** **23 25 54.6 -0.6**
TZC Tazercounte 23.05 265 *i* P **P** **23 21 45.0 -0.1**
MESJ Messejana 23.06 280 *e*P **P** **23 21 44.3 -0.7**
MESJ AMb AMB 23 21 52.7
comp=Z,239nm,1.4s
MESJ *e*S **S** **23 25 54.6 -1.0**
MESJ Messejana 23.06 280 *e*P **P** **23 21 44.3 -0.7**
comp=Z,239nm,1.4s
MESJ *e*S **S** **23 25 54.6 -1.0**
MESJ Messejana 23.06 280 *e*P **P** **23 21 44.3 -0.7**
MESJ *e*S **S** **23 25 54.6 -1.0**
ALMR Almeirim 23.20 284 *e*P **P** **23 21 45.5 -0.9**
ALMR Almeirim 23.20 284 *e*P **P** **23 21 45.5 -0.9**
MIB Mutribah 23.21 101 *e*P **P** **23 21 45.3 -1.2**
MIB AMb AMB 23 21 51.0
comp=Z,674nm,1.0s
MIB Mutribah 23.21 101 *e*P **P** **23 21 45.3 -1.2**
comp=Z,674nm,1.0s
PNCL Nicolau / Gran 23.27 281 *e*P **P** **23 21 48.6 +1.5**
comp=Z,231nm,1.2s
PNCL *i* S **S** **23 25 57.0 -2.0**
PUL Pulkovo 23.34 12*c**e*P **P** **23 21 46.9 -0.7**
PUL pmax pmax
comp=Z,426nm,0.5s
HFS Hagfors 23.37 351 P **P** **23 21 47.2 -0.8**
HFS S **S** **23 25 59.6 -0.8**
HFS Hagfors 23.37 351 P **P** **23 21 47.2 -0.8**
comp=Z,126nm,0.7s,baz=163,slow=11,SNR=23
HFS S **S** **23 25 59.6 -0.8**
comp=Z,28nm,1.1s,baz=145,slow=18,SNR=6.5
NAY Al-Naaiem 23.38 102 *e*P **P** **23 21 46.5 -1.8**
NAY AMb AMB 23 21 52.0
comp=Z,213nm,0.9s
IRAZ Razeghan 23.42 86 *e*P **P** **23 21 48.1 -0.8**
IGZV Ghazvin 23.45 83 *e*P **P** **23 21 49.4 +0.2**
MORF Marmelete 23.48 279 *e*P **P** **23 21 51.0 +1.7**
comp=Z,123nm,1.7s
MORF *i* S **S** **23 25 58.9 -3.7**
MORF Marmelete 23.48 279 *e*P **P** **23 21 48.7 -0.6**
MORF *e*S **S** **23 26 01.3 -1.3**
PTEO Sao Teotonio 23.50 280 *e*P **P** **23 21 49.1 -0.3**
comp=Z,262nm,1.7s
PTEO *i* S **S** **23 26 01.9 -0.9**
WPM1 Penmaenmawr 23.52 321⇑ *e*P **P** **23 21 48.9 -0.6**
WPM1 Penmaenmawr 23.52 321 P **P** **23 21 48.9 -0.6**
KONO Kongsberg 23.58 346 *e*P **P** **23 21 50.4 +0.5**
KONO *e*S **S** **23 25 58.5 -5.2**
KONO *e*ScP **ScP** **23 29 15.2 +2.7**
KONO AMS AMS 23 33 32.4
comp=Z,7µm,10.9s
UMR Umm Al-Rimmam 23.61 101 *e*P **P** **23 21 49.0 -1.5**
UMR AMb AMB 23 21 55.3
comp=Z,569nm,1.3s
PFVI Vila Bisbo 23.64 279 *e*P **P** **23 21 49.0 -1.8**
comp=Z,225nm,1.3s
PFVI *i* S **S** **23 26 01.9 -3.2**
XAL Allendale 23.65 326⇑ *e*P **P** **23 21 49.9 -0.8**
XAL Allendale 23.65 326 P **P** **23 21 49.9 -0.8**
LIS Lisbon 23.69 283 *e*P **P** **23 21 50.6 -0.6**
LIS AMb AMB 23 22 04.0
comp=Z,223nm,1.2s
LIS *e*S **S** **23 26 04.5 -1.3**
LIS Lisbon 23.69 283 *e*P **P** **23 21 50.6 -0.6**
comp=Z,223nm,1.3s
LIS *e*S **S** **23 26 04.5 -1.3**
LIS Lisbon 23.69 283 *e*P **P** **23 21 50.6 -0.6**
LIS *e*S **S** **23 26 04.4 -1.3**
PMAFR Mafra 23.77 283 *e*P **P** **23 21 54.5 +2.5**
comp=Z,176nm,1.2s
PMAFR *i* S **S** **23 26 06.2 -0.9**
WLF1 Llynfaes 23.78 320 *e*P **P** **23 21 52.0 0.0**
WLF1 AMB AMB 23 21 54.9
comp=Z,294nm,1.7s
WLF1 AMS AMS 23 32 49.7
comp=Z,6µm,11.1s
WLF1 Llynfaes 23.78 320 P **P** **23 21 52.0 0.0**
WLF1 AMB AMB 23 21 54.9
comp=Z,294nm,1.7s
WLF1 AMS AMS 23 32 49.7
comp=Z,6µm,11.1s
WME Myndd Eilian 23.79 321⇑ *e*P **P** **23 21 52.0 -0.1**
WME Myndd Eilian 23.79 321 P **P** **23 21 52.0 -0.1**
STAV Stavanger 23.85 340 *e*P **P** **23 21 51.1 -1.4**
YRC Rhoscolyn 23.85 320⇑ *e*P **P** **23 21 52.9 +0.2**
YRC Rhoscolyn 23.85 320 P **P** **23 21 52.9 +0.2**
KESW Keswick, Cumbr 23.89 324 *e*P **P** **23 21 52.3 -0.7**
KESW AMB AMB 23 21 55.2
comp=Z,584nm,2.7s
KESW AMS AMS 23 34 39.1
comp=Z,5µm,15.4s
KESW Keswick, Cumbr 23.89 324 P **P** **23 21 52.3 -0.7**
KESW AMB AMB 23 21 55.2
comp=Z,584nm,2.7s
KESW AMS AMS 23 34 39.1
comp=Z,5µm,15.4s
IMHD Mahdasht 23.95 85 *e*P **P** **23 21 54.3 +0.4**
BLS5 Blasjo 24.08 342 *e*P **P** **23 21 55.2 +0.4**

BLS5 AMB AMB 23 22 02.2
comp=Z,155nm,1.8s
QRN Al-Qurain 24.13 103 *e*P **P** **23 21 54.4 -1.1**
QRN AMb AMB 23 22 03.2
comp=Z,463nm,1.3s
IR3 Iran Long-Peri 24.28 85 *e*P **P** **23 21 56.6 -0.3**
ESK Eskdalemuir 24.38 326 *e*P **P** **23 21 57.3 -0.3**
ESK AMB AMB 23 22 01.0
comp=Z,527nm,3.4s
ESK *e* 23 26 13.8
ESK AMS AMS 23 40 11.4
comp=Z,4µm,12.2s
ESK Eskdalemuir 24.38 326 P **P** **23 21 57.3 -0.3**
ESK AMB AMB 23 22 01.0
comp=Z,527nm,3.4s
ESK 23 26 13.8
ESK AMS AMS 23 40 11.4
comp=Z,4µm,12.2s
ESK Eskdalemuir 24.38 326 *e*P **P** **23 21 57.5 0.0**
ESK pmax pmax
comp=Z,272nm,1.0s
ESK MLR MLR
comp=Z,3µm,22.0s
ESK Eskdalemuir 24.38 326 *e*P **P** **23 21 57.5 0.0**
comp=Z,272nm,1.0s
ESK LR LR
comp=Z,3µm,22.0s
FINES FINESS Array B 24.44 6 P **P** **23 21 57.3 -0.8**
FINES FINESS Array B 24.44 6 P **P** **23 21 57.3 -0.8**
comp=Z,72nm,0.5s,baz=185,slow=8.6,SNR=80
FINES LR LR 23 33 01.5
comp=Z,5µm,21.0s,baz=191,slow=40
GCD Castle Douglas 24.45 324⇑ *e*P **P** **23 21 57.8 -0.4**
GCD Castle Douglas 24.45 324 P **P** **23 21 57.8 -0.4**
NAO01 NORSAR Array S 24.46 348 *e*P **P** **23 21 57.6 -0.7**
ODD1 Odda 24.47 343 *e*P **P** **23 21 58.2 -0.2**
ODD1 AMB AMB 23 22 06.2
comp=Z,191nm,1.9s
ESY Stoneypath 24.50 327⇑ *e*P **P** **23 21 58.5 -0.1**
ESY Stoneypath 24.50 327 P **P** **23 21 58.5 -0.1**
EBL Broad Law 24.59 327⇑ *e*P **P** **23 21 59.8 +0.3**
EBL Broad Law 24.59 327 P **P** **23 21 59.8 +0.3**
NB2 NORSAR Subarra 24.59 349 P **P** **23 21 58.8 -0.7**
baz=156,slow=9.3
NB2 NORSAR Subarra 24.59 349 P **P** **23 21 58.8 -0.7**
comp=Z,179nm,1.0s,baz=156,slow=9.3
NB2 NORSAR Subarra 24.59 349 P **P** **23 21 58.8 -0.7**
comp=Z,179nm,1.0s,baz=156,slow=9.2,SNR=17
NOA NORSAR Array B 24.59 349 P **P** **23 21 58.8 -0.7**
NOA NORSAR Array B 24.59 349 P **P** **23 21 58.8 -0.7**
comp=Z,61nm,0.7s,baz=157,slow=9.0,SNR=205
EDI Edinburgh 24.75 327⇑ *e*P **P** **23 22 00.6 -0.2**
EDI AMB AMB 23 22 04.1
comp=Z,429nm,1.2s
EDI *e* 23 26 18.6
EDI AMS AMS 23 33 35.4
comp=Z,5µm,15.5s
EDI Edinburgh 24.75 327 P **P** **23 22 00.6 -0.2**
EDI AMB AMB 23 22 04.1
comp=Z,429nm,1.2s
EDI 23 26 18.6
EDI AMS AMS 23 33 35.4
comp=Z,5µm,15.5s
EAU Auchinoon 24.82 326⇑ *e*P **P** **23 22 01.8 +0.3**
EAU Auchinoon 24.82 326 P **P** **23 22 01.8 +0.3**
DLF Lyons Farm 24.89 319 *e*P **P** **23 21 58.7 -3.5**
IPIR Pirpir 24.94 92 *e*P **P** **23 22 04.3 +1.1**
IVRN Varamin 24.95 86 *e*P **P** **23 22 03.1 +0.1**
GMM Mts of Mourne 25.07 321⇑ *e*P **P** **23 22 04.1 +0.3**
GMM Mts of Mourne 25.07 321 P **P** **23 22 04.1 +0.3**
KAF Kangasniemi 25.12 6 *e*P **P** **23 22 03.3 -0.9**
KAF pmax pmax
comp=Z,121nm,0.6s
KAF Kangasniemi 25.12 6 *ep* **P** **23 22 03.3 -0.9**
comp=Z,121nm,0.6s
KAF Kangasniemi 25.12 6 *e*P **P** **23 22 03.3 -0.9**
comp=Z,121nm,0.6s
EGD Espegrend 25.13 342 *e*P **P** **23 22 03.9 -0.3**
RAYN Ar Rayn 25.16 116 P **P** **23 22 08.4 +3.5**
comp=Z,370nm,1.1s,SNR=14
IPRN Peran 25.16 83 *e*P **P** **23 22 04.9 0.0**
BER Bergen 25.20 342 *e*P **P** **23 22 04.3 -0.5**
BER AMS AMS 23 34 28.9
comp=Z,11µm,10.9s
RUND Rundenannen 25.21 342 *e*P **P** **23 22 04.3 -0.8**
IKLH Kolahrood 25.29 90 *e*P **P** **23 22 07.0 +0.7**
ASK Askoy 25.32 342 *e*P **P** **23 22 05.0 -0.9**
ELO Logie Almond 25.32 327⇑ *e*P **P** **23 22 06.7 +0.6**
ELO Logie Almond 25.32 327 P **P** **23 22 06.7 +0.6**
EAB Aberfoyle 25.42 326⇑ *e*P **P** **23 22 06.9 0.0**
EAB Aberfoyle 25.42 326 P **P** **23 22 06.9 0.0**
ISFB Sefidab 25.52 87 *e*P **P** **23 22 07.7 -0.5**
MME1 Meikle Cairn 25.56 329 *e*P **P** **23 22 08.1 -0.1**
MME1 Meikle Cairn 25.56 329 P **P** **23 22 08.1 -0.1**
IALA Alasht 25.56 83 *e*P **P** **23 22 09.0 +0.2**
IFIR Firoozkooh 25.61 84 *e*P **P** **23 22 09.2 -0.1**
HYA Hoyanger 25.68 343 *e*P **P** **23 22 09.1 -0.1**
ILAS Lasjerd 25.84 84 *e*P **P** **23 22 10.0 -1.3**
MCD Coleburn Disti 25.85 330 *e*P **P** **23 22 10.9 0.0**
MCD Coleburn Disti 25.85 330 P **P** **23 22 10.9 0.0**
DOMB Dombas 25.90 347 *e*P **P** **23 22 12.3 +1.0**
IGAR Gharneh 25.95 91 *e*P **P** **23 22 12.9 +0.6**
ISHM Shahmirzad 26.00 83 *e*P **P** **23 22 12.9 +0.1**
IZEF Zefreh 26.02 90 *e*P **P** **23 22 12.5 -0.5**
MDO Dochfour 26.21 329 *e*P **P** **23 22 13.4 -0.8**
MDO Dochfour 26.21 329 P **P** **23 22 13.4 -0.8**
IKIA Kiasar 26.23 82 *e*P **P** **23 22 14.0 -0.8**
FOO Floro 26.32 343 *e*P **P** **23 22 16.8 +1.8**
FOO *e*S **S** **23 26 46.9 -0.5**
FOO AMS AMS 23 35 33.7
comp=Z,9µm,10.9s
KLMR Klimovskoe 26.41 21*c* *i*P **P** **23 22 15.5 -0.3**
KLMR pmax pmax
comp=Z,839nm,8.8s
KLMR pmax pmax
comp=Z,642nm,1.4s
KLMR MLR MLR
comp=Z,18µm,11.0s
MVH1 Achvaich 26.45 329⇑ *e*P **P** **23 22 16.6 +0.3**
MVH1 Achvaich 26.45 329 P **P** **23 22 16.6 +0.3**
JOF Joensuu 26.49 11 *e*P **P** **23 22 15.2 -1.4**
JOF pmax pmax
comp=Z,45nm,0.5s
JOF Joensuu 26.49 11 *ep* **P** **23 22 15.2 -1.4**
comp=Z,45nm,0.5s
JOF Joensuu 26.49 11 *e*P **P** **23 22 15.2 -1.4**
comp=Z,45nm,0.5s
IANJ Anjilo 26.58 84 *e*P **P** **23 22 16.5 -1.4**
KAC Achnashellach 26.64 328⇑ *e*P **P** **23 22 17.8 -0.2**
KAC Achnashellach 26.64 328 P **P** **23 22 17.8 -0.2**
MOL Molde 26.66 346 *e*P **P** **23 22 17.6 -0.6**
MOL AMS AMS 23 36 05.6
comp=Z,6µm,10.7s
KPL Plockton 26.70 327 *e*P **P** **23 22 17.5 -1.0**
KPL AMB AMB 23 22 23.9
comp=Z,125nm,0.9s
KPL AMS AMS 23 36 43.0
comp=Z,4µm,11.1s
KPL Plockton 26.70 327 P **P** **23 22 17.5 -1.0**
KPL AMB AMB 23 22 23.9
comp=Z,125nm,0.9s
KPL AMS AMS 23 36 43.0
comp=Z,4µm,11.1s
LRW Lerwick 26.90 335⇑ *e*P **P** **23 22 19.6 -0.6**
LRW AMB AMB 23 22 26.0
comp=Z,266nm,3.3s
LRW AMS AMS 23 35 42.7
comp=Z,7µm,16.6s
LRW Lerwick 26.90 335 P **P** **23 22 19.6 -0.6**
LRW AMB AMB 23 22 26.0
comp=Z,266nm,3.3s
LRW AMS AMS 23 35 42.7
comp=Z,7µm,16.6s
ISAD Sadrabad 27.43 91 *e*P **P** **23 22 26.7 +1.0**
IPAR Pars 27.70 96 *e*P **P** **23 22 28.4 +0.2**
NSS Namsos 27.84 352 *e*P **P** **23 22 26.6 -2.1**
ICHK Chekchek 27.89 90 *e*P **P** **23 22 29.1 -0.7**
ISRV Sarvestan 27.94 97 *e*P **P** **23 22 30.9 +0.6**
IMEH Mehriz 28.35 92 *e*P **P** **23 22 33.9 0.0**
IBAF Bafgh 29.04 91 *e*P **P** **23 22 39.8 -0.1**
MOR8 Moi Rana 29.22 355 *e*P **P** **23 22 41.1 +0.2**
MOR8 *ep*P **pP** **23 22 44.1 -0.8**
ABKT Ailbek 29.38 77 P **P** **23 22 42.8 +0.1**
comp=Z,382nm,0.8s,SNR=8.6

FLOS Flostrand 29.46 354 *e*P **P** **23 22 43.3 +0.2**
STOK Stokkvaagen 29.49 354 *e*P **P** **23 22 42.5 -0.9**
TOA0 Torodi Ar. Sit 29.50 221⇓ *e*P **P** **23 22 42.7 -1.2**
TOA0 *e*PP **PP** **23 23 52.6 +2.1**
TORD Torodi Ar. Bea 29.50 221 P **P** **23 22 43.1 -0.8**
TORD Torodi Ar. Bea 29.50 221 P **P** **23 22 43.1 -0.8**
comp=Z,20nm,0.6s,baz=32,slow=9.0,SNR=70
TORD LR LR 23 36 23.6
comp=Z,5µm,18.4s,baz=35,slow=40
AKTO Aktyubinsk 29.52 52 P **P** **23 22 42.6 -1.2**
AKTO pmax pmax
comp=Z,25nm,0.6s
AKTO MLR MLR
comp=Z,5µm,18.3s
AKTO Aktyubinsk 29.52 52 P **P** **23 22 42.5 -1.2**
AKTO Aktyubinsk 29.52 52 P **P** **23 22 42.5 -1.2**
comp=Z,25nm,0.6s,baz=252,slow=8.5,SNR=11
AKTO LR LR 23 37 26.5
comp=Z,5µm,18.3s,baz=354,slow=42
IEMG Emamgholi 29.89 78 *e*P **P** **23 22 46.7 -0.9**
IKRD Kardeh 29.91 79 *e*P **P** **23 22 54.4 +6.7**
IPAY Payeh 30.36 80 *e*P **P** **23 22 51.4 -0.3**
ABKAR Akbulak array 30.53 54 *e*P **P** **23 22 52.2 -0.5**
STEI Steigen 30.91 356 *e*P **P** **23 22 55.8 0.0**
STEI AMB AMB 23 23 02.7
comp=Z,107nm,1.2s
ITEG Tejag 31.14 87 *e*P **P** **23 22 58.0 -0.5**
PMAR Madeira 31.17 273 *e*P P 23 23 01.8 +3.0
comp=Z,247nm,1.5s
APA Apatity 31.19 9⇑ *i*P **P** **23 22 59.0 +0.7**
APA *i* S **S** **23 28 04.0 +0.2**
APA pmax pmax
comp=Z,122nm,1.2s
APA MLR MLR
comp=Z,18µm,12.0s
IMYA Miami 31.26 80 *e*P **P** **23 23 00.0 +0.5**
IBND Bandar-abas 31.50 98 *e*P **P** **23 23 02.0 +0.5**
IKOO Kooshah 31.50 87 *e*P **P** **23 23 01.8 0.0**
ARU Arti 31.57 40*c* *i*P **P** **23 23 00.4 -1.4**
ARU PPP PPP 23 24 09.4
ARU S **S** **23 28 07.8 -2.1**
ARU pmax pmax
comp=Z,73nm,1.0s
ARU MLR MLR
comp=Z,7µm,14.0s
ARU Arti 31.57 40 *e*P **P** **23 23 00.6 -1.2**
comp=Z,134nm,1.3s
ARU LR LR
comp=Z,5µm,22.0s
ARU Arti 31.57 40 P **P** **23 23 00.6 -1.2**
comp=Z,532nm,0.5s,SNR=35
TRBA At Turbah 31.65 133 *e*P **P** **23 23 05.3 +2.2**
LVZ Lovozero 31.67 10 *e*P **P** **23 23 02.3 -0.3**
LVZ pmax pmax
comp=Z,138nm,1.1s
LVZ Lovozero 31.67 10 *e*P **P** **23 23 02.3 -0.3**
comp=Z,138nm,1.1s
IMON Monand 31.78 86 *e*P **P** **23 23 04.1 -0.1**
KTK1 Kautokeino 31.85 2 *e*P **P** **23 23 03.5 -0.6**
KTK1 *e*S **S** **23 28 13.3 -0.8**
ASUD Al Ashush, Dub 31.92 103⇑ P **P** **23 23 06.0 +0.8**
SNR=28
ASUD Al Ashush, Dub 31.92 103 P **P** **23 23 05.2 0.0**
NAZ Nazwa, Dubai 31.99 102⇑ P **P** **23 23 05.8 -0.1**
SNR=41
NAZ Nazwa, Dubai 31.99 102 P **P** **23 23 05.7 -0.1**
BANOM Banah 32.02 100⇓ P **P** **23 23 05.7 -0.5**
SNR=24
BANOM Banah 32.02 100 P **P** **23 23 05.6 -0.5**
SNR=18
SOKR Solikamsk 32.03 34*c* *i*P **P** **23 23 05.3 -0.5**
SOKR S **S** **23 28 16.8 -0.2**
SOKR pmax pmax
comp=Z,120nm,1.5s
SOKR MLR MLR
comp=Z,11µm,18.0s
FAQ Al Faqa, Dubai 32.06 103 P **P** **23 23 06.1 -0.4**
IDAH Dahanechah 32.08 86 *e*P **P** **23 23 06.3 -0.6**
ATD Arta Tunnel 32.31 137 P P 23 23 12.0 +3.3
ATD Arta Tunnel 32.31 137 P P 23 23 12.0 +3.3
comp=Z,17nm,1.0s,baz=316,slow=11,SNR=9.3
HATD Hatta, Dubai 32.44 102 P **P** **23 23 09.2 -0.6**
ARCES ARCESS Array B 32.45 3 P **P** **23 23 08.9 -0.5**
ARCES ARCESS Array B 32.45 3 P **P** **23 23 08.9 -0.5**
comp=Z,34nm,0.5s,baz=180,slow=9.5,SNR=82
ARCES LR LR 23 36 27.5
comp=Z,4µm,20.5s,baz=184,slow=37
ASHO Ashiyiah 32.46 103⇑ P **P** **23 23 09.3 -0.7**
SNR=30
ASHO Ashiyiah 32.46 103 P **P** **23 23 09.3 -0.7**
SNR=38
TRO Tromso 32.47 359 *e*P **P** **23 23 08.2 -1.4**
TRO *e*S **S** **23 28 21.8 -1.9**
TRO AMS AMS 23 38 21.7
comp=Z,11µm,12.1s
FURI Furi 32.49 146 P **P** **23 23 12.2 +1.6**
FURI S S 23 28 33.1 +7.6
KEV Kevo 32.74 4 *e*P **P** **23 23 10.9 -1.0**
KEV pmax pmax
comp=Z,41nm,0.5s
KEV Kevo 32.74 4 *e*P **P** **23 23 10.8 -1.0**
comp=Z,39nm,0.8s
KEV Kevo 32.74 4 *ep* **P** **23 23 10.9 -1.0**
comp=Z,41nm,0.5s
KEV Kevo 32.74 4 *e*P **P** **23 23 10.9 -1.0**
comp=Z,41nm,0.5s
SVE Sverdlovsk 32.78 40*d* *i*P **P** **23 23 11.8 -0.6**
SVE *e* 23 24 19.9
SVE *e*S **S** **23 28 29.5 +0.7**
SVE pmax pmax
comp=Z,189nm,0.8s
SVE MLR MLR
comp=Z,10µm,14.0s
ARQ Araqi 33.53 104⇑ P **P** **23 23 18.8 -0.6**
SNR=34
HOQ Hoqain 34.01 103⇑ P **P** **23 23 22.8 -0.7**
SNR=57
BSY Bisya 34.37 105⇑ P **P** **23 23 26.4 -0.3**
SNR=40
ABTO Aybut 34.70 116⇓ P **P** **23 23 30.1 +0.6**
SNR=12
SMDO Samad 34.86 103⇓ P **P** **23 23 30.4 -0.6**
SNR=78
RBK Rabkut 35.25 115⇓ P **P** **23 23 34.6 +0.3**
SNR=16
JMDO Jabal Madar 35.27 104⇓ P **P** **23 23 33.8 -0.7**
SNR=38
WBK Wadi Bani Khal 35.81 103⇓ P **P** **23 23 39.0 -0.2**
SNR=39
BORG Borgarnes 37.08 331 PFAKE 23 24 00.0 +11
BORG LR LR
comp=Z,4µm,19.0s
JMIC Jan Mayen 37.14 345 *e*P **P** **23 23 51.5 +1.6**
JMIC *e*S **S** **23 29 37.0 +1.5**
JMIC *e* 23 32 24.6
JMIC AMS AMS 23 42 07.2
comp=Z,2µm,14.4s
BJO Bjornoya 37.36 359 *e*P **P** **23 23 51.0 -0.7**
BJO *e*S **S** **23 29 38.7 -0.2**
BRVK Borovoye 37.44 49*ce*P **P** **23 23 52.8 +0.2**
BRVK pmax pmax
comp=Z,103nm,1.2s
BRVK Borovoye 37.44 49 *e*P **P** **23 23 52.4 -0.2**
comp=Z,57nm,0.8s
BRVK LR LR
comp=Z,4µm,22.0s
BVAR Borovoye Array 37.50 49 P **P** **23 23 52.7 -0.4**
BVAR pmax pmax
comp=Z,39nm,0.6s
BVAR MLR MLR
comp=Z,3µm,19.6s
BVAR Borovoye Array 37.50 49 P **P** **23 23 52.7 -0.4**
BVAR Borovoye Array 37.50 49 P **P** **23 23 52.7 -0.4**
comp=Z,39nm,0.6s,baz=259,slow=6.7,SNR=27
BVAR LR LR 23 40 50.0
comp=Z,3µm,19.6s,baz=270,slow=39
KKAR Karatay Array 37.91 65 *e*P **P** **23 23 56.1 -0.6**
KKAR Karatay Array 37.91 65 *e*P **P** **23 23 56.1 -0.6**
DBIC Dimbokro 38.42 224 *e*P **P** **23 24 00.5 -0.8**
comp=Z,668nm,2.4s
DBIC Dimbokro 38.42 224 P **P** **23 24 00.2 -1.0**
comp=Z,25nm,0.7s,baz=13,slow=10.0,SNR=44
DBIC LR LR 23 40 01.0
comp=Z,3µm,19.9s,baz=13,slow=36
DBIC Dimbokro 38.42 224⇓ *i*P **P** **23 24 00.2 -1.0**

MBAR Mbarara 38.74 164 *e*P **P** **23 24 05.6 +1.5**
MBAR AMB AMB 23 24 06.7
comp=Z,52nm,1.6s
MBAR Mbarara 38.74 164 *e*P **P** **23 24 04.1 0.0**
KBL Kabul 38.77 79 *e*P **P** **23 24 04.2 -0.1**
KBL pmax pmax
comp=Z,59nm,1.4s
KBL Kabul 38.77 79 *e*P **P** **23 24 04.2 -0.1**
comp=Z,60nm,1.4s
LIC Lamto 38.88 224 *e*P **P** **23 24 04.1 -1.0**
comp=Z,418nm,1.4s,baz=38
LIC *e*R
comp=Z,4μm,21.5s
LIC Lamto 38.88 224 *e*P **P** **23 24 04.1 -1.0**
comp=Z,418nm,1.4s
FRG Fergana 39.33 69 *e*P **P** **23 24 09.5 +0.8**
HOPEN Hopen 39.41 2 *e*PP PP 23 25 36.8 -2.4
HOPEN *e*SS SS 23 33 00.4 -3.1
HOPEN AMS AMS 23 41 58.4
comp=Z,8μm,12.7s
KIG Kigali 39.92 166 *e*P **P** **23 24 15.6 +1.6**
KIG AMB AMB 23 24 17.5
comp=Z,35nm,3.3s
BBTS Babate 40.10 246 P **P** **23 24 15.8 +0.5**
BBTS Babate 40.10 246 P **P** **23 24 15.8 +0.5**
comp=Z,68nm,0.8s,baz=106,slow=2.1,SNR=9.0
SCO Scoresbysund 40.17 339⇑ *i*P **P** **23 24 17.0 +1.8**
SCO *i*S **S** **23 30 23.9 +2.7**
SCO pmax pmax
comp=Z,80nm,0.9s
SCO MLR MLR
comp=Z,1μm,18.0s
SCO Scoresbysund 40.17 339⇑ *i*P **P** **23 24 17.0 +1.8**
comp=Z,80nm,0.9s
SCO *i*S **S** **23 30 23.9 +2.7**
SCO
comp=Z,1μm,18.0s
SCO Scoresbysund 40.17 339⇑ *i*P **P** **23 24 17.0 +1.8**
comp=Z,80nm,0.9s
SCO *i*S **S** **23 30 23.9 +2.7**
EKS2 Erkin-Say 40.35 65 *e*P **P** **23 24 17.4 +0.1**
EKS2 pmax pmax
comp=Z,115nm,1.3s
EKS2 MLR MLR
comp=Z,2μm,20.0s
EKS2 Erkin-Say 40.35 65 *e*P **P** **23 24 17.4 +0.1**
comp=Z,115nm,1.3s
EKS2 LR LR
comp=Z,2μm,20.0s
EKS2 Erkin-Say 40.35 65 P **P** **23 24 17.5 +0.1**
SNR=18
AML Almayashu 40.39 66 P P 23 24 21.4 +3.4
SNR=8.8
AML Almayashu 40.39 66 P **P** **23 24 16.0 -1.9**
SNR=9.1
USP Ospenovka 40.76 64 P **P** **23 24 19.4 -1.1**
SNR=6.6
AAK Ala-Archa 40.87 65 P **P** **23 24 21.8 +0.1**
AAK pmax pmax
comp=Z,10.0nm,0.5s
AAK pmax pmax
comp=N,6.0nm,0.9s
AAK MLR MLR
comp=Z,1μm,21.4s
AAK Ala-Archa 40.87 65 P **P** **23 24 21.8 +0.1**
AAK ScP **ScP** **23 30 13.6 +2.1**
AAK Ala-Archa 40.87 65 P **P** **23 24 19.2 -2.5**
SNR=8.8
AAK Ala-Archa 40.87 65 P **P** **23 24 21.8 +0.1**
comp=Z,9.5nm,0.5s,baz=269,slow=8.3,SNR=14
AAK ScP **ScP** **23 30 13.6 +2.1**
comp=Z,5.7nm,0.8s,baz=291,slow=3.8,SNR=4.5
AAK LR LR 23 45 07.1
comp=Z,1μm,21.4s,baz=272,slow=42
FRU Bishkek 40.92 65 *e*P **P** **23 24 22.0 +0.1**
FRU *e*S **S** **23 30 34.0 +0.7**
FRU pmax pmax
comp=Z,1μm,2.4s
FRU MLR MLR
comp=E,4μm,14.0s
CHMS Chumysh 40.99 65 P **P** **23 24 22.1 -0.4**
SNR=10
KMBO Kilima Mbogo 41.07 155 P **P** **23 24 26.2 +2.6**
SNR=35
KMBO Kilima Mbogo 41.07 155 *e*P P **23 24 26.0 +2.4**
KMBO Kilima Mbogo 41.07 155 *e*P P 23 24 26.9 +3.3
SPITS Spitsbergen Ar 41.09 359 P **P** **23 24 23.4 +0.5**
SPITS Spitsbergen Ar 41.09 359 P **P** **23 24 23.3 +0.5**
comp=E,25nm,0.6s,baz=170,slow=15,SNR=49
SPB4 Spitsbergen Ar 41.09 359 *e*P **P** **23 24 23.2 +0.4**
SPB4 *e*PP **PP** **23 25 58.9 +1.4**
KBK Karagaybulak 41.20 65 P **P** **23 24 21.9 -2.5**
SNR=12
KZA Kyzart 41.53 66 P P 23 24 33.8 +6.4
SNR=6.0
TKM2 Tokmak 2 41.61 65 PFAKE 23 24 40.0 +12
TKM2 LR LR
comp=Z,2μm,19.0s
KBS Kingsbay 41.96 357 *e*P **P** **23 24 31.0 +1.0**
KBS *e*S **S** **23 30 47.5 -0.2**
KBS *e*SS **SS** **23 33 51.7 -2.5**
KBS AMS AMS 23 44 18.9
comp=Z,4μm,13.5s
AAA Alma-Ata 42.51 64 *i*P **P** **23 24 36.2 +1.2**
AAA *i*S **S** **23 30 53.5 -3.3**
AAA pmax pmax
comp=Z,700nm,2.5s
AAA smax smax
comp=N,2μm,6.3s
AAA MLR MLR
comp=Z,3μm,16.0s
KURBB Kurchatov Arra 42.55 53 P **P** **23 24 34.0 -1.1**
comp=Z,48nm,0.5s,baz=278,slow=8.7,SNR=87
KURBB PP **PP** **23 26 13.8 +0.2**
comp=Z,13nm,0.7s,baz=277,slow=11,SNR=5.3
KURBB S **S** **23 30 52.0 -5.1**
comp=Z,3.7nm,1.0s,baz=287,slow=17,SNR=3.0
KURK Kurchatov 42.60 53 P **P** **23 24 34.0 -1.5**
KURK 23 26 13.8
KURK S S 23 30 52.0 -5.8
KURK pmax pmax
comp=Z,48nm,0.5s
KURK pmax pmax
comp=Z,13nm,0.7s
KURK smax smax
comp=N,4.0nm,1.0s
KURK Kurchatov 42.60 53 *e*P **P** **23 24 34.8 -0.7**
comp=N,97nm,1.2s
KURK PP **PP** **23 26 13.8 -0.3**
KURK S S 23 30 52.0 -5.8
KURK LR LR
comp=Z,4μm,21.0s
KURK Kurchatov 42.60 53 P **P** **23 24 36.5 +1.0**
SNR=6.3
KSH Kashi 42.66 69 P **P** **23 24 34.8 -1.5**
KSH pP **pP** **23 24 39.0 -1.4**
KSH sP **sP** **23 24 41.8 -0.3**
KSH PP **PP** **23 26 15.3 +0.1**
KSH PcP **PcP** **23 26 29.4 +1.2**
KSH ScP **ScP** **23 30 17.9 -0.8**
KSH PcS **PcS** **23 30 19.5 -0.9**
KSH S S 23 30 53.3 -6.0
KSH sS **sS** **23 31 01.3 -4.8**
KSH SS SS 23 33 56.3 -13
KSH ScS **ScS** **23 34 34.8 -2.8**
KSH pmax pmax
comp=Z,13nm,0.6s
KSH pmax pmax
comp=Z,640nm,3.6s
KSH LR LR
comp=N,1μm,10.7s
KSH LR LR
comp=E,2μm,12.6s
KSH LR LR
comp=Z,2μm,14.1s
DAG Danmarks Havn 43.27 348⇑ *i*P **P** **23 24 40.8 +0.2**
DAG MLR MLR
comp=Z,2μm,20.0s
DAG Danmarks Havn 43.27 348⇑ *i*P **P** **23 24 40.8 +0.2**
comp=Z,55nm,0.8s
DAG
comp=Z,2μm,20.0s
NVS Novosibirsk 45.10 46 *e*P **P** **23 24 54.1 -1.4**
NVS *e* 23 26 35.6
NVS *e*S **S** **23 31 30.2 -3.9**
NVS *e* 23 34 40.2
NVS pmax pmax
comp=Z,172nm,1.6s
NVS pmax pmax
comp=E,84nm,1.5s
NVS smax smax
comp=N,96nm,2.2s
NVS smax smax
comp=E,85nm,2.6s
SACV Santiago Islan 45.19 253 PFAKE 23 25 10.0 +13
SACV LR LR
comp=Z,2μm,20.0s
MK31 Makanchi Array 45.54 58 *e*P **P** **23 24 58.0 -1.2**
MK31 *e* 23 26 36.5
MK31 Makanchi Array 45.54 58 *e*P **P** **23 24 58.0 -1.2**
MK31 *e*PcP **PcP** **23 26 36.5 -1.2**
MKAR Makanchi Array 45.54 58 P **P** **23 24 58.1 -1.1**
MKAR pmax pmax
comp=Z,22nm,0.5s
MKAR pmax pmax
comp=N,3.0nm,0.9s
MKAR MLR MLR
comp=Z,3μm,19.2s
MKAR Makanchi Array 45.54 58 *e*P **P** **23 24 58.2 -1.0**
MKAR ScP **ScP** **23 30 30.5 +0.3**
MKAR Makanchi Array 45.54 58 P **P** **23 24 58.0 -1.1**
comp=Z,22nm,0.5s,baz=273,slow=6.5,SNR=88
MKAR ScP **ScP** **23 30 30.5 +0.3**
comp=Z,3.0nm,0.9s,baz=278,slow=4.2,SNR=3.3
MKAR LR LR 23 47 03.0
comp=Z,3μm,19.2s,baz=278,slow=40
MKAR Makanchi Array 45.54 58 ScP **ScP** **23 30 30.5 +0.3**
SUMG Summit 45.80 339 *i*P **P** **23 25 02.6 +1.3**
SUMG pmax pmax
comp=Z,73nm,0.9s
SUMG MLR MLR
comp=Z,2μm,16.0s
SUMG Summit 45.80 339 *e*P **P** **23 25 02.3 +1.0**
comp=Z,141nm,1.1s
SUMG Summit 45.80 339 *i*P **P** **23 25 02.6 +1.3**
comp=Z,73nm,0.9s
SUMG
comp=Z,2μm,16.0s
SUMG Summit 45.80 339 *i*P **P** **23 25 02.6 +1.3**
comp=Z,73nm,0.9s
SDNR Sundarnagar 46.07 80 *e*PKP **P** **23 25 03.0 -0.5**
SDNR *ex* x 23 30 47.0
ZAA0 Zalesovo Array 46.10 47 *e*P **P** **23 25 01.9 -1.5**
ZALV Zalesovo Beam 46.10 47 P **P** **23 25 02.2 -1.2**
ZALV S **S** **23 31 47.5 -1.0**
ZALV pmax pmax
comp=Z,55nm,0.6s
ZALV smax smax
comp=N,1.0nm,0.6s
ZALV MLR MLR
comp=Z,3μm,20.8s
ZALV Zalesovo Beam 46.10 47 P **P** **23 25 02.1 -1.2**
ZALV S **S** **23 31 47.5 -1.0**
ZALV Zalesovo Beam 46.10 47 P **P** **23 25 02.1 -1.2**
comp=Z,55nm,0.6s,baz=274,slow=7.2,SNR=60
ZALV S **S** **23 31 47.5 -1.0**
comp=Z,1.1nm,0.6s,baz=263,slow=8.6,SNR=3.1
ZALV LR LR 23 45 50.1
comp=Z,3μm,20.8s,baz=276,slow=38
SMLA Simla 46.37 80 *i*P **P** **23 25 05.4 -0.4**
SMLA *i*x x 23 31 44.6
KHET Khetri 46.56 85 *e*PKP **P** **23 25 06.8 -0.6**
KHET AMb AMB 23 25 14.8
comp=Z,60nm,0.9s
KKR Kurukshetra 46.57 82 *e*PKP **P** **23 25 06.5 -0.9**
KUDL Kundal 47.08 84 *e*PKP **P** **23 25 10.8 -0.7**
KUDL AMb AMB 23 25 19.4
comp=Z,140nm,1.2s
BHGR Bahadurgarh 47.20 83 *e*PKP **P** **23 25 11.8 -0.6**
NDI New Delhi 47.42 83 *e*PKP **P** **23 25 11.0 -3.1**
NDI *ex* x 23 32 03.0
AYAN Aya Nagar 47.44 83 *e*PKP **P** **23 25 13.6 -0.6**
AYAN AMb AMB 23 25 17.6
comp=Z,97nm,1.2s
AGRA Agra 48.64 85 *e*PKP **P** **23 25 22.8 -0.7**
AGRA AMb AMB 23 25 25.0
comp=Z,59nm,0.4s
SFJD Kangerlussuaq 49.19 330 *e*P **P** **23 25 27.5 +0.3**
comp=Z,123nm,1.6s
SFJD Kangerlussuaq 49.19 330 *i*P **P** **23 25 28.7 +1.5**
comp=Z,13nm,1.0s
SFJD
comp=Z,2μm,19.0s
SFJD Kangerlussuaq 49.19 330 *e*P **P** **23 25 28.7 +1.5**
comp=Z,13nm,1.0s,SNR=24
WMQ Urumqi 49.95 60 P **P** **23 25 33.0 -0.5**
WMQ pP **pP** **23 25 38.0 +0.3**
WMQ sP **sP** **23 25 40.0 +0.7**
WMQ PP **PP** **23 27 29.3 +1.1**
WMQ S **S** **23 32 40.3 -3.4**
WMQ ScS **ScS** **23 35 21.9 -2.8**
WMQ SS SS 23 36 08.0 -8.2
WMQ pmax pmax
comp=Z,23nm,1.0s
WMQ pmax pmax
comp=Z,480nm,4.8s
WMQ LR LR
comp=N,3μm,10.0s
WMQ LR LR
comp=E,5μm,11.7s
WMQ LR LR
comp=Z,4μm,17.0s
GOA Goa 51.41 100⇓ *e*PKP **P** **23 25 43.1 -1.6**
GOA *e*S **S** **23 33 02.7 -1.5**
ALE Alert 52.43 351 P **P** **23 25 52.0 +0.5**
comp=Z,233nm,0.7s,SNR=20
LSZ Lusaka 52.68 171 *e*P **P** **23 25 54.5 +0.3**
comp=Z,33nm,1.0s
LSZ LR LR
comp=Z,4μm,19.0s
LSZ Lusaka 52.68 171 *e*P **P** **23 25 54.9 +0.7**
LSZ Lusaka 52.68 171 *e*P **P** **23 25 54.5 +0.3**
MSEY Mahe Island 52.69 135 *e*P **P** **23 25 55.7 +1.5**
comp=Z,154nm,1.5s
DANN Dangsing 52.73 80 *e*P **P** **23 25 54.0 -0.8**
comp=Z,364nm,0.6s
KOLN Koldanda 52.87 81 *e*P **P** **23 25 54.2 -1.5**
comp=Z,58nm,0.4s
GKN Gorkha 53.58 80 *e*P **P** **23 25 59.4 -1.5**
comp=Z,155nm,0.6s
HYB Hyderabad 54.06 95 *i*P **P** **23 26 02.5 -1.9**
HYB *e*S **S** **23 33 40.0 -0.5**
DMN Daman 54.13 80 *e*P **P** **23 26 04.0 -1.1**
comp=Z,152nm,0.6s
KKN Kakani 54.18 80 *e*P **P** **23 26 03.9 -1.5**
comp=Z,112nm,0.8s
PKI Pulchoki 54.38 80 *e*P **P** **23 26 05.6 -1.4**
comp=Z,148nm,1.0s
GUN Gumba 54.60 80 *e*P **P** **23 26 07.3 -1.3**
comp=Z,302nm,1.0s
JIRN Jiri 54.96 80 *e*P **P** **23 26 09.9 -1.3**
comp=Z,28nm,0.6s
RAMN Ramite 55.61 80 *e*P **P** **23 26 14.1 -1.7**
comp=Z,300nm,0.9s
DRLN Deer Lake 55.92 309 *e*P **P** **23 26 15.7 -1.7**
comp=Z,56nm,0.9s
MOY Mondy 56.15 48 *e*P **P** **23 26 21.1 +1.9**
MOY pmax pmax
comp=Z,65nm,2.9s
TSUM Tsumeb 56.23 184 *e*P **P** **23 26 19.6 -0.2**
comp=Z,31nm,1.0s
TSUM LR LR
comp=Z,9μm,19.0s
TSUM Tsumeb 56.23 184 P **P** **23 26 20.1 +0.2**
comp=Z,8.4nm,0.7s,baz=6.2,slow=7.8,SNR=17
TSUM Tsumeb 56.23 184 *e*P **P** **23 26 19.5 -0.4**
TSUM Tsumeb 56.23 184 *e*P **P** **23 26 19.4 -0.5**
ODAN Odare 56.27 80 *e*P **P** **23 26 18.8 -1.7**
comp=Z,71nm,0.7s
TAPN Taplejung 56.30 79 *e*P **P** **23 26 19.4 -1.3**
comp=Z,361nm,1.3s
TLY Talaya 57.70 47 *e*P **P** **23 26 29.1 -0.9**
TLY *e*S **S** **23 34 29.9 +1.7**
TLY *e*PS **PnS** **23 34 39.4 +0.2**
TLY *e* 23 36 18.8
TLY pmax pmax
comp=Z,19nm,1.3s
TLY MLR MLR
comp=Z,3μm,16.0s
TLY Talaya 57.70 47 *e*P **P** **23 26 30.5 +0.5**
comp=Z,57nm,1.5s
TLY LR LR
comp=Z,2μm,22.0s
TLY Talaya 57.70 47 P **P** **23 26 32.8 +2.8**
SNR=10.0
TLY Talaya 57.70 47 P **P** **23 26 31.8 +1.8**
comp=Z,74nm,1.4s,SNR=7.7
IRK Irkutsk 57.87 46 *e*P **P** **23 26 31.4 +0.2**
IRK *e* 23 27 21.5
IRK pmax pmax
comp=Z,102nm,2.8s
LSA Lhasa 57.88 75 P **P** **23 26 29.5 -2.6**
LSA S **S** **23 34 30.8 -1.2**
LSA LR LR
comp=N,25μm,3.2s
LSA LR LR
comp=E,30μm,4.7s
TRD Trivandrum 58.04 105⇑ *ex* x 23 28 46.5
SCHQ Schefferville 59.35 318 *e*P **P** **23 26 41.5 0.0**
comp=E,28nm,0.9s
SCHQ Schefferville 59.35 318 P **P** **23 26 41.5 0.0**
comp=E,21nm,0.7s,baz=66,slow=6.2,SNR=24
SCHQ LR LR 23 52 11.1
comp=E,2μm,18.8s,baz=245,slow=36
MSNA Messina 59.89 170 *e*P **P** **23 26 46.1 +0.7**
MSNA AMB AMB 23 26 48.6
comp=Z,88nm,3.7s
MSNA Messina 59.89 170 *e*P **P** **23 26 48.1 +2.7**
MSNA AMB AMB 23 26 48.6
comp=Z,88nm,3.7s
GTA Gaotai 60.01 61⇑ P **P** **23 26 45.8 -0.6**
GTA pP **pP** **23 26 50.3 -0.3**
GTA sP **sP** **23 26 52.8 +0.6**
GTA S **S** **23 34 54.8 -3.9**
GTA sS **sS** **23 35 02.3 -3.4**
GTA SS **SS** **23 38 52.4 -2.5**
GTA pmax pmax
comp=Z,34nm,2.0s
GTA pmax pmax
comp=Z,540nm,5.0s
GTA LR LR
comp=N,1μm,22.3s
GTA LR LR
comp=E,1μm,22.3s
GTA LR LR
comp=Z,2μm,20.9s
SHL Shillong 60.43 79 *i*P **P** **23 26 48.0 -1.5**
SHL *i*x x 23 35 01.0
RES Resolute Bay 60.75 344 *e*P **P** **23 26 51.7 +1.0**
comp=Z,61nm,1.4s
AGT Agartala 60.77 81 *e*PKP **P** **23 26 50.0 -1.6**
AGT *ex* x 23 27 27.0
OPO Ambohidratompo 60.79 151 LR LR 23 53 58.9
comp=Z,2μm,18.9s,baz=337,slow=37
SONM Songino Array 60.82 50 P **P** **23 26 51.2 -0.6**
SONM Songino Array 60.82 50 P **P** **23 26 51.2 -0.6**
comp=Z,8.4nm,0.6s,baz=289,slow=5.6,SNR=53
SONM LR LR 23 56 25.4
comp=Z,3μm,18.3s,baz=294,slow=39
BOD Bodaibo 60.93 38⇑ *i*P **P** **23 26 51.1 -1.1**
BOD *e* 23 35 10.7
BOD pmax pmax
comp=Z,47nm,1.5s
ULN Ulaanbaatar 61.21 50 P **P** **23 26 55.2 +0.7**
SNR=10
ULN Ulaanbaatar 61.21 50 P **P** **23 26 53.3 -1.2**
comp=Z,31nm,0.9s,comp=Z,885nm
ABPO Ambohimpanom 61.21 151 *e*P **P** **23 26 55.1 +0.4**
ABPO pmax pmax
comp=Z,39nm,1.4s
ABPO Ambohimpanom 61.21 151 *e*P **P** **23 26 55.0 +0.4**
comp=Z,39nm,1.4s
LBTB Lobatse 62.08 175 *e*P **P** **23 27 01.3 +0.9**
comp=Z,41nm,0.9s
LBTB LR LR
comp=Z,3μm,19.0s
LBTB Lobatse 62.08 175 *e*P **P** **23 27 00.8 +0.5**
LBTB AMB AMB 23 27 07.9
comp=Z,67nm,1.8s
LBTB Lobatse 62.08 175 *e*P **P** **23 27 00.8 +0.5**
LBTB AMB AMB 23 27 08.8
comp=Z,82nm,3.2s
SLR Silverton 63.02 173 *e*P **P** **23 27 08.6 +1.9**
SLR AMB AMB 23 27 16.1
comp=Z,86nm,2.8s
SLR Silverton 63.02 173 *e*P **P** **23 27 09.5 +2.8**
SLR AMB AMB 23 27 16.2
comp=Z,86nm,2.8s
KLOF Kloof 63.57 173 *e*P **P** **23 27 10.7 +0.4**
KLOF AMB AMB 23 27 14.2
comp=Z,36nm,1.0s
KLOF Kloof 63.57 173 *e*P **P** **23 27 11.5 +1.2**
KLOF AMB AMB 23 27 14.7
comp=Z,65nm,3.1s
ERPM east rand prop 63.62 173 *e*P **P** **23 27 11.0 +0.3**
ERPM AMB AMB 23 27 14.6
comp=Z,68nm,3.0s
ERPM east rand prop 63.62 173 *e*P **P** **23 27 11.2 +0.5**
PRYS Parys 64.11 174 *e*P **P** **23 27 13.2 -0.7**
PRYS AMB AMB 23 27 21.1
comp=Z,39nm,1.4s
PRYS Parys 64.11 174 *e*P **P** **23 27 13.6 -0.3**
PRYS AMB AMB 23 27 22.1
comp=Z,73nm,3.4s
SWZ Schweizer 64.22 176 *e*P **P** **23 27 14.6 +0.1**
SWZ AMB AMB 23 27 17.6
comp=Z,43nm,1.8s
SWZ Schweizer 64.22 176 *e*P **P** **23 27 16.2 +1.6**
SWZ AMB AMB 23 27 20.3
comp=Z,65nm,2.3s
LZH Lanzhou 64.36 63⇑ P **P** **23 27 15.3 -0.3**
LZH pP **pP** **23 27 18.5 -1.4**
LZH sP **sP** **23 27 20.0 -1.5**
LZH PP **PP** **23 29 38.0 +1.1**
LZH S **S** **23 35 50.0 -3.7**
LZH sS **sS** **23 35 57.3 -3.5**
LZH SS **SS** **23 39 56.5 -6.6**
LZH pmax pmax
comp=Z,58nm,1.1s
LZH pmax pmax
comp=Z,520nm,7.6s
LZH LR LR
comp=N,2μm,15.0s
LZH LR LR
comp=E,2μm,15.2s
LZH LR LR
comp=Z,2μm,17.0s
DGAR Diego Garcia 65.49 121 PFAKE 23 27 30.0 +7.1
DGAR LR LR
comp=Z,1μm,20.0s
SEK Senekal 65.52 173 *e*P **P** **23 27 23.4 +0.3**
SEK AMB AMB 23 27 27.3
comp=Z,65nm,2.9s
SEK Senekal 65.52 173 *e*P **P** **23 27 24.7 +1.7**
SEK AMB AMB 23 27 27.3
comp=Z,65nm,2.9s
BOSA Boshof 65.64 176 *e*P **P** **23 27 25.3 +1.6**
comp=Z,300nm,2.4s
BOSA Boshof 65.64 176 P **P** **23 27 23.3 -0.4**
comp=Z,18nm,0.9s,baz=1.7,slow=7.7,SNR=14
BOSA LR LR 23 58 03.8
comp=Z,3μm,19.2s,baz=2.7,slow=38
BOSA Boshof 65.64 176 *e*P **P** **23 27 23.5 -0.2**
BOSA AMB AMB 23 27 31.6
comp=Z,84nm,3.2s
BOSA Boshof 65.64 176 *e*P **P** **23 27 23.5 -0.2**
BOSA AMB AMB 23 27 31.7
comp=Z,84nm,3.2s
YAK Yakutsk 65.78 29 *e*P **P** **23 27 23.2 -1.0**
YAK *e*PP pP 23 27 35.3 +6.9
YAK *e* 23 27 55.2
YAK *e* 23 29 45.4
YAK *e*PPP PPP 23 31 19.0
YAK *e*S S 23 36 03.1 -6.9
YAK *e* 23 37 15.2
YAK *e*SSS SSS 23 43 16.6
YAK pmax pmax
comp=Z,103nm,0.9s
YAK pmax pmax
comp=N,42nm,1.5s
YAK pmax pmax
comp=E,26nm,1.1s
YAK pmax pmax
comp=Z,93nm,2.0s
YAK pmax pmax
comp=N,48nm,1.8s
YAK pmax pmax

comp=E,56nm,1.6s
YAK smax smax
comp=N,289nm,9.6s
YAK smax smax
comp=E,354nm,10.2s
YAK MLR MLR
comp=Z,3μm,16.0s
YAK MLR MLR
comp=E,3μm,18.0s
YAK MLR MLR
comp=N,2μm,14.0s
BTO Baotou 66.42 56 *e*P **P 23 27 29.1 +0.2**
CLNS Chul'man 66.59 36 *e*P **P 23 27 29.5 -0.1**
CLNS pmax pmax
comp=Z,26nm,1.1s
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=E,11nm,1.0s
CLNS MLR MLR
comp=N,3μm,13.0s
CLNS MLR MLR
comp=Z,3μm,13.0s
CLNS MLR MLR
comp=E,2μm,13.0s
MRIV Mauritius Mete 66.82 143 *e*P P 23 27 37.1 +5.7
CD2 Chengdu 66.84 68 ⇑P **P 23 27 31.3 -0.3**
CD2 pP **pP 23 27 35.9 0.0**
CD2 sP **sP 23 27 38.3 +0.8**
CD2 PP **PP 23 29 59.8 +1.2**
CD2 S **S 23 36 20.5 -3.5**
CD2 sS **sS 23 36 27.8 -3.3**
CD2 SKS **SKSac 23 37 25.0 -3.5**
CD2 SS **SS 23 40 38.9 -2.8**
CD2 pmax pmax
comp=Z,90nm,0.9s
CD2 pmax pmax
comp=Z,740nm,5.5s
CD2 LR LR
comp=N,2μm,13.2s
CD2 LR LR
comp=E,1μm,20.6s
CD2 LR LR
comp=Z,2μm,19.0s
LBNH Lisbon 67.00 309 *e*P **P 23 27 33.4 +1.0**
LBNH pmax pmax
comp=Z,25nm,0.9s
LBNH Lisbon 67.00 309 *e*P **P 23 27 33.4 +1.0**
comp=Z,25nm,0.9s
HHC Hu-ho-hao-te 67.32 55 *e*P **P 23 27 34.0 -0.6**
HHC sP **sP 23 27 39.6 -0.9**
HHC PP **PP 23 30 03.5 +0.9**
HHC S **S 23 36 24.1 -5.5**
HHC sS **sS 23 36 32.4 -4.3**
HHC ScS **SKSac 23 37 27.1 -4.9**
HHC SS **SS 23 40 46.9 -1.9**
HHC pmax pmax
comp=Z,52nm,0.9s
HHC pmax pmax
comp=Z,640nm,4.2s
HHC LR LR
comp=N,2μm,11.9s
HHC LR LR
comp=E,3μm,14.3s
HHC LR LR
comp=Z,2μm,14.3s
HNH Hanover 67.50 308 *e*P **P 23 27 37.3 +1.8**
WES Weston 67.56 307 *e*P **P 23 27 36.3 +0.4**
WES pmax pmax
comp=Z,47nm,0.7s
WES Weston 67.56 307 *e*P **P 23 27 36.3 +0.4**
comp=Z,46nm,0.7s
HVD Gariep Dam 67.63 176 *e*P **P 23 27 38.5 +2.1**
HVD AMB AMB 23 27 45.4
comp=Z,116nm,3.1s
HVD Gariep Dam 67.63 176 *e*P **P 23 27 38.5 +2.1**
HVD AMB AMB 23 27 45.4
comp=Z,116nm,3.1s
HRV Adam Dziewonsk 67.64 307 *e*P **P 23 27 37.9 +1.4**
HRV pmax pmax
comp=Z,31nm,1.0s
HRV Adam Dziewonsk 67.64 307 *e*P **P 23 27 37.9 +1.4**
comp=Z,31nm,1.0s
FRNY Flat Rock 67.73 310 *e*P **P 23 27 38.0 +1.0**
comp=Z,50nm,1.5s
MDV Middlebury 67.91 309 *e*P **P 23 27 40.5 +2.5**
BRYW Bryant College 67.93 306 *e*P **P 23 27 39.4 +1.1**
comp=Z,126nm,1.3s
QUA2 Belchertown 68.27 307 *e*P **P 23 27 41.8 +1.4**
comp=Z,65nm,1.1s
CVNA Calvinia 68.37 181 *e*P **P 23 27 42.2 +1.2**
CVNA AMB AMB 23 27 48.3
comp=Z,70nm,2.1s
MSNY Massena 68.42 311 *e*P **P 23 27 41.8 +0.6**
comp=Z,138nm,1.0s
LONY Lake Ozonia 68.45 310 *e*P **P 23 27 42.5 +1.0**
comp=Z,12nm,0.8s
ACCN Adirondack Com 68.53 309 *e*P **P 23 27 43.8 +1.8**
comp=Z,50nm,1.0s
TRY Troy 68.86 308 *e*P **P 23 27 47.0 +2.9**
XAN Xi'an 68.98 63 P **P 23 27 44.5 -0.6**
XAN pP **pP 23 27 48.5 -0.9**
XAN PP **PP 23 30 12.3 -4.8**
XAN S **S 23 36 46.3 -3.3**
XAN SKS **SKiKP 23 37 39.8 +3.8**
XAN pmax pmax
comp=Z,20nm,1.2s
XAN pmax pmax
comp=Z,120nm,4.5s
XAN LR LR
comp=N,1μm,20.9s
XAN LR LR
comp=E,440nm,18.3s
XAN LR LR
comp=Z,350nm,20.9s
KMI Kunming 69.08 74 P **P 23 27 44.9 -1.1**
KMI pP **pP 23 27 48.4 -1.9**
KMI sP **sP 23 27 50.3 -1.6**
KMI PP **PP 23 30 21.8 +3.4**
KMI S **S 23 36 47.1 -4.2**
KMI SKS **SKiKP 23 37 37.3 +0.7**
KMI SS **SS 23 41 12.8 -4.1**
KMI pmax pmax
comp=Z,23nm,1.1s
KMI pmax pmax
comp=Z,370nm,3.1s
KMI LR LR
comp=N,890nm,21.8s
KMI LR LR
comp=E,690nm,16.9s
KMI LR LR
comp=Z,1μm,23.8s
SUR Sutherland 69.26 180 *e*P **P 23 27 49.2 +2.6**
comp=Z,152nm,1.8s
SUR Sutherland 69.26 180 LR LR 23 59 22.2
comp=Z,2μm,20.9s,baz=358,slow=37
SUR Sutherland 69.26 180 *e*P **P 23 27 46.7 0.0**
SUR AMB AMB 23 27 55.5
comp=Z,62nm,2.9s
SUR Sutherland 69.26 180 *e*P **P 23 27 48.3 +1.6**
SUR AMB AMB 23 27 55.5
comp=Z,62nm,2.9s
CHTO Chiang Mai 69.53 82 P **P 23 27 47.5 -1.1**
comp=Z,46nm,1.1s,comp=Z,804nm
CM31 Chiang Mai Arr 69.72 82 *e*P **P 23 27 48.9 -0.9**
comp=Z,58nm,1.0s
CM31 LR LR
comp=Z,562nm,22.0s
CMAR Chiang Mai Arr 69.72 82 P **P 23 27 48.9 -0.9**
CMAR P'P' 23 55 57.5
CMAR Chiang Mai Arr 69.72 82 P **P 23 27 48.9 -0.9**
comp=Z,16nm,0.8s,baz=304,slow=7.8,SNR=66
CMAR PKPPKP **P'P'df 23 55 57.5 -1.2**
comp=Z,0.8nm,0.3s,baz=126,slow=1.6,SNR=4.3
CMAR LR LR 00 03 43.9
comp=Z,362nm,20.5s,baz=101,slow=41
SOE Somerset East 69.73 176 *e*P **P 23 27 52.0 +2.6**
SOE AMB AMB 23 27 54.7
comp=Z,54nm,2.2s
PAL Palisades 69.93 307 *e*P **P 23 27 52.3 +1.6**
PAL pmax pmax
comp=Z,38nm,1.0s
PAL Palisades 69.93 307 *e*P **P 23 27 52.3 +1.6**
comp=Z,38nm,1.0s
BINY Binghamton 70.60 309 *e*P **P 23 27 56.5 +1.6**
comp=Z,30nm,1.0s

BJI Beijing 70.74 54 P **P 23 27 54.9 -0.8**
BJI PP **PP 23 30 29.3 -2.7**
BJI S **S 23 37 09.0 -0.9**
BJI SS **SS 23 41 36.5 -4.8**
BJI pmax pmax
comp=Z,28nm,1.0s
BJI pmax pmax
comp=Z,740nm,3.4s
BJI LR LR
comp=N,3μm,15.7s
BJI LR LR
comp=E,2μm,14.3s
BJI LR LR
comp=Z,1μm,29.9s
BUFB Buffelsbos 71.12 177 *e*P **P 23 27 58.5 +0.7**
BUFB Buffelsbos 71.12 177 *e*P **P 23 27 59.6 +1.8**
BUFB AMB AMB 23 28 06.0
comp=Z,88nm,3.0s
GYA Guiyang 71.34 71 ⇑*i*P **P 23 27 58.6 -1.1**
GYA PP **PP 23 30 40.8 +3.0**
GYA S **S 23 37 15.5 -2.1**
GYA SKS **SKSac 23 37 59.3 -3.6**
GYA SS **SS 23 41 50.0 -1.5**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,170nm,5.7s
GYA LR LR
comp=N,710nm,20.8s
GYA LR LR
comp=E,660nm,21.0s
GYA LR LR
comp=Z,890nm,22.4s
BILL Bilibino 71.86 13*c i*P **P 23 28 01.8 -0.2**
BILL *i* 23 28 25.3
BILL *e* 23 30 43.8
BILL *i*S **S 23 37 19.5 -2.5**
BILL *i*SS **SS 23 41 57.0 -0.1**
BILL pmax pmax
comp=Z,15nm,1.2s
BILL MLR MLR
comp=Z,2μm,15.0s
MVL Millersville 72.04 307 *e*P **P 23 28 06.0 +2.5**
comp=Z,47nm,1.4s
SSPA Standing Stone 72.66 308 *e*P **P 23 28 08.7 +1.5**
comp=Z,55nm,1.2s
SDMD Soldier's Deli 72.68 306 *e*P **P 23 28 09.1 +1.7**
comp=Z,40nm,1.1s
INK Inuvik 73.04 350 *e*P **P 23 28 09.0 0.0**
comp=Z,24nm,1.0s
ERPA Erie 73.11 310 *e*P **P 23 28 11.4 +1.4**
comp=Z,139nm,1.4s
ALLY Alegheny Colle 73.48 310 *e*P **P 23 28 14.8 +2.7**
comp=Z,32nm,1.0s
CBN Corbin 73.70 306 *e*P **P 23 28 15.2 +1.8**
comp=Z,54nm,1.0s
BSI Banda Aceh 74.27 95 P **P 23 28 17.3 +0.2**
comp=Z,30nm,1.7s
CN2 Changchun 74.31 47 *e*P **P 23 28 16.3 -0.6**
CN2 *es*P sP 23 28 29.5 +6.7
CN2 *e*S **SKiKP 23 37 45.5 +1.9**
CN2 pmax pmax
comp=Z,40nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,700nm,18.0s
CN2 LR LR
comp=E,900nm,18.0s
CN2 LR LR
comp=Z,1μm,19.0s
JSRW J. Sargeant Re 74.32 305 *e*P **P 23 28 19.2 +2.2**
YKA Yellowknife Ar 74.37 340 P **P 23 28 17.2 +0.3**
YKA Yellowknife Ar 74.37 340 P **P 23 28 17.2 +0.3**
comp=Z,8.7nm,0.7s,baz=35,slow=5.4,SNR=68
WHN Wuhan 74.73 63 P **P 23 28 18.8 -0.8**
WHN S **S 23 37 52.8 -2.9**
WHN LR LR
comp=N,4μm,15.6s
WHN LR LR
comp=E,2μm,11.1s
WHN LR LR
comp=Z,3μm,12.6s
AAM Ann Arbor 75.21 312 *e*P **P 23 28 23.1 +0.9**
AAM Ann Arbor 75.21 312 *e*P **P 23 28 23.1 +0.9**
COLD Coldfoot 75.63 356 *e*P **P 23 28 25.6 +1.4**
comp=Z,19nm,1.0s
COWI Conover 75.96 318 *e*P **P 23 28 26.9 +0.5**
comp=Z,73nm,1.3s
EYMN Ely 76.02 320 *e*P **P 23 28 27.3 +0.6**
comp=Z,42nm,1.3s
ACSO Alum Creek Sta 76.05 310 *e*P **P 23 28 27.9 +0.9**
comp=Z,34nm,1.0s
ACSO LR LR
comp=Z,1μm,20.0s
FFC Flin Flon 76.14 330 *i*P **P 23 28 28.3 +1.0**
FFC Flin Flon 76.14 330 *e*P **P 23 28 28.1 +0.8**
comp=Z,84nm,1.5s
MDJ Mudanjiang 76.17 44 P **P 23 28 27.9 +0.3**
MDJ PcP **PcP 23 28 40.5 +0.8**
MDJ PP **PP 23 31 17.0 -1.0**
MDJ S **S 23 38 09.8 -1.4**
MDJ pmax pmax
comp=Z,240nm,4.8s
MDJ LR LR
comp=N,1μm,21.0s
MDJ LR LR
comp=E,1μm,18.8s
MDJ LR LR
comp=Z,2μm,16.1s
HABR Khabarovsk 76.56 39 *e*P **P 23 28 27.9 -1.8**
HABR *e* 23 28 39.6
HABR *e*S **S 23 38 13.4 -1.9**
HABR *e* 23 38 43.1
HABR *e*SSS SSS 23 46 31.3
HABR MLR MLR
comp=Z,2μm,17.0s
ULM Lac du Bonnet 76.63 324 P **P 23 28 30.3 +0.2**
ULM Lac du Bonnet 76.63 324 P **P 23 28 30.3 +0.2**
comp=Z,18nm,0.8s,baz=50,slow=5.2,SNR=24
ULM LR LR 00 05 12.4
comp=Z,2μm,18.1s,baz=228,slow=38
HUMP Col San Antoni 76.73 283 *e*P P 23 28 35.0 +3.8
comp=Z,31nm,1.1s
NJ2 Nanjing 77.03 60 *e*P **P 23 28 31.8 -0.9**
NJ2 pmax pmax
comp=Z,80nm,0.8s
TNA Tin City 77.30 4 *e*P **P 23 28 34.5 +1.0**
comp=Z,39nm,1.2s
CELP Cerrillos 77.34 283 *e*P P 23 28 38.2 +3.6
EGAK Eagle 77.34 352 *e*P **P 23 28 34.8 +1.0**
comp=Z,430nm,2.8s
OBIP Obispado Ponce 77.38 283 *e*P P 23 28 38.5 +3.7
comp=Z,178nm,1.8s
USRK Ussuriysk Arra 77.76 43 P **P 23 28 36.1 -0.4**
comp=Z,14nm,0.6s,baz=291,slow=4.4,SNR=30
USRK LR LR 00 06 59.0
comp=Z,5μm,19.1s,baz=314,slow=39
CRPR Cabo Rojo, PR 77.79 283 *e*P P 23 28 41.1 +4.0
comp=Z,26nm,1.3s
ILAR Eielson Array 77.87 355 P **P 23 28 37.7 +0.9**
ILAR PKKPbc **PKKPbc 23 47 39.8 +1.9**
ILAR Eielson Array 77.87 355 P **P 23 28 37.7 +0.9**
comp=Z,4.8nm,0.6s,baz=352,slow=3.9,SNR=41
ILAR PKKPbc **PKKPbc 23 47 39.8 +1.9**
comp=Z,0.5nm,0.8s,baz=223,slow=2.8,SNR=5.2
ILAR LR LR 00 05 40.9
comp=Z,1μm,19.0s,baz=6.4,slow=38
QIZ Qiongzhong 77.92 75 P **P 23 28 37.6 -0.3**
QIZ S **S 23 38 29.8 -1.3**
QIZ pmax pmax
comp=Z,41nm,2.1s
QIZ LR LR
comp=N,650nm,19.8s
QIZ LR LR
comp=Z,830nm,22.3s
KMSC Kings Mountain 78.07 305 ⇑P **P 23 28 38.7 +0.3**
baz=78
SFIN Scholer Farm 78.43 312 ⇑P **P 23 28 40.5 +0.1**
baz=78,SNR=9.4
SPMN St. Paul 78.49 319 ⇓P **P 23 28 41.2 +0.6**
baz=78
JSC Jenkinsville 78.54 304 *e*P **P 23 28 41.8 +0.8**
JSC Jenkinsville 78.54 304 *e*P **P 23 28 41.8 +0.8**
KULM Kulim 78.66 92 *e*P **P 23 28 41.5 -0.5**
comp=Z,44nm,1.0s

KULM Kulim 78.66 92 P **P 23 28 40.7 -1.3**
comp=Z,52nm,1.8s,comp=Z,776nm
DOT Dot Lake 78.74 353 *e*P **P 23 28 42.9 +1.2**
comp=Z,59nm,1.4s
PSI Prapat 78.78 95 P **P 23 28 42.0 -0.7**
PSI Prapat 78.78 95 P **P 23 28 42.2 -0.6**
comp=Z,60nm,1.3s,comp=Z,1μm
PSI Prapat 78.78 95 P **P 23 28 42.0 -0.7**
comp=Z,26nm,0.7s,baz=297,slow=7.6,SNR=12
GAMB Gambell 78.82 6 *e*P **P 23 28 41.3 -0.7**
comp=Z,175nm,2.2s
BLO Bloomington 78.85 311 *e*P **P 23 28 44.5 +1.8**
BLO pmax pmax
comp=Z,85nm,1.2s
BLO Bloomington 78.85 311 *e*P **P 23 28 44.5 +1.8**
comp=Z,85nm,1.2s
MCK McKinley 79.04 355 *e*P **P 23 28 43.6 +0.3**
MCK pmax pmax
comp=Z,45nm,1.1s
MCK McKinley 79.04 355 *e*P **P 23 28 43.6 +0.3**
comp=Z,45nm,1.1s
SSE Sheshan 79.20 59 *e*P **P 23 28 43.9 -0.8**
SSE pP **pP 23 28 47.9 -1.1**
SSE S **S 23 38 40.5 -3.9**
SSE ScS **SKKSac 23 39 04.5 +2.5**
SSE pmax pmax
comp=Z,30nm,0.7s
SSE pmax pmax
comp=Z,220nm,3.5s
SSE LR LR
comp=N,1μm,13.9s
SSE LR LR
comp=E,880nm,13.9s
SSE LR LR
comp=Z,1μm,14.3s
MENT Mentasta 79.40 353 *e*P **P 23 28 46.6 +1.2**
TRF Thorofare Moun 79.40 356 *e*P **P 23 28 45.6 +0.1**
comp=Z,24nm,1.0s
IPM Ipoh 79.44 92 *e*P **P 23 28 46.9 +0.6**
comp=Z,141nm,2.0s
IPM Ipoh 79.44 92 P **P 23 28 47.1 +0.8**
comp=Z,31nm,1.5s,comp=Z,624nm
PAX Paxson 79.53 354 *e*P **P 23 28 47.7 +1.6**
PAX pmax pmax
comp=Z,252nm,3.0s
PAX Paxson 79.53 354 *e*P **P 23 28 47.7 +1.6**
comp=Z,252nm,3.0s
HDIL Hopedale 79.61 313 *e*P **P 23 28 47.8 +0.9**
comp=Z,64nm,1.3s
KSAR Wonju Array Be 79.67 51 P **P 23 28 47.0 -0.2**
KSRS Korea Array 79.69 51 P **P 23 28 47.0 -0.2**
comp=Z,23nm,0.7s,baz=310,slow=4.6,SNR=44
KSRS LR LR 00 08 21.1
comp=Z,2μm,18.2s,baz=321,slow=39
CPCT Cooper Cave 79.94 307 *e*P **P 23 28 50.4 +1.6**
MDND Maddock 80.06 324 ⇓P **P 23 28 49.5 +0.4**
baz=80
SDDR Presa de Saban 80.44 286 *e*P P 23 28 56.3 +4.6
comp=Z,39nm,1.1s
MNSI Mandailing Nat 80.50 96 P **P 23 28 54.2 +2.2**
comp=Z,30nm,1.2s,comp=Z,1μm
GOGA Godfrey 80.53 305 *e*P **P 23 28 54.5 +2.6**
GOGA pmax pmax
comp=Z,48nm,1.2s
GOGA Godfrey 80.53 305 *e*P **P 23 28 54.5 +2.6**
comp=Z,48nm,1.2s
SML Sawmill 80.91 355 *e*P **P 23 28 54.4 +0.9**
SML pmax pmax
comp=Z,54nm,2.0s
SML Sawmill 80.91 355 *e*P **P 23 28 54.4 +0.9**
comp=Z,54nm,2.0s
SCIA State Center 80.93 316 *e*P **P 23 28 54.1 +0.2**
comp=Z,14nm,0.6s
SWET Sewanee 80.98 307 *e*P **P 23 28 55.9 +1.5**
comp=Z,94nm,2.0s
QZH Quanzhou 81.04 66 P **P 23 28 56.0 +1.3**
QZH S S 23 38 55.4 -8.5
QZH LR LR
comp=Z,2μm,18.4s
PMR Palmer 81.18 355 *e*P **P 23 28 55.8 +1.0**
PMR pmax pmax
comp=Z,309nm,2.4s
PMR Palmer 81.18 355 *e*P **P 23 28 55.8 +1.0**
comp=Z,309nm,2.4s
A24A Westby 81.27 327 ⇓P **P 23 28 56.3 +0.6**
baz=81,SNR=12
YSS Yuzh-Sakhalins 81.35 36⇑*e*P **P 23 28 57.3 +1.3**
YSS *e* 23 29 07.9
YSS *e*S **S 23 39 06.0 -0.4**
YSS pmax pmax
comp=Z,150nm,1.0s
YSS smax smax
comp=N,2μm,10.0s
YSS MLR MLR
comp=E,4μm,14.0s
YSS MLR MLR
comp=Z,3μm,14.0s
SIUC Southern Illin 81.41 311 *e*P **P 23 28 57.7 +1.2**
comp=Z,65nm,1.1s
BMRM Bremner River 81.42 353 *e*P **P 23 28 57.4 +1.1**
comp=Z,594nm,2.7s
ECSD EROS Data Cent 81.50 319 *e*P **P 23 28 57.6 +0.7**
comp=Z,23nm,0.8s
WVT Waverly 81.59 309 *e*P **P 23 28 57.5 0.0**
WVT pmax pmax
comp=Z,11nm,0.3s
WVT Waverly 81.59 309 *e*P **P 23 28 57.5 0.0**
comp=Z,10nm,0.3s
A23A Redstone 81.63 327 ⇑P **P 23 28 58.0 +0.5**
baz=81,SNR=7.0
DLBC Dease Lake 81.63 345 *e*P **P 23 28 59.4 +2.0**
SKAG Skagway 81.66 348 *e*P **P 23 28 60.0 +2.6**
comp=Z,82nm,1.6s
DGMT Dagmar 81.70 327 *e*P **P 23 29 00.1 +2.2**
comp=Z,753nm,2.9s
DGMT Dagmar 81.70 327 ⇑P **P 23 28 58.3 +0.4**
baz=81
SPU Mount Spurr 81.76 357 *e*P **P 23 28 58.3 +0.3**
BKNI Bangkinang 81.95 96 P **P 23 29 00.6 +0.9**
comp=Z,76nm,1.5s,comp=Z,1μm
SVW2 Sparrevohn 81.97 358 *e*P **P 23 29 00.8 +1.7**
comp=Z,45nm,1.5s
A22A Carney Farms, 82.04 328 ⇓P **P 23 29 00.6 +0.8**
baz=82,SNR=28
B23A Brockton 82.05 327 ⇑P **P 23 29 01.0 +1.2**
baz=82,SNR=13
BRSD Miller 82.19 321 ⇓P **P 23 29 00.8 +0.3**
baz=82
A21A Bergtoll Ranch 82.47 328 ⇓P **P 23 29 02.8 +0.8**
baz=82,SNR=9.8
PLAL Pickwick Lake 82.48 308 *e*P P 23 29 06.4 +4.1
comp=Z,44nm,1.2s
C24A Savage 82.51 326 ⇑P **P 23 29 03.6 +1.4**
baz=82,SNR=8.5
PETK Petropavlovsk- 82.53 25 P **P 23 29 03.4 +1.3**
PETK pmax pmax
comp=Z,7.0nm,0.9s
PETK MLR MLR
comp=Z,1μm,18.1s
PETK Petropavlovsk- 82.53 25 P **P 23 29 03.4 +1.3**
PETK Petropavlovsk- 82.53 25 P **P 23 29 03.4 +1.3**
comp=Z,7.0nm,0.9s,baz=336,slow=2.2,SNR=4.8
PETK LR LR 00 07 53.4
comp=Z,1μm,18.1s,baz=130,slow=37
B22A Reddig Ranch S 82.61 327 ⇓P **P 23 29 03.1 +0.3**
baz=82
C23A Lambert 82.64 327 ⇑P **P 23 29 03.7 +0.9**
baz=82,SNR=12
D24A Glendive 82.78 326 ⇓P **P 23 29 04.6 +1.0**
baz=82
B21A Ellsworth Farm 82.94 328 ⇓P **P 23 29 05.3 +0.9**
baz=83
A20A Cobblestone Ra 82.97 329 ⇑P **P 23 29 05.4 +0.8**
baz=83,SNR=30
C22A Vida 82.98 327 ⇑P **P 23 29 05.4 +0.7**
baz=83,SNR=12
LRAL Lakeview Retre 83.06 306 *e*P **P 23 29 06.3 +1.0**
comp=Z,55nm,1.3s
D23A Lindsay 83.12 326 ⇓P **P 23 29 05.9 +0.5**
baz=83
E24A Baker 83.19 325 ⇓P **P 23 29 06.3 +0.5**
baz=83
YHNB Yeheng 83.22 64 PFAKE 23 29 20.0 +14
YHNB LR LR
comp=Z,1μm,19.0s
A19A Klindworth Far 83.27 329 ⇓P **P 23 29 07.1 +0.9**
baz=83,SNR=10

MYKOM **Kota Tinggi** 83.30 93 P P 23 29 06.3 -0.5
comp=Z,24nm,1.5s,comp=Z,557nm
ASAJ **Asahikawa** 83.34 38 eP P 23 29 06.8 +0.3
comp=Z,84nm,1.6s
ASAJ **Asahikawa** 83.34 38 P P 23 29 05.3 -1.2
comp=Z,15nm,0.6s,baz=314,slow=4.7,SNR=11
B20A **Solberg Farm,** 83.36 329 ⇓P P 23 29 06.9 +0.3
baz=83,SNR=5.3
BDFB **Brasilia** 83.39 245 P P 23 29 09.0 +1.8
BDFB **Brasilia** 83.39 245 P P 23 29 09.0 +1.8
comp=Z,9.3nm,0.9s,baz=60,slow=4.5,SNR=10
BDFB LR LR 00 05 14.0
comp=Z,3µm,21.5s,baz=46,slow=35
C21A **Desert Coulee** 83.44 328 ⇓P P 23 29 07.8 +0.7
baz=83,SNR=18
D22A **Cohagen** 83.57 327 ⇓P P 23 29 08.7 +1.0
baz=83,SNR=14
OXF **Oxford** 83.62 309 eP P 23 29 08.5 +0.4
OXF pmax pmax
comp=Z,72nm,1.2s
OXF MLR MLR
comp=Z,1µm,20.0s
OXF **Oxford** 83.62 309 eP P 23 29 08.5 +0.4
comp=Z,72nm,1.2s
OXF LR LR
comp=Z,1µm,20.0s
NACB **Ninganchiao** 83.68 65 eP P 23 29 13.4 +4.8
comp=Z,77nm,0.4s
E23A **Ismay** 83.68 326 ⇓P P 23 29 08.4 +0.1
baz=83
A18A **Metzger Ranch,** 83.72 330 ⇑P P 23 29 09.0 +0.5
baz=84,SNR=43
B19A **Brinkman Farms** 83.73 329 ⇓P P 23 29 09.2 +0.7
baz=84,SNR=8.6
F24A **Ekalaka** 83.79 325 ⇓P P 23 29 09.3 +0.3
baz=84,SNR=13
C20A **Veseth Ranch,** 83.92 328 ⇑P P 23 29 10.1 +0.6
baz=84
BGNE **Belgrade** 83.94 319 ⇓P P 23 29 10.3 +0.6
baz=84
E22A **Miles City** 84.02 326 ⇑P P 23 29 10.1 +0.1
baz=84
A17A **Triple J Farms** 84.05 330 ⇑P P 23 29 10.5 +0.4
baz=84,SNR=6.2
B18A **Beardsley Farm** 84.11 329 ⇑P P 23 29 11.3 +0.8
baz=84,SNR=13
G24A **Alzada** 84.17 325 ⇑P P 23 29 11.1 +0.2
baz=84,SNR=5.7
F23A **Volborg** 84.32 325 ⇑P P 23 29 11.6 0.0
baz=84,SNR=15
JNU **Nakatsue** 84.32 52 P P 23 29 11.5 -0.3
JNU **Nakatsue** 84.32 52 P P 23 29 11.5 -0.3
comp=Z,19nm,0.9s,baz=304,slow=7.3,SNR=5.9
C19A **Slack Wire Ran** 84.34 329 ⇓P P 23 29 12.1 +0.4
baz=84,SNR=24
EGMT **Eagleton** 84.40 329 eP P 23 29 13.0 +1.1
comp=Z,161nm,1.3s
EGMT **Eagleton** 84.40 329 ⇑P P 23 29 12.5 +0.5
baz=84,SNR=45
E21A **Keefer Ranch,** 84.43 327 ⇓P P 23 29 13.0 +0.8
baz=84
D20A **Manuel Ranch,** 84.46 328 ⇓P P 23 29 12.5 +0.2
baz=84,SNR=24
B17A **L&Q Farms, Che** 84.61 330 ⇓P P 23 29 13.1 +0.1
baz=84,SNR=13
F22A **Rosebud** 84.66 326 ⇑P P 23 29 13.2 -0.1
baz=84
H24A **Dirks Ranch, A** 84.67 324 ⇓P P 23 29 13.3 -0.2
baz=84,SNR=7.8
G23A **Biddle** 84.71 325 ⇑P P 23 29 13.7 +0.1
baz=84,SNR=8.4
KSU1 **Kansas State U** 84.74 316 eP P 23 29 14.4 +0.7
comp=Z,120nm,1.4s
A15A **Johnson Ranch,** 84.81 331 ⇓P P 23 29 14.1 +0.1
baz=84,SNR=45
B16A **M & M Farms, S** 84.87 331 ⇓P P 23 29 13.7 -0.6
baz=85,SNR=16
RSSD **Black Hills** 84.90 324 eP P 23 29 16.0 +1.2
RSSD pmax pmax
comp=Z,36nm,1.4s
RSSD **Black Hills** 84.90 324 eP P 23 29 16.0 +1.2
comp=Z,36nm,1.4s
E20A **Meyer Farm, Mu** 84.92 327 ⇑P P 23 29 14.5 -0.1
baz=85
YUK **Yuzh-Kuril'sk** 84.98 36 P P 23 29 02.0 -13
YUK pmax pmax
comp=Z,3µm,2.9s
YUK pmax pmax
comp=Z,646nm,1.6s
YUK MLR MLR
comp=E,518nm,22.0s
YUK MLR MLR
comp=N,503nm,22.0s
YUK MLR MLR
comp=Z,2µm,22.0s
F21A **Absaloka Mine,** 85.01 326 ⇑P P 23 29 15.5 +0.4
baz=85,SNR=6.8
A14A **Double T Ranch** 85.08 332 ⇓P P 23 29 16.1 +0.6
baz=85,SNR=64
D18A **Linhart Farms,** 85.08 329 ⇓P P 23 29 15.8 +0.4
baz=85,SNR=10
K27A **Flueckinger Fa** 85.09 322 ⇓P P 23 29 15.6 0.0
baz=85,SNR=5.3
G22A **Birney** 85.11 326 ⇑P P 23 29 15.7 +0.1
baz=85,SNR=6.4
C17A **Wharram Farm,** 85.12 330 ⇓P P 23 29 15.0 -0.6
baz=85,SNR=21
WALA **Waterton Lakes** 85.19 332 eP P 23 29 16.4 +0.4
comp=Z,1.6nm,1.1s
H23A **Clabaugh Cattl** 85.20 325 ⇓P P 23 29 16.2 +0.1
baz=85
E19A **Rath Farm, Rou** 85.23 328 ⇓P P 23 29 17.1 +0.9
baz=85,SNR=23
UALR **University of** 85.25 311 eP P 23 29 17.3 +0.9
comp=Z,506nm,2.9s
B15A **Bradely Ranch,** 85.28 331 ⇑P P 23 29 15.9 -0.5
baz=85,SNR=37
I24A **Kuemmerle Ranc** 85.38 324 ⇑P P 23 29 17.3 +0.3
baz=85
D17A **Six Diamond Ra** 85.48 329 ⇑P P 23 29 17.8 +0.3
baz=85,SNR=24
F20A **Billings** 85.48 327 ⇑P P 23 29 18.0 +0.5
baz=85,SNR=12
G21A **Lodge Grass** 85.51 326 ⇑P P 23 29 17.9 +0.3
baz=85,SNR=5.7
B14A **Marquette Ranc** 85.52 331 ⇑P P 23 29 17.4 -0.2
baz=85,SNR=30
K26A **Motz Farm, Whi** 85.55 322 ⇑P P 23 29 18.3 +0.4
baz=85
KSI **Kapahiang** 85.59 98 P P 23 29 17.6 -0.8
comp=Z,93nm,1.0s
L27A **T5 Ranch, Ells** 85.59 321 ⇑P P 23 29 18.9 +0.8
baz=85
H22A **Clearmont** 85.61 325 ⇑P P 23 29 18.6 +0.4
baz=85
E18A **Harlowton** 85.62 328 ⇓P P 23 29 19.2 +1.0
baz=85,SNR=28
I23A **Meade Ranch, G** 85.69 324 ⇑P P 23 29 19.0 +0.4
baz=85
C15A **Salmond Ranch,** 85.74 331 ⇑P P 23 29 18.6 -0.2
baz=86,SNR=11
J24A **Dixon Ranch, L** 85.79 323 ⇑P P 23 29 19.3 +0.2
baz=86
H21A **Big Horn, Sher** 85.90 326 ⇓P P 23 29 20.0 +0.4
baz=86
D16A **Dana Ranch, Ca** 85.92 330 ⇓P P 23 29 20.1 +0.4
baz=86,SNR=39
A12A **Yaak River Ran** 85.93 333 ⇑P P 23 29 19.9 +0.3
baz=86,SNR=15
G20A **Bridger** 85.96 327 ⇑P P 23 29 20.2 +0.2
baz=86,SNR=16
B13A **Whitefish** 85.96 332 ⇑P P 23 29 20.1 +0.3
baz=86,SNR=23
L26A **Underwood Farm** 86.00 322 ⇑P P 23 29 21.2 +1.0
baz=86
M27A **Reverse DX Ran** 86.04 321 ⇓P P 23 29 21.1 +0.8
baz=86
F18A **Big Timber** 86.07 328 ⇓P P 23 29 21.0 +0.6
baz=86,SNR=20
E17A **Martinsdale** 86.10 329 ⇑P P 23 29 21.1 +0.5
baz=86,SNR=38
GCMT **Greycliff** 86.14 328 eP P 23 29 21.8 +1.0
comp=Z,31nm,1.2s
MIAR **Mount Ida** 86.14 311 eP P 23 29 22.4 +1.6
comp=Z,96nm,1.4s
MIAR LR LR
comp=Z,1µm,19.0s
J23A **Dilts Ranch, B** 86.16 324 ⇑P P 23 29 21.5 +0.5
baz=86
I22A **9 Mile Ranch,** 86.22 325 ⇑P P 23 29 21.5 +0.3
baz=86,SNR=10
BLMT **Blacktail Moun** 86.22 332 eP P 23 29 22.4 +1.1
OGNE **Ogallala** 86.29 320 ⇑P P 23 29 21.9 +0.3
baz=86
HRY **Holter Researc** 86.30 330 eP P 23 29 22.5 +1.0
B12A **Libby** 86.30 333 ⇓P P 23 29 21.8 +0.4
baz=86
D15A **Lincoln** 86.30 330 ⇓P P 23 29 21.9 +0.3
baz=86,SNR=17
K24A **Anderson Ranch** 86.33 323 ⇑P P 23 29 21.9 0.0
baz=86
L25A **Engebretsen Ra** 86.35 322 ⇓P P 23 29 22.5 +0.6
baz=86
E16A **East Helena** 86.38 329 ⇑P P 23 29 22.0 +0.1
baz=86,SNR=25
JTMT **Jette** 86.41 332 eP P 23 29 23.2 +1.1
MJAR **Matsushiro Arr** 86.42 46 P P 23 29 21.9 -0.3
MJAR **Matsushiro Arr** 86.42 46 P P 23 29 21.9 -0.3
comp=Z,7.9nm,0.9s,baz=299,slow=5.8,SNR=8.9
H20A **Greybull** 86.44 326 ⇑P P 23 29 22.7 +0.4
baz=86,SNR=6.3
M26A **McRoberts Ranc** 86.46 321 ⇓P P 23 29 22.9 +0.5
baz=86
F17A **Fitzpatrick Pl** 86.46 328 ⇑P P 23 29 23.1 +0.7
baz=86,SNR=24
G18A **Lazy EL Ranch,** 86.47 327 ⇑P P 23 29 22.8 +0.3
baz=86,SNR=9.7
RLMT **Red Lodge** 86.50 327 eP P 23 29 23.6 +0.9
comp=Z,448nm,3.0s
RLMT **Red Lodge** 86.50 327 ⇑P P 23 29 22.7 0.0
baz=86,SNR=15
SWMT **Swartz Lake** 86.50 331 eP P 23 29 23.4 +0.9
TUL1 **Tulsa** 86.51 313 ⇑P P 23 29 23.1 +0.5
baz=86,SNR=9.8
BSMT **Bassoo Peak** 86.52 332 eP P 23 29 23.7 +1.0
SLMT **Seeley Lake** 86.52 331 eP P 23 29 23.4 +0.8
C13A **Hot Springs** 86.58 332 ⇓P P 23 29 22.9 +0.1
baz=86,SNR=32
J22A **Midwest** 86.58 325 ⇑P P 23 29 23.2 +0.1
baz=86,SNR=10
I21A **Big Trails, Te** 86.65 325 ⇑P P 23 29 23.3 0.0
baz=86,SNR=14
N27A **Anderson Farm,** 86.65 321 ⇓P P 23 29 23.8 +0.4
baz=86
CBKS **Cedar Bluff** 86.65 318 eP P 23 29 25.1 +1.8
CBKS pmax pmax
comp=Z,77nm,1.3s
CBKS **Cedar Bluff** 86.65 318 eP P 23 29 25.1 +1.8
comp=Z,77nm,1.3s
CBKS **Cedar Bluff** 86.65 318 ⇓P P 23 29 23.8 +0.4
baz=86
K23A **Bowen Ranch, D** 86.69 324 ⇓P P 23 29 23.7 +0.2
baz=86
CHMT **Chamberlain Mo** 86.70 330 eP P 23 29 24.0 +0.4
H19A **Powell** 86.73 327 ⇓P P 23 29 24.4 +0.7
baz=86,SNR=14
E15A **Deer Lodge** 86.86 330 ⇑P P 23 29 25.0 +0.7
baz=87,SNR=13
C12B **Naegeli Ranch,** 86.89 332 ⇓P P 23 29 23.9 -0.4
baz=87
L24A **Wheatland** 86.90 323 ⇑P P 23 29 24.9 +0.3
baz=87
I20A **Worland** 86.92 326 ⇑P P 23 29 24.8 +0.1
baz=87
M25A **Palm-Egli Farm** 86.94 322 ⇑P P 23 29 25.0 +0.2
baz=87,SNR=5.7
F16A **Kennard Place,** 86.96 329 ⇓P P 23 29 25.1 +0.3
baz=87,SNR=7.7
G17A **Pierce Place,** 86.97 328 ⇑P P 23 29 25.6 +0.7
baz=87,SNR=9.9
N26A **Koester Ranch,** 86.98 321 ⇑P P 23 29 25.5 +0.5
baz=87
D13A **Huson** 87.02 331 ⇓P P 23 29 25.5 +0.5
baz=87,SNR=47
H18A **Shoshone NF, C** 87.02 327 ⇑P P 23 29 25.6 +0.3
baz=87,SNR=22
NEW **Newport** 87.03 333 eP P 23 29 25.9 +1.0
NEW LR LR
comp=Z,997nm,20.0s
NEW **Newport** 87.03 333 ⇓P P 23 29 25.4 +0.5
baz=87,SNR=24
MSO **Missoula** 87.04 331 eP P 23 29 25.8 +0.6
comp=Z,26nm,1.3s
MSO **Missoula** 87.04 331 ⇑P P 23 29 25.6 +0.4
baz=87,SNR=13
BOZ **Bozeman (W)** 87.08 329 eP P 23 29 26.9 +1.5
BOZ pmax pmax
comp=Z,34nm,1.3s
BOZ MLR MLR
comp=Z,1µm,19.0s
BOZ **Bozeman (W)** 87.08 329 eP P 23 29 26.9 +1.5
comp=Z,34nm,1.3s
BOZ LR LR
comp=Z,1µm,19.0s
BOZ **Bozeman (W)** 87.08 329 ⇑P P 23 29 25.9 +0.5
baz=87,SNR=10
O27A **Beecher Island** 87.08 320 ⇑P P 23 29 25.9 +0.4
baz=87
J21A **Lysite** 87.08 325 ⇓P P 23 29 25.6 +0.1
baz=87
K22A **Casper** 87.19 324 ⇑P P 23 29 25.9 -0.1
baz=87,SNR=6.9
E14A **Clinton** 87.20 330 ⇓P P 23 29 26.8 +0.7
baz=87,SNR=20
L23A **Garrett** 87.22 323 ⇓P P 23 29 26.2 -0.1
baz=87
I19A **Meeteetse** 87.23 326 ⇑P P 23 29 26.9 +0.7
baz=87,SNR=27
LRM **Limekiln Ridge** 87.27 329 eP P 23 29 27.2 +0.8
F15A **Butte** 87.27 329 ⇓P P 23 29 26.5 +0.1
baz=87,SNR=16
M24A **Cheyenne** 87.29 322 ⇓P P 23 29 27.2 +0.6
baz=87
J20A **Shoshoni** 87.36 325 ⇓P P 23 29 27.0 +0.1
baz=87,SNR=16
N25A **Grover** 87.42 322 ⇑P P 23 29 27.8 +0.6
baz=87
E13A **Victor** 87.45 331 ⇓P P 23 29 27.7 +0.6
baz=87,SNR=20
O26A **Horse Wrangler** 87.46 321 ⇑P P 23 29 26.7 -0.6
baz=87
G16A **Moss Hill, Enn** 87.49 329 ⇓P P 23 29 27.8 +0.4
baz=87,SNR=24
K21A **Alcova** 87.55 324 ⇑P P 23 29 27.8 0.0
baz=87
P27A **Ficken Ranch,** 87.60 320 ⇑P P 23 29 28.9 +0.9
baz=87
L22A **Ellis Ranch, M** 87.63 324 ⇑P P 23 29 28.8 +0.6
baz=87
H17A **Grant Village** 87.64 327 ⇑P P 23 29 29.2 +0.9
baz=87,SNR=13
F14A **Wisdom** 87.65 330 ⇓P P 23 29 28.4 +0.2
baz=87,SNR=16
QLMT **Earthquake Lak** 87.65 328 eP P 23 29 30.2 +2.0
H16A **Russell Place,** 87.68 328 ⇓P P 23 29 29.3 +0.9
baz=87,SNR=12
DLMT **Dillon** 87.70 329 eP P 23 29 29.9 +1.4
comp=Z,34nm,1.3s
YFT **Old Faithful** 87.70 328 eP P 23 29 29.6 +1.0
comp=Z,121nm,1.7s
M23A **Laramie** 87.72 323 ⇓P P 23 29 29.2 +0.5
baz=88
PHWY **Pilot Hill** 87.72 323 eP P 23 29 25.4 -3.3
comp=Z,106nm,1.8s
N24A **Carr** 87.80 322 ⇓P P 23 29 29.3 +0.3
baz=88
G15A **Dillon** 87.82 329 ⇑P P 23 29 29.8 +0.7
baz=88,SNR=11
I18A **Diamond G Ranc** 87.86 327 ⇓P P 23 29 30.3 +1.0
baz=88,SNR=12
J19A **Crowheart** 87.87 326 ⇑P P 23 29 29.8 +0.5
baz=88,SNR=14
FLWY **Flagg Ranch** 87.94 327 eP P 23 29 31.9 +2.2
comp=Z,300nm,2.5s
O25A **Wiggins** 87.97 321 ⇓P P 23 29 29.6 -0.1
baz=88
P26A **Davis Ranch, A** 87.99 320 ⇑P P 23 29 30.4 +0.5
baz=88,SNR=5.4
E12A **Beaver Dam Sad** 88.01 332 ⇓P P 23 29 30.5 +0.6
baz=88,SNR=30
I17A **Pilgrim Ck.** 88.02 327 ⇑P P 23 29 31.1 +1.0
baz=88,SNR=14
K20A **Yellowstone Ra** 88.03 325 ⇑P P 23 29 29.9 -0.1
baz=88,SNR=11
KSCO **Kaye Shedlock'** 88.03 319 ⇓P P 23 29 31.3 +1.2
baz=88,SNR=7.7
F13A **Darby** 88.05 330 ⇑P P 23 29 30.3 +0.3
baz=88,SNR=30
L21A **Rawlins** 88.12 324 ⇑P P 23 29 30.1 -0.4
baz=88
K19A **Absolon Red Bu** 88.12 326 ⇓P P 23 29 30.6 +0.1
baz=88,SNR=8.1
G14A **Jackson** 88.15 330 ⇓P P 23 29 31.1 +0.4
baz=88,SNR=7.5
M22A **Cedar Creek Ra** 88.19 323 ⇑P P 23 29 30.9 -0.1
baz=88,SNR=14
IMW **Indian Meadow** 88.19 327 eP P 23 29 33.0 +2.0
comp=Z,50nm,1.4s
MOOW **Moose Ponds** 88.23 327 eP P 23 29 32.1 +1.1
comp=Z,30nm,1.4s
MCMT **McKenzie Canyo** 88.24 329 eP P 23 29 32.4 +1.3
comp=Z,12nm,1.4s
N23A **Red Feather La** 88.27 323 ⇑P P 23 29 31.9 +0.5
baz=88,SNR=12
LOHW **Long Hollow** 88.28 327 eP P 23 29 32.7 +1.4
comp=Z,225nm,2.8s
H15A **Lima** 88.33 329 ⇑P P 23 29 32.4 +0.9
baz=88,SNR=11
OD2 **Odessa Site #2** 88.33 334 P P 23 29 32.1 +0.9
J18A **Kendall Valley** 88.34 326 ⇑P P 23 29 31.9 +0.2
baz=88,SNR=57
M21A **Separation Pea** 88.40 324 ⇑P P 23 29 32.6 +0.7
baz=88,SNR=9.3
O24A **Longmont** 88.43 322 ⇑P P 23 29 32.2 +0.2
baz=88
F12A **Elk City** 88.44 331 ⇑P P 23 29 32.3 +0.4
baz=88,SNR=32
P25A **Willow Gulch B** 88.44 321 ⇑P P 23 29 32.1 -0.1
baz=88
I16A **Newdale** 88.45 328 ⇓P P 23 29 32.4 +0.4
baz=88,SNR=9.2
BW06 **Boulder Array** 88.49 326 eP P 23 29 32.1 -0.2
comp=Z,151nm,2.5s
BW06 LR LR
comp=Z,1µm,19.0s
BW06 **Boulder Array** 88.49 326 ⇓P P 23 29 32.6 +0.2
baz=88,SNR=13
PDAR **Pinedale Array** 88.49 326 P P 23 29 32.1 -0.2
PDAR **Pinedale Array** 88.49 326 P P 23 29 32.1 -0.2
comp=Z,6.0nm,1.0s,baz=64,slow=5.1,SNR=24
PDAR LR LR 00 12 55.4
comp=Z,1µm,18.1s,baz=38,slow=38
PD01 **Pinedale Array** 88.50 326 eP P 23 29 31.9 -0.4
J17A **Brown Place, J** 88.53 327 ⇑P P 23 29 33.0 +0.5
baz=88
TPAW **Teton Pass** 88.53 327 eP P 23 29 34.8 +2.2
comp=Z,28nm,1.3s
L20A **Wamsutter** 88.54 325 ⇑P P 23 29 33.0 +0.4
baz=88,SNR=9.3
DCID1 **Drake Creek** 88.54 327 eP P 23 29 35.1 +2.6
comp=Z,35nm,0.9s
Q26A **Hugo** 88.56 320 ⇓P P 23 29 33.2 +0.6
baz=88
G13A **Cobalt** 88.58 330 ⇑P P 23 29 33.6 +1.0
baz=88,SNR=16
REDW **Red Top Meadow** 88.59 327 eP P 23 29 34.0 +1.2
comp=Z,29nm,1.4s
N22A **Wattenberg Ran** 88.59 323 ⇓P P 23 29 33.4 +0.5
baz=88,SNR=7.8
H14A **Leadore** 88.63 329 ⇓P P 23 29 33.7 +0.8
baz=88,SNR=10
KSM **Kuching** 88.65 89 eP P 23 29 34.0 +0.8
comp=Z,49nm,1.3s
R27A **Eads** 88.66 319 ⇓P P 23 29 33.6 +0.6
baz=88
JCW **Jim Creek** 88.72 336 P P 23 29 33.4 +0.4
BLSI **Bandar Lampung** 88.72 98 P P 23 29 34.6 +1.1
comp=Z,90nm,0.4s
I15A **Monteview** 88.77 328 ⇓P P 23 29 34.1 +0.6
baz=88
O23A **Lake Granby, G** 88.78 322 ⇑P P 23 29 34.2 +0.4
baz=88
RRI2 **Red Ridge** 88.80 327 eP P 23 29 34.9 +1.1
comp=Z,47nm,1.4s
K18A **Toltan Ranch,** 88.81 326 ⇓P P 23 29 34.2 +0.4
baz=88,SNR=5.4
P24A **Kohler Place,** 88.81 321 ⇑P P 23 29 34.2 +0.3
baz=89
L19A **Farson** 88.93 325 ⇑P P 23 29 34.8 +0.4
baz=89,SNR=8.5
Q25A **Bedland, Calha** 88.94 320 ⇓P P 23 29 34.5 0.0
baz=89
ISCO **Idaho Springs** 88.95 322 eP P 23 29 35.4 +0.7
ISCO pmax pmax
comp=Z,21nm,1.1s
ISCO MLR MLR
comp=Z,1µm,20.0s
ISCO **Idaho Springs** 88.95 322 eP P 23 29 35.4 +0.7
comp=Z,21nm,1.1s
ISCO LR LR
comp=Z,1µm,20.0s
ISCO **Idaho Springs** 88.95 322 ⇓P P 23 29 35.1 +0.5
baz=89,SNR=12
J16A **Bone** 88.98 327 ⇓P P 23 29 35.5 +0.9
baz=89,SNR=18
G12A **Big Creek, Yel** 88.99 331 ⇑P P 23 29 34.9 +0.3
baz=89,SNR=21
R26A **Arlington** 88.99 319 ⇓P P 23 29 35.3 +0.7
baz=89,SNR=11
H13A **Challis** 89.03 330 ⇓P P 23 29 35.6 +0.9
baz=89,SNR=17
WMOK **Wichita Mounta** 89.06 314 eP P 23 29 36.1 +1.2
WMOK pmax pmax
comp=Z,46nm,1.4s
WMOK MLR MLR
comp=Z,904nm,19.0s
WMOK **Wichita Mounta** 89.06 314 eP P 23 29 36.1 +1.2
comp=Z,46nm,1.4s
WMOK LR LR
comp=Z,904nm,19.0s
RFTA **Plano** 89.07 312 eP P 23 29 35.7 +0.7
K17A **Gardner Place,** 89.11 327 ⇑P P 23 29 35.7 +0.5
baz=89
O22A **Kremmling** 89.13 323 ⇓P P 23 29 35.8 +0.4
baz=89,SNR=8.3
N21A **Black Mountain** 89.13 323 ⇓P P 23 29 36.1 +0.7
baz=89,SNR=14
S27A **Las Animas** 89.16 319 ⇓P P 23 29 36.0 +0.5
baz=89
AHID **Auburn Hatcher** 89.17 327 eP P 23 29 36.3 +0.8
comp=Z,27nm,1.2s
I14A **Mackay** 89.23 329 ⇑P P 23 29 36.2 +0.5
baz=89,SNR=17
H12A **Diamond D Ranc** 89.28 330 ⇑P P 23 29 36.6 +0.6
baz=89,SNR=17
M19A **Rock Springs** 89.31 325 ⇑P P 23 29 36.4 +0.2
baz=89
K16A **Soda Springs** 89.33 327 ⇓P P 23 29 36.5 +0.3
baz=89,SNR=7.6
Q24A **Divide** 89.36 321 ⇑P P 23 29 36.7 +0.1
baz=89
L18A **Fontenelle, Gr** 89.38 326 ⇑P P 23 29 36.8 +0.3
baz=89
P23A **Jefferson** 89.39 322 ⇑P P 23 29 37.4 +0.7
baz=89,SNR=14
N20A **Spence Gulch,** 89.42 324 ⇓P P 23 29 37.3 +0.5
baz=89,SNR=15
HAWA **Hanford** 89.48 334 eP P 23 29 38.2 +1.7
comp=Z,53nm,1.3s
I13A **Wildhorse Cree** 89.51 329 ⇓P P 23 29 38.4 +1.3
baz=89,SNR=20
S26A **Kim** 89.51 319 ⇓P P 23 29 37.1 0.0
baz=89
O21A **Pagoda** 89.53 323 ⇑P P 23 29 37.3 0.0
baz=89
T27A **Campo** 89.53 318 ⇑P P 23 29 37.3 +0.1
baz=89
R25A **Fountain Ranch** 89.54 320 ⇑P P 23 29 37.1 -0.1
baz=89,SNR=6.7
HDW **Hoodsport** 89.56 337 P P 23 29 39.8 +2.7
L17A **Cokeville** 89.61 326 ⇑P P 23 29 37.6 0.0
baz=89
P22A **Eagle** 89.67 322 ⇓P P 23 29 38.0 +0.1
baz=89
Q23A **Hartsel** 89.74 321 ⇓P P 23 29 38.4 0.0
baz=90
V29A **Stinnett** 89.77 317 ⇑P P 23 29 38.5 +0.3
baz=90
M18A **Lyman** 89.79 325 ⇓P P 23 29 38.4 0.0
baz=90
N19A **John Jarvie Ra** 89.80 325 ⇑P P 23 29 38.3 -0.1
baz=90,SNR=16
CGJI **Cibinong** 89.83 98 P P 23 29 37.5 -1.2

	comp=Z,52nm,1.2s							
K15A	**Arbon**	89.86	328	⇑P		P	23 29 38.8	+0.2
	baz=90,SNR=10							
R24A	**Sanders Place,**	89.89	320	⇑P		P	23 29 38.7	-0.2
	baz=90,SNR=9.3							
WPW	**White Pass**	89.90	335	P		P	23 29 39.9	+1.2
T26A	**Comanche Natio**	89.91	319	⇑P		P	23 29 39.4	+0.3
	baz=90							
HLID	**Hailey**	89.92	329	*e*P		P	23 29 40.5	+1.5
HLID				LR		LR		
	comp=Z,1μm,20.0s							
HLID	**Hailey**	89.92	329	⇑P		P	23 29 39.1	+0.1
	baz=90,SNR=5.7							
L16A	**Fish Haven**	89.92	327	⇓P		P	23 29 39.2	+0.1
	baz=90,SNR=12							
LON	**Longmire**	89.95	335	*e*P		P	23 29 39.7	+0.9
LON				pmax		pmax		
	comp=Z,214nm,2.6s							
LON	**Longmire**	89.95	335	*e*P		P	23 29 39.7	+0.9
	comp=Z,214nm,2.6s							
J13A	**Cove Ranch, Pi**	89.96	329	⇓P		P	23 29 39.3	+0.2
	baz=90							
O20A	**White River Ci**	89.96	324	⇓P		P	23 29 39.0	-0.3
	baz=90,SNR=11							
N18A	**Larsen Ranch,**	89.97	325	⇑P		P	23 29 39.3	+0.1
	baz=90,SNR=12							
BMO	**Blue Mountains**	89.98	332	*e*P		P	23 29 38.9	-0.2
BMO				pmax		pmax		
	comp=Z,30nm,1.3s							
BMO	**Blue Mountains**	89.98	332	*e*P		P	23 29 38.9	-0.2
	comp=Z,30nm,1.3s							
S25A	**Robets Cordova**	89.98	320	⇑P		P	23 29 39.7	+0.3
	baz=90,SNR=9.9							
M17A	**Scullys Gap (B**	90.02	326	⇓P		P	23 29 39.6	+0.1
	baz=90,SNR=12							
I12A	**Atlanta**	90.02	330	⇓P		P	23 29 40.0	+0.6
	baz=90,SNR=13							
P21A	**Newcastle**	90.06	323	⇑P		P	23 29 40.1	+0.3
	baz=90							
SMCO	**Snowmass**	90.10	322	*e*P		P	23 29 40.7	+0.6
	comp=Z,56nm,1.9s							
V28A	**Channing**	90.24	317	⇑P		P	23 29 41.0	+0.5
	baz=90							
K14A	**Jones Ranch, D**	90.25	328	⇑P		P	23 29 41.0	+0.6
	baz=90,SNR=7.5							
R23A	**Moffat**	90.29	321	⇓P		P	23 29 41.1	+0.2
	baz=90,SNR=7.3							
Q22A	**Crested Butte,**	90.31	322	⇑P		P	23 29 41.5	+0.5
	baz=90,SNR=20							
HWUT	**Hardware Ranch**	90.31	326	*e*P		P	23 29 41.6	+0.8
	comp=Z,78nm,1.4s							
L15A	**Malad City**	90.35	327	⇓P		P	23 29 40.6	-0.3
	baz=90,SNR=13							
T25A	**Trinidad**	90.36	319	⇓P		P	23 29 41.1	-0.1
	baz=90,SNR=11							
W29A	**Amarillo**	90.39	316	⇓P		P	23 29 41.4	+0.1
	baz=90							
S24A	**Houchin Ranch,**	90.40	320	⇑P		P	23 29 41.4	-0.1
	baz=90							
STKI	**Sintang**	90.42	90	P		P	23 29 41.7	+0.2
SDCO	**Great Sand Dun**	90.47	320	*e*P		P	23 29 41.9	+0.1
SDCO				LR		LR		
	comp=Z,1μm,19.0s							
SDCO	**Great Sand Dun**	90.47	320	⇓P		P	23 29 41.4	-0.3
	baz=90,SNR=26							
N17A	**Moffit Pass**	90.52	326	⇓P		P	23 29 41.4	-0.6
	baz=90,SNR=13							
U26A	**Atchley Ranch,**	90.58	318	⇑P		P	23 29 42.6	+0.5
	baz=90,SNR=9.5							
AMTX	**Amarillo**	90.59	316	⇑P		P	23 29 42.8	+0.6
	baz=90							
W28A	**Vega**	90.60	317	⇓P		P	23 29 42.4	+0.2
	baz=90							
MFID	**Camas Ranch**	90.62	330	*e*P		P	23 29 43.5	+1.4
	comp=Z,49nm,1.3s							
MFID	**Camas Ranch**	90.62	330	⇑P		P	23 29 42.2	0.0
	baz=90,SNR=14							
Q21A	**Lamborn Mesa,**	90.66	322	⇑P		P	23 29 42.2	-0.3
	baz=90							
O18A	**Roosevelt**	90.69	325	⇓P		P	23 29 42.9	+0.4
	baz=90							
L14A	**Malta**	90.69	328	⇑P		P	23 29 43.0	+0.4
	baz=90,SNR=5.2							
HKT	**Hockley**	90.70	309	*e*P		P	23 29 44.5	+2.0
HKT				pmax		pmax		
	comp=Z,34nm,1.3s							
HKT	**Hockley**	90.70	309	*e*P		P	23 29 44.5	+2.0
	comp=Z,34nm,1.3s							
P19A	**Cripple Cowboy**	90.71	324	⇑P		P	23 29 43.2	+0.4
	baz=90,SNR=14							
R22A	**Saguache, Gunn**	90.72	321	⇓P		P	23 29 43.3	+0.3
	baz=90,SNR=13							
T24A	**Torres, Weston**	90.75	320	⇑P		P	23 29 43.9	+0.8
	baz=90,SNR=9.4							
S23A	**Nye Farm, Mont**	90.75	321	⇓P		P	23 29 43.5	+0.4
	baz=90							
M15A	**Larsen Ranch,**	90.82	327	⇓P		P	23 29 43.2	+0.1
	baz=90							
N16A	**Rees Ranch, Co**	90.84	326	⇑P		P	23 29 43.3	0.0
	baz=91							
Q20A	**Ridgley Place,**	90.91	323	⇓P		P	23 29 43.5	-0.1
	baz=91,SNR=7.2							
X29A	**Tulia**	90.92	316	⇑P		P	23 29 44.1	+0.4
	baz=91							
U25A	**Circle Dot Ran**	90.92	319	⇓P		P	23 29 44.6	+0.8
	baz=91,SNR=14							
R21A	**Cimarron**	91.01	322	⇑P		P	23 29 44.8	+0.5
	baz=91,SNR=13							
V26A	**Tequesquite Ra**	91.05	318	⇓P		P	23 29 44.7	+0.4
	baz=91,SNR=8.7							
JLU	**Jordanelle**	91.07	326	*e*P		P	23 29 45.3	+0.9
	comp=Z,33nm,1.5s							
O17A	**Robinson Place**	91.08	325	⇓P		P	23 29 44.7	+0.3
	baz=91,SNR=11							
VFP	**Flag Point**	91.08	334	P		P	23 29 47.1	+2.8
S22A	**4UR Ranch, Cre**	91.14	321	⇑P		P	23 29 45.4	+0.5
	baz=91,SNR=12							
X28A	**Dimmitt**	91.14	316	⇑P		P	23 29 44.8	+0.1
	baz=91							
W27A	**Bowe Ranch, En**	91.21	317	⇓P		P	23 29 45.0	0.0
	baz=91							
T23A	**Casias Ranch,**	91.28	320	⇑P		P	23 29 45.8	+0.3
	baz=91							
P18A	**Preston Nutter**	91.30	324	⇑P		P	23 29 45.7	0.0
	baz=91,SNR=14							
N15A	**Stansbury Isla**	91.31	327	⇑P		P	23 29 45.4	0.0
	baz=91							
Y29A	**Porterfield Fa**	91.34	315	⇑P		P	23 29 46.0	+0.4
	baz=91							
U24A	**Moreno Valley**	91.37	319	⇓P		P	23 29 46.2	+0.2
	baz=91							
Q19A	**Hogan Spring (**	91.38	323	⇓P		P	23 29 45.9	+0.2
	baz=91,SNR=11							
V25A	**Rancho No Teng**	91.46	319	⇓P		P	23 29 46.5	+0.2
	baz=91							
X27A	**F and S Farms,**	91.54	317	⇓P		P	23 29 46.8	+0.2
	baz=91							
R20A	**Redvale**	91.56	322	⇓P		P	23 29 46.8	+0.1
	baz=91,SNR=10							
W26A	**Owens Ranch, T**	91.57	318	⇑P		P	23 29 47.0	+0.3
	baz=91,SNR=5.3							
Y28A	**McKinney Farm,**	91.62	316	⇓P		P	23 29 47.5	+0.5
	baz=91							
MPU	**Maple Canyon**	91.63	326	*e*P		P	23 29 49.3	+2.3
	comp=Z,186nm,2.9s							
PV04	**Paradox Valley**	91.65	323	*e*P		P	23 29 48.5	+1.5
P17A	**Butcher Ranch,**	91.66	325	⇑P		P	23 29 46.7	-0.4
	baz=91							
Q18A	**Rafter H Ranch**	91.67	324	⇑P		P	23 29 47.4	+0.3
	baz=91,SNR=10.0							
S21A	**Coal Bank Pass**	91.68	322	⇑P		P	23 29 47.9	+0.5
	baz=91,SNR=20							
T22A	**Edith**	91.74	321	⇓P		P	23 29 48.3	+0.7
	baz=92,SNR=13							
O15A	**The Old Anders**	91.79	326	⇑P		P	23 29 47.7	0.0
	baz=92							
Z29A	**Hungry Hill Ra**	91.80	315	⇑P		P	23 29 48.4	+0.7
	baz=92							
S20A	**Disappointment**	91.83	322	⇑P		P	23 29 48.2	+0.1
	baz=92,SNR=5.9							
SRU	**San Rafael**	91.85	324	*e*P		P	23 29 48.3	+0.3
SRU				pmax		pmax		
	comp=Z,64nm,1.5s							
SRU	**San Rafael**	91.85	324	*e*P		P	23 29 48.3	+0.3
	comp=Z,64nm,1.5s							
SRU	**San Rafael**	91.85	324	⇑P		P	23 29 47.8	-0.2
	baz=92,SNR=21							
W25A	**X Bar L Ranch,**	91.85	318	⇓P		P	23 29 48.5	+0.5
	baz=92,SNR=6.0							
MSTX	**Muleshoe**	91.87	316	⇑P		P	23 29 48.5	+0.4
	baz=92							
V24A	**Rampart Ranch,**	91.89	319	⇓P		P	23 29 48.7	+0.4
	baz=92,SNR=5.5							
R19A	**Curley Farm, L**	91.90	323	⇑P		P	23 29 48.5	+0.2
	baz=92,SNR=6.3							
U23A	**El Rito**	91.91	320	⇓P		P	23 29 49.0	+0.6
	baz=92							
P16A	**Fountain Green**	91.97	325	⇓P		P	23 29 49.0	+0.4
	baz=92							
X26A	**CR and CF Fran**	92.00	317	⇑P		P	23 29 48.5	-0.2
	baz=92,SNR=6.9							
DUG	**Dugway**	92.01	326	*e*P		P	23 29 49.7	+1.0
DUG				pmax		pmax		
	comp=Z,20nm,1.0s							
DUG	**Dugway**	92.01	326	*e*P		P	23 29 49.7	+1.0
	comp=Z,20nm,1.0s							
DUG	**Dugway**	92.01	326	⇓P		P	23 29 48.7	+0.1
	baz=92,SNR=22							
TMUT	**Trail Mountain**	92.01	325	*e*P		P	23 29 49.8	+0.9
	comp=Z,131nm,2.4s							
T21A	**Navajo Lake**	92.07	321	⇓P		P	23 29 48.5	-0.7
	baz=92							
R18A	**Canyonlands Na**	92.13	323	⇓P		P	23 29 49.0	-0.3
	baz=92,SNR=17							
Y27A	**Causey**	92.15	316	⇑P		P	23 29 49.7	+0.3
	baz=92							
Z28A	**Tucker Farm, M**	92.16	316	⇓P		P	23 29 49.7	+0.3
	baz=92							
U22A	**Llaves**	92.21	320	⇓P		P	23 29 49.4	-0.4
	baz=92,SNR=10							
S19A	**Harvey Farm, M**	92.27	323	⇑P		P	23 29 50.0	-0.1
	baz=92,SNR=17							
P15A	**Leamington**	92.28	326	⇓P		P	23 29 49.9	-0.1
	baz=92,SNR=5.4							
Q16A	**Castle Valley**	92.30	325	⇑P		P	23 29 50.3	+0.1
	baz=92							
V23A	**Ortiz Mt. (NFS**	92.35	319	⇓P		P	23 29 50.4	0.0
	baz=92							
129A	**Stewart Farms,**	92.35	315	⇓P		P	23 29 50.5	+0.2
	baz=92							
W24A	**Lazy 6 Ranch,**	92.35	319	⇓P		P	23 29 50.6	+0.2
	baz=92,SNR=7.3							
MVCO	**Mesa Verde**	92.38	322	*e*P		P	23 29 51.8	+1.2
	comp=Z,30nm,1.4s							
MVCO	**Mesa Verde**	92.38	322	⇓P		P	23 29 49.7	-0.8
	baz=92,SNR=6.5							
X25A	**Clemmons Ranch**	92.48	318	⇑P		P	23 29 51.0	0.0
	baz=92							
Y26A	**Elida**	92.48	317	⇓P		P	23 29 51.0	0.0
	baz=92							
R17A	**Hanksville Air**	92.49	324	⇑P		P	23 29 50.5	-0.4
	baz=92							
U21A	**Roseezi**	92.58	321	⇑P		P	23 29 51.4	-0.1
	baz=92,SNR=7.1							
V22A	**San Miguel Ran**	92.59	320	⇓P		P	23 29 51.8	+0.2
	baz=92							
Z27A	**Tatum**	92.60	316	⇑P		P	23 29 52.3	+0.8
	baz=92							
ELK	**Elko**	92.60	328	*e*P		P	23 29 53.1	+1.5
128A	**Castleberry Fa**	92.71	315	⇑P		P	23 29 52.6	+0.7
	baz=92							
S18A	**Hue Farm, Bl**	92.73	323	⇑P		P	23 29 52.2	0.0
	baz=92,SNR=6.7							
JCT	**Junction City**	92.73	312	*e*P		P	23 29 53.6	+1.6
JCT				pmax		pmax		
	comp=Z,16nm,0.9s							
JCT	**Junction City**	92.73	312	*e*P		P	23 29 53.6	+1.6
	comp=Z,16nm,0.9s							
JCT	**Junction City**	92.73	312	⇓P		P	23 29 52.6	+0.6
	baz=92							
W23A	**Werner Place,**	92.78	319	⇑P		P	23 29 52.8	+0.4
	baz=92							
229A	**Bryant Ranch,**	92.81	314	⇓P		P	23 29 52.9	+0.5
	baz=93							
X24A	**Lazy VL Ranch,**	92.86	318	⇓P		P	23 29 52.8	0.0
	baz=93							
T19A	**Beclabito**	92.94	322	⇑P		P	23 29 53.1	0.0
	baz=93							
Y25A	**Mesa, Roswell**	92.95	317	⇓P		P	23 29 53.5	+0.4
	baz=93							
R16A	**Teasdale**	92.96	324	⇓P		P	23 29 52.2	-1.0
	baz=93,SNR=5.4							
U20A	**Newcomb**	93.05	321	⇓P		P	23 29 54.0	+0.4
	baz=93							
V21A	**Milan**	93.05	320	⇑P		P	23 29 53.7	+0.1
	baz=93							
Z26A	**Caprock**	93.06	317	⇓P		P	23 29 53.4	-0.2
	baz=93,SNR=12							
MSU	**Marysvale**	93.09	325	*e*P		P	23 29 55.5	+1.7
MSU	**Marysvale**	93.09	325	*e*P		P	23 29 55.5	+1.7
ANMO	**Albuquerque**	93.11	319	*e*P		P	23 29 55.1	+1.2
	comp=Z,9.2nm,1.3s							
T18A	**Mexican Hat**	93.11	323	⇓P		P	23 29 53.8	0.0
	baz=93,SNR=24							
MVU	**Marysvale**	93.11	325	*e*P		P	23 29 56.7	+2.7
	comp=Z,39nm,1.5s							
228A	**UT Block 9, Go**	93.14	315	⇑P		P	23 29 54.9	+0.9
	baz=93							
S17A	**Black Ridge (B**	93.16	324	⇑P		P	23 29 54.3	+0.2
	baz=93,SNR=6.8							
W22A	**Albuquerque**	93.22	320	⇓P		P	23 29 54.5	0.0
	baz=93							
X23A	**Hourglass Bar**	93.25	319	⇑P		P	23 29 55.2	+0.6
	baz=93							
Y24A	**Capitan**	93.35	318	⇓P		P	23 29 55.0	-0.1
	baz=93,SNR=5.7							
R15A	**Junction**	93.38	325	⇓P		P	23 29 55.5	+0.4
	baz=93							
Z25A	**Roswell**	93.45	317	⇓P		P	23 29 56.0	+0.5
	baz=93							
U19A	**Dine' College,**	93.45	322	⇑P		P	23 29 55.7	+0.1
	baz=93							
S16A	**Weppner Ranch,**	93.46	324	⇓P		P	23 29 55.4	-0.1
	baz=93,SNR=9.6							
V20A	**Brimhall**	93.47	321	⇓P		P	23 29 56.2	+0.6
	baz=93							
126A	**Clayton Basin,**	93.55	316	⇓P		P	23 29 56.5	+0.6
	baz=93							
W21A	**San Fidel**	93.59	320	⇓P		P	23 29 56.9	+0.7
	baz=93							
227A	**Bennet, Jal**	93.62	315	⇓P		P	23 29 56.9	+0.8
	baz=93							
MOD	**Modoc**	93.63	332	*e*P		P	23 29 57.8	+1.7
	comp=Z,26nm,1.2s							
T17A	**Navajo Res., N**	93.67	323	⇑P		P	23 29 57.0	+0.5
	baz=93							
Y23A	**Lovelace Mesa,**	93.68	318	⇓P		P	23 29 56.8	+0.3
	baz=93							
X22A	**Bernardo**	93.74	319	⇑P		P	23 29 57.8	+1.0
	baz=94							
BNM	**Barren Site**	93.81	319	*e*P		P	23 29 58.2	+1.0
	comp=Z,27nm,1.6s							
328A	**Wristen Ranch,**	93.82	315	⇑P		P	23 29 58.0	+0.9
	baz=94							
V19A	**Window Rock**	93.83	321	⇑P		P	23 29 58.0	+0.8
	baz=94							
429A	**Davenport Ranc**	93.85	313	⇑P		P	23 29 57.8	+0.6
	baz=94							
125A	**Gardner Draw,**	93.89	317	⇓P		P	23 29 57.6	+0.2
	baz=94,SNR=9.0							
W20A	**Ramah**	94.02	321	⇓P		P	23 29 58.3	+0.2
	baz=94							
226A	**Malaga, Loving**	94.03	316	⇓P		P	23 29 58.3	+0.2
	baz=94,SNR=8.7							
GDL2	**Guadalupe Moun**	94.08	316	*e*P		P	23 29 60.0	+1.7
Y22A	**Socorro**	94.15	319	⇓P		P	23 29 59.1	+0.4
	baz=94							
R13A	**O'Grain Ranch,**	94.17	326	⇓P		P	23 29 59.0	+0.2
	baz=94							
X21A	**Alamocita Cree**	94.19	320	⇓P		P	23 29 58.7	-0.2
	baz=94,SNR=11							
327A	**Balmorhea Ranc**	94.21	315	⇓P		P	23 29 59.5	+0.7
	baz=94							
Z23A	**Rita Site, Whi**	94.28	318	⇑P		P	23 30 00.0	+0.7
	baz=94							
124A	**Stringfield Ra**	94.30	317	⇓P		P	23 29 59.7	+0.3
	baz=94							
225A	**Deer Hill, Car**	94.40	316	⇑P		P	23 30 00.7	+0.8
	baz=94							
CCUT	**Cedar City**	94.42	325	*e*P		P	23 30 02.1	+2.2
	comp=Z,169nm,3.0s							
Y21A	**Point of Rocks**	94.47	319	⇓P		P	23 30 00.8	+0.5
	baz=94							
X20A	**Quemado**	94.47	320	⇓P		P	23 30 00.8	+0.5
	baz=94							
326A	**Caldwell Ranch**	94.53	315	⇓P		P	23 30 00.5	+0.1
	baz=94,SNR=11							
427A	**Hayter Ranch,**	94.55	315	⇑P		P	23 30 00.9	+0.4
	baz=94							
W18A	**Petrified Fore**	94.64	321	⇑P		P	23 30 00.8	-0.2
	baz=94							
Z22A	**Elephant Butte**	94.68	318	⇑P		P	23 30 01.7	+0.6
	baz=94							
528A	**Cox Ranch, San**	94.71	314	⇓P		P	23 30 01.4	+0.1
	baz=94							
R11A	**Troy Canyon, C**	94.75	327	⇓P		P	23 30 01.5	+0.2
	baz=94							
123A	**Bell Site, Whi**	94.78	318	⇓P		P	23 30 01.4	-0.1
	baz=94							
224A	**Cornudas Mount**	94.81	317	⇓P		P	23 30 02.1	+0.3
	baz=95,SNR=6.6							
U15A	**North Rim**	94.83	324	⇑P		P	23 30 01.7	-0.2
	baz=95							
Y20A	**Horse Springs,**	94.91	320	⇓P		P	23 30 02.7	+0.4
	baz=95							
Z21A	**St. Cloud Mine**	95.01	319	⇓P		P	23 30 02.4	-0.3
	baz=95							
325A	**Bean Ranch, Si**	95.04	316	⇑P		P	23 30 03.3	+0.5
	baz=95							
426A	**McDonald Obser**	95.04	315	⇑P		P	23 30 02.8	-0.1
	baz=95,SNR=13							
WUAZ	**Wupatki**	95.13	323	⇓P		P	23 30 03.5	+0.3
	baz=95							
X18A	**Snowflake**	95.22	321	⇑P		P	23 30 03.7	+0.1
	baz=95							
324A	**Moseley Ranch,**	95.27	316	⇑P		P	23 30 03.7	-0.1
	baz=95,SNR=15							
628A	**Black Gap, Mar**	95.27	313	⇑P		P	23 30 04.6	+0.8
	baz=95							
Y19A	**Nutrioso**	95.32	320	⇑P		P	23 30 05.4	+1.2
	baz=95							
425A	**Indio Mountain**	95.49	316	⇓P		P	23 30 05.1	+0.3
	baz=95							
526A	**Mary Lane Ranc**	95.53	314	⇑P		P	23 30 05.7	+0.7
	baz=95							
627A	**Terlingua Ranc**	95.59	314	⇑P		P	23 30 06.1	+0.8
	baz=95							
222A	**Williams Famil**	95.64	318	⇑P		P	23 30 06.1	+0.6
	baz=95							
Z20A	**Nine Sixteen R**	95.64	319	⇑P		P	23 30 05.7	+0.1
	baz=95,SNR=7.4							
121A	**Cookes Peak, D**	95.67	318	⇓P		P	23 30 06.2	+0.5
	baz=95,SNR=6.0							
X17A	**Forest Lakes**	95.80	322	⇓P		P	23 30 06.2	-0.2
	baz=96							
NVAR	**Mina Array Bea**	95.83	329	P		P	23 30 07.2	+0.9
NVAR	**Mina Array Bea**	95.83	329	P		P	23 30 07.2	+0.9
	comp=Z,1.8nm,0.7s,baz=48,slow=5.1,SNR=9.1							
NVAR				LR		LR	00 14 55.3	
	comp=Z,1μm,20.6s,baz=333,slow=36							
TXAR	**Lajitas Array**	95.84	314	P		P	23 30 07.8	+1.4
TXAR	**Lajitas Array**	95.84	314	P		P	23 30 07.8	+1.4
	comp=Z,3.4nm,0.7s,baz=57,slow=3.7,SNR=18							
TXAR				LR		LR	00 13 19.3	
	comp=Z,991nm,20.2s,baz=5.0,slow=36							
626A	**Big Bend Ranch**	95.94	314	⇑P		P	23 30 07.9	+1.1
	baz=96							
X16A	**Lo Mia Camp, P**	96.05	322	⇓P		P	23 30 08.4	+1.0
	baz=96							
221A	**Mesquite Ranch**	96.08	318	⇓P		P	23 30 08.2	+0.7
	baz=96							
120A	**U Bar Ranch, L**	96.11	319	⇓P		P	23 30 08.5	+0.9
	baz=96							
220A	**Playas Peak, P**	96.56	319	⇑P		P	23 30 09.8	+0.1
	baz=96							
W13A	**Hualapai Mount**	96.67	324	⇓P		P	23 30 10.1	-0.1
	baz=96							
CPUP	**Villa Florida**	96.88	242	LR		LR	00 15 25.4	
	comp=Z,3μm,19.6s,baz=39,slow=36							
320A	**Kipp Ranch, An**	97.00	318	⇓P		P	23 30 12.2	+0.5
	baz=97							
DAV	**Davao City (W)**	97.30	75	LR		LR	00 23 26.2	
	comp=Z,661nm,21.1s,baz=339,slow=41							
Z14A	**Wintersburg**	97.63	322	⇑P		Pdif	23 30 14.8	+0.4
	baz=97							
GMRC	**Granite Mounta**	97.75	325	⇓P		Pdif	23 30 15.3	+0.2
	baz=98							
IRM	**Iron Mountain**	98.03	324	⇑P		Pdif	23 30 16.2	0.0
	baz=98							
Y12C	**Blythe**	98.07	324	⇓P		Pdif	23 30 17.3	+1.0
	baz=98							
ISA	**Isabella**	98.25	328	*e*P		Pdif	23 30 19.3	+2.1
ISA				pmax		pmax		
	comp=Z,158nm,2.9s							
ISA	**Isabella**	98.25	328	*e*P		Pdif	23 30 19.3	+2.1
	comp=Z,158nm,2.9s							
ISA	**Isabella**	98.25	328	⇑P		Pdif	23 30 18.0	+0.8
	baz=98							
LPAZ	**La Paz**	98.92	256	LR		LR	00 16 45.9	
	comp=Z,878nm,20.4s,baz=77,slow=36							
WRA	**Warramunga Arr**	120.19	93	PKP		**PKPdf**	23 35 30.6	-0.3
WRA				PP		PP	23 37 02.6	+6.0
WRA	**Warramunga Arr**	120.19	93	PKP		**PKPdf**	23 35 30.6	-0.3
	comp=Z,6.2nm,0.8s,baz=305,slow=2.0,SNR=30							
WRA				PP		PP	23 37 02.6	+6.0
	comp=Z,3.2nm,1.2s,baz=319,slow=6.5,SNR=5.5							
WRAB	**Tennant Creek**	120.20	93	*e*PKIKP		**PKPdf**	23 35 31.1	+0.1
WRAB				MLR		MLR		
	comp=Z,456nm,19.0s							
WRAB	**Tennant Creek**	120.20	93	*e*PKPdf		**PKPdf**	23 35 31.1	+0.1
WRAB				LR		LR		
	comp=Z,456nm,19.0s							
ASAR	**Alice Springs**	121.77	97	PKP		**PKPdf**	23 35 33.8	-0.1
ASAR				PP		PP	23 37 14.4	+7.1
ASAR	**Alice Springs**	121.77	97	PKP		**PKPdf**	23 35 33.8	-0.1
	comp=Z,10.0nm,0.8s,baz=313,slow=1.5,SNR=53							
ASAR				PP		PP	23 37 14.4	+7

DUNU	**Dundret**	**0.07**	**212**	⇓P	Pg	23 19 43.2	-0.1
KUA	**Kurravaara**	**0.78**	**351**	*i* P	Pg	23 19 55.9	-1.0
KUA				*i* S	Sg	23 20 07.3	+0.3
KUA	**Kurravaara**	**0.78**	**351**	P	Pg	23 19 55.8	-1.0
KUA				S	Sg	23 20 07.3	+0.3
ERTU	**Ertsjaerv**	**0.87**	**136**	⇓*i* P	Pg	23 19 57.2	-1.4
ERTU	**Ertsjaerv**	**0.87**	**136**	⇓P	Pg	23 19 57.2	-1.3
NIKU	**Nikkaluokta**	**0.93**	**318**	⇓*e*P	Pg	23 19 58.6	-1.0
NIKU	**Nikkaluokta**	**0.93**	**318**	⇓P	Pg	23 19 58.7	-0.9
LANU	**Lannavaara**	**1.00**	**30**	*e*P	Pg	23 19 59.7	-1.4
LANU	**Lannavaara**	**1.00**	**30**	P	Pg	23 19 59.7	-1.4
HARU	**Harads**	**1.03**	**173**	*e*P	Pg	23 20 00.2	-1.4
HARU	**Harads**	**1.03**	**173**	P	Pg	23 20 00.2	-1.4
HEF	**Hetta**	**1.67**	**41**	*e*P	Pn	23 20 11.4	-0.9
	baz=222						
HEF				MSG	Sg	23 20 33.2	-2.4
	comp=Z,1.4nm,0.4s						
HEF				*e*SG	Sg	23 20 33.2	-2.4
HEF	**Hetta**	**1.67**	**41**	P	Pn	23 20 11.4	-0.9
HEF				Sg	Sn	23 20 33.2	-1.3
KALU	**Kalix**	**1.71**	**140**	*e*P	Pn	23 20 12.1	-0.8
KALU	**Kalix**	**1.71**	**140**	P	Pn	23 20 12.1	-0.7
SJUU	**Sjulsmark**	**1.73**	**167**	⇓*e*P	Pn	23 20 12.3	-0.7
SJUU				*e*S	Sn	23 20 35.8	+0.1
SJUU	**Sjulsmark**	**1.73**	**167**	P	Pn	23 20 12.3	-0.7
SJUU				S	Sn	23 20 35.7	0.0
KIF	**Kilpisjarvi**	**1.83**	**1**	*e*PN	Pn	23 20 14.8	+0.3
KIF				MSG	Sg	23 20 40.7	+0.2
	comp=Z,0.9nm,0.1s						
KIF				*e*SG	Sg	23 20 40.7	+0.2
KIF	**Kilpisjarvi**	**1.83**	**1**	Pn	Pn	23 20 14.7	+0.3
KIF				Sg	Sg	23 20 40.7	+0.2
LILU	**Lilltraesk**	**1.94**	**190**	*e*P	Pn	23 20 16.0	+0.1
LILU				*e*S	Sb	23 20 41.9	-0.7
LILU	**Lilltraesk**	**1.94**	**190**	P	Pn	23 20 15.9	0.0
LILU				S	Sb	23 20 41.9	-0.7
RNF	**Rovaniemi**	**2.19**	**103**	*e*PB	Pn	23 20 19.9	+0.6
RNF				MSG	Sg	23 20 49.2	-2.8
	comp=Z,0.6nm,0.1s						
RNF				*e*SG	Sg	23 20 49.2	-2.8
SGF	**Sodankyl**	**2.29**	**81**	*e*PB	Pn	23 20 21.7	+1.0
SGF				*e*SG	Sb	23 20 52.5	-0.1
SGF				MSG		23 20 52.5	
	comp=Z,0.8nm,0.1s						
SGF	**Sodankyl**	**2.29**	**81**	Pb	Pn	23 20 21.7	+1.0
SGF				Sg	Sb	23 20 52.5	-0.1
	comp=Z,0.8nm,0.1s						
BURU	**Burvik**	**2.63**	**173**	*e*P	Pn	23 20 25.7	+0.3
BURU	**Burvik**	**2.63**	**173**	P	Pn	23 20 25.7	+0.3
OUL	**Oulu**	**2.99**	**132**	*e*SG	Sb	23 21 14.4	+1.5
OUL				MSG		23 21 14.4	
	comp=Z,0.5nm,0.4s						
KEV	**Kevo**	**3.48**	**39**	*e*SB	Sb	23 21 25.4	-1.6

IDC 16 23:20:55.4±2.3, 6°93S×81°23W, h0km, mb4.0/2, mb1 4.0/3, mb1mx3.7/17, mbtmp3.9/3, ML3.6/1, Error ellipse: s-maj=91.8km s-min=46.2km az=62.0, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**15.84**	**127**	Pn	Pn	23 24 41.2	+0.6
	0.1nm,0.3s,baz=312,slow=11,SNR=3.6						
SCHQ	**Schefferville**	**62.70**	**9**	P	P	23 31 21.5	-0.4
	3.0nm,0.8s,baz=225,slow=7.1,SNR=3.4						
YKA	**Yellowknife Ar**	**73.81**	**345**	P	P	23 32 32.2	+0.8
	0.5nm,0.5s,baz=143,slow=6.2,SNR=4.4						
WRA	**Warramunga Arr**	**135.98**	**232**	PKP	PKPdf	23 40 18.1	-1.4
	1.1nm,0.9s,baz=120,slow=2.2,SNR=7.3						

IDC 16 23:31:57.4±1.9, 3°72N×126°76E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.8/4, Error ellipse: s-maj=224.0km s-min=22.1km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.66**	**163**	P	P	23 37 19.8	-0.3
	1.7nm,0.9s,baz=342,slow=8.7,SNR=3.5						
STKA	**Stephens Creek**	**38.11**	**159**	P	P	23 39 18.1	-0.1
	6.9nm,0.9s,baz=337,slow=9.5,SNR=6.5						
MKAR	**Makanchi Array**	**57.58**	**325**	P	P	23 41 49.0	-0.1
	0.2nm,0.5s,baz=129,slow=8.9,SNR=5.8						
KURBB	**Kurchatov Arra**	**61.76**	**327**	P	P	23 42 18.0	+0.2
	0.2nm,0.3s,baz=124,slow=6.5,SNR=5.7						

*ISCJB **16** 23:35:19.9±0.6, 34°96S±0°04×179°61W±0°09, h39km, mb4.5/13, MS4.2/5, Error ellipse: s-maj=10.6km s-min=5.3km az=12.3*
*NEIC **16** 23:35:21.4±1.6, 34°86S×179°71W, h39km±13km, mb4.8/4, Error ellipse: s-maj=15.7km s-min=13.0km az=83.0*
*IDC **16** 23:35:27.5±3.1, 34°48S×179°83W, h83km±26km, mb4.1/9, mb1 4.2/9, mb1mx4.1/17, mbtmp4.1/9, MS4.4/6, Ms1 4.3/6, ms1mx4.0/32, Error ellipse: s-maj=24.0km s-min=15.1km az=12.0*

ISC 16 23:35:22.1±0.4, 34°96S±0°04×179°79W±0°07, h39km, n133, σ1§86/121, mb4.5/13, MS4.2/5, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.02**	**210**	PN	**Pn**	**23 36 08.7**	**+1.3**
MXZ				SN	Sn	23 36 51.1	+8.8
MXZ				T		23 39 38.5	
PUZ	**Puketiti**	**3.48**	**206**	PN	Pn	23 36 16.9	+3.1
WIZ	**White Island**	**3.54**	**223**	PN	**Pn**	**23 36 16.0**	**+1.4**
CNGZ	**Carnagh Statio**	**3.87**	**204**	*e*PN	Pn	23 36 22.1	+3.0
MYRZ	**Mayor Island**	**3.96**	**233**	*e*PN	Pn	23 36 23.0	+2.7
MWZ	**Matawai**	**4.00**	**212**	PN	**Pn**	**23 36 23.6**	**+2.7**
OPRZ	**Ohinepanea**	**4.12**	**225**	PN	**Pn**	**23 36 24.8**	**+2.2**
URZ	**Urewera**	**4.13**	**216**	*e*Pn	**Pn**	**23 36 25.0**	**+2.4**
URZ				*e*Sn	**Sn**	**23 37 09.4**	**-0.3**
URZ	**Urewera**	**4.13**	**216**	PN	**Pn**	**23 36 24.9**	**+2.3**
URZ				SN	Sn	23 37 17.1	+7.4
TGRZ	**Tauranga**	**4.22**	**228**	PN	**Pn**	**23 36 26.2**	**+2.3**
PRGZ	**Paritu Road**	**4.37**	**205**	PN	**Pn**	**23 36 27.8**	**+1.8**
OMRZ	**Omania**	**4.41**	**223**	PN	Pn	23 36 29.3	+2.8
KARZ	**Kaharoa**	**4.42**	**225**	PN	**Pn**	**23 36 29.2**	**+2.5**
TARZ	**Mount Tarawera**	**4.42**	**221**	*e*PN	Pn	23 36 30.3	+3.5
RRRZ	**Republican Roa**	**4.50**	**220**	PN	**Pn**	**23 36 30.3**	**+2.6**
HLRZ	**Highlands Stat**	**4.52**	**222**	*e*PN	Pn	23 36 31.4	+3.3
KNZ	**Kokohu**	**4.53**	**206**	PN	**Pn**	**23 36 30.0**	**+1.8**
MHGZ	**Mahia Peninsul**	**4.57**	**203**	PN	**Pn**	**23 36 30.7**	**+2.0**
MKAZ	**Moumakai**	**4.62**	**241**	PN	Pn	23 36 32.4	+3.1
RAHZ	**Arahi**	**4.67**	**211**	PN	Pn	23 36 33.2	+3.0
TOZ	**Tahuroa Road**	**4.70**	**233**	PN	Pn	23 36 33.6	+3.2
OTAZ	**Otara**	**4.72**	**244**	*e*PN	Pn	23 36 34.6	+3.8
ALRZ	**Allen Road**	**4.75**	**220**	*e*PN	Pn	23 36 34.0	+2.8
NMHZ	**Naumai**	**4.95**	**212**	*e*PN	**Pn**	**23 36 35.5**	**+1.5**
BKZ	**Black Stump Fm**	**5.14**	**214**	*e*PN	**Pn**	**23 36 38.0**	**+1.3**
RATZ	**Rangitukua**	**5.28**	**221**	PN	**Pn**	**23 36 40.8**	**+2.3**
MCHZ	**McNeill Hill**	**5.28**	**211**	*e*PN	**Pn**	**23 36 40.0**	**+1.5**
CKHZ	**Cape Kidnapper**	**5.31**	**207**	*e*PN	**Pn**	**23 36 39.6**	**+0.7**
OUZ	**Omahuta**	**5.43**	**265**	PN	**Pn**	**23 36 40.9**	**+0.5**
KAHZ	**Kahuranaki**	**5.51**	**208**	*e*PN	**Pn**	**23 36 42.3**	**+0.6**
KRVZ	**Karewarewa**	**5.51**	**220**	*e*PN	**Pn**	**23 36 43.8**	**+2.1**
OTVZ	**Oturere**	**5.55**	**220**	*e*PN	**Pn**	**23 36 44.2**	**+1.8**
HIZ	**Hauiti**	**5.57**	**229**	PN	Pn	23 36 46.0	+3.5
NGZ	**Ngauruhoe**	**5.59**	**220**	*e*PN	**Pn**	**23 36 44.8**	**+1.9**
BHHZ	**Black Hill Sta**	**5.60**	**215**	PN	**Pn**	**23 36 44.7**	**+1.7**
WPVZ	**Whakapapa**	**5.64**	**220**	PN	**Pn**	**23 36 45.9**	**+2.3**
FWVZ	**Far West T-bar**	**5.68**	**220**	PN	**Pn**	**23 36 45.7**	**+1.6**
MOVZ	**Moawhango**	**5.69**	**217**	*e*PN	**Pn**	**23 36 44.5**	**+0.4**
WNVZ	**Wahianoa**	**5.71**	**219**	PN	**Pn**	**23 36 46.4**	**+1.9**
PXZ	**Pawanui**	**5.72**	**207**	PN	**Pn**	**23 36 44.2**	**-0.2**
PKVZ	**Pokaka**	**5.81**	**221**	*e*PN	Pn	23 36 48.9	+3.1
PNHZ	**Pukenui**	**5.88**	**212**	*e*PN	**Pn**	**23 36 47.0**	**+0.2**
WPHZ	**Waipukurau**	**5.91**	**209**	*e*PN	**Pn**	**23 36 47.9**	**+0.8**
PRHZ	**Porangahau**	**6.01**	**207**	*e*PN	**Pn**	**23 36 47.9**	**-0.6**
TSZ	**Takapari Road**	**6.11**	**212**	*e*PN	**Pn**	**23 36 49.4**	**-0.5**
DVHZ	**Dannevirke**	**6.22**	**210**	*e*PN	**Pn**	**23 36 51.7**	**+0.3**
ANWZ	**Angora Road**	**6.24**	**207**	PN	**Pn**	**23 36 51.9**	**+0.3**
WAZ	**Wanganui**	**6.34**	**219**	*e*PN	**Pn**	**23 36 54.8**	**+1.8**
BFZ	**Birch Farm**	**6.52**	**208**	*e*PN	**Pn**	**23 36 54.5**	**-0.9**
PRWZ	**Pori Road**	**6.52**	**210**	PN	**Pn**	**23 36 56.1**	**+0.7**
TIWZ	**Tintock**	**6.74**	**209**	*e*PN	**Pn**	**23 36 57.9**	**-0.6**
MRZ	**Mangatainoka R**	**6.77**	**211**	*e*PN	**Pn**	**23 36 57.8**	**-1.1**
HOWZ	**Holdsworth Sta**	**6.99**	**211**	*e*PN	**Pn**	**23 37 01.5**	**-0.5**
HOWZ				SN	**Sn**	**23 38 21.2**	**+1.0**
TMWZ	**Te Maipa**	**7.02**	**208**	*e*PN	**Pn**	**23 37 00.8**	**-1.5**
OGWZ	**Otaki Gorge**	**7.08**	**213**	PN	**Pn**	**23 37 02.4**	**-0.7**
MTW	**Mount Morrison**	**7.22**	**210**	PN	**Pn**	**23 37 03.6**	**-1.5**
KIW	**Kapiti Island**	**7.23**	**214**	*e*PN	**Pn**	**23 37 04.6**	**-0.6**
TRWZ	**Traveller**	**7.35**	**208**	PN	Pn	23 37 04.5	-2.3
PAWZ	**Paruwai Farm**	**7.43**	**209**	PN	**Pn**	**23 37 06.7**	**-1.3**
PLWZ	**Palliser**	**7.66**	**209**	PN	**Pn**	**23 37 09.3**	**-1.9**
TCW	**Tory Channel**	**7.80**	**215**	PN	**Pn**	**23 37 11.7**	**-1.3**
NNZ	**Nelson**	**8.24**	**219**	SN	**Sn**	**23 38 53.2**	**+2.2**
QRZ	**Quartz Range**	**8.43**	**224**	*e*PN	**Pn**	**23 37 20.1**	**-1.6**
THZ	**Tophouse**	**8.89**	**218**	*e*PN	**Pn**	**23 37 26.7**	**-1.3**
KHZ	**Kahutara**	**9.09**	**213**	*e*Pn	**Pn**	**23 37 29.9**	**-0.7**
	79nm,0.8s						
KHZ				*e*Sn	**Sn**	**23 39 08.1**	**-3.4**
CTZ	**Chatham Island**	**9.10**	**165**	PN	**Pn**	**23 37 31.6**	**+0.7**
MQZ	**McQueen's Vall**	**10.51**	**212**	SN	**Sn**	**23 39 41.3**	**-5.1**
RPZ	**Rata Peaks**	**11.25**	**216**	*e*Pn	**Pn**	**23 37 59.6**	**-0.7**
	29nm,0.5s						
RPZ				*e*Sn	**Sn**	**23 40 01.4**	**-3.2**
RPZ	**Rata Peaks**	**11.25**	**216**	*e*PN	Pn	23 37 56.5	-3.8
ODZ	**Otahua Downs**	**12.45**	**213**	*e*Pn	**Pn**	**23 38 19.2**	**+2.6**
	93nm,0.8s						
ODZ				*e*Sn	**Sn**	**23 40 29.2**	**-4.7**
JCZ	**Jackson Bay**	**12.68**	**221**	PN	Pn	23 38 17.5	-2.4
MSVF	**Nonsavu**	**17.26**	**353**	*e*Pn	**Pn**	**23 39 18.0**	**-2.3**
DZM	**Mont Dzumac**	**17.61**	**313**	*e*P	**P**	**23 39 29.0**	**+3.6**
	136nm,1.6s						
DZM				*e*LR	LR	23 43 25.0	
	3µm,26.1s						
DZM	**Mont Dzumac**	**17.61**	**313**	LR	LR	23 44 49.1	
	comp=Z,2µm,18.5s,baz=178,slow=32						
RAR	**Rarotonga**	**22.29**	**57**	P	P	23 40 23.4	+7.3
	42nm,1.1s,baz=196,slow=7.0,SNR=4.5						
RAR				LR	LR	23 46 21.8	
	comp=Z,513nm,20.5s,baz=54,slow=30						
TBI	**Tubuai**	**28.80**	**74**	*e*LQ	LQ	23 46 59.0	
	2µm,26.5s						
TBI				*e*LR	LR	23 48 32.6	
	581nm,29.5s						
PPT2	**Papeete2**	**31.97**	**65**	*e*LQ	LQ	23 48 22.8	
	1µm,23.5s						
PPT2				*e*LR	LR	23 49 49.7	
	647nm,24.5s,baz=224						
STKA	**Stephens Creek**	**32.24**	**264**	*e*P	**P**	**23 41 46.1**	**-0.8**
	0.9nm,0.9s						
STKA	**Stephens Creek**	**32.24**	**264**	P	**P**	**23 41 47.4**	**+0.5**
	2.5nm,0.8s,baz=131,slow=11,SNR=1.8						
STKA				LR	LR	23 53 57.5	
	comp=Z,472nm,18.5s,baz=293,slow=34						
CTA	**Charters Tower**	**33.37**	**287**	P	**P**	**23 41 58.0**	**+1.1**
CTA	**Charters Tower**	**33.37**	**287**	P	**P**	**23 41 58.0**	**+1.1**
	8.2nm,1.2s,baz=119,slow=10,SNR=2.7						
CTA				LR	LR	23 53 36.2	
	comp=Z,278nm,19.3s,baz=294,slow=33						
COEN	**Coen**	**39.35**	**293**	P	**P**	**23 42 48.5**	**+0.6**
RKT	**Rikitea**	**40.62**	**85**	*e*LQ	LQ	23 52 13.5	
	768nm,29.5s						
RKT				*e*LR	LR	23 54 03.4	
	859nm,27.8s,baz=239						
AS31	**Alice Springs**	**41.59**	**273**	*e*P	**P**	**23 43 04.8**	**-1.6**
ASAR	**Alice Springs**	**41.59**	**273**	P	**P**	**23 43 06.5**	**+0.1**
ASAR				S	**S**	**23 49 18.5**	**-1.5**
ASAR	**Alice Springs**	**41.59**	**273**	P	**P**	**23 43 06.5**	**+0.1**
	2.9nm,0.7s,baz=114,slow=7.4,SNR=23						
ASAR				S	**S**	**23 49 18.5**	**-1.5**
	1.9nm,1.1s,baz=112,slow=15,SNR=6.7						
WRAB	**Tennant Creek**	**42.99**	**278**	*e*P	**P**	**23 43 17.6**	**-0.2**
	8.5nm,0.6s						
WRA	**Warramunga Arr**	**42.99**	**278**	P	**P**	**23 43 17.7**	**-0.2**
WRA				S	**S**	**23 49 36.4**	**-4.4**
WRA	**Warramunga Arr**	**42.99**	**278**	P	**P**	**23 43 17.7**	**-0.2**
	2.3nm,0.4s,baz=117,slow=7.7,SNR=41						
WRA				S	**S**	**23 49 36.4**	**-4.4**
	0.8nm,0.9s,baz=126,slow=12,SNR=3.5						
WRA				LR	LR	00 01 48.4	
	comp=Z,726nm,18.3s,baz=115,slow=37						
FITZ	**Fitzroy Crossi**	**51.02**	**274**	*e*P	**P**	**23 44 19.7**	**-0.8**
	6.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**51.02**	**274**	P	**P**	**23 44 20.6**	**+0.1**
	3.5nm,0.7s,baz=127,slow=5.1,SNR=4.1						
FITZ				LR	LR	00 05 33.4	
	comp=Z,434nm,18.9s,baz=74,slow=35						
QSPA	**South Pole Qui**	**55.16**	**180**	P	P	23 44 55.1	+4.6
QSPA	**South Pole Qui**	**55.16**	**180**	P	P	23 44 55.1	+4.6
	13nm,0.9s,baz=25,slow=5.0,SNR=29						
SNAA	**Sanae**	**73.64**	**179**	*e*P	P	23 46 46.1	-5.0
	22nm,1.3s						
PLCA	**Paso Flores**	**80.50**	**133**	P	**P**	**23 47 30.2**	**0.0**
PLCA	**Paso Flores**	**80.50**	**133**	P	**P**	**23 47 33.2**	**+3.0**
	3.9nm,1.1s,baz=208,slow=13,SNR=3.6						
JNU	**Nakatsue**	**82.01**	**320**	*e*P	**P**	**23 47 39.2**	**+1.1**
	17nm,0.3s						
PETK	**Petropavlovsk-**	**89.86**	**347**	P	**P**	**23 48 15.1**	**-1.2**
PETK	**Petropavlovsk-**	**89.86**	**347**	P	**P**	**23 48 15.1**	**-1.2**
	2.3nm,0.8s,baz=148,slow=8.5,SNR=2.2						
NVAR	**Mina Array Bea**	**92.59**	**44**	P	**P**	**23 48 29.0**	**-0.7**
NVAR	**Mina Array Bea**	**92.59**	**44**	P	**P**	**23 48 29.0**	**-0.7**
	0.6nm,0.7s,baz=195,slow=6.5,SNR=2.5						
YKA	**Yellowknife Ar**	**110.19**	**27**	PKiKP	**PKiKP**	**23 53 52.1**	**+3.3**
YKA	**Yellowknife Ar**	**110.19**	**27**	PKiKP	**PKiKP**	**23 53 52.1**	**+3.3**
	0.1nm,0.5s,baz=260,slow=1.5,SNR=3.3						
MK31	**Makanchi Array**	**119.48**	**309**	*e*PKPdf	**PKPdf**	**23 54 05.7**	**-1.4**
MKAR	**Makanchi Array**	**119.48**	**309**	PKP	**PKPdf**	**23 54 04.5**	**-2.6**
MKAR	**Makanchi Array**	**119.48**	**309**	PKP	**PKPdf**	**23 54 04.5**	**-2.6**
	0.2nm,0.5s,baz=112,slow=2.3,SNR=3.1						
ZALV	**Zalesovo Beam**	**120.38**	**317**	PKP	**PKPdf**	**23 54 05.6**	**-2.9**
ZALV	**Zalesovo Beam**	**120.38**	**317**	PKP	**PKPdf**	**23 54 05.6**	**-2.9**
	0.4nm,0.4s,baz=64,slow=3.4,SNR=2.5						
KKAR	**Karatay Array**	**126.24**	**301**	*e*PKPdf	**PKPdf**	**23 54 21.3**	**+1.1**
BRVK	**Borovoye**	**128.59**	**313**	PKPdf	**PKPdf**	**23 54 23.8**	**-0.5**
ARU	**Arti**	**135.53**	**318**	*e*PKPdf	**PKPdf**	**23 54 36.7**	**-0.6**
ARCES	**ARCESS Array B**	**142.67**	**346**	PKP	**PKPdf**	**23 54 48.2**	**-1.8**
ARCES	**ARCESS Array B**	**142.67**	**346**	PKP	**PKPdf**	**23 54 48.2**	**-1.8**
	4.2nm,1.0s,baz=35,slow=3.3,SNR=5.0						
FINES	**FINESS Array B**	**148.80**	**336**	PKPbc	**PKPdf**	**23 55 02.9**	**+2.2**
FINES	**FINESS Array B**	**148.80**	**336**	PKPbc	**PKPdf**	**23 55 02.9**	**+2.2**
	3.4nm,0.8s,baz=37,slow=5.8,SNR=16						
EIL	**Elat**	**150.26**	**270**	PKPbc	**PKPdf**	**23 55 07.8**	**+3.8**
EIL	**Elat**	**150.26**	**270**	PKPbc	**PKPdf**	**23 55 07.8**	**+3.8**
	4.8nm,0.9s,baz=110,slow=7.8,SNR=3.6						
MMAI	**Mount Meron Ar**	**150.84**	**276**	PKPbc	**PKPbc**	**23 55 10.3**	**-0.2**
MMAI	**Mount Meron Ar**	**150.84**	**276**	PKPbc	**PKPbc**	**23 55 10.3**	**-0.2**
	7.3nm,0.8s,baz=73,slow=6.2,SNR=5.9						
DBIC	**Dimbokro**	**151.46**	**169**	PKPbc	**PKPbc**	**23 55 13.3**	**+0.9**
DBIC	**Dimbokro**	**151.46**	**169**	PKPbc	**PKPbc**	**23 55 13.3**	**+0.9**
	6.7nm,0.9s,baz=173,slow=1.9,SNR=7.5						
NACGM	**Naroch**	**152.87**	**325**	*e*	**PKPbc**	**23 55 13.0**	**-1.3**
NB2	**NORSAR Subarra**	**152.96**	**348**	PKP	PKPdf	23 55 12.4	+5.3
	comp=Z,11nm,1.4s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**152.96**	**348**	PKPbc	**PKPbc**	**23 55 12.9**	**-1.6**
NOA	**NORSAR Array B**	**152.96**	**348**	PKPbc	**PKPbc**	**23 55 12.9**	**-1.6**
	comp=Z,3.6nm,0.9s,baz=13,slow=4.1,SNR=5.9						
BRTR	**Keskin Array B**	**153.09**	**290**	PKPbc	**PKPbc**	**23 55 14.9**	**-0.6**
BRTR	**Keskin Array B**	**153.09**	**290**	PKPbc	**PKPbc**	**23 55 14.9**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=138,slow=4.2,SNR=8.9						
HFS	**Hagfors**	**153.33**	**345**	PKPbc	**PKPbc**	**23 55 13.4**	**-1.8**
HFS	**Hagfors**	**153.33**	**345**	PKPbc	**PKPbc**	**23 55 13.4**	**-1.8**
	comp=Z,3.9nm,0.7s,baz=0.0,slow=1.6,SNR=9.0						
AKASG	**Malin Array Be**	**153.76**	**316**	PKPbc	**PKPbc**	**23 55 15.7**	**-0.8**
AKASG				PKPab	**PKPab**	**23 55 29.0**	**-0.5**
AKASG	**Malin Array Be**	**153.76**	**316**	PKPbc	**PKPbc**	**23 55 15.7**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=46,slow=2.2,SNR=3.8						
AKASG				PKPab	**PKPab**	**23 55 29.0**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=56,slow=3.0,SNR=7.4						
TORD	**Torodi Ar. Bea**	**158.24**	**184**	PKP	**PKPdf**	**23 55 14.9**	**-0.6**
TORD				PKPab	**PKPab**	**23 55 50.9**	**+1.4**
TORD	**Torodi Ar. Bea**	**158.24**	**184**	PKP	**PKPdf**	**23 55 14.9**	**-0.6**
	comp=Z,0.9nm,1.0s,baz=199,slow=1.2,SNR=4.0						
TORD				PKPab	**PKPab**	**23 55 50.9**	**+1.4**
	comp=Z,4.2nm,0.8s,baz=171,slow=2.5,SNR=9.9						

IDC 16 23:45:54.7±5.3, 3°16S×101°72E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.4/20, mbtmp3.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/28, Error ellipse: s-maj=315.5km s-min=71.8km az=46.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.55**	**335**	LR	LR	23 50 25.5	
	comp=Z,215nm,20.2s,baz=203,slow=42						
WRA	**Warramunga Arr**	**35.93**	**120**	P	P	23 52 57.6	+0.4
	0.6nm,0.8s,baz=296,slow=9.4,SNR=2.9						
ASAR	**Alice Springs**	**37.19**	**126**	P	P	23 53 07.4	-0.6
	0.3nm,0.6s,baz=308,slow=8.0,SNR=3.6						
TXAR	**Lajitas Array**	**144.53**	**40**	PKP	PKPdf	00 05 33.5	-0.6
	0.4nm,0.7s,baz=287,slow=1.6,SNR=4.3						

IDC 16 23:45:59.8±2.6, 3°58S×101°03E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.9/22, mbtmp4.0/7, Error ellipse: s-maj=96.8km s-min=18.7km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**28.09**	**123**	P	P	23 51 52.7	-0.7
	2.2nm,0.6s,baz=266,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**36.32**	**119**	P	P	23 53 05.7	+0.1
	1.2nm,0.8s,baz=291,slow=9.1,SNR=4.7						
ASAR	**Alice Springs**	**37.50**	**125**	P	P	23 53 15.2	-0.5
	0.8nm,0.6s,baz=302,slow=8.6,SNR=8.9						
SONM	**Songino Array**	**51.42**	**5**	P	P	23 55 04.8	-1.9
	1.2nm,0.7s,baz=186,slow=8.6,SNR=7.9						
MKAR	**Makanchi Array**	**52.82**	**344**	P	P	23 55 16.6	-0.5
	1.0nm,0.7s,baz=146,slow=8.3,SNR=8.6						
USRK	**Ussuriysk Arra**	**55.08**	**27**	P	P	23 55 34.3	+0.8
	3.2nm,0.7s,baz=228,slow=4.9,SNR=5.8						
ZALV	**Zalesovo Beam**	**58.91**	**349**	P	P	23 56 00.6	+0.1
	2.4nm,0.8s,baz=160,slow=4.6,SNR=9.3						
TXAR	**Lajitas Array**	**145.29**	**40**	PKPbc	PKPdf	00 05 41.4	+0.9
	0.4nm,0.4s,baz=276,slow=0.5,SNR=11						

*IDC **17** 00:04:04.7±5.0, 40°91N×125°33W, h0km, mb2.6/2, mb1 3.4/4, mb1mx3.2/26, mbtmp2.9/4, ML3.4/2, Error ellipse: s-maj=74.5km s-min=27.9km az=60.0*
*NEIC **17** 00:04:06.4, 40°86N×125°40W, h27km, ML3.2(NCEDC), After NCEDC.*

ISC 17 00:04:05.7±1.9, 40°87N±0°06×125°3W±0°1, h12km, n34, σ1§61/37, 5C-6D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRMB	**Red Mountain**	**1.26**	**58**	P	**Pn**	**00 04 27.3**	**-2.0**
KSXB	**Camp Six Broad**	**1.46**	**48**	P	**Pn**	**00 04 30.2**	**-1.8**
KBO	**Bosley Butte**	**1.58**	**32**	P	**Pn**	**00 04 31.8**	**-1.8**
KIPM	**Iron Peak**	**1.77**	**126**	*e*Pn	**Pn**	**00 04 34.8**	**-1.5**
KIPM				*e*Sn	**Sn**	**00 04 56.8**	**-2.1**
KCPM	**Cahto Peak**	**1.79**	**131**	*e*Pn	**Pn**	**00 04 34.5**	**-2.0**
KCPM				*e*Sn	**Sn**	**00 04 56.5**	**-2.7**
YBH	**Yreka Blue Hor**	**2.16**	**66**	*e*Pn	**Pn**	**00 04 40.9**	**-0.8**
YBH				*e*Sn	**S

NIED ***17*** *00:13:00.37″.50N×141°.50E,h53km,Mw4.9 Best double couple: M₀2.38000×10¹⁶ NP1:φ₀20.00000°,δ71.00000°,λ87.00000°. NP2:φ₀209.00000°,δ20.00000°,λ99.00000°.*
ISC 17 00:12:57.3±0.3,37°.55N±0°.03×141°.35E±0°.03,h52km±1km, h52km:pP-P,n932,σ1‡25/1117,mb5.0/203,MS4.4/34, 295C-177D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.42**	**245**	⇓P		**Pn**	**00 13 07.6**	**-0.3**
JFK				S		**Sn**	**00 13 15.1**	**-0.3**
JMM	**Marumori**	**0.55**	**306**	⇓P		**Pn**	**00 13 09.6**	**+0.4**
JMM				*i* S		**Sn**	**00 13 18.6**	**+0.8**
ONAJ	**Iwakimizuishiy**	**0.63**	**225**	⇓P		**Pn**	**00 13 09.8**	**-0.5**
ONAJ				S		**Sn**	**00 13 19.1**	**-0.6**
JFT	**Otama**	**0.81**	**268**	⇓P		**Pn**	**00 13 13.6**	**+1.1**
JFT				S		**Sn**	**00 13 25.4**	**+1.7**
JIO	**Ouri**	**0.91**	**360**	⇓P		**Pn**	**00 13 13.6**	**-0.2**
JIO				S		**Sn**	**00 13 25.3**	**-0.7**
JOU	**Okura**	**0.98**	**327**	⇓P		**Pn**	**00 13 15.1**	**+0.2**
JOU				S		**Sn**	**00 13 28.8**	**+1.0**
JYS	**Shirataka**	**1.22**	**304**	⇓P		**Pn**	**00 13 18.9**	**+0.8**
JYS				S		**Sn**	**00 13 35.0**	**+1.5**
JFY	**Yanaizu**	**1.32**	**264**	⇓P		**Pn**	**00 13 20.2**	**+0.8**
JFY				S		**Sn**	**00 13 37.4**	**+1.5**
JMK	**Ichinoseki**	**1.41**	**356**	⇓P		**Pn**	**00 13 20.6**	**0.0**
JMK				S		**Sn**	**00 13 38.5**	**+0.5**
JYK	**Kaneyama**	**1.58**	**331**	⇓P		**Pn**	**00 13 23.7**	**+0.8**
MJAR	**Matsushiro Arr**	**2.71**	**249**	P		**Pn**	**00 13 39.2**	**+0.9**
MJAR				S		Sn	00 14 17.2	+7.3
MJAR	**Matsushiro Arr**	**2.71**	**249**	P		**Pn**	**00 13 39.2**	**+0.9**
	51nm,0.3s,baz=44,slow=18,SNR=209							
MJAR				S		Sn	00 14 17.2	+7.3
	82nm,0.3s,baz=39,slow=12,SNR=5.5							
MAT	**Matsushiro**	**2.71**	**249**	⇓P		**Pn**	**00 13 40.2**	**+1.8**
MAT				S		**Sn**	**00 14 15.7**	**+5.8**
JHJ	**Hachijo jima 2**	**4.60**	**197**	P		**Pn**	**00 14 04.4**	**+0.1**
	131nm,0.3s,baz=88,slow=18,SNR=16							
JHJ				S		**Sn**	**00 14 55.6**	**-0.9**
	289nm,0.3s,baz=67,slow=23,SNR=9.9							
ERM	**Erimo**	**4.67**	**17**	*e*P		**Pn**	**00 14 06.1**	**+0.8**
ERM				*e*			00 14 59.4	
ERM	**Erimo**	**4.67**	**17**	*e*Pn		**Pn**	**00 14 06.0**	**+0.8**
ERM				*e*Sn		**Sn**	**00 14 59.4**	**+1.2**
ASAJ	**Asahikawa**	**6.63**	**8**	*e*Pn		**Pn**	**00 14 31.1**	**-1.0**
ASAJ				*e*Sn		**Sn**	**00 15 48.2**	**+1.9**
ASAJ	**Asahikawa**	**6.63**	**8**	P		**Pn**	**00 14 31.5**	**-0.6**
	13nm,0.3s,baz=216,slow=13,SNR=17							
ASAJ				S		**Sn**	**00 15 46.5**	**+0.2**
	7.0nm,0.3s,baz=184,slow=19,SNR=4.2							
YUK	**Yuzh-Kuril'sk**	**7.33**	**26**	P		**Pn**	**00 14 39.3**	**-2.3**
YUK				*i* S		**Sn**	**00 15 58.9**	**-4.5**
YUK				pmax	pmax			
	comp=N,138nm,0.2s							
YUK				pmax	pmax			
	comp=E,119nm,0.2s							
YUK				pmax	pmax			
	comp=Z,258nm,0.2s							
YSS	**Yuzh-Sakhalins**	**9.46**	**6**	⇑*i*P		**Pn**	**00 15 12.0**	**+1.2**
YSS				*e*S		**Sn**	**00 16 56.0**	**+0.4**
YSS				pmax	pmax			
	comp=Z,50nm,1.0s							
YSS				smax	smax			
	comp=N,60nm,1.0s							
YSS				MLR	MLR			
	comp=Z,1μm,16.0s							
JNU	**Nakatsue**	**9.62**	**246**	*e*Pn		**Pn**	**00 15 13.0**	**-0.2**
JNU	**Nakatsue**	**9.62**	**246**	P		Pn	00 15 16.6	+3.4
	comp=Z,1.6nm,0.3s,baz=48,slow=14,SNR=9.3							
JNU				LR	LR		00 19 25.1	
	comp=Z,2μm,18.7s,baz=87,slow=40							
USRK	**Ussuriysk Arra**	**9.71**	**316**	P		**Pn**	**00 15 16.0**	**+1.8**
	comp=Z,2.4nm,0.3s,baz=127,slow=14,SNR=34							
USRK				LR	LR		00 18 40.6	
	comp=Z,2μm,20.9s,baz=64,slow=35							
CBIJ	**Chichi jima**	**10.45**	**176**	P		Pn	00 15 21.1	-3.3
CBIJ				S		Sn	00 17 09.5	-11
CBIJ	**Chichi jima**	**10.45**	**176**	P		Pn	00 15 21.1	-3.3
	comp=Z,31nm,0.3s,baz=324,slow=10,SNR=8.8							
CBIJ				S		Sn	00 17 09.5	-11
	comp=Z,35nm,0.3s,baz=330,slow=20,SNR=5.4							
KSRS	**Korea Array**	**10.67**	**274**	P		Pn	00 15 32.2	+4.8
	comp=Z,2.2nm,0.3s,baz=92,slow=13,SNR=53							
KSRS				LR	LR		00 19 09.5	
	comp=Z,2μm,19.6s,baz=347,slow=35							
KSAR	**Wonju Array Be**	**10.70**	**274**	P		Pn	00 15 32.2	+4.3
MDJ	**Mudanjiang**	**11.33**	**312**	P		**Pn**	**00 15 38.0**	**+1.6**
MDJ				S		**Sn**	**00 17 40.5**	**-1.0**
MDJ				pmax	pmax			
	comp=Z,37nm,1.2s							
MDJ				LR	LR			
	comp=N,700nm,19.7s							
MDJ				LR	LR			
	comp=E,600nm,23.0s							
MDJ				LR	LR			
	comp=Z,1μm,32.9s							
MDJ	**Mudanjiang**	**11.33**	**312**	*e*Pn		**Pn**	**00 15 38.0**	**+1.6**
	comp=Z,41nm,0.8s							
CN2	**Changchun**	**13.58**	**302**	*e*P		**Pn**	**00 16 07.9**	**+0.8**
CN2				*e*S		**Sn**	**00 18 36.3**	**-0.1**
CN2				pmax	pmax			
	comp=Z,20nm,1.3s							
CN2				pmax	pmax			
	comp=Z,200nm,6.0s							
CN2				LR	LR			
	comp=N,1μm,14.0s							
CN2				LR	LR			
	comp=E,1μm,14.0s							
CN2				LR	LR			
	comp=Z,1μm,14.0s							
SNY	**Shenyang**	**14.33**	**293**	⇑P		**Pn**	**00 16 19.0**	**+1.8**
SNY				pmax	pmax			
	comp=Z,13nm,1.0s							
SNY				LR	LR			
	comp=N,660nm,10.6s							
SNY				LR	LR			
	comp=E,1μm,15.5s							
SNY				LR	LR			
	comp=Z,1μm,17.5s							
JOW	**Kunigami**	**15.37**	**230**	P		**P**	**00 16 34.5**	**0.0**
JOW				S		**Sn**	**00 19 21.5**	**+1.5**
JOW	**Kunigami**	**15.37**	**230**	P		**P**	**00 16 34.5**	**0.0**
	comp=Z,4.4nm,0.3s,baz=47,slow=18,SNR=3.0							
JOW				S		**Sn**	**00 19 21.5**	**+1.5**
	baz=42,slow=19,SNR=1.7							
DL2	**Dalian**	**15.56**	**281**	P		**Pn**	**00 16 34.8**	**+1.6**
DL2				pmax	pmax			
	comp=Z,40nm,0.6s							
NJ2	**Nanjing**	**19.25**	**260**	*e*P		**P**	**00 17 17.1**	**-0.3**
NJ2				PP		**PnPn**	**00 17 33.6**	**+0.7**
NJ2				S		**S**	**00 20 48.5**	**-4.2**
NJ2				sS		sS	00 21 04.5	-7.2
NJ2				pmax	pmax			
	comp=Z,20nm,0.6s							
NJ2				pmax	pmax			
	comp=Z,270nm,10.0s							
NJ2				LR	LR			
	comp=N,780nm,19.2s							
NJ2				LR	LR			
	comp=E,1μm,21.7s							
NJ2				LR	LR			
	comp=Z,830nm,15.6s							
PETK	**Petropavlovsk-**	**19.27**	**31**	P		**P**	**00 17 17.0**	**-0.5**
PETK	**Petropavlovsk-**	**19.27**	**31**	P		**P**	**00 17 17.0**	**-0.5**
PETK	**Petropavlovsk-**	**19.27**	**31**	P		**P**	**00 17 17.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=216,slow=7.0,SNR=4.4							
BJI	**Beijing**	**19.76**	**285**	P		**P**	**00 17 22.3**	**-0.6**
BJI				pmax	pmax			
	comp=Z,17nm,0.7s							
BJI				pmax	pmax			
	comp=Z,170nm,3.9s							
BJT	**Baijiatuan**	**19.77**	**285**	*e*Pn		**P**	**00 17 22.2**	**-0.8**
	comp=Z,31nm,0.5s							
CLNS	**Chul'man**	**22.19**	**336**	*e*P		**P**	**00 17 47.3**	**-1.7**
CLNS				*e*			00 18 04.7	
CLNS				*e*S		S	00 21 42.4	-7.7
CLNS				*e*			00 21 43.6	
CLNS				pmax	pmax			
	comp=N,16nm,1.0s							
CLNS				pmax	pmax			
	comp=Z,27nm,0.8s							
CLNS				pmax	pmax			
	comp=E,15nm,0.9s							
CLNS				pmax	pmax			
	comp=Z,25nm,1.0s							
CLNS				pmax	pmax			
	comp=N,26nm,1.2s							
CLNS				pmax	pmax			
	comp=E,22nm,1.1s							
CLNS				smax	smax			
	comp=E,312nm,12.9s							
CLNS				smax	smax			
	comp=N,362nm,12.8s							
CLNS				MLR	MLR			
	comp=E,312nm,14.0s							
CLNS				MLR	MLR			
	comp=Z,405nm,16.0s							
CLNS				MLR	MLR			
	comp=N,198nm,19.0s							
SSLB	**Suanglung**	**22.20**	**238**	*e*P		**P**	**00 17 46.0**	**-3.3**
	comp=N,146nm,1.6s							
YULB	**Yu-li**	**22.25**	**236**	*e*P		**P**	**00 17 46.1**	**-3.7**
	comp=N,20nm,0.6s							
TPUB	**Ta-pu**	**22.75**	**237**	*e*P		**P**	**00 17 52.9**	**-2.3**
	comp=N,484nm,2.1s							
QZH	**Quanzhou**	**23.09**	**244**	⇑*i*P		P	00 17 52.3	-6.3
QZH				S		S	00 21 53.9	-12
QZH				LR	LR			
	comp=Z,2μm,18.3s							
HHC	**Hu-ho-hao-te**	**23.27**	**287**	*e*P		**P**	**00 17 58.8**	**-1.5**
HHC				pP		**pP**	**00 18 11.1**	**-1.6**
HHC				sP		**sP**	**00 18 17.1**	**-2.0**
HHC				PP		**PnPn**	**00 18 31.3**	**+3.4**
HHC				PcP		**PcP**	**00 21 47.6**	**+1.2**
HHC				S		**S**	**00 22 04.3**	**-4.4**
HHC				sS		Sn	00 22 24.4	-5.7
HHC				SS		**SnSn**	**00 22 51.8**	**+5.1**
HHC				pmax	pmax			
	comp=Z,22nm,0.7s							
HHC				pmax	pmax			
	comp=Z,590nm,5.2s							
HHC				LR	LR			
	comp=N,360nm,15.5s							
HHC				LR	LR			
	comp=E,260nm,14.3s							
HHC				LR	LR			
	comp=Z,230nm,14.3s							
WHN	**Wuhan**	**23.39**	**261**	P		**P**	**00 18 01.0**	**-0.4**
BTO	**Baotou**	**24.45**	**287**	*e*P		**P**	**00 18 10.0**	**-1.3**
YAK	**Yakutsk**	**25.56**	**347**	*c i*P		**P**	**00 18 20.2**	**-0.7**
YAK				*e**PP		**pP**	**00 18 37.9**	**+3.8**
YAK				*e*			00 19 03.3	
YAK				*e*			00 21 49.7	
YAK				*e*S		**S**	**00 22 41.3**	**-3.5**
YAK				pmax	pmax			
	comp=Z,223nm,1.0s							
YAK				pmax	pmax			
	comp=E,18nm,1.2s							
YAK				pmax	pmax			
	comp=N,55nm,1.0s							
YAK				pmax	pmax			
	comp=Z,38nm,1.2s							
YAK				pmax	pmax			
	comp=E,38nm,1.0s							
YAK				smax	smax			
	comp=E,170nm,3.2s							
SEY	**Seymchan**	**26.30**	**11**	*e*P		**P**	**00 18 28.8**	**+1.2**
XAN	**Xi'an**	**26.46**	**272**	P		**P**	**00 18 28.8**	**-0.7**
XAN				pmax	pmax			
	comp=Z,6.0nm,0.7s							
ULN	**Ulaanbaatar**	**27.03**	**303**	P		**P**	**00 18 35.0**	**+0.4**
	SNR=5.4							
ULN	**Ulaanbaatar**	**27.03**	**303**	P		**P**	**00 18 34.6**	**0.0**
	comp=Z,22nm,1.2s							
BOD	**Bodaibo**	**27.07**	**327**	*e*P		**P**	**00 18 33.8**	**-0.9**
BOD				*e*			00 18 49.3	
BOD				pmax	pmax			
	comp=Z,23nm,0.9s							
ENH	**Enshi**	**27.33**	**264**	*e*P		**P**	**00 18 36.5**	**-0.9**
	comp=Z,121nm,0.9s							
SONM	**Songino Array**	**27.46**	**303**	P		**P**	**00 18 38.6**	**+0.1**
SONM				PcP		**PcP**	**00 21 56.0**	**+0.2**
SONM	**Songino Array**	**27.46**	**303**	P		**P**	**00 18 38.6**	**+0.1**
	comp=Z,19nm,0.6s,baz=101,slow=8.6,SNR=120							
SONM				PcP		**PcP**	**00 21 56.0**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=116,slow=2.3,SNR=5.3							
SONM				LR	LR		00 29 59.4	
	comp=Z,396nm,18.1s,baz=37,slow=37							
ZAK	**Zakamensk**	**29.91**	**308**	*e*P		**P**	**00 18 59.6**	**-0.6**
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.4s							
LZH	**Lanzhou**	**29.93**	**279**	*e*P		**P**	**00 19 00.0**	**-0.6**
LZH				pP		**pP**	**00 19 12.8**	**-1.1**
LZH				sP		**sP**	**00 19 18.5**	**-1.6**
LZH				PP		**PnPn**	**00 19 58.1**	**-0.5**
LZH				*e*S		**S**	**00 23 52.0**	**-2.6**
LZH				sS		**sS**	**00 24 14.0**	**-3.1**
LZH				pmax	pmax			
	comp=Z,33nm,1.3s							
LZH				pmax	pmax			
	comp=Z,130nm,4.6s							
LZH				LR	LR			
	comp=N,470nm,12.5s							
LZH				LR	LR			
	comp=E,410nm,13.4s							
LZH				LR	LR			
	comp=Z,560nm,15.5s							
TLY	**Talaya**	**29.96**	**310**	*e*P		**P**	**00 18 59.7**	**-0.8**
TLY				pmax	pmax			
	comp=Z,8.0nm,0.8s							
TLY				MLR	MLR			
	comp=Z,368nm,16.0s							
TLY	**Talaya**	**29.96**	**310**	*e*P		**P**	**00 19 00.5**	**0.0**
	comp=Z,6.9nm,0.7s							
GYA	**Guiyang**	**31.26**	**259**	⇑*i*P		**P**	**00 19 11.3**	**-1.0**
GYA				pP		**pP**	**00 19 26.8**	**+1.1**
GYA				sP		**sP**	**00 19 34.5**	**+2.6**
GYA				PP		**PnPn**	**00 20 17.0**	**+1.0**
GYA				S		**S**	**00 24 14.3**	**-1.1**
GYA				sS		**sS**	**00 24 38.0**	**0.0**
GYA				ScP		**ScP**	**00 25 44.9**	**+0.6**
GYA				SS		**SnSn**	**00 26 02.8**	**+0.8**
GYA				pmax	pmax			
	comp=Z,40nm,0.8s							
GYA				pmax	pmax			
	comp=Z,130nm,4.9s							
GYA				LR	LR			
	comp=N,560nm,17.8s							
GYA				LR	LR			
	comp=E,490nm,16.0s							
GYA				LR	LR			
	comp=Z,550nm,17.4s							
MOY	**Mondy**	**31.57**	**310**	*e*P		**P**	**00 19 15.0**	**+0.2**
MOY				pmax	pmax			
	comp=Z,22nm,3.5s							
CD2	**Chengdu**	**31.63**	**269**	P		**P**	**00 19 15.8**	**+0.4**
CD2				pP		**pP**	**00 19 28.6**	**-0.2**
CD2				sP		**sP**	**00 19 34.6**	**-0.4**
CD2				PP		**PnPn**	**00 20 21.5**	**+0.9**
CD2				PcP		**PcP**	**00 22 07.1**	**+0.5**
CD2				S		**S**	**00 24 19.9**	**-1.0**
CD2				sS		**sS**	**00 24 41.9**	**-1.6**
CD2				SS		**SnSn**	**00 26 11.4**	**+0.7**
CD2				pmax	pmax			
	comp=Z,30nm,0.8s							
CD2				pmax	pmax			
	comp=Z,210nm,5.8s							
CD2				LR	LR			
	comp=N,440nm,12.7s							
CD2				LR	LR			
	comp=E,890nm,16.7s							
CD2				LR	LR			
	comp=Z,370nm,12.7s							
GTA	**Gaotai**	**32.37**	**286**	P		**P**	**00 19 21.3**	**-0.6**
GTA				pP		**pP**	**00 19 32.9**	**-2.4**
GTA				sP		**sP**	**00 19 38.9**	**-2.6**
GTA				PcP		**PcP**	**00 22 09.4**	**+0.8**
GTA				S		**S**	**00 24 28.9**	**-3.6**
GTA				SS		**SnSn**	**00 26 22.8**	**-5.8**
GTA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
GTA				pmax	pmax			
	comp=Z,82nm,4.7s							
GTA				LR	LR			
	comp=N,320nm,17.6s							
GTA				LR	LR			
	comp=E,310nm,18.5s							
GTA				LR	LR			
	comp=Z,470nm,19.5s							
QIZ	**Qiongzhong**	**33.10**	**245**	P		**P**	**00 19 28.3**	**0.0**
BILL	**Bilibino**	**33.55**	**17**	⇑*e*P		**P**	**00 19 32.2**	**+0.4**
BILL				*e*			00 19 46.1	
BILL				pmax	pmax			
	comp=Z,17nm,2.5s							
BILL				MLR	MLR			
	comp=Z,200nm,19.0s							
KMI	**Kunming**	**34.99**	**261**	P		**P**	**00 19 44.6**	**-0.4**
KMI				pP		**pP**	**00 19 58.0**	**-0.5**
KMI				sP		**sP**	**00 20 02.6**	**-2.0**
KMI				PP		**PP**	**00 21 04.6**	**-0.4**
KMI				S		**S**	**00 25 13.1**	**-0.4**
KMI				pmax	pmax			
	comp=Z,68nm,0.9s							
KMI				pmax	pmax			
	comp=Z,120nm,5.1s							
KMI				LR	LR			
	comp=N,360nm,21.9s							
KMI				LR	LR			
	comp=E,300nm,21.0s							
KMI				LR	LR			
	comp=Z,460nm,24.2s							
MYLDM	**Lahad Datu**	**38.38**	**219**	P		**P**	**00 20 16.6**	**+3.0**
	comp=Z,34nm,1.2s,comp=Z,874nm							
TNA	**Tin City**	**40.43**	**30**	*e*P		**P**	**00 20 32.1**	**+2.0**
	comp=Z,20nm,0.9s							
WMQ	**Urumqi**	**40.56**	**296**	P		**P**	**00 20 32.5**	**+0.9**
WMQ				pP		**pP**	**00 20 45.0**	**-0.3**
WMQ				sP		**sP**	**00 20 50.0**	**-1.4**
WMQ				PP		**PnPn**	**00 22 10.0**	**0.0**
WMQ				*e*S		**S**	**00 26 38.0**	**+0.7**
WMQ				sS		**sS**	**00 26 59.0**	**-1.3**
WMQ				pmax	pmax			
	comp=Z,61nm,0.8s							
WMQ				pmax	pmax			
	comp=Z,390nm,4.7s							
WMQ				LR	LR			
	comp=N,480nm,18.9s							
WMQ				LR	LR			
	comp=E,610nm,25.6s							
WMQ				LR	LR			
	comp=Z,690nm,23.7s							
CHTO	**Chiang Mai**	**41.37**	**255**	P		**P**	**00 20 38.3**	**-0.2**
	comp=Z,8.8nm,0.8s							
ZAA0	**Zalesovo Array**	**41.53**	**312**	*e*P		**P**	**00 20 39.4**	**0.0**
ZAA0				*e*pP		**pP**	**00 20 54.0**	**+1.0**
ZAA0				*e*PcP		**PcP**	**00 22 35.4**	**-0.5**
ZALV	**Zalesovo Beam**	**41.53**	**312**	P		**P**	**00 20 39.5**	**+0.2**
ZALV				*PP		**pP**	**00 20 54.2**	**+1.1**
ZALV							00 22 35.5	
ZALV				pmax	pmax			
	comp=Z,9.0nm,0.3s							
ZALV				pmax	pmax			
	comp=Z,10.0nm,0.7s							
ZALV				pmax	pmax			
	comp=Z,6.0nm,0.6s							
ZALV				pmax	pmax			
	comp=N,1.0nm,0.9s							
ZALV				MLR	MLR			
	comp=Z,261nm,19.5s							
ZALV	**Zalesovo Beam**	**41.53**	**312**	P		**P**	**00 20 39.5**	**+0.2**
ZALV				pP		**pP**	**00 20 54.1**	**+1.1**
ZALV				PcP		**PcP**	**00 22 35.5**	**-0.3**
ZALV				ScP		**ScP**	**00 26 21.5**	**0.0**
ZALV	**Zalesovo Beam**	**41.53**	**312**	P		**P**	**00 20 39.5**	**+0.2**
	comp=Z,8.6nm,0.3s,baz=90,slow=7.4,SNR=101							
ZALV				pP		**pP**	**00 20 54.1**	**+1.1**
	comp=Z,10nm,0.7s,baz=70,slow=6.5,SNR=5.7							
ZALV				PcP		**PcP**	**00 22 35.5**	**-0.3**
	comp=Z,5.9nm,0.6s,baz=94,slow=3.0,SNR=5.7							
ZALV				ScP		**ScP**	**00 26 21.5**	**0.0**
	comp=Z,1.4nm,0.9s,baz=93,slow=3.0,SNR=3.5							
ZALV				LR	LR		00 38 40.4	
	comp=Z,260nm,19.5s,baz=248,slow=37							
CMAR	**Chiang Mai Arr**	**41.58**	**255**	P		**P**	**00 20 40.4**	**+0.2**
CMAR				PcP		**PcP**	**00 22 37.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**41.58**	**255**	P		**P**	**00 20 40.4**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=42,slow=9.0,SNR=9.9							
CMAR				PcP		**PcP**	**00 22 37.4**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=21,slow=1.9,SNR=5.1							
CMAR				LR	LR		00 37 06.7	
	comp=Z,191nm,19.6s,baz=157,slow=35							
LSA	**Lhasa**	**42.12**	**275**	P		**P**	**00 20 45.8**	**+0.8**
LSA				pmax	pmax			
	comp=Z,10.0nm,0.7s							
LSA	**Lhasa**	**42.12**	**275**	*e*P		**P**	**00 20 46.3**	**+1.3**
LSA				pmax	pmax			
	comp=Z,19nm,1.0s							
LSA	**Lhasa**	**42.12**	**275**	*e*P		**P**	**00 20 46.2**	**+1.3**
	comp=Z,19nm,1.0s							
NVS	**Novosibirsk**	**42.45**	**313**	*e*P		**P**	**00 20 44.8**	**-2.0**
NVS				*e*			00 21 00.0	
NVS				pmax	pmax			
	comp=Z,42nm,1.0s							
NVS				pmax	pmax			
	comp=E,28nm,1.1s							
MK31	**Makanchi Array**	**43.80**	**302**	*e*P		**P**	**00 20 57.8**	**-0.1**
MK31				*e*			00 21 16.9	
MK31	**Makanchi Array**	**43.80**	**302**	*e*P		**P**	**00 20 57.8**	**-0.1**
MK31				*e*			00 21 16.9	
MKAR	**Makanchi Array**	**43.80**	**302**	*e*P		**P**	**00 20 58.3**	**+0.4**
MKAR				*SP		**sP**	**00 21 16.7**	**-1.1**
MKAR							00 22 43.3	
MKAR	**Makanchi Array**	**43.80**	**302**	*e*P		**P**	**00 20 58.3**	**+0.4**
MKAR				sP		**sP**	**00 21 16.6**	**-1.1**
MKAR				PcP		**PcP**	**00 22 43.3**	**-0.4**
MKAR	**Makanchi Array**	**43.80**	**302**	P		**P**	**00 20 58.2**	**+0.2**
	comp=E,26nm,0.7s,baz=87,slow=9.4,SNR=168							
MKAR				sP		**sP**	**00 21 16.6**	**-1.1**
	comp=E,24nm,0.9s,baz=88,slow=9.1,SNR=8.5							
MKAR				PcP		**PcP**	**00 22 43.3**	**-0.4**
	comp=E,2.3nm,0.7s,baz=90,slow=3.3,SNR=1.9							
MKAR				LR	LR		00 39 28.4	
	comp=E,243nm,20.9s,baz=70,slow=36							
KURK	**Kurchatov**	**45.58**	**308**	*ce*P		**P**	**00 21 12.0**	**+0.1**
KURK				pmax	pmax			
	comp=Z,55nm,0.8s							
KURK	**Kurchatov**	**45.58**	**308**	*e*P		**P**	**00 21 12.1**	**+0.1**
	comp=Z,78nm,0.7s							
KURK				sP		**sP**	**00 21 31.2**	**-0.6**
KURK	**Kurchatov**	**45.58**	**308**	P		**P**	**00 21 12.3**	**+0.4**
	SNR=22							
KURBB	**Kurchatov Arra**	**45.65**	**308**	P		**P**	**00 21 12.5**	**0.0**
	comp=Z,37nm,0.6s,baz=82,slow=8.0,SNR=246							
KURBB				sP		**sP**	**00 21 31.2**	**-1.1**
	comp=Z,58nm,0.6s,baz=83,slow=8.1,SNR=13							
TAPN	**Taplejung**	**45.86**	**273**	*e*P		**P**	**00 21 15.3**	**+0.5**
	comp=Z,32nm,0.4s							
KSM	**Kuching**	**45.87**	**226**	*e*P		**P**	**00 21 14.3**	**-0.4**
KSM	**Kuching**	**45.87**	**226**	P		**P**	**00 21 15.9**	**+1.3**
	comp=Z,23nm,0.8s							
ODAN	**Odare**	**46.33**	**273**	*e*P		**P**	**00 21 18.9**	**+0.4**
	comp=Z,30nm,0.5s							
KDAK	**Kodiak Island**	**46.75**	**42**	P		**P**	**00 21 21.4**	**+0.4**
KDAK				pP		**pP**	**00 21 35.0**	**0.0**
KDAK	**Kodiak Island**	**46.75**	**42**	P		**P**	**00 21 21.4**	**+0.4**
	comp=Z,8.8nm,0.5s,baz=1.8,slow=4.9,SNR=7.7							
KDAK				pP		**pP**	**00 21 35.0**	**0.0**
	comp=Z,13nm,0.7s,baz=311,slow=20,SNR=2.5							
KAPI	**Kappang**	**46.88**	**210**	*e*P		**P**	**00 21 22.0**	**-0.5**
	comp=Z,31nm,1.0s							
KAPI	**Kappang**	**46.88**	**210**	P		**P**	**00 21 22.7**	**+0.2**
	comp=Z,36nm,1.4s							
RAMN	**Ramite**	**46.92**	**274**	*e*P		**P**	**00 21 23.4**	**+0.3**
	comp=Z,74nm,0.

DANN Dangsing 48.54 277 *e*P P 00 21 36.4 +0.7
comp=Z,270nm,0.8s
SML Sawmill 48.61 37 *e*P P 00 21 36.2 +0.7
SML pmax pmax
comp=Z,67nm,2.5s
SML Sawmill 48.61 37 *e*P P 00 21 36.2 +0.7
comp=Z,67nm,2.5s
KOLN Koldanda 48.92 276 *e*P P 00 21 38.9 +0.4
ILAR Eielson Array 49.09 33 P P 00 21 39.1 +0.1
ILAR pP pP 00 21 53.0 0.0
ILAR Eielson Array 49.09 33 P P 00 21 39.1 +0.1
comp=Z,8.7nm,0.8s,baz=270,slow=6.3,SNR=90
ILAR pP pP 00 21 53.0 0.0
comp=Z,11nm,0.8s,baz=269,slow=5.8,SNR=13
TKM2 Tokmak 2 49.34 298 *e*P P 00 21 42.4 +0.8
TKM2 *e* 00 22 01.4
TKM2 pmax pmax
comp=Z,38nm,0.6s
TKM2 Tokmak 2 49.34 298 *e*P P 00 21 42.4 +0.8
comp=Z,38nm,0.6s
TKM2 *e* 00 22 01.4
TKM2 Tokmak 2 49.34 298 P P 00 21 42.2 +0.7
SNR=64
IPM Ipoh 49.37 238 *e*P P 00 21 41.8 0.0
comp=Z,18nm,0.7s
IPM Ipoh 49.37 238 P P 00 21 41.8 0.0
comp=Z,28nm,0.8s
KZA Kyzart 49.84 297 P P 00 21 47.2 +1.6
SNR=24
KBK Karagaybulak 49.88 298 P P 00 21 46.4 +0.8
SNR=72
CHMS Chumysh 49.91 298 P P 00 21 46.1 +0.5
SNR=12
USP Ospenovka 50.01 299 P P 00 21 46.9 +0.5
SNR=25
KSH Kashi 50.15 294 P P 00 21 52.3 +4.7
KSH pP pP 00 22 08.6 +6.9
KSH sP sP 00 22 15.8 +8.1
KSH PcP **PcP** **00 23 10.3 +3.9**
KSH PP PP 00 23 50.8 +7.8
KSH ScP **ScP** **00 26 59.4 +1.7**
KSH PcS **PcS** **00 27 06.1 +2.5**
KSH S **S** **00 29 00.6 +4.9**
KSH sS sS 00 29 27.1 +7.9
KSH ScS **ScS** **00 31 35.4 +1.1**
KSH SS **SS** **00 32 31.3 +2.2**
KSH pmax pmax
comp=Z,12nm,0.7s
KSH pmax pmax
comp=Z,180nm,5.0s
KSH LR LR
comp=N,530nm,15.4s
KSH LR LR
comp=E,170nm,11.5s
KSH LR LR
comp=Z,470nm,15.8s
BVA0 Borovoye Array 50.19 312 P P 00 21 47.1 -0.5
BVA0 pmax pmax
comp=Z,3.0nm,0.9s
AAK Ala-Archa 50.20 298 *e*P P 00 21 48.4 +0.4
AAK pmax pmax
comp=Z,95nm,0.8s
AAK Ala-Archa 50.20 298 *e*P P 00 21 48.4 +0.4
comp=Z,95nm,0.8s
AAK Ala-Archa 50.20 298 P P 00 21 48.6 +0.6
SNR=6.1
AAK Ala-Arcba 50.20 298 LR LR 00 44 23.5
comp=Z,410nm,19.5s,baz=51,slow=38
BRVK Borovoye 50.25 312 *c i*P P 00 21 48.2 +0.2
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 50.25 312 *e*P P 00 21 48.3 +0.3
comp=Z,16nm,0.8s
BRVK Borovoye 50.25 312 P P 00 21 48.5 +0.5
SNR=8.3
DOT Dot Lake 50.41 34 *e*P P 00 21 49.6 +0.5
comp=Z,116nm,2.6s
EKS2 Erkin-Say 50.70 298 *e*P P 00 21 52.2 +0.5
EKS2 pmax pmax
comp=Z,20nm,0.7s
EKS2 Erkin-Say 50.70 298 *e*P P 00 21 52.2 +0.5
comp=Z,20nm,0.7s
EKS2 Erkin-Say 50.70 298 P P 00 21 52.3 +0.5
SNR=12
AML Almayashu 50.92 298 P P 00 21 54.6 +0.8
SNR=37
COEN Coen 51.26 178 *e*P P 00 21 56.1 +0.2
comp=Z,150nm,0.9s
EGAK Eagle 51.53 32 *e*P P 00 21 58.1 +0.6
comp=Z,68nm,2.3s
PSI Prapat 52.02 239 P P 00 22 02.1 +0.3
comp=Z,24nm,1.1s
KK31 Karatay Array 52.83 300 *i*P P 00 22 07.3 -0.1
KK31 pmax pmax
comp=Z,4.0nm,0.3s
KKAR Karatay Array 52.83 300 *e*P P 00 22 07.7 +0.2
KKAR Karatay Array 52.83 300 *e*P P 00 22 07.7 +0.2
NDI New Delhi 53.53 281 *e*PKP P 00 22 10.0 -2.8
INK Inuvik 53.95 27 *e*P P 00 22 16.2 +0.9
comp=Z,14nm,0.9s
SVE Sverdlovsk 54.73 318 *de*P P 00 22 21.7 +0.6
SVE pmax pmax
comp=Z,59nm,1.0s
SVE MLR MLR
comp=Z,486nm,18.0s
SOKR Solikamsk 55.90 322⇓ *i*P P 00 22 30.2 +0.8
SOKR pmax pmax
comp=Z,20nm,0.8s
ARU Arti 55.94 318 *c i*P P 00 22 29.9 +0.1
ARU *PP pP 00 22 46.9 +2.9
ARU 00 23 25.0
ARU 00 24 30.9
ARU S S 00 30 16.9 +3.2
ARU SS SS 00 33 55.9 -3.6
ARU SSS SSS 00 36 09.9
ARU pmax pmax
comp=Z,57nm,1.0s
ARU MLR MLR
comp=Z,361nm,18.0s
ARU Arti 55.94 318 *e*P P 00 22 29.5 -0.3
comp=Z,81nm,1.2s
KBL Kabul 57.19 291 *e*P P 00 22 39.0 -0.3
KBL pmax pmax
comp=Z,34nm,0.9s
KBL Kabul 57.19 291 *e*P P 00 22 39.0 -0.3
comp=Z,34nm,0.9s
FITZ Fitzroy Crossi 57.30 198 P P 00 22 40.0 +0.3
FITZ pP pP 00 22 54.1 0.0
FITZ Fitzroy Crossi 57.30 198 *e*P P 00 22 38.9 -0.8
comp=Z,9.3nm,0.6s
FITZ Fitzroy Crossi 57.30 198 P P 00 22 40.0 +0.3
comp=Z,2.5nm,0.7s,baz=42,slow=7.7,SNR=5.6
FITZ pP pP 00 22 54.1 0.0
comp=Z,3.5nm,0.5s,baz=15,slow=10,SNR=3.8
CTA Charters Tower 57.51 175 P P 00 22 40.9 -0.4
CTA pP pP 00 22 55.4 -0.2
CTA Charters Tower 57.51 175 *e*P pP 00 22 54.9 -0.7
comp=Z,4.0nm,0.9s
CTA Charters Tower 57.51 175 P P 00 22 40.9 -0.4
comp=Z,2.1nm,0.6s,baz=315,slow=5.7,SNR=2.0
CTA pP pP 00 22 55.4 -0.2
comp=Z,3.9nm,0.7s,baz=323,slow=4.8,SNR=2.9
WRAB Tennant Creek 57.55 188 *e*P P 00 22 41.2 -0.4
WRAB pmax pmax
comp=Z,15nm,1.0s
WRAB Tennant Creek 57.55 188 *e*P P 00 22 41.2 -0.4
comp=Z,15nm,1.0s
WRA Warramunga Arr 57.56 188 P P 00 22 40.9 -0.8
WRA pP pP 00 22 55.0 -1.0
WRA Warramunga Arr 57.56 188 P P 00 22 40.9 -0.8
comp=Z,11nm,0.6s,baz=5.9,slow=7.3,SNR=200
WRA pP pP 00 22 55.0 -1.0
comp=Z,10nm,0.8s,baz=3.8,slow=7.4,SNR=10
AB31 Akbulak array 57.57 310 *i*P P 00 22 40.7 -0.8
AB31 pmax pmax
comp=Z,11nm,0.3s
ABKAR Akbulak array 57.57 310 *e*P P 00 22 41.5 0.0
HYB Hyderabad 58.17 268 *i*P P 00 22 45.0 -1.1
DLBC Dease Lake 58.25 38 *e*P P 00 22 45.0 -1.2
ALE Alert 59.60 4 P P 00 22 55.0 -0.1
comp=Z,124nm,0.9s,SNR=10
AS31 Alice Springs 61.29 188 *e*P P 00 23 06.7 -0.6
AS31 *e* 00 23 20.9
ASAR Alice Springs 61.29 188 P P 00 23 07.0 -0.3
ASAR pP pP 00 23 21.1 -0.7
comp=Z,5.4nm,0.7s,baz=11,slow=6.7,SNR=54
ASAR pP pP 00 23 21.1 -0.7
comp=Z,5.5nm,0.8s,baz=5.4,slow=4.9,SNR=10
POO Poona 61.30 272 *e*PKP P 00 23 06.0 -1.7
RES Resolute Bay 62.12 14 *e*P P 00 23 11.6 -0.7
comp=Z,97nm,0.2s
IMYA Miami 62.89 296 *e*P P 00 23 19.5 +1.2
KEV Kevo 62.95 339 *e*P P 00 23 15.3 -2.5
KEV pmax pmax
comp=Z,11nm,0.7s
KEV Kevo 62.95 339 *ep* P 00 23 15.3 -2.5
comp=Z,11nm,0.7s
KLMR Klimovskoe 63.30 328 *e*P P 00 23 18.5 -1.8
KLMR pmax pmax
comp=Z,53nm,1.4s
YKA Yellowknife Ar 63.39 30 P P 00 23 20.9 0.0
YKA pP pP 00 23 35.4 0.0
YKA Yellowknife Ar 63.39 30 P P 00 23 20.9 0.0
comp=Z,4.9nm,0.7s,baz=303,slow=6.8,SNR=109
YKA pP pP 00 23 35.3 0.0
comp=Z,1.9nm,0.7s,baz=304,slow=6.3,SNR=5.9
IEMG Emamgholi 63.41 298 *e*P P 00 23 22.3 +0.4
ARCES ARCESS Array B 63.50 339 P P 00 23 21.2 -0.4
ARCES ARCESS Array B 63.50 339 P P 00 23 21.2 -0.4
comp=Z,15nm,0.8s,baz=62,slow=8.2,SNR=23
ARCES LR LR 00 55 36.3
comp=Z,206nm,19.4s,baz=7.8,slow=40
ABKT Ailbek 63.54 299 P P 00 23 22.0 -0.4
comp=Z,186nm,1.1s,SNR=14
IMOG Moghan 63.54 296 *e*P P 00 23 23.6 +0.8
IPAY Payeh 63.63 297 *e*P P 00 23 23.7 +0.5
IKRD Kardeh 63.81 297 *e*P P 00 23 21.3 -3.2
ISFR Sfrayin 64.04 298 *e*P P 00 23 26.8 +0.8
IMON Monand 64.72 293 *e*P P 00 23 30.9 +0.4
IDAH Dahanechah 64.80 293 *e*P P 00 23 31.3 +0.3
DAG Danmarks Havn 65.26 355 *i*P P 00 23 32.8 -0.1
DAG pmax pmax
comp=Z,14nm,0.9s
DAG Danmarks Havn 65.26 355 *i*P P 00 23 32.8 -0.1
comp=Z,136nm,0.9s
JOF Joensuu 65.49 332 *e*P P 00 23 33.1 -1.5
JOF pmax pmax
comp=Z,7.0nm,0.4s
JOF Joensuu 65.49 332 *ep* P 00 23 33.1 -1.5
comp=Z,6.9nm,0.4s
ITEG Tejag 65.53 294 *e*P P 00 23 36.0 +0.3
IKOO Kooshah 65.58 293 *e*P P 00 23 36.1 0.0
MOS Moscow 66.81 323 *e*P P 00 23 41.7 -1.5
MOS pmax pmax
comp=Z,63nm,1.2s
VRHR Novokhopersk 67.28 318 *c i*P P 00 23 45.0 -1.2
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,30nm,0.8s
IKIA Kiasar 67.48 299 *e*P P 00 23 48.5 +0.4
OBN Obninsk 67.66 323 *i*P P 00 23 48.4 -0.1
OBN *e* 00 24 06.9
OBN pmax pmax
comp=Z,48nm,1.5s
OBN MLR MLR
comp=Z,200nm,17.0s
OBN Obninsk 67.66 323 *e*P P 00 23 48.6 +0.1
comp=Z,42nm,1.2s
IANJ Anjilo 67.69 298 *e*P P 00 23 49.7 +0.2
KAF Kangasniemi 67.83 333 *e*P P 00 23 47.8 -1.7
KAF pmax pmax
comp=Z,19nm,0.5s
KAF Kangasniemi 67.83 333 *ep* P 00 23 47.8 -1.7
comp=Z,19nm,0.5s
ISHM Shahmirzad 67.95 299 *e*P P 00 23 52.0 +0.8
ARMA Armidale 68.29 170 *e*P pP 00 24 07.8 +0.3
FINES FINESS Array B 68.34 332 P P 00 23 52.7 0.0
FINES FINESS Array B 68.34 332 P P 00 23 52.7 0.0
comp=Z,21nm,0.6s,baz=29,slow=10,SNR=98
FINES LR LR 00 56 48.3
comp=Z,215nm,19.4s,baz=125,slow=38
ILAS Lasjerd 68.41 299 *e*P P 00 23 54.7 +0.8
IFIR Firoozkooh 68.41 299 *e*P P 00 23 54.9 +0.9
VSR Storozhevoye 68.51 319 *c i*P P 00 23 53.8 -0.2
VSR *e*SP sP 00 24 12.2 -2.3
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.6s
VSR pmax pmax
comp=Z,20nm,0.6s
IBAF Bafgh 68.52 294 *e*P P 00 23 54.0 -0.6
VORD Divnogorie 68.58 318 *e*P P 00 23 54.1 -0.3
VORD pmax pmax
comp=N,6.0nm,0.5s
VORD pmax pmax
comp=E,6.0nm,0.5s
VORD pmax pmax
comp=Z,10.0nm,0.5s
ICHK Chekchek 69.02 295 *e*P P 00 23 57.7 -0.1
STKA Stephens Creek 69.07 180 *e*P P 00 23 57.8 +0.3
comp=Z,3.2nm,0.8s
STKA *ep*P pP 00 24 12.2 0.0
STKA Stephens Creek 69.07 180 *e*P P 00 23 57.1 -0.4
comp=Z,2.2nm,0.9s
STKA *ep*P pP 00 24 11.9 -0.2
STKA Stephens Creek 69.07 180 P P 00 23 57.4 -0.1
comp=Z,4.8nm,0.6s,baz=344,slow=6.5,SNR=14
STKA pP pP 00 24 12.2 0.0
comp=Z,12nm,0.8s,baz=340,slow=6.8,SNR=14
FORT Forrest 69.10 192 *e*P P 00 23 57.8 +0.1
comp=Z,54nm,0.8s
FORT *ep*P pP 00 24 12.1 -0.3
FORT Forrest 69.10 192 *e*P P 00 23 57.7 0.0
comp=Z,49nm,0.7s
ISFB Sefidab 69.45 298 *e*P P 00 23 59.9 -0.3
IVRN Varamin 69.47 299 *e*P P 00 24 00.3 0.0
IR3 Iran Long-Peri 69.70 300 *e*P P 00 24 02.1 +0.3
ISAD Sadrabad 69.71 295 *e*P P 00 24 02.4 +0.3
IGZV Ghazvin 69.77 301 *e*P P 00 24 02.8 +0.4
NEW Newport 69.80 44 *e*P P 00 24 03.0 +0.9
comp=Z,12nm,1.3s
NEW *ep*P pP 00 24 15.9 -0.8
NEW Newport 69.80 44⇓ P P 00 24 02.1 0.0
baz=70,SNR=6.5
IBND Bandar-abas 69.99 290 *e*P P 00 24 04.3 +0.7
YBH Yreka Blue Hor 70.07 52 P P 00 24 04.5 +0.6
YBH pP pP 00 24 19.1 +0.5
YBH Yreka Blue Hor 70.07 52 P P 00 24 04.5 +0.6
comp=Z,4.9nm,1.0s,baz=319,slow=8.3,SNR=8.5
YBH pP pP 00 24 19.1 +0.5
comp=Z,5.1nm,0.9s,baz=326,slow=3.9,SNR=6.1
IZEF Zefreh 70.16 297 *e*P P 00 24 05.3 +0.5
SUMG Summit 70.17 360 *e*P P 00 24 05.3 +0.9
SUMG pmax pmax
comp=Z,14nm,0.9s
SUMG Summit 70.17 360 *e*P P 00 24 05.3 +0.9
comp=Z,14nm,0.9s
SUMG Summit 70.17 360 *i*P P 00 24 05.1 +0.7
comp=Z,13nm,1.0s
DGRG David-gareji 70.25 307 P P 00 24 04.5 -0.5
ZEI Tsey 70.45 309 *e*P P 00 24 05.1 -1.3
ZEI pmax pmax
comp=Z,13nm,1.1s
IKLH Kolahrood 70.46 297 *e*P P 00 24 07.2 +0.5
TBLG Delisi 70.49 308 *e*P P 00 24 06.9 +0.4
TBLG Delisi 70.49 308 P P 00 24 06.9 +0.4
IRAZ Razeghan 70.50 300 *e*P P 00 24 06.8 0.0
B12A Libby 70.53 43⇑ P P 00 24 07.3 +0.8
baz=70
KIV Kislovodsk 70.53 311 *e*P P 00 24 07.2 +0.5
KIV pmax pmax
comp=Z,68nm,1.1s
KIV MLR MLR
comp=Z,180nm,19.0s
KIV Kislovodsk 70.53 311 *e*P P 00 24 07.7 +0.9
comp=Z,54nm,0.9s
GOR Gori 70.75 308 P P 00 24 09.1 +1.1
A13A Flathead Natio 70.89 43⇓ P P 00 24 09.4 +0.6
baz=71
BANOM Banah 71.00 288⇑ P P 00 24 10.6 +0.8
SNR=7.0
WALA Waterton Lakes 71.09 42 *e*P P 00 24 10.7 +0.6
comp=Z,0.4nm,0.9s
B13A Whitefish 71.19 43⇓ P P 00 24 11.7 +1.1
baz=71,SNR=12
IPAR Pars 71.28 294 *e*P P 00 24 11.1 -0.7
IPIR Pirpir 71.29 297 *e*P P 00 24 12.6 +0.8
BSMT Bassoo Peak 71.32 44 *e*P P 00 24 12.1 +0.6
comp=Z,5.8nm,1.2s
GNI Garni 71.36 307 P P 00 24 12.2 +0.3
GNI Garni 71.36 307 P P 00 24 12.2 +0.3
comp=Z,4.4nm,0.6s,baz=352,slow=16,SNR=5.2
A14A Double T Ranch 71.40 42⇓ P 00 24 12.5 +0.5
baz=71,SNR=7.6
AKH Akhalkalaki 71.45 308 P P 00 24 14.3 +1.9
D12A Red Ives Fores 71.47 45⇑ P P 00 24 12.9 +0.6
baz=71
ISRV Sarvestan 71.48 293 *e*P P 00 24 12.2 -0.8
HOQ Hoqain 71.51 286⇓ P P 00 24 13.4 +0.5
SNR=9.8
C13A Hot Springs 71.54 44⇑ P P 00 24 13.7 +1.0
baz=71,SNR=5.2
JMDO Jabal Madar 71.57 284⇑ P P 00 24 13.6 +0.3
SNR=10
SCO Scoresbysund 71.60 354 *i*P P 00 24 13.0 +0.4
SCO pmax pmax
comp=Z,8.0nm,0.9s
SCO Scoresbysund 71.60 354 *i*P P 00 24 13.0 +0.4
comp=Z,7.7nm,0.9s
BMO Blue Mountains 71.62 47 *e*P P 00 24 14.1 +0.8
BMO pmax pmax
comp=Z,13nm,1.4s
BMO Blue Mountains 71.62 47 *e*P P 00 24 14.1 +0.8
comp=Z,13nm,1.4s
JTMT Jette 71.66 44 *e*P P 00 24 14.8 +1.2
JTMT *ep*P pP 00 24 29.2 +1.0
HATD Hatta, Dubai 71.72 288⇓ P P 00 24 14.8 +0.7
SNR=9.6
A15A Johnson Ranch, 71.77 42⇓ P P 00 24 14.5 +0.4
baz=72,SNR=9.9
B14A Marquette Ranc 71.84 43⇑ P P 00 24 15.4 +0.7
baz=72,SNR=13
ASHO Ashiyiah 71.86 287⇓ P P 00 24 15.3 +0.3
SNR=7.2
D13A Huson 71.94 44⇑ P P 00 24 15.8 +0.6
baz=72,SNR=5.5
SWMT Swartz Lake 71.95 44 *e*P P 00 24 16.3 +1.0
NAZ Nazwa, Dubai 71.99 288⇑ P P 00 24 15.8 +0.1
SNR=5.2
BSY Bisya 72.06 285⇓ P P 00 24 16.7 +0.5
SNR=8.7
B15A Bradely Ranch, 72.25 42⇑ P P 00 24 18.0 +0.9
baz=72,SNR=14
NACGM Naroch 72.27 327 *e* P P 00 24 14.0 -2.9
F12A Elk City 72.28 46⇑ P P 00 24 18.1 +0.8
baz=72,SNR=10
MSO Missoula 72.39 44 *ep*P pP 00 24 33.5 +0.9
SLMT Seeley Lake 72.39 44 *e*P P 00 24 18.7 +0.7
SLMT *ep*P pP 00 24 33.9 +1.2
ASUD Al Ashush, Dub 72.44 288⇓ P P 00 24 18.9 +0.5
SNR=11
E13A Victor 72.48 45⇑ P P 00 24 18.6 +0.2
baz=72
C15A Salmond Ranch, 72.55 43⇑ P P 00 24 19.9 +1.0
baz=72,SNR=9.7
G12A Big Creek, Yel 72.61 46⇓ P P 00 24 19.5 +0.2
baz=72
B16A M & M Farms, S 72.65 42⇑ P P 00 24 19.8 +0.4
baz=72,SNR=5.1
CHMT Chamberlain Mo 72.72 44 *e*P P 00 24 20.4 +0.4
comp=Z,4.5nm,1.3s
F13A Darby 72.78 45⇓ P P 00 24 20.4 +0.1
baz=73
A17A Triple J Farms 72.86 41⇓ P P 00 24 21.3 +0.7
baz=73
E14A Clinton 72.88 44⇑ P P 00 24 21.0 +0.1
baz=73
D15A Lincoln 73.04 43⇓ P P 00 24 22.2 +0.3
baz=73
B17A L&G Farms, Che 73.20 42⇓ P P 00 24 23.3 +0.7
baz=73,SNR=12
H12A Diamond D Ranc 73.22 46⇓ P P 00 24 23.4 +0.5
baz=73,SNR=8.3
G13A Cobalt 73.25 46⇑ P P 00 24 23.3 +0.3
baz=73
FFC Flin Flon 73.30 33 *ce*P P 00 24 23.4 +0.4
FFC Flin Flon 73.30 33 *e*P P 00 24 22.9 -0.1
comp=Z,12nm,0.8s
IDHR Dehrash 73.31 301 *e*P P 00 24 23.0 -0.7
F14A Wisdom 73.31 45⇑ P P 00 24 23.9 +0.4
baz=73,SNR=6.5
A18A Metzger Ranch, 73.31 41⇑ P P 00 24 23.7 +0.4
baz=73,SNR=6.5
MFID Camas Ranch 73.32 48 *e*P P 00 24 24.7 +1.2
comp=Z,9.1nm,0.9s
MFID *ep*P PcP 00 24 39.2 -0.5
MFID Camas Ranch 73.32 48⇑ P P 00 24 24.4 +0.9
baz=73,SNR=5.0
E15A Deer Lodge 73.34 44⇑ P P 00 24 23.9 +0.2
baz=73,SNR=5.6
I12A Atlanta 73.50 47⇑ P P 00 24 25.5 +0.8
baz=73,SNR=10
H13A Challis 73.55 46⇓ P P 00 24 25.5 +0.6
baz=73,SNR=12
D16A Dana Ranch, Ca 73.57 43⇓ P P 00 24 25.5 +0.6
baz=73
G14A Jackson 73.60 45⇓ P P 00 24 25.5 +0.3
baz=73
CMB Columbia Colle 73.61 55 *e*P P 00 24 26.3 +1.1
CMB *e*PP PcP 00 24 40.9 0.0
CMB pmax pmax
comp=Z,14nm,1.1s
CMB Columbia Colle 73.61 55 *e*P P 00 24 26.3 +1.1
comp=Z,14nm,1.1s
CMB *ep*P PcP 00 24 40.9 0.0
HRY Holter Researc 73.62 43 *e*P P 00 24 26.3 +1.1
HRY *ep*P PcP 00 24 40.8 -0.1
C17A Wharram Farm, 73.63 42⇓ P P 00 24 25.1 -0.1
baz=73
NWAO Narrogin (SRO) 73.63 201 P P 00 24 25.5 +0.5
NWAO Narrogin (SRO) 73.63 201 P P 00 24 25.5 +0.5
comp=Z,8.3nm,0.8s,baz=27,slow=4.5,SNR=2.7
B18A Beardsley Farm 73.68 41⇑ P P 00 24 26.2 +0.8
baz=74,SNR=12
NB2 NORSAR Subarra 73.69 337 P P 00 24 25.0 -0.3
baz=38,slow=6.2
NB2 NORSAR Subarra 73.69 337 P P 00 24 25.0 -0.3
comp=Z,15nm,0.7s,baz=38,slow=6.2
NOA NORSAR Array B 73.69 337 P P 00 24 25.3 0.0
NOA NORSAR Array B 73.69 337 P P 00 24 25.3 0.0
comp=Z,16nm,0.8s,baz=38,slow=5.9,SNR=50
NOA LR LR 01 00 11.8
comp=Z,191nm,18.4s,baz=40,slow=38
F15A Butte 73.78 44⇓ P P 00 24 26.8 +0.5
baz=74,SNR=22
E16A East Helena 73.81 43⇑ P P 00 24 27.2 +0.9
baz=74,SNR=6.3
LRM Limekiln Ridge 73.81 44 *e*P P 00 24 27.3 +0.8
AKASG Malin Array Be 73.86 322 P P 00 24 26.2 -0.2
AKASG *PP pP 00 24 40.3 -0.8
AKASG *SP sP 00 24 45.8 -1.2
AKASG pmax pmax
comp=Z,11nm,0.4s
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG pmax pmax
comp=Z,12nm,0.7s
AKASG MLR MLR
comp=Z,252nm,19.7s
AKASG Malin Array Be 73.86 322 P P 00 24 26.1 -0.2
AKASG pP pP 00 24 40.2 -0.8
AKASG sP sP 00 24 45.8 -1.2
AKASG Malin Array Be 73.86 322 P P 00 24 26.1 -0.2
comp=Z,11nm,0.4s,baz=46,slow=5.9,SNR=50
AKASG pP pP 00 24 40.2 -0.8
comp=Z,3.4nm,0.5s,baz=46,slow=6.6,SNR=4.1
AKASG sP sP 00 24 45.8 -1.2
comp=Z,12nm,0.7s,baz=47,slow=6.1,SNR=5.7
AKASG LR LR 00 59 51.2
comp=Z,252nm,19.7s,baz=70,slow=38
AKBB Malin Array Si 73.86 322 *e*P P 00 24 26.0 -0.3
AKBB *e* 00 24 39.9
AKBB Malin Array Si 73.86 322 *e*P P 00 24 26.0 -0.3
AKBB *e* 00 24 39.9
A19A Klindworth Far 73.88 40⇓ P P 00 24 27.4 +0.8
baz=74,SNR=16
EGMT Eagleton 73.92 41 *e*P P 00 24 27.4 +0.5
comp=Z,17nm,0.8s
EGMT Eagleton 73.92 41⇓ P P 00 24 27.4 +0.5
baz=74,SNR=13
D17A Six Diamond Ra 73.96 42⇓ P P 00 24 27.8 +0.6

DLMT **Dillon** 74.01 45 *e*P P 00 24 28.7 +1.2
comp=Z,9.6nm,0.8s
I13A **Wildhorse Cree** 74.02 47 ⇓P P 00 24 28.6 +0.9
baz=74,SNR=10
H14A **Leadore** 74.03 46 ⇑P P 00 24 28.2 +0.4
baz=74
HLID **Hailey** 74.06 47 *e*P P 00 24 28.8 +0.9
comp=Z,10.0nm,1.1s
HLID **Hailey** 74.06 47 ⇓P P 00 24 28.7 +0.9
baz=74,SNR=5.4
B19A **Brinkman Farms** 74.07 41 ⇑P P 00 24 28.0 +0.3
baz=74
G15A **Dillon** 74.19 45 ⇑P P 00 24 29.5 +0.8
baz=74,SNR=16
F16A **Kennard Place,** 74.30 44 ⇑P P 00 24 29.9 +0.8
baz=74,SNR=11
J13A **Cove Ranch, Pi** 74.30 47 ⇑P P 00 24 30.0 +0.8
baz=74,SNR=5.3
E17A **Martinsdale** 74.30 43 ⇑P P 00 24 30.2 +0.9
baz=74,SNR=7.1
A20A **Cobblestone Ra** 74.33 40 ⇑P P 00 24 30.0 +0.8
baz=74
BOZ **Bozeman (W)** 74.38 44 *e*P P 00 24 30.6 +0.9
BOZ pmax pmax
comp=Z,6.0nm,0.8s
BOZ **Bozeman (W)** 74.38 44 *e*P P 00 24 30.6 +0.9
comp=Z,6.3nm,0.8s
BOZ **Bozeman (W)** 74.38 44 ⇓P P 00 24 30.6 +0.9
baz=74,SNR=8.8
I14A **Mackay** 74.40 46 ⇑P P 00 24 30.9 +1.1
baz=74,SNR=15
D18A **Linhart Farms,** 74.41 42 ⇓P P 00 24 30.0 +0.3
baz=74
SUW **Suwalki** 74.43 327 *e*P P 00 24 29.3 -0.3
SUW *e**PP pP 00 24 47.6 +3.2
SUW pmax pmax
comp=Z,24nm,0.8s
SUW **Suwalki** 74.43 327 *e*P P 00 24 29.3 -0.3
comp=Z,24nm,0.8s
SUW *e*pP pP 00 24 47.6 +3.2
H15A **Lima** 74.44 45 ⇑P P 00 24 30.8 +0.7
baz=74
C19A **Slack Wire Ran** 74.47 41 ⇓P P 00 24 31.0 +0.9
baz=74,SNR=21
G16A **Moss Hill, Enn** 74.54 45 ⇓P P 00 24 31.2 +0.6
baz=74,SNR=5.7
NVAR **Mina Array Bea** 74.72 53 P P 00 24 32.3 +0.4
NVAR pP pP 00 24 47.0 +0.3
NVAR **Mina Array Bea** 74.72 53 P P 00 24 32.3 +0.4
comp=Z,4.7nm,0.8s,baz=282,slow=6.0,SNR=23
NVAR pP pP 00 24 47.0 +0.3
comp=Z,7.0nm,0.8s,baz=287,slow=6.7,SNR=14
E18A **Harlowton** 74.75 43 ⇓P P 00 24 32.5 +0.7
baz=75,SNR=5.2
F17A **Fitzpatrick Pl** 74.75 43 ⇓P P 00 24 32.7 +0.8
baz=75
A21A **Bergtoll Ranch** 74.76 39 ⇑P P 00 24 32.1 +0.4
baz=75,SNR=7.4
SIM **Simferopol'** 74.93 315 *e*P P 00 24 33.3 +0.6
SIM *e* 00 24 47.0
SIM pmax pmax
comp=Z,14nm,0.8s
QLMT **Earthquake Lak** 74.99 45 *e*P P 00 24 34.6 +1.3
QLMT *e*pP pP 00 24 49.4 +1.2
C20A **Veseth Ranch,** 75.03 41 ⇓P P 00 24 34.1 +0.8
baz=75
G17A **Pierce Place,** 75.07 44 ⇑P P 00 24 35.0 +1.3
baz=75,SNR=6.1
B21A **Ellsworth Farm** 75.08 40 ⇓P P 00 24 34.3 +0.8
baz=75
H16A **Russell Place,** 75.17 45 ⇓P P 00 24 35.5 +1.1
baz=75,SNR=9.4
ELK **Elko** 75.26 50 *e*P P 00 24 36.4 +1.4
comp=Z,6.0nm,1.0s
ELK *e*pP pP 00 24 51.0 +1.2
F18A **Big Timber** 75.27 43 ⇓P P 00 24 35.9 +1.1
baz=75,SNR=8.6
A22A **Carney Farms,** 75.27 39 ⇑P P 00 24 35.0 +0.4
baz=75,SNR=20
UMR **Umm Al-Rimmam** 75.29 296 *e*P P 00 24 34.3 -0.7
UMR AMb AMB 00 24 35.1
comp=Z,43nm,0.7s
RCTC **Rector, Farmer** 75.36 55 ⇑P P 00 24 36.0 +0.7
baz=75
D20A **Manuel Ranch,** 75.36 41 ⇑P P 00 24 36.5 +1.3
baz=75,SNR=8.0
K14A **Jones Ranch, D** 75.40 47 ⇓P P 00 24 36.7 +1.2
baz=75
E19A **Rath Farm, Rou** 75.42 42 ⇓P P 00 24 37.0 +1.4
baz=75,SNR=14
MIB **Mutribah** 75.42 296 *e*P P 00 24 35.0 -0.8
MIB AMb AMB 00 24 36.2
comp=Z,55nm,1.2s
C21A **Desert Coulee** 75.43 40 ⇑P P 00 24 36.2 +0.7
baz=75,SNR=6.8
KBD **Kabd** 75.52 296 *e*P P 00 24 36.0 -0.3
KBD AMb AMB 00 24 37.6
comp=Z,24nm,0.6s
I16A **Newdale** 75.55 46 ⇓P P 00 24 38.3 +1.8
baz=75,SNR=19
TIN **Tinemaha** 75.58 54 ⇑P P 00 24 37.8 +1.1
baz=75
K15A **Arbon** 75.69 47 ⇑P P 00 24 38.9 +1.6
baz=76
VES **Vestal, Richgr** 75.73 56 ⇑P P 00 24 38.2 +0.7
baz=76
E20A **Meyer Farm, Mu** 75.74 42 ⇑P P 00 24 38.4 +1.0
baz=76,SNR=5.6
H17A **Grant Village** 75.74 45 ⇑P P 00 24 40.1 +2.4
baz=76,SNR=13
RDF **Al-Radifah** 75.77 296 *e*P P 00 24 37.8 0.0
RDF AMb AMB 00 24 39.0
comp=Z,92nm,1.1s
NAY **Al-Naaiem** 75.81 296 *e*P P 00 24 37.3 -0.7
NAY AMb AMB 00 24 38.7
comp=Z,33nm,0.8s
A23A **Redstone** 75.81 38 ⇑P P 00 24 38.0 +0.3
baz=76
IMW **Indian Meadow** 75.85 45 *e*P P 00 24 39.9 +1.6
comp=Z,23nm,1.3s
J16A **Bone** 75.85 46 ⇓P P 00 24 39.6 +1.3
baz=76,SNR=6.3
FLWY **Flagg Ranch** 75.87 45 *e*P P 00 24 40.5 +2.1
comp=Z,14nm,1.2s
FLWY *e*pP PcP 00 24 48.0 -2.7
RRI2 **Red Ridge** 75.97 46 *e*P P 00 24 40.5 +1.4
comp=Z,20nm,1.4s
RLMT **Red Lodge** 76.01 43 *e*P P 00 24 40.5 +1.3
comp=Z,6.5nm,0.9s
I17A **Pilgrim Ck.** 76.04 45 ⇑P P 00 24 41.3 +2.0
baz=76,SNR=13
MOOW **Moose Ponds** 76.05 45 *e*P P 00 24 40.8 +1.4
comp=Z,6.5nm,1.0s
H18A **Shoshone NF, C** 76.07 44 ⇓P P 00 24 40.6 +1.1
baz=76,SNR=6.7
B23A **Brockton** 76.08 39 ⇑P P 00 24 39.9 +0.7
baz=76,SNR=7.0
TPAW **Teton Pass** 76.10 46 *e*P P 00 24 42.5 +2.8
comp=Z,19nm,1.4s
C22A **Vida** 76.10 40 ⇓P P 00 24 39.6 +0.2
baz=76
HVU **Hansel Valley** 76.10 48 *e*P P 00 24 41.1 +1.4
HVU *e**PP pP 00 24 56.2 +1.7
HVU pmax pmax
comp=Z,8.0nm,0.9s
HVU **Hansel Valley** 76.10 48 *e*P P 00 24 41.1 +1.4
comp=Z,7.7nm,0.9s
HVU *e*pP pP 00 24 56.2 +1.7
K16A **Soda Springs** 76.14 46 ⇑P P 00 24 41.6 +1.7
baz=76,SNR=9.9
F20A **Billings** 76.18 42 ⇓P P 00 24 40.7 +0.7
baz=76
L15A **Malad City** 76.19 47 ⇑P P 00 24 41.0 +0.9
baz=76
LOHW **Long Hollow** 76.22 45 *e*P P 00 24 41.8 +1.4
comp=Z,6.4nm,1.1s
LOHW *e*pP pP 00 24 56.4 +1.2
REDW **Red Top Meadow** 76.23 46 *e*P P 00 24 42.0 +1.5
comp=Z,10nm,1.1s
REDW *e*pP pP 00 24 56.6 +1.3
A24A **Westby** 76.26 38 ⇑P P 00 24 40.6 +0.3
baz=76
J17A **Brown Place, J** 76.31 46 ⇑P P 00 24 41.4 +0.5
baz=76
ARVC **Arvin** 76.32 56 ⇑P P 00 24 40.9 +0.1
baz=76

D22A **Cohagen** 76.34 40 ⇓P P 00 24 41.6 +0.8
baz=76,SNR=9.6
C23A **Lambert** 76.42 40 ⇑P P 00 24 42.0 +0.8
baz=76,SNR=8.1
H19A **Powell** 76.45 44 ⇑P P 00 24 41.1 -0.4
baz=76
AHID **Auburn Hatcher** 76.46 46 *e*P P 00 24 42.5 +0.8
comp=Z,4.6nm,0.8s
DGMT **Dagmar** 76.47 39 *e*P P 00 24 42.1 +0.7
comp=Z,53nm,1.5s
DGMT *e*pP pP 00 24 56.1 -0.2
DGMT **Dagmar** 76.47 39 ⇑P P 00 24 41.9 +0.4
baz=76
R11A **Troy Canyon, C** 76.49 52 ⇓P P 00 24 42.7 +0.8
baz=76,SNR=7.3
M15A **Larsen Ranch,** 76.49 48 ⇑P P 00 24 42.2 +0.4
baz=76
G20A **Bridger** 76.52 43 ⇓P P 00 24 42.1 +0.2
baz=76
K17A **Gardner Place,** 76.58 46 ⇑P P 00 24 43.1 +0.7
baz=76
I18A **Diamond G Ranc** 76.60 45 ⇑P P 00 24 43.5 +1.0
baz=76
MPMC **Manual Prospec** 76.64 55 ⇓P P 00 24 43.7 +0.8
baz=76
L16A **Fish Haven** 76.74 47 ⇑P P 00 24 44.4 +1.0
baz=77
BLG **Laguna Peak** 76.77 57 ⇓P P 00 24 45.1 +1.7
baz=77
J18A **Kendall Valley** 76.80 45 ⇓P P 00 24 44.5 +0.8
baz=77,SNR=6.9
N15A **Stansbury Isla** 76.80 48 ⇓P P 00 24 45.0 +1.4
baz=77
D23A **Lindsay** 76.82 40 ⇓P P 00 24 44.5 +1.0
baz=77,SNR=5.7
I19A **Meeteetse** 76.85 44 ⇓P P 00 24 44.9 +1.0
baz=77
HWUT **Hardware Ranch** 76.92 47 *e*P P 00 24 45.8 +1.4
comp=Z,17nm,1.1s
E22A **Miles City** 76.93 41 ⇓P P 00 24 44.8 +0.7
baz=77
LVV **L'vov** 76.94 324 *e*P P 00 24 44.3 +0.3
C24A **Savage** 76.98 39 ⇓P P 00 24 45.0 +0.7
baz=77
BEL **Belsk** 76.99 327 *e*P P 00 24 45.1 +0.9
BEL **Belsk** 76.99 327 *e*P P 00 24 45.1 +0.9
BEL **Belsk** 76.99 327 *e*P P 00 24 45.1 +0.9
IAS **Iasi** 76.99 320 ⇑P P 00 24 44.5 +0.2
IAS **Iasi** 76.99 320 ⇑*i*P P 00 24 44.5 +0.2
EDW2 **Edwards Air Fo** 77.02 56 ⇓P P 00 24 45.3 +0.5
baz=77
G21A **Lodge Grass** 77.06 42 ⇑P P 00 24 45.5 +0.6
baz=77
DUG **Dugway** 77.06 49 *e*P P 00 24 46.2 +1.1
DUG **Dugway** 77.06 49 *e*P P 00 24 46.2 +1.1
DUG **Dugway** 77.06 49 ⇓P P 00 24 46.2 +1.1
baz=77,SNR=8.3
H20A **Greybull** 77.11 43 ⇑P P 00 24 45.6 +0.4
baz=77
LEOM **Leova** 77.11 319 ⇓P P 00 24 45.3 +0.3
LEOM **Leova** 77.11 319 ⇓*i*P P 00 24 45.3 +0.3
K18A **Toltan Ranch,** 77.15 46 ⇓P P 00 24 46.5 +0.9
baz=77
F22A **Rosebud** 77.20 42 ⇑P P 00 24 46.4 +0.8
baz=77
J19A **Crowheart** 77.31 45 ⇑P P 00 24 47.4 +0.9
baz=77,SNR=9.8
D24A **Glenlyle** 77.31 40 ⇑P P 00 24 47.1 +0.9
baz=77,SNR=7.0
PD01 **Pinedale Array** 77.32 46 *e*P P 00 24 46.8 +0.2
PD01 *e* 00 25 01.9
PD02 **Pinedale Array** 77.33 45 *e*P P 00 24 46.9 +0.3
RBK **Rabkut** 77.34 282 ⇑P P 00 24 46.3 -0.5
BW06 **Boulder Array** 77.34 45 *e*P P 00 24 47.1 +0.3
comp=Z,5.2nm,0.8s
BW06 **Boulder Array** 77.34 45 ⇓P P 00 24 47.0 +0.3
baz=77,SNR=9.1
PDAR **Pinedale Array** 77.34 45 P P 00 24 47.4 +0.6
PDAR pP pP 00 25 01.8 +0.2
PDAR **Pinedale Array** 77.34 45 P P 00 24 47.4 +0.6
comp=Z,4.3nm,0.8s,baz=274,slow=2.3,SNR=37
PDAR pP pP 00 25 01.8 +0.2
comp=Z,3.9nm,0.6s,baz=350,slow=5.4,SNR=12
I20A **Worland** 77.38 44 ⇓P P 00 24 47.6 +0.9
baz=77
M17A **Scullys Gap (B** 77.53 47 ⇑P P 00 24 48.3 +0.5
baz=77
H21A **Big Horn, Sher** 77.53 43 ⇓P P 00 24 48.3 +0.7
baz=77
PRAR **RACA** 77.55 321 ⇑P P 00 24 47.6 +0.1
G22A **Birney** 77.55 42 ⇑P P 00 24 48.2 +0.5
baz=77
R13A **O'Grain Ranch,** 77.60 51 ⇑P P 00 24 48.8 +0.6
baz=77
L18A **Fontenelle, Gr** 77.61 46 ⇓P P 00 24 48.2 0.0
baz=77
JLU **Jordanelle** 77.62 48 *e*P P 00 24 49.6 +1.3
comp=Z,5.4nm,1.0s
JLU *e*pP pP 00 25 04.8 +1.6
TLCR 77.67 318 ⇓P P 00 24 48.8 +0.7
TLCR 77.67 318 ⇓*i*P P 00 24 48.8 +0.7
F23A **Volborg** 77.68 41 ⇑P P 00 24 48.9 +0.5
baz=78,SNR=6.0
KWP **Kalwaria Pacla** 77.68 324 *e*P P 00 24 49.2 +1.0
KWP **Kalwaria Pacla** 77.68 324 *e*P P 00 24 49.2 +1.0
KWP **Kalwaria Pacla** 77.68 324 *e*P P 00 24 48.6 +0.4
KWP *e* 00 25 08.8
KWP pmax pmax
comp=Z,67nm,1.3s
KWP **Kalwaria Pacla** 77.68 324 *e*P P 00 24 48.6 +0.4
comp=Z,68nm,1.3s
KWP *e* 00 25 08.8
KWP **Kalwaria Pacla** 77.68 324 ⇑*i*P P 00 24 49.2 +1.0
K19A **Absolon Red Bu** 77.71 45 ⇓P P 00 24 48.6 -0.1
baz=78
N17A **Moffit Pass** 77.77 48 ⇓P P 00 24 49.5 +0.3
baz=78
J20A **Shoshoni** 77.79 44 ⇑P P 00 24 49.7 +0.6
baz=78,SNR=6.7
GHRR 77.82 319 ⇑*i*P P 00 24 50.7 +1.7
BUR08 **Bucovina Ar. S** 77.87 322 *e*P P 00 24 49.6 +0.2
MPU **Maple Canyon** 77.88 49 *e*P P 00 24 51.2 +1.5
comp=Z,9.2nm,0.9s
BURAR **Bucovina Array** 77.88 322 ⇑*i*P P 00 24 50.1 +0.6
L19A **Farson** 77.88 46 ⇓P P 00 24 50.0 +0.3
baz=78
TESR 77.91 320 ⇑*i*P P 00 24 49.9 +0.4
I21A **Big Trails, Te** 77.93 44 ⇑P P 00 24 50.6 +0.7
baz=78,SNR=9.4
CFR **Carcaliu** 78.03 318 ⇑P P 00 24 50.3 +0.1
CFR **Carcaliu** 78.03 318 ⇑*i*P P 00 24 50.3 +0.1
G23A **Biddle** 78.04 42 ⇑P P 00 24 50.4 0.0
baz=78
F24A **Ekalaka** 78.10 41 ⇓P P 00 24 51.1 +0.3
baz=78
ABTO **Aybut** 78.13 283 ⇑P P 00 24 50.8 -0.5
HEC **Hector,Ludlow** 78.14 55 ⇑P P 00 24 51.3 +0.2
baz=78
PETR 78.14 319 ⇑*i*P P 00 24 52.4 +1.6
J21A **Lysite** 78.15 44 ⇑P P 00 24 51.7 +0.5
baz=78
O17A **Robinson Place** 78.30 48 ⇓P P 00 24 53.1 +1.0
baz=78
VRI **Vrincioaia** 78.30 320 ⇑P P 00 24 53.0 +1.3
VRI **Vrincioaia** 78.30 320 ⇑*i*P P 00 24 53.0 +1.3
I22A **9 Mile Ranch,** 78.32 43 ⇑P P 00 24 52.5 +0.4
baz=78
PLOR **Plostina** 78.35 320 ⇑P P 00 24 52.6 +0.6
PLOR **Plostina** 78.35 320 ⇑*i*P P 00 24 52.6 +0.6
TIRR **Tirgusor** 78.36 318 ⇑P P 00 24 51.7 -0.3
TIRR **Tirgusor** 78.36 318 ⇑*i*P P 00 24 51.7 -0.3
CCUT **Cedar City** 78.36 52 *e*P P 00 24 53.9 +1.4
comp=Z,7.5nm,1.0s
CCUT *e*pP pP 00 25 08.8 +1.4
KOLS **Kolonicke sedl** 78.38 324 *e*P P 00 24 52.4 +0.3
KOLS pmax pmax
comp=Z,8.0nm,1.1s
KOLS **Kolonicke sedl** 78.38 324 *e*P P 00 24 52.4 +0.3
N18A **Larsen Ranch,** 78.42 47 ⇓P P 00 24 53.3 +0.5
baz=78
G24A **Alzada** 78.47 41 ⇓P P 00 24 52.5 -0.3
baz=78
BR131 **Keskin Array S** 78.47 311 *e*P P 00 24 52.9 0.0
comp=Z,5.0nm,0.8s
BRTR **Keskin Array B** 78.47 311 P P 00 24 53.0 +0.1
BRTR pP pP 00 25 07.4 -0.4

BRTR **Keskin Array B** 78.47 311 P P 00 24 53.0 +0.1
comp=Z,5.2nm,0.8s,baz=131,slow=4.7,SNR=17
BRTR pP pP 00 25 07.4 -0.4
comp=Z,2.6nm,0.6s,baz=121,slow=3.9,SNR=4.3
GRER 78.50 319 ⇑*i*P P 00 24 55.0 +2.2
L20A **Wamsutter** 78.52 45 ⇓P P 00 24 53.5 +0.2
baz=78
UZH **Uzhgorod** 78.58 324 *e*P P 00 24 53.0 -0.2
UZH *e* 00 25 01.3
UZH *e* 00 25 08.5
OJC **Ojcow** 78.59 326 *i*P P 00 24 53.1 -0.1
OJC **Ojcow** 78.59 326 ⇑*i*P P 00 24 53.8 +0.6
OJC **Ojcow** 78.59 326 *e*P P 00 24 53.8 +0.6
comp=Z,25nm,1.0s
GMRC **Granite Mounta** 78.61 55 ⇑P P 00 24 54.4 +0.6
baz=78
R15A **Junction** 78.62 50 ⇑P P 00 24 55.3 +1.5
baz=78
J22A **Midwest** 78.64 43 ⇑P P 00 24 54.1 +0.3
baz=78,SNR=14
BMR **Baia Mare** 78.68 322 ⇑P P 00 24 54.8 +1.1
BMR **Baia Mare** 78.68 322 ⇑*i*P P 00 24 54.8 +1.1
O18A **Roosevelt** 78.68 48 ⇓P P 00 24 55.3 +1.2
baz=78
K21A **Alcova** 78.73 44 ⇑P P 00 24 55.1 +0.7
baz=78,SNR=5.9
P17A **Butcher Ranch,** 78.75 49 ⇑P P 00 24 55.3 +0.7
baz=79
N19A **John Jarvie Ra** 78.76 47 ⇑P P 00 24 54.9 +0.3
baz=79
CRVS **Cervenica-Dubn** 78.78 324 *e*P P 00 24 54.7 +0.4
CRVS pmax pmax
comp=Z,8.0nm,1.1s
CRVS **Cervenica-Dubn** 78.78 324 *e*P P 00 24 54.7 +0.4
H24A **Dirks Ranch, A** 78.78 42 ⇑P P 00 24 54.4 -0.2
baz=79,SNR=5.0
109C **Camp Elliot, M** 78.81 57 ⇓P P 00 24 55.2 +0.5
baz=79
TRPA **Tarpa** 78.82 323 ⇑*i*P P 00 24 55.3 +0.8
TRPA **Tarpa** 78.82 323 ⇑P P 00 24 55.3 +0.8
ISR **Istrita** 78.91 319 ⇓P P 00 24 56.4 +1.3
ISR **Istrita** 78.91 319 ⇓*i*P P 00 24 56.4 +1.3
NIE **Niedzica** 78.93 325 *e*P P 00 24 56.0 +0.9
NIE **Niedzica** 78.93 325 ⇑*e*P P 00 24 56.2 +1.0
P18A **Preston Nutter** 78.95 48 ⇑P P 00 24 56.8 +1.0
baz=79
MLR **Muntele Rosu** 78.96 320 P P 00 24 56.1 +0.6
MLR **Muntele Rosu** 78.96 320 ⇑*i*P P 00 24 55.8 +0.3
MLR **Muntele Rosu** 78.96 320 P P 00 24 56.1 +0.6
baz=0.0,slow=6.1
R16A **Teasdale** 79.06 50 ⇑P P 00 24 57.8 +1.5
baz=79,SNR=5.4
L21A **Rawlins** 79.10 45 ⇑P P 00 24 56.7 +0.2
baz=79
ULM **Lac du Bonnet** 79.10 33 P P 00 24 55.4 -0.6
ULM **Lac du Bonnet** 79.10 33 P P 00 24 55.4 -0.6
comp=Z,5.5nm,0.8s,baz=310,slow=6.5,SNR=9.6
SRU **San Rafael** 79.11 49 *e*P P 00 24 57.4 +0.9
SRU pmax pmax
comp=Z,16nm,1.2s
SRU **San Rafael** 79.11 49 *e*P P 00 24 57.4 +0.9
comp=Z,16nm,1.2s
SRU **San Rafael** 79.11 49 ⇓P P 00 24 57.0 +0.4
baz=79,SNR=9.5
K22A **Casper** 79.12 44 ⇓P P 00 24 56.9 +0.4
baz=79
MDND **Maddock** 79.13 37 ⇑P P 00 24 56.5 +0.3
baz=79
SECR 79.21 319 ⇑*i*P P 00 24 58.1 +1.4
IRM **Iron Mountain** 79.32 55 ⇑P P 00 24 58.6 +1.0
baz=79
N20A **Spence Gulch,** 79.33 46 ⇑P P 00 24 58.6 +0.8
baz=79,SNR=6.0
M21A **Separation Pea** 79.34 45 ⇑P P 00 24 58.0 +0.2
baz=79,SNR=6.5
I24A **Kuemmerle Ranc** 79.34 42 ⇓P P 00 24 57.6 -0.1
baz=79
S16A **Weppner Ranch,** 79.35 50 ⇑P P 00 24 58.8 +1.0
baz=79,SNR=6.3
Q18A **Rafter H Ranch** 79.35 49 ⇓P P 00 24 58.5 +0.8
baz=79
BC3 **Big Chuckawall** 79.43 56 ⇓P P 00 24 58.8 +0.5
baz=79
R17A **Hanksville Air** 79.44 49 ⇑P P 00 24 59.3 +1.0
baz=79
VOIR 79.46 320 ⇓P P 00 24 59.6 +1.4
VOIR 79.46 320 ⇓*i*P P 00 24 59.6 +1.4
RSSD **Black Hills** 79.48 42 *e*P P 00 24 58.5 0.0
RSSD **Black Hills** 79.48 42 *e*P P 00 24 58.5 0.0
comp=Z,0.3nm,0.8s
K23A **Bowen Ranch, D** 79.54 44 ⇓P P 00 24 58.8 0.0
baz=79
W13A **Hualapai Mount** 79.56 54 ⇓P P 00 24 59.7 +0.6
baz=79
L22A **Ellis Ranch, M** 79.58 45 ⇓P P 00 24 58.3 -0.8
baz=79
BSEG **Bad Segeberg** 79.58 333 *e*P P 00 24 58.9 +0.4
comp=Z,32nm,1.0s
BSEG **Bad Segeberg** 79.58 333 *e*P P 00 24 58.9 +0.4
BSEG pmax pmax
comp=Z,32nm,1.0s
OKC **Ostrava-Krasne** 79.59 327 *i*P P 00 24 59.2 +0.5
OKC MLR MLR
comp=Z,300nm,17.8s
OKC **Ostrava-Krasne** 79.59 327 ⇑*i*P P 00 24 59.2 +0.5
OKC AMS AMS 01 03 10.0
comp=Z,300nm,17.8s
KSP **Ksiaz** 79.64 328 *e*P P 00 24 59.7 +0.7
KSP **Ksiaz** 79.64 328 *e*P P 00 24 59.7 +0.7
KSP **Ksiaz** 79.64 328 ⇑*e*P P 00 24 59.5 +0.6
KSP *e**PP pP 00 25 13.4 -0.4
KSP *e* 00 25 19.2
DRGR 79.68 322 ⇑P P 00 24 59.7 +0.4
DRGR 79.68 322 ⇑*i*P P 00 24 59.7 +0.4
P19A **Cripple Cowboy** 79.69 48 ⇓P P 00 25 00.2 +0.5
baz=80,SNR=9.2
U15A **North Rim** 79.73 52 ⇑P P 00 25 00.9 +0.9
baz=80
O20A **White River Ci** 79.80 47 ⇑P P 00 25 01.0 +0.8
baz=80
N21A **Black Mountain** 79.80 46 ⇑P P 00 25 00.8 +0.5
baz=80
S17A **Black Ridge (B** 79.89 50 ⇓P P 00 25 01.2 +0.5
baz=80,SNR=15
PDMCI **Parker Dam,Lak** 79.89 54 ⇑P P 00 25 01.4 +0.8
baz=80
MORC **Moravsky Berou** 79.90 327 ⇑P P 00 25 01.1 +0.7
MORC **Moravsky Berou** 79.90 327 *e*P P 00 25 00.7 +0.3
comp=Z,14nm,1.0s
MORC **Moravsky Berou** 79.90 327 ⇑*i*P P 00 25 01.1 +0.7
M22A **Cedar Creek Ra** 79.90 45 ⇑P P 00 25 01.7 +0.8
baz=80
L23A **Garrett** 79.93 44 ⇑P P 00 25 01.2 +0.2
baz=80
R18A **Canyonlands Na** 79.95 49 ⇑P P 00 25 01.3 +0.2
baz=80,SNR=6.9
Q19A **Hogan Spring (** 79.96 48 ⇓P P 00 25 01.5 +0.4
baz=80,SNR=6.0
Y12C **Blythe** 79.98 55 ⇓P P 00 25 01.8 +0.7
baz=80
DPC **Dobruska-Polom** 80.00 328 ⇑*i*P P 00 25 01.7 +0.8
DPC *e* 00 25 15.9
DPC MLR MLR
comp=Z,200nm,15.0s
DPC **Dobruska-Polom** 80.00 328 *e*P P 00 25 01.9 +1.0
comp=Z,63nm,1.8s
DPC **Dobruska-Polom** 80.00 328 ⇑*i*P P 00 25 01.7 +0.8
DPC *e*pP pP 00 25 15.9 0.0
DPC AMS AMS 01 03 10.0
comp=Z,200nm,15.0s
KRLC **Kraliky** 80.01 327 ⇑*i*P P 00 25 01.2 +0.2
UPC **Upice** 80.01 328 *i*P P 00 25 01.8 +0.8
UPC **Upice** 80.01 328 ⇑*i*P P 00 25 01.8 +0.8
LOT **Lotru** 80.10 321 ⇑*i*P P 00 25 02.0 +0.3
HUMR **Humele** 80.12 319 ⇑*i*P P 00 25 01.6 0.0
PSZ **Piszkesteto** 80.21 324 ⇑P P 00 25 03.1 +0.9
PSZ **Piszkesteto** 80.21 324 *e*P P 00 25 02.9 +0.7
comp=Z,17nm,1.0s
PSZ **Piszkesteto** 80.21 324 ⇑*i*P P 00 25 03.1 +0.9
PSZ **Piszkesteto** 80.21 324 ⇑P P 00 25 02.8 +0.7
DEV **Deva** 80.22 321 ⇓P P 00 25 03.5 +1.3
DEV **Deva** 80.22 321 ⇓*i*P P 00 25 03.5 +1.3
VYHS **Vyhne** 80.28 325 *e*P P 00 25 03.2 +0.8
VYHS pmax pmax
comp=Z,6.0nm,1.0s

VYHS **Vyhne** 80.28 325 *e*P P 00 25 03.2 +0.8
T17A **Navajo Res., N** 80.29 51 ⇑P P 00 25 03.2 +0.2
baz=80
S18A **Hurst Farm, Bl** 80.34 50 ⇓P P 00 25 03.5 +0.2
baz=80,SNR=8.8
N22A **Wattenberg Ran** 80.38 45 ⇓P P 00 25 04.0 +0.5
baz=80
R19A **Curley Farm, L** 80.39 49 ⇑P P 00 25 03.9 +0.4
baz=80
RAYN **Ar Rayn** 80.42 292 P P 00 25 03.3 -0.4
comp=Z,88nm,1.1s,SNR=8.1
Q20A **Ridgley Place,** 80.54 48 ⇑P P 00 25 04.7 +0.4
baz=80
BRG **Berggiesshubel** 80.59 329 *e*P P 00 25 04.3 +0.3
comp=Z,12nm,1.0s
BRG *ep*P **pP** 00 25 18.4 -0.6
comp=Z,6.4nm,1.2s
BRG *es*P **sP** 00 25 24.1 -0.6
comp=Z,7.6nm,1.1s
BRG *e*S **SKSac** 00 35 12.8 -4.9
comp=Z,3.6nm,1.1s
BRG *e*PKKS 00 46 46.9
comp=Z,8.7nm,1.5s
BRG *e*PKPPKP P'P'df 00 51 09.4 -43
comp=Z,9.8nm,1.7s
BRG
comp=N,223nm,19.9s
BRG
comp=E,140nm,20.5s
BRG
comp=Z,282nm,16.4s
BRG **Berggiesshubel** 80.59 329 *e*P P 00 25 04.3 +0.3
comp=Z,12nm,1.0s
BRG **Berggiesshubel** 80.59 329 *e*P P 00 25 04.3 +0.3
BRG *e**PP **pP** 00 25 18.4 -0.6
BRG *e*S **SKSac** 00 35 12.8 -4.9
BRG pmax pmax
comp=Z,12nm,1.0s
BRG pmax pmax
comp=Z,6.0nm,1.2s
BRG pmax pmax
comp=N,8.0nm,1.1s
BRG smax smax
comp=N,4.0nm,1.1s
BRG pmax pmax
comp=Z,9.0nm,1.5s
BRG pmax pmax
comp=Z,10.0nm,1.7s
BRG MLR MLR
comp=N,223nm,19.9s
BRG MLR MLR
comp=E,140nm,20.5s
BRG MLR MLR
comp=Z,282nm,16.4s
PVCC **Panska Ves** 80.59 329 *i*P P 00 25 04.5 +0.4
PVCC MLR MLR
comp=Z,400nm,17.7s
PVCC **Panska Ves** 80.59 329⇑*i*P P 00 25 04.5 +0.4
PVCC AMS AMS 01 03 50.0
comp=Z,400nm,17.7s
N23A **Red Feather La** 80.61 45 ⇑P P 00 25 05.2 +0.5
baz=80,SNR=5.4
CLL **Collm** 80.63 330 *e*P P 00 25 04.1 -0.1
comp=Z,19nm,1.0s
CLL **Collm** 80.63 330⇑*i*P P 00 25 04.2 0.0
CLL *e**PP **pP** 00 25 17.0 -2.2
CLL pmax pmax
comp=Z,19nm,1.0s
CLL MLR MLR
comp=Z,200nm,18.4s
CLL **Collm** 80.63 330⇑*i*P P 00 25 04.2 0.0
comp=Z,19nm,1.0s
CLL *ep*P **pP** 00 25 17.0 -2.2
CLL *es*P **sP** 00 25 23.0 -2.0
CLL Lm MLR 01 03 00.0
comp=Z,200nm,18.4s
GZR **Gura Zlata** 80.63 321 ⇑P P 00 25 04.9 +0.4
GZR **Gura Zlata** 80.63 321⇑*i*P P 00 25 04.9 +0.4
P21A **Newcastle** 80.66 47 ⇓P P 00 25 05.7 +0.7
baz=80
VRAC **Vranov** 80.66 327⇑*i*P P 00 25 05.3 +0.8
O22A **Kremmling** 80.75 46 ⇓P P 00 25 06.2 +0.6
baz=81,SNR=5.2
T18A **Mexican Hat** 80.77 50 ⇑P P 00 25 05.7 +0.3
baz=81,SNR=9.6
S19A **Harvey Farm, M** 80.82 49 ⇓P P 00 25 06.5 +0.6
baz=81,SNR=12
M24A **Cheyenne** 80.85 44 ⇓P P 00 25 06.5 +0.6
baz=81
Y14A **Wickenburg** 80.85 54 ⇓P P 00 25 07.0 +1.2
baz=81
L25A **Engebretsen Ra** 80.85 43 ⇓P P 00 25 06.5 +0.7
baz=81
WUAZ **Wupatki** 80.89 52 *e*P P 00 25 07.7 +1.6
WUAZ *ep*P **pP** 00 25 22.4 +1.3
WUAZ **Wupatki** 80.89 52 ⇓P P 00 25 07.1 +1.0
baz=81
SMOL **Smolenice** 80.89 326 *e*P P 00 25 07.0 +1.3
SMOL **Smolenice** 80.89 326 *e*P P 00 25 07.0 +1.3
K26A **Motz Farm, Whi** 80.91 42 ⇑P P 00 25 06.6 +0.6
baz=81
BUD **Budapest** 80.93 325 ⇑P P 00 25 06.6 +0.7
R20A **Redvale** 80.99 48 ⇑P P 00 25 07.7 +1.0
baz=81
P22A **Eagle** 81.01 47 ⇓P P 00 25 07.8 +1.0
baz=81,SNR=8.8
PRU **Pruhonice** 81.02 328⇑*i*P P 00 25 06.7 +0.3
PRU *e* 00 25 17.3
PRU MLR MLR
comp=Z,300nm,16.0s
PRU **Pruhonice** 81.02 328⇑*i*P P 00 25 06.7 +0.3
PRU *ep*P **pP** 00 25 17.3 -4.0
PRU AMS AMS 01 03 40.0
comp=Z,300nm,16.0s
Q21A **Lamborn Mesa,** 81.04 48 ⇓P P 00 25 07.6 +0.6
baz=81
BZS **Buzias** 81.05 322 ⇑P P 00 25 06.7 +0.1
BZS **Buzias** 81.05 322⇑*i*P P 00 25 06.7 +0.1
O23A **Lake Granby, G** 81.08 46 ⇓P P 00 25 08.5 +1.2
baz=81,SNR=10
TREC **Trest** 81.15 328 *i*P P 00 25 07.5 +0.4
TREC MLR MLR
comp=Z,200nm,19.7s
TREC **Trest** 81.15 328⇑*i*P P 00 25 07.5 +0.4
TREC AMS AMS 01 04 10.0
comp=Z,200nm,19.7s
SMCO **Snowmass** 81.16 47 *e*P P 00 25 09.0 +1.2
comp=Z,7.2nm,1.1s
SMCO *ep*P **pP** 00 25 24.2 +1.4
CLZ **Clausthal** 81.22 332 *e*P P 00 25 07.9 +0.4
comp=Z,25nm,1.3s
CLZ **Clausthal** 81.22 332 *e*P P 00 25 07.9 +0.4
CLZ pmax pmax
comp=Z,25nm,1.3s
S20A **Disappointment** 81.23 49 ⇑P P 00 25 08.8 +0.7
baz=81
N24A **Carr** 81.25 45 ⇑P P 00 25 08.7 +0.8
baz=81
R21A **Cimarron** 81.36 48 ⇓P P 00 25 09.7 +1.0
baz=81
K27A **Fleuckinger Fa** 81.41 42 ⇑P P 00 25 09.5 +0.8
baz=81
Q22A **Crested Butte,** 81.41 47 ⇑P P 00 25 10.0 +1.0
baz=81,SNR=7.2
T19A **Beclabito** 81.49 50 ⇑P P 00 25 10.3 +0.9
baz=81,SNR=5.8
ISCO **Idaho Springs** 81.53 46 *e*P P 00 25 10.9 +1.2
ISCO **Idaho Springs** 81.53 46 *e*P P 00 25 10.9 +1.2
ISCO **Idaho Springs** 81.53 46 ⇑P P 00 25 10.4 +0.7
baz=81
TANN **Tannenbergstha** 81.54 330 *e*P P 00 25 09.5 +0.3
comp=Z,30nm,2.0s
X16A **Lo Mia Camp, P** 81.55 53 ⇓P P 00 25 10.8 +1.1
baz=81,SNR=7.6
MVCO **Mesa Verde** 81.56 49 *e*P P 00 25 10.9 +1.1
MVCO **Mesa Verde** 81.56 49 ⇓P P 00 25 10.4 +0.6
baz=81,SNR=5.5
O24A **Longmont** 81.62 45 ⇑P P 00 25 10.8 +0.9
baz=81
114A **Black Gap (USA** 81.68 55 ⇑P P 00 25 11.9 +1.8
baz=82
S21A **Coal Bank Pass** 81.68 49 ⇓P P 00 25 11.5 +1.0
baz=82,SNR=6.0
NKC **Novy Kostel** 81.69 330 *i*P P 00 25 10.5 +0.6
NKC *e* 00 25 29.8
NKC **Novy Kostel** 81.69 330⇑*i*P P 00 25 10.5 +0.6
NKC *ep*P **pP** 00 25 29.8 +4.9
P23A **Jefferson** 81.69 46 ⇓P P 00 25 11.6 +1.0
baz=82
MOX **Moxa** 81.69 330 *e*P P 00 25 10.1 +0.2
comp=Z,25nm,1.6s
MOX **Moxa** 81.69 330 *e*P P 00 25 10.1 +0.2
MOX pmax pmax
comp=Z,25nm,1.6s
U19A **Dine' College,** 81.73 50 ⇑P P 00 25 11.8 +1.1
baz=82,SNR=12
IBBN **Ibbenburen** 81.81 333 *e*P P 00 25 10.5 0.0
comp=Z,24nm,0.7s
SOP **Sopron** 81.90 326 ⇑P P 00 25 11.8 +0.8
R22A **Saguache, Gunn** 81.92 48 ⇓P P 00 25 12.7 +1.0
baz=82
X17A **Forest Lakes** 82.00 53 ⇓P P 00 25 13.6 +1.4
baz=82
CONA **Conrad Observa** 82.02 326⇓*i*P P 00 25 12.6 +0.8
comp=Z,13nm,1.1s
PKSM **Moragy** 82.04 324 ⇑P P 00 25 11.8 0.0
PKSM **Moragy** 82.04 324⇑*i*P P 00 25 11.8 0.0
PKSM **Moragy** 82.04 324 ⇑P P 00 25 11.6 -0.2
KHC **Kasperske Hory** 82.08 328⇑*i*P P 00 25 12.4 +0.4
KHC *e* 00 25 22.5
KHC **Kasperske Hory** 82.08 328 *e*P P 00 25 12.5 +0.4
comp=Z,13nm,1.0s
KHC **Kasperske Hory** 82.08 328⇑*i*P P 00 25 12.4 +0.4
KHC *ex* x 00 25 22.5
U20A **Newcomb** 82.09 50 ⇑P P 00 25 13.6 +1.1
baz=82
ROTZ **Rotzenmuhle** 82.15 329 *e*P P 00 25 13.1 +0.8
comp=Z,17nm,1.3s
W18A **Petrified Fore** 82.17 52 ⇓P P 00 25 14.3 +1.3
baz=82
UBBA **Unterbreizbach** 82.18 331 *e*P P 00 25 12.9 +0.6
comp=Z,12nm,1.5s
S22A **4UR Ranch, Cre** 82.20 48 ⇓P P 00 25 14.3 +1.1
baz=82,SNR=11
V19A **Window Rock** 82.20 51 ⇓P P 00 25 14.6 +1.4
baz=82
GEC2 **GERESS Array S** 82.25 328 *e*P P 00 25 13.0 0.0
comp=Z,8.0nm,0.9s
GEC2 **GERESS Array S** 82.25 328 *e*P P 00 25 13.0 0.0
GEC2 pmax pmax
comp=Z,8.0nm,0.9s
GERES **GERESS Array B** 82.25 328 P P 00 25 12.9 0.0
GERES pP **pP** 00 25 27.7 -0.2
GERES **GERESS Array B** 82.25 328 P P 00 25 12.9 0.0
comp=Z,3.9nm,0.6s,baz=33,slow=5.7,SNR=40
GERES pP **pP** 00 25 27.7 -0.2
comp=Z,1.9nm,0.7s,baz=41,slow=5.7,SNR=4.4
GERES LR LR 01 05 19.1
comp=Z,237nm,18.8s,baz=228,slow=38
T21A **Navajo Lake** 82.28 49 ⇑P P 00 25 14.8 +1.2
baz=82
Q24A **Divide** 82.36 46 ⇑P P 00 25 14.9 +0.8
baz=82
WET **Wettzell** 82.36 329 *e*P P 00 25 14.0 +0.5
comp=Z,10.0nm,1.1s
WET **Wettzell** 82.36 329 *e*P P 00 25 14.0 +0.5
WET pmax pmax
comp=Z,10.0nm,1.1s
VTS **Vitosha** 82.39 319 ⇑P P 00 25 14.6 +0.7
VTS **Vitosha** 82.39 319⇑*i*P P 00 25 14.6 +0.7
X18A **Snowflake** 82.41 52 ⇓P P 00 25 14.8 +0.6
baz=82
R23A **Moffat** 82.49 47 ⇓P P 00 25 15.8 +1.1
baz=82,SNR=8.2
V20A **Brimhall** 82.50 50 ⇑P P 00 25 15.4 +0.7
baz=82,SNR=6.2
O26A **Horse Wrangler** 82.52 44 ⇑P P 00 25 15.3 +0.7
baz=82
P25A **Willow Gulch B** 82.55 45 ⇑P P 00 25 15.6 +0.7
baz=82
N27A **Anderson Farm,** 82.56 43 ⇑P P 00 25 15.4 +0.6
baz=82
U21A **Nageezi** 82.58 49 ⇓P P 00 25 16.0 +0.9
baz=82,SNR=7.4
GRF **Grafenberg Arr** 82.60 330 *e*P P 00 25 15.4 +0.7
comp=Z,30nm,1.2s
GRF *ep*P pP 00 25 35.0 +5.3
GRF **Grafenberg Arr** 82.60 330 *e*P P 00 25 15.4 +0.7
GRF *e**PP pP 00 25 35.0 +5.3
GRF pmax pmax
comp=Z,30nm,1.2s
GRFO **Grafenberg** 82.60 330 *e*P P 00 25 15.5 +0.8
GRFO pmax pmax
comp=Z,16nm,0.9s
GRFO **Grafenberg** 82.60 330 *e*P P 00 25 15.5 +0.8
comp=Z,16nm,0.9s
T22A **Edith** 82.64 49 ⇓P P 00 25 16.6 +1.1
baz=82,SNR=5.9
ARSA **Arzberg** 82.69 326⇑*i*P P 00 25 15.5 +0.3
comp=Z,7.1nm,1.1s
BUG **Bochum--Univer** 82.69 333 *e*P P 00 25 15.2 +0.1
comp=Z,12nm,0.9s
EYMN **Ely** 82.73 33 *e*P P 00 25 15.5 0.0
EYMN *ep*P **pP** 00 25 29.9 -0.6
MOA **Molln** 82.78 327⇑*i*P P 00 25 16.0 +0.3
comp=Z,10nm,1.5s
R24A **Sanders Place,** 82.88 47 ⇑P P 00 25 17.2 +0.6
baz=83
Q25A **Bedland, Calha** 82.91 46 ⇓P P 00 25 17.2 +0.4
baz=83
W20A **Ramah** 82.92 51 ⇑P P 00 25 17.8 +0.9
baz=83
SDCO **Great Sand Dun** 82.98 47 *e*P P 00 25 18.4 +1.1
comp=Z,3.5nm,0.9s
SDCO *ep*P **pP** 00 25 31.3 -1.0
SDCO **Great Sand Dun** 82.98 47 ⇑P P 00 25 18.0 +0.7
baz=83
V21A **Milan** 83.00 50 ⇓P P 00 25 17.7 +0.4
baz=83
U22A **Llaves** 83.10 49 ⇓P P 00 25 18.9 +1.1
baz=83
T23A **Casias Ranch,** 83.14 48 ⇓P P 00 25 18.9 +0.8
baz=83
S24A **Houchin Ranch,** 83.22 47 ⇑P P 00 25 19.6 +1.1
baz=83
Y19A **Nutrioso** 83.22 52 ⇓P P 00 25 19.4 +0.8
baz=83
GROS **Grobnik** 83.30 326 *i*P P 00 25 18.2 -0.2
X20A **Quemado** 83.31 51 ⇓P P 00 25 20.8 +1.9
baz=83
Q26A **Hugo** 83.31 45 ⇓P P 00 25 19.4 +0.6
baz=83
SOKA **Soboth** 83.34 326⇑*i*P P 00 25 18.7 0.0
comp=Z,17nm,0.9s
V22A **San Miguel Ran** 83.37 49 ⇓P P 00 25 20.1 +0.8
baz=83,SNR=6.6
P27A **Ficken Ranch,** 83.41 44 ⇓P P 00 25 19.7 +0.5
baz=83
R25A **Fountain Ranch** 83.41 46 ⇓P P 00 25 19.8 +0.5
baz=83
RJOB **Jochberg** 83.49 328 *e*P P 00 25 19.9 +0.5
comp=Z,14nm,0.9s
U23A **El Rito** 83.53 49 ⇓P P 00 25 21.5 +1.5
baz=83,SNR=15
ECSD **EROS Data Cent** 83.55 38 *e*P P 00 25 19.6 -0.1
GOLS **Golise** 83.58 325 *i*P P 00 25 19.6 -0.3
S25A **Robets Cordova** 83.66 47 ⇑P P 00 25 21.2 +0.6
baz=84
OBKA **Obir** 83.69 326⇑*i*P P 00 25 20.3 -0.1
comp=Z,5.3nm,0.8s
T24A **Torres, Weston** 83.70 48 ⇑P P 00 25 22.2 +1.2
baz=84,SNR=8.2
KBA **Koelnbreinsper** 83.77 327⇓*i*P P 00 25 20.6 -0.4
comp=Z,11nm,0.8s
R26A **Arlington** 83.78 46 ⇑P P 00 25 21.5 +0.3
baz=84,SNR=6.6
FUR **Furstenfeldbru** 83.79 329 *e*P P 00 25 21.2 +0.3
comp=Z,24nm,0.8s
FUR **Furstenfeldbru** 83.79 329 *e*P P 00 25 21.2 +0.3
FUR pmax pmax
comp=Z,24nm,0.8s
Y20A **Horse Springs,** 83.80 52 ⇓P P 00 25 22.7 +1.2
baz=84
X21A **Alamocita Cree** 83.81 51 ⇑P P 00 25 22.7 +1.1
baz=84,SNR=5.4
PDKS **Podkum** 83.83 326 *i*P P 00 25 21.0 -0.2
V23A **Ortiz Mt. (NFS** 83.92 49 ⇑P P 00 25 23.7 +1.6
baz=84,SNR=5.9
W22A **Albuquerque** 83.96 50 ⇓P P 00 25 23.6 +1.4
baz=84
MYKA **Terra Mystica** 83.99 327⇑*i*P P 00 25 21.5 -0.5
comp=Z,5.9nm,0.7s
U24A **Moreno Valley** 84.02 48 ⇑P P 00 25 23.7 +1.1
baz=84
T25A **Trinidad** 84.03 47 ⇑P P 00 25 23.4 +0.8
baz=84,SNR=9.3
STU **Stuttgart** 84.14 330 *e*P P 00 25 22.7 +0.1
comp=Z,19nm,1.0s
BOJS **Bojanci** 84.14 325 *i*P P 00 25 22.5 -0.1
R27A **Eads** 84.16 45 ⇓P P 00 25 23.4 +0.3
baz=84
Y21A **Point of Rocks** 84.17 51 ⇓P P 00 25 24.4 +1.0
baz=84
Z20A **Nine Sixteen R** 84.19 52 ⇑P P 00 25 24.6 +1.2
baz=84,SNR=18
SPMN **St. Paul** 84.24 35 ⇑P P 00 25 23.1 0.0
baz=84
S26A **Kim** 84.24 46 ⇓P P 00 25 23.6 0.0
baz=84
ANMO **Albuquerque** 84.30 50 *e*P P 00 25 24.8 +0.9
comp=Z,8.5nm,1.1s
W23A **Werner Place,** 84.34 50 ⇑P P 00 25 25.1 +1.0
baz=84,SNR=5.4
ABTA **Abfaltersbach** 84.39 327⇑*i*P P 00 25 22.7 -1.3
comp=Z,6.5nm,1.2s
BGNE **Belgrade** 84.47 41 ⇓P P 00 25 24.4 0.0
baz=84
T26A **Comanche Natio** 84.48 47 ⇓P P 00 25 25.0 +0.2
baz=84,SNR=7.8
V24A **Rampart Ranch,** 84.48 49 ⇑P P 00 25 26.4 +1.4
baz=84,SNR=14
MOTA **Moosalm** 84.51 329⇓*i*P P 00 25 24.5 -0.2
comp=Z,5.4nm,0.7s
U25A **Circle Dot Ran** 84.53 48 ⇑P P 00 25 25.8 +0.7
baz=84,SNR=5.9
RETA **Reutte** 84.54 329⇓*i*P P 00 25 24.9 +0.1
comp=Z,13nm,0.8s
120A **U Bar Ranch, L** 84.54 53 ⇑P P 00 25 26.0 +0.9
baz=84
Z21A **St. Cloud Mine** 84.64 52 ⇑P P 00 25 26.7 +1.0
baz=84,SNR=8.4
Y22A **Socorro** 84.66 51 ⇓P P 00 25 26.8 +1.0
baz=84,SNR=5.2
GIVF **Givet** 84.67 334 *e*P P 00 25 25.2 -0.1
GIVF **Givet** 84.67 334 *e*P P 00 25 25.2 -0.1
GIVF **Givet** 84.67 334 *e*P P 00 25 25.2 -0.1
BNM **Barren Site** 84.72 51 *e*P P 00 25 26.9 +0.7
comp=Z,2.5nm,0.7s
W24A **Lazy 6 Ranch,** 84.75 49 ⇑P P 00 25 27.5 +1.2
baz=85,SNR=10
V25A **Rancho No Teng** 84.80 48 ⇑P P 00 25 27.4 +1.0
baz=85,SNR=13
BFO **Black Forest** 84.83 331 *e*P P 00 25 26.1 -0.1
comp=Z,20nm,0.9s
BFO **Black Forest** 84.83 331 *e*P P 00 25 26.3 +0.1
BFO **Black Forest** 84.83 331 *e*P P 00 25 26.3 +0.1
SCHQ **Schefferville** 84.86 16 P P 00 25 26.5 +0.4
SCHQ pP **pP** 00 25 40.1 -1.1
SCHQ **Schefferville** 84.86 16 P P 00 25 26.5 +0.4
comp=Z,2.9nm,0.7s,baz=13,slow=8.7,SNR=8.1
SCHQ pP **pP** 00 25 40.1 -1.1
comp=Z,3.6nm,0.7s,baz=13,slow=6.0,SNR=4.7
319A **Douglas** 84.90 54 ⇑P P 00 25 27.9 +0.9
baz=85
FETA **Feichten** 84.92 329⇓*i*P P 00 25 26.7 -0.1
comp=Z,6.2nm,0.8s
BAIF **Baives** 84.93 334 *e*P P 00 25 26.4 -0.1
BAIF **Baives** 84.93 334 *e*P P 00 25 26.4 -0.1
BAIF **Baives** 84.93 334 *e*P P 00 25 26.4 -0.1
U26A **Atchley Ranch,** 84.93 47 ⇑P P 00 25 28.1 +1.0
baz=85,SNR=5.6
220A **Playas Peak, P** 85.03 53 ⇑P P 00 25 28.4 +0.8
baz=85,SNR=5.9
DAVA **Damuels** 85.06 329⇓*i*P P 00 25 27.3 -0.1
comp=Z,14nm,0.8s
T27A **Campo** 85.06 46 ⇓P P 00 25 27.9 +0.3
baz=85
121A **Cookes Peak, D** 85.09 52 ⇑P P 00 25 29.0 +1.1
baz=85,SNR=7.6
Z22A **Elephant Butte** 85.12 51 ⇑P P 00 25 28.8 +0.7
baz=85
CDF **Champ du Feu** 85.17 331⇑*i*P P 00 25 27.8 -0.1
comp=Z,27nm,0.9s
CDF *ep*P **pP** 00 25 47.8 +4.8
CDF **Champ du Feu** 85.17 331⇑*i*P P 00 25 27.8 -0.1
CDF *e**PP **pP** 00 25 47.8 +4.8
CDF pmax pmax
comp=Z,27nm,0.9s
CDF **Champ du Feu** 85.17 331⇑*i*P P 00 25 27.8 -0.1
comp=Z,27nm,0.9s
CDF *ep*P **pP** 00 25 47.8 +4.8
Y23A **Lovelace Mesa,** 85.22 50 ⇓P P 00 25 29.5 +0.9
baz=85,SNR=5.9
W25A **X Bar L Ranch,** 85.31 49 ⇓P P 00 25 30.1 +1.2
baz=85,SNR=17
V26A **Tequesquite Ra** 85.31 48 ⇓P P 00 25 29.8 +0.8
baz=85,SNR=8.5
ECH **Echery** 85.38 331 *e*P P 00 25 29.1 +0.2
ECH pmax pmax
comp=Z,7.0nm,0.8s
ECH **Echery** 85.38 331 *e*P P 00 25 29.1 +0.2
comp=Z,6.8nm,0.8s
320A **Kipp Ranch, An** 85.41 54 ⇓P P 00 25 30.6 +1.1
baz=85
FUORN **Ofenpass-Fuorn** 85.43 329 *e*P P 00 25 30.1 +0.7
comp=Z,20nm,0.9s
DAVOX **Davos/Dischmat** 85.46 329 P P 00 25 29.9 +0.3
DAVOX **Davos/Dischmat** 85.46 329 P P 00 25 29.9 +0.3
comp=Z,5.4nm,0.8s,baz=44,slow=4.2,SNR=6.3
122A **Conniff Cattle** 85.47 52 ⇓P P 00 25 31.0 +1.2
baz=85
Z23A **Rita Site, Whi** 85.57 51 ⇑P P 00 25 31.2 +1.0
baz=85
Y24A **Capitan** 85.61 50 ⇓P P 00 25 31.4 +0.9
baz=85
PAGF **Fort de Pagny** 85.64 332⇑*i*P P 00 25 30.3 +0.2
comp=Z,9.5nm,0.9s
PAGF *ep*P **pP** 00 25 50.2 +5.0
PAGF **Fort de Pagny** 85.64 332⇑*i*P P 00 25 30.3 +0.2
comp=Z,9.5nm,0.9s
PAGF *ep*P **pP** 00 25 50.2 +5.0
X25A **Clemmons Ranch** 85.66 49 ⇑P P 00 25 31.5 +0.8
baz=86,SNR=10.0
222A **Williams Famil** 85.80 52 ⇑P P 00 25 32.3 +0.9
baz=86
HINF **Hinteralfeld** 85.82 331⇑*i*P P 00 25 30.6 -0.5
comp=Z,12nm,1.0s
HINF **Hinteralfeld** 85.82 331⇑*i*P P 00 25 30.6 -0.5
HINF pmax pmax
comp=Z,12nm,1.0s
HINF **Hinteralfeld** 85.82 331⇑*i*P P 00 25 30.6 -0.5
comp=Z,12nm,1.0s
HAU **Haudompre** 85.86 332⇑*i*P P 00 25 30.9 -0.4
comp=Z,19nm,0.8s
HAU *ep*P **pP** 00 25 50.8 +4.5
HAU *e*R
comp=Z,202nm,22.5s
HAU **Haudompre** 85.86 332⇑*i*P P 00 25 30.9 -0.4
HAU *e**PP **pP** 00 25 50.8 +4.5
HAU pmax pmax
comp=Z,19nm,0.8s
HAU **Haudompre** 85.86 332⇑*i*P P 00 25 30.9 -0.4
comp=Z,19nm,0.8s
HAU *ep*P **pP** 00 25 50.8 +4.5
MEZF **Maizieres J'vi** 85.93 333⇑*i*P P 00 25 31.7 +0.1
comp=Z,41nm,1.2s
MEZF **Maizieres J'vi** 85.93 333⇑*i*P P 00 25 31.7 +0.1
comp=Z,41nm,1.2s
TUE **Stuetta** 85.93 329 *e*P P 00 25 32.3 +0.4
comp=Z,28nm,1.7s
Y25A **Mesa, Roswell** 86.06 50 ⇑P P 00 25 33.4 +0.7
baz=86
X26A **CR and CF Fran** 86.16 49 ⇓P P 00 25 33.7 +0.5
baz=86
SFTF **Sexfontaines** 86.18 332⇑*i*P P 00 25 32.7 -0.1
comp=Z,29nm,0.9s
SFTF *ep*P **pP** 00 25 52.7 +4.8
SFTF **Sexfontaines** 86.18 332⇑*i*P P 00 25 32.7 -0.1
comp=Z,29nm,0.9s
SFTF *ep*P **pP** 00 25 52.7 +4.8
W27A **Bowe Ranch, En** 86.25 48 ⇑P P 00 25 34.6 +1.1
baz=86,SNR=13
124A **Stringfield Ra** 86.43 51 ⇑P P 00 25 35.4 +0.7
baz=86,SNR=7.3
Z25A **Roswell** 86.48 50 ⇓P P 00 25 35.4 +0.6
baz=86
X27A **F and S Farms,** 86.52 48 ⇑P P 00 25 36.1 +1.2
baz=86
224A **Cornudas Mount** 86.81 51 ⇑P P 00 25 37.0 +0.6
baz=87,SNR=6.2

Z26A Caprock 86.94 50 ⇑P P 00 25 37.3 +0.3
baz=87,SNR=6.1
125A Gardner Draw, 86.94 51 ⇑P P 00 25 38.0 +1.0
baz=87,SNR=7.6
KSU1 Kansas State U 86.96 41 eP P 00 25 36.9 0.0
Y27A Causey 87.01 49 ⇓P P 00 25 38.0 +0.7
baz=87
CABF La Chapelle 87.11 331 eP P 00 25 37.2 -0.3
comp=Z,18nm,1.2s
CABF La Chapelle 87.11 331 eP P 00 25 37.2 -0.3
CABF pmax pmax
comp=Z,18nm,1.2s
CABF La Chapelle 87.11 331 eP P 00 25 37.2 -0.3
comp=Z,18nm,1.2s
X28A Dimmitt 87.14 48 ⇓P P 00 25 38.4 +0.4
baz=87
AMTX Amarillo 87.18 47 eP P 00 25 38.4 +0.2
comp=Z,12nm,0.8s
324A Moseley Ranch, 87.26 52 ⇑P P 00 25 39.0 +0.3
baz=87
126A Clayton Basin, 87.34 50 ⇑P P 00 25 39.4 +0.5
baz=87
Z27A Tatum 87.37 49 ⇑P P 00 25 39.2 +0.1
baz=87
LOR Lormes 87.40 333 eP P 00 25 38.6 -0.2
comp=Z,25nm,1.0s
LOR epP **pP 00 25 58.6 +4.7**
LOR eR
comp=Z,259nm,21.0s
LOR Lormes 87.40 333 eP P 00 25 38.6 -0.2
comp=Z,25nm,1.0s
LOR epP **pP 00 25 58.6 +4.7**
GDL2 Guadalupe Moun 87.44 51 eP P 00 25 40.2 +0.8
GDL2 epP **pP 00 25 55.2 +0.7**
X29A Tulia 87.48 48 ⇓P P 00 25 40.5 +1.0
baz=87
Y28A McKinney Farm, 87.53 48 ⇑P P 00 25 40.8 +1.0
baz=87
FLN La Foliniere 87.62 336 eP P 00 25 39.6 -0.2
FLN epP **pP 00 25 59.4 +4.5**
FLN eR
comp=Z,292nm,19.5s
FLN La Foliniere 87.62 336 eP P 00 25 39.6 -0.2
FLN e*PP **pP 00 25 59.4 +4.5**
FLN La Foliniere 87.62 336 eP P 00 25 39.6 -0.2
FLN epP **pP 00 25 59.4 +4.5**
325A Bean Ranch, Si 87.63 52 ⇓P P 00 25 41.0 +0.5
baz=88
LDF La Druitiere 87.65 336⇑ iP P 00 25 39.7 -0.3
comp=Z,7.4nm,0.5s
LDF La Druitiere 87.65 336⇑ iP P 00 25 39.7 -0.3
LDF pmax pmax
comp=Z,7.0nm,0.5s
LDF La Druitiere 87.65 336⇑ iP P 00 25 39.7 -0.3
comp=Z,7.4nm,0.5s
226A Malaga, Loving 87.70 51 ⇓P P 00 25 41.0 +0.4
baz=88
SSF Saint Saulge 87.70 333 eP P 00 25 40.2 -0.1
comp=Z,10nm,0.9s
SSF epP **pP 00 26 00.2 +4.8**
SSF Saint Saulge 87.70 333 eP P 00 25 40.2 -0.1
SSF e*PP **pP 00 26 00.2 +4.8**
SSF pmax pmax
comp=Z,10.0nm,0.9s
SSF Saint Saulge 87.70 333 eP P 00 25 40.2 -0.1
comp=Z,10nm,0.9s
SSF epP **pP 00 26 00.2 +4.8**
LPL La Plagne 87.77 330⇑ iP P 00 25 40.5 -0.4
comp=Z,8.6nm,0.8s
LPL La Plagne 87.77 330⇑ iP P 00 25 40.5 -0.4
LPL pmax pmax
comp=Z,9.0nm,0.8s
LPL La Plagne 87.77 330⇑ iP P 00 25 40.5 -0.4
comp=Z,8.6nm,0.8s
LPG La Plagne 87.77 330⇑ iP P 00 25 40.7 -0.3
comp=Z,16nm,0.8s
LPG La Plagne 87.77 330⇑ iP P 00 25 40.7 -0.3
LPG pmax pmax
comp=Z,16nm,0.8s
LPG La Plagne 87.77 330⇑ iP P 00 25 40.7 -0.3
comp=Z,16nm,0.8s
HYF Humbligny 87.84 333 eP P 00 25 41.2 +0.3
HYF Humbligny 87.84 333 eP P 00 25 41.2 +0.3
425A Indio Mountain 88.02 52 ⇑P P 00 25 42.7 +0.5
baz=88
GRR Gorron 88.07 336⇑ iP P 00 25 42.0 +0.1
comp=Z,33nm,0.9s
GRR epP **pP 00 26 02.1 +5.0**
GRR Gorron 88.07 336⇑ iP P 00 25 42.0 +0.1
GRR e*PP **pP 00 26 02.1 +5.0**
GRR pmax pmax
comp=Z,33nm,0.9s
GRR Gorron 88.07 336⇑ iP P 00 25 42.0 +0.1
comp=Z,33nm,0.9s
GRR epP **pP 00 26 02.1 +5.0**
326A Caldwell Ranch 88.28 51 ⇓P P 00 25 43.4 0.0
baz=88
Z29A Hungry Hill Ra 88.31 48 ⇑P P 00 25 44.2 +0.7
baz=88
BGF Bois d'Agland 88.37 333 eP P 00 25 43.4 0.0
BGF Bois d'Agland 88.37 333 eP P 00 25 43.4 0.0
BGF Bois d'Agland 88.37 333 eP P 00 25 43.4 0.0
MBDF Montbardon 88.40 329 eP P 00 25 42.8 -1.0
MBDF Montbardon 88.40 329 eP P 00 25 42.8 -1.0
MBDF Montbardon 88.40 329 eP P 00 25 42.8 -1.0
ORIF Oris-en-Rattie 88.60 330 eP P 00 25 44.3 -0.4
ORIF eR
comp=Z,220nm,22.5s
ORIF Oris-en-Rattie 88.60 330 eP P 00 25 44.3 -0.4
ORIF Oris-en-Rattie 88.60 330 eP P 00 25 44.3 -0.4
426A McDonald Obser 88.70 52 ⇑P P 00 25 45.3 -0.3
baz=88
SGMF Saint Gilles 88.73 337⇑ iP P 00 25 45.2 +0.1
comp=Z,24nm,0.8s
SGMF Saint Gilles 88.73 337⇑ iP P 00 25 45.2 +0.1
SGMF pmax pmax
comp=Z,24nm,0.8s
SGMF Saint Gilles 88.73 337⇑ iP P 00 25 45.2 +0.1
comp=Z,24nm,0.8s
TCF Toulx Ste Croi 88.83 333 eP P 00 25 45.7 0.0
TCF Toulx Ste Croi 88.83 333 eP P 00 25 45.7 0.0
TCF Toulx Ste Croi 88.83 333 eP P 00 25 45.7 0.0
ROSF Rostrenen 88.88 337⇑ iP P 00 25 45.9 +0.1
comp=Z,20nm,0.8s
ROSF Rostrenen 88.88 337⇑ iP P 00 25 45.9 +0.1
ROSF pmax pmax
comp=Z,20nm,0.8s
ROSF Rostrenen 88.88 337⇑ iP P 00 25 45.9 +0.1
comp=Z,20nm,0.8s
328A Wristen Ranch, 88.96 50 ⇓P P 00 25 46.7 +0.1
baz=89
427A Hayter Ranch, 88.96 51 ⇑P P 00 25 46.8 +0.1
baz=89
526A Mary Lane Ranc 89.08 52 ⇓P P 00 25 47.8 +0.6
baz=89,SNR=5.8
VIVF Saint-Julien-l 89.12 331 eP P 00 25 47.4 +0.3
VIVF Saint-Julien-l 89.12 331 eP P 00 25 47.4 +0.3
VIVF Saint-Julien-l 89.12 331 eP P 00 25 47.4 +0.3
QUIF Quistinic 89.22 337⇑ iP P 00 25 47.2 -0.1
comp=Z,12nm,0.7s
QUIF Quistinic 89.22 337⇑ iP P 00 25 47.2 -0.1
QUIF pmax pmax
comp=Z,12nm,0.7s
QUIF Quistinic 89.22 337⇑ iP P 00 25 47.2 -0.1
comp=Z,12nm,0.7s
MFF Saint Martin d 89.39 335⇑ iP P 00 25 48.5 +0.3
comp=Z,13nm,0.8s
MFF Saint Martin d 89.39 335⇑ iP P 00 25 48.5 +0.3
MFF pmax pmax
comp=Z,13nm,0.8s
MFF Saint Martin d 89.39 335⇑ iP P 00 25 48.5 +0.3
comp=Z,13nm,0.8s
626A Big Bend Ranch 89.40 52 ⇑P P 00 25 48.7 0.0
baz=89
TUL1 Tulsa 89.75 43 ⇑P P 00 25 50.5 +0.4
baz=90
528A Cox Ranch, San 89.82 51 ⇓P P 00 25 51.4 +0.7
baz=90,SNR=7.2
TXAR Lajitas Array 89.85 52 P P 00 25 51.2 +0.4
TXAR pP **pP 00 26 07.0 +1.0**
TXAR Lajitas Array 89.85 52 P P 00 25 51.2 +0.4
comp=Z,5.5nm,0.7s,baz=297,slow=3.1,SNR=62
TXAR pP **pP 00 26 07.0 +1.0**
comp=Z,3.7nm,0.8s,baz=291,slow=3.5,SNR=10
RJF Les Rejaudoux 89.93 333⇑ iP P 00 25 51.0 +0.2
comp=Z,8.6nm,0.8s
RJF epP **pP 00 26 11.0 +5.1**
RJF eR
comp=Z,230nm,19.2s
RJF Les Rejaudoux 89.93 333⇑ iP P 00 25 51.0 +0.2
RJF e*PP **pP 00 26 11.0 +5.1**
RJF pmax pmax
comp=Z,9.0nm,0.8s
RJF Les Rejaudoux 89.93 333⇑ iP P 00 25 51.0 +0.2
comp=Z,8.6nm,0.8s
RJF epP **pP 00 26 11.0 +5.1**
627A Terlingua Ranc 89.94 52 ⇑P P 00 25 51.4 +0.1
baz=90
429A Davenport Ranc 90.05 50 ⇑P P 00 25 51.8 +0.1
baz=90
CAF Calviac 90.05 332⇑ iP P 00 25 51.9 +0.5
comp=Z,4.9nm,0.6s
CAF epP pP 00 26 12.0 +5.5
CAF Calviac 90.05 332⇑ iP P 00 25 51.9 +0.5
CAF e*PP pP 00 26 12.0 +5.5
CAF pmax pmax
comp=Z,5.0nm,0.6s
CAF Calviac 90.05 332⇑ iP P 00 25 51.9 +0.5
comp=Z,4.9nm,0.6s
CAF epP pP 00 26 12.0 +5.5
529A Stev Forest Ra 90.20 51 ⇓P P 00 25 52.5 +0.1
baz=90
628A Black Gap, Mar 90.23 52 ⇑P P 00 25 53.0 +0.4
baz=90
430A Baggett Ranch, 90.34 50 ⇑P P 00 25 53.4 +0.4
baz=90
LFF La Frestale 90.52 333 eP P 00 25 53.9 +0.4
LFF La Frestale 90.52 333 eP P 00 25 53.9 +0.4
LFF La Frestale 90.52 333 eP P 00 25 53.9 +0.4
SFIN Scholer Farm 90.64 35 ⇓P P 00 25 54.4 +0.3
baz=90
JCT Junction City 91.42 49 ⇑P P 00 25 58.4 +0.4
baz=91
MIAR Mount Ida 91.98 43 eP P 00 26 00.7 +0.2
MIAR e*PP **pP 00 26 16.0 +0.3**
MIAR pmax pmax
comp=Z,9.0nm,0.8s
MIAR Mount Ida 91.98 43 eP P 00 26 00.7 +0.2
comp=Z,9.1nm,0.8s
MIAR epP **pP 00 26 16.0 +0.3**
EPF Esparros 92.31 333 eP P 00 26 02.2 +0.2
EPF Esparros 92.31 333 eP P 00 26 02.2 +0.2
EPF Esparros 92.31 333 eP P 00 26 02.2 +0.2
ETSF Etsaut 92.76 333 eP P 00 26 04.5 +0.5
ETSF Etsaut 92.76 333 eP P 00 26 04.5 +0.5
ETSF Etsaut 92.76 333 eP P 00 26 04.5 +0.5
SJPF Ste Jean 92.81 334 eP P 00 26 04.7 +0.5
comp=Z,27nm,1.4s
SJPF Ste Jean 92.81 334 eP P 00 26 04.7 +0.5
SJPF pmax pmax
comp=Z,27nm,1.4s
SJPF Ste Jean 92.81 334 eP P 00 26 04.7 +0.5
comp=Z,27nm,1.4s
ESDC Sonseca Array 96.81 334 P P 00 26 22.3 -0.3
ESDC Sonseca Array 96.81 334 P P 00 26 22.3 -0.3
comp=Z,0.1nm,0.3s,baz=45,slow=3.8,SNR=4.3
ESDC LR LR 01 12 12.7
comp=Z,185nm,20.1s,baz=180,slow=37
TORD Torodi Ar. Bea 116.93 315 PKP PKPdf 00 31 35.9 -0.8
TORD pPKP pPKPdf 00 31 51.1 -1.3
TORD PP PP 00 32 35.9 -10
TORD PKKP **PKKPdf 00 42 22.4 -4.7**
TORD Torodi Ar. Bea 116.93 315 PKP PKPdf 00 31 35.9 -0.8
comp=Z,0.9nm,0.6s,baz=33,slow=2.3,SNR=20
TORD pPKP pPKPdf 00 31 51.1 -1.3
comp=Z,0.3nm,0.5s,baz=5.9,slow=2.7,SNR=1.6
TORD PP PP 00 32 35.9 -10
comp=Z,2.4nm,1.0s,baz=25,slow=6.4,SNR=5.5
TORD PKKP **PKKPdf 00 42 22.4 -4.7**
comp=Z,0.9nm,1.0s,baz=215,slow=4.4,SNR=4.5
DBIC Dimbokro 125.88 317 PKP PKPdf 00 31 53.1 -0.8
DBIC Dimbokro 125.88 317 PKP PKPdf 00 31 53.1 -0.8
comp=Z,4.0nm,0.7s,baz=41,slow=4.8,SNR=9.8
LIC Lamto 126.34 317 ePKIKP PKPdf 00 31 54.0 -0.8
comp=Z,10nm,0.8s
LIC Lamto 126.34 317 ePKPdf PKPdf 00 31 54.0 -0.8
BOSA Boshof 126.62 260 PKP PKPdf 00 31 54.7 -0.3
BOSA Boshof 126.62 260 PKP PKPdf 00 31 54.7 -0.3
comp=Z,4.1nm,0.8s,baz=143,slow=1.6,SNR=5.7
SAML Samuel 143.92 44 ePKPdf PKPab 00 32 24.4 -0.2
LPAZ La Paz 146.47 59 PKPbc PKPbc 00 32 33.8 -0.1
LPAZ pPKPbc pPKPbc 00 32 49.0 -0.4
LPAZ La Paz 146.47 59 PKPbc PKPbc 00 32 33.8 -0.1
comp=Z,6.1nm,0.7s,baz=319,slow=1.8,SNR=42
LPAZ pPKPbc pPKPbc 00 32 49.0 -0.4
comp=Z,13nm,0.6s,baz=11,slow=4.0,SNR=11
PLCA Paso Flores 155.12 107 PKPab PKPab 00 33 10.7 +1.4
PLCA pPKPab **pPKPab 00 33 25.8 +1.2**
PLCA Paso Flores 155.12 107 PKPab PKPab 00 33 10.7 +1.4
comp=Z,2.6nm,0.9s,baz=233,slow=2.8,SNR=2.9
PLCA pPKPab **pPKPab 00 33 25.8 +1.2**
comp=Z,5.5nm,0.9s,baz=217,slow=6.3,SNR=4.1
BDFB Brasilia 156.66 23 PKPab PKPab 00 33 16.6 +0.3
BDFB Brasilia 156.66 23 PKPab PKPab 00 33 16.6 +0.3
comp=Z,2.8nm,0.7s,baz=124,slow=3.0,SNR=4.2

PRE 17 00:14:17.2±0.5, 4°.10S×34°.80E, h10km, ML3.4, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**3.84**	**40**	*eP*	Pn	00 15 17.2	+0.5
KMBO				*eS*	Sn	00 16 01.6	-0.5
KIG	**Kigali**	**5.19**	**294**	*eP*	Pn	00 15 36.3	+1.1
KIG				*eS*	Sn	00 16 33.9	-1.4
KIG				AML	AML	00 17 08.4	
comp=Z,48nm,0.4s							
MBAR	**Mbarara**	**5.34**	**310**	*eP*	Pn	00 15 38.1	+0.8
MBAR				*eS*	Sn	00 16 37.4	-1.8

PRE 17 00:16:33.8±0.8, 4°.13S×34°.93E, h10km, ML3.7, Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**3.78**	**38**	*eP*	Pn	00 17 33.2	+0.7
KMBO				*eS*	Sn	00 18 16.4	-0.9
KIG	**Kigali**	**5.31**	**294**	*eS*	Sn	00 18 53.6	-1.4
KIG				AML	AML	00 19 23.0	
comp=Z,85nm,0.5s							
MBAR	**Mbarara**	**5.46**	**310**	*eP*	Pn	00 17 56.9	+1.4
MBAR				*eS*	Sn	00 18 56.1	-2.5
MBAR				AML	AML	00 19 27.9	
comp=Z,95nm,0.2s							
LSZ	**Lusaka**	**12.91**	**210**	*eS*	Sn	00 21 54.5	-7.3

NNC ***17*** *00:26:47.6±0.9, 46°.70N×84°.81E, h0km, mb4.3, mpv4.4, Error ellipse: s-maj=6.8km s-min=4.1km az=91.0*
ISCJB ***17*** *00:26:50.0±0.3, 46°.71N±0°.03×84°.54E±0°.05, h10km, mb4.0/20, Error ellipse: s-maj=5.1km s-min=3.4km az=156.3*
LDG ***17*** *00:26:49.4±0.2, 46°.74N×84°.65E, h10km, Mb4.4/9, Error ellipse: s-maj=8.9km s-min=7.3km az=48.0*
IDC ***17*** *00:26:50.2±0.7, 46°.69N×84°.69E, h0km, mb3.9/12, mb1 4.1/17, mb1mx4.0/30, mbtmp4.0/17, ML4.1/5, Error ellipse: s-maj=12.2km s-min=9.1km az=19.0*
MOS ***17*** *00:26:52.9±1.4, 46°.71N×84°.42E, h28km, mb4.2/9, Error ellipse: s-maj=10.8km s-min=7.3km az=103.9*
BJI ***17*** *00:26:53.2, 46°.68N×84°.50E, h14km, mB4.3/1, mb4.4/4, ML4.1/9*
ASRS ***17*** *00:26:57.6±2.3, 46°.90N×85°.22E, h15km, Ms3.6/4*
ISC 17 00:26:53.1±0.4, 46°.67N±0°.03×84°.41E±0°.03, h10km, n82, σ1s54/100, mb4.1/20, 17C-9D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**1.46**	**276**	*iP*	**Pn**	**00 27 19.7**	**+0.1**
251nm,0.4s,baz=90,slow=18							
MK31				*iS*	**Sg**	**00 27 42.9**	**+2.8**
200nm,0.3s,baz=81,slow=32,SNR=10							
MK31	**Makanchi Array**	**1.46**	**276**	PG	**Pb**	**00 27 20.6**	**+0.2**
MK31				S	**Sg**	**00 27 42.8**	**+2.8**
MK31				pmax	pmax		
comp=Z,337nm,0.2s							
MK31				smax	smax		
comp=Z,551nm,0.2s							
MKAR	**Makanchi Array**	**1.46**	**276**	PN	**Pb**	**00 27 20.8**	**+0.4**
MKAR				pmax	pmax		
comp=Z,283nm,0.3s							
MKAR	**Makanchi Array**	**1.46**	**276**	Pn	**Pb**	**00 27 20.8**	**+0.4**
comp=Z,282nm,0.3s,baz=94,slow=13,SNR=5268							
MKAR				Lg	Lg	00 27 41.6	
comp=Z,104nm,0.3s,baz=83,slow=20,SNR=6.2							
WMQ	**Urumqi**	**3.68**	**140**	Pn	**Pn**	**00 27 50.5**	**+0.4**
WMQ				Pg	**Pb**	**00 28 00.3**	**+2.1**
WMQ				Sn	**Sn**	**00 28 36.6**	**+3.1**
WMQ				Sg	**Sb**	**00 28 45.6**	**+2.7**
WMQ				smax	smax		
comp=N,960nm,0.7s							
WMQ				smax	smax		
comp=E,880nm,0.7s							
AKAR	**Aktash**	**4.23**	**29**	*e*Sg	**Sn**	**00 28 51.8**	**+4.6**
UKR	**Ust'-Kan**	**4.28**	**3**	*e*Pn	**Pn**	**00 27 59.5**	**+1.2**
UKR				*e*Sg	**Sb**	**00 29 01.9**	**+1.8**
UKR	**Ust'-Kan**	**4.28**	**3**	*e*PN	**Pn**	**00 27 59.5**	**+1.2**
UKR				*e*		00 29 01.9	
ARTR	**Artybash**	**5.46**	**19**	*e*Pn	**Pn**	**00 28 15.6**	**+1.0**
ARTR				*e*Pg	**Pb**	**00 28 31.1**	**+2.5**
ARTR				*e*Sn	**Sn**	**00 29 15.7**	**-1.7**
ARTR				*e*Sg	**Sb**	**00 29 38.4**	**+4.2**
ARTR	**Artybash**	**5.46**	**19**	*e*PN	**Pn**	**00 28 15.6**	**+1.0**
ARTR				*e*		00 28 31.1	
ARTR				*e*		00 29 15.7	
ARTR				*e*		00 29 38.4	
KURBB	**Kurchatov Arra**	**5.55**	**318**	Pn	**Pn**	**00 28 15.7**	**0.0**
comp=E,2.4nm,0.3s,baz=132,slow=12,SNR=178							
KURBB				Pg	**Pb**	**00 28 28.6**	**-1.4**
comp=E,2.0nm,0.3s,baz=133,slow=19,SNR=11							
KURBB				Lg	Lg	00 29 44.4	
comp=E,12nm,0.3s,baz=136,slow=30,SNR=14							
KURK	**Kurchatov**	**5.57**	**319**	⇑Pn	**Pn**	**00 28 13.4**	**-2.6**
comp=E,16nm,0.4s							
KURK				⇑Lg	Lg	00 29 49.7	
comp=E,342nm,0.6s							
KURK	**Kurchatov**	**5.57**	**319**	PN	**Pn**	**00 28 15.7**	**-0.3**
KURK				pmax	pmax		
comp=Z,2.0nm,0.3s							
KURK				pmax	pmax		
comp=Z,2.0nm,0.3s							
KNDC	**Almaty**	**6.31**	**239**	⇓Pg	**Pb**	**00 28 46.2**	**+3.2**
comp=Z,18nm,0.5s							
KNDC				⇑Lg	Lg	00 30 16.8	
comp=Z,156nm,0.7s							
ELT	**Yel'tsovka**	**6.70**	**9**	*e*Pn	**Pn**	**00 28 32.4**	**+0.9**
ELT				*e*Sn	**Sn**	**00 29 46.3**	**-1.5**
ELT				*e*Sg	Sg	00 30 20.2	-7.8
ELT	**Yel'tsovka**	**6.70**	**9**	*e*PN	**Pn**	**00 28 32.4**	**+0.9**
ZALV	**Zalesovo Beam**	**7.29**	**2**	P	**Pn**	**00 28 37.8**	**-1.7**
ZALV						00 30 00.7	
ZALV				pmax	pmax		
comp=Z,4.0nm,0.3s							
ZALV				smax	smax		
comp=N,8.0nm,0.3s							
ZALV	**Zalesovo Beam**	**7.29**	**2**	Pn	**Pn**	**00 28 37.8**	**-1.7**
comp=N,3.7nm,0.3s,baz=185,slow=12,SNR=37							
ZALV				Sn	**Sn**	**00 30 00.7**	**-1.6**
comp=N,7.5nm,0.3s,baz=182,slow=26,SNR=8.7							
ZALV				Lg	Lg	00 30 39.4	
comp=N,7.9nm,0.3s,baz=192,slow=27,SNR=8.1							
TKM2	**Tokmak 2**	**7.30**	**242**	⇓Pn	**Pn**	**00 28 40.7**	**+0.7**
comp=N,7.5nm,0.6s							
TKM2				⇑Lg	Lg	00 30 48.2	
comp=N,47nm,0.7s							
AAK	**Ala-Archa**	**8.14**	**244**	P	**Pn**	**00 28 53.5**	**+2.1**
AAK				pmax	pmax		
comp=Z,1.0nm,0.3s							
AAK	**Ala-Archa**	**8.14**	**244**	Pn	**Pn**	**00 28 53.5**	**+2.1**
comp=Z,0.9nm,0.3s,baz=78,slow=7.2,SNR=19							
AAK				Lg	Lg	00 31 09.9	
comp=Z,0.7nm,0.3s,baz=12,slow=23,SNR=3.8							
NVS	**Novosibirsk**	**8.21**	**355**	*e*Pn	**Pn**	**00 28 51.5**	**-0.7**
NVS				*e*Sg	Sg	00 31 08.1	-8.3
NVS	**Novosibirsk**	**8.21**	**355**	*e*P	**Pn**	**00 28 51.5**	**-0.7**
KK31	**Karatay Array**	**10.48**	**255**	⇑Pn	**Pn**	**00 29 24.0**	**+0.6**
comp=Z,0.9nm,0.3s,baz=61,slow=14,SNR=38							
KK31				⇑Lg	Lg	00 32 24.9	
comp=Z,9.0nm,0.5s,baz=67,slow=27,SNR=3.7							
KK31	**Karatay Array**	**10.48**	**255**	P	**Pn**	**00 29 23.3**	**-0.1**
KK31				pmax	pmax		
comp=Z,2.0nm,0.2s							
KK31				pmax	pmax		
comp=Z,10.0nm,0.5s							
VOSK	**Vostochnaya**	**10.59**	**310**	⇑Pn	**Pn**	**00 29 23.3**	**-1.5**
comp=Z,4.5nm,0.4s							
VOSK				⇑Sn	**Sn**	**00 31 25.6**	**+2.2**
comp=Z,14nm,0.5s							
VOSK				⇑Lg	Lg	00 32 31.1	
comp=Z,92nm,1.3s							
BVA0	**Borovoye Array**	**11.05**	**310**	⇓Pn	**Pn**	**00 29 30.3**	**-0.7**
comp=Z,0.4nm,0.4s,baz=126,slow=14,SNR=62							
BVA0				⇑Sn	**Sn**	**00 31 36.9**	**+2.3**
comp=Z,1.4nm,0.7s,baz=106,slow=24,SNR=4.6							
BVA0				⇑Lg	Lg	00 32 44.8	
comp=Z,8.4nm,1.3s,baz=119,slow=26,SNR=4.2							
BVA0	**Borovoye Array**	**11.05**	**310**	*i* P	**Pn**	**00 29 30.5**	**-0.6**
BVA0				*i*		00 31 29.7	
BVA0				pmax	pmax		
comp=Z,1.0nm,0.4s							
BVA0				smax	smax		
comp=Z,2.0nm,0.4s							
BVAR	**Borovoye Array**	**11.05**	**310**	P	**Pn**	**00 29 30.0**	**-1.1**
BVAR						00 31 29.0	
BVAR				pmax	pmax		
comp=Z,2.0nm,0.3s							
BVAR				smax	smax		
comp=N,3.0nm,0.3s							
BVAR	**Borovoye Array**	**11.05**	**310**	Pn	**Pn**	**00 29 30.0**	**-1.1**
comp=N,2.2nm,0.3s,baz=104,slow=13,SNR=68							
BVAR				Sn	Sn	00 31 29.0	-5.6
comp=N,3.0nm,0.3s,baz=107,slow=22,SNR=7.7							
BVAR				Lg	Lg	00 32 35.7	
comp=N,1.8nm,0.3s,baz=111,slow=28,SNR=3.4							
BRVK	**Borovoye**	**11.12**	**310**	⇑Pn	**Pn**	**00 29 31.3**	**-0.8**
comp=N,9.5nm,0.6s							
BRVK				⇑Sn	**Sn**	**00 31 38.5**	**+2.1**
comp=N,12nm,0.6s							
BRVK				⇓Lg	Lg	00 32 47.0	
comp=N,106nm,0.9s							
ZRNK	**Zerenda**	**11.76**	**308**	⇓Pn	**Pn**	**00 29 39.1**	**-1.6**
comp=N,7.3nm,0.6s							
ZRNK				⇑Sn	**Sn**	**00 31 54.6**	**+2.7**
comp=N,13nm,1.1s							
ZRNK				⇓Lg	Lg	00 33 07.6	
comp=N,82nm,1.2s							
GTA	**Gaotai**	**13.39**	**117**	*e*P	**P**	**00 30 13.3**	**+0.4**
GTA				pP	pP	00 30 17.3	
GTA				sP		00 30 19.3	
GTA				pmax	pmax		
comp=Z,3.0nm,1.2s							
SONM	**Songino Array**	**14.97**	**78**	Pn	**Pn**	**00 30 25.4**	**+0.6**
comp=Z,0.2nm,0.3s,baz=266,slow=13,SNR=5.8							
SONM				Lg	Lg	00 34 36.8	
comp=Z,0.3nm,0.3s,baz=264,slow=30,SNR=5.4							
AB31	**Akbulak array**	**16.57**	**288**	Pn	**Pn**	**00 30 43.2**	**-2.1**
comp=Z,3.5nm,0.6s,baz=90,slow=15,SNR=63							
AB31				⇓Lg	Lg	00 35 43.4	
comp=Z,15nm,1.0s							
AB31	**Akbulak array**	**16.57**	**288**	*i* P	**Pn**	**00 30 42.9**	**-2.4**
AB31				pmax	pmax		
comp=Z,1.0nm,0.2s							
AKTO	**Aktyubinsk**	**17.83**	**292**	⇑Pn	**Pn**	**00 31 00.6**	**-0.6**
comp=Z,0.3nm,0.5s							
AKTO				⇓Lg	Lg	00 36 22.7	
comp=Z,2.8nm,1.3s							
AKTO	**Aktyubinsk**	**17.83**	**292**	P	**Pn**	**00 31 00.8**	**-0.4**
AKTO				pmax	pmax		
comp=Z,1.0nm,0.3s							
AKTO	**Aktyubinsk**	**17.83**	**292**	P	**Pn**	**00 31 00.8**	**-0.4**
comp=Z,0.7nm,0.3s,baz=90,slow=12,SNR=14							
AKTO				S	**S**	**00 34 28.7**	**+2.1**
comp=Z,0.1nm,0.3s,baz=90,slow=20,SNR=2.3							
AKTO				Lg	Lg	00 36 23.0	
comp=Z,0.1nm,0.3s,baz=21,slow=7.4,SNR=4.9							
LZH	**Lanzhou**	**17.97**	**119**	*e*P	**Pn**	**00 31 00.8**	**-2.3**
LZH				PP	**PnPn**	**00 31 15.8**	**+1.9**
LZH				pmax	pmax		
comp=Z,20nm,1.0s							
LZH				pmax	pmax		
comp=Z,55nm,4.1s							
DANN	**Dangsing**	**18.30**	**182**	*e*P	**Pn**	**00 31 06.1**	**-1.2**
comp=Z,12nm,0.4s							
GKN	**Gorkha**	**18.64**	**179**	*e*P	**P**	**00 31 10.0**	**-1.0**
comp=Z,6.6nm,0.3s							
ARU	**Arti**	**18.70**	**311**	*d iP*	**P**	**00 31 11.7**	**+0.4**

ARU						pmax	pmax		
	comp=Z,9.0nm,1.7s								
GUN	**Gumba**	**18.76**	**176**		*e*P	**P**		**00 31 11.6**	**-1.0**
	comp=Z,29nm,0.5s								
KKN	**Kakani**	**18.86**	**178**		*e*P	**P**		**00 31 12.9**	**-0.7**
	comp=Z,13nm,0.5s								
KOLN	**Koldanda**	**18.88**	**182**		*e*P	**P**		**00 31 12.4**	**-1.3**
JIRN	**Jiri**	**19.03**	**175**		*e*P	**P**		**00 31 15.4**	**-0.2**
	comp=Z,6.9nm,0.4s								
PKI	**Pulchoki**	**19.08**	**177**		*e*P	**P**		**00 31 15.0**	**-1.1**
TAPN	**Taplejung**	**19.46**	**171**		*e*P	**P**		**00 31 19.4**	**-0.8**
RAMN	**Ramite**	**19.76**	**174**		*e*P	**P**		**00 31 22.1**	**-1.4**
	comp=Z,9.9nm,0.5s								
ODAN	**Odare**	**19.92**	**172**		*e*P	**P**		**00 31 24.5**	**-0.6**
	comp=Z,13nm,0.4s								
BOD	**Bodaibo**	**21.09**	**47**		*e*P	**P**		**00 31 35.0**	**-2.4**
BOD						pmax	pmax		
	comp=Z,5.0nm,0.9s								
CMAR	**Chiang Mai Arr**	**30.58**	**152**		P	**P**		**00 33 05.9**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=331,slow=11,SNR=10								
FINES	**FINESS Array B**	**35.94**	**316**		P	**P**		**00 33 52.6**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=71,slow=7.3,SNR=7.0								
ARCES	**ARCESS Array B**	**36.49**	**330**		P	**P**		**00 33 57.2**	**-0.8**
	comp=Z,1.7nm,0.7s,baz=81,slow=7.5,SNR=4.9								
BRTR	**Keskin Array B**	**37.11**	**278**		P	**P**		**00 34 04.5**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=75,slow=11,SNR=1.9								
NB2	**NORSAR Subarra**	**43.08**	**317**		P	**P**		**00 34 52.0**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=72,slow=7.9								
NOA	**NORSAR Array B**	**43.08**	**317**		P	**P**		**00 34 51.6**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=74,slow=7.9,SNR=6.8								
SFTF	**Sexfontaines**	**51.39**	**303**		*e*P	**P**		**00 35 57.8**	**0.0**
LPG	**La Plagne**	**51.76**	**299**		*e*P	**P**		**00 36 01.2**	**+0.3**
	comp=Z,3.4nm,0.5s								
LPL	**La Plagne**	**51.76**	**299**		*e*P	**P**		**00 36 01.1**	**+0.3**
	comp=Z,4.8nm,0.5s								
PGF	**Pioggiola**	**51.92**	**295**		*e*P	**P**		**00 36 01.5**	**-0.4**
SSF	**Saint Saulge**	**52.87**	**302**		*e*P	**P**		**00 36 08.0**	**-0.8**
TCF	**Toulx Ste Croi**	**54.03**	**302**		*e*P	**P**		**00 36 17.1**	**-0.3**
LDF	**La Druitiere**	**54.13**	**305**		*e*P	**P**		**00 36 17.5**	**-0.6**
	comp=Z,4.9nm,0.5s								
FLN	**La Foliniere**	**54.25**	**306**		*e*P	**P**		**00 36 18.4**	**-0.5**
	comp=Z,4.4nm,0.5s								
GRR	**Gorron**	**54.66**	**305**		*e*P	**P**		**00 36 21.3**	**-0.6**
	comp=Z,5.0nm,0.6s								
CAF	**Calviac**	**54.86**	**301**		*e*P	**P**		**00 36 23.5**	**+0.1**
RJF	**Les Rejaudoux**	**54.98**	**301**		*e*P	**P**		**00 36 24.3**	**+0.1**
MFF	**Saint Martin d**	**55.23**	**303**		*e*P	**P**		**00 36 25.3**	**-0.7**
LFF	**La Frestale**	**55.64**	**301**		*e*P	**P**		**00 36 28.7**	**-0.3**
	comp=Z,3.8nm,0.6s								
SGMF	**Saint Gilles**	**55.68**	**306**		*e*P	**P**		**00 36 28.5**	**-0.7**
ROSF	**Rostrenen**	**56.03**	**306**		*e*P	**P**		**00 36 31.6**	**-0.2**
QUIF	**Quistinic**	**56.21**	**306**		*e*P	**P**		**00 36 32.8**	**-0.2**
EPF	**Esparros**	**56.96**	**300**		*e*P	**P**		**00 36 37.6**	**-0.9**
	comp=Z,2.5nm,0.6s								
ESDC	**Sonseca Array**	**61.56**	**299**		P	**P**		**00 37 10.3**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=49,slow=7.1,SNR=9.7								
ILAR	**Eielson Array**	**61.93**	**22**		P	**P**		**00 37 10.8**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=319,slow=5.4,SNR=13								
YKA	**Yellowknife Ar**	**70.13**	**9**		P	**P**		**00 38 03.6**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=341,slow=6.5,SNR=7.6								
TORD	**Torodi Ar. Bea**	**75.58**	**274**		P	**P**		**00 38 37.4**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=39,slow=5.1,SNR=13								
WRA	**Warramunga Arr**	**80.15**	**133**		P	**P**		**00 39 01.7**	**-1.7**
	comp=Z,1.8nm,0.5s,baz=338,slow=5.3,SNR=28								
ASAR	**Alice Springs**	**83.07**	**135**		P	**P**		**00 39 17.4**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=345,slow=5.5,SNR=6.1								
ULM	**Lac du Bonnet**	**83.46**	**0**		P	**P**		**00 39 19.2**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=349,slow=10,SNR=2.1								

*IDC **17** 00:47:41.3±1.1, 52.°03N×101.°48E, h0km, mb3.8/4, mb1 3.7/6, mb1mx3.4/27, mbtmp3.6/6, ML2.7/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/44, Error ellipse: s-maj=29.4km s-min=15.2km az=25.0*

*MOS **17** 00:47:42.0±1.6, 51.°88N×101.°01E, h12km, mb4.6/1, Error ellipse: s-maj=9.8km s-min=9.7km az=81.5*

MOS Felt (II-III) Mondy, Orlik.

*BYKL **17** 00:47:43.6±0.6, 51.°87N×101.°01E, FELT I=IV MSK at Mondy and III at Sorok,Orlik and II at Irkutsk.*

*NNC **17** 00:47:46.8±5.7, 49.°02N×101.°40E, h0km, mb3.7, Error ellipse: s-maj=61.2km s-min=44.4km az=72.0*

ISC 17 00:47:40.7±1.2, 51.°94N±0.°03×101.°15E±0.°02, h0km±9km, n57, σ1s75/70, mb3.6/4, 10C-16D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MOY	**Mondy**	**0.29**	**200**	⇑	*i*Pg	**Pg**		**00 47 47.6**	**+1.3**
MOY					*e*			00 47 50.9	
MOY					pmax	pmax			
	comp=Z,9μm,0.1s								
MOY					smax	smax			
	comp=N,8μm,0.3s								
MOY	**Mondy**	**0.29**	**200**	⇑	*i*Pg	**Pg**		**00 47 47.7**	**+1.4**
MOY					Pmax			00 47 48.7	
	comp=N,3μm,0.3s								
MOY					*e*Sg	**Sg**		**00 47 51.0**	**+0.9**
MOY					Smax			00 47 51.4	
	comp=N,15μm,0.5s								
ARS	**Arshan**	**0.79**	**91**		*e*PG	**Pn**		**00 47 59.6**	**+0.4**
ARS	**Arshan**	**0.79**	**91**	⇑	*i*Pg	**Pn**		**00 47 59.4**	**+0.2**
ARS					Pmax			00 48 01.8	
	comp=N,912nm,0.3s								
ARS					*e*Sg	**Sn**		**00 48 11.3**	**-0.4**
ARS					Smax			00 48 14.2	
	comp=N,3μm,0.5s								
ORL	**Orlik**	**1.02**	**306**		*e*PG	**Pn**		**00 48 01.5**	**-0.9**
ORL					*e*			00 48 14.7	
ORL					pmax	pmax			
	comp=Z,558nm,0.3s								
ORL					smax	smax			
	comp=N,7μm,0.4s								
ORL	**Orlik**	**1.02**	**306**	⇓	*i*Pg	**Pn**		**00 48 01.5**	**-0.9**
ORL					*e*Pb	**Pb**		**00 48 02.9**	**+1.6**
ORL					max			00 48 05.3	
	comp=N,446nm,0.3s								
ORL					*e*Sg	**Sb**		**00 48 14.7**	**-0.6**
ORL					Smax			00 48 15.2	
	comp=N,7μm,0.4s								
ORL					*e*Sb	**Sn**		**00 48 16.9**	**-0.5**
TLY	**Talaya**	**1.57**	**99**	⇓	*i*PN	**Pg**		**00 48 12.0**	**+1.3**
TLY					*e*			00 48 33.8	
TLY					pmax	pmax			
	comp=Z,408nm,0.4s								
TLY					smax	smax			
	comp=E,1μm,0.7s								
TLY	**Talaya**	**1.57**	**99**	⇓	*i*Pg	**Pg**		**00 48 12.1**	**+1.3**
TLY					Pmax			00 48 12.6	
	comp=E,399nm,0.5s								
TLY					*i* Sg	**Sg**		**00 48 33.8**	**+2.7**
TLY					*e*			00 48 37.5	
TLY					max			00 48 38.5	
	comp=E,1μm,0.7s								
IRK	**Irkutsk**	**1.95**	**80**	⇓	*i*PN	**Pg**		**00 48 20.1**	**+2.1**
IRK					*e*			00 48 46.7	
IRK					pmax	pmax			
	comp=Z,2μm,0.6s								
IRK					smax	smax			
	comp=N,10μm,0.6s								
IRK	**Irkutsk**	**1.95**	**80**		*e*Pn	**Pb**		**00 48 15.5**	**-1.6**
IRK				⇓	*i*Pg	**Pg**		**00 48 20.1**	**+2.1**
IRK					Pmax			00 48 22.0	
	comp=N,816nm,0.3s								
IRK					*e*			00 48 32.2	
IRK					*i* Sg	**Sg**		**00 48 46.7**	**+3.5**
IRK					Smax			00 49 49.5	
	comp=N,10μm,0.6s								
ZAK	**Zakamensk**	**2.06**	**139**		*e*PN	**Pb**		**00 48 18.2**	**-0.8**
ZAK					*e*			00 48 19.8	
ZAK					*e*S	**Sg**		**00 48 46.7**	**-0.1**
ZAK					pmax	pmax			
	comp=Z,595nm,0.4s								
ZAK					smax	smax			
	comp=E,2μm,0.5s								
ZAK	**Zakamensk**	**2.06**	**139**		*e*Pn	**Pb**		**00 48 18.4**	**-0.6**
ZAK				⇑	*i*Pg	**Pg**		**00 48 20.0**	**-0.2**
	comp=E,120nm,0.8s								
ZAK				⇓	*i*Pg	**Pg**		**00 48 20.0**	**-0.2**
	comp=E,145nm,0.8s								
ZAK				⇓	*i*Pg	**Pg**		**00 48 20.0**	**-0.2**
	comp=E,170nm,0.8s								
ZAK					Pmax			00 48 20.5	
	comp=E,582nm,0.5s								
ZAK					*e*Sg	**Sg**		**00 48 48.6**	**+1.8**
ZAK					Smax			00 48 49.7	
	comp=E,2μm,0.8s								
ZAK					*e*			00 48 52.5	
LSTR	**Listvyanka**	**2.28**	**90**	⇑	*e*PN	**Pb**		**00 48 23.2**	**+0.5**
LSTR					*i*			00 48 24.7	
LSTR					*e*S	**Sb**		**00 48 49.8**	**-1.7**
LSTR					*e*			00 48 55.5	
LSTR					pmax	pmax			
	comp=Z,219nm,0.3s								
LSTR					smax	smax			
	comp=N,936nm,0.7s								
LSTR	**Listvyanka**	**2.28**	**90**	⇓	*i*Pn	**Pb**		**00 48 23.2**	**+0.5**
LSTR				⇓	*i*Pg	**Pg**		**00 48 24.9**	**+0.5**
LSTR					*e*			00 48 35.2	
LSTR					Pmax			00 48 35.7	
	comp=N,172nm,1.0s								
LSTR					*e*Sg	**Sg**		**00 48 56.0**	**+2.0**
LSTR					Smax			00 48 57.7	
	comp=N,936nm,0.7s								
TRG	**Tyrgan**	**3.29**	**74**		*e*PN	**Pb**		**00 48 38.8**	**-1.1**
TRG					*e*			00 48 45.7	
TRG					*e*			00 49 29.3	
TRG					pmax	pmax			
	comp=Z,274nm,0.4s								
TRG					smax	smax			
	comp=N,1μm,0.5s								
TRG	**Tyrgan**	**3.29**	**74**	⇑	*i*Pn	**Pb**		**00 48 37.8**	**-2.1**
TRG					*e*Pg	**Pg**		**00 48 43.8**	**+0.1**
TRG					Pmax			00 48 46.2	
	comp=N,275nm,0.6s								
TRG					*e*Sn	**Sb**		**00 49 18.8**	**-1.7**
TRG					*e*Sg	**Sg**		**00 49 28.5**	**+2.2**
TRG					Smax			00 49 34.1	
	comp=N,937nm,0.9s								
KAB	**Kabansk**	**3.40**	**86**		*e*PN	**Pg**		**00 48 46.1**	**+0.2**
KAB	**Kabansk**	**3.40**	**86**		*e*Pn	**Pb**		**00 48 42.2**	**+0.3**
KAB					*e*Pg	**Pg**		**00 48 46.2**	**+0.3**
KAB					Pmax			00 48 48.5	
	comp=N,376nm,0.8s								
KAB					*e*			00 49 25.1	
KAB					*e*Sg	**Sg**		**00 49 31.9**	**+1.9**
KAB					Smax			00 49 40.7	
	comp=N,2μm,0.7s								
ZRHB	**Zarechye**	**3.74**	**78**	⇓	*i*Pn	**Pb**		**00 48 45.3**	**-2.3**
ZRHB				⇑	*i*Pg	**Pg**		**00 48 52.8**	**+0.5**
ZRHB					Pmax			00 48 54.3	
	comp=N,933nm,0.9s								
ZRHB					*e*			00 49 29.8	
ZRHB					*e*			00 49 39.8	
ZRHB					*e*Sg	**Sg**		**00 49 43.6**	**+2.9**
ZRHB					Smax			00 49 57.4	
	comp=N,3μm,1.2s								
UUDB	**Ulan-Yde**	**4.03**	**89**		*e*Pn	Pb		00 48 48.9	-3.7
UUDB					*e*Pg	**Pg**		**00 48 57.2**	**-0.8**
UUDB					Pmax			00 49 07.0	
	comp=N,106nm,0.8s								
UUDB					*e*			00 49 39.8	
UUDB					*e*Sg	**Sg**		**00 49 51.1**	**+0.9**
UUDB					Smax			00 50 02.4	
	comp=N,336nm,1.0s								
OGRR	**Ongureny**	**4.26**	**64**		*e*PN	Pn		00 48 50.4	+3.5
OGRR					*e*			00 49 01.5	
OGRR					*e*S	**Sn**		**00 49 39.6**	**+2.3**
OGRR					*e*			00 49 56.3	
OGRR					pmax	pmax			
	comp=Z,108nm,0.8s								
OGRR					smax	smax			
	comp=E,975nm,0.7s								
OGRR	**Ongureny**	**4.26**	**64**		*e*Pn	Pn		00 48 50.3	+3.4
OGRR					*e*			00 48 57.8	
OGRR					*e*Pg	**Pg**		**00 49 01.6**	**-0.8**
OGRR					Pmax			00 49 04.5	
	comp=E,110nm,0.8s								
OGRR					*e*Sn	**Sn**		**00 49 41.3**	**+4.0**
OGRR					*e*Sg	**Sg**		**00 49 57.8**	**+0.2**
OGRR					Smax			00 50 03.1	
	comp=E,978nm,0.7s								
ORY	**Orie**	**4.73**	**313**	⇓	*i*PN	**Pn**		**00 48 52.5**	**-0.8**
ORY					*e*			00 49 08.0	
ORY								00 49 47.9	
ORY								00 50 12.3	
SONM	**Songino Array**	**5.33**	**138**		Pn	**Pn**		**00 49 03.3**	**+1.7**
	comp=E,0.1nm,0.3s,baz=314,slow=14,SNR=3.7								
SONM					Pg	Pb		00 49 18.5	+3.8
	comp=E,9.4nm,0.3s,baz=320,slow=18,SNR=111								
SONM					Lg	Lg		00 50 28.6	
	comp=E,60nm,0.3s,baz=318,slow=30,SNR=28								
SONM					LR	LR		00 51 12.8	
	comp=E,119nm,20.3s,baz=26,slow=40								
ULN	**Ulaanbaatar**	**5.58**	**135**		*e*Pg	Pb		00 49 23.0	+3.9
ULN					*e*			00 49 29.5	
ULN					*i* Sg	**Sg**		**00 50 37.4**	**-2.6**
SYVR	**Suvo**	**5.63**	**69**		*e*PN	Pn		00 49 09.1	+3.4
SYVR					*e*			00 49 25.0	
SYVR					*e*S	**Sn**		**00 50 13.8**	**+2.7**
SYVR					*e*			00 50 40.5	
SYVR					pmax	pmax			
	comp=Z,36nm,0.5s								
SYVR					smax	smax			
	comp=N,309nm,1.7s								
SYVR	**Suvo**	**5.63**	**69**	⇓	*i*Pn	Pn		00 49 09.2	+3.5
SYVR					*e*Pg	**Pg**		**00 49 26.5**	**-2.1**
SYVR					Pmax			00 49 28.2	
	comp=N,35nm,0.8s								
SYVR					*e*Sn	**Sn**		**00 50 14.0**	**+2.9**
SYVR					*i* Sg	**Sg**		**00 50 40.9**	**-0.7**
SYVR					Smax			00 50 46.9	
	comp=N,309nm,2.4s								
SYVR					*e*			00 50 48.4	
NIZ	**Nizh Angarsk**	**6.27**	**49**		*e*PN	Pn		00 49 18.4	+4.0
NIZ					*e*			00 49 38.4	
NIZ					*e*			00 51 01.4	
NIZ					pmax	pmax			
	comp=Z,27nm,0.6s								
NIZ					smax	smax			
	comp=N,596nm,1.4s								
NIZ	**Nizh Angarsk**	**6.27**	**49**	⇑	*i*Pn	Pn		00 49 18.0	+3.6
NIZ					*e*			00 49 27.1	
NIZ					max			00 49 28.1	
	comp=N,22nm,0.3s								
NIZ					*e*Pg	Pg		00 49 36.9	-3.9
NIZ					*e*Sn	**Sn**		**00 50 28.4**	**+1.6**
NIZ					*e*			00 50 45.2	
NIZ					*e*Sg	**Sg**		**00 51 00.1**	**-1.9**
NIZ					Smax			00 51 04.6	
	comp=N,595nm,1.3s								
YLYR	**Ulyunkhan**	**6.67**	**60**		*e*Pn	Pn		00 49 23.6	+3.8
YLYR					max			00 49 27.4	
	comp=N,1.0nm,0.2s								
YLYR					*e*Pg	Pg		00 49 45.2	-3.1
YLYR					*e*Sn	**Sn**		**00 50 39.6**	**+3.1**
YLYR					*e*Sg	**Sg**		**00 51 13.6**	**-1.0**
YLYR					Smax			00 51 16.2	
	comp=N,533nm,2.1s								
KMO	**Kumora**	**7.13**	**52**		*e*Pn	Pn		00 49 30.4	+4.2
KMO					*e*			00 49 33.1	
KMO					max			00 49 41.0	
	comp=N,38nm,0.4s								
KMO					*e*Sg	**Sg**		**00 51 28.9**	**-0.5**
KMO					Smax			00 51 33.5	
	comp=N,449nm,0.9s								
KPC	**Khapcheranga**	**7.46**	**103**		*e*PN	Pn		00 49 33.0	+2.2
KPC					*e*			00 49 58.3	
KPC					*e*			00 51 36.9	
KPC					pmax	pmax			
	comp=Z,13nm,0.3s								
KPC					smax	smax			
	comp=N,129nm,1.3s								
KPC	**Khapcheranga**	**7.46**	**103**		*e*Pn	Pn		00 49 36.0	+5.2
KPC					*e*Pg	Pg		00 49 58.6	-4.9
KPC					Pmax			00 50 02.5	
	comp=N,11nm,0.5s								
KPC					*e*			00 51 12.7	
KPC					*e*Sg	**Sg**		**00 51 37.5**	**-2.5**
KPC					Smax			00 51 49.9	
	comp=N,130nm,1.2s								
YOA	**Uoyan**	**7.50**	**52**		*e*PG	Pb		00 49 57.9	+6.2
YOA					*e*			00 51 39.6	
YOA					pmax	pmax			
	comp=Z,59nm,0.8s								
YOA					smax	smax			
	comp=N,1μm,1.4s								
YOA	**Uoyan**	**7.50**	**52**		*e*Sn	**Sn**		**00 51 01.1**	**+4.0**
YOA					*e*Sg	**Sg**		**00 51 41.7**	**+0.2**
YOA					Smax			00 51 55.9	
	comp=N,1μm,1.2s								
CIT	**Chita**	**7.66**	**85**		*e*Sg	**Sg**		**00 51 43.7**	**-2.8**
CIT					Smax			00 51 51.9	
	comp=N,144nm,0.3s								
BOD	**Bodaibo**	**9.45**	**46**		*e*P	Pn		00 50 00.5	+2.5
BOD					pmax	pmax			
	comp=Z,8.0nm,0.6s								
BOD	**Bodaibo**	**9.45**	**46**		*e*Pg	Pn		00 50 36.0	+38
BOD					Pmax			00 50 42.2	
	comp=Z,6.0nm,0.4s								
BOD					*e*Sn	**Sn**		**00 51 47.9**	**+3.1**
BOD					*e*Sg			00 52 39.9	
BOD					Smax			00 52 46.0	
	comp=Z,234nm,2.1s								
NLYR	**Nelyaty**	**9.66**	**56**		*e*Pn	Pn		00 50 03.3	+2.5
NLYR					*e*			00 50 13.5	
NLYR					max			00 50 49.1	
	comp=Z,4.0nm,0.6s								
NLYR					*e*			00 51 58.5	
NLYR					*e*			00 52 21.6	
NLYR					*e*Sg	Sn		00 52 48.3	+58
NLYR					Smax			00 52 56.3	
	comp=Z,210nm,1.1s								
ZALV	**Zalesovo Beam**	**10.06**	**288**		P	Pn		00 50 16.3	+10
ZALV	**Zalesovo Beam**	**10.06**	**288**		Pn	Pn		00 50 16.2	+10
	comp=Z,0.1nm,0.3s,baz=91,slow=12,SNR=4.6								
ZALV					Lg	Lg		00 52 51.7	
	comp=Z,0.8nm,0.3s,baz=111,slow=28,SNR=11								
CRS	**Chara**	**11.13**	**57**		*e*Pn	Pn		00 50 38.6	+18
CRS					*e*			00 53 04.9	
CRS					*e*Sg			00 53 32.2	
CRS					Smax			00 53 45.0	
	comp=Z,180nm,2.0s								
TUP	**Tupik**	**11.55**	**70**		*e*			00 53 25.6	
TUP					*e*Sg			00 53 44.7	
TUP					Smax			00 53 55.4	
	comp=Z,160nm,2.0s								
MK31	**Makanchi Array**	**13.31**	**255**	⇓	Pn	P		00 50 55.4	-5.4
	comp=Z,0.9nm,0.8s,baz=77,slow=12,SNR=4.2								
MK31				⇑	Lg	Lg		00 54 35.1	
	comp=Z,7.7nm,0.9s,baz=73,slow=30,SNR=4.3								
MKAR	**Makanchi Array**	**13.31**	**255**		P	P		00 50 55.7	-5.1
MKAR	**Makanchi Array**	**13.31**	**255**		Pn	P		00 50 55.7	-5.1
	comp=Z,0.0nm,0.3s,baz=64,slow=6.7,SNR=3.0								
MKAR					Lg	Lg		00 54 38.1	
	comp=Z,0.1nm,0.3s,baz=62,slow=25,SNR=3.8								
KURK	**Kurchatov**	**14.13**	**274**	⇑	Pn	P		00 51 15.5	+5.7
	comp=Z,5.1nm,1.2s								
KURK				⇓	Lg	Lg		00 55 36.0	
	comp=Z,8.0nm,0.8s								
KURK	**Kurchatov**	**14.13**	**274**		P	P		00 51 05.8	-4.0
KURBB	**Kurchatov Arra**	**14.21**	**274**	⇓	Pn	P		00 51 18.0	+7.3
	comp=Z,0.3nm,0.7s								
KURBB				⇓	Lg	Lg		00 55 37.4	
	comp=Z,2.5nm,0.9s								
KURBB	**Kurchatov Arra**	**14.21**	**274**		Pn	Pn		00 51 05.8	+2.8
	comp=Z,0.0nm,0.3s,baz=76,slow=13,SNR=6.6								
KURBB					Lg	Lg		00 55 10.9	
	comp=Z,0.1nm,0.3s,baz=73,slow=32,SNR=6.8								
AAK	**Ala-Archa**	**20.24**	**253**		*e*P	Pn		00 52 18.7	-0.7
MJAR	**Matsushiro Arr**	**30.30**	**106**		LR	LR		01 04 58.2	
	comp=Z,83nm,18.6s,baz=120,slow=34								
PETK	**Petropavlovsk-**	**33.66**	**65**		P	**P**		**00 54 22.3**	**-0.6**
PETK					pmax	pmax			
	comp=Z,5.0nm,0.9s								
PETK	**Petropavlovsk-**	**33.66**	**65**		P	**P**		**00 54 22.2**	**-0.6**
	comp=Z,5.3nm,0.9s,baz=306,slow=8.7,SNR=3.1								
FINES	**FINESS Array B**	**40.06**	**314**		P	**P**		**00 55 18.4**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=79,slow=7.2,SNR=2.7								
WRA	**Warramunga Arr**	**77.23**	**148**		P	**P**		**00 59 36.5**	**0.0**
	comp=Z,0.3nm,0.6s,baz=345,slow=6.5,SNR=5.1								
ASAR	**Alice Springs**	**80.57**	**150**		P	**P**		**00 59 53.6**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=2.2,slow=4.9,SNR=3.1								

IDC 17 01:00:26.7±4.0, 55.°29S×26.°75W, h0km, mb3.7/2, mb1 3.8/2, mb1mx3.6/12, mbtmp3.7/2, Error ellipse: s-maj=136.3km s-min=49.5km az=172.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**50.14**	**304**		P	P		01 09 24.4	-0.2
	0.7nm,0.6s,baz=174,slow=10,SNR=1.9								
TORD	**Torodi Ar. Bea**	**72.27**	**29**		P	P		01 11 53.7	0.0
	0.5nm,0.7s,baz=207,slow=6.2,SNR=5.6								
ILAR	**Eielson Array**	**149.78**	**313**		PKPbc	PKPbc		01 20 16.6	-0.4
	0.3nm,0.6s,baz=125,slow=3.6,SNR=3.8								

*NEIC **17** 01:07:00.1, 18.°04N×65.°38W, h19km, MD2.8(RSPR), After RSPR.*

RSPR 17 01:07:00.1, 18.°04N×65.°38W, h19km±1km, MD2.8/3, 12C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**0.18**	**289**	⇑	*e*P	Pg		01 07 04.7	-0.3
MTP	**Monte Pirata**	**0.18**	**289**	⇑	*e*P	Pg		01 07 04.7	-0.3
MTP					*e*S	Sg		01 07 08.1	0.0
MTP	**Monte Pirata**	**0.18**	**289**	⇑	*e*P	Pg		01 07 04.7	-0.3
MTP					*e*S	Sg		01 07 08.1	-0.1
HUMP	**Col San Antoni**	**0.46**	**283**	⇓	*i*P	Pg		01 07 08.8	-0.8
HUMP	**Col San Antoni**	**0.46**	**283**	⇓	*i*P	Pg		01 07 08.8	-0.8
HUMP					*e*S	Sg		01 07 15.2	-0.8
HUMP	**Col San Antoni**	**0.46**	**283**	⇓	*i*P	Pg		01 07 08.8	-0.8
HUMP			

ATAB			*i* S	**Sb**	**01 09 52.3 +0.3**
YAYL	**Yayladag**	**1.34 210**	*i* P	**Pg**	**01 09 40.6 -0.3**
YAYL			*i* S	**Sn**	**01 09 58.6 0.0**
YAYL	**Yayladag**	**1.34 210**	*i* P	**Pg**	**01 09 40.6 -0.3**
YAYL			*i* S	**Sn**	**01 09 58.6 0.0**
KRTS	**Karatas**	**1.39 244**	*e*PN	**Pb**	**01 09 41.1 -0.4**
KRTS	**Karatas**	**1.39 244**	*e*Pn	**Pb**	**01 09 41.2 -0.4**
URFA	**Urfa**	**1.53 80**	*e*PN	**Pn**	**01 09 43.2 +0.1**
URFA	**Urfa**	**1.53 80**	*e*Pn	**Pn**	**01 09 43.2 +0.1**
MALT	**Malatya**	**1.63 47**	*e*PN	**Pb**	**01 09 45.1 -0.6**
MALT	**Malatya**	**1.63 47**	*e*Pn	**Pb**	**01 09 45.1 -0.6**
MYA	**Malataya**	**1.64 46**	*e*PN	**Pb**	**01 09 45.1 -0.8**
MYA	**Malataya**	**1.64 46**	*e*Pn	**Pb**	**01 09 45.1 -0.8**
BNN	**Bunyan**	**1.86 333**	*e*PN	**Pn**	**01 09 47.6 -0.1**
BNN	**Bunyan**	**1.86 333**	*e*Pn	**Pn**	**01 09 47.6 -0.1**
MERS	**Mersin**	**1.95 261**	*e*PN	**Pn**	**01 09 48.9 0.0**
MERS	**Mersin**	**1.95 261**	*e*Pn	**Pn**	**01 09 48.9 0.0**
DIY	**Diyarbakir**	**2.71 74**	*e*PN	**Pn**	**01 10 00.3 +0.9**
DIY	**Diyarbakir**	**2.71 74**	*e*Pn	**Pn**	**01 10 00.3 +0.9**
YOZ	**Yozgat**	**2.74 333**	*e*PN	**Pn**	**01 10 00.6 +0.7**
YOZ	**Yozgat**	**2.74 333**	*e*Pn	**Pn**	**01 10 00.6 +0.7**
SULT	**Sultanhani-AKS**	**2.88 291**	*e*PN	**Pn**	**01 10 02.1 +0.5**
SULT	**Sultanhani-AKS**	**2.88 291**	*e*Pn	**Pn**	**01 10 02.2 +0.5**
EZC	**Erzincan**	**3.18 36**	*e*Pn	**Pn**	**01 10 07.8 +1.9**
ERZN	**Erzincan**	**3.24 42**	*e*PN	**Pn**	**01 10 07.8 +1.0**
CORM	**Corum**	**3.47 330**	*e*PN	**Pn**	**01 10 10.7 +0.8**
CORM	**Corum**	**3.47 330**	*e*Pn	**Pn**	**01 10 10.7 +0.8**
BTMT	**Batman**	**3.75 73**	*e*PN	**Pn**	**01 10 12.8 -0.9**
BTMT	**Batman**	**3.75 73**	*e*Pn	**Pn**	**01 10 12.8 -0.9**

IDC 17 01:09:47.9±6.3, 5°.66S×149°.73E, h88km±46km, mb3.3/4, mb1 3.5/5, mb1mx3.3/17, mbtmp3.4/5, MS3.5/1, Ms1 3.5/1, ms1mx2.7/20, Error ellipse: s-maj=93.6km s-min=36.6km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.51**	**214**	P	Pn	01 10 54.3	+0.4
	9.0nm,0.3s,baz=40,slow=6.1,SNR=15						
PMG				S	Sn	01 11 45.7	+0.5
	10.0nm,0.3s,baz=24,slow=20,SNR=7.6						
WRA	**Warramunga Arr**	**20.63**	**225**	P	P	01 14 20.2	-0.3
	0.9nm,0.5s,baz=52,slow=10,SNR=15						
DZM	**Mont Dzumac**	**22.97**	**137**	LR	LR	01 20 30.3	
	comp=Z,116nm,21.5s,baz=208,slow=28						
ASAR	**Alice Springs**	**23.51**	**219**	P	P	01 14 51.1	+0.8
	0.7nm,0.4s,baz=54,slow=9.1,SNR=12						
FITZ	**Fitzroy Crossi**	**26.58**	**240**	P	P	01 15 17.8	-0.2
	1.8nm,0.6s,baz=63,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**78.98**	**320**	P	P	01 21 42.1	-0.2
	0.1nm,0.7s,baz=108,slow=4.7,SNR=2.6						

IDC 17 01:13:25.5±1.5, 3°.61N×126°.38E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/21, mbtmp3.4/5, Error ellipse: s-maj=142.3km s-min=25.6km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.68**	**162**	P	P	01 18 48.4	+0.1
	1.4nm,0.8s,baz=340,slow=11,SNR=7.0						
SONM	**Songino Array**	**47.30**	**342**	P	Pn	01 22 00.3	-0.7
	0.2nm,0.6s,baz=158,slow=8.2,SNR=2.7						
MKAR	**Makanchi Array**	**57.46**	**325**	P	P	01 23 15.8	-0.6
	0.3nm,0.4s,baz=112,slow=7.4,SNR=9.4						
KURBB	**Kurchatov Arra**	**61.65**	**328**	P	P	01 23 45.7	+0.5
	0.7nm,0.7s,baz=131,slow=6.7,SNR=4.2						
BVAR	**Borovoye Array**	**67.23**	**327**	P	P	01 24 22.3	+0.6
	0.2nm,0.5s,baz=123,slow=5.3,SNR=3.9						

FUNV 17 01:15:43.8, 10°.36N×62°.84W, h5km, MW2.8, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUNV	**Guanoco**	**0.22**	**208**	*e*P	Pg	01 15 48.5	+0.3
GUNV				*e*S	Sg	01 15 51.9	+0.7
CRUV	**Carupano**	**0.50**	**308**	*e*P	Pg	01 15 52.2	-1.3
CRUV				*e*S	Sg	01 15 58.6	-1.5
GUIV	**Guiria**	**0.67**	**65**	*e*P	Pg	01 15 56.5	-0.1
GUIV				*e*S	Sg	01 16 06.3	+1.0
PCRV	**Puerto La Cruz**	**1.78**	**264**	*e*P	Pn	01 16 14.3	-1.1
RIOV	**Rio Grande**	**2.49**	**156**	*e*P	Pn	01 16 24.5	-0.6
RIOV				*e*S	Sn	01 16 54.1	-1.8
GURV	**El Guri**	**2.59**	**185**	*e*P	Pn	01 16 26.6	+0.1
CUPV	**Cœpira**	**2.92**	**264**	*e*P	Pn	01 16 29.9	-1.2
CUPV				*e*S	Sn	01 17 04.6	-2.1
LUEV	**Luepa**	**4.69**	**163**	*e*S	Sn	01 17 46.0	-4.6
BAUV	**El Baul**	**5.32**	**255**	*e*P	Pn	01 17 02.4	-1.6
BAUV				*e*S	Sn	01 17 60.0	-5.9

TRN ***17*** *01:17:51.2, 18°.82N×64°.52W, h24km*
NEIC ***17*** *01:17:52.3, 18°.83N×64°.31W, h36km, MD2.8(RSPR), After RSPR.*

RSPR 17 01:17:52.3, 18°.83N×64°.31W, h36km±3km, MD2.8/4, 15C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.10**	**194**	*e*P	Pn	01 17 57.8	-5.9
ABV	**Anegada**	**0.10**	**194**	*e*P	Pn	01 17 57.8	-5.9
ABVI	**Anegada Island**	**0.10**	**194**	*e*P	Pn	01 17 57.8	-5.9
TBVI	**Tortola**	**0.51**	**216**	*e*P	Pn	01 18 01.8	-1.2
TBVI				*e*S	Sn	01 18 09.5	-0.9
TBVI	**Tortola**	**0.51**	**216**	*e*P	Pn	01 18 01.8	-1.2
TBVI				*e*S	Sn	01 18 09.5	-0.9
TBVI	**Tortola**	**0.51**	**216**	*e*P	Pn	01 18 01.8	-1.2
TBVI				*e*S	Sn	01 18 09.5	-0.9
STVI	**Saint Thomas**	**0.78**	**232**	*e*P	Pn	01 18 05.3	-1.4
STVI	**Saint Thomas**	**0.78**	**232**	*e*P	Pn	01 18 05.3	-1.4
STVI				*e*S	Sn	01 18 16.1	-1.0
STVI	**Saint Thomas**	**0.78**	**232**	*e*P	Pn	01 18 05.3	-1.4
STVI				*e*S	Sn	01 18 16.1	-1.0
MTP	**Monte Pirata**	**1.39**	**239**	*e*P	Pn	01 18 14.3	-0.8
MTP	**Monte Pirata**	**1.39**	**239**	*e*P	Pn	01 18 14.3	-0.8
MTP				*e*S	Sn	01 18 30.7	-1.6
MTP	**Monte Pirata**	**1.39**	**239**	*e*P	Pn	01 18 14.3	-0.8
MTP				*e*S	Sn	01 18 30.7	-1.6
CBYP	**Canovanas**	**1.57**	**250**	*e*P	Pn	01 18 16.7	-1.0
CBYP	**Canovanas**	**1.57**	**250**	*e*P	Pn	01 18 16.7	-1.0
CBYP				*e*S	Sn	01 18 35.3	-1.6
CBYP	**Canovanas**	**1.57**	**250**	*e*P	Pn	01 18 16.7	-1.0
CBYP				*e*S	Sn	01 18 35.3	-1.6
HUMP	**Col San Antoni**	**1.62**	**245**	*e*S	Sn	01 18 37.0	-0.8
HUMP	**Col San Antoni**	**1.62**	**245**	*e*S	Sn	01 18 37.2	-0.7

NIED ***17*** *01:18:00, 37°.20N×135°.00E, h380km, Mw4.2 Best double couple: M0=2.19000×10^15 NP1:φs=190.00000°, δ77.00000°, λ118.00000°. NP2:φs=304.00000°, δ31.00000°, λ27.00000°.*
ISCJB ***17*** *01:18:34.3±0.2, 37°.18N±0°.05×135°.07E±0°.05, h383km±3km, mb3.7/23, Error ellipse: s-maj=8.2km s-min=5.7km az=155.6*
JMA ***17*** *01:18:34.3±0.2, 37°.16N×135°.05E, h386km±3km, M3.6*
IDC ***17*** *01:18:34.9±0.6, 37°.18N×134°.97E, h373km±7km, mb3.4/22, mb1 3.6/27, mb1mx3.5/35, mbtmp3.5/27, Error ellipse: s-maj=9.2km s-min=8.5km az=92.0*

ISC 17 01:18:34.8±0.6, 37°.14N±0°.06×135°.04E±0°.05, h376km±6km, n56, σ1s01/72, mb3.7/22, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**1.41**	**98**	P	**Pn**	**01 19 26.4**	**+1.4**
SAI	**Saigo**	**1.66**	**236**	P	**Pn**	**01 19 27.0**	**+0.6**
JSZ	**Suzu**	**1.88**	**80**	P	**Pn**	**01 19 28.6**	**+1.0**
JWT	**Wachi**	**1.88**	**171**	P	**Pn**	**01 19 28.6**	**+0.8**
JWT				*e*S	**S**	**01 20 10.2**	**-0.3**
JGM	**Miyama**	**1.98**	**136**	P	**Pn**	**01 19 28.9**	**+0.5**
JGM				*e*S	**S**	**01 20 10.9**	**-0.7**
MAT	**Matsushiro**	**2.61**	**102**	P	**Pn**	**01 19 33.3**	**+0.4**
MAT				S	S	**01 20 20.4**	**+0.6**
MAT	**Matsushiro**	**2.61**	**102**	P	**Pn**	**01 19 33.3**	**+0.4**
MAT				*e*S	**S**	**01 20 20.7**	**+0.9**
MJAR	**Matsushiro Arr**	**2.61**	**102**	P	**Pn**	**01 19 34.0**	**+1.0**
	9.4nm,0.3s,baz=277,slow=10,SNR=156						
MJAR				S	**S**	**01 20 20.9**	**+1.0**
	baz=276,slow=21,SNR=2.1						
JHS	**Saijyo**	**2.65**	**217**	P	**Pn**	**01 19 33.8**	**+0.5**
JHS				*e*S	**S**	**01 20 19.2**	**-1.3**
JSD	**Sado**	**2.71**	**70**	P	**Pn**	**01 19 34.0**	**+0.4**
JIE	**Ise**	**3.06**	**153**	P	**Pn**	**01 19 37.8**	**+1.1**
JIE				*e*S	**S**	**01 20 26.7**	**0.0**
JRY	**Ryogami san**	**3.30**	**109**	P	**Pn**	**01 19 39.2**	**+0.4**
JRY				*e*S	**S**	**01 20 31.1**	**+0.6**
JWZ	**Kozaga**	**3.65**	**171**	P	**Pn**	**01 19 42.7**	**+0.6**
JOD2	**Odawara 2**	**3.77**	**119**	P	**Pn**	**01 19 43.7**	**+0.5**
JOD2				*e*S	**S**	**01 20 39.1**	**+0.6**
JMK	**Ichinoseki**	**5.20**	**68**	P	**Pn**	**01 19 57.2**	**-0.4**
JMK				S	**S**	**01 21 01.4**	**-3.5**
JNU	**Nakatsue**	**5.27**	**222**	P	**Pn**	**01 19 58.8**	**+0.2**
	0.8nm,0.3s,baz=140,slow=10,SNR=4.5						
JNU				S	**S**	**01 21 07.2**	**+0.6**
	0.1nm,0.3s,baz=18,slow=20,SNR=2.3						
BSO1	**Boso 1**	**5.42**	**116**	P	**Pn**	**01 19 59.1**	**-0.4**
BSO1				S	**S**	**01 21 06.7**	**-1.8**
KSRS	**Korea Array**	**5.69**	**275**	P	**Pn**	**01 20 03.9**	**+0.9**
	1.6nm,0.3s,baz=95,slow=12,SNR=38						
JOT	**Ohata**	**6.29**	**46**	P	**Pn**	**01 20 09.5**	**-0.1**
USRK	**Ussuriysk Arra**	**7.42**	**343**	P	**P**	**01 20 23.1**	**-0.2**
	2.9nm,0.3s,baz=153,slow=10,SNR=42						
ASAJ	**Asahikawa**	**9.02**	**37**	P	**Pn**	**01 20 39.7**	**-1.4**
	12nm,0.3s,baz=232,slow=11,SNR=71						
ASAJ				S	S	01 22 17.4	-7.4
	3.8nm,0.3s,baz=110,slow=32,SNR=14						
JOW	**Kunigami**	**11.77**	**211**	P	**P**	**01 21 10.5**	**-2.4**
	1.7nm,0.3s,baz=67,slow=8.1,SNR=4.6						
SONM	**Songino Array**	**23.54**	**306**	P	**P**	**01 23 12.4**	**-0.6**
	2.9nm,0.6s,baz=97,slow=7.2,SNR=26						
CMAR	**Chiang Mai Arr**	**36.67**	**249**	P	**P**	**01 25 08.2**	**+0.8**
	2.5nm,0.4s,baz=46,slow=7.7,SNR=12						
ZALV	**Zalesovo Beam**	**38.08**	**313**	P	**P**	**01 25 17.0**	**-1.6**
	0.8nm,0.3s,baz=114,slow=6.2,SNR=5.6						
ZALV				PcP	**PcP**	**01 27 24.5**	**-0.2**
	0.7nm,0.4s,baz=74,slow=3.6,SNR=5.4						
MKAR	**Makanchi Array**	**39.72**	**301**	P	**P**	**01 25 31.6**	**-0.6**
	3.4nm,0.5s,baz=84,slow=10,SNR=47						
TAPN	**Taplejung**	**40.85**	**270**	*e*P	**P**	**01 25 42.1**	**+0.2**
	21nm,0.4s						
ODAN	**Odare**	**41.32**	**270**	*e*P	**P**	**01 25 46.7**	**+1.0**
	21nm,0.7s						
KURBB	**Kurchatov Arra**	**41.90**	**307**	P	**P**	**01 25 49.2**	**-0.5**
	4.9nm,0.7s,baz=86,slow=8.5,SNR=21						
RAMN	**Ramite**	**41.91**	**270**	*e*P	**P**	**01 25 50.4**	**0.0**
	18nm,0.5s						
JIRN	**Jiri**	**41.93**	**272**	*e*P	**P**	**01 25 51.3**	**+0.6**
	10nm,0.7s						
GUN	**Gumba**	**42.07**	**272**	*e*P	**P**	**01 25 52.4**	**+0.6**
	29nm,0.6s						
PKI	**Pulchoki**	**42.59**	**272**	*e*P	**P**	**01 25 57.0**	**+1.1**
	12nm,0.5s						
KKN	**Kakani**	**42.60**	**272**	*e*P	**P**	**01 25 56.4**	**+0.5**
GKN	**Gorkha**	**43.02**	**273**	*e*P	**P**	**01 25 59.3**	**+0.2**
	51nm,0.8s						
DANN	**Dangsing**	**43.57**	**274**	*e*P	**P**	**01 26 03.8**	**+0.2**
	38nm,0.6s						
KOLN	**Koldanda**	**43.95**	**273**	*e*P	**P**	**01 26 07.8**	**+1.3**
	7.5nm,0.5s						
KAPI	**Kappang**	**44.30**	**202**	P	**P**	**01 26 07.7**	**-1.4**
	4.1nm,0.6s,baz=0.0,slow=7.1,SNR=3.5						
AAK	**Ala-Archa**	**45.92**	**297**	P	**P**	**01 26 20.7**	**-0.9**
	1.6nm,0.5s,baz=157,slow=3.0,SNR=6.0						
BVAR	**Borovoye Array**	**46.70**	**311**	P	**P**	**01 26 26.9**	**-0.4**
	1.1nm,0.4s,baz=97,slow=6.2,SNR=14						
KDAK	**Kodiak Island**	**50.41**	**41**	P	**P**	**01 26 55.5**	**+0.5**
	3.8nm,0.8s,baz=240,slow=8.1,SNR=4.1						
ILAR	**Eielson Array**	**52.12**	**32**	P	**P**	**01 27 07.8**	**+0.3**
	0.7nm,0.6s,baz=272,slow=6.4,SNR=10						
FITZ	**Fitzroy Crossi**	**55.66**	**191**	P	**P**	**01 27 34.1**	**+0.8**
	1.1nm,0.4s,baz=21,slow=8.6,SNR=3.2						
WRA	**Warramunga Arr**	**56.78**	**181**	P	**P**	**01 27 41.3**	**+0.1**
	6.5nm,0.4s,baz=356,slow=7.5,SNR=175						
WRA				PcP	**PcP**	**01 28 33.1**	**+1.1**
	0.7nm,0.5s,baz=357,slow=4.6,SNR=6.2						
CTA	**Charters Tower**	**57.90**	**168**	P	**P**	**01 27 49.5**	**+0.7**
	3.8nm,0.8s,baz=337,slow=7.7,SNR=3.4						
ASAR	**Alice Springs**	**60.49**	**181**	P	**P**	**01 28 06.8**	**+0.3**
	2.2nm,0.8s,baz=4.8,slow=6.2,SNR=15						
ARCES	**ARCESS Array B**	**62.04**	**338**	P	**P**	**01 28 16.5**	**+0.3**
	4.1nm,1.0s,baz=55,slow=7.9,SNR=3.5						
YKA	**Yellowknife Ar**	**66.20**	**28**	P	**P**	**01 28 43.5**	**+0.6**
	0.4nm,0.7s,baz=303,slow=6.5,SNR=8.9						
YKA				PcP	**PcP**	**01 29 10.9**	**+1.0**
	0.4nm,0.9s,baz=308,slow=4.3,SNR=5.3						
FINES	**FINESS Array B**	**66.27**	**330**	P	**P**	**01 28 43.2**	**-0.1**
	0.6nm,0.4s,baz=342,slow=0.6,SNR=5.4						
FINES				PcP	**PcP**	**01 29 09.2**	**-0.9**
	0.8nm,0.6s,baz=77,slow=7.6,SNR=2.7						
STKA	**Stephens Creek**	**68.94**	**174**	P	**P**	**01 29 01.2**	**+1.0**
	1.3nm,0.9s,baz=342,slow=9.6,SNR=3.7						
BBOO	**Buckleboo**	**69.60**	**179**	*e*P	**PcP**	**01 29 21.4**	**-3.0**
	14nm,0.9s						
BBOO				*e*		01 29 38.7	
NVAR	**Mina Array Bea**	**78.91**	**50**	P	**P**	**01 29 59.2**	**+1.4**
	0.6nm,0.6s,baz=292,slow=5.9,SNR=5.9						
PDAR	**Pinedale Array**	**81.12**	**42**	P	**P**	**01 30 10.1**	**+0.6**
	0.7nm,0.8s,baz=236,slow=1.6,SNR=6.3						
ULM	**Lau Bonnet**	**82.09**	**30**	P	**P**	**01 30 13.2**	**-0.8**
	0.4nm,0.3s,baz=323,slow=6.5,SNR=3.0						
SCHQ	**Schefferville**	**86.48**	**12**	P	**P**	**01 30 36.5**	**+0.7**
	2.3nm,0.8s,baz=326,slow=7.3,SNR=3.4						
LPAZ	**La Paz**	**150.82**	**51**	PKPbc	**PKPbc**	**01 37 45.1**	**+0.6**
	0.8nm,0.6s,baz=3.0,slow=4.6,SNR=3.9						

IDC 17 01:33:25.4±1.2, 8°.34S×157°.47E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/17, mbtmp3.7/5, ML4.1/1, Error ellipse: s-maj=31.1km s-min=24.8km az=174.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.68**	**114**	Pn	Pn	01 34 09.8	0.0
	36nm,0.3s,baz=239,slow=3.8,SNR=5.8						
HNR				Sn	Sn	01 34 42.7	-0.4
	30nm,0.3s,baz=247,slow=21,SNR=9.3						
WRA	**Warramunga Arr**	**25.18**	**240**	P	P	01 38 52.0	-0.9
	0.7nm,0.6s,baz=66,slow=9.4,SNR=12						
STKA	**Stephens Creek**	**27.68**	**210**	P	P	01 39 16.3	+1.0
	1.0nm,0.6s,baz=42,slow=12,SNR=4.2						
ILAR	**Eielson Array**	**83.74**	**21**	P	P	01 45 56.2	+0.1
	0.4nm,0.5s,baz=246,slow=4.4,SNR=8.1						
MKAR	**Makanchi Array**	**86.03**	**318**	P	P	01 46 08.2	+0.1
	0.2nm,0.6s,baz=95,slow=5.8,SNR=3.1						

IDC 17 01:39:22.0±2.4, 10°.22S×159°.80E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/16, mbtmp3.4/3, Error ellipse: s-maj=78.3km s-min=16.8km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.80**	**11**	Pn	Pb	01 39 39.4	+0.7
	57nm,0.3s,baz=181,slow=7.2,SNR=8.7						
HNR				Sn	Sn	01 39 55.7	+2.6
	304nm,0.3s,baz=198,slow=20,SNR=20						
WRA	**Warramunga Arr**	**26.38**	**246**	P	P	01 44 58.5	-1.8
	0.4nm,0.6s,baz=76,slow=9.2,SNR=2.9						
ASAR	**Alice Springs**	**28.08**	**238**	P	P	01 45 17.0	+1.4
	0.3nm,0.8s,baz=69,slow=10,SNR=2.5						
ILAR	**Eielson Array**	**84.68**	**20**	P	P	01 51 57.9	+0.5
	0.2nm,0.7s,baz=230,slow=7.0,SNR=3.4						

ISCJB ***17*** *01:47:30.5±0.5, 37°.84N±0°.03×27°.60E±0°.04, h6km±7km, Error ellipse: s-maj=5.4km s-min=4.3km az=163.4*
ISK ***17*** *01:47:30.2, 37°.84N×27°.60E, h8km, MD2.9*
DDA ***17*** *01:47:30.6, 37°.84N×27°.60E, h11km, MD2.9*
CSEM ***17*** *01:47:30.6±0.1, 37°.83N×27°.60E, h8km, MD2.9, Error ellipse: s-maj=3.2km s-min=2.1km az=99.0*

ISC 17 01:47:30.7±0.9, 37°.83N±0°.02×27°.60E±0°.03, h10km±8km, n30, σ0s48/45, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.28**	**128**	*i* P	**Pg**	**01 47 36.8**	**+0.4**
AYDN				*i* S	**Sg**	**01 47 40.5**	**+0.2**
AYDN	**Tasoluk**	**0.28**	**128**	*i* P	**Pg**	**01 47 36.8**	**+0.4**
AYDN				*i* S	**Sg**	**01 47 40.5**	**+0.2**
GCAM	**G?zelcaml?**	**0.32**	**245**	*i* P	**Pg**	**01 47 36.8**	**-0.3**
GCAM				*i* S	**Sg**	**01 47 40.7**	**-0.6**
GCAM	**G?zelcaml?**	**0.32**	**245**	*i* P	**Pg**	**01 47 36.8**	**-0.3**
GCAM				*i* S	**Sg**	**01 47 40.7**	**-0.6**
BLCB	**Balcova**	**0.70**	**322**	*e*PG	**Pg**	**01 47 44.3**	**-0.1**
BLCB				*e*SG	**Sg**	**01 47 54.0**	**+0.4**
BLCB	**Balcova**	**0.70**	**322**	*e*Pg	**Pg**	**01 47 44.3**	**-0.1**
BLCB				*e*Sg	**Sg**	**01 47 54.0**	**+0.4**
BDRM	**Kayabasi**	**0.78**	**189**	*i* P	**Pg**	**01 47 44.9**	**-0.8**
BDRM				*i* S	**Sn**	**01 47 58.8**	**-0.6**
BDRM	**Kayabasi**	**0.78**	**189**	*i* P	**Pg**	**01 47 44.9**	**-0.8**
BODT	**Bodrum**	**0.80**	**197**	*e*PG	**Pg**	**01 47 46.2**	**0.0**
BODT				*e*SG	**Sb**	**01 47 57.9**	**+0.3**
BODT	**Bodrum**	**0.80**	**197**	*e*Pg	**Pg**	**01 47 46.2**	**0.0**
BODT				*e*Sg	**Sb**	**01 47 57.9**	**+0.3**
YER	**Yerkesik**	**0.89**	**142**	*e*PG	**Pg**	**01 47 47.6**	**-0.2**
YER				*e*SG	**Sb**	**01 48 00.3**	**+0.2**
YER	**Yerkesik**	**0.89**	**142**	*e*Pg	**Pg**	**01 47 47.6**	**-0.2**
YER				*e*Sg	**Sb**	**01 48 00.3**	**+0.2**
MANT	**Manisa**	**1.00**	**49**	*i* P	**Pg**	**01 47 49.3**	**-0.7**
MANT				*i* S	**Sg**	**01 48 02.4**	**-0.7**
MANT	**Manisa**	**1.00**	**49**	*i* P	**Pg**	**01 47 49.3**	**-0.7**
MANT				*i* S	**Sg**	**01 48 02.4**	**-0.7**
AKHS	**Akhisar**	**1.06**	**9**	*i* P	**Pb**	**01 47 51.0**	**-0.1**
AKHS				*i* S	**Sn**	**01 48 06.0**	**-0.4**
AKHS	**Akhisar**	**1.06**	**9**	*i* P	**Pb**	**01 47 51.0**	**-0.1**
AKHS				*i* S	**Sn**	**01 48 06.0**	**-0.4**
AKS	**Akhisar**	**1.06**	**9**	*e*PG	**Pb**	**01 47 51.1**	**0.0**
AKS	**Akhisar**	**1.06**	**9**	*e*Pg	**Pb**	**01 47 51.1**	**0.0**
KULA	**Kula-Manisa**	**1.08**	**51**	*e*PG	**Pg**	**01 47 51.2**	**-0.2**
KULA	**Kula-Manisa**	**1.08**	**51**	*e*Pg	**Pg**	**01 47 51.3**	**-0.2**
DAT	**Datca**	**1.10**	**181**	*e*PN	**Pb**	**01 47 52.0**	**+0.1**
DAT	**Datca**	**1.10**	**181**	*e*Pn	**Pb**	**01 47 52.0**	**+0.1**
KHL	**Karahalli**	**1.60**	**72**	*e*PN	**Pn**	**01 47 59.3**	**+0.2**
KHL	**Karahalli**	**1.60**	**72**	*e*Pn	**Pn**	**01 47 59.3**	**+0.2**
DST	**Dursunbey**	**1.94**	**24**	*e*PN	**Pn**	**01 48 04.4**	**+0.6**
DST	**Dursunbey**	**1.94**	**24**	*e*Pn	**Pn**	**01 48 04.4**	**+0.6**
TVSB	**Tavsanli**	**2.18**	**42**	*e*PN	**Pn**	**01 48 07.5**	**+0.4**
TVSB	**Tavsanli**	**2.18**	**42**	*e*Pn	**Pn**	**01 48 07.5**	**+0.4**
GONE	**Gonen-Balikesi**	**2.21**	**2**	*e*PN	**Pn**	**01 48 08.4**	**+1.0**
GONE	**Gonen-Balikesi**	**2.21**	**2**	*e*Pn	**Pn**	**01 48 08.4**	**+1.0**

PRE 17 01:58:56.1±1.3, 3°.76S×34°.82E, h10km, ML4.5, Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**3.57**	**43**	*e*P	Pn	01 59 51.8	-0.1
KMBO				*e*S	Sn	02 00 34.4	+0.1
KMBO				AML	AML	02 00 50.8	
	comp=Z,3μm,0.2s						
KIG	**Kigali**	**5.07**	**290**	*e*P	Pn	02 00 13.7	+1.2
KIG				*e*S	Sn	02 01 10.7	-0.7
KIG				AML	AML	02 01 41.5	
	comp=Z,455nm,0.6s						
MBAR	**Mbarara**	**5.14**	**307**	*e*P	Pn	02 00 13.9	+0.4
MBAR				*e*S	Sn	02 01 10.8	-2.3
MBAR				AML	AML	02 01 44.6	
	comp=Z,421nm,0.3s						

IDC ***17*** *02:04:21.4±1.1, 5°.64N×125°.29E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/21, mbtmp3.9/7, Error ellipse: s-maj=67.4km s-min=18.1km az=81.0*
MAN ***17*** *02:04:25, 5°.32N×125°.37E, h35km*
ISCJB ***17*** *02:04:29.8±0.5, 5°.52N±0°.03×125°.36E±0°.06, h64km±7km, mb4.0/10, Error ellipse: s-maj=10.1km s-min=4.5km az=3.2*
DJA ***17*** *02:04:29.1±0.5, 6°.N±4°×12°.5E±°, h10km, M5.0/8, mb5.0/8, mB5.4/6, MLv5.0/8, Mw(mB)4.9/6*
NEIC ***17*** *02:04:29.2±0.5, 5°.31N×125°.33E, h35km, mb4.4/6, Error ellipse: s-maj=17.7km s-min=7.2km az=82.0*
NEIC Felt [II PIVS] at General Santos.

ISC 17 02:04:31.5±1.0, 5°.55N±0°.04×125°.41E±0°.07, h69km±11km, n41, σ1s99/47, mb3.9/10, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.48**	**348**	*i* P	**Pn**	**02 04 53.7**	**-2.6**
KCP				*i* S	**Sn**	**02 05 10.9**	**-4.1**
**D

WRA				Sn	Sn	02 41 57.0	-15	
	2.7nm,0.3s,baz=327,slow=23,SNR=14							
ASAR	**Alice Springs**	**18.03**	**168**	P	Pn	02 40 14.7	-0.4	
	0.9nm,0.3s,baz=346,slow=10,SNR=43							
ASAR				S	Sn	02 43 23.2	-14	
	0.7nm,0.3s,baz=295,slow=30,SNR=7.3							
SONM	**Songino Array**	**57.44**	**341**	P	P	02 45 54.9	+1.2	
	0.3nm,0.6s,baz=142,slow=7.3,SNR=3.4							
MKAR	**Makanchi Array**	**67.34**	**327**	P	P	02 47 00.1	+0.2	
	1.0nm,0.4s,baz=120,slow=8.2,SNR=14							
ZALV	**Zalesovo Beam**	**70.64**	**334**	P	P	02 47 18.4	-1.7	
	0.4nm,0.4s,baz=133,slow=6.3,SNR=2.5							

PRE 17 02:52:13.3±0.5, 27.77S×26.58E, h2km, ML0.8, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SEK	**Senekal**	**1.08**	**121**	*e*P	Pg	02 52 33.6	-0.6
SEK				*e*S	Sb	02 52 49.3	-0.3
SEK				AML	AML	02 52 51.7	
	comp=Z,3.0nm,0.8s						
PRYS	**Parys**	**1.09**	**40**	*e*P	Pg	02 52 34.4	-0.1
PRYS				*e*S	Sb	02 52 49.6	-0.5
PRYS				AML	AML	02 52 51.6	
	comp=Z,1.6nm,0.2s						
BOSA	**Boshof**	**1.44**	**234**	*e*P	Pn	02 52 40.7	+0.2
BOSA				*e*S	Sn	02 53 01.0	+0.9
BOSA				AML	AML	02 53 06.9	
	comp=Z,0.4nm,0.8s						

CSEM ***17*** *02:56:01.0±0.1, 39.98N×0.27E, h5km, ML2.6/17, Error ellipse: s-maj=3.4km s-min=2.1km az=123.0*
LDG ***17*** *02:56:03.3±0.1, 40.01N×0.26E, h10km, Ml2.8/6, Error ellipse: s-maj=2.8km s-min=1.7km az=122.0*
MDD 17 02:56:03.0±0.4, 39.97N×0.29E, h10km, mbLg2.2/28, 1D, Error ellipse: s-maj=3.7km s-min=2.6km az=123.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMOS	**Mosqueruela**	**0.70**	**304**	⇓Pg	Pg	02 56 15.7	-1.2
	11nm,0.3s,SNR=18						
EMOS				Lg	Lg	02 56 24.1	
	92nm,0.4s,SNR=68						
EMOS	**Mosqueruela**	**0.70**	**304**	Pg	Pg	02 56 15.7	-1.2
	11nm,0.3s,SNR=18						
EMOS				Lg	Lg	02 56 24.1	
	92nm,0.4s,SNR=68						
ERTA	**Horta de San J**	**0.98**	**2**	Pg	Pg	02 56 21.1	-0.9
	9.0nm,0.4s,SNR=137						
ERTA				Lg	Lg	02 56 32.8	
	46nm,0.3s,SNR=50						
ERTA	**Horta de San J**	**0.98**	**2**	Pg	Pg	02 56 21.1	-1.0
	9.0nm,0.4s,SNR=137						
ERTA				Lg	Lg	02 56 32.8	
	46nm,0.3s,SNR=50						
ECHE	**Chera**	**1.04**	**249**	Pg	Pg	02 56 22.2	-1.0
	24nm,0.3s,SNR=36						
ECHE				Lg	Lg	02 56 35.8	
	27nm,0.4s,SNR=8.5						
ECHE	**Chera**	**1.04**	**249**	Pg	Pg	02 56 22.2	-1.0
	24nm,0.3s,SNR=36						
ECHE				Lg	Lg	02 56 35.8	
	27nm,0.4s,SNR=8.5						
EIBI	**Ibiza**	**1.25**	**139**	Pg	Pn	02 56 25.0	-1.5
	2.1nm,0.4s,SNR=18						
EIBI				Lg	Lg	02 56 42.1	
	10nm,0.2s,SNR=10.0						
EIBI	**Ibiza**	**1.25**	**139**	Pg	Pn	02 56 25.0	-1.5
	2.1nm,0.4s,SNR=18						
EIBI				Lg	Lg	02 56 42.1	
	10nm,0.2s,SNR=10.0						
EBEN	**Beniarda**	**1.33**	**198**	Pg	Pn	02 56 26.6	-1.1
	4.2nm,0.9s,SNR=9.7						
EBEN				Lg	Lg	02 56 42.8	
	5.0nm,0.2s,SNR=8.0						
EBEN	**Beniarda**	**1.33**	**198**	Pg	Pn	02 56 26.6	-1.1
	4.2nm,0.9s,SNR=9.7						
EBEN				Lg	Lg	02 56 42.8	
	5.0nm,0.2s,SNR=8.0						
EPOB	**Poblet**	**1.50**	**23**	Pn	Pn	02 56 28.3	-1.8
	21nm,0.3s,SNR=58						
EPOB				Pg	Pb	02 56 30.8	-0.4
	14nm,0.1s,SNR=7.9						
EPOB				Lg	Lg	02 56 49.4	
	17nm,0.3s,SNR=9.4						
EPOB	**Poblet**	**1.50**	**23**	Pn	Pn	02 56 28.3	-1.8
	21nm,0.3s,SNR=58						
ESAC	**San Caprasio**	**1.84**	**342**	Pg	Pb	02 56 36.6	-0.3
	24nm,0.3s,SNR=24						
ESAC				Lg	Lg	02 56 59.3	
	112nm,0.3s,SNR=15						
ESAC	**San Caprasio**	**1.84**	**342**	Pg	Pb	02 56 36.6	-0.3
	24nm,0.3s,SNR=24						
ESAC				Lg	Lg	02 56 59.3	
	112nm,0.3s,SNR=15						
ETOB	**Tobarra**	**1.95**	**228**	Pn	Pn	02 56 35.0	-1.3
	2.8nm,0.3s,SNR=18						
ETOB				Pg	Pb	02 56 38.8	+0.1
	4.4nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	02 56 58.4	-2.4
	5.6nm,0.4s,SNR=18						
ETOB				Lg	Lg	02 57 04.2	
	3.8nm,0.3s,SNR=6.0						
ETOB	**Tobarra**	**1.95**	**228**	Pn	Pn	02 56 35.0	-1.3
	2.8nm,0.3s,SNR=18						
ETOS	**Mallorca**	**1.95**	**95**	Pn	Pn	02 56 35.0	-1.3
	4.9nm,0.7s,SNR=15						
ETOS				Sn	Sn	02 56 59.3	-1.5
	2.9nm,0.3s,SNR=4.0						
ETOS	**Mallorca**	**1.95**	**95**	Pn	Pn	02 56 35.0	-1.2
	4.9nm,0.7s,SNR=15						
ETOS				Sn	Sn	02 56 59.3	-1.5
	2.9nm,0.3s,SNR=4.0						
ETOR	**Torete**	**1.98**	**296**	Pn	Pn	02 56 36.5	-0.2
	25nm,0.3s,SNR=80						
ETOR				Pg	Pb	02 56 39.3	0.0
	25nm,0.3s,SNR=7.6						
ETOR				Lg	Lg	02 57 03.8	
	90nm,0.4s,SNR=16						
ETOR	**Torete**	**1.98**	**296**	Pn	Pn	02 56 36.5	-0.2
	25nm,0.3s,SNR=80						
EMIR	**Miracle**	**2.15**	**25**	Pn	Pn	02 56 38.3	-0.8
	9.6nm,0.3s,SNR=19						
EMIR				Pg	Pb	02 56 43.2	+1.0
	9.6nm,0.3s,SNR=19						
EMIR				Sn	Sn	02 57 04.0	-1.9
	7.4nm,0.3s,SNR=6.5						
EMIR				Lg	Lg	02 57 10.2	
	17nm,0.3s,SNR=7.6						
EMIR	**Miracle**	**2.15**	**25**	Pn	Pn	02 56 38.3	-0.8
	9.6nm,0.3s,SNR=19						
CFON	**Fontmartina**	**2.42**	**42**	Pn	Pn	02 56 41.1	-1.6
	1.7nm,0.3s,SNR=14						
CFON				Pg	Pb	02 56 46.6	-0.2
	4.2nm,0.3s,SNR=12						
CFON				Sn	Sn	02 57 10.7	-1.7
	7.7nm,0.2s,SNR=5.0						
CFON	**Fontmartina**	**2.42**	**42**	Pn	Pn	02 56 41.1	-1.6
	1.7nm,0.3s,SNR=14						
EMUR	**La Murta**	**2.44**	**210**	Pn	Pn	02 56 42.2	-0.8
	3.9nm,0.3s,SNR=5.2						
EMUR				Pg	Pb	02 56 47.9	+0.9
	4.9nm,0.3s,SNR=21						
EMUR				Sn	Sn	02 57 11.1	-1.8
	2.7nm,0.3s,SNR=7.9						
EMUR				Lg	Lg	02 57 17.1	
	7.4nm,0.4s,SNR=7.9						
EMUR	**La Murta**	**2.44**	**210**	Pn	Pn	02 56 42.2	-0.8
	3.9nm,0.3s,SNR=5.2						
CSOR	**Sort**	**2.48**	**15**	Pn	Pn	02 56 42.9	-0.7
	6.5nm,1.0s,SNR=12						
CSOR				Pg	Pb	02 56 47.8	-0.1
	2.4nm,0.3s,SNR=21						
CSOR				Lg	Lg	02 57 20.2	
	11nm,0.3s,SNR=13						
CSOR	**Sort**	**2.48**	**15**	Pn	Pn	02 56 42.9	-0.8
	6.5nm,1.0s,SNR=12						
EVIA	**Vianos**	**2.54**	**239**	Pn	Pn	02 56 43.4	-1.1
	1.0nm,0.1s,SNR=7.9						
EVIA				Pg	Pb	02 56 49.6	+0.7
	7.3nm,0.4s,SNR=7.5						
EVIA	**Vianos**	**2.54**	**239**	Pn	Pn	02 56 43.4	-1.1
	1.0nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**2.81**	**26**	Pn	Pn	02 56 47.9	-0.2
	8.6nm,1.1s,SNR=10						
CLLI				Pg	Pb	02 56 54.6	+1.1
	3.3nm,0.4s,SNR=12						
CLLI				Lg	Lg	02 57 31.2	
	3.4nm,0.5s,SNR=6.0						
CLLI	**Llivia**	**2.81**	**26**	Pn	Pn	02 56 47.9	-0.3
	8.6nm,1.1s,SNR=10						
ETSF	**Etsaut**	**2.99**	**348**	*e*Pg	Pb	02 56 57.9	+1.4
ETSF				*e*Sg	Sb	02 57 36.0	+2.8
	11nm,0.4s						
ETSF	**Etsaut**	**2.99**	**348**	Pg	Pb	02 56 57.9	+1.4
ETSF				*e*Sg	Lg	02 57 36.0	
	5.5nm,0.4s						
IEPA	**Eparoz**	**3.04**	**338**	Pg	Pg	02 56 59.6	-1.8
	0.8nm,0.3s,SNR=7.9						
IEPA				Lg	Lg	02 57 37.4	
	4.5nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**3.04**	**338**	Pg	Pg	02 56 59.6	-1.8
	0.8nm,0.3s,SNR=7.9						
IEPA				Lg	Lg	02 57 37.4	
	4.5nm,0.2s,SNR=7.9						
EPF	**Esparros**	**3.06**	**1**	*e*Pn	Pn	02 56 49.5	-2.0
EPF	**Esparros**	**3.06**	**1**	*e*Pg	Pb	02 56 59.0	+1.4
EPF				*e*Sg	Sb	02 57 36.9	+1.9
	12nm,0.3s						
EPF	**Esparros**	**3.06**	**1**	Pn	Pn	02 56 49.5	-2.0
EPF	**Esparros**	**3.06**	**1**	Pg	Pb	02 56 59.0	+1.4
EPF				*e*Sg	Sb	02 57 36.9	+1.9
	6.1nm,0.3s						
IELO	**Elcoad**	**3.09**	**339**	Pg	Pb	02 56 59.6	+1.5
	2.1nm,0.2s,SNR=7.9						
IELO				Lg	Lg	02 57 37.3	
	2.1nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**3.09**	**339**	Pg	Pb	02 56 59.6	+1.4
	2.1nm,0.2s,SNR=7.9						
IELO				Lg	Lg	02 57 37.3	
	2.1nm,0.2s,SNR=7.9						
IPRE	**Itoiz**	**3.09**	**337**	Lg	Lg	02 57 39.4	
	3.4nm,0.4s,SNR=4.7						
IPRE	**Itoiz**	**3.09**	**337**	Lg	Lg	02 57 39.4	
	3.4nm,0.4s,SNR=4.7						
IUNC	**Unciti**	**3.09**	**335**	Lg	Lg	02 57 41.1	
	6.3nm,0.4s,SNR=4.5						
IUNC	**Unciti**	**3.09**	**335**	Lg	Lg	02 57 41.2	
	6.3nm,0.4s,SNR=4.5						
EHUE	**Huescar**	**3.12**	**227**	Pn	Pn	02 56 51.8	-0.5
	0.0nm,0.2s,SNR=7.9						
EHUE				Pg	Pb	02 56 59.2	+0.5
	1.9nm,0.3s,SNR=7.9						
EHUE				Sn	Sn	02 57 27.3	-2.4
	1.6nm,0.3s,SNR=7.9						
EHUE				Lg	Lg	02 57 41.0	
	1.1nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**3.12**	**227**	Pn	Pn	02 56 51.8	-0.5
	SNR=7.9						
EJON	**La Jonquera**	**3.15**	**38**	Pn	Pn	02 56 52.0	-0.8
	1.4nm,0.1s,SNR=7.9						
EJON				Pg	Pb	02 57 00.1	+0.9
	0.2nm,0.1s,SNR=7.9						
EJON				Sn	Sn	02 57 29.1	-1.4
	1.7nm,0.3s,SNR=7.9						
EJON				Lg	Lg	02 57 43.3	
	2.5nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**3.15**	**38**	Pn	Pn	02 56 52.0	-0.8
	1.4nm,0.1s,SNR=7.9						
EORO	**Oroz-Betelu**	**3.16**	**338**	Pg	Pb	02 57 00.2	+0.8
	1.5nm,0.2s,SNR=7.9						
EORO				Lg	Lg	02 57 43.6	
	12nm,0.4s,SNR=7.9						
EORO	**Oroz-Betelu**	**3.16**	**338**	Pg	Pb	02 57 00.2	+0.9
	1.5nm,0.2s,SNR=7.9						
EORO				Lg	Lg	02 57 43.6	
	12nm,0.4s,SNR=7.9						
IZUN	**Zunzarren**	**3.17**	**336**	Pg	Pb	02 57 01.1	+1.6
	0.9nm,0.2s,SNR=7.9						
IZUN				Sn	Sn	02 57 28.4	-2.5
	0.2nm,0.1s,SNR=7.9						
IZUN				Lg	Lg	02 57 41.5	
	3.1nm,0.3s,SNR=7.9						
IZUN	**Zunzarren**	**3.17**	**336**	Pg	Pb	02 57 01.1	+1.6
	0.9nm,0.2s,SNR=7.9						
IZUN				Sn	Sn	02 57 28.4	-2.5
	0.2nm,0.1s,SNR=7.9						
IZUN				Lg	Lg	02 57 41.5	
	3.1nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**3.29**	**266**	Pn	Pn	02 56 52.8	-1.8
	0.6nm,0.3s,baz=84,slow=14,SNR=11						
ESDC				Sn	Sn	02 57 30.3	-3.6
	0.9nm,0.5s,baz=84,slow=26,SNR=4.2						
ESDC	**Sonseca Array**	**3.29**	**266**	Pn	Pn	02 56 52.8	-1.9
	0.6nm,0.3s,baz=84,slow=14,SNR=11						
ESDC				Sn	Sn	02 57 30.3	-3.6
	0.9nm,0.5s,baz=84,SNR=4.2						
SJPF	**Ste Jean**	**3.34**	**341**	*e*Pn	Pn	02 56 53.6	-1.7
SJPF	**Ste Jean**	**3.34**	**341**	*e*Pg	Pb	02 57 04.1	+1.8
SJPF				*e*Sg	Sb	02 57 46.2	+3.2
	4.5nm,0.2s						
SJPF	**Ste Jean**	**3.34**	**341**	Pn	Pn	02 56 53.6	-1.7
SJPF	**Ste Jean**	**3.34**	**341**	Pg	Pb	02 57 04.1	+1.8
SJPF				*e*Sg	Sb	02 57 46.2	+3.2
	2.2nm,0.2s						
EQES	**Quesada**	**3.40**	**232**	Pn	Pn	02 56 55.6	-0.7
	0.5nm,0.5s,SNR=7.9						
EQES				Pg	Pb	02 57 05.6	+2.0
	12nm,0.4s,SNR=22						
EQES				Sn	Sn	02 57 34.1	-2.7
	1.0nm,0.3s,SNR=7.9						
EQES				Lg	Lg	02 57 48.8	
	3.5nm,0.4s,SNR=7.9						
EQES	**Quesada**	**3.40**	**232**	Pn	Pn	02 56 55.6	-0.7
	0.5nm,0.5s,SNR=7.9						
GUD	**Guadarrama**	**3.46**	**283**	Pn	Pn	02 56 56.2	-1.0
	1.6nm,0.3s,SNR=16						
GUD				Pg	Pb	02 57 06.2	+1.5
	1.6nm,0.5s,SNR=5.6						
GUD				Sn	Sn	02 57 36.1	-2.3
	3.4nm,0.4s,SNR=6.6						
GUD				Lg	Lg	02 57 49.9	
	3.9nm,0.4s,SNR=5.0						
GUD	**Guadarrama**	**3.46**	**283**	Pn	Pn	02 56 56.2	-1.0
	1.6nm,0.3s,SNR=16						
ELIZ	**Elizondo**	**3.47**	**337**	Pn	Pn	02 56 57.1	0.0
	1.5nm,0.2s,SNR=7.9						
ELIZ				Lg	Lg	02 57 52.8	
	4.7nm,0.3s,SNR=7.9						
ELIZ	**Elizondo**	**3.47**	**337**	Pn	Pn	02 56 57.1	0.0
	1.5nm,0.2s,SNR=7.9						
ELIZ				Lg	Lg	02 57 52.8	
	4.7nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**4.20**	**246**	Pn	Pn	02 57 05.3	-1.8
	0.6nm,0.2s,SNR=7.9						
EADA				Pg	Pb	02 57 18.9	+1.9
	1.7nm,0.3s,SNR=7.9						
EADA				Sn	Sn	02 57 52.3	-3.9
	0.5nm,0.2s,SNR=7.9						
EADA				Lg	Lg	02 58 13.5	
	1.4nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**4.20**	**246**	Pn	Pn	02 57 05.3	-1.8
	0.6nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**4.29**	**321**	Pn	Pn	02 57 08.7	+0.4
	0.1nm,0.1s,SNR=7.9						
ELAN				Pg	Pb	02 57 21.1	+2.7
	9.4nm,1.0s,SNR=9.6						
ELAN				Lg	Lg	02 58 15.6	
	1.0nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**4.29**	**321**	Pn	Pn	02 57 08.7	+0.4
	0.1nm,0.1s,SNR=7.9						
LASF	**Ste Croix**	**4.88**	**32**	*e*Pn	Pn	02 57 14.5	-2.0
LASF	**Ste Croix**	**4.88**	**32**	Pn	Pn	02 57 14.5	-2.0
EPLA	**Plasencia**	**4.89**	**273**	Pn	Pn	02 57 14.6	-2.1
	1.2nm,0.7s,SNR=5.7						
EPLA				Sn	Sn	02 58 08.6	-4.8
	4.0nm,0.7s,SNR=5.0						
EPLA	**Plasencia**	**4.89**	**273**	Pn	Pn	02 57 14.6	-2.1
	1.2nm,0.7s,SNR=5.7						
LFF	**La Frestale**	**4.97**	**4**	*e*Sg	Sg	02 58 37.8	-4.9
	2.7nm,0.3s						
LFF	**La Frestale**	**4.97**	**4**	*e*Sg	Sg	02 58 37.8	-4.9
	1.4nm,0.3s						
CAF	**Calviac**	**5.12**	**14**	*e*Pn	Pn	02 57 17.9	-1.9
CAF				*e*Sg	Sg	02 58 42.1	-5.4
	1.4nm,0.3s						
CAF	**Calviac**	**5.12**	**14**	Pn	Pn	02 57 17.9	-1.9
CAF				*e*Sg	Sg	02 58 42.1	-5.4
	0.7nm,0.3s						
CAF				Lg	Lg	02 58 42.1	
	0.3nm,0.3s						
RJF	**Les Rejaudoux**	**5.40**	**9**	*e*Pn	Pn	02 57 21.7	-2.0
RJF	**Les Rejaudoux**	**5.40**	**9**	Pn	Pn	02 57 21.7	-2.0
PBRG	**Braganca**	**5.63**	**291**	*e*Sn	Sn	02 58 30.1	-1.6
PBRG	**Braganca**	**5.63**	**291**	Sn	Sn	02 58 30.1	-1.6
PBRG	**Braganca**	**5.63**	**291**	Sn	Sn	02 58 30.1	-1.6
MVO	**Moncorvo**	**5.70**	**284**	*e*Pn	Pn	02 57 26.3	-1.5
MVO				*e*Sn	Sn	02 58 31.1	-2.3
MVO				A	A	02 58 37.0	
	1.9nm,0.3s						
MVO	**Moncorvo**	**5.70**	**284**	Pn	Pn	02 57 27.0	-0.8
	SNR=7.9						
MVO	**Moncorvo**	**5.70**	**284**	Pn	Pn	02 57 27.0	-0.8
	SNR=7.9						
MVO				*e*Sn	Sn	02 58 31.1	-2.3
	1.9nm,0.3s						
LMR	**La Mourre**	**5.74**	**52**	*e*Pn	Pn	02 57 26.8	-1.5
LMR	**La Mourre**	**5.74**	**52**	Pn	Pn	02 57 26.8	-1.5
PVIS	**Viseu**	**6.30**	**279**	*e*Sn	Sn	02 58 45.8	-2.3
PVIS	**Viseu**	**6.30**	**279**	Sn	Sn	02 58 45.8	-2.3
PVIS	**Viseu**	**6.30**	**279**	Sn	Sn	02 58 45.8	-2.3
EVO	**Evora**	**6.60**	**260**	*e*Sg	Sg	02 59 31.1	-3.9
	1.3nm,0.4s						
PGAV	**Gavieira, Arco**	**6.78**	**290**	*e*Pn	Pn	02 57 43.1	+0.4
PGAV	**Gavieira, Arco**	**6.78**	**290**	*e*Pn	Pn	02 57 43.1	+0.4

CSEM ***17*** *02:56:24.1±0.1, 42.87N×1.10W, h5km, ML0.5, Error ellipse: s-maj=2.2km s-min=1.3km az=173.0*
LDG ***17*** *02:56:24.2±0.1, 42.87N×1.10W, h2km, Md1.3/2, Error ellipse: s-maj=2.4km s-min=1.4km az=171.0*
MDD 17 02:56:24.6±0.4, 42.87N×1.10W, h0km, mbLg0.5/8, Error ellipse: s-maj=3.7km s-min=2.5km az=159.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IELO	**Elcoad**	**0.10**	**256**	Pg	Pg	02 56 26.0	-0.7
	3.2nm,0.2s,SNR=7.9						
IELO				Lg	Lg	02 56 27.6	
	6.1nm,0.0s,SNR=7.9						
IELO	**Elcoad**	**0.10**	**256**	Pg	Pg	02 56 26.0	-0.7
	3.2nm,0.2s,SNR=7.9						
IELO				Lg	Lg	02 56 27.6	
	6.1nm,0.0s,SNR=7.9						
IEPA	**Eparoz**	**0.15**	**234**	Pg	Pg	02 56 27.7	+0.2
	0.3nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	02 56 29.5	
	5.0nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.15**	**234**	Pg	Pg	02 56 27.7	+0.1
	0.3nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	02 56 29.5	
	5.0nm,0.1s,SNR=7.9						
EORO	**Oroz-Betelu**	**0.15**	**280**	Pg	Pg	02 56 27.1	-0.6
	0.1nm,0.1s,SNR=7.9						
EORO				Lg	Lg	02 56 29.6	
	6.1nm,0.0s,SNR=7.9						
EORO	**Oroz-Betelu**	**0.15**	**280**	Pg	Pg	02 56 27.1	-0.6
	0.1nm,0.1s,SNR=7.9						
EORO				Lg	Lg	02 56 29.6	
	6.1nm,0.0s,SNR=7.9						
IPRE	**Itoiz**	**0.20**	**252**	Pg	Pg	02 56 28.2	-0.2
	0.1nm,0.1s,SNR=7.9						
IPRE				Lg	Lg	02 56 31.2	
	4.4nm,0.4s,SNR=6.9						
IPRE	**Itoiz**	**0.20**	**252**	Pg	Pg	02 56 28.2	-0.2
	0.1nm,0.1s,SNR=7.9						
IPRE				Lg	Lg	02 56 31.2	
	4.4nm,0.4s,SNR=6.9						
IZUN	**Zunzarren**	**0.26**	**269**	Pg	Pg	02 56 29.4	-0.2
	0.2nm,0.1s,SNR=7.9						
IZUN				Lg	Lg	02 56 33.3	
	1.2nm,0.1s,SNR=7.9						
IZUN	**Zunzarren**	**0.26**	**269**	Pg	Pg	02 56 29.5	-0.2
	0.2nm,0.1s,SNR=7.9						
IZUN				Lg	Lg	02 56 33.3	
	1.2nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.26**	**340**	*e*Pg	Pg	02 56 29.5	-0.2
SJPF				*e*Sg	Sg	02 56 32.9	-0.3
	0.7nm,0.2s						
SJPF	**Ste Jean**	**0.26**	**340**	Pg	Pg	02 56 29.5	-0.2
SJPF				*e*Sg	Sg	02 56 32.9	-0.3
	0.3nm,0.2s						
SJPF				Lg	Lg	02 56 32.9	
	0.2nm,0.2s						
ETSF	**Etsaut**	**0.40**	**85**	*e*Pg	Pg	02 56 31.6	-0.8
ETSF				*e*Sg	Sg	02 56 37.6	-0.1
	0.9nm,0.2s						
ETSF	**Etsaut**	**0.40**	**85**	Pg	Pg	02 56 31.6	-0.8
ETSF				*e*Sg	Lg	02 56 37.6	
	0.4nm,0.2s						
ELIZ	**Elizondo**	**0.43**	**314**	Pg	Pg	02 56 32.4	-0.5
	2.4nm,0.2s,SNR=10						
ELIZ				Lg	Lg	02 56 38.9	
	1.0nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**0.43**	**314**	Pg	Pg	02 56 32.4	-0.5
	2.4nm,0.2s,SNR=10						
ELIZ				Lg	Lg	02 56 38.9	
	1.0nm,0.1s,SNR=7.9						
EPF	**Esparros**	**1.07**	**81**	*e*Pg	Pg	02 56 44.6	-0.7
EPF	**Esparros**	**1.07**	**81**	Pg	Pg	02 56 44.6	-0.7

PRE 17 03:18:05.5±0.7, 26.46S×27.40E, h2km, ML1.7, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.46**	**184**	*e*P	Pg	03 18 14.8	+0.2
PRYS				*e*S	Sg	03 18 21.3	+0.4
PRYS				AML	AML	03 18 22.0	
	comp=Z,14nm,0.1s						
SEK	**Senekal**	**1.86**	**174**	*e*P	Pn	03 18 39.0	+0.3
SEK				*e*S	Sn	03 19 03.4	+0.4
SEK				AML	AML	03 19 05.2	
	comp=Z,8.8nm,0.2s						
SWZ	**Schweizer**	**1.98**	**248**	*e*P	Pn	03 18 40.9	+0.6
SWZ				*e*S	Sn	03 19 06.6	+0.8
SWZ				AML	AML	03 19 09.6	
	comp=Z,5.0nm,0.1s						
LBTB	**Lobatse**	**2.17**	**311**	*e*P	Pn	03 18 43.9	+1.1
LBTB				*e*S	Sn	03 19 10.8	+0.3
LBTB				AML	AML	03 19 14.7	
	comp=Z,5.1nm,

mb5.3/72,MS5.5/211,Error ellipse: s-maj=5.9km s-min=3.5km az=139.8

MOS ***17*** *03:30:56.0±1.1,30.˝63S×178.˝84W,h33km,mb5.5/19, MS5.4/32,Error ellipse: s-maj=11.8km s-min=10.6km az=127.2*

IDC ***17*** *03:30:57.0±3.0,30.˝55S×178.˝62W,h40km±25km,mb4.7/20, mb1 4.8/21,mb1mx4.8/23,mbtmp4.7/21,ML4.4/1,MS5.3/27, Ms1 5.3/27,ms1mx5.2/35,Error ellipse: s-maj=19.1km s-min=12.4km az=172.0*

NEIC ***17*** *03:31:12.6±0.0,30.˝18S×179.˝16W,h26km,Moment Tensor Solution. s102 Moment tensor: Scale 10^{18}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{r\theta}$0.00; $M_{r\phi}$0.00; $M_{\theta\phi}$0.00; Best double couple: $M_0$1.10000×10^{18} NP1:ϕ_{ss}8.00000°, δ20.00000°,λ67.00000°. NP2:ϕ_{ss}212.00000°,δ71.00000°, λ98.00000°. Principal axes: T 1.4300, Plg62.0000°, Azm134.0000°; N -0.6600, Plg7.0000°, Azm28.0000°; P -0.7700, Plg25.0000°, Azm295.0000°;*

ISC 17 03:30:56.2±0.4,30.˝75S±0.˝04×178.˝62W±0.˝04,h31km±2km, h31km:pP-P,n918,σ1ş73/858,mb5.3/73,MS5.5/212, 117C-133D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.61**	**22**	*e*Pn		Pn	03 31 16.4	-6.0
RAO				*e*Sn		**Sn**	**03 31 37.8**	**-4.4**
PUZ	**Puketiti**	**7.75**	**199**	PN		**Pn**	**03 32 44.7**	**-2.1**
PUZ				SN		**Sn**	**03 34 16.4**	**+2.9**
OUZ	**Omahuta**	**7.92**	**234**	*e*Pn		**Pn**	**03 32 49.6**	**+0.5**
MWZ	**Matawai**	**8.21**	**202**	PN		**Pn**	**03 32 52.7**	**-0.4**
MWZ				SN		**Sn**	**03 34 29.0**	**+4.1**
URZ	**Urewera**	**8.28**	**204**	*e*Pn		**Pn**	**03 32 53.4**	**-0.7**
URZ	**Urewera**	**8.28**	**204**	PN		**Pn**	**03 32 54.7**	**+0.6**
URZ				SN		**Sn**	**03 34 29.6**	**+3.1**
KHZ	**Kahutara**	**13.23**	**206**	*e*Pn		Pn	03 33 56.6	-5.2
MSVF	**Nonsavu**	**13.31**	**346**	*e*P		**Pn**	**03 34 04.6**	**+1.5**
MSVF	**Nonsavu**	**13.31**	**346**	*e*Pn		**Pn**	**03 34 04.6**	**+1.5**
DZM	**Mont Dzumac** 386nm,1.5s	**15.92**	**299**	*e*P		**P**	**03 34 41.0**	**-0.5**
DZM				*e*LR		LR	03 38 27.3	
	46μm,25.4s							
DZM	**Mont Dzumac** 280nm,1.5s	**15.92**	**299**	*e*Pn		**Pn**	**03 34 39.5**	**+1.4**
DZM				Sn		**S**	**03 37 43.0**	**-4.2**
DZM	**Mont Dzumac** 0.3nm,0.3s,baz=105,slow=16,SNR=7.1	**15.92**	**299**	Pn		**P**	**03 34 43.0**	**+1.5**
DZM				Sn		**S**	**03 37 43.0**	**-4.2**
	0.5nm,0.3s,baz=298,slow=14,SNR=2.0							
DZM				LR		LR	03 38 22.8	
	comp=Z,10μm,18.8s,baz=171,slow=28							
ODZ	**Otahua Downs** 196nm,1.3s	**16.57**	**208**	*e*Pn		**Pn**	**03 34 43.9**	**-2.3**
AFI	**Afiamalu** 176nm,1.6s	**17.91**	**22**	*e*Pn		**Pn**	**03 34 60.0**	**-3.0**
AFI				S		**S**	**03 38 29.9**	**+2.2**
AFI	**Afiamalu** 1.5nm,0.3s,baz=290,slow=23,SNR=2.3	**17.91**	**22**	S		**S**	**03 38 29.9**	**+2.2**
RAR	**Rarotonga**	**19.40**	**65**	P		**P**	**03 35 18.5**	**-1.2**
RAR				*e*Pn		**Pn**	**03 35 19.7**	**-1.3**
RAR				S		**Sn**	**03 39 04.7**	**+6.9**
RAR	**Rarotonga** 1.1nm,0.3s,baz=226,slow=9.0,SNR=7.3	**19.40**	**65**	P		**P**	**03 35 18.5**	**-1.2**
RAR				S		**Sn**	**03 39 04.7**	**+6.9**
	1.3nm,0.3s,baz=60,slow=17,SNR=2.4							
RAR				LR		LR	03 41 22.1	
	comp=Z,11μm,18.4s,baz=241,slow=32							
TBI	**Tubuai** 4μm,30.0s	**26.94**	**81**	*e*S		S	03 41 01.9	-8.2
TBI				*e*LQ		LQ	03 41 54.4	
	13μm,26.0s							
TBI				*e*LR		LR	03 43 16.4	
	33μm,29.5s,baz=246							
CNB	**Canberra Magne** 94nm,1.2s	**27.16**	**252**	*e*P		**P**	**03 36 40.6**	**+3.7**
EIDS	**Eidsvold** 61nm,1.5s	**27.23**	**274**	*e*P		**P**	**03 36 38.1**	**+0.7**
CAN	**Canberra**	**27.46**	**252**	*e*P		**P**	**03 36 39.8**	**+0.3**
CAN				pmax		pmax		
	comp=Z,100nm,1.6s							
CAN				MLR		MLR		
	comp=Z,12μm,21.0s							
CAN	**Canberra** comp=Z,100nm,1.6s	**27.46**	**252**	*e*P		**P**	**03 36 39.8**	**+0.3**
CAN				LR		LR		
	comp=Z,12μm,21.0s							
HNR	**Honiara**	**29.13**	**312**	*e*P		**P**	**03 36 55.6**	**+1.1**
HNR	**Honiara**	**29.13**	**312**	LR		LR	03 46 27.9	
	comp=Z,4μm,18.1s,baz=333,slow=32							
PAE	**Paea** comp=Z,25nm,1.2s	**29.41**	**70**	*e*P		**P**	**03 36 56.0**	**-1.0**
PPT2	**Papeete2** comp=Z,72nm,1.1s	**29.45**	**70**	*e*P		**P**	**03 36 57.9**	**+0.4**
PPT2				*e*S		S	03 41 42.3	-7.6
	comp=Z,4μm,25.0s							
PPT2				*e*LQ		LQ	03 43 03.9	
	comp=Z,7μm,24.0s							
PPT2				*e*LR		LR	03 44 21.3	
	comp=Z,39μm,29.2s,baz=235							
MOO	**Moorlands** comp=Z,149nm,1.0s	**29.64**	**237**	*e*P		**P**	**03 36 59.5**	**+0.7**
TAU	**Tasmania Unive**	**29.64**	**236**	PFAKE			03 37 10.0	+11
TAU				LR		LR		
	comp=Z,14μm,19.0s							
TIAR	**Tiarei** comp=Z,218nm,0.9s	**29.66**	**70**	*e*P		**P**	**03 37 00.3**	**+1.1**
TOO	**Toolangi** comp=Z,117nm,0.9s	**30.34**	**247**	*e*P		**P**	**03 37 07.6**	**+2.5**
MEH	**Mehetia** comp=Z,73nm,1.0s	**30.54**	**72**	*e*P		**P**	**03 37 06.1**	**-0.9**
TARA	**Tarawa**	**32.93**	**344**	PFAKE			03 37 40.0	+12
TARA				LR		LR		
	comp=Z,816nm,21.0s							
CTA	**Charters Tower**	**33.33**	**280**	P		**P**	**03 37 31.4**	**-0.2**
CTA				S		**S**	**03 42 48.5**	**-1.9**
CTA	**Charters Tower** comp=Z,31nm,1.4s	**33.33**	**280**	*e*P		**P**	**03 37 32.4**	**+0.8**
CTA	**Charters Tower** comp=Z,266nm,0.9s,baz=95,slow=11,SNR=11	**33.33**	**280**	P		**P**	**03 37 31.4**	**-0.2**
CTA				S		**S**	**03 42 48.5**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=291,slow=13,SNR=2.2							
CTA				LR		LR	03 48 19.5	
	comp=Z,10μm,21.0s,baz=112,slow=31							
CTAO	**Charters Tower**	**33.33**	**280**	*e*P		**P**	**03 37 31.4**	**-0.2**
CTAO				pmax		pmax		
	comp=Z,73nm,1.2s							
CTAO				MLR		MLR		
	comp=Z,11μm,20.0s							
CTAO	**Charters Tower** comp=Z,73nm,1.2s	**33.33**	**280**	*e*P		**P**	**03 37 31.4**	**-0.2**
CTAO				LR		LR		
	comp=Z,11μm,20.0s							
STKA	**Stephens Creek** comp=Z,25nm,0.9s	**33.88**	**258**	*e*P		**P**	**03 37 37.3**	**+1.1**
STKA				S		S	03 43 05.4	+6.6
STKA	**Stephens Creek** comp=Z,80nm,0.9s	**33.88**	**258**	*e*P		**P**	**03 37 37.3**	**+1.1**
STKA	**Stephens Creek** comp=Z,93nm,0.9s,baz=100,slow=8.9,SNR=41	**33.88**	**258**	P		**P**	**03 37 37.3**	**+1.1**
STKA				S		S	03 43 05.4	+6.6
	comp=Z,1.2nm,0.8s,baz=306,slow=12,SNR=1.7							
STKA				LR		LR	03 49 13.0	
	comp=Z,15μm,18.9s,baz=92,slow=32							
PMG	**Port Moresby**	**38.28**	**296**	PFAKE			03 38 30.0	+16
PMG				LR		LR		
	comp=Z,4μm,19.0s							
XMAS	**Kiritimati**	**38.35**	**36**	PFAKE			03 38 30.0	+16
XMAS				LR		LR		
	comp=Z,7μm,19.0s							
BBOO	**Buckleboo** comp=Z,939nm,1.1s	**38.36**	**255**	*e*P		**P**	**03 38 14.2**	**-0.4**
COEN	**Coen** comp=Z,1μm,2.2s	**38.86**	**287**	*e*P		**P**	**03 38 18.8**	**-0.1**
RKT	**Rikitea** comp=Z,3μm,27.2s	**39.45**	**90**	*e*S		S	03 44 15.7	-8.1
RKT				*e*LR		LR	03 49 02.7	
	comp=Z,19μm,30.2s,baz=254							
ASAR	**Alice Springs**	**42.56**	**268**	P		**P**	**03 38 48.9**	**-0.5**
ASAR				PcP		**PcP**	**03 40 41.2**	**-0.3**
ASAR	**Alice Springs** comp=Z,25nm,0.8s,baz=115,slow=8.0,SNR=58	**42.56**	**268**	P		**P**	**03 38 48.9**	**-0.5**
ASAR				PcP		**PcP**	**03 40 41.2**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=111,slow=4.2,SNR=3.1							
WRAB	**Tennant Creek**	**43.58**	**273**	*e*P		**P**	**03 38 56.9**	**-0.7**
WRAB				pmax		pmax		
	comp=Z,213nm,1.6s							
WRAB				MLR		MLR		
	comp=Z,8μm,19.0s							
WRAB	**Tennant Creek** comp=Z,213nm,1.6s	**43.58**	**273**	*e*P		**P**	**03 38 56.9**	**-0.7**
WRAB				LR		LR		
	comp=Z,8μm,19.0s							
WRA	**Warramunga Arr**	**43.58**	**273**	P		**P**	**03 38 56.1**	**-1.5**
WRA				PcP		**PcP**	**03 40 45.7**	**+0.7**
WRA				S		S	03 45 35.3	+10
WRA	**Warramunga Arr** comp=Z,43nm,0.9s,baz=112,slow=7.8,SNR=67	**43.58**	**273**	P		**P**	**03 38 56.1**	**-1.5**
WRA				PcP		**PcP**	**03 40 45.7**	**+0.7**
	comp=Z,6.3nm,1.1s,baz=121,slow=3.1,SNR=4.7							
WRA				S		S	03 45 35.3	+10
	comp=Z,0.5nm,1.0s,baz=95,slow=12,SNR=5.0							
WRA				LR		LR	03 55 17.4	
	comp=Z,7μm,20.0s,baz=110,slow=34							
FORT	**Forrest** comp=Z,120nm,0.9s	**45.45**	**256**	*e*P		**P**	**03 39 11.7**	**-0.7**
FORT	**Forrest** comp=Z,67nm,0.7s	**45.45**	**256**	*e*P		**P**	**03 39 11.7**	**-0.7**
SBA	**Scott Base**	**47.65**	**184**	PFAKE			03 39 40.0	+11
SBA				LR		LR		
	comp=Z,4μm,19.0s							
VNDA	**Vanda** comp=Z,293nm,2.6s	**47.70**	**186**	*e*P		**P**	**03 39 30.9**	**+1.5**
VNDA				LR		LR		
	comp=Z,4μm,21.0s							
MTN	**Manton Dam**	**49.52**	**280**	*e*P		**P**	**03 39 43.1**	**-1.1**
WAKE	**Wake Island**	**51.72**	**342**	PFAKE			03 40 10.0	+9.4
WAKE				LR		LR		
	comp=Z,4μm,21.0s							
FITZ	**Fitzroy Crossi** comp=Z,105nm,1.2s	**51.83**	**270**	*e*P		**P**	**03 40 01.1**	**-0.5**
FITZ				S		**S**	**03 47 23.1**	**+0.9**
FITZ	**Fitzroy Crossi** comp=Z,98nm,1.1s	**51.83**	**270**	*e*P		**P**	**03 40 01.1**	**-0.5**
FITZ	**Fitzroy Crossi** comp=Z,49nm,1.0s,baz=136,slow=6.3,SNR=21	**51.83**	**270**	P		**P**	**03 40 01.1**	**-0.5**
FITZ				S		**S**	**03 47 23.1**	**+0.9**
	comp=Z,3.7nm,1.2s,baz=189,slow=15,SNR=1.7							
FITZ				LR		LR	04 00 03.7	
	comp=Z,8μm,21.0s,baz=137,slow=34							
KLBR	**Kellerberrin** comp=Z,155nm,1.7s	**53.73**	**251**	*e*P		**P**	**03 40 15.9**	**+0.3**
NWAO	**Narrogin (SRO)**	**53.78**	**250**	P		**P**	**03 40 16.4**	**+0.5**
NWAO	**Narrogin (SRO)** comp=Z,7.8nm,0.7s,baz=110,slow=6.5,SNR=4.5	**53.78**	**250**	P		**P**	**03 40 16.4**	**+0.5**
NWAO				LR		LR	04 03 10.0	
	comp=Z,3μm,18.2s,baz=103,slow=36							
CASY	**Casey**	**54.58**	**208**	PFAKE			03 40 30.0	+8.8
CASY				LR		LR		
	comp=Z,4μm,19.0s							
MBWA	**Marble Bar**	**55.66**	**264**	PFAKE			03 40 40.0	+10
MBWA				LR		LR		
	comp=Z,7μm,20.0s							
GUMO	**Guam** comp=Z,2μm,21.4s,baz=103,slow=32	**56.36**	**316**	LR		LR	04 01 00.2	
MIDW	**Midway**	**58.65**	**1**	PFAKE			03 41 00.0	+10
MIDW				LR		LR		
	comp=Z,8μm,20.0s							
QSPA	**South Pole Qui**	**59.36**	**180**	P		**P**	**03 40 56.3**	**+1.1**
QSPA				LR		LR		
	comp=Z,4μm,21.0s							
QSPA	**South Pole Qui** comp=Z,40nm,0.7s,baz=6.0,slow=1.6,SNR=64	**59.36**	**180**	P		**P**	**03 40 56.3**	**+1.1**
RPN	**Rapa Nui**	**59.85**	**105**	PFAKE			03 41 10.0	+11
RPN				LR		LR		
	comp=Z,5μm,22.0s							
KAPI	**Kappang**	**63.15**	**281**	PFAKE			03 41 30.0	+8.5
KAPI				LR		LR		
	comp=Z,2μm,19.0s							
DAV	**Davao City (W)** comp=Z,2μm,21.8s,baz=22,slow=31	**65.29**	**295**	LR		LR	04 04 29.0	
CBIJ	**Chichi jima** comp=Z,1μm,19.9s,baz=174,slow=34	**68.64**	**323**	LR		LR	04 09 17.6	
MAW	**Mawson** comp=Z,6μm,20.8s,baz=152,slow=34	**71.79**	**201**	LR		LR	04 11 56.5	
KKM	**Kota Kinabalu**	**72.16**	**289**	PFAKE			03 42 30.0	+12
KKM				LR		LR		
	comp=Z,1μm,21.0s							
PMSA	**Palmer Station** comp=Z,1μm,18.5s,baz=188,slow=31	**72.16**	**156**	LR		LR	04 08 33.0	
KSM	**Kuching**	**74.57**	**281**	PFAKE			03 42 40.0	+7.5
KSM				LR		LR		
	comp=Z,1μm,19.0s							
USHA	**Ushuaia** comp=Z,2μm,18.9s,baz=178,slow=32	**75.93**	**146**	LR		LR	04 10 57.8	
SYO	**Syowa Base**	**76.65**	**193**	⇓*e*P		**P**	**03 42 41.2**	**-2.3**
SYO	**Syowa Base**	**76.65**	**193**	⇓*i*P		**P**	**03 42 42.6**	**-0.9**
SNAA	**Sanae** comp=Z,27nm,1.0s	**77.82**	**179**	*e*P		P	03 42 44.2	-6.0
MJAR	**Matsushiro Arr**	**78.23**	**326**	P		**P**	**03 42 51.5**	**-1.3**
MJAR	**Matsushiro Arr** comp=Z,14nm,1.0s,baz=171,slow=5.9,SNR=15	**78.23**	**326**	P		**P**	**03 42 51.5**	**-1.3**
MJAR				LR		LR	04 12 17.9	
	comp=Z,690nm,21.8s,baz=100,slow=32							
MAJO	**Matsushiro**	**78.23**	**326**	PFAKE			03 43 00.0	+7.2
MAJO				LR		LR		
	comp=Z,1μm,21.0s							
MAT	**Matsushiro**	**78.23**	**326**	P		**P**	**03 42 51.5**	**-1.3**
MAT				S		**S**	**03 52 46.0**	**+0.5**
NVL	**N'lazarevskaya**	**78.50**	**184**	*e*P		**P**	**03 42 56.4**	**+2.6**
NVL				*e*			03 43 05.0	
NVL				*e*S		**S**	**03 52 43.7**	**-3.9**
NVL				pmax		pmax		
	comp=Z,35nm,1.0s							
NVL				MLR		MLR		
	comp=Z,3μm,16.0s							
JNU	**Nakatsue**	**79.47**	**319**	P		**P**	**03 42 59.7**	**0.0**
JNU	**Nakatsue** comp=Z,22nm,1.0s,baz=138,slow=5.3,SNR=5.7	**79.47**	**319**	P		**P**	**03 42 59.7**	**0.0**
ERM	**Erimo**	**80.52**	**332**	PFAKE			03 43 20.0	+15
ERM				LR		LR		
	comp=Z,2μm,19.0s							
YUK	**Yuzh-Kuril'sk**	**81.20**	**335**	*c*P		P	03 43 04.0	-4.6
YUK				*i*			03 46 12.8	
YUK				*i*	PPP	PPP	03 48 09.2	
YUK				*i*	S	**S**	**03 53 19.6**	**+3.1**
YUK				*i*	SS	**SS**	**03 58 34.2**	**+1.2**
YUK				pmax		pmax		
	comp=Z,1μm,7.8s							
QZH	**Quanzhou**	**81.72**	**305**	⇑*i*P		**P**	**03 43 13.0**	**+1.1**
QZH				PP		**PP**	**03 46 17.8**	**-1.6**
QZH				S		**S**	**03 53 24.3**	**+1.6**
QZH				LR		LR		
	comp=Z,2μm,15.1s							
ASAJ	**Asahikawa**	**82.51**	**333**	P		**P**	**03 43 16.6**	**+1.1**
ASAJ	**Asahikawa** comp=Z,15nm,0.9s,baz=285,slow=26,SNR=3.9	**82.51**	**333**	P		**P**	**03 43 16.6**	**+1.1**
PLCA	**Paso Flores** comp=Z,229nm,2.6s	**82.66**	**133**	*e*P		**P**	**03 43 17.3**	**+0.5**
PLCA	**Paso Flores** comp=Z,7.3nm,1.0s,baz=217,slow=4.8,SNR=5.6	**82.66**	**133**	P		**P**	**03 43 17.9**	**+1.1**
PLCA				LR		LR	04 12 33.6	
	comp=Z,2μm,18.2s,baz=198,slow=30							
EFI	**East Falkland**	**82.78**	**147**	PFAKE			03 43 30.0	+13
EFI				LR		LR		
	comp=Z,1μm,19.0s							
SSE	**Sheshan**	**83.94**	**312**	P		**P**	**03 43 24.5**	**+1.3**
SSE				PP		**PP**	**03 46 38.0**	**+0.5**
SSE				S		**S**	**03 53 49.3**	**+4.3**
SSE				sS		**ScS**	**03 53 57.1**	**-0.4**
SSE				pmax		pmax		
	comp=Z,27nm,0.7s							
SSE				pmax		pmax		
	comp=Z,2μm,8.6s							
SSE				LR		LR		
	comp=N,350nm,19.8s							
SSE				LR		LR		
	comp=E,360nm,19.8s							
SSE				LR		LR		
	comp=Z,830nm,26.7s							
KSRS	**Korea Array** comp=Z,4.1nm,0.9s,baz=144,slow=5.8,SNR=9.3	**84.27**	**320**	P		**P**	**03 43 23.3**	**-1.5**
KSRS				LR		LR	04 17 43.9	
	comp=Z,769nm,19.1s,baz=155,slow=33							
KSAR	**Wonju Array Be**	**84.28**	**320**	P		**P**	**03 43 23.3**	**-1.5**
QIZ	**Qiongzhong**	**84.67**	**296**	P		**P**	**03 43 27.6**	**+0.4**
QIZ				PP		**PP**	**03 46 43.3**	**-0.3**
QIZ				S		**S**	**03 53 57.1**	**+4.3**
QIZ				SS		**SS**	**03 59 22.3**	**-2.9**
QIZ				pmax		pmax		
	comp=Z,2μm,9.2s							
QIZ				LR		LR		
	comp=N,800nm,16.9s							
QIZ				LR		LR		
	comp=Z,2μm,40.0s							
QIZ	**Qiongzhong**	**84.67**	**296**	PFAKE			03 43 40.0	+13
QIZ				LR		LR		
	comp=Z,900nm,20.0s							
KULM	**Kulim**	**84.75**	**279**	PFAKE			03 43 40.0	+12
KULM				LR		LR		
	comp=Z,2μm,20.0s							
YSS	**Yuzh-Sakhalins**	**84.83**	**335**	⇓*e*P		**P**	**03 43 28.0**	**+0.6**
YSS				*e*			03 46 46.0	
YSS				*e*S		**S**	**03 53 56.0**	**+2.8**
YSS				*e*PS		**PnS**	**03 54 52.0**	**+0.8**
YSS				pmax		pmax		
	comp=Z,3μm,7.0s							
YSS				smax		smax		
	comp=E,2μm,12.0s							
YSS				MLR		MLR		
	comp=N,2μm,16.0s							
YSS				MLR		MLR		
	comp=Z,1μm,16.0s							
YSS	**Yuzh-Sakhalins**	**84.83**	**335**	*e*P		**P**	**03 43 28.3**	**+0.9**
YSS				LR		LR		
	comp=Z,738nm,20.0s							
PSI	**Prapat**	**84.94**	**276**	P		**P**	**03 43 27.6**	**-1.4**
PSI	**Prapat** comp=Z,2.2nm,0.4s,baz=167,slow=13,SNR=3.9	**84.94**	**276**	P		**P**	**03 43 27.6**	**-1.4**
PSI				LR		LR	04 21 14.4	
	comp=Z,4μm,20.1s,baz=131,slow=36							
INCN	**Inchon**	**85.01**	**319**	PFAKE			03 43 40.0	+11
INCN				LR		LR		
	comp=Z,787nm,20.0s							
BSC	**Santa Cruz Isl** baz=85	**85.10**	**46**	⇓P		**P**	**03 43 30.7**	**+1.6**
SBC	**Santa Barbara** baz=86	**85.35**	**45**	⇓P		**P**	**03 43 31.8**	**+1.6**
CIS	**Catalina Islan** baz=86	**85.47**	**47**	⇓P		**P**	**03 43 32.2**	**+1.2**
PKM	**Peak Mountain** baz=86	**85.59**	**45**	⇑P		**P**	**03 43 32.9**	**+1.2**
FMP	**Fort Macarthur** baz=86	**85.74**	**47**	⇓P		**P**	**03 43 34.0**	**+1.7**
PET	**Petropavlovsk**	**85.75**	**346**	*e*P		P	03 43 35.9	+4.2
PET				*e*S		**S**	**03 54 03.6**	**+1.6**
109C	**Camp Elliot, M** baz=86	**85.95**	**48**	⇑P		**P**	**03 43 34.9**	**+1.5**
PETK	**Petropavlovsk-**	**86.02**	**346**	P		**P**	**03 43 31.9**	**-1.3**
PETK	**Petropavlovsk-**	**86.02**	**346**	P		**P**	**03 43 31.9**	**-1.3**
PETK	**Petropavlovsk-** comp=Z,13nm,0.9s,baz=129,slow=8.3,SNR=4.9	**86.02**	**346**	P		**P**	**03 43 31.9**	**-1.3**
PETK				LR		LR	04 17 59.5	
	comp=Z,1μm,18.1s,baz=148,slow=33							
DECC	**Green Verdugo** baz=86	**86.07**	**46**	⇓P		**P**	**03 43 35.4**	**+1.4**
ARVC	**Arvin** baz=87	**86.35**	**45**	⇓P		**P**	**03 43 36.5**	**+1.3**
MURC	**Murrieta** baz=87	**86.36**	**47**	⇓P		**P**	**03 43 37.1**	**+1.8**
MONP	**Monument Peak** baz=87	**86.39**	**48**	⇑P		**P**	**03 43 37.1**	**+1.3**
DVTC	**Desert V Tower** baz=87	**86.45**	**49**	⇑P		**P**	**03 43 37.4**	**+1.5**
BFSC	**Mount Baldy Ra** baz=87	**86.48**	**47**	⇓P		**P**	**03 43 37.1**	**+1.0**
VES	**Vestal, Richgr** baz=87	**86.67**	**45**	⇓P		**P**	**03 43 38.2**	**+1.4**
EDW2	**Edwards Air Fo** baz=87	**86.70**	**46**	⇑P		**P**	**03 43 38.0**	**+0.9**
SWSC	**Sam W. Stewart** baz=87	**86.83**	**49**	⇑P		**P**	**03 43 38.8**	**+1.1**
PFO	**Pinyon Flat Ob**	**86.83**	**48**	PFAKE			03 43 50.0	+12
PFO				LR		LR		
	comp=Z,4μm,22.0s							
PFO	**Pinyon Flat Ob** baz=87	**86.83**	**48**	⇑P		**P**	**03 43 38.6**	**+0.7**
ISA	**Isabella**	**86.92**	**45**	*e*P		**P**	**03 43 38.6**	**+0.4**
ISA				pmax		pmax		
	comp=Z,59nm,1.5s							
ISA	**Isabella** comp=Z,60nm,1.5s	**86.92**	**45**	*e*P		**P**	**03 43 38.6**	**+0.4**
ISA	**Isabella** baz=87	**86.92**	**45**	⇑P		**P**	**03 43 38.8**	**+0.7**
BBRC	**Big Bear Solar** baz=87	**86.96**	**47**	⇑P		**P**	**03 43 39.5**	**+0.9**
USRK	**Ussuriysk Arra** comp=Z,2.9nm,0.8s,baz=145,slow=4.6,SNR=5.3	**87.16**	**327**	P		**P**	**03 43 38.8**	**-0.1**
USRK				LR		LR	04 19 24.1	
	comp=Z,2μm,21.2s,baz=256,slow=33							
LRMC	**Laurel Mountai** baz=88	**87.28**	**46**	⇓P		**P**	**03 43 41.2**	**+1.2**
RRX	**Edison Barstow** baz=88	**87.31**	**46**	⇑P		**P**	**03 43 41.0**	**+1.0**
CMB	**Columbia Colle**	**87.38**	**42**	*e*P		**P**	**03 43 39.1**	**-1.1**
CMB				pmax		pmax		
	comp=Z,13nm,1.2s							
CMB	**Columbia Colle** comp=Z,13nm,1.2s	**87.38**	**42**	*e*P		**P**	**03 43 39.1**	**-1.1**
BELC	**Belle Mtn. Jos** baz=88	**87.38**	**48**	⇓P		**P**	**03 43 41.7**	**+1.2**
BC3	**Big Chuckawall** baz=88	**87.50**	**48**	⇓P		**P**	**03 43 42.4**	**+1.3**
GLA	**Glamis**	**87.53**	**49**	*e*P		**P**	**03 43 43.3**	**+2.2**
GLA				pmax		pmax		
	comp=Z,374nm,3.0s							
GLA	**Glamis** comp=Z,374nm,3.0s	**87.53**	**49**	*e*P		**P**	**03 43 43.3**	**+2.2**
GLA	**Glamis** baz=88	**87.53**	**49**	⇑P		**P**	**03 43 42.5**	**+1.4**
CWC	**Cottonwood Cre** baz=88	**87.67**	**45**	⇑P		**P**	**03 43 43.3**	**+1.4**
HEC	**Hector,Ludlow** baz=88	**87.70**	**47**	⇑P		**P**	**03 43 43.1**	**+1.2**
GSC	**Goldstone**	**87.71**	**46**	*e*P		**P**	**03 43 42.9**	**+0.9**
GSC				pmax		pmax		
	comp=Z,69nm,1.8s							
GSC	**Goldstone** comp=Z,69nm,1.8s	**87.71**	**46**	*e*P		**P**	**03 43 42.9**	**+0.9**
GSC	**Goldstone** baz=88	**87.71**	**46**	⇓P		**P**	**03 43 43.8**	**+1.8**
MPMC	**Manual Prospec** baz=88	**87.78**	**45**	⇓P		**P**	**03 43 43.3**	**+0.9**
DAC	**Darwin (Calif)**	**87.86**	**45**	PFAKE			03 43 50.0	+7.2
DAC				LR		LR		
	comp=Z,4μm,21.0s							
MTUM	**Tungsten Hills**	**87.99**	**44**	*e*P		**P**	**03 43 44.9**	**+1.5**
TIN	**Tinemaha** baz=88	**87.99**	**44**	⇑P		**P**	**03 43 44.6**	**+1.3**
MLAC	**Mammoth Lakes** baz=88	**88.01**	**43**	⇑P		**P**	**03 43 44.8**	**+1.3**
IRM	**Iron Mountain** baz=88	**88.02**	**48**	⇑P		**P**	**03 43 44.5**	**+1.1**
113A	**Mohawk Valley,** baz=88	**88.04**	**50**	⇓P		**P**	**03 43 44.9**	**+1.4**
GMRC	**Granite Mounta** baz=88	**88.09**	**47**	⇓P		**P**	**03 43 44.8**	**+1.0**
WHN	**Wuhan**	**88.14**	**307**	⇑*i*P		**P**	**03 43 42.3**	**-1.7**
WHN				PP		**PP**	**03 47 09.4**	**-2.1**
WHN				S		**S**	**03 54 26.9**	**+0.8**
WHN				LR		LR

comp=Z,2µm,7.5s
MDJ LR LR
comp=N,520nm,43.9s
MDJ LR LR
comp=E,710nm,41.2s
MDJ LR LR
comp=Z,940nm,32.9s
MDJ Mudanjiang 88.61 326 PFAKE 03 44 00.0 +14
MDJ LR LR
comp=Z,1µm,21.0s
BEKR Beckworth 88.64 41 ⇓P **P 03 43 48.0 +1.6**
baz=89
NEE2 Needles Airpor 88.74 48 ⇓P **P 03 43 48.0 +1.2**
baz=89
PDMCI Parker Dam,Lak 88.75 48 ⇑P **P 03 43 48.6 +1.7**
baz=89
DL2 Dalian 88.85 318 P **P 03 43 46.1 -1.0**
DL2 PP **PP 03 47 18.5 +1.4**
DL2 S **S 03 54 32.3 -0.2**
DL2 pmax pmax
comp=Z,10.0nm,1.5s
DL2 pmax pmax
comp=Z,990nm,8.3s
DL2 LR LR
comp=N,370nm,23.2s
DL2 LR LR
comp=E,360nm,20.8s
DL2 LR LR
comp=Z,750nm,25.1s
NVAR Mina Array Bea 88.86 43 P **P 03 43 47.2 -0.3**
NVAR Mina Array Bea 88.86 43 P **P 03 43 47.2 -0.3**
comp=Z,9.1nm,1.0s,baz=224,slow=7.7,SNR=24
NVAR LR LR 04 20 57.8
comp=Z,3µm,18.2s,baz=204,slow=34
Z14A Wintersburg 88.95 50 ⇑P **P 03 43 49.3 +1.5**
baz=89
HABR Khabarovsk 89.09 331 *e*P **P 03 43 46.9 -1.1**
HABR *e**PP **pP 03 43 58.3 +0.4**
HABR *e* 03 47 18.9
HABR *e*PPP PPP 03 49 15.6
HABR S **SKSac 03 54 14.8 -0.4**
HABR *e* 03 54 39.8
HABR *e*SS **SS 04 00 31.9 +2.8**
HABR *e*SSS SSS 04 04 07.7
HABR pmax pmax
comp=E,96nm,3.1s
HABR pmax pmax
comp=Z,64nm,2.1s
HABR pmax pmax
comp=N,13nm,1.3s
HABR MLR MLR
comp=Z,878nm,16.0s
HUMO Hull Mountain 89.12 38 *e*P P 03 43 51.8 +3.4
comp=Z,103nm,2.3s
LCO Las Campanas 89.22 124 PFAKE 03 44 00.0 +10
LCO LR LR
comp=Z,3µm,22.0s
TPH Tonopah 89.26 44 PFAKE 03 44 00.0 +11
TPH LR LR
comp=Z,2µm,20.0s
Y14A Wickenburg 89.27 49 ⇓P **P 03 43 50.8 +1.5**
baz=90
W13A Hualapai Mount 89.42 48 ⇓P **P 03 43 51.2 +1.0**
baz=90
CFAA Coronel Fontan 89.45 127 LR LR 04 18 13.0
comp=Z,211nm,18.1s,baz=232,slow=32
TRQA Tornquist 89.56 135 PFAKE 03 44 00.0 +9.2
TRQA LR LR
comp=Z,2µm,19.0s
SNY Shenyang 89.73 321 ⇑P **P 03 43 51.5 +0.3**
SNY pmax pmax
comp=Z,2µm,6.9s
SNY LR LR
comp=N,850nm,15.8s
SNY LR LR
comp=E,540nm,9.8s
SNY LR LR
comp=Z,890nm,16.2s
TUC Tucson 89.74 52 *e*P **P 03 43 52.0 +0.4**
TUC pmax pmax
comp=Z,69nm,1.8s
TUC MLR MLR
comp=Z,1µm,20.0s
TUC Tucson 89.74 52 *e*P **P 03 43 52.0 +0.4**
comp=Z,69nm,1.8s
TUC LR LR
comp=Z,1µm,20.0s
TIA Tai'an 89.82 313 P **P 03 43 52.3 +0.5**
TIA pmax pmax
comp=Z,46nm,1.0s
TIA pmax pmax
comp=Z,3µm,9.3s
MOD Modoc 90.05 39 *e*P **P 03 43 53.9 +1.0**
comp=Z,184nm,2.9s
CN2 Changchun 90.10 323 *e*P **P 03 43 52.3 -0.6**
CN2 *e*S **S 03 54 46.3 +2.3**
CN2 SS **SS 04 00 49.0 +5.0**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 pmax pmax
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,700nm,20.0s
CN2 LR LR
comp=E,1µm,20.0s
CN2 LR LR
comp=Z,1µm,21.0s
319A Douglas 90.21 53 ⇑P **P 03 43 55.5 +1.6**
baz=90
R11A Troy Canyon, C 90.42 44 ⇑P **P 03 43 56.6 +1.8**
baz=91
X16A Lo Mia Camp, P 90.58 50 ⇑P **P 03 43 56.7 +1.0**
baz=91
320A Kipp Ranch, An 90.71 54 ⇓P **P 03 43 57.5 +1.3**
baz=91,SNR=5.2
BMN Battle Mountai 90.80 42 PFAKE 03 44 10.0 +14
BMN LR LR
comp=Z,3µm,21.0s
KDAK Kodiak Island 90.87 14 PFAKE 03 44 10.0 +14
KDAK LR LR
comp=Z,4µm,21.0s
X17A Forest Lakes 90.95 50 ⇓P **P 03 43 58.6 +1.2**
baz=91
220A Playas Peak, P 91.04 53 ⇓P **P 03 43 58.8 +1.1**
baz=91,SNR=5.9
U15A North Rim 91.26 48 ⇓P **P 03 44 00.4 +1.5**
baz=92
GYA Guiyang 91.27 300 P **P 03 44 01.0 +2.1**
GYA PP **PP 03 47 41.5 +4.8**
GYA S **S 03 54 57.5 +1.8**
GYA pmax pmax
comp=Z,50nm,1.0s
GYA pmax pmax
comp=Z,190nm,6.2s
GYA LR LR
comp=N,4µm,22.6s
GYA LR LR
comp=E,3µm,23.2s
GYA LR LR
comp=Z,5µm,22.0s
CCUT Cedar City 91.28 46 *e*P **P 03 44 01.0 +2.1**
comp=Z,11nm,1.4s
WUAZ Wupatki 91.29 49 PFAKE 03 44 10.0 +11
WUAZ LR LR
comp=Z,2µm,22.0s
WUAZ Wupatki 91.29 49 ⇓P **P 03 44 00.5 +1.6**
baz=92
R13A O'Grain Ranch, 91.30 45 ⇑P **P 03 44 00.8 +1.9**
baz=92
WVOR Wild Horse Val 91.33 40 PFAKE 03 44 10.0 +11
WVOR LR LR
comp=Z,2µm,19.0s
120A U Bar Ranch, L 91.35 53 ⇑P **P 03 44 00.6 +1.4**
baz=92,SNR=5.2
ENH Enshi 91.36 305 *e*P **P 03 43 59.0 -0.2**
comp=Z,64nm,1.3s
ENH LR LR
comp=Z,935nm,22.0s
221A Mesquite Ranch 91.62 53 ⇓P **P 03 44 02.0 +1.6**
baz=92
X18A Snowflake 91.63 50 ⇑P **P 03 44 02.3 +1.7**
baz=92
Z20A Nine Sixteen R 91.71 52 ⇑P **P 03 44 02.3 +1.4**
baz=92,SNR=5.3
Y19A Nutrioso 91.76 51 ⇓P **P 03 44 03.1 +1.8**
baz=92
121A Cookes Peak, D 91.92 53 ⇑P **P 03 44 03.6 +1.8**
baz=92
NLWA Neilton Lookou 92.04 34 PFAKE 03 44 10.0 +8.1
NLWA LR LR
comp=Z,2µm,21.0s
W18A Petrified Fore 92.12 50 ⇑P **P 03 44 04.7 +1.9**
baz=92
222A Williams Famil 92.14 54 ⇑P **P 03 44 04.7 +1.8**
baz=92
ELK Elko 92.16 43 *e*P **P 03 44 04.0 +1.1**
Y20A Horse Springs, 92.32 52 ⇓P **P 03 44 05.1 +1.4**
baz=92,SNR=7.1
R15A Junction 92.36 46 ⇑P **P 03 44 05.6 +1.8**
baz=93
Z21A St. Cloud Mine 92.45 52 ⇑P **P 03 44 05.8 +1.5**
baz=93
S16A Weppner Ranch, 92.49 47 ⇑P **P 03 44 06.2 +1.8**
baz=93
T17A Navajo Res., N 92.55 48 ⇓P **P 03 44 06.6 +1.8**
baz=93
122A Conniff Cattle 92.56 53 ⇑P **P 03 44 06.4 +1.7**
baz=93
223A Chaparral, Ant 92.56 54 ⇓P **P 03 44 06.3 +1.5**
baz=93
MVU Marysvale 92.58 46 PFAKE 03 44 20.0 +15
MVU LR LR
comp=Z,2µm,22.0s
X20A Quemado 92.61 51 ⇑P **P 03 44 06.2 +1.2**
baz=93,SNR=5.1
BJT Baijiatuau 92.79 316 *e*P **P 03 44 05.9 +0.4**
comp=Z,4.5nm,0.4s
BJT LR LR
comp=Z,845nm,20.0s
BJI Beijing 92.80 316 P **P 03 44 07.3 +1.8**
BJI PP **PP 03 47 53.3 +4.9**
BJI S **S 03 55 14.3 +5.7**
BJI pmax pmax
comp=Z,12nm,1.0s
BJI pmax pmax
comp=Z,2µm,8.4s
BJI LR LR
comp=N,1µm,20.4s
BJI LR LR
comp=E,570nm,27.9s
BJI LR LR
comp=Z,1µm,40.2s
626A Big Bend Ranch 92.81 57 ⇑P **P 03 44 07.4 +1.4**
baz=93
Y21A Point of Rocks 92.85 52 ⇑P **P 03 44 08.2 +2.0**
baz=93
425A Indio Mountain 92.88 56 ⇓P **P 03 44 07.5 +1.2**
baz=93
324A Moseley Ranch, 92.90 55 ⇓P **P 03 44 07.7 +1.3**
baz=93
Z22A Elephant Butte 92.90 53 ⇓P **P 03 44 08.0 +1.7**
baz=93
R16A Teasdale 92.90 47 ⇑P **P 03 44 07.9 +1.6**
baz=93
V19A Window Rock 92.93 50 ⇑P **P 03 44 07.9 +1.3**
baz=93
S17A Black Ridge (B 92.94 47 ⇑P **P 03 44 07.6 +1.2**
baz=93
W20A Ramah 92.94 51 ⇓P **P 03 44 07.9 +1.3**
baz=93,SNR=7.7
CM31 Chiang Mai Arr 93.02 290 PFAKE 03 44 20.0 +13
CM31 LR LR
comp=Z,919nm,21.0s
CMAR Chiang Mai Arr 93.02 290 P **P 03 44 07.0 0.0**
CMAR Chiang Mai Arr 93.02 290 P **P 03 44 07.0 0.0**
comp=Z,4.0nm,1.0s,baz=144,slow=4.2,SNR=11
TXAR Lajitas Array 93.02 58 P **P 03 44 07.1 +0.1**
TXAR PP **PP 03 47 49.1 -1.4**
TXAR Lajitas Array 93.02 58 P **P 03 44 07.1 +0.1**
comp=Z,2.7nm,1.1s,baz=213,slow=6.7,SNR=13
TXAR PP **PP 03 47 49.1 -1.4**
comp=Z,0.8nm,1.2s,baz=202,slow=12,SNR=2.9
TXAR LR LR 04 17 00.8
comp=Z,1µm,21.0s,baz=355,slow=30
X21A Alamocita Cree 93.03 51 ⇓P **P 03 44 08.5 +1.5**
baz=93
123A Bell Site, Whi 93.03 54 ⇑P **P 03 44 08.0 +1.1**
baz=93
MNTX Cornudas Mount 93.11 55 PFAKE 03 44 20.0 +13
MNTX LR LR
comp=Z,818nm,21.0s
MNTX Cornudas Mount 93.11 55 ⇓P **P 03 44 08.3 +1.1**
baz=93
526A Mary Lane Ranc 93.12 57 ⇓P **P 03 44 08.7 +1.2**
baz=93
U19A Dine' College, 93.16 49 ⇓P **P 03 44 08.7 +1.1**
baz=93
P15A Leamington 93.19 45 ⇓P **P 03 44 09.1 +1.5**
baz=93
CHTO Chiang Mai 93.20 290 *e*P **P 03 44 08.7 +0.8**
CHTO MLR MLR
comp=Z,787nm,19.0s
CHTO Chiang Mai 93.20 290 *e*P **P 03 44 08.7 +0.8**
CHTO LR LR
comp=Z,787nm,19.0s
325A Bean Ranch, Si 93.22 55 ⇑P **P 03 44 08.9 +1.0**
baz=93
224A Cornudas Mount 93.23 54 ⇓P **P 03 44 09.1 +1.2**
baz=93
T18A Mexican Hat 93.23 48 ⇑P **P 03 44 08.9 +1.2**
baz=93
DUG Dugway 93.25 44 PFAKE 03 44 20.0 +12
DUG LR LR
comp=Z,2µm,22.0s
DUG Dugway 93.25 44 ⇓P **P 03 44 09.2 +1.4**
baz=94
Y22A Socorro 93.29 52 ⇓P **P 03 44 09.6 +1.4**
baz=94
627A Terlingua Ranc 93.29 58 ⇑P **P 03 44 09.6 +1.4**
baz=94
V20A Brimhall 93.36 50 ⇓P **P 03 44 09.8 +1.4**
baz=94
CMIG Matias Romero 93.36 72 LR LR 04 15 28.1
comp=Z,1µm,21.4s,baz=243,slow=29
Y22D IRIS PASSCAL I 93.40 52 ⇓P **P 03 44 10.0 +1.3**
baz=94
LAZ Ladron 93.44 52 *e*P **P 03 44 10.0 +1.1**
comp=Z,4.2nm,1.3s
R17A Hanksville Air 93.47 47 ⇑P **P 03 44 10.4 +1.6**
baz=94
Q16A Castle Valley 93.48 46 ⇑P **P 03 44 10.6 +1.6**
baz=94
S18A Hurst Farm, Bl 93.48 48 ⇓P **P 03 44 10.2 +1.1**
baz=94
426A McDonald Obser 93.50 56 ⇓P **P 03 44 10.1 +0.8**
baz=94
HAWA Hanford 93.50 37 *e*P **P 03 44 10.3 +1.8**
comp=Z,90nm,2.5s
HAWA LR LR
comp=Z,3µm,22.0s
KMI Kunming 93.51 297 P **P 03 44 09.3 -0.1**
KMI PP **PP 03 47 53.5 -1.0**
KMI S **S 03 55 19.3 +3.3**
KMI pmax pmax
comp=Z,11nm,1.3s
KMI pmax pmax
comp=Z,1µm,8.7s
KMI LR LR
comp=N,920nm,19.8s
KMI LR LR
comp=E,430nm,21.9s
KMI LR LR
comp=Z,1µm,19.8s
527A Woodward Ranch 93.51 57 ⇑P **P 03 44 10.1 +0.9**
baz=94
O15A The Old Anders 93.51 45 ⇑P **P 03 44 10.9 +1.9**
baz=94
MFID Camas Ranch 93.53 40 *e*P **P 03 44 09.7 +0.7**
comp=Z,7.0nm,1.1s
MFID Camas Ranch 93.53 40 ⇓P **P 03 44 10.7 +1.8**
baz=94
X22A Bernardo 93.58 52 ⇑P **P 03 44 11.2 +1.7**
baz=94
P16A Fountain Green 93.60 45 ⇓P **P 03 44 11.4 +1.9**
baz=94
T19A Beclabito 93.60 49 ⇑P **P 03 44 11.3 +1.8**
baz=94
124A Stringfield Ra 93.63 54 ⇓P **P 03 44 11.2 +1.4**
baz=94
BMO Blue Mountains 93.65 39 *e*P **P 03 44 08.6 -0.8**
BMO pmax pmax
comp=Z,73nm,2.8s
BMO MLR MLR
comp=Z,2µm,22.0s
BMO Blue Mountains 93.65 39 *e*P **P 03 44 08.6 -0.8**
comp=Z,73nm,2.8s
BMO LR LR
comp=Z,2µm,22.0s
U20A Newcomb 93.66 49 ⇓P **P 03 44 11.6 +1.8**
baz=94
628A Black Gap, Mar 93.67 58 ⇓P **P 03 44 11.2 +1.3**
baz=94
TMUT Trail Mountain 93.69 46 *e*P **P 03 44 12.9 +2.8**
comp=Z,55nm,2.0s
225A Deer Hill, Car 93.74 55 ⇑P **P 03 44 11.0 +0.7**
baz=94
NNA Nana 93.83 106 PFAKE 03 44 20.0 +9.0
NNA LR LR
comp=Z,2µm,22.0s
N15A Stansbury Isla 93.86 44 ⇑P **P 03 44 12.1 +1.6**
baz=94
XAN Xi'an 93.90 307 P **P 03 44 09.8 -1.0**
XAN pP **pP 03 44 17.3 -3.4**
XAN S **S 03 55 21.6 +2.8**
XAN SS **SS 04 01 42.0 +2.9**
XAN pmax pmax
comp=Z,360nm,8.0s
XAN LR LR
comp=N,740nm,18.5s
XAN LR LR
comp=E,460nm,21.1s
XAN LR LR
comp=Z,240nm,19.8s
Y23A Lovelace Mesa, 93.91 53 ⇓P **P 03 44 12.0 +1.0**
baz=94
V21A Milan 93.91 50 ⇑P **P 03 44 11.6 +0.6**
baz=94
R18A Canyonlands Na 93.96 47 ⇓P **P 03 44 11.8 +0.6**
baz=94
SRU San Rafael 94.00 46 *e*P **P 03 44 13.0 +1.7**
SRU pmax pmax
comp=Z,44nm,2.2s
SRU San Rafael 94.00 46 *e*P **P 03 44 13.0 +1.7**
comp=Z,44nm,2.2s
SRU San Rafael 94.00 46 ⇓P **P 03 44 12.5 +1.2**
baz=94
W22A Albuquerque 94.01 51 ⇓P **P 03 44 11.9 +0.4**
baz=94
Z24A Sheeppen Canyo 94.04 53 ⇓P **P 03 44 12.4 +0.7**
baz=94
427A Hayter Ranch, 94.05 56 ⇓P **P 03 44 12.3 +0.7**
baz=94
S19A Harvey Farm, M 94.06 48 ⇑P **P 03 44 12.6 +0.9**
baz=94
P17A Butcher Ranch, 94.08 46 ⇓P **P 03 44 12.9 +1.2**
baz=94
LPA La Plata 94.08 135 *ce*P P 03 44 16.0 +4.2
LPA SSS SSS 03 50 25.0
LPA PS **PS 03 56 48.0 +10**
GDL2 Guadalupe Moun 94.11 55 *e*P **P 03 44 12.1 +0.2**
528A Cox Ranch, San 94.12 57 ⇓P **P 03 44 12.9 +0.9**
baz=94
L14A Malta 94.14 43 ⇑P **P 03 44 13.1 +1.2**
baz=94
I12A Atlanta 94.16 41 ⇑P **P 03 44 13.4 +1.4**
baz=94
125A Gardner Draw, 94.16 54 ⇓P **P 03 44 13.0 +0.9**
baz=94
MVCO Mesa Verde 94.16 49 PFAKE 03 44 20.0 +7.8
MVCO LR LR
comp=Z,2µm,22.0s
MVCO Mesa Verde 94.16 49 ⇑P **P 03 44 13.3 +1.1**
baz=94
X23A Hourglass Bar 94.19 52 ⇑P **P 03 44 13.4 +1.1**
baz=94
ANMO Albuquerque 94.21 52 *e*P **P 03 44 12.3 -0.1**
comp=Z,2.8nm,1.1s
ANMO LR LR
comp=Z,2µm,19.0s
ANMO Albuquerque 94.21 52 P **P 03 44 11.9 -0.5**
comp=Z,2.0nm,0.9s,baz=222,slow=8.2,SNR=6.1
226A Malaga, Loving 94.22 55 ⇑P **P 03 44 13.3 +0.9**
baz=94
LVC Limon Verde 94.23 119 PFAKE 03 44 20.0 +7.0
LVC LR LR
comp=Z,79nm,21.0s
Q18A Rafter H Ranch 94.24 47 ⇑P **P 03 44 13.2 +0.9**
baz=94
M15A Larsen Ranch, 94.25 44 ⇓P **P 03 44 13.5 +1.1**
baz=94,SNR=6.9
HVU Hansel Valley 94.25 43 *e*P **P 03 44 13.6 +1.2**
HVU pmax pmax
comp=Z,11nm,1.2s
HVU Hansel Valley 94.25 43 *e*P **P 03 44 13.6 +1.2**
comp=Z,11nm,1.2s
U21A Nageezi 94.26 50 ⇓P **P 03 44 12.8 +0.2**
baz=94,SNR=6.6
327A Balmorhea Ranc 94.27 56 ⇓P **P 03 44 13.6 +1.0**
baz=94
R19A Curley Farm, L 94.31 48 ⇑P **P 03 44 14.0 +1.2**
baz=94
Y24A Capitan 94.33 53 ⇓P **P 03 44 13.7 +0.7**
baz=94
HLID Hailey 94.42 41 *e*P **P 03 44 13.4 +0.3**
comp=Z,4.4nm,1.0s
HLID LR LR
comp=Z,2µm,21.0s
HLID Hailey 94.42 41 ⇑P **P 03 44 13.9 +0.8**
baz=95,SNR=6.8
J13A Cove Ranch, Pi 94.45 41 ⇓P **P 03 44 14.0 +0.8**
baz=95,SNR=8.2
V22A San Miguel Ran 94.46 51 ⇓P **P 03 44 14.5 +0.9**
baz=95
Z25A Roswell 94.47 54 ⇑P **P 03 44 14.5 +1.0**
baz=95
P18A Preston Nutter 94.48 46 ⇑P **P 03 44 14.4 +0.8**
baz=95
K14A Jones Ranch, D 94.49 42 ⇑P **P 03 44 14.6 +1.1**
baz=95
428A Kincaid Ranch, 94.50 57 ⇑P **P 03 44 14.1 +0.4**
baz=95
N16A Rees Ranch, Co 94.51 45 ⇑P **P 03 44 14.6 +0.9**
baz=95
529A Stev Forest Ra 94.51 58 ⇓P **P 03 44 14.2 +0.4**
baz=95
O17A Robinson Place 94.52 45 ⇑P **P 03 44 14.9 +1.1**
baz=95
W23A Werner Place, 94.54 52 ⇓P **P 03 44 14.8 +0.9**
baz=95
L15A Malad City 94.62 43 ⇓P **P 03 44 14.6 +0.6**
baz=95,SNR=6.0
M16A Huntsville 94.65 44 ⇓P **P 03 44 15.0 +0.7**
baz=95
T21A Navajo Lake 94.66 49 ⇑P **P 03 44 14.9 +0.5**
baz=95
X24A Lazy VL Ranch, 94.69 52 ⇓P **P 03 44 15.3 +0.7**
baz=95
Q19A Hogan Spring (94.70 47 ⇑P **P 03 44 15.5 +1.1**
baz=95
227A Bennet, Jal 94.77 56 ⇓P **P 03 44 15.6 +0.7**
baz=95
328A Wristen Ranch, 94.77 56 ⇓P **P 03 44 15.4 +0.5**
baz=95
H12A Diamond D Ranc 94.79 40 ⇓P **P 03 44 15.9 +1.1**
baz=95,SNR=6.7
I13A Wildhorse Cree 94.81 41 ⇑P **P 03 44 16.3 +1.3**
baz=95
R20A Redvale 94.81 48 ⇑P **P 03 44 16.1 +1.0**
baz=95
Y25A Mesa, Roswell 94.84 53 ⇑P **P 03 44 16.8 +1.5**
baz=95
V23A Ortiz Mt. (NFS 94.85 51 ⇑P **P 03 44 15.9 +0.5**
baz=95
HWUT Hardware Ranch 94.86 44 PFAKE 03 44 30.0 +15
HWUT LR LR
comp=Z,3µm,22.0s
S21A Coal Bank Pass 94.88 49 ⇓P **P 03 44 16.4 +0.9**
baz=95
G12A Big Creek, Yel 94.90 39 ⇑P **P 03 44 16.1 +0.8**
baz=95
N17A Moffit Pass 94.91 45 ⇑P **P 03 44 16.9 +1.3**
baz=95
K15A Arbon 94.95 43 ⇑P **P 03 44 16.9 +1.3**
baz=95
Z26A Caprock 94.97 54 ⇓P **P 03 44 16.7 +0.9**
baz=95
429A Davenport Ranc 95.02 57 ⇓P **P 03 44 16.6 +0.5**
baz=95
W24A Lazy 6 Ranch, 95.07 52 ⇓P **P 03 44 17.5 +1.1**
baz=95
127A Arkansas Junct 95.08 55 ⇑P **P 03 44 17.1 +0.7**
baz=95

T22A Edith 95.09 50 ⇓P P 03 44 17.5 +1.0
baz=95
H13A Challis 95.14 40 ⇓P P 03 44 17.5 +1.2
baz=95
U23A El Rito 95.17 51 ⇓P P 03 44 18.1 +1.3
baz=95
I14A Mackay 95.19 41 ⇓P P 03 44 17.9 +1.2
baz=95
L16A Fish Haven 95.19 44 ⇓P P 03 44 18.3 +1.6
baz=95
X25A Clemmons Ranch 95.20 53 ⇑P P 03 44 18.3 +1.4
baz=95
WRAK Wrangell Islan 95.29 24 PFAKE 03 44 30.0 +13
WRAK LR LR
comp=Z,1μm,19.0s
Q20A Ridgley Place, 95.31 48 ⇑P P 03 44 17.7 +0.3
baz=96
F12A Elk City 95.34 39 ⇑P P 03 44 18.1 +0.9
baz=96
R21A Cimarron 95.44 48 ⇓P P 03 44 18.9 +0.8
baz=96
J15A Blackfoot 95.45 42 ⇓P P 03 44 19.3 +1.5
baz=96,SNR=7.4
G13A Cobalt 95.48 40 ⇑P P 03 44 18.7 +0.8
baz=96
Z27A Tatum 95.53 54 ⇓P P 03 44 18.8 +0.4
baz=96
S22A 4UR Ranch, Cre 95.56 49 ⇑P P 03 44 18.9 +0.2
baz=96
O19A Miners Draw (B 95.57 46 ⇓P P 03 44 19.3 +0.8
baz=96
L17A Cokeville 95.58 44 ⇓P P 03 44 19.3 +0.8
baz=96
E12A Beaver Dam Sad 95.59 38 ⇑P P 03 44 19.5 +1.1
baz=96
K16A Soda Springs 95.59 43 ⇓P P 03 44 19.7 +1.1
baz=96
M18A Lyman 95.66 45 ⇑P P 03 44 20.2 +1.3
baz=96
H14A Leadore 95.66 41 ⇓P P 03 44 19.9 +1.1
baz=96
W25A X Bar L Ranch, 95.72 52 ⇓P P 03 44 20.3 +1.0
baz=96
I15A Monteview 95.78 42 ⇓P P 03 44 21.1 +1.8
baz=96
X26A CR and CF Fran 95.80 53 ⇓P P 03 44 20.4 +0.7
baz=96
CD2 Chengdu 95.83 302 P P 03 44 19.9 +0.2
CD2 pP pP 03 44 30.5 +0.9
CD2 sP sP 03 44 34.4 +1.2
CD2 PP PP 03 48 15.3 +3.0
CD2 SKS SKSac 03 54 52.4 -1.5
CD2 S S 03 55 33.0 -2.6
CD2 sS sS 03 55 50.8 -1.4
CD2 SS SS 04 02 08.6 +2.0
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,230nm,6.2s
CD2 LR LR
comp=N,780nm,14.7s
CD2 LR LR
comp=E,620nm,20.6s
CD2 LR LR
comp=Z,690nm,17.6s
AHID Auburn Hatcher 95.84 43 eP P 03 44 20.3 +0.6
comp=Z,15nm,1.4s
AHID LR LR
comp=Z,3μm,21.0s
J16A Bone 95.85 43 ⇓P P 03 44 20.5 +0.8
baz=96
F13A Darby 95.86 39 ⇓P P 03 44 20.8 +1.2
baz=96
Y27A Causey 95.88 54 ⇓P P 03 44 20.8 +0.9
baz=96
N19A John Jarvie Ra 95.89 46 ⇓P P 03 44 20.4 +0.5
baz=96
K17A Gardner Place, 95.94 43 ⇑P P 03 44 20.8 +0.7
baz=96
NEW Newport 95.97 36 PFAKE 03 44 30.0 +10
NEW LR LR
comp=Z,2μm,22.0s
H15A Lima 96.07 41 ⇑P P 03 44 22.0 +1.3
baz=96
MCMT McKenzie Canyo 96.08 41 eP P 03 44 21.1 +0.3
comp=Z,1.3nm,1.0s
HHC Hu-ho-hao-te 96.10 314 eP P 03 44 22.3 +1.5
HHC pP pP 03 44 33.8 +3.1
HHC sP sP 03 44 37.3 +3.1
HHC PP PP 03 48 18.5 +4.3
HHC SKS SKSac 03 54 54.5 -0.5
HHC S S 03 55 36.3 -1.4
HHC sS sS 03 55 54.0 -0.2
HHC SS SS 04 02 13.0 +2.8
HHC pmax pmax
comp=Z,12nm,0.5s
HHC pmax pmax
comp=Z,990nm,8.0s
HHC LR LR
comp=N,510nm,16.7s
HHC LR LR
comp=E,690nm,16.7s
HHC LR LR
comp=Z,990nm,21.4s
Z28A Tucker Farm, M 96.10 55 ⇑P P 03 44 20.6 -0.4
baz=96
D12A Red Ives Fores 96.11 38 ⇑P P 03 44 21.6 +1.0
baz=96
C11A Tepee Creek (N 96.14 37 ⇓P P 03 44 21.4 +0.7
baz=96
Q22A Crested Butte, 96.14 48 ⇑P P 03 44 21.9 +0.6
baz=96
SEY Seymchan 96.20 347 eP P 03 44 21.8 +1.3
I16A Newdale 96.28 42 ⇓P P 03 44 22.3 +0.7
baz=96
REDW Red Top Meadow 96.34 43 eP P 03 44 22.8 +0.8
comp=Z,11nm,1.4s
E13A Victor 96.35 39 ⇓P P 03 44 22.9 +1.1
baz=97
KVTX Kingsville 96.36 62 PFAKE 03 44 30.0 +7.9
KVTX LR LR
comp=Z,1μm,22.0s
K18A Toltan Ranch, 96.39 44 ⇓P P 03 44 22.4 +0.2
baz=97
U25A Circle Dot Ran 96.41 51 ⇓P P 03 44 22.3 -0.1
baz=97
N20A Spence Gulch, 96.42 46 ⇑P P 03 44 23.1 +0.7
baz=97
J17A Brown Place, J 96.42 43 ⇑P P 03 44 23.1 +0.7
baz=97
SDCO Great Sand Dun 96.42 50 PFAKE 03 44 30.0 +7.4
SDCO LR LR
comp=Z,1μm,21.0s
JCT Junction City 96.46 58 PFAKE 03 44 30.0 +7.4
JCT LR LR
comp=Z,2μm,22.0s
L19A Farson 96.48 44 ⇑P P 03 44 22.9 +0.3
baz=97
G15A Dillon 96.49 41 ⇓P P 03 44 23.5 +1.0
baz=97
V26A Tequesquite Ra 96.49 52 ⇓P P 03 44 22.5 -0.2
baz=97
IMW Indian Meadow 96.61 42 eP P 03 44 24.9 +1.7
comp=Z,29nm,2.3s
HIA Hailar 96.69 325 PFAKE 03 44 30.0 +6.8
HIA LR LR
comp=Z,1μm,20.0s
MSO Missoula 96.72 39 PFAKE 03 44 30.0 +6.5
MSO LR LR
comp=Z,955nm,19.0s
J18A Kendall Valley 96.74 43 ⇓P P 03 44 24.3 +0.5
baz=97
BW06 Boulder Array 96.75 44 PFAKE 03 44 30.0 +6.1
BW06 LR LR
comp=Z,4μm,22.0s
PDAR Pinedale Array 96.75 44 P P 03 44 21.8 -2.1
PDAR PP PP 03 48 18.8 -0.6
PDAR PKKP PKKPbc 04 01 05.8 -1.4
PDAR Pinedale Array 96.75 44 P P 03 44 21.8 -2.1
comp=Z,0.7nm,0.8s,baz=211,slow=1.7,SNR=5.3
PDAR PP PP 03 48 18.8 -0.6
comp=Z,0.5nm,1.0s,baz=235,slow=5.2,SNR=4.0
PDAR PKKP PKKPbc 04 01 05.8 -1.4
comp=Z,0.7nm,0.9s,baz=82,slow=3.1,SNR=4.5
PDAR LR LR 04 19 42.9
comp=Z,3μm,21.9s,baz=233,slow=30
N21A Black Mountain 96.83 46 ⇓P P 03 44 25.1 +0.8
baz=97
H16A Russell Place, 96.92 42 ⇓P P 03 44 25.3 +0.7
baz=97
L20A Wamsutter 97.05 45 ⇑P Pdif 03 44 25.8 +0.5
baz=97
S25A Robets Cordova 97.08 50 ⇑P Pdif 03 44 26.0 +0.4
baz=97
O22A Kremmling 97.11 47 ⇓P Pdif 03 44 26.1 +0.4
baz=97
D14A Greenough 97.11 39 ⇑P Pdif 03 44 25.8 +0.5
baz=97
X29A Tulia 97.20 54 ⇑P Pdif 03 44 26.2 +0.1
baz=97
BOZ Bozeman (W) 97.27 41 PFAKE 03 44 40.0 +14
BOZ LR LR
comp=Z,1μm,22.0s
T26A Comanche Natio 97.38 51 ⇓P Pdif 03 44 27.1 +0.3
baz=98
AMTX Amarillo 97.45 54 PFAKE 03 44 40.0 +13
AMTX LR LR
comp=Z,1μm,20.0s
ISCO Idaho Springs 97.50 48 PFAKE 03 44 40.0 +13
ISCO LR LR
comp=Z,2μm,22.0s
D15A Lincoln 97.62 39 ⇑P Pdif 03 44 28.6 +1.0
baz=98
C15A Salmond Ranch, 98.02 38 ⇑P Pdif 03 44 30.3 +0.9
baz=98
B14A Marquette Ranc 98.02 38 ⇓P Pdif 03 44 30.5 +1.2
baz=98
K21A Alcova 98.07 45 ⇑P Pdif 03 44 30.6 +0.8
baz=98
COLA College 98.29 13 PFAKE 03 44 40.0 +10
COLA LR LR
comp=Z,3μm,22.0s
RLMT Red Lodge 98.30 42 PFAKE 03 44 40.0 +9.2
RLMT LR LR
comp=Z,2μm,21.0s
JTS JuntasAbangare 98.30 83 PFAKE 03 44 40.0 +8.7
JTS LR LR
comp=Z,2μm,19.0s
A14A Double T Ranch 98.32 37 ⇑Pdiff P 03 44 30.4 -0.3
baz=99
ILAR Eielson Array 98.39 13 P P 03 44 29.9 -0.5
ILAR PKKP PKKPbc 04 01 03.7 +0.5
ILAR Eielson Array 98.39 13 P P 03 44 29.9 -0.5
comp=Z,1.0nm,1.0s,baz=209,slow=8.3,SNR=4.6
ILAR PKKP PKKPbc 04 01 03.7 +0.5
comp=Z,0.2nm,0.6s,baz=28,slow=3.5,SNR=4.1
ILAR LR LR 04 21 57.4
comp=Z,2μm,21.9s,baz=32,slow=31
LPAZ La Paz 98.48 115 LR LR 04 22 02.6
comp=Z,1μm,18.6s,baz=315,slow=31
C16A Fuhringer Ranc 98.50 39 ⇓Pdiff Pdif 03 44 32.1 +0.7
baz=99
LZH Lanzhou 98.50 307 eP Pdif 03 44 32.0 +0.1
LZH PP PP 03 48 34.0 +1.0
LZH SKS SKSac 03 55 08.0 +0.3
LZH eS S 03 55 55.6 -3.0
LZH SS SS 04 02 46.5 +2.0
LZH pmax pmax
comp=Z,27nm,1.1s
LZH pmax pmax
comp=Z,420nm,8.0s
LZH LR LR
comp=N,2μm,18.9s
LZH LR LR
comp=E,1μm,16.5s
LZH LR LR
comp=Z,2μm,20.0s
D17A Six Diamond Ra 98.69 40 ⇑Pdiff Pdif 03 44 33.0 +0.6
baz=99
I21A Big Trails, Te 98.71 44 ⇑Pdiff Pdif 03 44 32.8 +0.2
baz=99
OTAV Otavalo 98.86 95 PFAKE 03 44 50.0 +16
OTAV LR LR
comp=Z,1μm,20.0s
C17A Wharram Farm, 98.93 39 ⇓Pdiff Pdif 03 44 34.5 +1.2
baz=99
J22A Midwest 98.97 45 ⇓Pdiff Pdif 03 44 34.5 +0.7
baz=99
BILL Bilibino 99.14 354 eP Pdif 03 44 34.8 +1.1
BILL e 03 48 34.3
BILL e 03 55 04.8
BILL i SS SS 04 02 49.7 -2.0
BILL i SSS SSS 04 06 39.5
BILL pmax pmax
comp=Z,2.0nm,1.2s
BILL Bilibino 99.14 354 PFAKE 03 44 40.0 +6.3
BILL LR LR
comp=Z,1μm,20.0s
WMOK Wichita Mounta 99.41 55 PFAKE 03 44 50.0 +14
WMOK LR LR
comp=Z,1μm,22.0s
EGAK Eagle 99.61 15 PFAKE 03 44 50.0 +14
EGAK LR LR
comp=Z,2μm,21.0s
EGMT Eagleton 99.71 39 PFAKE 03 44 50.0 +13
EGMT LR LR
comp=Z,2μm,22.0s
C19A Slack Wire Ran 99.93 40 ⇓Pdiff Pdif 03 44 39.3 +1.5
baz=100
CPUP Villa Florida 100.18 129 PFAKE 03 44 50.0 +11
CPUP LR LR
comp=Z,221nm,19.0s
TEIG Tepich 100.35 73 PFAKE 03 44 50.0 +10
TEIG LR LR
comp=Z,758nm,22.0s
OGNE Ogallala 100.42 49 PFAKE 03 44 50.0 +10
OGNE LR LR
comp=Z,2μm,22.0s
K26A Motz Farm, Whi 100.61 47 ⇑Pdiff Pdif 03 44 41.7 +0.7
baz=101
CBKS Cedar Bluff 100.83 51 PFAKE 03 44 50.0 +8.0
CBKS LR LR
comp=Z,2μm,20.0s
H24A Dirks Ranch, A 100.86 44 ⇑Pdiff Pdif 03 44 42.9 +0.8
baz=101
NATX Nacogdoches 100.91 60 PFAKE 03 44 50.0 +7.6
NATX LR LR
comp=Z,2μm,21.0s
YAK Yakutsk 101.37 338 PFAKE 03 44 50.0 +6.3
YAK LR LR
comp=Z,743nm,19.0s
BCIP Isla Barro Col 102.14 87 PFAKE 03 45 00.0 +12
BCIP LR LR
comp=Z,2μm,21.0s
DGAR Diego Garcia 102.23 254 PFAKE 03 45 00.0 +11
DGAR LR LR
comp=Z,2μm,20.0s
ULN Ulaanbaatar 102.69 318 PFAKE 03 45 00.0 +10
ULN LR LR
comp=Z,872nm,22.0s
GTA Gaotai 102.94 308 eP Pdif 03 44 48.9 -2.6
GTA pP 03 44 59.8
GTA sP 03 45 03.6
GTA PP PP 03 49 06.3 -0.1
GTA SKS SKSac 03 55 24.3 -4.7
GTA S Sdif 03 56 28.9 -6.6
GTA sS sS 03 56 47.0 -5.7
GTA SS SS 04 03 43.8 -2.3
GTA pmax pmax
comp=Z,2.0nm,1.1s
GTA pmax pmax
comp=Z,430nm,8.1s
GTA LR LR
comp=N,420nm,18.0s
GTA LR LR
comp=E,770nm,19.5s
GTA LR LR
comp=Z,730nm,19.0s
SONM Songino Array 103.05 318 Pdif Pdif 03 44 51.2 -0.5
SONM Songino Array 103.05 318 Pdiff Pdif 03 44 51.2 -0.5
comp=Z,0.2nm,0.5s,baz=134,slow=4.2,SNR=2.5
MIAR Mount Ida 103.05 58 PFAKE 03 45 00.0 +8.1
MIAR LR LR
comp=Z,2μm,21.0s
DGMT Dagmar 103.05 41 PFAKE 03 45 00.0 +8.4
DGMT LR LR
comp=Z,2μm,21.0s
KSU1 Kansas State U 103.09 52 PFAKE 03 45 00.0 +8.0
KSU1 LR LR
comp=Z,1μm,19.0s
VBMS Vicksburg 104.22 61 PFAKE 03 45 10.0 +13
VBMS LR LR
comp=Z,2μm,22.0s
LSA Lhasa 104.71 296 PFAKE 03 45 10.0 +10
LSA LR LR
comp=Z,838nm,21.0s
ECSD EROS Data Cent 105.29 48 PFAKE 03 49 30.0
ECSD LR LR
comp=Z,1μm,22.0s
YKA Yellowknife Ar 105.99 26 PKiKP PKiKP 03 49 15.5 -0.7
YKA PKKPbc PKKPbc 04 00 37.0 -3.6
YKA Yellowknife Ar 105.99 26 PKiKP PKiKP 03 49 15.5 -0.7
comp=Z,0.2nm,0.7s,baz=262,slow=1.4,SNR=4.7
YKA PKKPbc PKKPbc 04 00 37.0 -3.6
comp=Z,0.4nm,0.7s,baz=41,slow=3.2,SNR=6.3
OXF Oxford 106.09 59 PFAKE 03 49 30.0
OXF LR LR
comp=Z,2μm,22.0s
BRAL Brewton 106.32 63 PFAKE 03 49 30.0
BRAL LR LR
comp=Z,890nm,20.0s
TLY Talaya 106.52 321 PFAKE 03 49 30.0
TLY LR LR
comp=Z,716nm,19.0s
RER Riviere de l'E 106.60 232 PFAKE 03 49 30.0
RER LR LR
comp=Z,2μm,22.0s
SAML Samuel 106.66 111 PFAKE 03 49 30.0
SAML LR LR
comp=Z,2μm,19.0s
SCIA State Center 106.68 51 PFAKE 03 49 30.0
SCIA LR LR
comp=Z,1μm,21.0s
LRAL Lakeview Retre 107.25 62 PFAKE 03 49 30.0
LRAL LR LR
comp=Z,1μm,22.0s
PLAL Pickwick Lake 107.28 59 PFAKE 03 49 30.0
PLAL LR LR
comp=Z,2μm,22.0s
FFC Flin Flon 107.40 36 PFAKE 03 49 30.0
FFC LR LR
comp=Z,2μm,22.0s
AGMN Agassiz Nation 107.83 44 PFAKE 03 49 30.0
AGMN LR LR
comp=Z,2μm,19.0s
MTDJ Mount Denham 108.39 79 PFAKE 03 49 30.0
MTDJ LR LR
comp=Z,1μm,21.0s
SPB Sao Paulo 108.52 133 PFAKE 03 49 30.0
SPB LR LR
comp=Z,1μm,19.0s
HDIL Hopedale 108.77 54 PFAKE 03 49 30.0
HDIL LR LR
comp=Z,1μm,21.0s
SDV Santo Domingo 109.92 91 PFAKE 03 49 40.0
SDV LR LR
comp=Z,602nm,21.0s
GOGA Godfrey 110.09 63 PFAKE 03 49 40.0
GOGA LR LR
comp=Z,2μm,22.0s
EYMN Ely 110.34 46 PFAKE 03 49 40.0
EYMN LR LR
comp=Z,2μm,21.0s
NGP Nagpur 110.74 283 ePKP PKiKP 03 49 25.8 -0.6
NGP ex x 03 59 33.9
GTBY Guantanamo Bay 111.19 79 PFAKE 03 49 40.0
GTBY LR LR
comp=Z,811nm,19.0s
TRIS Tristan da Cun 111.33 168 ePdif Pdif 03 45 25.0 -3.8
NHSC New Hope 112.50 64 PFAKE 03 49 40.0
NHSC LR LR
comp=Z,1μm,19.0s
GOA Goa 112.67 275 ⇓ex PP 03 50 14.8 -3.0
WMQ Urumqi 113.03 308 ePKP PKiKP 03 49 30.0 -0.2
WMQ sPKP 03 49 44.0
WMQ PP PP 03 50 22.0 +2.0
WMQ PKS PKSdf 03 53 05.0 -1.8
WMQ SKKS 03 57 14.0
WMQ AMB AMB
comp=Z,300nm,7.0s
WMQ LR LR
comp=N,880nm,27.2s
WMQ LR LR
comp=E,1μm,25.6s
WMQ LR LR
comp=Z,1μm,25.6s
ACSO Alum Creek Sta 113.08 56 PFAKE 03 49 40.0
ACSO LR LR
comp=Z,2μm,21.0s
AAM Ann Arbor 113.35 54 PFAKE 03 49 40.0
AAM LR LR
comp=Z,1μm,20.0s
GLMI Grayling 113.59 51 PFAKE 03 49 40.0
GLMI LR LR
comp=Z,1μm,21.0s
ABPO Ambohimpanom 113.74 228 PFAKE 03 49 40.0
ABPO LR LR
comp=Z,1μm,21.0s
BDFB Brasilia 113.80 127 PFAKE 03 49 40.0
BDFB LR LR
comp=Z,4μm,19.0s
BLA Blacksburg 113.85 60 PFAKE 03 49 40.0
BLA LR LR
comp=Z,818nm,21.0s
SDDR Presa de Saban 114.03 82 PFAKE 03 49 40.0 +7.2
SDDR LR LR
comp=Z,850nm,22.0s
AGRA Agra 114.19 288 ePKP PKPdf 03 49 31.9 -0.9
SUR Sutherland 114.57 198 PFAKE 03 49 50.0 +16
SUR LR LR
comp=Z,2μm,20.0s
CNNC Cliffs of the 115.05 63 PFAKE 03 49 50.0 +16
CNNC LR LR
comp=Z,855nm,19.0s
GRTK Grand Turk 115.23 79 PFAKE 03 49 50.0 +15
GRTK LR LR
comp=Z,1μm,20.0s
AYAN Aya Nagar 115.34 289 ePKP PKPdf 03 49 33.5 -1.5
KUDL Kundal 115.73 289 ePKP PKPdf 03 49 33.5 -2.2
KUDL AMb AMB 03 50 36.5
comp=Z,5.5nm,0.7s
ERPA Erie 115.85 55 PFAKE 03 49 50.0 +14
ERPA LR LR
comp=Z,1μm,19.0s
KHET Khetri 116.26 288 ePKP PKPdf 03 49 34.9 -1.9
KHET AMb AMB 03 49 43.0
comp=Z,3.9nm,0.2s
CBN Corbin 116.46 60 PFAKE 03 49 50.0 +13
CBN LR LR
comp=Z,821nm,20.0s
BOSA Boshof 116.73 203 PKP PKPdf 03 49 38.6 +0.7
BOSA LR LR
comp=Z,2μm,19.0s
BOSA Boshof 116.73 203 PKP PKPdf 03 49 38.6 +0.7
comp=Z,2.3nm,0.9s,baz=112,slow=3.1,SNR=5.2
MSEY Mahe Island 117.52 246 PFAKE 03 49 50.0 +10
MSEY LR LR
comp=Z,2μm,22.0s
MK31 Makanchi Array 117.59 310 ePKIKP PKPdf 03 49 36.9 -1.9
MK31 Makanchi Array 117.59 310 ePKPdf PKPdf 03 49 36.9 -1.9
MKAR Makanchi Array 117.59 310 PKIKP PKPdf 03 49 35.9 -2.9
MKAR Makanchi Array 117.59 310 PKP PKPdf 03 49 35.9 -2.9
MKAR Makanchi Array 117.59 310 PKP PKPdf 03 49 35.9 -2.9
comp=Z,0.3nm,0.5s,baz=186,slow=1.1,SNR=7.8
ZALV Zalesovo Beam 117.94 318 PKIKP PKPdf 03 49 38.3 -0.9
ZALV Zalesovo Beam 117.94 318 PKP PKPdf 03 49 38.2 -0.9
ZALV Zalesovo Beam 117.94 318 PKP PKPdf 03 49 38.3 -0.9
comp=Z,0.5nm,0.4s,baz=129,slow=3.9,SNR=3.6
SJG San Juan 118.04 85 PFAKE 03 49 50.0 +10
SJG LR LR
comp=Z,1μm,20.0s
BINY Binghamton 118.71 56 PFAKE 03 49 50.0 +8.9
BINY LR LR
comp=Z,2μm,21.0s
NVS Novosibirsk 119.05 319 ePKIKP PKPdf 03 49 37.4 -3.9
GRGR Grenville 119.21 93 PFAKE 03 49 50.0 +7.2
GRGR LR LR
comp=Z,2μm,22.0s
LBTB Lobatse 119.90 205 PFAKE 03 50 00.0 +16
LBTB LR LR
comp=Z,1μm,21.0s
KSH Kashi 119.96 301 ePKP PKPdf 03 49 47.8 +4.1
KSH PP PP 03 51 15.8 +7.1
KSH PKS PKSdf 03 53 22.5 +2.0
KSH SKS SKSdf 03 56 54.8 +1.2
KSH SKKS SKKSac 03 58 05.6 -0.4
KSH SS SKKSdf 04 07 39.4 +3.8
KSH AMB AMB

comp=Z,180nm,8.5s
KSH LR LR
comp=N,240nm,6.8s
KSH LR LR
comp=E,360nm,8.8s
KSH LR LR
comp=Z,380nm,19.1s
NIL Nilore 120.27 293 PFAKE 03 50 00.0 +16
NIL LR LR
comp=Z,362nm,22.0s
NCB Newcomb 120.43 54 PFAKE 03 50 00.0 +16
NCB LR LR
comp=Z,996nm,19.0s
FDF Fort de France 120.85 91 PFAKE 03 50 00.0 +14
FDF LR LR
comp=Z,1μm,19.0s
KURK Kurchatov 120.91 314 *i* PKIKP **PKPdf** **03 49 44.0 -1.0**
KURK pmax pmax
comp=Z,7.0nm,1.7s
KURK Kurchatov 120.91 314 *e*PKPdf **PKPdf** **03 49 43.0 -2.0**
KURK LR LR
comp=Z,883nm,22.0s
TKM2 Tokmak 2 121.15 304 PFAKE 03 50 00.0 +14
TKM2 LR LR
comp=Z,772nm,22.0s
BBGH Gun Hill 121.48 93 PFAKE 03 50 00.0 +13
BBGH LR LR
comp=Z,3μm,20.0s
ANWB Willy Bob 121.60 87 PFAKE 03 50 00.0 +13
ANWB LR LR
comp=Z,1μm,19.0s
AAK Ala-Archa 121.86 304 PKIKP **PKPdf** **03 49 46.2 -1.1**
AAK MLR MLR
comp=Z,1μm,21.0s
AAK Ala-Archa 121.86 304 PKP **PKPdf** **03 49 46.2 -1.1**
AAK *e*PKPdf **PKiKP** **03 49 48.2 +0.7**
AAK LR LR
comp=Z,1μm,21.0s
AAK Ala-Archa 121.86 304 PKP **PKPdf** **03 49 46.2 -1.1**
comp=Z,1.1nm,0.6s,baz=234,slow=8.4,SNR=4.2
LBNH Lisbon 122.10 54 PFAKE 03 50 00.0 +12
LBNH LR LR
comp=Z,963nm,20.0s
EKS2 Erkin-Say 122.39 304 PFAKE 03 50 00.0 +12
EKS2 LR LR
comp=Z,778nm,19.0s
KKAR Karatay Array 124.82 304 *e*PKIKP **PKPdf** **03 49 51.8 -1.0**
KKAR Karatay Array 124.82 304 *e*PKPdf **PKPdf** **03 49 51.8 -1.0**
BRVK Borovoye 126.35 316 *i* PKIKP **PKPdf** **03 49 55.3 -0.1**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
BRVK Borovoye 126.35 316 PFAKE 03 50 10.0 +15
BRVK LR LR
comp=Z,749nm,20.0s
SCHQ Schefferville 126.86 42 PFAKE 03 50 10.0 +14
SCHQ LR LR
comp=Z,3μm,22.0s
LSZ Lusaka 127.47 213 *e*PKPdf **PKPdf** **03 49 59.0 +0.2**
LSZ LR LR
comp=Z,2μm,22.0s
TSUM Tsumeb 127.95 200 PFAKE 03 50 10.0 +10
TSUM LR LR
comp=Z,2μm,19.0s
RCBR Riachuelo 129.06 129 PFAKE 03 50 10.0 +8.1
RCBR LR LR
comp=Z,2μm,19.0s
KBS Kingsbay 131.51 357 PFAKE 03 50 20.0 +15
KBS LR LR
comp=Z,791nm,20.0s
SFJD Kangerlussuaq 132.54 25 PFAKE 03 50 20.0 +13
SFJD LR LR
comp=Z,1μm,22.0s
SFJD Kangerlussuaq 132.54 25 *i* P **PP** **03 52 28.8 -2.2**
SFJD *i* 03 53 36.0
SFJD
comp=Z,1μm,19.0s
ABKAR Akbulak array 132.73 310 *e*PKPdf **PKPdf** **03 50 08.0 +0.4**
DAG Danmarks Havn 132.95 6 *i* P **PP** **03 52 33.9 +0.6**
DAG *i* 03 53 38.4
DAG
ARU Arti 133.02 320 *i* PKIKP **PKPdf** **03 50 06.2 -1.7**
ARU 03 52 32.5
ARU SS SS 04 10 10.4 -4.5
ARU MLR MLR
comp=Z,1μm,22.0s
ARU Arti 133.02 320 PFAKE 03 50 20.0 +12
ARU LR LR
comp=Z,1μm,22.0s
SHEL Horse Pasture 133.06 171 PFAKE 03 50 20.0 +11
SHEL LR LR
comp=Z,2μm,20.0s
SUMG Summit 133.18 15 *i* P **PP** **03 52 33.0 -2.4**
SUMG *i* 03 53 38.4
KMBO Kilima Mbogo 133.44 234 PFAKE 03 50 20.0 +10
KMBO LR LR
comp=Z,1μm,21.0s
LVZ Lovozero 138.02 342 PFAKE 03 50 30.0 +13
LVZ LR LR
comp=Z,1μm,22.0s
SCO Scoresbysund 138.15 12 *i* P **PP** **03 53 05.5 -0.5**
SCO
comp=Z,890nm,21.0s
KEV Kevo 138.34 347 *e*PKHKP PKPpre 03 50 08.6
KEV Kevo 138.34 347 PFAKE 03 50 30.0 +13
KEV LR LR
comp=Z,1μm,22.0s
KEV Kevo 138.34 347 *e*pkp PKPpre 03 50 08.6
APA Apatity 138.58 342 ||*i*PKHKP PKPpre 03 49 56.0
APA *i* 03 53 10.0
ARCES ARCESS Array B 138.82 347 PKPpre PKPpre 03 50 09.2
ARCES PKP **PKiKP** **03 50 19.6 -1.0**
ARCES ARCESS Array B 138.82 347 PKHKP PKPpre 03 50 09.2
comp=Z,2.0nm,0.9s,baz=339,slow=15,SNR=5.2
ARCES PKP **PKiKP** **03 50 19.6 -1.0**
comp=Z,4.8nm,0.8s,baz=85,slow=1.9,SNR=7.7
KLMR Klimovskoe 140.82 331 *e*PKIKP **PKPdf** **03 50 18.8 -3.4**
KLMR pmax pmax
comp=Z,18nm,1.5s
MAK Makhachkala 141.59 302 *e*PKIKP **PKPdf** **03 50 24.2 +0.1**
MAK *e* 03 53 26.0
MAK *e*PPP PPP 03 56 37.8
MAK *i* 03 57 34.6
MAK pmax pmax
comp=Z,332nm,1.4s
JOF Joensuu 142.54 338 *e*PKHKP PKPpre 03 50 19.4
JOF pmax pmax
comp=Z,3.0nm,0.8s
JOF Joensuu 142.54 338 *e*pkp PKPpre 03 50 19.4
comp=Z,3.3nm,0.8s
TBLG Delisi 143.70 300 *e*PKIKP PKPbc 03 50 25.5 -0.1
TBLG Delisi 143.70 300 P PKPbc 03 50 25.5 -0.1
GNI Garni 143.76 297 *e*PKPdf PKPbc 03 50 26.7 +0.7
GNI LR LR
comp=Z,646nm,21.0s
VRHR Novokhopersk 144.02 316 *e*PKIKP **PKPdf** **03 50 28.0 -0.2**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=E,2.0nm,0.4s
VRHR MLR MLR
comp=N,420nm,20.0s
VRHR MLR MLR
comp=E,910nm,20.0s
VRHR MLR MLR
comp=Z,870nm,20.0s
ZEI Tsey 144.24 302 *i* PKIKP **PKPab** **03 50 27.2 +0.1**
ZEI pmax pmax
comp=Z,55nm,2.0s
MOS Moscow 144.32 325 *e*PKHKP PKPpre 03 50 24.2
MOS *e* 03 53 44.5
CLDR Caldiran 144.41 295 *e*P PKPbc 03 50 28.0 -0.1
HAKT HAKKARI 144.56 293 *i* P **PKPab** **03 50 26.3 -2.2**
DYDN Diyadin 144.58 296 *i* P PKPbc 03 50 28.7 0.0
CUKT Cukurca 144.62 292 *e*P **PKPab** **03 50 27.6 -0.9**
AKH Akhalkalaki 144.65 299 P **PKPab** **03 50 26.7 -1.9**
KAF Kangasniemi 144.70 340 *e*PKHKP **PKPab** **03 50 24.7 -3.1**
KAF pmax pmax
comp=Z,7.0nm,0.6s
KAF Kangasniemi 144.70 340 *e*pkp **PKPab** **03 50 24.7 -3.1**
comp=Z,6.5nm,0.6s
VANB Van 144.82 294 *e*P **PKPab** **03 50 26.8 -2.4**
KIV Kislovodsk 144.98 304 *i* PKHKP **PKPab** **03 50 27.0 -2.6**
KIV *e* 03 53 44.9
KIV *e*SS SS 04 12 29.8 -7.1
KIV *e*SSS SSS 04 18 00.6
KIV pmax pmax
comp=Z,26nm,1.1s
KIV Kislovodsk 144.98 304 *e*PKPdf PKPbc 03 50 28.3 -1.4
KIV LR LR
comp=Z,871nm,22.0s
KARS Kars 145.01 298 *e*P **PKPdf** **03 50 31.6 +1.1**
AGRB Hanur-Agry 145.12 296 *e*P **PKPab** **03 50 30.6 +0.2**
OBN Obninsk 145.15 325 ||*i*PKIKP **PKPbc** **03 50 28.7 -0.9**
OBN *i* 03 50 35.2
OBN *e* 03 53 52.9
OBN *e*PPS PPS 04 06 31.4
OBN *e*SS SS 04 12 40.7 +3.4
OBN pmax pmax
comp=Z,57nm,1.3s
OBN Obninsk 145.15 325 *e*PKPdf **PKPbc** **03 50 28.7 -0.9**
OBN LR LR
comp=Z,894nm,20.0s
FINES FINESS Array B 145.29 339 PKPbc **PKPbc** **03 50 27.2 -2.6**
FINES FINESS Array B 145.29 339 PKPbc **PKPbc** **03 50 27.2 -2.6**
comp=Z,14nm,0.5s,baz=40,slow=2.8,SNR=73
VSR Storozhevoye 145.44 317 *e*PKP2 **PKPdf** **03 50 28.7 -1.9**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,30nm,0.9s
VSR MLR MLR
comp=Z,1μm,23.0s
VSR MLR MLR
comp=N,420nm,20.0s
VSR MLR MLR
comp=E,780nm,23.0s
VORD Divnogorie 145.45 317 *e*PKP2 **PKPdf** **03 50 29.0 -1.7**
VORD pmax pmax
comp=Z,20nm,0.9s
VORD pmax pmax
comp=N,10.0nm,0.5s
VORD pmax pmax
comp=E,10.0nm,0.5s
VORD MLR MLR
comp=N,680nm,22.0s
VORD MLR MLR
comp=E,510nm,22.0s
VORD MLR MLR
comp=Z,740nm,22.0s
TATV Tatvan 145.70 294 *i* P **PKPdf** **03 50 30.7 -1.1**
ARTV Artvin 145.84 299 *i* P **PKPdf** **03 50 31.5 -0.5**
DAGI Agillar 145.86 299 *i* P **PKPdf** **03 50 31.3 -0.6**
HOMI Horasan 145.94 297 *i* P **PKPdf** **03 50 31.0 -1.2**
DDEM Demirkent 146.00 299 *i* P **PKPdf** **03 50 32.3 +0.2**
DBOC Borcka 146.03 299 *i* P **PKPdf** **03 50 31.2 -0.8**
BCA Borcka 146.05 300 *e*P **PKPdf** **03 50 31.2 -0.9**
VRTB Varto-Mus 146.32 296 *e*P **PKPab** **03 50 34.7 -0.2**
EZM Erzurum 146.36 297 *e*P **PKPbc** **03 50 33.8 -0.5**
BNGL BINGOL 146.57 295 *i* P **PKPdf** **03 50 32.9 -0.4**
PZAR Pazar-Rize 146.62 299 *e*P **PKPab** **03 50 36.5 +0.8**
MARD Mardin 146.88 292 *i* P **PKPdf** **03 50 32.6 -1.2**
KOPT Kop Dagi 147.02 297 *i* P **PKPdf** **03 50 34.4 +0.3**
SOC Sochi 147.17 304 *c* *i*PKIKP **PKPdf** **03 50 33.4 -0.4**
SOC *i* 03 50 39.0
SOC *e* 03 53 58.5
SOC *e* 03 57 40.1
SOC *e*SSS SSS 04 18 30.9
SOC pmax pmax
comp=Z,26nm,0.7s
SOC pmax pmax
comp=Z,43nm,0.8s
BAYT Ayd¨–ntepe-Bay 147.26 298 *e*P **PKPab** **03 50 38.3 -0.2**
DIYA Diyarbakir 147.40 293 *i* P **PKPdf** **03 50 35.3 +0.7**
KTUT Trabzon 147.49 299 *e*P **PKPab** **03 50 38.3 -0.9**
MACK Trabzon 147.49 299 *i* P **PKPbc** **03 50 37.7 +0.6**
ERZN Erzincan 147.64 296 *e*P **PKPab** **03 50 42.1 +2.1**
KELT Kelkit 147.96 298 *i* P **PKPdf** **03 50 34.8 -0.7**
ELZG Elazig 148.28 294 *i* P **PKPab** **03 50 42.4 -0.3**
ESPY Espiye-Giresun 148.28 299 *e*P **PKPbc** **03 50 40.1 +0.9**
URFA Urfa 148.44 292 *e*P **PKPab** **03 50 41.9 -1.3**
ANN Anapa 148.52 307 *i* PKHKP PKPpre 03 50 33.9
ANN pmax pmax
comp=Z,3μm,8.4s
ANN MLR MLR
comp=N,585nm,24.0s
ANN MLR MLR
comp=E,480nm,24.0s
ANN MLR MLR
comp=Z,924nm,24.0s
ILIC ilic-Erzincan 148.54 296 *e*P **PKPbc** **03 50 41.4 +1.3**
KEMA Kemaliye 148.62 296 *i* P **PKPdf** **03 50 35.5 -1.0**
MALT Malatya 148.72 294 *e*P **PKPab** **03 50 48.3 +4.0**
SUSE Susehri 148.76 298 *i* P **PKPbc** **03 50 41.3 +0.6**
ATAB Bozova 148.86 292 *i* P **PKPdf** **03 50 36.7 -0.1**
NB2 NORSAR Subarra149.01 351 PKP **PKPdf** **03 50 37.0 +0.6**
comp=Z,20nm,1.2s,baz=17,slow=2.6
NOA NORSAR Array B149.01 351 PKPbc **PKPdf** **03 50 37.5 +1.1**
NOA NORSAR Array B149.01 351 PKPbc **PKPdf** **03 50 37.5 +1.1**
comp=Z,15nm,0.9s,baz=15,slow=4.3,SNR=18
AKCD Akcadag 149.12 294 *i* P **PKPab** **03 50 49.3 +3.2**
NAO01 NORSAR Array S 149.25 351 *e*PKPdf **PKPdf** **03 50 38.8 +2.1**
RSDY Resadiye-TOKAT 149.40 298 *e*P **PKPab** **03 50 45.0 -1.9**
GZT Gaziantep 149.44 292 *i* P **PKPbc** **03 50 40.5 -2.0**
MICGM Minsk 149.62 329 *e* **PKPbc** **03 50 40.0 -2.1**
MNK Minsk 149.64 329 *e*PKHKP **PKPbc** **03 50 40.0 -2.1**
GAZ Gaziantep 149.73 292 *e*P **PKPbc** **03 50 44.6 +1.5**
ERBA Erbaa 149.80 299 *i* P **PKPdf** **03 50 38.0 -0.3**
NACGM Naroch 149.83 330 *e* **PKPdf** **03 50 39.0 +1.2**
KUZU Kuzuini 149.85 291 *i* P **PKPdf** **03 50 38.5 0.0**
KMRS Kahramanmaras 149.97 303 *e*P **PKPdf** **03 50 40.1 +1.4**
KVT Kavak 150.27 300 *e*P **PKPdf** **03 50 39.6 +0.6**
PINB Pinarbasi 150.28 295 *i* P PKPpre 03 50 28.1
ANDN Andirin 150.40 293 *i* P **PKPdf** **03 50 37.3 -2.1**
KONO Kongsberg 150.57 352 PFAKE 03 50 50.0 -1.0
KONO LR LR
comp=Z,1μm,21.0s
YAYL Yayladag 150.63 290 *i* P PKPpre 03 50 21.4
BNN Bunyan 150.70 295 *e*P **PKPdf** **03 50 38.3 -1.6**
SIM Simferopol' 150.75 308 *d* *i*PKIKP **PKPdf** **03 50 41.8 +2.2**
SIM pmax pmax
comp=Z,400nm,16.1s
DIKM Dikmen 150.75 301 *e*P **PKPab** **03 50 49.5 -2.9**
KOZT Kozan 150.82 293 *e*P **PKPdf** **03 50 42.3 +2.4**
CEYH Ceyhan 150.90 292 *e*P **PKPbc** **03 50 46.4 +0.6**
AKASG Malin Array Be 151.25 322 PKIKP **PKPbc** **03 50 44.2 -1.9**
AKASG Malin Array Be 151.25 322 PKPbc **PKPbc** **03 50 44.2 -1.9**
AKASG Malin Array Be 151.25 322 PKPbc **PKPbc** **03 50 44.2 -1.9**
comp=Z,13nm,0.7s,baz=54,slow=2.7,SNR=20
KIEV Kiev 151.26 322 *e*PKIKP **PKPdf** **03 50 37.2 -2.9**
KIEV MLR MLR
comp=Z,1μm,22.0s
KIEV Kiev 151.26 322 *e*PKPdf **PKPdf** **03 50 37.2 -2.9**
KIEV LR LR
comp=Z,1μm,22.0s
CTKT Corum 151.28 299 *i* P **PKPbc** **03 50 48.9 +2.1**
CORM Corum 151.47 298 *e*P **PKPbc** **03 50 44.6 -2.6**
BZK Bozkurt 151.61 302 *e*P **PKPbc** **03 50 44.6 -2.7**
GULE Gulek 151.66 292 *i* P **PKPbc** **03 50 47.4 -0.3**
CDAG Cicekdag 151.75 297 *i* P **PKPdf** **03 50 38.7 -2.8**
KAST KASTAMONU 151.76 301 *i* P **PKPdf** **03 50 43.0 +1.7**
MERS Mersin 151.89 291 *e*P **PKPbc** **03 50 48.6 +0.4**
SUW Suwalki 151.94 332 *e*PKPdf **PKPdf** **03 50 42.6 +1.5**
SUW *e*PKPbc **PKiKP** **03 50 49.0 +1.0**
SUW Suwalki 151.94 332 *e*PKPdf **PKPdf** **03 50 42.6 +1.5**
SUW *e*PKPbc **PKiKP** **03 50 49.0 +1.0**
SUW Suwalki 151.94 332 *e*PKIKP **PKPdf** **03 50 41.5 +0.4**
SUW Suwalki 151.94 332 *e*PKPdf **PKPdf** **03 50 41.5 +0.4**
CANT Cankiri 152.16 300 *e*P **PKPdf** **03 50 43.2 +1.3**
EREN Erenkoy 152.21 289 *e*P **PKPbc** **03 50 46.1 -2.8**
SACV Santiago Islan 152.22 119 PFAKE 03 50 50.0 +0.6
SACV LR LR
comp=Z,1μm,22.0s
BR131 Keskin Array S 152.29 298 PFAKE 03 50 50.0 +0.9
BR131 LR LR
comp=Z,788nm,21.0s
BRTR Keskin Array B 152.29 298 PKPbc **PKPbc** **03 50 47.6 -1.4**
BRTR Keskin Array B 152.29 298 PKPbc **PKPbc** **03 50 47.6 -1.4**
comp=Z,4.9nm,1.0s,baz=150,slow=5.4,SNR=14
AFSR Af˙ar-Bala (A 152.77 297 *e*P **PKPdf** **03 50 43.7 +0.7**
CSS Prodhromos 152.90 287 *e*P **PKPdf** **03 50 43.9 +0.7**
CSS Prodhromos 152.90 287 PFAKE 03 50 50.0 -0.4
CSS LR LR
comp=Z,2μm,21.0s
LOD Lodumlu 152.93 298 *e*P **PKPdf** **03 50 43.7 +0.5**
KIS Kishinev 153.37 315 *e*PKIKP **PKPdf** **03 50 43.0 -0.4**
KIS *e* 03 54 36.0
KIS *e* 03 58 10.0
KIS Kishinev 153.37 315 *e*PKIKP **PKPdf** **03 50 43.0 -0.4**
KIS Kishinev 153.37 315 *e*PP PP 03 54 36.0 -1.1
KIS *e*SKS SKSdf 03 58 10.0 +22
KIS LRM MLR 05 02 50.0
comp=Z,800nm,22.0s
LADK Ladik-KONYA 153.49 295 *e*P **PKPdf** **03 50 44.1 +0.1**
KONT Konya--Tatoy 153.52 294 *e*P **PKPdf** **03 50 43.7 -0.3**
MUD Monsted U'grnd 153.73 350 *i* P **PP** **03 54 38.1 -0.1**
MUD
comp=Z,830nm,23.0s
BSD Bornholm Skovb 153.81 342 *i* P **PP** **03 54 37.0 -1.8**
BSD
comp=Z,740nm,28.0s
COP Copenhagen 153.87 346 *i* P **PP** **03 54 37.6 -1.5**
SVRH Sivrihisar-ESK 153.95 298 *e*P **PKPdf** **03 50 45.0 +0.4**
MDUB Mudurnu 154.00 300 *e*P **PKPdf** **03 50 45.5 +0.8**
HENT Hendek 154.14 301 *i* P **PKPab** **03 51 04.4 -2.3**
SEYT Eskypehyr 154.45 298 *e*P **PKPdf** **03 50 45.7 +0.3**
LVV L'vov 154.46 325 *i* PKIKP **PKPdf** **03 50 42.7 -2.2**
LVV *e* 03 54 49.1
LVV *e*SS SS 04 14 24.5 +3.5
BOLV Bolvadin 154.51 296 *i* P **PKPdf** **03 50 45.3 -0.2**
GULT Gulveren 154.51 300 *e*P **PKPdf** **03 50 46.4 +1.0**
BEL Belsk 154.53 331 *e*PKPdf **PKPdf** **03 50 45.4 +0.5**
BEL Belsk 154.53 331 *e*PKPdf **PKPdf** **03 50 45.4 +0.5**
BEL Belsk 154.53 331 *e*PKIKP **PKPdf** **03 50 45.4 +0.5**
CFR Carcaliu 154.61 312 ||*i*PKIKP **PKPbc** **03 50 54.6 +0.9**
CFR Carcaliu 154.61 312 ||*i*P **PKPbc** **03 50 54.6 +0.9**
BORA Eskisehir 154.68 299 *i* P **PKPdf** **03 50 43.8 -1.8**
GKP Gorka Klasztor 154.71 337 *e*PKPdf **PKPdf** **03 50 47.6 +2.5**
GKP *e*PKPbc **PKiKP** **03 50 55.2 +1.5**
GKP Gorka Klasztor 154.71 337 *e*PKPdf **PKPdf** **03 50 47.6 +2.5**
GKP *e*PKPbc **PKiKP** **03 50 55.2 +1.5**
GKP Gorka Klasztor 154.71 337 *e*PKIKP **PKPdf** **03 50 47.6 +2.5**
RGN Rugen 154.72 344 *e*PKPdf **PKPdf** **03 50 44.8 -0.2**
RGN *e*PP **PP** **03 54 40.0 -3.9**
LIC Lamto 154.87 165 *e*PKP1 **PKPbc** **03 50 54.8 -0.4**
LIC comp=Z,23nm,1.0s
LIC *e*R
comp=Z,2μm,22.0s
LIC Lamto 154.87 165 *e*PKPbc **PKPbc** **03 50 54.8 -0.4**
BCK Bucak 154.97 293 *e*P **PKPdf** **03 50 46.4 +0.2**
ISP Isparta 154.98 294 PFAKE 03 51 00.0 +5.1
ISP LR LR
comp=Z,1μm,20.0s
HRT Hereke 155.05 302 *e*P **PKPdf** **03 50 45.9 -0.2**
CAVI Cavuskoy 155.07 300 *e*P **PKPdf** **03 50 45.0 -1.1**
ADVT Abdulvahap 155.09 301 *e*P **PKPdf** **03 50 45.0 -1.0**
ALT Altintas 155.10 297 *e*P **PKPdf** **03 50 42.6 -3.6**
VRI Vrincioaia 155.18 315 ||*e*PKIKP PKPab 03 50 59.7 -11
VRI Vrincioaia 155.18 315 ||*i*P PKPab 03 50 59.7 -11
KORT Korkueli 155.21 292 *i* P **PKPdf** **03 50 44.7 -1.8**
ESK Eskdalemuir 155.23 6 PFAKE 03 51 00.0 -11
ESK LR LR
comp=Z,2μm,22.0s
KWP Kalwaria Pacla 155.23 326 *e*PKPdf **PKPdf** **03 50 44.6 -1.4**
KWP *e*PKPab **PKPab** **03 51 11.7 +0.7**
KWP Kalwaria Pacla 155.23 326 *e*PKPdf **PKPdf** **03 50 44.6 -1.4**
KWP *e*PKPab **PKPab** **03 51 11.7 +0.7**
KWP Kalwaria Pacla 155.23 326 *e*PKIKP **PKPdf** **03 50 44.6 -1.4**
KWP Kalwaria Pacla 155.23 326 PFAKE 03 51 00.0 -11
KWP LR LR
comp=Z,915nm,21.0s
KWP Kalwaria Pacla 155.23 326 ||*i*P PKPdf 03 50 54.8 +8.8
YLV Yalova 155.33 301 *e*P **PKPdf** **03 50 45.3 -1.2**
DBIC Dimbokro 155.34 165 PKP **PKPdf** **03 50 46.7 -0.5**
DBIC LR LR
comp=Z,2μm,21.0s
DBIC Dimbokro 155.34 165 PKP **PKPdf** **03 50 46.7 -0.5**
comp=Z,4.1nm,1.0s,baz=207,slow=2.3,SNR=3.4
ISK Istanbul-Kandi 155.43 302 *e*P **PKPdf** **03 50 46.8 +0.3**
BUY Buyukada 155.44 302 *i* P **PKPdf** **03 50 46.0 -0.5**
TVSB Tavsanli 155.52 298 *e*P **PKPdf** **03 50 47.7 +0.9**
ELL Elmali 155.59 292 *e*P **PKPdf** **03 50 48.1 +1.1**
KHAL Karahalli 155.70 296 *i* P PKPdf 03 50 34.7 -12
ARMT Armutlu 155.71 301 *e*P **PKPdf** **03 50 46.8 -0.1**
MDNY Mudanya-Bursa 155.74 301 *e*P **PKPdf** **03 50 46.4 -0.6**
CTKS Kestanelik-??a 155.78 303 *e*P **PKPdf** **03 50 46.8 -0.1**
GOLH Golhisar 155.81 293 *i* P PKPdf 03 50 40.6 -6.7
ELBA Catalca 155.86 303 *i* P **PKPdf** **03 50 45.6 -1.5**
KOLS Kolonicke sedl 155.91 325 *e*PKP **PKPab** **03 51 16.2 +2.3**
BSEG Bad Segeberg 155.95 347 *e*PKPdf **PKPdf** **03 50 45.0 -1.7**
BSEG *e*PP **PP** **03 54 47.9 -2.8**
BSEG Bad Segeberg 155.95 347 *e*PKIKP **PKPdf** **03 50 45.0 -1.7**
BSEG *e* 03 54 47.9
UZH Uzhgorod 156.09 324 *e*PKIKP PKPdf 03 50 57.3 +10
UZH *e* 03 51 05.3
UZH *e* 03 51 13.9
UZH *e* 03 54 59.1
HLG Helgoland 156.12 351 *e*PKPdf **PKPdf** **03 50 45.1 -1.8**
OJC Ojcow 156.15 330 *e*PKPdf **PKPdf** **03 50 46.1 -1.1**
OJC *e*PKPab **PKPab** **03 51 14.0 -0.9**
OJC *e*PP **PP** **03 54 48.1 -4.2**
OJC L L 05 11 09.1
comp=Z,800nm,21.3s
OJC Ojcow 156.15 330 *e*PKIKP **PKPdf** **03 50 46.6 -0.6**
DNZL Cakiroluk 156.16 294 *i* P **PKPdf** **03 50 46.3 -1.5**
KCTX Karacabey (Bur 156.16 301 *e*P **PKPdf** **03 50 46.8 -0.7**
DEMI Demirci 156.17 298 *i* P **PKPdf** **03 50 47.6 -0.1**
DURS Dursunbey 156.23 299 *i* P **PKPdf** **03 50 44.5 -3.2**
FETY Fethiye 156.26 292 *e*P **PKPdf** **03 50 49.0 +1.2**
KULA Kula-Manisa 156.32 296 *e*P **PKPdf** **03 50 49.0 +1.2**
CRVS Cervenica-Dubn 156.32 326 *e*PKP **PKPab** **03 51 15.7 0.0**
VOIR 156.41 315 ||*i*P PKPab 03 51 03.9 -12
EDC Edincik 156.50 301 *e*P **PKPdf** **03 50 47.7 -0.2**
BALB Balikesir 156.67 300 *e*P **PKPdf** **03 50 46.8 -1.4**
GONE Gonen-Balikesi 156.71 301 *e*P **PKPdf** **03 50 48.1 -0.1**
MFT Murefte 156.80 303 *e*P **PKPdf** **03 50 47.9 -0.6**
BALY Balya 156.84 300 *i* P PKPdf 03 50 39.1 -9.3
EDRB Edirne 156.84 306 *e*P **PKPdf** **03 50 49.0 +0.7**
AKHS Akhisar 156.89 298 *i* P **PKPdf** **03 50 45.5 -3.0**
KRBG Karabiga-Canak 156.90 302 *e*P **PKPdf** **03 50 49.0 +0.6**
SART Tekirdag 156.90 302 *i* P **PKPdf** **03 50 46.3 -2.3**
RKY Sarkoy-Tekirda 156.90 302 *e*P **PKPdf** **03 50 48.1 -0.4**
RAC Raciborz 156.93 332 *e*PKIKP **PKPdf** **03 50 48.3 +0.1**
DRGR 157.02 320 ||*i*P PKPab 03 51 04.4 -15
KSP Ksiaz 157.06 335 *e*PKPdf **PKPdf** **03 50 50.6 +2.3**
KSP *e*PKPab **PKPab** **03 51 16.1 -2.7**
KSP Ksiaz 157.06 335 *e*PKPdf **PKPdf** **03 50 50.6 +2.3**
KSP *e*PKPab **PKPab** **03 51 16.1 -2.7**
KSP Ksiaz 157.06 335 *e*PKIKP **PKPdf** **03 50 48.2 -0.1**
AYDN Tasoluk 157.07 295 *i* P **PKPdf** **03 50 47.2 -1.6**
OKC Ostrava-Krasne 157.14 331 *e*PKIKP **PKPdf** **03 50 47.6 -0.8**
OKC MLR MLR
comp=Z,1μm,19.0s
OKC Ostrava-Krasne 157.14 331 *e*PKPDF **PKPdf** **03 50 47.6 -0.8**
OKC *e*PKPAB **PKPab** **03 51 20.4 +1.2**
OKC AMS AMS 05 02 10.0
comp=Z,1μm,19.0s
NRDL Niedersach Rie 157.35 346 *e*PKPdf **PKPdf** **03 50 46.7 -1.8**
NRDL *e*PKPab **PKPab** **03 51 17.1 -2.7**
NRDL *e*PP **PP** **03 54 54.2 -4.2**
UPC Upice 157.43 335 *e*PKPAB **PKPab** **03 51 22.6 +2.2**
DPC Dobruska-Polom 157.45 334 *e*PKIKP **PKPdf** **03 50 47.8 -1.1**
DPC *e* 03 54 57.5
DPC MLR MLR
comp=Z,1μm,22.6s
DPC Dobruska-Polom 157.45 334 *e*PKPDF **PKPdf** **03 50 47.8 -1.1**
DPC *e*PKPAB **PKPab** **03 51 21.5 +0.9**
DPC *e*PP **PP** **03 54 57.5 -1.9**
DPC *e*x x 03 58 32.0
DPC AMS AMS 05 02 20.0
comp=Z,1μm,22.6s
GCAM G?zelcaml? 157.57 295 *i* P **PKPdf** **03 50 44.7 -4.7**
BLCB Balcova 157.59 297 *e*P **PKPdf** **03 50 47.7 -1.7**
CLL Collm 157.72 341 *e*PKPdf **PKPdf** **03 50 47.1 -2.0**
CLL *e*PKPab **PKPab** **03 51 19.7 -1.9**
CLL *e*PP **PP** **03 54 56.9 -3.7**
CLL Collm 157.72 341 *e*PKIKP **PKPdf** **03 50 49.0 -0.1**
CLL *e* 03 50 59.0
CLL pmax pmax
comp=Z,11nm,1.4s
CLL Collm 157.72 341 *e*PKPdf **PKPdf** **03 50 49.0 -0.1**
CLL *e*PKPdiff PKPab 03 50 59.0 -23
CLL *i* PKPab PKPab 03 51 22.0 +0.4
comp=Z,11nm,1.4s
CLL *i* pPKPab **pPKPab** **03 51 26.5 -5.1**
comp=Z,45nm,2.2s

CLL				*e*PP	**PP**	**03 55 01.0**	**+0.4**
CLL				*e*PPP	PPP	03 58 38.0	
CLL				*e*PPPP		04 00 49.0	
CLL				*e*PPPrev		04 03 53.0	
CLL				*e*SKSP		04 05 18.0	
CLL				*e*PPS	PPS	04 08 18.0	
CLL				*e*SKSPrev		04 09 18.0	
CLL				*e*SS	SS	04 15 30.0	+35
CLL				*e*(SSS)		04 20 48.0	
CLL				*e*SSSS		04 25 12.0	
PSZ	**Piszkesteto**	**157.76**	**326**	PFAKE		03 51 00.0	+11
PSZ				LR	LR		
	comp=Z,992nm,21.0s						
VYHS	**Vyhne**	**157.85**	**328**	*e*PKIKP	PKPdf	03 50 54.8	+5.4
VYHS				*e*		03 51 21.7	
VYHS	**Vyhne**	**157.85**	**328**	*e*PKP	PKPdf	03 50 54.8	+5.4
VYHS				*e*		03 51 21.7	
CLZ	**Clausthal**	**157.91**	**345**	*e*PKPdf	**PKPdf**	**03 50 47.8**	**-1.6**
CLZ				*e*PKPab	**PKPab**	**03 51 19.6**	**-2.8**
CLZ				*e*PP	**PP**	**03 54 58.7**	**-2.9**
CLZ	**Clausthal**	**157.91**	**345**	*e*PKIKP	**PKPdf**	**03 50 47.8**	**-1.6**
PVCC	**Panska Ves**	**157.92**	**337**	*e*PKIKP	**PKPdf**	**03 50 48.6**	**-0.8**
PVCC				MLR	MLR		
	comp=Z,900nm,24.1s						
PVCC	**Panska Ves**	**157.92**	**337**	*e*PKPDF	**PKPdf**	**03 50 48.6**	**-0.8**
PVCC				AMS	AMS	05 06 00.0	
	comp=Z,900nm,24.1s						
IBBN	**Ibbenburen**	**157.96**	**350**	*e*PKPdf	**PKPdf**	**03 50 47.4**	**-2.0**
IBBN				*e*PKPab	**PKPab**	**03 51 19.3**	**-3.2**
IBBN				*e*PP	**PP**	**03 54 58.7**	**-3.0**
BOZC	**Bozcaada**	**157.97**	**301**	*i* P	**PKPdf**	**03 50 47.1**	**-2.8**
NEUB	**Neuenburg**	**158.15**	**342**	*e*PKPdf	**PKPdf**	**03 50 47.5**	**-2.1**
NEUB				*e*PKPab	**PKPab**	**03 51 21.1**	**-2.3**
NEUB				*e*PP	**PP**	**03 54 59.3**	**-3.6**
PRA	**Prague**	**158.35**	**337**	PKPDF	**PKPdf**	**03 50 49.0**	**-0.9**
PRA				PKPAB	**PKPab**	**03 51 27.0**	**+2.6**
PRU	**Pruhonice**	**158.39**	**336**	*e*PKIKP	**PKPdf**	**03 50 48.8**	**-1.2**
PRU				*e*		03 55 03.4	
PRU				*e*		03 58 40.1	
PRU				MLR	MLR		
	comp=Z,1μm,26.7s						
PRU	**Pruhonice**	**158.39**	**336**	*e*PKPDF	**PKPdf**	**03 50 48.8**	**-1.2**
PRU				*e*PKPAB	**PKPab**	**03 51 26.2**	**+1.7**
PRU				*e*PP	**PP**	**03 55 03.4**	**-1.0**
PRU				*ex*	x	03 58 40.1	
PRU				AMS	AMS	04 53 50.0	
	comp=Z,1μm,26.7s						
TREC	**Trest**	**158.62**	**334**	*e*PKIKP	**PKPdf**	**03 50 50.4**	**+0.1**
TREC				MLR	MLR		
	comp=Z,1μm,18.3s						
TREC	**Trest**	**158.62**	**334**	*e*PKPDF	**PKPdf**	**03 50 50.4**	**+0.1**
TREC				AMS	AMS	05 05 10.0	
	comp=Z,1μm,18.3s						
TANN	**Tannenbergstha**	**158.68**	**340**	*e*PKPdf	**PKPdf**	**03 50 48.5**	**-1.9**
TANN				*e*PKPab	**PKPab**	**03 51 26.4**	**+0.6**
TANN				*e*PP	**PP**	**03 55 03.7**	**-2.2**
MOX	**Moxa**	**158.71**	**342**	*e*PKPdf	**PKPdf**	**03 50 48.3**	**-2.1**
MOX				*e*PKPab	**PKPab**	**03 51 23.5**	**-2.4**
MOX				*e*PP	**PP**	**03 55 02.8**	**-3.2**
MOX				*e*L	L	05 06 11.7	
	comp=Z,970nm,21.2s						
MOX	**Moxa**	**158.71**	**342**	*e*PKIKP	**PKPdf**	**03 50 48.3**	**-2.1**
NKC	**Novy Kostel**	**158.84**	**340**	*e*PKIKP	**PKPdf**	**03 50 49.8**	**-0.8**
NKC				*e*		03 55 04.8	
NKC				MLR	MLR		
	comp=Z,1μm,24.2s						
NKC	**Novy Kostel**	**158.84**	**340**	*e*PKPDF	**PKPdf**	**03 50 49.8**	**-0.8**
NKC				*e*PP	**PP**	**03 55 04.8**	**-2.0**
NKC				AMS	AMS	05 03 20.0	
	comp=Z,1μm,24.2s						
BUG	**Bochum--Univer**	**158.87**	**350**	*e*PKPdf	**PKPdf**	**03 50 48.6**	**-1.9**
BUG				*e*PKPab	**PKPab**	**03 51 23.2**	**-3.3**
BUG				*e*PP	**PP**	**03 55 03.9**	**-2.8**
UBBA	**Unterbreizbach**	**158.94**	**345**	*e*PKPdf	**PKPdf**	**03 50 49.3**	**-1.2**
UBBA				*e*PP	**PP**	**03 55 03.1**	**-4.0**
VTS	**Vitosha**	**158.95**	**310**	⇓*i*P	PKPab	03 51 18.4	-9.1
ROTZ	**Rotzenmuhle**	**159.33**	**340**	*e*PKPdf	**PKPdf**	**03 50 49.6**	**-1.5**
ROTZ				*e*PKPab	**PKPab**	**03 51 26.4**	**-2.2**
ROTZ				*e*PP	**PP**	**03 55 06.7**	**-2.7**
KHC	**Kasperske Hory**	**159.45**	**337**	*e*PKIKP	**PKPdf**	**03 50 49.7**	**-1.6**
KHC				*e*		03 51 28.5	
KHC				*e*		03 55 09.8	
KHC				MLR	MLR		
	comp=Z,1μm,25.2s						
KHC	**Kasperske Hory**	**159.45**	**337**	*e*PKPDF	**PKPdf**	**03 50 49.7**	**-1.6**
KHC				*e*PKPAB	**PKPab**	**03 51 28.5**	**-0.7**
KHC				*e*PP	**PP**	**03 55 09.8**	**-0.4**
KHC				AMS	AMS	04 56 40.0	
	comp=Z,1μm,25.2s						
GEC2	**GERESS Array S**	**159.65**	**336**	*e*PKPdf	**PKPdf**	**03 50 49.4**	**-2.3**
GEC2				*e*PKPab	**PKPab**	**03 51 28.3**	**-1.9**
GEC2				*e*PP	**PP**	**03 55 08.2**	**-3.2**
GEC2	**GERESS Array S**	**159.65**	**336**	*e*PKIKP	**PKPdf**	**03 50 49.4**	**-2.3**
GERES	**GERESS Array B**	**159.65**	**336**	PKP	**PKPdf**	**03 50 51.1**	**-0.6**
GERES				PKPab	**PKPab**	**03 51 29.5**	**-0.7**
GERES	**GERESS Array B**	**159.65**	**336**	PKP	**PKPdf**	**03 50 51.1**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=298,slow=2.9,SNR=3.6						
GERES				PKPab	**PKPab**	**03 51 29.5**	**-0.7**
	comp=Z,1.3nm,0.9s,baz=66,slow=3.3,SNR=4.5						
WET	**Wettzell**	**159.67**	**338**	*e*PKPdf	**PKPdf**	**03 50 49.6**	**-2.0**
WET				*e*PKPab	**PKPab**	**03 51 28.2**	**-2.0**
WET				*e*PP	**PP**	**03 55 09.1**	**-2.3**
WET	**Wettzell**	**159.67**	**338**	*e*PKIKP	**PKPdf**	**03 50 49.6**	**-2.0**
GRF	**Grafenberg Arr**	**159.68**	**341**	*e*PKPdf	**PKPdf**	**03 50 49.7**	**-1.9**
GRF				*e*PKPab	**PKPab**	**03 51 27.8**	**-2.4**
GRF				*e*PP	**PP**	**03 55 08.7**	**-2.6**
GRF				*e*L	L	05 05 34.3	
	comp=Z,842nm,21.3s						
GRF	**Grafenberg Arr**	**159.68**	**341**	*e*PKIKP	**PKPdf**	**03 50 49.7**	**-1.9**
TNS	**Taunus Mts**	**159.84**	**347**	*e*PKPdf	**PKPdf**	**03 50 50.1**	**-1.7**
TNS				*e*PP	**PP**	**03 55 08.8**	**-3.3**
TNS	**Taunus Mts**	**159.84**	**347**	*e*PKIKP	**PKPdf**	**03 50 50.1**	**-1.7**
TNS				*e*		03 55 08.8	
GIVF	**Givet**	**160.50**	**353**	*e*PKIKP	**PKPdf**	**03 50 52.4**	**0.0**
GIVF	**Givet**	**160.50**	**353**	*e*PKIKP	**PKPdf**	**03 50 52.4**	**0.0**
GIVF	**Givet**	**160.50**	**353**	*e*PKPdf	**PKPdf**	**03 50 52.4**	**0.0**
KOGS	**Kog**	**160.54**	**328**	*e*PKPdf	**PKPdf**	**03 50 51.5**	**-1.0**
KOGS				*e*PKPab	PKPab	03 51 39.5	+5.4
KOGS				*e*PP	**PP**	**03 55 13.3**	**-2.9**
BAIF	**Baives**	**160.59**	**355**	*e*PKIKP	**PKPdf**	**03 50 52.3**	**-0.2**
	comp=Z,21nm,1.2s						
BAIF	**Baives**	**160.59**	**355**	*e*PKIKP	**PKPdf**	**03 50 52.3**	**-0.2**
BAIF	**Baives**	**160.59**	**355**	*e*PKPdf	**PKPdf**	**03 50 52.3**	**-0.2**
WLF	**Walferdange**	**160.77**	**351**	*e*PKPdf	**PKPdf**	**03 50 51.7**	**-1.0**
WLF				*e*PP	**PP**	**03 55 13.5**	**-3.5**
WLF	**Walferdange**	**160.77**	**351**	PFAKE		03 51 00.0	+7.3
WLF				LR	LR		
	comp=Z,1μm,20.0s						
SOKA	**Soboth**	**160.91**	**330**	⇑*i*PKPab	**PKPab**	**03 51 35.0**	**-0.7**
	comp=Z,12nm,1.5s						
RJOB	**Jochberg**	**160.91**	**336**	*e*PKPdf	**PKPdf**	**03 50 50.9**	**-2.1**
RJOB				*e*PKPab	**PKPab**	**03 51 33.8**	**-1.9**
RJOB				*e*PP	**PP**	**03 55 15.7**	**-2.4**
FUR	**Furstenfeldbru**	**161.03**	**339**	*e*PKPdf	**PKPdf**	**03 50 50.7**	**-2.4**
FUR				*e*PKPab	**PKPab**	**03 51 33.9**	**-2.2**
FUR				*e*PP	**PP**	**03 55 16.4**	**-2.3**
FUR	**Furstenfeldbru**	**161.03**	**339**	*e*PKIKP	**PKPdf**	**03 50 50.7**	**-2.4**
STU	**Stuttgart**	**161.04**	**344**	*e*PKPdf	**PKPdf**	**03 50 51.2**	**-1.9**
STU				*e*PKPab	**PKPab**	**03 51 33.3**	**-2.8**
STU				*e*PP	**PP**	**03 55 14.5**	**-4.1**
LJU	**Ljubljana**	**161.62**	**330**	*e*PKPdf	**PKPdf**	**03 50 53.3**	**-0.4**
LJU				*e*PP	**PP**	**03 55 21.6**	**-0.4**
BFO	**Black Forest**	**161.66**	**345**	*e*PKPdf	**PKPdf**	**03 50 51.9**	**-1.9**
BFO				*e*PKPab	**PKPab**	**03 51 35.9**	**-2.9**
BFO				*e*PP	**PP**	**03 55 17.8**	**-4.1**
BFO	**Black Forest**	**161.66**	**345**	*e*PKIKP	**PKPdf**	**03 50 51.9**	**-1.9**
BFO	**Black Forest**	**161.66**	**345**	PFAKE		03 51 00.0	+6.2
BFO				LR	LR		
	comp=Z,1μm,20.0s						
BOJS	**Bojanci**	**161.71**	**328**	*e*PKPdf	**PKPdf**	**03 50 54.2**	**+0.3**
BOJS				*e*PP	**PP**	**03 55 22.6**	**0.0**
TIR	**Tirane**	**161.73**	**310**	PFAKE		03 51 00.0	+6.0
TIR				LR	LR		
	comp=Z,2μm,22.0s						
RETA	**Reutte**	**161.80**	**339**	⇑*i*PKPab	**PKPab**	**03 51 35.5**	**-4.1**
	comp=Z,9.2nm,1.2s						
MOTA	**Moosalm**	**161.82**	**338**	⇓*i*PKPab	**PKPab**	**03 51 40.5**	**+0.8**
	comp=Z,6.8nm,1.0s						
ABTA	**Abfaltersbach**	**161.85**	**335**	⇓*i*PKPab	**PKPab**	**03 51 40.1**	**+0.2**
	comp=Z,4.5nm,0.8s						
ECH	**Echery**	**162.01**	**347**	PFAKE		03 51 00.0	+5.9
ECH				LR	LR		
	comp=Z,1μm,20.0s						
LDF	**La Druitiere**	**162.14**	**3**	*e*PKIKP	**PKPdf**	**03 50 54.0**	**-0.2**
	comp=Z,41nm,1.4s						
LDF	**La Druitiere**	**162.14**	**3**	*e*PKIKP	**PKPdf**	**03 50 54.0**	**-0.2**
LDF	**La Druitiere**	**162.14**	**3**	*e*PKPdf	**PKPdf**	**03 50 54.0**	**-0.2**
FETA	**Feichten**	**162.22**	**339**	⇑*i*pPKPab	**PKPab**	**03 51 43.8**	**+2.3**
	comp=Z,11nm,1.5s						
SFTF	**Sexfontaines**	**162.34**	**352**	*e*PKIKP	**PKPdf**	**03 50 54.5**	**+0.1**
SFTF	**Sexfontaines**	**162.34**	**352**	*e*PKPdf	**PKPdf**	**03 50 54.5**	**+0.1**
TOA0	**Torodi Ar. Sit**	**162.48**	**181**	*e*PKPdf	**PKPdf**	**03 50 54.7**	**-0.9**
TORD	**Torodi Ar. Bea**	**162.48**	**181**	PKP	**PKPdf**	**03 50 54.5**	**-1.0**
TORD				PKPab	**PKPab**	**03 51 42.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**162.48**	**181**	PKP	**PKPdf**	**03 50 54.5**	**-1.0**
	comp=Z,4.0nm,1.0s,baz=246,slow=0.4,SNR=14						
TORD				PKPab	**PKPab**	**03 51 42.2**	**-0.9**
	comp=Z,20nm,0.8s,baz=178,slow=3.5,SNR=20						
TUE	**Stuetta**	**163.13**	**341**	PFAKE		03 51 10.0	+14
TUE				LR	LR		
	comp=Z,2μm,22.0s						
LOR	**Lormes**	**163.40**	**354**	*e*PKIKP	**PKPdf**	**03 50 54.7**	**-0.8**
	comp=Z,61nm,1.7s						
LOR				*e*R			
	comp=Z,1μm,22.8s						
LOR	**Lormes**	**163.40**	**354**	*e*PKPdf	**PKPdf**	**03 50 54.7**	**-0.8**
SSF	**Saint Saulge**	**163.63**	**355**	*e*PKIKP	**PKPdf**	**03 50 55.7**	**0.0**
	comp=Z,25nm,1.3s						
SSF	**Saint Saulge**	**163.63**	**355**	*e*PKIKP	**PKPdf**	**03 50 55.7**	**0.0**
SSF	**Saint Saulge**	**163.63**	**355**	*e*PKPdf	**PKPdf**	**03 50 55.7**	**0.0**
CABF	**La Chapelle**	**163.75**	**348**	*e*PKIKP	**PKPdf**	**03 50 56.0**	**0.0**
CABF	**La Chapelle**	**163.75**	**348**	*e*PKIKP	**PKPdf**	**03 50 56.0**	**0.0**
CABF	**La Chapelle**	**163.75**	**348**	*e*PKPdf	**PKPdf**	**03 50 56.0**	**0.0**
MFF	**Saint Martin d**	**164.13**	**4**	*e*PKIKP	**PKPdf**	**03 50 56.3**	**+0.1**
	comp=Z,39nm,1.5s						
MFF	**Saint Martin d**	**164.13**	**4**	*e*PKIKP	**PKPdf**	**03 50 56.3**	**+0.1**
MFF	**Saint Martin d**	**164.13**	**4**	*e*PKPdf	**PKPdf**	**03 50 56.3**	**+0.1**
TCF	**Toulx Ste Croi**	**164.47**	**358**	*e*PKIKP	**PKPdf**	**03 50 56.3**	**-0.2**
TCF	**Toulx Ste Croi**	**164.47**	**358**	*e*PKIKP	**PKPdf**	**03 50 56.3**	**-0.2**
TCF	**Toulx Ste Croi**	**164.47**	**358**	*e*PKPdf	**PKPdf**	**03 50 56.3**	**-0.2**
LPG	**La Plagne**	**164.69**	**346**	*e*PKIKP	**PKPdf**	**03 50 57.7**	**+0.6**
	comp=Z,14nm,1.3s						
LPG	**La Plagne**	**164.69**	**346**	*e*PKIKP	**PKPdf**	**03 50 57.7**	**+0.6**
LPG	**La Plagne**	**164.69**	**346**	*e*PKPdf	**PKPdf**	**03 50 57.7**	**+0.6**
VLC	**Villacollemand**	**164.84**	**334**	PFAKE		03 51 10.0	+13
VLC				LR	LR		
	comp=Z,1μm,21.0s						
TIP	**Timpagrande**	**164.86**	**308**	PFAKE		03 51 10.0	+13
TIP				LR	LR		
	comp=Z,2μm,22.0s						
AQU	**L'Aquila**	**164.94**	**324**	PFAKE		03 51 10.0	+13
AQU				LR	LR		
	comp=Z,3μm,19.0s						
CUC	**Castrocucco**	**165.06**	**312**	PFAKE		03 51 10.0	+13
CUC				LR	LR		
	comp=Z,3μm,19.0s						
BNI	**Bardonecchia**	**165.13**	**345**	PFAKE		03 51 10.0	+13
BNI				LR	LR		
	comp=Z,1μm,21.0s						
RJF	**Les Rejaudoux**	**165.47**	**360**	*e*PKIKP	**PKPdf**	**03 50 57.7**	**+0.3**
	comp=Z,13nm,1.0s						
RJF				*e*R			
	comp=Z,2μm,19.8s						
RJF	**Les Rejaudoux**	**165.47**	**360**	*e*PKIKP	**PKPdf**	**03 50 57.7**	**+0.3**
RJF	**Les Rejaudoux**	**165.47**	**360**	*e*PKPdf	**PKPdf**	**03 50 57.7**	**+0.3**
LFF	**La Frestale**	**165.82**	**2**	*e*PKIKP	**PKPdf**	**03 50 57.9**	**+0.2**
	comp=Z,11nm,0.9s						
LFF	**La Frestale**	**165.82**	**2**	*e*PKIKP	**PKPdf**	**03 50 57.9**	**+0.2**
LFF	**La Frestale**	**165.82**	**2**	*e*PKPdf	**PKPdf**	**03 50 57.9**	**+0.2**
PGAV	**Gavieira, Arco**	**166.38**	**32**	*e*PKPdf	**PKPdf**	**03 51 01.1**	**+2.7**
PGAV	**Gavieira, Arco**	**166.38**	**32**	*e*PKPab	**PKPab**	**03 52 00.6**	**+0.7**
PGAV				*i* P		04 23 28.6	
PGAV				*e*LR	LR	04 49 07.9	
	comp=Z,1μm,20.0s						
POLO	**Lamas de Olo**	**167.07**	**32**	*e*PKPdf	**PKPdf**	**03 51 01.3**	**+2.4**
POLO	**Lamas de Olo**	**167.07**	**32**	*e*PKPab	PKPab	03 52 08.6	+5.6
PBRG	**Braganca**	**167.18**	**28**	*e*PKPdf	**PKPdf**	**03 50 59.0**	**+0.1**
PBRG	**Braganca**	**167.18**	**28**	*e*PKPab	PKPab	03 52 08.6	+5.2
PVRL	**Vila Real**	**167.18**	**33**	*e*PKPdf	**PKPdf**	**03 51 00.4**	**+1.5**
MVO	**Moncorvo**	**167.58**	**31**	*e*PKPdf	**PKPdf**	**03 50 59.7**	**+0.4**
MVO	**Moncorvo**	**167.58**	**31**	*e*PKPab	**PKPab**	**03 52 08.8**	**+3.6**
MVO				*i* P		04 23 45.3	
MVO				*e*LR	LR	04 49 49.0	
	comp=Z,1μm,20.0s						
EPF	**Esparros**	**167.71**	**4**	*e*PKIKP	**PKPdf**	**03 50 59.8**	**+0.5**
	comp=Z,12nm,1.0s						
EPF	**Esparros**	**167.71**	**4**	*e*PKIKP	**PKPdf**	**03 50 59.8**	**+0.5**
EPF	**Esparros**	**167.71**	**4**	*e*PKPdf	**PKPdf**	**03 50 59.8**	**+0.5**
ETSF	**Etsaut**	**167.78**	**7**	*e*PKIKP	**PKPdf**	**03 50 59.2**	**-0.1**
ETSF	**Etsaut**	**167.78**	**7**	*e*PKIKP	**PKPdf**	**03 50 59.2**	**-0.1**
ETSF	**Etsaut**	**167.78**	**7**	*e*PKPdf	**PKPdf**	**03 50 59.2**	**-0.1**
WDD	**Wield Dalam**	**167.89**	**298**	PFAKE		03 51 10.0	+10
WDD				LR	LR		
	comp=Z,2μm,20.0s						
MTE	**Manteigas**	**167.94**	**35**	*e*PKPdf	**PKPdf**	**03 51 00.4**	**+0.9**
MTE	**Manteigas**	**167.94**	**35**	*e*PKPab	**PKPab**	**03 52 08.2**	**+1.4**
MTE				*i* P		04 23 47.4	
MTE				*e*LR	LR	04 49 35.3	
	comp=Z,2μm,20.0s						
MTE	**Manteigas**	**167.94**	**35**	PFAKE		03 51 10.0	+10
MTE				LR	LR		
	comp=Z,2μm,21.0s						
PMAFR	**Mafra**	**168.02**	**44**	*e*PKPdf	**PKPdf**	**03 51 00.3**	**+0.8**
LIS	**Lisbon**	**168.25**	**45**	*e*P	**PKPdf**	**03 50 59.8**	**+0.1**
LIS				*e*PP	**PP**	**03 55 58.3**	**+1.3**
LIS				AMS	AMS	05 04 34.7	
	comp=Z,2μm,19.5s						
LIS	**Lisbon**	**168.25**	**45**	*e*PP	PP	03 55 58.3	+1.2
LIS				A	A	05 04 34.7	
	comp=Z,2μm,19.5s						
LIS	**Lisbon**	**168.25**	**45**	*e*PKIKP	**PKPdf**	**03 50 59.8**	**+0.1**
LIS				*e*		03 55 58.3	
PMTG	**Montargil**	**168.56**	**41**	*e*PKPdf	**PKPdf**	**03 51 00.7**	**+0.8**
PMTG	**Montargil**	**168.56**	**41**	*e*PKPab	**PKPab**	**03 52 11.7**	**+2.2**
PMRV	**Marv??o**	**168.75**	**37**	*e*PKPdf	**PKPdf**	**03 51 01.1**	**+1.1**
PMRV	**Marv??o**	**168.75**	**37**	*e*PKPab	PKPab	03 52 16.1	+5.7
PMRV				*i* P		04 23 58.6	
PMRV				*e*LR	LR	04 50 00.6	
	comp=Z,1μm,20.0s						
EVOP	**Sao Brissos**	**168.98**	**43**	*e*PKIKP	**PKPdf**	**03 51 01.6**	**+1.4**
EVOP	**Sao Brissos**	**168.98**	**43**	*e*PKPdf	**PKPdf**	**03 51 01.6**	**+1.4**
PNCL	**Nicolau / Gran**	**169.01**	**45**	*e*PKPdf	**PKPdf**	**03 51 01.8**	**+1.6**
PNCL	**Nicolau / Gran**	**169.01**	**45**	*e*PKPab	**PKPab**	**03 52 16.4**	**+4.8**
EVO	**Evora**	**169.04**	**42**	*e*PKPdf	**PKPdf**	**03 51 01.3**	**+1.1**
EVO	**Evora**	**169.04**	**42**	*e*PKIKP	**PKPdf**	**03 51 01.6**	**+1.4**
	comp=Z,9.4nm,0.8s						
EVO				*e*R			
	comp=Z,2μm,20.5s						
PESTR	**Estremoz**	**169.05**	**40**	*e*PKPdf	**PKPdf**	**03 51 01.6**	**+1.4**
PESTR	**Estremoz**	**169.05**	**40**	*e*PKPab	**PKPab**	**03 52 13.4**	**+1.6**
VSL	**Villasalto**	**169.10**	**325**	PFAKE		03 51 10.0	+10
VSL				LR	LR		
	comp=Z,1μm,22.0s						
MESJ	**Messejana**	**169.37**	**46**	*e*P	**PKPdf**	**03 51 00.7**	**+0.3**
MESJ				*e*PP	**PP**	**03 56 04.1**	**+1.3**
MESJ				AMS	AMS	05 06 33.5	
	comp=Z,967nm,18.4s						
MESJ	**Messejana**	**169.37**	**46**	*e*PP	PP	03 56 04.1	+1.3
MESJ				A	A	05 06 33.5	
	comp=Z,967nm,18.4s						
MESJ	**Messejana**	**169.37**	**46**	*e*PKIKP	**PKPdf**	**03 51 00.7**	**+0.3**
MESJ				*e*		03 56 04.1	
PFVI	**Vila Bisbo**	**169.40**	**50**	*e*PKPdf	**PKPdf**	**03 51 01.1**	**+0.6**
PFVI	**Vila Bisbo**	**169.40**	**50**	*e*PKPab	**PKPab**	**03 52 12.7**	**-0.7**
MORF	**Marmelete**	**169.42**	**49**	*e*PKPdf	**PKPdf**	**03 51 03.3**	**+2.7**
MORF	**Marmelete**	**169.42**	**49**	*e*PKPab	**PKPab**	**03 52 14.8**	**+1.3**
MORF				*i* P		04 24 12.7	
MORF				*e*LR	LR	04 50 59.9	
	comp=Z,1μm,20.0s						
MORF	**Marmelete**	**169.42**	**49**	*e*PKIKP	**PKPdf**	**03 51 00.6**	**0.0**
MORF				*e*		03 56 04.1	
PBEJ	**Beja**	**169.47**	**44**	*e*PKPdf	**PKPdf**	**03 51 02.9**	**+2.4**
PCVE	**Castro Verde**	**169.61**	**46**	*e*PKPdf	**PKPdf**	**03 51 01.6**	**+1.0**
PCVE	**Castro Verde**	**169.61**	**46**	*e*PKPab	**PKPab**	**03 52 13.1**	**-1.2**
PBAR	**Barrancos**	**169.84**	**41**	*e*PKPdf	**PKPdf**	**03 51 01.4**	**+0.7**
PBAR	**Barrancos**	**169.84**	**41**	*e*PKPab	**PKPab**	**03 52 12.1**	**-3.2**
PBDV	**Barranco-do-Ve**	**169.92**	**48**	*e*PKPdf	**PKPdf**	**03 51 03.8**	**+3.0**
PBDV	**Barranco-do-Ve**	**169.92**	**48**	*e*PKPab	**PKPab**	**03 52 15.3**	**-0.4**
PVAQ	**Vaqueiros**	**169.95**	**46**	*e*PKPdf	**PKPdf**	**03 51 02.6**	**+1.8**
PVAQ	**Vaqueiros**	**169.95**	**46**	*e*PKPab	**PKPab**	**03 52 13.5**	**-2.3**
PVAQ				*i* P		04 24 29.9	
PVAQ				*e*LR	LR	04 50 28.1	
	comp=Z,998nm,20.0s						
PAB	**San Pablo**	**170.05**	**27**	PFAKE		03 51 10.0	+9.1
PAB				LR	LR		
	comp=Z,1μm,19.0s						
ESDC	**Sonseca Array**	**170.08**	**25**	PKP	**PKPdf**	**03 51 00.3**	**-0.6**
ESDC	**Sonseca Array**	**170.08**	**25**	PKP	**PKPdf**	**03 51 00.3**	**-0.6**
	comp=Z,3.0nm,1.0s,baz=348,slow=3.3,SNR=11						
ESLA	**Sonseca Array**	**170.08**	**25**	PFAKE		03 51 10.0	+9.1
ESLA				LR	LR		
	comp=Z,7μm,21.0s						
TAM	**Tamanrasset**	**171.25**	**206**	*e*PKIKP	**PKPdf**	**03 51 02.9**	**+0.8**
TAM				MLR	MLR		
	comp=Z,1μm,20.0s						
TAM	**Tamanrasset**	**171.25**	**206**	*e*PKPdf	**PKPdf**	**03 51 02.9**	**+0.8**
TAM				LR	LR		
	comp=Z,1μm,20.0s						
RTC	**Rabat Centre**	**172.32**	**63**	PFAKE		03 51 10.0	+7.9
RTC				LR	LR		
	comp=Z,2μm,21.0s						

IDC ***17*** *03:44:05.4±1.9, 8.°25S×112.°02E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/18, mbtmp3.8/7, ML3.5/1, Error ellipse: s-maj=110.2km s-min=18.4km az=53.0*
ISCJB ***17*** *03:44:22.4±0.5, 8.°45S±0.°08×112.°43E±0.°03, h132km±5km, mb3.6/6, Error ellipse: s-maj=13.7km s-min=3.8km az=9.9*
DJA ***17*** *03:44:26, 8.°07S×112.°49E, h106km, MLv3.7/8*
ISC 17 03:44:22.2±0.7, 8.°36S±0.°08×112.°45E±0.°03, h138km±6km, n29, σ1°36/42, mb3.7/6, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRKI	**Karangkates**	**0.20**	**360**	P	**Pn**	**03 44 41.4**	**+0.4**
KRKI				S	**Sn**	**03 44 55.9**	**+0.6**
PWJI	**Pagerwojo**	**0.72**	**297**	P	**Pn**	**03 44 42.9**	**-0.7**
PWJI				S	**Sn**	**03 44 58.3**	**-1.5**
SJI	**Sawahan**	**0.92**	**312**	P	**Pn**	**03 44 44.8**	**-0.4**
SJI				S	**Sn**	**03 45 01.2**	**-1.5**
GMJI	**Gumukmas**	**0.98**	**85**	P	**Pn**	**03 44 46.0**	**+0.3**
GMJI				S	**Sn**	**03 45 03.4**	**-0.1**
PCJI	**Pacitan**	**1.27**	**277**	P	**Pn**	**03 44 48.9**	**+0.5**
PCJI				S	**Sn**	**03 45 07.7**	**-0.7**
BLJI	**Banyuglugur**	**1.28**	**62**	P	**Pn**	**03 44 49.4**	**+0.8**
BLJI				S	**Sn**	**03 45 09.4**	**+0.8**
NGJI	**Ngawi**	**1.39**	**315**	P	**Pn**	**03 44 51.6**	**+1.9**
GRJI	**Gresik**	**1.43**	**1**	P	**Pn**	**03 44 51.0**	**+0.8**
GRJI				S	**Sn**	**03 45 12.8**	**+1.3**
JAGI	**Jajag, Banyuwa**	**1.69**	**94**	P	**Pn**	**03 44 53.1**	**+0.2**
JAGI				S	**Sn**	**03 45 16.2**	**-0.2**
BYJI	**Banyuwangi**	**1.89**	**86**	P	**Pn**	**03 44 56.9**	**+1.6**
BYJI				S	**Sn**	**03 45 22.7**	**+2.1**
UGM	**Wanagama**	**1.96**	**283**	P	**Pn**	**03 44 56.7**	**+0.5**
UGM				S	**Sn**	**03 45 21.9**	**-0.3

BKZ	**Black Stump Fm**	**2.11 224**	⇑PN	Pn	04 14 52.8	-0.4		
BKZ	**Black Stump Fm**	**2.11 224**	Pn	Pn	04 14 52.8	-0.4		
WHTZ	**Whakaora**	**2.15 241**	PN	Pn	04 14 55.1	+1.3		
WHTZ	**Whakaora**	**2.15 241**	Pn	Pn	04 14 55.1	+1.3		
MCHZ	**McNeill Hill**	**2.22 216**	PN	Pn	04 14 54.5	-0.1		
MCHZ	**McNeill Hill**	**2.22 216**	Pn	Pn	04 14 54.5	-0.1		
CKHZ	**Cape Kidnapper**	**2.24 206**	PN	Pn	04 14 54.0	-0.9		
CKHZ	**Cape Kidnapper**	**2.24 206**	Pn	Pn	04 14 54.0	-0.9		
TOZ	**Tahuroa Road**	**2.28 267**	⇑PN	Pn	04 14 54.8	-0.6		
TOZ	**Tahuroa Road**	**2.28 267**	Pn	Pn	04 14 54.8	-0.6		
KUZ	**Kuaotunu**	**2.30 292**	⇑PN	Pn	04 14 55.1	-0.6		
KUZ	**Kuaotunu**	**2.30 292**	Pn	Pn	04 14 55.1	-0.6		
RITZ	**Rihia Road**	**2.38 235**	PN	Pn	04 14 57.4	+0.6		
RITZ	**Rihia Road**	**2.38 235**	Pn	Pn	04 14 57.4	+0.6		
RATZ	**Rangitukua**	**2.38 239**	PN	Pn	04 14 57.1	+0.2		
RATZ	**Rangitukua**	**2.38 239**	Pn	Pn	04 14 57.1	+0.2		
KAHZ	**Kahuranaki**	**2.44 208**	PN	Pn	04 14 56.4	-1.2		
KAHZ	**Kahuranaki**	**2.44 208**	Pn	Pn	04 14 56.4	-1.2		
KATZ	**Kakaramea**	**2.48 237**	Pn	Pn	04 14 58.8	+0.4		
KATZ	**Kakaramea**	**2.48 237**	Pn	Pn	04 14 58.8	+0.4		
BHHZ	**Black Hill Sta**	**2.57 224**	PN	Pn	04 14 59.2	-0.4		
BHHZ	**Black Hill Sta**	**2.57 224**	Pn	Pn	04 14 59.2	-0.4		
KRVZ	**Karewarewa**	**2.58 235**	PN	Pn	04 14 59.9	+0.1		
KRVZ	**Karewarewa**	**2.58 235**	Pn	Pn	04 14 59.9	+0.1		
OTVZ	**Oturere**	**2.60 234**	PN	Pn	04 15 00.0	-0.1		
OTVZ	**Oturere**	**2.60 234**	Pn	Pn	04 15 00.0	-0.1		
MKAZ	**Moumakai**	**2.61 281**	⇑PN	Pn	04 14 59.8	-0.2		
MKAZ	**Moumakai**	**2.61 281**	Pn	Pn	04 14 59.8	-0.2		
WTVZ	**West Tongariro**	**2.63 235**	PN	Pn	04 15 00.6	+0.2		
WTVZ	**West Tongariro**	**2.63 235**	Pn	Pn	04 15 00.6	+0.2		
PXZ	**Pawanui**	**2.65 206**	PN	Pn	04 14 58.5	-1.9		
PXZ	**Pawanui**	**2.65 206**	Pn	Pn	04 14 58.5	-1.9		
NGZ	**Ngauruhoe**	**2.65 234**	PN	Pn	04 15 00.4	-0.4		
NGZ	**Ngauruhoe**	**2.65 234**	Pn	Pn	04 15 00.4	-0.4		
TUVZ	**Tukino**	**2.67 232**	⇑PN	Pn	04 15 01.0	0.0		
TUVZ	**Tukino**	**2.67 232**	Pn	Pn	04 15 01.0	0.0		
MOVZ	**Moawhango**	**2.70 229**	PN	Pn	04 15 00.5	-0.8		
MOVZ	**Moawhango**	**2.70 229**	Pn	Pn	04 15 00.5	-0.8		
TWVZ	**Taurewa**	**2.71 238**	PN	Pn	04 15 01.5	+0.1		
TWVZ	**Taurewa**	**2.71 238**	Pn	Pn	04 15 01.5	+0.1		
FWVZ	**Far West T-bar**	**2.73 233**	PN	Pn	04 15 01.6	-0.3		
FWVZ	**Far West T-bar**	**2.73 233**	Pn	Pn	04 15 01.6	-0.3		
WNVZ	**Wahianoa**	**2.74 232**	PN	Pn	04 15 01.3	-0.7		
WNVZ	**Wahianoa**	**2.74 232**	Pn	Pn	04 15 01.3	-0.7		
TRVZ	**Turoa**	**2.76 233**	PN	Pn	04 15 01.9	-0.4		
TRVZ	**Turoa**	**2.76 233**	Pn	Pn	04 15 01.9	-0.3		
PNHZ	**Pukenui**	**2.82 216**	PN	Pn	04 15 01.3	-1.6		
PNHZ	**Pukenui**	**2.82 216**	Pn	Pn	04 15 01.3	-1.6		
OTAZ	**Otara**	**2.84 283**	Pn	Pn	04 15 03.4	+0.4		
WPHZ	**Waipukurau**	**2.84 211**	PN	Pn	04 15 01.5	-1.6		
WPHZ	**Waipukurau**	**2.84 211**	Pn	Pn	04 15 01.5	-1.6		
MTVZ	**Mangateitei**	**2.86 232**	Pn	Pn	04 15 03.0	-0.4		
PKVZ	**Pokaka**	**2.88 235**	PN	Pn	04 15 04.1	+0.3		
PKVZ	**Pokaka**	**2.88 235**	Pn	Pn	04 15 04.1	+0.3		
HIZ	**Hauiti**	**2.90 252**	PN	Pn	04 15 04.5	+0.6		
HIZ	**Hauiti**	**2.90 252**	Pn	Pn	04 15 04.5	+0.6		
PRHZ	**Porangahau**	**2.94 207**	Pn	Pn	04 15 02.3	-2.2		
KAAZ	**Kauri Point**	**3.04 285**	Pn	Pn	04 15 06.8	+0.9		
TSZ	**Takapari Road**	**3.05 217**	⇓PN	Pn	04 15 03.9	-2.1		
TSZ	**Takapari Road**	**3.05 217**	Pn	Pn	04 15 03.9	-2.1		
WTAZ	**Waiatarua**	**3.11 282**	Pn	Pn	04 15 07.5	+0.6		
DVHZ	**Dannevirke**	**3.15 212**	Pn	Pn	04 15 05.0	-2.4		
VRZ	**Vera Road**	**3.20 242**	Pn	Pn	04 15 08.9	+0.9		
WAZ	**Wanganui**	**3.38 231**	Pn	Pn	04 15 10.6	0.0		
POWZ	**Post Office Ro**	**3.40 216**	⇑PN	Pn	04 15 08.5	-2.3		
POWZ	**Post Office Ro**	**3.40 216**	Pn	Pn	04 15 08.5	-2.3		
BFZ	**Birch Farm**	**3.44 208**	PN	Pn	04 15 08.5	-2.8		
BFZ	**Birch Farm**	**3.44 208**	Pn	Pn	04 15 08.5	-2.8		
RAEZ	**Rainy Point**	**3.52 241**	Pn	Pn	04 15 12.8	+0.3		
WCZ	**Waipu Caves**	**3.66 297**	Pn	Pn	04 15 14.8	+0.5		
TIWZ	**Tintock**	**3.67 211**	Pn	Pn	04 15 11.8	-2.7		
MRZ	**Mangatainoka R**	**3.70 215**	Pn	Pn	04 15 11.9	-3.1		
NEZ	**North Egmont**	**3.72 243**	Pn	Pn	04 15 17.1	+1.7		
DFE	**Dawson Falls**	**3.74 242**	Pn	Pn	04 15 17.5	+1.9		
PKE	**Pukeiti**	**3.77 245**	Pn	Pn	04 15 17.9	+2.0		
HOWZ	**Holdsworth Sta**	**3.92 214**	⇑PN	Pn	04 15 14.5	-3.5		
HOWZ	**Holdsworth Sta**	**3.92 214**	Pn	Pn	04 15 14.5	-3.5		
TMWZ	**Te Maipa**	**3.95 208**	PN	Pn	04 15 15.0	-3.3		
TMWZ	**Te Maipa**	**3.95 208**	Pn	Pn	04 15 15.0	-3.3		
OGWZ	**Otaki Gorge**	**4.02 217**	⇑PN	Pn	04 15 16.1	-3.1		
OGWZ	**Otaki Gorge**	**4.02 217**	Pn	Pn	04 15 16.1	-3.1		
MTW	**Mount Morrison**	**4.14 212**	PN	Pn	04 15 17.3	-3.7		
MTW	**Mount Morrison**	**4.14 212**	Pn	Pn	04 15 17.3	-3.7		
KIW	**Kapiti Island**	**4.18 219**	PN	Pn	04 15 18.4	-3.1		
KIW	**Kapiti Island**	**4.18 219**	Pn	Pn	04 15 18.4	-3.1		
TRWZ	**Traveller**	**4.28 208**	Pn	Pn	04 15 18.9	-3.9		
CAW	**Cannon Point**	**4.29 216**	Pn	Pn	04 15 19.0	-4.0		
PAWZ	**Paruwai Farm**	**4.36 211**	PN	Pn	04 15 20.0	-4.0		
PAWZ	**Paruwai Farm**	**4.36 211**	Pn	Pn	04 15 20.0	-4.0		
MSWZ	**Moikau Station**	**4.46 212**	Pn	Pn	04 15 21.2	-4.2		
PLWZ	**Palliser**	**4.59 211**	Pn	Pn	04 15 22.6	-4.5		
SNZO	**South Karori**	**4.62 217**	PN	Pn	04 15 23.2	-4.3		
SNZO	**South Karori**	**4.62 217**	Pn	Pn	04 15 23.2	-4.3		
DUWZ	**D'Urville Isla**	**4.67 226**	Pn	Pn	04 15 25.2	-3.0		
TCW	**Tory Channel**	**4.76 220**	Pn	Pn	04 15 25.3	-4.1		
TUWZ	**Tuamarina**	**5.09 221**	PN	Pn	04 15 29.8	-4.1		
TUWZ	**Tuamarina**	**5.09 221**	Pn	Pn	04 15 29.8	-4.1		
NNZ	**Nelson**	**5.25 226**	Pn	Pn	04 15 32.4	-3.7		
BSWZ	**Blackbirch Sta**	**5.33 219**	Pn	Pn	04 15 32.8	-4.5		
QRZ	**Quartz Range**	**5.53 233**	PN	Pn	04 15 37.0	-3.0		
QRZ	**Quartz Range**	**5.53 233**	Pn	Pn	04 15 37.0	-3.0		
THZ	**Tophouse**	**5.88 224**	Pn	Pn	04 15 40.7	-4.2		
KHZ	**Kahutara**	**6.03 216**	Pn	Pn	04 15 41.5	-5.2		
DSZ	**Denniston Nort**	**6.51 229**	Pn	Pn	04 15 48.7	-4.7		
LTZ	**Lake Taylor**	**6.93 220**	Pn	Pn	04 15 53.9	-5.3		
CTZ	**Chatham Island**	**7.17 149**	Pn	Pn	04 16 03.3	+0.9		
MQZ	**McQueen's Vall**	**7.44 214**	Pn	Pn	04 15 59.9	-6.2		
JCZ	**Jackson Bay**	**9.70 226**	Pn	Pn	04 16 31.5	-5.6		

IDC 17 04:24:32.4±2.1, 3°02'N×125°85'E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, Error ellipse: s-maj=188.0km s-min=25.7km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.30**	**160**	P	P	04 29 50.8	-0.9
	0.9nm,0.5s,baz=339,slow=11,SNR=14						
ASAR	**Alice Springs**	**27.66**	**164**	P	P	04 30 23.5	+1.4
	0.2nm,0.4s,baz=354,slow=7.5,SNR=3.1						
MKAR	**Makanchi Array**	**57.64**	**326**	P	P	04 34 24.0	-0.5
	0.2nm,0.5s,baz=114,slow=7.8,SNR=6.1						

IDC 17 04:28:02.7±1.4, 3°95N×126°84E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=144.2km s-min=22.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.86**	**163**	P	P	04 33 27.6	+0.4
	1.3nm,0.7s,baz=344,slow=10,SNR=6.9						
STKA	**Stephens Creek**	**38.29**	**160**	P	P	04 35 24.6	-0.5
	1.0nm,0.7s,baz=338,slow=11,SNR=3.1						
SONM	**Songino Array**	**47.13**	**341**	P	P	04 36 37.3	+0.4
	0.1nm,0.5s,baz=161,slow=6.7,SNR=2.0						
MKAR	**Makanchi Array**	**57.44**	**325**	P	P	04 37 52.9	-0.6
	0.4nm,0.7s,baz=129,slow=7.2,SNR=5.3						

*IDC **17** 04:35:18.1±2.0, 39°.40N×73°.63E, h0km, mb3.3/3, mb1 3.3/6, mb1mx3.2/28, mbtmp3.2/6, ML2.9/3, Error ellipse: s-maj=33.6km s-min=20.2km az=132.0*

*NNC **17** 04:35:29.1±1.2, 39°.72N×73°.31E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=11.8km s-min=4.7km az=18.0*

ISC 17 04:35:19.8±1.1, 39°39N±0°.08×73°57E±0°.06, h10km, n23, σ1°65/23, mb3.4/3, 6C-7D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.87**	**85**	*e*Pg	**Pn**	**04 35 51.3**	**-0.7**
KSH				Sg	**Sn**	**04 36 14.8**	**-0.9**
KSH				smax	smax		
	comp=N,480nm,0.5s						
KSH				smax	smax		
	comp=E,270nm,0.2s						
AML	**Almayashu**	**2.74**	**2**	P	**Pn**	**04 36 05.4**	**+1.2**
	SNR=15						
KZA	**Kyzart**	**2.97**	**25**	P	**Pb**	**04 36 12.0**	**-1.1**
	SNR=6.7						
EKS2	**Erkin-Say**	**3.27**	**3**	P	**Pb**	**04 36 15.2**	**-2.8**
	SNR=7.0						
AAK	**Ala-Archa**	**3.31**	**12**	P	**Pn**	**04 36 12.8**	**+0.9**
	SNR=17						
AAK	**Ala-Archa**	**3.31**	**12**	Pn	**Pn**	**04 36 13.1**	**+1.2**
	comp=E,1.6nm,0.3s,baz=162,slow=8.2,SNR=19						
AAK				Sn	**Sb**	**04 36 58.8**	**-0.4**
	comp=E,7.0nm,0.3s,baz=332,slow=16,SNR=8.8						
AAK				Lg	Lg	04 37 07.1	
	comp=E,16nm,0.3s,baz=287,slow=19,SNR=14						
KBK	**Karagaybulak**	**3.43**	**17**	P	**Pb**	**04 36 19.1**	**-1.6**
	SNR=9.3						
CHMS	**Chumysh**	**3.71**	**14**	P	**Pb**	**04 36 23.7**	**-1.8**
	SNR=5.9						
TKM2	**Tokmak 2**	**3.84**	**23**	⇑Pn	**Pb**	**04 36 26.4**	**-1.4**
	comp=E,3.1nm,0.5s						
TKM2				⇑Pg	**Pg**	**04 36 35.1**	**+1.6**
	comp=E,12nm,0.6s						
TKM2				⇑Lg	Lg	04 37 23.7	
	comp=E,55nm,0.6s						
TKM2	**Tokmak 2**	**3.84**	**23**	P	**Pb**	**04 36 28.1**	**+0.3**
	SNR=6.5						
USP	**Ospenovka**	**3.94**	**10**	P	**Pb**	**04 36 27.0**	**-2.3**
	SNR=5.9						
KK31	**Karatay Array**	**4.37**	**329**	⇑Pn	Pb	04 36 33.6	-3.0
	comp=E,2.0nm,0.3s,baz=137,slow=13,SNR=22						
KK31				Sn	**Sb**	**04 37 25.7**	**-3.6**
	comp=E,9.6nm,0.4s,baz=138,slow=24,SNR=4.2						
KK31				⇓Lg	Lg	04 37 34.8	
	comp=E,19nm,0.5s,baz=154,slow=30,SNR=4.3						
MK31	**Makanchi Array**	**9.77**	**38**	Pn	Pn	04 37 51.9	+12
	comp=E,2.2nm,1.3s,baz=131,slow=6.9,SNR=4.2						
MK31				⇓Lg	Lg	04 40 30.8	
	comp=E,3.5nm,1.0s,baz=223,slow=26,SNR=3.8						
MKAR	**Makanchi Array**	**9.77**	**38**	Lg	Lg	04 40 24.1	
	comp=E,0.1nm,0.3s,baz=226,slow=4,SNR=3.7						
KURBB	**Kurchatov Arra**	**11.76**	**16**	⇓Pn	Pn	04 38 15.3	+7.7
	comp=E,0.3nm,0.8s						
KURBB				⇑Lg	Lg	04 41 34.3	
	comp=E,2.4nm,0.8s						
KURBB	**Kurchatov Arra**	**11.76**	**16**	Pn	**Pn**	**04 38 07.2**	**-0.4**
	comp=E,0.0nm,0.3s,baz=209,slow=13,SNR=2.8						
KURBB				Lg	Lg	04 41 25.9	
	comp=E,0.0nm,0.3s,baz=207,slow=29,SNR=5.5						
KURK	**Kurchatov**	**11.87**	**16**	⇓Pn	Pn	04 38 16.9	+7.9
	comp=E,1.9nm,0.9s						
KURK				⇑Lg	Lg	04 41 37.9	
	comp=E,17nm,1.5s						
AB31	**Akbulak array**	**13.85**	**320**	Pn	P	04 38 41.1	-3.3
	comp=E,0.6nm,0.5s,baz=127,slow=14,SNR=7.4						
AB31				⇓Sn	**Sn**	**04 41 11.4**	**+1.7**
	comp=E,0.2nm,0.4s,baz=132,slow=25,SNR=2.9						
AKTO	**Aktyubinsk**	**15.56**	**320**	⇓Pn	**P**	**04 39 04.6**	**+1.1**
	comp=E,0.7nm,1.4s						
AKTO				⇓Sn	**Sn**	**04 41 52.7**	**+1.2**
	comp=E,0.2nm,1.1s						
AKTO	**Aktyubinsk**	**15.56**	**320**	Pn	**Pn**	**04 38 57.7**	**-1.4**
	comp=E,0.1nm,0.3s,baz=126,slow=12,SNR=2.2						
AKTO				Sn	Sn	04 41 43.8	-7.7
	comp=E,0.1nm,0.3s,baz=0.0,slow=2.0,SNR=2.3						
BRTR	**Keskin Array B**	**30.61**	**284**	P	**P**	**04 41 35.2**	**+1.1**
	comp=E,0.4nm,0.7s,baz=66,slow=4.0,SNR=2.3						
TORD	**Torodi Ar. Bea**	**67.81**	**269**	P	**P**	**04 46 17.3**	**-0.9**
	comp=E,0.5nm,0.8s,baz=47,slow=4.9,SNR=5.4						
YKA	**Yellowknife Ar**	**78.25**	**4**	P	**P**	**04 47 20.5**	**+1.3**
	comp=E,0.1nm,0.6s,baz=347,slow=5.3,SNR=3.7						

*IDC **17** 04:42:48.3±0.7, 39°.69N×75°.64E, h0km, mb4.0/15, mb1 4.1/21, mb1mx4.0/32, mbtmp4.0/21, ML3.8/6, Error ellipse: s-maj=14.0km s-min=10.7km az=68.0*

*MOS **17** 04:42:51.4±1.7, 39°.67N×75°.56E, h33km, mb4.5/16, Error ellipse: s-maj=11.2km s-min=5.6km az=106.7*

*NNC **17** 04:42:51.6±0.9, 39°.85N×75°.37E, h0km, mb4.3, mpv4.3, Error ellipse: s-maj=9.0km s-min=5.1km az=161.0*

*BJI **17** 04:42:51.4, 39°.90N×75°.60E, h13km, mB4.6/2, mb4.2/9, ML4.1/7, Ms4.0/4, Ms7 3.6/3*

*NEIC **17** 04:42:56.1±0.9, 39°.85N×75°.63E, h59km±7km, mb4.5/8, Error ellipse: s-maj=9.0km s-min=6.7km az=174.0*

ISC 17 04:42:53.6±0.7, 39°86N±0°.04×75°50E±0°.04, h28km±4km, n147, σ1°81/143, mb4.2/24, 14C-10D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.50**	**133**	⇓*i*Pg	Pn	04 43 09.0	+3.9
KSH				Sg	**Sn**	**04 43 17.6**	**+4.7**
KSH				smax	smax		
	comp=N,30μm,0.7s						
KSH				smax	smax		
	comp=E,21μm,0.4s						
KZA	**Kyzart**	**2.22**	**355**	P	**Pb**	**04 43 31.9**	**-1.5**
	SNR=407						
ULHL	**Ulahol**	**2.45**	**13**	P	**Pb**	**04 43 34.7**	**-2.4**
	SNR=56						
UCH	**Uchtor**	**2.48**	**343**	P	**Pb**	**04 43 35.8**	**-2.0**
	SNR=84						
AML	**Almayashu**	**2.65**	**330**	P	**Pb**	**04 43 38.2**	**-2.4**
	SNR=617						
KBK	**Karagaybulak**	**2.83**	**352**	P	**Pb**	**04 43 40.5**	**-2.9**
	SNR=177						
AAK	**Ala-Archa**	**2.87**	**345**	PN	**Pb**	**04 43 41.6**	**-2.6**
AAK						04 44 18.0	
AAK				pmax	pmax		
	comp=Z,101nm,0.3s						
AAK				smax	smax		
	comp=N,122nm,0.3s						
AAK	**Ala-Archa**	**2.87**	**345**	Pn	**Pb**	**04 43 41.6**	**-2.6**
AAK				Sn	**Sb**	**04 44 18.0**	**-1.0**
AAK				Lg	Lg	04 44 24.0	
AAK	**Ala-Archa**	**2.87**	**345**	P	**Pb**	**04 43 41.6**	**-2.6**
	SNR=315						
AAK	**Ala-Archa**	**2.87**	**345**	Pn	**Pb**	**04 43 41.6**	**-2.6**
	comp=N,100nm,0.3s,baz=146,slow=8.1,SNR=1020						
AAK				Sn	**Sb**	**04 44 18.0**	**-1.0**
	comp=N,122nm,0.3s,baz=19,slow=18,SNR=7.3						
AAK				Lg	Lg	04 44 24.0	
	comp=N,137nm,0.3s,baz=314,slow=16,SNR=6.3						
FRU	**Bishkek**	**3.04**	**348**	⇑PN	**Pb**	**04 43 44.0**	**-3.1**
FRU				*i*		04 43 53.5	
FRU				*i*		04 44 00.0	
FRU				*i* S	**Sb**	**04 44 21.0**	**-2.8**
FRU				*i*		04 44 30.0	
FRU				pmax	pmax		
	comp=Z,880nm,1.8s						
FRU				pmax	pmax		
	comp=N,2μm,2.0s						
TKM2	**Tokmak 2**	**3.06**	**1**	⇑Pn	**Pn**	**04 43 42.6**	**+2.3**
	comp=N,122nm,0.4s						
TKM2				⇑Lg	Lg	04 44 28.6	
	comp=N,546nm,0.4s						
TKM2	**Tokmak 2**	**3.06**	**1**	*e*Pn	**Pn**	**04 43 43.5**	**+3.2**
TKM2	**Tokmak 2**	**3.06**	**1**	*e*Pn	**Pn**	**04 43 43.5**	**+3.2**
TKM2				Sn	**Sn**	**04 44 18.3**	**+2.2**
TKM2	**Tokmak 2**	**3.06**	**1**	P	Pn	04 43 43.8	+3.5
	SNR=69						
EKS2	**Erkin-Say**	**3.08**	**336**	*e*PN	Pb	04 43 44.4	-3.5
EKS2						04 44 20.0	
EKS2	**Erkin-Say**	**3.08**	**336**	*e*Pn	Pb	04 43 44.4	-3.5
EKS2				Sn	**Sn**	**04 44 20.0**	**+3.4**
EKS2	**Erkin-Say**	**3.08**	**336**	P	Pb	04 43 44.4	-3.5
	SNR=155						
CHMS	**Chumysh**	**3.19**	**350**	P	Pn	04 43 45.6	+3.7
	SNR=68						
USP	**Ospenovka**	**3.49**	**348**	P	Pn	04 43 49.4	+3.3
	SNR=102						
KNDC	**Almaty**	**3.53**	**18**	⇓Pg	**Pb**	**04 43 56.7**	**+1.3**
	comp=N,152nm,0.5s						
KNDC				⇑Lg	Lg	04 44 43.9	
	comp=N,286nm,0.3s						
AAA	**Alma-Ata**	**3.58**	**17**	*i* PN	Pb	04 44 00.5	+4.3
AAA				*i* S	**Sb**	**04 44 42.7**	**+3.5**
AAA				pmax	pmax		
	comp=Z,346nm,0.2s						
AAA				smax	smax		
	comp=N,898nm,0.3s						
KK31	**Karatay Array**	**4.95**	**313**	Pn	**Pn**	**04 44 08.6**	**+2.4**
	comp=N,2.0nm,0.2s,baz=125,slow=12,SNR=210						
KK31				⇑Pg	**Pb**	**04 44 21.5**	**+2.0**
	comp=N,64nm,0.6s,baz=132,slow=16,SNR=14						
KK31				⇑Lg	Lg	04 45 24.9	
	comp=N,64nm,0.6s,baz=127,slow=25,SNR=3.9						
KK31	**Karatay Array**	**4.95**	**313**	*e*PN	**Pn**	**04 44 08.5**	**+2.4**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KK31	**Karatay Array**	**4.95**	**313**	*e*PN	Pb	04 44 26.9	+7.4
KK31						04 45 30.6	
KK31				pmax	pmax		
	comp=Z,64nm,0.6s						
KK31				pmax	pmax		
	comp=Z,40nm,0.5s						
KKAR	**Karatay Array**	**4.95**	**313**	*e*PN	**Pn**	**04 44 08.8**	**+2.7**
KKAR				pmax	pmax		
	comp=Z,71nm,0.6s						
KKAR	**Karatay Array**	**4.95**	**313**	*e*Pn	**Pn**	**04 44 08.8**	**+2.7**
	comp=Z,71nm,0.6s						
KKAR				*e*Sn	**Sn**	**04 45 04.6**	**+2.2**
CHCP	**Chirah Chowk**	**6.44**	**197**	P	Pn	04 44 31.4	+4.8
CEP	**Cherat**	**6.67**	**207**	P	Pn	04 44 33.9	+4.0
CEP				S	**Sn**	**04 45 48.0**	**+2.9**
KBL	**Kabul**	**7.39**	**226**	*e*P	**Pn**	**04 44 42.7**	**+2.9**
KBL				*e*		04 46 04.9	
KBL				pmax	pmax		
	comp=Z,17nm,0.5s						
KBL	**Kabul**	**7.39**	**226**	*e*Pn	**Pn**	**04 44 42.7**	**+2.9**
	comp=Z,17nm,0.5s						
KBL				*e*Sn	**Sn**	**04 46 04.9**	**+2.0**
THW	**Thamme Wali**	**7.67**	**204**	P	Pn	04 44 47.3	+3.8
SARP	**Sargodha**	**8.24**	**197**	P	Pn	**04 44 53.2**	**+1.9**
MK31	**Makanchi Array**	**8.52**	**33**	⇓Pn	Pn	04 44 59.2	+4.2
	comp=Z,3.5nm,0.5s,baz=208,slow=12,SNR=75						
MK31				⇓Lg	Lg	04 47 20.9	
	comp=Z,18nm,0.8s						
MK31	**Makanchi Array**	**8.52**	**33**	*e*P	**Pn**	**04 44 56.4**	**+1.4**
MK31				*e*		04 46 29.8	
MK31	**Makanchi Array**	**8.52**	**33**	*e*Pn	**Pn**	**04 44 56.4**	**+1.4**
MK31				*e*Sn	**Sn**	**04 46 29.8**	**-0.4**
MKAR	**Makanchi Array**	**8.52**	**33**	P	**Pn**	**04 44 56.4**	**+1.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**8.52**	**33**	Pn	**Pn**	**04 44 56.4**	**+1.4**
MKAR				Lg	Lg	04 47 18.4	
MKAR	**Makanchi Array**	**8.52**	**33**	Pn	**Pn**	**04 44 56.4**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=207,slow=16,SNR=19						
MKAR				Lg	Lg	04 47 18.4	
	comp=Z,0.9nm,0.3s,baz=218,slow=35,SNR=3.6						
DDI	**Dehra Dun**	**9.74**	**167**	*e*PKP	**Pn**	**04 45 12.2**	**+0.3**
KURBB	**Kurchatov Arra**	**10.97**	**10**	⇑Pn	**Pn**	**04 45 30.5**	**+1.9**
	comp=Z,0.4nm,0.7s						
KURBB				⇑Lg	Lg	04 48 41.2	
	comp=Z,10nm,0.8s						
KURBB	**Kurchatov Arra**	**10.97**	**10**	Pn	**Pn**	**04 45 27.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=196,slow=12,SNR=6.9						
KURBB				Sn	**Sn**	**04 47 35.5**	**+5.2**
	comp=Z,0.1nm,0.3s,baz=318,slow=8.3,SNR=4.0						
KURBB				Lg	Lg	04 48 36.5	
	comp=Z,0.6nm,0.3s,baz=202,slow=30,SNR=7.6						
KURK	**Kurchatov**	**11.08**	**10**	⇓Pn	**Pn**	**04 45 31.4**	**+1.4**
	comp=Z,4.0nm,1.2s						
KURK				⇑Lg	Lg	04 48 43.5	
	comp=Z,65nm,0.9s						
KURK	**Kurchatov**	**11.08**	**10**	⇑*e*P	Pn	04 45 34.1	+4.1
KURK	**Kurchatov**	**11.08**	**10**	Pn	**Pn**	**04 45 27.7**	**-2.3**
KURK				Sn	**Sn**	**04 47 35.5**	**+2.7**
KURK				Lg	Lg	04 48 36.5	
SONA	**Sohna**	**11.65**	**173**	*e*PKP	**Pn**	**04 45 36.7**	**-1.3**
SONA				*e*S	Sn	04 47 36.6	-11
KUDL	**Kundal**	**11.71**	**176**	*e*PKP	**Pn**	**04 45 37.9**	**-0.9**
KUDL				*e*S	Sn	04 47 37.8	-11
KHET	**Khetri**	**11.76**	**179**	*e*PKP	**Pn**	**04 45 38.0**	**-1.4**
KHET				*e*S	Sn	04 47 39.2	-11
AGRA	**Agra**	**12.76**	**170**	*e*PKP	**Pn**	**04 45 50.3**	**-2.8**
AGRA				*e*S	Sn	04 48 01.6	-13
AGRA				AML	AML	04 49 31.6	
	comp=N,125nm,0.7s						
AGRA				AML	AML	04 49 31.8	
	comp=E,92nm,0.2s						
DANN	**Dangsing**	**13.36**	**147**	*e*P	Pn	04 45 57.3	-4.3
	comp=E,32nm

GTA					LR		LR		
	comp=Z,170nm,12.1s								
SHL	**Shillong**	**19.78**	**131**	*e*PKP		**Pn**		**04 47 22.5**	**-1.0**
ARU	**Arti**	**19.97**	**332**	P		**P**		**04 47 21.4**	**-2.0**
ARU								04 47 52.7	
ARU				S		Sn		04 51 44.3	+35
IMP	**Imphal**	**21.59**	**129**	*e*PKP		**P**		**04 47 41.0**	**-0.2**
ZAK	**Zakamensk**	**22.12**	**52**	*e*P		**P**		04 47 52.5	+5.6
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.2s								
LZH	**Lanzhou**	**22.62**	**91**	*e*P		**P**		**04 47 55.0**	**+2.6**
LZH				pP		**pP**		**04 48 01.0**	**+1.1**
LZH				sP		**sP**		**04 48 03.9**	**+0.4**
LZH				ePP		PnPn		04 48 23.1	+6.9
LZH				*e*S		**S**		**04 51 55.4**	**-3.2**
LZH				sS		sS		04 52 04.6	-6.9
LZH				pmax	pmax				
	comp=Z,23nm,1.2s								
LZH				pmax	pmax				
	comp=Z,91nm,4.0s								
LZH				LR		LR			
	comp=N,500nm,13.0s								
LZH				LR		LR			
	comp=E,340nm,13.4s								
LZH				LR		LR			
	comp=Z,510nm,15.5s								
GNI	**Garni**	**23.51**	**281**	*e*P		**P**		**04 48 01.8**	**+0.5**
	comp=Z,4.9nm,0.4s								
GNI	**Garni**	**23.51**	**281**	P		**P**		**04 48 02.7**	**+1.3**
	comp=Z,1.9nm,0.3s,baz=119,slow=10,SNR=2.2								
SONM	**Songino Array**	**23.55**	**60**	P		**P**		**04 48 01.0**	**-0.7**
SONM	**Songino Array**	**23.55**	**60**	P		**P**		**04 48 01.0**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=256,slow=9.8,SNR=12								
ULN	**Ulaanbaatar**	**23.99**	**60**	*e*P		**P**		**04 48 04.6**	**-1.2**
	comp=Z,1.9nm,0.8s								
KIV	**Kislovodsk**	**24.66**	**290**	*e*P		**P**		**04 48 12.3**	**+0.3**
KIV				pmax	pmax				
	comp=Z,9.0nm,0.5s								
KIV	**Kislovodsk**	**24.66**	**290**	*e*P		**P**		**04 48 12.3**	**+0.3**
	comp=Z,8.9nm,0.5s								
CMAR	**Chiang Mai Arr**	**29.40**	**130**	P		P		04 48 50.6	-4.0
CMAR	**Chiang Mai Arr**	**29.40**	**130**	P		P		04 48 50.6	-4.0
	comp=Z,0.8nm,0.4s,baz=298,slow=16,SNR=4.0								
BR131	**Keskin Array S**	**31.95**	**283**	*e*P		**P**		**04 49 17.8**	**+0.7**
	comp=Z,1.8nm,0.5s								
BRTR	**Keskin Array B**	**31.95**	**283**	P		**P**		**04 49 18.1**	**+1.0**
BRTR	**Keskin Array B**	**31.95**	**283**	P		**P**		**04 49 18.1**	**+1.0**
	comp=Z,3.1nm,0.5s,baz=98,slow=6.2,SNR=26								
AKASG	**Malin Array Be**	**33.80**	**304**	P		**P**		**04 49 32.7**	**-0.2**
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**33.80**	**304**	P		**P**		**04 49 32.7**	**-0.2**
AKASG	**Malin Array Be**	**33.80**	**304**	P		**P**		**04 49 32.7**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=80,slow=7.7,SNR=4.6								
JOF	**Joensuu**	**34.89**	**326**	*e*P		**P**		**04 49 41.0**	**-1.3**
JOF				pmax	pmax				
	comp=Z,2.0nm,0.5s								
JOF	**Joensuu**	**34.89**	**326**	*e*P		**P**		**04 49 41.0**	**-1.3**
	comp=Z,1.7nm,0.5s								
MLR	**Muntele Rosu**	**36.39**	**296**⇑	*i*P		**P**		**04 49 57.4**	**+1.9**
FINES	**FINESS Array B**	**36.83**	**322**	P		**P**		**04 49 58.7**	**-0.2**
FINES	**FINESS Array B**	**36.83**	**322**	P		**P**		**04 49 58.7**	**-0.2**
	comp=Z,2.6nm,0.4s,baz=113,slow=9.9,SNR=29								
KWP	**Kalwaria Pacla**	**38.00**	**303**	*i*P		**P**		**04 50 10.0**	**+0.7**
ARCES	**ARCESS Array B**	**39.50**	**335**	P		**P**		**04 50 21.2**	**-0.1**
ARCES	**ARCESS Array B**	**39.50**	**335**	P		**P**		**04 50 21.2**	**-0.1**
	comp=Z,3.3nm,0.7s,baz=104,slow=8.9,SNR=16								
NIE	**Niedzica**	**39.60**	**303**	*e*P		**P**		**04 50 23.1**	**+0.6**
NIE	**Niedzica**	**39.60**	**303**	*e*P		**P**		**04 50 23.8**	**+1.3**
NB2	**NORSAR Subarra**	**43.93**	**321**	P		**P**		**04 50 56.2**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=88,slow=8.6								
NOA	**NORSAR Array B**	**43.93**	**321**	P		**P**		**04 50 56.9**	**-0.7**
NOA	**NORSAR Array B**	**43.93**	**321**	P		**P**		**04 50 56.9**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=90,slow=7.6,SNR=3.9								
GERES	**GERESS Array B**	**43.98**	**303**	P		**P**		**04 50 59.2**	**+0.9**
GERES	**GERESS Array B**	**43.98**	**303**	P		**P**		**04 50 59.2**	**+0.9**
	comp=Z,2.3nm,0.6s,baz=77,slow=7.0,SNR=16								
HAU	**Haudompre**	**48.93**	**304**	*e*P		**P**		**04 51 36.5**	**-0.6**
	comp=Z,5.7nm,0.7s								
HAU	**Haudompre**	**48.93**	**304**	*e*P		**P**		**04 51 36.5**	**-0.6**
HAU				pmax	pmax				
	comp=Z,6.0nm,0.7s								
HAU	**Haudompre**	**48.93**	**304**	*e*P		**P**		**04 51 36.5**	**-0.6**
	comp=Z,5.7nm,0.7s								
LPG	**La Plagne**	**49.45**	**300**	*e*P		**P**		**04 51 41.1**	**-0.3**
LPG	**La Plagne**	**49.45**	**300**	*e*P		**P**		**04 51 41.1**	**-0.3**
LPG	**La Plagne**	**49.45**	**300**	*e*P		**P**		**04 51 41.1**	**-0.3**
LPL	**La Plagne**	**49.46**	**300**	*e*P		**P**		**04 51 41.2**	**-0.2**
	comp=Z,3.7nm,0.5s								
LPL	**La Plagne**	**49.46**	**300**	*e*P		**P**		**04 51 41.2**	**-0.2**
LPL				pmax	pmax				
	comp=Z,4.0nm,0.5s								
LPL	**La Plagne**	**49.46**	**300**	*e*P		**P**		**04 51 41.2**	**-0.2**
	comp=Z,3.7nm,0.5s								
MBDF	**Montbardon**	**49.70**	**299**	*e*P		**P**		**04 51 42.9**	**-0.3**
	comp=Z,10nm,0.9s								
MBDF	**Montbardon**	**49.70**	**299**	*e*P		**P**		**04 51 42.9**	**-0.3**
MBDF				pmax	pmax				
	comp=Z,10.0nm,0.9s								
MBDF	**Montbardon**	**49.70**	**299**	*e*P		**P**		**04 51 42.9**	**-0.3**
	comp=Z,10nm,0.9s								
SMRF	**Simiane la Rot**	**50.77**	**299**	*e*P		**P**		**04 51 50.7**	**-0.4**
SMRF	**Simiane la Rot**	**50.77**	**299**	*e*P		**P**		**04 51 50.7**	**-0.4**
VIVF	**Saint-Julien-l**	**51.05**	**300**	*e*P		**P**		**04 51 53.2**	**-0.1**
VIVF	**Saint-Julien-l**	**51.05**	**300**	*e*P		**P**		**04 51 53.2**	**-0.1**
VIVF	**Saint-Julien-l**	**51.05**	**300**	*e*P		**P**		**04 51 53.2**	**-0.1**
ESDC	**Sonseca Array**	**59.03**	**298**	P		**P**		**04 52 50.7**	**-0.3**
ESDC	**Sonseca Array**	**59.03**	**298**	P		**P**		**04 52 50.7**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=62,slow=7.3,SNR=7.0								
TORD	**Torodi Ar. Bea**	**69.30**	**270**	P		**P**		**04 53 58.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**69.30**	**270**	P		**P**		**04 53 58.2**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=47,slow=5.4,SNR=21								
ILAR	**Eielson Array**	**70.54**	**18**	P		**P**		**04 54 04.6**	**-0.9**
ILAR	**Eielson Array**	**70.54**	**18**	P		**P**		**04 54 04.6**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=314,slow=4.7,SNR=2.8								
YKA	**Yellowknife Ar**	**77.67**	**5**	P		**P**		**04 54 46.0**	**-1.1**
YKA	**Yellowknife Ar**	**77.67**	**5**	P		**P**		**04 54 46.0**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=348,slow=5.7,SNR=31								
WRA	**Warramunga Arr**	**80.90**	**125**	P		**P**		**04 55 03.9**	**-1.4**
WRA	**Warramunga Arr**	**80.90**	**125**	P		**P**		**04 55 03.9**	**-1.4**
	comp=Z,1.7nm,0.6s,baz=322,slow=4.8,SNR=11								
WRAB	**Tennant Creek**	**80.90**	**125**	*e*P		**P**		**04 55 03.6**	**-1.7**
WRAB				pmax	pmax				
	comp=Z,2.0nm,0.5s								
WRAB	**Tennant Creek**	**80.90**	**125**	*e*P		**P**		**04 55 03.5**	**-1.7**
	comp=Z,2.0nm,0.5s								
ASAR	**Alice Springs**	**83.40**	**128**	P		**P**		**04 55 16.9**	**-1.5**
ASAR	**Alice Springs**	**83.40**	**128**	P		**P**		**04 55 16.9**	**-1.5**
	comp=Z,2.1nm,0.7s,baz=320,slow=5.5,SNR=14								

*ISCJB **17** 04:45:25.3±0.7, 40°.38N±0°.02×25°.72E±0°.04, h10km±4km, Error ellipse: s-maj=4.9km s-min=4.1km az=24.8*
*ATH **17** 04:45:25.8, 40°.39N×25°.78E, h26km±1km, MD3.3/6*
*ISK **17** 04:45:26.4, 40°.36N×25°.84E, h7km, MD3.1*
*DDA **17** 04:45:26.0, 40°.38N×25°.83E, h6km, MD3.0*
*CSEM **17** 04:45:26.0±0.2, 40°.37N×25°.76E, h8km, MD3.1, Error ellipse: s-maj=4.1km s-min=3.5km az=119.0*

ISC 17 04:45:26.3±1.0, 40°.38N±0°.02×25°.78E±0°.02, h14km±9km, n61, σ0°73/88, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENEZ	**Enez**	**0.46**	**38**	*e*PG	**Pg**	**04 45 35.5**	**+0.1**
ENEZ				*e*SG	**Sb**	**04 45 42.6**	**-0.1**
ENEZ	**Enez**	**0.46**	**38**	*e*Pg	**Pg**	**04 45 35.5**	**+0.1**
ENEZ				*e*Sg	**Sb**	**04 45 42.6**	**-0.1**
ALN	**Alexandroupoli**	**0.56**	**21**	*e*PN	**Pg**	**04 45 37.2**	**-0.1**
ALN				*e*SN	**Sg**	**04 45 44.8**	**+0.1**
ALN	**Alexandroupoli**	**0.56**	**21**	*e*Pn	**Pg**	**04 45 37.2**	**-0.1**
ALN				*e*Sn	**Sg**	**04 45 44.8**	**+0.1**
BOZC	**Bozcaada**	**0.57**	**159**	*i*P	**Pg**	**04 45 37.7**	**+0.2**
BOZC				*i*S	**Sb**	**04 45 45.7**	**-0.3**
ERIK	**Erikli-Kesan**	**0.63**	**62**	*e*PG	**Pg**	**04 45 38.2**	**-0.4**
ERIK				*e*SG	**Sg**	**04 45 46.9**	**0.0**
ERIK	**Erikli-Kesan**	**0.63**	**62**	*e*Pg	**Pg**	**04 45 38.2**	**-0.4**
ERIK				*e*Sg	**Sg**	**04 45 46.9**	**0.0**
LIA	**Limnos Island**	**0.66**	**224**	*e*PN	**Pb**	**04 45 39.6**	**0.0**
LIA				*e*SN	**Sb**	**04 45 48.7**	**+0.1**
LIA	**Limnos Island**	**0.66**	**224**	*e*Pn	**Pb**	**04 45 39.6**	**0.0**
LIA				*e*Sn	**Sb**	**04 45 48.7**	**+0.1**
LPK	**Lapseki**	**0.74**	**90**	*e*PG	**Pg**	**04 45 40.9**	**+0.1**
LPK				*e*SG	**Sb**	**04 45 50.9**	**-0.1**
LPK	**Lapseki**	**0.74**	**90**	*e*Pg	**Pg**	**04 45 40.9**	**+0.1**
LPK				*e*Sg	**Sb**	**04 45 50.9**	**-0.1**
RDO	**Rodhopi**	**0.79**	**346**	*e*PN	**Pg**	**04 45 41.6**	**-0.1**
RDO				*e*SN	**Sg**	**04 45 51.9**	**-0.2**
RDO	**Rodhopi**	**0.79**	**346**	*e*Pn	**Pg**	**04 45 41.6**	**-0.1**
RDO				*e*Sn	**Sg**	**04 45 51.9**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.11**	**73**	*e*PG	**Pn**	**04 45 47.5**	**+0.1**
RKY				*e*SG	**Sg**	**04 46 02.3**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.11**	**73**	*e*Pg	**Pn**	**04 45 47.5**	**+0.1**
RKY				*e*Sg	**Sg**	**04 46 02.3**	**+0.2**
SART	**Tekirdag**	**1.11**	**73**	*i*P	**Pb**	**04 45 46.9**	**-0.3**
SART				*i*S	**Sb**	**04 46 00.8**	**-0.7**
SART	**Tekirdag**	**1.11**	**73**	*i*P	**Pb**	**04 45 46.9**	**-0.3**
SART				*i*S	**Sb**	**04 46 00.8**	**-0.7**
KRBG	**Karabiga-Canak**	**1.16**	**89**	*e*PN	**Pn**	**04 45 47.8**	**-0.1**
KRBG	**Karabiga-Canak**	**1.16**	**89**	*e*Pn	**Pn**	**04 45 47.8**	**-0.1**
PRK	**Paraskevi**	**1.19**	**161**	*e*PN	**Pb**	**04 45 48.7**	**+0.2**
PRK				*e*SN	**Sg**	**04 46 04.9**	**+0.2**
PRK	**Paraskevi**	**1.19**	**161**	*e*Pn	**Pb**	**04 45 48.7**	**+0.2**
PRK				*e*Sn	**Sg**	**04 46 04.9**	**+0.2**
MFT	**Murefte**	**1.21**	**70**	*e*PN	**Pb**	**04 45 48.9**	**-0.1**
MFT	**Murefte**	**1.21**	**70**	*e*Pn	**Pb**	**04 45 48.9**	**-0.1**
AYVA	**Ayvalik**	**1.27**	**147**	*i*P	**Pn**	**04 45 49.5**	**0.0**
AYVA				*i*S	**Sb**	**04 46 04.3**	**-1.9**
AYVA	**Ayvalik**	**1.27**	**147**	*i*P	**Pn**	**04 45 49.6**	**0.0**
AYVA				*i*S	**Sb**	**04 46 04.3**	**-1.9**
TKR	**Tekirdag**	**1.47**	**65**	*e*PN	**Pb**	**04 45 53.4**	**+0.1**
TKR				*e*SN	**Sg**	**04 46 13.5**	**0.0**
TKR	**Tekirdag**	**1.47**	**65**	*e*Pn	**Pb**	**04 45 53.4**	**+0.1**
TKR				*e*Sn	**Sg**	**04 46 13.5**	**0.0**
GONE	**Gonen-Balikesi**	**1.49**	**102**	*e*PN	**Pb**	**04 45 53.8**	**+0.1**
GONE	**Gonen-Balikesi**	**1.49**	**102**	*e*Pn	**Pb**	**04 45 53.8**	**+0.1**
BALY	**Balya**	**1.54**	**114**	*i*P	**Pb**	**04 45 54.3**	**-0.3**
BALY				*i*S	**Sg**	**04 46 16.1**	**0.0**
BALY	**Balya**	**1.54**	**114**	*i*P	**Pb**	**04 45 54.3**	**-0.3**
BALY				*i*S	**Sg**	**04 46 16.1**	**0.0**
EDC	**Edincik**	**1.59**	**90**	*e*PN	**Pb**	**04 45 55.0**	**-0.4**
EDC	**Edincik**	**1.59**	**90**	*e*Pn	**Pb**	**04 45 55.0**	**-0.4**
BNT	**Bandirma**	**1.63**	**90**	*e*PN	**Pn**	**04 45 55.2**	**+0.7**
BNT	**Bandirma**	**1.63**	**90**	*e*Pn	**Pn**	**04 45 55.2**	**+0.7**
EDRB	**Edirne**	**1.64**	**26**	*e*PN	**Pb**	**04 45 56.3**	**+0.1**
EDRB	**Edirne**	**1.64**	**26**	*e*Pn	**Pb**	**04 45 56.3**	**+0.1**
CRLT	**Corlu**	**1.66**	**62**	*e*PN	**Pb**	**04 45 56.3**	**-0.3**
CRLT	**Corlu**	**1.66**	**62**	*e*Pn	**Pb**	**04 45 56.3**	**-0.3**
NVR	**Nevrokopi**	**1.75**	**304**	*e*PN	**Pn**	**04 45 56.4**	**+0.2**
NVR	**Nevrokopi**	**1.75**	**304**	*e*Pn	**Pn**	**04 45 56.4**	**+0.2**
PLG	**Polygyros**	**1.79**	**271**	*e*PB	**Pn**	**04 45 56.8**	**+0.1**
PLG	**Polygyros**	**1.79**	**271**	*e*Pb	**Pn**	**04 45 56.8**	**+0.1**
KCTX	**Karacabey (Bur**	**1.97**	**92**	*e*PN	**Pn**	**04 46 00.0**	**+0.8**
KCTX	**Karacabey (Bur**	**1.97**	**92**	*e*Pn	**Pn**	**04 46 00.0**	**+0.8**
SLVT	**Silivri**	**2.03**	**64**	*e*PN	**Pn**	**04 46 01.4**	**+1.4**
SLVT	**Silivri**	**2.03**	**64**	*e*Pn	**Pn**	**04 46 01.4**	**+1.4**
ELBA	**Catalca**	**2.15**	**68**	*i*P	**Pn**	**04 46 01.7**	**0.0**
ELBA				*i*S	**Sn**	**04 46 28.2**	**0.0**
ELBA	**Catalca**	**2.15**	**68**	*i*P	**Pn**	**04 46 01.7**	**0.0**
ELBA				*i*S	**Sn**	**04 46 28.2**	**0.0**
CTYL	**Yal??k??y-??at**	**2.19**	**59**	*e*PN	**Pb**	**04 46 04.0**	**-1.7**
CTYL	**Yal??k??y-??at**	**2.19**	**59**	*e*Pn	**Pb**	**04 46 04.0**	**-1.7**
CTKS	**Kestanelik-??a**	**2.24**	**67**	*e*PN	**Pn**	**04 46 04.5**	**+1.7**
CTKS	**Kestanelik-??a**	**2.24**	**67**	*e*Pn	**Pn**	**04 46 04.5**	**+1.7**
DST	**Dursunbey**	**2.31**	**109**	*e*PN	**Pn**	**04 46 04.8**	**+0.9**
DST	**Dursunbey**	**2.31**	**109**	*e*Pn	**Pn**	**04 46 04.8**	**+0.9**
ARMT	**Armutlu**	**2.35**	**84**	*e*PN	**Pn**	**04 46 06.1**	**+1.6**
ARMT	**Armutlu**	**2.35**	**84**	*e*Pn	**Pn**	**04 46 06.1**	**+1.6**
MDNY	**Mudanya-Bursa**	**2.37**	**89**	*e*PN	**Pn**	**04 46 06.1**	**+1.5**
MDNY	**Mudanya-Bursa**	**2.37**	**89**	*e*Pn	**Pn**	**04 46 06.1**	**+1.5**
BGKT	**Bogazkoy**	**2.41**	**70**	*e*PN	**Pn**	**04 46 06.9**	**+1.7**
BGKT	**Bogazkoy**	**2.41**	**70**	*e*Pn	**Pn**	**04 46 06.9**	**+1.7**

IDC 17 04:46:04.7±1.6, 4°.44N×123°.04E, h614km±20km, mb3.3/15, mb1 3.4/15, mb1mx3.3/24, mbtmp3.3/15, Error ellipse: s-maj=30.1km s-min=8.0km az=67.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.66**	**156**	P	P	04 50 56.1	-0.8
	4.3nm,0.2s,baz=338,slow=10,SNR=311						
WRA				PcP	PcP	04 54 00.2	+0.7
	0.4nm,0.4s,baz=330,slow=2.9,SNR=7.2						
WRA				S	S	04 54 47.4	-3.3
	0.8nm,0.5s,baz=335,slow=16,SNR=7.0						
CMAR	**Chiang Mai Arr**	**27.36**	**303**	P	P	04 51 04.8	+1.7
	0.5nm,0.3s,baz=64,slow=4.1,SNR=4.0						
ASAR	**Alice Springs**	**29.88**	**160**	P	P	04 51 25.4	+0.5
	1.7nm,0.4s,baz=340,slow=6.9,SNR=36						
ASAR				PcP	PcP	04 54 08.5	+0.8
	0.6nm,0.5s,baz=335,slow=3.2,SNR=5.7						
ASAR				S	S	04 55 39.4	-1.2
	3.1nm,0.9s,baz=348,slow=19,SNR=16						
ASAR				ScP	ScP	04 56 54.2	+1.6
	1.2nm,0.6s,baz=340,slow=3.1,SNR=7.7						
NWAO	**Narrogin (SRO)**	**37.57**	**188**	P	P	04 52 28.9	+0.1
	7.0nm,0.9s,baz=34,slow=7.3,SNR=3.4						
STKA	**Stephens Creek**	**40.21**	**155**	P	P	04 52 51.1	+1.1
	1.5nm,0.5s,baz=348,slow=8.8,SNR=5.1						
USRK	**Ussuriysk Arra**	**40.38**	**10**	P	P	04 52 52.1	+1.1
	0.5nm,0.3s,baz=158,slow=24,SNR=4.2						
SONM	**Songino Array**	**45.54**	**344**	P	P	04 53 31.2	-0.1
	1.1nm,0.7s,baz=155,slow=9.3,SNR=9.8						
SONM				PcP	PcP	04 54 56.9	+0.4
	0.4nm,0.5s,baz=172,slow=2.6,SNR=4.0						
MKAR	**Makanchi Array**	**54.91**	**327**	P	P	04 54 39.3	+0.1
	3.4nm,0.3s,baz=122,slow=7.4,SNR=85						
MKAR				PcP	PcP	04 55 31.0	-0.5
	1.7nm,0.6s,baz=130,slow=4.1,SNR=8.5						
ZALV	**Zalesovo Beam**	**58.33**	**335**	P	P	04 55 01.4	-0.9
	1.0nm,0.4s,baz=135,slow=7.1,SNR=7.2						
KURBB	**Kurchatov Arra**	**59.19**	**329**	P	P	04 55 07.6	-0.5
	3.7nm,0.6s,baz=128,slow=6.3,SNR=40						
BVAR	**Borovoye Array**	**64.74**	**328**	P	P	04 55 43.6	-0.3
	1.1nm,0.6s,baz=134,slow=8.5,SNR=5.8						
AKTO	**Aktyubinsk**	**70.83**	**322**	P	P	04 56 21.0	+0.1
	2.3nm,0.4s,baz=111,slow=7.2,SNR=9.8						
ILAR	**Eielson Array**	**86.05**	**25**	P	P	04 57 41.0	-0.4
	0.4nm,0.6s,baz=253,slow=4.8,SNR=9.2						
ARCES	**ARCESS Array B**	**88.51**	**340**	P	P	04 57 52.0	-0.7
	3.8nm,1.0s,baz=68,slow=4.3,SNR=6.0						
FINES	**FINESS Array B**	**89.46**	**332**	P	P	04 57 55.8	-1.5
	1.2nm,0.6s,baz=37,slow=4.8,SNR=6.6						
TORD	**Torodi Ar. Bea**	**119.20**	**288**	PKP	PKPdf	05 03 45.8	-0.4
	0.4nm,0.3s,baz=85,slow=1.5,SNR=14						
SCHQ	**Schefferville**	**120.37**	**7**	PKP	PKPdf	05 03 48.0	+0.6
	1.5nm,1.0s,baz=273,slow=13,SNR=5.6						

*ATH **17** 04:48:33.9, 37°.11N×20°.70E, h9km±2km, MD3.4/11*
*CSEM **17** 04:48:34.3±0.7, 37°.13N×20°.75E, h12km, ML2.7/6, Error ellipse: s-maj=12.2km s-min=5.1km az=47.0*

THE 17 04:48:35.5, 37°.21N×20°.83E, h5km, ML2.7/6, Error ellipse: s-maj=0.9km s-min=0.3km az=230.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.80**	**113**	P	Pg	04 48 50.1	-0.7
PYL				S	Sb	04 49 02.1	-0.8
PYL	**PYLOS**	**0.80**	**113**	*e*PG	Pg	04 48 50.1	-0.7
PYL				*e*SB	Sb	04 49 02.7	-0.2
PYL	**PYLOS**	**0.80**	**113**	P	Pg	04 48 50.1	-0.7
PYL				S	Sb	04 49 02.1	-0.8
PYL				*e*Sb	Sg	04 49 02.7	+1.6
ITM	**Ithomi**	**0.88**	**91**	P	Pg	04 48 51.8	-0.6
ITM				S	Sb	04 49 05.0	-0.4
ITM	**Ithomi**	**0.88**	**91**	*e*PG	Pg	04 48 51.9	-0.5
ITM				*e*SB	Sb	04 49 06.1	+0.7
ITM	**Ithomi**	**0.88**	**91**	P	Pg	04 48 51.8	-0.6
ITM				S	Sb	04 49 05.0	-0.4
ITM				*e*Sb	Sn	04 49 06.1	-1.7
KFL	**Anninata**	**0.90**	**358**	P	Pg	04 48 52.4	-0.5
KFL				S	Sb	04 49 05.7	-0.4
KFL	**Anninata**	**0.90**	**358**	P	Pg	04 48 52.4	-0.5
KFL				S	Sb	04 49 05.7	-0.4
VLS	**Valsamata**	**0.99**	**349**	P	Pg	04 48 53.9	-0.6
VLS				S	Sb	04 49 08.3	-0.3
VLS	**Valsamata**	**0.99**	**349**	*e*PG	Pg	04 48 53.7	-0.8
VLS				*e*SB	Sn	04 49 09.9	-0.6
VLS	**Valsamata**	**0.99**	**349**	P	Pg	04 48 53.9	-0.6
VLS				S	Sb	04 49 08.3	-0.3
VLS				*e*Sb	Sn	04 49 09.9	-0.6
RLS	**Riolos of Patr**	**0.99**	**31**	P	Pg	04 48 54.2	-0.4
RLS				S	Sb	04 49 08.2	-0.4
RLS	**Riolos of Patr**	**0.99**	**31**	*e*Pg	Pg	04 48 54.8	+0.2
RLS				S	Sb	04 49 08.2	-0.4
RLS				*e*SB	Sn	04 49 10.5	0.0
RLS	**Riolos of Patr**	**0.99**	**31**	*e*Pg	Pg	04 48 54.8	+0.2
RLS				S	Sb	04 49 08.2	-0.4
RLS				*e*Sb	Sn	04 49 10.5	0.0
LAKA	**Lakka**	**1.38**	**41**	P	Pn	04 49 00.4	-1.1
LAKA				S	Sg	04 49 20.1	+0.1
LAKA	**Lakka**	**1.38**	**41**	P	Pn	04 49 00.4	-1.1
LAKA				S	Sg	04 49 20.1	+0.1
GUR	**Goura**	**1.41**	**58**	P	Pn	04 49 00.7	-1.3
GUR				S	Sb	04 49 20.8	-0.1
GUR	**Goura**	**1.41**	**58**	*e*PG	Pn	04 49 01.8	-0.2
GUR	**Goura**	**1.41**	**58**	P	Pn	04 49 00.7	-1.3
GUR	**Goura**	**1.41**	**58**	*e*Pg	Pn	04 49 01.8	-0.2
GUR				S	Sb	04 49 20.8	-0.1
EFP	**Efpalio**	**1.49**	**35**	P	Pn	04 49 02.0	-1.0
EFP	**Efpalio**	**1.49**	**35**	*e*PB	Pg	04 49 05.1	+1.0
EFP	**Efpalio**	**1.49**	**35**	P	Pn	04 49 02.0	-1.0
EFP	**Efpalio**	**1.49**	**35**	*e*Pb	Pg	04 49 05.1	+1.0
TRIZ	**Trizonia**	**1.52**	**40**	P	Pn	04 49 02.6	-0.8
TRIZ				S	Sn	04 49 23.6	0.0
TRIZ	**Trizonia**	**1.52**	**40**	P	Pn	04 49 02.6	-0.8
TRIZ				S	Sn	04 49 23.6	0.0
KALE	**Kalithea**	**1.58**	**41**	P	Pn	04 49 03.3	-1.0
KALE				S	Sn	04 49 24.7	-0.4
KALE	**Kalithea**	**1.58**	**41**	P	Pn	04 49 03.3	-1.0
KALE				S	Sn	04 49 24.7	-0.4
LKD2	**Lefkada island**	**1.59**	**355**	P	Pn	04 49 03.6	-0.8
LKD2				S	Sn	04 49 25.4	+0.1
LKD2	**Lefkada island**	**1.59**	**355**	*e*PB	Pb	04 49 05.7	+0.3
LKD2				*e*SB	Sg	04 49 28.1	+1.4
LKD2	**Lefkada island**	**1.59**	**355**	P	Pn	04 49 03.6	-0.8
LKD2	**Lefkada island**	**1.59**	**355**	*e*Pb	Pb	04 49 05.7	+0.3
LKD2				S	Sn	04 49 25.4	+0.1
LKD2				*e*Sb	Sg	04 49 28.1	+1.4
VLI	**Veliai**	**1.76**	**105**	*e*PG	Pb	04 49 08.0	-0.3
VLI				*e*SN	Sg	04 49 32.8	+0.7
VLI	**Veliai**	**1.76**	**105**	*e*Pg	Pb	04 49 08.0	-0.3
LTK	**Loutraki**	**1.89**	**64**	*e*PN	Pb	04 49 09.5	-1.0
LTK	**Loutraki**	**1.89**	**64**	*e*Pn	Pb	04 49 09.5	-1.0
**D

MFT	**Murefte**	**2.14**	**321**	*e*Pn	**Pb**	**04 52 00.4**	**-0.9**
CTKS	**Kestanelik-??a**	**2.15**	**349**	*e*PN	**Pb**	**04 52 00.0**	**-1.3**
CTKS	**Kestanelik-??a**	**2.15**	**349**	*e*Pn	**Pb**	**04 52 00.0**	**-1.3**
LPK	**Lapseki**	**2.16**	**306**	*e*PN	**Pb**	**04 52 00.5**	**-1.0**
LPK	**Lapseki**	**2.16**	**306**	*e*Pn	**Pb**	**04 52 00.5**	**-1.0**

ISK **17** *04:55:54.3, 37.60N×35.71E, h18km, MD2.5*
CSEM **17** *04:55:54.3±0.4, 37.62N×35.61E, h10km, MD2.5, Error ellipse: s-maj=9.2km s-min=7.7km az=95.0*
DDA **17** *04:55:55.8, 37.65N×35.54E, h7km, MD2.8*
ISC 17 04:55:54.6±1.2, **37.61N**±0.04×**35.61E**±0.03, **h8km**±10km, **n14**, σ1**9**11/22, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.22**	**126**	*e*PG	**Pg**	**04 55 59.3**	**+0.3**
KOZT				*e*SG	**Sg**	**04 56 01.5**	**-0.4**
KOZT	**Kozan**	**0.22**	**126**	*e*Pg	**Pg**	**04 55 59.3**	**+0.3**
KOZT				*e*Sg	**Sg**	**04 56 01.5**	**-0.4**
ANDN	**Andirin**	**0.59**	**92**	*i* P	**Pn**	**04 56 09.6**	**+0.2**
ANDN				*i* S	**Sn**	**04 56 18.6**	**-0.7**
ANDN	**Andirin**	**0.59**	**92**	*i* P	**Pn**	**04 56 09.6**	**+0.2**
CEYT	**Ceyhan**	**0.61**	**169**	*e*PG	**Pg**	**04 56 06.4**	**+0.1**
CEYT				*e*SG	**Sg**	**04 56 15.2**	**+1.0**
CEYT	**Ceyhan**	**0.61**	**169**	*e*Pg	**Pg**	**04 56 06.4**	**+0.1**
CEYT				*e*Sg	**Sg**	**04 56 15.2**	**+1.0**
GULE	**Gulek**	**0.73**	**244**	*i* P	**Pg**	**04 56 08.8**	**0.0**
GULE				*i* S	**Sn**	**04 56 23.1**	**+0.1**
GULE	**Gulek**	**0.73**	**244**	*i* P	**Pg**	**04 56 08.8**	**0.0**
GULE				*i* S	**Sn**	**04 56 23.1**	**+0.1**
KMRS	**Kahramanmaras**	**1.03**	**95**	*e*PG	**Pg**	**04 56 13.4**	**-1.1**
KMRS	**Kahramanmaras**	**1.03**	**95**	*e*Pg	**Pg**	**04 56 13.4**	**-1.1**
PINB	**Pinarbasi**	**1.24**	**30**	*i* P	**Pg**	**04 56 19.0**	**+0.6**
PINB				*i* S	**Sn**	**04 56 38.9**	**+3.3**
PINB	**Pinarbasi**	**1.24**	**30**	*i* P	**Pg**	**04 56 19.0**	**+0.6**
BNN	**Bunyan**	**1.26**	**9**	*e*PN	**Pn**	**04 56 17.0**	**-1.6**
BNN	**Bunyan**	**1.26**	**9**	*e*Pn	**Pn**	**04 56 17.0**	**-1.6**

IDC **17** *05:09:41.5±0.7, 3.78N×126.63E, h0km, mb4.2/16, mb1 4.3/16, mb1mx4.2/21, mbtmp4.2/16, MS3.2/1, Ms1 3.2/1, ms1mx2.3/39, Error ellipse: s-maj=31.4km s-min=15.8km az=73.0*
DJA **17** *05:09:45.9±2.3, 4.1N×15.1°×12.7E×1.8, h51km±57km, M4.7/4, mb4.7/4, mB5.2/1, MLv4.7/4, Mw(mB)4.5/1*
NEIC **17** *05:09:46.7±0.3, 3.75N×126.67E, h35km, mb4.5/8, Error ellipse: s-maj=14.0km s-min=6.6km az=71.0*
ISCJB **17** *05:09:49.9±1.3, 3.79N±0.06×126.79E±0.10, h83km±11km, mb4.1/23, Error ellipse: s-maj=17.3km s-min=9.2km az=159.7*
ISC 17 05:09:50.5±1.7, **3.83N**±0.07×**126.8E**±0.1, **h70km**±15km, **n53**, σ1**9**11/57, **mb4.3**/22, **1C**, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**3.06**	**219**	P	**Pn**	**05 10 39.1**	**+2.5**
TNTI	**Ternate**	**3.09**	**169**	P	**Pn**	**05 10 36.1**	**-1.0**
CTBH	**Cotabato--PC H**	**4.21**	**323**	*e*P	**Pn**	**05 10 53.6**	**+1.3**
MRSI	**Marisa** 87nm,0.9s,0.3nm	**5.87**	**236**	P	**Pn**	**05 11 16.4**	**+1.4**
LUWI	**Luwuk** 113nm,1.1s,2μm0.5nm	**6.28**	**220**	P	Pn	05 11 24.7	+4.1
MYLDM	**Lahad Datu** 41nm,1.0s	**8.36**	**280**	P	**Pn**	**05 11 49.2**	**+0.1**
TTSI	**Tana Toraja**	**9.75**	**226**	P	**Pn**	**05 12 09.8**	**+1.8**
KAPI	**Kappang** comp=Z,107nm,18.1s,baz=314,slow=40	**11.24**	**219**	LR	LR	05 17 07.9	
FITZ	**Fitzroy Crossi** 4.0nm,0.8s	**21.82**	**183**	*e*P	**P**	**05 14 35.5**	**-1.7**
FITZ	**Fitzroy Crossi** 3.6nm,0.7s,baz=1.7,slow=9.3,SNR=6.2	**21.82**	**183**	P	**P**	**05 14 35.7**	**-1.4**
WRAB	**Tennant Creek** 15nm,1.0s	**24.76**	**163**	*e*P	**P**	**05 15 04.6**	**-1.3**
WRA	**Warramunga Arr**	**24.76**	**163**	P	**P**	**05 15 04.6**	**-1.3**
WRA	**Warramunga Arr** 12nm,0.9s,baz=343,slow=10,SNR=62	**24.76**	**163**	P	**P**	**05 15 04.6**	**-1.3**
PSI	**Prapat**	**27.83**	**269**	P	**P**	**05 15 32.6**	**-1.1**
PSI	**Prapat** 3.6nm,0.7s,baz=55,slow=7.8,SNR=4.3	**27.83**	**269**	P	**P**	**05 15 32.6**	**-1.1**
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**	**05 15 35.5**	**-1.4**
ASAR	**Alice Springs** 0.6nm,0.6s,baz=349,slow=7.8,SNR=5.2	**28.20**	**166**	P	**P**	**05 15 35.4**	**-1.4**
CMAR	**Chiang Mai Arr**	**30.87**	**300**	P	**P**	**05 15 59.2**	**-1.3**
CMAR	**Chiang Mai Arr** 0.9nm,0.3s,baz=124,slow=7.9,SNR=7.3	**30.87**	**300**	P	**P**	**05 15 59.2**	**-1.3**
ENH	**Enshi** 7.6nm,0.6s	**30.97**	**330**	*e*P	**P**	**05 16 00.5**	**-0.8**
KSAR	**Wonju Array Be**	**33.47**	**2**	P	**P**	**05 16 24.2**	**+1.2**
KSRS	**Korea Array** 0.9nm,0.5s,baz=183,slow=9.0,SNR=3.5	**33.48**	**2**	P	**P**	**05 16 24.2**	**+1.1**
SHL	**Shillong**	**39.86**	**306**	*e*PKP	**P**	**05 17 18.0**	**+0.2**
LSA	**Lhasa** 5.5nm,0.6s	**42.41**	**311**	*e*P	**P**	**05 17 39.5**	**+0.4**
SONM	**Songino Array**	**47.22**	**341**	P	**P**	**05 18 16.4**	**-0.2**
SONM				PcP	**PcP**	**05 19 49.0**	**+2.0**
SONM	**Songino Array** 0.9nm,0.6s,baz=154,slow=8.6,SNR=11	**47.22**	**341**	P	**P**	**05 18 16.4**	**-0.2**
SONM				PcP	**PcP**	**05 19 49.0**	**+2.0**
MK31	**Makanchi Array** 1.3nm,0.7s,baz=158,slow=4.2,SNR=6.6	**57.50**	**325**	*e*P	**P**	**05 19 32.0**	**-0.6**
MKAR	**Makanchi Array**	**57.50**	**325**	P	**P**	**05 19 32.3**	**-0.3**
MKAR				PcP	**PcP**	**05 20 24.8**	**-0.7**
MKAR	**Makanchi Array** 2.3nm,0.6s,baz=116,slow=7.7,SNR=50	**57.50**	**325**	P	**P**	**05 19 32.3**	**-0.3**
MKAR				PcP	**PcP**	**05 20 24.8**	**-0.7**
ZALV	**Zalesovo Beam** 1.6nm,0.8s,baz=137,slow=3.8,SNR=4.7	**60.52**	**333**	P	**P**	**05 19 52.3**	**-1.1**
ZALV				PcP	**PcP**	**05 20 37.8**	**+0.5**
ZALV	**Zalesovo Beam** 1.6nm,0.4s,baz=136,slow=6.6,SNR=11	**60.52**	**333**	P	**P**	**05 19 52.3**	**-1.1**
ZALV				PcP	**PcP**	**05 20 37.8**	**+0.5**
KURK	**Kurchatov** 4.8nm,0.6s	**61.69**	**327**	*e*P	**P**	**05 20 00.6**	**-0.6**
KKAR	**Karatay Array** 3.8nm,0.9s	**63.19**	**317**	*e*P	**P**	**05 20 11.6**	**+0.1**
ABKAR	**Akbulak array** 0.9nm,0.5s	**72.11**	**321**	*e*P	**P**	**05 21 08.0**	**+0.4**
ILAR	**Eielson Array**	**84.99**	**25**	P	**P**	**05 22 19.4**	**+1.3**
ILAR	**Eielson Array** 0.6nm,1.0s,baz=231,slow=6.7,SNR=3.8	**84.99**	**25**	P	**P**	**05 22 19.4**	**+1.3**
KMBO	**Kilima Mbogo** 4.3nm,1.1s	**89.60**	**269**	*e*P	**P**	**05 22 42.1**	**+0.4**
BRTR	**Keskin Array B**	**90.00**	**310**	P	**P**	**05 22 42.7**	**-0.2**
BRTR	**Keskin Array B** 1.5nm,0.9s,baz=131,slow=5.7,SNR=6.5	**90.00**	**310**	P	**P**	**05 22 42.7**	**-0.2**
ARCES	**ARCESS Array B**	**90.37**	**340**	P	**P**	**05 22 43.6**	**-0.2**
ARCES	**ARCESS Array B** 2.9nm,0.7s,baz=89,slow=7.3,SNR=8.0	**90.37**	**340**	P	**P**	**05 22 43.6**	**-0.2**
FINES	**FINESS Array B**	**91.77**	**332**	P	**P**	**05 22 50.7**	**+0.3**
FINES	**FINESS Array B** 0.8nm,0.5s,baz=64,slow=3.2,SNR=3.2	**91.77**	**332**	P	**P**	**05 22 50.7**	**+0.3**
AKASG	**Malin Array Be**	**91.85**	**321**	P	**P**	**05 22 50.8**	**-0.3**
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=79,slow=3.5,SNR=4.9	**91.85**	**321**	P	**P**	**05 22 50.8**	**-0.3**
NOA	**NORSAR Array B**	**98.72**	**334**	P	**P**	**05 23 21.5**	**-0.7**
NOA	**NORSAR Array B** 0.8nm,0.8s,baz=66,slow=4.9,SNR=3.6	**98.72**	**334**	P	**P**	**05 23 21.5**	**-0.7**
YKA	**Yellowknife Ar**	**99.39**	**24**	P	**Pdif**	**05 23 25.6**	**+0.6**
YKA	**Yellowknife Ar** 0.1nm,0.6s,baz=292,slow=3.9,SNR=3.4	**99.39**	**24**	P	**Pdif**	**05 23 25.6**	**+0.6**
TXAR	**Lajitas Array**	**121.50**	**52**	PKP	**PKPdf**	**05 28 39.1**	**+2.1**
TXAR	**Lajitas Array** 0.7nm,1.0s,baz=212,slow=3.2,SNR=4.1	**121.50**	**52**	PKP	**PKPdf**	**05 28 39.1**	**+2.1**
TORD	**Torodi Ar. Bea**	**122.94**	**288**	PKP	**PKPdf**	**05 28 40.7**	**+0.8**
TORD	**Torodi Ar. Bea** 1.1nm,0.6s,baz=76,slow=1.9,SNR=13	**122.94**	**288**	PKP	**PKPdf**	**05 28 40.7**	**+0.8**

ISCJB **17** *05:28:10.0±0.9, 51.43N±0.05×16.07E±0.04, h0km, Error ellipse: s-maj=6.9km s-min=3.3km az=11.3*
WAR **17** *05:28:10.4, 51.54N×16.07E*
PRU **17** *05:28:12.4, 51.40N×16.10E, h0km*
CSEM **17** *05:28:12.9±0.7, 51.35N×16.03E, h2km, ML2.8/6, Error ellipse: s-maj=11.7km s-min=6.1km az=14.0*
ISC 17 05:28:12.8±1.3, **51.40N**±0.06×**16.07E**±0.03, **h0km**, **n23**, σ0**59**/41, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.57**	**165**	*e*Pg	**Pg**	**05 28 23.1**	**-0.6**
KSP				*e*Sg	**Sg**	**05 28 32.0**	**+1.0**
KSP	**Ksiaz**	**0.57**	**165**	*e*Pg	**Pg**	**05 28 23.6**	**-0.1**
KSP				*e*Sg	**Sg**	**05 28 32.3**	**+1.3**
UPC	**Upice**	**0.89**	**182**	*e*PG	**Pg**	**05 28 29.7**	**-0.1**
UPC	**Upice**	**0.89**	**182**	Pg	**Pg**	**05 28 29.7**	**-0.1**
DPC	**Dobruska-Polom**	**1.06**	**171**	*e*PG	**Pg**	**05 28 32.5**	**-0.5**
DPC				*e*SG	**Sg**	**05 28 47.0**	**+0.3**
DPC	comp=Z,9.2nm,0.4s **Dobruska-Polom**	**1.06**	**171**	Pg	**Pg**	**05 28 32.5**	**-0.5**
DPC				Sg	**Sg**	**05 28 47.0**	**+0.3**
PVCC	9.2nm,0.4s **Panska Ves**	**1.28**	**228**	*e*PG	**Pg**	**05 28 36.8**	**-0.6**
PVCC				*e*SG	**Sb**	**05 28 54.7**	**-0.1**
PVCC	comp=Z,30nm,0.2s **Panska Ves**	**1.28**	**228**	Pg	**Pg**	**05 28 36.8**	**-0.6**
PVCC				Sg	**Sb**	**05 28 54.7**	**-0.1**
BRG	30nm,0.2s **Berggiesshubel** 13nm,0.3s	**1.44**	**250**	SG	**Sb**	**05 28 59.2**	**0.0**
PRU	**Pruhonice**	**1.71**	**215**	*e*PG	**Pn**	**05 28 43.6**	**-0.2**
PRU				*e*SG	**Sg**	**05 29 07.8**	**+0.2**
PRU	comp=Z,4.4nm,0.5s **Pruhonice**	**1.71**	**215**	Pg	**Pn**	**05 28 43.6**	**-0.2**
PRU				Sg	**Sg**	**05 29 07.8**	**+0.2**
MORC	4.4nm,0.5s **Moravsky Berou**	**1.87**	**149**	*e*Pn	**Pn**	**05 28 44.3**	**-1.8**
MORC				*e*Sg	**Sn**	**05 29 11.1**	**+0.7**
CLL	**Collm**	**1.92**	**269**	*e*Pg	**Pn**	**05 28 47.0**	**+0.3**
CLL				*e*Sg	**Sb**	**05 29 13.0**	**-0.2**
OKC	**Ostrava-Krasne** comp=Z,8.6nm,0.5s	**2.05**	**139**	*e*SG	**Sb**	**05 29 16.8**	**+0.1**
OKC	**Ostrava-Krasne** 6.6nm,0.5s	**2.05**	**139**	Sg	**Sb**	**05 29 16.8**	**+0.1**
VRAC	**Vranov**	**2.12**	**171**	*e*Pn	**Pn**	**05 28 49.5**	**+0.1**
VRAC				*e*Sg	**Sb**	**05 29 18.1**	**-0.7**
TREC	**Trest**	**2.13**	**190**	*e*PN	**Pn**	**05 28 50.1**	**+0.4**
TREC				*e*PG	**Pb**	**05 28 52.6**	**+0.3**
TREC	**Trest**	**2.13**	**190**	Pn	**Pn**	**05 28 50.1**	**+0.4**
NKC	**Novy Kostel**	**2.57**	**245**	*e*PN	**Pn**	**05 28 55.3**	**-0.4**
NKC				*e*PG	**Pb**	**05 29 00.9**	**+1.1**
NKC				*e*SG	**Sg**	**05 29 35.7**	**+0.3**
NKC	comp=Z,11nm,0.3s **Novy Kostel**	**2.57**	**245**	Pn	**Pn**	**05 28 55.3**	**-0.4**
OJC	**Ojcow**	**2.64**	**115**	*e*Pg	**Pg**	**05 29 03.0**	**-0.4**
OJC				*e*Sg	**Sg**	**05 29 38.0**	**+0.4**
KHC	**Kasperske Hory**	**2.77**	**216**	*e*PN	**Pn**	**05 28 57.9**	**-0.5**
KHC				*e*PG	**Pb**	**05 29 03.6**	**+0.4**
KHC				*e*SN	**Sn**	**05 29 31.5**	**-1.1**
KHC				*e*SG	**Sg**	**05 29 41.9**	**+0.1**
KHC	comp=Z,3.2nm,0.5s **Kasperske Hory**	**2.77**	**216**	Pn	**Pn**	**05 28 57.9**	**-0.5**

SZGRF **17** *05:28:17.8, 38.60N×29.87E, h33km, mb4.7, MS4.2, Turkey*
ATH **17** *05:28:17.7, 39.13N×28.99E, h5km, MD3.9/11*
BJI **17** *05:28:18.7, 39.04N×29.14E, h11km, mB5.2/24, mb4.8/34, Ms4.9/23, Ms7 4.5/22*
IDC **17** *05:28:18.9±0.4, 39.14N×29.10E, h0km, mb4.6/30, mb1 4.6/41, mb1mx4.6/44, mbtmp4.5/41, ML4.4/7, MS4.4/26, Ms1 4.4/26, ms1mx4.3/40, Error ellipse: s-maj=9.6km s-min=8.5km az=42.0*
MOS **17** *05:28:19.8±1.2, 39.24N×29.21E, h12km, mb4.9/71, MS4.4/39, Error ellipse: s-maj=4.5km s-min=2.4km az=111.8*
DDA **17** *05:28:19.9, 39.15N×29.05E, h7km, ML4.8*
NEIC **17** *05:28:19.0, 39.11N×29.04E, h7km, mb4.8/98, ML5.0(ISK), MW5.0(USGS), After ISK.*
NEIC Felt [IV] at Simav and [III] at Usak. Also felt at Balikesir, Bursa, Emet, Gediz, Golcuk, Gonen, Izmir, Kutahya, Mudanya, Tavsanli and Ulubey.
ISK **17** *05:28:19.4, 39.11N×29.04E, h8km, ML5.0*
CSEM **17** *05:28:20.3±0.1, 39.13N×29.05E, h5km, mb4.9/60, Ms5.0, Mw5.3, Error ellipse: s-maj=1.7km s-min=1.3km az=27.0*
PDG **17** *05:28:20.5±0.8, 39.17N×29.11E, h11km±1km, ML4.6/9, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
ISCJB **17** *05:28:20.4±0.2, 39.15N±0.01×29.05E±0.01, h17km±2km, mb4.7/125, MS4.5/38, Error ellipse: s-maj=1.7km s-min=1.3km az=20.9*
THE **17** *05:28:22.3, 39.11N×28.97E, h6km±1km, ML5.1/16, Error ellipse: s-maj=1.7km s-min=0.4km az=76.0*
BEO **17** *05:28:22.7±1.6, 39.38N×29.02E, h1km±9km, ML5.2/1*
TEH **17** *05:28:23.0, 39.17N×29.29E, h10km, ML4.9*
DJA **17** *05:28:30.7±4.1, 39.7N×21.3°×3.0E±2.7, h50km±28km, M4.9/8, mB6.0/2, mb4.9/8, Mw(mB)5.6/2*
ISC 17 05:28:21.6±0.3, **39.13N**±0.01×**29.05E**±0.01, **h15km**±2km, **h15km**:**pP-P, n1284,** σ1**9**29/1433, **mb4.8**/125, **MS4.4**/38, **147C-71D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.28**	**251**	*i* P	**Pg**	**05 28 25.9**	**-1.7**
DEMI				*i* S	**Sg**	**05 28 29.6**	**-2.1**
DEMI	**Demirci**	**0.28**	**251**	*i* P	**Pg**	**05 28 25.9**	**-1.7**
DEMI				*i* S	**Sg**	**05 28 29.6**	**-2.1**
GDZ	**Gediz**	**0.34**	**97**	*i* P	**Pg**	**05 28 27.2**	**-1.4**
GDZ				*i* S	**Sg**	**05 28 32.3**	**-1.1**
GDZ	**Gediz**	**0.34**	**97**	*i* P	**Pg**	**05 28 27.2**	**-1.4**
GDZ				*i* S	**Sg**	**05 28 32.3**	**-1.1**
TVSB	**Tavsanli**	**0.45**	**45**	*e*PG	**Pg**	**05 28 29.1**	**-1.5**
TVSB				*e*SG	**Sg**	**05 28 35.9**	**-0.8**
TVSB	**Tavsanli**	**0.45**	**45**	*e*Pg	**Pg**	**05 28 29.1**	**-1.5**
TVSB				*e*Sg	**Sg**	**05 28 35.9**	**-0.8**
DST	**Dursunbey**	**0.58**	**325**	*e*PG	**Pg**	**05 28 31.3**	**-1.7**
DST	**Dursunbey**	**0.58**	**325**	*e*Pg	**Pg**	**05 28 31.3**	**-1.7**
DURS	**Dursunbey**	**0.65**	**316**	*i* P	**Pg**	**05 28 32.8**	**-1.5**
DURS				*e*S	**Sg**	**05 28 39.9**	**-3.1**
DURS	**Dursunbey**	**0.65**	**316**	*i* P	**Pg**	**05 28 32.8**	**-1.5**
DURS				*e*S	**Sg**	**05 28 39.9**	**-3.1**
KULA	**Kula-Manisa**	**0.69**	**207**	*e*PG	**Pg**	**05 28 32.4**	**-2.7**
KULA				*e*SG	**Sg**	**05 28 42.9**	**-1.3**
KULA	**Kula-Manisa**	**0.69**	**207**	*e*Pg	**Pg**	**05 28 32.4**	**-2.7**
KULA				*e*Sg	**Sg**	**05 28 42.9**	**-1.3**
MANT	**Manisa**	**0.75**	**211**	*i* P	**Pg**	**05 28 34.1**	**-2.1**
MANT				*i* S	**Sg**	**05 28 44.2**	**-1.9**
MANT	**Manisa**	**0.75**	**211**	*i* P	**Pg**	**05 28 34.1**	**-2.1**
MANT				*i* S	**Sg**	**05 28 44.2**	**-1.9**
ALT	**Altintas**	**0.83**	**95**	*e*PG	**Pb**	**05 28 35.8**	**-1.9**
ALT	**Altintas**	**0.83**	**95**	*e*Pg	**Pb**	**05 28 35.8**	**-1.9**
KHAL	**Karahalli**	**0.83**	**156**	*i* P	**Pb**	**05 28 36.3**	**-1.5**
KHAL				*i* S	**Sg**	**05 28 46.9**	**-1.9**
KHAL	**Karahalli**	**0.83**	**156**	*i* P	**Pb**	**05 28 36.3**	**-1.5**
KHAL				*i* S	**Sg**	**05 28 46.9**	**-1.9**
KHL	**Karahalli**	**0.89**	**155**	*e*PG	**Pb**	**05 28 36.0**	**-2.7**
KHL	**Karahalli**	**0.89**	**155**	*e*Pg	**Pb**	**05 28 36.0**	**-2.7**
ORLT	**Orhaneli**	**0.92**	**352**	*e*PG	**Pb**	**05 28 37.9**	**-1.4**
ORLT	**Orhaneli**	**0.92**	**352**	*e*Pg	**Pb**	**05 28 37.9**	**-1.4**
AKHS	**Akhisar**	**1.00**	**256**	*i* P	**Pb**	**05 28 39.6**	**-0.9**
AKHS				*i* S	**Sb**	**05 28 52.4**	**-1.1**
AKHS	**Akhisar**	**1.00**	**256**	*i* P	**Pb**	**05 28 39.6**	**-0.9**
AKHS				*i* S	**Sb**	**05 28 52.4**	**-1.1**
AKS	**Akhisar**	**1.00**	**256**	*e*PG	**Pb**	**05 28 39.0**	**-1.6**
AKS	**Akhisar**	**1.00**	**256**	*e*Pg	**Pb**	**05 28 39.0**	**-1.6**
ULDT	**Uludag**	**1.01**	**4**	*i* P	**Pb**	**05 28 39.0**	**-1.9**
ULDT				*e*S	**Sn**	**05 28 59.5**	**+4.1**
ULDT	**Uludag**	**1.01**	**4**	*i* P	**Pb**	**05 28 39.0**	**-1.9**
BALB	**Balikesir**	**1.04**	**300**	*e*PG	**Pb**	**05 28 39.7**	**-1.5**
BALB	**Balikesir**	**1.04**	**300**	*e*Pg	**Pb**	**05 28 39.7**	**-1.5**
CAVI	**Cavuskoy**	**1.23**	**29**	*e*PN	**Pn**	**05 28 43.7**	**-0.5**
CAVI	**Cavuskoy**	**1.23**	**29**	*e*Pn	**Pn**	**05 28 43.7**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.24**	**354**	*e*PN	**Pn**	**05 28 43.9**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.24**	**354**	*e*Pn	**Pn**	**05 28 43.9**	**-0.4**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*PN	**Pn**	**05 28 44.0**	**-0.5**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*Pn	**Pn**	**05 28 44.0**	**-0.5**
BALY	**Balya**	**1.27**	**299**	*i* P	**Pn**	**05 28 43.9**	**-0.8**
BALY				*i* S	**Sb**	**05 29 00.4**	**-0.8**
BALY	**Balya**	**1.27**	**299**	*i* P	**Pn**	**05 28 43.9**	**-0.8**
BALY				*i* S	**Sb**	**05 29 00.4**	**-0.8**
SHUT	**Suhut-Afyon**	**1.30**	**116**	*e*PN	**Pn**	**05 28 44.4**	**-0.9**
SHUT	**Suhut-Afyon**	**1.30**	**116**	*e*Pn	**Pn**	**05 28 44.4**	**-0.9**
BORA	**Eskisehir**	**1.31**	**55**	*i* P	**Pn**	**05 28 44.5**	**-0.9**
BORA				*i* S	**Sn**	**05 29 03.1**	**+0.4**
BORA	**Eskisehir**	**1.31**	**55**	*i* P	**Pn**	**05 28 44.5**	**-0.9**
BORA				*i* S	**Sn**	**05 29 03.1**	**+0.4**
GONE	**Gonen-Balikesi**	**1.40**	**311**	*e*PN	**Pn**	**05 28 46.2**	**-0.3**
GONE	**Gonen-Balikesi**	**1.40**	**311**	*e*Pn	**Pn**	**05 28 46.2**	**-0.3**
ADVT	**Abdulvahap**	**1.40**	**22**	*e*PN	**Pn**	**05 28 46.0**	**-0.6**
ADVT	**Abdulvahap**	**1.40**	**22**	*e*Pn	**Pn**	**05 28 46.0**	**-0.6**
ARMT	**Armutlu**	**1.44**	**354**	*e*PN	**Pn**	**05 28 46.6**	**-0.5**
ARMT	**Armutlu**	**1.44**	**354**	*e*Pn	**Pn**	**05 28 46.6**	**-0.5**
DNZL	**Cakiroluk**	**1.44**	**180**	*i* P	**Pn**	**05 28 46.5**	**-0.8**
DNZL				*i* S	**Sg**	**05 29 09.5**	**+1.5**
DNZL	**Cakiroluk**	**1.44**	**180**	*i* P	**Pn**	**05 28 46.5**	**-0.8**
ESKT	**Eskisehir**	**1.45**	**74**	*e*PN	**Pn**	**05 28 46.9**	**-0.4**
ESKT	**Eskisehir**	**1.45**	**74**	*e*Pn	**Pn**	**05 28 46.9**	**-0.4**
SEYT	**Eskypehyr**	**1.45**	**74**	*i* P	**Pn**	**05 28 46.8**	**-0.4**
SEYT				*e*S	Sg	05 29 16.5	+8.3
SEYT	**Eskypehyr**	**1.45**	**74**	*i* P	**Pn**	**05 28 46.8**	**-0.4**
YLV	**Yalova**	**1.45**	**10**	*e*PN	**Pn**	**05 28 47.2**	**-0.1**
YLV	**Yalova**	**1.45**	**10**	*e*Pn	**Pn**	**05 28 47.2**	**-0.1**
BNT	**Bandirma**	**1.50**	**325**	*e*PN	**Pn**	**05 28 47.4**	**-0.6**
BNT	**Bandirma**	**1.50**	**325**	*e*Pn	**Pn**	**05 28 47.4**	**-0.6**
GPA	**Golpazari**	**1.51**	**40**	*e*PN	**Pn**	**05 28 47.5**	**-0.5**
GPA	**Golpazari**	**1.51**	**40**	*e*Pn	**Pn**	**05 28 47.5**	**-0.5**
EDC	**Edincik**	**1.52**	**323**	*e*PN	**Pn**	**05 28 47.5**	**-0.7**
EDC	**Edincik**	**1.52**	**323**	*e*Pn	**Pn**	**05 28 47.5**	**-0.7**
BOLV	**Bolvadin**	**1.54**	**105**	*i* P	**Pn**	**05 28 48.3**	**-0.2**
BOLV				*i* S	**Sg**	**05 29 11.5**	**+0.4**
BOLV	**Bolvadin**	**1.54**	**105**	*i* P	**Pn**	**05 28 48.3**	**-0.2**
BUY	**Buyukada**	**1.72**	**2**	*i* P	**Pn**	**05 28 49.9**	**-1.0**
BUY				*i* S	**Sn**	**05 29 13.1**	**+0.6**
BUY	**Buyukada**	**1.72**	**2**	*i* P	**Pn**	**05 28 49.9**	**-1.0**
BUY				*i* S	**Sn**	**05 29 13.1**	**+0.6**
GULT	**Gulveren**	**1.72**	**40**	*e*PN	**Pn**	**05 28 50.9**	**-0.1**
GULT	**Gulveren**	**1.72**	**40**	*e*Pn	**Pn**	**05 28 50.9**	**-0.1**
AYDN	**Tasoluk**	**1.73**	**212**	*i* P	**Pn**	**05 28 50.3**	**-0.9**
AYDN				*i* S	**Sb**	**05 29 14.7**	**0.0**
AYDN	**Tasoluk**	**1.73**	**212**	*i* P	**Pn**	**05 28 50.3**	**-0.9**
AYDN				*i* S	**Sb**	**05 29 14.7**	**0.0**
BLCB	**Balcova**	**1.74**	**245**	*e*PN	**Pn**	**05 28 49.9**	**-1.3**
BLCB	**Balcova**	**1.74**	**245**	*e*Pn	**Pn**	**05 28 49.9**	**-1.3**
ISP	**Isparta**	**1.74**	**138**	*e*PN	**Pn**	**05 28 50.9**	**-0.4**
ISP	**Isparta**	**1.74**	**138**	*e*P	**Pn**	**05 28 50.1**	**-1.2**
ISP				*e*		05 29 13.6	
ISP	**Isparta**	**1.74**	**138**	*e*Pn	**Pn**	**05 28 50.1**	**-1.2**
ISP				*e*Sn	**Sn**	**05 29 13.6**	**+0.3**
ISP	**Isparta**	**1.74**	**138**	ǁ *i*P	**Pn**	**05 28 50.6**	**-0.7**
ISP	**Isparta**	**1.74**	**138**	*e*P	**Pn**	**05 28 50.1**	**-1.2**
ISP	**Isparta**	**1.74**	**138**	*e*Pn	**Pn**	**05 28 50.9**	**-0.4**
ISP				*e*S	**Sn**	**05 29 13.6**	**+0.3**
HRT	**Hereke**	**1.75**	**15**	*e*PN	**Pn**	**05 28 51.4**	**0.0**
HRT	**Hereke**	**1.75**	**15**	*e*Pn	**Pn**	**05 28 51.4**	**0.0**
SPNC	**Sapanca-Adapaz**	**1.83**	**31**	*e*PN	**Pn**	**05 28 52.5**	**+0.1**
SPNC	**Sapanca-Adapaz**	**1.83**	**31**	*e*Pn	**Pn**	**05 28 52.5**	**+0.1**
AYVA	**Ayvalik**	**1.84**	**276**	*i* P	**Pn**	**05 28 52.2**	**-0.4**
AYVA				*i* S	**Sb**	**05 29 18.0**	**+0.2**
AYVA	**Ayvalik**	**1.84**	**276**	*i* P	**Pn**	**05 28 52.2**	**-0.4**
AYVA				*i* S	**Sb**	**05 29 18.0**	**+0.2**
KRBG	**Karabiga-Canak**	**1.85**	**313**	*e*PN	**Pn**	**05 28 51.9**	**-0.7**
KRBG	**Karabiga-Canak**	**1.85**	**313**	*e*Pn	**Pn**	**05 28 51.9**	**-0.7**
ISK	**Istanbul-Kandi**	**1.93**	**0**	*e*PN	**Pn**	**05 28 53.5**	**-0.3**
ISK	**

AFSR	Af˙ar-Bala (A	3.13	83	ePn	Pn	05 29 10.7	+0.3	TIRR	Tirgusor	5.34	355	ePn	Pn	05 29 40.0	-0.6	KIS			MLR	MLR	
EDRB	Edirne	3.23	328	ePN	Pn	05 29 11.5	-0.2	TIRR				eSn	Sn	05 30 40.3	-1.6		comp=Z,6µm,12.0s				
EDRB	Edirne	3.23	328	ePn	Pn	05 29 11.5	-0.2	TIRR	Tirgusor	5.34	355	⇓iP	Pn	05 29 40.3	-0.4	KIS	Kishinev	7.86	359 ⇑iP	Pn	05 30 15.0 -0.3
RDO	Rodhopi	3.36	308	P	Pn	05 29 13.5	0.0	TIRR	Tirgusor	5.34	355	eP	Pn	05 29 40.1	-0.6	KIS	Kishinev	7.86	359 eP	Pn	05 30 14.0 -1.3
RDO				S	Sn	05 29 53.8	+0.7	TIRR				eS	Sn	05 30 40.3	-1.6	KIS			eS	Sn	05 31 48.0 +4.1
RDO	Rodhopi	3.36	308	ePB	Pn	05 29 13.4	0.0	DIKM	Dikmen	5.36	60	ePN	Pn	05 29 42.8	+1.8	KIS			LRM	MLR	05 33 40.0
RDO	Rodhopi	3.36	308	P	Pn	05 29 13.5	0.0	DIKM	Dikmen	5.36	60	ePn	Pn	05 29 42.8	+1.8		comp=Z,6µm,12.0s				
RDO				S	Sn	05 29 53.8	+0.7	CSS	Prodhromos	5.39	139	P	Pn	05 29 41.3	0.0	KIS	Kishinev	7.86	359 eP	Pn	05 30 14.0 -1.3
APE	Apeiranthos	3.46	235	ePN	Pn	05 29 14.9	0.0	CSS	Prodhromos	5.39	139	ePN	Pn	05 29 41.7	+0.4	IVA	Berane	7.87	301 ⇑iPn	Pn	05 30 17.4 +2.0
APE	Apeiranthos	3.46	235	P	Pn	05 29 14.3	-0.6	CSS	Prodhromos	5.39	139	ePn	Pn	05 29 40.1	-1.3	IVA			eSn	Sn	05 31 43.5 -0.7
APE				S	Sn	05 29 55.3	-0.3	CSS	Prodhromos	5.39	139	P	Pn	05 29 41.3	0.0	URFA	Urfa	7.87	99 ePN	Pn	05 30 17.0 +1.6
APE	Apeiranthos	3.46	235	ePN	Pn	05 29 14.3	-0.6	CSS	Prodhromos	5.39	139	ePn	Pn	05 29 41.7	+0.4	URFA	Urfa	7.87	99 ePn	Pn	05 30 17.0 +1.6
APE	Apeiranthos	3.46	235	⇓iP	Pn	05 29 14.3	-0.6	GUR	Goura	5.40	259	P	Pn	05 29 41.7	+0.2	BEY	Berane	7.87	301 ⇑iPn	Pn	05 30 17.4 +1.9
APE	Apeiranthos	3.46	235	P	Pn	05 29 14.3	-0.6	GUR	Goura	5.40	259	P	Pn	05 29 41.7	+0.2	BEY			eSn	Sn	05 31 43.5 -0.8
APE	Apeiranthos	3.46	235	ePn	Pn	05 29 14.9	0.0	VLI	Veliai	5.40	245	P	Pn	05 29 41.5	0.0	MMAI	Mount Meron Ar	7.98	138 Pn	Pn	05 30 16.7 -0.3
APE				S	Sn	05 29 55.3	-0.3	VLI	Veliai	5.40	245	P	Pn	05 29 41.5	0.0	MMAI			Sn	Sn	05 31 45.9 -1.1
SAFT	Safranbolu	3.49	52	ePN	Pn	05 29 15.9	+0.7	GRG	Griva	5.42	292	P	Pn	05 29 42.3	+0.5	MMAI	Mount Meron Ar	7.98	138 Pn	Pn	05 30 16.7 -0.3
SAFT	Safranbolu	3.49	52	ePn	Pn	05 29 15.9	+0.7	GRG	Griva	5.42	292	P	Pn	05 29 42.3	+0.5		comp=Z,27nm,0.3s,baz=327,slow=12,SNR=48				
BR131	Keskin Array S	3.60	79	ePn	Pn	05 29 17.0	+0.1	VAY	Valandovo	5.42	296	i Pn	Pn	05 29 42.9	+1.1	MMAI			Sn	Sn	05 31 45.8 -1.1
BR131	Keskin Array S	3.60	79	ePn	Pn	05 29 17.0	+0.1	EREN	Erenkoy	5.43	130	ePN	Pn	05 29 43.1	+1.1		comp=Z,8.5nm,0.3s,baz=305,slow=25,SNR=3.3				
BRTR	Keskin Array B	3.60	79	Pn	Pn	05 29 16.7	-0.2	EREN	Erenkoy	5.43	130	ePn	Pn	05 29 43.1	+1.1	MMAI	Mount Meron Ar	7.98	138 Pn	Pn	05 30 16.7 -0.3
BRTR				Pg	Pg	05 29 29.1	-1.5	KALE	Kalithea	5.45	264	P	Pn	05 29 42.7	+0.4	MMAI			Sn	Sn	05 31 45.8 -1.1
BRTR				Sn	Sn	05 29 59.5	+0.4	KALE	Kalithea	5.45	264	P	Pn	05 29 42.7	+0.4	ULC	Ulcinj	7.99	294 ⇑iPn	Pn	05 30 18.9 +1.9
BRTR				Lg	Lg	05 30 17.0		THL	Klokotos Trika	5.47	277	P	Pn	05 29 43.0	+0.5	ULC			eSn	Sn	05 31 47.3 +0.3
BRTR	Keskin Array B	3.60	79	Pn	Pn	05 29 16.7	-0.2	THL	Klokotos Trika	5.47	277	P	Pn	05 29 43.0	+0.5	ULC	Ulcinj	7.99	294 ⇑iPn	Pn	05 30 18.9 +1.9
	16nm,0.3s,baz=254,slow=13,SNR=276							TRIZ	Trizonia	5.51	264	P	Pn	05 29 43.5	+0.5	ULC			eSn	Sn	05 31 47.3 +0.3
BRTR				Pg	Pg	05 29 29.1	-1.5	TRIZ	Trizonia	5.51	264	P	Pn	05 29 43.5	+0.5	SJES	Sjenica	7.99	304 eSg		05 32 31.5
	44nm,0.3s,baz=262,slow=19,SNR=40							KOZT	Kozan	5.58	105	ePN	Pn	05 29 45.4	+1.5	IVAS	Ivanjica	8.03	306 ⇑iPn	Pn	05 30 18.1 +0.4
BRTR				Sn	Sn	05 29 59.5	+0.4	KOZT	Kozan	5.58	105	ePn	Pn	05 29 45.4	+1.5	IVAS			eSg		05 32 33.6
	40nm,0.3s,baz=189,slow=28,SNR=5.1							LAKA	Lakka	5.61	263	P	Pn	05 29 44.8	+0.4	IVAS	Ivanjica	8.03	306 ⇑iPn	Pn	05 30 18.1 +0.4
BRTR				Lg	Lg	05 30 17.0		LAKA	Lakka	5.61	263	P	Pn	05 29 44.8	+0.4	TTG	Podgorica	8.13	297 ⇓iPn	Pn	05 30 21.5 +2.6
	63nm,0.3s,baz=266,slow=31,SNR=7.5							KRTS	Karatas	5.62	115	ePN	Pn	05 29 46.2	+1.7	TTG			eSn	Sn	05 31 50.3 -0.1
BRTR	Keskin Array B	3.60	79	P	Pn	05 29 16.7	-0.2	KRTS	Karatas	5.62	115	ePn	Pn	05 29 46.2	+1.7	IAS	Iasi	8.13	353 ⇑iP	Pn	05 30 18.8 -0.1
	44nm,0.3s							VTS	Vitosha	5.62	310 ⇑iP		Pn	05 29 45.1	+0.5	IAS	Iasi	8.13	353 ⇑iP	Pn	05 30 18.8 -0.1
BRTR	Keskin Array B	3.60	79	Pg	Pg	05 29 29.0	-1.5	VTS	Vitosha	5.62	310 ⇑iP		Pn	05 29 45.1	+0.5	IAS	Iasi	8.13	353 P	Pn	05 30 18.8 -0.1
BRTR				S	Sn	05 29 59.6	+0.4	VTS	Vitosha	5.62	310 ⇑iPn		Pn	05 29 44.8	+0.2	PDG	Podgorica	8.13	297 eSn	Sn	05 31 50.3 -0.2
SULT	Sultanhani-AKS	3.62	104	ePN	Pn	05 29 17.5	+0.5	VTS				eSg	Sg	05 31 16.2	-5.7	GUMT	Gumushane	8.14	77 ePN	Pn	05 30 20.6 +1.5
SULT	Sultanhani-AKS	3.62	104	ePn	Pn	05 29 17.5	+0.5	VTS	Vitosha	5.62	310 ⇑iPn		Pn	05 29 44.8	+0.2	GUMT	Gumushane	8.14	77 ePn	Pn	05 30 20.7 +1.5
CANT	Cankiri	3.81	66	ePN	Pn	05 29 20.6	+0.9	VTS	Vitosha	5.62	310 P		Pn	05 29 45.1	+0.5	TRUS	Trudelj	8.23	311 ePn	Pn	05 30 19.0 -1.3
MRMA	Marmari	3.82	255	P	Pn	05 29 19.2	-0.5	AMRR	Amara	5.62	347 ⇓P		Pn	05 29 45.9	+1.4	TRUS			eSg		05 32 37.9
MRMA	Marmari	3.82	255	P	Pn	05 29 19.2	-0.5	AMRR	Amara	5.62	347 ⇓iP		Pn	05 29 45.9	+1.4	TRUS	Trudelj	8.23	311 ePn	Pn	05 30 19.0 -1.3
KARP	Karpathos	3.88	203	P	Pn	05 29 20.5	-0.2	AMRR	Amara	5.62	347 P		Pn	05 29 45.9	+1.4	BUM	Brajici-Budva	8.34	296 ⇑iPn	Pn	05 30 23.2 +1.3
KARP				S	Sn	05 30 06.0	0.0	BUC1	Bucharest	5.68	338 ⇑P		Pn	05 29 45.9	+0.6	BUM			eSn	Sn	05 31 55.5 -0.3
KARP	Karpathos	3.88	203	ePN	Pn	05 29 20.4	-0.2	BUC1	Bucharest	5.68	338 ⇑iP		Pn	05 29 45.8	+0.5	BUM	Brajici-Budva	8.34	296 ⇑iPn	Pn	05 30 23.2 +1.3
KARP				eSN	Sn	05 30 06.6	+0.6	BUC1	Bucharest	5.68	338 P		Pn	05 29 45.9	+0.6	BUM			eSn	Sn	05 31 55.5 -0.3
KARP	Karpathos	3.88	203	P	Pn	05 29 20.5	-0.2	CEYT	Ceyhan	5.69	110	ePN	Pn	05 29 47.0	+1.5	PLE	Pljevlja	8.40	303 ⇑iPn	Pn	05 30 24.4 +1.6
KARP				S	Sn	05 30 06.0	0.0	CEYT	Ceyhan	5.69	110	ePn	Pn	05 29 47.0	+1.5	PLE			eSn	Sn	05 31 57.4 0.0
KARP				eSn	Sn	05 30 06.6	+0.6	PHNC	Paralimni	5.73	134	P	Pn	05 29 46.7	+0.7	PLE	Pljevlja	8.40	303 ⇑iPn	Pn	05 30 24.4 +1.6
KAVA	Kavala	3.95	300	P	Pn	05 29 21.6	0.0		7.6nm,0.8s							PLE			eSn	Sn	05 31 57.4 0.0
KAVA				S	Sn	05 30 07.9	+0.3	GVD	Gavdhos	5.84	224	ePn	Pn	05 29 52.3	+4.7	DIVS	Divibare	8.40	309 ⇑iPn	Pn	05 30 22.0 -0.8
KAVA	Kavala	3.95	300	P	Pn	05 29 21.6	0.0	SULR		5.92	340 ⇑iP		Pn	05 29 47.3	-1.3	DIVS			eSg		05 32 43.0
KAVA				S	Sn	05 30 07.9	+0.3	PGOR	Pogoanele	5.97	346 ⇑iP		Pn	05 29 50.7	+1.4	DIVS	Divibare	8.40	309 ⇑iPn	Pn	05 30 22.0 -0.8
THR1	Thera Island	3.96	227	P	Pn	05 29 21.6	-0.2	TLCR		6.05	358 ⇑P		Pn	05 29 50.8	+0.4	ANN	Anapa	8.43	45 eP	Pn	05 30 22.4 -0.6
THR1	Thera Island	3.96	227	P	Pn	05 29 21.6	-0.2	TLCR		6.05	358 ⇑iP		Pn	05 29 50.8	+0.4	ANN			eS	Sn	05 31 57.4 -0.3
AOS	Alonnisos	4.02	272	P	Pn	05 29 22.1	-0.5	TLCR		6.05	358 P		Pn	05 29 50.8	+0.4	ANN			pmax	pmax	
AOS				S	Sn	05 30 09.3	-0.1	CFR	Carcaliu	6.08	354 ⇑P		Pn	05 29 50.1	-0.7		comp=Z,18nm,0.8s				
AOS	Alonnisos	4.02	272	P	Pn	05 29 22.1	-0.5	CFR	Carcaliu	6.08	354 ⇑iP		Pn	05 29 50.0	-0.7	ANN	Anapa	8.43	45 eP	Pn	05 30 22.4 -0.6
AOS				S	Sn	05 30 09.3	-0.1	CFR	Carcaliu	6.08	354 P		Pn	05 29 50.1	-0.7		comp=Z,18nm,0.8s				
OUR	Ouranopolis	4.09	289	P	Pn	05 29 23.1	-0.4	FNA	Florina	6.12	288	P	Pn	05 29 52.0	+0.5	ANN			eS	Sn	05 31 57.4 -0.3
OUR				S	Sn	05 30 11.4	+0.4	FNA	Florina	6.12	288	P	Pn	05 29 52.0	+0.5	NKY	Niksic	8.45	299 ⇑iPn	Pn	05 30 25.2 +1.7
OUR	Ouranopolis	4.09	289	P	Pn	05 29 23.1	-0.4	HUMR	Humele	6.19	332 ⇑iP		Pn	05 29 51.9	-0.4	NKY			eSn	Sn	05 31 59.0 +0.4
OUR				S	Sn	05 30 11.4	+0.4	BIA	Bitola	6.22	290 ePn		Pn	05 29 57.4	+4.5	NKY	Niksic	8.45	299 ⇑iPn	Pn	05 30 25.2 +1.7
ERET	Eretria	4.16	262	P	Pn	05 29 24.2	-0.3	ISR	Istrita	6.27	343 ⇑P		Pn	05 29 54.2	+0.8	NKY			eSn	Sn	05 31 59.0 +0.4
ERET	Eretria	4.16	262	P	Pn	05 29 24.2	-0.3	ISR	Istrita	6.27	343 ⇑iP		Pn	05 29 54.2	+0.8	BZS	Buzias	8.50	322 ⇓P	Pn	05 30 23.6 -0.4
PAIG	Paliouri	4.23	283	P	Pn	05 29 25.3	-0.1	ISR	Istrita	6.27	343 P		Pn	05 29 54.2	+0.8	BZS	Buzias	8.50	322 ⇓iP	Pn	05 30 23.6 -0.4
PAIG				S	Sn	05 30 14.7	+0.2	SECR		6.30	340 ⇑iP		Pn	05 29 54.9	+1.0	BZS	Buzias	8.50	322 ePn	Pn	05 30 22.6 -1.4
PAIG	Paliouri	4.23	283	P	Pn	05 29 25.3	-0.1	ZAPS	Zavoj	6.37	313 ⇑iPn		Pn	05 29 55.6	+0.8	BZS			eSg		05 32 45.8
PAIG				S	Sn	05 30 14.7	+0.2	ZAPS				eSg	Sg	05 31 40.1	-5.7	BZS	Buzias	8.50	322 ePn	Pn	05 30 22.6 -1.4
TOS	Tosya	4.26	62	ePN	Pn	05 29 26.9	+1.0	KMRS	Kahramanmaras	6.38	102	ePN	Pn	05 29 57.0	+2.0	BZS	Buzias	8.50	322 P	Pn	05 30 23.6 -0.4
TOS	Tosya	4.26	62	ePn	Pn	05 29 26.9	+1.0	KMRS	Kahramanmaras	6.38	102	ePn	Pn	05 29 57.0	+2.0	BEO	Beograd	8.54	314 eSg		05 32 47.6
MRKA	Markates	4.29	266	P	Pn	05 29 26.0	-0.2	SEV	Sevastopol'	6.41	31	eP	Pn	05 29 57.6	+2.3	UPM	Unac-Piva	8.67	301 ePn	Pn	05 30 28.9 +2.4
MRKA	Markates	4.29	266	P	Pn	05 29 26.0	-0.2	SEV				eS	Sn	05 31 08.7	+0.5	UPM			eSn	Sn	05 32 03.4 -0.6
SKIA	Skiathos	4.34	272	P	Pn	05 29 27.0	0.0	SEV	Sevastopol'	6.41	31	eP	Pn	05 29 57.6	+2.3	HCY	Herceg Novi	8.67	296 ePn	Pn	05 30 27.9 +1.6
SKIA				S	Sn	05 30 17.2	-0.1	SEV				eS	Sn	05 31 08.7	+0.5	HCY			eSn	Sn	05 32 03.3 -0.4
SKIA	Skiathos	4.34	272	P	Pn	05 29 27.0	0.0	GRER		6.43	347 ⇓iP		Pn	05 29 56.8	+1.2	HCY	Herceg Novi	8.67	296 ePn	Pn	05 30 27.9 +1.6
SKIA				S	Sn	05 30 17.2	-0.1	SKO	Skopje	6.46	298 ePn		Pn	05 29 60.0	+4.0	BURAR	Bucovina Array	8.93	343 ⇑iP	Pn	05 30 29.7 -0.3
CORM	Corum	4.43	75	ePN	Pn	05 29 29.5	+1.2	RSDY	Resadiye-TOKAT	6.50	76	ePN	Pn	05 29 58.7	+2.1	TEKS	Tekeris	8.93	310 ePn	Pn	05 30 30.3 +0.3
CORM	Corum	4.43	75	ePn	Pn	05 29 29.5	+1.2	RSDY	Resadiye-TOKAT	6.50	76	ePn	Pn	05 29 58.7	+2.1	TEKS	Tekeris	8.93	310 eSn	Sn	05 30 30.3 +0.3
PLD	Plovdiv	4.45	313	P	Pn	05 29 28.6	+0.2	BARS	Barje	6.60	306 ⇑iPn		Pn	05 29 58.6	+0.6	DRGR		8.95	331 ⇓P	Pn	05 30 31.7 +1.4
PLD	Plovdiv	4.45	313	P	Pn	05 29 28.6	+0.2	BARS				eSg	Sg	05 31 46.4	-6.8	DRGR		8.95	331 ⇓iP	Pn	05 30 31.7 +1.4
PLG	Polygyros	4.50	288	P	Pn	05 29 28.9	-0.2	BARS	Barje	6.60	306 ⇑iPn		Pn	05 29 58.6	+0.6	DRGR		8.95	331 P	Pn	05 30 31.7 +1.4
PLG	Polygyros	4.50	288	ePN	Pn	05 29 29.1	0.0	GAZ	Gaziantep	6.72	104	ePN	Pn	05 30 01.5	+1.8	BUR08	Bucovina Ar. S	8.96	343 ePn	Pn	05 30 30.0 -0.4
PLG	Polygyros	4.50	288	ePn	Pn	05 29 29.1	0.0	GAZ	Gaziantep	6.72	104	ePn	Pn	05 30 01.5	+1.8	BUR08	Bucovina Ar. S	8.96	343 ePn	Pn	05 30 30.0 -0.4
NEO	Neokhori	4.53	274	P	Pn	05 29 29.4	-0.2	PETR		6.72	349 ⇓P		Pn	05 30 00.6	+1.0	FGSL	Fruska Gora	9.13	314 ePn	Pn	05 30 30.0 -2.6
NEO	Neokhori	4.53	274	ePN	Pn	05 29 29.6	0.0	MLR	Muntele Rosu	6.76	341 Pn		Pn	05 30 00.9	+0.6	FRGS	Fruska Gora	9.13	314 ePn	Pn	05 30 30.0 -2.7
NEO	Neokhori	4.53	274	P	Pn	05 29 29.4	-0.2	MLR				Sn	Sn	05 31 17.4	+0.4	FRGS			eSg	Sn	05 33 05.8 +51
NVR	Nevrokopi	4.55	301	P	Pn	05 29 30.0	+0.2	MLR	Muntele Rosu	6.76	341 ⇓iP		Pn	05 30 01.0	+0.7	SOC	Sochi	9.17	58 eP	Pn	05 30 29.2 -4.0
NVR				S	Sn	05 30 23.0	+0.6	MLR	Muntele Rosu	6.76	341 Pn		Pn	05 30 00.9	+0.6	SOC			e		05 32 10.4
NVR	Nevrokopi	4.55	301	ePN	Pn	05 29 29.8	0.0		1.5nm,0.3s,baz=115,slow=5.6,SNR=127							SOC			pmax	pmax	
NVR	Nevrokopi	4.55	301	ePn	Pn	05 29 29.8	0.0	MLR				Sn	Sn	05 31 17.4	+0.4		comp=Z,18nm,0.6s				
NVR				S	Sn	05 30 23.0	+0.6		0.4nm,0.3s,baz=12,slow=19,SNR=1.6							SOC			MLR	MLR	
XOR	Xorichti	4.56	275	P	Pn	05 29 29.6	-0.3	MLR	Muntele Rosu	6.76	341 P		Pn	05 30 00.9	+0.6		comp=Z,3µm,13.0s				
XOR	Xorichti	4.56	275	P	Pn	05 29 29.6	-0.3		2.0nm,0.3s							ASF	Jabal al Asfar	9.43	135 Pn	Pn	05 30 36.9 +0.1
ZKR	Zakros	4.61	210	P	Pn	05 29 30.9	+0.3	MLR				S	Sn	05 31 17.4	+0.4	ASF			Sn	Sn	05 32 25.6 +3.0
ZKR	Zakros	4.61	210	P	Pn	05 29 30.9	+0.3	ALU	Alushta	6.83	34 eP		Pn	05 29 59.8	-1.3	ASF	Jabal al Asfar	9.43	135 Pn	Pn	05 30 36.9 +0.1
SRS	Serrai	4.63	297	P	Pn	05 29 30.9	-0.1	ALU				eS	Sn	05 31 12.6	-5.9		comp=Z,0.7nm,0.3s,baz=297,slow=4.5,SNR=2.8				
SRS				S	Sn	05 30 24.6	+0.2	ALU	Alushta	6.83	34 eP		Pn	05 29 59.8	-1.3	ASF			Sn	Sn	05 32 25.6 +3.0
SRS	Serrai	4.63	297	P	Pn	05 29 30.9	-0.1	SIM	Simferopol'	6.92	31 eP		Pn	05 30 02.8	+0.4		comp=Z,0.5nm,0.3s,baz=36,slow=19,SNR=2.3				
SRS				S	Sn	05 30 24.6	+0.2	SIM				eS	Sn	05 31 19.4	-1.5	BMR	Baia Mare	9.44	336 ⇓P	Pn	05 30 37.8 +0.9
SOH	Sokhos	4.69	293	P	Pn	05 29 31.8	0.0	SIM				pmax	pmax			BMR	Baia Mare	9.44	336 ⇓iP	Pn	05 30 37.8 +0.9
SOH				S	Sn	05 30 25.9	-0.1		comp=Z,420nm,0.4s							BMR	Baia Mare	9.44	336 P	Pn	05 30 37.8 +0.9
SOH	Sokhos	4.69	293	P	Pn	05 29 31.8	0.0	SIM				MLR	MLR			TIP	Timpagrande	9.55	274 ePn	Pn	05 30 40.3 +1.7
SOH				S	Sn	05 30 25.9	-0.1		comp=Z,4µm,16.1s							TIP	Timpagrande	9.55	274 ePn	Pn	05 30 40.3 +1.7
BZK	Bozkurt	4.71	52	ePN	Pn	05 29 33.7	+1.7	SIM	Simferopol'	6.92	31 eP		Pn	05 30 02.8	+0.4	TRPA	Tarpa	10.15	334 ⇑iP	Pn	05 30 46.2 -0.4
BZK	Bozkurt	4.71	52	ePn	Pn	05 29 33.7	+1.7		comp=Z,420nm,0.4s							TRPA	Tarpa	10.15	334 esPn	sPn	05 30 59.4 +6.8
ATAL	Atalanti	4.73	267	P	Pn	05 29 32.1	-0.1	SIM				eS	Sn	05 31 19.4	-1.5	TRPA	Tarpa	10.15	334 ⇑iP	Pn	05 30 46.2 -0.4
ATAL	Atalanti	4.73	267	P	Pn	05 29 32.1	-0.1		comp=Z,4µm,16.1s							PKS6	Bocsa	10.20	320 ePn	Pn	05 30 45.2 -2.1
LKR	Lokris	4.75	266	P	Pn	05 29 32.3	-0.2	PLOR	Plostina	6.95	346 ⇑P		Pn	05 30 03.2	+0.5	PKS6	Bocsa	10.20	320 eP	Pn	05 30 45.2 -2.1
LKR	Lokris	4.75	266	P	Pn	05 29 32.3	-0.2	PLOR	Plostina	6.95	346 ⇑iP		Pn	05 30 03.2	+0.5	CUC	Castrocucco	10.26	279 ePn	Pn	05 30 51.7 +3.5
HORT	Hortiatis	4.81	290	P	Pn	05 29 33.4	-0.1	PLOR	Plostina	6.95	346 P		Pn	05 30 03.2	+0.5	PKSM	Moragy	10.43	316 ⇓P	Pn	05 30 50.0 -0.4
HORT				S	Sn	05 30 28.9	0.0	VRI	Vrincioaia	6.95	346 ⇓P		Pn	05 30 03.0	+0.3	PKSM	Moragy	10.43	316 ⇓iP	Pn	05 30 50.0 -0.4
HORT	Hortiatis	4.81	290	P	Pn	05 29 33.4	-0.1	VRI	Vrincioaia	6.95	346 ⇓iP		Pn	05 30 03.0	+0.3	PKSM	Moragy	10.43	316 ePn	Pn	05 30 49.4 -1.0
HORT				S	Sn	05 30 28.9	0.0	VRI	Vrincioaia	6.95	346 P		Pn	05 30 03.0	+0.3	PKSM	Moragy	10.43	316 ePn	Pn	05 30 49.5 -1.0
DID	Didima	4.85	252	P	Pn	05 29 33.9	-0.1	VOIR		6.96	336 ⇓P		Pn	05 30 03.0	0.0	PKSM	Moragy	10.43	316 ePn	Pn	05 30 49.4 -1.0
DID	Didima	4.85	252	P	Pn	05 29 33.9	-0.1	VOIR		6.96	336 ⇓iP		Pn	05 30 03.0	0.0	PKSM	Moragy	10.43	316 P	Pn	05 30 50.0 -0.4
ALFC	Alevga	4.88	143	P	Pn	05 29 32.2	-2.1	VOIR		6.96	336 P		Pn	05 30 03.0	0.0	RHK3	Tenkes	10.44	314 ePn	Pn	05 30 49.8 -0.8
	12nm,0.3s							GHRR		7.03	351 ⇑iP		Pn	05 30 04.1	+0.3	RHK3	Tenkes	10.44	314 eP	Pn	05 30 49.8 -0.8
ALFC	Alevga	4.88	143	P	Pn	05 29 32.2	-2.1	BOLS	Boljevac	7.10	314 ePn		Pn	05 30 03.6	-1.2	EIL	Elat	10.62	151 Pn	Pn	05 30 51.2 -1.9
	12nm,0.3s							BOLS				eSg	Sg	05 32 03.1	-6.2	EIL			Sn	Sn	05 32 47.5 -4.3
MERS	Mersin	4.88	116	ePN	Pn	05 29 35.2	+0.9	BOLS	Boljevac	7.10	314 ePn		Pn	05 30 03.6	-1.2	EIL	Elat	10.62	151 Pn	Pn	05 30 51.2 -1.9
MERS	Mersin	4.88	116	ePn	Pn	05 29 35.3	+0.9	SELS	Selova	7.24	307 ⇓iPn		Pn	05 30 06.7	-0.1		comp=Z,4.3nm,0.3s,baz=324,slow=7.4,SNR=17				
YOZ	Yozgat	4.88	82	ePN	Pn	05 29 35.8	+1.3	SELS				eSg	Sg	05 32 06.4	-7.5	EIL			Sn	Sn	05 32 47.5 -4.3
YOZ	Yozgat	4.88	82	ePn	Pn	05 29 35.8	+1.3	SUDU	Sudak	7.26	36 eP		Pn	05 30 06.7	-0.3		comp=Z,2.8nm,0.3s,baz=330,slow=20,SNR=3.9				
LAST	Lasithi	4.88	217	P	Pn	05 29 34.8	+0.3	SUDU				eS	Sn	05 31 26.4	-0.6	EIL			LR	LR	05 35 48.0
LAST	Lasithi	4.88	217	P	Pn	05 29 34.8	+0.3	SUDU	Sudak	7.26	36 eP		Pn	05 30 06.7	-0.3		comp=Z,422nm,19.0s,baz=327,slow=42				
LTK	Loutraki	4.90	259	P	Pn	05 29 34.5	-0.1	DOPR	Dopca	7.35	340 ⇑iP		Pn	05 30 09.6	+1.4	EIL	Elat	10.62	151 Pn	Pn	05 30 51.2 -1.9
LTK	Loutraki	4.90	259	P	Pn	05 29 34.5	-0.1	HWQ	Hawqa	7.36	129 eP		Pn	05 30 08.2	-0.3	UZH	Uzhgorod	10.67	335 eP	Pn	05 30 52.8 -0.9
BYBT	Boyabat	4.95	60	ePN	Pn	05 29 36.8	+1.5	LEOM	Leova	7.36	356 ⇓P		Pn	05 30 09.3	+0.9	UZH			eS	Sn	05 32 53.0 +0.3
BYBT	Boyabat	4.95	60	ePn	Pn	05 29 36.8	+1.5	LEOM	Leova	7.36	356 ⇓iP		Pn	05 30 09.3	+0.9	UZH			MLR	MLR	
EFOR	EFORIE	4.95	356 ⇑iP		Pn	05 29 35.6	+0.3	LEOM	Leova	7.36	356 P		Pn	05 30 09.3	+0.9		comp=Z,6µm,10.0s				
EFOR	EFORIE	4.95	356 ⇑iP		Pn	05 29 35.6	+0.3	DJES	Djerdap	7.37	321 ePn		Pn	05 30 06.0	-2.5	UZH	Uzhgorod	10.67	335 eP	Pn	05 30 53.5 -0.2
PPCY	Paphos	4.99	147	P	Pn	05 29 35.5	-0.4	DJES				eSg	Sg	05 32 11.1	-6.8	UZH			eS	Sn	05 32 53.1 +0.3
PPCY	Paphos	4.99	147	P	Pn	05 29 35.5	-0.4	TIR	Tirane	7.37	290 eP		Pn	05 30 14.9	+6.4	UZH			MLR	MLR	
LEF	Lefka	5.04	141	ePN	Pn	05 29 35.5	-1.1	TIR	Tir

LVV	**L'vov**	**11.27**	**343**	*e*P		**Pn**	**05 31 01.1**	**-0.8**
LVV				*e*S		**Sn**	**05 33 08.9**	**+1.4**
LVV				MLR	MLR			
	comp=N,3μm,12.0s							
LVV				MLR	MLR			
	comp=E,2μm,12.0s							
LVV				MLR	MLR			
	comp=Z,3μm,12.0s							
LVV	**L'vov**	**11.27**	**343**	*e*P		**Pn**	**05 31 01.1**	**-0.8**
LVV				*e*S		**Sn**	**05 33 08.9**	**+1.4**
KIV	**Kislovodsk**	**11.29**	**60**	*e*P		Pn	05 30 59.2	-3.2
KIV				*e*S		**Sn**	**05 33 03.2**	**-5.1**
KIV				pmax	pmax			
	comp=Z,44nm,1.1s							
KIV				MLR	MLR			
	comp=Z,526nm,10.0s							
KIV	**Kislovodsk**	**11.29**	**60**	*e*Pn		**Pn**	**05 31 04.8**	**+2.4**
KIV	**Kislovodsk**	**11.29**	**60**	*e*Pn		**Pn**	**05 31 04.8**	**+2.4**
PKSG		**11.33**	**320**	*e*Pn		**Pn**	**05 31 02.5**	**-0.3**
PKSG		**11.33**	**320**	*e*P		**Pn**	**05 31 02.5**	**-0.3**
PKST	**T"s**	**11.42**	**319**	*e*Pn		**Pn**	**05 31 03.1**	**-0.9**
PKST	**T"s**	**11.42**	**319**	*e*P		**Pn**	**05 31 03.1**	**-0.9**
KWP	**Kalwaria Pacla**	**11.43**	**339**	*e*P		**Pn**	**05 31 05.4**	**+1.2**
KWP				LMZ	LR		05 36 39.1	
	comp=Z,8μm,15.2s							
KWP	**Kalwaria Pacla**	**11.43**	**339**	*e*P		**Pn**	**05 31 05.4**	**+1.2**
KWP				LMZ	LR		05 36 39.1	
	comp=Z,8μm,15.2s							
KWP	**Kalwaria Pacla**	**11.43**	**339**	*e*P		**Pn**	**05 31 04.6**	**+0.5**
KWP				pmax	pmax			
	comp=Z,72nm,0.9s							
KWP	**Kalwaria Pacla**	**11.43**	**339**	*e*Pn		**Pn**	**05 31 04.6**	**+0.5**
	comp=Z,72nm,0.9s							
KWP	**Kalwaria Pacla**	**11.43**	**339**	↑*i*P		**Pn**	**05 31 05.3**	**+1.2**
KWP	**Kalwaria Pacla**	**11.43**	**339**	*e*P		**Pn**	**05 31 04.6**	**+0.5**
	comp=Z,72nm,0.9s							
KIEV	**Kiev**	**11.56**	**0**	*e*P		**Pn**	**05 31 03.9**	**-2.0**
KIEV				*e*			05 33 09.9	
KIEV	**Kiev**	**11.56**	**0**	*e*Pn		**Pn**	**05 31 03.9**	**-2.0**
KIEV				*e*Sn		**Sn**	**05 33 09.9**	**-4.7**
KIEV	**Kiev**	**11.56**	**0**	*e*P		**Pn**	**05 31 03.9**	**-2.0**
AKASG	**Malin Array Be**	**11.57**	**1**	P		**Pn**	**05 31 03.6**	**-2.4**
AKASG							05 33 15.5	
AKASG				pmax	pmax			
	comp=Z,9.0nm,0.3s							
AKASG				smax	smax			
	comp=N,1.0nm,0.3s							
AKASG	**Malin Array Be**	**11.57**	**1**	Pn		**Pn**	**05 31 03.6**	**-2.4**
AKASG				Sn		**Sn**	**05 33 15.5**	**+0.7**
AKASG	**Malin Array Be**	**11.57**	**1**	Pn		**Pn**	**05 31 03.6**	**-2.4**
	comp=N,9,1nm,0.3s,baz=186,slow=11,SNR=33							
AKASG				Sn		**Sn**	**05 33 15.5**	**+0.7**
	comp=N,1.4nm,0.3s,baz=183,slow=26,SNR=2.9							
AKASG	**Malin Array Be**	**11.57**	**1**	P		**Pn**	**05 31 03.6**	**-2.4**
	comp=N,9.0nm,0.3s							
AKASG				S		**Sn**	**05 33 15.5**	**+0.7**
	comp=N,1.0nm,0.3s							
AKBB	**Malin Array Si**	**11.57**	**1**	*e*P		**Pn**	**05 31 03.8**	**-2.2**
AKBB	**Malin Array Si**	**11.57**	**1**	*e*Pn		**Pn**	**05 31 03.8**	**-2.2**
AKBB	**Malin Array Si**	**11.57**	**1**	*e*P		**Pn**	**05 31 03.8**	**-2.2**
BEHE	**Becsehely**	**11.62**	**313**	*e*Pn		**Pn**	**05 31 06.2**	**-0.5**
BEHE	**Becsehely**	**11.62**	**313**	*e*P		**Pn**	**05 31 06.2**	**-0.5**
ZEI	**Tsey**	**11.80**	**67**	*e*P		Pn	05 31 17.2	+7.8
ZEI				pmax	pmax			
	comp=Z,20nm,1.0s							
GOR	**Gori**	**11.80**	**71**	P		Pn	05 31 13.6	+4.3
VYHS	**Vyhne**	**11.91**	**325**	*e*P		**Pn**	**05 31 11.0**	**+0.3**
VYHS				MLR	MLR			
	comp=Z,2μm,17.4s							
VYHS	**Vyhne**	**11.91**	**325**	*e*PN		**Pn**	**05 31 11.0**	**+0.3**
VYHS	**Vyhne**	**11.91**	**325**	*e*P		**Pn**	**05 31 11.0**	**+0.3**
	comp=Z,2μm,17.4s							
WDD	**Wield Dalam**	**11.99**	**259**	*e*Pn		Pn	05 31 15.2	+3.4
	comp=Z,120nm,0.9s							
NIE	**Niedzica**	**12.03**	**332**	*e*P		**Pn**	**05 31 13.1**	**+0.7**
NIE	**Niedzica**	**12.03**	**332**	*e*P		**Pn**	**05 31 13.7**	**+1.3**
NIE	**Niedzica**	**12.03**	**332**	*e*P		**Pn**	**05 31 13.7**	**+1.3**
GNI	**Garni**	**12.14**	**80**	*e*Pn		**Pn**	**05 31 16.5**	**+2.4**
	comp=Z,87nm,1.5s							
GNI				Lg	Lg		05 34 59.2	
GNI	**Garni**	**12.14**	**80**	Pn		**Pn**	**05 31 16.8**	**+2.8**
	baz=310,slow=16,SNR=3.9							
GNI				Lg	Lg		05 34 59.2	
	comp=Z,0.3nm,0.3s,baz=219,slow=20,SNR=1.5							
GNI	**Garni**	**12.14**	**80**	*e*P		**Pn**	**05 31 13.0**	**-1.0**
	comp=Z,93nm,2.5s							
TBLG	**Delisi**	**12.23**	**73**	*e*P		**Pn**	**05 31 18.3**	**+3.1**
TBLG	**Delisi**	**12.23**	**73**	P		**Pn**	**05 31 18.3**	**+3.1**
DGRG	**David-gareji**	**12.68**	**74**	P		P	05 31 28.2	-4.3
ARSA	**Arzberg**	**12.77**	**314**	↑*i*Pn		**Pn**	**05 31 22.6**	**+0.2**
	SNR=7.0							
ARSA		

ORIF Oris-en-Rattie 18.13 296 *e*P P 05 32 34.7 +1.6
comp=Z,68nm,1.1s
ORIF *e*R
comp=Z,2µm,22.0s
ORIF Oris-en-Rattie 18.13 296 *e*P P 05 32 34.7 +1.6
ORIF pmax pmax
comp=Z,68nm,1.1s
ORIF Oris-en-Rattie 18.13 296 *e*P P 05 32 34.7 +1.6
comp=Z,68nm,1.1s
ORIF Oris-en-Rattie 18.13 296 *e*P P 05 32 34.7 +1.6
comp=Z,68nm,1.1s
ECH Echery 18.20 307 *e*P P 05 32 35.7 +1.9
ECH pmax pmax
comp=Z,16nm,0.8s
ECH Echery 18.20 307 *e*P P 05 32 35.7 +1.9
comp=Z,16nm,0.8s
ECH Echery 18.20 307 *e*P P 05 32 37.6 +3.8
ECH Echery 18.20 307 *e*P P 05 32 35.7 +1.9
comp=Z,16nm,0.8s
SMRF Simiane la Rot 18.20 293 *e*P P 05 32 36.3 +2.5
comp=Z,76nm,1.5s
SMRF Simiane la Rot 18.20 293 *e*P P 05 32 36.3 +2.5
comp=Z,76nm,1.5s
SMRF Simiane la Rot 18.20 293 *e*P P 05 32 36.3 +2.5
comp=Z,76nm,1.5s
CDF Champ du Feu 18.21 308 *e*P P 05 32 35.1 +1.3
comp=Z,32nm,0.7s
CDF Champ du Feu 18.21 308 *e*P P 05 32 35.1 +1.3
CDF pmax pmax
comp=Z,32nm,0.7s
CDF Champ du Feu 18.21 308 *e*P P 05 32 35.1 +1.3
comp=Z,32nm,0.7s
CDF Champ du Feu 18.21 308 *e*P P 05 32 35.1 +1.3
comp=Z,32nm,0.7s
HINF Hinteralfeld 18.25 306 *e*P P 05 32 34.8 +0.5
comp=Z,20nm,0.9s
HINF Hinteralfeld 18.25 306 *e*P P 05 32 34.8 +0.5
HINF pmax pmax
comp=Z,20nm,0.9s
HINF Hinteralfeld 18.25 306 *e*P P 05 32 34.8 +0.5
comp=Z,20nm,0.9s
HINF Hinteralfeld 18.25 306 *e*P P 05 32 34.8 +0.5
comp=Z,20nm,0.9s
KBD Kabd 18.32 117 *e*P P 05 32 35.4 +0.3
KBD AMb AMB 05 32 41.9
comp=Z,123nm,0.9s
KBD Kabd 18.32 117 *e*P P 05 32 35.4 +0.3
comp=Z,123nm,0.9s
RDF Al-Radifah 18.37 118 *e*P Pn 05 32 36.6 +0.9
RDF AMb AMB 05 32 39.8
comp=Z,184nm,1.1s
RDF Al-Radifah 18.37 118 *e*P Pn 05 32 36.6 +0.9
comp=Z,184nm,1.1s
CABF La Chapelle 18.38 301 *e*P Pn 05 32 36.6 +0.8
comp=Z,83nm,1.2s
CABF La Chapelle 18.38 301 *e*P Pn 05 32 36.6 +0.8
CABF pmax pmax
comp=Z,83nm,1.2s
CABF La Chapelle 18.38 301 *e*P Pn 05 32 36.6 +0.8
comp=Z,83nm,1.2s
CABF La Chapelle 18.38 301 *e*P Pn 05 32 36.6 +0.8
comp=Z,83nm,1.2s
IVRN Varamin 18.55 96 *e*P Pn 05 32 38.7 +0.8
IVRN Varamin 18.55 96 *e*P Pn 05 32 38.7 +0.8
OG35 Corcelles 18.58 299 *e*P Pn 05 32 42.1 +3.9
BSD Bornholm Skovb 18.60 334 *e*S S 05 36 12.2 +2.8
SNR=47
IDMV Damavand 18.60 94 *e*P Pn 05 32 39.5 +0.7
IDMV *e*P P 05 32 40.4 +1.9
IDMV Damavand 18.60 94 *e*P Pn 05 32 39.5 +0.7
HAU Haudompre 18.64 306 *e*P Pn 05 32 40.0 +1.2
comp=Z,31nm,0.8s
HAU *e*R
comp=Z,1µm,21.5s
HAU Haudompre 18.64 306 *e*P Pn 05 32 40.0 +1.2
HAU pmax pmax
comp=Z,31nm,0.8s
HAU Haudompre 18.64 306 *e*P Pn 05 32 40.0 +1.2
comp=Z,31nm,0.8s
HAU Haudompre 18.64 306 *e*P Pn 05 32 40.0 +1.2
comp=Z,31nm,0.8s
IPRN Peran 18.64 92 *e*P Pn 05 32 40.3 +1.2
IPIR Pirpir 18.80 103 *e*P Pn 05 32 42.2 +0.9
IPIR Pirpir 18.80 103 *e*P Pn 05 32 42.2 +0.9
RUP Ruppelstein 18.86 311 *e*P Pn 05 32 42.9 +1.3
RUP Ruppelstein 18.86 311 *e*P Pn 05 32 42.9 +1.3
RUP Ruppelstein 18.86 311 *e*P Pn 05 32 42.9 +1.3
THEF They Montfort 18.94 306 *e*P Pn 05 32 45.6 +3.1
THEF They Montfort 18.94 306 *e*P Pn 05 32 45.6 +3.1
THEF They Montfort 18.94 306 *e*P Pn 05 32 45.6 +3.1
VIVF Saint-Julien-l 18.97 295 *e*P Pn 05 32 43.2 +0.3
comp=Z,36nm,1.1s
VIVF Saint-Julien-l 18.97 295 *e*P Pn 05 32 43.2 +0.3
VIVF pmax pmax
comp=Z,36nm,1.1s
VIVF Saint-Julien-l 18.97 295 *e*P Pn 05 32 43.2 +0.3
comp=Z,36nm,1.1s
VIVF Saint-Julien-l 18.97 295 *e*P Pn 05 32 43.2 +0.3
comp=Z,36nm,1.1s
IALA Alasht 19.05 92 *e*P P 05 32 43.5 0.0
IALA Alasht 19.05 92 *e*P P 05 32 43.5 0.0
IKLH Kolahrood 19.06 101 *e*P Pn 05 32 45.6 +1.3
IKLH Kolahrood 19.06 101 *e*P Pn 05 32 45.6 +1.3
IFIR Firoozkooh 19.14 93 *e*P Pn 05 32 48.4 +3.1
ISFB Sefidab 19.17 97 *e*P Pn 05 32 45.1 -0.3
ISFB Sefidab 19.17 97 *e*P Pn 05 32 45.1 -0.3
PAGF Fort de Pagny 19.22 307 *e*P Pn 05 32 46.2 +0.4
comp=Z,15nm,1.1s
PAGF Fort de Pagny 19.22 307 *e*P Pn 05 32 46.2 +0.4
comp=Z,15nm,1.1s
PAGF Fort de Pagny 19.22 307 *e*P Pn 05 32 46.2 +0.4
comp=Z,15nm,1.1s
ILAS Lasjerd 19.38 94 *e*P Pn 05 32 48.4 +0.3
ILAS Lasjerd 19.38 94 *e*P Pn 05 32 48.4 +0.3
WLF Walferdange 19.38 310 P Pn 05 32 49.0 +1.2
comp=Z,21nm,1.6s
WLF Walferdange 19.38 310 *e*P Pn 05 32 47.3 -0.5
WLF pmax pmax
comp=Z,29nm,1.2s
WLF Walferdange 19.38 310 *e*P Pn 05 32 47.3 -0.5
comp=Z,29nm,1.2s
WLF Walferdange 19.38 310 *e*P Pn 05 32 47.3 -0.5
comp=Z,29nm,1.2s
VSU Vasula 19.40 356 *c i*P P 05 32 46.1 -0.7
VSU Vasula 19.40 356 *i*P P 05 32 46.1 -0.7
LASF Ste Croix 19.45 293 *e*P Pn 05 32 50.3 +1.7
comp=Z,75nm,1.2s
LASF Ste Croix 19.45 293 *e*P Pn 05 32 50.3 +1.7
comp=Z,75nm,1.2s
ISHM Shahmirzad 19.51 92 *e*P Pn 05 32 49.7 0.0
ISHM Shahmirzad 19.51 92 *e*P Pn 05 32 49.7 0.0
SFTF Sexfontaines 19.53 305 *e*P Pn 05 32 49.4 -0.2
comp=Z,55nm,1.1s
SFTF Sexfontaines 19.53 305 *e*P Pn 05 32 49.4 -0.2
comp=Z,55nm,1.1s
SFTF Sexfontaines 19.53 305 *e*P Pn 05 32 49.4 -0.2
comp=Z,55nm,1.1s
BSEG Bad Segeberg 19.54 325 *e*P Pn 05 32 51.6 +2.0
comp=Z,190nm,1.8s
BSEG Bad Segeberg 19.54 325 *e*P Pn 05 32 51.6 +2.0
BSEG pmax pmax
comp=Z,190nm,1.8s
MEZF Maizieres J'vi 19.62 306 *e*P Pn 05 32 51.3 +0.7
MEZF Maizieres J'vi 19.62 306 *e*P Pn 05 32 51.3 +0.7
MEZF Maizieres J'vi 19.62 306 *e*P Pn 05 32 51.3 +0.7
IKIA Kiasar 19.70 91 *e*P Pn 05 32 51.7 -0.3
IKIA Kiasar 19.70 91 *e*P Pn 05 32 51.7 -0.3
IBBN Ibbenburen 19.77 319 *e*P Pn 05 32 54.7 +2.3
comp=Z,46nm,1.1s
IGAR Gharneh 19.80 103 *e*P Pn 05 32 52.5 -0.6
IZEF Zefreh 19.80 101 *e*P Pn 05 32 52.6 -0.6
IZEF Zefreh 19.80 101 *e*P Pn 05 32 52.6 -0.6
MEM Membach 19.87 313 P P 05 32 51.3 -0.7
comp=Z,23nm,1.2s
PLDF La Plantade 19.89 298 *e*P Pn 05 32 55.6 +1.6
PLDF La Plantade 19.89 298 *e*P Pn 05 32 55.6 +1.6
PLDF La Plantade 19.89 298 *e*P Pn 05 32 55.6 +1.6
HGN Heimansgroeve 19.98 313 *e*P Pn 05 32 54.6 -0.3
comp=Z,36nm,1.0s
HGN *e*L L 05 40 39.7
comp=Z,990nm,18.4s
HGN Heimansgroeve 19.98 313 *e*P Pn 05 32 54.6 -0.3
comp=Z,36nm,1.0s
LOR Lormes 20.02 302 *e*P Pn 05 32 55.5 0.0
comp=Z,73nm,1.3s
LOR *e*R
comp=Z,1µm,22.2s
LOR Lormes 20.02 302 *e*P Pn 05 32 55.5 0.0
comp=Z,73nm,1.3s
LOR Lormes 20.02 302 *e*P Pn 05 32 55.5 0.0
comp=Z,73nm,1.3s
LBL Lubilhac 20.03 296 *e*P Pn 05 32 56.4 +0.8
LBL Lubilhac 20.03 296 *e*P Pn 05 32 56.4 +0.8
LBL Lubilhac 20.03 296 *e*P Pn 05 32 56.4 +0.8
LBL Lubilhac 20.03 296 *e*P Pn 05 32 56.4 +0.8
IANJ Anjilo 20.09 93 *e*P P 05 32 54.9 +0.1
IANJ Anjilo 20.09 93 *e*P P 05 32 54.9 +0.1
BCLA Clavier 20.20 312 P Pn 05 32 57.8 +0.3
comp=Z,34nm,1.5s
SSF Saint Saulge 20.20 301 *e*P Pn 05 32 56.7 -0.9
comp=Z,32nm,0.8s
SSF Saint Saulge 20.20 301 *e*P Pn 05 32 56.7 -0.9
SSF pmax pmax
comp=Z,32nm,0.8s
SSF Saint Saulge 20.20 301 *e*P Pn 05 32 56.7 -0.9
comp=Z,32nm,0.8s
SSF Saint Saulge 20.20 301 *e*P Pn 05 32 56.7 -0.9
comp=Z,32nm,0.8s
AGO Saint Agoulin 20.24 298 *e*P P 05 32 56.8 +0.7
AGO Saint Agoulin 20.24 298 *e*P P 05 32 56.8 +0.7
AGO Saint Agoulin 20.24 298 *e*P P 05 32 56.8 +0.7
PYM Petit Puy Mans 20.27 297 *e*P Pn 05 33 00.1 +1.6
PYM Petit Puy Mans 20.27 297 *e*P Pn 05 33 00.1 +1.6
PYM Petit Puy Mans 20.27 297 *e*P Pn 05 33 00.1 +1.6
GIVF Givet 20.35 311 *e*P P 05 32 56.8 -0.3
comp=Z,33nm,0.8s
GIVF Givet 20.35 311 *e*P P 05 32 56.8 -0.3
GIVF pmax pmax
comp=Z,33nm,0.8s
GIVF Givet 20.35 311 *e*P P 05 32 56.8 -0.3
comp=Z,33nm,0.8s
GIVF Givet 20.35 311 *e*P P 05 32 56.8 -0.3
comp=Z,33nm,0.8s
DOU Dourbes 20.48 310 P P 05 32 58.3 -0.3
comp=Z,13nm,1.1s
BGF Bois d'Agland 20.54 300 *e*P Pn 05 33 01.1 -0.4
comp=Z,89nm,1.2s
BGF Bois d'Agland 20.54 300 *e*P Pn 05 33 01.1 -0.4
BGF pmax pmax
comp=Z,89nm,1.2s
BGF Bois d'Agland 20.54 300 *e*P Pn 05 33 01.1 -0.4
comp=Z,89nm,1.2s
BGF Bois d'Agland 20.54 300 *e*P Pn 05 33 01.1 -0.4
comp=Z,89nm,1.2s
VERF Verneugheol 20.64 297 *e*P Pn 05 33 03.0 +0.3
VERF Verneugheol 20.64 297 *e*P Pn 05 33 03.0 +0.3
VERF Verneugheol 20.64 297 *e*P Pn 05 33 03.0 +0.3
BAIF Baives 20.70 310 *e*P Pn 05 33 02.3 -1.0
comp=Z,47nm,0.9s
BAIF Baives 20.70 310 *e*P Pn 05 33 02.3 -1.0
BAIF pmax pmax
comp=Z,47nm,0.9s
BAIF Baives 20.70 310 *e*P Pn 05 33 02.3 -1.0
comp=Z,47nm,0.9s
BAIF Baives 20.70 310 *e*P Pn 05 33 02.3 -1.0
comp=Z,47nm,0.9s
CAF Calviac 20.82 295 *e*P P 05 33 03.3 +1.0
comp=Z,19nm,0.9s
CAF Calviac 20.82 295 *e*P P 05 33 03.3 +1.0
CAF pmax pmax
comp=Z,19nm,0.9s
CAF Calviac 20.82 295 *e*P P 05 33 03.3 +1.0
comp=Z,19nm,0.9s
CAF Calviac 20.82 295 *e*P P 05 33 03.3 +1.0
comp=Z,19nm,0.9s
SNF Seneffe 20.83 311 P Pn 05 33 06.0 +1.2
comp=Z,23nm,1.7s
HYF Humbligny 20.83 302 *e*P Pn 05 33 03.7 -1.2
HYF Humbligny 20.83 302 *e*P Pn 05 33 03.7 -1.2
HYF Humbligny 20.83 302 *e*P Pn 05 33 03.7 -1.2
TCF Toulx Ste Croi 20.92 299 *e*P Pn 05 33 04.6 -1.4
comp=Z,92nm,1.3s
TCF Toulx Ste Croi 20.92 299 *e*P Pn 05 33 04.6 -1.4
TCF pmax pmax
comp=Z,92nm,1.3s
TCF Toulx Ste Croi 20.92 299 *e*P Pn 05 33 04.6 -1.4
comp=Z,92nm,1.3s
TCF Toulx Ste Croi 20.92 299 *e*P Pn 05 33 04.6 -1.4
comp=Z,92nm,1.3s
RJF Les Rejaudoux 21.25 296 *e*P P 05 33 10.4 +3.5
comp=Z,43nm,1.0s
RJF *e*R
comp=Z,1µm,17.0s
RJF Les Rejaudoux 21.25 296 *e*P P 05 33 10.4 +3.5
RJF pmax pmax
comp=Z,43nm,1.0s
RJF Les Rejaudoux 21.25 296 *e*P P 05 33 10.4 +3.5
comp=Z,43nm,1.0s
MLS Moulis 21.39 289 *e*P P 05 33 08.6 +0.1
MLS Moulis 21.39 289 *e*P P 05 33 08.6 +0.1
MLS Moulis 21.39 289 *e*P P 05 33 08.6 +0.1
MUD Monsted U'grnd 21.74 329 *i*P P 05 33 12.5 +0.4
MUD *i*S S 05 37 13.5 +1.5
MUD pmax pmax
comp=Z,37nm,1.0s
MUD Monsted U'grnd 21.74 329 *i*P P 05 33 12.5 +0.4
comp=Z,37nm,1.0s
MUD *i*S S 05 37 13.5 +1.5
MUD Monsted U'grnd 21.74 329 *i*P P 05 33 12.5 +0.4
comp=Z,37nm,1.0s
MUD *i*S S 05 37 13.5 +1.5
LFF La Frestale 21.75 295 *e*P P 05 33 13.9 +1.6
comp=Z,64nm,1.2s
LFF La Frestale 21.75 295 *e*P P 05 33 13.9 +1.6
LFF pmax pmax
comp=Z,64nm,1.2s
LFF La Frestale 21.75 295 *e*P P 05 33 13.9 +1.6
comp=Z,64nm,1.2s
LFF La Frestale 21.75 295 *e*P P 05 33 13.9 +1.6
comp=Z,64nm,1.2s
IPAR Pars 21.79 108 *e*P P 05 33 13.9 +0.7
IPAR Pars 21.79 108 *e*P P 05 33 13.9 +0.7
EPF Esparros 21.94 289 *e*P P 05 33 15.8 +1.3
comp=Z,43nm,1.1s
EPF Esparros 21.94 289 *e*P P 05 33 15.8 +1.3
EPF pmax pmax
comp=Z,43nm,1.1s
EPF Esparros 21.94 289 *e*P P 05 33 15.8 +1.3
comp=Z,43nm,1.1s
EPF Esparros 21.94 289 *e*P P 05 33 15.8 +1.3
comp=Z,43nm,1.1s
ISRV Sarvestan 22.08 109 *e*P P 05 33 16.8 +0.4
ISRV Sarvestan 22.08 109 *e*P P 05 33 16.8 +0.4
LABF Labassere 22.14 290 *e*P P 05 33 18.7 +2.1
LABF Labassere 22.14 290 *e*P P 05 33 18.7 +2.1
LABF Labassere 22.14 290 *e*P P 05 33 18.7 +2.1
VIEF Viey 22.17 289 *e*P P 05 33 19.5 +2.5
VIEF Viey 22.17 289 *e*P P 05 33 19.5 +2.5
VIEF Viey 22.17 289 *e*P P 05 33 19.5 +2.5
IMEH Mehriz 22.21 103 *e*P P 05 33 18.0 +0.4
IMEH Mehriz 22.21 103 *e*P P 05 33 18.0 +0.4
FINES FINESS Array B 22.41 356 P P 05 33 18.7 -0.5
FINES FINESS Array B 22.41 356 P P 05 33 18.7 -0.5
comp=Z,49nm,1.1s,baz=158,slow=12,SNR=26
FINES LR LR 05 42 41.6
comp=Z,2µm,19.1s,baz=82,slow=38
FINES FINESS Array B 22.41 356 P P 05 33 18.7 -0.5
comp=Z,2µm,19.1s
MFF Saint Martin d 22.57 299 *e*P P 05 33 21.4 +0.2
MFF Saint Martin d 22.57 299 *e*P P 05 33 21.4 +0.2
MFF Saint Martin d 22.57 299 *e*P P 05 33 21.4 +0.2
MFF Saint Martin d 22.57 299 *e*P P 05 33 21.4 +0.2
ETSF Etsaut 22.60 289 *e*P P 05 33 22.5 +0.9
comp=Z,36nm,1.1s
ETSF Etsaut 22.60 289 *e*P P 05 33 22.5 +0.9
ETSF pmax pmax
comp=Z,36nm,1.1s
ETSF Etsaut 22.60 289 *e*P P 05 33 22.5 +0.9
comp=Z,36nm,1.1s
ETSF Etsaut 22.60 289 *e*P P 05 33 22.5 +0.9
comp=Z,36nm,1.1s
KLMR Klimovskoe 22.70 13 *e*P P 05 33 20.2 -2.2
KLMR S S 05 37 25.7 -4.3
KLMR pmax pmax
comp=Z,212nm,1.4s
KLMR MLR MLR
comp=Z,2µm,13.0s
KLMR Klimovskoe 22.70 13 *e*P P 05 33 20.2 -2.2
comp=Z,212nm,1.4s
ISFR Sfrayin 22.84 86 *e*P P 05 33 24.3 0.0
ISFR Sfrayin 22.84 86 *e*P P 05 33 24.3 0.0
IBAF Bafgh 22.84 101 *e*P P 05 33 24.7 +0.4
IBAF Bafgh 22.84 101 *e*P P 05 33 24.7 +0.4
LDF La Druitiere 22.94 304 *e*P P 05 33 25.1 +0.1
comp=Z,35nm,0.8s
LDF La Druitiere 22.94 304 *e*P P 05 33 25.1 +0.1
LDF pmax pmax
comp=Z,35nm,0.8s
LDF La Druitiere 22.94 304 *e*P P 05 33 25.1 +0.1
comp=Z,35nm,0.8s
LDF La Druitiere 22.94 304 *e*P P 05 33 25.1 +0.1
comp=Z,35nm,0.8s
KAF Kangasniemi 23.07 357 *e*P P 05 33 25.5 -0.7
KAF pmax pmax
comp=Z,24nm,1.0s
KAF Kangasniemi 23.07 357 *e*p P 05 33 25.5 -0.7
comp=Z,24nm,1.0s
KAF Kangasniemi 23.07 357 *e*P P 05 33 25.5 -0.7
comp=Z,24nm,1.0s
SJPF Ste Jean 23.09 290 *e*P P 05 33 27.4 +0.8
comp=Z,31nm,0.9s
SJPF Ste Jean 23.09 290 *e*P P 05 33 27.4 +0.8
SJPF pmax pmax
comp=Z,31nm,0.9s
SJPF Ste Jean 23.09 290 *e*P P 05 33 27.4 +0.8
comp=Z,31nm,0.9s
SJPF Ste Jean 23.09 290 *e*P P 05 33 27.4 +0.8
comp=Z,31nm,0.9s
HFS Hagfors 23.14 340 P P 05 33 27.7 +0.7
HFS Hagfors 23.14 340 P P 05 33 27.7 +0.7
comp=Z,22nm,0.9s,baz=145,slow=11,SNR=15
HFS LR LR 05 42 47.3
comp=Z,1µm,18.7s,baz=151,slow=38
HFS Hagfors 23.14 340 P P 05 33 27.7 +0.7
comp=Z,1µm,18.7s
FLN La Foliniere 23.21 304 *e*P P 05 33 27.8 0.0
comp=Z,35nm,0.9s
FLN *e*R
comp=Z,1µm,22.3s
FLN La Foliniere 23.21 304 *e*P P 05 33 27.8 0.0
FLN pmax pmax
comp=Z,35nm,0.9s
FLN La Foliniere 23.21 304 *e*P P 05 33 27.8 0.0
comp=Z,35nm,0.9s
FLN La Foliniere 23.21 304 *e*P P 05 33 27.8 0.0
comp=Z,35nm,0.9s
IEMG Emamgholi 23.26 85 *e*P P 05 33 28.5 -0.2
IEMG Emamgholi 23.26 85 *e*P P 05 33 28.5 -0.2
AKTK Aktyubinsk 23.31 52 P P 05 33 27.5 -1.2
comp=Z,5.0nm,0.8s
AKTO Aktyubinsk 23.31 52 P P 05 33 27.5 -1.2
AKTO pmax pmax
comp=Z,5.0nm,0.8s
AKTO Aktyubinsk 23.31 52 P P 05 33 27.8 -0.9
AKTO S S 05 37 41.0 +0.5
AKTO Aktyubinsk 23.31 52 P P 05 33 27.8 -0.9
comp=Z,15nm,0.7s,baz=257,slow=11,SNR=30
AKTO S S 05 37 41.0 +0.5
comp=Z,1.5nm,0.9s,baz=318,slow=12,SNR=2.3
AKTO LR LR 05 46 47.1
comp=Z,965nm,18.5s,baz=36,slow=48
AKTO Aktyubinsk 23.31 52 P P 05 33 27.8 -0.9
AKTO S S 05 37 41.0 +0.5
IKRD Kardeh 23.31 86 *e*P P 05 33 37.0 +7.9
GRR Gorron 23.38 303 *e*P P 05 33 28.6 -0.8
comp=Z,166nm,1.3s
GRR Gorron 23.38 303 *e*P P 05 33 28.6 -0.8
GRR pmax pmax
comp=Z,166nm,1.3s
GRR Gorron 23.38 303 *e*P P 05 33 28.6 -0.8
comp=Z,166nm,1.3s
GRR Gorron 23.38 303 *e*P P 05 33 28.6 -0.8
comp=Z,166nm,1.3s
IAKL Akhelmad 23.54 87 *e*P P 05 33 32.1 +0.6
IPAY Payeh 23.77 87 *e*P P 05 33 34.6 +1.0
IPAY Payeh 23.77 87 *e*P P 05 33 34.6 +1.0
JOF Joensuu 23.86 3 *e*P P 05 33 33.4 -0.5
JOF pmax pmax
comp=Z,17nm,0.7s
JOF Joensuu 23.86 3 *e*p P 05 33 33.4 -0.5
comp=Z,17nm,0.7s
JOF Joensuu 23.86 3 *e*P P 05 33 33.4 -0.5
comp=Z,17nm,0.7s
IMOG Moghan 24.12 88 *e*P P 05 33 37.2 +0.1
IMOG Moghan 24.12 88 *e*P P 05 33 37.2 +0.1
AB31 Akbulak array 24.20 55 *i*P P 05 33 36.5 -0.7
AB31 pmax pmax
comp=Z,13nm,0.9s
AB31 Akbulak array 24.20 55 *i*P P 05 33 36.5 -0.7
comp=Z,13nm,0.9s
ABKAR Akbulak array 24.20 55 *e*P P 05 33 37.0 -0.2
comp=Z,7.0nm,0.7s
ABKAR Akbulak array 24.20 55 *e*P P 05 33 37.0 -0.2
comp=Z,7.0nm,0.7s
SGMF Saint Gilles 24.46 302 *e*P P 05 33 38.9 -0.8
comp=Z,94nm,1.2s
SGMF Saint Gilles 24.46 302 *e*P P 05 33 38.9 -0.8
SGMF pmax pmax
comp=Z,95nm,1.2s
SGMF Saint Gilles 24.46 302 *e*P P 05 33 38.9 -0.8
comp=Z,94nm,1.2s
SGMF Saint Gilles 24.46 302 *e*P P 05 33 38.9 -0.8
comp=Z,94nm,1.2s
NAO01 NORSAR Array S 24.51 338 *e*P P 05 33 40.3 +0.3
comp=Z,85nm,1.3s
NAO01 NORSAR Array S 24.51 338 *e*P P 05 33 40.3 +0.3
comp=Z,85nm,1.3s
NB2 NORSAR Subarra 24.57 339 P P 05 33 40.6 0.0
baz=143,slow=9.3
NB2 NORSAR Subarra 24.57 339 P P 05 33 40.6 0.0
comp=Z,74nm,1.4s,baz=143,slow=9.3
NB2 NORSAR Subarra 24.57 339 P P 05 33 40.6 0.0
comp=Z,74nm,1.4s,baz=143,slow=9.2,SNR=4.7
NOA NORSAR Array B 24.57 339 P P 05 33 40.7 0.0
NOA NORSAR Array B 24.57 339 P P 05 33 40.7 0.0
comp=Z,17nm,0.9s,baz=143,slow=9.3,SNR=8.1
NOA NORSAR Array B 24.57 339 P P 05 33 40.7 +0.1
comp=Z,17nm,0.9s
IMYA Miami 24.65 87 *e*P P 05 33 42.7 +0.9
IMYA Miami 24.65 87 *e*P P 05 33 42.7 +0.9
QUIF Quistinic 24.81 301 *e*P P 05 33 42.9 +0.1
comp=Z,48nm,1.1s
QUIF Quistinic 24.81 301 *e*P P 05 33 42.9 +0.1
QUIF pmax pmax
comp=Z,48nm,1.1s
QUIF Quistinic 24.81 301 *e*P P 05 33 42.9 +0.1
comp=Z,48nm,1.1s
QUIF Quistinic 24.81 301 *e*P P 05 33 42.9 +0.1
comp=Z,48nm,1.1s
ROSF Rostrenen 24.95 302 *e*P P 05 33 42.8 -1.3
comp=Z,97nm,1.4s
ROSF Rostrenen 24.95 302 *e*P P 05 33 42.8 -1.3
ROSF pmax pmax
comp=Z,97nm,1.4s
ROSF Rostrenen 24.95 302 *e*P P 05 33 42.8 -1.3
comp=Z,97nm,1.4s
ROSF Rostrenen 24.95 302 *e*P P 05 33 42.8 -1.3
comp=Z,97nm,1.4s
ESDC Sonseca Array 25.44 282 P P 05 33 48.4 -0.3
ESDC Sonseca Array 25.44 282 P P 05 33 48.4 -0.3
comp=Z,0.5nm,0.5s,baz=73,slow=10,SNR=8.1
ESDC LR LR 05 44 26.8
comp=Z,516nm,18.7s,baz=90,slow=38
ESDC Sonseca Array 25.44 282 P P 05 33 48.4 -0.3
PAB San Pablo 25.76 282 *e*P P 05 33 54.4 +2.8
comp=Z,20nm,1.2s
PAB pmax pmax
comp=Z,20nm,1.2s
PAB San Pablo 25.76 282 *e*P P 05 33 54.4 +2.8
comp=Z,20nm,1.2s
PAB San Pablo 25.76 282 *e*P P 05 33 54.4 +2.8
comp=Z,20nm,1.2s
TAM Tamanrasset 25.82 238 *e*P P 05 33 53.2 +0.8
TAM pmax pmax
comp=Z,19nm,1.1s
TAM Tamanrasset 25.82 238 *e*P P 05 33 53.2 +0.8
comp=Z,18nm,1.1s
TAM Tamanrasset 25.82 238 *e*P P 05 33 53.2 +0.8
comp=Z,18nm,1.1s
ARU Arti 26.02 39 *d i*P P 05 33 55.0 +1.3
ARU 05 34 32.6
ARU S S 05 38 28.7 +5.0
ARU SS SnSn 05 39 26.7 +5.6
ARU pmax pmax
comp=Z,73nm,1.7s
ARU MLR MLR
comp=Z,942nm,16.0s

ARU Arti 26.02 39 *e*P P 05 33 53.9 +0.2
comp=Z,74nm,1.0s
ARU Arti 26.02 39 *e*P P 05 33 53.9 +0.2
comp=Z,74nm,1.0s
BANOM Banah 26.36 112 P P 05 33 56.7 -0.5
SNR=7.2
ASUD Al Ashush, Dub 26.47 115 P P 05 33 57.9 -0.2
NAZ Nazwa, Dubai 26.48 114 ⇓P P 05 33 56.9 -1.2
SNR=11
NAZ Nazwa, Dubai 26.48 114 P P 05 33 57.9 -0.2
FAQ Al Faqa, Dubai 26.58 115 P P 05 33 58.9 -0.2
ESK Eskdalemuir 26.91 318 *e*P P 05 34 03.4 +1.6
ESK pmax pmax
comp=Z,148nm,2.0s
ESK Eskdalemuir 26.91 318 *e*P P 05 34 03.4 +1.6
comp=Z,148nm,2.0s
ESK Eskdalemuir 26.91 318 *e*P P 05 34 03.4 +1.6
comp=Z,148nm,2.0s
SOKR Solikamsk 26.95 32 *c i*P P 05 34 03.6 +1.6
SOKR pmax pmax
comp=Z,10.0nm,1.1s
SOKR MLR MLR
comp=Z,790nm,15.0s
SOKR Solikamsk 26.95 32 *i* P P 05 34 03.6 +1.6
comp=Z,790nm,15.0s
ASHO Ashiyiah 26.95 114 ⇓P P 05 34 02.2 -0.2
SNR=13
ASHO Ashiyiah 26.95 114 P P 05 34 02.2 -0.2
SNR=13
SVE Sverdlovsk 27.21 39⇑ *e*P P 05 34 08.2 +3.7
SVE pmax pmax
comp=Z,46nm,1.2s
SVE MLR MLR
comp=Z,1μm,14.0s
PBRG Braganca 27.24 287 *e*P P 05 34 08.9 +3.9
comp=Z,19nm,1.3s
MVO Moncorvo 27.54 286 *e*P P 05 34 09.5 +1.9
comp=Z,22nm,1.2s
MVO *e*LQ LQ 05 41 05.0
MVO *e*LR LR 05 43 36.6
comp=Z,539nm,16.0s
MVO Moncorvo 27.54 286 *e*P P 05 34 09.5 +1.9
comp=Z,22nm,1.2s
MDT Midelt 27.86 267 P P 05 34 11.2 +0.5
MDT Midelt 27.86 267 P P 05 34 11.2 +0.5
comp=Z,3.7nm,1.0s,baz=103,slow=9.8,SNR=4.0
MDT Midelt 27.86 267 P P 05 34 11.2 +0.5
MTE Manteigas 28.04 284 *e*P P 05 34 15.7 +3.6
comp=Z,26nm,1.3s
MTE *e*LQ LQ 05 40 51.4
MTE *e*P PKiKP 05 44 56.5 -5.8
MTE A A 05 46 21.3
comp=Z,640nm,18.0s
MTE Manteigas 28.04 284 *e*P P 05 34 15.8 +3.6
comp=Z,39nm,1.5s
PBAR Barrancos 28.09 280 *e*P P 05 34 16.0 +3.5
comp=Z,26nm,1.6s
PMRV Marv??o 28.09 282 *e*P P 05 34 17.0 +4.4
comp=Z,24nm,1.4s
PMRV *e*LQ LQ 05 39 19.4
PMRV *e*LR LR 05 42 44.4
comp=Z,516nm,16.0s
ARQ Araqi 28.13 116 ⇑P P 05 34 13.1 +0.1
ARQ Araqi 28.13 116 P P 05 34 13.1 +0.1
PVIS Viseu 28.25 285 *e*P P 05 34 14.4 +0.4
comp=Z,30nm,1.8s
PVIS Viseu 28.25 285 *e*P P 05 34 14.4 +0.4
comp=Z,30nm,1.8s
PGAV Gavieira, Arco 28.36 288 *e*LQ LQ 05 39 34.3
PGAV *e*LR LR 05 44 21.4
comp=Z,666nm,16.0s
PESTR Estremoz 28.36 281 *e*P P 05 34 19.7 +4.8
comp=Z,30nm,1.1s
APA Apatity 28.59 3⇓ *i*P P 05 34 22.0 +5.3
APA *i* 05 37 32.0
APA *e*S S 05 39 08.0 +3.9
APA MLR MLR
comp=Z,2μm,11.0s
EVO Evora 28.75 281 *e*P P 05 34 20.2 +1.8
comp=Z,23nm,1.2s
EVO *e*R
comp=Z,457nm,20.0s
PBEJ Beja 28.76 280 *e*P P 05 34 25.1 +6.6
comp=Z,23nm,1.3s
PVAQ Vaqueiros 28.80 278 *e*LQ LQ 05 38 38.2
PVAQ *e*LR LR 05 42 32.4
comp=Z,307nm,18.0s
EVOP Sao Brissos 28.84 281 *e*P P 05 34 20.2 +1.0
EVOP pmax pmax
comp=Z,23nm,1.2s
EVOP Sao Brissos 28.84 281 *e*P P 05 34 20.2 +1.0
comp=Z,23nm,1.2s
EVOP Sao Brissos 28.84 281 *e*P P 05 34 20.2 +1.0
comp=Z,23nm,1.2s
ARCES ARCESS Array B 30.52 358 P P 05 34 34.5 +0.7
ARCES ARCESS Array B 30.52 358 P P 05 34 34.5 +0.7
comp=Z,4.9nm,0.7s,baz=168,slow=9.1,SNR=12
ARCES LR LR 05 47 22.6
comp=Z,1μm,18.5s,baz=260,slow=38
ARCES ARCESS Array B 30.52 358 P P 05 34 34.5 +0.7
comp=Z,1μm,18.5s
KKAR Karatay Array 31.25 69 *e*P P 05 34 40.9 +0.3
KKAR pmax pmax
comp=Z,11nm,0.8s
KKAR Karatay Array 31.25 69 *e*P P 05 34 40.9 +0.3
comp=Z,10nm,0.8s
KKAR Karatay Array 31.25 69 *e*P P 05 34 40.9 +0.3
comp=Z,10nm,0.8s
BRVK Borovoye 31.33 50 *ce*P P 05 34 39.5 -1.5
BRVK pmax pmax
comp=Z,5.0nm,1.3s
BRVK Borovoye 31.33 50 *e*P P 05 34 39.5 -1.5
comp=Z,5.0nm,1.3s
BVAR Borovoye Array 31.39 50 LR LR 05 50 51.2
comp=Z,476nm,18.4s,baz=261,slow=43
KBL Kabul 32.15 86 *e*P P 05 34 48.9 +0.2
KBL pmax pmax
comp=Z,8.0nm,0.9s
KBL Kabul 32.15 86 *e*P P 05 34 48.9 +0.2
comp=Z,8.2nm,0.9s
KBL Kabul 32.15 86 *e*P P 05 34 48.9 +0.2
comp=Z,8.2nm,0.9s
EKS2 Erkin-Say 33.69 69 *e*P P 05 35 03.0 +0.9
EKS2 pmax pmax
comp=Z,14nm,1.1s
EKS2 Erkin-Say 33.69 69 *e*P P 05 35 03.0 +0.9
comp=Z,14nm,1.1s
EKS2 Erkin-Say 33.69 69 P P 05 35 03.0 +0.9
SNR=8.2
EKS2 Erkin-Say 33.69 69 *e*P P 05 35 03.0 +0.9
comp=Z,14nm,1.1s
AAK Ala-Archa 34.22 69 *ce*P P 05 35 06.7 0.0
AAK pmax pmax
comp=Z,31nm,1.0s
AAK Ala-Archa 34.22 69 *e*P P 05 35 07.3 +0.6
comp=Z,51nm,0.9s
AAK Ala-Archa 34.22 69 P P 05 35 07.5 +0.8
SNR=6.6
AAK Ala-Archa 34.22 69 P P 05 35 07.3 +0.6
SNR=13
AAK Ala-Archa 34.22 69 P P 05 35 07.0 +0.3
comp=Z,11nm,0.9s,baz=194,slow=8.3,SNR=22
AAK Ala-Archa 34.22 69 *e*P P 05 35 07.3 +0.6
comp=Z,51nm,0.9s
CHMS Chumysh 34.34 69 P P 05 35 08.3 +0.7
SNR=6.8
KZA Kyzart 34.87 70 P P 05 35 13.7 +1.2
SNR=12
TKM2 Tokmak 2 34.97 68 *e*P P 05 35 12.5 -0.7
TKM2 pmax pmax
comp=Z,8.0nm,0.9s
TKM2 Tokmak 2 34.97 68 *e*P P 05 35 12.5 -0.7
comp=Z,7.7nm,0.9s
TKM2 Tokmak 2 34.97 68 P P 05 35 13.3 +0.1
SNR=7.7
TKM2 Tokmak 2 34.97 68 *e*P P 05 35 12.5 -0.7
comp=Z,7.7nm,0.9s
TOA0 Torodi Ar. Sit 35.42 231 *e*P P 05 35 16.3 -0.7
TOA0 Torodi Ar. Sit 35.42 231 *e*P P 05 35 16.3 -0.7
TORD Torodi Ar. Bea 35.42 231 P P 05 35 16.9 -0.1
TORD PcP PcP 05 37 45.6 -1.1
TORD Torodi Ar. Bea 35.42 231 P P 05 35 16.9 -0.1
comp=Z,4.3nm,0.5s,baz=36,slow=7.7,SNR=52
TORD PcP PcP 05 37 45.6 -1.1
comp=Z,1.8nm,0.9s,baz=34,slow=3.7,SNR=3.3
TORD LR LR 05 52 01.3
comp=Z,396nm,18.5s,baz=10.0,slow=40

TORD Torodi Ar. Bea 35.42 231 P P 05 35 16.9 -0.1
TORD Torodi Ar. Bea 35.42 231 PcP PcP 05 37 45.6 -1.1
KSH Kashi 35.98 74 P P 05 35 20.9 -0.9
KSH pP pP 05 35 26.3 -0.2
KSH sP sP 05 35 27.9 -0.6
KSH PP PnPn 05 36 40.8 -1.6
KSH PcP PcP 05 37 50.5 +2.2
KSH S S 05 40 54.8 -5.0
KSH ScP ScP 05 41 34.9 +1.1
KSH PcS PcS 05 41 36.5 +0.7
KSH SS SnSn 05 43 12.3 -12
KSH ScS ScS 05 45 37.8 -1.6
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH pmax pmax
comp=Z,250nm,7.2s
KSH LR LR
comp=N,280nm,11.5s
KSH LR LR
comp=E,280nm,7.9s
KSH LR LR
comp=Z,360nm,14.2s
KURBB Kurchatov Arra 36.25 55 P P 05 35 23.7 -0.1
comp=Z,14nm,1.1s,baz=279,slow=8.9,SNR=50
KURBB PcP PcP 05 37 48.3 -0.4
comp=Z,5.8nm,1.0s,baz=271,slow=3.6,SNR=3.6
KURBB LR LR 05 52 42.6
comp=Z,513nm,19.6s,baz=280,slow=40
KURK Kurchatov 36.30 55 *e*P P 05 35 23.1 -1.2
KURK 05 37 48.3
KURK pmax pmax
comp=Z,38nm,1.7s
KURK Kurchatov 36.30 55 *e*P P 05 35 23.1 -1.2
comp=Z,38nm,1.7s
KURK PcP PcP 05 37 48.3 -0.5
KURK Kurchatov 36.30 55 *e*P P 05 35 23.1 -1.2
comp=Z,38nm,1.7s
MK31 Makanchi Array 39.06 61 *i* P P 05 35 46.9 -0.8
MK31 pmax pmax
comp=Z,13nm,0.8s
MK31 Makanchi Array 39.06 61 *e*P P 05 35 47.4 -0.3
MK31 Makanchi Array 39.06 61 *e*P P 05 35 47.4 -0.3
MKAR Makanchi Array 39.06 61 *e*P P 05 35 47.5 -0.1
MKAR Makanchi Array 39.06 61 *e*P P 05 35 47.5 -0.1
MKAR Makanchi Array 39.06 61 P P 05 35 47.6 -0.1
comp=Z,6.6nm,0.6s,baz=272,slow=7.7,SNR=44
MKAR LR LR 05 55 43.8
comp=Z,522nm,20.1s,baz=274,slow=42
MKAR Makanchi Array 39.06 61 *e*P P 05 35 47.5 -0.1
NVS Novosibirsk 39.10 48 *e*P P 05 35 46.6 -1.3
NVS *e* 05 37 18.4
NVS pmax pmax
comp=Z,39nm,1.6s
NVS pmax pmax
comp=E,17nm,1.4s
SPITS Spitsbergen Ar 39.51 356 P P 05 35 51.7 +0.6
SPITS Spitsbergen Ar 39.51 356 P P 05 35 51.7 +0.6
comp=E,8.8nm,1.0s,baz=163,slow=8.1,SNR=2.5
SPITS Spitsbergen Ar 39.51 356 P P 05 35 51.7 +0.6
comp=E,9.0nm,1.0s
ZAA0 Zalesovo Array 40.04 49 *e*P P 05 35 54.6 -1.1
ZAA0 Zalesovo Array 40.04 49 *e*P P 05 35 54.6 -1.1
ZALV Zalesovo Beam 40.04 49 P P 05 35 55.0 -0.7
ZALV pmax pmax
comp=Z,6.0nm,0.6s
ZALV MLR MLR
comp=Z,500nm,18.3s
ZALV Zalesovo Beam 40.04 49 P P 05 35 55.0 -0.7
ZALV Zalesovo Beam 40.04 49 P P 05 35 55.0 -0.7
comp=Z,6.2nm,0.6s,baz=270,slow=8.7,SNR=21
ZALV LR LR 05 55 37.2
comp=Z,500nm,18.3s,baz=270,slow=41
ZALV Zalesovo Beam 40.04 49 P P 05 35 55.0 -0.7
comp=Z,500nm,18.3s
KMBO Kilima Mbogo 40.77 167 *e*P P 05 36 03.9 +1.5
comp=Z,4.8nm,1.2s
KMBO Kilima Mbogo 40.77 167 *e*P P 05 36 03.9 +1.5
comp=Z,4.8nm,1.2s
SCO Scoresbysund 40.84 336 *i* P P 05 36 05.2 +3.1
SCO pmax pmax
comp=Z,10.0nm,0.9s
SCO Scoresbysund 40.84 336 *i* P P 05 36 05.2 +3.1
comp=Z,10.0nm,0.9s
SCO Scoresbysund 40.84 336 *i* P P 05 36 05.2 +3.1
comp=Z,10.0nm,0.9s
NDI New Delhi 40.89 90 *e*PKP P 05 36 01.0 -2.1
WMQ Urumqi 43.39 64 *e*P P 05 36 23.8 +0.4
WMQ pP pP 05 36 28.0 -0.2
WMQ sP sP 05 36 30.6 +0.5
WMQ PP PP 05 38 06.0 +1.8
WMQ S S 05 42 49.0 -1.8
WMQ SS SS 05 45 57.0 -7.5
WMQ pmax pmax
comp=Z,19nm,0.9s
WMQ pmax pmax
comp=Z,180nm,5.7s
WMQ LR LR
comp=N,830nm,19.4s
WMQ LR LR
comp=E,570nm,16.6s
WMQ LR LR
comp=Z,490nm,16.4s
DBIC Dimbokro 44.46 232 *e*P P 05 36 30.9 -1.2
comp=Z,14nm,1.1s
DBIC Dimbokro 44.46 232 P P 05 36 31.4 -0.8
comp=Z,4.3nm,0.7s,baz=35,slow=6.8,SNR=10
DBIC LR LR 05 57 16.7
comp=Z,356nm,20.1s,baz=20,slow=39
DBIC Dimbokro 44.46 232 *e*P P 05 36 31.0 -1.2
comp=Z,14nm,1.1s
LIC Lamto 44.92 232 *e*P P 05 36 34.8 -1.0
comp=Z,27nm,0.9s
LIC Lamto 44.92 232 *e*P P 05 36 34.8 -1.0
comp=Z,27nm,0.9s
LIC Lamto 44.92 232 *e*P P 05 36 34.8 -1.0
comp=Z,27nm,0.9s
DANN Dangsing 46.13 86 *e*P P 05 36 45.6 -0.1
comp=Z,158nm,1.1s
KOLN Koldanda 46.28 87 *e*P P 05 36 46.4 -0.4
comp=Z,48nm,0.9s
SUMG Summit 46.45 337 *i* P P 05 36 49.2 +1.5
SUMG pmax pmax
comp=Z,15nm,0.9s
SUMG Summit 46.45 337 *e*P P 05 36 51.1 +3.4
comp=Z,20nm,1.0s
SUMG Summit 46.45 337 *i* P P 05 36 49.2 +1.5
comp=Z,15nm,0.9s
SUMG Summit 46.45 337 *i* P P 05 36 49.2 +1.5
comp=Z,15nm,0.9s
BBTS Babate 46.77 252 LR LR 05 57 34.3
comp=Z,190nm,19.7s,baz=66,slow=38
GKN Gorkha 46.98 86 *e*P P 05 36 51.5 -0.7
comp=Z,91nm,1.1s
DMN Daman 47.53 86 *e*P P 05 36 55.8 -0.8
comp=Z,53nm,0.9s
KKN Kakani 47.58 86 *e*P P 05 36 56.1 -0.8
PKI Pulchoki 47.78 86 *e*P P 05 36 57.6 -1.1
GUN Gumba 47.99 86 *e*P P 05 36 59.4 -0.8
comp=Z,38nm,1.0s
HYB Hyderabad 47.99 102 *i* P P 05 36 59.0 -1.0
JIRN Jiri 48.35 86 *e*P P 05 37 02.2 -0.9
RAMN Ramite 49.01 86 *e*P P 05 37 06.7 -1.3
comp=Z,72nm,1.2s
ODAN Odare 49.67 86 *e*P P 05 37 12.2 -0.9
comp=Z,38nm,1.1s
TAPN Taplejung 49.68 85 *e*P P 05 37 12.2 -1.0
comp=Z,37nm,1.1s
MOY Mondy 50.06 51 *e*P P 05 37 16.7 +1.1
MOY pmax pmax
comp=Z,22nm,1.7s
MOY Mondy 50.06 51 *e*P P 05 37 16.7 +1.1
comp=Z,22nm,1.7s
LSA Lhasa 51.20 81 P P 05 37 24.8 -0.1
LSA Lhasa 51.20 81 *e*P P 05 37 25.1 +0.2
LSA pmax pmax
comp=Z,11nm,1.0s
LSA Lhasa 51.20 81 *e*P P 05 37 25.1 +0.2
comp=Z,11nm,1.0s
LSA Lhasa 51.20 81 *e*P P 05 37 25.1 +0.2
comp=Z,11nm,1.0s
TLY Talaya 51.64 50 *e*P P 05 37 27.3 -0.1
TLY *e* 05 48 22.7
TLY pmax pmax
comp=Z,12nm,0.9s
TLY MLR MLR
comp=Z,351nm,17.0s

TLY Talaya 51.64 50 *e*P P 05 37 28.8 +1.4
comp=Z,11nm,0.9s
TLY Talaya 51.64 50 *e*P P 05 37 27.3 -0.1
comp=Z,12nm,0.9s
ZAK Zakamensk 51.81 52⇓ *i*P P 05 37 29.3 +0.5
ZAK pmax pmax
comp=Z,9.0nm,1.2s
GTA Gaotai 53.42 66 ⇑P P 05 37 41.0 +0.2
GTA pP pP 05 37 45.5 -0.2
GTA sP sP 05 37 48.1 +0.5
GTA S S 05 45 11.4 -1.2
GTA SS SS 05 48 50.4 -1.9
GTA pmax pmax
comp=Z,5.0nm,1.0s
GTA pmax pmax
comp=Z,90nm,4.0s
GTA LR LR
comp=N,270nm,20.7s
GTA LR LR
comp=E,250nm,17.6s
GTA LR LR
comp=Z,230nm,20.4s
SHL Shillong 53.80 85 *ex* x 05 37 43.0
LSZ Lusaka 54.13 181 *e*P P 05 37 46.1 0.0
comp=Z,4.3nm,1.0s
LSZ Lusaka 54.13 181 *e*P P 05 37 46.1 0.0
comp=Z,4.3nm,1.0s
SONM Songino Array 54.60 54 P P 05 37 49.5 +0.2
SONM Songino Array 54.60 54 P P 05 37 49.5 +0.2
comp=Z,7.9nm,0.8s,baz=264,slow=8.1,SNR=29
SONM LR LR 06 05 10.9
comp=Z,505nm,18.5s,baz=153,slow=40
SONM Songino Array 54.60 54 P P 05 37 49.5 +0.2
comp=Z,505nm,18.5s
ULN Ulaanbaatar 55.00 54 *e*P P 05 37 52.2 -0.1
comp=Z,10nm,0.8s
ULN Ulaanbaatar 55.00 54 P P 05 37 52.9 +0.6
comp=Z,15nm,0.8s
ULN Ulaanbaatar 55.00 54 *e*P P 05 37 52.2 -0.1
comp=Z,10nm,0.8s
BOD Bodaibo 55.42 40 *e*P P 05 37 54.1 -0.8
BOD pmax pmax
comp=Z,9.0nm,1.3s
BOD Bodaibo 55.42 40 *e*P P 05 37 54.1 -0.8
comp=Z,9.0nm,1.3s
LZH Lanzhou 57.73 68 *e*P P 05 38 12.0 +0.1
LZH pP pP 05 38 15.3 -1.6
LZH PP PP 05 40 21.3 +1.6
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,76nm,6.2s
LZH LR LR
comp=N,330nm,15.2s
LZH LR LR
comp=E,360nm,16.0s
LZH LR LR
comp=Z,470nm,18.1s
TSUM Tsumeb 59.01 193 *e*P P 05 38 21.6 +0.7
comp=Z,99nm,2.9s
TSUM Tsumeb 59.01 193 P P 05 38 20.9 +0.1
comp=Z,1.2nm,0.4s,baz=4.2,slow=6.0,SNR=5.7
TSUM Tsumeb 59.01 193 *e*P P 05 38 21.5 +0.7
comp=Z,99nm,2.9s
OPO Ambohidratompo 59.86 160 P P 05 38 27.3 +0.6
OPO Ambohidratompo 59.86 160 P P 05 38 27.3 +0.6
comp=Z,0.8nm,0.3s,baz=353,slow=5.9,SNR=4.4
OPO Ambohidratompo 59.86 160 P P 05 38 27.3 +0.6
RES Resolute Bay 60.62 345 *e*P P 05 38 33.8 +2.7
comp=Z,8.5nm,1.2s
RES Resolute Bay 60.62 345 *e*P P 05 38 33.8 +2.7
comp=Z,8.5nm,1.2s
SCHQ Schefferville 62.19 319 *e*P P 05 38 40.9 -1.2
comp=Z,230nm,3.0s
SCHQ Schefferville 62.19 319 P P 05 38 41.2 -0.9
comp=Z,8.6nm,0.8s,baz=73,slow=6.8,SNR=18
SCHQ Schefferville 62.19 319 *e*P P 05 38 40.8 -1.2
comp=Z,230nm,3.0s
XAN Xi'an 62.37 67 P P 05 38 43.8 +0.2
XAN pP pP 05 38 50.4 +1.8
XAN S S 05 47 06.1 -3.6
XAN pmax pmax
comp=Z,2.0nm,0.9s
XAN pmax pmax
comp=Z,36nm,5.9s
XAN LR LR
comp=N,250nm,33.0s
XAN LR LR
comp=E,130nm,29.1s
XAN LR LR
comp=Z,120nm,21.1s
KMI Kunming 62.39 79 P P 05 38 43.3 -0.8
KMI pP pP 05 38 47.9 -1.2
KMI sP sP 05 38 49.5 -1.5
KMI PP PP 05 41 05.9 +4.7
KMI S S 05 47 11.1 +0.5
KMI pmax pmax
comp=Z,13nm,1.1s
KMI pmax pmax
comp=Z,130nm,5.4s
KMI LR LR
comp=N,290nm,26.0s
KMI LR LR
comp=E,240nm,26.0s
KMI LR LR
comp=Z,240nm,29.2s
CHTO Chiang Mai 62.95 87 *e*P P 05 38 46.5 -1.1
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CHTO Chiang Mai 62.95 87 *e*P P 05 38 46.5 -1.1
comp=Z,3.9nm,0.9s
CHTO Chiang Mai 62.95 87 P P 05 38 46.9 -0.7
comp=Z,6.7nm,1.1s
CHTO Chiang Mai 62.95 87 *e*P P 05 38 46.5 -1.1
comp=Z,3.9nm,0.9s
CMAR Chiang Mai Arr 63.15 87 P P 05 38 47.9 -1.1
CMAR Chiang Mai Arr 63.15 87 P P 05 38 47.9 -1.1
comp=Z,1.4nm,0.4s,baz=299,slow=7.9,SNR=17
CMAR LR LR 06 11 09.9
comp=Z,150nm,19.7s,baz=296,slow=41
CMAR Chiang Mai Arr 63.15 87 P P 05 38 47.9 -1.1
comp=Z,150nm,19.7s
LBTB Lobatse 63.89 183 *e*P P 05 38 53.1 -0.6
comp=Z,15nm,1.2s
LBTB Lobatse 63.89 183 *e*P P 05 38 53.1 -0.6
comp=Z,15nm,1.2s
BJI Beijing 64.36 58 P P 05 38 56.5 -0.1
BJI pmax pmax
comp=Z,12nm,1.0s
GYA Guiyang 64.65 76 P P 05 39 01.0 +2.1
GYA PP PP 05 41 23.8 +2.9
GYA ScP 05 43 36.4
GYA S S 05 47 37.6 -0.9
GYA SKS SKSac 05 48 51.5 -1.7
GYA SS SS 05 51 48.9 -0.1
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,110nm,5.2s
GYA LR LR
comp=N,460nm,20.8s
GYA LR LR
comp=E,410nm,21.0s
GYA LR LR
comp=Z,450nm,20.4s
ENH Enshi 64.72 71 *e*P P 05 38 58.2 -1.0
comp=Z,7.8nm,0.6s
ENH Enshi 64.72 71 *e*P P 05 38 58.2 -1.0
comp=Z,7.8nm,0.6s
BOSA Boshof 67.49 184 *e*P P 05 39 17.4 +0.6
comp=Z,20nm,1.4s
BOSA Boshof 67.49 184 P P 05 39 17.4 +0.6
comp=Z,6.9nm,1.0s,baz=356,slow=5.5,SNR=6.4
BOSA LR LR 06 11 37.8
comp=Z,225nm,18.9s,baz=2.8,slow=38
BOSA Boshof 67.49 184 *e*P P 05 39 17.4 +0.6
comp=Z,20nm,1.4s
CN2 Changchun 68.23 51 *e*P P 05 39 23.9 +2.5
CN2 *es*P sP 05 39 31.1 +2.8
CN2 *e*S S 05 48 21.3 0.0
CN2 SS SS 05 52 41.8 -1.7
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR

comp=N,500nm,13.0s
CN2 LR LR
comp=E,500nm,13.0s
CN2 LR LR
comp=Z,600nm,14.0s
BILL Bilibino 68.43 16⇓ *eP* **P 05 39 20.7 -1.5**
BILL *e* 05 39 47.9
BILL pmax pmax
comp=Z,16nm,1.2s
BILL MLR MLR
comp=Z,200nm,18.0s
BILL Bilibino 68.43 16 *eP* **P 05 39 25.2 +3.0**
comp=Z,18nm,1.1s
BILL Bilibino 68.43 16 *eP* **P 05 39 25.2 +3.0**
comp=Z,18nm,1.1s
FRNY Flat Rock 71.30 313 *eP* **P 05 39 41.8 +1.5**
comp=Z,10nm,1.0s
MDV Middlebury 71.57 312 *eP* **P 05 39 42.9 +1.0**
comp=Z,3um,1.0s
USRK Ussuriysk Arra 71.86 48 P **P 05 39 42.0 -1.7**
comp=Z,2.5nm,0.7s,baz=272,slow=5.6,SNR=4.4
LONY Lake Ozonia 72.00 313 *eP* **P 05 39 43.9 -0.6**
comp=Z,8.9nm,0.9s
INK Inuvik 72.08 353 *eP* **P 05 39 44.2 -0.3**
comp=Z,8.4nm,1.3s
PSI Prapat 72.67 101 P **P 05 39 47.6 -1.5**
PSI Prapat 72.67 101 P **P 05 39 47.7 -1.4**
PSI Prapat 72.67 101 P **P 05 39 47.6 -1.5**
comp=Z,9.2nm,0.9s,baz=302,slow=6.8,SNR=6.5
KSAR Wonju Array Be 73.41 55 P **P 05 39 52.6 -0.4**
KSRS Korea Array 73.43 55 P **P 05 39 52.6 -0.5**
comp=Z,23nm,0.8s,baz=300,slow=5.6,SNR=20
KSRS LR LR 06 18 28.3
comp=Z,410nm,19.1s,baz=207,slow=41
YKA Yellowknife Ar 74.58 343 P **P 05 39 59.0 -0.4**
YKA Yellowknife Ar 74.58 343 P **P 05 39 59.0 -0.4**
comp=Z,3.6nm,1.0s,baz=22,slow=6.1,SNR=18
MVL Millersville 75.89 310 *eP* P 05 40 11.4 +4.1
comp=Z,25nm,1.2s
ILAR Eielson Array 76.38 358 P **P 05 40 10.4 +0.7**
ILAR Eielson Array 76.38 358 P **P 05 40 10.4 +0.7**
comp=Z,1.1nm,1.0s,baz=358,slow=5.4,SNR=8.3
ERPA Erie 76.63 314 *eP* **P 05 40 11.6 +0.1**
comp=Z,24nm,1.2s
FFC Flin Flon 77.54 333 *eP* **P 05 40 15.5 -0.9**
FFC pmax pmax
comp=Z,9.0nm,1.1s
FFC Flin Flon 77.54 333 *eP* **P 05 40 15.5 -0.9**
comp=Z,9.4nm,1.1s
PETK Petropavlovsk- 77.96 29 LR LR 06 17 49.6
comp=Z,385nm,18.1s,baz=312,slow=38
JNU Nakatsue 77.99 57 P **P 05 40 20.8 +1.4**
JNU Nakatsue 77.99 57 P **P 05 40 20.8 +1.4**
comp=Z,19nm,0.9s,baz=42,slow=4.4,SNR=4.8
ULM Lac du Bonnet 78.69 328 P **P 05 40 22.6 -0.3**
ULM Lac du Bonnet 78.69 328 P **P 05 40 22.6 -0.3**
comp=Z,7.0nm,0.9s,baz=29,slow=4.9,SNR=8.0
ULM LR LR 06 16 48.8
comp=Z,466nm,18.6s,baz=6.3,slow=37
ACSO Alum Creek Sta 79.57 314 *eP* **P 05 40 27.9 0.0**
comp=Z,17nm,1.2s
AGMN Agassiz Nation 80.17 326 *eP* **P 05 40 33.5 +2.5**
comp=Z,10.0nm,1.2s
MJAR Matsushiro Arr 80.38 50 P **P 05 40 32.0 -0.3**
MJAR Matsushiro Arr 80.38 50 P **P 05 40 32.0 -0.3**
comp=Z,10nm,1.0s,baz=302,slow=4.7,SNR=3.3
MJAR LR LR 06 19 07.1
comp=Z,203nm,19.2s,baz=355,slow=38
SFIN Scholer Farm 81.73 316⇑ P **P 05 40 38.9 -0.5**
baz=82
MDND Maddock 82.11 328⇑ P **P 05 40 40.2 -1.1**
baz=82
HUMP Col San Antoni 82.45 287 *eP* **P 05 40 45.1 +1.5**
comp=Z,9.8nm,1.1s
CELP Cerrillos 83.04 288 *eP* **P 05 40 46.0 -0.6**
A22A Carney Farms, 83.63 332⇑ P **P 05 40 49.5 +0.2**
baz=83
ECSD EROS Data Cent 84.02 324 *eP* **P 05 40 52.5 +1.2**
comp=Z,6.8nm,1.1s
A20A Cobblestone Ra 84.45 333⇓ P **P 05 40 52.4 -1.0**
baz=84
C22A Vida 84.66 331⇑ P **P 05 40 53.8 -0.7**
baz=84
B20A Solberg Farm, 84.85 333⇑ P **P 05 40 55.5 0.0**
baz=84,SNR=5.5
D23A Lindsay 84.88 331⇓ P **P 05 40 55.3 -0.4**
baz=85,SNR=5.2
C21A Desert Coulee 85.04 332⇑ P **P 05 40 56.2 -0.3**
baz=85
A18A Metzger Ranch, 85.08 334⇑ P **P 05 40 56.3 -0.3**
baz=85
B19A Brinkman Farms 85.17 333⇑ P **P 05 40 56.3 -0.8**
baz=85
D22A Cohagen 85.27 331⇓ P **P 05 40 57.1 -0.5**
baz=85
C20A Veseth Ranch, 85.46 333⇑ P **P 05 40 57.7 -0.9**
baz=85
B18A Beardsley Farm 85.50 334⇓ P **P 05 40 58.2 -0.6**
baz=85,SNR=6.8
A16A West Butte Ran 85.63 335⇑ P **P 05 40 58.4 -1.0**
baz=85,SNR=6.2
F24A Ekalaka 85.68 329⇑ P **P 05 40 58.8 -0.9**
baz=85
EGMT Eagleton 85.81 334 *eP* **P 05 41 00.2 -0.2**
comp=Z,20nm,1.3s
EGMT Eagleton 85.81 334⇓ P **P 05 40 59.9 -0.5**
baz=86,SNR=7.1
C19A Slack Wire Ran 85.82 333⇓ P **P 05 41 00.3 -0.1**
baz=86,SNR=6.1
SDDR Presa de Saban 85.92 291 *eP* **P 05 41 01.5 +0.2**
comp=Z,24nm,1.0s
B17A L&G Farms, Che 85.94 334⇓ P **P 05 41 00.6 -0.3**
baz=86
A15A Johnson Ranch, 85.97 336⇑ P **P 05 40 60.0 -1.2**
baz=86,SNR=6.2
D20A Manuel Ranch, 86.04 332⇑ P **P 05 41 01.1 -0.3**
baz=86,SNR=6.7
PLAL Pickwick Lake 86.13 313 *eP* P 05 41 05.1 +3.1
comp=Z,17nm,1.1s
B16A M & M Farms, S 86.14 335⇓ P **P 05 41 01.2 -0.7**
baz=86
F23A Volborg 86.16 330⇑ P **P 05 41 01.5 -0.6**
baz=86,SNR=8.5
A14A Double T Ranch 86.19 336⇓ P **P 05 41 01.3 -0.9**
baz=86,SNR=5.3
D19A Cripps Ranch, 86.24 333⇑ P **P 05 41 01.9 -0.6**
baz=86
WALA Waterton Lakes 86.27 337 *eP* **P 05 41 01.3 -1.3**
comp=Z,0.2nm,1.0s
C17A Wharram Farm, 86.50 334⇑ P **P 05 41 03.1 -0.6**
baz=86
B15A Bradely Ranch, 86.50 335⇑ P **P 05 41 02.8 -0.9**
baz=86
BGNE Belgrade 86.54 323⇓ P **P 05 41 03.5 -0.4**
baz=86
A13A Flathead Natio 86.54 337⇑ P **P 05 41 03.7 -0.2**
baz=86
D18A Linhart Farms, 86.54 333⇓ P **P 05 41 03.5 -0.5**
baz=86
G23A Biddle 86.59 330⇑ P **P 05 41 03.8 -0.4**
baz=86
H24A Dirks Ranch, A 86.63 329⇓ P **P 05 41 03.9 -0.5**
baz=86
C16A Fuhringer Ranc 86.68 335⇑ P **P 05 41 03.7 -0.9**
baz=86
E19A Rath Farm, Rou 86.81 332⇑ P **P 05 41 05.1 -0.2**
baz=86,SNR=6.9
LRAL Lakeview Retre 86.90 311 *eP* **P 05 41 08.5 +2.7**
comp=Z,15nm,1.2s
RSSD Black Hills 86.94 328 *eP* **P 05 41 09.1 +3.0**
RSSD pmax pmax
comp=Z,4.0nm,1.0s
RSSD Black Hills 86.94 328 *eP* **P 05 41 09.1 +3.0**
comp=Z,4.1nm,1.0s
C15A Salmond Ranch, 86.99 335⇑ P **P 05 41 05.8 -0.3**
baz=87
B13A Whitefish 87.05 337⇓ P **P 05 41 05.9 -0.5**
baz=87
E18A Harlowton 87.12 333⇑ P **P 05 41 05.9 -0.9**
baz=87,SNR=6.5
C14A Swan Lake 87.36 336⇑ P **P 05 41 07.3 -0.7**
baz=87
F19A Roth Farm, Mol 87.39 332⇓ P **P 05 41 07.5 -0.6**
baz=87
E17A Martinsdale 87.54 334⇑ P **P 05 41 08.8 -0.1**
baz=87
D15A Lincoln 87.60 335⇓ P **P 05 41 08.7 -0.5**
baz=87
F18A Big Timber 87.62 333⇓ P **P 05 41 08.9 -0.4**
baz=87
G20A Bridger 87.66 331⇑ P **P 05 41 09.1 -0.4**
baz=87
H21A Big Horn, Sher 87.71 330⇓ P **P 05 41 09.1 -0.6**
baz=87
E16A East Helena 87.76 334⇑ P **P 05 41 09.0 -0.9**
baz=87
D14A Greenough 87.89 335⇑ P **P 05 41 09.6 -0.9**
baz=88
NEW Newport 87.94 338 *eP* **P 05 41 13.6 +3.0**
comp=Z,64nm,2.9s
NEW Newport 87.94 338⇓ P **P 05 41 10.1 -0.5**
baz=88
F17A Fitzpatrick Pl 87.95 333⇓ P **P 05 41 10.3 -0.6**
baz=88
C11A Tepee Creek (N 88.07 337⇑ P **P 05 41 10.4 -0.9**
baz=88
I22A 9 Mile Ranch, 88.11 330⇑ P **P 05 41 10.9 -0.7**
baz=88
RLMT Red Lodge 88.13 332 *eP* **P 05 41 11.7 -0.1**
comp=Z,4.0nm,0.9s
RLMT Red Lodge 88.13 332⇓ P **P 05 41 11.1 -0.8**
baz=88
E15A Deer Lodge 88.18 335⇑ P **P 05 41 10.4 -1.6**
baz=88
H20A Greybull 88.20 331⇓ P **P 05 41 11.8 -0.2**
baz=88
H19A Powell 88.41 331⇑ P **P 05 41 12.5 -0.5**
baz=88
G17A Pierce Place, 88.49 333⇑ P **P 05 41 13.2 -0.2**
baz=88
I21A Big Trails, Te 88.50 330⇓ P **P 05 41 12.9 -0.6**
baz=88
H18A Shoshone NF, C 88.66 332⇓ P **P 05 41 13.9 -0.4**
baz=88
E13A Victor 88.67 336⇓ P **P 05 41 13.4 -0.8**
baz=88
I20A Worland 88.70 331⇑ P **P 05 41 13.6 -0.9**
baz=88
G16A Moss Hill, Enn 88.94 334⇓ P **P 05 41 14.6 -1.0**
baz=89
I19A Meeteetse 88.96 331⇑ P **P 05 41 15.0 -0.7**
baz=89
J20A Shoshoni 89.19 330⇑ P **P 05 41 16.7 0.0**
baz=89
H16A Russell Place, 89.20 333⇓ P **P 05 41 16.3 -0.5**
baz=89
F13A Darby 89.30 335⇓ P **P 05 41 16.0 -1.2**
baz=89
J19A Crowheart 89.64 331⇓ P **P 05 41 18.9 0.0**
baz=89
IMW Indian Meadow 89.79 332 *eP* **P 05 41 20.2 +0.4**
comp=Z,3.3nm,1.0s
PHWY Pilot Hill 89.86 328 *eP* **P 05 41 22.6 +2.4**
comp=Z,36nm,2.3s
I16A Newdale 90.01 333⇑ P **P 05 41 20.0 -0.6**
baz=90
BDFB Brasilia 90.04 250 LR LR 06 22 23.2
comp=Z,230nm,19.5s,baz=76,slow=36
J18A Kendall Valley 90.05 331⇓ P **P 05 41 20.7 -0.2**
baz=90
PDAR Pinedale Array 90.25 331 P **P 05 41 23.2 +1.3**
PDAR Pinedale Array 90.25 331 P **P 05 41 23.2 +1.3**
comp=Z,0.6nm,0.8s,baz=9.5,slow=2.7,SNR=4.9
PDAR LR LR 06 23 10.1
comp=Z,288nm,18.7s,baz=40,slow=36
P26A Davis Ranch, A 90.38 325⇑ P **P 05 41 22.7 +0.3**
baz=90
RRI2 Red Ridge 90.41 332 *eP* **P 05 41 23.0 +0.4**
comp=Z,9.4nm,1.3s
K18A Toltan Ranch, 90.55 331⇑ P **P 05 41 22.9 -0.3**
baz=90
DAV Davao City (W) 90.62 80 LR LR 06 25 36.8
comp=Z,227nm,21.1s,baz=273,slow=38
L19A Farson 90.75 330⇓ P **P 05 41 24.0 -0.1**
baz=90
J15A Blackfoot 90.76 333⇑ P **P 05 41 24.0 -0.1**
baz=90
M20A Sweetwater, Wa 90.81 329⇑ P **P 05 41 24.1 -0.4**
baz=90
AHID Auburn Hatcher 90.83 332 *eP* **P 05 41 24.1 -0.4**
comp=Z,2.6nm,0.8s
BMO Blue Mountains 91.07 337 *eP* **P 05 41 24.2 -1.2**
BMO pmax pmax
comp=Z,1.0nm,0.8s
BMO Blue Mountains 91.07 337 *eP* **P 05 41 24.2 -1.2**
comp=Z,1.0nm,0.8s
N20A Spence Gulch, 91.40 329⇓ P **P 05 41 27.1 -0.2**
baz=91
K15A Arbon 91.42 333⇓ P **P 05 41 26.8 -0.4**
baz=91
R26A Arlington 91.46 325⇑ P **P 05 41 26.2 -1.2**
baz=91
L16A Fish Haven 91.60 332⇑ P **P 05 41 26.3 -1.8**
baz=91
SDV Santo Domingo 91.88 283 *eP* **P 05 41 29.6 -0.2**
comp=Z,4.7nm,0.8s
HWUT Hardware Ranch 92.01 332 *eP* **P 05 41 30.0 +0.1**
comp=Z,44nm,2.6s
WMOK Wichita Mounta 92.08 319 *eP* **P 05 41 30.8 +0.6**
WMOK Wichita Mounta 92.08 319 *eP* **P 05 41 30.8 +0.6**
M16A Huntsville 92.28 331⇓ P **P 05 41 30.5 -0.8**
baz=92
Q22A Crested Butte, 92.51 327⇓ P **P 05 41 31.1 -1.3**
baz=92
T24A Torres, Weston 93.19 325⇑ P **P 05 41 34.8 -0.8**
baz=93
U25A Circle Dot Ran 93.45 324⇑ P **P 05 41 35.6 -1.2**
baz=93
V26A Tequesquite Ra 93.66 323⇑ P **P 05 41 35.0 -2.7**
baz=93
DUG Dugway 93.70 332 *eP* **P 05 41 37.9 +0.2**
DUG pmax pmax
comp=Z,2.0nm,0.8s
DUG Dugway 93.70 332 *eP* **P 05 41 37.9 +0.2**
comp=Z,2.2nm,0.8s
TXAR Lajitas Array 98.88 320 P **P 05 42 01.0 -0.4**
TXAR Lajitas Array 98.88 320 P **P 05 42 01.0 -0.4**
comp=Z,1.7nm,1.0s,baz=67,slow=4.2,SNR=8.3
TXAR LR LR 06 26 39.8
comp=Z,313nm,20.5s,baz=190,slow=35
ASAR Alice Springs 115.70 100 PKP **PKPdf 05 47 02.5 -0.9**
ASAR Alice Springs 115.70 100 PKP **PKPdf 05 47 02.5 -0.9**
comp=Z,1.2nm,0.9s,baz=319,slow=1.6,SNR=6.0
CTA Charters Tower 123.28 90 PKP **PKPdf 05 47 17.9 -0.2**
CTA Charters Tower 123.28 90 PKP **PKPdf 05 47 17.9 -0.2**
comp=Z,5.3nm,0.9s,baz=297,slow=2.3,SNR=3.5
QSPA South Pole Qui 128.98 180 *e*PKPdf **PKPdf 05 47 25.8 -1.8**
MSVF Nonsavu 145.66 60 *e*PKIKP **PKPbc 05 48 00.1 +0.1**
MSVF Nonsavu 145.66 60 *e*PKPdf **PKPbc 05 48 00.1 +0.1**

IDC 17 05:29:34.8±1.9, 6.69S×130.58E, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.6/16, mbtmpg3.7/5, Error ellipse: s-maj=86.8km s-min=26.1km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.32**	**203**	Pn	Pn	05 32 31.0	-0.6
	1.2nm,0.3s,baz=31,slow=12,SNR=21						
FITZ				Sn	Sn	05 34 38.7	-11
	1.4nm,0.3s,baz=194,slow=17,SNR=10						
WRA	**Warramunga Arr**	**13.67**	**165**	Pn	Pn	05 32 49.1	-1.0
	0.2nm,0.3s,baz=348,slow=14,SNR=14						
WRA				Sn	Sn	05 35 11.4	-11
	0.9nm,0.3s,baz=340,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**17.18**	**170**	P	P	05 33 37.7	-0.4
	0.2nm,0.3s,baz=353,slow=11,SNR=11						
ASAR				S	Sn	05 36 36.2	-12
	0.3nm,0.3s,baz=354,slow=25,SNR=7.0						
MKAR	**Makanchi Array**	**68.29**	**326**	P	P	05 40 38.1	+0.3
	0.3nm,0.5s,baz=112,slow=8.6,SNR=4.8						
KURBB	**Kurchatov Arra**	**72.56**	**328**	P	P	05 41 03.5	-0.2
	0.9nm,1.1s,baz=118,slow=5.1,SNR=3.1						

ISCJB 17 05:34:44.6±0.4, 39.13N±0.02×29.08E±0.02, h9km±3km, Error ellipse: s-maj=3.1km s-min=3.0km az=25.5
ISK 17 05:34:44.4, 39.12N×29.10E, h11km, ML3.6
DDA 17 05:34:44.6, 39.13N×29.04E, h11km, MD2.8
CSEM 17 05:34:45.2±0.1, 39.13N×29.14E, h8km±4km, ML3.6, Error ellipse: s-maj=4.1km s-min=3.6km az=79.0
ATH 17 05:35:06.0, 39.64N×27.14E, h18km±4km, MD3.5/8
ISC 17 05:34:44.8±1.0, 39.12N±0.02×29.11E±0.02, h7km±10km, n144,g0s76/165, 10C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.29**	**96**	*i* Pg	**Pb**	**05 34 52.0**	**-0.4**
GDZ				*i* Sg	**Sb**	**05 34 56.8**	**-0.7**
DEMI	**Demirci**	**0.32**	**256**	*i* Pg	**Pg**	**05 34 50.6**	**-0.4**
DEMI				*i* Sg	**Sg**	**05 34 54.2**	**-1.0**
TVSB	**Tavsanli**	**0.43**	**39**	*e*PG	**Pb**	**05 34 54.1**	**-0.7**
TVSB				*e*SG	**Sg**	**05 34 59.8**	**+1.0**
TVSB	**Tavsanli**	**0.43**	**39**	*e*Pg	**Pb**	**05 34 54.1**	**-0.7**
TVSB				*e*Sg	**Sg**	**05 34 59.8**	**+1.0**
DURS	**Dursunbey**	**0.69**	**314**	*e*P	**Pg**	**05 34 58.1**	**0.0**
DURS				*e*S	**Sg**	**05 35 06.4**	**-0.7**
DURS	**Dursunbey**	**0.69**	**314**	*e*P	**Pg**	**05 34 58.1**	**0.0**
DURS				*e*S	**Sg**	**05 35 06.4**	**-0.7**
KULA	**Kula-Manisa**	**0.70**	**210**	*e*PG	**Pg**	**05 34 57.8**	**-0.4**
KULA	**Kula-Manisa**	**0.70**	**210**	*e*Pg	**Pg**	**05 34 57.8**	**-0.4**
MANT	**Manisa**	**0.76**	**215**	*i* P	**Pg**	**05 34 59.2**	**-0.2**
MANT				*i* S	**Sg**	**05 35 08.6**	**-0.8**
MANT	**Manisa**	**0.76**	**215**	*i* P	**Pg**	**05 34 59.2**	**-0.2**
ALT	**Altintas**	**0.78**	**94**	*e*PG	**Pg**	**05 35 00.2**	**+0.4**
ALT	**Altintas**	**0.78**	**94**	*e*Pg	**Pg**	**05 35 00.2**	**+0.4**
KHL	**Karahalli**	**0.86**	**158**	*e*PG	**Pg**	**05 35 01.4**	**+0.2**
KHL				*e*SG	**Sb**	**05 35 13.5**	**-0.3**
KHL	**Karahalli**	**0.86**	**158**	*e*Pg	**Pg**	**05 35 01.4**	**+0.2**
KHL				*e*Sg	**Sb**	**05 35 13.5**	**-0.3**
ORLT	**Orhaneli**	**0.94**	**350**	*e*PG	**Pg**	**05 35 02.8**	**-0.1**
ORLT	**Orhaneli**	**0.94**	**350**	*e*Pg	**Pg**	**05 35 02.8**	**-0.1**
ULDT	**Uludag**	**1.02**	**1**	*e*P	**Pb**	**05 35 05.0**	**0.0**
ULDT				*e*S	**Sg**	**05 35 17.4**	**-0.4**
ULDT	**Uludag**	**1.02**	**1**	*e*P	**Pb**	**05 35 05.0**	**0.0**
ULDT				*e*S	**Sg**	**05 35 17.4**	**-0.4**
AKHS	**Akhisar**	**1.04**	**257**	*e*P	**Pn**	**05 35 05.9**	**+0.1**
AKHS				*e*S	**Sg**	**05 35 17.4**	**-0.9**
AKHS	**Akhisar**	**1.04**	**257**	*e*P	**Pn**	**05 35 05.9**	**+0.1**
AKHS				*e*S	**Sg**	**05 35 17.3**	**-0.9**
AKS	**Akhisar**	**1.04**	**257**	*e*PG	**Pg**	**05 35 05.0**	**+0.3**
AKS	**Akhisar**	**1.04**	**257**	*e*Pg	**Pg**	**05 35 05.1**	**+0.3**
BALB	**Balikesir**	**1.09**	**299**	*e*PN	**Pg**	**05 35 05.4**	**-0.3**
BALB	**Balikesir**	**1.09**	**299**	*e*Pn	**Pg**	**05 35 05.4**	**-0.3**
CAVI	**Cavuskoy**	**1.22**	**27**	*e*PN	**Pb**	**05 35 08.1**	**-0.1**
CAVI	**Cavuskoy**	**1.22**	**27**	*e*Pn	**Pb**	**05 35 08.1**	**-0.1**
SHUT	**Suhut-Afyon**	**1.26**	**116**	*e*PN	**Pb**	**05 35 09.1**	**+0.2**
SHUT	**Suhut-Afyon**	**1.26**	**116**	*e*Pn	**Pb**	**05 35 09.1**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.26**	**352**	*e*PN	**Pn**	**05 35 08.5**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.26**	**352**	*e*Pn	**Pn**	**05 35 08.5**	**-0.3**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*PN	**Pn**	**05 35 08.9**	**-0.3**
KCTX	**Karacabey (Bur**	**1.28**	**333**	*e*Pn	**Pn**	**05 35 08.9**	**-0.3**
BALY	**Balya**	**1.31**	**299**	*e*P	**Pg**	**05 35 13.0**	**+3.0**
BALY				*e*S	**Sb**	**05 35 25.8**	**-1.1**
BALY	**Balya**	**1.31**	**299**	*e*P	**Pg**	**05 35 13.0**	**+3.0**
BALY				*e*S	**Sb**	**05 35 25.8**	**-1.1**
ADVT	**Abdulvahap**	**1.40**	**20**	*e*PN	**Pn**	**05 35 10.8**	**0.0**
ADVT	**Abdulvahap**	**1.40**	**20**	*e*Pn	**Pn**	**05 35 10.8**	**0.0**
ESKT	**Eskisehir**	**1.41**	**73**	*e*PN	**Pn**	**05 35 10.4**	**-0.6**
ESKT	**Eskisehir**	**1.41**	**73**	*e*Pn	**Pn**	**05 35 10.4**	**-0.6**
GONE	**Gonen-Balikesi**	**1.44**	**311**	*e*PN	**Pn**	**05 35 11.0**	**-0.3**
GONE				*e*SN	**Sb**	**05 35 30.6**	**+0.1**
GONE	**Gonen-Balikesi**	**1.44**	**311**	*e*Pn	**Pn**	**05 35 11.0**	**-0.3**
GONE				*e*Sn	**Sb**	**05 35 30.6**	**+0.1**
ARMT	**Armutlu**	**1.46**	**352**	*e*PN	**Pn**	**05 35 11.4**	**-0.2**
ARMT	**Armutlu**	**1.46**	**352**	*e*Pn	**Pn**	**05 35 11.4**	**-0.2**
YLV	**Yalova**	**1.46**	**8**	*e*PN	**Pn**	**05 35 11.1**	**-0.6**
YLV	**Yalova**	**1.46**	**8**	*e*Pn	**Pn**	**05 35 11.1**	**-0.6**
GPA	**Golpazari**	**1.49**	**38**	*e*PN	**Pb**	**05 35 12.8**	**0.0**
GPA	**Golpazari**	**1.49**	**38**	*e*Pn	**Pb**	**05 35 12.8**	**0.0**
BNT	**Bandirma**	**1.54**	**324**	*e*PN	**Pn**	**05 35 12.4**	**-0.3**
BNT	**Bandirma**	**1.54**	**324**	*e*Pn	**Pn**	**05 35 12.4**	**-0.3**
EDC	**Edincik**	**1.56**	**322**	*e*PN	**Pn**	**05 35 12.2**	**-0.7**
EDC	**Edincik**	**1.56**	**322**	*e*Pn	**Pn**	**05 35 12.2**	**-0.7**
GULT	**Gulveren**	**1.70**	**39**	*e*PN	**Pn**	**05 35 15.2**	**+0.3**
GULT	**Gulveren**	**1.70**	**39**	*e*Pn	**Pn**	**05 35 15.2**	**+0.3**
ISP	**Isparta**	**1.70**	**139**	*e*PN	**Pn**	**05 35 15.2**	**+0.2**
ISP	**Isparta**	**1.70**	**139**	*e*Pn	**Pn**	**05 35 15.2**	**+0.2**
AYDN	**Tasoluk**	**1.75**	**214**	*e*P	**Pb**	**05 35 17.3**	**+0.1**
AYDN				*e*S	**Sb**	**05 35 40.6**	**+1.2**
AYDN	**Tasoluk**	**1.75**	**214**	*e*P	**Pb**	**05 35 17.3**	**+0.1**
AYDN				*e*S	**Sb**	**05 35 40.6**	**+1.2**
HRT	**Hereke**	**1.75**	**14**	*e*PN	**Pn**	**05 35 15.5**	**-0.2**
HRT	**Hereke**	**1.75**	**14**	*e*Pn	**Pn**	**05 35 15.5**	**-0.2**
BLCB	**Balcova**	**1.78**	**246**	*e*PN	**Pn**	**05 35 16.2**	**+0.4**
BLCB	**Balcova**	**1.78**	**246**	*e*Pn	**Pn**	**05 35 16.3**	**+0.4**
SPNC	**Sapanca-Adapaz**	**1.82**	**30**	*e*PN	**Pn**	**05 35 16.5**	**0.0**
SPNC	**Sapanca-Adapaz**	**1.82**	**30**	*e*Pn	**Pn**	**05 35 16.5**	**0.0**
KRBG	**Karabiga-Canak**	**1.89**	**313**	*e*PN	**Pn**	**05 35 18.2**	**+0.7**
KRBG	**Karabiga-Canak**	**1.89**	**313**	*e*Pn	**Pn**	**05 35 18.2**	**+0.7**
SVRH	**Sivrihisar-ESK**	**1.90**	**79**	*e*PN	**Pn**	**05 35 17.2**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.90**	**79**	*e*Pn	**Pn**	**05 35 17.3**	**-0.4**
ISK	**Istanbul-Kandi**	**1.94**	**359**	*e*PN	**Pn**	**05 35 17.9**	**-0.3**
ISK	**Istanbul-Kandi**	**1.94**	**359**	*e*Pn	**Pn**	**05 35 17.9**	**-0.3**
BCK	**Bucak**	**2.02**	**144**	*e*PN	**Pn**	**05 35 19.1**	**-0.3**
BCK	**Bucak**	**2.02**	**144**	*e*Pn	**Pn**	**05 35 19.1**	**-0.3**
SILT	**Sile**	**2.07**	**11**	*e*PN	**Pn**	**05 35 19.5**	**-0.5**
SILT	**Sile**	**2.07**	**11**	*e*Pn	**Pn**	**05 35 19.5**	**-0.5**
BGKT	**Bogazkoy**	**2.08**	**353**	*e*PN	**Pn**	**05 35 19.5**	**-0.5**
BGKT	**Bogazkoy**	**2.08**	**353**	*e*Pn	**Pn**	**05 35 19.5**	**-0.5**
YER	**Yerkesik**	**2.09**	**199**	*e*PN	**Pn**	**05 35 20.8**	**+0.6**
YER	**Yerkesik**	**2.09**	**199**	*e*Pn	**Pn**	**05 35 20.8**	**+0.6**
MDUB	**Mudurnu**	**2.10**	**49**	*e*PN	**Pn**	**05 35 20.5**	**0.0**
MDUB	**Mudurnu**	**2.10**	**49**	*e*Pn	**Pn**	**05 35 20.5**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.16**	**317**	*e*PN	**Pn**	**05 35 22.0**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.16**	**317**	*e*Pn	**Pn**	**05 35 22.0**	**+0.7**
CTKS	**Kestanelik-??a**	**2.17**	**348**	*e*PN	**Pn**	**05 35 21.1**	**-0.2**
CTKS	**Kestanelik-??a**	**2.17**	**348**	*e*Pn	**Pn**	**05 35 21.1**	**-0.2**
MFT	**Murefte**	**2.18**	**320**	*e*PN	**Pn**	**05 35 22.0**	**+0.4**
MFT	**Murefte**	**2.18**	**320**	*e*Pn	**Pn**	**05 35 22.0**	**+0.4**
LPK	**Lapseki**	**2.20**	**305**	*e*PN	**Pn**	**05 35 22.0**	**+0.2**
LPK	**Lapseki**	**2.20**	**305**	*e*Pn	**Pn**	**05 35 22.0**	**+0.2**
PRK	**Paraskevi**	**2.21**	**274**	*e*PN	**Pn**	**05 35 21.4**	**-0.5**
PRK				*e*SN	Sn	05 35 31.6	-18
PRK	**Paraskevi**	**2.21**	**274**	*e*Pn	**Pn**	**05 35 21.4**	**-0.5**
PRK				*e*Sn	Sn	05 35 31.6	-18
SUTC	**Sutluce-Ispart**	**2.21**	**137**	*e*PN	**Pn**	**05 35 22.2**	**+0.2**
SUTC	**Sutluce-Ispart**	**2.21**	**137**	*e*Pn	**Pn**	**05 35 22.2**	**+0.2**
SLVT	**Silivri**	**2.22**	**342**	*e*PN	**Pn**	**05 35 21.9**	**-0.1**
SLVT	**Silivri**	**2.22**	**342**	*e*Pn	**Pn**	**05 35 21.9**	**-0.1**
TKR	**Tekirdag**	**2.23**	**328**	*e*PN	**Pn**	**05 35 22.3**	**+0.2**
TKR	**Tekirdag**	**2.23**	**328**	*e*Pn	**Pn**	**05 35 22.3**	**+0.2**
CRLT	**Corlu**	**2.27**	**333**	*e*PN	**Pn**	**05 35 22.5**	**-0.2**
CRLT	**Corlu**	**2.27**	**333**	*e*Pn	**Pn**	**05 35 22.5**	**-0.2**
CTYL	**Yal??k??y-??at**	**2.44**	**345**	*e*PN	**Pn**	**05 35 24.7**	**-0.3**
CTYL	**Yal??k??y-??at**	**2.44**	**345**	*e*Pn	**Pn**	**05 35 24.7**	**-0.3**
ELL	**Elmali**	**2.45**	**165**	*e*PN	**Pn**	**05 35 25.1**	**-0.2**
ELL	**Elmali**	**2.45**	**165**	*e*Pn	**Pn**	**05 35 25.1**	**-0.2**
FETY	**Fethiye**	**2.48**	**181**	*e*PN	**Pn**	**05 35 25.5**	**-0.1**
FETY	**Fethiye**	**2.48**	**181**	*e*Pn	**Pn**	**05 35 25.5**	**-0.1**
BODT	**Bodrum**	**2.50**	**215**	*e*PN	**Pn**	**05 35 26.6**	**+0.7**
BODT	**Bodrum**	**2.50**	**215**	*e*Pn	**Pn**	**05 35 26.6**	**+0.7**
CHOS	**Chios island**	**2.50**	**254**	*e*PN	**Pg**	**05 35 33.6**	**+0.9**
CHOS				*e*SN	Sn	05 35 55.4	-1.3
CHOS	**Chios island**	**2.50**	**254**	*e*Pn	**Pg**	**05 35 33.6**	**+0.9**
CHOS				*e*Sn	Sn	05 35 55.4	-1.3
ERIK	**Erikli-Kesan**	**2.53**	**309**	*e*PN	**Pn**	**05 35 26.7**	**+0.4**
ERIK	**Erikli-Kesan**	**2.53**	**309**	*e*Pn	**Pn**	**05 35 26.7**	**+0.4**
DAT	**Datca**	**2.68**	**207**	*e*PN	**Pn**	**05 35 28.3**	**-0.1**
DAT	**Datca**	**2.68**	**207**	*e*Pn	**Pn**	**05 35 28.3

MLR	**Muntele Rosu**	**6.79**	**341**	⇑*iP*	**Pn**	**05 36 25.8 +0.9**
MLR	**Muntele Rosu**	**6.79**	**341**	⇑*iP*	**Pn**	**05 36 25.8 +0.9**
VRI	**Vrincioaia**	**6.97**	**346**	⇓*iP*	**Pn**	**05 36 28.1 +0.8**
VRI	**Vrincioaia**	**6.97**	**346**	⇓*iP*	**Pn**	**05 36 28.1 +0.8**
VOIR		**7.00**	**336**	⇑*iP*	**Pn**	**05 36 27.9 +0.2**
VOIR		**7.00**	**336**	⇑*iP*	**Pn**	**05 36 27.9 +0.2**
DOPR	**Dopca**	**7.38**	**339**	⇑*iP*	**Pn**	**05 36 34.6 +1.7**
DOPR	**Dopca**	**7.38**	**339**	⇑*iP*	**Pn**	**05 36 34.6 +1.7**
TESR		**7.61**	**347**	⇑*iP*	**Pn**	**05 36 36.2 +0.2**
TESR		**7.61**	**347**	⇑*iP*	**Pn**	**05 36 36.2 +0.2**

PRE 17 05:39:24.3±1.0, **26°39S**×**27°53E**, **h2**km, **ML1.5**, **South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.08**	**61**	*eP*	Pg	05 39 26.2	+0.1
KLOF				*eS*	Sg	05 39 26.9	-0.5
KLOF				AML	AML	05 39 27.1	
	comp=Z,991nm,0.1s						
PRYS	**Parys**	**0.56**	**196**	*eP*	Pg	05 39 35.9	+0.7
PRYS				*eS*	Sg	05 39 42.3	-0.3
PRYS				AML	AML	05 39 48.4	
	comp=Z,4.8nm,0.5s						
LBTB	**Lobatse**	**2.22**	**308**	*eP*	Pn	05 40 02.7	+0.4
LBTB				*eS*	Sn	05 40 31.1	+0.7
LBTB				AML	AML	05 40 36.3	
	comp=Z,1.3nm,0.6s						

ISCJB **17** *05:45:53.7*±*0.4, 39°.14N*±*0°.02*×*29°.05E*±*0°.02, h4*km±*4km, Error ellipse: s-maj=4.0km s-min=3.1km az=174.5*
ISK **17** *05:45:53.7, 39°.16N*×*29°.05E, h7*km*, MD2.9*
DDA **17** *05:45:53.8, 39°.13N*×*29°.05E, h7*km*, MD2.8*
CSEM **17** *05:45:54.0*±*0.1, 39°.14N*×*29°.05E, h5*km*, MD2.8, Error ellipse: s-maj=1.1km s-min=0.9km az=4.0*

ISC 17 05:45:54.1±0.9, **39°14N**±0°.02×**29°05E**±0°.02, **h10**km±10km, **n64**, σ0**35**/84, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.28**	**250**	*i* Pg	**Pg**	**05 46 00.1**	**+0.3**
DEMI				*i* S	**Sg**	**05 46 03.7**	**+0.2**
GDZ	**Gediz**	**0.34**	**98**	*i* Pg	**Pg**	**05 46 01.1**	**+0.2**
GDZ				*i* Sg	**Sg**	**05 46 05.7**	**+0.2**
TVSB	**Tavsanli**	**0.45**	**45**	*e*PG	**Pg**	**05 46 02.8**	**-0.1**
TVSB				*e*SG	**Sg**	**05 46 08.8**	**0.0**
TVSB	**Tavsanli**	**0.45**	**45**	*e*Pg	**Pg**	**05 46 02.8**	**-0.1**
TVSB				*e*Sg	**Sg**	**05 46 08.8**	**0.0**
DST	**Dursunbey**	**0.57**	**324**	*e*PG	**Pg**	**05 46 04.9**	**-0.4**
DST				*e*SG	**Sg**	**05 46 13.0**	**+0.1**
DST	**Dursunbey**	**0.57**	**324**	*e*Pg	**Pg**	**05 46 04.9**	**-0.4**
DST				*e*Sg	**Sg**	**05 46 13.0**	**+0.1**
MANT	**Manisa**	**0.75**	**211**	*i* P	**Pg**	**05 46 08.5**	**-0.2**
MANT				*i* S	**Sg**	**05 46 17.9**	**-0.6**
MANT	**Manisa**	**0.75**	**211**	*i* P	**Pg**	**05 46 08.5**	**-0.2**
MANT				*i* S	**Sg**	**05 46 17.9**	**-0.6**
ALT	**Altintas**	**0.83**	**95**	*e*PG	**Pg**	**05 46 10.0**	**-0.1**
ALT				*e*SG	**Sb**	**05 46 21.5**	**-0.4**
ALT	**Altintas**	**0.83**	**95**	*e*Pg	**Pg**	**05 46 10.0**	**-0.1**
ALT				*e*Sg	**Sb**	**05 46 21.5**	**-0.4**
KHAL	**Karahalli**	**0.84**	**156**	*i* P	**Pb**	**05 46 10.4**	**-0.4**
KHAL				*i* S	**Sg**	**05 46 21.0**	**-0.2**
KHAL	**Karahalli**	**0.84**	**156**	*i* P	**Pb**	**05 46 10.4**	**-0.4**
KHAL				*i* S	**Sg**	**05 46 21.0**	**-0.2**
KHL	**Karahalli**	**0.89**	**155**	*e*PG	**Pb**	**05 46 11.6**	**-0.1**
KHL	**Karahalli**	**0.89**	**155**	*e*Pg	**Pb**	**05 46 11.6**	**-0.1**
ORLT	**Orhaneli**	**0.92**	**352**	*e*PG	**Pg**	**05 46 11.6**	**-0.2**
ORLT	**Orhaneli**	**0.92**	**352**	*e*Pg	**Pg**	**05 46 11.6**	**-0.2**
AKHS	**Akhisar**	**1.00**	**255**	*i* P	**Pb**	**05 46 13.6**	**+0.1**
AKHS				*i* S	**Sb**	**05 46 26.5**	**-0.2**
AKHS	**Akhisar**	**1.00**	**255**	*i* P	**Pb**	**05 46 13.6**	**+0.1**
AKHS				*i* S	**Sb**	**05 46 26.5**	**-0.2**
AKS	**Akhisar**	**1.00**	**255**	*e*PG	**Pg**	**05 46 13.3**	**0.0**
AKS	**Akhisar**	**1.00**	**255**	*e*Pg	**Pg**	**05 46 13.4**	**0.0**
ULDT	**Uludag**	**1.01**	**4**	*e*P	**Pg**	**05 46 13.5**	**0.0**
ULDT				*e*S	**Sg**	**05 46 26.6**	**-0.1**
ULDT	**Uludag**	**1.01**	**4**	*e*P	**Pg**	**05 46 13.5**	**0.0**
ULDT				*e*S	**Sg**	**05 46 26.6**	**-0.1**
BALB	**Balikesir**	**1.04**	**299**	*e*PG	**Pg**	**05 46 13.8**	**-0.3**
BALB	**Balikesir**	**1.04**	**299**	*e*Pg	**Pg**	**05 46 13.8**	**-0.3**
CAVI	**Cavuskoy**	**1.23**	**30**	*e*PN	**Pn**	**05 46 17.3**	**0.0**
CAVI	**Cavuskoy**	**1.23**	**30**	*e*Pn	**Pn**	**05 46 17.3**	**0.0**
MDNY	**Mudanya-Bursa**	**1.24**	**354**	*e*PN	**Pn**	**05 46 17.5**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.24**	**354**	*e*Pn	**Pn**	**05 46 17.5**	**+0.1**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*PN	**Pb**	**05 46 17.9**	**+0.1**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*Pn	**Pb**	**05 46 17.9**	**+0.1**
BALY	**Balya**	**1.26**	**299**	*e*P	**Pg**	**05 46 18.4**	**0.0**
BALY				*e*S	**Sb**	**05 46 33.8**	**-0.5**
BALY	**Balya**	**1.26**	**299**	*e*P	**Pg**	**05 46 18.4**	**0.0**
BALY				*e*S	**Sb**	**05 46 33.8**	**-0.5**
SHUT	**Suhut-Afyon**	**1.31**	**116**	*e*PN	**Pg**	**05 46 19.2**	**0.0**
SHUT	**Suhut-Afyon**	**1.31**	**116**	*e*Pn	**Pg**	**05 46 19.2**	**0.0**
GONE	**Gonen-Balikesi**	**1.39**	**311**	*e*PN	**Pn**	**05 46 19.9**	**+0.3**
GONE	**Gonen-Balikesi**	**1.39**	**311**	*e*Pn	**Pn**	**05 46 19.9**	**+0.3**
ADVT	**Abdulvahap**	**1.40**	**22**	*e*PN	**Pb**	**05 46 20.2**	**-0.1**
ADVT	**Abdulvahap**	**1.40**	**22**	*e*Pn	**Pb**	**05 46 20.2**	**-0.1**
ARMT	**Armutlu**	**1.44**	**354**	*e*PN	**Pn**	**05 46 20.5**	**+0.3**
ARMT	**Armutlu**	**1.44**	**354**	*e*Pn	**Pn**	**05 46 20.5**	**+0.3**
ESKT	**Eskisehir**	**1.45**	**74**	*e*PN	**Pb**	**05 46 21.0**	**-0.2**
ESKT	**Eskisehir**	**1.45**	**74**	*e*Pn	**Pb**	**05 46 21.0**	**-0.2**
SEYT	**Eskypehyr**	**1.45**	**74**	*e*P	**Pb**	**05 46 21.1**	**-0.1**
SEYT				*e*S	**Sb**	**05 46 39.8**	**+0.1**
SEYT	**Eskypehyr**	**1.45**	**74**	*e*P	**Pb**	**05 46 21.1**	**-0.1**
SEYT				*e*S	**Sb**	**05 46 39.8**	**+0.1**
YLV	**Yalova**	**1.45**	**10**	*e*PN	**Pn**	**05 46 20.6**	**+0.1**
YLV	**Yalova**	**1.45**	**10**	*e*Pn	**Pn**	**05 46 20.6**	**+0.1**
BNT	**Bandirma**	**1.50**	**325**	*e*PN	**Pn**	**05 46 21.5**	**+0.4**
BNT	**Bandirma**	**1.50**	**325**	*e*Pn	**Pn**	**05 46 21.5**	**+0.4**
GPA	**Golpazari**	**1.50**	**40**	*e*PN	**Pb**	**05 46 21.8**	**-0.3**
GPA	**Golpazari**	**1.50**	**40**	*e*Pn	**Pb**	**05 46 21.8**	**-0.3**
EDC	**Edincik**	**1.52**	**323**	*e*PN	**Pn**	**05 46 21.6**	**+0.3**
EDC	**Edincik**	**1.52**	**323**	*e*Pn	**Pn**	**05 46 21.6**	**+0.3**
GULT	**Gulveren**	**1.72**	**41**	*e*PN	**Pn**	**05 46 24.6**	**+0.5**
GULT	**Gulveren**	**1.72**	**41**	*e*Pn	**Pn**	**05 46 24.6**	**+0.5**
BLCB	**Balcova**	**1.74**	**245**	*e*PN	**Pn**	**05 46 24.8**	**+0.4**
BLCB	**Balcova**	**1.74**	**245**	*e*Pn	**Pn**	**05 46 24.8**	**+0.4**
KRBG	**Karabiga-Canak**	**1.84**	**313**	*e*PN	**Pn**	**05 46 26.6**	**+0.8**
KRBG	**Karabiga-Canak**	**1.84**	**313**	*e*Pn	**Pn**	**05 46 26.6**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.94**	**80**	*e*PN	**Pn**	**05 46 28.0**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.94**	**80**	*e*Pn	**Pn**	**05 46 28.0**	**+0.8**
MDUB	**Mudurnu**	**2.12**	**50**	*e*PN	**Pn**	**05 46 30.2**	**+0.5**
MDUB	**Mudurnu**	**2.12**	**50**	*e*Pn	**Pn**	**05 46 30.2**	**+0.5**
LPK	**Lapseki**	**2.15**	**306**	*e*PN	**Pn**	**05 46 31.0**	**+0.9**
LPK	**Lapseki**	**2.15**	**306**	*e*Pn	**Pn**	**05 46 31.0**	**+0.9**

ISCJB **17** *05:48:15.2*±*0.5, 39°.13N*±*0°.03*×*29°.03E*±*0°.03, h1km±6km, Error ellipse: s-maj=4.3km s-min=3.8km az=175.0*
ISK **17** *05:48:15.0, 39°.13N*×*29°.03E, h5*km*, MD2.8*
DDA **17** *05:48:15.5, 39°.10N*×*29°.06E, h7*km*, MD2.4*
CSEM **17** *05:48:15.5*±*0.1, 39°.13N*×*29°.04E, h5*km*, MD2.4, Error ellipse: s-maj=1.7km s-min=1.5km az=17.0*

ISC 17 05:48:15.6±1.0, **39°14N**±0°.02×**29°04E**±0°.02, **h8**km±10km, **n48**, σ0**33**/64, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**250**	*i* P	**Pg**	**05 48 21.2**	**+0.3**
DEMI				*i* S	**Sg**	**05 48 25.0**	**+0.5**
DEMI	**Demirci**	**0.27**	**250**	*i* P	**Pg**	**05 48 21.2**	**+0.3**
DEMI				*i* S	**Sg**	**05 48 25.0**	**+0.5**
GDZ	**Gediz**	**0.35**	**97**	*i* P	**Pg**	**05 48 22.5**	**0.0**
GDZ				*i* S	**Sg**	**05 48 26.9**	**-0.3**
GDZ	**Gediz**	**0.35**	**97**	*i* P	**Pg**	**05 48 22.5**	**0.0**
GDZ				*i* S	**Sg**	**05 48 26.9**	**-0.3**
TVSB	**Tavsanli**	**0.46**	**46**	*e*PG	**Pg**	**05 48 24.2**	**-0.3**
TVSB				*e*SG	**Sg**	**05 48 30.6**	**+0.1**
TVSB	**Tavsanli**	**0.46**	**46**	*e*Pg	**Pg**	**05 48 24.3**	**-0.3**
TVSB				*e*Sg	**Sg**	**05 48 30.6**	**+0.1**
DST	**Dursunbey**	**0.57**	**326**	*e*PG	**Pg**	**05 48 26.6**	**0.0**
DST				*e*SG	**Sg**	**05 48 33.9**	**-0.2**
DST	**Dursunbey**	**0.57**	**326**	*e*Pg	**Pg**	**05 48 26.6**	**0.0**
DST				*e*Sg	**Sg**	**05 48 33.9**	**-0.2**
DURS	**Dursunbey**	**0.64**	**317**	*e*P	**Pb**	**05 48 28.9**	**-0.1**
DURS				*e*S	**Sg**	**05 48 35.5**	**-0.8**
DURS	**Dursunbey**	**0.64**	**317**	*e*P	**Pb**	**05 48 28.9**	**-0.1**
DURS				*e*S	**Sg**	**05 48 35.5**	**-0.8**
KULA	**Kula-Manisa**	**0.69**	**205**	*e*PG	**Pg**	**05 48 28.5**	**-0.3**
KULA				*e*SG	**Sg**	**05 48 37.3**	**-0.5**
KULA	**Kula-Manisa**	**0.69**	**205**	*e*Pg	**Pg**	**05 48 28.5**	**-0.3**
KULA				*e*Sg	**Sg**	**05 48 37.3**	**-0.5**
ALT	**Altintas**	**0.84**	**95**	*e*PG	**Pg**	**05 48 31.7**	**-0.1**
ALT	**Altintas**	**0.84**	**95**	*e*Pg	**Pg**	**05 48 31.7**	**-0.1**
KHL	**Karahalli**	**0.90**	**155**	*e*PG	**Pg**	**05 48 32.6**	**-0.3**
KHL	**Karahalli**	**0.90**	**155**	*e*Pg	**Pg**	**05 48 32.6**	**-0.3**
ORLT	**Orhaneli**	**0.92**	**353**	*e*PG	**Pg**	**05 48 33.1**	**-0.2**
ORLT				*e*SG	**Sb**	**05 48 46.2**	**+0.1**
ORLT	**Orhaneli**	**0.92**	**353**	*e*Pg	**Pg**	**05 48 33.1**	**-0.2**
ORLT				*e*Sg	**Sb**	**05 48 46.2**	**+0.1**
AKS	**Akhisar**	**0.99**	**255**	*e*PG	**Pg**	**05 48 34.5**	**-0.1**
AKS				*e*SG	**Sb**	**05 48 47.9**	**-0.2**
AKS	**Akhisar**	**0.99**	**255**	*e*Pg	**Pg**	**05 48 34.5**	**-0.1**
AKS				*e*Sg	**Sb**	**05 48 47.9**	**-0.2**
BALB	**Balikesir**	**1.03**	**300**	*e*PG	**Pg**	**05 48 35.2**	**-0.1**
BALB	**Balikesir**	**1.03**	**300**	*e*Pg	**Pg**	**05 48 35.2**	**-0.1**
CAVI	**Cavuskoy**	**1.23**	**30**	*e*PN	**Pg**	**05 48 38.8**	**-0.5**
CAVI	**Cavuskoy**	**1.23**	**30**	*e*Pn	**Pg**	**05 48 38.8**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.24**	**355**	*e*PN	**Pb**	**05 48 39.4**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.24**	**355**	*e*Pn	**Pb**	**05 48 39.4**	**+0.1**
KCTX	**Karacabey (Bur**	**1.24**	**335**	*e*PN	**Pb**	**05 48 39.4**	**0.0**
KCTX	**Karacabey (Bur**	**1.24**	**335**	*e*Pn	**Pb**	**05 48 39.4**	**0.0**
SHUT	**Suhut-Afyon**	**1.32**	**116**	*e*PN	**Pn**	**05 48 40.7**	**+0.2**
SHUT	**Suhut-Afyon**	**1.32**	**116**	*e*Pn	**Pn**	**05 48 40.7**	**+0.2**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*PN	**Pn**	**05 48 41.6**	**+0.4**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*Pn	**Pn**	**05 48 41.6**	**+0.4**
ADVT	**Abdulvahap**	**1.41**	**22**	*e*PN	**Pg**	**05 48 42.4**	**-0.2**
ADVT	**Abdulvahap**	**1.41**	**22**	*e*Pn	**Pg**	**05 48 42.4**	**-0.2**
ARMT	**Armutlu**	**1.44**	**355**	*e*PN	**Pn**	**05 48 42.4**	**+0.4**
ARMT	**Armutlu**	**1.44**	**355**	*e*Pn	**Pn**	**05 48 42.4**	**+0.4**
YLV	**Yalova**	**1.45**	**10**	*e*PN	**Pb**	**05 48 43.1**	**+0.1**
YLV	**Yalova**	**1.45**	**10**	*e*Pn	**Pb**	**05 48 43.1**	**+0.1**
ESKT	**Eskisehir**	**1.46**	**74**	*e*PN	**Pb**	**05 48 43.3**	**+0.2**
ESKT	**Eskisehir**	**1.46**	**74**	*e*Pn	**Pb**	**05 48 43.3**	**+0.2**
BNT	**Bandirma**	**1.49**	**325**	*e*PN	**Pb**	**05 48 43.4**	**-0.2**
BNT	**Bandirma**	**1.49**	**325**	*e*Pn	**Pb**	**05 48 43.4**	**-0.2**
EDC	**Edincik**	**1.51**	**324**	*e*PN	**Pn**	**05 48 43.3**	**+0.3**
EDC	**Edincik**	**1.51**	**324**	*e*Pn	**Pn**	**05 48 43.3**	**+0.3**
GPA	**Golpazari**	**1.51**	**40**	*e*PN	**Pn**	**05 48 43.7**	**+0.6**
GPA	**Golpazari**	**1.51**	**40**	*e*Pn	**Pn**	**05 48 43.7**	**+0.6**
GULT	**Gulveren**	**1.73**	**41**	*e*PN	**Pn**	**05 48 46.5**	**+0.5**
GULT	**Gulveren**	**1.73**	**41**	*e*Pn	**Pn**	**05 48 46.5**	**+0.5**

DDA **17** *05:52:07.7, 39°.12N*×*29°.04E, h21*km*, MD3.5*
IDC **17** *05:52:08.0*±*1.2, 39°.05N*×*28°.93E, h0*km*, mb3.4/4, mb1 3.5/7, mb1mx3.3/27, mbtmp3.4/7, ML3.2/3, Error ellipse: s-maj=18.9km s-min=15.9km az=22.0*
ISCJB **17** *05:52:08.2*±*0.4, 39°.14N*±*0°.02*×*29°.04E*±*0°.02, h2km*±*3km, mb3.4/4, Error ellipse: s-maj=2.8km s-min=2.6km az=11.3*
ISK **17** *05:52:08.2, 39°.14N*×*29°.05E, h5*km*, ML3.6*
CSEM **17** *05:52:08.8*±*0.1, 39°.14N*×*29°.05E, h2*km*, ML3.6, Error ellipse: s-maj=2.4km s-min=2.1km az=56.0*
ATH **17** *05:52:19.1, 39°.38N*×*28°.39E, h32km*±*9km, MD3.5/7*

ISC 17 05:52:08.6±1.0, **39°15N**±0°.02×**29°03E**±0°.01, **h4**km±8km, **n162**, σ1**04**/190, **mb3.5**/4, **8C-9D**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**246**	*i* Pg	**Pg**	**05 52 14.2**	**+0.4**
DEMI				*i* Sg	**Sg**	**05 52 18.0**	**+0.7**
GDZ	**Gediz**	**0.35**	**100**	*i* Pg	**Pg**	**05 52 15.5**	**0.0**
GDZ				*i* Sg	**Sg**	**05 52 20.0**	**-0.2**
TVSB	**Tavsanli**	**0.45**	**48**	*e*PG	**Pg**	**05 52 17.4**	**+0.2**
TVSB				*e*SG	**Sg**	**05 52 23.6**	**+0.5**
TVSB	**Tavsanli**	**0.45**	**48**	*e*Pg	**Pg**	**05 52 17.4**	**+0.2**
TVSB				*e*Sg	**Sg**	**05 52 23.6**	**+0.5**
DST	**Dursunbey**	**0.55**	**325**	*e*PG	**Pg**	**05 52 19.8**	**+0.6**
DST	**Dursunbey**	**0.55**	**325**	*e*Pg	**Pg**	**05 52 19.8**	**+0.6**
DURS	**Dursunbey**	**0.62**	**316**	*i* P	**Pg**	**05 52 21.1**	**+0.5**
DURS				*i* S	**Sg**	**05 52 26.9**	**-1.8**
DURS	**Dursunbey**	**0.62**	**316**	*i* P	**Pg**	**05 52 21.1**	**+0.5**
DURS				*i* S	**Sg**	**05 52 26.9**	**-1.8**
KULA	**Kula-Manisa**	**0.70**	**205**	*e*PG	**Pg**	**05 52 21.5**	**-0.4**
KULA	**Kula-Manisa**	**0.70**	**205**	*e*Pg	**Pg**	**05 52 21.5**	**-0.4**
MANT	**Manisa**	**0.76**	**209**	*i* P	**Pg**	**05 52 22.6**	**-0.5**
MANT				*i* S	**Sg**	**05 52 31.7**	**-1.2**
MANT	**Manisa**	**0.76**	**209**	*i* P	**Pg**	**05 52 22.6**	**-0.5**
MANT				*i* S	**Sg**	**05 52 31.7**	**-1.2**
ALT	**Altintas**	**0.84**	**96**	*e*PG	**Pg**	**05 52 24.5**	**-0.3**
ALT				*e*SG	**Sg**	**05 52 36.1**	**+0.4**
ALT	**Altintas**	**0.84**	**96**	*e*Pg	**Pg**	**05 52 24.5**	**-0.3**
ALT				*e*Sg	**Sg**	**05 52 36.1**	**+0.4**
KHAL	**Karahalli**	**0.86**	**155**	*i* P	**Pg**	**05 52 24.6**	**-0.4**
KHAL				*i* S	**Sg**	**05 52 35.2**	**-1.0**
KHAL	**Karahalli**	**0.86**	**155**	*i* P	**Pg**	**05 52 24.6**	**-0.4**
KHAL				*i* S	**Sg**	**05 52 35.2**	**-1.0**
ORLT	**Orhaneli**	**0.90**	**353**	*e*PG	**Pb**	**05 52 26.2**	**-0.5**
ORLT				*e*SG	**Sb**	**05 52 39.3**	**+0.2**
ORLT	**Orhaneli**	**0.90**	**353**	*e*Pg	**Pb**	**05 52 26.2**	**-0.5**
ORLT				*e*Sg	**Sb**	**05 52 39.3**	**+0.2**
KHL	**Karahalli**	**0.91**	**155**	*e*PG	**Pg**	**05 52 25.8**	**-0.2**
KHL				*e*SG	**Sg**	**05 52 38.0**	**+0.2**
KHL	**Karahalli**	**0.91**	**155**	*e*Pg	**Pg**	**05 52 25.8**	**-0.2**
KHL				*e*Sg	**Sg**	**05 52 38.0**	**+0.2**
AKHS	**Akhisar**	**0.99**	**254**	*i* P	**Pg**	**05 52 27.6**	**+0.1**
AKHS				*i* S	**Sg**	**05 52 40.9**	**+0.6**
AKHS	**Akhisar**	**0.99**	**254**	*i* P	**Pg**	**05 52 27.6**	**+0.1**
AKHS				*i* S	**Sg**	**05 52 40.9**	**+0.6**
AKS	**Akhisar**	**0.99**	**254**	*e*PG	**Pg**	**05 52 27.9**	**+0.4**
AKS	**Akhisar**	**0.99**	**254**	*e*Pg	**Pg**	**05 52 27.9**	**+0.4**
ULDT	**Uludag**	**0.99**	**5**	*e*P	**Pg**	**05 52 27.7**	**0.0**
ULDT				*e*S	**Sg**	**05 52 40.8**	**+0.3**
ULDT	**Uludag**	**0.99**	**5**	*e*P	**Pg**	**05 52 27.7**	**0.0**
ULDT				*e*S	**Sg**	**05 52 40.8**	**+0.3**
BALB	**Balikesir**	**1.02**	**299**	*e*PG	**Pn**	**05 52 29.1**	**-0.5**
BALB	**Balikesir**	**1.02**	**299**	*e*Pg	**Pn**	**05 52 29.1**	**-0.5**
CAVI	**Cavuskoy**	**1.22**	**31**	*e*PN	**Pg**	**05 52 31.7**	**-0.3**
CAVI	**Cavuskoy**	**1.22**	**31**	*e*Pn	**Pg**	**05 52 31.7**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.22**	**355**	*e*PN	**Pg**	**05 52 31.9**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.22**	**355**	*e*Pn	**Pg**	**05 52 31.9**	**-0.1**
KCTX	**Karacabey (Bur**	**1.23**	**335**	*e*PN	**Pb**	**05 52 32.2**	**-0.2**
KCTX	**Karacabey (Bur**	**1.23**	**335**	*e*Pn	**Pb**	**05 52 32.2**	**-0.2**
BALY	**Balya**	**1.24**	**299**	*i* P	**Pg**	**05 52 32.4**	**0.0**
BALY				*i* S	**Sb**	**05 52 49.2**	**+0.3**
BALY	**Balya**	**1.24**	**299**	*i* P	**Pg**	**05 52 32.4**	**0.0**
BALY				*i* S	**Sb**	**05 52 49.2**	**+0.3**
SHUT	**Suhut-Afyon**	**1.33**	**116**	*e*PN	**Pn**	**05 52 33.7**	**-0.3**
SHUT	**Suhut-Afyon**	**1.33**	**116**	*e*Pn	**Pn**	**05 52 33.7**	**-0.3**
GONE	**Gonen-Balikesi**	**1.37**	**311**	*e*PN	**Pn**	**05 52 34.3**	**-0.1**
GONE	**Gonen-Balikesi**	**1.37**	**311**	*e*Pn	**Pn**	**05 52 34.3**	**-0.1**
ADVT	**Abdulvahap**	**1.39**	**23**	*e*PN	**Pn**	**05 52 34.1**	**-0.6**
ADVT	**Abdulvahap**	**1.39**	**23**	*e*Pn	**Pn**	**05 52 34.1**	**-0.6**
ARMT	**Armutlu**	**1.42**	**355**	*e*PN	**Pn**	**05 52 34.6**	**-0.5**
ARMT	**Armutlu**	**1.42**	**355**	*e*Pn	**Pn**	**05 52 34.6**	**-0.5**
YLV	**Yalova**	**1.44**	**10**	*e*PN	**Pn**	**05 52 35.0**	**-0.4**
YLV	**Yalova**	**1.44**	**10**	*e*Pn	**Pn**	**05 52 35.0**	**-0.4**
ESKT	**Eskisehir**	**1.46**	**75**	*e*PN	**Pb**	**05 52 36.0**	**-0.3**
ESKT	**Eskisehir**	**1.46**	**75**	*e*Pn	**Pb**	**05 52 36.0**	**-0.3**
BNT	**Bandirma**	**1.48**	**325**	*e*PN	**Pn**	**05 52 36.0**	**+0.1**
BNT	**Bandirma**	**1.48**	**325**	*e*Pn	**Pn**	**05 52 36.0**	**+0.1**
EDC	**Edincik**	**1.50**	**323**	*e*PN	**Pb**	**05 52 36.6**	**-0.3**
EDC	**Edincik**	**1.50**	**323**	*e*Pn	**Pb**	**05 52 36.6**	**-0.3**
GPA	**Golpazari**	**1.50**	**41**	*e*PN	**Pb**	**05 52 36.8**	**-0.2**
GPA	**Golpazari**	**1.50**	**41**	*e*Pn	**Pb**	**05 52 36.8**	**-0.2**
GULT	**Gulveren**	**1.72**	**41**	*e*PN	**Pn**	**05 52 39.8**	**+0.5**
GULT	**Gulveren**	**1.72**	**41**	*e*Pn	**Pn**	**05 52 39.8**	**+0.5**
BLCB	**Balcova**	**1.73**	**244**	*e*PN	**Pb**	**05 52 40.2**	**-0.7**
BLCB	**Balcova**	**1.73**	**244**	*e*Pn	**Pb**	**05 52 40.2**	**-0.7**
HRT	**Hereke**	**1.74**	**16**	*e*PN	**Pb**	**05 52 40.2**	**-0.9**
HRT	**Hereke**	**1.74**	**16**	*e*Pn	**Pb**	**05 52 40.2**	**-0.9**
ISP	**Isparta**	**1.77**	**138**	*e*PN	**Pn**	**05 52 40.5**	**+0.5**
ISP	**Isparta**	**1.77**	**138**	⇓*iP*	**Pn**	**05 52 38.6**	**-1.4**
ISP	**Isparta**	**1.77**	**138**	⇓*iP*	**Pn**	**05 52 38.6**	**-1.4**
ISP	**Isparta**	**1.77**	**138**	*e*Pn	**Pn**	**05 52 40.5**	**+0.5**
SPNC	**Sapanca-Adapaz**	**1.82**	**32**	*e*PN	**Pb**	**05 52 41.4**	**-1.0**
SPNC	**Sapanca-Adapaz**	**1.82**	**32**	*e*Pn	**Pb**	**05 52 41.4**	**-1.0**
KRBG	**Karabiga-Canak**	**1.82**	**313**	*e*PN	**Pn**	**05 52 41.4**	**+0.8**
KRBG	**Karabiga-Canak**	**1.82**	**313**	*e*Pn	**Pn**	**05 52 41.4**	**+0.8**
AYVA	**Ayvalik**	**1.82**	**276**	*e*P	**Pn**	**05 52 41.0**	**+0.4**
AYVA				*e*S	**Sg**	**05 53 06.7**	**-0.5**
AYVA	**Ayvalik**	**1.82**	**276**	*e*P	**Pn**	**05 52 41.0**	**+0.4**
AYVA				*e*S	**Sg**	**05 53 06.7**	**-0.5**
ISK	**Istanbul-Kandi**	**1.91**	**1**	*e*PN	**Pn**	**05 52 42.6**	**+0.7**
ISK	**Istanbul-Kandi**	**1.91**	**1**	*e*Pn	**Pn**	**05 52 42.6**	**+0.7**
SVRH	**Sivrihisar-ESK**	**1.96**	**81**	*e*PN	**Pn**	**05 52 42.6**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.96**	**81**	*e*Pn	**Pn**	**05 52 42.6**	**0.0**
BGKT	**Bogazkoy**	**2.04**	**355**	*e*PN	**Pb**	**05 52 45.0**	**-1.1**
BGKT	**Bogazkoy**	**2.04**	**355**	*e*Pn	**Pb**	**05 52 45.0**	**-1.1**
SILT	**Sile**	**2.05**	**13**	*e*PN	**Pb**	**05 52 45.0**	**-1.4**
SILT	**Sile**	**2.05**	**13**	*e*Pn	**Pb**	**05 52 45.0**	**-1.4**
RKY	**Sarkoy-Tekirda**	**2.10**	**318**	*e*PN	**Pb**	**05 52 45.8**	**-1.3**
RKY	**Sarkoy-Tekirda**	**2.10**	**318**	*e*Pn	**Pb**	**05 52 45.8**	**-1.3**
YER	**Yerkesik**	**2.10**	**197**	*e*PN	**Pn**	**05 52 45.4**	**+0.9**
YER	**Yerkesik**	**2.10**	**197**	*e*Pn	**Pn**	**05 52 45.4**	**+0.9**
MFT	**Murefte**	**2.12**	**321**	*e*PN	**Pb**	**05 52 46.2**	**-1.3**
MFT	**Murefte**	**2.12**	**321**	*e*Pn	**Pb**	**05 52 46.2**	**-1.3**
CTKS	**Kestanelik-??a**	**2.12**	**349**	*e*PN	**Pn**	**05 52 45.8

ADVT	**Abdulvahap**	**1.39**	**23**	*e*PN	**Pn**	**05 56 18.5**	**+0.4**
ADVT	**Abdulvahap**	**1.39**	**23**	*e*Pn	**Pn**	**05 56 18.5**	**+0.4**
ARMT	**Armutlu**	**1.42**	**355**	*e*PN	**Pn**	**05 56 18.1**	**-0.4**
ARMT	**Armutlu**	**1.42**	**355**	*e*Pn	**Pn**	**05 56 18.1**	**-0.4**
YLV	**Yalova**	**1.44**	**10**	*e*PN	**Pn**	**05 56 19.7**	**+0.8**
YLV	**Yalova**	**1.44**	**10**	*e*Pn	**Pn**	**05 56 19.7**	**+0.8**
ESKT	**Eskisehir**	**1.46**	**75**	*e*PN	**Pn**	**05 56 20.0**	**+0.9**
ESKT	**Eskisehir**	**1.46**	**75**	*e*Pn	**Pn**	**05 56 20.0**	**+0.9**
EDC	**Edincik**	**1.50**	**323**	*e*PN	**Pn**	**05 56 19.7**	**+0.1**
EDC	**Edincik**	**1.50**	**323**	*e*Pn	**Pn**	**05 56 19.7**	**+0.1**
GPA	**Golpazari**	**1.50**	**40**	*e*PN	**Pn**	**05 56 20.5**	**+0.8**
GPA	**Golpazari**	**1.50**	**40**	*e*Pn	**Pn**	**05 56 20.5**	**+0.8**
GULT	**Gulveren**	**1.71**	**41**	*e*PN	**Pn**	**05 56 23.8**	**+1.1**
GULT	**Gulveren**	**1.71**	**41**	*e*Pn	**Pn**	**05 56 23.8**	**+1.1**
KRBG	**Karabiga-Canak**	**1.82**	**313**	*e*PN	**Pn**	**05 56 24.7**	**+0.6**
KRBG	**Karabiga-Canak**	**1.82**	**313**	*e*Pn	**Pn**	**05 56 24.7**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.96**	**81**	*e*PN	**Pn**	**05 56 27.0**	**+1.1**
SVRH	**Sivrihisar-ESK**	**1.96**	**81**	*e*Pn	**Pn**	**05 56 27.0**	**+1.1**

ISCJB ***17*** *06:04:36.6±0.9, 39.°04N±0.°04×41.°94E±0.°07, h8km, Error ellipse: s-maj=8.6km s-min=5.6km az=23.6*
DDA ***17*** *06:04:36.8, 39.°05N×41.°89E, h7km, MD2.9*
ISC 17 06:04:36.4±1.1, 39.°06N±0.°05×41.°90E±0.°05, h8km, n8, σ0.°91/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRTB	**Varto-Mus**	**0.36**	**286**	*e*PG	**Pg**	**06 04 43.0**	**-0.4**
BNGL	**BINGOL**	**0.59**	**259**	*i* P	**Pg**	**06 04 47.3**	**-0.6**
BNGL				*i* S	**Sb**	**06 04 56.8**	**-1.0**
ERZM	**Erzurum**	**0.94**	**334**	*i* P	**Pb**	**06 04 55.1**	**+0.1**
EZM	**Erzurum**	**0.94**	**334**	*e*PN	**Pn**	**06 04 55.5**	**-0.6**
HOMI	**Horasan**	**0.98**	**0**	*i* P	**Pb**	**06 04 55.8**	**0.0**
HOMI				*i* S	**Sn**	**06 05 10.8**	**0.0**
AGRB	**Hanur-Agry**	**0.99**	**59**	*e*PN	**Pg**	**06 04 55.2**	**-0.2**
BEST	**Besiri**	**1.27**	**203**	*i* P	**Pg**	**06 05 00.9**	**+0.1**
BEST				*i* S	**Sn**	**06 05 18.4**	**+0.5**
KOPT	**Kop Dagi**	**1.44**	**312**	*i* P	**Pb**	**06 05 03.6**	**0.0**
KOPT				*i* S	**Sg**	**06 05 25.1**	**+2.3**

CSEM ***17*** *06:13:43.5, 39.°11N×29.°05E, h7km, MD2.6, After DDA*
ISK ***17*** *06:13:50.0, 39.°13N×29.°08E, h6km, MD2.7*
DDA 17 06:13:43.5, 39.°11N×29.°05E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.34**	**94**	*i* P	Pg	06 13 50.3	0.0
GDZ				*i* S	Sg	06 13 55.5	+0.6
GDZ	**Gediz**	**0.34**	**94**	*i* P	Pg	06 13 50.3	+0.1
GDZ				*i* S	Sg	06 13 55.4	+0.6
TVSB	**Tavsanli**	**0.46**	**43**	*e*PG	Pn	06 13 58.9	+2.2
TVSB				*e*SG	Sb	06 14 05.2	+3.9
TVSB	**Tavsanli**	**0.46**	**43**	*e*Pg	Pn	06 13 58.9	+2.2
TVSB				*e*Sg	Sb	06 14 05.2	+3.9
DST	**Dursunbey**	**0.59**	**326**	*e*PG	Pn	06 14 02.1	+3.7
DST				*e*SG	Sn	06 14 10.2	+1.8
DST	**Dursunbey**	**0.59**	**326**	*e*Pg	Pn	06 14 02.1	+3.7
DST				*e*Sg	Sn	06 14 10.2	+1.8
KULA	**Kula-Manisa**	**0.67**	**207**	*e*PG	Pn	06 14 03.8	+4.3
KULA	**Kula-Manisa**	**0.67**	**207**	*e*Pg	Pn	06 14 03.8	+4.3
MANT	**Manisa**	**0.73**	**212**	*i* P	Pg	06 13 57.5	-0.4
MANT	**Manisa**	**0.73**	**212**	*i* P	Pg	06 13 57.5	-0.4
KHAL	**Karahalli**	**0.82**	**155**	*i* P	Pg	06 13 59.4	0.0
KHAL				*i* S	Sg	06 14 06.5	-3.6
KHAL	**Karahalli**	**0.82**	**155**	*i* P	Pg	06 13 59.4	0.0
KHAL				*i* S	Sg	06 14 06.5	-3.6
ALT	**Altintas**	**0.83**	**94**	*e*PG	Pn	06 14 06.0	+4.3
ALT				*e*SG	Sn	06 14 17.1	+2.9
ALT	**Altintas**	**0.83**	**94**	*e*Pg	Pn	06 14 06.0	+4.3
ALT				*e*Sg	Sn	06 14 17.2	+3.0
MDNY	**Mudanya-Bursa**	**1.26**	**354**	*e*PN	Pg	06 14 14.2	+6.6
MDNY	**Mudanya-Bursa**	**1.26**	**354**	*e*Pn	Pg	06 14 14.2	+6.5
SHUT	**Suhut-Afyon**	**1.30**	**115**	*e*PN	Pg	06 14 15.4	+6.8
SHUT	**Suhut-Afyon**	**1.30**	**115**	*e*Pn	Pg	06 14 15.4	+6.8
BORA	**Eskisehir**	**1.33**	**54**	*i* P	Pg	06 14 09.3	+0.2
BORA	**Eskisehir**	**1.33**	**54**	*i* P	Pg	06 14 09.3	+0.2
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*PN	Pg	06 14 16.0	+5.6
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*Pn	Pg	06 14 16.0	+5.5
ADVT	**Abdulvahap**	**1.42**	**22**	*e*PN	Pg	06 14 16.7	+6.0
ADVT	**Abdulvahap**	**1.42**	**22**	*e*Pn	Pg	06 14 16.7	+6.0
ARMT	**Armutlu**	**1.46**	**354**	*e*PN	Pg	06 14 17.0	+5.5
ARMT	**Armutlu**	**1.46**	**354**	*e*Pn	Pg	06 14 17.0	+5.5
YLV	**Yalova**	**1.47**	**10**	*e*PN	Pg	06 14 18.1	+6.2
YLV	**Yalova**	**1.47**	**10**	*e*Pn	Pg	06 14 18.1	+6.3
GULT	**Gulveren**	**1.73**	**40**	*e*PN	Pg	06 14 21.4	+4.5
GULT	**Gulveren**	**1.73**	**40**	*e*Pn	Pg	06 14 21.4	+4.5
SVRH	**Sivrihisar-ESK**	**1.95**	**79**	*e*PN	Pg	06 14 23.9	+2.9
SVRH	**Sivrihisar-ESK**	**1.95**	**79**	*e*Pn	Pg	06 14 23.9	+3.0

BJI ***17*** *06:16:22.6, 8.°53S×128.°25E, h123km, mB5.1/25, mb4.9/40*
ISCJB ***17*** *06:16:31.9±0.2, 7.°61S±0.°03×127.°75E±0.°04, h131km, mb4.8/60, Error ellipse: s-maj=6.4km s-min=3.5km az=154.4*
NEIC ***17*** *06:16:34.9±0.9, 7.°56S×127.°76E, h147km±8km, mb4.8/31, Error ellipse: s-maj=9.6km s-min=5.2km az=51.0*
IDC ***17*** *06:16:35.4±1.4, 7.°49S×127.°78E, h152km±11km, mb4.5/15, mb1 4.6/18, mb1mx4.6/19, mbtmp4.5/18, MS3.7/5, Ms1 3.7/5, ms1mx3.2/24, Error ellipse: s-maj=14.1km s-min=8.5km az=58.0*
DJA ***17*** *06:16:36, 7.°72S×127.°90E, h145km, mb5.1/38*
ISC 17 06:16:33.5±0.3, 7.°71S±0.°04×127.°75E±0.°05, h136km±2km, n193, σ1.°74/244, mb4.8/60, 4C-3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.82**	**34**	P	**Pn**	**06 17 32.2**	**+1.1**
AAI	**Ambon**	**4.02**	**6**	P	**Pn**	**06 17 35.4**	**+1.7**
NLAI	**Namlea**	**4.49**	**352**	P	Pn	06 17 44.2	+4.3
MSAI	**Masohi**	**4.49**	**15**	P	**Pn**	**06 17 42.5**	**+2.6**
TLE	**Tual**	**5.36**	**68**	P	**Pn**	**06 17 52.2**	**+0.6**
	2μm,0.8s,19μm6.6nm						
MMRI	**Maumere**	**5.54**	**260**	P	Pn	06 17 58.9	+5.0
	661nm,1.0s,7μm2.4nm						
BBSI	**Bau Bau**	**5.60**	**293**	P	Pn	06 17 59.9	+5.1
	510nm,1.6s,6μm2.2nm						
KDI	**Kendari**	**6.32**	**306**	P	Pn	06 18 08.2	+3.8
	366nm,0.9s,2μm1.0nm						
FAKI	**Fak Fak**	**6.53**	**44**	P	**Pn**	**06 18 05.9**	**-1.4**
	137nm,0.5s,4μm1.3nm						
WSI	**Waingapu**	**7.62**	**255**	P	Pn	06 18 25.6	+3.7
	4μm,0.5s,58μm						
BKSI	**Bulukumba**	**7.94**	**287**	P	Pn	06 18 30.4	+4.2
	242nm,1.2s,3μm						
LUWI	**Luwuk**	**8.27**	**323**	P	Pn	06 18 34.6	+3.9
	280nm,1.1s,2μm						
KAPI	**Kappang**	**8.39**	**288**	*e*Pn	**Pn**	**06 18 34.1**	**+1.9**
KAPI	**Kappang**	**8.39**	**288**	P	Pn	06 18 35.9	+3.7
KAPI	**Kappang**	**8.39**	**288**	P	**Pn**	**06 18 31.7**	**-0.6**
	0.8nm,0.3s,baz=99,slow=13,SNR=4.2						
KAPI				LR	LR	06 22 41.5	
	comp=Z,86nm,19.1s,baz=229,slow=44						
TNTI	**Ternate**	**8.43**	**357**	P	**Pn**	**06 18 31.9**	**-0.9**
SPSI	**Sidrap Palu**	**8.77**	**295**	P	Pn	06 18 40.9	+3.6
KMSI	**Cibinong**	**9.04**	**335**	P	Pn	06 18 49.3	+8.3
TTSI	**Tana Toraja**	**9.15**	**300**	P	Pn	06 18 47.3	+4.8
MNI	**Manado**	**9.54**	**342**	P	Pn	06 18 51.4	+3.7
MRSI	**Marisa**	**9.98**	**324**	P	Pn	06 18 57.3	+3.7
FITZ	**Fitzroy Crossi**	**10.54**	**191**	*e*Pn	**Pn**	**06 19 01.5**	**+0.6**
	65nm,0.6s						
FITZ				*e*Sn	**Sn**	**06 20 55.7**	**-1.6**
FITZ	**Fitzroy Crossi**	**10.54**	**191**	*e*P	**Pn**	**06 19 01.3**	**+0.4**
	75nm,0.3s						
FITZ				*e*S	Sn	06 20 50.6	-6.7
	290nm,0.3s						
FITZ	**Fitzroy Crossi**	**10.54**	**191**	P	**Pn**	**06 19 01.7**	**+0.7**
	11nm,0.3s,baz=26,slow=10.0,SNR=69						
FITZ				S	**Sn**	**06 20 56.5**	**-0.8**
	30nm,0.3s,baz=338,slow=19,SNR=10						
FITZ				LR	LR	06 24 03.8	
	comp=Z,264nm,19.0s,baz=342,slow=42						
WRAB	**Tennant Creek**	**13.73**	**153**	*e*Pn	**Pn**	**06 19 42.5**	**-0.2**
WRAB				*e*Sn	Sn	06 22 06.5	-8.0
WRA	**Warramunga Arr**	**13.74**	**153**	P	**Pn**	**06 19 41.9**	**-0.8**
WRA				S	Sn	06 22 06.3	-8.4
WRA	**Warramunga Arr**	**13.74**	**153**	P	**Pn**	**06 19 41.9**	**-0.8**
	51nm,0.3s,baz=324,slow=14,SNR=534						
WRA				S	Sn	06 22 06.3	-8.4
	44nm,0.3s,baz=321,slow=22,SNR=12						
MBWA	**Marble Bar**	**15.46**	**209**	*e*P	**P**	**06 20 06.7**	**+0.8**
	51nm,1.2s						
TSM	**Tawau**	**15.47**	**320**	P	**P**	**06 20 08.7**	**+2.7**
MYLDM	**Lahad Datu**	**15.78**	**324**	P	**P**	**06 20 13.1**	**+3.6**
COEN	**Coen**	**16.37**	**114**	*e*P	**P**	**06 20 15.7**	**-0.3**
	629nm,0.7s						
AS31	**Alice Springs**	**16.93**	**160**	*e*P	**Pn**	**06 20 25.3**	**+2.8**
ASAR	**Alice Springs**	**16.93**	**160**	P	**Pn**	**06 20 23.9**	**+1.4**
ASAR				S	**Sn**	**06 23 24.5**	**-6.9**
ASAR	**Alice Springs**	**16.93**	**160**	P	**Pn**	**06 20 23.9**	**+1.4**
	26nm,0.3s,baz=339,slow=10,SNR=1477						
ASAR				S	**Sn**	**06 23 24.5**	**-6.9**
	14nm,0.3s,baz=321,slow=16,SNR=5.1						
SDKM	**Sandakan**	**16.93**	**321**	P	**Pn**	**06 20 25.7**	**+3.2**
KKM	**Kota Kinabalu**	**17.86**	**320**	*e*P	**Pn**	**06 20 35.3**	**+1.6**
	74nm,0.9s						
KKM	**Kota Kinabalu**	**17.86**	**320**	P	**Pn**	**06 20 35.5**	**+1.8**
KDM	**Kudat**	**18.15**	**323**	P	**Pn**	**06 20 41.7**	**+4.6**
BTM	**Bintulu**	**18.21**	**306**	P	**Pn**	**06 20 40.4**	**+2.6**
SBUM	**Sibu**	**18.49**	**302**	P	**Pn**	**06 20 43.4**	**+2.3**
PMG	**Port Moresby**	**19.27**	**96**	*e*P	**Pn**	**06 20 50.8**	**+0.6**
	96nm,0.9s						
PMG	**Port Moresby**	**19.27**	**96**	P	**P**	**06 20 47.7**	**0.0**
	1.1nm,0.3s,baz=259,slow=10,SNR=3.9						
PMG				S	S	06 24 10.4	-8.4
	0.2nm,0.3s,baz=332,slow=15,SNR=2.1						
KSM	**Kuching**	**19.64**	**297**	*e*P	**Pn**	**06 20 54.1**	**-0.5**
	28nm,0.8s						
KSM	**Kuching**	**19.64**	**297**	P	**Pn**	**06 20 53.9**	**-0.7**
CTA	**Charters Tower**	**21.74**	**126**	P	**P**	**06 21 15.5**	**+1.2**
CTA				S	**S**	**06 25 07.5**	**+1.2**
CTA	**Charters Tower**	**21.74**	**126**	*e*P	**P**	**06 21 16.0**	**+1.7**
	49nm,1.1s						
CTA				*e*S	Sn	06 25 41.2	+15
CTA	**Charters Tower**	**21.74**	**126**	P	**P**	**06 21 15.5**	**+1.2**
	75nm,1.1s,baz=304,slow=12,SNR=39						
CTA				S	**S**	**06 25 07.5**	**+1.2**
	5.1nm,0.5s,baz=273,slow=17,SNR=2.8						
CTA				LR	LR	06 30 44.0	
	comp=Z,381nm,19.8s,baz=301,slow=39						
CTAO	**Charters Tower**	**21.74**	**126**	*e*P	**P**	**06 21 16.0**	**+1.7**
	98nm,1.1s						
TGY	**Tagaytay City**	**22.70**	**343**	P	**P**	**06 21 24.8**	**+0.9**
TGY	**Tagaytay City**	**22.70**	**343**	P	**P**	**06 21 24.8**	**+0.9**
	121nm,0.4s,baz=156,slow=10,SNR=6.1						
FORT	**Forrest**	**22.96**	**179**	*e*P	**P**	**06 21 28.6**	**+2.5**
	122nm,0.6s						
FORT	**Forrest**	**22.96**	**179**	*e*P	**P**	**06 21 28.6**	**+2.5**
	62nm,0.4s						
KMBL	**Kambalda**	**24.17**	**192**	*e*P	**P**	**06 21 39.5**	**+2.3**
	429nm,0.9s						
KLBR	**Kellerberrin**	**25.53**	**200**	*e*P	**P**	**06 21 51.3**	**+1.8**
	31nm,0.6s						
BBOO	**Buckleboo**	**26.14**	**164**	*e*P	**P**	**06 21 57.2**	**+2.1**
	2μm,0.7s						
NWAO	**Narrogin (SRO)**	**26.93**	**200**	P	**P**	**06 22 04.2**	**+2.1**
NWAO	**Narrogin (SRO)**	**26.93**	**200**	P	**P**	**06 22 04.2**	**+2.1**
	12nm,0.6s,baz=27,slow=8.9,SNR=12						
NWAO				LR	LR	06 34 26.0	
	comp=Z,227nm,21.3s,baz=6.5,slow=39						
STKA	**Stephens Creek**	**27.29**	**154**	*e*P	**P**	**06 22 07.2**	**+1.8**
	9.0nm,0.6s						
STKA				ScP	**ScP**	**06 28 49.1**	**-0.6**
STKA	**Stephens Creek**	**27.29**	**154**	*e*P	**P**	**06 22 07.0**	**+1.6**
	35nm,0.6s						
STKA	**Stephens Creek**	**27.29**	**154**	P	**P**	**06 22 07.1**	**+1.8**
	40nm,0.6s,baz=324,slow=8.8,SNR=96						
STKA				ScP	**ScP**	**06 28 49.1**	**-0.6**
	14nm,0.7s,baz=22,slow=5.4,SNR=3.0						
EIDS	**Eidsvold**	**28.35**	**131**	*e*P	**P**	**06 22 15.6**	**+0.7**
	25nm,1.3s						
PSI	**Prapat**	**30.59**	**289**	P	**P**	**06 22 34.9**	**-0.1**
PSI	**Prapat**	**30.59**	**289**	P	**P**	**06 22 34.9**	**-0.1**
	28nm,0.9s,baz=97,slow=11,SNR=22						
ARMA	**Armidale**	**31.79**	**138**	*e*P	**P**	**06 22 47.8**	**+2.5**
QIZ	**Qiongzhong**	**31.90**	**327**	P	**P**	**06 22 47.8**	**+1.6**
QIZ				pP	**pP**	**06 23 17.3**	**+1.8**
QIZ				S	**S**	**06 27 50.4**	**+3.1**
QIZ				sS	**sS**	**06 28 40.6**	**+1.9**
QIZ				pmax	pmax		
	comp=Z,15nm,1.6s						
YNG	**Young**	**32.59**	**147**	*e*P	**P**	**06 22 54.7**	**+2.5**
	comp=Z,52nm,0.7s						
CAN	**Canberra**	**33.69**	**148**	*e*P	**P**	**06 23 04.5**	**+2.8**
	comp=Z,28nm,0.6s						
CAN	**Canberra**	**33.69**	**148**	*e*P	**P**	**06 23 04.8**	**+3.1**
	comp=Z,24nm,0.6s						
TOO	**Toolangi**	**33.80**	**154**	*e*P	**P**	**06 23 04.5**	**+1.8**
	comp=Z,78nm,0.6s						
CMAR	**Chiang Mai Arr**	**38.52**	**313**	P	**P**	**06 23 42.9**	**-0.1**
CMAR				PcP	**PcP**	**06 25 53.6**	**+0.4**
CMAR				ScP	**ScP**	**06 29 26.7**	**-2.0**
CMAR	**Chiang Mai Arr**	**38.52**	**313**	P	**P**	**06 23 42.9**	**-0.1**
	comp=Z,5.4nm,0.8s,baz=144,slow=7.1,SNR=22						
CMAR				PcP	**PcP**	**06 25 53.6**	**+0.4**
	comp=Z,3.1nm,0.5s,baz=172,slow=2.8,SNR=7.4						
CMAR				ScP	**ScP**	**06 29 26.7**	**-2.0**
	comp=Z,1.4nm,0.8s,baz=161,slow=3.4,SNR=6.4						
CHTO	**Chiang Mai**	**38.75**	**313**	*e*P	**P**	**06 23 45.0**	**+0.1**
	comp=Z,7.7nm,1.0s						
GYA	**Guiyang**	**39.65**	**330**	P	**P**	**06 23 54.8**	**+2.4**
GYA				pP	**pP**	**06 24 23.9**	**+1.3**
GYA				S	**S**	**06 29 48.8**	**+3.0**
GYA				sS	**sS**	**06 30 41.3**	**+3.0**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,110nm,4.8s						
NOUC	**Port Laguerre**	**39.77**	**115**	*e*P	**P**	**06 23 53.8**	**+0.5**
DZM	**Mont Dzumac**	**39.89**	**115**	*e*P	**P**	**06 23 55.4**	**+1.0**
	comp=Z,30nm,0.7s						
DZM	**Mont Dzumac**	**39.89**	**115**	P	**P**	**06 23 55.0**	**+0.5**
	comp=Z,33nm,0.7s,baz=285,slow=12,SNR=14						
NJ2	**Nanjing**	**40.44**	**348**	*e*P	**P**	**06 23 58.6**	**0.0**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
KMI	**Kunming**	**40.72**	**324**	P	**pP**	**06 24 33.6**	**+2.0**
KMI				pmax	pmax		
	comp=Z,14nm,1.4s						
KMI	**Kunming**	**40.72**	**324**	P	**P**	**06 24 03.1**	**+1.8**
KMI				pP	**pP**	**06 24 33.6**	**+2.0**
KMI				S	**S**	**06 30 04.1**	**+2.2**
KMI				pmax	pmax		
	comp=Z,15nm,1.0s						
KMI				pmax	pmax		
	comp=Z,140nm,5.0s						
KMI				LR	LR		
	comp=Z,190nm,15.5s						
ENH	**Enshi**	**41.64**	**336**	*e*P	**P**	**06 24 07.9**	**-0.6**
	comp=Z,11nm,0.7s						
KSAR	**Wonju Array Be**	**44.91**	**0**	P	**P**	**06 24 33.7**	**-0.9**
KSRS	**Korea Array**	**44.92**	**0**	P	**P**	**06 24 33.7**	**-1.0**
	comp=Z,8.9nm,0.6s,baz=178,slow=9.7,SNR=34						
MJAR	**Matsushiro Arr**	**45.10**	**12**	P	**P**	**06 24 33.7**	**-2.5**
MJAR	**Matsushiro Arr**	**45.10**	**12**	P	**P**	**06 24 33.7**	**-2.5**
	comp=Z,11nm,0.9s,baz=184,slow=9.2,SNR=16						
MAT	**Matsushiro**	**45.10**	**12**	P	**P**	**06 24 33.7**	**-2.5**
XAN	**Xi'an**	**45.19**	**338**	P	**P**	**06 24 35.5**	**-1.5**
XAN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
BJI	**Beijing**	**48.70**	**348**	P	**P**	**06 25 01.9**	**-2.1**
BJI				pP	**pP**	**06 25 35.3**	**0.0**
BJI				S	**S**	**06 31 58.1**	**+2.0**
BJI				sS	**sS**	**06 32 51.1**	**+0.9**
BJI				pmax	pmax		
	comp=Z,17nm,0.9s						
LZH	**Lanzhou**	**49.02**	**334**	⇑P	**P**	**06 25 06.4**	**-0.4**
LZH				pP	**pP**	**06 25 36.5**	**-1.6**
LZH				sP	**sP**	**06 25 51.0**	**-2.2**
LZH				PP	**PP**	**06 27 02.5**	**+0.7**
LZH				S	**S**	**06 32 00.3**	**-0.9**
LZH				pmax	pmax		
	comp=Z,75nm,1.5s						
LZH				pmax	pmax		
	comp=Z,180nm,5.4s						
MSVF	**Nonsavu**	**49.93**	**107**	*e*P	**P**	**06 25 15.1**	**+1.1**
	comp=Z,4.0nm,0.6s						
OUZ	**Omahuta**	**50.08**	**130**	*e*P	P	06 25 17.9	+3.2
	comp=Z,34nm,1.1s						
HHC	**Hu-ho-hao-te**	**50.56**	**344**	*e*P	**P**	**06 25 21.5**	**+3.2**
HHC				pP	**pP**	**06 25 51.9**	**+2.1**
HHC				sP	**sP**	**06 26 06.3**	**+1.4**
HHC				PP	PP	06 27 21.1	+5.5
HHC				S	**S**	**06 32 25.6**	**+3.2**
HHC				sS	**sS**	**06 33 19.1**	**+2.4**
HHC				ScS	**ScS**	**06 34 55.5**	**-0.1**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,170nm,7.5s						
HHC				LR	LR		
	comp=N,280nm,13.1s						
HHC				LR	LR		
	comp=E,170nm,13.1s						
HHC				LR	LR		
	comp=Z,120nm,13.1s						
LSA	**Lhasa**	**51.20**	**318**	*e*P	**P**	**06 25 24.5**	**+0.8**
	comp=Z,14nm,0.6s						
CN2	**Changchun**	**51.31**	**358**	*e*P	**P**	**06 25 26.8**	**+3.1**
CN2				*e*pP	**pP**	**06 25 55.6**	**+0.4**
CN2				*e*sP	**sP**	**06 26 09.9**	**-0.4**
CN2				*e*S	**S**	**06 32 35.1**	**+2.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
USRK	**Ussuriysk Arra**	**51.81**	**4**	P	**P**	**06 25 26.2**	**-1.1**
	comp=Z,7.4nm,0.6s,baz=186,slow=7.7,SNR=18						
ODAN	**Odare**	**52.06**	**313**	*e*P	**P**	**06 25 29.4**	**-0.5**
	comp=Z,36nm,0.8s						
RPZ	**Rata Peaks**	**52.07**	**141**	*e*P	**P**	**06 25 31.9**	**+2.5**
	comp=Z,92nm,1.0s						
MDJ	**Mudanjiang**	**52.11**	**2**	P	**P**	**06 25 31.4**	**+1.8**
MDJ				pmax	pmax		
	comp=Z,12nm,1.6s						
MDJ				pmax	pmax		
	comp=Z,110nm,5.6s						
TAPN	**Taplejung**	**52.12**	**314**	*e*P	**P**	**06 25 29.9**	**-0.5**
	comp=Z,15nm,0.5s						
RAMN	**Ramite**	**52.69**	**312**	*e*P	**P**	**06 25 34.5**	**-0.1**
	comp=Z,65nm,0.7s						
KHZ	**Kahutara**	**53.04**	**138**	*e*P	**P**	**06 25 37.8**	**+1.2**
	comp=Z,67nm,0.8s						
JIRN	**Jiri**	**53.40**	**313**	*e*P	**P**	**06 25 39.4**	**-0.5**
	comp=Z,5.6nm,0.7s						
GTA	**Gaotai**	**53.55**	**333**	P	**P**	**06 25 40.3**	**-0.2**
GTA				pP	**pP**	**06 26 09.8**	**-2.5**
GTA				sP	**sP**	**06 26 24.0**	**-3.3**
GTA				S	**S**	**06 33 02.3**	**-1.0**
GTA				sS	**sS**	**06 33 54.8**	**-3.4**
GTA				pmax	pmax		
	comp=Z,16nm,0.9s						
GTA				pmax	pmax		
	comp=Z,59nm,5.0s						
GTA				LR	LR		
	comp=N,130nm,15.7s						
GTA				LR	LR		
	comp=E,120nm,15.2s						
GTA				LR	LR		
	comp=Z,82nm,16.9s						
GUN	**Gumba**	**53.77**	**313**	*e*P	**P**	**06 25 42.1**	**-0.4**
	comp=Z,38nm,0.7s						
URZ	**Urewera**	**53.82**	**132**	*e*P	**P**	**06 25 43.4**	**+1.0**
	comp=Z,13nm,0.8s						
PKI	**Pulchoki**	**53.92**	**312**	*e*P	**P**	**06 25 42.8**	**-0.8**
	comp=Z,23nm,0.6s						
KKN	**Kakani**	**54.13**	**312**	*e*P	**P**	**06 25 44.6**	**-0.5**
DMN	**Daman**	**54.16**	**312**	*e*P	**P**	**06 25 44.8**	**-0.5**
	comp=Z,28nm,0.8s						
HYB	**Hyderabad**	**54.64**	**298**	*i* P	**P**	**06 25 47.5**	**-1.2**
GKN	**Gorkha**	**54.73**	**312**	*e*P	**P**	**06 25 48.7**	**-0.6**
KOLN	**Koldanda**	**55.36**	**311**	*e*P	**P**	**06 25 53.4**	**-0.5**
	comp=Z,51nm,0.8s						
DANN	**Dangsing**	**55.56**	**312**	*e*P	**P**	**06 25 54.5**	**-0.9**
	comp=Z,33nm,0.8s						
SONM	**Songino Array**	**58.44**	**343**	ScP	**ScP**	**06 30 50.9**	**-1.1**
SONM				⇑*e*		06 56 01.0	
SONM	**Songino Array**	**58.44**	**343**	ScP	**ScP**	**06 30 50.9**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=163,slow=6.0,SNR=2.0						
SONM				PKP2bc		06 56 01.0	
	comp=Z,0.8nm,1.0s,baz=343,slow=4.5,SNR=4.7						
TLY	**Talaya**	**62.68**	**343**	*e*P	**P**	**06 26 43.8**	**+0.2**
	comp=Z,4.5nm,0.7s						
WMQ	**Urumqi**	**62.80**	**328**	*e*P	**P**	**06 26 44.3**	**-0.4**
WMQ				pP	**pP**	**06 27 17.1**	**-0.2**
WMQ				pmax	pmax		
	comp=Z,7.0nm,1.2s						
WMQ				pmax	pm

ARCES					PKiKP	**PKiKP**	06 34 30.9	-1.7
ARCES	**ARCESS Array B**	**101.46**	**339**		P	**Pdif**	06 30 08.1	-1.2
	comp=Z,2.1nm,0.8s,baz=68,slow=5.9,SNR=3.6							
ARCES					PKiKP	**PKiKP**	06 34 30.9	-1.7
	comp=Z,4.4nm,1.1s,baz=64,slow=2.1,SNR=7.6							
YKA	**Yellowknife Ar**	**109.36**	**26**		PKiKP	**PKiKP**	06 34 45.9	-1.5
YKA					PKKPbc	**PKKPbc**	06 45 53.6	-2.2
YKA					PKKPab	**PKKPab**	06 46 05.8	+0.2
YKA	**Yellowknife Ar**	**109.36**	**26**		PKiKP	**PKiKP**	06 34 45.8	-1.5
	comp=Z,0.6nm,0.7s,baz=290,slow=1.5,SNR=11							
YKA					PKKPbc	**PKKPbc**	06 45 53.6	-2.2
	comp=Z,1.4nm,0.9s,baz=107,slow=3.1,SNR=22							
YKA					PKKPab	**PKKPab**	06 46 05.8	+0.2
	comp=Z,0.2nm,0.5s,baz=110,slow=5.1,SNR=5.8							
NOA	**NORSAR Array B**	**109.38**	**333**		PKiKP	**PKiKP**	06 34 47.1	-0.3
NOA	**NORSAR Array B**	**109.38**	**333**		PKiKP	**PKiKP**	06 34 47.1	-0.3
	comp=Z,1.6nm,0.9s,baz=77,slow=3.5,SNR=2.8							
GERES	**GERESS Array B**	**111.52**	**320**		PKiKP	**PKiKP**	06 34 50.7	-1.3
GERES	**GERESS Array B**	**111.52**	**320**		PKiKP	**PKiKP**	06 34 50.7	-1.3
	comp=Z,0.2nm,0.3s,baz=33,slow=2.3,SNR=3.7							
NVAR	**Mina Array Bea**	**113.48**	**51**		PKiKP	**PKiKP**	06 34 56.5	+0.4
NVAR	**Mina Array Bea**	**113.48**	**51**		PKiKP	**PKiKP**	06 34 56.5	+0.4
	comp=Z,1.0nm,0.8s,baz=251,slow=2.8,SNR=5.9							
PDAR	**Pinedale Array**	**118.97**	**45**		PKP	**PKPdf**	06 35 05.5	-1.1
PDAR					PKKPab	**PKKPbc**	06 45 22.1	-0.6
PDAR	**Pinedale Array**	**118.97**	**45**		PKP	**PKPdf**	06 35 05.5	-1.1
	comp=Z,0.8nm,0.8s,baz=255,slow=1.8,SNR=5.3							
PDAR					PKKPab	**PKKPbc**	06 45 22.1	-0.6
	comp=Z,1.1nm,0.9s,baz=120,slow=7.0,SNR=6.6							
BNM	**Barren Site**	**123.58**	**54**	*e*	PKPdf	**PKPdf**	06 35 15.7	-0.1
MNTX	**Cornudas Mount**	**125.21**	**57**	*e*	PKPdf	**PKPdf**	06 35 18.2	-0.4
TOA0	**Torodi Ar. Sit**	**126.75**	**281**	*e*	PKPdf	**PKPdf**	06 35 21.1	-0.9
TORD	**Torodi Ar. Bea**	**126.75**	**281**		PKP	**PKPdf**	06 35 21.3	-0.7
TORD	**Torodi Ar. Bea**	**126.75**	**281**		PKP	**PKPdf**	06 35 21.3	-0.7
	comp=Z,5.4nm,0.7s,baz=86,slow=1.3,SNR=34							
TXAR	**Lajitas Array**	**127.20**	**59**		PKP	**PKPdf**	06 35 22.5	-0.1
TXAR	**Lajitas Array**	**127.20**	**59**		PKP	**PKPdf**	06 35 22.5	-0.1
	comp=Z,2.1nm,1.0s,baz=256,slow=1.5,SNR=13							
PLCA	**Paso Flores**	**128.94**	**162**		PKP	**PKPdf**	06 35 26.1	+0.5
PLCA	**Paso Flores**	**128.94**	**162**		PKP	**PKPdf**	06 35 26.1	+0.5
	comp=Z,2.2nm,0.8s,baz=202,slow=2.3,SNR=3.7							
SCHQ	**Schefferville**	**131.57**	**11**		PKP	**PKPdf**	06 35 29.6	-0.4
SCHQ					SKPbc	**SKPbc**	06 38 38.5	-4.6
SCHQ	**Schefferville**	**131.57**	**11**		PKP	**PKPdf**	06 35 29.6	-0.4
	comp=Z,1.6nm,0.4s,baz=52,slow=1.8,SNR=21							
SCHQ					SKPbc	**SKPbc**	06 38 38.5	-4.6
	comp=Z,3.5nm,0.7s,baz=346,slow=4.6,SNR=6.3							
DBIC	**Dimbokro**	**132.99**	**272**		PKP	**PKPdf**	06 35 33.8	-0.1
DBIC				*e*	PKPdf	**PKiKP**	06 35 34.5	-0.6
DBIC					SKPbc	**SKPbc**	06 38 45.5	-3.8
DBIC	**Dimbokro**	**132.99**	**272**		PKP	**PKPdf**	06 35 33.8	-0.1
	comp=Z,3.8nm,0.6s,baz=71,slow=2.0,SNR=7.6							
DBIC					SKPbc	**SKPbc**	06 38 45.5	-3.8
	comp=Z,6.8nm,0.9s,baz=106,slow=5.5,SNR=8.8							
LVC	**Limon Verde**	**145.73**	**152**	*e*	PKPdf	**PKPab**	06 35 59.0	+0.7
LVC	**Limon Verde**	**145.73**	**152**	∩	P	**PKPab**	06 35 59.2	+0.9
PB04	**Plate Boundary**	**145.75**	**151**	*i*	P	**PKPab**	06 35 58.0	+0.1
CPUP	**Villa Florida**	**145.81**	**172**		PKPbc	**PKPbc**	06 35 57.4	-0.1
CPUP	**Villa Florida**	**145.81**	**172**		PKPbc	**PKPbc**	06 35 57.4	-0.1
	comp=Z,14nm,0.6s,baz=178,slow=3.2,SNR=65							
PB07	**Plate Boundary**	**146.01**	**150**	*i*	P	**PKPab**	06 35 59.8	+0.5
PB09	**Plate Boundary**	**146.27**	**151**	*i*	P	**PKPab**	06 36 01.0	+0.8
JTS	**JuntasAbangare**	**147.61**	**83**	*e*	PKPbc	**PKPbc**	06 36 02.9	-0.2
PSGC	**Pisagua**	**147.66**	**147**	*i*	P	**PKPbc**	06 36 03.4	+0.3
MNMC	**Minimini**	**148.32**	**148**	*i*	P	**PKPbc**	06 36 06.0	+0.9
CAM4	**Nova Friburgo**	**148.65**	**197**	∫	P	**PKPbc**	06 36 06.8	+1.0
CAM4					*i*		06 36 08.9	
CAM4					*i*		06 36 11.9	
CAM4					*i*		06 36 27.0	
CAM4					*i*		06 36 49.1	
CAM4					*i*		06 36 50.9	
CAM4					*i*		06 37 11.2	
NNA	**Nana**	**148.68**	**128**	*e*	PKPbc	**PKPbc**	06 36 06.5	+0.6
LPAZ	**La Paz**	**151.44**	**147**		PKP	**PKPdf**	06 36 06.7	-0.3
LPAZ					PKPbc	**PKiKP**	06 36 13.8	+0.2
LPAZ					PKPab	**PKPab**	06 36 23.5	+1.7
LPAZ	**La Paz**	**151.44**	**147**		PKP	**PKPdf**	06 36 06.7	-0.3
	comp=Z,1.6nm,0.9s,baz=155,slow=3.0,SNR=5.3							
LPAZ					PKPbc	**PKiKP**	06 36 13.8	+0.2
	comp=Z,14nm,0.8s,baz=202,slow=1.3,SNR=32							
LPAZ					PKPab	**PKPab**	06 36 23.5	+1.7
	comp=Z,47nm,0.6s,baz=194,slow=4.3,SNR=59							
OTAV	**Otavalo**	**152.85**	**105**	*e*	PKPdf	**PKPdf**	06 36 10.1	+1.1
OTAV				*e*	PKPab	**PKPab**	06 36 29.8	+2.1
SIV	**San Ignacio**	**154.88**	**160**		PKP	**PKPdf**	06 36 10.8	-0.4
SIV					PKPab	**PKPab**	06 36 36.8	+1.2
SIV	**San Ignacio**	**154.88**	**160**		PKP	**PKPdf**	06 36 10.8	-0.4
	comp=Z,4.1nm,1.0s,baz=196,slow=3.2,SNR=12							
SIV					PKPab	**PKPab**	06 36 36.8	+1.2
	comp=Z,10nm,0.7s,baz=222,slow=4.5,SNR=27							
BDFB	**Brasilia**	**156.43**	**190**		PKPab	**PKPab**	06 36 43.4	+1.2
BDFB	**Brasilia**	**156.43**	**190**		PKPab	**PKPab**	06 36 43.4	+1.2
	comp=Z,6.7nm,0.9s,baz=181,slow=3.9,SNR=7.1							
SDV	**Santo Domingo**	**161.77**	**85**	*e*	PKPdf	**PKPdf**	06 36 18.7	-1.1

IDC 17 06:29:07.1±2.1,3°67N×126°45E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.5/19,mbtmp3.7/3,MS3.1/1,Ms1 3.1/1, ms1mx2.4/24,Error ellipse: s-maj=194.3km s-min=28.8km az=64.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.72**	**162**	P	P	06 34 30.3	0.0
	2.3nm,0.8s,baz=341,slow=11,SNR=7.3						
KSRS	**Korea Array**	**33.65**	**2**	LR	LR	06 48 03.3	
	comp=Z,33nm,19.6s,baz=157,slow=34						
STKA	**Stephens Creek**	**38.18**	**159**	P	P	06 36 28.6	0.0
	2.0nm,0.7s,baz=335,slow=7.8,SNR=3.4						
MKAR	**Makanchi Array**	**57.44**	**325**	P	P	06 38 57.7	-0.2
	0.1nm,0.4s,baz=130,slow=8.0,SNR=3.8						

ATH 17 06:31:08.3,38°12N×21°16E,h30km, MD2.6/8
THE 17 06:31:09.2,37°80N×21°16E,h3km±23km, ML2.4/4, Error ellipse: s-maj=23.7km s-min=0.6km az=296.0
CSEM 17 06:31:09.5±0.3,37°87N×21°14E,h10km, MD2.6, Error ellipse: s-maj=7.5km s-min=4.9km az=6.0
ISCJB 17 06:31:10.1±0.7,37°91N±0°08×21°11E±0°05,h27km±8km, Error ellipse: s-maj=13.9km s-min=5.8km az=172.7
ISC 17 06:31:10.0±1.0,37°96N±0°04×21°14E±0°02,h16km±7km, n30,σ0°98/47,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.27**	**70**	P	**Pb**	**06 31 16.8**	**+0.3**
RLS	**Riolos of Patr**	**0.27**	**70**	*e*PB	**Pg**	06 31 16.0	+0.1
RLS				*e*SB	**Sg**	**06 31 20.5**	**+0.6**
RLS	**Riolos of Patr**	**0.27**	**70**	*e*Pb	**Pg**	06 31 16.0	+0.1
RLS	**Riolos of Patr**	**0.27**	**70**	P	**Pb**	**06 31 16.8**	**+0.3**
RLS				*e*Sb	**Sg**	**06 31 20.5**	**+0.6**
KFL	**Anninata**	**0.32**	**297**	P	**Pb**	**06 31 17.5**	**+0.2**
KFL				S	**Sb**	**06 31 23.6**	**+1.4**
KFL	**Anninata**	**0.32**	**297**	P	**Pb**	**06 31 17.5**	**+0.2**
KFL				S	**Sb**	**06 31 23.6**	**+1.4**
VLS	**Valsamata**	**0.49**	**296**	P	**Pb**	**06 31 20.1**	**-0.1**
VLS	**Valsamata**	**0.49**	**296**	*e*PB	**Pg**	06 31 18.6	-1.1
VLS	**Valsamata**	**0.49**	**296**	*e*Pb	**Pg**	06 31 18.6	-1.1
VLS	**Valsamata**	**0.49**	**296**	P	**Pb**	**06 31 20.1**	**-0.1**
LAKA	**Lakka**	**0.71**	**67**	P	**Pg**	**06 31 24.0**	**0.0**
LAKA				S	**Sb**	**06 31 35.2**	**+1.5**
LAKA	**Lakka**	**0.71**	**67**	P	**Pg**	**06 31 24.0**	**0.0**
LAKA				S	**Sb**	**06 31 35.2**	**+1.5**
EFP	**Efpalio**	**0.76**	**52**	P	**Pb**	**06 31 25.3**	**+0.5**
EFP				S	**Sn**	**06 31 38.1**	**+0.9**
EFP	**Efpalio**	**0.76**	**52**	*e*PN	**Pg**	06 31 21.8	-3.0
EFP	**Efpalio**	**0.76**	**52**	P	**Pb**	**06 31 25.3**	**+0.5**
EFP				S	**Sn**	**06 31 38.1**	**+0.9**
TRIZ	**Trizonia**	**0.83**	**61**	P	**Pb**	**06 31 26.3**	**+0.2**
TRIZ				S	**Sn**	**06 31 39.7**	**+0.6**
TRIZ	**Trizonia**	**0.83**	**61**	P	**Pb**	**06 31 26.3**	**+0.2**
TRIZ				S	**Sn**	**06 31 39.7**	**+0.6**
KALE	**Kalithea**	**0.89**	**61**	P	**Pb**	**06 31 27.5**	**+0.3**
KALE				S	**Sn**	**06 31 41.3**	**+0.7**
KALE	**Kalithea**	**0.89**	**61**	P	**Pb**	**06 31 27.5**	**+0.3**
KALE				S	**Sn**	**06 31 41.3**	**+0.7**
GUR	**Goura**	**0.95**	**91**	P	**Pg**	**06 31 26.6**	**-1.8**
GUR				S	**Sb**	**06 31 40.5**	**0.0**
GUR	**Goura**	**0.95**	**91**	*e*PN	**Pg**	06 31 26.5	-1.8
GUR				*e*SN	**Sg**	06 31 39.7	-1.1
GUR	**Goura**	**0.95**	**91**	P	**Pg**	**06 31 26.6**	**-1.8**
GUR				S	**Sb**	**06 31 40.5**	**0.0**
ITM	**Ithomi**	**1.00**	**141**	*e*PN	**Pn**	**06 31 29.7**	**+0.3**
ITM	**Ithomi**	**1.00**	**141**	*e*Pn	**Pn**	**06 31 29.7**	**+0.3**
PYL	**PYLOS**	**1.17**	**156**	*e*PN	**Pg**	**06 31 32.0**	**-0.5**
PYL	**PYLOS**	**1.17**	**156**	*e*Pn	**Pg**	**06 31 32.0**	**-0.5**
LTK	**Loutraki**	**1.44**	**87**	*e*PN	**Pn**	**06 31 34.0**	**-1.5**
LTK	**Loutraki**	**1.44**	**87**	*e*Pn	**Pn**	**06 31 34.0**	**-1.5**
DID	**Didima**	**1.72**	**105**	*e*Pn	**Pn**	**06 31 39.1**	**-0.2**
DID				*e*SN	**Sn**	**06 32 01.1**	**+0.1**
DID	**Didima**	**1.72**	**105**	*e*Pn	**Pn**	**06 31 39.1**	**-0.2**
DID				*e*Sn	**Sn**	**06 32 01.1**	**+0.1**

ISCJB 17 06:34:34.3±0.5,39°13N±0°03×29°04E±0°03,h1km±6km, Error ellipse: s-maj=5.5km s-min=3.8km az=166.2
ISK 17 06:34:34.8,39°18N×29°07E,h5km, MD2.7
DDA 17 06:34:34.4,39°12N×29°06E,h7km, MD2.4
CSEM 17 06:34:34.8±0.1,39°13N×29°06E,h5km, MD2.4, Error ellipse: s-maj=3.2km s-min=2.3km az=166.0
ISC 17 06:34:34.8±1.1,39°13N±0°03×29°06E±0°02,h5km±12km, n46,σ0°45/60,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.33**	**97**	*i* P	**Pg**	**06 34 41.4**	**+0.1**
GDZ				*i* S	**Sg**	**06 34 45.9**	**+0.3**
GDZ	**Gediz**	**0.33**	**97**	*i* P	**Pg**	**06 34 41.4**	**+0.1**
GDZ				*i* S	**Sg**	**06 34 45.9**	**+0.3**
TVSB	**Tavsanli**	**0.44**	**44**	*e*PG	**Pg**	06 34 43.3	-0.1
TVSB				*e*SG	**Sg**	**06 34 49.3**	**+0.1**
TVSB	**Tavsanli**	**0.44**	**44**	*e*Pg	**Pg**	06 34 43.3	-0.1
TVSB				*e*Sg	**Sg**	**06 34 49.3**	**+0.1**
DST	**Dursunbey**	**0.58**	**324**	*e*PG	**Pg**	**06 34 46.0**	**0.0**
DST				*e*SG	**Sg**	**06 34 53.9**	**+0.3**
DST	**Dursunbey**	**0.58**	**324**	*e*Pg	**Pg**	**06 34 46.1**	**0.0**
DST				*e*Sg	**Sg**	**06 34 53.9**	**+0.3**
MANT	**Manisa**	**0.75**	**212**	*i* P	**Pg**	**06 34 48.8**	**-0.5**
MANT				*i* S	**Sg**	**06 34 58.4**	**-0.6**
MANT	**Manisa**	**0.75**	**212**	*i* P	**Pg**	**06 34 48.8**	**-0.5**
MANT				*i* S	**Sg**	**06 34 58.4**	**-0.6**
ALT	**Altintas**	**0.82**	**95**	*e*PG	**Pg**	**06 34 50.9**	**+0.3**
ALT				*e*SG	**Sb**	**06 35 02.7**	**-0.4**
ALT	**Altintas**	**0.82**	**95**	*e*Pg	**Pg**	**06 34 50.9**	**+0.3**
ALT				*e*Sg	**Sb**	**06 35 02.7**	**-0.4**
ORLT	**Orhaneli**	**0.92**	**352**	*e*PG	**Pg**	**06 34 52.3**	**-0.2**
ORLT	**Orhaneli**	**0.92**	**352**	*e*Pg	**Pg**	**06 34 52.3**	**-0.2**
AKHS	**Akhisar**	**1.00**	**256**	*i* P	**Pg**	**06 34 53.7**	**-0.4**
AKHS				*i* S	**Sg**	**06 35 07.8**	**+0.7**
AKHS	**Akhisar**	**1.00**	**256**	*i* P	**Pg**	**06 34 53.7**	**-0.4**
AKHS				*i* S	**Sg**	**06 35 07.8**	**+0.7**
AKS	**Akhisar**	**1.00**	**256**	*e*PG	**Pb**	**06 34 54.5**	**-0.3**
AKS	**Akhisar**	**1.00**	**256**	*e*Pg	**Pb**	**06 34 54.5**	**-0.3**
BALB	**Balikesir**	**1.05**	**299**	*e*PG	**Pg**	**06 34 55.2**	**+0.3**
BALB	**Balikesir**	**1.05**	**299**	*e*Pg	**Pg**	**06 34 55.2**	**+0.3**
CAVI	**Cavuskoy**	**1.23**	**29**	*e*PN	**Pg**	**06 34 57.7**	**-0.7**
CAVI	**Cavuskoy**	**1.23**	**29**	*e*Pn	**Pg**	**06 34 57.7**	**-0.7**
MDNY	**Mudanya-Bursa**	**1.24**	**354**	*e*PN	**Pg**	**06 34 58.4**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.24**	**354**	*e*Pn	**Pg**	**06 34 58.4**	**-0.3**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*PN	**Pg**	**06 34 58.2**	**-0.7**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*Pn	**Pg**	**06 34 58.2**	**-0.7**
BORA	**Eskisehir**	**1.31**	**55**	*i* P	**Pg**	**06 34 59.6**	**-0.4**
BORA				*i* S	**Sb**	**06 35 17.4**	**+0.2**
BORA	**Eskisehir**	**1.31**	**55**	*i* P	**Pg**	**06 34 59.6**	**-0.4**
BORA				*i* S	**Sb**	**06 35 17.4**	**+0.2**
ADVT	**Abdulvahap**	**1.40**	**22**	*e*PN	**Pn**	**06 35 00.9**	**-0.2**
ADVT	**Abdulvahap**	**1.40**	**22**	*e*Pn	**Pn**	**06 35 00.9**	**-0.2**
GONE	**Gonen-Balikesi**	**1.40**	**311**	*e*PN	**Pn**	**06 35 01.6**	**+0.5**
GONE	**Gonen-Balikesi**	**1.40**	**311**	*e*Pn	**Pn**	**06 35 01.6**	**+0.5**
ARMT	**Armutlu**	**1.44**	**354**	*e*PN	**Pn**	**06 35 01.8**	**+0.1**
ARMT	**Armutlu**	**1.44**	**354**	*e*Pn	**Pn**	**06 35 01.8**	**+0.1**
YLV	**Yalova**	**1.45**	**9**	*e*PN	**Pn**	**06 35 01.9**	**0.0**
YLV	**Yalova**	**1.45**	**9**	*e*Pn	**Pn**	**06 35 01.9**	**0.0**
EDC	**Edincik**	**1.52**	**323**	*e*PN	**Pn**	**06 35 03.4**	**+0.6**
EDC	**Edincik**	**1.52**	**323**	*e*Pn	**Pn**	**06 35 03.4**	**+0.6**
GULT	**Gulveren**	**1.71**	**40**	*e*PN	**Pn**	**06 35 05.1**	**-0.4**
GULT	**Gulveren**	**1.71**	**40**	*e*Pn	**Pn**	**06 35 05.1**	**-0.4**
HRT	**Hereke**	**1.75**	**15**	*e*PN	**Pn**	**06 35 06.2**	**+0.2**
HRT	**Hereke**	**1.75**	**15**	*e*Pn	**Pn**	**06 35 06.2**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.94**	**80**	*e*PN	**Pn**	**06 35 09.5**	**+0.9**
SVRH	**Sivrihisar-ESK**	**1.94**	**80**	*e*Pn	**Pn**	**06 35 09.5**	**+0.9**
RKY	**Sarkoy-Tekirda**	**2.12**	**318**	*e*PN	**Pn**	**06 35 11.6**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.12**	**318**	*e*Pn	**Pn**	**06 35 11.6**	**+0.5**
CTKS	**Kestanelik-??a**	**2.14**	**349**	*e*PN	**Pn**	**06 35 12.0**	**+0.7**
CTKS	**Kestanelik-??a**	**2.14**	**349**	*e*Pn	**Pn**	**06 35 12.0**	**+0.7**

ISCJB 17 06:40:55.8±0.4,39°13N±0°03×29°03E±0°03,h3km±5km, Error ellipse: s-maj=4.8km s-min=3.3km az=165.0
ISK 17 06:40:55.8,39°16N×29°04E,h5km, MD2.7
DDA 17 06:40:55.8,39°11N×29°02E,h7km, MD2.3
CSEM 17 06:40:56.1±0.1,39°13N×29°03E,h5km, MD2.3, Error ellipse: s-maj=2.3km s-min=1.8km az=167.0
ISC 17 06:40:56.1±1.0,39°14N±0°02×29°03E±0°02,h7km±11km, n60,σ0°40/76,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**249**	*i* P	**Pg**	**06 41 01.4**	**+0.1**
DEMI				*i* S	**Sg**	**06 41 05.2**	**+0.4**
DEMI	**Demirci**	**0.26**	**249**	*i* P	**Pg**	**06 41 01.4**	**+0.1**
DEMI				*i* S	**Sg**	**06 41 05.2**	**+0.4**
GDZ	**Gediz**	**0.35**	**98**	*i* P	**Pg**	**06 41 02.8**	**-0.3**
GDZ				*i* S	**Sg**	**06 41 07.9**	**+0.2**
GDZ	**Gediz**	**0.35**	**98**	*i* P	**Pg**	**06 41 02.8**	**-0.3**
GDZ				*i* S	**Sg**	**06 41 07.9**	**+0.2**
TVSB	**Tavsanli**	**0.46**	**47**	*e*PG	**Pg**	**06 41 04.7**	**-0.2**
TVSB				*e*SG	**Sg**	**06 41 11.0**	**+0.1**
TVSB	**Tavsanli**	**0.46**	**47**	*e*Pg	**Pg**	**06 41 04.7**	**-0.2**
TVSB				*e*Sg	**Sg**	**06 41 11.0**	**+0.1**
DST	**Dursunbey**	**0.56**	**326**	*e*PG	**Pg**	**06 41 06.7**	**-0.3**
DST				*e*SG	**Sg**	**06 41 14.9**	**+0.5**
DST	**Dursunbey**	**0.56**	**326**	*e*Pg	**Pg**	**06 41 06.7**	**-0.3**
DST				*e*Sg	**Sg**	**06 41 14.9**	**+0.5**
KULA	**Kula-Manisa**	**0.69**	**205**	*e*PG	**Pg**	**06 41 09.2**	**-0.1**
KULA	**Kula-Manisa**	**0.69**	**205**	*e*Pg	**Pg**	**06 41 09.2**	**-0.1**
MANT	**Manisa**	**0.75**	**210**	*i* P	**Pg**	**06 41 10.1**	**-0.3**
MANT				*i* S	**Sg**	**06 41 20.0**	**-0.2**
MANT	**Manisa**	**0.75**	**210**	*i* P	**Pg**	**06 41 10.1**	**-0.3**
MANT				*i* S	**Sg**	**06 41 20.0**	**-0.2**
ALT	**Altintas**	**0.84**	**95**	*e*PG	**Pb**	**06 41 12.8**	**-0.3**
ALT	**Altintas**	**0.84**	**95**	*e*Pg	**Pb**	**06 41 12.8**	**-0.3**
KHL	**Karahalli**	**0.90**	**155**	*e*PG	**Pb**	**06 41 14.0**	**-0.1**
KHL	**Karahalli**	**0.90**	**155**	*e*Pg	**Pb**	**06 41 14.0**	**-0.1**
ORLT	**Orhaneli**	**0.91**	**353**	*e*PG	**Pg**	**06 41 13.4**	**-0.2**
ORLT	**Orhaneli**	**0.91**	**353**	*e*Pg	**Pg**	**06 41 13.4**	**-0.2**
AKHS	**Akhisar**	**0.98**	**255**	*i* P	**Pg**	**06 41 14.9**	**-0.1**
AKHS				*i* S	**Sg**	**06 41 27.6**	**-0.1**
AKHS	**Akhisar**	**0.98**	**255**	*i* P	**Pg**	**06 41 14.9**	**-0.1**
AKHS				*i* S	**Sg**	**06 41 27.6**	**-0.1**
AKS	**Akhisar**	**0.98**	**255**	*e*PG	**Pg**	**06 41 15.2**	**+0.2**
AKS	**Akhisar**	**0.98**	**255**	*e*Pg	**Pg**	**06 41 15.2**	**+0.2**
BALB	**Balikesir**	**1.02**	**300**	*e*PG	**Pn**	**06 41 16.6**	**-0.2**
BALB	**Balikesir**	**1.02**	**300**	*e*Pg	**Pn**	**06 41 16.6**	**-0.2**
CAVI	**Cavuskoy**	**1.23**	**30**	*e*PN	**Pb**	**06 41 19.1**	**-0.6**
CAVI	**Cavuskoy**	**1.23**	**30**	*e*Pn	**Pb**	**06 41 19.1**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.23**	**355**	*e*PN	**Pn**	**06 41 19.3**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.23**	**355**	*e*Pn	**Pn**	**06 41 19.3**	**-0.4**
KCTX	**Karacabey (Bur**	**1.24**	**335**	*e*PN	**Pn**	**06 41 19.5**	**-0.3**
KCTX	**Karacabey (Bur**	**1.24**	**335**	*e*Pn	**Pn**	**06 41 19.5**	**-0.3**
BALY	**Balya**	**1.25**	**299**	*i* P	**Pg**	**06 41 20.2**	**+0.2**
BALY				*i* S	**Sb**	**06 41 36.1**	**-0.1**
BALY	**Balya**	**1.25**	**299**	*i* P	**Pg**	**06 41 20.2**	**+0.2**
BALY				*i* S	**Sb**	**06 41 36.1**	**-0.1**
SHUT	**Suhut-Afyon**	**1.32**	**116**	*e*PN	**Pn**	**06 41 20.7**	**-0.3**
SHUT	**Suhut-Afyon**	**1.32**	**116**	*e*Pn	**Pn**	**06 41 20.7**	**-0.3**
BORA	**Eskisehir**	**1.32**	**56**	*i* P	**Pg**	**06 41 21.6**	**+0.1**
BORA				*i* S	**Sg**	**06 41 38.6**	**-0.1**
BORA	**Eskisehir**	**1.32**	**56**	*i* P	**Pg**	**06 41 21.6**	**+0.1**
BORA				*i* S	**Sg**	**06 41 38.6**	**-0.1**
GONE	**Gonen-Balikesi**	**1.38**	**311**	*e*PN	**Pb**	**06 41 22.3**	**+0.1**
GONE	**Gonen-Balikesi**	**1.38**	**311**	*e*Pn	**Pb**	**06 41 22.3**	**+0.1**
ADVT	**Abdulvahap**	**1.40**	**23**	*e*PN	**Pb**	**06 41 22.3**	**-0.3**
ADVT	**Abdulvahap**	**1.40**	**23**	*e*Pn	**Pb**	**06 41 22.3**	**-0.3**
ARMT	**Armutlu**	**1.43**	**355**	*e*PN	**Pb**	**06 41 22.9**	**-0.2**
ARMT	**Armutlu**	**1.43**	**355**	*e*Pn	**Pb**	**06 41 22.9**	**-0.2**
YLV	**Yalova**	**1.45**	**10**	*e*PN	**Pb**	**06 41 23.3**	**-0.1**
YLV	**Yalova**	**1.45**	**10**	*e*Pn	**Pb**	**06 41 23.3**	**-0.1**
ESKT	**Eskisehir**	**1.46**	**74**	*e*PN	**Pb**	**06 41 23.6**	**0.0**
ESKT	**Eskisehir**	**1.46**	**74**	*e*Pn	**Pb**	**06 41 23.6**	**0.0**
EDC	**Edincik**	**1.51**	**324**	*e*PN	**Pn**	**06 41 23.8**	**+0.4**
EDC	**Edincik**	**1.51**	**324**	*e*Pn	**Pn**	**06 41 23.8**	**+0.4**
GPA	**Golpazari**	**1.51**	**40**	*e*PN	**Pn**	**06 41 23.2**	**-0.3**
GPA	**Golpazari**	**1.51**	**40**	*e*Pn	**Pn**	**06 41 23.3**	**-0.3**
GULT	**Gulveren**	**1.72**	**41**	*e*PN	**Pn**	**06 41 27.1**	**+0.5**
GULT	**Gulveren**	**1.72**	**41**	*e*Pn	**Pn**	**06 41 27.1**	**+0.5**
KRBG	**Karabiga-Canak**	**1.83**	**314**	*e*PN	**Pb**	**06 41 29.2**	**-0.7**
KRBG	**Karabiga-Canak**	**1.83**	**314**	*e*Pn	**Pb**	**06 41 29.2**	**-0.7**
SVRH	**Sivrihisar-ESK**	**1.96**	**80**	*e*PN	**Pn**	**06 41 30.7**	**+1.0**
SVRH	**Sivrihisar-ESK**	**1.96**	**80**	*e*Pn	**Pn**	**06 41 30.7**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.10**	**318**	*e*PN	**Pn**	**06 41 32.5**	**+0.8**
RKY	**Sarkoy-Tekirda**	**2.10**	**318**	*e*Pn	**Pn**	**06 41 32.5**	**+0.8**
MDUB	**Mudurnu**	**2.13**	**51**	*e*PN	**Pn**	**06 41 33.3**	**+1.1**
MDUB	**Mudurnu**	**2.13**	**51**	*e*Pn	**Pn**	**06 41 33.3**	**+1.1**

CSEM 17 06:58:42.8,39°15N×29°05E,h7km, MD2.4, After DDA
DDA 17 06:58:42.8,39°15N×29°05E,h7km,MD2.4,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.28**	**249**	*i* P	**Pg**	06 58 47.2	-1.2
DEMI				*i* S	**Sg**	**06 58 53.0**	**+0.7**

PPBI Pangkal Pinang 22.68 259 P **P** **07 06 46.1 0.0**
32nm,0.7s,2µm
NACB Ninganchiao 22.75 344 *eP* **P** **07 06 46.6 +0.1**
34nm,0.8s
WRAB Tennant Creek 22.83 165 *eP* **P** **07 06 48.3 +0.9**
WRAB pmax pmax
comp=Z,60nm,0.7s
WRAB Tennant Creek 22.83 165 *eP* **P** **07 06 48.3 +0.9**
comp=Z,60nm,0.7s
WRAB Tennant Creek 22.83 165 P **P** **07 06 49.0 +1.6**
comp=Z,629nm,0.5s
WRA Warramunga Arr 22.83 165 P **P** **07 06 49.2 +1.7**
WRA PcP **PcP** **07 10 36.3 +0.3**
WRA S **S** **07 10 48.7 -1.7**
WRA ScP **ScP** **07 14 02.4 -3.8**
WRA *e* 07 40 19.1
WRA Warramunga Arr 22.83 165 P **P** **07 06 49.2 +1.7**
comp=Z,58nm,0.6s,baz=345,slow=10,SNR=377
WRA PcP **PcP** **07 10 36.3 +0.3**
comp=Z,1.0nm,0.4s,baz=359,slow=2.3,SNR=4.8
WRA S **S** **07 10 48.7 -1.7**
comp=Z,3.7nm,0.8s,baz=342,slow=19,SNR=5.9
WRA ScP **ScP** **07 14 02.4 -3.8**
comp=Z,2.7nm,0.8s,baz=340,slow=3.1,SNR=8.0
WRA P3KPbc 07 40 19.1
comp=Z,0.4nm,0.6s,baz=154,slow=4.2,SNR=5.5
CBJI Citeko 23.18 248 P **P** **07 06 54.1 +3.2**
comp=Z,206nm,1.0s,comp=Z,27µm
YHNB Yeheng 23.28 344 *eP* **P** **07 06 51.9 +0.1**
comp=Z,88nm,0.9s
DBJI Dramaga 23.32 248 P **P** **07 06 54.1 +1.8**
comp=Z,62nm,1.0s
CGJI Cibinong 24.32 249 P **P** **07 07 01.1 -0.1**
QIZ Qiongzhong 24.64 314 P **P** **07 07 03.8 -0.3**
QIZ pP **pP** **07 07 22.4 -1.3**
QIZ sP **sP** **07 07 33.3 -0.6**
QIZ S **S** **07 11 20.1 +0.5**
QIZ sS **sS** **07 11 53.8 +0.3**
QIZ pmax pmax
comp=Z,30nm,1.7s
AS31 Alice Springs 26.33 169 *eP* **P** **07 07 20.7 +1.2**
ASAR Alice Springs 26.33 169 P **P** **07 07 21.0 +1.6**
ASAR PcP **PcP** **07 10 43.7 +0.1**
ASAR S S 07 11 55.9 +10
ASAR ScP **ScP** **07 14 12.2 -3.6**
ASAR Alice Springs 26.33 169 P **P** **07 07 21.0 +1.6**
comp=Z,6.7nm,0.5s,baz=356,slow=8.3,SNR=137
ASAR PcP **PcP** **07 10 43.7 +0.1**
comp=Z,7.8nm,0.5s,baz=351,slow=2.1,SNR=21
ASAR S S 07 11 55.9 +10
comp=Z,1.8nm,0.9s,baz=347,slow=17,SNR=4.4
ASAR ScP **ScP** **07 14 12.2 -3.6**
comp=Z,4.5nm,0.9s,baz=350,slow=2.5,SNR=13
CTA Charters Tower 28.30 143 P P 07 07 40.7 +3.6
CTA Charters Tower 28.30 143 P P 07 07 40.7 +3.6
comp=Z,7.1nm,0.6s,baz=320,slow=12,SNR=8.9
CTA LR LR 07 20 41.5
comp=Z,103nm,19.0s,baz=42,slow=40
CTAO Charters Tower 28.30 143 *eP* P 07 07 44.4 +7.3
CTAO pmax pmax
comp=Z,8.0nm,0.7s
CTAO Charters Tower 28.30 143 *eP* P 07 07 44.4 +7.3
comp=Z,7.5nm,0.7s
PSI Prapat 29.45 272 P **P** **07 07 46.4 -1.1**
PSI Prapat 29.45 272 P **P** **07 07 46.4 -1.1**
comp=Z,1.9nm,0.3s,baz=104,slow=4.2,SNR=6.8
JNU Nakatsue 30.78 4 *eP* **P** **07 07 58.8 -0.1**
comp=Z,7.9nm,0.8s
JNU Nakatsue 30.78 4 P **P** **07 07 58.6 -0.3**
comp=Z,19nm,0.8s,baz=176,slow=6.1,SNR=8.1
NJ2 Nanjing 30.96 344 *eP* **P** **07 08 01.3 +0.9**
NJ2 pP **pP** **07 08 16.6 -3.7**
NJ2 sP **sP** **07 08 26.8 -3.5**
NJ2 PP **PnPn** **07 09 03.6 -1.3**
NJ2 S **S** **07 12 56.0 -2.8**
NJ2 sS **sS** **07 13 30.0 -3.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s
NJ2 pmax pmax
comp=Z,160nm,6.1s
NJ2 LR LR
comp=N,500nm,23.3s
NJ2 LR LR
comp=E,410nm,16.9s
NJ2 LR LR
comp=Z,200nm,23.1s
GYA Guiyang 31.84 321⇑ *iP* **P** **07 08 09.8 +1.4**
GYA pP **pP** **07 08 30.5 +2.2**
GYA PP **PP** **07 09 19.3 -2.6**
GYA PcP **PcP** **07 10 58.8 +1.2**
GYA S **S** **07 13 14.0 +1.0**
GYA sS **sS** **07 13 47.6 +0.3**
GYA ScP **ScP** **07 14 34.0 +0.5**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,140nm,4.9s
GYA LR LR
comp=N,660nm,17.8s
GYA LR LR
comp=E,510nm,18.0s
GYA LR LR
comp=Z,650nm,17.4s
FORT Forrest 32.87 181 *eP* **P** **07 08 17.9 +0.8**
comp=Z,30nm,0.9s
FORT Forrest 32.87 181 *eP* **P** **07 08 18.0 +0.8**
comp=Z,22nm,0.6s
CMAR Chiang Mai Arr 33.04 301 P **P** **07 08 17.9 -1.1**
CMAR PcP **PcP** **07 11 01.0 0.0**
CMAR ScP **ScP** **07 14 34.5 -3.1**
CMAR Chiang Mai Arr 33.04 301 P **P** **07 08 17.9 -1.1**
comp=Z,5.5nm,0.8s,baz=122,slow=7.3,SNR=26
CMAR PcP **PcP** **07 11 01.0 0.0**
comp=Z,0.7nm,0.3s,baz=153,slow=1.7,SNR=6.3
CMAR ScP **ScP** **07 14 34.5 -3.1**
comp=Z,0.7nm,0.3s,baz=124,slow=2.4,SNR=5.3
ENH Enshi 33.12 329 *eP* **P** **07 08 20.6 +1.2**
comp=Z,58nm,0.9s
CHTO Chiang Mai 33.20 302 *eP* **P** **07 08 20.7 +0.4**
CHTO pmax pmax
comp=Z,13nm,0.9s
CHTO Chiang Mai 33.20 302 *eP* **P** **07 08 20.7 +0.4**
comp=Z,13nm,0.9s
CHTO Chiang Mai 33.20 302 ⇓P **P** **07 08 21.8 +1.6**
SNR=8.3
KMI Kunming 33.58 315 P **P** **07 08 25.5 +1.7**
KMI pP **pP** **07 08 45.5 +1.7**
KMI sP **sP** **07 08 55.1 +1.3**
KMI PP **PP** **07 09 43.8 +2.5**
KMI S **S** **07 13 41.1 +0.8**
KMI pmax pmax
comp=Z,61nm,1.1s
KMI LR LR
comp=Z,120nm,19.8s
KSAR Wonju Array Be 35.01 359 P **P** **07 08 36.3 +0.7**
KSAR PcP **PcP** **07 11 06.7 +0.5**
KSRS Korea Array 35.02 359 P **P** **07 08 36.3 +0.6**
comp=Z,9.2nm,0.7s,baz=176,slow=10,SNR=30
KSRS PcP **PcP** **07 11 06.7 +0.5**
comp=Z,2.0nm,0.7s,baz=150,slow=1.7,SNR=5.3
KSRS LR LR 07 25 10.3
comp=Z,39nm,18.3s,baz=64,slow=40
MJAR Matsushiro Arr 35.29 14 P **P** **07 08 37.3 -0.8**
MJAR Matsushiro Arr 35.29 14 P **P** **07 08 37.3 -0.8**
comp=Z,16nm,0.6s,baz=187,slow=10,SNR=38
MJAR LR LR 07 20 57.8
comp=Z,40nm,20.4s,baz=180,slow=32
MAJO Matsushiro 35.29 14 *eP* **P** **07 08 37.5 -0.6**
MAJO pmax pmax
comp=Z,182nm,2.0s
MAJO Matsushiro 35.29 14 *eP* **P** **07 08 37.5 -0.6**
comp=Z,182nm,2.0s
MAT Matsushiro 35.29 14 P **P** **07 08 37.4 -0.7**
BBOO Buckleboo 35.64 169 *eP* **P** **07 08 42.4 +1.3**
comp=Z,537nm,1.3s
BBOO Buckleboo 35.64 169 *eP* **P** **07 08 42.5 +1.3**
comp=Z,89nm,0.4s
STKA Stephens Creek 36.20 161 *eP* **P** **07 08 47.9 +1.9**
comp=Z,3.2nm,0.8s
STKA PcP **PcP** **07 11 09.8 0.0**
STKA ScP **ScP** **07 14 45.7 -2.9**
STKA Stephens Creek 36.20 161 *eP* **P** **07 08 47.7 +1.8**
comp=Z,8.8nm,0.3s
STKA Stephens Creek 36.20 161 P **P** **07 08 47.8 +1.9**
comp=Z,12nm,0.4s,baz=342,slow=7.9,SNR=85
STKA PcP **PcP** **07 11 09.8 0.0**
comp=Z,3.7nm,0.6s,baz=316,slow=4.1,SNR=4.4
STKA ScP **ScP** **07 14 45.7 -2.9**
comp=Z,2.9nm,0.7s,baz=1.6,slow=5.1,SNR=3.7
XAN Xi'an 36.47 332 P **P** **07 08 48.8 +0.5**
XAN pmax pmax
comp=Z,10.0nm,0.8s
NWAO Narrogin (SRO) 36.56 196 P **P** **07 08 48.6 -0.4**
NWAO Narrogin (SRO) 36.56 196 P **P** **07 08 48.6 -0.4**
comp=Z,3.6nm,0.5s,baz=6.6,slow=6.7,SNR=5.2
CD2 Chengdu 36.80 323 P **P** **07 08 52.1 +1.0**
CD2 pP **pP** **07 09 12.1 +0.8**
CD2 sP **sP** **07 09 22.1 +0.8**
CD2 PP **PnPn** **07 10 20.0 +2.4**
CD2 S **S** **07 14 29.5 +0.3**
CD2 PcS **PcS** **07 14 59.9 0.0**
CD2 sS **sS** **07 15 03.9 0.0**
CD2 pmax pmax
comp=Z,160nm,0.8s
CD2 pmax pmax
comp=Z,100nm,4.6s
BJT Baijiatuau 39.18 345 *eP* **P** **07 09 11.1 +0.1**
comp=Z,41nm,0.5s
BJI Beijing 39.20 345 P **P** **07 09 11.0 -0.1**
BJI pmax pmax
comp=Z,55nm,0.6s
ARMA Armidale 39.35 147 *eP* **P** **07 09 15.3 +2.6**
comp=Z,16nm,0.7s
ARMA Armidale 39.35 147 *eP* **P** **07 09 15.2 +2.6**
IMP Imphal 40.07 307 *ex* x 07 09 18.0
LZH Lanzhou 40.60 329⇑P **P** **07 09 24.9 +1.9**
LZH pP **pP** **07 09 44.5 +1.0**
LZH sP **sP** **07 09 53.0 -0.4**
LZH PP **PnPn** **07 11 03.3 +0.4**
LZH PcP **PcP** **07 11 25.0 +1.4**
LZH S **S** **07 15 29.4 +2.9**
LZH sS **sS** **07 16 01.6 0.0**
LZH pmax pmax
comp=Z,74nm,1.5s
LZH pmax pmax
comp=Z,170nm,5.4s
ARPS Mount Arapiles 40.81 163 *eP* **P** **07 09 26.9 +2.4**
comp=Z,82nm,0.7s
HHC Hu-ho-hao-te 41.31 341 *eP* **P** **07 09 29.5 +0.8**
HHC pP **pP** **07 09 47.9 -1.3**
HHC sP **sP** **07 09 57.4 -1.7**
HHC PP **PnPn** **07 10 10.0 -1.0**
HHC S **S** **07 15 38.8 +2.1**
HHC sS **sS** **07 16 09.8 -2.2**
HHC SS **SS** **07 18 40.8 -2.8**
HHC pmax pmax
comp=Z,28nm,1.0s
HHC pmax pmax
comp=Z,120nm,5.5s
HHC LR LR
comp=N,160nm,16.7s
HHC LR LR
comp=E,210nm,15.5s
HHC LR LR
comp=Z,100nm,14.3s
CN2 Changchun 41.44 357 *eP* **P** **07 09 29.6 +0.1**
CN2 *e*pP **pP** **07 09 47.6 -2.5**
CN2 PcP **PcP** **07 11 27.5 +1.5**
CN2 *e*S **S** **07 15 41.1 +2.8**
CN2 SS **SS** **07 18 42.8 -3.1**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,400nm,18.0s
CN2 LR LR
comp=E,300nm,18.0s
CN2 LR LR
comp=Z,200nm,16.0s
USRK Ussuriysk Arra 41.88 4 P **P** **07 09 33.8 +0.7**
comp=Z,19nm,0.9s,baz=184,slow=7.0,SNR=20
SHL Shillong 42.07 307 *e*PKP **P** **07 09 36.0 +0.7**
MDJ Mudanjiang 42.18 1 P **P** **07 09 36.3 +0.7**
MDJ pP **pP** **07 09 55.6 -0.6**
MDJ sP **sP** **07 10 04.9 -1.2**
MDJ PP **PP** **07 11 15.8 +0.8**
MDJ PcP **PcP** **07 11 29.4 +1.0**
MDJ ScP **ScP** **07 15 13.0 +1.6**
MDJ PcS **PcS** **07 15 22.3 +2.1**
MDJ S **S** **07 15 50.0 +0.7**
MDJ SS **SS** **07 19 01.3 +0.8**
MDJ ScS **ScS** **07 19 28.4 -0.8**
MDJ pmax pmax
comp=Z,23nm,1.3s
MDJ pmax pmax
comp=Z,230nm,4.6s
MDJ Mudanjiang 42.18 1 *eP* **P** **07 09 36.0 +0.4**
comp=Z,8.6nm,0.7s
TOO Toolangi 42.69 160 *eP* **P** **07 09 43.0 +3.1**
comp=Z,29nm,0.6s
ASAJ Asahikawa 43.53 15 P **P** **07 09 47.8 +1.2**
ASAJ Asahikawa 43.53 15 P **P** **07 09 47.8 +1.2**
comp=Z,9.0nm,0.7s,baz=221,slow=15,SNR=4.1
LSA Lhasa 44.64 311 P **P** **07 09 58.3 +2.1**
LSA pmax pmax
comp=Z,110nm,0.7s
LSA Lhasa 44.64 311 *eP* **P** **07 09 57.9 +1.6**
LSA pmax pmax
comp=Z,84nm,0.8s
LSA Lhasa 44.64 311 *eP* **P** **07 09 57.9 +1.6**
comp=Z,84nm,0.8s
GTA Gaotai 45.20 329⇑P **P** **07 10 01.3 +1.2**
GTA pP **pP** **07 10 19.8 -1.1**
GTA sP **sP** **07 10 28.9 -1.8**
GTA PcP **PcP** **07 11 40.8 +1.8**
GTA ScP **ScP** **07 15 21.9 -2.1**
GTA S **S** **07 16 35.9 +2.2**
GTA sS **sS** **07 17 07.5 -1.8**
GTA SS **ScS** **07 19 51.4 +2.7**
GTA pmax pmax
comp=Z,29nm,1.3s
GTA pmax pmax
comp=Z,110nm,6.4s
GTA LR LR
comp=N,110nm,15.7s
GTA LR LR
comp=E,72nm,15.2s
GTA LR LR
comp=Z,73nm,15.7s
TAPN Taplejung 46.22 307 *eP* **P** **07 10 09.3 +0.8**
comp=Z,213nm,1.0s
ODAN Odare 46.27 306 *eP* **P** **07 10 09.6 +0.8**
comp=Z,228nm,0.7s
HABR Khabarovsk 46.38 6 *eP* **P** **07 10 07.5 -1.5**
HABR *e*S **S** **07 16 48.5 -1.6**
HABR *e* 07 19 55.8
HABR *e*SS **SS** **07 20 16.6 -0.3**
HABR pmax pmax
comp=E,100nm,2.3s
HABR pmax pmax
comp=N,44nm,2.0s
HABR pmax pmax
comp=Z,90nm,2.0s
HABR MLR MLR
comp=Z,72nm,15.0s
RAMN Ramite 46.94 305 *eP* **P** **07 10 15.3 +1.2**
comp=Z,348nm,0.7s
JIRN Jiri 47.57 306 *eP* **P** **07 10 20.1 +1.0**
comp=Z,75nm,0.6s
GUN Gumba 47.92 306 *eP* **P** **07 10 22.7 +0.9**
comp=Z,491nm,0.7s
PKI Pulchoki 48.16 306 *eP* **P** **07 10 24.1 +0.4**
comp=Z,129nm,0.6s
KKN Kakani 48.36 306 *eP* **P** **07 10 25.6 +0.6**
DMN Daman 48.42 306 *eP* **P** **07 10 26.2 +0.6**
comp=Z,246nm,0.8s
GKN Gorkha 48.96 306 *eP* **P** **07 10 30.2 +0.6**
comp=Z,203nm,0.9s
ULN Ulaanbaatar 49.02 341 *eP* **P** **07 10 30.3 +0.6**
comp=Z,36nm,0.8s
ULN Ulaanbaatar 49.02 341 ⇓P **P** **07 10 30.3 +0.6**
SNR=14
SONM Songino Array 49.21 341 P **P** **07 10 31.6 +0.5**
SONM PcP **PcP** **07 11 53.6 +0.6**
SONM ScP **ScP** **07 15 37.4 -3.3**
SONM Songino Array 49.21 341 P **P** **07 10 31.6 +0.5**
comp=Z,16nm,0.7s,baz=150,slow=8.5,SNR=126
SONM PcP **PcP** **07 11 53.6 +0.6**
comp=Z,8.7nm,0.7s,baz=159,slow=4.3,SNR=12
SONM ScP **ScP** **07 15 37.4 -3.3**
comp=Z,0.9nm,0.8s,baz=152,slow=4.5,SNR=4.1
KOLN Koldanda 49.72 305 *eP* **P** **07 10 36.4 +1.0**
comp=Z,436nm,0.6s
DANN Dangsing 49.81 306 *eP* **P** **07 10 37.0 +0.8**
comp=Z,603nm,0.6s
HYB Hyderabad 51.17 291 *i* P **P** **07 10 46.0 -0.3**
HYB *e*pP pP 07 11 14.0 +6.5
ZAK Zakamensk 52.45 340 *eP* **P** **07 10 55.1 -0.2**
ZAK pmax pmax
comp=Z,6.0nm,0.8s
TLY Talaya 53.43 341 *eP* **P** **07 11 02.1 -0.4**
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 53.43 341 *eP* **P** **07 11 03.3 +0.8**
comp=Z,4.6nm,1.0s
MOY Mondy 54.32 339 *eP* **P** **07 11 10.0 +1.0**
WMQ Urumqi 54.87 325 P **P** **07 11 14.0 +0.9**
WMQ pP **pP** **07 11 34.0 -0.5**
WMQ sP **sP** **07 11 43.0 -1.2**
WMQ PcP **PcP** **07 12 16.0 +1.7**
WMQ PP **PP** **07 13 19.0 +2.1**
WMQ *e*S **S** **07 18 47.0 -1.0**
WMQ pmax pmax
comp=Z,55nm,1.5s
WMQ pmax pmax
comp=Z,230nm,4.4s
WMQ LR LR
comp=N,350nm,20.0s
WMQ LR LR
comp=E,660nm,27.0s
WMQ LR LR
comp=Z,380nm,25.8s
DDI Dehra Dun 55.16 306 *ex* **P** **07 11 15.0 -0.5**
PETK Petropavlovsk- 56.17 21 P **P** **07 11 23.5 +1.3**
PETK Petropavlovsk- 56.17 21 P **P** **07 11 23.5 +1.3**
PETK Petropavlovsk- 56.17 21 P **P** **07 11 23.5 +1.3**
comp=Z,9.4nm,0.7s,baz=198,slow=5.2,SNR=9.7
BOD Bodaibo 56.55 351 *eP* **P** **07 11 24.2 -0.6**
BOD pmax pmax
comp=Z,17nm,1.0s
YAK Yakutsk 59.62 1 *eP* **P** **07 11 43.3 -2.8**
YAK pmax pmax
comp=N,14nm,1.2s
YAK pmax pmax
comp=Z,54nm,0.8s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK Yakutsk 59.62 1 *eP* **P** **07 11 46.5 +0.3**
comp=E,81nm,0.6s
MK31 Makanchi Array 59.70 325 *eP* **P** **07 11 47.2 +0.2**
MK31 pmax pmax
comp=Z,14nm,0.4s
MK31 Makanchi Array 59.70 325 *eP* **P** **07 11 47.3 +0.3**
MKAR Makanchi Array 59.70 325 P **P** **07 11 47.4 +0.4**
MKAR 07 12 31.4
MKAR Makanchi Array 59.70 325 P **P** **07 11 47.4 +0.4**
MKAR PcP **PcP** **07 12 31.4 -1.7**
MKAR Makanchi Array 59.70 325 P **P** **07 11 47.4 +0.4**
comp=Z,22nm,0.5s,baz=115,slow=8.0,SNR=640
MKAR PcP **PcP** **07 12 31.4 -1.7**
comp=Z,18nm,0.7s,baz=120,slow=4.9,SNR=13
MKAR LR LR 07 38 31.8
comp=Z,32nm,18.2s,baz=277,slow=37
KSH Kashi 60.24 315 P **P** **07 11 52.8 +1.8**
KSH pP **pP** **07 12 16.4 +3.6**
KSH PcP **PcP** **07 12 36.3 +0.7**
KSH PP **PP** **07 14 09.4 +4.6**
KSH ScP **ScP** **07 16 27.6 -1.6**
KSH PcS **PcS** **07 16 37.5 -0.7**
KSH S **S** **07 19 58.5 -0.2**
KSH sS **sS** **07 20 40.4 +4.6**
KSH ScS SKKSac 07 21 30.5 -3.3
KSH pmax pmax
comp=Z,44nm,1.1s
KSH pmax pmax
comp=Z,210nm,5.1s
KSH LR LR
comp=N,220nm,11.3s
KSH LR LR
comp=E,140nm,5.6s
KSH LR LR
comp=Z,150nm,5.1s
KZA Kyzart 61.81 317 P **P** **07 12 03.2 +1.3**
SNR=35
TKM2 Tokmak 2 61.93 318 *i* P **P** **07 12 03.0 +0.5**
TKM2 Tokmak 2 61.93 318 *eP* **P** **07 12 02.8 +0.3**
comp=Z,29nm,0.7s
TKM2 Tokmak 2 61.93 318 P **P** **07 12 03.0 +0.5**
SNR=34
KBK Karagaybulak 62.25 318 P **P** **07 12 05.5 +0.9**
SNR=12
UCH Uchtor 62.37 317 P **P** **07 12 06.9 +1.2**
SNR=6.6
CHMS Chumysh 62.53 318 P **P** **07 12 06.5 +0.3**
SNR=10
FX1 Attu Island--F 62.54 29 P **P** **07 12 07.8 +1.8**
FX1 Attu Island--F 62.54 29 P **P** **07 12 07.8 +1.8**
comp=Z,5.0nm,0.4s,baz=198,slow=20,SNR=5.9
AAK Ala-Archa 62.55 318*c* *iP* **P** **07 12 07.0 +0.5**
AAK pmax pmax
comp=Z,52nm,1.5s
AAK Ala-Archa 62.55 318 *eP* **P** **07 12 07.2 +0.7**
comp=Z,54nm,0.8s
AAK PcP **PcP** **07 12 45.0 +0.1**
AAK Ala-Archa 62.55 318 P **P** **07 12 07.0 +0.5**
comp=Z,72nm,0.6s,SNR=9.8
AAK Ala-Archa 62.55 318 P **P** **07 12 07.7 +1.1**
SNR=8.9
AAK Ala-Archa 62.55 318 P **P** **07 12 07.2 +0.7**
SNR=11
AAK Ala-Archa 62.55 318 P **P** **07 12 07.2 +0.7**
comp=Z,5.1nm,0.5s,baz=109,slow=5.0,SNR=26
AAK PcP **PcP** **07 12 45.0 +0.1**
comp=Z,7.1nm,0.5s,baz=72,slow=6.7,SNR=7.5
AAK LR LR 07 39 51.7
comp=Z,30nm,21.6s,baz=223,slow=36
ZAA0 Zalesovo Array 62.64 333 *eP* **P** **07 12 05.5 -1.1**
ZALV Zalesovo Beam 62.64 333 P **P** **07 12 05.9 -0.8**
ZALV 07 12 43.2
ZALV Zalesovo Beam 62.64 333 P **P** **07 12 05.9 -0.8**
ZALV PcP **PcP** **07 12 43.2 -1.6**
ZALV Zalesovo Beam 62.64 333 P **P** **07 12 05.9 -0.8**
comp=Z,6.1nm,0.5s,baz=125,slow=7.3,SNR=40
ZALV PcP **PcP** **07 12 43.2 -1.6**
comp=Z,6.0nm,0.7s,baz=159,slow=4.8,SNR=9.9
USP Ospenovka 62.81 318 P **P** **07 12 08.6 +0.5**
SNR=39
AML Almayashu 62.88 317 P **P** **07 12 10.1 +1.1**
SNR=40
EKS2 Erkin-Say 63.04 318 *eP* **P** **07 12 10.3 +0.5**
EKS2 pmax pmax
comp=Z,39nm,0.8s
EKS2 Erkin-Say 63.04 318 *eP* **P** **07 12 10.3 +0.5**
comp=Z,40nm,0.8s
EKS2 Erkin-Say 63.04 318 P **P** **07 12 10.5 +0.7**
SNR=38
SEY Seymchan 63.09 12⇑ *eP* **P** **07 12 11.3 +1.8**
KBL Kabul 63.72 308 *eP* **P** **07 12 14.4 -0.1**
KBL pmax pmax
comp=Z,26nm,0.6s
KBL Kabul 63.72 308 *eP* **P** **07 12 14.4 -0.1**
comp=Z,26nm,0.6s
KURBB Kurchatov Arra 63.86 327 P **P** **07 12 14.8 0.0**
comp=Z,32nm,0.5s,baz=127,slow=6.0,SNR=298
KURBB PcP **PcP** **07 12 48.4 -1.4**
comp=Z,11nm,0.5s,baz=129,slow=3.9,SNR=8.5
KURBB PP **PP** **07 14 33.9 -2.4**
comp=Z,2.5nm,0.8s,baz=129,slow=8.5,SNR=5.6
KURK Kurchatov 63.86 327*c* *iP* **P** **07 12 14.8 0.0**
KURK pmax pmax
comp=Z,108nm,1.7s
KURK Kurchatov 63.86 327 *eP* **P** **07 12 14.6 -0.2**
comp=Z,45nm,0.7s
KURK PcP **PcP** **07 12 48.4 -1.4**
KURK PP **PP** **07 14 33.9 -2.4**
KURK Kurchatov 63.86 327 P **P** **07 12 15.2 +0.4**
SNR=18
KURK Kurchatov 63.86 327 P **P** **07 12 14.5 -0.2**
comp=Z,405nm,0.5s,SNR=46
NVS Novosibirsk 63.92 333⇑ *iP* **P** **07 12 13.0 -2.1**
NVS pmax pmax
comp=Z,36nm,1.5s
NVS pmax pmax
comp=N,16nm,1.2s
NVS pmax pmax
comp=E,17nm,1.2s

KK31 Karatay Array 65.43 317 *i* P **P** 07 12 25.0 -0.2
KK31 pmax pmax
comp=Z,30nm,0.7s
KKAR Karatay Array 65.43 317 *e*P **P** 07 12 25.1 -0.1
KKAR pmax pmax
comp=Z,25nm,0.6s
KKAR Karatay Array 65.43 317 *e*P **P** 07 12 25.1 -0.1
comp=Z,25nm,0.6s
BVA0 Borovoye Array 69.44 327 *i* P **P** 07 12 50.0 -0.3
BVA0 pmax pmax
comp=Z,12nm,1.1s
BRVK Borovoye 69.51 327*c i*P **P** 07 12 50.6 -0.2
BRVK pmax pmax
comp=Z,64nm,1.0s
BRVK Borovoye 69.51 327 *e*P **P** 07 12 50.5 -0.2
comp=Z,66nm,1.0s
BRVK Borovoye 69.51 327 P **P** 07 12 50.6 -0.2
comp=Z,340nm,1.2s,SNR=27
BRVK Borovoye 69.51 327 P **P** 07 12 51.0 +0.2
SNR=21
ZRNK Zerenda 70.17 326 P **P** 07 12 54.3 -0.5
ZRNK pmax pmax
comp=Z,109nm,1.0s
BILL Bilibino 70.54 14*ce*P **P** 07 12 56.6 -0.2
BILL pmax pmax
comp=Z,6.0nm,1.3s
BILL Bilibino 70.54 14 *e*P **P** 07 12 56.2 -0.6
comp=Z,2.2nm,0.5s
IDAH Dahanechah 70.76 304 *e*P **P** 07 12 59.7 +0.5
IMYA Miami 71.24 308 *e*P **P** 07 13 01.8 -0.1
IKOO Kooshah 71.43 303 *e*P **P** 07 13 03.4 +0.2
ITEG Tejag 71.72 304 *e*P **P** 07 13 05.3 +0.5
ISRO Mashad 71.73 307 *e*P **P** 07 13 05.4 +0.6
BSY Bisya 71.79 293 ⇓P **P** 07 13 04.9 -0.3
SNR=6.1
IMOG Moghan 71.80 307 *e*P **P** 07 13 05.8 +0.4
IAKL Akhelmad 72.35 308 *e*P **P** 07 13 08.5 -0.2
ARQ Araqi 72.47 294 ⇓P **P** 07 13 09.1 -0.1
SNR=7.7
IEMG Emamgholi 72.58 308 *e*P **P** 07 13 10.4 +0.4
ISFR Sfrayin 73.03 308 *e*P **P** 07 13 12.8 +0.1
ASUD Al Ashush, Dub 73.67 295 ⇑P **P** 07 13 16.3 +0.1
SNR=7.2
IBAF Bafgh 74.20 302 *e*P **P** 07 13 18.7 -0.8
ABKAR Akbulak array 74.32 321 *e*P **P** 07 13 19.2 -0.4
comp=Z,33nm,0.7s
GAMB Gambell 75.06 23 *e*P **P** 07 13 25.1 +1.6
comp=Z,7.4nm,0.8s
AKTO Aktyubinsk 75.83 322 P **P** 07 13 27.3 -0.9
AKTO pmax pmax
comp=Z,7.0nm,0.8s
IANJ Anjilo 76.06 306 *e*P **P** 07 13 29.4 -0.8
SVE Sverdlovsk 76.07 328*d i*P **P** 07 13 29.1 -0.3
SVE pmax pmax
comp=Z,61nm,0.9s
IPAR Pars 76.17 300 *e*P **P** 07 13 29.6 -1.4
ISHM Shahmirzad 76.60 306 *e*P **P** 07 13 32.9 -0.4
ILAS Lasjerd 76.82 306 *e*P **P** 07 13 33.7 -0.8
ARU Arti 77.05 328*c i*P **P** 07 13 34.0 -1.0
ARU *PP pP 07 13 51.8 -5.8
ARU 07 16 27.1
ARU S **S** 07 23 16.0 -0.7
ARU SS **SS** 07 28 10.5 -5.0
ARU pmax pmax
comp=Z,44nm,0.8s
ARU Arti 77.05 328 *e*P **P** 07 13 34.0 -1.0
comp=Z,36nm,0.7s
ARU Arti 77.05 328 P **P** 07 13 34.3 -0.7
comp=Z,343nm,0.6s,SNR=9.1
IKLH Kolahrood 77.74 303 *e*P **P** 07 13 39.7 0.0
IR5 Iran Long-Peri 78.74 305 *e*P **P** 07 13 44.7 -0.3
SOKR Solikamsk 78.79 331 ⇓*i*P **P** 07 13 44.5 0.0
SOKR pmax pmax
comp=Z,10.0nm,0.9s
IRAZ Razeghan 79.28 305 *e*P **P** 07 13 47.2 -0.9
KBD Kabd 80.78 299 *e*P **P** 07 13 54.4 -1.6
MIB Mutribah 81.11 300 *e*P **P** 07 13 56.9 -0.8
MIB AMb AMB 07 13 57.8
comp=Z,46nm,0.8s
NAY Al-Naaiem 81.17 299 *e*P **P** 07 13 56.8 -1.3
NAY AMb AMB 07 13 57.6
comp=Z,20nm,0.8s
KDAK Kodiak Island 82.23 32 P **P** 07 14 04.0 +1.0
comp=Z,217nm,0.6s,SNR=11
RAYN Ar Rayn 82.58 293 P **P** 07 14 04.4 -1.3
comp=Z,120nm,0.9s,SNR=6.4
DGRG David-gareji 83.27 311 P **P** 07 14 10.0 +1.2
GNI Garni 83.69 310 *e*P **P** 07 14 14.1 +2.9
comp=Z,21nm,0.7s
TBLG Delisi 83.76 312 *e*P **P** 07 14 11.7 +0.4
TBLG Delisi 83.76 312 P **P** 07 14 11.7 +0.4
TRF Thorofare Moun 84.09 27 *e*P **P** 07 14 12.9 +0.2
comp=Z,20nm,1.3s
PMR Palmer 84.43 28 *e*P **P** 07 14 14.3 +0.1
PMR pmax pmax
comp=Z,13nm,0.8s
PMR Palmer 84.43 28 *e*P **P** 07 14 14.3 +0.1
comp=Z,13nm,0.8s
COLD Coldfoot 84.58 23 *e*P **P** 07 14 16.4 +1.4
comp=Z,7.2nm,0.7s
AKH Akhalkalaki 84.68 311 P **P** 07 14 17.2 +1.0
MCK McKinley 84.72 26 *e*P **P** 07 14 16.4 +0.7
MCK pmax pmax
comp=Z,68nm,2.1s
MCK McKinley 84.72 26 *e*P **P** 07 14 16.4 +0.7
comp=Z,68nm,2.1s
SML Sawmill 84.83 28 *e*P **P** 07 14 16.9 +0.6
SML pmax pmax
comp=Z,8.0nm,1.1s
SML Sawmill 84.83 28 *e*P **P** 07 14 16.9 +0.6
comp=Z,7.8nm,1.1s
KIV Kislovodsk 85.34 314 *e*P **P** 07 14 19.3 0.0
KIV pmax pmax
comp=Z,19nm,1.1s
ILAR Eielson Array 85.70 25 P **P** 07 14 20.2 -0.3
ILAR PKKPbc **PKKPbc** 07 32 22.5 -2.8
ILAR Eielson Array 85.70 25 P **P** 07 14 20.2 -0.3
comp=Z,0.6nm,0.4s,baz=251,slow=4.8,SNR=24
ILAR PKKPbc **PKKPbc** 07 32 22.5 -2.8
comp=Z,0.4nm,0.8s,baz=56,slow=1.5,SNR=4.1
VRHR Novokhopersk 86.21 321 *e*P **P** 07 14 22.2 -1.1
VRHR pmax pmax
comp=N,4.0nm,0.7s
VRHR pmax pmax
comp=Z,70nm,0.7s
VRHR pmax pmax
comp=E,3.0nm,0.3s
KLMR Klimovskoe 87.48 331 *e*P **P** 07 14 26.2 -3.1
KLMR pmax pmax
comp=Z,53nm,1.4s
VORD Divnogorie 87.69 321 *e*P **P** 07 14 28.9 -1.6
VORD pmax pmax
comp=N,8.0nm,0.8s
VORD pmax pmax
comp=E,20nm,0.8s
VORD pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 87.76 321 *e*P **P** 07 14 29.2 -1.6
VSR pmax pmax
comp=N,5.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
MOS Moscow 88.58 326 *e*P **P** 07 14 32.3 -2.3
MOS pmax pmax
comp=Z,58nm,0.7s
ANN Anapa 89.10 315 *e*P **P** 07 14 35.6 -1.7
ANN *e* 07 24 57.1
ANN pmax pmax
comp=Z,54nm,1.0s
OBN Obninsk 89.20 325 ⇓*i*P **P** 07 14 36.6 -0.9
OBN pmax pmax
comp=Z,87nm,1.6s
KMBO Kilima Mbogo 91.18 269 *e*P **P** 07 14 47.6 -0.5
comp=Z,2.4nm,0.8s
JOF Joensuu 91.23 333 *e*P **P** 07 14 44.3 -2.5
JOF pmax pmax
comp=Z,8.0nm,0.6s
JOF Joensuu 91.23 333 *ep* **P** 07 14 44.3 -2.5
comp=Z,8.2nm,0.6s
KEV Kevo 91.82 340 *e*P P 07 14 46.0 -3.4
KEV pmax pmax
comp=Z,7.0nm,0.7s
KEV Kevo 91.82 340 *ep* P 07 14 46.0 -3.4
comp=Z,7.1nm,0.7s
QSPA South Pole Qui 92.19 180 *e*P **P** 07 14 51.3 0.0
comp=Z,3.5nm,0.8s
QSPA PKKPbc **PKKPdf** 07 32 05.6 -1.4
QSPA South Pole Qui 92.19 180 PKKPbc PKKPbc 07 32 05.6 -4.6
comp=Z,0.7nm,0.7s,baz=98,slow=4.1,SNR=5.1
BRTR Keskin Array B 92.23 310 P **P** 07 14 50.6 -1.5
BRTR PP **PP** 07 18 36.6 +3.2
BRTR Keskin Array B 92.23 310 P **P** 07 14 50.6 -1.5
comp=Z,2.5nm,0.8s,baz=104,slow=4.2,SNR=9.6
BRTR PP **PP** 07 18 36.6 +3.2
comp=Z,2.3nm,1.0s,baz=103,slow=5.5,SNR=6.5
ARCES ARCESS Array B 92.38 340 P **P** 07 14 51.1 -1.0
ARCES PKiKP **PKiKP** 07 19 40.2 -0.5
ARCES PKKPbc **PKKPdf** 07 32 05.5 -0.3
ARCES ARCESS Array B 92.38 340 P **P** 07 14 51.1 -1.0
comp=Z,14nm,0.6s,baz=88,slow=7.6,SNR=61
ARCES PKiKP **PKiKP** 07 19 40.2 -0.5
comp=Z,1.1nm,0.5s,baz=129,slow=1.7,SNR=8.0
ARCES PKKPbc **PKKPdf** 07 32 05.5 -0.3
comp=Z,2.0nm,0.8s,baz=290,slow=4.6,SNR=4.3
KAF Kangasniemi 93.65 333 *e*P **P** 07 14 55.4 -2.6
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 93.65 333 *ep* **P** 07 14 55.4 -2.6
comp=Z,4.1nm,0.5s
FINES FINESS Array B 93.89 332 P **P** 07 14 57.9 -1.2
FINES PKiKP **PKiKP** 07 19 42.1 -1.4
FINES FINESS Array B 93.89 332 P **P** 07 14 57.9 -1.2
comp=Z,5.0nm,0.5s,baz=54,slow=5.6,SNR=28
FINES PKiKP **PKiKP** 07 19 42.1 -1.4
comp=Z,1.5nm,0.7s,baz=72,slow=4.5,SNR=4.2
AKASG Malin Array Be 94.07 321 P **P** 07 14 58.3 -1.9
AKASG Malin Array Be 94.07 321 P **P** 07 14 58.3 -1.9
AKASG Malin Array Be 94.07 321 P **P** 07 14 58.3 -1.9
comp=Z,2.4nm,0.5s,baz=76,slow=4.5,SNR=12
AKBB Malin Array Si 94.07 321 *e*P **P** 07 14 57.8 -2.4
AKBB Malin Array Si 94.07 321 *e*P **P** 07 14 57.8 -2.4
KIEV Kiev 94.08 321 *e*P **P** 07 14 58.1 -2.1
KIEV pmax pmax
comp=Z,8.0nm,1.0s
KIEV Kiev 94.08 321 *e*P **P** 07 14 58.1 -2.1
comp=Z,7.6nm,1.0s
TLCR 95.15 316 ⇓P **P** 07 15 04.9 -0.4
TLCR 95.15 316 ⇓*i*P **P** 07 15 04.9 -0.4
TIRR Tirgusor 95.54 315 ⇑P **P** 07 15 06.7 -0.4
TIRR Tirgusor 95.54 315 ⇑*i*P **P** 07 15 06.7 -0.4
CFR Carcaliu 95.63 316 ⇓P **P** 07 15 06.5 -0.9
CFR Carcaliu 95.63 316 ⇓*i*P **P** 07 15 06.5 -0.9
TESR 96.43 317 ⇓*i*P **P** 07 15 10.5 -0.6
VRI Vrincioaia 96.49 316 ⇓P **P** 07 15 11.2 -0.2
VRI Vrincioaia 96.49 316 ⇓*i*P **P** 07 15 11.2 -0.2
PLOR Plostina 96.55 316 ⇑P **P** 07 15 11.7 0.0
PLOR Plostina 96.55 316 ⇑*i*P **P** 07 15 11.7 0.0
MLR Muntele Rosu 97.10 316 ⇓*i*P **P** 07 15 13.8 -0.5
BURAR Bucovina Array 97.19 318 ⇑*i*P **P** 07 15 14.1 -0.6
BUR08 Bucovina Ar. S 97.19 318 *e*P **P** 07 15 13.8 -0.9
VOIR 97.73 316 ⇓P **P** 07 15 16.0 -1.1
VOIR 97.73 316 ⇓*i*P **P** 07 15 15.9 -1.2
KOLS Kolonicke sedl 98.82 320 *e*P **P** 07 15 21.1 -0.7
KOLS pmax pmax
comp=Z,14nm,1.8s
KOLS Kolonicke sedl 98.82 320 PDIF **P** 07 15 21.1 -0.7
TRPA Tarpa 98.84 319 ⇑*i*P **P** 07 15 21.5 -0.4
RES Resolute Bay 98.94 11 P **P** 07 15 21.8 0.0
RES Resolute Bay 98.94 11 P Pdif 07 15 21.8 0.0
comp=Z,2.8nm,0.6s,baz=310,slow=6.5,SNR=9.0
CRVS Cervenica-Dubn 99.35 320 *e*P **Pdif** 07 15 24.0 -0.2
CRVS pmax pmax
comp=Z,9.0nm,1.1s
CRVS Cervenica-Dubn 99.35 320 PDIF **Pdif** 07 15 24.0 -0.2
YKA Yellowknife Ar 100.12 25 P **Pdif** 07 15 27.6 +0.4
YKA PKiKP **PKiKP** 07 19 54.2 -0.2
YKA PKKPbc PKKPbc 07 31 42.1 -5.5
YKA Yellowknife Ar 100.12 25 P **Pdif** 07 15 27.6 +0.4
comp=Z,0.7nm,0.8s,baz=297,slow=4.5,SNR=16
YKA PKiKP **PKiKP** 07 19 54.2 -0.2
comp=Z,0.3nm,0.6s,baz=272,slow=1.5,SNR=6.9
YKA PKKPbc PKKPbc 07 31 42.1 -5.5
comp=Z,0.1nm,0.7s,baz=106,slow=2.8,SNR=3.7
NB2 NORSAR Subarra100.82 334 P **Pdif** 07 15 28.8 -1.7
baz=66,slow=4.6
NB2 NORSAR Subarra100.82 334 P **Pdif** 07 15 28.8 -1.7
comp=Z,6.0nm,0.9s,baz=66,slow=4.6
NOA NORSAR Array B 100.82 334 P **Pdif** 07 15 29.1 -1.4
NOA NORSAR Array B 100.82 334 P **Pdif** 07 15 29.1 -1.4
comp=Z,3.1nm,0.7s,baz=65,slow=4.5,SNR=8.9
GERES GERESS Array B 104.25 322 Pdif **Pdif** 07 15 46.1 0.0
GERES PKiKP **PKiKP** 07 20 03.0 +0.5
GERES GERESS Array B 104.25 322 Pdiff **Pdif** 07 15 46.1 0.0
comp=Z,1.1nm,0.7s,baz=82,slow=3.0,SNR=7.3
GERES PKiKP **PKiKP** 07 20 03.0 +0.5
comp=Z,0.6nm,0.6s,baz=54,slow=2.5,SNR=4.0
B20A Solberg Farm, 109.80 36 ⇑P **PKiKP** 07 20 12.9 +0.1
baz=112
LPG La Plagne 109.92 320 *e*PP PP 07 20 49.8 +3.0
comp=Z,9.5nm,0.9s
LPL La Plagne 109.92 320 *e*PP PP 07 20 49.7 +3.0
comp=Z,10nm,0.9s
MBDF Montbardon 110.23 320 *e*PP PP 07 20 47.4 -1.5
comp=Z,25nm,1.2s
PDAR Pinedale Array 111.34 42 PKiKP **PKiKP** 07 20 16.3 +0.2
PDAR PKKPbc **PKKPbc** 07 31 09.5 -3.5
PDAR PKKPab **PKKPab** 07 31 19.5 -2.8
PDAR Pinedale Array 111.34 42 PKiKP **PKiKP** 07 20 16.3 +0.2
comp=Z,0.3nm,0.6s,baz=197,slow=2.8,SNR=3.3
PDAR PKKPbc **PKKPbc** 07 31 09.5 -3.5
comp=Z,0.2nm,0.7s,baz=98,slow=4.5,SNR=3.9
PDAR PKKPab **PKKPab** 07 31 19.5 -2.8
comp=Z,0.3nm,0.6s,baz=110,slow=7.6,SNR=3.9
D22A Cohagen 111.50 37 ⇑P **PKiKP** 07 20 16.2 +0.1
baz=112
J20A Shoshoni 112.06 41 ⇓P **PKiKP** 07 20 17.5 +0.1
baz=112
R17A Hanksville Air 112.25 47 ⇑P **PKiKP** 07 20 17.6 -0.2
baz=112
F23A Volborg 112.67 38 ⇓P **PKiKP** 07 20 18.7 +0.4
baz=113
J22A Midwest 113.08 40 ⇓P **PKiKP** 07 20 19.1 -0.2
baz=113
M21A Separation Pea 113.31 42 ⇓P **PKiKP** 07 20 20.1 +0.2
baz=113
S21A Coal Bank Pass 114.67 47 ⇑P PKPdf 07 20 24.0 +1.3
baz=115
O23A Lake Granby, G 114.91 43 ⇓P PKPdf 07 20 24.0 +0.9
baz=115
V20A Brimhall 114.91 49 ⇓P PKPdf 07 20 23.7 +0.6
baz=115
W20A Ramah 115.14 49 ⇓P **PKPdf** 07 20 24.2 +0.6
baz=115
U21A Nageezi 115.26 48 ⇓P **PKPdf** 07 20 24.7 +0.9
baz=115
N24A Carr 115.33 42 ⇓P **PKPdf** 07 20 24.7 +1.0
baz=115
Z20A Nine Sixteen R 115.82 51 ⇓P **PKPdf** 07 20 26.1 +1.2
baz=116
X21A Alamocita Cree 115.94 50 ⇑P **PKPdf** 07 20 26.2 +1.0
baz=116
V22A San Miguel Ran 116.03 48 ⇓P **PKPdf** 07 20 26.5 +1.2
baz=116
T23A Casias Ranch, 116.20 47 ⇑P **PKPdf** 07 20 26.8 +1.1
baz=116
U23A El Rito 116.38 47 ⇓P **PKPdf** 07 20 26.0 0.0
baz=116
P25A Willow Gulch B 116.42 43 ⇓P **PKPdf** 07 20 27.0 +1.1
baz=116
Y22A Socorro 116.77 50 ⇑P **PKPdf** 07 20 28.3 +1.6
baz=117
P26A Davis Ranch, A 116.96 43 ⇓P **PKPdf** 07 20 27.7 +0.9
baz=117
Z22A Elephant Butte 117.03 51 ⇓P **PKPdf** 07 20 28.7 +1.5
baz=117
X23A Hourglass Bar 117.10 49 ⇓P **PKPdf** 07 20 28.4 +1.0
baz=117
V24A Rampart Ranch, 117.31 48 ⇑P **PKPdf** 07 20 29.6 +1.8
baz=117
T25A Trinidad 117.33 46 ⇑P **PKPdf** 07 20 29.3 +1.5
baz=117
W24A Lazy 6 Ranch, 117.43 48 ⇑P **PKPdf** 07 20 29.5 +1.5
baz=118
U25A Circle Dot Ran 117.66 47 ⇓P **PKPdf** 07 20 29.9 +1.5
baz=118
V25A Rancho No Teng 117.75 47 ⇑P **PKPdf** 07 20 30.0 +1.5
baz=118
S26A Kim 117.78 45 ⇑P **PKPdf** 07 20 29.4 +1.0
baz=118
T26A Comanche Natio 117.89 45 ⇓P **PKPdf** 07 20 29.8 +1.0
baz=118
Y24A Capitan 117.94 49 ⇓P **PKPdf** 07 20 30.1 +1.2
baz=118
Z24A Sheeppen Canyo 118.23 50 ⇓P **PKPdf** 07 20 30.8 +1.3
baz=118
V26A Tequesquite Ra 118.37 47 ⇓P **PKPdf** 07 20 30.4 +0.7
baz=118
Y25A Mesa, Roswell 118.50 49 ⇓P **PKPdf** 07 20 30.7 +0.8
baz=118
W26A Owens Ranch, T 118.70 48 ⇑P **PKPdf** 07 20 31.2 +0.9
baz=119
MNTX Cornudas Mount 118.87 52 *e*PKPdf **PKPdf** 07 20 31.4 +0.9
MNTX Cornudas Mount 118.87 52 ⇑P **PKPdf** 07 20 31.7 +1.1
baz=119
324A Moseley Ranch, 118.89 52 ⇑P **PKPdf** 07 20 31.8 +1.0
baz=119
125A Gardner Draw, 119.05 50 ⇓P **PKPdf** 07 20 31.9 +0.9
baz=119
BGNE Belgrade 119.41 39 ⇑P **PKPdf** 07 20 31.7 +0.3
baz=119
425A Indio Mountain 119.53 53 ⇓P **PKPdf** 07 20 32.9 +0.8
baz=120
Y27A Causey 119.67 49 ⇓P **PKPdf** 07 20 33.0 +0.8
baz=120
Z27A Tatum 119.88 49 ⇑P **PKPdf** 07 20 33.1 +0.5
baz=120
127A Arkansas Junct 120.04 50 ⇓P **PKPdf** 07 20 33.3 +0.3
baz=120
326A Caldwell Ranch 120.12 52 ⇑P **PKPdf** 07 20 33.5 +0.4
baz=120
Y28A McKinney Farm, 120.34 48 ⇑P **PKPdf** 07 20 34.2 +0.8
baz=120
Z28A Tucker Farm, M 120.51 49 ⇓P **PKPdf** 07 20 34.4 +0.6
baz=120
526A Mary Lane Ranc 120.53 53 ⇑P **PKPdf** 07 20 35.0 +1.1
baz=121
626A Big Bend Ranch 120.69 54 ⇑P **PKPdf** 07 20 34.5 +0.3
baz=121
128A Castleberry Fa 120.73 50 ⇓P **PKPdf** 07 20 34.7 +0.5
baz=121
427A Hayter Ranch, 120.76 52 ⇓P **PKPdf** 07 20 35.3 +0.9
baz=121
Y29A Porterfield Fa 120.79 48 ⇓P **PKPdf** 07 20 35.2 +0.9
baz=121
527A Woodward Ranch120.88 53 ⇑P **PKPdf** 07 20 35.5 +0.9
baz=121
328A Wristen Ranch, 121.00 51 ⇑P **PKPdf** 07 20 35.4 +0.6
baz=121
Z29A Hungry Hill Ra 121.04 49 ⇓P **PKPdf** 07 20 34.6 -0.2
baz=121
TXAR Lajitas Array 121.15 54 PKP **PKPdf** 07 20 35.6 +0.5
TXAR PKKPbc **PKKPbc** 07 30 37.3 -0.8
TXAR Lajitas Array 121.15 54 PKP **PKPdf** 07 20 35.6 +0.5
comp=Z,1.2nm,0.7s,baz=214,slow=0.7,SNR=13
TXAR PKKPbc **PKKPbc** 07 30 37.3 -0.8
comp=Z,0.4nm,0.7s,baz=119,slow=5.4,SNR=4.9
129A Stewart Farms, 121.19 49 ⇓P **PKPdf** 07 20 35.8 +0.7
baz=121
627A Terlingua Ranc 121.33 53 ⇑P **PKPdf** 07 20 36.4 +0.9
baz=121
428A Kincaid Ranch, 121.37 52 ⇓P **PKPdf** 07 20 36.8 +1.3
baz=121
528A Cox Ranch, San 121.52 52 ⇑P **PKPdf** 07 20 36.7 +0.9
baz=122
329A Wagon Wheel Ra 121.60 51 ⇑P **PKPdf** 07 20 36.4 +0.5
baz=122
SCHQ Schefferville 121.72 10 PKP **PKPdf** 07 20 35.6 +0.2
SCHQ Schefferville 121.72 10 PKP **PKPdf** 07 20 35.6 +0.2
comp=Z,2.5nm,0.7s,baz=55,slow=6.3,SNR=12
529A Stev Forest Ra 121.98 52 ⇓P **PKPdf** 07 20 37.4 +0.7
baz=122
429A Davenport Ranc 122.03 51 ⇑P **PKPdf** 07 20 37.5 +0.7
baz=122
430A Baggett Ranch, 122.48 51 ⇓P **PKPdf** 07 20 38.5 +0.9
baz=122
431A Sonora 123.01 51 ⇓P **PKPdf** 07 20 39.1 +0.5
baz=123
531A Rocksprings 123.28 51 ⇓P **PKPdf** 07 20 39.9 +0.8
baz=123
JCT Junction City 123.72 51 *e*PKIKP **PKPdf** 07 20 40.9 +0.9
JCT Junction City 123.72 51 *e*PKPdf **PKPdf** 07 20 40.9 +0.9
JCT Junction City 123.72 51 ⇓P **PKPdf** 07 20 40.6 +0.7
baz=124
732A Laxson Ranch, 124.35 53 ⇓P **PKPdf** 07 20 42.1 +1.0
baz=124
TORD Torodi Ar. Bea 124.95 288 PKP **PKPdf** 07 20 42.0 -0.7
TORD Torodi Ar. Bea 124.95 288 PKP **PKPdf** 07 20 42.0 -0.7
comp=Z,4.6nm,0.6s,baz=81,slow=1.8,SNR=39
DBIC Dimbokro 132.50 281 PKP **PKPdf** 07 20 57.2 +0.2
DBIC Dimbokro 132.50 281 PKP **PKPdf** 07 20 57.2 +0.2
comp=Z,3.2nm,0.7s,baz=130,slow=6.5,SNR=5.2
LIC Lamto 132.73 281 *e*PKIKP **PKPdf** 07 20 57.9 +0.4
comp=Z,9.5nm,0.7s
LIC Lamto 132.73 281 *e*PKPdf **PKPdf** 07 20 57.9 +0.4
PLCA Paso Flores 138.05 158 PKP **PKPdf** 07 21 07.8 +1.0
PLCA SKPbc **SKPbc** 07 24 29.9 -3.4
PLCA Paso Flores 138.05 158 PKP **PKPdf** 07 21 07.8 +1.0
comp=Z,1.5nm,0.6s,baz=175,slow=23,SNR=4.4
PLCA SKPbc **SKPbc** 07 24 29.9 -3.4
comp=Z,2.7nm,0.9s,baz=225,slow=4.8,SNR=3.6
LCO Las Campanas 147.78 147 *e*PKPbc **PKPbc** 07 21 28.3 +0.9
CPUP Villa Florida 155.45 168 PKP **PKPdf** 07 21 37.1 +1.4
CPUP PKPbc PKPab 07 21 44.1 -17
CPUP PKPab PKPab 07 22 02.6 +1.2
CPUP Villa Florida 155.45 168 PKP **PKPdf** 07 21 37.1 +1.4
comp=Z,2.3nm,0.9s,baz=100,slow=4.3,SNR=3.0
CPUP PKPbc PKPab 07 21 44.1 -17
comp=Z,2.3nm,0.7s,baz=214,slow=3.6,SNR=7.9
CPUP PKPab PKPab 07 22 02.6 +1.2
comp=Z,2.0nm,0.7s,baz=140,slow=3.0,SNR=5.0
LPAZ La Paz 158.58 132 PKP **PKPdf** 07 21 41.5 +0.8
LPAZ PKPab **PKPab** 07 22 18.6 +2.5
LPAZ La Paz 158.58 132 PKP **PKPdf** 07 21 41.5 +0.8
comp=Z,1.6nm,0.8s,baz=348,slow=3.4,SNR=5.8
LPAZ PKPab **PKPab** 07 22 18.6 +2.5
comp=Z,2.6nm,0.7s,baz=199,slow=3.9,SNR=8.8

IDC 17 07:19:06.7±11.0**,19°.54S**×**174°.40W,h184**km±204**km,**
mb3.7/4,mb1 3.8/5,mb1mx3.4/20,mbtmp3.7/5,ML2.1/1,
Error ellipse: s-maj=187.2km s-min=127.2km az=85.0,
Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.13**	**25**	P		Pn	07 20 35.7	0.0
	2.7nm,0.3s,baz=225,slow=11,SNR=8.0							
AFI				S		Sn	07 21 35.5	-10
	7.8nm,0.3s,baz=230,slow=18,SNR=7.1							
CTA	**Charters Tower**	**36.96**	**262**	P		P	07 25 58.8	+0.2
	1.3nm,0.3s,baz=100,slow=11,SNR=3.2							
STKA	**Stephens Creek**	**41.25**	**244**	P		P	07 26 32.8	-1.2
	1.9nm,0.9s,baz=72,slow=6.4,SNR=3.6							
ASAR	**Alice Springs**	**48.03**	**255**	P		P	07 27 28.4	+0.6
	5.0nm,0.6s,baz=89,slow=8.5,SNR=70							
WRA	**Warramunga Arr**	**48.09**	**260**	P		P	07 27 27.6	-0.6
	0.5nm,0.3s,baz=95,slow=6.8,SNR=31							

*ISCJB **17** 07:35:54.6±0.6,39°.11N±0°.03×29°.06E±0°.03,h10km±5km,*
Error ellipse: s-maj=5.4km s-min=4.0km az=168.8
*DDA **17** 07:35:54.0,39°.12N×29°.03E,h7km,MD2.3*
*CSEM **17** 07:35:54.5±0.2,39°.10N×29°.04E,h10km,MD2.3,Error*
ellipse: s-maj=4.5km s-min=3.9km az=175.0
*ISK **17** 07:35:57.1,39°.35N×29°.25E,h5km,MD2.6*
ISC 17 07:35:54.6±1.0,39°.14N±0°.03×29°.06E±0°.02,h6km±12km,
n26,σ0°.83/42,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.28**	**250**	*i* P		**Pg**	**07 36 00.2**	**0.0**
DEMI				*i* S		**Sg**	**07 36 03.7**	**-0.3**
DEMI	**Demirci**	**0.28**	**250**	*i* P		**Pg**	**07 36 00.2**	**0.0**
DEMI				*i* S		**Sg**	**07 36 03.7**	**-0.3**
GDZ	**Gediz**	**0.33**	**99**	*i* P		**Pg**	**07 36 01.3**	**+0.2**
GDZ				*i* S		**Sg**	**07 36 06.4**	**+0.9**
GDZ	**Gediz**	**0.33**	**99**	*i* P		**Pg**	**07 36 01.3**	**+0.2**
GDZ				*i* S		**Sg**	**07 36 06.4**	**+0.9**
DURS	**Dursunbey**	**0.65**	**316**	*i* P		**Pg**	**07 36 07.0**	**-0.1**
DURS				*i* S		**Sb**	**07 36 18.6**	**+1.0**
DURS	**Dursunbey**	**0.65**	**316**	*i* P		**Pg**	**07 36 07.0**	**-0.1**
DURS				*i* S		**Sb**	**07 36 18.6**	**+1.0**
KULA	**Kula-Manisa**	**0.70**	**207**	*e*PG		Pn	07 36 15.9	+4.8
KULA	**Kula-Manisa**	**0.70**	**207**	*e*Pg		Pn	07 36 15.9	+4.8
MANT	**Manisa**	**0.76**	**211**	*i* P		**Pg**	**07 36 08.2**	**-1.0**

MANT				*i* S	**Sg**	**07 36 18.7**	**-0.3**
MANT	**Manisa**	**0.76**	**211**	*i* P	**Pg**	**07 36 08.2**	**-1.0**
MANT				*i* S	**Sg**	**07 36 18.7**	**-0.3**
ALT	**Altintas**	**0.82**	**96**	*e*PG	**Pb**	**07 36 11.8**	**+0.5**
ALT				*e*SG	**Sb**	**07 36 22.1**	**-0.6**
ALT	**Altintas**	**0.82**	**96**	*e*Pg	**Pb**	**07 36 11.8**	**+0.5**
ALT				*e*Sg	**Sb**	**07 36 22.1**	**-0.6**
KHAL	**Karahalli**	**0.84**	**156**	*i* P	**Pg**	**07 36 10.9**	**+0.2**
KHAL				*i* S	**Sg**	**07 36 21.6**	**0.0**
KHAL	**Karahalli**	**0.84**	**156**	*i* P	**Pg**	**07 36 10.9**	**+0.2**
KHAL				*i* S	**Sg**	**07 36 21.6**	**0.0**
AKHS	**Akhisar**	**1.00**	**255**	*i* P	**Pg**	**07 36 12.3**	**-1.6**
AKHS				*i* S	**Sg**	**07 36 26.9**	**0.0**
AKHS	**Akhisar**	**1.00**	**255**	*i* P	**Pg**	**07 36 12.3**	**-1.6**
AKHS				*i* S	**Sg**	**07 36 26.9**	**0.0**
KCTX	**Karacabey (Bur**	**1.25**	**334**	*e*PN	**Pn**	**07 36 19.5**	**+0.9**
KCTX				*e*SN	**Sb**	**07 36 35.5**	**+0.6**
KCTX	**Karacabey (Bur**	**1.25**	**334**	*e*Pn	**Pn**	**07 36 19.5**	**+0.9**
KCTX				*e*Sn	**Sb**	**07 36 35.5**	**+0.6**
BORA	**Eskisehir**	**1.31**	**55**	*i* P	**Pg**	**07 36 19.3**	**-0.3**
BORA				*i* S	**Sg**	**07 36 34.3**	**-2.3**
BORA	**Eskisehir**	**1.31**	**55**	*i* P	**Pg**	**07 36 19.3**	**-0.3**
BORA				*i* S	**Sg**	**07 36 34.3**	**-2.3**
ADVT	**Abdulvahap**	**1.39**	**22**	*e*PN	**Pn**	**07 36 19.8**	**-0.7**
ADVT	**Abdulvahap**	**1.39**	**22**	*e*Pn	**Pn**	**07 36 19.8**	**-0.7**
ARMT	**Armutlu**	**1.43**	**354**	*e*PN	**Pg**	**07 36 22.0**	**-0.1**
ARMT	**Armutlu**	**1.43**	**354**	*e*Pn	**Pg**	**07 36 22.0**	**-0.1**
GULT	**Gulveren**	**1.71**	**41**	*e*PN	**Pn**	**07 36 25.0**	**0.0**
GULT	**Gulveren**	**1.71**	**41**	*e*Pn	**Pn**	**07 36 25.0**	**0.0**

ISK ***17*** *07:38:16.4,39.°14N×29.°03E, h5km, MD2.9*
ISCJB ***17*** *07:38:17.4±0.5,39.°13N±0.°03×29.°05E±0.°03, h10km±5km, Error ellipse: s-maj=5.2km s-min=3.7km az=163.1*
DDA ***17*** *07:38:17.2,39.°13N×29.°04E, h7km, MD2.7*
CSEM ***17*** *07:38:17.5±0.1,39.°13N×29.°04E, h10km, MD2.7, Error ellipse: s-maj=2.3km s-min=2.2km az=166.0*

ISC 17 07:38:17.7±0.9, 39.°13N±0.°03×29.°04E±0.°02, h16km±8km, n33, σ0°62/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**251**	*i* P	**Pg**	**07 38 23.8**	**+0.2**
DEMI				*i* S	**Sg**	**07 38 27.7**	**+0.1**
DEMI	**Demirci**	**0.27**	**251**	*i* P	**Pg**	**07 38 23.8**	**+0.2**
DEMI				*i* S	**Sg**	**07 38 27.7**	**+0.1**
GDZ	**Gediz**	**0.34**	**97**	*i* P	**Pg**	**07 38 24.8**	**-0.1**
GDZ				*i* S	**Sg**	**07 38 29.7**	**-0.1**
GDZ	**Gediz**	**0.34**	**97**	*i* P	**Pg**	**07 38 24.8**	**-0.1**
GDZ				*i* S	**Sg**	**07 38 29.7**	**-0.1**
DURS	**Dursunbey**	**0.65**	**317**	*i* P	**Pb**	**07 38 30.7**	**0.0**
DURS	**Dursunbey**	**0.65**	**317**	*i* P	**Pb**	**07 38 30.7**	**0.0**
KULA	**Kula-Manisa**	**0.68**	**206**	*e*PG	**Pg**	**07 38 30.5**	**-0.6**
KULA				*e*SG	**Sg**	**07 38 39.7**	**-0.5**
KULA	**Kula-Manisa**	**0.68**	**206**	*e*Pg	**Pg**	**07 38 30.5**	**-0.6**
KULA				*e*Sg	**Sg**	**07 38 39.7**	**-0.5**
MANT	**Manisa**	**0.74**	**211**	*i* P	**Pb**	**07 38 32.3**	**-0.1**
MANT				*i* S	**Sg**	**07 38 41.5**	**-0.6**
MANT	**Manisa**	**0.74**	**211**	*i* P	**Pb**	**07 38 32.3**	**-0.1**
MANT				*i* S	**Sg**	**07 38 41.5**	**-0.6**
ALT	**Altintas**	**0.83**	**95**	*e*PG	**Pg**	**07 38 33.2**	**-0.7**
ALT				*e*SG	**Sg**	**07 38 44.6**	**-0.3**
ALT	**Altintas**	**0.83**	**95**	*e*Pg	**Pg**	**07 38 33.3**	**-0.7**
ALT				*e*Sg	**Sg**	**07 38 44.6**	**-0.3**
KHAL	**Karahalli**	**0.83**	**155**	*i* P	**Pg**	**07 38 34.1**	**+0.1**
KHAL				*i* S	**Sg**	**07 38 44.7**	**-0.3**
KHAL	**Karahalli**	**0.83**	**155**	*i* P	**Pg**	**07 38 34.1**	**+0.1**
KHAL				*i* S	**Sg**	**07 38 44.7**	**-0.3**
AKHS	**Akhisar**	**0.99**	**256**	*i* P	Pb	07 39 03.3	-7.2
AKHS				*i* S	**Sb**	**07 38 49.9**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.24**	**354**	*e*PN	**Pn**	**07 38 40.1**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.24**	**354**	*e*Pn	**Pn**	**07 38 40.2**	**-0.3**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*PN	**Pn**	**07 38 40.2**	**-0.4**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*Pn	**Pn**	**07 38 40.2**	**-0.4**
BALY	**Balya**	**1.26**	**299**	*i* P	Pn	07 38 36.8	-3.9
BALY				*i* S	**Sb**	**07 38 57.3**	**+0.1**
SHUT	**Suhut-Afyon**	**1.31**	**116**	*e*PN	**Pb**	**07 38 42.2**	**+0.2**
SHUT	**Suhut-Afyon**	**1.31**	**116**	*e*Pn	**Pb**	**07 38 42.3**	**+0.2**
BORA	**Eskisehir**	**1.32**	**55**	*i* P	**Pn**	**07 38 39.4**	**-2.3**
BORA				*i* S	**Sb**	**07 38 59.1**	**+0.1**
GONE	**Gonen-Balikesi**	**1.39**	**312**	*e*PN	**Pn**	**07 38 43.1**	**+0.6**
GONE	**Gonen-Balikesi**	**1.39**	**312**	*e*Pn	**Pn**	**07 38 43.1**	**+0.6**
ADVT	**Abdulvahap**	**1.41**	**22**	*e*PN	**Pb**	**07 38 43.7**	**+0.1**
ADVT	**Abdulvahap**	**1.41**	**22**	*e*Pn	**Pb**	**07 38 43.7**	**+0.1**
ARMT	**Armutlu**	**1.44**	**354**	*e*PN	**Pn**	**07 38 43.5**	**+0.3**
ARMT	**Armutlu**	**1.44**	**354**	*e*Pn	**Pn**	**07 38 43.5**	**+0.3**
GULT	**Gulveren**	**1.73**	**41**	*e*PN	**Pn**	**07 38 48.0**	**+0.8**
GULT	**Gulveren**	**1.73**	**41**	*e*Pn	**Pn**	**07 38 48.0**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.95**	**80**	*e*PN	**Pn**	**07 38 51.7**	**+1.5**
SVRH	**Sivrihisar-ESK**	**1.95**	**80**	*e*Pn	**Pn**	**07 38 51.7**	**+1.5**

IDC 17 07:58:25.7±2.6, 0.°40S×136.°49E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/15, mbtmp3.4/4, Error ellipse: s-maj=112.6km s-min=27.9km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.53**	**186**	P	Pn	08 02 55.6	-0.6
	0.1nm,0.3s,baz=8.0,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**23.26**	**186**	P	P	08 03 34.8	-0.3
	0.7nm,0.5s,baz=14,slow=11,SNR=9.9						
STKA	**Stephens Creek**	**31.67**	**172**	P	P	08 04 50.8	-0.2
	1.3nm,0.9s,baz=342,slow=13,SNR=3.0						
MKAR	**Makanchi Array**	**66.62**	**323**	P	P	08 09 18.2	0.0
	0.1nm,0.4s,baz=105,slow=7.5,SNR=3.6						

ISK ***17*** *08:15:07.1,39.°10N×29.°03E, h6km, MD2.7*
DDA ***17*** *08:15:07.6,39.°11N×29.°06E, h7km, MD2.7*
CSEM ***17*** *08:15:07.8±0.1,39.°11N×29.°04E, h5km, MD2.7, Error ellipse: s-maj=2.1km s-min=1.9km az=175.0*

ISC 17 08:15:07.5±1.0, 39.°11N±0.°02×29.°07E±0.°02, h7km±10km, n34, σ0°35/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.28**	**257**	*i* P	**Pg**	**08 15 13.3**	**+0.2**
DEMI				*i* S	**Sg**	**08 15 17.2**	**+0.3**
DEMI	**Demirci**	**0.28**	**257**	*i* P	**Pg**	**08 15 13.3**	**+0.2**
DEMI				*i* S	**Sg**	**08 15 17.2**	**+0.3**
GDZ	**Gediz**	**0.32**	**93**	*i* P	**Pb**	**08 15 14.7**	**-0.9**
GDZ				*i* S	**Sg**	**08 15 18.2**	**+0.1**
GDZ	**Gediz**	**0.32**	**93**	*i* P	**Pb**	**08 15 14.7**	**-0.9**
GDZ				*i* S	**Sg**	**08 15 18.2**	**+0.1**
DST	**Dursunbey**	**0.60**	**325**	*e*PG	**Pg**	**08 15 18.7**	**-0.5**
DST				*e*SG	**Sg**	**08 15 27.4**	**+0.3**
DST	**Dursunbey**	**0.60**	**325**	*e*Pg	**Pg**	**08 15 18.7**	**-0.5**
DST				*e*Sg	**Sg**	**08 15 27.4**	**+0.3**
KULA	**Kula-Manisa**	**0.67**	**208**	*e*PG	**Pg**	**08 15 20.5**	**0.0**
KULA				*e*SG	**Sg**	**08 15 29.3**	**0.0**
KULA	**Kula-Manisa**	**0.67**	**208**	*e*Pg	**Pg**	**08 15 20.5**	**0.0**
KULA				*e*Sg	**Sg**	**08 15 29.3**	**0.0**
MANT	**Manisa**	**0.73**	**213**	*i* P	**Pg**	**08 15 21.8**	**+0.1**
MANT	**Manisa**	**0.73**	**213**	*i* P	**Pg**	**08 15 21.8**	**+0.1**
KHAL	**Karahalli**	**0.81**	**156**	*i* P	**Pb**	**08 15 23.8**	**-0.1**
KHAL	**Karahalli**	**0.81**	**156**	*i* P	**Pb**	**08 15 23.8**	**-0.1**
ALT	**Altintas**	**0.81**	**93**	*e*PG	**Pb**	**08 15 24.3**	**+0.3**
ALT				*e*SG	**Sb**	**08 15 34.8**	**-0.4**
ALT	**Altintas**	**0.81**	**93**	*e*Pg	**Pb**	**08 15 24.3**	**+0.3**
ALT				*e*Sg	**Sb**	**08 15 34.8**	**-0.4**
KHL	**Karahalli**	**0.86**	**155**	*e*PG	**Pb**	**08 15 24.6**	**-0.2**
KHL	**Karahalli**	**0.86**	**155**	*e*Pg	**Pb**	**08 15 24.6**	**-0.2**
ORLT	**Orhaneli**	**0.94**	**352**	*e*PG	**Pb**	**08 15 26.2**	**0.0**
ORLT	**Orhaneli**	**0.94**	**352**	*e*Pg	**Pb**	**08 15 26.2**	**0.0**
AKHS	**Akhisar**	**1.00**	**257**	*i* P	**Pn**	**08 15 27.8**	**-0.1**
AKHS				*i* S	**Sb**	**08 15 40.6**	**0.0**
AKHS	**Akhisar**	**1.00**	**257**	*i* P	**Pn**	**08 15 27.8**	**-0.1**
AKHS				*i* S	**Sb**	**08 15 40.6**	**0.0**
AKS	**Akhisar**	**1.00**	**257**	*e*PG	**Pb**	**08 15 26.7**	**-0.5**
AKS	**Akhisar**	**1.00**	**257**	*e*Pg	**Pb**	**08 15 26.7**	**-0.5**
BALB	**Balikesir**	**1.06**	**300**	*e*PG	**Pg**	**08 15 27.5**	**-0.4**
BALB	**Balikesir**	**1.06**	**300**	*e*Pg	**Pg**	**08 15 27.5**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*PN	**Pg**	**08 15 31.9**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*Pn	**Pg**	**08 15 31.9**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*PN	**Pg**	**08 15 32.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**335**	*e*Pn	**Pg**	**08 15 32.1**	**+0.1**
BORA	**Eskisehir**	**1.32**	**54**	*e*P	**Pg**	**08 15 32.8**	**0.0**
BORA				*i* S	**Sn**	**08 15 51.0**	**+0.8**
BORA	**Eskisehir**	**1.32**	**54**	*e*P	**Pg**	**08 15 32.8**	**0.0**
BORA				*i* S	**Sn**	**08 15 51.0**	**+0.8**
ADVT	**Abdulvahap**	**1.42**	**21**	*e*PN	**Pg**	**08 15 34.8**	**+0.1**
ADVT	**Abdulvahap**	**1.42**	**21**	*e*Pn	**Pg**	**08 15 34.8**	**+0.1**
GONE	**Gonen-Balikesi**	**1.42**	**312**	*e*PN	**Pn**	**08 15 33.5**	**-0.2**
GONE	**Gonen-Balikesi**	**1.42**	**312**	*e*Pn	**Pn**	**08 15 33.5**	**-0.2**

PRE 17 08:19:55.8±2.4, 3.°47S×34.°82E, h10km, ML3.4, Lake Victoria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**3.36**	**46**	*e*P	Pn	08 20 47.6	-1.1
KMBO				*e*S	Sn	08 21 30.1	+1.0
MBAR	**Mbarara**	**4.98**	**305**	*e*P	Pn	08 21 10.9	0.0
MBAR				*e*S	Sn	08 22 06.4	-2.3
KIG	**Kigali**	**4.98**	**287**	*e*P	Pn	08 21 13.3	+2.3
KIG				*e*S	Sn	08 22 08.1	-0.8
KIG				AML	AML	08 22 36.6	
	comp=Z,62nm,0.4s						

IDC ***17*** *08:23:45.1±0.4, 3.°62N×126.°46E, h0km, mb4.7/29, mb1 4.8/29, mb1mx4.7/31, mbtmp4.7/29, MS3.8/13, Ms1 3.8/13, ms1mx3.5/35, Error ellipse: s-maj=19.2km s-min=8.9km az=73.0*
BJI ***17*** *08:23:48.4, 3.°41N×126.°76E, h50km, mB5.0/13, mb4.8/31, Ms4.3/6, Ms7 4.0/6*
NEIC ***17*** *08:23:50.5±0.2, 3.°62N×126.°57E, h35km, mb4.8/31, Error ellipse: s-maj=10.0km s-min=4.7km az=71.0*
ISCJB ***17*** *08:23:52.9±0.7, 3.°64N±0.°03×126.°79E±0.°05, h78km±6km, mb4.7/65, Error ellipse: s-maj=8.4km s-min=4.6km az=158.5*
DJA ***17*** *08:23:54, 3.°67N×127.°00E, h71km, mb4.9/24*

ISC 17 08:23:53.3±0.5, 3.°60N±0.°04×126.°62E±0.°06, h58km±4km, n163, σ1°51/174, mb4.7/64, MS3.8/16, 2C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.91**	**165**	P	**Pn**	**08 24 37.3**	**+0.1**
DAV	**Davao City (W)**	**3.60**	**343**	Pn	Pn	08 24 52.6	+6.0
DAV				Sn	Sn	08 25 39.6	+12
DAV	**Davao City (W)**	**3.60**	**343**	Pn	Pn	08 24 52.6	+6.0
	66nm,0.3s,baz=234,slow=19,SNR=3.6						
DAV				Sn	Sn	08 25 39.6	+12
	84nm,0.3s,baz=262,slow=20,SNR=3.7						
KCP	**Kidapawan**	**3.71**	**336**	*i* P	**Pn**	**08 24 48.9**	**+0.6**
KCP				*i* S	**Sn**	**08 25 35.1**	**+4.3**
KMSI	**Cibinong**	**3.99**	**221**	P	Pn	08 24 56.3	+4.2
CTBH	**Cotabato--PC H**	**4.30**	**327**	*e*P	**Pn**	**08 24 58.0**	**+1.7**
MRSI	**Marisa**	**5.61**	**237**	P	**Pn**	**08 25 17.1**	**+2.9**
	419nm,0.5s,7μm2.0nm						
ZMPH	**Zamboanga City**	**5.62**	**307**	*e*P	**Pn**	**08 25 14.0**	**-0.4**
ZMPH				*e*S	**Sn**	**08 26 15.0**	**-2.7**
LUWI	**Luwuk**	**6.00**	**220**	P	Pn	08 25 29.0	+9.4
SWI	**Sorong**	**6.42**	**134**	P	**Pn**	**08 25 24.5**	**-0.8**
	104nm,1.0s,2μm						
NLAI	**Namlea**	**6.81**	**176**	P	**Pn**	**08 25 30.5**	**-0.2**
	149nm,0.5s,3μm						
MYLDM	**Lahad Datu**	**8.24**	**281**	P	Pn	08 25 55.3	+5.0
KDI	**Kendari**	**8.50**	**208**	P	**Pn**	**08 25 54.6**	**+0.8**
	44nm,0.7s,762nm						
TSM	**Tawau**	**8.75**	**275**	P	Pn	08 26 01.4	+4.1
TTSI	**Tana Toraja**	**9.47**	**226**	P	Pn	08 26 11.6	+4.5
SDKM	**Sandakan**	**9.61**	**283**	P	Pn	08 26 14.9	+5.9
KDM	**Kudat**	**10.28**	**289**	P	Pn	08 26 23.4	+5.2
KKM	**Kota Kinabalu**	**10.64**	**284**	*e*Pn	**Pn**	**08 26 25.5**	**+2.2**
KKM	**Kota Kinabalu**	**10.64**	**284**	P	Pn	08 26 27.8	+4.5
KAPI	**Kappang**	**10.96**	**219**	Pn	Pn	08 26 33.6	+6.1
KAPI	**Kappang**	**10.96**	**219**	Pn	Pn	08 26 33.6	+6.1
	1.4nm,0.3s,baz=89,slow=2.9,SNR=4.0						
SBUM	**Sibu**	**14.42**	**266**	P	**P**	**08 27 19.3**	**-0.4**
KSM	**Kuching**	**16.43**	**263**	*e*P	**P**	**08 27 44.6**	**+2.6**
	30nm,0.8s						
KSM	**Kuching**	**16.43**	**263**	P	**P**	**08 27 44.9**	**+2.8**
TPUB	**Ta-pu**	**20.42**	**344**	*e*P	**P**	**08 28 23.8**	**-2.0**
	33nm,0.6s						
GUMO	**Guam**	**20.58**	**60**	LR	LR	08 34 59.5	
	comp=Z,154nm,20.8s,baz=194,slow=33						
YHNB	**Yeheng**	**21.55**	**347**	*e*P	**P**	**08 28 37.7**	**-0.3**
	22nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.59**	**183**	*e*P	**P**	**08 28 37.0**	**-1.3**
	18nm,0.7s						
FITZ				S	**S**	**08 32 31.1**	**-3.4**
FITZ	**Fitzroy Crossi**	**21.59**	**183**	*e*P	**P**	**08 28 37.1**	**-1.3**
	22nm,0.4s						
FITZ	**Fitzroy Crossi**	**21.59**	**183**	P	**P**	**08 28 37.4**	**-0.9**
	15nm,0.5s,baz=18,slow=8.4,SNR=30						
FITZ				S	**S**	**08 32 31.1**	**-3.4**
	3.4nm,0.8s,baz=346,slow=19,SNR=3.0						
QIZ	**Qiongzhong**	**22.45**	**314**	P	**P**	**08 28 47.3**	**-0.3**
QIZ				pP	**pP**	**08 29 02.1**	**+1.5**
QIZ				S	**S**	**08 32 47.3**	**-3.1**
QIZ				pmax	pmax		
	comp=Z,180nm,10.3s						
MYKOM	**Kota Tinggi**	**22.81**	**266**	P	**P**	**08 28 55.9**	**+4.4**
WRAB	**Tennant Creek**	**24.59**	**162**	*e*P	**P**	**08 29 06.2**	**-1.9**
	comp=Z,107nm,0.8s						
WRA	**Warramunga Arr**	**24.59**	**162**	P	**P**	**08 29 07.0**	**-1.2**
WRA				S	**S**	**08 33 25.9**	**+0.5**
WRA	**Warramunga Arr**	**24.59**	**162**	P	**P**	**08 29 07.0**	**-1.2**
	comp=Z,118nm,0.9s,baz=344,slow=10,SNR=295						
WRA				S	**S**	**08 33 25.9**	**+0.5**
	comp=Z,4.5nm,1.0s,baz=332,slow=20,SNR=6.4						
FRIM	**Kepong**	**24.95**	**270**	P	**P**	**08 29 15.7**	**+4.2**
MBWA	**Marble Bar**	**25.51**	**195**	*e*P	**P**	**08 29 17.6**	**+1.1**
MBWA	**Marble Bar**	**25.51**	**195**	*e*P	**P**	**08 29 16.7**	**+0.2**
PSI	**Prapat**	**27.66**	**269**	P	**P**	**08 29 34.6**	**-1.5**
PSI	**Prapat**	**27.66**	**269**	P	**P**	**08 29 34.6**	**-1.5**
	comp=Z,8.3nm,0.8s,baz=253,slow=0.7,SNR=8.0						
CBIJ	**Chichi jima**	**27.71**	**31**	LR	LR	08 39 00.4	
	comp=Z,200nm,19.5s,baz=249,slow=33						
AS31	**Alice Springs**	**28.02**	**166**	*e*P	**P**	**08 29 37.9**	**-1.1**
ASAR	**Alice Springs**	**28.02**	**166**	P	**P**	**08 29 38.2**	**-0.8**
ASAR				PcP	**PcP**	**08 32 53.8**	**+0.9**
ASAR				S	**S**	**08 34 23.2**	**+3.7**
ASAR	**Alice Springs**	**28.02**	**166**	P	**P**	**08 29 38.2**	**-0.8**
	comp=Z,4.3nm,0.6s,baz=350,slow=7.5,SNR=79						
ASAR				PcP	**PcP**	**08 32 53.8**	**+0.9**
	comp=Z,3.3nm,0.4s,baz=352,slow=2.1,SNR=9.5						
ASAR				S	**S**	**08 34 23.2**	**+3.7**
	comp=Z,1.1nm,0.9s,baz=340,slow=17,SNR=4.0						
NJ2	**Nanjing**	**29.23**	**346**	*e*P	**P**	**08 29 49.3**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
JNU	**Nakatsue**	**29.64**	**7**	*e*P	**P**	**08 29 51.7**	**-1.7**
	comp=Z,29nm,1.4s						
JNU	**Nakatsue**	**29.64**	**7**	P	**P**	**08 29 52.5**	**-0.8**
	comp=Z,17nm,0.9s,baz=95,slow=3.1,SNR=5.1						
CTA	**Charters Tower**	**30.43**	**141**	P	**P**	**08 30 02.4**	**+1.9**
CTA	**Charters Tower**	**30.43**	**141**	P	**P**	**08 30 02.4**	**+1.9**
	comp=Z,1.1nm,0.4s,baz=342,slow=7.6,SNR=3.6						
CMAR	**Chiang Mai Arr**	**30.84**	**301**	P	**P**	**08 30 03.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**30.84**	**301**	P	**P**	**08 30 03.7**	**-0.4**
	comp=Z,2.4nm,0.5s,baz=114,slow=6.8,SNR=15						
CHTO	**Chiang Mai**	**30.99**	**301**	*e*P	**P**	**08 30 06.0**	**+0.5**
	comp=Z,4.9nm,0.8s						
ENH	**Enshi**	**31.08**	**330**	*e*P	**P**	**08 30 05.1**	**-1.1**
	comp=Z,8.8nm,0.7s						
KMI	**Kunming**	**31.39**	**315**	P	**P**	**08 30 11.1**	**+1.9**
KMI				pP	**pP**	**08 30 23.3**	**-0.4**
KMI				sP	**sP**	**08 30 27.5**	**-3.1**
KMI				PP	**PP**	**08 31 18.0**	**-3.0**
KMI				S	**S**	**08 35 17.4**	**+4.5**
KMI				SS	**SnSn**	**08 37 07.6**	**+5.9**
KMI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KMI				pmax	pmax		
	comp=Z,130nm,5.8s						
KMI				LR	LR		
	comp=N,170nm,30.3s						
KMI				LR	LR		
	comp=E,270nm,26.9s						
KMI				LR	LR		
	comp=Z,180nm,23.6s						
JHJ	**Hachijo jima 2**	**31.85**	**21**	LR	LR	08 42 13.3	
	comp=Z,202nm,21.9s,baz=110,slow=35						
KSAR	**Wonju Array Be**	**33.70**	**2**	P	**P**	**08 30 28.9**	**0.0**
KSAR				PcP	**PcP**	**08 33 08.5**	**+0.9**
KSRS	**Korea Array**	**33.72**	**2**	P	**P**	**08 30 28.9**	**-0.1**
	comp=Z,6.6nm,0.7s,baz=181,slow=9.8,SNR=24						
KSRS				PcP	**PcP**	**08 33 08.5**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=190,slow=2.4,SNR=4.6						
KSRS				LR	LR	08 45 33.8	
	comp=Z,77nm,19.1s,baz=185,slow=39						
FORT	**Forrest**	**34.21**	**178**	*e*P	**P**	**08 30 32.7**	**-0.8**
	comp=Z,63nm,0.9s						
FORT	**Forrest**	**34.21**	**178**	*e*P	**P**	**08 30 33.1**	**-0.3**
	comp=Z,33nm,0.5s						
XAN	**Xi'an**	**34.48**	**334**	P	**P**	**08 30 34.0**	**-1.8**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
XAN				LR	LR		
	comp=N,120nm,10.1s						
XAN				LR	LR		
	comp=E,54nm,11.0s						
XAN				LR	LR		
	comp=Z,63nm,13.3s						
KLBR	**Kellerberrin**	**36.00**	**193**	*e*P	**P**	**08 30 49.3**	**+0.5**
	comp=Z,10nm,0.4s						
BBOO	**Buckleboo**	**37.30**	**167**	*e*P	**P**	**08 30 59.3**	**-0.6**
	comp=Z,186nm,0.8s						
BBOO	**Buckleboo**	**37.30**	**167**	*e*P	**P**	**08 30 59.3**	**-0.6**
	comp=Z,50nm,0.6s						
EIDS	**Eidsvold**	**37.32**	**142**	*e*P	**P**	**08 30 59.2**	**-1.0**
	comp=Z,11nm,0.9s						
NWAO	**Narrogin (SRO)**	**37.40**	**193**	P	**P**	**08 31 00.8**	**0.0**
NWAO	**Narrogin (SRO)**	**37.40**	**193**	P	**P**	**08 31 00.8**	**0.0**
	comp=Z,6.5nm,0.4s,baz=37,slow=11,SNR=12						
BJT	**Baijiatuao**	**37.47**	**347**	*e*P	**P**	**08 31 01.2**	**0.0**
	comp=Z,58nm,0.6s						
BJI	**Beijing**	**37.49**	**347**	P	**P**	**08 31 01.3**	**0.0**
BJI				pmax	pmax		
	comp=Z,79nm,0.7s						
STKA	**Stephens Creek**	**38.05**	**159**	*e*P	**P**	**08 31 05.6**	**-0.6**
	comp=Z,5.1nm,0.6s						
STKA				PcP	**PcP**	**08 33 21.2**	**+0.6**
STKA	**Stephens Creek**	**38.05**	**159**	*e*P	**P**	**08 31 05.7**	**-0.6**
	comp=Z,17nm,0.4s						
STKA	**Stephens Creek**	**38.05**	**159**	P	**P**	**08 31 05.8**	**-0.4**
	comp=Z,33nm,0.6s,baz=336,slow=8.1,SNR=77						
STKA				PcP	**PcP**	**08 33 21.2**	**+0.6**
	comp=Z,6.3nm,0.6s,baz=329,slow=4.0,SNR=4.2						
STKA				LR	LR	08 46 53.9	
	comp=Z,101nm,19.3s,baz=22,slow=36						
LZH	**Lanzhou**	**38.56**	**330**	*e*P	**P**	**08 31 11.5**	**+0.8**
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
SHL	**Shillong**	**39.86**	**307**	*e*PKP	**P**	**08 31 22.0**	**+0.3**
USRK	**Ussuriysk Arra**	**40.71**	**6**	P	**P**	**08 31 27.9**	**-0.3**
	comp=Z,5.4nm,0.7s,baz=183,slow=7.1,SNR=12						
MDJ	**Mudanjiang**	**40.93**	**3**	P	**P**	**08 31 30.1**	**0.0**
MDJ				pP	**pP**	**08 31 48.1**	**+3.1**
MDJ				pmax	pmax		
	comp=Z,28nm,0.9s						
MDJ				LR	LR		
	comp=N,21nm,31.2s						
MDJ				LR	LR		
	comp=E,59nm,35.4s						
MDJ				LR	LR		
	comp=Z,61nm,27.0s						
MDJ	**Mudanjiang**	**40.93**	**3**	*e*P	**P**	**08 31 30.4**	**+0.3**
	comp=Z,23nm,0.9s						
ARMA	**Armidale**	**41.42**	**146**	*e*P	**P**	**08 31 34.8**	**+0.4**
LSA	**Lhasa**	**42.44**	**312**	P	**P**	**08 31 43.8**	**+0.6**
LSA	**Lhasa**	**42.44**	**312**	*e*P	**P**	**08 31 43.7**	**+0.6**
	comp=Z,12nm,0.6s						
ASAJ	**Asahikawa**	**42.75**	**17**	P	**P**	**08 31 45.1**	**+0.2**
ASAJ	**Asahikawa**	**42.75**	**17**	P	**P**	**08 31 45.1**	**+0.2**
	comp=Z,16nm,

comp=Z,1.1nm,0.8s,baz=249,slow=5.2,SNR=9.9
ASF Jabal al Asfar 87.87 302 P **P** **08 36 36.0 -1.1**
ASF Jabal al Asfar 87.87 302 P **P** **08 36 36.0 -1.1**
comp=Z,2.3nm,0.6s,baz=354,slow=8.2,SNR=3.5
KMBO Kilima Mbogo 89.43 269 *e*P **P** **08 36 46.1 +1.2**
comp=Z,8.7nm,1.1s
BRTR Keskin Array B 90.02 310 P **P** **08 36 45.8 -1.3**
BRTR Keskin Array B 90.02 310 P **P** **08 36 45.8 -1.3**
comp=Z,1.7nm,0.7s,baz=112,slow=3.7,SNR=7.3
ARCES ARCESS Array B 90.53 340 P **P** **08 36 48.0 -0.7**
ARCES ARCESS Array B 90.53 340 P **P** **08 36 48.0 -0.7**
comp=Z,4.3nm,0.6s,baz=84,slow=6.8,SNR=29
ARCES LR LR 09 20 36.6
comp=Z,71nm,18.8s,baz=129,slow=38
FINES FINESS Array B 91.89 332 P **P** **08 36 53.7 -1.4**
FINES FINESS Array B 91.89 332 P **P** **08 36 53.7 -1.4**
comp=Z,1.3nm,0.6s,baz=60,slow=4.6,SNR=5.5
AKASG Malin Array Be 91.92 321 P **P** **08 36 54.2 -1.2**
AKASG Malin Array Be 91.92 321 P **P** **08 36 54.2 -1.2**
comp=Z,2.3nm,0.6s,baz=69,slow=4.7,SNR=9.2
QSPA South Pole Qui 93.51 180 *e*P **P** **08 37 03.9 +1.4**
comp=Z,2.8nm,0.9s
MLR Muntele Rosu 94.91 316 P **P** **08 37 08.2 -1.4**
MLR Muntele Rosu 94.91 316 P **P** **08 37 08.2 -1.4**
comp=Z,0.8nm,0.6s,baz=47,slow=12,SNR=7.5
BUR08 Bucovina Ar. S 95.03 318 *e*P **P** **08 37 09.6 -0.4**
CRVS Cervenica-Dubn 97.20 320 *e*P **P** **08 37 20.6 +0.9**
NOA NORSAR Array B 98.85 334 P **P** **08 37 25.5 -1.4**
NOA NORSAR Array B 98.85 334 P **P** **08 37 25.5 -1.4**
comp=Z,1.1nm,0.7s,baz=65,slow=4.4,SNR=3.4
NOA LR LR 09 27 16.7
comp=Z,44nm,19.4s,baz=130,slow=39
YKA Yellowknife Ar 99.66 24 P **Pdif** **08 37 30.1 -0.3**
YKA Yellowknife Ar 99.66 24 P **Pdif** **08 37 30.0 -0.3**
comp=Z,0.2nm,0.6s,baz=298,slow=4.3,SNR=7.1
TXAR Lajitas Array 121.77 52 PKP **PKPdf** **08 42 41.1 -0.5**
TXAR Lajitas Array 121.77 52 PKP **PKPdf** **08 42 41.1 -0.5**
comp=Z,0.5nm,0.7s,baz=135,slow=0.9,SNR=7.1
TORD Torodi Ar. Bea 122.85 288 PKP **PKPdf** **08 42 43.4 -0.5**
TORD Torodi Ar. Bea 122.85 288 PKP **PKPdf** **08 42 43.4 -0.5**
comp=Z,1.8nm,0.8s,baz=57,slow=2.2,SNR=9.9
JCT Junction City 124.23 49 *e*PKPdf **PKPdf** **08 42 47.4 +1.2**
CFAA Coronel Fontan 148.83 155 PKP **PKPdf** **08 43 32.4 +1.2**
CFAA PKPbc **PKiKP** **08 43 35.9 -0.6**
CFAA Coronel Fontan 148.83 155 PKP **PKPdf** **08 43 32.4 +1.2**
comp=Z,1.4nm,0.6s,baz=216,slow=3.0,SNR=26
CFAA PKPbc **PKiKP** **08 43 35.9 -0.6**
comp=Z,1.4nm,0.6s,baz=220,slow=4.2,SNR=4.1
LCO Las Campanas 149.84 149 *e*PKPbc **PKPbc** **08 43 39.0 +1.0**
CPUP Villa Florida 157.08 171 PKPab **PKPab** **08 44 14.8 +1.2**
CPUP Villa Florida 157.08 171 PKPab **PKPab** **08 44 14.8 +1.2**
comp=Z,2.8nm,0.8s,baz=161,slow=6.0,SNR=6.6
LPAZ La Paz 160.79 132 PKPab **PKPab** **08 44 32.7 +1.9**
LPAZ La Paz 160.79 132 PKPab **PKPab** **08 44 32.7 +1.9**
comp=Z,0.8nm,0.7s,baz=243,slow=2.3,SNR=3.7
SIV San Ignacio 165.55 149 PKPab **PKPab** **08 44 52.3 +1.4**
SIV San Ignacio 165.55 149 PKPab **PKPab** **08 44 52.3 +1.4**
comp=Z,1.1nm,0.9s,baz=229,slow=1.8,SNR=4.3

DDA ***17*** *08:30:03.3,39.09N×29.05E,h7km,MD2.8*
CSEM ***17*** *08:30:03.5±0.1,39.12N×29.06E,h5km,MD2.8, Error ellipse: s-maj=2.4km s-min=2.1km az=171.0*
ISK ***17*** *08:30:04.8,39.23N×29.06E,h9km,MD2.6*
ISC 17 08:30:03.7±1.1,39.13N±0.02×29.04E±0.02,h4km±10km, n32,σ0945/46,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**251**	*i* P		**Pg**	**08 30 09.0**	**+0.1**
DEMI				*i* S		**Sg**	**08 30 12.8**	**+0.3**
DEMI	**Demirci**	**0.27**	**251**	*i* P		**Pg**	**08 30 09.0**	**+0.1**
DEMI				*i* S		**Sg**	**08 30 12.8**	**+0.3**
GDZ	**Gediz**	**0.34**	**97**	*i* P		**Pg**	**08 30 10.3**	**0.0**
GDZ				*i* S		**Sg**	**08 30 15.2**	**+0.4**
GDZ	**Gediz**	**0.34**	**97**	*i* P		**Pg**	**08 30 10.3**	**0.0**
GDZ				*i* S		**Sg**	**08 30 15.2**	**+0.4**
TVSB	**Tavsanli**	**0.46**	**45**	*e*PG		**Pg**	**08 30 12.4**	**0.0**
TVSB				*e*SG		**Sg**	**08 30 18.5**	**+0.1**
TVSB	**Tavsanli**	**0.46**	**45**	*e*Pg		**Pg**	**08 30 12.4**	**0.0**
TVSB				*e*Sg		**Sg**	**08 30 18.5**	**+0.1**
DST	**Dursunbey**	**0.58**	**325**	*e*PG		**Pg**	**08 30 15.1**	**+0.3**
DST				*e*SG		**Sg**	**08 30 22.6**	**+0.3**
DST	**Dursunbey**	**0.58**	**325**	*e*Pg		**Pg**	**08 30 15.1**	**+0.3**
DST				*e*Sg		**Sg**	**08 30 22.6**	**+0.3**
DURS	**Dursunbey**	**0.65**	**317**	*e*P		**Pg**	**08 30 16.2**	**+0.1**
DURS	**Dursunbey**	**0.65**	**317**	*e*P		**Pg**	**08 30 16.2**	**+0.1**
MANT	**Manisa**	**0.74**	**211**	*i* P		**Pg**	**08 30 17.4**	**-0.5**
MANT	**Manisa**	**0.74**	**211**	*i* P		**Pg**	**08 30 17.4**	**-0.5**
KHAL	**Karahalli**	**0.83**	**155**	*i* P		**Pg**	**08 30 19.6**	**-0.1**
KHAL				*i* S		**Sg**	**08 30 30.1**	**-0.4**
KHAL	**Karahalli**	**0.83**	**155**	*i* P		**Pg**	**08 30 19.6**	**-0.1**
KHAL				*i* S		**Sg**	**08 30 30.1**	**-0.4**
KHL	**Karahalli**	**0.89**	**155**	*e*PG		**Pn**	**08 30 24.0**	**+1.0**
KHL	**Karahalli**	**0.89**	**155**	*e*Pg		**Pn**	**08 30 24.0**	**+1.0**
AKHS	**Akhisar**	**0.99**	**256**	*e*P		**Pb**	**08 30 23.2**	**-0.2**
AKHS				*i* S		**Sb**	**08 30 36.2**	**-0.6**
AKHS	**Akhisar**	**0.99**	**256**	*e*P		**Pb**	**08 30 23.2**	**-0.2**
AKHS				*i* S		**Sb**	**08 30 36.2**	**-0.6**
BALY	**Balya**	**1.26**	**299**	*e*P		**Pn**	**08 30 27.5**	**-0.6**
BALY				*i* S		**Sn**	**08 30 46.4**	**+0.9**
BALY	**Balya**	**1.26**	**299**	*e*P		**Pn**	**08 30 27.5**	**-0.6**
BALY				*i* S		**Sn**	**08 30 46.4**	**+0.9**
BORA	**Eskisehir**	**1.32**	**55**	*e*P		**Pn**	**08 30 28.5**	**-0.5**
BORA	**Eskisehir**	**1.32**	**55**	*e*P		**Pn**	**08 30 28.5**	**-0.5**
ADVT	**Abdulvahap**	**1.41**	**22**	*e*PN		**Pn**	**08 30 29.6**	**-0.5**
ADVT	**Abdulvahap**	**1.41**	**22**	*e*Pn		**Pn**	**08 30 29.6**	**-0.5**
ARMT	**Armutlu**	**1.44**	**354**	*e*PN		**Pn**	**08 30 30.1**	**-0.4**
ARMT	**Armutlu**	**1.44**	**354**	*e*Pn		**Pn**	**08 30 30.1**	**-0.4**
ESKT	**Eskisehir**	**1.45**	**74**	*e*PN		**Pg**	**08 30 31.3**	**-0.2**
ESKT	**Eskisehir**	**1.45**	**74**	*e*Pn		**Pg**	**08 30 31.3**	**-0.2**
YLV	**Yalova**	**1.46**	**10**	*e*PN		**Pn**	**08 30 30.7**	**-0.1**
YLV	**Yalova**	**1.46**	**10**	*e*Pn		**Pn**	**08 30 30.7**	**-0.1**
GULT	**Gulveren**	**1.73**	**41**	*e*PN		**Pn**	**08 30 34.7**	**+0.2**
GULT	**Gulveren**	**1.73**	**41**	*e*Pn		**Pn**	**08 30 34.7**	**+0.2**

ISCJB ***17*** *08:30:57.9±0.5,39.11N±0.03×29.04E±0.03,h1km±6km, Error ellipse: s-maj=4.4km s-min=3.8km az=8.8*
ISK ***17*** *08:30:57.6,39.12N×29.05E,h5km,MD2.8*
DDA ***17*** *08:30:58.1,39.11N×29.02E,h7km,MD2.9*
CSEM ***17*** *08:30:58.2±0.1,39.12N×29.04E,h5km,MD2.9, Error ellipse: s-maj=2.1km s-min=2.0km az=30.0*
ISC 17 08:30:58.5±1.0,39.12N±0.02×29.04E±0.02,h5km±12km, n42,σ0940/58,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**252**	*i* P		**Pg**	**08 31 03.5**	**-0.1**
DEMI				*i* S		**Sg**	**08 31 07.1**	**+0.1**
DEMI	**Demirci**	**0.26**	**252**	*i* P		**Pg**	**08 31 03.5**	**-0.1**
DEMI				*i* S		**Sg**	**08 31 07.1**	**+0.1**
GDZ	**Gediz**	**0.35**	**95**	*i* P		**Pg**	**08 31 05.4**	**+0.1**
GDZ				*i* S		**Sg**	**08 31 10.5**	**+0.6**
GDZ	**Gediz**	**0.35**	**95**	*i* P		**Pg**	**08 31 05.4**	**+0.1**
GDZ				*i* S		**Sg**	**08 31 10.5**	**+0.6**
TVSB	**Tavsanli**	**0.47**	**45**	*e*PG		**Pg**	**08 31 07.3**	**-0.1**
TVSB				*e*SG		**Sg**	**08 31 13.7**	**+0.2**
TVSB	**Tavsanli**	**0.47**	**45**	*e*Pg		**Pg**	**08 31 07.3**	**-0.1**
TVSB				*e*Sg		**Sg**	**08 31 13.7**	**+0.2**
DST	**Dursunbey**	**0.58**	**326**	*e*PG		**Pg**	**08 31 08.8**	**-0.8**
DST				*e*SG		**Sg**	**08 31 17.4**	**+0.2**
DST	**Dursunbey**	**0.58**	**326**	*e*Pg		**Pg**	**08 31 08.8**	**-0.8**
DST				*e*Sg		**Sg**	**08 31 17.4**	**+0.2**
DURS	**Dursunbey**	**0.65**	**318**	*i* P		**Pg**	**08 31 10.5**	**-0.4**
DURS	**Dursunbey**	**0.65**	**318**	*i* P		**Pg**	**08 31 10.5**	**-0.4**
MANT	**Manisa**	**0.73**	**211**	*i* P		**Pg**	**08 31 12.1**	**-0.4**
MANT	**Manisa**	**0.73**	**211**	*i* P		**Pg**	**08 31 12.1**	**-0.4**
KHAL	**Karahalli**	**0.83**	**154**	*i* P		**Pg**	**08 31 14.4**	**0.0**
KHAL				*i* S		**Sg**	**08 31 25.0**	**-0.2**
KHAL	**Karahalli**	**0.83**	**154**	*i* P		**Pg**	**08 31 14.4**	**0.0**
KHAL				*i* S		**Sg**	**08 31 25.0**	**-0.2**
KHL	**Karahalli**	**0.89**	**154**	*e*PG		**Pg**	**08 31 15.1**	**-0.3**
KHL				*e*SG		**Sg**	**08 31 26.7**	**-0.2**
KHL	**Karahalli**	**0.89**	**154**	*e*Pg		**Pg**	**08 31 15.1**	**-0.3**
KHL				*e*Sg		**Sg**	**08 31 26.7**	**-0.2**
ORLT	**Orhaneli**	**0.93**	**353**	*e*PG		**Pg**	**08 31 16.2**	**-0.1**
ORLT	**Orhaneli**	**0.93**	**353**	*e*Pg		**Pg**	**08 31 16.2**	**-0.1**
AKHS	**Akhisar**	**0.98**	**256**	*i* P		**Pg**	**08 31 17.1**	**-0.2**
AKHS				*i* S		**Sg**	**08 31 30.4**	**+0.4**
AKHS	**Akhisar**	**0.98**	**256**	*i* P		**Pg**	**08 31 17.1**	**-0.2**
AKHS				*i* S		**Sg**	**08 31 30.4**	**+0.4**
AKS	**Akhisar**	**0.98**	**256**	*e*PG		**Pb**	**08 31 17.8**	**-0.2**
AKS	**Akhisar**	**0.98**	**256**	*e*Pg		**Pb**	**08 31 17.8**	**-0.2**
CAVI	**Cavuskoy**	**1.25**	**30**	*e*PN		**Pg**	**08 31 21.6**	**-0.7**
CAVI	**Cavuskoy**	**1.25**	**30**	*e*Pn		**Pg**	**08 31 21.6**	**-0.7**
BALY	**Balya**	**1.26**	**300**	*e*P		**Pg**	**08 31 22.2**	**-0.4**
BALY				*i* S		**Sb**	**08 31 39.7**	**+0.4**
BALY	**Balya**	**1.26**	**300**	*e*P		**Pg**	**08 31 22.2**	**-0.4**
BALY				*i* S		**Sb**	**08 31 39.7**	**+0.4**
ADVT	**Abdulvahap**	**1.42**	**22**	*e*PN		**Pn**	**08 31 25.0**	**+0.1**
ADVT	**Abdulvahap**	**1.42**	**22**	*e*Pn		**Pn**	**08 31 25.0**	**+0.1**
ARMT	**Armutlu**	**1.45**	**355**	*e*PN		**Pn**	**08 31 25.0**	**-0.4**
ARMT	**Armutlu**	**1.45**	**355**	*e*Pn		**Pn**	**08 31 25.0**	**-0.4**
ESKT	**Eskisehir**	**1.46**	**74**	*e*PN		**Pn**	**08 31 25.1**	**-0.5**
ESKT	**Eskisehir**	**1.46**	**74**	*e*Pn		**Pn**	**08 31 25.1**	**-0.5**
YLV	**Yalova**	**1.47**	**10**	*e*PN		**Pn**	**08 31 25.5**	**-0.2**
YLV	**Yalova**	**1.47**	**10**	*e*Pn		**Pn**	**08 31 25.5**	**-0.2**
GULT	**Gulveren**	**1.73**	**41**	*e*PN		**Pn**	**08 31 29.9**	**+0.5**
GULT	**Gulveren**	**1.73**	**41**	*e*Pn		**Pn**	**08 31 29.9**	**+0.5**
HRT	**Hereke**	**1.77**	**16**	*e*PN		**Pn**	**08 31 30.3**	**+0.5**
HRT	**Hereke**	**1.77**	**16**	*e*Pn		**Pn**	**08 31 30.3**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.96**	**80**	*e*PN		**Pn**	**08 31 32.4**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.96**	**80**	*e*Pn		**Pn**	**08 31 32.4**	**0.0**
MFT	**Murefte**	**2.14**	**322**	*e*PN		**Pn**	**08 31 35.7**	**+0.7**
MFT	**Murefte**	**2.14**	**322**	*e*Pn		**Pn**	**08 31 35.7**	**+0.7**

NIED ***17*** *08:33:00,40.70N×142.60E,h71km,Mw3.7 Best double couple: M0 3.80000×10^14 NP1:ϕs326.00000°,δ82.00000°, λ67.00000°. NP2:ϕs218.00000°,δ25.00000°,λ161.00000°.*
ISCJB ***17*** *08:33:28.7±0.6,40.72N±0.03×142.50E±0.07,h74km±5km, mb3.5/7, Error ellipse: s-maj=10.0km s-min=4.4km az=20.6*
JMA ***17*** *08:33:29.2±0.1,40.73N×142.59E,h50km±4km,M3.9*
IDC ***17*** *08:33:30.0±2.3,40.74N×142.72E,h79km±24km,mb3.2/6, mb1 3.4/8,mb1mx3.2/24,mbtmp3.2/8,MS3.0/1,Ms1 3.0/1, ms1mx2.4/21,Error ellipse: s-maj=38.7km s-min=16.4km az=86.0*
ISC 17 08:33:29.6±1.1,40.73N±0.04×142.50E±0.06,h64km±11km, n20,σ0980/29,mb3.6/7,2C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.83**	**245**	⇓P		**Pn**	**08 33 45.9**	**+0.3**
JANG				S		**Sn**	**08 33 57.8**	**+0.3**
JTH	**Tanohata**	**0.93**	**212**	⇓P		**Pn**	**08 33 46.4**	**-0.4**
JTH				S		**Sn**	**08 33 59.0**	**-0.6**
JTM	**Tenmabayashi**	**1.09**	**274**	⇓P		**Pn**	**08 33 49.1**	**+0.2**
JTM				S		**Sn**	**08 34 03.8**	**+0.4**
JOT	**Ohata**	**1.28**	**301**	⇓P		**Pn**	**08 33 51.3**	**-0.1**
JOT				*e*S		**Sn**	**08 34 07.2**	**-0.6**
JEM	**Erimo**	**1.38**	**21**	P		**Pn**	**08 33 52.6**	**-0.1**
JEM				*e*S		**Sn**	**08 34 10.0**	**-0.1**
JOM	**Ohasama**	**1.56**	**217**	P		**Pn**	**08 33 55.7**	**+0.6**
JOM				S		**Sn**	**08 34 14.7**	**+0.3**
JNBK	**Urakawa-nobuka**	**1.56**	**7**	P		**Pn**	**08 33 55.7**	**+0.5**
JNBK				S		**Sn**	**08 34 16.6**	**+2.1**
JKB	**Kayabe**	**1.60**	**317**	⇑P		**Pn**	**08 33 55.8**	**+0.1**
JKB				S		**Sn**	**08 34 14.9**	**-0.6**
JCH	**Churui**	**1.99**	**19**	⇑P		**Pn**	**08 34 01.0**	**0.0**
JCH				*e*S		**Sn**	**08 34 24.1**	**-0.8**
JMK	**Ichinoseki**	**2.03**	**210**	P		**Pn**	**08 34 03.1**	**+0.6**
JMK				*e*S		**Sn**	**08 34 25.9**	**-0.2**
ASAJ	**Asahikawa**	**3.39**	**1**	P		**Pn**	**08 34 21.1**	**+1.1**
	4.7nm,0.3s,baz=216,slow=10,SNR=21							
ASAJ				S		**Sn**	**08 34 59.7**	**+0.7**
	2.5nm,0.3s,baz=212,slow=29,SNR=4.6							
MJAR	**Matsushiro Arr**	**5.36**	**220**	P		**Pn**	**08 34 49.0**	**+1.9**
	1.0nm,0.3s,baz=32,slow=14,SNR=8.9							
JNU	**Nakatsue**	**12.00**	**234**	LR	LR		08 41 33.6	
	comp=Z,73nm,18.4s,baz=258,slow=40							
SONM	**Songino Array**	**26.62**	**298**	P		**P**	**08 39 02.6**	**+0.5**
	0.3nm,0.5s,baz=96,slow=7.7,SNR=2.9							
ZALV	**Zalesovo Beam**	**40.15**	**309**	P		**P**	**08 40 59.4**	**+0.4**
	0.5nm,0.5s,baz=107,slow=7.7,SNR=2.6							
MKAR	**Makanchi Array**	**42.98**	**299**	P		**P**	**08 41 22.0**	**-0.3**
	0.5nm,0.8s,baz=89,slow=9.5,SNR=2.6							
KURBB	**Kurchatov Arra**	**44.48**	**305**	P		**P**	**08 41 33.8**	**-0.5**
	0.4nm,0.3s,baz=77,slow=8.8,SNR=2.5							
WRA	**Warramunga Arr**	**60.83**	**189**	P		**P**	**08 43 34.0**	**-1.2**
	0.5nm,0.6s,baz=6.1,slow=7.0,SNR=8.2							
ASAR	**Alice Springs**	**64.56**	**189**	P		**P**	**08 43 59.2**	**-0.7**
	0.6nm,0.8s,baz=358,slow=6.2,SNR=5.7							
FINES	**FINESS Array B**	**65.95**	**332**	P		P	08 44 15.4	+6.9
	0.8nm,0.7s,baz=52,slow=9.1,SNR=6.4							

IDC 17 08:39:54.5±2.3,3.80N×125.74E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.4/19,mbtmp3.4/3,MS3.0/1,Ms1 3.0/1, ms1mx2.1/19,Error ellipse: s-maj=209.0km s-min=28.5km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.06**	**161**	P	P		08 45 20.6	-0.2
	1.1nm,0.9s,baz=341,slow=8.7,SNR=9.4							
ASAR	**Alice Springs**	**28.43**	**164**	P	P		08 45 52.1	+0.9
	0.3nm,0.8s,baz=331,slow=9.4,SNR=2.8							
JHJ	**Hachijo jima 2**	**31.99**	**23**	LR	LR		08 58 03.0	
	comp=Z,27nm,20.9s,baz=63,slow=34							
MKAR	**Makanchi Array**	**56.94**	**326**	P	P		08 49 41.2	-0.5
	0.3nm,0.7s,baz=114,slow=5.4,SNR=3.6							

ATH ***17*** *08:49:13.3,36.97N×20.62E,h5km±1km,MD3.5/13*
CSEM ***17*** *08:49:14.9±0.4,37.04N×20.66E,h2km,ML3.1/9, Error ellipse: s-maj=7.7km s-min=3.4km az=52.0*
THE ***17*** *08:49:16.6,37.11N×20.76E,h0km,ML3.1/9, Error ellipse: s-maj=1.1km s-min=0.3km az=228.0*
ISC 17 08:49:15.7±1.6,37.06N±0.04×20.70E±0.05,h3km±10km, n63,σ0962/110,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.85**	**101**	P		**Pg**	**08 49 32.1**	**+0.1**
PYL				S		**Sg**	**08 49 44.3**	**-0.6**
PYL	**PYLOS**	**0.85**	**101**	P		**Pg**	**08 49 32.1**	**+0.1**
PYL				S		**Sg**	**08 49 44.3**	**-0.6**
ITM	**Ithomi**	**0.99**	**82**	P		**Pg**	**08 49 34.0**	**-0.7**
ITM				S		**Sg**	**08 49 48.2**	**+0.7**
ITM	**Ithomi**	**0.99**	**82**	*e*PN		**Pg**	**08 49 34.0**	**-0.7**
ITM				*e*SB		**Sg**	**08 49 48.1**	**+0.6**
ITM	**Ithomi**	**0.99**	**82**	P		**Pg**	**08 49 34.0**	**-0.7**
ITM				S		**Sg**	**08 49 48.2**	**+0.7**
KFL	**Anninata**	**1.05**	**4**	P		**Pg**	**08 49 35.2**	**-0.7**
KFL				S		**Sg**	**08 49 50.1**	**+0.5**
KFL	**Anninata**	**1.05**	**4**	P		**Pg**	**08 49 35.2**	**-0.7**
KFL				S		**Sg**	**08 49 50.1**	**+0.5**
VLS	**Valsamata**	**1.12**	**356**	P		**Pg**	**08 49 36.7**	**-0.6**
VLS				S		**Sb**	**08 49 52.7**	**-0.1**
VLS	**Valsamata**	**1.12**	**356**	*e*PB		**Pg**	**08 49 36.4**	**-0.9**
VLS				*e*SB		**Sb**	**08 49 53.0**	**+0.2**
VLS	**Valsamata**	**1.12**	**356**	*e*Pb		**Pg**	**08 49 36.4**	**-0.9**
VLS	**Valsamata**	**1.12**	**356**	P		**Pg**	**08 49 36.7**	**-0.6**
VLS				S		**Sb**	**08 49 52.7**	**-0.1**
VLS				*e*Sb		**Sb**	**08 49 53.0**	**+0.2**
RLS	**Riolos of Patr**	**1.17**	**31**	P		**Pg**	**08 49 37.3**	**-0.9**
RLS				S		**Sg**	**08 49 53.6**	**+0.2**
RLS	**Riolos of Patr**	**1.17**	**31**	*e*PB		**Pg**	**08 49 37.5**	**-0.7**
RLS				*e*SB		**Sn**	**08 49 55.0**	**-0.4**
RLS	**Riolos of Patr**	**1.17**	**31**	*e*Pb		**Pg**	**08 49 37.5**	**-0.7**
RLS				S		**Sg**	**08 49 53.6**	**+0.2**
RLS				*e*Sb		**Sn**	**08 49 55.0**	**-0.4**
VLX	**Vlachokerasia**	**1.38**	**76**	P		**Pn**	**08 49 41.2**	**-0.7**
VLX				S		**Sn**	**08 50 00.8**	**+0.2**
VLX	**Vlachokerasia**	**1.38**	**76**	*e*PB		**Pn**	**08 49 40.9**	**-1.0**
VLX				*e*SB		**Sg**	**08 50 00.4**	**+0.4**
VLX	**Vlachokerasia**	**1.38**	**76**	*e*Pb		**Pn**	**08 49 40.9**	**-1.0**
VLX	**Vlachokerasia**	**1.38**	**76**	P		**Pn**	**08 49 41.2**	**-0.7**
VLX				*e*Sb		**Sg**	**08 50 00.4**	**+0.4**
VLX				S		**Sn**	**08 50 00.8**	**+0.2**
LAKA	**Lakka**	**1.56**	**40**	P		**Pn**	**08 49 43.7**	**-0.6**
LAKA				S		**Sn**	**08 50 04.8**	**-0.2**
LAKA	**Lakka**	**1.56**	**40**	P		**Pn**	**08 49 43.7**	**-0.6**
LAKA				S		**Sn**	**08 50 04.8**	**-0.2**
GUR	**Goura**	**1.57**	**56**	P		**Pn**	**08 49 43.9**	**-0.7**
GUR				S		**Sn**	**08 50 05.5**	**0.0**
GUR	**Goura**	**1.57**	**56**	*e*PG		**Pn**	**08 49 43.9**	**-0.7**
GUR				*e*SB		**Sg**	**08 50 08.3**	**+2.0**
GUR	**Goura**	**1.57**	**56**	P		**Pn**	**08 49 43.9**	**-0.7**
GUR				S		**Sn**	**08 50 05.5**	**0.0**
GUR				*e*Sb		**Sg**	**08 50 08.3**	**+2.0**
EFP	**Efpalio**	**1.67**	**35**	P		**Pn**	**08 49 45.4**	**-0.4**
EFP				S		**Sn**	**08 50 07.8**	**+0.1**
EFP	**Efpalio**	**1.67**	**35**	P		**Pn**	**08 49 45.4**	**-0.4**
EFP				S		**Sn**	**08 50 07.8**	**+0.1**
TRIZ	**Trizonia**	**1.70**	**39**	P		**Pn**	**08 49 45.9**	**-0.3**
TRIZ				S		**Sn**	**08 50 08.6**	**+0.1**
TRIZ	**Trizonia**	**1.70**	**39**	P		**Pn**	**08 49 45.9**	**-0.3**
TRIZ				S		**Sn**	**08 50 08.6**	**+0.1**
LKD2	**Lefkada island**	**1.73**	**359**	P		**Pn**	**08 49 46.6**	**-0.1**
LKD2				S		**Sb**	**08 50 09.7**	**-0.6**
LKD2	**Lefkada island**	**1.73**	**359**	*e*PG		**Pn**	**08 49 47.0**	**+0.3**
LKD2				*e*SN		**Sg**	**08 50 12.6**	**+1.3**
LKD2	**Lefkada island**	**1.73**	**359**	P		**Pn**	**08 49 46.6**	**-0.1**
LKD2	**Lefkada island**	**1.73**	**359**	*e*Pg		**Pn**	**08 49 47.0**	**+0.3**
LKD2				S		**Sb**	**08 50 09.7**	**-0.6**
LKD2				*e*Sn		**Sg**	**08 50 12.6**	**+1.3**
KALE	**Kalithea**	**1.75**	**40**	P		**Pn**	**08 49 46.5**	**-0.6**
KALE				S		**Sn**	**08 50 10.0**	**+0.1**
KALE	**Kalithea**	**1.75**	**40**	P		**Pn**	**08 49 46.5**	**-0.6**
KALE				S		**Sn**	**08 50 10.0**	**+0.1**
VLI	**Veliai**	**1.82**	**100**	P		**Pn**	**08 49 48.2**	**+0.2**
VLI				S		**Sb**	**08 50 12.9**	**0.0**
VLI	**Veliai**	**1.82**	**100**	*e*PG		**Pb**	**08 49 49.2**	**-0.5**
VLI				*e*SN		**Sg**	**08 50 14.4**	**+0.1**
VLI	**Veliai**	**1.82**	**100**	P		**Pn**	**08 49 48.2**	**+0.2**
VLI	**Veliai**	**1.82**	**100**	*e*Pg		**Pb**	**08 49 49.2**	**-0.5**
VLI				S		**Sb**	**08 50 12.9**	**0.0**
VLI				*e*Sn		**Sg**	**08 50 14.4**	**+0.1**
KYTH	**Kithira**	**2.03**	**112**	*e*PG		**Pb**	**08 49 52.9**	**-0.4**
KYTH	**Kithira**	**2.03**	**112**	*e*Pg		**Pb**	**08 49 52.9**	**-0.4**
LTK	**Loutraki**	**2.04**	**61**	P		**Pn**	**08 49 50.8**	**-0.2**
LTK				S		**Sn**	**08 50 17.1**	**+0.1**
LTK	**Loutraki**	**2.04**	**61**	*e*PN		**Pn**	**08 49 52.0**	**+1.0**
LTK	**Loutraki**	**2.04**	**61**	P		**Pn**	**08 49 50.8**	**-0.2**
LTK	**Loutraki**	**2.04**	**61**	*e*Pn		**Pn**	**08 49 52.0**	**+1.0**
LTK				S		**Sn**	**08 50 17.1**	**+0.1**
EVR	**Evrytania**	**2.05**	**25**	*e*PN		**Pn**	**08 49 52.2**	**+1.0**
EVR				*e*SN		**Sb**	**08 50 20.0**	**+0.3**
EVR	**Evrytania**	**2.05**	**25**	*e*Pn		**Pn**	**08 49 52.2**	**+1.0**
EVR				*e*Sn		**Sb**	**08 50 20.0**	**+0.3**
DID	**Didima**	**2.07**	**77**	P		**Pn**	**08 49 51.2**	**-0.2**
DID				S		**Sn**	**08 50 17.8**	**+0.1**
DID	**Didima**	**2.07**	**77**	*e*PN		**Pn**	**08 49 51.7**	**+0.3**
DID				*e*SN		**Sb**	**08 50 20.6**	**+0.5**
DID	**Didima**	**2.07**	**77**	P		**Pn**	**08 49 51.2**	**-0.2**
DID	**Didima**	**2.07**	**77**	*e*Pn		**Pn**	**08 49 51.7**	**+0.3**
DID				S		**Sn**	**08 50 17.8**	**+0.1**
DID				*e*Sn		**Sb**	**08 50 20.6**	**+0.5**
NAIG	**Nisos Aigina**	**2.33**	**72**	*e*PB		**Pn**	**08 49 54.9**	**0.0**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALN	**Palana**	**0.84**	**255**	*eP*	**Pn**	**08 57 34.1**	**+0.6**
PALN				*i* S	**Sg**	**08 57 43.3**	**+0.6**
TILK	**Tilichiki**	**2.58**	**62**	*eP*	Pg	08 58 11.7	+6.6
TILK				*i* S	Sg	08 58 49.8	+11
SRKR	**Sorokina**	**2.68**	**184**	*eP*	Pg	08 58 09.5	+2.5
SMKR	**Semkarok**	**2.75**	**181**	*eP*	Pg	08 58 11.0	+2.8
BDR	**Baidarnaya**	**2.77**	**184**	*eP*	Pg	08 58 11.5	+2.9
EVEN	**Evensk**	**2.84**	**337**	*e*	Pn	08 57 50.0	-11
EVEN				*e*		08 58 14.7	
EVEN				*eSg*	**Sb**	**08 58 45.2**	**+4.1**
EVEN				Sgmax		08 58 48.8	
	1μm,0.4s						
KRSR	**Krestovskiy**	**3.15**	**190**	*eP*	**Pg**	**08 58 16.6**	**+0.6**
KRSR				*i* S	**Sg**	**08 58 59.0**	**+2.1**
BZWR	**Bezymyannyi-We**	**3.41**	**190**	*eP*	**Pg**	**08 58 20.9**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**3.42**	**188**	*eP*	**Pg**	**08 58 19.7**	**-1.4**
ESO	**Esso**	**3.73**	**205**	*eP*	**Pb**	**08 58 21.1**	**-0.5**
OMS	**Omsukchan**	**4.26**	**321**	*e*	**Pn**	**08 58 20.8**	**+0.2**
OMS				*ePg*	**Pb**	**08 58 33.4**	**+2.8**
OMS				*eSg*	**Sg**	**08 59 29.7**	**-2.7**
OMS				Sgmax		08 59 37.3	
	230nm,0.8s						
TLAR	**Talaya**	**4.90**	**296**	*eP*	Pn	08 58 33.4	+4.0
TLAR				Pmax		08 58 34.5	
	10.0nm,0.4s						
TLAR				*eS*	**Sn**	**08 59 27.0**	**+0.9**
TLAR				*eSg*	**Sg**	**08 59 50.5**	**-2.4**
TLAR				Sgmax		09 00 03.0	
	200nm,0.4s						
MGD	**Magadan 1**	**5.52**	**282**	*eP*	Pn	08 58 41.3	+3.5
MGD				Pmax		08 58 42.2	
	50nm,0.3s						
MGD				*eS*	**Sn**	**08 59 41.0**	**-0.3**
MGD				*eSg*	**Sg**	**09 00 10.7**	**-2.1**
MGD				Sgmax		09 00 24.9	
	150nm,0.6s						
SEY	**Seymchan**	**5.72**	**313**	*eP*	Pn	08 58 44.5	+3.9
SEY				*eS*	Sn	08 59 40.4	-5.8
SEY				*eSg*	**Sg**	**09 00 17.4**	**-1.8**
SEY				Sgmax		09 00 18.4	
	100nm,0.8s						
OCHR	**Omchak**	**7.15**	**295**	*iP*	Pb	08 59 16.4	-3.3
OCHR				Pmax		08 59 17.2	
	30nm,0.4s						
OCHR				Pmax		08 59 17.2	
	40nm,0.4s						
OCHR				*e*		09 00 32.8	
OCHR				*eS*	Sg	09 01 16.7	+12
SUUS	**Susuman**	**7.35**	**304**	*eP*	Pn	08 59 07.1	+4.1
SUUS				Pmax		08 59 07.2	
	30nm,0.4s						
SUUS				*eS*	**Sn**	**09 00 25.5**	**-0.9**
SUUS				*eSg*	**Sg**	**09 01 09.4**	**-1.9**
SUUS				Sgmax		09 01 23.2	
	20nm,0.6s						
ILAR	**Eielson Array**	**24.18**	**55**	P	P	09 02 40.6	+8.8
	0.6nm,0.8s,baz=277,slow=8.3,SNR=6.7						
KSRS	**Korea Array**	**30.71**	**240**	LR	LR	09 16 36.4	
	comp=Z,23nm,18.2s,baz=95,slow=40						
SONM	**Songino Array**	**33.71**	**275**	P	P	09 03 52.6	-4.2
	0.1nm,0.4s,baz=52,slow=9.5,SNR=2.0						
YKA	**Yellowknife Ar**	**38.20**	**48**	P	P	09 04 43.1	+8.2
	0.1nm,0.7s,baz=305,slow=7.6,SNR=3.6						
TXAR	**Lajitas Array**	**67.61**	**70**	P	**P**	**09 08 10.0**	**-2.4**
	0.2nm,0.6s,baz=326,slow=6.0,SNR=3.7						

ISK ***17*** *09:14:02.0,39.°16N×29.°07E,h4km,MD2.5*
DDA ***17*** *09:14:03.1,39.°14N×29.°07E,h7km,MD2.9*
CSEM ***17*** *09:14:03.0±0.2,39.°14N×29.°05E,h8km,MD2.9, Error ellipse: s-maj=4.3km s-min=4.2km az=97.0*

ISC 17 09:14:03.3±1.1, 39°15N±0.03×29°06E±0.03, h11km±11km, n16, σ0s57/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.29**	**249**	*eP*	**Pg**	**09 14 09.4**	**+0.2**
DEMI				*i* S	**Sg**	**09 14 13.3**	**+0.1**
DEMI	**Demirci**	**0.29**	**249**	*eP*	**Pg**	**09 14 09.4**	**+0.2**
DEMI				*i* S	**Sg**	**09 14 13.3**	**+0.1**
DST	**Dursunbey**	**0.57**	**323**	*ePG*	**Pg**	**09 14 13.2**	**-1.2**
DST				*eSG*	**Sg**	**09 14 22.5**	**+0.5**
DST	**Dursunbey**	**0.57**	**323**	*ePg*	**Pg**	**09 14 13.2**	**-1.2**
DST				*eSg*	**Sg**	**09 14 22.5**	**+0.5**
KHL	**Karahalli**	**0.90**	**156**	*ePG*	**Pg**	**09 14 20.0**	**-0.6**
KHL	**Karahalli**	**0.90**	**156**	*ePg*	**Pg**	**09 14 20.0**	**-0.6**
ORLT	**Orhaneli**	**0.91**	**352**	*ePG*	**Pg**	**09 14 20.3**	**-0.5**
ORLT				*eSG*	**Sg**	**09 14 32.7**	**+0.1**
ORLT	**Orhaneli**	**0.91**	**352**	*ePg*	**Pg**	**09 14 20.3**	**-0.5**
ORLT				*eSg*	**Sg**	**09 14 32.7**	**+0.1**
AKS	**Akhisar**	**1.01**	**255**	*ePG*	**Pg**	**09 14 22.0**	**-0.8**
AKS	**Akhisar**	**1.01**	**255**	*ePg*	**Pg**	**09 14 22.0**	**-0.8**
BALY	**Balya**	**1.27**	**298**	*eP*	**Pg**	**09 14 27.8**	**+0.2**
BALY				*eS*	**Sb**	**09 14 43.2**	**-0.2**
BALY	**Balya**	**1.27**	**298**	*eP*	**Pg**	**09 14 27.8**	**+0.2**
BALY				*eS*	**Sb**	**09 14 43.2**	**-0.2**
BORA	**Eskisehir**	**1.30**	**55**	*i* P	**Pg**	**09 14 28.0**	**-0.3**
BORA				*i* S	**Sg**	**09 14 45.6**	**+0.5**
BORA	**Eskisehir**	**1.30**	**55**	*i* P	**Pg**	**09 14 28.0**	**-0.3**
BORA				*i* S	**Sg**	**09 14 45.6**	**+0.5**
YLV	**Yalova**	**1.44**	**9**	*ePN*	**Pn**	**09 14 29.7**	**+0.4**
YLV	**Yalova**	**1.44**	**9**	*ePn*	**Pn**	**09 14 29.7**	**+0.4**

ISK ***17*** *09:17:40.7,39.°12N×29.°07E,h5km,MD2.8*
ISCJB ***17*** *09:17:41.3±0.5,39.°10N±0.02×29.°05E±0.03,h8km±4km, Error ellipse: s-maj=4.2km s-min=3.6km az=33.8*
DDA ***17*** *09:17:41.1,39.°12N×29.°04E,h8km,MD2.6*
CSEM ***17*** *09:17:41.5±0.1,39.°11N×29.°05E,h5km,MD2.6, Error ellipse: s-maj=2.5km s-min=2.2km az=46.0*

ISC 17 09:17:41.7±0.9, 39°11N±0.02×29°04E±0.02, h13km±7km, n28, σ0s68/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**256**	*i* P	**Pg**	**09 17 47.5**	**+0.2**
DEMI				*i* S	**Sg**	**09 17 51.1**	**0.0**
DEMI	**Demirci**	**0.26**	**256**	*i* P	**Pg**	**09 17 47.5**	**+0.2**
DEMI				*i* S	**Sg**	**09 17 51.1**	**0.0**
GDZ	**Gediz**	**0.34**	**93**	*i* P	**Pg**	**09 17 48.8**	**+0.1**
GDZ				*i* S	**Sg**	**09 17 53.3**	**-0.1**
GDZ	**Gediz**	**0.34**	**93**	*i* P	**Pg**	**09 17 48.8**	**+0.1**
GDZ				*i* S	**Sg**	**09 17 53.3**	**-0.1**
DST	**Dursunbey**	**0.60**	**327**	*ePG*	**Pg**	**09 17 52.9**	**-0.5**
DST				*eSG*	**Sg**	**09 18 01.2**	**-0.1**
DST	**Dursunbey**	**0.60**	**327**	*ePg*	**Pg**	**09 17 52.9**	**-0.5**
DST				*eSg*	**Sg**	**09 18 01.2**	**-0.1**
DURS	**Dursunbey**	**0.66**	**318**	*i* P	**Pg**	**09 17 54.4**	**-0.3**
DURS				*i* S	**Sg**	**09 18 03.8**	**+0.3**
DURS	**Dursunbey**	**0.66**	**318**	*i* P	**Pg**	**09 17 54.4**	**-0.3**
DURS				*i* S	**Sg**	**09 18 03.8**	**+0.3**
KHAL	**Karahalli**	**0.81**	**154**	*i* P	**Pb**	**09 17 57.8**	**0.0**
KHAL				*i* S	**Sg**	**09 18 06.6**	**-1.6**
KHAL	**Karahalli**	**0.81**	**154**	*i* P	**Pb**	**09 17 57.8**	**0.0**
KHAL				*i* S	**Sg**	**09 18 06.6**	**-1.6**
KHL	**Karahalli**	**0.87**	**154**	*ePG*	**Pg**	**09 17 57.9**	**-0.6**
KHL				*eSG*	**Sg**	**09 18 10.2**	**+0.3**
KHL	**Karahalli**	**0.87**	**154**	*ePg*	**Pg**	**09 17 57.9**	**-0.6**
KHL				*eSg*	**Sg**	**09 18 10.2**	**+0.3**
ORLT	**Orhaneli**	**0.94**	**353**	*ePG*	**Pg**	**09 17 58.6**	**-1.4**
ORLT				*eSG*	**Sb**	**09 18 12.6**	**+0.2**
ORLT	**Orhaneli**	**0.94**	**353**	*ePg*	**Pg**	**09 17 58.6**	**-1.4**
ORLT				*eSg*	**Sb**	**09 18 12.6**	**+0.2**
AKHS	**Akhisar**	**0.98**	**257**	*i* P	**Pg**	**09 18 00.1**	**-0.6**
AKHS				*i* S	**Sg**	**09 18 12.0**	**-1.6**
AKHS	**Akhisar**	**0.98**	**257**	*i* P	**Pg**	**09 18 00.1**	**-0.6**
AKHS				*i* S	**Sg**	**09 18 12.0**	**-1.6**
AKS	**Akhisar**	**0.99**	**257**	*ePG*	**Pg**	**09 18 00.4**	**-0.3**
AKS				*eSG*	**Sn**	**09 18 15.0**	**0.0**
AKS	**Akhisar**	**0.99**	**257**	*ePg*	**Pg**	**09 18 00.4**	**-0.3**
AKS				*eSg*	**Sn**	**09 18 15.0**	**0.0**
ULDT	**Uludag**	**1.04**	**4**	*i* P	**Pb**	**09 18 01.7**	**+0.1**
ULDT				*i* S	**Sg**	**09 18 14.1**	**-1.2**
ULDT	**Uludag**	**1.04**	**4**	*i* P	**Pb**	**09 18 01.7**	**+0.1**
ULDT				*i* S	**Sg**	**09 18 14.1**	**-1.2**
BALY	**Balya**	**1.27**	**300**	*i* P	**Pg**	**09 18 06.4**	**+0.2**
BALY				*i* S	**Sb**	**09 18 22.2**	**+0.4**
BALY	**Balya**	**1.27**	**300**	*i* P	**Pg**	**09 18 06.4**	**+0.2**
BALY				*i* S	**Sb**	**09 18 22.2**	**+0.4**
BORA	**Eskisehir**	**1.34**	**54**	*i* P	**Pb**	**09 18 06.9**	**+0.2**
BORA				*i* S	**Sb**	**09 18 24.0**	**+0.3**
BORA	**Eskisehir**	**1.34**	**54**	*i* P	**Pb**	**09 18 06.9**	**+0.2**
BORA				*i* S	**Sb**	**09 18 24.0**	**+0.3**
YLV	**Yalova**	**1.48**	**10**	*ePN*	**Pn**	**09 18 08.7**	**+0.6**
YLV	**Yalova**	**1.48**	**10**	*ePn*	**Pn**	**09 18 08.7**	**+0.6**
GPA	**Golpazari**	**1.53**	**39**	*ePN*	**Pn**	**09 18 09.5**	**+0.7**
GPA	**Golpazari**	**1.53**	**39**	*ePn*	**Pn**	**09 18 09.5**	**+0.7**

IDC 17 09:19:18.0±2.5, 3°42N×126°88E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/19, mbtmp3.2/3, Error ellipse: s-maj=200.1km s-min=29.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.34**	**163**	P	P	09 24 38.1	+0.3
	0.6nm,0.5s,baz=343,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**27.78**	**166**	P	P	09 25 08.7	-0.2
	0.3nm,1.0s,baz=344,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**57.90**	**325**	P	P	09 29 11.8	-0.2
	0.3nm,0.8s,baz=106,slow=7.4,SNR=2.2						

IDC 17 09:26:40.2±2.0, 1°06S×128°25E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.6/1, MS4.2/1, Ms1 4.2/1, ms1mx2.7/14, Error ellipse: s-maj=129.3km s-min=26.9km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.69**	**163**	P	Pn	09 31 12.7	0.0
	0.2nm,0.3s,baz=343,slow=12,SNR=35						
PMG	**Port Moresby**	**20.56**	**114**	LR	LR	09 39 16.9	
	comp=Z,715nm,19.5s,baz=12,slow=37						
ASAR	**Alice Springs**	**23.13**	**167**	P	P	09 31 47.2	-1.0
	0.5nm,0.7s,baz=346,slow=10,SNR=9.2						
MKAR	**Makanchi Array**	**62.34**	**326**	P	P	09 37 04.7	0.0
	0.2nm,0.3s,baz=138,slow=7.3,SNR=4.5						

ISCJB ***17*** *09:37:55.8±0.4,39.°13N±0.02×29.°06E±0.02,h8km±3km, Error ellipse: s-maj=3.2km s-min=2.9km az=32.9*
ISK ***17*** *09:37:55.4,39.°13N×29.°06E,h5km,MD2.9*
DDA ***17*** *09:37:55.2,39.°13N×29.°06E,h18km,MD3.7,ML3.9*
CSEM ***17*** *09:37:56.2±0.1,39.°12N×29.°06E,h10km,ML3.9, Error ellipse: s-maj=1.7km s-min=1.5km az=62.0*

ISC 17 09:37:56.1±0.9, 39°13N±0.02×29°07E±0.02, h12km±7km, n77, σ0s57/111, 2C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.29**	**252**	*i* P	**Pg**	**09 38 02.1**	**0.0**
DEMI				*i* S	**Sg**	**09 38 05.8**	**-0.3**
DEMI	**Demirci**	**0.29**	**252**	*i* P	**Pg**	**09 38 02.1**	**0.0**
DEMI				*i* S	**Sg**	**09 38 05.8**	**-0.3**
GDZ	**Gediz**	**0.33**	**98**	*i* P	**Pg**	**09 38 02.7**	**-0.1**
GDZ				*i* S	**Sg**	**09 38 07.4**	**+0.1**
GDZ	**Gediz**	**0.33**	**98**	*i* P	**Pg**	**09 38 02.7**	**-0.1**
GDZ				*i* S	**Sg**	**09 38 07.4**	**+0.1**
DST	**Dursunbey**	**0.58**	**324**	*ePG*	**Pb**	**09 38 08.1**	**-0.2**
DST				*eSG*	**Sg**	**09 38 15.4**	**+0.1**
DST	**Dursunbey**	**0.58**	**324**	*ePg*	**Pb**	**09 38 08.1**	**-0.2**
DST				*eSg*	**Sg**	**09 38 15.4**	**+0.1**
DURS	**Dursunbey**	**0.66**	**316**	*i* P	**Pg**	**09 38 09.1**	**+0.2**
DURS	**Dursunbey**	**0.66**	**316**	*i* P	**Pg**	**09 38 09.1**	**+0.2**
MANT	**Manisa**	**0.76**	**212**	*i* P	**Pg**	**09 38 10.4**	**-0.4**
MANT				*i* S	**Sg**	**09 38 19.9**	**-0.8**
MANT	**Manisa**	**0.76**	**212**	*i* P	**Pg**	**09 38 10.4**	**-0.4**
MANT				*i* S	**Sg**	**09 38 19.9**	**-0.8**
KHAL	**Karahalli**	**0.83**	**156**	*i* P	**Pg**	**09 38 12.1**	**-0.1**
KHAL				*i* S	**Sg**	**09 38 22.6**	**-0.5**
KHAL	**Karahalli**	**0.83**	**156**	*i* P	**Pg**	**09 38 12.1**	**-0.1**
KHAL				*i* S	**Sg**	**09 38 22.6**	**-0.5**
KHL	**Karahalli**	**0.88**	**156**	*ePG*	**Pg**	**09 38 13.1**	**-0.1**
KHL				*eSG*	**Sg**	**09 38 24.6**	**-0.1**
KHL	**Karahalli**	**0.88**	**156**	*ePg*	**Pg**	**09 38 13.1**	**-0.1**
KHL				*eSg*	**Sg**	**09 38 24.6**	**-0.1**
AKHS	**Akhisar**	**1.01**	**256**	*i* P	**Pg**	**09 38 15.7**	**+0.1**
AKHS				*i* S	**Sg**	**09 38 28.9**	**+0.2**
AKHS	**Akhisar**	**1.01**	**256**	*i* P	**Pg**	**09 38 15.7**	**+0.1**
AKHS				*i* S	**Sg**	**09 38 28.9**	**+0.2**
AKS	**Akhisar**	**1.01**	**256**	*ePG*	**Pb**	**09 38 15.4**	**-0.1**
AKS				*eSG*	**Sg**	**09 38 29.1**	**+0.3**
AKS	**Akhisar**	**1.01**	**256**	*ePg*	**Pb**	**09 38 15.4**	**-0.1**
AKS				*eSg*	**Sg**	**09 38 29.1**	**+0.3**
ULDT	**Uludag**	**1.01**	**3**	*i* P	**Pb**	**09 38 15.6**	**0.0**
ULDT				*i* S	**Sb**	**09 38 28.9**	**0.0**
ULDT	**Uludag**	**1.01**	**3**	*i* P	**Pb**	**09 38 15.6**	**0.0**
ULDT				*i* S	**Sb**	**09 38 28.9**	**0.0**
CAVI	**Cavuskoy**	**1.22**	**29**	*ePN*	**Pn**	**09 38 19.1**	**0.0**
CAVI	**Cavuskoy**	**1.22**	**29**	*ePn*	**Pn**	**09 38 19.1**	**0.0**
MDNY	**Mudanya-Bursa**	**1.24**	**354**	*ePN*	**Pb**	**09 38 19.6**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.24**	**354**	*ePn*	**Pb**	**09 38 19.6**	**+0.1**
KCTX	**Karacabey (Bur**	**1.26**	**334**	*ePN*	**Pn**	**09 38 19.4**	**-0.1**
KCTX	**Karacabey (Bur**	**1.26**	**334**	*ePn*	**Pn**	**09 38 19.4**	**-0.1**
BALY	**Balya**	**1.27**	**299**	*i* P	**Pn**	**09 38 19.6**	**-0.1**
BALY				*i* S	**Sb**	**09 38 36.1**	**-0.3**
BALY	**Balya**	**1.27**	**299**	*i* P	**Pn**	**09 38 19.6**	**-0.1**
BALY				*i* S	**Sb**	**09 38 36.1**	**-0.3**
SHUT	**Suhut-Afyon**	**1.29**	**116**	*ePN*	**Pb**	**09 38 20.8**	**+0.3**
SHUT	**Suhut-Afyon**	**1.29**	**116**	*ePn*	**Pb**	**09 38 20.8**	**+0.3**
BORA	**Eskisehir**	**1.31**	**55**	*i* P	**Pb**	**09 38 20.6**	**0.0**
BORA				*i* S	**Sg**	**09 38 38.3**	**0.0**
BORA	**Eskisehir**	**1.31**	**55**	*i* P	**Pb**	**09 38 20.6**	**0.0**
BORA				*i* S	**Sg**	**09 38 38.3**	**0.0**
ADVT	**Abdulvahap**	**1.40**	**21**	*ePN*	**Pg**	**09 38 22.8**	**-0.2**
ADVT	**Abdulvahap**	**1.40**	**21**	*ePn*	**Pg**	**09 38 22.8**	**-0.2**
GONE	**Gonen-Balikesi**	**1.41**	**311**	*ePN*	**Pb**	**09 38 22.6**	**+0.3**
GONE	**Gonen-Balikesi**	**1.41**	**311**	*ePn*	**Pb**	**09 38 22.6**	**+0.3**
ESKT	**Eskisehir**	**1.44**	**74**	*ePN*	**Pg**	**09 38 23.5**	**-0.2**
ESKT	**Eskisehir**	**1.44**	**74**	*ePn*	**Pg**	**09 38 23.5**	**-0.2**
SEYT	**Eskypehyr**	**1.44**	**74**	*i* P	**Pn**	**09 38 22.1**	**+0.1**
SEYT				*i* S	**Sb**	**09 38 41.7**	**+0.6**
SEYT	**Eskypehyr**	**1.44**	**74**	*i* P	**Pn**	**09 38 22.1**	**+0.1**
SEYT				*i* S	**Sb**	**09 38 41.7**	**+0.6**
ARMT	**Armutlu**	**1.44**	**354**	*ePN*	**Pb**	**09 38 22.9**	**+0.1**
ARMT	**Armutlu**	**1.44**	**354**	*ePn*	**Pb**	**09 38 23.0**	**+0.1**
DNZL	**Cakiroluk**	**1.44**	**181**	*i* P	**Pb**	**09 38 23.1**	**+0.1**
DNZL				*i* S	**Sn**	**09 38 40.2**	**-0.9**
DNZL	**Cakiroluk**	**1.44**	**181**	*i* P	**Pb**	**09 38 23.1**	**+0.1**
DNZL				*i* S	**Sn**	**09 38 40.2**	**-0.9**
GPA	**Golpazari**	**1.50**	**39**	*ePN*	**Pb**	**09 38 23.7**	**-0.2**
GPA	**Golpazari**	**1.50**	**39**	*ePn*	**Pb**	**09 38 23.7**	**-0.2**
BNT	**Bandirma**	**1.51**	**324**	*ePN*	**Pn**	**09 38 23.6**	**+0.7**
BNT	**Bandirma**	**1.51**	**324**	*ePn*	**Pn**	**09 38 23.6**	**+0.7**
BOLV	**Bolvadin**	**1.53**	**105**	*i* P	**Pn**	**09 38 23.6**	**+0.3**
BOLV				*i* S	**Sn**	**09 38 43.2**	**+0.1**
BOLV	**Bolvadin**	**1.53**	**105**	*i* P	**Pn**	**09 38 23.6**	**+0.3**
BOLV				*i* S	**Sn**	**09 38 43.2**	**+0.1**
GULT	**Gulveren**	**1.71**	**40**	*ePN*	**Pn**	**09 38 26.4**	**+0.6**
GULT	**Gulveren**	**1.71**	**40**	*ePn*	**Pn**	**09 38 26.4**	**+0.6**
BUY	**Buyukada**	**1.72**	**1**	*i* P	**Pn**	**09 38 25.6**	**-0.2**
BUY				*i* S	**Sn**	**09 38 47.3**	**-0.3**
BUY	**Buyukada**	**1.72**	**1**	*i* P	**Pn**	**09 38 25.6**	**-0.2**
BUY				*i* S	**Sn**	**09 38 47.3**	**-0.3**
AYDN	**Tasoluk**	**1.74**	**213**	*eP*	**Pn**	**09 38 26.4**	**+0.2**
AYDN				*i* S	**Sg**	**09 38 52.5**	**+0.3**
AYDN	**Tasoluk**	**1.74**	**213**	*eP*	**Pn**	**09 38 26.4**	**+0.2**
BLCB	**Balcova**	**1.75**	**245**	*ePN*	**Pn**	**09 38 27.0**	**+0.8**
BLCB	**Balcova**	**1.75**	**245**	*ePn*	**Pn**	**09 38 27.0**	**+0.8**
AYVA	**Ayvalik**	**1.85**	**276**	*eP*	**Pg**	**09 38 32.1**	**+0.4**
AYVA				*eS*	**Sg**	**09 38 54.6**	**-1.2**
GOLH	**Golhisar**	**1.93**	**168**	*i* P	**Pn**	**09 38 29.3**	**+0.5**
GOLH				*eS*	**Sg**	**09 38 58.8**	**+0.5**
GOLH	**Golhisar**	**1.93**	**168**	*i* P	**Pn**	**09 38 29.3**	**+0.5**
ELBA	**Catalca**	**2.07**	**347**	*i* P	**Pn**	**09 38 30.7**	**0.0**
ELBA				*i* S	**Sn**	**09 38 52.5**	**-3.8**
ELBA	**Catalca**	**2.07**	**347**	*i* P	**Pn**	**09 38 30.7**	**0.0**
SART	**Tekirdag**	**2.13**	**318**	*eP*	**Pn**	**09 38 32.0**	**+0.5**
SART				*eS*	**Sn**	**09 38 58.9**	**+1.1**
SART	**Tekirdag**	**2.13**	**318**	*eP*	**Pn**	**09 38 32.0**	**+0.5**
SART				*eS*	**Sn**	**09 38 58.9**	**+1.1**
CFR	**Carcaliu**	**6.08**	**354**	*iP*	**Pn**	**09 39 25.8**	**+0.1**
CFR	**Carcaliu**	**6.08**	**354**	*iP*	**Pn**	**09 39 25.8**	**+0.1**
MLR	**Muntele Rosu**	**6.76**	**341**	*iP*	**Pn**	**09 39 35.2**	**0.0**
MLR	**Muntele Rosu**	**6.76**	**341**	*iP*	**Pn**	**09 39 35.2**	**0.0**
VRI	**Vrincioaia**	**6.95**	**346**	*iP*	**Pn**	**09 39 39.0**	**+1.3**
VRI	**Vrincioaia**	**6.95**	**346**	*iP*	**Pn**	**09 39 39.0**	**+1.3**
VOIR		**6.97**	**336**	*iP*	**Pn**	**09 39 39.1**	**+1.1**
VOIR		**6.97**	**336**	*iP*	**Pn**	**09 39 39.1**	**+1.1**
GZR	**Gura Zlata**	**7.80**	**325**	*iP*	**Pn**	**09 39 49.4**	**0.0**
GZR	**Gura Zlata**	**7.80**	**325**	*iP*	**Pn**	**09 39 49.4**	**0.0**
BHD	**Baghdad**	**13.67**	**111**	*ex*	P	09 41 09.7	-8.8
BHD				*ex*	S	09 43 38.7	-26
BHD	**Baghdad**	**13.67**	**111**	*eP*	P	09 41 09.7	-8.8

ISCJB ***17*** *09:44:44.8±0.4,5.°68S±0.°04×145.°70E±0.°07,h86km, mb4.0/12, Error ellipse: s-maj=9.8km s-min=6.0km az=173.0*
DJA ***17*** *09:44:47,5.°48S×145.°96E,h109km,mb4.8/8*
IDC ***17*** *09:44:47.8±2.1,5.°80S×145.°66E,h100km±20km,mb3.9/12, mb1 4.1/14,mb1mx4.1/18,mbtmp4.0/14,MS3.4/2, Ms1 3.4/2,ms1mx3.0/17, Error ellipse: s-maj=18.0km s-min=11.4km az=97.0*
NEIC ***17*** *09:44:48.1±1.5,5.°66S×145.°70E,h103km±14km,mb4.6/3, Error ellipse: s-maj=12.7km s-min=11.0km az=151.0*

ISC 17 09:44:46.4±0.5, 5.°71S±0.°06×145.°63E±0.°08, h86km, n53, σ1s17/60, mb4.0/11, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.97**	**158**	*eP*	**Pn**	**09 45 46.8**	**+1.8**
PMG				*eSn*	**Sn**	**09 46 29.2**	**-1.3**
PMG				S	**Sn**	**09 46 30.0**	**-0.5**
PMG	**Port Moresby**	**3.97**	**158**	P	**Pn**	**09 45 46.6**	**+1.6**
PMG	**Port Moresby**	**3.97**	**158**	P	**Pn**	**09 45 46.2**	**+1.2**
	107nm,0.3s,baz=342,slow=6.3,SNR=215						
PMG				S	**Sn**	**09 46 30.0**	**-0.5**
	125nm,0.3s,baz=307,slow=20,SNR=22						
COEN	**Coen**	**8.54**	**196**	*ePn*	Pn	09 46 50.9	+3.5
	2μm,1.0s						
COEN				*eSn*	**Sn**	**09 48 22.5**	**+0.3**
CTA	**Charters Tower**	**14.30**	**178**	P	**P**	**09 48 08.2**	**-1.3**
CTA	**Charters Tower**	**14.30**	**178**	*eP*	**P**	**09 48 11.8**	**+2.3**
	3.5nm,0.3s						
CTA	**Charters Tower**	**14.30**	**178**	P	**P**	**09 48 08.2**	**-1.3**
	0.2nm,0.3s,baz=8.7,slow=13,SNR=2.7						
HNR	**Honiara**	**14.66**	**105**	*ePn*	**Pn**	**09 48 09.5**	**-0.1**
	187nm,0.9s						
SWI	**Sorong**	**15.13**	**288**	P	**P**	**09 48 18.4**	**-0.3**
	93nm,0.8s						
WRAB	**Tennant Creek**	**17.89**	**217**	*eP*	**Pn**	**09 48 50.0**	**+0.2**
	19nm,0.9s						
WRA	**Warramunga Arr**	**17.91**	**217**	P	**P**	**09 48 49.6**	**+0.2**
WRA	**Warramunga Arr**	**17.91**	**217**	P	**P**	**09 48 49.6**	**+0.2**
	1.4nm,0.3s,baz=36,slow=12,SNR=65						
EIDS	**Eidsvold**	**20.23**	**166**	*eP*	**P**	**09 49 15.9**	**+1.2**
	54nm,0.6s						
AS31	**Alice Springs**	**21.12**	**211**	*eP*	**P**	**09 49 25.3**	**+1.0**
AS31				*eS*	**S**	**09 53 14.7**	**0.0**
ASAR	**Alice Springs**	**21.12**	**211**	P	**P**	**09 49 24.9**	**+0.5**
ASAR				S	**S**	**09 53 11.7**	**-3.0**
ASAR	**Alice Springs**	**21.12**	**211**	P	**P**	**09 49 24.9**	**+0.5**
	5.5nm,0.8s,baz=46,slow=6.9,SNR=32						
ASAR				S	**S**	**09 53 11.7**	**-3.0**
	2.1nm,1.0s,baz=32,slow=22,SNR=5.9						
FITZ	**Fitzroy Crossi**	**23.08**	**236**	*eP*	**P**	**09 49 44.6**	**-0.4**
	21nm,0.9s						
FITZ	**Fitzroy Crossi**	**23.08**	**236**	*eP*	**P**	**09 49 43.2**	**-1.7**

comp=E,511nm,0.5s
PLCA **Paso Flores** **2.41** **33** Pn **Pb** **10 04 48.0 -0.7**
comp=E,15nm,0.3s,baz=217,slow=12,SNR=200
PLCA Pg **Pg** **10 04 50.9 -0.5**
comp=E,16nm,0.3s,baz=220,slow=17,SNR=212
PLCA Lg Lg 10 05 25.7
comp=E,16nm,0.3s,baz=301,slow=22,SNR=8.5
COYC **Coyhaique** **2.81** **177** AML AML 10 02 26.6
comp=N,243nm,7.3s
CPUP **Villa Florida** **20.45** **42** P Pn 10 08 46.5 +1.5
comp=N,0.4nm,0.3s,baz=187,slow=8.5,SNR=4.6
SIV **San Ignacio** **28.36** **23** P **P** **10 10 00.0 +0.5**
comp=N,1.2nm,0.7s,baz=247,slow=7.1,SNR=5.2
QSPA **South Pole Qui** **47.48** **180** P **P** **10 12 40.3 +0.2**
comp=N,3.9nm,1.1s,baz=125,slow=11,SNR=5.3
TXAR **Lajitas Array** **77.34** **332** P P 10 16 01.6 +1.6
comp=N,0.5nm,0.8s,baz=152,slow=8.6,SNR=6.4
PDAR **Pinedale Array** **91.50** **334** P **P** **10 17 11.7 0.0**
comp=N,0.6nm,0.9s,baz=119,slow=5.2,SNR=4.9
ILAR **Eielson Array** **121.83** **331** PKP **PKPdf** **10 22 57.9 -0.5**
comp=N,0.4nm,0.9s,baz=213,slow=2.0,SNR=4.9
ZALV **Zalesovo Beam** **161.21** **46** PKPab **PKPab** **10 24 49.5 +0.7**
comp=N,0.2nm,0.3s,baz=277,slow=6.8,SNR=2.4
MKAR **Makanchi Array** **161.54** **69** PKPab **PKPab** **10 24 50.6 0.0**
comp=N,0.7nm,0.9s,baz=251,slow=3.7,SNR=5.1
SONM **Songino Array** **174.85** **10** PKPab **PKPab** **10 25 49.4 +0.2**
comp=N,0.2nm,0.3s,baz=336,slow=6.3,SNR=3.1

IDC 17 10:05:08.1±2.1, **4.17N**×**127.27E**, **h0**km, **mb3.5/4, mb1 3.7/4, mb1mx3.4**/19, **mbtmp3.5**/4, **Error ellipse: s-maj=153.2km s-min=26.9km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**24.95**	**164**	P		P	10 10 33.0	-0.3
	1.4nm,0.7s,baz=344,slow=10,SNR=9.9							
ASAR	**Alice Springs**	**28.41**	**167**	P		P	10 11 04.3	-0.3
	0.2nm,0.7s,baz=342,slow=9.3,SNR=2.4							
STKA	**Stephens Creek**	**38.35**	**160**	P		P	10 12 31.4	+0.5
	1.2nm,0.6s,baz=327,slow=8.7,SNR=3.6							
MKAR	**Makanchi Array**	**57.51**	**325**	P		P	10 14 59.2	0.0
	0.2nm,0.5s,baz=126,slow=8.3,SNR=3.7							

DDA ***17*** *10:10:46.9, 39.14N×29.06E, h7km, MD3.3*
ISCJB ***17*** *10:10:47.1±0.4, 39.12N±0.02×29.07E±0.02, h5km±4km, Error ellipse: s-maj=3.7km s-min=3.2km az=12.8*
ISK ***17*** *10:10:47.0, 39.14N×29.09E, h8km, MD2.6*
CSEM ***17*** *10:10:47.6±0.1, 39.12N×29.07E, h10km, MD3.3, Error ellipse: s-maj=1.3km s-min=1.2km az=22.0*
ISC 17 10:10:47.4±0.9, **39.13N**±0.02×**29.07E**±0.02, **h13**km±8km, **n56**, σ**0**°**40**/**80**, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DEMI	**Demirci**	**0.29**	**252**	*i* P		**Pg**	**10 10 53.7**	**+0.3**
DEMI				*i* S		**Sg**	**10 10 57.6**	**+0.1**
DEMI	**Demirci**	**0.29**	**252**	*i* P		**Pg**	**10 10 53.7**	**+0.3**
DEMI				*i* S		**Sg**	**10 10 57.6**	**+0.1**
TVSB	**Tavsanli**	**0.44**	**44**	*e*PG		**Pg**	**10 10 56.2**	**0.0**
TVSB				*e*SG		**Sg**	**10 11 01.8**	**-0.4**
TVSB	**Tavsanli**	**0.44**	**44**	*e*Pg		**Pg**	**10 10 56.3**	**0.0**
TVSB				*e*Sg		**Sg**	**10 11 01.8**	**-0.4**
DST	**Dursunbey**	**0.58**	**324**	*e*PG		**Pb**	**10 10 59.6**	**+0.1**
DST				*e*SG		**Sb**	**10 11 07.0**	**-0.8**
DST	**Dursunbey**	**0.58**	**324**	*e*Pg		**Pb**	**10 10 59.6**	**+0.1**
DST				*e*Sg		**Sb**	**10 11 07.0**	**-0.8**
DURS	**Dursunbey**	**0.65**	**316**	*i* P		**Pb**	**10 11 00.7**	**-0.1**
DURS				*i* S		**Sg**	**10 11 08.8**	**-0.1**
DURS	**Dursunbey**	**0.65**	**316**	*i* P		**Pb**	**10 11 00.7**	**-0.1**
DURS				*i* S		**Sg**	**10 11 08.8**	**-0.1**
KULA	**Kula-Manisa**	**0.69**	**207**	*e*PG		**Pg**	**10 11 00.6**	**-0.4**
KULA	**Kula-Manisa**	**0.69**	**207**	*e*Pg		**Pg**	**10 11 00.6**	**-0.4**
MANT	**Manisa**	**0.75**	**212**	*i* P		**Pg**	**10 11 02.0**	**-0.1**
MANT				*i* S		**Sg**	**10 11 11.3**	**-0.7**
MANT	**Manisa**	**0.75**	**212**	*i* P		**Pg**	**10 11 02.0**	**-0.1**
MANT				*i* S		**Sg**	**10 11 11.3**	**-0.7**
ALT	**Altintas**	**0.82**	**95**	*e*PG		**Pb**	**10 11 03.5**	**-0.1**
ALT				*e*SG		**Sg**	**10 11 14.1**	**+0.1**
ALT	**Altintas**	**0.82**	**95**	*e*Pg		**Pg**	**10 11 03.5**	**-0.1**
ALT				*e*Sg		**Sg**	**10 11 14.1**	**+0.1**
KHAL	**Karahalli**	**0.83**	**156**	*i* P		**Pg**	**10 11 03.7**	**+0.1**
KHAL				*i* S		**Sg**	**10 11 14.3**	**-0.2**
KHAL	**Karahalli**	**0.83**	**156**	*i* P		**Pg**	**10 11 03.7**	**+0.1**
KHAL				*i* S		**Sg**	**10 11 14.3**	**-0.2**
KHL	**Karahalli**	**0.89**	**156**	*e*PG		**Pg**	**10 11 04.2**	**-0.4**
KHL	**Karahalli**	**0.89**	**156**	*e*Pg		**Pg**	**10 11 04.2**	**-0.4**
ORLT	**Orhaneli**	**0.92**	**352**	*e*PG		**Pb**	**10 11 05.5**	**+0.2**
ORLT	**Orhaneli**	**0.92**	**352**	*e*Pg		**Pb**	**10 11 05.5**	**+0.2**
AKHS	**Akhisar**	**1.01**	**256**	*i* P		**Pn**	**10 11 07.2**	**-0.1**
AKHS				*i* S		**Sb**	**10 11 20.8**	**+0.9**
AKHS	**Akhisar**	**1.01**	**256**	*i* P		**Pn**	**10 11 07.2**	**-0.1**
AKHS				*i* S		**Sb**	**10 11 20.8**	**+0.9**
AKS	**Akhisar**	**1.01**	**256**	*e*PG		**Pn**	**10 11 07.4**	**+0.1**
AKS	**Akhisar**	**1.01**	**256**	*e*Pg		**Pn**	**10 11 07.4**	**+0.1**
ULDT	**Uludag**	**1.01**	**3**	*i* P		**Pb**	**10 11 07.1**	**+0.2**
ULDT				*i* S		**Sb**	**10 11 20.1**	**-0.1**
ULDT	**Uludag**	**1.01**	**3**	*i* P		**Pb**	**10 11 07.1**	**+0.2**
ULDT				*i* S		**Sb**	**10 11 20.1**	**-0.1**
BALB	**Balikesir**	**1.05**	**299**	*e*PG		**Pn**	**10 11 07.8**	**-0.1**
BALB	**Balikesir**	**1.05**	**299**	*e*Pg		**Pn**	**10 11 07.8**	**-0.1**
CAVI	**Cavuskoy**	**1.23**	**29**	*e*PN		**Pg**	**10 11 10.7**	**-0.3**
CAVI	**Cavuskoy**	**1.23**	**29**	*e*Pn		**Pg**	**10 11 10.7**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.24**	**354**	*e*PN		**Pg**	**10 11 11.1**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.24**	**354**	*e*Pn		**Pg**	**10 11 11.1**	**-0.2**
KCTX	**Karacabey (Bur**	**1.26**	**334**	*e*PN		**Pg**	**10 11 11.4**	**-0.2**
KCTX	**Karacabey (Bur**	**1.26**	**334**	*e*Pn		**Pg**	**10 11 11.4**	**-0.2**
BALY	**Balya**	**1.27**	**299**	*i* P		**Pb**	**10 11 11.3**	**0.0**
BALY				*i* S		**Sb**	**10 11 27.6**	**0.0**
BALY	**Balya**	**1.27**	**299**	*i* P		**Pb**	**10 11 11.3**	**0.0**
BALY				*i* S		**Sb**	**10 11 27.6**	**0.0**
SHUT	**Suhut-Afyon**	**1.30**	**116**	*e*PN		**Pn**	**10 11 11.5**	**+0.1**
SHUT	**Suhut-Afyon**	**1.30**	**116**	*e*Pn		**Pn**	**10 11 11.5**	**+0.1**
BORA	**Eskisehir**	**1.31**	**55**	*i* P		**Pg**	**10 11 12.2**	**-0.4**
BORA				*i* S		**Sg**	**10 11 29.6**	**0.0**
BORA	**Eskisehir**	**1.31**	**55**	*i* P		**Pg**	**10 11 12.2**	**-0.4**
BORA				*i* S		**Sg**	**10 11 29.6**	**0.0**
ADVT	**Abdulvahap**	**1.40**	**22**	*e*PN		**Pn**	**10 11 12.9**	**+0.3**
ADVT	**Abdulvahap**	**1.40**	**22**	*e*Pn		**Pn**	**10 11 12.9**	**+0.3**
GONE	**Gonen-Balikesi**	**1.40**	**311**	*e*PN		**Pn**	**10 11 13.1**	**+0.4**
GONE	**Gonen-Balikesi**	**1.40**	**311**	*e*Pn		**Pn**	**10 11 13.1**	**+0.4**
YLV	**Yalova**	**1.45**	**9**	*e*PN		**Pb**	**10 11 14.3**	**-0.1**
YLV	**Yalova**	**1.45**	**9**	*e*Pn		**Pb**	**10 11 14.3**	**-0.1**
BNT	**Bandirma**	**1.51**	**325**	*e*PN		**Pb**	**10 11 15.1**	**-0.2**
BNT	**Bandirma**	**1.51**	**325**	*e*Pn		**Pb**	**10 11 15.1**	**-0.2**
BOLV	**Bolvadin**	**1.53**	**105**	*i* P		**Pb**	**10 11 15.4**	**-0.3**
BOLV				*i* S		**Sn**	**10 11 34.4**	**+0.1**
BOLV	**Bolvadin**	**1.53**	**105**	*i* P		**Pb**	**10 11 15.4**	**-0.3**
BOLV				*i* S		**Sn**	**10 11 34.4**	**+0.1**
GULT	**Gulveren**	**1.71**	**40**	*e*PN		**Pb**	**10 11 18.3**	**-0.5**
GULT	**Gulveren**	**1.71**	**40**	*e*Pn		**Pb**	**10 11 18.3**	**-0.5**
HRT	**Hereke**	**1.75**	**15**	*e*PN		**Pn**	**10 11 18.5**	**+1.0**
HRT	**Hereke**	**1.75**	**15**	*e*Pn		**Pn**	**10 11 18.5**	**+1.0**
SVRH	**Sivrihisar-ESK**	**1.93**	**80**	*e*PN		**Pn**	**10 11 21.3**	**+1.2**
SVRH	**Sivrihisar-ESK**	**1.93**	**80**	*e*Pn		**Pn**	**10 11 21.3**	**+1.2**

NIED ***17*** *10:23:00, 32.70N×138.20E, h320km, Mw3.9 Best double couple: M0 9.22000×10¹⁴ NP1:φ=29.00000°, δ=89.00000°, λ=-56.00000°. NP2:φ=121.00000°, δ=34.00000°, λ=-177.00000°.*
JMA ***17*** *10:23:58.6±0.2, 32.72N×138.21E, h356km, M3.6*
ISCJB ***17*** *10:23:59.9±0.5, 32.70N±0.06×138.13E±0.07, h339km±3km, mb3.4/11, Error ellipse: s-maj=10.5km s-min=9.1km az=150.8*
IDC ***17*** *10:24:00.3±0.7, 32.65N×138.04E, h328km±7km, mb3.2/11, mb1 3.4/15, mb1mx3.3/27, mbtmp3.2/15, Error ellipse: s-maj=16.4km s-min=11.3km az=66.0*
ISC 17 10:24:00.7±0.8, **32.71N**±0.08×**138.10E**±0.07, **h333**km±6km, **n38**, σ**0**°**97**/**47**, **mb3.4**/11, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TK01	**Tokai 1**	**1.14**	**338**	P		**Pn**	**10 24 45.7**	**+0.9**
TK02	**Tokai 2**	**1.27**	**347**	P		**Pn**	**10 24 46.7**	**+1.2**
TTO3	**TONANKAI O.B.S**	**1.29**	**333**	P		**Pn**	**10 24 47.1**	**+1.3**
TTO2	**TONANKAI O.B.S**	**1.36**	**319**	P		**Pn**	**10 24 47.3**	**+1.3**
TTO4	**TONANKAI O.B.S**	**1.38**	**340**	P		**Pn**	**10 24 47.1**	**+1.0**
TTO1	**TONANKAI O.B.S**	**1.43**	**310**	P		**Pn**	**10 24 47.4**	**+1.0**
JHJ	**Hachijo jima 2**	**1.47**	**73**	P		**Pn**	**10 24 48.0**	**+1.0**
	7.9nm,0.3s,baz=254,slow=23,SNR=6.9							
JHJ				S		**S**	**10 25 23.2**	**-0.8**
	18nm,0.3s,baz=242,slow=21,SNR=1.5							
JHJ2	**Mitsune**	**1.50**	**74**	P		**Pn**	**10 24 47.5**	**+0.4**
JIE	**Ise**	**2.04**	**326**	P		**Pn**	**10 24 51.3**	**+0.6**
JIE				*e*S		**S**	**10 25 30.7**	**-0.1**
JWZ	**Kozaga**	**2.17**	**293**	P		**Pn**	**10 24 51.6**	**-0.1**
JWY	**Kouya**	**2.58**	**306**	P		**Pn**	**10 24 55.8**	**+0.7**
JOD2	**Odawara 2**	**2.68**	**18**	P		**Pn**	**10 24 56.1**	**+0.2**
JOD2				*e*S		**S**	**10 25 39.2**	**-0.9**
JYN	**Shimob**	**2.81**	**7**	P		**Pn**	**10 24 57.9**	**+0.8**
BSO1	**Boso 1**	**3.08**	**50**	P		**Pn**	**10 24 57.7**	**-1.2**
BSO1				*e*S		**S**	**10 25 42.8**	**-3.0**
JGM	**Miyama**	**3.20**	**339**	P		**Pn**	**10 25 01.3**	**+0.7**
JAI	**Aioi**	**3.25**	**290**	P		**Pn**	**10 25 01.2**	**+0.1**
JRY	**Ryogami san**	**3.37**	**11**	P		**Pn**	**10 25 02.8**	**+0.5**
JRY				*e*S		**S**	**10 25 51.5**	**-0.2**
JWT	**Wachi**	**3.41**	**320**	P		**Pn**	**10 25 03.1**	**+0.4**
JMN	**Monobe**	**3.68**	**287**	P		**Pn**	**10 25 05.8**	**+0.3**
MJAR	**Matsushiro Arr**	**3.83**	**1**	P		**Pn**	**10 25 06.7**	**-0.1**
	2.0nm,0.3s,baz=172,slow=10,SNR=31							
MJAR				S		**S**	**10 25 58.8**	**-1.3**
	1.0nm,0.3s,baz=146,slow=44,SNR=2.4							
MAT	**Matsushiro**	**3.83**	**1**	P		**Pn**	**10 25 06.7**	**-0.2**
MAT				S		**S**	**10 25 59.1**	**-1.0**
MAT	**Matsushiro**	**3.83**	**1**	P		**Pn**	**10 25 07.1**	**+0.2**
JTO	**Tosashimizu**	**4.47**	**273**	P		**Pn**	**10 25 13.7**	**0.0**
JNU	**Nakatsue**	**6.09**	**276**	P		**Pn**	**10 25 32.5**	**+0.5**
	0.6nm,0.3s,baz=72,slow=17,SNR=6.2							
KSRS	**Korea Array**	**9.59**	**302**	P		**Pn**	**10 26 14.6**	**+0.9**
	0.3nm,0.3s,baz=115,slow=13,SNR=15							
USRK	**Ussuriysk Arra**	**12.43**	**339**	P		**P**	**10 26 47.8**	**+0.2**
	0.4nm,0.3s,baz=168,slow=11,SNR=24							
SONM	**Songino Array**	**28.28**	**312**	P		**P**	**10 29 24.9**	**+0.5**
	2.6nm,0.8s,baz=99,slow=7.8,SNR=10.0							
ZALV	**Zalesovo Beam**	**42.97**	**316**	P		**P**	**10 31 27.3**	**-0.4**
	0.7nm,0.5s,baz=89,slow=7.8,SNR=4.6							
ZALV				PcP		**PcP**	**10 33 11.6**	**+0.2**
	0.4nm,0.4s,baz=90,slow=5.8,SNR=3.5							
MKAR	**Makanchi Array**	**44.26**	**305**	P		**P**	**10 31 37.7**	**-0.4**
	1.7nm,0.6s,baz=86,slow=10,SNR=31							
MKAR				PcP		**PcP**	**10 33 14.5**	**-1.5**
	0.4nm,0.8s,baz=93,slow=2.9,SNR=3.5							
WRA	**Warramunga Arr**	**52.48**	**184**	P		**P**	**10 32 39.5**	**-1.0**
	0.5nm,0.5s,baz=0.7,slow=7.7,SNR=14							
ILAR	**Eielson Array**	**54.59**	**31**	P		**P**	**10 32 56.1**	**+0.9**
	0.5nm,0.8s,baz=268,slow=6.0,SNR=7.1							
ASAR	**Alice Springs**	**56.20**	**185**	P		**P**	**10 33 06.5**	**-0.5**
	0.4nm,0.6s,baz=10,slow=14,SNR=8.1							
POO	**Poona**	**58.84**	**273**	*e*PKP		**P**	**10 33 24.0**	**-1.6**
ARCES	**ARCESS Array B**	**67.08**	**339**	P		**P**	**10 34 18.9**	**+0.4**
	3.7nm,0.9s,baz=60,slow=7.2,SNR=3.9							
AKASG	**Malin Array Be**	**76.02**	**322**	P		**P**	**10 35 10.7**	**-1.0**
	0.9nm,0.4s,baz=51,slow=6.3,SNR=6.2							
BRTR	**Keskin Array B**	**79.63**	**311**	P		**P**	**10 35 32.3**	**+0.3**
	1.9nm,0.8s,baz=122,slow=4.6,SNR=9.5							
NVAR	**Mina Array Bea**	**79.79**	**51**	P		**P**	**10 35 34.4**	**+1.5**
	0.3nm,0.5s,baz=298,slow=6.1,SNR=3.2							
TXAR	**Lajitas Array**	**94.94**	**51**	P		**P**	**10 36 47.7**	**+1.6**
	0.1nm,0.5s,baz=342,slow=5.7,SNR=2.6							

JMA 17 10:26:33.3, 42.87N×143.72E, h115km, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JOB	**Onbets**	**0.09**	**68**	P		Pn	10 26 49.4	+0.4
JCH	**Churui**	**0.37**	**226**	P		Pn	10 26 49.9	0.0
JAR	**Ashorobuto**	**0.43**	**5**	P		Pn	10 26 50.1	-0.2
JBT2	**Biratori 2**	**1.00**	**265**	P		Pn	10 26 55.4	+0.5

NIED ***17*** *10:26:00, 42.90N×143.70E, h122km, Mw3.7 Best double couple: M0 3.47000×10¹⁴ NP1:φ=132.00000°, δ=69.00000°, λ=114.00000°. NP2:φ=261.00000°, δ=31.00000°, λ=43.00000°.*
ISCJB ***17*** *10:26:33.8±0.5, 42.89N±0.05×143.80E±0.05, h117km±3km, mb3.5/6, Error ellipse: s-maj=7.8km s-min=5.5km az=158.0*
MOS ***17*** *10:26:33.6±0.8, 42.86N×143.69E, h125km, mb3.9/1, Error ellipse: s-maj=37.7km s-min=17.1km az=79.7*
JMA ***17*** *10:26:34.8±0.1, 42.91N×143.74E, h112km±1km, M3.6*
JMA Felt I J1.
IDC ***17*** *10:26:35.5±2.1, 42.91N×143.60E, h124km±19km, mb3.2/6, mb1 3.6/7, mb1mx3.2/23, mbtmp3.2/7, Error ellipse: s-maj=39.6km s-min=23.9km az=101.0*
ISC 17 10:26:34.6±0.8, **42.88N**±0.05×**143.80E**±0.04, **h113**km±6km, **n26**, σ**0**°**62**/**39**, **mb3.5**/6, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JOB	**Onbets**	**0.03**	**46**	P		**Pn**	**10 26 50.7**	**+0.7**
JOB				*e*S		**Sn**	**10 27 02.4**	**+0.8**
JAR	**Ashorobuto**	**0.42**	**357**	P		**Pn**	**10 26 51.3**	**+0.1**
JAR				*e*S		**Sn**	**10 27 03.6**	**-0.1**
JCH	**Churui**	**0.42**	**231**	P		**Pn**	**10 26 51.3**	**+0.1**
JCH				*e*S		**Sn**	**10 27 02.9**	**-0.8**
JAK	**Akkeshi**	**0.67**	**80**	P		**Pn**	**10 26 53.0**	**+0.2**
JAK				*e*S		**Sn**	**10 27 06.8**	**+0.2**
JFR	**Furan**	**0.93**	**288**	P		**Pn**	**10 26 54.7**	**-0.6**
JNK	**Nakash**	**0.97**	**43**	P		**Pn**	**10 26 55.7**	**0.0**
JNK				*e*S		**Sn**	**10 27 11.3**	**-0.3**
JNBK	**Urakawa-nobuka**	**0.98**	**233**	P		**Pn**	**10 26 55.8**	**+0.1**
JEM	**Erimo**	**0.99**	**209**	P		**Pn**	**10 26 56.2**	**+0.4**
JBT2	**Biratori 2**	**1.06**	**265**	P		**Pn**	**10 26 56.5**	**-0.1**
JBT2				*e*S		**Sn**	**10 27 13.0**	**-0.2**
JTKR	**Abashiri--Toko**	**1.09**	**4**	P		**Pn**	**10 26 57.1**	**+0.2**
JTKR				*e*S		**Sn**	**10 27 13.4**	**-0.4**
JMP	**Maruseppu**	**1.17**	**344**	P		**Pn**	**10 26 57.7**	**-0.1**
JMP				*e*S		**Sn**	**10 27 14.3**	**-1.1**
JKK2	**Kamakawa 2**	**1.25**	**323**	P		**Pn**	**10 26 58.8**	**+0.1**
JKK2				*e*S		**Sn**	**10 27 16.3**	**-0.7**
JRA	**Rausu**	**1.43**	**42**	P		**Pn**	**10 27 01.0**	**+0.4**
NEM2	**Nemuro 2**	**1.50**	**71**	P		**Pn**	**10 27 01.1**	**-0.4**
NEM2				*e*S		**Sn**	**10 27 20.4**	**-1.5**
ASAJ	**Asahikawa**	**1.52**	**325**	P		**Pn**	**10 27 02.4**	**+0.8**
	10nm,0.3s,baz=146,slow=11,SNR=32							
ASAJ				S		**Sn**	**10 27 22.4**	**+0.2**
	22nm,0.3s,baz=288,slow=31,SNR=11							
JEW	**Eniwo**	**1.73**	**269**	P		**Pn**	**10 27 04.6**	**+0.3**
JEW				*e*S		**Sn**	**10 27 27.3**	**+0.4**
JHR	**Hokuryu**	**1.74**	**300**	P		**Pn**	**10 27 04.9**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**1.89**	**52**	*e*PN		**Pn**	**10 27 07.3**	**+1.1**
YUK				*i* S		**Sn**	**10 27 31.1**	**+0.7**
YUK				pmax	pmax			
	comp=N,67nm,0.3s							
YUK				pmax	pmax			
	comp=E,87nm,0.3s							
YUK				pmax	pmax			
	comp=Z,485nm,0.3s							
YUK				smax	smax			
	comp=N,1μm,0.5s							
YUK				smax	smax			
	comp=E,596nm,0.5s							
YSS	**Yuzh-Sakhalins**	**4.14**	**350**	*e*PN		**Pn**	**10 27 36.5**	**+0.8**
MJAR	**Matsushiro Arr**	**7.66**	**216**	P		**Pn**	**10 28 22.7**	**-0.7**
	comp=E,0.6nm,0.3s,baz=26,slow=15,SNR=4.4							
ILAR	**Eielson Array**	**43.62**	**36**	P		**P**	**10 34 27.0**	**-0.3**
	comp=E,0.4nm,0.6s,baz=261,slow=5.6,SNR=8.2							
YKA	**Yellowknife Ar**	**57.87**	**32**	P		**P**	**10 36 13.6**	**-0.4**
	comp=E,0.1nm,0.3s,baz=195,slow=17,SNR=3.0							
FINES	**FINESS Array B**	**64.51**	**332**	P		**P**	**10 36 58.1**	**-0.7**
	comp=E,0.7nm,0.4s,baz=48,slow=5.7,SNR=4.9							
NVAR	**Mina Array Bea**	**70.10**	**56**	P		**P**	**10 37 36.0**	**+1.2**
	comp=E,0.3nm,0.6s,baz=298,slow=5.7,SNR=4.0							
PDAR	**Pinedale Array**	**72.32**	**48**	P		**P**	**10 37 48.4**	**+0.3**
	comp=E,0.5nm,0.5s,baz=286,slow=0.3,SNR=7.3							
TXAR	**Lajitas Array**	**85.15**	**54**	P		**P**	**10 38 58.8**	**+0.5**
	comp=E,0.4nm,0.6s,baz=290,slow=3.0,SNR=9.1							

ISCJB ***17*** *10:27:43.2±1.5, 6.85S±0.07×155.35E±0.04, h65km±15km, mb4.5/33, Error ellipse: s-maj=11.3km s-min=6.9km az=173.5*
IDC ***17*** *10:27:45.0±2.7, 6.83S×155.34E, h67km±23km, mb4.2/15, mb1 4.3/18, mb1mx4.3/19, mbtmp4.2/18, MS3.7/11, Ms1 3.7/11, ms1mx3.5/21, Error ellipse: s-maj=19.3km s-min=13.6km az=107.0*
NEIC ***17*** *10:27:47.5±1.1, 6.91S×155.34E, h92km±10km, mb4.5/18, Error ellipse: s-maj=8.4km s-min=7.0km az=146.0*
ISC 17 10:27:45.2±1.1, **6.83S**±0.08×**155.37E**±0.06, **h70**km±10km,
n110, σ**1**°**28**/**123**, **mb4.5**/35, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**5.22**	**120**	*e*Pn		**Pn**	**10 29 03.0**	**+2.2**
	341nm,0.8s							
HNR				*e*Sn		**Sn**	**10 29 58.6**	**-1.0**
PMG	**Port Moresby**	**8.52**	**252**	*e*Pn		**Pn**	**10 29 48.0**	**+2.1**
PMG				S		**Sn**	**10 31 20.5**	**-0.1**
PMG	**Port Moresby**	**8.52**	**252**	P		**Pn**	**10 29 46.2**	**+0.3**
	3.5nm,0.3s,baz=73,slow=8.8,SNR=9.9							
PMG				S		**Sn**	**10 31 20.5**	**-0.1**
	1.6nm,0.3s,baz=337,slow=23,SNR=1.4							
COEN	**Coen**	**13.92**	**238**	*e*P		**Pn**	**10 30 58.9**	**-0.5**
	58nm,0.7s							
CTA	**Charters Tower**	**15.87**	**213**	P		**Pn**	**10 31 24.2**	**-0.3**
CTA	**Charters Tower**	**15.87**	**213**	P		**Pn**	**10 31 24.2**	**-0.3**
	0.3nm,0.3s,baz=50,slow=15,SNR=4.8							
CTA				LR		LR	10 36 45.8	
	comp=Z,383nm,19.6s,baz=52,slow=34							
DZM	**Mont Dzumac**	**18.54**	**146**	*e*LR		LR	10 36 28.5	
	523nm,27.4s							
DZM	**Mont Dzumac**	**18.54**	**146**	P		**Pn**	**10 31 57.5**	**+0.1**
DZM	**Mont Dzumac**	**18.54**	**146**	P		**Pn**	**10 31 57.5**	**+0.1**
	1.0nm,0.3s,baz=7.5,slow=8.7,SNR=3.9							
DZM				LR		LR	10 36 30.0	
	comp=Z,116nm,21.8s,baz=257,slow=28							
EIDS	**Eidsvold**	**18.88**	**192**	*e*P		**P**	**10 31 58.5**	**-1.5**
	11nm,1.1s							
QIS	**Mount Isa**	**20.48**	**227**	*e*P		**P**	**10 32 17.8**	**+0.2**
QLP	**Quilpie**	**22.32**	**207**	*e*P		**P**	**10 32 37.0**	**-0.2**
GUMO	**Guam**	**22.81**	**333**	LR		LR	10 40 03.6	
	comp=Z,133nm,20.2s,baz=158,slow=32							
WRAB	**Tennant Creek**	**24.20**	**235**	*e*P		**P**	**10 32 55.0**	**-0.4**
	30nm,1.1s							
WRA	**Warramunga Arr**	**24.21**	**235**	P		**P**	**10 32 55.1**	**-0.5**
WRA				PcP		**PcP**	**10 36 35.1**	**+0.4**
WRA				ScP		**ScP**	**10 40 12.9**	**+5.6**
WRA	**Warramunga Arr**	**24.21**	**235**	P		**P**	**10 32 55.1**	**-0.5**
	5.4nm,0.5s,baz=60,slow=9.7,SNR=62							
WRA				PcP		**PcP**	**10 36 35.1**	**+0.4**
	1.2nm,0.6s,baz=60,slow=2.4,SNR=4.9							
WRA				ScP		**ScP**	**10 40 12.9**	**+5.6**
	0.7nm,0.8s,baz=68,slow=2.9,SNR=4.6							
WRA				LR		LR	10 41 58.2	
	comp=Z,184nm,19.4s,baz=55,slow=35							
MSVF	**Nonsavu**	**24.64**	**118**	*e*P		**P**	**10 32 59.0**	**-0.5**
	40nm,1.3s							
CMSA	**Cobar Meteorol**	**26.19**	**199**	*e*P		**P**	**10 33 13.4**	**0.0**
	39nm,0.8s							
AS31	**Alice Springs**	**26.55**	**229**	*e*P		**P**	**10 33 15.8**	**-1.0**
ASAR	**Alice Springs**	**26.55**	**229**	P		**P**	**10 33 15.6**	**-1.3**
ASAR				PcP		**PcP**	**10 36 40.4**	**+0.4**
ASAR				ScP		**ScP**	**10 40 16.0**	**+2.0**
ASAR	**Alice Springs**	**26.55**	**229**	P		**P**	**10 33 15.6**	**-1.3**
	1.5nm,0.6s,baz=58,slow=9.4,SNR=28							
ASAR				PcP		**PcP**	**10 36 40.4**	**+0.4**
	1.4nm,0.7

YKA				PKKPbc	**PKKPbc**	**10 57 51.5**	**-3.4**
YKA	**Yellowknife Ar**	**96.02**	**28**	P	**P**	**10 41 04.4**	**-0.2**
	2.1nm,0.6s,baz=266,slow=4.5,SNR=58						
YKA				PKiKP	**PKiKP**	**10 45 42.6**	**-0.3**
	0.3nm,0.7s,baz=263,slow=1.6,SNR=5.8						
YKA				PKKPbc	**PKKPbc**	**10 57 51.5**	**-3.4**
	0.3nm,0.8s,baz=89,slow=2.8,SNR=7.5						
PDAR	**Pinedale Array**	**98.32**	**48**	P	**P**	**10 41 14.7**	**-1.0**
PDAR	**Pinedale Array**	**98.32**	**48**	P	**P**	**10 41 14.7**	**-1.0**
	0.7nm,0.7s,baz=254,slow=1.5,SNR=7.0						
PDAR				LR	LR	11 24 46.7	
	comp=Z,63nm,18.7s,baz=130,slow=35						
ARCES	**ARCESS Array B**	**109.54**	**343**	PKiKP	**PKiKP**	**10 46 08.6**	**+1.2**
ARCES	**ARCESS Array B**	**109.54**	**343**	PKiKP	**PKiKP**	**10 46 08.6**	**+1.2**
	1.2nm,0.6s,baz=1.9,slow=3.6,SNR=4.6						
PLCA	**Paso Flores**	**116.62**	**142**	PKP	**PKPdf**	**10 46 22.1**	**+0.3**
PLCA	**Paso Flores**	**116.62**	**142**	PKP	**PKPdf**	**10 46 22.1**	**+0.3**
	3.0nm,0.7s,baz=249,slow=5.6,SNR=5.0						
AKASG	**Malin Array Be**	**117.62**	**325**	PKP	**PKPdf**	**10 46 22.5**	**-0.8**
AKASG	**Malin Array Be**	**117.62**	**325**	PKP	**PKPdf**	**10 46 22.5**	**-0.8**
	0.3nm,0.4s,baz=200,slow=16,SNR=4.0						
NB2	**NORSAR Subarra**	**119.67**	**341**	PKPdf	**PKPdf**	**10 46 26.2**	**-0.8**
	comp=Z,3.2nm,1.0s,baz=44,slow=1.9						
NOA	**NORSAR Array B**	**119.67**	**341**	PKP	**PKPdf**	**10 46 26.6**	**-0.5**
NOA	**NORSAR Array B**	**119.67**	**341**	PKP	**PKPdf**	**10 46 26.6**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=44,slow=2.0,SNR=7.3						
SCHQ	**Schefferville**	**121.47**	**27**	PKP	**PKPdf**	**10 46 30.4**	**-0.2**
SCHQ	**Schefferville**	**121.47**	**27**	PKP	**PKPdf**	**10 46 30.4**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=171,slow=3.3,SNR=8.5						
GERES	**GERESS Array B**	**127.11**	**329**	PKP	**PKPdf**	**10 46 41.9**	**+0.2**
GERES	**GERESS Array B**	**127.11**	**329**	PKP	**PKPdf**	**10 46 41.9**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=48,slow=2.0,SNR=8.4						
LPAZ	**La Paz**	**131.21**	**119**	PKP	**PKPdf**	**10 46 49.4**	**-1.7**
LPAZ	**La Paz**	**131.21**	**119**	PKP	**PKPdf**	**10 46 49.4**	**-1.7**
	comp=Z,0.8nm,0.5s,baz=89,slow=3.9,SNR=4.5						
LPL	**La Plagne**	**132.86**	**330**	*e*PKIKP	**PKPdf**	**10 46 53.1**	**+0.2**
LPG	**La Plagne**	**132.86**	**330**	*e*PKIKP	**PKPdf**	**10 46 53.2**	**+0.2**
FLN	**La Foliniere**	**133.49**	**338**	*e*PKIKP	**PKPdf**	**10 46 54.5**	**+0.8**
LDF	**La Druitiere**	**133.49**	**338**	*e*PKIKP	**PKPdf**	**10 46 53.5**	**-0.2**
SBF	**Sospel**	**133.65**	**328**	*e*PKIKP	**PKPdf**	**10 46 53.2**	**-1.1**
	comp=Z,44nm,1.0s						
PGF	**Pioggiola**	**133.68**	**326**	*e*PKIKP	**PKPdf**	**10 46 53.7**	**-0.7**
	comp=Z,28nm,1.0s						
CPUP	**Villa Florida**	**134.25**	**137**	PKP	**PKPdf**	**10 46 54.8**	**-1.0**
CPUP	**Villa Florida**	**134.25**	**137**	PKP	**PKPdf**	**10 46 54.8**	**-1.0**
	comp=Z,2.4nm,0.6s,baz=324,slow=1.2,SNR=11						
SDV	**Santo Domingo**	**134.41**	**84**	*e*PKPdf	**PKPdf**	**10 46 56.5**	**-0.2**
TAM	**Tamanrasset**	**146.92**	**302**	*e*PKPbc	**PKPab**	**10 47 21.7**	**-0.6**
BDFB	**Brasilia**	**147.83**	**134**	PKPbc	**PKPbc**	**10 47 23.0**	**-0.5**
BDFB	**Brasilia**	**147.83**	**134**	PKPbc	**PKPbc**	**10 47 23.0**	**-0.5**
	comp=Z,17nm,0.6s,baz=247,slow=1.7,SNR=23						
TORD	**Torodi Ar. Bea**	**153.34**	**286**	PKP	**PKPdf**	**10 47 28.2**	**-0.7**
TORD				PKPbc	**PKPbc**	**10 47 35.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**153.34**	**286**	PKP	**PKPdf**	**10 47 28.2**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=59,slow=1.2,SNR=4.3						
TORD				PKPbc	**PKPbc**	**10 47 35.8**	**-0.7**
	comp=Z,3.9nm,0.7s,baz=69,slow=2.3,SNR=17						

ISK ***17*** *10:31:19.7,39.12N×29.04E,h12km,MD2.5*
ISCJB ***17*** *10:31:20.3±0.5,39.12N±0.03×29.06E±0.04,h12km±5km,*
Error ellipse: s-maj=5.4km s-min=4.3km az=137.7
CSEM ***17*** *10:31:20.4±0.1,39.11N×29.05E,h15km,MD2.5, Error ellipse: s-maj=2.4km s-min=1.9km az=128.0*
DDA ***17*** *10:31:22.5,39.11N×28.95E,h14km,MD2.5*
ISC 17 10:31:20.4±0.9,39.12N±0.03×29.04E±0.03,h15km±9km, n24,σ0s34/38,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**254**	*i* P	**Pb**	**10 31 26.7**	**-0.1**
DEMI				*i* S	**Sg**	**10 31 30.6**	**+0.6**
DEMI	**Demirci**	**0.26**	**254**	*i* P	**Pb**	**10 31 26.7**	**-0.1**
DEMI				*i* S	**Sg**	**10 31 30.6**	**+0.6**
TVSB	**Tavsanli**	**0.47**	**45**	*e*PG	**Pg**	**10 31 29.6**	**-0.3**
TVSB				*e*SG	**Sg**	**10 31 36.0**	**-0.2**
TVSB	**Tavsanli**	**0.47**	**45**	*e*Pg	**Pg**	**10 31 29.6**	**-0.3**
TVSB				*e*Sg	**Sg**	**10 31 36.1**	**-0.2**
DST	**Dursunbey**	**0.58**	**327**	*e*PG	**Pb**	**10 31 32.4**	**0.0**
DST				*e*SG	**Sg**	**10 31 39.7**	**-0.1**
DST	**Dursunbey**	**0.58**	**327**	*e*Pg	**Pb**	**10 31 32.4**	**0.0**
DST				*e*Sg	**Sg**	**10 31 39.7**	**-0.1**
DURS	**Dursunbey**	**0.65**	**318**	*i* P	**Pb**	**10 31 33.8**	**+0.2**
DURS				*i* S	**Sg**	**10 31 42.4**	**+0.5**
DURS	**Dursunbey**	**0.65**	**318**	*i* P	**Pb**	**10 31 33.8**	**+0.2**
DURS				*i* S	**Sg**	**10 31 42.4**	**+0.5**
KULA	**Kula-Manisa**	**0.67**	**206**	*e*PG	**Pg**	**10 31 33.0**	**-0.6**
KULA				*e*SG	**Sb**	**10 31 43.0**	**+0.1**
KULA	**Kula-Manisa**	**0.67**	**206**	*e*Pg	**Pg**	**10 31 33.0**	**-0.6**
KULA				*e*Sg	**Sb**	**10 31 43.0**	**+0.1**
MANT	**Manisa**	**0.73**	**211**	*i* P	**Pb**	**10 31 35.2**	**+0.3**
MANT				*i* S	**Sb**	**10 31 44.5**	**-0.2**
MANT	**Manisa**	**0.73**	**211**	*i* P	**Pb**	**10 31 35.2**	**+0.3**
MANT				*i* S	**Sb**	**10 31 44.5**	**-0.2**
ALT	**Altintas**	**0.84**	**94**	*e*PG	**Pg**	**10 31 36.4**	**-0.4**
ALT				*e*SG	**Sb**	**10 31 48.5**	**+0.7**
ALT	**Altintas**	**0.84**	**94**	*e*Pg	**Pg**	**10 31 36.4**	**-0.4**
ALT				*e*Sg	**Sb**	**10 31 48.5**	**+0.7**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*PN	**Pn**	**10 31 43.4**	**-0.2**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*Pn	**Pn**	**10 31 43.4**	**-0.2**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*PN	**Pn**	**10 31 45.6**	**+0.2**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*Pn	**Pn**	**10 31 45.6**	**+0.2**
YLV	**Yalova**	**1.47**	**10**	*e*PN	**Pb**	**10 31 47.4**	**-0.1**
YLV	**Yalova**	**1.47**	**10**	*e*Pn	**Pb**	**10 31 47.4**	**-0.1**
GPA	**Golpazari**	**1.53**	**40**	*e*PN	**Pn**	**10 31 47.2**	**0.0**
GPA	**Golpazari**	**1.53**	**40**	*e*Pn	**Pn**	**10 31 47.2**	**0.0**
GULT	**Gulveren**	**1.74**	**40**	*e*PN	**Pn**	**10 31 50.1**	**0.0**
GULT	**Gulveren**	**1.74**	**40**	*e*Pn	**Pn**	**10 31 50.2**	**0.0**

NNC ***17*** *10:34:06.2±2.1,39.27N×69.81E,h0km,mb3.6,mpv3.3,*
Error ellipse: s-maj=19.6km s-min=10.0km az=2.0
ISC 17 10:34:07.9±3.9,39.2N±0.3×69.8E±0.1,h10km,n10, σ0s80/11,2C-5D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**3.94**	**8**	Pn	**Pn**	**10 35 09.8**	**+1.2**
	1.1nm,0.2s,baz=197,slow=15,SNR=55						
KK31				⇓Pg	Pb	10 35 16.6	-0.9
	1.8nm,0.2s,baz=180,slow=11,SNR=19						
KK31				⇑Lg	Lg	10 36 08.2	
	11nm,0.3s,baz=190,slow=29,SNR=6.9						
AML	**Almayashu**	**4.18**	**44**	P	**Pn**	**10 35 12.3**	**+0.2**
	SNR=23						
EKS2	**Erkin-Say**	**4.60**	**40**	P	**Pn**	**10 35 18.5**	**+0.8**
	SNR=28						
AAK	**Ala-Archa**	**4.96**	**45**	P	**Pn**	**10 35 23.6**	**+1.0**
	SNR=11						
KZA	**Kyzart**	**5.06**	**54**	P	**Pn**	**10 35 25.2**	**+0.9**
	SNR=17						
USP	**Ospenovka**	**5.41**	**40**	P	**Pn**	**10 35 28.4**	**-0.2**
	SNR=8.1						
TKM2	**Tokmak 2**	**5.76**	**48**	Pn	Pn	10 35 32.5	-1.2
	4.2nm,0.5s						
TKM2				⇓Sn	**Sn**	**10 36 39.4**	**-0.6**
	12nm,0.8s						
TKM2	**Tokmak 2**	**5.76**	**48**	P	**Pn**	**10 35 33.9**	**+0.2**
	SNR=8.2						
AB31	**Akbulak array**	**12.27**	**328**	⇓Pn	**Pn**	**10 37 01.9**	**-0.7**
	0.9nm,0.5s,baz=158,slow=11,SNR=8.4						
AB31				⇓Sn	**Sn**	**10 39 19.2**	**-0.2**
	0.9nm,0.5s,baz=156,slow=22,SNR=3.5						
AKTO	**Aktyubinsk**	**13.98**	**327**	⇑Pn	Pn	10 37 24.1	-1.8
	0.1nm,0.5s						
AKTO				⇓Sn	**Sn**	**10 40 01.2**	**+0.2**
	0.2nm,0.8s						

ISK ***17*** *10:37:07.2,39.15N×28.99E,h9km,MD2.6*
CSEM ***17*** *10:37:08.6±0.3,39.08N×29.07E,h15km,MD2.5, Error ellipse: s-maj=7.9km s-min=7.3km az=170.0*
DDA ***17*** *10:37:09.3,39.13N×29.07E,h7km,MD2.5*
ISC 17 10:37:08.1±1.1,39.10N±0.03×29.06E±0.03,h11km±12km, n16,σ0s55/26,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**259**	*i* P	**Pb**	**10 37 15.6**	**+0.5**
DEMI				*i* S	**Sb**	**10 37 19.7**	**-0.1**
DEMI	**Demirci**	**0.27**	**259**	*i* P	**Pb**	**10 37 15.6**	**+0.5**
DEMI				*i* S	**Sb**	**10 37 19.7**	**-0.1**
GDZ	**Gediz**	**0.33**	**91**	*i* P	**Pb**	**10 37 16.4**	**+0.3**
GDZ				*i* S	**Sb**	**10 37 20.8**	**-0.6**
GDZ	**Gediz**	**0.33**	**91**	*i* P	**Pb**	**10 37 16.4**	**+0.3**
GDZ				*i* S	**Sb**	**10 37 20.8**	**-0.6**
TVSB	**Tavsanli**	**0.47**	**41**	*e*PG	**Pg**	**10 37 17.2**	**-0.2**
TVSB				*e*SG	**Sg**	**10 37 23.8**	**+0.2**
TVSB	**Tavsanli**	**0.47**	**41**	*e*Pg	**Pg**	**10 37 17.2**	**-0.2**
TVSB				*e*Sg	**Sg**	**10 37 23.8**	**+0.2**
KULA	**Kula-Manisa**	**0.66**	**208**	*e*PG	**Pg**	**10 37 20.1**	**-0.8**
KULA				*e*SG	**Sb**	**10 37 31.2**	**+0.3**
KULA	**Kula-Manisa**	**0.66**	**208**	*e*Pg	**Pg**	**10 37 20.1**	**-0.8**
KULA				*e*Sg	**Sb**	**10 37 31.2**	**+0.3**
DURS	**Dursunbey**	**0.68**	**318**	*i* P	**Pn**	**10 37 24.2**	**+0.5**
DURS				*i* S	**Sb**	**10 37 31.8**	**+0.3**
DURS	**Dursunbey**	**0.68**	**318**	*i* P	**Pn**	**10 37 24.2**	**+0.5**
DURS				*i* S	**Sb**	**10 37 31.8**	**+0.3**
ALT	**Altintas**	**0.82**	**93**	*e*PG	**Pn**	**10 37 25.5**	**-0.2**
ALT	**Altintas**	**0.82**	**93**	*e*Pg	**Pn**	**10 37 25.5**	**-0.2**
KHL	**Karahalli**	**0.85**	**155**	*e*PG	**Pg**	**10 37 25.1**	**+0.5**
KHL	**Karahalli**	**0.85**	**155**	*e*Pg	**Pg**	**10 37 25.1**	**+0.5**
GONE	**Gonen-Balikesi**	**1.42**	**312**	*e*PN	**Pn**	**10 37 32.9**	**-1.0**
GONE	**Gonen-Balikesi**	**1.42**	**312**	*e*Pn	**Pn**	**10 37 32.9**	**-1.0**

JMA 17 10:43:43.9±0.5,46.10N×144.75E,h333km,M3.5,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**1.90**	**234**	P	Pn	10 44 33.2	+0.3
JWK2	**Keíhoku**	**2.15**	**250**	P	Pn	10 44 34.8	+0.1
NEM2	**Nemuro 2**	**2.83**	**165**	P	Pn	10 44 40.2	-0.2
NEM2				*e*S	S	10 45 25.1	-0.7
JAR	**Ashorobuto**	**2.89**	**194**	P	Pn	10 44 42.2	+1.2
JAK	**Akkeshi**	**3.10**	**181**	P	Pn	10 44 43.1	+0.1
JAK				*e*S	S	10 45 29.5	-0.9
JCH	**Churui**	**3.62**	**196**	P	Pn	10 44 47.7	-0.4
JCH				*e*S	S	10 45 37.1	-2.6
JEW	**Eniwo**	**4.03**	**217**	P	Pn	10 44 53.2	+1.0
JNBK	**Urakawa-nobuka**	**4.08**	**201**	P	Pn	10 44 52.7	-0.1
JKB	**Kayabe**	**4.99**	**214**	P	Pn	10 45 01.9	-0.8
JKB				*e*S	S	10 46 02.4	-3.8
JOT	**Ohata**	**5.42**	**211**	P	Pn	10 45 06.6	-1.0
JOT				*e*S	S	10 46 09.6	-5.6
JANG	**Nango**	**6.19**	**204**	P	Pn	10 45 14.7	-1.8
JANG				*e*S	S	10 46 24.8	-6.6

ISK ***17*** *10:45:10.3,39.15N×29.08E,h5km,ML3.3*
DDA ***17*** *10:45:10.2,39.12N×29.07E,h7km,MD3.6*
CSEM ***17*** *10:45:10.7±0.1,39.14N×29.07E,h2km,MD3.6, Error ellipse: s-maj=2.1km s-min=1.8km az=68.0*
ISC 17 10:45:11.0±1.0,39.16N±0.02×29.07E±0.01,h5km±10km, n144,σ0s76/173,7D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.30**	**248**	*i* P	**Pg**	**10 45 16.7**	**0.0**
DEMI				*i* S	**Sg**	**10 45 20.7**	**+0.1**
DEMI	**Demirci**	**0.30**	**248**	*i* P	**Pg**	**10 45 16.7**	**0.0**
DEMI				*i* S	**Sg**	**10 45 20.7**	**+0.1**
GDZ	**Gediz**	**0.33**	**101**	*i* P	**Pg**	**10 45 17.4**	**0.0**
GDZ				*i* S	**Sg**	**10 45 22.2**	**+0.5**
GDZ	**Gediz**	**0.33**	**101**	*i* P	**Pg**	**10 45 17.4**	**0.0**
GDZ				*i* S	**Sg**	**10 45 22.2**	**+0.5**
TVSB	**Tavsanli**	**0.42**	**46**	*e*PG	**Pg**	**10 45 19.0**	**-0.2**
TVSB				*e*SG	**Sg**	**10 45 24.9**	**+0.1**
TVSB	**Tavsanli**	**0.42**	**46**	*e*Pg	**Pg**	**10 45 19.0**	**-0.2**
TVSB				*e*Sg	**Sg**	**10 45 24.9**	**+0.1**
DST	**Dursunbey**	**0.57**	**322**	*e*PG	**Pg**	**10 45 21.9**	**0.0**
DST				*e*SG	**Sg**	**10 45 29.6**	**+0.3**
DST	**Dursunbey**	**0.57**	**322**	*e*Pg	**Pg**	**10 45 21.9**	**0.0**
DST				*e*Sg	**Sg**	**10 45 29.6**	**+0.3**
DURS	**Dursunbey**	**0.64**	**314**	*i* P	**Pg**	**10 45 23.3**	**0.0**
DURS				*i* S	**Sg**	**10 45 32.7**	**+1.0**
DURS	**Dursunbey**	**0.64**	**314**	*i* P	**Pg**	**10 45 23.3**	**0.0**
DURS				*i* S	**Sg**	**10 45 32.7**	**+1.0**
KULA	**Kula-Manisa**	**0.71**	**207**	*e*PG	**Pg**	**10 45 24.0**	**-0.7**
KULA	**Kula-Manisa**	**0.71**	**207**	*e*Pg	**Pg**	**10 45 24.0**	**-0.7**
MANT	**Manisa**	**0.77**	**211**	*i* P	**Pg**	**10 45 25.1**	**-0.8**
MANT				*i* S	**Sg**	**10 45 34.8**	**-1.1**
MANT	**Manisa**	**0.77**	**211**	*i* P	**Pg**	**10 45 25.1**	**-0.8**
MANT				*i* S	**Sg**	**10 45 34.8**	**-1.1**
ALT	**Altintas**	**0.82**	**97**	*e*PG	**Pg**	**10 45 26.4**	**-0.3**
ALT				*e*SG	**Sg**	**10 45 37.9**	**+0.6**
ALT	**Altintas**	**0.82**	**97**	*e*Pg	**Pg**	**10 45 26.4**	**-0.3**
ALT				*e*Sg	**Sg**	**10 45 37.9**	**+0.6**
KHAL	**Karahalli**	**0.85**	**157**	*i* P	**Pg**	**10 45 26.8**	**-0.5**
KHAL				*i* S	**Sg**	**10 45 37.8**	**-0.5**
KHAL	**Karahalli**	**0.85**	**157**	*i* P	**Pg**	**10 45 26.8**	**-0.5**
KHAL				*i* S	**Sg**	**10 45 37.8**	**-0.5**
ORLT	**Orhaneli**	**0.90**	**352**	*e*PG	**Pg**	**10 45 28.3**	**0.0**
ORLT	**Orhaneli**	**0.90**	**352**	*e*Pg	**Pg**	**10 45 28.3**	**0.0**
KHL	**Karahalli**	**0.90**	**157**	*e*PG	**Pg**	**10 45 27.8**	**-0.5**
KHL	**Karahalli**	**0.90**	**157**	*e*Pg	**Pg**	**10 45 27.8**	**-0.5**
AKHS	**Akhisar**	**1.01**	**255**	*i* P	**Pg**	**10 45 30.0**	**-0.5**
AKHS				*i* S	**Sg**	**10 45 43.8**	**+0.2**
AKHS	**Akhisar**	**1.01**	**255**	*i* P	**Pg**	**10 45 30.0**	**-0.5**
AKHS				*i* S	**Sg**	**10 45 43.8**	**+0.2**
AKS	**Akhisar**	**1.02**	**255**	*e*PG	**Pg**	**10 45 29.9**	**-0.6**
AKS	**Akhisar**	**1.02**	**255**	*e*Pg	**Pg**	**10 45 29.9**	**-0.6**
BALB	**Balikesir**	**1.04**	**298**	*e*PG	**Pb**	**10 45 31.5**	**0.0**
BALB	**Balikesir**	**1.04**	**298**	*e*Pg	**Pb**	**10 45 31.5**	**0.0**
CAVI	**Cavuskoy**	**1.21**	**29**	*e*PN	**Pg**	**10 45 33.7**	**-0.4**
CAVI	**Cavuskoy**	**1.21**	**29**	*e*Pn	**Pg**	**10 45 33.7**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.22**	**353**	*e*PN	**Pg**	**10 45 34.0**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.22**	**353**	*e*Pn	**Pg**	**10 45 34.0**	**-0.4**
KCTX	**Karacabey (Bur**	**1.24**	**334**	*e*PN	**Pg**	**10 45 33.7**	**-1.1**
KCTX	**Karacabey (Bur**	**1.24**	**334**	*e*Pn	**Pg**	**10 45 33.7**	**-1.1**
BALY	**Balya**	**1.27**	**298**	*i* P	**Pn**	**10 45 34.5**	**-0.9**
BALY				*i* S	**Sg**	**10 45 50.1**	**-1.6**
BALY	**Balya**	**1.27**	**298**	*i* P	**Pn**	**10 45 34.5**	**-0.9**
BALY				*i* S	**Sg**	**10 45 50.1**	**-1.6**
BORA	**Eskisehir**	**1.29**	**55**	*i* P	**Pn**	**10 45 35.1**	**-0.8**
BORA				*i* S	**Sn**	**10 45 53.4**	**-0.2**
BORA	**Eskisehir**	**1.29**	**55**	*i* P	**Pn**	**10 45 35.1**	**-0.8**
BORA				*i* S	**Sn**	**10 45 53.4**	**-0.2**
SHUT	**Suhut-Afyon**	**1.30**	**117**	*e*PN	**Pn**	**10 45 35.5**	**-0.4**
SHUT	**Suhut-Afyon**	**1.30**	**117**	*e*Pn	**Pn**	**10 45 35.6**	**-0.4**
ADVT	**Abdulvahap**	**1.38**	**22**	*e*PN	**Pn**	**10 45 36.4**	**-0.5**
ADVT	**Abdulvahap**	**1.38**	**22**	*e*Pn	**Pn**	**10 45 36.4**	**-0.5**
GONE	**Gonen-Balikesi**	**1.39**	**310**	*e*PN	**Pn**	**10 45 36.9**	**-0.2**
GONE	**Gonen-Balikesi**	**1.39**	**310**	*e*Pn	**Pn**	**10 45 36.9**	**-0.2**
ARMT	**Armutlu**	**1.42**	**354**	*e*PN	**Pn**	**10 45 37.4**	**-0.1**
ARMT	**Armutlu**	**1.42**	**354**	*e*Pn	**Pn**	**10 45 37.4**	**-0.1**
ESKT	**Eskisehir**	**1.43**	**75**	*e*PN	**Pn**	**10 45 37.7**	**-0.1**
ESKT	**Eskisehir**	**1.43**	**75**	*e*Pn	**Pn**	**10 45 37.7**	**-0.1**
YLV	**Yalova**	**1.43**	**9**	*e*PN	**Pn**	**10 45 37.5**	**-0.2**
YLV	**Yalova**	**1.43**	**9**	*e*Pn	**Pn**	**10 45 37.5**	**-0.2**
DNZL	**Cakiroluk**	**1.46**	**181**	*i* P	**Pn**	**10 45 38.0**	**-0.3**
DNZL				*i* S	**Sg**	**10 46 01.1**	**+3.1**
DNZL	**Cakiroluk**	**1.46**	**181**	*i* P	**Pn**	**10 45 38.0**	**-0.3**
GPA	**Golpazari**	**1.48**	**40**	*e*PN	**Pn**	**10 45 38.2**	**-0.2**
GPA	**Golpazari**	**1.48**	**40**	*e*Pn	**Pn**	**10 45 38.2**	**-0.2**
BNT	**Bandirma**	**1.49**	**324**	*e*PN	**Pn**	**10 45 37.8**	**-0.7**
BNT	**Bandirma**	**1.49**	**324**	*e*Pn	**Pn**	**10 45 37.8**	**-0.7**
EDC	**Edincik**	**1.51**	**322**	*e*PN	**Pn**	**10 45 38.8**	**0.0**
EDC	**Edincik**	**1.51**	**322**	*e*Pn	**Pn**	**10 45 38.8**	**0.0**
BOLV	**Bolvadin**	**1.53**	**106**	*i* P	**Pn**	**10 45 38.8**	**-0.4**
BOLV				*i* S	**Sg**	**10 46 01.5**	**+1.3**
BOLV	**Bolvadin**	**1.53**	**106**	*i* P	**Pn**	**10 45 38.8**	**-0.4**
BOLV				*i* S	**Sg**	**10 46 01.5**	**+1.3**
GULT	**Gulveren**	**1.69**	**41**	*e*PN	**Pb**	**10 45 42.0**	**-0.7**
GULT	**Gulveren**	**1.69**	**41**	*e*Pn	**Pb**	**10 45 42.0**	**-0.7**
BUY	**Buyukada**	**1.70**	**1**	*i* P	**Pn**	**10 45 40.4**	**-0.9**
BUY				*i* S	**Sg**	**10 46 06.8**	**+1.3**
BUY	**Buyukada**	**1.70**	**1**	*i* P	**Pn**	**10 45 40.4**	**-0.9**
HRT	**Hereke**	**1.73**	**15**	*e*PN	**Pn**	**10 45 42.2**	**+0.4**
HRT	**Hereke**	**1.73**	**15**	*e*Pn	**Pn**	**10 45 42.2**	**+0.4**
AYDN	**Tasoluk**	**1.76**	**212**	*i* P	**Pn**	**10 45 40.9**	**-1.3**
AYDN				*i* S	**Sg**	**10 46 09.8**	**+2.3**
AYDN	**Tasoluk**	**1.76**	**212**	*i* P	**Pn**	**10 45 40.9**	**-1.3**
BLCB	**Balcova**	**1.76**	**245**	*e*PN	**Pb**	**10 45 43.0**	**-0.7**
BLCB	**Balcova**	**1.76**	**245**	*e*Pn	**Pb**	**10 45 43.1**	**-0.7**
SPNC	**Sapanca-Adapaz**	**1.80**	**32**	*e*PN	**Pn**	**10 45 43.0**	**+0.2**
SPNC	**Sapanca-Adapaz**	**1.80**	**32**	*e*Pn	**Pn**	**10 45 43.0**	**+0.2**
KRBG	**Karabiga-Canak**	**1.84**	**313**	*e*PN	**Pb**	**10 45 44.1**	**-1.1**
KRBG	**Karabiga-Canak**	**1.84**	**313**	*e*Pn	**Pb**	**10 45 44.1**	**-1.1**
AYVA	**Ayvalik**	**1.85**	**276**	*i* P	**Pg**	**10 45 47.0**	**+0.5**
AYVA				*i* S	**Sg**	**10 46 12.3**	**+1.7**
ISK	**Istanbul-Kandi**	**1.91**	**360**	*e*PN	**Pn**	**10 45 44.4**	**+0.2**
ISK	**Istanbul-Kandi**	**1.91**	**360**	*e*Pn	**Pn**	**10 45 44.4**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.93**	**81**	*e*PN	**Pn**	**10 45 44.6**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.93**	**81**	*e*Pn	**Pn**	**10 45 44.7**	**+0.1**
GOLH	**Golhisar**	**1.95**	**168**	*i* P	**Pn**	**10 45 44.3**	**-0.6**
GOLH	**Golhisar**	**1.95**	**168**	*i* P	**Pn**	**10 45 44.3**	**-0.6**
BGKT	**Bogazkoy**	**2.04**	**354**	*e*PN	**Pn**	**10 45 46.5**	**+0.6**
BGKT	**Bogazkoy**	**2.04**	**354**	*e*Pn	**Pn**	**10 45 46.5**	**+0.6**
SILT	**Sile**	**2.04**	**12**	*e*PN	**Pn**	**10 45 46.5**	**+0.4**
SILT	**Sile**	**2.04**	**12**	*e*Pn	**Pn**	**10 45 46.5**	**+0.4**
GCAM	**G?zelcaml?**	**2.04**	**225**	*i* P	**Pb**	**10 45 48.5**	**-0.1**
ELBA	**Catalca**	**2.05**	**346**	*i* P	**Pn**	**10 45 45.1**	**-1.1**
ELBA				*i* S	**Sg**	**10 46 16.7**	**-0.1**
ELBA	**Catalca**	**2.05**	**346**	*i* P	**Pn**	**10 45 45.1**	**-1.1**
BCK	**Bucak**	**2.07**	**144**	*e*PN	**Pn**	**10 45 46.5**	**0.0**
BCK	**Bucak**	**2.07**	**144**	*e*Pn	**Pn**	**10 45 46.5**	**0.0**
MDUB	**Mudurnu**	**2.10**	**51**	*e*PN	**Pn**	**10 45 47.1**	**+0.1**
MDUB	**Mudurnu**	**2.10**	**51**	*e*Pn	**Pn**	**10 45 47.1**	**+0.1**
YER	**Yerkesik**	**2.11**	**197**	*e*PN	**Pn**	**10 45 46.8**	**-0.2**
YER	**Yerkesik**	**2.11**	**197**	*e*Pn	**Pn**	**10 45 46.8**	**-0.2**
RKY	**Sarkoy-Tekirda**	**2.11**	**317**	*e*PN	**Pn**	**10 45 48.1**	**+1.1**
RKY	**Sarkoy-Tekirda**	**2.11**	**317**	*e*Pn	**Pn**	**10 45 48.1**	**+1.1**
CTKS	**Kestanelik-??a**	**2.12**	**348**	*e*PN	**Pn**	**10 45 47.9**	**+0.7**
CTKS	**Kestanelik-??a**	**2.12**	**348**	*e*Pn	**Pn**	**10 45 47.9**	**+0.7**
MFT	**Murefte**	**2.13**	**320**	*e*PN	**Pn**	**10 45 48.6**	**+1.2**
MFT	**Murefte**	**2.13**	**320**	*e*Pn	**Pn**	**10 45 48.6**	**+1.2**
LPK	**Lapseki**	**2.15**	**305**	*e*PN	**Pn**	**10 45 48.4**	**+0.8

South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.48**	**208**	⇑PN	Pn	10 54 14.6	-0.7
DCZ				SN	Sn	10 54 25.5	-0.8
MSZ	**Milford Sound**	**0.50**	**41**	PN	Pn	10 54 15.5	0.0
MSZ				SN	Sn	10 54 26.6	+0.1
MLZ	**Mavora Lakes**	**0.58**	**121**	⇓PN	Pn	10 54 15.8	-0.4
MLZ				SN	Sn	10 54 27.4	-0.4
WHZ	**Wether Hill Ro**	**0.91**	**159**	⇓PN	Pn	10 54 19.0	-0.4
WHZ				SN	Sn	10 54 32.7	-0.8
WKZ	**Wanaka**	**1.12**	**79**	PN	Pn	10 54 22.0	+0.2
WKZ				SN	Sn	10 54 37.9	+0.2
PYZ	**Puysegur Point**	**1.25**	**206**	PN	Pn	10 54 23.5	+0.2
PYZ				SN	Sn	10 54 39.5	-0.9
EAZ	**Earnscleugh**	**1.31**	**99**	⇓PN	Pn	10 54 24.1	0.0
EAZ				SN	Sn	10 54 41.0	-0.7
JCZ	**Jackson Bay**	**1.34**	**44**	PN	Pn	10 54 24.0	-0.5
JCZ				SN	Sn	10 54 41.8	-0.9
TUZ	**Tuapeka**	**1.77**	**122**	⇓PN	Pn	10 54 29.5	-0.2
TUZ				SN	Sn	10 54 50.2	-1.8
APZ	**The Paps**	**1.82**	**169**	PN	Pn	10 54 30.0	-0.6
APZ				SN	Sn	10 54 52.8	-0.5
SYZ	**Scrubby Hill**	**1.89**	**143**	PN	Pn	10 54 31.1	-0.3
LBZ	**Lake Benmore**	**2.04**	**72**	⇓PN	Pn	10 54 32.0	-1.4
LBZ				SN	Sn	10 54 56.2	-2.3
FOZ	**Fox Glacier**	**2.18**	**48**	PN	Pn	10 54 34.8	-0.4
ODZ	**Otahua Downs**	**2.25**	**91**	⇑PN	Pn	10 54 35.1	-1.0
RPZ	**Rata Peaks**	**2.89**	**64**	⇓PN	Pn	10 54 42.5	-2.2
WVZ	**Waitaha Valley**	**3.07**	**51**	PN	Pn	10 54 45.3	-1.8
LTZ	**Lake Taylor**	**4.14**	**58**	PN	Pn	10 54 58.3	-3.3

*ISCJB **17** 10:54:15.8±0.4, 39°.12N±0°.02×29°.04E±0°.03, h5km±7km, Error ellipse: s-maj=3.9km s-min=3.8km az=172.7*
*ISK **17** 10:54:15.0, 39°.12N×29°.03E, h7km, MD2.6*
*DDA **17** 10:54:15.8, 39°.13N×29°.07E, h7km, MD2.5*
*CSEM **17** 10:54:16.0±0.1, 39°.12N×29°.04E, h8km, MD2.5, Error ellipse: s-maj=2.0km s-min=1.8km az=83.0*

ISC 17 10:54:15.8±1.0, 39°.12N±0°.02×29°.03E±0°.02, h10km±11km, n30, σ0s35/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**253**	*i* P	**Pb**	**10 54 22.3**	**-0.3**
DEMI				*i* S	**Sb**	**10 54 26.2**	**-0.9**
DEMI	**Demirci**	**0.26**	**253**	*i* P	**Pb**	**10 54 22.3**	**-0.3**
DEMI				*i* S	**Sb**	**10 54 26.2**	**-0.9**
GDZ	**Gediz**	**0.35**	**95**	*i* P	**Pg**	**10 54 22.8**	**0.0**
GDZ				*i* S	**Sg**	**10 54 27.4**	**-0.1**
GDZ	**Gediz**	**0.35**	**95**	*i* P	**Pg**	**10 54 22.8**	**0.0**
GDZ				*i* S	**Sg**	**10 54 27.4**	**-0.1**
TVSB	**Tavsanli**	**0.47**	**45**	*e*PG	**Pg**	**10 54 24.5**	**-0.5**
TVSB				*e*SG	**Sg**	**10 54 30.7**	**-0.5**
TVSB	**Tavsanli**	**0.47**	**45**	*e*Pg	**Pg**	**10 54 24.5**	**-0.5**
TVSB				*e*Sg	**Sg**	**10 54 30.7**	**-0.5**
DST	**Dursunbey**	**0.58**	**327**	*e*PG	**Pg**	**10 54 27.2**	**+0.1**
DST				*e*SG	**Sg**	**10 54 35.1**	**+0.4**
DST	**Dursunbey**	**0.58**	**327**	*e*Pg	**Pg**	**10 54 27.2**	**+0.1**
DST				*e*Sg	**Sg**	**10 54 35.1**	**+0.4**
DURS	**Dursunbey**	**0.65**	**318**	*i* P	**Pg**	**10 54 29.0**	**+0.6**
DURS				*i* S	**Sb**	**10 54 38.0**	**-0.4**
DURS	**Dursunbey**	**0.65**	**318**	*i* P	**Pg**	**10 54 29.0**	**+0.6**
DURS				*i* S	**Sb**	**10 54 38.0**	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**206**	*e*PG	**Pg**	**10 54 28.6**	**-0.2**
KULA				*e*SG	**Sg**	**10 54 37.5**	**-0.1**
KULA	**Kula-Manisa**	**0.67**	**206**	*e*Pg	**Pg**	**10 54 28.6**	**-0.2**
KULA				*e*Sg	**Sg**	**10 54 37.5**	**-0.1**
MANT	**Manisa**	**0.73**	**211**	*i* P	**Pg**	**10 54 30.3**	**+0.4**
MANT				*i* S	**Sg**	**10 54 39.9**	**+0.4**
MANT	**Manisa**	**0.73**	**211**	*i* P	**Pg**	**10 54 30.3**	**+0.4**
MANT				*i* S	**Sg**	**10 54 39.9**	**+0.4**
KHAL	**Karahalli**	**0.83**	**154**	*i* P	**Pg**	**10 54 31.9**	**+0.1**
KHAL				*i* S	**Sg**	**10 54 42.9**	**+0.3**
KHAL	**Karahalli**	**0.83**	**154**	*i* P	**Pg**	**10 54 31.9**	**+0.1**
KHAL				*i* S	**Sg**	**10 54 42.9**	**+0.3**
ALT	**Altintas**	**0.84**	**94**	*e*PG	**Pb**	**10 54 32.6**	**+0.1**
ALT				*e*SG	**Sb**	**10 54 44.0**	**+0.1**
ALT	**Altintas**	**0.84**	**94**	*e*Pg	**Pb**	**10 54 32.6**	**+0.1**
ALT				*e*Sg	**Sb**	**10 54 44.0**	**+0.1**
KHL	**Karahalli**	**0.88**	**154**	*e*PG	**Pg**	**10 54 33.0**	**+0.2**
KHL	**Karahalli**	**0.88**	**154**	*e*Pg	**Pg**	**10 54 33.0**	**+0.2**
ORLT	**Orhaneli**	**0.93**	**354**	*e*PG	**Pg**	**10 54 33.8**	**0.0**
ORLT	**Orhaneli**	**0.93**	**354**	*e*Pg	**Pg**	**10 54 33.8**	**0.0**
BORA	**Eskisehir**	**1.33**	**55**	*i* P	**Pg**	**10 54 41.6**	**+0.2**
BORA				*i* S	**Sg**	**10 54 59.1**	**+0.3**
BORA	**Eskisehir**	**1.33**	**55**	*i* P	**Pg**	**10 54 41.6**	**+0.2**
BORA				*i* S	**Sg**	**10 54 59.1**	**+0.3**
GONE	**Gonen-Balikesi**	**1.39**	**312**	*e*PN	**Pn**	**10 54 41.3**	**0.0**
GONE	**Gonen-Balikesi**	**1.39**	**312**	*e*Pn	**Pb**	**10 54 41.3**	**0.0**
ARMT	**Armutlu**	**1.45**	**355**	*e*Pn	**Pb**	**10 54 42.9**	**0.0**
ARMT	**Armutlu**	**1.45**	**355**	*e*Pn	**Pb**	**10 54 42.9**	**0.0**
YLV	**Yalova**	**1.47**	**10**	*e*Pn	**Pn**	**10 54 42.7**	**+0.3**
YLV	**Yalova**	**1.47**	**10**	*e*Pn	**Pn**	**10 54 42.7**	**+0.3**

*ISCJB **17** 10:55:04.8±0.7, 39°.14N±0°.04×29°.01E±0°.04, h1km±10km, Error ellipse: s-maj=6.9km s-min=4.3km az=140.4*
*ISK **17** 10:55:04.5, 39°.12N×29°.05E, h9km, MD2.6*
*DDA **17** 10:55:05.5, 39°.09N×29°.05E, h7km, MD2.5*
*CSEM **17** 10:55:05.4±0.1, 39°.14N×29°.02E, h8km, MD2.5, Error ellipse: s-maj=3.5km s-min=2.9km az=110.0*

ISC 17 10:55:05.5±1.1, 39°.14N±0°.03×29°.02E±0°.03, h6km±14km, n26, σ0s52/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.36**	**97**	*i* P	**Pg**	**10 55 12.4**	**-0.2**
GDZ				*i* S	**Sg**	**10 55 17.7**	**+0.3**
GDZ	**Gediz**	**0.36**	**97**	*i* P	**Pg**	**10 55 12.4**	**-0.2**
GDZ				*i* S	**Sg**	**10 55 17.7**	**+0.3**
TVSB	**Tavsanli**	**0.47**	**48**	*e*PG	**Pg**	**10 55 14.4**	**-0.1**
TVSB				*e*SG	**Sg**	**10 55 20.4**	**-0.2**
TVSB	**Tavsanli**	**0.47**	**48**	*e*Pg	**Pg**	**10 55 14.4**	**-0.1**
TVSB				*e*Sg	**Sg**	**10 55 20.4**	**-0.2**
KULA	**Kula-Manisa**	**0.68**	**204**	*e*PG	**Pg**	**10 55 18.3**	**-0.3**
KULA				*e*SG	**Sg**	**10 55 27.1**	**-0.3**
KULA	**Kula-Manisa**	**0.68**	**204**	*e*Pg	**Pg**	**10 55 18.3**	**-0.3**
KULA				*e*Sg	**Sg**	**10 55 27.1**	**-0.3**
MANT	**Manisa**	**0.74**	**209**	*i* P	**Pg**	**10 55 20.0**	**+0.3**
MANT				*i* S	**Sg**	**10 55 29.5**	**+0.2**
MANT	**Manisa**	**0.74**	**209**	*i* P	**Pg**	**10 55 20.0**	**+0.3**
MANT				*i* S	**Sg**	**10 55 29.5**	**+0.2**
KHAL	**Karahalli**	**0.85**	**154**	*i* P	**Pb**	**10 55 23.6**	**+0.8**
KHAL				*i* S	**Sg**	**10 55 32.4**	**-0.5**
KHAL	**Karahalli**	**0.85**	**154**	*i* P	**Pb**	**10 55 23.6**	**+0.8**
KHAL				*i* S	**Sg**	**10 55 32.4**	**-0.5**
ALT	**Altintas**	**0.85**	**95**	*e*PG	**Pg**	**10 55 21.8**	**-0.1**
ALT				*e*SG	**Sg**	**10 55 32.3**	**-0.7**
ALT	**Altintas**	**0.85**	**95**	*e*Pg	**Pg**	**10 55 21.8**	**-0.1**
ALT				*e*Sg	**Sg**	**10 55 32.3**	**-0.7**
ORLT	**Orhaneli**	**0.91**	**354**	*e*PG	**Pg**	**10 55 23.1**	**+0.1**
ORLT	**Orhaneli**	**0.91**	**354**	*e*Pg	**Pg**	**10 55 23.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*PN	**Pg**	**10 55 29.0**	**-0.3**
KCTX	**Karacabey (Bur**	**1.24**	**336**	*e*Pn	**Pg**	**10 55 29.0**	**-0.3**
BORA	**Eskisehir**	**1.34**	**56**	*i* P	**Pn**	**10 55 30.7**	**-0.2**
BORA				*i* S	**Sg**	**10 55 49.5**	**+1.0**
BORA	**Eskisehir**	**1.34**	**56**	*i* P	**Pn**	**10 55 30.7**	**-0.2**
BORA				*i* S	**Sg**	**10 55 49.5**	**+1.0**
GONE	**Gonen-Balikesi**	**1.37**	**312**	*e*PN	**Pn**	**10 55 31.4**	**+0.1**
GONE	**Gonen-Balikesi**	**1.37**	**312**	*e*Pn	**Pn**	**10 55 31.4**	**+0.1**
ARMT	**Armutlu**	**1.43**	**355**	*e*PN	**Pn**	**10 55 31.4**	**-0.7**
ARMT	**Armutlu**	**1.43**	**355**	*e*Pn	**Pn**	**10 55 31.4**	**-0.7**
BNT	**Bandirma**	**1.48**	**326**	*e*PN	**Pn**	**10 55 31.9**	**-0.9**
BNT	**Bandirma**	**1.48**	**326**	*e*Pn	**Pn**	**10 55 31.9**	**-0.9**
GULT	**Gulveren**	**1.73**	**41**	*e*PN	**Pn**	**10 55 35.6**	**-0.7**
GULT	**Gulveren**	**1.73**	**41**	*e*Pn	**Pn**	**10 55 35.6**	**-0.7**

IDC 17 10:58:12.9±6.5, 8°.30S×156°.31E, h89km±53km, mb3.8/11, mb1 3.9/12, mb1mx3.9/18, mbtmp3.8/12, ML3.3/1, MS3.6/4, Ms1 3.6/4, ms1mx3.0/28, Error ellipse: s-maj=48.3km s-min=19.9km az=101.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**9.11**	**262**	P	Pn	11 00 22.0	+0.4
	1.5nm,0.3s,baz=143,slow=5.1,SNR=4.9						
CTA	**Charters Tower**	**15.24**	**219**	P	P	11 01 47.4	+1.2
	0.2nm,0.3s,baz=57,slow=14,SNR=5.1						
WRA	**Warramunga Arr**	**24.22**	**239**	P	P	11 03 20.9	-0.6
	7.8nm,0.9s,baz=65,slow=9.5,SNR=24						
WRA				LR	LR	11 12 27.8	
	comp=Z,95nm,18.4s,baz=45,slow=35						
GUMO	**Guam**	**24.53**	**332**	LR	LR	11 10 55.4	
	comp=Z,72nm,21.0s,baz=123,slow=31						
ASAR	**Alice Springs**	**26.35**	**232**	P	P	11 03 39.4	-1.5
	0.6nm,0.7s,baz=65,slow=8.9,SNR=8.5						
STKA	**Stephens Creek**	**27.17**	**208**	P	P	11 03 49.8	+1.7
	4.6nm,0.8s,baz=22,slow=9.9,SNR=8.2						
MJAR	**Matsushiro Arr**	**47.73**	**340**	P	P	11 06 39.5	-1.5
	1.5nm,0.7s,baz=191,slow=9.2,SNR=4.2						
JNU	**Nakatsue**	**47.77**	**331**	P	P	11 06 42.4	+1.0
	3.9nm,0.8s,baz=165,slow=4.2,SNR=4.4						
KSRS	**Korea Array**	**52.70**	**332**	P	P	11 07 19.5	+1.1
	1.0nm,0.6s,baz=140,slow=6.6,SNR=5.1						
KSRS				LR	LR	11 26 25.3	
	comp=Z,28nm,20.4s,baz=152,slow=32						
SONM	**Songino Array**	**71.13**	**327**	P	P	11 09 22.6	+0.5
	1.1nm,0.6s,baz=140,slow=7.1,SNR=10						
ILAR	**Eielson Array**	**84.10**	**21**	P	P	11 10 32.4	-1.3
	0.6nm,1.0s,baz=238,slow=5.0,SNR=4.0						
MKAR	**Makanchi Array**	**85.24**	**318**	P	P	11 10 39.8	0.0
	1.8nm,0.7s,baz=105,slow=5.3,SNR=17						
ZALV	**Zalesovo Beam**	**85.98**	**326**	P	P	11 10 42.5	-0.8
	0.6nm,0.4s,baz=119,slow=5.7,SNR=3.0						
RPN	**Rapa Nui**	**90.11**	**117**	LR	LR	11 42 32.4	
	comp=Z,110nm,19.6s,baz=144,slow=30						
YKA	**Yellowknife Ar**	**96.87**	**28**	P	P	11 11 34.5	+0.7
	0.4nm,0.9s,baz=268,slow=4.5,SNR=4.9						

*ISK **17** 11:00:50.8, 39°.15N×29°.06E, h8km, MD2.6*
*DDA **17** 11:00:50.8, 39°.14N×29°.08E, h7km, MD2.7*
*ISCJB **17** 11:00:51.0±0.4, 39°.13N±0°.02×29°.07E±0°.03, h3km±5km, Error ellipse: s-maj=4.1km s-min=3.6km az=167.8*
*CSEM **17** 11:00:51.4±0.1, 39°.13N×29°.06E, h8km, MD2.7, Error ellipse: s-maj=1.7km s-min=1.6km az=63.0*

ISC 17 11:00:51.2±0.9, 39°.13N±0°.02×29°.05E±0°.02, h11km±8km, n36, σ0s31/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.28**	**252**	*i* P	**Pb**	**11 00 57.5**	**-0.8**
DEMI				*i* S	**Sg**	**11 01 01.2**	**+0.5**
DEMI	**Demirci**	**0.28**	**252**	*i* P	**Pb**	**11 00 57.5**	**-0.8**
DEMI				*i* S	**Sg**	**11 01 01.2**	**+0.5**
TVSB	**Tavsanli**	**0.45**	**44**	*e*PG	**Pg**	**11 00 59.9**	**-0.3**
TVSB				*e*SG	**Sg**	**11 01 05.8**	**-0.4**
TVSB	**Tavsanli**	**0.45**	**44**	*e*Pg	**Pg**	**11 00 59.9**	**-0.3**
TVSB				*e*Sg	**Sg**	**11 01 05.8**	**-0.4**
DST	**Dursunbey**	**0.58**	**325**	*e*PG	**Pg**	**11 01 02.5**	**-0.1**
DST				*e*SG	**Sg**	**11 01 10.2**	**-0.1**
DST	**Dursunbey**	**0.58**	**325**	*e*Pg	**Pg**	**11 01 02.5**	**-0.1**
DST				*e*Sg	**Sg**	**11 01 10.2**	**-0.1**
DURS	**Dursunbey**	**0.65**	**317**	*i* P	**Pg**	**11 01 04.1**	**+0.1**
DURS				*i* S	**Sb**	**11 01 13.8**	**-0.1**
DURS	**Dursunbey**	**0.65**	**317**	*i* P	**Pg**	**11 01 04.1**	**+0.1**
DURS				*i* S	**Sb**	**11 01 13.8**	**-0.1**
KULA	**Kula-Manisa**	**0.68**	**207**	*e*PG	**Pg**	**11 01 04.5**	**0.0**
KULA	**Kula-Manisa**	**0.68**	**207**	*e*Pg	**Pg**	**11 01 04.5**	**0.0**
MANT	**Manisa**	**0.74**	**212**	*i* P	**Pb**	**11 01 05.9**	**-0.5**
MANT				*i* S	**Sg**	**11 01 15.1**	**-0.3**
MANT	**Manisa**	**0.74**	**212**	*i* P	**Pb**	**11 01 05.9**	**-0.5**
MANT				*i* S	**Sg**	**11 01 15.1**	**-0.3**
ALT	**Altintas**	**0.82**	**95**	*e*PG	**Pb**	**11 01 07.8**	**+0.1**
ALT				*e*SG	**Sb**	**11 01 19.1**	**+0.3**
ALT	**Altintas**	**0.82**	**95**	*e*Pg	**Pb**	**11 01 07.8**	**+0.1**
ALT				*e*Sg	**Sb**	**11 01 19.1**	**+0.3**
KHAL	**Karahalli**	**0.83**	**155**	*i* P	**Pb**	**11 01 07.5**	**-0.2**
KHAL				*i* S	**Sg**	**11 01 18.4**	**+0.3**
KHAL	**Karahalli**	**0.83**	**155**	*i* P	**Pb**	**11 01 07.5**	**-0.2**
KHAL				*i* S	**Sg**	**11 01 18.4**	**+0.3**
KHL	**Karahalli**	**0.88**	**155**	*e*PG	**Pb**	**11 01 08.4**	**-0.2**
KHL	**Karahalli**	**0.88**	**155**	*e*Pg	**Pb**	**11 01 08.4**	**-0.2**
ORLT	**Orhaneli**	**0.93**	**352**	*e*PG	**Pg**	**11 01 08.8**	**-0.3**
AKHS	**Akhisar**	**1.00**	**256**	*i* P	**Pb**	**11 01 10.9**	**+0.4**
AKHS				*e*S	**Sn**	**11 01 24.8**	**-0.4**
AKHS	**Akhisar**	**1.00**	**256**	*i* P	**Pb**	**11 01 10.9**	**+0.4**
AKHS				*e*S	**Sn**	**11 01 24.8**	**-0.4**
CAVI	**Cavuskoy**	**1.23**	**29**	*e*PN	**Pg**	**11 01 14.8**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**354**	*e*PN	**Pb**	**11 01 14.8**	**0.0**
MDNY	**Mudanya-Bursa**	**1.25**	**354**	*e*Pn	**Pb**	**11 01 14.8**	**0.0**
KCTX	**Karacabey (Bur**	**1.26**	**335**	*e*PN	**Pb**	**11 01 15.0**	**0.0**
KCTX	**Karacabey (Bur**	**1.26**	**335**	*e*Pn	**Pb**	**11 01 15.0**	**0.0**
BALY	**Balya**	**1.27**	**299**	*i* P	**Pg**	**11 01 15.7**	**+0.1**
BALY				*i* S	**Sn**	**11 01 32.2**	**+0.2**
BALY	**Balya**	**1.27**	**299**	*i* P	**Pg**	**11 01 15.7**	**+0.1**
BALY				*i* S	**Sn**	**11 01 32.2**	**+0.2**
BORA	**Eskisehir**	**1.32**	**55**	*i* P	**Pb**	**11 01 16.0**	**-0.1**
BORA				*i* S	**Sn**	**11 01 33.3**	**0.0**
BORA	**Eskisehir**	**1.32**	**55**	*i* P	**Pb**	**11 01 16.0**	**-0.1**
BORA				*i* S	**Sn**	**11 01 33.3**	**0.0**
GONE	**Gonen-Balikesi**	**1.40**	**311**	*e*PN	**Pn**	**11 01 16.8**	**+0.1**
GONE	**Gonen-Balikesi**	**1.40**	**311**	*e*Pn	**Pn**	**11 01 16.8**	**+0.1**
ARMT	**Armutlu**	**1.45**	**354**	*e*PN	**Pn**	**11 01 17.8**	**+0.4**
ARMT	**Armutlu**	**1.45**	**354**	*e*Pn	**Pn**	**11 01 17.8**	**+0.4**
GULT	**Gulveren**	**1.72**	**40**	*e*PN	**Pb**	**11 01 22.5**	**-0.4**
GULT	**Gulveren**	**1.72**	**40**	*e*Pn	**Pb**	**11 01 22.5**	**-0.4**

IDC 17 11:07:46.5±2.0, 5°.16S×151°.68E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, Error ellipse: s-maj=78.1km s-min=25.6km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.16**	**227**	Pn	Pn	11 09 23.6	+4.9
	0.5nm,0.3s,baz=40,slow=17,SNR=2.6						
PMG				Sn	Sn	11 10 32.6	+2.7
	1.2nm,0.3s,baz=274,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	**22.38**	**227**	P	P	11 12 47.2	+0.7
	0.4nm,0.6s,baz=53,slow=10.0,SNR=4.2						
ASAR	**Alice Springs**	**25.14**	**221**	P	P	11 13 13.0	-0.5
	1.0nm,0.6s,baz=55,slow=9.1,SNR=18						
SONM	**Songino Array**	**66.04**	**328**	P	P	11 18 35.0	-0.3
	0.2nm,0.4s,baz=116,slow=9.8,SNR=2.2						
ILAR	**Eielson Array**	**82.91**	**22**	P	P	11 20 13.4	+0.5
	0.1nm,0.8s,baz=234,slow=6.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**149.35**	**287**	PKPbc	PKPbc	11 27 38.0	-0.6
	0.3nm,0.3s,baz=65,slow=1.3,SNR=5.7						

IDC 17 11:17:04.1±4.8, 6°.02S×147°.16E, h97km±45km, mb3.7/4, mb1 4.0/6, mb1mx3.5/17, mbtmp3.8/6, Error ellipse: s-maj=49.1km s-min=27.5km az=133.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.36**	**180**	P	Pn	11 17 55.3	+0.6
	22nm,0.3s,baz=12,slow=9.3,SNR=159						
PMG				S	Sn	11 18 34.0	+0.3
	18nm,0.3s,baz=122,slow=13,SNR=3.0						
CTA	**Charters Tower**	**14.01**	**184**	P	P	11 20 22.1	-1.0
	0.7nm,0.3s,baz=1.5,slow=14,SNR=6.9						
WRA	**Warramunga Arr**	**18.62**	**221**	P	P	11 21 13.6	-0.6
	0.3nm,0.3s,baz=45,slow=12,SNR=33						
ASAR	**Alice Springs**	**21.69**	**215**	P	P	11 21 47.2	-0.1
	1.5nm,0.5s,baz=50,slow=9.0,SNR=27						
FITZ	**Fitzroy Crossi**	**24.19**	**238**	P	P	11 22 11.8	0.0
	14nm,0.7s,baz=66,slow=8.8,SNR=21						
STKA	**Stephens Creek**	**26.24**	**191**	P	P	11 22 30.6	+0.4
	0.9nm,0.3s,baz=351,slow=13,SNR=2.9						
ILAR	**Eielson Array**	**85.44**	**23**	P	P	11 29 30.5	-0.2
	0.6nm,0.7s,baz=254,slow=5.0,SNR=11						

IDC 17 11:36:01.1±6.0, 5°.70S×129°.14E, h334km±76km, mb3.2/5, mb1 3.2/8, mb1mx3.1/16, mbtmp3.1/8, Error ellipse: s-maj=33.6km s-min=25.7km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.80**	**195**	P	P	11 38 51.7	-0.5
	0.8nm,0.3s,baz=63,slow=14,SNR=10						
FITZ				S	S	11 41 12.6	-1.1
	0.8nm,0.3s,baz=262,slow=22,SNR=3.1						
WRA	**Warramunga Arr**	**15.04**	**161**	P	P	11 39 15.9	-1.0
	0.2nm,0.3s,baz=341,slow=13,SNR=12						
WRA				S	S	11 42 01.1	+1.7
	0.8nm,0.3s,baz=334,slow=22,SNR=9.4						
ASAR	**Alice Springs**	**18.45**	**166**	P	P	11 39 54.3	+0.6
	0.4nm,0.3s,baz=346,slow=10,SNR=12						
CMAR	**Chiang Mai Arr**	**38.25**	**310**	P	P	11 42 50.3	0.0
	1.7nm,0.5s,baz=135,slow=7.1,SNR=16						
MJAR	**Matsushiro Arr**	**42.87**	**11**	P	P	11 43 27.4	-0.2
	1.3nm,0.8s,baz=168,slow=7.3,SNR=3.1						
SONM	**Songino Array**	**56.94**	**342**	P	P	11 45 12.1	-0.4
	0.2nm,0.4s,baz=159,slow=9.3,SNR=2.4						
MKAR	**Makanchi Array**	**66.67**	**327**	P	P	11 46 16.9	+0.2
	0.8nm,0.5s,baz=114,slow=8.9,SNR=20						
ZALV	**Zalesovo Beam**	**70.04**	**334**	P	P	11 46 36.6	-0.6
	0.6nm,0.3s,baz=128,slow=6.9,SNR=3.6						

*IDC **17** 11:49:17.3±21.0, 4°.28N×72°.26W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/22, mbtmp3.6/3, Error ellipse: s-maj=465.5km s-min=72.4km az=166.0*
*ISCJB **17** 11:49:53.0±1.2, 6°.91N±0°.10×73°.03W±0°.08, h166km, mb3.4/3, Error ellipse: s-maj=13.6km s-min=11.0km az=175.8*
*FUNV **17** 11:49:52.3, 6°.72N×73°.18W, h166km, MW3.2*

ISC 17 11:49:54.6±1.5, 6°.9N±0°.1×72°.98W±0°.10, h166km, n15, σ0s82/19, mb3.6/3, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.13**	**35**	⇑*i*P	**Pn**	**11 50 22.0**	**-0.2**
CAPV				*e*S	**Sn**	**11 50 43.3**	**-0.3**
VIGV	**El Vigia**	**2.48**	**40**	*e*P	**Pn**	**11 50 37.2**	**+0.9**
VIGV				*e*S	**Sn**	**11 51 09.7**	**+1.1**
SOCV	**Socops**	**2.49**	**57**	*e*P	**Pn**	**11 50 36.7**	**+0.3**
SOCV				*e*S	**Sn**	**11 51 08.9**	**0.0**
ELOV	**Elorza**	**3.47**	**89**	*e*P	**Pn**	**11 50 48.2**	**-0.3**
VIRV	**Villa del Rosa**	**3.59**	**9**	⇑*e*P	**Pn**	**11 50 48.9**	**-1.2**
VIRV				*e*S	**Sn**	**11 51 32.2**	**-1.1**
QARV	**Quebrada Arrib**	**4.05**	**37**	*e*P	**Pn**	**11 50 56.3**	**+0.2**
CURV	**Curarigua**	**4.27**	**44**	*e*P	**Pn**	**11 50 58.8**	**-0.1**
TEPV	**Terepaima**	**4.80**	**51**	*e*P	**Pn**	**11 51 05.4**	**-0.4**
SIQV	**Siquisique**	**4.84**	**40**	*e*P	**Pn**	**11 51 06.3**	**0.0**
BAUV	**El Baul**	**5.28**	**67**	*e*P	**Pn**	**11 51 10.4**	**-1.6**
MONV	**Montecano**	**5.80**	**31**	*e*P	**Pn**	**11 51 18.3**	**-0.6**
CUPV	**Cepira**	**7.76**	**66**	*e*P	**Pn**	**11 51 43.6**	**-1.3**
TXAR	**Lajitas Array**	**36.49**	**311**	P	**P**	**11 56 44.2**	**0.0**
	0.2nm,0.5s,baz=123,slow=9.8,SNR=6.1						
SCHQ	**Schefferville**	**48.02**	**5**	P	**P**	**11 58 17.8**	**+1.1**
	1.6nm,1.0s,baz=188,slow=8.9,SNR=5.1						
YKA	**Yellowknife Ar**	**63.21**	**340**	P	**P**	**12 00 04.7**	**-0.1**
	0.5nm,0.6s,baz=132,slow=6.7,SNR=18						

*ISCJB **17** 11:53:03.3±0.4, 39°.11N±0°.02×29°.02E±0°.03, h2km±5km, Error ellipse: s-maj=4.2km s-min=3.3km az=175.3*
*ISK **17** 11:53:03.2, 39°.12N×29°.06E, h4km, MD2.7*
*DDA **17** 11:53:03.3, 39°.12N×29°.02E, h7km, MD3.0*
*CSEM **17** 11:53:03.9±0.1, 39°.11N×29°.04E, h5km, MD3.0, Error ellipse: s-maj=2.3km s-min=2.1km az=1.0*

ISC 17 11:53:03.7±1.0, 39°.13N±0°.02×29°.02E±0°.02, h9km±11km, n52, σ0s64/72, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.36**	**97**	*i* P	**Pg**	**11 53 10.9**	**-0.1**
GDZ				*i* S	**Sg**	**11 53 16.1**	**+0.3**
GDZ

JYS	**Shirataka**	**2.00**	**301**	P	**Pb**	**11 58 00.3**	**-0.9**
JYS				*e*S	**Sn**	**11 58 24.4**	**+0.6**
JFY	**Yanaizu**	**2.04**	**276**	P	**Pb**	**11 58 00.9**	**-0.9**
JFY				*e*S	**Sn**	**11 58 25.3**	**+0.5**
JYK	**Kaneyama**	**2.26**	**319**	P	**Pn**	**11 58 03.4**	**+1.2**
MJAR	**Matsushiro Arr**	**3.31**	**259**	Pn	**Pn**	**11 58 18.7**	**+2.1**
	3.6nm,0.3s,baz=110,slow=30,SNR=40						
MJAR				Sn	**Sb**	**11 59 01.3**	**-2.6**
	2.2nm,0.3s,baz=118,slow=12,SNR=1.7						
MAT	**Matsushiro**	**3.31**	**259**	P	**Pn**	**11 58 19.8**	**+3.2**
MAT				*e*S	**Sn**	**11 58 57.5**	**+1.3**
JHJ	**Hachijo jima 2**	**4.56**	**207**	Pn	**Pn**	**11 58 35.4**	**+1.7**
	9.0nm,0.3s,baz=41,slow=19,SNR=2.3						
JHJ				Sn	**Sn**	**11 59 24.8**	**-2.2**
	15nm,0.3s,baz=71,slow=22,SNR=2.0						
ASAJ	**Asahikawa**	**6.90**	**2**	LR	LR	12 02 33.7	
	comp=Z,59nm,18.6s,baz=175,slow=45						
SONM	**Songino Array**	**28.24**	**303**	P	**P**	**12 03 18.5**	**+0.5**
	0.3nm,0.5s,baz=106,slow=8.8,SNR=2.5						
MKAR	**Makanchi Array**	**44.59**	**302**	P	**P**	**12 05 38.1**	**+1.1**
	0.4nm,0.7s,baz=73,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**57.34**	**189**	P	**P**	**12 07 12.0**	**-1.0**
	0.4nm,0.7s,baz=5.9,slow=8.2,SNR=3.5						

IDC 17 11:58:57.7±2.9, 21°.53S×179°.07W, h543km±29km, mb2.9/9, mb1 3.3/10, mb1mx3.1/18, mbtmp3.0/10, Error ellipse: s-maj=75.3km s-min=15.0km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.28**	**44**	P	P	12 01 18.4	-0.2
	1.9nm,0.3s,baz=223,slow=19,SNR=3.6						
CTA	**Charters Tower**	**32.41**	**266**	P	P	12 04 43.6	+0.3
	1.6nm,0.4s,baz=92,slow=12,SNR=4.9						
STKA	**Stephens Creek**	**36.45**	**245**	P	P	12 05 17.0	+0.1
	0.8nm,0.6s,baz=102,slow=5.9,SNR=5.3						
ASAR	**Alice Springs**	**43.32**	**258**	P	P	12 06 11.9	-0.3
	0.7nm,0.4s,baz=85,slow=8.5,SNR=2.1						
ASAR				PcP	PcP	12 07 48.2	-0.6
	0.3nm,0.6s,baz=111,slow=3.5,SNR=5.4						
WRA	**Warramunga Arr**	**43.48**	**263**	P	P	12 06 12.8	-0.6
	0.7nm,0.3s,baz=93,slow=7.9,SNR=19						
NVAR	**Mina Array Bea**	**82.45**	**44**	P	P	12 10 24.5	+0.8
	0.3nm,0.8s,baz=219,slow=9.4,SNR=3.7						
TXAR	**Lajitas Array**	**88.45**	**58**	P	P	12 10 52.1	-0.5
	0.2nm,0.8s,baz=222,slow=9.3,SNR=2.9						
CMAR	**Chiang Mai Arr**	**89.52**	**290**	P	P	12 10 59.2	+1.5
	0.5nm,0.3s,baz=123,slow=2.9,SNR=4.2						
ILAR	**Eielson Array**	**89.53**	**13**	P	P	12 10 55.8	-0.8
	0.3nm,0.5s,baz=217,slow=5.4,SNR=7.6						
PDAR	**Pinedale Array**	**90.39**	**44**	P	P	12 11 01.9	+0.4
	0.2nm,0.6s,baz=179,slow=7.2,SNR=2.9						
ARCES	**ARCESS Array B**	**129.74**	**349**	PKP	PKPdf	12 17 03.5	-1.1
	1.5nm,0.7s,baz=0.0,slow=1.9,SNR=7.7						
BRTR	**Keskin Array B**	**146.76**	**311**	PKPbc	PKPbc	12 17 38.5	-0.7
	0.6nm,0.6s,baz=125,slow=3.5,SNR=4.1						
GERES	**GERESS Array B**	**150.90**	**343**	PKPbc	PKPbc	12 17 48.3	-0.7
	0.4nm,0.4s,baz=309,slow=0.9,SNR=3.8						

*ISK **17** 12:18:24.8, 39°.11N×29°.03E, h5km, MD2.9*
*ISCJB **17** 12:18:25.1±0.4, 39°.12N±0°.02×29°.03E±0°.03, h1km±5km, Error ellipse: s-maj=3.7km s-min=3.4km az=162.3*
*CSEM **17** 12:18:25.6±0.1, 39°.12N×29°.02E, h5km, MD2.9, Error ellipse: s-maj=2.1km s-min=2.0km az=76.0*
*DDA **17** 12:18:26.0, 39°.10N×28°.98E, h13km, MD3.1*
ISC 17 12:18:25.8±1.0, 39°.13N±0°.02×29°.02E±0°.02, h5km±10km, n61, σ0°.46/82, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**251**	*i* Pg	**Pg**	**12 18 31.0**	**+0.4**
DEMI				*i* Sg	**Sg**	**12 18 34.5**	**+0.6**
TVSB	**Tavsanli**	**0.47**	**46**	*e*PG	**Pg**	**12 18 34.9**	**0.0**
TVSB				*e*SG	**Sg**	**12 18 40.8**	**-0.3**
TVSB	**Tavsanli**	**0.47**	**46**	*e*Pg	**Pg**	**12 18 34.9**	**0.0**
TVSB				*e*Sg	**Sg**	**12 18 40.8**	**-0.3**
DST	**Dursunbey**	**0.57**	**327**	*e*PG	**Pg**	**12 18 36.0**	**-0.7**
DST	**Dursunbey**	**0.57**	**327**	*e*Pg	**Pg**	**12 18 36.0**	**-0.7**
DURS	**Dursunbey**	**0.64**	**319**	*e*P	**Pg**	**12 18 38.2**	**+0.2**
DURS				*e*S	**Sg**	**12 18 46.9**	**+0.6**
DURS	**Dursunbey**	**0.64**	**319**	*e*P	**Pg**	**12 18 38.2**	**+0.2**
DURS				*e*S	**Sg**	**12 18 46.9**	**+0.6**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*PG	**Pg**	**12 18 38.4**	**-0.3**
KULA				*e*SG	**Sg**	**12 18 47.1**	**-0.3**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*Pg	**Pg**	**12 18 38.4**	**-0.3**
KULA				*e*Sg	**Sg**	**12 18 47.1**	**-0.3**
MANT	**Manisa**	**0.73**	**210**	*i* P	**Pg**	**12 18 39.6**	**-0.2**
MANT				*i* S	**Sg**	**12 18 48.6**	**-0.6**
MANT	**Manisa**	**0.73**	**210**	*i* P	**Pg**	**12 18 39.6**	**-0.2**
MANT				*i* S	**Sg**	**12 18 48.6**	**-0.6**
KHAL	**Karahalli**	**0.84**	**154**	*e*P	**Pg**	**12 18 42.6**	**+0.7**
KHAL				*e*S	**Sg**	**12 18 52.6**	**-0.2**
KHAL	**Karahalli**	**0.84**	**154**	*e*P	**Pg**	**12 18 42.6**	**+0.7**
KHAL				*e*S	**Sg**	**12 18 52.6**	**-0.2**
ALT	**Altintas**	**0.85**	**94**	*e*PG	**Pg**	**12 18 42.2**	**+0.1**
ALT				*e*SG	**Sg**	**12 18 53.0**	**-0.2**
ALT	**Altintas**	**0.85**	**94**	*e*Pg	**Pg**	**12 18 42.2**	**+0.1**
ALT				*e*Sg	**Sg**	**12 18 53.0**	**-0.2**
KHL	**Karahalli**	**0.89**	**154**	*e*PG	**Pg**	**12 18 42.4**	**-0.5**
KHL	**Karahalli**	**0.89**	**154**	*e*Pg	**Pg**	**12 18 42.4**	**-0.5**
ORLT	**Orhaneli**	**0.93**	**354**	*e*PG	**Pg**	**12 18 42.8**	**-0.7**
ORLT				*e*SG	**Sb**	**12 18 57.0**	**+0.2**
ORLT	**Orhaneli**	**0.93**	**354**	*e*Pg	**Pg**	**12 18 42.8**	**-0.7**
ORLT				*e*Sg	**Sb**	**12 18 57.1**	**+0.2**
AKHS	**Akhisar**	**0.97**	**256**	*e*P	**Pg**	**12 18 44.7**	**+0.3**
AKHS				*e*S	**Sg**	**12 18 57.4**	**+0.4**
AKHS	**Akhisar**	**0.97**	**256**	*e*P	**Pg**	**12 18 44.7**	**+0.3**
AKHS				*e*S	**Sg**	**12 18 57.4**	**+0.4**
AKS	**Akhisar**	**0.97**	**256**	*e*PG	**Pg**	**12 18 43.2**	**-1.2**
AKS	**Akhisar**	**0.97**	**256**	*e*Pg	**Pg**	**12 18 43.2**	**-1.2**
ULDT	**Uludag**	**1.02**	**5**	*e*P	**Pg**	**12 18 45.6**	**+0.2**
ULDT				*e*S	**Sg**	**12 18 58.4**	**-0.2**
ULDT	**Uludag**	**1.02**	**5**	*e*P	**Pg**	**12 18 45.6**	**+0.2**
ULDT				*e*S	**Sg**	**12 18 58.4**	**-0.2**
BALB	**Balikesir**	**1.02**	**301**	*e*PG	**Pb**	**12 18 46.0**	**+0.1**
BALB	**Balikesir**	**1.02**	**301**	*e*Pg	**Pb**	**12 18 46.0**	**+0.1**
BALY	**Balya**	**1.25**	**300**	*e*P	**Pg**	**12 18 49.7**	**+0.1**
BALY				*e*S	**Sn**	**12 19 07.0**	**0.0**
BALY	**Balya**	**1.25**	**300**	*e*P	**Pg**	**12 18 49.7**	**+0.1**
BALY				*e*S	**Sn**	**12 19 07.0**	**0.0**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*PN	**Pg**	**12 18 49.4**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*Pn	**Pg**	**12 18 49.4**	**-0.3**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*Pn	**Pg**	**12 18 49.5**	**-0.2**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*Pn	**Pg**	**12 18 49.5**	**-0.2**
CAVI	**Cavuskoy**	**1.25**	**30**	*e*PN	**Pg**	**12 18 49.3**	**-0.4**
CAVI	**Cavuskoy**	**1.25**	**30**	*e*Pn	**Pg**	**12 18 49.3**	**-0.4**
SHUT	**Suhut-Afyon**	**1.33**	**115**	*e*PN	**Pn**	**12 18 50.5**	**-0.5**
SHUT	**Suhut-Afyon**	**1.33**	**115**	*e*Pn	**Pn**	**12 18 50.5**	**-0.5**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*PN	**Pn**	**12 18 51.3**	**-0.4**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*Pn	**Pn**	**12 18 51.3**	**-0.4**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*PN	**Pn**	**12 18 51.7**	**-0.5**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*Pn	**Pn**	**12 18 51.7**	**-0.5**
ARMT	**Armutlu**	**1.44**	**355**	*e*PN	**Pn**	**12 18 52.5**	**-0.1**
ARMT	**Armutlu**	**1.44**	**355**	*e*Pn	**Pn**	**12 18 52.5**	**-0.1**
YLV	**Yalova**	**1.47**	**11**	*e*PN	**Pn**	**12 18 52.3**	**-0.6**
YLV	**Yalova**	**1.47**	**11**	*e*Pn	**Pn**	**12 18 52.3**	**-0.6**
ESKT	**Eskisehir**	**1.47**	**74**	*e*PN	**Pn**	**12 18 53.3**	**+0.2**
ESKT	**Eskisehir**	**1.47**	**74**	*e*Pn	**Pn**	**12 18 53.3**	**+0.2**
BNT	**Bandirma**	**1.49**	**326**	*e*PN	**Pn**	**12 18 52.9**	**-0.3**
BNT	**Bandirma**	**1.49**	**326**	*e*Pn	**Pn**	**12 18 52.9**	**-0.3**
EDC	**Edincik**	**1.51**	**324**	*e*PN	**Pn**	**12 18 54.1**	**+0.6**
EDC	**Edincik**	**1.51**	**324**	*e*Pn	**Pn**	**12 18 54.1**	**+0.6**
GPA	**Golpazari**	**1.53**	**40**	*e*PN	**Pn**	**12 18 54.3**	**+0.5**
GPA	**Golpazari**	**1.53**	**40**	*e*Pn	**Pn**	**12 18 54.3**	**+0.5**
GULT	**Gulveren**	**1.74**	**41**	*e*PN	**Pn**	**12 18 57.4**	**+0.7**
GULT	**Gulveren**	**1.74**	**41**	*e*Pn	**Pn**	**12 18 57.4**	**+0.7**
KRBG	**Karabiga-Canak**	**1.83**	**314**	*e*PN	**Pn**	**12 18 58.0**	**+0.2**
KRBG	**Karabiga-Canak**	**1.83**	**314**	*e*Pn	**Pn**	**12 18 58.0**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.97**	**80**	*e*PN	**Pn**	**12 19 00.6**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.97**	**80**	*e*Pn	**Pn**	**12 19 00.6**	**+0.8**
MDUB	**Mudurnu**	**2.15**	**51**	*e*PN	**Pn**	**12 19 02.4**	**+0.1**
MDUB	**Mudurnu**	**2.15**	**51**	*e*Pn	**Pn**	**12 19 02.4**	**+0.1**

IDC 17 12:29:10.4±3.0, 21°.25S×67°.02W, h236km±45km, mb3.3/1, mb1 3.4/3, mb1mx3.1/15, mbtmp3.2/3, Error ellipse: s-maj=82.4km s-min=21.2km az=102.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.05**	**348**	P	Pn	12 30 27.7	+0.5
	3.2nm,0.3s,baz=152,slow=9.1,SNR=69						
LPAZ				S	S	12 31 27.8	-0.3
	0.3nm,0.3s,baz=359,slow=12,SNR=7.5						
PLCA	**Paso Flores**	**19.65**	**188**	P	P	12 33 21.4	-0.2
	0.1nm,0.3s,baz=8.1,slow=7.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**75.62**	**70**	P	P	12 40 30.0	+0.1
	0.3nm,0.3s,baz=254,slow=5.5,SNR=11						
MKAR	**Makanchi Array**	**144.39**	**37**	PKP	PKPbc	12 48 17.6	+0.2
	0.1nm,0.4s,baz=305,slow=5.1,SNR=3.2						

*DDA **17** 12:31:15.3, 41°.13N×36°.17E, h7km, MD2.7*
*CSEM **17** 12:31:15.3, 41°.13N×36°.17E, h7km, MD2.7, After DDA*
ISC 17 12:31:14.7±2.1, 41°.1N±0°.2×36°.16E±0°.05, h7km±10km, n11, σ0°60/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVT	**Kavak**	**0.09**	**244**	*e*PG	**Pg**	**12 31 17.0**	**+0.1**
HAVZ	**Havza**	**0.34**	**262**	*e*P	**Pg**	**12 31 21.9**	**+0.6**
HAVZ				*e*S	**Sb**	**12 31 28.3**	**-0.3**
HAVZ	**Havza**	**0.34**	**262**	*e*P	**Pg**	**12 31 21.9**	**+0.6**
HAVZ				*e*S	**Sb**	**12 31 28.3**	**-0.3**
ERBA	**Erbaa**	**0.63**	**134**	*e*P	**Pg**	**12 31 27.6**	**+0.7**
ERBA				*e*S	**Sb**	**12 31 37.1**	**-0.1**
ERBA	**Erbaa**	**0.63**	**134**	*e*P	**Pg**	**12 31 27.6**	**+0.7**
ERBA				*e*S	**Sb**	**12 31 37.1**	**-0.1**
CTKT	**Corum**	**1.15**	**245**	*e*P	**Pg**	**12 31 37.7**	**+0.9**
CTKT				*e*S	**Sn**	**12 31 53.9**	**+0.5**
CTKT	**Corum**	**1.15**	**245**	*e*P	**Pg**	**12 31 37.7**	**+0.9**
CTKT				*e*S	**Sn**	**12 31 53.9**	**+0.5**
CORM	**Corum**	**1.50**	**231**	*e*PN	**Pn**	**12 31 41.3**	**-0.8**
YOZ	**Yozgat**	**1.61**	**204**	*e*PN	**Pn**	**12 31 42.9**	**-0.8**
SUSE	**Susehri**	**1.80**	**120**	*e*P	**Pb**	**12 31 48.3**	**+0.1**
SUSE				*e*S	**Sg**	**12 32 12.3**	**-0.4**
SUSE	**Susehri**	**1.80**	**120**	*e*P	**Pb**	**12 31 48.3**	**+0.1**
SUSE				*e*S	**Sg**	**12 32 12.3**	**-0.4**

*ISK **17** 12:34:17.6, 39°.11N×29°.04E, h5km, MD2.5*
*ISCJB **17** 12:34:18.3±0.5, 39°.11N±0°.04×29°.05E±0°.04, h6km±8km, Error ellipse: s-maj=6.5km s-min=4.7km az=157.7*
*DDA **17** 12:34:18.4, 39°.08N×29°.06E, h7km, MD2.3*
*CSEM **17** 12:34:18.4±0.1, 39°.11N×29°.05E, h6km±1km, MD2.5, Error ellipse: s-maj=2.5km s-min=2.2km az=147.0*
ISC 17 12:34:18.7±1.0, 39°.11N±0°.03×29°.05E±0°.03, h6km±13km, n21, σ0°66/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**255**	*i* Pg	**Pg**	**12 34 24.2**	**+0.3**
DEMI				*i* Sg	**Sg**	**12 34 27.9**	**+0.3**
GDZ	**Gediz**	**0.33**	**94**	*i* P	**Pg**	**12 34 25.3**	**+0.1**
GDZ				*i* S	**Sg**	**12 34 30.2**	**+0.6**
GDZ	**Gediz**	**0.33**	**94**	*i* P	**Pg**	**12 34 25.3**	**+0.1**
GDZ				*i* S	**Sg**	**12 34 30.2**	**+0.6**
TVSB	**Tavsanli**	**0.46**	**43**	*e*PG	**Pg**	**12 34 27.4**	**-0.2**
TVSB				*e*SG	**Sg**	**12 34 33.4**	**-0.3**
TVSB	**Tavsanli**	**0.46**	**43**	*e*Pg	**Pg**	**12 34 27.4**	**-0.2**
TVSB				*e*Sg	**Sg**	**12 34 33.4**	**-0.3**
DST	**Dursunbey**	**0.60**	**326**	*e*PG	**Pg**	**12 34 30.2**	**0.0**
DST				*e*SG	**Sg**	**12 34 38.0**	**+0.1**
DST	**Dursunbey**	**0.60**	**326**	*e*Pg	**Pg**	**12 34 30.2**	**0.0**
DST				*e*Sg	**Sg**	**12 34 38.0**	**+0.1**
DURS	**Dursunbey**	**0.66**	**318**	*e*S	Sg	12 34 31.6	-8.5
DURS				*e*P	**Pn**	**12 34 37.5**	**+2.8**
DURS	**Dursunbey**	**0.66**	**318**	*e*S	Sg	12 34 31.6	-8.5
KULA	**Kula-Manisa**	**0.67**	**207**	*e*PG	**Pg**	**12 34 31.2**	**-0.4**
KULA				*e*SG	**Sg**	**12 34 40.0**	**-0.2**
KULA	**Kula-Manisa**	**0.67**	**207**	*e*Pg	**Pg**	**12 34 31.2**	**-0.4**
KULA				*e*Sg	**Sg**	**12 34 40.1**	**-0.2**
ALT	**Altintas**	**0.82**	**94**	*e*PG	**Pg**	**12 34 34.8**	**+0.3**
ALT	**Altintas**	**0.82**	**94**	*e*Pg	**Pg**	**12 34 34.8**	**+0.3**
CAVI	**Cavuskoy**	**1.25**	**29**	*e*PN	**Pb**	**12 34 42.0**	**-0.6**
CAVI	**Cavuskoy**	**1.25**	**29**	*e*Pn	**Pb**	**12 34 42.1**	**-0.6**
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*PN	**Pn**	**12 34 44.3**	**-0.6**
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*Pn	**Pn**	**12 34 44.3**	**-0.6**
YLV	**Yalova**	**1.47**	**10**	*e*PN	**Pn**	**12 34 45.9**	**+0.1**
YLV	**Yalova**	**1.47**	**10**	*e*Pn	**Pn**	**12 34 45.9**	**+0.1**
GULT	**Gulveren**	**1.73**	**40**	*e*PN	**Pn**	**12 34 49.6**	**+0.2**
GULT	**Gulveren**	**1.73**	**40**	*e*Pn	**Pn**	**12 34 49.6**	**+0.2**

IDC 17 12:43:49.5±1.2, 25°.46N×142°.74E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.6/7, Error ellipse: s-maj=49.0km s-min=17.3km az=82.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.71**	**343**	Pn	Pg	12 44 22.3	0.0
	53nm,0.3s,baz=229,slow=9.3,SNR=15						
CBIJ				Sn	Sg	12 44 46.0	+1.5
	118nm,0.3s,baz=122,slow=23,SNR=11						
WRA	**Warramunga Arr**	**45.86**	**191**	P	P	12 52 14.1	+0.3
	0.7nm,0.4s,baz=8.8,slow=8.6,SNR=19						
ASAR	**Alice Springs**	**49.58**	**191**	P	P	12 52 42.8	+0.2
	0.2nm,0.6s,baz=12,slow=6.9,SNR=4.1						
ZALV	**Zalesovo Beam**	**51.05**	**320**	P	P	12 52 52.3	-1.1
	0.3nm,0.4s,baz=100,slow=7.5,SNR=3.3						
MKAR	**Makanchi Array**	**51.91**	**311**	P	P	12 52 59.7	-0.3
	0.2nm,0.5s,baz=90,slow=8.9,SNR=4.1						
AKTO	**Aktyubinsk**	**67.55**	**316**	P	P	12 54 47.1	-0.7
	0.5nm,0.5s,baz=29,slow=3.3,SNR=3.6						
YKA	**Yellowknife Ar**	**73.34**	**28**	P	P	12 55 22.4	-0.4
	0.2nm,0.6s,baz=286,slow=5.9,SNR=5.0						
FINES	**FINESS Array B**	**79.63**	**334**	P	P	12 55 58.9	+0.4
	2.6nm,0.9s,baz=61,slow=4.8,SNR=4.4						

GUC 17 12:44:50.4±0.7, 32°.61S×72°.06W, h27km±5km, MD3.8, ML3.5, 8C-5D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.55**	**140**	*i* P	Pb	12 45 00.8	-0.7
IHA				*i* S	Sb	12 45 08.7	-0.4
CHNG	**Los Chungos**	**0.86**	**33**	↓*i* P	Pb	12 45 05.8	-0.9
CHNG				*i* S	Sb	12 45 17.7	-0.1
CHNG				AML	AML	12 45 20.0	
	comp=E,860nm,0.3s						
ROCH	**El Roble**	**0.95**	**113**	↓*i* P	Pn	12 45 07.4	-1.0
ROCH				*i* S	Sb	12 45 20.6	-0.5
ROCH				AML	AML	12 45 22.4	
	comp=N,4μm,0.4s						
PTCH	**Petorca**	**1.01**	**71**	↑*i* P	Pn	12 45 08.3	-0.6
PTCH				*i* S	Sb	12 45 22.3	0.0
PTCH				AML	AML	12 45 24.2	
	comp=N,2μm,0.1s						
JACH	**Jahuel**	**1.24**	**94**	↑*i* P	Pn	12 45 11.8	-0.4
JACH				*i* S	Sb	12 45 28.6	-0.4
PEL	**Peldehue**	**1.27**	**115**	↑*i* P	Pn	12 45 12.8	+0.2
PEL				*i* S	Sn	12 45 29.4	+0.5
PEL				AML	AML	12 45 33.5	
	comp=E,3μm,0.4s						
TACH	**Talagante**	**1.41**	**138**	↓*i* P	Pn	12 45 14.9	+0.6
TACH				*i* S	Sb	12 45 32.9	-0.7
SAN	**Santiago**	**1.45**	**126**	↑*i* P	Pn	12 45 15.5	+0.6
SAN				*i* S	Sb	12 45 34.5	-0.3
SAN				AML	AML	12 45 38.0	
	comp=N,841nm,0.3s						
LNV	**Longovilo**	**1.45**	**158**	*e*P	Pn	12 45 14.7	-0.2
CLCH	**Cerro Calan**	**1.50**	**122**	↑*i* P	Pb	12 45 17.0	-0.8
CLCH				*i* S	Sb	12 45 36.5	0.0
CLCH				AML	AML	12 45 48.8	
	comp=N,2μm,0.7s						
ANTU	**Antumapu**	**1.53**	**129**	↑*i* P	Pn	12 45 17.0	+0.9
ANTU				*i* S	Sb	12 45 36.9	-0.5
ANTU				AML	AML	12 45 41.8	
	comp=E,1μm,0.5s						
FCH	**Farellones**	**1.65**	**116**	AML	AML	12 45 31.7	
	comp=E,1μm,0.2s						
SJCH	**San Jose de Ma**	**1.76**	**126**	*e*P	Pn	12 45 19.6	+0.3
SJCH				*i* S	Sb	12 45 42.6	-1.4
SJCH				AML	AML	12 45 49.7	
	comp=E,516nm,0.5s						
CHCH	**Chadas Angostu**	**1.77**	**139**	↑*i* P	Pb	12 45 20.9	-1.5
CHCH				*i* S	Sb	12 45 43.4	-0.8
CACH	**El Canelo**	**1.94**	**141**	↓*i* P	Pb	12 45 23.6	-1.7
CACH				*i* S	Sb	12 45 49.1	-0.1
TLL	**Tololo Astrono**	**2.66**	**24**	↓*i* P	Pn	12 45 32.3	+0.5
TLL				AML	AML	12 46 18.8	
	comp=N,312nm,0.5s						
LCO	**Las Campanas**	**3.77**	**18**	↑*i* P	Pn	12 45 46.8	-0.3

*ISK **17** 12:52:11.7, 39°.10N×29°.04E, h5km, MD2.6*
*ISCJB **17** 12:52:12.5±0.5, 39°.09N±0°.03×29°.06E±0°.03, h6km±5km, Error ellipse: s-maj=5.1km s-min=3.8km az=164.6*
*DDA **17** 12:52:12.4, 39°.09N×29°.04E, h7km, MD2.5*
*CSEM **17** 12:52:12.9±0.2, 39°.08N×29°.08E, h12km, MD2.6, Error ellipse: s-maj=4.0km s-min=3.5km az=77.0*
ISC 17 12:52:12.6±1.0, 39°.10N±0°.03×29°.04E±0°.02, h9km±9km, n30, σ0°37/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.26**	**257**	*i* Pg	**Pg**	**12 52 18.0**	**+0.1**
DEMI				*i* Sg	**Sg**	**12 52 21.5**	**+0.1**
GDZ	**Gediz**	**0.34**	**92**	*i* Pg	**Pg**	**12 52 19.6**	**+0.2**
GDZ				*i* Sg	**Sg**	**12 52 24.5**	**+0.6**
TVSB	**Tavsanli**	**0.48**	**43**	*e*PG	**Pg**	**12 52 21.7**	**-0.3**
TVSB				*e*SG	**Sg**	**12 52 27.9**	**-0.3**
TVSB	**Tavsanli**	**0.48**	**43**	*e*Pg	**Pg**	**12 52 21.7**	**-0.3**
TVSB				*e*Sg	**Sg**	**12 52 27.9**	**-0.3**
KULA	**Kula-Manisa**	**0.66**	**207**	*e*PG	**Pg**	**12 52 25.0**	**-0.3**
KULA				*e*SG	**Sg**	**12 52 33.8**	**-0.1**
KULA	**Kula-Manisa**	**0.66**	**207**	*e*Pg	**Pg**	**12 52 25.0**	**-0.3**
KULA				*e*Sg	**Sg**	**12 52 33.8**	**-0.1**
DURS	**Dursunbey**	**0.67**	**319**	*e*P	**Pn**	**12 52 28.1**	**-0.3**
DURS	**Dursunbey**	**0.67**	**319**	*e*P	**Pn**	**12 52 28.1**	**-0.3**
KHAL	**Karahalli**	**0.81**	**154**	*e*P	**Pb**	**12 52 29.3**	**+0.3**
KHAL				*e*S	**Sb**	**12 52 39.3**	**-0.7**
KHAL	**Karahalli**	**0.81**	**154**	*e*P	**Pb**	**12 52 29.3**	**+0.3**
KHAL				*e*S	**Sb**	**12 52 39.3**	**-0.7**
ALT	**Altintas**	**0.83**	**93**	*e*PG	**Pg**	**12 52 28.3**	**-0.4**
ALT				*e*SG	**Sg**	**12 52 40.2**	**+0.7**
ALT	**Altintas**	**0.83**	**93**	*e*Pg	**Pg**	**12 52 28.3**	**-0.4**
ALT				*e*Sg	**Sg**	**12 52 40.2**	**+0.7**
KHL	**Karahalli**	**0.86**	**154**	*e*PG	**Pg**	**12 52 29.1**	**-0.1**
KHL	**Karahalli**	**0.86**	**154**	*e*Pg	**Pg**	**12 52 29.1**	**-0.1**
AKHS	**Akhisar**	**0.98**	**257**	*e*P	**Pg**	**12 52 31.5**	**0.0**
AKHS				*e*S	**Sb**	**12 52 44.3**	**-0.6**
AKHS	**Akhisar**	**0.98**	**257**	*e*P	**Pg**	**12 52 31.5**	**0.0**
CAVI	**Cavuskoy**	**1.26**	**29**	*e*PN	**Pn**	**12 52 36.0**	**-0.5**
CAVI	**Cavuskoy**	**1.26**	**29**	*e*Pn	**Pn**	**12 52 36.0**	**-0.5**
BALY	**Balya**	**1.27**	**301**	*e*P	**Pn**	**12 52 36.7**	**0.0**
BALY				*e*S	**Sn**	**12 52 54.5**	**+0.6**
BALY	**Balya**	**1.27**	**301**	*e*P	**Pn**	**12 52 36.7**	**0.0**
BALY				*e*S	**Sn**	**12 52 54.5**	**+0.6**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*PN	**Pb**	**12 52 37.0**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*Pn	**Pb**	**12 52 37.0**	**+0.1**
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*PN	**Pn**	**12 52 38.6**	**+0.1**
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*Pn	**P

comp=Z,23nm,18.9s,baz=229,slow=36
YKA Yellowknife Ar 85.08 27 P P 13 09 40.4 0.0
0.1nm,0.5s,baz=82,slow=17,SNR=3.5
YKA pP pP 13 09 48.6 +0.3
0.2nm,0.9s,baz=302,slow=6.3,SNR=3.1
LPAZ La Paz 150.42 101 PKPbc PKPbc 13 16 58.9 +0.9
0.8nm,0.7s,baz=286,slow=1.9,SNR=5.0

IDC 17 12:57:59.8±2.4, 3°.81N×126°.40E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/19, mbtmp3.2/3, Error ellipse: s-maj=202.7km s-min=29.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.86**	**162**	P	P	13 03 23.7	-0.6
	0.3nm,0.4s,baz=340,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**28.28**	**165**	P	P	13 03 55.7	+0.6
	0.3nm,0.7s,baz=349,slow=9.0,SNR=5.4						
MKAR	**Makanchi Array**	**57.30**	**325**	P	P	13 07 49.5	0.0
	0.1nm,0.5s,baz=112,slow=8.7,SNR=2.7						

ISK 17 13:03:18.8, 39°.09N×29°.08E, h6km, MD2.6
ISCJB 17 13:03:19.2±0.6, 39°.11N±0°.04×29°.05E±0°.04, h1km±8km, Error ellipse: s-maj=7.3km s-min=3.8km az=152.7
DDA 17 13:03:19.4, 39°.10N×29°.04E, h7km, MD2.6
CSEM 17 13:03:19.5±0.1, 39°.10N×29°.06E, h5km, MD2.6, Error ellipse: s-maj=2.3km s-min=1.7km az=139.0
ISC 17 13:03:19.7±1.0, 39°.11N±0°.03×29°.05E±0°.02, h9km±9km, n30, σ0s40/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**256**	*i* P	**Pg**	**13 03 25.2**	**0.0**
DEMI				*i* S	**Sg**	**13 03 28.8**	**0.0**
DEMI	**Demirci**	**0.27**	**256**	*i* P	**Pg**	**13 03 25.2**	**0.0**
DEMI				*i* S	**Sg**	**13 03 28.8**	**0.0**
GDZ	**Gediz**	**0.33**	**94**	*i* P	**Pg**	**13 03 26.5**	**+0.1**
GDZ				*i* S	**Sg**	**13 03 31.4**	**+0.6**
GDZ	**Gediz**	**0.33**	**94**	*i* P	**Pg**	**13 03 26.5**	**+0.1**
GDZ				*i* S	**Sg**	**13 03 31.4**	**+0.6**
TVSB	**Tavsanli**	**0.46**	**43**	*e*PG	**Pg**	**13 03 28.4**	**-0.4**
TVSB				*e*SG	**Sg**	**13 03 34.6**	**-0.3**
TVSB	**Tavsanli**	**0.46**	**43**	*e*Pg	**Pg**	**13 03 28.4**	**-0.4**
TVSB				*e*Sg	**Sg**	**13 03 34.7**	**-0.3**
KULA	**Kula-Manisa**	**0.67**	**207**	*e*PG	**Pg**	**13 03 32.5**	**-0.2**
KULA				*e*SG	**Sg**	**13 03 41.0**	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**207**	*e*Pg	**Pg**	**13 03 32.5**	**-0.2**
KULA				*e*Sg	**Sg**	**13 03 41.0**	**-0.4**
MANT	**Manisa**	**0.73**	**212**	*i* P	**Pg**	**13 03 33.3**	**-0.5**
MANT				*i* S	**Sg**	**13 03 43.0**	**-0.4**
MANT	**Manisa**	**0.73**	**212**	*i* P	**Pg**	**13 03 33.3**	**-0.5**
MANT				*i* S	**Sg**	**13 03 43.0**	**-0.4**
ALT	**Altintas**	**0.82**	**94**	*e*PG	**Pg**	**13 03 34.9**	**-0.7**
ALT	**Altintas**	**0.82**	**94**	*e*Pg	**Pg**	**13 03 34.9**	**-0.7**
ORLT	**Orhaneli**	**0.94**	**353**	*e*PG	**Pg**	**13 03 37.2**	**-0.7**
ORLT	**Orhaneli**	**0.94**	**353**	*e*Pg	**Pg**	**13 03 37.2**	**-0.7**
CAVI	**Cavuskoy**	**1.25**	**29**	*e*PN	**Pn**	**13 03 43.3**	**-0.1**
CAVI	**Cavuskoy**	**1.25**	**29**	*e*Pn	**Pn**	**13 03 43.3**	**-0.1**
KCTX	**Karacabey (Bur**	**1.27**	**335**	*e*PN	**Pn**	**13 03 43.7**	**0.0**
KCTX	**Karacabey (Bur**	**1.27**	**335**	*e*Pn	**Pn**	**13 03 43.7**	**0.0**
BALY	**Balya**	**1.28**	**300**	*i* P	**Pg**	**13 03 44.1**	**-0.1**
BALY				*i* S	**Sb**	**13 04 00.6**	**+0.1**
BALY	**Balya**	**1.28**	**300**	*i* P	**Pg**	**13 03 44.1**	**-0.1**
BALY				*i* S	**Sb**	**13 04 00.6**	**+0.1**
BORA	**Eskisehir**	**1.33**	**54**	*i* P	**Pb**	**13 03 44.9**	**0.0**
BORA				*i* S	**Sn**	**13 04 02.3**	**-0.1**
BORA	**Eskisehir**	**1.33**	**54**	*i* P	**Pb**	**13 03 44.9**	**0.0**
BORA				*i* S	**Sn**	**13 04 02.3**	**-0.1**
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*PN	**Pb**	**13 03 46.4**	**+0.2**
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*Pn	**Pb**	**13 03 46.4**	**+0.2**
ARMT	**Armutlu**	**1.46**	**354**	*e*PN	**Pn**	**13 03 46.8**	**+0.5**
ARMT	**Armutlu**	**1.46**	**354**	*e*Pn	**Pn**	**13 03 46.8**	**+0.5**
YLV	**Yalova**	**1.48**	**10**	*e*PN	**Pn**	**13 03 47.0**	**+0.5**
YLV	**Yalova**	**1.48**	**10**	*e*Pn	**Pn**	**13 03 47.0**	**+0.5**
GULT	**Gulveren**	**1.74**	**40**	*e*PN	**Pn**	**13 03 50.8**	**+0.6**
GULT	**Gulveren**	**1.74**	**40**	*e*Pn	**Pn**	**13 03 50.8**	**+0.6**

IDC 17 13:05:20.7±0.9, 37°.20N×30°.63E, h0km, mb3.7/8, mb1 3.8/12, mb1mx3.6/26, mbtmp3.6/12, ML3.5/3, Error ellipse: s-maj=21.3km s-min=17.3km az=154.0
ISCJB 17 13:05:21.6±0.4, 37°.28N±0°.02×30°.47E±0°.03, h11km±3km, mb3.7/8, Error ellipse: s-maj=4.3km s-min=3.9km az=29.6
ISK 17 13:05:21.2, 37°.31N×30°.42E, h9km, ML3.3
CSEM 17 13:05:21.7±0.1, 37°.30N×30°.43E, h5km, ML3.3, Error ellipse: s-maj=3.0km s-min=2.7km az=144.0
DDA 17 13:05:22.8, 37°.25N×30°.40E, h43km, MD3.5, ML3.6
ISC 17 13:05:21.9±1.0, 37°.28N±0°.02×30°.46E±0°.02, h6km±7km, n85, σ0s93/97, mb3.7/8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCK	**Bucak**	**0.21**	**30**	*e*PG	**Pg**	**13 05 25.3**	**-0.7**
BCK				*e*SG	**Sg**	**13 05 29.4**	**+0.6**
BCK	**Bucak**	**0.21**	**30**	*e*Pg	**Pg**	**13 05 25.3**	**-0.7**
BCK				*e*Sg	**Sg**	**13 05 29.4**	**+0.6**
KORT	**Korkueli**	**0.29**	**197**	*i* P	**Pg**	**13 05 26.2**	**-1.5**
KORT				*i* S	**Sg**	**13 05 32.1**	**+0.5**
KORT	**Korkueli**	**0.29**	**197**	*i* P	**Pg**	**13 05 26.2**	**-1.5**
KORT				*i* S	**Sg**	**13 05 32.1**	**+0.5**
ANTB	**Antalya**	**0.41**	**158**	*e*PG	**Pg**	**13 05 30.2**	**+0.3**
ANTB				*e*SG	**Sb**	**13 05 37.5**	**-0.5**
ANTB	**Antalya**	**0.41**	**158**	*e*Pg	**Pg**	**13 05 30.2**	**+0.3**
ANTB				*e*Sg	**Sb**	**13 05 37.6**	**-0.5**
SUTC	**Sutluce-Ispart**	**0.47**	**66**	*e*PG	**Pg**	**13 05 31.5**	**+0.4**
SUTC	**Sutluce-Ispart**	**0.47**	**66**	*e*Pg	**Pg**	**13 05 31.5**	**+0.4**
ISP	**Isparta**	**0.54**	**5**	*e*PG	**Pg**	**13 05 32.1**	**-0.2**
ISP	**Isparta**	**0.54**	**5**	*e*Pg	**Pg**	**13 05 32.2**	**-0.2**
ELL	**Elmali**	**0.69**	**220**	*e*PG	**Pg**	**13 05 34.5**	**-0.7**
ELL	**Elmali**	**0.69**	**220**	*e*Pg	**Pg**	**13 05 34.5**	**-0.7**
GOLH	**Golhisar**	**0.72**	**267**	*i* P	**Pg**	**13 05 35.3**	**-0.4**
GOLH				*i* S	**Sb**	**13 05 47.4**	**+0.4**
GOLH	**Golhisar**	**0.72**	**267**	*i* P	**Pg**	**13 05 35.3**	**-0.4**
GOLH				*i* S	**Sb**	**13 05 47.4**	**+0.4**
DNZL	**Cakiroluk**	**1.20**	**290**	*i* P	**Pg**	**13 05 44.9**	**+0.1**
DNZL				*i* S	**Sn**	**13 06 03.6**	**+1.6**
DNZL	**Cakiroluk**	**1.20**	**290**	*i* P	**Pg**	**13 05 44.9**	**+0.1**
DNZL				*i* S	**Sn**	**13 06 03.6**	**+1.6**
AKAS	**Kas**	**1.25**	**213**	*i* P	**Pn**	**13 05 45.5**	**-0.5**
AKAS	**Kas**	**1.25**	**213**	*i* P	**Pn**	**13 05 45.5**	**-0.5**
SHUT	**Suhut-Afyon**	**1.27**	**3**	*e*PN	**Pn**	**13 05 45.4**	**-1.0**
SHUT	**Suhut-Afyon**	**1.27**	**3**	*e*Pn	**Pn**	**13 05 45.4**	**-1.0**
FETY	**Fethiye**	**1.28**	**240**	*e*PN	**Pn**	**13 05 46.2**	**0.0**
FETY	**Fethiye**	**1.28**	**240**	*e*Pn	**Pn**	**13 05 46.3**	**0.0**
KHL	**Karahalli**	**1.28**	**325**	*e*PN	**Pn**	**13 05 45.4**	**-1.0**
KHL	**Karahalli**	**1.28**	**325**	*e*Pn	**Pn**	**13 05 45.4**	**-1.0**
KHAL	**Karahalli**	**1.33**	**325**	*i* P	**Pn**	**13 05 46.1**	**-1.0**
KHAL				*i* S	**Sn**	**13 06 07.2**	**+2.0**
BOLV	**Bolvadin**	**1.49**	**15**	*i* P	**Pg**	**13 05 50.6**	**+0.2**
BOLV	**Bolvadin**	**1.49**	**15**	*i* P	**Pg**	**13 05 50.6**	**+0.2**
TURN	**Turunc**	**1.54**	**255**	*i* P	Pg	13 05 55.6	+4.2
KONT	**Konya--Tatoy**	**1.65**	**66**	*e*PN	**Pn**	**13 05 51.6**	**+0.2**
KONT	**Konya--Tatoy**	**1.65**	**66**	*e*Pn	**Pn**	**13 05 51.7**	**+0.2**
YER	**Yerkesik**	**1.74**	**266**	*e*PN	**Pn**	**13 05 52.0**	**-0.7**
YER	**Yerkesik**	**1.74**	**266**	*e*Pn	**Pn**	**13 05 52.0**	**-0.7**
LADK	**Ladik-KONYA**	**1.77**	**58**	*e*PN	**Pn**	**13 05 52.9**	**-0.3**
LADK	**Ladik-KONYA**	**1.77**	**58**	*e*Pn	**Pn**	**13 05 52.9**	**-0.3**
ALT	**Altintas**	**1.79**	**351**	*e*PN	**Pn**	**13 05 52.2**	**-1.2**
ALT	**Altintas**	**1.79**	**351**	*e*Pn	**Pn**	**13 05 52.3**	**-1.2**
KDHN	**Kadinhani**	**1.80**	**46**	*i* P	**Pn**	**13 05 53.3**	**-0.3**
KDHN	**Kadinhani**	**1.80**	**46**	*i* P	**Pn**	**13 05 53.3**	**-0.3**
KULA	**Kula-Manisa**	**1.88**	**311**	*e*PN	**Pn**	**13 05 54.4**	**-0.3**
KULA	**Kula-Manisa**	**1.88**	**311**	*e*Pn	**Pn**	**13 05 54.4**	**-0.3**
MANT	**Manisa**	**1.93**	**309**	*i* P	**Pn**	**13 05 54.3**	**-1.2**
MANT				*i* S	**Sb**	**13 06 22.8**	**+0.8**
DEMI	**Demirci**	**2.23**	**323**	*i* P	**Pn**	**13 05 59.1**	**-0.4**
DEMI	**Demirci**	**2.23**	**323**	*i* P	**Pn**	**13 05 59.1**	**-0.4**
ESKT	**Eskisehir**	**2.26**	**8**	*e*PN	**Pn**	**13 05 59.1**	**-0.8**
ESKT	**Eskisehir**	**2.26**	**8**	*e*Pn	**Pn**	**13 05 59.1**	**-0.8**
TVSB	**Tavsanli**	**2.30**	**340**	*e*PN	**Pn**	**13 05 59.8**	**-0.7**
TVSB	**Tavsanli**	**2.30**	**340**	*e*Pn	**Pn**	**13 05 59.8**	**-0.7**
SVRH	**Sivrihisar-ESK**	**2.32**	**21**	*e*PN	**Pn**	**13 06 00.4**	**-0.3**
SVRH	**Sivrihisar-ESK**	**2.32**	**21**	*e*Pn	**Pn**	**13 06 00.4**	**-0.3**
DAT	**Datca**	**2.37**	**257**	*e*PN	**Pn**	**13 06 01.3**	**-0.1**
DAT	**Datca**	**2.37**	**257**	*e*Pn	**Pn**	**13 06 01.3**	**-0.1**
BDRM	**Kayabasi**	**2.42**	**266**	*i* P	**Pn**	**13 06 03.3**	**+1.3**
BDRM	**Kayabasi**	**2.42**	**266**	*i* P	**Pn**	**13 06 03.3**	**+1.3**
BODT	**Bodrum**	**2.52**	**266**	*e*PN	**Pn**	**13 06 03.1**	**-0.4**
BODT	**Bodrum**	**2.52**	**266**	*e*Pn	**Pn**	**13 06 03.1**	**-0.4**
SULT	**Sultanhani-AKS**	**2.59**	**68**	*e*PN	**Pn**	**13 06 04.9**	**+0.4**
SULT	**Sultanhani-AKS**	**2.59**	**68**	*e*Pn	**Pn**	**13 06 04.9**	**+0.4**
BLCB	**Balcova**	**2.92**	**293**	*e*PN	**Pn**	**13 06 08.2**	**-0.7**
BLCB	**Balcova**	**2.92**	**293**	*e*Pn	**Pn**	**13 06 08.2**	**-0.7**
LEF	**Lefka**	**2.92**	**137**	*e*PN	**Pn**	**13 06 09.1**	**+0.2**
LEF	**Lefka**	**2.92**	**137**	*e*Pn	**Pn**	**13 06 09.1**	**+0.2**
LFK	**Lefkose**	**3.19**	**128**	*e*PN	**Pn**	**13 06 13.3**	**+0.7**
LFK	**Lefkose**	**3.19**	**128**	*e*Pn	**Pn**	**13 06 13.3**	**+0.7**
MERS	**Mersin**	**3.28**	**96**	*e*PN	**Pn**	**13 06 14.2**	**+0.3**
MERS	**Mersin**	**3.28**	**96**	*e*Pn	**Pn**	**13 06 14.2**	**+0.3**
CSS	**Prodhromos**	**3.28**	**134**	*e*PN	**Pn**	**13 06 14.5**	**+0.6**
CSS	**Prodhromos**	**3.28**	**134**	*e*Pn	**Pn**	**13 06 14.5**	**+0.6**
NIG	**Nigde**	**3.40**	**75**	*e*PN	**Pn**	**13 06 16.3**	**+0.6**
NIG	**Nigde**	**3.40**	**75**	*e*Pn	**Pn**	**13 06 16.3**	**+0.6**
EREN	**Erenkoy**	**3.47**	**119**	*e*PN	**Pn**	**13 06 16.9**	**+0.5**
EREN	**Erenkoy**	**3.47**	**119**	*e*Pn	**Pn**	**13 06 16.9**	**+0.5**
BRTR	**Keskin Array B**	**3.49**	**45**	Pn	**Pn**	**13 06 17.0**	**+0.2**
	2.6nm,0.3s,baz=218,slow=14,SNR=59						
BRTR				Sn	**Sn**	**13 06 53.9**	**-4.7**
	0.6nm,0.3s,baz=324,slow=10.0,SNR=6.2						
MMAI	**Mount Meron Ar**	**5.88**	**135**	Pn	**Pn**	**13 06 50.4**	**+0.8**
	baz=318,slow=8.5,SNR=2.4						
EIL	**Elat**	**8.47**	**152**	Pn	**Pn**	**13 07 25.7**	**+0.6**
	2.0nm,0.3s,baz=323,slow=9.0,SNR=6.0						
MLR	**Muntele Rosu**	**8.87**	**339**	Pn	**Pn**	**13 07 32.3**	**+1.6**
	0.1nm,0.3s,baz=162,slow=9.8,SNR=2.1						
GNI	**Garni**	**11.52**	**71**	Pn	**Pn**	**13 08 06.3**	**-0.7**
	1.1nm,0.3s,baz=31,slow=4.9,SNR=5.1						
GERES	**GERESS Array B**	**16.79**	**319**	Pn	**P**	**13 09 22.1**	**+2.2**
	0.2nm,0.3s,baz=126,slow=14,SNR=3.6						
TORD	**Torodi Ar. Bea**	**35.17**	**234**	P	**P**	**13 12 16.9**	**+0.2**
	0.6nm,0.8s,baz=38,slow=7.3,SNR=4.9						
MKAR	**Makanchi Array**	**39.02**	**59**	P	**P**	**13 12 49.1**	**-0.1**
	2.3nm,0.9s,baz=277,slow=6.9,SNR=18						
ZALV	**Zalesovo Beam**	**40.43**	**48**	P	**P**	**13 13 00.5**	**-0.3**
	0.8nm,0.6s,baz=267,slow=9.7,SNR=9.0						
SONM	**Songino Array**	**54.81**	**53**	P	**P**	**13 14 53.5**	**+0.8**
	0.3nm,0.5s,baz=285,slow=7.3,SNR=3.0						
CMAR	**Chiang Mai Arr**	**62.13**	**87**	P	**P**	**13 15 41.6**	**-2.5**
	0.3nm,0.3s,baz=291,slow=8.7,SNR=4.4						
SCHQ	**Schefferville**	**64.32**	**320**	P	**P**	**13 15 57.5**	**-0.5**
	2.6nm,1.1s,baz=96,slow=9.2,SNR=3.8						
BOSA	**Boshof**	**65.73**	**185**	P	**P**	**13 16 07.2**	**-0.3**
	1.1nm,0.7s,baz=45,slow=7.1,SNR=2.8						
YKA	**Yellowknife Ar**	**76.67**	**344**	P	**P**	**13 17 13.7**	**+0.4**
	0.1nm,0.7s,baz=34,slow=5.3,SNR=3.1						

ATH 17 13:06:50.2, 39°.57N×20°.42E, h19km±5km, MD3.1/5
ISCJB 17 13:06:53.1±0.6, 39°.46N±0°.04×20°.62E±0°.05, h11km±6km, Error ellipse: s-maj=9.0km s-min=4.5km az=137.4
THE 17 13:06:53.5, 39°.43N×20°.64E, h2km±25km, ML1.9/2, Error ellipse: s-maj=25.8km s-min=0.6km az=276.0
CSEM 17 13:06:53.0±0.2, 39°.45N×20°.66E, h2km, ML1.9/2, Error ellipse: s-maj=5.9km s-min=4.7km az=132.0
ISC 17 13:06:53.5±1.2, 39°.43N±0°.03×20°.65E±0°.03, h0km±12km, n21, σ0s69/37, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RGA	**Parga**	**0.26**	**244**	P	**Pg**	**13 06 57.8**	**-0.6**
RGA				S	**Sg**	**13 07 02.0**	**+0.2**
RGA	**Parga**	**0.26**	**244**	P	**Pg**	**13 06 57.8**	**-0.6**
RGA				S	**Sg**	**13 07 02.0**	**+0.2**
IGT	**Igoumenitsa**	**0.27**	**292**	P	**Pg**	**13 06 58.3**	**-0.3**
IGT				S	**Sg**	**13 07 02.6**	**+0.5**
IGT	**Igoumenitsa**	**0.27**	**292**	P	**Pg**	**13 06 58.3**	**-0.3**
IGT				S	**Sg**	**13 07 02.6**	**+0.5**
JAN	**Janina**	**0.27**	**34**	P	**Pg**	**13 06 58.4**	**-0.3**
JAN				S	**Sg**	**13 07 03.1**	**+0.9**
JAN	**Janina**	**0.27**	**34**	*e*PB	**Pg**	**13 06 57.1**	**-1.6**
JAN				*e*SB	**Sg**	**13 07 02.8**	**+0.6**
JAN	**Janina**	**0.27**	**34**	*e*Pb	**Pg**	**13 06 57.1**	**-1.6**
JAN	**Janina**	**0.27**	**34**	P	**Pg**	**13 06 58.4**	**-0.3**
JAN				*e*Sb	**Sg**	**13 07 02.8**	**+0.6**
JAN				S	**Sg**	**13 07 03.1**	**+0.9**
MEV	**Metsovon**	**0.57**	**52**	P	**Pg**	**13 07 04.8**	**+0.5**
MEV	**Metsovon**	**0.57**	**52**	P	**Pg**	**13 07 04.8**	**+0.5**
LKD2	**Lefkada island**	**0.64**	**180**	P	**Pg**	**13 07 05.6**	**-0.2**
LKD2	**Lefkada island**	**0.64**	**180**	*e*PN	**Pg**	**13 07 05.4**	**-0.4**
LKD2				*e*SN	**Sb**	**13 07 16.7**	**-0.4**
LKD2	**Lefkada island**	**0.64**	**180**	*e*Pn	**Pg**	**13 07 05.4**	**-0.4**
LKD2				*e*Sn	**Sb**	**13 07 16.7**	**-0.4**
KEK	**Kerkira**	**0.72**	**293**	P	**Pg**	**13 07 07.2**	**0.0**
KEK	**Kerkira**	**0.72**	**293**	P	**Pg**	**13 07 07.2**	**0.0**
EVR	**Evrytania**	**1.04**	**120**	*e*PN	**Pn**	**13 07 15.0**	**-0.3**
EVR				*e*SN	**Sn**	**13 07 31.7**	**+1.2**
EVR	**Evrytania**	**1.04**	**120**	*e*Pn	**Pn**	**13 07 15.0**	**-0.3**
EVR				*e*Sn	**Sn**	**13 07 31.7**	**+1.2**
THL	**Klokotos Trika**	**1.06**	**83**	*e*PN	**Pg**	**13 07 13.4**	**-0.4**
THL				*e*SN	**Sn**	**13 07 30.3**	**-0.7**
THL	**Klokotos Trika**	**1.06**	**83**	*e*Pn	**Pg**	**13 07 13.4**	**-0.4**
THL				*e*Sn	**Sn**	**13 07 30.3**	**-0.7**
VLS	**Valsamata**	**1.26**	**182**	*e*PN	**Pg**	**13 07 17.3**	**-0.2**
VLS				*e*SN	**Sn**	**13 07 36.6**	**+0.7**
VLS	**Valsamata**	**1.26**	**182**	*e*Pn	**Pg**	**13 07 17.3**	**-0.2**
VLS				*e*Sn	**Sn**	**13 07 36.6**	**+0.7**

IDC 17 13:14:47.1±2.2, 58°.41S×24°.69W, h0km, mb3.6/1, mb1 3.6/1, mb1mx3.4/12, mbtmp3.6/1, Error ellipse: s-maj=121.2km s-min=80.7km az=129.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**74.50**	**27**	P	P	13 26 27.2	0.0
	0.3nm,0.6s,baz=194,slow=7.7,SNR=5.4						
YKA	**Yellowknife Ar**	**138.82**	**315**	PKP	PKPdf	13 34 10.9	-2.7
	0.2nm,0.7s,baz=126,slow=2.3,SNR=3.7						
SONM	**Songino Array**	**149.47**	**89**	PKPbc	PKPbc	13 34 36.8	-0.4
	0.2nm,0.6s,baz=202,slow=1.6,SNR=2.2						
ILAR	**Eielson Array**	**152.68**	**308**	PKPbc	PKPbc	13 34 44.4	+0.3
	0.2nm,0.7s,baz=124,slow=1.6,SNR=2.9						

IDC 17 13:19:39.6±1.5, 3°.09N×126°.23E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/19, mbtmp4.0/5, MS3.2/1, Ms1 3.2/1, ms1mx2.1/37, Error ellipse: s-maj=160.3km s-min=18.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.23**	**161**	P	P	13 24 58.1	-0.2
	6.0nm,0.7s,baz=340,slow=10,SNR=34						
ASAR	**Alice Springs**	**27.62**	**165**	P	P	13 25 29.3	+0.3
	0.8nm,0.6s,baz=350,slow=7.7,SNR=23						
JNU	**Nakatsea**	**30.20**	**8**	LR	LR	13 37 54.8	
	comp=Z,40nm,19.5s,baz=234,slow=36						
STKA	**Stephens Creek**	**37.71**	**158**	P	P	13 26 57.1	0.0
	4.8nm,0.7s,baz=333,slow=7.2,SNR=13						
MKAR	**Makanchi Array**	**57.80**	**326**	P	P	13 29 33.3	+0.5
	0.4nm,0.6s,baz=118,slow=7.4,SNR=6.9						
KURBB	**Kurchatov Arra**	**62.01**	**328**	P	P	13 30 01.0	-0.6
	1.1nm,0.7s,baz=127,slow=6.5,SNR=11						

WEL 17 13:21:26.1±0.4, 36°.92S×177°.71E, h130km±3km, ML3.9/6, 6C-4D, Error ellipse: s-maj=2.4km s-min=1.9km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.80**	**144**	↑PN	Pn	13 21 47.2	0.0
MXZ				SN	Sn	13 22 03.5	+0.3
PUZ	**Puketiti**	**1.23**	**160**	PN	Pn	13 21 51.2	-0.1
PUZ				SN	Sn	13 22 10.0	-0.5
OPRZ	**Ohinepanea**	**1.31**	**225**	PN	Pn	13 21 52.1	+0.1
MWZ	**Matawai**	**1.42**	**186**	↓PN	Pn	13 21 53.0	-0.3
URZ	**Urewera**	**1.42**	**200**	↓PN	Pn	13 21 53.1	-0.2
KUZ	**Kuaotunu**	**1.61**	**276**	↓PN	Pn	13 21 55.3	-0.1
CNGZ	**Carnagh Statio**	**1.61**	**166**	PN	Pn	13 21 56.2	+0.8
TARZ	**Mount Tarawera**	**1.63**	**216**	PN	Pn	13 21 56.5	+0.8
RRRZ	**Republican Roa**	**1.71**	**213**	↑PN	Pn	13 21 57.2	+0.6
PRRZ	**Plateau Road**	**1.89**	**213**	PN	Pn	13 21 59.2	+0.4
ALRZ	**Allen Road**	**1.97**	**213**	PN	Pn	13 21 60.0	+0.3
PRGZ	**Paritu Road**	**2.00**	**176**	PN	Pn	13 21 59.8	-0.4
MKAZ	**Moumakai**	**2.05**	**264**	↓PN	Pn	13 22 01.2	+0.6
RAHZ	**Arahi**	**2.06**	**194**	PN	Pn	13 22 00.6	-0.2
KNZ	**Kokohu**	**2.10**	**181**	PN	Pn	13 22 00.6	-0.6
KNZ				SN	Sn	13 22 23.4	-4.8
MHGZ	**Mahia Peninsul**	**2.23**	**176**	PN	Pn	13 22 02.7	-0.3
NMHZ	**Naumai**	**2.29**	**198**	PN	Pn	13 22 03.8	+0.1
BKZ	**Black Stump Fm**	**2.44**	**203**	PN	Pn	13 22 04.8	-0.8
MCHZ	**McNeill Hill**	**2.64**	**197**	PN	Pn	13 22 07.5	-0.6
KRVZ	**Karewarewa**	**2.72**	**216**	PN	Pn	13 22 09.7	+0.5
OTVZ	**Oturere**	**2.76**	**215**	PN	Pn	13 22 09.9	0.0
HIZ	**Hauiti**	**2.77**	**234**	PN	Pn	13 22 10.8	+1.1
CKHZ	**Cape Kidnapper**	**2.78**	**190**	PN	Pn	13 22 08.7	-1.1
NGZ	**Ngauruhoe**	**2.80**	**216**	PN	Pn	13 22 10.5	+0.2
WPVZ	**Whakapapa**	**2.85**	**216**	PN	Pn	13 22 11.2	+0.3
TUVZ	**Tukino**	**2.85**	**214**	↑PN	Pn	13 22 10.6	-0.3
BHHZ	**Black Hill Sta**	**2.88**	**206**	PN	Pn	13 22 10.0	-1.2
FWVZ	**Far West T-bar**	**2.89**	**216**	PN	Pn	13 22 11.3	-0.2
MOVZ	**Moawhango**	**2.92**	**211**	PN	Pn	13 22 10.7	-1.1
TRVZ	**Turoa**	**2.93**	**215**	PN	Pn	13 22 11.9	-0.1
WNVZ	**Wahianoa**	**2.93**	**214**	PN	Pn	13 22 11.4	-0.5
KAHZ	**Kahuranaki**	**2.94**	**193**	↑PN	Pn	13 22 10.9	-1.2
MTVZ	**Mangateitei**	**3.03**	**215**	↑PN	Pn	13 22 12.8	-0.4
PXZ	**Pawanui**	**3.18**	**192**	↑PN	Pn	13 22 13.0	-2.0
PNHZ	**Pukenui**	**3.22**	**201**	PN	Pn	13 22 13.5	-2.1
WPHZ	**Waipukurau**	**3.30**	**197**	PN	Pn	13 22 14.5	-2.1
TSZ	**Takapari Road**	**3.42**	**203**	PN	Pn	13 22 15.9	-2.3
PRHZ	**Porangahau**	**3.45**	**194**	PN	Pn	13 22 16.3	-2.2
WAZ	**Wanganui**	**3.55**	**216**	PN	Pn	13 22 19.5	-0.5
DVHZ	**Dannevirke**	**3.59**	**199**	PN	Pn	13 22 17.6	-2.8
NEZ	**North Egmont**	**3.69**	**229**	PN	Pn	13 22 24.8	+2.9
BFZ	**Birch Farm**	**3.93**	**197**	PN	Pn	13 22 21.5	-3.4
MRZ	**Mangatainoka R**	**4.09**	**203**	PN	Pn	13 22 23.8	-3.3
TIWZ	**Tintock**	**4.11**	**200**	PN	Pn	13 22 24.2	-3.1
HOWZ	**Holdsworth Sta**	**4.33**	**203**	PN	Pn	13 22 26.5	-3.7
OGWZ	**Otaki Gorge**	**4.37**	**206**	PN	Pn	13 22 27.4	-3.3
TMWZ	**Te Maipa**	**4.42**	**198**	PN	Pn	13 22 27.8	-3.6
KIWZ	**Kapiti Island**	**4.50**	**208**	PN	Pn	13 22 29.2	-3.4
MTWZ	**Mount Morrison**	**4.57**	**201**	PN	Pn	13 22 29.3	-4.1
CAW	**Cannon Point**	**4.66**	**205**	PN	Pn	13 22 30.6	-4.0
TRWZ	**Traveller**	**4.74**	**199**	PN	Pn	13 22 31.8	-3.9
PAWZ	**Paruwai Farm**	**4.80**	**201**	PN	Pn	13 22 32.1	-4.3

CSEM 17 13:38:40.8±0.7, 37.08N×20.72E, h2km, ML2.7/4, Error ellipse: s-maj=12.7km s-min=5.5km az=52.0

THE 17 13:38:41.7, 37.12N×20.77E, h0km±2km, ML2.7/4, Error ellipse: s-maj=2.8km s-min=0.8km az=235.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.81**	**106**	P	Pg	13 38 56.4	-0.9
PYL				S	Sg	13 39 09.0	+1.1
PYL	**PYLOS**	**0.81**	**106**	*e*PG	Pg	13 38 55.7	-1.6
PYL				*e*SB	Sg	13 39 08.0	+0.1
PYL	**PYLOS**	**0.81**	**106**	*e*Pb	Pg	13 38 55.7	-1.6
PYL	**PYLOS**	**0.81**	**106**	P	Pg	13 38 56.4	-0.9
PYL				*e*Sg	Sg	13 39 08.0	+0.1
PYL				S	Sb	13 39 09.0	-1.3
ITM	**Ithomi**	**0.93**	**86**	P	Pg	13 38 58.7	-0.9
ITM				S	Sb	13 39 12.7	-0.9
ITM	**Ithomi**	**0.93**	**86**	*e*PN	Pg	13 38 58.9	-0.7
ITM				*e*SB	Sg	13 39 12.6	+1.0
ITM	**Ithomi**	**0.93**	**86**	*e*Pg	Pg	13 38 58.9	-0.7
ITM				S	Sb	13 39 12.7	-0.9
KFL	**Anninata**	**0.98**	**1**	P	Pg	13 38 59.6	-1.0
KFL				S	Sb	13 39 14.9	-0.3
KFL	**Anninata**	**0.98**	**1**	P	Pg	13 38 59.6	-1.0
KFL				S	Sb	13 39 14.9	-0.3
VLS	**Valsamata**	**1.06**	**352**	P	Pg	13 39 00.9	-1.2
VLS				S	Sb	13 39 17.6	+0.1
VLS	**Valsamata**	**1.06**	**352**	*e*PG	Pg	13 39 00.7	-1.4
VLS				*e*SB	Sb	13 39 17.2	-0.3
VLS	**Valsamata**	**1.06**	**352**	P	Pg	13 39 00.9	-1.2
VLS				*e*Sb	Sb	13 39 17.3	-0.2
VLS				S	Sg	13 39 17.6	+1.7
RLS	**Riolos of Patr**	**1.08**	**31**	P	Pg	13 39 01.6	-0.9
RLS				S	Sb	13 39 18.2	+0.1
RLS	**Riolos of Patr**	**1.08**	**31**	*e*PN	Pg	13 39 01.3	-1.2
RLS				*e*SB	Sb	13 39 18.7	+0.6
RLS	**Riolos of Patr**	**1.08**	**31**	*e*Pb	Pg	13 39 01.3	-1.2
RLS	**Riolos of Patr**	**1.08**	**31**	P	Pg	13 39 01.6	-0.9
RLS				S	Sb	13 39 18.2	+0.1
RLS				*e*Sb	Sn	13 39 18.7	-1.2
VLX	**Vlachokerasia**	**1.31**	**79**	P	Pg	13 39 06.4	-0.6
VLX				S	Sb	13 39 25.1	+0.3
VLX	**Vlachokerasia**	**1.31**	**79**	*e*PB	Pg	13 39 06.3	-0.7
VLX				*e*SB	Sg	13 39 24.2	+0.1
VLX	**Vlachokerasia**	**1.31**	**79**	P	Pg	13 39 06.4	-0.6
VLX				*e*Sb	Sg	13 39 24.2	+0.1
VLX				S	Sb	13 39 25.1	+0.3
LAKA	**Lakka**	**1.47**	**40**	P	Pn	13 39 09.1	-0.5
LAKA				S	Sn	13 39 29.6	0.0
LAKA	**Lakka**	**1.47**	**40**	P	Pn	13 39 09.1	-0.5
LAKA				S	Sn	13 39 29.6	0.0
GUR	**Goura**	**1.49**	**57**	P	Pn	13 39 09.2	-0.7
GUR				S	Sn	13 39 30.3	+0.1
GUR	**Goura**	**1.49**	**57**	*e*PG	Pn	13 39 08.9	-1.0
GUR	**Goura**	**1.49**	**57**	*e*Pg	Pn	13 39 08.9	-1.0
GUR	**Goura**	**1.49**	**57**	P	Pn	13 39 09.2	-0.7
GUR				S	Sn	13 39 30.3	+0.1
EFP	**Efpalio**	**1.58**	**34**	*e*PB	Pg	13 39 12.0	-0.1
EFP				*e*SB	Sg	13 39 33.8	+1.2
EFP	**Efpalio**	**1.58**	**34**	*e*Pb	Sg	13 39 12.0	-0.1
EFP				*e*Sb	Sg	13 39 33.8	+1.2
LKD2	**Lefkada island**	**1.67**	**357**	*e*PN	Pn	13 39 12.7	+0.5
LKD2				*e*SN	Sg	13 39 37.0	+1.7
LKD2	**Lefkada island**	**1.67**	**357**	*e*Pb	Pn	13 39 12.7	+0.5
LKD2				*e*Sb	Sg	13 39 37.0	+1.7
VLI	**Veliai**	**1.79**	**102**	P	Pn	13 39 13.9	+0.1
VLI				S	Sb	13 39 37.8	-0.5
VLI	**Veliai**	**1.79**	**102**	*e*PN	Pn	13 39 14.0	+0.2
VLI	**Veliai**	**1.79**	**102**	P	Pn	13 39 13.9	+0.1
VLI				S	Sb	13 39 37.8	-0.5
LTK	**Loutraki**	**1.96**	**62**	*e*PN	Pn	13 39 17.1	+0.8
LTK	**Loutraki**	**1.96**	**62**	*e*Pn	Pn	13 39 17.1	+0.8
EVR	**Evrytania**	**1.97**	**24**	*e*PN	Pb	13 39 17.6	-1.0
EVR				*e*SN	Sg	13 39 45.3	0.0
EVR	**Evrytania**	**1.97**	**24**	*e*Pn	Pb	13 39 17.6	-1.0
DID	**Didima**	**2.01**	**78**	*e*PN	Pn	13 39 17.0	+0.1
DID				*e*SN	Sb	13 39 44.9	+0.2
DID	**Didima**	**2.01**	**78**	*e*Pn	Pn	13 39 17.0	+0.1
DID				*e*Sn	Sb	13 39 44.9	+0.2
KYTH	**Kithira**	**2.01**	**114**	P	Pn	13 39 16.7	-0.2
KYTH	**Kithira**	**2.01**	**114**	*e*PN	Pn	13 39 16.8	-0.1
KYTH	**Kithira**	**2.01**	**114**	P	Pn	13 39 16.7	-0.2
LKR	**Lokris**	**2.33**	**49**	*e*PN	Pn	13 39 22.9	+1.6
LKR	**Lokris**	**2.33**	**49**	*e*Pn	Pn	13 39 22.9	+1.6
THL	**Klokotos Trika**	**2.63**	**22**	*e*PN	Pn	13 39 27.1	+1.7
THL	**Klokotos Trika**	**2.63**	**22**	*e*Pn	Pn	13 39 27.1	+1.7

MAN 17 13:41:03, 7.56N×124.55E, h17km, mb3.9, ML2.7, MS2.3

IDC 17 13:40:00.1±0.6, 3.97N×126.90E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.2/24, mbtmp4.2/15, MS3.0/2, Ms1 3.0/2, ms1mx2.5/35, 1C, Error ellipse: s-maj=37.6km s-min=12.6km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.86**	**317**	⇑*e*P	Pb	13 40 49.9	-2.4
DAV	**Davao City (W)**	**3.35**	**337**	LR	LR	13 41 34.4	
	comp=Z,170nm,21.8s,baz=126,slow=28						
BUKP	**Musuan**	**4.29**	**335**	*e*P	Pb	13 41 15.3	-1.2
BUKP				*e*S	Pg	13 41 27.5	+5.1
PAGZ	**Pagadian**	**5.20**	**318**	*e*P	Pn	13 41 24.1	+4.9
PAGZ				*e*S	Pb	13 41 33.8	+1.7
FITZ	**Fitzroy Crossi**	**21.97**	**183**	P	P	13 44 55.3	-0.5
	3.4nm,0.5s,baz=20,slow=11,SNR=11						
WRA	**Warramunga Arr**	**24.86**	**163**	P	P	13 45 24.1	-0.5
	28nm,0.7s,baz=343,slow=10,SNR=102						
ASAR	**Alice Springs**	**28.31**	**166**	P	P	13 45 55.3	-0.4
	0.9nm,0.5s,baz=343,slow=6.9,SNR=26						
CMAR	**Chiang Mai Arr**	**30.90**	**300**	P	P	13 46 18.6	-0.1
	0.9nm,0.5s,baz=120,slow=7.8,SNR=8.0						
NWAO	**Narrogin (SRO)**	**37.83**	**193**	P	P	13 47 19.2	+0.7
	9.6nm,0.9s,baz=34,slow=15,SNR=5.7						
STKA	**Stephens Creek**	**38.30**	**160**	P	P	13 47 23.1	+0.5
	16nm,0.7s,baz=336,slow=7.9,SNR=52						
SONM	**Songino Array**	**47.12**	**341**	P	P	13 48 34.1	-0.1
	0.3nm,0.4s,baz=156,slow=7.3,SNR=3.0						
SONM				PcP	PcP	13 50 06.7	+0.6
	1.0nm,0.7s,baz=158,slow=3.0,SNR=7.2						
MKAR	**Makanchi Array**	**57.45**	**325**	P	P	13 49 50.6	-0.3
	1.1nm,0.6s,baz=119,slow=7.8,SNR=21						
MKAR				PcP	PcP	13 50 45.3	+0.6
	0.7nm,0.7s,baz=127,slow=6.2,SNR=2.4						
ZALV	**Zalesovo Beam**	**60.45**	**333**	P	P	13 50 12.6	+1.1
	0.5nm,0.5s,baz=106,slow=11,SNR=3.9						
ZALV				LR	LR	14 18 36.8	
	comp=Z,21nm,19.5s,baz=67,slow=38						
KURBB	**Kurchatov Arra**	**61.63**	**327**	P	P	13 50 19.3	-0.3
	1.6nm,0.7s,baz=124,slow=6.3,SNR=15						
BVAR	**Borovoye Array**	**67.21**	**327**	P	P	13 50 56.2	0.0
	1.7nm,0.8s,baz=125,slow=7.4,SNR=9.1						
AKTO	**Aktyubinsk**	**73.58**	**322**	P	P	13 51 34.8	-0.3
	0.9nm,0.5s,baz=93,slow=6.9,SNR=5.2						
ILAR	**Eielson Array**	**84.81**	**25**	P	P	13 52 36.4	0.0
	0.9nm,1.0s,baz=209,slow=7.0,SNR=5.3						
ARCES	**ARCESS Array B**	**90.28**	**340**	P	P	13 53 01.5	-1.1
	3.0nm,0.8s,baz=70,slow=8.0,SNR=5.6						
YKA	**Yellowknife Ar**	**99.21**	**24**	P	Pdif	13 53 43.1	-0.4
	0.1nm,0.8s,baz=304,slow=4.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**123.00**	**288**	PKP	PKPdf	13 58 58.9	-0.8
	0.3nm,0.7s,baz=28,slow=2.7,SNR=3.5						
SADO	**Sadowa**	**126.17**	**23**	PKP	PKPdf	13 59 04.5	-0.4
	1.9nm,0.6s,baz=315,slow=4.3,SNR=2.6						

CSEM 17 13:40:03.9±0.1, 39.14N×29.04E, h5km, MD2.6, Error ellipse: s-maj=2.9km s-min=2.4km az=126.0

ISK 17 13:40:03.7, 39.15N×29.07E, h8km, MD2.7

DDA 17 13:40:03.3, 39.11N×29.05E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.27**	**256**	*i*P	Pg	13 40 09.4	+0.7
DEMI				*i*S	Sg	13 40 13.3	+1.0
DEMI	**Demirci**	**0.27**	**256**	*i*P	Pg	13 40 09.4	+0.8
DEMI				*i*S	Sg	13 40 13.3	+1.0
GDZ	**Gediz**	**0.34**	**93**	*i*P	Pg	13 40 10.5	+0.4
GDZ				*i*S	Sg	13 40 15.6	+0.8
GDZ	**Gediz**	**0.34**	**93**	*i*P	Pg	13 40 10.5	+0.4
GDZ				*i*S	Sg	13 40 15.6	+0.9
TVSB	**Tavsanli**	**0.47**	**43**	*e*PG	Pg	13 40 12.6	0.0
TVSB				*e*SG	Sg	13 40 18.8	0.0
TVSB	**Tavsanli**	**0.47**	**43**	*e*Pg	Pg	13 40 12.6	0.0
TVSB				*e*Sg	Sg	13 40 18.8	0.0
DURS	**Dursunbey**	**0.66**	**318**	*i*P	Pg	13 40 16.8	+0.5
DURS	**Dursunbey**	**0.66**	**318**	*i*P	Pb	13 40 16.8	-0.5
MANT	**Manisa**	**0.72**	**212**	*i*P	Pg	13 40 17.8	+0.3
MANT				*i*S	Sg	13 40 27.4	+0.2
MANT	**Manisa**	**0.72**	**212**	*i*P	Pg	13 40 17.8	+0.3
MANT				*i*S	Sg	13 40 27.4	+0.3
KHAL	**Karahalli**	**0.81**	**155**	*i*P	Pn	13 40 21.8	+0.5
KHAL				*i*S	Sg	13 40 30.4	+0.7
KHAL	**Karahalli**	**0.81**	**155**	*i*P	Pn	13 40 21.8	+0.5
KHAL				*i*S	Sg	13 40 30.4	+0.6
KHL	**Karahalli**	**0.87**	**154**	*e*PG	Pn	13 40 21.4	-0.6
KHL	**Karahalli**	**0.87**	**154**	*e*Pg	Pn	13 40 21.4	-0.6
AKHS	**Akhisar**	**0.99**	**257**	*i*P	Pn	13 40 23.2	-0.4
AKHS				*i*S	Sg	13 40 35.4	+0.2
AKHS	**Akhisar**	**0.99**	**257**	*i*P	Pn	13 40 23.2	-0.4
AKHS				*i*S	Sg	13 40 35.4	+0.3
ULDT	**Uludag**	**1.04**	**4**	*i*P	Pg	13 40 23.0	-0.5
ULDT				*i*S	Sg	13 40 35.8	-1.3
ULDT	**Uludag**	**1.04**	**4**	*i*P	Pg	13 40 23.0	-0.5
ULDT				*i*S	Sg	13 40 35.8	-1.3
CAVI	**Cavuskoy**	**1.25**	**29**	*e*PN	Pn	13 40 27.3	0.0
CAVI	**Cavuskoy**	**1.25**	**29**	*e*Pn	Pn	13 40 27.3	0.0
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*PN	Pg	13 40 27.7	+0.1
MDNY	**Mudanya-Bursa**	**1.27**	**354**	*e*Pn	Pg	13 40 27.7	+0.1
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN	Pg	13 40 28.1	+0.3
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn	Pg	13 40 28.1	+0.3
BORA	**Eskisehir**	**1.33**	**54**	*i*P	Pb	13 40 28.8	0.0
BORA				*i*S	Sg	13 40 46.4	0.0
BORA	**Eskisehir**	**1.33**	**54**	*i*P	Pb	13 40 28.8	0.0
BORA				*i*S	Sg	13 40 46.4	-0.1
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*PN	Pb	13 40 29.8	-0.1
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*Pn	Pb	13 40 29.8	-0.1
YLV	**Yalova**	**1.48**	**10**	*e*PN	Pb	13 40 30.9	-0.4
YLV	**Yalova**	**1.48**	**10**	*e*Pn	Pb	13 40 30.9	-0.3
GPA	**Golpazari**	**1.53**	**39**	*e*PN	Pn	13 40 31.4	+0.3
GPA	**Golpazari**	**1.53**	**39**	*e*Pn	Pn	13 40 31.4	+0.3
GULT	**Gulveren**	**1.74**	**40**	*e*PN	Pb	13 40 35.1	-0.6
GULT	**Gulveren**	**1.74**	**40**	*e*Pn	Pb	13 40 35.1	-0.6

GUC 17 13:53:07.4±0.9, 32.62S×72.10W, h15km±11km, MD3.8, ML3.1, 3C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.56**	**137**	*e*P	Pg	13 53 18.2	-0.3
IHA				*e*S	Sg	13 53 25.8	-0.3
CHNG	**Los Chungos**	**0.89**	**35**	⇑*i*P	Pb	13 53 23.3	-1.2
CHNG				*i*S	Sb	13 53 34.9	-1.3
CHNG				AML	AML	13 53 37.1	
	comp=N,288nm,0.4s						
ROCH	**El Roble**	**0.98**	**112**	*e*P	Pb	13 53 24.8	-1.7
ROCH				*i*S	Sb	13 53 37.4	-2.1
ROCH				AML	AML	13 53 39.8	
	comp=N,2μm,0.5s						
PTCH	**Petorca**	**1.05**	**71**	⇑*i*P	Pb	13 53 25.7	-1.6
PTCH				*i*S	Sb	13 53 40.3	-0.7
PTCH				AML	AML	13 53 43.0	
	comp=E,838nm,0.2s						
PEL	**Peldehue**	**1.30**	**114**	⇑*i*P	Pn	13 53 30.2	-0.9
PEL				*i*S	Sb	13 53 47.1	-1.2
PEL				AML	AML	13 53 50.9	
	comp=E,1μm,0.3s						
LNV	**Longovilo**	**1.46**	**157**	*e*P	Pn	13 53 31.7	-1.5
LNV				*i*S	Sn	13 53 49.6	-2.4
ANTU	**Antumapu**	**1.56**	**128**	AML	AML	13 54 01.6	
	comp=N,458nm,0.3s						
FCH	**Fachinal**	**1.68**	**116**	AML	AML	13 53 54.2	
	comp=N,392nm,0.2s						
CHCH	**Chadas Angostu**	**1.79**	**138**	*e*P	Pn	13 53 38.1	+0.3
CHCH				*i*S	Sn	13 54 00.9	+0.6
CACH	**El Canelo**	**1.95**	**140**	*e*P	Pb	13 53 41.6	-1.3
CACH				*i*S	Sb	13 54 06.5	-0.7

IDC 17 13:57:29.4±1.6, 3.85N×127.23E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/21, mbtmp3.5/6, Error ellipse: s-maj=102.6km s-min=20.8km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.87**	**184**	P	P	14 02 23.3	-0.6
	1.2nm,0.5s,baz=15,slow=13,SNR=3.1						
WRA	**Warramunga Arr**	**24.65**	**164**	P	P	14 02 50.8	-1.2
	1.2nm,0.7s,baz=344,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.11**	**167**	P	P	14 03 25.0	+1.8
	0.1nm,0.4s,baz=343,slow=11,SNR=6.1						
STKA	**Stephens Creek**	**36.06**	**160**	P	P	14 04 49.7	-0.1
	1.4nm,0.9s,baz=0.0,slow=9.1,SNR=4.9						
MKAR	**Makanchi Array**	**57.75**	**325**	P	P	14 07 23.2	+1.0
	0.3nm,0.5s,baz=122,slow=8.7,SNR=3.6						
KURBB	**Kurchatov Arra**	**61.91**	**327**	P	P	14 07 49.5	-1.2
	0.2nm,0.7s,baz=121,slow=6.9,SNR=2.9						

IDC 17 14:04:52.0±16.0, 6.41S×129.78E, h126km±168km, mb2.8/1, mb1 3.2/4, mb1mx3.0/16, mbtmp3.0/4, ML3.9/3, Error ellipse: s-maj=119.4km s-min=58.8km az=40.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.30**	**199**	P	Pn	14 07 43.5	+0.5
	0.2nm,0.3s,baz=18,slow=13,SNR=6.0						
FITZ				S	Sn	14 09 52.3	-6.4
	0.5nm,0.3s,baz=126,slow=19,SNR=6.0						
WRA	**Warramunga Arr**	**14.17**	**162**	P	Pn	14 08 06.0	-1.2
	0.9nm,0.3s,baz=343,slow=12,SNR=76						
WRA				S	Sn	14 10 33.8	-10
	0.5nm,0.3s,baz=343,slow=20,SNR=8.1						
ASAR	**Alice Springs**	**17.61**	**167**	P	P	14 08 49.2	+0.3
	0.5nm,0.3s,baz=346,slow=10.0,SNR=69						
ASAR				S	S	14 11 59.3	-6.4
	0.1nm,0.3s,baz=357,slow=26,SNR=4.6						
MKAR	**Makanchi Array**	**67.61**	**327**	P	P	14 15 35.2	0.0
	0.2nm,0.6s,baz=123,slow=5.3,SNR=2.1						

IDC 17 14:09:35.5±1.1, 4.02N×127.24E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/20, mbtmp3.9/8, MS3.4/1, Ms1 3.4/1, ms1mx2.4/32, 1C, Error ellipse: s-maj=70.4km s-min=15.6km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.36**	**317**	⇑*i*P	Pn	14 10 47.3	+4.3
FITZ	**Fitzroy Crossi**	**22.03**	**184**	P	P	14 14 30.7	-1.1
	3.1nm,0.6s,baz=22,slow=11,SNR=8.5						
WRA	**Warramunga Arr**	**24.81**	**164**	P	P	14 14 59.8	+0.2
	11nm,0.6s,baz=342,slow=11,SNR=65						
ASAR	**Alice Springs**	**28.27**	**167**	P	P	14 15 30.5	-0.2
	0.8nm,0.6s,baz=342,slow=8.0,SNR=13						
CMAR	**Chiang Mai Arr**	**31.17**	**300**	P	P	14 15 58.0	+1.5
	0.2nm,0.3s,baz=106,slow=5.7,SNR=4.4						
MJAR	**Matsushiro Arr**	**33.91**	**16**	LR	LR	14 30 24.6	
	comp=Z,54nm,18.1s,baz=245,slow=37						
STKA	**Stephens Creek**	**38.22**	**160**	P	P	14 16 57.9	+0.7
	5.1nm,0.6s,baz=343,slow=9.8,SNR=26						
SONM	**Songino Array**	**47.19**	**341**	P	P	14 18 11.4	+1.3
	0.2nm,0.4s,baz=165,slow=8.8,SNR=3.2						
MKAR	**Makanchi Array**	**57.61**	**325**	P	P	14 19 26.5	-0.9
	0.7nm,0.4s,baz=118,slow=7.8,SNR=11						
ZALV	**Zalesovo Beam**	**60.57**	**333**	P	P	14 19 46.5	-1.2
	0.4nm,0.4s,baz=137,slow=8.0,SNR=2.6						
TORD	**Torodi Ar. Bea**	**123.31**	**288**	PKP	PKPdf	14 28 34.7	-0.9
	0.4nm,0.9s,baz=78,slow=2.5,SNR=3.5						

IDC 17 14:10:36.7±1.7, 3.86N×126.89E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/20, mbtmp3.9/5, Error ellipse: s-maj=97.6km s-min=23.4km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.86**	**183**	P	P	14 15 30.7	-0.5
	1.3nm,0.4s,baz=11,slow=9.8,SNR=3.2						
WRA	**Warramunga Arr**	**24.77**	**163**	P	P	14 15 59.0	-1.3
	5.4nm,0.6s,baz=343,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**28.20**	**166**	P	P	14 16 33.2	+1.9
	0.4nm,0.3s,baz=342,slow=11,SNR=4.3						
STKA	**Stephens Creek**	**38.20**	**160**	P	P	14 17 58.1	-0.2
	1.7nm,0.5s,baz=344,slow=10,SNR=3.9						
MKAR	**Makanchi Array**	**57.54**	**325**	P	P	14 20 27.9	-0.1
	0.4nm,0.5s,baz=114,slow=8.2,SNR=2.9						

IDC 17 14:12:08.5±2.4, 21.11S×68.54W, h98km±22km, mb3.1/2, mb1 3.3/7, mb1mx3.2/18, mbtmp3.1/7, Error ellipse: s-maj=40.1km s-min=20.5km az=96.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.81**	**5**	P	Pn	14 13 20.1	+0.6
	2.1nm,0.3s,baz=200,slow=7.4,SNR=42						
SIV	**San Ignacio**	**8.72**	**56**	P	Pn	14 14 12.2	+0.3
	0.5nm,0.3s,baz=255,slow=12,SNR=9.3						
CFAA	**Coronel Fontan**	**10.46**	**179**	P	Pn	14 14 34.4	-1.2
	0.1nm,0.3s,baz=353,slow=15,SNR=4.8						
CFAA				S	Sn	14 16 25.5	-5.3
	0.1nm,0.3s,baz=244,slow=18,SNR=3.4						
CPUP	**Villa Florida**	**11.51**	**119**	P	Pn	14 14 48.1	-1.6
	0.5nm,0.3s,baz=276,slow=10,SNR=3.1						
PLCA	**Paso Flores**	**19.64**	**185**	P	Pn	14 16 30.9	-1.0
	0.1nm,0.3s,baz=0.0,slow=7.1,SNR=2.8						
TORD	**Torodi Ar. Bea**	**76.89**	**70**	P	P	14 23 50.6	0.0
	0.1nm,0.4s,baz=266,slow=6.4,SNR=2.4						
TORD				pP	pP	14 24 19.3	+3.5
	0.4nm,0.6s,baz=248,slow=6.3,SNR=3.0						
YKA	**Yellowknife Ar**	**90.93**	**340**	P	P	14 24 59.0	-1.9
	0.1nm,0.5s,baz=141,slow=4.4,SNR=3.5						
YKA				pP	pP	14 25 29.7	+2.9
	0.2nm,0.5s,baz=135,slow=4.2,SNR=7.1						
MKAR	**Makanchi Array**	**145.11**	**36**	PKPbc	PKPdf	14 31 34.5	0.0
	1.5nm,0.8s,baz=305,slow=5.1,SNR=5.4						

IDC 17 14:12:50.1±16.0, 0.04N×133.37E, h0km, mb4.0/2, mb1 4.0/4, mb1mx3.6/19, mbtmp3.9/4, ML3.8/2, Error ellipse: s-maj=245.4km s-min=85.1km az=170.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.56**	**202**	P	P	14 17 19.0	-0.7
	0.4nm,0.3s,baz=33,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**19.88**	**177**	P	Pn	14 17 24.0	-0.7
	0.2nm,0.3s,baz=357,slow=11,SNR=5.1						
WRA				S	S	14 20 52.1	-16
	0.1nm,0.3s,baz=352,slow=24,SNR=4.6						
ASAR	**Alice Springs**	**23.57**	**179**	P	P	14 18 02.4	-0.2
	4.8nm,0.9s,baz=5.8,slow=10,SNR=16						
STKA	**Stephens Creek**	**32.68**	**167**	P	P	14 19 24.2	0.0
	1.5nm,0.7s,baz=333,slow=10.0,SNR=4.7						

IDC 17 14:24:28.6±2.1, 3.50N×126.33E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/19, mbtmp3.4/4, Error ellipse: s-maj=186.1km s-min=25.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.59**	**162**	P	P	14 29 49.0	-1.6
	0.9nm,0.8s,baz=340,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**27.99**	**165**	P	P	14 30 23.1	+1.7
	0.3nm,0.9s,baz=343,slow=12,SNR=3.3						
STKA	**Stephens Creek**	**38.06**	**159**	P	P	14 31 48.9	-0.1
	1.2nm,0.7s,baz=331,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**57.52**	**326**	P	P	14 34 19.5	-0.3
	0.2nm,0.4s,baz=117,slow=7.8,SNR=4.9						

BJI 17 14:26:03.6, 39.42N×72.88E, h10km, ML3.6/5

IDC 17 14:26:11.7±1.0, 39.53N×74.04E, h0km, mb3.6/8, mb1 3.7/14, mb1mx3.5/31, mbtmp3.5/14, ML3.1/6, MS2.6/1, Ms1 2.6/1, ms1mx2.0/38, Error ellipse: s-maj=18.8km s-min=13.4km az=100.0

NNC 17 14:26:12.8±0.7, 39.64N×73.81E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=6.3km s-min=2.8km az=11.0

ISC 17 14:26:16.7±1.0, 39.73N±0.08×73.88E±0.07, h28km, n35, σ1s83/32, mb3.6/8, 13C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.63**	**97**	*e*Pg	Pn	14 26 38.0	-5.7
KSH				smax	smax		
	comp=N,450nm,0.8s						
KSH				smax	smax		
	comp=E,470nm,0.8s						
AML	**Almayashu**	**2.41**	**357**	P	**Pb**	**14 26 58.3**	**

SONM	**Songino Array**	**24.69**	**60**	P		**P**	**14 31 34.0**	**-1.4**
	comp=E,0.2nm,0.5s,baz=246,slow=10,SNR=2.2							
FINES	**FINESS Array B**	**36.18**	**323**	P		**P**	**14 33 17.9**	**+1.5**
	comp=E,2.2nm,0.9s,baz=122,slow=10.0,SNR=4.8							
ARCES	**ARCESS Array B**	**39.10**	**335**	P		**P**	**14 33 42.0**	**+1.0**
	comp=E,1.9nm,0.8s,baz=106,slow=9.4,SNR=3.2							
NOA	**NORSAR Array B**	**43.24**	**321**	P		**P**	**14 34 16.6**	**+1.4**
	comp=E,0.6nm,0.7s,baz=91,slow=8.0,SNR=2.6							
TORD	**Torodi Ar. Bea**	**68.05**	**269**	P		**P**	**14 37 13.4**	**-0.5**
	comp=E,0.4nm,0.6s,baz=58,slow=5.8,SNR=3.4							
YKA	**Yellowknife Ar**	**77.90**	**4**	P		**P**	**14 38 11.4**	**0.0**
	comp=E,0.4nm,0.8s,baz=349,slow=5.8,SNR=8.6							
WRA	**Warramunga Arr**	**81.84**	**124**	P		**P**	**14 38 31.9**	**-1.5**
	comp=E,0.4nm,0.6s,baz=327,slow=5.3,SNR=5.0							
ASAR	**Alice Springs**	**84.31**	**127**	P		**P**	**14 38 44.4**	**-1.7**
	comp=E,0.4nm,0.9s,baz=302,slow=4.7,SNR=3.8							

CSEM ***17*** *14:31:03.3±1.0, 36.73N×37.70E, h2km, MD3.2, Error ellipse: s-maj=22.2km s-min=9.4km az=3.0*
ISK ***17*** *14:31:04.0, 36.83N×37.68E, h3km, MD2.8*
DDA ***17*** *14:31:11.5, 37.10N×37.63E, h7km, MD3.2*
ISC 17 14:31:06.5±1.8, 36.92N±0.08×37.71E±0.04, h2km±13km, n18, σ1s06/25, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZT	**Gaziantep**	**0.45**	**345**	*i* P	**Pg**	**14 31 13.9**	**-1.3**
GAZ	**Gaziantep**	**0.47**	**303**	*e*PG	**Pg**	**14 31 14.8**	**-0.8**
GAZ				*e*SG	**Sg**	**14 31 21.8**	**0.0**
GAZ	**Gaziantep**	**0.47**	**303**	*e*Pg	**Pg**	**14 31 14.8**	**-0.8**
GAZ				*e*Sg	**Sg**	**14 31 21.8**	**0.0**
KUZU	**Kuzuini**	**0.53**	**255**	*e*P	**Pn**	**14 31 22.2**	**+1.0**
KMRS	**Kahramanmaras**	**0.87**	**313**	*e*PG	**Pg**	**14 31 22.6**	**-0.7**
KMRS	**Kahramanmaras**	**0.87**	**313**	*e*Pg	**Pg**	**14 31 22.6**	**-0.7**
URFA	**Urfa**	**1.03**	**59**	*e*PN	**Pg**	**14 31 25.2**	**-1.1**
URFA	**Urfa**	**1.03**	**59**	*e*Pn	**Pg**	**14 31 25.2**	**-1.1**
ANDN	**Andirin**	**1.27**	**302**	*e*P	**Pb**	**14 31 33.4**	**+2.1**
ANDN				*i* S	**Sn**	**14 31 49.0**	**-0.3**
ANDN	**Andirin**	**1.27**	**302**	*i* S	**Sn**	**14 31 49.0**	**-0.3**
AKCD	**Akcadag**	**1.39**	**7**	*i* P	**Pg**	**14 31 33.7**	**+0.5**
AKCD				*i* S	**Sg**	**14 31 51.3**	**+0.2**
AKCD	**Akcadag**	**1.39**	**7**	*i* P	**Pg**	**14 31 33.7**	**+0.5**
AKCD				*i* S	**Sg**	**14 31 51.3**	**+0.2**
MALT	**Malatya**	**1.51**	**22**	*e*PN	**Pg**	**14 31 34.8**	**-0.6**
MALT				*e*SN	**Sg**	**14 31 56.0**	**+1.0**
MALT	**Malatya**	**1.51**	**22**	*e*Pn	**Pg**	**14 31 34.8**	**-0.6**
MALT				*e*Sn	**Sg**	**14 31 56.0**	**+1.0**
MYA	**Malataya**	**1.52**	**22**	*e*PN	**Pn**	**14 31 34.1**	**-0.8**
MYA	**Malataya**	**1.52**	**22**	*e*Pn	**Pn**	**14 31 34.1**	**-0.8**
KOZT	**Kozan**	**1.60**	**291**	*e*PN	**Pn**	**14 31 34.1**	**-1.9**
KOZT	**Kozan**	**1.60**	**291**	*e*Pn	**Pn**	**14 31 34.1**	**-1.9**

ISCJB ***17*** *14:49:32.7±0.6, 30°48S±0°04×65°31W±0°05, h171km±5km, mb4.8/62, Error ellipse: s-maj=7.8km s-min=6.4km az=42.0*
NEIC ***17*** *14:49:35.0±0.2, 30°45S×65°28W, mb4.9/40, Error ellipse: s-maj=6.6km s-min=5.9km az=89.0*
NEIC Felt at Villa Carlos Paz.
IDC ***17*** *14:49:34.9±0.3, 30°53S×65°41W, h179km±3km, mb4.4/13, mb1 4.5/18, mb1mx4.5/19, mbtmp4.5/18, Error ellipse: s-maj=11.1km s-min=8.0km az=143.0*
BJI ***17*** *14:49:39.3, 30°40S×65°20W, h179km, mB4.9/4*
INMG ***17*** *14:50:03.4, 30°32S×64°87W, h426km*
ISC 17 14:49:34.9±0.3, 30°50S±0°05×65°39W±0°05, h177km±2km, h177km:pP-P, n198, σ1s13/272, mb4.9/61, 3C-9D, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**2.68**	**245**	P	**Pn**	**14 50 19.7**	**+0.1**
CFAA				S	**Sn**	**14 50 52.4**	**-2.0**
CFAA	**Coronel Fontan**	**2.68**	**245**	P	**Pn**	**14 50 19.7**	**+0.1**
	109nm,0.3s,baz=68,slow=13,SNR=4830						
CFAA				S	**Sn**	**14 50 52.4**	**-2.0**
	70nm,0.3s,baz=320,slow=19,SNR=14						
LCO	**Las Campanas**	**4.85**	**287**	*e*Pn	**Pn**	**14 50 47.2**	**+0.1**
LCO	**Las Campanas**	**4.85**	**287**	*i*|P	**Pn**	**14 50 47.7**	**+0.6**
CMCH	**Combarbala**	**4.87**	**261**	*i*|P	**Pn**	**14 50 46.9**	**-0.3**
JACH	**Jahuel**	**4.94**	**243**	*i*|P	**Pn**	**14 50 48.4**	**+0.3**
OVCH	**Ovalle**	**5.01**	**267**	*i*|P	**Pn**	**14 50 48.5**	**-0.5**
PTCH	**Petorca**	**5.05**	**248**	*i*|P	**Pn**	**14 50 49.5**	**0.0**
PTCH				*i* S	**Sn**	**14 51 47.2**	**-0.8**
PEL	**Peldehue**	**5.22**	**238**	*i*|P	**Pn**	**14 50 51.0**	**-0.6**
PEL				*i* S	**Sn**	**14 51 51.0**	**-1.0**
SJCH	**San Jose de Ma**	**5.25**	**232**	*e*P	**Pn**	**14 50 50.9**	**-1.2**
SJCH				*i* S	**Sn**	**14 51 52.2**	**-0.5**
PCH	**Pirque**	**5.35**	**233**	*i*|P	**Pn**	**14 50 53.2**	**-0.2**
PCH				*i* S	**Sn**	**14 51 56.6**	**+1.6**
ROCH	**El Roble**	**5.38**	**241**	*i*|P	**Pn**	**14 50 52.9**	**-1.2**
ROCH				*i* S	**Sn**	**14 51 54.0**	**-2.1**
TACH	**Talagante**	**5.66**	**235**	*i*|P	**Pn**	**14 50 56.4**	**-1.0**
TACH				*i* S	**Sn**	**14 52 00.6**	**-1.7**
CDCH	**Caldera**	**5.87**	**304**	*i*|P	**Pn**	**14 50 60.0**	**-0.1**
TRQA	**Tornquist**	**8.05**	**160**	*e*P	**Pn**	**14 51 28.2**	**-0.6**
	66nm,1.5s						
CPUP	**Villa Florida**	**8.22**	**62**	P	**Pn**	**14 51 30.1**	**-1.1**
CPUP	**Villa Florida**	**8.22**	**62**	P	**Pn**	**14 51 30.1**	**-1.1**
	12nm,0.3s,baz=224,slow=12,SNR=313						
PLCA	**Paso Flores**	**11.04**	**201**	*e*P	**Pn**	**14 52 06.5**	**-1.5**
	25nm,0.7s						
PLCA				*e*		14 52 15.6	
PLCA	**Paso Flores**	**11.04**	**201**	P	**Pn**	**14 52 06.8**	**-1.2**
	1.2nm,0.3s,baz=11,slow=13,SNR=19						
LPAZ	**La Paz**	**14.37**	**349**	*e*P	**Pn**	**14 52 49.0**	**-2.1**
	116nm,0.7s						
LPAZ				S	**S**	**14 55 34.9**	**+0.1**
LPAZ	**La Paz**	**14.37**	**349**	P	**Pn**	**14 52 50.1**	**-0.9**
	11nm,0.3s,baz=159,slow=6.7,SNR=61						
LPAZ				S	**S**	**14 55 34.9**	**+0.1**
	0.4nm,0.3s,baz=65,slow=24,SNR=6.0						
SIV	**San Ignacio**	**14.97**	**16**	P	**Pn**	**14 52 57.0**	**-1.0**
SIV	**San Ignacio**	**14.97**	**16**	P	**Pn**	**14 52 57.0**	**-1.0**
	8.0nm,0.3s,baz=220,slow=11,SNR=86						
SPB	**Sao Paulo**	**17.41**	**71**	*e*P	**P**	**14 53 24.5**	**-1.3**
	46nm,0.4s						
NNA	**Nana**	**21.26**	**328**	P	**P**	**14 54 09.2**	**+1.7**
NNA	**Nana**	**21.26**	**328**	P	**P**	**14 54 09.2**	**+1.7**
	5.7nm,0.6s,baz=192,slow=12,SNR=4.7						
SAML	**Samuel**	**21.54**	**6**	*e*P	P	14 54 05.2	-5.2
	7.3nm,0.6s						
BDFB	**Brasilia**	**21.73**	**51**	P	**P**	**14 54 11.0**	**-1.5**
BDFB	**Brasilia**	**21.73**	**51**	P	**P**	**14 54 11.0**	**-1.5**
	90nm,0.6s,baz=229,slow=9.2,SNR=123						
USHA	**Ushuaia**	**24.42**	**184**	P	**P**	**14 54 37.0**	**+0.2**
USHA	**Ushuaia**	**24.42**	**184**	P	**P**	**14 54 37.0**	**+0.2**
	30nm,0.5s,baz=356,slow=9.7,SNR=39						
FDF	**Fort de France**	**45.16**	**6**	*e*P	**P**	**14 57 32.5**	**-1.6**
	97nm,0.8s						
FDF	**Fort de France**	**45.16**	**6**	*e*P	**P**	**14 57 32.5**	**-1.6**
ANWB	**Willy Bob**	**48.02**	**5**	*e*P	P	14 57 52.9	-3.3
	50nm,0.6s						
CRPR	**Cabo Rojo, PR**	**48.25**	**358**	*e*P	**P**	**14 57 56.5**	**-1.5**
	17nm,0.6s						
OBIP	**Obispado Ponce**	**48.28**	**358**	*e*P	P	14 57 54.4	-3.8
	54nm,0.9s						
CELP	**Cerrillos**	**48.31**	**358**	*e*P	**P**	**14 57 56.8**	**-1.7**
SJG	**San Juan**	**48.34**	**359**	*e*P	**P**	**14 57 56.4**	**-2.2**
	41nm,0.9s						
LRS	**Lares**	**48.53**	**358**	*e*P	**P**	**14 57 58.0**	**-2.1**
SNAA	**Sanae**	**52.78**	**159**	*e*P	P	14 58 24.4	-7.0
	31nm,0.9s						
MAIT	**Maitri**	**57.30**	**157**	*e*P	**P**	**14 59 05.6**	**+1.9**
QSPA	**South Pole Qui**	**59.73**	**180**	*e*P	**P**	**14 59 21.6**	**+0.9**
	38nm,0.7s						
QSPA	**South Pole Qui**	**59.73**	**180**	P	**P**	**14 59 21.4**	**+0.7**
	30nm,0.6s,baz=160,slow=2.5,SNR=323						
SYO	**Syowa Base**	**67.00**	**158**	*e*P	**P**	**15 00 07.2**	**-1.0**
SWET	**Sewanee**	**68.17**	**342**	*e*P	**P**	**15 00 15.2**	**-0.8**
	18nm,0.8s						
SWET				*e*pP	**pP**	**15 00 57.7**	**-0.3**
LIC	**Lamto**	**68.29**	**68**	*i*|P	**P**	**15 00 15.2**	**-1.9**
	50nm,0.4s						
DBIC	**Dimbokro**	**68.69**	**68**	*e*P	**P**	**15 00 17.8**	**-1.8**
	34nm,0.4s						
DBIC				*e*pP	**pP**	**15 01 02.3**	**+0.6**
DBIC				pP	**pwP**	**15 01 02.5**	**+0.8**
DBIC	**Dimbokro**	**68.69**	**68**	P	**P**	**15 00 17.7**	**-1.8**
	30nm,0.3s,baz=213,slow=7.0,SNR=108						
DBIC				pP	**pwP**	**15 01 02.5**	**+0.8**
	19nm,0.7s,baz=215,slow=7.8,SNR=6.1						

JSRW	**J. Sargeant Re**	**68.84**	**349**	P		**P**	**15 00 19.5**	**-0.4**
WVT	**Waverly**	**69.55**	**341**	*e*P		**P**	**15 00 23.6**	**-0.8**
	16nm,0.9s							
WVT				*e*			15 00 30.2	
WVT				*e*pP		**pP**	**15 01 05.8**	**-0.9**
WVT				*e*sP		**sP**	**15 01 24.2**	**-1.4**
TXAR	**Lajitas Array**	**69.79**	**325**	P		**P**	**15 00 26.1**	**0.0**
TXAR				pP		**pP**	**15 01 09.2**	**+0.8**
TXAR	**Lajitas Array**	**69.79**	**325**	P		**P**	**15 00 26.1**	**0.0**
	0.5nm,0.5s,baz=134,slow=6.5,SNR=4.8							
TXAR				pP		**pP**	**15 01 09.2**	**+0.8**
	1.0nm,0.7s,baz=145,slow=9.0,SNR=3.5							
ERPA	**Erie**	**73.50**	**349**	*e*P		**P**	**15 00 48.0**	**+0.1**
	32nm,0.6s							
TSUM	**Tsumeb**	**74.64**	**103**	*e*P		**P**	**15 00 54.7**	**-0.6**
	12nm,0.8s							
TSUM				*e*pP		**pP**	**15 01 38.9**	**+0.9**
FRNY	**Flat Rock**	**75.35**	**354**	P		**P**	**15 00 58.6**	**+0.2**
BOSA	**Boshof**	**76.58**	**115**	*e*P		**P**	**15 01 05.5**	**-0.7**
	19nm,0.4s							
BOSA				*e*			15 01 08.8	
BOSA				*e*pP		**pP**	**15 01 49.2**	**0.0**
BOSA				pP		**pwP**	**15 01 49.4**	**+0.2**
BOSA	**Boshof**	**76.58**	**115**	P		**P**	**15 01 05.7**	**-0.5**
	20nm,0.4s,baz=258,slow=4.4,SNR=65							
BOSA				pP		**pwP**	**15 01 49.4**	**+0.2**
	5.2nm,0.5s,baz=251,slow=4.9,SNR=2.7							
TOA0	**Torodi Ar. Sit**	**77.69**	**67**	*e*P		**P**	**15 01 10.2**	**-2.1**
TOA0				*e*pP		**pP**	**15 01 55.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**77.69**	**67**	P		**P**	**15 01 10.7**	**-1.6**
TORD				pP		**pP**	**15 01 55.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**77.69**	**67**	P		**P**	**15 01 10.7**	**-1.6**
	31nm,0.7s,baz=226,slow=4.3,SNR=121							
TORD				pP		**pP**	**15 01 55.6**	**+0.2**
	23nm,0.8s,baz=251,slow=5.4,SNR=9.5							
LBTB	**Lobatse**	**78.53**	**112**	*e*P		**P**	**15 01 16.4**	**-0.6**
	12nm,0.9s							
ECSD	**EROS Data Cent**	**79.21**	**338**	*e*P		**P**	**15 01 19.9**	**-0.1**
	10nm,0.7s							
ECSD				*e*PcP		**PcP**	**15 01 27.7**	**0.0**
ECSD				*e*pP		**pP**	**15 02 03.2**	**0.0**
MSU	**Marysvale**	**81.35**	**325**	*e*P		**P**	**15 01 32.5**	**+0.7**
	3.7nm,1.1s							
PDAR	**Pinedale Array**	**83.44**	**329**	P		**P**	**15 01 41.6**	**-0.9**
PDAR				pP		**pP**	**15 02 26.2**	**0.0**
PDAR	**Pinedale Array**	**83.44**	**329**	P		**P**	**15 01 41.6**	**-0.9**
	1.1nm,0.7s,baz=128,slow=7.0,SNR=9.4							
PDAR				pP		**pP**	**15 02 26.2**	**0.0**
	1.9nm,0.6s,baz=129,slow=8.0,SNR=5.2							
PD02	**Pinedale Array**	**83.45**	**329**	*e*P		**P**	**15 01 42.1**	**-0.5**
PD02				*e*pP		**pP**	**15 02 26.5**	**+0.1**
PD01	**Pinedale Array**	**83.46**	**329**	P		**P**	**15 01 43.0**	**+0.3**
PD01				*e*pP		**pP**	**15 02 26.4**	**+0.1**
NVAR	**Mina Array Bea**	**84.48**	**321**	P		**P**	**15 01 48.3**	**+0.4**
NVAR				pP		**pP**	**15 02 32.7**	**+1.0**
NVAR	**Mina Array Bea**	**84.48**	**321**	P		**P**	**15 01 48.3**	**+0.4**
	0.8nm,0.7s,baz=134,slow=5.2,SNR=7.4							
NVAR				pP		**pP**	**15 02 32.7**	**+1.0**
	0.9nm,0.7s,baz=160,slow=4.9,SNR=4.3							
LOHW	**Long Hollow**	**84.58**	**329**	*e*P		**P**	**15 01 48.7**	**+0.4**
	4.2nm,0.7s							
LOHW				*e*pP		**pP**	**15 02 34.6**	**+2.5**
ULM	**Lac du Bonnet**	**84.82**	**341**	P		**P**	**15 01 48.8**	**-0.2**
ULM				pP		**pP**	**15 02 33.5**	**+0.6**
ULM	**Lac du Bonnet**	**84.82**	**341**	P		**P**	**15 01 48.8**	**-0.2**
	3.8nm,0.8s,baz=143,slow=6.0,SNR=5.7							
ULM				pP		**pP**	**15 02 33.5**	**+0.6**
	1.8nm,0.4s,baz=237,slow=6.0,SNR=2.9							
IMW	**Indian Meadow**	**84.95**	**329**	*e*P		**P**	**15 01 50.7**	**+0.5**
	2.6nm,0.6s							
FLWY	**Flagg Ranch**	**84.99**	**329**	*e*P		**P**	**15 01 50.9**	**+0.5**
	4.5nm,0.6s							
FLWY				*e*pP		**pP**	**15 02 35.2**	**+1.0**
SCHQ	**Schefferville**	**84.99**	**359**	*e*P		**P**	**15 01 49.4**	**-0.4**
	10nm,0.9s							
SCHQ				*e*pP		**pP**	**15 02 34.1**	**+0.4**
SCHQ	**Schefferville**	**84.99**	**359**	P		**P**	**15 01 49.6**	**-0.1**
	7.5nm,0.8s,baz=171,slow=4.4,SNR=16							
SCHQ				pP		**pP**	**15 02 34.0**	**+0.4**
	10nm,0.9s,baz=142,slow=5.5,SNR=5.9							
LSZ	**Lusaka**	**85.40**	**105**	*e*P		**P**	**15 01 54.0**	**+1.0**
	16nm,0.8s							
GCMT	**Greycliff**	**85.89**	**331**	*e*P		**P**	**15 01 54.7**	**0.0**
	2.1nm,0.6s							
PTEO	**Sao Teotonio**	**85.96**	**42**	*e*P		**P**	**15 01 54.9**	**-0.1**
	56nm,1.3s							
PBDV	**Barranco-do-Ve**	**86.21**	**42**	*e*P		**P**	**15 01 56.2**	**0.0**
	62nm,1.1s							
PBDV	**Barranco-do-Ve**	**86.21**	**42**	*e*PP		PP	15 05 22.6	+2.6
TAM	**Tamanrasset**	**86.22**	**61**	*e*P		**P**	**15 01 56.6**	**-0.2**
	9.2nm,0.8s							
HLID	**Hailey**	**86.29**	**327**	*e*P		**P**	**15 01 57.4**	**+0.7**
	5.5nm,0.9s							
HLID				*e*pP		**pP**	**15 02 41.9**	**+1.2**
PCVE	**Castro Verde**	**86.41**	**42**	*e*P		**P**	**15 01 57.0**	**-0.2**
	25nm,0.8s							
PVAQ	**Vaqueiros**	**86.44**	**42**	*e*P		**P**	**15 01 56.9**	**-0.4**
	42nm,1.6s							
PVAQ	**Vaqueiros**	**86.44**	**42**	*e*PP		PP	15 05 24.1	+2.3
PNCL	**Nicolau / Gran**	**86.46**	**41**	*e*P		**P**	**15 01 57.3**	**-0.1**
	22nm,0.8s							
MCMT	**McKenzie Canyo**	**86.53**	**328**	*e*P		**P**	**15 01 58.8**	**+0.8**
	2.6nm,0.7s							
MCMT				*e*pP		**pP**	**15 02 43.2**	**+1.3**
PBEJ	**Beja**	**86.78**	**42**	*e*P		**P**	**15 01 58.8**	**-0.2**
	19nm,1.1s							
MFID	**Camas Ranch**	**86.86**	**326**	P		**P**	**15 01 59.2**	**-0.2**
EVOP	**Sao Brissos**	**86.98**	**41**	*e*P		**P**	**15 01 59.4**	**-0.5**
	38nm,1.0s							
EVO	**Evora**	**87.04**	**41**	*e*P		**P**	**15 01 59.4**	**-0.8**
	38nm,1.0s							
LRM	**Limekiln Ridge**	**87.12**	**329**	*e*P		**P**	**15 02 00.9**	**+0.1**
	30nm,0.9s							
PMTG	**Montargil**	**87.29**	**41**	*e*P		**P**	**15 02 01.3**	**-0.1**
	33nm,0.8s							
PBAR	**Barrancos**	**87.36**	**42**	*e*P		**P**	**15 02 01.4**	**-0.3**
	18nm,1.3s							
PESTR	**Estremoz**	**87.51**	**41**	*e*P		**P**	**15 02 02.3**	**-0.2**
	23nm,1.5s							
PMRV	**Marv??o**	**88.01**	**41**	*e*P		**P**	**15 02 04.6**	**-0.2**
	18nm,1.8s							
PVRL	**Vila Real**	**89.08**	**40**	*e*P		**P**	**15 02 07.8**	**-2.1**
	17nm,1.8s							
POLO	**Lamas de Olo**	**89.11**	**39**	*e*P		**P**	**15 02 09.6**	**-0.5**
	10.0nm,1.4s							
YBH	**Yreka Blue Hor**	**89.20**	**321**	P		**P**	**15 02 09.7**	**-0.8**
YBH	**Yreka Blue Hor**	**89.20**	**321**	P		**P**	**15 02 09.7**	**-0.8**
	baz=101,slow=3.3							
MVO	**Moncorvo**	**89.39**	**40**	*e*P		**P**	**15 02 11.3**	**0.0**
	22nm,1.4s							
JTMT	**Jette**	**89.41**	**329**	P		**P**	**15 02 13.0**	**+1.7**
	4.1nm,0.8s							
JTMT				*e*pP		**pP**	**15 02 57.4**	**+1.8**
KHZ	**Kahutara**	**89.45**	**219**	*e*P		**P**	**15 02 13.2**	**+1.4**
	16nm,0.4s							
RPZ	**Rota Spaks**	**89.89**	**217**	*e*P		**P**	**15 02 14.9**	**+1.1**
PBRG	**Braganca**	**89.98**	**40**	*e*P		**P**	**15 02 14.1**	**+0.1**
	11nm,1.1s							
ESDC	**Sonseca Array**	**90.15**	**43**	P		**P**	**15 02 14.5**	**-0.4**
ESDC	**Sonseca Array**	**90.15**	**43**	P		**P**	**15 02 14.5**	**-0.4**
	2.1nm,0.7s,baz=237,slow=4.5,SNR=11							
WALA	**Waterton Lakes**	**90.25**	**330**	*e*P		**P**	**15 02 15.0**	**-0.2**
WALA				*e*pP		**pP**	**15 03 00.0**	**+0.5**
SJPF	**Ste Jean**	**93.93**	**41**	*e*P		**P**	**15 02 31.5**	**-0.7**
	8.2nm,0.8s							
SJPF	**Ste Jean**	**93.93**	**41**	*e*P		**P**	**15 02 31.5**	**-0.7**
	8.2nm,0.8s							
ETSF	**Etsaut**	**94.17**	**42**	*e*P		**P**	**15 02 32.5**	**-0.9**
	26nm,1.3s							
ETSF	**Etsaut**	**94.17**	**42**	*e*P		**P**	**15 02 32.5**	**-0.9**
	26nm,1.3s							
KEST	**Kesra**	**96.25**	**52**	P		**P**	**15 02 42.9**	**-0.1**
KEST	**Kesra**	**96.25**	**52**	P		**P**	**15 02 42.9**	**-0.1**
	1.3nm,0.9s,baz=225,slow=5.7,SNR=3.8							
MFF	**Saint Martin d**	**96.70**	**39**	*e*P		**P**	**15 02 43.3**	**-1.4**
	22nm,1.1s							
MFF	**Saint Martin d**	**96.70**	**39**	*e*P		**P**	**15 02 43.3**	**-1.4**
	22nm,1.1s							
RJF	**Les Rejaudoux**	**96.83**	**41**	*e*P		**P**	**15 02 43.7**	**-1.7**
RJF	**Les Rejaudoux**	**96.83**	**41**	*e*P		**P**	**15 02 43.7**	**-1.7**
GRR	**Gorron**	**97.42**	**37**	*e*P		**P**	**15 02 45.8**	**-2.1**
GRR	**Gorron**	**97.42**	**37**	*e*P		**P**	**15 02 45.8**	**-2.1**
TCF	**Toulx Ste Croi**	**97.81**	**40**	*e*P		**P**	**15 02 48.1**	**-1.7**
	15nm,1.1s							
TCF	**Toulx Ste Croi**	**97.81**	**40**	*e*P		**P**	**15 02 48.1**	**-1.7**
	15nm,1.1s							

AVF	**Avril sur Loir**	**98.74**	**40**	*e*P		**P**	**15 02 52.4**	**-1.5**
AVF	**Avril sur Loir**	**98.74**	**40**	*e*P		**P**	**15 02 52.4**	**-1.5**
SSF	**Saint Saulge**	**98.98**	**40**	*e*P		**P**	**15 02 53.2**	**-1.8**
	11nm,0.9s							
SSF	**Saint Saulge**	**98.98**	**40**	*e*P		**P**	**15 02 53.2**	**-1.8**
	11nm,0.9s							
LOR	**Lormes**	**99.30**	**40**	*e*P		**Pdif**	**15 02 54.6**	**-1.8**
	9.7nm,0.8s							
LOR	**Lormes**	**99.30**	**40**	*e*P		**Pdif**	**15 02 54.6**	**-1.8**
	9.7nm,0.8s							
YKA	**Yellowknife Ar**	**100.69**	**339**	P		**Pdif**	**15 03 01.9**	**-0.2**
YKA				pP		PP	15 03 46.8	+0.1
YKA				PP		**PP**	**15 07 13.6**	**+1.3**
YKA	**Yellowknife Ar**	**100.69**	**339**	P		**Pdif**	**15 03 01.9**	**-0.2**
	0.3nm,0.6s,baz=136,slow=4.4,SNR=8.6							
YKA				pP		pP	15 03 46.7	+0.1
	0.5nm,0.5s,baz=138,slow=4.7,SNR=3.1							
YKA				PP		**PP**	**15 07 13.6**	**+1.3**
	0.4nm,0.9s,baz=134,slow=6.9,SNR=3.4							
PAGF	**Fort de Pagny**	**101.06**	**40**	*e*P		**Pdif**	**15 03 03.1**	**-1.1**
PAGF	**Fort de Pagny**	**101.06**	**40**	*e*P		**Pdif**	**15 03 03.1**	**-1.1**
ARCES	**ARCESS Array B**	**118.52**	**24**	PKP		**PKPdf**	**15 08 00.3**	**-0.2**
ARCES	**ARCESS Array B**	**118.52**	**24**	PKP		**PKPdf**	**15 08 00.3**	**-0.2**
	1.6nm,0.8s,baz=220,slow=3.5,SNR=2.8								
ASAR	**Alice Springs**	**123.05**	**201**	PKP		**PKPdf**	**15 08 09.8**	**-1.0**
ASAR				pPKP		**pPKPdf**	**15 08 56.5**	**-0.6**
ASAR	**Alice Springs**	**123.05**	**201**	PKP		**PKPdf**	**15 08 09.8**	**-1.0**
	3.4nm,0.6s,baz=142,slow=1.7,SNR=75								
ASAR				pPKP		**pPKPdf**	**15 08 56.5**	**-0.6**
	0.5nm,0.6s,baz=104,slow=1.2,SNR=1.6								
WRA	**Warramunga Arr**	**126.38**	**203**	PKP		**PKPdf**	**15 08 16.5**	**-0.8**
WRA				pPKP		**pPKPdf**	**15 09 03.8**	**+0.2**
WRA	**Warramunga Arr**	**126.38**	**203**	PKP		**PKPdf**	**15 08 16.5**	**-0.8**
	6.8nm,0.5s,baz=163,slow=1.7,SNR=96								
WRA				pPKP		**pPKPdf**	**15 09 03.8**	**+0.2**
	2.0nm,0.6s,baz=170,slow=1.7,SNR=4.9								
FITZ	**Fitzroy Crossi**	**130.53**	**194**	PKP		**PKPdf**	**15 08 24.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**130.53**	**194**	PKP		**PKPdf**	**15 08 24.7**	**-0.4**
	1.6nm,0.6s,baz=270,slow=4.0,SNR=5.6								
AKTO	**Aktyubinsk**	**133.80**	**48**	SKPbc		**SKPbc**	**15 11 42.6**	**0.0**
AKTO	**Aktyubinsk**	**133.80**	**48**	SKPbc		**SKPbc**	**15 11 42.6**	**0.0**
	4.1nm,0.8s,baz=295,slow=2.6,SNR=7.0								
ABKAR	**Akbulak array**	**135.12**	**49**	*e*PKPdf		**PKPdf**	**15 08 33.4**	**+0.6**
BVAR	**Borovoye Array**	**140.91**	**42**	PKPpre		PKPpre	15 08 37.2		
BVAR				pPKP		pPKPdf	15 09 30.4	+0.7	
BVAR				SKP			15 12 02.6		
BVAR	**Borovoye Array**	**140.91**	**42**	PKhKP		PKPpre	15 08 37.2		
	1.9nm,0.6s,baz=300,slow=2.0,SNR=14								
BVAR				pPKP		pPKPdf	15 09 30.4	+0.7	

	comp=Z,1.6nm,0.7s,baz=318,slow=3.3,SNR=11								
SONM					pPKPab	**pPKPab**	**15 10 46.2**	**+1.5**
	comp=Z,2.2nm,0.9s,baz=337,slow=3.8,SNR=6.9								
SONM					PP	**PP**	**15 13 46.0**	**+2.4**
	comp=Z,0.6nm,0.6s,baz=318,slow=1.9,SNR=4.3								
ULN	**Ulaanbaatar**	**161.71**	**16**	*e*PKPab	**PKPab**	**15 10 01.1**	**+0.3**		
CN2	**Changchun**	**164.18**	**330**	*e*PKP	**PKPdf**	**15 09 16.3**	**-0.5**		
GTA	**Gaotai**	**164.98**	**50**	*e*PKP	**PKPdf**	**15 09 20.3**	**+2.4**		
GTA					pPKP	**pPKPdf**	**15 10 06.8**	**+2.2**	
GTA					PKPab	**PKPab**	**15 10 18.8**	**+3.4**	
GTA					sPKP		15 10 23.4		
KMI	**Kunming**	**168.21**	**114**	PKP	**PKPdf**	**15 09 18.5**	**-2.4**		
HHC	**Hu-ho-hao-te**	**169.38**	**13**	*e*PKP	**PKPdf**	**15 09 22.4**	**+1.4**		
HHC				PP	**PP**	**15 14 28.3**	**+4.4**		
HHC				SKS	**SKSdf**	**15 16 08.3**	**+0.4**		
HHC				SKKS	**SKKSac**	**15 20 57.3**	**+3.1**		
HHC				SS	**SS**	**15 35 08.1**	**+3.6**		
HHC				AMB	AMB				
	comp=Z,88nm,11.9s								
LZH	**Lanzhou**	**169.41**	**55**	*e*PKP	**PKPdf**	**15 09 21.5**	**+0.2**		
LZH				pPKP	**pPKPdf**	**15 10 09.3**	**+1.3**		
GYA	**Guiyang**	**171.93**	**118**	*e*PKP	**PKPdf**	**15 09 21.3**	**-1.5**		
GYA				pPKP	**pPKPdf**	**15 10 10.5**	**+0.9**		
GYA				sPKP		15 10 27.8			
GYA				PKPab	**PKPab**	**15 10 46.9**	**+0.3**		
GYA				PKS	**PKSdf**	**15 12 51.5**	**-3.9**		
GYA				PP	**PP**	**15 14 39.0**	**+1.0**		
GYA				AMB	AMB				
	comp=Z,90nm,8.0s								

ISCJB ***17*** *14:50:12.9±0.5,39.°12N±0.°04×29.°08E±0.°03, h3km±7km, Error ellipse: s-maj=6.2km s-min=3.8km az=5.1*
ISK ***17*** *14:50:12.2,39.°12N×29.°06E, h6km, MD2.6*
DDA ***17*** *14:50:12.9,39.°14N×29.°08E, h7km, MD2.8*
CSEM ***17*** *14:50:13.1±0.1,39.°12N×29.°07E, h8km, MD2.8, Error ellipse: s-maj=2.1km s-min=1.7km az=32.0*

ISC 17 14:50:13.3±1.0,39.°13N±0.°03×29.°07E±0.°02, h10km±9km, n34, σ0§32/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.29**	**253**	*i* P	**Pg**	**14 50 19.3**	**+0.2**
DEMI				*i* S	**Sg**	**14 50 23.5**	**+0.5**
DEMI	**Demirci**	**0.29**	**253**	*i* P	**Pg**	**14 50 19.3**	**+0.2**
DEMI				*i* S	**Sg**	**14 50 23.5**	**+0.5**
GDZ	**Gediz**	**0.32**	**96**	*i* P	**Pg**	**14 50 19.7**	**0.0**
GDZ				*i* S	**Sg**	**14 50 24.2**	**+0.1**
GDZ	**Gediz**	**0.32**	**96**	*i* P	**Pg**	**14 50 19.7**	**0.0**
GDZ				*i* S	**Sg**	**14 50 24.2**	**+0.1**
DST	**Dursunbey**	**0.59**	**324**	*e*PG	**Pg**	**14 50 24.3**	**-0.5**
DST				*e*SG	**Sg**	**14 50 32.4**	**-0.2**
DST	**Dursunbey**	**0.59**	**324**	*e*Pg	**Pg**	**14 50 24.3**	**-0.5**
DST				*e*Sg	**Sg**	**14 50 32.4**	**-0.2**
DURS	**Dursunbey**	**0.66**	**316**	*i* P	**Pg**	**14 50 26.0**	**-0.1**
DURS	**Dursunbey**	**0.66**	**316**	*i* P	**Pg**	**14 50 26.0**	**-0.1**
KULA	**Kula-Manisa**	**0.69**	**208**	*e*PG	**Pg**	**14 50 26.1**	**-0.5**
KULA				*e*SG	**Sg**	**14 50 35.2**	**-0.4**
KULA	**Kula-Manisa**	**0.69**	**208**	*e*Pg	**Pg**	**14 50 26.1**	**-0.5**
KULA				*e*Sg	**Sg**	**14 50 35.2**	**-0.4**
ALT	**Altintas**	**0.81**	**95**	*e*PG	**Pg**	**14 50 28.6**	**-0.4**
ALT				*e*SG	**Sg**	**14 50 39.8**	**+0.3**
ALT	**Altintas**	**0.81**	**95**	*e*Pg	**Pg**	**14 50 28.6**	**-0.4**
ALT				*e*Sg	**Sg**	**14 50 39.8**	**+0.3**
KHAL	**Karahalli**	**0.82**	**156**	*i* P	**Pg**	**14 50 29.2**	**0.0**
KHAL	**Karahalli**	**0.82**	**156**	*i* P	**Pg**	**14 50 29.2**	**0.0**
KHL	**Karahalli**	**0.88**	**156**	*e*PG	**Pg**	**14 50 30.1**	**-0.1**
KHL	**Karahalli**	**0.88**	**156**	*e*Pg	**Pg**	**14 50 30.1**	**-0.1**
CAVI	**Cavuskoy**	**1.23**	**29**	*e*PN	**Pb**	**14 50 36.2**	**-0.5**
CAVI	**Cavuskoy**	**1.23**	**29**	*e*Pn	**Pb**	**14 50 36.2**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.25**	**353**	*e*PN	**Pn**	**14 50 36.5**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.25**	**353**	*e*Pn	**Pn**	**14 50 36.6**	**-0.3**
KCTX	**Karacabey (Bur**	**1.26**	**334**	*e*PN	**Pn**	**14 50 36.8**	**-0.3**
KCTX	**Karacabey (Bur**	**1.26**	**334**	*e*Pn	**Pn**	**14 50 36.8**	**-0.3**
BALY	**Balya**	**1.28**	**299**	*i* P	**Pg**	**14 50 37.9**	**0.0**
BALY				*i* S	**Sn**	**14 50 55.1**	**+0.5**
BALY	**Balya**	**1.28**	**299**	*i* P	**Pg**	**14 50 37.9**	**0.0**
BALY				*i* S	**Sn**	**14 50 55.1**	**+0.5**
BORA	**Eskisehir**	**1.31**	**54**	*e*P	**Pn**	**14 50 37.9**	**+0.1**
BORA				*i* S	**Sg**	**14 50 55.6**	**+0.2**
BORA	**Eskisehir**	**1.31**	**54**	*e*P	**Pn**	**14 50 37.9**	**+0.1**
BORA				*i* S	**Sg**	**14 50 55.6**	**+0.2**
GONE	**Gonen-Balikesi**	**1.41**	**311**	*e*PN	**Pn**	**14 50 39.2**	**+0.1**
GONE	**Gonen-Balikesi**	**1.41**	**311**	*e*Pn	**Pn**	**14 50 39.2**	**+0.1**
ESKT	**Eskisehir**	**1.44**	**74**	*e*PN	**Pn**	**14 50 39.5**	**0.0**
ESKT	**Eskisehir**	**1.44**	**74**	*e*Pn	**Pn**	**14 50 39.5**	**0.0**
ARMT	**Armutlu**	**1.45**	**354**	*e*PN	**Pb**	**14 50 40.5**	**+0.1**
ARMT	**Armutlu**	**1.45**	**354**	*e*Pn	**Pb**	**14 50 40.5**	**+0.1**
GULT	**Gulveren**	**1.71**	**40**	*e*PN	**Pn**	**14 50 43.8**	**+0.5**
GULT	**Gulveren**	**1.71**	**40**	*e*Pn	**Pn**	**14 50 43.8**	**+0.5**

IDC ***17*** *14:50:08.2±5.8,36.°35S×177.°88E, h0km, mb4.1/3, mb1 4.3/3, mb1mx4.0/14, mbtmp4.1/3, Error ellipse: s-maj=199.6km s-min=88.1km az=169.0*
ISCJB ***17*** *14:50:14.0±0.6,38.°04S±0.°03×177.°92E±0.°06, h81km±4km, mb4.0/3, Error ellipse: s-maj=7.5km s-min=5.3km az=167.5*
WEL ***17*** *14:50:15.4±0.2,37.°96S×177.°87E, h72km±1km, ML4.4/21, Error ellipse: s-maj=1.2km s-min=1.0km az=90.0*

ISC 17 14:50:15.2±1.0,38.°03S±0.°04×177.°89E±0.°05, h75km±7km, n88, σ0§86/85, mb4.2/3, 6C-39D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.29**	**98**	PN	**Pn**	**14 50 26.3**	**-0.6**
PUZ				SN	**Sn**	**14 50 35.3**	**-0.2**
MWZ	**Matawai**	**0.42**	**223**	PN	**Pn**	**14 50 28.1**	**+0.3**
MWZ				SN	**Sn**	**14 50 36.9**	**-0.2**
CNGZ	**Carnagh Statio**	**0.52**	**151**	⇑PN	**Pn**	**14 50 29.8**	**+1.2**
MXZ	**Matakaoa Point**	**0.57**	**35**	PN	**Pn**	**14 50 29.0**	**-0.1**
MXZ				SN	**Sn**	**14 50 39.1**	**-0.3**
URZ	**Urewera**	**0.66**	**249**	PN	**Pn**	**14 50 29.9**	**0.0**
URZ				SN	**Sn**	**14 50 40.5**	**-0.4**
WIZ	**White Island**	**0.75**	**312**	PN	**Pn**	**14 50 30.1**	**-0.9**
WIZ				SN	**Sn**	**14 50 41.4**	**-1.2**
PRGZ	**Paritu Road**	**0.89**	**180**	PN	**Pn**	**14 50 33.2**	**+0.5**
EDRZ	**Edgecumbe**	**0.91**	**265**	⇓PN	**Pn**	**14 50 32.7**	**-0.2**
MARZ	**Manawahe**	**0.96**	**272**	⇓PN	**Pn**	**14 50 32.8**	**-0.6**
KNZ	**Kokohu**	**1.00**	**190**	⇓PN	**Pn**	**14 50 34.4**	**+0.4**
OPRZ	**Ohinepanea**	**1.07**	**279**	PN	**Pn**	**14 50 33.7**	**-1.1**
RAHZ	**Arahi**	**1.09**	**215**	⇓PN	**Pn**	**14 50 35.8**	**+0.7**
TARZ	**Mount Tarawera**	**1.11**	**259**	⇓PN	**Pn**	**14 50 35.4**	**0.0**
MHGZ	**Mahia Peninsul**	**1.12**	**179**	PN	**Pn**	**14 50 36.5**	**+1.0**
RRRZ	**Republican Roa**	**1.13**	**254**	⇓PN	**Pn**	**14 50 35.4**	**-0.1**
MKRZ	**Makatiti**	**1.13**	**264**	PN	**Pn**	**14 50 35.5**	**0.0**
LIRZ	**Lichensteins R**	**1.19**	**271**	PN	**Pn**	**14 50 36.1**	**-0.2**
OMRZ	**Omania**	**1.20**	**266**	⇓PN	**Pn**	**14 50 36.2**	**-0.3**
PRRZ	**Plateau Road**	**1.27**	**248**	⇓PN	**Pn**	**14 50 37.3**	**0.0**
KARZ	**Kaharoa**	**1.30**	**270**	⇓PN	**Pn**	**14 50 37.3**	**-0.4**
HRRZ	**Handcock Road**	**1.32**	**254**	⇓PN	**Pn**	**14 50 37.9**	**-0.1**
TGRZ	**Tauranga**	**1.32**	**283**	⇓PN	**Pn**	**14 50 37.3**	**-0.7**
ALRZ	**Allen Road**	**1.33**	**246**	⇓PN	**Pn**	**14 50 38.1**	**+0.1**
UTU	**Utuhina**	**1.35**	**263**	PN	**Pn**	**14 50 38.8**	**+0.5**
NMHZ	**Naumai**	**1.36**	**218**	⇓PN	**Pn**	**14 50 39.6**	**+1.0**
MYRZ	**Mayor Island**	**1.51**	**299**	PN	**Pn**	**14 50 39.7**	**-0.7**
BKZ	**Black Stump Fm**	**1.58**	**224**	PN	**Pn**	**14 50 41.5**	**+0.1**
WHTZ	**Whakaora**	**1.65**	**247**	PN	**Pn**	**14 50 42.8**	**+0.5**
HATZ	**Hinemaiaia**	**1.65**	**238**	⇓PN	**Pn**	**14 50 42.4**	**+0.1**
MCHZ	**McNeill Hill**	**1.69**	**213**	⇓PN	**Pn**	**14 50 43.3**	**+0.5**
CKHZ	**Cape Kidnapper**	**1.75**	**201**	⇓PN	**Pn**	**14 50 43.5**	**-0.1**
WATZ	**Wairara**	**1.83**	**248**	⇓PN	**Pn**	**14 50 44.8**	**+0.2**
RITZ	**Rihia Road**	**1.85**	**239**	⇓PN	**Pn**	**14 50 45.6**	**+0.6**
RATZ	**Rangitukua**	**1.86**	**243**	PN	**Pn**	**14 50 45.6**	**+0.4**
TOZ	**Tahuroa Road**	**1.91**	**278**	PN	**Pn**	**14 50 44.9**	**-0.8**
KAHZ	**Kahuranaki**	**1.93**	**204**	⇓PN	**Pn**	**14 50 45.8**	**-0.3**
KATZ	**Kakaramea**	**1.96**	**241**	⇓PN	**Pn**	**14 50 46.9**	**+0.3**
BHHZ	**Black Hill Sta**	**2.04**	**224**	⇓PN	**Pn**	**14 50 47.7**	**+0.2**
KRVZ	**Karewarewa**	**2.06**	**238**	⇓PN	**Pn**	**14 50 48.2**	**+0.3**
OTVZ	**Oturere**	**2.08**	**236**	⇓PN	**Pn**	**14 50 48.4**	**+0.3**
WTVZ	**West Tongariro**	**2.10**	**238**	⇓PN	**Pn**	**14 50 48.8**	**+0.3**
NGZ	**Ngauruhoe**	**2.13**	**237**	⇓PN	**Pn**	**14 50 49.1**	**+0.3**
TUTZ	**Tukino**	**2.14**	**234**	⇓PN	**Pn**	**14 50 49.2**	**+0.2**
KUZ	**Kuaotunu**	**2.15**	**306**	⇓PN	**Pn**	**14 50 48.2**	**-0.8**
PXZ	**Pawanui**	**2.15**	**202**	PN	**Pn**	**14 50 47.9**	**-1.1**
MOVZ	**Moawhango**	**2.17**	**230**	⇓PN	**Pn**	**14 50 49.0**	**-0.2**
WPVZ	**Whakapapa**	**2.18**	**237**	PN	**Pn**	**14 50 49.7**	**+0.3**
TWVZ	**Taurewa**	**2.19**	**241**	⇑PN	**Pn**	**14 50 49.8**	**+0.3**
FWVZ	**Far West T-bar**	**2.20**	**236**	PN	**Pn**	**14 50 49.6**	**-0.2**
WNVZ	**Wahianoa**	**2.21**	**233**	⇓PN	**Pn**	**14 50 50.0**	**+0.1**
TRVZ	**Turoa**	**2.23**	**235**	⇓PN	**Pn**	**14 50 50.3**	**+0.1**
PNHZ	**Pukenui**	**2.30**	**214**	⇓PN	**Pn**	**14 50 50.0**	**-0.9**
WPHZ	**Waipukurau**	**2.33**	**209**	⇑PN	**Pn**	**14 50 50.4**	**-0.9**
MTVZ	**Mangateitei**	**2.33**	**234**	⇓PN	**Pn**	**14 50 51.4**	**+0.1**
MKAZ	**Moumakai**	**2.35**	**292**	⇑PN	**Pn**	**14 50 51.3**	**-0.3**
PKVZ	**Pokaka**	**2.36**	**237**	PN	**Pn**	**14 50 52.2**	**+0.5**
HIZ	**Hauiti**	**2.44**	**258**	PN	**Pn**	**14 50 53.3**	**+0.6**
PRHZ	**Porangahau**	**2.44**	**203**	PN	**Pn**	**14 50 51.6**	**-1.2**
TSZ	**Takapari Road**	**2.52**	**216**	⇓PN	**Pn**	**14 50 52.7**	**-1.3**
OTAZ	**Otara**	**2.59**	**294**	PN	**Pn**	**14 50 55.3**	**+0.4**
DVHZ	**Dannevirke**	**2.63**	**210**	⇓PN	**Pn**	**14 50 53.7**	**-1.7**
VRZ	**Vera Road**	**2.69**	**245**	PN	**Pn**	**14 50 56.6**	**+0.5**
KAAZ	**Kauri Point**	**2.81**	**294**	⇓PN	**Pn**	**14 50 58.7**	**+0.9**
ABAZ	**Army Bay**	**2.83**	**299**	⇑PN	**Pn**	**14 50 58.6**	**+0.5**
WAZ	**Wanganui**	**2.85**	**232**	PN	**Pn**	**14 50 58.7**	**+0.4**
WTAZ	**Waiatarua**	**2.86**	**292**	⇑PN	**Pn**	**14 50 59.1**	**+0.6**
POWZ	**Post Office Ro**	**2.88**	**214**	PN	**Pn**	**14 50 57.1**	**-1.6**
RVAZ	**Riverhead Bore**	**2.92**	**294**	⇓PN	**Pn**	**14 50 59.8**	**+0.4**
BFZ	**Birch Farm**	**2.94**	**205**	PN	**Pn**	**14 50 57.7**	**-1.9**
MHEZ	**Mangahewa**	**2.99**	**248**	PN	**Pn**	**14 51 02.1**	**+1.9**
DREZ	**Durham Road**	**3.11**	**247**	PN	**Pn**	**14 51 03.5**	**+1.5**
TIWZ	**Tintock**	**3.15**	**209**	PN	**Pn**	**14 51 00.6**	**-1.9**
MRZ	**Mangatainoka R**	**3.18**	**214**	⇓PN	**Pn**	**14 51 00.6**	**-2.2**
HOWZ	**Holdsworth Sta**	**3.40**	**212**	PN	Pn	14 51 03.2	-2.7
TMWZ	**Te Maipa**	**3.44**	**206**	PN	Pn	14 51 03.8	-2.6
WCZ	**Waipu Caves**	**3.52**	**305**	⇓PN	**Pn**	**14 51 08.1**	**+0.6**
KIW	**Kapiti Island**	**3.65**	**218**	⇓PN	**Pn**	**14 51 06.9**	**-2.3**
PAWZ	**Paruwai Farm**	**3.85**	**209**	PN	Pn	14 51 08.7	-3.2
PLWZ	**Palliser**	**4.08**	**209**	PN	Pn	14 51 11.4	-3.7
DUWZ	**D'Urville Isla**	**4.14**	**227**	PN	**Pn**	**14 51 13.4**	**-2.5**
TUWZ	**Tuamarina**	**4.56**	**221**	PN	Pn	14 51 18.2	-3.4
QRZ	**Quartz Range**	**5.00**	**234**	PN	Pn	14 51 24.5	-3.2
DSZ	**Dennistoun Nort**	**5.97**	**230**	PN	Pn	14 51 36.9	-4.1
RPZ	**Rata Peaks**	**7.69**	**220**	PN	Pn	14 52 00.1	-4.3
STKA	**Stephens Creek**	**30.24**	**271**	P	**P**	**14 56 20.0**	**+1.1**
	1.7nm,0.8s,baz=105,slow=10,SNR=4.5								
ASAR	**Alice Springs**	**40.02**	**278**	P	**P**	**14 57 42.9**	**0.0**
	1.2nm,0.3s,baz=115,slow=6.3,SNR=100								
WRA	**Warramunga Arr**	**41.72**	**283**	P	**P**	**14 57 56.7**	**-0.2**
	1.6nm,0.4s,baz=123,slow=7.9,SNR=57								
ARCES	**ARCESS Array B**	**145.13**	**343**	PKP	**PKPdf**	**15 09 43.0**	**+0.2**
	2.3nm,0.8s,baz=46,slow=3.9,SNR=3.8								

IDC 17 14:54:37.1±1.3,3.°87N×127.°34E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/20, mbtmp3.6/6, Error ellipse: s-maj=145.4km s-min=17.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.64**	**164**	P	P	14 59 58.8	-0.8
	1.3nm,0.6s,baz=345,slow=9.9,SNR=11						
ASAR	**Alice Springs**	**28.11**	**167**	P	P	15 00 32.0	+1.0
	0.2nm,0.7s,baz=341,slow=10,SNR=4.1						
STKA	**Stephens Creek**	**38.05**	**160**	P	P	15 01 57.5	0.0
	1.5nm,0.7s,baz=333,slow=9.0,SNR=6.9						
SONM	**Songino Array**	**47.36**	**341**	P	P	15 03 13.3	+0.2
	0.3nm,0.6s,baz=148,slow=8.0,SNR=2.5						
MKAR	**Makanchi Array**	**57.79**	**325**	P	P	15 04 30.5	+0.2
	0.4nm,0.6s,baz=130,slow=8.2,SNR=7.3						
KURBB	**Kurchatov Arra**	**61.95**	**327**	P	P	15 04 58.1	-0.6
	0.6nm,0.6s,baz=130,slow=6.5,SNR=11						

NNC ***17*** *15:11:52.4±1.1,39.°14N×71.°55E, h0km, mb4.1, mpv4.0, Error ellipse: s-maj=8.4km s-min=5.4km az=11.0*
IDC ***17*** *15:11:53.4±1.5,39.°16N×72.°00E, h0km, mb3.5/4, mb1 3.6/10, mb1mx3.5/31, mbtmp3.6/10, ML3.6/6, Error ellipse: s-maj=27.8km s-min=13.2km az=139.0*

ISC 17 15:11:52.2±2.3,38.°8N±0.°2×71.°53E±0.°08, h34km, n30, σ1§43/33, mb3.3/4, 14C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.74**	**26**	P	**Pn**	**15 12 49.5**	**+1.6**
	SNR=228						
UCH	**Uchtor**	**4.13**	**32**	P	**Sn**	**15 13 41.1**	**+0.4**
	SNR=5.3						
EKS2	**Erkin-Say**	**4.24**	**23**	P	**Pn**	**15 12 56.1**	**+1.5**
	SNR=9.3						
KZA	**Kyzart**	**4.35**	**40**	P	**Pn**	**15 12 57.0**	**+0.7**
	SNR=54						
KK31	**Karatay Array**	**4.39**	**350**	Pn	**Pn**	**15 12 58.3**	**+1.8**
	9.5nm,0.3s,baz=189,slow=16,SNR=193						
KK31				Pg	**Pb**	**15 13 06.3**	**-2.4**
	21nm,0.5s,baz=164,slow=17,SNR=14						
KK31				Sn	**Sn**	**15 13 50.1**	**+3.5**
	6.6nm,0.3s,baz=173,slow=23,SNR=3.8						
KK31				⇑Lg	Lg	15 13 59.1	
	20nm,0.5s,baz=154,slow=31,SNR=5.0						
AAK	**Ala-Archa**	**4.47**	**29**	P	**Pn**	**15 12 59.2**	**+1.6**
	SNR=21						
AAK	**Ala-Archa**	**4.47**	**29**	Pn	**Pn**	**15 12 59.2**	**+1.6**
	7.8nm,0.3s,baz=179,slow=4.0,SNR=77						
AAK				Sn	**Sn**	**15 13 48.0**	**-0.5**
	8.4nm,0.3s,baz=120,slow=20,SNR=8.5						
KBK	**Karagaybulak**	**4.67**	**33**	P	**Pn**	**15 13 02.2**	**+1.7**
	SNR=24						
CHMS	**Chumysh**	**4.88**	**29**	P	**Pn**	**15 13 04.8**	**+1.6**
	SNR=18						
ULHL	**Ulahol**	**4.99**	**44**	P	**Pn**	**15 13 05.5**	**+0.6**
	SNR=25						
USP	**Ospenovka**	**5.02**	**26**	P	**Pn**	**15 13 06.9**	**+1.7**
	SNR=25						
TKM2	**Tokmak 2**	**5.17**	**35**	⇑Pn	**Pn**	**15 13 07.6**	**+0.3**
	9.5nm,0.4s						
TKM2				⇑Pg	**Pb**	**15 13 21.4**	**-0.5**
	13nm,0.7s						
TKM2				⇑Sn	**Sn**	**15 14 05.4**	**-0.4**
	30nm,0.8s						
TKM2				⇓Lg	Lg	15 14 26.1	
	55nm,0.8s						
TKM2	**Tokmak 2**	**5.17**	**35**	P	**Pn**	**15 13 08.9**	**+1.6**
	SNR=16						
KNDC	**Almaty**	**6.05**	**41**	⇓Pg	**Pb**	**15 13 37.1**	**+0.2**
	25nm,0.6s						
KNDC				⇓Lg	Lg	15 14 55.0	
	100nm,0.8s						
MK31	**Makanchi Array**	**11.25**	**41**	⇑Pn	**Pn**	**15 14 31.6**	**+1.1**
	3.9nm,1.3s,baz=231,slow=14,SNR=6.7						
MK31				⇓Lg	Lg	15 17 36.0	
	2.3nm,0.8s						
MKAR	**Makanchi Array**	**11.25**	**41**	Pn	**Pn**	**15 14 30.7**	**+0.1**
	0.1nm,0.3s,baz=232,slow=13,SNR=5.7						
MKAR				Lg	Lg	15 17 38.0	
	0.1nm,0.3s,baz=234,slow=27,SNR=3.2						
KURBB	**Kurchatov Arra**	**12.84**	**20**	⇑Pn	**Pn**	**15 14 50.2**	**-2.0**
	0.3nm,0.8s						
KURBB				⇑Lg	Lg	15 18 29.3	
	1.6nm,0.7s						
KURBB	**Kurchatov Arra**	**12.84**	**20**	Pn	Pn	15 14 49.4	-2.9
	0.1nm,0.3s,baz=216,slow=12,SNR=9.4						
KURBB				Lg	Lg	15 18 26.0	
	0.1nm,0.3s,baz=210,slow=30,SNR=5.6						
KURK	**Kurchatov**	**12.95**	**20**	⇑Pn	**Pn**	**15 14 52.6**	**-1.1**
	2.4nm,1.4s						
KURK				⇑Lg	Lg	15 18 32.5	
	12nm,1.1s						
AB31	**Akbulak array**	**13.38**	**325**	Pn	**Pn**	**15 14 58.9**	**-0.6**
	1.3nm,0.5s,baz=130,slow=14,SNR=48						
AB31				Sn	**Sn**	**15 17 27.3**	**+0.5**
	2.1nm,0.5s,baz=127,slow=24,SNR=14						
VOSK	**Vostochnaya**	**13.96**	**359**	⇑Pn	**Pn**	**15 15 05.4**	**-2.0**
	1.3nm,0.7s						
VOSK				⇑Lg	Lg	15 19 04.9	
	10nm,1.2s						
BVAR	**Borovoye Array**	**14.28**	**357**	Pn	Pn	15 15 09.1	-2.7
	0.2nm,0.3s,baz=160,slow=14,SNR=3.8						
BVAR				Lg	Lg	15 19 13.7	
	0.1nm,0.3s,baz=160,slow=26,SNR=3.9						
ZRNK	**Zerenda**	**14.29**	**354**	⇓Pn	**Pn**	**15 15 10.6**	**-1.4**
	2.4nm,0.8s						
ZRNK				⇑Lg	Lg	15 19 15.6	
	5.3nm,1.4s						
AKTO	**Aktyubinsk**	**15.09**	**325**	⇑Pn	**Pn**	**15 15 23.0**	**+0.3**
	1.2nm,1.1s						
AKTO				⇑Sn	**Sn**	**15 18 08.7**	**+0.1**
	0.7nm,0.6s						
AKTO	**Aktyubinsk**	**15.09**	**325**	Pn	**Pn**	**15 15 23.1**	**+0.3**
	0.2nm,0.3s,baz=143,slow=13,SNR=4.4						
AKTO				Sn	**Sn**	**15 18 07.7**	**-0.9**
	0.1nm,0.3s,baz=0.0,slow=20,SNR=8.2						
ZALV	**Zalesovo Beam**	**17.69**	**27**	Pn	**Pn**	**15 15 53.9**	**-1.8**
	0.6nm,0.3s,baz=214,slow=11,SNR=22						
SONM	**Songino Array**	**26.75**	**59**	P	**P**	**15 17 28.8**	**+0.1**
	0.2nm,0.4s,baz=278,slow=10.0,SNR=2.8						
BRTR	**Keskin Array B**	**29.22**	**284**	P	P	15 18 00.8	+10
	0.8nm,0.8s,baz=44,slow=9.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**66.21**	**268**	P	P	15 22 45.2	+8.3
	0.3nm,0.6s,baz=50,slow=5.6,SNR=4.2						
YKA	**Yellowknife Ar**	**78.96**	**3**	P	P	15 23 56.5	+4.5
	0.1nm,0.3s,baz=348,slow=5.7,SNR=4.0						

PRE 17 15:16:14.7±0.8,25.°38S×27.°20E, h2km, ML2.1, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**1.50**	**284**	*e*P	P	15 16 43.3	-0.1
LBTB				*e*S	Sg	15 17 04.0	+0.9
LBTB				AML	AML	15 17 18.5	
	comp=Z,30nm,0.7s						
PRYS	**Parys**	**1.55**	**175**	*e*P	Pg	15 16 44.5	-0.1
PRYS				*e*S	Sg	15 17 05.0	+0.1
PRYS				AML	AML	15 17 05.9	
	comp=Z,15nm,1.0s						
BOSA	**Boshof**	**3.66**	**208**	*e*P	Pn	15 17 13.4	+0.9
BOSA				*e*S	Sn	15 17 56.3	-0.1
BOSA				AML	AML	15 18 20.2	
	comp=Z,4.6nm,0.7s						

IDC ***17*** *15:16:53.9±0.5,3.°90N×126.°59E, h0km, mb4.4/25, mb1 4.5/25, mb1mx4.5/27, mbtmp4.4/25, MS3.8/12, Ms1 3.8/12, ms1mx3.5/31, Error ellipse: s-maj=25.3km s-min=8.8km az=74.0*
ISCJB ***17*** *15:16:56.9±0.2,3.°97N±0.°03×126.°89E±0.°04, h33km, mb4.6/56, MS3.9/19, Error ellipse: s-maj=6.0km s-min=3.3km az=161.4*
BJI ***17*** *15:16:56.6,3.°59N×126.°65E, h45km, mB5.0/23, mb4.7/36, Ms4.5/22, Ms7 4.2/24*
DJA ***17*** *15:16:57,4.°21N×127.°05E, h10km, mb4.7/16*
NEIC ***17*** *15:16:59.3±0.3,3.°91N×126.°57E, h35km, mb4.6/21, Error ellipse: s-maj=12.3km s-min=5.4km az=72.0*
NEIC Felt [II] in the Kepulauan Talaud.

ISC 17 15:16:59.0±0.8,3.°87N±0.°04×126.°59E±0.°07, h33km±3km, n148, σ1§55/153, mb4.7/55, MS3.8/20, 3C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.75**	**324**	⇑*i*P	**Pn**	**15 17 43.1**	**+2.2**
MNI	**Manado**	**2.97**	**216**	P	**Pb**	**15 17 49.4**	**-2.0**
MNI				S	**Sb**	**15 18 23.7**	**-3.6**
TNTI	**Ternate**	**3.17**	**166**	P	**Pn**	**15 17 48.8**	**+2.1**
TNTI				S	**Sn**	**15 18 18.6**	**-4.8**
DAV	**Davao City (W)**	**3.34**	**342**	Pn	Pb	15 17 53.9	-3.7

	comp=Z,140nm,4.8s								
KMI					LR	LR			
	comp=N,200nm,19.9s								
KMI					LR	LR			
	comp=E,190nm,25.5s								
KMI					LR	LR			
	comp=Z,200nm,23.9s								
MEEK	**Meekatharra**	**31.29**	**194**	*eP*	**P**		**15 23 17.6**	**+1.3**	
	comp=Z,188nm,0.7s								
JHJ	**Hachijo jima 2**	**31.61**	**21**	LR	LR	15 34 56.4			
	comp=Z,172nm,21.1s,baz=56,slow=34								
KSAR	**Wonju Array Be**	**33.44**	**2**	P	**P**		**15 23 35.5**	**+0.6**	
KSRS	**Korea Array**	**33.45**	**2**	P	**P**		**15 23 35.5**	**+0.5**	
	comp=Z,1.8nm,0.7s,baz=180,slow=10,SNR=6.8								
KSRS					LR	LR	15 38 39.4		
	comp=Z,61nm,18.0s,baz=54,slow=39								
XAN	**Xi'an**	**34.23**	**333**	P	**P**		**15 23 40.8**	**-1.2**	
XAN				pmax	pmax				
	comp=Z,7.0nm,1.0s								
XAN					LR	LR			
	comp=N,130nm,11.6s								
XAN					LR	LR			
	comp=Z,58nm,18.3s								
BLDU	**Ballidu**	**35.56**	**195**	*eP*	**P**		**15 23 54.3**	**+0.9**	
KLBR	**Kellerberrin**	**36.25**	**193**	*eP*	**P**		**15 24 00.3**	**+1.0**	
	comp=Z,13nm,0.4s								
BJI	**Beijing**	**37.22**	**347**	P	**P**		**15 24 07.0**	**-0.4**	
BJI				S	S		15 29 59.3	+7.0	
BJI				pmax	pmax				
	comp=Z,13nm,0.9s								
BJI					LR	LR			
	comp=Z,72nm,22.3s								
BBOO	**Buckleboo**	**37.56**	**167**	*eP*	**P**		**15 24 11.2**	**+0.8**	
	comp=Z,90nm,0.8s								
NWAO	**Narrogin (SRO)**	**37.65**	**193**	P	**P**		**15 24 12.7**	**+1.5**	
NWAO	**Narrogin (SRO)**	**37.65**	**193**	P	**P**		**15 24 12.7**	**+1.5**	
	comp=Z,12nm,0.5s,baz=24,slow=9.6,SNR=21								
STKA	**Stephens Creek**	**38.30**	**159**	*eP*	**P**		**15 24 17.6**	**+0.9**	
	comp=Z,6.0nm,1.1s								
STKA	**Stephens Creek**	**38.30**	**159**	*eP*	**P**		**15 24 17.4**	**+0.7**	
	comp=Z,9.6nm,0.8s								
STKA	**Stephens Creek**	**38.30**	**159**	P	**P**		**15 24 17.4**	**+0.7**	
	comp=Z,14nm,0.8s,baz=346,slow=9.3,SNR=33								
STKA					LR	LR	15 40 49.9		
	comp=Z,117nm,20.8s,baz=25,slow=38								
LZH	**Lanzhou**	**38.32**	**330**	*eP*	**P**		**15 24 17.5**	**+0.5**	
LZH				pP	pP		15 24 28.1	+1.5	
LZH				sP	sP		15 24 31.6	+1.0	
LZH				PP	**PnPn**		**15 25 49.8**	**+2.9**	
LZH				pmax	pmax				
	comp=Z,21nm,1.3s								
LZH				pmax	pmax				
	comp=Z,69nm,4.2s								
LZH					LR	LR			
	comp=N,500nm,13.2s								
LZH					LR	LR			
	comp=E,490nm,13.0s								
LZH					LR	LR			
	comp=Z,670nm,17.3s								
HHC	**Hu-ho-hao-te**	**39.23**	**342**	*eP*	P		15 24 26.4	+1.9	
HHC				pP	pP		15 24 36.5	+2.4	
HHC				sP	sP		15 24 41.3	+3.2	
HHC				PP	**PnPn**		**15 26 02.3**	**+4.7**	
HHC				S	**S**		**15 30 26.3**	**+3.4**	
HHC				sS	ScP		15 30 41.8	+22	
HHC				SS	**SS**		**15 33 12.8**	**-4.1**	
HHC				pmax	pmax				
	comp=Z,12nm,0.7s								
HHC				pmax	pmax				
	comp=Z,100nm,6.5s								
HHC				LR	LR				
	comp=N,220nm,14.3s								
HHC				LR	LR				
	comp=E,110nm,13.1s								
HHC				LR	LR				
	comp=Z,110nm,14.3s								
CMSA	**Cobar Meteorol**	**39.63**	**154**	*eP*	**P**		**15 24 28.8**	**+1.0**	
	comp=Z,25nm,0.7s								
SHL	**Shillong**	**39.69**	**306**	*e*PKP	**P**		**15 24 29.5**	**+0.9**	
CN2	**Changchun**	**39.78**	**359**	*eP*	**P**		**15 24 28.3**	**-0.6**	
USRK	**Ussuriysk Arra**	**40.45**	**6**	P	**P**		**15 24 33.7**	**-0.7**	
	comp=Z,1.1nm,0.5s,baz=190,slow=6.9,SNR=3.3								
LSA	**Lhasa**	**42.25**	**311**	P	**P**		**15 24 51.1**	**+1.1**	
LSA				pmax	pmax				
	comp=Z,20nm,0.7s								
LSA	**Lhasa**	**42.25**	**311**	*eP*	**P**		**15 24 50.6**	**+0.6**	
	comp=Z,9.8nm,0.6s								
ASAJ	**Asahikawa**	**42.50**	**17**	P	**P**		**15 24 50.8**	**-0.5**	
ASAJ	**Asahikawa**	**42.50**	**17**	P	**P**		**15 24 50.8**	**-0.5**	
	comp=Z,2.6nm,0.6s,baz=162,slow=6.4,SNR=4.2								
ARPS	**Mount Arapiles**	**42.86**	**162**	*eP*	**P**		**15 24 55.7**	**+1.5**	
	comp=Z,82nm,1.0s								
GTA	**Gaotai**	**42.91**	**329**	*eP*	**P**		**15 24 54.4**	**-0.5**	
GTA				pP	pP		15 25 04.4	-0.2	
GTA				sP	sP		15 25 08.4	-0.1	
GTA				PcP	**PcP**		**15 26 46.8**	**+1.5**	
GTA				S	**S**		**15 31 16.6**	**-1.2**	
GTA				sS	ScP		15 31 34.3	+60	
GTA				SS	SS		15 34 23.1	-7.0	
GTA				pmax	pmax				
	comp=Z,5.0nm,1.0s								
GTA				pmax	pmax				
	comp=Z,120nm,5.5s								
GTA				LR	LR				
	comp=N,150nm,22.8s								
GTA				LR	LR				
	comp=E,150nm,21.4s								
GTA				LR	LR				
	comp=Z,220nm,20.2s								
TAPN	**Taplejung**	**43.83**	**306**	*eP*	**P**		**15 25 02.3**	**-0.3**	
	comp=Z,14nm,0.6s								
ODAN	**Odare**	**43.88**	**305**	*eP*	**P**		**15 25 02.7**	**-0.3**	
	comp=Z,28nm,0.9s								
RAMN	**Ramite**	**44.56**	**305**	*eP*	**P**		**15 25 08.5**	**0.0**	
JIRN	**Jiri**	**45.18**	**306**	*eP*	**P**		**15 25 13.3**	**-0.2**	
	comp=Z,4.8nm,0.5s								
GUN	**Gumba**	**45.53**	**306**	*eP*	**P**		**15 25 16.2**	**-0.1**	
	comp=Z,23nm,0.5s								
HIA	**Hailar**	**45.61**	**354**	*eP*	**P**		**15 25 17.5**	**+1.4**	
	comp=Z,15nm,0.9s								
PKI	**Pulchoki**	**45.78**	**305**	*eP*	**P**		**15 25 17.5**	**-0.7**	
KKN	**Kakani**	**45.97**	**306**	*eP*	**P**		**15 25 18.9**	**-0.7**	
	comp=Z,7.8nm,0.4s								
DMN	**Daman**	**46.04**	**305**	*eP*	**P**		**15 25 19.6**	**-0.6**	
	comp=Z,24nm,1.1s								
GKN	**Gorkha**	**46.58**	**306**	*eP*	**P**		**15 25 23.7**	**-0.6**	
	comp=Z,8.2nm,0.4s								
ULN	**Ulaanbaatar**	**46.95**	**342**	*eP*	**P**		**15 25 26.7**	**-0.1**	
	comp=Z,5.2nm,0.9s								
SONM	**Songino Array**	**47.13**	**341**	P	**P**		**15 25 27.9**	**-0.3**	
SONM				PcP	**PcP**		**15 26 59.5**	**-0.2**	
SONM	**Songino Array**	**47.13**	**341**	P	**P**		**15 25 27.9**	**-0.3**	
	comp=Z,3.5nm,0.9s,baz=148,slow=7.7,SNR=18								
SONM				PcP	**PcP**		**15 26 59.5**	**-0.2**	
	comp=Z,1.8nm,0.8s,baz=168,slow=4.3,SNR=5.3								
KOLN	**Koldanda**	**47.33**	**305**	*eP*	**P**		**15 25 30.1**	**-0.2**	
	comp=Z,23nm,0.6s								
DANN	**Dangsing**	**47.42**	**306**	*eP*	**P**		**15 25 30.5**	**-0.6**	
	comp=Z,27nm,0.6s								
TLY	**Talaya**	**51.36**	**342**	*eP*	**P**		**15 26 01.1**	**+0.7**	
	comp=Z,4.0nm,0.7s								
WMQ	**Urumqi**	**52.53**	**325**	P	**P**		**15 26 09.4**	**0.0**	
WMQ				pP	**pP**		**15 26 19.0**	**-0.3**	
WMQ				sP	sP		15 26 23.0	-0.2	
WMQ				PcP	**PcP**		**15 27 20.0**	**+0.5**	
WMQ				*e*S	**S**		**15 33 32.0**	**-2.1**	
WMQ				pmax	pmax				
	comp=Z,9.0nm,1.0s								
WMQ				pmax	pmax				
	comp=Z,130nm,4.0s								
WMQ				LR	LR				
	comp=N,350nm,24.5s								
WMQ				LR	LR				
	comp=E,210nm,21.2s								
WMQ				LR	LR				
	comp=Z,290nm,23.5s								
PETK	**Petropavlovsk-**	**55.36**	**22**	P	**P**		**15 26 28.9**	**-0.8**	
PETK	**Petropavlovsk-**	**55.36**	**22**	P	**P**		**15 26 28.9**	**-0.8**	
	comp=Z,3.8nm,0.8s,baz=190,slow=6.2,SNR=5.2								
PETK					LR	LR	15 50 41.0		
	comp=Z,72nm,18.8s,baz=95,slow=37								
MK31	**Makanchi Array**	**57.37**	**325**	*eP*	**P**		**15 26 43.4**	**-0.8**	
MKAR	**Makanchi Array**	**57.37**	**325**	P	**P**		**15 26 43.6**	**-0.6**	
MKAR				PcP	**PcP**		**15 27 37.5**	**-0.5**	
MKAR	**Makanchi Array**	**57.37**	**325**	P	**P**		**15 26 43.6**	**-0.6**	
	comp=Z,4.7nm,0.4s,baz=118,slow=7.7,SNR=159								
MKAR				PcP	**PcP**		**15 27 37.5**	**-0.5**	
	comp=Z,3.5nm,0.8s,baz=119,slow=3.9,SNR=5.4								
MKAR				LR	LR	15 53 30.8			
	comp=Z,95nm,19.3s,baz=139,slow=38								
KSH	**Kashi**	**57.85**	**315**	P	**P**		**15 26 49.6**	**+1.7**	
KSH				pP	**pP**		**15 26 59.3**	**+1.4**	
KSH				sP	sP		15 27 03.4	+1.6	
KSH				PcP	PcP		15 27 40.0	-0.2	
KSH				PP	**PP**		**15 28 59.3**	**+2.9**	
KSH				ScP	**ScP**		**15 31 36.9**	**-1.1**	
KSH				PcS	**PcS**		**15 31 40.0**	**-1.6**	
KSH				S	**S**		**15 34 45.5**	**0.0**	
KSH				sS	sS		15 35 02.1	0.0	
KSH				ScS	**ScS**		**15 36 32.8**	**-2.6**	
KSH				SS	**SS**		**15 38 38.5**	**+1.8**	
KSH				pmax	pmax				
	comp=Z,5.0nm,0.9s								
KSH				pmax	pmax				
	comp=Z,57nm,4.1s								
KSH				LR	LR				
	comp=N,87nm,6.7s								
KSH				LR	LR				
	comp=E,120nm,5.4s								
KSH				LR	LR				
	comp=Z,170nm,5.5s								
YAK	**Yakutsk**	**58.08**	**2**	*eP*	**P**		**15 26 48.6**	**-0.2**	
	comp=Z,18nm,0.8s								
TKM2	**Tokmak 2**	**59.55**	**319**	*eP*	**P**		**15 26 59.7**	**-0.1**	
AAK	**Ala-Archa**	**60.16**	**318**	P	**P**		**15 27 04.7**	**+0.8**	
AAK	**Ala-Archa**	**60.16**	**318**	P	**P**		**15 27 04.7**	**+0.8**	
	comp=Z,2.6nm,1.0s,baz=146,slow=8.7,SNR=5.4								
ZAA0	**Zalesovo Array**	**60.41**	**333**	*eP*	**P**		**15 27 03.5**	**-1.6**	
ZALV	**Zalesovo Beam**	**60.41**	**333**	P	**P**		**15 27 03.8**	**-1.3**	
ZALV	**Zalesovo Beam**	**60.41**	**333**	P	**P**		**15 27 03.8**	**-1.3**	
	comp=Z,3.4nm,0.4s,baz=128,slow=6.7,SNR=34								
ZALV				LR	LR	15 52 59.7			
	comp=Z,69nm,20.8s,baz=77,slow=36								
KBL	**Kabul**	**61.33**	**307**	*eP*	**P**		**15 27 11.5**	**-0.6**	
	comp=Z,7.8nm,0.8s								
KURBB	**Kurchatov Arra**	**61.55**	**327**	P	**P**		**15 27 12.4**	**-0.5**	
	comp=Z,5.7nm,0.4s,baz=126,slow=6.2,SNR=83								
KURK	**Kurchatov**	**61.55**	**328**	*eP*	**P**		**15 27 12.1**	**-0.9**	
	comp=Z,9.9nm,0.7s								
KKAR	**Karatay Array**	**63.04**	**317**	*eP*	**P**		**15 27 22.4**	**-0.7**	
	comp=Z,8.5nm,0.9s								
BVAR	**Borovoye Array**	**67.13**	**327**	P	**P**		**15 27 49.4**	**-0.1**	
BVAR	**Borovoye Array**	**67.13**	**327**	P	**P**		**15 27 49.4**	**-0.1**	
	comp=Z,1.1nm,0.4s,baz=105,slow=5.4,SNR=14								
BRVK	**Borovoye**	**67.20**	**327**	*eP*	**P**		**15 27 50.5**	**+0.5**	
	comp=Z,16nm,1.3s								
ABKAR	**Akbulak array**	**71.96**	**321**	*eP*	**P**		**15 28 18.0**	**-1.3**	
	comp=Z,5.3nm,0.8s								
AKTO	**Aktyubinsk**	**73.47**	**322**	P	**P**		**15 28 28.1**	**-0.2**	
AKTO	**Aktyubinsk**	**73.47**	**322**	P	**P**		**15 28 28.1**	**-0.2**	
	comp=Z,4.1nm,0.5s,baz=94,slow=8.4,SNR=22								
ARU	**Arti**	**74.75**	**328**	*eP*	**P**		**15 28 34.9**	**-0.8**	
	comp=Z,8.9nm,0.8s								
COLD	**Coldfoot**	**83.82**	**23**	*eP*	**P**		**15 29 25.9**	**+1.0**	
	comp=Z,4.4nm,1.1s								
ILAR	**Eielson Array**	**85.04**	**25**	P	**P**		**15 29 31.7**	**+0.5**	
ILAR	**Eielson Array**	**85.04**	**25**	P	**P**		**15 29 31.7**	**+0.5**	
	comp=Z,0.3nm,0.6s,baz=255,slow=6.4,SNR=5.8								
ASF	**Jabal al Asfar**	**87.71**	**302**	P	**P**		**15 29 45.1**	**0.0**	
ASF	**Jabal al Asfar**	**87.71**	**302**	P	**P**		**15 29 45.1**	**0.0**	
	comp=Z,2.8nm,0.6s,baz=18,slow=7.3,SNR=4.3								
KMBO	**Kilima Mbogo**	**89.42**	**269**	*eP*	**P**		**15 29 54.5**	**+0.8**	
	comp=Z,2.4nm,0.8s								
BR131	**Keskin Array S**	**89.83**	**310**	*eP*	**P**		**15 29 54.3**	**-0.7**	
	comp=Z,3.3nm,1.0s								
BRTR	**Keskin Array B**	**89.83**	**310**	P	**P**		**15 29 54.4**	**-0.7**	
BRTR	**Keskin Array B**	**89.83**	**310**	P	**P**		**15 29 54.4**	**-0.7**	
	comp=Z,2.2nm,0.8s,baz=125,slow=4.8,SNR=12								
BRTR				LR	LR	16 14 33.4			
	comp=Z,25nm,18.3s,baz=250,slow=38								
ARCES	**ARCESS Array B**	**90.27**	**340**	P	**P**		**15 29 55.5**	**-0.8**	
ARCES	**ARCESS Array B**	**90.27**	**340**	P	**P**		**15 29 55.5**	**-0.8**	
	comp=Z,3.5nm,0.9s,baz=82,slow=6.5,SNR=18								
ARCES				LR	LR	16 13 05.6			
	comp=Z,42nm,18.4s,baz=45,slow=37								
FINES	**FINESS Array B**	**91.65**	**332**	P	**P**		**15 30 02.1**	**-0.6**	
FINES	**FINESS Array B**	**91.65**	**332**	P	**P**		**15 30 02.1**	**-0.6**	
	comp=Z,2.2nm,0.7s,baz=72,slow=4.5,SNR=8.4								
FINES				LR	LR	16 15 27.4			
	comp=Z,81nm,18.1s,baz=171,slow=38								
AKASG	**Malin Array Be**	**91.70**	**321**	P	**P**		**15 30 01.6**	**-1.6**	
AKASG	**Malin Array Be**	**91.70**	**321**	P	**P**		**15 30 01.6**	**-1.6**	
	comp=Z,3.0nm,0.7s,baz=71,slow=4.2,SNR=9.5								
BUR08	**Bucovina Ar. S**	**94.81**	**318**	*eP*	**P**		**15 30 17.6**	**-0.2**	
KOLS	**Kolonicke sedl**	**96.45**	**320**	*eP*	**P**		**15 30 26.8**	**+1.7**	
CRVS	**Cervenica-Dubn**	**96.98**	**320**	*eP*	**P**		**15 30 28.0**	**+0.5**	
NOA	**NORSAR Array B**	**98.61**	**334**	P	**P**		**15 30 33.4**	**-1.3**	
NOA	**NORSAR Array B**	**98.61**	**334**	P	**P**		**15 30 33.4**	**-1.3**	
	comp=Z,0.9nm,0.7s,baz=64,slow=4.8,SNR=3.4								
NOA				LR	LR	16 17 12.2			
	comp=Z,48nm,18.4s,baz=240,slow=37								
YKA	**Yellowknife Ar**	**99.43**	**24**	P	**Pdif**		**15 30 38.8**	**+0.6**	
YKA	**Yellowknife Ar**	**99.43**	**24**	P	**Pdif**		**15 30 38.8**	**+0.6**	
	comp=Z,0.1nm,0.7s,baz=299,slow=4.2,SNR=3.5								
TORD	**Torodi Ar. Bea**	**122.75**	**288**	PKP	**PKPdf**		**15 35 50.7**	**-2.0**	
TORD	**Torodi Ar. Bea**	**122.75**	**288**	PKP	**PKPdf**		**15 35 50.7**	**-2.0**	
	comp=Z,0.5nm,0.6s,baz=56,slow=1.5,SNR=5.9								
PLCA	**Paso Flores**	**140.18**	**160**	*e*PKPpre	PKPpre	15 36 15.1			
CPUP	**Villa Florida**	**157.35**	**171**	PKPab	**PKPab**		**15 37 25.0**	**+1.4**	
CPUP	**Villa Florida**	**157.35**	**171**	PKPab	**PKPab**		**15 37 25.0**	**+1.4**	
	comp=Z,3.2nm,0.7s,baz=162,slow=2.9,SNR=10.0								

JMA 17 15:19:02.7±0.2, 43.58N×147.19E, h39km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.07**	**259**	P	Pn	15 19 21.9	+0.7
NEM2				*e*S	Sn	15 19 35.9	+1.0
JRA	**Rausu**	**1.54**	**284**	P	Pn	15 19 28.3	+0.7
JRA				*e*S	Sn	15 19 47.1	+0.7
JNK	**Nakash**	**1.80**	**271**	P	Pn	15 19 32.0	+0.9
JNK				*e*S	Sn	15 19 54.1	+1.4
JAK	**Akkeshi**	**1.91**	**253**	P	Pn	15 19 33.6	+0.9
JAK				*e*S	Sn	15 19 57.0	+1.5
JTKR	**Abashiri--Toko**	**2.41**	**280**	P	Pn	15 19 41.1	+1.6
JAR	**Ashorobuto**	**2.51**	**265**	P	Pn	15 19 42.5	+1.6
JAR				*e*S	Sn	15 20 12.8	+2.6
JOB	**Onbets**	**2.54**	**256**	P	Pn	15 19 42.8	+1.4
JOB				*e*S	Sn	15 20 13.1	+2.0
JMP	**Maruseppu**	**2.81**	**280**	P	Pn	15 19 46.8	+1.7
JCH	**Churui**	**2.96**	**252**	P	Pn	15 19 48.3	+1.1
JKK2	**Kamakawa 2**	**3.23**	**277**	P	Pn	15 19 53.3	+2.4
JEM	**Erimo**	**3.35**	**244**	P	Pn	15 19 55.5	+3.0
JFR	**Furan**	**3.38**	**264**	P	Pn	15 19 55.5	+2.6
JNBK	**Urakawa-nobuka**	**3.51**	**250**	P	Pn	15 19 55.8	+1.1
JSE	**Soyaes**	**3.58**	**294**	P	Pn	15 19 57.2	+1.5

NEIC 17 15:31:27.0, 19.06N×66.51W, h18km, MD3.3(RSPR), After RSPR.

RSPR 17 15:31:27.0, 19.06N×66.51W, h18km±12km, MD2.8/6, 15C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**0.74**	**198**	*e*P	Pb	15 31 38.9	-2.5
AOPR	**Arecibo Observ**	**0.74**	**198**	*e*P	Pb	15 31 39.0	-2.5
AOPR	**Arecibo Observ**	**0.74**	**198**	*e*S	Sb	15 31 49.9	-1.4
AOPR	**Arecibo Observ**	**0.74**	**198**	*e*P	Pb	15 31 38.9	-2.5
AOPR				*e*S	Sb	15 31 49.6	-1.7
AOPR				*e*S	Sg	15 31 49.9	-1.6
CELP	**Cerrillos**	**0.98**	**184**	*e*P	Pb	15 31 43.1	-2.3
CELP				*e*S	Sb	15 31 54.8	-3.2
CELP	**Cerrillos**	**0.98**	**184**	*e*P	Pb	15 31 43.3	-2.2
CELP	**Cerrillos**	**0.98**	**184**	*e*P	Pb	15 31 43.3	-2.2
CELP				*e*S	Sb	15 31 54.8	-3.2
OBIP	**Obispado Ponce**	**1.01**	**185**	*e*S	Sb	15 31 56.8	-2.2
OBIP	**Obispado Ponce**	**1.01**	**185**	*e*S	Sb	15 31 57.1	-1.9
LSP	**Las Mesas**	**1.03**	**212**	*e*P	Pb	15 31 43.9	-2.5
LSP				*e*S	Sb	15 31 57.1	-2.6
LSP	**Las Mesas**	**1.03**	**212**	*e*P	Pb	15 31 43.9	-2.6
LSP				*e*S	Sb	15 31 57.9	-1.9
LSP	**Las Mesas**	**1.03**	**212**	*e*P	Pb	15 31 43.9	-2.6
LSP				*e*S	Sb	15 31 57.1	-2.6
LSP				*e*S	Sb	15 31 57.9	-2.9
HUMP	**Col San Antoni**	**1.10**	**145**	*e*P	Pb	15 31 44.7	-2.9
HUMP	**Col San Antoni**	**1.10**	**145**	*e*S	Sb	15 31 58.8	-2.8
HUMP	**Col San Antoni**	**1.10**	**145**	*e*P	Pb	15 31 44.7	-2.9
HUMP				*e*S	Sb	15 31 58.7	-2.9
CPD	**Cerro la Pandu**	**1.16**	**151**	*e*P	Pn	15 31 45.8	-2.6
CPD	**Cerro la Pandu**	**1.16**	**151**	*e*S	Sb	15 32 00.8	-2.5
CPD	**Cerro la Pandu**	**1.16**	**151**	*e*P	Pn	15 31 45.8	-2.6
CPD				*e*S	Sb	15 31 60.0	-3.4
CRPR	**Cabo Rojo, PR**	**1.19**	**209**	*e*P	Pn	15 31 46.3	-2.5
CRPR	**Cabo Rojo, PR**	**1.19**	**209**	*e*P	Pn	15 31 46.3	-2.5
CRPR	**Cabo Rojo, PR**	**1.19**	**209**	*e*S	Sb	15 32 02.1	-2.0
CRPR	**Cabo Rojo, PR**	**1.19**	**209**	*e*P	Pn	15 31 46.3	-2.5
CRPR				*e*S	Sb	15 32 00.3	-3.8
CRPR				*e*S	Sn	15 32 02.1	-2.4
MTP	**Monte Pirata**	**1.31**	**136**	*e*P	Pn	15 31 47.3	-3.2
MTP	**Monte Pirata**	**1.31**	**136**	*e*P	Pn	15 31 47.4	-3.1
MTP	**Monte Pirata**	**1.31**	**136**	*e*S	Sn	15 32 03.8	-3.8
MTP	**Monte Pirata**	**1.31**	**136**	*e*P	Pn	15 31 47.4	-3.1
MTP				*e*S	Sn	15 32 03.8	-3.8

IDC 17 15:35:05.2±2.1, 1.31S×126.68E, h0km, mb2.9/2, mb1 3.3/3, mb1mx3.2/18, mbtmp3.1/3, ML3.4/1, Error ellipse: s-maj=163.1km s-min=28.6km az=65.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.98**	**158**	P	Pn	15 39 40.5	-0.5
	0.1nm,0.3s,baz=337,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**23.30**	**163**	P	Pn	15 40 14.1	-0.9
	0.1nm,0.4s,baz=341,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**61.68**	**327**	P	P	15 45 25.1	0.0
	0.1nm,0.4s,baz=111,slow=7.9,SNR=3.5						

IDC 17 15:37:50.2±2.0, 4.22N×127.19E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=164.7km s-min=24.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.01**	**164**	P	P	15 43 15.5	-0.6
	0.9nm,0.6s,baz=344,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**28.48**	**167**	P	P	15 43 48.2	+0.9
	0.1nm,0.6s,baz=350,slow=8.7,SNR=3.2						
STKA	**Stephens Creek**	**38.42**	**160**	P	P	15 45 13.4	-0.3
	0.7nm,0.8s,baz=349,slow=10,SNR=3.4						
MKAR	**Makanchi Array**	**57.42**	**325**	P	P	15 47 40.8	0.0
	0.2nm,0.4s,baz=119,slow=8.2,SNR=9.9						

PRE 17 15:43:39.8±0.9, 26.40S×27.34E, h2km, ML2.8, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.25**	**77**	*e*P	Pg	15 43 45.0	+0.2
KLOF				*e*S	Sg	15 43 47.9	-0.3
KLOF				AML	AML	15 43 49.2	
	comp=Z,1μm,0.2s						
PRYS	**Parys**	**0.52**	**178**	*e*P	Pg	15 43 50.3	+0.3
PRYS				*e*S	Sg	15 43 56.4	-0.5
PRYS				AML	AML	15 43 58.1	
	comp=Z,235nm,0.8s						
BFSD	**Buffelsfontein**	**0.68**	**227**	*e*P	Pg	15 43 53.3	+0.2
BFSD				*e*S	Sg	15 44 02.1	+0.1
BFSD				AML	AML	15 44 03.0	
	comp=Z,126nm,0.3s						
MOAB	**Moab Khotsong**	**0.76**	**220**	*e*P	Pg	15 43 54.6	+0.1
MOAB				*e*S	Sg	15 44 04.7	+0.2
MOAB				AML	AML	15 44 06.9	
	comp=Z,160nm,0.2s						
ERPM	**east rand prop**	**0.81**	**86**	*e*P	Pg	15 43 55.6	0.0
ERPM				*e*S	Sg	15 44 07.3	+1.0
ERPM				AML	AML	15 44 13.8	
	comp=Z,52nm,0.4s						
TLEK	**Tau Lekoa**	**0.82**	**227**	*e*P	Pg	15 43 55.7	0.0
TLEK				*e*S	Sg	15 44 06.2	-0.3
SLR	**Silverton**	**1.07**	**52**	*e*P	Pg	15 43 60.0	-0.7
SLR				*e*S	Sg	15 44 15.0	+0.2
SLR				AML	AML	15 44 19.7	
	comp=Z,204nm,0.2s						
SEK	**Senekal**	**1.93**	**173**	*e*P	Pn	15 44 14.6	+0.7
SEK				*e*S	Sb	15 44 39.8	-0.9
SEK				AML	AML	15 44 40.4	
	comp=Z,198nm,0.3s						
SWZ	**Schweizer**	**1.96**	**246**	*e*P	Pn	15 44 15.0	+0.7
SWZ				*e*S	Sn	15 44 40.3	+0.8
SWZ				AML

MKAR	**Makanchi Array**	**57.48**	**325**	P	**P**	**16 02 40.4**	**-1.6**
	1.2nm,0.5s,baz=115,slow=7.5,SNR=43						
MKAR				LR	LR	16 27 36.5	
	comp=Z,42nm,21.2s,baz=169,slow=36						
ZALV	**Zalesovo Beam**	**60.48**	**333**	P	**P**	**16 03 00.5**	**-2.1**
	0.5nm,0.5s,baz=130,slow=7.7,SNR=3.5						
KURBB	**Kurchatov Arra**	**61.66**	**327**	P	**P**	**16 03 09.6**	**-1.0**
	2.0nm,0.5s,baz=130,slow=6.7,SNR=37						
BVAR	**Borovoye Array**	**67.24**	**327**	P	**P**	**16 03 46.7**	**-0.5**
	0.8nm,0.7s,baz=136,slow=6.7,SNR=3.9						
ILAR	**Eielson Array**	**84.84**	**25**	P	**P**	**16 05 27.4**	**+0.2**
	0.2nm,0.4s,baz=254,slow=4.6,SNR=5.0						
ARCES	**ARCESS Array B**	**90.31**	**340**	P	**P**	**16 05 53.1**	**-0.2**
	2.8nm,1.0s,baz=74,slow=6.7,SNR=5.4						
FINES	**FINESS Array B**	**91.73**	**332**	P	**P**	**16 05 58.9**	**-1.2**
	1.6nm,0.8s,baz=54,slow=7.2,SNR=5.8						
TORD	**Torodi Ar. Bea**	**123.01**	**288**	PKP	**PKPdf**	**16 11 52.0**	**+1.8**
	0.2nm,0.5s,baz=47,slow=2.6,SNR=3.2						

ISCJB ***17*** *15:55:46.6±0.6,24˚.70N±0˚.08×122˚.67E±0˚.03, h18km±11km, Error ellipse: s-maj=12.8km s-min=3.4km az=9.3*
JMA ***17*** *15:55:46.2,24˚.62N×122˚.60E,h22km,M1.8*
TAP ***17*** *15:55:47.4,24˚.70N×122˚.57E,h17km±2km, ML3.0,D*
ISC 17 15:55:46.1±1.2,24˚66N±0˚.09×122˚63E±0˚.03,h18km±6km, n13,σ0°43/25,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.40**	**120**	P		**Pg**	**15 55 54.4**	**+0.1**
YOJ				*e*S		**Sg**	**15 56 00.3**	**+0.4**
TWB1	**Santiao Chiao**	**0.68**	**301**	*e*P		**Pn**	**15 56 01.1**	**+0.2**
	baz=300							
TWB1				S		**Sg**	**15 56 08.5**	**0.0**
	baz=300							
TWC	**Suao**	**0.71**	**266**	P		**Pg**	**15 56 00.2**	**+0.1**
	baz=262							
TWC				*e*S		**Sg**	**15 56 10.1**	**+0.5**
	baz=262							
ENA	**Nanau**	**0.84**	**254**	P		**Pg**	**15 56 02.6**	**0.0**
	baz=250							
ENA				*e*S		**Sn**	**15 56 14.5**	**-0.6**
	baz=250							
TWE	**Neicheng**	**0.88**	**274**	P		**Pg**	**15 56 03.2**	**0.0**
	baz=271							
TWE				S		**Sn**	**15 56 15.4**	**-0.5**
	baz=271							
ENTT	**Nioudou**	**0.97**	**269**	P		**Pg**	**15 56 05.1**	**+0.1**
	baz=266							
ENTT				*e*S		**Sn**	**15 56 18.2**	**0.0**
	baz=266							
IRIF	**Iriomote-Funau**	**1.05**	**108**	P		**Pb**	**15 56 05.4**	**-0.4**
IRIF				*e*S		**Sb**	**15 56 19.8**	**+0.6**
NSK	**Sanguang**	**1.16**	**271**	P		**Pg**	**15 56 08.2**	**-0.4**
	baz=268							
NSK				*e*S		**Sn**	**15 56 22.5**	**-0.4**
	baz=268							
NNS	**Nan Shan**	**1.17**	**259**	P		**Pg**	**15 56 08.4**	**-0.3**
	baz=256							
NNS				S		**Sg**	**15 56 23.5**	**-0.5**
	baz=256							
JKRS	**Kuro-shima**	**1.32**	**108**	P		**Pn**	**15 56 09.8**	**+0.1**
JKRS				*e*S		**Sn**	**15 56 26.4**	**-0.5**
WHF	**Hehuan Shan**	**1.35**	**248**	*e*P		**Pb**	**15 56 11.6**	**+0.5**
	baz=245							
WHF				*e*S		**Sg**	**15 56 29.8**	**-0.1**
	baz=245							
TWT	**Tachien**	**1.39**	**253**	*e*P		**Pb**	**15 56 12.2**	**+0.6**
	baz=250							
TWT				*e*S		**Sg**	**15 56 30.1**	**-0.9**
	baz=250							
JIJ	**Ishigaki jima**	**1.41**	**102**	P		**Pn**	**15 56 10.9**	**0.0**

LDG ***17*** *16:00:02.7±0.2,38˚.07N×8˚.68W,h2km,Md4.0/1,Ml3.8/3, Error ellipse: s-maj=4.3km s-min=2.8km az=66.0*
CSEM ***17*** *16:00:03.8±0.1,38˚.09N×8˚.54W,h12km,ML4.2/31,Error ellipse: s-maj=3.0km s-min=1.7km az=74.0*
ISCJB ***17*** *16:00:03.5±0.3,38˚.15N±0˚.01×8˚.43W±0˚.02,h14km±1km, Error ellipse: s-maj=3.0km s-min=1.8km az=161.7*
CNRM ***17*** *16:00:04.6,38˚.12N×8˚.60W,h24km,MD3.6*
INMG ***17*** *16:00:04.8±1.2,38˚.07N×8˚.57W,h6km±1km,MD2.9,ML3.8, Error ellipse: s-maj=1.8km s-min=1.0km az=72.0*
SFS ***17*** *16:00:04.0,38˚.00N×8˚.60W,h8km,ML3.7*
MDD ***17*** *16:00:04.7±0.3,38˚.08N×8˚.56W,h7km±2km,mbLg3.7/41, Error ellipse: s-maj=2.9km s-min=1.9km az=70.0,PRXIMO*
IGIL ***17*** *16:00:05.2,38˚.07N×8˚.57W,h6km,ML3.9*
ISC 17 16:00:03.0±0.9,38˚10N±0˚.01×8˚52W±0˚.02,h18km±3km, n214,σ1s56/353,8C-9D,Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNCL	**Nicolau / Gran**	**0.01**	**339**	*i* Pg		**Pg**	**16 00 06.3**	**+0.1**
PNCL				*e*Sg		**Sg**	**16 00 07.7**	**-0.6**
PNCL				A		A	16 00 08.1	
	22μm,0.2s							
MESJ	**Messejana**	**0.35**	**137**	*e*P		**Pb**	**16 00 11.6**	**+0.8**
MESJ				*e*S		**Sb**	**16 00 16.6**	**+0.6**
MESJ				AML		AML	16 00 18.3	
	comp=N,8μm,0.3s							
MESJ	**Messejana**	**0.35**	**137**	*e*P		**Pb**	**16 00 11.6**	**+0.8**
MESJ				*e*S		**Sb**	**16 00 16.6**	**+0.6**
MESJ	**Messejana**	**0.35**	**137**	Pg		**Pb**	**16 00 11.6**	**+0.8**
MESJ				Lg		Lg	16 00 16.6	
MESJ	**Messejana**	**0.35**	**137**	*e*P		**Pb**	**16 00 11.6**	**+0.8**
MESJ				*e*S		**Sb**	**16 00 16.6**	**+0.6**
MESJ				Lg		Lg	16 00 16.6	
MOE	**Montemor**	**0.44**	**18**	*e*Pg		**Pn**	**16 00 14.0**	**-0.4**
MOE				*e*Sg		**Sn**	**16 00 20.9**	**-1.1**
MOE	**Montemor**	**0.44**	**18**	Pg		**Pn**	**16 00 14.0**	**-0.4**
MOE				Lg		Lg	16 00 20.9	
MOE	**Montemor**	**0.44**	**18**	*e*Pg		**Pn**	**16 00 14.0**	**-0.4**
MOE				Lg		Lg	16 00 20.9	
MOE				*e*Sg		**Sn**	**16 00 20.9**	**-1.1**
PBEJ	**Beja**	**0.52**	**98**	*e*Pg		**Pn**	**16 00 15.0**	**-0.5**
PBEJ				*e*Sg		**Sn**	**16 00 22.7**	**-1.3**
PBEJ				A		A	16 00 27.9	
	comp=N,1μm,0.2s							
PBEJ	**Beja**	**0.52**	**98**	Pg		**Pn**	**16 00 15.0**	**-0.5**
PBEJ				Lg		Lg	16 00 22.7	
	comp=N,572nm,0.2s							
PBEJ	**Beja**	**0.52**	**98**	*e*Pg		**Pn**	**16 00 15.0**	**-0.5**
PBEJ				*e*Sg		**Sn**	**16 00 22.7**	**-1.3**
	comp=N,1μm,0.2s							
EVOP	**Sao Brissos**	**0.53**	**36**	*e*Pg		**Pn**	**16 00 15.4**	**-0.2**
EVOP				*e*Sg		**Sn**	**16 00 23.2**	**-0.9**
	comp=N,1μm,0.2s							
PTEO	**Sao Teotonio**	**0.58**	**196**	*e*Pg		**Pg**	**16 00 14.7**	**+0.2**
PTEO				*e*Sg		**Sg**	**16 00 21.7**	**-0.5**
PTEO				A		A	16 00 23.0	
	comp=N,2μm,0.2s							
PTEO	**Sao Teotonio**	**0.58**	**196**	⇓Pg		**Pg**	**16 00 14.7**	**+0.2**
PTEO				Lg		Lg	16 00 21.7	
	comp=N,946nm,0.2s							
PTEO	**Sao Teotonio**	**0.58**	**196**	Pg		**Pg**	**16 00 14.7**	**+0.2**
PTEO				*e*Sg		**Sg**	**16 00 21.7**	**-0.5**
	comp=N,2μm,0.2s							
EVO	**Evora**	**0.59**	**43**	*e*Pg		**Pb**	**16 00 15.4**	**+0.7**
EVO				*e*Sg		**Sb**	**16 00 23.2**	**+0.5**
	comp=N,3μm,0.2s							
EVO	**Evora**	**0.59**	**43**	*e*Pg		**Pn**	**16 00 16.4**	**0.0**
EVO				*e*Sg		**Sn**	**16 00 24.9**	**-0.7**
EVO				A		A	16 00 25.3	
	comp=N,4μm,0.2s							
EVO	**Evora**	**0.59**	**43**	⇑Pg		**Pn**	**16 00 16.4**	**0.0**
EVO				Lg		Lg	16 00 24.9	
	comp=N,4μm,0.2s							
EVO	**Evora**	**0.59**	**43**	Pg		**Pn**	**16 00 16.4**	**0.0**
EVO				Lg		Lg	16 00 24.9	
	comp=N,4μm,0.2s							
PCVE	**Castro Verde**	**0.60**	**140**	*e*Pg		**Pb**	**16 00 15.7**	**+0.8**
PCVE				*e*Sg		**Sb**	**16 00 23.7**	**+0.6**
PCVE				A		A	16 00 26.9	
	comp=N,2μm,0.3s							
PCVE	**Castro Verde**	**0.60**	**140**	⇓Pg		**Pb**	**16 00 15.7**	**+0.8**
PCVE				Lg		Lg	16 00 23.7	
	comp=N,2μm,0.3s							
PCVE	**Castro Verde**	**0.60**	**140**	Pg		**Pb**	**16 00 15.7**	**+0.8**
PCVE				Lg		Lg	16 00 23.7	
	comp=N,2μm,0.3s							
LIS	**Lisbon**	**0.79**	**322**	*e*P		**Pg**	**16 00 19.1**	**+0.7**
LIS				*e*S		**Sn**	**16 00 30.4**	**-0.1**
LIS						AML	AML	16 00 32.1
	comp=E,4μm,0.3s							
LIS	**Lisbon**	**0.79**	**322**	*e*P		**Pg**	**16 00 19.1**	**+0.7**
LIS				*e*S		**Sn**	**16 00 30.4**	**-0.1**
LIS	**Lisbon**	**0.79**	**322**	Pg		**Pg**	**16 00 19.1**	**+0.7**
LIS				Lg		Lg	16 00 30.4	
LIS	**Lisbon**	**0.79**	**322**	*e*P		**Pg**	**16 00 19.1**	**+0.7**
LIS				*e*S		**Sn**	**16 00 30.4**	**-0.1**
MORF	**Marmelete**	**0.80**	**187**	*e*P		**Pg**	**16 00 29.3**	**+0.5**
MORF				*e*S		**Sb**	**16 00 29.3**	**+0.5**
MORF				A		A	16 00 32.0	
	comp=E,4μm,0.1s							
MORF	**Marmelete**	**0.80**	**187**	Pg		**Pg**	**16 00 19.1**	**+0.5**
MORF				Lg		Lg	16 00 28.8	
MORF	**Marmelete**	**0.80**	**187**	Pg		**Pg**	**16 00 19.1**	**+0.5**
MORF				Lg		Lg	16 00 28.8	
MORF				*e*S		**Sb**	**16 00 29.3**	**+0.5**
	comp=E,4μm,0.1s							
INMG	**Instituto de M**	**0.82**	**325**	*e*P		**Pn**	**16 00 20.5**	**+0.9**
INMG				*e*S		**Sn**	**16 00 31.9**	**+0.6**
INMG				A		A	16 00 33.7	
	comp=E,2μm,0.5s							
INMG	**Instituto de M**	**0.82**	**325**	Pg		**Pn**	**16 00 20.5**	**+0.9**
INMG				Lg		Lg	16 00 31.9	
	comp=E,1μm,0.5s							
INMG	**Instituto de M**	**0.82**	**325**	*e*P		**Pn**	**16 00 20.5**	**+0.9**
INMG				*e*S		**Sn**	**16 00 31.9**	**+0.6**
	comp=E,2μm,0.5s							
PVAQ	**Vaqueiros**	**0.94**	**137**	*e*P		**Pn**	**16 00 21.6**	**+0.3**
PVAQ				*e*S		**Sn**	**16 00 35.1**	**+0.8**
PVAQ				A		A	16 00 38.2	
	comp=E,2μm,0.4s							
PVAQ	**Vaqueiros**	**0.94**	**137**	Pg		**Pn**	**16 00 21.6**	**+0.3**
PVAQ				Lg		Lg	16 00 35.1	
	comp=E,2μm,0.4s							
PVAQ	**Vaqueiros**	**0.94**	**137**	*e*P		**Pn**	**16 00 21.6**	**+0.3**
PVAQ				*e*S		**Sn**	**16 00 35.1**	**+0.8**
	comp=E,2μm,0.4s							
PBDV	**Barranco-do-Ve**	**0.98**	**151**	*e*P		**Pg**	**16 00 22.1**	**+0.2**
PBDV				*e*S		**Sn**	**16 00 35.3**	**+0.1**
PBDV				A		A	16 00 38.9	
	comp=E,2μm,0.3s							
PBDV	**Barranco-do-Ve**	**0.98**	**151**	⇓Pg		**Pg**	**16 00 22.1**	**+0.2**
PBDV				Lg		Lg	16 00 35.3	
	comp=E,2μm,0.3s							
PBDV	**Barranco-do-Ve**	**0.98**	**151**	Pg		**Pg**	**16 00 22.1**	**+0.2**
PBDV				*e*S		**Sn**	**16 00 35.3**	**+0.1**
	comp=E,2μm,0.3s							
PFVI	**Vila Bisbo**	**0.99**	**194**	*e*P		**Pn**	**16 00 22.3**	**+0.3**
PFVI				*e*S		**Sb**	**16 00 35.2**	**+0.8**
PFVI				A		A	16 00 37.4	
	comp=E,2μm,0.2s							
PFVI	**Vila Bisbo**	**0.99**	**194**	⇓Pg		**Pn**	**16 00 22.4**	**+0.4**
	comp=E,372nm,0.3s,SNR=18							
PFVI				Lg		Lg	16 00 35.0	
	comp=E,1μm,0.3s,SNR=28							
PFVI	**Vila Bisbo**	**0.99**	**194**	Pg		**Pn**	**16 00 22.4**	**+0.4**
	comp=E,372nm,0.3s,SNR=18							
PFVI				Lg		Lg	16 00 35.0	
	comp=E,1μm,0.3s,SNR=28							
PFVI				*e*S		**Sb**	**16 00 35.2**	**+0.8**
	comp=E,2μm,0.2s							
PMTG	**Montargil**	**0.99**	**13**	*e*P		**Pg**	**16 00 23.7**	**+1.4**
PMTG				*e*S		**Sn**	**16 00 36.7**	**+1.1**
PMTG				A		A	16 00 38.6	
	comp=E,3μm,0.6s							
PMTG	**Montargil**	**0.99**	**13**	*e*P		**Pg**	**16 00 23.7**	**+1.4**
PMTG				*e*S		**Sn**	**16 00 36.7**	**+1.1**
	comp=E,3μm,0.6s							
EGRO	**El Granado**	**1.00**	**124**	⇑Pg		**Pg**	**16 00 22.7**	**+0.3**
	comp=E,248nm,0.3s,SNR=18							
EGRO				Lg		Lg	16 00 37.4	
	comp=E,2μm,0.3s,SNR=55							
EGRO	**El Granado**	**1.00**	**124**	Pg		**Pg**	**16 00 22.7**	**+0.3**
	comp=E,248nm,0.3s,SNR=18							
EGRO				Lg		Lg	16 00 37.4	
	comp=E,2μm,0.3s,SNR=55							
PMAFR	**Mafra**	**1.04**	**325**	*e*P		**Pg**	**16 00 23.8**	**+0.6**
PMAFR				*e*S		**Sn**	**16 00 37.5**	**+0.7**
PMAFR				A		A	16 00 42.8	
	comp=E,2μm,0.3s							
PMAFR	**Mafra**	**1.04**	**325**	⇓Pg		**Pg**	**16 00 23.7**	**+0.5**
	comp=E,356nm,0.3s,SNR=18							
PMAFR				Lg		Lg	16 00 37.5	
	comp=E,1μm,0.3s,SNR=25							
PMAFR	**Mafra**	**1.04**	**325**	Pg		**Pg**	**16 00 23.7**	**+0.5**
	comp=E,356nm,0.3s,SNR=18							
PMAFR				*e*S		**Sn**	**16 00 37.5**	**+0.7**
	comp=E,2μm,0.3s							
PMAFR				Lg		Lg	16 00 37.5	
	comp=E,1μm,0.3s,SNR=25							
ALMR	**Almeirim**	**1.05**	**358**	*e*P		**Pg**	**16 00 24.5**	**+1.1**
ALMR				*e*S		**Sg**	**16 00 38.3**	**+1.0**
ALMR						AML	AML	16 00 40.1
	comp=E,2μm,0.2s							
ALMR	**Almeirim**	**1.05**	**358**	*e*P		**Pg**	**16 00 24.5**	**+1.1**
ALMR				*e*S		**Sg**	**16 00 38.3**	**+1.0**
ALMR	**Almeirim**	**1.05**	**358**	Pg		**Pg**	**16 00 24.5**	**+1.1**
ALMR				Lg		Lg	16 00 38.3	
ALMR	**Almeirim**	**1.05**	**358**	*e*P		**Pg**	**16 00 24.5**	**+1.1**
ALMR				Lg		Lg	16 00 38.3	
ALMR				*e*S		**Sg**	**16 00 38.3**	**+1.0**
PESTR	**Estremoz**	**1.06**	**43**	*e*P		**Pg**	**16 00 24.9**	**+1.4**
PESTR				*e*S		**Sg**	**16 00 39.4**	**+1.9**
PESTR				A		A	16 00 41.1	
	comp=E,2μm,0.2s							
PESTR	**Estremoz**	**1.06**	**43**	⇑Pg		**Pg**	**16 00 24.9**	**+1.4**
PESTR				Lg		Lg	16 00 39.4	
	comp=E,964nm,0.2s							
PESTR	**Estremoz**	**1.06**	**43**	Pg		**Pg**	**16 00 24.9**	**+1.4**
PESTR				*e*S		**Sg**	**16 00 39.4**	**+1.9**
	comp=E,2μm,0.2s							
PBAR	**Barrancos**	**1.17**	**86**	*e*P		**Pg**	**16 00 26.7**	**+1.0**
PBAR				*e*S		**Sg**	**16 00 42.8**	**+1.8**
PBAR				A		A	16 00 45.5	
	comp=E,1μm,0.6s							
PBAR	**Barrancos**	**1.17**	**86**	Pg		**Pg**	**16 00 26.7**	**+1.0**
PBAR				Lg		Lg	16 00 42.8	
	comp=E,1μm,0.6s							
PBAR	**Barrancos**	**1.17**	**86**	*e*P		**Pg**	**16 00 26.7**	**+1.0**
PBAR				*e*S		**Sg**	**16 00 42.8**	**+1.8**
	comp=E,1μm,0.6s							
EBAD	**Badajoz**	**1.35**	**61**	Pn		**Pg**	**16 00 28.9**	**-0.2**
	comp=E,3.3nm,0.1s,SNR=7.9							
EBAD				⇑Pg		**Pb**	**16 00 30.5**	**+2.7**
	comp=E,513nm,0.3s,SNR=18							
EBAD				Lg		Lg	16 00 48.6	
	comp=E,542nm,0.3s,SNR=15							
EBAD	**Badajoz**	**1.35**	**61**	Pn		**Pg**	**16 00 28.9**	**-0.2**
	comp=E,3.3nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**1.50**	**102**	⇑Pn		**Pb**	**16 00 31.2**	**+0.9**
	comp=E,114nm,0.3s,SNR=18							
EMIN				Pg		**Pg**	**16 00 32.4**	**+0.5**
	comp=E,114nm,0.3s,SNR=53							
EMIN				Sn		**Sb**	**16 00 50.0**	**+1.1**
	comp=E,66nm,0.3s,SNR=6.3							
EMIN				Lg		Lg	16 00 52.9	
	comp=E,446nm,0.3s,SNR=22							
EMIN	**Mina Concepcio**	**1.50**	**102**	Pn		**Pb**	**16 00 31.2**	**+0.9**
	comp=E,114nm,0.3s,SNR=18							
PTOM	**Tomar**	**1.52**	**3**	*e*Pn		**Pb**	**16 00 31.1**	**+0.5**
PTOM				*e*Sn		**Sg**	**16 00 52.2**	**+0.2**
PTOM				A		A	16 00 54.8	
	comp=E,1μm,0.5s							
PTOM	**Tomar**	**1.52**	**3**	⇓Pn		**Pb**	**16 00 31.1**	**+0.5**
PTOM				Sn		**Sg**	**16 00 52.2**	**+0.2**
	comp=E,669nm,0.5s							
PTOM	**Tomar**	**1.52**	**3**	Pn		**Pb**	**16 00 31.1**	**+0.5**
PTOM				*e*Sn		**Sg**	**16 00 52.2**	**+0.2**
	comp=E,1μm,0.5s							
PMRV	**Marv??o**	**1.59**	**33**	*e*Pn		**Pb**	**16 00 32.3**	**+0.4**
PMRV	**Marv??o**	**1.59**	**33**	*e*Pg		**Pg**	**16 00 34.6**	**+0.9**
PMRV				*e*Sn		**Sb**	**16 00 53.0**	**+1.3**
PMRV				*e*Sg		**Sg**	**16 00 55.1**	**+0.7**
PMRV	**Marv??o**	**1.59**	**33**	Pn		**Pb**	**16 00 32.3**	**+0.4**
PMRV				Pg		**Pg**	**16 00 34.6**	**+0.9**
PMRV				Sn		**Sb**	**16 00 53.0**	**+1.3**
PMRV				Lg		Lg	16 00 55.1	
	comp=E,1μm,0.2s							
PMRV	**Marv??o**	**1.59**	**33**	*e*Pn		**Pb**	**16 00 32.3**	**+0.4**
PMRV	**Marv??o**	**1.59**	**33**	*e*Pg		**Pg**	**16 00 34.6**	**+0.9**
PMRV				*e*Sn		**Sb**	**16 00 53.0**	**+1.3**
PMRV				*e*Sg		**Sg**	**16 00 55.1**	**+0.7**
	comp=E,1μm,0.2s							
PCBR	**Castelo Branco**	**1.92**	**25**	*e*Pn		**Pb**	**16 00 36.9**	**-0.5**
PCBR	**Castelo Branco**	**1.92**	**25**	*e*Pg		**Pg**	**16 00 40.2**	**+0.3**
PCBR				*e*Sn		**Sb**	**16 01 02.0**	**+1.0**
PCBR				*e*Sg		**Sg**	**16 01 04.3**	**-0.5**
PCBR				A		A	16 01 08.5	
	comp=E,589nm,0.4s							
PCBR	**Castelo Branco**	**1.92**	**25**	Pn		**Pb**	**16 00 36.9**	**-0.5**
PCBR				Pg		**Pg**	**16 00 40.2**	**+0.3**
PCBR	**Castelo Branco**	**1.92**	**25**	*e*Pn		**Pb**	**16 00 36.9**	**-0.5**
PCBR	**Castelo Branco**	**1.92**	**25**	*e*Pg		**Pg**	**16 00 40.2**	**+0.3**
PCBR				*e*Sn		**Sb**	**16 01 02.0**	**+1.0**
PCBR				*e*Sg		**Sg**	**16 01 04.3**	**-0.5**
	comp=E,589nm,0.4s							
ESPR	**Espera**	**2.45**	**119**	Pn		**Pb**	**16 00 44.9**	**-1.6**
	comp=E,14nm,0.3s,SNR=22							
ESPR				Pg		**Pg**	**16 00 49.0**	**-1.0**
	comp=E,45nm,0.3s,SNR=22							
ESPR				Sn		**Sn**	**16 01 13.3**	**+1.8**
	comp=E,80nm,0.3s,SNR=8.3							
ESPR				Lg		Lg	16 01 23.0	
	comp=E,279nm,0.4s,SNR=5.0							
ESPR	**Espera**	**2.45**	**119**	Pn		**Pb**	**16 00 44.9**	**-1.6**
	comp=E,14nm,0.3s,SNR=22							
ESPR	**Espera**	**2.45**	**119**	Pg		**Pg**	**16 00 49.0**	**-1.0**
	comp=E,45nm,0.3s,SNR=22							
ESPR				Sn		**Sn**	**16 01 13.3**	**+1.8**
	comp=E,80nm,0.3s,SNR=8.3							
ESPR				Lg		Lg	16 01 23.0	
	comp=E,279nm,0.4s,SNR=5.0							
CNIL	**Conil**	**2.62**	**130**	Pn		**Pb**	**16 00 49.1**	**-0.2**
CNIL	**Conil**	**2.62**	**130**	*e*P		**Pb**	**16 00 49.1**	**-0.2**
PVIS	**Viseu**	**2.66**	**10**	*e*Pn		**Pn**	**16 00 46.6**	**+1.7**
PVIS	**Viseu**	**2.66**	**10**	*e*Pg		**Pg**	**16 00 54.5**	**+0.6**
PVIS				*e*Sn		**Sn**	**16 01 18.9**	**+2.2**
PVIS				*e*Sg		**Sg**	**16 01 28.4**	**0.0**
PVIS				A		A	16 01 33.9	
	comp=E,369nm,0.4s							
PVIS	**Viseu**	**2.66**	**10**	Pn		**Pn**	**16 00 46.6**	**+1.7**
PVIS				Pg		**Pg**	**16 00 54.5**	**+0.6**
PVIS	**Viseu**	**2.66**	**10**	*e*Pn		**Pn**	**16 00 46.6**	**+1.7**
PVIS	**Viseu**	**2.66**	**10**	*e*Pg		**Pg**	**16 00 54.5**	**+0.6**
PVIS				*e*Sn		**Sn**	**16 01 18.9**	**+2.2**
PVIS				*e*Sg		**Sg**	**16 01 28.4**	**0.0**
	comp=E,369nm,0.4s							
EPLA	**Plasencia**	**2.73**	**43**	⇑Pn		**Pn**	**16 00 48.1**	**+2.2**
	comp=E,9.6nm,0.3s,SNR=18							
EPLA				Pg		**Pg**	**16 00 55.4**	**0.0**
	comp=E,38nm,0.4s,SNR=11							
EPLA				Sn		**Sn**	**16 01 20.9**	**+2.4**
	comp=E,48nm,0.3s,SNR=5.5							
EPLA				Lg		Lg	16 01 30.1	
	comp=E,405nm,0.4s,SNR=22							
EPLA	**Plasencia**	**2.73**	**43**	Pn		**Pn**	**16 00 48.1**	**+2.2**
	comp=E,9.6nm,0.3s,SNR=18							
LIJA	**Lijar**	**2.75**	**115**	⇓Pn		**Pn**	**16 00 49.1**	**+2.8**
LIJA	**Lijar**	**2.75**	**115**	*i* P		**Pn**	**16 00 49.1**	**+2.8**
LIJA				*i* S		**Sn**	**16 01 20.0**	**+0.9**
EJIF	**Jimena Fronter**	**2.94**	**123**	Pn		**Pb**	**16 00 52.4**	**-2.4**
	comp=E,6.4nm,0.4s,SNR=7.9							
EJIF				Pg		**Pg**	**16 00 58.0**	**-1.3**
	comp=E,12nm,0.4s,SNR=7.9							
EJIF				Sn		**Sn**	**16 01 24.7**	**+1.1**
	comp=E,60nm,0.4s,SNR=7.9							
EJIF				Lg		Lg	16 01 38.2	
	comp=E,76nm,0.3s,SNR=7.9							
EJIF	**Jimena Fronter**	**2.94**	**123**	Pn		**Pb**	**16 00 52.4**	**-2.4**
	comp=E,6.4nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**3.11**	**88**	⇑Pn		**Pn**	**16 00 53.3**	**+2.1**
	comp=E,16nm,0.3s,SNR=18							
EADA				Pg		**Pg**	**16 01 01.7**	**-0.9**
	comp=E,35nm,0.3s,SNR=25							
EADA				Sn		**Sn**	**16 01 29.2**	**+1.3**
	comp=E,36nm,0.3s,SNR=4.6							
EADA				Lg		Lg	16 01 44.2	
	comp=E,229nm,0.4s,SNR=14							
EADA	**Adamuz**	**3.11**	**88**	Pn		**Pn**	**16 00 53.3**	**+2.1**
	comp=E,16nm,0.3s,SNR=18							
PVRL	**Vila Real**	**3.23**	**11**	*e*Pn		**Pn**	**16 00 54.7**	**+1.9**
PVRL				*e*Sn		**Sn**	**16 01 32.4**	**+1.5**
PVRL				*e*Sg		**Sg**	**16 01 48.5**	**+1.7**
PVRL				A		A	16 01 49.9	
	comp=E,231nm,0.3s							
PVRL	**Vila Real**	**3.23**	**11**	Pn		**Pn**	**16 00 54.7**	**+1.9**
PVRL	**Vila Real**	**3.23**	**11**	*e*Pn		**Pn**	**16 00 54.7**	**+1.9**
PVRL				*e*Sn		**Sn**	**16 01 32.4**	**+1.5**
PVRL				*e*Sg		**Sg**	**16 01 48.5**	**+1.7**
	comp=E,231nm,0.3s							
MVO	**Moncorvo**	**3.27**	**20**	*e*Pn		**Pn**	**16 00 55.3**	**+1.9**

PGAV					*e*Sn	**Sn**	**16 01 46.8 +0.2**
PGAV					A	A	16 02 15.3
	comp=E,73nm,0.2s						
PGAV	**Gavieira, Arco**	**3.87**	**3**	*e*Pn	**Pn**	**16 01 03.3 +1.7**
PGAV					*e*Sn	**Sn**	**16 01 46.8 +0.2**
	comp=E,73nm,0.2s						
ESDC	**Sonseca Array**	**3.89**	**65**	Pn	**Pn**	**16 01 03.9 +2.0**
	comp=E,4.2nm,0.2s,baz=251,slow=13,SNR=59						
ESDC				Pg	**Pg**	**16 01 15.8 -1.7**
	comp=E,7.8nm,0.3s,baz=261,slow=16,SNR=21						
ESDC				Sn	**Sn**	**16 01 47.8 +0.7**
	comp=E,6.4nm,0.2s,baz=251,slow=24,SNR=7.7						
ESDC				Lg	Lg	16 02 09.1
	comp=E,18nm,0.3s,baz=257,slow=34,SNR=12						
ESDC	**Sonseca Array**	**3.89**	**65**	Pn	**Pn**	**16 01 03.9 +2.0**
	comp=E,4.2nm,0.2s,slow=13,SNR=59						
ESDC	**Sonseca Array**	**3.89**	**65**	Pg	**Pg**	**16 01 15.8 -1.7**
	comp=E,7.8nm,0.3s,slow=16,SNR=21						
ESDC				Sn	**Sn**	**16 01 47.8 +0.7**
	comp=E,6.4nm,0.2s,slow=24,SNR=7.7						
ESDC				Lg	Lg	16 02 09.1
	comp=E,18nm,0.3s,SNR=12						
ERON	**Agron**	**3.90**	**105**	Pn	**Pn**	**16 01 04.4 +2.3**
	comp=E,3.6nm,0.3s,SNR=7.9						
ERON				Pg	**Pg**	**16 01 16.0 -1.7**
	comp=E,1.2nm,0.1s,SNR=7.9						
ERON				Sn	**Sn**	**16 01 47.9 +0.4**
	comp=E,28nm,0.4s,SNR=7.9						
ERON				Lg	Lg	16 02 09.3
	comp=E,99nm,0.7s,SNR=7.9						
ERON	**Agron**	**3.90**	**105**	Pn	**Pn**	**16 01 04.4 +2.3**
	comp=E,3.6nm,0.3s,SNR=7.9						
ERON	**Agron**	**3.90**	**105**	Pg	**Pg**	**16 01 16.0 -1.7**
	comp=E,1.2nm,0.1s,SNR=7.9						
ERON				Sn	**Sn**	**16 01 47.9 +0.4**
	comp=E,28nm,0.4s,SNR=7.9						
ERON				Lg	Lg	16 02 09.3
	comp=E,99nm,0.7s,SNR=7.9						
PBRG	**Braganca**	**3.94**	**20**	*e*Pn	**Pn**	**16 01 04.6 +2.0**
PBRG				*e*Sn	**Sn**	**16 01 49.1 +0.7**
PBRG				A	A	16 02 15.3
	comp=E,125nm,0.8s						
PBRG	**Braganca**	**3.94**	**20**	*e*Pn	**Pn**	**16 01 04.6 +2.0**
PBRG				*e*Sn	**Sn**	**16 01 49.1 +0.7**
	comp=E,125nm,0.8s						
ECOG	**Cogollos-Vega**	**4.02**	**100**	Pn	**Pn**	**16 01 06.7 +3.0**
	comp=E,6.2nm,0.3s,SNR=7.9						
ECOG				Sn	**Sn**	**16 01 50.7 +0.4**
	comp=E,89nm,0.4s,SNR=5.1						
ECOG				Lg	Lg	16 02 13.1
	comp=E,66nm,0.3s,SNR=7.3						
ECOG	**Cogollos-Vega**	**4.02**	**100**	Pn	**Pn**	**16 01 06.7 +3.0**
	comp=E,6.2nm,0.3s,SNR=7.9						
ECOG				Sn	**Sn**	**16 01 50.7 +0.4**
	comp=E,89nm,0.4s,SNR=5.1						
ECOG				Lg	Lg	16 02 13.1
	comp=E,66nm,0.3s,SNR=7.3						
EZAM	**Zamans**	**4.05**	**358**	Pn	**Pn**	**16 01 05.6 +1.6**
	comp=E,20nm,0.3s,SNR=7.9						
EZAM				Pg	Pb	16 01 17.3 +3.6
	comp=E,3.7nm,0.2s,SNR=7.9						
EZAM				Sn	**Sn**	**16 01 50.7 -0.1**
	comp=E,63nm,0.7s,SNR=7.9						
EZAM				Lg	Lg	16 02 12.6
	comp=E,66nm,0.4s,SNR=7.9						
EZAM	**Zamans**	**4.05**	**358**	Pn	**Pn**	**16 01 05.6 +1.6**
	comp=E,20nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**4.07**	**19**	⇑Pn	**Pn**	**16 01 06.4 +2.0**
	comp=E,17nm,0.3s,SNR=18						
ECAL				Pg	**Pg**	**16 01 18.5 -2.5**
	comp=E,18nm,0.3s,SNR=9.8						
ECAL				Sn	**Sn**	**16 01 52.1 +0.4**
	comp=E,67nm,0.3s,SNR=7.5						
ECAL				Lg	Lg	16 02 13.1
	comp=E,57nm,0.4s,SNR=5.6						
ECAL	**Calabor**	**4.07**	**19**	Pn	**Pn**	**16 01 06.4 +2.0**
	comp=E,17nm,0.3s,SNR=18						
EQUE	**Quentar**	**4.13**	**101**	Pn	**Pn**	**16 01 07.9 +2.7**
	comp=E,0.3nm,0.2s,SNR=7.9						
EQUE				Sn	**Sn**	**16 01 53.4 +0.2**
	comp=E,97nm,0.3s,SNR=7.9						
EQUE				Lg	Lg	16 02 16.6
	comp=E,60nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**4.13**	**101**	Pn	**Pn**	**16 01 07.9 +2.7**
	comp=E,0.3nm,0.2s,SNR=7.9						
EQUE				Sn	**Sn**	**16 01 53.4 +0.2**
	comp=E,97nm,0.3s,SNR=7.9						
EQUE				Lg	Lg	16 02 16.6
	comp=E,60nm,0.4s,SNR=7.9						
EGUA	**Guajares**	**4.14**	**106**	Pn	Pb	16 01 11.8 -3.5
	comp=E,11nm,0.3s,SNR=7.9						
EGUA				Sn	**Sn**	**16 01 57.9 +4.6**
	comp=E,105nm,0.4s,SNR=7.9						
EGUA				Lg	Lg	16 02 20.4
	comp=E,376nm,0.8s,SNR=7.9						
EGUA	**Guajares**	**4.14**	**106**	Pn	Pb	16 01 11.8 -3.5
	comp=E,11nm,0.3s,SNR=7.9						
EGUA				Sn	**Sn**	**16 01 57.9 +4.6**
	comp=E,105nm,0.4s,SNR=7.9						
EGUA				Lg	Lg	16 02 20.4
	comp=E,376nm,0.8s,SNR=7.9						
GUD	**Guadarrama**	**4.23**	**52**	Pn	**Pn**	**16 01 09.0 +2.4**
	comp=E,3.6nm,0.2s,SNR=15						
GUD				Pg	**Pg**	**16 01 22.7 -1.4**
	comp=E,19nm,0.3s,SNR=16						
GUD				Sn	**Sn**	**16 01 55.8 +0.1**
	comp=E,42nm,0.3s,SNR=9.8						
GUD				Lg	Lg	16 02 17.6
	comp=E,135nm,0.4s,SNR=9.2						
GUD	**Guadarrama**	**4.23**	**52**	Pn	**Pn**	**16 01 09.0 +2.4**
	comp=E,3.6nm,0.2s,SNR=15						
EQES	**Quesada**	**4.32**	**92**	Pn	**Pn**	**16 01 09.8 +2.0**
	comp=E,14nm,0.5s,SNR=7.5						
EQES				Pg	**Pg**	**16 01 23.3 -2.4**
	comp=E,11nm,0.4s,SNR=4.0						
EQES				Sn	**Sn**	**16 01 58.0 +0.2**
	comp=E,23nm,0.3s,SNR=6.3						
EQES				Lg	Lg	16 02 21.9
	comp=E,54nm,0.7s,SNR=5.8						
EQES	**Quesada**	**4.32**	**92**	Pn	**Pn**	**16 01 09.8 +2.0**
	comp=E,14nm,0.5s,SNR=7.5						
ERUA	**La Rua**	**4.42**	**13**	Pn	**Pn**	**16 01 10.9 +1.9**
	comp=E,15nm,0.2s,SNR=7.9						
ERUA				Pg	**Pg**	**16 01 24.6 -2.9**
	comp=E,5.6nm,0.3s,SNR=7.9						
ERUA				Sn	**Sn**	**16 02 00.0 0.0**
	comp=E,5.3nm,0.3s,SNR=7.9						
ERUA				Lg	Lg	16 02 24.4
	comp=E,104nm,0.6s,SNR=7.9						
ERUA	**La Rua**	**4.42**	**13**	Pn	**Pn**	**16 01 10.9 +1.9**
	comp=E,15nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.64**	**103**	Pn	Pn	16 01 15.9 +3.6
	comp=E,7.2nm,0.3s,SNR=18						
EBER				Sn	**Sn**	**16 02 05.3 -0.5**
	comp=E,73nm,0.6s,SNR=5.0						
EBER				Lg	Lg	16 02 32.0
	comp=E,49nm,0.5s,SNR=5.0						
EBER	**Berja**	**4.64**	**103**	Pn	Pn	16 01 15.9 +3.6
	comp=E,7.2nm,0.3s,SNR=18						
EBER				Sn	**Sn**	**16 02 05.3 -0.5**
	comp=E,73nm,0.6s,SNR=5.0						
EBER				Lg	Lg	16 02 32.0
	comp=E,49nm,0.5s,SNR=5.0						
EHUE	**Huescar**	**4.70**	**92**	Pn	**Pn**	**16 01 15.2 +2.2**
	comp=E,0.3nm,0.2s,SNR=7.9						
EHUE				Sn	**Sn**	**16 02 07.1 +0.1**
	comp=E,11nm,0.2s,SNR=7.9						
EHUE				Lg	Lg	16 02 33.7
	comp=E,30nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**4.70**	**92**	Pn	**Pn**	**16 01 15.2 +2.2**
	comp=E,0.3nm,0.2s,SNR=7.9						
EHUE				Sn	**Sn**	**16 02 07.1 +0.1**
	comp=E,11nm,0.2s,SNR=7.9						
EHUE				Lg	Lg	16 02 33.7
	comp=E,30nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**4.76**	**82**	Pn	**Pn**	**16 01 15.9 +2.0**
	comp=E,13nm,0.4s,SNR=14						
EVIA				Sn	**Sn**	**16 02 08.8 +0.1**
	comp=E,39nm,0.4s,SNR=4.6						
EVIA				Lg	Lg	16 02 36.8
	comp=E,98nm,0.8s,SNR=5.5						
EVIA	**Vianos**	**4.76**	**82**	Pn	**Pn**	**16 01 15.9 +2.0**
	comp=E,13nm,0.4s,SNR=14						
EVIA				Sn	**Sn**	**16 02 08.8 +0.1**
	comp=E,39nm,0.4s,SNR=4.6						
EVIA				Lg	Lg	16 02 36.8
	comp=E,98nm,0.8s,SNR=5.5						
STS	**Santiago**	**4.78**	**360**	Pn	**Pn**	**16 01 15.6 +1.6**
	comp=E,24nm,0.2s,SNR=15						
STS				Sn	**Sn**	**16 02 07.9 -1.1**
	comp=E,34nm,0.4s,SNR=5.0						
STS				Lg	Lg	16 02 35.6
	comp=E,39nm,0.4s,SNR=6.9						
STS	**Santiago**	**4.78**	**360**	Pn	**Pn**	**16 01 15.6 +1.6**
	comp=E,24nm,0.2s,SNR=15						
STS				Sn	**Sn**	**16 02 07.9 -1.1**
	comp=E,34nm,0.4s,SNR=5.0						
STS				Lg	Lg	16 02 35.6
	comp=E,39nm,0.4s,SNR=6.9						
EMAZ	**Mazaricos**	**4.86**	**356**	⇓Pn	**Pn**	**16 01 16.5 +1.4**
	comp=E,18nm,0.3s,SNR=18						
EMAZ				Sn	**Sn**	**16 02 09.5 -1.3**
	comp=E,10nm,0.3s,SNR=6.4						
EMAZ				Lg	Lg	16 02 38.3
	comp=E,45nm,0.7s,SNR=5.0						
EMAZ	**Mazaricos**	**4.86**	**356**	Pn	**Pn**	**16 01 16.5 +1.4**
	comp=E,18nm,0.3s,SNR=18						
EMAZ				Sn	**Sn**	**16 02 09.5 -1.3**
	comp=E,10nm,0.3s,SNR=6.4						
EMAZ				Lg	Lg	16 02 38.3
	comp=E,45nm,0.7s,SNR=5.0						
ENIJ	**Nijar**	**5.14**	**101**	Pn	**Pn**	**16 01 22.2 +3.1**
	comp=E,0.3nm,0.1s,SNR=7.9						
ENIJ				Sn	**Sn**	**16 02 17.6 -0.4**
	comp=E,14nm,0.3s,SNR=7.9						
ENIJ				Lg	Lg	16 02 48.1
	comp=E,19nm,0.4s,SNR=7.9						
ENIJ	**Nijar**	**5.14**	**101**	Pn	**Pn**	**16 01 22.2 +3.1**
	comp=E,0.3nm,0.1s,SNR=7.9						
ENIJ				Sn	**Sn**	**16 02 17.6 -0.4**
	comp=E,14nm,0.3s,SNR=7.9						
ENIJ				Lg	Lg	16 02 48.1
	comp=E,19nm,0.4s,SNR=7.9						
EPON	**Pontenova**	**5.33**	**11**	Pn	**Pn**	**16 01 23.2 +1.7**
	comp=E,4.9nm,0.3s,SNR=14						
EPON				Sn	**Sn**	**16 02 20.9 -1.5**
	comp=E,6.5nm,0.2s,SNR=7.3						
EPON				Lg	Lg	16 02 53.3
	comp=E,55nm,0.6s,SNR=5.0						
EPON	**Pontenova**	**5.33**	**11**	Pn	**Pn**	**16 01 23.2 +1.7**
	comp=E,4.9nm,0.3s,SNR=14						
EPON				Sn	**Sn**	**16 02 20.9 -1.5**
	comp=E,6.5nm,0.2s,SNR=7.3						
EPON				Lg	Lg	16 02 53.3
	comp=E,55nm,0.6s,SNR=5.0						
ETOB	**Tobarra**	**5.51**	**82**	Pn	**Pn**	**16 01 25.7 +1.6**
	comp=E,4.3nm,0.5s,SNR=12						
ETOB				Sn	**Sn**	**16 02 26.3 -0.7**
	comp=E,5.2nm,0.5s,SNR=6.2						
ETOB				Lg	Lg	16 02 59.7
	comp=E,73nm,0.6s,SNR=5.0						
ETOB	**Tobarra**	**5.51**	**82**	Pn	**Pn**	**16 01 25.7 +1.6**
	comp=E,4.3nm,0.5s,SNR=12						
ETOB				Lg	Lg	16 02 59.7
	comp=E,73nm,0.6s,SNR=5.0						
ETOR	**Torete**	**5.69**	**60**	Pn	**Pn**	**16 01 28.8 +2.1**
	comp=E,20nm,0.4s,SNR=25						
ETOR				Sn	**Sn**	**16 02 30.4 -1.2**
	comp=E,129nm,0.6s,SNR=7.2						
ETOR				Lg	Lg	16 03 05.8
	comp=E,112nm,0.6s,SNR=7.9						
ETOR	**Torete**	**5.69**	**60**	Pn	**Pn**	**16 01 28.8 +2.1**
	comp=E,20nm,0.4s,SNR=25						
ETOR				Lg	Lg	16 03 05.8
	comp=E,112nm,0.6s,SNR=7.9						
EMUR	**La Murta**	**5.76**	**90**	Pn	**Pn**	**16 01 30.0 +2.5**
	comp=E,7.0nm,0.3s,SNR=7.9						
EMUR				Sn	**Sn**	**16 02 32.3 -0.8**
	comp=E,7.2nm,0.5s,SNR=7.9						
EMUR				Lg	Lg	16 03 07.6
	comp=E,60nm,1.7s,SNR=7.9						
EMUR	**La Murta**	**5.76**	**90**	Pn	**Pn**	**16 01 30.0 +2.5**
	comp=E,7.0nm,0.3s,SNR=7.9						
EMUR				Lg	Lg	16 03 07.6
	comp=E,60nm,1.7s,SNR=7.9						
EARI	**Arriondas**	**5.77**	**25**	Pn	**Pn**	**16 01 30.7 +3.0**
	comp=E,4.0nm,0.7s,SNR=17						
EARI				Sn	**Sn**	**16 02 31.8 -1.7**
	comp=E,2.9nm,0.3s,SNR=7.0						
EARI				Lg	Lg	16 03 07.5
	comp=E,72nm,0.8s,SNR=5.0						
EARI	**Arriondas**	**5.77**	**25**	Pn	**Pn**	**16 01 30.7 +3.0**
	comp=E,4.0nm,0.7s,SNR=17						
EARI				Lg	Lg	16 03 07.4
	comp=E,72nm,0.8s,SNR=5.0						
CZD	**Col de Zad**	**5.80**	**150**	*i* P	**Pn**	**16 01 30.0 +1.7**
ECHE	**Chera**	**6.08**	**74**	Pn	**Pn**	**16 01 34.1 +2.1**
	comp=E,50nm,0.6s,SNR=5.7						
ECHE				Sn	**Sn**	**16 02 39.5 -1.6**
	comp=E,9.3nm,0.4s,SNR=4.6						
ECHE				Lg	Lg	16 03 17.7
	comp=E,38nm,0.4s,SNR=5.8						
ECHE	**Chera**	**6.08**	**74**	Pn	**Pn**	**16 01 34.1 +2.1**
	comp=E,50nm,0.6s,SNR=5.7						
ECHE				Lg	Lg	16 03 17.7
	comp=E,38nm,0.4s,SNR=5.8						
ELAN	**Lanestosa**	**6.42**	**35**	Pn	**Pn**	**16 01 38.8 +2.2**
	comp=E,3.1nm,0.5s,SNR=6.6						
ELAN				Sn	**Sn**	**16 02 47.8 -1.5**
	comp=E,5.2nm,0.5s,SNR=7.9						
ELAN				Lg	Lg	16 03 27.4
	comp=E,24nm,0.4s,SNR=5.0						
ELAN	**Lanestosa**	**6.42**	**35**	Pn	**Pn**	**16 01 38.8 +2.2**
	comp=E,3.1nm,0.5s,SNR=6.6						
ELAN				Lg	Lg	16 03 27.5
	comp=E,24nm,0.4s,SNR=5.0						
CIA	**Chichaoua**	**6.52**	**182**	*i* P	**Pn**	**16 01 38.0 0.0**
EBEN	**Beniarda**	**6.55**	**82**	Pn	**Pn**	**16 01 40.2 +1.8**
	comp=E,0.7nm,0.5s,SNR=7.9						
EBEN				Sn	**Sn**	**16 02 50.6 -1.9**
	comp=E,2.1nm,0.5s,SNR=7.9						
EBEN				Lg	Lg	16 03 31.5
	comp=E,12nm,0.5s,SNR=7.9						
EBEN	**Beniarda**	**6.55**	**82**	Pn	**Pn**	**16 01 40.2 +1.8**
	comp=E,0.7nm,0.5s,SNR=7.9						
EBEN				Lg	Lg	16 03 31.5
	comp=E,12nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**6.65**	**68**	Pn	**Pn**	**16 01 42.6 +2.7**
	comp=E,0.7nm,0.4s,SNR=7.9						
EMOS				Sn	**Sn**	**16 02 53.6 -1.6**
	comp=E,2.4nm,0.2s,SNR=7.9						
EMOS				Lg	Lg	16 03 35.2
	comp=E,34nm,0.7s,SNR=7.9						
EMOS	**Mosqueruela**	**6.65**	**68**	Pn	**Pn**	**16 01 42.6 +2.7**
	comp=E,0.7nm,0.4s,SNR=7.9						
EMOS				Lg	Lg	16 03 35.2
	comp=E,34nm,0.7s,SNR=7.9						
ZFT	**Errachidia**	**6.95**	**149**	*e*P	**Pn**	**16 01 45.0 +0.9**
IUNC	**Unciti**	**7.09**	**47**	Lg	Lg	16 03 49.0
	comp=E,42nm,0.6s,SNR=6.8						
IUNC	**Unciti**	**7.09**	**47**	Lg	Lg	16 03 49.0
	comp=E,42nm,0.6s,SNR=6.8						
ESAC	**San Caprasio**	**7.17**	**57**	Lg	Lg	16 03 51.8
	comp=E,44nm,0.3s,SNR=4.9						
ESAC	**San Caprasio**	**7.17**	**57**	Lg	Lg	16 03 51.8
	comp=E,44nm,0.3s,SNR=4.9						
IZUN	**Zunzarren**	**7.18**	**46**	Sn	**Sn**	**16 03 05.8 -2.5**
	comp=E,3.5nm,0.4s,SNR=4.0						
IEPA	**Eparoz**	**7.24**	**48**	Pn	Pn	16 01 51.6 +3.8
	comp=E,1.9nm,0.3s,SNR=7.9						
IEPA				Sn	**Sn**	**16 03 12.0 +2.3**
	comp=E,6.8nm,0.3s,SNR=7.9						
IEPA				Lg	Lg	16 03 54.2
	comp=E,9.4nm,0.4s,SNR=7.9						
IEPA	**Eparoz**	**7.24**	**48**	Pn	Pn	16 01 51.7 +3.8
	comp=E,1.9nm,0.3s,SNR=7.9						
IEPA				Sn	**Sn**	**16 03 12.0 +2.3**
	comp=E,6.8nm,0.3s,SNR=7.9						
IEPA				Lg	Lg	16 03 54.2
	comp=E,9.4nm,0.4s,SNR=7.9						
EORO	**Oroz-Betelu**	**7.29**	**47**	Pn	**Pn**	**16 01 50.9 +2.3**
	comp=E,1.3nm,0.3s,SNR=7.9						
EORO				Lg	Lg	16 03 55.0
	comp=E,14nm,0.6s,SNR=7.9						
EORO	**Oroz-Betelu**	**7.29**	**47**	Pn	**Pn**	**16 01 50.9 +2.3**
	comp=E,1.3nm,0.3s,SNR=7.9						
EORO				Lg	Lg	16 03 55.0
	comp=E,14nm,0.6s,SNR=7.9						
ERTA	**Horta de San J**	**7.42**	**65**	Sn	**Sn**	**16 03 12.1 -1.8**
	comp=E,3.3nm,0.2s,SNR=7.9						
ERTA				Lg	Lg	16 03 59.5
	comp=E,214nm,2.1s,SNR=7.9						
SJPF	**Ste Jean**	**7.47**	**46**	*e*Pn	**Pn**	**16 01 53.5 +2.4**
SJPF				*e*Sn	**Sn**	**16 03 13.1 -2.2**
SJPF				*e*Sg	**Sg**	**16 04 00.5 -2.2**
	comp=E,22nm,0.5s						
SJPF	**Ste Jean**	**7.47**	**46**	*e*Pn	**Pn**	**16 01 53.5 +2.4**
OSSF	**Osses**	**7.55**	**45**	P	**Pn**	**16 01 54.0 +2.0**
OSSF	**Osses**	**7.55**	**45**	P	**Pn**	**16 01 54.0 +2.0**
ETSF	**Etsaut**	**7.73**	**49**	*e*Pn	**Pn**	**16 01 56.8 +2.2**
ETSF				*e*Sn	**Sn**	**16 03 19.5 -2.2**
ETSF				*e*Sg	Sb	16 04 08.7 +20
	comp=E,9.4nm,0.5s						
ETSF	**Etsaut**	**7.73**	**49**	*e*Pn	**Pn**	**16 01 56.8 +2.2**
EPOB	**Poblet**	**8.08**	**63**	Pn	**Pn**	**16 02 00.3 +0.9**
	comp=E,1.0nm,0.4s,SNR=7.9						
EPOB				Sn	**Sn**	**16 03 27.8 -2.6**
	comp=E,2.4nm,0.3s,SNR=7.9						
EPOB				Lg	Lg	16 04 20.4
	comp=E,180nm,2.6s,SNR=7.9						
EPOB	**Poblet**	**8.08**	**63**	Pn	**Pn**	**16 02 00.3 +0.9**
	comp=E,1.0nm,0.4s,SNR=7.9						
EPOB				Lg	Lg	16 04 20.4
	comp=E,180nm,2.6s,SNR=7.9						
LABF	**Labassere**	**8.20**	**50**	P	**Pn**	**16 02 03.8 +2.8**
LABF	**Labassere**	**8.20**	**50**	P	**Pn**	**16 02 03.8 +2.8**
EPF	**Esparros**	**8.35**	**51**	*e*Pn	**Pn**	**16 02 06.0 +2.9**
EPF				*e*Sn	**Sn**	**16 03 34.7 -2.2**
EPF				*e*Sg	Sb	16 04 27.8 +22
	comp=E,5.3nm,0.3s						
EPF	**Esparros**	**8.35**	**51**	*e*Pn	**Pn**	**16 02 06.0 +2.9**
CSOR	**Sort**	**8.53**	**57**	Pn	**Pn**	**16 02 07.3 +1.7**
	comp=E,0.2nm,0.2s,SNR=7.9						
CSOR				Sn	**Sn**	**16 03 38.3 -3.1**
	comp=E,2.3nm,0.4s,SNR=7.9						
CSOR	**Sort**	**8.53**	**57**	Pn	**Pn**	**16 02 07.3 +1.7**
	comp=E,0.2nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**8.60**	**61**	Pn	**Pn**	**16 02 08.3 +1.7**
	comp=E,0.3nm,0.1s,SNR=7.9						
EMIR				Sn	**Sn**	**16 03 40.0 -3.1**
	comp=E,1.7nm,0.2s,SNR=7.9						
EMIR				Lg	Lg	16 04 36.6
	comp=E,4.7nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**8.60**	**61**	Pn	**Pn**	**16 02 08.3 +1.7**
	comp=E,0.3nm,0.1s,SNR=7.9						
EMIR				Lg	Lg	16 04 36.6
	comp=E,4.7nm,0.3s,SNR=7.9						
CLLI	**Llivia**	**9.13**	**58**	Pn	**Pn**	**16 02 15.7 +1.8**
	comp=E,0.8nm,0.3s,SNR=7.9						
CLLI				Sn	**Sn**	**16 03 52.7 -3.6**
	comp=E,1.6nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**9.13**	**58**	Pn	**Pn**	**16 02 15.7 +1.8**
	comp=E,0.8nm,0.3s,SNR=7.9						
CFON	**Fontmartina**	**9.18**	**63**	Pn	**Pn**	**16 02 16.2 +1.7**
	comp=E,3.3nm,0.5s,SNR=7.0						
CFON				Sn	**Sn**	**16 03 53.9 -3.4**
	comp=E,2.3nm,0.2s,SNR=7.9						
CFON	**Fontmartina**	**9.18**	**63**	Pn	**Pn**	**16 02 16.2 +1.7**
	comp=E,3.3nm,0.5s,SNR=7.0						
RJF	**Les Rejaudoux**	**10.39**	**43**	*e*Pn	**Pn**	**16 02 31.6 +0.6**
RJF	**Les Rejaudoux**	**10.39**	**43**	*e*Pn	**Pn**	**16 02 31.6 +0.6**
CAF	**Calviac**	**10.46**	**46**	*e*Pn	**Pn**	**16 02 32.2 +0.2**
CAF	**Calviac**	**10.46**	**46**	*e*Pn	**Pn**	**16 02 32.2 +0.2**
MFF	**Saint Martin d**	**10.51**	**33**	*e*Pn	**Pn**	**16 02 33.3 +0.7**
MFF	**Saint Martin d**	**10.51**	**33**	*e*Pn	**Pn**	**16 02 33.3 +0.7**
QUIF	**Quistinic**	**10.56**	**20**	*e*Pn	**Pn**	**16 02 33.1 -0.2**
QUIF	**Quistinic**	**10.56**	**20**	*e*P	Pn	16 02 38.8 +5.5
QUIF	**Quistinic**	**10.56**	**20**	*e*Pn	**Pn**	**16 02 33.1 -0.2**
TCF	**Toulx Ste Croi**	**11.41**	**41**	*e*Pn	**Pn**	**16 02 44.7 -0.2**
TCF	**Toulx Ste Croi**	**11.41**	**41**	*e*Pn	**Pn**	**16 02 44.7 -0.2**
SSF	**Saint Saulge**	**12.59**	**41**	*e*Pn	**Pn**	**16 03 00.7 -0.3**
SSF	**Saint Saulge**	**12.59**	**41**	*e*Pn	**Pn**	**16 03 00.7 -0.3**

IDC 17 16:02:17.7±1.8,4°33N×126°98E,h0km,mb3.5/5, mb1 3.6/5,mb1mx3.4/20,mbtmp3.5/5,Error ellipse: s-maj=173.1km s-min=20.9km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.18**	**164**	P	P	16 07 45.5	+0.4
	0.8nm,0.8s,baz=344,slow=10,SNR=10						
ASAR	**Alice Springs**	**28.63**	**167**	P	P	16 08 15.3	-0.8
	0.1nm,0.5s,baz=344,slow=7.6,SNR=3.3						
STKA	**Stephens Creek**	**38.60**	**160**	P	P	16 09 42.8	+0.1
	1.2nm,0.8s,baz=332,slow=15,SNR=2.6						
MKAR	**Makanchi Array**	**57.21**	**325**	P	P	16 12 07.0	+0.2
	0.2nm,0.5s,baz=118,slow=8.2,SNR=5.2						
KURBB	**Kurchatov Arra**	**61.38**	**327**	P	P	16 12 35.2	-0.3
	0.3nm,0.5s,baz=128,slow=6.1,SNR=5.1						

IDC 17 16:03:56.1±2.2,18°87N×145°59E,h241km±22km, mb3.3/15,mb1 3.5/16,mb1mx3.4/25,mbtmp3.3/16,Error ellipse: s-maj=21.8km s-min=12.5km az=85.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.30**	**188**	P	Pn	16 05 16.3	+0.8
	2.8nm,0.3s,baz=14,slow=20,SNR=2.3						
GUMO				S	S	16 06 18.1	-0.5
	6.8nm,0.3s,baz=358,slow=20,SNR=4.2						
WRA	**Warramunga Arr**	**40.12**	**197**	P	P

STKA	**Stephens Creek**	**37.61**	**159**	P	P	16 35 09.9	+0.3
	1.3nm,0.7s,baz=336,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**58.04**	**325**	P	P	16 37 48.8	+0.9
	0.3nm,0.7s,baz=122,slow=8.2,SNR=4.3						
KURBB	**Kurchatov Array**	**62.23**	**327**	P	P	16 38 15.7	-0.9
	0.4nm,0.6s,baz=123,slow=6.2,SNR=7.0						

BJI **17** *16:39:54.6,36.°70N×70.°96E,h201km,mB4.7/6,mb4.2/10*
ISCJB **17** *16:39:55.5±0.3,36.°58N±0.°02×71.°10E±0.°04,h213km±3km, mb4.0/39, Error ellipse: s-maj=5.4km s-min=3.1km az=162.4*
MOS **17** *16:39:55.9±0.9,36.°61N×71.°03E,h215km,mb4.3/28, Error ellipse: s-maj=10.0km s-min=5.3km az=89.8*
NEIC **17** *16:39:57.9±0.3,36.°63N×71.°10E,mb4.6/13, Error ellipse: s-maj=8.0km s-min=6.8km az=91.0*
IDC **17** *16:39:57.9±0.6,36.°53N×71.°10E,h224km±5km,mb3.8/24, mb1 3.9/30,mb1mx3.8/37,mbtmp3.8/30, Error ellipse: s-maj=10.2km s-min=8.0km az=42.0*
NNC **17** *16:40:02.6±3.6,37.°22N×70.°60E,h164km±46km,mb3.5, mpv4.5, Error ellipse: s-maj=29.7km s-min=21.7km az=26.0*

ISC 17 16:39:57.7±0.4, 36.°59N±0.°04×71.°11E±0.°04, h221km±3km, h221km:pP-P,n166,σ1§53/218,mb4.2/39,17C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**2.65**	**220**	*e*PN		**Pn**	**16 40 43.5**	**-1.3**
KBL				*e*S		**S**	**16 41 19.2**	**-2.3**
KBL	**Kabul**	**2.65**	**220**	*e*Pn		**Pn**	**16 40 43.5**	**-1.3**
KBL				*e*S		**S**	**16 41 19.2**	**-2.3**
CEP	**Cherat**	**2.83**	**166**	⇓P		**Pn**	**16 40 46.5**	**-0.3**
CEP				S		**S**	**16 41 21.0**	**-4.1**
CHCP	**Chirah Chowk**	**3.41**	**148**	⇓P		**Pn**	**16 40 53.5**	**+0.2**
KSH	**Kashi**	**4.82**	**51**	P		Pn	16 41 04.8	-5.7
KSH				S		S	16 41 51.4	-17
KSH				smax		smax		
	comp=N,660nm,0.4s							
KSH				smax		smax		
	comp=E,580nm,0.3s							
SARP	**Sargodha**	**4.83**	**164**	P		**Pn**	**16 41 09.9**	**-0.6**
THN	**Thein Dam**	**5.62**	**136**	*e*PKP		**Pn**	**16 41 18.6**	**-1.9**
THN				*e*S		**S**	**16 42 21.8**	**-4.2**
DLH	**Dalhousie**	**5.69**	**134**	*e*PKP		**Pn**	**16 41 20.0**	**-1.5**
DLH				*e*S		**S**	**16 42 23.0**	**-4.9**
AML	**Almayashu**	**5.89**	**19**	P		**Pn**	**16 41 22.7**	**-1.4**
	SNR=150							
UCH	**Uchtor**	**6.22**	**24**	P		**Pn**	**16 41 27.6**	**-0.8**
	SNR=10.0							
KZA	**Kyzart**	**6.35**	**29**	P		**Pn**	**16 41 28.5**	**-1.6**
	SNR=16							
EKS2	**Erkin-Say**	**6.41**	**18**	*e*PN		**Pn**	**16 41 29.6**	**-0.9**
EKS2				pmax		pmax		
	comp=Z,21nm,0.5s							
EKS2	**Erkin-Say**	**6.41**	**18**	*e*Pn		**Pn**	**16 41 29.6**	**-0.9**
	comp=Z,21nm,0.5s							
EKS2	**Erkin-Say**	**6.41**	**18**	P		**Pn**	**16 41 29.6**	**-0.9**
	SNR=40							
KK31	**Karatay Array**	**6.53**	**356**	⇑Pn		**Pn**	**16 41 29.8**	**-2.1**
	comp=Z,8.1nm,0.2s,baz=177,slow=12,SNR=338							
KK31				⇑Sn		S	16 42 36.1	-11
	comp=Z,64nm,0.4s,baz=186,slow=22,SNR=15							
KK31	**Karatay Array**	**6.53**	**356**	*e*PN		**Pn**	**16 41 29.9**	**-2.0**
KK31				pmax		pmax		
	comp=Z,34nm,0.2s							
KKAR	**Karatay Array**	**6.53**	**356**	*e*PN		**Pn**	**16 41 30.0**	**-1.9**
KKAR				pmax		pmax		
	comp=Z,41nm,0.3s							
KKAR	**Karatay Array**	**6.53**	**356**	*e*P		**Pn**	**16 41 29.9**	**-1.9**
	comp=Z,41nm,0.3s							
KKAR				*e*S		S	16 42 35.6	-11
AAK	**Ala-Archa**	**6.58**	**22**	PN		**Pn**	**16 41 31.8**	**-0.9**
AAK				S		**S**	**16 42 45.2**	**-3.2**
AAK				pmax		pmax		
	comp=Z,8.0nm,0.3s							
AAK				smax		smax		
	comp=N,12nm,0.3s							
AAK	**Ala-Archa**	**6.58**	**22**	P		**Pn**	**16 41 31.8**	**-0.9**
AAK				S		**S**	**16 42 45.2**	**-3.2**
AAK	**Ala-Archa**	**6.58**	**22**	P		**Pn**	**16 41 32.1**	**-0.6**
	SNR=24							
AAK	**Ala-Archa**	**6.58**	**22**	P		**Pn**	**16 41 31.8**	**-0.9**
	comp=N,7.6nm,0.3s,baz=180,slow=5.5,SNR=131							
AAK				S		**S**	**16 42 45.2**	**-3.2**
	comp=N,12nm,0.3s,baz=299,slow=22,SNR=18							
KBK	**Karagaybulak**	**6.75**	**25**	P		**Pn**	**16 41 34.6**	**-0.3**
	SNR=20							
BHK	**Bhakra**	**6.78**	**138**	*e*PKP		**Pn**	**16 41 33.6**	**-1.7**
BHK				*ex*		x	16 42 37.6	
ULHL	**Ulahol**	**6.91**	**34**	P		**Pn**	**16 41 35.9**	**-1.1**
	SNR=41							
CHMS	**Chumysh**	**6.99**	**23**	P		**Pn**	**16 41 37.1**	**-0.7**
	SNR=13							
SDNR	**Sundarnagar**	**7.03**	**135**	*e*PKP		**Pn**	**16 41 36.6**	**-1.9**
SDNR				*ex*		Sn	16 42 51.6	
USP	**Ospenovka**	**7.16**	**20**	P		**Pn**	**16 41 39.1**	**-1.0**
	SNR=11							
TKM2	**Tokmak 2**	**7.21**	**27**	⇑Pn		**Pn**	**16 41 40.3**	**-0.5**
	comp=N,41nm,0.8s							
TKM2				⇓Sn		**S**	**16 42 59.9**	**-3.2**
	comp=N,28nm,0.6s							
TKM2	**Tokmak 2**	**7.21**	**27**	*i* PN		**Pn**	**16 41 40.0**	**-0.8**
TKM2	**Tokmak 2**	**7.21**	**27**	*e*P		**Pn**	**16 41 39.9**	**-1.0**
	comp=N,30nm,0.4s							
TKM2	**Tokmak 2**	**7.21**	**27**	P		**Pn**	**16 41 40.0**	**-0.8**
	SNR=48							
SMLA	**Simla**	**7.42**	**135**	*i* P		**Pn**	**16 41 42.8**	**-0.6**
SMLA				*i* S		**S**	**16 43 02.7**	**-5.1**
SMLA				*i* S		S	16 43 02.8	-5.1
SMLA				AML		AML	16 43 07.5	
	comp=E,2μm,0.4s							
SMLA				⇓AML		AML	16 43 08.0	
	comp=N,2μm,0.4s							
KNDC	**Almaty**	**8.00**	**32**	⇓Pn		**Pn**	**16 41 51.0**	**+0.1**
	comp=N,40nm,1.0s							
KNDC				⇓Sn		**S**	**16 43 18.7**	**-2.8**
	comp=N,57nm,0.7s							
DDI	**Dehra Dun**	**8.52**	**135**	*e*PKP		**Pn**	**16 41 55.0**	**-2.7**
DDI				*ex*		x	16 43 33.0	
PTH	**Pithoragarh**	**10.37**	**130**	*ex*		Pn	16 42 18.0	-3.5
PTH				*e*S		S	16 44 12.0	-5.9
AJM	**Ajmer**	**10.52**	**162**	*e*PKP		**Pn**	**16 42 21.0**	**-2.3**
AJM				*e*S		S	16 44 12.0	-9.2
MK31	**Makanchi Array**	**13.17**	**36**	P		**Pn**	**16 42 55.6**	**-0.8**
MK31				pmax		pmax		
	comp=Z,2.0nm,0.3s							
MK31	**Makanchi Array**	**13.17**	**36**	*e*P		**Pn**	**16 42 55.3**	**-1.1**
MKAR	**Makanchi Array**	**13.17**	**36**	P		**Pn**	**16 42 55.2**	**-1.2**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**13.17**	**36**	P		**Pn**	**16 42 55.2**	**-1.2**
MKAR				S		**S**	**16 45 26.2**	**+4.2**
MKAR	**Makanchi Array**	**13.17**	**36**	P		**Pn**	**16 42 55.2**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=224,slow=13,SNR=28							
MKAR				S		**S**	**16 45 26.2**	**+4.2**
	baz=218,slow=7.7,SNR=2.1							
DANN	**Dangsing**	**13.46**	**124**	*e*P		**Pn**	**16 42 59.0**	**-1.5**
	comp=Z,125nm,0.4s							
KOLN	**Koldanda**	**13.74**	**126**	*e*P		**Pn**	**16 43 02.5**	**-1.4**
	comp=Z,98nm,0.3s							
GKN	**Gorkha**	**14.28**	**123**	*e*P		**Pn**	**16 43 09.4**	**-1.0**
	comp=Z,172nm,0.3s							
DMN	**Daman**	**14.85**	**123**	*e*P		**Pn**	**16 43 16.8**	**-0.6**
KKN	**Kakani**	**14.85**	**122**	*e*P		**Pn**	**16 43 16.6**	**-0.8**
	comp=Z,155nm,0.5s							
KURBB	**Kurchatov Arra**	**15.01**	**19**	P		**Pn**	**16 43 17.6**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=206,slow=11,SNR=36							
KURBB				S		**S**	**16 46 06.0**	**+1.3**
	baz=210,slow=19,SNR=4.0							
AB31	**Akbulak array**	**15.05**	**331**	⇑Pn		**Pn**	**16 43 18.3**	**-1.1**
	comp=Z,12nm,0.5s,baz=144,slow=12							
AB31				⇓Sn		S	16 45 58.0	-7.7
	comp=Z,4.3nm,0.4s,baz=150,slow=22							
AB31	**Akbulak array**	**15.05**	**331**	P		**Pn**	**16 43 16.9**	**-2.5**
AB31				S		S	16 45 58.2	-7.5
AB31				pmax		pmax		
	comp=Z,14nm,0.4s							
AB31				smax		smax		
	comp=Z,17nm,0.8s							
ABKAR	**Akbulak array**	**15.05**	**331**	*e*P		**Pn**	**16 43 17.3**	**-2.1**
	comp=Z,23nm,0.5s							
PKI	**Pulchoki**	**15.07**	**123**	*e*P		**Pn**	**16 43 19.5**	**-0.8**
	comp=Z,85nm,0.3s							
KURK	**Kurchatov**	**15.12**	**19**	⇑Pn		**Pn**	**16 43 19.9**	**-0.3**
	comp=Z,3.0nm,0.6s							
KURK	**Kurchatov**	**15.12**	**19**	*c iP*		**Pn**	**16 43 19.9**	**-0.3**
KURK				pmax		pmax		
	comp=Z,8.0nm,1.7s							
KURK	**Kurchatov**	**15.12**	**19**	P		**Pn**	**16 43 17.6**	**-2.6**
KURK				S		**S**	**16 46 06.0**	**-1.2**
GUN	**Gumba**	**15.18**	**121**	*e*P		**Pn**	**16 43 21.0**	**-0.6**
	comp=Z,162nm,0.4s							
JIRN	**Jiri**	**15.55**	**121**	*e*P		**P**	**16 43 25.7**	**0.0**
	comp=Z,102nm,0.4s							
VOSK	**Vostochnaya**	**16.14**	**360**	⇑Pn		**P**	**16 43 31.2**	**-0.3**
	comp=Z,3.6nm,0.7s							
VOSK				⇑Sn		**S**	**16 46 27.6**	**-1.8**
	comp=Z,11nm,1.4s							
RAMN	**Ramite**	**16.28**	**122**	*e*P		**P**	**16 43 34.3**	**+0.6**
	comp=Z,98nm,0.4s							
ZRNK	**Zerenda**	**16.43**	**355**	⇑Pn		**P**	**16 43 34.3**	**-0.4**
	comp=Z,2.4nm,0.5s							
ZRNK				⇑Sn		**S**	**16 46 34.6**	**-0.6**
	comp=Z,11nm,1.5s							
BVA0	**Borovoye Array**	**16.45**	**358**	Pn		**P**	**16 43 34.7**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=166,slow=10,SNR=27							
BVA0				⇑Sn		**S**	**16 46 35.3**	**-0.3**
	comp=Z,2.1nm,1.3s,baz=170,slow=23,SNR=6.0							
BVA0	**Borovoye Array**	**16.45**	**358**	*e*P		**Pn**	**16 43 35.6**	**-0.5**
BVAR	**Borovoye Array**	**16.45**	**358**	P		**P**	**16 43 34.9**	**0.0**
BVAR				S		**S**	**16 46 34.9**	**-0.7**
BVAR				pmax		pmax		
	comp=Z,2.0nm,0.3s							
BVAR				smax		smax		
	comp=N,1.0nm,0.3s							
BVAR	**Borovoye Array**	**16.45**	**358**	P		**P**	**16 43 34.9**	**0.0**
BVAR				S		**S**	**16 46 34.9**	**-0.7**
BVAR	**Borovoye Array**	**16.45**	**358**	P		**P**	**16 43 34.9**	**0.0**
	comp=N,1.5nm,0.3s,baz=174,slow=13,SNR=18							
BVAR				S		**S**	**16 46 34.9**	**-0.7**
	comp=N,0.6nm,0.3s,baz=167,slow=21,SNR=3.9							
BRVK	**Borovoye**	**16.48**	**358**	⇓Pn		**P**	**16 43 34.8**	**-0.4**
	comp=N,9.8nm,1.1s							
BRVK				⇓Sn		**S**	**16 46 35.9**	**-0.3**
	comp=N,17nm,1.2s							
BRVK	**Borovoye**	**16.48**	**358**	⇑*e*P		**P**	**16 43 35.5**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,7.0nm,1.2s							
BRVK	**Borovoye**	**16.48**	**358**	*e*P		**P**	**16 43 34.8**	**-0.4**
	comp=Z,4.4nm,0.4s							
AKTO	**Aktyubinsk**	**16.75**	**330**	⇓Pn		**P**	**16 43 38.7**	**+0.5**
	comp=Z,2.9nm,0.6s							
AKTO				⇑Sn		**S**	**16 46 38.7**	**-2.9**
	comp=Z,4.1nm,1.4s							
AKTO	**Aktyubinsk**	**16.75**	**330**	P		**P**	**16 43 38.8**	**+0.5**
AKTO				S		**S**	**16 46 39.7**	**-2.0**
AKTO				pmax		pmax		
	comp=Z,4.0nm,0.3s							
AKTO	**Aktyubinsk**	**16.75**	**330**	P		**P**	**16 43 38.8**	**+0.5**
AKTO				S		**S**	**16 46 39.6**	**-2.0**
AKTO	**Aktyubinsk**	**16.75**	**330**	P		**P**	**16 43 38.8**	**+0.5**
	comp=Z,3.6nm,0.3s,baz=142,slow=9.5,SNR=52							
AKTO				S		**S**	**16 46 39.7**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=15,slow=18,SNR=3.7							
TAPN	**Taplejung**	**16.81**	**119**	*e*P		**Pn**	**16 43 41.3**	**+0.4**
	comp=Z,79nm,0.3s							
NGP	**Nagpur**	**16.87**	**154**	*e*PKP		**P**	**16 43 37.8**	**-2.0**
NGP				*e*S		**S**	**16 46 43.2**	**-1.3**
ODAN	**Odare**	**16.89**	**120**	*e*P		**Pn**	**16 43 41.9**	**+0.1**
	comp=Z,87nm,0.5s							
LSA	**Lhasa**	**18.12**	**107**	P		**Pn**	**16 43 57.6**	**+1.1**
LSA				pmax		pmax		
	comp=Z,10.0nm,0.7s							
LSA	**Lhasa**	**18.12**	**107**	*e*P		**Pn**	**16 43 57.0**	**+0.5**
LSA				pmax		pmax		
	comp=Z,10.0nm,0.4s							
LSA	**Lhasa**	**18.12**	**107**	*e*P		**Pn**	**16 43 57.0**	**+0.5**
	comp=Z,10nm,0.4s							
ZAA0	**Zalesovo Array**	**19.80**	**24**	*e*P		**P**	**16 44 10.7**	**-0.4**
ZALV	**Zalesovo Beam**	**19.80**	**24**	P		**P**	**16 44 10.8**	**-0.4**
ZALV				pmax		pmax		
	comp=Z,6.0nm,0.3s							
ZALV	**Zalesovo Beam**	**19.80**	**24**	P		**P**	**16 44 10.8**	**-0.4**
ZALV	**Zalesovo Beam**	**19.80**	**24**	P		**P**	**16 44 10.8**	**-0.4**
	comp=Z,6.3nm,0.3s,baz=220,slow=12,SNR=76							
NVS	**Novosibirsk**	**20.07**	**21**	*e*P		**P**	**16 44 12.5**	**-1.5**
NVS				*e*S		**S**	**16 47 42.7**	**-4.2**
NVS				pmax		pmax		
	comp=N,8.0nm,0.7s							
NVS				pmax		pmax		
	comp=Z,10.0nm,0.7s							
NVS				smax		smax		
	comp=E,14nm,1.2s							
HYB	**Hyderabad**	**20.20**	**159**	*i* P		**P**	**16 44 18.0**	**+2.2**
SHL	**Shillong**	**20.86**	**116**	*ex*		Pn	16 44 27.0	-2.3
SHL				*e*S		**S**	**16 48 03.0**	**+0.5**
ARU	**Arti**	**21.58**	**341**	*c iP*		**P**	**16 44 28.7**	**-1.0**
ARU							16 45 01.1	
ARU				S		**S**	**16 48 12.6**	**-0.8**
ARU				pmax		pmax		
	comp=Z,12nm,1.7s							
ARU	**Arti**	**21.58**	**341**	*e*P		**P**	**16 44 30.1**	**+0.4**
	comp=Z,5.0nm,0.7s							
GTA	**Gaotai**	**22.75**	**74**	*e*P		**P**	**16 44 43.3**	**+2.3**
GTA				pmax		pmax		
	comp=Z,5.0nm,1.2s							
KIV	**Kislovodsk**	**22.83**	**298**	*e*P		**P**	**16 44 39.6**	**-2.0**
KIV				pmax		pmax		
	comp=Z,7.0nm,0.9s							
KIV				MLR		MLR		
	comp=Z,23nm,14.0s							
ZAK	**Zakamensk**	**26.86**	**49**	*e*P		**P**	**16 45 18.8**	**+0.9**
ZAK				*e*			16 46 06.1	
ZAK				pmax		pmax		
	comp=Z,1.0nm,1.0s							
VSR	**Storozhevoye**	**27.01**	**313**	*e*P		**P**	**16 45 19.0**	**0.0**
VSR				*e**PP		**pP**	**16 45 59.6**	**-3.4**
VSR				pmax		pmax		
	comp=Z,7.0nm,1.0s							
VSR				pmax		pmax		
	comp=N,5.0nm,0.5s							
VSR				pmax		pmax		
	comp=E,7.0nm,1.0s							
SONM	**Songino Array**	**28.21**	**55**	P		**P**	**16 45 31.5**	**+1.6**
SONM				pP		**pP**	**16 46 17.1**	**+2.9**
SONM	**Songino Array**	**28.21**	**55**	P		**P**	**16 45 31.5**	**+1.6**
	comp=E,3.2nm,0.8s,baz=271,slow=9.2,SNR=14							
SONM				pP		**pP**	**16 46 17.1**	**+2.9**
	comp=E,1.1nm,0.9s,baz=269,slow=8.9,SNR=2.7							
BRTR	**Keskin Array B**	**29.49**	**288**	P		**P**	**16 45 43.2**	**+1.9**
BRTR				pP		**pP**	**16 46 27.4**	**+1.5**
BRTR	**Keskin Array B**	**29.49**	**288**	P		**P**	**16 45 43.2**	**+1.9**
	comp=E,0.9nm,0.6s,baz=98,slow=0.9,SNR=7.6							
BRTR				pP		**pP**	**16 46 27.4**	**+1.5**
	comp=E,0.8nm,0.7s,baz=95,slow=8.0,SNR=2.2							
OBN	**Obninsk**	**29.93**	**319**	⇑*e*P		**P**	**16 45 44.6**	**-0.2**
OBN				*i* *PP		**pP**	**16 46 32.6**	**+3.3**
OBN				pmax		pmax		
	comp=Z,7.0nm,1.0s							
CMAR	**Chiang Mai Arr**	**30.42**	**119**	P		**P**	**16 45 51.1**	**+1.6**
CMAR				pP		**pP**	**16 46 37.0**	**+2.8**
CMAR				PcP		**PcP**	**16 48 41.5**	**-1.9**
CMAR	**Chiang Mai Arr**	**30.42**	**119**	P		**P**	**16 45 51.1**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=302,slow=8.5,SNR=11							
CMAR				pP		**pP**	**16 46 37.0**	**+2.8**
	comp=Z,1.7nm,0.8s,baz=313,slow=10,SNR=3.5							
CMAR				PcP		**PcP**	**16 48 41.5**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=287,slow=4.8,SNR=5.1							
AKASG	**Malin Array Be**	**32.96**	**309**	P		**P**	**16 46 11.4**	**0.0**
AKASG				*PP		**pP**	**16 46 58.1**	**+1.9**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.4s							
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**32.96**	**309**	P		**P**	**16 46 11.4**	**0.0**
AKASG				pP		**pP**	**16 46 58.1**	**+1.9**
AKASG	**Malin Array Be**	**32.96**	**309**	P		**P**	**16 46 11.4**	**0.0**
	comp=Z,0.9nm,0.4s,baz=82,slow=7.2,SNR=5.5							
AKASG				pP		**pP**	**16 46 58.1**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=80,slow=7.4,SNR=2.1							
MLR	**Muntele Rosu**	**34.82**	**299**	P		**P**	**16 46 28.6**	**+1.1**
MLR	**Muntele Rosu**	**34.82**	**299**	P		**P**	**16 46 28.6**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=265,slow=14,SNR=5.5							
JOF	**Joensuu**	**35.84**	**330**	*e*P		**P**	**16 46 36.0**	**+0.2**
JOF				pmax		pmax		
	comp=Z,6.0nm,0.5s							
JOF	**Joensuu**	**35.84**	**330**	*e*p		**P**	**16 46 36.0**	**+0.2**
	comp=Z,6.1nm,0.5s							
FINES	**FINESS Array B**	**37.46**	**326**	P		**P**	**16 46 50.1**	**+0.6**
FINES	**FINESS Array B**	**37.46**	**326**	P		**P**	**16 46 50.1**	**+0.6**
	comp=Z,4.2nm,0.5s,baz=113,slow=9.2,SNR=34							
KAF	**Kangasniemi**	**37.60**	**327**	*e*P		**P**	**16 46 50.2**	**-0.5**
KAF				pmax		pmax		
	comp=Z,2.0nm,0.5s							
KAF	**Kangasniemi**	**37.60**	**327**	*e*p		**P**	**16 46 50.2**	**-0.5**
	comp=Z,1.6nm,0.5s							
KEV	**Kevo**	**40.75**	**338**	*e*P		**P**	**16 47 16.3**	**-0.3**
KEV				pmax		pmax		
	comp=Z,3.0nm,0.5s							
KEV	**Kevo**	**40.75**	**338**	*e*p		**P**	**16 47 16.3**	**-0.3**
	comp=Z,3.3nm,0.5s							
ARCES	**ARCESS Array B**	**41.10**	**338**	P		**P**	**16 47 20.3**	**+0.8**
ARCES	**ARCESS Array B**	**41.10**	**338**	P		**P**	**16 47 20.3**	**+0.8**
	comp=Z,5.1nm,0.5s,baz=114,slow=8.5,SNR=46							
PSI	**Prapat**	**42.28**	**136**	P		**P**	**16 47 30.3**	**+0.5**
PSI	**Prapat**	**42.28**	**136**	P		**P**	**16 47 30.3**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=342,slow=8.2,SNR=3.3							
HFS	**Hagfors**	**43.05**	**322**	P		**P**	**16 47 35.7**	**+0.4**
HFS				pP		**pP**	**16 48 21.5**	**-0.7**
HFS	**Hagfors**	**43.05**	**322**	P		**P**	**16 47 35.7**	**+0.4**
	comp=Z,11nm,0.5s,baz=98,slow=11,SNR=48							
HFS				pP		**pP**	**16 48 21.5**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=103,slow=11,SNR=1.5							
YAK	**Yakutsk**	**43.84**	**36**	*e*P		**P**	**16 47 41.4**	**-0.2**
YAK				pmax		pmax		
	comp=Z,17nm,0.7s							
YAK	**Yakutsk**	**43.84**	**36**	*e*P		**P**	**16 47 41.4**	**-0.2**
	comp=Z,17nm,0.7s							
NB2	**NORSAR Subarra**	**44.37**	**323**	P		**P**	**16 47 45.3**	**-0.5**
	comp=Z,7.2nm,0.6s,baz=96,slow=7.9							
NOA	**NORSAR Array B**	**44.37**	**323**	P		**P**	**16 47 45.9**	**0.0**
NOA				pP		**pP**	**16 48 32.6**	**-0.3**
NOA	**NORSAR Array B**	**44.37**	**323**	P		**P**	**16 47 45.9**	**0.0**
	comp=Z,6.6nm,0.6s,baz=96,slow=7.7,SNR=22							
NOA				pP		**pP**	**16 48 32.6**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=96,slow=8.0,SNR=2.1							
KSAR	**Wonju Array Be**	**44.74**	**71**	P		**P**	**16 47 50.4**	**+1.3**
KSRS	**Korea Array**	**44.77**	**71**	P		**P**	**16 47 50.4**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=278,slow=6.8,SNR=4.6							
SPITS	**Spitsbergen Ar**	**47.43**	**347**	P		**P**	**16 48 11.1**	**+1.7**
SPITS	**Spitsbergen Ar**	**47.43**	**347**	P		**P**	**16 48 11.1**	**+1.7**
	comp=Z,2.3nm,0.4s,baz=131,slow=10,SNR=16							
SEY	**Seymchan**	**54.30**	**34**	⇑*e*P		**P**	**16 49 02.3**	**+1.6**
ESDC	**Sonseca Array**	**57.50**	**298**	P		**P**	**16 49 24.3**	**+0.5**
ESDC	**Sonseca Array**	**57.50**	**298**	P		**P**	**16 49 24.3**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=67,slow=6.8,SNR=2.6							
BILL	**Bilibino**	**58.49**	**26**	⇑*e*P		**P**	**16 49 31.0**	**+0.8**
BILL				pmax		pmax		
	comp=Z,13nm,1.4s							
BILL	**Bilibino**	**58.49**	**26**	*e*P		**P**	**16 49 31.2**	**+1.0**
	comp=Z,261nm,2.8s							
LSZ	**Lusaka**	**65.58**	**226**	*e*P		**P**	**16 50 18.7**	**+0.6**
	comp=Z,4.1nm,0.7s							
TORD	**Torodi Ar. Bea**	**65.81**	**269**	P		**P**	**16 50 17.9**	**-1.6**
TORD	**Torodi Ar. Bea**	**65.81**	**269**	P		**P**	**16 50 17.9**	**-1.6**
	comp=Z,3.6nm,0.5s,baz=45,slow=5.8,SNR=23							
RES	**Resolute Bay**	**68.62**	**356**	P		**P**	**16 50 36.7**	**+0.6**
RES	**Resolute Bay**	**68.62**	**356**	P		**P**	**16 50 36.7**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=354,slow=4.1,SNR=4.3							
MBWA	**Marble Bar**	**73.52**	**133**	*e*P		**P**	**16 51 06.6**	**+0.3**
	comp=Z,4.5nm,0.5s							
INK	**Inuvik**	**73.80**	**9**	*e*P		**P**	**16 51 08.2**	**+1.0**
	comp=Z,8.3nm,0.5s							
COLA	**College**	**74.37**	**16**	*e*P		**P**	**16 51 11.6**	**+1.0**
COLA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
COLA	**College**	**74.37**	**16**	*e*P		**P**	**16 51 11.6**	**+1.0**
	comp=Z,7.3nm,0.8s							
ILAR	**Eielson Array**	**74.67**	**16**	P		**P**	**16 51 12.2**	**-0.1**
ILAR				pP		**pP**	**16 52 04.6**	**-0.1**
ILAR	**Eielson Array**	**74.67**	**16**	P		**P**	**16 51 12.2**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=304,slow=4.7,SNR=38							
ILAR				pP		**pP**	**16 52 04.6**	**-0.1**
	comp=Z,1.4nm,1.1s,baz=234,slow=4.8,SNR=3.1							
DBIC	**Dimbokro**	**74.79**	**267**	P		**P**	**16 51 12.7**	**-1.2**
DBIC	**Dimbokro**	**74.79**	**267**	P		**P**	**16 51 12.7**	**-1.2**
	comp=Z,1.5nm,0.5s,baz=30,slow=6.5,SNR=5.1				

δ33.00000°,λ78.00000°. **Principal axes:** T Plg76.0000°, Azm198.0000°; N Plg7.0000°, Azm79.0000°; P Plg12.0000°, Azm348.0000°; **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYN	**Shimob**	**0.08**	**357**	⇑P	Pg	16 44 29.2	-0.3
JYN				S	Sg	16 44 32.1	+0.1
SHZ3	**Shizuoka 3**	**0.45**	**218**	⇓P	Pg	16 44 34.4	-0.6
SHZ3				S	Sg	16 44 41.1	-0.2
JOD2	**Odawara 2**	**0.47**	**109**	⇓P	Pg	16 44 35.0	-0.3
JOD2				S	Sg	16 44 41.6	-0.1
JNY	**Yasuok**	**0.57**	**264**	⇓P	Pb	16 44 36.6	-0.4
JNY				S	Sb	16 44 44.7	-0.1
JRY	**Ryogami san**	**0.66**	**26**	⇓P	Pb	16 44 38.2	-0.4
JRY				S	Sb	16 44 47.2	-0.3
JIZS	**Izushimoda**	**0.75**	**159**	⇓P	Pb	16 44 39.2	-1.0
JIM2	**Oshima 3**	**1.01**	**134**	P	Pb	16 44 43.9	-0.7
MAT	**Matsushiro**	**1.15**	**346**	⇓P	Pn	16 44 46.4	-0.5
MAT				S	Sb	16 45 01.8	+0.1

IDC 17 16:47:26.3±4.3, 21°.26S×175°.76W, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/19, mbtmp3.9/5 Error ellipse: s-maj=172.3km s-min=37.6km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.50**	**265**	P	P	16 54 26.5	+1.5
	6.2nm,1.1s,baz=102,slow=9.3,SNR=4.6						
STKA	**Stephens Creek**	**39.36**	**245**	P	P	16 54 57.8	+0.2
	0.6nm,0.5s,baz=79,slow=10,SNR=2.8						
ASAR	**Alice Springs**	**46.38**	**257**	P	P	16 55 54.2	-0.6
	1.5nm,0.8s,baz=97,slow=8.3,SNR=18						
WRA	**Warramunga Arr**	**46.57**	**262**	P	P	16 55 55.4	-0.9
	0.7nm,0.3s,baz=96,slow=7.6,SNR=37						
ILAR	**Eielson Array**	**88.60**	**12**	P	P	17 00 20.7	+0.1
	0.5nm,0.9s,baz=199,slow=4.1,SNR=4.1						

TAP 17 16:53:03.6, 22°.82N×120°.67E, h27km, ML3.5, 7C-5D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	**Sandimen**	**0.08**	**209**	⇓*i*P	Pb	16 53 08.9	+0.5
	baz=204						
SSD				*e*S	Sb	16 53 12.3	+0.6
	baz=204						
SGLT	**Jiouru**	**0.19**	**242**	*e*P	Pn	16 53 10.5	-0.2
	baz=241						
SGLT				*e*S	Sb	16 53 16.9	+3.5
	baz=241						
TWM1	**Shoushan**	**0.23**	**272**	⇓*i*P	Pn	16 53 11.2	-0.1
	baz=272						
SGST	**Jiashian**	**0.28**	**343**	⇑*i*P	Pn	16 53 11.4	-0.5
	baz=344						
SGST				S	Sn	16 53 17.0	-0.3
	baz=344						
ECL	**Taimali**	**0.34**	**130**	⇓*i*P	Pb	16 53 12.0	+0.6
	baz=134						
ECL				S	Sb	16 53 17.7	+1.0
	baz=134						
STYT	**Tauyuan**	**0.35**	**13**	*i* S	Sn	16 53 18.7	-0.6
	baz=13						
TWG	**Pinlang**	**0.37**	**89**	⇑P	Pn	16 53 12.8	-0.4
	baz=89						
TWG				*e*S	Sn	16 53 18.9	-0.5
	baz=89						
CHN3	**Shinhua**	**0.38**	**312**	*e*P	Pn	16 53 13.8	+0.4
	baz=312						
CHN3				*e*S	Sn	16 53 21.4	+1.6
	baz=312						
CHN1	**Nanshi**	**0.39**	**340**	⇓*i*P	Pn	16 53 13.2	-0.3
	baz=346						
CHN1				*i* S	Sn	16 53 20.2	+0.1
	baz=346						
KAU	**Kaohsiung**	**0.42**	**234**	P	Pn	16 53 14.3	+0.5
	baz=243						
KAU				*e*S	Sn	16 53 22.5	+1.9
	baz=243						
WTP	**Ta-pu**	**0.43**	**353**	⇑*i*P	Pn	16 53 13.6	-0.6
	baz=353						
WTP				S	Sn	16 53 21.1	0.0
	baz=353						
TTN	**Taitung**	**0.44**	**98**	P	Pn	16 53 14.3	+0.2
	baz=92						
TTN				*e*S	Sn	16 53 22.3	+1.0
	baz=92						
SCZT	**Fangliau**	**0.45**	**186**	⇑*i*P	Pb	16 53 13.5	+0.4
	baz=187						
SCZT				S	Sn	16 53 20.6	-0.7
	baz=187						
EAST	**Anshuo**	**0.46**	**159**	⇓*i*P	Pb	16 53 13.8	+0.4
	baz=153						
EAST				S	Sb	16 53 20.6	+0.7
	baz=153						
TAI1	**Yung-k'ang**	**0.47**	**299**	*e*P	Pn	16 53 14.6	+0.1
	baz=298						
TAI1				*e*S	Sn	16 53 22.5	+0.7
	baz=298						
TWK	**Hsinying**	**0.48**	**339**	P	Pn	16 53 14.6	-0.2
	baz=340						
TWK				*e*S	Sn	16 53 22.7	+0.3
	baz=340						
ELDTW	**Lidau**	**0.49**	**40**	⇑*i*P	Pn	16 53 14.5	-0.5
	baz=40						
ELDTW				*e*S	Sn	16 53 22.1	-0.6
	baz=40						
TAW	**Tawu**	**0.50**	**156**	P	Pb	16 53 14.3	+0.3
	baz=150						
TAW				S	Sb	16 53 21.8	+0.9
	baz=150						
TWP	**Hsiaoliuchiu**	**0.55**	**212**	*e*P	Pn	16 53 16.5	+0.9
	baz=211						
TWP				*e*S	Sn	16 53 27.8	+3.9
	baz=211						
SCLT	**Jiali**	**0.57**	**309**	P	Pn	16 53 16.1	+0.2
	baz=309						
SCLT				*e*S	Sn	16 53 25.3	+1.0
	baz=309						
CHN8	**Yiju**	**0.68**	**321**	*e*P	Pn	16 53 17.8	+0.4
	baz=321						
CHN8				*e*S	Sn	16 53 27.8	+0.8
	baz=321						
CHKT	**Chengkung**	**0.70**	**66**	P	Pn	16 53 17.9	+0.2
	baz=76						
CHKT				*e*S	Sn	16 53 28.5	+0.9
	baz=76						
ALS	**Alishan**	**0.70**	**10**	P	Pn	16 53 18.1	-0.1
	baz=2.0						
ALS				*e*S	Sn	16 53 28.9	+0.5
	baz=2.0						
CHY	**Chiayi**	**0.72**	**341**	*e*P	Pn	16 53 18.3	+0.3
	baz=341						
CHY				*e*S	Sn	16 53 28.9	+0.8
	baz=341						
CHN2	**Minshiung**	**0.74**	**346**	P	Pn	16 53 18.6	+0.4
	baz=345						
CHN2				*e*S	Sn	16 53 29.8	+1.3
	baz=345						
CHN5	**Tsauling**	**0.78**	**0**	P	Pn	16 53 19.0	+0.1
	baz=359						
CHN5				*e*S	Sn	16 53 30.8	+1.1
	baz=359						
TWF1	**Yuli**	**0.78**	**47**	⇑*i*P	Pn	16 53 19.4	+0.5
	baz=45						
TWF1				S	Sn	16 53 30.2	+0.4
	baz=45						
HEN	**Hengchun**	**0.81**	**176**	*e*P	Pn	16 53 19.7	+0.5
	baz=177						
HEN				*e*S	Sn	16 53 31.3	+1.0
	baz=177						
WGK	**Gukeng**	**0.87**	**353**	*e*P	Pb	16 53 20.7	+0.5
	baz=353						
WGK				*e*S	Sn	16 53 33.8	+1.9
	baz=353						
TWK1	**Hengchun**	**0.88**	**172**	*e*P	Pn	16 53 20.1	0.0
	baz=173						
EHY	**Hungye**	**0.91**	**41**	⇑*i*P	Pb	16 53 21.4	+0.5
	baz=40						
EHY				*i* S	Sn	16 53 33.5	+0.6
	baz=40						
WSF	**Szhu**	**0.92**	**333**	*e*P	Pb	16 53 20.9	-0.1
	baz=333						
WSF				*e*S	Sn	16 53 33.6	+0.6
	baz=333						
TSEB	**Hengchuen, Pin**	**0.94**	**167**	*e*P	Pb	16 53 21.6	+0.4
	baz=171						
TSEB				*e*S	Sn	16 53 34.3	+0.9
	baz=171						
WNT	**Mingjian**	**1.06**	**1**	*e*P	Pn	16 53 22.9	+0.3
	baz=360						
WNT				*e*S	Sb	16 53 37.3	+0.5
	baz=360						
SMLT	**Sun Moon Lake**	**1.08**	**11**	*e*P	Pb	16 53 23.8	-0.1
	baz=11						
TYC	**Yuchr**	**1.10**	**9**	P	Pb	16 53 23.7	-0.2
	baz=353						
TYC				*e*S	Sb	16 53 38.8	+1.0
	baz=353						
LAY	**Lan-yu**	**1.12**	**133**	*e*P	Pn	16 53 22.8	-0.8
	baz=134						
ESL	**Shilin**	**1.21**	**35**	P	Pb	16 53 25.8	-0.2
	baz=23						
ESL				*e*S	Sb	16 53 42.6	+1.3
	baz=23						
WHF	**Hehuan Shan**	**1.43**	**22**	*e*P	Pb	16 53 29.5	-0.7
	baz=23						
TWT	**Tachien**	**1.50**	**18**	*e*P	Pn	16 53 29.1	+0.1
	baz=17						
TWQ1	**Liyutan**	**1.53**	**3**	*e*P	Pn	16 53 30.2	+1.0
	baz=3.0						
NNS	**Nan Shan**	**1.74**	**22**	P	Pb	16 53 33.8	-1.2
	baz=6.0						
NSTT	**Nanjuang**	**1.83**	**9**	*e*P	Pb	16 53 35.0	-1.4
	baz=353						
ENA	**Nanau**	**1.88**	**31**	*e*P	Pn	16 53 34.9	+0.9
	baz=31						
NSK	**Sanguang**	**1.96**	**19**	*e*P	Pn	16 53 36.3	+1.2
	baz=20						
ENTT	**Nioudou**	**1.99**	**24**	*e*P	Pn	16 53 37.3	+1.8
	baz=11						
TWE	**Neicheng**	**2.10**	**25**	*e*P	Pn	16 53 38.0	+1.0
	baz=41						

IDC 17 17:00:32.3±0.8, 12°.41N×142°.25E, h0km, mb3.7/9, mb1 4.0/9, mb1mx3.8/22, mbtmp3.7/9, MS3.5/3, Ms1 3.5/3, ms1mx2.8/43, Error ellipse: s-maj=28.5km s-min=21.1km az=92.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**28.04**	**335**	LR	LR	17 15 55.9	
	comp=Z,36nm,18.3s,baz=219,slow=33						
CTA	**Charters Tower**	**32.54**	**173**	LR	LR	17 18 08.0	
	comp=Z,68nm,19.0s,baz=42,slow=32						
WRA	**Warramunga Arr**	**33.08**	**194**	P	P	17 07 09.9	0.0
	0.7nm,0.6s,baz=15,slow=9.3,SNR=7.7						
ASAR	**Alice Springs**	**36.77**	**193**	P	P	17 07 42.0	+0.1
	0.3nm,0.7s,baz=14,slow=13,SNR=5.3						
CMAR	**Chiang Mai Arr**	**42.09**	**284**	P	P	17 08 26.3	-0.1
	0.7nm,0.9s,baz=90,slow=6.1,SNR=7.3						
SONM	**Songino Array**	**46.27**	**327**	P	P	17 09 03.6	+4.0
	0.4nm,0.6s,baz=134,slow=6.2,SNR=2.0						
MKAR	**Makanchi Array**	**60.58**	**317**	P	P	17 10 45.1	+0.3
	0.5nm,0.7s,baz=106,slow=3.9,SNR=4.0						
ZALV	**Zalesovo Beam**	**61.11**	**325**	P	P	17 10 47.9	-0.2
	0.4nm,0.4s,baz=112,slow=7.0,SNR=4.4						
KURBB	**Kurchatov Arra**	**63.88**	**321**	P	P	17 11 06.7	-0.1
	3.6nm,0.7s,baz=104,slow=6.5,SNR=10						
ILAR	**Eielson Array**	**70.72**	**25**	P	P	17 11 49.5	-0.4
	0.7nm,0.6s,baz=249,slow=6.1,SNR=16						
YKA	**Yellowknife Ar**	**85.07**	**27**	P	P	17 13 10.3	+0.5
	0.1nm,0.4s,baz=290,slow=4.8,SNR=3.5						
NVAR	**Mina Array Bea**	**89.64**	**51**	P	P	17 13 34.3	+1.6
	0.3nm,0.4s,baz=272,slow=2.3,SNR=3.2						
FINES	**FINESS Array B**	**91.13**	**334**	LR	LR	17 57 20.3	
	comp=Z,67nm,18.6s,baz=226,slow=37						
LPAZ	**La Paz**	**150.34**	**101**	PKPbc	PKPbc	17 20 25.9	-1.5
	0.7nm,0.7s,baz=270,slow=6.1,SNR=3.4						

IDC 17 17:01:26.2±2.0, 30°.34S×178°.30W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/16, mbtmp3.8/4, Error ellipse: s-maj=52.3km s-min=35.6km az=35.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.24**	**257**	P	P	17 08 13.1	-0.8
	0.9nm,0.7s,baz=90,slow=19,SNR=2.8						
ASAR	**Alice Springs**	**42.85**	**267**	P	P	17 09 26.4	+0.1
	0.9nm,0.7s,baz=104,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**43.84**	**272**	P	P	17 09 34.5	+0.2
	1.2nm,0.5s,baz=112,slow=8.0,SNR=10						
QSPA	**South Pole Qui**	**59.77**	**180**	P	P	17 11 33.3	+0.5
	1.0nm,0.7s,baz=53,slow=4.0,SNR=6.7						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	17 21 02.6	-1.4
	1.5nm,0.6s,baz=45,slow=4.4,SNR=8.8						

DDA 17 17:06:12.0, 39°.10N×29°.08E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.29**	**259**	*i* P	Pg	17 06 18.5	+0.6
DEMI				*i* S	Sg	17 06 22.0	+0.2
GDZ	**Gediz**	**0.31**	**92**	*i* P	Pg	17 06 18.9	+0.6
GDZ				*i* S	Sg	17 06 22.6	0.0

DDA 17 17:06:36.7, 38°.63N×26°.66E, h27km, MD2.9
ISCJB 17 17:06:38.3±0.6, 38°.64N±0°.03×26°.69E±0°.03, h13km±5km, Error ellipse: s-maj=4.6km s-min=4.1km az=160.9
ISK 17 17:06:38.5, 38°.64N×26°.74E, h6km, MD2.7
CSEM 17 17:06:38.2±0.3, 38°.64N×26°.69E, h1km±3km, MD2.9, Error ellipse: s-maj=4.9km s-min=4.5km az=102.0
THE 17 17:06:40.0, 38°.67N×26°.56E, h1km±2km, ML2.3/3, Error ellipse: s-maj=4.2km s-min=1.0km az=106.0

ISC 17 17:06:38.1±0.9, 38°.65N±0°.02×26°.68E±0°.02, h14km±8km, n37, σ0°69/57, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.29**	**193**	*i* P	**Pg**	**17 06 43.9**	**-0.4**
URLA				*i* S	**Sg**	**17 06 48.5**	**+0.1**
URLA	**Izmir**	**0.29**	**193**	*i* P	**Pg**	**17 06 43.9**	**-0.4**
URLA				*i* S	**Sg**	**17 06 48.5**	**+0.1**
BLCB	**Balcova**	**0.39**	**132**	*e*PG	**Pg**	**17 06 45.6**	**-0.3**
BLCB				*e*SG	**Sg**	**17 06 51.7**	**+0.5**
BLCB	**Balcova**	**0.39**	**132**	*e*Pg	**Pg**	**17 06 45.6**	**-0.3**
CHOS	**Chios island**	**0.55**	**242**	P	**Pg**	**17 06 49.3**	**+0.3**
CHOS				S	**Sb**	**17 06 57.2**	**-0.2**
CHOS	**Chios island**	**0.55**	**242**	P	**Pg**	**17 06 49.3**	**+0.3**
CHOS				S	**Sb**	**17 06 57.2**	**-0.2**
PRK	**Paraskevi**	**0.68**	**332**	P	**Pg**	**17 06 51.4**	**0.0**
PRK				S	**Sb**	**17 07 01.3**	**+0.3**
PRK	**Paraskevi**	**0.68**	**332**	P	**Pg**	**17 06 51.4**	**0.0**
PRK				S	**Sb**	**17 07 01.3**	**+0.3**
AKHS	**Akhisar**	**0.92**	**75**	*i* P	**Pg**	**17 06 55.5**	**-0.4**
AKHS				*i* S	**Sg**	**17 07 07.7**	**-0.2**
AKHS	**Akhisar**	**0.92**	**75**	*i* P	**Pg**	**17 06 55.5**	**-0.4**
AKHS				*i* S	**Sg**	**17 07 07.7**	**-0.2**
AKS	**Akhisar**	**0.92**	**75**	*e*PG	**Pg**	**17 06 55.8**	**-0.1**
AKS				*e*SG	**Sb**	**17 07 08.2**	**+0.4**
AKS	**Akhisar**	**0.92**	**75**	*e*Pg	**Pg**	**17 06 55.8**	**-0.1**
GCAM	**G?zelcaml?**	**1.04**	**155**	*i* P	**Pb**	**17 06 57.9**	**0.0**
GCAM				*i* S	**Sb**	**17 07 09.7**	**-1.7**
GCAM	**G?zelcaml?**	**1.04**	**155**	*i* P	**Pb**	**17 06 57.9**	**0.0**
GCAM				*i* S	**Sb**	**17 07 09.7**	**-1.7**
BOZC	**Bozcaada**	**1.29**	**338**	*i* P	**Pb**	**17 07 02.0**	**-0.1**
BOZC				*i* S	**Sb**	**17 07 18.6**	**0.0**
BALY	**Balya**	**1.31**	**33**	*i* P	**Pn**	**17 07 02.3**	**+0.2**
BALY				*i* S	**Sg**	**17 07 20.3**	**-0.3**
BALY	**Balya**	**1.31**	**33**	*i* P	**Pn**	**17 07 02.3**	**+0.2**
BALY				*i* S	**Sg**	**17 07 20.3**	**-0.3**
DEMI	**Demirci**	**1.64**	**75**	*i* P	**Pn**	**17 07 07.4**	**+0.8**
DEMI				*i* S	**Sn**	**17 07 26.5**	**-1.0**
DEMI	**Demirci**	**1.64**	**75**	*i* P	**Pn**	**17 07 07.4**	**+0.8**
BODT	**Bodrum**	**1.66**	**162**	*e*PN	**Pb**	**17 07 08.5**	**+0.1**
BODT	**Bodrum**	**1.66**	**162**	*e*Pn	**Pb**	**17 07 08.5**	**+0.1**
DURS	**Dursunbey**	**1.69**	**55**	*i* P	**Pn**	**17 07 07.5**	**+0.2**
DURS				*i* S	**Sn**	**17 07 27.9**	**-0.9**
DURS	**Dursunbey**	**1.69**	**55**	*i* P	**Pn**	**17 07 07.5**	**+0.2**
LIA	**Limnos Island**	**1.71**	**318**	P	**Pn**	**17 07 08.1**	**+0.7**
LIA				S	**Sn**	**17 07 28.5**	**-0.5**
LIA	**Limnos Island**	**1.71**	**318**	P	**Pn**	**17 07 08.1**	**+0.7**
LIA				S	**Sn**	**17 07 28.5**	**-0.5**
DST	**Dursunbey**	**1.79**	**57**	*e*PN	**Pb**	**17 07 10.5**	**-0.2**
DST	**Dursunbey**	**1.79**	**57**	*e*Pn	**Pb**	**17 07 10.5**	**-0.2**
BNT	**Bandirma**	**1.96**	**29**	*e*PN	**Pb**	**17 07 13.0**	**-0.6**
BNT	**Bandirma**	**1.96**	**29**	*e*Pn	**Pb**	**17 07 13.0**	**-0.6**
DAT	**Datca**	**2.04**	**159**	*e*PN	**Pn**	**17 07 13.2**	**+1.0**
DAT	**Datca**	**2.04**	**159**	*e*Pn	**Pn**	**17 07 13.2**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.08**	**11**	*e*PN	**Pb**	**17 07 15.0**	**-0.6**
RKY	**Sarkoy-Tekirda**	**2.08**	**11**	*e*Pn	**Pb**	**17 07 15.0**	**-0.6**
GDZ	**Gediz**	**2.23**	**78**	*i* P	**Pb**	**17 07 18.8**	**+0.5**
GDZ				*i* S	**Sb**	**17 07 48.0**	**+2.1**
GDZ	**Gediz**	**2.23**	**78**	*i* P	**Pb**	**17 07 18.8**	**+0.5**
TVSB	**Tavsanli**	**2.31**	**69**	*e*PN	**Pn**	**17 07 17.4**	**+1.6**
TVSB	**Tavsanli**	**2.31**	**69**	*e*Pn	**Pn**	**17 07 17.4**	**+1.6**

PRE 17 17:07:26.1±2.0, 26°.42S×27°.51E, h2km, ML2.2, 2C-2D, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.12**	**52**	⇓*i*P	Pg	17 07 29.3	+0.7
KLOF				*e*S	Sg	17 07 30.6	+0.3
KLOF				AML	AML	17 07 31.1	
	comp=Z,2μm,0.2s						
PRYS	**Parys**	**0.52**	**195**	*e*P	Pg	17 07 37.2	+0.9
PRYS				*e*S	Sg	17 07 43.8	+0.6
PRYS				AML	AML	17 07 48.5	
	comp=Z,27nm,0.2s						
ERPM	**east rand prop**	**0.66**	**83**	⇑*i*P	Pg	17 07 39.6	+0.5
ERPM				*e*S	Sg	17 07 47.1	-0.8
ERPM				AML	AML	17 07 48.3	
	comp=Z,31nm,0.2s						
BFSD	**Buffelsfontein**	**0.78**	**236**	*e*P	Pg	17 07 41.9	+0.5
BFSD				*e*S	Sg	17 07 51.1	-0.6
BFSD				AML	AML	17 07 58.1	
	comp=Z,51nm,0.1s						
SLR	**Silverton**	**0.98**	**46**	*e*P	Pg	17 07 45.2	+0.2
SLR				*e*S	Sg	17 07 57.8	-0.1
SLR				AML	AML	17 08 03.1	
	comp=Z,35nm,0.2s						
SEK	**Senekal**	**1.90**	**177**	⇑*i*P	Pb	17 08 01.6	-0.1
SEK				*e*S	Sn	17 08 25.0	+0.6
SEK				AML	AML	17 08 27.9	
	comp=Z,20nm,0.2s						
SWZ	**Schweizer**	**2.09**	**248**	*e*P	Pn	17 08 02.5	+0.1
SWZ				*e*S	Sb	17 08 30.5	-0.9
SWZ				AML	AML	17 08 31.9	
	comp=Z,40nm,0.6s						
LBTB	**Lobatse**	**2.22**	**309**	⇓*i*P	Pn	17 08 05.1	+1.0
LBTB				*e*S	Sn	17 08 32.8	+0.5
LBTB				AML	AML	17 08 37.0	
	comp=Z,24nm,0.3s						
BOSA	**Boshof**	**2.96**	**222**	*e*P	Pn	17 08 14.3	0.0
BOSA				*e*S	Sn	17 08 48.8	-1.8
BOSA				AML	AML	17 08 59.5	
	comp=Z,4.4nm,0.7s						

CSEM 17 17:17:58.9, 39°.09N×29°.07E, h7km, MD2.7, After DDA
DDA 17 17:17:58.9, 39°.09N×29°.07E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.28**	**260**	*i* P	Pg	17 18 05.2	+0.7
DEMI				*i* S	Sg	17 18 08.5	+0.1
DEMI	**Demirci**	**0.28**	**260**	*i* P	Pg	17 18 05.2	+0.7
DEMI				*i* S	Sg	17 18 08.5	+0.2
GDZ	**Gediz**	**0.32**	**91**	*i* P	Pg	17 18 06.2	+0.8
GDZ				*i* S	Sg	17 18 10.2	+0.3
GDZ	**Gediz**	**0.32**	**91**	*i* P	Pg	17 18 06.2	+0.8
GDZ				*i* S	Sg	17 18 10.2	+0.4
DURS	**Dursunbey**	**0.69**	**318**	*i* P	Pg	17 18 12.1	-0.1
DURS	**Dursunbey**	**0.69**	**318**	*i* P	Pg	17 18 12.1	-0.1
KHAL	**Karahalli**	**0.80**	**155**	*i* P	Pb	17 18 15.5	+0.3
KHAL				*i* S	Sg	17 18 24.9	+0.1
KHAL	**Karahalli**	**0.80**	**155**	*i* P	Pb	17 18 15.5	+0.3
KHAL				*i* S	Sg	17 18 24.9	+0.1
BORA	**Eskisehir**	**1.33**	**53**	*i* P	Pn	17 18 23.5	-0.6
BORA				*i* S	Sb	17 18 39.3	-2.4
BORA	**Eskisehir**	**1.33**	**53**	*i* P	Pn	17 18 23.5	-0.5
BORA				*i* S	Sb	17 18 39.3	-2.4

CSEM 17 17:19:56.8, 45°.74N×26°.58E, h12km, MD2.6/3, After BUC
BUC 17 17:19:56.8±0.3, 45°.74N×26°.58E, h12km±2km, MD2.6/3, 9C-15D, Error ellipse: s-maj=4.5km s-min=2.4km az=316.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.12**	**24**	⇓*i*P	Pg	17 19 59.8	-0.1
PLOR	**Plostina**	**0.12**	**24**	S	Sg	17 20 02.3	+0.1
PLOR	**Plostina**	**0.12**	**24**	⇓*i*P	Pg	17 19 59.8	-0.1
PLOR				*i* S	Sg	17 20 02.3	+0.1
PLOR	**Plostina**	**0.12**	**24**	⇓*i*P	Pg	17 19 59.8	-0.1
PLOR				*i* S	Sg	17 20 02.3	+0.1
VRI	**Vrincioaia**	**0.16**	**39**	⇓*i*P	Pg	17 20 00.7	+0.2
VRI	**Vrincioaia**	**0.16**	**39**	S	Sg	17 20 03.9	+0.7
VRI	**Vrincioaia**	**0.16**	**39**	⇓*i*P	Pg	17 20 00.7	+0.2
VRI				*i* S	Sg	17 20 03.9	+0.7
VRI	**Vrincioaia**	**0.16**	**39**	⇓*i*P	Pg	17 20 00.7	+0.2
VRI				*i* S	Sg	17 20 03.9	+0.7
ODBI	**Odobesti**	**0.33**	**86**	S	Sb	17 20 09.8	-0.2
ODBI	**Odobesti**	**0.33**	**86**	*i* S	Sb	17 20 09.8	-0.2
ODBI	**Odobesti**	**0.33**	**86**	*i* S	Sb	17 20 09.8	-0.2
PETR		**0.46**	**92**	⇑*i*P	Pb	17 20 06.7	-0.1
PETR		**0.46**	**92**	⇑*i*P	Pb	17 20 06.7	-0.1
PETR		**0.46**	**92**	⇑*i*P	Pb	17 20 06.7	-0.1
MLR	**Muntele Rosu**	**0.51**	**241**	⇓*i*P	Pb	17 20 07.6	-0.4
MLR	**Muntele Rosu**	**0.51**	**241**	S	Sb	17 20 15.4	-0.2
MLR	**Muntele Rosu**	**0.51**	**241**	⇓*i*P	Pb	17 20 07.6	-0.4
MLR				*i* S	Sb	17 20 15.4	-0.2
MLR	**Muntele Rosu**	**0.51**	**241**	⇓*i*P	Pb	17 20 07.6	-0.4
MLR				*i* S	Sb	17 20 15.4	-0.2
TESR		**0.77**	**3**	⇓*i*P	Pb	17 20 12.6	+0.4
TESR		**0.77**	**3**	⇓*i*P	Pb	17 20 12.6	+0.4
TESR				*i* S	Sb	17 20 23.4	+0.7
TESR		**0.77**	**3**	⇓*i*P	Pb	17 20 12.6	+0.4
TESR				*i* S	Sb	17 20 23.4	+0.7
DOPR	**Dopca**	**0.86**	**285**	S	Sb	17 20 25.4	0.0
DOPR	**Dopca**	**0.86**	**285**	*i* S	Sb	17 20 25.4	0.0
DOPR	**Dopca**	**0.86**	**285**	*i* S	Sb	17 20 25.4	0.0
VOIR		**1.12**	**255**	⇑*i*P	Pb	17 20 18.2	0.0
VOIR		**1.12**	**255**	⇑*i*

0.8nm,0.7s,baz=342,slow=13,SNR=2.9
MKAR Makanchi Array 56.55 325 P P 17 44 26.2 -0.9
0.2nm,0.6s,baz=132,slow=8.4,SNR=2.6
KURBB **Kurchatov Arra 60.72 327** P P 17 44 56.7 +0.7
0.1nm,0.3s,baz=126,slow=6.3,SNR=3.0

IDC 17 17:37:37.2±1.9, 3.76N×126.90E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=151.7km s-min=24.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.67**	**163**	P	P		17 42 59.9	0.0
	3.5nm,0.8s,baz=343,slow=10,SNR=11							
ASAR	**Alice Springs**	**28.11**	**166**	P	P		17 43 30.1	-0.9
	0.2nm,0.7s,baz=358,slow=8.3,SNR=3.9							
STKA	**Stephens Creek**	**38.10**	**160**	P	P		17 44 58.6	+0.6
	2.0nm,0.7s,baz=334,slow=6.8,SNR=7.0							
MKAR	**Makanchi Array**	**57.62**	**325**	P	P		17 47 29.1	-0.1
	0.2nm,0.4s,baz=114,slow=7.3,SNR=3.5							

*ISCJB **17** 17:41:48.0±0.4, 64.24N±0.06×40.12W±0.07, h10km, mb4.1/25, MS3.0/5, Error ellipse: s-maj=8.5km s-min=4.5km az=2.5*

*IDC **17** 17:41:48.5±0.8, 64.17N×40.27W, h0km, mb3.9/16, mb1 4.1/17, mb1mx3.9/32, mbtmp3.9/17, ML4.3/1, MS3.2/7, Ms1 3.2/7, ms1mx2.9/50, Error ellipse: s-maj=23.5km s-min=13.2km az=1.0*

*NEIC **17** 17:41:49.9×64.24N×40.06W, h10km, mb4.3/11, Error ellipse: s-maj=11.6km s-min=6.0km az=172.0*

*OTT **17** 17:41:50.8±1.0, 64.30N×39.85W, h18km, mb4.3/4, Offshore eastern Greenland.*

ISC 17 17:41:49.6±0.5, 64.13N±0.07×40.42W±0.04, h10km, n83, σ1§59/93, mb4.1/25, MS3.0/5, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**5.12**	**309**	*e*Pn		**Pn**	**17 43 07.6**	**+1.4**
	164nm,0.4s							
SFJD				*e*Pb		**Pb**	**17 43 19.9**	**+0.8**
SFJD				*e*Sn		**Sn**	**17 44 04.7**	**-0.6**
SFJD				*e*Sb		**Sb**	**17 44 22.1**	**+1.4**
SFJD				Lg		Lg	17 44 22.3	
SFJD	**Kangerlussuaq**	**5.12**	**309**	PN		**Pn**	**17 43 07.7**	**+1.5**
SFJD				PG		**Pb**	**17 43 20.0**	**+0.8**
SFJD				SN		**Sn**	**17 44 03.9**	**-1.4**
SFJD				LG		Lg	17 44 22.4	
SFJD				Trac			17 44 25.7	
	comp=Z,2μm,0.3s							
SFJD	**Kangerlussuaq**	**5.12**	**309**	*i* P		**Pn**	**17 43 07.5**	**+1.3**
SFJD				*i* S		**Sn**	**17 44 06.4**	**+1.1**
SFJD	**Kangerlussuaq**	**5.12**	**309**	Pn		**Pn**	**17 43 07.1**	**+0.9**
	10.0nm,0.3s,baz=104,slow=13,SNR=48							
SFJD				Pg		**Pb**	**17 43 20.3**	**+1.2**
	62nm,0.3s,baz=122,slow=14,SNR=48							
SFJD				Sn		**Sn**	**17 44 06.3**	**+1.0**
	82nm,0.3s,baz=156,slow=14,SNR=9.0							
SFJD				Lg		Lg	17 44 22.3	
	260nm,0.3s,baz=203,slow=20,SNR=19							
SFJD				LR		LR	17 45 10.5	
	comp=Z,309nm,18.2s,baz=138,slow=39							
BORG	**Borgarnes**	**8.27**	**77**	Pn		Pn	17 43 55.4	+6.0
BORG				Sn		**Sn**	**17 45 20.5**	**-2.3**
BORG	**Borgarnes**	**8.27**	**77**	Pn		Pn	17 43 55.4	+6.0
	1.4nm,0.3s,baz=116,slow=8.2,SNR=3.7							
BORG				Sn		**Sn**	**17 45 20.5**	**-2.3**
	0.8nm,0.3s,baz=319,slow=3.8,SNR=2.4							
SUMG	**Summit**	**8.52**	**4**	*e*Pn		**Pn**	**17 43 50.4**	**-2.8**
	43nm,0.6s							
SUMG				*e*Sn		Sn	17 45 16.7	-13
SUMG	**Summit**	**8.52**	**4**	*i* P		**Pn**	**17 43 50.6**	**-2.6**
SUMG				*i* S		Sn	17 45 21.8	-7.6
SCO	**Scoresbysund**	**9.53**	**40**	*i* P		**Pn**	**17 44 08.7**	**+2.1**
FRB	**Frobisher Bay**	**12.33**	**281**	Pn		Pn	17 44 48.6	+3.6
FRB				Sn		**Sn**	**17 46 57.3**	**-4.9**
FRB	**Frobisher Bay**	**12.33**	**281**	PN		**Pn**	**17 44 46.2**	**+1.3**
FRB				mb			17 44 51.5	
	comp=Z,2.1nm,0.5s							
FRB				SN		**Sn**	**17 46 58.0**	**-4.2**
FRB	**Frobisher Bay**	**12.33**	**281**	Pn		Pn	17 44 48.6	+3.6
	0.2nm,0.3s,baz=81,slow=10.0,SNR=7.2							
FRB				Sn		**Sn**	**17 46 57.3**	**-4.9**
	0.9nm,0.3s,baz=151,slow=10,SNR=3.6							
FRB				LR		LR	17 48 40.2	
	comp=Z,91nm,18.2s,baz=284,slow=33							
DAG	**Danmarks Havn**	**14.46**	**20**	*i* P		**Pn**	**17 45 11.9**	**-2.1**
DAG				*e*S		Sn	17 47 37.9	-16
KUQ	**Kuujjuuaa**	**14.72**	**259**	Pn		**P**	**17 45 21.2**	**-2.5**
KUQ	**Kuujjuuaa**	**14.72**	**259**	PN		**P**	**17 45 21.2**	**-2.5**
KUQ				Trac			17 48 27.2	
	comp=Z,0.6nm,0.1s							
SCHQ	**Schefferville**	**16.20**	**247**	Pn		**P**	**17 45 40.2**	**-0.1**
SCHQ				*e*Sn		**Sn**	**17 48 32.5**	**-4.2**
SCHQ				Sn		S	17 48 33.8	-16
SCHQ	**Schefferville**	**16.20**	**247**	PN		**P**	**17 45 39.9**	**-0.4**
SCHQ				mb			17 45 43.0	
	comp=Z,6.0nm,0.5s							
SCHQ				SN		**Sn**	**17 48 32.3**	**-4.4**
SCHQ	**Schefferville**	**16.20**	**247**	Pn		**P**	**17 45 40.2**	**-0.1**
	1.0nm,0.3s,baz=49,slow=10,SNR=23							
SCHQ				Sn		**Sn**	**17 48 33.8**	**-2.8**
	0.5nm,0.3s,baz=172,slow=18,SNR=4.8							
IVKQ	**Ivujivik**	**16.79**	**281**	Pn		**P**	**17 45 47.8**	**+1.2**
IVKQ				Sn		Sn	17 48 39.9	-11
IVKQ	**Ivujivik**	**16.79**	**281**	PN		**P**	**17 45 47.8**	**+1.2**
IVKQ				SN		Sn	17 48 39.9	-11
ILON	**Igloolik, Nuna**	**16.88**	**306**	Pn		**Pn**	**17 45 45.1**	**-0.4**
ILON				Sn		Sn	17 48 39.1	-14
ILON	**Igloolik, Nuna**	**16.88**	**306**	PN		**Pn**	**17 45 45.1**	**-0.4**
ILON				SN		Sn	17 48 39.1	-14
SRLN	**Sarcpa Lake, N**	**17.48**	**304**	PN		**P**	**17 45 53.8**	**-0.5**
QILN	**Qililugaq Expl**	**18.96**	**298**	PN		**P**	**17 46 09.2**	**-1.4**
QILN				SN		Sn	17 49 31.4	-12
YOSQ	**Ashton Mining**	**19.82**	**250**	PN		**P**	**17 46 20.3**	**+0.1**
YOSQ				mb			17 46 24.1	
	comp=Z,13nm,0.6s							
YOSQ				SN		S	17 49 55.5	-7.6
EUNU	**Eureka**	**20.29**	**339**	PN		**P**	**17 46 24.2**	**-0.9**
EUNU				mb			17 46 28.4	
	comp=Z,7.9nm,1.1s							
EUNU				SN		S	17 49 54.5	-18
ESK	**Eskdalemuir**	**20.44**	**98**	P		**P**	**17 46 26.0**	**-0.7**
	12nm,1.1s							
RES	**Resolute Bay**	**20.93**	**323**	*e*P		Pn	17 46 35.1	+0.7
	5.1nm,0.9s							
RES	**Resolute Bay**	**20.93**	**323**	P		Pn	17 46 35.7	+1.3
	5.5nm,1.0s,baz=104,slow=9.8,SNR=11							
RES				LR		LR	17 55 31.5	
	comp=Z,35nm,20.1s,baz=202,slow=39							
WEMQ	**Wemindji, Queb**	**22.12**	**258**	PN		**P**	**17 46 45.1**	**+0.3**
NOA	**NORSAR Array B**	**23.43**	**74**	LR		LR	17 53 59.0	
	comp=Z,31nm,22.0s,baz=230,slow=31							
HFS	**Hagfors**	**24.95**	**74**	LR		LR	17 54 58.0	
	comp=Z,62nm,19.7s,baz=74,slow=32							
ARCES	**ARCESS Array B**	**25.29**	**49**	P		**P**	**17 47 15.0**	**-0.7**
ARCES	**ARCESS Array B**	**25.29**	**49**	P		**P**	**17 47 15.0**	**-0.7**
	0.9nm,0.5s,baz=282,slow=9.2,SNR=7.9							
YKA	**Yellowknife Ar**	**31.64**	**302**	P		**P**	**17 48 12.3**	**0.0**
YKA				PcP		**PcP**	**17 51 04.0**	**+0.1**
YKA	**Yellowknife Ar**	**31.64**	**302**	P		**P**	**17 48 12.3**	**0.0**
	2.3nm,0.8s,baz=52,slow=9.4,SNR=20							
YKA				PcP		**PcP**	**17 51 03.9**	**+0.1**
	0.5nm,0.6s,baz=33,slow=2.6,SNR=7.6							
EYMN	**Ely**	**31.73**	**264**	P		**P**	**17 48 14.1**	**+0.7**
	8.6nm,1.2s							
GERES	**GERESS Array B**	**32.38**	**92**	LR		LR	17 59 17.9	
	comp=Z,29nm,19.0s,baz=58,slow=32							
KWP	**Kalwaria Pacla**	**35.74**	**83**	P		**P**	**17 48 50.8**	**+2.7**
	12nm,1.0s							
WALA	**Waterton Lakes**	**40.64**	**284**	P		**P**	**17 49 29.3**	**-0.2**
ILAR	**Eielson Array**	**40.66**	**321**	P		**P**	**17 49 30.2**	**+0.9**
ILAR				PcP		**PcP**	**17 51 30.8**	**0.0**
ILAR	**Eielson Array**	**40.66**	**321**	P		**P**	**17 49 30.2**	**+0.9**
	1.0nm,0.6s,baz=34,slow=7.0,SNR=12							
ILAR				PcP		**PcP**	**17 51 30.8**	**0.0**
	2.0nm,0.6s,baz=2.3,slow=2.7,SNR=32							
SLMT	**Seeley Lake**	**41.86**	**282**	P		**P**	**17 49 40.5**	**+0.9**
	5.4nm,0.7s							
PDAR	**Pinedale Array**	**43.70**	**275**	P		**P**	**17 49 55.7**	**+1.0**
PDAR	**Pinedale Array**	**43.70**	**275**	P		**P**	**17 49 55.7**	**+1.0**
	0.6nm,0.6s,baz=92,slow=7.5,SNR=5.1							
ARU	**Arti**	**44.83**	**51**	P		**P**	**17 50 01.2**	**-2.1**
	3.2nm,0.8s							
HLID	**Hailey**	**45.17**	**280**	P		**P**	**17 50 07.3**	**+0.9**
	0.9nm,0.7s							
KDAK	**Kodiak Island**	**47.92**	**318**	P		**P**	**17 50 28.3**	**+0.8**
KDAK	**Kodiak Island**	**47.92**	**318**	P		**P**	**17 50 28.3**	**+0.8**
	7.6nm,0.9s,baz=296,slow=21,SNR=3.0							
BRTR	**Keskin Array B**	**48.32**	**83**	P		**P**	**17 50 32.5**	**+1.5**
BRTR	**Keskin Array B**	**48.32**	**83**	P		**P**	**17 50 32.5**	**+1.5**
	0.3nm,0.4s,baz=282,slow=34,SNR=3.4							
AKTO	**Aktyubinsk**	**49.48**	**56**	P		**P**	**17 50 39.8**	**+0.2**
AKTO	**Aktyubinsk**	**49.48**	**56**	P		**P**	**17 50 39.8**	**+0.2**
	0.4nm,0.4s,baz=348,slow=10,SNR=4.2							
NVAR	**Mina Array Bea**	**51.06**	**279**	P		**P**	**17 50 53.1**	**+1.2**
NVAR	**Mina Array Bea**	**51.06**	**279**	P		**P**	**17 50 53.1**	**+1.2**
	0.8nm,0.5s,baz=21,slow=5.5,SNR=4.2							
ABKAR	**Akbulak array**	**51.16**	**56**	*e*P		**P**	**17 50 51.0**	**-1.3**
	1.4nm,0.8s							
BVAR	**Borovoye Array**	**51.53**	**46**	P		**P**	**17 50 55.4**	**+0.3**
BVAR	**Borovoye Array**	**51.53**	**46**	P		**P**	**17 50 55.3**	**+0.3**
	1.7nm,0.7s,baz=336,slow=7.0,SNR=11							
TXAR	**Lajitas Array**	**52.38**	**260**	P		**P**	**17 51 03.1**	**+1.4**
TXAR	**Lajitas Array**	**52.38**	**260**	P		**P**	**17 51 03.1**	**+1.4**
	0.8nm,0.7s,baz=53,slow=7.0,SNR=11							
TXAR				LR		LR	18 14 48.9	
	comp=Z,58nm,18.1s,baz=0.0,slow=38							
ZAA0	**Zalesovo Array**	**54.88**	**36**	P		**P**	**17 51 17.4**	**-2.2**
ZALV	**Zalesovo Beam**	**54.88**	**36**	P		**P**	**17 51 19.1**	**-0.6**
ZALV	**Zalesovo Beam**	**54.88**	**36**	P		**P**	**17 51 19.1**	**-0.6**
	1.0nm,0.6s,baz=318,slow=8.2,SNR=6.7							
KURK	**Kurchatov**	**56.06**	**42**	P		P	17 51 24.9	-3.2
	1.7nm,0.8s							
KURBB	**Kurchatov Arra**	**56.12**	**42**	P		**P**	**17 51 28.2**	**-0.4**
	1.1nm,0.8s,baz=333,slow=6.7,SNR=7.5							
TOA0	**Torodi Ar. Sit**	**58.66**	**130**	*e*P		**P**	**17 51 45.7**	**-1.2**
TORD	**Torodi Ar. Bea**	**58.66**	**130**	P		**P**	**17 51 46.1**	**-0.8**
TORD	**Torodi Ar. Bea**	**58.66**	**130**	P		**P**	**17 51 46.1**	**-0.8**
	1.4nm,0.6s,baz=336,slow=6.7,SNR=11							
MK31	**Makanchi Array**	**60.66**	**42**	*e*P		**P**	**17 51 59.7**	**-0.7**
MKAR	**Makanchi Array**	**60.66**	**42**	P		**P**	**17 52 00.1**	**-0.3**
MKAR	**Makanchi Array**	**60.66**	**42**	P		**P**	**17 52 00.1**	**-0.3**
	0.6nm,0.5s,baz=352,slow=5.1,SNR=21							
AAK	**Ala-Archa**	**61.96**	**49**	P		**P**	**17 52 10.6**	**+1.1**
	5.5nm,0.8s							
SONM	**Songino Array**	**65.37**	**24**	P		**P**	**17 52 31.8**	**0.0**
SONM	**Songino Array**	**65.37**	**24**	P		**P**	**17 52 31.8**	**0.0**
	1.4nm,0.7s,baz=332,slow=5.8,SNR=8.6							
ULN	**Ulaanbaatar**	**65.46**	**23**	*e*P		**P**	**17 52 31.4**	**-1.1**
	3.5nm,0.8s							
CMAR	**Chiang Mai Arr**	**91.90**	**38**	P		**P**	**17 54 58.0**	**0.0**
CMAR	**Chiang Mai Arr**	**91.90**	**38**	P		**P**	**17 54 58.0**	**0.0**
	0.9nm,0.9s,baz=321,slow=6.1,SNR=5.1							
WRA	**Warramunga Arr**	**135.70**	**7**	PKPpre	PKPpre		18 00 59.9	
WRA				PKP		**PKPdf**	**18 01 10.7**	**+0.8**
WRA	**Warramunga Arr**	**135.70**	**7**	PKhKP	PKPpre		18 00 59.9	
	0.2nm,0.9s,baz=96,slow=36,SNR=3.3							
WRA				PKP		**PKPdf**	**18 01 10.7**	**+0.8**
	0.3nm,0.7s,baz=345,slow=2.6,SNR=3.3							
ASAR	**Alice Springs**	**139.37**	**8**	PKPpre	PKPpre		18 01 07.9	
ASAR				PKP		**PKPdf**	**18 01 17.1**	**+0.5**
ASAR	**Alice Springs**	**139.37**	**8**	PKhKP	PKPpre		18 01 07.9	
	0.3nm,0.6s,baz=357,slow=2.3,SNR=4.1							
ASAR				PKP		**PKPdf**	**18 01 17.1**	**+0.5**
	0.5nm,0.9s,baz=3.8,slow=1.5,SNR=4.9							
STKA	**Stephens Creek**	**147.70**	**357**	PKPbc		**PKPbc**	**18 01 32.8**	**-0.9**
STKA	**Stephens Creek**	**147.70**	**357**	PKPbc		**PKPbc**	**18 01 32.8**	**-0.9**
	2.4nm,0.8s,baz=94,slow=4.8,SNR=3.7							

*ISCJB **17** 17:42:38.6±0.4, 33.18N±0.04×88.34E±0.08, h33km, mb3.8/12, MS3.4/6, Error ellipse: s-maj=9.9km s-min=5.3km az=7.9*

*BJI **17** 17:42:39.2, 33.36N×88.60E, h14km, mb4.2/4, Ms3.7/1, Ms7 3.4/1*

*IDC **17** 17:42:39.9±6.4, 33.03N×88.28E, h33km±47km, mb3.6/14, mb1 3.8/17, mb1mx3.7/31, mbtmp3.6/17, ML3.5/3, MS3.3/10, Ms1 3.3/10, ms1mx3.0/51, Error ellipse: s-maj=28.5km s-min=20.6km az=27.0*

ISC 17 17:42:40.4±0.6, 33.15N±0.08×88.35E±0.09, h35km, n36, σ1§03/35, mb3.9/12, MS3.5/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUN	**Gumba**	**5.64**	**203**	*e*P		**Pn**	**17 44 03.0**	**+0.9**
	29nm,0.7s							
JIRN	**Jiri**	**5.78**	**199**	*e*P		**Pn**	**17 44 05.7**	**+1.6**
	7.6nm,0.4s							
TAPN	**Taplejung**	**5.81**	**186**	*e*P		**Pn**	**17 44 06.1**	**+1.7**
	117nm,0.8s							
KKN	**Kakani**	**5.96**	**207**	*e*P		**Pn**	**17 44 06.7**	**+0.3**
	16nm,0.5s							
GKN	**Gorkha**	**6.05**	**213**	*e*P		**Pn**	**17 44 07.7**	**+0.2**
	9.7nm,0.4s							
PKI	**Pulchoki**	**6.11**	**205**	*e*P		**Pn**	**17 44 09.2**	**+0.6**
	16nm,0.4s							
DMN	**Daman**	**6.19**	**208**	*e*P		**Pn**	**17 44 09.8**	**+0.2**
	21nm,0.6s							
DANN	**Dangsing**	**6.20**	**221**	*e*P		**Pn**	**17 44 10.3**	**+0.5**
	19nm,0.5s							
ODAN	**Odare**	**6.33**	**188**	*e*P		**Pn**	**17 44 12.6**	**+1.2**
	112nm,0.7s							
RAMN	**Ramite**	**6.36**	**194**	*e*P		**Pn**	**17 44 12.3**	**+0.4**
	70nm,0.5s							
KOLN	**Koldanda**	**6.75**	**219**	*e*P		**Pn**	**17 44 16.9**	**-0.3**
	5.5nm,0.4s							
SHL	**Shillong**	**8.16**	**157**	*e*PKP		Pn	17 44 40.0	+3.4
MKAR	**Makanchi Array**	**14.39**	**343**	Pn		**Pn**	**17 46 01.4**	**-0.1**
	0.1nm,0.3s,baz=146,slow=14,SNR=7.4							
MKAR				LR		LR	17 52 41.9	
	comp=Z,73nm,19.6s,baz=164,slow=42							
AAK	**Ala-Archa**	**14.45**	**315**	Pn		**P**	**17 46 08.9**	**+0.1**
	0.1nm,0.3s,baz=132,slow=7.1,SNR=6.4							
AAK				LR		LR	17 52 18.7	
	comp=Z,53nm,20.0s,baz=4.8,slow=40							
GYA	**Guiyang**	**17.23**	**108**	P		**Pn**	**17 46 36.9**	**-1.6**
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
CMAR	**Chiang Mai Arr**	**17.45**	**144**	P		**Pn**	**17 46 40.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=319,slow=12,SNR=17							
CMAR				LR		LR	17 54 09.6	
	comp=Z,56nm,18.5s,baz=345,slow=40							
KURBB	**Kurchatov Arra**	**18.89**	**340**	P		**Pn**	**17 46 58.2**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=145,slow=12,SNR=14							
KURBB				PcP		**PcP**	**17 51 22.5**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=170,slow=1.6,SNR=9.1							
KURBB				LR		LR	17 55 27.1	
	comp=Z,60nm,18.1s,baz=160,slow=40							
SONM	**Songino Array**	**20.02**	**38**	P		**P**	**17 47 10.8**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=235,slow=10,SNR=13							
ZALV	**Zalesovo Beam**	**20.94**	**354**	P		**P**	**17 47 20.2**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=169,slow=9.1,SNR=8.7							
ZALV				LR		LR	17 56 43.3	
	comp=Z,50nm,18.6s,baz=209,slow=40							
BVAR	**Borovoye Array**	**23.68**	**332**	P		**P**	**17 47 50.0**	**+1.4**
	comp=Z,0.9nm,0.8s,baz=144,slow=10,SNR=5.4							
BVAR				PcP		**PcP**	**17 51 32.6**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=146,slow=2.8,SNR=4.8							
AKTO	**Aktyubinsk**	**28.18**	**317**	LR		LR	18 00 36.7	
	comp=Z,26nm,22.0s,baz=267,slow=38							
KSRS	**Korea Array**	**32.42**	**71**	P		**P**	**17 49 06.1**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=275,slow=9.2,SNR=3.5							
JNU	**Nakatsue**	**35.44**	**78**	LR		LR	18 03 45.3	
	comp=Z,118nm,20.0s,baz=62,slow=36							
AKASG	**Malin Array Be**	**46.06**	**311**	P		**P**	**17 51 01.8**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=76,slow=8.1,SNR=5.2							
FINES	**FINESS Array B**	**48.32**	**325**	P		**P**	**17 51 19.5**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=73,slow=8.4,SNR=3.5							
HFS	**Hagfors**	**54.38**	**324**	P		**P**	**17 52 02.8**	**-0.7**
	comp=Z,2.8nm,0.7s,baz=102,slow=12,SNR=3.7							
NB2	**NORSAR Subarra**	**55.50**	**325**	P		**P**	**17 52 10.7**	**-0.9**
	comp=Z,3.8nm,0.9s,baz=84,slow=7.4							
NOA	**NORSAR Array B**	**55.50**	**325**	P		**P**	**17 52 10.8**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=84,slow=7.2,SNR=8.8							
NOA				LR		LR	18 20 27.2	
	comp=Z,22nm,18.6s,baz=200,slow=41							
GERES	**GERESS Array B**	**56.26**	**310**	P		**P**	**17 52 16.3**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=72,slow=5.7,SNR=7.4							
GERES				LR		LR	18 20 49.1	
	comp=Z,54nm,18.3s,baz=349,slow=41							
ILAR	**Eielson Array**	**73.34**	**22**	P		**P**	**17 54 10.0**	**+1.9**
	comp=Z,0.4nm,1.0s,baz=313,slow=4.5,SNR=3.6							
INK	**Inuvik**	**74.16**	**15**	P		**P**	**17 54 15.1**	**+2.3**
	comp=Z,0.5nm,0.5s,baz=328,slow=6.0,SNR=3.3							
KDAK	**Kodiak Island**	**76.04**	**29**	LR		LR	18 31 51.3	
	comp=Z,119nm,18.5s,baz=215,slow=39							
TORD	**Torodi Ar. Bea**	**80.17**	**279**	P		**P**	**17 54 46.6**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=36,slow=5.3,SNR=5.6							
FRB	**Frobisher Bay**	**81.70**	**350**	P		**P**	**17 54 53.4**	**-1.4**
	comp=Z,1.3nm,0.7s,baz=95,slow=3.5,SNR=3.4							
YKA	**Yellowknife Ar**	**82.91**	**11**	P		**P**	**17 55 01.1**	**0.0**
	comp=Z,0.3nm,0.6s,baz=332,slow=5.3,SNR=5.3							
CPUP	**Villa Florida**	**149.53**	**274**	PKP		**PKPdf**	**18 02 21.7**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=116,slow=20,SNR=2.9							
CPUP				PKPbc		**PKPbc**	**18 02 25.2**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=49,slow=4.2,SNR=7.1							

*IDC **17** 17:47:35.4±6.6, 2.59N×96.91E, h66km±62km, mb3.2/4, mb1 3.3/6, mb1mx3.1/25, mbtmp3.2/6, ML3.7/1, Error ellipse: s-maj=95.5km s-min=46.2km az=9.0*

*DJA **17** 17:47:38, 3.31N×97.24E, h5km, MLv3.8/7*

ISC 17 17:47:36.3±1.8, 3.22N±0.07×97.16E±0.07, h2km±12km, n15, σ1§48/13, mb3.5/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TPTI		**0.05**	**21**	P		**Pg**	**17 47 36.9**	**-0.3**
TPTI				S		**Sg**	**17 47 38.6**	**+0.7**
TSI	**Tuntungan**	**1.43**	**79**	P		**Pn**	**17 48 01.5**	**-1.8**
PSI	**Prapat**	**1.81**	**103**	P		**Pn**	**17 48 06.8**	**-1.8**
PSI	**Prapat**	**1.81**	**103**	P		**Pn**	**17 48 06.9**	**-1.7**
	13nm,0.3s,baz=310,slow=13,SNR=48							
PSI				S		**Sn**	**17 48 32.1**	**0.0**
	42nm,0.3s,baz=134,slow=17,SNR=15							
GSI	**Gunungsitoli**	**1.94**	**168**	P		**Pn**	**17 48 09.6**	**-0.8**
LHMI	**Lhok Sumawe**	**2.01**	**354**	P		**Pb**	**17 48 13.0**	**-0.6**
BSI	**Banda Aceh**	**2.93**	**321**	P		**Pn**	**17 48 22.8**	**-1.2**
MNSI	**Mandailing Nat**	**3.41**	**135**	P		**Pn**	**17 48 31.4**	**+0.9**
KULM	**Kulim**	**4.04**	**59**	P		**Pn**	**17 48 39.3**	**0.0**
IPM	**Ipoh**	**4.05**	**72**	P		**Pn**	**17 48 39.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**15.25**	**6**	P		**Pn**	**17 51 15.4**	**+2.6**
	0.1nm,0.3s,baz=193,slow=12,SNR=6.9							
SONM	**Songino Array**	**45.16**	**9**	P		P	17 55 50.1	-4.5
	0.2nm,0.4s,baz=187,slow=9.7,SNR=2.5							
MKAR	**Makanchi Array**	**45.29**	**346**	P		P	17 55 49.5	-6.1
	0.2nm,0.5s,baz=157,slow=9.0,SNR=4.9							
KURBB	**Kurchatov Arra**	**49.79**	**345**	P		P	17 56 26.6	-3.8
	0.3nm,0.4s,baz=178,slow=5.9,SNR=5.6							
ZALV	**Zalesovo Beam**	**51.58**	**351**	P		P	17 56 39.2	-4.6
	0.7nm,0.4s,baz=174,slow=6.9,SNR=5.1							

*IDC **17** 17:47:36.5±0.5, 3.87N×126.65E, h0km, mb4.2/19, mb1 4.3/19, mb1mx4.3/23, mbtmp4.2/19, MS3.8/15, Ms1 3.8/15, ms1mx3.5/43, Error ellipse: s-maj=31.2km s-min=11.7km az=69.0*

*BJI **17** 17:47:37.9, 3.90N×127.00E, h33km, mB4.9/6, mb4.4/11, Ms4.5/2, Ms7 4.2/2*

*DJA **17** 17:47:37, 4.23N×127.33E, h10km, MLv4.9/7*

*ISCJB **17** 17:47:39.5±0.2, 3.90N±0.04×126.73E±0.06, h36km, mb4.5/45, MS3.8/14, Error ellipse: s-maj=9.2km s-min=4.1km az=153.8*

*NEIC **17** 17:47:40.5±3.3, 3.82N×126.57E, h28km±23km, mb4.6/18, Error ellipse: s-maj=14.5km s-min=5.7km az=73.0*

ISC 17 17:47:41.7±0.4, 3.85N±0.05×126.77E±0.08, h36km, n119, σ1§43/112, mb4.5/44, MS3.8/14, 2C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.87**	**321**	⇑*i*P		**Pn**	**17 48 25.0**	**0.0**
MNI	**Manado**	**3.07**	**219**	P		Pn	17 48 32.3	+4.6
TNTI	**Ternate**	**3.12**	**169**	P		**Pn**	**17 48 30.

STKA				LR	LR	18 09 43.4	
	comp=Z,115nm,19.9s,baz=24,slow=35						
LZH	**Lanzhou**	**38.42**	**329**	*e*P	**P**	**17 54 59.0**	**-1.1**
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
SHL	**Shillong**	**39.84**	**306**	*e*PKP	**P**	**17 55 12.6**	**+0.5**
LSA	**Lhasa**	**42.39**	**311**	*e*P	**P**	**17 55 32.4**	**-1.0**
	comp=Z,6.2nm,0.7s						
GTA	**Gaotai**	**43.01**	**329**	*e*P	**P**	**17 55 36.8**	**-1.1**
GTA				pP	**pP**	**17 55 48.4**	**-0.1**
GTA				sP	**sP**	**17 55 55.1**	**+2.3**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
TAPN	**Taplejung**	**43.98**	**306**	*e*P	**P**	**17 55 44.8**	**-1.3**
	comp=Z,8.8nm,0.7s						
ODAN	**Odare**	**44.03**	**305**	*e*P	**P**	**17 55 44.7**	**-1.7**
	comp=Z,14nm,0.8s						
RAMN	**Ramite**	**44.71**	**305**	*e*P	**P**	**17 55 50.3**	**-1.6**
JIRN	**Jiri**	**45.33**	**306**	*e*P	**P**	**17 55 55.4**	**-1.6**
HIA	**Hailar**	**45.65**	**354**	P	**P**	**17 55 59.0**	**+0.4**
GUN	**Gumba**	**45.69**	**306**	*e*P	**P**	**17 55 58.0**	**-1.7**
	comp=Z,19nm,0.7s						
KKN	**Kakani**	**46.12**	**305**	*e*P	**P**	**17 56 01.0**	**-2.0**
DMN	**Daman**	**46.19**	**305**	*e*P	**P**	**17 56 01.5**	**-2.1**
ULN	**Ulaanbaatar**	**47.02**	**342**	*e*P	**P**	**17 56 08.8**	**-0.8**
	comp=Z,6.7nm,1.1s						
SONM	**Songino Array**	**47.20**	**341**	P	**P**	**17 56 10.6**	**-0.4**
SONM				PcP	**PcP**	**17 57 43.4**	**+1.3**
SONM	**Songino Array**	**47.20**	**341**	P	**P**	**17 56 10.6**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=156,slow=6.0,SNR=7.1						
SONM				PcP	**PcP**	**17 57 43.4**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=156,slow=1.5,SNR=4.2						
SONM				LR	LR	18 17 00.1	
	comp=Z,139nm,20.5s,baz=343,slow=37						
KOLN	**Koldanda**	**47.49**	**305**	*e*P	**P**	**17 56 12.1**	**-1.6**
	comp=Z,15nm,0.6s						
DANN	**Dangsing**	**47.58**	**305**	*e*P	**P**	**17 56 12.6**	**-1.9**
	comp=Z,19nm,0.7s						
TLY	**Talaya**	**51.43**	**342**	P	**P**	**17 56 42.9**	**-0.3**
	comp=Z,6.1nm,1.0s						
PETK	**Petropavlovsk-**	**55.30**	**22**	P	**P**	**17 57 12.1**	**+0.5**
PETK	**Petropavlovsk-**	**55.30**	**22**	P	**P**	**17 57 12.1**	**+0.5**
	comp=Z,23nm,1.4s,baz=197,slow=4.5,SNR=2.6						
DGAR	**Diego Garcia**	**55.34**	**258**	*e*P	**P**	**17 57 11.8**	**-0.7**
	comp=Z,236nm,1.1s						
MK31	**Makanchi Array**	**57.48**	**325**	*e*P	**P**	**17 57 25.2**	**-2.0**
MKAR	**Makanchi Array**	**57.48**	**325**	P	**P**	**17 57 25.9**	**-1.3**
MKAR	**Makanchi Array**	**57.48**	**325**	P	**P**	**17 57 25.9**	**-1.3**
	comp=Z,1.0nm,0.4s,baz=118,slow=7.5,SNR=19						
MKAR				LR	LR	18 24 19.6	
	comp=Z,95nm,18.5s,baz=160,slow=38						
YAK	**Yakutsk**	**58.09**	**2**	*e*P	**P**	**17 57 30.0**	**-1.1**
	comp=Z,14nm,0.8s						
TKM2	**Tokmak 2**	**59.68**	**318**	P	**P**	**17 57 40.8**	**-2.1**
ZAA0	**Zalesovo Array**	**60.50**	**333**	*e*P	**P**	**17 57 45.8**	**-2.1**
ZALV	**Zalesovo Beam**	**60.50**	**333**	P	**P**	**17 57 45.7**	**-2.2**
ZALV	**Zalesovo Beam**	**60.50**	**333**	P	**P**	**17 57 45.7**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=140,slow=5.0,SNR=5.0						
ZALV				LR	LR	18 28 17.8	
	comp=Z,36nm,21.0s,baz=247,slow=40						
EKS2	**Erkin-Say**	**60.79**	**318**	P	**P**	**17 57 50.4**	**+0.1**
	comp=Z,9.7nm,1.3s						
KBL	**Kabul**	**61.48**	**307**	P	**P**	**17 57 53.6**	**-1.7**
	comp=Z,4.6nm,0.9s						
KURBB	**Kurchatov Arra**	**61.66**	**327**	P	**P**	**17 57 54.3**	**-1.6**
	comp=Z,2.5nm,0.7s,baz=127,slow=6.4,SNR=14						
KURBB				LR	LR	18 24 27.9	
	comp=Z,49nm,18.7s,baz=130,slow=36						
KURK	**Kurchatov**	**61.66**	**327**	*e*P	**P**	**17 57 54.0**	**-1.9**
	comp=Z,9.1nm,0.9s						
KKAR	**Karatay Array**	**63.17**	**317**	*e*P	**P**	**17 58 04.7**	**-1.5**
	comp=Z,3.4nm,1.0s						
BVAR	**Borovoye Array**	**67.24**	**327**	P	**P**	**17 58 32.8**	**+0.4**
BVAR	**Borovoye Array**	**67.24**	**327**	P	**P**	**17 58 32.8**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=127,slow=9.6,SNR=11						
BVAR				LR	LR	18 29 37.0	
	comp=Z,56nm,18.9s,baz=262,slow=38						
BRVK	**Borovoye**	**67.31**	**327**	*e*P	**P**	**17 58 32.6**	**-0.2**
	comp=Z,5.9nm,0.9s						
ABKAR	**Akbulak array**	**72.08**	**321**	*e*P	**P**	**17 59 01.1**	**-1.2**
	comp=Z,1.8nm,0.7s						
AKTO	**Aktyubinsk**	**73.59**	**322**	P	**P**	**17 59 11.6**	**+0.4**
AKTO	**Aktyubinsk**	**73.59**	**322**	P	**P**	**17 59 11.6**	**+0.4**
	comp=Z,3.2nm,1.0s,baz=89,slow=9.7,SNR=11						
ARU	**Arti**	**74.86**	**328**	*e*P	**P**	**17 59 19.0**	**+0.6**
	comp=Z,6.6nm,0.9s						
ILAR	**Eielson Array**	**84.98**	**25**	P	**P**	**18 00 13.2**	**+0.1**
ILAR	**Eielson Array**	**84.98**	**25**	P	**P**	**18 00 13.2**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=242,slow=6.5,SNR=9.4						
ILAR				LR	LR	18 36 20.7	
	comp=Z,73nm,21.8s,baz=319,slow=34						
BRTR	**Keskin Array B**	**89.97**	**310**	P	**P**	**18 00 37.6**	**-0.2**
BRTR	**Keskin Array B**	**89.97**	**310**	P	**P**	**18 00 37.6**	**-0.2**
	comp=Z,1.1nm,1.0s,baz=107,slow=4.1,SNR=4.6						
ARCES	**ARCESS Array B**	**90.35**	**340**	P	**P**	**18 00 40.0**	**+1.2**
ARCES	**ARCESS Array B**	**90.35**	**340**	P	**P**	**18 00 40.0**	**+1.2**
	comp=Z,1.7nm,0.8s,baz=70,slow=5.3,SNR=4.5						
ARCES				LR	LR	18 44 16.2	
	comp=Z,79nm,18.4s,baz=79,slow=38						
SPITS	**Spitsbergen Ar**	**90.37**	**349**	LR	LR	18 46 22.0	
	comp=Z,68nm,19.2s,baz=155,slow=39						
FINES	**FINESS Array B**	**91.75**	**332**	P	**P**	**18 00 45.2**	**-0.1**
FINES	**FINESS Array B**	**91.75**	**332**	P	**P**	**18 00 45.2**	**-0.1**
	comp=Z,2.2nm,0.9s,baz=46,slow=8.2,SNR=4.1						
AKASG	**Malin Array Be**	**91.82**	**321**	P	**P**	**18 00 47.1**	**+1.2**
AKASG	**Malin Array Be**	**91.82**	**321**	P	**P**	**18 00 47.1**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=62,slow=6.6,SNR=4.1						
QSPA	**South Pole Qui**	**93.75**	**180**	*e*P	**P**	**18 00 54.7**	**0.0**
	comp=Z,141nm,2.8s						
BUR08	**Bucovina Ar. S**	**94.94**	**318**	*e*P	**P**	**18 00 58.4**	**-2.2**
NOA	**NORSAR Array B**	**98.70**	**334**	LR	LR	18 51 49.2	
	comp=Z,55nm,18.1s,baz=5.0,slow=39						
YKA	**Yellowknife Ar**	**99.37**	**24**	P	**Pdif**	**18 01 21.0**	**+0.9**
YKA	**Yellowknife Ar**	**99.37**	**24**	P	**Pdif**	**18 01 21.0**	**+0.9**
	comp=Z,0.1nm,0.6s,baz=295,slow=4.1,SNR=3.9						
TXAR	**Lajitas Array**	**121.50**	**52**	PKP	**PKPdf**	**18 06 32.9**	**+0.7**
TXAR	**Lajitas Array**	**121.50**	**52**	PKP	**PKPdf**	**18 06 32.9**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=252,slow=0.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**122.92**	**288**	PKP	**PKPdf**	**18 06 36.1**	**+1.0**
TORD	**Torodi Ar. Bea**	**122.92**	**288**	PKP	**PKPdf**	**18 06 36.2**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=42,slow=2.3,SNR=2.9						
CPUP	**Villa Florida**	**157.30**	**170**	PKPab	**PKPab**	**18 08 07.0**	**+1.5**
CPUP	**Villa Florida**	**157.30**	**170**	PKPab	**PKPab**	**18 08 07.0**	**+1.5**
	comp=Z,2.3nm,0.6s,baz=194,slow=5.5,SNR=7.6						
LPAZ	**La Paz**	**160.84**	**131**	PKP	**PKPdf**	**18 07 40.8**	**+1.0**
LPAZ	**La Paz**	**160.84**	**131**	PKP	**PKPdf**	**18 07 40.8**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=178,slow=5.3,SNR=3.8						

IDC 17 17:50:28.9±1.5, 3°90N×126°87E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/20, mbtmp3.9/5, Error ellipse: s-maj=139.1km s-min=19.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.80**	**163**	P	P	17 55 52.9	0.0
	11nm,0.7s,baz=343,slow=11,SNR=14						
ASAR	**Alice Springs**	**28.24**	**166**	P	P	17 56 23.7	-0.2
	0.3nm,0.4s,baz=344,slow=8.0,SNR=3.6						
STKA	**Stephens Creek**	**38.23**	**160**	P	P	17 57 50.9	+0.1
	3.4nm,0.6s,baz=341,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**57.50**	**325**	P	P	18 00 18.6	-1.5
	0.3nm,0.6s,baz=123,slow=8.0,SNR=3.6						
KURBB	**Kurchatov Arra**	**61.67**	**327**	P	P	18 00 50.0	+1.3
	0.6nm,0.7s,baz=126,slow=6.6,SNR=3.3						

*IDC **17** 17:57:22.8± 1.7, 38°.36N×56°.62E, h0km, mb3.4/4, mb1 3.6/9, mb1mx3.4/30, mbtmp3.5/9, ML3.4/4, Error ellipse: s-maj=26.7km s-min=16.0km az=169.0*
*CSEM **17** 17:57:23.6± 0.2, 38°.45N×56°.72E, h20km, ML4.0, Error ellipse: s-maj=4.8km s-min=3.6km az=12.0*
*TEH **17** 17:57:24.7, 38°.43N×56°.75E, h23km, ML4.0*
*NNC **17** 17:57:30.4± 5.0, 39°.06N×57°.60E, h0km, mb3.7, Error ellipse: s-maj=45.7km s-min=25.6km az=16.0*

ISC 17 17:57:22.6±2.0, 38°45N±0°.05×56°73E±0°.05, h2km±15km, n67, σ1§42/75, mb3.4/4, 5C-1D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISHV	**Shirvan**	**1.19**	**140**	*e*Pg	**Pb**	**17 57 43.3**	**-2.7**
ISHV				*e*Sg	**Sn**	**17 58 02.6**	**-0.8**
ISHV				*e*		17 58 08.3	
	comp=Z,48μm,0.1s						
ISHV	**Shirvan**	**1.19**	**140**	*e*Pg	**Pb**	**17 57 43.3**	**-2.7**
ISHV				*e*Sg	**Sn**	**17 58 02.6**	**-0.8**
ISFR	**Sfrayin**	**1.71**	**144**	*e*Pn	**Pn**	**17 57 52.7**	**-1.1**
ISFR				*e*		17 57 55.2	
	comp=Z,32μm,0.3s						
ISFR				*e*Sg	**Sb**	**17 58 17.9**	**+0.7**
ISFR	**Sfrayin**	**1.71**	**144**	*e*Pn	**Pn**	**17 57 52.7**	**-1.1**
ISFR				*e*Sg	**Sb**	**17 58 17.9**	**+0.7**
IEMG	**Emamgholi**	**1.83**	**124**	*e*Pn	**Pn**	**17 57 55.1**	**-0.3**
IEMG				*e*		17 57 56.2	
	comp=Z,35μm,0.2s						
IEMG	**Emamgholi**	**1.83**	**124**	*e*Pn	**Pn**	**17 57 55.1**	**-0.3**
IQHU	**Qucahn**	**1.98**	**133**	*e*Pn	**Pn**	**17 57 58.1**	**+0.8**
IQHU				*e*		17 57 59.0	
	comp=Z,28μm,0.3s						
IQHU	**Qucahn**	**1.98**	**133**	*e*Pn	**Pn**	**17 57 58.1**	**+0.8**
IKRD	**Kardeh**	**2.19**	**139**	*e*		17 58 13.4	
	comp=Z,5μm,0.1s						
IKRD				*e*Pn	**Pg**	**17 58 07.4**	**+2.9**
IKRD				*e*Sg	Sg	17 58 50.6	+17
IAKL	**Akhelmad**	**2.44**	**138**	*e*Pn	**Pn**	**17 58 03.1**	**-0.7**
IAKL				*e*Sg	**Sb**	**17 58 40.3**	**+2.1**
IAKL				*e*		17 58 48.9	
	comp=Z,7μm,0.3s						
IAKL	**Akhelmad**	**2.44**	**138**	*e*Pn	**Pn**	**17 58 03.1**	**-0.7**
IAKL				*e*Sg	**Sb**	**17 58 40.3**	**+2.1**
IPAY	**Payeh**	**2.69**	**137**	*e*Pn	**Pn**	**17 58 05.8**	**-1.3**
IPAY				*e*		17 58 50.9	
	comp=Z,6μm,0.3s						
IPAY	**Payeh**	**2.69**	**137**	*e*Pn	**Pn**	**17 58 05.8**	**-1.3**
ISRO	**Mashad**	**3.05**	**134**	*e*Pn	**Pn**	**17 58 11.1**	**-0.9**
ISRO	**Mashad**	**3.05**	**134**	*e*Pn	**Pn**	**17 58 11.1**	**-0.9**
MHI	**Mashad**	**3.05**	**134**	*e*Pn	**Pn**	**17 58 11.3**	**-0.7**
MHI				*e*		17 58 18.9	
	comp=Z,4μm,0.2s						
IMOG	**Moghan**	**3.13**	**138**	*e*Pn	**Pn**	**17 58 12.1**	**-1.1**
IMOG				*e*		17 58 24.9	
	comp=Z,4μm,0.2s						
IMOG				*e*Sg	**Sb**	**17 58 59.2**	**+1.4**
IMOG	**Moghan**	**3.13**	**138**	*e*Pn	**Pn**	**17 58 12.1**	**-1.1**
IMOG				*e*Sg	**Sb**	**17 58 59.2**	**+1.4**
IKIA	**Kiasar**	**3.30**	**228**	*e*Pn	**Pn**	**17 58 15.7**	**+0.1**
IKIA				*e*		17 58 34.1	
	comp=Z,1μm,0.2s						
IKIA	**Kiasar**	**3.30**	**228**	*e*Pn	**Pn**	**17 58 15.7**	**+0.1**
IMYA	**Miami**	**3.41**	**127**	*e*Pn	**Pn**	**17 58 15.8**	**-1.2**
IMYA				*e*		17 59 23.2	
	comp=Z,3μm,0.4s						
IMYA	**Miami**	**3.41**	**127**	*e*Pn	**Pn**	**17 58 15.8**	**-1.2**
IANJ	**Anjilo**	**3.73**	**218**	*e*Pn	**Pn**	**17 58 20.2**	**-1.3**
IANJ				*e*		17 59 23.6	
	comp=Z,1μm,0.3s						
IANJ	**Anjilo**	**3.73**	**218**	*e*Pn	**Pn**	**17 58 20.2**	**-1.3**
ISHM	**Shahmirzad**	**3.81**	**227**	*e*Pn	**Pn**	**17 58 21.7**	**-0.9**
ISHM				*e*		17 58 36.8	
	comp=Z,2μm,0.2s						
ISHM	**Shahmirzad**	**3.81**	**227**	*e*Pn	**Pn**	**17 58 21.7**	**-0.9**
IALA	**Alasht**	**3.92**	**234**	*e*Pn	**Pn**	**17 58 23.0**	**-1.1**
IALA				*e*		17 59 13.6	
	comp=Z,3μm,0.2s						
IALA	**Alasht**	**3.92**	**234**	*e*Pn	**Pn**	**17 58 23.0**	**-1.1**
IPRN	**Peran**	**4.14**	**239**	*e*Pn	**Pn**	**17 58 26.2**	**-0.7**
IPRN				*e*		17 59 21.1	
	comp=Z,3μm,0.2s						
ILAS	**Lasjerd**	**4.30**	**226**	*e*Pn	**Pn**	**17 58 28.4**	**-0.9**
ILAS				*e*		17 59 48.0	
	comp=Z,1μm,0.4s						
ILAS	**Lasjerd**	**4.30**	**226**	*e*Pn	**Pn**	**17 58 28.4**	**-0.9**
IMON	**Monand**	**5.76**	**155**	*e*Pn	**Pn**	**17 58 48.1**	**-1.2**
IMON				*e*		17 58 52.5	
	comp=Z,514nm,0.1s						
IMON	**Monand**	**5.76**	**155**	*e*Pn	**Pn**	**17 58 48.1**	**-1.2**
ICHK	**Chekchek**	**6.47**	**198**	*e*Pn	**Pn**	**17 58 57.9**	**-1.2**
ICHK				*e*		17 58 59.3	
	comp=Z,326nm,0.2s						
ICHK	**Chekchek**	**6.47**	**198**	*e*Pn	**Pn**	**17 58 57.9**	**-1.2**
IZEF	**Zefreh**	**6.60**	**214**	*e*Pn	**Pn**	**17 58 59.4**	**-1.5**
IZEF				*e*		17 59 30.5	
	comp=Z,97nm,0.3s						
IZEF	**Zefreh**	**6.60**	**214**	*e*Pn	**Pn**	**17 58 59.4**	**-1.5**
IKLH	**Kolahrood**	**6.61**	**221**	*e*Pn	**Pn**	**17 58 59.6**	**-1.4**
IKLH				*e*		17 59 39.6	
	comp=Z,133nm,0.2s						
IKLH	**Kolahrood**	**6.61**	**221**	*e*Pn	**Pn**	**17 58 59.6**	**-1.4**
IBAF	**Bafgh**	**6.91**	**188**	*e*Pn	**Pn**	**17 59 03.5**	**-1.5**
IBAF				*e*		18 01 13.4	
	comp=Z,262nm,0.4s						
IBAF	**Bafgh**	**6.91**	**188**	*e*Pn	**Pn**	**17 59 03.5**	**-1.5**
ISRB	**Sarab**	**7.17**	**268**	*e*		17 59 10.4	
	comp=Z,375nm,0.2s						
ISRB				*e*Pn	**Pn**	**17 59 07.5**	**-1.2**
IMEH	**Mehriz**	**7.25**	**195**	*e*Pn	**Pn**	**17 59 08.2**	**-1.6**
IMEH				*e*		18 01 27.2	
	comp=Z,142nm,0.4s						
IMEH	**Mehriz**	**7.25**	**195**	*e*Pn	**Pn**	**17 59 08.2**	**-1.6**
IHRS	**Heris**	**7.61**	**272**	*e*Pn	**Pn**	**17 59 13.5**	**-1.3**
IHRS				*e*		17 59 18.9	
	comp=Z,303nm,0.2s						
IHRS	**Heris**	**7.61**	**272**	*e*Pn	**Pn**	**17 59 13.5**	**-1.3**
ITBZ	**Tabriz**	**8.32**	**272**	*e*Pn	**Pn**	**17 59 23.2**	**-1.3**
ITBZ	**Tabriz**	**8.32**	**272**	*e*Pn	**Pn**	**17 59 23.2**	**-1.3**
IMRD	**Marand**	**8.64**	**275**	*e*Pn	**Pn**	**17 59 27.4**	**-1.5**
IMRD	**Marand**	**8.64**	**275**	*e*Pn	**Pn**	**17 59 27.4**	**-1.5**
GNI	**Garni**	**9.45**	**284**	Pn	**Pn**	**17 59 40.0**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=348,slow=24,SNR=2.3						
AB31	**Akbulak array**	**11.05**	**11**	Pn	**Pn**	**17 59 59.8**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=194,slow=13,SNR=33						
AB31				⇑Sn	Sn	18 01 58.4	-7.3
	comp=Z,3.0nm,0.5s,baz=196,slow=22,SNR=5.1						
AB31	**Akbulak array**	**11.05**	**11**	Pn	**Pn**	**17 59 59.8**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=194,SNR=33						
AB31				Sn	Sn	18 01 58.4	-7.3
	comp=Z,3.0nm,0.5s,baz=196,SNR=5.1						
KK31	**Karatay Array**	**11.43**	**62**	⇑Pn	**Pn**	**18 00 05.6**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=306,slow=6.5,SNR=7.4						
KK31				⇑Sn	Sn	18 02 07.8	-7.4
	comp=Z,1.5nm,0.5s,baz=330,slow=41,SNR=5.5						
KK31				⇑Lg	Lg	18 03 01.6	
	comp=Z,13nm,0.9s,baz=254,slow=29,SNR=4.3						
KK31	**Karatay Array**	**11.43**	**62**	Pn	**Pn**	**18 00 05.6**	**-1.3**
	comp=Z,1.0nm,0.3s,SNR=7.4						
KK31				Sn	Sn	18 02 07.8	-7.4
	comp=Z,1.5nm,0.5s,SNR=5.5						
KK31				Lg	Lg	18 03 01.6	
	comp=Z,13nm,0.9s,SNR=4.3						
AKTO	**Aktyubinsk**	**12.02**	**4**	⇑Pn	**Pn**	**18 00 14.7**	**-0.2**
	comp=Z,1.1nm,1.2s						
AKTO				⇓Sn	Sn	18 02 23.4	-6.2
	comp=Z,0.8nm,0.7s						
AKTO	**Aktyubinsk**	**12.02**	**4**	Pn	**Pn**	**18 00 14.7**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=181,slow=9.9,SNR=12						
AKTO				Sn	Sn	18 02 23.3	-6.2
	comp=Z,0.4nm,0.3s,baz=77,slow=23,SNR=2.4						
AKTO	**Aktyubinsk**	**12.02**	**4**	Pn	**Pn**	**18 00 14.7**	**-0.2**
	comp=Z,1.1nm,1.2s						
AAK	**Ala-Archa**	**14.14**	**67**	Pn	**Pn**	**18 00 42.7**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=302,slow=3.0,SNR=5.0						
BVAR	**Borovoye Array**	**17.37**	**29**	P	**Pn**	**18 01 25.3**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=211,slow=12,SNR=9.1						
BRTR	**Keskin Array B**	**17.97**	**281**	P	**Pn**	**18 01 33.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=100,slow=13,SNR=2.4						
KURBB	**Kurchatov Arra**	**19.65**	**45**	P	**P**	**18 01 52.6**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=247,slow=12,SNR=4.0						
MKAR	**Makanchi Array**	**20.51**	**58**	P	**P**	**18 02 02.7**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=246,slow=9.1,SNR=8.9						
AKASG	**Malin Array Be**	**22.96**	**311**	P	**P**	**18 02 28.3**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=112,slow=9.5,SNR=4.8						
MLR	**Muntele Rosu**	**23.85**	**297**	P	**P**	**18 02 41.6**	**+4.3**
	comp=Z,0.3nm,0.5s,baz=112,slow=7.2,SNR=3.2						
ZALV	**Zalesovo Beam**	**24.64**	**42**	P	**P**	**18 02 46.5**	**+2.2**
	comp=Z,0.4nm,0.3s,baz=254,slow=9.0,SNR=3.8						
YKA	**Yellowknife Ar**	**79.16**	**356**	P	**P**	**18 09 31.1**	**+2.6**
	comp=Z,0.2nm,0.7s,baz=360,slow=6.4,SNR=6.5						

*IDC **17** 17:59:49.1± 1.1, 3°.82N×127°.00E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/21, mbtmp3.9/8, MS3.1/1, Ms1 3.1/1, ms1mx1.8/34, Error ellipse: s-maj=68.2km s-min=15.2km az=67.0*
*ISCJB **17** 17:59:52.0± 0.8, 3°.96N±0°.06×127°.08E±0°.10, h36km, mb3.9/8, Error ellipse: s-maj=14.5km s-min=8.3km az=167.4*
*DJA **17** 18:00:07.2± 0.5, 3°N±5°×12°7E±°, h57km±21km, M4.2/7, mb4.3/6, mB4.7/2, MLv4.2/7, Mw(mB)3.9/2*

ISC 17 17:59:54.3±0.9, 3°90N±0°.09×127°1E±0°.1, h36km, n22, σ1§32/18, mb3.9/8, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**3.01**	**316**	⇑*e*P	**Pn**	**18 00 37.5**	**-2.2**
TNTI	**Ternate**	**3.13**	**174**	P	**Pn**	**18 00 42.6**	**+1.5**
MNI	**Manado**	**3.29**	**222**	P	**Pn**	**18 00 43.6**	**+0.2**
DAV	**Davao City (W)**	**3.47**	**335**	P	Pn	18 01 08.5	+23
DAV	**Davao City (W)**	**3.47**	**335**	LR	LR	18 02 28.5	
	comp=Z,281nm,19.6s,baz=23,slow=45						
CTBH	**Cotabato--PC H**	**4.32**	**320**	⇑*i*P	**Pn**	**18 00 56.8**	**-0.7**
KMSI	**Cibinong**	**4.51**	**223**	P	**Pn**	**18 01 01.9**	**+1.8**
LBMI	**Labuha**	**4.53**	**174**	P	Pn	18 01 05.8	+5.3
MRSI	**Marisa**	**6.13**	**236**	P	**Pn**	**18 01 22.8**	**+0.4**
	48nm,0.6s,588nm0.2nm						
SWI	**Sorong**	**6.34**	**138**	P	Pn	18 01 33.2	+8.0
	15nm,0.9s,0.1nm						
LUWI	**Luwuk**	**6.51**	**221**	P	**Pn**	**18 01 29.2**	**+1.6**
	85nm,1.2s,788nm0.3nm						
MYLDM	**Lahad Datu**	**8.61**	**279**	P	Pn	18 02 05.8	+9.3
	16nm,0.9s						
TTSI	**Tana Toraja**	**9.99**	**226**	P	**Pn**	**18 02 15.5**	**+0.1**
	16nm,1.4s						
SBUM	**Sibu**	**14.87**	**265**	P	**P**	**18 03 26.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**21.91**	**184**	P	**P**	**18 04 42.7**	**-1.9**
	3.6nm,0.5s,baz=26,slow=8.0,SNR=5.7						
WRA	**Warramunga Arr**	**24.76**	**163**	P	**P**	**18 05 12.2**	**-0.6**
	13nm,0.7s,baz=344,slow=11,SNR=59						
ASAR	**Alice Springs**	**28.21**	**167**	P	**P**	**18 05 42.9**	**-1.0**
	0.3nm,0.3s,baz=344,slow=7.4,SNR=13						
ASAR				PcP	**PcP**	**18 08 56.9**	**-0.3**
	0.7nm,0.9s,baz=335,slow=1.5,SNR=5.0						
CMAR	**Chiang Mai Arr**	**31.06**	**300**	P	**P**	**18 06 10.5**	**+1.3**
	0.7nm,0.7s,baz=91,slow=5.5,SNR=5.7						
STKA	**Stephens Creek**	**38.18**	**160**	P	**P**	**18 07 10.4**	**-0.1**
	5.7nm,0.6s,baz=335,slow=8.7,SNR=22						
SONM	**Songino Array**	**47.24**	**341**	P	**P**	**18 08 26.1**	**+2.2**
	0.3nm,0.6s,baz=152,slow=8.3,SNR=2.7						
MKAR	**Makanchi Array**	**57.59**	**325**	P	**P**	**18 09 39.9**	**-0.8**
	0.6nm,0.4s,baz=120,slow=7.2,SNR=10						
KURBB	**Kurchatov Arra**	**61.77**	**327**	P	**P**	**18 10 08.6**	**-0.7**
	0.6nm,0.8s,baz=130,slow=7.5,SNR=4.2						

*ISCJB **17** 18:03:32.2± 0.6, 38°.61N±0°.04×56°.58E±0°.08, h10km, Error ellipse: s-maj=8.8km s-min=5.9km az=4.1*
*CSEM **17** 18:03:33.9± 0.2, 38°.46N×56°.67E, h2km, ML3.7, Error ellipse: s-maj=4.5km s-min=3.9km az=101.0*
*TEH **17** 18:03:35.3, 38°.44N×56°.68E, h5km, ML3.7*
*NNC **17** 18:03:40.3± 1.7, 38°.91N×57°.37E, h0km, mb3.8, Error ellipse: s-maj=15.3km s-min=8.5km az=17.0*

ISC 17 18:03:34.1±0.9, 38°50N±0°.05×56°71E±0°.05, h10km, n31, σ1§31/39, 2C-4D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISHV	**Shirvan**	**1.25**	**141**	*e*Pg	**Pn**	**18 03 55.9**	**-1.9**
ISHV				*e*		18 04 23.5	
	comp=Z

ellipse: s-maj=4.3km s-min=3.0km az=112.0,Mining explosion.
NAO ***17*** *18:06:05.7±1.1,67.08N×21.12E,ML2.3*
UPP ***17*** *18:06:05.1,67.07N×20.95E,h0km,ML1.9,Mining explosion.*
IDC ***17*** *18:06:06.1±0.8,67.09N×21.21E,h0km,mb1 3.1/4, mb1mx3.0/26,mbtmp3.1/4,ML2.4/4,Error ellipse: s-maj=14.7km s-min=6.2km az=115.0*
HEL ***17*** *18:06:06.0±0.1,67.08N×20.89E,h0km,ML1.7, ML1.9(UPP),ML2.0(BER), Explosion*
BER ***17*** *18:06:08.3±4.0,67.08N×21.04E,h0km,ML2.0, ML2.3(NAO), Suspected explosion*

ISC 17 18:06:04.8±0.8, 67.06N±0.03×20.90E±0.03, h0km, n73, σ1s21/113, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HARU	**Harads**	**0.90**	**178**	*e*P	**Pg**	**18 06 21.9**	**-0.2**
HARU	**Harads**	**0.90**	**178**	P	**Pg**	**18 06 21.9**	**-0.2**
KUA	**Kurravaara**	**0.92**	**347**	*e*P	**Pg**	**18 06 22.3**	**-0.2**
KUA	**Kurravaara**	**0.92**	**347**	P	**Pg**	**18 06 22.3**	**-0.2**
LANU	**Lannavaara**	**1.08**	**22**	*e*P	**Pg**	**18 06 24.9**	**-0.5**
LANU	**Lannavaara**	**1.08**	**22**	P	**Pg**	**18 06 24.9**	**-0.5**
NIKU	**Nikkaluokta**	**1.08**	**319**	*e*P	**Pg**	**18 06 25.5**	**-0.1**
NIKU	**Nikkaluokta**	**1.08**	**319**	P	**Pg**	**18 06 25.4**	**-0.1**
KALU	**Kalix**	**1.56**	**140**	*e*P	**Pn**	**18 06 33.8**	**0.0**
KALU	**Kalix**	**1.56**	**140**	P	**Pn**	**18 06 33.8**	**0.0**
SJUU	**Sjulsmark**	**1.59**	**169**	*e*P	**Pn**	**18 06 34.0**	**-0.1**
SJUU	**Sjulsmark**	**1.59**	**169**	P	**Pn**	**18 06 34.0**	**-0.1**
HEF	**Hetta**	**1.71**	**37**	*e*P	**Pn**	**18 06 35.8**	**-0.1**
HEF				MSG	**Sn**	**18 06 58.4**	**-0.1**
	comp=Z,13nm,0.4s						
HEF				*e*SG	**Sn**	**18 06 58.4**	**-0.1**
HEF	**Hetta**	**1.71**	**37**	P	**Pn**	**18 06 35.8**	**-0.1**
HEF				Sg	**Sn**	**18 06 58.4**	**-0.1**
LILU	**Lilltraesk**	**1.83**	**194**	*e*P	**Pn**	**18 06 38.2**	**+0.7**
LILU	**Lilltraesk**	**1.83**	**194**	P	**Pn**	**18 06 38.2**	**+0.7**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*RG	Rg	18 07 08.1	
RNF	**Rovaniemi**	**2.07**	**100**	*e*P	**Pn**	**18 06 41.7**	**+0.9**
RNF				*e*S	**Sb**	**18 07 09.7**	**+0.2**
RNF				MSG		18 07 09.7	
	comp=Z,6.0nm,0.4s						
RNF	**Rovaniemi**	**2.07**	**100**	P	**Pn**	**18 06 41.7**	**+0.9**
RNF				S	**Sb**	**18 07 09.7**	**+0.2**
KTK1	**Kautokeino**	**2.15**	**23**	*e*P	**Pn**	**18 06 42.4**	**+0.5**
KTK1				AML	AML	18 07 15.5	
	comp=Z,36nm,0.3s						
KTK1	**Kautokeino**	**2.15**	**23**	*e*P	**Pn**	**18 06 42.4**	**+0.5**
KTK1				AML	AML	18 07 15.5	
	comp=Z,36nm,0.3s						
KTK1	**Kautokeino**	**2.15**	**23**	*e*P	**Pn**	**18 06 42.3**	**+0.5**
	SNR=50						
SGF	**Sodankyl**	**2.22**	**78**	*e*P	**Pn**	**18 06 44.0**	**+1.2**
SGF				*e*SG	**Sb**	**18 07 13.9**	**+0.2**
SGF				MSG		18 07 13.9	
	comp=Z,5.1nm,0.4s						
SGF	**Sodankyl**	**2.22**	**78**	P	**Pn**	**18 06 44.0**	**+1.2**
SGF				Sg	**Sb**	**18 07 13.9**	**+0.2**
BURU	**Burvik**	**2.50**	**175**	*e*P	**Pn**	**18 06 48.0**	**+1.3**
BURU	**Burvik**	**2.50**	**175**	P	**Pn**	**18 06 47.9**	**+1.3**
SVAU	**Svanoeiden**	**2.64**	**193**	*e*P	**Pn**	**18 06 49.9**	**+1.3**
SVAU	**Svanoeiden**	**2.64**	**193**	P	**Pn**	**18 06 49.9**	**+1.3**
MOR8	**Moi Rana**	**2.73**	**254**	*e*P	**Pn**	**18 06 50.3**	**+0.4**
MOR8				AML	AML	18 07 31.3	
	comp=Z,9.5nm,0.2s						
MOR8	**Moi Rana**	**2.73**	**254**	*e*P	**Pn**	**18 06 50.3**	**+0.4**
MOR8				AML	AML	18 07 31.3	
	comp=Z,9.5nm,0.2s						
MOR8	**Moi Rana**	**2.73**	**254**	*e*P	**Pn**	**18 06 50.3**	**+0.4**
	SNR=50						
OUL	**Oulu**	**2.84**	**132**	*e*P	**Pb**	**18 06 55.3**	**-1.1**
OUL				*e*SG	**Sb**	**18 07 33.8**	**+2.2**
OUL				MSG		18 07 33.8	
	comp=Z,1.8nm,0.2s						
OUL	**Oulu**	**2.84**	**132**	P	**Pb**	**18 06 55.3**	**-1.1**
OUL				Sg	**Sb**	**18 07 33.8**	**+2.2**
ARA0	**ARCESS Array S**	**3.02**	**32**	Pn	**Pn**	**18 06 54.3**	**+0.5**
	baz=215,slow=14						
ARA0				Sn	**Sn**	**18 07 31.8**	**+1.2**
	baz=209,slow=22						
ARA0	**ARCESS Array S**	**3.02**	**32**	Pn	**Pn**	**18 06 54.3**	**+0.5**
	baz=215,slow=14						
ARA0				Sn	**Sn**	**18 07 31.8**	**+1.2**
	baz=209,slow=22						
ARA0	**ARCESS Array S**	**3.02**	**32**	*e*P	**Pn**	**18 06 53.8**	**0.0**
ARA0				*e*SB	**Sn**	**18 07 32.4**	**+1.8**
ARA0				MSG	**Sn**	**18 07 32.4**	**+1.8**
	comp=Z,0.8nm,0.3s						
ARA0				MSG	**Sn**	**18 07 32.4**	**+1.8**
	comp=Z,0.8nm,0.3s						
ARA0				*e*S	**Sn**	**18 07 32.4**	**+1.8**
ARA0	**ARCESS Array S**	**3.02**	**32**	P	**Pn**	**18 06 53.8**	**0.0**
ARA0	**ARCESS Array S**	**3.02**	**32**	Pn	**Pn**	**18 06 54.3**	**+0.5**
	baz=215,slow=14,SNR=50						
ARA0				Sn	**Sn**	**18 07 31.8**	**+1.2**
	baz=209,slow=21,SNR=50						
ARA0				S	**Sn**	**18 07 32.4**	**+1.8**
ARCES	**ARCESS Array B**	**3.02**	**32**	Pn	**Pn**	**18 06 54.3**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=217,slow=13,SNR=46						
ARCES				Sn	**Sn**	**18 07 31.3**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=210,slow=26,SNR=8.5						
ARCES				Lg	Lg	18 07 37.5	
	comp=Z,2.3nm,0.3s,baz=214,slow=41,SNR=7.1						
UMAU	**Umeaa**	**3.19**	**182**	*e*P	**Pn**	**18 06 57.4**	**+1.1**
UMAU	**Umeaa**	**3.19**	**182**	P	**Pn**	**18 06 57.3**	**+1.1**
BREU	**Bredtraesk**	**3.33**	**198**	*e*P	**Pn**	**18 06 58.8**	**+0.7**
BREU	**Bredtraesk**	**3.33**	**198**	P	**Pn**	**18 06 58.8**	**+0.7**
VRF	**Varrio**	**3.43**	**74**	*e*P	**Pn**	**18 07 02.2**	**+2.7**
VRF	**Varrio**	**3.43**	**74**	P	**Pn**	**18 07 02.1**	**+2.7**
MSF	**Maaselka**	**3.46**	**106**	*e*P	**Pn**	**18 07 01.9**	**+2.0**
MSF				MSG	**Sg**	**18 07 55.9**	**0.0**
	comp=Z,0.7nm,0.4s						
MSF				*e*SG	**Sg**	**18 07 55.9**	**0.0**
MSF	**Maaselka**	**3.46**	**106**	P	**Pn**	**18 07 01.9**	**+2.0**
MSF				Sg	**Sg**	**18 07 55.9**	**0.0**
KEV	**Kevo**	**3.52**	**37**	*e*P	**Pn**	**18 07 01.6**	**+0.8**
KEV				*e*SB	**Sn**	**18 07 47.0**	**+4.0**
KEV				MSG		18 07 47.0	
	comp=Z,1.4nm,0.4s						
KEV	**Kevo**	**3.52**	**37**	P	**Pn**	**18 07 01.5**	**+0.8**
KEV				Sb	**Sn**	**18 07 47.0**	**+4.0**
KU6	**Riekki**	**3.74**	**102**	*e*P	**Pn**	**18 07 04.7**	**+1.0**
KU6				MSG	**Sg**	**18 08 03.2**	**-1.7**
	comp=Z,3.1nm,0.2s						
KU6				*e*SG	**Sg**	**18 08 03.2**	**-1.7**
KU6	**Riekki**	**3.74**	**102**	P	**Pn**	**18 07 04.7**	**+1.0**
KU6				Sg	**Sg**	**18 08 03.2**	**-1.7**
NSS	**Namsos**	**4.47**	**240**	*e*P	**Pn**	**18 07 15.6**	**+1.8**
NSS	**Namsos**	**4.47**	**240**	*e*P	**Pn**	**18 07 15.6**	**+1.8**
NSS	**Namsos**	**4.47**	**240**	P	**Pn**	**18 07 15.5**	**+1.8**
APA0	**Apatity Array**	**4.71**	**78**	Pn	**Pn**	**18 07 17.2**	**+0.2**
	baz=263,slow=12						
APA0				Sn	**Sn**	**18 08 12.0**	**-0.3**
	baz=274,slow=28						
APA0				Lg	Lg	18 08 28.5	
	baz=274,slow=28						
APA0	**Apatity Array**	**4.71**	**78**	Pn	**Pn**	**18 07 17.2**	**+0.2**
	baz=263,slow=12						
APA0				Sn	**Sn**	**18 08 12.0**	**-0.3**
	baz=274,slow=28						
APA0				Lg	Lg	18 08 28.5	
	baz=274,slow=28						
APA0	**Apatity Array**	**4.71**	**78**	*e*P	**Pn**	**18 07 17.2**	**+0.2**
APA0				*e*S	**Sn**	**18 08 12.0**	**-0.3**
APA0				*e*SG	**Sb**	**18 07 17.2**	**+0.2**
APA0	**Apatity Array**	**4.71**	**78**	P	**Pn**	**18 07 17.2**	**+0.2**
APA0				Sn	**Sn**	**18 08 12.0**	**-0.3**
	baz=274,slow=25,SNR=50						
APA0				Lg	Lg	18 08 28.5	
	baz=274,slow=27,SNR=7.1						
FIA0	**FINESS Array S**	**6.07**	**156**	Pn	**Pn**	**18 07 37.0**	**+1.3**
	baz=344,slow=14						
FIA0				Sn	**Sn**	**18 08 45.8**	**0.0**
	baz=358,slow=28						
FIA0	**FINESS Array S**	**6.07**	**156**	Pn	**Pn**	**18 07 37.0**	**+1.3**
	baz=344,slow=14						
FIA0				Sn	**Sn**	**18 08 45.8**	**0.0**
	baz=358,slow=28						
FIA0	**FINESS Array S**	**6.07**	**156**	*e*P	**Pn**	**18 07 37.0**	**+1.3**
FIA0				*e*S	**Sn**	**18 08 45.8**	**0.0**
FIA0	**FINESS Array S**	**6.07**	**156**	P	**Pn**	**18 07 37.0**	**+1.3**
FIA0				Sn	**Sn**	**18 08 45.8**	**0.0**
	baz=358,slow=28,SNR=50						
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**18 07 37.0**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=348,slow=12,SNR=11						
FINES				Sn	**Sn**	**18 08 46.1**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=353,slow=25,SNR=6.7						
FINES				Lg	Lg	18 09 17.1	
	comp=Z,0.3nm,0.3s,baz=351,slow=27,SNR=2.3						
NB2	**NORSAR Subarra**	**7.38**	**220**	Pn	**Pn**	**18 07 53.7**	**0.0**
	baz=26,slow=14						
NB2	**NORSAR Subarra**	**7.38**	**220**	P	**Pn**	**18 07 53.7**	**0.0**
	baz=26,slow=14						
NB2	**NORSAR Subarra**	**7.38**	**220**	*e*P	**Pn**	**18 07 53.7**	**0.0**
NB2	**NORSAR Subarra**	**7.38**	**220**	P	**Pn**	**18 07 53.7**	**0.0**
	baz=26,slow=13,SNR=47						
NOA	**NORSAR Array B**	**7.38**	**220**	Pn	**Pn**	**18 07 53.8**	**0.0**
	comp=Z,0.1nm,0.3s,baz=200,slow=14,SNR=1.6						
NOA				Sn	**Sn**	**18 09 18.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=3.1,slow=12,SNR=1.6						
NOA				Lg	Lg	18 10 01.5	
	comp=Z,0.2nm,0.3s,baz=56,slow=14,SNR=3.3						
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 07 56.1**	**-1.3**
	baz=29,slow=16						
HFS				Sn	**Sn**	**18 09 23.4**	**-1.4**
	baz=29,slow=22						
HFS	**Hagfors**	**7.66**	**208**	P	**Pn**	**18 07 56.1**	**-1.3**
	baz=29,slow=16						
HFS				Sn	**Sn**	**18 09 23.4**	**-1.4**
	baz=29,slow=22						
HFS	**Hagfors**	**7.66**	**208**	*e*P	**Pn**	**18 07 56.1**	**-1.3**
HFS				*e*S	**Sn**	**18 09 23.4**	**-1.4**
HFS	**Hagfors**	**7.66**	**208**	Pn	**Pn**	**18 07 57.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=41,slow=14,SNR=7.8						
HFS				Sn	**Sn**	**18 09 23.6**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=37,slow=20,SNR=4.5						
HFS	**Hagfors**	**7.66**	**208**	P	**Pn**	**18 07 56.1**	**-1.3**
	baz=29,slow=14,SNR=47						

IDC ***17*** *18:14:34.2±2.9,49.00N×154.77E,h92km±25km,* **mb3.1**/9, **mb1 3.3**/11,**mb1mx3.2**/27,**mbtmp3.2**/11, **Error ellipse: s-maj=29.2km s-min=18.5km az=127.0, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**4.50**	**23**	P	Pn	18 15 39.5	-0.5
	1.1nm,0.3s,baz=183,slow=13,SNR=13						
ASAJ	**Asahikawa**	**9.70**	**244**	P	Pn	18 16 51.5	+0.8
	4.3nm,0.3s,baz=68,slow=11,SNR=11						
FX1	**Attu Island--F**	**12.23**	**65**	P	Pn	18 17 19.4	-5.5
	1.2nm,0.3s,baz=236,slow=21,SNR=7.1						
FX1				S	Sn	18 19 26.7	-12
	1.6nm,0.3s,baz=342,slow=14,SNR=8.9						
MKAR	**Makanchi Array**	**46.92**	**296**	P	P	18 22 55.0	-0.2
	0.1nm,0.5s,baz=70,slow=9.0,SNR=3.1						
KURBB	**Kurchatov Arra**	**47.16**	**302**	P	P	18 22 56.2	-0.8
	0.2nm,0.4s,baz=66,slow=8.1,SNR=3.3						
YKA	**Yellowknife Ar**	**48.45**	**38**	P	P	18 23 07.5	+0.7
	0.2nm,0.8s,baz=293,slow=7.5,SNR=3.6						
BVAR	**Borovoye Array**	**50.31**	**309**	P	P	18 23 20.1	-0.9
	0.2nm,0.4s,baz=61,slow=7.1,SNR=4.8						
BVAR				PcP	PcP	18 24 39.1	+0.7
	0.4nm,0.4s,baz=13,slow=0.5,SNR=5.6						
CMAR	**Chiang Mai Arr**	**53.99**	**256**	P	P	18 23 50.0	+1.2
	0.6nm,0.7s,baz=35,slow=7.6,SNR=8.0						
FINES	**FINESS Array B**	**62.47**	**335**	P	P	18 24 46.4	-0.7
	1.4nm,0.9s,baz=31,slow=7.8,SNR=4.6						
SCHQ	**Schefferville**	**70.80**	**24**	P	P	18 25 40.8	+0.5
	0.7nm,0.5s,baz=0.0,slow=6.1,SNR=3.1						
WRA	**Warramunga Arr**	**71.01**	**200**	P	P	18 25 41.0	-0.8
	0.2nm,0.6s,baz=20,slow=6.6,SNR=3.1						
ASAR	**Alice Springs**	**74.70**	**200**	P	P	18 26 02.9	-0.7
	0.3nm,0.9s,baz=16,slow=6.6,SNR=4.1						

IDC ***17*** *18:16:04.9±1.5,3.72N×126.94E,h0km,* **mb3.6**/6, **mb1 3.8**/6,**mb1mx3.5**/21,**mbtmp3.7**/6, **Error ellipse: s-maj=98.9km s-min=20.5km az=68.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.72**	**183**	P	P	18 20 57.1	-0.7
	1.0nm,0.4s,baz=12,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**24.61**	**163**	P	P	18 21 26.8	-0.3
	4.3nm,0.7s,baz=344,slow=10,SNR=90						
ASAR	**Alice Springs**	**28.05**	**166**	P	P	18 21 58.3	+0.1
	0.2nm,0.3s,baz=342,slow=11,SNR=11						
STKA	**Stephens Creek**	**38.05**	**160**	P	P	18 23 25.7	+0.5
	1.6nm,0.5s,baz=336,slow=9.4,SNR=5.6						
MKAR	**Makanchi Array**	**57.68**	**325**	P	P	18 25 55.9	-1.4
	0.2nm,0.5s,baz=122,slow=7.9,SNR=3.7						
KURBB	**Kurchatov Arra**	**61.86**	**327**	P	P	18 26 27.2	+1.3
	0.1nm,0.4s,baz=126,slow=6.6,SNR=2.7						

DJA 17 18:28:33.1±2.1,4.7S±5.7°×101.1E±°,h19km±26km, M4.0/5, MLv4.0/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**1.63**	**82**	P	Pn	18 29 00.6	-0.3
KSI				S	Sn	18 29 21.8	+0.3
KRJI	**Kerinci**	**1.83**	**16**	P	Pn	18 29 03.0	-0.8
KRJI				S	Sn	18 29 27.2	+0.6
MNAI	**Manna**	**2.04**	**104**	P	Pn	18 29 06.3	-0.2
MNAI				S	Sn	18 29 32.3	+0.9
SDSI	**Sungai Dareh**	**2.95**	**9**	P	Pn	18 29 19.6	+0.6
KASI	**Kota Agung**	**3.88**	**115**	P	Pn	18 29 32.0	+0.2

PRE 17 18:29:48.1±0.4,28.02S×26.67E,h2km, ML1.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SEK	**Senekal**	**0.90**	**110**	*e*P	Pg	18 30 05.4	-0.2
SEK				*e*S	Sg	18 30 17.7	+0.4
SEK				AML	AML	18 30 20.0	
	comp=Z,8.6nm,0.2s						
PRYS	**Parys**	**1.25**	**30**	*e*P	Pg	18 30 12.4	0.0
PRYS				*e*S	Sb	18 30 29.7	+0.3
PRYS				AML	AML	18 30 31.9	
	comp=Z,18nm,0.2s						
BOSA	**Boshof**	**1.38**	**244**	*e*P	Pn	18 30 14.6	+0.1
BOSA				*e*S	Sn	18 30 33.9	+0.5
BOSA				AML	AML	18 30 39.9	
	comp=Z,2.9nm,0.3s						
SWZ	**Schweizer**	**1.45**	**305**	*e*P	Pb	18 30 15.9	-0.1
SWZ				*e*S	Sn	18 30 36.0	+0.7
SWZ				AML	AML	18 30 43.0	
	comp=Z,6.6nm,0.2s						

IDC ***17*** *18:31:42.8±0.9,0.45S×133.01E,h0km,mb3.8/7, mb1 4.0/9,mb1mx3.9/19,mbtmp3.8/9,ML4.0/1,MS3.1/2, Ms1 3.1/2,ms1mx2.5/33, Error ellipse: s-maj=40.3km s-min=16.1km az=71.0*
ISCJB ***17*** *18:31:45.8±0.6,0.43S±0.05×132.94E±0.04,h32km, mb3.8/7, Error ellipse: s-maj=6.6km s-min=6.2km az=5.6*
DJA ***17*** *18:31:48.5±0.6,0.7S±4.3×13.3E±°,h62km±13km,M4.8/8, mb5.0/5,mB5.2/3,MLv4.6/8,Mw(mB)4.6/3*

ISC 17 18:31:47.6±0.8, 0.43S±0.06×132.94E±0.05, h32km, n19, σ0s95/24, mb3.7/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**1.73**	**256**	P	Pn	**18 32 14.2**	**-1.3**
SWI				S	Sn	**18 32 37.2**	**+0.7**
FAKI	**Fak Fak**	**2.57**	**196**	P	Pn	**18 32 26.4**	**-0.6**
FAKI				S	Sn	**18 32 58.3**	**+1.2**
BAKI	**Biak**	**3.25**	**103**	P	Pn	**18 32 37.0**	**+0.6**
MSAI	**Masohi**	**4.95**	**234**	P	Pn	**18 33 01.7**	**+2.0**
MSAI				S	Sn	**18 33 57.2**	**+1.4**
BNDI	**Bandanaira**	**5.07**	**217**	P	Pn	**18 33 02.0**	**+0.6**
BNDI				S	Sn	**18 33 59.4**	**+0.5**
TLE	**Tual**	**5.17**	**182**	P	Pn	**18 33 03.1**	**+0.3**
	168nm,0.6s,3μm1.1nm						
TLE				S	Sn	**18 34 01.9**	**+0.4**
	168nm,0.6s,3μm1.1nm						
LBMI	**Labuha**	**5.44**	**268**	P	Pn	**18 33 06.2**	**-0.3**
	181nm,0.8s,2μm						
LBMI				S	Sn	**18 34 08.0**	**-0.1**
	181nm,0.8s,2μm						
TNTI	**Ternate**	**5.70**	**282**	P	Pn	**18 33 10.5**	**+0.4**
	42nm,1.0s,0.2nm						
AAI	**Ambon**	**5.74**	**236**	P	Pn	**18 33 10.8**	**+0.2**
GUMO	**Guam**	**18.27**	**40**	LR	LR	18 42 07.6	
	comp=Z,59nm,22.0s,baz=99,slow=34						
FITZ	**Fitzroy Crossi**	**18.97**	**202**	P	P	**18 36 04.7**	**-1.6**
	0.4nm,0.3s,baz=11,slow=12,SNR=4.6						
FITZ				LR	LR	18 43 24.2	
	comp=Z,56nm,20.5s,baz=7.1,slow=37						
WRA	**Warramunga Arr**	**19.44**	**176**	P	P	**18 36 10.8**	**-0.7**
	0.5nm,0.3s,baz=356,slow=12,SNR=22						
ASAR	**Alice Springs**	**23.11**	**178**	P	P	**18 36 50.2**	**-0.8**
	5.0nm,0.5s,baz=355,slow=11,SNR=74						
CTA	**Charters Tower**	**23.48**	**147**	P	P	**18 36 55.3**	**+0.6**
	4.7nm,0.8s,baz=346,slow=12,SNR=3.2						
STKA	**Stephens Creek**	**32.33**	**166**	P	P	**18 38 12.9**	**-1.1**
	2.7nm,0.6s,baz=336,slow=8.6,SNR=9.5						
CMAR	**Chiang Mai Arr**	**38.32**	**301**	P	P	**18 39 06.7**	**+1.0**
	0.4nm,0.6s,baz=122,slow=8.6,SNR=3.7						
MKAR	**Makanchi Array**	**64.52**	**324**	P	P	**18 42 22.3**	**+0.8**
	0.3nm,0.5s,baz=120,slow=7.9,SNR=5.4						
ZALV	**Zalesovo Beam**	**67.14**	**331**	P	P	**18 42 38.5**	**+0.4**
	0.2nm,0.4s,baz=126,slow=5.8,SNR=2.3						
ILAR	**Eielson Array**	**86.19**	**25**	P	P	**18 44 24.9**	**-0.6**
	0.3nm,0.8s,baz=263,slow=3.6,SNR=3.4						

IDC ***17*** *18:32:25.0±3.7,6.85S×103.53E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.6/20,mbtmp3.7/5, Error ellipse: s-maj=193.2km s-min=20.7km az=52.0*
ISCJB ***17*** *18:32:34.4±0.7,6.14S±0.08×105.01E±0.06,h51km, mb3.8/5, Error ellipse: s-maj=13.0km s-min=3.8km az=33.9*
DJA ***17*** *18:32:34,6.14S×105.10E,h10km,MLv4.3/12*

ISC 17 18:32:35.2±1.0, 6.20S±0.07×104.99E±0.05, h51km, n24, σ1s97/30, mb3.9/5, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGJI	**Cibinong**	**0.81**	**121**	P	Pn	18 32 46.5	-3.9
CGJI				S	Sn	**18 32 56.9**	**-4.5**
KASI	**Kota Agung**	**0.84**	**324**	P	Pn	**18 32 48.8**	**-2.0**
KASI				S	Sn	**18 33 00.6**	**-1.6**
BLSI	**Bandar Lampung**	**0.87**	**17**	P	Pn	**18 32 48.3**	**-2.9**
SBJI	**Serang**	**1.13**	**86**	P	Pn	**18 32 51.9**	**-2.8**
SBJI				S	Sn	**18 33 08.9**	**-0.3**
LWLI	**Liwa**	**1.50**	**322**	P	Pn	**18 32 59.9**	**+0.1**
LWLI				S	Sn	**18 33 21.3**	**+2.9**
TNG	**Tangerang**	**1.64**	**89**	P	Pn	**18 33 00.5**	**-1.2**
TNG	**Tangerang**	**1.64**	**89**	P	Pn	**18 33 01.4**	**-0.3**
TNG				S	Sn	**18 33 24.8**	**+3.1**
TNG				S	Sn	**18 33 24.8**	**+3.1**
SKJI	**Sukabumi**	**1.75**	**117**	P	Pn	**18 33 02.0**	**-1.1**
SKJI				S	Sn	**18 33 26.2**	**+2.0**
DBJI	**Dramaga**	**1.78**	**101**	P	Pn	**18 33 02.5**	**-1.1**
DBJI				S	Sn	**18 33 27.1**	**+2.1**
CBJI	**Citeko**	**1.86**	**97**	P	Pn	**18 33 06.0**	**+1.4**
LEM	**Lembang**	**2.68**	**104**	P	Pn	**18 33 16.0**	**0.0**
MNAI	**Manna**	**2.73**	**312**	P	Pn	**18 33 17.4**	**+0.8**
MNAI				S	Sn	**18 33 50.4**	**+1.9**
CISI	**Cisompet, Garu**	**3.11**	**116**	P	Pn	**18 33 20.7**	**-1.1**
CISI				S	Sn	**18 33 58.7**	**+0.9**
PMBI	**Palembang**	**3.26**	**356**	P	Pn	18 33 37.5	+14
KSI	**Kapahiang**	**3.48**	**317**	P	Pn	**18 33 26.9**	**-0.1**
TGJI	**Tegal**	**4.15**	**99**	P	Pn	**18 33 37.7**	**+1.6**
PPBI	**Pangkal Pinang**	**4.17**	**16**	P	Pn	**18 33 35.2**	**-1.2**
TPI	**Tanjungpandan**	**4.33**	**38**	P	Pn	**18 33 39.7**	**+1.2**
BJII	**Banjamegara**	**4.82**	**104**	P	Pn	**18 33 44.1**	**-1.2**
WRA	**Warramunga Arr**	**31.60**	**118**	P	P	18 38 59.5	+6.0
	1.6nm,0.8s,baz=294,slow=9.9,SNR=4.9						
ASAR	**Alice Springs**	**32.77**	**125**	P	P	18 39 07.3	+3.6
	0.2nm,0.3s,baz=294,slow=7.8,SNR=2.4						
STKA	**Stephens Creek**	**42.65**	**132**	P	P	**18 40 28.4**	**+1.4**
	2.8nm,0.5s,baz=318,slow=8.7,SNR=11						
MKAR	**Makanchi Array**	**56.48**	**341**	P	P	**18 42 10.5**	**-1.5**
	0.1nm,0.3s,baz=164,slow=7.8,SNR=4.2						
ZALV	**Zalesovo Beam**	**62.29**	**347**	P	P	**18 42 50.4**	**-1.5**
	0.4nm,0.4s,baz=149,slow=7.4,SNR=2.8						

DDA ***17*** *18:52:32.8,39.12N×29.06E,h8km,MD2.9*
ISCJB ***17*** *18:52:33.4±0.4,39.11N±0.03×29.08E±0.03,h4km±5km, Error ellipse: s-maj=4.8km s-min=3.5km az=0.0*
ISK ***17*** *18:52:33.2,39.09N×29.07E,h5km,MD2.9*
CSEM ***17*** *18:52:33.5±0.1,39.12N×29.09E,h0km±1km,MD2.9, Error ellipse: s-maj=3.0km s-min=2.4km az=9.0*

ISC 17 18:52:33.5±1.0, 39.12N±0.02×29.08E±0.02, h9km±10km, n50, σ0s67/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.29**	**254**	*i* P	**Pg**	**18 52 39.8**	**+0.3**
DEMI				*i* S	**Sg**	**18 52 43.5**	**+0.1**
DEMI	**Demirci**	**0.29**	**254**	*i* P	**Pg**	**18 52 39.7**	**+0.3**
DEMI				*i* S	**Sg**	**18 52 43.5**	**+0.1**
**GDZ

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**22.28**	**312**	P	P	19 08 18.5	-0.1
	1.4nm,0.9s,baz=129,slow=14,SNR=8.5						
AKTO	**Aktyubinsk**	**24.07**	**5**	P	P	19 08 37.0	+0.5
	0.5nm,0.5s,baz=34,slow=23,SNR=2.4						
BVAR	**Borovoye Array**	**28.91**	**19**	P	P	19 09 20.1	-0.1
	0.4nm,0.7s,baz=207,slow=6.1,SNR=3.1						
MKAR	**Makanchi Array**	**29.57**	**39**	P	P	19 09 26.1	0.0
	0.1nm,0.4s,baz=221,slow=9.1,SNR=5.8						
ZALV	**Zalesovo Beam**	**35.16**	**31**	P	P	19 10 14.5	-0.5
	0.9nm,0.6s,baz=234,slow=11,SNR=6.0						
FINES	**FINESS Array B**	**40.09**	**339**	P	P	19 10 55.2	-1.3
	1.3nm,0.8s,baz=126,slow=9.7,SNR=4.7						
ARCES	**ARCESS Array B**	**46.48**	**346**	P	P	19 11 48.8	+0.8
	1.4nm,0.9s,baz=139,slow=13,SNR=2.3						
TORD	**Torodi Ar. Bea**	**51.64**	**266**	P	P	19 12 27.9	-0.5
	0.6nm,0.5s,baz=62,slow=8.6,SNR=6.7						
DBIC	**Dimbokro**	**60.21**	**262**	P	P	19 13 30.3	+0.5
	1.8nm,0.6s,baz=108,slow=3.8,SNR=3.4						

JMA 17 19:07:21.9±0.2, 25°.51N×123°.43E, h174km, M3.5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.11**	**200**	P	Pn	19 07 50.2	+0.3
IRIF	**Iriomote-Funau**	**1.20**	**167**	P	Pn	19 07 50.4	-0.3
IRIF				*e*S	Sn	19 08 13.3	+0.5
JIJ	**Ishigaki jima**	**1.31**	**150**	P	Pn	19 07 51.5	-0.1
JIJ				*e*S	Sn	19 08 13.8	-0.8
JKRS	**Kuro-shima**	**1.37**	**157**	P	Pn	19 07 52.3	+0.1
JKRS				*e*S	Sn	19 08 15.4	-0.1
JTJ	**Tarama**	**1.44**	**127**	P	Pn	19 07 53.4	+0.6
JTJ				*e*S	Sn	19 08 17.0	+0.4
HATJ	**Hateruma jima**	**1.49**	**167**	P	Pn	19 07 53.3	+0.1
HATJ				*e*S	Sn	19 08 17.4	-0.1
JMJ	**Miyako jima 2**	**1.82**	**112**	*e*S	Sn	19 08 23.6	+0.1
JOGS	**Gusukube**	**1.94**	**112**	P	Pn	19 07 58.7	+0.8
JOGS				*e*S	Sn	19 08 25.9	+0.2
JKE	**Kume jima 2**	**3.13**	**74**	P	Pn	19 08 11.5	-0.3
JKE				*e*S	Sn	19 08 50.7	0.0
JAGN	**Aguni-jima**	**3.59**	**72**	P	Pn	19 08 16.6	-1.0
JIH	**Iheya**	**4.35**	**69**	P	Pn	19 08 25.8	-1.4
JOW	**Kunigami**	**4.55**	**72**	P	Pn	19 08 27.8	-2.1
JTK	**Tokunoshima**	**5.43**	**64**	P	Pn	19 08 38.6	-2.8
JMZ	**Minamidaito 2**	**7.04**	**86**	P	Pn	19 08 59.9	-2.6

*IDC **17** 19:08:12.4±0.9, 34°.57N×23°.67E, h0km, mb3.9/13, mb1 3.8/17, mb1mx3.7/33, mbtmp3.8/17, ML3.4/4, Error ellipse: s-maj=19.8km s-min=17.6km az=126.0*
*HLW **17** 19:08:15.3, 34°.77N×23°.93E, h23km±20km, Md3.4, Ml3.6*
*NEIC **17** 19:08:16.8±1.2, 34°.51N×23°.75E, h32km±8km, mb4.1/11, Error ellipse: s-maj=8.8km s-min=8.0km az=219.0*
*ATH **17** 19:08:16.5, 34°.49N×23°.62E, h36km±3km, ML3.4*
*CSEM **17** 19:08:17.1±0.2, 34°.46N×23°.75E, h30km, mb4.1/8, Error ellipse: s-maj=5.6km s-min=3.9km az=52.0*
*THE **17** 19:08:21.2, 34°.76N×23°.79E, h21km±2km, ML3.5/2, Error ellipse: s-maj=2.6km s-min=1.1km az=67.0*

ISC 17 19:08:16.8±0.8, 34°.49N±0°.04×23.74E±0°.03, h33km±2km, n228, σ1§40/256, mb3.9/21, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.45**	**40**	*e*Pg	**Pb**	**19 08 26.5**	**-0.2**
GVD				*e*Sg	**Sb**	**19 08 33.1**	**-0.4**
GVD	**Gavdhos**	**0.45**	**40**	P	**Pn**	**19 08 27.0**	**0.0**
GVD				S	**Sb**	**19 08 31.3**	**-2.2**
GVD	**Gavdhos**	**0.45**	**40**	*e*PN	**Pn**	**19 08 27.2**	**+0.2**
GVD				*e*SN	**Sn**	**19 08 36.5**	**+2.6**
GVD	**Gavdhos**	**0.45**	**40**	*e*Pg	**Pb**	**19 08 26.5**	**-0.2**
GVD	**Gavdhos**	**0.45**	**40**	P	**Pn**	**19 08 27.0**	**0.0**
GVD	**Gavdhos**	**0.45**	**40**	*e*Pn	**Pn**	**19 08 27.2**	**+0.2**
GVD				*e*Sg	**Sb**	**19 08 33.1**	**-0.4**
GVD				*e*Sn	**Sn**	**19 08 36.5**	**+2.6**
KARN	**Karanos**	**0.92**	**9**	P	**Pb**	**19 08 34.1**	**-0.3**
KARN				S	**Sn**	**19 08 43.8**	**-1.7**
KARN	**Karanos**	**0.92**	**9**	*e*PN	**Pb**	**19 08 34.4**	**0.0**
KARN				*e*SN	**Sb**	**19 08 48.6**	**+2.3**
KARN	**Karanos**	**0.92**	**9**	P	**Pb**	**19 08 34.1**	**-0.3**
KARN	**Karanos**	**0.92**	**9**	*e*Pn	**Pb**	**19 08 34.4**	**0.0**
KARN				*e*Sn	**Sb**	**19 08 48.6**	**+2.3**
VAM	**Vamos**	**0.99**	**23**	P	**Pb**	**19 08 35.6**	**+0.1**
VAM				S	**Sn**	**19 08 45.2**	**-1.9**
VAM	**Vamos**	**0.99**	**23**	*e*PN	**Pb**	**19 08 35.8**	**+0.3**
VAM				*e*SN	**Sb**	**19 08 50.6**	**+2.4**
VAM	**Vamos**	**0.99**	**23**	P	**Pb**	**19 08 35.6**	**+0.1**
VAM				*e*Sn	**Sb**	**19 08 50.6**	**+2.4**
SIVA	**Sivas**	**1.03**	**59**	P	**Pb**	**19 08 37.3**	**+1.2**
SIVA				S	**Sb**	**19 08 50.1**	**+0.8**
SIVA	**Sivas**	**1.03**	**59**	*e*PN	**Pb**	**19 08 37.5**	**+1.4**
SIVA				*e*SN	**Sb**	**19 08 52.2**	**+2.9**
SIVA	**Sivas**	**1.03**	**59**	P	**Pb**	**19 08 37.3**	**+1.2**
SIVA				S	**Sb**	**19 08 50.1**	**+0.8**
SIVA				*e*Sn	**Sb**	**19 08 52.2**	**+2.9**
LAST	**Lasithi**	**1.58**	**65**	P	**Pb**	**19 08 45.7**	**+0.2**
LAST				S	**Sn**	**19 09 03.5**	**+1.6**
LAST	**Lasithi**	**1.58**	**65**	*e*PB	**Pb**	**19 08 45.8**	**+0.2**
LAST	**Lasithi**	**1.58**	**65**	P	**Pb**	**19 08 45.7**	**+0.2**
LAST				S	**Sn**	**19 09 03.5**	**+1.6**
NPS	**Neapolis**	**1.72**	**63**	P	**Pb**	**19 08 48.0**	**+0.1**
NPS	**Neapolis**	**1.72**	**63**	*e*PB	**Pb**	**19 08 47.9**	**+0.1**
NPS	**Neapolis**	**1.72**	**63**	*e*Pb	**Pb**	**19 08 47.9**	**+0.1**
KYTH	**Kithira**	**1.87**	**342**	P	**Pn**	**19 08 48.3**	**+1.8**
KYTH	**Kithira**	**1.87**	**342**	*e*PB	**Pb**	**19 08 48.4**	**-2.0**
KYTH	**Kithira**	**1.87**	**342**	P	**Pn**	**19 08 48.3**	**+1.8**
ZKR	**Zakros**	**2.13**	**72**	P	**Pb**	**19 08 53.6**	**-1.2**
ZKR	**Zakros**	**2.13**	**72**	*e*PN	**Pb**	**19 08 53.4**	**-1.4**
ZKR	**Zakros**	**2.13**	**72**	*e*Pn	**Pb**	**19 08 53.4**	**-1.4**
VLI	**Veliai**	**2.31**	**344**	P	**Pn**	**19 08 54.7**	**+2.2**
VLI	**Veliai**	**2.31**	**344**	*e*PB	**Pn**	**19 08 54.8**	**+2.2**
VLI	**Veliai**	**2.31**	**344**	P	**Pn**	**19 08 54.7**	**+2.2**
THR5	**Thira Island,**	**2.33**	**34**	P	**Pn**	**19 08 54.1**	**+1.4**
THR5	**Thira Island,**	**2.33**	**34**	P	**Pn**	**19 08 54.1**	**+1.4**
THR1	**Thera Island**	**2.34**	**36**	P	**Pn**	**19 08 54.2**	**+1.2**
THR1	**Thera Island**	**2.34**	**36**	P	**Pn**	**19 08 54.2**	**+1.2**
THR2	**Thira island,**	**2.39**	**35**	P	**Pn**	**19 08 55.2**	**+1.6**
THR2	**Thira island,**	**2.39**	**35**	P	**Pn**	**19 08 55.2**	**+1.6**
PYL	**PYLOS**	**2.90**	**326**	P	**Pn**	**19 09 02.3**	**+1.7**
PYL	**PYLOS**	**2.90**	**326**	*e*PN	**Pn**	**19 09 02.3**	**+1.7**
PYL	**PYLOS**	**2.90**	**326**	P	**Pn**	**19 09 02.3**	**+1.7**
APE	**Apeiranthos**	**2.95**	**29**	*e*PN	**Pn**	**19 09 01.1**	**-0.3**
APE	**Apeiranthos**	**2.95**	**29**	P	**Pn**	**19 09 02.0**	**+0.6**
APE	**Apeiranthos**	**2.95**	**29**	*e*PN	**Pn**	**19 09 02.1**	**+0.6**
APE	**Apeiranthos**	**2.95**	**29**	*e*Pn	**Pn**	**19 09 02.1**	**+0.6**
DIDY	**Didyma**	**3.01**	**352**	P	**Pn**	**19 09 02.8**	**+0.6**
DIDY				S	**Sn**	**19 09 36.0**	**-1.1**
DIDY	**Didyma**	**3.01**	**352**	P	**Pn**	**19 09 02.8**	**+0.6**
DIDY				S	**Sn**	**19 09 36.0**	**-1.1**
DID	**Didima**	**3.03**	**352**	P	**Pn**	**19 09 03.5**	**+1.0**
DID				S	**Sn**	**19 09 37.4**	**-0.3**
DID	**Didima**	**3.03**	**352**	*e*PN	**Pn**	**19 09 03.7**	**+1.2**
DID				*e*SN	**Sn**	**19 09 38.6**	**+0.9**
DID	**Didima**	**3.03**	**352**	P	**Pn**	**19 09 03.5**	**+1.0**
DID				S	**Sn**	**19 09 37.4**	**-0.3**
DID				*e*Sn	**Sn**	**19 09 38.6**	**+0.9**
ITM	**Ithomi**	**3.06**	**332**	P	Pn	19 09 06.0	+3.2
ITM	**Ithomi**	**3.06**	**332**	*e*PN	**Pn**	**19 09 05.0**	**+2.2**
ITM	**Ithomi**	**3.06**	**332**	*e*Pn	**Pn**	**19 09 05.0**	**+2.2**
ITM	**Ithomi**	**3.06**	**332**	P	Pn	19 09 06.0	+3.2
VLX	**Vlachokerasia**	**3.07**	**339**	P	Pn	19 09 06.5	+3.4
VLX	**Vlachokerasia**	**3.07**	**339**	*e*PN	**Pn**	**19 09 05.0**	**+1.9**
VLX	**Vlachokerasia**	**3.07**	**339**	*e*Pn	**Pn**	**19 09 05.0**	**+1.9**
VLX	**Vlachokerasia**	**3.07**	**339**	P	Pn	19 09 06.5	+3.4
SLUM		**3.24**	**157**	P	**Pn**	**19 09 05.4**	**+0.1**
SLUM				S	**Sn**	**19 09 43.8**	**+1.1**
SLUM		**3.24**	**157**	S	**Sn**	**19 09 43.8**	**+1.1**
	baz=161						
SLUM				AMP		19 09 00.0	
	comp=E,140μm,0.7s,logA/T=5.3,baz=161						
NAIG	**Nisos Aigina**	**3.26**	**357**	*e*PN	**Pn**	**19 09 07.0**	**+1.4**
NAIG	**Nisos Aigina**	**3.26**	**357**	*e*Pn	**Pn**	**19 09 07.0**	**+1.4**
ATH	**Athens Observa**	**3.47**	**360**	*e*PN	**Pn**	**19 09 10.2**	**+1.7**
ATH	**Athens Observa**	**3.47**	**360**	*e*Pn	**Pn**	**19 09 10.2**	**+1.7**
PTL	**Penteli**	**3.55**	**2**	P	**Pn**	**19 09 09.8**	**+0.2**
PTL	**Penteli**	**3.55**	**2**	*e*PN	**Pn**	**19 09 10.2**	**+0.6**
PTL	**Penteli**	**3.55**	**2**	P	**Pn**	**19 09 09.8**	**+0.2**
PTL	**Penteli**	**3.55**	**2**	*e*Pn	**Pn**	**19 09 10.2**	**+0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**3.58**	**350**	P	**Pn**	**19 09 10.8**	**+0.8**
LTK	**Loutraki**	**3.58**	**350**	*e*PN	**Pn**	**19 09 11.0**	**+1.0**
LTK	**Loutraki**	**3.58**	**350**	P	**Pn**	**19 09 10.8**	**+0.8**
MRMA	**Marmari**	**3.59**	**8**	P	**Pn**	**19 09 10.8**	**+0.6**
MRMA	**Marmari**	**3.59**	**8**	P	**Pn**	**19 09 10.8**	**+0.6**
GUR	**Goura**	**3.62**	**342**	P	**Pn**	**19 09 12.9**	**+2.3**
GUR	**Goura**	**3.62**	**342**	*e*PN	**Pn**	**19 09 12.9**	**+2.3**
GUR	**Goura**	**3.62**	**342**	P	**Pn**	**19 09 12.9**	**+2.3**
DAT	**Datca**	**3.84**	**53**	*e*PN	**Pn**	**19 09 14.6**	**+0.9**
BODT	**Bodrum**	**3.87**	**48**	*e*PN	**Pn**	**19 09 14.8**	**+0.8**
ARG	**Arkhangelos**	**3.98**	**63**	P	**Pn**	**19 09 17.7**	**+2.3**
ARG	**Arkhangelos**	**3.98**	**63**	*e*PN	**Pn**	**19 09 17.7**	**+2.3**
ARG	**Arkhangelos**	**3.98**	**63**	P	**Pn**	**19 09 17.7**	**+2.3**
LAKA	**Lakka**	**4.00**	**340**	P	**Pn**	**19 09 18.0**	**+2.2**
LAKA	**Lakka**	**4.00**	**340**	P	**Pn**	**19 09 18.0**	**+2.2**
RLS	**Riolos of Patr**	**4.00**	**333**	P	**Pn**	**19 09 17.5**	**+1.8**
RLS	**Riolos of Patr**	**4.00**	**333**	*e*PN	**Pn**	**19 09 17.6**	**+1.8**
RLS	**Riolos of Patr**	**4.00**	**333**	P	**Pn**	**19 09 17.5**	**+1.8**
DSF	**Desfina**	**4.03**	**346**	P	**Pn**	**19 09 17.4**	**+1.2**
DSF				S	**Sn**	**19 10 02.3**	**0.0**
DSF	**Desfina**	**4.03**	**346**	P	**Pn**	**19 09 17.4**	**+1.2**
DSF				S	**Sn**	**19 10 02.3**	**0.0**
TRIZ	**Trizonia**	**4.09**	**341**	P	**Pn**	**19 09 19.5**	**+2.5**
TRIZ	**Trizonia**	**4.09**	**341**	P	**Pn**	**19 09 19.5**	**+2.5**
KALE	**Kalithea**	**4.10**	**342**	P	**Pn**	**19 09 18.3**	**+1.1**
KALE	**Kalithea**	**4.10**	**342**	P	**Pn**	**19 09 18.3**	**+1.1**
LKR	**Lokris**	**4.19**	**352**	P	**Pn**	**19 09 18.7**	**+0.3**
LKR	**Lokris**	**4.19**	**352**	*e*PN	**Pn**	**19 09 19.1**	**+0.7**
LKR	**Lokris**	**4.19**	**352**	P	**Pn**	**19 09 18.7**	**+0.3**
LKR	**Lokris**	**4.19**	**352**	*e*Pn	**Pn**	**19 09 19.1**	**+0.7**
EFP	**Efpalio**	**4.19**	**340**	*e*PN	**Pn**	**19 09 20.8**	**+2.4**
EFP	**Efpalio**	**4.19**	**340**	*e*Pn	**Pn**	**19 09 20.8**	**+2.4**
MRKA	**Markates**	**4.21**	**358**	P	**Pn**	**19 09 19.0**	**+0.4**
MRKA	**Markates**	**4.21**	**358**	P	**Pn**	**19 09 19.0**	**+0.4**
CHOS	**Chios island**	**4.31**	**25**	*e*PN	**Pn**	**19 09 22.1**	**+2.0**
CHOS	**Chios island**	**4.31**	**25**	*e*Pn	**Pn**	**19 09 22.1**	**+2.0**
KFL	**Anninata**	**4.32**	**327**	P	Pn	19 09 23.8	+3.6
AXAR	**Agios Charalam**	**4.35**	**349**	P	**Pn**	**19 09 22.9**	**+2.3**
AXAR	**Agios Charalam**	**4.35**	**349**	P	**Pn**	**19 09 22.9**	**+2.3**
VLS	**Valsamata**	**4.47**	**326**	P	**Pn**	**19 09 22.8**	**+0.6**
VLS	**Valsamata**	**4.47**	**326**	*e*PN	**Pn**	**19 09 23.7**	**+1.5**
VLS				*e*SN	**Sn**	**19 10 13.2**	**+0.2**
VLS	**Valsamata**	**4.47**	**326**	P	**Pn**	**19 09 22.8**	**+0.6**
VLS				*e*Sn	**Sn**	**19 10 13.2**	**+0.2**
YER	**Yerkesik**	**4.54**	**53**	*e*PN	**Pn**	**19 09 23.5**	**+0.3**
AOS	**Alonnisos**	**4.67**	**1**	P	**Pn**	**19 09 25.1**	**+0.2**
AOS	**Alonnisos**	**4.67**	**1**	P	**Pn**	**19 09 25.1**	**+0.2**
EVR	**Evrytania**	**4.68**	**341**	P	**Pn**	**19 09 27.6**	**+2.4**
EVR	**Evrytania**	**4.68**	**341**	P	**Pn**	**19 09 27.6**	**+2.4**
MAKR	**Makrakomi, Fth**	**4.69**	**345**	P	**Pn**	**19 09 27.2**	**+1.9**
MAKR	**Makrakomi, Fth**	**4.69**	**345**	P	**Pn**	**19 09 27.2**	**+1.9**
NEO	**Neokhori**	**4.82**	**355**	P	**Pn**	**19 09 27.1**	**0.0**
NEO	**Neokhori**	**4.82**	**355**	*e*PN	**Pn**	**19 09 28.2**	**+1.1**
NEO	**Neokhori**	**4.82**	**355**	P	**Pn**	**19 09 27.1**	**0.0**
NEO	**Neokhori**	**4.82**	**355**	*e*Pn	**Pn**	**19 09 28.2**	**+1.1**
FETY	**Fethiye**	**4.85**	**62**	*e*PN	**Pn**	**19 09 28.6**	**+1.1**
LKD2	**Lefkada island**	**4.95**	**331**	P	**Pn**	**19 09 29.7**	**+0.9**
LKD2				S	**Sn**	**19 10 25.5**	**+0.6**
LKD2	**Lefkada island**	**4.95**	**331**	*e*PN	**Pn**	**19 09 31.0**	**+2.2**
LKD2	**Lefkada island**	**4.95**	**331**	P	**Pn**	**19 09 29.7**	**+0.9**
LKD2	**Lefkada island**	**4.95**	**331**	*e*Pn	**Pn**	**19 09 31.0**	**+2.2**
LKD2				S	**Sn**	**19 10 25.5**	**+0.6**
THL	**Klokotos Trika**	**5.25**	**345**	*e*PN	**Pn**	**19 09 35.4**	**+2.5**
THL	**Klokotos Trika**	**5.25**	**345**	*e*Pn	**Pn**	**19 09 35.4**	**+2.5**
SWA2		**5.43**	**164**	P	**Pn**	**19 09 36.6**	**+1.1**
SWA2		**5.43**	**164**	P	**Pn**	**19 09 36.6**	**+1.1**
	baz=166						
ELL	**Elmali**	**5.51**	**64**	*e*PN	**Pn**	**19 09 38.3**	**+1.7**
IGT	**Igoumenitsa**	**5.72**	**333**	P	**Pn**	**19 09 40.7**	**+1.3**
IGT	**Igoumenitsa**	**5.72**	**333**	P	**Pn**	**19 09 40.7**	**+1.3**
KHL	**Karahalli**	**6.03**	**49**	*e*PN	**Pn**	**19 09 41.3**	**-2.4**
NEST	**Nestorio**	**6.29**	**341**	P	**Pn**	**19 09 48.0**	**+0.8**
NEST	**Nestorio**	**6.29**	**341**	P	**Pn**	**19 09 48.0**	**+0.8**
SUTC	**Sutluce-Ispart**	**6.60**	**61**	*e*PN	**Pn**	**19 09 53.5**	**+1.9**
ALT	**Altintas**	**6.85**	**46**	*e*PN	Pn	19 09 50.1	-4.9
AWBH		**7.57**	**143**	P	**Pn**	**19 10 05.4**	**+0.5**
AWBH		**7.57**	**143**	P	**Pn**	**19 10 05.4**	**+0.5**
	baz=145						
CSS	**Prodhromos**	**7.91**	**84**	*e*Pn	**Pn**	**19 10 07.4**	**-2.1**
CSS				*e*Sn	Sn	19 11 24.8	-13
HFRF	**Wahat Farafira**	**8.31**	**151**	P	**Pn**	**19 10 15.6**	**+0.6**
HFRF	**Wahat Farafira**	**8.31**	**151**	P	**Pn**	**19 10 15.6**	**+0.6**
	baz=152						
AMAG	**Maghara**	**8.87**	**113**	P	**Pn**	**19 10 21.0**	**-1.6**
	baz=115						
RSH		**9.12**	**110**	P	**Pn**	**19 10 24.3**	**-1.8**
	baz=112						
BRTR	**Keskin Array B**	**9.47**	**54**	Pn	**Pn**	**19 10 32.3**	**+1.3**
BRTR	**Keskin Array B**	**9.47**	**54**	Pn	**Pn**	**19 10 32.3**	**+1.3**
	comp=E,0.1nm,0.3s,baz=228,slow=15,SNR=4.9						
BRTR	**Keskin Array B**	**9.47**	**54**	Pn	**Pn**	**19 10 32.3**	**+1.3**
BR131	**Keskin Array S**	**9.47**	**54**	*e*Pn	**Pn**	**19 10 30.1**	**-0.9**
BR131	**Keskin Array S**	**9.47**	**54**	*e*Pn	**Pn**	**19 10 30.1**	**-0.9**
STON	**Ston**	**9.60**	**332**	*e*Pn	**Pn**	**19 10 30.1**	**-2.5**
STON				Sn	Sn	19 12 08.8	-10
MMAI	**Mount Meron Ar**	**9.82**	**95**	Pn	**Pn**	**19 10 34.6**	**-1.1**
MMAI				Sn	**Sn**	**19 12 20.6**	**-4.4**
MMAI	**Mount Meron Ar**	**9.82**	**95**	Pn	**Pn**	**19 10 34.6**	**-1.1**
	comp=E,1.9nm,0.3s,baz=276,slow=11,SNR=15						
MMAI				Sn	**Sn**	**19 12 20.6**	**-4.4**
	comp=E,2.7nm,0.3s,baz=269,slow=25,SNR=8.2						
MMAI	**Mount Meron Ar**	**9.82**	**95**	Pn	**Pn**	**19 10 34.7**	**-1.1**
EIL	**Elat**	**10.66**	**114**	Pn	**Pn**	**19 10 46.8**	**-0.3**
EIL				Sn	Sn	19 12 38.9	-6.3
EIL	**Elat**	**10.66**	**114**	Pn	**Pn**	**19 10 46.8**	**-0.3**
	comp=E,0.8nm,0.3s,baz=182,slow=5.1,SNR=14						
EIL				Sn	Sn	19 12 38.9	-6.3
	comp=E,1.0nm,0.3s,baz=5.6,slow=21,SNR=6.0						
EIL	**Elat**	**10.66**	**114**	Pn	**Pn**	**19 10 46.8**	**-0.3**
MLR	**Muntele Rosu**	**11.11**	**8**	Pn	**Pn**	**19 10 54.2**	**+0.8**
MLR	**Muntele Rosu**	**11.11**	**8**	Pn	**Pn**	**19 10 54.2**	**+0.8**
	comp=E,0.0nm,0.3s,baz=352,slow=21,SNR=2.9						
MLR	**Muntele Rosu**	**11.11**	**8**	Pn	**Pn**	**19 10 54.2**	**+0.8**
NVLJ	**Novalja**	**12.15**	**328**	*e*Pn	**Pn**	**19 11 06.8**	**-0.7**
NVLJ				Sn	Sn	19 13 12.1	-10
NVLJ	**Novalja**	**12.15**	**328**	*e*Pn	**Pn**	**19 11 06.8**	**-0.7**
MORC	**Moravsky Berou**	**15.94**	**345**	Pn	**Pn**	**19 11 57.4**	**-1.1**
	comp=E,1.7nm,0.8s						
MORC	**Moravsky Berou**	**15.94**	**345**	Pn	**Pn**	**19 11 57.4**	**-1.1**
	comp=E,1.7nm,0.8s						
GERES	**GERESS Array B**	**16.16**	**336**	Pn	**P**	**19 12 03.9**	**-0.4**
GERES	**GERESS Array B**	**16.16**	**336**	Pn	**P**	**19 12 03.9**	**-0.4**
	comp=E,0.2nm,0.3s,baz=150,slow=14,SNR=6.7						
GERES	**GERESS Array B**	**16.16**	**336**	Pn	**P**	**19 12 03.9**	**-0.4**
KHC	**Kasperske Hory**	**16.45**	**336**	Pn	**Pn**	**19 12 01.0**	**-3.9**
	comp=E,3.8nm,0.8s						
KHC	**Kasperske Hory**	**16.45**	**336**	*e*P	**P**	**19 12 08.0**	**+0.6**
KHC				*e*sP	**sP**	**19 12 20.5**	**0.0**
KHC	**Kasperske Hory**	**16.45**	**336**	P	**P**	**19 12 08.0**	**+0.6**
AKASG	**Malin Array Be**	**16.68**	**12**	Pn	**P**	**19 12 09.1**	**-0.9**
AKASG	**Malin Array Be**	**16.68**	**12**	Pn	**P**	**19 12 09.1**	**-0.9**
	comp=E,1.4nm,0.3s,baz=203,slow=9.4,SNR=4.4						
AKASG	**Malin Array Be**	**16.68**	**12**	Pn	**P**	**19 12 09.1**	**-0.9**
HFS	**Hagfors**	**26.48**	**349**	P	**P**	**19 13 50.6**	**0.0**
HFS	**Hagfors**	**26.48**	**349**	P	**P**	**19 13 50.7**	**0.0**
	comp=E,2.9nm,0.5s,baz=146,slow=11,SNR=14						
HFS	**Hagfors**	**26.48**	**349**	P	**P**	**19 13 50.7**	**0.0**
FINES	**FINESS Array B**	**27.01**	**2**	P	**P**	**19 13 53.8**	**-1.6**
FINES	**FINESS Array B**	**27.01**	**2**	P	**P**	**19 13 53.8**	**-1.6**
	comp=E,0.5nm,0.4s,baz=168,slow=9.8,SNR=3.8						
NAO01	**NORSAR Array S**	**27.64**	**346**	P	**P**	**19 13 56.4**	**-4.7**
	comp=E,11nm,1.0s						
NB2	**NORSAR Subarra**	**27.76**	**347**	P	**P**	**19 14 01.5**	**-0.7**
	comp=E,6.1nm,1.2s,baz=156,slow=9.3						
NB2	**NORSAR Subarra**	**27.76**	**347**	P	**P**	**19 14 01.5**	**-0.7**
	comp=E,6.1nm,1.2s,baz=156,slow=9.0,SNR=3.2						
NOA	**NORSAR Array B**	**27.76**	**347**	P	**P**	**19 14 01.8**	**-0.4**
NOA	**NORSAR Array B**	**27.76**	**347**	P	**P**	**19 14 01.8**	**-0.4**
	comp=E,9.9nm,0.6s,baz=153,slow=13,SNR=5.7						
NOA	**NORSAR Array B**	**27.76**	**347**	P	**P**	**19 14 01.8**	**-0.4**
TOA0	**Torodi Ar. Sit**	**29.17**	**229**	P	**P**	**19 14 16.1**	**+1.0**
TOA0	**Torodi Ar. Sit**	**29.17**	**229**	P	**P**	**19 14 16.1**	**+1.0**
TORD	**Torodi Ar. Bea**	**29.17**	**229**	P	**P**	**19 14 16.6**	**+1.4**
TORD	**Torodi Ar. Bea**	**29.17**	**229**	P	**P**	**19 14 16.6**	**+1.4**
	comp=E,0.7nm,0.5s,baz=36,slow=8.6,SNR=15						
TORD	**Torodi Ar. Bea**	**29.17**	**229**	P	**P**	**19 14 16.5**	**+1.4**
AKTO	**Aktyubinsk**	**29.56**	**47**	P	**P**	**19 14 17.9**	**-0.4**
AKTO	**Aktyubinsk**	**29.56**	**47**	P	**P**	**19 14 17.9**	**-0.4**
	comp=E,1.2nm,0.6s,baz=218,slow=2.7,SNR=7.0						
AKTO	**Aktyubinsk**	**29.56**	**47**	P	**P**	**19 14 17.9**	**-0.4**
ABKAR	**Akbulak array**	**30.40**	**50**	*e*P	**P**	**19 14 25.9**	**+0.2**
	comp=Z,0.5nm,0.4s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABKAR	**Akbulak array**	**30.40**	**50**	*e*P	**P**	**19 14 25.9**	**+0.2**
	comp=Z,0.5nm,0.4s						
ARU	**Arti**	**32.28**	**36**	*e*P	**P**	**19 14 41.9**	**-0.3**
	comp=Z,2.4nm,0.6s						
ARU	**Arti**	**32.28**	**36**	*e*P	**P**	**19 14 41.9**	**-0.3**
	comp=Z,2.4nm,0.6s						
ARCES	**ARCESS Array B**	**35.11**	**1**	P	**P**	**19 15 05.2**	**-1.5**
ARCES	**ARCESS Array B**	**35.11**	**1**	P	**P**	**19 15 05.1**	**-1.5**
	comp=Z,1.9nm,0.9s,baz=180,slow=10,SNR=4.0						
KKAR	**Karatay Array**	**37.05**	**62**	*e*P	**P**	**19 15 23.7**	**+0.1**
	comp=Z,1.0nm,0.5s						
KKAR	**Karatay Array**	**37.05**	**62**	*e*P	**P**	**19 15 23.7**	**+0.1**
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**37.65**	**46**	P	**P**	**19 15 29.5**	**+1.0**
BVAR	**Borovoye Array**	**37.65**	**46**	P	**P**	**19 15 29.5**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=220,slow=9.5,SNR=4.2						
BVAR	**Borovoye Array**	**37.65**	**46**	P	**P**	**19 15 29.5**	**+1.0**
EKS2	**Erkin-Say**	**39.47**	**63**	P	**P**	**19 15 43.8**	**-0.4**
	comp=Z,1.5nm,0.6s						
EKS2	**Erkin-Say**	**39.47**	**63**	P	**P**	**19 15 43.8**	**-0.4**
	comp=Z,1.5nm,0.6s						
AAK	**Ala-Archa**	**40.00**	**63**

11nm,0.6s
AFI Afiamalu 19.23 78 *e*P **P 19 25 46.5 -0.6**
92nm,0.9s
AFI Afiamalu 19.23 78 P **P 19 25 47.4 +0.4**
2.0nm,0.3s,baz=289,slow=4.3,SNR=8.3
AFI LR LR 19 31 32.0
comp=Z,319nm,20.2s,baz=255,slow=31
ARMA Armidale 19.37 230 *e*P **Pn 19 25 51.5 +0.8**
31nm,0.8s
ARMA *e* 19 26 03.7
ARMA Armidale 19.37 230 *e*P **Pn 19 25 51.4 +0.8**
ARMA *e*pP **pP 19 26 03.5 -4.2**
URZ Urewera 20.59 161 *e*P **P 19 26 02.9 +1.4**
88nm,1.2s
CTA Charters Tower 21.33 263 P **P 19 26 11.7 +2.1**
CTA pP **pP 19 26 29.1 0.0**
CTA Charters Tower 21.33 263 *e*P **P 19 26 12.0 +2.4**
7.3nm,0.6s
CTA *e*pP **pP 19 26 29.0 -0.2**
CTA Charters Tower 21.33 263 P **P 19 26 11.7 +2.1**
8.8nm,0.5s,baz=90,slow=11,SNR=20
CTA pP **pP 19 26 29.1 0.0**
14nm,0.8s,baz=88,slow=14,SNR=5.7
CTA LR LR 19 32 48.9
comp=Z,172nm,21.1s,baz=83,slow=32
CTAO Charters Tower 21.33 263 *e*P **P 19 26 11.1 +1.5**
9.9nm,0.6s
CTAO *e* 19 26 27.5
SNZO South Karori 22.89 169 *e*P **P 19 26 25.5 -0.1**
26nm,0.7s
PMG Port Moresby 23.02 291 *e*P **P 19 26 28.1 +1.0**
49nm,1.1s
PMG Port Moresby 23.02 291 P **P 19 26 28.9 +1.8**
30nm,1.0s,baz=131,slow=8.3,SNR=6.5
CNB Canberra Magne 23.76 223 *e*P **P 19 26 35.6 +1.8**
472nm,0.6s
KHZ Kahutara 23.78 171 *e*P **P 19 26 33.8 0.0**
34nm,0.8s
KHZ *e*pP **pP 19 26 58.8 +3.4**
RPZ Rata Peaks 24.81 176 *e*P **P 19 26 44.1 +0.9**
28nm,0.7s
RPZ *e*pP **pP 19 27 07.9 +2.3**
TOO Toolangi 27.61 223 *e*P **P 19 27 08.5 0.0**
64nm,0.9s
STKA Stephens Creek 27.71 237 *e*P **P 19 27 10.5 +1.0**
4.3nm,0.6s
STKA PcP **PcP 19 30 24.1 +0.1**
STKA Stephens Creek 27.71 237 *e*P **P 19 27 10.5 +1.0**
21nm,0.6s
STKA *e*pP **pP 19 27 31.3 -0.8**
STKA Stephens Creek 27.71 237 P **P 19 27 10.6 +1.2**
19nm,0.6s,baz=65,slow=8.3,SNR=139
STKA PcP **PcP 19 30 24.0 +0.1**
5.6nm,0.9s,baz=324,slow=6.9,SNR=3.1
MOO Moorlands 29.80 213 *e*P **P 19 27 27.3 -0.5**
162nm,0.9s
TAU Tasmania Unive 30.06 213 *e*P **P 19 27 29.9 -0.2**
BBOO Buckleboo 32.45 238 *e*P **P 19 27 51.6 +0.4**
362nm,0.8s
BBOO *e*pP **pP 19 28 14.3 +0.2**
WRAB Tennant Creek 32.52 262 *e*P **P 19 27 51.1 -0.9**
9.3nm,0.8s
WRA Warramunga Arr 32.53 262 P **P 19 27 51.2 -0.8**
WRA pP **pP 19 28 15.0 -0.1**
WRA ScP **ScP 19 34 11.7 +0.4**
WRA Warramunga Arr 32.53 262 P **P 19 27 51.2 -0.8**
3.5nm,0.4s,baz=87,slow=8.3,SNR=60
WRA pP **pP 19 28 15.0 -0.1**
2.3nm,0.7s,baz=90,slow=8.9,SNR=3.6
WRA ScP **ScP 19 34 11.7 +0.4**
1.0nm,0.9s,baz=97,slow=3.6,SNR=7.7
AS31 Alice Springs 32.85 255 *e*P **P 19 27 55.0 +0.1**
AS31 *e*pP **pP 19 28 16.5 -1.4**
ASAR Alice Springs 32.85 255 P **P 19 27 55.1 +0.2**
ASAR pP **pP 19 28 17.6 -0.2**
ASAR ScP **ScP 19 34 13.5 +1.0**
ASAR Alice Springs 32.85 255 P **P 19 27 55.1 +0.2**
50nm,0.6s,baz=85,slow=8.8,SNR=629
ASAR pP **pP 19 28 17.6 -0.2**
17nm,0.6s,baz=83,slow=8.7,SNR=4.9
ASAR ScP **ScP 19 34 13.5 +1.0**
1.2nm,0.8s,baz=81,slow=4.0,SNR=5.2
FORT Forrest 38.66 244 *e*P **P 19 28 44.6 +0.2**
28nm,0.7s
FORT Forrest 38.66 244 *e*P **P 19 28 44.7 +0.3**
26nm,0.6s
TBI Tubuai 39.05 104 *e*LQ LQ 19 37 55.8
483nm,28.0s
TBI *e*LR LR 19 39 36.4
194nm,32.0s
PPT2 Papeete2 39.45 95 *e*LQ LQ 19 38 07.5
470nm,31.0s
PPT2 *e*LR LR 19 39 49.6
366nm,34.5s
GUMO Guam 40.00 322 LR LR 19 42 09.8
comp=Z,151nm,20.4s,baz=137,slow=31
FITZ Fitzroy Crossi 40.91 264 *e*P **P 19 29 03.7 +0.5**
36nm,0.7s
FITZ *e*pP **pP 19 29 26.5 -0.2**
FITZ pP **pP 19 29 26.7 -0.1**
FITZ Fitzroy Crossi 40.91 264 *e*P **P 19 29 03.6 +0.5**
44nm,0.5s
FITZ Fitzroy Crossi 40.91 264 P **P 19 29 03.6 +0.5**
30nm,0.6s,baz=100,slow=7.1,SNR=70
FITZ pP **pP 19 29 26.7 -0.1**
25nm,0.9s,baz=114,slow=8.2,SNR=6.3
FITZ LR LR 19 46 01.6
comp=Z,102nm,18.2s,baz=96,slow=36
MBWA Marble Bar 46.06 259 *e*P **P 19 29 44.9 +0.4**
33nm,0.9s
MBWA *e*pP **pP 19 30 08.3 -0.3**
KLBR Kellerberrin 47.52 244 *e*P **P 19 29 55.5 -0.3**
25nm,0.7s
NWAO Narrogin (SRO) 48.04 242 *e*P **P 19 29 59.6 -0.2**
23nm,0.9s
NWAO Narrogin (SRO) 48.04 242 P **P 19 30 00.2 +0.4**
14nm,0.7s
NWAO LR LR 19 49 25.5
comp=Z,122nm,20.2s,baz=269,slow=35
KAPI Kappang 49.79 280 P **P 19 30 12.9 -0.5**
KAPI Kappang 49.79 280 P **P 19 30 12.9 -0.5**
9.0nm,0.7s,baz=117,slow=13,SNR=3.9
KKM Kota Kinabalu 57.47 290 *e*P **P 19 31 08.3 -1.2**
41nm,1.4s
TGY Tagaytay City 57.47 301 P **P 19 31 10.2 +0.8**
TGY Tagaytay City 57.47 301 P **P 19 31 10.2 +0.8**
136nm,0.4s,baz=94,slow=17,SNR=5.7
VNDA Vanda 58.76 182 P **P 19 31 18.1 +0.6**
JOW Kunigami 60.13 318 P **P 19 31 28.2 +0.7**
JOW Kunigami 60.13 318 P **P 19 31 28.2 +0.7**
23nm,0.7s,baz=137,slow=20,SNR=3.3
KSM Kuching 60.94 283 *e*P **P 19 31 32.6 -0.8**
14nm,0.9s
KSM *e*pP **pP 19 31 57.4 -1.2**
MJAR Matsushiro Arr 62.28 332 P **P 19 31 40.8 -1.2**
MJAR Matsushiro Arr 62.28 332 P **P 19 31 40.8 -1.2**
8.6nm,0.8s,baz=169,slow=8.3,SNR=21
MJAR LR LR 19 57 56.6
comp=Z,33nm,18.0s,baz=85,slow=35
MAJO Matsushiro 62.28 332 *e*P **P 19 31 40.7 -1.3**
11nm,0.8s
TPUB Ta-pu 63.04 310 *e*P **P 19 31 46.3 -1.0**
67nm,1.0s
JNU Nakatsue 63.17 325 P **P 19 31 47.5 -0.4**
JNU Nakatsue 63.17 325 P **P 19 31 47.5 -0.4**
11nm,0.7s,baz=125,slow=3.5,SNR=9.9
JNU LR LR 19 54 37.5
comp=Z,69nm,20.8s,baz=237,slow=32
YHNB Yeheng 63.34 311 *e*P **P 19 31 49.0 -0.3**
162nm,1.3s
ASAJ Asahikawa 67.15 340 P **P 19 32 14.4 +1.0**
ASAJ Asahikawa 67.15 340 P **P 19 32 14.4 +1.0**
14nm,0.6s,baz=187,slow=9.8,SNR=19
KSRS Korea Array 68.02 326 P **P 19 32 19.2 +0.2**
3.2nm,0.8s,baz=132,slow=6.3,SNR=9.9
KSRS LR LR 19 59 28.8
comp=Z,39nm,18.3s,baz=133,slow=34
KSAR Wonju Array Be 68.03 326 P **P 19 32 19.2 +0.2**
NJ2 Nanjing 69.70 316 *e*P **P 19 32 30.8 +1.2**
NJ2 PP **PP 19 35 07.6 +2.4**
NJ2 S **S 19 41 32.0 +1.6**
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
NJ2 pmax pmax
comp=Z,230nm,4.6s
NJ2 LR LR
comp=N,170nm,17.2s
NJ2 LR LR
comp=E,790nm,25.0s
NJ2 LR LR
comp=Z,210nm,21.0s
QSPA South Pole Qui 71.15 180 *e*P **P 19 32 38.3 +0.2**
comp=Z,21nm,0.8s
QSPA pP **pP 19 33 04.5 +0.5**
QSPA South Pole Qui 71.15 180 P **P 19 32 38.6 +0.5**
comp=Z,24nm,0.8s,baz=43,slow=2.0,SNR=57
QSPA pP **pP 19 33 04.5 +0.5**
comp=Z,22nm,1.0s,baz=352,slow=2.9,SNR=5.2
USRK Ussuriysk Arra 71.26 333 P **P 19 32 39.2 +0.5**
comp=Z,6.2nm,0.8s,baz=140,slow=5.8,SNR=11
USRK pP **pP 19 33 07.4 +2.8**
comp=Z,2.3nm,0.8s,baz=166,slow=8.8,SNR=3.3
PSI Prapat 72.00 279 P **P 19 32 43.2 -0.8**
PSI pP **pP 19 33 07.9 -2.1**
PSI sP **sP 19 33 17.6 -3.4**
PSI Prapat 72.00 279 P **P 19 32 43.3 -0.8**
comp=Z,1.8nm,0.3s,baz=173,slow=18,SNR=4.3
PSI pP **pP 19 33 07.9 -2.1**
comp=Z,11nm,1.0s,baz=115,slow=4.1,SNR=3.3
PSI sP **sP 19 33 17.6 -3.4**
comp=Z,11nm,1.0s,baz=206,slow=7.6,SNR=3.8
PETK Petropavlovsk- 72.35 353 P **P 19 32 44.9 -0.2**
PETK Petropavlovsk- 72.35 353 P **P 19 32 44.9 -0.2**
comp=Z,7.7nm,0.7s,baz=150,slow=6.9,SNR=7.1
PETK LR LR 20 01 54.8
comp=Z,105nm,18.1s,baz=150,slow=34
MDJ Mudanjiang 72.65 332 P **P 19 32 47.8 +0.7**
MDJ pmax pmax
comp=Z,15nm,0.8s
MDJ pmax pmax
comp=Z,100nm,5.4s
MDJ Mudanjiang 72.65 332 *e*P **P 19 32 47.5 +0.5**
comp=Z,20nm,0.9s
CN2 Changchun 73.97 329 ⇓P **P 19 32 54.4 -0.5**
CN2 epP **pP 19 33 25.8 +4.9**
CN2 eS **SKiKP 19 42 15.4 +1.9**
CN2 pmax pmax
comp=Z,30nm,0.7s
ENH Enshi 75.17 310 *e*P **P 19 33 01.5 -0.6**
comp=Z,19nm,1.1s
GYA Guiyang 75.32 305 P **P 19 33 04.0 +0.8**
GYA pP **pP 19 33 30.3 +1.0**
GYA sP **sP 19 33 41.8 +1.5**
GYA PP **PP 19 35 55.6 +2.1**
GYA S **S 19 42 34.5 -0.4**
GYA SKS **SKSac 19 43 00.8 -3.0**
GYA SS **SS 19 47 29.8 +2.4**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,110nm,5.8s
GYA LR LR
comp=N,480nm,18.8s
GYA LR LR
comp=E,410nm,19.0s
GYA LR LR
comp=Z,470nm,18.4s
BJT Baijiatuan 76.43 321 *e*P **P 19 33 09.0 0.0**
comp=Z,33nm,0.8s
BJI Beijing 76.44 321 P **P 19 33 09.3 +0.2**
BJI pP pP 19 33 40.9 +5.6
BJI S **S 19 42 43.8 -2.5**
BJI pmax pmax
comp=Z,43nm,0.8s
XAN Xi'an 77.61 313 P **P 19 33 15.9 0.0**
XAN pP **pP 19 33 41.8 -0.3**
XAN pmax pmax
comp=Z,6.0nm,0.9s
XAN pmax pmax
comp=Z,34nm,5.4s
KMI Kunming 77.78 302 P **P 19 33 18.5 +1.3**
KMI pP **pP 19 33 43.3 -0.2**
KMI sP **sP 19 33 57.0 +2.5**
KMI PP **PP 19 36 18.3 +4.0**
KMI S **S 19 43 00.1 -1.9**
KMI SS **SS 19 48 01.8 -3.0**
KMI pmax pmax
comp=Z,25nm,1.0s
KMI pmax pmax
comp=Z,100nm,4.9s
KMI LR LR
comp=Z,38nm,23.7s
CM31 Chiang Mai Arr 78.03 294 *e*P **P 19 33 19.4 +0.9**
comp=Z,16nm,1.0s
CM31 *e*pP **pP 19 33 44.9 +0.2**
CMAR Chiang Mai Arr 78.03 294 P **P 19 33 19.6 +1.1**
CMAR pP **pP 19 33 44.6 -0.1**
CMAR Chiang Mai Arr 78.03 294 P **P 19 33 19.6 +1.1**
comp=Z,12nm,1.0s,baz=130,slow=4.3,SNR=64
CMAR pP **pP 19 33 44.6 -0.1**
comp=Z,7.0nm,0.9s,baz=132,slow=4.3,SNR=6.0
CHTO Chiang Mai 78.17 295 *e*P **P 19 33 19.6 +0.4**
comp=Z,17nm,1.1s
CHTO *e*pP **pP 19 33 44.7 -0.9**
MAW Mawson 78.61 202 LR LR 20 06 35.1
comp=Z,131nm,18.6s,baz=297,slow=34
HHC Hu-ho-hao-te 79.72 320 *e*P **P 19 33 27.4 0.0**
HHC pP pP 19 33 59.4 +5.7
HHC PP **PP 19 36 32.8 +2.8**
HHC S **S 19 43 19.5 -2.3**
HHC ScS **SKSac 19 43 37.3 +0.5**
HHC SS **SS 19 48 34.5 +1.3**
HHC pmax pmax
comp=Z,22nm,0.6s
HHC pmax pmax
comp=Z,120nm,5.1s
HHC LR LR
comp=N,130nm,15.5s
HHC LR LR
comp=E,180nm,17.8s
HHC LR LR
comp=Z,140nm,19.0s
HIA Hailar 80.63 330 *e*P **P 19 33 30.5 -1.5**
comp=Z,18nm,1.3s
LZH Lanzhou 82.22 312 *e*P **P 19 33 42.1 +1.2**
LZH PP **PP 19 36 54.6 +3.7**
LZH eS **S 19 43 44.0 -4.1**
LZH pmax pmax
comp=Z,37nm,1.5s
LZH pmax pmax
comp=Z,140nm,8.3s
KDAK Kodiak Island 82.84 20 P **P 19 33 44.3 +1.0**
KDAK Kodiak Island 82.84 20 P **P 19 33 44.3 +1.0**
comp=Z,3.8nm,0.6s,baz=266,slow=16,SNR=4.0
IMP Imphal 84.85 298 *e*PKP **P 19 33 52.0 -2.4**
KHMM Horse Mountain 86.23 45 *e*P **P 19 34 01.9 +0.9**
comp=Z,21nm,1.0s
ULN Ulaanbaatar 86.37 324 *e*P **P 19 34 01.3 -0.2**
comp=Z,15nm,0.8s
ULN *e*pP **pP 19 34 28.8 +0.6**
YAK Yakutsk 86.44 343 *e*P **P 19 34 00.9 -0.3**
comp=Z,46nm,0.8s
GTA Gaotai 86.62 314 ⇓P **P 19 34 03.3 +0.3**
GTA pP pP 19 34 35.8 +6.1
GTA S **S 19 44 28.9 -2.8**
GTA SS **SS 19 50 15.8 +0.4**
GTA pmax pmax
comp=Z,19nm,1.1s
GTA pmax pmax
comp=Z,140nm,5.2s
GTA LR LR
comp=N,84nm,15.7s
GTA LR LR
comp=E,99nm,15.9s
GTA LR LR
comp=Z,81nm,15.2s
BILL Bilibino 86.70 359 *e*P **P 19 34 01.9 -0.6**
comp=Z,40nm,1.0s
SONM Songino Array 86.72 323 P **P 19 34 03.4 +0.2**
SONM pP **pP 19 34 29.9 0.0**
SONM Songino Array 86.72 323 P **P 19 34 03.4 +0.2**
comp=Z,20nm,0.9s,baz=147,slow=5.6,SNR=57
SONM pP **pP 19 34 29.9 0.0**
comp=Z,6.0nm,0.8s,baz=137,slow=6.6,SNR=4.4
PMR Palmer 86.93 19 *e*P **P 19 34 03.5 -0.2**
CMB Columbia Colle 87.21 48 *e*P **P 19 34 06.0 +0.3**
comp=Z,10.0nm,0.9s
YBH Yreka Blue Hor 87.31 44 *e*P **P 19 34 06.9 +0.7**
comp=Z,8.4nm,1.0s
YBH Yreka Blue Hor 87.31 44 P **P 19 34 07.2 +1.0**
comp=Z,8.5nm,0.9s,baz=203,slow=2.9,SNR=18
ISA Isabella 87.56 51 *e*P **P 19 34 07.5 0.0**
comp=Z,6.6nm,0.9s
NVAR Mina Array Bea 88.86 49 P **P 19 34 14.3 +0.6**
NVAR pP **pP 19 34 40.5 -0.1**
NVAR Mina Array Bea 88.86 49 P **P 19 34 14.3 +0.6**
comp=Z,4.1nm,0.9s,baz=227,slow=8.4,SNR=19
NVAR pP **pP 19 34 40.5 -0.1**
comp=Z,1.6nm,0.8s,baz=243,slow=8.4,SNR=2.6
MOD Modoc 88.99 45 *e*P **P 19 34 14.4 +0.2**
comp=Z,20nm,1.1s
LSA Lhasa 89.03 302 *e*P **P 19 34 14.9 -0.2**
comp=Z,5.5nm,0.8s
MAIT Maitri 89.15 187 *e*P **P 19 34 16.4 +2.1**
MAIT *e* 19 34 38.6
LVP Lakeview Peak 89.55 40 P **P 19 34 17.2 +0.5**
HDW Hoodsport 89.91 39 P **P 19 34 19.5 +1.2**
ILAR Eielson Array 90.02 17 P **P 19 34 16.4 -1.8**
ILAR Eielson Array 90.02 17 P **P 19 34 16.4 -1.8**
comp=Z,4.8nm,0.7s,baz=237,slow=4.9,SNR=41
ILAR LR LR 20 10 08.8
comp=Z,63nm,18.9s,baz=299,slow=32
WPW White Pass 90.37 40 P **P 19 34 21.1 +0.7**
BMN Battle Mountai 90.46 47 P **P 19 34 21.6 +0.5**
comp=Z,15nm,1.1s
HAWA Hanford 91.48 41 *e*P **P 19 34 25.9 +0.4**
comp=Z,10nm,0.8s
DLBC Dease Lake 91.91 27 *e*P **P 19 34 27.0 -0.3**
PDAR Pinedale Array 96.66 47 P **P 19 34 51.5 +1.8**
PDAR Pinedale Array 96.66 47 P **P 19 34 51.4 +1.8**
comp=Z,0.8nm,1.0s,baz=211,slow=2.6,SNR=3.8
WMQ Urumqi 96.70 314 *e*P **P 19 34 49.3 -0.3**
WMQ pP **pP 19 35 20.5 +3.9**
WMQ pmax pmax
comp=Z,8.0nm,1.1s
WMQ pmax pmax
comp=Z,140nm,5.2s
TXAR Lajitas Array 96.93 61 P **P 19 34 51.7 +0.7**
TXAR Lajitas Array 96.93 61 P **P 19 34 51.7 +0.7**
comp=Z,3.1nm,1.1s,baz=226,slow=5.0,SNR=12
TXAR LR LR 20 09 38.3
comp=Z,72nm,20.3s,baz=255,slow=30
PLCA Paso Flores 99.03 139 LR LR 20 09 22.7
comp=Z,54nm,18.5s,baz=253,slow=29
YKA Yellowknife Ar 100.54 27 P **Pdif 19 35 06.5 +0.3**
YKA Yellowknife Ar 100.54 27 P **Pdif 19 35 06.5 +0.3**
comp=Z,3.5nm,0.7s,baz=255,slow=4.7,SNR=59
MKAR Makanchi Array 101.23 316 P **Pdif 19 35 10.9 +1.2**
MKAR PKiKP **PKiKP 19 39 33.4 -0.6**
MKAR Makanchi Array 101.23 316 P **Pdif 19 35 10.9 +1.2**
comp=Z,1.6nm,0.6s,baz=100,slow=6.4,SNR=12
MKAR PKiKP **PKiKP 19 39 33.4 -0.6**
comp=Z,0.2nm,0.5s,baz=121,slow=1.1,SNR=3.6
ZALV Zalesovo Beam 101.62 323 P **Pdif 19 35 10.3 -0.9**
ZALV Zalesovo Beam 101.62 323 P **Pdif 19 35 10.3 -0.9**
comp=Z,0.8nm,0.5s,baz=110,slow=4.3,SNR=5.7
BVAR Borovoye Array 109.92 321 PKiKP **PKiKP 19 39 48.3 -1.5**
BVAR *e* 19 40 16.7
BVAR Borovoye Array 109.92 321 PKiKP **PKiKP 19 39 48.3 -1.5**
comp=Z,0.2nm,0.4s,baz=151,slow=2.9,SNR=5.4
BVAR pPKiKP **pPKiKP 19 40 16.7 -1.1**
comp=Z,0.5nm,0.7s,baz=156,slow=2.8,SNR=3.0
CPUP Villa Florida 116.51 134 PKP **PKPdf 19 40 02.3 -0.9**
CPUP Villa Florida 116.51 134 PKP **PKPdf 19 40 02.3 -0.9**
comp=Z,0.3nm,0.3s,baz=69,slow=8.6,SNR=3.1
AKTO Aktyubinsk 117.57 318 PKP **PKPdf 19 40 03.6 -0.9**
AKTO pPKP **pPKPdf 19 40 30.4 -2.1**
AKTO Aktyubinsk 117.57 318 PKP **PKPdf 19 40 03.6 -0.9**
comp=Z,1.5nm,0.7s,baz=54,slow=2.3,SNR=8.2
AKTO pPKP **pPKPdf 19 40 30.4 -2.1**
comp=Z,0.6nm,0.6s,baz=118,slow=8.7,SNR=1.9
BOSA Boshof 121.10 218 PKP **PKPdf 19 40 12.2 0.0**
BOSA Boshof 121.10 218 PKP **PKPdf 19 40 12.2 0.0**
comp=Z,1.7nm,0.4s,baz=131,slow=1.9,SNR=13
ARCES ARCESS Array B 124.64 345 PKP **PKPdf 19 40 17.1 -0.4**
ARCES pPKP **pPKPdf 19 40 43.6 -1.9**
ARCES ARCESS Array B 124.64 345 PKP **PKPdf 19 40 17.1 -0.4**
comp=Z,1.9nm,0.5s,baz=64,slow=2.2,SNR=33
ARCES pPKP **pPKPdf 19 40 43.6 -1.9**
comp=Z,1.9nm,0.7s,baz=100,slow=2.7,SNR=1.8
BDFB Brasilia 130.06 131 PKP **PKPdf 19 40 29.4 -0.2**
BDFB Brasilia 130.06 131 PKP **PKPdf 19 40 29.4 -0.2**
comp=Z,4.2nm,0.9s,baz=173,slow=8.5,SNR=3.2
FINES FINESS Array B 130.13 338 PKPpre PKPpre 19 40 22.4
FINES PKP **PKiKP 19 40 29.5 +0.5**
FINES pPKP pPKPdf 19 40 54.9 -1.3
FINES SKPbc **SKPab 19 43 40.5 -1.2**
FINES FINESS Array B 130.13 338 PKPpre PKPpre 19 40 22.4
comp=Z,1.8nm,0.8s,baz=220,slow=14,SNR=2.7
FINES PKP **PKiKP 19 40 29.5 +0.5**
comp=Z,0.8nm,0.6s,baz=3.5,slow=6.3,SNR=4.1
FINES pPKP pPKPdf 19 40 54.9 -1.3
comp=Z,1.5nm,1.0s,baz=17,slow=2.0,SNR=1.2
FINES SKPbc **SKPab 19 43 40.5 -1.2**
comp=Z,1.7nm,0.8s,baz=106,slow=4.2,SNR=3.9
TSUM Tsumeb 132.79 218 *e*PKPdf **PKPdf 19 40 34.3 -0.4**
BRTR Keskin Array B 136.31 308 PKPpre PKPpre 19 40 36.0
BRTR P **PKiKP 19 40 42.3 -0.1**
BRTR Keskin Array B 136.31 308 PKhKP PKPpre 19 40 36.0
comp=Z,0.7nm,0.8s,baz=185,slow=6.2,SNR=3.6
BRTR PKP **PKiKP 19 40 42.3 -0.1**
comp=Z,0.6nm,0.8s,baz=64,slow=3.4,SNR=3.4
KOLS Kolonicke sedl 139.74 326 *e*PKP **PKPdf 19 40 48.2 +1.7**
CRVS Cervenica-Dubn 140.18 326 *e*PKP **PKPdf 19 40 43.2 -4.1**
DPC Dobruska-Polom 141.75 331 *e*PKP **PKPdf 19 40 46.4 -3.8**
PVCC Panska Ves 142.39 333 *e*PKP **PKPdf 19 40 50.2 -1.0**
BRG Berggiesshubel 142.40 334 *e*PKP **PKPdf 19 40 48.6 -2.6**
comp=Z,3.7nm,0.9s
CLL Collm 142.45 335 *i* PKPdf **PKPdf 19 40 52.0 +0.7**
comp=Z,4.0nm,0.8s
NVR Nevrokopi 142.72 315 P **PKPdf 19 40 48.5 -3.7**
PRU Pruhonice 142.80 332 *e*PKP **PKPdf 19 40 48.2 -3.8**
SRS Serrai 143.00 314 P PKPab 19 40 47.4 -0.6
OUR Ouranopolis 143.07 313 P PKPab 19 40 48.7 +0.4
TANN Tannenbergstha 143.36 335 *e*PKPbc PKPab 19 40 49.7 +0.5
PLG Polygyros 143.43 313 P PKPab 19 40 49.4 -0.4
PAIG Paliouri 143.45 312 P PKPab 19 40 49.0 -0.8
NKC Novy Kostel 143.51 334 *e*PKP PKPbc 19 40 50.4 -0.4
IBBN Ibbenburen 143.52 340 *e*PKPbc PKPab 19 40 49.9 +0.2
MOX Moxa 143.52 336 *e*PKPbc PKPab 19 40 50.1 +0.3
VAY Valandovo 143.60 315 *e*PKP PKPab 19 40 49.9 -0.5
CONA Conrad Observa 143.66 329 ⇑ PKPdf PKPbc 19 40 52.0 +0.6
comp=Z,22nm,1.1s,SNR=14
NPS Neapolis 143.68 304 P PKPbc 19 40 51.5 -0.3
DIVS Divibare 143.81 321 P PKPbc 19 40 51.8 -0.2
LAST Lasithi 143.81 304 P PKPab 19 40 51.4 -0.1
KHC Kasperske Hory 143.86 332 *e*PKPdf PKPab 19 40 51.3 +0.1
KHC Kasperske Hory 143.86 332 *e*PKP PKPbc 19 40 52.9 +1.0
KHC *ex* x 19 40 56.0
KHC *ep*PKP pPKPdf 19 41 19.4 -2.6
ROTZ Rotzenmuhle 143.97 334 *e*PKPbc PKPbc 19 40 52.1 0.0
UBBA Unterbreizbach 143.99 337 *e*PKPbc PKPbc 19 40 52.2 +0.2
GEC2 GERESS Array S 144.02 332 *e*PKPbc **PKPab 19 40 51.9 0.0**
GERES GERESS Array B 144.02 332 PKP PKPbc 19 40 52.3 -0.2
GERES pPKP pPKPdf 19 41 20.9 -1.4
GERES GERESS Array B 144.02 332 PKP PKPbc 19 40 52.3 -0.2
comp=Z,7.4nm,0.8s,baz=36,slow=2.5,SNR=44
GERES pPKP pPKPdf 19 41 20.9 -1.4
comp=Z,0.9nm,0.5s,baz=170,slow=16,SNR=3.8
SKO Skopje 144.03 317 *e*PKP PKPbc 19 40 52.9 +0.3
XOR Xorichti 144.03 312 P **PKPab 19 40 50.9 -1.3**
PTL Penteli 144.07 309 P **PKPab 19 40 51.2 -1.1**
WET Wettzell 144.16 333 *e*PKPbc **PKPab 19 40 52.4 +0.1**
LIT Litokhoron 144.20 313 P **PKPab 19 40 52.1 -0.7**
ARSA Arzberg 144.29 328 ⇓ *i* PKPdf **PKPab 19 40 53.0 +0.1**
comp=Z,17nm,1.0s,SNR=12
SIVA Sivas 144.38 304 P PKPbc 19 40 53.8 0.0
GRF Grafenberg Arr 144.43 335 *e*PKPbc PKPbc 19 40 53.6 0.0
GRFO Grafenberg 144.43 335 *e*PKPdf PKPbc 19 40 53.7 +0.1
LKR Lokris 144.46 311 P **PKPab 19 40 52.2 -1.5**
MOA Molln 144.48 330 ⇓ *i* PKPab **PKPab 19 40 53.5 -0.1**
comp=Z,49nm,1.1s,SNR=16
FNA Florina 144.65 315 P **PKPab 19 40 53.3 -1.2**
AXAR Agios Charalam 144.66 311 P **PKPab 19 40 53.4 -1.1**
VAM Vamos 144.73 305 P PKPbc 19 40 55.1 +0.1
LTK Loutraki 144.73 310 P **PKPab 19 40 53.0 -1.8**
DID Didima 144.73 309 P **PKPab 19 40 53.3 -1.6**
DIDY Didyma 144.76 309 P **PKPab 19 40 52.8 -2.3**
THL Klokotos Trika 144.77 313 P **PKPab 19 40 52.8 -2.1**
GROS Grobnik 144.84 327 *e*PKPbc **PKPab 19 40 54.3 -0.7**
DSF Desfina 144.90 311 P **PKPab 19 40 53.9 -1.6**
KBI1 Birley Grange 144.90 350 *e*P **PKPab 19 40 54.3 -0.6**
KBI1 Birley Grange 144.90 350 P **PKPab 19 40 54.3 -0.6**
MAKR Makrakomi, Fth 144.93 312 P PKPbc 19 40 54.5 -1.0
SOKA Soboth 144.93 328 ⇓ *i* PKPdf PKPbc 19 40 54.8 -0.5
comp=Z,41nm,1.0s

KARN	**Karanos**	**144.95 305**		P		PKPbc	19 40 55.2	-0.5
GVD	**Gavdhos**	**145.00 304**		P		PKPbc	19 40 55.2	-0.6
NEST	**Nestorio**	**145.04 315**		P		**PKPbc**	**19 40 55.0**	**-0.9**
TNS	**Taunus Mts**	**145.05 338**		*e*PKPbc		**PKPbc**	**19 40 55.6**	**0.0**
DOBS	**Dobrina**	**145.06 327**		*i* PKPbc		**PKPbc**	**19 40 55.4**	**-0.3**
WME	**Myndd Eilian**	**145.16 353**		*e*P		**PKPbc**	**19 40 55.4**	**-0.3**
WME	**Myndd Eilian**	**145.16 353**		P		**PKPbc**	**19 40 55.4**	**-0.3**
KALE	**Kalithea**	**145.18 311**		P		**PKPbc**	**19 40 55.1**	**-1.3**
EVR	**Evrytania**	**145.19 312**		P		**PKPbc**	**19 40 55.9**	**-0.6**
GUR	**Goura**	**145.22 310**		P		**PKPbc**	**19 40 55.5**	**-1.1**
TRIZ	**Trizonia**	**145.24 311**		P		**PKPbc**	**19 40 55.6**	**-0.9**
RJOB	**Jochberg**	**145.24 331**		*e*PKPbc		**PKPbc**	**19 40 56.1**	**-0.2**
WPM1	**Penmaenmawr**	**145.25 352**		*e*P		**PKPbc**	**19 40 55.2**	**-0.8**
WPM1	**Penmaenmawr**	**145.25 352**		P		**PKPbc**	**19 40 55.2**	**-0.8**
VLI	**Veliai**	**145.25 308**		P		**PKPbc**	**19 40 55.2**	**-1.4**
WLF1	**Llynfaes**	**145.28 353**		*e*P		**PKPbc**	**19 40 55.5**	**-0.6**
WLF1	**Llynfaes**	**145.28 353**		P		**PKPbc**	**19 40 55.5**	**-0.6**
OBKA	**Obir**	**145.29 328**	⇓	*i* PKPdf		**PKPbc**	**19 40 55.7**	**-0.7**
	comp=Z,34nm,0.8s							
CRES	**Cresnjev**	**145.29 327**		*i* PKPbc		**PKPbc**	**19 40 56.2**	**-0.2**
KYTH	**Kithira**	**145.33 307**		P		**PKPdf**	**19 40 56.5**	**-0.4**
EFP	**Efpalio**	**145.33 311**		P		**PKPdf**	**19 40 56.4**	**-0.3**
YRC	**Rhoscolyn**	**145.33 353**		*e*P		**PKPbc**	**19 40 55.5**	**-0.7**
YRC	**Rhoscolyn**	**145.33 353**		P		**PKPbc**	**19 40 55.5**	**-0.7**
LAKA	**Lakka**	**145.36 311**		P		**PKPdf**	**19 40 56.5**	**-0.4**
VLX	**Vlachokerasia**	**145.42 309**		P		**PKPdf**	**19 40 56.7**	**-0.4**
HGN	**Heimansgroeve**	**145.43 341**		*e*PKP		**PKPbc**	**19 40 56.6**	**0.0**
	comp=Z,141nm,1.8s							
TOD	**Tromm**	**145.43 337**		PKP		**PKPbc**	**19 40 56.9**	**+0.2**
KBA	**Koelnbreinsper**	**145.47 330**	⇑	*i* PKPdf		**PKPdf**	**19 40 56.2**	**-0.8**
	comp=Z,15nm,0.7s,SNR=7.8							
BEBN	**Eben Emael**	**145.48 341**		PKP		**PKPab**	**19 40 57.4**	**+0.3**
FOEL	**Foel Wylfa**	**145.51 351**		*e*P		**PKPdf**	**19 40 56.1**	**-0.5**
FOEL	**Foel Wylfa**	**145.51 351**		P		**PKPdf**	**19 40 56.1**	**-0.5**
JAN	**Janina**	**145.53 314**		P		**PKPdf**	**19 40 57.2**	**+0.1**
MEM	**Membach**	**145.54 341**		PKP		**PKPdf**	**19 40 56.6**	**-0.1**
MEM				APKP		**pPKPdf**	**19 41 22.8**	**-2.0**
FUR	**Furstenfeldbru**	**145.59 333**		*e*PKPbc		**PKPab**	**19 40 57.7**	**0.0**
BOJS	**Bojanci**	**145.61 326**		*e*PKPbc		**PKPbc**	**19 40 57.5**	**+0.1**
LJU	**Ljubljana**	**145.62 328**		*e*PKPbc		**PKPdf**	**19 40 57.2**	**+0.2**
MYKA	**Terra Mystica**	**145.65 329**	⇑	*i* PKPdf		**PKPdf**	**19 40 56.3**	**-0.9**
	comp=Z,21nm,0.7s							
ABH	**Alteburg**	**145.65 338**		PKP		**PKPab**	**19 40 58.1**	**+0.2**
RLS	**Riolos of Patr**	**145.80 311**		P		**PKPbc**	**19 40 58.2**	**0.0**
ITM	**Ithomi**	**145.82 309**		P		**PKPdf**	**19 40 57.6**	**-0.1**
HLM1	**Long Myndd**	**145.83 351**		*e*P		**PKPdf**	**19 40 56.9**	**-0.2**
HLM1	**Long Myndd**	**145.83 351**		P		**PKPdf**	**19 40 56.9**	**-0.2**
BCLA	**Clavier**	**145.92 341**		PKP		**PKPdf**	**19 40 55.1**	**-2.3**
IGT	**Igoumenitsa**	**145.94 314**		P		**PKPab**	**19 40 59.0**	**-0.3**
STU	**Stuttgart**	**145.96 336**		*e*PKPbc		**PKPbc**	**19 40 58.4**	**0.0**
STU	**Stuttgart**	**145.96 336**		*e*PKPdf		**PKPdf**	**19 40 57.7**	**+0.2**
RUP	**Ruppelstein**	**145.97 339**		PKP		**PKPbc**	**19 40 58.7**	**+0.2**
LKD2	**Lefkada island**	**146.06 312**		P		**PKPbc**	**19 40 58.8**	**-0.2**
PYL	**PYLOS**	**146.07 309**		P		**PKPdf**	**19 40 57.8**	**-0.3**
WATA	**Walderalm**	**146.09 332**	⇓	*i* PKPbc		**PKPdf**	**19 40 58.2**	**+0.2**
	comp=Z,11nm,0.6s							
ABTA	**Abfaltersbach**	**146.10 330**	⇓	*i* PKPbc		**PKPdf**	**19 40 57.8**	**-0.2**
	comp=Z,25nm,1.2s,SNR=12							
SNF	**Seneffe**	**146.15 342**		PKP		**PKPdf**	**19 40 58.0**	**+0.3**
KFL	**Anninata**	**146.26 311**		P		**PKPdf**	**19 40 58.8**	**+0.4**
MOTA	**Moosalm**	**146.29 332**	⇓	*i* PKPbc		**PKPdf**	**19 40 58.9**	**+0.6**
	comp=Z,36nm,0.8s,SNR=23							
WLF	**Walferdange**	**146.31 340**		PKP		**PKPbc**	**19 40 59.6**	**+0.2**
WLF				APKP		**pPKPdf**	**19 41 25.6**	**-0.5**
WLF	**Walferdange**	**146.31 340**		*e*PKPbc		**PKPbc**	**19 40 59.8**	**+0.4**
WLF	**Walferdange**	**146.31 340**		*e*PKPbc		**PKPbc**	**19 40 59.7**	**+0.4**
LANF	**Langenberg**	**146.31 337**		PKP		**PKPbc**	**19 40 59.7**	**+0.2**
LANF	**Langenberg**	**146.31 337**		PKP		**PKPbc**	**19 40 59.7**	**+0.2**
MCH1	**Michaelchurch**	**146.35 351**		*e*P		**PKPdf**	**19 40 58.1**	**+0.1**
MCH1	**Michaelchurch**	**146.35 351**		P		**PKPdf**	**19 40 58.1**	**+0.1**
VLS	**Valsamata**	**146.38 312**		P		**PKPbc**	**19 40 59.5**	**-0.5**
DOU	**Dourbes**	**146.42 342**		PKP		**PKPdf**	**19 40 57.8**	**-0.5**
BFO	**Black Forest**	**146.66 336**		*e*PKPbc		**PKPbc**	**19 41 00.0**	**-0.5**
BFO				*ep*PKPbc		pPKPbc	19 41 26.6	-1.6
BFO	**Black Forest**	**146.66 336**		*e*PKPbc		**PKPbc**	**19 41 00.1**	**-0.5**
BFO				*ep*PKPdf		**pPKPdf**	**19 41 25.6**	**-1.2**
SPAK	**Spaichingen-Ko**	**146.66 335**		PKP		**PKPbc**	**19 41 00.3**	**-0.3**
FETA	**Feichten**	**146.71 332**		*i* PKPab		**PKPbc**	**19 41 00.5**	**-0.4**
	comp=Z,24nm,0.7s,SNR=20							
WOL	**Wolverton**	**146.71 349**		*e*P		**PKPdf**	**19 40 58.1**	**-0.5**
WOL	**Wolverton**	**146.71 349**		P		**PKPdf**	**19 40 58.1**	**-0.5**
DAVA	**Damuels**	**146.87 333**	⇑	*i* PKPbc		**PKPbc**	**19 41 00.6**	**-0.7**
	comp=Z,23nm,0.8s,SNR=12							
FELD	**Feldberg im Sc**	**147.15 336**		PKP		**PKPbc**	**19 41 02.0**	**0.0**
ECH	**Echery**	**147.19 337**		PKP		**PKPbc**	**19 41 02.6**	**+0.6**
ECH	**Echery**	**147.19 337**		PKP		**PKPbc**	**19 41 02.6**	**+0.6**
MOF	**Molkenrain**	**147.50 337**		PKP		**PKPbc**	**19 41 03.0**	**+0.1**
MOF	**Molkenrain**	**147.50 337**		PKP		**PKPbc**	**19 41 03.0**	**+0.1**
TUE	**Stuetta**	**147.73 333**		*e*PKPbc		**PKPbc**	**19 41 03.4**	**-0.4**
LOMF	**Lomont**	**148.03 337**		PKP		**PKPbc**	**19 41 04.5**	**+0.1**
LOMF	**Lomont**	**148.03 337**		PKP		**PKPbc**	**19 41 04.5**	**+0.1**
AQU	**L'Aquila**	**148.69 324**		*e*PKPdf		**PKPdf**	**19 41 01.8**	**-0.5**
AQU				*ep*PKPbc		**PKPbc**	**19 41 06.2**	**0.0**
BNI	**Bardonecchia**	**149.99 334**		*e*PKPbc		**PKPbc**	**19 41 09.3**	**-0.1**
PYM	**Petit Puy Mans**	**150.76 339**		PKP		**PKPbc**	**19 41 11.2**	**0.0**
PYM	**Petit Puy Mans**	**150.76 339**		PKP		**PKPbc**	**19 41 11.2**	**0.0**
LBL	**Lubilhac**	**151.14 339**		PKP		**PKPbc**	**19 41 12.8**	**+0.7**
LBL	**Lubilhac**	**151.14 339**		PKP		**PKPbc**	**19 41 12.8**	**+0.7**
KEST	**Kesra**	**155.32 317**		*e*PKPdf		**PKPdf**	**19 41 14.3**	**+1.9**
KEST				*e*PKPbc		PKPab	19 41 21.4	-17
KEST				PKPbc			19 41 21.6	
KEST				*e*PKPab		PKPab	19 41 38.7	+0.6
KEST				PKPab		PKPab	19 41 39.1	+1.0
KEST	**Kesra**	**155.32 317**		PKPbc		PKPdf	19 41 21.6	+9.1
	comp=Z,2.4nm,1.0s,baz=158,slow=2.7,SNR=4.4							
KEST				PKPab		**PKPab**	**19 41 39.1**	**+1.0**
	comp=Z,3.3nm,1.0s,baz=344,slow=5.6,SNR=6.6							
ESDC	**Sonseca Array**	**158.38 345**		PKPab		**PKPab**	**19 41 50.6**	**-0.4**
ESDC	**Sonseca Array**	**158.38 345**		PKPab		**PKPab**	**19 41 50.6**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=15,slow=3.4,SNR=11							
DBIC	**Dimbokro**	**166.39 208**		PKPab		**PKPab**	**19 42 26.7**	**+0.1**
DBIC				pPKPab		**pPKPab**	**19 42 52.6**	**-1.0**
DBIC	**Dimbokro**	**166.39 208**		PKPab		**PKPab**	**19 42 26.7**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=163,slow=9.0,SNR=3.4							
DBIC				pPKPab		**pPKPab**	**19 42 52.6**	**-1.0**
	comp=Z,3.1nm,0.8s,baz=160,slow=8.7,SNR=3.0							
TOA0	**Torodi Ar. Sit**	**166.39 247**		*e*PKPdf		**PKPdf**	**19 41 23.7**	**-1.1**
TORD	**Torodi Ar. Bea**	**166.39 247**		PKP		**PKPdf**	**19 41 23.8**	**-1.0**
TORD				pPKP		**pPKPdf**	**19 41 52.6**	**-0.4**
TORD				PKPab		**PKPab**	**19 42 27.2**	**+0.3**
TORD				pPKPab		**pPKPab**	**19 42 52.4**	**-1.5**
TORD	**Torodi Ar. Bea**	**166.39 247**		PKP		**PKPdf**	**19 41 23.8**	**-1.0**
	comp=Z,2.5nm,0.9s,baz=5.4,slow=0.7,SNR=12							
TORD				pPKP		**pPKPdf**	**19 41 52.6**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=172,slow=2.3,SNR=3.3							
TORD				PKPab		**PKPab**	**19 42 27.2**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=93,slow=3.5,SNR=5.4							
TORD				pPKPab		**pPKPab**	**19 42 52.3**	**-1.5**
	comp=Z,4.8nm,1.1s,baz=106,slow=3.6,SNR=7.5							

*ISCJB **17** 19:24:40.9±0.6,31°.57S±0°.03×71°.5W±0°.1,h54km±5km, mb4.4/9,MS3.9/2,Error ellipse: s-maj=17.7km s-min=5.5km az=5.4*

*IDC **17** 19:24:41.6±0.7,31°.51S×71°.74W,h45km±5km,mb4.2/4, mb1 4.1/8,mb1mx3.9/16,mbtmp4.1/8,ML4.1/4,MS3.5/5, Ms1 3.5/5,ms1mx3.3/19,Error ellipse: s-maj=21.2km s-min=12.0km az=179.0*

*NEIC **17** 19:24:42.0±1.2,31°.52S×71°.49W,h48km±9km,mb4.4/6, Error ellipse: s-maj=16.5km s-min=7.6km az=88.0*

NEIC Felt [IV] at Canela and Illapel, [III] at Salamanca and [II] at La Ligua.

*GUC **17** 19:24:43.5±0.7,31°.73S×71°.43W,h44km±3km,ML4.2*

ISC 17 19:24:41.8±0.6,31°.58S±0°.05×71°.36W±0°.08,h42km±5km, h42km:pP-P,n49,σ1s04/64,mb4.5/9,2C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.32**	**202**	⇑ *i* P	**Pn**	**19 24 50.7**	**+0.3**
CHNG				*i* S	**Sn**	**19 24 56.7**	**+0.2**
PACH	**Papudo**	**0.95**	**184**	⇓ *i* P	**Pn**	**19 24 59.2**	**+0.5**
PACH				*e*S	**Sn**	**19 25 10.3**	**-0.9**
JACH	**Jahuel**	**1.27**	**150**	⇑ *i* P	**Pn**	**19 25 04.8**	**+1.6**
IHA	**Instituto Hidr**	**1.46**	**189**	*e*P	**Pn**	**19 25 05.8**	**+0.2**
LCCH	**Las Cruces**	**1.89**	**185**	⇓ *i* P	**Pn**	**19 25 12.3**	**+0.7**
SAN	**Santiago**	**1.96**	**163**	AML	AML	19 25 45.4	
	comp=N,3μm,0.3s						
FCH	**Farellones**	**1.96**	**153**	AML	AML	19 25 44.8	
	comp=E,4μm,0.3s						

LCO	**Las Campanas**	**2.63**	**13**	*e*Pn		**Pn**	**19 25 23.1**	**+1.2**
LCO				*e*Sn		**Sn**	**19 25 55.8**	**+3.0**
CFAA	**Coronel Fontan**	**2.66**	**91**	P		Pn	19 25 26.2	+4.0
CFAA				S		Sn	19 26 02.3	+9.0
CFAA	**Coronel Fontan**	**2.66**	**91**	P		Pn	19 25 26.2	+4.0
	comp=E,23nm,0.3s,baz=266,slow=11,SNR=240							
CFAA				S		Sn	19 26 02.3	+9.0
	comp=E,48nm,0.3s,baz=57,slow=17,SNR=11							
VACH	**Vallenar**	**3.04**	**10**	⇓ *i* P		**Pn**	**19 25 27.4**	**-0.1**
VACH				*i* S		**Sn**	**19 26 03.9**	**+1.3**
PLCA	**Paso Flores**	**9.15**	**176**	*e*Pn		**Pn**	**19 26 51.9**	**+0.6**
PLCA	**Paso Flores**	**9.15**	**176**	P		**Pn**	**19 26 52.4**	**+1.1**
	comp=E,0.3nm,0.3s,baz=354,slow=13,SNR=7.1							
PLCA				LR		LR	19 30 11.2	
	comp=E,118nm,18.6s,baz=119,slow=36							
LVC	**Limon Verde**	**9.20**	**14**	*e*Pn		**Pn**	**19 26 51.2**	**-1.0**
	comp=E,523nm,1.8s							
TRQA	**Tornquist**	**10.05**	**133**	*e*Pn		**Pn**	**19 27 04.2**	**+0.7**
	comp=E,5.7nm,0.8s							
CPUP	**Villa Florida**	**13.35**	**70**	*e*Pn		**Pn**	**19 27 47.8**	**-0.8**
CPUP				*e*Sn		**Sn**	**19 30 11.6**	**-4.1**
CPUP				S		**Sn**	**19 30 15.2**	**-0.5**
CPUP	**Villa Florida**	**13.35**	**70**	P		**Pn**	**19 27 48.4**	**-0.2**
	comp=E,1.0nm,0.3s,baz=227,slow=11,SNR=5.4							
CPUP				S		**Sn**	**19 30 15.2**	**-0.5**
	comp=E,2.0nm,0.3s,baz=227,slow=8.3,SNR=2.5							
CPUP				LR		LR	19 33 16.3	
	comp=E,231nm,19.2s,baz=192,slow=38							
LPAZ	**La Paz**	**15.51**	**12**	*e*Pn		**Pn**	**19 28 18.0**	**-0.2**
	comp=E,9.1nm,1.0s							
LPAZ	**La Paz**	**15.51**	**12**	P		**Pn**	**19 28 18.3**	**+0.1**
	comp=E,0.3nm,0.3s,baz=182,slow=8.9,SNR=8.1							
SIV	**San Ignacio**	**18.13**	**33**	P		**Pn**	**19 28 50.9**	**+0.3**
SIV	**San Ignacio**	**18.13**	**33**	P		**Pn**	**19 28 50.9**	**+0.3**
	comp=E,0.5nm,0.3s,baz=229,slow=12,SNR=12							
SIV				LR		LR	19 36 14.8	
	comp=E,37nm,21.9s,slow=38							
EFI	**East Falkland**	**22.33**	**158**	P		**P**	**19 29 36.5**	**+0.8**
	comp=E,56nm,1.1s							
SAML	**Samuel**	**23.77**	**20**	*e*P		**P**	**19 29 49.9**	**-0.6**
	comp=E,7.5nm,1.2s							
BDFB	**Brasilia**	**26.55**	**59**	P		**P**	**19 30 15.3**	**-0.6**
BDFB	**Brasilia**	**26.55**	**59**	P		**P**	**19 30 15.3**	**-0.6**
	comp=E,10nm,1.0s,baz=254,slow=10,SNR=6.2							
BDFB				LR		LR	19 41 59.4	
	comp=E,306nm,19.3s,baz=346,slow=39							
SNAA	**Sanae**	**53.61**	**159**	P		**P**	**19 34 00.9**	**+2.5**
	comp=E,4.3nm,0.8s							
QSPA	**South Pole Qui**	**58.65**	**180**	*e*P		**P**	**19 34 35.1**	**+0.6**
	comp=E,4.2nm,0.9s							
QSPA	**South Pole Qui**	**58.65**	**180**	P		**P**	**19 34 35.4**	**+0.9**
	comp=E,3.5nm,1.0s,baz=145,slow=2.3,SNR=5.0							
OXF	**Oxford**	**67.91**	**344**	P		**P**	**19 35 33.3**	**-2.6**
WVT	**Waverly**	**69.11**	**346**	*e*P		**P**	**19 35 42.8**	**-0.6**
	comp=E,3.9nm,0.8s							
DBIC	**Dimbokro**	**73.87**	**71**	P		**P**	**19 36 12.7**	**+0.1**
DBIC				pP		**pP**	**19 36 25.6**	**+0.6**
DBIC	**Dimbokro**	**73.87**	**71**	P		**P**	**19 36 12.7**	**+0.1**
	comp=E,3.7nm,0.5s,baz=205,slow=5.1,SNR=16							
DBIC				pP		**pP**	**19 36 25.6**	**+0.6**
	comp=E,0.9nm,0.4s,baz=263,slow=12,SNR=1.6							
DBIC				LR		LR	20 04 16.6	
	comp=E,68nm,20.8s,baz=188,slow=32							
BOSA	**Boshof**	**80.68**	**118**	P		**P**	**19 36 51.0**	**+0.2**
BOSA	**Boshof**	**80.68**	**118**	P		**P**	**19 36 51.1**	**+0.2**
	comp=E,1.6nm,0.9s,baz=191,slow=7.6,SNR=5.3							
TORD	**Torodi Ar. Bea**	**82.85**	**70**	P		**P**	**19 37 02.1**	**0.0**
TORD	**Torodi Ar. Bea**	**82.85**	**70**	P		**P**	**19 37 02.1**	**0.0**
	comp=E,2.6nm,0.6s,baz=270,slow=6.5,SNR=47							
ASAR	**Alice Springs**	**119.97**	**207**	PKP		**PKPdf**	**19 43 27.1**	**-1.2**
ASAR				pPKP		**pPKPdf**	**19 43 40.4**	**-1.1**
ASAR	**Alice Springs**	**119.97**	**207**	PKP		**PKPdf**	**19 43 27.1**	**-1.2**
	comp=E,0.3nm,0.4s,baz=130,slow=1.7,SNR=9.5							
ASAR				pPKP		**pPKPdf**	**19 43 40.4**	**-1.1**
	comp=E,0.1nm,0.4s,baz=129,slow=1.5,SNR=2.1							
WRA	**Warramunga Arr**	**123.14**	**209**	PKP		**PKPdf**	**19 43 33.5**	**-0.9**
WRA				pPKP		**pPKPdf**	**19 43 46.8**	**-0.9**
WRA	**Warramunga Arr**	**123.14**	**209**	PKP		**PKPdf**	**19 43 33.5**	**-0.9**
	comp=E,0.6nm,0.4s,baz=155,slow=1.7,SNR=28							
WRA				pPKP		**pPKPdf**	**19 43 46.8**	**-0.9**
	comp=E,0.4nm,0.4s,baz=156,slow=1.7,SNR=4.0							
BRVK	**Borovoye**	**145.03**	**41**	*e*PKPdf		**PKPbc**	**19 44 13.4**	**0.0**
BVAR	**Borovoye Array**	**145.10**	**41**	PKPbc		**PKPdf**	**19 44 14.5**	**+0.3**
BVAR				pPKPbc		pPKPbc	19 44 28.0	+1.1
BVAR	**Borovoye Array**	**145.10**	**41**	PKPbc		**PKPdf**	**19 44 14.5**	**+0.3**
	comp=E,5.7nm,0.3s,baz=298,slow=1.8,SNR=99							
BVAR				pPKPbc		pPKPbc	19 44 28.0	+1.1
	comp=E,1.0nm,0.4s,baz=312,slow=2.7,SNR=3.4							
KURBB	**Kurchatov Arra**	**150.70**	**41**	PKP		**PKPdf**	**19 44 22.9**	**-0.4**
	comp=E,2.5nm,0.2s,baz=120,slow=7.5,SNR=4.4							
KURBB				PKPbc		**PKPbc**	**19 44 28.9**	**0.0**
	comp=E,1.8nm,0.2s,baz=293,slow=3.1,SNR=9.3							
KURK	**Kurchatov**	**150.70**	**41**	PKP		**PKPdf**	**19 44 22.9**	**-0.4**
KURK				PKPbc		**PKPbc**	**19 44 28.9**	**0.0**
ZALV	**Zalesovo Beam**	**151.87**	**30**	PKPbc		**PKPbc**	**19 44 31.6**	**+0.1**
ZALV				pPKPbc		**pPKPbc**	**19 44 45.1**	**+0.4**
ZALV	**Zalesovo Beam**	**151.87**	**30**	PKPbc		**PKPbc**	**19 44 31.6**	**+0.1**
	comp=E,6.5nm,0.4s,baz=315,slow=3.0,SNR=52							
ZALV				pPKPbc		**pPKPbc**	**19 44 45.1**	**+0.4**
	comp=E,1.9nm,0.4s,baz=298,slow=3.2,SNR=5.3							
MKAR	**Makanchi Array**	**154.71**	**46**	PKPbc		**PKPbc**	**19 44 37.8**	**-0.2**
MKAR				PKPab		**PKPab**	**19 44 53.3**	**+0.3**
MKAR	**Makanchi Array**	**154.71**	**46**	PKPbc		**PKPbc**	**19 44 37.8**	**-0.2**
	comp=E,0.4nm,0.6s,baz=297,slow=2.1,SNR=4.9							
MKAR				PKPab		**PKPab**	**19 44 53.3**	**+0.3**
	comp=E,0.9nm,0.6s,baz=277,slow=4.2,SNR=8.7							

IDC 17 19:24:50.4±1.6,3°.14N×126°.25E,h0km,mb3.9/6, mb1 4.0/6,mb1mx3.7/20,mbtmp3.9/6,Error ellipse: s-maj=192.9km s-min=18.4km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.28**	**161**	P	P	19 30 09.2	-0.4
	1.4nm,0.5s,baz=340,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**27.67**	**165**	P	P	19 30 40.4	+0.1
	0.5nm,0.7s,baz=345,slow=7.5,SNR=3.2						
STKA	**Stephens Creek**	**37.76**	**158**	P	P	19 32 08.7	+0.4
	2.4nm,0.5s,baz=336,slow=8.4,SNR=7.0						
MKAR	**Makanchi Array**	**57.76**	**326**	P	P	19 34 43.6	+0.2
	0.7nm,0.5s,baz=121,slow=8.2,SNR=18						
KURBB	**Kurchatov Arra**	**61.97**	**328**	P	P	19 35 12.1	-0.2
	0.9nm,0.5s,baz=128,slow=6.7,SNR=5.6						
BVAR	**Borovoye Array**	**67.55**	**327**	P	P	19 35 48.1	-0.5
	0.6nm,0.7s,baz=116,slow=10,SNR=3.8						

IDC 17 19:33:48.3±1.8,3°.99N×127°.01E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.5/19,mbtmp3.7/4,Error ellipse: s-maj=141.6km s-min=24.1km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.85**	**163**	P	P	19 39 12.3	-0.3
	4.1nm,0.7s,baz=343,slow=10,SNR=27						
ASAR	**Alice Springs**	**28.30**	**167**	P	P	19 39 43.7	-0.1
	0.3nm,0.7s,baz=348,slow=7.2,SNR=4.4						
STKA	**Stephens Creek**	**38.27**	**160**	P	P	19 41 10.8	+0.3
	1.7nm,0.6s,baz=335,slow=11,SNR=5.3						
MKAR	**Makanchi Array**	**57.51**	**325**	P	P	19 43 39.4	-0.1
	0.3nm,0.5s,baz=127,slow=7.5,SNR=3.9						

*ATH **17** 19:34:32.0,37°.07N×28°.18E,h18km±1km,MD3.1/8*
*ISK **17** 19:34:32.6,36°.99N×28°.22E,h10km,MD3.2*
*CSEM **17** 19:34:32.7±0.2,37°.02N×28°.21E,h1km,MD3.2*
*DDA **17** 19:34:33.5,37°.04N×28°.20E,h7km,MD3.0*

ISC 17 19:34:32.9±0.7,37°.01N×28°.19E±0°.02,h0km,n57, σ0s96/82,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.15**	**31**	*e*PG	**Pg**	**19 34 36.4**	**+0.7**
YER				*e*SG	**Sg**	**19 34 39.6**	**+2.0**
YER	**Yerkesik**	**0.15**	**31**	*e*Pg	**Pg**	**19 34 36.4**	**+0.7**
YER				*e*Sg	**Sg**	**19 34 39.7**	**+2.0**
DAT	**Datca**	**0.56**	**241**	*e*PG	**Pg**	**19 34 43.5**	**-0.2**
DAT				*e*SG	**Sg**	**19 34 53.7**	**+2.7**
BDRM	**Kayabasi**	**0.60**	**276**	*i* P	**Pg**	**19 34 45.1**	**+0.8**
BDRM				*e*S	**Sb**	**19 34 54.5**	**-0.8**
BDRM	**Kayabasi**	**0.60**	**276**	*i* P	**Pg**	**19 34 45.1**	**+0.8**
BDRM				*e*S	**Sb**	**19 34 54.5**	**-0.8**
AYDN	**Tasoluk**	**0.70**	**339**	*i* P	**Pg**	**19 34 47.1**	**+0.8**
AYDN				*i* S	**Sg**	**19 34 56.4**	**+1.1**

AYDN	**Tasoluk**	**0.70**	**339**	*i* P		**Pg**	**19 34 47.1**	**+0.8**
AYDN				*i* S		**Sg**	**19 34 56.4**	**+1.1**
BODT	**Bodrum**	**0.70**	**275**	*e*PG		**Pg**	**19 34 47.0**	**+0.6**
BODT	**Bodrum**	**0.70**	**275**	*e*Pg		**Pg**	**19 34 47.0**	**+0.6**
ARG	**Arkhangelos**	**0.79**	**184**	*e*PN		**Pg**	**19 34 48.1**	**+0.1**
ARG				*e*SN		**Sb**	**19 35 00.7**	**-0.1**
ARG	**Arkhangelos**	**0.79**	**184**	*e*Pn		**Pg**	**19 34 48.1**	**+0.1**
ARG				*e*Sn		**Sb**	**19 35 00.7**	**-0.1**
FETY	**Fethiye**	**0.81**	**117**	*e*PG		**Pg**	**19 34 47.6**	**-0.8**
FETY				*e*SG		**Sg**	**19 34 59.3**	**+0.4**
FETY	**Fethiye**	**0.81**	**117**	*e*Pg		**Pg**	**19 34 47.6**	**-0.8**
FETY				*e*Sg		**Sg**	**19 34 59.3**	**+0.4**
DNZL	**Cakiroluk**	**0.96**	**45**	*i* P		**Pg**	**19 34 51.3**	**-0.1**
DNZL				*i* S		**Sb**	**19 35 07.1**	**+1.1**
DNZL	**Cakiroluk**	**0.96**	**45**	*i* P		**Pg**	**19 34 51.3**	**-0.1**
DNZL				*i* S		**Sb**	**19 35 07.1**	**+1.1**
GCAM	**G?zelcaml?**	**1.03**	**313**	*i* P		**Pb**	**19 34 53.6**	**0.0**
GCAM				*i* S		**Sb**	**19 35 07.1**	**-0.5**
GCAM	**G?zelcaml?**	**1.03**	**313**	*i* P		**Pb**	**19 34 53.6**	**0.0**
GCAM				*i* S		**Sb**	**19 35 07.1**	**-0.5**
GOLH	**Golhisar**	**1.12**	**78**	*i* P		**Pb**	**19 34 55.5**	**+0.3**
GOLH	**Golhisar**	**1.12**	**78**	*i* P		**Pb**	**19 34 55.

BNT	**Bandirma**	**1.50**	**324**	*e*PN		**Pn**	**19 49 08.1**	**-0.8**
BNT	**Bandirma**	**1.50**	**324**	*e*Pn		**Pn**	**19 49 08.1**	**-0.8**
BOLV	**Bolvadin**	**1.52**	**106**	*i* P		**Pn**	**19 49 09.4**	**+0.2**
BOLV				*e*S		**Sn**	**19 49 28.4**	**-1.0**
BOLV	**Bolvadin**	**1.52**	**106**	*i* P		**Pn**	**19 49 09.4**	**+0.2**
BOLV				*e*S		**Sn**	**19 49 28.4**	**-1.0**
GULT	**Gulveren**	**1.70**	**40**	*e*PN		**Pn**	**19 49 11.2**	**-0.4**
GULT	**Gulveren**	**1.70**	**40**	*e*Pn		**Pn**	**19 49 11.2**	**-0.4**
BUY	**Buyukada**	**1.71**	**1**	*i* P		**Pn**	**19 49 10.5**	**-1.1**
BUY				*i* S		**Sn**	**19 49 34.0**	**+0.3**
BUY	**Buyukada**	**1.71**	**1**	*i* P		**Pn**	**19 49 10.5**	**-1.1**
BUY				*i* S		**Sn**	**19 49 34.0**	**+0.3**
HRT	**Hereke**	**1.74**	**15**	*e*PN		**Pn**	**19 49 10.9**	**-1.2**
HRT	**Hereke**	**1.74**	**15**	*e*Pn		**Pn**	**19 49 10.9**	**-1.2**
ISP	**Isparta**	**1.74**	**139**	*e*PN		**Pn**	**19 49 12.3**	**+0.1**
ISP	**Isparta**	**1.74**	**139**	P		**Pn**	**19 49 11.2**	**-1.0**
ISP				S		**Sn**	**19 49 34.8**	**+0.1**
ISP	**Isparta**	**1.74**	**139**	P		**Pn**	**19 49 11.2**	**-1.0**
ISP	**Isparta**	**1.74**	**139**	*e*Pn		**Pn**	**19 49 12.3**	**+0.1**
ISP				S		**Sn**	**19 49 34.8**	**+0.1**
AYDN	**Tasoluk**	**1.75**	**213**	*i* P		**Pb**	**19 49 13.6**	**-0.4**
AYDN				*i* S		**Sg**	**19 49 38.5**	**+0.8**
AYDN	**Tasoluk**	**1.75**	**213**	*i* P		**Pb**	**19 49 13.6**	**-0.4**
BLCB	**Balcova**	**1.76**	**245**	*e*PN		**Pn**	**19 49 12.8**	**+0.5**
BLCB	**Balcova**	**1.76**	**245**	*e*Pn		**Pn**	**19 49 12.8**	**+0.5**
SPNC	**Sapanca-Adapaz**	**1.81**	**31**	*e*PN		**Pn**	**19 49 13.2**	**+0.2**
SPNC	**Sapanca-Adapaz**	**1.81**	**31**	*e*Pn		**Pn**	**19 49 13.2**	**+0.2**
KRBG	**Karabiga-Canak**	**1.85**	**313**	*e*PN		**Pn**	**19 49 14.2**	**+0.6**
KRBG	**Karabiga-Canak**	**1.85**	**313**	*e*Pn		**Pn**	**19 49 14.2**	**+0.6**
AYVA	**Ayvalik**	**1.86**	**276**	*i* P		**Pb**	**19 49 15.3**	**-0.4**
AYVA				*e*S		**Sb**	**19 49 39.6**	**+0.4**
AYVA	**Ayvalik**	**1.86**	**276**	*i* P		**Pb**	**19 49 15.3**	**-0.4**
AYVA				*e*S		**Sb**	**19 49 39.6**	**+0.4**
ISK	**Istanbul-Kandi**	**1.92**	**360**	*e*PN		**Pn**	**19 49 13.6**	**-0.9**
ISK	**Istanbul-Kandi**	**1.92**	**360**	*e*Pn		**Pn**	**19 49 13.6**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.92**	**80**	*e*PN		**Pn**	**19 49 15.2**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.92**	**80**	*e*Pn		**Pn**	**19 49 15.2**	**+0.5**
GOLH	**Golhisar**	**1.94**	**168**	*i* P		**Pn**	**19 49 14.3**	**-0.7**
GOLH	**Golhisar**	**1.94**	**168**	*i* P		**Pn**	**19 49 14.3**	**-0.7**
BGKT	**Bogazkoy**	**2.05**	**354**	*e*PN		**Pn**	**19 49 16.5**	**+0.2**
BGKT	**Bogazkoy**	**2.05**	**354**	*e*Pn		**Pn**	**19 49 16.5**	**+0.2**
SILT	**Sile**	**2.05**	**12**	*e*PN		**Pn**	**19 49 16.9**	**+0.5**
SILT	**Sile**	**2.05**	**12**	*e*Pn		**Pn**	**19 49 16.9**	**+0.5**
BCK	**Bucak**	**2.06**	**144**	*e*PN		**Pn**	**19 49 16.5**	**0.0**
BCK	**Bucak**	**2.06**	**144**	*e*Pn		**Pn**	**19 49 16.5**	**0.0**
ELBA	**Catalca**	**2.06**	**346**	*i* P		**Pg**	**19 49 20.1**	**-0.8**
URLA	**Izmir**	**2.09**	**249**	*i* P		**Pb**	**19 49 19.9**	**+0.2**
URLA				*i* S		**Sn**	**19 49 44.2**	**+0.9**
YER	**Yerkesik**	**2.10**	**198**	*e*PN		**Pn**	**19 49 17.2**	**+0.1**
YER	**Yerkesik**	**2.10**	**198**	*e*Pn		**Pn**	**19 49 17.2**	**+0.1**
MDUB	**Mudurnu**	**2.10**	**50**	*e*PN		**Pn**	**19 49 17.9**	**+0.7**
MDUB	**Mudurnu**	**2.10**	**50**	*e*Pn		**Pn**	**19 49 17.9**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.12**	**317**	*e*PN		**Pn**	**19 49 17.9**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.12**	**317**	*e*Pn		**Pn**	**19 49 17.9**	**+0.5**
SART	**Tekirdag**	**2.12**	**317**	*i* P		**Pn**	**19 49 17.3**	**-0.1**
SART				*i* S		**Sn**	**19 49 43.9**	**-0.2**
SART	**Tekirdag**	**2.12**	**317**	*i* P		**Pn**	**19 49 17.3**	**-0.1**
SART				*i* S		**Sn**	**19 49 43.9**	**-0.2**
CTKS	**Kestanelik-??a**	**2.13**	**348**	*e*PN		**Pn**	**19 49 17.1**	**-0.4**
CTKS	**Kestanelik-??a**	**2.13**	**348**	*e*Pn		**Pn**	**19 49 17.1**	**-0.4**
MFT	**Murefte**	**2.14**	**321**	*e*PN		**Pn**	**19 49 18.0**	**+0.3**
MFT	**Murefte**	**2.14**	**321**	*e*Pn		**Pn**	**19 49 18.0**	**+0.3**
LPK	**Lapseki**	**2.17**	**305**	*e*PN		**Pn**	**19 49 18.2**	**+0.3**
LPK	**Lapseki**	**2.17**	**305**	*e*Pn		**Pn**	**19 49 18.2**	**+0.3**
PRK	**Paraskevi**	**2.18**	**274**	P		**Pn**	**19 49 18.1**	**0.0**
PRK				S		**Sn**	**19 49 45.7**	**+0.3**
PRK	**Paraskevi**	**2.18**	**274**	P		**Pn**	**19 49 18.1**	**0.0**
PRK				S		**Sn**	**19 49 45.7**	**+0.3**
HENT	**Hendek**	**2.19**	**39**	*i* P		**Pb**	**19 49 21.0**	**-0.3**
HENT				*i* S		**Sb**	**19 49 47.4**	**-1.2**
HENT	**Hendek**	**2.19**	**39**	*i* P		**Pb**	**19 49 21.0**	**-0.3**
HENT				*i* S		**Sb**	**19 49 47.4**	**-1.2**
SLVT	**Silivri**	**2.19**	**343**	*e*PN		**Pn**	**19 49 18.9**	**+0.7**
SLVT	**Silivri**	**2.19**	**343**	*e*Pn		**Pn**	**19 49 18.9**	**+0.7**
TKR	**Tekirdag**	**2.19**	**328**	*e*PN		**Pn**	**19 49 18.9**	**+0.6**
TKR	**Tekirdag**	**2.19**	**328**	*e*Pn		**Pn**	**19 49 18.9**	**+0.6**
CRLT	**Corlu**	**2.23**	**333**	*e*PN		**Pn**	**19 49 19.2**	**+0.4**
CRLT	**Corlu**	**2.23**	**333**	*e*Pn		**Pn**	**19 49 19.2**	**+0.4**
SUTC	**Sutluce-Ispart**	**2.25**	**137**	*e*PN		**Pn**	**19 49 19.9**	**+0.7**
SUTC	**Sutluce-Ispart**	**2.25**	**137**	*e*Pn		**Pn**	**19 49 19.9**	**+0.7**
KORT	**Korkueli**	**2.37**	**154**	*i* P		**Pn**	**19 49 20.5**	**-0.3**
KORT	**Korkueli**	**2.37**	**154**	*i* P		**Pn**	**19 49 20.5**	**-0.3**
CTYL	**Yal??k??y-??at**	**2.40**	**346**	*e*PN		**Pn**	**19 49 21.8**	**+0.6**
CTYL	**Yal??k??y-??at**	**2.40**	**346**	*e*Pn		**Pn**	**19 49 21.8**	**+0.6**
KDHN	**Kadinhani**	**2.46**	**104**	*i* P		**Pn**	**19 49 22.1**	**+0.1**
KDHN	**Kadinhani**	**2.46**	**104**	*i* P		**Pn**	**19 49 22.1**	**+0.1**
CHOS	**Chios island**	**2.48**	**253**	P		**Pn**	**19 49 21.6**	**-0.7**
CHOS				S		**Sn**	**19 49 52.8**	**-0.1**
CHOS	**Chios island**	**2.48**	**253**	P		**Pn**	**19 49 21.6**	**-0.7**
CHOS				S		**Sn**	**19 49 52.8**	**-0.1**
ELL	**Elmali**	**2.48**	**164**	*e*PN		**Pn**	**19 49 22.9**	**+0.5**
ELL	**Elmali**	**2.48**	**164**	*e*Pn		**Pn**	**19 49 22.9**	**+0.5**
ERIK	**Erikli-Kesan**	**2.49**	**309**	*e*PN		**Pn**	**19 49 23.2**	**+0.8**
ERIK	**Erikli-Kesan**	**2.49**	**309**	*e*Pn		**Pn**	**19 49 23.2**	**+0.8**
BODT	**Bodrum**	**2.50**	**214**	*e*PN		**Pn**	**19 49 23.2**	**+0.6**
BODT	**Bodrum**	**2.50**	**214**	*e*Pn		**Pn**	**19 49 23.2**	**+0.6**
FETY	**Fethiye**	**2.50**	**180**	*e*PN		**Pn**	**19 49 22.9**	**+0.3**
FETY	**Fethiye**	**2.50**	**180**	*e*Pn		**Pn**	**19 49 22.9**	**+0.3**
DAT	**Datca**	**2.69**	**207**	*e*PN		**Pn**	**19 49 25.8**	**+0.6**
DAT	**Datca**	**2.69**	**207**	*e*Pn		**Pn**	**19 49 25.8**	**+0.6**
ENEZ	**Enez**	**2.75**	**306**	*e*PN		**Pn**	**19 49 27.2**	**+1.2**
ENEZ	**Enez**	**2.75**	**306**	*e*Pn		**Pn**	**19 49 27.2**	**+1.2**
KONT	**Konya--Tatoy**	**2.84**	**114**	*e*PN		**Pn**	**19 49 28.2**	**+0.9**
KONT	**Konya--Tatoy**	**2.84**	**114**	*e*Pn		**Pn**	**19 49 28.2**	**+0.9**
ALN	**Alexandroupoli**	**2.91**	**308**	P		**Pn**	**19 49 27.9**	**-0.3**
ALN				S		**Sn**	**19 50 04.5**	**+1.1**
ALN	**Alexandroupoli**	**2.91**	**308**	P		**Pn**	**19 49 27.9**	**-0.3**
ALN				S		**Sn**	**19 50 04.5**	**+1.1**
LOD	**Lodumlu**	**2.95**	**74**	*e*PN		**Pn**	**19 49 29.5**	**+0.7**
LOD	**Lodumlu**	**2.95**	**74**	*e*Pn		**Pn**	**19 49 29.5**	**+0.7**
EDRB	**Edirne**	**3.23**	**327**	*e*PN		**Pn**	**19 49 33.8**	**+1.2**
EDRB	**Edirne**	**3.23**	**327**	*e*Pn		**Pn**	**19 49 33.8**	**+1.2**
RDO	**Rodhopi**	**3.37**	**308**	P		**Pn**	**19 49 34.5**	**+0.1**
RDO	**Rodhopi**	**3.37**	**308**	P		**Pn**	**19 49 34.5**	**+0.1**
SAFT	**Safranbolu**	**3.47**	**52**	*e*PN		**Pn**	**19 49 37.5**	**+1.6**
SAFT	**Safranbolu**	**3.47**	**52**	*e*Pn		**Pn**	**19 49 37.5**	**+1.6**
BALT	**Daday**	**4.07**	**53**	*i* P		**Pb**	**19 49 54.6**	**+1.1**
TLCR		**6.04**	**358**	⇓*i* P		**Pn**	**19 50 11.6**	**+0.5**
TLCR		**6.04**	**358**	⇓*i* P		**Pn**	**19 50 11.6**	**+0.5**
CFR	**Carcaliu**	**6.07**	**354**	⇑*i* P		**Pn**	**19 50 11.1**	**-0.4**
CFR	**Carcaliu**	**6.07**	**354**	⇑*i* P		**Pn**	**19 50 11.1**	**-0.4**
MLR	**Muntele Rosu**	**6.75**	**341**	⇑*i* P		**Pn**	**19 50 22.1**	**+1.0**
MLR	**Muntele Rosu**	**6.75**	**341**	⇑*i* P		**Pn**	**19 50 22.1**	**+1.0**
PLOR	**Plostina**	**6.94**	**346**	⇓*i* P		**Pn**	**19 50 24.3**	**+0.8**
PLOR	**Plostina**	**6.94**	**346**	⇓*i* P		**Pn**	**19 50 24.3**	**+0.8**
VRI	**Vrincioaia**	**6.94**	**346**	⇑*i* P		**Pn**	**19 50 24.4**	**+0.9**
VRI	**Vrincioaia**	**6.94**	**346**	⇑*i* P		**Pn**	**19 50 24.4**	**+0.9**
VOIR		**6.96**	**336**	⇓*i* P		**Pn**	**19 50 24.2**	**+0.3**
VOIR		**6.96**	**336**	⇓*i* P		**Pn**	**19 50 24.2**	**+0.3**
TESR		**7.58**	**347**	⇑*i* P		**Pn**	**19 50 32.2**	**0.0**
TESR		**7.58**	**347**	⇑*i* P		**Pn**	**19 50 32.2**	**0.0**

IDC 17 19:48:49.6±2.3, 3°62′N×127°14′E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=222.3km s-min=22.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.46**	**163**	P	P	19 54 09.9	-0.6
	0.6nm,0.4s,baz=344,slow=9.6,SNR=16						
ASAR	**Alice Springs**	**27.91**	**167**	P	P	19 54 41.9	+0.3
	0.3nm,0.5s,baz=343,slow=7.3,SNR=4.9						
STKA	**Stephens Creek**	**37.88**	**160**	P	P	19 56 08.7	+0.2
	0.8nm,0.5s,baz=338,slow=11,SNR=6.2						
MKAR	**Makanchi Array**	**57.88**	**325**	P	P	19 58 43.4	0.0
	0.5nm,0.5s,baz=122,slow=7.7,SNR=16						

*DJA **17** 19:55:29.4±1.3,2°N±5°×9°6E±°, h68km±23km, M3.5/4, MLv3.5/4*

*IDC **17** 19:55:29.2±2.5,2°17′N×95°23′E, h0km, mb3.4/3, mb1 3.4/5, mb1mx3.3/25, mbtmp3.3/5, ML3.1/2, Error ellipse: s-maj=65.8km s-min=27.6km az=50.0*

ISC 17 19:55:26.0±3.7, 1°78′N±0.08×95°7′E±0.1, h6km±20km, n10, σ1°69/14, mb3.3/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.89**	**104**	P	**Pn**	**19 55 58.2**	**-0.7**
GSI				S	**Sn**	**19 56 22.5**	**-0.6**
TPTI		**2.06**	**44**	P	**Pb**	**19 56 03.1**	**-0.7**
TPTI				S	**Sg**	**19 56 31.7**	**-0.5**
TSI	**Tuntungan**	**3.30**	**59**	P	**Pn**	**19 56 20.4**	**+2.1**
TSI				S	**Sn**	**19 56 59.3**	**+1.4**
PSI	**Prapat**	**3.34**	**72**	Pn	**Pb**	**19 56 27.9**	**+2.1**
	0.8nm,0.3s,baz=270,slow=8.1,SNR=3.5						
LHMI	**Lhok Sumawe**	**3.63**	**19**	P	**Pn**	**19 56 24.2**	**+1.3**
LHMI				S	**Sb**	**19 57 11.5**	**-3.6**
MNSI	**Mandailing Nat**	**3.96**	**104**	P	**Pn**	**19 56 27.2**	**-0.2**
MNSI				S	**Sn**	**19 57 14.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**16.87**	**11**	Pn	**P**	**19 59 24.8**	**-0.3**
	0.0nm,0.3s,baz=203,slow=13,SNR=4.4						
WRA	**Warramunga Arr**	**43.58**	**122**	P	P	20 03 40.6	+9.2
	0.5nm,1.1s,baz=302,slow=8.9,SNR=2.9						
MKAR	**Makanchi Array**	**46.35**	**347**	P	**P**	**20 03 52.5**	**-0.5**
	0.2nm,0.7s,baz=163,slow=8.1,SNR=3.3						
ZALV	**Zalesovo Beam**	**52.77**	**352**	P	**P**	**20 04 42.8**	**+0.9**
	0.4nm,0.5s,baz=168,slow=7.4,SNR=3.0						

PRE 17 20:00:53.0±1.8, 4°07′S×34°94′E, h10km, ML3.9, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**3.73**	**38**	*e*P	Pn	20 01 50.2	-0.9
KMBO				*e*S	Sn	20 02 35.9	+0.7
KIG	**Kigali**	**5.30**	**293**	*e*P	Pn	20 02 13.1	+0.6
KIG				*e*S	Sn	20 03 12.3	-1.5
KIG				AML	AML	20 03 38.4	
	comp=Z,163nm,0.5s						
LSZ	**Lusaka**	**12.96**	**210**	*e*S	Sn	20 06 17.2	-5.0

IDC 17 20:26:14.5±4.0, 29°62′S×138°30′E, h0km, mb1 2.9/3, mb1mx2.9/13, mbtmp2.6/3, ML2.4/3, Error ellipse: s-maj=160.8km s-min=17.4km az=47.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.62**	**129**	Pn	Pn	20 27 13.8	+1.8
	0.0nm,0.3s,baz=317,slow=18,SNR=2.2						
STKA				Pg	Pb	20 27 19.5	0.0
	0.1nm,0.3s,baz=317,slow=19,SNR=3.8						
STKA				Sn	Sn	20 27 56.0	+0.5
	0.2nm,0.3s,baz=315,slow=16,SNR=3.2						
STKA				Lg	Lg	20 28 08.9	
	0.7nm,0.3s,baz=15,slow=23,SNR=8.8						
ASAR	**Alice Springs**	**7.11**	**325**	Pn	Pn	20 27 59.2	-0.7
	0.2nm,0.3s,baz=174,slow=8.4,SNR=16						
ASAR				Sn	Sn	20 29 17.4	-4.1
	0.1nm,0.3s,baz=157,slow=23,SNR=4.1						
WRA	**Warramunga Arr**	**10.28**	**339**	Pn	Pn	20 28 43.6	+0.2
	0.1nm,0.3s,baz=162,slow=13,SNR=5.1						

PRE 17 20:56:20.6±0.8, 26°41′S×27°69′E, h2km, ML1.4, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.10**	**312**	*e*P	Pg	20 56 23.1	+0.4
KLOF				*e*S	Sg	20 56 23.9	-0.3
KLOF				AML	AML	20 56 24.3	
	comp=Z,463nm,0.1s						
ERPM	**east rand prop**	**0.50**	**82**	*e*P	Pg	20 56 30.3	-0.2
ERPM				*e*S	Sg	20 56 38.2	+1.1
ERPM				AML	AML	20 56 39.9	
	comp=Z,4.6nm,0.3s						
PRYS	**Parys**	**0.59**	**210**	*e*P	Pg	20 56 32.3	+0.2
PRYS				*e*S	Sg	20 56 40.0	0.0
PRYS				AML	AML	20 56 43.4	
	comp=Z,5.3nm,0.4s						
LBTB	**Lobatse**	**2.35**	**306**	*e*P	Pn	20 57 00.6	+0.2
LBTB				*e*S	Sn	20 57 30.2	+0.4
LBTB				AML	AML	20 57 32.4	
	comp=Z,1.9nm,1.1s						

*ISK **17** 21:01:57.7, 37°14′N×27°73′E, h24km, MD2.7*

*ISCJB **17** 21:01:58.7±0.6, 37°11′N±0°04′×27°71′E±0°05, h25km±6km, Error ellipse: s-maj=6.6km s-min=6.2km az=148.6*

*DDA **17** 21:01:58.7, 37°14′N×27°73′E, h7km, MD2.8*

*CSEM **17** 21:01:58.5±0.3, 37°12′N×27°71′E, h20km, MD2.8, Error ellipse: s-maj=6.6km s-min=6.2km az=168.0*

ISC 17 21:01:58.3±1.0, 37°13′N±0°03′×27°72′E±0°02, h19km±2km, n23, σ1°12/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.23**	**255**	*i* P	**Pg**	**21 02 03.9**	**+0.2**
BDRM				*i* S	**Sg**	**21 02 07.0**	**-0.5**
BDRM	**Kayabasi**	**0.23**	**255**	*i* P	**Pg**	**21 02 03.9**	**+0.2**
BDRM				*i* S	**Sg**	**21 02 07.0**	**-0.5**
BODT	**Bodrum**	**0.34**	**259**	*e*PG	**Pb**	**21 02 06.0**	**+0.3**
BODT				*e*SG	**Sb**	**21 02 11.3**	**+0.5**
BODT	**Bodrum**	**0.34**	**259**	*e*Pg	**Pb**	**21 02 06.0**	**+0.3**
BODT				*e*Sg	**Sb**	**21 02 11.3**	**+0.5**
DAT	**Datca**	**0.41**	**196**	*e*PG	**Pb**	**21 02 07.8**	**+0.7**
DAT				*e*SG	**Sb**	**21 02 13.8**	**+0.7**
DAT	**Datca**	**0.41**	**196**	*e*Pg	**Pb**	**21 02 07.8**	**+0.7**
DAT				*e*Sg	**Sb**	**21 02 13.8**	**+0.7**
YER	**Yerkesik**	**0.45**	**89**	*e*PG	**Pb**	**21 02 08.3**	**+0.6**
YER				*e*SG	**Sg**	**21 02 14.1**	**+0.5**
YER	**Yerkesik**	**0.45**	**89**	*e*Pg	**Pb**	**21 02 08.3**	**+0.6**
YER				*e*Sg	**Sg**	**21 02 14.1**	**+0.5**
AYDN	**Tasoluk**	**0.55**	**13**	*i* P	**Pb**	**21 02 10.2**	**+0.9**
AYDN				*i* S	**Sg**	**21 02 16.8**	**0.0**
AYDN	**Tasoluk**	**0.55**	**13**	*i* P	**Pb**	**21 02 10.2**	**+0.9**
AYDN				*i* S	**Sg**	**21 02 16.8**	**0.0**
GCAM	**G?zelcaml?**	**0.69**	**326**	*i* P	**Pg**	**21 02 12.5**	**+0.6**
GCAM				*i* S	**Sn**	**21 02 23.0**	**-0.4**
GCAM	**G?zelcaml?**	**0.69**	**326**	*i* P	**Pg**	**21 02 12.5**	**+0.6**
GCAM				*i* S	**Sn**	**21 02 23.0**	**-0.4**
TURN	**Turunc**	**0.75**	**109**	*i* P	Pb	21 02 09.0	-3.7
TURN				*i* S	**Sb**	**21 02 17.6**	**-4.9**
DNZL	**Cakiroluk**	**1.20**	**61**	*i* P	**Pg**	**21 02 22.3**	**+0.8**
DNZL				*i* S	**Sg**	**21 02 38.8**	**+1.7**
DNZL	**Cakiroluk**	**1.20**	**61**	*i* P	**Pg**	**21 02 22.3**	**+0.8**
FETY	**Fethiye**	**1.20**	**114**	*e*PN	**Pn**	**21 02 19.5**	**-0.5**
FETY	**Fethiye**	**1.20**	**114**	*e*Pn	**Pn**	**21 02 19.5**	**-0.5**
BLCB	**Balcova**	**1.37**	**337**	*e*PN	**Pn**	**21 02 21.4**	**-1.0**
BLCB	**Balcova**	**1.37**	**337**	*e*Pn	**Pn**	**21 02 21.4**	**-1.0**
AKS	**Akhisar**	**1.75**	**2**	*e*PN	**Pn**	**21 02 26.7**	**-1.0**
AKS	**Akhisar**	**1.75**	**2**	*e*Pn	**Pn**	**21 02 26.7**	**-1.0**
ELL	**Elmali**	**1.79**	**101**	*e*PN	**Pn**	**21 02 28.0**	**-0.3**
ELL	**Elmali**	**1.79**	**101**	*e*Pn	**Pn**	**21 02 28.0**	**-0.3**

IDC 17 21:03:07.3±2.0, 3°98′N×126°67′E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.7/4, Error ellipse: s-maj=185.0km s-min=23.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.94**	**163**	P	P	21 08 30.9	-1.6
	2.3nm,0.9s,baz=341,slow=9.9,SNR=12						
ASAR	**Alice Springs**	**28.37**	**166**	P	P	21 09 05.2	+1.8
	0.2nm,0.3s,baz=348,slow=8.8,SNR=5.8						
STKA	**Stephens Creek**	**38.38**	**159**	P	P	21 10 30.1	-0.4
	0.9nm,0.5s,baz=338,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**57.32**	**325**	P	P	21 12 57.2	0.0
	0.3nm,0.4s,baz=119,slow=7.2,SNR=9.8						

*ISCJB **17** 21:03:57.7±0.3, 43°73′N±0°02′×105°27′W±0°03, h0km, mb4.0/5, MS3.6/1, Error ellipse: s-maj=2.8km s-min=2.2km az=29.1*

*IDC **17** 21:03:57.2±1.2, 43°33′N×105°22′W, h0km, mb4.0/5, mb1 4.0/10, mb1mx3.8/29, mbtmp3.9/10, ML3.7/4, MS3.7/1, Ms1 3.7/1, ms1mx2.5/51, Error ellipse: s-maj=30.7km s-min=8.0km az=155.0*

*NEIC **17** 21:03:59.9±0.3, 43°75′N×105°23′W, h0km, ML3.5, Error ellipse: s-maj=4.7km s-min=3.7km az=137.0, Suspected Mining explosion.*

NEIC 65 km [40 miles] SSE of Gillette.

ISC 17 21:03:59.1±0.6, 43°74′N±0°02′×105°24′W±0°02, h0km, n100, σ1°47/141, mb4.1/5, 17C-23D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I23A	**Meade Ranch, G**	**0.28**	**324**	⇓P	**Pg**	**21 04 03.9**	**-0.6**
	baz=0.3						
J23A	**Dilts Ranch, B**	**0.40**	**215**	⇑P	**Pg**	**21 04 04.0**	**-2.8**
	baz=0.4						
I24A	**Kuemmerle Ranc**	**0.46**	**74**	⇑P	**Pg**	**21 04 07.8**	**-0.1**
	baz=0.4						
J24A	**Dixon Ranch, L**	**0.58**	**134**	⇑P	**Pg**	**21 04 08.7**	**-1.6**
	baz=0.6						
H23A	**Clabaugh Cattl**	**0.83**	**352**	⇑P	**Pg**	**21 04 13.9**	**-1.2**
	baz=0.8						
I22A	**9 Mile Ranch,**	**0.92**	**280**	⇑P	**Pg**	**21 04 13.9**	**-2.8**
	baz=0.9						
RSSD	**Black Hills**	**0.95**	**66**	*e*Pg	**Pg**	**21 04 16.9**	**-0.5**
J22A	**Midwest**	**0.96**	**251**	⇑P	Pg	21 04 13.8	-3.7
	baz=1.0						
J22A				⇓S	**Sg**	**21 04 27.6**	**-2.3**
	baz=1.0						
H24A	**Dirks Ranch, A**	**1.13**	**26**	⇓P	**Pg**	**21 04 19.3**	**-1.4**
	baz=1.1						
H22A	**Clearmont**	**1.18**	**317**	⇓P	**Pg**	**21 04 19.9**	**-1.7**
	baz=1.2						
K22A	**Casper**	**1.44**	**221**	⇓P	Pn	21 04 21.9	-4.6
	baz=1.5						
I21A	**Big Trails, Te**	**1.49**	**274**	⇓P	Pn	21 04 23.1	-4.2
	baz=1.5						
H21A	**Big Horn, Sher**	**1.57**	**305**	⇓Pb	**Pn**	**21 04 26.2**	**-2.3**
	baz=1.6,SNR=76						
K21A	**Alcova**	**1.84**	**234**	⇑Pb	**Pn**	**21 04 29.2**	**-2.9**
	baz=1.9,SNR=128						
F23A	**Volborg**	**1.99**	**357**	⇓Pb	**Pn**	**21 04 33.1**	**-1.0**
	baz=2.0,SNR=131						
F23A				⇓Sb	**Sb**	**21 05 01.4**	**-0.2**
	baz=2.0						
G21A	**Lodge Grass**	**2.05**	**317**	⇑Sb	**Sb**	**21 05 02.8**	**-0.6**
	baz=2.0						
I20A	**Worland**	**2.10**	**277**	⇑Pb	**Pn**	**21 04 34.4**	**-1.3**
	baz=2.1						
J20A	**Shoshoni**	**2.10**	**261**	⇓Pb	**Pn**	**21 04 34.8**	**-0.9**
	baz=2.1,SNR=63						
H20A	**Greybull**	**2.12**	**292**	⇑Sb	**Sn**	**21 05 03.6**	**+0.4**
	baz=2.1						
F22A	**Rosebud**	**2.17**	**341**	⇓Pb	**Pn**	**21 04 36.9**	**+0.3**
	baz=2.2						
F22A				⇓Sb	**Sb**	**21 05 06.1**	**-0.6**
	baz=2.2						
M24A	**Cheyenne**	**2.29**	**172**	⇑Sg	**Sb**	**21 05 10.4**	**+0.1**
	baz=2.3						
L21A	**Rawlins**	**2.36**	**222**	⇓Pb	**Pn**	**21 04 38.2**	**-1.1**
	baz=2.4						
PHWY	**Pilot Hill**	**2.44**	**184**	*e*Pn	**Pn**	**21 04 42.0**	**+1.5**
PHWY				*e*Sn	**Sn**	**21 05 13.3**	**+2.2**
K20A	**Yellowstone Ra**	**2.51**	**246**	⇑Pb	**Pn**	**21 04 40.8**	**-0.6**
	baz=2.5,SNR=103						
K20A				⇓Sb	**Sn**

BSMT				*e*Pg	**Pg**	**21 06 29.5**	**+0.2**
BSMT				*e*Sn	**Sn**	**21 07 25.7**	**+1.7**
BSMT				*e*Sg	**Sg**	**21 08 06.3**	**-4.5**
WALA	**Waterton Lakes**	**8.02**	**315**	*e*Pn	**Pn**	**21 05 56.4**	**-0.5**
WALA				*e*Sn	**Sn**	**21 07 29.4**	**+1.2**
CCUT	**Cedar City**	**8.73**	**228**	*e*Pn	**Pn**	**21 06 08.2**	**+1.4**
ULM	**Lac du Bonnet**	**9.13**	**41**	Pn	**Pn**	**21 06 11.7**	**-0.3**
ULM				Lg	Lg	21 08 50.1	
ULM	**Lac du Bonnet**	**9.13**	**41**	Pn	**Pn**	**21 06 11.7**	**-0.3**
	4.3nm,0.3s,baz=233,slow=11,SNR=22						
ULM				Lg	Lg	21 08 50.1	
	0.5nm,0.3s,baz=129,slow=14,SNR=3.7						
WUAZ	**Wupatki**	**9.47**	**212**	*e*Pn	Pn	21 06 26.8	+10
NVAR	**Mina Array Bea**	**11.19**	**246**	Pn	**Pn**	**21 06 40.5**	**0.0**
NVAR	**Mina Array Bea**	**11.19**	**246**	Pn	**Pn**	**21 06 40.5**	**0.0**
	0.1nm,0.3s,baz=56,slow=14,SNR=3.6						
FFC	**Flin Flon**	**11.20**	**10**	*e*Pn	**Pn**	**21 06 39.4**	**-1.0**
TKL	**Tuckaleechee C**	**18.35**	**109**	P	**Pn**	**21 08 11.7**	**-3.3**
TKL	**Tuckaleechee C**	**18.35**	**109**	P	**Pn**	**21 08 11.7**	**-3.3**
	1.9nm,0.3s,baz=317,slow=19,SNR=3.2						
YKA	**Yellowknife Ar**	**19.57**	**347**	P	**Pn**	**21 08 30.9**	**+1.3**
YKA	**Yellowknife Ar**	**19.57**	**347**	P	**Pn**	**21 08 30.9**	**+1.3**
	0.2nm,0.3s,baz=158,slow=8.9,SNR=9.7						
KDAK	**Kodiak Island**	**32.35**	**313**	LR	LR	21 24 21.7	
	comp=Z,115nm,19.1s,baz=275,slow=38						
ARCES	**ARCESS Array B**	**61.41**	**18**	P	**P**	**21 14 16.4**	**-0.2**
ARCES	**ARCESS Array B**	**61.41**	**18**	P	**P**	**21 14 16.4**	**-0.2**
	1.1nm,0.5s,baz=335,slow=5.5,SNR=11						
FINES	**FINESS Array B**	**68.03**	**23**	P	**P**	**21 15 00.6**	**+0.8**
FINES	**FINESS Array B**	**68.03**	**23**	P	**P**	**21 15 00.6**	**+0.8**
	2.6nm,1.0s,baz=318,slow=2.6,SNR=3.5						
ZALV	**Zalesovo Beam**	**82.31**	**354**	P	**P**	**21 16 22.1**	**-0.1**
ZALV	**Zalesovo Beam**	**82.31**	**354**	P	**P**	**21 16 22.1**	**-0.1**
	0.7nm,0.5s,baz=346,slow=4.6,SNR=6.0						
SONM	**Songino Array**	**84.65**	**339**	P	**P**	**21 16 35.1**	**+0.5**
SONM	**Songino Array**	**84.65**	**339**	P	**P**	**21 16 35.1**	**+0.5**
	0.5nm,0.7s,baz=18,slow=4.5,SNR=2.5						
MKAR	**Makanchi Array**	**89.61**	**355**	P	**P**	**21 16 58.4**	**-0.2**
MKAR	**Makanchi Array**	**89.61**	**355**	P	**P**	**21 16 58.4**	**-0.2**
	0.3nm,0.7s,baz=12,slow=4.8,SNR=5.4						

IDC 17 21:06:50.6±1.4, 11°.55N×86°.49W, h141km±29km, mb3.3/1, mb1 3.6/2, mb1mx3.0/22, mbtmp3.3/2, Error ellipse: s-maj=81.5km s-min=26.9km az=40.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**1.96**	**129**	P	Pn	21 07 24.7	0.0
	19nm,0.3s,baz=309,slow=19,SNR=59						
JTS				S	Sn	21 07 51.3	+0.4
	7.7nm,0.3s,baz=272,slow=22,SNR=7.3						
CMIG	**Matias Romero**	**9.82**	**305**	P	Pn	21 09 08.6	+0.1
	0.3nm,0.3s,baz=134,slow=11,SNR=6.8						
TXAR	**Lajitas Array**	**23.86**	**320**	P	P	21 11 51.1	-0.1
	1.1nm,0.5s,baz=140,slow=10,SNR=11						
ASAR	**Alice Springs**	**139.79**	**247**	PKP	PKPdf	21 26 02.5	-0.3
	0.4nm,0.8s,baz=94,slow=3.7,SNR=3.7						
WRA	**Warramunga Arr**	**139.91**	**253**	PKP	PKPdf	21 26 02.6	-0.4
	0.5nm,0.7s,baz=91,slow=2.1,SNR=8.3						

*ISCJB **17** 21:26:02.6±0.4, 39°.11N×0°.03×29°.05E±0°.02, h8km±4km, Error ellipse: s-maj=4.3km s-min=3.1km az=0.2*
*ISK **17** 21:26:02.3, 39°.13N×29°.06E, h6km, MD3.0*
*DDA **17** 21:26:02, 39°.14N×29°.01E, h7km, MD2.9*
*CSEM **17** 21:26:02.7±0.1, 39°.12N×29°.05E, h5km, MD2.9, Error ellipse: s-maj=1.7km s-min=1.4km az=9.0*

ISC 17 21:26:02.8±0.9, 39°.12N±0°.02×29°.04E±0°.02, h12km±8km, n60, σ0°66/82, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**253**	*i* P	**Pg**	**21 26 08.4**	**+0.1**
DEMI				*i* S	**Sg**	**21 26 12.0**	**0.0**
DEMI	**Demirci**	**0.27**	**253**	*i* P	**Pg**	**21 26 08.4**	**+0.1**
DEMI				*i* S	**Sg**	**21 26 12.0**	**0.0**
GDZ	**Gediz**	**0.34**	**95**	*i* P	**Pg**	**21 26 10.0**	**+0.2**
GDZ				*i* S	**Sg**	**21 26 14.0**	**-0.5**
GDZ	**Gediz**	**0.34**	**95**	*i* P	**Pg**	**21 26 10.0**	**+0.2**
GDZ				*i* S	**Sg**	**21 26 14.0**	**-0.5**
TVSB	**Tavsanli**	**0.46**	**45**	*e*PG	**Pg**	**21 26 11.8**	**-0.2**
TVSB				*e*SG	**Sg**	**21 26 18.0**	**-0.1**
TVSB	**Tavsanli**	**0.46**	**45**	*e*Pg	**Pg**	**21 26 11.8**	**-0.2**
TVSB				*e*Sg	**Sg**	**21 26 18.0**	**-0.1**
DST	**Dursunbey**	**0.58**	**326**	*e*PG	**Pg**	**21 26 14.3**	**+0.1**
DST				*e*SG	**Sg**	**21 26 22.2**	**+0.3**
DST	**Dursunbey**	**0.58**	**326**	*e*Pg	**Pg**	**21 26 14.3**	**+0.1**
DST				*e*Sg	**Sg**	**21 26 22.2**	**+0.3**
KULA	**Kula-Manisa**	**0.68**	**206**	*e*PG	**Pg**	**21 26 16.0**	**+0.1**
KULA	**Kula-Manisa**	**0.68**	**206**	*e*Pg	**Pg**	**21 26 16.0**	**+0.1**
KHAL	**Karahalli**	**0.83**	**155**	*i* P	**Pg**	**21 26 18.8**	**0.0**
KHAL				*e*S	**Sg**	**21 26 28.2**	**-1.4**
KHAL	**Karahalli**	**0.83**	**155**	*i* P	**Pg**	**21 26 18.8**	**0.0**
KHAL				*e*S	**Sg**	**21 26 28.2**	**-1.4**
ALT	**Altintas**	**0.83**	**94**	*e*PG	**Pb**	**21 26 19.4**	**+0.2**
ALT				*e*SG	**Sg**	**21 26 30.1**	**+0.3**
ALT	**Altintas**	**0.83**	**94**	*e*Pg	**Pb**	**21 26 19.4**	**+0.2**
ALT				*e*Sg	**Sg**	**21 26 30.2**	**+0.3**
KHL	**Karahalli**	**0.88**	**155**	*e*PG	**Pg**	**21 26 19.8**	**0.0**
KHL	**Karahalli**	**0.88**	**155**	*e*Pg	**Pg**	**21 26 19.8**	**0.0**
AKHS	**Akhisar**	**0.99**	**256**	*i* P	**Pb**	**21 26 22.0**	**+0.2**
AKHS				*i* S	**Sg**	**21 26 33.0**	**-1.6**
AKHS	**Akhisar**	**0.99**	**256**	*i* P	**Pb**	**21 26 22.0**	**+0.2**
AKHS				*i* S	**Sg**	**21 26 33.0**	**-1.6**
AKS	**Akhisar**	**0.99**	**256**	*e*PG	**Pb**	**21 26 21.8**	**0.0**
AKS	**Akhisar**	**0.99**	**256**	*e*Pg	**Pb**	**21 26 21.8**	**0.0**
ULDT	**Uludag**	**1.02**	**4**	*i* P	**Pg**	**21 26 22.1**	**-0.4**
ULDT				*i* S	**Sg**	**21 26 34.5**	**-1.4**
ULDT	**Uludag**	**1.02**	**4**	*i* P	**Pg**	**21 26 22.1**	**-0.4**
ULDT				*i* S	**Sg**	**21 26 34.5**	**-1.4**
BALB	**Balikesir**	**1.04**	**300**	*e*PG	**Pb**	**21 26 22.9**	**+0.2**
BALB	**Balikesir**	**1.04**	**300**	*e*Pg	**Pb**	**21 26 22.9**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*PN	**Pg**	**21 26 26.7**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*Pn	**Pg**	**21 26 26.7**	**-0.2**
KCTX	**Karacabey (Bur**	**1.26**	**335**	*e*PN	**Pg**	**21 26 26.8**	**-0.2**
KCTX	**Karacabey (Bur**	**1.26**	**335**	*e*Pn	**Pg**	**21 26 26.8**	**-0.2**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pn**	**21 26 26.0**	**-0.2**
BALY				*i* S	**Sb**	**21 26 42.4**	**-0.3**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pn**	**21 26 26.0**	**-0.2**
BALY				*i* S	**Sb**	**21 26 42.4**	**-0.3**
SHUT	**Suhut-Afyon**	**1.31**	**115**	*e*PN	**Pn**	**21 26 27.4**	**+0.5**
SHUT	**Suhut-Afyon**	**1.31**	**115**	*e*Pn	**Pn**	**21 26 27.4**	**+0.5**
BORA	**Eskisehir**	**1.33**	**55**	*i* P	**Pn**	**21 26 27.5**	**+0.3**
BORA				*i* S	**Sb**	**21 26 44.6**	**-0.1**
BORA	**Eskisehir**	**1.33**	**55**	*i* P	**Pn**	**21 26 27.5**	**+0.3**
BORA				*i* S	**Sb**	**21 26 44.6**	**-0.1**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*PN	**Pb**	**21 26 28.9**	**+0.1**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*Pn	**Pb**	**21 26 28.9**	**+0.1**
ADVT	**Abdulvahap**	**1.42**	**22**	*e*PN	**Pb**	**21 26 29.0**	**-0.1**
ADVT	**Abdulvahap**	**1.42**	**22**	*e*Pn	**Pb**	**21 26 29.0**	**-0.1**
ARMT	**Armutlu**	**1.45**	**355**	*e*PN	**Pb**	**21 26 29.7**	**0.0**
ARMT	**Armutlu**	**1.45**	**355**	*e*Pn	**Pb**	**21 26 29.7**	**0.0**
ESKT	**Eskisehir**	**1.46**	**74**	*e*PN	**Pn**	**21 26 29.7**	**+0.7**
ESKT	**Eskisehir**	**1.46**	**74**	*e*Pn	**Pn**	**21 26 29.7**	**+0.7**
SEYT	**Eskypehyr**	**1.46**	**74**	*i* P	**Pb**	**21 26 30.2**	**+0.3**
SEYT				*i* S	**Sn**	**21 26 47.7**	**-0.4**
SEYT	**Eskypehyr**	**1.46**	**74**	*i* P	**Pb**	**21 26 30.2**	**+0.3**
SEYT				*i* S	**Sn**	**21 26 47.7**	**-0.4**
YLV	**Yalova**	**1.47**	**10**	*e*PN	**Pb**	**21 26 29.8**	**-0.2**
YLV	**Yalova**	**1.47**	**10**	*e*Pn	**Pb**	**21 26 29.8**	**-0.2**
BNT	**Bandirma**	**1.51**	**325**	*e*PN	**Pb**	**21 26 30.8**	**+0.1**
BNT	**Bandirma**	**1.51**	**325**	*e*Pn	**Pb**	**21 26 30.8**	**+0.1**
BLCB	**Balcova**	**1.73**	**245**	*e*PN	**Pn**	**21 26 33.7**	**+1.1**
BLCB	**Balcova**	**1.73**	**245**	*e*Pn	**Pn**	**21 26 33.7**	**+1.1**
GULT	**Gulveren**	**1.73**	**40**	*e*PN	**Pn**	**21 26 33.4**	**+0.6**
GULT	**Gulveren**	**1.73**	**40**	*e*Pn	**Pn**	**21 26 33.4**	**+0.6**
KRBG	**Karabiga-Canak**	**1.85**	**314**	*e*PN	**Pn**	**21 26 35.3**	**+1.0**
KRBG	**Karabiga-Canak**	**1.85**	**314**	*e*Pn	**Pn**	**21 26 35.3**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.12**	**318**	*e*PN	**Pn**	**21 26 39.5**	**+1.4**
RKY	**Sarkoy-Tekirda**	**2.12**	**318**	*e*Pn	**Pn**	**21 26 39.5**	**+1.4**
MFT	**Murefte**	**2.14**	**321**	*e*PN	**Pn**	**21 26 39.5**	**+1.1**
MFT	**Murefte**	**2.14**	**321**	*e*Pn	**Pn**	**21 26 39.5**	**+1.1**
CTKS	**Kestanelik-??a**	**2.15**	**349**	*e*PN	**Pn**	**21 26 39.8**	**+1.4**
CTKS	**Kestanelik-??a**	**2.15**	**349**	*e*Pn	**Pn**	**21 26 39.8**	**+1.4**

IDC 17 21:29:28.9±1.6, 3°.65N×126°.59E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/20, mbtmp3.9/5, Error ellipse: s-maj=102.8km s-min=22.1km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.63**	**182**	P	P	21 34 21.0	+0.1
	1.3nm,0.5s,baz=32,slow=13,SNR=3.4						
WRA	**Warramunga Arr**	**24.65**	**162**	P	P	21 34 50.9	-0.6
	6.7nm,0.7s,baz=341,slow=10,SNR=35						
ASAR	**Alice Springs**	**28.07**	**166**	P	P	21 35 22.8	+0.4
	0.4nm,0.4s,baz=353,slow=15,SNR=5.6						
STKA	**Stephens Creek**	**38.10**	**159**	P	P	21 36 49.8	+0.1
	1.9nm,0.6s,baz=328,slow=6.0,SNR=5.7						
MKAR	**Makanchi Array**	**57.54**	**325**	P	P	21 39 20.1	-0.1
	0.6nm,0.6s,baz=119,slow=7.3,SNR=12						

*ISCJB **17** 21:34:01.7±0.6, 37°.15N±0°.03×27°.73E±0°.04, h5km±15km, Error ellipse: s-maj=5.9km s-min=4.9km az=44.2*
*ISK **17** 21:34:01.3, 37°.13N×27°.74E, h5km, MD2.3*
*DDA **17** 21:34:01.2, 37°.11N×27°.75E, h7km, MD2.8*
*CSEM **17** 21:34:02.0±0.1, 37°.13N×27°.72E, h5km, MD2.3, Error ellipse: s-maj=2.8km s-min=2.5km az=150.0*

ISC 17 21:34:00.4±1.1, 37°.09N±0°.03×27°.81E±0°.03, h5km±15km, n16, σ1°14/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.29**	**266**	*i* P	**Pg**	**21 34 06.4**	**+0.3**
BDRM				*i* S	**Sg**	**21 34 10.1**	**+0.2**
BDRM	**Kayabasi**	**0.29**	**266**	*i* P	**Pg**	**21 34 06.4**	**+0.3**
BDRM				*i* S	**Sg**	**21 34 10.1**	**+0.2**
YER	**Yerkesik**	**0.38**	**83**	*e*PG	**Pb**	**21 34 10.7**	**+1.0**
YER				*e*SG	**Sb**	**21 34 16.5**	**+0.5**
YER	**Yerkesik**	**0.38**	**83**	*e*Pg	**Pb**	**21 34 10.7**	**+1.0**
YER				*e*Sg	**Sb**	**21 34 16.5**	**+0.5**
BODT	**Bodrum**	**0.40**	**266**	*e*PG	**Pg**	**21 34 08.4**	**+0.3**
BODT				*e*SG	**Sg**	**21 34 13.8**	**+0.5**
BODT	**Bodrum**	**0.40**	**266**	*e*Pg	**Pg**	**21 34 08.4**	**+0.3**
BODT				*e*Sg	**Sg**	**21 34 13.8**	**+0.5**
DAT	**Datca**	**0.40**	**207**	*e*PG	**Pb**	**21 34 10.3**	**+0.2**
DAT				*e*SG	**Sb**	**21 34 16.0**	**-0.6**
DAT	**Datca**	**0.40**	**207**	*e*Pg	**Pb**	**21 34 10.3**	**+0.2**
DAT				*e*Sg	**Sb**	**21 34 16.0**	**-0.6**
AYDN	**Tasoluk**	**0.57**	**6**	*i* P	**Pb**	**21 34 12.8**	**-0.2**
AYDN				*i* S	**Sg**	**21 34 19.5**	**+0.5**
AYDN	**Tasoluk**	**0.57**	**6**	*i* P	**Pb**	**21 34 12.8**	**-0.2**
AYDN				*i* S	**Sg**	**21 34 19.5**	**+0.5**
TURN	**Turunc**	**0.67**	**108**	*i* P	Pg	21 34 11.5	-1.8
TURN				*i* S	**Sg**	**21 34 19.2**	**-2.9**
TURN	**Turunc**	**0.67**	**108**	*i* P	Pg	21 34 11.5	-1.8
TURN				*i* S	**Sg**	**21 34 19.2**	**-2.9**
GCAM	**G?zelcaml?**	**0.76**	**323**	*i* P	**Pb**	**21 34 15.9**	**-0.3**
GCAM				*i* S	**Sg**	**21 34 23.1**	**-1.9**
GCAM	**G?zelcaml?**	**0.76**	**323**	*i* P	**Pb**	**21 34 15.9**	**-0.3**
GCAM				*i* S	**Sg**	**21 34 23.1**	**-1.9**
ELL	**Elmali**	**1.72**	**101**	*e*PN	**Pb**	**21 34 33.7**	**+1.2**
ELL	**Elmali**	**1.72**	**101**	*e*Pn	**Pb**	**21 34 33.7**	**+1.2**

*ISCJB **17** 21:37:11.1±0.6, 46°.53N±0°.07×145°.0E±0°.1, h405km±6km, mb3.5/8, Error ellipse: s-maj=13.9km s-min=10.7km az=29.6*
*JMA **17** 21:37:11.4±0.5, 46°.55N×145°.00E, h405km, M3.8*
*IDC **17** 21:37:12.1±1.3, 47°.02N×144°.77E, h381km±18km, mb3.2/8, mb1 3.4/12, mb1mx3.2/27, mbtmp3.2/12, Error ellipse: s-maj=26.0km s-min=12.8km az=160.0*

ISC 17 21:37:12.0±0.8, 46°.47N±0°.08×144°.97E±0°.09, h403km±7km, n28, σ1°72/38, mb3.5/8, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**2.25**	**229**	P	**P**	**21 38 10.1**	**+0.3**
JWK2	**Keihoku**	**2.44**	**243**	P	**P**	**21 38 11.5**	**+0.5**
JWK2				*e*S	**S**	**21 38 58.7**	**-0.2**
JTKR	**Abashiri--Toko**	**2.61**	**197**	P	**P**	**21 38 13.7**	**+1.4**
JTKR				*e*S	**S**	**21 39 02.9**	**+1.7**
ASAJ	**Asahikawa**	**2.89**	**216**	P	**P**	**21 38 16.1**	**+1.6**
	5.1nm,0.3s,baz=322,slow=3.5,SNR=47						
JKK2	**Kamakawa 2**	**3.03**	**212**	P	**P**	**21 38 17.1**	**+1.4**
NEM2	**Nemuro 2**	**3.15**	**170**	P	**P**	**21 38 16.3**	**-0.3**
NEM2				*e*S	**S**	**21 39 07.1**	**-2.0**
JAR	**Ashorobuto**	**3.28**	**195**	P	**P**	**21 38 19.1**	**+1.4**
JAR				*e*S	**S**	**21 39 12.3**	**+1.1**
JAK	**Akkeshi**	**3.48**	**183**	P	**P**	**21 38 19.7**	**+0.3**
JAK				*e*S	**S**	**21 39 12.6**	**-1.6**
JCH	**Churui**	**4.02**	**197**	P	**P**	**21 38 24.5**	**+0.2**
JCH				*e*S	**S**	**21 39 20.9**	**-2.4**
JEW	**Eniwo**	**4.41**	**216**	P	**P**	**21 38 29.8**	**+1.8**
JNBK	**Urakawa-nobuka**	**4.48**	**202**	P	**P**	**21 38 28.9**	**+0.2**
JNBK				*e*S	**S**	**21 39 28.5**	**-2.9**
JKB	**Kayabe**	**5.38**	**213**	P	**P**	**21 38 38.2**	**+0.3**
JKB				*e*S	**S**	**21 39 45.9**	**-2.3**
JOT	**Ohata**	**5.82**	**211**	P	**P**	**21 38 42.6**	**+0.1**
JOT				*e*S	**S**	**21 39 53.6**	**-3.1**
JOSM	**Okushiri--Mats**	**5.90**	**224**	P	**P**	**21 38 43.9**	**+0.6**
JANG	**Nango**	**6.59**	**204**	P	**P**	**21 38 51.3**	**-0.5**
JANG				*e*S	**S**	**21 40 08.7**	**-3.5**
JMK	**Ichinoseki**	**8.00**	**201**	P	**P**	**21 39 08.8**	**+1.5**
JMK				*e*S	**S**	**21 40 41.9**	**+0.6**
USRK	**Ussuriysk Arra**	**9.41**	**261**	P	**P**	**21 39 22.6**	**-0.2**
	0.3nm,0.3s,baz=65,slow=10,SNR=8.0						
MAT	**Matsushiro**	**11.13**	**209**	P	P	21 39 45.5	+3.4
MJAR	**Matsushiro Arr**	**11.13**	**209**	P	P	21 39 46.4	+4.3
	1.8nm,0.3s,baz=14,slow=11,SNR=36						
KSRS	**Korea Array**	**15.53**	**241**	P	**P**	**21 40 32.8**	**+2.8**
	0.4nm,0.3s,baz=52,slow=10,SNR=6.3						
SONM	**Songino Array**	**26.09**	**287**	P	**P**	**21 42 11.4**	**+0.4**
	3.6nm,1.0s,baz=86,slow=9.6,SNR=15						
ILAR	**Eielson Array**	**40.25**	**38**	P	**P**	**21 44 10.1**	**-1.1**
	1.7nm,0.8s,baz=278,slow=7.7,SNR=19						
MKAR	**Makanchi Array**	**42.01**	**294**	P	**P**	**21 44 24.4**	**-1.2**
	1.7nm,0.6s,baz=71,slow=8.0,SNR=30						
MKAR				ScP	**ScP**	**21 49 24.8**	**+1.9**
	0.3nm,0.7s,baz=66,slow=3.3,SNR=3.2						
KURBB	**Kurchatov Arra**	**42.85**	**301**	P	**P**	**21 44 30.3**	**-1.9**
	2.0nm,0.5s,baz=73,slow=8.7,SNR=12						
CMAR	**Chiang Mai Arr**	**46.93**	**249**	P	**P**	**21 45 06.6**	**+2.3**
	0.3nm,0.4s,baz=32,slow=7.2,SNR=4.6						
YKA	**Yellowknife Ar**	**54.41**	**34**	P	**P**	**21 45 57.8**	**-0.9**
	1.0nm,0.6s,baz=305,slow=6.9,SNR=28						
FINES	**FINESS Array B**	**61.75**	**331**	P	**P**	**21 46 46.7**	**-2.2**
	1.2nm,0.5s,baz=46,slow=8.2,SNR=12						
TXAR	**Lajitas Array**	**82.39**	**55**	P	**P**	**21 48 52.4**	**+2.0**
	0.4nm,0.4s,baz=302,slow=5.2,SNR=4.1						

IDC 17 21:37:23.1±2.2, 0°.67S×132°.59E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.5/1, Error ellipse: s-maj=127.5km s-min=22.9km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.23**	**175**	P	P	21 41 48.6	-0.5
	0.2nm,0.3s,baz=355,slow=12,SNR=8.2						
ASAR	**Alice Springs**	**22.90**	**177**	P	P	21 42 29.1	+0.4
	1.0nm,0.6s,baz=354,slow=9.3,SNR=12						
MKAR	**Makanchi Array**	**64.50**	**324**	P	P	21 48 02.3	+0.4
	0.6nm,0.6s,baz=116,slow=8.1,SNR=6.6						
KURBB	**Kurchatov Arra**	**68.59**	**326**	P	P	21 48 27.5	-0.4
	0.9nm,0.7s,baz=122,slow=5.2,SNR=7.8						

*IDC **17** 21:38:04.6±1.1, 10°.80N×91°.67E, h0km, mb3.9/10, mb1 3.9/11, mb1mx3.7/27, mbtmp3.8/11, ML3.7/1, Error ellipse: s-maj=42.9km s-min=14.7km az=60.0*
*ISCJB **17** 21:38:07.0±0.7, 10°.90N±0°.09×91°.9E±0°.1, h27km, mb3.9/14, Error ellipse: s-maj=19.1km s-min=8.1km az=147.8*
*NEIC **17** 21:38:10.0±0.6, 10°.91N×91°.77E, h35km, mb4.2/5, Error ellipse: s-maj=13.9km s-min=8.4km az=60.0*

ISC 17 21:38:08.9±1.0, 10°.9N±0°.1×91°.8E±0°.1, h27km, n33, σ0°69/33, mb3.9/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.22**	**42**	Pn	**Pn**	**21 40 34.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**10.22**	**42**	Pn	**Pn**	**21 40 34.1**	**+0.2**
	0.2nm,0.3s,baz=240,slow=16,SNR=4.7						
ODAN	**Odare**	**16.41**	**346**	*e*P	**Pn**	**21 41 56.6**	**-1.0**
RAMN	**Ramite**	**16.70**	**344**	*e*P	**Pn**	**21 42 00.8**	**-0.5**
	6.0nm,0.4s						
TAPN	**Taplejung**	**16.81**	**347**	*e*P	**Pn**	**21 42 01.0**	**-1.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMN	**Daman**	**17.77**	**340**	*e*P	**P**	**21 42 15.1**	**-0.2**
GKN	**Gorkha**	**18.29**	**339**	*e*P	**Pn**	**21 42 21.6**	**+0.6**
	5.7nm,0.3s						
KOLN	**Koldanda**	**18.46**	**337**	*e*P	**Pn**	**21 42 24.9**	**+1.8**
LSA	**Lhasa**	**18.71**	**358**	*e*P	**P**	**21 42 25.9**	**-0.1**
	26nm,1.6s						
DANN	**Dangsing**	**18.92**	**338**	*e*P	**Pn**	**21 42 29.6**	**+0.8**
ENH	**Enshi**	**25.35**	**38**	*e*P	**P**	**21 43 33.1**	**-0.7**
	10nm,0.6s						
AAK	**Ala-Archa**	**35.03**	**338**	P	**P**	**21 44 59.4**	**-0.1**
AAK	**Ala-Archa**	**35.03**	**338**	P	**P**	**21 44 59.4**	**-0.1**
	0.7nm,0.6s,baz=240,slow=13,SNR=3.6						
MK31	**Makanchi Array**	**36.67**	**349**	*e*P	**P**	**21 45 12.7**	**-0.7**
MKAR	**Makanchi Array**	**36.67**	**349**	P	**P**	**21 45 13.8**	**+0.5**
MKAR	**Makanchi Array**	**36.67**	**349**	P	**P**	**21 45 13.8**	**+0.5**
	1.9nm,0.6s,baz=164,slow=8.4,SNR=18						
SONM	**Songino Array**	**38.81**	**16**	P	**P**	**21 45 32.4**	**+0.8**
SONM	**Songino Array**	**38.81**	**16**	P	**P**	**21 45 32.4**	**+0.8**
	0.6nm,0.5s,baz=201,slow=7.9,SNR=7.6						
ULN	**Ulaanbaatar**	**39.02**	**16**	*e*P	**P**	**21 45 33.5**	**+0.1**
	1.3nm,0.8s						
KURBB	**Kurchatov Arra**	**41.08**	**347**	P	**P**	**21 45 50.6**	**+0.5**
	2.3nm,0.9s,baz=161,slow=7.6,SNR=9.5						
KURK	**Kurchatov**	**41.15**	**347**	*e*P	**P**	**21 45 50.8**	**0.0**
	3.1nm,1.0s						
ZALV	**Zalesovo Beam**	**43.29**	**354**	P	**P**	**21 46 08.4**	**+0.2**
ZALV	**Zalesovo Beam**	**43.29**	**354**	P	**P**	**21 46 08.4**	**+0.2**
	1.4nm,0.4s,baz=170,slow=9.0,SNR=10						
FITZ	**Fitzroy Crossi**	**44.13**	**130**	P	**P**	**21 46 14.4**	**-1.0**
	1.9nm,0.8s,baz=333,slow=9.0,SNR=2.3						
WRA	**Warramunga Arr**	**51.91**	**126**	P	**P**	**21 47 15.4**	**-0.2**
WRA	**Warramunga Arr**	**51.91**	**126**	P	**P**	**21 47 15.4**	**-0.2**
	0.6nm,0.4s,baz=301,slow=10,SNR=17						
WRAB	**Tennant Creek**	**51.91**	**126**	*e*P	**P**	**21 47 15.9**	**+0.2**
	2.5nm,0.5s						
ASAR	**Alice Springs**	**53.63**	**130**	P	**P**	**21 47 28.8**	**+0.4**
ASAR	**Alice Springs**	**53.63**	**130**	P	**P**	**21 47 28.8**	**+0.4**
	0.8nm,0.7s,baz=303,slow=7.0,SNR=7.2						
ASAJ	**Asahikawa**	**54.74**	**43**	P	**P**	**21 47 36.3**	**+0.2**
BRTR	**Keskin Array B**	**58.71**	**310**	P	**P**	**21 48 04.0**	**-0.6**
BRTR	**Keskin Array B**	**58.71**	**310**	P	**P**	**21 48 04.0**	**-0.6**
	0.4nm,0.7s,baz=126,slow=12,SNR=4.0						
STKA	**Stephens Creek**	**63.87**	**134**	P	**P**	**21 48 39.5**	**+0.1**
	0.8nm,0.6s,baz=318,slow=14,SNR=2.8						

JMA 17 21:46:15.8, 34°.04N×135°.19E, h7km, M1.0, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.23**	**144**	P	Pg	21 46 20.6	+0.1
JWM				S	Sg	21 46 23.8	+0.2

45nm,0.3s,baz=60,slow=21,SNR=4.5
JRG Rokugo 5.10 41 ⇑P **Pn 21 48 25.5 +1.2**
JNU Nakatsue 5.14 243 *e*Pn **Pn 21 48 26.9 +1.9**
JNU Lg Lg 21 49 46.3
JNU *e*Sg Sg 21 49 47.2 -6.0
JNU Nakatsue 5.14 243 Pn **Pn 21 48 26.8 +1.9**
23nm,0.3s,baz=50,slow=3.4,SNR=56
JNU Lg Lg 21 49 46.3
11nm,0.3s,baz=271,slow=18,SNR=9.5
JNU LR LR 21 50 37.5
comp=Z,1μm,18.1s,baz=58,slow=41
JAH Hinai 5.70 36 ⇑P **Pn 21 48 33.7 +1.2**
KSRS Korea Array 7.00 288 Pn **Pn 21 48 50.4 -0.1**
5.9nm,0.3s,baz=101,slow=14,SNR=30
KSRS Sn **Sn 21 50 08.6 -1.3**
2.2nm,0.3s,baz=102,slow=25,SNR=3.5
KSRS LR LR 21 51 24.4
comp=Z,2μm,21.7s,baz=128,slow=37
KSAR Wonju Array Be 7.03 287 Pn **Pn 21 48 50.4 -0.4**
KSAR Sn **Sn 21 50 08.6 -2.0**
ERM Erimo 8.32 38 *e*P Pn 21 49 13.9 +5.4
ERM Erimo 8.32 38 *e*Pn Pn 21 49 13.9 +5.4
USRK Ussuriysk Arra 9.19 340 Pn **Pn 21 49 19.9 -0.5**
1.1nm,0.3s,baz=161,slow=13,SNR=16
USRK Sn **Sn 21 51 00.7 -2.8**
1.5nm,0.3s,baz=159,slow=25,SNR=5.7
USRK LR LR 21 52 15.0
comp=Z,218nm,19.9s,baz=333,slow=34
ASAJ Asahikawa 9.76 28 *e*Pn **Pn 21 49 30.4 +2.2**
ASAJ Asahikawa 9.76 28 Pn **Pn 21 49 27.7 -0.5**
0.9nm,0.3s,baz=229,slow=15,SNR=6.9
MDJ Mudanjiang 10.35 332 P **Pn 21 49 35.8 -0.5**
MDJ S **Sn 21 51 33.8 +1.6**
MDJ PcP **PcP 21 55 42.4 -0.3**
MDJ ScP **ScP 21 59 11.6 -3.2**
MDJ PcS **PcS 21 59 16.5 +0.4**
MDJ pmax pmax
comp=Z,9.0nm,1.6s
MDJ pmax pmax
comp=Z,140nm,4.2s
MDJ LR LR
comp=N,3μm,12.4s
MDJ LR LR
comp=E,4μm,13.6s
MDJ LR LR
comp=Z,1μm,12.4s
MDJ Mudanjiang 10.35 332 *e*Pn **Pn 21 49 36.7 +0.3**
comp=Z,26nm,0.9s
MDJ *e*Sn **Sn 21 51 31.7 -0.6**
JOW Kunigami 11.14 220 Pn **Pn 21 49 48.0 +0.9**
JOW Kunigami 11.14 220 Pn **Pn 21 49 48.0 +0.9**
comp=Z,3.2nm,0.3s,baz=87,slow=18,SNR=9.6
YUK Yuzh-Kuril'sk 11.15 38 *d*P Pn 21 50 00.8 +14
YUK pmax pmax
comp=N,41nm,0.2s
YUK pmax pmax
comp=E,74nm,0.2s
YUK pmax pmax
comp=Z,90nm,0.2s
YUK MLR MLR
comp=N,716nm,16.0s
YUK MLR MLR
comp=E,861nm,16.0s
YUK MLR MLR
comp=Z,985nm,16.0s
CN2 Changchun 11.69 318 ⇑P Pn 21 49 58.3 +3.7
CN2 *e*S Sn 21 52 16.4 +11
CN2 pmax pmax
comp=Z,40nm,1.1s
CN2 LR LR
comp=N,4μm,14.0s
CN2 LR LR
comp=E,3μm,14.0s
CN2 LR LR
comp=Z,1μm,14.0s
YSS Yuzh-Sakhalins 12.31 21 ⇑ *i*P **Pn 21 50 05.0 +1.9**
YSS pmax pmax
comp=N,150nm,1.0s
YSS pmax pmax
comp=Z,160nm,1.0s
YSS MLR MLR
comp=Z,1μm,12.0s
YSS MLR MLR
comp=N,1μm,14.0s
YSS MLR MLR
comp=E,2μm,14.0s
YSS Yuzh-Sakhalins 12.31 21 *e*Pn **Pn 21 50 04.4 +1.3**
HABR Khabarovsk 12.88 356 *e*P **Pn 21 50 13.4 +2.6**
HABR *e* 21 52 34.7
HABR pmax pmax
comp=N,112nm,1.8s
HABR pmax pmax
comp=Z,97nm,1.4s
HABR pmax pmax
comp=E,44nm,1.8s
HABR MLR MLR
comp=Z,1μm,17.0s
SSE Sheshan 13.43 255 P Pn 21 50 14.4 -4.0
SSE pmax pmax
comp=Z,46nm,0.7s
SSE pmax pmax
comp=Z,160nm,5.6s
SSE LR LR
comp=N,5μm,13.6s
SSE LR LR
comp=E,2μm,13.6s
SSE LR LR
comp=Z,2μm,13.2s
KLR Kul'dur 14.01 348 *e*P **Pn 21 50 27.0 +0.7**
KLR *e* 21 53 09.0
KLR pmax pmax
comp=N,34nm,1.6s
KLR pmax pmax
comp=Z,130nm,1.6s
KLR MLR MLR
comp=Z,11μm,12.0s
NJ2 Nanjing 14.94 261 *e*P **Pn 21 50 38.5 -0.6**
NJ2 pP **P 21 50 42.5 -2.2**
NJ2 sP 21 50 46.3
NJ2 PP **PnPn 21 50 50.8 +3.7**
NJ2 S **Sn 21 53 25.0 +0.5**
NJ2 sS **S 21 53 38.0 -4.5**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
NJ2 pmax pmax
comp=Z,260nm,5.3s
NJ2 LR LR
comp=N,3μm,16.7s
NJ2 LR LR
comp=E,2μm,15.8s
NJ2 LR LR
comp=Z,1μm,14.6s
TIA Tai'an 15.56 278 P **P 21 50 49.9 -1.7**
TIA pmax pmax
comp=Z,60nm,1.0s
BJI Beijing 16.51 292 P **Pn 21 50 58.6 -0.8**
BJI S **Sn 21 54 06.3 +3.8**
BJI pmax pmax
comp=Z,23nm,2.1s
BJI pmax pmax
comp=Z,380nm,3.6s
BJI LR LR
comp=N,1μm,11.9s
BJI LR LR
comp=E,2μm,13.4s
BJI LR LR
comp=Z,680nm,24.1s
BJT Baijiatuau 16.51 291 *e*Pn **Pn 21 51 00.1 +0.6**
comp=Z,22nm,0.8s
HIA Hailar 18.26 323 *e*Pn **P 21 51 22.1 +0.6**
comp=Z,22nm,0.8s
WHN Wuhan 19.08 261 ⇓P **Pn 21 51 34.3 +3.0**
WHN pP pP 21 51 42.5 +8.5
WHN LR LR
comp=N,2μm,9.3s
WHN LR LR
comp=E,3μm,11.0s
WHN LR LR
comp=Z,3μm,14.7s
HHC Hu-ho-hao-te 20.10 292 *e*P Pn 21 51 42.6 -1.0
HHC PP **PnPn 21 52 01.9 +4.0**
HHC S **S 21 55 22.9 -4.5**
HHC SS **SnSn 21 55 50.3 +6.2**
HHC PcP **PcP 21 55 58.6 +1.9**
HHC pmax pmax
comp=Z,31nm,1.1s
HHC pmax pmax
comp=Z,410nm,4.3s
HHC LR LR
comp=N,2μm,14.3s
HHC LR LR
comp=E,850nm,13.1s
HHC LR LR
comp=Z,860nm,15.5s
BTO Baotou 21.25 291 *e*P **P 21 51 51.8 -2.3**
XAN Xi'an 22.52 274 P **P 21 52 09.3 +1.5**
XAN pP **pP 21 52 13.8 +2.5**
XAN S **S 21 56 10.3 -4.3**
XAN pmax pmax
comp=Z,6.0nm,0.8s
XAN pmax pmax
comp=Z,45nm,5.5s
XAN LR LR
comp=N,1μm,15.7s
XAN LR LR
comp=Z,300nm,16.4s
CLNS Chul'man 22.58 344 *e*P P 21 52 18.2 +10
CLNS *e* 21 52 47.0
CLNS *e* 21 55 56.6
CLNS pmax pmax
comp=Z,11nm,1.0s
CLNS pmax pmax
comp=N,7.0nm,1.3s
CLNS pmax pmax
comp=E,5.0nm,1.1s
CLNS pmax pmax
comp=N,6.0nm,1.1s
CLNS pmax pmax
comp=Z,8.0nm,1.3s
CLNS pmax pmax
comp=E,5.0nm,1.1s
CLNS MLR MLR
comp=N,547nm,12.0s
CLNS MLR MLR
comp=E,286nm,13.0s
CLNS MLR MLR
comp=Z,546nm,12.0s
PETK Petropavlovsk- 23.08 34 P **P 21 52 13.6 +0.2**
PETK pmax pmax
comp=Z,24nm,1.1s
PETK MLR MLR
comp=Z,377nm,20.5s
PETK Petropavlovsk- 23.08 34 P **P 21 52 13.6 +0.2**
PETK Petropavlovsk- 23.08 34 P **P 21 52 13.6 +0.2**
comp=Z,24nm,1.1s,baz=216,slow=15,SNR=5.6
PETK LR LR 22 00 52.4
comp=Z,376nm,20.4s,baz=223,slow=36
ENH Enshi 23.10 264 *e*P **P 21 52 13.9 0.0**
comp=Z,90nm,1.1s
GUMO Guam 23.25 159 LR LR 21 58 34.6
comp=Z,372nm,20.4s,baz=65,slow=30
ULN Ulaanbaatar 24.87 308 *e*P **P 21 52 30.6 0.0**
comp=Z,23nm,1.1s
SONM Songino Array 25.28 308 P **P 21 52 34.4 +0.1**
SONM Songino Array 25.28 308 P **P 21 52 34.4 +0.1**
comp=Z,13nm,1.1s,baz=112,slow=8.8,SNR=29
SONM LR LR 22 02 41.3
comp=Z,485nm,20.6s,baz=87,slow=37
LZH Lanzhou 26.26 281 ⇑P **P 21 52 42.6 -0.8**
LZH pP pP 21 52 55.8 +8.7
LZH sP sP 21 52 57.3 +8.6
LZH PP **PnPn 21 53 23.5 +1.2**
LZH *e*S **S 21 57 11.0 -4.8**
LZH SS **SnSn 21 58 17.3 +2.3**
LZH pmax pmax
comp=Z,65nm,1.2s
LZH pmax pmax
comp=Z,150nm,4.5s
LZH LR LR
comp=N,1μm,13.1s
LZH LR LR
comp=E,2μm,15.0s
LZH LR LR
comp=Z,2μm,16.5s
BOD Bodaibo 26.72 333 *e*P **P 21 52 49.2 +2.1**
BOD pmax pmax
comp=Z,10.0nm,1.1s
YAK Yakutsk 26.76 353 *e*P **P 21 52 49.0 +1.6**
YAK *e**PP pP 21 52 58.6 +7.5
YAK *e* 21 53 33.4
YAK *e*PPP PPP 21 53 41.2
YAK *e* 21 56 09.1
YAK *e*S **S 21 57 25.0 +2.3**
YAK *e*SS **SnSn 21 58 31.5 +5.0**
YAK *e* 22 03 37.2
YAK pmax pmax
comp=Z,12nm,1.1s
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=Z,37nm,1.4s
YAK pmax pmax
comp=E,36nm,1.5s
YAK pmax pmax
comp=N,51nm,1.8s
YAK smax smax
comp=E,106nm,12.7s
YAK smax smax
comp=N,129nm,8.6s
YAK MLR MLR
comp=N,493nm,13.0s
YAK MLR MLR
comp=Z,637nm,14.0s
YAK MLR MLR
comp=E,325nm,10.0s
GYA Guiyang 26.92 258 P **P 21 52 52.6 +3.3**
GYA PP **PnPn 21 53 33.0 +1.7**
GYA S **S 21 57 22.5 -3.6**
GYA SS **SnSn 21 58 33.4 +2.3**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.6s
GYA LR LR
comp=N,520nm,15.8s
GYA LR LR
comp=E,450nm,16.0s
GYA LR LR
comp=Z,490nm,15.4s
CD2 Chengdu 27.55 270 P **P 21 52 54.1 -0.8**
CD2 pP **pP 21 52 58.4 -0.3**
CD2 PP **PnPn 21 53 41.3 +1.5**
CD2 PcP **PcP 21 56 13.8 +1.1**
CD2 S **S 21 57 32.3 -3.7**
CD2 SS **SnSn 21 58 48.3 +1.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,100nm,5.5s
CD2 LR LR
comp=N,3μm,14.5s
CD2 LR LR
comp=E,2μm,15.0s
CD2 LR LR
comp=Z,2μm,17.1s
ZAK Zakamensk 28.03 312 *e*P P 21 52 55.7 -3.4
ZAK pmax pmax
comp=Z,5.0nm,1.4s
TLY Talaya 28.27 315 *e*P **P 21 53 00.2 -0.9**
TLY *e*S S 21 57 37.5 -9.3
TLY pmax pmax
comp=Z,11nm,1.3s
TLY MLR MLR
comp=Z,466nm,15.0s
TLY Talaya 28.27 315 *e*P **P 21 53 01.0 -0.1**
comp=Z,11nm,1.2s
QIZ Qiongzhong 28.61 242 P **P 21 53 04.6 +0.2**
QIZ S **S 21 57 52.0 -0.7**
QIZ pmax pmax
comp=Z,98nm,4.7s
QIZ LR LR
comp=N,1μm,19.7s
QIZ LR LR
comp=E,580nm,19.7s
QIZ LR LR
comp=Z,900nm,16.4s
GTA Gaotai 29.07 288 ⇑ *e*P **P 21 53 07.9 -0.6**
GTA pP **pP 21 53 12.3 0.0**
GTA S **S 21 57 59.3 -0.6**
GTA SS **SnSn 21 59 30.8 +7.3**
GTA pmax pmax
comp=Z,3.0nm,1.8s
GTA pmax pmax
comp=Z,99nm,4.0s
GTA LR LR
comp=N,720nm,17.3s
GTA LR LR
comp=E,620nm,18.5s
GTA LR LR
comp=Z,620nm,18.3s
SEY Seymchan 29.10 15 ⇓ *e*P **P 21 53 07.5 -0.8**
KMI Kunming 30.67 259 P **P 21 53 21.6 -1.3**
KMI pP **pP 21 53 26.1 -0.5**
KMI PP **PnPn 21 54 23.3 +1.0**
KMI S **S 21 58 25.9 +0.5**
KMI SS **SnSn 22 00 02.6 -0.2**
KMI pmax pmax
comp=Z,6.0nm,0.9s
KMI pmax pmax
comp=Z,88nm,5.0s
KMI LR LR
comp=N,2μm,15.3s
KMI LR LR
comp=E,650nm,15.7s
KMI LR LR
comp=Z,1μm,15.3s
FX1 Attu Island--F 31.09 45 P **P 21 53 25.6 -0.4**
FX1 Attu Island--F 31.09 45 P **P 21 53 25.6 -0.4**
comp=Z,50nm,1.1s,baz=156,slow=13,SNR=20
BILL Bilibino 36.60 18 ⇓ *e*P **P 21 54 12.7 -1.0**
BILL *i* 21 54 27.9
BILL pmax pmax
comp=Z,23nm,1.6s
BILL Bilibino 36.60 18 *e*P **P 21 54 13.2 -0.5**
comp=Z,13nm,1.0s
CHTO Chiang Mai 36.95 253 *e*P **P 21 54 17.5 +0.3**
CHTO pmax pmax
comp=Z,8.0nm,0.9s
CHTO Chiang Mai 36.95 253 *e*P **P 21 54 17.5 +0.3**
comp=Z,8.5nm,0.9s
CM31 Chiang Mai Arr 37.15 253 *e*P **P 21 54 19.2 +0.2**
comp=Z,2.2nm,0.6s
CMAR Chiang Mai Arr 37.15 253 P **P 21 54 19.4 +0.4**
CMAR Chiang Mai Arr 37.15 253 P **P 21 54 19.4 +0.4**
comp=Z,2.7nm,0.8s,baz=46,slow=7.4,SNR=19
WMQ Urumqi 37.82 298 *e*P **P 21 54 23.5 -1.0**
WMQ PP **PnPn 21 55 52.0 +0.1**
WMQ S **S 22 00 13.0 -2.3**
WMQ SS **SnSn 22 02 46.0 -10**
WMQ pmax pmax
comp=Z,8.0nm,0.8s
WMQ pmax pmax
comp=Z,200nm,5.8s
WMQ LR LR
comp=N,1μm,15.4s
WMQ LR LR
comp=E,520nm,15.5s
WMQ LR LR
comp=Z,440nm,20.2s
LSA Lhasa 38.22 274 *e*P **P 21 54 28.4 -0.1**
LSA pmax pmax
comp=Z,6.0nm,0.9s
LSA Lhasa 38.22 274 *e*P **P 21 54 28.4 -0.1**
comp=Z,6.4nm,0.9s
SHL Shillong 39.26 268 *e*PKP **P 21 54 39.0 +2.1**
ZAA0 Zalesovo Array 39.87 314 *e*P **P 21 54 40.9 -0.5**
ZAA0 PcP **PcP 21 56 47.1 +0.1**
ZALV Zalesovo Beam 39.87 314 P **P 21 54 39.9 -1.5**
ZALV 21 56 47.9
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV pmax pmax
comp=Z,1.0nm,0.5s
ZALV MLR MLR
comp=Z,360nm,19.1s
ZALV Zalesovo Beam 39.87 314 P **P 21 54 39.9 -1.5**
ZALV PcP **PcP 21 56 47.9 +0.9**
ZALV Zalesovo Beam 39.87 314 P **P 21 54 39.9 -1.5**
comp=Z,0.8nm,0.5s,baz=117,slow=8.5,SNR=4.1
ZALV PcP **PcP 21 56 47.9 +0.9**
comp=Z,1.1nm,0.5s,baz=102,slow=3.0,SNR=4.6
ZALV LR LR 22 11 29.9
comp=Z,360nm,19.1s,baz=262,slow=37
NVS Novosibirsk 40.88 315 *e*P P 21 54 42.4 -7.3
MK31 Makanchi Array 41.40 303 *ce*P **P 21 54 53.1 -1.1**
MK31 pmax pmax
comp=Z,4.0nm,0.6s
MK31 Makanchi Array 41.40 303 *e*P **P 21 54 53.3 -0.8**
MK31 PP **PP 21 56 29.8 +0.1**
MKAR Makanchi Array 41.40 303 P **P 21 54 53.6 -0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR MLR MLR
comp=Z,312nm,20.0s
MKAR Makanchi Array 41.40 303 *e*P **P 21 54 53.5 -0.6**
MKAR Makanchi Array 41.40 303 P **P 21 54 53.6 -0.6**
comp=Z,3.0nm,0.7s,baz=89,slow=9.5,SNR=25
MKAR LR LR 22 12 21.9
comp=Z,312nm,20.0s,baz=310,slow=37
TAPN Taplejung 41.91 273 *e*P **P 21 54 59.8 +0.8**
comp=Z,10nm,0.4s
ODAN Odare 42.37 272 *e*P **P 21 55 03.2 +0.6**
comp=Z,13nm,0.5s
RAMN Ramite 42.98 273 *e*P **P 21 55 07.3 -0.3**
comp=Z,24nm,0.9s
JIRN Jiri 43.02 274 *e*P **P 21 55 08.9 +0.8**
GUN Gumba 43.18 274 *e*P **P 21 55 09.8 +0.5**
KAPI Kappang 43.31 204 *e*P **P 21 55 07.4 -2.5**
comp=Z,18nm,0.9s
KAPI Kappang 43.31 204 P **P 21 55 08.0 -1.9**
comp=Z,7.4nm,0.4s,baz=13,slow=8.3,SNR=6.3
KAPI LR LR 22 14 51.1
comp=Z,81nm,18.5s,baz=219,slow=38
KURK Kurchatov 43.58 309 *de*P **P 21 55 10.1 -1.7**
KURK pmax pmax
comp=Z,13nm,0.8s
KURK Kurchatov 43.58 309 *e*P **P 21 55 10.3 -1.6**
comp=Z,12nm,0.8s
KURBB Kurchatov Arra 43.64 309 P **P 21 55 11.3 -1.0**
comp=Z,7.8nm,0.8s,baz=89,slow=8.3,SNR=54
PKI Pulchoki 43.70 274 *e*P **P 21 55 13.7 +0.2**
KKN Kakani 43.71 275 *e*P **P 21 55 13.3 -0.2**
DMN Daman 43.93 274 *e*P **P 21 55 15.7 +0.5**
TNA Tin City 44.11 30 *e*P **P 21 55 17.0 +1.2**
GKN Gorkha 44.15 275 *e*P **P 21 55 16.4 -0.5**
DANN Dangsing 44.73 276 *e*P **P 21 55 21.8 +0.1**
comp=Z,15nm,0.5s
KOLN Koldanda 45.08 275 *e*P **P 21 55 24.9 +0.5**
comp=Z,12nm,0.8s
TKM2 Tokmak 2 46.67 298 *e*P **P 21 55 37.0 +0.2**
TKM2 pmax pmax
comp=Z,13nm,1.3s
TKM2 Tokmak 2 46.67 298 *e*P **P 21 55 37.0 +0.2**
comp=Z,13nm,1.3s
KSH Kashi 47.21 294 *e*P P 21 55 47.3 +6.4
KSH pP pP 21 55 51.5 +6.7
KSH sP sP 21 55 54.3 +8.0
KSH PcP PcP 21 57 17.8 +5.5
KSH PP PP 21 57 37.4 +5.7
KSH PcS **PcS 22 01 11.9 +4.4**
KSH S **S 22 02 39.0 +5.3**
KSH ScS **ScS 22 05 37.4 +2.3**
KSH SS **SS 22 06 00.1 -0.6**
KSH pmax pmax
comp=Z,2.0nm,0.8s
KSH pmax pmax
comp=Z,170nm,5.0s
KSH LR LR
comp=N,170nm,5.9s
KSH LR LR
comp=E,140nm,4.5s
KSH LR LR
comp=Z,200nm,8.6s
AAK Ala-Archa 47.53 298 ⇑ *e*P **P 21 55 43.4 0.0**
AAK pmax pmax
comp=Z,16nm,1.7s
BRVK Borovoye 48.54 313 ⇓ *e*P **P 21 55 50.6 -0.3**
BRVK pmax pmax
comp=Z,11nm,2.5s
SVW2 Sparrevohn 49.12 37 *e*P **P 21 55 56.8 +1.5**
comp=Z,19nm,1.1s
SVW2 *e*PcP **PcP 21 57 14.3 -4.3**
KK31 Karatay Array 50.26 300 *ce*P **P 21 56 03.6 -0.6**
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KKAR Karatay Array 50.26 300 *e*P **P 21 56 03.6 -0.6**
KKAR Karatay Array 50.26 300 *e*P **P 21 56 03.6 -0.6**

SPU **Mount Spurr** 50.83 36 *e*P P 21 56 09.2 +1.0
KDAK **Kodiak Island** 50.88 41 P P 21 56 07.8 -0.8
KDAK **Kodiak Island** 50.88 41 P P 21 56 07.8 -0.8
comp=Z,25nm,0.9s,baz=44,slow=1.2,SNR=8.2
PMR **Palmer** 52.19 36 *e*P P 21 56 18.3 0.0
PMR pmax pmax
comp=Z,41nm,1.0s
PMR **Palmer** 52.19 36 *e*P P 21 56 18.3 0.0
comp=Z,41nm,1.0s
SML **Sawmill** 52.55 35 *e*P P 21 56 20.7 -0.4
SML pmax pmax
comp=Z,14nm,0.9s
SML **Sawmill** 52.55 35 *e*P P 21 56 20.7 -0.4
comp=Z,14nm,0.9s
ILAR **Eielson Array** 52.87 32 P P 21 56 23.1 -0.3
ILAR **Eielson Array** 52.87 32 P P 21 56 23.1 -0.3
comp=Z,8.0nm,0.9s,baz=283,slow=6.6,SNR=33
ILAR LR LR 22 18 56.5
comp=Z,220nm,19.8s,baz=73,slow=36
SVE **Sverdlovsk** 53.48 318⇑ *e*P P 21 56 27.9 0.0
SVE pmax pmax
comp=Z,21nm,1.6s
DIV **Divide** 53.86 36 *e*P P 21 56 31.2 +0.5
comp=Z,59nm,1.2s
KBL **Kabul** 54.05 290 *e*P P 21 56 32.6 -0.1
KBL pmax pmax
comp=Z,2.0nm,0.6s
KBL **Kabul** 54.05 290 *e*P P 21 56 32.6 -0.1
comp=Z,1.6nm,0.6s
DOT **Dot Lake** 54.24 33 *e*P P 21 56 32.6 -0.8
comp=Z,12nm,1.3s
FITZ **Fitzroy Crossi** 54.38 193 P P 21 56 34.8 -0.1
FITZ **Fitzroy Crossi** 54.38 193 P P 21 56 34.8 -0.1
comp=Z,6.3nm,0.9s,baz=346,slow=7.7,SNR=6.3
FITZ LR LR 22 17 06.7
comp=Z,52nm,18.3s,baz=199,slow=33
BMRM **Bremner River** 54.45 36 *e*P P 21 56 35.3 +0.3
comp=Z,44nm,1.0s
ARU **Arti** 54.68 318 *c i*P P 21 56 35.9 -0.8
ARU 21 57 37.6
ARU 21 58 34.4
ARU S S 22 04 16.0 -0.4
ARU SS SS 22 07 58.2 -0.6
ARU pmax pmax
comp=Z,29nm,1.7s
ARU MLR MLR
comp=Z,276nm,13.0s
ARU **Arti** 54.68 318 *e*P P 21 56 35.8 -0.9
comp=Z,44nm,1.7s
SOKR **Solikamsk** 54.94 322 *e*P P 21 56 37.7 -0.8
SOKR pmax pmax
comp=Z,8.0nm,1.2s
SOKR MLR MLR
comp=Z,230nm,14.0s
WRAB **Tennant Creek** 55.28 182 *e*P P 21 56 40.8 -0.6
WRAB pmax pmax
comp=Z,8.0nm,1.0s
WRAB **Tennant Creek** 55.28 182 *e*P P 21 56 40.8 -0.6
comp=Z,8.5nm,1.0s
WRA **Warramunga Arr** 55.29 182 P P 21 56 40.6 -0.8
WRA **Warramunga Arr** 55.29 182 P P 21 56 40.6 -0.8
comp=Z,1.8nm,0.3s,baz=359,slow=7.7,SNR=40
EGAK **Eagle** 55.30 31 *e*P P 21 56 40.9 -0.1
comp=Z,26nm,1.5s
AB31 **Akbulak array** 55.68 310 *ce*P P 21 56 42.9 -1.2
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR **Akbulak array** 55.68 310 *e*P P 21 56 43.2 -0.8
CTA **Charters Tower** 56.20 169 LR LR 22 19 04.9
comp=Z,134nm,20.4s,baz=211,slow=34
INK **Inuvik** 57.49 26 *e*P P 21 56 56.8 +0.2
comp=Z,18nm,0.9s
INK **Inuvik** 57.49 26 P P 21 56 56.9 +0.2
comp=Z,17nm,0.9s,baz=294,slow=6.7,SNR=51
MBWA **Marble Bar** 58.62 198 *e*P P 21 57 04.1 -0.9
comp=Z,5.0nm,0.6s
AS31 **Alice Springs** 59.01 183 *e*P P 21 57 06.9 -0.8
ASAR **Alice Springs** 59.01 183 P P 21 57 07.3 -0.4
ASAR **Alice Springs** 59.01 183 P P 21 57 07.3 -0.4
comp=Z,1.4nm,0.8s,baz=358,slow=5.0,SNR=13
SKAG **Skagway** 59.30 36 *e*P P 21 57 10.9 +1.5
comp=Z,27nm,1.1s
DLBC **Dease Lake** 62.24 36 *e*P P 21 57 31.6 +2.1
KLMR **Klimovskoe** 62.72 327 *e*P P 21 57 31.6 -1.0
KLMR pmax pmax
comp=Z,20nm,1.3s
ARCES **ARCESS Array B** 63.83 339 P P 21 57 39.6 -0.3
ARCES **ARCESS Array B** 63.83 339 P P 21 57 39.6 -0.3
comp=Z,3.1nm,0.8s,baz=54,slow=6.2,SNR=4.4
RES **Resolute Bay** 64.95 13 *e*P P 21 57 46.3 -0.8
comp=Z,8.6nm,0.9s
RES **Resolute Bay** 64.95 13 P P 21 57 45.2 -1.9
comp=Z,4.5nm,0.8s,baz=308,slow=5.1,SNR=13
JOF **Joensuu** 65.23 331 *e*P P 21 57 49.5 +0.5
JOF pmax pmax
comp=Z,1.0nm,0.6s
JOF **Joensuu** 65.23 331 *ep* P 21 57 49.5 +0.5
comp=Z,1.2nm,0.6s
VRHR **Novokhopersk** 65.92 316 *e*P P 21 57 54.7 +1.0
VRHR pmax pmax
comp=N,3.0nm,0.6s
VRHR pmax pmax
comp=E,7.0nm,0.6s
VRHR pmax pmax
comp=Z,7.0nm,0.6s
OBN **Obninsk** 66.71 322⇑ *i*P P 21 58 00.7 +2.0
OBN pmax pmax
comp=Z,33nm,1.9s
OBN MLR MLR
comp=Z,400nm,14.0s
YKA **Yellowknife Ar** 67.05 28 P P 21 58 00.3 -0.4
YKA **Yellowknife Ar** 67.05 28 P P 21 58 00.3 -0.4
comp=Z,3.4nm,1.0s,baz=297,slow=6.5,SNR=38
VSR **Storozhevoye** 67.23 317 *e*P P 21 58 01.3 -0.8
VSR pmax pmax
comp=N,3.0nm,0.8s
VSR pmax pmax
comp=E,3.0nm,0.8s
VSR pmax pmax
comp=Z,7.0nm,0.8s
VORD **Divnogorie** 67.28 317 *e*P P 21 58 01.3 -1.1
VORD pmax pmax
comp=N,10.0nm,1.3s
VORD pmax pmax
comp=E,10.0nm,1.3s
VORD pmax pmax
comp=Z,10.0nm,1.3s
STKA **Stephens Creek** 67.33 175 *e*P P 21 58 02.9 0.0
comp=Z,15nm,2.2s
STKA **Stephens Creek** 67.33 175 P P 21 58 02.8 0.0
comp=Z,3.4nm,0.7s,baz=357,slow=5.7,SNR=10
STKA LR LR 22 27 28.7
comp=Z,157nm,19.2s,baz=24,slow=36
KAF **Kangasniemi** 67.63 331 *e*P P 21 58 02.6 -1.8
KAF pmax pmax
comp=Z,3.0nm,0.7s
KAF **Kangasniemi** 67.63 331 *ep* P 21 58 02.6 -1.8
comp=Z,2.9nm,0.7s
FINES **FINESS Array B** 68.09 331 P P 21 58 06.7 -0.7
FINES **FINESS Array B** 68.09 331 P P 21 58 06.7 -0.7
comp=Z,2.6nm,0.6s,baz=78,slow=5.5,SNR=13
KIV **Kislovodsk** 68.67 309 *e*P P 21 58 11.4 0.0
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV MLR MLR
comp=Z,307nm,19.0s
KIV **Kislovodsk** 68.67 309 *e*P P 21 58 12.1 +0.7
comp=Z,8.5nm,0.8s
VSU **Vasula** 69.53 328⇑ *e*P P 21 58 17.5 +1.2
VSU pmax pmax
comp=Z,14nm,1.3s
NLWA **Neilton Lookou** 70.67 45 *e*P P 21 58 25.6 +2.0
comp=Z,18nm,1.3s
ANN **Anapa** 71.48 312 *e*P P 21 58 27.4 -1.1
ANN MLR MLR
comp=N,278nm,21.0s
ANN MLR MLR
comp=E,289nm,21.0s
ANN MLR MLR
comp=Z,392nm,21.0s
SUMG **Summit** 72.03 358 *e*P P 21 58 32.4 +0.5
SUMG pmax pmax
comp=Z,31nm,1.0s
SUMG **Summit** 72.03 358 *e*P P 21 58 32.4 +0.5
comp=Z,31nm,1.0s
AKASG **Malin Array Be** 72.83 320 P P 21 58 37.0 +0.5
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG MLR MLR
comp=Z,237nm,19.0s
AKASG **Malin Array Be** 72.83 320 P P 21 58 37.0 +0.5
AKASG **Malin Array Be** 72.83 320 P P 21 58 37.0 +0.5
comp=Z,2.5nm,0.6s,baz=49,slow=6.7,SNR=8.5
AKASG LR LR 22 32 28.4
comp=Z,237nm,19.0s,baz=60,slow=37
KIEV **Kiev** 72.84 320 *e*P P 21 58 36.3 -0.2
KIEV pmax pmax
comp=Z,6.0nm,0.8s
KIEV **Kiev** 72.84 320 *e*P P 21 58 36.3 -0.2
comp=Z,5.8nm,0.8s
HUMO **Hull Mountain** 73.79 49 *e*P P 21 58 46.9 +4.5
comp=Z,36nm,1.8s
NB2 **NORSAR Subarra** 73.83 336 P P 21 58 40.5 -1.8
comp=Z,5.5nm,1.0s,baz=43,slow=6.2
NOA **NORSAR Array B** 73.83 336 P P 21 58 42.2 -0.1
NOA **NORSAR Array B** 73.83 336 P P 21 58 42.2 -0.1
comp=Z,2.4nm,0.8s,baz=42,slow=5.9,SNR=5.8
NEW **Newport** 73.97 42 *e*P P 21 58 43.6 +0.3
comp=Z,8.9nm,1.3s
NEW **Newport** 73.97 42 ⇑P P 21 58 43.5 +0.3
baz=74
A12A **Yaak River Ran** 74.36 41 ⇑P P 21 58 46.2 +0.5
baz=74
WALA **Warton Lakes** 75.20 40 *e*P P 21 58 51.0 +0.5
comp=Z,0.3nm,1.1s
B13A **Whitefish** 75.33 41 ⇑P P 21 58 51.1 -0.1
baz=75
BSMT **Bassoo Peak** 75.47 41 *e*P P 21 58 53.7 +1.5
A14A **Double T Ranch** 75.51 40 ⇑P P 21 58 51.9 -0.4
baz=75
C13A **Hot Springs** 75.69 41 ⇓P P 21 58 53.7 +0.4
baz=76,SNR=12
JTMT **Jette** 75.81 41 *e*P P 21 58 54.8 +0.8
MOD **Modoc** 75.81 49 *e*P P 21 58 54.9 +0.6
comp=Z,92nm,3.0s
A15A **Johnson Ranch,** 75.86 39 ⇑P P 21 58 54.1 -0.3
baz=76,SNR=6.5
BMO **Blue Mountains** 75.87 45 *e*P P 21 58 55.0 +0.6
BMO pmax pmax
comp=Z,8.0nm,1.4s
BMO **Blue Mountains** 75.87 45 *e*P P 21 58 55.0 +0.6
comp=Z,8.3nm,1.4s
E12A **Beaver Dam Sad** 75.91 43 ⇓P P 21 58 54.8 +0.1
baz=76,SNR=11
B14A **Marquette Ranc** 75.96 40 ⇓P P 21 58 55.1 +0.2
baz=76
SWMT **Swartz Lake** 76.10 41 *e*P P 21 58 56.3 +0.6
D13A **Huson** 76.11 42 ⇑P P 21 58 55.9 +0.1
baz=76
B15A **Bradely Ranch,** 76.36 40 ⇓P P 21 58 57.7 +0.5
baz=76,SNR=23
F12A **Elk City** 76.48 43 ⇑P P 21 58 58.3 +0.3
baz=76,SNR=14
SLMT **Seeley Lake** 76.54 41 *e*P P 21 58 58.5 +0.2
MSO **Missoula** 76.55 42 ⇑P P 21 58 58.0 -0.3
baz=76
D14A **Greenough** 76.63 41 ⇓P P 21 58 59.0 +0.2
baz=76
BR131 **Keskin Array S** 76.63 309 *e*P P 21 58 59.7 +0.7
comp=Z,3.0nm,0.8s
BRTR **Keskin Array B** 76.63 309 P P 21 58 59.6 +0.7
BRTR **Keskin Array B** 76.63 309 P P 21 58 59.6 +0.7
comp=Z,2.9nm,0.8s,baz=103,slow=4.9,SNR=13
BRTR LR LR 22 32 57.2
comp=Z,126nm,19.2s,baz=34,slow=36
C15A **Salmond Ranch,** 76.68 40 ⇑P P 21 58 59.6 +0.5
baz=76,SNR=12
TESR 76.70 318⇑ *i*P P 21 58 58.7 -0.3
B16A **M & M Farms, S** 76.75 39 ⇓P P 21 58 59.2 -0.1
baz=76,SNR=5.7
BUR08 **Bucovina Ar. S** 76.78 320 *e*P P 21 58 59.5 -0.1
BURAR **Bucovina Array** 76.79 320⇓ *i*P P 21 59 00.3 +0.7
KWP **Kalwaria Pacla** 76.80 322 ⇓P P 21 59 00.7 +1.2
KWP **Kalwaria Pacla** 76.80 322 *e*P P 21 59 00.6 +1.0
comp=Z,18nm,1.1s
KWP **Kalwaria Pacla** 76.80 322⇓ *i*P P 21 59 00.7 +1.2
G12A **Big Creek, Yel** 76.83 44 ⇑P P 21 58 59.8 -0.2
baz=77
A17A **Triple J Farms** 76.92 39 ⇑P P 21 59 00.2 -0.1
baz=77,SNR=8.5
TIRR **Tirgusor** 76.98 316 ⇓P P 21 59 16.6 +16
TIRR **Tirgusor** 76.98 316⇓ *i*P P 21 59 16.6 +16
F13A **Darby** 76.98 43 ⇓P P 21 59 00.5 -0.3
baz=77
E14A **Clinton** 77.05 42 ⇓P P 21 59 01.0 -0.2
baz=77
VRI **Vrincioaia** 77.06 318 ⇑P P 21 59 02.6 +1.5
VRI **Vrincioaia** 77.06 318⇑ *i*P P 21 59 02.6 +1.5
FFC **Flin Flon** 77.06 30 *e*P P 21 59 00.1 -0.8
FFC pmax pmax
comp=Z,9.0nm,1.1s
FFC **Flin Flon** 77.06 30 *e*P P 21 59 00.1 -0.8
comp=Z,9.2nm,1.1s
C16A **Fuhringer Ranc** 77.11 40 ⇓P P 21 59 01.4 -0.1
baz=77,SNR=9.3
B17A **L&G Farms, Che** 77.29 39 ⇓P P 21 59 02.4 0.0
baz=77,SNR=9.5
A18A **Metzger Ranch,** 77.37 38 ⇓P P 21 59 02.9 +0.1
baz=77,SNR=7.7
H12A **Diamond D Ranc** 77.44 44 ⇑P P 21 59 03.1 -0.3
baz=77,SNR=6.0
G13A **Cobalt** 77.46 43 ⇓P P 21 59 02.9 -0.6
baz=77
KOLS **Kolonicke sedl** 77.47 322 *e*P P 21 59 06.0 +2.7
KOLS **Kolonicke sedl** 77.47 322 *e*P P 21 59 06.0 +2.7
F14A **Wisdom** 77.49 42 ⇑P P 21 59 03.3 -0.4
baz=77
E15A **Deer Lodge** 77.50 41 ⇓P P 21 59 03.5 -0.2
baz=77
MFID **Camas Ranch** 77.58 45 *e*P P 21 59 04.2 0.0
comp=Z,13nm,1.5s
MFID **Camas Ranch** 77.58 45 ⇑P P 21 59 04.0 -0.1
baz=77
C17A **Wharram Farm,** 77.73 40 ⇑P P 21 59 04.2 -0.7
baz=78,SNR=5.4
B18A **Beardsley Farm** 77.75 39 ⇑P P 21 59 04.9 0.0
baz=78,SNR=10
I12A **Atlanta** 77.75 45 ⇓P P 21 59 05.2 0.0
baz=78,SNR=7.3
H13A **Challis** 77.78 44 ⇓P P 21 59 05.2 -0.1
baz=78,SNR=7.4
TRPA **Tarpa** 77.85 321⇓ *i*P P 21 59 06.7 +1.3
F15A **Butte** 77.95 42 ⇓P P 21 59 06.4 +0.1
baz=78,SNR=11
LRM **Limekiln Ridge** 77.99 42 *e*P P 21 59 07.2 +0.6
EGMT **Eagleton** 78.00 39 *e*P P 21 59 06.7 +0.3
comp=Z,17nm,1.0s
EGMT **Eagleton** 78.00 39 ⇑P P 21 59 06.6 +0.2
baz=78,SNR=9.2
CMB **Columbia Colle** 78.01 52 *e*P P 21 59 07.7 +1.1
CMB pmax pmax
comp=Z,77nm,2.6s
CMB **Columbia Colle** 78.01 52 *e*P P 21 59 07.7 +1.1
comp=Z,77nm,2.6s
SULR 78.06 317⇑ *i*P P 21 59 08.0 +1.4
D17A **Six Diamond Ra** 78.08 40 ⇓P P 21 59 07.2 +0.3
baz=78,SNR=11
B19A **Brinkman Farms** 78.13 38 ⇑P P 21 59 07.5 +0.5
baz=78,SNR=7.2
DLMT **Dillon** 78.20 42 *e*P P 21 59 08.3 +0.7
comp=Z,14nm,1.0s
VOIR 78.25 318 ⇑P P 21 59 07.8 0.0
VOIR 78.25 318⇑ *i*P P 21 59 07.8 0.0
I13A **Wildhorse Cree** 78.25 44 ⇓P P 21 59 08.4 +0.3
baz=78,SNR=12
HLID **Hailey** 78.30 44 *e*P P 21 59 09.3 +1.1
comp=Z,6.6nm,1.3s
HLID **Hailey** 78.30 44 ⇓P P 21 59 08.7 +0.4
baz=78
A20A **Cobblestone Ra** 78.36 37 ⇓P P 21 59 08.5 +0.2
baz=78
G15A **Dillon** 78.38 42 ⇓P P 21 59 08.9 +0.2
baz=78,SNR=11
E17A **Martinsdale** 78.43 41 ⇑P P 21 59 09.1 +0.2
baz=78,SNR=7.2
F16A **Kennard Place,** 78.46 41 ⇓P P 21 59 09.2 +0.2
baz=78
BOZ **Bozeman (W)** 78.54 42 *e*P P 21 59 10.2 +0.7
BOZ pmax pmax
comp=Z,7.0nm,1.1s
BOZ **Bozeman (W)** 78.54 42 *e*P P 21 59 10.2 +0.7
comp=Z,7.5nm,1.1s
BOZ **Bozeman (W)** 78.54 42 ⇑P P 21 59 09.8 +0.3
baz=78,SNR=7.6
J13A **Cove Ranch, Pi** 78.54 45 ⇓P P 21 59 10.1 +0.6
baz=78,SNR=5.8
C19A **Slack Wire Ran** 78.55 39 ⇓P P 21 59 09.9 +0.5
baz=78,SNR=12
I14A **Mackay** 78.62 44 ⇓P P 21 59 10.4 +0.4
baz=78,SNR=15
H15A **Lima** 78.64 43 ⇓P P 21 59 10.2 +0.1
baz=78
G16A **Moss Hill, Enn** 78.71 42 ⇑P P 21 59 10.6 +0.1
baz=78
A21A **Bergtoll Ranch** 78.78 37 ⇓P P 21 59 10.6 0.0
baz=78,SNR=9.1
E18A **Harlowton** 78.86 40 ⇑P P 21 59 11.5 +0.3
baz=79,SNR=5.2
F17A **Fitzpatrick Pl** 78.90 41 ⇑P P 21 59 11.6 +0.1
baz=79,SNR=7.6
FRB **Frobisher Bay** 79.01 11 P P 21 59 11.2 -0.3
FRB **Frobisher Bay** 79.01 11 P P 21 59 11.2 -0.3
comp=Z,5.5nm,0.8s,baz=348,slow=6.9,SNR=14
NVAR **Mina Array Bea** 79.09 50 P P 21 59 12.4 -0.3
NVAR **Mina Array Bea** 79.09 50 P P 21 59 12.4 -0.3
comp=Z,2.8nm,0.7s,baz=286,slow=5.5,SNR=12
B21A **Ellsworth Farm** 79.11 37 ⇓P P 21 59 12.3 -0.1
baz=79
MORC **Moravsky Berou** 79.21 325⇓ *i*P P 21 59 12.0 -0.9
G17A **Pierce Place,** 79.23 41 ⇓P P 21 59 13.4 +0.1
baz=79
A22A **Carney Farms,** 79.27 36 ⇓P P 21 59 13.0 -0.3
baz=79,SNR=9.8
H16A **Russell Place,** 79.35 42 ⇑P P 21 59 14.6 +0.5
baz=79,SNR=5.0
KRLC **Kraliky** 79.36 325 *e*P P 21 59 15.0 +1.2
DPC **Dobruska-Polom** 79.38 326 *e*P P 21 59 18.8 +4.9
DPC **Dobruska-Polom** 79.38 326 *e*P P 21 59 18.8 +4.9
F18A **Big Timber** 79.40 40 ⇑P P 21 59 14.2 0.0
baz=79,SNR=11
VYHS **Vyhne** 79.46 323 *e*P P 21 59 22.2 +7.9
VYHS **Vyhne** 79.46 323 *ep*P P 21 59 22.2 +7.9
C21A **Desert Coulee** 79.47 38 ⇓P P 21 59 14.5 +0.1
baz=79,SNR=5.4
GZR **Gura Zlata** 79.50 319 ⇑P P 21 59 15.7 +1.0
GZR **Gura Zlata** 79.50 319⇑ *i*P P 21 59 15.7 +1.0
PTRM **Twissleman Ran** 79.52 54 *e*P P 21 59 22.8 +7.9
E19A **Rath Farm, Rou** 79.52 40 ⇓P P 21 59 15.1 +0.3
baz=79,SNR=7.2
J15A **Blackfoot** 79.53 44 ⇑P P 21 59 15.7 +0.8
baz=79
K14A **Jones Ranch, D** 79.65 45 ⇑P P 21 59 15.8 +0.2
baz=79
I16A **Newdale** 79.75 43 ⇑P P 21 59 17.5 +1.3
baz=80,SNR=7.3
E20A **Meyer Farm, Mu** 79.83 39 ⇑P P 21 59 16.8 +0.3
baz=80
F19A **Roth Farm, Mol** 79.84 40 ⇑P P 21 59 16.7 +0.2
baz=80
H17A **Grant Village** 79.92 42 ⇓P P 21 59 19.0 +1.8
baz=80,SNR=10
K15A **Arbon** 79.93 44 ⇓P P 21 59 18.0 +0.9
baz=80
L14A **Malta** 79.93 45 ⇓P P 21 59 18.2 +1.0
baz=80
BZS **Buzias** 79.97 320 ⇓P P 21 59 17.0 -0.1
BZS **Buzias** 79.97 320⇓ *i*P P 21 59 17.0 -0.1
IMW **Indian Meadow** 80.04 43 *e*P P 21 59 19.4 +1.4
comp=Z,12nm,1.2s
PVCC **Panska Ves** 80.05 327 *e*P P 21 59 20.9 +3.5
PVCC **Panska Ves** 80.05 327 *e*P P 21 59 20.9 +3.5
FLWY **Flagg Ranch** 80.05 42 *e*P P 21 59 19.0 +1.1
comp=Z,14nm,1.3s
J16A **Bone** 80.07 43 ⇑P P 21 59 18.3 +0.3
baz=80
B23A **Brockton** 80.07 36 ⇓P P 21 59 18.1 +0.4
baz=80
BRG **Berggiesshubel** 80.08 327 *e*P P 21 59 17.7 +0.1
comp=Z,1.3nm,0.5s
BRG pmax pmax
comp=N,522nm,12.8s
BRG MLR MLR
comp=E,428nm,16.5s
BRG MLR MLR
comp=Z,324nm,14.8s
BRG **Berggiesshubel** 80.08 327 *e*P P 21 59 17.7 +0.1
BRG pmax pmax
comp=Z,1.0nm,0.5s
BRG MLR MLR
comp=N,522nm,12.8s
BRG MLR MLR
comp=E,428nm,16.5s
BRG MLR MLR
comp=Z,324nm,14.8s
RLMT **Red Lodge** 80.15 41 *e*P P 21 59 19.1 +0.7
comp=Z,8.6nm,1.1s
RLMT **Red Lodge** 80.15 41 ⇑P P 21 59 18.9 +0.5
baz=80,SNR=6.0
CLL **Collm** 80.18 328⇓ *i*P P 21 59 18.3 +0.2
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL **Collm** 80.18 328⇓ *i*P P 21 59 18.3 +0.2
comp=Z,6.0nm,1.0s
CLL *i* pP pP 21 59 22.2 0.0
RRI2 **Red Ridge** 80.19 43 *e*P P 21 59 19.8 +1.1
comp=Z,8.1nm,1.1s
I17A **Pilgrim Ck.** 80.23 42 ⇑P P 21 59 19.8 +1.0
baz=80,SNR=5.4
H18A **Shoshone NF, C** 80.23 41 ⇓P P 21 59 19.6 +0.7
baz=80
MOOW **Moose Ponds** 80.25 43 *e*P P 21 59 20.0 +1.1
comp=Z,6.9nm,1.2s
TPAW **Teton Pass** 80.30 43 *e*P P 21 59 22.1 +2.8
comp=Z,19nm,1.4s
K16A **Soda Springs** 80.37 44 ⇑P P 21 59 20.5 +0.9
baz=80,SNR=6.4
D22A **Cohagen** 80.39 38 ⇓P P 21 59 19.8 +0.4
baz=80,SNR=6.3
LOHW **Long Hollow** 80.41 43 *e*P P 21 59 20.9 +1.0
comp=Z,8.8nm,1.4s
C23A **Lambert** 80.43 37 ⇑P P 21 59 20.2 +0.6
baz=80
REDW **Red Top Meadow** 80.44 43 *e*P P 21 59 21.6 +1.6
comp=Z,26nm,1.8s
L15A **Malad City** 80.44 45 ⇓P P 21 59 20.7 +0.8
baz=80
H19A **Powell** 80.60 41 ⇑P P 21 59 21.4 +0.7
baz=80
G20A **Bridger** 80.64 40 ⇑P P 21 59 21.0 +0.1
baz=80
I18A **Diamond G Ranc** 80.79 42 ⇑P P 21 59 22.3 +0.5
baz=81
F21A **Absaloka Mine,** 80.81 39 ⇓P P 21 59 22.0 +0.3
baz=81
R11A **Troy Canyon, C** 80.84 49 ⇓P P 21 59 22.8 +0.7
baz=81
D23A **Lindsay** 80.86 37 ⇓P P 21 59 22.3 +0.4
baz=81
E22A **Miles City** 80.99 38 ⇑P P 21 59 22.9 +0.3
baz=81
J18A **Kendall Valley** 81.00 43 ⇑P P 21 59 23.5 +0.5
baz=81,SNR=12
I19A **Meeteetse** 81.01 42 ⇓P P 21 59 23.3 +0.3
baz=81
MPMC **Manual Prospec** 81.04 52 ⇓P P 21 59 23.7 +0.4
baz=81
G21A **Lodge Grass** 81.17 40 ⇓P P 21 59 24.1 +0.4
baz=81
F22A **Rosebud** 81.28 39 ⇓P P 21 59 24.6 +0.4
baz=81
D24A **Glendive** 81.33 37 ⇓P P 21 59 24.7 +0.3
baz=81
DUG **Dugway** 81.35 46 *e*P P 21 59 25.9 +1.1
DUG pmax pmax
comp=Z,10.0nm,1.3s
DUG **Dugway** 81.35 46 *e*P P 21 59 25.9 +1.1
comp=Z,10nm,1.3s
DUG **Dugway** 81.35 46 ⇑P P 21 59 25.3 +0.5
baz=81
EDW2 **Edwards Air Fo** 81.44 53 ⇓P P 21 59 25.7 +0.5
baz=81
J19A **Crowheart** 81.49 42 ⇓P P 21 59 25.8 +0.3
baz=81,SNR=11
KHC **Kasperske Hory** 81.50 326 *e*P P 21 59 26.0 +0.7
KHC **Kasperske Hory** 81.50 326 *e*P P 21 59 26.0 +0.7
PD01 **Pinedale Array** 81.52 43 *e*P P 21 59 25.3 -0.5
PD02 **Pinedale Array** 81.53 43 *e*P P 21 59 25.3 -0.5
I20A **Worland** 81.54 41 ⇑P P 21 59 25.7 0.0
baz=81
BW06 **Boulder Array** 81.54 43 *e*P P 21 59 26.0 +0.1

	comp=Z,7.7nm,1.3s								
BW06	**Boulder Array**	**81.54**	**43**	⇓P		**P**	**21 59 25.5**	**-0.4**
	baz=81,SNR=6.1								
PDAR	**Pinedale Array**	**81.54**	**43**	P		**P**	**21 59 25.9**	**0.0**
PDAR	**Pinedale Array**	**81.54**	**43**	P		**P**	**21 59 25.9**	**0.0**
	comp=Z,2.0nm,0.7s,baz=289,slow=2.7,SNR=16								
G22A	**Birney**	**81.65**	**39**	⇓P		**P**	**21 59 26.1**	**-0.1**
	baz=81								
GERES	**GERESS Array B**	**81.65**	**326**	P		**P**	**21 59 25.6**	**-0.5**
GERES	**GERESS Array B**	**81.65**	**326**	P		**P**	**21 59 25.6**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=72,slow=4.3,SNR=7.3								
GERES				LR		LR	22 36 43.1		
	comp=Z,190nm,19.6s,baz=236,slow=36								
H21A	**Big Horn, Sher**	**81.66**	**40**	⇑P		**P**	**21 59 26.3**	**0.0**
	baz=81								
K19A	**Absolon Red Bu**	**81.90**	**42**	⇓P		**P**	**21 59 27.5**	**-0.2**
	baz=82								
R13A	**O'Grain Ranch,**	**81.93**	**49**	⇓P		**P**	**21 59 28.5**	**+0.5**
	baz=82								
GSC	**Goldstone**	**81.95**	**52**	⇓P		**P**	**21 59 28.4**	**+0.4**
	baz=82								
J20A	**Shoshoni**	**81.96**	**42**	⇓P		**P**	**21 59 28.3**	**+0.3**
	baz=82								
N17A	**Moffit Pass**	**82.02**	**45**	⇑P		**P**	**21 59 28.9**	**+0.5**
	baz=82								
H22A	**Clearmont**	**82.04**	**40**	⇑P		**P**	**21 59 28.4**	**+0.1**
	baz=82								
P15A	**Leamington**	**82.06**	**47**	⇓P		**P**	**21 59 29.2**	**+0.6**
	baz=82								
I21A	**Big Trails, Te**	**82.08**	**41**	⇑P		**P**	**21 59 28.8**	**+0.2**
	baz=82								
L19A	**Farson**	**82.09**	**43**	⇓P		**P**	**21 59 29.2**	**+0.4**
	baz=82								
G23A	**Biddle**	**82.12**	**39**	⇑P		**P**	**21 59 29.1**	**+0.4**
	baz=82								
M18A	**Lyman**	**82.14**	**44**	⇑P		**P**	**21 59 28.3**	**-0.7**
	baz=82								
J21A	**Lysite**	**82.31**	**41**	⇑P		**P**	**21 59 29.7**	**-0.1**
	baz=82								
I22A	**9 Mile Ranch,**	**82.45**	**40**	⇓P		**P**	**21 59 30.5**	**-0.1**
	baz=82								
HEC	**Hector,Ludlow**	**82.54**	**52**	⇑P		**P**	**21 59 31.8**	**+0.7**
	baz=82								
N18A	**Larsen Ranch,**	**82.66**	**44**	⇑P		**P**	**21 59 31.2**	**-0.6**
	baz=82								
J22A	**Midwest**	**82.78**	**41**	⇑P		**P**	**21 59 32.1**	**-0.2**
	baz=83,SNR=9.1								
MVU	**Marysvale**	**82.79**	**47**	*e*P		**P**	**21 59 33.9**	**+1.4**
	comp=Z,6.3nm,1.1s								
MSU	**Marysvale**	**82.81**	**47**	*e*P		**P**	**21 59 33.5**	**+0.9**
MSU	**Marysvale**	**82.81**	**47**	*e*P		**P**	**21 59 33.5**	**+0.9**
H24A	**Dirks Ranch, A**	**82.87**	**39**	⇑P		**P**	**21 59 32.1**	**-0.5**
	baz=83								
ULM	**Lac du Bonnet**	**82.88**	**31**	P		**P**	**21 59 31.7**	**-0.7**
ULM	**Lac du Bonnet**	**82.88**	**31**	P		**P**	**21 59 31.7**	**-0.7**
	comp=Z,9.2nm,1.1s,baz=329,slow=8.2,SNR=8.2								
K21A	**Alcova**	**82.90**	**42**	⇓P		**P**	**21 59 32.8**	**-0.1**
	baz=83,SNR=8.7								
O18A	**Roosevelt**	**82.94**	**45**	⇓P		**P**	**21 59 33.4**	**+0.2**
	baz=83								
N19A	**John Jarvie Ra**	**83.00**	**44**	⇑P		**P**	**21 59 33.4**	**-0.1**
	baz=83								
GMRC	**Granite Mounta**	**83.01**	**52**	⇑P		**P**	**21 59 34.0**	**+0.5**
	baz=83								
P17A	**Butcher Ranch,**	**83.03**	**46**	⇓P		**P**	**21 59 33.9**	**+0.2**
	baz=83								
M20A	**Sweetwater, Wa**	**83.15**	**43**	⇓P		**P**	**21 59 34.2**	**-0.2**
	baz=83								
P18A	**Preston Nutter**	**83.22**	**46**	⇑P		**P**	**21 59 35.0**	**+0.2**
	baz=83,SNR=10								
L21A	**Rawlins**	**83.29**	**42**	⇓P		**P**	**21 59 34.7**	**-0.3**
	baz=83								
R16A	**Teasdale**	**83.37**	**47**	⇓P		**P**	**21 59 36.0**	**+0.5**
	baz=83,SNR=5.5								
SRU	**San Rafael**	**83.40**	**46**	*e*P		**P**	**21 59 36.8**	**+1.2**
SRU				pmax	pmax				
	comp=Z,9.0nm,1.1s								
SRU	**San Rafael**	**83.40**	**46**	*e*P		**P**	**21 59 36.8**	**+1.2**
	comp=Z,9.3nm,1.1s								
SRU	**San Rafael**	**83.40**	**46**	⇓P		**P**	**21 59 35.9**	**+0.3**
	baz=83								
M21A	**Separation Pea**	**83.53**	**43**	⇓P		**P**	**21 59 36.5**	**+0.2**
	baz=83								
N20A	**Spence Gulch,**	**83.55**	**44**	⇓P		**P**	**21 59 36.6**	**+0.2**
	baz=83,SNR=7.9								
RSSD	**Black Hills**	**83.57**	**39**	*e*P		**P**	**21 59 35.9**	**-0.5**
RSSD				pmax	pmax				
	comp=Z,8.0nm,1.4s								
RSSD	**Black Hills**	**83.57**	**39**	*e*P		**P**	**21 59 35.9**	**-0.5**
	comp=Z,8.0nm,1.4s								
R17A	**Hanksville Air**	**83.74**	**47**	⇑P		**P**	**21 59 37.3**	**0.0**
	baz=84								
P19A	**Cripple Cowboy**	**83.95**	**45**	⇑P		**P**	**21 59 38.7**	**+0.2**
	baz=84,SNR=8.6								
N21A	**Black Mountain**	**84.02**	**43**	⇓P		**P**	**21 59 39.0**	**+0.2**
	baz=84								
O20A	**White River Ci**	**84.03**	**44**	⇓P		**P**	**21 59 39.1**	**+0.3**
	baz=84								
U15A	**North Rim**	**84.08**	**49**	⇑P		**P**	**21 59 39.6**	**+0.3**
	baz=84								
L23A	**Garrett**	**84.09**	**41**	⇑P		**P**	**21 59 39.3**	**+0.2**
	baz=84								
Q19A	**Hogan Spring (**	**84.24**	**46**	⇑P		**P**	**21 59 40.0**	**+0.2**
	baz=84								
R18A	**Canyonlands Na**	**84.24**	**46**	⇑P		**P**	**21 59 40.0**	**0.0**
	baz=84								
N22A	**Wattenberg Ran**	**84.58**	**43**	⇓P		**P**	**21 59 42.3**	**+0.6**
	baz=84								
S18A	**Hurst Farm, BI**	**84.64**	**47**	⇑P		**P**	**21 59 42.4**	**+0.3**
	baz=84,SNR=8.9								
R19A	**Curley Farm, L**	**84.68**	**46**	⇓P		**P**	**21 59 42.3**	**+0.1**
	baz=84								
Q20A	**Ridgley Place,**	**84.80**	**45**	⇑P		**P**	**21 59 42.9**	**+0.2**
	baz=85								
N23A	**Red Feather La**	**84.80**	**42**	⇓P		**P**	**21 59 42.8**	**0.0**
	baz=85								
PV04	**Paradox Valley**	**84.82**	**46**	*e*P		**P**	**21 59 44.4**	**+1.6**
O22A	**Kremmling**	**84.97**	**43**	⇑P		**P**	**21 59 43.5**	**-0.2**
	baz=85								
T18A	**Mexican Hat**	**85.08**	**47**	⇓P		**P**	**21 59 44.2**	**+0.1**
	baz=85,SNR=5.8								
S19A	**Harvey Farm, M**	**85.12**	**46**	⇑P		**P**	**21 59 43.9**	**-0.5**
	baz=85								
WUAZ	**Wupatki**	**85.24**	**49**	*e*P		**P**	**21 59 45.2**	**+0.3**
	comp=Z,6.6nm,1.0s								
WUAZ	**Wupatki**	**85.24**	**49**	⇑P		**P**	**21 59 45.3**	**+0.4**
	baz=85								
P22A	**Eagle**	**85.24**	**44**	⇓P		**P**	**21 59 45.0**	**+0.1**
	baz=85								
R20A	**Redvale**	**85.26**	**46**	⇓P		**P**	**21 59 45.5**	**+0.4**
	baz=85,SNR=8.8								
113A	**Mohawk Valley,**	**85.50**	**53**	⇑P		**P**	**21 59 46.7**	**+0.6**
	baz=85								
S20A	**Disappointment**	**85.52**	**46**	⇑P		**P**	**21 59 46.6**	**+0.2**
	baz=85								
R21A	**Cimarron**	**85.62**	**45**	⇓P		**P**	**21 59 47.2**	**+0.3**
	baz=85								
Q22A	**Crested Butte,**	**85.65**	**44**	⇓P		**P**	**21 59 47.4**	**+0.2**
	baz=85,SNR=5.8								
T19A	**Beclabito**	**85.79**	**47**	⇓P		**P**	**21 59 48.1**	**+0.4**
	baz=86								
MVCO	**Mesa Verde**	**85.85**	**46**	*e*P		**P**	**21 59 48.9**	**+0.8**
	comp=Z,11nm,1.3s								
MVCO	**Mesa Verde**	**85.85**	**46**	⇑P		**P**	**21 59 48.4**	**+0.3**
	baz=86								
S21A	**Coal Bank Pass**	**85.96**	**46**	⇑P		**P**	**21 59 49.2**	**+0.5**
	baz=86,SNR=9.1								
U19A	**Dine' College,**	**86.04**	**47**	⇑P		**P**	**21 59 49.4**	**+0.3**
	baz=86								
X17A	**Forest Lakes**	**86.36**	**50**	⇑P		**P**	**21 59 50.7**	**0.0**
	baz=86								
S22A	**4UR Ranch, Cre**	**86.46**	**45**	⇓P		**P**	**21 59 51.3**	**+0.1**
	baz=86								
T21A	**Navajo Lake**	**86.57**	**46**	⇓P		**P**	**21 59 52.2**	**+0.6**
	baz=86								
R23A	**Moffat**	**86.73**	**44**	⇑P		**P**	**21 59 52.8**	**+0.3**
	baz=86								
U21A	**Nageezi**	**86.88**	**47**	⇓P		**P**	**21 59 53.7**	**+0.6**
	baz=87								
T22A	**Edith**	**86.92**	**46**	⇓P		**P**	**21 59 54.0**	**+0.7**
	baz=87								
W20A	**Ramah**	**87.25**	**48**	⇓P		**P**	**21 59 55.1**	**+0.1**
	baz=87								
U22A	**Llaves**	**87.38**	**46**	⇑P		**P**	**21 59 55.9**	**+0.3**
	baz=87								
SCHQ	**Schefferville**	**87.73**	**13**	*e*P		**P**	**21 59 56.6**	**-0.1**
SCHQ	**Schefferville**	**87.73**	**13**	P		**P**	**21 59 56.0**	**-0.7**
	comp=Z,4.8nm,1.0s,baz=30,slow=15,SNR=5.6								
SCHQ				LR		LR	22 41 49.8		
	comp=Z,169nm,18.8s,baz=20,slow=37								
X21A	**Alamocita Cree**	**88.14**	**48**	⇓P		**P**	**21 59 59.7**	**+0.4**
	baz=88								
T25A	**Trinidad**	**88.27**	**44**	⇓P		**P**	**21 59 59.9**	**+0.2**
	baz=88								
Z27A	**Tatum**	**91.66**	**46**	⇓P		**P**	**22 00 15.8**	**+0.3**
	baz=92								
Z29A	**Hugry Hill Ra**	**92.58**	**45**	⇑P		**P**	**22 00 20.3**	**+0.5**
	baz=92								
329A	**Wagon Wheel Ra**	**93.69**	**47**	⇑P		**P**	**22 00 25.0**	**0.0**
	baz=94								
TXAR	**Lajitas Array**	**94.20**	**49**	P		**P**	**22 00 26.6**	**-0.7**
TXAR	**Lajitas Array**	**94.20**	**49**	P		**P**	**22 00 26.6**	**-0.7**
	comp=Z,2.0nm,0.9s,baz=306,slow=3.0,SNR=11								
TXAR				LR		LR	22 43 04.7		
	comp=Z,80nm,19.8s,baz=180,slow=36								
627A	**Terlingua Ranc**	**94.29**	**49**	⇓P		**P**	**22 00 27.9**	**+0.1**
	baz=94								
529A	**Stev Forest Ra**	**94.53**	**48**	⇓P		**P**	**22 00 29.4**	**+0.7**
	baz=94								
RFTA	**Plano**	**95.59**	**42**	*e*P		P	22 00 39.8	+6.3
ESDC	**Sonseca Array**	**96.60**	**330**	LR		LR	22 46 18.8		
	comp=Z,119nm,19.1s,baz=310,slow=37								
TORD	**Torodi Ar. Bea**	**115.24**	**310**	PKP		**PKPdf**	**22 05 50.8**	**+0.8**
TORD	**Torodi Ar. Bea**	**115.24**	**310**	PKP		**PKPdf**	**22 05 50.8**	**+0.8**
	comp=Z,0.7nm,1.1s,baz=352,slow=1.7,SNR=4.1								
SAML	**Samuel**	**148.04**	**39**	*e*PKPdf		**PKPdf**	**22 06 51.3**	**+0.3**
LPAZ	**La Paz**	**150.92**	**55**	PKPbc		**PKPbc**	**22 07 03.2**	**+1.3**
LPAZ	**La Paz**	**150.92**	**55**	PKPbc		**PKPbc**	**22 07 03.2**	**+1.3**
	comp=Z,3.1nm,0.8s,baz=14,slow=9.2,SNR=6.5								

JMA 17 21:47:51.9, 35.66N × 136.32E, h9km, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGM	**Miyama**	**0.33**	**83**	P	Pg	21 47 58.5	0.0

*IDC **17** 21:50:18.0±1.6, 17.54N × 145.21E, h0km, mb4.4/14, mb1 4.6/15, mb1mx4.4/26, mbtmp4.4/15, ML4.0/1, MS4.0/9, Ms1 4.0/9, ms1mx3.6/41, Error ellipse: s-maj=42.4km s-min=21.8km az=178.0*
*NEIC **17** 21:50:24.1±0.4, 17.64N × 145.04E, h35km, mb4.7/19, Error ellipse: s-maj=10.7km s-min=7.3km az=3.0*
*BJI **17** 21:50:36.8, 17.84N × 144.92E, h139km, mB5.0/12, mb4.4/22*

ISC 17 21:50:37.8±0.9, 18.0N±0.2 × 145.08E±0.09, h146km±3km, n72, σ1.922/93, mb4.4/40, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**9.45**	**344**	LR	LR	21 56 16.9	
	comp=Z,882nm,20.0s,baz=131,slow=36						
JOW	**Kunigami**	**17.84**	**303**	LR	LR	21 59 59.5	
	comp=Z,1µm,21.7s,baz=132,slow=32						
MJAR	**Matsushiro Arr**	**19.46**	**343**	P	**P**	**21 54 50.8**	**-2.4**
MJAR	**Matsushiro Arr**	**19.46**	**343**	P	**P**	**21 54 50.8**	**-2.4**
	0.4nm,0.3s,baz=167,slow=9.7,SNR=15						
MJAR				LR	LR	22 01 39.4	
	comp=Z,601nm,18.5s,baz=200,slow=34						
MAJO	**Matsushiro**	**19.46**	**343**	*e*P	**P**	**21 54 51.1**	**-2.0**
	36nm,0.9s						
MAT	**Matsushiro**	**19.46**	**343**	P	**P**	**21 54 50.9**	**-2.3**
KSRS	**Korea Array**	**24.56**	**326**	P	**P**	**21 55 43.8**	**-0.3**
	5.7nm,1.1s,baz=146,slow=10,SNR=6.5						
KSRS				LR	LR	22 03 13.3	
	comp=Z,241nm,20.3s,baz=137,slow=31						
KSAR	**Wonju Array Be**	**24.57**	**326**	P	**P**	**21 55 43.8**	**-0.4**
ASAJ	**Asahikawa**	**26.14**	**356**	*e*P	**P**	**21 55 56.9**	**-1.3**
	3.2nm,0.8s						
ASAJ	**Asahikawa**	**26.14**	**356**	LR	LR	22 05 25.2	
	comp=Z,205nm,18.6s,baz=54,slow=34						
NJ2	**Nanjing**	**27.49**	**306**	*e*P	**P**	**21 56 10.0**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
USRK	**Ussuriysk Arra**	**28.36**	**340**	P	**P**	**21 56 18.9**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=127,slow=11,SNR=5.1						
USRK				LR	LR	22 08 31.8	
	comp=Z,120nm,18.0s,baz=338,slow=38						
CN2	**Changchun**	**30.60**	**331**	*e*P	**P**	**21 56 39.0**	**+1.1**
BJI	**Beijing**	**33.25**	**317**	P	**P**	**21 57 00.0**	**-1.1**
BJI				pmax	pmax		
	comp=Z,12nm,1.1s						
GYA	**Guiyang**	**36.44**	**290**	*e*P	**P**	**21 57 29.0**	**+0.2**
GYA				pP	**pP**	**21 58 01.5**	**+1.0**
GYA				sP	**sP**	**21 58 18.8**	**+1.6**
GYA				PcP	**PcP**	**21 59 51.3**	**+1.4**
GYA				S	**S**	**22 02 57.8**	**-2.1**
GYA				ScP	**ScP**	**22 03 22.5**	**-0.4**
GYA				ScS	**ScS**	**22 07 27.8**	**-2.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**36.69**	**315**	*e*P	**P**	**21 57 31.3**	**+0.6**
HHC				pP	**pP**	**21 58 02.6**	**+0.2**
HHC				sP	**sP**	**21 58 18.0**	**-1.2**
HHC				PP	**PnPn**	**21 59 00.8**	**+1.7**
HHC				S	**S**	**22 03 03.5**	**+0.2**
HHC				sS	**sS**	**22 03 58.3**	**-0.5**
HHC				SS	SS	22 05 38.1	-12
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,220nm,6.3s						
WRAB	**Tennant Creek**	**39.12**	**196**	P	P	21 57 42.9	-8.3
	comp=Z,4.8nm,0.8s						
KMI	**Kunming**	**39.89**	**288**	P	**P**	**21 57 58.1**	**+0.3**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.5s						
LZH	**Lanzhou**	**40.56**	**305**	*e*P	**P**	**21 58 02.5**	**-0.7**
LZH				pP	**pP**	**21 58 34.5**	**-0.9**
LZH				sP	**sP**	**21 58 51.0**	**-1.0**
LZH				PP	**PP**	**21 59 40.5**	**+0.9**
LZH				pmax	pmax		
	comp=Z,19nm,1.0s						
LZH				pmax	pmax		
	comp=Z,57nm,5.2s						
FITZ	**Fitzroy Crossi**	**40.64**	**209**	*e*P	P	21 57 57.4	-6.3
	comp=Z,7.3nm,1.0s						
ULN	**Ulaanbaatar**	**42.97**	**323**	*e*P	**P**	**21 58 22.1**	**-0.4**
	comp=Z,4.7nm,1.0s						
SONM	**Songino Array**	**43.34**	**322**	P	**P**	**21 58 25.1**	**-0.4**
SONM				PcP	**PcP**	**22 00 11.8**	**+0.2**
SONM	**Songino Array**	**43.34**	**322**	P	**P**	**21 58 25.1**	**-0.4**
	comp=Z,2.4nm,1.1s,baz=132,slow=8.8,SNR=6.1						
SONM				PcP	**PcP**	**22 00 11.8**	**+0.2**
	comp=Z,2.2nm,1.0s,baz=147,slow=3.9,SNR=5.0						
CHTO	**Chiang Mai**	**43.69**	**279**	*e*P	**P**	**21 58 25.8**	**-2.8**
	comp=Z,1.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**43.73**	**278**	P	**P**	**21 58 26.7**	**-2.2**
CMAR	**Chiang Mai Arr**	**43.73**	**278**	P	**P**	**21 58 26.7**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=77,slow=6.7,SNR=8.9						
GTA	**Gaotai**	**44.52**	**308**	*e*P	P	21 58 39.8	+4.8
GTA				pP	pP	21 59 11.4	+3.6
GTA				sP	sP	21 59 27.4	+3.2
GTA				S	**S**	**22 05 02.6**	**+3.0**
GTA				SS	**ScS**	**22 08 15.3**	**-2.6**
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,210nm,5.7s						
GTA				LR	LR		
	comp=N,200nm,17.1s						
GTA				LR	LR		
	comp=E,350nm,16.6s						
GTA				LR	LR		
	comp=Z,380nm,18.8s						
DZM	**Mont Dzumac**	**44.97**	**151**	*e*LR	LR	22 11 31.4	
	comp=Z,433nm,23.2s						
PSI	**Prapat**	**47.67**	**257**	LR	LR	22 16 27.6	
	comp=Z,355nm,20.0s,baz=218,slow=33						
WMQ	**Urumqi**	**54.33**	**311**	*e*P	**P**	**21 59 49.9**	**+0.6**
WMQ				pP	**pP**	**22 00 22.0**	**-1.2**
WMQ				pmax	pmax		
	comp=Z,7.0nm,1.4s						
WMQ				pmax	pmax		
	comp=Z,150nm,4.9s						
ZAA0	**Zalesovo Array**	**58.22**	**323**	*e*P	**P**	**22 00 16.6**	**0.0**
ZAA0				*e*PcP	**PcP**	**22 01 06.0**	**-0.3**
ZALV	**Zalesovo Beam**	**58.22**	**323**	P	**P**	**22 00 16.8**	**+0.2**
ZALV	**Zalesovo Beam**	**58.22**	**323**	P	**P**	**22 00 16.8**	**+0.2**
	comp=Z,8.3nm,0.9s,baz=95,slow=6.6,SNR=35						
ZALV				LR	LR	22 23 32.7	
	comp=Z,124nm,20.2s,baz=80,slow=34						
MK31	**Makanchi Array**	**58.53**	**314**	*e*P	**P**	**22 00 18.6**	**-0.4**
MKAR	**Makanchi Array**	**58.53**	**314**	*e*P	**P**	**22 00 19.6**	**+0.6**
MKAR				PcP	**PcP**	**22 01 08.4**	**+0.6**
MKAR	**Makanchi Array**	**58.53**	**314**	P	**P**	**22 00 19.6**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=91,slow=8.4,SNR=16						
MKAR				PcP	**PcP**	**22 01 08.4**	**+0.6**
	comp=Z,3.4nm,0.9s,baz=96,slow=4.9,SNR=7.6						
KURK	**Kurchatov**	**61.41**	**318**	*e*P	**P**	**22 00 38.2**	**-0.3**
	comp=Z,12nm,1.0s						
KURBB	**Kurchatov Arra**	**61.45**	**318**	P	**P**	**22 00 38.9**	**+0.2**
	comp=Z,4.9nm,0.6s,baz=95,slow=7.4,SNR=47						
KSH	**Kashi**	**62.80**	**306**	P	**P**	**22 00 50.6**	**+2.5**
KSH				pP	**PcP**	**22 01 23.8**	**-1.5**
KSH				PcP	pP	22 01 27.0	+4.0
KSH				sP	**sP**	**22 01 39.5**	**+0.6**
KSH				PP	**PP**	**22 03 11.4**	**+3.5**
KSH				ScP	**ScP**	**22 05 14.3**	**+0.6**
KSH				PcS	**PcS**	**22 05 29.6**	**+0.7**
KSH				S	**S**	**22 09 06.9**	**+1.0**
KSH				sS	**sS**	**22 10 05.6**	**-0.5**
KSH				ScS	**SKSac**	**22 10 25.4**	**-1.5**
KSH				SS	**SS**	**22 13 15.5**	**+2.2**
KSH				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KSH				pmax	pmax		
	comp=Z,130nm,6.9s						
KSH				LR	LR		
	comp=N,100nm,5.6s						
KSH				LR	LR		
	comp=E,78nm,7.7s						
KSH				LR	LR		
	comp=Z,380nm,9.4s						
AAK	**Ala-Archa**	**63.86**	**309**	*e*P	**P**	**22 00 54.4**	**-0.7**
ILAR	**Eielson Array**	**64.54**	**26**	P	**P**	**22 00 57.9**	**-1.1**
ILAR	**Eielson Array**	**64.54**	**26**	P	**P**	**22 00 57.9**	**-1.1**
	comp=Z,2.9nm,0.8s,baz=260,slow=4.5,SNR=15						
BVAR	**Borovoye Array**	**66.65**	**321**	P	**P**	**22 01 13.3**	**+0.7**
BVAR	**Borovoye Array**	**66.65**	**321**	P	**P**	**22 01 13.3**	**+0.7**
	comp=Z,21nm,0.9s,baz=93,slow=7.2,SNR=85						
BRVK	**Borovoye**	**66.71**	**321**	*e*P	**P**	**22 01 13.4**	**+0.4**
	comp=Z,32nm,1.0s						
KKAR	**Karatay Array**	**66.77**	**310**	*e*P	**P**	**22 01 14.4**	**+0.8**
KBL	**Kabul**	**68.73**	**301**	*e*P	**P**	**22 01 26.6**	**+0.3**
	comp=Z,6.0nm,1.1s						
INK	**Inuvik**	**70.26**	**23**	*e*P	**P**	**22 01 34.8**	**+0.1**
	comp=Z,5.0nm,0.8s						
INK	**Inuvik**	**70.26**	**23**	P	**P**	**22 01 34.8**	**+0.1**
	comp=Z,4.5nm,0.8s,baz=270,slow=7.2,SNR=10						
DLBC	**Dease Lake**	**72.21**	**33**	*e*P	**P**	**22 01 48.0**	**+1.3**
ARU	**Arti**	**73.30**	**325**	*e*P	**P**	**22 01 52.6**	**-0.5**
	comp=Z,21nm,1.0s						
PPT2	**Papeete2**	**73.35**	**115**	*e*LR	LR	22 24 23.7	
	comp=Z,264nm,23.0s,baz=297						
ABKAR	**Akbulak array**	**73.46**	**317**	*e*P	**P**	**22 01 53.9**	**-0.3**
AKTO	**Aktyubinsk**	**74.51**	**318**	P	**P**	**22 02 00.7**	**+0.4**
AKTO	**Aktyubinsk**	**74.51**	**318**	P	**P**	**22 02 00.7**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=75,slow=8.8,SNR=6.8						
YKA	**Yellowknife Ar**	**78.89**	**28**	P	**P**	**22 02 24.6**	**-0.1**
YKA	**Yellowknife Ar**	**78.89**	**28**	P	**P**	**22 02 24.5**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=291,slow=5.5,SNR=24						
MOD	**Modoc**	**81.55**	**49**	*e*P	**P**	**22 02 40.4**	**+0.9**
	comp=Z,11nm,1.3s						
NEW	**Newport**	**81.84**	**42**	*e*P	**P**	**22 02 41.1**	**+0.4**
	comp=Z,6.8nm,1.2s						
BMO	**Blue Mountains**	**82.76**	**45**	*e*P	**P**	**22 02 45.5**	**-0.2**
	comp=Z,13nm,1.5s						
BSMT	**Bassoo Peak**	**83.45**	**42**	*e*P	**P**	**22 02 50.0**	**+0.7**
NVAR	**Mina Array Bea**	**84.04**	**52**	P	**P**	**22 02 53.3**	**+0.7**
NVAR	**Mina Array Bea**	**84.04**	**52**	P	**P**	**22 02 53.3**	**+0.7**
	comp=Z,3.9nm,0.7s,baz=269,slow=5.6,SNR=14						
MFID	**Camas Ranch**	**84.23**	**46**	*e*P	**P**	**22 02 53.9**	**+0.6**
	comp=Z,10nm,1.1s						
ELK	**Elko**	**85.53**	**49**	*e*P	**P**	**22 03 01.0**	**+1.1**
	comp=Z,12nm,1.4s						
LRM	**Limekiln Ridge**	**85.66**	**43**	*e*P	**P**	**22 03 01.1**	**+0.6**
DUG	**Dugway**	**87.46**	**49**	*e*P	**P**	**22 03 10.2**	**+0.9**
	comp=Z,11nm,1.5s						
CCUT	**Cedar City**	**88.01**	**51**	*e*P	**P**	**22 03 13.5**	**+1.4**
	comp=Z,62nm,2.7s						
PDAR	**Pinedale Array**	**88.74**	**45**	LR	LR	22 40 36.8	
	comp=Z,86nm,20.4s,baz=146,slow=34						
WUAZ	**Wupatki**	**90.25**	**52**	*e*P	**P**	**22 03 23.9**	**+1.4**
	comp=Z,8.3nm,1.1s						
BRTR	**Keskin Array B**	**94.18**	**314**	P	**P**	**22 03 39.9**	**-0.7**
BRTR	**Keskin Array B**	**94.18**	**314**	P	**P**	**22 03 39.9**	**-0.7**
	comp=Z,4.0nm,1.1s,baz=103,slow=3.9,SNR=9.8						

PRU 17 21:57:43.5, 50.31N × 19.08E, h0km, Poland

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

GUR				S	**Sb**	**22 14 23.3**	**-0.1**
GUR	**Goura**	**0.71**	**117**	*e*PN	**Pb**	**22 14 13.7**	**-0.2**
GUR				*e*SN	**Sn**	**22 14 24.9**	**+0.3**
GUR	**Goura**	**0.71**	**117**	P	**Pb**	**22 14 13.7**	**-0.2**
GUR				S	**Sb**	**22 14 23.3**	**-0.1**
GUR				*e*Sn	**Sn**	**22 14 24.9**	**+0.3**
VLS	**Valsamata**	**0.75**	**264**	P	**Pb**	**22 14 14.2**	**-0.4**
VLS				S	**Sn**	**22 14 25.9**	**+0.3**
VLS	**Valsamata**	**0.75**	**264**	*e*PN	**Pb**	**22 14 14.1**	**-0.5**
VLS				*e*SN	**Sn**	**22 14 26.2**	**+0.6**
VLS	**Valsamata**	**0.75**	**264**	P	**Pb**	**22 14 14.2**	**-0.4**
VLS				S	**Sn**	**22 14 25.9**	**+0.3**
VLS				*e*Sn	**Sn**	**22 14 26.2**	**+0.6**
DSF	**Desfina**	**0.79**	**79**	P	**Pb**	**22 14 14.3**	**-1.0**
DSF				S	**Sn**	**22 14 26.6**	**+0.1**
DSF	**Desfina**	**0.79**	**79**	P	**Pb**	**22 14 14.3**	**-1.0**
DSF				S	**Sn**	**22 14 26.6**	**+0.1**

IDC 17 22:18:51.8±1.9,4°**12N**×**126°43E, h0**km**, mb3.7/5, mb1 3.9/5, mb1mx3.6**/20**, mbtmp3.8**/5**, Error ellipse: s-maj=106.5km s-min=25.9km az=68.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.09**	**182**	P	P	22 23 49.0	+0.2
	4.1nm,1.1s,baz=359,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**25.14**	**162**	P	P	22 24 18.7	-0.2
	2.7nm,0.7s,baz=340,slow=11,SNR=21						
ASAR	**Alice Springs**	**28.56**	**166**	P	P	22 24 49.6	-0.1
	0.2nm,0.4s,baz=347,slow=7.6,SNR=4.5						
STKA	**Stephens Creek**	**38.60**	**159**	P	P	22 26 16.5	-0.2
	1.6nm,0.6s,baz=330,slow=8.9,SNR=5.6						
MKAR	**Makanchi Array**	**57.07**	**325**	P	P	22 28 40.0	+0.1
	0.2nm,0.3s,baz=122,slow=8.1,SNR=3.6						

IDC 17 22:44:06.0±2.8,0°**14S**×**133°31E, h0**km**, mb3.2/2, mb1 3.5/3, mb1mx3.3**/17**, mbtmp3.3**/3**, ML3.2**/1**, Error ellipse: s-maj=136.6km s-min=28.3km az=74.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.71**	**177**	P	P	22 48 36.0	-1.2
	0.1nm,0.3s,baz=356,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**23.39**	**179**	P	P	22 49 17.4	+0.7
	0.4nm,0.6s,baz=353,slow=7.0,SNR=4.4						
MKAR	**Makanchi Array**	**64.51**	**324**	P	P	22 54 44.9	+0.1
	0.1nm,0.4s,baz=115,slow=8.3,SNR=5.1						

JMA 17 22:44:43.1, 35°66N×**136°31E, h10**km±1km**, M2.5, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFM	**Mihama**	**0.30**	**244**	P	Pg	22 44 49.2	+0.1
JFM				S	Sg	22 44 53.3	+0.2
JGM	**Miyama**	**0.34**	**83**	P	Pg	22 44 49.7	-0.1
JGM				*e*S	Sg	22 44 54.2	-0.2
JWT	**Wachi**	**0.83**	**243**	P	Pg	22 44 58.9	-0.3
JWT				S	Sg	22 45 09.5	-0.5
TSUJ	**Tsu 2**	**0.95**	**175**	P	Pg	22 45 01.0	-0.4
TSUJ				S	Sg	22 45 13.6	-0.2
MAT	**Matsushiro**	**1.77**	**60**	P	Pb	22 45 14.8	-0.9
MAT				S	Sg	22 45 40.1	-0.1

DDA 17 22:49:55.7, 37°70N×35°61E, h8km, MD3.1
ISK 17 22:49:56.8, 37°69N×35°59E, h4km, MD3.0
ISCJB 17 22:49:57.4±0.5, 37°67N±0°03×35°56E±0°03, h10km±5km, Error ellipse: s-maj=5.0km s-min=3.6km az=28.8
CSEM 17 22:49:57.9±0.2, 37°66N×35°53E, h15km, MD3.0, Error ellipse: s-maj=6.2km s-min=4.9km az=32.0

ISC 17 22:49:56.9±1.1**, 37°68N**±0°02×**35°59E**±0°02**, h12**km±9km**, n44**, σ0**98**/64**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.28**	**136**	*e*PG	**Pg**	**22 50 03.1**	**+0.4**
KOZT				*e*SG	**Sb**	**22 50 07.5**	**-1.0**
KOZT	**Kozan**	**0.28**	**136**	*e*Pg	**Pg**	**22 50 03.1**	**+0.4**
KOZT				*e*Sg	**Sb**	**22 50 07.5**	**-1.0**
ANDN	**Andirin**	**0.61**	**99**	*i* P	**Pn**	**22 50 12.4**	**+0.9**
ANDN				*i* S	**Sn**	**22 50 20.6**	**-0.8**
ANDN	**Andirin**	**0.61**	**99**	*i* P	**Pn**	**22 50 12.4**	**+0.9**
ANDN				*i* S	**Sn**	**22 50 20.6**	**-0.8**
CEYT	**Ceyhan**	**0.68**	**169**	*e*PG	**Pb**	**22 50 11.0**	**+0.3**
CEYT				*e*SG	**Sb**	**22 50 21.2**	**+1.1**
CEYT	**Ceyhan**	**0.68**	**169**	*e*Pg	**Pb**	**22 50 11.0**	**+0.3**
CEYT				*e*Sg	**Sb**	**22 50 21.2**	**+1.1**
GULE	**Gulek**	**0.76**	**239**	*i* P	**Pg**	**22 50 11.2**	**-0.4**
GULE				*i* S	**Sb**	**22 50 22.8**	**+0.3**
GULE	**Gulek**	**0.76**	**239**	*i* P	**Pg**	**22 50 11.2**	**-0.4**
GULE				*i* S	**Sb**	**22 50 22.8**	**+0.3**
NIG	**Nigde**	**0.88**	**299**	*e*PG	**Pg**	**22 50 14.2**	**+0.2**
NIG				*e*SG	**Sb**	**22 50 26.7**	**+0.5**
NIG	**Nigde**	**0.88**	**299**	*e*Pg	**Pg**	**22 50 14.2**	**+0.2**
NIG				*e*Sg	**Sb**	**22 50 26.7**	**+0.5**
KMRS	**Kahramanmaras**	**1.06**	**99**	*e*PG	**Pg**	**22 50 17.1**	**-0.2**
KMRS	**Kahramanmaras**	**1.06**	**99**	*e*Pg	**Pg**	**22 50 17.1**	**-0.2**
KRTS	**Karatas**	**1.12**	**189**	*e*PN	**Pn**	**22 50 18.6**	**+0.2**
KRTS	**Karatas**	**1.12**	**189**	*e*Pn	**Pn**	**22 50 18.6**	**+0.2**
MERS	**Mersin**	**1.18**	**227**	*e*PN	**Pb**	**22 50 19.0**	**-0.2**
MERS	**Mersin**	**1.18**	**227**	*e*Pn	**Pb**	**22 50 19.0**	**-0.2**
PINB	**Pinarbasi**	**1.18**	**33**	*i* P	**Pb**	**22 50 18.4**	**-1.1**
PINB				*i* S	**Sb**	**22 50 34.4**	**-0.5**
PINB	**Pinarbasi**	**1.18**	**33**	*i* P	**Pb**	**22 50 18.4**	**-1.1**
PINB				*i* S	**Sb**	**22 50 34.4**	**-0.5**
BNN	**Bunyan**	**1.19**	**10**	*e*PN	**Pg**	**22 50 20.3**	**+0.5**
BNN	**Bunyan**	**1.19**	**10**	*e*Pn	**Pg**	**22 50 20.3**	**+0.5**
AVNT	**Avonos**	**1.24**	**333**	*i* P	**Pn**	**22 50 19.8**	**-0.4**
AVNT				*i* S	**Sb**	**22 50 35.3**	**-1.0**
AVNT	**Avonos**	**1.24**	**333**	*i* P	**Pn**	**22 50 19.8**	**-0.4**
AVNT				*i* S	**Sb**	**22 50 35.3**	**-1.0**
GAZ	**Gaziantep**	**1.39**	**111**	*e*PN	**Pg**	**22 50 23.5**	**-0.2**
GAZ	**Gaziantep**	**1.39**	**111**	*e*Pn	**Pg**	**22 50 23.5**	**-0.2**
KUZU	**Kuzuini**	**1.50**	**127**	*i* P	**Pn**	**22 50 24.0**	**+0.4**
KUZU				*i* S	**Sn**	**22 50 41.8**	**-1.3**
KUZU	**Kuzuini**	**1.50**	**127**	*i* P	**Pn**	**22 50 24.0**	**+0.4**
KUZU				*i* S	**Sn**	**22 50 41.8**	**-1.3**
GZT	**Gaziantep**	**1.61**	**101**	*i* P	**Pb**	**22 50 26.5**	**-0.1**
GZT				*i* S	**Sn**	**22 50 45.8**	**-0.2**
SULT	**Sultanhani-AKS**	**1.72**	**288**	*e*PN	**Pn**	**22 50 27.7**	**+1.0**
SULT	**Sultanhani-AKS**	**1.72**	**288**	*e*Pn	**Pn**	**22 50 27.7**	**+1.0**
AKCD	**Akcadag**	**1.94**	**71**	*i* P	**Pb**	**22 50 33.3**	**+0.9**
AKCD				*i* S	**Sg**	**22 50 58.3**	**-1.2**
AKCD	**Akcadag**	**1.94**	**71**	*i* P	**Pb**	**22 50 33.3**	**+0.9**
AKCD				*i* S	**Sg**	**22 50 58.3**	**-1.2**
YOZ	**Yozgat**	**1.97**	**354**	*e*PN	**Pb**	**22 50 32.0**	**-0.8**
YOZ	**Yozgat**	**1.97**	**354**	*e*Pn	**Pb**	**22 50 32.0**	**-0.8**
DARE	**Darende-Malaty**	**2.16**	**53**	*e*PN	Pn	22 50 28.3	-4.5
CDAG	**Cicekdag**	**2.16**	**334**	*i* P	**Pn**	**22 50 33.0**	**+0.2**
CDAG				*i* S	**Sb**	**22 51 03.9**	**+1.1**
CDAG	**Cicekdag**	**2.16**	**334**	*i* P	**Pn**	**22 50 33.0**	**+0.2**
CDAG				*i* S	**Sb**	**22 51 03.9**	**+1.1**
MALT	**Malatya**	**2.33**	**73**	*e*PN	**Pn**	**22 50 37.1**	**+1.9**
MALT	**Malatya**	**2.33**	**73**	*e*Pn	**Pn**	**22 50 37.1**	**+1.9**
CORM	**Corum**	**2.60**	**344**	*e*PN	**Pn**	**22 50 40.7**	**+1.8**
CORM	**Corum**	**2.60**	**344**	*e*Pn	**Pn**	**22 50 40.7**	**+1.8**
AFSR	**Afˇar-Bala (A**	**2.64**	**313**	*e*PN	**Pn**	**22 50 41.3**	**+1.8**
AFSR	**Afˇar-Bala (A**	**2.64**	**313**	*e*Pn	**Pn**	**22 50 41.3**	**+1.8**
ILIC	**ilic-Erzincan**	**2.93**	**52**	*e*PN	**Pn**	**22 50 45.5**	**+2.1**
ILIC	**ilic-Erzincan**	**2.93**	**52**	*e*Pn	**Pn**	**22 50 45.5**	**+2.1**

THE 17 22:55:43.2, 33°68N×22°76E, h16km±18km, Error ellipse: s-maj=24.5km s-min=1.5km az=222.0
IDC 17 22:55:46.8±1.4, 33°99N×23°50E, h0km, mb3.9/5, mb1 3.8/7, mb1mx3.5/28, mbtmp3.7/7, ML3.2/2, Error ellipse: s-maj=38.0km s-min=23.9km az=144.0

ISC 17 22:55:47.0±3.3**, 33°9N**±0°1×**23°20E**±0°10**, h2**km±19km**, n13, σ1**877**/18, mb4.0/5, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**1.19**	**38**	P	**Pb**	**22 56 09.2**	**-1.1**
GVD				S	**Sn**	**22 56 30.5**	**+3.1**
KARN	**Karanos**	**1.61**	**21**	P	**Pn**	**22 56 15.2**	**-1.3**
KARN				S	**Sg**	**22 56 39.7**	**+1.0**
VAM	**Vamos**	**1.71**	**28**	P	**Pn**	**22 56 16.9**	**-1.0**
VAM				S	**Sg**	**22 56 42.6**	**+0.5**
SIVA	**Sivas**	**1.73**	**50**	P	**Pn**	**22 56 17.3**	**-0.8**
SIVA				S	**Sg**	**22 56 44.2**	**+1.4**
LAST	**Lasithi**	**2.26**	**56**	P	**Pn**	**22 56 25.2**	**-0.3**
LAST				S	**Sb**	**22 56 58.0**	**+0.9**
NPS	**Neapolis**	**2.41**	**55**	P	**Pn**	**22 56 27.3**	**-0.1**
BRTR	**Keskin Array B**	**10.19**	**52**	Pn	**Pn**	**22 58 12.7**	**-1.6**
	0.0nm,0.3s,baz=232,slow=14,SNR=3.7						
GERES	**GERESS Array B**	**16.52**	**337**	Pn	**P**	**22 59 43.7**	**+1.1**
	0.1nm,0.3s,baz=150,slow=12,SNR=6.0						
HFS	**Hagfors**	**26.97**	**350**	P	**P**	**23 01 29.2**	**-0.6**
	3.1nm,0.9s,baz=144,slow=13,SNR=5.7						
TORD	**Torodi Ar. Bea**	**28.44**	**229**	P	**P**	**23 01 45.8**	**+2.5**
	0.2nm,0.5s,baz=36,slow=7.9,SNR=5.4						
KURBB	**Kurchatov Arra**	**43.17**	**50**	P	**P**	**23 03 47.2**	**-1.8**
	2.1nm,0.7s,baz=278,slow=8.5,SNR=24						
MKAR	**Makanchi Array**	**45.82**	**55**	P	**P**	**23 04 08.7**	**-1.6**
	1.8nm,0.7s,baz=280,slow=6.0,SNR=31						
ZALV	**Zalesovo Beam**	**47.04**	**45**	P	**P**	**23 04 16.6**	**-3.1**
	0.6nm,0.6s,baz=265,slow=8.9,SNR=5.8						

IDC 17 23:04:23.5±2.0**, 3°83N**×**126°90E, h0**km**, mb3.4/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, MS3.8/1, Ms1 3.8/1, ms1mx2.6/25, Error ellipse: s-maj=166.7km s-min=25.8km az=65.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.73**	**163**	P	P	23 09 45.7	-1.1
	0.7nm,0.6s,baz=342,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**28.17**	**166**	P	P	23 10 19.4	+1.5
	0.1nm,0.3s,baz=339,slow=8.9,SNR=3.5						
STKA	**Stephens Creek**	**38.16**	**160**	P	P	23 11 44.1	-0.7
	1.6nm,0.8s,baz=312,slow=10,SNR=3.0						
DZM	**Mont Dzumac**	**46.46**	**125**	LR	LR	23 29 49.1	
	comp=Z,120nm,20.5s,baz=218,slow=33						
MKAR	**Makanchi Array**	**57.57**	**325**	P	P	23 14 15.1	-0.1
	0.2nm,0.5s,baz=113,slow=7.3,SNR=5.2						

IDC 17 23:08:59.1±0.8, 2°83S×139°31E, h0km, mb4.0/8, mb1 4.2/11, mb1mx4.1/17, mbtmp4.0/11, ML3.8/3, MS3.9/17, Ms1 3.9/17, ms1mx3.6/33, Error ellipse: s-maj=28.2km s-min=13.1km az=90.0
ISCJB 17 23:09:03.7±0.4, 2°96S±0°04×139°34E±0°05, h46km, mb4.1/11, MS3.9/13, Error ellipse: s-maj=7.4km s-min=5.7km az=7.0
NEIC 17 23:09:04.2±0.5, 2°89S×139°35E, h35km, mb4.2/7, Error ellipse: s-maj=14.3km s-min=7.7km az=76.0
DJA 17 23:09:06.0±1.0, 3°S±5°×13°9E±°, h25km±21km, M4.6/3, MLv4.6/3

ISC 17 23:09:04.8±0.5**, 3°00S**±0°05×**139°38E**±0°05**, h46**km**, n61, σ1**98**/51, mb4.0/11, MS3.8/13, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WAMI	**Wamena**	**1.10**	**217**	P	Pn	23 09 28.8	+4.9
SMPI	**Sarmi**	**1.21**	**326**	P	**Pn**	**23 09 22.3**	**-3.1**
SMPI				S	**Sn**	**23 09 41.7**	**+1.1**
JAY	**Jayapura**	**1.41**	**70**	P	**Pn**	**23 09 27.2**	**-0.9**
JAY				S	**Sn**	**23 09 46.3**	**+0.8**
BAKI	**Biak**	**3.74**	**299**	P	**Pn**	**23 10 01.5**	**+1.5**
PMG	**Port Moresby**	**10.01**	**130**	Pn	**Pn**	**23 11 25.0**	**-1.1**
PMG	**Port Moresby**	**10.01**	**130**	Pn	**Pn**	**23 11 25.0**	**-1.1**
	1.4nm,0.3s,baz=279,slow=13,SNR=2.5						
COEN	**Coen**	**11.51**	**161**	*e*Pn	**Pn**	**23 11 48.5**	**+1.8**
	78nm,0.8s						
COEN				*e*Sn	**Sn**	**23 13 53.4**	**-0.6**
COEN	**Coen**	**11.51**	**161**	*e*P	**Pn**	**23 11 49.6**	**+2.9**
	41nm,0.6s						
DAV	**Davao City (W)**	**17.03**	**306**	LR	LR	23 19 54.8	
	comp=Z,116nm,19.7s,baz=242,slow=39						
GUMO	**Guam**	**17.36**	**18**	LR	LR	23 19 25.6	
	comp=Z,162nm,18.8s,baz=141,slow=36						
QIS	**Mount Isa**	**17.45**	**179**	*e*P	**P**	**23 13 06.6**	**+0.8**
WRAB	**Tennant Creek**	**17.53**	**196**	*e*Pn	**P**	**23 13 06.9**	**+0.2**
	44nm,0.8s						
WRAB				*e*Sn	**Sn**	**23 16 19.6**	**-0.9**
WRA	**Warramunga Arr**	**17.54**	**196**	P	**Pn**	**23 13 05.4**	**-0.8**
WRA				S	**Sn**	**23 16 15.2**	**-5.5**
WRA	**Warramunga Arr**	**17.54**	**196**	P	**Pn**	**23 13 05.4**	**-0.8**
	0.5nm,0.3s,baz=18,slow=12,SNR=26						
WRA				S	**Sn**	**23 16 15.2**	**-5.5**
	0.1nm,0.3s,baz=11,slow=22,SNR=5.7						
WRA				LR	LR	23 20 32.7	
	comp=Z,801nm,18.3s,baz=25,slow=39						
CTA	**Charters Tower**	**18.26**	**159**	P	**Pn**	**23 13 17.3**	**+2.3**
CTA	**Charters Tower**	**18.26**	**159**	*e*P	**Pn**	**23 13 17.7**	**+2.8**
	4.0nm,0.6s						
CTA	**Charters Tower**	**18.26**	**159**	P	**Pn**	**23 13 17.3**	**+2.3**
	0.2nm,0.3s,baz=333,slow=9.0,SNR=2.4						
CTA				LR	LR	23 20 46.3	
	comp=Z,417nm,21.1s,baz=126,slow=38						
CTAO	**Charters Tower**	**18.26**	**159**	*e*Pn	**Pn**	**23 13 17.4**	**+2.5**
	16nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.17**	**221**	*e*P	**P**	**23 13 35.7**	**+0.2**
	18nm,0.9s						
FITZ				*e*S	**S**	**23 17 15.0**	**-4.7**
FITZ	**Fitzroy Crossi**	**20.17**	**221**	*e*P	**P**	**23 13 35.8**	**+0.2**
	31nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.17**	**221**	P	**P**	**23 13 34.5**	**-1.0**
	8.1nm,0.9s,baz=45,slow=12,SNR=8.4						
FITZ				LR	LR	23 22 13.7	
	comp=Z,436nm,18.2s,baz=29,slow=39						
AS31	**Alice Springs**	**21.21**	**194**	*e*P	**P**	**23 13 48.2**	**+1.3**
AS31				*e*S	**S**	**23 17 42.7**	**+2.3**
ASAR	**Alice Springs**	**21.22**	**194**	P	**P**	**23 13 48.4**	**+1.5**
ASAR				S	Sn	23 17 47.9	-1.4
ASAR	**Alice Springs**	**21.22**	**194**	P	**P**	**23 13 48.4**	**+1.5**
	5.7nm,0.7s,baz=22,slow=10,SNR=30						
ASAR				S	Sn	23 17 47.9	-1.4
	5.5nm,1.0s,baz=11,slow=26,SNR=6.2						
QLP	**Quilpie**	**23.90**	**169**	*e*P	P	23 14 20.2	+5.7
EIDS	**Eidsvold**	**24.93**	**154**	*e*P	P	23 14 29.3	+5.5
	33nm,0.7s						
MBWA	**Marble Bar**	**26.30**	**225**	*e*P	**P**	**23 14 38.9**	**+2.6**
	12nm,0.8s						
MBWA	**Marble Bar**	**26.30**	**225**	*e*P	**P**	**23 14 38.7**	**+2.4**
STKA	**Stephens Creek**	**28.80**	**176**	*e*P	**P**	**23 15 00.2**	**+1.6**
	1.3nm,0.9s						
STKA	**Stephens Creek**	**28.80**	**176**	P	**P**	**23 15 01.2**	**+2.6**
	1.6nm,0.8s,baz=8.2,slow=9.3,SNR=3.4						
STKA				LR	LR	23 27 51.5	
	comp=Z,439nm,18.7s,baz=159,slow=39						
CMSA	**Cobar Meteorol**	**29.00**	**169**	*e*P	P	23 15 06.1	+5.7
	24nm,0.9s						
CBIJ	**Chichi jima**	**30.04**	**5**	LR	LR	23 26 22.1	
	comp=Z,113nm,18.1s,baz=302,slow=35						
JOW	**Kunigami**	**31.54**	**341**	LR	LR	23 26 04.5	
	comp=Z,138nm,20.9s,baz=213,slow=33						
JHJ	**Hachijo jima 2**	**35.93**	**1**	LR	LR	23 28 29.3	
	comp=Z,144nm,19.5s,baz=267,slow=33						
NWAO	**Narrogin (SRO)**	**36.29**	**212**	LR	LR	23 32 23.3	
	comp=Z,589nm,18.4s,baz=8.9,slow=39						
JNU	**Nakatsue**	**36.82**	**348**	LR	LR	23 28 19.7	
	comp=Z,127nm,19.2s,baz=250,slow=32						
MJAR	**Matsushiro Arr**	**39.35**	**359**	LR	LR	23 30 41.7	
	comp=Z,72nm,21.3s,baz=290,slow=33						
KSRS	**Korea Array**	**41.64**	**346**	LR	LR	23 31 38.1	
	comp=Z,75nm,18.4s,baz=356,slow=33						
CMAR	**Chiang Mai Arr**	**45.17**	**300**	P	**P**	**23 17 18.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**45.17**	**300**	P	**P**	**23 17 18.2**	**+0.8**
	0.6nm,0.3s,baz=128,slow=6.8,SNR=4.6						
ASAJ	**Asahikawa**	**46.99**	**3**	LR	LR	23 36 03.6	
	comp=Z,76nm,18.8s,baz=227,slow=35						
AFI	**Afiamalu**	**49.41**	**106**	LR	LR	23 35 43.0	
	comp=Z,175nm,18.1s,baz=28,slow=32						
PETK	**Petropavlovsk-**	**57.99**	**13**	LR	LR	23 39 32.6	
	comp=Z,132nm,19.6s,baz=213,slow=32						
ULN	**Ulaanbaatar**	**58.01**	**335**	P	**P**	**23 18 52.4**	**-0.8**
DRV	**Dumont d'Urvil**	**63.54**	**180**	R		23 20 00.0	
MK31	**Makanchi Array**	**70.43**	**322**	*e*P	**P**	**23 20 14.4**	**0.0**
MKAR	**Makanchi Array**	**70.43**	**322**	P	**P**	**23 20 14.5**	**0.0**
MKAR	**Makanchi Array**	**70.43**	**322**	P	**P**	**23 20 14.5**	**0.0**
	0.3nm,0.4s,baz=110,slow=7.8,SNR=11						
ZALV	**Zalesovo Beam**	**72.53**	**330**	P	**P**	**23 20 25.8**	**-1.1**
ZALV	**Zalesovo Beam**	**72.53**	**330**	P	**P**	**23 20 25.8**	**-1.1**
	0.4nm,0.5s,baz=96,slow=6.4,SNR=3.0						
KURK	**Kurchatov**	**74.34**	**325**	*e*P	**P**	**23 20 37.2**	**-0.4**
	1.5nm,0.8s						
KDAK	**Kodiak Island**	**81.01**	**30**	LR	LR	23 56 14.8	
	comp=Z,155nm,18.1s,baz=258,slow=35						
ABKAR	**Akbulak array**	**85.38**	**320**	*e*P	**P**	**23 21 36.7**	**-0.6**
	1.4nm,0.8s						
ILAR	**Eielson Array**	**85.82**	**24**	P	**P**	**23 21 38.9**	**-0.4**
ILAR	**Eielson Array**	**85.82**	**24**	P	**P**	**23 21 38.9**	**-0.4**
	1.0nm,0.9s,baz=272,slow=4.8,SNR=6.6						
YKA	**Yellowknife Ar**	**100.02**	**27**	P	**Pdif**	**23 22 47.2**	**+2.3**
YKA	**Yellowknife Ar**	**100.02**	**27**	P	**Pdif**	**23 22 47.2**	**+2.3**
	0.1nm,0.7s,baz=268,slow=4.0,SNR=3.7						
DBIC	**Dimbokro**	**144.19**	**277**	PKP	**PKPdf**	**23 28 36.2**	**-0.6**
DBIC	**Dimbokro**	**144.19**	**277**	PKP	**PKPdf**	**23 28 36.2**	**-0.6**
	2.9nm,0.9s,baz=90,slow=5.3,SNR=4.3						
LPAZ	**La Paz**	**146.73**	**126**	PKPbc	**PKPab**	**23 28 45.2**	**+0.4**
LPAZ	**La Paz**	**146.73**	**126**	PKPbc	**PKPab**	**23 28 45.2**	**+0.4**
	0.4nm,0.5s,baz=324,slow=8.7,SNR=2.3						

IDC 17 23:32:29.8±0.6, 3°65N×126°57E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.2/21, mbtmp4.2/15, MS3.7/15, Ms1 3.7/15, ms1mx3.4/42, Error ellipse: s-maj=36.9km s-min=12.9km az=73.0
NEIC 17 23:32:33.9±2.9, 3°73N×126°72E, h30km±21km, mb4.4/11, Error ellipse: s-maj=16.0km s-min=5.7km az=76.0
DJA 17 23:32:33.4°02N×126°90E, h10km, MLv4.8/7
ISCJB 17 23:32:34.8±0.3, 3°75N±0°04×126°81E±0°07, h53km, mb4.3/26, MS3.7/14, Error ellipse: s-maj=11.0km s-min=4.5km az=161.8
MAN 17 23:33:19, 6°48N×125°33E, h32km, mb4.5, ML3.4, MS3.3

ISC 17 23:32:36.9±0.5**, 3°69N**±0°06×**126°7E**±0°1**, h53**km**, n79, σ1**01**/70, mb4.3/26, MS3.6/14, 1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**2.90**	**220**	P	**Pn**	**23 33 23.0**	**+2.4**
MNI				S	Sn	23 34 05.4	+11
TNTI	**Ternate**	**2.98**	**167**	P	**Pn**	**23 33 23.2**	**+1.5**
DAV	**Davao City (W)**	**3.53**	**342**	*e*Pn	Pn	23 33 25.1	-4.2
DAV				*e*Sn	**Sn**	**23 34 08.3**	**-1.5**
DAV	**Davao City (W)**	**3.53**	**342**	LR	LR	23 35 05.5	
	comp=Z,1µm,19.8s,baz=185,slow=44						
DMPH	**Davao City--Mi**	**3.57**	**341**	*e*P	**Pn**	**23 33 32.5**	**+2.7**
DMPH				*e*S	Sn	23 34 37.0	+26
CTBH	**Cotabato--PC H**	**4.26**	**325**	↑ *i* P	**Pn**	**23 33 42.0**	**+2.7**
LBMI	**Labuha**	**4.38**	**169**	P	Pn	23 33 45.0	+4.1
BUKP	**Musuan**	**4.46**	**339**	*e*P	**Pn**	**23 33 44.3**	**+2.2**
BUKP				*e*S	Px	23 34 00.8	
PAGZ	**Pagadian**	**5.28**	**322**	*e*P	**Pn**	**23 33 54.4**	**+1.2**
PAGZ				*e*S	Px	23 34 06.2	
MRSI	**Marisa**	**5.72**	**236**	P	Pn	23 34 03.6	+4.3
	126nm,0.8s,1µm0.4nm						
LUWI	**Luwuk**	**6.12**	**220**	P	Pn	23 34 12.0	+7.2
	152nm,1.0s,30µm0.6nm						
SWI	**Sorong**	**6.43**	**135**	P	**Pn**	**23 34 08.7**	**-0.4**
	79nm,0.5s,0.3nm						
NLAI	**Namlea**	**6.90**	**177**	P	**Pn**	**23 34 17.4**	**+1.9**
KAPI	**Kappang**	**11.08**	**219**	Pn	Pn	**23 35 13.0**	**+0.2**
KAPI	**Kappang**	**11.08**	**219**	Pn	**Pn**	**23 35 13.0**	**+0.2**
	0.5nm,0.3s,baz=50,slow=10.0,SNR=2.1						
SSLB	**Suanglung**	**20.73**	**345**	*e*P	**P**	**23 37 12.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**21.68**	**183**	*e*P	**P**	**23 37 23.1**	**-0.3**
	6.9nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.68**	**183**	*e*P	**P**	**23 37 22.9**	**-0.5**
	13nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.68**	**183**	P	**P**	**23 37 22.8**	**-0.5**
	9.7nm,0.9s,baz=47,slow=6.1,SNR=8.2						
JOW	**Kunigami**	**23.06**	**4**	LR	LR	23 46 28.5	
	comp=Z,187nm,21.1s,baz=153,slow=36						
WRAB	**Tennant Creek**	**24.66**	**162**	*e*P	**P**	**23 37 51.9**	**-0.9**
	16nm,0.7s						
WRA	**Warramunga Arr**	**24.66**	**163**	P	**P**	**23 37 52.1**	**-0.8**
WRA	**Warramunga Arr**	**24.66**

ILAR Eielson Array 85.15 25 P P 23 45 08.8 +1.6
0.4nm,0.6s,baz=254,slow=4.9,SNR=5.7
BRTR Keskin Array B 90.01 310 P P 23 45 30.9 -0.4
BRTR Keskin Array B 90.01 310 P P 23 45 30.9 -0.4
0.7nm,0.9s,baz=149,slow=6.7,SNR=5.2
ARCES ARCESS Array B 90.47 340 P P 23 45 32.1 -0.5
ARCES ARCESS Array B 90.47 340 P P 23 45 32.1 -0.5
1.1nm,0.7s,baz=82,slow=8.7,SNR=6.1
FINES FINESS Array B 91.84 332 P P 23 45 39.5 +0.5
FINES FINESS Array B 91.84 332 P P 23 45 39.5 +0.5
2.0nm,0.8s,baz=328,slow=4.9,SNR=4.0
NOA NORSAR Array B 98.80 334 LR LR 00 32 38.7
comp=Z,75nm,18.5s,baz=75,slow=36
TORD Torodi Ar. Bea 122.89 288 PKP **PKPdf** 23 51 28.9 +0.6
TORD Torodi Ar. Bea 122.89 288 PKP **PKPdf** 23 51 28.9 +0.6
0.5nm,0.7s,baz=54,slow=2.3,SNR=5.0

IDC 17 23:35:16.5±3.2, 30.01S×178.16W, h0km, mb4.1/3, mb1 4.2/3, mb1mx4.0/15, mbtmp4.1/3, Error ellipse: s-maj=201.4km s-min=36.8km az=161.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**34.43**	**256**	P		P	23 42 05.8	+0.1
	2.5nm,0.7s,baz=90,slow=7.1,SNR=3.1							
ASAR	**Alice Springs**	**42.99**	**267**	P		P	23 43 17.4	-0.4
	0.7nm,0.4s,baz=102,slow=7.1,SNR=5.8							
WRA	**Warramunga Arr**	**43.94**	**272**	P		P	23 43 25.4	-0.1
	1.1nm,0.3s,baz=110,slow=8.1,SNR=26							
FINES	**FINESS Array B**	**144.74**	**340**	PKP		PKPbc	23 54 53.7	+0.3
	2.7nm,0.5s,baz=53,slow=3.8,SNR=25							
HFS	**Hagfors**	**148.84**	**349**	PKPbc		PKPbc	23 55 04.7	-0.7
	1.9nm,0.8s,baz=102,slow=5.0,SNR=5.1							
AKASG	**Malin Array Be**	**150.91**	**323**	PKPbc		PKPbc	23 55 10.8	0.0
	0.8nm,0.5s,baz=49,slow=2.5,SNR=4.2							
MMAI	**Mount Meron Ar**	**151.30**	**285**	PKPbc		PKPbc	23 55 12.2	-0.1
	4.5nm,1.0s,baz=71,slow=6.6,SNR=4.7							
BRTR	**Keskin Array B**	**152.29**	**299**	PKPbc		PKPbc	23 55 14.1	-0.4
	0.4nm,0.6s,baz=134,slow=4.8,SNR=4.6							

KRSC 18 00:02:16.7±0.7, 53.67N×160.26E, h62km±61km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.59**	**194**	*e*P		Pn	00 02 31.3	+1.5
SPN				*i* S		Sn	00 02 41.5	+2.2
NLC	**Nalytchevo**	**0.74**	**228**	*e*P		Pn	00 02 32.6	+1.1
NLC				*i* S		Sn	00 02 44.5	+2.1
SDLR	**Sedlovina**	**0.91**	**245**	*e*P		Pn	00 02 35.0	+1.2
SDLR				*i* S		Sn	00 02 48.5	+2.0
SMAR	**Somma**	**0.96**	**246**	*e*P		Pn	00 02 35.6	+1.0
SMAR				*i* S		Sn	00 02 49.6	+1.7
UGLR	**Uglovaya**	**0.97**	**242**	*e*P		Pn	00 02 35.9	+1.3
UGLR				*i* S		Sn	00 02 50.1	+2.2
AVH	**Avacha**	**1.00**	**247**	*e*P		Pn	00 02 36.3	+1.4
AVH				*i* S		Sn	00 02 51.0	+2.7
KOK	**Koryaka**	**1.04**	**249**	*e*P		Pn	00 02 36.6	+1.1
KOK				*i* S		Sn	00 02 51.3	+1.9
PET	**Petropavlovsk**	**1.16**	**237**	*e*P		Pn	00 02 37.9	+1.0
PET				*i* S		Sn	00 02 53.7	+1.8
MKZ	**Mys Kozlova**	**1.24**	**44**	*e*P		Pn	00 02 39.6	+1.7
MKZ				*i* S		Sn	00 02 56.6	+2.8
TUMR	**Tumrok**	**1.62**	**358**	*e*P		Pn	00 02 45.5	+2.3
TUMR				*i* S		Sn	00 03 06.1	+3.0
RUS	**Russkaya**	**1.63**	**221**	*e*P		Pn	00 02 43.7	+0.6
RUS				*i* S		Sn	00 03 03.6	+0.6
MTVR	**Mutnovka**	**1.73**	**227**	*e*P		Pn	00 02 45.9	+1.2
MTVR				*i* S		Sn	00 03 07.4	+1.6
ASAK	**Asacha**	**1.92**	**229**	*e*P		Pn	00 02 49.2	+2.0
ASAK				*i* S		Sn	00 03 13.3	+2.9
APC	**Apacha**	**2.01**	**249**	*e*P		Pn	00 02 49.1	+0.9
KPT	**Kopyto**	**2.30**	**359**	P		Pn	00 02 55.1	+2.7
ESO	**Esso**	**2.43**	**339**	*e*P		Pn	00 02 55.3	+1.2

IDC 18 00:05:35.5±13.0, 46.31N×149.66E, h244km±132km, mb2.9/9, mb1 3.2/9, mb1mx3.0/25, mbtmp2.9/9, Error ellipse: s-maj=24.2km s-min=20.0km az=133.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ILAR	**Eielson Array**	**38.38**	**38**	P		P	00 12 33.1	+0.2
	0.2nm,0.6s,baz=264,slow=9.0,SNR=3.2							
MKAR	**Makanchi Array**	**45.01**	**296**	P		P	00 13 27.3	+0.6
	0.3nm,0.6s,baz=66,slow=7.6,SNR=4.4							
KURBB	**Kurchatov Arra**	**45.70**	**303**	P		P	00 13 31.5	-0.4
	1.3nm,1.0s,baz=70,slow=8.7,SNR=4.2							
YKA	**Yellowknife Ar**	**52.69**	**36**	P		P	00 14 23.8	-0.7
	0.2nm,0.5s,baz=300,slow=6.6,SNR=3.8							
FINES	**FINESS Array B**	**63.40**	**333**	P		P	00 15 37.8	-0.8
	1.7nm,0.6s,baz=38,slow=9.6,SNR=9.7							
WRA	**Warramunga Arr**	**67.38**	**196**	P		P	00 16 04.5	0.0
	0.5nm,1.0s,baz=14,slow=6.8,SNR=3.6							
NOA	**NORSAR Array B**	**67.84**	**340**	P		P	00 16 07.9	+0.9
	1.0nm,0.7s,baz=29,slow=6.5,SNR=5.9							
ASAR	**Alice Springs**	**71.09**	**195**	P		P	00 16 27.0	-0.1
	0.4nm,0.5s,baz=12,slow=6.2,SNR=4.1							
TXAR	**Lajitas Array**	**79.77**	**58**	P		P	00 17 17.0	+0.4
	0.2nm,0.6s,baz=290,slow=4.6,SNR=4.5							

GUC 18 00:08:54.8±0.9, 32.73S×71.76W, h24km±23km, MD3.7, ML2.7, 2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.31**	**161**	⇑*i*P		Pb	00 09 01.9	0.0
ROCH	**El Roble**	**0.68**	**111**	⇓*i*P		Pb	00 09 07.5	-0.8
ROCH					AML	AML	00 09 19.3	
	comp=E,344nm,0.2s							
CHNG	**Los Chungos**	**0.87**	**15**	*e*P		Pb	00 09 10.2	-1.1
CHNG				*i* S		Sb	00 09 22.6	0.0
CHNG					AML	AML	00 09 23.6	
	comp=E,200nm,0.3s							
PEL	**Peldehue**	**0.99**	**115**	⇑*i*P		Pn	00 09 12.6	-0.7
PEL				*i* S		Sb	00 09 26.2	0.0
PEL					AML	AML	00 09 28.0	
	comp=E,2μm,0.2s							
LNV	**Longovilo**	**1.26**	**167**	⇓*i*P		Pn	00 09 15.8	-1.1
LNV				*i* S		Sn	00 09 31.6	-1.4
ANTU	**Antumapu**	**1.26**	**132**	*e*P		Pn	00 09 17.4	+0.3
ANTU					AML	AML	00 09 36.7	
	comp=N,401nm,0.4s							
FCH	**Farellones**	**1.37**	**116**	⇓*i*P		Pn	00 09 18.9	0.0
FCH				*i* S		Sn	00 09 36.0	-0.6
FCH					AML	AML	00 09 37.2	
	comp=N,293nm,0.3s							
CHCH	**Chadas Angostu**	**1.52**	**143**	⇓*i*P		Pn	00 09 21.0	+0.4
CHCH				*i* S		Sb	00 09 40.5	-0.7
CACH	**El Canelo**	**1.69**	**145**	⇓*i*P		Pb	00 09 24.3	-1.2
CACH				*i* S		Sb	00 09 47.0	+0.6

PRE ***18*** *00:09:00.5±2.0, 54.68S×21.51E, h10km, mb5.1*
ISCJB ***18*** *00:09:17.9±0.3, 52.86S±0.05×20.7E±0.1, h10km, mb5.0/55, MS4.5/27, Error ellipse: s-maj=10.1km s-min=6.9km az=168.0*
IDC ***18*** *00:09:17.2±0.4, 52.97S×20.87E, h0km, mb4.8/25, mb1 4.8/25, mb1mx4.8/26, mbtmp4.7/25, MS4.4/20, Ms1 4.4/20, ms1mx4.3/25, Error ellipse: s-maj=16.2km s-min=13.8km az=80.0*
BJI ***18*** *00:09:17.8, 53.00S×21.00E, h10km, mB5.6/9, Ms5.1/8, Ms7 4.8/10*
NEIC ***18*** *00:09:18.8±0.2, 52.96S×20.89E, h10km, mb5.1/8, Error ellipse: s-maj=9.9km s-min=8.5km az=115.0*
MOS ***18*** *00:09:18.2±1.1, 52.94S×20.83E, h10km, mb5.2/8, Error ellipse: s-maj=27.2km s-min=12.9km az=84.1*
DJA ***18*** *00:09:18, 53.21S×19.98E, h10km, mb5.0/10*

ISC 18 00:09:19.0±0.3, 53.05S±0.07×20.70E±0.08, h10km, n394, σ1.906/382, mb5.1/51, MS4.5/27, 93C-86D, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SYO	**Syowa Base**	**18.29**	**158**	⇓*e*P		**Pn**	**00 13 28.8**	**-3.7**
SYO	**Syowa Base**	**18.29**	**158**	⇓*i*P		P	00 13 37.6	+5.0
CER	**Ceres**	**19.70**	**357**	*e*P		**P**	**00 13 47.5**	**-0.9**
CER					AMB	AMB	00 13 51.1	
	comp=Z,46nm,4.0s							

SOE Somerset East 20.63 12 *e*P **P** 00 13 56.6 -1.9
SOE AMB AMB 00 14 06.8
comp=Z,105nm,1.2s
SUR Sutherland 20.66 0 P **P** 00 13 59.0 0.0
comp=Z,5.6nm,1.0s
SUR Sutherland 20.66 0 P **P** 00 13 58.5 -0.4
comp=Z,551nm,1.0s,SNR=11
SUR Sutherland 20.66 0 P **P** 00 13 59.0 0.0
comp=Z,420nm,0.8s,baz=173,slow=8.0,SNR=23
SUR Sutherland 20.66 0 *e*P **P** 00 13 58.0 -0.9
SUR AMB AMB 00 14 05.9
comp=Z,58nm,1.1s
SNAA Sanae 21.35 200 *e*P P 00 14 00.6 -5.4
comp=Z,95nm,1.1s
CVNA Calvinia 21.56 358 ⇑*i*P **P** 00 14 08.3 -0.3
CVNA AMB AMB 00 14 09.7
comp=Z,115nm,1.5s
HVD Gariep Dam 22.70 11 *e*P **P** 00 14 18.5 -2.4
HVD AMB AMB 00 14 26.5
comp=Z,131nm,1.8s
BOSA Boshof 24.64 10 *e*P **P** 00 14 38.4 -1.3
BOSA Boshof 24.64 10 P **P** 00 14 37.9 -1.9
comp=Z,10nm,1.0s,baz=179,slow=9.6,SNR=9.8
BOSA Boshof 24.64 10 *e*P **P** 00 14 35.3 -4.4
BOSA AMB AMB 00 14 40.7
comp=Z,26nm,8.1s
SEK Senekal 25.23 14 *e*P **P** 00 14 43.4 -1.6
SEK AMB AMB 00 14 52.2
comp=Z,64nm,1.3s
SWZ Schweizer 26.07 9 *e*P **P** 00 14 50.2 -2.5
SWZ AMB AMB 00 15 04.7
comp=Z,34nm,2.0s
PRYS Parys 26.56 13 *e*P **P** 00 14 55.1 -2.1
PRYS AMB AMB 00 15 05.3
comp=Z,35nm,1.4s
ERPM east rand prop 27.27 15 *e*P **P** 00 15 01.8 -1.7
ERPM AMB AMB 00 15 06.7
comp=Z,47nm,6.0s
SLR Silverton 27.87 15 *e*P **P** 00 15 07.5 -1.4
SLR AMB AMB 00 15 08.3
comp=Z,50nm,1.5s
LBTB Lobatse 28.24 9 *e*P **P** 00 15 10.4 -1.8
LBTB Lobatse 28.24 9 P **P** 00 15 10.0 -2.2
comp=Z,8.4nm,0.8s,baz=205,slow=9.7,SNR=17
LBTB Lobatse 28.24 9 *e*P P 00 15 08.2 -4.0
LBTB AMB AMB 00 15 11.4
comp=Z,29nm,3.0s
MSNA Messina 31.47 17 *e*P **P** 00 15 39.1 -1.7
MSNA AMB AMB 00 15 40.5
comp=Z,46nm,1.6s
TSUM Tsumeb 33.87 355 *e*P **P** 00 16 01.0 -0.8
comp=Z,35nm,1.0s
TSUM Tsumeb 33.87 355 P **P** 00 16 01.3 -0.5
comp=Z,14nm,0.9s,baz=176,slow=9.1,SNR=31
TSUM Tsumeb 33.87 355 ⇑*i*P **P** 00 16 01.0 -0.8
QSPA South Pole Qui 37.18 180 P **P** 00 16 31.0 +1.1
QSPA South Pole Qui 37.18 180 P **P** 00 16 31.0 +1.1
comp=Z,44nm,0.9s,baz=237,slow=3.6,SNR=144
LSZ Lusaka 38.15 12 *e*P **P** 00 16 36.8 -1.7
comp=Z,29nm,1.3s
LSZ Lusaka 38.15 12 ⇑P **P** 00 16 37.5 -0.9
comp=Z,7.2
LSZ Lusaka 38.15 12 *e*P P 00 16 35.0 -3.5
DRV Dumont d'Urvil 52.16 154 S S 00 25 34.0 -19
DRV SS **SS** **00 29 33.0 +3.7**
DRV L L 00 30 00.0
DRV R 00 33 00.0
KMBO Kilima Mbogo 53.55 21 *e*P **P** 00 18 42.7 +2.6
comp=Z,46nm,2.2s
TRQA Tornquist 56.62 250 *e*P **P** 00 19 03.1 +1.2
comp=Z,19nm,0.9s
PLCA Paso Flores 59.46 242 P **P** 00 19 22.4 +0.5
PLCA Paso Flores 59.46 242 P **P** 00 19 22.4 +0.5
comp=Z,5.2nm,1.0s,baz=154,slow=6.3,SNR=5.9
PLCA LR LR 00 43 28.3
comp=Z,166nm,18.5s,baz=288,slow=34
CPUP Villa Florida 62.35 262 P **P** 00 19 42.4 +0.9
CPUP Villa Florida 62.35 262 P **P** 00 19 42.4 +0.9
comp=Z,7.6nm,0.8s,baz=119,slow=6.9,SNR=19
CPUP LR LR 00 41 27.5
comp=Z,312nm,19.5s,baz=145,slow=31
LIC Lamto 62.95 331 ⇑*i*P **P** 00 19 44.8 -0.8
comp=Z,28nm,0.9s,baz=151
LIC Lamto 62.95 331 ⇑*i*P **P** 00 19 44.8 -0.8
DBIC Dimbokro 63.32 331 *e*P **P** 00 19 47.3 -0.7
DBIC Dimbokro 63.32 331 P **P** 00 19 46.4 -1.6
comp=Z,8.9nm,0.9s,baz=138,slow=7.4,SNR=12
BDFB Brasilia 64.86 277 P **P** 00 19 59.5 +1.0
BDFB Brasilia 64.86 277 P **P** 00 19 59.5 +1.0
comp=Z,4.0nm,0.9s,baz=142,slow=7.0,SNR=6.6
BDFB LR LR 00 41 52.5
comp=Z,265nm,21.5s,baz=13,slow=30
RCBR Riachuelo 65.73 294 LR LR 00 41 39.1
comp=Z,166nm,19.1s,baz=303,slow=30
ATD Arta Tunnel 67.06 24 LR LR 00 51 40.7
comp=Z,222nm,18.1s,baz=10,slow=38
TOA0 Torodi Ar. Sit 67.92 340 *e*P **P** 00 20 16.1 -1.6
TORD Torodi Ar. Bea 67.92 340 P **P** 00 20 16.6 -1.1
TORD Torodi Ar. Bea 67.92 340 P **P** 00 20 16.6 -1.1
comp=Z,6.6nm,1.0s,baz=173,slow=7.0,SNR=26
TORD LR LR 00 43 58.2
comp=Z,246nm,20.6s,baz=160,slow=31
NWAO Narrogin (SRO) 68.07 116 LR LR 00 43 26.7
comp=Z,167nm,18.3s,baz=181,slow=30
MEEK Meekatharra 73.67 113 *e*P **P** 00 20 51.7 -1.1
comp=Z,98nm,0.9s
BBTS Babate 74.65 323 LR LR 00 46 33.9
comp=Z,325nm,20.2s,baz=176,slow=30
ABTO Aybut 75.56 32 ⇑P **P** 00 21 04.3 +0.6
SNR=6.0
LPAZ La Paz 76.46 261 *e*P **P** 00 21 10.9 +1.2
LPAZ La Paz 76.46 261 P **P** 00 21 10.8 +1.0
comp=Z,4.9nm,0.7s,baz=154,slow=2.8,SNR=14
LPAZ LR LR 00 50 25.3
comp=Z,140nm,19.4s,baz=137,slow=32
ARPS Mount Arapiles 77.03 135 *e*P **P** 00 21 12.3 +0.4
comp=Z,73nm,1.6s
SAML Samuel 79.24 269 *e*P **P** 00 21 25.3 +0.8
comp=Z,20nm,1.1s
RAYN Ar Rayn 79.24 23 P **P** 00 21 25.4 +1.2
comp=Z,118nm,0.8s,SNR=6.8
STKA Stephens Creek 81.07 132 *e*P **P** 00 21 34.2 +0.1
STKA Stephens Creek 81.07 132 *e*P **P** 00 21 34.1 -0.1
comp=Z,5.2nm,1.0s
STKA Stephens Creek 81.07 132 P **P** 00 21 34.0 -0.2
comp=Z,3.8nm,0.7s,baz=203,slow=4.3,SNR=12
STKA LR LR 00 53 46.2
comp=Z,102nm,18.8s,baz=204,slow=33
BSY Bisya 81.86 34 ⇓P **P** 00 21 38.1 -0.1
SNR=7.7
DBJI Dramaga 82.43 91 P **P** 00 21 42.7 +1.2
comp=Z,81nm,1.2s,comp=Z,4μm
SMDO Samad 82.44 34 ⇓P **P** 00 21 41.0 -0.3
SNR=7.1
BLSI Bandar Lampung 82.46 89 P **P** 00 21 42.9 +1.2
comp=Z,123nm,0.4s
CBJI Citeko 82.60 91 P **P** 00 21 43.5 +1.1
comp=Z,227nm,0.9s
HOQ Hoqain 82.68 33 ⇓P **P** 00 21 42.3 -0.2
SNR=11
LEM Lembang 82.74 92 P **P** 00 21 45.4 +2.1
comp=Z,142nm,1.0s,comp=Z,21μm
ASHO Ashiyiah 83.29 32 ⇑P **P** 00 21 45.5 -0.1
SNR=5.0
EIL Elat 83.30 12 P **P** 00 21 45.4 -0.1
EIL Elat 83.30 12 P **P** 00 21 45.4 -0.1
comp=Z,4.5nm,0.9s,baz=166,slow=4.2,SNR=4.7
EIL LR LR 00 58 51.1
comp=Z,332nm,18.9s,baz=188,slow=36
PPI Padang Panjang 83.44 82 P **P** 00 21 47.4 +0.7
comp=Z,23nm,1.1s
HATD Hatta, Dubai 83.45 32 ⇓P **P** 00 21 46.2 -0.2
SNR=5.5
NAZ Nazwa, Dubai 83.45 32 ⇑P **P** 00 21 46.3 -0.1
SNR=5.6
ASAR Alice Springs 84.25 122 P **P** 00 21 50.8 -0.1
ASAR Alice Springs 84.25 122 P **P** 00 21 50.8 -0.1
comp=Z,5.9nm,0.8s,baz=206,slow=4.2,SNR=47
AS31 Alice Springs 84.26 122 *e*P **P** 00 21 49.6 -1.3
FITZ Fitzroy Crossi 84.37 113 P **P** 00 21 50.7 -0.8
FITZ Fitzroy Crossi 84.37 113 *e*P **P** 00 21 50.7 -0.8
comp=Z,7.4nm,0.9s
FITZ Fitzroy Crossi 84.37 113 P **P** 00 21 50.7 -0.8
comp=Z,5.8nm,1.1s,baz=196,slow=7.4,SNR=4.6
NNA Nana 85.01 257 LR LR 00 56 15.6
comp=Z,177nm,20.0s,baz=136,slow=33

GMJI Gumukmas 85.10 97 P **P** 00 21 56.2 +1.0
comp=Z,47nm,1.8s
PSI Prapat 85.16 79 P **P** 00 21 54.8 -0.8
PSI Prapat 85.16 79 P **P** 00 21 54.0 -1.6
comp=Z,19nm,1.4s
PSI Prapat 85.16 79 P **P** 00 21 54.8 -0.8
comp=Z,3.6nm,0.4s,baz=199,slow=8.6,SNR=7.9
BSI Banda Aceh 85.19 74 P **P** 00 21 55.2 -0.4
comp=Z,17nm,1.2s
PPBI Pangkal Pinang 85.53 88 P **P** 00 21 56.5 -0.8
comp=Z,17nm,0.6s,comp=Z,4μm
BLJI Banyuglugur 85.61 97 P **P** 00 21 58.9 +1.2
comp=Z,48nm,1.1s
HYB Hyderabad 86.01 54 *i* P **P** 00 21 58.0 -1.6
ASF Jabal al Asfar 86.03 14 P **P** 00 22 00.2 +0.8
ASF Jabal al Asfar 86.03 14 P **P** 00 22 00.2 +0.8
comp=Z,11nm,1.0s,baz=175,slow=3.3,SNR=9.7
ASF LR LR 01 01 17.3
comp=Z,379nm,18.4s,baz=65,slow=36
WRA Warramunga Arr 87.56 120 P **P** 00 22 06.7 -0.6
WRA Warramunga Arr 87.56 120 P **P** 00 22 06.7 -0.6
comp=Z,6.1nm,1.0s,baz=205,slow=3.3,SNR=22
WRA LR LR 00 56 05.6
comp=Z,104nm,19.0s,baz=195,slow=32
WRAB Tennant Creek 87.58 120 *e*P **P** 00 22 07.2 -0.2
WRAB pmax pmax
comp=Z,40nm,1.5s
WRAB Tennant Creek 87.58 120 *e*P **P** 00 22 07.2 -0.2
comp=Z,40nm,1.5s
MDT Middelt 88.31 339 LR LR 00 56 48.2
comp=Z,166nm,18.6s,baz=167,slow=32
PBKI Pangkalan Bun 88.44 92 P **P** 00 22 12.8 +1.3
comp=Z,267nm,1.1s,comp=Z,11μm
KEST Kesra 88.96 351 *e*P **P** 00 22 13.1 -0.3
KEST Kesra 88.96 351 P **P** 00 22 14.7 +1.3
comp=Z,3.6nm,0.9s,baz=168,slow=3.8,SNR=8.8
KEST LR LR 01 03 30.6
comp=Z,151nm,18.3s,baz=102,slow=37
QIS Mount Isa 89.72 125 *e*P **P** 00 22 17.6 +0.1
ATAH Atahualpa 89.79 258 LR LR 00 59 59.0
comp=Z,125nm,20.4s,baz=169,slow=34
BKSI Bulukumba 91.43 101 P **P** 00 22 26.5 +1.0
comp=Z,27nm,1.2s,comp=Z,502nm
KAPI Kappang 91.46 100 *e*P **P** 00 22 25.3 -0.2
KAPI Kappang 91.46 100 P **P** 00 22 25.5 -0.1
comp=Z,41nm,1.5s
KAPI Kappang 91.46 100 P **P** 00 22 24.9 -0.7
comp=Z,16nm,0.8s,baz=230,slow=6.0,SNR=9.0
SPSI Sidrap Palu 92.30 100 P **P** 00 22 29.2 -0.3
BRTR Keskin Array B 93.08 10 P **P** 00 22 32.5 +0.1
BRTR Keskin Array B 93.08 10 P **P** 00 22 32.5 +0.1
comp=Z,3.0nm,1.1s,baz=194,slow=5.5,SNR=10
BRTR LR LR 01 07 09.0
comp=Z,297nm,21.9s,baz=5.9,slow=37
ESDC Sonseca Array 94.79 341 P **P** 00 22 41.1 +0.9
ESDC Sonseca Array 94.79 341 P **P** 00 22 41.1 +0.9
comp=Z,1.7nm,0.7s,baz=166,slow=4.8,SNR=12
CMAR Chiang Mai Arr 97.71 70 P Pdif 00 22 54.2 +0.1
CMAR Chiang Mai Arr 97.71 70 P Pdif 00 22 54.2 +0.1
comp=Z,0.6nm,0.3s,baz=222,slow=6.1,SNR=5.7
CMAR LR LR 01 02 07.8
comp=Z,133nm,18.2s,baz=221,slow=32
MLR Muntele Rosu 98.27 4 P Pdif 00 22 56.3 +0.3
MLR Muntele Rosu 98.27 4 P Pdif 00 22 56.3 +0.3
comp=Z,0.4nm,0.9s,baz=188,slow=7.1,SNR=3.2
KBZ Khabaz 98.27 16 P **P** 00 22 55.7 -0.2
KBZ Khabaz 98.27 16 P **P** 00 22 55.7 -0.2
KBZ Khabaz 98.27 16 P **P** 00 22 55.7 -0.2
comp=Z,2.6nm,1.0s,baz=185,slow=5.6,SNR=2.9
KBZ LR LR 01 11 10.8
comp=Z,238nm,18.6s,baz=204,slow=38
KIV Kislovodsk 98.46 16 *e*P Pdif 00 22 57.7 +0.8
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,217nm,21.0s
LPG La Plagne 98.89 350 *e*P Pdif 00 23 01.2 +2.2
comp=Z,21nm,1.1s
LPG La Plagne 98.89 350 *e*P Pdif 00 23 01.2 +2.2
LPG La Plagne 98.89 350 *e*P Pdif 00 23 01.2 +2.2
LPL La Plagne 98.91 350 *e*P Pdif 00 23 01.0 +2.0
comp=Z,16nm,1.0s
LPL La Plagne 98.91 350 *e*P Pdif 00 23 01.0 +2.0
LPL La Plagne 98.91 350 *e*P Pdif 00 23 01.0 +2.0
DZM Mont Dzumac 99.50 148 *e*LR LR 00 55 26.1
comp=Z,297nm,35.4s
TBI Tubuai 103.45 189 *e*LR LR 00 57 17.6
comp=Z,314nm,37.5s
CLL Collm 104.19 355 *e*PP PP 00 27 39.0 -1.8
CLL *e*(sPP) 00 27 46.0
CLL *e* 00 28 01.0
CLL *e* 00 32 53.0
CLL *e*Sdif Sdif 00 35 18.0 +5.8
CLL *e*SP **SP** **00 36 48.0 -2.5**
CLL *e*PPS PPS 00 38 06.0
CLL *e*SS **SS** **00 42 34.0 +4.4**
CLL *e*SSS SSS 00 46 48.0
CLL *e*SSSS 00 49 40.0
CLL LmV 01 13 00.0
comp=Z,200nm,20.6s
CLL LmH 01 14 00.0
comp=N,200nm,21.3s
CLL LmH 01 14 00.0
comp=E,100nm,21.9s
AAK Ala-Archa 105.95 38 PKiKP **PKiKP** **00 27 42.0 -0.5**
AAK Ala-Archa 105.95 38 PKiKP **PKiKP** **00 27 42.0 -0.5**
comp=E,2.0nm,0.8s,baz=194,slow=3.2,SNR=6.8
GYA Guiyang 108.37 70 *e*Pdif **Pdif** **00 23 41.8 +0.3**
GYA PKP **PKiKP** **00 27 46.6 -0.8**
GYA PP **PP** **00 28 16.0 +3.8**
GYA SS SS 00 43 28.5 +0.9
GYA AMB AMB
comp=Z,130nm,7.8s
GYA LR LR
comp=N,170nm,20.8s
GYA LR LR
comp=E,150nm,21.0s
GYA LR LR
comp=Z,150nm,20.4s
PPT2 Papeete2 109.16 190 *e*LR LR 00 59 57.1
comp=Z,222nm,23.2s
CD2 Chengdu 110.17 65 PKP **PKiKP** **00 27 49.6 -1.0**
WMQ Urumqi 112.29 46 *e*PKP **PKiKP** **00 27 54.5 +0.3**
WMQ LR LR
comp=N,160nm,22.8s
WMQ LR LR
comp=E,190nm,24.5s
WMQ LR LR
comp=Z,180nm,24.5s
MK31 Makanchi Array 112.45 41 *e*PKiKP **PKiKP** **00 27 53.8 -0.6**
MK31 Makanchi Array 112.45 41 *e*PKiKP **PKiKP** **00 27 53.8 -0.6**
MKAR Makanchi Array 112.45 41 PKiKP **PKiKP** **00 27 53.6 -0.8**
MKAR Makanchi Array 112.45 41 PKiKP **PKiKP** **00 27 53.6 -0.8**
MKAR Makanchi Array 112.45 41 PKiKP **PKiKP** **00 27 53.6 -0.8**
comp=Z,1.8nm,0.8s,baz=243,slow=2.2,SNR=18
ARU Arti 113.46 22 *i* PKiKP **PKiKP** **00 27 55.7 -0.2**
ARU 00 28 46.9
BRVK Borovoye 113.54 30 ⇑*i*PKiKP **PKiKP** **00 27 55.9 -0.3**
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 113.54 30 *e*PKiKP **PKiKP** **00 27 55.8 -0.4**
LZH Lanzhou 114.15 62 *e*PKP PKPdf 00 27 57.8 -0.3
LZH sPKP 00 28 02.3
KURBB Kurchatov Arra 114.19 36 PKP PKPdf 00 27 56.7 -0.8
comp=Z,1.9nm,0.9s,baz=224,slow=2.7,SNR=8.3
KURK Kurchatov 114.30 36 ⇓*i*PKiKP PKPdf 00 27 56.2 -1.5
KURK pmax pmax
comp=Z,14nm,2.5s
KURK Kurchatov 114.30 36 PKP PKPdf 00 27 56.7 -1.0
GTA Gaotai 114.57 57 *e*PKP PKPdf 00 27 59.1 +0.3
GTA PP **PP** **00 29 01.4 +4.8**
GTA SKS **SKSdf** **00 35 10.4 -0.3**
GTA SKKS **SKKSac** **00 35 54.5 -2.9**
GTA SS **SS** **00 44 51.5 +1.5**
GTA AMB AMB
comp=Z,94nm,5.2s
GTA LR LR
comp=N,230nm,19.5s
GTA LR LR
comp=E,250nm,19.5s
GTA LR LR
comp=Z,240nm,22.3s
ZAA0 Zalesovo Array 119.16 38 *e*PKPdf **PKPdf** **00 28 04.3 -2.7**
ZALV Zalesovo Beam 119.16 38 PKiKP **PKPdf** **00 28 05.5 -1.5**
ZALV Zalesovo Beam 119.16 38 PKP **PKPdf** **00 28 05.5 -1.5**

ZALV	**Zalesovo Beam**	**119.16**	**38**	PKP	**PKPdf**	**00 28 05.5**	**-1.5**		
	comp=Z,3.9nm,0.8s,baz=232,slow=2.8,SNR=25								
NJ2	**Nanjing**	**119.59**	**75**	*e*PKP	**PKPdf**	**00 28 09.0**	**+0.5**		
HHC	**Hu-ho-hao-te**	**121.76**	**63**	*e*PKP	**PKPdf**	**00 28 14.0**	**+1.4**		
HHC				PP	**PP**	**00 29 51.4**	**+5.0**		
HHC				PKS	**PKSdf**	**00 31 49.8**	**+0.6**		
HHC				SKS	**SKSdf**	**00 35 24.8**	**+0.5**		
HHC				SKKS	**SKKSac**	**00 36 43.3**	**-1.6**		
HHC				AMB	AMB				
	comp=Z,58nm,8.6s								
HHC				LR	LR				
	comp=N,170nm,20.2s								
HHC				LR	LR				
	comp=E,180nm,19.7s								
HHC				LR	LR				
	comp=Z,150nm,19.6s								
ARCES	**ARCESS Array B**	**122.32**	**2**	PKP	**PKPdf**	**00 28 11.9**	**-0.7**		
ARCES	**ARCESS Array B**	**122.32**	**2**	PKP	**PKPdf**	**00 28 11.9**	**-0.7**		
	comp=Z,6.4nm,0.8s,baz=183,slow=3.5,SNR=9.8								
SONM	**Songino Array**	**123.96**	**54**	PKP	**PKPdf**	**00 28 16.0**	**-0.6**		
SONM	**Songino Array**	**123.96**	**54**	PKP	**PKPdf**	**00 28 16.0**	**-0.6**		
	comp=Z,4.2nm,0.8s,baz=219,slow=1.8,SNR=15								
MOY	**Mondy**	**124.08**	**48**	*e*PKIKP	**PKPdf**	**00 28 16.8**	**+0.1**		
ZAK	**Zakamensk**	**124.23**	**50**	*e*PKIKP	**PKPdf**	**00 28 15.2**	**-1.8**		
ZAK				pmax	pmax				
	comp=Z,6.0nm,1.1s								
ULN	**Ulaanbaatar**	**124.30**	**54**	*e*PKPdf	**PKPdf**	**00 28 16.1**	**-1.1**		
TLY	**Talaya**	**125.29**	**49**	*i* PKIKP	**PKPdf**	**00 28 17.5**	**-1.3**		
TLY				*e*		00 28 25.6			
TLY				*e*SS	SS	00 47 20.2	+13		
TLY				pmax	pmax				
	comp=Z,5.0nm,1.0s								
TLY				MLR	MLR				
	comp=Z,94nm,19.0s								
KSAR	**Wonju Array Be**	**128.65**	**77**	PKP	**PKPdf**	**00 28 24.3**	**-1.4**		
KSRS	**Korea Array**	**128.68**	**77**	PKP	**PKPdf**	**00 28 24.3**	**-1.4**		
	comp=Z,4.8nm,1.1s,baz=197,slow=3.4,SNR=5.3								
WCI	**Wyandotte Cave**	**129.07**	**284**	*e*PKIKP	**PKPdf**	**00 28 26.4**	**-0.1**		
WCI	**Wyandotte Cave**	**129.07**	**284**	*e*PKPdf	**PKPdf**	**00 28 26.4**	**-0.1**		
SCHQ	**Schefferville**	**129.43**	**312**	PKP	**PKPdf**	**00 28 26.7**	**+0.1**		
SCHQ	**Schefferville**	**129.43**	**312**	PKP	**PKPdf**	**00 28 26.7**	**+0.1**		
	comp=Z,6.8nm,0.8s,baz=130,slow=3.0,SNR=11								
CN2	**Changchun**	**131.39**	**69**	*e*PKP	**PKPdf**	**00 28 28.0**	**-2.7**		
CN2				*e*PP	**PP**	**00 30 51.0**	**+0.9**		
CN2				LR	LR				
	comp=Z,200nm,20.0s								
TXAR	**Lajitas Array**	**133.32**	**262**	PKP	**PKPdf**	**00 28 35.2**	**+0.2**		
TXAR	**Lajitas Array**	**133.32**	**262**	PKP	**PKPdf**	**00 28 35.2**	**+0.2**		
	comp=Z,2.8nm,1.0s,baz=160,slow=3.3,SNR=15								
BOD	**Bodaibo**	**133.79**	**48**	*e*PKIKP	**PKPdf**	**00 28 33.0**	**-1.8**		
BOD				pmax	pmax				
	comp=Z,5.0nm,1.1s								
MDJ	**Mudanjiang**	**134.24**	**71**	PKP	**PKPdf**	**00 28 34.6**	**-1.4**		
USRK	**Ussuriysk Arra**	**135.37**	**73**	PKP	**PKPdf**	**00 28 36.5**	**-1.6**		
	comp=Z,4.2nm,0.9s,baz=56,slow=0.7,SNR=6.2								
ECSD	**EROS Data Cent**	**138.59**	**283**	*e*PKPdf	**PKPdf**	**00 28 44.8**	**+0.6**		
ANMO	**Albuquerque**	**138.95**	**266**	*e*PKPdf	**PKPdf**	**00 28 46.1**	**+0.7**		
AGMN	**Agassiz Nation**	**140.69**	**289**	*e*PKPdf	**PKPdf**	**00 28 48.2**	**+0.3**		
ULM	**Lac du Bonnet**	**141.69**	**292**	PKPpre	PKPpre	00 28 45.9			
ULM				PKP	**PKPdf**	**00 28 49.3**	**-0.2**		
ULM	**Lac du Bonnet**	**141.69**	**292**	PKhKP	PKPpre	00 28 45.9			
	comp=Z,4.2nm,0.8s,baz=45,slow=2.9,SNR=4.0								
ULM				PKP	**PKPdf**	**00 28 49.3**	**-0.2**		
	comp=Z,4.2nm,0.8s,baz=127,slow=1.3,SNR=8.2								
SMCO	**Snowmass**	**142.03**	**270**	*e*PKPdf	**PKPdf**	**00 28 48.6**	**-2.5**		
WUAZ	**Wupatki**	**142.29**	**262**	*e*PKPdf	**PKPdf**	**00 28 48.7**	**-2.7**		
PV04	**Paradox Valley**	**142.70**	**268**	*e*PKPdf	**PKPdf**	**00 28 50.1**	**-1.9**		
SRU	**San Rafael**	**144.13**	**267**	*e*PKIKP	PKPbc	00 28 53.0	+0.3		
SRU	**San Rafael**	**144.13**	**267**	*e*PKPdf	PKPbc	00 28 53.0	+0.3		
LDFC	**Landfair**	**144.21**	**258**	*e*PKPdf	**PKPdf**	**00 28 54.8**	**+0.1**		
P18A	**Preston Nutter**	**144.29**	**268**	⇓PKiKP	**PKPdf**	**00 28 54.8**	**-0.1**		
	baz=144								
F24A	**Ekalaka**	**144.39**	**281**	⇑PKiKP	**PKPdf**	**00 28 54.3**	**-0.3**		
	baz=145								
Q16A	**Castle Valley**	**144.40**	**266**	⇓PKiKP	PKPbc	00 28 54.2	+0.7		
	baz=145								
N19A	**John Jarvie Ra**	**144.42**	**271**	⇓PKiKP	PKPbc	00 28 54.1	+0.7		
	baz=145								
P17A	**Butcher Ranch,**	**144.49**	**267**	⇑PKiKP	**PKPdf**	**00 28 54.7**	**-0.4**		
	baz=145								
O18A	**Roosevelt**	**144.54**	**269**	⇑PKiKP	**PKPdf**	**00 28 55.3**	**+0.1**		
	baz=145								
L20A	**Wamsutter**	**144.58**	**273**	⇑PKiKP	**PKPdf**	**00 28 55.4**	**+0.2**		
	baz=145								
R15A	**Junction**	**144.61**	**264**	⇑PKiKP	**PKPdf**	**00 28 55.6**	**+0.2**		
	baz=145								
TMUT	**Trail Mountain**	**144.66**	**267**	*e*PKPdf	**PKPdf**	**00 28 55.5**	**-0.1**		
E24A	**Baker**	**144.68**	**282**	⇑PKiKP	**PKPdf**	**00 28 55.4**	**+0.3**		
	baz=145								
MSU	**Marysvale**	**144.75**	**265**	*e*PKIKP	**PKPdf**	**00 28 55.8**	**+0.1**		
MSU	**Marysvale**	**144.75**	**265**	*e*PKPdf	**PKPdf**	**00 28 55.8**	**+0.1**		
HEC	**Hector,Ludlow**	**144.75**	**256**	⇓PKiKP	**PKPdf**	**00 28 56.1**	**+0.6**		
	baz=145								
M19A	**Rock Springs**	**144.78**	**271**	⇓PKiKP	**PKPdf**	**00 28 55.9**	**+0.3**		
	baz=145								
CCUT	**Cedar City**	**144.84**	**263**	*e*PKPdf	**PKPdf**	**00 28 56.4**	**+0.5**		
TUQ	**Turquoise Moun**	**144.93**	**257**	⇓PKiKP	**PKPdf**	**00 28 56.5**	**+0.5**		
	baz=145								
O17A	**Robinson Place**	**144.94**	**268**	⇓PKiKP	**PKPdf**	**00 28 56.3**	**+0.4**		
	baz=145								
K20A	**Yellowstone Ra**	**144.96**	**274**	⇑PKiKP	**PKPdf**	**00 28 55.9**	**+0.1**		
	baz=145								
D24A	**Glendive**	**144.98**	**283**	⇓PKiKP	**PKPdf**	**00 28 56.4**	**+0.8**		
	baz=145								
I21A	**Big Trails, Te**	**144.98**	**276**	⇓PKiKP	**PKPab**	**00 28 55.4**	**+0.2**		
	baz=145								
BFSC	**Mount Baldy Ra**	**145.11**	**254**	⇑PKiKP	**PKPdf**	**00 28 56.8**	**+0.5**		
	baz=145								
P16A	**Fountain Green**	**145.13**	**267**	⇓PKiKP	**PKPdf**	**00 28 56.9**	**+0.7**		
	baz=145								
G22A	**Birney**	**145.16**	**279**	⇑PKiKP	**PKPdf**	**00 28 56.7**	**+0.7**		
	baz=145								
RRX	**Edison Barstow**	**145.18**	**256**	⇑PKiKP	**PKPdf**	**00 28 57.0**	**+0.7**		
	baz=145								
J20A	**Shoshoni**	**145.20**	**275**	⇓PKiKP	**PKPdf**	**00 28 56.9**	**+0.7**		
	baz=145								
E23A	**Ismay**	**145.24**	**281**	⇓PKiKP	**PKPdf**	**00 28 57.1**	**+1.1**		
	baz=146								
C24A	**Savage**	**145.25**	**284**	⇑PKiKP	**PKPdf**	**00 28 57.1**	**+1.1**		
	baz=146								
L19A	**Farson**	**145.25**	**272**	⇓PKiKP	**PKPdf**	**00 28 57.2**	**+0.8**		
	baz=146								
M18A	**Lyman**	**145.28**	**271**	⇓PKiKP	**PKPdf**	**00 28 56.9**	**+0.4**		
	baz=146								
H21A	**Big Horn, Sher**	**145.28**	**277**	⇓PKiKP	**PKPdf**	**00 28 57.2**	**+0.9**		
	baz=146								
MWC	**Mount Wilson**	**145.33**	**254**	*e*PKIKP	**PKPab**	**00 28 58.0**	**+1.3**		
MWC	**Mount Wilson**	**145.33**	**254**	*e*PKPab	**PKPab**	**00 28 58.0**	**+1.3**		
GSC	**Goldstone**	**145.36**	**256**	*e*PKIKP	**PKPab**	**00 28 57.6**	**+0.9**		
GSC	**Goldstone**	**145.36**	**256**	*e*PKPab	**PKPab**	**00 28 57.6**	**+0.9**		
GSC	**Goldstone**	**145.36**	**256**	⇓PKiKP	**PKPab**	**00 28 57.3**	**+0.6**		
	baz=146								
K19A	**Absolon Red Bu**	**145.36**	**274**	⇓PKiKP	**PKPab**	**00 28 57.1**	**+0.5**		
	baz=146								
MPU	**Maple Canyon**	**145.37**	**267**	*e*PKPab	**PKPab**	**00 28 57.5**	**+0.8**		
DAU	**Daniels Canyon**	**145.38**	**268**	*e*PKIKP	**PKPab**	**00 28 57.7**	**+0.7**		
DAU	**Daniels Canyon**	**145.38**	**268**	*e*PKPab	**PKPab**	**00 28 57.7**	**+0.7**		
F22A	**Rosebud**	**145.43**	**280**	⇓PKiKP	**PKPab**	**00 28 57.0**	**+0.4**		
	baz=146								
N17A	**Moffit Pass**	**145.45**	**269**	⇓PKiKP	**PKPab**	**00 28 57.8**	**+0.7**		
	baz=146								
SHOC	**Shoshone**	**145.46**	**258**	⇑PKiKP	**PKPab**	**00 28 57.6**	**+0.7**		
	baz=146								
P15A	**Leamington**	**145.48**	**266**	⇑PKiKP	**PKPab**	**00 28 57.8**	**+0.7**		
	baz=146								
DECC	**Green Verdugo**	**145.51**	**254**	⇓PKiKP	**PKPab**	**00 28 58.0**	**+0.8**		
	baz=146								
D23A	**Lindsay**	**145.53**	**282**	⇑PKiKP	**PKPab**	**00 28 57.9**	**+1.0**		
	baz=146								
L18A	**Fontenelle, Gr**	**145.55**	**271**	⇓PKiKP	**PKPab**	**00 28 57.8**	**+0.4**		
	baz=146								
I20A	**Worland**	**145.56**	**276**	⇓PKiKP	**PKPab**	**00 28 57.6**	**+0.4**		
	baz=146								
DGMT	**Dagmar**	**145.57**	**285**	*e*PKPab	**PKPab**	**00 28 58.0**	**+1.0**		
DGMT	**Dagmar**	**145.57**	**285**	⇑PKiKP	**PKPab**	**00 28 58.3**	**+1.2**		
	baz=146								
E22A	**Miles City**	**145.59**	**281**	⇓PKiKP	**PKPab**	**00 28 58.0**	**+0.8**		
	baz=146								
R13A	**O'Grain Ranch,**	**145.61**	**263**	⇑PKiKP	**PKPab**	**00 28 58.0**	**+0.3**		
	baz=146								
JLU	**Jordanelle**	**145.62**	**268**	*e*PKPdf	**PKPab**	**00 28 57.9**	**+0.1**		
M17A	**Scullys Gap (B**	**145.67**	**270**	⇑PKiKP	**PKPab**	**00 28 58.0**	**+0.2**		
	baz=146								
A24A	**Westby**	**145.68**	**286**	⇓PKiKP	**PKPab**	**00 28 58.2**	**+0.8**		
	baz=146								
G21A	**Lodge Grass**	**145.71**	**278**	⇑PKiKP	**PKPab**	**00 28 58.1**	**+0.4**		
	baz=146								
J19A	**Crowheart**	**145.73**	**274**	⇑PKiKP	**PKPbc**	**00 28 57.9**	**+0.3**		
	baz=146								
BW06	**Boulder Array**	**145.75**	**273**	⇓PKiKP	**PKPbc**	**00 28 58.1**	**+0.3**		
	baz=146								
PDAR	**Pinedale Array**	**145.75**	**273**	PKPbc	**PKPdf**	**00 28 57.1**	**-0.1**		
PDAR	**Pinedale Array**	**145.75**	**273**	PKPbc	**PKPdf**	**00 28 57.1**	**-0.1**		
	comp=Z,8.7nm,0.7s,baz=128,slow=4.3,SNR=69								
EDW2	**Edwards Air Fo**	**145.76**	**255**	⇑PKiKP	**PKPab**	**00 28 58.1**	**0.0**		
	baz=146								
H20A	**Greybull**	**145.78**	**277**	⇑PKiKP	**PKPab**	**00 28 58.1**	**+0.1**		
	baz=146								
N16A	**Rees Ranch, Co**	**145.78**	**269**	⇑PKiKP	**PKPab**	**00 28 58.6**	**+0.3**		
	baz=146								
C23A	**Lambert**	**145.83**	**283**	⇑PKiKP	**PKPab**	**00 28 58.4**	**+0.4**		
	baz=146								
F21A	**Absaloka Mine,**	**145.97**	**279**	⇑PKiKP	**PKPab**	**00 28 58.8**	**+0.1**		
	baz=146								
K18A	**Toltan Ranch,**	**145.97**	**272**	⇑PKiKP	**PKPab**	**00 28 58.9**	**0.0**		
	baz=146								
LRMC	**Laurel Mountai**	**146.00**	**256**	⇑PKiKP	**PKPab**	**00 28 59.0**	**-0.1**		
	baz=146								
B23A	**Brockton**	**146.04**	**285**	⇑PKiKP	**PKPbc**	**00 28 58.5**	**+0.3**		
	baz=146								
BSC	**Santa Cruz Isl**	**146.07**	**252**	⇓PKiKP	**PKPbc**	**00 28 58.5**	**-0.2**		
	baz=146								
D22A	**Cohagen**	**146.09**	**282**	⇓PKiKP	**PKPbc**	**00 28 58.5**	**+0.1**		
	baz=146								
I19A	**Meeteetse**	**146.13**	**275**	⇑PKiKP	**PKPbc**	**00 28 58.8**	**0.0**		
	baz=146								
L17A	**Cokeville**	**146.16**	**271**	⇓PKiKP	**PKPbc**	**00 28 59.4**	**+0.4**		
	baz=146								
DUG	**Dugway**	**146.19**	**267**	*e*PKP2	**PKPbc**	**00 28 59.4**	**+0.4**		
DUG	**Dugway**	**146.19**	**267**	*e*PKPdf	**PKPbc**	**00 28 59.4**	**+0.4**		
DUG	**Dugway**	**146.19**	**267**	⇓PKiKP	**PKPbc**	**00 28 59.5**	**+0.5**		
	baz=146								
FURC	**Furnace Creek,**	**146.19**	**258**	⇓PKiKP	**PKPab**	**00 28 59.6**	**0.0**		
	baz=146								
A23A	**Redstone**	**146.21**	**285**	⇓PKiKP	**PKPab**	**00 28 59.6**	**+0.2**		
	baz=146								
C22A	**Vida**	**146.21**	**283**	⇓PKiKP	**PKPbc**	**00 28 59.1**	**+0.3**		
	baz=146								
MPMC	**Manual Prospec**	**146.28**	**257**	⇑PKiKP	**PKPbc**	**00 28 59.5**	**0.0**		
	baz=146								
J18A	**Kendall Valley**	**146.29**	**273**	⇓PKiKP	**PKPbc**	**00 28 59.6**	**+0.2**		
	baz=146								
G20A	**Bridger**	**146.30**	**278**	⇓PKiKP	**PKPbc**	**00 28 59.1**	**-0.1**		
	baz=146								
E21A	**Keefer Ranch,**	**146.31**	**280**	⇑PKiKP	**PKPbc**	**00 28 59.2**	**+0.1**		
	baz=146								
ARVC	**Arvin**	**146.42**	**254**	⇑PKiKP	**PKPbc**	**00 28 59.4**	**-0.3**		
	baz=147								
N15A	**Stansbury Isla**	**146.44**	**268**	⇓PKiKP	**PKPbc**	**00 28 59.9**	**+0.2**		
	baz=147								
I18A	**Diamond G Ranc**	**146.44**	**274**	⇑PKiKP	**PKPbc**	**00 28 59.7**	**-0.1**		
	baz=147								
L16A	**Fish Haven**	**146.45**	**270**	⇑PKiKP	**PKPbc**	**00 28 59.7**	**-0.1**		
	baz=147								
H19A	**Powell**	**146.47**	**276**	⇑PKiKP	**PKPbc**	**00 28 59.6**	**-0.1**		
	baz=147								
K17A	**Gardner Place,**	**146.57**	**272**	⇑PKiKP	**PKPbc**	**00 29 00.0**	**-0.1**		
	baz=147								
F20A	**Billings**	**146.57**	**279**	⇓PKiKP	**PKPbc**	**00 28 59.5**	**-0.4**		
	baz=147								
ISA	**Isabella**	**146.59**	**255**	*e*PKP2	**PKPab**	**00 29 01.8**	**+0.5**		
ISA	**Isabella**	**146.59**	**255**	*e*PKPab	**PKPab**	**00 29 01.8**	**+0.5**		
ISA	**Isabella**	**146.59**	**255**	⇓PKiKP	**PKPbc**	**00 29 00.3**	**0.0**		
	baz=147								
R11A	**Troy Canyon, C**	**146.69**	**262**	⇑PKiKP	**PKPdf**	**00 28 59.7**	**+0.8**		
	baz=147								
M15A	**Larsen Ranch,**	**146.74**	**269**	⇑PKiKP	**PKPbc**	**00 29 00.1**	**-0.5**		
	baz=147								
J17A	**Brown Place, J**	**146.79**	**273**	⇑PKiKP	**PKPbc**	**00 29 00.1**	**-0.6**		
	baz=147								
A22A	**Carney Farms,**	**146.82**	**285**	⇑PKiKP	**PKPbc**	**00 29 00.3**	**-0.2**		
	baz=147								
REDW	**Red Top Meadow**	**146.87**	**273**	*e*PKPdf	**PKPbc**	**00 29 01.1**	**0.0**		
H18A	**Shoshone NF, C**	**146.88**	**276**	⇑PKiKP	**PKPbc**	**00 29 00.4**	**-0.6**		
	baz=147								
RLMT	**Red Lodge**	**146.88**	**277**	⇑PKiKP	**PKPbc**	**00 29 00.4**	**-0.6**		
	baz=147								
E20A	**Meyer Farm, Mu**	**146.92**	**280**	⇑PKiKP	**PKPbc**	**00 29 00.4**	**-0.5**		
	baz=147								
C21A	**Desert Coulee**	**146.97**	**282**	⇓PKiKP	**PKPbc**	**00 29 00.7**	**-0.2**		
	baz=147								
FFC	**Flin Flon**	**146.98**	**296***c*	*i*PKP2	**PKPbc**	**00 29 01.0**	**+0.3**		
TPAW	**Teton Pass**	**147.00**	**273**	*e*PKPab	**PKPbc**	**00 29 02.3**	**+0.8**		
K16A	**Soda Springs**	**147.02**	**272**	⇑PKiKP	**PKPbc**	**00 29 01.1**	**-0.3**		
	baz=147								
I17A	**Pilgrim Ck.**	**147.02**	**274**	⇓PKiKP	**PKPbc**	**00 29 01.3**	**-0.2**		
	baz=147								
L15A	**Malad City**	**147.02**	**270**	⇓PKiKP	**PKPbc**	**00 29 00.9**	**-0.5**		
	baz=147								
MOOW	**Moose Ponds**	**147.03**	**274**	*e*PKPdf	**PKPbc**	**00 29 00.8**	**-0.7**		
VES	**Vestal, Richgr**	**147.07**	**255**	⇑PKiKP	**PKPbc**	**00 29 01.1**	**-0.4**		
	baz=147								
F19A	**Roth Farm, Mol**	**147.07**	**278**	⇓PKiKP	**PKPbc**	**00 29 01.1**	**-0.3**		
	baz=147								
HVU	**Hansel Valley**	**147.12**	**269**	*e*PKP2	**PKPbc**	**00 29 02.6**	**+0.9**		
HVU	**Hansel Valley**	**147.12**	**269**	*e*PKPab	**PKPbc**	**00 29 02.6**	**+0.9**		
RRI2	**Red Ridge**	**147.15**	**272**	*e*PKPab	**PKPbc**	**00 29 02.4**	**+0.5**		
G18A	**Lazy EL Ranch,**	**147.16**	**277**	⇓PKiKP	**PKPbc**	**00 29 01.0**	**-0.7**		
	baz=147								
DCID	**Drake Creek**	**147.20**	**273**	*e*PKPab	**PKPbc**	**00 29 02.9**	**+1.0**		
B21A	**Ellsworth Farm**	**147.21**	**283**	⇓PKiKP	**PKPbc**	**00 29 00.8**	**-0.7**		
	baz=147								
D20A	**Manuel Ranch,**	**147.22**	**281**	⇑PKiKP	**PKPbc**	**00 29 01.1**	**-0.6**		
	baz=147								
H17A	**Grant Village**	**147.28**	**275**	⇓PKiKP	**PKPbc**	**00 29 01.3**	**-0.9**		
	baz=148								
J16A	**Bone**	**147.28**	**272**	⇑PKiKP	**PKPbc**	**00 29 01.7**	**-0.5**		
	baz=148								
E19A	**Rath Farm, Rou**	**147.29**	**279**	⇑PKiKP	**PKPbc**	**00 29 01.8**	**-0.1**		
	baz=148								
A21A	**Bergtoll Ranch**	**147.41**	**284**	⇑PKiKP	**PKPbc**	**00 29 01.8**	**-0.3**		
	baz=148								
C20A	**Veseth Ranch,**	**147.45**	**282**	⇓PKiKP	**PKPbc**	**00 29 02.2**	**0.0**		
	baz=148								
K15A	**Arbon**	**147.50**	**271**	⇓PKiKP	**PKPbc**	**00 29 02.9**	**+0.2**		
	baz=148								
I16A	**Newdale**	**147.54**	**273**	⇓PKiKP	**PKPbc**	**00 29 03.2**	**+0.4**		
	baz=148								
L14A	**Malta**	**147.55**	**269**	⇓PKiKP	**PKPbc**	**00 29 02.6**	**-0.2**		
	baz=148								
F18A	**Big Timber**	**147.56**	**278**	⇓PKiKP	**PKPbc**	**00 29 02.8**	**+0.1**		
	baz=148								
D19A	**Cripps Ranch,**	**147.70**	**280**	⇑PKiKP	**PKPbc**	**00 29 03.0**	**0.0**		
	baz=148								
MTUM	**Tungsten Hills**	**147.80**	**257**	*e*PKPab	**PKPbc**	**00 29 05.0**	**+1.3**		
B20A	**Solberg Farm,**	**147.80**	**283**	⇑PKiKP	**PKPbc**	**00 29 03.7**	**+0.5**		
	baz=148								
K14A	**Jones Ranch, D**	**147.81**	**270**	⇓PKiKP	**PKPbc**	**00 29 03.9**	**+0.4**		
	baz=148								
J15A	**Blackfoot**	**147.85**	**272**	⇑PKiKP	**PKPbc**	**00 29 04.1**	**+0.5**		
	baz=148								
H16A	**Russell Place,**	**147.85**	**275**	⇑PKiKP	**PKPbc**	**00 29 03.7**	**+0.1**		
	baz=148								
G17A	**Pierce Place,**	**147.87**	**276**	⇑PKiKP	**PKPbc**	**00 29 04.0**	**+0.4**		
	baz=148								
A20A	**Cobblestone Ra**	**147.95**	**284**	⇑PKiKP	**PKPbc**	**00 29 03.9**	**+0.3**		
	baz=148								
E18A	**Harlowton**	**148.02**	**279**	⇑PKiKP	**PKPbc**	**00 29 04.4**	**+0.4**		
	baz=148								
QLMT	**Earthquake Lak**	**148.03**	**275**	*e*PKPdf	**PKPbc**	**00 29 03.3**	**-0.8**		
C19A	**Slack Wire Ran**	**148.07**	**281**	⇓PKiKP	**PKPbc**	**00 29 04.4**	**+0.4**		
	baz=148								
F17A	**Fitzpatrick Pl**	**148.13**	**277**	⇓PKiKP	**PKPbc**	**00 29 05.1**	**+0.8**		
	baz=148								
MLAC	**Mammoth Lakes**	**148.14**	**257**	⇓PKiKP	**PKPbc**	**00 29 05.1**	**+0.4**		
	baz=148								
I15A	**Monteview**	**148.21**	**273**	⇓PKiKP	**PKPbc**	**00 29 05.5**	**+0.9**		
	baz=148								
D18A	**Linhart Farms,**	**148.26**	**280**	⇑PKiKP	**PKPbc**	**00 29 04.9**	**+0.4**		
	baz=148								
B19A	**Brinkman Farms**	**148.35**	**282**	⇑PKiKP	**PKPbc**	**00 29 05.2**	**+0.5**		
	baz=149								
NVAR	**Mina Array Bea**	**148.36**	**259**	PKPbc	**PKPbc**	**00 29 03.7**	**-1.5**		
NVAR	**Mina Array Bea**	**148.36**	**259**	PKPbc	**PKPbc**	**00 29 03.7**	**-1.5**		
	comp=Z,12nm,0.9s,baz=157,slow=3.6,SNR=39								
G16A	**Moss Hill, Enn**	**148.46**	**275**	⇑PKiKP	**PKPbc**	**00 29 05.7**	**+0.5**		
	baz=149								
E17A	**Martinsdale**	**148.53**	**278**	⇓PKiKP	**PKPbc**	**00 29 05.7**	**+0.3**		
	baz=149								
BOZ	**Bozeman (W)**	**148.58**	**276**	⇑PKiKP	**PKPbc**	**00 29 06.2**	**+0.7**		
	baz=149								
EGMT	**Eagleton**	**148.63**	**281**	*e*PKPdf	**PKPdf**	**00 29 03.1**	**+1.4**		
EGMT	**Eagleton**	**148.63**	**281**	⇑PKiKP	**PKPbc**	**00 29 05.9**	**+0.4**		
	baz=149								
F16A	**Kennard Place,**	**148.64**	**276**	⇑PKiKP	**PKiKP**	**00 29 06.6**	**-0.4**		
	baz=149								
H15A	**Lima**	**148.64**	**274**	⇑PKiKP	**PKPbc**	**00 29 06.5**	**+0.8**		
	baz=149								
I14A	**Mackay**	**148.76**	**272**	⇓PKiKP	**PKiKP**	**00 29 06.9**	**-0.5**		
	baz=149								
D17A	**Six Diamond Ra**	**148.77**	**279**	⇓PKiKP	**PKPbc**	**00 29 06.2**	**+0.3**		
	baz=149								
B18A	**Beardsley Farm**	**148.82**	**282**	⇑PKiKP	**PKPbc**	**00 29 06.7**	**+0.8**		
	baz=149								
J13A	**Cove Ranch, Pi**	**148.90**	**270**	⇑PKiKP	**PKiKP**	**00 29 07.3**	**-0.4**		
	baz=149								
C17A	**Wharram Farm,**	**149.04**	**280**	⇑PKiKP	**PKPbc**	**00 29 06.8**	**+0.3**		
	baz=149								
E16A	**East Helena**	**149.05**	**277**	⇑PKiKP	**PKPbc**	**00 29 07.0**	**+0.4**		
	baz=149								
H14A	**Leadore**	**149.08**	**273**	⇑PKiKP	**PKPbc**	**00 29 07.5**	**+0.6**		
	baz=149								
A18A	**Metzger Ranch,**	**149.10**	**283**	⇑PKiKP	**PKPbc**	**00 29 07.0**	**+0.4**		
	baz=149								
HLID	**Hailey**	**149.13**	**270**	*e*PKPdf	**PKPdf**	**00 29 03.9**	**+1.1**		
HLID	**Hailey**	**149.13**	**270**	⇑PKiKP	**PKPbc**	**00 29 07.7**	**+0.7**		
	baz=149								
I13A	**Wildhorse Cree**	**149.15**	**271**	⇓PKiKP	**PKPbc**	**00 29 07.8**	**+0.7**		
	baz=149								
LRM	**Limekiln Ridge**	**149.16**	**276**	*e*PKPdf	**PKPdf**	**00 29 03.7**	**+0.9**		
F15A	**Butte**	**149.19**	**276**	⇓PKiKP	**PKiKP**	**00 29 07.9**	**-0.4**		
	baz=149								
HRY	**Holter Researc**	**149.23**	**278**	*e*PKPab	**PKPbc**	**00 29 08.4**	**+1.3**		
B17A	**L&G Farms, Che**	**149.37**	**281**	⇓PKiKP	**PKiKP**	**00 29 08.2**	**-0.2**		
	baz=150								
G14A	**Jackson**	**149.47**	**274**	⇓PKiKP	**PKiKP**	**00 29 08.7**	**-0.2**		
	baz=150								
E15A	**Deer Lodge**	**149.58**	**277**	⇓PKiKP	**PKiKP**	**00 29 08.7**	**-0.3**		
	baz=150								
H13A	**Challis**	**149.59**	**272**	⇓PKiKP	**PKiKP**	**00 29 09.0**	**-0.1**		
	baz=150								
A17A

SUR	Sutherland	20.57	360	*e*P		Pn	00 16 25.9	-0.8
SUR	Sutherland	20.57	360	P		**P**	**00 16 25.1**	**+0.7**
	32nm,1.0s,baz=150,slow=9.4,SNR=5.4							
SNAA	Sanae	21.49	200	*e*P		P	00 16 27.9	-6.0
BOSA	Boshof	24.53	9	P		**P**	**00 17 05.2**	**+0.1**
BOSA	Boshof	24.53	9	P		**P**	**00 17 05.3**	**+0.2**
	3.9nm,0.8s,baz=192,slow=12,SNR=1.9							
LBTB	Lobatse	28.13	9	*e*P		**P**	**00 17 37.4**	**0.0**
	15nm,1.2s							
LBTB	Lobatse	28.13	9	P		**P**	**00 17 37.3**	**-0.2**
	5.5nm,1.0s,baz=181,slow=13,SNR=3.3							
TSUM	Tsumeb	33.80	354	*e*P		**P**	**00 18 28.6**	**+1.0**
	12nm,0.9s							
TSUM	Tsumeb	33.80	354	P		**P**	**00 18 28.2**	**+0.6**
	6.3nm,0.9s,baz=169,slow=8.3,SNR=6.2							
QSPA	South Pole Qui	37.26	180	P		**P**	**00 18 58.0**	**+1.1**
QSPA	South Pole Qui	37.26	180	P		**P**	**00 18 58.0**	**+1.1**
	20nm,0.8s,baz=242,slow=3.2,SNR=14							
CPUP	Villa Florida	62.55	262	*e*P		**P**	**00 22 08.4**	**-0.8**
	14nm,0.9s							
CPUP	Villa Florida	62.55	262	P		**P**	**00 22 09.0**	**-0.2**
	5.0nm,1.0s,baz=145,slow=12,SNR=3.6							
DBIC	Dimbokro	63.34	331	*e*P		**P**	**00 22 13.8**	**-0.6**
	3.6nm,0.8s							
DBIC	Dimbokro	63.34	331	P		**P**	**00 22 13.8**	**-0.6**
	3.7nm,0.9s,baz=146,slow=10.0,SNR=4.3							
BDFB	Brasilia	65.04	277	P		**P**	**00 22 25.4**	**-0.5**
BDFB	Brasilia	65.04	277	P		**P**	**00 22 25.4**	**-0.5**
	1.0nm,0.5s,baz=128,slow=0.7,SNR=2.7							
TORD	Torodi Ar. Bea	67.91	340	P		**P**	**00 22 42.5**	**-1.4**
TORD	Torodi Ar. Bea	67.91	340	P		**P**	**00 22 42.5**	**-1.4**
	2.7nm,0.9s,baz=152,slow=7.7,SNR=5.9							
NWAO	Narrogin (SRO)	67.94	116	*e*P		**P**	**00 22 43.8**	**-0.3**
NWAO	Narrogin (SRO)	67.94	116	P		**P**	**00 22 42.6**	**-1.5**
	12nm,1.0s,baz=213,slow=5.3,SNR=2.5							
LPAZ	La Paz	76.66	261	*e*P		**P**	**00 23 37.9**	**+0.7**
	2.0nm,0.8s							
LPAZ	La Paz	76.66	261	P		**P**	**00 23 38.4**	**+1.2**
	1.5nm,0.6s,baz=183,slow=2.7,SNR=4.5							
SAML	Samuel	79.42	269	*e*P		**P**	**00 23 52.2**	**+0.5**
	4.9nm,0.8s							
STKA	Stephens Creek	80.99	132	*e*P		**P**	**00 24 00.2**	**+0.2**
	7.4nm,1.9s							
STKA	Stephens Creek	80.99	132	P		**P**	**00 23 59.9**	**-0.1**
	3.7nm,0.8s,baz=206,slow=5.4,SNR=4.7							
ASAR	Alice Springs	84.14	122	P		**P**	**00 24 17.1**	**+0.5**
ASAR	Alice Springs	84.14	122	P		**P**	**00 24 17.1**	**+0.5**
	5.4nm,1.1s,baz=215,slow=5.0,SNR=9.2							
FITZ	Fitzroy Crossi	84.22	112	*e*P		**P**	**00 24 17.7**	**+0.7**
	2.3nm,0.7s							
FITZ	Fitzroy Crossi	84.22	112	P		**P**	**00 24 17.8**	**+0.7**
	2.5nm,0.8s,baz=193,slow=14,SNR=3.1							
PSI	Prapat	84.96	79	P		**P**	**00 24 21.4**	**+0.5**
PSI	Prapat	84.96	79	P		**P**	**00 24 21.4**	**+0.5**
	3.7nm,0.8s,baz=14,slow=8.3,SNR=3.5							
ASF	Jabal al Asfar	85.91	13	P		**P**	**00 24 27.1**	**+2.1**
ASF	Jabal al Asfar	85.91	13	P		**P**	**00 24 27.1**	**+2.1**
	4.1nm,0.9s,baz=117,slow=6.8,SNR=3.6							
WRA	Warramunga Arr	87.44	120	P		**P**	**00 24 32.5**	**-0.5**
WRA	Warramunga Arr	87.44	120	P		**P**	**00 24 32.5**	**-0.5**
	3.0nm,1.0s,baz=198,slow=2.9,SNR=7.6							
MDT	Midelt	88.30	339	P		**P**	**00 24 38.3**	**+1.6**
MDT	Midelt	88.30	339	P		**P**	**00 24 38.3**	**+1.6**
	4.0nm,0.9s,baz=122,slow=3.2,SNR=5.6							
KEST	Kesra	88.91	351	*e*P		**P**	**00 24 39.7**	**+0.3**
KEST	Kesra	88.91	351	P		**P**	**00 24 41.4**	**+2.0**
	1.2nm,0.8s,baz=164,slow=8.6,SNR=3.6							
KAPI	Kappang	91.29	100	*e*P		**P**	**00 24 51.0**	**-0.1**
	22nm,1.5s							
KAPI	Kappang	91.29	100	P		**P**	**00 24 51.0**	**-0.1**
	13nm,1.0s,baz=212,slow=9.9,SNR=4.8							
BRTR	Keskin Array B	92.96	10	P		**P**	**00 24 57.2**	**-1.1**
BRTR	Keskin Array B	92.96	10	P		**P**	**00 24 57.2**	**-1.1**
	0.8nm,0.9s,baz=171,slow=8.8,SNR=4.1							
ESDC	Sonseca Array	94.77	341	P		**P**	**00 25 06.8**	**+0.3**
ESDC	Sonseca Array	94.77	341	P		**P**	**00 25 06.8**	**+0.3**
	0.9nm,0.7s,baz=166,slow=5.2,SNR=5.8							
MKAR	Makanchi Array	112.27	41	PKiKP		**PKiKP**	**00 30 20.4**	**+0.1**
MKAR	Makanchi Array	112.27	41	PKiKP		**PKiKP**	**00 30 20.4**	**+0.1**
	0.2nm,0.4s,baz=232,slow=1.6,SNR=8.7							
KURBB	Kurchatov Arra	114.02	36	PKP		PKPdf	00 30 23.2	-0.3
	0.5nm,0.3s,baz=234,slow=2.5,SNR=4.0							
KURK	Kurchatov	114.12	36	PKP		PKPdf	00 30 23.2	-0.5
ZALV	Zalesovo Beam	118.98	37	PKP		**PKPdf**	**00 30 31.9**	**-1.0**
ZALV	Zalesovo Beam	118.98	37	PKP		**PKPdf**	**00 30 31.9**	**-1.0**
	1.7nm,0.7s,baz=228,slow=2.7,SNR=7.5							
SONM	Songino Array	123.76	54	PKP		**PKPdf**	**00 30 41.1**	**-1.4**
SONM	Songino Array	123.76	54	PKP		**PKPdf**	**00 30 41.1**	**-1.4**
	2.3nm,0.8s,baz=218,slow=2.4,SNR=6.8							
SCHQ	Schefferville	129.52	311	PKP		**PKPdf**	**00 30 53.2**	**+0.1**
SCHQ	Schefferville	129.52	311	PKP		**PKPdf**	**00 30 53.2**	**+0.1**
	3.3nm,1.0s,baz=117,slow=2.3,SNR=3.5							
TXAR	Lajitas Array	133.52	262	PKP		**PKPdf**	**00 31 03.0**	**+1.4**
TXAR	Lajitas Array	133.52	262	PKP		**PKPdf**	**00 31 03.0**	**+1.4**
	0.5nm,0.8s,baz=134,slow=5.2,SNR=4.1							
ULM	Lac du Bonnet	141.83	292	PKP		**PKPdf**	**00 31 16.8**	**+0.6**
ULM	Lac du Bonnet	141.83	292	PKP		**PKPdf**	**00 31 16.8**	**+0.6**
	2.3nm,0.9s,baz=135,slow=1.7,SNR=3.6							
PDAR	Pinedale Array	145.94	273	PKPbc		**PKPbc**	**00 31 24.6**	**-0.1**
PDAR	Pinedale Array	145.94	273	PKPbc		**PKPbc**	**00 31 24.6**	**-0.1**
	3.3nm,0.8s,baz=123,slow=5.5,SNR=4.7							
NVAR	Mina Array Bea	148.56	259	PKPbc		**PKPbc**	**00 31 32.6**	**+0.5**
NVAR	Mina Array Bea	148.56	259	PKPbc		**PKPbc**	**00 31 32.6**	**+0.5**
	3.7nm,0.9s,baz=165,slow=3.7,SNR=6.3							
YKA	Yellowknife Ar	154.96	310	PKP		**PKPdf**	**00 31 34.0**	**-2.8**
YKA				PKPbc		**PKPbc**	**00 31 44.5**	**-1.1**
YKA				PKPab		**PKPab**	**00 32 01.4**	**+0.1**
YKA	Yellowknife Ar	154.96	310	PKP		**PKPdf**	**00 31 34.0**	**-2.8**
	0.3nm,0.8s,baz=94,slow=2.0,SNR=5.2							
YKA				PKPbc		**PKPbc**	**00 31 44.5**	**-1.1**
	1.4nm,1.0s,baz=76,slow=1.8,SNR=4.4							
YKA				PKPab		**PKPab**	**00 32 01.3**	**+0.1**
	2.5nm,0.8s,baz=93,slow=4.9,SNR=10							
ILAR	Eielson Array	166.65	337	PKPab		**PKPab**	**00 32 52.2**	**0.0**
ILAR	Eielson Array	166.65	337	PKPab		**PKPab**	**00 32 52.2**	**0.0**
	0.9nm,1.0s,baz=14,slow=3.5,SNR=5.7							

*ISCJB **18** 00:16:20.6±0.4,52.°95S±0.°08×20.°9E±0.°2, h11km, mb4.4/25, Error ellipse: s-maj=13.8km s-min=10.9km az=177.2*
*IDC **18** 00:16:20.2±0.4,52.°99S×20.°93E, h0km, mb4.4/21, mb1 4.5/21,mb1mx4.4/25, mbtmp4.4/21, Error ellipse: s-maj=16.8km s-min=14.5km az=80.0*
*NEIC **18** 00:16:21.6±0.3,52.°99S×20.°95E, h10km, mb4.7/13, Error ellipse: s-maj=11.1km s-min=8.7km az=87.0*

ISC 18 00:16:21.8±0.4, 52.°99S±0.°09×21.°0E±0.°1, h11km, n74, σ0°86/73, mb4.6/25, 2C, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SUR	Sutherland	20.60	360	*e*P			**P**	**00 21 01.1**	**+0.2**
	25nm,1.0s								
SUR	Sutherland	20.60	360	P			**P**	**00 21 01.4**	**+0.5**
	18nm,0.8s,baz=178,slow=6.9,SNR=7.7								
SNAA	Sanae	21.46	200	*e*P			P	00 21 02.2	-7.6
	34nm,0.9s								
BOSA	Boshof	24.56	9	*e*P			**P**	**00 21 40.3**	**-1.4**
	5.0nm,0.8s								
BOSA	Boshof	24.56	9	P			**P**	**00 21 40.2**	**-1.4**
	2.9nm,0.8s,baz=216,slow=14,SNR=3.3								
LBTB	Lobatse	28.16	9	*e*P			**P**	**00 22 14.1**	**+0.1**
	3.6nm,0.8s								
LBTB	Lobatse	28.16	9	P			**P**	**00 22 14.2**	**+0.1**
	4.2nm,0.9s,baz=184,slow=9.2,SNR=5.3								
TSUM	Tsumeb	33.83	354	*e*P			**P**	**00 23 04.0**	**0.0**
	15nm,1.3s								
TSUM	Tsumeb	33.83	354	P			**P**	**00 23 03.8**	**-0.2**
	8.7nm,1.1s,baz=163,slow=3.0,SNR=6.3								
QSPA	South Pole Qui	37.24	180	P			**P**	**00 23 33.5**	**+0.5**
QSPA	South Pole Qui	37.24	180	P			**P**	**00 23 33.5**	**+0.5**
	24nm,0.9s,baz=230,slow=3.6,SNR=33								
LSZ	Lusaka	38.06	11	*e*P			**P**	**00 23 39.9**	**-0.4**
	11nm,1.0s								
PLCA	Paso Flores	59.63	242	P			**P**	**00 26 25.6**	**-0.1**
PLCA	Paso Flores	59.63	242	P			**P**	**00 26 25.6**	**-0.1**
	3.1nm,0.9s,baz=147,slow=5.2,SNR=4.5								
CPUP	Villa Florida	62.52	262	*e*P			**P**	**00 26 44.5**	**-0.9**
	14nm,0.8s								
CPUP	Villa Florida	62.52	262	P			**P**	**00 26 44.3**	**-1.1**
	2.8nm,0.7s,baz=123,slow=6.4,SNR=9.2								
DBIC	Dimbokro	63.35	331	*e*P			**P**	**00 26 51.0**	**+0.2**
	4.7nm,0.8s								
DBIC	Dimbokro	63.35	331	P			**P**	**00 26 51.4**	**+0.6**
	3.7nm,1.0s,baz=164,slow=15,SNR=2.4								

CFAA	Coronel Fontan	65.01	250	P			**P**	**00 27 02.4**	**+0.7**
CFAA	Coronel Fontan	65.01	250	P			**P**	**00 27 02.4**	**+0.7**
	0.1nm,0.4s,baz=149,slow=5.9								
BDFB	Brasilia	65.02	277	P			**P**	**00 27 02.9**	**+0.8**
	2.8nm,0.8s,baz=121,slow=5.9,SNR=3.8								
TORD	Torodi Ar. Bea	67.93	340	P			**P**	**00 27 19.9**	**-0.5**
TORD	Torodi Ar. Bea	67.93	340	P			**P**	**00 27 19.9**	**-0.5**
	1.7nm,1.0s,baz=171,slow=8.7,SNR=6.0								
NWAO	Narrogin (SRO)	67.94	116	*e*P			**P**	**00 27 20.1**	**-0.4**
	16nm,1.0s								
LPAZ	La Paz	76.64	261	*e*P			**P**	**00 28 14.0**	**+0.7**
	9.5nm,1.4s								
LPAZ	La Paz	76.64	261	P			**P**	**00 28 14.2**	**+0.8**
	1.0nm,0.6s,baz=171,slow=8.5,SNR=4.6								
TRD	Trivandrum	77.44	57	*e*PKP				00 47 11.7	
SAML	Samuel	79.41	269	*e*P			**P**	**00 28 28.2**	**+0.3**
	8.2nm,0.9s								
STKA	Stephens Creek	80.98	132	*e*P			**P**	**00 28 35.6**	**-0.7**
	1.0nm,0.9s								
STKA	Stephens Creek	80.98	132	P			**P**	**00 28 36.5**	**+0.1**
	4.3nm,0.9s,baz=229,slow=4.9,SNR=7.9								
ASAR	Alice Springs	84.14	122	P			**P**	**00 28 53.4**	**+0.4**
ASAR	Alice Springs	84.14	122	P			**P**	**00 28 53.4**	**+0.4**
	4.5nm,0.8s,baz=210,slow=5.6,SNR=28								
FITZ	Fitzroy Crossi	84.23	112	*e*P			**P**	**00 28 53.5**	**+0.2**
	3.4nm,0.8s								
FITZ	Fitzroy Crossi	84.23	112	P			**P**	**00 28 54.7**	**+1.4**
	2.9nm,0.8s,baz=198,slow=17,SNR=3.5								
PSI	Prapat	84.98	79	P			**P**	**00 28 57.6**	**+0.3**
PSI	Prapat	84.98	79	P			**P**	**00 28 57.6**	**+0.3**
	3.2nm,0.7s,baz=291,slow=14,SNR=3.1								
ASF	Jabal al Asfar	85.93	13	P			**P**	**00 29 03.4**	**+1.9**
ASF	Jabal al Asfar	85.93	13	P			**P**	**00 29 03.4**	**+1.9**
	3.4nm,1.0s,baz=263,slow=0.9,SNR=3.1								
WRA	Warramunga Arr	87.44	120	P			**P**	**00 29 09.3**	**-0.1**
WRA	Warramunga Arr	87.44	120	P			**P**	**00 29 09.3**	**-0.1**
	3.0nm,0.9s,baz=202,slow=3.3,SNR=15								
MDT	Midelt	88.31	339	P			**P**	**00 29 14.2**	**+1.2**
MDT	Midelt	88.31	339	P			**P**	**00 29 14.2**	**+1.2**
	3.4nm,0.9s,baz=151,slow=6.7,SNR=6.7								
KEST	Kesra	88.93	351	*e*P			**P**	**00 29 16.2**	**+0.3**
KAPI	Kappang	91.30	100	*e*P			**P**	**00 29 28.3**	**+0.8**
KAPI	Kappang	91.30	100	P			**P**	**00 29 27.7**	**+0.3**
	4.8nm,0.9s,baz=221,slow=17,SNR=4.3								
BRTR	Keskin Array B	92.99	10	P			**P**	**00 29 35.7**	**+1.0**
BRTR	Keskin Array B	92.99	10	P			**P**	**00 29 35.7**	**+1.0**
	1.0nm,1.1s,baz=157,slow=7.8,SNR=3.7								
ESDC	Sonseca Array	94.79	341	P			**P**	**00 29 43.7**	**+0.9**
ESDC	Sonseca Array	94.79	341	P			**P**	**00 29 43.7**	**+0.9**
	0.6nm,0.8s,baz=186,slow=5.1,SNR=3.8								
KWP	Kalwaria Pacla	102.26	1	P				00 31 20.3	
MKAR	Makanchi Array	112.30	41	PKiKP		**PKiKP**	**00 34 56.7**	**0.0**
MKAR	Makanchi Array	112.30	41	PKiKP		**PKiKP**	**00 34 56.7**	**0.0**
	0.8nm,0.9s,baz=227,slow=2.9,SNR=5.7								
KURBB	Kurchatov Arra	114.05	36	PKP		PKPdf	00 34 60.0	+0.2
	0.3nm,0.2s,baz=231,slow=2.8,SNR=4.1								
KURK	Kurchatov	114.16	36	PKP		PKPdf	00 34 60.0	0.0
ZALV	Zalesovo Beam	119.01	37	PKP		**PKPdf**	**00 35 08.2**	**-1.1**
ZALV	Zalesovo Beam	119.01	37	PKP		**PKPdf**	**00 35 08.2**	**-1.1**
	1.5nm,0.8s,baz=242,slow=3.1,SNR=7.4								
SONM	Songino Array	123.79	54	PKP		**PKPdf**	**00 35 18.4**	**-0.5**
SONM	Songino Array	123.79	54	PKP		**PKPdf**	**00 35 18.4**	**-0.5**
	2.0nm,0.9s,baz=207,slow=2.9,SNR=5.0								
SCHQ	Schefferville	129.52	311	PKP		**PKPdf**	**00 35 28.3**	**-1.1**
SCHQ	Schefferville	129.52	311	PKP		**PKPdf**	**00 35 28.3**	**-1.1**
	2.9nm,0.8s,baz=127,slow=5.1,SNR=4.3								
TXAR	Lajitas Array	133.50	262	PKP		**PKPdf**	**00 35 39.1**	**+1.2**
TXAR	Lajitas Array	133.50	262	PKP		**PKPdf**	**00 35 39.1**	**+1.2**
	0.8nm,0.9s,baz=158,slow=3.3,SNR=9.2								
ULM	Lac du Bonnet	141.82	292	PKP		**PKPdf**	**00 35 52.0**	**-0.4**
ULM	Lac du Bonnet	141.82	292	PKP		**PKPdf**	**00 35 52.0**	**-0.4**
	1.9nm,0.7s,baz=138,slow=0.9,SNR=4.4								
PDAR	Pinedale Array	145.92	273	PKPbc		**PKPdf**	**00 35 59.9**	**-0.3**
PDAR	Pinedale Array	145.92	273	PKPbc		**PKPdf**	**00 35 59.9**	**-0.3**
	6.7nm,0.8s,baz=125,slow=4.5,SNR=39								
NVAR	Mina Array Bea	148.53	259	PKPbc		**PKPbc**	**00 36 07.5**	**-0.8**
NVAR	Mina Array Bea	148.53	259	PKPbc		**PKPbc**	**00 36 07.5**	**-0.8**
	6.2nm,0.8s,baz=163,slow=3.7,SNR=24								
YKA	Yellowknife Ar	154.96	310	PKP		**PKPdf**	**00 36 10.6**	**-2.6**
YKA				PKPbc		**PKPbc**	**00 36 21.4**	**-0.6**
YKA				PKPab		**PKPab**	**00 36 37.2**	**-0.3**
YKA	Yellowknife Ar	154.96	310	PKP		**PKPdf**	**00 36 10.6**	**-2.6**
	0.8nm,1.0s,baz=64,slow=1.2,SNR=6.9								
YKA				PKPbc		**PKPbc**	**00 36 21.4**	**-0.6**
	1.7nm,1.0s,baz=81,slow=2.2,SNR=8.3								
YKA				PKPab		**PKPab**	**00 36 37.2**	**-0.3**
	2.7nm,0.9s,baz=91,slow=4.9,SNR=15								
INK	Inuvik	160.45	331	PKPab		**PKPab**	**00 37 01.3**	**+0.2**
INK	Inuvik	160.45	331	PKPab		**PKPab**	**00 37 01.3**	**+0.2**
	1.5nm,0.9s,baz=60,slow=6.5,SNR=4.8								
ILAR	Eielson Array	166.66	337	PKPab		**PKPab**	**00 37 28.2**	**-0.3**
ILAR	Eielson Array	166.66	337	PKPab		**PKPab**	**00 37 28.2**	**-0.3**
	1.1nm,1.0s,baz=8.3,slow=3.3,SNR=6.6								

*ISCJB **18** 00:20:30.0±0.7, 36.°93N±0.°04×28.°27E±0.°03, h3km±6km, Error ellipse: s-maj=6.1km s-min=4.3km az=16.3*
*CSEM **18** 00:20:29.7±0.3, 36.°89N×28.°25E, h5km, MD2.8, Error ellipse: s-maj=6.1km s-min=3.6km az=25.0*
*ISK **18** 00:20:30.4, 36.°97N×28.°35E, h9km, MD2.8*
*DDA **18** 00:20:30.9, 36.°99N×28.°20E, h7km, MD2.9*

ISC 18 00:20:30.2±1.1, 36.°95N±0.°03×28.°27E±0.°02, h2km±10km, n33, σ1°11/51, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.18	2	*e*PG			**Pg**	**00 20 34.2**	**+0.5**
YER				*e*SG			**Sg**	**00 20 37.8**	**+1.6**
YER	Yerkesik	0.18	2	*e*Pg			**Pg**	**00 20 34.2**	**+0.5**
YER				*e*Sg			**Sg**	**00 20 37.8**	**+1.6**
TURN	Turunc	0.28	107	*i* P			**Pg**	**00 20 35.1**	**-0.4**
TURN				*i* S			**Sg**	**00 20 38.4**	**-0.6**
TURN	Turunc	0.28	107	*i* P			**Pg**	**00 20 35.1**	**-0.4**
TURN				*i* S			**Sg**	**00 20 38.4**	**-0.6**
DAT	Datca	0.60	248	*e*PG			**Pb**	**00 20 43.7**	**+0.2**
DAT				*e*SG			**Sb**	**00 20 53.5**	**+1.0**
BDRM	Kayabasi	0.67	280	*i* P			**Pg**	**00 20 42.7**	**-0.4**
BDRM				*i* S			**Sg**	**00 20 51.7**	**-0.1**
BDRM	Kayabasi	0.67	280	*i* P			**Pg**	**00 20 42.7**	**-0.4**
BDRM				*i* S			**Sg**	**00 20 51.7**	**-0.1**
FETY	Fethiye	0.72	116	*e*PG			**Pg**	**00 20 44.0**	**-0.1**
FETY	Fethiye	0.72	116	*e*Pg			**Pg**	**00 20 44.0**	**-0.1**
AYDN	Tasoluk	0.77	336	*i* P			**Pg**	**00 20 45.2**	**+0.1**
AYDN				*i* S			**Sg**	**00 20 54.7**	**-0.4**
AYDN	Tasoluk	0.77	336	*i* P			**Pg**	**00 20 45.2**	**+0.1**
AYDN				*i* S			**Sg**	**00 20 54.7**	**-0.4**
DNZL	Cakiroluk	0.96	40	*i* P			**Pn**	**00 20 50.0**	**-0.9**
DNZL				*i* S			**Sn**	**00 21 04.4**	**-0.8**
DNZL	Cakiroluk	0.96	40	*i* P			**Pn**	**00 20 50.0**	**-0.9**
DNZL				*i* S			**Sn**	**00 21 04.4**	**-0.8**
GOLH	Golhisar	1.07	74	*i* P			**Pn**	**00 20 54.6**	**+2.3**
GOLH				*i* S			**Sn**	**00 21 12.8**	**+5.0**
GOLH	Golhisar	1.07	74	*i* P			**Pn**	**00 20 54.6**	**+2.3**
GCAM	G?zelcaml?	1.12	312	*i* P			**Pb**	**00 20 51.9**	**-0.3**
GCAM				*i* S			**Sb**	**00 21 07.1**	**0.0**
GCAM	G?zelcaml?	1.12	312	*i* P			**Pb**	**00 20 51.9**	**-0.3**
GCAM				*i* S			**Sb**	**00 21 07.1**	**0.0**
ELL	Elmali	1.33	98	*e*PN			**Pg**	**00 20 54.9**	**-0.7**
ELL	Elmali	1.33	98	*e*Pn			**Pg**	**00 20 54.9**	**-0.7**
MANT	Manisa	1.55	8	*i* P			**Pb**	**00 20 59.4**	**-0.4**
MANT				*i* S			**Sn**	**00 21 18.5**	**-1.4**
MANT	Manisa	1.55	8	*i* P			**Pb**	**00 20 59.4**	**-0.4**
MANT				*i* S			**Sn**	**00 21 18.5**	**-1.4**
KULA	Kula-Manisa	1.59	11	*e*PN			**Pn**	**00 20 59.1**	**-0.3**
KULA	Kula-Manisa	1.59	11	*e*Pn			**Pn**	**00 20 59.1**	**-0.3**
KHL	Karahalli	1.69	36	*e*PN			**Pn**	**00 21 00.7**	**-0.1**
KHL	Karahalli	1.69	36	*e*Pn			**Pn**	**00 21 00.7**	**-0.1**
KHAL	Karahalli	1.71	34	*i* P			**Pg**	**00 21 02.7**	**-0.4**
KHAL				*i* S			**Sg**	**00 21 25.5**	**+0.2**
KHAL	Karahalli	1.71	34	*i* P			**Pg**	**00 21 02.7**	**-0.4**
KHAL				*i* S			**Sg**	**00 21 25.5**	**+0.2**
BLCB	Balcova	1.73	326	*e*PN			**Pn**	**00 21 01.8**	**+0.5**
BLCB	Balcova	1.73	326	*e*Pn			**Pn**	**00 21 01.8**	**+0.5**
BCK	Bucak	1.92	74	*e*PN			**Pn**	**00 21 02.6**	**-1.3**
BCK	Bucak	1.92	74	*e*Pn			**Pn**	**00 21 02.6**	**-1.3**
AKS	Akhisar	1.96	349	*e*PN			**Pn**	**00 21 04.2**	**-0.3**
AKS	Akhisar	1.96	349	*e*Pn			**Pn**	**00 21 04.2**	**-0.3**

*IDC **18** 00:22:51.0±1.2,34.°15N×23.°28E, h0km, mb4.0/9, mb1 3.9/16,mb1mx3.8/34, mbtmp3.8/16, ML3.9/6, Error ellipse: s-maj=22.4km s-min=19.5km az=16.0*

*ATH **18** 00:22:54.4,34.°05N×23.°36E, h37km±3km, MD3.7/19*
*ISCJB **18** 00:22:55.3±0.9,34.°06N±0.°06×23.°42E±0.°06, h55km±8km, mb3.9/9, Error ellipse: s-maj=10.9km s-min=6.8km az=31.0*
*CSEM **18** 00:22:55.9±0.6,34.°20N×23.°46E, h10km, MD3.7, Error ellipse: s-maj=14.0km s-min=6.4km az=15.0*
*THE **18** 00:23:04.1,34.°56N×23.°77E, h52km±2km, Error ellipse: s-maj=5.0km s-min=1.8km az=35.0*

ISC 18 00:22:56.0±1.6, 34.°08N±0.°08×23.°46E±0.°05, h40km±17km, n85, σ1°50/95, mb4.1/9, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.92	34	P			**Pn**	**00 23 13.3**	**+0.9**
GVD				S			**Sn**	**00 23 21.5**	**-2.9**
GVD	Gavdhos	0.92	34	*e*PN			**Pn**	**00 23 13.6**	**+1.2**
GVD				*e*SN			**Sn**	**00 23 26.7**	**+2.3**
GVD	Gavdhos	0.92	34	P			**Pn**	**00 23 13.3**	**+0.9**
GVD	Gavdhos	0.92	34	*e*Pn			**Pn**	**00 23 13.6**	**+1.2**
GVD				S			**Sn**	**00 23 21.5**	**-2.9**
KARN	Karanos	1.37	16	P			**Pn**	**00 23 19.6**	**+0.9**
KARN				S			**Sn**	**00 23 31.4**	**-4.2**
KARN	Karanos	1.37	16	*e*PN			**Pn**	**00 23 19.7**	**+1.0**
KARN	Karanos	1.37	16	*e*Pn			**Pn**	**00 23 19.7**	**+1.0**
SIVA	Sivas	1.45	50	P			**Pn**	**00 23 21.2**	**+1.5**
SIVA	Sivas	1.45	50	*e*PB			**Pn**	**00 23 21.3**	**+1.5**
SIVA	Sivas	1.45	50	P			**Pn**	**00 23 21.2**	**+1.5**
VAM	Vamos	1.46	24	P			**Pn**	**00 23 20.7**	**+0.9**
VAM	Vamos	1.46	24	*e*PB			**Pn**	**00 23 20.5**	**+0.7**
VAM				*e*SN			**Sn**	**00 23 40.8**	**+3.1**
VAM	Vamos	1.46	24	P			**Pn**	**00 23 20.7**	**+0.9**
VAM				*e*Sn			**Sn**	**00 23 40.8**	**+3.1**
LAST	Lasithi	1.98	56	P			**Pn**	**00 23 28.5**	**+1.4**
LAST	Lasithi	1.98	56	*e*PN			**Pn**	**00 23 28.5**	**+1.4**
LAST	Lasithi	1.98

	5.9nm,0.7s						
MAW	**Mawson**	**24.75**	**142**	LR	LR	00 41 28.6	
	comp=Z,169nm,18.9s,baz=94,slow=32						
LBTB	**Lobatse**	**28.22**	**9**	*eP*	**P**	**00 34 04.3**	**-0.4**
	1.3nm,0.6s						
LBTB	**Lobatse**	**28.22**	**9**	P	**P**	**00 34 04.1**	**-0.7**
	2.4nm,0.9s,baz=192,slow=9.3,SNR=3.1						
LBTB				LR	LR	00 43 03.8	
	comp=Z,584nm,20.3s,baz=191,slow=32						
TSUM	**Tsumeb**	**33.87**	**354**	*eP*	**P**	**00 34 54.7**	**+0.1**
	11nm,1.1s						
TSUM	**Tsumeb**	**33.87**	**354**	P	**P**	**00 34 54.4**	**-0.2**
	5.7nm,1.1s,baz=186,slow=9.1,SNR=8.9						
TSUM				LR	LR	00 46 49.3	
	comp=Z,322nm,18.6s,baz=177,slow=33						
QSPA	**South Pole Qui**	**37.19**	**180**	P	**P**	**00 35 24.5**	**+1.7**
QSPA	**South Pole Qui**	**37.19**	**180**	P	**P**	**00 35 24.5**	**+1.7**
	18nm,1.0s,baz=241,slow=5.7,SNR=32						
QSPA				LR	LR	00 49 54.0	
	comp=Z,344nm,18.8s,baz=247,slow=35						
LSZ	**Lusaka**	**38.12**	**12**	*eP*	**P**	**00 35 30.6**	**-0.4**
	11nm,1.2s						
OPO	**Ambohidratompo**	**40.03**	**41**	LR	LR	00 48 30.3	
	comp=Z,270nm,18.6s,baz=175,slow=30						
USHA	**Ushuaia**	**49.12**	**230**	LR	LR	00 51 54.9	
	comp=Z,416nm,21.4s,baz=44,slow=29						
CPUP	**Villa Florida**	**62.44**	**262**	*eP*	**P**	**00 38 35.4**	**+0.4**
	5.2nm,0.7s						
CPUP	**Villa Florida**	**62.44**	**262**	P	**P**	**00 38 35.6**	**+0.6**
	2.3nm,0.7s,baz=127,slow=8.0,SNR=5.0						
CPUP				LR	LR	01 00 12.2	
	comp=Z,140nm,18.1s,baz=154,slow=31						
DBIC	**Dimbokro**	**63.35**	**331**	*eP*	**P**	**00 38 40.9**	**-0.1**
	4.2nm,0.9s						
DBIC	**Dimbokro**	**63.35**	**331**	P	**P**	**00 38 40.1**	**-0.9**
	3.7nm,1.0s,baz=130,slow=10.0,SNR=3.7						
DBIC				LR	LR	01 00 08.3	
	comp=Z,156nm,18.8s,baz=110,slow=30						
TORD	**Torodi Ar. Bea**	**67.95**	**340**	P	**P**	**00 39 09.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**67.95**	**340**	P	**P**	**00 39 09.8**	**-0.9**
	2.4nm,1.1s,baz=169,slow=5.1,SNR=8.9						
SIV	**San Ignacio**	**72.55**	**267**	P	**P**	**00 39 39.1**	**0.0**
SIV	**San Ignacio**	**72.55**	**267**	P	**P**	**00 39 39.1**	**0.0**
	0.8nm,0.9s,baz=165,slow=5.8,SNR=3.1						
LPAZ	**La Paz**	**76.56**	**261**	*eP*	**P**	**00 40 03.6**	**+0.6**
	3.7nm,1.1s						
LPAZ	**La Paz**	**76.56**	**261**	P	**P**	**00 40 04.0**	**+0.9**
	1.0nm,0.7s,baz=146,slow=3.9,SNR=4.1						
LPAZ				LR	LR	01 08 56.1	
	comp=Z,83nm,19.4s,baz=258,slow=32						
SAML	**Samuel**	**79.33**	**269**	*eP*	**P**	**00 40 18.7**	**+1.0**
	5.5nm,1.0s						
STKA	**Stephens Creek**	**81.01**	**132**	*eP*	**P**	**00 40 26.8**	**+0.2**
	0.5nm,0.8s						
STKA	**Stephens Creek**	**81.01**	**132**	P	**P**	**00 40 26.1**	**-0.4**
	3.7nm,1.0s,baz=202,slow=19,SNR=4.4						
ASAR	**Alice Springs**	**84.18**	**122**	P	**P**	**00 40 44.1**	**+0.8**
ASAR	**Alice Springs**	**84.18**	**122**	P	**P**	**00 40 44.1**	**+0.8**
	2.0nm,0.8s,baz=216,slow=5.6,SNR=13						
ASF	**Jabal al Asfar**	**86.00**	**14**	P	**P**	**00 40 52.8**	**+0.8**
ASF	**Jabal al Asfar**	**86.00**	**14**	P	**P**	**00 40 52.8**	**+0.8**
	2.5nm,0.9s,baz=339,slow=8.6,SNR=3.2						
WRA	**Warramunga Arr**	**87.49**	**120**	P	**P**	**00 40 59.6**	**-0.1**
WRA	**Warramunga Arr**	**87.49**	**120**	P	**P**	**00 40 59.6**	**-0.1**
	2.4nm,1.1s,baz=214,slow=4.2,SNR=6.4						
WRAB	**Tennant Creek**	**87.50**	**120**	*eP*	**P**	**00 40 58.2**	**-1.6**
	6.2nm,1.0s						
MDT	**Midelt**	**88.33**	**339**	P	**P**	**00 41 04.8**	**+1.5**
MDT	**Midelt**	**88.33**	**339**	P	**P**	**00 41 04.8**	**+1.5**
	2.2nm,0.8s,baz=94,slow=6.4,SNR=4.6						
BRTR	**Keskin Array B**	**93.05**	**10**	P	**P**	**00 41 24.9**	**-0.3**
BRTR	**Keskin Array B**	**93.05**	**10**	P	**P**	**00 41 24.9**	**-0.3**
	0.7nm,0.9s,baz=160,slow=4.6,SNR=4.7						
MKAR	**Makanchi Array**	**112.39**	**41**	PKiKP	**PKiKP**	**00 46 47.0**	**0.0**
MKAR	**Makanchi Array**	**112.39**	**41**	PKiKP	**PKiKP**	**00 46 47.0**	**0.0**
	0.6nm,0.9s,baz=232,slow=1.4,SNR=5.0						
ZALV	**Zalesovo Beam**	**119.10**	**37**	PKP	**PKPdf**	**00 46 58.9**	**-0.7**
ZALV	**Zalesovo Beam**	**119.10**	**37**	PKP	**PKPdf**	**00 46 58.9**	**-0.7**
	0.9nm,0.6s,baz=236,slow=1.6,SNR=6.2						
SONM	**Songino Array**	**123.88**	**54**	PKP	**PKPdf**	**00 47 09.9**	**+0.7**
SONM	**Songino Array**	**123.88**	**54**	PKP	**PKPdf**	**00 47 09.9**	**+0.7**
	0.8nm,0.7s,baz=252,slow=2.3,SNR=4.0						
SCHQ	**Schefferville**	**129.50**	**311**	PKP	**PKPdf**	**00 47 19.5**	**-0.1**
SCHQ	**Schefferville**	**129.50**	**311**	PKP	**PKPdf**	**00 47 19.5**	**-0.1**
	2.7nm,1.0s,baz=16,slow=5.3,SNR=4.4						
TXAR	**Lajitas Array**	**133.42**	**262**	PKP	**PKPdf**	**00 47 29.1**	**+1.2**
TXAR	**Lajitas Array**	**133.42**	**262**	PKP	**PKPdf**	**00 47 29.1**	**+1.2**
	0.6nm,0.9s,baz=149,slow=2.6,SNR=5.1						
MSU	**Marysvale**	**144.84**	**265**	*e*PKPdf	**PKPdf**	**00 47 48.7**	**+0.1**
MVU	**Marysvale**	**144.86**	**265**	*e*PKPdf	**PKPdf**	**00 47 48.8**	**+0.2**
DAU	**Daniels Canyon**	**145.48**	**268**	*e*PKPdf	**PKPab**	**00 47 50.1**	**+0.1**
PDAR	**Pinedale Array**	**145.85**	**273**	PKPbc	**PKPbc**	**00 47 51.1**	**+0.3**
PDAR	**Pinedale Array**	**145.85**	**273**	PKPbc	**PKPbc**	**00 47 51.1**	**+0.3**
	3.4nm,0.8s,baz=127,slow=3.2,SNR=27						
PD02	**Pinedale Array**	**145.86**	**273**	*e*PKPdf	**PKPdf**	**00 47 49.8**	**-0.4**
RES	**Resolute Bay**	**146.95**	**334**	PKPbc	**PKPbc**	**00 47 53.3**	**+0.5**
RES	**Resolute Bay**	**146.95**	**334**	PKPbc	**PKPbc**	**00 47 53.3**	**+0.5**
	5.7nm,0.9s,baz=78,slow=3.4,SNR=10						
NVAR	**Mina Array Bea**	**148.45**	**259**	PKPbc	**PKPbc**	**00 47 58.8**	**+0.5**
NVAR	**Mina Array Bea**	**148.45**	**259**	PKPbc	**PKPbc**	**00 47 58.8**	**+0.5**
	4.0nm,0.9s,baz=134,slow=3.9,SNR=18						
EGMT	**Eagleton**	**148.72**	**281**	*e*PKPdf	**PKPdf**	**00 47 54.9**	**+0.3**
EGMT				*e*PKPbc	**PKiKP**	**00 47 59.5**	**-0.3**
YKA	**Yellowknife Ar**	**154.93**	**310**	PKP	**PKPdf**	**00 48 00.6**	**-2.7**
YKA				PKPbc	**PKPbc**	**00 48 11.4**	**-0.6**
YKA				PKPab	**PKPab**	**00 48 28.2**	**+0.6**
YKA	**Yellowknife Ar**	**154.93**	**310**	PKP	**PKPdf**	**00 48 00.6**	**-2.7**
	0.6nm,0.9s,baz=77,slow=1.4,SNR=7.4						
YKA				PKPbc	**PKPbc**	**00 48 11.4**	**-0.6**
	0.8nm,1.0s,baz=90,slow=1.9,SNR=3.7						
YKA				PKPab	**PKPab**	**00 48 28.2**	**+0.6**
	1.6nm,0.9s,baz=90,slow=2.8,SNR=4.7						
ILAR	**Eielson Array**	**166.68**	**337**	PKPab	**PKPab**	**00 49 19.0**	**+0.2**
ILAR	**Eielson Array**	**166.68**	**337**	PKPab	**PKPab**	**00 49 19.0**	**+0.2**
	0.6nm,0.9s,baz=18,slow=3.1,SNR=6.3						

DDA 18 00:29:05.4, 37.53N×38.61E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAB	**Bozova**	**0.26**	**258**	*i* P	Pg	00 29 11.0	+0.3
ATAB				*i* S	Sg	00 29 14.6	+0.5
AKCD	**Akcadag**	**0.94**	**325**	*i* P	Pn	00 29 25.7	+0.4
AKCD				*i* S	Sb	00 29 37.0	-0.1

*ISCJB **18** 00:30:11.2±0.6, 52.°90S±0.°08×21.°1E±0.°3, h11km, mb4.0/9, Error ellipse: s-maj=25.3km s-min=12.0km az=0.8*
*IDC **18** 00:30:11.3±1.0, 52.°97S×21.°25E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/18, mbtmp3.9/4, Error ellipse: s-maj=43.0km s-min=31.0km az=77.0*
*NEIC **18** 00:30:12.6±0.4, 52.°93S×21.°21E, h10km, mb4.2/6, Error ellipse: s-maj=17.2km s-min=9.7km az=93.0*

ISC 18 00:30:12.7±0.7, 52.°9S±0.°1×21.°2E±0.°2, h11km, n22, σ0°44/22, mb4.0/9, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.54**	**359**	*eP*	**P**	**00 34 51.2**	**-0.1**
	14nm,1.1s						
SNAA	**Sanae**	**21.57**	**201**	P	**P**	**00 35 02.2**	**+0.3**
SNAA	**Sanae**	**21.57**	**201**	P	**P**	**00 35 02.2**	**+0.3**
	0.6nm,0.4s,baz=43,slow=19,SNR=2.3						
BOSA	**Boshof**	**24.48**	**9**	*eP*	**P**	**00 35 31.3**	**-0.6**
	4.0nm,1.1s						
LBTB	**Lobatse**	**28.08**	**8**	*eP*	**P**	**00 36 04.3**	**+0.1**
	2.6nm,1.0s						
TSUM	**Tsumeb**	**33.78**	**354**	*eP*	**P**	**00 36 55.1**	**+0.4**
	2.7nm,1.0s						
QSPA	**South Pole Qui**	**37.29**	**180**	P	**P**	**00 37 24.4**	**0.0**
	5.7nm,0.8s,baz=240,slow=4.0,SNR=5.4						
CPUP	**Villa Florida**	**62.67**	**262**	*eP*	**P**	**00 40 37.3**	**0.0**
	3.3nm,0.6s						
DBIC	**Dimbokro**	**63.37**	**331**	P	**P**	**00 40 42.6**	**+0.7**
ASAR	**Alice Springs**	**84.05**	**122**	P	**P**	**00 42 44.0**	**+0.6**
ASAR	**Alice Springs**	**84.05**	**122**	P	**P**	**00 42 44.0**	**+0.6**
	0.5nm,0.5s,baz=205,slow=4.5,SNR=4.0						
WRA	**Warramunga Arr**	**87.35**	**120**	P	**P**	**00 42 59.3**	**-0.5**
WRA	**Warramunga Arr**	**87.35**	**120**	P	**P**	**00 42 59.3**	**-0.5**
	0.4nm,0.6s,baz=209,slow=3.9,SNR=3.7						
WRAB	**Tennant Creek**	**87.36**	**120**	*eP*	**P**	**00 42 59.9**	**0.0**
	3.2nm,0.9s						
PDAR	**Pinedale Array**	**146.06**	**273**	PKPbc	**PKPdf**	**00 49 51.2**	**-0.1**
PDAR	**Pinedale Array**	**146.06**	**273**	PKPbc	**PKPdf**	**00 49 51.2**	**-0.1**
	0.4nm,0.6s,baz=121,slow=6.4,SNR=3.9						
RES	**Resolute Bay**	**146.95**	**334**	PKPbc	**PKPab**	**00 49 54.8**	**-0.3**
RES	**Resolute Bay**	**146.95**	**334**	PKPbc	**PKPab**	**00 49 54.8**	**-0.3**
	0.7nm,0.5s,baz=73,slow=4.8,SNR=4.4						
NVAR	**Mina Array Bea**	**148.68**	**259**	PKPbc	**PKPbc**	**00 49 59.1**	**-0.5**
NVAR	**Mina Array Bea**	**148.68**	**259**	PKPbc	**PKPbc**	**00 49 59.1**	**-0.5**
	0.8nm,1.0s,baz=138,slow=5.6,SNR=4.1						
YKA	**Yellowknife Ar**	**155.03**	**310**	PKPab	**PKPab**	**00 50 28.2**	**-0.6**
YKA	**Yellowknife Ar**	**155.03**	**310**	PKPab	**PKPab**	**00 50 28.2**	**-0.6**
	0.3nm,0.7s,baz=98,slow=4.7,SNR=4.3						

*IDC **18** 00:30:26.3±7.5, 34.°75N×23.°35E, h0km, mb3.8/4, mb1 3.6/6, mb1mx3.4/28, mbtmp3.6/6, ML3.2/2, Error ellipse: s-maj=142.5km s-min=33.8km az=24.0*
*ISCJB **18** 00:30:33.4±1.1, 34.°84N±0.°07×23.°29E±0.°05, h25km±6km, mb3.6/4, Error ellipse: s-maj=11.8km s-min=5.3km az=21.0*
*ATH **18** 00:30:33.8, 34.°86N×23.°36E, h31km±1km, MD3.5/11*
*THE **18** 00:30:34.6, 34.°89N×23.°36E, h15km±1km, Error ellipse: s-maj=1.8km s-min=0.8km az=34.0*
*CSEM **18** 00:30:34.4±0.5, 34.°88N×23.°35E, h20km, MD3.5, Error ellipse: s-maj=11.6km s-min=4.2km az=25.0*

ISC 18 00:30:33.5±1.8, 34.°85N±0.°07×23.°34E±0.°06, h15km±10km, n48, σ0°84/59, mb3.7/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.62**	**91**	P	**Pg**	**00 30 45.9**	**+0.3**
GVD				S	**Sb**	**00 30 55.5**	**+1.0**
GVD	**Gavdhos**	**0.62**	**91**	*e*PN	**Pb**	**00 30 46.1**	**+0.1**
GVD				*e*SN	**Sb**	**00 30 56.1**	**+1.6**
GVD	**Gavdhos**	**0.62**	**91**	P	**Pg**	**00 30 45.9**	**+0.3**
GVD				S	**Sb**	**00 30 55.5**	**+1.0**
GVD				*e*Sn	**Sb**	**00 30 56.1**	**+1.6**
KARN	**Karanos**	**0.73**	**41**	P	**Pg**	**00 30 48.1**	**+0.5**
KARN				S	**Sb**	**00 30 58.1**	**+0.4**
KARN	**Karanos**	**0.73**	**41**	*e*PN	**Pb**	**00 30 48.3**	**+0.4**
KARN				*e*SN	**Sb**	**00 30 58.2**	**+0.5**
KARN	**Karanos**	**0.73**	**41**	P	**Pg**	**00 30 48.1**	**+0.5**
KARN				S	**Sb**	**00 30 58.1**	**+0.4**
VAM	**Vamos**	**0.90**	**52**	P	**Pg**	**00 30 50.5**	**-0.4**
VAM				S	**Sb**	**00 31 03.1**	**+0.5**
VAM	**Vamos**	**0.90**	**52**	*e*PN	**Pg**	**00 30 50.8**	**-0.1**
VAM				*e*SN	**Sb**	**00 31 04.1**	**+1.5**
VAM	**Vamos**	**0.90**	**52**	P	**Pg**	**00 30 50.5**	**-0.4**
VAM	**Vamos**	**0.90**	**52**	*e*Pn	**Pg**	**00 30 50.8**	**-0.1**
VAM				S	**Sb**	**00 31 03.1**	**+0.5**
VAM				*e*Sn	**Sb**	**00 31 04.1**	**+1.5**
SIVA	**Sivas**	**1.22**	**82**	P	**Pb**	**00 30 56.1**	**-0.2**
SIVA				S	**Sg**	**00 31 12.6**	**-0.3**
SIVA	**Sivas**	**1.22**	**82**	*e*PN	**Pb**	**00 30 56.2**	**-0.1**
SIVA				*e*SN	**Sg**	**00 31 12.7**	**-0.2**
SIVA	**Sivas**	**1.22**	**82**	P	**Pb**	**00 30 56.1**	**-0.2**
SIVA				*e*Sn	**Sg**	**00 31 12.7**	**-0.2**
KYTH	**Kithira**	**1.45**	**350**	P	**Pn**	**00 30 59.3**	**+0.1**
KYTH	**Kithira**	**1.45**	**350**	*e*PB	**Pn**	**00 30 59.3**	**+0.1**
KYTH	**Kithira**	**1.45**	**350**	*e*Pb	**Pn**	**00 30 59.3**	**+0.1**
LAST	**Lasithi**	**1.79**	**79**	P	**Pn**	**00 31 03.6**	**-0.3**
LAST	**Lasithi**	**1.79**	**79**	*e*PN	**Pn**	**00 31 03.7**	**-0.2**
LAST				*e*SN	**Sn**	**00 31 26.7**	**+0.3**
LAST	**Lasithi**	**1.79**	**79**	*e*Pn	**Pn**	**00 31 03.7**	**-0.2**
LAST				*e*Sn	**Sn**	**00 31 26.7**	**+0.3**
VLI	**Veliai**	**1.89**	**350**	P	**Pn**	**00 31 05.5**	**+0.3**
VLI	**Veliai**	**1.89**	**350**	*e*PB	**Pn**	**00 31 06.5**	**+1.3**
VLI	**Veliai**	**1.89**	**350**	P	**Pn**	**00 31 05.5**	**+0.3**
VLI	**Veliai**	**1.89**	**350**	*e*Pb	**Pn**	**00 31 06.5**	**+1.3**
NPS	**Neapolis**	**1.91**	**77**	P	**Pn**	**00 31 05.4**	**-0.2**
NPS	**Neapolis**	**1.91**	**77**	*e*PN	**Pn**	**00 31 05.4**	**-0.2**
NPS	**Neapolis**	**1.91**	**77**	P	**Pn**	**00 31 05.4**	**-0.2**
ZKR	**Zakros**	**2.38**	**83**	P	**Pn**	**00 31 12.0**	**0.0**
ZKR	**Zakros**	**2.38**	**83**	P	**Pn**	**00 31 12.0**	**0.0**
PYL	**PYLOS**	**2.41**	**328**	*e*PN	**Pn**	**00 31 12.7**	**+0.2**
PYL	**PYLOS**	**2.41**	**328**	*e*Pn	**Pn**	**00 31 12.7**	**+0.2**
ITM	**Ithomi**	**2.59**	**334**	P	**Pn**	**00 31 14.9**	**0.0**
ITM	**Ithomi**	**2.59**	**334**	*e*PN	**Pn**	**00 31 16.3**	**+1.4**
ITM	**Ithomi**	**2.59**	**334**	P	**Pn**	**00 31 14.9**	**0.0**
ITM	**Ithomi**	**2.59**	**334**	*e*Pn	**Pn**	**00 31 16.3**	**+1.4**
VLX	**Vlachokerasia**	**2.63**	**343**	*e*PN	**Pn**	**00 31 17.1**	**+1.6**
VLX	**Vlachokerasia**	**2.63**	**343**	*e*Pn	**Pn**	**00 31 17.1**	**+1.6**
DID	**Didima**	**2.65**	**358**	P	**Pn**	**00 31 15.1**	**-0.6**
DID	**Didima**	**2.65**	**358**	P	**Pn**	**00 31 15.1**	**-0.6**
LTK	**Loutraki**	**3.18**	**355**	P	**Pn**	**00 31 22.4**	**-0.6**
LTK	**Loutraki**	**3.18**	**355**	P	**Pn**	**00 31 22.4**	**-0.6**
GUR	**Goura**	**3.18**	**346**	P	**Pn**	**00 31 23.8**	**+0.7**
GUR	**Goura**	**3.18**	**346**	P	**Pn**	**00 31 23.8**	**+0.7**
BRTR	**Keskin Array B**	**9.54**	**56**	Pn	Pn	00 32 46.1	-4.3
	0.1nm,0.3s,baz=250,slow=16,SNR=4.0						
GERES	**GERESS Array B**	**15.70**	**336**	Pn	**Pn**	**00 34 11.2**	**-2.9**
	0.1nm,0.3s,baz=150,slow=10,SNR=2.6						
HFS	**Hagfors**	**26.06**	**349**	P	P	00 36 02.2	-3.9
	1.1nm,0.5s,baz=158,slow=8.7,SNR=9.3						
KURBB	**Kurchatov Arra**	**42.48**	**51**	P	P	00 38 23.0	-4.8
	0.2nm,0.4s,baz=274,slow=8.6,SNR=6.2						
MKAR	**Makanchi Array**	**45.19**	**56**	P	P	00 38 45.5	-4.2
	0.3nm,0.4s,baz=268,slow=7.6,SNR=12						
ZALV	**Zalesovo Beam**	**46.29**	**46**	P	P	00 38 53.4	-5.0
	0.6nm,0.4s,baz=277,slow=9.0,SNR=5.2						

*DDA **18** 00:30:46.1, 39.°13N×29.°02E, h19km, MD3.2*
*CSEM **18** 00:30:47.0±0.1, 39.°12N×29.°06E, h2km, MD3.2, Error ellipse: s-maj=2.3km s-min=2.1km az=11.0*

ISK 18 00:30:45.8, 39.12N×29.07E, h5km, MD3.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.29**	**254**	*i* P	Pg	00 30 52.4	+0.9
DEMI				*i* S	Sg	00 30 56.1	+0.7
DEMI	**Demirci**	**0.29**	**254**	*i* P	Pg	00 30 52.4	+0.8
DEMI				*i* S	Sg	00 30 56.1	+0.6
GDZ	**Gediz**	**0.32**	**96**	*i* P	Pb	00 30 53.9	-0.3
GDZ				*i* S	Sb	00 30 58.8	-1.0
GDZ	**Gediz**	**0.32**	**96**	*i* P	Pb	00 30 53.9	-0.3
GDZ				*i* S	Sb	00 30 58.8	-1.1
TVSB	**Tavsanli**	**0.44**	**43**	*e*PG	Pb	00 30 55.8	-0.5
TVSB				*e*SG	Sb	00 31 02.5	-0.9
TVSB	**Tavsanli**	**0.44**	**43**	*e*Pg	Pb	00 30 55.8	-0.5
TVSB				*e*Sg	Sb	00 31 02.5	-0.9
DST	**Dursunbey**	**0.59**	**324**	*e*PG	Pb	00 30 58.1	-0.7
DST	**Dursunbey**	**0.59**	**324**	*e*Pg	Pb	00 30 58.1	-0.7
DURS	**Dursunbey**	**0.67**	**316**	*i* P	Pg	00 30 59.3	+0.6
DURS				*i* S	Sg	00 31 07.8	+0.3
DURS	**Dursunbey**	**0.67**	**316**	*i* P	Pg	00 30 59.3	+0.6
DURS				*i* S	Sg	00 31 07.8	+0.3
KULA	**Kula-Manisa**	**0.69**	**208**	*e*PG	Pb	00 30 59.9	-0.5
KULA	**Kula-Manisa**	**0.69**	**208**	*e*Pg	Pb	00 30 59.9	-0.5
MANT	**Manisa**	**0.75**	**213**	*i* P	Pg	00 31 01.0	+0.5
MANT				*i* S	Sg	00 31 09.9	-0.6
MANT	**Manisa**	**0.75**	**213**	*i* P	Pg	00 31 01.0	+0.5
MANT				*i* S	Sg	00 31 09.9	-0.6
ALT	**Altintas**	**0.81**	**95**	*e*PG	Pb	00 31 02.4	-0.2
ALT				*e*SG	Sb	00 31 14.6	+0.7
ALT	**Altintas**	**0.81**	**95**	*e*Pg	Pb	00 31 02.4	-0.1
ALT				*e*Sg	Sb	00 31 14.6	+0.7
KHAL	**Karahalli**	**0.82**	**156**	*i* P	Pb	00 31 03.1	+0.4
KHAL				*i* S	Sg	00 31 11.2	-1.3
KHAL	**Karahalli**	**0.82**	**156**	*i* P	Pb	00 31 03.1	+0.4
KHL	**Karahalli**	**0.87**	**156**	*e*PG	Pb	00 31 04.0	+0.4
KHL	**Karahalli**	**0.87**	**156**	*e*Pg	Pb	00 31 04.0	+0.4
ORLT	**Orhaneli**	**0.93**	**352**	*e*PG	Pb	00 31 04.2	-0.3
ORLT	**Orhaneli**	**0.93**	**352**	*e*Pg	Pb	00 31 04.2	-0.3
AKHS	**Akhisar**	**1.01**	**256**	*i* P	Pb	00 31 05.7	-0.2
AKHS				*i* S	Sg	00 31 18.2	-0.2
AKHS	**Akhisar**	**1.01**	**256**	*i* P	Pb	00 31 05.7	-0.1
AKHS				*i* S	Sg	00 31 18.2	-0.2
AKS	**Akhisar**	**1.01**	**256**	*e*PG	Pb	00 31 05.8	0.0
AKS	**Akhisar**	**1.01**	**256**	*e*Pg	Pb	00 31 05.8	0.0
ULDT	**Uludag**	**1.02**	**3**	*i* P	Pb	00 31 06.3	+0.1
ULDT				*i* S	Sg	00 31 19.3	+0.2
ULDT	**Uludag**	**1.02**	**3**	*i* P	Pb	00 31 06.3	+0.1
ULDT				*i* S	Sg	00 31 19.3	+0.2
BALB	**Balikesir**	**1.06**	**300**	*e*PG	Pn	00 31 07.3	0.0
BALB	**Balikesir**	**1.06**	**300**	*e*Pg	Pn	00 31 07.3	0.0
CAVI	**Cavuskoy**	**1.23**	**29**	*e*PN	Pn	00 31 10.4	+0.6
CAVI	**Cavuskoy**	**1.23**	**29**	*e*Pn	Pn	00 31 10.4	+0.7
MDNY	**Mudanya-Bursa**	**1.25**	**353**	*e*PN	Pn	00 31 10.2	+0.2
MDNY	**Mudanya-Bursa**	**1.25**	**353**	*e*Pn	Pn	00 31 10.2	+0.2
KCTX	**Karacabey (Bur**	**1.27**	**334**	*e*PN	Pn	00 31 11.2	+1.0
KCTX	**Karacabey (Bur**	**1.27**	**334**	*e*Pn	Pn	00 31 11.2	+1.0
BALY	**Balya**	**1.28**	**299**	*i* P	Pn	00 31 10.4	0.0
BALY				*i* S	Sg	00 31 26.2	-1.0
BALY	**Balya**	**1.28**	**299**	*i* P	Pn	00 31 10.4	-0.1
BALY				*i* S	Sg	00 31 26.2	-1.0
SHUT	**Suhut-Afyon**	**1.29**	**116**	*e*PN	Pb	00 31 11.9	+1.2
SHUT	**Suhut-Afyon**	**1.29**	**116**	*e*Pn	Pb	00 31 11.9	+1.2
BORA	**Eskisehir**	**1.31**	**54**	*i* P	Pg	00 31 11.5	+0.5
BORA				*i* S	Sg	00 31 27.6	-0.6
BORA	**Eskisehir**	**1.31**	**54**	*i* P	Pg	00 31 11.5	+0.4
BORA				*i* S	Sg	00 31 27.6	-0.5
ADVT	**Abdulvahap**	**1.41**	**21**	*e*PN	Pb	00 31 12.6	0.0
ADVT	**Abdulvahap**	**1.41**	**21**	*e*Pn	Pb	00 31 12.6	+0.1
GONE	**Gonen-Balikesi**	**1.41**	**311**	*e*PN	Pg	00 31 13.0	+0.1
GONE	**Gonen-Balikesi**	**1.41**	**311**	*e*Pn	Pg	00 31 13.0	+0.1
DNZL	**Cakiroluk**	**1.43**	**181**	*i* P	Pn	00 31 12.5	-0.2
DNZL				*i* S	Sg	00 31 33.5	+1.2
DNZL	**Cakiroluk**	**1.43**	**181**	*i* P	Pn	00 31 12.5	-0.2
DNZL				*i* S	Sg	00 31 33.5	+1.2
ESKT	**Eskisehir**	**1.44**	**73**	*e*PN	Pg	00 31 13.8	+0.3
ESKT	**Eskisehir**	**1.44**	**73**	*e*Pn	Pg	00 31 13.8	+0.3
SEYT	**Eskypehyr**	**1.44**	**73**	*i* P	Pg	00 31 14.0	+0.5
SEYT				*i* S	Sg	00 31 32.6	+0.3
SEYT	**Eskypehyr**	**1.44**	**73**	*i* P	Pg	00 31 14.0	+0.5
SEYT				*i* S	Sg	00 31 32.6	+0.4
ARMT	**Armutlu**	**1.45**	**354**	*e*PN	Pg	00 31 14.2	+0.6
ARMT	**Armutlu**	**1.45**	**354**	*e*Pn	Pg	00 31 14.2	+0.5
YLV	**Yalova**	**1.46**	**9**	*e*PN	Pg	00 31 14.7	+0.8
YLV	**Yalova**	**1.46**	**9**	*e*Pn	Pg	00 31 14.7	+0.8
GPA	**Golpazari**	**1.50**	**39**	*e*PN	Pg	00 31 14.7	0.0
GPA	**Golpazari**	**1.50**	**39**	*e*Pn	Pg	00 31 14.7	0.0
BNT	**Bandirma**	**1.52**	**325**	*e*PN	Pg	00 31 15.6	+0.7
BNT	**Bandirma**	**1.52**	**325**	*e*Pn	Pg	00 31 15.6	+0.6
BOLV	**Bolvadin**	**1.52**	**105**	*i* P	Pg	00 31 16.5	+1.4
BOLV				*i* S	Sg	00 31 35.3	+0.3
BOLV	**Bolvadin**	**1.52**	**105**	*i* P	Pg	00 31 16.5	+1.3
BOLV				*i* S	Sg	00 31 35.3	+0.3
EDC	**Edincik**	**1.54**	**323**	*e*PN	Pb	00 31 15.0	+0.2
EDC	**Edincik**	**1.

DBIC	**Dimbokro**	**76.03**	**71**	*eP*	**P**	**00 43 09.8**	**+0.2**
	comp=E,3.1nm,0.6s							
DBIC				pP	**pP**	**00 43 24.0**	**-1.0**
DBIC	**Dimbokro**	**76.03**	**71**	P	**P**	**00 43 09.5**	**0.0**
	comp=E,1.7nm,0.9s,baz=208,slow=5.2,SNR=2.0							
DBIC				pP	**pP**	**00 43 24.0**	**-1.0**
	comp=E,3.6nm,0.7s,baz=206,slow=5.6,SNR=5.0							
BOSA	**Boshof**	**79.52**	**118**	LR	LR	01 14 12.3		
	comp=E,98nm,21.4s,baz=176,slow=32							
LBTB	**Lobatse**	**81.84**	**115**	*eP*	**P**	**00 43 42.1**	**+0.7**
	comp=E,4.8nm,0.5s							
LBTB	**Lobatse**	**81.84**	**115**	P	**P**	**00 43 42.0**	**+0.6**
	comp=E,0.6nm,0.4s,baz=233,slow=13,SNR=4.3							
TORD	**Torodi Ar. Bea**	**85.09**	**70**	P	**P**	**00 43 58.4**	**+0.4**
TORD				pP	**pP**	**00 44 11.9**	**-1.9**
TORD	**Torodi Ar. Bea**	**85.09**	**70**	P	**P**	**00 43 58.4**	**+0.4**
	comp=E,0.5nm,1.0s,baz=239,slow=3.6,SNR=4.0							
TORD				pP	**pP**	**00 44 11.9**	**-1.9**
	comp=E,0.8nm,0.7s,baz=269,slow=6.0,SNR=4.1							
NVAR	**Mina Array Bea**	**85.16**	**326**	P	**P**	**00 43 58.9**	**+0.8**
NVAR	**Mina Array Bea**	**85.16**	**326**	P	**P**	**00 43 58.9**	**+0.8**
	comp=E,0.9nm,0.7s,baz=172,slow=3.0,SNR=6.2							
PDAR	**Pinedale Array**	**85.20**	**333**	P	**P**	**00 43 58.2**	**0.0**
PDAR	**Pinedale Array**	**85.20**	**333**	P	**P**	**00 43 58.2**	**0.0**
	comp=E,0.3nm,0.6s,baz=121,slow=6.8,SNR=3.1							
ULM	**Lac du Bonnet**	**88.12**	**345**	P	**P**	**00 44 11.2**	**-0.7**
ULM	**Lac du Bonnet**	**88.12**	**345**	P	**P**	**00 44 11.2**	**-0.7**
	comp=E,2.1nm,0.6s,baz=167,slow=3.1,SNR=5.2							
WRA	**Warramunga Arr**	**119.07**	**209**	PKP	**PKPdf**	**00 50 10.2**	**-0.7**
WRA	**Warramunga Arr**	**119.07**	**209**	PKP	**PKPdf**	**00 50 10.2**	**-0.7**
	comp=E,1.2nm,1.0s,baz=162,slow=1.7,SNR=8.4							
ZALV	**Zalesovo Beam**	**155.87**	**34**	PKPab	**PKPab**	**00 51 40.4**	**-1.7**
ZALV	**Zalesovo Beam**	**155.87**	**34**	PKPab	**PKPab**	**00 51 40.4**	**-1.7**
	comp=E,0.3nm,0.4s,baz=298,slow=3.1,SNR=3.4							
MKAR	**Makanchi Array**	**158.12**	**52**	PKPab	**PKPab**	**00 51 51.5**	**-0.6**
MKAR	**Makanchi Array**	**158.12**	**52**	PKPab	**PKPab**	**00 51 51.5**	**-0.6**
	baz=286,slow=2.0,SNR=2.8							

IDC 18 00:33:13.1±0.5, 13°41N×144°62E, h129km±4km, mb3.4/13, mb1 3.6/13, mb1mx3.6/24, mbtmp3.4/13, Error ellipse: s-maj=23.2km s-min=14.0km az=91.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
GUMO	**Guam**	**0.30**	**54**	P			Pn	00 33 32.6	+1.5
	485nm,0.3s,baz=225,slow=1.4,SNR=139								
GUMO				S			Sn	00 33 46.1	+1.4
	1µm,0.3s,baz=343,slow=19,SNR=78								
MJAR	**Matsushiro Arr**	**23.74**	**347**	P			P	00 38 14.3	+0.7
	3.4nm,0.7s,baz=166,slow=7.1,SNR=7.5								
KSRS	**Korea Array**	**28.20**	**331**	P			P	00 38 53.7	0.0
	1.3nm,0.5s,baz=127,slow=9.6,SNR=4.1								
WRA	**Warramunga Arr**	**34.65**	**197**	P			P	00 39 49.8	-0.6
	0.5nm,0.5s,baz=18,slow=9.4,SNR=3.5								
ASAR	**Alice Springs**	**38.31**	**196**	P			P	00 40 22.0	+0.5
	0.3nm,0.4s,baz=20,slow=11,SNR=5.8								
CMAR	**Chiang Mai Arr**	**44.12**	**283**	P			P	00 41 09.2	+0.1
	1.2nm,0.3s,baz=84,slow=6.8,SNR=7.3								
STKA	**Stephens Creek**	**45.12**	**184**	P			P	00 41 15.6	-1.2
	0.5nm,0.4s,baz=346,slow=8.3,SNR=3.2								
SONM	**Songino Array**	**46.73**	**325**	P			P	00 41 29.6	+0.1
	0.3nm,0.4s,baz=142,slow=7.2,SNR=1.9								
MKAR	**Makanchi Array**	**61.45**	**316**	P			P	00 43 16.0	0.0
	0.5nm,0.5s,baz=94,slow=8.7,SNR=10								
ZALV	**Zalesovo Beam**	**61.62**	**325**	P			P	00 43 16.1	-0.9
	0.3nm,0.4s,baz=123,slow=5.3,SNR=2.8								
ILAR	**Eielson Array**	**66.83**	**25**	P			P	00 44 02.5	-0.8
	0.3nm,0.4s,baz=253,slow=5.8,SNR=14								
YKA	**Yellowknife Ar**	**83.13**	**27**	P			P	00 45 24.6	+0.2
	0.1nm,0.3s,baz=284,slow=5.0,SNR=5.8								
NVAR	**Mina Array Bea**	**87.22**	**51**	P			P	00 45 47.3	+1.7
	0.2nm,0.4s,baz=274,slow=7.0,SNR=3.7								
FINES	**FINESS Array B**	**91.22**	**335**	P			P	00 46 02.7	-0.8
	0.9nm,0.9s,baz=31,slow=8.9,SNR=3.2								
TORD	**Torodi Ar. Bea**	**134.76**	**304**	PKP		PKPdf		00 52 18.4	+0.7
	0.7nm,1.1s,baz=75,slow=1.9,SNR=3.8								

IDC 18 00:33:59.7±1.7, 4°36S×153°02E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/18, mbtmp3.8/3, MS3.0/2, Ms1 3.0/2, ms1mx2.7/25, Error ellipse: s-maj=80.4km s-min=36.1km az=141.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CTA	**Charters Tower**	**16.97**	**202**	LR		LR	LR	00 43 38.1	
	comp=Z,78nm,21.1s,baz=231,slow=34								
WRA	**Warramunga Arr**	**23.90**	**228**	P			P	00 39 15.4	0.0
	2.1nm,0.5s,baz=53,slow=9.6,SNR=44								
ASAR	**Alice Springs**	**26.63**	**222**	P			P	00 39 39.5	-0.7
	0.3nm,0.3s,baz=58,slow=8.9,SNR=3.8								
FITZ	**Fitzroy Crossi**	**30.07**	**241**	P			P	00 40 11.5	+0.6
	0.7nm,0.3s,baz=50,slow=10,SNR=4.7								
TGY	**Tagaytay City**	**36.73**	**300**	LR			LR	00 53 48.5	
	comp=Z,18nm,21.3s,baz=348,slow=32								
TORD	**Torodi Ar. Bea**	**50.38**	**289**	PKPbc		PKPbc		00 53 53.5	-0.7
	0.4nm,0.4s,baz=73,slow=2.3,SNR=18								
BDFB	**Brasilia**	**151.22**	**134**	PKPbc		PKPbc		00 53 56.5	+0.2
	1.6nm,0.5s,baz=166,slow=4.2,SNR=3.7								

*ISCJB **18** 00:37:20.5±0.8, 52.9S±0.1×20.6E±0.3, h11km, mb4.0/6, MS3.4/2, Error ellipse: s-maj=28.1km s-min=15.0km az=3.5*
*IDC **18** 00:37:20.5±0.8, 52.96S×20.81E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/20, mbtmp3.9/7, MS3.6/2, Ms1 3.6/2, ms1mx3.2/25, Error ellipse: s-maj=35.0km s-min=21.1km az=84.0*
*NEIC **18** 00:37:21.4±0.6, 52.94S×20.85E, h10km, mb4.4/3, Error ellipse: s-maj=27.2km s-min=14.7km az=93.0*
ISC 18 00:37:21.6±0.7, 52.9S±0.1×20.8E±0.2, h11km, n29, σ1§00/33, mb4.0/6, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
SUR	**Sutherland**	**20.55**	**360**	*eP*			**P**	**00 42 00.8**	**+0.5**
	20nm,1.1s								
SUR	**Sutherland**	**20.55**	**360**	P			Pn	00 42 01.4	-1.0
	8.4nm,0.9s,baz=160,slow=6.0,SNR=4.1								
SUR				LR			LR	00 47 57.2	
	comp=Z,156nm,18.8s,baz=291,slow=31								
BOSA	**Boshof**	**24.52**	**9**	*eP*			**P**	**00 42 40.2**	**-0.9**
LBTB	**Lobatse**	**28.12**	**9**	LR			LR	00 52 25.0	
	comp=Z,108nm,19.2s,baz=112,slow=32								
TSUM	**Tsumeb**	**33.77**	**354**	*eP*			**P**	**00 44 04.1**	**+0.7**
	1.9nm,0.8s								
TSUM	**Tsumeb**	**33.77**	**354**	P			**P**	**00 44 04.2**	**+0.7**
	1.1nm,1.0s,baz=188,slow=15,SNR=2.4								
QSPA	**South Pole Qui**	**37.28**	**180**	P			**P**	**00 44 34.4**	**+1.1**
QSPA	**South Pole Qui**	**37.28**	**180**	P			**P**	**00 44 34.3**	**+1.1**
	4.2nm,0.7s,baz=248,slow=3.9,SNR=26								
CPUP	**Villa Florida**	**62.45**	**262**	*eP*			**P**	**00 47 44.9**	**+0.2**
	2.6nm,0.4s								
CPUP	**Villa Florida**	**62.45**	**262**	P			**P**	**00 47 44.5**	**-0.2**
	0.7nm,0.5s,baz=11,slow=5.4,SNR=3.6								
DBIC	**Dimbokro**	**63.27**	**331**	P			**P**	**00 47 50.1**	**0.0**
TORD	**Torodi Ar. Bea**	**67.85**	**340**	P			**P**	**00 48 20.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**67.85**	**340**	P			**P**	**00 48 20.1**	**+0.4**
	0.5nm,0.8s,baz=178,slow=7.7,SNR=3.5								
SIV	**San Ignacio**	**72.55**	**267**	P			**P**	**00 48 48.9**	**+0.2**
SIV	**San Ignacio**	**72.55**	**267**	P			**P**	**00 48 48.9**	**+0.2**
	0.5nm,0.7s,baz=284,slow=5.7,SNR=3.6								
ASAR	**Alice Springs**	**84.24**	**122**	P			**P**	**00 49 53.9**	**+0.6**
ASAR	**Alice Springs**	**84.24**	**122**	P			**P**	**00 49 53.9**	**+0.6**
	0.9nm,0.8s,baz=217,slow=6.0,SNR=7.4								
ZALV	**Zalesovo Beam**	**119.02**	**37**	PKP			**PKPdf**	**00 56 08.6**	**-0.5**
ZALV	**Zalesovo Beam**	**119.02**	**37**	PKP			**PKPdf**	**00 56 08.6**	**-0.5**
	0.3nm,0.4s,baz=241,slow=1.5,SNR=2.5								
TXAR	**Lajitas Array**	**133.42**	**262**	PKP			**PKPdf**	**00 56 37.1**	**-0.5**
TXAR	**Lajitas Array**	**133.42**	**262**	PKP			**PKPdf**	**00 56 37.1**	**-0.5**
	0.4nm,0.8s,baz=147,slow=7.0,SNR=3.8								
PDAR	**Pinedale Array**	**145.84**	**273**	PKPbc			**PKPab**	**00 57 00.8**	**-0.1**
PDAR	**Pinedale Array**	**145.84**	**273**	PKPbc			**PKPab**	**00 57 00.8**	**-0.1**
	1.2nm,0.8s,baz=125,slow=5.3,SNR=12								
RES	**Resolute Bay**	**146.85**	**334**	PKPbc			**PKPab**	**00 57 04.0**	**+0.4**
RES	**Resolute Bay**	**146.85**	**334**	PKPbc			**PKPab**	**00 57 04.0**	**+0.4**
	1.9nm,0.3s,baz=113,slow=2.3,SNR=4.6								
NVAR	**Mina Array Bea**	**148.46**	**259**	PKP			**PKPdf**	**00 57 02.5**	**-1.9**
NVAR				PKPbc			**PKiKP**	**00 57 09.2**	**-0.3**
NVAR	**Mina Array Bea**	**148.46**	**259**	PKP			**PKPdf**	**00 57 02.5**	**-1.9**
	0.2nm,0.3s,baz=152,slow=4.1,SNR=2.8								
NVAR				PKPbc			**PKiKP**	**00 57 09.2**	**-0.3**
	2.0nm,0.9s,baz=144,slow=4.6,SNR=7.3								
YKA	**Yellowknife Ar**	**154.86**	**310**	PKP			**PKPdf**	**00 57 10.5**	**-2.4**
YKA				PKPbc			**PKiKP**	**00 57 21.9**	**+0.3**
YKA				PKPab			**PKPab**	**00 57 38.4**	**+1.4**
YKA	**Yellowknife Ar**	**154.86**	**310**	PKP			**PKPdf**	**00 57 10.5**	**-2.4**
	0.1nm,0.7s,baz=60,slow=1.6,SNR=2.5								
YKA				PKPbc			**PKiKP**	**00 57 21.9**	**+0.3**
	0.4nm,1.0s,baz=68,slow=2.1,SNR=4.2								
YKA				PKPab			**PKPab**	**00 57 38.4**	**+1.4**
	0.8nm,0.8s,baz=96,slow=5.0,SNR=14								

*ISK **18** 00:42:39.2, 37.92N×37.97E, h19km, MD2.9*
*DDA **18** 00:42:39.5, 37.91N×37.95E, h14km, MD2.9*
*CSEM **18** 00:42:39.9±0.2, 37.92N×37.97E, h10km, MD2.9, Error ellipse: s-maj=5.4km s-min=4.5km az=126.0*
ISC 18 00:42:39.8±0.9, 37.92N±0.02×37.98E±0.02, h20km±7km, n35, σ0§59/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
AKCD	**Akcadag**	**0.38**	**353**	*i*	P		**Pg**	**00 42 47.8**	**-0.2**
AKCD				*i*	S		**Sg**	**00 42 53.2**	**-0.3**
AKCD	**Akcadag**	**0.38**	**353**	*i*	P		**Pg**	**00 42 47.8**	**-0.2**
AKCD				*i*	S		**Sg**	**00 42 53.2**	**-0.3**
ATAB	**Bozova**	**0.51**	**151**	*i*	P		**Pb**	**00 42 50.2**	**+0.1**
ATAB				*i*	S		**Sg**	**00 42 57.4**	**+0.2**
ATAB	**Bozova**	**0.51**	**151**	*i*	P		**Pb**	**00 42 50.2**	**+0.1**
ATAB				*i*	S		**Sg**	**00 42 57.4**	**+0.2**
MALT	**Malatya**	**0.53**	**41**	*e*	PG		**Pb**	**00 42 50.6**	**+0.1**
MALT				*e*	SG		**Sg**	**00 42 58.3**	**+0.5**
MALT	**Malatya**	**0.53**	**41**	*e*	Pg		**Pb**	**00 42 50.6**	**+0.1**
MALT				*e*	Sg		**Sg**	**00 42 58.3**	**+0.5**
MYA	**Malataya**	**0.54**	**40**	*e*	PG		**Pb**	**00 42 50.7**	**0.0**
MYA				*e*	SG		**Sg**	**00 42 58.7**	**+0.6**
MYA	**Malataya**	**0.54**	**40**	*e*	Pg		**Pb**	**00 42 50.7**	**0.0**
MYA				*e*	Sg		**Sg**	**00 42 58.7**	**+0.6**
GZT	**Gaziantep**	**0.65**	**211**	*i*	P		**Pg**	**00 42 52.6**	**-0.3**
GZT				*i*	S		**Sb**	**00 43 00.9**	**-0.4**
URFA	**Urfa**	**0.82**	**125**	*e*	PG		**Pb**	**00 42 55.4**	**0.0**
URFA				*e*	SG		**Sn**	**00 43 08.0**	**+0.1**
URFA	**Urfa**	**0.82**	**125**	*e*	Pg		**Pb**	**00 42 55.4**	**0.0**
URFA				*e*	Sg		**Sn**	**00 43 08.0**	**+0.1**
KMRS	**Kahramanmaras**	**0.95**	**245**	*e*	PG		**Pn**	**00 42 57.7**	**-0.4**
KMRS	**Kahramanmaras**	**0.95**	**245**	*e*	Pg		**Pn**	**00 42 57.7**	**-0.4**
GAZ	**Gaziantep**	**0.96**	**220**	*e*	PG		**Pg**	**00 42 58.9**	**+0.3**
GAZ	**Gaziantep**	**0.96**	**220**	*e*	Pg		**Pg**	**00 42 58.9**	**+0.3**
ELZG	**Elazig**	**0.98**	**53**	*i*	P		**Pb**	**00 42 57.9**	**-0.3**
ELZG	**Elazig**	**0.98**	**53**	*i*	P		**Pb**	**00 42 57.9**	**-0.3**
DARE	**Darende-Malaty**	**1.04**	**352**	*e*	PG		Pb	00 42 54.2	-5.0
DARE				*e*	SG		Sb	00 43 05.3	-7.3
ANDN	**Andirin**	**1.34**	**256**	*i*	P		Pg	00 43 09.5	+3.7
ANDN				*i*	S		**Sg**	**00 43 26.2**	**+2.8**
KUZU	**Kuzuini**	**1.35**	**213**	*i*	P		**Pg**	**00 43 05.6**	**-0.4**
KUZU				*i*	S		**Sg**	**00 43 22.7**	**-1.0**
KUZU	**Kuzuini**	**1.35**	**213**	*i*	P		**Pg**	**00 43 05.6**	**-0.4**
KUZU				*i*	S		**Sg**	**00 43 22.7**	**-1.0**
KEMA	**Kemaliye**	**1.41**	**16**	*i*	P		**Pb**	**00 43 06.1**	**+0.6**
KEMA				*i*	S		**Sg**	**00 43 25.3**	**-0.2**
KEMA	**Kemaliye**	**1.41**	**16**	*i*	P		**Pb**	**00 43 06.1**	**+0.6**
KEMA				*i*	S		**Sg**	**00 43 25.3**	**-0.2**
PINB	**Pinarbasi**	**1.46**	**302**	*i*	P		**Pg**	**00 43 07.8**	**-0.2**
PINB				*i*	S		**Sg**	**00 43 26.7**	**-0.4**
PINB	**Pinarbasi**	**1.46**	**302**	*i*	P		**Pg**	**00 43 07.8**	**-0.2**
PINB				*i*	S		**Sg**	**00 43 26.7**	**-0.4**
ILIC	**ilic-Erzincan**	**1.60**	**16**	*e*	PN		**Pn**	**00 43 06.6**	**-0.5**
ILIC	**ilic-Erzincan**	**1.60**	**16**	*e*	Pn		**Pn**	**00 43 06.6**	**-0.5**
DIYA	**Diyarbakir**	**1.69**	**89**	*i*	P		**Pg**	**00 43 12.0**	**-0.4**
DIYA				*i*	S		**Sg**	**00 43 35.7**	**+1.3**
DIYA	**Diyarbakir**	**1.69**	**89**	*i*	P		**Pg**	**00 43 12.0**	**-0.4**
KOZT	**Kozan**	**1.77**	**256**	*e*	PN		**Pn**	**00 43 09.6**	**+0.3**
KOZT	**Kozan**	**1.77**	**256**	*e*	Pn		**Pn**	**00 43 09.6**	**+0.3**
DIY	**Diyarbakir**	**1.77**	**90**	*e*	PN		**Pn**	**00 43 09.6**	**+0.1**
DIY	**Diyarbakir**	**1.77**	**90**	*e*	Pn		**Pn**	**00 43 09.6**	**+0.1**
BNN	**Bunyan**	**1.92**	**300**	*e*	PN		**Pn**	**00 43 11.8**	**+0.2**
BNN	**Bunyan**	**1.92**	**300**	*e*	Pn		**Pn**	**00 43 11.8**	**+0.2**

IDC 18 00:47:01.9±1.4, 34.11N×23.42E, h0km, mb3.8/4, mb1 3.7/5, mb1mx3.4/26, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=39.6km s-min=25.3km az=135.0, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
GERES	**GERESS Array B**	**16.40**	**337**	Pn		P		00 50 56.4	-0.1
	0.1nm,0.3s,baz=152,slow=12,SNR=5.7								
HFS	**Hagfors**	**26.80**	**349**	P		P		00 52 43.4	-0.1
	2.3nm,0.9s,baz=160,slow=11,SNR=4.9								
TORD	**Torodi Ar. Bea**	**28.72**	**229**	P		P		00 53 01.0	-0.1
	0.4nm,0.7s,baz=34,slow=7.5,SNR=7.6								
MKAR	**Makanchi Array**	**45.55**	**55**	P		P		00 55 23.9	+0.5
	1.1nm,0.6s,baz=275,slow=6.9,SNR=21								
ZALV	**Zalesovo Beam**	**46.76**	**45**	P		P		00 55 31.9	-0.8
	0.4nm,0.4s,baz=266,slow=5.8,SNR=3.1								

IDC 18 00:55:29.5±10.0, 23.72S×66.70W, h209km±75km, mb2.8/1, mb1 3.0/3, mb1mx2.8/16, mbtmp2.9/3, Error ellipse: s-maj=113.2km s-min=35.1km az=24.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
LPAZ	**La Paz**	**7.51**	**349**	P		Pn		00 57 17.0	-0.4
	0.2nm,0.3s,baz=174,slow=10,SNR=6.3								
LPAZ				S		S		00 58 43.3	+0.2
	0.1nm,0.3s,baz=317,slow=17,SNR=3.9								
BDFB	**Brasilia**	**19.33**	**69**	P		P		00 59 39.7	+0.3
	0.4nm,0.3s,baz=245,slow=8.5,SNR=4.4								
TORD	**Torodi Ar. Bea**	**76.21**	**69**	P		P		01 06 54.8	-0.5
	0.6nm,1.1s,baz=251,slow=4.6,SNR=6.0								
MKAR	**Makanchi Array**	**146.13**	**39**	PKPbc		PKPbc		01 14 44.8	-0.3
	0.4nm,0.9s,baz=308,slow=3.8,SNR=4.2								

IDC 18 01:01:06.0±1.3, 52.68S×21.31E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/16, mbtmp3.9/3, Error ellipse: s-maj=164.2km s-min=35.6km az=28.0, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
STKA	**Stephens Creek**	**81.04**	**132**	P		P		01 13 22.9	+0.3
	2.1nm,0.9s,baz=221,slow=9.3,SNR=3.5								
ASAR	**Alice Springs**	**84.14**	**122**	P		P		01 13 39.4	+0.4
	0.7nm,0.7s,baz=208,slow=4.1,SNR=6.1								
WRA	**Warramunga Arr**	**87.43**	**120**	P		P		01 13 54.4	-0.9
	0.5nm,0.9s,baz=208,slow=3.8,SNR=3.0								
PDAR	**Pinedale Array**	**146.10**	**273**	PKPbc		PKPdf		01 20 45.9	-0.7
	1.7nm,0.8s,baz=126,slow=5.2,SNR=13								
NVAR	**Mina Array Bea**	**148.79**	**259**	PKPbc		PKPbc		01 20 55.0	0.0
	1.4nm,0.8s,baz=149,slow=4.2,SNR=7.8								
YKA	**Yellowknife Ar**	**154.91**	**310**	PKPab		PKPab		01 21 23.3	-0.1
	0.5nm,0.9s,baz=89,slow=4.9,SNR=6.8								

IDC 18 01:33:20.9±1.4, 3.89N×126.35E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/23, mbtmp3.8/5, Error ellipse: s-maj=150.4km s-min=20.1km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**24.95**	**162**	P		P		01 38 45.0	-1.3
	2.9nm,0.8s,baz=342,slow=11,SNR=18								
STKA	**Stephens Creek**	**38.42**	**159**	P		P		01 40 45.9	+1.5
	2.0nm,0.9s,baz=324,slow=9.1,SNR=3.9								
MKAR	**Makanchi Array**	**57.20**	**325**	P		P		01 43 10.1	+0.1
	0.3nm,0.5s,baz=126,slow=7.7,SNR=7.4								
KURBB	**Kurchatov Arra**	**61.40**	**327**	P		P		01 43 38.1	-0.8
	0.5nm,0.5s,baz=124,slow=6.9,SNR=5.8								
BVAR	**Borovoye Array**	**66.98**	**327**	P		P		01 44 16.1	+0.6
	0.3nm,0.5s,baz=121,slow=5.6,SNR=2.8								

*IDC **18** 01:39:14.1±2.5, 40.15N×72.52E, h0km, mb3.7/3, mb1 3.5/5, mb1mx3.3/29, mbtmp3.4/5, ML2.6/2, Error ellipse: s-maj=53.9km s-min=15.8km az=143.0*
ISC 18 01:39:11.6±2.8, 39.3N±0.2×72.9E±0.1, h33km, n12, σ0§94/13, mb3.7/3, 5C-1D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
AML	**Almayashu**	**2.91**	**12**	P			**Pn**	**01 39 55.5**	**-0.3**
	SNR=58								
KZA	**Kyzart**	**3.31**	**32**	P			**Pn**	**01 40 00.5**	**-0.9**
	SNR=13								
EKS2	**Erkin-Say**	**3.44**	**11**	P			**Pn**	**01 40 04.2**	**+1.2**
	SNR=18								
AAK	**Ala-Archa**	**3.56**	**19**	P			**Pn**	**01 40 04.8**	**+0.2**
	SNR=7.6								
AAK	**Ala-Archa**	**3.56**	**19**	Pn			**Pn**	**01 40 05.0**	**+0.4**
	1.9nm,0.3s,baz=180,slow=12,SNR=31								
AAK				Lg			Lg	01 40 46.8	
	2.8nm,0.3s,baz=331,slow=19,SNR=17								
CHMS	**Chumysh**	**3.96**	**20**	P			**Pn**	**01 40 10.5**	**+0.5**
	SNR=6.5								
TKM2	**Tokmak 2**	**4.16**	**28**	⇑Pn			**Pn**	**01 40 12.7**	**-0.2**
	2.6nm,0.6s								
TKM2				⇓Pg			Pb	01 40 20.7	-3.5
	4.9nm,0.7s								
TKM2				⇑Lg			Lg	01 41 07.7	
	10nm,0.7s								
KK31	**Karatay Array**	**4.22**	**335**	Pn			**Pn**	**01 40 14.9**	**+1.3**
	0.4nm,0.2s,baz=214,slow=23,SNR=21								
KK31				⇑Pg			**Pb**	**01 40 23.9**	**-1.2**
	1.4nm,0.3s,baz=145,slow=14,SNR=8.3								
KK31				⇑Sn			**Sn**	**01 41 02.2**	**+0.4**
	3.1nm,0.3s,baz=144,slow=23,SNR=6.8								
KK31				⇑Lg			Lg	01 41 16.4	
	7.5nm,0.4s,baz=143,slow=28,SNR=4.1								
MKAR	**Makanchi Array**	**10.16**	**39**	Pn			**Pn**	**01 41 36.7**	**+1.6**
	0.0nm,0.3s,baz=224,slow=12,SNR=3.0								
MKAR				Lg			Lg	01 44 15.6	
	0.0nm,0.3s,baz=226,slow=22,SNR=2.4								
FINES	**FINESS Array B**	**36.09**	**323**	P			**P**	**01 46 09.9**	**+0.1**
	2.4nm,1.1s,baz=111,slow=9.6,SNR=6.1								
HFS	**Hagfors**	**41.86**	**320**	P			**P**	**01 46 58.6**	**+0.4**
	0.7nm,0.4s,baz=104,slow=9.5,SNR=7.4								
TORD	**Torodi Ar. Bea**	**67.30**	**269**	P			P	01 50 09.1	+5.8
	0.2nm,0.6s,baz=50,slow=6.0,SNR=4.1								

*NIED **18** 02:05:00, 25.50N×141.00E, h11km, Mw4.6 Best double couple: M0 8.34000×10^15 NP1:φ§216.00000°, δ78.00000°, λ90.00000°. NP2:φ§37.00000°, δ12.00000°, λ91.00000°.*
*JMA **18** 02:05:11.4±0.4, 25.47N×141.03E, h0km, M4.9*
*ISCJB **18** 02:05:17.7±0.4, 25.44N±0.06×142.50E±0.10, h38km, mb4.2/36, MS3.5/3, Error ellipse: s-maj=13.0km s-min=7.9km az=162.9*
*NEIC **18** 02:05:20.9±1.2, 25.55N×142.52E, h49km±10km, mb4.5/13, MW4.5(NIED), Error ellipse: s-maj=8.9km s-min=6.4km az=72.0*
*IDC **18** 02:05:21.0±2.4, 25.58N×142.54E, h48km±21km, mb3.8/22, mb1 4.0/23, mb1mx3.9/29, mbtmp3.8/23, ML3.4/1, MS3.4/7, Ms1 3.5/7, ms1mx3.1/41, Error ellipse: s-maj=19.9km s-min=14.2km az=78.0*
ISC 18 02:05:19.4±0.5, 25.41N±0.07×142.6E±0.1, h38km, n79, σ1§06/83, mb4.3/36, MS3.5/3, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
JHHJ	**Haha-jima-NKT**	**1.27**	**344**	P			**Pn**	**02 05 40.3**	**-0.3**
JHHJ				*e*	S		**Sn**	**02 06 01.5**	**+5.1**
CBIJ	**Chichi jima**	**1.72**	**348**	P			**Pn**	**02 05 46.0**	**-0.8**
CBIJ				S			**Sn**	**02 06 09.2**	**+1.8**
CBIJ	**Chichi jima**	**1.72**	**348**	P			**Pn**	**02 05 46

AKASG	**Malin Array Be**	**84.19**	**324**	P		**P**	**02**	**17**	**45.9** **-0.7**
AKASG	**Malin Array Be**	**84.19**	**324**	P		**P**	**02**	**17**	**45.9** **-0.7**
	0.8nm,0.4s,baz=54,slow=4.8,SNR=5.2								
HFS	**Hagfors**	**85.11**	**337**	P		**P**	**02**	**17**	**49.8** **-1.3**
HFS	**Hagfors**	**85.11**	**337**	P		**P**	**02**	**17**	**49.8** **-1.3**
	1.2nm,0.5s,baz=100,slow=4.5,SNR=10								
PDAR	**Pinedale Array**	**85.16**	**45**	P		**P**	**02**	**17**	**51.6** **-0.4**
PDAR	**Pinedale Array**	**85.16**	**45**	P		**P**	**02**	**17**	**51.6** **-0.4**
	0.6nm,0.9s,baz=226,slow=3.9,SNR=3.9								
NB2	**NORSAR Subarra**	**85.31**	**338**	P		**P**	**02**	**17**	**51.3** **-0.8**
	comp=Z,3.3nm,0.9s,baz=45,slow=5.1								
NOA	**NORSAR Array B**	**85.31**	**338**	P		**P**	**02**	**17**	**51.8** **-0.4**
NOA	**NORSAR Array B**	**85.31**	**338**	P		**P**	**02**	**17**	**51.8** **-0.4**
	comp=Z,1.8nm,0.9s,baz=45,slow=4.8,SNR=5.7								
BRTR	**Keskin Array B**	**87.41**	**313**	P		**P**	**02**	**18**	**02.4** **-0.7**
BRTR	**Keskin Array B**	**87.41**	**313**	P		**P**	**02**	**18**	**02.4** **-0.7**
	comp=Z,0.4nm,0.7s,baz=84,slow=5.1,SNR=4.1								
BUR08	**Bucovina Ar. S**	**88.10**	**323**	*e*P		**P**	**02**	**18**	**05.4** **-0.8**
TXAR	**Lajitas Array**	**96.32**	**54**	P		**P**	**02**	**18**	**45.2** **+0.6**
TXAR	**Lajitas Array**	**96.32**	**54**	P		**P**	**02**	**18**	**45.2** **+0.6**
	comp=Z,0.5nm,0.8s,baz=328,slow=4.4,SNR=4.9								
TORD	**Torodi Ar. Bea**	**125.95**	**311**	PKP		**PKPdf**	**02**	**24**	**18.7** **+0.6**
TORD	**Torodi Ar. Bea**	**125.95**	**311**	PKP		**PKPdf**	**02**	**24**	**18.7** **+0.6**
	comp=Z,0.5nm,0.9s,baz=68,slow=1.0,SNR=4.4								
LPAZ	**La Paz**	**149.96**	**78**	PKPbc		**PKPbc**	**02**	**25**	**07.6** **+0.4**
LPAZ	**La Paz**	**149.96**	**78**	PKPbc		**PKPbc**	**02**	**25**	**07.6** **+0.4**
	comp=Z,1.2nm,0.7s,baz=27,slow=6.9,SNR=4.7								
SAML	**Samuel**	**150.54**	**61**	*e*PKPdf		**PKPdf**	**02**	**25**	**03.2** **+0.7**
SAML				*e*PKPbc		**PKiKP**	**02**	**25**	**08.1** **-0.5**
SAML				*e*PKPab		**PKPab**	**02**	**25**	**13.5** **-1.1**
LVC	**Limon Verde**	**151.13**	**91**	*e*PKPbc		**PKPbc**	**02**	**25**	**08.8** **-0.6**
CPUP	**Villa Florida**	**162.06**	**97**	*e*PKPab		**PKPab**	**02**	**26**	**04.5** **+0.8**

*ISCJB **18** 02:15:27.8±0.4,39.°12N±0.°02×29.°03E±0.°03,h10km±4km, Error ellipse: s-maj=4.1km s-min=3.4km az=171.3*
*ISK **18** 02:15:27.5,39.°14N×29.°04E,h8km, MD2.8*
*DDA **18** 02:15:27.4,39.°12N×29.°03E,h12km, MD2.8*
*CSEM **18** 02:15:27.9±0.1,39.°12N×29.°03E,h10km, MD2.8, Error ellipse: s-maj=2.1km s-min=2.0km az=1.0*

ISC 18 02:15:27.7±0.9, 39.°12N±0.°02×29.°03E±0.°02, h16km±8km, n36, σ0s38/58, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**252**	*i* P		**Pb**	**02** **15** **33.8** **-0.2**
DEMI				*i* S		**Sg**	**02** **15** **37.4** **+0.2**
DEMI	**Demirci**	**0.25**	**252**	*i* P		**Pb**	**02** **15** **33.8** **-0.2**
DEMI				*i* S		**Sg**	**02** **15** **37.4** **+0.2**
GDZ	**Gediz**	**0.36**	**95**	*i* P		**Pg**	**02** **15** **35.1** **0.0**
GDZ				*i* S		**Sg**	**02** **15** **39.8** **-0.4**
GDZ	**Gediz**	**0.36**	**95**	*i* P		**Pg**	**02** **15** **35.1** **0.0**
GDZ				*i* S		**Sg**	**02** **15** **39.8** **-0.4**
TVSB	**Tavsanli**	**0.47**	**46**	*e*PG		**Pg**	**02** **15** **37.2** **0.0**
TVSB				*e*SG		**Sg**	**02** **15** **43.5** **-0.1**
TVSB	**Tavsanli**	**0.47**	**46**	*e*Pg		**Pg**	**02** **15** **37.2** **0.0**
TVSB				*e*Sg		**Sg**	**02** **15** **43.5** **-0.1**
DST	**Dursunbey**	**0.57**	**327**	*e*PG		**Pg**	**02** **15** **39.2** **+0.1**
DST				*e*SG		**Sg**	**02** **15** **47.1** **+0.3**
DST	**Dursunbey**	**0.57**	**327**	*e*Pg		**Pg**	**02** **15** **39.2** **+0.1**
DST				*e*Sg		**Sg**	**02** **15** **47.1** **+0.3**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*PG		**Pb**	**02** **15** **41.1** **-0.1**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*Pg		**Pb**	**02** **15** **41.1** **-0.1**
MANT	**Manisa**	**0.73**	**210**	*i* P		**Pb**	**02** **15** **42.1** **-0.1**
MANT				*i* S		**Sg**	**02** **15** **50.8** **-0.9**
MANT	**Manisa**	**0.73**	**210**	*i* P		**Pb**	**02** **15** **42.1** **-0.1**
MANT				*i* S		**Sg**	**02** **15** **50.8** **-0.9**
KHAL	**Karahalli**	**0.83**	**154**	*i* P		**Pb**	**02** **15** **44.4** **+0.4**
KHAL				*i* S		**Sb**	**02** **15** **55.0** **0.0**
KHAL	**Karahalli**	**0.83**	**154**	*i* P		**Pb**	**02** **15** **44.4** **+0.4**
KHAL				*i* S		**Sb**	**02** **15** **55.0** **0.0**
ALT	**Altintas**	**0.85**	**94**	*e*PG		**Pg**	**02** **15** **43.9** **-0.4**
ALT				*e*SG		**Sb**	**02** **15** **56.1** **+0.7**
ALT	**Altintas**	**0.85**	**94**	*e*Pg		**Pg**	**02** **15** **43.9** **-0.4**
ALT				*e*Sg		**Sb**	**02** **15** **56.1** **+0.7**
KHL	**Karahalli**	**0.89**	**154**	*e*PG		**Pn**	**02** **15** **45.7** **0.0**
KHL	**Karahalli**	**0.89**	**154**	*e*Pg		**Pn**	**02** **15** **45.7** **0.0**
AKHS	**Akhisar**	**0.97**	**256**	*i* P		**Pb**	**02** **15** **45.9** **-0.4**
AKHS				*i* S		**Sg**	**02** **15** **59.7** **+0.3**
AKHS	**Akhisar**	**0.97**	**256**	*i* P		**Pb**	**02** **15** **45.9** **-0.4**
AKHS				*i* S		**Sg**	**02** **15** **59.7** **+0.3**
AKS	**Akhisar**	**0.97**	**256**	*e*PG		**Pn**	**02** **15** **47.1** **+0.3**
AKS	**Akhisar**	**0.97**	**256**	*e*Pg		**Pn**	**02** **15** **47.1** **+0.3**
ULDT	**Uludag**	**1.02**	**5**	*i* P		**Pb**	**02** **15** **46.9** **-0.3**
ULDT				*i* S		**Sb**	**02** **15** **59.8** **-0.7**
ULDT	**Uludag**	**1.02**	**5**	*i* P		**Pb**	**02** **15** **46.9** **-0.3**
ULDT				*i* S		**Sb**	**02** **15** **59.8** **-0.7**
BALB	**Balikesir**	**1.03**	**301**	*e*PG		**Pb**	**02** **15** **47.5** **+0.3**
BALB	**Balikesir**	**1.03**	**301**	*e*Pg		**Pb**	**02** **15** **47.5** **+0.3**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*PN		**Pg**	**02** **15** **51.7** **-0.2**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*Pn		**Pg**	**02** **15** **51.7** **-0.2**
BALY	**Balya**	**1.25**	**300**	*i* P		**Pg**	**02** **15** **52.4** **+0.5**
BALY				*i* S		**Sb**	**02** **16** **06.3** **-0.6**
BALY	**Balya**	**1.25**	**300**	*i* P		**Pg**	**02** **15** **52.4** **+0.5**
BALY				*i* S		**Sb**	**02** **16** **06.3** **-0.6**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*PN		**Pg**	**02** **15** **52.1** **+0.2**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*Pn		**Pg**	**02** **15** **52.1** **+0.2**
SHUT	**Suhut-Afyon**	**1.32**	**115**	*e*PN		**Pb**	**02** **15** **52.6** **+0.4**
SHUT	**Suhut-Afyon**	**1.32**	**115**	*e*Pn		**Pb**	**02** **15** **52.6** **+0.4**
BORA	**Eskisehir**	**1.34**	**55**	*i* P		**Pg**	**02** **15** **53.5** **-0.1**
BORA				*i* S		**Sb**	**02** **16** **09.7** **+0.2**
BORA	**Eskisehir**	**1.34**	**55**	*i* P		**Pg**	**02** **15** **53.5** **-0.1**
BORA				*i* S		**Sb**	**02** **16** **09.7** **+0.2**

*IDC **18** 02:15:29.0±0.8,52.°97S×20.°77E,h0km, mb4.1/8, mb1 4.1/8, mb1mx4.0/20, mbtmp4.1/8, MS3.7/10, Ms1 3.7/10, ms1mx3.6/27, Error ellipse: s-maj=36.0km s-min=18.4km az=91.0*
*ISCJB **18** 02:15:29.2±0.6,52.°95S±0.°09×20.°6E±0.°2,h11km, mb4.3/15, MS3.7/10, Error ellipse: s-maj=19.6km s-min=12.3km az=11.6*
*NEIC **18** 02:15:30.5±0.4,53.°00S×20.°76E,h10km, mb4.5/11, Error ellipse: s-maj=14.8km s-min=9.1km az=103.0*

ISC 18 02:15:30.3±0.6, 53.°04S±0.°10×20.°9E±0.°2, h11km, n48, σ0s86/43, mb4.3/15, MS3.8/10, 1C, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SYO	**Syowa Base**	**18.26**	**158**	*e*P	**Pn**	**02** **19** **40.4** **-2.8**
SUR	**Sutherland**	**20.65**	**360**	*e*P	**P**	**02** **20** **10.7** **+0.7**
	9.8nm,0.7s					
SUR	**Sutherland**	**20.65**	**360**	P	Pn	02 20 11.0 -1.4
	8.2nm,0.8s,baz=167,slow=11,SNR=4.5					
SUR				LR	LR	02 26 32.5
	comp=Z,361nm,19.1s,baz=245,slow=32					
SNAA	**Sanae**	**21.40**	**200**	*e*P	P	02 20 12.7 -4.9
	50nm,1.1s					
BOSA	**Boshof**	**24.61**	**9**	*e*P	**P**	**02** **20** **51.0** **+0.4**
	11nm,1.4s					
BOSA	**Boshof**	**24.61**	**9**	P	**P**	**02** **20** **51.7** **+1.0**
	2.3nm,0.9s,baz=178,slow=2.5,SNR=3.3					
BOSA				LR	LR	02 28 33.4
	comp=Z,336nm,20.3s,baz=270,slow=32					
MAW	**Mawson**	**24.73**	**142**	LR	LR	02 28 28.8
	comp=Z,147nm,19.6s,baz=128,slow=31					
LBTB	**Lobatse**	**28.21**	**9**	*e*P	**P**	**02** **21** **23.1** **0.0**
	2.9nm,0.7s					
LBTB	**Lobatse**	**28.21**	**9**	P	**P**	**02** **21** **21.6** **-1.4**
	1.9nm,0.6s,baz=225,slow=8.4,SNR=6.5					
LBTB				LR	LR	02 30 31.3
	comp=Z,285nm,20.9s,baz=152,slow=32					
TSUM	**Tsumeb**	**33.87**	**354**	P	**P**	**02** **22** **13.0** **0.0**
TSUM	**Tsumeb**	**33.87**	**354**	P	**P**	**02** **22** **13.0** **0.0**
	2.6nm,0.8s,baz=172,slow=10,SNR=7.4					
QSPA	**South Pole Qui**	**37.19**	**180**	P	**P**	**02** **22** **42.5** **+1.3**
QSPA	**South Pole Qui**	**37.19**	**180**	P	**P**	**02** **22** **42.4** **+1.3**
	16nm,0.8s,baz=244,slow=4.3,SNR=39					
LSZ	**Lusaka**	**38.12**	**11**	*e*P	**P**	**02** **22** **49.2** **-0.2**
	1.2nm,0.6s					
TRQA	**Tornquist**	**56.74**	**250**	*e*P	**P**	**02** **25** **14.0** **+0.1**
	4.6nm,0.9s					
CPUP	**Villa Florida**	**62.46**	**262**	P	**P**	**02** **25** **53.0** **-0.5**
CPUP	**Villa Florida**	**62.46**	**262**	P	**P**	**02** **25** **53.0** **-0.5**
	0.8nm,0.6s,baz=160,slow=15,SNR=3.3					
CPUP				LR	LR	02 48 07.2
	comp=Z,75nm,18.5s,baz=285,slow=31					
DBIC	**Dimbokro**	**63.37**	**331**	*e*P	**P**	**02** **25** **59.7** **+0.3**
	9.1nm,1.3s					
DBIC	**Dimbokro**	**63.37**	**331**	LR	LR	02 47 43.7
	comp=Z,73nm,19.9s,baz=105,slow=31					
CFAA	**Coronel Fontan**	**64.94**	**250**	LR	LR	02 50 20.2
	comp=Z,9.3nm,18.2s,baz=179,slow=32					
BDFB	**Brasilia**	**64.98**	**277**	LR	LR	02 47 43.0
	comp=Z,79nm,21.5s,baz=73,slow=30					
RCBR	**Riachuelo**	**65.83**	**294**	*e*P	**P**	**02** **26** **14.4** **-1.3**
	12nm,1.0s					
ATD	**Arta Tunnel**	**67.01**	**23**	LR	LR	02 52 57.0
	comp=Z,54nm,20.1s,baz=179,slow=34					
TOA0	**Torodi Ar. Sit**	**67.95**	**340**	*e*P	**P**	**02** **26** **29.1** **+0.1**
TORD	**Torodi Ar. Bea**	**67.95**	**340**	P	**P**	**02** **26** **28.7** **-0.3**
TORD	**Torodi Ar. Bea**	**67.95**	**340**	P	**P**	**02** **26** **28.7** **-0.3**
	1.3nm,0.9s,baz=177,slow=7.7,SNR=6.9					
TORD				LR	LR	02 51 35.8
	comp=Z,65nm,19.1s,baz=225,slow=32					
LPAZ	**La Paz**	**76.58**	**261**	*e*P	**P**	**02** **27** **21.6** **+0.1**
	3.6nm,1.3s					
SAML	**Samuel**	**79.35**	**269**	*e*P	**P**	**02** **27** **36.5** **+0.3**
	4.1nm,0.9s					
ASAR	**Alice Springs**	**84.16**	**122**	P	**P**	**02** **28** **02.5** **+0.9**
ASAR	**Alice Springs**	**84.16**	**122**	P	**P**	**02** **28** **02.5** **+0.9**
	0.6nm,0.7s,baz=210,slow=4.8,SNR=2.7					
WRAB	**Tennant Creek**	**87.48**	**120**	*e*P	**P**	**02** **28** **18.4** **+0.3**
	12nm,0.6s					
ZALV	**Zalesovo Beam**	**119.08**	**37**	PKP	**PKPdf**	**02** **34** **17.2** **-0.7**
ZALV	**Zalesovo Beam**	**119.08**	**37**	PKP	**PKPdf**	**02** **34** **17.2** **-0.7**
	0.5nm,0.5s,baz=245,slow=3.0,SNR=3.4					
WMOK	**Wichita Mounta**	**134.29**	**271**	*e*PKPdf	**PKPdf**	**02** **34** **48.5** **+0.8**
MSU	**Marysvale**	**144.86**	**265**	*e*PKPdf	**PKPdf**	**02** **35** **07.7** **+0.7**
DAU	**Daniels Canyon**	**145.50**	**268**	*e*PKPbc	**PKPab**	**02** **35** **10.0** **+1.5**
BW06	**Boulder Array**	**145.87**	**273**	*e*PKPbc	**PKPab**	**02** **35** **09.6** **-0.1**
PDAR	**Pinedale Array**	**145.87**	**273**	PKPbc	**PKPab**	**02** **35** **09.6** **-0.1**
PDAR	**Pinedale Array**	**145.87**	**273**	PKPbc	**PKPab**	**02** **35** **09.6** **-0.1**
	1.6nm,0.8s,baz=124,slow=5.7,SNR=16					
PD02	**Pinedale Array**	**145.88**	**273**	*e*PKPbc	**PKPbc**	**02** **35** **09.6** **+0.3**
PD01	**Pinedale Array**	**145.89**	**273**	*e*PKPbc	**PKPbc**	**02** **35** **09.6** **+0.3**
ELK	**Elko**	**148.10**	**265**	*e*PKPbc	**PKPdf**	**02** **35** **13.1** **+0.7**
NVAR	**Mina Array Bea**	**148.47**	**259**	PKPbc	**PKPbc**	**02** **35** **16.6** **0.0**
NVAR	**Mina Array Bea**	**148.47**	**259**	PKPbc	**PKPbc**	**02** **35** **16.6** **0.0**
	1.2nm,0.8s,baz=131,slow=4.4,SNR=7.2					
HLID	**Hailey**	**149.25**	**270**	*e*PKPbc	**PKPbc**	**02** **35** **17.7** **-0.7**
CHMT	**Chamberlain Mo**	**150.30**	**277**	*e*PKPbc	**PKPbc**	**02** **35** **22.3** **+1.4**
YKA	**Yellowknife Ar**	**154.95**	**310**	PKPbc	**PKPbc**	**02** **35** **30.5** **+0.1**
YKA				PKPab	**PKPab**	**02** **35** **45.1** **-1.0**
YKA	**Yellowknife Ar**	**154.95**	**310**	PKPbc	**PKPbc**	**02** **35** **30.5** **+0.1**
	0.1nm,0.3s,baz=72,slow=3.0,SNR=3.5					
YKA				PKPab	**PKPab**	**02** **35** **45.1** **-1.0**
	0.5nm,0.8s,baz=95,slow=5.2,SNR=7.9					

*IDC **18** 02:22:41.6±10.0,6.°85S×129.°69E,h101km±106km, mb3.5/2,mb1 3.8/4,mb1mx3.6/17,mbtmp3.7/4,ML4.0/2, Error ellipse: s-maj=135.2km s-min=39.4km az=61.0*
*ISCJB **18** 02:22:45.6±0.8,6.°88S±0.°05×130.°3E±0.°1,h146km, mb3.5/2, Error ellipse: s-maj=14.2km s-min=7.6km az=0.6*
*DJA **18** 02:23:00.1±1.9,6.°5±8.°×13.°1E±.°,h110km±23km, M3.8/4, MLv3.8/4*

ISC 18 02:22:46.0±1.0, 6.°93S±0.°08×130.°3E±0.°1, h146km, n8, σ2s10/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.42**	**351**	P	**Pn**	**02** **23** **26.2** **+0.3**
TLE	**Tual**	**2.77**	**63**	P	Pn	02 23 35.8 +5.5
TLE				S	**Sn**	**02** **24** **04.8** **+0.4**
MSAI	**Masohi**	**3.80**	**339**	P	**Pn**	**02** **23** **44.0** **+0.5**
FAKI	**Fak Fak**	**4.44**	**26**	P	**Pn**	**02** **23** **51.5** **-0.5**
FAKI				S	Sn	02 24 31.4 -12
WRA	**Warramunga Arr**	**13.53**	**163**	P	**Pn**	**02** **25** **52.2** **0.0**
	0.6nm,0.3s,baz=343,slow=13,SNR=20					
WRA				S	Sn	02 28 16.1 -5.8
	1.2nm,0.3s,baz=336,slow=22,SNR=9.7					
ASAR	**Alice Springs**	**17.01**	**169**	P	**P**	**02** **26** **36.9** **+2.2**
	1.1nm,0.3s,baz=352,slow=12,SNR=53					
ASAR				S	**S**	**02** **29** **40.9** **-3.7**
	0.3nm,0.3s,baz=342,slow=25,SNR=5.3					
STKA	**Stephens Creek**	**26.98**	**158**	P	**P**	**02** **28** **16.2** **+2.0**
	0.9nm,0.4s,baz=333,slow=12,SNR=4.1					
MKAR	**Makanchi Array**	**68.31**	**327**	P	**P**	**02** **33** **29.6** **-1.7**
	0.2nm,0.4s,baz=123,slow=8.1,SNR=8.6					

IDC 18 02:27:28.6±2.0, 31.°63S×178.°79W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.7/17, mbtmp3.7/2, Error ellipse: s-maj=73.4km s-min=46.6km az=16.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.38**	**269**	P	P	02 35 25.4	+0.4
	0.2nm,0.4s,baz=107,slow=7.5,SNR=4.1						
WRA	**Warramunga Arr**	**43.48**	**274**	P	P	02 35 33.3	-0.6
	0.6nm,0.3s,baz=111,slow=8.1,SNR=15						
FINES	**FINESS Array B**	**146.05**	**339**	PKPbc	PKPdf	02 47 09.2	+0.3
	2.7nm,1.1s,baz=46,slow=5.5,SNR=6.2						
TORD	**Torodi Ar. Bea**	**161.60**	**181**	PKPab	PKPab	02 48 16.1	-0.6
	0.4nm,0.9s,baz=168,slow=4.0,SNR=5.3						

*IDC **18** 02:32:33.7±0.8,8.°50S×157.°61E,h0km,mb4.2/11, mb1 4.4/12,mb1mx4.3/18,mbtmp4.1/12,ML3.9/1,MS3.5/4, Ms1 3.5/4,ms1mx3.1/34, Error ellipse: s-maj=31.3km s-min=18.4km az=129.0*
*ISCJB **18** 02:32:34.8±0.4,8.°49S±0.°08×157.°58E±0.°06,h16km, mb4.4/21,MS3.5/3, Error ellipse: s-maj=11.9km s-min=8.6km az=170.0*
*NEIC **18** 02:32:38.9±1.5,8.°54S×157.°65E,h37km±15km, mb4.6/11, Error ellipse: s-maj=15.8km s-min=6.4km az=155.0*

ISC 18 02:32:36.2±0.5, 8.°5S±0.°1×157.°61E±0.°06, h16km, n41, σ0s68/45, mb4.3/21, MS3.3/3, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.50**	**113**	*e*Pn	**Pn**	**02** **33** **15.9** **-0.3**
HNR				*e*Sn	**Sn**	**02** **33** **46.4** **0.0**
HNR				*e*Sg	**Sb**	**02** **33** **51.9** **+0.7**
CTA	**Charters Tower**	**15.94**	**222**	Pn	**Pn**	**02** **36** **20.9** **+0.8**
CTA	**Charters Tower**	**15.94**	**222**	Pn	**Pn**	**02** **36** **20.9** **+0.8**
	0.3nm,0.3s,baz=58,slow=16,SNR=4.2						
CTA				LR	LR	02 40 35.4	
	comp=Z,81nm,18.5s,baz=234,slow=30						
CTAO	**Charters Tower**	**15.94**	**222**	*e*Pn	**Pn**	**02** **36** **20.9** **+0.8**
	4.5nm,0.8s						
WRAB	**Tennant Creek**	**25.23**	**241**	*e*P	**P**	**02** **38** **00.8** **-0.9**
	19nm,1.3s						
WRA	**Warramunga Arr**	**25.24**	**241**	P	**P**	**02** **38** **01.3** **-0.5**
WRA				PcP	**PcP**	**02** **41** **35.5** **+0.2**
WRA	**Warramunga Arr**	**25.24**	**241**	P	**P**	**02** **38** **01.3** **-0.5**
	4.3nm,0.7s,baz=66,slow=9.7,SNR=22						
WRA				PcP	**PcP**	**02** **41** **35.5** **+0.2**
	0.7nm,0.6s,baz=69,slow=2.8,SNR=8.6						
WRA				LR	LR	02 46 48.8	
	comp=Z,87nm,20.9s,baz=65,slow=34						
ASAR	**Alice Springs**	**27.27**	**234**	P	**P**	**02** **38** **18.6** **-1.5**
ASAR				PcP	**PcP**	**02** **41** **39.5** **-0.5**
ASAR	**Alice Springs**	**27.27**	**234**	P	**P**	**02** **38** **18.6** **-1.5**
	0.5nm,0.6s,baz=60,slow=9.5,SNR=4.2						
ASAR				PcP	**PcP**	**02** **41** **39.5** **-0.5**
	0.2nm,0.6s,baz=219,slow=1.6,SNR=4.9						
STKA	**Stephens Creek**	**27.64**	**210**	P	**P**	**02** **38** **23.6** **+0.2**
STKA	**Stephens Creek**	**27.64**	**210**	P	**P**	**02** **38** **23.6** **+0.2**
	2.8nm,0.6s,baz=34,slow=12,SNR=9.0						
STKA				LR	LR	02 49 57.2	
	comp=Z,72nm,19.5s,baz=24,slow=38						
KAPI	**Kappang**	**37.74**	**273**	*e*P	**P**	**02** **39** **51.6** **-0.2**
	3.7nm,0.6s						
MBWA	**Marble Bar**	**38.62**	**247**	*e*P	**P**	**02** **39** **59.1** **0.0**
	20nm,1.3s						
CMAR	**Chiang Mai Arr**	**63.76**	**295**	P	**P**	**02** **43** **08.9** **+1.0**
CMAR	**Chiang Mai Arr**	**63.76**	**295**	P	**P**	**02** **43** **08.9** **+1.0**
	1.2nm,0.3s,baz=111,slow=4.6,SNR=9.7						
CMAR				LR	LR	03 08 37.3	
	comp=Z,89nm,18.0s,baz=351,slow=34						
SONM	**Songino Array**	**71.98**	**326**	P	**P**	**02** **43** **59.7** **+0.4**
SONM	**Songino Array**	**71.98**	**326**	P	**P**	**02** **43** **59.7** **+0.4**
	1.3nm,0.8s,baz=90,slow=7.2,SNR=2.9						
TRF	**Thorofare Moun**	**81.82**	**21**	*e*P	**P**	**02** **44** **53.5** **-1.0**
	8.7nm,0.8s						
MCK	**McKinley**	**82.47**	**21**	*e*P	**P**	**02** **44** **57.4** **-0.3**
	22nm,0.9s						
COLA	**College**	**83.53**	**20**	*e*P	**P**	**02** **45** **02.3** **-0.8**
	5.1nm,0.7s						
ILAR	**Eielson Array**	**83.81**	**21**	P	**P**	**02** **45** **04.2** **-0.4**
ILAR	**Eielson Array**	**83.81**	**21**	P	**P**	**02** **45** **04.2** **-0.4**
	2.2nm,0.6s,baz=250,slow=5.0,SNR=34						
MK31	**Makanchi Array**	**86.22**	**318**	*e*P	**P**	**02** **45** **17.0** **-0.2**
MKAR	**Makanchi Array**	**86.22**	**318**	P	**P**	**02** **45** **17.5** **+0.4**
MKAR	**Makanchi Array**	**86.22**	**318**	P	**P**	**02** **45** **17.5** **+0.4**
	1.1nm,0.6s,baz=97,slow=6.2,SNR=20						
ZALV	**Zalesovo Beam**	**86.85**	**326**	P	**P**	**02** **45** **19.3** **-0.7**
ZALV	**Zalesovo Beam**	**86.85**	**326**	P	**P**	**02** **45** **19.3** **-0.7**
	0.5nm,0.3s,baz=138,slow=5.0,SNR=2.7						
NVAR	**Mina Array Bea**	**90.60**	**51**	P	**P**	**02** **45** **39.5** **+1.1**
NVAR	**Mina Array Bea**	**90.60**	**51**	P	**P**	**02** **45** **39.5** **+1.1**
	1.2nm,0.8s,baz=238,slow=7.4,SNR=6.2						
AAK	**Ala-Archa**	**90.65**	**313**	*e*P	**P**	**02** **45** **38.4** **-0.1**
	21nm,1.3s						
EKS2	**Erkin-Say**	**91.17**	**313**	*e*P	**P**	**02** **45** **41.2** **+0.3**
	2.0nm,0.6s						
DUG	**Dugway**	**95.07**	**50**	*e*P	**P**	**02** **45** **58.3** **-0.6**
	1.2nm,0.8s						
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**	**02** **46** **04.5** **+0.2**
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**	**02** **46** **04.5** **+0.2**
	0.5nm,0.7s,baz=260,slow=4.8,SNR=11						
BOZ	**Bozeman (W)**	**96.52**	**45**	*e*P	**P**	**02** **46** **05.5** **+0.1**
	1.0nm,0.9s						
PDAR	**Pinedale Array**	**97.76**	**48**	P	**P**	**02** **46** **11.2** **0.0**
PDAR	**Pinedale Array**	**97.76**	**48**	P	**P**	**02** **46** **11.2** **0.0**
	0.6nm,1.0s,baz=208,slow=3.7,SNR=2.8						
ESDC	**Sonseca Array**	**144.83**	**335**	PKP	PKPbc	02 52 12.2	+0.2
ESDC	**Sonseca Array**	**144.83**	**335**	PKP	PKPbc	02 52 12.2	+0.2
	0.1nm,0.3s,baz=21,slow=2.9,SNR=4.2						
BDFB	**Brasilia**	**145.09**	**133**	PKPbc	**PKPbc**	**02** **52** **12.7** **-0.8**
BDFB	**Brasilia**	**145.09**	**133**	PKPbc	**PKPbc**	**02** **52** **12.7** **-0.8**
	3.1nm,0.6s,baz=190,slow=6.2,SNR=6.1						

*ISCJB **18** 02:33:35.5±0.5,39.°02N±0.°03×28.°71E±0.°03,h9km±4km, Error ellipse: s-maj=5.1km s-min=4.3km az=169.8*
*ISK **18** 02:33:35.2,39.°01N×28.°71E,h18km, MD2.6*
*DDA **18** 02:33:35.4,39.°02N×28.°70E,h7km, MD2.8*
*CSEM **18** 02:33:35.6±0.2,39.°03N×28.°73E,h10km, MD2.8, Error ellipse: s-maj=3.7km s-min=3.0km az=175.0*

ISC 18 02:33:34.9±0.9, 39.°00N±0.°03×28.°73E±0.°02, h9km±5km, n26, σ0s42/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.05**	**351**	*e*P	**Pg**	**02** **33** **37.3** **+0.4**
DEMI				*e*S	**Sg**	**02** **33** **37.6** **-0.7**
DEMI	**Demirci**	**0.05**	**351**	*e*P	**Pg**	**02** **33** **37.3** **+0.4**
DEMI				*e*S	**Sg**	**02** **33** **37.6** **-0.7**
KULA	**Kula-Manisa**	**0.48**	**186**	PG	**Pb**	**02** **33** **46.1** **+0.5**
KULA				*e*SG	**Sb**	**02** **33** **52.7** **-0.1**
KULA	**Kula-Manisa**	**0.48**	**186**	*i* Pg	**Pb**	**02** **33

JAGI	**Jajag, Banyuwa**	**2.96**	**11**	P		**Pn**	**02 42 15.3**	**+0.3**
JAGI				S		**Sn**	**02 42 48.6**	**-0.7**
IGBI	**Denpasar**	**2.99**	**32**	P		**Pn**	**02 42 17.2**	**+1.8**
GMJI	**Gumukmas**	**3.10**	**358**	P		**Pn**	**02 42 17.0**	**+0.1**
GMJI				S		**Sn**	**02 42 51.6**	**-1.1**
NBBI	**Negara**	**3.17**	**19**	P		**Pn**	**02 42 19.2**	**+1.2**
NBBI				S		**Sn**	**02 42 54.4**	**-0.2**
KHKI	**Kahang-Kahang**	**3.62**	**34**	P		**Pn**	**02 42 25.6**	**+1.6**
PWJI	**Pagerwojo**	**3.77**	**332**	P		**Pn**	**02 42 26.6**	**+0.5**
PWJI				S		**Sn**	**02 43 08.3**	**-1.0**
UGM	**Wanagama**	**4.57**	**319**	P		**Pn**	**02 42 39.1**	**+1.9**
UGM				S		**Sn**	**02 43 28.2**	**-1.0**
KAPI	**Kappang**	**8.81**	**45**	LR		LR	02 47 55.7	
	comp=Z,55nm,18.2s,baz=231,slow=45							
FITZ	**Fitzroy Crossi**	**13.45**	**121**	Pn		**Pn**	**02 44 35.7**	**-3.2**
	0.2nm,0.3s,baz=309,slow=13,SNR=3.2							
FITZ				Sn		Sn	02 46 50.8	-16
	0.2nm,0.3s,baz=150,slow=20,SNR=3.5							
WRA	**Warramunga Arr**	**21.72**	**116**	P		**P**	**02 46 19.2**	**+0.4**
	2.1nm,0.5s,baz=290,slow=12,SNR=31							
WRA				S		S	02 50 07.9	-10
	0.3nm,0.9s,baz=283,slow=23,SNR=3.3							
ASAR	**Alice Springs**	**22.88**	**125**	P		**P**	**02 46 32.0**	**+0.8**
	2.4nm,0.8s,baz=303,slow=9.9,SNR=21							
STKA	**Stephens Creek**	**32.91**	**133**	P		**P**	**02 48 03.4**	**+1.7**
	0.9nm,0.6s,baz=293,slow=7.3,SNR=6.0							
JNU	**Nakatsue**	**47.24**	**20**	LR		LR	03 14 16.3	
	comp=Z,98nm,18.4s,baz=249,slow=42							
ZALV	**Zalesovo Beam**	**69.52**	**342**	P		P	02 52 46.9	+12
	0.7nm,0.4s,baz=149,slow=6.7,SNR=3.4							

MOS ***18*** *02:48:57.8±1.2,36°.54N×71°.26E,h33km,mb4.6/33,Error ellipse: s-maj=9.7km s-min=6.0km az=101.3*

IDC ***18*** *02:49:02.0±3.7,36°.60N×71°.28E,h60km±33km,mb3.9/20, mb1 4.1/25,mb1mx4.0/30,mbtmp4.0/25,ML4.4/5,MS2.9/3, Ms1 2.9/3,ms1mx2.6/51,Error ellipse: s-maj=17.3km s-min=14.2km az=1.0*

BJI ***18*** *02:49:04.8,36°.89N×71°.16E,h84km,mB4.4/4,mb4.3/10, Ms4.0/2,Ms7 3.7/2*

NEIC ***18*** *02:49:05.7±0.6,36°.64N×71°.25E,h93km±6km,mb4.3/22, Error ellipse: s-maj=5.9km s-min=5.1km az=144.0*

ISCJB ***18*** *02:49:05.4±0.2,36°.65N±0°.02×71°.47E±0°.03,h114km, mb4.2/58,Error ellipse: s-maj=3.7km s-min=2.5km az=148.1*

NNC ***18*** *02:49:07.7±3.4,36°.97N×70°.95E,h62km±48km,mb4.2, mpv4.5,Error ellipse: s-maj=26.9km s-min=22.3km az=167.0*

ISC 18 02:49:06.8±0.3,36°.66N±0°.02×71°.46E±0°.03,h114km,n219, σ1§43/213,mb4.2/58,11C-15D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.85**	**172**	||P		**Pn**	**02 49 51.7**	**+0.6**
CEP					S		**Sn**	**02 50 28.0**	**+2.8**
KBL	**Kabul**	**2.88**	**224**	*e*PN			**Pn**	**02 49 49.1**	**-2.5**
KBL				*e*				02 50 22.1	
KBL	**Kabul**	**2.88**	**224**	*e*Pn			**Pn**	**02 49 49.1**	**-2.5**
KBL				*e*Sn			**Sn**	**02 50 22.1**	**-4.0**
CHCP	**Chirah Chowk**	**3.34**	**153**	||P		**Pn**	**02 49 59.6**	**+2.2**
THW	**Thamme Wali**	**3.86**	**176**	P			**Pn**	**02 50 04.5**	**+0.1**
KSH	**Kashi**	**4.57**	**50**	P			Pn	02 50 10.5	-3.4
KSH				S			Sn	02 50 56.8	-9.2
KSH				smax			smax		
	comp=N,1μm,0.3s								
KSH				smax			smax		
	comp=E,810nm,0.5s								
SARP	**Sargodha**	**4.83**	**168**	P			**Pn**	**02 50 16.8**	**-0.6**
SARP				S			Sn	02 51 22.0	+10
THN	**Thein Dam**	**5.49**	**139**	*e*PKP			**Pn**	**02 50 26.6**	**+0.4**
THN				*e*S			**Sn**	**02 51 27.0**	**-1.1**
DLH	**Dalhousie**	**5.54**	**137**	*e*PKP			**Pn**	**02 50 28.0**	**+0.9**
DLH				*e*S			**Sn**	**02 51 30.0**	**+0.3**
AML	**Almayashu**	**5.74**	**17**	P			**Pn**	**02 50 29.4**	**-0.5**
	SNR=159								
UCH	**Uchtor**	**6.04**	**22**	P			**Pn**	**02 50 34.9**	**+0.8**
	SNR=6.3								
KZA	**Kyzart**	**6.16**	**27**	P			**Pn**	**02 50 35.7**	**0.0**
	SNR=24								
EKS2	**Erkin-Say**	**6.26**	**16**	*e*PN			**Pn**	**02 50 36.3**	**-0.4**
EKS2				pmax			pmax		
	comp=Z,44nm,0.5s								
EKS2	**Erkin-Say**	**6.26**	**16**	*e*Pn			**Pn**	**02 50 36.3**	**-0.4**
	comp=Z,44nm,0.5s								
EKS2				*e*Sn			**Sn**	**02 51 42.7**	**-4.2**
EKS2	**Erkin-Say**	**6.26**	**16**	P			**Pn**	**02 50 36.6**	**-0.1**
	SNR=54								
AAK	**Ala-Archa**	**6.41**	**21**	PN			**Pn**	**02 50 39.2**	**+0.4**
AAK				S			**Sn**	**02 51 51.8**	**+1.2**
AAK				pmax			pmax		
	comp=Z,21nm,0.3s								
AAK				smax			smax		
	comp=N,8.0nm,0.3s								
AAK				MLR			MLR		
	comp=Z,76nm,18.9s								
AAK	**Ala-Archa**	**6.41**	**21**	P			**Pn**	**02 50 39.2**	**+0.4**
AAK				S			**Sn**	**02 51 51.8**	**+1.2**
AAK	**Ala-Archa**	**6.41**	**21**	P			**Pn**	**02 50 38.9**	**0.0**
	SNR=86								
AAK	**Ala-Archa**	**6.41**	**21**	P			**Pn**	**02 50 39.2**	**+0.4**
	comp=Z,21nm,0.3s,baz=172,slow=6.0,SNR=256								
AAK				S			**Sn**	**02 51 51.8**	**+1.2**
	comp=Z,7.7nm,0.3s,baz=316,slow=23,SNR=12								
AAK				LR			LR	02 53 25.5	
	comp=Z,76nm,18.9s,baz=211,slow=40								
KK31	**Karatay Array**	**6.48**	**354**	||Pn		Pn	02 50 36.6	-3.0
	comp=Z,17nm,0.3s,baz=174,slow=12,SNR=224								
KK31				⇑Sn			Sn	02 51 45.2	-6.8
	comp=Z,29nm,0.4s,baz=191,slow=23,SNR=5.2								
KKAR	**Karatay Array**	**6.48**	**354**	*e*PN			Pn	02 50 36.8	-2.8
KKAR				pmax			pmax		
	comp=Z,44nm,0.4s								
KKAR	**Karatay Array**	**6.48**	**354**	*e*Pn			Pn	02 50 36.8	-2.8
	comp=Z,44nm,0.4s								
KKAR				*e*Sn			Sn	02 51 46.5	-5.6
KBK	**Karagaybulak**	**6.57**	**23**	P			**Pn**	**02 50 41.2**	**+0.2**
	SNR=24								
FRU	**Bishkek**	**6.63**	**21**	*e*PN			**Pn**	**02 50 41.0**	**-0.7**
FRU				*i*				02 52 02.0	
FRU				pmax			pmax		
	comp=E,206nm,1.6s								
BHK	**Bhakra**	**6.65**	**140**	*e*PKP			Pn	02 50 44.8	+2.8
BHK				*ex*			**Sn**	**02 51 58.0**	**+1.6**
ULHL	**Ulahol**	**6.70**	**32**	P			**Pn**	**02 50 43.4**	**+0.7**
	SNR=17								
CHMS	**Chumysh**	**6.82**	**21**	P			**Pn**	**02 50 44.2**	**-0.1**
	SNR=44								
SDNR	**Sundarnagar**	**6.88**	**137**	*e*PKP			**Pn**	**02 50 45.0**	**-0.1**
SDNR				*e*S			**Sn**	**02 51 59.0**	**-3.0**
USP	**Ospenovka**	**7.00**	**19**	P			**Pn**	**02 50 45.9**	**-0.8**
	SNR=39								
TKM2	**Tokmak 2**	**7.02**	**26**	⇑Pn			**Pn**	**02 50 47.1**	**0.0**
	comp=E,23nm,0.6s								
TKM2				⇑Sn			**Sn**	**02 52 04.9**	**-0.6**
	comp=E,27nm,0.7s								
TKM2	**Tokmak 2**	**7.02**	**26**	*i* P			**Pn**	**02 50 47.7**	**+0.6**
TKM2	**Tokmak 2**	**7.02**	**26**	*e*Pn			**Pn**	**02 50 47.0**	**0.0**
	comp=E,24nm,0.5s								
TKM2	**Tokmak 2**	**7.02**	**26**	P			**Pn**	**02 50 47.7**	**+0.6**
	SNR=9.9								
SMLA	**Simla**	**7.28**	**138**	*i* P			**Pn**	**02 50 50.9**	**+0.5**
SMLA				*i* S			**Sn**	**02 52 10.9**	**-0.5**
SMLA				||AML		AML	02 52 13.3	
	comp=N,5μm,0.3s								
SMLA				||AML		AML	02 52 13.8	
	comp=E,3μm,0.2s								
DDI	**Dehra Dun**	**8.38**	**137**	*e*PKP			**Pn**	**02 51 06.0**	**+0.5**
DDI				*ex*			**Sn**	**02 52 40.0**	**+1.6**
KHET	**Khetri**	**9.31**	**156**	*e*PKP			**Pn**	**02 51 16.0**	**-2.0**
KHET				*e*S			Sn	02 52 53.0	-8.0
KHET				AML			AML	02 53 00.3	
	comp=N,80nm,0.5s								
KHET				AML			AML	02 53 00.5	
	comp=E,107nm,0.5s								
KUDL	**Kundal**	**9.49**	**152**	*e*PKP			**Pn**	**02 51 18.8**	**-1.6**
KUDL				*e*S			Sn	02 52 57.5	-7.8
KUDL				AML			AML	02 53 05.9	
	comp=E,45nm,0.3s								
KUDL				AML			AML	02 53 06.6	
	comp=N,53nm,0.4s								
AGRA	**Agra**	**10.89**	**148**	*e*S			Sn	02 53 31.0	-8.3
AGRA				AML			AML	02 53 38.1	
	comp=N,89nm,0.1s								
AGRA				AML			AML	02 53 39.7	
	comp=E,139nm,0.7s								
MK31	**Makanchi Array**	**12.95**	**35**	P			**Pn**	**02 52 06.2**	**-0.2**
	comp=E,1.9nm,0.5s,baz=135,slow=8.0,SNR=60								
MK31	**Makanchi Array**	**12.95**	**35**	*e*P			Pn	02 52 04.2	-2.3
MK31	**Makanchi Array**	**12.95**	**35**	*e*Pn			Pn	02 52 04.2	-2.3
MKAR	**Makanchi Array**	**12.95**	**35**	P			**Pn**	**02 52 04.7**	**-1.8**
MKAR				pmax			pmax		
	comp=Z,1.0nm,0.3s								
MKAR	**Makanchi Array**	**12.95**	**35**	P			**Pn**	**02 52 04.7**	**-1.8**
MKAR	**Makanchi Array**	**12.95**	**35**	P			**Pn**	**02 52 04.7**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=189,slow=7.2,SNR=55								
DANN	**Dangsing**	**13.27**	**125**	*e*P			**Pn**	**02 52 09.4**	**-1.6**
	comp=Z,60nm,0.6s								
KOLN	**Koldanda**	**13.56**	**127**	*e*P			**Pn**	**02 52 13.2**	**-1.5**
	comp=Z,20nm,0.3s								
GKN	**Gorkha**	**14.08**	**124**	*e*P			Pn	02 52 18.9	-2.5
	comp=Z,90nm,0.5s								
WMQ	**Urumqi**	**14.31**	**55**	*e*P			**Pn**	**02 52 23.1**	**-0.9**
WMQ				pmax			pmax		
	comp=Z,9.0nm,0.6s								
KKN	**Kakani**	**14.65**	**123**	*e*P			Pn	02 52 26.6	-2.1
	comp=Z,51nm,0.5s								
DMN	**Daman**	**14.65**	**124**	*e*P			**Pn**	**02 52 27.0**	**-1.7**
	comp=Z,67nm,0.7s								
KURBB	**Kurchatov Arra**	**14.86**	**18**	⇑P			**P**	**02 52 33.1**	**-0.6**
	comp=Z,1.5nm,0.6s								
KURBB	**Kurchatov Arra**	**14.86**	**18**	P			Pn	02 52 28.2	-2.7
	comp=Z,0.3nm,0.3s,baz=209,slow=10,SNR=11								
KURBB				LR			LR	02 58 39.6	
	comp=Z,43nm,21.3s,baz=115,slow=39								
PKI	**Pulchoki**	**14.88**	**124**	*e*P			Pn	02 52 29.6	-2.1
	comp=Z,50nm,0.6s								
KURK	**Kurchatov**	**14.97**	**18**	⇑P			**P**	**02 52 34.8**	**-0.1**
KURK	**Kurchatov**	**14.97**	**18**	*e*P			**Pn**	**02 52 32.1**	**-0.1**
KURK	**Kurchatov**	**14.97**	**18**	*e*Pn			**P**	**02 52 34.4**	**-0.6**
	comp=Z,7.5nm,0.7s								
GUN	**Gumba**	**14.98**	**121**	*e*P			Pn	02 52 30.4	-2.6
	comp=Z,105nm,0.8s								
AB31	**Akbulak array**	**15.13**	**330**	P			Pn	02 52 28.9	-5.3
	comp=Z,6.1nm,0.5s,baz=140,slow=12,SNR=4.7								
ABKAR	**Akbulak array**	**15.13**	**330**	*e*Pn			Pn	02 52 28.9	-5.4
	comp=Z,7.8nm,0.5s								
ABKAR				*e*Sn			Sn	02 55 01.1	-20
JIRN	**Jiri**	**15.35**	**122**	*e*P			**Pn**	**02 52 35.6**	**-2.1**
	comp=Z,22nm,0.4s								
VOSK	**Vostochnaya**	**16.07**	**359**	⇑P			**Pn**	**02 52 44.2**	**-1.8**
	comp=Z,4.9nm,0.6s								
RAMN	**Ramite**	**16.09**	**123**	*e*P			**Pn**	**02 52 44.2**	**-2.5**
	comp=Z,32nm,0.4s								
BVA0	**Borovoye Array**	**16.38**	**358**	⇑P			**P**	**02 52 50.5**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=172,slow=14,SNR=60								
BVAR	**Borovoye Array**	**16.38**	**358**	P			**Pn**	**02 52 46.9**	**-3.0**
BVAR				pmax			pmax		
	comp=Z,3.0nm,0.3s								
BVAR	**Borovoye Array**	**16.38**	**358**	P			**Pn**	**02 52 46.9**	**-3.0**
BVAR	**Borovoye Array**	**16.38**	**358**	P			**Pn**	**02 52 46.9**	**-3.0**
	comp=Z,2.9nm,0.3s,baz=163,slow=11,SNR=21								
ZRNK	**Zerenda**	**16.38**	**355**	||P		**P**	**02 52 50.6**	**-0.1**
	comp=Z,10nm,0.5s								
BRVK	**Borovoye**	**16.42**	**357**	⇑*e*P			**Pn**	**02 52 49.2**	**-1.1**
BRVK				pmax			pmax		
	comp=Z,12nm,0.8s								
BRVK	**Borovoye**	**16.42**	**357**	*e*P			**Pn**	**02 52 47.1**	**-3.2**
	comp=Z,15nm,0.8s								
TAPN	**Taplejung**	**16.60**	**119**	*e*P			**Pn**	**02 52 51.4**	**-1.6**
	comp=Z,39nm,0.4s								
ODAN	**Odare**	**16.68**	**121**	*e*P			**Pn**	**02 52 52.5**	**-1.5**
	comp=Z,38nm,0.5s								
AKTO	**Aktyubinsk**	**16.83**	**329**	||P		**Pn**	**02 52 53.3**	**-2.1**
	comp=Z,2.6nm,0.7s								
AKTO	**Aktyubinsk**	**16.83**	**329**	P			**Pn**	**02 52 51.8**	**-3.5**
AKTO				pmax			pmax		
	comp=Z,1.0nm,0.3s								
AKTO	**Aktyubinsk**	**16.83**	**329**	P			**Pn**	**02 52 51.8**	**-3.5**
AKTO	**Aktyubinsk**	**16.83**	**329**	P			**Pn**	**02 52 51.8**	**-3.5**
	comp=Z,1.2nm,0.3s,baz=140,slow=9.4,SNR=38								
LSA	**Lhasa**	**17.87**	**107**	*e*P			**Pn**	**02 53 09.3**	**+0.7**
LSA				pmax			pmax		
	comp=Z,14nm,0.8s								
LSA	**Lhasa**	**17.87**	**107**	*e*P			**Pn**	**02 53 09.3**	**+0.7**
	comp=Z,14nm,0.8s								
POO	**Poona**	**18.18**	**173**	*ex*			**S**	**02 56 31.0**	**-2.2**
MAK	**Makhachkala**	**19.41**	**296**	*e*P			Pn	02 53 34.6	+8.4
ZAA0	**Zalesovo Array**	**19.62**	**24**	*e*P			**P**	**02 53 26.5**	**+0.4**
ZALV	**Zalesovo Beam**	**19.62**	**24**	P			**P**	**02 53 26.6**	**+0.5**
ZALV				pmax			pmax		
	comp=Z,6.0nm,0.3s								
ZALV	**Zalesovo Beam**	**19.62**	**24**	P			**P**	**02 53 26.6**	**+0.5**
ZALV	**Zalesovo Beam**	**19.62**	**24**	P			**P**	**02 53 26.6**	**+0.5**
	comp=Z,6.2nm,0.3s,baz=214,slow=10,SNR=78								
NVS	**Novosibirsk**	**19.91**	**20**	*e*P			**P**	**02 53 27.9**	**-1.2**
NVS				*e*				02 57 09.5	
NVS				pmax			pmax		
	comp=N,11nm,0.5s								
NVS				pmax			pmax		
	comp=E,16nm,0.5s								
HYB	**Hyderabad**	**20.17**	**160**	*i* P			Pn	02 53 35.0	-0.2
HYB				*e*S			**S**	**02 57 10.5**	**-2.0**
SHL	**Shillong**	**20.65**	**117**	*e*PKP			Pn	02 53 40.5	-0.5
GNI	**Garni**	**21.20**	**288**	*e*P			**P**	**02 53 43.1**	**-0.2**
	comp=Z,24nm,0.9s								
GNI	**Garni**	**21.20**	**288**	P			**P**	**02 53 44.2**	**+0.9**
	comp=Z,14nm,0.6s,baz=150,slow=1.2,SNR=14								
GNI				LR			LR	03 03 31.4	
	comp=Z,57nm,19.8s,baz=136,slow=41								
SVE	**Sverdlovsk**	**21.45**	**344**	*e*P			**P**	**02 53 45.3**	**-0.3**
SVE				pmax			pmax		
	comp=Z,12nm,0.8s								
ARU	**Arti**	**21.61**	**340**	*d i*P			**P**	**02 53 46.7**	**-0.6**
ARU								02 54 10.2	
ARU				S			**S**	**02 57 36.1**	**-3.6**
ARU				SS			**SnSn**	**02 58 17.5**	**+2.7**
ARU				pmax			pmax		
	comp=Z,12nm,1.2s								
ARU	**Arti**	**21.61**	**340**	*e*P			**P**	**02 53 46.1**	**-1.2**
	comp=Z,9.5nm,0.7s								
ZEI	**Tsey**	**22.00**	**295**	*e*P			**P**	**02 53 53.2**	**+1.2**
ZEI				pmax			pmax		
	comp=Z,9.0nm,1.2s								
GTA	**Gaotai**	**22.47**	**74**	P			P	02 54 01.6	+5.0
GTA				pmax			pmax		
	comp=Z,18nm,0.9s								
GTA				pmax			pmax		
	comp=Z,140nm,4.7s								
GTA				LR			LR		
	comp=N,190nm,18.5s								
GTA				LR			LR		
	comp=E,380nm,17.6s								
GTA				LR			LR		
	comp=Z,340nm,17.3s								
KBZ	**Khabaz**	**22.86**	**297**	P			**P**	**02 53 59.5**	**-0.7**
KBZ				pmax			pmax		
	comp=Z,3.0nm,0.7s								
KBZ	**Khabaz**	**22.86**	**297**	P			**P**	**02 53 59.5**	**-0.7**
KBZ	**Khabaz**	**22.86**	**297**	P			**P**	**02 53 59.5**	**-0.7**
	comp=Z,2.8nm,0.7s,baz=106,slow=7.7,SNR=11								
KIV	**Kislovodsk**	**23.04**	**297**	*e*P			**P**	**02 54 03.8**	**+1.7**
KIV				pmax			pmax		
	comp=Z,7.0nm,1.0s								
KIV				MLR			MLR		
	comp=Z,38nm,14.0s								
KIV	**Kislovodsk**	**23.04**	**297**	*e*P			**P**	**02 54 01.1**	**-1.0**
	comp=Z,8.7nm,0.8s								
VRHR	**Novokhopersk**	**25.68**	**314**	*e*P			**P**	**02 54 26.9**	**+1.0**
VRHR				pmax			pmax		
	comp=N,5.0nm,0.6s								
VRHR				pmax			pmax		
	comp=E,5.0nm,0.6s								
VRHR				pmax			pmax		
	comp=Z,8.0nm,0.6s								
ZAK	**Zakamensk**	**26.61**	**49**	*e*P			**P**	**02 54 35.6**	**+1.2**
ZAK				pmax			pmax		
	comp=Z,3.0nm,1.1s								
ANN	**Anapa**	**26.88**	**298**	*e*P			P	02 54 43.3	+6.5
ANN				*e*S			S	02 59 13.6	+8.6
ANN				pmax			pmax		
	comp=Z,89nm,1.6s								
VSR	**Storozhevoye**	**27.16**	**313**	*e*P			**P**	**02 54 40.8**	**+1.6**
SONM	**Songino Array**	**27.94**	**55**	P			**P**	**02 54 49.8**	**+3.4**
SONM	**Songino Array**	**27.94**	**55**	P			**P**	**02 54 49.8**	**+3.4**
	comp=Z,1.4nm,0.4s,baz=262,slow=8.7,SNR=4.7								
ULN	**Ulaanbaatar**	**28.39**	**56**	*e*P			**P**	**02 54 52.3**	**+2.0**
	comp=Z,2.3nm,0.6s								
BR131	**Keskin Array S**	**29.74**	**288**	*e*P			**P**	**02 55 02.6**	**+0.2**
	comp=Z,1.2nm,0.6s								
BRTR	**Keskin Array B**	**29.74**	**288**	P			**P**	**02 55 02.6**	**+0.2**
BRTR				PcP			**PcP**	**02 58 04.0**	**+0.5**
BRTR	**Keskin Array B**	**29.74**	**288**	P			**P**	**02 55 02.6**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=104,slow=9.3,SNR=14								
BRTR				PcP			**PcP**	**02 58 04.0**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=133,slow=5.4,SNR=3.6								
CMAR	**Chiang Mai Arr**	**30.21**	**119**	P			P	02 55 12.0	+5.4
CMAR	**Chiang Mai Arr**	**30.21**	**119**	P			P	02 55 12.0	+5.4
	comp=Z,1.0nm,0.3s,baz=318,slow=9.4,SNR=4.9								
CSS	**Prodhromos**	**30.83**	**278**	*e*P			**P**	**02 55 10.8**	**-1.2**
	comp=Z,11nm,1.0s								
KLMR	**Klimovskoe**	**31.52**	**330**	*e*P			**P**	**02 55 15.6**	**-2.1**
KLMR				*e*				02 56 21.5	
KLMR				pmax			pmax		
	comp=Z,17nm,1.5s								
AKASG	**Malin Array Be**	**33.13**	**309**	P			**P**	**02 55 31.4**	**-0.5**
AKASG				pmax			pmax		
	comp=Z,2.0nm,0.5s								
AKASG	**Malin Array Be**	**33.13**	**309**	P			**P**	**02 55 31.4**	**-0.5**
AKASG	**Malin Array Be**	**33.13**	**309**	P			**P**	**02 55 31.4**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=80,slow=7.2,SNR=9.2								
AKBB	**Malin Array Si**	**33.13**	**309**	*e*P			**P**	**02 55 30.9**	**-1.0**
AKBB	**Malin Array Si**	**33.13**	**309**	*e*P			**P**	**02 55 30.9**	**-1.0**
KIEV	**Kiev**	**33.14**	**309**	*e*P			**P**	**02 55 30.9**	**-1.0**
KIEV				pmax			pmax		
	comp=Z,3.0nm,0.6s								
KIEV	**Kiev**	**33.14**	**309**	*e*P			**P**	**02 55 30.9**	**-1.0**
	comp=Z,3.5nm,0.6s								
BOD	**Bodaibo**	**35.00**	**39**	*e*P			**P**	**02 55 49.8**	**+1.9**
BOD				pmax			pmax		
	comp=Z,4.0nm,2.6s								
MLR	**Muntele Rosu**	**35.02**	**299**	||*i*P		**P**	**02 55 50.5**	**+2.0**
BUR08	**Bucovina Ar. S**	**35.52**	**303**	*e*P			**P**	**02 55 52.8**	**+0.1**
VOIR		**35.66**	**299**	||P		**P**	**02 55 54.8**	**+1.0**
VOIR		**35.66**	**299**	||*i*P		**P**	**02 55 54.8**	**+1.0**
JOF	**Joensuu**	**35.92**	**330**	*e*P			**P**	**02 55 55.8**	**+0.1**
JOF				pmax			pmax		
	comp=Z,3.0nm,0.4s								
JOF	**Joensuu**	**35.92**	**330**	*e*p			**P**	**02 55 55.8**	**+0.1**
	comp=Z,3.2nm,0.4s								
KWP	**Kalwaria Pacla**	**37.21**	**306**	⇑P			**P**	**02 56 08.1**	**+1.2**
KWP	**Kalwaria Pacla**	**37.21**	**306**	⇑*i*P			**P**	**02 56 08.1**	**+1.2**
DRGR		**37.23**	**301**	||P		**P**	**02 56 08.6**	**+1.5**
DRGR		**37.23**	**301**	||*i*P		**P**	**02 56 08.6**	**+1.5**
TRPA	**Tarpa**	**37.31**	**304**	||*i*P		**P**	**02 56 08.9**	**+1.2**
FINES	**FINESS Array B**	**37.56**	**326**	P			**P**	**02 56 10.0**	**+0.4**
FINES	**FINESS Array B**	**37.56**	**326**	P			**P**	**02 56 10.0**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=115,slow=9.7,SNR=14								
MORC	**Moravsky Berou**	**40.57**	**306**	*e*P			**P**	**02 56 35.1**	**+0.2**
MORC				pmax			pmax		
	comp=Z,4.0nm,0.9s								
MORC	**Moravsky Berou**	**40.57**	**306**	*e*P			**P**	**02 56 35.1**	**+0.2**
	comp=Z,4.1nm,0.9s								
KEV	**Kevo**	**40.79**	**338**	*e*P			P	02 56 32.3	-4.1
KEV	**Kevo**	**40.79**	**338**	*e*p			P	02 56 32.3	-4.1
KULM	**Kulim**	**41.11**	**132**	*e*P			**P**	**02 56 40.3**	**+0.7**
	comp=Z,11nm,1.0s								
ARCES	**ARCESS Array B**	**41.14**	**337**	P			**P**	**02 56 40.2**	**+1.0**
ARCES	**ARCESS Array B**	**41.14**	**337**	P			**P**	**02 56 40.2**	**+1.0**
	comp=Z,6.3nm,0.7s,baz=112,slow=8.3,SNR=52								
ARE0	**ARCESS Array S**	**41.14**	**337**	*e*P			**P**	**02 56 40.1**	**+0.8**
VRAC	**Vranov**	**41.21**	**306**	||*i*P		**P**	**02 56 41.5**	**+1.4**
BRG	**Berggiesshubel**	**42.81**	**308**	*e*P			**P**	**02 56 54.0**	**+0.9**
	comp=Z,9.1nm,1.0s								
BRG	**Berggiesshubel**	**42.81**	**308**	*e*P			**P**	**02 56 54.0**	**+0.9**
BRG				pmax			pmax		
	comp=Z,9.0nm,1.0s								
GERES	**GERESS Array B**	**43.14**	**305**	P			**P**	**02 56 56.6**	**+0.8**
GERES	**GERESS Array B**	**43.14**	**305**	P			**P**	**02 56 56.6**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=93,slow=6.7,SNR=4.1								
NB2	**NORSAR

comp=Z,1.9nm,0.5s,baz=351,slow=5.5,SNR=56
WRA Warramunga Arr 81.76 122 P **P** **03 01 14.4 +1.4**
WRA Warramunga Arr 81.76 122 P **P** **03 01 14.4 +1.4**
comp=Z,2.2nm,0.6s,baz=323,slow=4.9,SNR=13
SCHQ Schefferville 82.09 337 P **P** **03 01 15.9 +1.6**
SCHQ Schefferville 82.09 337 P **P** **03 01 15.9 +1.6**
comp=Z,1.2nm,0.5s,baz=63,slow=7.8,SNR=7.3
AS31 Alice Springs 84.04 125 *eP* **P** **03 01 27.4 +2.6**
ASAR Alice Springs 84.04 125 P **P** **03 01 26.4 +1.7**
ASAR Alice Springs 84.04 125 P **P** **03 01 26.4 +1.7**
comp=Z,2.1nm,0.6s,baz=308,slow=5.1,SNR=14
FFC Flin Flon 88.81 356 *i* P **P** **03 01 50.2 +2.6**
FFC Flin Flon 88.81 356 *eP* **P** **03 01 49.4 +1.8**
comp=Z,3.5nm,0.8s
CTAO Charters Tower 90.27 115 *eP* **P** **03 01 56.8 +1.9**
CTAO pmax pmax
comp=Z,2.0nm,0.6s
CTAO Charters Tower 90.27 115 *eP* **P** **03 01 56.8 +1.9**
comp=Z,1.8nm,0.6s
ULM Lac du Bonnet 92.75 352 P **P** **03 02 07.5 +1.5**
ULM Lac du Bonnet 92.75 352 P **P** **03 02 07.5 +1.5**
comp=Z,1.5nm,0.6s,baz=46,slow=6.8,SNR=3.9

*IDC **18** 02:50:33.1±0.4,3˚.66N×126˚.64E,h0km,mb4.5/27, mb1 4.6/27,mb1mx4.6/31,mbtmp4.5/27,MS3.7/6, Ms1 3.7/6,ms1mx3.2/42,Error ellipse: s-maj=20.4km s-min=9.4km az=76.0*
*BJI **18** 02:50:34.0,3˚.23N×126˚.92E,h41km,mB5.0/21,mb4.8/35, Ms4.6/23,Ms7 4.3/25*
*DJA **18** 02:50:36,3˚.96N×127˚.06E,h10km,mb4.8/21*
*ISCJB **18** 02:50:36.6±0.3,3˚.74N±0˚.03×126˚.88E±0˚.05,h33km, mb4.6/55,MS4.0/15,Error ellipse: s-maj=7.6km s-min=4.4km az=172.2*
*NEIC **18** 02:50:38.1±0.3,3˚.69N×126˚.81E,h35km,mb4.8/22,Error ellipse: s-maj=10.2km s-min=6.1km az=78.0*
ISC 18 02:50:38.3±0.5,3˚.65N±0˚.04×126˚.83E±0˚.07,h34km±1km, n134,σ1§58/173,mb4.6/53,MS4.0/15,1C-7D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.91**	**169**	P		Pn	02 51 26.7	+4.5
MNI	**Manado**	**2.96**	**222**	P		**Pn**	**02 51 26.1**	**+3.2**
DAV	**Davao City (W)**	**3.62**	**340**	Pn		**Pn**	**02 51 33.9**	**+1.8**
DAV				Sn		Sb	02 52 30.9	+5.7
DAV	**Davao City (W)**	**3.62**	**340**	Pn		**Pn**	**02 51 33.8**	**+1.8**
	55nm,0.3s,baz=356,slow=9.2,SNR=4.0							
DAV				Sn		Sb	02 52 30.9	+5.7
	81nm,0.3s,baz=75,slow=23,SNR=5.5							
KMSI	**Cibinong**	**4.17**	**223**	P		Pb	02 51 48.2	-2.9
CTBH	**Cotabato--PC H**	**4.38**	**324**	*ieP*		**Pn**	**02 51 45.3**	**+2.7**
MRSI	**Marisa**	**5.81**	**237**	P		Pn	02 52 05.8	+3.6
	220nm,1.0s,2μm							
LUWI	**Luwuk**	**6.18**	**221**	P		Pn	02 52 13.4	+6.2
	213nm,1.3s,3μm							
SWI	**Sorong**	**6.30**	**135**	P		Pn	02 52 12.9	+4.0
	194nm,1.0s,2μm							
MYLDM	**Lahad Datu**	**8.44**	**281**	P		Pn	02 52 43.3	+5.0
	132nm,1.4s,0.4nm							
FAKI	**Fak Fak**	**8.48**	**140**	P		Pn	02 52 43.4	+4.6
	77nm,1.0s,685nm							
KDI	**Kendari**	**8.65**	**209**	P		**Pn**	**02 52 44.0**	**+2.8**
	18nm,0.8s,718nm0.1nm							
TTSI	**Tana Toraja**	**9.66**	**227**	P		Pn	02 53 00.6	+5.6
	50nm,1.2s,1μm							
SPSI	**Sidrap Palu**	**10.34**	**223**	P		Pn	02 53 15.7	+11
KKM	**Kota Kinabalu**	**10.84**	**283**	*ePn*		**Pn**	**02 53 12.7**	**+1.3**
KAPI	**Kappang**	**11.14**	**219**	*ePn*		Pn	02 53 20.3	+5.0
KAPI	**Kappang**	**11.14**	**219**	Pn		Pn	02 53 20.5	+5.2
	0.7nm,0.3s,baz=198,slow=21,SNR=4.0							
KAPI				LR		LR	02 56 45.6	
	comp=Z,135nm,19.7s,baz=48,slow=34							
BKSI	**Bulukumba**	**11.15**	**217**	P		Pn	02 53 23.5	+8.1
KSM	**Kuching**	**16.64**	**263**	*ePn*		**P**	**02 54 31.6**	**+0.3**
	45nm,1.0s							
GUMO	**Guam**	**20.37**	**60**	LR		LR	03 01 37.7	
	comp=Z,223nm,21.6s,baz=228,slow=32							
TPUB	**Ta-pu**	**20.44**	**343**	*eP*		**P**	**02 55 11.1**	**-1.9**
	49nm,0.9s							
FITZ	**Fitzroy Crossi**	**21.64**	**183**	*eP*		**P**	**02 55 26.4**	**+0.5**
	11nm,0.9s							
FITZ				S		**S**	**02 59 19.1**	**-4.9**
FITZ	**Fitzroy Crossi**	**21.64**	**183**	*eP*		**P**	**02 55 26.3**	**+0.4**
	19nm,1.0s							
FITZ	**Fitzroy Crossi**	**21.64**	**183**	P		**P**	**02 55 26.4**	**+0.5**
	7.4nm,0.7s,baz=20,slow=5.2,SNR=9.7							
FITZ				S		**S**	**02 59 19.1**	**-4.9**
	3.2nm,0.9s,baz=129,slow=14,SNR=3.8							
QIZ	**Qiongzhong**	**22.57**	**314**	P		**P**	**02 55 36.8**	**+0.9**
QIZ				pP		**pP**	**02 55 44.3**	**-0.6**
QIZ				S		**S**	**02 59 42.5**	**+1.2**
QIZ				LR		LR		
	comp=Z,320nm,16.2s							
WRAB	**Tennant Creek**	**24.57**	**163**	*eP*		**P**	**02 55 55.2**	**-0.1**
	comp=Z,32nm,0.8s							
WRA	**Warramunga Arr**	**24.58**	**163**	P		**P**	**02 55 55.3**	**-0.1**
WRA				S		**S**	**03 00 17.1**	**+2.8**
WRA	**Warramunga Arr**	**24.58**	**163**	P		**P**	**02 55 55.3**	**-0.1**
	comp=Z,31nm,0.8s,baz=345,slow=11,SNR=108							
WRA				S		**S**	**03 00 17.1**	**+2.8**
	comp=Z,3.4nm,0.9s,baz=328,slow=20,SNR=7.8							
MBWA	**Marble Bar**	**25.62**	**195**	*eP*		**P**	**02 56 06.0**	**+1.3**
	comp=Z,16nm,1.0s							
IPM	**Ipoh**	**25.75**	**273**	*eP*		**P**	**02 56 05.0**	**-1.2**
CBIJ	**Chichi jima**	**27.55**	**31**	LR		LR	03 06 02.6	
	comp=Z,210nm,19.9s,baz=319,slow=34							
PSI	**Prapat**	**27.87**	**269**	P		**P**	**02 56 24.4**	**-1.1**
PSI	**Prapat**	**27.87**	**269**	P		**P**	**02 56 24.4**	**-1.1**
	comp=Z,8.0nm,0.8s,baz=57,slow=4.6,SNR=6.3							
AS31	**Alice Springs**	**28.01**	**166**	*eP*		**P**	**02 56 26.8**	**+0.4**
ASAR	**Alice Springs**	**28.01**	**166**	P		**P**	**02 56 26.2**	**-0.2**
ASAR				PcP		**PcP**	**02 59 41.8**	**+0.8**
ASAR				S		**S**	**03 01 07.9**	**-0.8**
ASAR	**Alice Springs**	**28.01**	**166**	P		**P**	**02 56 26.2**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=343,slow=8.1,SNR=37							
ASAR				PcP		**PcP**	**02 59 41.8**	**+0.8**
	comp=Z,1.7nm,0.5s,baz=350,slow=2.3,SNR=8.0							
ASAR				S		**S**	**03 01 07.9**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=348,slow=17,SNR=4.9							
WHN	**Wuhan**	**29.23**	**338**	P		**P**	**02 56 37.3**	**+0.2**
WHN				*eS*		**S**	**03 01 28.4**	**+0.7**
WHN				LR		LR		
	comp=Z,850nm,21.8s							
JNU	**Nakatsue**	**29.57**	**7**	P		**P**	**02 56 39.8**	**-0.3**
JNU	**Nakatsue**	**29.57**	**7**	P		**P**	**02 56 39.8**	**-0.3**
	comp=Z,17nm,1.1s,baz=214,slow=5.2,SNR=5.3							
GYA	**Guiyang**	**29.79**	**322**	P		**P**	**02 56 44.0**	**+1.7**
GYA				pP		**pP**	**02 56 54.3**	**+2.2**
GYA				PP		**PnPn**	**02 57 41.8**	**+3.0**
GYA				S		**S**	**03 01 37.6**	**+0.7**
GYA				ScP		**ScP**	**03 03 24.5**	**-0.7**
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
GYA				LR		LR		
	comp=N,480nm,15.9s							
GYA				LR		LR		
	comp=E,410nm,16.8s							
GYA				LR		LR		
	comp=Z,420nm,16.5s							
CTA	**Charters Tower**	**30.34**	**142**	P		P	02 56 51.9	+4.8
CTA	**Charters Tower**	**30.34**	**142**	P		P	02 56 51.9	+4.8
	comp=Z,3.0nm,0.7s,baz=342,slow=8.1,SNR=4.0							
CMAR	**Chiang Mai Arr**	**31.00**	**300**	P		**P**	**02 56 51.9**	**-1.0**
CMAR	**Chiang Mai Arr**	**31.00**	**300**	P		**P**	**02 56 51.9**	**-1.0**
	comp=Z,3.1nm,0.8s,baz=110,slow=6.6,SNR=18							
CHTO	**Chiang Mai**	**31.15**	**301**	*eP*		**P**	**02 56 53.9**	**-0.3**
	comp=Z,10nm,1.0s							
KMI	**Kunming**	**31.51**	**315**	P		**P**	**02 56 59.3**	**+1.7**
KMI				pP		**pP**	**02 57 07.8**	**+0.4**
KMI				sP		**sP**	**02 57 12.1**	**+0.6**
KMI				PP		**PnPn**	**02 58 04.8**	**+3.4**
KMI				S		**S**	**03 02 05.0**	**+1.0**
KMI				sS		**sS**	**03 02 22.1**	**+1.9**
KMI				pmax		pmax		
	comp=Z,6.0nm,1.1s							
KMI				pmax		pmax		
	comp=Z,41nm,3.5s							
KMI				LR		LR		
	comp=N,130nm,19.1s							
KMI				LR		LR		
	comp=E,230nm,26.6s							
KMI				LR		LR		
	comp=Z,210nm,19.9s							
KSAR	**Wonju Array Be**	**33.65**	**2**	P		**P**	**02 57 16.5**	**+0.6**
KSRS	**Korea Array**	**33.66**	**2**	P		**P**	**02 57 16.5**	**+0.5**
	comp=Z,6.5nm,0.8s,baz=182,slow=9.9,SNR=17							
KSRS				LR		LR	03 08 43.3	
	comp=Z,123nm,20.6s,baz=166,slow=32							
FORT	**Forrest**	**34.25**	**178**	*eP*		**P**	**02 57 20.9**	**-0.3**
	comp=Z,37nm,0.9s							
MJAR	**Matsushiro Arr**	**34.37**	**16**	LR		LR	03 08 50.8	
	comp=Z,120nm,21.5s,baz=205,slow=32							
XAN	**Xi'an**	**34.53**	**333**	P		**P**	**02 57 21.9**	**-1.8**
XAN				pmax		pmax		
	comp=Z,5.0nm,0.8s							
XAN				pmax		pmax		
	comp=Z,18nm,4.9s							
XAN				LR		LR		
	comp=N,100nm,17.2s							
XAN				LR		LR		
	comp=E,69nm,19.8s							
XAN				LR		LR		
	comp=Z,84nm,18.5s							
BJT	**Baijiatuau**	**37.47**	**346**	*eP*		**P**	**02 57 48.2**	**-0.5**
	comp=Z,65nm,0.9s							
BJI	**Beijing**	**37.49**	**347**	P		**P**	**02 57 49.0**	**+0.2**
BJI				S		**S**	**03 03 39.5**	**+4.1**
BJI				pmax		pmax		
	comp=Z,67nm,0.6s							
BJI				pmax		pmax		
	comp=Z,110nm,4.1s							
NWAO	**Narrogin (SRO)**	**37.50**	**193**	P		**P**	**02 57 49.9**	**+0.9**
NWAO	**Narrogin (SRO)**	**37.50**	**193**	P		**P**	**02 57 49.9**	**+0.9**
	comp=Z,4.9nm,0.4s,baz=33,slow=8.8,SNR=6.9							
STKA	**Stephens Creek**	**38.02**	**159**	*eP*		**P**	**02 57 54.5**	**+1.0**
	comp=Z,2.0nm,0.7s							
STKA				PcP		**PcP**	**03 00 09.4**	**+0.9**
STKA	**Stephens Creek**	**38.02**	**159**	*eP*		**P**	**02 57 54.3**	**+0.9**
	comp=Z,7.9nm,0.6s							
STKA	**Stephens Creek**	**38.02**	**159**	P		**P**	**02 57 54.4**	**+1.0**
	comp=Z,10nm,0.6s,baz=335,slow=8.4,SNR=28							
STKA				PcP		**PcP**	**03 00 09.4**	**+0.9**
	comp=Z,3.0nm,0.6s,baz=334,slow=6.1,SNR=4.4							
LZH	**Lanzhou**	**38.62**	**330**	*eP*		**P**	**02 57 58.5**	**-0.2**
LZH				pP		**pP**	**02 58 09.1**	**+0.5**
LZH				sP		**sP**	**02 58 12.6**	**-0.1**
LZH				PP		**PnPn**	**02 59 30.4**	**+0.7**
LZH				pmax		pmax		
	comp=Z,23nm,1.2s							
LZH				pmax		pmax		
	comp=Z,72nm,5.4s							
LZH				LR		LR		
	comp=N,500nm,13.0s							
LZH				LR		LR		
	comp=E,470nm,12.8s							
LZH				LR		LR		
	comp=Z,590nm,17.5s							
CN2	**Changchun**	**40.00**	**358**	*eP*		**P**	**02 58 10.3**	**+0.4**
CN2				*ep*		**pP**	**02 58 20.0**	**+0.1**
CN2				*eS*		**S**	**03 04 13.5**	**+0.2**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
CN2				LR		LR		
	comp=N,400nm,14.0s							
CN2				LR		LR		
	comp=E,500nm,14.0s							
CN2				LR		LR		
	comp=Z,300nm,16.0s							
USRK	**Ussuriysk Arra**	**40.64**	**6**	P		**P**	**02 58 15.9**	**+0.8**
	comp=Z,4.6nm,0.7s,baz=194,slow=7.5,SNR=11							
MDJ	**Mudanjiang**	**40.87**	**3**	P		**P**	**02 58 17.9**	**+0.8**
MDJ				pP		**pP**	**02 58 26.8**	**-0.2**
MDJ				sP		**sP**	**02 58 30.6**	**-0.5**
MDJ				ScP		**ScP**	**03 04 04.9**	**+0.2**
MDJ				PcS		**PcS**	**03 04 08.6**	**+0.5**
MDJ				S		**S**	**03 04 28.6**	**+2.4**
MDJ				SS		**SnSn**	**03 07 32.3**	**-4.1**
MDJ				pmax		pmax		
	comp=Z,23nm,1.1s							
MDJ				pmax		pmax		
	comp=Z,79nm,2.9s							
MDJ	**Mudanjiang**	**40.87**	**3**	*eP*		**P**	**02 58 17.3**	**+0.3**
	comp=Z,13nm,0.8s							
ARMA	**Armidale**	**41.34**	**147**	*eP*		**P**	**02 58 23.6**	**+2.3**
LSA	**Lhasa**	**42.57**	**311**	*eP*		**P**	**02 58 30.9**	**-0.8**
	comp=Z,11nm,0.7s							
ASAJ	**Asahikawa**	**42.64**	**17**	P		**P**	**02 58 31.9**	**+0.3**
ASAJ	**Asahikawa**	**42.64**	**17**	P		**P**	**02 58 31.9**	**+0.3**
	comp=Z,6.8nm,0.8s,baz=120,slow=28,SNR=4.1							
GTA	**Gaotai**	**43.22**	**329**	*eP*		**P**	**02 58 36.5**	**0.0**
GTA				pP		**pP**	**02 58 46.5**	**0.0**
GTA				sP		**sP**	**02 58 50.3**	**-0.3**
GTA				S		**S**	**03 05 01.1**	**-0.2**
GTA				SS		SS	03 08 07.1	-8.1
GTA				pmax		pmax		
	comp=Z,7.0nm,0.8s							
GTA				pmax		pmax		
	comp=Z,78nm,4.5s							
GTA				LR		LR		
	comp=N,190nm,18.3s							
GTA				LR		LR		
	comp=E,380nm,16.4s							
GTA				LR		LR		
	comp=Z,340nm,17.6s							
HIA	**Hailar**	**45.85**	**354**	*eP*		**P**	**02 58 57.8**	**+0.6**
	comp=Z,8.0nm,0.8s							
ULN	**Ulaanbaatar**	**47.23**	**342**	*eP*		**P**	**02 59 07.8**	**-0.4**
	comp=Z,6.5nm,0.9s							
SONM	**Songino Array**	**47.41**	**341**	P		**P**	**02 59 09.6**	**+0.1**
SONM				PcP		**PcP**	**03 00 40.3**	**+0.6**
SONM	**Songino Array**	**47.41**	**341**	P		**P**	**02 59 09.6**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=157,slow=8.2,SNR=6.8							
SONM				PcP		**PcP**	**03 00 40.3**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=0.0,slow=1.6,SNR=3.1							
SONM				LR		LR	03 19 45.1	
	comp=Z,153nm,20.2s,baz=29,slow=37							
TLY	**Talaya**	**51.64**	**342**	*eP*		**P**	**02 59 42.3**	**+0.7**
	comp=Z,5.2nm,1.0s							
WMQ	**Urumqi**	**52.85**	**325**	P		**P**	**02 59 51.0**	**+0.2**
WMQ				pP		**pP**	**03 00 00.8**	**-0.3**
WMQ				sP		**sP**	**03 00 04.5**	**-0.6**
WMQ				PcP		**PcP**	**03 00 56.3**	**-3.5**
WMQ				*eS*		**S**	**03 07 15.0**	**-2.4**
WMQ				ScS		**ScS**	**03 09 35.0**	**-3.1**
WMQ				pmax		pmax		
	comp=Z,14nm,1.1s							
WMQ				pmax		pmax		
	comp=Z,350nm,4.8s							
WMQ				LR		LR		
	comp=N,290nm,22.6s							
WMQ				LR		LR		
	comp=E,240nm,22.0s							
WMQ				LR		LR		
	comp=Z,300nm,22.0s							
PETK	**Petropavlovsk-**	**55.47**	**22**	P		**P**	**03 00 10.3**	**+0.7**
PETK	**Petropavlovsk-**	**55.47**	**22**	P		**P**	**03 00 10.3**	**+0.7**
	comp=Z,8.6nm,0.9s,baz=190,slow=7.5,SNR=4.6							
MK31	**Makanchi Array**	**57.68**	**325**	*eP*		**P**	**03 00 24.0**	**-1.6**
MKAR	**Makanchi Array**	**57.68**	**325**	P		**P**	**03 00 24.3**	**-1.2**
MKAR				ScP		**ScP**	**03 05 20.4**	**+4.4**
MKAR	**Makanchi Array**	**57.68**	**325**	P		**P**	**03 00 24.3**	**-1.2**
	comp=Z,5.9nm,0.6s,baz=122,slow=6.9,SNR=50							
MKAR				ScP		**ScP**	**03 05 20.4**	**+4.4**
	comp=Z,0.8nm,0.9s,baz=121,slow=4.7,SNR=4.0							
KSH	**Kashi**	**58.17**	**315**	P		**P**	**03 00 29.8**	**+0.5**
KSH				pP		**pP**	**03 00 39.6**	**0.0**
KSH				sP		**sP**	**03 00 43.8**	**+0.2**
KSH				PcP		**PcP**	**03 01 19.9**	**-0.7**
KSH				PP		**PP**	**03 02 40.9**	**+2.6**
KSH				ScP		**ScP**	**03 05 15.8**	**-2.6**
KSH				PcS		**PcS**	**03 05 19.9**	**-2.2**
KSH				S		**S**	**03 08 28.3**	**-0.5**
KSH				sS		**sS**	**03 08 45.1**	**-0.7**
KSH				ScS		**ScS**	**03 10 12.8**	**-3.9**
KSH				SS		**SS**	**03 12 22.4**	**+1.6**
KSH				pmax		pmax		
	comp=Z,15nm,1.3s							
KSH				pmax		pmax		
	comp=Z,46nm,4.3s							
KSH				LR		LR		
	comp=N,150nm,5.0s							
KSH				LR		LR		
	comp=E,110nm,5.4s							
KSH				LR		LR		
	comp=Z,190nm,12.8s							
AAK	**Ala-Archa**	**60.48**	**318**	*eP*		**P**	**03 00 45.0**	**-0.2**
AAK	**Ala-Archa**	**60.48**	**318**	P		**P**	**03 00 45.0**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=124,slow=9.9,SNR=4.9							
ZAA0	**Zalesovo Array**	**60.70**	**333**	*eP*		**P**	**03 00 44.4**	**-1.9**
ZALV	**Zalesovo Beam**	**60.70**	**333**	P		**P**	**03 00 44.2**	**-2.0**
ZALV	**Zalesovo Beam**	**60.70**	**333**	P		**P**	**03 00 44.2**	**-2.0**
	comp=Z,2.0nm,0.6s,baz=104,slow=6.3,SNR=8.7							
EKS2	**Erkin-Say**	**60.98**	**318**	*eP*		**P**	**03 00 49.1**	**+0.6**
	comp=Z,11nm,0.9s							
KBL	**Kabul**	**61.65**	**307**	*eP*		**P**	**03 00 52.1**	**-1.2**
	comp=Z,11nm,1.0s							
KURBB	**Kurchatov Arra**	**61.86**	**327**	P		**P**	**03 00 52.7**	**-1.5**
	comp=Z,13nm,0.7s,baz=131,slow=6.2,SNR=51							
KURK	**Kurchatov**	**61.86**	**327**	*eP*		**P**	**03 00 52.9**	**-1.2**
	comp=Z,19nm,0.7s							
KKAR	**Karatay Array**	**63.36**	**317**	*eP*		**P**	**03 01 03.5**	**-0.9**
BVAR	**Borovoye Array**	**67.44**	**327**	P		**P**	**03 01 28.6**	**-2.0**
BVAR	**Borovoye Array**	**67.44**	**327**	P		**P**	**03 01 28.6**	**-2.0**
	comp=Z,9.1nm,0.9s,baz=130,slow=8.0,SNR=27							
BRVK	**Borovoye**	**67.51**	**327**	*eP*		**P**	**03 01 30.0**	**-1.0**
	comp=Z,24nm,1.0s							
ABKAR	**Akbulak array**	**72.28**	**321**	*eP*		**P**	**03 01 59.0**	**-1.3**
	comp=Z,5.4nm,0.7s							
AKTO	**Aktyubinsk**	**73.78**	**322**	P		**P**	**03 02 07.9**	**-1.4**
AKTO	**Aktyubinsk**	**73.78**	**322**	P		**P**	**03 02 07.9**	**-1.4**
	comp=Z,3.2nm,0.6s,baz=110,slow=6.3,SNR=10							
ARU	**Arti**	**75.06**	**328**	*eP*		**P**	**03 02 15.0**	**-1.6**
OPO	**Ambohidratompo**	**81.36**	**251**	P		**P**	**03 02 52.3**	**-0.1**
OPO	**Ambohidratompo**	**81.36**	**251**	P		**P**	**03 02 52.3**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=85,slow=10,SNR=4.6							
ILAR	**Eielson Array**	**85.13**	**25**	P		**P**	**03 03 11.1**	**+0.3**
ILAR	**Eielson Array**	**85.13**	**25**	P		**P**	**03 03 11.1**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=243,slow=5.0,SNR=8.5							
ASF	**Jabal al Asfar**	**88.02**	**302**	P		**P**	**03 03 25.2**	**-0.5**
ASF	**Jabal al Asfar**	**88.02**	**302**	P		**P**	**03 03 25.2**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=12,slow=4.2,SNR=6.0							
BR131	**Keskin Array S**	**90.15**	**310**	*eP*		**P**	**03 03 33.8**	**-1.8**
	comp=Z,4.1nm,1.0s							
BRTR	**Keskin Array B**	**90.15**	**310**	P		**P**	**03 03 33.4**	**-2.2**
BRTR	**Keskin Array B**	**90.15**	**310**	P		**P**	**03 03 33.4**	**-2.2**
	comp=Z,3.1nm,1.0s,baz=104,slow=3.4,SNR=14							
INK	**Inuvik**	**90.20**	**22**	*eP*		**P**	**03 03 34.6**	**-0.4**
	comp=Z,8.6nm,1.4s							
ARCES	**ARCESS Array B**	**90.56**	**340**	P		**P**	**03 03 35.9**	**-0.8**
ARCES	**ARCESS Array B**	**90.56**	**340**	P		**P**	**03 03 35.9**	**-0.8**
	comp=Z,3.2nm,0.6s,baz=75,slow=6.3,SNR=18							
FINES	**FINESS Array B**	**91.95**	**332**	P		**P**	**03 03 41.5**	**-1.7**
FINES	**FINESS Array B**	**91.95**	**332**	P		**P**	**03 03 41.5**	**-1.7**
	comp=Z,1.4nm,0.7s,baz=77,slow=6.0,SNR=4.9							
AKASG	**Malin Array Be**	**92.02**	**321**	P		**P**	**03 03 41.1**	**-2.7**
AKASG	**Malin Array Be**	**92.02**	**321**	P		**P**	**03 03 41.1**	**-2.7**
	comp=Z,1.8nm,0.6s,baz=68,slow=5.2,SNR=6.2							
TESR		**94.36**	**317**	*ǁiP*		**P**	**03 03 53.6**	**-1.2**
VRI	**Vrincioaia**	**94.42**	**316**	*ǁiP*		**P**	**03 03 55.1**	**0.0**
PLOR	**Plostina**	**94.48**	**316**	*ǁiP*		**P**	**03 03 54.3**	**-1.1**
MLR	**Muntele Rosu**	**95.03**	**316**	*ǁiP*		**P**	**03 03 57.3**	**-0.7**
BURAR	**Bucovina Array**	**95.13**	**318**	*ǁiP*		**P**	**03 03 57.6**	**-0.8**
BUR08	**Bucovina Ar. S**	**95.13**	**318**	*eP*		**P**	**03 03 57.7**	**-0.7**
KWP	**Kalwaria Pacla**	**96.33**	**321**	*ǁiP*		P	03 03 58.4	-5.3
DRGR		**96.97**	**318**	*ǁiP*		**P**	**03 04 06.3**	**-0.4**
NOA	**NORSAR Array B**	**98.90**	**334**	P		**P**	**03 04 13.1**	**-1.9**
NOA	**NORSAR Array B**	**98.90**	**334**	P		**P**	**03 04 13.1**	**-1.9**
	comp=Z,1.2nm,0.8s,baz=67,slow=4.7,SNR=3.5							
NAO01	**NORSAR Array S**	**99.13**	**334**	*eP*		**Pdif**	**03 04 14.7**	**-1.4**
	comp=Z,8.4nm,0.9s							
LSZ	**Lusaka**	**99.28**	**255**	*eP*		**Pdif**	**03 04 16.6**	**-1.2**
YKA	**Yellowknife Ar**	**99.53**	**24**	P		**Pdif**	**03 04 18.2**	**+0.4**
YKA	**Yellowknife Ar**	**99.53**	**24**	P		**Pdif**	**03 04 18.2**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=300,slow=4.7,SNR=4.3							
TXAR	**Lajitas Array**	**121.57**	**52**	PKP		**PKPdf**	**03 09 30.9**	**+1.6**
TXAR	**Lajitas Array**	**121.57**	**52**	PKP		**PKPdf**	**03 09 30.9**	**+1.6**
	comp=Z,0.4nm,0.7s,baz=274,slow=1.1,SNR=6.3							
TOA0	**Torodi Ar. Sit**	**123.04**	**288**	*ePKPdf*		**PKPdf**	**03 09 31.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**123.04**	**288**	PKP		**PKPdf**	**03 09 32.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**123.04**	**288**	PKP		**PKPdf**	**03 09 32.0**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=77,slow=2.2,SNR=7.5							
TRQA	**Tornquist**	**144.82**	**168**	*ePKPdf*		**PKPdf**	**03 10 12.0**	**-0.3**
LCO	**Las Campanas**	**149.77**	**148**	*ePKPbc*		**PKPdf**	**03 10 23.3**	**+2.2**
LCO				*ePKPab*		**PKiKP**	**03 10 27.2**	**+0.3**

DDA 18 02:53:56.8,39˚.08N×29˚.03E,h7km,MD2.5,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**262**	*i* Pg		Pg	02 54 02.3	+0.6
DEMI				*i* Sg		Sg	02 54 05.8	+0.7
GDZ	**Gediz**	**0.35**	**88**	*i* P		Pg	02 54 04.2	+0.3
GDZ				*i* S		Sg	02 54 09.3	+0.5
DURS	**Dursunbey**	**0.68**	**321**	*eP*		Pg	02 54 10.0	+0.1
DURS				*eS*		Sg	02 54 19.6	+0.8

**KRSC 18 02

FINES	**FINESS Array B**	**48.32**	**325**	P		**P**	**03 14 38.6**	**+1.3**
	2.2nm,0.9s,baz=116,slow=9.6,SNR=3.9							
NB2	**NORSAR Subarra**	**55.50**	**325**	P		**P**	**03 15 29.9**	**-0.9**
	comp=Z,2.1nm,0.8s,baz=83,slow=7.4							
NOA	**NORSAR Array B**	**55.50**	**325**	P		**P**	**03 15 30.2**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=83,slow=7.2,SNR=5.0							
GERES	**GERESS Array B**	**56.27**	**310**	P		**P**	**03 15 36.8**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=77,slow=5.8,SNR=4.4							
WRA	**Warramunga Arr**	**68.67**	**133**	P		**P**	**03 16 58.7**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=331,slow=6.8,SNR=3.9							
TORD	**Torodi Ar. Bea**	**80.19**	**279**	P		**P**	**03 18 05.8**	**-1.0**
	comp=Z,0.7nm,1.1s,baz=53,slow=4.2,SNR=3.7							
YKA	**Yellowknife Ar**	**82.89**	**11**	P		**P**	**03 18 20.2**	**0.0**
	comp=Z,0.2nm,0.6s,baz=329,slow=5.6,SNR=5.9							
CPUP	**Villa Florida**	**149.55**	**274**	PKPbc		**PKPbc**	**03 25 45.0**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=100,slow=2.2,SNR=3.4							

BJI ***18*** *03:07:48.5,53˚.33S×21˚.32E,h7km,mB5.9/23,Ms5.8/23, Ms7 5.5/25*
IDC ***18*** *03:07:48.5±0.3,52˚.99S×20˚.95E,h0km,mb5.1/25, mb1 5.2/25,mb1mx5.2/25,mbtmp5.1/25,MS5.5/26, Ms1 5.5/26,ms1mx5.4/34,Error ellipse: s-maj=13.5km s-min=9.9km az=86.0*
ISCJB ***18*** *03:07:49.9±0.2,52˚.90S±0˚.03×20˚.68E±0˚.07,h11km, mb5.5/99,MS5.6/214,Error ellipse: s-maj=6.5km s-min=4.9km az=178.4*
MOS ***18*** *03:07:49.7±1.2,52˚.98S×20˚.91E,h10km,mb5.4/39, MS5.5/44,Error ellipse: s-maj=20.1km s-min=8.9km az=88.3*
NEIC ***18*** *03:07:50.3±0.1,52˚.97S×20˚.91E,h10km,mb5.6/35, MS5.6/185,MW5.9,Error ellipse: s-maj=6.5km s-min=5.9km az=130.0*
DJA ***18*** *03:07:57,52˚.51S×.22˚.08E,h10km,mb5.5/18*
NEIC ***18*** *03:07:59.4±0.0,52˚.88S×.21˚.17E,h10km,Moment Tensor Solution. s174 Moment tensor: Scale 10^17Nm; Mrr=6.75; Mθθ=6.32; Mφφ=0.43; Mrθ=2.12; Mθφ=-2.21; Mφr=-2.21; Best double couple: M0=7.60000×10^17 NP1:φ=97.00000°, δ=35.00000°,λ=-107.00000°. NP2:φ=299.00000°, δ=57.00000°,λ=-77.00000°. Principal axes: T 7.5800, Plg=10.0000°, Azm=20.0000°; N -0.0400, Plg=10.0000°, Azm=112.0000°; P -7.5300, Plg=74.0000°, Azm=245.0000°;*
ISC 18 03:07:50.7±0.2,53˚.00S±0˚.04×20˚.82E±0˚.05,h11km,n997, σ1=1.29/917,mb5.5/98,MS5.6/214,227C-209D,South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NVL	**N'lazarevskaya**	**18.28**	**189**	*e*P		**P**	**03 12 04.6**	**+0.6**
NVL				MLR		MLR		
	comp=Z,11μm,14.0s							
MAIT	**Maitri**	**18.30**	**190**	*e*P		**P**	**03 12 06.3**	**+2.1**
SYO	**Syowa Base**	**18.31**	**158**	*e*P		**Pn**	**03 12 00.2**	**-4.0**
SYO	**Syowa Base**	**18.31**	**158**	↓*i*pP		**P**	**03 12 04.4**	**+0.1**
SYO	**Syowa Base**	**18.31**	**158**	↓*i*P		P	03 12 11.4	+7.1
ELIM	**Elim**	**18.42**	**357**	*e*P		**P**	**03 12 03.8**	**-2.0**
BUFB	**Buffelsbos**	**19.05**	**10**	*e*P		**P**	**03 12 12.7**	**-0.1**
CER	**Ceres**	**19.66**	**356**	↑*i*P		**P**	**03 12 19.4**	**0.0**
CER				AMB		AMB	03 12 20.9	
	comp=Z,114nm,3.6s							
GRM	**Grahamstown**	**20.10**	**14**	*e*P		**P**	**03 12 23.8**	**-0.5**
GRM				AMB		AMB	03 12 27.1	
	comp=Z,305nm,9.7s							
SOE	**Somerset East**	**20.57**	**11**	*e*P		**P**	**03 12 28.5**	**-0.9**
SOE				AMB		AMB	03 12 31.6	
	comp=Z,341nm,1.7s							
SUR	**Sutherland**	**20.61**	**360**	*e*Pn		**P**	**03 12 30.5**	**+0.5**
	comp=Z,297nm,1.0s							
SUR				S		**S**	**03 16 19.9**	**-0.4**
SUR				LR		LR		
	comp=Z,33μm,21.0s							
SUR	**Sutherland**	**20.61**	**360**	↓P		**P**	**03 12 30.7**	**+0.7**
	SNR=19							
SUR	**Sutherland**	**20.61**	**360**	Pn		**P**	**03 12 30.3**	**+0.3**
	comp=Z,2μm,0.9s,SNR=35							
SUR	**Sutherland**	**20.61**	**360**	P		**P**	**03 12 28.8**	**-1.2**
	comp=Z,202nm,0.8s,baz=174,slow=9.7,SNR=80							
SUR				S		**S**	**03 16 19.9**	**-0.4**
	comp=Z,6.9nm,0.5s,baz=107,slow=19,SNR=4.9							
SUR				LR		LR	03 18 45.9	
	comp=Z,31μm,20.3s,baz=190,slow=32							
SUR	**Sutherland**	**20.61**	**360**	↓*i*P		**P**	**03 12 30.7**	**+0.7**
SUR				AMB		AMB	03 12 33.5	
	comp=Z,313nm,2.7s							
SNAA	**Sanae**	**21.42**	**200**	*e*P		P	03 12 32.6	-5.6
	comp=Z,577nm,1.1s							
CVNA	**Calvinia**	**21.52**	**358**	↓*i*P		**P**	**03 12 40.4**	**+0.7**
CVNA				AMB		AMB	03 12 40.9	
	comp=Z,349nm,1.3s							
HVD	**Gariep Dam**	**22.64**	**11**	↓*i*P		**P**	**03 12 50.8**	**-0.9**
HVD				AMB		AMB	03 12 57.2	
	comp=Z,457nm,1.9s							
BOSA	**Boshof**	**24.59**	**9**	*e*P		**P**	**03 13 08.9**	**-1.9**
	comp=Z,98nm,1.1s							
BOSA				PcP		**PcP**	**03 16 47.8**	**-0.6**
BOSA				S		**S**	**03 17 34.0**	**+2.5**
BOSA				LR		LR		
	comp=Z,27μm,21.0s							
BOSA	**Boshof**	**24.59**	**9**	P		**P**	**03 13 09.1**	**-1.7**
	comp=Z,40nm,1.0s,baz=187,slow=9.5,SNR=39							
BOSA				PcP		**PcP**	**03 16 47.8**	**-0.6**
	comp=Z,10nm,0.9s,baz=242,slow=3.6,SNR=4.2							
BOSA				S		**S**	**03 17 34.0**	**+2.5**
	comp=Z,2.1nm,0.6s,baz=209,slow=19,SNR=2.0							
BOSA				LR		LR	03 20 56.8	
	comp=Z,28μm,21.1s,baz=173,slow=32							
BOSA	**Boshof**	**24.59**	**9**	↓*i*P		**P**	**03 13 09.7**	**-1.1**
BOSA				AMB		AMB	03 13 17.1	
	comp=Z,170nm,5.5s							
MAW	**Mawson**	**24.79**	**142**	P		**P**	**03 13 13.8**	**+1.7**
MAW				LR		LR		
	comp=Z,21μm,22.0s							
MAW	**Mawson**	**24.79**	**142**	P		**P**	**03 13 13.8**	**+1.7**
	comp=Z,77nm,1.0s,baz=270,slow=4.0,SNR=4.5							
MAW				LR		LR	03 20 48.7	
	comp=Z,11μm,21.9s,baz=296,slow=32							
SEK	**Senekal**	**25.17**	**14**	↓*i*P		**P**	**03 13 15.5**	**-0.6**
SEK				AMB		AMB	03 13 17.6	
	comp=Z,139nm,1.4s							
SWZ	**Schweizer**	**26.01**	**9**	*e*P		**P**	**03 13 22.3**	**-1.4**
SWZ				AMB		AMB	03 13 27.4	
	comp=Z,51nm,5.7s							
PRYS	**Parys**	**26.50**	**13**	↓*i*P		**P**	**03 13 26.5**	**-1.7**
PRYS				AMB		AMB	03 13 41.9	
	comp=Z,75nm,3.8s							
ERPM	**east rand prop**	**27.20**	**15**	↓*i*P		**P**	**03 13 34.9**	**+0.5**
ERPM				AMB		AMB	03 13 42.0	
	comp=Z,95nm,1.5s							
SLR	**Silverton**	**27.81**	**15**	↓*i*P		**P**	**03 13 38.8**	**-1.0**
SLR				AMB		AMB	03 13 39.2	
	comp=Z,119nm,1.5s							
TRIS	**Tristan da Cun**	**28.00**	**291**	PFAKE			03 13 50.0	+8.7
TRIS				LR		LR		
	comp=Z,5μm,21.0s							
LBTB	**Lobatse**	**28.18**	**9**	*e*P		**P**	**03 13 41.9**	**-1.2**
	comp=Z,69nm,1.1s							
LBTB				LR		LR		
	comp=Z,25μm,20.0s							
LBTB	**Lobatse**	**28.18**	**9**	P		**P**	**03 13 41.2**	**-1.9**
	comp=Z,21nm,0.8s,baz=200,slow=9.2,SNR=35							
LBTB				LR		LR	03 23 05.2	
	comp=Z,27μm,20.5s,baz=193,slow=33							
LBTB	**Lobatse**	**28.18**	**9**	↓*i*P		**P**	**03 13 42.0**	**-1.2**
LBTB				AMB		AMB	03 13 47.4	
	comp=Z,45nm,3.8s							
MSNA	**Messina**	**31.41**	**17**	*e*P		**P**	**03 14 10.8**	**-0.8**
MSNA				AMB		AMB	03 14 11.6	
	comp=Z,114nm,1.1s							
HOPE	**Hope Point**	**33.20**	**244**	*e*P		**P**	**03 14 29.5**	**+2.5**
	comp=Z,221nm,1.4s							
TSUM	**Tsumeb**	**33.83**	**355**	*e*P		**P**	**03 14 32.5**	**-0.5**
	comp=Z,123nm,1.4s							
TSUM				S		**S**	**03 19 55.5**	**-1.4**
TSUM				LR		LR		
	comp=Z,14μm,19.0s							
TSUM	**Tsumeb**	**33.83**	**355**	S		**S**	**03 19 55.5**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=221,slow=17,SNR=2.1							
TSUM				LR		LR	03 26 28.6	
	comp=Z,14μm,18.7s,baz=90,slow=33							
TSUM	**Tsumeb**	**33.83**	**355**	↓*i*P		**P**	**03 14 33.0**	**0.0**
QSPA	**South Pole Qui**	**37.22**	**180**	P		**P**	**03 15 01.7**	**-0.1**
QSPA				S		S	03 20 38.5	-10
QSPA				LR		LR		
	comp=Z,16μm,20.0s							
QSPA	**South Pole Qui**	**37.22**	**180**	P		**P**	**03 15 01.7**	**-0.1**
	comp=Z,78nm,0.8s,baz=238,slow=4.1,SNR=167							
QSPA				S		S	03 20 38.5	-10
	comp=Z,1.2nm,0.6s,baz=142,slow=19,SNR=1.9							
QSPA				LR		LR	03 29 33.3	
	comp=Z,16μm,19.5s,baz=57,slow=35							
LSZ	**Lusaka**	**38.09**	**12**	*e*P		**P**	**03 15 08.2**	**-1.3**
	comp=Z,52nm,1.1s							
LSZ				LR		LR		
	comp=Z,29μm,20.0s							
LSZ	**Lusaka**	**38.09**	**12**	↓P		**P**	**03 15 08.9**	**-0.6**
	SNR=10							
LSZ	**Lusaka**	**38.09**	**12**	*e*P		**P**	**03 15 08.4**	**-1.1**
ABPO	**Ambohimpanom**	**39.63**	**41**	*e*P		**P**	**03 15 22.8**	**+0.3**
ABPO				pmax		pmax		
	comp=Z,58nm,1.5s							
ABPO				MLR		MLR		
	comp=Z,9μm,21.0s							
ABPO	**Ambohimpanom**	**39.63**	**41**	*e*P		**P**	**03 15 22.8**	**+0.3**
	comp=Z,58nm,1.5s							
ABPO				LR		LR		
	comp=Z,9μm,21.0s							
OPO	**Ambohidratompo**	**40.02**	**41**	P		**P**	**03 15 24.8**	**-0.9**
OPO	**Ambohidratompo**	**40.02**	**41**	P		**P**	**03 15 24.8**	**-0.9**
	comp=Z,4.9nm,0.8s,baz=173,slow=5.0,SNR=4.6							
OPO				LR		LR	03 28 41.1	
	comp=Z,6μm,19.5s,baz=187,slow=31							
RER	**Riviere de l'E**	**41.55**	**54**	PFAKE			03 15 50.0	+12
RER				LR		LR		
	comp=Z,5μm,21.0s							
PMSA	**Palmer Station**	**42.01**	**220**	*e*P		**P**	**03 15 43.8**	**+2.5**
	comp=Z,191nm,1.3s							
PMSA				LR		LR		
	comp=Z,15μm,21.0s							
PMSA	**Palmer Station**	**42.01**	**220**	P		**P**	**03 15 43.5**	**+2.2**
	comp=Z,25nm,0.8s,baz=77,slow=7.2,SNR=3.7							
PMSA				LR		LR	03 29 57.4	
	comp=Z,14μm,20.8s,baz=128,slow=32							
SHEL	**Horse Pasture**	**42.47**	**320**	PFAKE			03 16 00.0	+14
SHEL				LR		LR		
	comp=Z,6μm,22.0s							
CASY	**Casey**	**43.13**	**144**	PFAKE			03 16 00.0	+10
CASY				LR		LR		
	comp=Z,3μm,19.0s							
EFI	**East Falkland**	**45.89**	**238**	PFAKE			03 16 20.0	+7.3
EFI				LR		LR		
	comp=Z,11μm,22.0s							
VNDA	**Vanda**	**47.51**	**169**	*e*P		**P**	**03 16 25.8**	**+0.6**
	comp=Z,175nm,1.4s							
VNDA				LR		LR		
	comp=Z,11μm,20.0s							
SBA	**Scott Base**	**47.73**	**171**	PFAKE			03 16 40.0	+13
SBA				LR		LR		
	comp=Z,13μm,21.0s							
USHA	**Ushuaia**	**49.12**	**230**	LR		LR	03 32 07.9	
	comp=Z,8μm,21.2s,baz=78,slow=30							
DRV	**Dumont d'Urvil**	**52.17**	**154**	PP		PP	03 18 31.0	-27
DRV				S		S	03 24 07.0	-17
DRV				L		L	03 29 00.0	
DRV				R			03 32 00.0	
KMBO	**Kilima Mbogo**	**53.48**	**21**	*e*P		**P**	**03 17 12.6**	**+1.5**
	comp=Z,63nm,1.9s							
KMBO				LR		LR		
	comp=Z,14μm,19.0s							
KMBO	**Kilima Mbogo**	**53.48**	**21**	*e*P		**P**	**03 17 11.0**	**-0.2**
MSEY	**Mahe Island**	**55.95**	**43**	PFAKE			03 17 40.0	+11
MSEY				LR		LR		
	comp=Z,5μm,20.0s							
CAM4	**Nova Friburgo**	**56.50**	**277**	↑*i*P		P	03 17 29.3	-3.7
CAM4				*i*			03 17 32.7	
CAM4				*i*			03 17 34.0	
CAM4				*i*			03 17 40.6	
CAM4				*i*			03 17 46.6	
CAM4				*i*			03 17 57.9	
CAM4				*i*			03 18 04.8	
CAM4				*i*			03 18 25.4	
TRQA	**Tornquist**	**56.71**	**250**	*e*P		**P**	**03 17 33.9**	**-0.2**
	comp=Z,300nm,1.8s							
TRQA				LR		LR		
	comp=Z,3μm,20.0s							
SPB	**Sao Paulo**	**58.50**	**272**	PFAKE			03 18 00.0	+13
SPB				LR		LR		
	comp=Z,3μm,19.0s							
PLCA	**Paso Flores**	**59.54**	**242**	*e*P		**P**	**03 17 54.2**	**+0.2**
	comp=Z,544nm,3.0s							
PLCA				LR		LR		
	comp=Z,2μm,20.0s							
PLCA	**Paso Flores**	**59.54**	**242**	P		**P**	**03 17 54.1**	**+0.2**
	comp=Z,16nm,1.0s,baz=133,slow=8.1,SNR=15							
PLCA				LR		LR	03 41 41.7	
	comp=Z,2μm,18.5s,baz=266,slow=34							
DGAR	**Diego Garcia**	**61.70**	**62**	PFAKE			03 18 20.0	+11
DGAR				LR		LR		
	comp=Z,3μm,20.0s							
CPUP	**Villa Florida**	**62.43**	**262**	*e*P		**P**	**03 18 13.4**	**-0.2**
	comp=Z,135nm,0.7s							
CPUP				LR		LR		
	comp=Z,505nm,22.0s							
CPUP	**Villa Florida**	**62.43**	**262**	P		**P**	**03 18 13.4**	**-0.2**
	comp=Z,25nm,0.7s,baz=116,slow=6.1,SNR=89							
CPUP				LR		LR	03 40 01.8	
	comp=Z,3μm,22.0s,baz=135,slow=31							
LIC	**Lamto**	**62.94**	**331**	*e*P		**P**	**03 18 17.1**	**+0.1**
	comp=Z,56nm,0.9s,baz=162							
LIC	**Lamto**	**62.94**	**331**	*e*P		**P**	**03 18 17.1**	**+0.1**
DBIC	**Dimbokro**	**63.31**	**331**	*e*P		**P**	**03 18 18.8**	**-0.7**
	comp=Z,33nm,1.0s							
DBIC				LR		LR		
	comp=Z,5μm,22.0s							
DBIC	**Dimbokro**	**63.31**	**331**	P		**P**	**03 18 18.5**	**-1.0**
	comp=Z,22nm,0.9s,baz=147,slow=7.9,SNR=15							
FCH	**Farellones**	**64.79**	**248**	*e*P		**P**	**03 18 29.9**	**+0.4**
CFAA	**Coronel Fontan**	**64.91**	**250**	S		**S**	**03 27 11.3**	**0.0**
	comp=Z,0.1nm,0.4s,baz=257,slow=18,SNR=1.6							
CFAA				LR		LR	03 44 10.4	
	comp=Z,216nm,19.4s,baz=134,slow=34							
BDFB	**Brasilia**	**64.93**	**277**	P		**P**	**03 18 30.3**	**-0.1**
BDFB				LR		LR		
	comp=Z,6μm,22.0s							
BDFB	**Brasilia**	**64.93**	**277**	P		**P**	**03 18 30.3**	**-0.1**
	comp=Z,30nm,0.9s,baz=133,slow=4.6,SNR=34							
BDFB				LR		LR	03 40 37.0	
	comp=Z,4μm,22.0s,baz=320,slow=30							
RCBR	**Riachuelo**	**65.78**	**294**	*e*P		**P**	**03 18 36.4**	**+0.6**
	comp=Z,146nm,1.6s							
RCBR				LR		LR		
	comp=Z,3μm,21.0s							
ATD	**Arta Tunnel**	**66.99**	**24**	P		**P**	**03 18 45.7**	**+2.3**
ATD	**Arta Tunnel**	**66.99**	**24**	P		**P**	**03 18 45.7**	**+2.3**
	comp=Z,22nm,0.9s,baz=203,slow=7.7,SNR=4.7							
ATD				LR		LR	03 46 03.2	
	comp=Z,2μm,19.7s,baz=192,slow=34							
TOA0	**Torodi Ar. Sit**	**67.90**	**340**	*e*P		**P**	**03 18 48.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**67.90**	**340**	P		**P**	**03 18 48.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**67.90**	**340**	P		**P**	**03 18 48.6**	**-0.5**
	comp=Z,14nm,1.0s,baz=181,slow=5.9,SNR=40							
TORD				LR		LR	03 42 10.1	
	comp=Z,3μm,21.8s,baz=160,slow=30							
NWAO	**Narrogin (SRO)**	**68.03**	**116**	*e*P		**P**	**03 18 51.2**	**+1.4**
	comp=Z,30nm,1.1s							
NWAO				LR		LR		
	comp=Z,3μm,19.0s							
NWAO	**Narrogin (SRO)**	**68.03**	**116**	P		**P**	**03 18 48.6**	**-1.3**
	comp=Z,21nm,0.8s,baz=221,slow=8.8,SNR=9.7							
LCO	**Las Campanas**	**68.26**	**250**	*e*P		**P**	**03 18 51.8**	**0.0**
	comp=Z,989nm,3.0s							
LCO				LR		LR		
	comp=Z,2μm,20.0s							
MORW	**Morawa**	**70.31**	**112**	*e*P		**P**	**03 19 03.4**	**-0.7**
	comp=Z,110nm,0.9s							
COCO	**West Island**	**71.95**	**86**	PFAKE			03 19 30.0	+16
COCO				LR		LR		
	comp=Z,3μm,20.0s							
LVC	**Limon Verde**	**72.11**	**256**	*e*P		**P**	**03 19 16.8**	**+1.4**
	comp=Z,1.1nm,0.8s							
LVC				LR		LR		
	comp=Z,115nm,22.0s							
SIV	**San Ignacio**	**72.53**	**267**	LR		LR	03 46 45.0	
	comp=Z,4μm,20.2s,slow=32							
MEEK	**Meekatharra**	**73.63**	**112**	*e*P		**P**	**03 19 22.5**	**-1.6**
	comp=Z,236nm,0.9s							
TAU	**Tasmania Unive**	**73.96**	**142**	PFAKE			03 19 40.0	+14
TAU				LR		LR		
	comp=Z,7μm,19.0s							
FORT	**Forrest**	**75.43**	**122**	*e*P		**P**	**03 19 33.6**	**-0.7**
	comp=Z,43nm,1.0s							
FORT	**Forrest**	**75.43**	**122**	*e*P		**P**	**03 19 33.6**	**-0.9**
	comp=Z,13nm,0.7s							
ABTO	**Aybut**	**75.48**	**32**	↓P		**P**	**03 19 35.9**	**+1.2**
	SNR=15							
LPAZ	**La Paz**	**76.54**	**261**	*e*P		**P**	**03 19 42.1**	**+0.4**
	comp=Z,95nm,1.4s							
LPAZ				LR		LR		
	comp=Z,2μm,21.0s							
LPAZ	**La Paz**	**76.54**	**261**	P		**P**	**03 19 41.6**	**-0.1**
	comp=Z,10nm,0.6s,baz=132,slow=4.6,SNR=42							
LPAZ				LR		LR	03 50 32.4	
	comp=Z,2μm,20.8s,baz=138,slow=34							
TAM	**Tamanrasset**	**76.64**	**346**	PFAKE			03 19 50.0	+8.7
TAM				LR		LR		
	comp=Z,2μm,22.0s							
SACV	**Santiago Islan**	**77.72**	**316**	PFAKE			03 20 00.0	+13
SACV				LR		LR		
	comp=Z,2μm,20.0s							
BBOO	**Buckleboo**	**77.72**	**129**	*e*P		**P**	**03 19 46.5**	**-0.9**
	comp=Z,719nm,1.1s							
BBOO	**Buckleboo**	**77.72**	**129**	*e*P		**P**	**03 19 46.8**	**-0.6**
	comp=Z,127nm,1.0s							
MBWA	**Marble Bar**	**78.55**	**110**	*e*P		**P**	**03 19 50.4**	**-1.7**
	comp=Z,24nm,0.8s							
MBWA				LR		LR		
	comp=Z,4μm,22.0s							
MBWA	**Marble Bar**	**78.55**	**110**	*e*P		**P**	**03 19 50.6**	**-1.5**
RAYN	**Ar Rayn**	**79.17**	**23**	P		**P**	**03 19 56.5**	**+1.2**
	comp=Z,117nm,1.4s,SNR=7.1							
SAML	**Samuel**	**79.31**	**269**	*e*P		**P**	**03 19 56.4**	**0.0**
	comp=Z,70nm,0.8s							
SAML				LR		LR		
	comp=Z,3μm,21.0s							
STKA	**Stephens Creek**	**81.05**	**132**	*e*P		**P**	**03 20 04.7**	**-0.8**
	comp=Z,10.0nm,1.1s							
STKA	**Stephens Creek**	**81.05**	**132**	*e*P		**P**	**03 20 05.0**	**-0.5**
	comp=Z,24nm,0.9s							
STKA	**Stephens Creek**	**81.05**	**132**	P		**P**	**03 20 05.1**	**-0.5**
	comp=Z,26nm,1.0s,baz=182,slow=4.4,SNR=27							
CGJI	**Cibinong**	**81.68**	**90**	P		**P**	**03 20 11.5**	**+2.5**
CGJI	**Cibinong**	**81.68**	**90**	P		**P**	**03 20 09.4**	**+0.4**
	comp=Z,49nm,1.5s,comp=Z,1μm							
BSY	**Bisya**	**81.79**	**34**	↑P		**P**	**03 20 09.9**	**+0.6**
	SNR=16							
KASI	**Kota Agung**	**81.81**	**88**	P		P	03 20 13.4	+3.6
	comp=Z,81nm,1.1s							
KASI	**Kota Agung**	**81.81**	**88**	P		**P**	**03 20 10.2**	**+0.4**
	comp=Z,81nm,1.1s							
YNG	**Young**	**81.85**	**138**	*e*P		**P**	**03 20 10.2**	**+0.4**
	comp=Z,28nm,0.9s							
ARQ	**Araqi**	**82.11**	**33**	↑P		**P**	**03 20 12.1**	**+1.1**
	SNR=5.0							
WBK	**Wadi Bani Khal**	**82.27**	**35**	↑P		**P**	**03 20 12.9**	**+1.0**
	SNR=9.0							
DBJI	**Dramaga**	**82.36**	**91**	P		P	03 20 16.2	+3.5
	comp=Z,128nm,1.1s,comp=Z,8μm							
DBJI	**Dramaga**	**82.36**	**91**	P		P	03 20 16.4	+3.7
	comp=Z,123nm,0.8s,comp=Z,8μm							
SMDO	**Samad**	**82.36**	**34**	↓P		**P**	**03 20 12.7**	**+0.2**
	SNR=11							
BLSI	**Bandar Lampung**	**82.39**	**89**	P		**P**	**03 20 14.4**	**+1.6**
	comp=Z,135nm,0.4s							
CBJI	**Citeko**	**82.53**	**91**	P		**P**	**03 20 15.1**	**+1.6**
	comp=Z,557nm,0.9s,comp=Z,25μm							
HOQ	**Hoqain**	**82.60**	**33**	P		**P**	**03 20 14.0**	**+0.4**
	SNR=15							
TNG	**Tangerang**	**82.60**	**90**	P		**P**	**03 20 14.4**	**+0.5**
	comp=Z,478nm,0.6s							
TNG	**Tangerang**	**82.60**	**90**	P		**P**	**03 20 15.7**	**+1.8**
	comp=Z,739nm,0.6s							
LEM	**Lembang**	**82.67**	**92**	P		**P**	**03 20 17.4**	**+2.9**
	comp=Z,273nm,0.9s,comp=Z,3μm							
LEM	**Lembang**	**82.67**	**92**	P		**P**	**03 20 17.2**	**+2.7**
	comp=Z,273nm,0.9s,comp=Z,2μm							
CLJI	**Cilicap**	**82.81**	**93**	P		P	03 20 18.4	+3.4
	comp=Z,151nm,0.9s							
CLJI	**Cilicap**	**82.81**	**93**	P		P	03 20 18.2	+3.2
	comp=Z,151nm,0.9s							
ASUD	**Al Ashush, Dub**	**82.93**	**31**	↓P		**P**	**03 20 16.0**	**+0.8**
	SNR=6.1							
ASHO	**Ashiyiah**	**83.22**	**32**	↓P		**P**	**03 20 17.1**	**+0.3**
	SNR=8.3							
EIL	**Elat**	**83.24**	**12**	LR		LR	03 57 15.6	
	comp=Z,4μm,18.2s,baz=183,slow=36							
PPI	**Padang Panjang**	**83.36**	**82**	P		**P**	**03 20 20.5**	**+2.7**
	comp=Z,44nm,0.9s,comp=Z,828nm							
PPI	**Padang Panjang**	**83.36**	**82**	P		**P**	**03 20 18.7**	**+0.9**
	comp=Z,31nm,1.4s,comp=Z,826nm							
HATD	**Hatta, Dubai**	**83.37**	**32**	↓P		**P**	**03 20 17.9**	**+0.3**
	SNR=8.2							
NAZ	**Nazwa, Dubai**	**83.37**	**31**	↓P		**P**	**03 20 18.0**	**+0.5**
	SNR=10							
SNZO	**South Karori**	**83.39**	**161**	PFAKE			03 20 30.0	+12
SNZO				LR		LR		
	comp=Z,5μm,20.0s							
BJII	**Banjamegara**	**83.53**	**94**	P		**P**	**03 20 20.6**	**+1.8**
	comp=Z,32nm,1.6s							
TGJI	**Tegal**	**83.55**	**93**	P		**P**	**03 20 20.8**	**+2.0**
	comp=Z,68nm,1.6s							
PCJI	**Pacitan**	**83.74**	**95**	P		P	03 20 25.0	+5.2
	comp=Z,33nm,1.6s							
MNSI	**Mandailing Nat**	**83.87**	**81**	P		P	03 20 27.4	+7.0
	comp=Z,28nm,1.3s							
MNSI	**Mandailing Nat**	**83.87**	**81**	P

comp=Z,67nm,1.2s,comp=Z,2µm
QLP Quilpie 86.76 132 *e*P **P 03 20 34.3 -0.5**
WRA Warramunga Arr 87.52 120 P **P 03 20 37.6 -1.0**
WRA Warramunga Arr 87.52 120 P **P 03 20 37.6 -1.0**
comp=Z,12nm,0.9s,baz=199,slow=2.8,SNR=36
WRA LR LR 03 56 07.8
comp=Z,2µm,18.5s,baz=210,slow=33
WRAB Tennant Creek 87.54 120 *e*P **P 03 20 37.8 -0.9**
WRAB pmax pmax
comp=Z,33nm,1.1s
WRAB MLR MLR
comp=Z,2µm,20.0s
WRAB Tennant Creek 87.54 120 *e*P **P 03 20 37.8 -0.9**
comp=Z,33nm,1.1s
WRAB LR LR
comp=Z,2µm,20.0s
WRAB Tennant Creek 87.54 120 P **P 03 20 37.0 -1.7**
comp=Z,147nm,1.3s,SNR=6.8
IPM Ipoh 87.67 80 P **P 03 20 41.0 +1.7**
comp=Z,22nm,2.7s,comp=Z,737nm
KULM Kulim 88.09 79 *e*P **P 03 20 40.5 -0.8**
comp=Z,34nm,1.1s
KULM LR LR
comp=Z,1µm,19.0s
KULM Kulim 88.09 79 P **P 03 20 40.5 -0.8**
comp=Z,32nm,1.5s,comp=Z,970nm
CSS Prodhromos 88.28 10 PFAKE 03 20 50.0 +8.4
CSS LR LR
comp=Z,6µm,19.0s
MDT Midelt 88.29 339 P **P 03 20 43.3 +1.5**
MDT Midelt 88.29 339 P **P 03 20 43.3 +1.5**
comp=Z,16nm,0.9s,baz=146,slow=4.1,SNR=16
BHD Baghdad 88.33 20 *ex* **P 03 20 43.0 +1.2**
BHD *ex* **SKSac 03 31 05.5 -4.6**
BHD *ex* **S 03 31 30.3 +3.8**
PBKI Pangkalan Bun 88.38 92 P **P 03 20 45.5 +2.8**
comp=Z,370nm,1.0s,comp=Z,4µm
WDD Wield Dalam 88.67 355 PFAKE 03 20 50.0 +6.6
WDD LR LR
comp=Z,3µm,19.0s
KEST Kesra 88.93 351 *e*P **P 03 20 47.1 +2.4**
KEST Kesra 88.93 351 P **P 03 20 46.3 +1.6**
comp=Z,11nm,1.0s,baz=176,slow=6.4,SNR=12
KEST LR LR 04 05 39.6
comp=Z,2µm,18.1s,baz=103,slow=39
RPN Rapa Nui 89.19 223 PFAKE 03 21 00.0 +14
RPN LR LR
comp=Z,4µm,21.0s
ETRT Tiaret 89.65 344 P P 03 20 53.6 +5.4
CASM Ain Smara 89.77 348 P **P 03 20 49.3 +0.7**
ATAH Atahualpa 89.87 258 LR LR 03 58 31.8
comp=Z,1µm,21.2s,baz=134,slow=34
CKFL Kef-Lekhel 89.88 349 P **P 03 20 51.5 +2.3**
RTC Rabat Centre 89.92 337 PFAKE 03 21 00.0 +11
RTC LR LR
comp=Z,2µm,21.0s
MMRI Maumere 89.97 104 P **P 03 20 52.8 +2.6**
comp=Z,122nm,1.1s,comp=Z,2µm
EANR 'Ain N'Sour 90.23 344 P **P 03 20 52.5 +1.7**
STKI Sintang 90.45 90 P **P 03 20 55.2 +2.8**
comp=Z,46nm,1.2s,comp=Z,2µm
EBNR Beni Rached 90.50 345 P P 03 20 56.5 +4.5
KBKI Kotabaru 90.61 96 P **P 03 20 55.4 +2.2**
comp=Z,35nm,1.3s,comp=Z,8µm
ISP Isparta 90.85 8 PFAKE 03 21 00.0 +6.3
ISP LR LR
comp=Z,4µm,21.0s
KSM Kuching 90.86 89 PFAKE 03 21 10.0 +16
KSM LR LR
comp=Z,2µm,20.0s
BKSI Bulukumba 91.37 101 P **P 03 20 57.5 +0.8**
BKSI Bulukumba 91.37 101 P **P 03 20 57.5 +0.8**
comp=Z,44nm,0.8s,comp=Z,1µm
KAPI Kappang 91.39 100 *e*P **P 03 20 55.6 -1.1**
comp=Z,46nm,0.9s
KAPI LR LR
comp=Z,1µm,21.0s
KAPI Kappang 91.39 100 ⇑P **P 03 20 56.6 -0.3**
SNR=11
KAPI Kappang 91.39 100 P **P 03 20 56.5 -0.3**
comp=Z,303nm,0.9s,SNR=8.8
KAPI Kappang 91.39 100 P **P 03 20 57.5 +0.7**
comp=Z,60nm,1.2s,comp=Z,941nm
KAPI Kappang 91.39 100 P **P 03 20 55.7 -1.1**
comp=Z,45nm,0.9s,baz=235,slow=7.8,SNR=24
TIP Timpagrande 91.88 357 PFAKE 03 21 10.0 +12
TIP LR LR
comp=Z,3µm,20.0s
SPSI Sidrap Palu 92.24 100 P **P 03 21 02.8 +2.1**
comp=Z,40nm,1.2s,comp=Z,749nm
VSL Villasalto 92.66 351 PFAKE 03 21 10.0 +8.1
VSL LR LR
comp=Z,3µm,20.0s
CUC Castrocucco 92.72 356 PFAKE 03 21 10.0 +7.8
CUC LR LR
comp=Z,3µm,20.0s
SBUM Sibu 92.79 90 P **P 03 21 04.3 +1.1**
comp=Z,38nm,0.4s,comp=Z,1µm
TTSI Tana Toraja 93.00 99 P P 03 21 07.7 +3.5
comp=Z,22nm,1.3s
BR131 Keskin Array S 93.02 10 *e*P **P 03 21 05.0 +1.2**
comp=Z,5.5nm,1.0s
BR131 LR LR
comp=Z,2µm,20.0s
BRTR Keskin Array B 93.02 10 P **P 03 21 03.6 -0.1**
BRTR PP **PP 03 24 46.8 -0.5**
BRTR Keskin Array B 93.02 10 P **P 03 21 03.6 -0.1**
comp=Z,4.9nm,1.0s,baz=165,slow=5.1,SNR=12
BRTR PP **PP 03 24 46.8 -0.5**
comp=Z,2.7nm,1.0s,baz=179,slow=7.4,SNR=8.4
BRTR LR LR 04 07 25.1
comp=Z,3µm,19.8s,baz=180,slow=38
CTA Charters Tower 93.29 130 P **P 03 21 04.6 -1.0**
CTA Charters Tower 93.29 130 *e*P **P 03 21 04.5 -1.0**
comp=Z,9.7nm,1.0s
CTA Charters Tower 93.29 130 P **P 03 21 04.6 -1.0**
comp=Z,11nm,0.9s,baz=275,slow=5.1,SNR=7.3
CTAO Charters Tower 93.29 130 *e*P **P 03 21 06.4 +0.9**
CTAO pmax pmax
comp=Z,17nm,1.0s
CTAO MLR MLR
comp=Z,3µm,20.0s
CTAO Charters Tower 93.29 130 *e*P **P 03 21 06.4 +0.9**
comp=Z,17nm,1.0s
CTAO LR LR
comp=Z,3µm,20.0s
PVAQ Vaqueiros 93.39 338 *e*P P 03 21 10.2 +4.9
PFVI Vila Bisbo 93.39 337 *e*P P 03 21 13.1 +7.8
SMKI Samarinda 93.50 95 P **P 03 21 08.7 +2.2**
PBAR Barrancos 93.97 338 *e*P P 03 21 12.2 +4.2
TIR Tirane 93.98 359 PFAKE 03 21 20.0 +12
TIR LR LR
comp=Z,5µm,20.0s
PBEJ Beja 94.02 338 *e*P P 03 21 04.6 -3.6
EVO Evora 94.53 338 *e*P **P 03 21 12.8 +2.3**
BBGH Gun Hill 94.68 285 PFAKE 03 21 20.0 +8.2
BBGH LR LR
comp=Z,3µm,20.0s
PAB San Pablo 94.72 341 *e*P **P 03 21 11.1 -0.4**
PAB pmax pmax
comp=Z,11nm,1.1s
PAB MLR MLR
comp=Z,1µm,19.0s
PAB San Pablo 94.72 341 *e*P **P 03 21 11.1 -0.4**
comp=Z,11nm,1.1s
PAB LR LR
comp=Z,1µm,19.0s
PESTR Estremoz 94.76 338 *e*P **P 03 21 11.1 -0.5**
ESDC Sonseca Array 94.77 341 P **P 03 21 12.4 +0.7**
ESDC PP **PP 03 24 58.6 -2.2**
ESDC Sonseca Array 94.77 341 P **P 03 21 12.4 +0.7**
comp=Z,3.4nm,0.7s,baz=166,slow=4.6,SNR=12
ESDC PP **PP 03 24 58.6 -2.2**
comp=Z,0.1nm,0.3s,baz=167,slow=6.2,SNR=3.6
ESLA Sonseca Array 94.77 341 *e*P **P 03 21 13.0 +1.4**
comp=Z,4.4nm,1.2s
ESLA LR LR
comp=Z,10µm,19.0s
GNI Garni 95.06 18 PFAKE 03 21 20.0 +6.8
GNI LR LR
comp=Z,2µm,19.0s
PMTG Montargil 95.09 338 *e*P P 03 21 17.9 +4.8
GRGR Grenville 95.10 283 PFAKE 03 21 20.0 +6.2
GRGR LR LR
comp=Z,1µm,22.0s
AQU L'Aquila 95.20 354 *e*P **P 03 21 13.2 -0.4**
comp=Z,148nm,1.6s
AQU LR LR
comp=Z,4µm,19.0s
AQU L'Aquila 95.20 354 ⇓*i*P P 03 21 18.2 +4.7
OTAV Otavalo 95.77 263 *e*P **P 03 21 18.4 +0.9**
comp=Z,20nm,1.5s
OTAV LR LR
comp=Z,1µm,21.0s
MTE Manteigas 96.21 339 PFAKE 03 21 30.0 +12
MTE LR LR
comp=Z,2µm,20.0s
RAO Raoul Island 96.48 164 PFAKE 03 21 30.0 +10
RAO LR LR
comp=Z,4µm,19.0s
FDF Fort de France 96.87 285 PFAKE 03 21 30.0 +8.2
FDF LR LR
comp=Z,662nm,19.0s
COEN Coen 97.07 124 *e*P Pdif 03 21 23.3 +0.3
comp=Z,101nm,1.1s
POLO Lamas de Olo 97.20 339 *e*P Pdif 03 21 23.7 +0.9
VLC Villacollemand 97.20 352 PFAKE 03 21 30.0 +7.3
VLC LR LR
comp=Z,3µm,20.0s
PBRG Braganca 97.39 340 *e*P Pdif 03 21 30.5 +6.9
SOC Sochi 97.58 14*c i*P Pdif 03 21 26.2 +1.9
SOC *e* 03 25 21.6
SOC *e*S **SKSac 03 32 03.4 +2.5**
SOC *e* 03 34 22.1
SOC pmax pmax
comp=Z,22nm,1.0s
SOC MLR MLR
comp=Z,2µm,18.0s
NIL Nilore 97.59 42 PFAKE 03 21 40.0 +15
NIL LR LR
comp=Z,297nm,22.0s
CM31 Chiang Mai Arr 97.63 70 PFAKE 03 21 40.0 +15
CM31 LR LR
comp=Z,1µm,19.0s
CMAR Chiang Mai Arr 97.63 70 P **P 03 21 25.1 0.0**
CMAR PP **PP 03 25 19.8 -3.3**
CMAR Chiang Mai Arr 97.63 70 P **P 03 21 25.1 0.0**
comp=Z,1.2nm,0.3s,baz=234,slow=4.8,SNR=8.4
CMAR PP **PP 03 25 19.8 -3.3**
comp=Z,0.9nm,0.4s,baz=232,slow=4.4,SNR=3.9
CMAR LR LR 04 00 41.6
comp=Z,1µm,19.3s,baz=202,slow=32
SDV Santo Domingo 97.90 274 PFAKE 03 21 40.0 +13
SDV LR LR
comp=Z,647nm,19.0s
CHTO Chiang Mai 97.91 69 *e*P Pdif 03 21 26.8 +0.3
CHTO pmax pmax
comp=Z,15nm,1.4s
CHTO MLR MLR
comp=Z,2µm,20.0s
CHTO Chiang Mai 97.91 69 *e*P Pdif 03 21 26.8 +0.3
comp=Z,15nm,1.4s
CHTO LR LR
comp=Z,2µm,20.0s
CHTO Chiang Mai 97.91 69 P Pdif 03 21 27.9 +1.4
CFR Carcaliu 98.00 5 ⇓P Pdif 03 21 27.7 +1.6
CFR Carcaliu 98.00 5 ⇓*i*P Pdif 03 21 27.7 +1.6
KKM Kota Kinabalu 98.04 91 PFAKE 03 21 40.0 +13
KKM LR LR
comp=Z,607nm,20.0s
LOT Lotru 98.11 2⇑*i*P Pdif 03 21 35.6 +8.8
KBZ Khabaz 98.21 16 P Pdif 03 21 29.9 +2.8
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KBZ MLR MLR
comp=Z,3µm,21.7s
KBZ Khabaz 98.21 16 P Pdif 03 21 29.9 +2.8
KBZ Khabaz 98.21 16 P Pdif 03 21 29.9 +2.8
comp=Z,2.2nm,0.8s,baz=174,slow=7.3,SNR=3.7
KBZ LR LR 04 06 02.3
comp=Z,3µm,21.7s,baz=194,slow=36
MLR Muntele Rosu 98.22 4 P Pdif 03 21 28.6 +1.3
MLR Muntele Rosu 98.22 4 ⇓*i*P Pdif 03 21 28.9 +1.6
MLR Muntele Rosu 98.22 4 P Pdif 03 21 28.6 +1.3
comp=Z,0.4nm,0.6s,baz=217,slow=5.1,SNR=3.1
SIM Simferopol' 98.24 10 P Pdif 03 21 38.8 +12
SIM 03 25 28.9
SIM 03 31 58.0
SIM SS SS 03 39 35.4 -3.3
SIM pmax pmax
comp=Z,39nm,7.9s
BZS Buzias 98.25 1⇑P Pdif 03 21 33.7 +6.5
BZS Buzias 98.25 1⇑*i*P Pdif 03 21 33.7 +6.5
MAK Makhachkala 98.32 19 P **P 03 21 26.7 -0.9**
MAK *e* 03 25 28.9
MAK *e*PPP PPP 03 27 42.7
MAK *e*S **SKSac 03 32 03.6 -1.1**
MAK *e*SS **SS 03 39 39.3 -0.4**
MAK pmax pmax
comp=Z,248nm,1.5s
KIV Kislovodsk 98.40 16 *e*P Pdif 03 21 29.8 +1.7
KIV *e* 03 25 30.7
KIV *e*SS SS 03 39 44.0 +2.9
KIV pmax pmax
comp=Z,5.0nm,0.9s
KIV MLR MLR
comp=Z,2µm,20.0s
KIV Kislovodsk 98.40 16 PFAKE 03 21 40.0 +12
KIV LR LR
comp=Z,3µm,21.0s
BNI Bardonecchia 98.43 350 PFAKE 03 21 40.0 +12
BNI LR LR
comp=Z,4µm,20.0s
ANN Anapa 98.47 12 *e*P Pdif 03 21 28.2 0.0
ANN *e* 03 25 31.5
ANN *e*PS **PS 03 34 26.2 +3.7**
ANN pmax pmax
comp=Z,98nm,1.6s
VRI Vrincioaia 98.62 4⇑P Pdif 03 21 29.4 +0.5
VRI Vrincioaia 98.62 4⇑*i*P Pdif 03 21 29.4 +0.5
RJF Les Rejaudoux 99.32 346 *e*P **Pdif 03 21 33.2 +1.2**
RJF Les Rejaudoux 99.32 346 *e*P **Pdif 03 21 33.2 +1.2**
RJF Les Rejaudoux 99.32 346 *e*P **Pdif 03 21 33.2 +1.2**
DZM Mont Dzumac 99.50 148 *e*LR LR 03 53 51.0
comp=Z,5µm,37.5s
ANWB Willy Bob 99.56 287 PFAKE 03 21 50.0 +16
ANWB LR LR
comp=Z,909nm,22.0s
TUE Stuetta 99.58 352 PFAKE 03 21 40.0 +6.5
TUE LR LR
comp=Z,3µm,21.0s
KIS Kishinev 99.86 6 *e*PP PP 03 25 38.0 -1.8
KIS *e*SKS 03 31 40.0
KIS *e*SKKS **SKSac 03 32 18.0 +5.8**
KIS Kishinev 99.86 6 *e*PS PS 03 34 44.0 +6.5
FETA Feichten 100.02 353⇑*i*PP PP 03 25 43.3 +2.0
comp=Z,14nm,1.1s
BURAR Bucovina Array 100.31 3⇑*i*P Pdif 03 21 48.7 +12
PSZ Piszkesteto 100.55 359 PFAKE 03 21 50.0 +12
PSZ LR LR
comp=Z,2µm,21.0s
CONA Conrad Observa 100.64 357⇓*i*PP PP 03 25 43.8 -2.1
comp=Z,11nm,1.3s
VYHS Vyhne 101.14 359 *e*P **Pdif 03 21 41.6 +1.6**
VYHS pmax pmax
comp=Z,5.0nm,1.5s
VYHS Vyhne 101.14 359 PDIF **Pdif 03 21 41.6 +1.6**
UZH Uzhgorod 101.27 1⇓*i*P **Pdif 03 21 38.0 -2.6**
UZH *e* 03 32 16.0
UZH *e*S **Sdif 03 33 12.0 -7.3**
UZH *i* 03 34 57.0
UZH *i* 03 35 50.0
UZH MLR MLR
comp=N,1µm,21.0s
UZH MLR MLR
comp=E,1µm,21.0s
UZH MLR MLR
comp=Z,800nm,21.0s
UZH MLR MLR
comp=N,900nm,20.0s
UZH MLR MLR
comp=E,1µm,20.0s
UZH MLR MLR
comp=Z,750nm,20.0s
RKT Rikitea 101.33 203 *e*PP PP 03 25 36.0 -14
comp=Z,331nm,30.2s
RKT *e*SP SP 03 34 52.6 +0.8
comp=Z,613nm,27.5s
RKT *e*SS **SS 03 40 19.7 -0.2**
comp=Z,1µm,28.8s
RKT *e*LR LR 03 54 44.8
comp=Z,8µm,35.8s
BFO Black Forest 101.51 352 PFAKE 03 21 50.0 +8.2
BFO LR LR
comp=Z,2µm,21.0s
GERES GERESS Array B 101.65 355 PP PP 03 25 51.4 -2.2
GERES GERESS Array B 101.65 355 PP PP 03 25 51.4 -2.2
comp=Z,3.5nm,1.1s,baz=196,slow=10,SNR=4.4
KHC Kasperske Hory 101.94 355 *e*P **Pdif 03 21 39.5 -4.2**
KHC *e* 03 26 01.5
KHC Kasperske Hory 101.94 355 *e*PDIFF **Pdif 03 21 39.5 -4.2**
KHC *e*PP **PP 03 25 54.5 -1.1**
KHC *e*PKP **PKiKP 03 26 01.5 -4.8**
PAYG Puerto Ayora 102.02 253 PFAKE 03 22 00.0 +15
PAYG LR LR
comp=Z,1µm,19.0s
KWP Kalwaria Pacla 102.27 1⇑P **Pdif 03 21 40.3 -4.8**
KWP Kalwaria Pacla 102.27 1 PFAKE 03 22 00.0 +15
KWP LR LR
comp=Z,3µm,20.0s
KWP Kalwaria Pacla 102.27 1⇑*i*P **Pdif 03 21 40.3 -4.8**
SJG San Juan 102.46 283 PFAKE 03 22 00.0 +13
SJG LR LR
comp=Z,1µm,20.0s
LSA Lhasa 102.46 57 PFAKE 03 22 00.0 +13
LSA LR LR
comp=Z,2µm,20.0s
GRF Grafenberg Arr 102.64 354 *e*PP PP 03 25 59.4 -1.5
GRF *e*L L 04 12 46.3
comp=Z,2µm,20.9s
PMG Port Moresby 102.95 125 PFAKE 03 22 00.0 +11
PMG LR LR
comp=Z,3µm,21.0s
WLF Walferdange 103.04 350 *e*P **Pdif 03 21 48.0 -0.5**
WLF MLR MLR
comp=Z,3µm,20.0s
WLF Walferdange 103.04 350 *e*Pdif **Pdif 03 21 48.0 -0.5**
WLF LR LR
comp=Z,3µm,20.0s
TBI Tubuai 103.50 189 *e*PP PP 03 25 54.6 -12
comp=Z,140nm,28.2s
TBI *e*SP SP 03 35 15.6 +0.9
comp=Z,813nm,26.8s
TBI *e*SS **SS 03 40 51.8 +2.0**
comp=Z,1µm,27.0s
TBI *e*LR LR 03 55 44.7
comp=Z,5µm,36.8s
KIEV Kiev 103.57 5 PFAKE 03 22 00.0 +9.3
KIEV LR LR
comp=Z,2µm,21.0s
BRG Berggiesshubel 103.67 356 *e*PDIF **Pdif 03 21 46.9 -4.3**
BRG PP PP 03 25 34.0 -34
BRG SDIF 03 35 23.0
BRG SS SS 03 40 36.0 -18
BRG Berggiesshubel 103.67 356 *e*P **Pdif 03 21 46.9 -4.3**
BRG S **SP 03 35 23.0 +6.5**
BCIP Isla Barro Col 103.67 267 PFAKE 03 22 00.0 +7.8
BCIP LR LR
comp=Z,1µm,22.0s
CLL Collm 104.15 355 *e*P **Pdif 03 21 47.0 -6.3**
CLL *e* **SKSac 03 32 35.0 +2.6**
CLL MLR MLR
comp=Z,2µm,20.5s
CLL Collm 104.15 355 *e*(Pdif) 03 21 51.0
CLL *e*PP **PKiKP 03 26 07.0 -3.1**
CLL *e*(sPP) 03 26 19.0
CLL *e*PPPP 03 30 12.0
CLL *e*SKSac **SKSac 03 32 35.0 +2.6**
CLL *e*PS **PS 03 35 26.0 +3.1**
CLL *e*PPS PPS 03 36 12.0
CLL *e* 03 37 18.0
CLL *e*SS **SS 03 41 00.0 -0.5**
CLL *e*SSS SSS 03 45 06.0
CLL Lm MLR 04 11 00.0
comp=N,2µm,19.6s
CLL Lm MLR 04 11 00.0
comp=E,1µm,21.0s
CLL Lm MLR 04 11 00.0
comp=Z,2µm,20.5s
QIZ Qiongzhong 104.39 78 Pdif **Pdif 03 21 54.4 -0.9**
QIZ S **Sdif 03 33 46.5 -0.3**
QIZ SS **SS 03 41 05.3 +0.8**
QIZ LR LR
comp=N,790nm,21.1s
QIZ LR LR
comp=E,410nm,19.6s
QIZ LR LR
comp=Z,1µm,25.8s
QIZ Qiongzhong 104.39 78 PFAKE 03 22 10.0 +15
QIZ LR LR
comp=Z,1µm,21.0s
DAV Davao City (W) 104.49 98 PFAKE 03 22 10.0 +14
DAV LR LR
comp=Z,2µm,19.0s
EKS2 Erkin-Say 105.63 38 *e*PKP **PKiKP 03 26 13.1 -0.3**
EKS2 LR LR
comp=Z,1µm,22.0s
AAK Ala-Arcba 105.87 38 *e*PKP **PKiKP 03 26 13.4 -0.4**
AAK LR LR
comp=Z,2µm,22.0s
AAK Ala-Arcba 105.87 38 PKiKP **PKiKP 03 26 13.2 -0.6**
comp=Z,1.8nm,0.7s,baz=153,slow=4.5,SNR=5.2
SDDR Presa de Saban 106.18 280 PFAKE 03 26 30.0
SDDR LR LR
comp=Z,1µm,22.0s
TKM2 Tokmak 2 106.53 39 *e*PKP **PKiKP 03 26 13.4 -1.7**
TKM2 LR LR
comp=Z,1µm,22.0s
MSVF Nonsavu 106.85 157 PFAKE 03 26 30.0
MSVF LR LR
comp=Z,3µm,20.0s
ABKAR Akbulak array 107.14 26 *e*PKP **PKiKP 03 26 14.8 -1.0**
JTS JuntasAbangare 107.64 264 PFAKE 03 26 30.0
JTS LR LR
comp=Z,784nm,19.0s
AKTO Aktyubinsk 107.74 24 PKiKP **PKiKP 03 26 17.8 +1.0**
AKTO PKKPab **PKKPab 03 37 39.8 -1.3**
AKTO Aktyubinsk 107.74 24 PKiKP **PKiKP 03 26 17.8 +1.0**
comp=Z,1.7nm,0.8s,baz=167,slow=5.2,SNR=4.5
AKTO PKKPab **PKKPab 03 37 39.8 -1.3**
comp=Z,0.8nm,0.7s,baz=39,slow=6.5,SNR=2.7
GRTK Grand Turk 108.03 282 PFAKE 03 26 30.0
GRTK LR LR
comp=Z,1µm,20.0s
GYA Guiyang 108.29 70 Pdif **Pdif 03 22 13.0 +0.4**
GYA PKP **PKiKP 03 26 17.9 -0.9**
GYA PP **PP 03 26 45.6 +2.5**
GYA SS SS 03 41 58.6 +0.7
GYA AMB AMB
comp=Z,210nm,7.6s
GYA LR LR
comp=N,470nm,20.4s
GYA LR LR
comp=E,350nm,21.2s
GYA LR LR
comp=Z,550nm,20.8s
OBN Obninsk 108.54 9 PFAKE 03 26 30.0
OBN LR LR
comp=Z,2µm,22.0s
HNR Honiara 108.74 137 PFAKE 03 26 30.0
HNR LR LR
comp=Z,4µm,22.0s
GTBY Guantanamo Bay 109.19 278 PFAKE 03 26 30.0
GTBY LR LR
comp=Z,928nm,19.0s
PPT2 Papeete2 109.21 190 *e*PP PP 03 26 32.7 -16
comp=Z,180nm,25.2s
PPT2 *e*SP SP 03 36 13.6 -0.5
comp=Z,2µm,26.0s
PPT2 *e*SS **SS 03 42 09.7 +1.9**
comp=Z,2µm,26.0s
PPT2 *e*LQ LQ 03 53 46.8
comp=Z,3µm,25.2s
PPT2 *e*LR LR 03 58 24.6
comp=Z,3µm,23.5s
MTDJ Mount Denham 109.33 275 PFAKE 03 26 30.0
MTDJ LR LR
comp=Z,1µm,19.0s
ESK Eskdalemuir 109.77 346 PFAKE 03 26 30.0
ESK LR LR
comp=Z,3µm,20.0s
CD2 Chengdu 110.09 65 PKP **PKiKP 03 26 21.9 0.0**
CD2 PP **PP 03 27 00.8 +4.8**
CD2 PKS **PKSdf 03 29 57.4 -1.2**
CD2 SKS **SKSdf 03 33 31.9 -1.8**
CD2 SS **SS 03 42 23.9 +2.1**

CD2 AMB AMB
comp=Z,260nm,7.6s
WMQ Urumqi 112.21 46 *e*PKP **PKiKP 03 26 25.9 +0.3**
WMQ PP **PP 03 27 15.0 +3.9**
WMQ PKS **PKSdf 03 30 00.0 -2.1**
WMQ SKS **SKSdf 03 33 37.0 -0.2**
WMQ SKKS **SKKSac 03 34 08.0 -4.4**
WMQ SS **SS 03 42 49.0 -0.9**
WMQ AMB AMB
comp=Z,250nm,5.9s
WMQ LR LR
comp=N,1μm,23.0s
WMQ LR LR
comp=E,740nm,21.5s
WMQ LR LR
comp=Z,1μm,26.0s
MK31 Makanchi Array 112.37 41 *e*PKIKP **PKiKP 03 26 24.6 -1.1**
MK31 Makanchi Array 112.37 41 *e*PKP **PKiKP 03 26 24.6 -1.1**
MKAR Makanchi Array 112.37 41 P **Pdif 03 22 32.0 +1.9**
MKAR *i* 03 26 25.2
MKAR pmax pmax
comp=Z,2.0nm,1.0s
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 112.37 41 Pdif **Pdif 03 22 32.0 +1.9**
MKAR PKiKP **PKiKP 03 26 25.2 -0.5**
MKAR PKKPab **PKKPab 03 37 23.0 +1.7**
MKAR Makanchi Array 112.37 41 Pdiff **Pdif 03 22 32.0 +1.9**
comp=Z,0.3nm,0.9s,baz=251,slow=4.4,SNR=3.7
MKAR PKiKP **PKiKP 03 26 25.2 -0.5**
comp=Z,2.3nm,0.9s,baz=286,slow=2.1,SNR=4.7
MKAR PKKPab **PKKPab 03 37 23.0 +1.7**
comp=Z,0.7nm,0.9s,baz=39,slow=6.2,SNR=4.6
AFI Afiamalu 112.48 167 PFAKE 03 26 40.0
AFI LR LR
comp=Z,3μm,20.0s
KONO Kongsberg 112.66 354 PFAKE 03 26 40.0
KONO LR LR
comp=Z,2μm,20.0s
ENH Enshi 112.80 70 PFAKE 03 26 40.0
ENH LR LR
comp=Z,2μm,20.0s
ARU Arti 113.39 22 *i* PKIKP **PKiKP 03 26 27.1 -0.2**
ARU 03 27 16.2
ARU SP SP 03 36 46.6 -6.1
ARU PS **PS 03 36 54.1 -0.1**
ARU Arti 113.39 22 *e*PKP **PKiKP 03 26 26.9 -0.4**
ARU LR LR
comp=Z,1μm,19.0s
BRVK Borovoye 113.46 30⇑ *i*PKIKP **PKiKP 03 26 27.1 -0.4**
BRVK Borovoye 113.46 30 *e*PKP **PKiKP 03 26 26.4 -1.2**
BRVK LR LR
comp=Z,2μm,21.0s
BVAR Borovoye Array 113.47 30 *i* PKIKP **PKiKP 03 26 27.0 -0.6**
BVAR pmax pmax
comp=Z,7.0nm,0.6s
BVAR pmax pmax
comp=Z,5.0nm,0.9s
BVAR Borovoye Array 113.47 30 PKiKP **PKiKP 03 26 27.0 -0.6**
BVAR PKKPab **PKKPab 03 37 18.0 +2.0**
BVAR Borovoye Array 113.47 30 PKiKP **PKiKP 03 26 27.0 -0.6**
comp=Z,6.9nm,0.6s,baz=234,slow=1.6,SNR=23
BVAR PKKPab **PKKPab 03 37 18.0 +2.0**
comp=Z,4.6nm,0.9s,baz=51,slow=2.8,SNR=12
NAO01 NORSAR Array S 113.78 355 *e*Pdif **Pdif 03 22 36.9 +1.0**
LZH Lanzhou 114.07 62 *e*PKP **PKiKP 03 26 30.0 +0.5**
LZH sPKP 03 26 34.5
LZH *e*PP PP 03 27 30.3 +5.7
LZH SKKS 03 34 20.3
LZH SS **SS 03 43 14.3 -0.7**
LZH AMB AMB
comp=Z,160nm,7.8s
LZH LR LR
comp=N,900nm,18.2s
LZH LR LR
comp=E,1μm,18.5s
LZH LR LR
comp=Z,1μm,20.1s
KURBB Kurchatov Arra 114.11 36 PKiKP PKPdf 03 26 28.1 -0.7
comp=Z,2.3nm,0.9s,baz=225,slow=2.3,SNR=8.2
KURBB PKKPab **PKKPab 03 37 16.3 +3.0**
comp=Z,1.1nm,1.0s,baz=27,slow=4.1,SNR=4.3
FINES FINESS Array B 114.18 3 PKP PKPdf 03 26 27.9 -0.6
FINES PKKPab **PKKPab 03 37 11.5 -0.8**
FINES FINESS Array B 114.18 3 PKP PKPdf 03 26 27.9 -0.6
comp=Z,1.5nm,0.6s,baz=329,slow=2.2,SNR=6.0
FINES PKKPab **PKKPab 03 37 11.5 -0.8**
comp=Z,1.1nm,0.7s,baz=15,slow=8.1,SNR=4.0
KURK Kurchatov 114.22 36 *i* PKIKP PKPdf 03 26 28.1 -0.9
KURK pmax pmax
comp=Z,2.0nm,0.9s
KURK pmax pmax
comp=Z,1.0nm,1.0s
KURK Kurchatov 114.22 36 *e*PKP PKPdf 03 26 28.5 -0.6
KURK PKKPab **PKKPab 03 37 16.3 +3.4**
KURK LR LR
comp=Z,2μm,19.0s
GTA Gaotai 114.48 57 *e*PKP PKPdf 03 26 31.6 +1.5
GTA SKS **SKSdf 03 33 43.3 +1.4**
GTA AMB AMB
comp=Z,270nm,7.6s
GTA LR LR
comp=N,2μm,25.4s
GTA LR LR
comp=E,1μm,25.7s
GTA LR LR
comp=Z,3μm,25.2s
XAN Xi'an 115.30 67 PKP **PKPdf 03 26 32.6 +0.8**
XAN LR LR
comp=N,590nm,22.5s
XAN LR LR
comp=E,180nm,19.8s
XAN LR LR
comp=Z,340nm,21.2s
YHNB Yeheng 115.56 82 PFAKE 03 26 40.0 +7.4
YHNB LR LR
comp=Z,1μm,21.0s
TATO Taipei 115.86 82 PFAKE 03 26 40.0 +7.0
TATO LR LR
comp=Z,1μm,19.0s
TEIG Tepich 117.35 268 *e*PKPdf **PKPdf 03 26 34.4 -1.6**
TEIG LR LR
comp=Z,1μm,21.0s
ZAA0 Zalesovo Array 119.08 37 *e*PKPdf **PKPdf 03 26 36.2 -2.1**
ZALV Zalesovo Beam 119.08 37 PKIKP **PKPdf 03 26 36.4 -1.9**
ZALV pmax pmax
comp=Z,5.0nm,0.7s
ZALV Zalesovo Beam 119.08 37 PKP **PKPdf 03 26 36.4 -1.9**
ZALV Zalesovo Beam 119.08 37 PKP **PKPdf 03 26 36.4 -1.9**
comp=Z,5.4nm,0.7s,baz=234,slow=1.8,SNR=13
NVS Novosibirsk 119.21 36 *e*PKIKP **PKPdf 03 26 35.0 -3.5**
SSE Sheshan 120.18 77 PKP **PKPdf 03 26 43.1 +1.9**
SSE PP **PP 03 28 12.0 +4.9**
SSE AMB AMB
comp=Z,120nm,7.8s
SSE LR LR
comp=N,740nm,23.5s
SSE LR LR
comp=E,290nm,23.5s
SSE LR LR
comp=Z,850nm,22.7s
APA Apatity 120.62 6⇓ *i*PKIKP **PKPdf 03 26 40.0 -0.8**
APA *i* 03 33 50.0
APA *i* PS PS 03 39 32.0 +92
APA MLR MLR
comp=Z,3μm,22.0s
GUMO Guam 121.00 110 PFAKE 03 26 50.0 +6.8
GUMO LR LR
comp=Z,1μm,20.0s
LVZ Lovozero 121.02 6 PFAKE 03 26 50.0 +8.3
LVZ LR LR
comp=Z,1μm,20.0s
HHC Hu-ho-hao-te 121.67 63 *e*PKP **PKPdf 03 26 46.0 +2.1**
HHC PP PP 03 28 23.5 +6.2
HHC PKS **PKSdf 03 30 21.9 +1.3**
HHC SKS **SKSdf 03 33 56.1 +0.6**
HHC AMB AMB
comp=Z,210nm,9.6s
HHC LR LR
comp=N,780nm,20.4s
HHC LR LR
comp=E,680nm,20.9s
HHC LR LR
comp=Z,930nm,21.0s
NHSC New Hope 122.00 284 PFAKE 03 27 00.0 +15
NHSC LR LR
comp=Z,1μm,21.0s
CNNC Cliffs of the 122.18 287 PFAKE 03 27 00.0 +15
CNNC LR LR
comp=Z,904nm,19.0s
ARCES ARCESS Array B 122.28 2 PKP **PKPdf 03 26 42.8 -1.2**
ARCES ARCESS Array B 122.28 2 PKP **PKPdf 03 26 42.8 -1.2**
comp=Z,15nm,0.9s,baz=270,slow=1.1,SNR=14
KEV Kevo 122.53 3 PFAKE 03 27 00.0 +16
KEV LR LR
comp=Z,2μm,20.0s
TARA Tarawa 123.55 146 PFAKE 03 27 00.0 +12
TARA LR LR
comp=Z,4μm,20.0s
BJT Baijiatuan 123.61 67 *e*PKPdf **PKPdf 03 26 46.3 -1.2**
BJT LR LR
comp=Z,1μm,21.0s
BJI Beijing 123.63 67 PKP **PKPdf 03 26 46.8 -0.7**
BJI PP **PP 03 28 31.5 +1.1**
BJI SS SS 03 45 20.3 +2.1
BJI LR LR
comp=N,1μm,16.4s
BJI LR LR
comp=E,920nm,20.2s
BJI LR LR
comp=Z,970nm,24.0s
SONM Songino Array 123.87 54 PKP **PKPdf 03 26 46.9 -1.0**
SONM Songino Array 123.87 54 PKP **PKPdf 03 26 46.9 -1.0**
comp=Z,4.4nm,0.6s,baz=221,slow=2.4,SNR=11
CBN Corbin 123.95 290 PFAKE 03 27 00.0 +12
CBN LR LR
comp=Z,1μm,22.0s
MOY Mondy 124.00 48 *e*PKIKP **PKPdf 03 26 48.9 +0.9**
MOY pmax pmax
comp=Z,32nm,2.5s
KMSC Kings Mountain 124.11 285⇓PKiKP **PKPdf 03 26 48.4 -0.2**
baz=124
ZAK Zakamensk 124.15 50 *e*PKIKP **PKPdf 03 26 46.4 -1.9**
ZAK pmax pmax
comp=Z,11nm,1.2s
GOGA Godfrey 124.15 282 *e*PKIKP **PKPdf 03 26 47.3 -1.4**
GOGA MLR MLR
comp=Z,1μm,19.0s
GOGA Godfrey 124.15 282 *e*PKPdf **PKPdf 03 26 47.3 -1.4**
GOGA LR LR
comp=Z,1μm,19.0s
ULN Ulaanbaatar 124.22 54 *e*PKPdf **PKPdf 03 26 47.5 -1.1**
ULN LR LR
comp=Z,1μm,19.0s
BRAL Brewton 124.59 277 PFAKE 03 27 00.0 +10
BRAL LR LR
comp=Z,956nm,21.0s
BLA Blacksburg 125.02 287 *e*PKIKP **PKPdf 03 26 50.0 -0.4**
BLA MLR MLR
comp=Z,887nm,21.0s
BLA Blacksburg 125.02 287 *e*PKPdf **PKPdf 03 26 50.0 -0.4**
BLA LR LR
comp=Z,887nm,21.0s
LBNH Lisbon 125.08 299 PFAKE 03 27 00.0 +10
LBNH LR LR
comp=Z,1μm,20.0s
TLY Talaya 125.20 49 *i* PKIKP **PKPdf 03 26 49.5 -0.7**
TLY *e*PS **PS 03 38 39.8 -0.9**
TLY *e*PPS PPS 03 40 04.7
TLY *e*SS SS 03 45 35.1 -2.7
TLY pmax pmax
comp=Z,21nm,1.5s
TLY Talaya 125.20 49 *e*PKPdf **PKPdf 03 26 49.4 -0.7**
TLY LR LR
comp=Z,1μm,22.0s
ELN Prospectdale 125.22 287 *e*PKPdf **PKPdf 03 26 50.4 -0.4**
TKL Tuckaleechee C 125.90 283 PKP **PKPdf 03 26 51.0 -1.1**
TKL Tuckaleechee C 125.90 283 PKP **PKPdf 03 26 51.0 -1.1**
comp=Z,3.6nm,0.7s,baz=158,slow=9.0,SNR=3.7
BINY Binghamton 125.90 294 PFAKE 03 27 00.0 +8.2
BINY LR LR
comp=Z,1μm,20.0s
SSPA Standing Stone 125.91 292 *e*PKPdf **PKPdf 03 26 50.8 -1.0**
LRAL Lakeview Retre 125.99 279 *e*PKPdf **PKPdf 03 26 51.2 -1.1**
LRAL LR LR
comp=Z,1μm,21.0s
NCB Newcomb 126.13 297 PFAKE 03 27 00.0 +7.8
NCB LR LR
comp=Z,1μm,20.0s
CPCT Cooper Cave 126.20 283 *e*PKPdf **PKPdf 03 26 51.9 -0.7**
LONY Lake Ozonia 126.75 297 PFAKE 03 27 00.0 +6.6
LONY LR LR
comp=Z,1μm,20.0s
SWET Sewanee 126.87 281 *e*PKPdf **PKPdf 03 26 53.4 -0.5**
JNU Nakatsue 127.39 83 PKP **PKPdf 03 26 53.9 -1.1**
JNU Nakatsue 127.39 83 PKP **PKPdf 03 26 53.9 -1.1**
comp=Z,8.4nm,0.9s,baz=307,slow=5.1,SNR=3.3
VBMS Vicksburg 127.52 275 PFAKE 03 27 10.0 +15
VBMS LR LR
comp=Z,926nm,20.0s
INCN Inchon 127.87 76 PFAKE 03 27 10.0 +14
INCN LR LR
comp=Z,1μm,20.0s
PLAL Pickwick Lake 127.98 280 PFAKE 03 27 10.0 +14
PLAL LR LR
comp=Z,790nm,20.0s
ERPA Erie 128.07 292 PFAKE 03 27 10.0 +14
ERPA LR LR
comp=Z,951nm,21.0s
OXF Oxford 128.45 278 *e*PKIKP **PKPdf 03 26 56.2 -0.7**
OXF MLR MLR
comp=Z,2μm,21.0s
OXF Oxford 128.45 278 *e*PKPdf **PKPdf 03 26 56.2 -0.7**
OXF LR LR
comp=Z,2μm,21.0s
ACSO Alum Creek Sta 128.53 288 *e*PKPdf **PKPdf 03 26 56.8 -0.1**
ACSO LR LR
comp=Z,999nm,21.0s
KSAR Wonju Array Be 128.57 77 PKP **PKPdf 03 26 56.8 -0.2**
KSRS Korea Array 128.60 77 PKP **PKPdf 03 26 56.8 -0.3**
comp=Z,2.2nm,0.7s,baz=224,slow=3.2,SNR=9.5
WVT Waverly 128.62 281 *e*PKIKP **PKPdf 03 26 55.9 -1.3**
WVT Waverly 128.62 281 *e*PKPdf **PKPdf 03 26 55.9 -1.3**
KVTX Kingsville 128.63 265 PFAKE 03 27 10.0 +13
KVTX LR LR
comp=Z,911nm,20.0s
WCI Wyandotte Cave 129.12 284 *e*PKIKP **PKPdf 03 26 57.2 -0.9**
WCI Wyandotte Cave 129.12 284 *e*PKPdf **PKPdf 03 26 57.2 -0.9**
XMAS Kiritimati 129.19 182 PFAKE 03 27 10.0 +11
XMAS LR LR
comp=Z,3μm,19.0s
SCHQ Schefferville 129.46 312 *e*PKPdf **PKPdf 03 26 57.7 -0.5**
SCHQ PKP **PKPdf 03 26 58.0 -0.1**
SCHQ LR LR
comp=Z,1μm,21.0s
SCHQ Schefferville 129.46 312 PKP **PKPdf 03 26 58.0 -0.1**
comp=Z,17nm,0.9s,baz=110,slow=2.1,SNR=16
NATX Nacogdoches 129.70 272 PFAKE 03 27 10.0 +11
NATX LR LR
comp=Z,681nm,19.0s
AAM Ann Arbor 130.26 290 *e*PKIKP **PKPdf 03 26 59.9 -0.2**
AAM MLR MLR
comp=Z,1μm,19.0s
AAM Ann Arbor 130.26 290 *e*PKPdf **PKPdf 03 26 59.9 -0.2**
AAM LR LR
comp=Z,1μm,19.0s
UALR University of 130.39 276 *e*PKPdf **PKPdf 03 27 01.7 +1.1**
SIUC Southern Illin 130.50 282 *e*PKPdf **PKPdf 03 27 00.8 +0.1**
OLIL Olney 130.52 283 *e*PKPdf **PKPdf 03 27 00.3 -0.4**
MIAR Mount Ida 130.97 275 *e*PKIKP **PKPdf 03 27 01.7 0.0**
MIAR MLR MLR
comp=Z,851nm,19.0s
MIAR Mount Ida 130.97 275 *e*PKPdf **PKPdf 03 27 01.7 0.0**
MIAR LR LR
comp=Z,851nm,19.0s
SFIN Scholer Farm 131.00 286⇓PKiKP **PKPdf 03 27 02.0 +0.4**
baz=131
SFJD Kangerlussuaq 131.07 330 PKP **PKPdf 03 27 01.0 +0.1**
SFJD LR LR
comp=Z,3μm,22.0s
SFJD Kangerlussuaq 131.07 330 PKP **PKPdf 03 27 01.0 +0.1**
comp=Z,8.2nm,0.7s,baz=83,slow=8.1,SNR=3.8
CN2 Changchun 131.31 69 *e*PKP **PKPdf 03 27 00.5 -1.5**
CN2 *e*PP **PP 03 29 23.5 +2.5**
CN2 AMB AMB
comp=Z,200nm,10.0s
CN2 LR LR
comp=N,800nm,19.0s
CN2 LR LR
comp=E,700nm,19.0s
CN2 LR LR
comp=Z,1μm,19.0s
HIA Hailar 131.56 60 *e*PKPdf **PKPdf 03 27 02.2 -0.2**
HIA LR LR
comp=Z,1μm,20.0s
KBS Kingsbay 131.78 358 PFAKE 03 27 10.0 +8.1
KBS LR LR
comp=Z,1μm,19.0s
SUMG Summit 131.81 340 *e*PKIKP **PKPdf 03 27 02.7 +0.1**
SUMG Summit 131.81 340 *e*PKPdf **PKPdf 03 27 02.7 +0.1**
JCT Junction City 131.90 267 *e*PKIKP **PKPdf 03 27 03.4 -0.3**
JCT MLR MLR
comp=Z,542nm,21.0s
JCT Junction City 131.90 267 *e*PKPdf **PKPdf 03 27 03.4 -0.3**
JCT LR LR
comp=Z,542nm,21.0s
JCT Junction City 131.90 267⇓PKiKP **PKPdf 03 27 03.6 -0.1**
baz=132
GLMI Grayling 132.39 292 PFAKE 03 27 20.0 +16
GLMI LR LR
comp=Z,1μm,20.0s
HDIL Hopedale 132.40 284 PFAKE 03 27 20.0 +16
HDIL LR LR
comp=Z,868nm,20.0s
430A Baggett Ranch, 132.98 266⇓PKiKP **PKPdf 03 27 05.7 0.0**
baz=133
628A Black Gap, Mar 133.04 263⇑PKiKP **PKPdf 03 27 06.2 +0.3**
baz=133
529A Stev Forest Ra 133.10 264⇑PKiKP **PKPdf 03 27 06.1 +0.1**
baz=133
TUL1 Tulsa 133.23 275⇑PKiKP **PKPdf 03 27 06.3 +0.4**
baz=133
429A Davenport Ranc 133.26 265⇓PKiKP **PKPdf 03 27 06.4 +0.1**
baz=133
627A Terlingua Ranc 133.32 262⇑PKiKP **PKPdf 03 27 06.7 +0.2**
baz=134
TXAR Lajitas Array 133.40 262 PKPpre PKPpre 03 26 49.6
TXAR PKP **PKPdf 03 27 06.6 0.0**
TXAR Lajitas Array 133.40 262 PKhKP PKPpre 03 26 49.6
comp=Z,0.4nm,0.8s,baz=106,slow=4.4,SNR=3.5
TXAR PKP **PKPdf 03 27 06.6 0.0**
comp=Z,3.8nm,0.7s,baz=160,slow=3.8,SNR=26
528A Cox Ranch, San 133.47 264⇑PKiKP **PKPdf 03 27 07.1 +0.3**
baz=134
BOD Bodaibo 133.71 48 *e*PKIKP **PKPdf 03 27 04.8 -1.3**
BOD pmax pmax
comp=Z,10.0nm,1.2s
428A Kincaid Ranch, 133.81 264⇑PKiKP **PKPdf 03 27 07.7 +0.4**
baz=134
626A Big Bend Ranch 133.84 262⇑PKiKP **PKPdf 03 27 07.8 +0.3**
baz=134
329A Wagon Wheel Ra 133.93 266⇓PKiKP **PKPdf 03 27 07.5 -0.1**
baz=134
527A Woodward Ranch 133.95 263⇑PKiKP **PKPdf 03 27 08.0 +0.3**
baz=134
MAJO Matsushiro 134.13 85 *e*PKIKP **PKPdf 03 27 08.1 +0.5**
MAJO MLR MLR
comp=Z,1μm,21.0s
MAJO Matsushiro 134.13 85 *e*PKPdf **PKPdf 03 27 08.1 +0.5**
MAJO LR LR
comp=Z,1μm,21.0s
MDJ Mudanjiang 134.16 70 PKP **PKPdf 03 27 08.9 +1.5**
MDJ PP **PP 03 29 43.5 +4.2**
MDJ AMB AMB
comp=Z,220nm,8.4s
MDJ LR LR
comp=N,280nm,29.0s
MDJ LR LR
comp=E,710nm,31.2s
MDJ LR LR
comp=Z,750nm,32.2s
MDJ Mudanjiang 134.16 70 PFAKE 03 27 20.0 +13
MDJ LR LR
comp=Z,680nm,21.0s
229A Bryant Ranch, 134.16 266⇑PKiKP **PKPdf 03 27 07.9 0.0**
baz=134
526A Mary Lane Ranc 134.18 262⇑PKiKP **PKPdf 03 27 07.8 -0.3**
baz=134
WMOK Wichita Mounta 134.25 272 *e*PKIKP **PKPdf 03 27 07.3 -0.7**
WMOK MLR MLR
comp=Z,971nm,19.0s
WMOK Wichita Mounta 134.25 272 *e*PKPdf **PKPdf 03 27 07.3 -0.7**
WMOK LR LR
comp=Z,971nm,19.0s
427A Hayter Ranch, 134.33 264⇓PKiKP **PKPdf 03 27 08.2 -0.1**
baz=134
328A Wristen Ranch, 134.35 265⇑PKiKP **PKPdf 03 27 08.2 -0.1**
baz=134
426A McDonald Obser 134.58 263⇑PKiKP **PKPdf 03 27 08.9 -0.1**
baz=135
Z29A Hungry Hill Ra 135.00 268⇑PKiKP **PKPdf 03 27 09.5 0.0**
baz=135
326A Caldwell Ranch 135.01 264⇑PKiKP **PKPdf 03 27 09.6 0.0**
baz=135
128A Castleberry Fa 135.03 266⇑PKiKP **PKPdf 03 27 09.6 0.0**
baz=135
425A Indio Mountain 135.24 262⇑PKiKP **PKPdf 03 27 09.8 -0.3**
baz=135
USRK Usuriysk Arra 135.28 72 PKP **PKPdf 03 27 09.8 +0.3**
comp=Z,2.5nm,0.7s,baz=235,slow=6.7,SNR=6.1
Y29A Porterfield Fa 135.40 268⇓PKiKP **PKPdf 03 27 09.7 -0.5**
baz=136
Z28A Tucker Farm, M 135.43 267⇑PKiKP **PKPdf 03 27 09.7 -0.6**
baz=136
SCIA State Center 135.55 283 PFAKE 03 27 20.0 +10
SCIA LR LR
comp=Z,1μm,20.0s
127A Arkansas Junct 135.59 266⇓PKiKP **PKPdf 03 27 10.6 0.0**
baz=136
226A Malaga, Loving 135.61 264⇑PKiKP **PKPdf 03 27 10.8 +0.1**
baz=136
325A Bean Ranch, Si 135.65 263⇑PKiKP **PKPdf 03 27 10.6 -0.2**
baz=136
Y28A McKinney Farm, 135.78 268⇓PKiKP **PKPdf 03 27 11.1 +0.2**
baz=136
KSU1 Kansas State U 135.81 278 *e*PKPdf **PKPdf 03 27 09.9 -0.8**
KSU1 LR LR
comp=Z,902nm,19.0s
GDL2 Guadalupe Moun 135.87 264 *e*PKPdf **PKPdf 03 27 11.7 +0.6**
Z27A Tatum 135.95 266⇓PKiKP **PKPdf 03 27 11.4 +0.1**
baz=136
126A Clayton Basin, 135.97 265⇑PKiKP **PKPdf 03 27 11.3 0.0**
baz=136
324A Moseley Ranch, 136.00 263⇑PKiKP **PKPdf 03 27 11.5 0.0**
baz=136
225A Deer Hill, Car 136.08 264⇓PKiKP **PKPdf 03 27 11.7 +0.1**
baz=136
AMTX Amarillo 136.10 269 *e*PKPdf **PKPdf 03 27 11.0 -0.4**
AMTX LR LR
comp=Z,1μm,19.0s
AMTX Amarillo 136.10 269⇓PKiKP **PKPdf 03 27 11.9 +0.4**
baz=136
MNTX Cornudas Mount 136.12 263 *e*PKPdf **PKPdf 03 27 10.8 -0.7**
MNTX LR LR
comp=Z,783nm,20.0s
MNTX Cornudas Mount 136.12 263⇑PKiKP **PKPdf 03 27 11.7 +0.2**
baz=136
MSTX Muleshoe 136.13 268⇑PKiKP **PKPdf 03 27 11.8 +0.1**
baz=136
X28A Dimmitt 136.16 269⇑PKiKP **PKPdf 03 27 11.9 +0.3**
baz=136
W29A Amraillo 136.24 270⇑PKiKP **PKPdf 03 27 12.2 +0.4**
baz=136
Y27A Causey 136.31 267⇓PKiKP **PKPdf 03 27 12.2 +0.2**
baz=136
125A Gardner Draw, 136.36 265⇑PKiKP **PKPdf 03 27 12.5 +0.4**
baz=136
Z26A Caprock 136.38 266⇓PKiKP **PKPdf 03 27 12.8 +0.7**
baz=137
224A Cornudas Mount 136.47 263⇑PKiKP **PKPdf 03 27 12.6 +0.2**
baz=137
Y26A Elida 136.74 267⇓PKiKP **PKPdf 03 27 13.1 +0.3**
baz=137
X27A F and S Farms, 136.79 268⇓PKiKP **PKPdf 03 27 13.5 +0.6**
baz=137
Z25A Roswell 136.83 265⇓PKiKP **PKPdf 03 27 13.5 +0.6**
baz=137
W27A Bowe Ranch, En 137.05 268⇓PKiKP **PKPdf 03 27 14.1 +0.8**
baz=137
X26A CR and CF Fran 137.16 267⇑PKiKP **PKPdf 03 27 14.4 +0.9**
baz=137
Z24A Sheeppen Canyo 137.26 265⇓PKiKP **PKPdf 03 27 14.6 +0.8**
baz=137
Y25A Mesa, Roswell 137.26 266⇓PKiKP **PKPdf 03 27 14.5 +0.8**
baz=137
SPMN St. Paul 137.29 287⇓PKiKP **PKiKP 03 27 14.7 -0.4**
baz=138

123A	Bell Site, Whi	137.31	263	⇓PKiKP	PKPdf	03 27 14.6	+0.7	
	baz=138							
222A	Williams Famil	137.44	262	⇓PKiKP	PKPdf	03 27 14.9	+0.8	
	baz=138							
W26A	Owens Ranch, T	137.50	268	⇑PKiKP	PKPdf	03 27 14.7	+0.6	
	baz=138							
CBKS	Cedar Bluff	137.51	275	PFAKE		03 27 30.0	+16	
CBKS				LR	LR			
	comp=Z,1μm,21.0s							
CBKS	Cedar Bluff	137.51	275	⇓PKiKP	PKiKP	03 27 15.0	-0.8	
	baz=138							
X25A	Clemmons Ranch	137.66	267	⇓PKiKP	PKPdf	03 27 15.3	+0.9	
	baz=138							
Y24A	Capitan	137.71	265	⇑PKiKP	PKPdf	03 27 15.4	+0.8	
	baz=138							
Z23A	Rita Site, Whi	137.73	264	⇑PKiKP	PKiKP	03 27 15.6	-0.9	
	baz=138							
320A	Kipp Ranch, An	137.75	260	⇓PKiKP	PKPdf	03 27 15.6	+0.9	
	baz=138							
221A	Mesquite Ranch	137.78	261	⇑PKiKP	PKPdf	03 27 15.4	+0.7	
	baz=138							
122A	Conniff Cattle	137.80	263	⇑PKiKP	PKiKP	03 27 15.8	-1.0	
	baz=138							
V26A	Tequesquite Ra	137.98	269	⇑PKiKP	PKiKP	03 27 16.2	-0.8	
	baz=138							
W25A	X Bar L Ranch,	138.00	267	⇓PKiKP	PKiKP	03 27 16.3	-0.8	
	baz=138							
KLR	Kul'dur	138.00	66	ePKIKP	PKPdf	03 27 12.8	-1.6	
KLR				e		03 30 10.2		
EYMN	Ely	138.08	291	PFAKE		03 27 30.0	+15	
EYMN				LR	LR			
	comp=Z,1μm,20.0s							
Y23A	Lovelace Mesa,	138.09	265	⇑PKiKP	PKPdf	03 27 16.3	+1.0	
	baz=138							
X24A	Lazy VL Ranch,	138.15	266	⇓PKiKP	PKPdf	03 27 16.4	+1.0	
	baz=138							
220A	Playas Peak, P	138.15	260	⇑PKiKP	PKiKP	03 27 16.5	-1.0	
	baz=138							
121A	Cookes Peak, D	138.15	262	⇓PKiKP	PKiKP	03 27 16.6	-0.9	
	baz=138							
Z22A	Elephant Butte	138.17	263	⇑PKiKP	PKPdf	03 27 16.3	+0.9	
	baz=138							
T27A	Campo	138.18	271	⇑PKiKP	PKPdf	03 27 16.0	+0.7	
	baz=138							
319A	Douglas	138.22	259	⇑PKiKP	PKPdf	03 27 16.5	+0.9	
	baz=138							
CLNS	Chul'man	138.28	53	ePKIKP	PKPdf	03 27 20.4	+5.7	
CLNS				pmax	pmax			
	comp=E,8.0nm,1.3s							
CLNS				pmax	pmax			
	comp=Z,21nm,1.2s							
CLNS				pmax	pmax			
	comp=N,9.0nm,1.2s							
U26A	Atchley Ranch,	138.35	269	⇓PKiKP	PKPdf	03 27 16.4	+0.7	
	baz=138							
V25A	Rancho No Teng	138.51	268	⇓PKiKP	PKiKP	03 27 17.9	-0.3	
	baz=139							
W24A	Lazy 6 Ranch,	138.57	267	⇓PKiKP	PKPdf	03 27 16.9	+0.7	
	baz=139							
BNM	Barren Site	138.58	264	ePKPpre	PKPpre	03 27 08.5		
BNM				ePKPdf	PKPdf	03 27 16.7	+0.4	
Z21A	St. Cloud Mine	138.63	263	⇑PKiKP	PKPdf	03 27 17.3	+0.9	
	baz=139							
Y22A	Socorro	138.64	264	⇓PKiKP	PKPdf	03 27 17.1	+0.8	
	baz=139							
ECSD	EROS Data Cent	138.65	283	ePKPpre	PKPpre	03 27 05.3		
ECSD				ePKPdf	PKPdf	03 27 15.8	0.0	
ECSD				LR	LR			
	comp=Z,1μm,21.0s							
120A	U Bar Ranch, L	138.67	261	⇑PKiKP	PKPdf	03 27 17.1	+0.7	
	baz=139							
LPM	Los Pinos Moun	138.70	265	ePKPdf	PKPdf	03 27 16.8	+0.3	
U25A	Circle Dot Ran	138.76	269	⇓PKiKP	PKPdf	03 27 17.1	+0.6	
	baz=139							
T26A	Comanche Natio	138.78	270	⇑PKiKP	PKiKP	03 27 17.7	-1.0	
	baz=139							
V24A	Rampart Ranch,	138.83	267	⇑PKiKP	PKPdf	03 27 17.8	+1.1	
	baz=139							
W23A	Werner Place,	138.98	266	⇑PKiKP	PKiKP	03 27 18.3	-0.9	
	baz=139							
S26A	Kim	138.99	271	⇑PKiKP	PKPdf	03 27 17.8	+1.0	
	baz=139							
R27A	Eads	139.01	272	⇑PKiKP	PKPdf	03 27 17.7	+0.9	
	baz=139							
ANMO	Albuquerque	139.02	265	ePKPpre	PKPpre	03 27 08.5		
ANMO				ePKPdf	PKPdf	03 27 16.9	-0.1	
ANMO				LR	LR			
	comp=Z,962nm,21.0s							
Z20A	Nine Sixteen R	139.04	262	⇑PKiKP	PKiKP	03 27 18.4	-0.9	
	baz=139							
X22A	Bernardo	139.06	265	⇑PKiKP	PKPdf	03 27 18.2	+1.1	
	baz=139							
LAZ	Ladron	139.06	264	ePKPpre	PKPpre	03 27 09.8		
LAZ				ePKPdf	PKPdf	03 27 17.4	+0.3	
Y21A	Point of Rocks	139.11	263	⇑PKiKP	PKiKP	03 27 18.5	-1.0	
	baz=139							
T25A	Trinidad	139.25	270	⇓PKiKP	PKiKP	03 27 18.6	-1.0	
	baz=139							
U24A	Moreno Valley	139.29	268	⇓PKiKP	PKPdf	03 27 18.6	+1.0	
	baz=140							
W22A	Albuquerque	139.35	265	⇑PKiKP	PKiKP	03 27 18.9	-1.0	
	baz=140							
KSCO	Kaye Shedlock'	139.37	273	⇑PKiKP	PKiKP	03 27 18.7	-1.1	
	baz=140							
V23A	Ortiz Mt. (NFS	139.40	267	⇓PKiKP	PKiKP	03 27 18.9	-1.1	
	baz=140							
R26A	Arlington	139.42	272	⇓PKiKP	PKPdf	03 27 18.5	+1.0	
	baz=140							
HABR	Khabarovsk	139.44	69	i PKIKP	PKPdf	03 27 19.6	+2.6	
HABR				e		03 27 23.1		
HABR				e		03 30 11.4		
HABR				ePPP	PPP	03 33 14.2		
HABR				e		03 34 27.3		
HABR				eSS	SS	03 48 31.4	+0.3	
HABR				pmax	pmax			
	comp=N,4.0nm,0.9s							
HABR				pmax	pmax			
	comp=Z,8.0nm,1.1s							
HABR				pmax	pmax			
	comp=E,13nm,1.1s							
Y20A	Horse Springs,	139.47	263	⇑PKiKP	PKPdf	03 27 19.0	+1.1	
	baz=140							
X21A	Alamocita Cree	139.48	264	⇑PKiKP	PKPdf	03 27 18.9	+1.0	
	baz=140							
T24A	Torres, Weston	139.59	269	⇓PKiKP	PKPdf	03 27 19.2	+1.1	
	baz=140							
S25A	Robets Cordova	139.60	270	⇑PKiKP	PKPdf	03 27 19.1	+1.1	
	baz=140							
TUC	Tucson	139.78	259	ePKHKP	PKPpre	03 27 12.2		
TUC				e		03 27 18.2		
TUC				MLR	MLR			
	comp=Z,869nm,19.0s							
TUC	Tucson	139.78	259	ePKPpre	PKPpre	03 27 12.2		
TUC				ePKPdf	PKPdf	03 27 18.2	-0.1	
TUC				LR	LR			
	comp=Z,869nm,19.0s							
U23A	El Rito	139.79	267	⇑PKiKP	PKiKP	03 27 19.7	-1.1	
	baz=140							
R25A	Fountain Ranch	139.82	271	⇓PKiKP	PKiKP	03 27 19.8	-1.0	
	baz=140							
Q26A	Hugo	139.86	272	⇓PKiKP	PKiKP	03 27 19.8	-0.9	
	baz=140							
W21A	San Fidel	139.86	265	⇓PKiKP	PKiKP	03 27 19.8	-1.2	
	baz=140							
V22A	San Miguel Ran	139.95	266	⇓PKiKP	PKiKP	03 27 20.1	-1.1	
	baz=140							
X20A	Quemado	139.97	263	⇓PKiKP	PKiKP	03 27 20.2	-1.1	
	baz=140							
O27A	Beecher Island	140.02	275	⇑PKiKP	PKiKP	03 27 20.0	-1.0	
	baz=140							
Y19A	Nutrioso	140.03	262	⇑PKiKP	PKiKP	03 27 20.4	-1.1	
	baz=140							
S24A	Houchin Ranch,	140.06	270	⇓PKiKP	PKiKP	03 27 20.4	-1.0	
	baz=140							
P26A	Davis Ranch, A	140.15	273	⇑PKiKP	PKiKP	03 27 20.9	-0.5	
	baz=140							
T23A	Casias Ranch,	140.16	268	⇓PKiKP	PKiKP	03 27 20.7	-1.0	
	baz=140							
OGNE	Ogallala	140.21	276	PFAKE		03 27 30.0	+11	
OGNE				LR	LR			
	comp=Z,1μm,21.0s							
OGNE	Ogallala	140.21	276	⇓PKiKP	PKiKP	03 27 20.6	-0.8	
	baz=140							
U22A	Llaves	140.22	267	⇓PKiKP	PKiKP	03 27 20.7	-1.0	
	baz=140							
Q25A	Bedland, Calha	140.29	272	⇑PKiKP	PKiKP	03 27 20.6	-1.1	
	baz=140							
SDCO	Great Sand Dun	140.30	269	ePKPpre	PKPpre	03 27 12.8		
SDCO				ePKPdf	PKPdf	03 27 20.1	+0.7	
SDCO				LR	LR			
	comp=Z,1μm,22.0s							
SDCO	Great Sand Dun	140.30	269	⇓PKiKP	PKiKP	03 27 20.7	-1.2	
	baz=140							
V21A	Milan	140.31	265	⇑PKiKP	PKiKP	03 27 20.9	-1.0	
	baz=140							
W20A	Ramah	140.37	264	⇑PKiKP	PKiKP	03 27 20.8	-1.2	
	baz=140							
N27A	Anderson Farm,	140.43	275	⇓PKiKP	PKiKP	03 27 21.0	-0.9	
	baz=141							
BRSD	Miller	140.44	283	⇑PKiKP	PKiKP	03 27 21.0	-0.6	
	baz=141							
ERM	Erimo	140.55	82	PFAKE		03 27 30.0	+11	
ERM				LR	LR			
	comp=Z,879nm,20.0s							
O26A	Horse Wrangler	140.55	274	⇓PKiKP	PKiKP	03 27 21.3	-0.9	
	baz=141							
S23A	Nye Farm, Mont	140.58	269	⇑PKiKP	PKiKP	03 27 21.3	-1.1	
	baz=141							
P25A	Willow Gulch B	140.62	273	⇓PKiKP	PKiKP	03 27 21.6	-0.8	
	baz=141							
T22A	Edith	140.67	267	⇑PKiKP	PKiKP	03 27 21.5	-1.2	
	baz=141							
214A	Organ Pipe Nat	140.72	256	⇑PKiKP	PKiKP	03 27 21.9	-0.7	
	baz=141							
AGMN	Agassiz Nation	140.74	289	ePKPpre	PKPpre	03 27 12.1		
AGMN				ePKPdf	PKPdf	03 27 19.6	+0.2	
AGMN				LR	LR			
	comp=Z,1μm,19.0s							
U21A	Nageezi	140.74	266	⇑PKiKP	PKiKP	03 27 22.0	-0.8	
	baz=141							
R23A	Moffat	140.78	270	⇑PKiKP	PKiKP	03 27 22.0	-0.9	
	baz=141							
V20A	Brimhall	140.81	265	⇓PKiKP	PKPdf	03 27 21.5	+1.2	
	baz=141							
X18A	Snowflake	140.84	262	⇑PKiKP	PKiKP	03 27 21.6	-1.3	
	baz=141							
Q24A	Divide	140.87	271	⇓PKiKP	PKiKP	03 27 21.8	-1.2	
	baz=141							
T21A	Navajo Lake	141.04	267	⇑PKiKP	PKPdf	03 27 21.7	+1.1	
	baz=141							
P24A	Kohler Place,	141.07	272	⇓PKiKP	PKiKP	03 27 22.4	-0.9	
	baz=141							
L27A	T5 Ranch, Ells	141.07	277	⇑PKiKP	PKiKP	03 27 22.1	-1.0	
	baz=141							
V19A	Window Rock	141.10	264	⇑PKiKP	PKPdf	03 27 22.0	+1.2	
	baz=141							
S22A	4UR Ranch, Cre	141.10	268	⇓PKiKP	PKiKP	03 27 22.4	-1.1	
	baz=141							
X17A	Forest Lakes	141.22	261	⇑PKiKP	PKPdf	03 27 22.4	+1.3	
	baz=141							
U20A	Newcomb	141.23	265	⇓PKiKP	PKiKP	03 27 22.5	-1.2	
	baz=141							
114A	Black Gap (USA	141.34	257	⇓PKiKP	PKiKP	03 27 22.7	-1.1	
	baz=142							
R22A	Saguache, Gunn	141.37	269	⇑PKiKP	PKiKP	03 27 22.9	-1.2	
	baz=142							
K27A	Flueckinger Fa	141.38	278	⇑PKiKP	PKiKP	03 27 23.3	-0.4	
	baz=142							
L26A	Underwood Farm	141.50	277	⇓PKiKP	PKiKP	03 27 23.6	-0.3	
	baz=142							
P23A	Jefferson	141.54	271	⇓PKiKP	PKiKP	03 27 23.7	-0.7	
	baz=142							
U19A	Diné College,	141.58	265	⇑PKiKP	PKiKP	03 27 23.5	-1.0	
	baz=142							
X16A	Lo Mia Camp, P	141.65	260	⇓PKiKP	PKiKP	03 27 23.7	-1.0	
	baz=142							
ISCO	Idaho Springs	141.67	272	ePKHKP	PKPpre	03 27 15.6		
ISCO				e		03 27 22.4		
ISCO				MLR	MLR			
	comp=Z,978nm,21.0s							
ISCO	Idaho Springs	141.67	272	ePKPpre	PKPpre	03 27 15.6		
ISCO				ePKPdf	PKPdf	03 27 22.4	+0.5	
ISCO				LR	LR			
	comp=Z,978nm,21.0s							
ULM	Lac du Bonnet	141.73	292	PKPpre	PKPpre	03 27 14.8		
ULM				PKP	PKPdf	03 27 20.2	-0.9	
ULM	Lac du Bonnet	141.73	292	PKhKP	PKPpre	03 27 14.8		
	comp=Z,10nm,0.8s,baz=114,slow=4.0,SNR=10.0							
ULM				PKP	PKPdf	03 27 20.2	-0.9	
	comp=Z,10nm,0.8s,baz=129,slow=1.7,SNR=15							
MVCO	Mesa Verde	141.76	266	ePKPpre	PKPpre	03 27 16.1		
MVCO				LR	LR			
	comp=Z,1μm,20.0s							
L25A	Engebretsen Ra	142.10	276	⇑PKPdf	PKPdf	03 27 21.4	-0.9	
	baz=142							
SMCO	Snowmass	142.10	270	ePKPpre	PKPpre	03 27 17.4		
SMCO				ePKPdf	PKPdf	03 27 23.5	+0.8	
M24A	Cheyenne	142.21	275	⇑PKPdf	PKPdf	03 27 21.2	-1.4	
	baz=142							
Q21A	Lamborn Mesa,	142.25	269	⇓PKPdf	PKPdf	03 27 21.2	-1.6	
	baz=142							
R20A	Redvale	142.32	268	⇓PKPdf	PKPdf	03 27 21.5	-1.4	
	baz=142							
WUAZ	Wupatki	142.36	262	ePKPpre	PKPpre	03 27 18.6		
WUAZ				LR	LR			
	comp=Z,1μm,20.0s							
WUAZ	Wupatki	142.36	262	⇓PKPdf	PKPdf	03 27 21.4	-1.6	
	baz=142							
PV01	Paradox Valley	142.41	267	ePKPpre	PKPpre	03 27 19.0		
PV01				ePKPdf	PKPdf	03 27 22.7	-0.4	
O22A	Kremmling	142.46	272	⇓PKPdf	PKPdf	03 27 21.7	-1.5	
	baz=143							
S19A	Harvey Farm, M	142.50	267	⇓PKPdf	PKPdf	03 27 21.7	-1.5	
	baz=143							
N23A	Red Feather La	142.54	273	⇓PKPdf	PKPdf	03 27 21.9	-1.4	
	baz=143							
T18A	Mexican Hat	142.54	265	⇓PKPdf	PKPdf	03 27 22.0	-1.2	
	baz=143							
P21A	Newcastle	142.61	270	⇓PKPdf	PKPdf	03 27 22.2	-1.2	
	baz=143							
L24A	Wheatland	142.62	275	⇑PKPdf	PKPdf	03 27 22.3	-0.9	
	baz=143							
YAK	Yakutsk	142.63	47	ePKHKP	PKPpre	03 27 17.6		
YAK				pmax	pmax			
	comp=Z,15nm,0.9s							
YAK	Yakutsk	142.63	47	PFAKE		03 27 30.0	+7.7	
YAK				LR	LR			
	comp=Z,2μm,20.0s							
MDND	Maddock	142.65	287	⇓PKPdf	PKPdf	03 27 22.2	-0.7	
	baz=143							
GLA	Glamis	142.69	256	⇑PKPdf	PKPdf	03 27 22.2	-1.2	
	baz=143							
M23A	Laramie	142.75	274	⇑PKPdf	PKPdf	03 27 22.7	-0.9	
	baz=143							
Q20A	Ridgley Place,	142.76	269	⇑PKPdf	PKPdf	03 27 22.5	-1.1	
	baz=143							
PV04	Paradox Valley	142.77	268	ePKPpre	PKPpre	03 27 19.2		
N22A	Wattenberg Ran	142.79	273	⇓PKPdf	PKPdf	03 27 22.6	-1.1	
	baz=143							
R19A	Curley Farm, L	142.92	267	⇓PKPdf	PKPdf	03 27 22.7	-1.3	
	baz=143							
S18A	Hurst Farm, Bl	142.98	266	⇓PKPdf	PKPdf	03 27 21.8	-2.3	
	baz=143							
Y12C	Blythe	143.01	257	⇑PKPdf	PKPbc	03 27 21.7	+0.9	
	baz=143							
T17A	Navajo Res., N	143.01	264	⇑PKPdf	PKPbc	03 27 22.0	+1.0	
	baz=143							
O21A	Pagoda	143.05	271	⇑PKPdf	PKPbc	03 27 22.3	+1.2	
	baz=143							
YSS	Yuzh-Sakhalins	143.08	75	⇑ePKIKP	PKPbc	03 27 22.0	+1.5	
YSS				e		03 27 27.0		
YSS				pmax	pmax			
	comp=Z,20nm,0.8s							
YSS	Yuzh-Sakhalins	143.08	75	PFAKE		03 27 40.0	+16	
YSS				LR	LR			
	comp=Z,476nm,21.0s							
L23A	Garrett	143.12	275	⇓PKPdf	PKPbc	03 27 22.2	+1.0	
	baz=143							
DVTC	Desert V Tower	143.15	254	⇓PKPdf	PKPbc	03 27 22.4	+1.0	
	baz=143							
P20A	De Beque	143.16	269	⇓PKPdf	PKPbc	03 27 22.2	+0.9	
	baz=143							
PDMC	Parker Dam,Lak	143.17	258	⇓PKPdf	PKPbc	03 27 22.2	+1.0	
	baz=143							
SWSC	Sam W. Stewart	143.18	255	⇑PKPdf	PKPbc	03 27 22.6	+1.3	
	baz=143							
J24A	Dixon Ranch, L	143.20	277	⇑PKPdf	PKPbc	03 27 22.0	+0.8	
	baz=143							
M22A	Cedar Creek Ra	143.24	273	⇑PKPdf	PKPbc	03 27 22.3	+0.7	
	baz=143							
RSSD	Black Hills	143.27	279	ePKIKP	PKPbc	03 27 21.1	-0.4	
RSSD	Black Hills	143.27	279	ePKPpre	PKPpre	03 27 21.1		
Q19A	Hogan Spring (	143.35	268	⇑PKPdf	PKPbc	03 27 22.6	+0.9	
	baz=144							
R18A	Canyonlands Na	143.37	267	⇓PKPdf	PKPbc	03 27 22.6	+0.7	
	baz=144							
N21A	Black Mountain	143.41	272	⇑PKPdf	PKPbc	03 27 22.7	+0.7	
	baz=144							
S17A	Black Ridge (B	143.43	265	⇓PKPdf	PKPbc	03 27 23.0	+0.9	
	baz=144							
K23A	Bowen Ranch, D	143.45	276	⇑PKPdf	PKPbc	03 27 22.8	+0.8	
	baz=144							
O20A	White River Ci	143.46	270	⇓PKPdf	PKPbc	03 27 22.7	+0.6	
	baz=144							
I24A	Kuemmerle Ranc	143.48	278	⇓PKPdf	PKPbc	03 27 22.5	+0.6	
	baz=144							
BC3	Big Chuckawall	143.49	256	⇓PKPdf	PKPbc	03 27 23.0	+0.7	
	baz=144							
MONP	Monument Peak	143.50	254	⇓PKPdf	PKPbc	03 27 22.9	+0.4	
	baz=144							
L22A	Ellis Ranch, M	143.51	274	⇑PKPdf	PKPbc	03 27 23.3	+1.0	
	baz=144							
U15A	North Rim	143.53	262	⇓PKPdf	PKPbc	03 27 23.4	+0.9	
	baz=144							
W13A	Hualapai Mount	143.57	259	⇓PKPdf	PKPbc	03 27 23.4	+0.7	
	baz=144							
P19A	Cripple Cowboy	143.60	269	⇑PKPdf	PKPbc	03 27 23.5	+0.9	
	baz=144							
IRM	Iron Mountain	143.67	257	⇑PKPdf	PKPbc	03 27 23.4	+0.8	
	baz=144							
J23A	Dilts Ranch, B	143.77	277	⇑PKPdf	PKPbc	03 27 23.7	+0.8	
	baz=144							
NEE2	Needles Airpor	143.78	258	⇓PKPdf	PKPbc	03 27 23.7	+0.8	
	baz=144							
M21A	Separation Pea	143.82	273	⇓PKPdf	PKPbc	03 27 23.7	+0.5	
	baz=144							
R17A	Hanksville Air	143.88	266	⇑PKPdf	PKPbc	03 27 23.9	+0.5	
	baz=144							
109C	Camp Elliot, M	143.90	253	⇑PKPdf	PKPbc	03 27 24.0	+0.7	
	baz=144							
N20A	Spence Gulch,	143.90	271	⇓PKPdf	PKPbc	03 27 24.1	+0.6	
	baz=144							
H24A	Dirks Ranch, A	143.93	279	⇑PKPdf	PKPbc	03 27 23.9	+0.7	
	baz=144							
K22A	Casper	143.93	275	⇑PKPdf	PKPbc	03 27 23.9	+0.5	
	baz=144							
S16A	Weppner Ranch,	143.96	264	⇓PKPdf	PKPbc	03 27 24.0	+0.3	
	baz=144							
Q18A	Rafter H Ranch	143.96	267	⇑PKPdf	PKPbc	03 27 24.1	+0.6	
	baz=144							
I23A	Meade Ranch, G	144.03	278	⇓PKPdf	PKPbc	03 27 23.5	-0.1	
	baz=144							
L21A	Rawlins	144.04	273	⇑PKPdf	PKPbc	03 27 24.2	+0.4	
	baz=144							
PFO	Pinyon Flat Ob	144.04	255	ePKPdf	PKPbc	03 27 24.9	+0.9	
PFO				LR	LR			
	comp=Z,877nm,20.0s							
PFO	Pinyon Flat Ob	144.04	255	⇑PKPdf	PKPbc	03 27 24.2	+0.2	
	baz=144							
BELC	Belle Mtn. Jos	144.05	256	⇑PKPdf	PKPbc	03 27 24.3	+0.3	
	baz=144							
O19A	Miners Draw (B	144.10	270	⇓PKPdf	PKPbc	03 27 24.3	+0.3	
	baz=144							
G24A	Alzada	144.16	280	⇓PKPdf	PKPbc	03 27 24.1	+0.2	
	baz=144							
SRU	San Rafael	144.21	267	ePKIKP	PKPab	03 27 24.1	+0.1	
SRU	San Rafael	144.21	267	ePKPdf	PKPab	03 27 24.1	+0.1	
SRU	San Rafael	144.21	267	⇑PKPdf	PKPbc	03 27 24.6	+0.2	
	baz=144							
M20A	Sweetwater, Wa	144.25	272	⇓PKPdf	PKPbc	03 27 24.6	+0.1	
	baz=144							
R16A	Teasdale	144.26	265	⇑PKPdf	PKPbc	03 27 24.8	+0.1	
	baz=144							
LDFC	Landfair	144.28	258	ePKPdf	PKPdf	03 27 26.4	+0.1	
H23A	Clabaugh Cattl	144.33	278	⇓PKPdf	PKPab	03 27 24.1	0.0	
	baz=144							
J22A	Midwest	144.34	276	⇑PKPdf	PKPab	03 27 24.1	-0.2	
	baz=144							
K21A	Alcova	144.35	274	⇑PKPdf	PKPbc	03 27 24.9	+0.1	
	baz=144							
P18A	Preston Nutter	144.36	268	⇓PKPdf	PKPab	03 27 24.7	0.0	
	baz=144							
GMRC	Granite Mounta	144.40	257	⇑PKPdf	PKPab	03 27 23.7	-1.0	
	baz=145							
F24A	Ekalaka	144.45	281	⇑PKPdf	PKPab	03 27 24.7	+0.1	
	baz=145							
MURC	Murrieta	144.47	254	⇓PKPdf	PKPab	03 27 24.4	-0.5	
	baz=145							
Q16A	Castle Valley	144.47	266	⇓PKPdf	PKPab	03 27 24.7	-0.3	
	baz=145							
N19A	John Jarvie Ra	144.49	271	⇓PKPdf	PKPab	03 27 24.6	-0.3	
	baz=145							
P17A	Butcher Ranch,	144.56	267	⇓PKPdf	PKPab	03 27 24.9	-0.4	
	baz=145							
I22A	9 Mile Ranch,	144.61	277	⇓PKPdf	PKPab	03 27 24.9	-0.4	
	baz=145							
O18A	Roosevelt	144.61	269	⇑PKPdf	PKPab	03 27 25.2	-0.2	
	baz=145							
L20A	Wamsutter	144.65	273	⇑PKPdf	PKPab	03 27 25.2	-0.4	
	baz=145							
G23A	Biddle	144.67	279	⇑PKPdf	PKPab	03 27 25.2	-0.2	
	baz=145							
R15A	Junction	144.69	264	⇑PKPdf	PKPab	03 27 25.8	-0.1	
	baz=145							
TMUT	Trail Mountain	144.74	267	ePKPdf	PKPbc	03 27 26.2	0.0	
E24A	Baker	144.74	282	⇑PKPdf	PKPbc	03 27 25.6	-0.1	
	baz=145							
BBRC	Big Bear Solar	144.78	255	⇓PKPdf	PKPab	03 27 25.9	-0.4	
	baz=145							
SCI	San Clemente I	144.80	252	⇑PKPdf	PKPab	03 27 25.9	-0.2	
	baz=145							
MSU	Marysvale	144.82	265	ePKIKP	PKPdf	03 27 27.1	-0.2	
M

PASC	Pasadena Art C	145.45	254	ePKPbc	PKPab	03 27 28.4	-0.1	
DAU	Daniels Canyon	145.46	268	ePKIKP	PKPab	03 27 28.8	+0.1	
DAU	Daniels Canyon	145.46	268	ePKPbc	PKPab	03 27 28.8	+0.1	
F22A	Rosebud	145.49	280	⇑PKPdf	PKPdf	03 27 27.7	-0.3	
	baz=146							
N17A	Moffit Pass	145.52	269	⇓PKPdf	PKPdf	03 27 27.6	-0.9	
	baz=146							
SHOC	Shoshone	145.54	258	⇑PKPdf	PKPdf	03 27 27.6	-0.7	
	baz=146							
P15A	Leamington	145.55	266	⇓PKPdf	PKPdf	03 27 27.7	-0.8	
	baz=146							
D23A	Lindsay	145.59	282	⇑PKPdf	PKPdf	03 27 27.7	-0.4	
	baz=146							
DECC	Green Verdugo	145.59	253	⇓PKPdf	PKPdf	03 27 27.7	-0.8	
	baz=146							
L18A	Fontenelle, Gr	145.62	271	⇓PKPdf	PKPdf	03 27 27.7	-0.9	
	baz=146							
I20A	Worland	145.63	276	⇑PKPdf	PKPdf	03 27 27.9	-0.5	
	baz=146							
DGMT	Dagmar	145.63	285	ePKPbc	PKPab	03 27 28.6	-0.2	
DGMT				LR	LR			
	comp=Z,1μm,20.0s							
DGMT	Dagmar	145.63	285	⇑PKPdf	PKPdf	03 27 27.9	-0.2	
	baz=146							
E22A	Miles City	145.65	281	⇓PKPdf	PKPdf	03 27 28.2	-0.1	
	baz=146							
R13A	O'Grain Ranch,	145.69	263	⇑PKPdf	PKPdf	03 27 28.2	-0.6	
	baz=146							
JLU	Jordanelle	145.69	268	ePKPbc	PKPab	03 27 29.4	-0.1	
A24A	Westby	145.74	286	⇓PKPdf	PKPdf	03 27 27.9	-0.4	
	baz=146							
M17A	Scullys Gap (B	145.74	270	⇓PKPdf	PKPdf	03 27 28.2	-0.6	
	baz=146							
G21A	Lodge Grass	145.77	278	⇑PKPdf	PKPdf	03 27 28.2	-0.3	
	baz=146							
J19A	Crowheart	145.80	274	⇑PKPdf	PKPdf	03 27 28.0	-0.8	
	baz=146							
BW06	Boulder Array	145.82	273	ePKPbc	PKPdf	03 27 27.9	-0.9	
BW06				LR	LR			
	comp=Z,1μm,20.0s							
BW06	Boulder Array	145.82	273	⇑PKPdf	PKPdf	03 27 28.2	-0.7	
	baz=146							
PDAR	Pinedale Array	145.82	273	PKPbc	PKPdf	03 27 28.1	-0.8	
PDAR				PP	PP	03 30 44.8	-6.5	
PDAR	Pinedale Array	145.82	273	PKPbc	PKPdf	03 27 28.1	-0.8	
	comp=Z,33nm,0.7s,baz=126,slow=4.5,SNR=228							
PDAR				PP	PP	03 30 44.8	-6.5	
	comp=Z,1.0nm,0.9s,baz=122,slow=6.8,SNR=3.0							
PD02	Pinedale Array	145.84	273	ePKPbc	PKPdf	03 27 28.4	-0.6	
PD02				ePP	PP	03 30 51.7	+0.3	
EDW2	Edwards Air Fo	145.84	255	⇑PKPdf	PKPdf	03 27 28.3	-0.7	
	baz=146							
PD01	Pinedale Array	145.84	273	ePKPbc	PKPdf	03 27 28.0	-0.9	
H20A	Greybull	145.84	277	⇓PKPdf	PKPdf	03 27 28.4	-0.3	
	baz=146							
N16A	Rees Ranch, Co	145.85	269	⇑PKPdf	PKPdf	03 27 28.4	-0.6	
	baz=146							
C23A	Lambert	145.89	283	⇓PKPdf	PKPdf	03 27 28.7	+0.2	
	baz=146							
BLG	Laguna Peak	145.91	253	⇓PKPdf	PKPdf	03 27 28.4	-0.6	
	baz=146							
F21A	Absaloka Mine,	146.03	279	⇑PKPdf	PKPdf	03 27 28.8	-0.1	
	baz=146							
K18A	Toltan Ranch,	146.04	272	⇑PKPdf	PKPdf	03 27 29.0	-0.3	
	baz=146							
OSI	Osito Adit	146.07	254	⇓PKPdf	PKPdf	03 27 28.8	-0.6	
	baz=146							
LRMC	Laurel Mountai	146.08	256	⇑PKPdf	PKPdf	03 27 29.0	-0.4	
	baz=146							
B23A	Brockton	146.09	285	⇑PKPdf	PKPdf	03 27 29.2	+0.3	
	baz=146							
O15A	The Old Anders	146.11	267	⇑PKPdf	PKPdf	03 27 29.3	-0.1	
	baz=146							
D22A	Cohagen	146.15	282	⇑PKPdf	PKPbc	03 27 29.7	-0.4	
	baz=146							
BSC	Santa Cruz Isl	146.16	252	⇑PKPdf	PKPdf	03 27 29.5	0.0	
	baz=146							
I19A	Meeteetse	146.20	275	⇓PKPdf	PKPdf	03 27 29.4	0.0	
	baz=146							
M16A	Huntsville	146.23	269	⇓PKPdf	PKPdf	03 27 28.4	-1.2	
	baz=146							
L17A	Cokeville	146.23	271	⇑PKPdf	PKPdf	03 27 28.4	-1.2	
	baz=146							
A23A	Redstone	146.26	285	⇓PKPdf	PKPdf	03 27 28.9	-0.3	
	baz=146							
DUG	Dugway	146.26	267	ePKP2	PKPbc	03 27 30.3	-0.5	
DUG				MLR	MLR			
	comp=Z,936nm,20.0s							
DUG	Dugway	146.26	267	ePKPbc	PKPbc	03 27 30.3	-0.5	
DUG				LR	LR			
	comp=Z,936nm,20.0s							
DUG	Dugway	146.26	267	⇓PKPdf	PKPdf	03 27 28.8	-0.8	
	baz=146							
C22A	Vida	146.27	283	⇑PKPdf	PKPdf	03 27 29.2	0.0	
	baz=146							
FURC	Furnace Creek,	146.27	258	⇑PKPdf	PKPdf	03 27 28.6	-0.9	
	baz=146							
J18A	Kendall Valley	146.35	273	⇓PKPdf	PKPdf	03 27 29.6	-0.2	
	baz=146							
MPMC	Manual Prospec	146.36	257	⇑PKPdf	PKPdf	03 27 29.3	-0.7	
	baz=146							
G20A	Bridger	146.37	278	⇑PKPdf	PKPdf	03 27 29.3	-0.3	
	baz=146							
E21A	Keefer Ranch,	146.38	280	⇓PKPdf	PKPdf	03 27 29.4	-0.1	
	baz=147							
ARVC	Arvin	146.50	254	⇑PKPdf	PKPdf	03 27 29.7	-0.3	
	baz=147							
I18A	Diamond G Ranc	146.51	274	⇓PKPdf	PKPdf	03 27 29.6	-0.5	
	baz=147							
N15A	Stansbury Isla	146.51	268	⇑PKPdf	PKPdf	03 27 29.6	-0.4	
	baz=147							
L16A	Fish Haven	146.52	270	⇓PKPdf	PKPdf	03 27 29.6	-0.5	
	baz=147							
H19A	Powell	146.54	276	⇑PKPdf	PKPdf	03 27 29.5	-0.4	
	baz=147							
DAC	Darwin (Calif)	146.57	257	PFAKE		03 27 40.0	+7.1	
DAC				LR	LR			
	comp=Z,1μm,21.0s							
B22A	Reddig Ranch S	146.60	284	⇓PKPdf	PKPdf	03 27 29.8	+0.1	
	baz=147							
F20A	Billings	146.63	279	⇓PKPdf	PKPdf	03 27 29.7	-0.3	
	baz=147							
K17A	Gardner Place,	146.64	272	⇓PKPdf	PKPdf	03 27 29.8	-0.4	
	baz=147							
ISA	Isabella	146.67	255	ePKP2	PKPbc	03 27 31.5	-0.5	
ISA	Isabella	146.67	255	ePKPdf	PKPbc	03 27 31.4	-0.5	
ISA				ePKPbc	PKPab	03 27 33.6	+0.5	
ISA	Isabella	146.67	255	⇑PKPdf	PKPdf	03 27 29.9	-0.5	
	baz=147							
AHID	Auburn Hatcher	146.75	272	ePKPbc	PKPbc	03 27 31.9	-0.3	
AHID				LR	LR			
	comp=Z,1μm,19.0s							
R11A	Troy Canyon, C	146.76	262	⇑PKPdf	PKPdf	03 27 30.4	-0.1	
	baz=147							
M15A	Larsen Ranch,	146.81	269	⇓PKPdf	PKPdf	03 27 30.3	-0.2	
	baz=147							
J17A	Brown Place, J	146.86	273	⇓PKPdf	PKPdf	03 27 30.4	-0.1	
	baz=147							
A22A	Carney Farms,	146.88	285	⇑PKPdf	PKPdf	03 27 30.2	0.0	
	baz=147							
RES	Resolute Bay	146.90	334	ePKPbc	PKPbc	03 27 31.3	-0.1	
PKM	Peak Mountain	146.91	253	⇑PKPdf	PKPdf	03 27 30.4	-0.5	
	baz=147							
GRAC	Grapevine Rang	146.93	258	⇑PKPdf	PKPdf	03 27 30.4	-0.3	
	baz=147							
LOHW	Long Hollow	146.93	273	ePKPdf	PKPdf	03 27 30.5	-0.2	
LOHW				ePKPbc	PKPbc	03 27 33.1	+0.4	
SNOW	Snow King Moun	146.94	273	ePKPbc	PKPbc	03 27 33.2	+0.4	
REDW	Red Top Meadow	146.94	273	ePKPbc	PKPbc	03 27 32.4	-0.4	
H18A	Shoshone NF, C	146.95	276	⇓PKPdf	PKPdf	03 27 30.1	-0.6	
	baz=147							
RLMT	Red Lodge	146.95	277	ePKPdf	PKPdf	03 27 30.6	-0.1	
RLMT				ePKPbc	PKPbc	03 27 32.5	-0.2	
RLMT				LR	LR			
	comp=Z,1μm,21.0s							
RLMT	Red Lodge	146.95	277	⇑PKPdf	PKPdf	03 27 30.0	-0.7	
	baz=147							
E20A	Meyer Farm, Mu	146.98	280	⇓PKPdf	PKPdf	03 27 30.3	-0.2	
	baz=147							
FFC	Flin Flon	147.02	296	ePKIKP	PKPdf	03 27 29.7	-0.5	
FFC				e		03 27 32.4		
FFC				e		03 27 34.4		
FFC				MLR	MLR			
	comp=Z,1μm,20.0s							
FFC	Flin Flon	147.02	296	i PKP2	PKPbc	03 27 32.3	0.0	
FFC	Flin Flon	147.02	296	ePKPdf	PKPdf	03 27 29.7	-0.5	
FFC				ePKPbc	PKPbc	03 27 32.4	+0.1	
FFC				ePKPab	PKiKP	03 27 34.4	-0.4	
FFC				LR	LR			
	comp=Z,1μm,20.0s							
C21A	Desert Coulee	147.02	282	⇑PKPdf	PKPdf	03 27 30.4	-0.1	
	baz=147							
TPAW	Teton Pass	147.07	273	ePKPdf	PKPdf	03 27 31.7	+0.7	
TPAW				ePKPbc	PKPab	03 27 34.8	+0.1	
TPAW				ePP	PP	03 30 58.5	-0.3	
I17A	Pilgrim Ck.	147.09	274	⇑PKPdf	PKPdf	03 27 30.6	-0.4	
	baz=147							
K16A	Soda Springs	147.09	271	⇑PKPdf	PKPdf	03 27 31.1	+0.1	
	baz=147							
L15A	Malad City	147.09	270	⇑PKPdf	PKPdf	03 27 30.5	-0.4	
	baz=147							
MOOW	Moose Ponds	147.09	274	ePKPdf	PKPdf	03 27 30.9	-0.1	
MOOW				ePKPbc	PKPbc	03 27 33.3	+0.2	
MOOW				ePP	PP	03 30 59.9	+1.1	
F19A	Roth Farm, Mol	147.14	278	⇑PKPdf	PKPdf	03 27 30.5	-0.3	
	baz=147							
VES	Vestal, Richgr	147.15	255	⇑PKPdf	PKPdf	03 27 30.5	-0.6	
	baz=147							
HVU	Hansel Valley	147.19	269	ePKIKP	PKPdf	03 27 31.7	+0.5	
HVU				e		03 27 35.4		
HVU	Hansel Valley	147.19	269	ePKPdf	PKPdf	03 27 31.7	+0.5	
HVU				ePKPbc	PKPab	03 27 35.4	+0.2	
RRI2	Red Ridge	147.22	272	ePKPbc	PKPbc	03 27 33.1	-0.5	
G18A	Lazy EL Ranch,	147.23	277	⇓PKPdf	PKPdf	03 27 30.5	-0.6	
	baz=147							
FLWY	Flagg Ranch	147.25	274	ePKPdf	PKPdf	03 27 31.7	+0.5	
FLWY				ePKPbc	PKPbc	03 27 33.5	0.0	
FLWY				ePKPab	PKiKP	03 27 36.3	+0.4	
B21A	Ellsworth Farm	147.26	283	⇑PKPdf	PKPdf	03 27 30.6	-0.2	
	baz=147							
DCID1	Drake Creek	147.27	273	ePKPbc	PKPbc	03 27 33.9	+0.3	
D20A	Manuel Ranch,	147.28	281	⇑PKPdf	PKPdf	03 27 30.8	-0.2	
	baz=148							
IMW	Indian Meadow	147.29	274	ePKPbc	PKPbc	03 27 33.2	-0.6	
IMW				ePP	PP	03 30 58.4	-1.7	
SMMC	Simmler	147.31	253	⇑PKPdf	PKPdf	03 27 30.7	-0.7	
	baz=147							
LKWY	Lake	147.33	275	ePKP2	PKPbc	03 27 33.8	-0.1	
LKWY				MLR	MLR			
	comp=Z,2μm,19.0s							
LKWY	Lake	147.33	275	ePKPbc	PKPbc	03 27 33.8	-0.1	
LKWY				LR	LR			
	comp=Z,2μm,19.0s							
H17A	Grant Village	147.34	275	⇑PKPdf	PKPdf	03 27 30.9	-0.6	
	baz=148							
J16A	Bone	147.35	272	⇓PKPdf	PKPdf	03 27 30.8	-0.7	
	baz=148							
E19A	Rath Farm, Rou	147.35	279	⇓PKPdf	PKPdf	03 27 30.9	-0.3	
	baz=148							
A21A	Bergtoll Ranch	147.47	284	⇑PKPdf	PKPdf	03 27 31.2	0.0	
	baz=148							
TIN	Tinemaha	147.48	257	⇓PKPdf	PKPdf	03 27 31.2	-0.5	
	baz=148							
C20A	Veseth Ranch,	147.51	282	⇑PKPdf	PKPdf	03 27 30.9	-0.4	
	baz=148							
YFT	Old Faithful	147.53	275	ePKPbc	PKPbc	03 27 35.4	+1.0	
GCMT	Greycliff	147.54	277	ePKPdf	PKPdf	03 27 32.0	+0.4	
GCMT				ePKPbc	PKPbc	03 27 34.4	+0.2	
TPH	Tonopah	147.56	260	PFAKE		03 27 40.0	+3.2	
TPH				LR	LR			
	comp=Z,1μm,21.0s							
K15A	Arbon	147.57	271	⇓PKiKP	PKPbc	03 27 35.2	+0.8	
	baz=148							
YNR	Norris Junctio	147.58	275	ePKPbc	PKPab	03 27 35.6	-1.1	
I16A	Newdale	147.61	273	⇑PKiKP	PKPbc	03 27 35.3	+0.8	
	baz=148							
L14A	Malta	147.62	269	⇓PKiKP	PKPbc	03 27 34.9	+0.3	
	baz=148							
F18A	Big Timber	147.62	278	⇓PKiKP	PKPbc	03 27 34.9	+0.5	
	baz=148							
YMR	Madison River	147.73	275	ePKPdf	PKPdf	03 27 33.1	+1.1	
YMR				ePKPbc	PKiKP	03 27 36.8	-0.1	
YMR				ePP	PP	03 31 00.6	-1.9	
D19A	Cripps Ranch,	147.76	280	⇑PKiKP	PKPbc	03 27 35.3	+0.6	
	baz=148							
B20A	Solberg Farm,	147.86	283	⇑PKiKP	PKPbc	03 27 35.6	+0.7	
	baz=148							
K14A	Jones Ranch, D	147.88	270	⇑PKiKP	PKiKP	03 27 36.2	-0.9	
	baz=148							
H16A	Russell Place,	147.92	275	⇑PKiKP	PKiKP	03 27 36.3	-0.9	
	baz=148							
J15A	Blackfoot	147.92	272	⇓PKiKP	PKiKP	03 27 36.4	-0.7	
	baz=148							
G17A	Pierce Place,	147.94	276	⇓PKiKP	PKiKP	03 27 36.5	-0.7	
	baz=148							
A20A	Cobblestone Ra	148.01	284	⇓PKiKP	PKPbc	03 27 35.6	+0.3	
	baz=148							
ELK	Elko	148.06	265	ePKPdf	PKPdf	03 27 33.2	+0.5	
ELK				ePKPbc	PKPbc	03 27 36.3	+0.4	
E18A	Harlowton	148.08	279	⇓PKiKP	PKPbc	03 27 35.7	+0.1	
	baz=148							
QLMT	Earthquake Lak	148.09	275	ePKPdf	PKPdf	03 27 33.8	+1.2	
QLMT				ePKPbc	PKiKP	03 27 37.0	-0.5	
C19A	Slack Wire Ran	148.13	281	⇑PKiKP	PKPbc	03 27 35.8	+0.2	
	baz=148							
F17A	Fitzpatrick Pl	148.19	277	⇓PKiKP	PKPbc	03 27 36.5	+0.5	
	baz=148							
MLAC	Mammoth Lakes	148.22	257	⇓PKiKP	PKPbc	03 27 36.3	-0.1	
	baz=148							
I15A	Monteview	148.28	273	⇓PKiKP	PKPbc	03 27 36.7	+0.5	
	baz=148							
D18A	Linhart Farms,	148.32	280	⇑PKiKP	PKPbc	03 27 36.4	+0.2	
	baz=148							
B19A	Brinkman Farms	148.41	282	⇑PKiKP	PKPbc	03 27 37.0	+0.6	
	baz=149							
NVAR	Mina Array Bea	148.43	259	PKPbc	PKPdf	03 27 34.2	+0.8	
NVAR	Mina Array Bea	148.43	259	PKPbc	PKPdf	03 27 34.2	+0.8	
	comp=Z,39nm,0.8s,baz=145,slow=3.4,SNR=51							
G16A	Moss Hill, Enn	148.53	275	⇑PKiKP	PKPbc	03 27 36.9	0.0	
	baz=149							
J14A	Carey	148.53	271	⇑PKiKP	PKPbc	03 27 37.0	+0.1	
	baz=149							
E17A	Martinsdale	148.59	278	⇑PKiKP	PKPbc	03 27 37.1	+0.1	
	baz=149							
BOZ	Bozeman (W)	148.64	276	ePKIKP	PKPdf	03 27 33.6	+0.2	
BOZ				e		03 27 37.5		
BOZ				MLR	MLR			
	comp=Z,1μm,22.0s							
BOZ	Bozeman (W)	148.64	276	ePKPdf	PKPdf	03 27 33.6	+0.2	
BOZ				ePKPbc	PKPbc	03 27 37.5	+0.4	
BOZ				LR	LR			
	comp=Z,1μm,22.0s							
BOZ	Bozeman (W)	148.64	276	⇑PKiKP	PKPbc	03 27 37.2	+0.1	
	baz=149							
EGMT	Eagleton	148.69	281	ePKPdf	PKPdf	03 27 33.7	+0.4	
EGMT				ePKPbc	PKPbc	03 27 37.1	+0.1	
EGMT				LR	LR			
	comp=Z,1μm,21.0s							
EGMT	Eagleton	148.69	281	⇓PKiKP	PKPbc	03 27 37.6	+0.5	
	baz=149							
F16A	Kennard Place,	148.71	276	⇓PKiKP	PKiKP	03 27 38.0	-0.7	
	baz=149							
H15A	Lima	148.71	273	⇓PKiKP	PKiKP	03 27 38.3	-0.6	
	baz=149							
I14A	Mackay	148.83	272	⇑PKiKP	PKiKP	03 27 38.5	-0.6	
	baz=149							
D17A	Six Diamond Ra	148.83	279	⇑PKiKP	PKPbc	03 27 37.6	+0.1	
	baz=149							
B18A	Beardsley Farm	148.88	282	⇑PKiKP	PKPbc	03 27 37.6	0.0	
	baz=149							
LCCM	Lewis and Clar	148.89	276	P	PKPdf	03 27 34.9	+1.1	
G15A	Dillon	148.91	275	⇑PKiKP	PKPbc	03 27 38.1	+0.2	
	baz=149							
MCMT	McKenzie Canyo	148.95	274	ePKPdf	PKPdf	03 27 34.9	+0.9	
MCMT				ePKPbc	PKPbc	03 27 38.6	+0.6	
J13A	Cove Ranch, Pi	148.97	270	⇓PKiKP	PKPbc	03 27 38.4	+0.4	
	baz=149							
BMN	Battle Mountai	149.06	263	ePKP2	PKPbc	03 27 38.5	+0.1	
BMN				MLR	MLR			
	comp=Z,1μm,20.0s							
BMN	Battle Mountai	149.06	263	ePKPbc	PKPbc	03 27 38.5	+0.1	
BMN				LR	LR			
	comp=Z,1μm,20.0s							
DLMT	Dillon	149.08	275	ePKPdf	PKPdf	03 27 34.8	+0.7	
DLMT				ePKPbc	PKiKP	03 27 39.2	-0.3	
C17A	Wharram Farm,	149.10	280	⇑PKiKP	PKPbc	03 27 38.0	-0.2	
	baz=149							
E16A	East Helena	149.12	277	⇓PKiKP	PKPbc	03 27 38.2	-0.1	
	baz=149							
H14A	Leadore	149.15	273	⇓PKiKP	PKPbc	03 27 38.5	0.0	
	baz=149							
A18A	Metzger Ranch,	149.16	283	⇑PKiKP	PKPbc	03 27 38.1	-0.1	
	baz=149							
HLID	Hailey	149.21	270	ePKPdf	PKPdf	03 27 34.8	+0.3	
HLID				ePKPbc	PKPbc	03 27 39.2	+0.5	
HLID				ePP	PP	03 31 12.1	+1.0	
HLID				LR	LR			
	comp=Z,1μm,21.0s							
HLID	Hailey	149.21	270	⇓PKiKP	PKPbc	03 27 38.9	+0.3	
	baz=149							
I13A	Wildhorse Cree	149.22	271	⇑PKiKP	PKiKP	03 27 39.5	-0.5	
	baz=149							
LRM	Limekiln Ridge	149.22	276	ePKPdf	PKPdf	03 27 34.5	+0.1	
LRM				ePKPbc	PKiKP	03 27 39.4	-0.6	
LRM				ePKPab	PKPab	03 27 43.9	+0.5	
F15A	Butte	149.26	276	⇓PKiKP	PKPbc	03 27 38.7	-0.1	
	baz=149							
D16A	Dana Ranch, Ca	149.29	278	⇓PKiKP	PKPbc	03 27 38.4	-0.3	
	baz=150							
HRY	Holter Researc	149.30	278	ePKPdf	PKPdf	03 27 35.0	+0.7	
HRY				ePKPbc	PKiKP	03 27 39.3	-0.6	
CMB	Columbia Colle	149.40	256	ePKHKP	PKPdf	03 27 36.1	+1.4	
CMB				e		03 27 39.8		
CMB	Columbia Colle	149.40	256	ePKPdf	PKPdf	03 27 36.1	+1.4	
CMB				ePKPbc	PKiKP	03 27 39.8	-0.5	
B17A	L&G Farms, Che	149.44	281	⇓PKiKP	PKPbc	03 27 38.7	-0.2	
	baz=150							
G14A	Jackson	149.53	274	⇑PKiKP	PKPbc	03 27 39.2	-0.3	
	baz=150							
E15A	Deer Lodge	149.64	277	⇑PKiKP	PKPbc	03 27 39.3	-0.3	
	baz=150							
H13A	Challis	149.66	272	⇓PKiKP	PKPbc	03 27 39.3	-0.4	
	baz=150							
A17A	Triple J Farms	149.67	282	⇓PKiKP	PKPbc	03 27 39.3	-0.2	
	baz=150							
I12A	Atlanta	149.77	270	⇑PKiKP	PKPbc	03 27 39.3	-0.7	
	baz=150							
C16A	Fuhringer Ranc	149.77	279	⇓PKiKP	PKPbc	03 27 39.5	-0.4	
	baz=150							
F14A	Wisdom	149.77	275	⇑PKiKP	PKPbc	03 27 39.7	-0.3	
	baz=150							
D15A	Lincoln	149.87	278	⇓PKiKP	PKPbc	03 27 40.2	0.0	
	baz=150							
G13A	Cobalt	149.92	273	⇑PKiKP	PKPbc	03 27 40.2	-0.1	
	baz=150							
MFID	Camas Ranch	149.98	269	ePKPdf	PKPdf	03 27 36.4	+0.8	
MFID				ePKPbc	PKiKP	03 27 41.1	-0.3	
MFID				ePKPab	PKPab	03 27 47.0	+0.6	
MFID				ePP	PP	03 31 16.6	+1.1	
MFID	Camas Ranch	149.98	269	⇓PKiKP	PKPbc	03 27 40.1	-0.3	
	baz=150							
H12A	Diamond D Ranc	150.01	272	⇑PKiKP	PKPbc	03 27 39.6	-1.0	
	baz=150							
B16A	M & M Farms, S	150.03	281	⇑PKiKP	PKPbc	03 27 40.0	-0.4	
	baz=150							
E14A	Clinton	150.15	276	⇓PKiKP	PKPbc	03 27 40.3	-0.6	
	baz=150							
A16A	West Butte Ran	150.20	282	⇑PKiKP	PKPbc	03 27 40.6	-0.2	
	baz=150							
CHMT	Chamberlain Mo	150.25	277	ePKPdf	PKPdf	03 27 35.6	-0.4	
CHMT				ePKPbc	PKPbc	03 27 41.3	+0.1	
C15A	Salmond Ranch,	150.27	279	⇑PKiKP	PKPbc	03 27 40.7	-0.3	
	baz=150							
F13A	Darby	150.34	274	⇓PKiKP	PKPbc	03 27 41.2	-0.1	
	baz=150							
D14A	Greenough	150.48	277	⇓PKiKP	PKPbc	03 27 41.3	-0.3	
	baz=151							
B15A	Bradely Ranch,	150.49	280	⇑PKiKP	PKPbc	03 27 40.9	-0.6	
	baz=151							
SLMT	Seeley Lake	150.55	277	ePKPdf	PKPdf	03 27 35.7	-0.7	
SLMT				ePKPbc	PKPbc	03 27 41.2	-0.6	
SLMT				ePKPab	PKPab	03 27 48.9	+0.3	
E13A	Victor	150.58	275	⇓PKiKP	PKPbc	03 27 41.7	-0.1	
	baz=151							
G12A	Big Creek, Yel	150.60	272	⇑PKiKP	PKPbc	03 27 41.7	-0.3	
	baz=151							
MSO	Missoula	150.62	276	ePKPdf	PKPdf	03 27 35.5	-0.9	
MSO				ePKPbc	PKPbc	03 27 41.8	0.0	
MSO				LR	LR			
	comp=Z,773nm,21.0s							
MSO	Missoula	150.62	276	⇓PKiKP	PKPbc	03 27 41.9	0.0	
	baz=151							
F12A	Elk City	150.88	274	⇓PKiKP	PKPbc	03 27 42.3	-0.3	
	baz=151							
A15A	Johnson Ranch,	150.89	281	⇑PKiKP	PKPbc	03 27 41.8	-0.6	
	baz=151							
B14A	Marquette Ranc	150.94	280	⇑PKiKP	PKPbc	03 27 42.0	-0.6	
	baz=151							
C14A	Swan Lake	150.95	278	⇑PKiKP	PKPbc	03 27 42.0	-0.6	
	baz=151							
SWMT	Swartz Lake	150.98	278	ePKPdf	PKPdf	03 27 36.2	-0.7	
SWMT				ePKPbc	PKPbc	03 27 42.2	-0.5	
SWMT				ePKPab	PKPab	03 27 51.1	+0.8	
D13A	Huson	151.06	276

PETK	**Petropavlovsk-**	**154.37**	**72**	PKPbc	**PKPbc**	**03 27 47.6**	**-2.3**
PETK	**Petropavlovsk-**	**154.37**	**72**	PKPbc	**PKPbc**	**03 27 47.6**	**-2.3**
	comp=Z,7.2nm,0.6s,baz=180,slow=2.6,SNR=7.4						
BROR	**Big Rock Looko**	**154.44**	**265**	P	**PKPdf**	**03 27 42.0**	**0.0**
YKA	**Yellowknife Ar**	**154.89**	**310**	PKP	**PKPdf**	**03 27 37.3**	**-4.7**
YKA				PKPbc	**PKPbc**	**03 27 49.6**	**-1.1**
YKA				PKPab	**PKPab**	**03 28 06.0**	**-0.2**
YKA				PP	**PP**	**03 31 47.5**	**+4.6**
YKA	**Yellowknife Ar**	**154.89**	**310**	PKP	**PKPdf**	**03 27 37.3**	**-4.7**
	comp=Z,2.5nm,0.8s,baz=81,slow=1.3,SNR=40						
YKA				PKPbc	**PKPbc**	**03 27 49.6**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=80,slow=1.7,SNR=10.0						
YKA				PKPab	**PKPab**	**03 28 05.9**	**-0.2**
	comp=Z,7.6nm,0.6s,baz=96,slow=5.0,SNR=36						
YKA				PP	**PP**	**03 31 47.5**	**+4.6**
	comp=Z,1.0nm,1.0s,baz=90,slow=5.7,SNR=4.5						
PET	**Petropavlovsk**	**154.90**	**73**	PFAKE		03 27 50.0	-1.0
PET				LR	LR		
	comp=Z,2μm,20.0s						
LON	**Longmire**	**155.33**	**270**	*e*PKIKP	**PKPdf**	**03 27 42.6**	**-0.6**
LON				*e*		03 28 08.8	
LON	**Longmire**	**155.33**	**270**	*e*PKPdf	**PKPdf**	**03 27 42.6**	**-0.6**
LON				*e*PKPab	**PKPab**	**03 28 08.8**	**+0.2**
VDB	**Vedder Mountai**	**156.51**	**275**	P	**PKPdf**	**03 27 43.0**	**-1.7**
NLWA	**Neilton Lookou**	**156.87**	**270**	*e*PKPdf	**PKPdf**	**03 27 44.7**	**-0.5**
NLWA				*e*PKPab	**PKPab**	**03 28 16.0**	**+0.8**
NLWA				LR	LR		
	comp=Z,2μm,21.0s						
PGC	**Sidney**	**157.17**	**273**	*e*PKPab	**PKPab**	**03 28 16.6**	**+0.2**
BILL	**Bilibino**	**157.74**	**34**	⇓*e*PKIKP	**PKPdf**	**03 27 46.0**	**+0.4**
BILL						03 32 06.0	
BILL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BILL	**Bilibino**	**157.74**	**34**	*e*PKPdf	**PKPdf**	**03 27 45.2**	**-0.4**
BILL				LR	LR		
	comp=Z,2μm,20.0s						
INK	**Inuvik**	**160.41**	**331**	PKP	**PKPdf**	**03 27 44.5**	**-4.2**
INK				*e*PKPdf	**PKPdf**	**03 27 44.6**	**-4.0**
INK				PKPab	**PKPab**	**03 28 30.9**	**+1.1**
INK				*e*PKPab	PKPab	03 28 31.5	+1.6
INK	**Inuvik**	**160.41**	**331**	PKP	**PKPdf**	**03 27 44.5**	**-4.2**
	comp=Z,2.5nm,0.8s,baz=231,slow=2.1,SNR=4.6						
INK				PKPab	**PKPab**	**03 28 30.9**	**+1.1**
	comp=Z,16nm,0.9s,baz=16,slow=6.1,SNR=9.7						
BBB	**Bella Bella**	**161.18**	**280**	PKPab	**PKPab**	**03 28 34.0**	**+0.3**
BBB	**Bella Bella**	**161.18**	**280**	PKPab	**PKPab**	**03 28 34.0**	**+0.3**
	comp=Z,7.9nm,0.9s,baz=176,slow=4.4,SNR=3.3						
DLBC	**Dease Lake**	**162.79**	**300**	PKP	**PKPdf**	**03 27 51.2**	**-0.3**
DLBC				PKPab	**PKPab**	**03 28 42.0**	**+1.3**
DLBC	**Dease Lake**	**162.79**	**300**	PKP	**PKPdf**	**03 27 51.2**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=66,slow=3.7,SNR=3.6						
DLBC				PKPab	**PKPab**	**03 28 42.0**	**+1.3**
	comp=Z,12nm,1.1s,baz=58,slow=3.6,SNR=6.7						
WRAK	**Wrangell Islan**	**164.16**	**293**	PFAKE		03 28 00.0	+7.2
WRAK				LR	LR		
	comp=Z,1μm,19.0s						
EGAK	**Eagle**	**165.04**	**329**	*e*PKPdf	**PKPdf**	**03 27 53.8**	**+0.4**
EGAK				*e*PKPab	**PKPab**	**03 28 51.1**	**+0.8**
EGAK				LR	LR		
	comp=Z,2μm,22.0s						
ILAR	**Eielson Array**	**166.63**	**337**	PKP	**PKPdf**	**03 27 51.0**	**-3.7**
ILAR				PKPab	**PKPab**	**03 28 57.0**	**-0.4**
ILAR				PP	**PP**	**03 32 47.0**	**+1.4**
ILAR	**Eielson Array**	**166.63**	**337**	PKP	**PKPdf**	**03 27 51.0**	**-3.7**
	comp=Z,1.1nm,1.0s,baz=330,slow=1.8,SNR=6.6						
ILAR				PKPab	**PKPab**	**03 28 57.0**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=13,slow=4.2,SNR=9.7						
ILAR				PP	**PP**	**03 32 47.0**	**+1.4**
	comp=Z,3.7nm,1.3s,baz=41,slow=3.8,SNR=5.1						
COLA	**College**	**166.77**	**338**	PFAKE		03 28 10.0	+15
COLA				LR	LR		
	comp=Z,1μm,20.0s						
KDAK	**Kodiak Island**	**173.91**	**325**	PFAKE		03 28 10.0	+11
KDAK				LR	LR		
	comp=Z,3μm,20.0s						

IDC 18 03:09:23.7±5.0, 2°87S×139°87E, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.3/16, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=196.1km s-min=29.4km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.81**	**197**	P	Pn	03 13 32.9	-0.3
	0.1nm,0.3s,baz=18,slow=12,SNR=7.3						
ASAR	**Alice Springs**	**21.47**	**195**	P	P	03 14 13.8	-0.1
	0.2nm,0.3s,baz=23,slow=10,SNR=4.2						
MKAR	**Makanchi Array**	**70.62**	**322**	P	P	03 20 41.2	+0.1
	0.3nm,1.0s,baz=99,slow=8.5,SNR=2.6						

*IDC **18** 03:12:32.0±1.1, 41°.19N×114°.89W, h0km, mb2.7/1, mb1 3.4/3, mb1mx3.2/26, mbtmp3.0/3, ML3.6/2, Error ellipse: s-maj=35.1km s-min=6.9km az=144.0*
*ISCJB **18** 03:12:32.6±0.3, 41°.10N±0°.02×114°.92W±0°.03, h10km, mb2.7/1, Error ellipse: s-maj=3.0km s-min=2.2km az=21.0*
*NEIC **18** 03:12:33.0, 41°.22N×114°.87W, h6km, ML3.7(REN), After REN.*
NEIC Felt [III] at Wells.

ISC 18 03:12:32.7±0.7, 41°.18N±0°.02×114°.88W±0°.02, h10km, n101, σ2s01/132, 32C-32D, Nevada

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELK	**Elko**	**0.52**	**212**	*e*Pg	**Pg**	**03 12 42.8**	**+0.1**
L14A	**Malta**	**1.49**	**55**	P	**Pn**	**03 12 59.7**	**-0.1**
	baz=1.5,SNR=140						
L14A				⇓S	**Sg**	**03 13 20.0**	**-0.8**
	baz=1.5						
HVU	**Hansel Valley**	**1.69**	**69**	*e*Pn	**Pn**	**03 13 02.3**	**-0.1**
N15A	**Stansbury Isla**	**1.81**	**99**	⇑P	**Pn**	**03 13 03.6**	**-0.4**
	baz=1.8						
N15A				⇑Sb	**Sb**	**03 13 30.0**	**+1.4**
	baz=1.8						
M15A	**Larsen Ranch,**	**1.85**	**80**	⇓P	**Pn**	**03 13 04.4**	**-0.2**
	baz=1.8,SNR=112						
M15A				⇑Sb	**Sb**	**03 13 30.2**	**+0.2**
	baz=1.8						
DUG	**Dugway**	**1.85**	**121**	*e*Pn	**Pn**	**03 13 03.9**	**-0.8**
DUG	**Dugway**	**1.85**	**121**	⇓P	**Pn**	**03 13 03.7**	**-0.9**
	baz=1.9						
DUG				⇑Sb	**Sb**	**03 13 30.6**	**+0.6**
	baz=1.9						
K14A	**Jones Ranch, D**	**1.86**	**42**	⇑P	**Pn**	**03 13 05.1**	**+0.3**
	baz=1.8,SNR=130						
K14A				⇓Sb	**Sg**	**03 13 31.9**	**-0.7**
	baz=1.8						
BMN	**Battle Mountai**	**1.93**	**248**	*e*Pn	**Pn**	**03 13 05.4**	**-0.3**
O15A	**The Old Anders**	**2.04**	**115**	⇑P	**Pn**	**03 13 06.5**	**-0.7**
	baz=2.0						
O15A				⇑Sb	**Sb**	**03 13 36.4**	**+1.0**
	baz=2.0						
L15A	**Malad City**	**2.04**	**65**	⇑P	**Pn**	**03 13 07.4**	**+0.2**
	baz=2.0,SNR=118						
L15A				⇓Sb	**Sg**	**03 13 36.9**	**-1.4**
	baz=2.0						
J13A	**Cove Ranch, Pi**	**2.27**	**13**	⇑P	**Pn**	**03 13 11.7**	**+1.2**
	baz=2.2,SNR=348						
J13A				⇑S	**Sb**	**03 13 40.7**	**-1.5**
	baz=2.2						
K15A	**Arbon**	**2.31**	**49**	⇑P	**Pn**	**03 13 11.8**	**+0.9**
	baz=2.3,SNR=77						
K15A				⇑S	**Sn**	**03 13 40.6**	**+1.2**
	baz=2.3						
MFID	**Camas Ranch**	**2.34**	**343**	*e*Pn	**Pb**	**03 13 13.2**	**-1.8**
MFID	**Camas Ranch**	**2.34**	**343**	⇓P	**Pn**	**03 13 12.5**	**+1.2**
	baz=2.3						
J14A	**Carey**	**2.37**	**25**	⇑P	**Pn**	**03 13 12.8**	**+1.1**
	baz=2.3						
J14A				⇓S	**Sb**	**03 13 42.5**	**-2.3**
	baz=2.3						
HLID	**Hailey**	**2.40**	**8**	*e*Pn	**Pn**	**03 13 13.7**	**+1.5**
HLID	**Hailey**	**2.40**	**8**	⇑P	**Pn**	**03 13 13.5**	**+1.2**
	baz=2.4,SNR=215						
HLID				⇓S	**Sb**	**03 13 44.7**	**-1.2**
	baz=2.4						
CTU	**Camp Tracy**	**2.42**	**101**	*e*Pg	**Pn**	**03 13 14.0**	**+1.6**
M16A	**Huntsville**	**2.45**	**86**	⇓P	**Pn**	**03 13 13.4**	**+0.4**
	baz=2.4						
M16A				⇓Sb	**Sb**	**03 13 48.6**	**+1.3**
	baz=2.4						
P15A	**Leamington**	**2.56**	**128**	⇓P	**Pn**	**03 13 13.6**	**-0.7**
	baz=2.6						
I12A	**Atlanta**	**2.62**	**356**	⇓P	**Pn**	**03 13 16.6**	**+1.4**
	baz=2.6,SNR=143						
N16A	**Rees Ranch, Co**	**2.62**	**95**	⇑P	**Pn**	**03 13 15.3**	**+0.1**
	baz=2.6						
JLU	**Jordanelle**	**2.66**	**101**	*e*Pn	**Pn**	**03 13 17.5**	**+1.6**
L16A	**Fish Haven**	**2.71**	**71**	⇑P	**Pn**	**03 13 17.3**	**+0.7**
	baz=2.7,SNR=11						
MPU	**Maple Canyon**	**2.73**	**114**	*e*Pn	**Pn**	**03 13 16.4**	**-0.4**
I13A	**Wildhorse Cree**	**2.79**	**11**	⇓P	**Pn**	**03 13 19.2**	**+1.7**
	baz=2.7,SNR=45						
DAU	**Daniels Canyon**	**2.85**	**104**	*e*Pn	**Pn**	**03 13 19.0**	**+0.4**
J15A	**Blackfoot**	**2.86**	**38**	⇑P	**Pn**	**03 13 19.6**	**+1.0**
	baz=2.8,SNR=38						
J15A				⇓Sb	**Sb**	**03 14 01.1**	**+2.0**
	baz=2.8						
R11A	**Troy Canyon, C**	**2.88**	**191**	⇓P	**Pn**	**03 13 18.8**	**-0.1**
	baz=2.9						
R11A				⇓S	**Sn**	**03 13 53.7**	**+0.1**
	baz=2.9						
P16A	**Fountain Green**	**2.92**	**122**	⇓P	**Pn**	**03 13 18.8**	**-0.5**
	baz=2.9						
I14A	**Mackay**	**2.94**	**21**	⇓P	**Pn**	**03 13 21.2**	**+1.6**
	baz=2.9						
K16A	**Soda Springs**	**2.95**	**55**	⇑P	**Pn**	**03 13 21.2**	**+1.4**
	baz=2.9,SNR=27						
K16A				⇓Sb	**Sg**	**03 14 04.9**	**-2.7**
	baz=2.9						
R13A	**O'Grain Ranch,**	**3.08**	**167**	⇑P	**Pn**	**03 13 22.1**	**+0.5**
	baz=3.1						
L17A	**Cokeville**	**3.14**	**72**	⇓P	**Pn**	**03 13 23.8**	**+1.4**
	baz=3.1						
L17A				⇓Sb	**Sb**	**03 14 09.3**	**+2.3**
	baz=3.1						
M17A	**Scullys Gap (B**	**3.19**	**83**	⇓Sb	**Sb**	**03 14 10.4**	**+1.9**
	baz=3.2						
J16A	**Bone**	**3.20**	**48**	⇑P	**Pn**	**03 13 24.6**	**+1.3**
	baz=3.2,SNR=11						
J16A				⇑Sb	**Sg**	**03 14 12.2**	**-3.3**
	baz=3.2						
I15A	**Monteview**	**3.32**	**31**	⇓Sb	**Sb**	**03 14 14.9**	**+2.5**
	baz=3.3						
K17A	**Gardner Place,**	**3.34**	**61**	⇓Sb	**Sb**	**03 14 15.2**	**+2.3**
	baz=3.3						
H12A	**Diamond D Ranc**	**3.37**	**0**	⇑P	**Pn**	**03 13 27.9**	**+2.4**
	baz=3.3,SNR=10						
MVU	**Marysvale**	**3.37**	**142**	*e*Pn	**Pn**	**03 13 25.7**	**+0.1**
MSU	**Marysvale**	**3.38**	**141**	*e*Pn	**Pn**	**03 13 25.8**	**0.0**
TMUT	**Trail Mountain**	**3.38**	**123**	*e*Pg	**Pn**	**03 13 27.5**	**+1.7**
RRI2	**Red Ridge**	**3.41**	**49**	*e*Pn	**Pn**	**03 13 27.4**	**+1.2**
ARUT	**Antelope Range**	**3.57**	**161**	*e*Pn	**Pn**	**03 13 28.5**	**+0.3**
ARUT				*e*Pg	**Pg**	**03 13 40.5**	**-0.5**
ARUT				*e*Sg	**Sg**	**03 14 25.5**	**-1.8**
R15A	**Junction**	**3.58**	**145**	⇓P	**Pn**	**03 13 28.6**	**+0.1**
	baz=3.6						
H14A	**Leadore**	**3.61**	**17**	⇑P	**Pn**	**03 13 30.6**	**+1.7**
	baz=3.6						
DCID1	**Drake Creek**	**3.65**	**47**	*e*Pn	**Pn**	**03 13 31.2**	**+1.9**
I16A	**Newdale**	**3.68**	**42**	⇓Sb	**Sg**	**03 14 26.9**	**-3.9**
	baz=3.6						
REDW	**Red Top Meadow**	**3.70**	**53**	*e*Pn	Pn	03 13 33.3	+3.2
TPAW	**Teton Pass**	**3.71**	**50**	*e*Pn	**Pn**	**03 13 32.9**	**+2.6**
NVAR	**Mina Array Bea**	**3.81**	**225**	Pn	**Pn**	**03 13 31.8**	**+0.2**
NVAR				Sn	**Sn**	**03 14 16.4**	**-0.2**
NVAR				Lg	Lg	03 14 32.9	
NVAR	**Mina Array Bea**	**3.81**	**225**	Pn	**Pn**	**03 13 31.8**	**+0.2**
	1.8nm,0.3s,baz=39,slow=13,SNR=16						
NVAR				Sn	**Sn**	**03 14 16.4**	**-0.2**
	3.8nm,0.3s,baz=39,slow=15,SNR=5.1						
NVAR				Lg	Lg	03 14 32.9	
	17nm,0.3s,baz=325,slow=27,SNR=9.7						
CCUT	**Cedar City**	**3.81**	**162**	*e*Pn	**Pn**	**03 13 32.3**	**+0.6**
SNOW	**Snow King Moun**	**3.81**	**52**	*e*Pn	**Pb**	**03 13 37.7**	**-2.5**
K18A	**Toltan Ranch,**	**3.89**	**66**	⇓P	**Pn**	**03 13 35.0**	**+2.2**
	baz=3.9						
SRU	**San Rafael**	**3.93**	**120**	*e*Pn	**Pn**	**03 13 33.3**	**+0.1**
SRU				*e*Pg	**Pb**	**03 13 45.0**	**+2.9**
G13A	**Cobalt**	**3.94**	**7**	⇑P	**Pn**	**03 13 36.0**	**+2.7**
	baz=3.9,SNR=9.1						
G12A	**Big Creek, Yel**	**3.96**	**355**	⇑Sb	**Sg**	**03 14 35.6**	**-4.2**
	baz=3.9						
IMW	**Indian Meadow**	**3.98**	**46**	*e*Pn	**Pn**	**03 13 35.9**	**+1.9**
LOHW	**Long Hollow**	**3.99**	**51**	*e*Pn	**Pn**	**03 13 35.8**	**+1.7**
MOOW	**Moose Ponds**	**3.99**	**49**	*e*Pn	**Pn**	**03 13 35.5**	**+1.4**
BMO	**Blue Mountains**	**4.08**	**335**	*e*Pn	**Pn**	**03 13 37.6**	**+2.4**
MOD	**Modoc**	**4.13**	**282**	*e*Pn	**Pn**	**03 13 36.5**	**+0.4**
J18A	**Kendall Valley**	**4.14**	**59**	⇓P	**Pn**	**03 13 37.9**	**+1.8**
	baz=4.1						
G14A	**Jackson**	**4.19**	**14**	⇑Sb	**Sb**	**03 14 41.5**	**+4.2**
	baz=4.1						
I17A	**Pilgrim Ck.**	**4.19**	**48**	⇓P	**Pn**	**03 13 38.9**	**+2.0**
	baz=4.2						
FLWY	**Flagg Ranch**	**4.23**	**45**	*e*Pn	Pn	03 13 41.3	+3.9
R17A	**Hanksville Air**	**4.23**	**129**	⇑P	**Pn**	**03 13 38.7**	**+1.4**
	baz=4.2						
PD01	**Pinedale Array**	**4.26**	**66**	*e*Pn	**Pn**	**03 13 40.0**	**+2.3**
PD01				*e*Sg	**Sg**	**03 14 44.8**	**-4.6**
PD02	**Pinedale Array**	**4.27**	**66**	*e*Pn	**Pn**	**03 13 40.3**	**+2.4**
PD02				*e*Sg	**Sg**	**03 14 45.0**	**-4.7**
BW06	**Boulder Array**	**4.27**	**66**	*e*Pn	**Pn**	**03 13 40.6**	**+2.7**
BW06	**Boulder Array**	**4.27**	**66**	⇓P	**Pn**	**03 13 39.7**	**+1.8**
	baz=4.2						
PDAR	**Pinedale Array**	**4.27**	**66**	Pn	**Pn**	**03 13 40.6**	**+2.6**
PDAR				Pg	**Pb**	**03 13 48.1**	**+0.1**
PDAR				Lg	Lg	03 14 46.0	
PDAR	**Pinedale Array**	**4.27**	**66**	Pn	**Pn**	**03 13 40.6**	**+2.6**
	0.6nm,0.3s,baz=246,slow=12,SNR=35						
PDAR				Pg	**Pb**	**03 13 48.1**	**+0.1**
	0.7nm,0.3s,baz=245,slow=13,SNR=13						
PDAR				Lg	Lg	03 14 46.0	
	1.4nm,0.3s,baz=233,slow=30,SNR=5.6						
H16A	**Russell Place,**	**4.41**	**36**	⇑P	**Pn**	**03 13 42.1**	**+2.2**
	baz=4.4						
H16A				⇑Sb	**Sb**	**03 14 47.3**	**+3.6**
	baz=4.4						
QLMT	**Earthquake Lak**	**4.44**	**34**	*e*Pn	Pn	03 13 44.3	+4.1
DLMT	**Dillon**	**4.50**	**21**	*e*Pn	Pn	03 13 45.6	+4.6
YMR	**Madison River**	**4.52**	**38**	*e*Pn	**Pn**	**03 13 39.6**	**-1.7**
YMR				*e*Sg	**Sg**	**03 14 54.4**	**-3.2**
F12A	**Elk City**	**4.58**	**357**	⇑Sb	**Sg**	**03 14 54.4**	**-5.4**
	baz=4.5						
LKWY	**Lake**	**4.72**	**43**	*e*Pn	**Pn**	**03 13 43.9**	**-0.2**
LKWY				*e*Pg	Pb	03 13 59.2	+3.6
F14A	**Wisdom**	**4.76**	**13**	⇑Sb	**Sb**	**03 14 58.1**	**+4.6**
	baz=4.7						
K19A	**Absolon Red Bu**	**4.78**	**68**	⇑P	**Pn**	**03 13 47.3**	**+2.3**
	baz=4.7						
J19A	**Crowheart**	**4.80**	**62**	⇓P	**Pn**	**03 13 47.7**	**+2.5**
	baz=4.8						
LRM	**Limekiln Ridge**	**4.96**	**20**	*e*Pn	Pn	03 13 53.2	+5.7
LRM				*e*Sg	**Sg**	**03 15 06.9**	**-5.1**
BOZ	**Bozeman (W)**	**5.05**	**27**	*e*Pg	**Pb**	**03 14 01.7**	**+0.5**
	1.5nm,0.4s						
BOZ				*e*Sg	**Sb**	**03 15 05.3**	**+3.3**
U15A	**North Rim**	**5.16**	**156**	⇓P	**Pn**	**03 13 51.5**	**+1.2**
	baz=5.2						
CMB	**Columbia Colle**	**5.29**	**235**	*e*Pn	**Pn**	**03 13 54.0**	**+2.2**
CMB				*e*Pg	Pb	03 14 10.2	+4.9
CMB				*e*Sg	**Sg**	**03 15 20.1**	**-2.4**
PV04	**Paradox Valley**	**5.38**	**119**	*e*Pg	**Pg**	**03 14 15.2**	**-0.4**
MSO	**Missoula**	**5.69**	**7**	*e*Sg	**Sg**	**03 15 29.8**	**-5.3**
PV01	**Paradox Valley**	**5.74**	**120**	*e*Pn	**Pn**	**03 14 00.2**	**+2.0**
	287nm,0.7s						
PV01				*e*Pb	**Pb**	**03 14 13.8**	**+0.8**
PV01				*e*Pg	**Pg**	**03 14 21.9**	**-0.7**
PV01				*e*Sg	**Sg**	**03 15 34.7**	**-2.2**
CHMT	**Chamberlain Mo**	**5.85**	**11**	*e*Pn	**Pn**	**03 13 59.2**	**-0.4**
CHMT				*e*Sg	Sg	03 15 34.1	-6.2
HRY	**Holter Researc**	**5.95**	**21**	*e*Pn	Pn	03 14 05.0	+4.1
HRY				*e*Sg	**Sg**	**03 15 42.7**	**-0.8**
LDFC	**Landfair**	**6.10**	**182**	*e*Pn	**Pn**	**03 14 03.2**	**+0.3**
SLMT	**Seeley Lake**	**6.14**	**9**	*e*Pn	Pn	03 14 07.9	+4.4
SLMT				*e*Sg	**Sg**	**03 15 48.0**	**-1.7**
ISA	**Isabella**	**6.19**	**208**	*e*Pn	**Pn**	**03 14 05.1**	**+0.9**
ISA				*e*Sg	**Sg**	**03 15 51.3**	**-0.1**
WUAZ	**Wupatki**	**6.29**	**153**	*e*Pg	**Pg**	**03 14 31.4**	**-1.8**
MVCO	**Mesa Verde**	**6.35**	**127**	*e*Pg	**Pg**	**03 14 33.2**	**-1.0**
SMCO	**Snowmass**	**6.38**	**106**	*e*Pg	**Pg**	**03 14 32.4**	**-2.4**
SMCO				*e*Sg	**Sg**	**03 15 52.6**	**-4.7**
YKA	**Yellowknife Ar**	**21.34**	**0**	P	**P**	**03 17 20.6**	**+1.0**
YKA	**Yellowknife Ar**	**21.34**	**0**	P	**P**	**03 17 20.6**	**+1.0**
	0.3nm,0.7s,baz=180,slow=10,SNR=11						

*IDC **18** 03:17:26.0±3.8, 33°.89N×23°.22E, h0km, mb4.1/10, mb1 4.0/16, mb1mx3.9/35, mbtmp4.0/16, ML3.9/6, MS4.6/3, Ms1 4.6/3, ms1mx3.2/54, Error ellipse: s-maj=72.8km s-min=20.1km az=33.0*
*CSEM **18** 03:17:31.5±2.0, 34°.05N×23°.37E, h15km, ML3.2, Error ellipse: s-maj=9.4km s-min=4.2km az=2.0*
*ATH **18** 03:17:31.4, 34°.05N×23°.32E, h35km±5km, ML3.2*
*THE **18** 03:17:31.8, 34°.04N×23°.30E, h16km±4km, Error ellipse: s-maj=4.9km s-min=1.1km az=204.0*

ISC 18 03:17:31.5±2.0, 34°.04N±0°.09×23°.37E±0°.05, h18km±7km, n112, σ0s80/115, mb4.1/10, MS5.0/3, 2D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**1.00**	**36**	P	**Pg**	**03 17 50.3**	**-0.6**
GVD				S	**Sg**	**03 18 04.9**	**+0.8**
GVD	**Gavdhos**	**1.00**	**36**	*e*PN	**Pg**	**03 17 50.9**	**0.0**
GVD	**Gavdhos**	**1.00**	**36**	P	**Pg**	**03 17 50.3**	**-0.6**
GVD	**Gavdhos**	**1.00**	**36**	*e*Pn	**Pg**	**03 17 50.9**	**0.0**
GVD				S	**Sg**	**03 18 04.9**	**+0.8**
KARN	**Karanos**	**1.44**	**18**	P	**Pn**	**03 17 56.8**	**+0.1**
KARN				S	**Sn**	**03 18 15.5**	**+0.4**
KARN	**Karanos**	**1.44**	**18**	*e*PN	**Pn**	**03 17 56.9**	**+0.2**
KARN				*e*SN	**Sn**	**03 18 15.9**	**+0.8**
KARN	**Karanos**	**1.44**	**18**	P	**Pn**	**03 17 56.8**	**+0.1**
KARN				*e*Sn	**Sn**	**03 18 15.9**	**+0.8**
VAM	**Vamos**	**1.53**	**26**	P	**Pn**	**03 17 58.0**	**+0.1**
VAM				S	**Sn**	**03 18 17.9**	**+0.5**
VAM	**Vamos**	**1.53**	**26**	*e*PB	**Pn**	**03 17 58.0**	**+0.1**
VAM				*e*SN	**Sn**	**03 18 17.6**	**+0.2**
VAM	**Vamos**	**1.53**	**26**	P	**Pn**	**03 17 58.0**	**+0.1**
VAM				*e*Sn	**Sn**	**03 18 17.6**	**+0.2**
SIVA	**Sivas**	**1.54**	**50**	P	**Pn**	**03 17 58.2**	**+0.1**
SIVA				S	**Sn**	**03 18 18.5**	**+0.8**
SIVA	**Sivas**	**1.54**	**50**	*e*PB	**Pn**	**03 17 58.6**	**+0.5**
SIVA				*e*SN	**Sn**	**03 18 18.7**	**+1.0**
SIVA	**Sivas**	**1.54**	**50**	*e*Pb	**Pn**	**03 17 58.6**	**+0.5**
SIVA				S	**Sn**	**03 18 18.5**	**+0.8**
LAST	**Lasithi**	**2.07**	**57**	P	**Pn**	**03 18 05.8**	**+0.3**
LAST	**Lasithi**	**2.07**	**57**	*e*PN	**Pn**	**03 18 06.3**	**+0.8**
LAST				*e*SN	**Sn**	**03 18 32.3**	**+1.4**
LAST	**Lasithi**	**2.07**	**57**	*e*Pn	**Pn**	**03 18 06.3**	**+0.8**
LAST				*e*Sn	**Sn**	**03 18 32.3**	**+1.4**
NPS	**Neapolis**	**2.22**	**56**	P	**Pn**	**03 18 08.1**	**+0.7**
NPS	**Neapolis**	**2.22**	**56**	*e*PN	**Pn**	**03 18 08.4**	**+1.0**
NPS	**Neapolis**	**2.22**	**56**	*e*Pn	**Pn**	**03 18 08.4**	**+1.0**
KYTH	**Kithira**	**2.26**	**353**	*e*PN	**Pn**	**03 18 08.8**	**+0.9**
KYTH	**Kithira**	**2.26**	**353**	*e*Pn	**Pn**	**03 18 08.8**	**+0.9**
ZKR	**Zakros**	**2.59**	**65**	P	**Pn**	**03 18 12.7**	**+0.2**
ZKR	**Zakros**	**2.59**	**65**	*e*PN	**Pn**	**03 18 13.3**	**+0.8**
ZKR	**Zakros**	**2.59**	**65**	*e*Pn	**Pn**	**03 18 13.3**	**+0.8**
VLI	**Veliai**	**2.70**	**353**	*e*PN	**Pn**	**03 18 14.9**	**+0.9**
VLI	**Veliai**	**2.70**	**353**	*e*Pn	**Pn**	**03 18 14.9**	**+0.9**
THR2	**Thira island,**	**2.94**	**35**	P	**Pn**	**03 18 17.3**	**0.0**
THR2	**Thira island,**	**2.94**	**35**	P	**Pn**	**03 18 17.3**	**0.0**
PYL	**PYLOS**	**3.15**	**336**	*e*PN	**Pn**	**03 18 20.8**	**+0.7**
PYL	**PYLOS**	**3.15**	**336**	*e*Pn	**Pn**	**03 18 20.8**	**+0.7**
ITM	**Ithomi**	**3.35**	**340**	*e*PN	**Pn**	**03 18 24.3**	**+1.3**
ITM	**Ithomi**	**3.35**	**340**	*e*Pn	**Pn**	**03 18 24.3**	**+1.3**
DID	**Didima**	**3.46**	**358**	P	**Pn**	**03 18 24.4**	**-0.2**
DID	**Didima**	**3.46**	**358**	P	**Pn**	**03 18 24.4**	**-0.2**
APE	**Apeiranthos**	**3.50**	**30**	*e*PN	**Pn**	**03 18 24.2**	**-0.9**
APE	**Apeiranthos**	**3.50**	**30**	*e*Pn	**Pn**	**03 18 24.2**	**-0.9**
NAIG	**Nisos Aigina**	**3.72**	**2**	*e*PN	**Pn**	**03 18 28.2**	**+0.2**
NAIG	**Nisos A

JTS JuntasAbangare 99.09 289 LR LR 04 11 34.8
comp=Z,599nm,18.9s,baz=189,slow=33

IDC ***18*** *03:19:11.6±1.3,52˚93S×21˚14E,h0km,mb4.3/3, mb1 4.4/3,mb1mx3.7/17,mbtmp4.3/3, Error ellipse: s-maj=64.4km s-min=29.9km az=51.0*
NEIC ***18*** *03:19:13.2±0.5,53˚04S×20˚89E,h10km,mb4.4/5, Error ellipse: s-maj=23.5km s-min=13.4km az=67.0*
ISC 18 03:19:13.1±0.8,53˚2S×0˚1×20˚7E±0˚2,h10km,n16, σ1§34/16,mb4.4/6,South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.77**	**0**	*e*P	**P**	**03 23 53.4**	**-1.0**
	22nm,1.3s						
SNAA	**Sanae**	**21.23**	**200**	*e*P	**P**	**03 23 55.5**	**-3.4**
	16nm,1.1s						
MAW	**Mawson**	**24.72**	**142**	P	**P**	**03 24 33.8**	**-0.3**
MAW	**Mawson**	**24.72**	**142**	P	**P**	**03 24 33.8**	**-0.3**
	20nm,0.7s,baz=270,slow=12,SNR=2.2						
QSPA	**South Pole Qui**	**37.06**	**180**	*e*P	**P**	**03 26 24.8**	**+1.7**
	5.0nm,0.9s						
QSPA	**South Pole Qui**	**37.06**	**180**	P	**P**	**03 26 24.9**	**+1.9**
	3.0nm,0.7s,baz=250,slow=6.0,SNR=7.8						
SAML	**Samuel**	**79.21**	**270**	*e*P	**P**	**03 31 19.2**	**+0.8**
	6.4nm,1.3s						
ASAR	**Alice Springs**	**84.21**	**122**	P	**P**	**03 31 44.8**	**-0.1**
ASAR	**Alice Springs**	**84.21**	**122**	P	**P**	**03 31 44.8**	**-0.1**
	0.4nm,0.4s,baz=206,slow=6.2,SNR=4.3						
WRAB	**Tennant Creek**	**87.53**	**120**	*e*P	**P**	**03 32 00.9**	**-0.4**
	6.8nm,1.3s						
PDAR	**Pinedale Array**	**145.74**	**273**	PKPbc	**PKPdf**	**03 38 51.1**	**-0.2**
PDAR	**Pinedale Array**	**145.74**	**273**	PKPbc	**PKPdf**	**03 38 51.1**	**-0.2**
	1.1nm,0.9s,baz=125,slow=4.4,SNR=5.9						
NVAR	**Mina Array Bea**	**148.31**	**259**	PKPbc	**PKPbc**	**03 39 00.4**	**+1.2**
NVAR	**Mina Array Bea**	**148.31**	**259**	PKPbc	**PKPbc**	**03 39 00.4**	**+1.2**
	0.9nm,0.8s,baz=118,slow=6.7,SNR=4.9						
YKA	**Yellowknife Ar**	**154.92**	**310**	PKPab	**PKPab**	**03 39 28.8**	**-0.2**
YKA	**Yellowknife Ar**	**154.92**	**310**	PKPab	**PKPab**	**03 39 28.8**	**-0.2**
	0.7nm,0.9s,baz=89,slow=5.5,SNR=8.4						

IDC 18 03:19:24.1±1.5,52˚57S×21˚53E,h0km,mb4.4/2, mb1 4.5/2,mb1mx3.7/16,mbtmp4.4/2,1C,Error ellipse: s-maj=132.6km s-min=32.2km az=40.0,South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**18.56**	**159⇑**	*e*P	P	03 23 39.5	-2.6
MAW	**Mawson**	**24.87**	**143**	P	P	03 24 47.7	-0.3
	24nm,0.8s,baz=298,slow=7.2,SNR=4.2						
ASAR	**Alice Springs**	**84.08**	**122**	P	P	03 31 57.1	+0.3
	0.9nm,0.8s,baz=214,slow=4.4,SNR=4.7						
PDAR	**Pinedale Array**	**146.24**	**273**	PKPbc	PKPdf	03 39 04.5	-0.4
	1.4nm,0.8s,baz=122,slow=4.6,SNR=8.5						
NVAR	**Mina Array Bea**	**148.94**	**259**	PKPbc	PKPbc	03 39 14.0	+0.4
	1.4nm,0.8s,baz=114,slow=3.9,SNR=6.4						
YKA	**Yellowknife Ar**	**154.94**	**311**	PKPab	PKPab	03 39 41.0	-0.7
	0.7nm,0.9s,baz=92,slow=4.7,SNR=7.7						

ISCJB ***18*** *03:25:59.1±0.8,31˚88S±0˚06×138˚42E±0˚06,h27km, Error ellipse: s-maj=8.7km s-min=7.1km az=6.1*
IDC ***18*** *03:26:00.9±5.3,31˚61S×138˚72E,h0km,mb1 3.1/3, mb1mx3.0/14,mbtmp2.8/3,ML2.8/3, Error ellipse: s-maj=81.0km s-min=17.3km az=28.0*
ISC 18 03:25:58.9±1.1,32˚10S±0˚09×138˚33E±0˚06,h27km,n5, σ0§97/8,Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOO	**Buckleboo**	**2.05**	**249**	*e*P	**Pb**	**03 26 34.8**	**-0.6**
BBOO				*e*S	**Sb**	**03 27 01.0**	**+0.5**
	143nm,0.2s						
STKA	**Stephens Creek**	**2.78**	**86**	*e*P	**Pn**	**03 26 42.3**	**+0.6**
	5.2nm,0.2s						
STKA				*e*S	**Sn**	**03 27 13.9**	**-0.5**
	29nm,0.4s						
STKA	**Stephens Creek**	**2.78**	**86**	Pn	**Pn**	**03 26 42.0**	**+0.3**
	0.4nm,0.3s,baz=265,slow=15,SNR=8.6						
STKA				Lg	Lg	03 27 19.7	
	12nm,0.3s,baz=161,slow=23,SNR=12						
ASAR	**Alice Springs**	**9.27**	**334**	Pn	Pn	03 28 12.7	+1.9
	0.2nm,0.3s,baz=162,slow=10,SNR=4.7						
ASAR				Sn	**Sn**	**03 29 55.6**	**+1.4**
	0.2nm,0.3s,baz=155,slow=22,SNR=4.8						
WRA	**Warramunga Arr**	**12.62**	**343**	Pn	**Pn**	**03 28 56.6**	**-0.1**
	0.1nm,0.3s,baz=156,slow=11,SNR=16						
WRA				Sn	**Sn**	**03 31 15.3**	**-1.2**
	0.1nm,0.3s,baz=162,slow=23,SNR=3.3						

ISCJB ***18*** *03:30:33.6±0.3,61˚65S±0˚04×154˚7E±0˚1,h10km, mb5.1/44,MS5.2/24,Error ellipse: s-maj=9.5km s-min=6.3km az=178.5*
BJI ***18*** *03:30:33.9,61˚49S×155˚42E,h7km,mB5.9/13,mb5.8/7, Ms5.7/15,Ms7 5.4/15*
IDC ***18*** *03:30:33.5±0.4,61˚71S×154˚35E,h0km,mb5.0/16, mb1 5.0/16,mb1mx5.0/19,mbtmp4.9/16,MS5.0/13, Ms1 5.1/13,ms1mx4.7/31,Error ellipse: s-maj=25.1km s-min=12.2km az=70.0*
NEIC ***18*** *03:30:34.8±0.2,61˚71S×154˚75E,h10km,mb5.2/27,Error ellipse: s-maj=9.8km s-min=5.7km az=81.0*
DJA ***18*** *03:30:34,61˚53S×156˚40E,h10km,mb5.4/12*
MOS ***18*** *03:30:38.6±1.7,61˚38S×154˚75E,h33km,mb5.0/19,Error ellipse: s-maj=37.7km s-min=10.3km az=96.6*
ISC 18 03:30:35.2±0.8,61˚68S±0˚05×154˚91E±0˚08,h10km±4km, n262,σ1§42/273,mb5.2/44,MS5.1/24,28C-33D,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**7.51**	**18**	*e*P	**Pn**	**03 32 22.3**	**-2.3**
MCQ	**Macquarie Isla**	**7.51**	**18**	*e*Pn	**Pn**	**03 32 22.3**	**-2.3**
MCQ	**Macquarie Isla**	**7.51**	**18**	*e*P	**Pn**	**03 32 21.9**	**-2.7**
	10µm,0.6s						
VNDA	**Vanda**	**16.07**	**175**	*e*Pn	**Pn**	**03 34 17.6**	**-3.2**
	130nm,1.4s						
APZ	**The Paps**	**16.67**	**33**	P*	**Pn**	**03 34 29.5**	**+0.8**
SBA	**Scott Base**	**16.68**	**171**	*e*P	**Pn**	**03 34 26.4**	**-2.2**
SBA				pmax	pmax		
	comp=Z,3µm,2.8s						
SBA	**Scott Base**	**16.68**	**171**	*e*Pn	**Pn**	**03 34 26.4**	**-2.2**
	comp=Z,3µm,2.8s						
ODZ	**Otahua Downs**	**19.04**	**36**	*e*P	**Pn**	**03 35 00.1**	**+2.3**
	comp=Z,6µm,2.6s						
TAU	**Tasmania Unive**	**19.34**	**343**	*e*P	**P**	**03 35 00.8**	**+0.4**
TAU				pmax	pmax		
	comp=Z,1µm,2.7s						
TAU	**Tasmania Unive**	**19.34**	**343**	*e*P	**P**	**03 35 00.8**	**+0.4**
	comp=Z,1µm,2.7s						
CASY	**Casey**	**19.65**	**237**	*e*P	**Pn**	**03 35 05.8**	**+0.7**
	comp=Z,96nm,1.2s						
RPZ	**Rata Peaks**	**20.37**	**35**	*e*P	Pn	03 35 13.3	-0.4
	comp=Z,408nm,1.6s						
KHZ	**Kahutara**	**22.28**	**39**	*e*P	**P**	**03 35 31.6**	**-0.5**
	comp=Z,369nm,1.9s						
TOO	**Toolangi**	**24.84**	**342**	*e*P	**P**	**03 35 57.8**	**+0.3**
	comp=Z,256nm,1.7s						
TOO				*e*S	**S**	**03 40 14.0**	**-6.0**
ARPS	**Mount Arapiles**	**26.25**	**336**	*e*P	**P**	**03 36 09.4**	**-0.8**
	comp=Z,156nm,0.9s						
CNB	**Canberra Magne**	**26.62**	**350**	*e*P	**P**	**03 36 14.3**	**+0.7**
	comp=Z,274nm,0.9s						
URZ	**Urewera**	**27.18**	**41**	*e*P	**P**	**03 36 17.0**	**-1.5**
	comp=Z,38nm,0.9s						
QSPA	**South Pole Qui**	**28.41**	**180**	P	**P**	**03 36 30.3**	**+0.8**
QSPA				PcP	**PcP**	**03 39 40.6**	**-0.7**
QSPA	**South Pole Qui**	**28.41**	**180**	P	**P**	**03 36 30.3**	**+0.8**
	comp=Z,50nm,1.0s,baz=2.2,slow=4.8,SNR=59						
QSPA				PcP	**PcP**	**03 39 40.6**	**-0.7**
	comp=Z,5.6nm,0.9s,baz=307,slow=5.1,SNR=2.8						
QSPA				LR	LR	03 47 54.0	
	comp=Z,4µm,20.1s,baz=19,slow=37						
STKA	**Stephens Creek**	**31.05**	**338**	*e*P	**P**	**03 36 52.5**	**-0.4**
	comp=Z,12nm,0.9s						
STKA	**Stephens Creek**	**31.05**	**338**	*e*P	**P**	**03 36 52.4**	**-0.6**
	comp=Z,35nm,0.9s						
STKA	**Stephens Creek**	**31.05**	**338**	P	**P**	**03 36 51.9**	**-1.1**
	comp=Z,38nm,0.8s,baz=158,slow=8.3,SNR=72						
ARMA	**Armidale**	**31.34**	**355**	*e*P	**P**	**03 36 57.0**	**+1.3**
	comp=Z,59nm,1.4s						
ARMA	**Armidale**	**31.34**	**355**	*e*P	**P**	**03 36 56.8**	**+1.1**

BBOO	**Buckleboo**	**31.35**	**328**	*e*P	**P**	**03 36 55.2**	**-0.4**
	comp=Z,942nm,0.9s						
FORT	**Forrest**	**35.54**	**318**	*e*P	**P**	**03 37 31.7**	**-0.3**
	comp=Z,90nm,0.8s						
FORT	**Forrest**	**35.54**	**318**	*e*P	**P**	**03 37 31.6**	**-0.5**
	comp=Z,68nm,0.8s						
QLP	**Quilpie**	**35.82**	**344**	*e*P	**P**	**03 37 34.5**	**0.0**
MAW	**Mawson**	**36.35**	**220**	LR	LR	03 52 43.4	
	comp=Z,8µm,18.1s,baz=114,slow=37						
EIDS	**Eidsvold**	**36.39**	**354**	*e*P	**P**	**03 37 39.7**	**+0.3**
	comp=Z,100nm,1.4s						
NWAO	**Narrogin (SRO)**	**37.54**	**302**	P	**P**	**03 37 46.1**	**-3.0**
NWAO	**Narrogin (SRO)**	**37.54**	**302**	P	**P**	**03 37 46.1**	**-3.0**
	comp=Z,10nm,0.9s,baz=120,slow=6.5,SNR=3.6						
NWAO				LR	LR	03 49 28.6	
	comp=Z,3µm,20.4s,baz=147,slow=30						
BLDU	**Ballidu**	**39.78**	**304**	*e*P	**P**	**03 38 06.2**	**-1.8**
DZM	**Mont Dzumac**	**40.38**	**17**	*e*P	**P**	**03 38 13.0**	**-0.1**
DZM	**Mont Dzumac**	**40.38**	**17**	P	**P**	**03 38 14.1**	**+1.1**
DZM	**Mont Dzumac**	**40.38**	**17**	P	**P**	**03 38 14.1**	**+1.1**
	comp=Z,46nm,0.9s,baz=149,slow=8.0,SNR=15						
ASAR	**Alice Springs**	**40.62**	**330**	P	**P**	**03 38 13.8**	**-1.3**
ASAR				PcP	**PcP**	**03 40 16.1**	**-0.7**
ASAR	**Alice Springs**	**40.62**	**330**	P	**P**	**03 38 13.8**	**-1.3**
	comp=Z,31nm,0.8s,baz=167,slow=8.9,SNR=178						
ASAR				PcP	**PcP**	**03 40 16.1**	**-0.7**
	comp=Z,4.6nm,0.8s,baz=156,slow=3.0,SNR=6.2						
AS31	**Alice Springs**	**40.62**	**330**	*e*P	**P**	**03 38 13.8**	**-1.3**
MORW	**Morawa**	**41.42**	**304**	*e*P	**P**	**03 38 20.0**	**-1.5**
	comp=Z,71nm,0.8s						
SYO	**Syowa Base**	**41.71**	**209⇓**	*e*P	**P**	**03 38 22.0**	**-1.4**
CTA	**Charters Tower**	**42.00**	**348**	P	**P**	**03 38 26.8**	**+0.4**
CTA	**Charters Tower**	**42.00**	**348⇑**	*i*P	**P**	**03 38 26.7**	**+0.4**
	comp=Z,24nm,0.9s						
CTA	**Charters Tower**	**42.00**	**348**	P	**P**	**03 38 26.8**	**+0.4**
	comp=Z,26nm,0.9s,baz=179,slow=8.4,SNR=27						
CTAO	**Charters Tower**	**42.00**	**348**	*e*P	**P**	**03 38 26.2**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,355nm,2.0s						
CTAO	**Charters Tower**	**42.00**	**348**	*e*P	**P**	**03 38 26.2**	**-0.1**
	comp=Z,355nm,2.0s						
MEEK	**Meekatharra**	**42.61**	**308**	*e*P	**P**	**03 38 29.5**	**-1.8**
	comp=Z,115nm,0.7s						
WRA	**Warramunga Arr**	**44.11**	**332**	P	**P**	**03 38 41.5**	**-1.9**
WRA				PcP	**PcP**	**03 40 27.6**	**-0.8**
WRA	**Warramunga Arr**	**44.11**	**332**	P	**P**	**03 38 41.5**	**-1.9**
	comp=Z,32nm,0.8s,baz=164,slow=6.8,SNR=128						
WRA				PcP	**PcP**	**03 40 27.6**	**-0.8**
	comp=Z,5.5nm,0.8s,baz=165,slow=3.1,SNR=8.2						
WRAB	**Tennant Creek**	**44.12**	**332**	*e*P	**P**	**03 38 42.0**	**-1.5**
WRAB				*e*		03 40 27.5	
WRAB				pmax	pmax		
	comp=Z,64nm,1.1s						
WRAB	**Tennant Creek**	**44.12**	**332**	*e*P	**P**	**03 38 42.0**	**-1.5**
	comp=Z,64nm,1.1s						
WRAB				*e*PcP	**PcP**	**03 40 27.5**	**-1.0**
WRAB	**Tennant Creek**	**44.12**	**332**	P	**P**	**03 38 42.7**	**-0.8**
	comp=Z,314nm,1.1s,SNR=11						
SNAA	**Sanae**	**46.03**	**190**	*e*P	P	03 38 50.4	-7.9
	comp=Z,20nm,1.0s						
SNAA				*e*PP	**PcP**	**03 40 39.0**	**+4.6**
MBWA	**Marble Bar**	**47.22**	**313**	*e*P	**P**	**03 39 06.5**	**-1.5**
	comp=Z,27nm,1.0s						
FITZ	**Fitzroy Crossi**	**48.16**	**321**	*e*P	**P**	**03 39 14.2**	**-1.0**
	comp=Z,49nm,1.1s						
FITZ	**Fitzroy Crossi**	**48.16**	**321**	*e*P	**P**	**03 39 14.0**	**-1.3**
	comp=Z,49nm,1.1s						
FITZ	**Fitzroy Crossi**	**48.16**	**321**	P	**P**	**03 39 14.4**	**-0.9**
	comp=Z,25nm,0.9s,baz=182,slow=9.9,SNR=26						
COEN	**Coen**	**48.40**	**345**	*e*P	**P**	**03 39 17.4**	**+0.3**
	comp=Z,484nm,1.1s						
PMG	**Port Moresby**	**52.49**	**350**	*e*P	**P**	**03 39 48.7**	**+0.6**
	comp=Z,440nm,2.2s						
PMG	**Port Moresby**	**52.49**	**350**	P	**P**	**03 39 48.5**	**+0.5**
	comp=Z,29nm,0.8s,baz=184,slow=6.5,SNR=6.5						
PMG				LR	LR	04 01 34.6	
	comp=Z,3µm,18.1s,baz=150,slow=36						
KAPI	**Kappang**	**62.31**	**320**	*e*P	**P**	**03 40 56.4**	**-0.9**
	comp=Z,25nm,1.0s						
KAPI	**Kappang**	**62.31**	**320**	P	**P**	**03 40 57.1**	**-0.3**
	comp=Z,26nm,1.4s						
KAPI	**Kappang**	**62.31**	**320**	P	**P**	**03 40 56.5**	**-0.8**
	comp=Z,8.4nm,0.3s,baz=180,slow=15,SNR=6.5						
KAPI				LR	LR	04 04 27.6	
	comp=Z,1µm,21.3s,baz=175,slow=33						
PLCA	**Paso Flores**	**71.51**	**145**	*e*P	**P**	**03 41 56.6**	**+0.8**
PLCA	**Paso Flores**	**71.51**	**145**	P	**P**	**03 41 56.5**	**+0.7**
	comp=Z,3.5nm,0.7s,baz=180,slow=8.1,SNR=11						
SBUM	**Sibu**	**71.77**	**315**	P	**P**	**03 41 58.3**	**+0.8**
	comp=Z,21nm,0.8s						
KKM	**Kota Kinabalu**	**73.85**	**320**	*e*P	**P**	**03 42 09.5**	**-0.4**
GUMO	**Guam**	**75.44**	**350**	LR	LR	04 14 36.8	
	comp=Z,482nm,19.4s,baz=234,slow=35						
TRQA	**Tornquist**	**76.20**	**151**	*e*P	**P**	**03 42 22.7**	**-0.5**
	comp=Z,7.8nm,0.8s						
PSI	**Prapat**	**77.07**	**302**	P	**P**	**03 42 26.8**	**-1.7**
PSI	**Prapat**	**77.07**	**302**	P	**P**	**03 42 30.8**	**+2.3**
	comp=Z,10nm,1.4s						
PSI	**Prapat**	**77.07**	**302**	P	**P**	**03 42 26.8**	**-1.7**
	comp=Z,1.8nm,0.3s,baz=176,slow=8.7,SNR=5.8						
PSI				LR	LR	04 10 08.6	
	comp=Z,976nm,20.6s,baz=136,slow=31						
IPM	**Ipoh**	**77.76**	**304**	*e*P	**P**	**03 42 31.1**	**-1.1**
	comp=Z,9.5nm,0.8s						
KULM	**Kulim**	**78.65**	**304**	*e*P	**P**	**03 42 35.8**	**-1.3**
	comp=Z,34nm,1.0s						
KULM	**Kulim**	**78.65**	**304**	P	**P**	**03 42 37.0**	**-0.1**
	comp=Z,43nm,1.1s,comp=Z,416nm						
SUR	**Sutherland**	**79.18**	**218**	*e*P	**P**	**03 42 40.6**	**+0.5**
	comp=Z,16nm,0.9s						
CFAA	**Coronel Fontan**	**80.70**	**144**	P	**P**	**03 42 47.8**	**-0.4**
CFAA	**Coronel Fontan**	**80.70**	**144**	P	**P**	**03 42 47.8**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=224,slow=4.2,SNR=20						
BOSA	**Boshof**	**81.30**	**223**	*e*P	**P**	**03 42 51.4**	**-0.1**
	comp=Z,23nm,1.4s						
BOSA	**Boshof**	**81.30**	**223**	P	**P**	**03 42 51.7**	**+0.1**
	comp=Z,6.3nm,1.0s,baz=97,slow=2.5,SNR=8.3						
BOSA				LR	LR	04 17 38.6	
	comp=Z,946nm,18.4s,baz=160,slow=35						
LBTB	**Lobatse**	**84.52**	**225**	*e*P	**P**	**03 43 08.2**	**0.0**
	comp=Z,9.8nm,0.9s						
CPUP	**Villa Florida**	**88.52**	**151**	*e*P	**P**	**03 43 28.2**	**+0.5**
CPUP	**Villa Florida**	**88.52**	**151**	P	**P**	**03 43 27.9**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=154,slow=2.3,SNR=4.7						
LVC	**Limon Verde**	**88.96**	**140**	*e*P	**P**	**03 43 29.6**	**-0.5**
	comp=Z,0.9nm,1.2s						
CBIJ	**Chichi jima**	**89.06**	**349**	LR	LR	04 23 50.7	
	comp=Z,438nm,19.2s,baz=149,slow=36						
QZH	**Quanzhou**	**91.14**	**327**	*e*P	**P**	**03 43 42.0**	**+2.4**
QZH				S	**S**	**03 54 38.8**	**+1.6**
QZH				LR	LR		
	comp=N,3µm,22.0s						
QZH				LR	LR		
	comp=E,1µm,13.9s						
QZH				LR	LR		
	comp=Z,5µm,22.2s						
CMAR	**Chiang Mai Arr**	**91.34**	**308**	P	**P**	**03 43 39.3**	**-1.4**
CMAR	**Chiang Mai Arr**	**91.34**	**308**	P	**P**	**03 43 39.3**	**-1.4**
	comp=Z,0.9nm,0.3s,baz=160,slow=6.6,SNR=7.7						
CMAR				LR	LR	04 19 12.5	
	comp=Z,792nm,21.3s,baz=164,slow=32						
HMDM	**Hanimaadhoo**	**92.00**	**280**	P	**P**	**03 43 45.4**	**+1.5**
TSUM	**Tsumeb**	**92.52**	**220**	*e*P	**P**	**03 43 45.9**	**-0.7**
	comp=Z,5.7nm,1.3s						
LSZ	**Lusaka**	**92.58**	**231**	*e*P	**P**	**03 43 47.5**	**+0.6**
	comp=Z,2.0nm,0.7s						
LPAZ	**La Paz**	**95.14**	**139**	*e*P	**P**	**03 43 56.3**	**-2.9**
	comp=Z,5.7nm,1.3s						
LPAZ	**La Paz**	**95.14**	**139**	P	**P**	**03 44 01.5**	**+2.2**
	comp=Z,1.9nm,0.9s,baz=151,slow=4.8,SNR=5.3						
LPAZ				LR	LR	04 24 23.1	
	comp=Z,290nm,18.7s,baz=272,slow=34						
JHJ	**Hachijo jima 2**	**95.26**	**347**	LR	LR	04 22 58.8	
	comp=Z,596nm,18.6s,baz=108,slow=33						
GYA	**Guiyang**	**96.02**	**318**	P	**P**	**03 44 04.8**	**+2.6**
GYA				PP	PP	03 48 01.3	+6.1
GYA				SKS	**SKSac**	**03 54 40.8**	**+2.5**
GYA				S	**ScS**	**03 55 21.3**	**0.0**
GYA				SS	**SS**	**04 01 57.5**	**+5.2**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,140nm,5.6s						
GYA				LR	LR		
	comp=N,490nm,19.4s						
GYA				LR	LR		
	comp=E,360nm,20.2s						

GYA				LR	LR		
	comp=Z,450nm,18.8s						
KMI	**Kunming**	**96.09**	**314**	P	**P**	**03 44 04.1**	**+1.4**
KMI				pP	**pP**	**03 44 07.8**	**+1.6**
KMI				sP	**sP**	**03 44 08.9**	**+1.5**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KMI				LR	LR		
	comp=N,410nm,21.5s						
KMI				LR	LR		
	comp=E,600nm,17.3s						
KMI				LR	LR		
	comp=Z,840nm,29.3s						
NNA	**Nana**	**96.17**	**129**	LR	LR	04 18 31.4	
	comp=Z,790nm,19.1s,baz=208,slow=30						
WHN	**Wuhan**	**97.58**	**326**	P	P	03 44 03.0	-6.0
WHN				S	S	03 55 21.8	-12
WHN				LR	LR		
	comp=Z,5µm,17.6s						
NJ2	**Nanjing**	**97.87**	**330**	*e*P	Pdif	03 44 13.6	+3.3
NJ2				pP	pP	03 44 19.6	+5.8
NJ2				sP	sP	03 44 22.9	+7.9
NJ2				S	**S**	**03 55 36.0**	**+0.1**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,400nm,5.4s						
NJ2				LR	LR		
	comp=N,830nm,18.6s						
NJ2				LR	LR		
	comp=E,910nm,21.6s						
NJ2				LR	LR		
	comp=Z,1µm,18.8s						
CD2	**Chengdu**	**101.08**	**317**	P	**Pdif**	**03 44 27.4**	**+2.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.4s						
LZH	**Lanzhou**	**105.83**	**319**	Pdif	**Pdif**	**03 44 49.5**	**+3.6**
LZH				PP	PP	03 49 17.6	+8.2
LZH				SS	SS	04 04 14.0	+5.3
LZH				LR	LR		
	comp=N,700nm,18.1s						
LZH				LR	LR		
	comp=E,870nm,18.0s						
LZH				LR	LR		
	comp=Z,1µm,19.9s						
HHC	**Hu-ho-hao-te**	**108.04**	**327**	Pdif	**Pdif**	**03 44 59.4**	**+3.9**
HHC				PP	PP	03 49 33.3	+7.8
HHC				S	**Sdif**	**03 57 04.0**	**+3.2**
HHC				AMB	AMB		
	comp=Z,120nm,8.4s						
HHC				LR	LR		
	comp=N,500nm,19.6s						
HHC				LR	LR		
	comp=E,530nm,19.8s						
HHC				LR	LR		
	comp=Z,720nm,18.2s						
GTA	**Gaotai**	**110.15**	**317**	*e*PKPbc	PKiKP	03 49 15.1	+8.8
WMQ	**Urumqi**	**118.22**	**311**	*e*PKP	**PKPdf**	**03 49 23.0**	**+1.5**
WMQ				*e*PP	PP	03 50 44.0	+6.1
WMQ				PKS	**PKSdf**	**03 52 58.0**	**0.0**
WMQ				SKS	**SKSdf**	**03 56 34.0**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,210nm,6.4s						
WMQ				LR	LR		
	comp=N,960nm,20.8s						
WMQ				LR	LR		
	comp=E,790nm,18.0s						
WMQ				LR	LR		
	comp=Z,920nm,24.2s						
KSH	**Kashi**	**119.10**	**300**	*e*PKP	**PKPdf**	**03 49 26.3**	**+2.9**
KSH				PP	PP	03 50 51.5	+7.4
KSH				PKS	**PKSdf**	**03 53 01.1**	**+1.0**
KSH				SKS	**SKSdf**	**03 56 37.5**	**+2.5**
KSH				SKKS	**SKKSac**	**03 57 44.5**	**+1.2**
KSH				AMB	AMB		
	comp=Z,130nm,9.4s						
KSH				LR	LR		
	comp=N,170nm,6.0s						
KSH				LR	LR		
	comp=E,140nm,5.9s						
KSH				LR	LR		
	comp=Z,200nm,11.9s						
NVAR	**Mina Array Bea**	**121.54**	**67**	PKP	**PKPdf**	**03 49 28.1**	**-0.2**
NVAR	**Mina Array Bea**	**121.54**	**67**	PKP	**PKPdf**	**03 49 28.1**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=201,slow=5.4,SNR=7.3						
AAK	**Ala-Archa**	**122.32**	**301**	*e*PKIKP	**PKPdf**	**03 49 30.2**	**+0.7**
AAK	**Ala-Archa**	**122.32**	**301**	*e*PKPdf	**PKPdf**	**03 49 30.2**	**+0.7**
EKS2	**Erkin-Say**	**122.64**	**300**	*e*PKIKP	**PKPdf**	**03 49 30.7**	**+0.6**
EKS2	**Erkin-Say**	**122.64**	**300**	*e*PKPdf	**PKPdf**	**03 49 30.7**	**+0.6**
MKAR	**Makanchi Array**	**122.74**	**309**	PKIKP	**PKPdf**	**03 49 28.8**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**122.74**	**309**	PKP	**PKPdf**	**03 49 28.8**	**-1.2**
MKAR	**Makanchi Array**	**122.74**	**309**	PKP	**PKPdf**	**03 49 28.8**	**-1.2**
	comp=Z,1.9nm,1.1s,baz=116,slow=2.8,SNR=6.1						
DBIC	**Dimbokro**	**123.08**	**204**	*e*PKPdf	**PKPdf**	**03 49 31.2**	**-0.5**
DBIC				PKP	**PKPdf**	**03 49 31.4**	**-0.3**
DBIC	**Dimbokro**	**123.08**	**204**	PKP	**PKPdf**	**03 49 31.4**	**-0.3**
	comp=Z,3.0nm,0.9s,baz=249,slow=0.7,SNR=4.9						
KKAR	**Karatay Array**

baz=130
D13A Huson 130.20 63 ⇓P PKPdf 03 49 44.4 +0.1
baz=130
BOZ Bozeman (W) 130.29 67 *e*PKIKP PKPdf 03 49 45.1 +0.5
BOZ Bozeman (W) 130.29 67 *e*PKPdf PKPdf 03 49 45.1 +0.5
B13A Whitefish 131.19 62 ⇑P PKPdf 03 49 46.9 +0.8
baz=132
B14A Marquette Ranc 131.69 63 ⇑P PKPdf 03 49 47.5 +0.4
baz=132
BVAR Borovoye Array 132.30 306 PKIKP PKPdf 03 49 47.6 -0.4
BVAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 132.30 306 PKP PKPdf 03 49 47.6 -0.4
BVAR Borovoye Array 132.30 306 PKP PKPdf 03 49 47.6 -0.4
comp=Z,1.1nm,0.7s,baz=132,slow=2.2,SNR=4.1
BRVK Borovoye 132.37 306 ⇓*i*PKIKP PKPdf 03 49 50.1 +2.0
BRVK pmax pmax
comp=Z,12nm,2.5s
BRVK Borovoye 132.37 306 *e*PKPdf PKPdf 03 49 48.7 +0.6
ILAR Eielson Array 133.35 30 PKP PKPdf 03 49 49.2 -0.4
ILAR Eielson Array 133.35 30 PKP PKPdf 03 49 49.2 -0.4
comp=Z,1.1nm,0.8s,baz=258,slow=3.8,SNR=9.1
GNI Garni 133.67 276 *e*PKPdf PKPdf 03 49 51.1 -0.2
GNI PKP PKPdf 03 49 51.5 +0.3
GNI Garni 133.67 276 PKP PKPdf 03 49 51.5 +0.3
comp=Z,6.8nm,0.8s,baz=333,slow=4.5,SNR=2.7
WCI Wyandotte Cave 136.27 93 *e*PKIKP PKPdf 03 49 56.3 +0.3
WCI Wyandotte Cave 136.27 93 *e*PKPdf PKPdf 03 49 56.3 +0.3
KIV Kislovodsk 137.58 278 *e*PKIKP PKPdf 03 50 02.3 +4.0
KIV pmax pmax
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 138.63 266 PKP PKPdf 03 49 59.9 -0.6
BRTR Keskin Array B 138.63 266 PKP PKPdf 03 49 59.9 -0.6
comp=Z,0.7nm,0.8s,baz=216,slow=7.1,SNR=4.0
INK Inuvik 139.46 33 PKPpre PKPpre 03 49 55.4
INK PKP PKiKP 03 50 02.8 -0.3
INK Inuvik 139.46 33 PKhKP PKPpre 03 49 55.4
comp=Z,1.1nm,0.8s,baz=181,slow=7.6,SNR=4.7
INK PKP PKiKP 03 50 02.8 -0.3
comp=Z,1.8nm,0.9s,baz=232,slow=4.1,SNR=5.0
ARU Arti 139.48 302 *i*PKIKP PKPdf 03 50 03.5 +2.3
ARU SS SS 04 11 07.9 -7.7
YKA Yellowknife Ar 141.29 48 PKPpre PKPpre 03 49 58.0
YKA PKP PKiKP 03 50 05.9 -1.2
YKA Yellowknife Ar 141.29 48 PKhKP PKPpre 03 49 58.0
comp=Z,0.5nm,0.8s,baz=234,slow=2.8,SNR=7.7
YKA PKP PKiKP 03 50 05.9 -1.2
comp=Z,0.8nm,0.6s,baz=235,slow=2.5,SNR=14
KDZ Kurdzhali 144.02 260 P PKPbc 03 50 08.1 +0.2
VORD Divnogorie 144.22 283 *e*PKIKP PKPab 03 50 07.3 -0.4
VORD pmax pmax
comp=N,10.0nm,1.1s
VORD pmax pmax
comp=E,10.0nm,1.1s
VORD pmax pmax
comp=Z,10.0nm,1.1s
BINY Binghamton 144.26 99 *e*PKPdf PKPbc 03 50 08.8 +0.2
PRD Provadia 144.28 263 P PKPbc 03 50 09.1 +0.6
RZN Rozhen 144.38 259 *e*P PKPbc 03 50 09.9 +0.7
VSR Storozhevoye 144.45 283 *e*PKIKP PKPab 03 50 08.0 -0.6
TIRR Tirgusor 144.75 266 ⇑PKIKP PKPbc 03 50 10.0 0.0
TIRR Tirgusor 144.75 266 *e*PKPdf PKPab 03 50 09.8 -0.1
TIRR Tirgusor 144.75 266 ⇑*i*P PKPbc 03 50 10.0 0.0
MMB Musomiste 144.76 258 P PKPab 03 50 10.2 +0.1
SZH Strazhica 145.03 262 P PKPdf 03 50 11.3 -0.2
VAY Valandovo 145.09 257 *e*PKP PKPbc 03 50 10.8 -0.4
CFR Carcaliu 145.42 266 ⇓PKIKP PKPab 03 50 12.8 +0.5
CFR Carcaliu 145.42 266 ⇓*i*P PKPab 03 50 12.8 +0.5
TRY Troy 145.76 101 *e*PKPbc PKPab 03 50 13.9 +0.2
VTS Vitosha 145.79 259 *e*P PKPbc 03 50 13.8 +0.2
MPEP Malo Peshtene 146.13 260 P PKPab 03 50 14.9 -0.2
ISR Istrita 146.13 265 ⇓PKP2 PKPab 03 50 15.9 +0.8
ISR Istrita 146.13 265 ⇓*i*P PKPab 03 50 15.9 +0.8
KEST Kesra 146.20 236 *e*PKPbc PKPbc 03 50 14.8 -0.2
KEST Kesra 146.20 236 PKPbc PKPdf 03 50 13.5 -0.4
comp=Z,6.2nm,1.0s,baz=202,slow=0.9,SNR=7.2
HUMR Humele 146.43 263 ⇓*i*P PKPab 03 50 16.5 +0.3
VRI Vrincioaia 146.59 266 ⇓PKP2 PKPbc 03 50 16.1 +0.3
VRI Vrincioaia 146.59 266 ⇓*i*P PKPbc 03 50 16.0 +0.3
PLOR Plostina 146.62 266 ⇑PKP2 PKPbc 03 50 15.9 +0.1
PLOR Plostina 146.62 266 ⇑*i*P PKPbc 03 50 15.9 +0.1
MLR Muntele Rosu 146.69 265 ⇑*i*P PKPbc 03 50 15.9 -0.3
VOIR 147.07 264 ⇑PKP2 PKPab 03 50 20.0 +1.2
VOIR 147.07 264 ⇑*i*P PKPab 03 50 20.0 +1.2
TESR 147.10 267 ⇓*i*P PKPbc 03 50 17.3 +0.2
MOS Moscow 148.05 288 *e*PKHKP PKPpre 03 50 09.1
GZR Gura Zlata 148.12 262 ⇑PKHKP PKPdf 03 50 16.0 -0.8
GZR Gura Zlata 148.12 262 ⇑*i*P PKPdf 03 50 16.0 -0.8
OBN Obninsk 148.16 287 *α i*PKP2 PKPbc 03 50 19.9 +0.2
OBN pmax pmax
comp=Z,78nm,2.5s
OBN MLR MLR
comp=Z,300nm,19.0s
OBN Obninsk 148.16 287 *e*PKPbc PKPbc 03 50 19.8 +0.1
BURAR Bucovina Array 148.57 267 ⇓*i*P PKPbc 03 50 22.5 +1.3
BUR08 Bucovina Ar. S 148.60 267 *e*PKPbc PKPbc 03 50 22.3 +1.0
AKASG Malin Array Be 148.79 275 PKP2 PKPbc 03 50 20.6 -0.8
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG Malin Array Be 148.79 275 PKPbc PKPbc 03 50 20.6 -0.8
AKASG Malin Array Be 148.79 275 PKPbc PKPbc 03 50 20.6 -0.8
comp=Z,6.0nm,0.8s,baz=105,slow=2.2,SNR=13
AKBB Malin Array Si 148.79 275 *e*PKP2 PKPbc 03 50 20.9 -0.6
AKBB Malin Array Si 148.79 275 *e*PKPbc PKPbc 03 50 20.9 -0.6
KIEV Kiev 148.79 275 *e*PKP2 PKPbc 03 50 21.5 +0.1
KIEV Kiev 148.79 275 *e*PKPbc PKPbc 03 50 21.5 +0.1
BZS Buzias 148.83 261 ⇓PKP2 PKPbc 03 50 22.3 +0.5
BZS Buzias 148.83 261 ⇓*i*P PKPbc 03 50 22.3 +0.5
DRGR 149.17 263 ⇓PKP2 PKPbc 03 50 23.2 +0.5
DRGR 149.17 263 ⇓*i*P PKPbc 03 50 23.2 +0.5
KLMR Klimovskoe 150.06 298 *e*PKHKP PKPbc 03 50 23.7 -0.6
KLMR pmax pmax
comp=Z,89nm,1.6s
TRPA Tarpa 150.21 265 ⇓*i*P PKPbc 03 50 24.7 -0.3
PKSM Moragy 150.66 258 ⇓PKIKP PKPbc 03 50 26.8 +0.6
PKSM Moragy 150.66 258 ⇓*i*P PKPbc 03 50 26.8 +0.6
UZH Uzhgorod 150.68 266 *e*PKIKP PKPbc 03 50 26.3 +0.1
UZH *i* 03 50 34.0
KOLS Kolonicke sedl 150.90 266 *e*PKIKP PKPab 03 50 31.0 -3.2
KOLS Kolonicke sedl 150.90 266 *e*PKP PKPab 03 50 31.0 -3.2
KWP Kalwaria Pacla 151.17 267 *e*PKP PKPbc 03 50 28.1 +0.8
KWP Kalwaria Pacla 151.17 267 *e*PKP PKPbc 03 50 28.1 +0.8
KWP Kalwaria Pacla 151.17 267 ⇓PKIKP PKPbc 03 50 28.6 +1.3
KWP Kalwaria Pacla 151.17 267 *e*PKPbc PKPbc 03 50 27.9 +0.6
KWP Kalwaria Pacla 151.17 267 ⇓*i*P PKPbc 03 50 28.6 +1.3
CRVS Cervenica-Dubn 151.26 265 *e*PKIKP PKPbc 03 50 27.2 -0.4
CRVS *e* 03 50 35.9
CRVS Cervenica-Dubn 151.26 265 *e*PKP PKPbc 03 50 27.2 -0.4
CRVS *e* 03 50 35.9
VYHS Vyhne 152.22 262 *e*PKIKP PKPbc 03 50 30.5 +0.7
VYHS *e* 03 50 43.4
VYHS Vyhne 152.22 262 *e*PKP PKPbc 03 50 30.5 +0.7
VYHS *e* 03 50 43.4
NACGM Naroch 152.57 279 *e* PKPbc 03 50 34.0 +3.7
RES Resolute Bay 153.01 33 *e*PKPbc PKPbc 03 50 30.7 0.0
RES *e*PKPab PKPab 03 50 41.8 -0.6
RES PKPab PKiKP 03 50 42.0 +11
RES Resolute Bay 153.01 33 PKPab PKPab 03 50 42.0 -0.4
comp=Z,6.8nm,0.8s,baz=241,slow=5.1,SNR=10
MYKA Terra Mystica 153.29 254 ⇓*i*PKPdf PKPdf 03 50 25.8 +1.0
comp=Z,20nm,1.6s
MORC Moravsky Berou 153.73 263 *e*PKIKP PKPdf 03 50 25.4 +0.2
MORC Moravsky Berou 153.73 263 *e*PKPdf PKPdf 03 50 25.4 +0.2
SUW Suwalki 153.75 275 *e*PKP PKPab 03 50 41.8 -4.2
SUW Suwalki 153.75 275 *e*PKP PKPab 03 50 41.8 -4.2
SUW Suwalki 153.75 275 *e*PKIKP PKPab 03 50 41.8 -4.2
ESDC Sonseca Array 154.45 220 PKPbc PKPbc 03 50 33.9 -1.1
ESDC PKPab PKPab 03 50 48.2 -1.1
ESDC Sonseca Array 154.45 220 PKPbc PKPbc 03 50 33.9 -1.1
comp=Z,0.3nm,0.4s,baz=168,slow=1.1,SNR=7.4
ESDC PKPab PKPab 03 50 48.2 -1.1
comp=Z,2.7nm,0.9s,baz=159,slow=3.2,SNR=7.3
GERES GERESS Array B 154.88 257 PKPbc PKPbc 03 50 33.7 -1.9
GERES GERESS Array B 154.88 257 PKPbc PKPbc 03 50 33.7 -1.9
comp=Z,0.8nm,0.8s,baz=64,slow=3.1,SNR=4.8
CLL Collm 156.90 261 *e*PKIKP PKPdf 03 50 31.0 +1.6
CLL pmax pmax
comp=Z,6.0nm,1.1s
CLL MLR MLR
comp=Z,600nm,19.8s
CLL Collm 156.90 261 *e*PKPdf PKPdf 03 50 31.0 +1.6
CLL *e*PKPab PKPab 03 51 00.0 +0.5
comp=Z,6.0nm,1.1s
CLL LmV 05 19 00.0
comp=Z,600nm,19.8s
HINF Hinteralfeld 157.23 247 *e*PKP2 PKPab 03 51 01.7 +0.6
HAU Haudompre 157.59 247 *e*PKP2 PKPab 03 51 02.1 -0.6
comp=Z,15nm,1.0s
ARCES ARCESS Array B 158.32 313 PKPab PKPab 03 51 04.4 -0.9
ARCES ARCESS Array B 158.32 313 PKPab PKPab 03 51 04.4 -0.9
comp=Z,7.8nm,0.9s,baz=96,slow=3.8,SNR=9.7
WLF Walferdange 158.91 250 *e*PKIKP PKPdf 03 50 32.6 +0.7
WLF Walferdange 158.91 250 *e*PKPdf PKPdf 03 50 32.6 +0.7

*IDC **18** 03:32:39.0±1.3,29.°12S×71.°84W,h0km,mb4.2/3, mb1 4.2/4,mb1mx3.8/15,mbtmp4.2/4,ML3.5/2,Error ellipse: s-maj=44.2km s-min=38.7km az=165.0*
*ISCJB **18** 03:32:42.8±1.1,29.°24S±0.°04×71.°80W±0.°09,h42km±10km, mb4.1/6, Error ellipse: s-maj=13.5km s-min=6.8km az=12.2*
*GUC **18** 03:32:44.8±1.1,29.°34S×71.°64W,h38km±10km,ML3.7*
*NEIC **18** 03:32:46.5±2.2,29.°04S×71.°69W,h52km±14km,mb4.1/4, Error ellipse: s-maj=28.7km s-min=12.5km az=87.0*
ISC 18 03:32:43.5±2.1,29.°24S±0.°05×71.°81W±0.°10,h31km±13km, n37,σ1°06/43,mb4.2/6,2C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.00**	**77**	*e*Pn		**Pb**	**03 33 01.7**	**-0.8**
LCO				*e*Sn		**Sn**	**03 33 12.1**	**-2.6**
LCO	**Las Campanas**	**1.00**	**77**	⇓*i*P		**Pb**	**03 33 02.0**	**-0.4**
LCO				*i* S		**Sn**	**03 33 14.3**	**-0.5**
LCO				AML	AML		03 33 15.7	
	comp=N,8μm,0.5s							
TLL	**Tololo Astrono**	**1.28**	**137**	⇓*i*P		**Pn**	**03 33 05.4**	**0.0**
TLL				*i* S		**Sn**	**03 33 20.0**	**-1.6**
TLL				AML	AML		03 33 24.5	
	comp=N,5μm,0.6s							
OVCH	**Ovalle**	**1.47**	**159**	⇑*i*P		**Pn**	**03 33 07.8**	**0.0**
OVCH				*i* S		**Sn**	**03 33 24.0**	**-1.9**
OVCH				AML	AML		03 33 25.8	
	comp=N,2μm,0.5s							
CHNG	**Los Chungos**	**2.65**	**174**	*e*P		**Pn**	**03 33 24.1**	**0.0**
CHNG				AML	AML		03 34 06.9	
	comp=E,256nm,0.4s							
ROCH	**El Roble**	**3.78**	**170**	⇓*i*P		**Pn**	**03 33 40.1**	**+0.3**
CFAA	**Coronel Fontan**	**3.89**	**128**	Pn		**Pn**	**03 33 43.0**	**+1.9**
CFAA				Sn		**Sn**	**03 34 25.9**	**+0.1**
CFAA	**Coronel Fontan**	**3.89**	**128**	Pn		**Pn**	**03 33 43.0**	**+1.9**
	comp=E,0.5nm,0.3s,baz=314,slow=12,SNR=50							
CFAA				Sn		**Sn**	**03 34 25.9**	**+0.1**
	comp=E,3.3nm,0.3s,baz=82,slow=18,SNR=9.3							
PEL	**Peldehue**	**4.01**	**166**	⇑*i*P		**Pn**	**03 33 43.5**	**+0.6**
PEL				*i* S		**Sn**	**03 34 28.2**	**-0.6**
CACH	**El Canelo**	**4.97**	**168**	*e*P		**Pn**	**03 33 56.8**	**+0.7**
LVC	**Limon Verde**	**7.10**	**22**	*e*Pn		**Pn**	**03 34 24.8**	**-0.7**
	comp=E,2.9nm,0.4s							
LVC				*e*Sn		**Sn**	**03 35 43.9**	**-1.3**
TRQA	**Tornquist**	**12.01**	**140**	*e*Pn		**Pn**	03 35 38.3	+5.8
CPUP	**Villa Florida**	**13.15**	**81**	*e*Pn		**Pn**	**03 35 49.8**	**+1.7**
LPAZ	**La Paz**	**13.33**	**16**	*e*Pn		P	03 35 55.8	-4.7
	comp=E,2.4nm,0.8s							
SIV	**San Ignacio**	**16.48**	**39**	Pn		**Pn**	**03 36 32.2**	**-0.3**
SIV	**San Ignacio**	**16.48**	**39**	Pn		**Pn**	**03 36 32.2**	**-0.3**
	comp=E,0.5nm,0.3s,baz=235,slow=11,SNR=24							
SAML	**Samuel**	**21.75**	**24**	*e*P		**P**	**03 37 34.6**	**+2.1**
	comp=E,5.8nm,1.0s							
BDFB	**Brasilia**	**25.76**	**63**	P		**P**	**03 38 10.7**	**-0.9**
BDFB	**Brasilia**	**25.76**	**63**	P		**P**	**03 38 10.7**	**-0.9**
	comp=E,2.8nm,0.7s,baz=250,slow=12,SNR=4.9							
SNAA	**Sanae**	**55.93**	**159**	*e*P		P	03 42 10.3	-7.9
	comp=E,1.4nm,0.5s							
DBIC	**Dimbokro**	**73.52**	**72**	*e*P		**P**	**03 44 12.2**	**-1.4**
	comp=E,2.4nm,0.7s							
DBIC	**Dimbokro**	**73.52**	**72**	P		**P**	**03 44 12.9**	**-0.7**
	comp=E,1.2nm,0.5s,baz=223,slow=6.3,SNR=5.4							
TSUM	**Tsumeb**	**80.35**	**107**	*e*P		**P**	**03 44 51.9**	**-0.4**
	comp=E,1.8nm,0.8s							
TOA0	**Torodi Ar. Sit**	**82.42**	**70**	*e*P		**P**	**03 45 02.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**82.42**	**70**	P		**P**	**03 45 03.1**	**0.0**
TORD	**Torodi Ar. Bea**	**82.42**	**70**	P		**P**	**03 45 03.1**	**0.0**
	comp=E,2.1nm,0.8s,baz=282,slow=4.6,SNR=14							
WRA	**Warramunga Arr**	**124.98**	**210**	PKP		**PKPdf**	**03 51 40.4**	**-0.7**
WRA	**Warramunga Arr**	**124.98**	**210**	PKP		**PKPdf**	**03 51 40.4**	**-0.7**
	comp=E,0.4nm,0.8s,baz=167,slow=1.3,SNR=4.8							
KURK	**Kurchatov**	**149.13**	**38**	*e*PKPbc		**PKPbc**	**03 52 28.5**	**+0.2**
KURBB	**Kurchatov Arra**	**149.14**	**38**	PKPbc		**PKPbc**	**03 52 29.1**	**+0.8**
	comp=E,1.5nm,0.6s,baz=305,slow=3.1,SNR=13							
AAK	**Ala-Archa**	**149.84**	**55**	*e*PKPbc		**PKPbc**	**03 52 31.7**	**+1.1**
AAK				*e*PKPab		**PKPab**	**03 52 36.9**	**+0.7**
AAK	**Ala-Archa**	**149.84**	**55**	PKPbc		**PKPbc**	**03 52 32.0**	**+1.5**
	comp=E,1.8nm,0.5s,baz=193,slow=3.9,SNR=3.6							
ZALV	**Zalesovo Beam**	**150.02**	**28**	PKPbc		**PKPbc**	**03 52 30.9**	**+0.5**
ZALV	**Zalesovo Beam**	**150.02**	**28**	PKPbc		**PKPbc**	**03 52 30.9**	**+0.5**
	comp=E,3.3nm,0.6s,baz=316,slow=3.0,SNR=8.4							
MK31	**Makanchi Array**	**153.29**	**42**	*e*PKPbc		**PKPbc**	**03 52 38.6**	**+0.4**
MKAR	**Makanchi Array**	**153.29**	**42**	PKPbc		**PKPbc**	**03 52 38.5**	**+0.3**
MKAR	**Makanchi Array**	**153.29**	**42**	PKPbc		**PKPbc**	**03 52 38.5**	**+0.3**
	comp=E,0.6nm,0.7s,baz=293,slow=1.9,SNR=4.1							

*IDC **18** 03:36:21.6±0.9,3.°72N×126.°41E,h0km,mb4.1/10, mb1 4.3/10,mb1mx4.1/24,mbtmp4.1/10,MS4.2/2, Ms1 4.2/2,ms1mx3.2/30,Error ellipse: s-maj=103.2km s-min=15.3km az=65.0*
*ISCJB **18** 03:36:24.6±0.5,4.°0N±0.°1×126.°9E±0.°2,h36km,mb4.3/19, MS4.9/1,Error ellipse: s-maj=33.7km s-min=8.2km az=155.5*
*NEIC **18** 03:36:26.4±0.3,3.°95N×126.°93E,h35km,mb4.5/9,Error ellipse: s-maj=25.5km s-min=7.0km az=66.0*
ISC 18 03:36:26.6±0.6,4.°0N±0.°1×127.°0E±0.°2,h36km,n39, σ0s89/39,mb4.4/19,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.37**	**336**	LR		LR	03 39 06.2	
	comp=Z,654nm,18.0s,baz=347,slow=48							
CTBH	**Cotabato--PC H**	**4.22**	**320**	⇑*e*P		Pn	03 37 32.6	+4.3
FITZ	**Fitzroy Crossi**	**21.98**	**183**	*e*P		**P**	**03 41 18.7**	**+1.2**
	5.9nm,0.7s							
WRAB	**Tennant Creek**	**24.84**	**163**	*e*P		**P**	**03 41 45.0**	**-0.9**
	14nm,0.7s							
WRA	**Warramunga Arr**	**24.85**	**163**	P		**P**	**03 41 44.8**	**-1.1**
WRA	**Warramunga Arr**	**24.85**	**163**	P		**P**	**03 41 44.8**	**-1.1**
	9.9nm,0.6s,baz=338,slow=11,SNR=38							
ASAR	**Alice Springs**	**28.29**	**167**	P		**P**	**03 42 16.4**	**-0.5**
ASAR	**Alice Springs**	**28.29**	**167**	P		**P**	**03 42 16.4**	**-0.5**
	0.8nm,0.4s,baz=351,slow=7.4,SNR=6.4							
EIDS	**Eidsvold**	**37.40**	**143**	*e*P		**P**	**03 43 36.7**	**+0.4**
	6.1nm,0.9s							
BBOO	**Buckleboo**	**37.59**	**167**	*e*P		**P**	**03 43 36.9**	**-0.9**
STKA	**Stephens Creek**	**38.27**	**160**	P		**P**	**03 43 43.6**	**0.0**
STKA	**Stephens Creek**	**38.27**	**160**	P		**P**	**03 43 43.6**	**0.0**
	5.5nm,0.6s,baz=334,slow=9.3,SNR=22							
ARMA	**Armidale**	**41.54**	**147**	*e*P		**P**	**03 44 11.8**	**+0.9**
LSA	**Lhasa**	**42.46**	**311**	*e*P		**P**	**03 44 19.3**	**+0.4**
	4.1nm,0.6s							
TLY	**Talaya**	**51.38**	**342**	*e*P		**P**	**03 45 28.6**	**+0.9**
	3.4nm,0.5s							
MK31	**Makanchi Array**	**57.49**	**325**	*e*P		**P**	**03 46 11.7**	**-0.5**
MKAR	**Makanchi Array**	**57.49**	**325**	P		**P**	**03 46 11.8**	**-0.5**
MKAR				PcP		**PcP**	**03 47 05.8**	**+0.3**
MKAR	**Makanchi Array**	**57.49**	**325**	P		**P**	**03 46 11.8**	**-0.5**
	0.7nm,0.5s,baz=114,slow=7.8,SNR=15							
MKAR				PcP		**PcP**	**03 47 05.8**	**+0.3**
	1.0nm,0.7s,baz=130,slow=5.0,SNR=5.9							
TKM2	**Tokmak 2**	**59.73**	**318**	*e*P		**P**	**03 46 28.8**	**+0.6**
	14nm,1.3s							
ZALV	**Zalesovo Beam**	**60.48**	**333**	P		**P**	**03 46 32.2**	**-0.6**
ZALV	**Zalesovo Beam**	**60.48**	**333**	P		**P**	**03 46 32.2**	**-0.6**
	0.7nm,0.5s,baz=135,slow=8.0,SNR=2.6							
ZALV				LR		LR	04 15 39.4	
	comp=Z,861nm,21.0s,baz=243,slow=39							
EKS2	**Erkin-Say**	**60.84**	**317**	*e*P		**P**	**03 46 34.5**	**-1.1**
	2.7nm,0.9s							
KURBB	**Kurchatov Arra**	**61.67**	**327**	P		**P**	**03 46 40.5**	**-0.3**
	1.4nm,0.5s,baz=126,slow=6.4,SNR=14							
KURK	**Kurchatov**	**61.67**	**327**	*e*P		**P**	**03 46 41.0**	**+0.1**
	2.4nm,0.6s							
BVAR	**Borovoye Array**	**67.25**	**327**	P		**P**	**03 47 18.3**	**+0.9**
BVAR	**Borovoye Array**	**67.25**	**327**	P		**P**	**03 47 18.3**	**+0.9**
	0.5nm,0.4s,baz=140,slow=7.6,SNR=3.3							
AKTO	**Aktyubinsk**	**73.62**	**322**	P		**P**	**03 47 56.8**	**+0.4**
AKTO	**Aktyubinsk**	**73.62**	**322**	P		**P**	**03 47 56.8**	**+0.4**
	0.6nm,0.4s,baz=100,slow=6.9,SNR=3.7							
BMRM	**Bremner River**	**85.78**	**29**	*e*P		**P**	**03 49 01.4**	**-0.7**
	15nm,1.3s							
BRTR	**Keskin Array B**	**90.05**	**310**	P		**P**	**03 49 21.6**	**-1.6**
BRTR	**Keskin Array B**	**90.05**	**310**	P		**P**	**03 49 21.6**	**-1.6**
	0.6nm,0.9s,baz=114,slow=6.0,SNR=3.6							
ARCES	**ARCESS Array B**	**90.30**	**340**	P		**P**	**03 49 23.5**	**0.0**
ARCES	**ARCESS Array B**	**90.30**	**340**	P		**P**	**03 49 23.5**	**0.0**
	2.4nm,0.9s,baz=93,slow=8.5,SNR=5.6							
TXAR	**Lajitas Array**	**121.26**	**52**	PKP		**PKPdf**	**03 55 18.9**	**+2.1**
TXAR	**Lajitas Array**	**121.26**	**52**	PKP		**PKPdf**	**03 55 18.9**	**+2.1**
	0.4nm,0.7s,baz=276,slow=1.1,SNR=5.5							
TOA0	**Torodi Ar. Sit**	**123.07**	**288**	*e*PKPdf		**PKPdf**	**03 55 20.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**123.07**	**288**	PKP		**PKPdf**	**03 55 20.1**	**-0.4**
TORD	**Torodi Ar. Bea**	**123.07**	**288**	PKP		**PKPdf**	**03 55 20.1**	**-0.4**
	0.8nm,0.6s,baz=78,slow=1.5,SNR=14							
WVT	**Waverly**	**128.52**	**36**	*e*PKPdf		**PKPdf**	**03 55 29.5**	**-0.8**

*ISCJB **18** 03:37:43.7±0.4,39.°12N±0.°03×29.°03E±0.°03,h3km±5km, Error ellipse: s-maj=4.3km s-min=3.4km az=177.8*
*ISK **18** 03:37:43.5,39.°12N×29.°05E,h5km,MD2.9*
*DDA **18** 03:37:43.9,39.°11N×29.°02E,h9km,MD3.1*
*CSEM **18** 03:37:44.0±0.1,39.°12N×29.°04E,h5km,MD3.1,Error ellipse: s-maj=1.7km s-min=1.6km az=34.0*
ISC 18 03:37:44.2±1.0,39.°12N±0.°02×29.°04E±0.°02,h8km±10km, n53,σ0s45/70,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**253**	*i* P		**Pg**	**03 37 49.5**	**0.0**
DEMI				*i* S		**Sg**	**03 37 53.0**	**-0.1**
DEMI	**Demirci**	**0.27**	**253**	*i* P		**Pg**	**03 37 49.5**	**0.0**
DEMI				*i* S		**Sg**	**03 37 53.0**	**-0.1**
GDZ	**Gediz**	**0.34**	**95**	*i* Pg		**Pg**	**03 37 51.3**	**+0.3**
GDZ				*i* Sg		**Sg**	**03 37 56.2**	**+0.7**
TVSB	**Tavsanli**	**0.46**	**45**	PG		**Pg**	**03 37 53.1**	**0.0**
TVSB				*e*SG		**Sg**	**03 37 59.5**	**+0.2**
TVSB	**Tavsanli**	**0.46**	**45**	*i* Pg		**Pg**	**03 37 53.2**	**0.0**
TVSB				*e*Sg		**Sg**	**03 37 59.5**	**+0.2**
DST	**Dursunbey**	**0.58**	**326**	*e*PG		**Pg**	**03 37 55.3**	**-0.2**
DST	**Dursunbey**	**0.58**	**326**	*e*Pg		**Pg**	**03 37 55.3**	**-0.2**
DURS	**Dursunbey**	**0.65**	**318**	*e*P		**Pg**	**03 37 56.8**	**0.0**
DURS				*e*S		**Sg**	**03 38 04.7**	**-0.6**
DURS	**Dursunbey**	**0.65**	**318**	*e*P		**Pg**	**03 37 56.8**	**0.0**
DURS				*e*S		**Sg**	**03 38 04.7**	**-0.6**
KULA	**Kula-Manisa**	**0.68**	**206**	*e*PG		**Pg**	**03 37 56.8**	**-0.4**
KULA				*e*SG		**Sg**	**03 38 06.0**	**0.0**
KULA	**Kula-Manisa**	**0.68**	**206**	*e*Pg		**Pg**	**03 37 56.8**	**-0.4**
KULA				*e*Sg		**Sg**	**03 38 06.0**	**0.0**
KHAL	**Karahalli**	**0.83**	**155**	*e*P		**Pb**	**03 38 00.4**	**-0.5**
KHAL				*e*S		**Sg**	**03 38 11.1**	**+0.2**
KHAL	**Karahalli**	**0.83**	**155**	*e*P		**Pb**	**03 38 00.4**	**-0.5**
KHAL				*e*S		**Sg**	**03 38 11.1**	**+0.2**
ALT	**Altintas**	**0.83**	**94**	*e*PG		**Pg**	**03 37 59.8**	**-0.4**
ALT				*e*SG		**Sb**	**03 38 12.0**	**-0.3**
ALT	**Altintas**	**0.83**	**94**	*e*Pg		**Pg**	**03 37 59.8**	**-0.4**
ALT				*e*Sg		**Sb**	**03 38 12.0**	**-0.3**
KHL	**Karahalli**	**0.88**	**155**	*e*PG		**Pg**	**03 38 01.0**	**-0.1**
KHL	**Karahalli**	**0.88**	**155**	*e*Pg		**Pg**	**03 38 01.0**	**-0.1**
ORLT	**Orhaneli**	**0.93**	**353**	*e*PG		**Pg**	**03 38 01.7**	**-0.4**
ORLT	**Orhaneli**	**0.93**	**353**	*e*Pg		**Pg**	**03 38 01.7**	**-0.4**
AKHS	**Akhisar**	**0.99**	**256**	*i* P		**Pg**	**03 38 03.0**	**-0.1**
AKHS				*i* S		**Sg**	**03 38 15.9**	**-0.1**
AKHS	**Akhisar**	**0.99**	**256**	*i* P		**Pg**	**03 38 03.0**	**-0.1**
AKHS				*i* S		**Sg**	**03 38 15.9**	**-0.1**
AKS	**Akhisar**	**0.99**	**256**	*e*PG		**Pg**	**03 38 03.1**	**-0.1**
AKS	**Akhisar**	**0.99**	**256**	*e*Pg		**Pg**	**03 38 03.1**	**-0.1**
BALB	**Balikesir**	**1.04**	**300**	*e*PG		**Pb**	**03 38 04.3**	**-0.1**
BALB	**Balikesir**	**1.04**	**300**	*e*Pg		**Pb**	**03 38 04.3**	**-0.1**
CAVI	**Cavuskoy**	**1.24**	**30**	*e*PN		**Pg**	**03 38 07.7**	**-0.3**
CAVI	**Cavuskoy**	**1.24**	**30**	*e*Pn		**Pg**	**03 38 07.7**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.25**	**354**	*e*PN		**Pg**	**03 38 07.7**	**-0.5**
MDNY	**Mudan

BVAR	Borovoye Array	51.80	2	PcP	PcP	03 52 08.0	+0.7	
BVAR	Borovoye Array	51.80	2	PcP	PcP	03 52 08.0	+0.7	
	0.5nm,0.4s,baz=220,slow=3.8,SNR=3.2							
TSUM	Tsumeb	52.76	245	*e*P	P	03 51 02.8	+0.6	
	7.1nm,1.3s							
ZAA0	Zalesovo Array	54.62	13	*e*P	P	03 51 14.2	-0.8	
ZALV	Zalesovo Beam	54.62	13	P	P	03 51 14.1	-0.9	
ZALV	Zalesovo Beam	54.62	13	P	P	03 51 14.1	-0.9	
	2.1nm,0.7s,baz=210,slow=7.6,SNR=7.5							
SONM	Songino Array	57.54	30	P	P	03 51 35.8	-0.5	
SONM	Songino Array	57.54	30	P	P	03 51 35.8	-0.5	
	1.2nm,0.6s,baz=225,slow=6.1,SNR=5.1							
BUR08	Bucovina Ar. S	58.92	328	*e*P	P	03 51 45.5	-0.4	
AKBB	Malin Array Si	58.95	333	*e*P	P	03 51 44.5	-1.4	
KIEV	Kiev	58.95	333	*e*P	P	03 51 44.3	-1.5	
	4.0nm,0.7s							
TOA0	Torodi Ar. Sit	65.96	284	*e*P	P	03 52 33.6	+0.1	
TORD	Torodi Ar. Bea	65.96	284	P	P	03 52 33.5	0.0	
TORD	Torodi Ar. Bea	65.96	284	P	P	03 52 33.5	0.0	
	2.9nm,1.0s,baz=97,slow=5.4,SNR=9.2							
FINES	FINESS Array B	67.75	340	P	P	03 52 42.5	-1.4	
FINES	FINESS Array B	67.75	340	P	P	03 52 42.5	-1.4	
	3.2nm,0.9s,baz=191,slow=8.7,SNR=4.1							
WRA	Warramunga Arr	68.92	112	P	P	03 52 52.0	-0.1	
WRA	Warramunga Arr	68.92	112	P	P	03 52 52.0	-0.1	
	3.3nm,0.9s,baz=288,slow=5.9,SNR=16							
WRAB	Tennant Creek	68.93	112	*e*P	P	03 52 52.1	-0.1	
	7.3nm,1.1s							
ASAR	Alice Springs	69.17	116	P	P	03 52 53.4	-0.3	
ASAR	Alice Springs	69.17	116	P	P	03 52 53.4	-0.3	
	2.2nm,0.8s,baz=286,slow=5.9,SNR=17							
DBIC	Dimbokro	72.10	277	P	P	03 53 12.4	+0.7	
DBIC	Dimbokro	72.10	277	P	P	03 53 12.4	+0.7	
	5.3nm,0.7s,baz=77,slow=7.7,SNR=11							
ESDC	Sonseca Array	74.89	311	P	P	03 53 26.9	-0.8	
ESDC	Sonseca Array	74.89	311	P	P	03 53 26.9	-0.8	
	1.8nm,0.7s,baz=88,slow=5.1,SNR=11							
STKA	Stephens Creek	77.33	123	P	P	03 53 41.0	-0.6	
STKA	Stephens Creek	77.33	123	P	P	03 53 41.0	-0.6	
	2.9nm,1.0s,baz=42,slow=2.5,SNR=4.2							
ESK	Eskdalemuir	78.05	327	*e*P	P	03 53 45.9	+0.7	
	5.3nm,0.9s							
CTAO	Charters Tower	80.06	110	*e*P	P	03 53 56.9	-0.1	
	2.9nm,0.6s							
QSPA	South Pole Qui	91.09	180	P	P	03 54 50.9	-0.2	
QSPA	South Pole Qui	91.09	180	P	P	03 54 50.9	-0.2	
	1.3nm,1.0s,baz=286,slow=1.0,SNR=5.5							
YKA	Yellowknife Ar	116.54	1	PKPpre	PKPpre	04 00 27.3		
YKA				PKP	PKiKP	04 00 29.8	-0.6	
YKA	Yellowknife Ar	116.54	1	PKhKP	PKPpre	04 00 27.3		
	0.2nm,0.8s,baz=346,slow=2.0,SNR=5.6							
YKA				PKP	PKiKP	04 00 29.7	-0.6	
	0.2nm,0.8s,baz=344,slow=1.9,SNR=5.4							
WCI	Wyandotte Cave	133.87	331	*e*PKPdf	PKPdf	04 01 04.5	+0.2	
MOOW	Moose Ponds	135.30	358	*e*PKPdf	PKPdf	04 01 07.3	+0.3	
HLID	Hailey	135.50	2	*e*PKPdf	PKPdf	04 01 08.0	+0.6	
SNOW	Snow King Moun	135.59	358	*e*PKPdf	PKPdf	04 01 07.6	-0.1	
PDAR	Pinedale Array	136.22	357	PKP	PKPdf	04 01 09.1	+0.3	
PDAR	Pinedale Array	136.22	357	PKP	PKPdf	04 01 09.1	+0.3	
	0.5nm,0.7s,baz=90,slow=3.0,SNR=4.0							
WMOK	Wichita Mounta	142.01	341	*e*PKPdf	PKPdf	04 01 20.0	+0.6	
W23A	Werner Place,	143.39	351	⇓P	PKPbc	04 01 20.1	+1.0	
	baz=143							
WUAZ	Wupatki	143.53	358	*e*PKPdf	PKPbc	04 01 20.1	+0.7	
WUAZ	Wupatki	143.53	358	⇓P	PKPbc	04 01 20.1	+0.7	
	baz=143,SNR=9.5							
ANMO	Albuquerque	143.64	351	*e*PKPdf	PKPbc	04 01 20.6	+0.8	
W20A	Ramah	143.73	354	⇑P	PKPbc	04 01 20.6	+0.5	
	baz=144							
X25A	Clemmons Ranch	143.74	349	⇓P	PKPbc	04 01 20.8	+0.8	
	baz=144							
X24A	Lazy VL Ranch,	143.85	350	⇓P	PKPbc	04 01 20.8	+0.3	
	baz=144							
MSTX	Muleshoe	143.86	346	⇑P	PKPdf	04 01 21.8	-0.9	
	baz=144							
W13A	Hualapai Mount	143.96	2	⇓P	PKPdf	04 01 21.9	-1.1	
	baz=144							
X23A	Hourglass Bar	143.96	351	⇓P	PKPdf	04 01 21.7	-1.3	
	baz=144,SNR=7.5							
Y27A	Causey	144.04	346	⇑P	PKPbc	04 01 21.1	+0.2	
	baz=144							
Y26A	Elida	144.15	347	⇓P	PKPbc	04 01 21.4	+0.1	
	baz=144							
Z29A	Hungry Hill Ra	144.26	344	⇓P	PKPbc	04 01 21.6	0.0	
	baz=144,SNR=7.2							
LAZ	Ladron	144.28	352	*e*PKPdf	PKPdf	04 01 22.8	-0.8	
X20A	Quemado	144.31	354	⇑P	PKPdf	04 01 22.6	-1.1	
	baz=144,SNR=9.1							
X21A	Alamocita Cree	144.32	353	⇑P	PKPdf	04 01 22.7	-1.0	
	baz=144,SNR=9.1							
Y25A	Mesa, Roswell	144.33	348	⇑P	PKPbc	04 01 21.6	-0.3	
	baz=144,SNR=7.4							
Z28A	Tucker Farm, M	144.41	345	⇑P	PKPbc	04 01 22.4	+0.3	
	baz=144,SNR=6.3							
X18A	Snowflake	144.44	356	⇑P	PKPdf	04 01 23.2	-0.6	
	baz=144,SNR=6.3							
BNM	Barren Site	144.45	351	*e*PKPdf	PKPbc	04 01 22.7	+0.3	
Y24A	Capitan	144.47	350	⇑P	PKPbc	04 01 22.6	+0.3	
	baz=144,SNR=6.5							
Y23A	Lovelace Mesa,	144.57	350	⇓P	PKPbc	04 01 22.9	+0.2	
	baz=144,SNR=6.4							
Z27A	Tatum	144.59	346	⇑P	PKPbc	04 01 23.0	+0.3	
	baz=144,SNR=12							
X16A	Lo Mia Camp, P	144.63	358	⇑P	PKPdf	04 01 23.8	-0.4	
	baz=144,SNR=12							
X17A	Forest Lakes	144.69	357	⇓P	PKPdf	04 01 24.4	0.0	
	baz=144,SNR=7.1							
Y22A	Socorro	144.71	352	⇓P	PKPdf	04 01 23.7	-0.6	
	baz=144,SNR=9.7							
Z26A	Caprock	144.81	347	⇓P	PKPdf	04 01 23.6	-0.9	
	baz=145,SNR=12							
IRM	Iron Mountain	144.84	3	⇑P	PKPdf	04 01 24.5	+0.1	
	baz=145							
Z25A	Roswell	144.96	348	⇑P	PKPdf	04 01 24.2	-0.5	
	baz=145							
Z24A	Sheeppen Canyo	145.04	349	⇓P	PKPdf	04 01 24.9	-0.1	
	baz=145							
128A	Castleberry Fa	145.07	345	⇓P	PKPdf	04 01 24.5	-0.4	
	baz=145,SNR=6.7							
Y14A	Wickenburg	145.13	0	⇓P	PKPdf	04 01 25.6	+0.7	
	baz=145							
HKT	Hockley	145.15	334	*e*PKPbc	PKPbc	04 01 23.9	-0.4	
Y12C	Blythe	145.28	3	⇓P	PKPdf	04 01 25.6	+0.5	
	baz=145							
PFO	Pinyon Flat Ob	145.28	5	⇑P	PKPdf	04 01 25.4	+0.2	
	baz=145							
BC3	Big Chuckawall	145.32	4	⇓P	PKPdf	04 01 26.1	+0.7	
	baz=145							
Z22A	Elephant Butte	145.38	351	⇑P	PKPdf	04 01 25.5	0.0	
	baz=145							
126A	Clayton Basin,	145.42	347	⇓P	PKPab	04 01 25.5	0.0	
	baz=145							
Z21A	St. Cloud Mine	145.43	352	⇑P	PKPab	04 01 26.3	+0.7	
	baz=145							
229A	Bryant Ranch,	145.50	343	⇓P	PKPab	04 01 25.9	+0.1	
	baz=145							
125A	Gardner Draw,	145.55	348	⇓P	PKPdf	04 01 25.4	-0.4	
	baz=145							
OTAV	Otavalo	145.68	272	*e*PKPbc	PKPab	04 01 28.0	+0.5	
Z14A	Wintersburg	145.71	0	⇓P	PKPab	04 01 27.0	+0.6	
	baz=146							
Z20A	Nine Sixteen R	145.73	354	⇓P	PKPab	04 01 27.3	+0.6	
	baz=146,SNR=7.4							
227A	Bennet, Jal	145.86	346	⇑P	PKPab	04 01 26.7	-0.4	
	baz=146							
226A	Malaga, Loving	146.00	347	⇓P	PKPbc	04 01 26.7	-0.5	
	baz=146							
329A	Wagon Wheel Ra	146.00	343	⇑P	PKPbc	04 01 27.0	-0.2	
	baz=146							
225A	Deer Hill, Car	146.11	348	⇑P	PKPbc	04 01 27.5	-0.2	
	baz=146							
121A	Cookes Peak, D	146.21	352	⇓P	PKPab	04 01 28.4	-0.1	
	baz=146							
JCT	Junction City	146.25	340	*e*PKPbc	PKPbc	04 01 27.7	-0.3	
JCT	Junction City	146.25	340	⇓P	PKPab	04 01 28.2	-0.4	
	baz=146							
113A	Mohawk Valley,	146.28	2	⇑P	PKPab	04 01 28.0	-0.6	
	baz=146							
224A	Cornudas Mount	146.29	349	⇑P	PKPab	04 01 29.4	+0.6	
	baz=146							
120A	U Bar Ranch, L	146.29	354	⇓P	PKPab	04 01 29.1	+0.3	
	baz=146							
328A	Wristen Ranch,	146.33	345	⇑P	PKPbc	04 01 27.9	-0.3	
	baz=146							
MNTX	Cornudas Mount	146.62	349	*e*PKPbc	PKPab	04 01 29.8	-0.1	
MNTX	Cornudas Mount	146.62	349	⇓P	PKPab	04 01 29.8	-0.1	
	baz=146,SNR=6.7							
TUC	Tucson	146.70	357	*e*PKPbc	PKPab	04 01 29.9	-0.4	
429A	Davenport Ranc	146.79	343	⇑P	PKPdf	04 01 28.0	+0.2	
	baz=147							
325A	Bean Ranch, Si	146.86	348	⇓P	PKPbc	04 01 29.2	-0.6	
	baz=147							
324A	Moseley Ranch,	146.89	349	⇑P	PKPdf	04 01 28.6	+0.5	
	baz=147							
220A	Playas Peak, P	146.92	353	⇓P	PKPbc	04 01 28.9	-1.0	
	baz=147							
428A	Kincaid Ranch,	146.92	344	⇑P	PKPab	04 01 30.3	-0.9	
	baz=147							
427A	Hayter Ranch,	146.99	345	⇑P	PKPbc	04 01 29.4	-0.7	
	baz=147							
529A	Stev Forest Ra	147.35	343	⇓P	PKPbc	04 01 30.1	-1.1	
	baz=147							
425A	Indio Mountain	147.43	348	⇓P	PKPbc	04 01 30.2	-1.2	
	baz=147							
320A	Kipp Ranch, An	147.48	353	⇑P	PKPbc	04 01 31.9	+0.3	
	baz=147							
528A	Cox Ranch, San	147.48	344	⇑P	PKPbc	04 01 31.2	-0.3	
	baz=147							
527A	Woodward Ranch	147.72	345	⇑P	PKPbc	04 01 32.7	+0.5	
	baz=148							
526A	Mary Lane Ranc	147.92	346	⇓P	PKPbc	04 01 33.6	+0.8	
	baz=148							
628A	Black Gap, Mar	148.14	344	⇑P	PKPbc	04 01 33.3	0.0	
	baz=148							
627A	Terlingua Ranc	148.31	344	⇑P	PKPbc	04 01 33.8	0.0	
	baz=148							
626A	Big Bend Ranch	148.41	346	⇑P	PKPbc	04 01 33.9	-0.2	
	baz=148							
TXAR	Lajitas Array	148.50	345	PKP	PKPdf	04 01 30.7	-0.1	
TXAR				PKPbc	PKPbc	04 01 34.7	+0.4	
TXAR	Lajitas Array	148.50	345	PKP	PKPdf	04 01 30.7	-0.1	
	5.1nm,0.8s,baz=60,slow=2.2,SNR=12							
TXAR				PKPbc	PKPbc	04 01 34.7	+0.4	
	5.1nm,0.8s,baz=56,slow=2.7,SNR=43							

*IDC **18** 03:52:16.3±0.6,3˚.78N×126˚.53E,h0km,mb4.2/13, mb1 4.3/13,mb1mx4.2/23,mbtmp4.2/13,MS3.9/2, Ms1 3.9/2,ms1mx3.4/30,Error ellipse: s-maj=41.7km s-min=13.5km az=74.0*

*DJA **18** 03:52:19,4˚.31N×127˚.56E,h10km,mb4.7/6*

*ISCJB **18** 03:52:20.6±0.3,3˚.73N±0˚.06×126˚.5E±0˚.1,h45km, mb4.3/26,MS4.7/1,Error ellipse: s-maj=15.4km s-min=7.1km az=163.4*

*NEIC **18** 03:52:21.4±0.2,3˚.75N×126˚.53E,h35km,mb4.6/13,Error ellipse: s-maj=10.5km s-min=5.2km az=74.0*

ISC 18 03:52:22.8±0.5, 3.79N±0.08×126.6E±0.1, h45km, n64, σ0s97/61, mb4.4/25, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	3.11	165	P	Pn	03 53 10.9	+1.6
DAV	Davao City (W)	3.40	343	LR	LR	03 54 41.6	
	comp=Z,383nm,18.9s,baz=174,slow=43						
CTBH	Cotabato--PC H	4.11	326	⇓*i*P	Pn	03 53 27.2	+4.1
LUWI	Luwuk	6.12	218	P	Pn	03 53 58.6	+8.0
	110nm,1.2s,1μm0.4nm						
MSAI	Masohi	7.48	162	P	Pn	03 54 05.1	-4.2
MYLDM	Lahad Datu	8.15	280	P	Pn	03 54 27.5	+8.9
	33nm,0.7s						
TTSI	Tana Toraja	9.57	225	P	Pn	03 54 47.6	+10
	24nm,1.5s,1μm						
SBUM	Sibu	14.38	265	P	P	03 55 50.7	+1.0
	12nm,1.4s						
KSM	Kuching	16.39	262	*e*Pn	Pn	03 56 07.9	-2.0
FITZ	Fitzroy Crossi	21.77	182	P	P	03 57 09.4	-1.5
FITZ	Fitzroy Crossi	21.77	182	P	P	03 57 09.4	-1.5
	4.0nm,0.8s,baz=18,slow=11,SNR=5.6						
WRAB	Tennant Creek	24.79	162	*e*P	P	03 57 39.2	-1.5
	38nm,1.0s						
WRA	Warramunga Arr	24.80	162	P	P	03 57 39.4	-1.3
WRA	Warramunga Arr	24.80	162	P	P	03 57 39.4	-1.3
	13nm,0.4s,baz=338,slow=11,SNR=90						
AS31	Alice Springs	28.22	166	*e*P	P	03 58 11.4	-0.1
ASAR	Alice Springs	28.22	166	P	P	03 58 10.2	-1.4
ASAR				PcP	PcP	04 01 25.6	+1.0
ASAR	Alice Springs	28.22	166	P	P	03 58 10.2	-1.4
	1.1nm,0.4s,baz=352,slow=8.1,SNR=15						
ASAR				PcP	PcP	04 01 25.6	+1.0
	0.2nm,0.5s,baz=327,slow=2.4,SNR=5.2						
ENH	Enshi	30.89	330	*e*P	P	03 58 34.4	-0.8
FORT	Forrest	34.41	178	*e*P	P	03 59 05.9	0.0
	14nm,0.7s						
BBOO	Buckleboo	37.50	167	*e*P	P	03 59 31.9	-0.4
EIDS	Eidsvold	37.51	142	*e*P	P	03 59 31.1	-1.4
	8.4nm,0.9s						
STKA	Stephens Creek	38.25	159	P	P	03 59 38.1	-0.6
STKA				PcP	PcP	04 01 53.3	+0.9
STKA	Stephens Creek	38.25	159	P	P	03 59 38.1	-0.6
	3.9nm,0.6s,baz=322,slow=7.7,SNR=12						
STKA				PcP	PcP	04 01 53.3	+0.9
	2.3nm,0.8s,baz=292,slow=6.3,SNR=3.2						
ULN	Ulaanbaatar	47.01	342	*e*P	P	04 00 49.8	+0.1
	2.1nm,0.8s						
SONM	Songino Array	47.18	342	P	P	04 00 50.1	-1.0
SONM	Songino Array	47.18	342	P	P	04 00 50.1	-1.0
	1.0nm,0.5s,baz=156,slow=7.4,SNR=3.0						
TLY	Talaya	51.42	342	*e*P	P	04 01 23.1	-0.1
	2.4nm,0.6s						
PETK	Petropavlovsk-	55.44	22	P	P	04 01 52.1	-0.5
PETK	Petropavlovsk-	55.44	22	P	P	04 01 52.1	-0.5
	4.0nm,0.7s,baz=197,slow=9.0,SNR=3.0						
MK31	Makanchi Array	57.41	325	*e*P	P	04 02 06.6	-0.2
MKAR	Makanchi Array	57.41	325	P	P	04 02 06.8	-0.1
MKAR	Makanchi Array	57.41	325	P	P	04 02 06.8	-0.1
	1.3nm,0.4s,baz=117,slow=7.7,SNR=40						
ZALV	Zalesovo Beam	60.45	333	P	P	04 02 26.4	-1.3
ZALV	Zalesovo Beam	60.45	333	P	P	04 02 26.4	-1.3
	1.0nm,0.4s,baz=140,slow=7.0,SNR=5.5						
KURBB	Kurchatov Arra	61.59	327	P	P	04 02 35.2	-0.3
	0.8nm,0.4s,baz=128,slow=6.7,SNR=11						
KURK	Kurchatov	61.60	328	*e*P	P	04 02 34.9	-0.7
	3.1nm,0.7s						
BRVK	Borovoye	67.25	327	*e*P	P	04 03 13.0	+0.4
	3.0nm,0.9s						
ABKAR	Akbulak array	71.99	321	*e*P	P	04 03 42.4	+0.5
	1.0nm,0.7s						
KBZ	Khabaz	82.81	313	LR	LR	04 42 11.3	
	comp=Z,334nm,21.3s,baz=28,slow=36						
TRF	Thorofare Moun	83.56	27	*e*P	P	04 04 45.4	-0.8
	3.4nm,1.0s						
COLD	Coldfoot	83.90	23	*e*P	P	04 04 48.1	+0.5
	4.5nm,1.0s						
PMR	Palmer	83.97	29	*e*P	P	04 04 47.5	-0.5
	7.7nm,1.1s						
MCK	McKinley	84.18	26	*e*P	P	04 04 48.8	-0.3
	3.9nm,0.8s						
ILAR	Eielson Array	85.12	25	P	P	04 04 54.6	+0.8
ILAR	Eielson Array	85.12	25	P	P	04 04 54.6	+0.8
	0.5nm,0.8s,baz=252,slow=5.9,SNR=5.5						
BMRM	Bremner River	86.14	29	*e*P	P	04 04 59.2	+0.1
	6.3nm,0.9s						
ARCES	ARCESS Array B	90.33	340	P	P	04 05 17.9	-0.8
ARCES	ARCESS Array B	90.33	340	P	P	04 05 17.9	-0.8
	3.8nm,1.0s,baz=19,slow=7.7,SNR=3.8						
FINES	FINESS Array B	91.70	332	P	P	04 05 27.3	+2.1
FINES	FINESS Array B	91.70	332	P	P	04 05 27.3	+2.1
	1.3nm,0.9s,baz=228,slow=8.4,SNR=3.9						
BUR08	Bucovina Ar. S	94.85	318	*e*P	P	04 05 40.5	+0.3
YKA	Yellowknife Ar	99.51	24	P	Pdif	04 06 00.6	-0.2
YKA	Yellowknife Ar	99.51	24	P	Pdif	04 06 00.6	-0.2
	0.1nm,0.5s,baz=296,slow=4.7,SNR=2.7						
TXAR	Lajitas Array	121.69	52	PKP	PKPdf	04 11 13.5	+0.9
TXAR	Lajitas Array	121.69	52	PKP	PKPdf	04 11 13.5	+0.9
	0.6nm,1.0s,baz=298,slow=2.7,SNR=3.8						
TOA0	Torodi Ar. Sit	122.74	288	*e*PKPdf	PKPdf	04 11 15.4	+0.5
TORD	Torodi Ar. Bea	122.74	288	PKP	PKPdf	04 11 15.5	+0.7
TORD	Torodi Ar. Bea	122.74	288	PKP	PKPdf	04 11 15.5	+0.7
	0.3nm,0.4s,baz=83,slow=1.5,SNR=16						
JCT	Junction City	124.15	49	*e*PKPdf	PKPdf	04 11 17.1	-0.1
WVT	Waverly	128.91	36	*e*PKPdf	PKPdf	04 11 26.6	+0.5
TRQA	Tornquist	145.01	169	*e*PKPdf	PKPdf	04 11 56.0	+0.3
CFAA	Coronel Fontan	149.03	155	PKPbc	PKPbc	04 12 07.8	+1.1
CFAA	Coronel Fontan	149.03	155	PKPbc	PKPbc	04 12 07.8	+1.1
	0.3nm,0.7s,baz=168,slow=3.3,SNR=7.5						
LPAZ	La Paz	160.96	132	*e*PKPdf	PKPdf	04 12 20.0	0.0

IDC 18 03:53:55.2±17.0, 20.85S×174.43W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.8/21, mbtmp4.1/5, Error ellipse: s-maj=324.9km s-min=141.7km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	36.78	264	P	P	04 01 05.8	+0.9
	1.5nm,0.3s,baz=94,slow=13,SNR=3.5						
STKA	Stephens Creek	40.66	245	P	P	04 01 36.8	-0.5
	1.0nm,0.5s,baz=95,slow=11,SNR=3.4						
ASAR	Alice Springs	47.69	257	P	P	04 02 33.3	-0.6
	2.1nm,0.7s,baz=94,slow=7.8,SNR=16						
WRA	Warramunga Arr	47.86	262	P	P	04 02 34.4	-0.8
	0.8nm,0.3s,baz=96,slow=8.0,SNR=37						
FITZ	Fitzroy Crossi	56.29	262	P	P	04 03 38.7	+0.7
	2.3nm,0.9s,baz=78,slow=9.3,SNR=5.7						

IDC 18 04:08:50.5±1.8, 4.13N×127.03E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/21, mbtmp3.8/4, Error ellipse: s-maj=141.0km s-min=23.8km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.98	164	P	P	04 14 15.8	-0.3
	6.8nm,0.7s,baz=344,slow=11,SNR=48						
ASAR	Alice Springs	28.43	167	P	P	04 14 46.5	-0.6
	0.4nm,0.5s,baz=347,slow=6.7,SNR=5.7						
STKA	Stephens Creek	38.40	160	P	P	04 16 14.4	+0.7
	1.2nm,0.4s,baz=346,slow=8.9,SNR=7.3						
MKAR	Makanchi Array	57.40	325	P	P	04 18 40.9	0.0
	0.1nm,0.4s,baz=130,slow=9.1,SNR=3.7						

*ISCJB **18** 04:16:16.3±0.8,36˚.92N±0˚.05×28˚.28E±0˚.04,h9km±5km, Error ellipse: s-maj=8.3km s-min=4.9km az=6.8*

*ISK **18** 04:16:17.3,37˚.09N×28˚.25E,h20km,MD2.6*

*DDA **18** 04:16:17.1,36˚.98N×28˚.23E,h7km,MD2.9*

*CSEM **18** 04:16:17.3±0.5,36˚.99N×28˚.25E,h15km,MD2.6,Error ellipse: s-maj=11.9km s-min=6.6km az=171.0*

ISC 18 04:16:15.8±1.1, 36.92N±0.05×28.27E±0.03, h13km±7km, n19, σ0s70/32, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	Yerkesik	0.22	4	PG	Pg	04 16 20.9	+0.3
YER				SG	Sg	04 16 24.0	0.0
YER	Yerkesik	0.22	4	*i* Pg	Pg	04 16 20.9	+0.3
YER				*i* Sg	Sg	04 16 24.0	0.0
TURN	Turunc	0.27	99	*i* Pg	Pg	04 16 21.3	-0.2
TURN				*i* Sg	Sg	04 16 24.9	-0.5
BDRM	Kayabasi	0.67	283	*e*P	Pg	04 16 29.0	+0.1
BDRM				*e*S	Sb	04 16 39.2	+0.6
BDRM	Kayabasi	0.67	283	*e*P	Pg	04 16 29.0	+0.1
BDRM				*e*S	Sb	04 16 39.2	+0.6
BODT	Bodrum	0.78	281	*e*PG	Pn	04 16 32.2	-0.2
BODT				*e*SG	Sn	04 16 43.5	-0.4
BODT	Bodrum	0.78	281	*e*Pg	Pn	04 16 32.2	-0.2
BODT				*e*Sg	Sn	04 16 43.6	-0.4
AYDN	Tasoluk	0.81	338	*e*P	Pb	04 16 31.7	0.0
AYDN				*e*S	Sg	04 16 41.5	-0.5
AYDN	Tasoluk	0.81	338	*e*P	Pb	04 16 31.7	0.0
AYDN				*e*S	Sg	04 16 41.5	-0.5
DNZL	Cakiroluk	0.99	39	*e*P	Pn	04 16 36.1	+0.5
DNZL				*e*S	Sn	04 16 49.0	-0.5
DNZL	Cakiroluk	0.99	39	*e*P	Pn	04 16 36.1	+0.5
DNZL				*e*S	Sn	04 16 49.0	-0.5
GCAM	G?zelcaml?	1.14	314	*e*P	Pg	04 16 39.0	+1.3
GCAM				*e*S	Sg	04 16 52.8	+0.3
GCAM	G?zelcaml?	1.14	314	*e*P	Pg	04 16 39.0	+1.3
GCAM				*e*S	Sg	04 16 52.8	+0.3
ELL	Elmali	1.33	97	*e*PN	Pg	04 16 42.3	+0.9
ELL	Elmali	1.33	97	*e*Pn	Pg	04 16 42.3	+0.9
KULA	Kula-Manisa	1.63	11	*e*PN	Pn	04 16 43.3	-0.9
KULA	Kula-Manisa	1.63	11	*e*Pn	Pn	04 16 43.3	-0.9
BLCB	Balcova	1.76	327	*e*PN	Pn	04 16 44.6	-1.3
BLCB	Balcova	1.76	327	*e*Pn	Pn	04 16 44.6	-1.3

**IDC 18 04:44:36.5±1.9, 3.72N×126.66E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/21, mbtmp3.7/4, MS3.8/4, Ms1 3.8/4, ms1mx3.2/44,

AAI	Ambon	7.86	166	P		Pn	05 09 12.9	+0.7
	72nm,0.7s,2µm							
KDI	Kendari	8.75	205	P		Pn	05 09 23.8	-0.5
	33nm,0.7s							
FAKI	Fak Fak	9.05	139	P		Pn	05 09 28.9	+0.4
	14nm,1.5s							
TTSI	Tana Toraja	9.58	223	P		Pn	05 09 39.0	+3.4
	17nm,0.7s,1µm							
SPSI	Sidrap Palu	10.30	220	P		Pn	05 09 47.1	+1.7
	13nm,0.8s							
KKM	Kota Kinabalu	10.30	282	*e*Pn		Pn	05 09 38.1	-7.5
KAPI	Kappang	11.13	216	*e*Pn		Pn	05 09 50.9	-5.8
KAPI	Kappang	11.13	216	P		Pn	05 09 57.5	+0.8
KAPI	Kappang	11.13	216	P		Pn	05 09 56.8	+0.1
	0.7nm,0.3s,baz=45,slow=15,SNR=4.4							
KSM	Kuching	16.23	262	*e*Pn		Pn	05 10 59.1	-3.9
FITZ	Fitzroy Crossi	21.98	182	*e*P		P	05 12 05.7	-1.2
	16nm,0.8s							
FITZ	Fitzroy Crossi	21.98	182	P		P	05 12 06.1	-0.9
	19nm,0.9s,baz=5.5,slow=7.6,SNR=21							
JOW	Kunigami	22.77	4	P		P	05 12 15.7	+0.5
JOW	Kunigami	22.77	4	P		P	05 12 15.7	+0.5
	26nm,0.6s,baz=175,slow=11,SNR=7.7							
WRAB	Tennant Creek	25.05	162	*e*P		P	05 12 35.3	-0.9
	29nm,0.8s							
WRA	Warramunga Arr	25.06	162	P		P	05 12 35.4	-0.9
WRA	Warramunga Arr	25.06	162	P		P	05 12 35.4	-0.9
	28nm,0.7s,baz=343,slow=10,SNR=134							
MBWA	Marble Bar	25.84	194	*e*P		P	05 12 42.8	-0.5
AS31	Alice Springs	28.47	165	*e*P		P	05 13 06.5	-0.4
ASAR	Alice Springs	28.47	165	P		P	05 13 06.5	-0.5
ASAR	Alice Springs	28.47	165	P		P	05 13 06.5	-0.5
	2.7nm,0.6s,baz=345,slow=7.1,SNR=43							
JNU	Nakatsue	29.27	8	P		P	05 13 14.2	+0.3
JNU	Nakatsue	29.27	8	P		P	05 13 14.2	+0.3
	8.8nm,0.6s,baz=42,slow=5.7,SNR=6.0							
CMAR	Chiang Mai Arr	30.41	300	P		P	05 13 25.1	+0.9
CMAR	Chiang Mai Arr	30.41	300	P		P	05 13 25.1	+0.9
	1.2nm,0.3s,baz=120,slow=7.6,SNR=6.3							
KSAR	Wonju Array Be	33.31	2	P		P	05 13 50.2	+1.0
KSRS	Korea Array	33.32	2	P		P	05 13 50.2	+0.9
	1.8nm,0.5s,baz=180,slow=11,SNR=9.4							
NWAO	Narrogin (SRO)	37.74	193	P		P	05 14 27.5	+0.2
NWAO	Narrogin (SRO)	37.74	193	P		P	05 14 27.5	+0.2
	7.6nm,0.8s,baz=20,slow=4.9,SNR=6.3							
STKA	Stephens Creek	38.52	159	*e*P		P	05 14 33.6	-0.3
	0.8nm,0.8s							
STKA	Stephens Creek	38.52	159	P		P	05 14 33.7	-0.1
	2.7nm,0.4s,baz=327,slow=8.9,SNR=10							
USRK	Ussuriysk Arra	40.34	6	P		P	05 14 49.0	+0.2
	4.9nm,0.7s,baz=198,slow=8.8,SNR=11							
LSA	Lhasa	41.98	311	*e*P		P	05 15 04.1	+1.0
	9.5nm,0.6s							
ASAJ	Asahikawa	42.44	17	P		P	05 15 06.5	+0.5
ASAJ	Asahikawa	42.44	17	P		P	05 15 06.5	+0.5
	5.7nm,0.4s,baz=196,slow=6.0,SNR=4.2							
SONM	Songino Array	46.92	342	P		P	05 15 41.7	0.0
SONM	Songino Array	46.92	342	P		P	05 15 41.7	0.0
	2.4nm,0.6s,baz=157,slow=8.8,SNR=9.2							
PETK	Petropavlovsk-	55.32	22	P		P	05 16 45.9	+1.6
PETK	Petropavlovsk-	55.32	22	P		P	05 16 45.9	+1.6
	3.1nm,0.7s,baz=220,slow=6.6,SNR=3.5							
MK31	Makanchi Array	57.12	325	*e*P		P	05 16 56.9	-0.4
MKAR	Makanchi Array	57.12	325	P		P	05 16 56.7	-0.6
MKAR				ScP		ScP	05 21 46.0	+3.7
MKAR	Makanchi Array	57.12	325	P		P	05 16 56.7	-0.6
	2.8nm,0.5s,baz=117,slow=7.5,SNR=78							
MKAR				ScP		ScP	05 21 46.1	+3.7
	0.3nm,0.7s,baz=129,slow=4.2,SNR=3.7							
ZALV	Zalesovo Beam	60.17	333	P		P	05 17 16.8	-1.5
ZALV	Zalesovo Beam	60.17	333	P		P	05 17 16.8	-1.5
	1.1nm,0.5s,baz=126,slow=6.4,SNR=6.4							
KURK	Kurchatov	61.31	328	*e*P		P	05 17 25.8	-0.2
	7.8nm,0.6s							
ABKAR	Akbulak array	71.70	321	*e*P		P	05 18 32.0	-0.3
	2.5nm,0.6s							
AKTO	Aktyubinsk	73.21	322	P		P	05 18 40.9	-0.4
AKTO	Aktyubinsk	73.21	322	P		P	05 18 40.9	-0.4
	2.2nm,0.5s,baz=104,slow=7.4,SNR=12							
KDAK	Kodiak Island	81.86	32	P		P	05 19 30.4	+1.2
KDAK	Kodiak Island	81.86	32	P		P	05 19 30.4	+1.2
	5.1nm,0.6s,baz=191,slow=5.2,SNR=9.0							
MCK	McKinley	84.08	26	*e*P		P	05 19 41.3	+0.6
	3.9nm,0.7s							
ILAR	Eielson Array	85.01	25	P		P	05 19 45.2	-0.1
ILAR	Eielson Array	85.01	25	P		P	05 19 45.2	-0.1
	0.7nm,0.7s,baz=248,slow=5.2,SNR=13							
BRTR	Keskin Array B	89.56	310	P		P	05 20 07.2	-0.7
BRTR	Keskin Array B	89.56	310	P		P	05 20 07.2	-0.7
	0.7nm,0.8s,baz=83,slow=5.1,SNR=5.1							
INK	Inuvik	90.04	21	P		P	05 20 08.0	-1.4
INK	Inuvik	90.04	21	P		P	05 20 08.0	-1.4
	1.6nm,0.9s,baz=276,slow=8.3,SNR=4.9							
ARCES	ARCESS Array B	90.06	340	P		P	05 20 08.5	-1.0
ARCES	ARCESS Array B	90.06	340	P		P	05 20 08.5	-1.0
	3.9nm,0.8s,baz=333,slow=7.5,SNR=7.6							
FINES	FINESS Array B	91.41	332	P		P	05 20 14.6	-1.3
FINES	FINESS Array B	91.41	332	P		P	05 20 14.6	-1.3
	0.9nm,0.6s,baz=33,slow=5.8,SNR=4.1							
AKASG	Malin Array Be	91.44	321	P		P	05 20 14.6	-1.6
AKASG	Malin Array Be	91.44	321	P		P	05 20 14.6	-1.6
	1.0nm,0.5s,baz=68,slow=4.5,SNR=4.7							
YKA	Yellowknife Ar	99.40	24	P		Pdif	05 20 51.9	-0.3
YKA	Yellowknife Ar	99.40	24	P		Pdif	05 20 51.9	-0.3
	0.2nm,0.6s,baz=301,slow=4.6,SNR=5.7							
TORD	Torodi Ar. Bea	122.48	288	PKP		PKPdf	05 26 04.5	-1.5
TORD	Torodi Ar. Bea	122.48	288	PKP		PKPdf	05 26 04.5	-1.5
	0.2nm,0.5s,baz=60,slow=1.6,SNR=5.7							
GOGA	Godfrey	133.30	35	*e*PKPdf		PKPdf	05 26 27.2	+1.1

*ISCJB **18** 05:14:56.3±0.4,39°.10N±0°.02×29°.04E±0°.03,h0km±6km, Error ellipse: s-maj=3.9km s-min=3.4km az=178.5*
*ISK **18** 05:14:56.1,39°.09N×29°.07E,h5km,MD3.0*
*DDA **18** 05:14:56.2,39°.11N×29°.03E,h7km,MD3.0*
*CSEM **18** 05:14:56.6±0.1,39°.10N×29°.06E,h2km,MD3.0, Error ellipse: s-maj=2.3km s-min=2.1km az=81.0*

ISC 18 05:14:56.4±0.9,**39°.11N**±0°.02×**29°.04E**±0°.02,**h12**km±9km, **n60,σ0°40'77,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
DEMI	Demirci	0.26	255	*i* Pg		Pg	05 15 02.0	+0.2
DEMI				*i* Sg		Sg	05 15 05.7	+0.2
GDZ	Gediz	0.35	94	*i* Pg		Pg	05 15 03.6	+0.1
GDZ				*i* Sg		Sg	05 15 08.4	+0.3
TVSB	Tavsanli	0.47	44	*e*PG		Pg	05 15 05.6	-0.1
TVSB				*e*SG		Sg	05 15 12.1	0.0
TVSB	Tavsanli	0.47	44	*e*Pg		Pg	05 15 05.6	-0.1
TVSB				*e*Sg		Sg	05 15 12.1	0.0
DST	Dursunbey	0.59	327	*e*PG		Pb	05 15 08.6	-0.1
DST	Dursunbey	0.59	327	*e*Pg		Pb	05 15 08.6	-0.1
DURS	Dursunbey	0.66	318	*e*P		Pg	05 15 08.9	-0.3
DURS				*e*S		Sg	05 15 17.8	-0.1
DURS	Dursunbey	0.66	318	*e*P		Pg	05 15 08.9	-0.3
KULA	Kula-Manisa	0.66	206	*e*PG		Pg	05 15 09.0	-0.3
KULA				*e*SG		Sg	05 15 18.2	+0.1
KULA	Kula-Manisa	0.66	206	*e*Pg		Pg	05 15 09.0	-0.3
KULA				*e*Sg		Sg	05 15 18.2	+0.1
MANT	Manisa	0.72	211	*i* P		Pb	05 15 10.6	-0.5
MANT				*i* S		Sg	05 15 19.8	-0.2
MANT	Manisa	0.72	211	*i* P		Pb	05 15 10.6	-0.5
MANT				*i* S		Sg	05 15 19.8	-0.2
KHAL	Karahalli	0.82	154	*e*P		Pb	05 15 12.6	-0.1
KHAL				*e*S		Sb	05 15 23.3	-0.4
KHAL	Karahalli	0.82	154	*e*P		Pb	05 15 12.6	-0.1
KHAL				*e*S		Sb	05 15 23.3	-0.4
ALT	Altintas	0.84	93	*e*PG		Pg	05 15 12.4	-0.2
ALT	Altintas	0.84	93	*e*Pg		Pg	05 15 12.4	-0.2
KHL	Karahalli	0.87	154	*e*PG		Pb	05 15 13.6	0.0
KHL				*e*SG		Sb	05 15 24.7	-0.6
KHL	Karahalli	0.87	154	*e*Pg		Pb	05 15 13.6	0.0
KHL				*e*Sg		Sb	05 15 24.7	-0.6
AKHS	Akhisar	0.98	257	*e*P		Pb	05 15 15.4	0.0
AKHS				*e*S		Sb	05 15 28.7	+0.4
AKHS	Akhisar	0.98	257	*e*P		Pb	05 15 15.4	0.0
AKHS				*e*S		Sb	05 15 28.7	+0.4
AKS	Akhisar	0.98	257	*e*PG		Pb	05 15 15.7	+0.3
AKS	Akhisar	0.98	257	*e*Pg		Pb	05 15 15.7	+0.3
BALB	Balikesir	1.04	301	*e*PG		Pn	05 15 17.2	+0.3
BALB	Balikesir	1.04	301	*e*Pg		Pn	05 15 17.2	+0.3
CAVI	Cavuskoy	1.25	29	*e*PN		Pg	05 15 20.7	+0.2
CAVI	Cavuskoy	1.25	29	*e*Pn		Pg	05 15 20.7	+0.2
MDNY	Mudanya-Bursa	1.26	355	*e*PN		Pg	05 15 20.7	0.0
MDNY	Mudanya-Bursa	1.26	355	*e*Pn		Pg	05 15 20.7	0.0
BALY	Balya	1.27	300	*e*P		Pb	05 15 20.4	+0.1
BALY				*e*S		Sb	05 15 36.5	-0.1
BALY	Balya	1.27	300	*e*P		Pb	05 15 20.4	+0.1
BALY				*e*S		Sb	05 15 36.5	-0.1
KCTX	Karacabey (Bur	1.27	336	*e*PN		Pg	05 15 21.1	+0.3
KCTX	Karacabey (Bur	1.27	336	*e*Pn		Pg	05 15 21.1	+0.3
SHUT	Suhut-Afyon	1.31	115	*e*PN		Pb	05 15 20.9	-0.1
SHUT	Suhut-Afyon	1.31	115	*e*Pn		Pb	05 15 20.9	-0.1
GONE	Gonen-Balikesi	1.40	312	*e*PN		Pg	05 15 23.2	-0.1
GONE	Gonen-Balikesi	1.40	312	*e*Pn		Pg	05 15 23.2	-0.1
ADVT	Abdulvahap	1.43	22	*e*PN		Pg	05 15 23.7	-0.1
ADVT	Abdulvahap	1.43	22	*e*Pn		Pg	05 15 23.7	-0.1
ARMT	Armutlu	1.46	355	*e*PN		Pg	05 15 24.4	-0.1
ARMT	Armutlu	1.46	355	*e*Pn		Pg	05 15 24.4	-0.1
ESKT	Eskisehir	1.46	73	*e*PN		Pb	05 15 23.6	-0.1
ESKT	Eskisehir	1.46	73	*e*Pn		Pb	05 15 23.6	-0.1
BNT	Bandirma	1.51	326	*e*PN		Pg	05 15 25.6	+0.1
BNT	Bandirma	1.51	326	*e*Pn		Pg	05 15 25.6	+0.1
EDC	Edincik	1.53	324	*e*PN		Pg	05 15 25.6	-0.2
EDC	Edincik	1.53	324	*e*Pn		Pg	05 15 25.6	-0.2
BLCB	Balcova	1.72	246	*e*PN		Pb	05 15 27.9	-0.1
BLCB	Balcova	1.72	246	*e*Pn		Pb	05 15 27.9	-0.1
GULT	Gulveren	1.74	40	*e*PN		Pn	05 15 27.5	+0.9
GULT	Gulveren	1.74	40	*e*Pn		Pn	05 15 27.5	+0.9
HRT	Hereke	1.78	16	*e*PN		Pb	05 15 28.9	-0.1
HRT	Hereke	1.78	16	*e*Pn		Pb	05 15 28.9	-0.1
KRBG	Karabiga-Canak	1.85	314	*e*PN		Pb	05 15 30.1	-0.1
KRBG	Karabiga-Canak	1.85	314	*e*Pn		Pb	05 15 30.1	-0.1
RKY	Sarkoy-Tekirda	2.13	318	*e*PN		Pb	05 15 34.2	-0.7
RKY	Sarkoy-Tekirda	2.13	318	*e*Pn		Pb	05 15 34.2	-0.7
CTKS	Kestanelik-??a	2.16	349	*e*PN		Pb	05 15 34.5	-1.0
CTKS	Kestanelik-??a	2.16	349	*e*Pn		Pb	05 15 34.5	-1.0
CTYL	Yal??k??y-??at	2.43	347	*e*PN		Pb	05 15 38.8	-1.3
CTYL	Yal??k??y-??at	2.43	347	*e*Pn		Pb	05 15 38.8	-1.3

IDC 18 05:25:43.6±1.8,**3°.21N**×**127°.14E**,**h0km**,**mb3.8**/4, **mb1 3.9**/4,**mb1mx3.6**/21,**mbtmp3.8**/4,**MS3.8**/2,**Ms1 3.8**/2, **ms1mx2.9**/36,**Error ellipse: s-maj=164.2km s-min=21.5km az=66.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
DAV	Davao City (W)	4.14	338	LR		LR	05 28 43.0	
	comp=Z,127nm,18.6s,baz=87,slow=43							
JOW	Kunigami	23.51	3	LR		LR	05 38 41.2	
	comp=Z,3µm,21.6s,baz=300,slow=33							
WRA	Warramunga Arr	24.07	163	P		P	05 31 00.1	-0.8
	2.0nm,0.7s,baz=342,slow=10.0,SNR=22							
ASAR	Alice Springs	27.52	166	P		P	05 31 32.5	+0.5
	0.2nm,0.4s,baz=349,slow=7.6,SNR=3.9							
STKA	Stephens Creek	37.50	160	P		P	05 32 59.3	0.0
	2.6nm,0.7s,baz=1.3,slow=8.4,SNR=6.0							
MKAR	Makanchi Array	58.21	325	P		P	05 35 39.8	+0.1
	0.3nm,0.5s,baz=123,slow=7.9,SNR=9.7							

*ISCJB **18** 05:26:12.5±0.5,52°.90S±0°.09×20°.8E±0°.2,h11km, mb4.3/14,MS3.8/4, Error ellipse: s-maj=18.6km s-min=12.1km az=162.5*
*IDC **18** 05:26:12.3±0.6,52°.95S×20°.87E,h0km,mb4.2/13, mb1 4.3/13,mb1mx4.2/20,mbtmp4.2/13,MS3.9/4, Ms1 3.9/4,ms1mx3.5/25,Error ellipse: s-maj=21.7km s-min=16.9km az=73.0*
*NEIC **18** 05:26:13.8±0.3,52°.95S×20°.82E,h10km,mb4.6/3, Error ellipse: s-maj=13.1km s-min=8.9km az=73.0*

ISC 18 05:26:13.8±0.5,**53°.0S**±0°.1×**20°.8E**±0°.1,**h11**km,**n40,** σ1°**03/43,mb4.3/14,MS3.8/4,South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
SUR	Sutherland	20.55	360	P		P	05 30 52.7	+0.2
SUR	Sutherland	20.55	360	P		P	05 30 52.7	+0.2
	11nm,0.9s,baz=152,slow=10,SNR=6.0							
SUR				LR		LR	05 36 56.9	
	comp=Z,343nm,20.3s,baz=345,slow=31							
SNAA	Sanae	21.48	200	*e*P		P	05 30 56.0	-6.0
	27nm,1.0s							
BOSA	Boshof	24.53	9	P		P	05 31 33.3	0.0
BOSA	Boshof	24.53	9	P		P	05 31 33.3	0.0
	2.7nm,1.0s,baz=207,slow=14,SNR=3.0							
BOSA				LR		LR	05 39 17.7	
	comp=Z,283nm,18.6s,baz=165,slow=32							
MAW	Mawson	24.83	142	P		P	05 31 36.4	+0.8
	144nm,1.9s							
LBTB	Lobatse	28.12	9	LR		LR	05 41 14.7	
	comp=Z,212nm,20.8s,baz=280,slow=32							
TSUM	Tsumeb	33.77	354	*e*P		P	05 32 55.6	0.0
	3.4nm,0.9s							
TSUM	Tsumeb	33.77	354	P		P	05 32 55.3	-0.3
	3.4nm,1.0s,baz=143,slow=6.1,SNR=5.5							
QSPA	South Pole Qui	37.28	180	P		P	05 33 25.9	+0.5
QSPA	South Pole Qui	37.28	180	P		P	05 33 25.8	+0.5
	14nm,0.9s,baz=242,slow=4.1,SNR=31							
CPUP	Villa Florida	62.45	262	P		P	05 36 36.5	-0.3
CPUP	Villa Florida	62.45	262	P		P	05 36 36.5	-0.3
	4.4nm,0.8s,baz=104,slow=7.0,SNR=11							
DBIC	Dimbokro	63.27	331	P		P	05 36 43.3	+1.0
DBIC	Dimbokro	63.27	331	P		P	05 36 43.3	+1.0
	1.0nm,0.7s,baz=131,slow=9.3,SNR=2.4							
BDFB	Brasilia	64.93	277	P		P	05 36 54.0	+0.5
BDFB	Brasilia	64.93	277	P		P	05 36 54.0	+0.5
	0.9nm,0.4s,baz=126,slow=14,SNR=2.5							
TORD	Torodi Ar. Bea	67.86	340	P		P	05 37 12.7	+0.8
TORD	Torodi Ar. Bea	67.86	340	P		P	05 37 12.7	+0.8
	1.1nm,1.1s,baz=188,slow=5.3,SNR=3.3							
SIV	San Ignacio	72.55	267	P		P	05 37 40.7	-0.2
SIV	San Ignacio	72.55	267	P		P	05 37 40.7	-0.2
	1.8nm,0.9s,baz=142,slow=8.2,SNR=5.9							
LPAZ	La Paz	76.56	261	P		P	05 38 05.7	+0.8
LPAZ	La Paz	76.56	261	P		P	05 38 05.7	+0.8
	2.1nm,0.8s,baz=113,slow=3.6,SNR=7.4							
STKA	Stephens Creek	81.08	132	P		P	05 38 28.9	+0.1
STKA	Stephens Creek	81.08	132	P		P	05 38 28.9	+0.1
	0.9nm,0.3s,baz=134,slow=5.3,SNR=5.6							
ASAR	Alice Springs	84.24	122	P		P	05 38 45.5	+0.1
ASAR	Alice Springs	84.24	122	P		P	05 38 45.5	+0.1
	2.3nm,0.8s,baz=211,slow=4.7,SNR=20							
ASF	Jabal al Asfar	85.91	14	LR		LR	06 14 50.5	
	comp=Z,72nm,20.3s,baz=348,slow=34							
WRA	Warramunga Arr	87.54	120	P		P	05 39 01.6	-0.2
WRA	Warramunga Arr	87.54	120	P		P	05 39 01.6	-0.2
	1.4nm,0.9s,baz=198,slow=3.0,SNR=8.3							
SONM	Songino Array	123.83	54	PKP		PKPdf	05 45 11.4	+0.5
SONM	Songino Array	123.83	54	PKP		PKPdf	05 45 11.4	+0.5
	2.2nm,0.9s,baz=159,slow=1.3,SNR=7.7							
ANMO	Albuquerque	139.04	266	PKP		PKPdf	05 45 39.0	-1.1
ANMO	Albuquerque	139.04	266	PKP		PKPdf	05 45 39.0	-1.1
	0.8nm,0.6s,baz=198,slow=3.2,SNR=4.6							
PDAR	Pinedale Array	145.83	273	PKPbc		PKPdf	05 45 51.6	-0.4
PDAR	Pinedale Array	145.83	273	PKPbc		PKPdf	05 45 51.6	-0.4
	4.3nm,0.7s,baz=127,slow=4.9,SNR=42							
NVAR	Mina Array Bea	148.46	259	PKP		PKPdf	05 45 57.7	+1.2
NVAR				PKPbc		PKiKP	05 46 01.1	-0.6
NVAR	Mina Array Bea	148.46	259	PKP		PKPdf	05 45 57.7	+1.2
	4.7nm,0.8s,baz=165,slow=3.7,SNR=22							
NVAR				PKPbc		PKiKP	05 46 01.1	-0.6
	4.7nm,0.8s,baz=140,slow=3.9,SNR=27							
YKA	Yellowknife Ar	154.86	310	PKP		PKPdf	05 46 01.3	-3.8
YKA				PKPbc		PKPbc	05 46 13.2	-0.5
YKA				PKPab		PKPab	05 46 29.1	0.0
YKA	Yellowknife Ar	154.86	310	PKP		PKPdf	05 46 01.3	-3.8
	0.2nm,0.7s,baz=74,slow=1.6,SNR=5.6							
YKA				PKPbc		PKPbc	05 46 13.2	-0.5
	0.3nm,0.7s,baz=78,slow=2.1,SNR=4.8							
YKA				PKPab		PKPab	05 46 29.1	0.0
	0.7nm,0.7s,baz=94,slow=5.0,SNR=13							

*SZGRF **18** 05:41:20.2, 16°.17N×95°.34W,h33km, mb5.4, Oaxaca, Mexico*
*IDC **18** 05:41:33.2±0.4, 16°.81N×94°.60W,h102km±3km, mb4.2/25, mb1 4.4/27,mb1mx4.3/30,mbtmp4.2/27, MS3.7/7, Ms1 3.6/7, ms1mx3.4/28, Error ellipse: s-maj=18.5km s-min=9.3km az=62.0*
*ISCJB **18** 05:41:34.5±0.2, 17°.03N±0°.03×94°.36W±0°.03,h109km, mb4.7/134, Error ellipse: s-maj=5.1km s-min=2.1km az=38.5*
*MEX **18** 05:41:35.3±1.7, 16°.78N×94°.75W,h109km±14km,MD4.8*
*BJI **18** 05:41:35.1, 16°.90N×94°.30W,h108km,mB5.0/5*
*NEIC **18** 05:41:35.5±0.3, 16°.95N×94°.38W,h115km±2km, mb4.8/72, MD4.8(MEX), Error ellipse: s-maj=5.7km s-min=3.1km az=48.0*
NEIC Felt [II] at Oaxaca. Also felt at Huatulco and San Cristobal de las Casas.

ISC 18 05:41:33.8±0.4,**16°.84N**±0°.04×**94°.68W**±0°.03,**h107**km±3km, **h106**km:**pP-,pn652,**σ1°**67/706,mb4.8/138,206C-167D, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
CMIG	Matias Romero	0.32	322	*e*P		Pn	05 41 49.6	+0.3
CMIG				*e*S		Sn	05 42 00.7	-0.3
CMIG				S			05 42 00.9	
CMIG	Matias Romero	0.32	322	*e*P		Pn	05 41 49.6	+0.3
CMIG				*i* S		Sn	05 42 01.2	+0.3
CMIG	Matias Romero	0.32	322	P		Pn	05 41 48.8	-0.5
	2µm,0.3s,baz=142,slow=3.2							
CMIG				S		Sn	05 42 00.9	-0.1
	5µm,0.3s,baz=282,slow=20,SNR=92							
TGIG		1.49	92	*e*P		Pn	05 42 01.2	+0.8
TGIG				*e*S		Sn	05 42 20.0	-0.7
TGIG		1.49	92	*e*P		Pn	05 42 01.2	+0.8
TGIG				*i* S		Sn	05 42 21.2	+0.5
HUIG	Huatulco	1.74	232	*e*P		Pn	05 42 01.2	-2.2
HUIG				*e*S		Sn	05 42 23.6	-2.4
HUIG	Huatulco	1.74	232	*e*P		Pn	05 42 01.3	-2.1
HUIG				*i* S		Sn	05 42 23.9	-2.1
PCIG		1.80	129	*e*P		Pn	05 42 04.8	+0.7
PCIG				*e*S		Sn	05 42 27.2	-0.1
PCIG		1.80	129	*e*P		Pn	05 42 05.9	+1.7
PCIG				*i* S		Sn	05 42 28.8	+1.5
VHO	Vista Hermosa	1.98	277	*i* P		Pn	05 42 07.5	+0.8
VHO				*e*S		Sn	05 42 31.0	-0.6
VHO	Vista Hermosa	1.98	277	*i* P		Pn	05 42 07.5	+0.8
VHO				*i* S		Sn	05 42 31.0	-0.6
CCIG	Comitan	2.50	103	*i* P		Pn	05 42 14.2	+0.8
CCIG				*e*S		Sn	05 42 43.5	-0.1
CCIG	Comitan	2.50	103	*i* P		Pn	05 42 14.2	+0.8
CCIG				*i* S		Sn	05 42 45.2	+1.6
THIG		3.02	129	*e*P		Pn	05 42 21.6	+1.6
THIG				*i* S		Sn	05 42 54.5	-1.0
THIG		3.02	129	*e*P		Pn	05 42 21.6	+1.6
THIG				*i* S		Sn	05 42 55.3	-0.2
PNIG	Pinotepa	3.34	263	*e*P		Pn	05 42 22.6	-1.7
PNIG				*i* S		Sn	05 43 00.7	-2.5
PNIG	Pinotepa	3.34	263	*e*P		Pn	05 42 22.6	-1.7
PNIG				*i* S		Sn	05 43 01.1	-2.1
TP2	Tecpan 2	4.07	120	*e*P		Pn	05 42 35.8	+1.4
FG6		4.30	121	*e*P		Pn	05 42 41.6	+4.1
FUG	Fuego 3	4.40	122	*e*P		Pn	05 42 41.9	+3.2
PCG	Pacaya	4.62	121	*e*P		Pn	05 42 43.9	+2.2
NBG	Las Nubes	4.74	118	*e*P		Pn	05 42 45.7	+2.4
NBG				*e*S		Sn	05 43 42.4	+5.1
MRL	Marmol	5.11	110	*e*P		Pn	05 42 48.6	+0.3
MRL				*e*S		Sn	05 43 45.6	-0.6
RBDL	Robledal	5.53	119	*e*P		Pn	05 42 55.6	+1.7
RTR	El Retiro	5.67	120	*e*P		Pn	05 42 58.0	+2.1
SBLS	San Blas	5.72	121	*e*P		Pn	05 42 58.5	+1.9
LFRS	El Faro	6.29	120	*e*P		Pn	05 43 06.2	+1.9
TEIG

baz=18,SNR=48
Y29A Porterfield Fa 18.08 341 ⇑P P 05 45 38.9 +1.8
baz=18,SNR=25
Z27A Tatum 18.12 336 ⇑P P 05 45 39.1 +1.5
baz=18,SNR=73
CPRX Cap Rock 18.13 334 eP Pn 05 45 39.9 +1.1
33nm,0.6s
125A Gardner Draw, 18.15 332 ⇓P Pn 05 45 40.1 +1.0
baz=18,SNR=45
WMOK Wichita Mounta 18.20 349 eP P 05 45 38.5 +0.1
62nm,0.7s
Y28A McKinney Farm, 18.31 340 ⇑P P 05 45 41.0 +1.4
baz=18,SNR=18
Z26A Caprock 18.38 335 ⇑P P 05 45 42.2 +1.6
baz=18,SNR=19
223A Chaparral, Ant 18.48 327 ⇑P P 05 45 43.6 +2.0
baz=19
MSTX Muleshoe 18.54 338 ⇑P P 05 45 43.7 +1.5
baz=19,SNR=38
MSTX ⇑S S 05 49 09.9 +1.6
baz=19
MSTX ⇑S S 05 49 09.9 +1.6
baz=19
Y27A Causey 18.61 337 ⇓P P 05 45 44.2 +1.3
baz=19
X29A Tulia 18.63 342 ⇑P P 05 45 44.5 +1.4
baz=19,SNR=22
Z25A Roswell 18.70 333 ⇓P Pn 05 45 46.4 +0.8
baz=19,SNR=22
GTBY Guantanamo Bay 18.82 78 eP P 05 45 43.9 -1.4
X28A Dimmitt 18.85 340 ⇓P P 05 45 47.6 +2.0
baz=19,SNR=8.9
Y26A Elida 18.89 336 ⇑P P 05 45 48.2 +2.1
baz=19
123A Bell Site, Whi 18.89 328 ⇑P Pn 05 45 48.5 +0.6
baz=19
222A Williams Famil 18.91 326 ⇓P P 05 45 48.5 +2.1
baz=19,SNR=7.3
PLAL Pickwick Lake 19.01 17 eP P 05 45 46.6 -0.6
39nm,1.2s
TUL1 Tulsa 19.02 357 ⇓P P 05 45 47.0 -0.3
baz=19,SNR=15
AMTX Amarillo 19.03 342 eP P 05 45 48.6 +1.1
148nm,1.0s
AMTX Amarillo 19.03 342 ⇑P P 05 45 48.8 +1.3
baz=19,SNR=11
Z24A Sheeppen Canyo 19.04 332 ⇑P P 05 45 50.1 +2.4
baz=19
320A Kipp Ranch, An 19.16 321 ⇑P Pn 05 45 51.7 +0.7
baz=19,SNR=9.4
221A Mesquite Ranch 19.21 324 ⇓P P 05 45 52.1 +2.5
baz=19
W29A Amarillo 19.24 342 ⇑P P 05 45 51.1 +1.2
baz=19,SNR=20
Y25A Mesa, Roswell 19.24 334 ⇑P Pn 05 45 52.6 +0.6
baz=19,SNR=24
X27A F and S Farms, 19.27 339 ⇓P P 05 45 51.8 +1.6
baz=19
122A Conniff Cattle 19.32 327 ⇓P Pn 05 45 54.1 +1.2
baz=19
GOGA Godfrey 19.35 29 eP P 05 45 49.6 -1.2
95nm,1.0s
Z23A Rita Site, Whi 19.39 330 ⇓P Pn 05 45 54.3 +0.7
baz=20,SNR=11
X26A CR and CF Fran 19.44 337 ⇓P P 05 45 54.0 +1.9
baz=20,SNR=7.5
W28A Vega 19.53 341 ⇓P P 05 45 55.3 +2.3
baz=20
220A Playas Peak, P 19.56 323 ⇓P P 05 45 56.1 +2.7
baz=20,SNR=14
Y24A Capitan 19.57 332 ⇓P Pn 05 45 56.6 +0.8
baz=20,SNR=10.0
121A Cookes Peak, D 19.61 325 ⇓P Pn 05 45 56.9 +0.5
baz=20,SNR=16
W27A Bowe Ranch, En 19.63 339 ⇑P P 05 45 56.4 +2.3
baz=20,SNR=11
319A Douglas 19.64 320 ⇓P Pn 05 45 57.4 +0.7
baz=20,SNR=8.2
Z22A Elephant Butte 19.74 328 ⇑P P 05 45 58.0 +2.6
baz=20,SNR=17
X25A Clemmons Ranch 19.75 335 ⇑P P 05 45 57.8 +2.3
baz=20,SNR=11
Y23A Lovelace Mesa, 19.85 331 ⇓P Pn 05 45 59.6 +0.4
baz=20,SNR=33
SWET Sewanee 19.90 21 eP P 05 45 55.0 -1.9
31nm,0.8s
W26A Owens Ranch, T 19.90 338 ⇑P P 05 45 59.6 +2.5
baz=20
V29A Stinnett 19.91 343 ⇓P P 05 45 58.5 +1.4
baz=20
V28A Channing 20.00 342 ⇑P P 05 45 59.8 +1.7
baz=20,SNR=10
120A U Bar Ranch, L 20.10 324 ⇓P P 05 46 02.1 +2.9
baz=20,SNR=5.3
X24A Lazy VL Ranch, 20.11 333 ⇑P P 05 46 01.3 +1.9
baz=20
Z21A St. Cloud Mine 20.15 327 ⇑P P 05 46 02.7 +2.9
baz=20,SNR=18
WVT Waverly 20.15 16 eP P 05 45 57.7 -1.9
108nm,1.6s
W25A X Bar L Ranch, 20.28 336 ⇓P P 05 46 03.4 +2.3
baz=20,SNR=18
Y22A Socorro 20.29 329 ⇑P Pn 05 46 04.3 +0.1
baz=20,SNR=26
BNM Barren Site 20.30 330 eP P 05 46 04.1 +2.6
37nm,1.2s
Y22D IRIS PASSCAL I 20.38 330 ⇓P P 05 46 04.5 +2.3
baz=20
LPM Los Pinos Moun 20.43 331 eP P 05 46 05.6 +2.7
X23A Hourglass Bar 20.45 332 ⇑P P 05 46 05.3 +2.2
baz=21
LENM Lemitar 20.48 330 eP Pn 05 46 07.4 +0.9
Z20A Nine Sixteen R 20.50 325 ⇓P Pn 05 46 06.6 0.0
baz=21,SNR=31
V26A Tequesquite Ra 20.55 338 ⇑P P 05 46 05.9 +1.9
baz=21,SNR=20
CPCT Cooper Cave 20.63 24 eP P 05 46 03.2 -1.5
W24A Lazy 6 Ranch, 20.65 334 ⇑P P 05 46 07.4 +2.2
baz=21,SNR=24
Y21A Point of Rocks 20.70 328 ⇓P P 05 46 08.8 +3.0
baz=21,SNR=33
LAZ Ladron 20.75 330 eP P 05 46 09.4 +3.1
14nm,0.9s
X22A Bernardo 20.77 330 ⇑P P 05 46 09.4 +2.9
baz=21,SNR=12
NHSC New Hope 20.82 36 eP P 05 46 04.8 -1.9
113nm,1.1s
ANMO Albuquerque 20.89 332 eP P 05 46 10.1 +2.4
12nm,0.7s
ANMO Albuquerque 20.89 332 P P 05 46 10.1 +2.4
15nm,0.8s,baz=145,slow=12,SNR=47
ANMO LR LR 05 56 27.5
comp=Z,104nm,20.3s,baz=178,slow=43
V25A Rancho No Teng 20.89 337 ⇑P P 05 46 09.7 +2.0
baz=21,SNR=23
W23A Werner Place, 20.92 333 ⇓P P 05 46 10.8 +2.6
baz=21,SNR=6.9
Y20A Horse Springs, 20.98 327 ⇑P P 05 46 11.8 +3.0
baz=21,SNR=14
V24A Rampart Ranch, 21.04 335 ⇑P P 05 46 11.9 +2.5
baz=21,SNR=9.3
U26A Atchley Ranch, 21.07 339 ⇓P P 05 46 11.3 +1.6
baz=21,SNR=8.0
X21A Alamocita Cree 21.10 329 ⇓P P 05 46 12.8 +2.7
baz=21,SNR=17
TKL Tuckaleechee C 21.11 25 P P 05 46 08.0 -1.9
TKL Tuckaleechee C 21.11 25 P P 05 46 08.0 -1.9
2.9nm,0.3s,baz=190,slow=7.7,SNR=14
JSC Jenkinsville 21.13 32 eP P 05 46 08.1 -2.0
W22A Albuquerque 21.17 331 ⇑P P 05 46 13.4 +2.6
baz=21
TUC Tucson 21.21 320 eP P 05 46 14.0 +2.9
23nm,0.9s
U25A Circle Dot Ran 21.31 338 ⇑P P 05 46 13.8 +1.6
baz=21,SNR=17
SIUC Southern Illin 21.34 12 eP P 05 46 11.1 -1.2
110nm,1.3s
T27A Campo 21.36 342 ⇓P P 05 46 13.6 +0.9
baz=21,SNR=12
V23A Ortiz Mt. (NFS 21.43 334 ⇑P P 05 46 16.3 +2.7
baz=22,SNR=18
Y19A Nutrioso 21.49 325 ⇓P P 05 46 17.9 +3.6
baz=22,SNR=22
X20A Quemado 21.54 328 ⇓P P 05 46 17.8 +3.0
baz=22,SNR=31
T26A Comanche Natio 21.73 340 ⇑P P 05 46 18.7 +2.0
baz=22
KMSC Kings Mountain 21.78 31 ⇓P P 05 46 15.9 -1.1
baz=22,SNR=11
V22A San Miguel Ran 21.89 333 ⇑P P 05 46 20.4 +1.9
baz=22,SNR=14
USIN University of 21.93 15 P P 05 46 17.0 -1.6
U23A El Rito 21.94 334 ⇑P P 05 46 20.8 +1.9
baz=22,SNR=11
T25A Trinidad 21.97 339 ⇓P P 05 46 20.9 +1.6
baz=22
W20A Ramah 22.00 328 ⇓P P 05 46 21.7 +2.1
baz=22
SLM Saint Louis 22.06 9 P P 05 46 18.3 -1.6
S26A Kim 22.10 341 ⇑P P 05 46 22.6 +2.0
baz=22
V21A Milan 22.13 331 ⇓P P 05 46 23.2 +2.2
baz=22
T24A Torres, Weston 22.14 338 ⇑P P 05 46 22.9 +1.8
baz=22,SNR=11
KSU1 Kansas State U 22.24 356 eP P 05 46 20.5 -1.3
U22A Llaves 22.26 333 ⇑P P 05 46 24.4 +2.2
baz=22,SNR=8.3
214A Organ Pipe Nat 22.29 316 ⇑P P 05 46 25.7 +3.2
baz=22,SNR=6.4
X18A Snowflake 22.30 325 ⇓P P 05 46 25.8 +3.1
baz=22,SNR=12
CBKS Cedar Bluff 22.33 350 eP P 05 46 23.6 +0.7
64nm,0.9s
CBKS Cedar Bluff 22.33 350 ⇓P P 05 46 23.3 +0.4
baz=22,SNR=12
S25A Robets Cordova 22.45 339 ⇑P P 05 46 26.4 +2.1
baz=22
T23A Casias Ranch, 22.48 336 ⇓P P 05 46 26.6 +1.9
baz=23,SNR=7.1
V20A Brimhall 22.52 330 ⇓P P 05 46 27.1 +2.1
baz=23
R27A Eads 22.52 343 ⇑P P 05 46 25.5 +0.7
baz=23,SNR=9.5
WCI Wyandotte Cave 22.54 17 eP P 05 46 22.8 -2.2
50nm,0.8s
OLIL Olney 22.56 14 eP P 05 46 23.2 -1.9
38nm,0.8s
W18A Petrified Fore 22.63 326 ⇓P P 05 46 28.5 +2.4
baz=23
X17A Forest Lakes 22.64 323 ⇑P P 05 46 28.9 +2.7
baz=23,SNR=17
U21A Nageezi 22.65 332 ⇑P P 05 46 28.5 +2.2
baz=23,SNR=18
S24A Houchin Ranch, 22.70 338 ⇑P P 05 46 28.8 +1.9
baz=23,SNR=7.4
R26A Arlington 22.72 342 ⇑P P 05 46 28.4 +1.5
baz=23,SNR=17
V19A Window Rock 22.74 329 ⇓P P 05 46 29.5 +2.3
baz=23
T22A Edith 22.82 334 ⇑P P 05 46 30.1 +2.1
baz=23,SNR=18
114A Black Gap (USA 22.83 317 ⇓P P 05 46 31.4 +3.5
baz=23,SNR=7.3
R25A Fountain Ranch 22.84 340 ⇓P P 05 46 29.8 +1.7
baz=23,SNR=5.1
SDCO Great Sand Dun 22.90 338 eP P 05 46 30.0 +1.2
27nm,1.2s
SDCO epP pP 05 46 49.0 -0.8
SDCO Great Sand Dun 22.90 338 ⇓P P 05 46 30.7 +1.8
baz=23,SNR=15
OTAV Otavalo 22.98 134 eP P 05 46 30.9 +0.9
109m,1.7s
S23A Nye Farm, Mont 23.05 337 ⇓P P 05 46 32.3 +2.0
baz=23,SNR=6.0
X16A Lo Mia Camp, P 23.07 323 ⇑P P 05 46 33.2 +2.9
baz=23,SNR=7.2
T21A Navajo Lake 23.07 333 ⇑P P 05 46 32.3 +2.0
baz=23
KSCO Kaye Shedlock' 23.16 344 ⇓P P 05 46 32.5 +1.4
baz=23,SNR=7.6
R24A Sailer's Place, 23.19 339 ⇑P P 05 46 33.3 +1.8
baz=23
Z14A Wintersburg 23.27 318 ⇑P P 05 46 35.2 +3.1
baz=23
U19A Dine' College, 23.27 329 ⇓P P 05 46 33.9 +1.5
baz=23,SNR=16
Q26A Hugo 23.32 342 ⇓P P 05 46 34.0 +1.4
baz=23,SNR=12
BLO Bloomington 23.36 16 eP P 05 46 31.0 -1.8
81nm,1.1s
S22A 4UR Ranch, Cre 23.41 335 ⇑P P 05 46 35.5 +1.8
baz=24,SNR=8.0
R23A Moffat 23.41 337 ⇑P P 05 46 35.5 +1.9
baz=24
Q25A Bedland, Calha 23.53 341 ⇑P P 05 46 36.1 +1.5
baz=24,SNR=7.1
T19A Beclabito 23.61 330 ⇑P P 05 46 37.5 +2.1
baz=24
P27A Ficken Ranch, 23.66 345 ⇑P P 05 46 37.0 +1.3
baz=24,SNR=12
MVCO Mesa Verde 23.68 332 eP P 05 46 38.3 +2.3
56nm,1.1s
MVCO Mesa Verde 23.68 332 ⇓P P 05 46 38.4 +2.3
baz=24
Y14A Wickenburg 23.68 319 ⇑P P 05 46 38.9 +3.1
baz=24
ELN Prospectdale 23.74 28 eP P 05 46 34.4 -1.9
S21A Coal Bank Pass 23.74 333 ⇑P P 05 46 38.2 +1.6
baz=24,SNR=7.5
R22A Saguache, Gunn 23.80 336 ⇑P P 05 46 38.8 +1.7
baz=24,SNR=5.1
WUAZ Wupatki 23.82 325 eP P 05 46 39.6 +2.4
29nm,0.8s
WUAZ Wupatki 23.82 325 ⇑P P 05 46 39.9 +2.7
baz=24,SNR=15
P26A Davis Ranch, A 23.86 343 ⇑P P 05 46 39.0 +1.5
baz=24,SNR=9.5
Q24A Divide 23.87 340 ⇓P P 05 46 39.1 +1.3
baz=24
BLA Blacksburg 23.88 29 eP P 05 46 35.9 -1.6
170nm,1.2s
P25A Willow Gulch B 24.05 342 ⇓P P 05 46 41.0 +1.8
baz=24
HDIL Hopedale 24.09 10 eP P 05 46 37.9 -1.4
40nm,1.0s
S20A Disappointment 24.13 333 ⇑P P 05 46 42.1 +2.0
baz=24,SNR=9.6
O27A Beecher Island 24.23 345 ⇑P P 05 46 42.2 +1.4
baz=24
R21A Cimarron 24.24 335 ⇓P P 05 46 43.3 +2.3
baz=24,SNR=5.5
T18A Mexican Hat 24.27 329 ⇓P P 05 46 43.3 +2.2
baz=24
P24A Kohler Place, 24.29 340 ⇑P P 05 46 43.3 +1.9
baz=24
GLA Glamis 24.31 315 eP P 05 46 44.3 +2.8
25nm,0.9s
GLA Glamis 24.31 315 ⇑P P 05 46 44.9 +3.4
baz=24
SFIN Scholer Farm 24.36 14 ⇑P P 05 46 41.3 -0.5
baz=24
S19A Harvey Farm, M 24.41 331 ⇓P P 05 46 44.3 +1.7
baz=24
Q22A Crested Butte, 24.41 336 ⇓P P 05 46 44.7 +2.0
baz=24,SNR=9.4
R20A Redvale 24.43 333 ⇑P P 05 46 45.3 +2.5
baz=24,SNR=7.0
P23A Jefferson 24.47 339 ⇓P P 05 46 46.0 +2.8
baz=24,SNR=10
PV01 Paradox Valley 24.47 333 eP P 05 46 44.5 +1.4
8µm,1.7s
O26A Horse Wrangler 24.49 344 ⇓P P 05 46 45.0 +1.8
baz=24
Y12C Blythe 24.53 317 ⇓P P 05 46 46.7 +3.3
baz=25
O25A Wiggins 24.59 342 ⇓P P 05 46 45.9 +1.8
baz=25
PDMCI Parker Dam,Lak 24.63 319 ⇑P P 05 46 47.5 +3.2
baz=25,SNR=6.0
Q21A Lamborn Mesa, 24.65 335 ⇓P P 05 46 47.1 +2.4
baz=25
BGNE Belgrade 24.66 354 ⇓P P 05 46 45.0 +0.4
baz=25
SMCO Snowmass 24.71 337 eP P 05 46 47.3 +1.8
33nm,1.1s
SDV Santo Domingo 24.72 106 eP P 05 46 44.2 -1.4
24nm,0.9s
ISCO Idaho Springs 24.77 340 eP P 05 46 47.5 +1.5
45nm,1.1s
ISCO epP pP 05 47 11.5 +2.2
ISCO Idaho Springs 24.77 340 ⇓P P 05 46 47.7 +1.7
baz=25,SNR=7.4
N27A Anderson Farm, 24.83 346 ⇓P P 05 46 47.7 +1.5
baz=25
PV04 Paradox Valley 24.83 333 eP P 05 46 48.5 +2.1
PV04 epP pP 05 47 11.9 +2.2
OGNE Ogallala 24.85 347 eP P 05 46 47.3 +1.0
37nm,0.8s
OGNE Ogallala 24.85 347 ⇓P P 05 46 47.9 +1.5
baz=25,SNR=7.0
O24A Longmont 24.89 341 ⇓P P 05 46 48.4 +1.6
baz=25,SNR=6.0
R19A Curley Farm, L 24.91 332 ⇑P P 05 46 49.2 +2.0
baz=25
U15A North Rim 24.99 325 ⇓P P 05 46 52.0 +4.1
baz=25,SNR=5.7
P22A Eagle 24.99 337 ⇓P P 05 46 50.7 +2.8
baz=25,SNR=5.6
SCIA State Center 25.01 3 eP P 05 46 46.6 -1.1
87nm,0.8s
SCIA epP pP 05 47 12.7 +1.6
BC3 Big Chuckawall 25.09 316 ⇓P P 05 46 51.6 +2.9
baz=25
S17A Black Ridge (B 25.11 329 ⇑P P 05 46 51.7 +2.8
baz=25
IRM Iron Mountain 25.19 317 ⇑P P 05 46 52.7 +3.1
baz=25
P21A Newcastle 25.19 336 ⇓P P 05 46 53.0 +3.3
baz=25,SNR=7.6
NEE2 Needles Airpor 25.23 319 ⇓P P 05 46 52.8 +2.9
baz=25
O23A Lake Granby, G 25.25 340 ⇓P P 05 46 51.9 +1.6
baz=25,SNR=7.1
R18A Canyonlands Na 25.27 331 ⇑P P 05 46 52.9 +2.5
baz=25
O22A Kremmling 25.42 338 ⇑P P 05 46 53.8 +2.0
baz=26
ACSO Alum Creek Sta 25.42 21 eP P 05 46 52.4 +0.9
74nm,1.6s
Q19A Hogan Spring (25.46 333 ⇓P P 05 46 54.3 +2.4
baz=26
N24A Carr 25.48 342 ⇑P P 05 46 54.0 +1.8
baz=26
M27A Reverse DX Ran 25.48 346 ⇑P P 05 46 53.5 +1.4
baz=26
JSRW J. Sargeant Re 25.50 32 eP P 05 46 53.8 +1.6
JSRW epP pP 05 47 16.4 +0.7
P20A De Beque 25.54 335 ⇑P P 05 46 55.0 +2.2
baz=26,SNR=11
S16A Weppner Ranch, 25.58 328 ⇑P P 05 46 56.1 +2.9
baz=26,SNR=7.1
M26A McRoberts Ranc 25.60 345 ⇓P P 05 46 55.1 +1.9
baz=26
R17A Hanksville Air 25.69 330 ⇑P P 05 46 56.6 +2.6
baz=26
PFO Pinyon Flat Ob 25.73 315 eP P 05 46 55.1 +0.6
12nm,0.9s
M25A Palm-Egli Farm 25.80 344 ⇑P P 05 46 57.1 +1.9
baz=26
N23A Red Feather La 25.87 340 ⇓P P 05 46 57.7 +1.9
baz=26
GMRC Granite Mounta 25.91 318 ⇓P P 05 46 59.6 +3.6
baz=26
N22A Wattenberg Ran 25.96 339 ⇓P P 05 46 58.4 +1.8
baz=26,SNR=6.2
R16A Teasdale 25.96 329 ⇓P P 05 46 59.3 +2.6
baz=26
Q18A Rafter H Ranch 25.96 332 ⇑P P 05 46 59.2 +2.7
baz=26
O20A White River Ci 26.03 336 ⇓P P 05 46 59.5 +2.3
baz=26,SNR=8.7
M24A Cheyenne 26.05 342 ⇑P P 05 46 59.3 +1.9
baz=26,SNR=12
PHWY Pilot Hill 26.09 341 P P 05 46 59.3 +1.5
SRU San Rafael 26.15 331 eP P 05 46 59.3 +1.0
2.7nm,0.7s
N21A Black Mountain 26.30 338 ⇑P P 05 47 01.5 +1.9
baz=26,SNR=7.8
Q16A Castle Valley 26.30 330 ⇓P P 05 47 02.4 +2.7
baz=26,SNR=5.3
M23A Laramie 26.32 341 ⇓P P 05 47 01.3 +1.5
baz=26
CCUT Cedar City 26.39 325 eP P 05 47 03.1 +2.5
P18A Preston Nutter 26.44 332 ⇓P P 05 47 03.7 +2.7
baz=26
MSU Marysvale 26.48 328 P P 05 47 08.6 +7.2
MVU Marysvale 26.49 328 eP P 05 47 09.2 +7.7
21nm,1.3s
O19A Miners Draw (B 26.52 335 ⇓P P 05 47 03.8 +2.3
baz=27,SNR=6.2
P17A Butcher Ranch, 26.54 331 ⇑P P 05 47 04.3 +2.5
baz=27
K27A Flueckinger Fa 26.57 347 ⇑P P 05 47 03.6 +1.7
baz=27
L24A Wheatland 26.61 343 ⇓P P 05 47 04.6 +2.2
baz=27
N20A Spence Gulch, 26.64 337 ⇑P P 05 47 04.7 +2.0
baz=27,SNR=6.8
ECSD EROS Data Cent 26.86 357 eP P 05 47 03.6 -0.8
35nm,0.8s
O18A Roosevelt 26.86 333 ⇑P P 05 47 06.9 +2.2
baz=27,SNR=11
L23A Garrett 26.90 342 ⇓P P 05 47 06.5 +1.4
baz=27,SNR=7.9
M21A Separation Pea 26.98 339 ⇓P P 05 47 08.2 +2.4
baz=27,SNR=5.3
O17A Robinson Place 27.12 332 ⇑P P 05 47 09.2 +2.2
baz=27,SNR=8.6
M20A Sweetwater, Wa 27.18 337 ⇑P P 05 47 09.3 +1.8
baz=27,SNR=5.2
L21A Rawlins 27.30 339 ⇑P P 05 47 10.5 +1.9
baz=27,SNR=6.0
DAU Daniels Canyon 27.53 332 eP P 05 47 12.6 +1.8
K22A Casper 27.64 341 ⇓P P 05 47 12.9 +1.3
baz=28
L20A Wamsutter 27.68 338 ⇑P P 05 47 13.8 +1.7
baz=28,SNR=6.7
BRSD Miller 27.75 353 ⇑P P 05 47 12.3 0.0
baz=28,SNR=5.1
K21A Alcova 27.86 340 ⇑P P 05 47 15.5 +1.9
baz=28
MPMC Manual Prospec 27.87 318 ⇓P P 05 47 16.3 +2.5
baz=28
MVL Millersville 28.03 31 eP P 05 47 11.6 -3.3
17nm,0.9s
MVL epP pP 05 47 39.2 +0.7
DUG Dugway 28.09 330 eP P 05 47 18.1 +2.5
7.6nm,1.0s
K20A Yellowstone Ra 28.25 338 ⇓P P 05 47 18.9 +1.8
baz=28
ISA Isabella 28.28 316 epP pP 05 47 48.0 +7.1
RSSD Black Hills 28.32 346 epP pP 05 47 44.4 +3.1
SPMN St. Paul 28.34 3 ⇓P P 05 47 16.7 -0.9
baz=28,SNR=19
M16A Huntsville 28.43 333 ⇓P P 05 47 20.8 +2.1
baz=28
J21A Lysite 28.56 340 ⇓P P 05 47 21.4 +1.6
baz=29,SNR=7.8
K19A Absolon Red Bu 28.58 338 ⇓P P 05 47 21.1 +1.1
baz=29,SNR=17
L17A Cokeville 28.75 334 ⇓P P 05 47 23.7 +2.2
baz=29,SNR=7.4
ATAH Atahualpa 28.76 145 P P 05 47 23.6 +1.5
ATAH Atahualpa 28.76 145 P P 05 47 23.6 +1.5
12nm,1.0s,baz=316,slow=7.1,SNR=6.4
I22A 9 Mile Ranch, 28.76 342 ⇑P P 05 47 22.8 +1.3
baz=29
J20A Shoshoni 28.78 339 ⇓P P 05 47 23.7 +2.0
baz=29,SNR=6.3
BW06 Boulder Array 28.79 337 epP pP 05 47 47.4 +1.8
BW06 Boulder Array 28.79 337 ⇑P P 05 47 24.5 +2.6
baz=29,SNR=7.9
PDAR Pinedale Array 28.79 337 P P 05 47 23.2 +1.3
PDAR pP pP 05 47 46.9 +1.3
PDAR Pinedale Array 28.79 337 P P 05 47 23.2 +1.3
0.5nm,0.8s,baz=145,slow=14,SNR=2.8
PDAR pP pP 05 47 46.9 +1.3
5.2nm,0.9s,baz=145,slow=8.5,SNR=13
PDAR LR LR 05 59 01.9
comp=Z,131nm,20.7s,baz=181,slow=36
K18A Toltan Ranch, 28.87 336 ⇑P P 05 47 24.6 +2.1
baz=29,SNR=17
L16A Fish Haven 28.91 334 ⇓P P 05 47 24.6 +1.6
baz=29,SNR=8.1
M15A Larsen Ranch, 28.91 332 ⇓P P 05 47 24.7 +1.9
baz=29
H24A Dirks Ranch, A 29.04 345 ⇑P P 05 47 25.0 +1.2
baz=29,SNR=14
J19A Crowheart 29.04 338 ⇑P P 05 47 25.8 +1.8
baz=29,SNR=8.1
K17A Gardner Place, 29.31 335 ⇑P P 05 47 28.1 +1.6
baz=29,SNR=9.8
HVU Hansel Valley 29.31 332 eP P 05 47 27.9 +1.5

HVU epP pP 05 47 53.0 +2.8
L15A Malad City 29.32 332 ⇓P P 05 47 28.4 +1.9
baz=29,SNR=7.1
I20A Worland 29.32 340 ⇓P P 05 47 27.8 +1.3
baz=29,SNR=7.6
J18A Kendall Valley 29.35 337 ⇓P P 05 47 28.3 +1.4
baz=29,SNR=7.7
H22A Clearmont 29.36 343 ⇑P P 05 47 27.7 +0.9
baz=29
G24A Alzada 29.55 346 ⇓P P 05 47 29.7 +1.3
baz=30
G23A Biddle 29.67 345 ⇑P P 05 47 30.4 +0.9
baz=30,SNR=6.5
I19A Meeteetse 29.69 339 ⇑P P 05 47 31.6 +1.7
baz=30
I18A Diamond G Ranc 29.69 338 ⇓P P 05 47 31.0 +1.1
baz=30,SNR=7.3
ELK Elko 29.72 327 epP pP 05 47 56.2 +2.4
L14A Malta 29.73 331 ⇓P P 05 47 32.1 +2.0
baz=30,SNR=7.9
J17A Brown Place, J 29.74 336 ⇓P P 05 47 32.0 +1.7
baz=30,SNR=12
H20A Greybull 29.76 341 ⇓P P 05 47 31.4 +1.1
baz=30,SNR=6.2
REDW Red Top Meadow 29.80 336 eP P 05 47 32.4 +1.6
75nm,1.4s
REDW epP pP 05 47 56.3 +1.8
SNOW Snow King Moun 29.84 336 eP P 05 47 32.5 +1.3
57nm,0.9s
SNOW epP pP 05 47 56.9 +2.0
NVAR Mina Array Bea 29.85 321 P P 05 47 32.8 +1.5
NVAR pP pP 05 47 56.5 +1.5
NVAR sP sP 05 48 05.7 -1.8
NVAR Mina Array Bea 29.85 321 P P 05 47 32.8 +1.5
2.0nm,0.7s,baz=131,slow=8.9,SNR=7.2
NVAR pP pP 05 47 56.5 +1.5
7.9nm,0.8s,baz=133,slow=9.5,SNR=13
NVAR sP sP 05 48 05.7 -1.8
14nm,0.9s,baz=135,slow=9.0,SNR=4.4
NVAR LR LR 06 02 09.5
comp=Z,106nm,18.5s,baz=112,slow=41
LOHW Long Hollow 29.91 336 eP P 05 47 33.7 +1.9
6.4nm,1.4s
LOHW epP pP 05 47 54.8 -0.7
G22A Birney 29.92 343 ⇑P P 05 47 32.5 +0.8
baz=30
K15A Arbon 29.93 333 ⇓P P 05 47 33.3 +1.4
baz=30,SNR=9.7
TPAW Teton Pass 29.94 336 eP P 05 47 33.7 +1.6
TPAW epP pP 05 47 59.1 +3.2
RRI2 Red Ridge 29.97 335 eP P 05 47 33.8 +1.5
RRI2 epP pP 05 47 58.1 +2.0
F24A Ekalaka 30.05 346 ⇓P P 05 47 33.8 +1.0
baz=30
MOOW Moose Ponds 30.08 336 eP P 05 47 36.0 +2.7
16nm,1.0s
MOOW epP pP 05 47 58.4 +1.3
K14A Jones Ranch, D 30.10 332 ⇓P P 05 47 35.2 +1.8
baz=30
DCID1 Drake Creek 30.12 336 eP P 05 47 35.2 +1.6
DCID1 epP pP 05 47 59.5 +2.2
F23A Volborg 30.16 345 ⇑P P 05 47 34.7 +1.0
baz=30
I17A Pilgrim Ck. 30.16 337 ⇓P P 05 47 36.0 +2.0
baz=30,SNR=14
H19A Powell 30.25 340 ⇓P P 05 47 36.0 +1.3
baz=30,SNR=6.5
IMW Indian Meadow 30.28 336 eP P 05 47 37.1 +1.9
4.4nm,1.2s
IMW epP pP 05 48 00.8 +1.9
FLWY Flagg Ranch 30.35 337 eP P 05 47 36.2 +0.6
FLWY epP pP 05 48 01.6 +2.2
J15A Blackfoot 30.47 334 ⇑P P 05 47 38.7 +2.1
baz=31,SNR=6.0
I16A Newdale 30.48 336 ⇑P P 05 47 38.9 +2.2
baz=31,SNR=6.3
H18A Shoshone NF, C 30.48 339 ⇓P P 05 47 37.9 +1.1
baz=31,SNR=9.9
G20A Bridger 30.49 341 ⇑P P 05 47 37.3 +0.6
baz=31,SNR=5.0
LKWY Lake 30.65 338 eP P 05 47 40.2 +1.8
LKWY epP pP 05 48 05.7 +3.5
E24A Baker 30.70 347 ⇓P P 05 47 39.6 +1.1
baz=31
RLMT Red Lodge 30.74 340 eP P 05 47 40.3 +1.2
18nm,1.2s
RLMT epP pP 05 48 04.1 +1.2
RLMT Red Lodge 30.74 340 ⇑P P 05 47 40.3 +1.2
baz=31,SNR=7.1
SADO Sadowa 30.76 22 P P 05 47 36.1 -2.8
SADO Sadowa 30.76 22 P P 05 47 36.1 -2.8
2.9nm,0.4s,baz=231,slow=8.8,SNR=9.4
E23A Ismay 30.86 346 ⇓P P 05 47 40.8 +0.8
baz=31
J14A Carey 30.87 333 ⇓P P 05 47 41.7 +1.5
baz=31
E22A Miles City 30.96 345 ⇓P P 05 47 41.6 +0.8
baz=31
F20A Billings 30.99 342 ⇑P P 05 47 42.2 +1.1
baz=31
G18A Lazy EL Ranch, 31.01 339 ⇓P P 05 47 42.4 +1.0
baz=31
EYMN Ely 31.13 4 eP P 05 47 40.6 -1.6
9.6nm,0.7s
MDND Maddock 31.18 354 ⇑P P 05 47 42.8 +0.1
baz=31
J13A Cove Ranch, Pi 31.22 332 ⇑P P 05 47 45.1 +1.8
baz=31,SNR=6.7
D24A Glendive 31.23 347 ⇓P P 05 47 43.7 +0.6
baz=31
QLMT Earthquake Lak 31.26 337 eP P 05 47 45.1 +1.5
QLMT epP pP 05 48 10.3 +2.9
F19A Roth Farm, Mol 31.28 341 ⇓P P 05 47 44.6 +0.9
baz=31
I14A Mackay 31.33 333 ⇓P P 05 47 46.0 +1.7
baz=31,SNR=7.5
E21A Keefer Ranch, 31.35 343 ⇑P P 05 47 45.1 +0.8
baz=31
AGMN Agassiz Nation 31.39 358 eP P 05 47 43.4 -1.0
85nm,0.9s
HLID Hailey 31.46 332 eP P 05 47 47.4 +2.0
15nm,1.0s
HLID epP pP 05 48 11.2 +2.0
HLID Hailey 31.46 332 ⇑P P 05 47 47.2 +1.8
baz=32,SNR=9.4
GCMT Greycliff 31.46 340 eP P 05 47 46.3 +0.9
5.2nm,1.1s
D23A Lindsay 31.47 346 ⇑P P 05 47 46.0 +0.7
baz=32,SNR=11
H15A Lima 31.55 335 ⇓P P 05 47 48.3 +2.1
baz=32,SNR=8.4
F18A Big Timber 31.58 340 ⇑P P 05 47 47.8 +1.4
baz=32,SNR=7.2
I13A Wildhorse Cree 31.61 333 ⇑P P 05 47 48.0 +1.3
baz=32
E20A Meyer Farm, Mu 31.62 342 ⇑P P 05 47 47.7 +1.1
baz=32,SNR=5.5
C24A Savage 31.64 347 ⇓P P 05 47 47.7 +1.0
baz=32
D22A Cohagen 31.68 345 ⇓P P 05 47 48.4 +1.2
baz=32,SNR=28
G16A Moss Hill, Enn 31.74 337 ⇓P P 05 47 49.7 +1.9
baz=32
E19A Rath Farm, Rou 31.78 341 ⇑P P 05 47 49.0 +1.0
baz=32,SNR=5.9
MCMT McKenzie Canyo 31.81 335 eP P 05 47 50.8 +2.3
14nm,1.0s
H14A Leadore 31.85 334 ⇑P P 05 47 50.5 +1.7
baz=32,SNR=8.6
F17A Fitzpatrick Pl 31.90 339 ⇓P P 05 47 51.0 +1.9
baz=32,SNR=10
ACCN Adirondack Com 31.91 30 epP pP 05 48 13.6 +0.7
G15A Dillon 31.95 336 ⇑P P 05 47 51.4 +1.7
baz=32
I12A Atlanta 31.97 331 ⇓P P 05 47 51.5 +1.7
baz=32,SNR=6.6
BOZ Bozeman (W) 32.03 337 eP P 05 47 51.7 +1.4
18nm,1.8s
BOZ epP pP 05 48 16.0 +1.9
BOZ Bozeman (W) 32.03 337 ⇑P P 05 47 51.5 +1.2
baz=32
C23A Lambert 32.06 347 ⇑P P 05 47 51.4 +0.9
baz=32,SNR=12
F16A Kennard Place, 32.14 337 ⇓P P 05 47 52.9 +1.6
baz=32,SNR=6.1
D20A Manuel Ranch, 32.15 343 ⇓P P 05 47 52.2 +1.0
baz=32,SNR=5.4

DLMT Dillon 32.15 336 eP P 05 47 52.9 +1.5
DLMT epP pP 05 48 17.9 +2.6
C22A Vida 32.17 346 ⇑P P 05 47 52.2 +0.8
baz=32,SNR=24
H13A Challis 32.18 333 ⇓P P 05 47 53.7 +2.0
baz=32,SNR=10
E18A Harlowton 32.23 340 ⇓P P 05 47 53.0 +0.9
baz=32,SNR=5.1
G14A Jackson 32.40 335 ⇓P P 05 47 55.0 +1.4
baz=32,SNR=12
H12A Diamond D Ranc 32.43 333 ⇑P P 05 47 55.6 +1.7
baz=32,SNR=14
D19A Cripps Ranch, 32.44 342 ⇑P P 05 47 54.6 +0.8
baz=32,SNR=8.1
E17A Martinsdale 32.45 339 ⇓P P 05 47 55.1 +1.1
baz=32
LRM Limekiln Ridge 32.48 337 eP P 05 47 55.2 +0.9
LRM epP pP 05 48 20.5 +2.2
DGMT Dagmar 32.49 348 eP P 05 47 54.9 +0.7
15nm,0.8s
DGMT Dagmar 32.49 348 ⇑P P 05 47 54.8 +0.7
baz=32,SNR=6.6
F15A Butte 32.51 337 ⇑P P 05 47 56.3 +1.7
baz=33,SNR=7.8
C21A Desert Coulee 32.54 344 ⇓P P 05 47 55.8 +1.1
baz=33,SNR=11
G13A Cobalt 32.60 334 ⇑P P 05 47 56.7 +1.4
baz=33,SNR=9.4
B23A Brockton 32.65 347 ⇑P P 05 47 56.5 +1.0
baz=33,SNR=6.9
C20A Veseth Ranch, 32.68 343 ⇑P P 05 47 57.0 +1.2
baz=33,SNR=7.6
B22A Reddig Ranch S 32.72 346 ⇓P P 05 47 56.9 +0.8
baz=33,SNR=9.7
D18A Linhart Farms, 32.75 341 ⇑P P 05 47 57.6 +1.1
baz=33
E16A East Helena 32.80 338 ⇓P P 05 47 58.3 +1.2
baz=33,SNR=8.2
F14A Wisdom 32.83 336 ⇓P P 05 47 58.6 +1.3
baz=33,SNR=6.3
A24A Westby 32.89 349 ⇑P P 05 47 58.4 +0.7
baz=33,SNR=6.6
D17A Six Diamond Ra 33.00 340 ⇑P P 05 47 59.8 +1.0
baz=33,SNR=9.5
C19A Slack Wire Ran 33.00 342 ⇓P P 05 47 59.5 +0.8
baz=33
HRY Holter Researc 33.01 338 eP P 05 47 59.8 +1.0
HRY epP pP 05 48 24.1 +1.4
FRNY Flat Rock 33.06 28 epP pP 05 48 23.2 +0.2
B21A Ellsworth Farm 33.08 345 ⇓P P 05 48 00.5 +1.2
baz=33
A23A Redstone 33.09 348 ⇑P P 05 48 00.4 +0.9
baz=33
D16A Dana Ranch, Ca 33.18 339 ⇓P P 05 48 01.2 +0.9
baz=33
F13A Darby 33.20 335 ⇑P P 05 48 01.8 +1.3
baz=33,SNR=12
MOD Modoc 33.26 324 epP pP 05 48 27.3 +2.3
ULM Lac du Bonnet 33.34 359 P P 05 47 59.8 -1.7
ULM Lac du Bonnet 33.34 359 P P 05 47 59.8 -1.7
22nm,0.8s,baz=184,slow=8.9,SNR=38
A22A Carney Farms, 33.35 346 ⇓P P 05 48 02.6 +0.9
baz=33,SNR=8.7
B20A Solberg Farm, 33.35 344 ⇓P P 05 48 02.9 +1.2
baz=33
E14A Clinton 33.38 336 ⇑P P 05 48 04.0 +1.9
baz=34
C17A Wham Farm, 33.44 340 ⇓P P 05 48 03.8 +1.2
baz=34,SNR=10
EGMT Eagleton 33.47 342 eP P 05 48 04.0 +1.2
16nm,1.2s
EGMT epP pP 05 48 29.0 +2.3
EGMT Eagleton 33.47 342 ⇑P P 05 48 03.8 +1.1
baz=34,SNR=5.0
D15A Lincoln 33.54 338 ⇑P P 05 48 04.9 +1.5
baz=34
F12A Elk City 33.56 334 ⇓P P 05 48 04.8 +1.2
baz=34,SNR=8.4
A21A Bergtoll Ranch 33.58 345 ⇑P P 05 48 04.5 +0.8
baz=34,SNR=17
B19A Brinkman Farms 33.62 343 ⇓P P 05 48 04.7 +0.7
baz=34,SNR=8.4
E13A Victor 33.67 335 ⇓P P 05 48 05.6 +1.0
baz=34,SNR=11
CHMT Chamberlain Mo 33.70 337 eP P 05 48 05.9 +1.0
2.0nm,1.0s
CHMT epP pP 05 48 30.5 +1.6
A20A Cobblestone Ra 33.73 344 ⇑P P 05 48 06.2 +1.2
baz=34,SNR=5.0
B18A Beardsley Farm 33.81 342 ⇓P P 05 48 07.0 +1.3
baz=34
MSO Missoula 33.89 336 epP pP 05 48 32.6 +2.2
MSO Missoula 33.89 336 ⇑P P 05 48 08.2 +1.7
baz=34,SNR=8.0
C16A Fuhringer Ranc 33.91 339 ⇓P P 05 48 08.1 +1.4
baz=34,SNR=6.8
D14A Greenough 33.94 337 ⇓P P 05 48 07.9 +1.1
baz=34
SLMT Seeley Lake 34.06 337 eP P 05 48 08.4 +0.4
3.0nm,0.8s
C15A Salmond Ranch, 34.19 338 ⇑P P 05 48 10.2 +1.1
baz=34
E12A Beaver Dam Sad 34.22 334 ⇑P P 05 48 10.2 +0.9
baz=34
A18A Metzger Ranch, 34.30 342 ⇑P P 05 48 10.8 +1.0
baz=34,SNR=7.5
D13A Huson 34.31 336 ⇓P P 05 48 11.0 +1.0
baz=34,SNR=9.2
SWMT Swartz Lake 34.48 337 eP P 05 48 12.3 +0.8
2.5nm,1.1s
SWMT epP pP 05 48 37.5 +2.0
A17A Triple J Farms 34.58 341 ⇑P P 05 48 13.4 +1.0
baz=35
C14A Swan Lake 34.60 337 ⇓P P 05 48 13.4 +0.8
baz=35
B15A Bradely Ranch, 34.63 339 ⇓P P 05 48 14.1 +1.2
baz=35
D12A Red Ives Fores 34.64 335 ⇑P P 05 48 13.9 +1.0
baz=35
YBMT Yellow Bay 34.78 337 eP P 05 48 14.9 +0.8
4.4nm,1.2s
JTMT Jette 34.78 337 eP P 05 48 14.7 +0.5
2.1nm,1.1s
JTMT epP pP 05 48 39.6 +1.4
C13A Hot Springs 34.84 336 ⇓P P 05 48 16.5 +1.9
baz=35
A16A West Butte Ran 34.86 340 ⇑P P 05 48 16.1 +1.3
baz=35
BLMT Blacktail Moun 35.03 337 P P 05 48 17.5 +1.1
C12B Naegeli Ranch, 35.22 335 ⇓P P 05 48 19.3 +1.5
baz=35,SNR=6.9
A15A Johnson Ranch, 35.26 339 ⇓P P 05 48 19.6 +1.3
baz=35
B13A Whitefish 35.37 337 ⇑P P 05 48 20.3 +1.2
baz=35,SNR=7.8
A14A Double T Ranch 35.50 339 ⇓P P 05 48 21.1 +0.9
baz=36,SNR=7.0
C11A Tepee Creek (N 35.63 335 ⇑P P 05 48 22.8 +1.4
baz=36
KBO Bosley Butte 35.74 321 eP P 05 48 25.5 +3.1
WALA Waterton Lakes 35.74 338 epP pP 05 48 49.5 +3.0
A13A Flathead Natio 35.82 338 ⇓P P 05 48 24.4 +1.4
baz=36
B12A Libby 35.88 336 ⇓P P 05 48 24.9 +1.5
baz=36,SNR=10.0
HAWA Hanford 35.98 330 epP pP 05 48 48.8 +0.4
A12A Yaak River Ran 36.28 336 ⇑P P 05 48 28.5 +1.6
baz=36
NEW Newport 36.33 334 epP pP 05 48 53.5 +2.1
NEW Newport 36.33 334 ⇑P P 05 48 29.2 +1.9
baz=36
LON Longmire 37.33 329 eP P 05 48 37.2 +1.3
LON epP pP 05 49 01.8 +1.7
FFC Flin Flon 38.23 353 eP P 05 48 42.9 -0.3
14nm,0.8s
NLWA Neilton Lookou 38.80 328 P P 05 48 50.0 +1.8
NLWA epP pP 05 49 14.5 +2.0
SAML Samuel 40.34 127 eP P 05 48 59.1 -2.1
15nm,1.2s
LPAZ La Paz 42.06 140 eP P 05 49 16.0 0.0
LPAZ La Paz 42.06 140 P P 05 49 13.9 -2.1
3.8nm,0.8s,baz=348,slow=9.6,SNR=11
SCHQ Schefferville 43.55 23 P P 05 49 23.8 -3.0
SCHQ pP pP 05 49 50.8 -0.8
SCHQ Schefferville 43.55 23 P P 05 49 23.8 -3.0
2.8nm,0.8s,baz=46,slow=4.5,SNR=7.6
SCHQ pP pP 05 49 50.8 -0.8
6.3nm,0.9s,baz=231,slow=6.3,SNR=5.5
SCHQ LR LR 06 10 33.5
comp=Z,119nm,18.6s,baz=240,slow=40
SIV San Ignacio 46.51 133 P P 05 49 50.1 -0.7
SIV San Ignacio 46.51 133 P P 05 49 50.1 -0.7
10nm,1.0s,baz=316,slow=8.4,SNR=27
YKA Yellowknife Ar 47.70 348 P P 05 49 58.9 -0.4
YKA pP pP 05 50 24.7 +0.2
YKA PP PP 05 51 52.0 +0.2
YKA Yellowknife Ar 47.70 348 P P 05 49 58.9 -0.4
6.3nm,0.8s,baz=152,slow=7.5,SNR=114
YKA pP pP 05 50 24.7 +0.2
8.2nm,1.0s,baz=153,slow=7.5,SNR=8.0
YKA PP PP 05 51 52.0 +0.2
3.2nm,1.0s,baz=147,slow=9.1,SNR=5.0
DLBC Dease Lake 49.02 336 eP P 05 50 12.5 +2.8
LCO Las Campanas 51.13 153 eP P 05 50 26.6 +0.3
30nm,1.0s
CFAA Coronel Fontan 54.45 152 P P 05 50 50.7 +0.4
CFAA Coronel Fontan 54.45 152 P P 05 50 50.7 +0.4
1.0nm,0.7s,baz=330,slow=6.3,SNR=19
CPUP Villa Florida 56.21 139 P P 05 51 00.9 -2.1
CPUP Villa Florida 56.21 139 P P 05 51 00.9 -2.1
0.8nm,0.5s,baz=356,slow=6.8,SNR=4.5
BDFB Brasilia 56.22 123 P P 05 51 03.1 -0.3
BDFB Brasilia 56.22 123 P P 05 51 03.1 -0.3
8.0nm,0.9s,baz=304,slow=6.0,SNR=9.7
BDFB LR LR 06 14 31.6
comp=Z,58nm,21.4s,baz=335,slow=35
INK Inuvik 57.00 344 eP P 05 51 08.0 0.0
7.4nm,0.8s
INK epP pP 05 51 34.0 +0.1
INK epP pwP 05 51 34.1 +0.2
EGAK Eagle 57.13 338 eP P 05 51 09.0 0.0
EGAK epP pP 05 51 35.3 +0.4
RES Resolute Bay 57.85 360 eP P 05 51 12.9 -0.9
6.5nm,0.7s
ILAR Eielson Array 59.23 337 P P 05 51 23.6 +0.1
ILAR pP pP 05 51 50.4 +0.7
ILAR Eielson Array 59.23 337 P P 05 51 23.6 +0.1
1.2nm,0.7s,baz=161,slow=4.7,SNR=16
ILAR pP pP 05 51 50.4 +0.7
3.8nm,0.9s,baz=110,slow=6.5,SNR=15
TRF Thorofare Moun 59.98 335 eP P 05 51 29.0 +0.1
17nm,0.9s
PLCA Paso Flores 61.51 159 P P 05 51 39.6 +0.1
PLCA Paso Flores 61.51 159 P P 05 51 39.6 +0.1
13nm,1.0s,baz=338,slow=8.9,SNR=15
COLD Coldfoot 61.56 339 eP P 05 51 40.1 +0.7
COLD epP pP 05 52 07.4 +1.8
TRQA Tornquist 62.65 151 eP P 05 51 47.1 0.0
SUMG Summit 64.22 16 eP P 05 51 56.7 -0.7
POLO Lamas de Olo 76.78 51 eP P 05 53 13.4 -0.6
8.9nm,1.2s
PVIS Viseu 76.82 51 eP P 05 53 14.1 -0.1
16nm,1.1s
PVRL Vila Real 76.85 51 eP P 05 53 14.5 +0.2
17nm,1.3s
PMTG Montargil 76.89 53 eP P 05 53 14.7 +0.2
19nm,1.1s
EVO Evora 77.15 53 eP P 05 53 14.7 -1.3
EVO Evora 77.15 53 eP P 05 53 14.4 -1.6
24nm,1.2s
EVO eR
95nm,18.0s
MVO Moncorvo 77.38 51 eP P 05 53 17.3 0.0
18nm,1.2s
PMRV Marv??o 77.45 52 eP P 05 53 17.8 +0.1
16nm,1.4s
PBRG Braganca 77.47 50 eP P 05 53 17.7 -0.1
29nm,1.3s
PBAR Barrancos 77.98 54 eP P 05 53 21.3 +0.7
25nm,2.0s
ROSF Rostrenen 78.53 43 eP P 05 53 22.3 -1.1
51nm,1.3s
QUIF Quistinic 78.69 43⇑*iP* P 05 53 23.4 -0.9
33nm,1.0s
SGMF Saint Gilles 79.02 43⇑*iP* P 05 53 24.9 -1.2
16nm,1.0s
ESDC Sonseca Array 79.99 52 P P 05 53 31.2 -0.4
ESDC Sonseca Array 79.99 52 P P 05 53 31.2 -0.4
6.1nm,0.9s,baz=295,slow=5.5,SNR=25
GRR Gorron 80.09 42⇑*iP* P 05 53 31.0 -0.9
56nm,0.9s
FLN La Foliniere 80.24 42⇑*iP* P 05 53 32.1 -0.6
58nm,1.0s
FLN eR
75nm,20.0s
LDF La Druitiere 80.51 42⇑*iP* P 05 53 33.4 -0.8
46nm,1.0s
MFF Saint Martin d 81.00 44⇑*iP* P 05 53 36.0 -0.8
54nm,1.2s
MDT Midelt 81.12 58 P P 05 53 37.3 -0.6
MDT Midelt 81.12 58 P P 05 53 37.3 -0.6
3.8nm,0.9s,baz=306,slow=5.6,SNR=7.1
SJPF Ste Jean 81.15 48⇑*iP* P 05 53 37.1 -0.6
60nm,1.3s
ETSF Etsaut 81.68 48⇑*iP* P 05 53 40.1 -0.5
25nm,0.9s
LFF La Frestale 82.04 46⇑*iP* P 05 53 41.5 -0.8
83nm,1.0s
EPF Esparros 82.28 47⇑*iP* P 05 53 42.9 -0.8
77nm,1.4s
RJF Les Rejaudoux 82.47 45⇑*iP* P 05 53 43.6 -1.0
58nm,1.0s
RJF eR
99nm,19.8s
TCF Toulx Ste Croi 82.66 44⇑*iP* P 05 53 44.6 -1.0
50nm,1.1s
HYF Humbligny 82.66 43⇑*iP* P 05 53 44.8 -0.7
SNF Seneffe 82.74 39 P P 05 53 45.3 -0.5
comp=Z,13nm,1.4s
BAIF Baives 82.83 40⇑*iP* P 05 53 45.8 -0.5
comp=Z,51nm,1.1s
NB2 NORSAR Subarra 82.88 28 P P 05 53 46.7 +0.3
comp=Z,11nm,0.9s,baz=291,slow=5.3
NOA NORSAR Array B 82.88 28 P P 05 53 47.1 +0.7
NOA pP pP 05 54 13.9 -0.2
NOA NORSAR Array B 82.88 28 P P 05 53 47.1 +0.7
comp=Z,6.1nm,0.9s,baz=292,slow=5.2,SNR=13
NOA pP pP 05 54 13.9 -0.2
comp=Z,2.8nm,0.8s,baz=290,slow=5.2,SNR=3.9
CAF Calviac 82.95 45⇑*iP* P 05 53 46.0 -1.1
comp=Z,20nm,0.8s
BGF Bois d'Agland 83.00 44⇑*iP* P 05 53 46.4 -0.9
comp=Z,69nm,0.9s
DOU Dourbes 83.06 40 P P 05 53 46.9 -0.6
comp=Z,11nm,1.1s
GIVF Givet 83.19 40⇑*iP* P 05 53 47.9 -0.3
comp=Z,20nm,0.7s
SSF Saint Saulge 83.28 43⇑*iP* P 05 53 47.7 -1.0
comp=Z,36nm,0.9s
PYM Petit Puy Mans 83.34 44 *eP* P 05 53 48.5 -0.7
PYM Petit Puy Mans 83.34 44 *eP* P 05 53 48.5 -0.7
BCLA Clavier 83.39 39 P P 05 53 48.7 -0.5
comp=Z,14nm,1.1s
LOR Lormes 83.45 43⇑*iP* P 05 53 48.8 -0.8
comp=Z,64nm,1.1s
LOR eR
comp=Z,73nm,19.2s
HGN Heimansgroeve 83.66 39 *eP* P 05 53 50.2 -0.4
comp=Z,29nm,1.0s
LBL Lubilhac 83.66 45 *eP* P 05 53 50.8 0.0
LBL Lubilhac 83.66 45 *eP* P 05 53 50.8 0.0
PLDF La Plantade 83.69 44 *eP* P 05 53 50.1 -0.8
PLDF La Plantade 83.69 44 *eP* P 05 53 50.1 -0.8
MEM Membach 83.75 39 P P 05 53 51.7 +0.6
comp=Z,6.6nm,0.8s
WTSB Winterswijk 83.78 38 *eP* P 05 53 51.2 0.0
comp=Z,24nm,1.0s
MEZF Maizieres J'vi 83.83 41⇑*iP* P 05 53 51.1 -0.4
comp=Z,48nm,0.9s
SFTF Sexfontaines 83.92 42⇑*iP* P 05 53 51.3 -0.7
comp=Z,67nm,1.0s
WLF Walferdange 84.15 40 P P 05 53 52.9 -0.2
comp=Z,10nm,0.9s
PAGF Fort de Pagny 84.24 41⇑*iP* P 05 53 53.3 -0.3
comp=Z,15nm,1.0s
ARCES ARCESS Array B 84.25 18 P P 05 53 53.6 +0.4
ARCES ARCESS Array B 84.25 18 P P 05 53 53.6 +0.4
comp=Z,11nm,0.9s,baz=304,slow=4.9,SNR=8.6
HFS Hagfors 84.36 29 P P 05 53 53.5 -0.4
HFS Hagfors 84.36 29 P P 05 53 53.5 -0.4
comp=Z,3.4nm,0.8s,baz=268,slow=4.2,SNR=5.7
LASF Ste Croix 84.42 46⇑*iP* P 05 53 54.6 0.0
comp=Z,23nm,1.0s
THEF They Montfort 84.51 41 *eP* P 05 53 54.7 -0.3

THEF	**They Montfort**	**84.51**	**41**	*e*P	**P**	**05 53 54.7**	**-0.3**
RUP	**Ruppelstein**	**84.69**	**40**	*e*P	**P**	**05 53 56.1**	**+0.2**
VIVF	**Saint-Julien-l**	**84.74**	**45**⇑	*i*P	**P**	**05 53 55.9**	**-0.3**
	comp=Z,56nm,1.2s						
HAU	**Haudompre**	**84.81**	**41**⇑	*i*P	**P**	**05 53 56.0**	**-0.5**
	comp=Z,64nm,1.0s						
HAU				*e*R			
	comp=Z,48nm,18.0s						
ABH	**Alteburg**	**84.93**	**39**	*e*P	**P**	**05 53 57.3**	**+0.2**
CABF	**La Chapelle**	**85.11**	**43**⇑	*i*P	**P**	**05 53 57.7**	**-0.4**
	comp=Z,33nm,1.1s						
HINF	**Hinteralfeld**	**85.20**	**42**⇑	*i*P	**P**	**05 53 57.8**	**-0.7**
	comp=Z,64nm,1.3s						
ECH	**Echery**	**85.26**	**41**	*e*P	**P**	**05 53 58.6**	**-0.1**
ECH	**Echery**	**85.26**	**41**	*e*P	**P**	**05 53 58.6**	**-0.1**
CDF	**Champ du Feu**	**85.26**	**41**⇑	*i*P	**P**	**05 53 58.4**	**-0.4**
	comp=Z,51nm,1.0s						
LOMF	**Lomont**	**85.34**	**42**	*e*P	**P**	**05 53 59.0**	**-0.2**
LOMF	**Lomont**	**85.34**	**42**	*e*P	**P**	**05 53 59.0**	**-0.2**
MOF	**Molkenrain**	**85.36**	**41**	*e*P	**P**	**05 53 59.0**	**-0.3**
MOF	**Molkenrain**	**85.36**	**41**	*e*P	**P**	**05 53 59.0**	**-0.3**
LANF	**Langenberg**	**85.40**	**40**	*e*P	**P**	**05 53 59.4**	**0.0**
LANF	**Langenberg**	**85.40**	**40**	*e*P	**P**	**05 53 59.4**	**0.0**
ORIF	**Oris-en-Rattie**	**85.53**	**44**⇑	*i*P	**P**	**05 54 00.2**	**0.0**
	comp=Z,27nm,1.2s						
ORIF				*e*R			
	comp=Z,112nm,18.2s						
SMRF	**Simiane la Rot**	**85.63**	**45**⇑	*i*P	**P**	**05 54 00.9**	**+0.2**
	comp=Z,103nm,1.4s						
BBS	**Basel-Blauen**	**85.74**	**42**	*e*P	**P**	**05 54 00.6**	**-0.5**
TOD	**Tromm**	**85.79**	**39**	*e*P	**P**	**05 54 01.2**	**-0.1**
LPL	**La Plagne**	**85.90**	**44**⇑	*i*P	**P**	**05 54 02.4**	**+0.2**
	comp=Z,46nm,1.2s						
FELD	**Feldberg im Sc**	**85.91**	**41**	*e*P	**P**	**05 54 01.7**	**-0.4**
LPG	**La Plagne**	**85.92**	**44**⇑	*i*P	**P**	**05 54 02.7**	**+0.3**
	comp=Z,81nm,1.4s						
BFO	**Black Forest**	**85.95**	**41**	*e*P	**P**	**05 54 01.5**	**-0.7**
	comp=Z,21nm,1.2s						
BNI	**Bardonecchia**	**86.02**	**44**	*e*P	**P**	**05 54 02.1**	**-0.6**
	comp=Z,23nm,1.1s						
MBDF	**Montbardon**	**86.19**	**44**	*e*P	**P**	**05 54 03.4**	**-0.2**
	comp=Z,59nm,1.1s						
LMR	**La Mourre**	**86.48**	**46**⇑	*i*P	**P**	**05 54 04.5**	**-0.3**
	comp=Z,91nm,1.2s						
SBF	**Sospel**	**86.94**	**45**	*e*P	**P**	**05 54 06.3**	**-0.8**
GRF	**Grafenberg Arr**	**87.22**	**39**	*e*P	**P**	**05 54 07.3**	**-1.0**
	comp=Z,26nm,1.4s						
TUE	**Stuetta**	**87.27**	**42**	*e*P	**P**	**05 54 08.6**	**-0.2**
	comp=Z,22nm,1.1s						
DAVA	**Damuels**	**87.30**	**41**⇑	*i*PcP	**P**	**05 54 08.6**	**-0.3**
	comp=Z,23nm,1.0s						
DAVOX	**Davos/Dischmat**	**87.49**	**42**	P	**P**	**05 54 10.5**	**+0.6**
DAVOX	**Davos/Dischmat**	**87.49**	**42**	P	**P**	**05 54 10.5**	**+0.6**
	comp=Z,6.7nm,0.9s,baz=304,slow=11,SNR=7.1						
CLL	**Collm**	**87.62**	**37**	*e*(P)	**P**	**05 54 13.0**	**+2.9**
NKC	**Novy Kostel**	**87.73**	**38**	*e*P	**P**	**05 54 12.2**	**+1.5**
RETA	**Reutte**	**87.78**	**41**⇑	*i*PcP	**P**	**05 54 12.1**	**+1.0**
	comp=Z,14nm,1.0s						
LIC	**Lamto**	**87.89**	**84**	*e*P	**P**	**05 54 11.5**	**-0.7**
	comp=Z,65nm,1.1s,baz=292						
DBIC	**Dimbokro**	**87.93**	**84**	P	**P**	**05 54 12.1**	**-0.3**
DBIC	**Dimbokro**	**87.93**	**84**	P	**P**	**05 54 12.1**	**-0.3**
	comp=Z,15nm,1.1s,baz=278,slow=6.2,SNR=9.3						
FETA	**Feichten**	**87.94**	**41**⇑	*i*PcP	**P**	**05 54 11.5**	**-0.5**
	comp=Z,19nm,1.8s						
BRG	**Berggiesshubel**	**88.34**	**37**	*e*P	**P**	**05 54 13.1**	**-0.5**
	comp=Z,3.3nm,0.9s						
PGF	**Pioggiola**	**88.47**	**46**	*e*P	**P**	**05 54 13.9**	**-0.6**
KHC	**Kasperske Hory**	**88.85**	**39**	*e*P	**P**	**05 54 13.8**	**-2.3**
	comp=Z,6.7nm,1.2s						
KHC	**Kasperske Hory**	**88.85**	**39**	*e*P	**P**	**05 54 14.6**	**-1.5**
FINES	**FINESS Array B**	**89.01**	**24**	P	**P**	**05 54 17.2**	**+0.7**
FINES	**FINESS Array B**	**89.01**	**24**	P	**P**	**05 54 17.2**	**+0.7**
	comp=Z,3.5nm,1.0s,baz=240,slow=13,SNR=4.0						
FINES				LR	LR	06 33 26.3	
	comp=Z,70nm,18.8s,baz=133,slow=35						
GERES	**GERESS Array B**	**89.04**	**39**	P	**P**	**05 54 17.3**	**+0.3**
GERES	**GERESS Array B**	**89.04**	**39**	P	**P**	**05 54 17.3**	**+0.3**
	comp=Z,3.8nm,1.0s,baz=316,slow=3.7,SNR=17						
UPC	**Upice**	**89.68**	**37**	*e*P	**P**	**05 54 20.6**	**+0.7**
DPC	**Dobruska-Polom**	**89.93**	**37**	*e*P	**P**	**05 54 21.6**	**+0.5**
VRAC	**Vranov**	**90.56**	**38**	P	**P**	**05 54 23.8**	**-0.2**
VRAC	**Vranov**	**90.56**	**38**	P	**P**	**05 54 23.8**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=296,slow=8.4,SNR=3.8						
KEST	**Kesra**	**91.23**	**52**	P	**P**	**05 54 27.7**	**+0.2**
KEST	**Kesra**	**91.23**	**52**	P	**P**	**05 54 27.7**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=346,slow=4.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**92.20**	**76**	P	**P**	**05 54 31.4**	**-0.9**
TORD	**Torodi Ar. Bea**	**92.20**	**76**	P	**P**	**05 54 31.4**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=290,slow=4.8,SNR=6.4						
HHC	**Hu-ho-hao-te**	**117.64**	**338**	*e*PKP	**PKPdf**	**06 00 07.5**	**-0.3**
HHC				sPKP		06 00 44.9	
HHC				PP	**PP**	**06 01 25.8**	**+5.2**
HHC				PKS	**PKSdf**	**06 03 42.8**	**-1.8**
HHC				SKS	**SKSdf**	**06 07 09.4**	**-1.0**
HHC				SKKS	**SKKSac**	**06 08 07.6**	**-4.7**
HHC				AMB	AMB		
	comp=Z,160nm,7.3s						
WMQ	**Urumqi**	**119.60**	**358**	*e*PKP	**PKPdf**	**06 00 13.0**	**+1.6**
KSH	**Kashi**	**123.26**	**9**	*e*PKP	**PKPdf**	**06 00 20.8**	**+2.1**
KSH				sPKP		06 00 58.8	
KSH				PP	**PP**	**06 02 06.8**	**+8.0**
KSH				PKS	**PKSdf**	**06 03 56.3**	**+0.8**
KSH				SKS	**SKSdf**	**06 07 21.1**	**-0.1**
KSH				SKKS	**SKKSac**	**06 08 47.6**	**-1.4**
KSH				SS	**SS**	**06 18 40.6**	**+5.4**
KSH				AMB	AMB		
	comp=Z,75nm,6.0s						
KSH				LR	LR		
	comp=N,47nm,6.1s						
KSH				LR	LR		
	comp=E,46nm,4.6s						
KSH				LR	LR		
	comp=Z,210nm,5.2s						
BOSA	**Boshof**	**123.87**	**113**	PKP	**PKPdf**	**06 00 19.1**	**-1.0**
BOSA				pPKP	**pPKPdf**	**06 00 48.9**	**-0.4**
BOSA	**Boshof**	**123.87**	**113**	PKP	**PKPdf**	**06 00 19.1**	**-1.0**
	comp=Z,3.2nm,1.1s,baz=167,slow=8.5,SNR=3.4						
BOSA				pPKP	**pPKPdf**	**06 00 48.9**	**-0.4**
	comp=Z,3.9nm,1.0s,baz=264,slow=3.4,SNR=3.4						
LZH	**Lanzhou**	**124.52**	**342**	*e*PKP	**PKPdf**	**06 00 22.0**	**+0.8**
LZH				sPKP		06 01 01.6	
LZH				LR	LR		
	comp=N,130nm,18.0s						
LZH				LR	LR		
	comp=E,130nm,18.2s						
LZH				LR	LR		
	comp=Z,160nm,20.3s						
STKA	**Stephens Creek**	**127.14**	**243**	PKP	**PKPdf**	**06 00 24.6**	**-1.5**
STKA	**Stephens Creek**	**127.14**	**243**	PKP	**PKPdf**	**06 00 24.6**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=322,slow=13,SNR=4.0						
CD2	**Chengdu**	**129.32**	**339**	PKP	**PKPdf**	**06 00 30.4**	**0.0**
GYA	**Guiyang**	**132.22**	**334**	*e*Pdif	**Pdif**	**05 57 29.8**	**-1.1**
GYA				PKP	**PKPdf**	**06 00 35.6**	**-0.5**
GYA				sPKP		06 01 17.3	
GYA				PP	**PP**	**06 03 02.4**	**+4.3**
GYA				AMB	AMB		
	comp=Z,90nm,7.8s						
WRA	**Warramunga Arr**	**133.51**	**258**	PKP	**PKPdf**	**06 00 38.0**	**-0.4**
WRA				pPKP	**pPKPdf**	**06 01 07.5**	**-0.3**
WRA	**Warramunga Arr**	**133.51**	**258**	PKP	**PKPdf**	**06 00 38.0**	**-0.4**
	comp=Z,0.5nm,1.0s,baz=89,slow=2.8,SNR=6.2						
WRA				pPKP	**pPKPdf**	**06 01 07.5**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=96,slow=2.6,SNR=5.0						
ASAR	**Alice Springs**	**134.09**	**253**	PKP	**PKPdf**	**06 00 38.8**	**-0.7**
ASAR	**Alice Springs**	**134.09**	**253**	PKP	**PKPdf**	**06 00 38.8**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=124,slow=1.3,SNR=6.1						

*ISCJB **18** 06:02:03.6±0.5,50.14N±0.04×18.97E±0.03, h0km, Error ellipse: s-maj=6.0km s-min=2.7km az=13.1*
*CSEM **18** 06:02:04.8±0.3,50.07N×18.99E, h2km, ML3.0/6, Error ellipse: s-maj=6.6km s-min=3.7km az=10.0*
*PRU **18** 06:02:05.5,50.14N×18.99E, h0km*
*WAR **18** 06:02:05.3,50.08N×19.10E*
*IPEC **18** 06:02:05.0±0.2,50.08N×19.07E, h0km±1km, ML2.1/3, Error ellipse: s-maj=1.4km s-min=1.0km az=2.0*
*VIE **18** 06:02:07.0±0.6,49.75N×18.99E, h0km, mb2.0/2, ML2.5/3, Error ellipse: s-maj=4.6km s-min=3.6km az=140.0 54 km E of Ostrava Suspected Mining induced.*
ISC 18 06:02:04.8±0.8, 50.04N±0.03×19.00E±0.02, h0km, n34, σ0s86/56, 1C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.54**	**71**	*e*Pg	**Pg**	**06 02 14.1**	**-1.1**
OJC				*e*Sg	**Sg**	**06 02 21.0**	**-1.2**
OJC	**Ojcow**	**0.54**	**71**	*e*Pg	**Pg**	**06 02 14.5**	**-0.7**
	baz=254						
OJC				*e*Sg	**Sg**	**06 02 21.3**	**-1.0**
OKC	**Ostrava-Krasne**	**0.59**	**250**	*e*PG	**Pb**	**06 02 17.6**	**-0.3**
OKC				*e*SG	**Sb**	**06 02 27.2**	**+0.4**
	comp=Z,28nm,0.4s						
OKC	**Ostrava-Krasne**	**0.59**	**250**	Pg	**Pb**	**06 02 17.6**	**-0.3**
OKC				Sg	**Sb**	**06 02 27.2**	**+0.4**
	28nm,0.4s						
MORC	**Moravsky Berou**	**0.98**	**255**	*e*Pg	**Pb**	**06 02 24.4**	**-0.2**
	baz=72						
MORC				*e*Sg	**Sb**	**06 02 37.7**	**-0.4**
	26nm,0.2s,baz=72						
NIE	**Niedzica**	**1.06**	**126**	*e*Pg	**Pg**	**06 02 24.1**	**-1.0**
NIE				*e*Sg	**Sb**	**06 02 40.1**	**-0.3**
NIE	**Niedzica**	**1.06**	**126**	*e*Pg	**Pg**	**06 02 24.9**	**-0.2**
NIE				*e*Sg	**Sb**	**06 02 40.9**	**+0.5**
KRLC	**Kraliky**	**1.43**	**272**	*e*Pg	**Pn**	**06 02 31.7**	**-0.3**
KRLC	**Kraliky**	**1.43**	**272**	Pg	**Pn**	**06 02 31.7**	**-0.3**
VYHS	**Vyhne**	**1.56**	**184**	*e*PN	**Pn**	**06 02 33.8**	**+0.6**
VYHS				*e*SN	**Sn**	**06 02 54.9**	**+0.3**
VYHS	**Vyhne**	**1.56**	**184**	*e*Pg	**Pn**	**06 02 33.7**	**0.0**
	baz=5.5						
VYHS	**Vyhne**	**1.56**	**184**	*e*Pn	**Pn**	**06 02 33.8**	**0.0**
VYHS				*e*Sn	**Sn**	**06 02 54.9**	**+0.3**
VYHS				*e*Sg	**Sn**	**06 02 54.9**	**+0.3**
	baz=5.5						
VRAC	**Vranov**	**1.73**	**246**	*e*Pn	**Pb**	**06 02 37.3**	**-0.1**
	baz=64						
VRAC				*e*Sg	**Sg**	**06 03 00.8**	**+0.6**
	19nm,0.5s,baz=64						
DPC	**Dobruska-Polom**	**1.75**	**281**	*e*PG	**Pn**	**06 02 36.6**	**+0.2**
DPC				*e*SG	**Sb**	**06 03 00.6**	**+0.4**
	comp=Z,20nm,0.5s						
DPC	**Dobruska-Polom**	**1.75**	**281**	*e*Pn	**Pn**	**06 02 36.6**	**+0.2**
	baz=98						
DPC	**Dobruska-Polom**	**1.75**	**281**	Pg	**Pn**	**06 02 36.6**	**+0.2**
DPC				*e*Sg	**Sg**	**06 03 01.0**	**+0.1**
	baz=98						
KSP	**Ksiaz**	**1.91**	**296**	*e*Pg	**Pb**	**06 02 41.0**	**+0.6**
KSP				*e*Sg	**Sb**	**06 03 05.1**	**+0.3**
KSP	**Ksiaz**	**1.91**	**296**	*e*Pg	**Pb**	**06 02 41.0**	**+0.6**
KSP				*e*Sg	**Sg**	**06 03 05.7**	**-0.2**
KRUC	**Moravsky**	**1.96**	**241**	*e*Pn	**Pn**	**06 02 40.4**	**+1.1**
	baz=59						
KRUC				*e*Sn	**Sb**	**06 03 07.2**	**+0.9**
	11nm,0.4s,baz=59						
UPC	**Upice**	**1.97**	**285**	*e*SG	**Sg**	**06 03 09.3**	**+1.2**
UPC	**Upice**	**1.97**	**285**	Sg	**Sg**	**06 03 09.3**	**+1.2**
CRVS	**Cervenica-Dubn**	**1.97**	**124**	*e*PN	**Pb**	**06 02 41.8**	**+0.2**
CRVS				*e*SN	**Sg**	**06 03 08.5**	**+0.4**
CRVS	**Cervenica-Dubn**	**1.97**	**124**	*e*Pn	**Pb**	**06 02 41.8**	**+0.2**
CRVS				*e*Sn	**Sg**	**06 03 08.5**	**+0.4**
KOLS	**Kolonicke sedl**	**2.41**	**116**	*e*	**Pg**	**06 02 51.1**	**+0.2**
KOLS				*e*		06 03 22.5	
PRU	**Pruhonice**	**2.88**	**271**	*e*SG	**Sg**	**06 03 36.0**	**-1.1**
	comp=Z,6.4nm,0.4s						
PRU	**Pruhonice**	**2.88**	**271**	Sg	**Sg**	**06 03 36.0**	**-1.1**
	6.4nm,0.4s						
PVCC	**Panska Ves**	**2.88**	**281**	*e*SG	**Sg**	**06 03 37.8**	**+0.5**
PVCC	**Panska Ves**	**2.88**	**281**	Sg	**Sg**	**06 03 37.8**	**+0.5**
BRG	**Berggiesshubel**	**3.33**	**286**	SG	**Sb**	**06 03 49.1**	**+3.2**
	3.3nm,0.5s						
KHC	**Kasperske Hory**	**3.64**	**258**	*e*PG	**Pg**	**06 03 13.0**	**-1.6**
KHC				*e*SG	**Sg**	**06 04 00.4**	**-1.3**
	comp=Z,5.1nm,0.3s						
KHC	**Kasperske Hory**	**3.64**	**258**	Pg	**Pg**	**06 03 13.0**	**-1.6**
KHC				Sg	**Sg**	**06 04 00.4**	**-1.3**
	5.1nm,0.3s						
MOA	**Molln**	**3.81**	**237**	⇓*i*Pg	**Pg**	**06 03 16.8**	**-1.1**
MOA				⇓*i*Sg	**Sg**	**06 04 07.5**	**+0.3**
	4.4nm,0.5s						
MOA	**Molln**	**3.81**	**237**	Pg	**Pg**	**06 03 16.8**	**-1.1**
MOA				Sg	**Sg**	**06 04 07.5**	**+0.3**
	4.4nm,0.5s						
CLL	**Collm**	**4.02**	**291**	*e*Sg	**Sg**	**06 04 13.0**	**-0.8**

MEX 18 06:22:45.5±0.8, 16.73N×94.71W, h114km±9km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.39**	**335**	*i*P	Pn	06 23 01.1	-1.1
CMIG				*i*S	Sn	06 23 12.0	-2.7
TGIG		**1.52**	**88**	*e*P	Pn	06 23 12.3	-0.6
TGIG				*e*S	Sn	06 23 32.1	-1.7
HUIG	**Huatulco**	**1.65**	**235**	*i*P	Pn	06 23 12.7	-1.7
HUIG				*i*S	Sn	06 23 35.1	-1.2
PCIG		**1.76**	**125**	*i*P	Pn	06 23 14.0	-1.7
PCIG				*e*S	Sn	06 23 37.6	-1.1
VHO	**Vista Hermosa**	**1.96**	**280**	*e*P	Pn	06 23 17.5	-1.0
VHO				*i*S	Sn	06 23 42.7	-0.9
CCIG	**Comitan**	**2.51**	**100**	*i*P	Pn	06 23 24.9	-0.5
CCIG				*i*S	Sn	06 23 54.9	-1.2
PNIG	**Pinotepa**	**3.29**	**265**	*e*P	Pn	06 23 33.9	-1.7
PNIG				*i*S	Sn	06 24 12.8	-1.3

*ISCJB **18** 06:27:15.9±0.5,39.10N±0.03×29.07E±0.04, h6km±6km, Error ellipse: s-maj=5.8km s-min=4.2km az=152.2*
*ISK **18** 06:27:15.2,39.10N×29.07E, h5km, MD2.6*
*DDA **18** 06:27:16.0,39.11N×29.06E, h7km, MD2.9*
*CSEM **18** 06:27:16.0±0.1,39.12N×29.06E, h5km, MD2.9, Error ellipse: s-maj=2.4km s-min=2.0km az=128.0*
ISC 18 06:27:16.3±1.0, 39.12N±0.03×29.06E±0.02, h9km±11km, n26, σ0s44/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.28**	**255**	*i*P	**Pg**	**06 27 21.9**	**0.0**
DEMI				*i*S	**Sg**	**06 27 25.9**	**+0.2**
DEMI	**Demirci**	**0.28**	**255**	*i*P	**Pg**	**06 27 21.9**	**0.0**
DEMI				*i*S	**Sg**	**06 27 25.9**	**+0.2**
GDZ	**Gediz**	**0.33**	**95**	*i*P	**Pg**	**06 27 22.9**	**+0.1**
GDZ				*i*S	**Sg**	**06 27 27.5**	**+0.4**
GDZ	**Gediz**	**0.33**	**95**	*i*P	**Pg**	**06 27 22.9**	**+0.1**
GDZ				*i*S	**Sg**	**06 27 27.5**	**+0.4**
TVSB	**Tavsanli**	**0.45**	**43**	*e*PG	**Pg**	**06 27 24.8**	**-0.4**
TVSB				*e*SG	**Sg**	**06 27 31.0**	**-0.2**
TVSB	**Tavsanli**	**0.45**	**43**	*e*Pg	**Pg**	**06 27 24.8**	**-0.4**
TVSB				*e*Sg	**Sg**	**06 27 31.0**	**-0.2**
KULA	**Kula-Manisa**	**0.68**	**208**	*e*PG	**Pg**	**06 27 28.8**	**-0.6**
KULA				*e*SG	**Sg**	**06 27 37.5**	**-0.8**
KULA	**Kula-Manisa**	**0.68**	**208**	*e*Pg	**Pg**	**06 27 28.8**	**-0.6**
KULA				*e*Sg	**Sg**	**06 27 37.5**	**-0.8**
MANT	**Manisa**	**0.74**	**212**	*i*P	**Pg**	**06 27 30.3**	**-0.3**
MANT	**Manisa**	**0.74**	**212**	*i*P	**Pg**	**06 27 30.3**	**-0.3**
ALT	**Altintas**	**0.82**	**94**	*e*PG	**Pg**	**06 27 31.6**	**-0.4**
ALT				*e*SG	**Sg**	**06 27 43.0**	**+0.3**
ALT	**Altintas**	**0.82**	**94**	*e*Pg	**Pg**	**06 27 31.6**	**-0.4**
ALT				*e*Sg	**Sg**	**06 27 43.0**	**+0.3**
KHAL	**Karahalli**	**0.82**	**156**	*e*P	**Pg**	**06 27 32.1**	**+0.1**
KHAL				*i*S	**Sg**	**06 27 42.9**	**+0.2**
KHAL	**Karahalli**	**0.82**	**156**	*e*P	**Pg**	**06 27 32.1**	**+0.1**
KHAL				*i*S	**Sg**	**06 27 42.9**	**+0.2**
CAVI	**Cavuskoy**	**1.24**	**29**	*e*PN	**Pn**	**06 27 39.5**	**-0.3**
CAVI	**Cavuskoy**	**1.24**	**29**	*e*Pn	**Pn**	**06 27 39.5**	**-0.3**
KCTX	**Karacabey (Bur**	**1.27**	**335**	*e*PN	**Pb**	**06 27 40.4**	**0.0**
KCTX	**Karacabey (Bur**	**1.27**	**335**	*e*Pn	**Pb**	**06 27 40.4**	**0.0**
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*PN	**Pn**	**06 27 42.5**	**+0.3**
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*Pn	**Pn**	**06 27 42.5**	**+0.3**
YLV	**Yalova**	**1.47**	**9**	*e*PN	**Pn**	**06 27 42.5**	**-0.5**
YLV	**Yalova**	**1.47**	**9**	*e*Pn	**Pn**	**06 27 42.5**	**-0.5**
GULT	**Gulveren**	**1.73**	**40**	*e*PN	**Pn**	**06 27 46.9**	**+0.3**
GULT	**Gulveren**	**1.73**	**40**	*e*Pn	**Pn**	**06 27 46.9**	**+0.3**
MFT	**Murefte**	**2.16**	**321**	*e*PN	**Pn**	**06 27 53.5**	**+1.0**
MFT	**Murefte**	**2.16**	**321**	*e*Pn	**Pn**	**06 27 53.5**	**+1.0**

*NIED **18** 06:37:00,23.40N×125.10E, h5km, Mw4.0 Best double couple: M0 1.21000×10^15 NP1:φ=290.00000°, δ=81.00000°, λ=-87.00000°. NP2:φ=90.00000°, δ=9.00000°, λ=-110.00000°.*
*ISCJB **18** 06:37:14.4±1.7,23.29N±0.04×125.18E±0.03, h14km±12km, mb3.9/10, MS3.1/1, Error ellipse: s-maj=6.8km s-min=5.3km az=176.7*
*IDC **18** 06:37:14.6±0.7,23.23N×125.09E, h0km, mb3.9/8,*

mb1 4.1/11, mb1mx3.9/27, mbtmp4.0/11, ML4.3/2, MS3.1/2, Ms1 3.1/2, ms1mx2.4/41, Error ellipse: s-maj=27.7km s-min=15.7km az=82.0
*JMA **18** 06:37:18.3±0.3,23.36N×125.13E, h50km, M3.7*
*NEIC **18** 06:37:19.2±0.7,23.30N×125.05E, h35km, mb4.1/3, Error ellipse: s-maj=13.9km s-min=9.0km az=162.0*
ISC 18 06:37:15.1±2.0, 23.37N±0.06×125.18E±0.04, h5km±11km, n47, σ1s47/63, mb4.0/10, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTJ	**Tarama**	**1.34**	**341**	P	**Pg**	**06 37 41.2**	**+0.3**
JTJ				S	**Sb**	**06 37 58.1**	**-0.1**
JIJ	**Ishigaki jima**	**1.37**	**316**	P	**Pg**	**06 37 41.3**	**-0.2**
JIJ				S	**Sb**	**06 37 57.5**	**-1.7**
JKRS	**Kuro-shima**	**1.38**	**309**	P	**Pg**	**06 37 41.6**	**0.0**
JKRS				S	**Sb**	**06 37 58.5**	**-0.8**
JOGS	**Gusukube**	**1.40**	**8**	P	**Pb**	**06 37 41.8**	**0.0**
HATJ	**Hateruma jima**	**1.44**	**299**	P	**Pb**	**06 37 41.9**	**-0.4**
HATJ				S	**Sn**	**06 37 58.5**	**-2.5**
JMJ	**Miyako jima 2**	**1.45**	**4**	P	**Pg**	**06 37 42.9**	**+0.1**
JMJ				S	**Sb**	**06 38 01.3**	**+0.1**
IRIF	**Iriomote-Funau**	**1.64**	**306**	P	**Pb**	**06 37 45.2**	**-0.6**
IRIF				S	**Sn**	**06 38 04.7**	**-1.4**
YOJ	**Yonaguni jima**	**2.27**	**299**	P	**Pn**	**06 37 53.8**	**+0.6**
YOJ				*e*S	**Sn**	**06 38 18.8**	**-2.7**
JKE	**Kume jima 2**	**3.29**	**26**	P	**Pn**	**06 38 06.9**	**-0.3**
NACB	**Ninganchiao**	**3.38**	**284**	*e*Pn	**Pn**	**06 38 08.0**	**-0.6**
YULB	**Yu-li**	**3.57**	**271**	*e*Pn	**Pn**	**06 38 09.1**	**-2.0**
JJT2	**Tamagusuku 2**	**3.61**	**40**	P	**Pn**	**06 38 11.6**	**-0.1**
JAGN	**Aguni-jima**	**3.71**	**30**	P	**Pn**	**06 38 12.8**	**-0.3**
YHNB	**Yeheng**	**3.71**	**291**	*e*Pn	**Pn**	**06 38 13.8**	**+0.6**
YHNB				*e*Sn	**Sn**	**06 38 55.8**	**-1.6**
TWG	**Pinlang**	**3.82**	**263**	*e*Pn	**Pn**	**06 38 12.2**	**-2.5**
SSLB	**Suanglung**	**3.90**	**277**	*e*Pn	**Pn**	**06 38 14.7**	**-1.1**
SSLB				*e*Sn	**Sn**	**06 39 03.2**	**+1.2**
TPUB	**Ta-pu**	**4.18**	**270**	*e*Pn	**Pn**	**06 38 19.1**	**-0.6**
TPUB				*e*Sn	**Sn**	**06 39 05.6**	**-3.3**
JIH	**Iheya**	**4.44**	**34**	P	**Pn**	**06 38 22.3**	**-0.8**
JOW	**Kunigami**	**4.45**	**38**	Pn	**Pn**	**06 38 23.4**	**+0.2**
JOW				Sn	**Sn**	**06 39 12.3**	**-3.0**
JOW	**Kunigami**	**4.45**	**38**	P	**Pn**	**06 38 22.8**	**-0.4**
JOW				S	**Sn**	**06 39 11.1**	**-4.2**
JOW	**Kunigami**	**4.45**	**38**	Pn	**Pn**	**06 38 23.4**	**+0.2**
	50nm,0.3s,baz=211,slow=13,SNR=62						
JOW				Sn	**Sn**	**06 39 12.3**	**-3.0**
	16nm,0.3s,baz=115,slow=25,SNR=3.6						
JTK	**Tokunoshima**	**5.56**	**37**	P	**Pn**	**06 38 37.2**	**-1.3**
JMZ	**Minamidaito 2**	**6.01**	**65**	P	**Pn**	**06 38 41.7**	**-3.0**
JMZ				*e*S	Sn	06 39 44.2	-10
JAM	**Amami Oshima**	**6.41**	**37**	P	**Pn**	**06 38 48.9**	**-1.3**
JAM				*e*S	Sn	06 39 56.7	-7.0
KSAR	**Wonju Array Be**	**14.22**	**9**	Pn	**Pn**	**06 40 37.4**	**+0.2**
KSRS	**Korea Array**	**14.24**	**9**	Pn	**Pn**	**06 40 37.4**	**0.0**
	baz=190,slow=13,SNR=5.1						
KSRS				LR	LR	06 45 46.9	
	comp=Z,40nm,18.2s,baz=190,slow=36						
ENH	**Enshi**	**15.60**	**300**	Pn	**Pn**	**06 40 55.1**	**-0.7**
	7.2nm,0.5s						
MJAR	**Matsushiro Arr**	**17.29**	**38**	P	**P**	**06 41 19.7**	**+0.9**
MJAR	**Matsushiro Arr**	**17.29**	**38**	P	**P**	**06 41 19.7**	**+0.9**
	0.3nm,0.3s,baz=226,slow=11,SNR=9.7						
USRK	**Ussuriysk Arra**	**21.52**	**13**	P	**P**	**06 42 07.7**	**+2.8**
	1.9nm,0.7s,baz=187,slow=9.2,SNR=3.9						
SONM

PVV Pavlof Volcano 0.77 150 P Pn 06 58 09.6 -0.4
PS4A Pavlof South-4 0.77 154 P Pn 06 58 09.5 -0.6
HAG Hague Volcano 0.79 156 P Pn 06 58 09.9 -0.3
DTNA Dutton South F 0.90 172 P Pn 06 58 10.4 -0.5
DT1 Dutton Round H 0.94 174 P Pn 06 58 10.3 -0.9
DOL Dolgoi Island 0.95 159 P Pn 06 58 10.3 -1.0
DRIA Deer Island 1.08 174 P Pn 06 58 11.2 -1.2
FALS False Pass 1.30 205 P Pn 06 58 13.7 -0.5
FALS S Sn 06 58 35.0 -1.3
SDPT Sand Point 1.32 121 P Pn 06 58 12.7 -1.6
SDPT S Sn 06 58 33.5 -3.1
BRPK Brown Peak 1.58 208 P Pn 06 58 16.7 -0.3
BRPK S Sn 06 58 40.5 -0.8
SSLW Shishaldin Wes 1.58 217 P Pn 06 58 17.1 +0.1
SSLS Shishaldin Sou 1.59 214 P Pn 06 58 17.3 +0.1
VNFG Veniaminof 2 1.65 80 P Pn 06 58 19.3 +1.6
VNHG Veniaminof 1 1.85 83 P Pn 06 58 20.8 +0.8
VNSG Veniaminof 6 1.89 86 P Pn 06 58 21.0 +0.7
WESE West Dahl East 1.99 219 P Pn 06 58 21.6 +0.2
ANPB Aniakchak Plen 2.44 70 P Pn 06 58 27.3 +0.7
AZAC Aniakchak 2.50 68 P Pn 06 58 28.2 +0.9
ANNW Aniakchak Nort 2.53 67 P Pn 06 58 29.2 +1.6
ANPK Aniakchak Peak 2.54 70 P Pn 06 58 28.5 +0.7
AKSA Akutan Strait 2.67 226 P Pn 06 58 29.6 +0.4
AKSA S Sn 06 59 03.7 +0.5
AKA Akutan 2.69 226 P Pn 06 58 29.8 +0.2
AKA S Sn 06 59 03.1 -0.7
AKUT Akutan 2.70 226 P Pn 06 58 29.7 +0.1
AKUT S Sn 06 59 02.7 -1.1
AKGG Akutan Green G 2.74 229 P Pn 06 58 30.8 +0.6
AKLV Akutan Long Va 2.75 228 P Pn 06 58 30.5 +0.2
ZRO Akutan Zero 2.81 228 P Pn 06 58 31.5 +0.4
AKRB Akutan Reef Bi 2.82 229 P Pn 06 58 31.7 +0.5
UNV Unalaska Valle 3.20 228 eP Pn 06 58 35.4 -0.5
UNV eSn Sn 06 59 12.8 -2.2
MCIR Makushin Cirqu 3.30 233 P Pn 06 58 37.6 +0.4
MREP Makushin Rep't 3.33 230 P Pn 06 58 38.0 +0.4
MSOM Makushin Julie 3.42 231 P Pn 06 58 38.8 +0.2
OKFG Magazine Ridge 4.12 232 P Pn 06 58 47.4 -0.1
OKRE Okmok R'deer P 4.16 235 P Pn 06 58 48.8 +0.7
OKWE Okmok W'ng Wal 4.22 235 P Pn 06 58 49.4 +0.5
SPIA Saint Paul Isl 4.45 288 P Pn 06 58 56.1 +4.3
KABU Katmai Buttres 4.50 57 P Pn 06 58 54.1 +1.6
KCE Katmai Mt Cerb 4.54 58 P Pn 06 58 54.9 +1.9
KABR Katmai Barrier 4.59 60 P Pn 06 58 54.5 +0.8
KAKN Katmai Knife C 4.62 58 P Pn 06 58 55.5 +1.4
NIKO Nikolski 4.83 233 eP Pn 06 58 55.8 -1.0
KARR Katmai Rainbow 4.88 56 P Pn 06 58 59.2 +1.8
KAPH Katmai Pasha 5.09 56 P Pn 06 59 01.9 +1.7
KDAK Kodiak Island 5.69 68 P Pn 06 59 07.4 -0.5
KDAK Kodiak Island 5.69 68 P Pn 06 59 07.4 -0.5
70nm,0.3s,baz=254,slow=6.9,SNR=313
KDAK S Sn 07 00 06.9 -5.8
60nm,0.3s,baz=268,slow=7.1,SNR=20
AUW Augustine West 5.86 52 P Pn 06 59 12.2 +1.9
OPT Oil Point 6.11 50 P Pn 06 59 15.5 +1.8
SVW2 Sparrevohn 6.22 32 eP Pn 06 59 17.1 +2.1
ILW Iliamna West 6.38 47 P Pn 06 59 19.3 +2.0
INE Iliamna NE 6.41 47 P Pn 06 59 19.6 +1.9
NCT North Crescent 6.76 44 P Pn 06 59 25.3 +3.0
DFR Drift River 6.88 44 P Pn 06 59 26.7 +2.9
SPU Mount Spurr 7.49 42 eP Pn 06 59 33.8 +2.0
SLKM Skilak Lake 7.85 50 eP Pn 06 59 36.8 +0.2
SLKM eSn Sn 07 00 59.7 -4.6
SEW Seward 8.01 54 eP Pn 06 59 38.1 -0.5
SEW eSn Sn 07 01 02.0 -6.0
PMR Palmer 8.87 46 eP Pn 06 59 48.7 -1.3
PMR eSn Sn 07 01 22.6 -6.0
MID Middleton Isla 9.26 62 eP Pn 06 59 54.1 -1.1
SML Sawmill 9.30 46 eP Pn 06 59 54.0 -1.8
8.9nm,0.3s
SML eSn Sn 07 01 28.4 -11
TRF Thorofare Moun 9.63 35 eP Pn 07 00 01.0 +0.8
TNA Tin City 9.91 347 eP Pn 07 00 08.6 +4.8
41nm,1.0s
DIV Divide 10.08 53 eP Pn 07 00 05.2 -0.8
111nm,0.6s
DIV eSn Sn 07 01 48.9 -9.0
MCK McKinley 10.26 36 eP Pn 07 00 10.2 +1.8
58nm,0.7s
BMRM Bremner River 10.55 55 eP Pn 07 00 11.3 -1.0
135nm,0.8s
PAX Paxson 11.05 44 eP Pn 07 00 17.8 -1.0
PAX eSn Sn 07 02 11.1 -10
COLA College 11.39 33 eP Pn 07 00 23.0 0.0
22nm,0.9s
ILAR Eielson Array 11.62 35 P Pn 07 00 25.0 -1.1
ILAR S Sn 07 02 30.6 -4.0
ILAR ScP ScP 07 09 16.9 -0.9
ILAR Eielson Array 11.62 35 P Pn 07 00 25.0 -1.1
1.0nm,0.3s,baz=217,slow=13,SNR=37
ILAR S Sn 07 02 30.6 -4.0
1.8nm,0.3s,baz=192,slow=8.2,SNR=5.0
ILAR ScP ScP 07 09 16.9 -0.9
0.1nm,0.3s,baz=268,slow=3.2,SNR=7.6
MENT Mentasta 11.73 46 eP Pn 07 00 27.8 +0.2
COLD Coldfoot 12.61 22 eP Pn 07 00 41.8 +3.0
PNL Peninsula 12.78 64 eP Pn 07 00 41.7 +0.7
90nm,0.6s
PNL eSn Sn 07 02 57.4 -5.2
FX1 Attu Island--F 14.50 268 P Pn 07 01 00.6 -2.1
FX1 Attu Island--F 14.50 268 P Pn 07 01 00.6 -2.1
1.3nm,0.3s,baz=14,slow=19,SNR=2.8
SKAG Skagway 14.83 65 eP Pn 07 01 07.5 +0.7
SIT Sitka 14.96 75 eP Pn 07 01 08.4 0.0
46nm,0.7s
CRAG Craig 16.47 80 eP Pn 07 01 27.4 +0.6
54nm,0.6s
WRAK Wrangell Islan 16.69 76 eP Pn 07 01 31.2 +1.8
81nm,0.9s
DLBC Dease Lake 17.62 69 eP Pn 07 01 41.4 +0.7
DLBC S S 07 04 55.8 +2.1
DLBC ScP ScP 07 09 28.2 -0.3
DLBC Dease Lake 17.62 69 P Pn 07 01 41.1 +0.5
2.0nm,0.3s,baz=274,slow=10,SNR=105
DLBC S S 07 04 55.8 +2.1
0.9nm,0.3s,baz=182,slow=20,SNR=6.1
DLBC ScP ScP 07 09 28.2 -0.3
0.2nm,0.3s,baz=180,slow=3.0,SNR=6.6
INK Inuvik 18.02 36 eP P 07 01 42.8 -0.6
56nm,1.2s
INK pP pP 07 02 11.3 +0.1
INK S S 07 04 57.8 -3.3
INK PcP PcP 07 06 10.4 +0.7
INK ScP ScP 07 09 28.7 -0.4
INK Inuvik 18.02 36 P P 07 01 43.3 -0.1
1.8nm,0.3s,baz=229,slow=13,SNR=81
INK pP pP 07 02 11.3 +0.1
1.2nm,0.3s,baz=239,slow=14,SNR=7.0
INK S S 07 04 57.8 -3.3
0.2nm,0.3s,baz=95,slow=29,SNR=6.7
INK PcP PcP 07 06 10.4 +0.7
0.3nm,0.3s,baz=188,slow=2.4,SNR=3.8
INK ScP ScP 07 09 28.7 -0.4
0.6nm,0.3s,baz=255,slow=1.1,SNR=20
BILL Bilibino 18.68 322 eP P 07 01 50.5 -0.1
20nm,1.0s
BBB Bella Bella 20.37 86 P P 07 02 10.2 +1.4
BBB Bella Bella 20.37 86 P P 07 02 10.2 +1.4
13nm,0.9s,baz=287,slow=15,SNR=8.2
PETK Petropavlovsk- 23.06 279 P P 07 02 38.0 +2.0
PETK PcP PcP 07 06 19.8 +0.3
PETK Petropavlovsk- 23.06 279 P P 07 02 38.0 +2.0
5.3nm,0.5s,baz=86,slow=12,SNR=4.9
PETK PcP PcP 07 06 19.8 +0.3
4.0nm,0.6s,baz=71,slow=6.4,SNR=5.9
PGC Sidney 24.67 91 eP P 07 02 51.3 +0.7
1.1nm,0.9s
YKA Yellowknife Ar 24.78 55 P P 07 02 52.0 +0.5
YKA pP pP 07 03 26.6 +1.6
YKA PcP PcP 07 06 23.4 +0.3
YKA ScP ScP 07 09 45.6 -0.4
YKA Yellowknife Ar 24.78 55 P P 07 02 52.0 +0.5
9.5nm,0.5s,baz=273,slow=9.5,SNR=88
YKA pP pP 07 03 26.6 +1.6
5.0nm,0.8s,baz=276,slow=9.6,SNR=8.7
YKA PcP PcP 07 06 23.4 +0.3
1.2nm,0.4s,baz=281,slow=2.4,SNR=9.6
YKA ScP ScP 07 09 45.6 -0.4
6.1nm,0.7s,baz=283,slow=3.0,SNR=67
NLWA Neilton Lookou 25.13 94 eP P 07 02 56.5 +1.6
55nm,0.8s
LON Longmire 26.65 93 eP P 07 03 09.7 +1.1
11nm,0.7s
WPW White Pass 26.83 93 P P 07 03 11.5 +1.2
MTMW Mount Mitchell 26.85 95 P P 07 03 12.2 +1.8
TBM Table Mountain 27.09 91 P P 07 03 13.6 +1.1
EBG Ellensburg 27.26 92 P P 07 03 15.4 +1.4
VLL Laurance Lake 27.49 95 P P 07 03 17.3 +1.2
VFP Flag Point 27.70 95 P P 07 03 19.1 +1.1
BROR Big Rock Looko 27.80 98 P P 07 03 19.9 +1.2
HAWA Hanford 28.14 92 eP P 07 03 23.0 +1.3
33nm,0.8s
NEW Newport 28.43 87 eP P 07 03 25.5 +1.1
33nm,0.9s
NEW Newport 28.43 87 ⇓P P 07 03 25.5 +1.1
baz=28,SNR=33
HUMO Hull Mountain 28.60 101 eP P 07 03 24.4 -1.5
9.3nm,1.0s
A12A Yaak River Ran 28.89 84 ⇑P P 07 03 29.8 +1.3
baz=29,SNR=18
C11A Tepee Creek (N 29.15 87 ⇓P P 07 03 31.4 +0.7
baz=29
B12A Libby 29.18 85 ⇓P P 07 03 32.6 +1.6
baz=29
YBH Yreka Blue Hor 29.33 102 eP P 07 03 33.2 +0.8
4.3nm,0.8s
A13A Flathead Natio 29.58 83 ⇑P P 07 03 35.7 +1.0
baz=30
C12B Naegeli Ranch, 29.66 86 ⇓P P 07 03 36.2 +0.9
baz=30,SNR=27
WALA Waterton Lakes 29.80 83 eP P 07 03 37.6 +1.1
0.5nm,0.8s
B13A Whitefish 29.86 84 ⇑P P 07 03 37.8 +0.8
baz=30,SNR=12
BSMT Bassoo Peak 29.97 85 eP P 07 03 39.3 +1.1
D12A Red Ives Fores 30.10 87 ⇓P P 07 03 39.6 +0.4
baz=30
BLMT Blacktail Moun 30.11 85 eP P 07 03 40.4 +1.0
A14A Double T Ranch 30.12 83 ⇑P P 07 03 40.1 +0.8
baz=30,SNR=83
C13A Hot Springs 30.18 86 ⇓P P 07 03 41.0 +1.2
baz=30,SNR=51
WDC Whiskeytown Da 30.21 104 eP P 07 03 40.9 +0.7
130nm,2.8s
JTMT Jette 30.31 85 eP P 07 03 42.3 +1.3
BMO Blue Mountains 30.31 92 eP P 07 03 41.9 +0.9
16nm,1.2s
E12A Beaver Dam Sad 30.35 88 ⇓P P 07 03 42.1 +0.7
baz=30,SNR=59
YBMT Yellow Bay 30.39 85 eP P 07 03 42.9 +1.1
41nm,0.6s
A15A Johnson Ranch, 30.50 82 ⇓P P 07 03 43.2 +0.5
baz=30,SNR=38
B14A Marquette Ranc 30.53 84 ⇓P P 07 03 43.7 +0.7
baz=30,SNR=15
MOD Modoc 30.54 100 eP P 07 03 44.3 +1.1
23nm,0.7s
D13A Huson 30.58 86 ⇓P P 07 03 43.8 +0.4
baz=30,SNR=18
C14A Swan Lake 30.59 85 ⇑P P 07 03 44.6 +1.0
baz=30
SWMT Swartz Lake 30.60 85 eP P 07 03 44.5 +0.9
F12A Elk City 30.91 89 ⇓P P 07 03 47.1 +0.7
baz=31,SNR=38
B15A Bradely Ranch, 30.95 83 ⇓P P 07 03 47.0 +0.4
baz=31,SNR=17
MSO Missoula 31.02 86 eP P 07 03 48.1 +0.8
9.5nm,0.8s
MSO Missoula 31.02 86 ⇓P P 07 03 47.9 +0.6
baz=31,SNR=21
SLMT Seeley Lake 31.03 85 eP P 07 03 48.2 +0.7
E13A Victor 31.11 87 ⇑P P 07 03 48.6 +0.6
baz=31,SNR=36
WVOR Wild Horse Val 31.11 97 eP P 07 03 49.1 +1.0
33nm,0.7s
D14A Greenough 31.12 86 ⇑P P 07 03 48.7 +0.5
baz=31,SNR=32
A16A West Butte Ran 31.14 81 ⇑P P 07 03 48.7 +0.3
baz=31
C15A Salmond Ranch, 31.23 84 ⇓P P 07 03 50.3 +1.1
baz=31,SNR=71
G12A Big Creek, Yel 31.25 90 ⇓P P 07 03 50.0 +0.5
baz=31
CHMT Chamberlain Mo 31.36 86 eP P 07 03 51.0 +0.6
B16A M & M Farms, S 31.37 82 ⇓P P 07 03 50.5 +0.2
baz=31,SNR=9.4
F13A Darby 31.41 88 ⇑P P 07 03 51.5 +0.7
baz=31,SNR=42
E14A Clinton 31.51 87 ⇓P P 07 03 52.7 +1.0
baz=31,SNR=70
A17A Triple J Farms 31.64 81 ⇑P P 07 03 53.4 +0.7
baz=32,SNR=64
C16A Fuhringer Ranc 31.69 83 ⇓P P 07 03 53.6 +0.4
baz=32,SNR=26
D15A Lincoln 31.69 85 ⇓P P 07 03 54.1 +0.8
baz=32,SNR=52
H12A Diamond D Ranc 31.87 91 ⇑P P 07 03 55.4 +0.5
baz=32,SNR=26
G13A Cobalt 31.89 89 ⇑P P 07 03 55.6 +0.6
baz=32,SNR=71
F14A Wisdom 31.94 88 ⇑P P 07 03 56.4 +1.0
baz=32,SNR=43
B17A L&G Farms, Che 31.95 82 ⇑P P 07 03 55.8 +0.4
baz=32,SNR=40
E15A Deer Lodge 31.98 86 ⇑P P 07 03 56.4 +0.7
baz=32,SNR=45
MFID Camas Ranch 32.04 93 eP P 07 03 57.1 +0.7
8.5nm,0.6s
MFID Camas Ranch 32.04 93 ⇑P P 07 03 57.0 +0.7
baz=32,SNR=24
A18A Metzger Ranch, 32.13 80 ⇓P P 07 03 57.2 +0.3
baz=32,SNR=34
I12A Atlanta 32.19 92 ⇓P P 07 03 58.4 +0.8
baz=32,SNR=38
H13A Challis 32.20 90 ⇓P P 07 03 58.3 +0.6
baz=32,SNR=34
G14A Jackson 32.23 89 ⇓P P 07 03 58.6 +0.6
baz=32,SNR=52
HRY Holter Researc 32.27 85 eP P 07 03 59.3 +1.0
C17A Wharram Farm, 32.34 83 ⇑P P 07 03 60.0 +1.2
baz=32,SNR=21
F15A Butte 32.41 87 ⇑P P 07 04 00.3 +0.7
baz=32,SNR=9.3
LRM Limekiln Ridge 32.45 87 eP P 07 04 00.6 +0.7
B18A Beardsley Farm 32.45 81 ⇓P P 07 04 00.5 +0.7
baz=32,SNR=24
E16A East Helena 32.46 85 ⇓P P 07 04 01.1 +1.2
baz=32,SNR=35
DLMT Dillon 32.64 88 eP P 07 04 01.8 +0.3
26nm,1.4s
D17A Six Diamond Ra 32.65 84 ⇓P P 07 04 02.3 +0.7
baz=33,SNR=43
H14A Leadore 32.67 89 ⇓P P 07 04 02.5 +0.7
baz=33,SNR=66
EGMT Eagleton 32.67 82 ⇓P P 07 04 02.3 +0.6
baz=33,SNR=46
I13A Wildhorse Cree 32.69 91 ⇓P P 07 04 02.6 +0.6
baz=33,SNR=31
HLID Hailey 32.74 92 eP P 07 04 03.4 +0.9
13nm,0.8s
HLID Hailey 32.74 92 ⇓P P 07 04 03.2 +0.7
baz=33,SNR=29
G15A Dillon 32.82 88 ⇑P P 07 04 03.7 +0.5
baz=33
MCMT McKenzie Canyo 32.83 89 P P 07 04 04.1 +0.8
B19A Brinkman Farms 32.88 80 ⇑P P 07 04 04.4 +0.9
baz=33,SNR=62
F16A Kennard Place, 32.93 86 ⇑P P 07 04 04.7 +0.7
baz=33,SNR=23
E17A Martinsdale 32.96 85 ⇑P P 07 04 05.7 +1.4
baz=33,SNR=55
J13A Cove Ranch, Pi 32.98 92 ⇓P P 07 04 05.5 +1.0
baz=33,SNR=42
BOZ Bozeman (W) 33.01 87 eP P 07 04 05.7 +0.9
15nm,1.2s
BOZ Bozeman (W) 33.01 87 ⇑P P 07 04 05.6 +0.8
baz=33,SNR=21
I14A Mackay 33.05 90 ⇓P P 07 04 06.2 +1.1
baz=33,SNR=42
H15A Lima 33.07 89 ⇓P P 07 04 06.2 +0.8
baz=33,SNR=41
D18A Linhart Farms, 33.12 83 ⇑P P 07 04 07.1 +1.5
baz=33,SNR=120
G16A Moss Hill, Enn 33.17 87 ⇑P P 07 04 07.0 +0.9
baz=33,SNR=78
CMB Columbia Colle 33.20 105 eP P 07 04 06.8 +0.5
16nm,1.4s
A20A Cobblestone Ra 33.21 79 ⇓P P 07 04 07.2 +0.9
baz=33,SNR=52
C19A Slack Wire Ran 33.23 82 ⇑P P 07 04 07.9 +1.4
baz=33,SNR=79
BMN Battle Mountai 33.24 99 eP P 07 04 07.3 +0.5
7.2nm,0.4s
J14A Carey 33.40 91 ⇑P P 07 04 09.5 +1.4
baz=33
B20A Solberg Farm, 33.40 80 ⇓P P 07 04 08.5 +0.6
baz=33,SNR=21
F17A Fitzpatrick Pl 33.40 85 ⇓P P 07 04 09.2 +1.1
baz=33,SNR=29
E18A Harlowton 33.43 84 ⇓P P 07 04 09.9 +1.6
baz=33,SNR=65
FFC Flin Flon 33.43 66 eP P 07 04 08.7 +0.7
33nm,1.8s
I15A Monteview 33.55 90 ⇓P P 07 04 10.5 +1.1
baz=34,SNR=6.2
QLMT Earthquake Lak 33.62 88 eP P 07 04 11.2 +1.1
D19A Cripps Ranch, 33.65 82 ⇑P P 07 04 11.3 +1.2
baz=34,SNR=74
A21A Bergtoll Ranch 33.70 78 ⇑P P 07 04 11.5 +1.0
baz=34,SNR=72
G17A Pierce Place, 33.71 86 ⇓P P 07 04 12.2 +1.4
baz=34,SNR=47
H16A Russell Place, 33.80 88 ⇓P P 07 04 12.7 +1.1
baz=34,SNR=64
C20A Veseth Ranch, 33.82 81 ⇑P P 07 04 12.7 +1.1
baz=34,SNR=59
F18A Big Timber 33.93 85 ⇓P P 07 04 14.0 +1.3
baz=34,SNR=22
J15A Blackfoot 33.96 90 ⇑P P 07 04 14.6 +1.7
baz=34,SNR=56
B21A Ellsworth Farm 33.96 79 ⇑P P 07 04 13.6 +0.8
baz=34,SNR=44
YMR Madison River 33.98 87 eP P 07 04 14.3 +1.1
93nm,0.6s
GCMT Greycliff 34.02 85 eP P 07 04 14.6 +1.1
13nm,0.8s
NVAR Mina Array Bea 34.05 102 P P 07 04 14.6 +0.8
NVAR PcP PcP 07 06 48.1 +0.6
NVAR ScP ScP 07 10 15.8 -0.7
NVAR Mina Array Bea 34.05 102 P P 07 04 14.6 +0.8
19nm,0.7s,baz=306,slow=8.3,SNR=135
NVAR PcP PcP 07 06 48.1 +0.6
1.7nm,0.7s,baz=281,slow=2.6,SNR=5.7
NVAR ScP ScP 07 10 15.8 -0.7
1.1nm,0.8s,baz=295,slow=3.5,SNR=5.4
K14A Jones Ranch, D 34.09 92 ⇑P P 07 04 15.2 +1.1
baz=34,SNR=17
D20A Manuel Ranch, 34.11 82 ⇑P P 07 04 15.4 +1.3
baz=34,SNR=76
YNR Norris Junctio 34.11 87 eP P 07 04 16.1 +1.7
57nm,1.0s
E19A Rath Farm, Rou 34.12 83 ⇑P P 07 04 15.5 +1.3
baz=34,SNR=41
I16A Newdale 34.19 89 ⇑P P 07 04 16.2 +1.3
baz=34,SNR=11
YFT Old Faithful 34.19 88 eP P 07 04 17.1 +2.0
52nm,0.8s
A22A Carney Farms, 34.25 78 ⇑P P 07 04 16.4 +1.1
baz=34,SNR=29
C21A Desert Coulee 34.26 80 ⇑P P 07 04 16.4 +1.1
baz=34,SNR=40
MLAC Mammoth Lakes 34.33 104 ⇓P P 07 04 18.0 +1.6
baz=34,SNR=5.8
K15A Arbon 34.36 91 ⇑P P 07 04 18.1 +1.6
baz=34,SNR=56
LKWY Lake 34.36 87 eP P 07 04 18.2 +1.6
41nm,0.8s
G18A Lazy EL Ranch, 34.37 85 ⇑P P 07 04 17.1 +0.6
baz=34,SNR=12
H17A Grant Village 34.37 87 ⇓P P 07 04 19.0 +2.4
baz=34,SNR=39
L14A Malta 34.39 93 ⇓P P 07 04 17.9 +1.2
baz=34,SNR=34
F19A Roth Farm, Mol 34.39 84 ⇓P P 07 04 18.0 +1.4
baz=34,SNR=29
E20A Meyer Farm, Mu 34.46 83 ⇑P P 07 04 18.5 +1.4
baz=34,SNR=43
IMW Indian Meadow 34.48 88 eP P 07 04 18.9 +1.3
31nm,1.0s
FLWY Flagg Ranch 34.50 88 eP P 07 04 19.2 +1.6
48nm,0.8s
J16A Bone 34.50 90 ⇓P P 07 04 19.2 +1.5
baz=34,SNR=26
DCID1 Drake Creek 34.53 89 eP P 07 04 19.0 +1.1
16nm,0.8s
B22A Reddig Ranch S 34.60 79 ⇓P P 07 04 19.5 +1.2
baz=34,SNR=18
RRI2 Red Ridge 34.61 89 eP P 07 04 19.9 +1.2
15nm,0.8s
RLMT Red Lodge 34.66 85 eP P 07 04 20.4 +1.4
23nm,0.7s
RLMT Red Lodge 34.66 85 ⇑P P 07 04 20.5 +1.4
baz=34,SNR=55
I17A Pilgrim Ck. 34.67 88 ⇑P P 07 04 20.8 +1.7
baz=35,SNR=22
MTUM Tungsten Hills 34.68 104 eP P 07 04 20.5 +1.2
H18A Shoshone NF, C 34.71 86 ⇓P P 07 04 20.6 +1.1
baz=35,SNR=30
TPAW Teton Pass 34.73 89 eP P 07 04 22.1 +2.4
12nm,0.8s
K16A Soda Springs 34.80 90 ⇑P P 07 04 21.7 +1.5
baz=35,SNR=22
HVU Hansel Valley 34.82 93 eP P 07 04 21.5 +1.2
30nm,0.8s
A23A Redstone 34.84 77 ⇓P P 07 04 21.3 +1.0
baz=35,SNR=11
LOHW Long Hollow 34.85 89 eP P 07 04 21.5 +0.8
24nm,1.1s
SNOW Snow King Moun 34.86 89 eP P 07 04 22.4 +1.6
14nm,0.8s
F20A Billings 34.87 84 ⇓P P 07 04 21.9 +1.2
baz=35,SNR=9.3
REDW Red Top Meadow 34.87 89 eP P 07 04 21.6 +0.8
14nm,1.0s
L15A Malad City 34.89 92 ⇓P P 07 04 21.9 +1.0
baz=35,SNR=28
J17A Brown Place, J 34.95 89 ⇓P P 07 04 22.7 +1.2
baz=35,SNR=21
C22A Vida 34.98 79 ⇓P P 07 04 22.4 +0.9
baz=35,SNR=19
E21A Keefer Ranch, 35.02 82 ⇓P P 07 04 23.3 +1.4
baz=35,SNR=18
B23A Brockton 35.06 78 ⇑P P 07 04 22.9 +0.7
baz=35,SNR=31
RCTC Rector, Farmer 35.08 106 ⇓P P 07 04 23.5 +1.0
baz=35
TIN Tinemaha 35.08 104 ⇓P P 07 04 24.0 +1.4
baz=35
H19A Powell 35.09 86 ⇑P P 07 04 24.0 +1.4
baz=35,SNR=40
D22A Cohagen 35.16 80 ⇓P P 07 04 24.4 +1.3
baz=35,SNR=58
G20A Bridger 35.18 85 ⇓P P 07 04 24.2 +0.7
baz=35,SNR=46
M15A Larsen Ranch, 35.21 93 ⇑P P 07 04 24.5 +0.8
baz=35,SNR=27
K17A Gardner Place, 35.22 90 ⇓P P 07 04 24.7 +0.8
baz=35
I18A Diamond G Ranc 35.23 88 ⇑P P 07 04 25.3 +1.3
baz=35,SNR=25
C23A Lambert 35.33 79 ⇑P P 07 04 25.7 +1.2
baz=35,SNR=87
A24A Westby 35.34 76 ⇑P P 07 04 25.4 +0.8
baz=35,SNR=30
L16A Fish Haven 35.41 91 ⇑P P 07 04 26.5 +1.0
baz=35,SNR=25
SMMC Simmler 35.42 108 ⇑P P 07 04 26.6 +1.1
baz=35
F21A Absaloka Mine, 35.42 83 ⇓P P 07 04 26.5 +1.1
baz=35
J18A Kendall Valley 35.43 89 ⇓P P 07 04 26.7 +1.0
baz=35,SNR=38
I19A Meeteetse 35.48 87 ⇓P P 07 04 27.1 +1.0
baz=35,SNR=16
DGMT Dagmar 35.49 77 eP P 07 04 26.3 +0.5
42nm,0.9s
DGMT Dagmar 35.49 77 ⇑P P 07 04 26.9 +1.0
baz=35,SNR=18
VES Vestal, Richgr 35.52 106 ⇓P P 07 04 26.8 +0.6
baz=35
N15A Stansbury Isla 35.55 94 ⇓P P 07 04 27.3 +0.7
baz=36,SNR=9.2
GRAC Grapevine Rang 35.59 103 ⇑P P 07 04 28.0 +1.1
baz=36,SNR=9.8
R11A Troy Canyon, C 35.60 100 ⇓P P 07 04 27.6 +0.5
baz=36,SNR=62
L17A Cokeville 35.67 91 ⇑P P 07 04 28.8 +1.1
baz=36,SNR=24

D23A	Lindsay baz=36,SNR=33	35.68	80	⇓P	P	07 04 28.9	+1.4
E22A	Miles City baz=36,SNR=36	35.71	81	⇓P	P	07 04 29.2	+1.4
G21A	Lodge Grass baz=36,SNR=15	35.74	84	⇑P	P	07 04 29.1	+0.9
H20A	Greybull baz=36,SNR=11	35.76	85	⇓P	P	07 04 29.0	+0.7
K18A	Toltan Ranch, baz=36,SNR=19	35.79	89	⇑P	P	07 04 29.8	+1.0
DUG	Dugway 24nm,0.8s	35.86	95	eP	P	07 04 30.0	+0.8
DUG	Dugway baz=36,SNR=31	35.86	95	⇑P	P	07 04 30.0	+0.8
C24A	Savage baz=36,SNR=29	35.90	79	⇓P	P	07 04 31.0	+1.6
F22A	Rosebud baz=36,SNR=14	35.93	82	⇑P	P	07 04 30.6	+0.9
J19A	Crowheart baz=36,SNR=16	35.94	88	⇑P	P	07 04 30.8	+0.9
PD01	Pinedale Array	35.96	89	eP	P	07 04 30.6	+0.4
PD02	Pinedale Array	35.96	89	eP	P	07 04 30.6	+0.3
BW06	Boulder Array	35.98	89	eP	P	07 04 30.9	+0.6
BW06	Boulder Array baz=36,SNR=35	35.98	89	⇑P	P	07 04 30.8	+0.5
PDAR	Pinedale Array	35.98	89	P	P	07 04 30.9	+0.6
PDAR				PcP	PcP	07 06 53.1	0.0
PDAR				ScP	ScP	07 10 22.2	-1.2
PDAR	Pinedale Array 13nm,0.6s,baz=302,slow=4.5,SNR=146	35.98	89	P	P	07 04 30.9	+0.6
PDAR	0.4nm,0.4s,baz=36,slow=3.0,SNR=3.6			PcP	PcP	07 06 53.1	0.0
PDAR	0.6nm,0.8s,baz=278,slow=1.0,SNR=3.8			ScP	ScP	07 10 22.2	-1.2
ISA	Isabella 11nm,1.1s	35.98	106	eP	P	07 04 30.2	0.0
ISA	Isabella baz=36,SNR=6.7	35.98	106	⇓P	P	07 04 30.4	+0.2
O15A	The Old Anders baz=36,SNR=9.9	35.99	94	⇓P	P	07 04 31.3	+0.8
I20A	Worland baz=36,SNR=33	36.02	86	⇓P	P	07 04 31.7	+1.1
E23A	Ismay baz=36	36.03	81	⇓P	P	07 04 32.0	+1.5
N16A	Rees Ranch, Co baz=36,SNR=15	36.16	93	⇑P	P	07 04 32.7	+0.8
ARVC	Arvin baz=36	36.19	107	⇓P	P	07 04 32.6	+0.7
M17A	Scullys Gap (B baz=36,SNR=61	36.20	91	⇓P	P	07 04 32.9	+0.6
H21A	Big Horn, Sher baz=36,SNR=15	36.20	84	⇑P	P	07 04 32.9	+0.8
MPMC	Manual Prospec baz=36,SNR=12	36.22	104	⇓P	P	07 04 33.2	+0.8
G22A	Birney baz=36,SNR=28	36.26	83	⇑P	P	07 04 33.3	+0.8
FURC	Furnace Creek, baz=36,SNR=15	36.26	103	⇓P	P	07 04 33.2	+0.8
L18A	Fontenelle, Gr baz=36,SNR=19	36.26	90	⇓P	P	07 04 33.3	+0.6
K19A	Absolon Red Bu baz=36,SNR=43	36.34	88	⇑P	P	07 04 33.5	+0.2
JLU	Jordanelle 20nm,0.9s	36.35	93	eP	P	07 04 33.8	+0.3
J20A	Shoshoni baz=36,SNR=52	36.43	87	⇑P	P	07 04 35.6	+1.6
F23A	Volborg baz=36	36.44	82	⇓P	P	07 04 35.1	+1.0
N17A	Moffit Pass baz=36,SNR=19	36.46	92	⇑P	P	07 04 34.9	+0.4
L19A	Farson baz=36,SNR=51	36.52	90	⇑P	P	07 04 35.5	+0.6
LRMC	Laurel Mountai baz=36	36.54	105	⇓P	P	07 04 35.4	+0.4
E24A	Baker baz=36,SNR=11	36.54	80	⇑P	P	07 04 36.3	+1.4
M18A	Lyman baz=36,SNR=22	36.57	91	⇓P	P	07 04 35.9	+0.5
I21A	Big Trails, Te baz=36,SNR=43	36.58	86	⇑P	P	07 04 35.8	+0.5
DAU	Daniels Canyon	36.59	93	ePn	P	07 04 36.2	+0.6
P15A	Leamington baz=36,SNR=29	36.59	95	⇓P	P	07 04 36.0	+0.6
H22A	Clearmont baz=36,SNR=24	36.61	84	⇑P	P	07 04 36.4	+0.9
R13A	O'Grain Ranch, baz=36,SNR=19	36.62	98	⇑P	P	07 04 36.4	+0.7
MPU	Maple Canyon 18nm,0.8s	36.64	94	eP	P	07 04 36.4	+0.4
K20A	Yellowstone Ra baz=37,SNR=49	36.73	88	⇑P	P	07 04 36.7	+0.1
G23A	Biddle baz=37,SNR=15	36.77	82	⇑P	P	07 04 37.6	+0.7
J21A	Lysite baz=37,SNR=34	36.79	86	⇑P	P	07 04 38.0	+0.8
EDW2	Edwards Air Fo baz=37	36.83	106	⇓P	P	07 04 38.2	+0.8
F24A	Ekalaka baz=37,SNR=55	36.90	81	⇓P	P	07 04 38.9	+1.0
P16A	Fountain Green baz=37,SNR=13	36.91	95	⇓P	P	07 04 39.2	+1.1
I22A	9 Mile Ranch, baz=37,SNR=13	36.98	85	⇓P	P	07 04 39.5	+0.9
SHOC	Shoshone baz=37,SNR=19	36.99	103	⇑P	P	07 04 39.4	+0.6
O17A	Robinson Place baz=37,SNR=19	37.02	93	⇓P	P	07 04 40.2	+1.0
M19A	Rock Springs baz=37,SNR=14	37.03	90	⇓P	P	07 04 39.4	+0.1
GSC	Goldstone 20nm,1.3s	37.15	104	eP	P	07 04 40.7	+0.6
GSC	Goldstone baz=37,SNR=7.5	37.15	104	⇓P	P	07 04 40.8	+0.6
L20A	Wamsutter baz=37,SNR=19	37.16	89	⇑P	P	07 04 40.2	0.0
ARUT	Antelope Range 13nm,0.6s	37.19	98	eP	P	07 04 41.0	+0.5
G24A	Alzada baz=37,SNR=21	37.23	82	⇓P	P	07 04 41.4	+0.6
J22A	Midwest baz=37,SNR=47	37.29	86	⇓P	P	07 04 42.1	+0.8
MWC	Mount Wilson 18nm,1.2s	37.29	107	eP	P	07 04 42.3	+0.8
K21A	Alcova baz=37,SNR=42	37.36	87	⇓P	P	07 04 42.3	+0.4
MVU	Marysvale 21nm,0.8s	37.37	96	eP	P	07 04 43.1	+1.0
TMUT	Trail Mountain 52nm,0.8s	37.38	95	eP	P	07 04 43.3	+1.0
MSU	Marysvale	37.38	96	eP	P	07 04 43.4	+1.1
O18A	Roosevelt baz=37,SNR=32	37.38	92	⇑P	P	07 04 43.3	+1.1
CCUT	Cedar City 56nm,1.7s	37.40	99	eP	P	07 04 43.2	+0.8
N19A	John Jarvie Ra baz=37,SNR=37	37.43	91	⇓P	P	07 04 42.7	+0.2
BFSC	Mount Baldy Ra baz=37	37.49	106	⇓P	P	07 04 43.9	+0.8
I23A	Meade Ranch, G baz=37	37.51	84	⇓P	P	07 04 43.6	+0.5
H24A	Dirks Ranch, A baz=37,SNR=17	37.52	82	⇓P	P	07 04 43.4	+0.3
P17A	Butcher Ranch, baz=37,SNR=19	37.52	94	⇓P	P	07 04 44.0	+0.7
TUQ	Turquoise Moun baz=38	37.53	103	⇑P	P	07 04 43.8	+0.4
R15A	Junction baz=37,SNR=20	37.54	97	⇑P	P	07 04 44.5	+1.0
M20A	Sweetwater, Wa baz=38,SNR=21	37.58	89	⇑P	P	07 04 44.7	+0.8
Q16A	Castle Valley baz=38,SNR=37	37.66	95	⇓P	P	07 04 45.7	+1.1
P18A	Preston Nutter baz=38,SNR=26	37.69	93	⇓P	P	07 04 45.5	+0.6
L21A	Rawlins baz=38,SNR=30	37.73	88	⇑P	P	07 04 45.6	+0.5
K22A	Casper baz=38,SNR=26	37.75	87	⇑P	P	07 04 45.6	+0.3
HEC	Hector,Ludlow baz=38,SNR=11	37.76	104	⇑P	P	07 04 45.7	+0.4
J23A	Dilts Ranch, B baz=38	37.81	85	⇑P	P	07 04 46.5	+0.9
O19A	Miners Draw (B baz=38,SNR=76	37.86	92	⇓P	P	07 04 46.9	+0.8
BBRC	Big Bear Solar baz=38	37.87	106	⇓P	P	07 04 47.0	+0.6
SRU	San Rafael 121nm,0.9s	37.89	94	eP	P	07 04 47.6	+1.2
SRU	San Rafael baz=38,SNR=129	37.89	94	⇓P	P	07 04 47.5	+1.0
R16A	Teasdale baz=38,SNR=32	37.93	96	⇑P	P	07 04 48.2	+1.4
M21A	Separation Pea baz=38,SNR=20	37.97	89	⇓P	P	07 04 47.2	+0.1
SCI	San Clemente I baz=38	37.98	109	⇑P	P	07 04 48.4	+1.4
N20A	Spence Gulch, baz=38,SNR=30	37.98	90	⇓P	P	07 04 47.9	+0.6
I24A	Kuemmerle Ranc baz=38	38.04	84	⇑P	P	07 04 47.5	0.0
Q18A	Rafter H Ranch baz=38	38.11	94	⇓P	P	07 04 48.8	+0.6
GMRC	Granite Mounta baz=38,SNR=20	38.16	104	⇓P	P	07 04 49.1	+0.4
K23A	Bowen Ranch, D baz=38,SNR=17	38.19	86	⇑P	P	07 04 49.2	+0.3
RSSD	Black Hills 23nm,0.6s	38.20	83	eP	P	07 04 49.3	+0.3
L22A	Ellis Ranch, M baz=38,SNR=8.2	38.21	87	⇑P	P	07 04 50.0	+0.9
LDFC	Landfair 52nm,0.9s	38.24	103	eP	P	07 04 49.7	+0.3
S16A	Weppner Ranch, baz=38,SNR=45	38.26	97	⇓P	P	07 04 50.8	+1.2
R17A	Hanksville Air baz=38,SNR=64	38.27	95	⇑P	P	07 04 50.2	+0.7
MDND	Maddock baz=38,SNR=26	38.35	75	⇑P	P	07 04 51.0	+1.0
J24A	Dixon Ranch, L baz=38,SNR=5.5	38.35	84	⇓P	P	07 04 50.5	+0.3
P19A	Cripple Cowboy baz=38,SNR=132	38.39	92	⇑P	P	07 04 51.3	+0.6
N21A	Black Mountain baz=38,SNR=45	38.45	90	⇓P	P	07 04 51.5	+0.4
O20A	White River Ci baz=38,SNR=113	38.46	91	⇑P	P	07 04 51.8	+0.5
M22A	Cedar Creek Ra baz=38,SNR=15	38.53	88	⇑P	P	07 04 51.9	+0.1
L23A	Garrett baz=38,SNR=33	38.56	87	⇓P	P	07 04 52.2	+0.1
BELC	Belle Mtn. Jos baz=38,SNR=12	38.57	105	⇑P	P	07 04 52.2	+0.1
PFO	Pinyon Flat Ob 11nm,1.1s	38.62	106	eP	P	07 04 52.1	-0.4
PFO	Pinyon Flat Ob baz=38,SNR=5.8	38.62	106	⇓P	P	07 04 52.5	0.0
Q19A	Hogan Spring (baz=39,SNR=53	38.70	93	⇑P	P	07 04 53.3	+0.1
R18A	Canyonlands Na baz=39,SNR=52	38.75	94	⇑P	P	07 04 53.6	0.0
S17A	Black Ridge (B baz=39,SNR=44	38.77	96	⇓P	P	07 04 54.5	+0.8
U15A	North Rim baz=39,SNR=46	38.81	99	⇓P	P	07 04 55.0	+0.7
P20A	De Beque baz=39,SNR=8.7	38.81	92	⇓P	P	07 04 54.4	+0.2
109C	Camp Elliot, M baz=39	38.82	107	⇑P	P	07 04 54.7	+0.6
O21A	Pagoda baz=39,SNR=18	38.84	90	⇑P	P	07 04 54.7	+0.3
W13A	Hualapai Mount baz=39,SNR=31	38.90	102	⇑P	P	07 04 55.5	+0.6
IRM	Iron Mountain baz=39,SNR=35	38.91	104	⇑P	P	07 04 55.5	+0.6
ULM	Lac du Bonnet	38.94	70	P	P	07 04 55.4	+0.5
ULM				ScP	ScP	07 10 33.2	-0.9
ULM	Lac du Bonnet 8.6nm,0.3s,baz=310,slow=8.4,SNR=29	38.94	70	P	P	07 04 55.4	+0.5
ULM	2.1nm,0.6s,baz=296,slow=3.2,SNR=4.6			ScP	ScP	07 10 33.2	-0.9
N22A	Wattenberg Ran baz=39,SNR=18	39.02	89	⇑P	P	07 04 56.4	+0.5
L24A	Wheatland baz=39,SNR=5.5	39.04	86	⇓P	P	07 04 55.9	0.0
BC3	Big Chuckawall baz=39,SNR=5.7	39.12	105	⇓P	P	07 04 57.0	+0.3
R19A	Curley Farm, L baz=39,SNR=52	39.17	94	⇑P	P	07 04 57.1	-0.1
S18A	Hurst Farm, Bl baz=39,SNR=96	39.18	95	⇑P	P	07 04 57.3	0.0
MONP	Monument Peak baz=39,SNR=5.5	39.19	107	⇓P	P	07 04 57.7	+0.3
BAR	Barrett 16nm,1.3s	39.21	107	eP	P	07 04 57.5	+0.2
T17A	Navajo Res., N baz=39,SNR=20	39.22	97	⇑P	P	07 04 57.4	-0.2
N23A	Red Feather La baz=39,SNR=11	39.24	88	⇑P	P	07 04 58.0	+0.2
PHWY	Pilot Hill	39.24	87	eP	P	07 04 57.9	+0.1
Q20A	Ridgley Place, baz=39,SNR=26	39.24	92	⇑P	P	07 04 57.4	-0.3
PV04	Paradox Valley	39.30	94	eP	P	07 04 58.5	+0.4
P21A	Newcastle baz=39,SNR=31	39.33	91	⇑P	P	07 04 58.6	+0.1
PDMCI	Parker Dam,Lak baz=39,SNR=8.4	39.35	103	⇓P	P	07 04 58.5	+0.1
O22A	Kremmling baz=39,SNR=16	39.40	90	⇑P	P	07 04 59.2	+0.1
SWSC	Sam W. Stewart baz=39	39.48	106	⇑P	P	07 04 59.7	+0.2
M24A	Cheyenne baz=39	39.48	87	⇓P	P	07 04 59.7	0.0
L25A	Engebretsen Ra baz=39	39.51	85	⇓P	P	07 05 00.1	+0.3
Y12C	Blythe baz=40,SNR=20	39.56	104	⇓P	P	07 05 00.7	+0.6
K26A	Motz Farm, Whi baz=40,SNR=6.5	39.59	84	⇑P	P	07 05 00.2	-0.3
S19A	Harvey Farm, M baz=40,SNR=47	39.62	94	⇓P	P	07 05 00.7	-0.2
T18A	Mexican Hat baz=40	39.64	96	⇓P	P	07 05 00.9	-0.1
PV01	Paradox Valley 2µm,0.6s	39.66	94	eP	P	07 05 01.4	+0.2
P22A	Eagle baz=40,SNR=15	39.66	90	⇓P	P	07 05 01.5	+0.3
O23A	Lake Granby, G baz=40,SNR=40	39.72	89	⇓P	P	07 05 02.6	+0.9
Q21A	Lamborn Mesa, baz=40	39.73	92	⇓P	P	07 05 02.0	+0.2
R20A	Redvale baz=40,SNR=59	39.73	93	⇓P	P	07 05 02.0	+0.2
SMCO	Snowmass 6.5nm,0.5s	39.83	91	eP	P	07 05 02.9	+0.1
N24A	Carr baz=40,SNR=6.5	39.88	87	⇓P	P	07 05 03.7	+0.7
GLA	Glamis	39.92	105	eP	P	07 05 04.0	+0.8
GLA	Glamis baz=40,SNR=7.5	39.92	105	⇑P	P	07 05 03.6	+0.3
M25A	Palm-Egli Farm baz=40,SNR=9.8	39.94	86	⇑P	P	07 05 04.5	+1.1
WUAZ	Wupatki	39.98	99	eP	P	07 05 04.7	+0.9
WUAZ	Wupatki baz=40,SNR=35	39.98	99	⇑P	P	07 05 04.5	+0.7
S20A	Disappointment baz=40,SNR=58	40.00	94	⇑P	P	07 05 04.0	0.0
R21A	Cimarron baz=40,SNR=29	40.07	92	⇑P	P	07 05 05.2	+0.6
L26A	Underwood Farm baz=40	40.08	85	⇓P	P	07 05 04.6	+0.1
Q22A	Crested Butte, baz=40,SNR=19	40.09	91	⇓P	P	07 05 04.9	+0.1
AGMN	Agassiz Nation	40.10	72	eP	P	07 05 04.8	+0.4
K27A	Flueckinger Fa baz=40,SNR=6.5	40.12	83	⇓P	P	07 05 05.2	+0.4
ISCO	Idaho Springs	40.17	89	eP	P	07 05 06.2	+0.8
ISCO	Idaho Springs baz=40,SNR=5.4	40.17	89	⇑P	P	07 05 06.1	+0.6
Y14A	Wickenburg baz=40,SNR=13	40.25	102	⇑P	P	07 05 06.3	+0.4
O24A	Longmont baz=40,SNR=10.0	40.25	88	⇑P	P	07 05 07.1	+1.1
P23A	Jefferson baz=40,SNR=18	40.33	90	⇑P	P	07 05 08.0	+1.1
T19A	Beclabito baz=40,SNR=78	40.34	95	⇑P	P	07 05 06.9	+0.2
MVCO	Mesa Verde 25nm,0.6s	40.36	95	eP	P	07 05 07.2	+0.1
MVCO	Mesa Verde baz=40,SNR=26	40.36	95	⇑P	P	07 05 07.1	+0.1
S21A	Coal Bank Pass baz=40,SNR=31	40.43	93	⇑P	P	07 05 08.1	+0.4
R22A	Saguache, Gunn baz=40,SNR=18	40.61	92	⇓P	P	07 05 10.1	+0.9
U19A	Dine' College, baz=40,SNR=56	40.62	96	⇑P	P	07 05 09.3	+0.2
Q23A	Hartsel baz=41,SNR=8.6	40.66	90	⇓P	P	07 05 10.5	+1.0
Z14A	Wintersburg baz=41,SNR=10	40.71	103	⇑P	P	07 05 10.2	+0.5
113A	Mohawk Valley, baz=41,SNR=10.0	40.71	104	⇓P	P	07 05 09.7	+0.1
X16A	Lo Mia Camp, P baz=41,SNR=67	40.75	100	⇑P	P	07 05 11.1	+0.9
P24A	Kohler Place, baz=41	40.76	89	⇓P	P	07 05 11.1	+0.9
O25A	Wiggins baz=41,SNR=9.4	40.79	88	⇓P	P	07 05 11.4	+1.0
BRSD	Miller baz=41,SNR=7.7	40.81	79	⇑P	P	07 05 10.7	+0.3
M27A	Reverse DX Ran baz=41	40.81	85	⇑P	P	07 05 11.0	+0.5
N26A	Koester Ranch, baz=41	40.81	86	⇓P	P	07 05 11.4	+0.9
S22A	4UR Ranch, Cre baz=41,SNR=15	40.91	92	⇓P	P	07 05 12.3	+0.7
U20A	Newcomb baz=41	40.94	95	⇓P	P	07 05 12.2	+0.5
Q24A	Divide baz=41,SNR=8.2	41.00	90	⇑P	P	07 05 13.1	+0.7
T21A	Navajo Lake baz=41,SNR=12	41.05	94	⇓P	P	07 05 13.3	+0.6
V19A	Window Rock baz=41,SNR=31	41.13	97	⇑P	P	07 05 13.8	+0.5
O26A	Horse Wrangler baz=41	41.16	87	⇓P	P	07 05 14.0	+0.7
X17A	Forest Lakes baz=41,SNR=41	41.16	100	⇓P	P	07 05 14.6	+1.0
R23A	Moffat baz=41	41.16	91	⇓P	P	07 05 14.5	+0.8
P25A	Willow Gulch B baz=41,SNR=19	41.18	88	⇓P	P	07 05 15.0	+1.4
W18A	Petrified Fore baz=41,SNR=9.1	41.18	98	⇑P	P	07 05 14.3	+0.7
N27A	Anderson Farm, baz=41,SNR=11	41.21	86	⇓P	P	07 05 14.4	+0.7
114A	Black Gap (USA baz=41,SNR=16	41.21	103	⇓P	P	07 05 14.2	+0.5
U21A	Nageezi baz=41,SNR=123	41.39	95	⇓P	P	07 05 16.1	+0.7
V20A	Brimhall baz=41,SNR=22	41.39	96	⇑P	P	07 05 15.7	+0.3
T22A	Edith baz=41,SNR=36	41.39	93	⇓P	P	07 05 16.6	+1.1
OGNE	Ogallala 25nm,0.6s	41.40	85	eP	P	07 05 15.7	+0.4
OGNE	Ogallala baz=41,SNR=10	41.40	85	⇓P	P	07 05 15.8	+0.5
S23A	Nye Farm, Mont baz=41	41.41	92	⇓P	P	07 05 16.6	+1.0
X18A	Snowflake baz=41,SNR=62	41.49	99	⇑P	P	07 05 17.0	+0.8
R24A	Sanders Place, baz=41,SNR=6.7	41.54	91	⇓P	P	07 05 17.4	+0.8
Q25A	Bedland, Calha baz=41,SNR=16	41.54	89	⇑P	P	07 05 17.3	+0.6
P26A	Davis Ranch, A baz=42,SNR=19	41.60	88	⇓P	P	07 05 17.9	+0.8
SDCO	Great Sand Dun 15nm,1.8s	41.66	91	eP	P	07 05 18.3	+0.6
SDCO	Great Sand Dun baz=42,SNR=29	41.66	91	⇓P	P	07 05 18.4	+0.8
O27A	Beecher Island baz=42,SNR=6.3	41.66	86	⇓P	P	07 05 17.9	+0.4
V21A	Milan baz=42,SNR=12	41.85	95	⇓P	P	07 05 19.7	+0.6
214A	Organ Pipe Nat baz=42,SNR=21	41.85	104	⇑P	P	07 05 19.6	+0.6
T23A	Casias Ranch, baz=42,SNR=11	41.86	93	⇑P	P	07 05 20.0	+0.7
W20A	Ramah baz=42,SNR=57	41.86	97	⇓P	P	07 05 19.5	+0.2
U22A	Llaves baz=42,SNR=31	41.87	94	⇑P	P	07 05 20.1	+0.7
S24A	Houchin Ranch, baz=42,SNR=23	41.89	91	⇓P	P	07 05 20.9	+1.3
Q26A	Hugo baz=42	41.95	88	⇓P	P	07 05 20.7	+0.9
P27A	Ficken Ranch, baz=42,SNR=5.6	42.04	87	⇓P	P	07 05 20.9	+0.3
R25A	Fountain Ranch baz=42,SNR=8.2	42.06	90	⇓P	P	07 05 21.2	+0.5
V22A	San Miguel Ran baz=42,SNR=13	42.18	94	⇑P	P	07 05 22.2	+0.3
U23A	El Rito baz=42,SNR=88	42.28	93	⇑P	P	07 05 23.6	+1.0
X20A	Quemado baz=42,SNR=27	42.29	97	⇑P	P	07 05 23.4	+0.7
Y19A	Nutrioso baz=42,SNR=31	42.30	99	⇓P	P	07 05 24.1	+1.2
S25A	Robets Cordova baz=42	42.32	91	⇑P	P	07 05 23.1	+0.2
W21A	San Fidel baz=42	42.34	96	⇓P	P	07 05 23.2	0.0
KSCO	Kaye Shedlock' baz=42,SNR=16	42.39	88	⇓P	P	07 05 24.1	+0.8
T24A	Torres, Weston baz=42,SNR=19	42.39	92	⇑P	P	07 05 24.7	+1.1
R26A	Arlington baz=42,SNR=27	42.42	89	⇑P	P	07 05 24.0	+0.4
ECSD	EROS Data Cent	42.55	78	eP	P	07 05 24.1	-0.4
EYMN	Ely 40nm,0.9s	42.63	70	eP	P	07 05 25.0	0.0
TUC	Tucson	42.69	102	eP	P	07 05 26.5	+0.7
T25A	Trinidad baz=43,SNR=19	42.70	91	⇑P	P	07 05 26.8	+0.7
V23A	Ortiz Mt. (NFS baz=43,SNR=26	42.71	94	⇓P	P	07 05 27.4	+1.3
X21A	Alamocita Cree baz=43,SNR=70	42.76	97	⇓P	P	07 05 27.6	+1.0
R27A	Eads baz=43,SNR=11	42.80	89	⇓P	P	07 05 27.3	+0.6
W22A	Albuquerque baz=43	42.81	95	⇑P	P	07 05 27.8	+0.9
Y20A	Horse Springs, baz=43,SNR=21	42.83	98	⇓P	P	07 05 28.1	+1.0
S26A	Kim baz=43,SNR=25	42.88	90	⇓P	P	07 05 27.5	+0.1
ANMO	Albuquerque	43.13	95	eP	P	07 05 29.4	0.0
MDJ	Mudanjiang	43.13	284	P	P	07 05 27.1	-2.0
MDJ				pP	pP	07 06 02.3	-3.0
MDJ				sP	sP	07 06 20.5	-3.3
MDJ				ScP	ScP	07 10 50.3	-0.5
MDJ				PcS	PcS	07 11 07.6	-0.6
MDJ				S	S	07 11 40.0	-2.6
MDJ				sS	sS	07 12 41.8	-3.9
MDJ	comp=Z,8.0nm,2.2s			pmax	pmax		
MDJ	comp=Z,74nm,4.8s			pmax	pmax		
T26A	Comanche Natio baz=43,SNR=11	43.13	90	⇑P	P	07 05 29.5	0.0
Y21A	Point of Rocks baz=43,SNR=24	43.14	97	⇑P	P	07 05 30.7	+1.0
X22A	Bernardo baz=43,SNR=5.3	43.15	96	⇓P	P	07 05 30.9	+1.3
W23A	Warner Place, baz=43,SNR=21	43.15	95	⇓P	P	07 05 30.3	+0.6
LAZ	Ladron comp=Z,18nm,1.1s	43.15	96	eP	P	07 05 30.4	+0.7
U25A	Circle Dot Ran baz=43,SNR=44	43.23	92	⇑P	P	07 05 30.7	+0.4
V24A	Rampart Ranch, baz=43,SNR=23	43.23	93	⇓P	P	07 05 31.2	+0.8
BGNE	Belgrade baz=43,SNR=11	43.25	82	⇑P	P	07 05 30.4	+0.3
Z20A	Nine Sixteen R baz=43,SNR=36	43.30	99	⇓P	P	07 05 31.7	+0.9
LENM	Lemitar	43.42	96	eP	P	07 05 33.0	+1.2
LPM	Los Pinos Moun	43.50	96	eP	P	07 05 33.1	+0.7
V25A	Rancho No Teng baz=43,SNR=19	43.52	93	⇑P	P	07 05 33.1	+0.5
Y22D	IRIS PASSCAL I baz=43	43.52	96	⇓P	P	07 05 33.6	+1.1
W24A	Lazy 6 Ranch, baz=43,SNR=21	43.53	94	⇓P	P	07 05 33.2	+0.6
X23A	Hourglass Bar baz=44,SNR=21	43.55	95	⇓P	P	07 05 33.2	+0.4
Y22A	Socorro baz=44,SNR=30	43.59	96	⇑P	P	07 05 34.1	+0.9
U26A	Atchley Ranch, baz=44,SNR=12	43.60	91	⇓P	P	07 05 33.8	+0.6
BNM	Barren Site comp=Z,23nm,1.2s	43.62	96	eP	P	07 05 34.0	+0.5

SPMN	**St. Paul**	43.67	74	⇑P		P	07 05 33.6	+0.3
	baz=44							
Z21A	**St. Cloud Mine**	43.67	98	⇑P		P	07 05 34.9	+1.1
	baz=44,SNR=10.0							
120A	**U Bar Ranch, L**	43.70	99	⇓P		P	07 05 34.7	+0.6
	baz=44,SNR=20							
T27A	**Campo**	43.70	90	⇑P		P	07 05 34.1	+0.1
	baz=44,SNR=7.3							
V26A	**Tequesquite Ra**	44.01	92	⇓P		P	07 05 36.9	+0.5
	baz=44,SNR=39							
W25A	**X Bar L Ranch,**	44.05	93	⇑P		P	07 05 37.3	+0.5
	baz=44,SNR=25							
Z22A	**Elephant Butte**	44.10	97	⇓P		P	07 05 38.1	+0.9
	baz=44,SNR=21							
Y23A	**Lovelace Mesa,**	44.10	96	⇑P		P	07 05 38.0	+0.8
	baz=44,SNR=18							
CBKS	**Cedar Bluff**	44.14	86	⇓P		P	07 05 37.8	+0.5
	baz=44							
121A	**Cookes Peak, D**	44.18	99	⇓P		P	07 05 38.7	+0.8
	baz=44,SNR=22							
319A	**Douglas**	44.23	101	⇑P		P	07 05 38.8	+0.6
	baz=44,SNR=15							
220A	**Playas Peak, P**	44.25	100	⇑P		P	07 05 39.0	+0.7
	baz=44,SNR=51							
X25A	**Clemmons Ranch**	44.45	94	⇓P		P	07 05 40.4	+0.5
	baz=44							
Y24A	**Capitan**	44.45	95	⇓P		P	07 05 40.7	+0.7
	baz=44,SNR=30							
122A	**Conniff Cattle**	44.49	98	⇓P		P	07 05 41.5	+1.2
	baz=44							
Z23A	**Rita Site, Whi**	44.50	96	⇑P		P	07 05 41.0	+0.7
	baz=44,SNR=5.8							
W26A	**Owens Ranch, T**	44.54	93	⇑P		P	07 05 40.9	+0.3
	baz=44,SNR=6.2							
221A	**Mesquite Ranch**	44.58	99	⇑P		P	07 05 41.7	+0.8
	baz=44							
320A	**Kipp Ranch, An**	44.68	100	⇑P		P	07 05 42.5	+0.8
	baz=45,SNR=44							
Y25A	**Mesa, Roswell**	44.87	94	⇑P		P	07 05 43.7	+0.5
	baz=45,SNR=55							
222A	**Williams Famil**	44.88	98	⇓P		P	07 05 43.9	+0.5
	baz=45,SNR=7.2							
X26A	**CR and CF Fran**	44.91	93	⇑P		P	07 05 43.5	0.0
	baz=45,SNR=9.4							
V28A	**Channing**	44.92	91	⇓P		P	07 05 43.4	-0.2
	baz=45,SNR=14							
Z24A	**Sheeppen Canyo**	44.94	96	⇓P		P	07 05 44.5	+0.7
	baz=45							
W27A	**Bowe Ranch, En**	44.95	92	⇓P		P	07 05 43.7	-0.2
	baz=45,SNR=5.3							
123A	**Bell Site, Whi**	44.95	97	⇑P		P	07 05 44.5	+0.6
	baz=45							
V29A	**Stinnett**	45.23	90	⇓P		P	07 05 45.8	-0.2
	baz=45							
X27A	**F and S Farms,**	45.23	92	⇓P		P	07 05 46.4	+0.3
	baz=45							
W28A	**Vega**	45.29	91	⇓P		P	07 05 46.6	+0.1
	baz=45							
223A	**Chaparral, Ant**	45.33	98	⇑P		P	07 05 47.5	+0.6
	baz=45							
Z25A	**Roswell**	45.34	95	⇓P		P	07 05 47.0	+0.2
	baz=45,SNR=11							
Y26A	**Elida**	45.36	94	⇓P		P	07 05 46.8	-0.2
	baz=45							
DAG	**Danmarks Havn**	45.48	11	*i* P		P	07 05 48.5	+1.2
	comp=Z,50nm,0.7s							
SCIA	**State Center**	45.63	78	*e*P		P	07 05 49.2	+0.3
KSU1	**Kansas State U**	45.69	83	*e*P		P	07 05 49.1	-0.4
W29A	**Amraillo**	45.70	91	⇑P		P	07 05 49.5	-0.2
	baz=46							
Z26A	**Caprock**	45.75	94	⇑P		P	07 05 50.3	+0.2
	baz=46,SNR=22							
Y27A	**Causey**	45.76	93	⇓P		P	07 05 50.1	-0.2
	baz=46,SNR=14							
224A	**Cornudas Mount**	45.78	97	⇑P		P	07 05 50.9	+0.4
	baz=46,SNR=51							
125A	**Gardner Draw,**	45.83	96	⇓P		P	07 05 51.1	+0.4
	baz=46,SNR=23							
X28A	**Dimmitt**	45.83	92	⇑P		P	07 05 50.3	-0.4
	baz=46							
AMTX	**Amarillo**	45.86	91	*e*P		P	07 05 50.8	-0.1
	comp=Z,11nm,0.8s							
AMTX	**Amarillo**	45.86	91	⇑P		P	07 05 51.0	+0.1
	baz=46,SNR=5.5							
CN2	**Changchun**	45.91	286	*e*P		P	07 05 51.6	+0.5
CN2				*ep*P		pP	07 06 26.4	-1.3
CN2				*e*S		S	07 12 21.6	-1.1
CN2				pmax		pmax		
	comp=Z,10.0nm,0.8s							
MSTX	**Muleshoe**	45.91	93	⇓P		P	07 05 51.3	-0.1
	baz=46,SNR=8.8							
SUMG	**Summit**	46.00	20	*e*P		P	07 05 52.1	+0.2
	comp=Z,7.3nm,0.6s							
SUMG	**Summit**	46.00	20	*i* P		P	07 05 53.1	+1.2
	comp=Z,8.2nm,0.7s							
MNTX	**Cornudas Mount**	46.15	97	*e*P		P	07 05 53.7	+0.6
	comp=Z,18nm,0.7s							
MNTX	**Cornudas Mount**	46.15	97	⇑P		P	07 05 53.8	+0.6
	baz=46,SNR=45							
225A	**Deer Hill, Car**	46.15	96	⇑P		P	07 05 53.7	+0.4
	baz=46,SNR=21							
Z27A	**Tatum**	46.15	94	⇓P		P	07 05 53.0	-0.3
	baz=46,SNR=8.7							
X29A	**Tulia**	46.16	91	⇓P		P	07 05 53.1	-0.2
	baz=46,SNR=5.4							
126A	**Clayton Basin,**	46.20	95	⇓P		P	07 05 53.8	+0.2
	baz=46,SNR=20							
Y28A	**McKinney Farm,**	46.25	92	⇓P		P	07 05 53.6	-0.5
	baz=46,SNR=6.0							
324A	**Moseley Ranch,**	46.28	97	⇓P		P	07 05 54.5	+0.1
	baz=46,SNR=17							
GDL2	**Guadalupe Moun**	46.34	96	P		P	07 05 55.0	+0.2
	comp=Z,58nm,1.0s							
127A	**Arkansas Junct**	46.54	94	⇓P		P	07 05 56.2	-0.2
	baz=46,SNR=5.6							
226A	**Malaga, Loving**	46.59	96	⇑P		P	07 05 57.0	+0.3
	baz=46,SNR=15							
Y29A	**Porterfield Fa**	46.61	92	⇑P		P	07 05 56.6	-0.2
	baz=46,SNR=14							
325A	**Bean Ranch, Si**	46.62	97	⇓P		P	07 05 57.5	+0.4
	baz=46,SNR=36							
Z28A	**Tucker Farm, M**	46.63	93	⇑P		P	07 05 56.4	-0.6
	baz=46,SNR=7.0							
Z29A	**Hungry Hill Ra**	47.04	93	⇑P		P	07 05 59.6	-0.6
	baz=47,SNR=14							
425A	**Indio Mountain**	47.06	98	⇓P		P	07 06 01.0	+0.7
	baz=47,SNR=52							
128A	**Castleberry Fa**	47.07	94	⇓P		P	07 06 00.3	-0.1
	baz=47,SNR=40							
227A	**Bennet, Jal**	47.08	95	⇓P		P	07 06 00.4	0.0
	baz=47							
326A	**Caldwell Ranch**	47.22	96	⇑P		P	07 06 01.8	+0.2
	baz=47,SNR=13							
228A	**UT Block 9, Go**	47.39	94	⇓P		P	07 06 02.6	-0.2
	baz=47,SNR=5.5							
129A	**Stewart Farms,**	47.41	93	⇑P		P	07 06 02.4	-0.6
	baz=47,SNR=7.5							
327A	**Balmorhea Ranc**	47.45	96	⇓P		P	07 06 03.6	+0.3
	baz=47							
WMOK	**Wichita Mounta**	47.59	89	*e*P		P	07 06 04.1	-0.2
	comp=Z,21nm,0.8s							
426A	**McDonald Obser**	47.68	97	⇓P		P	07 06 05.3	0.0
	baz=48,SNR=10							
328A	**Wristen Ranch,**	47.82	95	⇓P		P	07 06 06.0	-0.2
	baz=48,SNR=7.3							
427A	**Hayter Ranch,**	47.89	96	⇑P		P	07 06 06.7	-0.1
	baz=48,SNR=10							
229A	**Bryant Ranch,**	47.94	94	⇓P		P	07 06 06.8	-0.3
	baz=48							
526A	**Mary Lane Ranc**	48.11	97	⇓P		P	07 06 08.7	+0.2
	baz=48,SNR=24							
329A	**Wagon Wheel Ra**	48.21	94	⇑P		P	07 06 09.0	-0.1
	baz=48,SNR=29							
GLMI	**Grayling**	48.27	69	*e*P		P	07 06 09.4	+0.1
	comp=Z,33nm,0.5s							
527A	**Woodward Ranch**	48.31	97	⇑P		P	07 06 09.9	-0.2
	baz=48,SNR=25							
428A	**Kincaid Ranch,**	48.39	96	⇑P		P	07 06 11.1	+0.5
	baz=48,SNR=21							
TUL1	**Tulsa**	48.41	85	⇑P		P	07 06 10.1	-0.5
	baz=48,SNR=5.3							
626A	**Big Bend Ranch**	48.48	98	⇑P		P	07 06 11.3	+0.1
	baz=48,SNR=27							
HDIL	**Hopedale**	48.71	76	*e*P		P	07 06 12.1	-0.6
	comp=Z,109nm,0.7s							
528A	**Cox Ranch, San**	48.76	96	⇑P		P	07 06 13.6	+0.1
	baz=49,SNR=20							
TXAR	**Lajitas Array**	48.90	98	P		P	07 06 14.7	+0.2
	comp=Z,156nm,0.6s,baz=301,slow=6.4,SNR=266							
TXAR					PcP	PcP	07 07 36.1	-0.2
	comp=Z,2.7nm,0.7s,baz=214,slow=1.2,SNR=5.4							
TXAR					ScP	ScP	07 11 14.6	-0.7
	comp=Z,0.9nm,0.8s,baz=269,slow=2.2,SNR=8.9							
429A	**Davenport Ranc**	48.91	95	⇑P		P	07 06 13.9	-0.6
	baz=49,SNR=13							
KSRS	**Korea Array**	48.95	278	P		P	07 06 14.9	+0.3
	comp=Z,2.4nm,0.5s,baz=53,slow=7.2,SNR=8.0							
KSRS					pP	pP	07 06 54.0	+2.4
	comp=Z,1.4nm,0.6s,baz=45,slow=7.8,SNR=3.3							
627A	**Terlingua Ranc**	48.97	97	⇓P		P	07 06 15.1	+0.1
	baz=49,SNR=34							
KSAR	**Wonju Array Be**	48.98	278	P		P	07 06 14.9	+0.1
KSAR					pP	pP	07 06 54.0	+2.1
529A	**Stev Forest Ra**	49.10	96	⇑P		P	07 06 15.8	-0.2
	baz=49,SNR=20							
430A	**Baggett Ranch,**	49.15	94	⇓P		P	07 06 16.1	-0.3
	baz=49,SNR=24							
628A	**Black Gap, Mar**	49.22	97	⇑P		P	07 06 17.0	+0.1
	baz=49,SNR=40							
SLM	**Saint Louis**	49.54	79	*e*P		P	07 06 18.4	-0.8
	comp=Z,37nm,0.6s							
SCHQ	**Schefferville**	49.97	49	P		P	07 06 22.4	+0.3
SCHQ					pP	pP	07 07 02.0	+2.7
SCHQ					ScP	ScP	07 11 18.3	-1.0
SCHQ	**Schefferville**	49.97	49	P		P	07 06 22.4	+0.3
	comp=Z,1.7nm,0.3s,baz=296,slow=7.9,SNR=33							
SCHQ					pP	pP	07 07 02.0	+2.7
	comp=Z,1.8nm,0.5s,baz=338,slow=5.5,SNR=1.8							
SCHQ					ScP	ScP	07 11 18.3	-1.0
	comp=Z,1.9nm,0.8s,baz=346,slow=4.2,SNR=3.3							
SFIN	**Scholer Farm**	50.02	75	⇓P		P	07 06 22.3	-0.4
	baz=50							
RFTA	**Plano**	50.03	89	*e*P		P	07 06 22.7	-0.1
JCT	**Junction City**	50.19	93	*e*P		P	07 06 23.7	-0.5
	comp=Z,34nm,0.6s							
JCT	**Junction City**	50.19	93	⇓P		P	07 06 23.9	-0.3
	baz=50,SNR=21							
MIAR	**Mount Ida**	50.65	85	*e*P		P	07 06 27.0	-0.5
	comp=Z,17nm,0.8s							
OLIL	**Olney**	50.65	77	*e*P		P	07 06 26.7	-0.7
	comp=Z,16nm,0.6s							
SCO	**Scoresbysund**	50.66	16	*i* P		P	07 06 28.7	+1.7
	comp=Z,4.6nm,0.8s							
BLO	**Bloomington**	51.19	75	*e*P		P	07 06 30.6	-0.9
	comp=Z,22nm,0.6s							
PARMO	**Parma**	51.23	80	*e*P		P	07 06 30.9	-0.9
USIN	**University of**	51.44	77	*e*P		P	07 06 32.5	-0.8
	comp=Z,46nm,0.8s							
WCI	**Wyandotte Cave**	51.99	76	*e*P		P	07 06 36.3	-1.2
	comp=Z,17nm,0.8s							
ACSO	**Alum Creek Sta**	52.34	72	*e*P		P	07 06 39.0	-1.0
	comp=Z,28nm,0.6s							
WVT	**Waverly**	52.68	79	*e*P		P	07 06 41.6	-0.8
	comp=Z,19nm,0.4s							
SONM	**Songino Array**	52.84	302	P		P	07 06 44.9	+1.2
SONM					pP	pP	07 07 24.7	+3.5
SONM					PcP	PcP	07 07 50.9	+0.3
SONM					ScP	ScP	07 11 32.0	0.0
SONM	**Songino Array**	52.84	302	P		P	07 06 44.9	+1.2
	comp=Z,2.0nm,0.7s,baz=46,slow=8.5,SNR=8.5							
SONM					pP	pP	07 07 24.7	+3.5
	comp=Z,4.1nm,0.9s,baz=47,slow=8.6,SNR=6.7							
SONM					PcP	PcP	07 07 50.9	+0.3
	comp=Z,1.9nm,0.3s,baz=99,slow=2.2,SNR=10							
SONM					ScP	ScP	07 11 32.0	0.0
	comp=Z,1.8nm,0.8s,baz=49,slow=4.8,SNR=5.6							
OXF	**Oxford**	52.99	82	*e*P		P	07 06 44.1	-0.7
	comp=Z,82nm,0.4s							
PLAL	**Pickwick Lake**	53.38	80	*e*P		P	07 06 50.5	+2.9
	comp=Z,15nm,0.7s							
LONY	**Lake Ozonia**	53.54	63	*e*P		P	07 06 48.0	-0.7
	comp=Z,11nm,1.1s							
FRNY	**Flat Rock**	53.88	62	*e*P		P	07 06 49.8	-1.4
	comp=Z,17nm,1.2s							
KEV	**Kevo**	54.32	356	*ep*		P	07 06 54.0	+0.1
	comp=Z,2.8nm,0.5s							
SWET	**Sewanee**	54.39	78	*e*P		P	07 06 53.5	-1.6
	comp=Z,12nm,0.7s							
BINY	**Binghamton**	54.58	66	*e*P		P	07 06 56.2	-0.1
	comp=Z,25nm,1.1s							
ARCES	**ARCESS Array B**	54.60	357	P		P	07 06 57.1	+1.1
ARCES					PcP	PcP	07 07 56.5	-0.3
ARCES	**ARCESS Array B**	54.60	357	P		P	07 06 57.1	+1.1
	comp=Z,6.0nm,1.1s,baz=21,slow=6.3,SNR=8.3							
ARCES					PcP	PcP	07 07 56.5	-0.3
	comp=Z,1.9nm,0.6s,baz=18,slow=4.3,SNR=4.4							
TZTN	**Tazewell**	54.72	75	P		P	07 07 00.4	+3.0
	comp=Z,21nm,0.9s							
SSPA	**Standing Stone**	54.73	68	*e*P		P	07 06 57.0	-0.3
	comp=Z,6.8nm,0.6s							
CPCT	**Cooper Cave**	54.99	77	*e*P		P	07 06 57.8	-1.5
HHC	**Hu-ho-hao-te**	55.31	293	*e*P		P	07 07 00.6	-1.0
HHC					pP	pP	07 07 38.1	-1.4
HHC					sP	sP	07 07 55.5	-2.1
HHC					PP	PP	07 09 07.0	+0.3
HHC					ScP	ScP	07 11 40.8	-2.1
HHC					S	S	07 14 28.4	-4.1
HHC					sS	sS	07 15 33.8	-4.4
HHC					SS	SS	07 18 16.6	-2.1
HHC					pmax	pmax		
	comp=Z,42nm,0.8s							
LRAL	**Lakeview Retre**	55.43	81	*e*P		P	07 07 00.7	-1.7
	comp=Z,6.6nm,0.6s							
ELN	**Prospectdale**	55.72	73	*e*P		P	07 07 03.2	-1.3
BLA	**Blacksburg**	55.91	73	*e*P		P	07 07 05.3	-0.6
	comp=Z,34nm,0.9s							
WES	**Weston**	56.79	62	*e*P		P	07 07 11.5	-0.5
JSRW	**J. Sargeant Re**	56.91	70	*e*P		P	07 07 12.1	-0.7
KMSC	**Kings Mountain**	56.96	75	⇓P		P	07 07 12.8	-0.5
	baz=57							
ZALV	**Zalesovo Beam**	57.35	320	P		P	07 07 16.7	+1.0
ZALV	**Zalesovo Beam**	57.35	320	P		P	07 07 16.7	+1.0
	comp=Z,1.3nm,0.2s,baz=22,slow=6.8,SNR=8.8							
JOF	**Joensuu**	60.90	353	*ep*		P	07 07 39.1	-0.8
	comp=Z,5.2nm,0.6s							
KAF	**Kangasniemi**	61.99	355	*ep*		P	07 07 47.1	-0.1
	comp=Z,7.5nm,0.5s							
KURK	**Kurchatov**	62.20	321	P		P	07 07 50.8	+2.0
KURK					pP	pP	07 08 31.6	+4.1
GTA	**Gaotai**	62.30	300	*e*P		P	07 07 50.9	+1.0
GTA					pP	pP	07 08 28.8	+0.2
GTA					sP	sP	07 08 46.8	+0.3
GTA					S	S	07 16 04.3	+1.6
GTA					sS	sS	07 17 10.6	+0.8
GTA					pmax	pmax		
	comp=Z,3.0nm,1.1s							
GTA					pmax	pmax		
	comp=Z,55nm,5.7s							
GTA					LR	LR		
	comp=N,330nm,19.5s							
GTA					LR	LR		
	comp=E,420nm,18.5s							
GTA					LR	LR		
	comp=Z,98nm,18.8s							
KURBB	**Kurchatov Arra**	62.31	321	P		P	07 07 50.8	+1.2
	comp=Z,0.8nm,0.4s,baz=21,slow=6.7,SNR=7.9							
KURBB					pP	pP	07 08 31.6	+3.4
	comp=Z,4.4nm,0.9s,baz=26,slow=7.3,SNR=7.9							
FINES	**FINESS Array B**	62.67	355	P		P	07 07 52.2	+0.5
FINES	**FINESS Array B**	62.67	355	P		P	07 07 52.2	+0.5
	comp=Z,5.6nm,0.5s,baz=13,slow=7.7,SNR=35							
LZH	**Lanzhou**	62.87	295	*e*P		P	07 07 52.5	-1.2
LZH					pP	PcP	07 08 30.6	+0.1
LZH					sP	sP	07 08 48.0	-2.4
LZH					PP	PP	07 10 14.3	+0.7
LZH					pmax	pmax		
	comp=Z,21nm,1.4s							
LZH					pmax	pmax		
	comp=Z,76nm,7.5s							
BVAR	**Borovoye Array**	62.94	327	P		P	07 07 54.9	+1.2
BVAR					pP	pP	07 08 36.0	+3.5
BVAR	**Borovoye Array**	62.94	327	P		P	07 07 54.9	+1.2
	comp=Z,5.4nm,0.7s,baz=44,slow=6.7,SNR=24							
BVAR					pP	pP	07 08 36.0	+3.5
	comp=Z,5.4nm,0.8s,baz=46,slow=6.6,SNR=7.1							
ARU	**Arti**	63.06	336	*e*P		P	07 07 54.0	-0.5
	comp=Z,2.7nm,0.4s							
NB2	**NORSAR Subarra**	63.16	3	P		P	07 07 55.7	+0.6
	comp=Z,0.3nm,0.7s,baz=0.2,slow=6.5							
NOA	**NORSAR Array B**	63.16	3	P		P	07 07 56.0	+1.0
NOA	**NORSAR Array B**	63.16	3	P		P	07 07 56.0	+1.0
	comp=Z,3.2nm,0.8s,baz=356,slow=6.8,SNR=8.9							
MK31	**Makanchi Array**	64.09	316	*e*P		P	07 08 01.4	-0.1
MKAR	**Makanchi Array**	64.09	316	P		P	07 08 01.6	+0.1
MKAR				pP		pP	07 08 43.3	+3.0
MKAR				PP		PP	07 10 22.9	-1.0
MKAR	**Makanchi Array**	64.09	316	P		P	07 08 01.6	+0.1
	comp=Z,0.8nm,0.5s,baz=44,slow=6.1,SNR=27							
MKAR				pP		pP	07 08 43.3	+3.0
	comp=Z,1.6nm,0.8s,baz=51,slow=6.4,SNR=4.8							
MKAR				PP		PP	07 10 22.9	-1.0
	comp=Z,0.6nm,0.6s,baz=57,slow=8.8,SNR=3.6							
HFS	**Hagfors**	64.13	2	P		P	07 08 01.2	-0.2
HFS	**Hagfors**	64.13	2	P		P	07 08 01.2	-0.2
	comp=Z,10nm,0.7s,baz=27,slow=4.0,SNR=38							
WMQ	**Urumqi**	64.33	311	*e*P		P	07 08 03.8	+0.7
WMQ				LR		LR		
	comp=Z,230nm,27.6s							
AKTO	**Aktyubinsk**	68.70	334	P		P	07 08 31.6	+1.0
AKTO				pP		pP	07 09 13.1	+3.1
AKTO	**Aktyubinsk**	68.70	334	P		P	07 08 31.6	+1.0
	comp=Z,1.5nm,0.3s,baz=45,slow=4.8,SNR=11							
AKTO				pP		pP	07 09 13.1	+3.1
	comp=Z,3.3nm,0.8s,baz=2.3,slow=5.0,SNR=3.8							
GYA	**Guiyang**	68.96	286	P		P	07 08 32.8	+0.1
GYA				pP		pP	07 09 12.0	-0.1
GYA				sP		sP	07 09 30.3	+0.4
GYA				PP		PP	07 11 07.4	+0.6
GYA				ScP			07 12 42.3	
GYA				S		S	07 17 20.8	-3.0
GYA				SKS		SKSac	07 18 12.0	-4.5
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,110nm,5.0s							
ABKAR	**Akbulak array**	69.28	332	*e*P		P	07 08 34.9	+0.7
	comp=Z,2.8nm,0.3s							
AAK	**Ala-Archa**	70.57	319	P		P	07 08 42.9	+0.5
AAK				pP		pP	07 09 25.7	+3.8
AAK	**Ala-Archa**	70.57	319	P		P	07 08 42.9	+0.5
	comp=Z,1.5nm,0.4s,baz=59,slow=3.1,SNR=6.9							
AAK				pP		pP	07 09 25.7	+3.8
	comp=Z,6.8nm,1.1s,baz=101,slow=4.5,SNR=6.0							
KMI	**Kunming**	72.13	288	P		P	07 08 53.8	+1.8
KMI				pmax		pmax		
	comp=Z,11nm,1.2s							
KSH	**Kashi**	72.71	316	P		P	07 08 58.9	+3.8
KSH				PcP		PcP	07 09 14.3	+2.7
KSH				pP		pP	07 09 37.9	+3.0
KSH				sP		sP	07 09 54.8	+2.2
KSH				PP		PP	07 11 44.9	+6.5
KSH				S		SKiKP	07 18 09.8	-1.6
KSH				SKS		SKSac	07 18 43.6	-0.9
KSH				ScS		ScS	07 18 46.5	-0.4
KSH				sS		sS	07 19 18.1	+2.3
KSH				SS		SS	07 22 54.8	+6.2
KSH				pmax		pmax		
	comp=Z,7.0nm,1.1s							
KSH				pmax		pmax		
	comp=Z,120nm,4.7s							
KSH				LR		LR		
	comp=N,130nm,5.1s							
KSH				LR		LR		
	comp=E,100nm,4.8s							
KSH				LR		LR		
	comp=Z,220nm,5.8s							
CLL	**Collm**	72.95	3	*e*P		P	07 08 59.0	+2.8
CLL				*e*PP		PP	07 11 37.0	-3.0
AKASG	**Malin Array Be**	73.19	352	P		P	07 08 57.5	0.0
AKASG	**Malin Array Be**	73.19	352	P		P	07 08 57.5	0.0
	comp=Z,4.0nm,0.4s,baz=9.5,slow=5.9,SNR=13							
GERES	**GERESS Array B**	75.44	3	P		P	07 09 11.4	+0.7
GERES	**GERESS Array B**	75.44	3	P		P	07 09 11.4	+0.7
	comp=Z,0.5nm,0.6s,baz=1.7,slow=4.5,SNR=7.9							
BUR08	**Bucovina Ar. S**	76.49	355	*e*P		P	07 09 17.4	+0.7
KBZ	**Khabaz**	78.32	342	P		P	07 09 28.8	+2.1
KBZ	**Khabaz**	78.32	342	P		P	07 09 28.8	+2.1
	comp=Z,4.5nm,1.0s,baz=263,slow=1.8,SNR=6.7							
CMAR	**Chiang Mai Arr**	79.58	287	P		P	07 09 34.3	+0.2
CMAR				pP		pP	07 10 16.8	+2.2
CMAR	**Chiang Mai Arr**	79.58	287	P		P	07 09 34.3	+0.2
	comp=Z,6.4nm,0.7s,baz=15,slow=6.1,SNR=20							
CMAR				pP		pP	07 10 16.8	+2.2
	comp=Z,2.0nm,0.8s,baz=10,slow=5.5,SNR=1.7							
ESDC	**Sonseca Array**	82.92	17	P		P	07 09 52.1	+0.7
ESDC	**Sonseca Array**	82.92	17	P		P	07 09 52.1	+0.7
	comp=Z,1.4nm,0.5s,baz=342,slow=5.0,SNR=6.9							
BRTR	**Keskin Array B**	83.63	348	P		P	07 09 55.2	0.0
BRTR	**Keskin Array B**	83.63	348	P		P	07 09 55.2	0.0
	comp=Z,0.8nm,0.6s,baz=9.2,slow=4.5,SNR=4.9							
SDV	**Santo Domingo**	83.72	84	*e*P		P	07 09 55.2	-0.8
	comp=Z,8.3nm,0.8s							
KAPI	**Kappang**	87.34	257	P		P	07 10 12.8	-0.8
KAPI	**Kappang**	87.34	257	P		P	07 10 12.8	-0.8
	comp=Z,3.8nm,0.4s,baz=

s-min=8.3km az=162.1
*NEIC **18** 07:04:10.2±0.4,3.72N×126.56E,h35km,mb4.5/2,Error ellipse: s-maj=12.7km s-min=6.8km az=73.0*
ISC 18 07:04:12.1±0.7,**3.74N**±0.08×**126.5E**±0.1,**h53**km,**n33**, σ1.8**17**/29,**mb4.0**/12,**MS3.5**/5,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.42**	**345**	*e*Pn	**Pn**	**07 05 00.9**	**-2.1**
KKM	**Kota Kinabalu**	**10.45**	**283**	*e*Pn	**Pn**	**07 06 38.8**	**-0.7**
KAPI	**Kappang**	**10.97**	**218**	*e*Pn	**Pn**	**07 06 45.7**	**-0.8**
FITZ	**Fitzroy Crossi**	**21.72**	**182**	P	**P**	**07 08 59.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**21.72**	**182**	P	**P**	**07 08 59.4**	**+0.4**
	2.0nm,0.4s,baz=35,slow=8.6,SNR=6.7						
WRAB	**Tennant Creek**	**24.77**	**162**	*e*P	**P**	**07 09 28.3**	**-0.9**
	30nm,1.0s						
WRA	**Warramunga Arr**	**24.78**	**162**	P	**P**	**07 09 26.4**	**-2.8**
WRA	**Warramunga Arr**	**24.78**	**162**	P	**P**	**07 09 26.4**	**-2.8**
	18nm,0.8s,baz=344,slow=11,SNR=58						
CBIJ	**Chichi jima**	**27.67**	**31**	LR	LR	07 21 21.3	
	comp=Z,111nm,18.1s,baz=352,slow=38						
AS31	**Alice Springs**	**28.19**	**165**	P	**P**	**07 09 59.3**	**-0.6**
ASAR	**Alice Springs**	**28.19**	**165**	P	**P**	**07 09 59.5**	**-0.5**
ASAR	**Alice Springs**	**28.19**	**165**	P	**P**	**07 09 59.5**	**-0.5**
	0.7nm,0.7s,baz=352,slow=7.8,SNR=5.6						
CMAR	**Chiang Mai Arr**	**30.63**	**301**	LR	LR	07 24 29.4	
	comp=Z,26nm,18.2s,baz=155,slow=40						
MJAR	**Matsushiro Arr**	**34.39**	**17**	LR	LR	07 24 28.8	
	comp=Z,60nm,20.5s,baz=205,slow=36						
STKA	**Stephens Creek**	**38.24**	**159**	*e*P	**P**	**07 11 26.6**	**-0.6**
	2.2nm,0.7s						
STKA	**Stephens Creek**	**38.24**	**159**	P	**P**	**07 11 27.0**	**-0.2**
	11nm,0.6s,baz=350,slow=15,SNR=3.3						
SONM	**Songino Array**	**47.20**	**342**	P	**P**	**07 12 40.9**	**+1.1**
SONM	**Songino Array**	**47.20**	**342**	P	**P**	**07 12 40.9**	**+1.1**
	0.3nm,0.5s,baz=154,slow=9.1,SNR=2.6						
MKAR	**Makanchi Array**	**57.39**	**325**	P	**P**	**07 13 55.6**	**+0.4**
MKAR	**Makanchi Array**	**57.39**	**325**	P	**P**	**07 13 55.6**	**+0.4**
	0.6nm,0.5s,baz=121,slow=8.8,SNR=5.6						
MKAR				LR	LR	07 39 32.4	
	comp=Z,74nm,19.1s,baz=4.6,slow=37						
ZALV	**Zalesovo Beam**	**60.45**	**333**	P	**P**	**07 14 16.8**	**+0.5**
ZALV	**Zalesovo Beam**	**60.45**	**333**	P	**P**	**07 14 16.7**	**+0.5**
	0.4nm,0.3s,baz=107,slow=9.2,SNR=2.7						
KURBB	**Kurchatov Arra**	**61.58**	**327**	P	**P**	**07 14 23.9**	**-0.1**
	2.7nm,0.8s,baz=124,slow=6.4,SNR=15						
KURK	**Kurchatov**	**61.58**	**328**	P	**P**	**07 14 23.9**	**-0.1**
BVAR	**Borovoye Array**	**67.16**	**327**	P	**P**	**07 15 01.4**	**+1.0**
BVAR	**Borovoye Array**	**67.16**	**327**	P	**P**	**07 15 01.4**	**+1.0**
	1.3nm,0.8s,baz=131,slow=10,SNR=4.5						
AKTO	**Aktyubinsk**	**73.48**	**322**	P	**P**	**07 15 40.9**	**+1.8**
AKTO	**Aktyubinsk**	**73.48**	**322**	P	**P**	**07 15 40.9**	**+1.8**
	1.2nm,0.6s,baz=76,slow=6.5,SNR=5.4						
XMAS	**Kiritimati**	**76.01**	**89**	P	**P**	**07 15 54.5**	**0.0**
ILAR	**Eielson Array**	**85.21**	**25**	P	**P**	**07 16 42.8**	**+0.1**
ILAR	**Eielson Array**	**85.21**	**25**	P	**P**	**07 16 42.8**	**+0.1**
	0.7nm,1.1s,baz=226,slow=4.9,SNR=3.7						
NOA	**NORSAR Array B**	**98.65**	**334**	LR	LR	08 04 59.6	
	comp=Z,51nm,19.3s,baz=0.0,slow=37						
QUA2	**Belchertown**	**131.12**	**19**	*e*PKPdf	**PKPdf**	**07 23 18.3**	**-0.2**

*ISCJB **18** 07:10:56.4±0.5,38.95N±0.02×22.04E±0.05,h8km±5km, Error ellipse: s-maj=6.8km s-min=3.4km az=170.7*
*ATH **18** 07:10:56.7,38.95N×22.02E,h6km,MD3.2/5*
*CSEM **18** 07:10:56.2±0.1,38.97N×22.03E,h8km,ML1.9/5,Error ellipse: s-maj=4.0km s-min=1.9km az=83.0*
*THE **18** 07:10:57.0,38.95N×22.00E,h4km±8km,ML1.9/5,Error ellipse: s-maj=8.3km s-min=0.3km az=258.0*
ISC 18 07:10:56.0±1.0,**38.95N**±0.02×**22.03E**±0.04,**h11**km±8km, **n29**, σ0.9**28**/48,**Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.17**	**259**	P	**Pg**	**07 11 00.1**	**+0.2**
EVR				S	**Sg**	**07 11 02.2**	**-0.4**
EVR	**Evrytania**	**0.17**	**259**	*e*PG	**Pg**	**07 11 00.1**	**+0.2**
EVR				*e*SG	**Sg**	**07 11 02.7**	**+0.1**
EVR	**Evrytania**	**0.17**	**259**	P	**Pg**	**07 11 00.1**	**+0.2**
EVR				S	**Sg**	**07 11 02.2**	**-0.4**
EVR				*e*Sg	Sg	07 11 02.7	0.0
EFP	**Efpalio**	**0.53**	**190**	P	**Pb**	**07 11 07.0**	**-0.3**
EFP				S	**Sb**	**07 11 14.6**	**-0.3**
EFP	**Efpalio**	**0.53**	**190**	*e*PG	**Pg**	**07 11 06.7**	**+0.4**
EFP				*e*SB	**Sb**	**07 11 14.7**	**-0.2**
EFP	**Efpalio**	**0.53**	**190**	*e*Pg	**Pg**	**07 11 06.7**	**+0.4**
EFP	**Efpalio**	**0.53**	**190**	P	**Pb**	**07 11 07.0**	**-0.3**
EFP				S	**Sb**	**07 11 14.6**	**-0.3**
KALE	**Kalithea**	**0.56**	**171**	P	**Pb**	**07 11 07.7**	**-0.2**
KALE				S	**Sb**	**07 11 16.0**	**0.0**
KALE	**Kalithea**	**0.56**	**171**	P	**Pb**	**07 11 07.7**	**-0.2**
KALE				S	**Sb**	**07 11 16.0**	**0.0**
TRIZ	**Trizonia**	**0.58**	**176**	P	**Pg**	**07 11 07.7**	**+0.4**
TRIZ				S	**Sb**	**07 11 16.9**	**+0.4**
TRIZ	**Trizonia**	**0.58**	**176**	P	**Pg**	**07 11 07.7**	**+0.4**
TRIZ				S	**Sb**	**07 11 16.9**	**+0.4**
THL	**Klokotos Trika**	**0.61**	**359**	P	**Pb**	**07 11 08.7**	**-0.1**
THL				S	**Sb**	**07 11 18.0**	**+0.5**
THL	**Klokotos Trika**	**0.61**	**359**	*e*PB	**Pb**	**07 11 08.4**	**-0.4**
THL				*e*SB	**Sb**	**07 11 17.9**	**+0.5**
THL	**Klokotos Trika**	**0.61**	**359**	*e*Pb	**Pb**	**07 11 08.4**	**-0.4**
THL	**Klokotos Trika**	**0.61**	**359**	P	**Pb**	**07 11 08.7**	**-0.1**
THL				*e*Sb	**Sb**	**07 11 17.9**	**+0.5**
DSF	**Desfina**	**0.67**	**144**	P	**Pb**	**07 11 09.5**	**-0.1**
DSF				S	**Sb**	**07 11 19.1**	**+0.2**
DSF	**Desfina**	**0.67**	**144**	P	**Pb**	**07 11 09.5**	**-0.1**
DSF				S	**Sb**	**07 11 19.1**	**+0.2**
LAKA	**Lakka**	**0.71**	**183**	P	**Pb**	**07 11 10.2**	**-0.2**
LAKA				S	**Sb**	**07 11 20.2**	**+0.1**
LAKA	**Lakka**	**0.71**	**183**	P	**Pb**	**07 11 10.2**	**-0.2**
LAKA				S	**Sb**	**07 11 20.2**	**+0.1**
LKR	**Lokris**	**0.82**	**111**	*e*PB	**Pb**	**07 11 12.2**	**0.0**
LKR	**Lokris**	**0.82**	**111**	*e*Pb	**Pb**	**07 11 12.3**	**0.0**
RLS	**Riolos of Patr**	**0.99**	**206**	P	**Pb**	**07 11 15.5**	**+0.3**
RLS	**Riolos of Patr**	**0.99**	**206**	P	**Pb**	**07 11 15.5**	**+0.3**
MEV	**Metsovon**	**1.04**	**324**	P	**Pb**	**07 11 16.0**	**-0.1**
MEV				S	**Sn**	**07 11 31.1**	**-0.2**
MEV	**Metsovon**	**1.04**	**324**	P	**Pb**	**07 11 16.0**	**-0.1**
MEV				S	**Sn**	**07 11 31.1**	**-0.2**
GUR	**Goura**	**1.04**	**166**	*e*PG	**Pg**	**07 11 16.0**	**0.0**
GUR	**Goura**	**1.04**	**166**	*e*Pg	**Pg**	**07 11 16.0**	**0.0**
LIT	**Litokhoron**	**1.21**	**17**	*e*PG	**Pg**	**07 11 19.2**	**0.0**
LIT	**Litokhoron**	**1.21**	**17**	*e*Pg	**Pg**	**07 11 19.2**	**0.0**

*ISCJB **18** 07:13:14.9±0.5,39.12N±0.05×29.01E±0.04,h10km±7km, Error ellipse: s-maj=8.6km s-min=4.4km az=151.9*
*ISK **18** 07:13:14.1,39.13N×28.97E,h8km,MD2.6*
*CSEM **18** 07:13:14.9±0.1,39.12N×28.99E,h10km,MD2.6,Error ellipse: s-maj=3.6km s-min=2.3km az=137.0*
*DDA **18** 07:13:15.0,39.10N×29.04E,h7km,MD2.9*
ISC 18 07:13:15.2±1.0,**39.13N**±0.03×**29.01E**±0.03,**h10**km±10km, **n20**, σ0.9**43**/30,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**250**	*i* P	**Pg**	**07 13 20.4**	**+0.1**
DEMI				*i* S	**Sg**	**07 13 24.0**	**+0.3**
DEMI	**Demirci**	**0.25**	**250**	*i* P	**Pg**	**07 13 20.4**	**+0.1**
DEMI				*i* S	**Sg**	**07 13 24.0**	**+0.3**
GDZ	**Gediz**	**0.37**	**96**	*i* P	**Pg**	**07 13 22.2**	**-0.3**
GDZ				*i* S	**Sg**	**07 13 27.2**	**-0.2**
GDZ	**Gediz**	**0.37**	**96**	*i* P	**Pg**	**07 13 22.2**	**-0.3**
GDZ				*i* S	**Sg**	**07 13 27.2**	**-0.2**
TVSB	**Tavsanli**	**0.47**	**47**	*e*PG	**Pg**	**07 13 24.2**	**-0.3**
TVSB				*e*SG	**Sg**	**07 13 30.6**	**-0.2**
TVSB	**Tavsanli**	**0.47**	**47**	*e*Pg	**Pg**	**07 13 24.3**	**-0.3**
TVSB				*e*Sg	**Sg**	**07 13 30.6**	**-0.2**
KULA	**Kula-Manisa**	**0.67**	**204**	*e*PG	**Pg**	**07 13 27.6**	**-0.6**
KULA				*e*SG	**Sg**	**07 13 36.4**	**-0.6**
KULA	**Kula-Manisa**	**0.67**	**204**	*e*Pg	**Pg**	**07 13 27.6**	**-0.6**
KULA				*e*Sg	**Sg**	**07 13 36.4**	**-0.6**
MANT	**Manisa**	**0.73**	**209**	*i* P	**Pg**	**07 13 28.9**	**-0.4**
MANT	**Manisa**	**0.73**	**209**	*i* P	**Pg**	**07 13 28.9**	**-0.4**
ALT	**Altintas**	**0.86**	**94**	*e*PG	**Pg**	**07 13 32.6**	**+0.3**
ALT				*e*SG	**Sb**	**07 13 44.7**	**+0.8**
ALT	**Altintas**	**0.86**	**94**	*e*Pg	**Pb**	**07 13 32.6**	**+0.3**
ALT				*e*Sg	**Sb**	**07 13 44.7**	**+0.8**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*PN	**Pg**	**07 13 38.6**	**-0.5**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*Pn	**Pg**	**07 13 38.6**	**-0.5**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*Pn	**Pn**	**07 13 38.6**	**-0.2**
CAVI	**Cavuskoy**	**1.25**	**31**	*e*Pn	**Pn**	**07 13 38.6**	**-0.2**
YLV	**Yalova**	**1.47**	**11**	*e*PN	**Pn**	**07 13 41.5**	**-0.3**
YLV	**Yalova**	**1.47**	**11**	*e*Pn	**Pn**	**07 13 41.5**	**-0.3**
GULT	**Gulveren**	**1.74**	**41**	*e*PN	**Pn**	**07 13 45.7**	**0.0**
GULT	**Gulveren**	**1.74**	**41**	*e*Pn	**Pn**	**07 13 45.7**	**0.0**

IDC 18 07:19:16.1±2.8,**16.75S**×**68.33W**,**h209**km±6km,**mb3.2**/2, **mb1 3.3**/4,**mb1mx3.1**/18,**mbtmp3.2**/4,**Error ellipse: s-maj=97.7km s-min=22.2km az=17.0,Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**0.49**	**22**	P	Pn	07 19 45.3	+0.2
	1.9nm,0.3s,baz=192,slow=6.5,SNR=65						
LPAZ				S	S	07 20 08.7	+1.0
	1.2nm,0.3s,baz=236,slow=19,SNR=9.2						
SIV	**San Ignacio**	**7.00**	**85**	P	Pn	07 20 54.6	-2.0
	0.6nm,0.3s,baz=271,slow=13,SNR=13						
BDFB	**Brasilia**	**19.54**	**90**	P	P	07 23 29.5	+1.3
	0.8nm,0.3s,baz=258,slow=9.6,SNR=11						
TORD	**Torodi Ar. Bea**	**75.28**	**71**	P	P	07 30 35.9	-0.8
	0.2nm,0.4s,baz=255,slow=5.3,SNR=6.5						
YKA	**Yellowknife Ar**	**86.92**	**340**	P	P	07 31 37.2	+0.4
	0.4nm,0.5s,baz=134,slow=4.8,SNR=14						

*ISCJB **18** 07:37:22.1±0.9,36.15N±0.04×21.61E±0.05,h16km±6km, Error ellipse: s-maj=8.0km s-min=5.3km az=149.9*
*ATH **18** 07:37:22.6,36.16N×21.64E,h33km±1km,MD3.7/10*
*CSEM **18** 07:37:22.6±0.3,36.19N×21.69E,h10km,ML3.5/4,Error ellipse: s-maj=7.9km s-min=3.9km az=56.0*
*THE **18** 07:37:24.1,36.21N×21.78E,h10km±1km,ML3.5/4,Error ellipse: s-maj=1.9km s-min=1.0km az=250.0*
ISC 18 07:37:22.7±1.7,**36.17N**±0.05×**21.68E**±0.05,**h11**km±10km, **n80**, σ0.9**59**/106,**Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.72**	**4**	P	**Pg**	**07 37 36.6**	**-0.1**
PYL				S	**Sb**	**07 37 47.3**	**+0.1**
PYL	**PYLOS**	**0.72**	**4**	*e*PN	**Pb**	**07 37 37.1**	**-0.2**
PYL				*e*SN	**Sb**	**07 37 48.1**	**+0.9**
PYL	**PYLOS**	**0.72**	**4**	P	**Pg**	**07 37 36.6**	**-0.1**
PYL	**PYLOS**	**0.72**	**4**	*e*Pn	**Pb**	**07 37 37.1**	**-0.2**
PYL				S	**Sb**	**07 37 47.3**	**+0.1**
PYL				*e*Sn	**Sb**	**07 37 48.1**	**+0.9**
ITM	**Ithomi**	**1.02**	**11**	P	**Pg**	**07 37 41.9**	**-0.5**
ITM				S	**Sb**	**07 37 56.4**	**+0.5**
ITM	**Ithomi**	**1.02**	**11**	*e*PN	**Pg**	**07 37 42.1**	**-0.3**
ITM				*e*SN	**Sn**	**07 37 56.8**	**-0.6**
ITM	**Ithomi**	**1.02**	**11**	P	**Pg**	**07 37 41.9**	**-0.5**
ITM				S	**Sb**	**07 37 56.4**	**+0.5**
ITM				*e*Sn	**Sn**	**07 37 56.8**	**-0.6**
KYTH	**Kithira**	**1.10**	**84**	P	**Pg**	**07 37 44.0**	**+0.1**
KYTH	**Kithira**	**1.10**	**84**	*e*PN	**Pn**	**07 37 44.3**	**+0.2**
KYTH	**Kithira**	**1.10**	**84**	P	**Pg**	**07 37 44.0**	**+0.1**
KYTH	**Kithira**	**1.10**	**84**	*e*Pn	**Pn**	**07 37 44.3**	**+0.2**
VLI	**Veliai**	**1.15**	**61**	P	**Pb**	**07 37 44.4**	**-0.2**
VLI				S	**Sg**	**07 37 59.9**	**+0.1**
VLI	**Veliai**	**1.15**	**61**	*e*PN	**Pb**	**07 37 44.7**	**+0.1**
VLI				*e*SN	**Sn**	**07 38 00.9**	**+0.4**
VLI	**Veliai**	**1.15**	**61**	P	**Pb**	**07 37 44.4**	**-0.2**
VLI	**Veliai**	**1.15**	**61**	*e*Pn	**Pb**	**07 37 44.7**	**+0.1**
VLI				S	**Sg**	**07 37 59.9**	**+0.1**
VLI				*e*Sn	**Sn**	**07 38 00.9**	**+0.4**
VLX	**Vlachokerasia**	**1.32**	**25**	P	**Pn**	**07 37 46.6**	**-0.5**
VLX				S	**Sb**	**07 38 03.9**	**-0.6**
VLX	**Vlachokerasia**	**1.32**	**25**	*e*PN	**Pb**	**07 37 47.5**	**0.0**
VLX				*e*SN	**Sb**	**07 38 04.4**	**-0.1**
VLX	**Vlachokerasia**	**1.32**	**25**	P	**Pn**	**07 37 46.6**	**-0.5**
VLX	**Vlachokerasia**	**1.32**	**25**	*e*Pn	**Pb**	**07 37 47.5**	**0.0**
VLX				S	**Sb**	**07 38 03.9**	**-0.6**
VLX				*e*Sn	**Sb**	**07 38 04.4**	**-0.1**
DID	**Didima**	**1.83**	**43**	P	**Pn**	**07 37 53.4**	**-0.6**
DID				S	**Sn**	**07 38 16.1**	**-1.1**
DID	**Didima**	**1.83**	**43**	*e*PN	**Pn**	**07 37 53.9**	**-0.1**
DID				*e*SN	**Sn**	**07 38 17.2**	**+0.1**
DID	**Didima**	**1.83**	**43**	P	**Pn**	**07 37 53.4**	**-0.6**
DID	**Didima**	**1.83**	**43**	*e*Pn	**Pn**	**07 37 53.9**	**-0.1**
DID				S	**Sn**	**07 38 16.1**	**-1.1**
DID				*e*Sn	**Sn**	**07 38 17.3**	**+0.1**
GUR	**Goura**	**1.84**	**17**	P	**Pn**	**07 37 53.5**	**-0.8**
GUR				S	**Sn**	**07 38 17.9**	**+0.3**
GUR	**Goura**	**1.84**	**17**	*e*PB	**Pn**	**07 37 54.5**	**+0.2**
GUR	**Goura**	**1.84**	**17**	P	**Pn**	**07 37 53.5**	**-0.8**
GUR	**Goura**	**1.84**	**17**	*e*Pb	**Pn**	**07 37 54.5**	**+0.2**
GUR				S	**Sn**	**07 38 17.9**	**+0.3**
RLS	**Riolos of Patr**	**1.89**	**355**	P	**Pn**	**07 37 55.3**	**-0.3**
RLS	**Riolos of Patr**	**1.89**	**355**	*e*PB	**Pn**	**07 37 55.5**	**+0.3**
RLS				*e*SN	**Sn**	**07 38 17.8**	**-0.8**
RLS	**Riolos of Patr**	**1.89**	**355**	*e*Pb	**Pn**	**07 37 55.1**	**+0.3**
RLS				*e*Sn	**Sn**	**07 38 17.8**	**-0.8**
KARN	**Karanos**	**1.98**	**112**	P	**Pn**	**07 37 55.8**	**-0.3**
KARN	**Karanos**	**1.98**	**112**	*e*PN	**Pn**	**07 37 56.3**	**+0.2**
KARN	**Karanos**	**1.98**	**112**	P	**Pn**	**07 37 55.8**	**-0.3**
KARN	**Karanos**	**1.98**	**112**	*e*Pn	**Pn**	**07 37 56.3**	**+0.2**
LAKA	**Lakka**	**2.08**	**7**	P	**Pn**	**07 37 58.3**	**+0.8**
LAKA	**Lakka**	**2.08**	**7**	P	**Pn**	**07 37 58.3**	**+0.8**
LTK	**Loutraki**	**2.11**	**29**	P	**Pn**	**07 37 58.2**	**+0.2**
LTK	**Loutraki**	**2.11**	**29**	*e*PB	**Pn**	**07 37 59.0**	**+1.0**
LTK				*e*SN	**Sn**	**07 38 24.4**	**+0.1**
LTK	**Loutraki**	**2.11**	**29**	P	**Pn**	**07 37 58.2**	**+0.2**
LTK	**Loutraki**	**2.11**	**29**	*e*Pb	**Pn**	**07 37 59.0**	**+1.0**
LTK				*e*Sn	**Sn**	**07 38 24.4**	**+0.1**
NAIG	**Nisos Aigina**	**2.15**	**42**	*e*PN	**Pn**	**07 37 58.9**	**+0.5**
NAIG	**Nisos Aigina**	**2.15**	**42**	*e*Pn	**Pn**	**07 37 58.9**	**+0.5**
VLS	**Valsamata**	**2.18**	**337**	*e*PN	**Pn**	**07 37 58.9**	**0.0**
VLS	**Valsamata**	**2.18**	**337**	*e*Pn	**Pn**	**07 37 58.9**	**0.0**
VAM	**Vamos**	**2.19**	**110**	*e*PN	**Pn**	**07 37 59.0**	**0.0**
VAM	**Vamos**	**2.19**	**110**	*e*Pn	**Pn**	**07 37 59.0**	**0.0**
TRIZ	**Trizonia**	**2.21**	**8**	P	**Pn**	**07 38 00.3**	**+1.0**
TRIZ	**Trizonia**	**2.21**	**8**	P	**Pn**	**07 38 00.3**	**+1.0**
KALE	**Kalithea**	**2.24**	**9**	P	**Pn**	**07 38 00.0**	**+0.2**
KALE	**Kalithea**	**2.24**	**9**	P	**Pn**	**07 38 00.0**	**+0.2**
EFP	**Efpalio**	**2.26**	**5**	P	**Pn**	**07 38 00.7**	**+0.8**
EFP	**Efpalio**	**2.26**	**5**	*e*PB	**Pn**	**07 38 01.0**	**+1.1**
EFP	**Efpalio**	**2.26**	**5**	P	**Pn**	**07 38 00.7**	**+0.8**
EFP	**Efpalio**	**2.26**	**5**	*e*Pb	**Pn**	**07 38 01.0**	**+1.1**
DSF	**Desfina**	**2.33**	**17**	P	**Pn**	**07 38 00.9**	**-0.1**
DSF	**Desfina**	**2.33**	**17**	P	**Pn**	**07 38 00.9**	**-0.1**
GVD	**Gavdhos**	**2.37**	**123**	P	**Pn**	**07 38 02.0**	**+0.5**
GVD	**Gavdhos**	**2.37**	**123**	P	**Pn**	**07 38 02.0**	**+0.5**
LKR	**Lokris**	**2.69**	**23**	*e*PN	**Pn**	**07 38 06.8**	**+1.0**
LKR	**Lokris**	**2.69**	**23**	*e*Pn	**Pn**	**07 38 06.8**	**+1.0**
LKD2	**Lefkada island**	**2.73**	**343**	P	**Pn**	**07 38 07.5**	**+1.0**
LKD2	**Lefkada island**	**2.73**	**343**	*e*PN	**Pn**	**07 38 06.0**	**-0.5**
LKD2	**Lefkada island**	**2.73**	**343**	*e*Pn	**Pn**	**07 38 06.0**	**-0.5**
LKD2	**Lefkada island**	**2.73**	**343**	P	**Pn**	**07 38 07.5**	**+1.0**
EVR	**Evrytania**	**2.74**	**2**	*e*PN	**Pn**	**07 38 07.2**	**+0.5**
EVR	**Evrytania**	**2.74**	**2**	*e*Pn	**Pn**	**07 38 07.2**	**+0.5**
APE	**Apeiranthos**	**3.23**	**73**	P	**Pn**	**07 38 12.2**	**-1.1**
APE	**Apeiranthos**	**3.23**	**73**	P	**Pn**	**07 38 12.2**	**-1.1**
LAST	**Lasithi**	**3.25**	**107**	P	**Pn**	**07 38 13.4**	**-0.3**
LAST	**Lasithi**	**3.25**	**107**	*e*PN	**Pn**	**07 38 13.8**	**+0.1**
LAST	**Lasithi**	**3.25**	**107**	P	**Pn**	**07 38 13.4**	**-0.3**
LAST	**Lasithi**	**3.25**	**107**	*e*Pn	**Pn**	**07 38 13.8**	**+0.1**
NEO	**Neokhori**	**3.36**	**21**	*e*PN	**Pn**	**07 38 16.3**	**+1.2**
NEO	**Neokhori**	**3.36**	**21**	*e*Pn	**Pn**	**07 38 16.3**	**+1.2**
THL	**Klokotos Trika**	**3.40**	**4**	*e*PN	**Pn**	**07 38 15.7**	**+0.1**
THL	**Klokotos Trika**	**3.40**	**4**	*e*Pn	**Pn**	**07 38 15.7**	**+0.1**
KEK	**Kerkira**	**3.83**	**338**	*e*PN	**Pn**	**07 38 21.3**	**-0.3**
KEK	**Kerkira**	**3.83**	**338**	*e*Pn	**Pn**	**07 38 21.3**	**-0.3**
LIT	**Litokhoron**	**3.97**	**9**	*e*PN	**Pn**	**07 38 24.6**	**+1.1**
LIT	**Litokhoron**	**3.97**	**9**	*e*Pn	**Pn**	**07 38 24.6**	**+1.1**

*ISK **18** 07:47:44.4,39.11N×29.02E,h5km,MD3.0*
*DDA **18** 07:47:45.1,39.11N×29.03E,h7km,MD2.9*
*CSEM **18** 07:47:45.0±0.1,39.12N×29.02E,h2km,MD2.9,Error ellipse: s-maj=1.7km s-min=1.5km az=166.0*
ISC 18 07:47:45.3±1.0,**39.12N**±0.02×**29.02E**±0.02,**h8**km±10km, **n66**, σ0.9**44**/78,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**252**	*i* P	**Pg**	**07 47 50.4**	**+0.2**
DEMI				*i* S	**Sg**	**07 47 54.2**	**+0.6**
DEMI	**Demirci**	**0.25**	**252**	*i* P	**Pg**	**07 47 50.4**	**+0.2**
DEMI				*i* S	**Sg**	**07 47 54.2**	**+0.6**
GDZ	**Gediz**	**0.36**	**95**	*i* P	**Pg**	**07 47 52.3**	**-0.1**
GDZ				*i* S	**Sg**	**07 47 57.4**	**+0.2**
GDZ	**Gediz**	**0.36**	**95**	*i* P	**Pg**	**07 47 52.3**	**-0.1**
GDZ				*i* S	**Sg**	**07 47 57.4**	**+0.2**
TVSB	**Tavsanli**	**0.48**	**46**	*e*PG	**Pg**	**07 47 54.2**	**-0.3**
TVSB				*e*SG	**Sg**	**07 48 00.6**	**-0.2**
TVSB	**Tavsanli**	**0.48**	**46**	*e*Pg	**Pg**	**07 47 54.2**	**-0.3**
TVSB				*e*Sg	**Sg**	**07 48 00.6**	**-0.2**
DST	**Dursunbey**	**0.57**	**327**	*e*PG	**Pg**	**07 47 55.5**	**-0.9**
DST	**Dursunbey**	**0.57**	**327**	*e*Pg	**Pg**	**07 47 55.5**	**-0.9**
DURS	**Dursunbey**	**0.64**	**319**	*e*P	**Pg**	**07 47 57.4**	**-0.2**
DURS	**Dursunbey**	**0.64**	**319**	*e*P	**Pg**	**07 47 57.4**	**-0.2**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*PG	**Pg**	**07 47 57.5**	**-0.7**
KULA				*e*SG	**Sg**	**07 48 06.4**	**-0.4**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*Pg	**Pg**	**07 47 57.5**	**-0.7**
KULA				*e*Sg	**Sg**	**07 48 06.4**	**-0.4**
MANT	**Manisa**	**0.72**	**210**	*i* P	**Pg**	**07 47 59.1**	**-0.2**
MANT	**Manisa**	**0.72**	**210**	*i* P	**Pg**	**07 47 59.1**	**-0.2**
KHAL	**Karahalli**	**0.83**	**154**	*e*P	**Pg**	**07 48 01.2**	**-0.2**
KHAL	**Karahalli**	**0.83**	**154**	*e*P	**Pg**	**07 48 01.2**	**-0.2**
ALT	**Altintas**	**0.85**	**94**	*e*PG	**Pg**	**07 48 01.7**	**0.0**
ALT				*e*SG	**Sg**	**07 48 13.0**	**+0.3**
ALT	**Altintas**	**0.85**	**94**	*e*Pg	**Pg**	**07 48 01.7**	**0.0**
ALT				*e*Sg	**Sg**	**07 48 13.0**	**+0.3**
KHL	**Karahalli**	**0.89**	**153**	*e*PG	**Pg**	**07 48 02.0**	**-0.4**
KHL	**Karahalli**	**0.89**	**153**	*e*Pg	**Pg**	**07 48 02.0**	**-0.4**
ORLT	**Orhaneli**	**0.93**	**354**	*e*PG	**Pg**	**07 48 03.1**	**-0.1**
ORLT	**Orhaneli**	**0.93**	**354**	*e*Pg	**Pg**	**07 48 03.1**	**-0.1**
AKHS	**Akhisar**	**0.97**	**256**	*i* P	**Pg**	**07 48 04.1**	**+0.2**
AKHS				*i* S	**Sb**	**07 48 17.6**	**+0.3**
AKHS	**Akhisar**	**0.97**	**256**	*i* P	**Pg**	**07 48 04.1**	**+0.2**
AKHS				*i* S	**Sb**	**07 48 17.6**	**+0.3**
AKS	**Akhisar**	**0.97**	**256**	*e*PG	**Pg**	**07 48 03.1**	**-0.7**
AKS	**Akhisar**	**0.97**	**256**	*e*Pg	**Pg**	**07 48 03.2**	**-0.7**
BALB	**Balikesir**	**1.02**	**301**	*e*PG	**Pg**	**07 48 04.4**	**-0.5**
BALB	**Balikesir**	**1.02**	**301**	*e*Pg	**Pg**	**07 48 04.4**	**-0.5**
BALY	**Balya**	**1.25**	**300**	*e*P	**Pb**	**07 48 09.3**	**+0.1**
BALY	**Balya**	**1.25**	**300**	*e*P	**Pb**	**07 48

GDZ				*i* S		**Sg**	**08 07 45.0**	**0.0**
GDZ	**Gediz**	**0.32**	**95**	*i* P		**Pg**	**08 07 40.3**	**-0.1**
GDZ				*i* S		**Sg**	**08 07 45.0**	**0.0**
TVSB	**Tavsanli**	**0.45**	**42**	*e*PG		**Pg**	**08 07 42.4**	**-0.4**
TVSB				*e*SG		**Sg**	**08 07 48.7**	**-0.2**
TVSB	**Tavsanli**	**0.45**	**42**	*e*Pg		**Pg**	**08 07 42.4**	**-0.4**
TVSB				*e*Sg		**Sg**	**08 07 48.7**	**-0.2**
DURS	**Dursunbey**	**0.67**	**316**	*i* P		**Pg**	**08 07 46.4**	**-0.5**
DURS				*i* S		**Sn**	**08 07 58.4**	**-0.6**
DURS	**Dursunbey**	**0.67**	**316**	*i* P		**Pg**	**08 07 46.4**	**-0.5**
KULA	**Kula-Manisa**	**0.68**	**208**	*e*PG		**Pb**	**08 07 47.0**	**-0.3**
KULA				*e*SG		**Sb**	**08 07 56.2**	**-0.4**
KULA	**Kula-Manisa**	**0.68**	**208**	*e*Pg		**Pb**	**08 07 47.0**	**-0.3**
KULA				*e*Sg		**Sb**	**08 07 56.2**	**-0.4**
MANT	**Manisa**	**0.74**	**213**	*i* P		**Pb**	**08 07 48.2**	**-0.2**
MANT				*i* S		**Sb**	**08 07 58.0**	**-0.5**
MANT	**Manisa**	**0.74**	**213**	*i* P		**Pb**	**08 07 48.2**	**-0.2**
MANT				*i* S		**Sb**	**08 07 58.0**	**-0.5**
ALT	**Altintas**	**0.81**	**94**	*e*PG		**Pb**	**08 07 49.8**	**+0.3**
ALT				*e*SG		**Sb**	**08 08 01.0**	**+0.8**
ALT	**Altintas**	**0.81**	**94**	*e*Pg		**Pb**	**08 07 49.8**	**+0.3**
ALT				*e*Sg		**Sb**	**08 08 01.0**	**+0.8**
KHAL	**Karahalli**	**0.81**	**156**	*i* P		**Pb**	**08 07 49.6**	**0.0**
KHAL				*i* S		**Sb**	**08 08 00.5**	**+0.1**
KHAL	**Karahalli**	**0.81**	**156**	*i* P		**Pb**	**08 07 49.6**	**0.0**
KHAL				*i* S		**Sb**	**08 08 00.5**	**+0.1**
KHL	**Karahalli**	**0.87**	**156**	*e*PG		**Pb**	**08 07 50.2**	**-0.3**
KHL				*e*SG		**Sb**	**08 08 02.4**	**+0.5**
KHL	**Karahalli**	**0.87**	**156**	*e*Pg		**Pb**	**08 07 50.2**	**-0.3**
KHL				*e*Sg		**Sb**	**08 08 02.4**	**+0.5**
ORLT	**Orhaneli**	**0.94**	**352**	*e*PG		**Pb**	**08 07 51.1**	**-0.6**
ORLT	**Orhaneli**	**0.94**	**352**	*e*Pg		**Pb**	**08 07 51.1**	**-0.6**
AKHS	**Akhisar**	**1.01**	**257**	*i* P		**Pg**	**08 07 53.1**	**-0.1**
AKHS				*i* S		**Sn**	**08 08 07.4**	**+0.1**
AKHS	**Akhisar**	**1.01**	**257**	*i* P		**Pg**	**08 07 53.1**	**-0.1**
AKHS				*i* S		**Sn**	**08 08 07.4**	**+0.1**
BALB	**Balikesir**	**1.06**	**300**	*e*PG		**Pb**	**08 07 53.9**	**+0.1**
BALB	**Balikesir**	**1.06**	**300**	*e*Pg		**Pb**	**08 07 53.9**	**+0.1**
CAVI	**Cavuskoy**	**1.24**	**28**	*e*PN		**Pn**	**08 07 56.0**	**-0.5**
CAVI	**Cavuskoy**	**1.24**	**28**	*e*Pn		**Pn**	**08 07 56.0**	**-0.5**
KCTX	**Karacabey (Bur**	**1.27**	**334**	*e*PN		**Pn**	**08 07 57.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.27**	**334**	*e*Pn		**Pn**	**08 07 57.1**	**+0.1**
SHUT	**Suhut-Afyon**	**1.28**	**116**	*e*PN		**Pn**	**08 07 56.7**	**-0.5**
SHUT	**Suhut-Afyon**	**1.28**	**116**	*e*Pn		**Pn**	**08 07 56.7**	**-0.5**
BALY	**Balya**	**1.29**	**299**	*i* P		**Pn**	**08 07 57.5**	**+0.3**
BALY				*i* S		**Sn**	**08 08 14.5**	**+0.3**
BALY	**Balya**	**1.29**	**299**	*i* P		**Pn**	**08 07 57.5**	**+0.3**
BALY				*i* S		**Sn**	**08 08 14.5**	**+0.3**
BORA	**Eskisehir**	**1.31**	**54**	*i* P		**Pn**	**08 07 57.7**	**+0.1**
BORA				*i* S		**Sg**	**08 08 16.4**	**+0.3**
BORA	**Eskisehir**	**1.31**	**54**	*i* P		**Pn**	**08 07 57.7**	**+0.1**
BORA				*i* S		**Sg**	**08 08 16.4**	**+0.3**
GONE	**Gonen-Balikesi**	**1.42**	**311**	*e*PN		**Pn**	**08 07 59.5**	**+0.6**
GONE	**Gonen-Balikesi**	**1.42**	**311**	*e*Pn		**Pn**	**08 07 59.5**	**+0.6**
YLV	**Yalova**	**1.47**	**9**	*e*PN		**Pb**	**08 08 00.8**	**+0.1**
YLV	**Yalova**	**1.47**	**9**	*e*Pn		**Pb**	**08 08 00.8**	**+0.1**
GULT	**Gulveren**	**1.72**	**40**	*e*PN		**Pn**	**08 08 03.4**	**+0.2**
GULT	**Gulveren**	**1.72**	**40**	*e*Pn		**Pn**	**08 08 03.4**	**+0.2**
KRBG	**Karabiga-Canak**	**1.87**	**314**	*e*PN		**Pn**	**08 08 05.8**	**+0.6**
KRBG	**Karabiga-Canak**	**1.87**	**314**	*e*Pn		**Pn**	**08 08 05.8**	**+0.6**

*GUC **18** 08:20:44.7±0.3, 42°.89S×72°.63W, h23km±2km, ML3.5*
*IDC **18** 08:20:47.0±1.4, 42°.89S×72°.41W, h0km, mb3.6/3, mb1 4.0/4, mb1mx3.8/15, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=53.2km s-min=19.6km az=129.0*
ISC 18 08:20:47.9±1.9, 42°.7S±0°.1×72°.3W±0°.1, h10km, n10, σ1s09/11, 1C-1D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUNY	**Huinay**	**0.36**	**348**	⇑*i*P	**Pb**	**08 20 55.2**	**-1.2**
HUNY				*i* S	**Sb**	**08 21 03.3**	**+1.2**
HUNY				AML	AML	08 21 04.0	
	comp=N,3μm,0.3s						
ILCA	**Isla Las Cabra**	**0.69**	**346**	⇓*i*P	**Pg**	**08 21 00.1**	**-1.1**
ILCA				*i* S	**Sb**	**08 21 12.1**	**+0.5**
ILCA				AML	AML	08 21 12.9	
	comp=E,2μm,0.4s						
PMCH	**Puerto Montt**	**1.32**	**341**	*e*P	**Pg**	**08 21 12.5**	**-0.7**
PMCH				*i* S	**Sg**	**08 21 31.4**	**+1.2**
PMCH				AML	AML	08 21 42.0	
	comp=N,1μm,0.4s						
PLCA	**Paso Flores**	**2.40**	**34**	Pn	**Pb**	**08 21 30.6**	**-0.6**
	comp=N,5.1nm,0.3s,baz=223,slow=16,SNR=65						
PLCA				Pg	**Pg**	**08 21 33.1**	**-0.7**
	comp=N,5.7nm,0.3s,baz=223,slow=17,SNR=90						
PLCA				Lg	Lg	08 22 08.4	
	comp=N,22nm,0.3s,baz=104,slow=8.3,SNR=17						
CPUP	**Villa Florida**	**20.45**	**42**	P	Pn	08 25 27.5	0.0
	comp=N,0.4nm,0.4s,baz=173,slow=8.7,SNR=4.7						
TXAR	**Lajitas Array**	**77.30**	**332**	P	P	08 32 43.8	+1.3
	comp=N,0.4nm,0.9s,baz=163,slow=6.5,SNR=4.3						
PDAR	**Pinedale Array**	**91.46**	**334**	P	P	08 33 55.2	+1.0
	comp=N,0.5nm,0.8s,baz=146,slow=6.6,SNR=3.8						
AKTO	**Aktyubinsk**	**145.56**	**60**	PKPbc	**PKPab**	**08 40 26.5**	**+0.4**
	comp=N,1.6nm,1.0s,baz=276,slow=4.7,SNR=5.3						
ZALV	**Zalesovo Beam**	**161.20**	**45**	PKPab	**PKPab**	**08 41 33.0**	**+1.6**
	comp=N,0.3nm,0.4s,baz=305,slow=5.1,SNR=2.5						
MKAR	**Makanchi Array**	**161.55**	**69**	PKPab	**PKPab**	**08 41 33.4**	**+0.1**
	comp=N,0.7nm,1.0s,baz=256,slow=4.9,SNR=4.5						

*DDA **18** 08:25:39.2, 36°.87N×30°.67E, h17km, MD3.2*
*IDC **18** 08:25:39.1±3.0, 36°.85N×30°.58E, h0km, mb3.4/3, mb1 3.4/4, mb1mx3.3/23, mbtmp3.3/4, Error ellipse: s-maj=64.9km s-min=40.0km az=168.0*
*ISCJB **18** 08:25:40.7±0.6, 36°.85N±0°.05×30°.68E±0°.04, h18km±4km, mb3.3/3, Error ellipse: s-maj=7.8km s-min=5.2km az=176.1*
*ISK **18** 08:25:40.0, 36°.81N×30°.66E, h17km, ML3.2*
*CSEM **18** 08:25:40.2±0.3, 36°.81N×30°.66E, h10km, ML3.2, Error ellipse: s-maj=6.9km s-min=5.1km az=170.0*
ISC 18 08:25:41.0±0.8, 36°.86N±0°.04×30°.67E±0°.02, h17km±4km, n51, σ1s28/68, mb3.5/3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.05**	**348**	*e*PG	**Pg**	**08 25 44.3**	**+0.2**
ANTB				*e*SG	**Sg**	**08 25 47.0**	**+1.0**
ANTB	**Antalya**	**0.05**	**348**	*e*Pg	**Pg**	**08 25 44.3**	**+0.2**
ANTB				*e*Sg	**Sg**	**08 25 47.1**	**+1.0**
KORT	**Korkueli**	**0.29**	**300**	*i* P	**Pg**	**08 25 45.4**	**-2.0**
KORT				*i* S	**Sg**	**08 25 49.3**	**-2.4**
KORT	**Korkueli**	**0.29**	**300**	*i* P	**Pg**	**08 25 45.4**	**-2.0**
KORT				*i* S	**Sg**	**08 25 49.3**	**-2.4**
BCK	**Bucak**	**0.61**	**354**	*e*PG	**Pg**	**08 25 52.6**	**-0.5**
BCK	**Bucak**	**0.61**	**354**	*e*Pg	**Pg**	**08 25 52.6**	**-0.5**
ELL	**Elmali**	**0.62**	**260**	*e*PG	**Pg**	**08 25 51.4**	**-1.8**
ELL	**Elmali**	**0.62**	**260**	*e*Pg	**Pg**	**08 25 51.4**	**-1.8**
GOLH	**Golhisar**	**0.96**	**294**	*i* P	**Pb**	**08 25 58.3**	**-1.0**
GOLH				*i* S	**Sg**	**08 26 12.8**	**+0.5**
GOLH	**Golhisar**	**0.96**	**294**	*i* P	**Pb**	**08 25 58.3**	**-1.0**
ISP	**Isparta**	**0.97**	**353**	*e*PG	**Pn**	**08 26 00.2**	**+0.2**
ISP	**Isparta**	**0.97**	**353**	*e*Pg	**Pn**	**08 26 00.2**	**+0.2**
FETY	**Fethiye**	**1.29**	**261**	*e*PN	**Pn**	**08 26 03.9**	**-0.4**
FETY	**Fethiye**	**1.29**	**261**	*e*Pn	**Pn**	**08 26 03.9**	**-0.4**
DNZL	**Cakiroluk**	**1.54**	**303**	*i* P	**Pb**	**08 26 09.2**	**+0.1**
DNZL				*i* S	**Sb**	**08 26 28.6**	**+0.2**
DNZL	**Cakiroluk**	**1.54**	**303**	*i* P	**Pb**	**08 26 09.2**	**+0.1**
DNZL				*i* S	**Sb**	**08 26 28.6**	**+0.2**
TURN	**Turunc**	**1.65**	**271**	*i* P	**Pg**	**08 26 14.9**	**+2.1**
TURN				*i* S	**Sg**	**08 26 39.6**	**+5.3**
SHUT	**Suhut-Afyon**	**1.70**	**357**	*e*PN	**Pn**	**08 26 09.9**	**-0.1**
SHUT	**Suhut-Afyon**	**1.70**	**357**	*e*Pn	**Pn**	**08 26 09.9**	**-0.1**
KHAL	**Karahalli**	**1.78**	**329**	*i* P	**Pn**	**08 26 10.8**	**-0.3**
KHAL				*i* S	**Sn**	**08 26 31.1**	**-2.2**
KHAL	**Karahalli**	**1.78**	**329**	*i* P	**Pn**	**08 26 10.8**	**-0.3**
KHAL				*i* S	**Sn**	**08 26 31.1**	**-2.2**
ERMK	**Ermenek**	**1.82**	**96**	*i* P	**Pn**	**08 26 11.0**	**-0.7**
ERMK				*i* S	**Sg**	**08 26 38.5**	**-1.1**
ERMK	**Ermenek**	**1.82**	**96**	*i* P	**Pn**	**08 26 11.0**	**-0.7**
ERMK				*i* S	**Sg**	**08 26 38.5**	**-1.1**
BOLV	**Bolvadin**	**1.87**	**7**	*e*P	**Pn**	**08 26 13.7**	**+1.2**
BOLV				*e*S	**Sn**	**08 26 34.0**	**-1.8**
BOLV	**Bolvadin**	**1.87**	**7**	*e*P	**Pn**	**08 26 13.7**	**+1.2**
BOLV				*e*S	**Sn**	**08 26 34.0**	**-1.8**
LADK	**Ladik-KONYA**	**1.91**	**45**	*e*PN	**Pn**	**08 26 12.9**	**+0.1**
LADK	**Ladik-KONYA**	**1.91**	**45**	*e*Pn	**Pn**	**08 26 12.9**	**+0.1**
YER	**Yerkesik**	**1.93**	**279**	*e*PN	**Pn**	**08 26 13.2**	**+0.1**
YER	**Yerkesik**	**1.93**	**279**	*e*Pn	**Pn**	**08 26 13.2**	**+0.1**
ALT	**Altintas**	**2.24**	**349**	*e*PN	**Pn**	**08 26 18.4**	**+1.0**
ALT	**Altintas**	**2.24**	**349**	*e*Pn	**Pn**	**08 26 18.4**	**+1.0**
KULA	**Kula-Manisa**	**2.30**	**317**	*e*PN	**Pn**	**08 26 18.7**	**+0.5**
KULA	**Kula-Manisa**	**2.30**	**317**	*e*Pn	**Pn**	**08 26 18.7**	**+0.5**
AYDN	**Tasoluk**	**2.36**	**291**	*i* P	**Pn**	**08 26 20.5**	**+1.4**
AYDN				*i* S	**Sb**	**08 26 51.8**	**-0.3**
AYDN	**Tasoluk**	**2.36**	**291**	*i* P	**Pn**	**08 26 20.5**	**+1.4**
AYDN				*i* S	**Sb**	**08 26 51.8**	**-0.3**
DAT	**Datca**	**2.48**	**268**	*e*PN	**Pn**	**08 26 20.9**	**+0.1**
DAT	**Datca**	**2.48**	**268**	*e*Pn	**Pn**	**08 26 20.9**	**+0.1**
LEF	**Lefka**	**2.50**	**133**	*e*PN	**Pn**	**08 26 20.9**	**0.0**
LEF	**Lefka**	**2.50**	**133**	*e*Pn	**Pn**	**08 26 20.9**	**0.0**
SULT	**Sultanhani-AKS**	**2.63**	**59**	*e*PN	**Pn**	**08 26 23.0**	**+0.2**
SULT	**Sultanhani-AKS**	**2.63**	**59**	*e*Pn	**Pn**	**08 26 23.0**	**+0.2**
SVRH	**Sivrihisar-ESK**	**2.67**	**14**	*e*PN	**Pn**	**08 26 23.9**	**+0.5**
SVRH	**Sivrihisar-ESK**	**2.67**	**14**	*e*Pn	**Pn**	**08 26 23.9**	**+0.5**
BODT	**Bodrum**	**2.69**	**275**	*e*PN	**Pn**	**08 26 24.7**	**+1.1**
BODT	**Bodrum**	**2.69**	**275**	*e*Pn	**Pn**	**08 26 24.7**	**+1.1**
TVSB	**Tavsanli**	**2.76**	**340**	*e*PN	**Pn**	**08 26 24.9**	**+0.4**
TVSB	**Tavsanli**	**2.76**	**340**	*e*Pn	**Pn**	**08 26 25.0**	**+0.4**
BRTR	**Keskin Array B**	**3.70**	**38**	Pn	**Pn**	**08 26 38.2**	**+0.7**
	0.4nm,0.3s,baz=214,slow=16,SNR=15						
BRTR				Sn	**Sn**	**08 27 22.4**	**+1.6**
	0.6nm,0.3s,baz=217,slow=25,SNR=8.0						
MKAR	**Makanchi Array**	**39.10**	**59**	P	**P**	**08 33 08.7**	**+1.4**
	0.7nm,0.7s,baz=277,slow=8.2,SNR=9.4						
ZALV	**Zalesovo Beam**	**40.59**	**47**	P	**P**	**08 33 21.0**	**+1.4**
	0.3nm,0.3s,baz=256,slow=4.0,SNR=2.7						
YKA	**Yellowknife Ar**	**77.12**	**344**	P	**P**	**08 37 33.4**	**+0.3**
	0.2nm,0.9s,baz=27,slow=5.3,SNR=4.3						

IDC 18 08:26:04.1±2.1, 33°.80N×126°.81E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/21, mbtmp3.3/3, Error ellipse: s-maj=157.8km s-min=27.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.72**	**163**	P	P	08 31 26.4	-1.0
	1.1nm,0.7s,baz=342,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.16**	**166**	P	P	08 31 59.8	+1.4
	0.1nm,0.3s,baz=354,slow=7.5,SNR=3.2						
MKAR	**Makanchi Array**	**57.55**	**325**	P	P	08 35 55.5	-0.1
	0.2nm,0.5s,baz=119,slow=7.8,SNR=4.4						

*IDC **18** 08:28:51.9±1.0, 18°.30N×64°.17W, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.5/6, Error ellipse: s-maj=32.5km s-min=17.1km az=18.0*
*TRN **18** 08:28:52.5, 18°.14N×64°.18W, h20km, MD4.1, M4.1(FDF)*
*ISCJB **18** 08:28:54.2±0.5, 18°.14N±0°.05×64°.17W±0°.02, h27km±5km, mb3.5/6, Error ellipse: s-maj=9.1km s-min=2.8km az=13.3*
*RSPR **18** 08:28:55.1, 18°.21N×64°.18W, h4km±2km, MD3.7/11*
*NEIC **18** 08:28:55.1, 18°.21N×64°.18W, h4km, MD3.7(RSPR), After RSPR.*
ISC 18 08:28:53.2±1.0, 18°.05N±0°.04×64°.20W±0°.02, h14km±7km, n83, σ0s94/125, mb3.7/6, 55C-9D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.54**	**312**	⇓*i*P	**Pg**	**08 29 03.7**	**-0.2**
TBVI	**Tortola**	**0.54**	**312**	⇓*i*P	**Pg**	**08 29 03.7**	**-0.2**
TBVI	**Tortola**	**0.54**	**312**	⇓*i*P	**Pg**	**08 29 03.7**	**-0.2**
CDVI	**St. Croix**	**0.62**	**241**	⇑*e*P	**Pg**	**08 29 05.1**	**-0.2**
CDVI	**St. Croix**	**0.62**	**241**	⇑*e*P	**Pg**	**08 29 05.1**	**-0.2**
CDVI	**St. Croix**	**0.62**	**241**	⇑*e*P	**Pg**	**08 29 05.1**	**-0.2**
ABV	**Anegada**	**0.69**	**349**	⇑*e*P	**Pg**	**08 29 06.6**	**0.0**
ABV	**Anegada**	**0.69**	**349**	⇑*e*P	**Pg**	**08 29 06.6**	**0.0**
ABVI	**Anegada Island**	**0.69**	**349**	⇑*e*P	**Pg**	**08 29 06.6**	**0.0**
STVI	**Saint Thomas**	**0.78**	**293**	⇑*e*P	**Pg**	**08 29 08.0**	**-0.3**
STVI	**Saint Thomas**	**0.78**	**293**	⇑*e*P	**Pg**	**08 29 08.0**	**-0.3**
STVI				*e*S	**Sg**	**08 29 18.5**	**-0.1**
STVI	**Saint Thomas**	**0.78**	**293**	⇑*e*P	**Pb**	**08 29 08.4**	**-0.2**
STVI				*e*S	**Sg**	**08 29 18.5**	**-0.1**
SABA	**Saba**	**1.00**	**115**	⇓*e*P	**Pn**	**08 29 13.0**	**0.0**
SABA	**Saba**	**1.00**	**115**	⇓*e*P	**Pn**	**08 29 13.0**	**0.0**
SABA				*e*S	**Sg**	**08 29 26.6**	**+0.8**
SABA	**Saba**	**1.00**	**115**	⇓*e*P	**Pn**	**08 29 13.0**	**0.0**
SABA				*e*S	**Sg**	**08 29 26.6**	**+0.8**
SMRT	**St. Maarten**	**1.07**	**90**	⇑*e*P	**Pn**	**08 29 15.1**	**+1.3**
SMRT	**St. Maarten**	**1.07**	**90**	⇑*e*P	**Pn**	**08 29 15.1**	**+1.3**
SMRT				*e*S	**Sn**	**08 29 28.8**	**+0.3**
SMRT	**St. Maarten**	**1.07**	**90**	⇑*e*P	**Pn**	**08 29 15.1**	**+1.3**
SMRT				*e*S	**Sn**	**08 29 28.8**	**+0.3**
SEUS	**St. Eustatius**	**1.28**	**115**	⇑*e*P	**Pn**	**08 29 16.6**	**-0.2**
SEUS	**St. Eustatius**	**1.28**	**115**	⇑*e*P	**Pn**	**08 29 16.6**	**-0.2**
SEUS	**St. Eustatius**	**1.28**	**115**	⇑*e*P	**Pn**	**08 29 16.6**	**-0.2**
MTP	**Monte Pirata**	**1.29**	**272**	⇑*e*P	**Pn**	**08 29 16.8**	**-0.1**
MTP	**Monte Pirata**	**1.29**	**272**	⇑*e*P	**Pn**	**08 29 16.8**	**-0.1**
MTP				*e*S	**Sb**	**08 29 33.4**	**-0.4**
MTP	**Monte Pirata**	**1.29**	**272**	⇑*e*P	**Pn**	**08 29 16.8**	**-0.1**
MTP				*e*S	**Sb**	**08 29 33.4**	**-0.4**
SKI	**Saint Kitts**	**1.56**	**117**	⇑*i*P	**Pn**	**08 29 21.2**	**+0.6**
SKI				*e*S	**Sg**	**08 29 44.0**	**+0.4**
HUMP	**Col San Antoni**	**1.57**	**274**	⇑*e*P	**Pn**	**08 29 21.1**	**+0.3**
HUMP	**Col San Antoni**	**1.57**	**274**	⇑*e*P	**Pn**	**08 29 21.1**	**+0.3**
HUMP				*e*S	**Sn**	**08 29 41.4**	**+0.5**
HUMP	**Col San Antoni**	**1.57**	**274**	⇑*e*P	**Pn**	**08 29 21.1**	**+0.3**
HUMP				*e*S	**Sn**	**08 29 41.4**	**+0.5**
CBYP	**Canovanas**	**1.59**	**278**	⇑*e*P	**Pb**	**08 29 22.1**	**-0.4**
CBYP	**Canovanas**	**1.59**	**278**	⇑*e*P	**Pb**	**08 29 22.1**	**-0.4**
CBYP				*e*S	**Sn**	**08 29 41.3**	**-0.2**
CBYP	**Canovanas**	**1.59**	**278**	⇑*e*P	**Pb**	**08 29 22.8**	**+0.3**
CBYP				*e*S	**Sn**	**08 29 41.3**	**-0.2**
CPD	**Cerro la Pandu**	**1.63**	**270**	⇑*e*P	**Pn**	**08 29 22.0**	**+0.4**
CPD	**Cerro la Pandu**	**1.63**	**270**	⇑*e*P	**Pn**	**08 29 22.0**	**+0.4**
CPD				*e*S	**Sb**	**08 29 43.8**	**+0.1**
CPD	**Cerro la Pandu**	**1.63**	**270**	⇑*e*P	**Pn**	**08 29 22.1**	**+0.4**
CPD				*e*S	**Sb**	**08 29 43.8**	**+0.1**
SJG	**San Juan**	**1.86**	**272**	⇑*e*P	**Pb**	**08 29 26.2**	**-0.8**
SJG	**San Juan**	**1.86**	**272**	⇑*e*P	**Pn**	**08 29 25.1**	**+0.5**
SJG				*e*S	**Sb**	**08 29 49.4**	**-0.8**
SJG	**San Juan**	**1.86**	**272**	⇑*e*P	**Pn**	**08 29 25.1**	**+0.5**
SJG				Pn	**Pn**	**08 29 25.4**	**+0.7**
SJG				⇑*e*P	**Pb**	**08 29 26.2**	**-0.8**
SJG				*e*S	**Sn**	**08 29 48.8**	**+0.9**
SJG				Sn	**Sb**	**08 29 49.2**	**-0.8**
SJG				*e*S	**Sb**	**08 29 49.4**	**-0.8**
SJG	**San Juan**	**1.86**	**272**	⇑*e*P	**Pn**	**08 29 25.1**	**+0.5**
SJG	**San Juan**	**1.86**	**272**	⇑*e*P	**Pb**	**08 29 26.2**	**-0.8**
SJG				*e*S	**Sn**	**08 29 48.8**	**+0.9**
SJG				*e*S	**Sb**	**08 29 49.4**	**-0.8**
SJG	**San Juan**	**1.86**	**272**	Pn	**Pn**	**08 29 25.4**	**+0.7**
	81nm,0.3s,baz=90,slow=10,SNR=57						
SJG				Sn	**Sb**	**08 29 49.2**	**-0.8**
	92nm,0.3s,baz=270,slow=19,SNR=7.3						
CELP	**Cerrillos**	**2.27**	**271**	⇑*e*P	**Pn**	**08 29 31.6**	**+1.3**
CELP				*e*S	**Sn**	**08 29 58.1**	**0.0**
CELP	**Cerrillos**	**2.27**	**271**	⇑*e*P	**Pn**	**08 29 31.6**	**+1.3**
CELP				*e*S	**Sn**	**08 29 58.1**	**0.0**
CELP	**Cerrillos**	**2.27**	**271**	⇑*e*P	**Pn**	**08 29 31.6**	**+1.3**
CELP				*e*S	**Sn**	**08 29 58.6**	**+0.5**
OBIP	**Obispado Ponce**	**2.29**	**270**	⇑*e*P	**Pn**	**08 29 31.9**	**+1.2**
OBIP	**Obispado Ponce**	**2.29**	**270**	⇑*e*P	**Pn**	**08 29 31.9**	**+1.2**
OBIP				*e*S	**Sb**	**08 30 01.3**	**-1.3**
OBIP	**Obispado Ponce**	**2.29**	**270**	⇑*e*P	**Pn**	**08 29 31.9**	**+1.2**
OBIP				*e*S	**Sb**	**08 30 01.3**	**-1.3**
ANWB	**Willy Bob**	**2.33**	**99**	*e*Pn	**Sn**	**08 29 31.1**	**0.0**
ANWB				*e*Sn	**Sn**	**08 29 58.6**	**-1.0**
AOPR	**Arecibo Observ**	**2.45**	**277**	⇓*e*P	**Pn**	**08 29 34.0**	**+1.2**
AOPR	**Arecibo Observ**	**2.45**	**277**	⇓*e*P	**Pn**	**08 29 34.0**	**+1.2**
AOPR				*e*S	**Sn**	**08 30 01.2**	**-1.4**
AOPR	**Arecibo Observ**	**2.45**	**277**	⇓*e*P	**Pn**	**08 29 34.5**	**+1.7**
AOPR				*e*S	**Sn**	**08 30 01.2**	**-1.4**
LRS	**Lares**	**2.53**	**276**	⇑*e*P	**Pn**	**08 29 35.4**	**+1.4**
LRS				*e*S	**Sn**	**08 30 05.3**	**+0.8**
LRS	**Lares**	**2.53**	**276**	⇑*e*P	**Pn**	**08 29 35.4**	**+1.4**
LRS				*e*S	**Sn**	**08 30 05.3**	**+0.8**
LRS	**Lares**	**2.53**	**276**	⇑*e*P	**Pn**	**08 29 35.4**	**+1.4**
LRS				*e*S	**Sn**	**08 30 05.3**	**+0.8**
LSP	**Las Mesas**	**2.75**	**273**	⇑*e*P	**Pn**	**08 29 38.5**	**+1.5**
LSP				*e*S	**Sn**	**08 30 11.8**	**+1.7**
LSP	**Las Mesas**	**2.75**	**273**	⇑*e*P	**Pn**	**08 29 38.5**	**+1.5**
LSP				*e*S	**Sn**	**08 30 11.8**	**+1.7**
LSP	**Las Mesas**	**2.75**	**273**	⇑*e*P	**Pn**	**08 29 38.5**	**+1.5**
LSP				*e*S	**Sn**	**08 30 11.8**	**+1.7**
CRPR	**Cabo Rojo, PR**	**2.77**	**270**	⇑*e*P	**Pn**	**08 29 38.4**	**+1.2**
CRPR	**Cabo Rojo, PR**	**2.77**	**270**	⇑*e*P	**Pn**	**08 29 38.4**	**+1.2**
CRPR				*e*S	**Sn**	**08 30 11.5**	**+1.0**
CRPR	**Cabo Rojo, PR**	**2.77**	**270**	⇑*e*P	**Pn**	**08 29 38.4**	**+1.2**
CRPR				*e*S	**Sn**	**08 30 11.5**	**+1.0**
AGPR	**Aguadilla, PR**	**2.80**	**279**	⇑*e*P	**Pn**	**08 29 38.0**	**+0.4**
AGPR	**Aguadilla, PR**	**2.80**	**279**	⇑*e*P	**Pn**	**08 29 38.0**	**+0.4**
AGPR				*e*S	**Sn**	**08 30 10.7**	**-0.5**
AGPR	**Aguadilla, PR**	**2.80**	**279**	⇑*e*P	**Pn**	**08 29 38.5**	**+0.9**
AGPR				*e*S	**Sn**	**08 30 10.7**	**-0.5**
LZG	**Guadaloupe-1**	**3.00**	**129**	⇑*i*P	**Pn**	**08 29 40.8**	**+0.5**
SEG	**Port Louis**	**3.05**	**122**	*e*P	**Pn**	**08 29 41.5**	**+0.4**
SCG	**Saint Claude**	**3.14**	**129**	*e*P	**Pn**	**08 29 43.0**	**+0.7**
BCG	**Bois Riant Cap**	**3.15**	**128**	*e*P	**Pn**	**08 29 43.8**	**+1.3**
HMG	**Houelmont**	**3.15**	**130**	*e*P	**Pn**	**08 29 43.7**	**+1.2**
PHG	**Guadaloupe-2**	**3.17**	**129**	*e*P	**Pn**	**08 29 43.6**	**+0.8**
DOG	**Dongo Capester**	**3.18**	**129**	*e*P	**Pn**	**08 29 44.4**	**+1.5**
SMN1	**Samana, DR**	**4.94**	**284**	⇑*e*P	**Pn**	**08 30 09.6**	**+2.4**
SMN1	**Samana, DR**	**4.94**	**284**	⇑*e*P	**Pn**	**08 30 09.6**	**+2.4**
TXAR	**Lajitas Array**	**37.68**	**295**	P	**P**	**08 36 09.7**	**+1.2**
TXAR	**Lajitas Array**	**37.68**	**295**	P	**P**	**08 36 09.7**	**+1.2**
	0.2nm,0.5s,baz=123,slow=9.9,SNR=6.3						
ULM	**Lac du Bonnet**	**40.89**	**329**	P	**P**	**08 36 33.2**	**-1.6**
ULM	**Lac du Bonnet**	**40.89**	**329**	P	**P**	**08 36 33.2**	**-1.6**
	1.3nm,0.6s,baz=126,slow=4.3,SNR=3.2		

ICHK					*e*			09 13 31.6	
	comp=Z,8μm,0.1s								
ICHK	**Chekchek**	**3.85**	**63**	*e*Pn		**Pn**		**09 13 31.1**	**+0.7**
GHVR	**GHOM**	**3.97**	**11**	*e*Pn		**Pn**		**09 13 33.4**	**+1.5**
GHVR	**GHOM**	**3.97**	**11**	*e*Pn		**Pn**		**09 13 33.4**	**+1.5**
IKOM	**Komasi**	**4.31**	**327**	*e*Pn		**Pn**		**09 13 38.6**	**+1.9**
IKOM	**Komasi**	**4.31**	**327**	*e*Pn		**Pn**		**09 13 38.6**	**+1.9**
IBAF	**Bafgh**	**4.59**	**76**⇑	*e*Pn		**Pn**		**09 13 41.2**	**+0.7**
IBAF					*e*			09 15 16.4	
	comp=Z,3μm,0.6s								
IBAF	**Bafgh**	**4.59**	**76**⇑	*e*Pn		**Pn**		**09 13 41.2**	**+0.7**
IGHG	**Ghaleghazi**	**4.92**	**320**	*e*Pn		**Pn**		**09 13 46.8**	**+1.8**
IGHG					*e*			09 16 08.9	
	comp=Z,3μm,0.5s								
IGHG	**Ghaleghazi**	**4.92**	**320**	*e*Pn		**Pn**		**09 13 46.8**	**+1.8**
SNGE	**Sanandaj**	**5.16**	**332**	*e*Pn		**Pn**		**09 13 49.2**	**+0.9**
SNGE					AML	AML		09 15 10.7	
	comp=E,64nm,0.8s								
SNGE	**Sanandaj**	**5.16**	**332**	*e*Pn		**Pn**		**09 13 49.2**	**+0.9**
ILIN	**Lien**	**5.18**	**328**	*e*Pn		**Pn**		**09 13 50.1**	**+1.4**
ILIN					*e*			09 14 51.0	
	comp=Z,2μm,0.1s								
ILIN	**Lien**	**5.18**	**328**	*e*Pn		**Pn**		**09 13 50.1**	**+1.4**
DAMV	**Damavand**	**5.22**	**15**	*e*Pn		**Pn**		**09 13 49.5**	**+0.3**
DAMV					Sn	**Sn**		**09 14 47.2**	**-1.5**
DAMV	**Damavand**	**5.22**	**15**	*e*Pn		**Pn**		**09 13 49.5**	**+0.3**
IDHR	**Dehrash**	**5.29**	**322**	*e*Pn		**Pn**		**09 13 51.9**	**+1.7**
IDHR					*e*			09 14 54.6	
	comp=Z,2μm,0.1s								
IDHR	**Dehrash**	**5.29**	**322**	*e*Pn		**Pn**		**09 13 51.9**	**+1.7**
BANOM	**Banah**	**7.01**	**130**	P		**Pn**		**09 14 12.3**	**-1.3**
	SNR=14								
NAZ	**Nazwa, Dubai**	**7.29**	**139**	P		**Pn**		**09 14 18.8**	**+1.3**
ASUD	**Al Ashush, Dub**	**7.40**	**142**	P		**Pn**		**09 14 21.0**	**+2.1**
FAQ	**Al Faqa, Dubai**	**7.45**	**140**	P		**Pn**		**09 14 21.3**	**+1.7**
IKOO	**Kooshah**	**7.62**	**74**	*e*Pn		**Pn**		**09 14 22.2**	**0.0**
IKOO					*e*			09 14 41.2	
	comp=Z,541nm,0.1s								
IKOO	**Kooshah**	**7.62**	**74**	*e*Pn		**Pn**		**09 14 22.2**	**0.0**
HATD	**Hatta, Dubai**	**7.69**	**137**	P		**Pn**		**09 14 23.4**	**+0.4**
ASHO	**Ashiyiah**	**7.76**	**138**	P		**Pn**		**09 14 24.1**	**+0.2**
	SNR=49								
ISFR	**Sfrayin**	**9.06**	**43**	*e*Pn		**Pn**		**09 14 42.1**	**+0.1**
ARQ	**Araqi**	**9.08**	**141**	⇓P		**Pn**		**09 14 42.6**	**+0.6**
	SNR=11								
ARQ	**Araqi**	**9.08**	**141**	P		**Pn**		**09 14 42.6**	**+0.6**
	SNR=11								
BSY	**Bisya**	**9.92**	**140**	⇓P		**Pn**		**09 14 54.4**	**+0.8**
	SNR=12								
BSYO	**Bisya**	**9.96**	**140**	P		**Pn**		**09 14 54.4**	**+0.4**
	SNR=12								
IMYA	**Miami**	**9.97**	**52**	*e*Pn		**Pn**		**09 14 53.6**	**-0.7**
IMYA	**Miami**	**9.97**	**52**	*e*Pn		**Pn**		**09 14 53.6**	**-0.7**
SMDO	**Samad**	**10.17**	**136**	⇑P		**Pn**		**09 14 57.6**	**+0.5**
	SNR=10								
SMDO	**Samad**	**10.17**	**136**	P		**Pn**		**09 14 57.6**	**+0.5**
	SNR=10								
GNI	**Garni**	**10.58**	**336**	LR		LR		09 19 08.2	
	comp=Z,47nm,18.1s,baz=267,slow=38								
JMDO	**Jabal Madar**	**10.73**	**138**	⇑P		**Pn**		**09 15 06.3**	**+1.7**
	SNR=9.8								
JMDO	**Jabal Madar**	**10.73**	**138**	P		**Pn**		**09 15 06.3**	**+1.7**
	SNR=9.8								
ASF	**Jabal al Asfar**	**11.60**	**281**	Pn		**Pn**		**09 15 16.1**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=120,slow=2.3,SNR=4.7								
ASF					Lg	Lg		09 19 01.6	
	baz=156,slow=20,SNR=2.5								
MMAI	**Mount Meron Ar**	**12.94**	**285**	Pn		**Pn**		**09 15 35.2**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=90,slow=15,SNR=2.5								
MMAI					LR	LR		09 21 34.0	
	comp=Z,130nm,21.5s,baz=65,slow=42								
ZEI	**Tsey**	**13.21**	**339**	*e*P		**P**		**09 15 46.8**	**-1.6**
ZEI					pmax	pmax			
	comp=Z,15nm,1.5s								
EIL	**Elat**	**13.36**	**270**	Pn		Pn		09 15 44.5	+4.0
	comp=Z,0.3nm,0.3s,baz=53,slow=15,SNR=2.5								
EIL					Lg	Lg		09 19 47.4	
	comp=Z,0.5nm,0.3s,baz=50,slow=18,SNR=2.5								
EIL					LR	LR		09 21 32.1	
	comp=Z,134nm,21.7s,baz=256,slow=41								
ABTO	**Aybut**	**13.44**	**168**	⇑P		**Pn**		**09 15 40.7**	**-1.1**
	SNR=26								
ABTO	**Aybut**	**13.44**	**168**	P		**Pn**		**09 15 40.7**	**-1.1**
	SNR=26								
RBK	**Rabkut**	**13.49**	**164**	⇓P		**Pn**		**09 15 42.2**	**-0.2**
	SNR=5.8								
RBK	**Rabkut**	**13.49**	**164**	P		**Pn**		**09 15 42.2**	**-0.2**
	SNR=5.8								
KBZ	**Khabaz**	**14.39**	**338**	P		**Pn**		**09 15 56.9**	**+2.3**
KBZ					MLR	MLR			
	comp=Z,118nm,21.0s								
KBZ	**Khabaz**	**14.39**	**338**	Pn		**Pn**		**09 15 56.9**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=203,slow=7.2,SNR=4.1								
KBZ					LR	LR		09 22 05.5	
	comp=Z,118nm,21.0s,baz=143,slow=40								
KIV	**Kislovodsk**	**14.66**	**338**	*e*P		**P**		**09 16 01.9**	**-2.5**
KIV					pmax	pmax			
	comp=Z,28nm,1.1s								
KIV					MLR	MLR			
	comp=Z,45nm,12.0s								
BRTR	**Keskin Array B**	**16.41**	**308**	Pn		**Pn**		**09 16 21.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=127,slow=11,SNR=5.5								
ATD	**Arta Tunnel**	**20.19**	**202**	LR		LR		09 25 38.1	
	comp=Z,135nm,18.7s,baz=21,slow=39								
AKTK	**Aktyubinsk**	**20.65**	**14**	P		**P**		**09 17 11.2**	**+1.0**
	comp=Z,110nm,21.2s								
AKTO	**Aktyubinsk**	**20.65**	**14**	P		**P**		**09 17 11.2**	**+1.0**
AKTO					pmax	pmax			
	comp=Z,2.0nm,0.4s								
AKTO					MLR	MLR			
	comp=Z,110nm,21.2s								
AKTO	**Aktyubinsk**	**20.65**	**14**	P		**P**		**09 17 11.2**	**+1.0**
	comp=Z,1.8nm,0.4s,baz=211,slow=18,SNR=3.6								
AKTO					LR	LR		09 26 46.4	
	comp=Z,110nm,21.2s,baz=66,slow=42								
VRHR	**Novokhopersk**	**21.50**	**345**	*e*P		**P**		**09 17 18.9**	**-0.4**
VRHR					pmax	pmax			
	comp=Z,20nm,0.6s								
VRHR					pmax	pmax			
	comp=N,6.0nm,0.3s								
VRHR					pmax	pmax			
	comp=E,10.0nm,0.6s								
VRHR	**Novokhopersk**	**21.50**	**345**	*e*P		**P**		**09 17 18.9**	**-0.4**
	comp=E,6.0nm,0.3s								
VORD	**Divnogorie**	**21.97**	**341**	*e*P		**P**		**09 17 27.7**	**+3.4**
VORD					*e*S	**S**		**09 21 28.3**	**+2.8**
VORD					pmax	pmax			
	comp=Z,10.0nm,0.6s								
VORD					pmax	pmax			
	comp=N,3.0nm,0.3s								
VORD					pmax	pmax			
	comp=E,6.0nm,0.6s								
VORD					smax	smax			
	comp=E,30nm,1.0s								
VORD					smax	smax			
	comp=Z,30nm,2.0s								
VORD					smax	smax			
	comp=N,10.0nm,1.0s								
VORD	**Divnogorie**	**21.97**	**341**	*e*P		**P**		**09 17 27.7**	**+3.4**
	comp=N,3.0nm,0.3s								
VORD					*e*S	**S**		**09 21 28.3**	**+2.8**
	comp=N,10.0nm,1.0s								
VSR	**Storozhevoye**	**22.23**	**341**	*e*P		**P**		**09 17 28.8**	**+1.7**
VSR					*e*S	**S**		**09 21 26.1**	**-4.3**
VSR	**Storozhevoye**	**22.23**	**341**	*e*P		**P**		**09 17 28.8**	**+1.7**
AAK	**Ala-Archa**	**22.73**	**51**⇓	*e*P		**P**		**09 17 34.9**	**+2.1**
AAK					pmax	pmax			
	comp=Z,17nm,1.5s								
AAK	**Ala-Archa**	**22.73**	**51**	P		**P**		**09 17 33.7**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=225,slow=10.0,SNR=3.1								
AAK	**Ala-Archa**	**22.73**	**51**	*e*P		**P**		**09 17 34.9**	**+2.1**
	comp=Z,17nm,1.5s								
MLR	**Muntele Rosu**	**24.18**	**315**⇑	*i*P		**P**		**09 17 49.6**	**+2.6**
MLR	**Muntele Rosu**	**24.18**	**315**	P		**P**		**09 17 48.6**	**+1.6**
	comp=Z,1.6nm,0.8s,baz=66,slow=5.9,SNR=6.0								
MLR	**Muntele Rosu**	**24.18**	**315**	P		**P**		**09 17 48.6**	**+1.6**
	comp=Z,2.0nm,0.8s								
VOIR		**24.71**	**314**⇓	*i*P		**P**		**09 17 52.9**	**+1.2**
VOIR		**24.71**	**314**⇓	*i*P		**P**		**09 17 52.9**	**+1.2**
AKASG	**Malin Array Be**	**25.54**	**328**	P		**P**		**09 17 58.7**	**-0.4**
AKASG	**Malin Array Be**	**25.54**	**328**	P		**P**		**09 17 58.6**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=137,slow=8.8,SNR=5.8								
AKASG	**Malin Array Be**	**25.54**	**328**	P		**P**		**09 17 58.7**	**-0.4**
BURAR	**Bucovina Array**	**25.71**	**319**⇑	*i*P		**P**		**09 18 02.5**	**+1.7**
BURAR	**Bucovina Array**	**25.71**	**319**⇑	*i*P		**P**		**09 18 02.5**	**+1.7**
GZR	**Gura Zlata**	**26.12**	**312**⇓	*i*P		**P**		**09 18 05.3**	**+0.8**
GZR	**Gura Zlata**	**26.12**	**312**⇓	*i*P		**P**		**09 18 05.3**	**+0.8**
OBN	**Obninsk**	**26.42**	**342**	P		**P**		**09 18 08.0**	**+1.0**
OBN					*e*			09 18 17.9	
OBN					pmax	pmax			
	comp=Z,35nm,1.8s								
OBN	**Obninsk**	**26.42**	**342**	P		**P**		**09 18 08.0**	**+1.0**
	comp=Z,35nm,1.8s								
ARU	**Arti**	**26.48**	**10**	P		P		09 18 20.5	+13
MOS	**Moscow**	**26.71**	**344**	*e*P		**P**		**09 18 12.0**	**+2.4**
MOS	**Moscow**	**26.71**	**344**	*e*P		**P**		**09 18 12.0**	**+2.4**
BRVK	**Borovoye**	**26.75**	**27**⇑	*e*P		**P**		**09 18 10.0**	**-0.1**
BRVK					pmax	pmax			
	comp=Z,4.0nm,1.3s								
BRVK	**Borovoye**	**26.75**	**27**	*e*P		**P**		**09 18 10.0**	**-0.1**
	comp=Z,4.0nm,1.3s								
BVAR	**Borovoye Array**	**26.77**	**27**	P		**P**		**09 18 10.9**	**+0.7**
BVAR					pmax	pmax			
	comp=Z,5.0nm,0.7s								
BVAR	**Borovoye Array**	**26.77**	**27**	P		**P**		**09 18 10.9**	**+0.7**
	comp=Z,4.6nm,0.7s,baz=224,slow=10,SNR=8.1								
BVAR	**Borovoye Array**	**26.77**	**27**	P		**P**		**09 18 10.9**	**+0.7**
	comp=Z,5.0nm,0.7s								
KURBB	**Kurchatov Arra**	**29.02**	**38**	P		**P**		**09 18 30.5**	**+0.2**
	comp=Z,2.8nm,0.8s,baz=241,slow=9.1,SNR=6.7								
KURBB					LR	LR		09 31 50.3	
	comp=Z,169nm,20.9s,baz=250,slow=40								
KURK	**Kurchatov**	**29.12**	**38**⇓	*i*P		**P**		**09 18 31.2**	**0.0**
KURK					pmax	pmax			
	comp=Z,7.0nm,1.2s								
KURK	**Kurchatov**	**29.12**	**38**	*i*P		**P**		**09 18 31.2**	**0.0**
	comp=Z,7.0nm,1.2s								
MKAR	**Makanchi Array**	**29.47**	**48**	P		**P**		**09 18 34.3**	**-0.1**
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
MKAR					MLR	MLR			
	comp=Z,48nm,19.5s								
MKAR	**Makanchi Array**	**29.47**	**48**	P		**P**		**09 18 34.2**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=240,slow=9.1,SNR=5.2								
MKAR					LR	LR		09 31 01.4	
	comp=Z,48nm,19.5s,baz=76,slow=38								
MKAR	**Makanchi Array**	**29.47**	**48**	P		**P**		**09 18 34.3**	**-0.1**
	comp=Z,48nm,19.5s								
GERES	**GERESS Array B**	**33.16**	**314**	P		**P**		**09 19 06.4**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=101,slow=5.3,SNR=3.1								
GERES	**GERESS Array B**	**33.16**	**314**	P		**P**		**09 19 06.4**	**-0.6**
ZALV	**Zalesovo Beam**	**34.05**	**37**	P		**P**		**09 19 13.8**	**-0.7**
ZALV					pmax	pmax			
	comp=Z,2.0nm,0.5s								
ZALV					MLR	MLR			
	comp=Z,144nm,19.2s								
ZALV	**Zalesovo Beam**	**34.05**	**37**	P		**P**		**09 19 13.8**	**-0.7**
	comp=Z,2.4nm,0.5s,baz=254,slow=8.5,SNR=8.8								
ZALV					LR	LR		09 34 58.7	
	comp=Z,144nm,19.1s,baz=231,slow=40								
ZALV	**Zalesovo Beam**	**34.05**	**37**	P		**P**		**09 19 13.8**	**-0.7**
	comp=Z,144nm,19.2s								
FINES	**FINESS Array B**	**34.74**	**340**	P		**P**		**09 19 18.6**	**-1.8**
	comp=Z,0.7nm,0.4s,baz=162,slow=9.1,SNR=5.7								
FINES					LR	LR		09 34 45.6	
	comp=Z,59nm,18.8s,baz=195,slow=38								
NOA	**NORSAR Array B**	**39.84**	**331**	P		**P**		**09 20 02.4**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=118,slow=6.7,SNR=3.5								
NOA					LR	LR		09 37 50.8	
	comp=Z,46nm,20.1s,baz=230,slow=38								
GTA	**Gaotai**	**41.04**	**64**	*e*P		**P**		**09 20 14.8**	**+0.8**
GTA					pP	**pP**		**09 20 19.8**	**-1.8**
GTA					sP	**sP**		**09 20 21.8**	**-2.8**
GTA					pmax	pmax			
	comp=Z,4.0nm,1.2s								
ARCES	**ARCESS Array B**	**41.48**	**347**	P		**P**		**09 20 17.9**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=145,slow=7.4,SNR=5.3								
ARCES	**ARCESS Array B**	**41.48**	**347**	P		**P**		**09 20 17.9**	**+0.8**
	comp=Z,1.0nm,0.7s								
ZAK	**Zakamensk**	**43.81**	**48**	*e*P		**P**		**09 20 37.0**	**+0.6**
ZAK					pmax	pmax			
	comp=Z,2.0nm,1.4s								
ZAK	**Zakamensk**	**43.81**	**48**	*e*P		**P**		**09 20 37.0**	**+0.6**
	comp=Z,2.0nm,1.4s								
TLY	**Talaya**	**44.19**	**46**	*e*P		**P**		**09 20 39.4**	**+0.1**
TLY					pmax	pmax			
	comp=Z,2.0nm,1.0s								
TLY					MLR	MLR			
	comp=Z,134nm,18.0s								
TLY	**Talaya**	**44.19**	**46**	*e*P		**P**		**09 20 39.4**	**+0.1**
	comp=Z,134nm,18.0s								
LZH	**Lanzhou**	**44.57**	**68**	*e*P		**P**		**09 20 40.0**	**-2.7**
LZH					pmax	pmax			
	comp=Z,18nm,1.5s								
CMAR	**Chiang Mai Arr**	**45.52**	**94**	P		**P**		**09 20 50.1**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=293,slow=7.9,SNR=9.6								
CMAR					LR	LR		09 44 00.5	
	comp=Z,35nm,18.2s,baz=125,slow=42								
CMAR	**Chiang Mai Arr**	**45.52**	**94**	P		**P**		**09 20 50.1**	**-0.2**
	comp=Z,35nm,18.2s								
SONM	**Songino Array**	**45.69**	**51**	P		**P**		**09 20 51.4**	**0.0**
	comp=Z,0.9nm,0.8s,baz=274,slow=9.6,SNR=6.0								
SONM					LR	LR		09 43 33.5	
	comp=Z,106nm,18.7s,baz=37,slow=41								
SONM	**Songino Array**	**45.69**	**51**	P		**P**		**09 20 51.4**	**0.0**
	comp=Z,106nm,18.7s								
TORD	**Torodi Ar. Bea**	**47.98**	**260**	P		**P**		**09 21 09.2**	**-0.4**
	comp=Z,6.7nm,0.9s,baz=56,slow=9.0,SNR=42								
TORD					LR	LR		09 44 16.6	
	comp=Z,124nm,18.4s,baz=80,slow=40								
BOD	**Bodaibo**	**50.77**	**38**	*e*P		**P**		**09 21 28.4**	**-1.9**
BOD					pmax	pmax			
	comp=Z,6.0nm,1.7s								
JMIC	**Jan Mayen**	**51.36**	**339**	LR		LR		09 44 29.1	
	comp=Z,66nm,21.2s,baz=222,slow=37								
WHN	**Wuhan**	**54.40**	**72**	P		P		09 21 50.8	-6.8
WHN					pmax	pmax			
	comp=Z,26nm,0.5s								
DBIC	**Dimbokro**	**56.82**	**257**	P		**P**		**09 22 15.2**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=32,slow=5.8,SNR=6.1								
DBIC	**Dimbokro**	**56.82**	**257**	P		**P**		**09 22 15.3**	**+0.1**
	comp=Z,4.0nm,0.8s								
KSRS	**Korea Array**	**62.99**	**61**	P		**P**		**09 22 56.5**	**-0.8**
	comp=Z,2.6nm,0.9s,baz=279,slow=7.2,SNR=7.1								
KSRS	**Korea Array**	**62.99**	**61**	P		**P**		**09 22 56.5**	**-0.8**
	comp=Z,3.0nm,0.9s								
BOSA	**Boshof**	**63.54**	**205**	P		**P**		**09 23 02.4**	**+1.4**
	comp=Z,4.5nm,0.9s,baz=16,slow=4.9,SNR=11								
BOSA					LR	LR		09 52 00.1	
	comp=Z,60nm,19.0s,baz=165,slow=37								
BOSA	**Boshof**	**63.54**	**205**	P		**P**		**09 23 02.4**	**+1.4**
	comp=Z,60nm,19.0s								
USRK	**Ussuriysk Array**	**63.79**	**52**	P		**P**		**09 23 02.1**	**-0.3**
	comp=Z,3.4nm,1.1s,baz=240,slow=15,SNR=2.8								
ASAJ	**Asahikawa**	**70.93**	**50**	LR		LR		09 58 05.6	
	comp=Z,179nm,21.1s,baz=302,slow=39								
SCHQ	**Schefferville**	**79.34**	**328**	P		**P**		**09 24 35.6**	**-0.4**
	comp=Z,2.9nm,0.9s,baz=73,slow=4.8,SNR=5.3								
ILAR	**Eielson Array**	**84.01**	**7**	P		**P**		**09 24 59.8**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=315,slow=3.6,SNR=5.2								
YKA	**Yellowknife Ar**	**86.46**	**353**	P		**P**		**09 25 12.0**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=5.9,slow=5.2,SNR=10								

CSEM ***18*** *09:13:33.6,39.09N×29.03E,h7km,MD2.6, After DDA*

DDA 18 09:13:33.6,39.09N×29.03E,h7km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.35**	**90**	*i*P	Pg	09 13 41.1	+0.3
GDZ				*i*S	Sg	09 13 46.4	+0.8
GDZ	**Gediz**	**0.35**	**90**	*i*P	Pg	09 13 41.1	+0.3
GDZ				*i*S	Sg	09 13 46.4	+0.8
MANT	**Manisa**	**0.70**	**212**	*i*P	Pg	09 13 47.1	-0.4
MANT				*i*S	Sg	09 13 57.3	+0.4
MANT	**Manisa**	**0.70**	**212**	*i*P	Pg	09 13 47.1	-0.4
MANT				*i*S	Sg	09 13 57.3	+0.5
KHAL	**Karahalli**	**0.81**	**153**	*i*P	Pb	09 13 50.7	+0.6
KHAL				*i*S	Sb	09 14 01.2	-0.2
KHAL	**Karahalli**	**0.81**	**153**	*i*P	Pb	09 13 50.7	+0.5
KHAL				*i*S	Sb	09 14 01.2	-0.2
BORA	**Eskisehir**	**1.36**	**54**	*i*P	Pn	09 13 58.9	-0.3
BORA				*i*S	Sb	09 14 17.0	-0.2
BORA	**Eskisehir**	**1.36**	**54**	*i*P	Pn	09 13 58.9	-0.3
BORA				*i*S	Sb	09 14 17.0	-0.2

JMA 18 09:17:55.3±0.2,28.61N×143.11E,h50km,M4.2,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.72**	**209**	P	Pn	09 18 23.5	+0.7
JHJ2	**Mitsune**	**5.30**	**329**	P	Pn	09 19 14.9	+2.9
BSO1	**Boso 1**	**6.29**	**344**	P	Pn	09 19 25.1	+0.3
BSO1				*e*S	Sn	09 20 39.7	+4.8
BSO2	**Boso 2**	**6.44**	**342**	*e*S	Sn	09 20 43.4	+4.3
BSO3	**Boso 3**	**6.56**	**341**	P	Pn	09 19 30.5	+1.7
BSO3				*e*S	Sn	09 20 45.6	+3.6
BSO4	**Boso 4**	**6.78**	**340**	P	Pn	09 19 33.6	+1.5
BSO4				*e*S	Sn	09 20 50.7	+2.8
JOD2	**Odawara 2**	**7.46**	**334**	P	Pn	09 19 43.2	+1.6
JOD2				*e*S	Sn	09 21 12.7	+7.9
JHU	**Hanno**	**7.91**	**337**	P	Pn	09 19 48.8	+1.0
JHU				*e*S	Sn	09 21 15.2	-0.7
JRY	**Ryogami san**	**8.20**	**335**	P	Pn	09 19 54.6	+2.9

IDC ***18*** *09:19:06.0±0.6,3.99N×126.68E,h0km,mb4.1/19, mb1 4.3/19,mb1mx4.2/25,mbtmp4.1/19,MS3.4/1, Ms1 3.4/1,ms1mx2.4/38,Error ellipse: s-maj=33.3km s-min=13.0km az=71.0*

ISCJB ***18*** *09:19:09.6±0.4,4.08N±0.04×126.97E±0.06,h36km, mb4.2/20,Error ellipse: s-maj=8.3km s-min=5.0km az=163.0*

DJA ***18*** *09:19:17.8±0.9,4.N±13.×12.7E±.,h128km±27km,M4.4/4, mB4.8/1,mb4.5/4,MLv4.3/3,Mw(mB)4.1/1*

ISC 18 09:19:11.5±0.5,4.06N±0.05×126.90E±0.08,h36km,n34, σ1s34/38,mb4.2/19,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.26**	**336**	LR	LR	09 21 37.5	
	comp=Z,540nm,18.6s,baz=177,slow=47						
TNTI	**Ternate**	**3.30**	**172**	P	Pn	**09 20 03.2**	**+2.5**
TNTI				S	**Sn**	**09 20 38.6**	**-0.1**
MNI	**Manado**	**3.32**	**218**	P	Pn	**09 20 02.9**	**+1.9**
MNI				S	**Sn**	**09 20 40.2**	**+1.0**
CTBH	**Cotabato--PC H**	**4.10**	**320**⇓	*e*P	Pn	**09 20 13.2**	**+1.5**
LBMI	**Labuha**	**4.71**	**173**	P	Pn	**09 20 21.3**	**+1.2**
MRSI	**Marisa**	**6.11**	**234**	P	Pn	**09 20 41.8**	**+2.5**
	79nm,0.5s,1μm						
SWI	**Sorong**	**6.55**	**138**	P	Pn	**09 20 47.6**	**+2.3**
	44nm,0.6s						
SWI				S	**Sn**	**09 21 58.8**	**0.0**
	44nm,0.6s						
MYLDM	**Lahad Datu**	**8.45**	**278**	P	Pn	09 21 15.9	+4.5
FAKI	**Fak Fak**	**8.76**	**142**	P	Pn	**09 21 17.6**	**+1.9**
	21nm,1.1s						
MTN	**Manton Dam**	**17.32**	**166**	*e*P	Pn	**09 23 08.2**	**-2.3**
FITZ	**Fitzroy Crossi**	**22.06**	**183**	*e*P	P	**09 24 00.9**	**-2.5**
	8.0nm,0.4s						
FITZ	**Fitzroy Crossi**	**22.06**	**183**	P	P	**09 24 01.5**	**-1.8**
	5.0nm,0.5s,baz=352,slow=7.1,SNR=4.9						
WRA	**Warramunga Arr**	**24.95**	**163**	P	P	**09 24 30.9**	**-0.8**
	11nm,0.6s,baz=343,slow=10,SNR=45						
ASAR	**Alice Springs**	**28.39**	**166**	P	P	**09 25 02.2**	**-0.5**
	0.9nm,0.5s,baz=347,slow=7.7,SNR=16						
ASAR					S	09 29 56.2	+8.7
	0.6nm,0.8s,baz=342,slow=18,SNR=4.4						
CMAR	**Chiang Mai Arr**	**30.86**	**300**	P	P	**09 25 24.4**	**-0.2**
	2.2nm,0.7s,baz=114,slow=7.0,SNR=11						
KSRS	**Korea Array**	**33.24**	**1**	P	P	**09 25 46.9**	**+1.6**
	0.5nm,0.4s,baz=184,slow=11,SNR=3.7						
KSRS					PcP	**PcP**		**09 28 28.5**	**+1.3**
	1.0nm,0.6s,baz=181,slow=2.5,SNR=5.0						
KLBR	**Kellerberrin**	**36.51**	**193**	*e*P	P	**09 26 12.9**	**-0.7**
	10nm,0.5s						
STKA	**Stephens Creek**	**38.38**	**160**	*e*P	P	**09 26 29.9**	**+0.5**
	5.2nm,0.7s						
STKA	**Stephens Creek**	**38.38**	**160**	P	P	**09 26 29.8**	**+0.4**
	6.6nm,0.7s,baz=340,slow=8.7,SNR=15						
SONM	**Songino Array**	**47.04**	**341**	P	P	**09 27 40.1**	**

CRVS				*e*SN		**Sg**	**09 22 28.5**	**+0.5**
CRVS	**Cervenica-Dubn**	**2.14**	**114**	*e*Pn		**Pg**	**09 22 00.1**	**-0.2**
PRU	**Pruhonice**	**2.57**	**276**	*e*SG		**Sg**	**09 22 41.8**	**0.0**
	comp=Z,4.0nm,0.5s							
PRU	**Pruhonice**	**2.57**	**276**	Sg		**Sg**	**09 22 41.8**	**0.0**
	4.0nm,0.5s							
KOLS	**Kolonicke sedl**	**2.62**	**108**	*e*PG		**Pg**	**09 22 11.0**	**+1.5**
KOLS	**Kolonicke sedl**	**2.62**	**108**	*e*Pg		**Pg**	**09 22 11.1**	**+1.5**
KHC	**Kasperske Hory**	**3.28**	**260**	*e*PN		**Pn**	**09 22 11.5**	**-0.6**
KHC				*ex*		x	09 22 18.0	
KHC				*e*SG		**Sg**	**09 23 02.6**	**-2.1**
	comp=Z,4.8nm,0.4s							
KHC	**Kasperske Hory**	**3.28**	**260**	Pn		**Pn**	**09 22 11.5**	**-0.6**
KHC				Sg		**Sg**	**09 23 02.6**	**-2.1**
	4.8nm,0.4s							
MOA	**Molln**	**3.42**	**237**	⇓*i*Sg		**Sg**	**09 23 08.9**	**-0.1**
	2.9nm,0.4s							
MOA	**Molln**	**3.42**	**237**	Sg		**Sg**	**09 23 08.9**	**-0.1**
	2.9nm,0.4s							
CLL	**Collm**	**3.81**	**295**	*e*Sg		**Sg**	**09 23 23.0**	**+1.2**

NNC 18 09:32:31.6±3.9, 53°.86N×85°.07E, h24km±22km, mb3.7, mpv3.4, 7C-5D, Error ellipse: s-maj=25.5km s-min=14.1km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KURK	**Kurchatov**	**5.05**	**234**	⇑Pn		Pn	09 33 46.1	+0.2
	4.5nm,0.8s							
KURK				⇑Lg		Lg	09 35 12.7	
	11nm,1.2s							
KURBB	**Kurchatov Arra**	**5.16**	**234**	⇑Pn		Pn	09 33 48.0	+0.8
	0.8nm,0.4s							
KURBB				⇓Lg		Lg	09 35 15.8	
	2.7nm,1.1s							
MK31	**Makanchi Array**	**7.29**	**195**	⇑Pn		Pn	09 34 14.4	-2.2
	1.2nm,0.3s,baz=26,slow=12,SNR=91							
MK31				⇓Sn		Sn	09 35 40.1	+1.6
	0.6nm,0.5s,baz=31,slow=21,SNR=2.8							
MK31				⇓Lg		Lg	09 36 20.8	
	3.4nm,0.8s,baz=32,slow=31,SNR=6.1							
VOSK	**Vostochnaya**	**8.52**	**268**	⇑Pn		Pn	09 34 31.3	-2.1
	1.3nm,0.4s							
VOSK				⇑Sn		Sn	09 36 08.4	-0.3
	5.5nm,0.8s							
BVA0	**Borovoye Array**	**8.81**	**271**	⇓Pn		Pn	09 34 38.6	+1.3
	0.2nm,0.5s,baz=72,slow=15,SNR=6.9							
BVA0				Sn		Sn	09 36 15.8	+0.1
	0.6nm,1.2s,baz=72,slow=26,SNR=5.8							
BRVK	**Borovoye**	**8.86**	**271**	⇓Pn		Pn	09 34 39.3	+1.3
	3.5nm,0.7s							
ZRNK	**Zerenda**	**9.64**	**271**	⇑Pn		Pn	09 34 48.4	-0.4
	1.6nm,0.4s							

*IDC **18** 09:34:08.2±0.6, 3°.01N×126°.78E, h0km, mb3.9/15, mb1 4.0/15, mb1mx4.0/25, mbtmp3.9/15, MS3.5/2, Ms1 3.5/2, ms1mx2.8/42, Error ellipse: s-maj=33.7km s-min=12.9km az=78.0*

*ISCJB **18** 09:34:12.2±0.6, 3°.00N±0°.09×126°.86E±0°.2, h44km, mb3.9/14, MS3.5/1, Error ellipse: s-maj=30.5km s-min=10.8km az=168.1*

ISC 18 09:34:14.4±0.7, 3°.0N±0°.1×126°.9E±0°.3, h44km, n22, σ0s77/20, mb4.0/15, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**4.24**	**343**	LR		LR	09 37 10.9	
	comp=Z,431nm,19.7s,baz=206,slow=43							
GUMO	**Guam**	**20.68**	**58**	LR		LR	09 45 15.6	
	comp=Z,182nm,18.2s,baz=255,slow=32							
FITZ	**Fitzroy Crossi**	**21.00**	**183**	*e*P			09 38 58.6	
	5.7nm,0.7s							
FITZ	**Fitzroy Crossi**	**21.00**	**183**	P		**P**	**09 38 55.0**	**+0.7**
	2.8nm,0.7s,baz=16,slow=15,SNR=3.7							
WRA	**Warramunga Arr**	**23.96**	**162**	P		**P**	**09 39 23.9**	**-0.9**
	2.4nm,0.5s,baz=340,slow=10,SNR=50							
ASAR	**Alice Springs**	**27.38**	**166**	P		**P**	**09 39 55.1**	**-0.8**
	0.4nm,0.6s,baz=352,slow=8.3,SNR=9.6							
ASAR				PcP		**PcP**	**09 43 14.9**	**+0.6**
	0.5nm,0.7s,baz=358,slow=2.4,SNR=4.2							
KSRS	**Korea Array**	**34.30**	**2**	P		**P**	**09 40 55.6**	**-1.0**
	1.6nm,0.9s,baz=182,slow=9.6,SNR=6.4							
STKA	**Stephens Creek**	**37.41**	**159**	*e*P		**P**	**09 41 23.1**	**-0.3**
	2.2nm,0.6s							
STKA	**Stephens Creek**	**37.41**	**159**	P		**P**	**09 41 22.8**	**-0.6**
	3.7nm,0.8s,baz=343,slow=8.5,SNR=12							
USRK	**Ussuriysk Arra**	**41.28**	**6**	P		**P**	**09 41 55.7**	**+0.2**
	1.0nm,0.6s,baz=204,slow=6.2,SNR=3.5							
ASAJ	**Asahikawa**	**43.25**	**17**	P		**P**	**09 42 10.9**	**-0.6**
	7.3nm,0.7s,baz=225,slow=13,SNR=3.7							
SONM	**Songino Array**	**48.02**	**342**	P		**P**	**09 42 49.5**	**+0.1**
	0.3nm,0.5s,baz=163,slow=6.6,SNR=4.0							
PETK	**Petropavlovsk-**	**56.05**	**22**	P		**P**	**09 43 49.3**	**+0.4**
	4.0nm,0.7s,baz=47,slow=3.4,SNR=6.0							
MKAR	**Makanchi Array**	**58.22**	**325**	P		**P**	**09 44 03.9**	**-0.4**
	0.8nm,0.6s,baz=124,slow=7.3,SNR=18							
ZALV	**Zalesovo Beam**	**61.29**	**333**	P		**P**	**09 44 24.3**	**-1.0**
	0.5nm,0.4s,baz=147,slow=8.1,SNR=2.7							
KURBB	**Kurchatov Arra**	**62.42**	**328**	P		**P**	**09 44 32.2**	**-0.7**
	1.0nm,0.4s,baz=128,slow=6.3,SNR=6.4							
BVAR	**Borovoye Array**	**68.00**	**327**	P		**P**	**09 45 08.9**	**-0.2**
	0.3nm,0.4s,baz=128,slow=11,SNR=2.9							
AKTO	**Aktyubinsk**	**74.31**	**322**	P		**P**	**09 45 47.3**	**+0.1**
	0.8nm,0.6s,baz=96,slow=11,SNR=5.0							
ILAR	**Eielson Array**	**85.70**	**25**	P		**P**	**09 46 48.5**	**0.0**
	0.2nm,0.5s,baz=254,slow=5.4,SNR=5.7							
YKA	**Yellowknife Ar**	**100.11**	**24**	P		**Pdif**	**09 47 56.8**	**+1.6**
	0.1nm,0.5s,baz=299,slow=4.4,SNR=2.7							
TXAR	**Lajitas Array**	**121.94**	**53**	PKP		**PKPdf**	**09 53 06.0**	**+1.1**
	0.2nm,0.7s,baz=262,slow=0.9,SNR=3.8							
TORD	**Torodi Ar. Bea**	**123.26**	**288**	PKP		**PKPdf**	**09 53 08.2**	**+0.6**
	0.3nm,0.6s,baz=47,slow=1.5,SNR=2.5							

PRE 18 09:41:32.2±0.8, 29°.80S×19°.02E, h5km, ML2.0, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CVNA	**Calvinia**	**1.79**	**159**	*e*P		Pb	09 42 05.0	-0.8
CVNA				*e*S		Sb	09 42 28.5	-0.2
CVNA				AML		AML	09 42 32.7	
	comp=Z,13nm,0.3s							
SUR	**Sutherland**	**3.00**	**150**	*e*P		Pn	09 42 20.7	0.0
SUR				*e*S		Sn	09 42 56.9	-0.2
SUR				AML		AML	09 43 03.9	
	comp=Z,4.7nm,0.2s							
BOSA	**Boshof**	**5.58**	**79**	*e*S		Sn	09 43 59.0	-1.7
BOSA				AML		AML	09 44 14.7	
	comp=Z,1.8nm,0.6s							

*MOS **18** 09:44:11.9±1.0, 44°.02N×31°.67E, h10km, mb4.2/6, Error ellipse: s-maj=6.8km s-min=6.1km az=6.4*

*IDC **18** 09:44:11.8±0.8, 43°.92N×31°.69E, h0km, mb3.7/10, mb1 3.8/16, mb1mx3.7/29, mbtmp3.6/16, ML3.3/6, Error ellipse: s-maj=17.7km s-min=10.7km az=14.0*

*DDA **18** 09:44:13.2, 43°.76N×31°.58E, h16km, MD4.4*

*CSEM **18** 09:44:15.4±0.1, 43°.95N×31°.63E, h30km, mb3.9/7, Error ellipse: s-maj=2.8km s-min=2.1km az=9.0*

ISC 18 09:44:10.5±0.8, 43°.93N±0°.02×31°.64E±0°.02, h4km±5km, n191, σ1s60/203, mb4.0/11, 15C-22D, Black Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SEV	**Sevastopol'**	**1.58**	**66**	*e*P		**Pg**	**09 44 40.1**	**-0.7**
SEV				*e*			09 44 59.5	
SEV	**Sevastopol'**	**1.58**	**66**	*e*P		**Pg**	**09 44 40.1**	**-0.7**
SEV				*e*S		**Sb**	**09 44 59.5**	**-1.2**
YAL	**Yalta**	**1.89**	**72**	*e*P		**Pg**	**09 44 45.9**	**-0.9**
YAL				*e*			09 45 08.1	
YAL	**Yalta**	**1.89**	**72**	*e*P		**Pg**	**09 44 45.9**	**-0.9**
YAL				*e*S		**Sb**	**09 45 08.1**	**-1.5**
SIM	**Simferopol'**	**2.05**	**59**	*ce*P		**Pg**	**09 44 48.4**	**-1.3**
SIM				*e*S		**Sb**	**09 45 12.2**	**-1.9**
SIM				pmax		pmax		
	comp=Z,12nm,0.1s							
SIM	**Simferopol'**	**2.05**	**59**	*e*P		**Pg**	**09 44 48.4**	**-1.3**
	comp=Z,12nm,0.1s							
SIM				*e*S		**Sb**	**09 45 12.2**	**-1.9**
ALU	**Alushta**	**2.12**	**68**	*e*P		**Pb**	**09 44 48.9**	**-0.6**
ALU				*i*			09 45 13.7	
ALU	**Alushta**	**2.12**	**68**	*e*P		**Pb**	**09 44 48.9**	**-0.6**
ALU				*i*	S	**Sb**	**09 45 13.7**	**-2.5**
EFOR	**EFORIE**	**2.17**	**275**	⇑*i*P		**Pb**	**09 44 49.4**	**-1.0**
EFOR	**EFORIE**	**2.17**	**275**	⇑*i*P		**Pb**	**09 44 49.4**	**-1.0**
EFOR					S	**Sn**	**09 45 15.5**	**+0.7**
MANR	**Mangalia**	**2.21**	**268**	⇓*i*P		**Pb**	**09 44 50.0**	**-1.0**
MANR	**Mangalia**	**2.21**	**268**	⇓*i*P		**Pb**	**09 44 50.0**	**-1.0**
MANR					S	**Sn**	**09 45 15.5**	**-0.2**
TLCR		**2.38**	**303**	⇓P		**Pb**	**09 44 51.7**	**-2.1**
TLCR					S	**Sn**	**09 45 19.0**	**-0.8**
TLCR		**2.38**	**303**	⇓*i*P		**Pb**	**09 44 51.7**	**-2.1**
TLCR		**2.38**	**303**	P		**Pb**	**09 44 51.7**	**-2.1**
TLCR					S	**Sn**	**09 45 19.0**	**-0.8**
TIRR	**Tirgusor**	**2.38**	**284**	⇓P		**Pn**	**09 44 51.9**	**+1.6**
TIRR					S	**Sn**	**09 45 19.4**	**-0.5**
TIRR	**Tirgusor**	**2.38**	**284**	⇓*i*P		**Pn**	**09 44 51.9**	**+1.6**
TIRR	**Tirgusor**	**2.38**	**284**	P		**Pn**	**09 44 51.9**	**+1.6**
TIRR					S	**Sn**	**09 45 19.4**	**-0.5**
SUDU	**Sudak**	**2.59**	**67**	*e*P		**Pb**	**09 44 56.6**	**-1.0**
SUDU				*e*			09 45 26.0	
SUDU	**Sudak**	**2.59**	**67**	*e*P		**Pb**	**09 44 56.6**	**-1.0**
SUDU				*e*S		**Sb**	**09 45 26.0**	**-3.8**
CVD	**Cernavoda**	**2.62**	**280**	⇓P		**Pb**	**09 44 55.9**	**-2.2**
CVD					S	**Sn**	**09 45 26.3**	**+0.4**
CVD	**Cernavoda**	**2.62**	**280**	⇓*i*P		**Pb**	**09 44 55.9**	**-2.2**
CVD	**Cernavoda**	**2.62**	**280**	P		**Pb**	**09 44 55.9**	**-2.2**
CVD					S	**Sn**	**09 45 26.3**	**+0.4**
BZK	**Bozkurt**	**2.63**	**138**	*e*PN		**Pn**	**09 44 53.5**	**-0.2**
CFR	**Carcaliu**	**2.80**	**298**	⇑P		**Pn**	**09 44 57.5**	**+1.5**
CFR					S	**Sn**	**09 45 29.2**	**-1.0**
CFR	**Carcaliu**	**2.80**	**298**	⇑*i*P		**Pn**	**09 44 57.5**	**+1.5**
CFR	**Carcaliu**	**2.80**	**298**	P		**Pn**	**09 44 57.5**	**+1.5**
CFR					S	**Sn**	**09 45 29.2**	**-1.0**
SAFT	**Safranbolu**	**2.80**	**164**	*e*PN		**Pn**	**09 44 56.8**	**+0.7**
SAFT				*e*SN		**Sn**	**09 45 30.6**	**+0.3**
SILT	**Sile**	**3.14**	**209**	*e*PN		**Pn**	**09 45 01.3**	**+0.5**
AMRR	**Amara**	**3.16**	**284**	⇓P		**Pn**	**09 45 03.3**	**+2.2**
AMRR					S	**Sn**	**09 45 39.8**	**+0.6**
AMRR	**Amara**	**3.16**	**284**	⇓*i*P		**Pn**	**09 45 03.3**	**+2.2**
AMRR	**Amara**	**3.16**	**284**	P		**Pn**	**09 45 03.3**	**+2.2**
AMRR					S	**Sn**	**09 45 39.8**	**+0.6**
SPNC	**Sapanca-Adapaz**	**3.39**	**197**	*e*PN		**Pn**	**09 45 05.3**	**+1.1**
TOS	**Tosya**	**3.39**	**148**	*e*PN		**Pn**	**09 45 05.1**	**+0.9**
HRT	**Hereke**	**3.43**	**206**	*e*PN		**Pn**	**09 45 06.0**	**+1.2**
ISK	**Istanbul-Kandi**	**3.44**	**215**	*e*PN		**Pn**	**09 45 05.3**	**+0.4**
BGKT	**Bogazkoy**	**3.47**	**219**	*e*PN		**Pn**	**09 45 06.1**	**+0.9**
CTYL	**Yal??k??y-??at**	**3.48**	**226**	*e*PN		**Pn**	**09 45 06.0**	**+0.6**
LEOM	**Leova**	**3.49**	**318**	⇓P		Pn	09 45 07.9	+2.3
LEOM					S	**Sn**	**09 45 47.0**	**-0.4**
LEOM	**Leova**	**3.49**	**318**	⇓*i*P		Pn	09 45 07.9	+2.3
LEOM	**Leova**	**3.49**	**318**	P		Pn	09 45 07.9	+2.3
LEOM					S	**Sn**	**09 45 47.0**	**-0.4**
DIKM	**Dikmen**	**3.51**	**129**	*e*PN		**Pn**	**09 45 06.2**	**+0.4**
CTKS	**Kestanelik-??a**	**3.55**	**222**	*e*PN		**Pn**	**09 45 07.4**	**+1.0**
GULT	**Gulveren**	**3.59**	**194**	*e*PN		**Pn**	**09 45 08.7**	**+1.6**
BUY	**Buyukada**	**3.60**	**212**	*i*P		**Pn**	**09 45 09.3**	**+2.3**
BUY				*i*S		**Sn**	**09 45 47.6**	**-2.4**
BUY	**Buyukada**	**3.60**	**212**	*i*P		**Pn**	**09 45 09.3**	**+2.3**
BUY				*i*S		**Sn**	**09 45 47.6**	**-2.4**
ELBA	**Catalca**	**3.65**	**222**	*i*P		**Pn**	**09 45 09.6**	**+1.8**
ELBA				*i*S		**Sn**	**09 45 49.1**	**-2.3**
ELBA	**Catalca**	**3.65**	**222**	*i*P		**Pn**	**09 45 09.6**	**+1.8**
ELBA				*i*S		**Sn**	**09 45 49.1**	**-2.3**
GHRR		**3.68**	**307**	S		**Sn**	**09 45 52.6**	**+0.6**
GHRR		**3.68**	**307**	S		**Sn**	**09 45 52.6**	**+0.6**
ELDT	**Eldivan**	**3.69**	**158**	*i*P		Pn	09 45 11.5	+3.1
ELDT				*e*S		**Sn**	**09 45 53.8**	**+1.4**
ELDT	**Eldivan**	**3.69**	**158**	*i*P		Pn	09 45 11.5	+3.1
ELDT				*e*S		**Sn**	**09 45 53.8**	**+1.4**
SLVT	**Silivri**	**3.70**	**224**	*e*PN		**Pn**	**09 45 08.8**	**+0.3**
ODBI	**Odobesti**	**3.74**	**301**	S		**Sn**	**09 45 54.6**	**+1.2**
ODBI	**Odobesti**	**3.74**	**301**	S		**Sn**	**09 45 54.6**	**+1.2**
YLV	**Yalova**	**3.76**	**207**	*e*PN		**Pn**	**09 45 10.9**	**+1.6**
ADVT	**Abdulvahap**	**3.77**	**203**	*e*PN		**Pn**	**09 45 11.4**	**+2.0**
GPA	**Golpazari**	**3.77**	**196**	*e*PN		**Pn**	**09 45 11.5**	**+2.1**
ISR	**Istrita**	**3.83**	**290**	⇓P		**Pn**	**09 45 12.2**	**+1.9**
ISR	**Istrita**	**3.83**	**290**	⇓*i*P		**Pn**	**09 45 12.2**	**+1.9**
ISR	**Istrita**	**3.83**	**290**	P		**Pn**	**09 45 12.2**	**+1.9**
SULR		**3.94**	**283**	⇓*i*P		**Pn**	**09 45 12.8**	**+1.1**
SULR		**3.94**	**283**	⇓*i*P		**Pn**	**09 45 12.8**	**+1.1**
SULR					S	**Sn**	**09 45 57.5**	**-0.8**
ARMT	**Armutlu**	**3.94**	**212**	*e*PN		**Pn**	**09 45 12.2**	**+0.4**
CAVI	**Cavuskoy**	**3.96**	**200**	*e*PN		**Pn**	**09 45 13.6**	**+1.6**
VRI	**Vrincioaia**	**3.99**	**301**	⇑P		Pn	09 45 15.1	+2.6
VRI	**Vrincioaia**	**3.99**	**301**	⇓*i*P		Pn	09 45 15.1	+2.6
VRI	**Vrincioaia**	**3.99**	**301**	P		Pn	09 45 15.1	+2.6
PLOR	**Plostina**	**4.03**	**300**	⇓P		Pn	09 45 16.0	+2.9
PLOR					S	**Sn**	**09 46 00.9**	**+0.2**
PLOR	**Plostina**	**4.03**	**300**	⇓*i*P		Pn	09 45 15.9	+2.9
PLOR	**Plostina**	**4.03**	**300**	P		Pn	09 45 16.0	+2.9
PLOR					S	**Sn**	**09 46 00.9**	**+0.2**
CTKT	**Corum**	**4.05**	**144**	*i*P		**Pn**	**09 45 15.9**	**+2.5**
CTKT				*i*S		Sn	09 45 56.1	-5.2
CTKT	**Corum**	**4.05**	**144**	*i*P		**Pn**	**09 45 15.9**	**+2.5**
CTKT				*i*S		Sn	09 45 56.1	-5.2
SECR		**4.14**	**287**	S		**Sn**	**09 46 03.4**	**+0.1**
SECR		**4.14**	**287**	S		**Sn**	**09 46 03.4**	**+0.1**
BORA	**Eskisehir**	**4.14**	**193**	*i*P		Pn	09 45 17.5	+2.9
BORA				*i*S		**Sn**	**09 46 01.8**	**-1.7**
BORA	**Eskisehir**	**4.14**	**193**	*i*P		Pn	09 45 17.5	+2.9
BORA				*i*S		**Sn**	**09 46 01.8**	**-1.7**
HAVZ	**Havza**	**4.15**	**132**	*i*P		**Pn**	**09 45 16.9**	**+2.2**
HAVZ				*i*S		**Sn**	**09 46 03.2**	**-0.5**
HAVZ	**Havza**	**4.15**	**132**	*i*P		**Pn**	**09 45 16.9**	**+2.2**
HAVZ				*i*S		**Sn**	**09 46 03.2**	**-0.5**
EDRB	**Edirne**	**4.15**	**242**	*e*PN		**Pn**	**09 45 15.7**	**+1.0**
ULDT	**Uludag**	**4.22**	**207**	*i*P		**Pn**	**09 45 18.0**	**+2.2**
ULDT	**Uludag**	**4.22**	**207**	*i*P		**Pn**	**09 45 18.0**	**+2.2**
ANN	**Anapa**	**4.25**	**76**	*e*P		**Pn**	**09 45 18.2**	**+2.3**
ANN				*e*S		**Sn**	**09 46 02.9**	**-3.0**
ANN				pmax		pmax		
	comp=Z,37nm,0.9s							
ANN	**Anapa**	**4.25**	**76**	*e*P		**Pn**	**09 45 18.2**	**+2.3**
	comp=Z,37nm,0.9s							
IAS	**Iasi**	**4.34**	**320**	S		**Sn**	**09 46 08.8**	**+0.5**
IAS	**Iasi**	**4.34**	**320**	S		**Sn**	**09 46 08.8**	**+0.5**
MLR	**Muntele Rosu**	**4.35**	**293**	⇑*i*P		Pn	09 45 20.4	+2.9
MLR	**Muntele Rosu**	**4.35**	**293**	Pn		Pn	09 45 20.5	+3.1
	comp=Z,0.5nm,0.3s,baz=168,slow=2.3,SNR=36							
MLR					Sn	**Sn**	**09 46 09.8**	**+1.2**
	comp=Z,0.9nm,0.3s,baz=187,slow=13,SNR=5.1							
MLR	**Muntele Rosu**	**4.35**	**293**	P		Pn	09 45 20.4	+2.9
MLR					S	**Sn**	**09 46 09.1**	**+0.4**
CORM	**Corum**	**4.36**	**148**	*e*PN		**Pn**	**09 45 18.5**	**+0.8**
TESR		**4.37**	**308**	⇑*i*P		**Pn**	**09 45 19.4**	**+1.8**
TESR		**4.37**	**308**	⇑*i*P		**Pn**	**09 45 19.4**	**+1.8**
TESR					S	**Sn**	**09 46 07.9**	**-1.1**
KCTX	**Karacabey (Bur**	**4.40**	**215**	*e*PN		**Pn**	**09 45 19.9**	**+1.7**
SEYT	**Eskypehyr**	**4.45**	**188**	*i*P		Pn	09 45 22.3	+3.5
SEYT				*i*S		Sn	09 46 06.7	-4.4
SEYT	**Eskypehyr**	**4.45**	**188**	*i*P		Pn	09 45 22.3	+3.5
SEYT				*i*S		Sn	09 46 06.7	-4.4
BRTR	**Keskin Array B**	**4.46**	**160**	Pn		Pn	09 45 21.8	+2.8
	comp=Z,0.6nm,0.3s,baz=347,slow=12,SNR=15							
BRTR					Sn	**Sn**	**09 46 10.2**	**-1.3**
	comp=Z,1.3nm,0.3s,baz=335,slow=30,SNR=8.3							
BRTR					Lg	Lg	09 46 27.0	
	comp=Z,1.0nm,0.3s,baz=321,slow=34,SNR=5.1							
BRTR	**Keskin Array B**	**4.46**	**160**	P		Pn	09 45 21.8	+2.8
	comp=Z,1.0nm,0.3s							
EDC	**Edincik**	**4.55**	**219**	*e*PN		**Pn**	**09 45 21.2**	**+1.1**
RKY	**Sarkoy-Tekirda**	**4.63**	**227**	*e*PN		**Pn**	**09 45 22.3**	**+1.1**
TVSB	**Tavsanli**	**4.76**	**201**	*e*PN		**Pn**	**09 45 24.7**	**+1.5**
HUMR	**Humele**	**4.82**	**279**	⇑*i*P		**Pn**	**09 45 26.0**	**+2.1**
HUMR	**Humele**	**4.82**	**279**	⇑*i*P		**Pn**	**09 45 26.0**	**+2.1**
HUMR					S	**Sn**	**09 46 21.0**	**+0.9**
DST	**Dursunbey**	**4.88**	**209**	*e*PN		**Pn**	**09 45 26.1**	**+1.4**
DURS	**Dursunbey**	**4.93**	**210**	*i*P		**Pn**	**09 45 27.9**	**+2.5**
DURS				*e*S		Sn	09 46 17.1	-5.9
DURS	**Dursunbey**	**4.93**	**210**	*i*P		**Pn**	**09 45 27.9**	**+2.5**
DURS				*e*S		Sn	09 46 17.1	-5.9
VOIR		**4.93**	**290**	⇓P		Pn	09 45 28.4	+2.9
VOIR					S	**Sn**	**09 46 23.5**	**+0.5**
VOIR		**4.93**	**290**	⇓*i*P		Pn	09 45 28.4	+2.9
VOIR		**4.93**	**290**	P		Pn	09 45 28.4	+2.9
VOIR					S	**Sn**	**09 46 23.5**	**+0.5**
ERBA	**Erbaa**	**4.99**	**129**	*i*P		**Pn**	**09 45 28.5**	**+2.2**
ERBA	**Erbaa**	**4.99**	**129**	*i*P		**Pn**	**09 45 28.5**	**+2.2**
ALT	**Altintas**	**5.00**	**194**	*e*PN		**Pn**	**09 45 28.2**	**+1.7**
KIZT	**Kizilcal**	**5.05**	**178**	*e*PN		**Pn**	**09 45 28.9**	**+1.8**
YOZ	**Yozgat**	**5.09**	**146**	*e*PN		**Pn**	**09 45 28.9**	**+1.1**
GDZ	**Gediz**	**5.10**	**199**	*i*P		Pn	09 45 30.9	+3.1
GDZ				*i*S		**Sn**	**09 46 25.3**	**-1.9**
GDZ	**Gediz**	**5.10**	**199**	*i*P		Pn	09 45 30.9	+3.1
GDZ				*i*S		**Sn**	**09 46 25.3**	**-1.9**
BALY	**Balya**	**5.15**	**217**	*i*P		**Pn**	**09 45 30.2**	**+1.8**
BALY				*e*S		**Sn**	**09 46 25.5**	**-2.8**
BALY	**Balya**	**5.15**	**217**	*i*P		**Pn**	**09 45 30.2**	**+1.8**
BALY				*e*S		**Sn**	**09 46 25.5**	**-2.8**
BOLV	**Bolvadin**	**5.23**	**186**	*i*P		Pn	09 45 33.2	+3.6
BOLV				*i*S		**Sn**	**09 46 29.6**	**-0.9**
BOLV	**Bolvadin**	**5.23**	**186**	*i*P		Pn	09 45 33.2	+3.6
BOLV				*i*S		**Sn**	**09 46 29.6**	**-0.9**
DEMI	**Demirci**	**5.35**	**205**	*i*P		Pn	09 45 33.9	+2.7
DEMI	**Demirci**	**5.35**	**205**	*i*P		Pn	09 45 33.9	+2.7
KHAL	**Karahalli**	**5.79**	**197**	*i*P		**Pn**	**09 45 39.7**	**+2.5**
KHAL	**Karahalli**	**5.79**	**197**	*i*P		**Pn**	**09 45 39.7**	**+2.5**
BURAR	**Bucovina Array**	**5.81**	**312**	⇓*i*P		**Pn**	**09 45 39.7**	**+2.2**
BURAR	**Bucovina Array**	**5.81**	**312**	S		**Sn**	**09 46 44.5**	**-0.1**
BURAR	**Bucovina Array**	**5.81**	**312**	S		**Sn**	**09 46 44.5**	**-0.1**
LOT	**Lotru**	**5.81**	**288**	⇓*i*P		**Pn**	**09 45 40.0**	**+2.4**
LOT	**Lotru**	**5.81**	**288**	S		**Sn**	**09 46 43.6**	**-1.1**
LOT	**Lotru**	**5.81**	**288**	S		**Sn**	**09 46 43.6**	**-1.1**
SOC	**Sochi**	**5.86**	**91**	*e*P		**Pn**	**09 45 40.1**	**+1.9**
SOC				*i*			09 46 44.7	
SOC				pmax		pmax		
	comp=Z,25nm,0.6s							
SOC				smax		smax		
	comp=N,153nm,0.5s							
SOC				smax		smax		
	comp=E,138nm,0.4s							
SOC	**Sochi**	**5.86**	**91**	*e*P		**Pn**	**09 45 40.1**	**+1.9**
	comp=E,153nm,0.5s							
SOC				*i*S		**Sn**	**09 46 44.7**	**-1.1**
GZR	**Gura Zlata**	**6.49**	**286**	⇑*i*P		**Pn**	**09 45 49.3**	**+2.5**
GZR	**Gura Zlata**	**6.49**	**286**	S		**Sn**	**09 46 59.9**	**-1.4**
GZR	**Gura Zlata**	**6.49**	**286**	S		**Sn**	**09 46 59.9**	**-1.4**
MACK	**Trabzon**	**6.71**	**114**	*i*P		**Pn**	**09 45 50.9**	**+1.0**
MACK	**Trabzon**	**6.71**	**114**	*i*P		**Pn**	**09 45 50.9**	**+1.0**
KELT	**Kelkit**	**6.81**	**121**	⇑P		**Pn**	**09 45 53.0**	**+1.6**
KELT	**Kelkit**	**6.81**	**121**	*i*P		**Pn**	**09 45 53.0**	**+1.6**
DRGR		**6.91**	**298**	⇑P		**Pn**	**09 45 54.7**	**+2.1**
DRGR					S	**Sn**	**09 47 11.4**	**-0.

comp=Z,0.2nm,0.6s,baz=311,slow=1.4,SNR=3.9

HEL ***18*** *10:00:14.4±0.4,64˚.71N×30˚.89E,h0km,ML1.8,Explosion*
CSEM ***18*** *10:00:14.4,64˚.71N×30˚.89E,h0km,ML1.8,Mining explosion. After HEL*
IDC ***18*** *10:00:16.1±2.0,64˚.64N×30˚.78E,h0km,mb1 3.0/4, mb1mx2.9/27,mbtmp3.0/4,ML2.5/4,Error ellipse: s-maj=28.5km s-min=8.6km az=103.0*

ISC 18 10:00:13.7±1.1,64.73N±0.03×30.94E±0.06,h0km,n26, σ1§51/48,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.37**	**342**	**PG**		**Pg**	**10 00 38.9**	**-1.1**
	baz=170							
KU6				SG		**Sg**	**10 00 57.3**	**-0.4**
KU6	**Riekki**	**1.37**	**342**	Pg		**Pg**	**10 00 38.9**	**-1.1**
KU6				Sg		**Sg**	**10 00 57.3**	**-0.4**
MSF	**Maaselka**	**1.43**	**327**	PG		**Pn**	**10 00 39.4**	**-1.5**
MSF				SG		**Sg**	**10 00 58.3**	**-1.2**
MSF	**Maaselka**	**1.43**	**327**	Pg		**Pn**	**10 00 39.4**	**-1.5**
MSF				Sg		**Sg**	**10 00 58.3**	**-1.2**
JOF	**Joensuu**	**1.83**	**175**	PN		**Pn**	**10 00 46.0**	**-0.4**
JOF				SG		**Sn**	**10 01 09.2**	**-1.0**
JOF				MSG			10 01 09.2	
	comp=Z,5.0nm,0.4s							
JOF	**Joensuu**	**1.83**	**175**	Pn		**Pn**	**10 00 46.0**	**-0.4**
JOF				Sg		**Sn**	**10 01 09.2**	**-1.0**
OUL	**Oulu**	**2.18**	**282**	PN		**Pn**	**10 00 51.6**	**+0.4**
OUL				SG		**Sn**	**10 01 18.0**	**-0.8**
OUL	**Oulu**	**2.18**	**282**	Pn		**Pn**	**10 00 51.6**	**+0.4**
OUL				Sg		**Sn**	**10 01 18.0**	**-0.8**
RNF	**Rovaniemi**	**2.78**	**315**	PN		**Pn**	**10 01 02.0**	**+2.6**
RNF				SG		**Sb**	**10 01 37.9**	**-0.8**
RNF				MSG			10 01 37.9	
	comp=Z,4.0nm,0.2s							
RNF	**Rovaniemi**	**2.78**	**315**	Pn		**Pn**	**10 01 02.0**	**+2.6**
RNF				Sg		**Sb**	**10 01 37.9**	**-0.8**
SUF	**Sumiainen**	**2.94**	**229**	PN		**Pn**	**10 01 03.4**	**+1.8**
SUF				SG		**Sn**	**10 01 39.7**	**+2.2**
SUF				MSG			10 01 39.7	
	comp=Z,2.0nm,0.4s							
SUF	**Sumiainen**	**2.94**	**229**	Pn		**Pn**	**10 01 03.3**	**+1.8**
SUF				Sg		**Sn**	**10 01 39.7**	**+2.2**
VRF	**Varrio**	**3.08**	**351**	PN		**Pn**	**10 01 05.1**	**+1.6**
	baz=174							
VRF				SG		**Sb**	**10 01 49.4**	**+2.1**
VRF				MSG			10 01 49.4	
	comp=Z,2.5nm,0.4s							
VRF	**Varrio**	**3.08**	**351**	Pn		**Pn**	**10 01 05.1**	**+1.6**
VRF				Sg		**Sb**	**10 01 49.4**	**+2.1**
KAF	**Kangasniemi**	**3.35**	**220**	SG		**Sb**	**10 01 53.6**	**-1.6**
KAF				MSG			10 01 53.6	
	comp=Z,1.6nm,0.2s							
KAF	**Kangasniemi**	**3.35**	**220**	Sg		**Sb**	**10 01 53.6**	**-1.6**
KEF	**Keuruu**	**3.75**	**229**	PN		**Pn**	**10 01 13.8**	**+1.1**
KEF				SG		**Sb**	**10 02 09.7**	**+3.1**
KEF				MSG			10 02 09.7	
	comp=Z,2.1nm,0.4s							
KEF	**Keuruu**	**3.75**	**229**	Pn		**Pn**	**10 01 13.8**	**+1.1**
KEF				Sg		**Sb**	**10 02 09.7**	**+3.1**
FIA0	**FINESS Array S**	**3.97**	**216**	PN		**Pn**	**10 01 16.4**	**+0.6**
	baz=30							
FIA0				SG		**Sb**	**10 02 13.8**	**+0.8**
FIA0				MSG			10 02 13.8	
	comp=Z,1.9nm,0.5s							
FIA0	**FINESS Array S**	**3.97**	**216**	Pn		**Pn**	**10 01 16.4**	**+0.6**
FIA0				Sg		**Sb**	**10 02 13.8**	**+0.8**
FINES	**FINESS Array B**	**3.97**	**216**	Pn		**Pn**	**10 01 15.1**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=34,slow=13,SNR=3.3							
FINES				Pg		**Pb**	**10 01 24.3**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=30,slow=15,SNR=7.5							
FINES				Lg		Lg	10 02 14.6	
	comp=Z,1.1nm,0.3s,baz=33,slow=32,SNR=11							
VAF	**Ylistaro**	**4.03**	**249**	PN		**Pn**	**10 01 17.4**	**+0.9**
VAF				SG		**Sb**	**10 02 15.9**	**+1.3**
VAF				MSG			10 02 15.9	
	comp=Z,1.7nm,0.4s							
VAF	**Ylistaro**	**4.03**	**249**	Pn		**Pn**	**10 01 17.4**	**+0.9**
VAF				Sg		**Sb**	**10 02 15.9**	**+1.3**
ARCES	**ARCESS Array B**	**5.27**	**339**	Pn		**Pn**	**10 01 33.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=151,slow=13,SNR=26							
ARCES				Sn		**Sn**	**10 02 33.1**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=146,slow=16,SNR=2.9							
ARCES				Lg		Lg	10 02 55.8	
	comp=Z,0.4nm,0.3s,baz=162,slow=28,SNR=5.5							
HFS	**Hagfors**	**9.21**	**248**	Pn		**Pn**	**10 02 25.6**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=58,slow=12,SNR=8.4							
NOA	**NORSAR Array B**	**9.72**	**257**	Pn		**Pn**	**10 02 33.4**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=55,slow=13,SNR=3.9							
NOA				Lg		Lg	10 05 15.7	
	comp=Z,0.1nm,0.3s,baz=34,slow=18,SNR=2.5							

IDC 18 10:08:17.6±1.9,3.54N×126.69E,h0km,mb3.6/4, mb1 3.7/4,mb1mx3.5/21,mbtmp3.6/4,MS3.7/2,Ms1 3.7/2, ms1mx2.8/43,Error ellipse: s-maj=156.4km s-min=24.1km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.68**	**343**	LR		LR	10 10 52.2	
	comp=Z,123nm,18.1s,baz=285,slow=42							
JOW	**Kunigami**	**23.21**	**4**	LR		LR	10 21 11.5	
	comp=Z,2µm,21.9s,baz=326,slow=33							
WRA	**Warramunga Arr**	**24.52**	**162**	P		P	10 13 38.7	-0.3
	1.6nm,0.8s,baz=342,slow=10,SNR=12							
ASAR	**Alice Springs**	**27.94**	**166**	P		P	10 14 10.4	+0.5
	0.2nm,0.4s,baz=344,slow=12,SNR=4.2							
STKA	**Stephens Creek**	**37.97**	**159**	P		P	10 15 37.2	-0.1
	1.1nm,0.5s,baz=335,slow=10,SNR=5.0							
MKAR	**Makanchi Array**	**57.69**	**325**	P		P	10 18 09.9	-0.2
	0.5nm,0.6s,baz=118,slow=8.4,SNR=3.4							

DMN ***18*** *10:11:31.7±0.7,31˚.33N×83˚.14E,h10km,Ml5.3/2,Error ellipse: s-maj=16.8km s-min=11.4km az=164.0*
IDC ***18*** *10:11:38.0±0.5,30˚.58N×83˚.91E,h0km,mb4.3/23, mb1 4.4/26,mb1mx4.3/33,mbtmp4.3/26,ML4.0/3,MS4.4/28, Ms1 4.4/28,ms1mx4.2/48,Error ellipse: s-maj=16.7km s-min=11.9km az=44.0*
ISCJB ***18*** *10:11:40.8±0.2,30˚.68N±0˚.02×83˚.77E±0˚.02,h26km, mb4.5/57,MS4.4/42,Error ellipse: s-maj=3.5km s-min=2.7km az=37.8*
BJI ***18*** *10:11:40.8,30˚.83N×83˚.92E,h20km,mB4.9/30,mb4.6/38, Ms4.9/43,Ms7 4.6/36*
NDI ***18*** *10:11:40.2±5.5,30˚.97N×83˚.87E,h33km,ML4.3, mb4.6(NEIC)*
MOS ***18*** *10:11:41.5±1.4,30˚.61N×83˚.84E,h33km,mb4.7/34, MS4.4/16,Error ellipse: s-maj=9.2km s-min=5.5km az=110.4*
DJA ***18*** *10:11:42,30˚.65N×83˚.88E,h10km,mb4.8/14*
NEIC ***18*** *10:11:43.6±0.3,30˚.67N×83˚.86E,h35km,mb4.6/16,Error ellipse: s-maj=8.5km s-min=5.4km az=46.0*
TEH ***18*** *10:11:45.0,30˚.69N×83˚.84E,h35km,ML4.6*

ISC 18 10:11:42.7±0.3,30.63N±0.03×83.78E±0.03,h26km,n223, σ1§85/249,mb4.6/57,MS4.5/44,8C-5D,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**2.27**	**181**	*e*Pn		**Pn**	**10 12 18.3**	**-0.6**
DANN				*e*Sn		**Sn**	**10 12 48.6**	**+2.4**
	7µm,0.8s							
GKN	**Gorkha**	**2.72**	**164**	*e*Pn		**Pn**	**10 12 25.6**	**+0.7**
KOLN	**Koldanda**	**2.86**	**183**	*e*Pn		**Pn**	**10 12 27.0**	**+0.2**
KKN	**Kakani**	**3.12**	**155**	*e*Pn		**Pn**	**10 12 31.0**	**+0.6**
DMN	**Daman**	**3.23**	**159**	*e*Pn		**Pn**	**10 12 32.6**	**+0.6**
GUN	**Gumba**	**3.27**	**145**	*e*Pn		**Pn**	**10 12 33.5**	**+0.8**
GUN				*e*Sn		**Sb**	**10 13 19.7**	**-0.1**
	4µm,0.9s							
PTH	**Pithoragarh**	**3.27**	**252**	*ex*		**Pb**	**10 12 37.9**	**-2.3**
PTH				*ex*		**Sb**	**10 13 22.5**	**+2.8**
PKI	**Pulchoki**	**3.37**	**155**	*e*Pn		**Pn**	**10 12 34.3**	**+0.4**
JIRN	**Jiri**	**3.63**	**144**	*e*Pn		**Pn**	**10 12 38.5**	**+0.8**
RAMN	**Ramite**	**4.42**	**145**	*e*Pn		**Pn**	**10 12 48.4**	**0.0**
TAPN	**Taplejung**	**4.75**	**133**	*e*Pn		**Pn**	**10 12 53.9**	**+1.0**
ODAN	**Odare**	**4.91**	**139**	*e*Pn		**Pn**	**10 12 56.2**	**+1.1**
DDI	**Dehra Dun**	**4.95**	**268**	*e*PKP		**Pn**	**10 12 56.0**	**+0.5**
DDI				*ex*		x	10 14 32.0	
ALBI	**Allahabad**	**5.58**	**199**	*ex*		Pn	10 13 01.0	-3.1
SMLA	**Simla**	**5.71**	**277**	*i* x		**Pn**	**10 13 08.1**	**+2.3**
SDNR	**Sundarnagar**	**5.91**	**280**	*ex*		Pn	10 13 14.0	+5.4
NDI	**New Delhi**	**6.04**	**253**	*e*PKP		**Pn**	**10 13 10.0**	**-0.3**
AGRA	**Agra**	**6.14**	**238**	*e*PKP		**Pn**	**10 13 12.5**	**+0.8**
AGRA				*e*S		**Sn**	**10 14 17.9**	**-3.1**
AGRA				AML		AML	10 15 04.1	
	comp=E,296nm,0.8s							
AGRA				AML		AML	10 15 09.5	
	comp=N,318nm,0.6s							
BHK	**Bhakra**	**6.37**	**279**	*ex*		x	10 13 46.0	
LSA	**Lhasa**	**6.45**	**96**	P		**Pn**	**10 13 18.4**	**+2.0**
LSA				S		Sn	10 14 36.9	+7.5
LSA				LR		LR		
	comp=N,9µm,8.8s							
LSA				LR		LR		
	comp=E,8µm,10.0s							
LSA				LR		LR		
	comp=Z,12µm,11.0s							
LSA	**Lhasa**	**6.45**	**96**	*e*P		**Pn**	**10 13 18.2**	**+1.8**
LSA				*e*			10 14 36.9	
LSA				pmax		pmax		
	comp=Z,171nm,0.8s							
LSA	**Lhasa**	**6.45**	**96**	*e*Pn		**Pn**	**10 13 18.2**	**+1.8**
	comp=Z,170nm,0.8s							
LSA				*e*Sn		Sn	10 14 36.9	+7.5
KUDL	**Kundal**	**6.83**	**251**	*ex*		**Pn**	**10 13 22.4**	**+1.2**
KUDL				*e*S		Sn	10 14 32.2	-5.9
THN	**Thein Dam**	**7.12**	**287**	*e*PKP		Pn	10 13 21.4	-3.7
KHET	**Khetri**	**7.41**	**252**	*e*PKP		**Pn**	**10 13 27.5**	**-1.8**
KHET				*e*S		Sn	10 14 47.2	-5.4
SHL	**Shillong**	**8.75**	**123**	⇑*i*P		Pn	10 13 44.5	-3.3
SHL				*ex*		x	10 16 15.5	
CAL	**Calcutta**	**9.03**	**152**	*e*PKP		**Pn**	**10 13 51.1**	**-0.3**
CAL				*ex*		x	10 15 32.3	
AJM	**Ajmer**	**9.04**	**245**	*e*PKP		**Pn**	**10 13 50.0**	**-1.6**
AJM				*ex*		x	10 15 32.0	
AGT	**Agartala**	**9.45**	**134**	*e*PKP		**Pn**	**10 13 56.0**	**-1.2**
AGT				*ex*		x	10 15 41.0	
NGP	**Nagpur**	**10.36**	**205**	*ex*		Pn	10 14 05.3	-4.3
NGP				*e*S		Sn	10 15 59.2	-5.8
BWNR	**Bhubaneshwar**	**10.45**	**169**	*ex*		Pn	10 14 05.0	-5.9
THW	**Thamme Wali**	**10.48**	**285**	P		**Pn**	**10 14 11.2**	**-0.1**
CEP	**Cherat**	**10.55**	**291**	P		**Pn**	**10 14 11.4**	**-1.0**
IMP	**Imphal**	**10.71**	**120**	*e*PKP		**Pn**	**10 14 13.0**	**-1.6**
IMP				*ex*		x	10 16 13.0	
KSH	**Kashi**	**10.93**	**326**	P		**Pn**	**10 14 15.3**	**-2.2**
KSH				pP			10 14 22.3	
KSH				PP		**PnPn**	**10 14 23.8**	**-1.5**
KSH				sP			10 14 26.6	
KSH				S		**Sn**	**10 16 15.5**	**-3.5**
KSH				pmax		pmax		
	comp=Z,40nm,1.3s							
KSH				LR		LR		
	comp=N,3µm,10.9s							
KSH				LR		LR		
	comp=E,6µm,11.0s							
KSH				LR		LR		
	comp=Z,3µm,12.9s							
AKL	**Akola**	**11.62**	**213**	*e*PKP		**Pn**	**10 14 25.2**	**-1.7**
AKL				*i* x		x	10 16 34.4	
KBL	**Kabul**	**13.03**	**291**	*e*P		**Pn**	**10 14 46.4**	**+0.1**
KBL				*e*			10 17 10.1	
KBL	**Kabul**	**13.03**	**291**	*e*Pn		**Pn**	**10 14 46.4**	**+0.1**
KBL				*e*Sn		**Sn**	**10 17 10.1**	**-0.4**
WMQ	**Urumqi**	**13.53**	**12**	P		**Pn**	**10 14 54.3**	**+1.4**
WMQ				S		**Sn**	**10 17 23.0**	**+0.6**
WMQ				sS		S	10 17 34.5	-11
WMQ				pmax		pmax		
	comp=Z,32nm,1.4s							
WMQ				pmax		pmax		
	comp=Z,170nm,3.8s							
WMQ				LR		LR		
	comp=N,4µm,12.8s							
WMQ				LR		LR		
	comp=E,2µm,13.2s							
WMQ				LR		LR		
	comp=Z,2µm,20.4s							
LATR	**Latur**	**13.82**	**210**	*ex*		Pn	10 14 52.5	-4.5
TKM2	**Tokmak 2**	**13.90**	**334**	*e*P		**Pn**	**10 14 56.8**	**-1.4**
TKM2	**Tokmak 2**	**13.90**	**334**	*e*Pn		**Pn**	**10 14 56.8**	**-1.4**
HYB	**Hyderabad**	**13.99**	**201**	*i* P		Pn	10 14 53.0	-6.4
	comp=Z,85nm,1.0s							
HYB				*e*S		Sn	10 17 21.0	-13
HYB				*e*			10 17 33.0	
AAK	**Ala-Archa**	**14.10**	**331**	⇓*e*P		**Pn**	**10 15 01.4**	**+0.6**
AAK				pmax		pmax		
	comp=Z,31nm,1.7s							
AAK	**Ala-Archa**	**14.10**	**331**	*e*Pn		**Pn**	**10 15 01.0**	**+0.2**
	comp=Z,187nm,1.4s							
AAK				Sn		**Sn**	**10 17 38.5**	**+2.0**
AAK	**Ala-Archa**	**14.10**	**331**	Pn		**Pn**	**10 15 01.0**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=140,slow=9.0,SNR=7.0							
AAK				Sn		**Sn**	**10 17 38.5**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=32,slow=19,SNR=1.6							
AAK				LR		LR	10 20 36.6	
	comp=Z,694nm,18.8s,baz=118,slow=38							
FRU	**Bishkek**	**14.21**	**331**	*e*P		**Pn**	**10 15 03.0**	**+0.7**
FRU				pmax		pmax		
	comp=Z,103nm,1.8s							
EKS2	**Erkin-Say**	**14.43**	**329**	*e*P		**Pn**	**10 15 04.4**	**-1.0**
EKS2	**Erkin-Say**	**14.43**	**329**	*e*Pn		**Pn**	**10 15 04.4**	**-1.0**
POO	**Poona**	**15.05**	**219**	*ex*		Pn	10 15 06.0	-7.8
GTA	**Gaotai**	**15.77**	**52**	*e*P		**Pn**	**10 15 21.9**	**-1.2**
GTA				pP		**P**	**10 15 29.1**	**+2.3**
GTA				sP		**sP**	**10 15 34.1**	**-3.1**
GTA				S		**Sn**	**10 18 13.1**	**-4.0**
GTA				sS		**S**	**10 18 26.6**	**-4.8**
GTA				SS		**SnSn**	**10 18 32.8**	**+2.7**
GTA				pmax		pmax		
	comp=E,2µm,10.5s							
LZH				LR		LR		
	comp=Z,3µm,13.9s							
KMI	**Kunming**	**17.63**	**104**	P		**Pn**	**10 15 44.3**	**-2.5**
KMI				pP		**pP**	**10 15 53.5**	**-1.2**
KMI				sP		**sP**	**10 15 58.9**	**+0.9**
KMI				PP		**PnPn**	**10 16 03.8**	**+6.4**
KMI				S		**Sn**	**10 19 04.3**	**+1.7**
KMI				pmax		pmax		
	comp=Z,47nm,0.8s							
KMI				pmax		pmax		
	comp=Z,130nm,3.1s							
KMI				LR		LR		
	comp=N,5µm,18.9s							
KMI				LR		LR		
	comp=E,2µm,17.1s							
KMI				LR		LR		
	comp=Z,3µm,12.1s							
CHTO	**Chiang Mai**	**18.09**	**127**	*e*P		**Pn**	**10 15 50.1**	**-2.2**
CHTO				pmax		pmax		
	comp=Z,70nm,1.4s							
CHTO	**Chiang Mai**	**18.09**	**127**	*e*Pn		**Pn**	**10 15 50.1**	**-2.2**
	comp=Z,70nm,1.4s							
CHTO	**Chiang Mai**	**18.09**	**127**	P		**Pn**	**10 15 50.6**	**-1.7**
	comp=Z,43nm,1.4s,comp=Z,789nm							
CM31	**Chiang Mai Arr**	**18.33**	**128**	*e*P		**Pn**	**10 15 55.1**	**-0.1**
	comp=E,36nm,1.0s							
CMAR	**Chiang Mai Arr**	**18.33**	**128**	P		**P**	**10 15 53.2**	**-2.0**
CMAR	**Chiang Mai Arr**	**18.33**	**128**	P		**P**	**10 15 53.2**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=328,slow=7.3,SNR=43							
CMAR				LR		LR	10 23 46.1	
	comp=Z,1µm,21.7s,baz=106,slow=40							
KURBB	**Kurchatov Arra**	**20.35**	**350**	P		**P**	**10 16 16.4**	**-0.7**
	comp=Z,24nm,0.8s,baz=172,slow=10,SNR=78							
KURBB				LR		LR	10 25 20.7	
	comp=Z,2µm,19.2s,baz=175,slow=40							
KURK	**Kurchatov**	**20.43**	**351**	*ce*P		**P**	**10 16 16.7**	**-1.2**
KURK				pmax		pmax		
	comp=Z,46nm,1.1s							
KURK	**Kurchatov**	**20.43**	**351**	*e*P		**P**	**10 16 16.9**	**-1.0**
KURK	**Kurchatov**	**20.43**	**351**	⇑P		**P**	**10 16 17.1**	**-0.8**
	SNR=21							
GYA	**Guiyang**	**20.52**	**96**	⇑*i*P		**P**	**10 16 16.9**	**-2.3**
GYA				pP		**pP**	**10 16 29.8**	**+3.5**
GYA				S		**S**	**10 20 04.8**	**-2.8**
GYA				sS		**sS**	**10 20 15.6**	**-3.3**
GYA				pmax		pmax		
	comp=Z,20nm,0.8s							
GYA				pmax		pmax		
	comp=Z,180nm,6.2s							
GYA				LR		LR		
	comp=N,720nm,13.1s							
GYA				LR		LR		
	comp=E,620nm,8.3s							
GYA				LR		LR		
	comp=Z,930nm,8.4s							
IMYA	**Miami**	**20.54**	**292**	*e*P		**P**	**10 16 18.9**	**-0.5**
ISRO	**Mashad**	**21.03**	**292**	*e*P		**P**	**10 16 23.5**	**-1.2**
IKOO	**Kooshah**	**21.19**	**281**	*e*P		**P**	**10 16 27.6**	**+1.1**
XAN	**Xi'an**	**21.50**	**74**	P		**P**	**10 16 26.8**	**-2.8**
XAN				pP		**pP**	**10 16 34.1**	**-2.6**
XAN				pmax		pmax		
	comp=Z,7.0nm,1.2s							
XAN				pmax		pmax		
	comp=Z,24nm,3.5s							
XAN				LR		LR		
	comp=N,800nm,13.8s							
XAN				LR		LR		
	comp=Z,330nm,17.6s							
IAKL	**Akhelmad**	**21.65**	**293**	*e*P		**P**	**10 16 30.8**	**-0.7**
IEMG	**Emamgholi**	**21.86**	**295**	*e*P		**P**	**10 16 32.4**	**-1.4**
IKRD	**Kardeh**	**21.86**	**293**	*e*P		P	10 16 24.3	-9.5
ENH	**Enshi**	**22.15**	**84**	*e*P		**P**	**10 16 35.0**	**-1.7**
	comp=Z,17nm,0.8s							
ISFR	**Sfrayin**	**22.32**	**294**	*e*P		**P**	**10 16 38.3**	**-0.3**
ZAA0	**Zalesovo Array**	**23.31**	**2**	*e*P		**P**	**10 16 48.1**	**-0.4**
ZALV	**Zalesovo Beam**	**23.31**	**2**	P		**P**	**10 16 48.4**	**-0.1**
ZALV				pmax		pmax		
	comp=Z,9.0nm,0.8s							
ZALV				MLR		MLR		
	comp=Z,775nm,18.0s							
ZALV	**Zalesovo Beam**	**23.31**	**2**	P		**P**	**10 16 48.4**	**-0.1**
ZALV	**Zalesovo Beam**	**23.31**	**2**	P		**P**	**10 16 48.4**	**-0.1**
	comp=Z,9.4nm,0.8s,baz=189,slow=11,SNR=39							
ZALV				LR		LR	10 27 20.0	
	comp=Z,775nm,18.0s,baz=360,slow=40							
WBK	**Wadi Bani Khal**	**23.54**	**256**	⇓P		**P**	**10 16 53.6**	**+2.5**
	SNR=6.1							
IBAF	**Bafgh**	**24.15**	**280**	*e*P		**P**	**10 16 57.5**	**+0.5**
NVS	**Novosibirsk**	**24.20**	**359**	*e*P		**P**	**10 16 53.2**	**-3.7**
NVS				*e*S		**S**	**10 21 13.5**	**0.0**
NVS				pmax		pmax		
	comp=Z,38nm,2.0s							
NVS				pmax		pmax		
	comp=N,27nm,1.9s							
NVS				smax		smax		
	comp=N,27nm,1.9s							
JMDO	**Jabal Madar**	**24.37**	**256**	⇑P		**P**	**10 17 01.5**	**+2.7**
	SNR=5.7							
SONM	**Songino Array**	**24.39**	**39**	P		**P**	**10 16 59.8**	**+0.8**
SONM				PcP		**PcP**	**10 20 36.8**	**-0.9**
SONM	**Songino Array**	**24.39**	**39**	P		**P**	**10 16 59.8**	**+0.8**
	comp=N,4.8nm,0.7s,baz=227,slow=10,SNR=40							
SONM				PcP		**PcP**	**10 20 36.8**	**-0.9**
	comp=N,0.6nm,0.6s,baz=233,slow=3.3,SNR=3.7							
SONM				LR		LR	10 27 39.6	
	comp=N,332nm,21.5s,baz=144,slow=40							
BVAR	**Borovoye Array**	**24.42**	**340**	P		**P**	**10 16 58.9**	**-0.1**
BVAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
BVAR				MLR		MLR		
	comp=Z,315nm,20.9s							
BVAR	**Borovoye Array**	**24.42**	**340**	P		**P**	**10 16 58.9**	**-0.1**
BVAR	**Borovoye Array**	**24.42**	**340**	P		**P**	**10 16 58.9**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=148,slow=8.6,SNR=8.1							
BVAR				LR		LR	10 28 26.3	
	comp=Z,314nm,20.9s,baz=204,slow=41							
BRVK	**Borovoye**	**24.48**	**340**	⇓*e*P		**P**	**10 16 59.0**	**-0.5**
BRVK				pmax		pmax		
	comp=Z,8.0nm,1.2s							
BRVK	**Borovoye**	**24.48**	**340**	*e*P		**P**	**10 16 58.8**	**-0.7**
	comp=Z,57nm,2.0s							
ZAK	**Zakamensk**	**24.54**	**31**	*e*P		**P**	**10 16 59.3**	**-1.0**
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.4s							
MOY	**Mondy**	**24.57**	**26**	*e*P		**P**	**10 17 03.5**	**+3.0**
HHC	**Hu-ho-hao-te**	**24.65**	**58**	*e*P		**P**	**10 17 00.4**	**-1.0**
HHC				pP		**pP**	**10 17 09.8**	**+0.8**
HHC				sP		**sP**	**10 17 13.8**	**+1.5**
HHC				PP		**PnPn**	**10 17 36.8**	**+3.4**
HHC				S		**S**	**10 21 16.5**	**-4.9**
HHC				sS		**sS**	**10 21 32.3**	**-1.7**
HHC				SS		**SnSn**	**10 22 12.5**	**+4.5**
HHC				pmax		pmax		
	comp=Z,15nm,1.0s							
HHC				pmax		pmax		
	comp=Z,180nm,5.8s							
HHC				LR		LR		
	comp=N,830nm,12.6s							
HHC				LR		LR		
	comp=E,540nm,13.4s							
HHC				LR		LR		
	comp=Z,790nm,14.7s							
ULN	**Ulaanbaatar**	**24.77**	**39**	*e*P		**P**	**10 17 02.3**	**-0.1**
	comp=Z,17nm,1.1s							
ULN	**Ulaanbaatar**	**24.77**	**39**	P		**P**	**10 17 03.2**	**+0.8**
	SNR=8.8							
ULN	**Ulaanbaatar**	**24.77**	**39**	P		**P**	**10 17 02.7**	**+0.3**
	comp=Z,16nm,1.3s							
BSY	**Bisya**	**24.98**	**258**	⇓P		**P**	**10 17 07.6**	**+3.2**
	SNR=5.5							
ASHO	**Ashiyiah**	**25.23**	**263**	⇑P		**P**	**10 17 10.4**	**+3.7**
	SNR=6.1							
TLY	**Talaya**	**25.65**	**29**	*e*P		**P**	**10 17 12.1**	**+1.9**
TLY				*e*S		S	10 21 24.0	-13
TLY				pmax		pmax		
	comp=Z,5.0nm,0.9s							
TLY				MLR		MLR		
	comp=Z,412nm,14.0s							
TLY	**Talaya**	**25.65**	**29**	*e*P		**P**	**10 17 08.7**	**-1.5**
	comp=Z,4.8nm,0.8s							
AB31	**Akbulak array**	**25.90**	**323**	P		**P**	**10 17 12.4**	**0.0**
AB31				pmax		pmax		
	comp=Z,35nm,1.2s							
ABKAR	**Akbulak array**	**25.90**	**323**	*e*P		**P**	**10 17 12.2**	**-0.2**
QIZ	**Qiongzhong**	**26.25**	**110**	P		**P**	**10 17 15.3**	**-0.6**

QIZ				S	**S**	**10 21 49.4**	**+2.5**		
QIZ				pmax	pmax				
	comp=Z,230nm,4.7s								
QIZ				LR	LR				
	comp=N,770nm,20.4s								
QIZ				LR	LR				
	comp=Z,950nm,14.4s								
WHN	**Wuhan**	**26.28**	**82**	P	**P**	**10 17 17.5**	**+1.5**		
WHN				S	**S**	**10 21 47.5**	**+0.4**		
WHN				LR	LR				
	comp=N,4µm,11.5s								
WHN				LR	LR				
	comp=E,2µm,10.5s								
WHN				LR	LR				
	comp=Z,2µm,13.6s								
IALA	**Alasht**	**26.37**	**290**	*e*P	**P**	**10 17 15.8**	**-1.4**		
IPAR	**Pars**	**26.53**	**276**	*e*P	**P**	**10 17 19.2**	**+0.5**		
AKTO	**Aktyubinsk**	**27.60**	**323**	P	**P**	**10 17 28.6**	**+0.8**		
AKTO				pmax	pmax				
	comp=Z,2.0nm,0.6s								
AKTO				MLR	MLR				
	comp=Z,2µm,19.6s								
AKTO	**Aktyubinsk**	**27.60**	**323**	P	**P**	**10 17 28.6**	**+0.8**		
AKTO	**Aktyubinsk**	**27.60**	**323**	P	**P**	**10 17 28.6**	**+0.8**		
	comp=Z,1.9nm,0.6s,baz=99,slow=14,SNR=7.4								
AKTO				LR	LR	10 29 46.0			
	comp=Z,2µm,19.6s,baz=11,slow=39								
BJI	**Beijing**	**27.91**	**61**	P	**P**	**10 17 31.0**	**+0.3**		
BJI				S	**S**	**10 22 18.3**	**+5.5**		
BJI				pmax	pmax				
	comp=Z,12nm,0.5s								
BJI				pmax	pmax				
	comp=Z,70nm,3.5s								
BJI				LR	LR				
	comp=N,2µm,13.5s								
BJI				LR	LR				
	comp=E,800nm,13.8s								
BJI				LR	LR				
	comp=Z,940nm,21.2s								
NJ2	**Nanjing**	**29.91**	**78**	*e*P	**P**	**10 17 49.3**	**+0.8**		
NJ2				pP	**pP**	**10 17 57.8**	**+1.6**		
NJ2				sP	**sP**	**10 17 59.8**	**+0.4**		
NJ2				S	**S**	**10 22 46.0**	**+1.7**		
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.8s								
NJ2				pmax	pmax				
	comp=Z,160nm,5.6s								
NJ2				LR	LR				
	comp=N,1µm,12.0s								
NJ2				LR	LR				
	comp=E,870nm,16.9s								
NJ2				LR	LR				
	comp=Z,900nm,15.7s								
IPM	**Ipoh**	**30.68**	**145**	P	**P**	**10 17 56.6**	**+1.2**		
	comp=Z,14nm,1.4s								
PSI	**Prapat**	**31.17**	**150**	LR	LR	10 31 48.9			
	comp=Z,297nm,19.4s,baz=154,slow=39								
ARU	**Arti**	**31.27**	**333**	*d* iP	**P**	**10 18 00.2**	**0.0**		
ARU						10 18 57.5			
ARU				S	**S**	**10 23 05.4**	**+0.3**		
ARU				SS	**SnSn**	**10 24 48.0**	**-0.8**		
ARU				pmax	pmax				
	comp=Z,35nm,2.5s								
ARU	**Arti**	**31.27**	**333**	*e*P	**P**	**10 17 59.8**	**-0.4**		
	comp=Z,7.3nm,0.7s								
MAK	**Makhachkala**	**31.31**	**303**	*e*P	**P**	**10 17 59.5**	**-1.2**		
MAK				pmax	pmax				
	comp=Z,209nm,1.4s								
MAK				MLR	MLR				
	comp=Z,1µm,14.0s								
GSI	**Gunungsitoli**	**31.97**	**153**	P	P	10 18 09.8	+3.1		
	comp=Z,54nm,1.4s,comp=Z,962nm								
BHD	**Baghdad**	**33.41**	**285**	*ex*	x	10 18 10.7			
BHD				*ex*	x	10 23 26.2			
ZEI	**Tsey**	**33.90**	**302**	*e*P	**P**	**10 18 25.9**	**+2.2**		
ZEI				pmax	pmax				
	comp=Z,8.0nm,0.6s								
SOKR	**Solikamsk**	**34.17**	**336**	*e*P	**P**	**10 18 26.4**	**+0.9**		
SOKR				pmax	pmax				
	comp=Z,8.0nm,0.8s								
SOKR				MLR	MLR				
	comp=Z,670nm,16.0s								
BOD	**Bodaibo**	**34.22**	**29**	*e*P	**P**	**10 18 26.3**	**+0.3**		
BOD				pmax	pmax				
	comp=Z,7.0nm,1.5s								
KBZ	**Khabaz**	**34.75**	**304**	P	**P**	**10 18 31.1**	**+0.3**		
KBZ				pmax	pmax				
	comp=Z,3.0nm,0.8s								
KBZ	**Khabaz**	**34.75**	**304**	P	**P**	**10 18 31.1**	**+0.3**		
KBZ	**Khabaz**	**34.75**	**304**	P	**P**	**10 18 31.1**	**+0.3**		
	comp=Z,2.5nm,0.8s,baz=95,slow=9.1,SNR=4.9								
KIV	**Kislovodsk**	**34.94**	**304**	*e*P	**P**	**10 18 34.7**	**+2.2**		
KIV				*e*S	**S**	**10 24 03.5**	**+0.9**		
KIV				pmax	pmax				
	comp=Z,8.0nm,0.7s								
KIV				MLR	MLR				
	comp=Z,300nm,15.0s								
KSAR	**Wonju Array Be**	**36.91**	**67**	P	**P**	**10 18 47.9**	**-1.5**		
KSRS	**Korea Array**	**36.94**	**67**	P	**P**	**10 18 47.8**	**-1.7**		
	comp=Z,1.1nm,0.6s,baz=280,slow=9.1,SNR=4.8								
KSRS				LR	LR	10 36 05.7			
	comp=Z,320nm,18.7s,baz=220,slow=40								
MDJ	**Mudanjiang**	**38.37**	**56**	P	**P**	**10 19 01.3**	**-0.4**		
MDJ				pP	**pP**	**10 19 10.1**	**+0.6**		
MDJ				sP	**sP**	**10 19 13.9**	**+1.3**		
MDJ				S	**S**	**10 24 53.8**	**-1.0**		
MDJ				ScP	**ScP**	**10 25 00.3**	**-0.8**		
MDJ				pmax	pmax				
	comp=Z,5.0nm,1.5s								
MDJ				pmax	pmax				
	comp=Z,40nm,2.9s								
MDJ				LR	LR				
	comp=N,580nm,20.6s								
MDJ				LR	LR				
	comp=E,96nm,22.1s								
MDJ				LR	LR				
	comp=Z,520nm,18.8s								
KSM	**Kuching**	**38.38**	**134**	*e*P	**P**	**10 19 03.5**	**+1.5**		
KSM	**Kuching**	**38.38**	**134**	P	**P**	**10 19 04.4**	**+2.4**		
	comp=Z,22nm,0.7s								
SBUM	**Sibu**	**38.85**	**131**	P	**P**	**10 19 07.6**	**+1.7**		
	comp=Z,22nm,1.2s								
JNU	**Nakatsue**	**39.81**	**74**	LR	LR	10 36 42.6			
	comp=Z,389nm,19.4s,baz=19,slow=38								
USRK	**Ussuriysk Arra**	**40.06**	**56**	P	**P**	**10 19 14.6**	**-1.1**		
	comp=Z,1.7nm,0.6s,baz=249,slow=8.4,SNR=7.2								
USRK				LR	LR	10 37 19.2			
	comp=Z,735nm,19.9s,baz=74,slow=38								
KLR	**Kul'dur**	**40.43**	**49**	*e*P	P	10 19 15.2	-3.6		
OBN	**Obninsk**	**41.29**	**320**	P	P	10 19 30.0	+4.3		
OBN				*e*		10 19 38.0			
OBN						10 21 01.0			
OBN				PPP	PPP	10 21 21.0			
OBN				SS	SS	10 28 34.0	-7.9		
OBN				pmax	pmax				
	comp=Z,28nm,1.2s								
OBN				MLR	MLR				
	comp=Z,900nm,16.0s								
MYLDM	**Lahad Datu**	**41.31**	**121**	P	P	10 19 29.6	+3.2		
	comp=Z,21nm,1.4s								
BR131	**Keskin Array S**	**41.52**	**297**	*e*P	**P**	**10 19 28.2**	**+0.2**		
	comp=Z,11nm,1.2s								
BRTR	**Keskin Array B**	**41.52**	**297**	P	**P**	**10 19 28.2**	**+0.2**		
BRTR	**Keskin Array B**	**41.52**	**297**	P	**P**	**10 19 28.2**	**+0.2**		
	comp=Z,1.2nm,0.7s,baz=117,slow=4.3,SNR=8.2								
BRTR				LR	LR	10 38 47.9			
	comp=Z,190nm,18.2s,baz=236,slow=39								
KLMR	**Klimovskoe**	**41.91**	**329**	*e*P	**P**	**10 19 33.5**	**+2.8**		
KLMR				*e*		10 21 07.0			
KLMR				pmax	pmax				
	comp=Z,37nm,1.5s								
KLMR				MLR	MLR				
	comp=Z,978nm,17.0s								
AKASG	**Malin Array Be**	**44.84**	**313**	P	**P**	**10 19 53.5**	**-1.0**		
AKASG				pmax	pmax				
	comp=Z,2.0nm,0.6s								
AKASG	**Malin Array Be**	**44.84**	**313**	P	**P**	**10 19 53.5**	**-1.0**		
AKASG	**Malin Array Be**	**44.84**	**313**	P	**P**	**10 19 53.5**	**-1.0**		
	comp=Z,21nm,0.6s,baz=85,slow=7.0,SNR=8.1								
MLR	**Muntele Rosu**	**46.91**	**305**	LR	LR	10 42 44.5			
	comp=Z,115nm,21.7s,baz=251,slow=40								
FINES	**FINESS Array B**	**48.25**	**327**	P	**P**	**10 20 20.4**	**-0.7**		
FINES	**FINESS Array B**	**48.25**	**327**	P	**P**	**10 20 20.4**	**-0.7**		
	comp=Z,4.3nm,0.7s,baz=101,slow=9.9,SNR=10								
FINES				LR	LR	10 42 14.4			
	comp=Z,791nm,18.1s,baz=6.1,slow=38								
KAPI	**Kappang**	**49.38**	**130**	*e*P	**P**	**10 20 29.4**	**-0.9**		
KAPI				*e*PP	**PP**	**10 22 26.9**	**+2.2**		
KAPI	**Kappang**	**49.38**	**130**	P	**P**	**10 20 30.4**	**0.0**		
	comp=Z,17nm,1.3s								
KAPI	**Kappang**	**49.38**	**130**	P	**P**	**10 20 28.6**	**-1.8**		
	comp=Z,9.2nm,0.7s,baz=301,slow=2.9,SNR=6.9								
ARCES	**ARCESS Array B**	**50.66**	**337**	P	**P**	**10 20 38.0**	**-1.3**		
ARCES	**ARCESS Array B**	**50.66**	**337**	P	**P**	**10 20 38.0**	**-1.3**		
	comp=Z,6.0nm,0.8s,baz=88,slow=7.5,SNR=5.2								
ARCES				LR	LR	10 43 28.6			
	comp=Z,484nm,19.8s,baz=162,slow=38								
OKC	**Ostrava-Krasne**	**51.93**	**311**	AMS	AMS	10 45 20.0			
	comp=Z,600nm,9.4s								
VRAC	**Vranov**	**52.98**	**311**	LR	LR	10 46 30.8			
	comp=Z,369nm,18.5s,baz=90,slow=39								
DPC	**Dobruska-Polom**	**53.06**	**312**	AMS	AMS	10 45 50.0			
	comp=Z,600nm,15.4s								
SEY	**Seymchan**	**53.51**	**32**	*ce*P	**P**	**10 21 01.9**	**+1.3**		
TREC	**Trest**	**53.71**	**311**	AMS	AMS	10 46 20.0			
	comp=Z,600nm,17.5s								
HFS	**Hagfors**	**54.14**	**325**	LR	LR	10 45 30.1			
	comp=Z,817nm,19.4s,baz=96,slow=38								
PVCC	**Panska Ves**	**54.16**	**313**	AMS	AMS	10 46 30.0			
	comp=Z,800nm,17.4s								
PRU	**Pruhonice**	**54.24**	**312**	AMS	AMS	10 46 40.0			
	comp=Z,600nm,17.5s								
KMBO	**Kilima Mbogo**	**54.34**	**243**	*e*P	**P**	**10 21 07.7**	**0.0**		
	comp=Z,3.6nm,0.9s								
GERES	**GERESS Array B**	**54.93**	**311**	LR	LR	10 45 03.8			
	comp=Z,332nm,21.7s,baz=88,slow=36								
KHC	**Kasperske Hory**	**54.97**	**311**	AMS	AMS	10 47 10.0			
	comp=Z,600nm,13.6s								
NB2	**NORSAR Subarra**	**55.35**	**326**	P	**P**	**10 21 12.9**	**-1.2**		
	comp=Z,1.7nm,0.6s,baz=88,slow=7.4								
NOA	**NORSAR Array B**	**55.35**	**326**	P	**P**	**10 21 12.2**	**-1.9**		
NOA	**NORSAR Array B**	**55.35**	**326**	P	**P**	**10 21 12.2**	**-1.9**		
	comp=Z,2.2nm,0.7s,baz=89,slow=7.3,SNR=3.2								
NOA				LR	LR	10 47 32.3			
	comp=Z,310nm,19.6s,baz=90,slow=39								
NKC	**Novy Kostel**	**55.54**	**312**	AMS	AMS	10 47 30.0			
	comp=Z,700nm,9.7s								
BILL	**Bilibino**	**59.19**	**26**	*i* iP	**P**	**10 21 43.8**	**+2.7**		
BILL				*e*		10 21 51.1			
BILL				pmax	pmax				
	comp=Z,10.0nm,1.6s								
DAG	**Danmarks Havn**	**63.22**	**345**	*i* P	**P**	**10 22 08.3**	**+0.1**		
DAG				pmax	pmax				
	comp=Z,3.0nm,0.9s								
DAG	**Danmarks Havn**	**63.22**	**345**	*i* P	**P**	**10 22 08.3**	**+0.1**		
	comp=Z,28nm,0.9s								
BORG	**Borgarnes**	**68.80**	**334**	LR	LR	10 55 35.4			
	comp=Z,293nm,19.3s,baz=168,slow=38								
ESDC	**Sonseca Array**	**69.60**	**305**	LR	LR	10 56 03.4			
	comp=Z,116nm,18.4s,baz=65,slow=38								
SUMG	**Summit**	**69.82**	**344**	*e*P	**P**	**10 22 49.6**	**-1.4**		
SUMG				pmax	pmax				
	comp=Z,18nm,1.1s								
SUMG	**Summit**	**69.82**	**344**	*e*P	**P**	**10 22 49.6**	**-1.4**		
	comp=Z,18nm,1.1s								
SUMG	**Summit**	**69.82**	**344**	*i* P	**P**	**10 22 51.0**	**0.0**		
	comp=Z,12nm,1.0s								
WRA	**Warramunga Arr**	**69.92**	**129**	P	**P**	**10 22 49.9**	**-2.0**		
WRA	**Warramunga Arr**	**69.92**	**129**	P	**P**	**10 22 49.9**	**-2.0**		
	comp=Z,13nm,1.1s,baz=323,slow=6.4,SNR=28								
WRAB	**Tennant Creek**	**69.92**	**129**	*e*P	**P**	**10 22 49.0**	**-2.8**		
WRAB				pmax	pmax				
	comp=Z,15nm,1.0s								
WRAB	**Tennant Creek**	**69.92**	**129**	*e*P	**P**	**10 22 49.0**	**-2.8**		
	comp=Z,15nm,1.0s								
LSZ	**Lusaka**	**70.29**	**238**	*e*P	**P**	**10 22 55.1**	**+0.9**		
	comp=Z,8.1nm,0.6s								
ASAR	**Alice Springs**	**72.28**	**132**	P	**P**	**10 23 04.5**	**-1.6**		
ASAR	**Alice Springs**	**72.28**	**132**	P	**P**	**10 23 04.5**	**-1.6**		
	comp=Z,1.9nm,0.8s,baz=312,slow=5.8,SNR=13								
TOA0	**Torodi Ar. Sit**	**76.69**	**277**	*e*P	**P**	**10 23 32.7**	**+0.7**		
TORD	**Torodi Ar. Bea**	**76.69**	**277**	P	**P**	**10 23 32.2**	**+0.2**		
TORD	**Torodi Ar. Bea**	**76.69**	**277**	P	**P**	**10 23 32.2**	**+0.2**		
	comp=Z,2.0nm,0.6s,baz=45,slow=4.8,SNR=24								
TORD				LR	LR	11 01 26.1			
	comp=Z,226nm,18.9s,baz=50,slow=39								
COLA	**College**	**76.70**	**20**	*e*P	**P**	**10 23 31.5**	**+0.4**		
COLA				pmax	pmax				
	comp=Z,6.0nm,1.0s								
COLA	**College**	**76.70**	**20**	*e*P	**P**	**10 23 31.5**	**+0.4**		
	comp=Z,6.1nm,1.0s								
ILAR	**Eielson Array**	**77.06**	**20**	P	**P**	**10 23 31.6**	**-1.6**		
ILAR				PP	**PP**	**10 26 24.4**	**-1.8**		
ILAR	**Eielson Array**	**77.06**	**20**	P	**P**	**10 23 31.6**	**-1.6**		
	comp=Z,1.7nm,0.8s,baz=309,slow=4.2,SNR=20								
ILAR				PP	**PP**	**10 26 24.4**	**-1.8**		
	comp=Z,0.7nm,0.8s,baz=313,slow=8.2,SNR=6.6								
ILAR				LR	LR	10 59 48.7			
	comp=Z,171nm,19.0s,baz=306,slow=38								
CTAO	**Charters Tower**	**78.38**	**122**	*e*P	**P**	**10 23 40.2**	**-1.0**		
CTAO				pmax	pmax				
	comp=Z,10.0nm,1.1s								
CTAO	**Charters Tower**	**78.38**	**122**	*e*P	**P**	**10 23 40.2**	**-1.0**		
	comp=Z,9.8nm,1.1s								
LBTB	**Lobatse**	**78.52**	**232**	*e*P	**P**	**10 23 42.9**	**+0.9**		
	comp=Z,8.9nm,0.7s								
SML	**Sawmill**	**78.77**	**22**	*e*P	**P**	**10 23 43.5**	**+0.7**		
SML				pmax	pmax				
	comp=Z,4.0nm,0.9s								
SML	**Sawmill**	**78.77**	**22**	*e*P	**P**	**10 23 43.5**	**+0.7**		
	comp=Z,3.6nm,0.9s								
BOSA	**Boshof**	**81.13**	**229**	P	**P**	**10 23 55.7**	**-0.4**		
BOSA	**Boshof**	**81.13**	**229**	P	**P**	**10 23 55.7**	**-0.4**		
	comp=Z,7.5nm,0.7s,baz=59,slow=4.3,SNR=18								
BOSA				LR	LR	10 55 56.4			
	comp=Z,209nm,20.3s,baz=57,slow=33								
STKA	**Stephens Creek**	**82.86**	**133**	P	**P**	**10 24 03.6**	**-1.4**		
STKA	**Stephens Creek**	**82.86**	**133**	P	**P**	**10 24 03.6**	**-1.4**		
	comp=Z,3.1nm,1.0s,baz=334,slow=9.2,SNR=3.9								
DBIC	**Dimbokro**	**85.48**	**275**	P	**P**	**10 24 20.0**	**+1.3**		
DBIC	**Dimbokro**	**85.48**	**275**	P	**P**	**10 24 20.0**	**+1.3**		
	comp=Z,5.0nm,0.6s,baz=30,slow=7.2,SNR=10								
DBIC				LR	LR	11 06 21.5			
	comp=Z,319nm,18.5s,baz=39,slow=38								
YKA	**Yellowknife Ar**	**86.03**	**8**	P	**P**	**10 24 19.6**	**-1.0**		
YKA	**Yellowknife Ar**	**86.03**	**8**	P	**P**	**10 24 19.6**	**-1.0**		
	comp=Z,2.2nm,0.7s,baz=338,slow=5.1,SNR=46								
SUR	**Sutherland**	**86.49**	**229**	LR	LR	11 00 18.9			
	comp=Z,188nm,20.1s,baz=180,slow=34								
SCHQ	**Schefferville**	**91.20**	**344**	P	**P**	**10 24 47.2**	**+1.8**		
SCHQ	**Schefferville**	**91.20**	**344**	P	**P**	**10 24 47.2**	**+1.8**		
	comp=Z,1.2nm,0.7s,baz=25,slow=7.6,SNR=3.7								
SCHQ				LR	LR	11 07 08.9			
	comp=Z,272nm,20.7s,baz=37,slow=36								
LDFC	**Landfair**	**112.26**	**17**	*e*PKPdf	**PKiKP**	**10 30 17.9**	**+1.3**		
TXAR	**Lajitas Array**	**119.95**	**8**	PKP	**PKPdf**	**10 30 30.1**	**-1.3**		
TXAR	**Lajitas Array**	**119.95**	**8**	PKP	**PKPdf**	**10 30 30.1**	**-1.3**		
	comp=Z,0.6nm,1.0s,baz=19,slow=5.7,SNR=5.2								
QSPA	**South Pole Qui**	**120.43**	**180**	*e*PKPdf	**PKPdf**	**10 30 26.7**	**-4.3**		
PPT2	**Papeete2**	**130.01**	**88**	*e*LR	LR	10 31 04.4			
	comp=Z,92nm,26.0s								
TBI	**Tubuai**	**132.37**	**95**	*e*LR	LR	10 30 35.4			
	comp=Z,169nm,28.0s								
OTAV	**Otavalo**	**144.96**	**328**	*e*PKPdf	**PKPdf**	**10 31 21.0**	**+2.1**		
CPUP	**Villa Florida**	**145.67**	**267**	PKPbc	**PKPab**	**10 31 20.5**	**+0.7**		
CPUP	**Villa Florida**	**145.67**	**267**	PKPbc	**PKPab**	**10 31 20.5**	**+0.7**		
	comp=Z,3.4nm,0.6s,baz=51,slow=3.9,SNR=12								
LPAZ	**La Paz**	**150.65**	**293**	PKPbc	**PKPbc**	**10 31 33.8**	**0.0**		
LPAZ	**La Paz**	**150.65**	**293**	PKPbc	**PKPbc**	**10 31 33.8**	**0.0**		
	comp=Z,1.2nm,0.7s,baz=260,slow=3.3,SNR=4.9								
TRQA	**Tornquist**	**150.90**	**246**	*e*PKPdf	**PKPdf**	**10 31 27.5**	**+0.1**		

ISCJB ***18*** *10:14:56.7±0.5,51.4S±0.2×6.5E±0.4, h0km, Error ellipse: s-maj=4.4km s-min=2.9km az=40.1*
LDG ***18*** *10:14:57.6±0.1,51.5N×6.6E, h1km, Ml2.9/6, Error ellipse: s-maj=1.6km s-min=1.1km az=3.0, Suspected Mining induced.*
BUG ***18*** *10:14:57.1,51.4N×6.6E, h1km, ML2.2*
CSEM ***18*** *10:14:57.5±0.3,51.4N×6.5E, h1km, ML3.1/5, Error ellipse: s-maj=5.1km s-min=4.2km az=129.0*
BGR ***18*** *10:14:57.1±0.8,51.4N×6.5E, h1km, ML2.4/4, Error ellipse: s-maj=16.7km s-min=5.6km az=126.0*
BNS ***18*** *10:14:58.5±1.1,51.4N×6.6E, h1km, ML2.2*
STR ***18*** *10:15:04.7±1.2,51.1N×7.6E, h5km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 18 10:14:56.9±0.8, 51.4N±0.2×6.5E±0.3, h0km, n55, σ0.973/79, 1D, Germany

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

LAUG	**Laupendahl**	**0.29**	**117**	*e*Pg	**Pg**	**10 15 02.9**	**+0.4**		
LAUG				*e*Sg	**Sg**	**10 15 06.9**	**+0.6**		
LAUG	**Laupendahl**	**0.29**	**117**	Pg	**Pg**	**10 15 02.9**	**+0.4**		
LAUG				Sg	**Sg**	**10 15 06.9**	**+0.6**		
RODG	**Roetgen-Dahlhe**	**0.41**	**213**	*e*Sg	**Sb**	**10 15 12.8**	**-0.8**		
RODG	**Roetgen-Dahlhe**	**0.41**	**213**	Sg	**Sb**	**10 15 12.8**	**-0.8**		
BUG	**Bochum--Univer**	**0.47**	**95**	*e*Pg	**Pg**	**10 15 06.0**	**+0.2**		
BUG				Sg	**Sg**	**10 15 12.5**	**+0.6**		
WTSB	**Winterswijk** 12nm,0.2s	**0.51**	**19**	*e*Pg	**Pg**	**10 15 07.3**	**+0.6**		
WTSB				*e*Sg	**Sg**	**10 15 14.0**	**+0.7**		
WTSB	**Winterswijk** 12nm,0.2s	**0.51**	**19**	*e*Pg	**Pg**	**10 15 07.3**	**+0.6**		
WTSB				*e*Sg	**Sg**	**10 15 14.0**	**+0.7**		
BNS	**Bensberg**	**0.66**	**142**	*e*Pg	**Pg**	**10 15 10.5**	**+0.9**		
BNS	**Bensberg**	**0.66**	**142**	Pg	**Pg**	**10 15 10.5**	**+0.9**		
HOBG	**Hohbusch**	**0.71**	**134**	*e*Pg	**Pg**	**10 15 11.5**	**+0.9**		
HOBG	**Hohbusch**	**0.71**	**134**	Pg	**Pg**	**10 15 11.5**	**+0.9**		
HGN	**Heimansgroeve** 43nm,0.2s	**0.81**	**208**	*e*Pb	**Pb**	**10 15 13.5**	**-0.4**		
HGN				*e*Pg	**Pn**	**10 15 15.0**	**-0.6**		
HGN				*e*Sg	**Sn**	**10 15 27.6**	**-0.8**		
HGN	**Heimansgroeve**	**0.81**	**208**	*e*Pb	**Pb**	**10 15 13.5**	**-0.4**		
HGN	**Heimansgroeve** 43nm,0.2s	**0.81**	**208**	*e*Pg	**Pn**	**10 15 15.0**	**-0.6**		
HGN				*e*Sg	**Sn**	**10 15 27.6**	**-0.8**		
DREG	**Dreilaegerbach**	**0.84**	**193**	*e*Pg	**Pg**	**10 15 13.9**	**+0.9**		
DREG				*e*Sg	**Sg**	**10 15 25.0**	**+1.0**		
DREG	**Dreilaegerbach**	**0.84**	**193**	Pg	**Pg**	**10 15 13.9**	**+0.9**		
DREG				Sg	**Sg**	**10 15 25.0**	**+1.0**		
KLL	**Kalltalsperre** 65nm,0.2s	**0.85**	**189**	*e*Pg	**Pg**	**10 15 13.9**	**+0.7**		
KLL				*e*Sg	**Sb**	**10 15 26.1**	**-0.4**		
KLL	**Kalltalsperre** 65nm,0.2s	**0.85**	**189**	Pg	**Pg**	**10 15 13.9**	**+0.7**		
KLL				Sg	**Sb**	**10 15 26.1**	**-0.4**		
STB	**Steinbach** 80nm,0.3s	**0.92**	**167**	*e*Pg	**Pb**	**10 15 15.9**	**+0.3**		
STB				*e*Sg	**Sg**	**10 15 27.4**	**+1.2**		
STB	**Steinbach** 80nm,0.3s	**0.92**	**167**	Pg	**Pb**	**10 15 15.9**	**+0.3**		
STB				Sg	**Sg**	**10 15 27.4**	**+1.2**		
MEM	**Membach**	**0.94**	**201**	P	**Pg**	**10 15 15.6**	**+0.8**		
MEM	**Membach**	**0.94**	**201**	P	**Pg**	**10 15 15.6**	**+0.8**		
IBBN	**Ibbenburen**	**1.12**	**42**	*e*Sg	**Sg**	**10 15 32.9**	**0.0**		
IBBN	**Ibbenburen**	**1.12**	**42**	Sg	**Sg**	**10 15 32.9**	**0.0**		
HILG	**Hillesheim**	**1.20**	**175**	*e*Pg	**Pb**	**10 15 20.4**	**0.0**		
HILG				*e*Sg	**Sb**	**10 15 36.9**	**+0.3**		
HILG	**Hillesheim**	**1.20**	**175**	Pg	**Pb**	**10 15 20.5**	**0.0**		
HILG				Sg	**Sb**	**10 15 36.9**	**+0.3**		
KOE	**Koeppel**	**1.31**	**144**	*e*Pg	**Pg**	**10 15 22.0**	**+0.1**		
KOE	**Koeppel**	**1.31**	**144**	Pg	**Pg**	**10 15 22.0**	**+0.1**		
BCLA	**Clavier**	**1.32**	**216**	P	**Pn**	**10 15 22.8**	**+0.3**		
BCLA	**Clavier**	**1.32**	**216**	P	**Pn**	**10 15 22.8**	**+0.3**		
SNF	**Seneffe**	**1.72**	**236**	P	**Pn**	**10 15 28.7**	**+0.6**		
SNF	**Seneffe**	**1.72**	**236**	P	**Pn**	**10 15 28.7**	**+0.6**		
ABH	**Alteburg**	**1.73**	**158**	Pg	**Pb**	**10 15 29.9**	**+0.3**		
TNS	**Taunus Mts**	**1.76**	**135**	*e*Pg	**Pn**	**10 15 29.2**	**+0.6**		
TNS	**Taunus Mts**	**1.76**	**135**	Pg	**Pn**	**10 15 29.2**	**+0.6**		
GIVF	**Givet**	**1.76**	**219**	*e*P	**Pb**	**10 15 30.3**	**+0.3**		
GIVF	**Givet**	**1.76**	**219**	*e*Pg	**Pg**	**10 15 31.6**	**+1.1**		
GIVF				*e*Sn	**Sn**	**10 15 50.7**	**-0.9**		
GIVF	**Givet** 34nm,0.3s	**1.76**	**219**	*e*P	**Pb**	**10 15 30.3**	**+0.3**		
GIVF	**Givet**	**1.76**	**219**	*e*Pg	**Pg**	**10 15 31.6**	**+1.1**		
GIVF				*e*Sn	**Sn**	**10 15 50.7**	**-0.9**		
RUP	**Ruppelstein**	**1.82**	**169**	Pn	**Pb**	**10 15 30.8**	**-0.3**		
RUP	**Ruppelstein**	**1.82**	**169**	Pg	**Pg**	**10 15 33.5**	**+1.8**		
RUP				Sg	**Sb**	**10 15 54.3**	**-0.1**		
WLF	**Walferdange**	**1.84**	**188**	P	**Pb**	**10 15 31.9**	**+0.5**		
WLF	**Walferdange**	**1.84**	**188**	*e*Sg	**Sn**	**10 15 53.7**	**0.0**		
WLF	**

THZ	**Tophouse**	**15.38**	**204**	SN		**S**	**10 25 19.6**	**-3.8**
AFI	**Afiamalu**	**15.41**	**27**	*e*P		**P**	**10 22 37.4**	**-2.0**
AFI				*e*S		S	10 25 12.1	-13
AFI				S		S	10 25 14.7	-10
AFI	**Afiamalu**	**15.41**	**27**	P		**P**	**10 22 37.0**	**-2.4**
	7.0nm,0.3s,baz=225,slow=20,SNR=11							
AFI				S		S	10 25 14.7	-10
	5.4nm,0.3s,baz=39,slow=21,SNR=9.3							
KHZ	**Kahutara**	**15.74**	**201**	*e*PN		**P**	**10 22 42.7**	**+0.2**
KHZ				SN		**S**	**10 25 26.2**	**-4.2**
DSZ	**Denniston Nort**	**15.78**	**207**	SN		**S**	**10 25 28.4**	**-2.9**
JCZ	**Jackson Bay**	**18.95**	**208**	*e*PN		**P**	**10 23 19.7**	**+2.6**
ARMA	**Armidale**	**25.86**	**257**	P		**P**	**10 24 23.5**	**+2.3**
	14nm,1.1s							
EIDS	**Eidsvold**	**26.96**	**268**	*e*P		**P**	**10 24 31.6**	**+0.8**
	8.9nm,0.7s							
CNB	**Canberra Magne**	**27.97**	**247**	*e*P		**P**	**10 24 42.5**	**+2.8**
	53nm,0.8s							
TOO	**Toolangi**	**31.34**	**243**	*e*P		**P**	**10 25 10.9**	**+1.7**
	46nm,1.1s							
CTA	**Charters Tower**	**32.72**	**276**	P		**P**	**10 25 21.3**	**-0.1**
CTA	**Charters Tower**	**32.72**	**276**	*e*P		**P**	**10 25 21.4**	**+0.1**
	4.6nm,0.6s							
CTA	**Charters Tower**	**32.72**	**276**	P		**P**	**10 25 21.3**	**-0.1**
	4.1nm,0.5s,baz=108,slow=12,SNR=8.9							
CTAO	**Charters Tower**	**32.72**	**276**	*e*P		**P**	**10 25 21.5**	**+0.1**
	24nm,1.6s							
STKA	**Stephens Creek**	**34.38**	**254**	*e*P		**P**	**10 25 36.3**	**+0.9**
STKA	**Stephens Creek**	**34.38**	**254**	*e*P		**P**	**10 25 35.8**	**+0.4**
	4.4nm,1.0s							
STKA	**Stephens Creek**	**34.38**	**254**	P		**P**	**10 25 35.7**	**+0.4**
	3.0nm,0.4s,baz=90,slow=10,SNR=9.8							
COEN	**Coen**	**37.91**	**284**	*e*P		**P**	**10 26 05.2**	**0.0**
	18nm,0.6s							
AS31	**Alice Springs**	**42.54**	**265**	*e*P		**P**	**10 26 42.3**	**-0.5**
ASAR	**Alice Springs**	**42.54**	**265**	P		**P**	**10 26 42.2**	**-0.6**
ASAR	**Alice Springs**	**42.54**	**265**	P		**P**	**10 26 42.2**	**-0.6**
	5.1nm,0.8s,baz=92,slow=7.0,SNR=48							
WRAB	**Tennant Creek**	**43.29**	**270**	*e*P		**P**	**10 26 47.9**	**-0.9**
	12nm,0.7s							
WRA	**Warramunga Arr**	**43.30**	**270**	P		**P**	**10 26 47.7**	**-1.1**
WRA				PcP		**PcP**	**10 28 30.6**	**-0.1**
WRA	**Warramunga Arr**	**43.30**	**270**	P		**P**	**10 26 47.7**	**-1.1**
	10.0nm,0.7s,baz=107,slow=7.6,SNR=59							
WRA				PcP		**PcP**	**10 28 30.6**	**-0.1**
	4.1nm,0.9s,baz=108,slow=3.5,SNR=6.9							
FORT	**Forrest**	**46.01**	**253**	*e*P		**P**	**10 27 08.6**	**-1.2**
	16nm,0.5s							
FITZ	**Fitzroy Crossi**	**51.65**	**268**	P		**P**	**10 27 51.7**	**-0.6**
FITZ				S		**S**	**10 34 44.6**	**-1.6**
FITZ	**Fitzroy Crossi**	**51.65**	**268**	P		**P**	**10 27 51.7**	**-0.6**
	1.1nm,0.4s,baz=107,slow=11,SNR=3.4							
FITZ				S		**S**	**10 34 44.6**	**-1.6**
	9.8nm,0.9s,baz=177,slow=17,SNR=6.3							
QSPA	**South Pole Qui**	**62.19**	**180**	P		**P**	**10 29 08.1**	**+3.0**
QSPA	**South Pole Qui**	**62.19**	**180**	P		**P**	**10 29 08.1**	**+3.0**
	4.7nm,0.8s,baz=66,slow=2.7,SNR=17							
MJAR	**Matsushiro Arr**	**75.77**	**326**	P		**P**	**10 30 26.4**	**-1.7**
MJAR	**Matsushiro Arr**	**75.77**	**326**	P		**P**	**10 30 26.4**	**-1.7**
	12nm,0.8s,baz=168,slow=6.0,SNR=28							
MAJO	**Matsushiro**	**75.77**	**326**	*e*P		**P**	**10 30 26.7**	**-1.4**
	35nm,1.1s							
MAT	**Matsushiro**	**75.77**	**326**	P		**P**	**10 30 26.4**	**-1.7**
JNU	**Nakatsue**	**77.20**	**319**	*e*P		**P**	**10 30 34.9**	**-1.3**
	39nm,1.9s							
JNU	**Nakatsue**	**77.20**	**319**	P		**P**	**10 30 34.8**	**-1.3**
	8.6nm,0.6s,baz=62,slow=4.1,SNR=13							
KSRS	**Korea Array**	**81.97**	**320**	P		**P**	**10 31 01.4**	**+0.1**
	5.9nm,0.9s,baz=138,slow=6.0,SNR=15							
KSAR	**Wonju Array Be**	**81.98**	**320**	P		**P**	**10 31 01.4**	**0.0**
YSS	**Yuzh-Sakhalins**	**82.18**	**335**	*e*P		**P**	**10 31 02.6**	**+0.3**
	26nm,1.0s							
PETK	**Petropavlovsk-**	**83.22**	**346**	P		**P**	**10 31 06.7**	**-0.7**
PETK	**Petropavlovsk-**	**83.22**	**346**	P		**P**	**10 31 06.7**	**-0.7**
	19nm,0.8s,baz=132,slow=7.8,SNR=25							
USRK	**Ussuriysk Arra**	**84.67**	**327**	P		**P**	**10 31 14.8**	**-0.1**
	8.9nm,0.9s,baz=151,slow=4.3,SNR=15							
WDC	**Whiskeytown Da**	**85.86**	**39**	*e*P		**P**	**10 31 20.8**	**0.0**
	59nm,2.5s							
MDJ	**Mudanjiang**	**86.15**	**326**	P		**P**	**10 31 22.4**	**+0.3**
MDJ				pP		**pP**	**10 32 44.8**	**+1.1**
MDJ				sP		**sP**	**10 33 23.3**	**+3.1**
MDJ				S		**SKKSac**	**10 41 24.0**	**+1.5**
MDJ				pmax	pmax			
	comp=Z,10.0nm,1.1s							
MDJ				pmax	pmax			
	comp=Z,13nm,2.9s							
MDJ	**Mudanjiang**	**86.15**	**326**	*e*P		**P**	**10 31 21.9**	**-0.3**
	comp=Z,11nm,1.1s							
WHN	**Wuhan**	**86.25**	**307**	P		**P**	**10 31 23.3**	**+0.4**
NVAR	**Mina Array Bea**	**86.93**	**43**	P		**P**	**10 31 26.9**	**+0.6**
NVAR	**Mina Array Bea**	**86.93**	**43**	P		**P**	**10 31 26.9**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=222,slow=8.6,SNR=24							
CN2	**Changchun**	**87.71**	**323**	*e*P		**P**	**10 31 29.4**	**-0.1**
CN2				*e*S		**S**	**10 41 38.9**	**-2.1**
CN2				pmax	pmax			
	comp=Z,20nm,1.0s							
TUC	**Tucson**	**88.16**	**52**	*e*P		**P**	**10 31 33.6**	**+1.5**
	comp=Z,4.6nm,0.9s							
CCUT	**Cedar City**	**89.47**	**46**	*e*P		**P**	**10 31 39.6**	**+1.3**
	comp=Z,37nm,2.6s							
ARUT	**Antelope Range**	**89.56**	**46**	*e*P		P	10 31 34.9	-3.7
ENH	**Enshi**	**89.58**	**305**	*e*P		**P**	**10 31 38.8**	**+0.1**
	comp=Z,9.6nm,0.8s							
GYA	**Guiyang**	**89.66**	**300**	P		**P**	**10 31 40.0**	**+0.7**
GYA				pP		**pP**	**10 33 05.8**	**+4.4**
GYA				sP		sP	10 33 43.3	+5.5
GYA				PP		**PP**	**10 35 19.0**	**+1.8**
GYA				SKS		**SKSac**	**10 41 32.8**	**-3.0**
GYA				S		**S**	**10 41 57.4**	**-2.8**
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
GYA				pmax	pmax			
	comp=Z,80nm,5.2s							
BJI	**Beijing**	**90.62**	**316**	P		**P**	**10 31 42.9**	**-0.3**
BJI				pmax	pmax			
	comp=Z,14nm,0.8s							
MSU	**Marysvale**	**90.80**	**46**	*e*P		**P**	**10 31 45.4**	**+1.0**
SLKM	**Skilak Lake**	**91.16**	**14**	*e*P		**P**	**10 31 44.7**	**-0.6**
MFID	**Camas Ranch**	**91.51**	**41**	*e*P		**P**	**10 31 48.1**	**+0.7**
	comp=Z,4.8nm,0.9s							
TXAR	**Lajitas Array**	**91.69**	**58**	P		**P**	**10 31 49.4**	**+0.8**
TXAR	**Lajitas Array**	**91.69**	**58**	P		**P**	**10 31 49.3**	**+0.8**
	comp=Z,0.6nm,1.0s,baz=188,slow=6.1,SNR=3.4							
CMAR	**Chiang Mai Arr**	**91.86**	**290**	P		**P**	**10 31 50.6**	**+1.1**
CMAR	**Chiang Mai Arr**	**91.86**	**290**	P		**P**	**10 31 50.6**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=143,slow=3.8,SNR=12							
KMI	**Kunming**	**92.02**	**297**	P		**P**	**10 31 51.3**	**+0.9**
KMI				pmax	pmax			
	comp=Z,9.0nm,0.8s							
HLID	**Hailey**	**92.42**	**41**	*e*P		**P**	**10 31 52.9**	**+1.2**
	comp=Z,3.3nm,1.0s							
TRF	**Thorofare Moun**	**93.82**	**12**	*e*P		**P**	**10 31 55.7**	**-1.9**
	comp=Z,8.2nm,0.9s							
HHC	**Hu-ho-hao-te**	**93.96**	**315**	*e*P		**P**	**10 31 55.8**	**-3.0**
HHC				pP		**pP**	**10 33 25.6**	**+4.4**
HHC				sP		sP	10 34 03.1	+5.6
HHC				PP		**PP**	**10 35 49.8**	**-0.8**
HHC				S		SKKSac	10 42 29.1	+7.9
HHC				SS		**SS**	**10 49 02.8**	**-4.9**
HHC				pmax	pmax			
	comp=Z,9.0nm,1.0s							
HHC				pmax	pmax			
	comp=Z,260nm,6.9s							
PDAR	**Pinedale Array**	**94.86**	**44**	P		**P**	**10 32 02.4**	**-0.6**
PDAR	**Pinedale Array**	**94.86**	**44**	P		**P**	**10 32 02.4**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=202,slow=2.7,SNR=5.8							
LKWY	**Lake**	**95.36**	**42**	*e*P		**P**	**10 32 04.1**	**-1.1**
	comp=Z,17nm,1.1s							
ILAR	**Eielson Array**	**95.68**	**13**	P		**P**	**10 32 04.2**	**-1.6**
ILAR	**Eielson Array**	**95.68**	**13**	P		**P**	**10 32 04.2**	**-1.6**
	comp=Z,1.3nm,0.8s,baz=222,slow=5.6,SNR=8.0							
LZH	**Lanzhou**	**96.63**	**307**	↑P		**P**	**10 32 12.5**	**+1.4**
LZH				sP		**sP**	**10 34 12.0**	**+2.1**
LZH				PP		**PP**	**10 36 14.8**	**+3.5**
LZH				pmax	pmax			
	comp=Z,17nm,1.3s							
LZH				pmax	pmax			
	comp=Z,75nm,8.2s							
GTA	**Gaotai**	**101.01**	**309**	*e*P		**Pdif**	**10 32 33.3**	**+2.8**
GTA				pP		pP	10 33 55.8	+2.5
GTA				pmax	pmax			
	comp=Z,2.0nm,1.1s							
YKA	**Yellowknife Ar**	**103.53**	**25**	Pdif		**Pdif**	**10 32 39.7**	**-1.2**
YKA	**Yellowknife Ar**	**103.53**	**25**	Pdiff		**Pdif**	**10 32 39.7**	**-1.2**
	comp=Z,0.2nm,0.8s,baz=231,slow=4.3,SNR=3.9							
KSH	**Kashi**	**118.31**	**302**	*e*PKP		**PKPdf**	**10 37 28.6**	**+2.3**
KSH				PP		PP	10 38 56.4	+8.0
KSH				sPKP			10 39 31.3	
KSH				PKS		**PKSdf**	**10 41 04.8**	**+1.8**
KSH				SKS		**SKSdf**	**10 44 06.0**	**+1.6**
KSH				AMB		AMB		
	comp=Z,160nm,5.6s							
KSH				LR		LR		
	comp=N,70nm,4.9s							
KSH				LR		LR		
	comp=E,62nm,4.6s							
KSH				LR		LR		
	comp=Z,170nm,7.4s							
BOSA	**Boshof**	**119.23**	**204**	PKP		**PKPdf**	**10 37 28.9**	**+0.4**
BOSA	**Boshof**	**119.23**	**204**	PKP		**PKPdf**	**10 37 28.9**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=127,slow=5.1,SNR=2.9							
SCHQ	**Schefferville**	**124.87**	**41**	PKP		**PKPdf**	**10 37 37.6**	**-0.6**
SCHQ	**Schefferville**	**124.87**	**41**	PKP		**PKPdf**	**10 37 37.6**	**-0.6**
	comp=Z,2.3nm,0.9s,baz=249,slow=14,SNR=4.5							
KEV	**Kevo**	**135.53**	**347**	*e*pkp		**PKPdf**	**10 37 54.1**	**-3.8**
JOF	**Joensuu**	**139.83**	**339**	*e*pkp		PKPdf	10 37 58.1	-7.9
KAF	**Kangasniemi**	**141.96**	**341**	*e*pkp		PKPdf	10 38 03.3	-6.6
FINES	**FINESS Array B**	**142.56**	**341**	PKPpre		PKPpre	10 38 05.5	
FINES	**FINESS Array B**	**142.56**	**341**	PKhKP		PKPpre	10 38 05.5	
	comp=Z,3.5nm,0.5s,baz=36,slow=4.0,SNR=16							
NB2	**NORSAR Subarra**	**146.18**	**351**	PKP		**PKPdf**	**10 38 17.4**	**+0.1**
	comp=Z,23nm,1.1s,baz=13,slow=2.9							
NOA	**NORSAR Array B**	**146.18**	**351**	PKPbc		**PKPdf**	**10 38 17.8**	**+0.4**
NOA	**NORSAR Array B**	**146.18**	**351**	PKPbc		**PKPdf**	**10 38 17.8**	**+0.4**
	comp=Z,9.1nm,0.8s,baz=16,slow=4.7,SNR=22							
HFS	**Hagfors**	**146.66**	**349**	PKPbc		**PKPdf**	**10 38 18.9**	**+0.9**
HFS	**Hagfors**	**146.66**	**349**	PKPbc		**PKPdf**	**10 38 18.9**	**+0.9**
	comp=Z,20nm,0.8s,baz=67,slow=3.9,SNR=25							
AKASG	**Malin Array Be**	**148.85**	**325**	PKPbc		**PKPbc**	**10 38 25.4**	**-1.0**
AKASG	**Malin Array Be**	**148.85**	**325**	PKPbc		**PKPbc**	**10 38 25.4**	**-1.0**
	comp=Z,24nm,0.7s,baz=44,slow=3.5,SNR=66							
AKBB	**Malin Array Si**	**148.85**	**325**	*e*PKPbc		**PKPbc**	**10 38 25.3**	**-1.1**
KIEV	**Kiev**	**148.87**	**325**	*e*PKPbc		**PKPbc**	**10 38 25.2**	**-1.2**
SUW	**Suwalki**	**149.32**	**334**	*e*P		**PKPbc**	**10 38 26.6**	**-0.7**
SUW	**Suwalki**	**149.32**	**334**	*e*P		**PKPbc**	**10 38 26.6**	**-0.7**
BR131	**Keskin Array S**	**150.70**	**302**	*e*PKPbc		**PKPbc**	**10 38 30.7**	**-0.6**
BRTR	**Keskin Array B**	**150.70**	**302**	PKPbc		**PKPbc**	**10 38 30.5**	**-0.8**
BRTR	**Keskin Array B**	**150.70**	**302**	PKPbc		**PKPbc**	**10 38 30.5**	**-0.8**
	comp=Z,3.7nm,0.6s,baz=116,slow=2.9,SNR=19							
KWP	**Kalwaria Pacla**	**152.74**	**329**	*e*P		**PKPab**	**10 38 47.7**	**-0.1**
KWP	**Kalwaria Pacla**	**152.74**	**329**	*e*P		**PKPab**	**10 38 47.7**	**-0.1**
BUR08	**Bucovina Ar. S**	**152.81**	**323**	*e*PKPbc		**PKPbc**	**10 38 35.9**	**+0.2**
BUR08				*e*PKPab		**PKPab**	**10 38 48.1**	**-0.2**
KOLS	**Kolonicke sedl**	**153.43**	**328**	*e*PKP		**PKPab**	**10 38 49.6**	**-1.2**
CRVS	**Cervenica-Dubn**	**153.83**	**329**	*e*PKP		**PKPab**	**10 38 51.9**	**-0.6**
KSP	**Ksiaz**	**154.38**	**337**	*e*P		**PKPab**	**10 38 54.2**	**-0.5**
KSP	**Ksiaz**	**154.38**	**337**	*e*P		**PKPab**	**10 38 54.2**	**-0.5**
UPC	**Upice**	**154.75**	**337**	*e*PKPAB		**PKPab**	**10 38 56.1**	**-0.2**
DPC	**Dobruska-Polom**	**154.78**	**337**	*e*PKPAB		**PKPab**	**10 38 56.3**	**-0.2**
CLL	**Collm**	**154.97**	**342**	*e*PKPdiff		**PKPbc**	**10 38 39.0**	**-1.1**
	comp=Z,5.0nm,1.1s							
CLL				*i*			10 38 45.6	
CLL				*i* PKPab		**PKPab**	**10 38 55.9**	**-1.3**
	comp=Z,10.0nm,0.9s							
BRG	**Berggiesshubel**	**155.09**	**341**	*e*PKP		**PKPab**	**10 38 57.0**	**-0.7**
	comp=Z,11nm,0.9s							
BRG								
	comp=N,330nm,11.1s							
BRG								
	comp=E,333nm,22.0s							
BRG								
	comp=Z,555nm,16.0s							
VYHS	**Vyhne**	**155.30**	**331**	*e*PKP		**PKPab**	**10 38 58.3**	**-0.5**
NKC	**Novy Kostel**	**156.09**	**342**	*e*PKPAB		**PKPab**	**10 39 02.0**	**-0.1**
KHC	**Kasperske Hory**	**156.74**	**339**	*e*PKPAB		**PKPab**	**10 39 04.8**	**-0.2**
GRF	**Grafenberg Arr**	**156.91**	**343**	*e*PKP		**PKPab**	**10 39 05.3**	**-0.4**
GERES	**GERESS Array B**	**156.95**	**338**	PKPab		**PKPab**	**10 39 04.7**	**-1.3**
GERES	**GERESS Array B**	**156.95**	**338**	PKPab		**PKPab**	**10 39 04.7**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=34,slow=5.0,SNR=13							
CONA	**Conrad Observa**	**156.96**	**334**	↓*i* PKPab		**PKPab**	**10 39 04.8**	**-1.3**
	comp=Z,4.3nm,0.7s							
ABTA	**Abfaltersbach**	**159.18**	**338**	↓*i* PKPab		**PKPab**	**10 39 13.7**	**-2.0**
	comp=Z,7.2nm,0.7s							
DAVOX	**Davos/Dischmat**	**159.95**	**342**	PKPab		**PKPab**	**10 39 18.7**	**-0.5**
DAVOX	**Davos/Dischmat**	**159.95**	**342**	PKPab		**PKPab**	**10 39 18.7**	**-0.5**
	comp=Z,6.7nm,0.6s,baz=24,slow=5.2,SNR=10.0							
TORD	**Torodi Ar. Bea**	**165.30**	**182**	PKPab		**PKPab**	**10 39 44.1**	**+1.0**
TORD	**Torodi Ar. Bea**	**165.30**	**182**	PKPab		**PKPab**	**10 39 44.1**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=174,slow=4.2,SNR=8.1							

MEX 18 10:23:26.1±0.3, 15.61N×95.92W, h7^{km}±4^{km}, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.24**	**311**	*e*P	Pg	10 23 30.6	-0.3
HUIG				*i* S	Sg	10 23 34.1	-0.1
VHO	**Vista Hermosa**	**1.65**	**332**	*e*P	Pn	10 23 51.6	-4.2
VHO				*i* S	Sn	10 24 13.1	-4.4
CMIG	**Matias Romero**	**1.78**	**34**	*e*P	Pn	10 23 53.8	-3.5
CMIG				*i* S	Sn	10 24 15.1	-5.1
PNIG	**Pinotepa**	**2.26**	**290**	*e*P	Pn	10 24 01.0	-3.0
PNIG				*i* S	Sn	10 24 27.4	-4.8
PCIG		**2.60**	**88**	*e*P	Pn	10 24 05.7	-2.9
PCIG				*i* S	Sn	10 24 35.8	-4.8
TGIG		**2.93**	**66**	*i* P	Pn	10 24 10.5	-2.7
TGIG				*i* S	Sn	10 24 45.8	-3.0

*IDC **18** 10:25:59.9±0.4, 3.67N×126.48E, h0^{km}, mb4.9/32, mb1 5.0/32, mb1mx5.0/35, mbtmp4.9/32, MS4.3/21, Ms1 4.3/21, ms1mx4.1/35, Error ellipse: s-maj=17.8km s-min=9.1km az=74.0*

*BJI **18** 10:26:01.5, 3.46N×126.69E, h36^{km}, mB5.2/33, mb5.0/50, Ms4.7/39, Ms7 4.5/40*

*MOS **18** 10:26:03.5±0.9, 3.67N×126.53E, h38^{km}, mb5.4/38, MS4.3/4, Error ellipse: s-maj=12.1km s-min=5.7km az=112.0*

*TEH **18** 10:26:04.0, 3.78N×127.05E, h35^{km}, ML5.1*

*NEIC **18** 10:26:05.0±0.2, 3.67N×126.55E, h35^{km}, mb5.2/52, Error ellipse: s-maj=6.6km s-min=3.7km az=75.0*

*ISCJB **18** 10:26:06.4±0.4, 3.69N±0.02×126.71E±0.03, h65^{km}±4^{km}, mb5.0/121, Error ellipse: s-maj=4.5km s-min=3.2km az=165.4*

*DJA **18** 10:26:09, 3.70N×126.85E, h57^{km}, mb5.1/49*

ISC 18 10:26:05.2±0.3, 3.65N±0.03×126.64E±0.04, h40^{km}±2^{km}, h40^{km}:pP-P, n399, σ1°53/434, mb5.1/119, MS4.3/36, 43C-28D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.10**	**272**	P	Pn	10 26 26.4	+2.2
MNI	**Manado**	**2.83**	**219**	P	Pn	10 26 50.9	+2.9
MNI				S	Sn	10 27 26.2	+5.2
TNTI	**Ternate**	**2.95**	**166**	P	**Pn**	**10 26 50.8**	**+1.1**
TNTI				S	**Sn**	**10 27 25.8**	**+1.9**
DAV	**Davao City (W)**	**3.56**	**343**	*e*Pn	**Pn**	**10 27 00.2**	**+2.3**
DAV	**Davao City (W)**	**3.56**	**343**	P	Pn	10 27 04.2	+6.2
DAV	**Davao City (W)**	**3.56**	**343**	LR	LR	10 28 33.5	
	comp=Z,3μm,20.2s,baz=24,slow=44						
KCP	**Kidapawan**	**3.67**	**335**	↑*e*P	Pn	10 27 02.9	+3.2
KCP				*i* S	Sn	10 27 55.3	+14
KMSI	**Cibinong**	**4.05**	**221**	P	Pn	10 27 10.7	+6.0
KMSI				S	Sn	10 27 57.2	+6.3
CTBH	**Cotabato--PC H**	**4.27**	**326**	↑*e*P	Pn	10 27 11.0	+3.2
LBMI	**Labuha**	**4.35**	**169**	P	**Pn**	**10 27 10.9**	**+2.0**
PAGZ	**Pagadian**	**5.28**	**322**	*e*P	Pn	10 27 24.5	+2.9
MRSI	**Marisa**	**5.65**	**236**	P	Pn	10 27 29.9	+3.1
	733nm,1.0s,8μm2.4nm						
MRSI				S	**Sn**	**10 28 33.3**	**+2.8**
	733nm,1.0s,8μm2.4nm						
LUWI	**Luwuk**	**6.05**	**220**	P	Pn	10 27 35.5	+3.2
	980nm,1.0s,9μm3.5nm						
SWI	**Sorong**	**6.44**	**134**	P	**Pn**	**10 27 39.1**	**+1.5**
	759nm,0.9s,6μm2.7nm						
SWI				S	**Sn**	**10 28 51.9**	**+2.0**
	759nm,0.9s,6μm2.7nm						
MSLP	**Maasin**	**6.68**	**345**	*e*P	Pn	10 27 44.5	+3.6
APSI	**Ampana**	**6.74**	**228**	P	Pn	10 27 47.1	+5.4
	15μm,0.6s,165nm						
NLAI	**Namlea**	**6.86**	**176**	P	**Pn**	**10 27 44.5**	**+1.1**
	154nm,0.7s,3μm0.8nm						
LLP	**Lapu-Lapu**	**7.13**	**338**	*e*P	Pn	10 27 49.7	+2.6
LLP				*e*S	**Sn**	**10 29 11.0**	**+4.1**
PLP	**Palo**	**7.64**	**348**	↓*e*P	Pn	10 27 57.9	+3.7
MYLDM	**Lahad Datu**	**8.25**	**281**	P	Pn	10 28 08.1	+5.6
MYLDM	**Lahad Datu**	**8.25**	**281**	P	Pn	10 28 07.7	+5.2
	245nm,1.4s,3μm0.9nm						
KDI	**Kendari**	**8.56**	**208**	P	**Pn**	**10 28 09.0**	**+2.3**
	63nm,0.9s,1μm118μm0.4nm						
KDI				S	Sn	10 29 50.3	+8.3
	63nm,0.9s,1μm118μm0.4nm						
FAKI	**Fak Fak**	**8.61**	**139**	P	**Pn**	**10 28 09.3**	**+1.9**
	180nm,1.0s,2μm9μm0.7nm						
TSM	**Tawau**	**8.77**	**274**	P	Pn	10 28 13.0	+3.5
TTSI	**Tana Toraja**	**9.52**	**226**	P	Pn	10 28 24.2	+4.3
	129nm,0.8s,1μm						
SDKM	**Sandakan**	**9.62**	**282**	P	Pn	10 28 27.4	+6.1
SPSI	**Sidrap Palu**	**10.21**	**222**	P	Pn	10 28 35.3	+5.9
	46nm,0.8s,838nm						
SMKI	**Samarinda**	**10.26**	**247**	P	Pn	10 28 44.8	+15
KDM	**Kudat**	**10.29**	**289**	P	Pn	10 28 35.1	+4.7
BAKI	**Biak**	**10.62**	**117**	P	Pn	10 28 39.3	+4.4
	276nm,1.3s,3μm						
KKM	**Kota Kinabalu**	**10.65**	**283**	*e*Pn	Pn	10 28 40.3	+4.8
KKM	**Kota Kinabalu**	**10.65**	**283**	P	Pn	10 28 40.6	+5.1
KKM	**Kota Kinabalu**	**10.65**	**283**	P	Pn	10 28 41.0	+5.5
	56nm,0.5s,1μm						
KAPI	**Kappang**	**11.02**	**219**	*e*Pn	**Pn**	**10 28 42.4**	**+2.0**
	56nm,1.1s						
KAPI	**Kappang**	**11.02**	**219**	P	Pn	10 28 46.3	+5.9
	28nm,1.1s,626nm						
KAPI	**Kappang**	**11.02**	**219**	LR	LR	10 32 12.6	
	comp=Z,546nm,20.8s,baz=54,slow=34						
BKSI	**Bulukumba**	**11.04**	**216**	P	Pn	10 28 44.5	+3.9
	29nm,0.9s,596nm						
MMRI	**Maumere**	**12.97**	**200**	P	Pn	10 29 10.5	+3.4
	135nm,0.9s,2μm						
SMPI	**Sarmi**	**13.31**	**115**	P	Pn	10 29 15.4	+3.7
	120nm,1.3s,5μm						
BBKI	**Banjar Baru**	**13.74**	**239**	P	**P**	**10 29 23.8**	**-1.6**
	133nm,1.3s,5μm						
SBUM	**Sibu**	**14.44**	**266**	P	**P**	**10 29 32.8**	**-0.5**
SBUM	**Sibu**	**14.44**	**266**	P	**P**	**10 29 32.0**	**-1.2**
	109nm,1.4s,2μm						
JAY	**Jayapura**	**15.34**	**113**	P	**P**	**10 29 42.1**	**-1.1**
	195nm,0.5s,30μm						
KHKI	**Kahang-Kahang**	**16.23**	**223**	P	**P**	**10 29 54.3**	**+1.2**
	66nm,1.0s,857nm						
KSM	**Kuching**	**16.45**	**263**	*e*Pn	**P**	**10 29 57.4**	**+1.8**
	51nm,0.8s						
KSM				*e*S	**S**	**10 33 04.9**	**-0.9**
KSM	**Kuching**	**16.45**	**263**	P	**P**	**10 29 59.5**	**+3.9**
KSM	**Kuching**	**16.45**	**263**	P	**P**	**10 29 58.9**	**+3.3**
	71nm,1.1s,871nm						
NBBI	**Negara**	**16.92**	**225**	P	**P**	**10 30 01.7**	**+1.0**
	152nm,1.4s						
MTN	**Manton Dam**	**16.99**	**165**	*e*P	**Pn**	**10 29 57.4**	**-2.6**
BYJI	**Banyuwangi**	**17.00**	**226**	P	P	10 30 06.5	+4.9
	224nm,1.1s,71μm						
BLJI	**Banyuglugur**	**17.25**	**229**	P	**P**	**10 30 08.3**	**+4.0**
	89nm,0.6s,2μm						
JAGI	**Jajag, Banyuwa**	**17.32**	**226**	P	**P**	**10 30 08.9**	**+3.7**
	79nm,1.1s						
GMJI	**Gumukmas**	**17.70**	**228**	P	**P**	**10 30 12.6**	**

GYA ScP **ScP** **10 38 51.4 +1.1**
GYA ScS **ScS** **10 42 44.5 -0.9**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=N,790nm,16.4s
GYA LR LR
comp=E,560nm,17.2s
GYA LR LR
comp=Z,650nm,16.8s
CTA Charters Tower 30.46 142 P **P** **10 32 15.1 +0.6**
CTA Charters Tower 30.46 142 *eP* **P** **10 32 14.7 +0.3**
comp=Z,4.8nm,0.6s
CTA Charters Tower 30.46 142 P **P** **10 32 15.1 +0.6**
comp=Z,5.9nm,0.7s,baz=317,slow=12,SNR=5.3
CTAO Charters Tower 30.46 142 *eP* **P** **10 32 14.9 +0.5**
CTAO pmax pmax
comp=Z,5.0nm,0.6s
CTAO Charters Tower 30.46 142 *eP* **P** **10 32 14.9 +0.5**
comp=Z,5.1nm,0.6s
CM31 Chiang Mai Arr 30.83 301 *eP* **P** **10 32 17.4 -0.3**
comp=Z,4.6nm,0.5s
CMAR Chiang Mai Arr 30.83 301 P **P** **10 32 18.3 +0.6**
CMAR ScP **ScP** **10 38 55.8 +1.7**
CMAR Chiang Mai Arr 30.83 301 P **P** **10 32 18.3 +0.6**
comp=Z,8.7nm,0.8s,baz=116,slow=7.1,SNR=42
CMAR ScP **ScP** **10 38 55.8 +1.7**
comp=Z,3.1nm,0.3s,baz=143,slow=1.9,SNR=4.7
CMAR LR LR 10 46 40.3
comp=Z,462nm,19.4s,baz=308,slow=40
CHTO Chiang Mai 30.98 301 *eP* **P** **10 32 19.1 +0.1**
CHTO pmax pmax
comp=Z,23nm,0.9s
CHTO Chiang Mai 30.98 301 *eP* **P** **10 32 19.1 +0.1**
comp=Z,23nm,0.9s
CHTO Chiang Mai 30.98 301 ⇓P **P** **10 32 18.9 -0.1**
SNR=11
CHTO Chiang Mai 30.98 301 P **P** **10 32 19.7 +0.7**
comp=Z,31nm,1.3s,comp=Z,393nm
ENH Enshi 31.05 330 *eP* **P** **10 32 19.2 -0.3**
comp=Z,45nm,1.1s
KMI Kunming 31.37 315 P **P** **10 32 24.4 +1.8**
KMI pP **pP** **10 32 36.9 +3.2**
KMI sP **sP** **10 32 41.0 +2.4**
KMI PP **PP** **10 33 31.5 -2.5**
KMI S **S** **10 37 31.8 +4.2**
KMI sS **sS** **10 37 48.9 +2.8**
KMI SS **SnSn** **10 39 22.4 +8.7**
KMI pmax pmax
comp=Z,14nm,2.0s
KMI pmax pmax
comp=Z,93nm,4.3s
KMI LR LR
comp=N,200nm,18.1s
KMI LR LR
comp=E,580nm,25.7s
KMI LR LR
comp=Z,830nm,24.7s
KSAR Wonju Array Be 33.65 2 P **P** **10 32 43.4 +1.3**
KSAR PcP **PcP** **10 35 23.2 +1.6**
KSRS Korea Array 33.66 2 P **P** **10 32 43.4 +1.2**
comp=Z,14nm,0.6s,baz=181,slow=10.0,SNR=60
KSRS PcP **PcP** **10 35 23.2 +1.6**
comp=Z,3.5nm,0.9s,baz=188,slow=2.9,SNR=5.2
KSRS LR LR 10 44 53.3
comp=Z,333nm,21.8s,baz=190,slow=34
INCN Inchon 33.67 360 *eP* **P** **10 32 42.1 -0.2**
comp=Z,11nm,0.6s
FORT Forrest 34.27 178 *eP* **P** **10 32 47.3 -0.2**
comp=Z,49nm,0.8s
FORT Forrest 34.27 178 *eP* **P** **10 32 47.2 -0.4**
comp=Z,36nm,0.7s
MJAR Matsushiro Arr 34.42 17 P **P** **10 32 48.0 -0.9**
MJAR Matsushiro Arr 34.42 17 P **P** **10 32 48.0 -0.9**
comp=Z,5.2nm,1.1s,baz=201,slow=9.4,SNR=6.9
MAT Matsushiro 34.42 17 P **P** **10 32 48.9 0.0**
XAN Xi'an 34.44 333 P **P** **10 32 48.3 -0.9**
XAN pP **pP** **10 32 56.3 -4.1**
XAN pmax pmax
comp=Z,8.0nm,1.0s
XAN pmax pmax
comp=Z,28nm,6.2s
XAN LR LR
comp=N,540nm,20.9s
XAN LR LR
comp=Z,250nm,20.6s
CD2 Chengdu 34.65 324 P **P** **10 32 51.0 0.0**
CD2 pP **pP** **10 33 00.8 -1.4**
CD2 sP **sP** **10 33 04.6 -2.4**
CD2 PP **PnPn** **10 34 08.4 +0.8**
CD2 PcP **PcP** **10 35 24.6 -0.1**
CD2 S **S** **10 38 17.9 -0.2**
CD2 sS **sS** **10 38 33.9 -2.8**
CD2 SS **SnSn** **10 40 31.6 -1.4**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,150nm,5.3s
CD2 LR LR
comp=N,760nm,19.6s
CD2 LR LR
comp=E,640nm,22.5s
CD2 LR LR
comp=Z,900nm,20.1s
HNR Honiara 35.65 112 LR LR 10 46 25.1
comp=Z,516nm,21.1s,baz=262,slow=34
KLBR Kellerberrin 36.05 193 *eP* **P** **10 33 03.1 +0.1**
comp=Z,10nm,0.6s
BBOO Buckleboo 37.35 167 *eP* **P** **10 33 14.1 +0.2**
comp=Z,294nm,0.8s
EIDS Eidsvold 37.35 142 *eP* **P** **10 33 13.7 -0.4**
comp=Z,15nm,0.7s
BJT Baijiatuau 37.42 347 *eP* **P** **10 33 14.8 +0.3**
comp=Z,186nm,1.0s
BJI Beijing 37.44 347 P **P** **10 33 15.3 +0.7**
BJI S S 10 39 06.8 +6.4
BJI pmax pmax
comp=Z,150nm,1.1s
BJI LR LR
comp=N,250nm,24.9s
BJI LR LR
comp=E,470nm,27.6s
BJI LR LR
comp=Z,290nm,24.9s
NWAO Narrogin (SRO) 37.45 193 P **P** **10 33 16.1 +1.2**
NWAO Narrogin (SRO) 37.45 193 P **P** **10 33 16.1 +1.2**
comp=Z,7.5nm,0.5s,baz=21,slow=7.5,SNR=9.9
STKA Stephens Creek 38.09 159 P **P** **10 33 21.0 +0.7**
comp=Z,110nm,0.6s
STKA Stephens Creek 38.09 159 *eP* **P** **10 33 20.4 +0.1**
comp=Z,40nm,0.6s
STKA Stephens Creek 38.09 159 P **P** **10 33 21.0 +0.7**
comp=Z,48nm,0.6s,baz=336,slow=8.1,SNR=138
LZH Lanzhou 38.52 330 ⇑P **P** **10 33 24.4 +0.3**
LZH pP **pP** **10 33 35.0 -0.4**
LZH sP **sP** **10 33 39.0 -1.2**
LZH PP **PnPn** **10 34 56.5 +1.5**
LZH *e*S **S** **10 39 18.1 +0.8**
LZH sS **sS** **10 39 35.0 -1.0**
LZH pmax pmax
comp=Z,48nm,1.2s
LZH pmax pmax
comp=Z,190nm,5.6s
LZH LR LR
comp=N,2μm,13.1s
LZH LR LR
comp=E,2μm,14.0s
LZH LR LR
comp=Z,2μm,17.5s
SHL Shillong 39.85 307 ⇑*i*P **P** **10 33 35.5 +0.2**
CN2 Changchun 39.99 359 *eP* **P** **10 33 36.6 +0.6**
CN2 *e*pP **pP** **10 33 46.8 -0.6**
CN2 *e*S **S** **10 39 39.9 +1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=N,200nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,400nm,20.0s
USRK Ussuriysk Arra 40.66 6 P **P** **10 33 42.6 +1.1**
comp=Z,14nm,0.8s,baz=192,slow=7.7,SNR=20
MDJ Mudanjiang 40.88 3 P **P** **10 33 44.9 +1.6**
MDJ pP **pP** **10 33 53.8 -0.9**
MDJ sP **sP** **10 33 57.6 -1.9**
MDJ ScP **ScP** **10 39 31.9 +1.8**
MDJ PcS **PcS** **10 39 35.6 +1.3**
MDJ S **S** **10 39 55.6 +3.6**
MDJ pmax pmax
comp=Z,48nm,1.0s
MDJ pmax pmax
comp=Z,53nm,3.1s
MDJ LR LR
comp=N,220nm,32.2s
MDJ LR LR
comp=E,170nm,29.7s
MDJ LR LR
comp=Z,250nm,27.4s
MDJ Mudanjiang 40.88 3 *eP* **P** **10 33 44.2 +0.9**
comp=Z,70nm,1.0s
ARMA Armidale 41.45 147 *eP* **P** **10 33 49.2 +0.8**
comp=Z,15nm,0.6s
ARMA Armidale 41.45 147 *eP* **P** **10 33 49.4 +1.0**
LSA Lhasa 42.42 312 P **P** **10 33 57.8 +1.0**
LSA pmax pmax
comp=Z,20nm,0.8s
LSA Lhasa 42.42 312 *eP* **P** **10 33 57.5 +0.7**
LSA pmax pmax
comp=Z,26nm,0.9s
LSA Lhasa 42.42 312 *eP* **P** **10 33 57.5 +0.7**
comp=Z,26nm,0.9s
ASAJ Asahikawa 42.69 17 P **P** **10 33 59.8 +1.6**
ASAJ Asahikawa 42.69 17 P **P** **10 33 59.8 +1.6**
comp=Z,39nm,1.0s,baz=232,slow=11,SNR=8.5
GTA Gaotai 43.12 329 P **P** **10 34 01.8 -0.1**
GTA pP **pP** **10 34 11.5 -1.8**
GTA sP **sP** **10 34 15.5 -2.6**
GTA S **S** **10 40 26.1 +0.6**
GTA sS **sS** **10 40 42.0 -2.4**
GTA SS SS 10 43 31.9 -7.3
GTA pmax pmax
comp=Z,11nm,1.7s
GTA pmax pmax
comp=Z,230nm,5.0s
GTA LR LR
comp=N,460nm,21.9s
GTA LR LR
comp=E,770nm,20.2s
GTA LR LR
comp=Z,1μm,22.8s
TAPN Taplejung 43.99 306 *eP* **P** **10 34 09.3 0.0**
comp=Z,26nm,0.5s
ODAN Odare 44.04 306 *eP* **P** **10 34 09.6 0.0**
comp=Z,29nm,0.5s
CNB Canberra Magne 44.24 153 *eP* P 10 34 15.9 +5.0
comp=Z,97nm,1.2s
TOO Toolangi 44.60 159 *eP* **P** **10 34 15.1 +1.4**
comp=Z,38nm,1.2s
RAMN Ramite 44.72 305 *eP* **P** **10 34 15.4 +0.3**
comp=Z,52nm,0.7s
HABR Khabarovsk 45.23 8 *eP* **P** **10 34 17.2 -1.3**
HABR *e* 10 36 03.5
HABR *e*S **S** **10 40 56.0 +0.3**
HABR *e**SS **sS** **10 41 12.7 -2.1**
HABR *e* 10 44 11.2
HABR *e*SSS SSS 10 45 08.0
HABR pmax pmax
comp=Z,161nm,2.3s
HABR pmax pmax
comp=E,34nm,1.5s
HABR pmax pmax
comp=N,96nm,2.3s
HABR MLR MLR
comp=Z,279nm,20.0s
JIRN Jiri 45.34 306 *eP* **P** **10 34 20.2 0.0**
comp=Z,10nm,0.6s
YSS Yuzh-Sakhalins 45.34 16⇑ *eP* **P** **10 34 20.8 +1.4**
YSS *e* 10 34 38.0
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 45.34 16 *eP* **P** **10 34 20.2 +0.9**
comp=Z,48nm,1.1s
KLR Kul'dur 45.62 5⇓ *iP* **P** **10 34 19.2 -2.4**
KLR pmax pmax
comp=Z,80nm,1.6s
GUN Gumba 45.70 306 *eP* **P** **10 34 22.8 -0.1**
comp=Z,37nm,0.4s
HIA Hailar 45.83 354 *eP* **P** **10 34 24.2 +1.0**
comp=Z,34nm,1.0s
PKI Pulchoki 45.94 305 *eP* **P** **10 34 24.5 -0.3**
comp=Z,20nm,0.6s
KKN Kakani 46.13 306 *eP* **P** **10 34 26.0 -0.2**
DMN Daman 46.20 305 *eP* **P** **10 34 26.5 -0.3**
DZM Mont Dzumac 46.57 125 P **P** **10 34 31.4 +1.8**
DZM Mont Dzumac 46.57 125 P **P** **10 34 31.4 +1.8**
comp=Z,16nm,0.6s,baz=289,slow=6.7,SNR=20
GKN Gorkha 46.74 306 *eP* **P** **10 34 30.6 -0.3**
comp=Z,27nm,0.6s
UGL Uglegorsk 47.14 14 *eP* **P** **10 34 33.0 -0.4**
UGL pmax pmax
comp=Z,78nm,1.0s
ULN Ulaanbaatar 47.16 342 *eP* **P** **10 34 34.0 +0.1**
comp=Z,17nm,0.8s
ULN Ulaanbaatar 47.16 342 ⇑P **P** **10 34 34.7 +0.8**
SNR=8.5
ULN Ulaanbaatar 47.16 342 P **P** **10 34 34.2 +0.3**
comp=Z,19nm,1.0s
SONM Songino Array 47.34 342 P **P** **10 34 35.5 +0.2**
SONM PcP **PcP** **10 36 06.2 +0.6**
SONM PP **PP** **10 36 31.7 +4.9**
SONM Songino Array 47.34 342 P **P** **10 34 35.5 +0.2**
comp=Z,5.7nm,0.5s,baz=160,slow=8.0,SNR=37
SONM PcP **PcP** **10 36 06.2 +0.6**
comp=Z,2.7nm,0.9s,baz=125,slow=3.2,SNR=3.6
SONM PP **PP** **10 36 31.7 +4.9**
comp=Z,4.1nm,0.9s,baz=150,slow=3.6,SNR=3.7
SONM LR LR 10 55 26.0
comp=Z,376nm,22.0s,baz=333,slow=37
KOLN Koldanda 47.49 305 *eP* **P** **10 34 37.1 +0.2**
comp=Z,52nm,0.4s
DANN Dangsing 47.58 306 *eP* **P** **10 34 37.5 -0.2**
comp=Z,90nm,0.5s
HYB Hyderabad 49.05 290 *i* P **P** **10 34 48.0 -0.8**
ZAK Zakamensk 50.57 341 *eP* **P** **10 34 59.6 -0.3**
ZAK *e* 10 36 16.9
ZAK pmax pmax
comp=Z,6.0nm,1.2s
TLY Talaya 51.57 342 *eP* **P** **10 35 07.3 0.0**
TLY *e*S S 10 42 16.2 -9.0
TLY pmax pmax
comp=Z,15nm,1.0s
TLY MLR MLR
comp=Z,295nm,20.0s
TLY Talaya 51.57 342 *eP* **P** **10 35 08.2 +0.9**
comp=Z,15nm,0.9s
TLY Talaya 51.57 342 ⇑P **P** **10 35 08.7 +1.3**
SNR=5.6
IRK Irkutsk 51.87 343 *eP* **P** **10 35 10.5 +1.0**
IRK pmax pmax
comp=Z,38nm,1.7s
MOY Mondy 52.42 340 *eP* **P** **10 35 14.8 +1.0**
MOY pmax pmax
comp=Z,34nm,2.5s
WMQ Urumqi 52.73 325 P **P** **10 35 16.8 +0.6**
WMQ pP **pP** **10 35 26.6 -1.2**
WMQ sP **sP** **10 35 30.8 -1.8**
WMQ PcP **PcP** **10 36 27.0 +1.5**
WMQ PP **PP** **10 37 17.0 +1.2**
WMQ *e*S **S** **10 42 41.0 -0.5**
WMQ pmax pmax
comp=Z,19nm,1.1s
WMQ pmax pmax
comp=Z,400nm,6.4s
WMQ LR LR
comp=N,1μm,21.2s
WMQ LR LR
comp=E,910nm,19.0s
WMQ LR LR
comp=Z,1μm,21.8s
DDI Dehra Dun 52.94 306 *ex* **P** **10 35 16.5 -1.4**
CLNS Chul'man 53.05 359 *eP* pP 10 35 35.2 +5.3
CLNS pmax pmax
comp=N,21nm,1.2s
CLNS pmax pmax
comp=E,11nm,1.3s
CLNS pmax pmax
comp=Z,22nm,1.1s
BOD Bodaibo 54.93 352 *eP* **P** **10 35 32.4 +0.6**
BOD pmax pmax
comp=Z,26nm,1.4s
PETK Petropavlovsk- 55.54 22 P **P** **10 35 37.8 +1.5**
PETK Petropavlovsk- 55.54 22 P **P** **10 35 37.8 +1.5**
PETK Petropavlovsk- 55.54 22 P **P** **10 35 37.8 +1.5**
comp=Z,25nm,1.0s,baz=219,slow=1.9,SNR=9.9
PETK LR LR 10 55 52.3
comp=Z,228nm,19.9s,baz=209,slow=32
MK31 Makanchi Array 57.56 325 *eP* **P** **10 35 50.5 -0.4**
MK31 pmax pmax
comp=Z,11nm,0.5s
MK31 Makanchi Array 57.56 325 *eP* **P** **10 35 50.6 -0.4**
MKAR Makanchi Array 57.56 325 P **P** **10 35 50.6 -0.3**
MKAR Makanchi Array 57.56 325 P **P** **10 35 50.6 -0.3**
MKAR ScP **ScP** **10 40 46.6 +5.7**
MKAR Makanchi Array 57.56 325 P **P** **10 35 50.6 -0.3**
comp=Z,14nm,0.5s,baz=122,slow=8.6,SNR=104
MKAR ScP **ScP** **10 40 46.6 +5.7**
comp=Z,1.0nm,0.7s,baz=109,slow=5.1,SNR=4.5
MKAR LR LR 11 02 14.3
comp=Z,661nm,20.2s,baz=126,slow=38
KSH Kashi 58.03 315 P **P** **10 35 56.1 +1.6**
KSH pP **pP** **10 36 05.8 -0.5**
KSH sP **sP** **10 36 09.9 -1.1**
KSH PcP **PcP** **10 36 46.3 +0.2**
KSH PP **PP** **10 38 07.0 +3.6**
KSH ScP **ScP** **10 40 42.1 -1.2**
KSH PcS **PcS** **10 40 46.3 -1.3**
KSH S **S** **10 43 53.6 +1.0**
KSH sS **sS** **10 44 11.3 -0.9**
KSH ScS **ScS** **10 45 39.3 -1.9**
KSH SS **SS** **10 47 47.8 +3.4**
KSH pmax pmax
comp=Z,41nm,1.3s
KSH LR LR
comp=N,160nm,6.3s
KSH LR LR
comp=E,170nm,5.5s
KSH LR LR
comp=Z,240nm,5.5s
YAK Yakutsk 58.29 2 *eP* **P** **10 35 56.1 +0.5**
YAK *e* 10 36 45.7
YAK *e* 10 38 07.4
YAK *e*PPP PPP 10 39 27.2
YAK *e*S **S** **10 43 51.3 -3.5**
YAK *e* 10 45 37.8
YAK *e*SS **SS** **10 47 52.9 +5.7**
YAK pmax pmax
comp=Z,33nm,0.9s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=Z,304nm,5.4s
YAK pmax pmax
comp=N,201nm,4.4s
YAK pmax pmax
comp=E,261nm,5.2s
YAK smax smax
comp=N,276nm,4.8s
YAK smax smax
comp=E,86nm,3.5s
YAK Yakutsk 58.29 2 *eP* **P** **10 35 56.1 +0.5**
comp=E,74nm,0.9s
ULHL Ulahol 59.02 318 P **P** **10 36 02.8 +1.4**
SNR=13
KZA Kyzart 59.61 318 P **P** **10 36 07.5 +1.8**
SNR=33
TKM2 Tokmak 2 59.74 319 *eP* **P** **10 36 06.2 -0.1**
TKM2 pmax pmax
comp=Z,18nm,0.9s
TKM2 Tokmak 2 59.74 319 *eP* **P** **10 36 06.2 -0.1**
comp=Z,18nm,0.9s
TKM2 *e*ScP **ScP** **10 40 52.3 +1.4**
TKM2 Tokmak 2 59.74 319 P **P** **10 36 06.3 -0.1**
SNR=10
KBK Karagaybulak 60.06 318 P **P** **10 36 09.8 +1.3**
SNR=11
UCH Uchtor 60.17 317 P **P** **10 36 11.5 +1.8**
SNR=7.3
CHMS Chumysh 60.34 318 P **P** **10 36 11.0 +0.8**
SNR=7.5
AAK Ala-Archa 60.35 318⇑ *iP* **P** **10 36 11.2 +0.7**
AAK pmax pmax
comp=Z,51nm,1.4s
AAK Ala-Archa 60.35 318 *eP* **P** **10 36 10.5 0.0**
comp=Z,58nm,1.0s
AAK Ala-Archa 60.35 318 P **P** **10 36 11.8 +1.3**
comp=Z,63nm,0.8s,SNR=5.1
AAK Ala-Archa 60.35 318 ⇓P **P** **10 36 11.8 +1.3**
SNR=9.2
AAK Ala-Archa 60.35 318 P **P** **10 36 11.7 +1.3**
SNR=5.8
AAK Ala-Archa 60.35 318 P **P** **10 36 11.0 +0.5**
comp=Z,6.4nm,0.9s,baz=129,slow=7.7,SNR=16
AAK LR LR 11 05 38.9
comp=Z,236nm,22.0s,baz=86,slow=40
ZAA0 Zalesovo Array 60.61 333 *eP* **P** **10 36 10.8 -1.1**
ZALV Zalesovo Beam 60.61 333 P **P** **10 36 11.1 -0.7**
ZALV Zalesovo Beam 60.61 333 P **P** **10 36 11.1 -0.7**
ZALV Zalesovo Beam 60.61 333 P **P** **10 36 11.1 -0.7**
comp=Z,4.9nm,0.5s,baz=115,slow=7.0,SNR=33
ZALV LR LR 11 05 02.8
comp=Z,246nm,20.3s,baz=260,slow=39
USP Ospenovka 60.62 319 P **P** **10 36 12.9 +0.7**
SNR=5.9
AML Almayashu 60.68 317 P **P** **10 36 14.5 +1.4**
SNR=42
EKS2 Erkin-Say 60.84 318 *eP* **P** **10 36 14.1 +0.3**
EKS2 pmax pmax
comp=Z,64nm,1.5s
EKS2 Erkin-Say 60.84 318 *eP* **P** **10 36 14.1 +0.3**
comp=Z,64nm,1.5s
EKS2 Erkin-Say 60.84 318 P **P** **10 36 15.2 +1.4**
SNR=10
KBL Kabul 61.49 308 *eP* **P** **10 36 18.2 -0.3**
KBL pmax pmax
comp=Z,32nm,1.1s
KBL Kabul 61.49 308 *eP* **P** **10 36 18.2 -0.3**
comp=Z,32nm,1.1s
KURBB Kurchatov Arra 61.75 327 P **P** **10 36 19.1 -0.5**
comp=Z,33nm,0.7s,baz=128,slow=6.3,SNR=143
KURBB LR LR 11 05 11.6
comp=Z,162nm,19.7s,baz=120,slow=38
KURK Kurchatov 61.76 328*c iP* **P** **10 36 19.1 -0.5**
KURK pmax pmax
comp=Z,79nm,1.1s
KURK Kurchatov 61.76 328 *eP* **P** **10 36 19.3 -0.4**
comp=Z,64nm,0.8s
KURK Kurchatov 61.76 328 ⇓P **P** **10 36 19.5 -0.1**
SNR=20
KURK Kurchatov 61.76 328 P **P** **10 36 19.9 +0.3**
comp=Z,452nm,0.7s,SNR=64
NVS Novosibirsk 61.90 333 *eP* P 10 36 17.4 -3.1
NVS *e*S S 10 44 34.9 -6.5
NVS pmax pmax
comp=Z,39nm,1.8s
NVS pmax pmax
comp=E,19nm,1.3s
NVS smax smax
comp=N,7.0nm,1.6s
NVS smax smax
comp=E,19nm,2.0s
SEY Seymchan 62.13 13*ceP* **P** **10 36 23.2 +1.3**
URZ Urewera 62.55 137 *eP* **P** **10 36 26.4 +1.2**
comp=E,10nm,0.8s
KK31 Karatay Array 63.22 317 *i* P **P** **10 36 29.0 -0.7**
KK31 pmax pmax
comp=Z,14nm,0.7s
KKAR Karatay Array 63.22 317 *eP* **P** **10 36 29.1 -0.6**
KKAR pmax pmax
comp=Z,36nm,1.0s
KKAR Karatay Array 63.22 317 *eP* **P** **10 36 29.1 -0.6**
comp=Z,36nm,1.0s
BVA0 Borovoye Array 67.33 327 *i* P **P** **10 36 55.7 -0.4**
BVA0 pmax pmax
comp=Z,10.0nm,1.2s
BVAR Borovoye Array 67.33 327 P **P** **10 36 55.9 -0.2**
BVAR Borovoye Array 67.33 327 P **P** **10 36 55.9 -0.2**
BVAR Borovoye Array 67.33 327 P **P** **10 36 55.9 -0.2**
comp=Z,35nm,0.9s,baz=126,slow=7.5,SNR=88
BVAR LR LR 11 08 11.4
comp=Z,246nm,20.5s,baz=201,slow=38
BRVK Borovoye 67.41 327*c iP* **P** **10 36 56.0 -0.5**
BRVK pmax pmax
comp=Z,91nm,1.2s
BRVK Borovoye 67.41 327 *eP* **P** **10 36 56.1 -0.4**
comp=Z,71nm,1.0s

BRVK Borovoye 67.41 327 P P 10 36 56.4 -0.1
comp=Z,379nm,1.1s,SNR=44
BRVK Borovoye 67.41 327 P P 10 36 57.0 +0.5
SNR=30
JMDO Jabal Madar 68.78 292 ⇑P P 10 37 05.0 -0.7
SNR=5.6
IMYA Miami 69.01 308 *e*P **P 10 37 06.5 -0.6**
BILL Bilibino 69.65 15 ⇓*i*P **P 10 37 10.9 +0.7**
BILL *e**PP **pP 10 37 19.2 -3.1**
BILL 10 37 33.0
BILL pmax pmax
comp=Z,17nm,2.0s
IKRD Kardeh 70.35 308 *e*P P 10 37 09.5 -6.0
IEMG Emamgholi 70.36 308 *e*P **P 10 37 13.3 -2.3**
ISFR Sfrayin 70.80 308 *e*P **P 10 37 17.3 -1.0**
DRV Dumont d'Urvil 70.81 174 PP PP 10 39 44.0 -11
DRV S SKiKP 10 47 44.0 +47
DRV L L 10 53 00.0
DRV R 11 00 00.0
AB31 Akbulak array 72.15 321 P **P 10 37 25.1 -0.7**
AB31 pmax pmax
comp=Z,10.0nm,0.6s
ABKAR Akbulak array 72.15 321 *e*P **P 10 37 25.1 -0.7**
comp=Z,19nm,0.8s
ABTO Aybut 73.02 287 ⇑P P 10 37 30.6 -1.0
SNR=5.8
AKTO Aktyubinsk 73.66 322 P **P 10 37 34.1 -0.6**
AKTO pmax pmax
comp=Z,4.0nm,1.3s
AKTO Aktyubinsk 73.66 322 P **P 10 37 34.3 -0.4**
AKTO Aktyubinsk 73.66 322 P **P 10 37 34.3 -0.4**
comp=Z,11nm,0.8s,baz=107,slow=5.8,SNR=44
AKTO LR LR 11 12 19.0
comp=Z,516nm,20.6s,baz=104,slow=38
IPAR Pars 73.96 300 *e*P **P 10 37 36.5 -0.8**
SVE Sverdlovsk 73.98 328 ⇓*e*P **P 10 37 36.3 -0.1**
SVE pmax pmax
comp=Z,38nm,1.0s
IALA Alasht 74.79 306 *e*P **P 10 37 40.6 -1.4**
ARU Arti 74.95 328 *c i*P **P 10 37 41.4 -0.7**
ARU 10 40 25.9
ARU PPP PPP 10 42 11.1
ARU S **S 10 47 16.8 +0.2**
ARU SS SS 10 51 58.5 -7.1
ARU pmax pmax
comp=Z,40nm,1.1s
ARU Arti 74.95 328 P **P 10 37 41.8 -0.3**
comp=Z,186nm,0.6s,SNR=8.7
SOKR Solikamsk 76.73 331 *e*P **P 10 37 53.7 +1.6**
SOKR pmax pmax
comp=Z,30nm,1.6s
SOKR MLR MLR
comp=Z,150nm,15.0s
RAYN Ar Rayn 80.43 293 P **P 10 38 13.1 -0.3**
comp=Z,101nm,0.8s,SNR=6.8
ABPO Ambohimpanom 81.20 250 *e*P **P 10 38 17.8 +0.1**
ABPO pmax pmax
comp=Z,9.0nm,0.6s
ABPO Ambohimpanom 81.20 250 *e*P **P 10 38 17.8 +0.1**
comp=Z,8.6nm,0.6s
ZEI Tsey 82.20 313 *e*P **P 10 38 21.5 -1.1**
ZEI pmax pmax
comp=Z,20nm,1.4s
KBZ Khabaz 82.96 313 LR LR 11 20 05.2
comp=Z,170nm,19.8s,baz=268,slow=39
KIV Kislovodsk 83.12 314 *e*P P 10 38 21.2 -6.0
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,170nm,20.0s
SLKM Skilak Lake 83.46 30 *e*P **P 10 38 29.2 +0.7**
SLKM Skilak Lake 83.46 30 *e*P **P 10 38 29.2 +0.7**
TRF Thorofare Moun 83.65 27 *e*P **P 10 38 29.7 +0.1**
comp=Z,39nm,1.4s
SEW Seward 83.81 30 *e*P **P 10 38 31.0 +0.7**
comp=Z,58nm,1.2s
COLD Coldfoot 84.00 23 *e*P **P 10 38 33.4 +2.3**
comp=Z,39nm,1.2s
VRHR Novokhopersk 84.04 321 *e*P **P 10 38 30.4 -1.2**
VRHR pmax pmax
comp=Z,10.0nm,0.5s
VRHR pmax pmax
comp=N,8.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,1.0s
PMR Palmer 84.06 29 *e*P **P 10 38 32.1 +0.7**
PMR pmax pmax
comp=Z,31nm,1.0s
PMR Palmer 84.06 29 *e*P **P 10 38 32.1 +0.7**
comp=Z,31nm,1.0s
MCK McKinley 84.27 26 *e*P **P 10 38 33.2 +0.6**
MCK pmax pmax
comp=Z,46nm,1.4s
MCK McKinley 84.27 26 *e*P **P 10 38 33.2 +0.6**
comp=Z,46nm,1.4s
SML Sawmill 84.45 28 *e*P **P 10 38 34.4 +0.9**
SML pmax pmax
comp=Z,16nm,1.2s
SML Sawmill 84.45 28 *e*P **P 10 38 34.4 +0.9**
comp=Z,16nm,1.2s
PPT2 Papeete2 85.18 108 *e*S **S 10 49 05.0 -0.8**
comp=Z,108nm,25.2s
PPT2 *e*SS **SS 10 54 41.5 +0.9**
comp=Z,167nm,30.2s
PPT2 *e*LR LR 11 05 35.8
comp=Z,179nm,26.0s
ILAR Eielson Array 85.21 25 P **P 10 38 37.3 0.0**
ILAR Eielson Array 85.21 25 P **P 10 38 37.3 0.0**
comp=Z,1.7nm,0.6s,baz=246,slow=5.1,SNR=29
KLMR Klimovskoe 85.43 331 *c i*P **P 10 38 38.6 +0.2**
KLMR pmax pmax
comp=Z,134nm,1.3s
VORD Divnogorie 85.51 321 *e*P **P 10 38 38.3 -0.7**
VORD pmax pmax
comp=Z,50nm,1.3s
VORD pmax pmax
comp=N,5.0nm,0.6s
VORD pmax pmax
comp=E,40nm,0.9s
VSR Storozhevoye 85.59 321 *e*P **P 10 38 38.5 -0.9**
DIV Divide 85.66 29 *e*P **P 10 38 41.5 +1.8**
comp=E,48nm,1.0s
BMRM Bremner River 86.23 29 *e*P **P 10 38 44.0 +1.5**
comp=E,22nm,1.0s
MOS Moscow 86.45 325 *e*P **P 10 38 42.4 -1.1**
MOS pmax pmax
comp=Z,134nm,1.3s
OBN Obninsk 87.07 325 ⇓*e*P **P 10 38 46.6 0.0**
OBN *e* 10 38 56.6
OBN pmax pmax
comp=Z,133nm,1.7s
OBN MLR MLR
comp=Z,200nm,17.0s
OBN Obninsk 87.07 325 *e*P **P 10 38 46.1 -0.5**
comp=Z,22nm,0.5s
KMBO Kilima Mbogo 89.45 269 *e*P **P 10 38 60.0 +0.8**
comp=Z,39nm,1.4s
KMBO Kilima Mbogo 89.45 269 ⇓P **P 10 39 00.3 +1.2**
SNR=8.4
BR131 Keskin Array S 90.00 310 *e*P **P 10 39 00.2 -0.8**
comp=Z,9.8nm,0.9s
BRTR Keskin Array B 90.00 310 P **P 10 39 00.1 -0.9**
BRTR Keskin Array B 90.00 310 P **P 10 39 00.1 -0.9**
comp=Z,9.7nm,0.9s,baz=118,slow=4.8,SNR=17
BRTR LR LR 11 23 04.6
comp=Z,60nm,21.9s,baz=189,slow=38
ARCES ARCESS Array B 90.49 340 P **P 10 39 01.6 -0.9**
ARCES ARCESS Array B 90.49 340 P **P 10 39 01.6 -0.9**
comp=Z,9.7nm,0.6s,baz=87,slow=7.2,SNR=49
ARCES LR LR 11 22 53.2
comp=Z,246nm,19.4s,baz=309,slow=38
FINES FINESS Array B 91.86 332 P **P 10 39 08.3 -0.7**
FINES FINESS Array B 91.86 332 P **P 10 39 08.3 -0.7**
comp=Z,2.3nm,0.5s,baz=53,slow=5.0,SNR=7.8
FINES LR LR 11 24 27.9
comp=Z,204nm,18.6s,baz=80,slow=38
AKASG Malin Array Be 91.89 321 P **P 10 39 08.4 -1.0**
AKASG Malin Array Be 91.89 321 P **P 10 39 08.4 -1.0**
AKASG Malin Array Be 91.89 321 P **P 10 39 08.4 -1.0**
comp=Z,5.0nm,0.6s,baz=71,slow=4.5,SNR=11
AKASG LR LR 11 22 47.1
comp=Z,173nm,21.7s,baz=355,slow=37
AKBB Malin Array Si 91.89 321 *e*P **P 10 39 07.1 -2.2**
AKBB Malin Array Si 91.89 321 *e*P **P 10 39 07.1 -2.2**
SYO Syowa Base 92.32 201 ⇑*e*P **P 10 39 11.0 +0.1**
QSPA South Pole Qui 93.56 180 P **P 10 39 17.4 +0.5**
QSPA South Pole Qui 93.56 180 P **P 10 39 17.4 +0.5**
comp=Z,5.2nm,1.0s,baz=329,slow=1.1,SNR=15
MLR Muntele Rosu 94.89 316 P **P 10 39 23.0 -0.5**
MLR Muntele Rosu 94.89 316 P **P 10 39 23.0 -0.5**
comp=Z,2.0nm,0.7s,baz=292,slow=0.9,SNR=10
BUR08 Bucovina Ar. S 95.00 318 *e*P **P 10 39 24.2 +0.2**
UZH Uzhgorod 96.70 320 *e*P **P 10 39 30.5 -1.0**
UZH *e* 10 39 40.0
DAG Danmarks Havn 97.32 352 *i*P **P 10 39 32.5 -1.2**
DAG pmax pmax
comp=Z,10.0nm,1.2s
DAG Danmarks Havn 97.32 352 *i*P **P 10 39 32.5 -1.2**
comp=Z,100nm,1.2s
RES Resolute Bay 97.91 10 *e*P Pdif 10 39 37.2 +0.8
comp=Z,2.6nm,0.8s
NB2 NORSAR Subarra 98.81 334 P **P 10 39 39.5 -1.3**
comp=Z,5.9nm,1.1s,baz=68,slow=4.8
NOA NORSAR Array B 98.81 334 P **P 10 39 40.0 -0.8**
NOA NORSAR Array B 98.81 334 P **P 10 39 40.0 -0.8**
comp=Z,3.5nm,0.9s,baz=67,slow=4.5,SNR=4.8
NOA LR LR 11 27 59.1
comp=Z,230nm,19.2s,baz=250,slow=38
YKA Yellowknife Ar 99.61 24 P **Pdif 10 39 44.9 +0.6**
YKA PKKPbc **PKKPbc 10 56 05.3 -3.1**
YKA Yellowknife Ar 99.61 24 P **Pdif 10 39 44.8 +0.6**
comp=Z,0.5nm,0.6s,baz=298,slow=4.4,SNR=12
YKA PKKPbc **PKKPbc 10 56 05.3 -3.1**
comp=Z,0.2nm,0.5s,baz=118,slow=3.0,SNR=5.2
GERES GERESS Array B 102.09 322 P **Pdif 10 39 55.5 -0.2**
GERES GERESS Array B 102.09 322 P **Pdif 10 39 55.5 -0.2**
comp=Z,1.6nm,0.9s,baz=49,slow=9.1,SNR=4.9
NVAR Mina Array Bea 107.03 48 PKKPbc PKKPbc 10 55 46.8 +0.9
NVAR Mina Array Bea 107.03 48 PKKPbc PKKPbc 10 55 46.8 +0.9
comp=Z,0.4nm,0.8s,baz=171,slow=3.0,SNR=3.5
D22A Cohagen 111.44 36 ⇑P **PKiKP 10 44 35.8 +0.5**
baz=111
PDAR Pinedale Array 111.47 41 PKKPbc PKKPbc 10 55 31.1 -0.8
PDAR Pinedale Array 111.47 41 PKKPbc PKKPbc 10 55 31.1 -0.8
comp=Z,0.4nm,0.5s,baz=114,slow=6.1,SNR=4.6
J20A Shoshoni 112.16 40 ⇑P **PKiKP 10 44 38.0 +1.0**
baz=112
J22A Midwest 113.15 39 ⇑P **PKiKP 10 44 39.0 +0.2**
baz=113
S21A Coal Bank Pass 114.98 45 ⇑P **PKPdf 10 44 43.5 +0.7**
baz=115
O23A Lake Granby, G 115.09 42 ⇓P **PKPdf 10 44 43.4 +0.5**
baz=115
K26A Motz Farm, Whi 115.59 39 ⇓P **PKPdf 10 44 43.8 +0.2**
baz=116
S22A 4UR Ranch, Cre 115.62 45 ⇑P **PKPdf 10 44 44.2 +0.2**
baz=116
X21A Alamocita Cree 116.38 49 ⇑P **PKPdf 10 44 47.0 +1.5**
baz=116
Q25A Bedland, Calha 116.85 43 ⇑P **PKPdf 10 44 47.3 +1.1**
baz=117
R25A Fountain Ranch 117.20 43 ⇓P **PKPdf 10 44 47.6 +0.7**
baz=117
S25A Robets Cordova 117.33 44 ⇓P **PKPdf 10 44 48.0 +0.9**
baz=117
Z22A Elephant Butte 117.50 49 ⇓P **PKPdf 10 44 48.2 +0.7**
baz=118
W24A Lazy 6 Ranch, 117.80 47 ⇓P **PKPdf 10 44 49.1 +0.9**
baz=118
V25A Rancho No Teng 118.08 46 ⇑P **PKPdf 10 44 49.5 +0.9**
baz=118
R27A Eads 118.14 43 ⇑P **PKPdf 10 44 49.2 +0.6**
baz=118
T26A Comanche Natio 118.16 44 ⇑P **PKPdf 10 44 49.7 +0.9**
baz=118
W25A X Bar L Ranch, 118.48 46 ⇓P **PKPdf 10 44 50.4 +1.0**
baz=118
Y25A Mesa, Roswell 118.91 48 ⇑P **PKPdf 10 44 51.3 +1.0**
baz=119
MNTX Cornudas Mount 119.37 50 ⇑P **PKPdf 10 44 52.0 +1.0**
baz=119
324A Moseley Ranch, 119.40 51 ⇓P **PKPdf 10 44 52.0 +0.8**
baz=119
Y27A Causey 120.05 47 ⇓P **PKPdf 10 44 53.6 +1.2**
baz=120
425A Indio Mountain 120.07 51 ⇑P **PKPdf 10 44 53.6 +1.1**
baz=120
226A Malaga, Loving 120.19 50 ⇑P **PKPdf 10 44 53.5 +0.9**
baz=120
Z27A Tatum 120.28 48 ⇑P **PKPdf 10 44 53.9 +1.0**
baz=120
SCHQ Schefferville 120.66 9 PKP **PKPdf 10 44 53.4 +0.6**
SCHQ Schefferville 120.66 9 PKP **PKPdf 10 44 53.4 +0.6**
comp=Z,0.7nm,0.5s,baz=304,slow=3.6,SNR=3.4
526A Mary Lane Ranc 121.08 52 ⇑P **PKPdf 10 44 55.8 +1.3**
baz=121
128A Castleberry Fa 121.15 48 ⇓P **PKPdf 10 44 55.2 +0.7**
baz=121
Y29A Porterfield Fa 121.15 47 ⇑P **PKPdf 10 44 55.3 +0.8**
baz=121
626A Big Bend Ranch 121.26 52 ⇓P **PKPdf 10 44 55.5 +0.7**
baz=121
427A Hayter Ranch, 121.27 50 ⇓P **PKPdf 10 44 55.6 +0.8**
baz=121
527A Woodward Ranch 121.41 51 ⇓P **PKPdf 10 44 56.2 +1.1**
baz=121
Z29A Hungry Hill Ra 121.42 47 ⇓P **PKPdf 10 44 55.8 +0.8**
baz=121
328A Wristen Ranch, 121.48 50 ⇑P **PKPdf 10 44 55.8 +0.7**
baz=121
129A Stewart Farms, 121.60 48 ⇑P **PKPdf 10 44 56.1 +0.8**
baz=122
TXAR Lajitas Array 121.72 52 PKP **PKPdf 10 44 56.7 +1.0**
TXAR PKKPbc **PKKPab 10 54 56.0 +0.1**
TXAR Lajitas Array 121.72 52 PKP **PKPdf 10 44 56.7 +1.0**
comp=Z,0.9nm,0.8s,baz=219,slow=1.0,SNR=18
TXAR PKKPbc **PKKPab 10 54 56.0 +0.1**
comp=Z,0.3nm,0.8s,baz=104,slow=5.3,SNR=4.0
428A Kincaid Ranch, 121.87 50 ⇓P **PKPdf 10 44 56.4 +0.5**
baz=122
627A Terlingua Ranc 121.89 52 ⇑P **PKPdf 10 44 57.0 +0.9**
baz=122
528A Cox Ranch, San 122.05 51 ⇑P **PKPdf 10 44 57.3 +0.9**
baz=122
628A Black Gap, Mar 122.27 52 ⇓P **PKPdf 10 44 57.6 +1.0**
baz=122
529A Stev Forest Ra 122.50 51 ⇑P **PKPdf 10 44 57.9 +0.7**
baz=122
429A Davenport Ranc 122.52 50 ⇑P **PKPdf 10 44 58.0 +0.9**
baz=122
TOA0 Torodi Ar. Sit 122.85 288 *e*PKPdf **PKPdf 10 44 58.0 0.0**
TORD Torodi Ar. Bea 122.85 288 PKP **PKPdf 10 44 58.0 0.0**
TORD SKPbc SKiKP 10 48 02.1 -29
TORD Torodi Ar. Bea 122.85 288 PKP **PKPdf 10 44 58.0 0.0**
comp=Z,3.5nm,0.9s,baz=51,slow=2.1,SNR=15
TORD SKPbc SKiKP 10 48 02.1 -29
comp=Z,0.6nm,0.9s,baz=312,slow=2.3,SNR=3.6
430A Baggett Ranch, 122.95 50 ⇑P **PKPdf 10 44 58.9 +0.9**
baz=123
431A Sonora 123.47 49 ⇓P **PKPdf 10 44 59.8 +0.8**
baz=123
531A Rocksprings 123.77 50 ⇓P **PKPdf 10 45 00.1 +0.6**
baz=124
432A Menard 124.00 49 ⇑P **PKPdf 10 45 00.4 +0.5**
baz=124
TUL1 Tulsa 124.13 41 ⇓P **PKPdf 10 45 00.8 +0.8**
baz=124
JCT Junction City 124.18 49 *e*PKIKP **PKPdf 10 45 00.8 +0.5**
JCT Junction City 124.18 49 *e*PKPdf **PKPdf 10 45 00.8 +0.5**
JCT Junction City 124.18 49 ⇑P **PKPdf 10 45 01.3 +1.0**
baz=124
732A Laxson Ranch, 124.88 51 ⇑P **PKPdf 10 45 02.9 +1.2**
baz=125
MIAR Mount Ida 126.40 41 *e*PKIKP **PKPdf 10 45 06.1 +1.7**
MIAR Mount Ida 126.40 41 *e*PKPdf **PKPdf 10 45 06.1 +1.7**
DBIC Dimbokro 130.50 282 PKP **PKPdf 10 45 13.2 +0.5**
DBIC SKPbc **SKPab 10 48 33.4 +0.2**
DBIC Dimbokro 130.50 282 PKP **PKPdf 10 45 13.2 +0.5**
comp=Z,2.4nm,0.7s,baz=254,slow=4.4,SNR=4.4
DBIC SKPbc **SKPab 10 48 33.4 +0.2**
comp=Z,1.8nm,0.5s,baz=60,slow=4.9,SNR=3.5
PLCA Paso Flores 139.97 160 PKP **PKPdf 10 45 29.6 -0.2**
PLCA Paso Flores 139.97 160 PKP **PKPdf 10 45 29.6 -0.2**
comp=Z,4.2nm,1.0s,baz=285,slow=12,SNR=5.5
TRQA Tornquist 144.86 168 *e*PKPdf PKPbc 10 45 38.3 +0.7
CFAA Coronel Fontan 148.87 155 PKPbc **PKPbc 10 45 49.9 +0.6**
CFAA Coronel Fontan 148.87 155 PKPbc **PKPbc 10 45 49.9 +0.6**
comp=Z,1.3nm,0.5s,baz=240,slow=2.9,SNR=14
LCO Las Campanas 149.88 149 *e*PKPbc **PKPbc 10 45 53.3 +1.1**
ATAH Atahualpa 154.85 99 PKP **PKPdf 10 45 57.1 +1.8**
ATAH Atahualpa 154.85 99 PKP **PKPdf 10 45 57.1 +1.8**
comp=Z,2.1nm,0.5s,baz=114,slow=20,SNR=3.6
CPUP Villa Florida 157.13 171 PKPab **PKPab 10 46 29.6 +1.7**
CPUP Villa Florida 157.13 171 PKPab **PKPab 10 46 29.6 +1.7**
comp=Z,3.7nm,0.7s,baz=216,slow=3.7,SNR=6.7
LPAZ La Paz 160.81 132 PKP **PKPdf 10 46 04.3 +1.5**
LPAZ PKPab **PKPab 10 46 46.7 +1.7**
LPAZ La Paz 160.81 132 PKP **PKPdf 10 46 04.3 +1.5**
comp=Z,3.0nm,1.0s,baz=42,slow=2.8,SNR=7.7
LPAZ PKPab **PKPab 10 46 46.7 +1.7**
comp=Z,4.2nm,1.1s,baz=245,slow=4.0,SNR=4.2
SIV San Ignacio 165.58 149 PKP **PKPdf 10 46 08.2 +1.6**
SIV PKPab **PKPab 10 47 06.7 +1.6**
SIV San Ignacio 165.58 149 PKP **PKPdf 10 46 08.2 +1.6**
comp=Z,2.4nm,1.1s,baz=297,slow=2.1,SNR=5.2
SIV PKPab **PKPab 10 47 06.7 +1.6**
comp=Z,1.7nm,0.9s,baz=231,slow=4.8,SNR=3.8
SAML Samuel 168.91 119 *e*PKPdf **PKPdf 10 46 09.1 0.0**

IDC 18 10:34:00.6±1.2, 3°.05N×125°.26E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/21, mbtmpg3.7/6, Error ellipse: s-maj=167.7km s-min=17.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.52**	**159**	P	P	10 39 21.4	-0.7
	1.3nm,0.4s,baz=337,slow=11,SNR=11						
ASAR	**Alice Springs**	**27.86**	**163**	P	P	10 39 53.4	+1.3
	0.5nm,0.7s,baz=340,slow=8.9,SNR=4.7						
STKA	**Stephens Creek**	**38.04**	**157**	P	P	10 41 20.5	-0.4
	1.2nm,0.4s,baz=337,slow=7.3,SNR=5.6						
MKAR	**Makanchi Array**	**57.29**	**326**	P	P	10 43 50.8	+0.6
	0.3nm,0.4s,baz=120,slow=7.4,SNR=6.7						
ZALV	**Zalesovo Beam**	**60.54**	**334**	P	P	10 44 11.4	-1.2
	0.2nm,0.3s,baz=116,slow=5.0,SNR=2.5						
KURBB	**Kurchatov Arra**	**61.53**	**328**	P	P	10 44 19.7	+0.3
	0.5nm,0.5s,baz=131,slow=6.7,SNR=6.0						

IGIL ***18*** *10:43:38.5, 43°.37N×14°.54W, h2km, ML2.6*
MDD ***18*** *10:43:41.8±2.1, 43°.17N×14°.15W, h0km, mb4.4/8, Error ellipse: s-maj=18.1km s-min=15.5km az=113.0, PRXIMO*
INMG ***18*** *10:43:42.9±1.1, 43°.37N×14°.62W, h10km, ML2.9, Error ellipse: s-maj=7.5km s-min=5.3km az=93.0*
CSEM ***18*** *10:43:46.0±0.3, 42°.96N×13°.81W, h10km, ML3.9/5, Error ellipse: s-maj=5.7km s-min=5.0km az=110.0*

ISC 18 10:43:43.9±3.6, 43°.00N±0°.10×14°.0W±0°.2, h10km, n79, σ1s00/140, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMAZ	**Mazaricos**	**3.66**	**89**	P	**Pn**	**10 44 40.2**	**-0.3**
	2.6nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**10 45 22.1**	**-1.6**
	12nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**3.66**	**89**	P	**Pn**	**10 44 40.2**	**-0.3**
	2.6nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**10 45 22.1**	**-1.6**
	12nm,0.1s,SNR=7.9						
STS	**Santiago**	**3.97**	**90**	P	**Pn**	**10 44 44.1**	**-0.8**
	3.4nm,0.1s,SNR=7.9						
STS				S	**Sn**	**10 45 31.2**	**-0.3**
	12nm,0.1s,SNR=7.9						
STS	**Santiago**	**3.97**	**90**	P	**Pn**	**10 44 44.1**	**-0.8**
	3.4nm,0.1s,SNR=7.9						
STS				S	**Sn**	**10 45 31.2**	**-0.3**
	12nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**3.98**	**101**	P	**Pn**	**10 44 45.1**	**+0.1**
	4.5nm,0.2s,SNR=7.9						
EZAM				S	**Sn**	**10 45 30.7**	**-1.0**
	6.1nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**3.98**	**101**	P	**Pn**	**10 44 45.1**	**+0.1**
	4.5nm,0.2s,SNR=7.9						
EZAM				S	**Sn**	**10 45 30.7**	**-1.0**
	6.1nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**4.33**	**102**	*e*Pn	**Pn**	**10 44 50.7**	**+0.8**
PGAV				*e*Sn	**Sn**	**10 45 41.2**	**+0.7**
PGAV				A	A	10 45 42.9	
	21nm,0.1s						
PCAB	**Cabril**	**4.58**	**104**	*e*Pn	**Pn**	**10 44 54.3**	**+1.1**
PCAB				*e*Sn	**Sn**	**10 45 47.2**	**+0.7**
PCAB				A	A	10 45 49.0	
	18nm,0.4s						
PCAB	**Cabril**	**4.58**	**104**	P	**Pn**	**10 44 54.3**	**+1.1**
PCAB				S	**Sn**	**10 45 47.2**	**+0.7**
	9.2nm,0.4s						
PCAB	**Cabril**	**4.58**	**104**	P	**Pn**	**10 44 54.3**	**+1.1**
PCAB				S	**Sn**	**10 45 47.2**	**+0.7**
	9.2nm,0.4s						
POLO	**Lamas de Olo**	**4.86**	**107**	*e*Pn	**Pn**	**10 44 58.1**	**+1.0**
POLO				*e*Sn	**Sn**	**10 45 53.8**	**+0.3**
POLO				A	A	10 45 56.7	
	3.1nm,0.2s						
POLO	**Lamas de Olo**	**4.86**	**107**	*e*Pn	**Pn**	**10 44 58.1**	**+1.0**
POLO				*e*Sn	**Sn**	**10 45 53.8**	**+0.3**
	3.1nm,0.2s						
ERUA	**La Rua**	**5.06**	**95**	S	**Sn**	**10 45 57.2**	**-1.1**
	9.6nm,0.1s,SNR=7.9						
ERUA	**La Rua**	**5.06**	**95**	S	**Sn**	**10 45 57.2**	**-1.1**
	9.6nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**5.07**	**115**	*e*Pn	**Pn**	**10 45 00.9**	**+0.9**
PVIS				*e*Sn	**Sn**	**10 45 58.3**	**-0.3**
PVIS				A	A	10 46 03.3	
	14nm,0.1s						
PVIS	**Viseu**	**5.07**	**115**	P	**Pn**	**10 45 00.9**	**+0.9**
PVIS				S	**Sn**	**10 45 58.3**	**-0.3**
	6.9nm,0.1s						
PVIS	**Viseu**	**5.07**	**115**	P	**Pn**	**10 45 00.9**	**+0.9**
PVIS				S	**Sn**	**10 45 58.3**	**-0.3**
	6.9nm,0.1s						
PMAFR	**Mafra**	**5.37**	**137**	*e*Pn	**Pn**	**10 45 05.1**	**+1.1**
PMAFR				*e*Sn	**Sn**	**10 46 06.4**	**+0.5**
PMAFR				A	A	10 46 11.8	
	16nm,0.2s						
PMAFR	**Mafra**	**5.37**	**137**	P	**Pn**	**10 45 04.8**	**+0.7**
	6.4nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**10 46 05.0**	**-0.9**
	3.3nm,0.3s,SNR=5.6						
PMAFR	**Mafra**	**5.37**	**137**	P	**Pn**	**10 45 04.8**	**+0.7**
	6.4nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**5.37**	**137**	*e*Pn	**Pn**	**10 45 05.1**	**+1.1**
PMAFR				S	**Sn**	**10 46 05.0**	**-0.9**
	3.3nm,0.3s,SNR=5.6						
PMAFR				*e*Sn	Sb	10 46 06.4	-16
	16nm,0.2s						
PTOM	**Tomar**	**5.37**	**127**	*e*Pn	**Pn**	**10 45 04.9**	**+0.8**
PTOM				*e*Sn	**Sn**	**10 46 04.9**	**-1.0**
PTOM				A	A	10 46 10.4	
	12nm,0.1s						
PTOM	**Tomar**	**5.37**	**127**	P	**Pn**	**10 45 04.9**	**+0.8**
PTOM				S	**Sn**	**10 46 04.9**	**-1.0**
	6.2nm,0.1s						
PTOM	**Tomar**	**5.37**	**127**	P	**Pn**	**10 45 04.9**	**+0.8**
PTOM				S	**Sn**	**10 46 04.9**	**-1.0**
	6.2nm,0.1s						
MVO	**Moncorvo**	**5.47**	**107**	*e*Pn	**Pn**	**10 45 06.2**	**+0.7**
MVO				*e*Sn	**Sn**	**10 46 08.1**	**-0.5**
MVO				A	A	10 46 11.6	
	8.2nm,0.2s						
MVO	**Moncorvo**	**5.47**	**107**	P	**Pn**	**10 45 06.2**	**+0.7**
	1.0nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**10 46 07.9**	**-0.6**
	8.8nm,0.1s,SNR=6.1						
MVO	**Moncorvo**	**5.47**	**107**	P	**Pn**	**10 45 06.2**	**+0.7**
	1.0nm,0.1s,SNR=7.9						
MVO				*e*Sn	**Sn**	**10 46 08.1**	**-0.5**
	8.2nm,0.2s						
PBRG	**Braganca**	**5.47**	**100**	*e*Sn	**Sn**	**10 46 08.5**	**-0.1**
PBRG	**Braganca**	**5.47**	**100**	S	**Sn**	**10 46 08.5**	**-0.1**
PBRG	**Braganca**	**5.47**	**100**	S	**Sn**	**10 46 08.5**	**-0.1**
PCBR	**Castelo Branco**	**5.80**	**121**	*e*Sn	**Sn**	**10 46 16.1**	**-0.5**
PCBR				A	A	10 46 20.5	
	2.9nm,0.1s						
PCBR	**Castelo Branco**	**5.80**	**121**	S	**Sn**	**10 46 16.1**	**-0.5**
	1.4nm,0.1s						
PCBR	**Castelo Branco**	**5.80**	**121**	S	**Sn**	**10 46 16.1**	**-0.5**
	1.4nm,0.1s						
PMTG	**Montargil**	**5.85**	**130**	*e*Pn	**Pn**	**10 45 10.9**	**+0.3**
PMTG				*e*Sn	**Sn**	**10 46 16.9**	**-0.8**
PMTG				A	A	10 46 21.6	
	4.1nm,0.1s						
PMTG	**Montargil**	**5.85**	**130**	*e*Pn	**Pn**	**10 45 10.9**	**+0.3**
PMTG				*e*Sn	**Sn**	**10 46 16.9**	**-0.8**
	4.1nm,0.1s						
PMRV	**Marv??o**	**6.10**	**124**	*e*Pn	**Pn**	**10 45 14.4**	**+0.3**
PMRV				*e*Sn	**Sn**	**10 46 24.0**	**0.0**
PMRV				A	A	10 46 25.3	

4.1nm,0.2s
PMRV Marv??o 6.10 124 P **Pn** **10 45 14.4 +0.3**
PMRV S **Sn** **10 46 24.0 0.0**
4.1nm,0.2s
PMRV Marv??o 6.10 124 P **Pn** **10 45 14.4 +0.3**
PMRV S **Sn** **10 46 24.0 0.0**
4.1nm,0.2s
MOE Montemor 6.17 135 *e*Sn **Sn** **10 46 25.7 0.0**
MOE Montemor 6.17 135 S **Sn** **10 46 25.7 0.0**
MOE Montemor 6.17 135 S **Sn** **10 46 25.7 0.0**
PESTR Estremoz 6.34 128 *e*Pn **Pn** **10 45 17.5 0.0**
PESTR *e*Sn **Sn** **10 46 28.5 -1.5**
PESTR A A 10 46 32.5
3.0nm,0.2s
PESTR Estremoz 6.34 128 P **Pn** **10 45 17.5 0.0**
PESTR S **Sn** **10 46 28.5 -1.5**
1.5nm,0.2s
PESTR Estremoz 6.34 128 P **Pn** **10 45 17.5 0.0**
PESTR S **Sn** **10 46 28.5 -1.5**
1.5nm,0.2s
EPLA Plasencia 6.60 114 P **Pn** **10 45 21.9 +1.0**
1.0nm,0.1s,SNR=7.9
EPLA S **Sn** **10 46 34.5 -1.7**
3.3nm,0.1s,SNR=7.9
EPLA Plasencia 6.60 114 P **Pn** **10 45 21.9 +1.0**
1.0nm,0.1s,SNR=7.9
EPLA S **Sn** **10 46 34.5 -1.7**
3.3nm,0.1s,SNR=7.9
PTEO Sao Teotonio 6.76 142 *e*Pn **Pn** **10 45 24.0 +0.9**
PTEO *e*Sn **Sn** **10 46 39.9 -0.2**
PTEO A A 10 46 46.6
6.7nm,0.3s
PTEO Sao Teotonio 6.76 142 P **Pn** **10 45 24.0 +0.9**
PTEO S **Sn** **10 46 39.9 -0.2**
3.3nm,0.3s
PTEO Sao Teotonio 6.76 142 P **Pn** **10 45 24.0 +0.9**
PTEO S **Sn** **10 46 39.9 -0.2**
3.3nm,0.3s
MESJ Messejana 6.76 138 *e*P **Pn** **10 45 23.9 +0.8**
MESJ *e*S **Sn** **10 46 39.2 -0.9**
MESJ AML AML 10 46 39.5
comp=E,2.7nm,0.2s
MESJ Messejana 6.76 138 P **Pn** **10 45 23.9 +0.8**
MESJ S **Sn** **10 46 39.2 -0.9**
MESJ Messejana 6.76 138 P **Pn** **10 45 23.9 +0.8**
MESJ S **Sn** **10 46 39.2 -0.9**
PBEJ Beja 6.79 135 *e*Sn **Sn** **10 46 41.1 0.0**
PBEJ A A 10 46 44.1
comp=E,3.3nm,0.1s
PBEJ Beja 6.79 135 S **Sn** **10 46 41.1 0.0**
comp=E,1.7nm,0.1s
PBEJ Beja 6.79 135 S **Sn** **10 46 41.1 0.0**
comp=E,1.7nm,0.1s
MORF Marmelete 6.99 143 *e*Pn **Pn** **10 45 27.0 +0.7**
MORF *e*Sn **Sn** **10 46 45.5 -0.3**
MORF A A 10 46 49.2
comp=E,11nm,0.1s
MORF Marmelete 6.99 143 P **Pn** **10 45 27.0 +0.7**
MORF S **Sn** **10 46 45.5 -0.3**
comp=E,11nm,0.1s
MORF Marmelete 6.99 143 P **Pn** **10 45 27.0 +0.7**
MORF S **Sn** **10 46 45.5 -0.3**
comp=E,11nm,0.1s
PCVE Castro Verde 7.01 138 *e*Pn **Pn** **10 45 27.3 +0.7**
PCVE *e*Sn **Sn** **10 46 45.9 -0.5**
PCVE A A 10 46 49.9
comp=E,2.2nm,0.2s
PCVE Castro Verde 7.01 138 P **Pn** **10 45 27.3 +0.7**
PCVE S **Sn** **10 46 45.9 -0.5**
comp=E,2.2nm,0.2s
PCVE Castro Verde 7.01 138 P **Pn** **10 45 27.3 +0.7**
PCVE S **Sn** **10 46 45.9 -0.5**
comp=E,2.2nm,0.2s
PFVI Vila Bisbo 7.05 144 *e*Pn **Pn** **10 45 27.9 +0.7**
PFVI *e*Sn **Sn** **10 46 44.4 -3.0**
PFVI A A 10 46 50.1
comp=E,6.2nm,0.3s
PFVI Vila Bisbo 7.05 144 P **Pn** **10 45 27.9 +0.7**
comp=E,0.5nm,0.0s,SNR=5.6
PFVI S **Sn** **10 46 44.7 -2.7**
comp=E,1.7nm,0.3s,SNR=7.9
PFVI Vila Bisbo 7.05 144 P **Pn** **10 45 27.9 +0.7**
comp=E,0.5nm,0.0s,SNR=5.6
PFVI S **Sn** **10 46 44.7 -2.7**
comp=E,1.7nm,0.3s,SNR=7.9
PBAR Barrancos 7.13 130 *e*Pn **Pn** **10 45 29.0 +0.7**
PBAR *e*Sn **Sn** **10 46 49.4 0.0**
PBAR A A 10 46 54.5
comp=E,2.7nm,0.2s
PBAR Barrancos 7.13 130 P **Pn** **10 45 29.0 +0.7**
PBAR S **Sn** **10 46 49.4 0.0**
comp=E,2.7nm,0.2s
PBAR Barrancos 7.13 130 P **Pn** **10 45 29.0 +0.7**
PBAR S **Sn** **10 46 49.4 0.0**
comp=E,2.7nm,0.2s
PVAQ Vaqueiros 7.35 137 *e*Pn **Pn** **10 45 32.1 +0.9**
PVAQ *e*Sn **Sn** **10 46 51.9 -2.8**
PVAQ A A 10 46 57.8
comp=E,3.1nm,0.1s
PVAQ Vaqueiros 7.35 137 P **Pn** **10 45 32.1 +0.9**
PVAQ S **Sn** **10 46 51.9 -2.8**
comp=E,3.1nm,0.1s
PVAQ Vaqueiros 7.35 137 P **Pn** **10 45 32.1 +0.9**
PVAQ S **Sn** **10 46 51.9 -2.8**
comp=E,3.1nm,0.1s
PBDV Barranco-do-Ve 7.37 139 *e*Pn **Pn** **10 45 32.6 +1.0**
PBDV *e*Sn **Sn** **10 46 55.1 -0.2**
PBDV A A 10 46 58.3
comp=E,4.4nm,0.5s
PBDV Barranco-do-Ve 7.37 139 P **Pn** **10 45 32.6 +1.0**
PBDV S **Sn** **10 46 55.1 -0.2**
comp=E,4.4nm,0.5s
PBDV Barranco-do-Ve 7.37 139 P **Pn** **10 45 32.6 +1.0**
PBDV S **Sn** **10 46 55.1 -0.2**
comp=E,4.4nm,0.5s
EMIN Mina Concepcio 7.63 131 P **Pn** **10 45 36.2 +1.2**
comp=E,3.7nm,0.2s,SNR=7.9
EMIN S **Sn** **10 46 58.4 -3.2**
comp=E,1.8nm,0.2s,SNR=7.9
EMIN Mina Concepcio 7.63 131 P **Pn** **10 45 36.2 +1.2**
comp=E,3.7nm,0.2s,SNR=7.9
GUD Guadarrama 7.69 104 P **Pn** **10 45 37.5 +1.5**
comp=E,1.6nm,0.2s,SNR=6.0
GUD S **Sn** **10 47 03.2 -0.1**
comp=E,1.4nm,0.2s
GUD Guadarrama 7.69 104 P **Pn** **10 45 37.5 +1.5**
comp=E,1.6nm,0.2s,SNR=6.0
GUD S **Sn** **10 47 03.2 -0.1**
comp=E,1.4nm,0.2s
ESDC Sonseca Array 8.22 110 P **Pn** **10 45 44.5 +1.3**
comp=E,7.3nm,0.1s,baz=294,slow=13,SNR=13
ESDC Sonseca Array 8.22 110 P **Pn** **10 45 44.5 +1.3**
comp=E,7.3nm,0.1s,slow=13,SNR=13

IDC 18 10:44:03.8±3.5, 5°.62S×147°.70E, h180km±46km, mb3.2/3, mb1 3.4/5, mb1mx3.1/18, mbtmpb3.2/5, Error ellipse: s-maj=90.7km s-min=31.4km az=112.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.80**	**188**	P	Pn	10 45 04.4	+2.0
	4.6nm,0.3s,baz=316,slow=12,SNR=8.5						
PMG				S	Sn	10 45 48.1	-0.3
	4.0nm,0.3s,baz=181,slow=23,SNR=8.2						
WRA	**Warramunga Arr**	**19.28**	**221**	P	P	10 48 15.2	+0.1
	0.6nm,0.3s,baz=48,slow=12,SNR=21						
ASAR	**Alice Springs**	**22.33**	**215**	P	P	10 48 47.3	+0.3
	1.2nm,0.5s,baz=51,slow=8.5,SNR=41						
FITZ	**Fitzroy Crossi**	**24.86**	**238**	P	P	10 49 09.9	-0.1
	1.5nm,0.4s,baz=92,slow=9.5,SNR=5.1						
MKAR	**Makanchi Array**	**77.65**	**320**	P	P	10 55 40.1	-0.3
	0.2nm,0.7s,baz=99,slow=8.9,SNR=2.6						

*IDC **18** 10:45:57.7±1.5, 30°.74N×50°.32E, h0km, mb3.8/14, mb1 3.8/15, mb1mx3.7/30, mbtmpb3.7/15, ML3.0/1, Error ellipse: s-maj=35.2km s-min=19.1km az=168.0*
*ISCJB **18** 10:45:59.3±0.5, 30°.77N±0°.04×50°.30E±0°.05, h10km, mb3.7/13, Error ellipse: s-maj=6.4km s-min=5.7km az=39.9*
*THR **18** 10:46:01.6±0.7, 30°.61N×50°.38E, h39km±7km, ML3.7*
*CSEM **18** 10:46:03.4±0.2, 30°.70N×50°.48E, h20km, ML3.9, Error ellipse: s-maj=6.8km s-min=5.5km az=138.0*
*TEH **18** 10:46:06.6, 30°.84N×50°.70E, h20km, ML3.9*

ISC 18 10:45:59.6±0.6, 30°.67N±0°.04×50°.45E±0°.04, h10km, n58, σ1§98/60, mb3.8/13, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**2.01**	**316**	*e*Pg	**Pb**	**10 46 37.4**	**+1.1**
SHGR				AML	AML	10 47 16.1	
	comp=N,707nm,0.6s						
SHGR	**Shooshtar-Gavs**	**2.01**	**316**	*e*Pg	**Pb**	**10 46 37.4**	**+1.1**
IPIR	**Pirpir**	**2.04**	**11**	*e*Pn	**Pb**	**10 46 37.7**	**+0.7**
IPIR				*e*Sg	**Sb**	**10 47 05.0**	**+2.5**
IPIR				*e*		10 47 09.6	
	comp=Z,17μm,0.2s						
IPIR	**Pirpir**	**2.04**	**11**	*e*Pn	**Pb**	**10 46 37.7**	**+0.7**
IPIR				*e*Sg	**Sb**	**10 47 05.0**	**+2.5**
SHI	**Shiraz**	**2.06**	**119**	*e*Pn	**Pb**	**10 46 39.1**	**+1.9**
SHI				*e*		10 47 10.5	
	comp=E,4μm,0.1s						
SHI	**Shiraz**	**2.06**	**119**	*e*Pn	**Pb**	**10 46 39.1**	**+1.9**
IGAR	**Gharneh**	**2.20**	**38**	*e*Pn	**Pn**	**10 46 38.8**	**+2.4**
IGAR				*e*Sg	**Sb**	**10 47 06.9**	**0.0**
IGAR				*e*		10 47 16.8	
	comp=Z,9μm,0.3s						
IZEF	**Zefreh**	**2.73**	**35**	*e*Pn	**Pn**	**10 46 46.2**	**+2.4**
IZEF				*e*		10 46 55.0	
	comp=Z,2μm,0.1s						
IZEF	**Zefreh**	**2.73**	**35**	*e*Pn	**Pn**	**10 46 46.2**	**+2.4**
IKLH	**Kolahrood**	**2.81**	**20**	*e*Pn	**Pn**	**10 46 47.9**	**+3.1**
IKLH				*e*		10 47 35.6	
	comp=Z,4μm,0.2s						
IKLH	**Kolahrood**	**2.81**	**20**	*e*Pn	**Pn**	**10 46 47.9**	**+3.1**
KBD	**Kabd**	**2.82**	**239**	*e*P	**Pn**	**10 46 47.9**	**+3.2**
KBD				AML	AML	10 47 25.1	
	comp=Z,107nm,0.3s						
KBD	**Kabd**	**2.82**	**239**	*e*P	**Pn**	**10 46 47.9**	**+3.2**
NASN	**Na'in**	**2.92**	**43**	*e*Pn	**Pn**	**10 46 48.8**	**+2.4**
NASN	**Na'in**	**2.92**	**43**	*e*Pn	**Pn**	**10 46 48.8**	**+2.4**
QRN	**Al-Qurain**	**2.92**	**230**	*e*P	**Pn**	**10 46 49.0**	**+2.8**
QRN				AML	AML	10 47 30.7	
	comp=Z,262nm,0.3s						
ISAD	**Sadrabad**	**3.03**	**65**	*e*Pn	**Pn**	**10 46 50.2**	**+2.3**
ISAD				*e*		10 47 28.4	
	comp=Z,8μm,0.2s						
ISAD	**Sadrabad**	**3.03**	**65**	*e*Pn	**Pn**	**10 46 50.2**	**+2.3**
KHMZ	**Khomeyn**	**3.08**	**352**	*e*Pn	**Pn**	**10 46 50.9**	**+2.3**
KHMZ				*e*Pg	**Pb**	**10 46 57.1**	**+2.3**
KHMZ	**Khomeyn**	**3.08**	**352**	*e*Pn	**Pn**	**10 46 50.9**	**+2.3**
NAY	**Al-Naaiem**	**3.12**	**244**	*e*P	**Pn**	**10 46 52.1**	**+3.1**
NAY				AML	AML	10 47 32.2	
	comp=Z,96nm,0.6s						
NAY	**Al-Naaiem**	**3.12**	**244**	*e*P	**Pn**	**10 46 52.1**	**+3.1**
GHIR	**Ghir-Karzin**	**3.25**	**136**	*e*Pn	**Pn**	**10 46 52.0**	**+1.2**
GHIR	**Ghir-Karzin**	**3.25**	**136**	*e*Pn	**Pn**	**10 46 52.0**	**+1.2**
IMEH	**Mehriz**	**3.64**	**78**	*e*Pn	**Pn**	**10 46 58.5**	**+2.2**
IMEH				*e*		10 47 00.3	
	comp=Z,1μm,0.1s						
IMEH	**Mehriz**	**3.64**	**78**	*e*Pn	**Pn**	**10 46 58.5**	**+2.2**
ICHK	**Chekchek**	**3.73**	**64**	*e*Pn	**Pn**	**10 46 59.5**	**+2.1**
ICHK				*e*		10 47 46.0	
	comp=Z,4μm,0.2s						
ICHK	**Chekchek**	**3.73**	**64**	*e*Pn	**Pn**	**10 46 59.5**	**+2.1**
IBAF	**Bafgh**	**4.48**	**77**	*e*		10 47 10.2	
	comp=Z,870nm,0.2s						
IBAF				*e*Pn	**Pn**	**10 47 09.7**	**+1.9**
IGHG	**Ghaleghazi**	**4.90**	**319**	*e*Pn	Pn	10 47 18.9	+5.3
IGHG				*e*		10 49 00.6	
	comp=E,1μm,0.3s						
DAMV	**Damavand**	**5.11**	**14**	*e*Pn	**Pn**	**10 47 18.3**	**+1.9**
DAMV	**Damavand**	**5.11**	**14**	*e*Pn	**Pn**	**10 47 18.3**	**+1.9**
SNGE	**Sanandaj**	**5.12**	**330**	*e*Pn	**Pn**	**10 47 18.2**	**+1.6**
SNGE				AML	AML	10 48 22.3	
	comp=E,42nm,0.7s						
SNGE	**Sanandaj**	**5.12**	**330**	*e*Pn	**Pn**	**10 47 18.2**	**+1.6**
ILAS	**Lasjerd**	**5.15**	**23**	*e*Pn	**Pn**	**10 47 19.3**	**+2.3**
ILAS				*e*		10 47 20.3	
	comp=N,1μm,0.1s						
ILAS	**Lasjerd**	**5.15**	**23**	*e*Pn	**Pn**	**10 47 19.3**	**+2.3**
IANJ	**Anjilo**	**5.59**	**30**	*e*Pn	**Pn**	**10 47 24.3**	**+1.2**
IANJ				*e*		10 47 33.0	
	comp=Z,568nm,0.2s						
IANJ	**Anjilo**	**5.59**	**30**	*e*Pn	**Pn**	**10 47 24.3**	**+1.2**
ISHM	**Shahmirzad**	**5.65**	**24**	*e*Pn	**Pn**	**10 47 25.5**	**+1.6**
ISHM				*e*		10 47 30.8	
	comp=Z,775nm,0.1s						
ISHM	**Shahmirzad**	**5.65**	**24**	*e*Pn	**Pn**	**10 47 25.5**	**+1.6**
IALA	**Alasht**	**5.74**	**19**	*e*Pn	**Pn**	**10 47 26.8**	**+1.6**
IALA				*e*		10 47 34.6	
	comp=Z,1μm,0.2s						
IALA	**Alasht**	**5.74**	**19**	*e*Pn	**Pn**	**10 47 26.8**	**+1.6**
IGLO	**Ghaloghah**	**6.46**	**25**	*e*Pn	**Pn**	**10 47 37.0**	**+2.0**
BRTR	**Keskin Array B**	**16.42**	**308**	Pn	**Pn**	**10 49 48.5**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=133,slow=14,SNR=2.3						
AKTO	**Aktyubinsk**	**20.54**	**14**	P	**P**	**10 50 37.9**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=191,slow=13,SNR=2.6						
AKASG	**Malin Array Be**	**25.52**	**328**	P	**P**	**10 51 27.1**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=114,slow=7.2,SNR=3.7						
BVAR	**Borovoye Array**	**26.65**	**27**	P	**P**	**10 51 38.5**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=202,slow=11,SNR=3.4						
KURBB	**Kurchatov Arra**	**28.89**	**38**	P	**P**	**10 51 59.6**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=240,slow=9.6,SNR=8.0						
MKAR	**Makanchi Array**	**29.34**	**48**	P	**P**	**10 52 02.6**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=246,slow=8.7,SNR=4.8						
ZALV	**Zalesovo Beam**	**33.92**	**37**	P	**P**	**10 52 42.4**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=249,slow=7.2,SNR=8.4						
FINES	**FINESS Array B**	**34.69**	**340**	P	**P**	**10 52 47.9**	**-1.3**
	comp=Z,2.9nm,1.0s,baz=140,slow=9.1,SNR=3.5						
HFS	**Hagfors**	**38.28**	**331**	P	**P**	**10 53 18.5**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=116,slow=10,SNR=13						
NOA	**NORSAR Array B**	**39.80**	**331**	P	P	10 53 30.8	-1.9
	comp=Z,0.6nm,0.6s,baz=129,slow=9.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**48.08**	**260**	P	**P**	**10 54 39.4**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=57,slow=8.6,SNR=16						
KSRS	**Korea Array**	**62.86**	**61**	P	**P**	**10 56 25.2**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=274,slow=6.5,SNR=5.6						
SCHQ	**Schefferville**	**79.31**	**328**	P	**P**	**10 58 03.8**	**-1.5**
	comp=Z,2.1nm,1.1s,baz=233,slow=5.2,SNR=6.2						
ILAR	**Eielson Array**	**83.91**	**7**	P	**P**	**10 58 28.1**	**-1.2**
	comp=Z,0.1nm,0.6s,baz=331,slow=4.3,SNR=4.6						
YKA	**Yellowknife Ar**	**86.38**	**353**	P	**P**	**10 58 40.7**	**-1.1**
	comp=Z,0.1nm,0.6s,baz=8.1,slow=5.1,SNR=5.7						

IDC 18 10:51:06.5±2.2, 42°.80S×72°.58W, h0km, mb3.7/2, mb1 4.2/2, mb1mx3.7/14, mbtmpb3.7/2, Error ellipse: s-maj=64.6km s-min=20.7km az=135.0, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**2.56**	**37**	Pg	Pb	10 51 52.6	-0.8
	6.0nm,0.3s,baz=220,slow=17,SNR=90						
PLCA				Lg	Lg	10 52 28.3	
	15nm,0.3s,baz=127,slow=21,SNR=14						
TXAR	**Lajitas Array**	**77.26**	**332**	P	P	11 03 03.3	+0.8
	0.4nm,1.0s,baz=165,slow=7.3,SNR=4.6						
PDAR	**Pinedale Array**	**91.43**	**334**	P	P	11 04 13.6	-0.8
	0.5nm,0.9s,baz=157,slow=4.9,SNR=3.7						
AKTO	**Aktyubinsk**	**145.76**	**60**	PKPbc	PKPdf	11 10 45.7	-0.6
	1.5nm,1.0s,baz=290,slow=6.3,SNR=4.3						

*DDA **18** 10:52:52.3, 37°.71N×34°.61E, h7km, MD2.9*
*ISK **18** 10:52:52.4, 37°.71N×34°.57E, h6km, MD2.6*
*CSEM **18** 10:52:53.0±0.2, 37°.72N×34°.57E, h2km, MD2.6, Error ellipse: s-maj=4.6km s-min=2.8km az=98.0*

ISC 18 10:52:53.4±1.1, 37°.71N±0°.03×34°.63E±0°.04, h6km±10km, n16, σ0§54/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIG	**Nigde**	**0.40**	**358**	*e*PG	**Pg**	**10 53 00.5**	**-0.8**
NIG	**Nigde**	**0.40**	**358**	*e*Pg	**Pg**	**10 53 00.5**	**-0.8**
GULE	**Gulek**	**0.44**	**165**	*i* P	**Pg**	**10 53 01.5**	**-0.5**
GULE				*i* S	**Sg**	**10 53 08.0**	**+0.2**
GULE	**Gulek**	**0.44**	**165**	*i* P	**Pg**	**10 53 01.5**	**-0.5**
GULE				*i* S	**Sg**	**10 53 08.0**	**+0.2**
MERS	**Mersin**	**0.84**	**186**	*e*PG	**Pg**	**10 53 09.1**	**-0.5**
MERS				*e*SG	**Sg**	**10 53 21.1**	**+0.5**
MERS	**Mersin**	**0.84**	**186**	*e*Pg	**Pg**	**10 53 09.1**	**-0.5**
MERS				*e*Sg	**Sg**	**10 53 21.1**	**+0.5**
KOZT	**Kozan**	**0.98**	**103**	*e*PG	**Pb**	**10 53 13.0**	**+0.3**
KOZT				*e*SG	**Sn**	**10 53 26.9**	**-0.9**
KOZT	**Kozan**	**0.98**	**103**	*e*Pg	**Pb**	**10 53 13.0**	**+0.3**
KOZT				*e*Sg	**Sn**	**10 53 26.9**	**-0.9**
AVNT	**Avonos**	**1.08**	**9**	*i* P	**Pg**	**10 53 14.3**	**+0.1**
AVNT				*i* S	**Sg**	**10 53 28.2**	**-0.1**
AVNT	**Avonos**	**1.08**	**9**	*i* P	**Pg**	**10 53 14.3**	**+0.1**
BNN	**Bunyan**	**1.49**	**40**	*e*PN	**Pn**	**10 53 21.1**	**+0.3**
BNN	**Bunyan**	**1.49**	**40**	*e*Pn	**Pn**	**10 53 21.1**	**+0.3**
PINB	**Pinarbasi**	**1.70**	**55**	*i* P	**Pn**	**10 53 24.4**	**+0.6**
PINB				*i* S	**Sg**	**10 53 48.4**	**+0.4**
PINB	**Pinarbasi**	**1.70**	**55**	*i* P	**Pn**	**10 53 24.4**	**+0.6**
ERMK	**Ermenek**	**1.74**	**233**	*i* P	**Pn**	**10 53 24.7**	**+0.4**
ERMK				*i* S	**Sn**	**10 53 46.4**	**-0.4**
ERMK	**Ermenek**	**1.74**	**233**	*i* P	**Pn**	**10 53 24.7**	**+0.4**
ERMK				*i* S	**Sn**	**10 53 46.4**	**-0.4**

MEX 18 10:53:33.1±1.0, 17°.36N×100°.54W, h20km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.41**	**140**	*i* P	Pb	10 53 39.6	-2.0
CAIG				*i* S	Sb	10 53 46.6	-0.8
ZIIG	**Zihuatanejo**	**0.92**	**286**	*e*P	Pb	10 53 46.9	-3.4
ZIIG				*i* S	Sb	10 53 59.4	-2.6
MEIG	**Mezcala**	**1.04**	**57**	*e*P	Pb	10 53 48.8	-3.8
MEIG				*i* S	Sb	10 54 02.9	-3.1
PLIG	**Platanillo**	**1.43**	**44**	*i* P	Pn	10 53 54.7	-3.4
PLIG				*i* S	Sn	10 54 12.3	-4.0
YAIG	**Yautepec**	**2.05**	**43**	*i* P	Pn	10 54 03.4	-3.3
YAIG				*i* S	Sn	10 54 28.8	-3.1

IDC 18 10:59:03.2±7.3, 3°.00N×127°.33E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/21, mbtmpb3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.1/35, Error ellipse: s-maj=157.3km s-min=114.4km az=77.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.40**	**337**	LR	LR	11 01 47.2	
	comp=Z,178nm,20.4s,baz=277,slow=37						
WRA	**Warramunga Arr**	**23.82**	**163**	P	P	11 04 18.1	+0.1
	1.4nm,0.8s,baz=343,slow=11,SNR=8.5						
ASAR	**Alice Springs**	**27.27**	**167**	P	P	11 04 50.1	+0.6
	0.5nm,0.9s,baz=341,slow=10,SNR=3.3						
STKA	**Stephens Creek**	**37.24**	**160**	P	P	11 06 15.8	-0.9
	3.4nm,1.2s,baz=333,slow=8.2,SNR=4.3						

*ISCJB **18** 11:05:58.1±0.5, 30°.11N±0°.04×139°.1E±0°.1, h388km, mb3.2/9, Error ellipse: s-maj=14.7km s-min=5.9km az=176.0*
*JMA **18** 11:06:00.5±0.2, 30°.24N×139°.77E, h399km, M3.2*
*IDC **18** 11:06:00.5±1.7, 30°.08N×138°.87E, h393km±20km, mb2.9/9, mb1 3.0/10, mb1mx2.9/27, mbtmp2.9/10, Error ellipse: s-maj=29.7km s-min=13.3km az=76.0*

ISC 18 11:05:59.1±0.7, 30°.14N±0°.07×139°.3E±0°.1, h388km, n16, σ1§66/20, mb3.1/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.00**	**8**	P	**Pn**	**11 07 04.0**	**+2.7**
	8.0nm,0.3s,baz=69,slow=19,SNR=2.8						
JHJ				S	**S**	**11 07 51.1**	**-0.6**
	6.2nm,0.3s,baz=241,slow=23,SNR=3.6						
CBIJ	**Chichi jima**	**3.96**	**139**	P	**Pn**	**11 07 10.6**	**+0.4**
CBIJ				*e*S	**S**	**11 08 06.3**	**-1.4**
JHU	**Hanno**	**5.70**	**0**	*e*S	**S**	**11 08 38.6**	**-1.6**
JRY	**Ryogami san**	**5.87**	**357**	P	**Pn**	**11 07 31.6**	**+1.8**
JYT	**Yasato**	**6.12**	**7**	*e*S	**S**	**11 08 46.9**	**-1.7**
JAG	**Ashikaga**	**6.27**	**1**	P	**Pn**	**11 07 34.5**	**+0.3**
JAG				*e*S	**S**	**11 08 48.4**	**-3.3**
JHO	**Hitachi**	**6.54**	**9**	P	**P**	**11 07 38.9**	**+0.9**
JHO				*e*S	**S**	**11 08 54.9**	**-2.4**
MKAR	**Makanchi Array**	**46.59**	**308**	P	**P**	**11 13 49.5**	**-0.5**
	0.3nm,0.6s,baz=76,slow=12,SNR=4.0						
KURBB	**Kurchatov Arra**	**49.10**	**313**	P	**P**	**11 14 08.3**	**-0.5**
	0.7nm,0.6s,baz=93,slow=7.2,SNR=7.6						
WRA	**Warramunga Arr**	**50.02**	**186**	P	**P**	**11 14 15.7**	**-0.3**
	0.4nm,0.4s,baz=4.5,slow=8.3,SNR=10						
ASAR	**Alice Springs**	**53.74**	**186**	P	**P**	**11 14 43.6**	**+0.5**
	0.3nm,0.5s,baz=357,slow=5.2,SNR=8.2						
STKA	**Stephens Creek**	**61.72**	**178**	P	**P**	**11 15 38.3**	**+0.6**
	1.0nm,0.9s,baz=350,slow=21,SNR=3.4						
AKTO	**Aktyubinsk**	**62.08**	**314**	P	**P**	**11 15 37.9**	**-2.1**
	0.9nm,0.6s,baz=41,slow=11,SNR=3.3						
YKA	**Yellowknife Ar**	**70.68**	**28**	P	**P**	**11 16 35.9**	**+2.2**
	0.2nm,0.6s,baz=297,slow=6.1,SNR=3.7						
FINES	**FINESS Array B**	**74.09**	**333**	P	**P**	**11 16 54.1**	**+0.5**
	0.5nm,0.4s,baz=167,slow=35,SNR=1.7						
BRTR	**Keskin Array B**	**82.07**	**311**	P	**P**	**11 17 37.9**	**+0.3**
	0.9nm,0.8s,baz=126,slow=2.1,SNR=4.6						

MAN 18 11:33:04, 10°.47N×123°.32E, h1km, mb4.0, ML2.8, MS2.5, 1C, Cebu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.65**	**103**	*e*P	Pb	11 33 17.6	-0.7
LLP				*i* S	Sb	11 33 26.5	-1.3
TBP	**Tagbilaran**	**0.94**	**145**	*e*P	Pb	11 33 23.4	+0.3
TBP				*e*S	Sb	11 33 35.1	-0.9
MSLP	**Maasin**	**1.55**	**102**	*e*P	Pb	11 33 33.3	-0.2
MSLP				*e*S	Sg	11 33 56.5	+2.6

*BJI **18** 11:44:07.9, 3°.31N×126°.78E, h36km, mB5.1/31, mb5.0/53, Ms4.8/50, Ms7 4.6/49*
*ISCJB **18** 11:44:11.9±0.2, 3°.90N±0°.02×126°.74E±0°.03, h33km, mb5.1/123, MS4.6/45, Error ellipse: s-maj=4.8km s-min=2.8km az=163.6*
*MOS **18** 11:44:12.3±1.1, 3°.87N×126°.56E, h33km, mb5.3/38, MS4.6/10, Error ellipse: s-maj=11.7km s-min=5.5km az=115.0*
*IDC **18** 11:44:13.4±2.6, 3°.78N×126°.64E, h30km±17km, mb4.7/27, mb1 4.7/27, mb1mx4.7/29, mbtmpb4.6/27, MS4.5/20, Ms1 4.5/20, ms1mx4.3/30, Error ellipse: s-maj=17.9km s-min=8.8km az=78.0*
*TEH **18** 11:44:14.0, 3°.90N×126°.77E, h35km, ML5.1*
*NEIC **18** 11:44:14.0±0.1, 3°.84N×126°.64E, h35km, mb5.2/57, Error ellipse: s-maj=6.0km s-min=3.5km az=75.0*
*DJA **18** 11:44:19, 3°.81N×126°.90E, h70km, Mw4.9/42*

ISC 18 11:44:13.7±0.3, 3°.82N±0°.03×126°.65E±0°.05, h34km, h34km:pP-P, n448, σ1§43/530, mb5.2/121, MS4.6/46, 38C-42D, Talaud Islands

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

AAI	**Ambon**	**7.62**	**168**	P		Pn	11 46 07.0	+4.6	
	210nm,0.7s,4µm0.7nm								
MYLDM	**Lahad Datu**	**8.24**	**280**	P		Pn	11 46 17.8	+6.8	
MYLDM	**Lahad Datu**	**8.24**	**280**	P		Pn	11 46 17.8	+6.8	
	372nm,1.0s,4µm21µm								
KDI	**Kendari**	**8.71**	**208**	P		**Pn**	**11 46 20.0**	**+2.5**	
	148nm,0.8s,2µm								
FAKI	**Fak Fak**	**8.72**	**140**	P		**Pn**	**11 46 18.3**	**+0.6**	
	170nm,0.9s,2µm8µm								
TSM	**Tawau**	**8.77**	**273**	P		Pn	11 46 21.9	+3.6	
SDKM	**Sandakan**	**9.60**	**281**	P		Pn	11 46 35.3	+5.6	
TTSI	**Tana Toraja**	**9.65**	**225**	P		Pn	11 46 36.2	+5.8	
	284nm,1.2s,3µm								
KDM	**Kudat**	**10.25**	**288**	P		Pn	11 46 47.5	+9.0	
SPSI	**Sidrap Palu**	**10.35**	**222**	P		Pn	11 46 45.3	+5.4	
	117nm,1.3s,2µm								
KKM	**Kota Kinabalu**	**10.63**	**282**	*e*Pn		Pn	11 46 51.0	+7.1	
KKM				*e*Sn		**Sn**	**11 48 38.2**	**-3.7**	
KKM	**Kota Kinabalu**	**10.63**	**282**	P		Pn	11 46 51.1	+7.2	
KKM	**Kota Kinabalu**	**10.63**	**282**	P		Pn	11 46 51.3	+7.4	
	88nm,1.6s,2µm								
KAPI	**Kappang**	**11.16**	**218**	*e*Pn		**Pn**	**11 46 53.6**	**+2.6**	
	52nm,0.8s								
KAPI	**Kappang**	**11.16**	**218**	P		Pn	11 46 55.4	+4.4	
	SNR=12								
KAPI	**Kappang**	**11.16**	**218**	P		Pn	11 46 54.8	+3.8	
	67nm,1.7s,1µm								
KAPI	**Kappang**	**11.16**	**218**	Pn		**Pn**	**11 46 54.2**	**+3.1**	
	4.4nm,0.3s,baz=80,slow=6.3,SNR=15								
KAPI				LR		LR	11 52 02.7		
	comp=Z,3µm,18.4s,baz=55,slow=42								
BKSI	**Bulukumba**	**11.18**	**216**	P		Pn	11 46 55.3	+4.0	
	69nm,0.8s,780nm								
TLE	**Tual**	**11.19**	**147**	P		Pn	11 46 55.9	+4.4	
KBKI	**Kotabaru**	**12.64**	**236**	P		P	11 47 17.4	-4.9	
	137nm,1.4s,2µm								
MMRI	**Maumere**	**13.13**	**200**	P		P	11 47 23.5	-4.2	
	297nm,0.9s,3µm								
BTM	**Bintulu**	**13.56**	**268**	P		**P**	**11 47 33.9**	**+1.5**	
BBKI	**Banjar Baru**	**13.84**	**239**	P		**P**	**11 47 33.6**	**-2.0**	
	195nm,1.6s,5µm45µm								
SBUM	**Sibu**	**14.47**	**265**	P		**P**	**11 47 42.5**	**-0.1**	
SBUM	**Sibu**	**14.47**	**265**	P		**P**	**11 47 42.2**	**-0.4**	
	152nm,1.1s,2µm								
JAY	**Jayapura**	**15.39**	**114**	P		**Pn**	**11 47 48.7**	**+0.1**	
	148nm,0.8s								
STKI	**Sintang**	**15.62**	**257**	P		**P**	**11 47 57.0**	**+1.6**	
	111nm,1.3s								
PBKI	**Pangkalan Bun**	**16.32**	**247**	P		**P**	**11 48 05.2**	**+2.1**	
	310nm,0.9s,3µm								
KHKI	**Kahang-Kahang**	**16.37**	**222**	P		**P**	**11 48 04.3**	**+0.6**	
	173nm,0.9s,2µm								
KSM	**Kuching**	**16.49**	**262**	*e*P		**P**	**11 48 08.6**	**+3.6**	
	90nm,0.8s								
KSM	**Kuching**	**16.49**	**262**	P		**P**	**11 48 07.6**	**+2.5**	
KSM	**Kuching**	**16.49**	**262**	P		**P**	**11 48 08.4**	**+3.3**	
	133nm,0.8s,1µm								
KMMI	**Kalianget**	**16.64**	**230**	P		**P**	**11 48 07.9**	**+1.2**	
MTN	**Manton Dam**	**17.14**	**165**	*e*P		**Pn**	**11 48 08.0**	**-2.9**	
TWG	**Pinlang**	**19.64**	**345**	*e*P		**P**	**11 48 39.3**	**-0.5**	
	166nm,0.6s								
YULB	**Yu-li**	**20.13**	**346**	*e*P		**P**	**11 48 44.4**	**-0.6**	
	27nm,0.6s								
TPUB	**Ta-pu**	**20.22**	**344**	*e*P		**P**	**11 48 46.0**	**0.0**	
	137nm,0.8s								
TPUB				*e*PcP		**PcP**	**11 53 01.5**	**+1.9**	
GUMO	**Guam**	**20.44**	**61**	LR		LR	11 55 50.1		
	comp=Z,556nm,19.6s,baz=234,slow=34								
SSLB	**Suanglung**	**20.60**	**345**	*e*P		**P**	**11 48 49.8**	**-0.4**	
	72nm,0.8s								
YHNB	**Yeheng**	**21.34**	**347**	*e*P		**P**	**11 48 57.6**	**-0.6**	
	64nm,0.8s								
FITZ	**Fitzroy Crossi**	**21.81**	**183**	*e*P		**P**	**11 49 02.1**	**-1.0**	
	59nm,0.7s								
FITZ	**Fitzroy Crossi**	**21.81**	**183**	*e*P		**P**	**11 49 02.0**	**-1.1**	
	128nm,0.7s								
FITZ				*e*S		**S**	**11 52 59.4**	**-3.2**	
FITZ	**Fitzroy Crossi**	**21.81**	**183**	P		**P**	**11 49 02.2**	**-1.0**	
	46nm,0.5s,baz=21,slow=8.3,SNR=108								
QIZ	**Qiongzhong**	**22.32**	**314**	P		**P**	**11 49 08.5**	**-0.2**	
QIZ				sP		**sP**	**11 49 22.1**	**+0.1**	
QIZ				S		**S**	**11 53 13.5**	**+1.2**	
QIZ				sS		Sn	11 53 25.4	-0.1	
QIZ				pmax		pmax			
	comp=Z,22nm,1.6s								
QIZ				LR		LR			
	comp=N,1µm,18.3s								
QIZ				LR		LR			
	comp=Z,1µm,21.0s								
QZH	**Quanzhou**	**22.39**	**340**	P		P	11 49 25.3	+16	
QZH				S		Sn	11 53 25.0	-1.9	
QZH				pmax		pmax			
	comp=Z,130nm,0.9s								
QZH				LR		LR			
	comp=Z,4µm,21.7s								
MYKOM	**Kota Tinggi**	**22.86**	**266**	P		**P**	**11 49 16.9**	**+2.3**	
JOW	**Kunigami**	**22.93**	**4**	P		**P**	**11 49 15.5**	**+0.4**	
	comp=Z,3.7nm,0.9s								
JOW	**Kunigami**	**22.93**	**4**	P		**P**	**11 49 15.5**	**+0.4**	
	comp=Z,30nm,0.7s,baz=185,slow=7.0,SNR=6.9								
KTGM	**Kuala Trenggan**	**23.49**	**275**	P		P	11 49 28.3	+7.5	
COEN	**Coen**	**24.10**	**137**	*e*P		**P**	**11 49 24.8**	**-1.7**	
	comp=Z,160nm,0.9s								
WRAB	**Tennant Creek**	**24.79**	**163**	*e*P		**P**	**11 49 31.6**	**-1.2**	
WRAB				pmax		pmax			
	comp=Z,261nm,0.7s								
WRAB	**Tennant Creek**	**24.79**	**163**	*e*P		**P**	**11 49 31.6**	**-1.2**	
	comp=Z,261nm,0.7s								
WRAB	**Tennant Creek**	**24.79**	**163**	P		**P**	**11 49 31.0**	**-1.8**	
	comp=Z,2µm,0.6s								
WRA	**Warramunga Arr**	**24.79**	**163**	P		**P**	**11 49 31.6**	**-1.2**	
WRA				S		**S**	**11 53 51.2**	**-2.1**	
WRA	**Warramunga Arr**	**24.79**	**163**	P		**P**	**11 49 31.6**	**-1.2**	
	comp=Z,266nm,0.7s,baz=344,slow=11,SNR=166								
WRA				S		**S**	**11 53 51.2**	**-2.1**	
	comp=Z,4.0nm,1.0s,baz=344,slow=17,SNR=5.2								
FRIM	**Kepong**	**24.99**	**269**	P		**P**	**11 49 36.6**	**+1.9**	
IPM	**Ipoh**	**25.57**	**272**	*e*P		**P**	**11 49 40.0**	**+0.1**	
	comp=Z,89nm,1.1s								
IPM				*e*PcP		**PcP**	**11 53 12.1**	**+1.3**	
IPM	**Ipoh**	**25.57**	**272**	P		**P**	**11 49 41.4**	**+1.5**	
MBWA	**Marble Bar**	**25.74**	**195**	*e*P		**P**	**11 49 42.0**	**+0.7**	
	comp=Z,88nm,1.0s								
KULM	**Kulim**	**25.96**	**274**	*e*P		**P**	**11 49 43.5**	**0.0**	
	comp=Z,125nm,1.4s								
KULM	**Kulim**	**25.96**	**274**	P		**P**	**11 49 44.3**	**+0.8**	
CBIJ	**Chichi jima**	**27.50**	**31**	LR		LR	11 59 57.4		
	comp=Z,1µm,19.5s,baz=252,slow=34								
SSE	**Sheshan**	**27.61**	**350**	P		**P**	**11 49 57.9**	**-0.2**	
SSE				S		**S**	**11 54 39.0**	**+1.3**	
SSE				sS		**sS**	**11 54 58.1**	**+4.4**	
SSE				pmax		pmax			
	comp=Z,33nm,1.0s								
SSE				pmax		pmax			
	comp=Z,150nm,6.3s								
SSE				LR		LR			
	comp=N,880nm,20.2s								
SSE				LR		LR			
	comp=E,440nm,20.2s								
SSE				LR		LR			
	comp=Z,1µm,19.7s								
PSI	**Prapat**	**27.70**	**269**	P		**P**	**11 49 58.1**	**-1.2**	
PSI	**Prapat**	**27.70**	**269**	P		**P**	**11 49 58.1**	**-1.2**	
	comp=Z,20nm,1.0s,baz=51,slow=3.2,SNR=7.8								
AS31	**Alice Springs**	**28.22**	**166**	*e*P		**P**	**11 50 03.1**	**-0.6**	
ASAR	**Alice Springs**	**28.22**	**166**	P		**P**	**11 50 03.0**	**-0.8**	
ASAR				PcP		**PcP**	**11 53 16.8**	**-0.2**	
ASAR				S		**S**	**11 54 46.9**	**-0.6**	
ASAR	**Alice Springs**	**28.22**	**166**	P		**P**	**11 50 03.0**	**-0.8**	
	comp=Z,12nm,0.6s,baz=344,slow=6.5,SNR=118								
ASAR				PcP		**PcP**	**11 53 16.8**	**-0.2**	
	comp=Z,6.5nm,0.8s,baz=289,slow=2.4,SNR=4.7								
ASAR				S		**S**	**11 54 46.9**	**-0.6**	
	comp=Z,2.7nm,0.9s,baz=352,slow=19,SNR=3.2								
WHN	**Wuhan**	**29.01**	**338**	P		**P**	**11 50 10.3**	**-0.3**	
WHN				S		**S**	**11 55 02.3**	**+2.6**	
WHN				LR		LR			
	comp=N,1µm,13.0s								
WHN				LR		LR			
	comp=E,5µm,23.2s								
WHN				LR		LR			
	comp=Z,5µm,22.8s								
JNU	**Nakatsue**	**29.42**	**7**	*e*P		**P**	**11 50 13.3**	**-0.9**	
	comp=Z,10nm,0.9s								
JNU	**Nakatsue**	**29.42**	**7**	P		**P**	**11 50 13.4**	**-0.9**	
	comp=Z,9.0nm,0.7s,baz=273,slow=4.8,SNR=5.1								
JNU				LR		LR	12 00 53.3		
	comp=Z,763nm,21.2s,baz=306,slow=34								
GYA	**Guiyang**	**29.55**	**322**	P		**P**	**11 50 17.8**	**+2.2**	
GYA				pP		**pP**	**11 50 27.9**	**+2.6**	
GYA				PP		**PnPn**	**11 51 15.0**	**+4.1**	
GYA				S		**S**	**11 55 09.8**	**+1.3**	
GYA				ScS		**ScS**	**12 00 53.4**	**-1.5**	
GYA				pmax		pmax			
	comp=Z,20nm,0.8s								
GYA				pmax		pmax			
	comp=Z,130nm,4.9s								
GYA				LR		LR			
	comp=N,760nm,16.5s								
GYA				LR		LR			
	comp=E,580nm,17.0s								
GYA				LR		LR			
	comp=Z,640nm,16.7s								
CTA	**Charters Tower**	**30.58**	**142**	*e*P		**P**	**11 50 24.9**	**+0.2**	
	comp=Z,6.8nm,0.7s								
CTAO	**Charters Tower**	**30.58**	**142**	*e*P		**P**	**11 50 24.7**	**0.0**	
CTAO				pmax		pmax			
	comp=Z,8.0nm,0.7s								
CTAO	**Charters Tower**	**30.58**	**142**	*e*P		**P**	**11 50 24.7**	**0.0**	
	comp=Z,8.1nm,0.7s								
CM31	**Chiang Mai Arr**	**30.76**	**300**	*e*P		**P**	**11 50 27.1**	**+0.8**	
	comp=Z,13nm,0.8s								
CMAR	**Chiang Mai Arr**	**30.76**	**300**	P		**P**	**11 50 27.0**	**+0.7**	
CMAR				ScP		**ScP**	**11 57 06.5**	**+2.7**	
CMAR	**Chiang Mai Arr**	**30.76**	**300**	P		**P**	**11 50 27.0**	**+0.7**	
	comp=Z,8.0nm,0.9s,baz=122,slow=7.6,SNR=59								
CMAR				ScP		**ScP**	**11 57 06.5**	**+2.7**	
	comp=Z,1.6nm,0.8s,baz=141,slow=1.9,SNR=8.0								
CMAR				LR		LR	12 05 01.5		
	comp=Z,871nm,18.7s,baz=115,slow=41								
CHTO	**Chiang Mai**	**30.91**	**301**	*e*P		**P**	**11 50 27.7**	**+0.1**	
CHTO				pmax		pmax			
	comp=Z,21nm,0.9s								
CHTO	**Chiang Mai**	**30.91**	**301**	*e*P		**P**	**11 50 27.7**	**+0.1**	
	comp=Z,21nm,0.9s								
CHTO	**Chiang Mai**	**30.91**	**301**	P		**P**	**11 50 27.6**	**+0.1**	
	SNR=15								
ENH	**Enshi**	**30.91**	**330**	*e*P		**P**	**11 50 26.6**	**-0.9**	
	comp=Z,48nm,0.9s								
KMI	**Kunming**	**31.26**	**315**	P		**P**	**11 50 32.4**	**+1.5**	
KMI				pP		**pP**	**11 50 44.5**	**+3.9**	
KMI				sP		**sP**	**11 50 47.8**	**+3.1**	
KMI				PP		**PP**	**11 51 37.9**	**-3.9**	
KMI				S		**S**	**11 55 34.8**	**-0.8**	
KMI				sS		**sS**	**11 55 53.3**	**+1.6**	
KMI				SS		**SnSn**	**11 57 25.8**	**+5.8**	
KMI				pmax		pmax			
	comp=Z,15nm,1.2s								
KMI				pmax		pmax			
	comp=Z,92nm,3.1s								
KMI				LR		LR			
	comp=N,350nm,19.9s								
KMI				LR		LR			
	comp=E,650nm,19.9s								
KMI				LR		LR			
	comp=Z,980nm,20.8s								
KSAR	**Wonju Array Be**	**33.48**	**2**	P		**P**	**11 50 50.5**	**+0.6**	
KSAR				PcP		**PcP**	**11 53 31.8**	**+1.3**	
KSRS	**Korea Array**	**33.49**	**2**	P		**P**	**11 50 50.5**	**+0.5**	
	comp=Z,4.3nm,0.8s,baz=178,slow=10,SNR=17								
KSRS				PcP		**PcP**	**11 53 31.8**	**+1.3**	
	comp=Z,4.2nm,0.7s,baz=178,slow=2.6,SNR=9.7								
KSRS				LR		LR	12 04 45.1		
	comp=Z,564nm,20.3s,baz=193,slow=37								
MJAR	**Matsushiro Arr**	**34.26**	**17**	P		**P**	**11 50 57.1**	**+0.4**	
MJAR				PcP		**PcP**	**11 53 34.2**	**+1.4**	
MJAR	**Matsushiro Arr**	**34.26**	**17**	P		**P**	**11 50 57.1**	**+0.4**	
	comp=Z,2.1nm,0.7s,baz=242,slow=18,SNR=8.6								
MJAR				PcP		**PcP**	**11 53 34.2**	**+1.4**	
	comp=Z,2.5nm,0.7s,baz=186,slow=3.6,SNR=5.0								
MJAR				LR		LR	12 03 56.7		
	comp=Z,634nm,20.0s,baz=200,slow=34								
MAT	**Matsushiro**	**34.26**	**17**	P		**P**	**11 50 56.3**	**-0.4**	
MAT				S		**S**	**11 56 24.0**	**+2.4**	
XAN	**Xi'an**	**34.30**	**333**	P		**P**	**11 50 55.4**	**-1.7**	
XAN				pP		**pP**	**11 51 03.8**	**-3.1**	
XAN				S		**S**	**11 56 16.8**	**-5.5**	
XAN				pmax		pmax			
	comp=Z,17nm,0.9s								
XAN				LR		LR			
	comp=N,570nm,19.6s								
XAN				LR		LR			
	comp=E,310nm,18.3s								
XAN				LR		LR			
	comp=Z,330nm,19.6s								
FORT	**Forrest**	**34.43**	**178**	*e*P		**P**	**11 50 58.1**	**-0.1**	
	comp=Z,81nm,0.6s								
FORT	**Forrest**	**34.43**	**178**	*e*P		**P**	**11 50 58.3**	**+0.1**	
	comp=Z,72nm,0.5s								
CD2	**Chengdu**	**34.52**	**324**	P		**P**	**11 50 59.0**	**-0.1**	
CD2				pP		**pP**	**11 51 08.8**	**-0.1**	
CD2				sP		**sP**	**11 51 12.6**	**-0.4**	
CD2				PP		**PnPn**	**11 52 16.0**	**+1.0**	
CD2				PcP		**PcP**	**11 53 33.3**	**-0.4**	
CD2				S		**S**	**11 56 25.3**	**-0.6**	
CD2				sS		**sS**	**11 56 41.3**	**-0.7**	
CD2				pmax		pmax			
	comp=Z,30nm,0.9s								
CD2				pmax		pmax			
	comp=Z,140nm,4.3s								
CD2				LR		LR			
	comp=N,1µm,20.1s								
CD2				LR		LR			
	comp=E,1µm,21.1s								
CD2				LR		LR			
	comp=Z,1µm,18.6s								
DL2	**Dalian**	**35.22**	**353**	P		**P**	**11 51 05.8**	**+0.9**	
DL2				S		**S**	**11 56 36.9**	**+0.7**	
DL2				pmax		pmax			
	comp=Z,40nm,0.8s								
DL2				LR		LR			
	comp=E,440nm,21.7s								
DL2				LR		LR			
	comp=Z,400nm,17.7s								
KLBR	**Kellerberrin**	**36.22**	**193**	*e*P		**P**	**11 51 14.1**	**+0.5**	
	comp=Z,22nm,0.5s								
BJT	**Baijiatuan**	**37.26**	**347**	*e*P		**P**	**11 51 22.4**	**0.0**	
	comp=Z,48nm,0.6s								
BJI	**Beijing**	**37.28**	**347**	P		**P**	**11 51 22.6**	**+0.1**	
BJI				S		**S**	**11 57 08.6**	**+0.9**	
BJI				pmax		pmax			
	comp=Z,64nm,0.7s								
BJI				pmax		pmax			
	comp=Z,170nm,3.6s								
BJI				LR		LR			
	comp=N,280nm,21.6s								
BJI				LR		LR			
	comp=E,550nm,23.6s								
BJI				LR		LR			
	comp=Z,510nm,25.5s								
EIDS	**Eidsvold**	**37.47**	**142**	*e*P		**P**	**11 51 23.6**	**-0.7**	
	comp=Z,15nm,0.8s								
BBOO	**Buckleboo**	**37.51**	**167**	*e*P		**P**	**11 51 24.2**	**-0.3**	
	comp=Z,763nm,0.8s								
BBOO				*e*PP		**PP**	**11 52 46.8**	**-3.8**	
NWAO	**Narrogin (SRO)**	**37.62**	**193**	*e*P		**P**	**11 51 26.0**	**+0.5**	
	comp=Z,25nm,0.8s								
NWAO	**Narrogin (SRO)**	**37.62**	**193**	P		**P**	**11 51 26.5**	**+1.0**	
	comp=Z,21nm,0.5s,baz=31,slow=9.6,SNR=23								
STKA	**Stephens Creek**	**38.24**	**159**	*e*P		**P**	**11 51 30.5**	**-0.3**	
	comp=Z,32nm,0.7s								
STKA				PcP		**PcP**	**11 53 44.3**	**-0.4**	
STKA				*e*PcP		**PcP**	**11 53 45.0**	**+0.2**	
STKA				*e*S		**S**	**11 57 24.1**	**+1.5**	
STKA	**Stephens Creek**	**38.24**	**159**	*e*P		**P**	**11 51 30.4**	**-0.3**	
	comp=Z,139nm,0.6s								
STKA	**Stephens Creek**	**38.24**	**159**	P		**P**	**11 51 30.4**	**-0.3**	
	comp=Z,162nm,0.7s,baz=334,slow=8.2,SNR=400								
STKA				PcP		**PcP**	**11 53 44.3**	**-0.4**	
	comp=Z,16nm,0.7s,baz=320,slow=8.5,SNR=2.8								
LZH	**Lanzhou**	**38.38**	**330**	↑P		**P**	**11 51 32.0**	**-0.2**	
LZH				pP		**pP**	**11 51 42.5**	**+0.5**	
LZH				sP		**sP**	**11 51 46.4**	**+0.3**	
LZH				PP		**PnPn**	**11 53 04.1**	**+1.8**	
LZH				*e*S		**S**	**11 57 25.1**	**+0.1**	
LZH				sS		**sS**	**11 57 41.3**	**+0.1**	
LZH				pmax		pmax			
	comp=Z,67nm,1.3s								
LZH				pmax		pmax			
	comp=Z,200nm,5.0s								
LZH				LR		LR			
	comp=N,770nm,13.5s								
LZH				LR		LR			
	comp=E,1µm,14.0s								
LZH				LR		LR			
	comp=Z,2µm,17.5s								
HHC	**Hu-ho-hao-te**	**39.29**	**342**	*e*P		**P**	**11 51 39.3**	**-0.3**	
HHC				pP		**pP**	**11 51 49.0**	**-0.5**	
HHC				sP		**sP**	**11 51 53.0**	**-0.5**	
HHC				PP		**PnPn**	**11 53 14.8**	**+1.8**	
HHC				S		**S**	**11 57 38.8**	**+0.5**	
HHC				sS		**sS**	**11 57 54.3**	**-0.3**	
HHC				pmax		pmax			
	comp=Z,2µm,5.7s								
HHC				LR		LR			
	comp=Z,4µm,15.7s								
CN2	**Changchun**	**39.83**	**359**	*e*P		**P**	**11 51 45.3**	**+1.4**	
CN2				*e*pP		**pP**	**11 51 55.5**	**+1.7**	
CN2				*e*S		**S**	**11 57 47.6**	**+1.5**	
CN2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CN2				LR		LR			
	comp=N,300nm,20.0s								
CN2				LR		LR			
	comp=E,500nm,20.0s								
CN2				LR		LR			
	comp=Z,500nm,20.0s								
USRK	**Ussuriysk Arra**	**40.49**	**6**	P		**P**	**11 51 49.8**	**+0.4**	
	comp=Z,3.6nm,0.6s,baz=189,slow=7.1,SNR=9.8								
MDJ	**Mudanjiang**	**40.71**	**3**	P		**P**	**11 51 51.5**	**+0.3**	
MDJ				pP		**pP**	**11 52 00.3**	**-0.8**	
MDJ				sP		**sP**	**11 52 04.3**	**-0.8**	
MDJ				ScP		**ScP**	**11 57 39.8**	**+0.3**	
MDJ				PcS		**PcS**	**11 57 43.4**	**+0.4**	
MDJ				S		**S**	**11 58 00.3**	**+1.0**	
MDJ				sS		**sS**	**11 58 15.4**	**-0.2**	
MDJ				pmax		pmax			
	comp=Z,16nm,1.4s								
MDJ				pmax		pmax			
	comp=Z,55nm,4.1s								
MDJ				LR		LR			
	comp=N,450nm,25.5s								
MDJ				LR		LR			
	comp=E,230nm,26.8s								
MDJ				LR		LR			
	comp=Z,490nm,22.6s								
MDJ	**Mudanjiang**	**40.71**	**3**	*e*P		**P**	**11 51 51.9**	**+0.7**	
	comp=Z,64nm,1.0s								
ARMA	**Armidale**	**41.59**	**147**	*e*P		**P**	**11 51 59.0**	**+0.3**	
	comp=Z,28nm,0.8s								
ARMA	**Armidale**	**41.59**	**147**	*e*P		**P**	**11 51 58.8**	**+0.1**	
LSA	**Lhasa**	**42.32**	**311**	*e*P		**P**	**11 52 05.9**	**+0.7**	
LSA				pmax		pmax			
	comp=Z,33nm,0.6s								
LSA	**Lhasa**	**42.32**	**311**	*e*P		**P**	**11 52 05.9**	**+0.7**	
	comp=Z,33nm,0.6s								
ASAJ	**Asahikawa**	**42.53**	**17**	LR		LR	12 09 10.7		
	comp=Z,854nm,20.8s,baz=183,slow=35								
GTA	**Gaotai**	**42.98**	**329**	P		**P**	**11 52 09.8**	**-0.2**	
GTA				pP		**pP**	**11 52 19.6**	**-0.4**	
GTA				sP		**sP**	**11 52 23.6**	**-0.4**	
GTA				PcP		**PcP**	**11 54 02.3**	**+2.2**	
GTA				S		**S**	**11 58 32.3**	**-1.0**	
GTA				sS		**sS**	**11 58 49.1**	**-0.6**	
GTA				SS		SS	12 01 38.3	-7.7	
GTA				pmax		pmax			
	comp=Z,11nm,1.2s								
GTA				pmax		pmax			
	comp=Z,150nm,4.0s								
GTA				LR		LR			
	comp=N,1µm,19.5s								
GTA				LR		LR			
	comp=E,770nm,18.5s								
GTA				LR		LR			
	comp=Z,1µm,20.9s								
TAPN	**Taplejung**	**43.90**	**306**	*e*P		**P**	**11 52 17.3**	**-0.5**	
	comp=Z,43nm,0.7s								
ODAN	**Odare**	**43.95**	**305**	*e*P		**P**	**11 52 17.6**	**-0.6**	
	comp=Z,59nm,0.7s								
CNB	**Canberra Magne**	**44.39**	**153**	*e*P		**P**	**11 52 22.7**	**+1.4**	
	comp=Z,90nm,0.8s								
RAMN	**Ramite**	**44.63**	**305**	*e*P		**P**	**11 52 23.4**	**-0.2**	
	comp=Z,42nm,0.6s								
TOO	**Toolangi**	**44.75**	**159**	*e*P		**P**	**11 52 25.8**	**+1.7**	
	comp=Z,68nm,0.6s								
HABR	**Khabarovsk**	**45.06**	**8**	P		**P**	**11 52 24.9**	**-1.5**	
HABR				*e**PP		**pP**	**11 52 34.1**	**-2.3**	
HABR				*e*			11 54 04.8		
HABR				*e*S		**S**	**11 59 02.3**	**-0.8**	
HABR				*e**SS		**sS**	**11 59 19.1**	**-0.5**	
HABR				*e*			12 02 18.9		
HABR				*e*SSS		SSS	12 03 12.7		
HABR				MLR		MLR			
	comp=Z,436nm,16.0s								
YSS	**Yuzh-Sakhalins**	**45.17**	**16**↑	*e*P		**P**	**11 52 28.0**	**+0.7**	
YSS				MLR		MLR			
	comp=Z,400nm,18.0s								
YSS	**Yuzh-Sakhalins**	**45.17**	**16**	*e*P		**P**	**11 52 27.6**	**+0.3**	
	comp=Z,12nm,0.6s								
JIRN	**Jiri**	**45.26**	**306**	*e*P		**P**	**11 52 28.2**	**-0.5**	
	comp=Z,24nm,0.9s								
KLR	**Kul'dur**	**45.45**	**5**	*e*P		P	11 52 25.6	-3.9	
KLR				*e*			11 52 32.9		
KLR				pmax		pmax			
	comp=Z,100nm,1.8s								
GUN	**Gumba**	**45.61**	**306**	*e*P		**P**	**11 52 30.9**	**-0.6**	
	comp=Z,82nm,0.8s								
PKI	**Pulchoki**	**45.85**	**305**	*e*P		**P**	**11 52 32.5**	**-0.9**	
	comp=Z,11nm,0.4s								
KKN	**Kakani**	**46.05**	**306**	*e*P		**P**	**11 52 34.2**	**-0.6**	
DMN	**Daman**	**46.11**	**305**	*e*P		**P**	**11 52 34.7**	**-0.7**	
	comp=Z,34nm,0.8s								
GKN	**Gorkha**	**46.65**	**306**	*e*P		**P**	**11 52 38.6**	**-0.9**	
ULN	**Ulaanbaatar**	**47.01**	**342**	*e*P		**P**	**11 52 41.9**	**0.0**	
	comp=Z,27nm,0.9s								
ULN	**Ulaanbaatar**	**47.01**	**342**	P		**P**	**11 52 42.5**	**+0.5**	
	SNR=16								
SONM	**Songino Array**	**47.19**	**341**	P		**P**	**11 52 43.2**	**-0.1**	
S

WMQ LR LR
comp=N,2µm,19.0s
WMQ LR LR
comp=E,870nm,21.2s
WMQ LR LR
comp=Z,1µm,22.6s
AYAN Aya Nagar 53.02 303 *e*PKP **P** **11 53 27.1 -0.6**
AYAN AMb AMB 11 53 28.2
comp=Z,25nm,1.1s
POO Poona 53.61 290 *j i*P **P** **11 53 32.0 -0.3**
KKR Kurukshetra 53.74 305 *e*PKP **P** **11 53 32.1 -0.9**
KKR AMb AMB 11 53 39.8
comp=Z,152nm,0.7s
KHET Khetri 54.01 302 *e*PKP **P** **11 53 34.3 -0.7**
KHET AMb AMB 11 53 35.4
comp=Z,44nm,1.3s
BOD Bodaibo 54.76 352 *e*P **P** **11 53 39.6 -0.3**
BOD pmax pmax
comp=Z,22nm,1.8s
PETK Petropavlovsk- 55.38 22 P **P** **11 53 44.0 -0.4**
PETK Petropavlovsk- 55.38 22 P **P** **11 53 44.0 -0.4**
PETK Petropavlovsk- 55.38 22 P **P** **11 53 44.0 -0.4**
comp=Z,11nm,0.8s,baz=192,slow=4.3,SNR=12
PETK LR LR 12 18 06.3
comp=Z,225nm,18.7s,baz=215,slow=37
MK31 Makanchi Array 57.44 325 *e*P **P** **11 53 58.5 -0.8**
MK31 Makanchi Array 57.44 325 *e*P **P** **11 53 58.5 -0.8**
MKAR Makanchi Array 57.44 325 P **P** **11 53 58.6 -0.7**
MKAR Makanchi Array 57.44 325 P **P** **11 53 58.6 -0.7**
MKAR ScP **ScP** **11 58 56.3 +5.9**
MKAR Makanchi Array 57.44 325 P **P** **11 53 58.6 -0.7**
comp=Z,12nm,0.5s,baz=121,slow=8.5,SNR=118
MKAR ScP **ScP** **11 58 56.3 +5.9**
comp=Z,2.6nm,0.8s,baz=122,slow=4.8,SNR=5.4
MKAR LR LR 12 20 54.4
comp=Z,694nm,18.4s,baz=118,slow=38
KSH Kashi 57.92 315 P **P** **11 54 03.9 +0.9**
KSH pP **pP** **11 54 13.8 +0.5**
KSH sP **sP** **11 54 18.0 +0.8**
KSH PcP **PcP** **11 54 54.8 -0.2**
KSH PP **PP** **11 56 15.1 +3.5**
KSH ScP **ScP** **11 58 50.5 -2.4**
KSH PcS **PcS** **11 58 54.8 -1.7**
KSH S **S** **12 02 01.4 +0.4**
KSH sS **sS** **12 02 18.3 +0.4**
KSH ScS **ScS** **12 03 46.3 -4.1**
KSH SS **SS** **12 05 54.8 +2.4**
KSH pmax pmax
comp=Z,17nm,1.2s
KSH pmax pmax
comp=Z,72nm,4.7s
KSH LR LR
comp=N,400nm,15.3s
KSH LR LR
comp=E,190nm,6.1s
KSH LR LR
comp=Z,390nm,19.6s
YAK Yakutsk 58.12 2 *e*P **P** **11 54 03.1 -0.6**
YAK *e* 11 54 53.2
YAK *e* 11 56 14.1
YAK *e*PPP PPP 11 57 33.5
YAK *e*S **S** **12 01 57.8 -4.7**
YAK *e* 12 03 48.0
YAK *e*SS **SS** **12 05 58.3 +4.0**
YAK pmax pmax
comp=Z,40nm,1.0s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=Z,135nm,4.2s
YAK pmax pmax
comp=N,234nm,5.3s
YAK smax smax
comp=N,260nm,8.1s
YAK smax smax
comp=E,134nm,4.8s
YAK smax smax
comp=N,3.0nm,0.8s
YAK smax smax
comp=E,2.0nm,0.8s
YAK smax smax
comp=N,12nm,0.9s
YAK smax smax
comp=E,21nm,0.7s
YAK Yakutsk 58.12 2 *e*P **P** **11 54 03.2 -0.5**
comp=E,70nm,0.8s
ULHL Ulahol 58.90 318 P **P** **11 54 11.5 +1.7**
SNR=8.5
KZA Kyzart 59.49 318 P **P** **11 54 14.3 0.0**
SNR=20
TKM2 Tokmak 2 59.63 319 *e*P **P** **11 54 14.8 -0.1**
TKM2 pmax pmax
comp=Z,21nm,1.1s
TKM2 Tokmak 2 59.63 319 *e*P **P** **11 54 14.8 -0.1**
comp=Z,21nm,1.1s
KBK Karagaybulak 59.94 318 P **P** **11 54 16.8 -0.3**
SNR=7.3
AAK Ala-Archa 60.24 318 *e*P **P** **11 54 19.8 +0.8**
AAK pmax pmax
comp=Z,115nm,1.4s
AAK Ala-Archa 60.24 318 *e*P **P** **11 54 19.8 +0.8**
comp=Z,115nm,1.4s
AAK Ala-Archa 60.24 318 P **P** **11 54 20.5 +1.5**
comp=Z,59nm,0.7s,SNR=7.5
AAK Ala-Archa 60.24 318 P **P** **11 54 20.4 +1.3**
SNR=8.0
AAK Ala-Archa 60.24 318 P **P** **11 54 19.4 +0.3**
SNR=9.2
ZALV Zalesovo Beam 60.47 333 P **P** **11 54 18.9 -1.3**
ZALV Zalesovo Beam 60.47 333 P **P** **11 54 18.9 -1.3**
ZALV Zalesovo Beam 60.47 333 P **P** **11 54 18.9 -1.3**
comp=Z,9.0nm,0.6s,baz=133,slow=6.4,SNR=12
ZALV LR LR 12 24 41.2
comp=Z,312nm,18.4s,baz=288,slow=40
AML Almayashu 60.57 317 P **P** **11 54 22.9 +1.4**
SNR=23
EKS2 Erkin-Say 60.73 318 *e*P **P** **11 54 22.5 +0.2**
EKS2 *e* 11 55 06.6
EKS2 pmax pmax
comp=Z,17nm,0.8s
EKS2 Erkin-Say 60.73 318 *e*P **P** **11 54 22.5 +0.2**
comp=Z,17nm,0.8s
EKS2 *e*PcP **PcP** **11 55 06.6 +0.4**
EKS2 Erkin-Say 60.73 318 P **P** **11 54 22.2 -0.2**
SNR=18
KBL Kabul 61.41 307 *e*P **P** **11 54 26.3 -0.9**
KBL pmax pmax
comp=Z,15nm,0.8s
KBL Kabul 61.41 307 *e*P **P** **11 54 26.3 -0.9**
comp=Z,15nm,0.8s
KURK Kurchatov 61.62 328 P **P** **11 54 27.9 -0.1**
KURK pmax pmax
comp=Z,61nm,1.1s
KURK Kurchatov 61.62 328 *e*P **P** **11 54 27.1 -0.9**
comp=Z,25nm,0.6s
KURK Kurchatov 61.62 328 P **P** **11 54 27.5 -0.5**
SNR=19
KURK Kurchatov 61.62 328 P **P** **11 54 27.4 -0.6**
comp=Z,277nm,0.7s,SNR=26
NVS Novosibirsk 61.76 333 *e*P **P** **11 54 27.0 -1.8**
NVS *e*S **S** **12 02 44.4 -5.1**
NVS pmax pmax
comp=Z,25nm,0.9s
NVS pmax pmax
comp=N,14nm,1.0s
NVS smax smax
comp=E,38nm,2.5s
RPZ Rata Peaks 61.88 145 *e*P **P** **11 54 30.3 +0.4**
comp=E,29nm,0.8s
SEY Seymchan 61.96 13 *c i*P **P** **11 54 30.9 +0.8**
KK31 Karatay Array 63.11 317 *i* P **P** **11 54 37.5 -0.7**
KK31 pmax pmax
comp=Z,10.0nm,0.7s
KKAR Karatay Array 63.11 317 *e*P **P** **11 54 38.3 +0.1**
KKAR pmax pmax
comp=Z,9.0nm,0.6s
KKAR Karatay Array 63.11 317 *e*P **P** **11 54 38.3 +0.1**
comp=Z,8.6nm,0.6s
BVA0 Borovoye Array 67.20 327 *i* P **P** **11 55 03.6 -0.9**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 67.27 327 *ce*P **P** **11 55 03.8 -1.2**
BRVK pmax pmax
comp=Z,32nm,1.0s
BRVK Borovoye 67.27 327 *e*P **P** **11 55 04.2 -0.8**
comp=Z,26nm,0.8s
BRVK Borovoye 67.27 327 P **P** **11 55 04.9 -0.1**
comp=Z,202nm,0.9s,SNR=18
BRVK Borovoye 67.27 327 P **P** **11 55 04.9 -0.1**
SNR=18
IDAH Dahanechah 68.46 304 *e*P **P** **11 55 12.2 -1.0**
IMYA Miami 68.92 307 *e*P **P** **11 55 14.0 -1.9**
ISRO Mashad 69.42 307 *e*P **P** **11 55 17.1 -1.8**
BILL Bilibino 69.48 15 P **P** **11 55 18.0 -0.5**
BILL *PP **pP** **11 55 28.0 -1.0**
BILL *e* 11 55 36.8
BILL pmax pmax
comp=Z,20nm,2.0s
BILL MLR MLR
comp=Z,500nm,21.0s
IPAY Payeh 69.82 307 *e*P **P** **11 55 20.3 -1.2**
IKRD Kardeh 70.26 308 *e*P P 11 55 17.8 -6.4
IEMG Emamgholi 70.27 308 *e*P **P** **11 55 23.1 -1.2**
ISFR Sfrayin 70.71 308 *e*P **P** **11 55 27.3 +0.3**
DRV Dumont d'Urvil 70.97 174 P P 11 55 16.0 -12
DRV S S 12 04 14.0 -27
AB31 Akbulak array 72.03 321 *i* P **P** **11 55 33.3 -1.1**
AB31 pmax pmax
comp=Z,16nm,0.8s
ABKAR Akbulak array 72.03 321 *e*P **P** **11 55 33.2 -1.2**
comp=Z,8.3nm,0.6s
ABTO Aybut 72.99 287 P **P** **11 55 39.9 -0.9**
SNR=5.3
AKTO Aktyubinsk 73.54 322 P **P** **11 55 42.8 -0.5**
AKTO pmax pmax
comp=Z,4.0nm,1.0s
SVE Sverdlovsk 73.84 328 *e*P **P** **11 55 44.7 -0.2**
SVE pmax pmax
comp=Z,34nm,0.9s
SVE MLR MLR
comp=Z,491nm,23.0s
ISHM Shahmirzad 74.29 306 *e*P **P** **11 55 47.2 -1.2**
ARU Arti 74.82 328 *c i*P **P** **11 55 50.2 -0.4**
ARU 11 58 33.8
ARU PPP PPP 12 00 19.5
ARU S **S** **12 05 25.1 +0.1**
ARU SS **SS** **12 10 09.3 -4.0**
ARU pmax pmax
comp=Z,16nm,0.7s
ARU Arti 74.82 328 *e*P **P** **11 55 48.8 -1.9**
comp=Z,15nm,0.6s
ARU Arti 74.82 328 P **P** **11 55 50.0 -0.6**
comp=Z,172nm,0.5s,SNR=7.8
SOKR Solikamsk 76.59 331 *e*P **P** **11 56 00.2 -0.5**
SOKR pmax pmax
comp=Z,10.0nm,0.9s
QRN Al-Qurain 78.30 298 *e*P **P** **11 56 09.8 -1.1**
QRN AMb AMB 11 56 20.6
comp=Z,115nm,1.7s
MIB Mutribah 78.84 299 *e*P **P** **11 56 12.3 -1.6**
MIB AMb AMB 11 56 19.0
comp=Z,55nm,0.9s
NAY Al-Naaiem 78.91 299 *e*P **P** **11 56 12.6 -1.7**
NAY AMb AMB 11 56 20.4
comp=Z,27nm,0.7s
RAYN Ar Rayn 80.38 293 P **P** **11 56 22.2 -0.2**
comp=Z,90nm,0.8s,SNR=7.2
ABPO Ambohimpanom 81.27 250 *e*P **P** **11 56 27.6 +0.2**
ABPO pmax pmax
comp=Z,15nm,0.8s
ABPO Ambohimpanom 81.27 250 *e*P **P** **11 56 27.6 +0.2**
comp=Z,15nm,0.8s
KBZ Khabaz 82.86 313 P **P** **11 56 38.2 +3.2**
KBZ Khabaz 82.86 313 P **P** **11 56 38.2 +3.2**
KBZ Khabaz 82.86 313 P **P** **11 56 38.2 +3.2**
comp=Z,4.6nm,0.8s,baz=125,slow=3.3,SNR=7.5
KBZ LR LR 12 39 28.4
comp=Z,293nm,21.9s,baz=280,slow=40
KIV Kislovodsk 83.02 314 *e*P **P** **11 56 35.6 -0.4**
KIV pmax pmax
comp=Z,9.0nm,0.9s
KIV MLR MLR
comp=Z,280nm,20.0s
ATD Arta Tunnel 83.18 281 P **P** **11 56 39.2 +1.9**
ATD Arta Tunnel 83.18 281 P **P** **11 56 39.2 +1.9**
comp=Z,6.0nm,0.4s,baz=282,slow=23,SNR=4.0
SLKM Skilak Lake 83.30 30 *e*P **P** **11 56 37.9 +0.8**
SLKM Skilak Lake 83.30 30 *e*P **P** **11 56 37.9 +0.8**
TRF Thorofare Moun 83.49 27 *e*P **P** **11 56 38.3 +0.1**
comp=Z,116nm,1.7s
COLD Coldfoot 83.84 23 *e*P **P** **11 56 40.0 +0.4**
comp=Z,32nm,1.0s
PMR Palmer 83.90 29 *e*P **P** **11 56 40.7 +0.7**
PMR pmax pmax
comp=Z,64nm,1.5s
PMR Palmer 83.90 29 *e*P **P** **11 56 40.6 +0.7**
comp=Z,64nm,1.5s
VRHR Novokhopersk 83.92 321 *e*P **P** **11 56 40.0 -0.3**
VRHR pmax pmax
comp=Z,10.0nm,0.5s
VRHR pmax pmax
comp=N,7.0nm,0.6s
VRHR pmax pmax
comp=E,5.0nm,0.5s
MCK McKinley 84.12 26 *e*P **P** **11 56 41.8 +0.6**
MCK pmax pmax
comp=Z,162nm,1.6s
MCK McKinley 84.12 26 *e*P **P** **11 56 41.8 +0.6**
comp=Z,162nm,1.6s
SML Sawmill 84.29 28 *e*P **P** **11 56 42.3 +0.2**
SML pmax pmax
comp=Z,10.0nm,0.9s
SML Sawmill 84.29 28 *e*P **P** **11 56 42.3 +0.2**
comp=Z,9.8nm,0.9s
COLA College 84.65 25 P **P** **11 56 44.3 +0.6**
COLA pmax pmax
comp=Z,12nm,1.2s
COLA College 84.65 25 P **P** **11 56 44.3 +0.6**
comp=Z,12nm,1.2s
ILAR Eielson Array 85.06 25 P **P** **11 56 46.0 +0.1**
ILAR PKKPbc **PKKPbc** **12 14 55.0 -0.4**
ILAR Eielson Array 85.06 25 P **P** **11 56 46.0 +0.1**
comp=Z,3.7nm,1.0s,baz=247,slow=5.5,SNR=19
ILAR PKKPbc **PKKPbc** **12 14 55.0 -0.4**
comp=Z,0.1nm,0.6s,baz=149,slow=3.0,SNR=4.2
ILAR LR LR 12 34 39.3
comp=Z,242nm,19.4s,baz=283,slow=36
PPT Papeete 85.22 108 LR LR 12 27 47.6
comp=Z,181nm,21.6s,baz=317,slow=31
PPT2 Papeete2 85.22 108 *e*SS SS 12 12 56.0 +5.0
comp=Z,165nm,29.0s
PPT2 *e*LR LR 12 23 46.8
comp=Z,172nm,26.0s
KLMR Klimovskoe 85.29 331 *e*P **P** **11 56 44.9 -2.1**
KLMR *e*S **S** **12 07 10.5 -4.5**
KLMR pmax pmax
comp=Z,123nm,1.3s
KLMR MLR MLR
comp=Z,590nm,18.0s
VORD Divnogorie 85.39 321 *e*P **P** **11 56 46.1 -1.7**
VORD pmax pmax
comp=Z,30nm,1.3s
VORD pmax pmax
comp=N,110nm,0.9s
VORD pmax pmax
comp=E,70nm,0.6s
VSR Storozhevoye 85.47 321 *e*P **P** **11 56 47.0 -1.1**
DIV Divide 85.51 29 *e*P **P** **11 56 49.5 +1.3**
comp=E,58nm,1.0s
BMRM Bremner River 86.08 29 *e*P **P** **11 56 50.9 -0.2**
comp=E,34nm,1.0s
MOS Moscow 86.32 325 *e*P **P** **11 56 50.4 -1.9**
MOS pmax pmax
comp=Z,94nm,1.1s
MENT Mentasta 86.45 27 *e*P **P** **11 56 53.2 +0.3**
OBN Obninsk 86.94 325 *ke*P **P** **11 56 55.1 -0.2**
OBN *e* 11 57 01.2
OBN *e* 11 57 10.0
OBN *e* 12 07 26.7
OBN pmax pmax
comp=Z,91nm,1.5s
OBN MLR MLR
comp=Z,400nm,19.0s
OBN Obninsk 86.94 325 *e*P **P** **11 56 54.6 -0.7**
comp=Z,61nm,0.9s
ASF Jabal al Asfar 87.78 302 P **P** **11 57 00.7 +0.6**
ASF Jabal al Asfar 87.78 302 P **P** **11 57 00.7 +0.6**
comp=Z,5.2nm,0.7s,baz=327,slow=7.4,SNR=6.8
MMAI Mount Meron Ar 88.99 303 P **P** **11 57 05.8 0.0**
MMAI Mount Meron Ar 88.99 303 P **P** **11 57 05.8 0.0**
comp=Z,5.2nm,0.8s,baz=150,slow=1.8,SNR=3.7
JOF Joensuu 89.06 333 *e*P **P** **11 57 03.4 -1.9**
JOF pmax pmax
comp=Z,14nm,0.7s
JOF Joensuu 89.06 333 *ep* **P** **11 57 03.4 -1.9**
comp=Z,14nm,0.7s
KMBO Kilima Mbogo 89.47 269 *e*P **P** **11 57 09.5 +0.9**
comp=Z,15nm,1.0s
EIL Elat 89.61 300 P **P** **11 57 08.8 +0.2**
EIL Elat 89.61 300 P **P** **11 57 08.8 +0.2**
comp=Z,6.2nm,0.8s,baz=126,slow=18,SNR=4.1
KEV Kevo 89.78 340 *e*P **P** **11 57 07.6 -0.9**
KEV pmax pmax
comp=Z,5.0nm,0.7s
KEV Kevo 89.78 340 *ep* **P** **11 57 07.6 -0.9**
comp=Z,4.9nm,0.7s
BR131 Keskin Array S 89.90 310 *e*P **P** **11 57 08.9 -1.0**
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 89.90 310 P **P** **11 57 08.9 -1.0**
BRTR Keskin Array B 89.90 310 P **P** **11 57 08.9 -1.0**
comp=Z,4.7nm,0.9s,baz=127,slow=4.2,SNR=22
BRTR LR LR 12 46 35.1
comp=Z,118nm,19.9s,baz=72,slow=42
ARCES ARCESS Array B 90.34 340 P **P** **11 57 09.5 -1.6**
ARCES ARCESS Array B 90.34 340 P **P** **11 57 09.5 -1.6**
comp=Z,4.6nm,0.7s,baz=82,slow=6.7,SNR=16
ARCES LR LR 12 40 51.4
comp=Z,316nm,20.3s,baz=230,slow=38
ARE0 ARCESS Array S 90.34 340 *e*P **P** **11 57 10.3 -0.8**
KAF Kangasniemi 91.48 332 *e*P P 11 57 13.2 -3.4
KAF pmax pmax
comp=Z,8.0nm,0.7s
KAF Kangasniemi 91.48 332 *ep* P 11 57 13.2 -3.4
comp=Z,7.8nm,0.7s
FINES FINESS Array B 91.72 332 P **P** **11 57 16.9 -0.7**
FINES FINESS Array B 91.72 332 P **P** **11 57 16.9 -0.7**
comp=Z,6.6nm,0.8s,baz=54,slow=4.9,SNR=10
FINES LR LR 12 42 50.0
comp=Z,338nm,18.6s,baz=309,slow=38
AKASG Malin Array Be 91.77 321 P **P** **11 57 17.0 -1.2**
AKASG Malin Array Be 91.77 321 P **P** **11 57 17.0 -1.2**
AKASG Malin Array Be 91.77 321 P **P** **11 57 17.0 -1.2**
comp=Z,9.7nm,0.8s,baz=70,slow=4.5,SNR=18
AKASG LR LR 12 41 03.6
comp=Z,233nm,21.6s,baz=55,slow=37
AKBB Malin Array Si 91.77 321 *e*P **P** **11 57 17.2 -0.9**
AKBB Malin Array Si 91.77 321 *e*P **P** **11 57 17.2 -0.9**
KIEV Kiev 91.78 321 *e*P **P** **11 57 17.0 -1.2**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 91.78 321 *e*P **P** **11 57 17.0 -1.2**
comp=Z,9.1nm,0.9s
SYO Syowa Base 92.48 201 *e*P **P** **11 57 21.2 +0.2**
TIRR Tirgusor 93.22 315 *j*P **P** **11 57 25.6 +0.6**
TIRR Tirgusor 93.22 315 *e*P **P** **11 57 25.3 +0.3**
comp=Z,5.7nm,0.8s
TIRR Tirgusor 93.22 315 *j i*P **P** **11 57 25.6 +0.6**
CFR Carcaliu 93.31 316 *j*P **P** **11 57 26.1 +0.7**
CFR Carcaliu 93.31 316 *j i*P **P** **11 57 26.0 +0.7**
QSPA South Pole Qui 93.73 180 *e*P **P** **11 57 27.5 +0.5**
comp=Z,20nm,1.3s
TESR 94.12 317 *i*P **P** **11 57 28.6 -0.5**
VRI Vrincioaia 94.17 316 *j*P **P** **11 57 29.9 +0.5**
VRI Vrincioaia 94.17 316 *j i*P **P** **11 57 29.9 +0.5**
MLR Muntele Rosu 94.78 316 P **P** **11 57 32.1 -0.2**
MLR Muntele Rosu 94.78 316 *i*P **P** **11 57 32.5 +0.2**
MLR Muntele Rosu 94.78 316 P **P** **11 57 32.1 -0.2**
comp=Z,2.0nm,0.8s,baz=157,slow=5.5,SNR=13
SUW Suwalki 94.80 325 *e*P **P** **11 57 31.7 -0.3**
SUW Suwalki 94.80 325 *e*P **P** **11 57 31.7 -0.3**
SUW Suwalki 94.80 325 *e*P **P** **11 57 31.7 -0.3**
SUW Suwalki 94.80 325 *e*P **P** **11 57 31.4 -0.7**
comp=Z,55nm,0.9s
BURAR Bucovina Array 94.88 318 *i*P **P** **11 57 33.0 +0.3**
BUR08 Bucovina Ar. S 94.89 318 *e*P **P** **11 57 32.5 -0.3**
VOIR 95.41 316 *j*P **P** **11 57 33.7 -1.5**
VOIR 95.41 316 *j i*P **P** **11 57 33.7 -1.5**
LOT Lotru 96.29 316 *j i*P **P** **11 57 39.0 -0.2**
KOLS Kolonicke sedl 96.53 320 *e*P **P** **11 57 40.9 +0.8**
KOLS Kolonicke sedl 96.53 320 *e*P **P** **11 57 40.9 +0.8**
UZH Uzhgorod 96.58 320 *e*P **P** **11 57 40.5 +0.2**
DRGR 96.72 318 *j*P **P** **11 57 41.7 +0.6**
DRGR 96.72 318 *j i*P **P** **11 57 41.7 +0.6**
GZR Gura Zlata 96.99 316 *j*P **P** **11 57 42.4 +0.1**
GZR Gura Zlata 96.99 316 *j i*P **P** **11 57 42.4 +0.1**
CRVS Cervenica-Dubn 97.05 320 *e*P Pdif 11 57 42.9 +0.4
BZS Buzias 97.73 317 *j*P **P** **11 57 44.9 -0.7**
BZS Buzias 97.73 317 *j i*P **P** **11 57 44.9 -0.7**
HFS Hagfors 97.90 332 P **P** **11 57 45.6 -0.4**
HFS Hagfors 97.90 332 P **P** **11 57 45.6 -0.4**
comp=Z,2.2nm,0.6s,baz=107,slow=9.2,SNR=3.3
PSZ Piszkesteto 98.31 319 *i*P Pdif 11 57 49.7 +1.5
PSZ Piszkesteto 98.31 319 *i*P Pdif 11 57 49.7 +1.5
NB2 NORSAR Subarra 98.67 334 P **P** **11 57 47.9 -1.6**
baz=67,slow=4.6
NB2 NORSAR Subarra 98.67 334 P **P** **11 57 47.9 -1.6**
comp=Z,4.6nm,0.8s,baz=67,slow=4.6
NOA NORSAR Array B 98.67 334 P **P** **11 57 49.2 -0.3**
NOA NORSAR Array B 98.67 334 P **P** **11 57 49.2 -0.3**
comp=Z,3.2nm,0.8s,baz=66,slow=4.6,SNR=13
NOA LR LR 12 46 21.3
comp=Z,343nm,20.4s,baz=65,slow=38
VYHS Vyhne 98.84 320 *e*P Pdif 11 57 51.1 +0.6
VYHS Vyhne 98.84 320 PDIF Pdif 11 57 51.1 +0.6
LSZ Lusaka 99.15 255 *e*P **Pdif** **11 57 52.6 -0.1**
comp=Z,3.8nm,0.8s
YKA Yellowknife Ar 99.45 24 P **Pdif** **11 57 52.4 -0.4**
YKA PKiKP **PKiKP** **12 02 22.3 +0.2**
YKA PKKPbc **PKKPbc** **12 14 14.4 -3.8**
YKA Yellowknife Ar 99.45 24 P **Pdif** **11 57 52.4 -0.4**
comp=Z,0.4nm,0.6s,baz=293,slow=4.3,SNR=6.8
YKA PKiKP **PKiKP** **12 02 22.3 +0.2**
comp=Z,0.3nm,0.7s,baz=299,slow=1.7,SNR=7.6
YKA PKKPbc **PKKPbc** **12 14 14.4 -3.8**
comp=Z,0.4nm,0.6s,baz=114,slow=2.5,SNR=7.5
KSP Ksiaz 99.72 323 *e*P **Pdif** **11 57 55.5 +1.1**
KSP Ksiaz 99.72 323 *e*P **Pdif** **11 57 55.5 +1.1**
KSP Ksiaz 99.72 323 *e*P **Pdif** **11 57 54.9 +0.5**
VRAC Vranov 100.02 321 P **Pdif** **11 57 55.9 +0.2**
VRAC Vranov 100.02 321 P **Pdif** **11 57 55.9 +0.2**
comp=Z,2.6nm,0.6s,baz=134,slow=9.9,SNR=3.8
BRG Berggiesshubel 101.12 323 *e*P **Pdif** **11 58 01.0 +0.4**
comp=Z,8.0nm,1.1s
BRG
comp=N,139nm,15.5s
BRG
comp=E,238nm,17.4s
BRG
comp=Z,386nm,20.5s
BRG Berggiesshubel 101.12 323 *e*P **Pdif** **11 58 01.0 +0.4**
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG MLR MLR
comp=N,139nm,15.5s
BRG MLR MLR
comp=E,238nm,17.4s
BRG MLR MLR
comp=Z,386nm,20.5s
CLL Collm 101.52 324 *e*P **Pdif** **11 58 02.0 -0.3**
CLL MLR MLR
comp=Z,300nm,21.3s
CLL Collm 101.52 324 *e*Pdif **Pdif** **11 58 02.0 -0.3**
CLL *e* 12 23 24.0
CLL LmV 12 46 00.0
comp=Z,300nm,21.3s
GERES GERESS Array B 101.97 322 P **Pdif** **11 58 04.1 -0.4**
GERES GERESS Array B 101.97 322 P **Pdif** **11 58 04.1 -0.4**
comp=Z,1.2nm,0.7s,baz=56,slow=5.0,SNR=7.2
NVAR Mina Array Bea 106.90 48 PKiKP **PKiKP** **12 02 37.9 +1.2**
NVAR PKKPbc **PKKPbc** **12 13 57.1 +1.5**
NVAR PKKPab **PKKPab** **12 14 10.5 -0.1**
NVAR Mina Array Bea 106.90 48 PKiKP **PKiKP** **12 02 37.9 +1.2**
comp=Z,0.4nm,0.7s,baz=272,slow=3.1,SNR=3.8
NVAR PKKPbc **PKKPbc** **12 13 57.1 +1.5**
comp=Z,0.6nm,0.7s,baz=127,slow=5.5,SNR=5.1
NVAR PKKPab **PKKPab** **12 14 10.5 -0.1**
comp=Z,1.6nm,0.6s,baz=133,slow=4.7,SNR=17
F17A Fitzpatrick Pl 109.20 38 *j*P **PKiKP** **12 02 41.2 +0.5**
baz=109
C20A Veseth Ranch, 109.94 36 *j*P **PKiKP** **12 02 42.7 +0.8**
baz=110
C22A Vida 111.15 35 *j*P **PKiKP** **12 02 44.9 +0.8**
baz=111
D22A Cohagen 111.29 36 *i*P **PKiKP** **12 02 45.0 +0.6**
baz=111
PDAR Pinedale Array 111.34 41 PKiKP **PKiKP** **12 02 46.1 +1.1**

PDAR					PKKPbc	**PKKPbc**	12 13 38.2	-3.4	
PDAR					PKKPab	**PKKPab**	12 13 50.0	-1.0	
PDAR	**Pinedale Array**	**111.34**	**41**		PKiKP	**PKiKP**	**12 02 46.1**	**+1.1**	
	comp=Z,0.4nm,0.8s,baz=96,slow=3.0,SNR=3.7								
PDAR					PKKPbc	**PKKPbc**	12 13 38.2	-3.4	
	comp=Z,0.4nm,0.6s,baz=131,slow=4.7,SNR=4.0								
PDAR					PKKPab	**PKKPab**	12 13 50.0	-1.0	
	comp=Z,2.1nm,0.8s,baz=121,slow=6.6,SNR=18								
I20A	**Worland**	**111.71**	**39**	⇑	P	**PKiKP**	**12 02 45.9**	**+0.4**	
	baz=112								
K19A	**Absolon Red Bu**	**111.78**	**41**	⇑	P	**PKiKP**	**12 02 45.7**	**0.0**	
	baz=112								
E22A	**Miles City**	**111.80**	**36**	⇓	P	**PKiKP**	**12 02 46.3**	**+0.8**	
	baz=112								
D23A	**Lindsay**	**111.84**	**35**	⇑	P	**PKiKP**	**12 02 46.5**	**+0.9**	
	baz=112								
E23A	**Ismay**	**112.14**	**36**	⇑	P	**PKiKP**	**12 02 46.9**	**+0.8**	
	baz=112								
K21A	**Alcova**	**112.90**	**40**	⇑	P	**PKiKP**	**12 02 48.0**	**+0.1**	
	baz=113								
J22A	**Midwest**	**113.01**	**39**	⇓	P	**PKiKP**	**12 02 47.8**	**-0.2**	
	baz=113								
PV01	**Paradox Valley**	**114.09**	**45**		*e*PKPdf	PKPdf	12 02 52.0	+1.7	
ULM	**Lac du Bonnet**	**114.92**	**29**		PKP	PKPdf	12 02 51.3	+0.1	
ULM					PKKPab	**PKKPab**	**12 13 33.7**	**-1.1**	
ULM	**Lac du Bonnet**	**114.92**	**29**		PKP	PKPdf	12 02 51.3	+0.1	
	comp=Z,1.1nm,0.6s,baz=274,slow=6.3,SNR=3.8								
ULM					PKKPab	**PKKPab**	**12 13 33.7**	**-1.1**	
	comp=Z,1.4nm,0.6s,baz=72,slow=4.0,SNR=3.0								
V20A	**Brimhall**	**115.17**	**47**	⇑	P	**PKPdf**	**12 02 53.2**	**+0.8**	
	baz=115								
ISCO	**Idaho Springs**	**115.36**	**42**	⇑	P	**PKPdf**	**12 02 52.2**	**-0.6**	
	baz=115								
P23A	**Jefferson**	**115.41**	**43**	⇓	P	**PKPdf**	**12 02 52.9**	**0.0**	
	baz=115								
Z20A	**Nine Sixteen R**	**116.19**	**50**	⇑	P	**PKPdf**	**12 02 55.1**	**+0.6**	
	baz=116								
P25A	**Willow Gulch B**	**116.47**	**42**	⇓	P	**PKPdf**	**12 02 55.4**	**+0.6**	
	baz=116								
T26A	**Comanche Natio**	**118.02**	**44**	⇑	P	**PKPdf**	**12 02 58.1**	**+0.2**	
	baz=118								
Y24A	**Capitan**	**118.23**	**48**	⇑	P	**PKPdf**	**12 02 58.4**	**0.0**	
	baz=118								
ECSD	**EROS Data Cent**	**118.76**	**35**		*e*PKPdf	**PKPdf**	**12 02 59.0**	**+0.1**	
Y25A	**Mesa, Roswell**	**118.78**	**48**	⇓	P	**PKPdf**	**12 02 59.1**	**-0.2**	
	baz=119								
Z25A	**Roswell**	**119.06**	**48**	⇓	P	**PKPdf**	**12 02 59.9**	**+0.1**	
	baz=119								
MNTX	**Cornudas Mount**	**119.25**	**50**	⇑	P	**PKPdf**	**12 03 00.4**	**+0.2**	
	baz=119								
324A	**Moseley Ranch,**	**119.28**	**51**	⇑	P	**PKPdf**	**12 03 00.9**	**+0.4**	
	baz=119								
125A	**Gardner Draw,**	**119.38**	**49**	⇓	P	**PKPdf**	**12 03 00.9**	**+0.4**	
	baz=119								
325A	**Bean Ranch, Si**	**119.71**	**51**	⇑	P	**PKPdf**	**12 03 01.3**	**+0.1**	
	baz=120								
425A	**Indio Mountain**	**119.95**	**51**	⇓	P	**PKPdf**	**12 03 02.2**	**+0.5**	
	baz=120								
226A	**Malaga, Loving**	**120.07**	**49**	⇓	P	**PKPdf**	**12 03 02.0**	**+0.2**	
	baz=120								
Z27A	**Tatum**	**120.16**	**48**	⇑	P	**PKPdf**	**12 03 02.4**	**+0.4**	
	baz=120								
SCHQ	**Schefferville**	**120.49**	**9**		PKP	**PKPdf**	**12 03 02.9**	**+1.0**	
SCHQ	**Schefferville**	**120.49**	**9**		PKP	**PKPdf**	**12 03 02.9**	**+1.0**	
	comp=Z,3.6nm,0.8s,baz=9.3,slow=4.2,SNR=9.9								
526A	**Mary Lane Ranc**	**120.96**	**52**	⇓	P	**PKPdf**	**12 03 03.9**	**+0.3**	
	baz=121								
Y29A	**Porterfield Fa**	**121.02**	**46**	⇓	P	**PKPdf**	**12 03 03.9**	**+0.3**	
	baz=121								
626A	**Big Bend Ranch**	**121.14**	**52**	⇑	P	**PKPdf**	**12 03 04.5**	**+0.5**	
	baz=121								
427A	**Hayter Ranch,**	**121.14**	**50**	⇑	P	**PKPdf**	**12 03 04.5**	**+0.5**	
	baz=121								
MDT	**Midelt**	**121.23**	**312**		PKP	**PKPdf**	**12 03 05.4**	**+1.3**	
MDT	**Midelt**	**121.23**	**312**		PKP	**PKPdf**	**12 03 05.4**	**+1.3**	
	comp=Z,1.8nm,0.7s,baz=72,slow=2.8,SNR=5.5								
Z29A	**Hungry Hill Ra**	**121.29**	**47**	⇑	P	**PKPdf**	**12 03 05.0**	**+0.9**	
	baz=121								
527A	**Woodward Ranch**	**121.29**	**51**	⇓	P	**PKPdf**	**12 03 04.6**	**+0.3**	
	baz=121								
328A	**Wristen Ranch,**	**121.36**	**50**	⇑	P	**PKPdf**	**12 03 04.6**	**+0.3**	
	baz=121								
KSU1	**Kansas State U**	**121.59**	**39**		*e*PKPdf	**PKPdf**	**12 03 04.5**	**+0.1**	
TXAR	**Lajitas Array**	**121.60**	**52**		PKP	**PKPdf**	**12 03 06.1**	**+1.2**	
TXAR					PKKPbc	**PKKPab**	**12 13 06.0**	**+0.4**	
TXAR	**Lajitas Array**	**121.60**	**52**		PKP	**PKPdf**	**12 03 06.1**	**+1.2**	
	comp=Z,1.3nm,0.7s,baz=247,slow=0.7,SNR=19								
TXAR					PKKPbc	**PKKPab**	**12 13 06.0**	**+0.4**	
	comp=Z,0.3nm,0.6s,baz=106,slow=5.8,SNR=7.3								
428A	**Kincaid Ranch,**	**121.75**	**50**	⇑	P	**PKPdf**	**12 03 06.0**	**+0.9**	
	baz=122								
627A	**Terlingua Ranc**	**121.77**	**52**	⇓	P	**PKPdf**	**12 03 05.9**	**+0.7**	
	baz=122								
528A	**Cox Ranch, San**	**121.93**	**51**	⇑	P	**PKPdf**	**12 03 06.4**	**+0.9**	
	baz=122								
628A	**Black Gap, Mar**	**122.15**	**52**	⇑	P	**PKPdf**	**12 03 06.5**	**+0.7**	
	baz=122								
529A	**Stev Forest Ra**	**122.38**	**51**	⇓	P	**PKPdf**	**12 03 06.8**	**+0.5**	
	baz=122								
429A	**Davenport Ranc**	**122.40**	**50**	⇑	P	**PKPdf**	**12 03 07.0**	**+0.6**	
	baz=122								
TOA0	**Torodi Ar. Sit**	**122.82**	**288**		*e*PKPdf	**PKPdf**	**12 03 07.4**	**0.0**	
TORD	**Torodi Ar. Bea**	**122.82**	**288**		PKP	**PKPdf**	**12 03 07.5**	**+0.1**	
TORD	**Torodi Ar. Bea**	**122.82**	**288**		PKP	**PKPdf**	**12 03 07.5**	**+0.1**	
	comp=Z,5.3nm,0.7s,baz=54,slow=2.0,SNR=40								
430A	**Baggett Ranch,**	**122.83**	**49**	⇓	P	**PKPdf**	**12 03 07.8**	**+0.7**	
	baz=123								
431A	**Sonora**	**123.35**	**49**	⇑	P	**PKPdf**	**12 03 08.6**	**+0.5**	
	baz=123								
531A	**Rocksprings**	**123.65**	**50**	⇓	P	**PKPdf**	**12 03 09.3**	**+0.6**	
	baz=124								
JCT	**Junction City**	**124.06**	**49**		*e*PKIKP	**PKPdf**	**12 03 10.2**	**+0.7**	
JCT	**Junction City**	**124.06**	**49**		*e*PKPdf	**PKPdf**	**12 03 10.2**	**+0.7**	
JCT	**Junction City**	**124.06**	**49**	⇓	P	**PKPdf**	**12 03 10.2**	**+0.7**	
	baz=124								
MIAR	**Mount Ida**	**126.26**	**41**		*e*PKIKP	**PKPdf**	**12 03 13.7**	**+0.2**	
MIAR	**Mount Ida**	**126.26**	**41**		*e*PKPdf	**PKPdf**	**12 03 13.7**	**+0.2**	
OLIL	**Olney**	**126.87**	**34**		*e*PKPdf	**PKPdf**	**12 03 15.2**	**+0.7**	
ACSO	**Alum Creek Sta**	**128.42**	**29**		*e*PKPdf	**PKPdf**	**12 03 17.6**	**+0.1**	
WVT	**Waverly**	**128.83**	**36**		*e*PKIKP	**PKPdf**	**12 03 19.1**	**+0.7**	
WVT	**Waverly**	**128.83**	**36**		*e*PKPdf	**PKPdf**	**12 03 19.1**	**+0.7**	
DBIC	**Dimbokro**	**130.48**	**282**		PKP	**PKPdf**	**12 03 22.9**	**+0.8**	
DBIC	**Dimbokro**	**130.48**	**282**		PKP	**PKPdf**	**12 03 22.9**	**+0.8**	
	comp=Z,3.3nm,0.7s,baz=108,slow=3.7,SNR=8.2								
PLCA	**Paso Flores**	**140.12**	**159**		PKP	**PKPdf**	**12 03 40.4**	**+1.0**	
PLCA	**Paso Flores**	**140.12**	**159**		PKP	**PKPdf**	**12 03 40.4**	**+1.0**	
	comp=Z,3.8nm,0.7s,baz=142,slow=8.9,SNR=5.6								
TRQA	**Tornquist**	**145.02**	**168**		*e*PKPbc	**PKPdf**	**12 03 48.1**	**0.0**	
CFAA	**Coronel Fontan**	**149.02**	**155**		PKP	**PKPdf**	**12 03 55.6**	**+0.6**	
CFAA					PKPbc	**PKPbc**	**12 03 59.4**	**+0.3**	
CFAA	**Coronel Fontan**	**149.02**	**155**		PKP	**PKPdf**	**12 03 55.6**	**+0.6**	
	comp=Z,2.5nm,0.7s,baz=222,slow=2.9,SNR=8.0								
CFAA					PKPbc	**PKPbc**	**12 03 59.4**	**+0.3**	
	comp=Z,2.5nm,0.7s,baz=237,slow=3.6,SNR=33								
LCO	**Las Campanas**	**150.01**	**148**		*e*PKPbc	**PKPbc**	**12 04 02.8**	**+0.9**	
CPUP	**Villa Florida**	**157.29**	**171**		PKP	**PKPdf**	**12 04 07.8**	**+0.8**	
CPUP					PKPab	**PKPab**	**12 04 39.3**	**+1.4**	
CPUP	**Villa Florida**	**157.29**	**171**		PKP	**PKPdf**	**12 04 07.8**	**+0.8**	
	comp=Z,1.3nm,0.7s,baz=161,slow=10.0,SNR=4.0								
CPUP					PKPab	**PKPab**	**12 04 39.3**	**+1.4**	
	comp=Z,5.9nm,0.7s,baz=170,slow=4.6,SNR=14								
SDV	**Santo Domingo**	**158.64**	**54**		*e*PKPdf	**PKPdf**	**12 04 09.3**	**0.0**	
LPAZ	**La Paz**	**160.91**	**131**		PKP	**PKPdf**	**12 04 13.4**	**+1.1**	
LPAZ	**La Paz**	**160.91**	**131**		PKP	**PKPdf**	**12 04 13.4**	**+1.1**	
	comp=Z,2.4nm,0.8s,baz=89,slow=2.9,SNR=9.4								
RCBR	**Riachuelo**	**162.50**	**263**		PKPab	**PKPab**	**12 05 01.8**	**+0.5**	
RCBR	**Riachuelo**	**162.50**	**263**		PKPab	**PKPab**	**12 05 01.8**	**+0.5**	
	comp=Z,14nm,1.0s,baz=66,slow=9.4,SNR=4.6								
SIV	**San Ignacio**	**165.72**	**148**		PKP	**PKPdf**	**12 04 16.6**	**+0.5**	
SIV					PKPab	**PKPab**	**12 05 16.4**	**+1.3**	
SIV	**San Ignacio**	**165.72**	**148**		PKP	**PKPdf**	**12 04 16.6**	**+0.5**	
	comp=Z,1.6nm,0.8s,baz=164,slow=3.5,SNR=6.6								
SIV					PKPab	**PKPab**	**12 05 16.4**	**+1.3**	
	comp=Z,1.2nm,0.7s,baz=214,slow=9.1,SNR=2.4								
SAML	**Samuel**	**168.98**	**118**		*e*PKPdf	**PKPdf**	**12 04 19.0**	**+0.5**	
SAML					*e*PKPab	**PKPab**	**12 05 31.2**	**+1.5**	
SAML					*e*SKPdf	**SKPdf**	**12 07 41.4**	**-6.2**	

*CSEM **18** 12:04:58.9±0.9,50.23N×12.57E,h2km,ML2.6/2, Error ellipse: s-maj=18.0km s-min=8.7km az=113.0, Suspected Mining explosion.*
*VIE **18** 12:04:59.8±0.2,50.23N×12.76E,h0km,mb2.2/1,ML2.6/2, Error ellipse: s-maj=2.9km s-min=0.9km az=39.0 22 km E of Klingenthal Suspected Mining explosion.*

ISC 18 12:04:59.5±2.8,50.23N±0.07×12.6E±0.1,h0km,n8, σ0s87/18,3C-4D,Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KSP	**Ksiaz**	**2.41**	**74**	*e*Pg		**Pg**	**12 05 46.0**	**+0.3**
KSP				*e*Sg		**Sg**	**12 06 17.1**	**+0.1**
KSP	**Ksiaz**	**2.41**	**74**	*e*Pg		**Pg**	**12 05 46.2**	**+0.5**
KSP				*e*Sg		**Sg**	**12 06 17.9**	**+0.9**
MOA	**Molln**	**2.62**	**155**	⇑*i*Pn		**Pn**	**12 05 43.2**	**+0.2**
MOA				⇑*i*Pg		**Pg**	**12 05 49.5**	**-0.1**
MOA				⇓*i*Sg		**Sg**	**12 06 25.0**	**+1.5**
	15nm,0.6s							
MOA	**Molln**	**2.62**	**155**	Pn		**Pn**	**12 05 43.2**	**+0.2**
MOA	**Molln**	**2.62**	**155**	Pg		**Pg**	**12 05 49.5**	**-0.1**
MOA				Sg		**Sg**	**12 06 25.0**	**+1.5**
	15nm,0.6s							
CONA	**Conrad Observa**	**3.13**	**136**	⇑*i*Pn		**Pn**	**12 05 49.2**	**-1.0**
CONA				⇓*i*Pg		**Pg**	**12 05 58.6**	**-0.9**
CONA				⇓*i*Sn		**Sn**	**12 06 27.9**	**-0.4**
CONA				⇓*i*Sg		**Sg**	**12 06 41.0**	**+0.9**
	8.8nm,0.5s							
CONA	**Conrad Observa**	**3.13**	**136**	Pn		**Pn**	**12 05 49.2**	**-1.0**
CONA	**Conrad Observa**	**3.13**	**136**	Pg		**Pg**	**12 05 58.6**	**-0.9**
CONA				Sn		**Sn**	**12 06 27.9**	**-0.4**
CONA				Sg		**Sg**	**12 06 41.0**	**+0.9**
	8.8nm,0.5s							

IDC 18 12:07:59.5±2.2,0.29N×127.48E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.3/19,mbtmp3.2/3,Error ellipse: s-maj=165.7km s-min=28.5km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.20**	**162**	P		P	12 12 45.6	-1.4
	0.5nm,0.5s,baz=341,slow=11,SNR=8.5							
ASAR	**Alice Springs**	**24.62**	**166**	P		P	12 13 22.9	+1.1
	0.3nm,0.6s,baz=342,slow=11,SNR=4.6							
MKAR	**Makanchi Array**	**60.80**	**326**	P		P	12 18 13.4	-0.1
	0.2nm,0.4s,baz=125,slow=6.9,SNR=3.5							

IDC 18 12:13:07.8±1.9,2.62S×141.34E,h0km,mb3.1/2, mb1 3.5/3,mb1mx3.3/17,mbtmp3.2/3,ML3.4/1,Error ellipse: s-maj=318.0km s-min=30.5km az=111.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.52**	**201**	P		P	12 17 24.5	-1.5
	0.1nm,0.3s,baz=20,slow=12,SNR=9.4							
ASAR	**Alice Springs**	**22.12**	**198**	P		P	12 18 06.2	+1.0
	0.4nm,0.6s,baz=29,slow=10,SNR=4.9							
ILAR	**Eielson Array**	**84.67**	**24**	P		P	12 25 43.2	-0.1
	0.3nm,0.8s,baz=256,slow=4.1,SNR=5.4							

IDC 18 12:20:08.5±1.7,3.76N×126.83E,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.7/22,mbtmp3.8/5,MS3.3/3,Ms1 3.3/3, ms1mx2.8/41,Error ellipse: s-maj=102.3km s-min=23.6km az=67.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
DAV	**Davao City (W)**	**3.51**	**339**	LR		LR	12 22 00.3	
	comp=Z,244nm,21.7s,baz=341,slow=32							
KAPI	**Kappang**	**11.22**	**219**	LR		LR	12 27 47.5	
	comp=Z,51nm,18.6s,baz=262,slow=41							
FITZ	**Fitzroy Crossi**	**21.76**	**183**	P		P	12 25 01.3	-0.6
	2.3nm,0.8s,baz=22,slow=13,SNR=3.5							
WRA	**Warramunga Arr**	**24.69**	**163**	P		P	12 25 31.4	0.0
	6.4nm,0.8s,baz=343,slow=10,SNR=33							
WRA				S		S	12 29 50.8	-3.5
	1.3nm,1.1s,baz=342,slow=20,SNR=3.7							
ASAR	**Alice Springs**	**28.12**	**166**	P		P	12 26 03.0	+0.5
	0.5nm,0.7s,baz=345,slow=11,SNR=11							
STKA	**Stephens Creek**	**38.12**	**159**	P		P	12 27 29.2	-0.3
	2.0nm,0.6s,baz=341,slow=8.7,SNR=6.4							
MKAR	**Makanchi Array**	**57.59**	**325**	P		P	12 30 00.1	-0.1
	0.3nm,0.5s,baz=116,slow=7.4,SNR=6.5							
FX1	**Attu Island--F**	**62.01**	**30**	LR		LR	12 55 47.2	
	comp=Z,155nm,20.1s,baz=254,slow=34							

*ISCJB **18** 12:20:34.8±0.7, 10.62N±0.05×62.56W±0.04, h102km±7km, Error ellipse: s-maj=8.1km s-min=5.5km az=157.6*
*FUNV **18** 12:20:36.7, 10.63N×62.53W, h96km, MW3.1*
*TRN **18** 12:20:38.8, 10.76N×62.38W, h100km, MD3.0*

ISC 18 12:20:34.6±1.4,10.63N±0.05×62.57W±0.04,h109km±9km, n16,σ1s52/26,6C-1D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
GUIV	**Guiria**	**0.34**	**87**	⇓*i*P		**Pn**	**12 20 50.8**	**+0.4**
GUIV				*e*S		**Sn**	**12 21 00.1**	**-2.2**
GUNV	**Guanoco**	**0.59**	**218**	⇑*i*P		**Pn**	**12 20 53.4**	**+1.4**
GUNV				*e*S		**Sn**	**12 21 04.7**	**-0.3**
CRUV	**Carupano**	**0.66**	**274**	*e*P		**Pn**	**12 20 53.1**	**+0.7**
CRUV				*e*S		**Sn**	**12 21 05.4**	**-0.5**
TRN	**Trinidad (W)**	**1.15**	**89**	⇑*i*P		**Pn**	**12 20 59.2**	**+1.9**
TRN				*e*S		**Sn**	**12 21 13.7**	**-0.7**
ORIV	**Oritupano**	**1.76**	**208**	⇑*i*P		**Pn**	**12 21 06.0**	**+1.5**
ORIV				*e*S		**Sn**	**12 21 27.2**	**0.0**
GRW	**Mount Saint Ca**	**1.76**	**30**	*e*P		**Pn**	**12 21 06.6**	**+2.0**
GRW				*e*S		**Sn**	**12 21 25.7**	**-1.8**
PCRV	**Puerto La Cruz**	**2.08**	**258**	⇑*i*P		**Pn**	**12 21 09.9**	**+1.3**
TOSP	**Speyside**	**2.10**	**71**	*e*P		**Pn**	**12 21 09.5**	**+0.6**
TOSP				*e*S		**Sn**	**12 21 33.5**	**-1.5**
RIOV	**Rio Grande**	**2.65**	**164**	*e*P		**Pn**	**12 21 17.7**	**+1.7**
RIOV				*e*S		**Sn**	**12 21 46.5**	**-1.3**
GURV	**El Guri**	**2.90**	**190**	⇑*e*P		**Pn**	**12 21 20.1**	**+0.8**
CUPV	**Cœpira**	**3.22**	**260**	*e*P		**Pn**	**12 21 25.1**	**+1.6**
CUPV				*e*S		**Sn**	**12 22 00.2**	**-1.1**
BIRV	**Birongo**	**3.64**	**268**	*e*P		**Pn**	**12 21 31.2**	**+2.1**
MERV	**Las Mercedes**	**3.92**	**250**	*e*P		**Pn**	**12 21 33.6**	**+0.8**
LUEV	**Luepa**	**4.88**	**167**	*e*P		**Pn**	**12 21 46.2**	**+0.3**
TURV	**Turiamo**	**5.19**	**269**	*e*P		**Pn**	**12 21 50.8**	**+0.9**
BAUV	**El Baul**	**5.65**	**253**	⇑*i*P		**Pn**	**12 21 56.5**	**+0.4**
BAUV				*e*S		**Sn**	**12 22 56.6**	**-3.2**

IDC 18 12:28:05.2±2.2,21.95N×143.24E,h214km±21km,mb3.1/8, mb1 3.3/10,mb1mx3.1/27,mbtmp3.1/10,Error ellipse: s-maj=26.1km s-min=12.8km az=92.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.21**	**350**	P		Pn	12 29 22.6	0.0
	6.2nm,0.3s,baz=270,slow=14,SNR=6.5							
CBIJ				S		S	12 30 24.1	+0.3
	6.6nm,0.3s,baz=287,slow=19,SNR=2.6							
MJAR	**Matsushiro Arr**	**15.19**	**344**	P		P	12 31 29.8	+0.5
	0.4nm,0.3s,baz=169,slow=8.7,SNR=5.4							
KSRS	**Korea Array**	**20.35**	**323**	P		P	12 32 25.6	+0.4
	1.1nm,0.7s,baz=148,slow=8.8,SNR=6.9							
WRA	**Warramunga Arr**	**42.53**	**192**	P		P	12 35 39.9	-0.1
	0.8nm,0.4s,baz=16,slow=9.6,SNR=25							
ASAR	**Alice Springs**	**46.24**	**192**	P		P	12 36 09.3	-0.1
	0.3nm,0.5s,baz=10,slow=7.1,SNR=5.4							
STKA	**Stephens Creek**	**53.54**	**182**	P		P	12 37 03.8	-0.3
	0.8nm,0.6s,baz=354,slow=9.2,SNR=2.9							
ZALV	**Zalesovo Beam**	**54.05**	**322**	P		P	12 37 07.1	-0.4
	1.0nm,0.5s,baz=101,slow=7.1,SNR=8.0							
MKAR	**Makanchi Array**	**54.57**	**313**	P		P	12 37 11.4	0.0
	0.2nm,0.4s,baz=92,slow=7.8,SNR=5.6							
ILAR	**Eielson Array**	**61.79**	**27**	P		P	12 38 00.7	-0.4
	0.6nm,0.7s,baz=262,slow=5.2,SNR=14							
YKA	**Yellowknife Ar**	**76.21**	**28**	P		P	12 39 30.3	+0.6
	0.2nm,0.4s,baz=291,slow=5.9,SNR=6.4							

*NIED **18** 12:45:00,38.30N×141.90E,h62km,Mw3.8 Best double couple: M0 5.17000×10^14 NP1:φs13.00000°,δ70.00000°, λ106.00000°. NP2:φs153.00000°,δ25.00000°,λ53.00000°.*
*ISCJB **18** 12:45:26.5±0.9,38.27N±0.04×141.94E±0.09,h55km±7km, mb3.8/6, Error ellipse: s-maj=12.8km s-min=5.4km az=14.9*
*IDC **18** 12:45:27.3±1.7,38.31N×141.93E,h45km±9km,mb3.6/6, mb1 3.7/9,mb1mx3.5/26,mbtmp3.7/9,ML3.1/3,Error ellipse: s-maj=45.1km s-min=16.1km az=72.0*
*JMA **18** 12:45:28.1±0.1,38.29N×141.86E,h47km±1km,M4.1*
JMA Felt II J1.

ISC 18 12:45:26.9±1.0,38.26N±0.04×141.99E±0.08,h42km±9km, n23,σ1s08/36,mb3.8/6,10D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JIO	**Ouri**	**0.54**	**292**	⇓P		**Pn**	**12 45 38.4**	**+0.1**
JIO				S		**Sn**	**12 45 45.4**	**-0.9**
OFUJ	**Ofunato**	**0.86**	**343**	⇓P		**Pn**	**12 45 43.0**	**+0.4**
OFUJ				S		**Sn**	**12 45 53.4**	**-0.6**
JMK	**Ichinoseki**	**0.92**	**319**	⇓P		**Pn**	**12 45 43.7**	**+0.3**
JMK				*e*S		**Sn**	**12 45 54.7**	**-0.7**
JMM	**Marumori**	**1.02**	**248**	⇓P		**Pn**	**12 45 44.5**	**-0.3**
JMM				*e*S		**Sn**	**12 45 55.8**	**-2.1**
JOU	**Okura**	**1.05**	**276**	⇓P		**Pn**	**12 45 45.3**	**+0.1**
JOU				S		**Sn**	**12 45 58.0**	**-0.6**
JFK	**Kawauchi**	**1.25**	**225**	⇓P		**Pn**	**12 45 48.1**	**+0.1**
JFK				S		**Sn**	**12 46 02.6**	**-1.0**
JOM	**Ohasama**	**1.33**	**336**	⇓P		**Pn**	**12 45 49.7**	**+0.7**
JOM				*e*S		**Sn**	**12 46 05.2**	**-0.4**
JYK	**Kaneyama**	**1.44**	**298**	⇓P		**Pn**	**12 45 50.6**	**+0.1**
JFT	**Otama**	**1.50**	**241**	⇓P		**Pn**	**12 45 51.9**	**+0.5**
JFT				*e*S		**Sn**	**12 46 09.6**	**-0.1**
JYS	**Shirataka**	**1.51**	**269**	⇓P		**Pn**	**12 45 51.7**	**+0.2**
JYS				*e*S		**Sn**	**12 46 09.5**	**-0.5**
JRG	**Rokugo**	**1.55**	**318**	P		**Pn**	**12 45 52.7**	**+0.6**
JRG				*e*S		**Sn**	**12 46 10.4**	**-0.6**
MJAR	**Matsushiro Arr**	**3.46**	**242**	P		**Pn**	**12 46 19.3**	**+1.0**
	2.6nm,0.3s,baz=70,slow=16,SNR=20							
MJAR				S		Sn	12 47 06.7	+8.7
	1.8nm,0.3s,baz=118,slow=10,SNR=4.9							
MAT	**Matsushiro**	**3.46**	**242**	P		**Pn**	**12 46 20.7**	**+2.4**
MAT				*e*S		**Sn**	**12 47 01.1**	**+3.0**
JHJ	**Hachijo jima 2**	**5.43**	**200**	P		**Pn**	**12 46 45.6**	**+0.2**
	5.2nm,0.3s,baz=78,slow=20,SNR=3.3							
JHJ				S		**Sn**	**12 47 44.4**	**-2.1**
	7.3nm,0.3s,baz=253,slow=19,SNR=3.2							
USRK	**Ussuriysk Arra**	**9.58**	**311**	P		**Pn**	**12 47 43.2**	**+1.0**
	0.3nm,0.3s,baz=135,slow=19,SNR=5.1							
ZALV	**Zalesovo Beam**	**41.44**	**311**	P		**P**	**12 53 08.2**	**-1.0**
	0.8nm,0.4s,baz=83,slow=7.2,SNR=4.7							
MKAR	**Makanchi Array**	**43.87**	**301**	P		**P**	**12 53 27.9**	**-1.1**
	0.5nm,0.6s,baz=78,slow=9.4,SNR=7.5							
MKAR				pP		**pP**	**12 53 40.2**	**-0.6**
	0.4nm,0.7s,baz=76,slow=12,SNR=3.0							
KURBB	**Kurchatov Arra**	**45.62**	**307**	P		**P**	**12 53 42.3**	**-0.5**
	2.0nm,0.7s,baz=82,slow=8.0,SNR=17							
KURBB				pP		**pP**	**12 53 54.2**	**-0.5**
	0.8nm,0.4s,baz=82,slow=8.8,SNR=4.7							
WRA	**Warramunga Arr**	**58.33**	**188**	P		**P**	**12 55 17.7**	**0.0**
	0.5nm,0.6s,baz=5.7,slow=7.0,SNR=8.5							
WRA				pP		**pP**	**12 55 31.5**	**+1.5

0.8nm,0.6s
ILAR Eielson Array 85.08 25 P P 13 49 53.3 +1.1
ILAR Eielson Array 85.08 25 P P 13 49 53.3 +1.1
0.7nm,1.1s,baz=247,slow=5.1,SNR=2.9
ARCES ARCESS Array B 90.61 340 P P 13 50 18.0 -0.7
ARCES ARCESS Array B 90.61 340 P P 13 50 18.0 -0.7
3.1nm,0.8s,baz=72,slow=5.9,SNR=4.2

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*ISCJB **18** 13:44:53.9±1.3,61.6S±0.3×15.4E±, h10km,mb4.2/5, MS4.3/6,Error ellipse: s-maj=120.4km s-min=14.8km az=162.7*
*NEIC **18** 13:44:55.7±0.7,61.58S×154.18E,h10km,mb4.6/1,Error ellipse: s-maj=64.5km s-min=12.6km az=71.0*
*IDC **18** 13:44:55.5±2.6,61.56S×153.43E,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.9/11,mbtmp3.8/3,MS4.3/6,Ms1 4.3/6, ms1mx3.8/22,Error ellipse: s-maj=211.2km s-min=46.0km az=72.0*
ISC 18 13:44:55.7±1.0,61.6S±0.2×154.2E±0.6,h10km,n27, σ0s84/17,mb3.9/5,MS4.3/6,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**16.20**	**174**	*e*P	Pn	13 48 36.7	-6.2
QSPA	**South Pole Qui**	**28.50**	**180**	*e*P	**P**	**13 50 50.6**	**-0.2**
	12nm,1.2s						
STKA	**Stephens Creek**	**30.84**	**339**	P	**P**	**13 51 12.3**	**+0.6**
STKA	**Stephens Creek**	**30.84**	**339**	P	**P**	**13 51 12.3**	**+0.6**
	1.7nm,0.9s,baz=145,slow=12,SNR=2.5						
MAW	**Mawson**	**36.21**	**220**	LR	LR	14 06 53.6	
	comp=Z,706nm,18.5s,baz=120,slow=37						
ASAR	**Alice Springs**	**40.38**	**331**	P	**P**	**13 52 33.2**	**-0.4**
ASAR	**Alice Springs**	**40.38**	**331**	P	**P**	**13 52 33.2**	**-0.4**
	1.2nm,0.9s,baz=168,slow=8.9,SNR=8.9						
DZM	**Mont Dzumac**	**40.39**	**18**	*e*LR	LR	14 03 45.1	
	726nm,25.2s						
DZM	**Mont Dzumac**	**40.39**	**18**	LR	LR	14 06 14.1	
	comp=Z,421nm,18.6s,baz=206,slow=32						
CTA	**Charters Tower**	**41.84**	**349**	LR	LR	14 07 09.8	
	comp=Z,301nm,21.1s,baz=177,slow=32						
WRA	**Warramunga Arr**	**43.87**	**333**	P	**P**	**13 53 01.0**	**-1.0**
WRA	**Warramunga Arr**	**43.87**	**333**	P	**P**	**13 53 01.0**	**-1.0**
	1.3nm,0.9s,baz=161,slow=7.2,SNR=8.1						
WRAB	**Tennant Creek**	**43.88**	**333**	P	**P**	**13 53 01.9**	**-0.2**
PMSA	**Palmer Station**	**50.76**	**160**	*e*P	**P**	**13 53 55.3**	**+0.2**
	39nm,0.6s						
AFI	**Afiamalu**	**53.51**	**42**	LR	LR	14 13 32.5	
	comp=Z,328nm,20.9s,baz=168,slow=32						
PPT2	**Papeete2**	**58.84**	**68**	*e*LR	LR	14 11 48.1	
	163nm,26.5s						
RKT	**Rikitea**	**60.82**	**85**	*e*T	T	15 00 30.8	
	7.9nm,0.3s						
BOSA	**Boshof**	**81.14**	**224**	LR	LR	14 30 26.0	
	comp=Z,125nm,18.0s,baz=0.0,slow=34						
CMAR	**Chiang Mai Arr**	**91.02**	**309**	LR	LR	14 33 19.4	
	comp=Z,102nm,20.5s,baz=152,slow=32						
MKAR	**Makanchi Array**	**122.42**	**309**	PKP	**PKPdf**	**14 03 51.1**	**+1.2**
MKAR	**Makanchi Array**	**122.42**	**309**	PKP	**PKPdf**	**14 03 51.1**	**+1.2**
	0.8nm,1.0s,baz=130,slow=2.3,SNR=4.0						
KURBB	**Kurchatov Arra**	**126.99**	**309**	PKP	**PKPdf**	**14 03 59.5**	**+1.0**
	0.3nm,0.2s,baz=134,slow=2.2,SNR=5.1						
KURK	**Kurchatov**	**127.03**	**310**	PKP	**PKPdf**	**14 03 59.5**	**+0.9**
YKA	**Yellowknife Ar**	**141.48**	**48**	PKP	**PKPdf**	**14 04 24.4**	**-0.7**
YKA	**Yellowknife Ar**	**141.48**	**48**	PKP	**PKPdf**	**14 04 24.4**	**-0.7**
	0.4nm,0.9s,baz=229,slow=2.3,SNR=4.5						
ARCES	**ARCESS Array B**	**158.02**	**313**	PKPab	**PKPab**	**14 05 23.9**	**-0.5**
ARCES	**ARCESS Array B**	**158.02**	**313**	PKPab	**PKPab**	**14 05 23.9**	**-0.5**
	3.1nm,0.8s,baz=72,slow=2.9,SNR=5.0						

IDC 18 13:50:18.2±1.3,34.11N×23.31E,h0km,mb3.9/5, mb1 3.8/6,mb1mx3.5/27,mbtmp3.8/6,ML3.2/1,Error ellipse: s-maj=51.8km s-min=22.9km az=141.0,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**9.99**	**53**	Pn	Pn	13 52 45.0	+1.8
	0.2nm,0.3s,baz=249,slow=16,SNR=4.3						
HFS	**Hagfors**	**26.79**	**349**	P	P	13 55 59.8	+0.1
	2.7nm,0.8s,baz=156,slow=8.1,SNR=4.6						
TORD	**Torodi Ar. Bea**	**28.65**	**228**	P	P	13 56 16.9	+0.1
	0.3nm,0.8s,baz=36,slow=9.8,SNR=2.8						
KURBB	**Kurchatov Arra**	**42.97**	**50**	P	P	13 58 18.6	-0.3
	1.1nm,0.4s,baz=275,slow=8.9,SNR=16						
MKAR	**Makanchi Array**	**45.63**	**55**	P	P	13 58 40.3	-0.1
	1.9nm,0.6s,baz=278,slow=7.2,SNR=26						
ZALV	**Zalesovo Beam**	**46.83**	**45**	P	P	13 58 48.9	-0.8
	0.6nm,0.4s,baz=264,slow=9.4,SNR=5.0						

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*MOS **18** 14:02:32.0±0.9,50.58N×158.06E,h5km,mb4.2/1,Error ellipse: s-maj=44.6km s-min=14.2km az=78.1*
KRSC 18 14:02:32.0±1.0,50.58N×158.06E,h5km±5km,ML4.0,1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.24**	**276**	*i*PN	Pg	14 02 47.0	-8.8
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,250nm,0.5s						
SKR				pmax	pmax		
	comp=N,120nm,0.2s						
ASAK	**Asacha**	**1.81**	**357**	*e*P	Pn	14 03 04.7	+0.8
ASAK				*i* S	Sb	14 03 28.3	-0.5
RUS	**Russkaya**	**1.88**	**8**	PN	Pn	14 03 05.7	+1.0
RUS				S	Sb	14 03 30.5	0.0
RUS	**Russkaya**	**1.88**	**8**	*e*P	Pn	14 03 05.7	+1.0
RUS				*i* S	Sb	14 03 30.5	0.0
MTVR	**Mutnovka**	**1.91**	**2**	*e*P	Pn	14 03 06.3	+0.9
MTVR				*i* S	Sb	14 03 31.4	-0.3
PET	**Petropavlovsk**	**2.48**	**8**	PN	Pn	14 03 14.4	+1.5
PET				S	Sn	14 03 44.8	+1.3
PET	**Petropavlovsk**	**2.48**	**8**	*e*P	Pn	14 03 14.4	+1.5
PET				*i* S	Sn	14 03 44.8	+1.3
NLC	**Nalytchevo**	**2.71**	**17**	PN	Pn	14 03 16.6	+0.4
NLC				S	Sn	14 03 49.0	-0.4
NLC	**Nalytchevo**	**2.71**	**17**	*e*P	Pn	14 03 16.6	+0.4
NLC				*i* S	Sn	14 03 49.0	-0.4
SPN	**Mys Shipunski**	**2.80**	**25**	PN	Pn	14 03 19.9	+2.5
SPN				S	Sn	14 03 54.3	+2.7
SPN	**Mys Shipunski**	**2.80**	**25**	*e*P	Pn	14 03 19.9	+2.5
SPN				*i* S	Sn	14 03 54.3	+2.7
MKZ	**Mys Kozlova**	**4.57**	**28**	PN	Pn	14 03 43.1	+1.4
MKZ	**Mys Kozlova**	**4.57**	**28**	*e*P	Pn	14 03 43.1	+1.4
MKZ				*i* S	Sn	14 04 33.6	-1.5
KMNR	**Kamenistaya**	**5.35**	**13**	*e*P	Pn	14 03 56.0	+3.4
KBTR	**Krutoberegovo**	**6.32**	**25**	PN	Pn	14 04 06.5	+0.8
KBTR	**Krutoberegovo**	**6.32**	**25**	*e*P	Pn	14 04 06.5	+0.8

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*ATH **18** 14:15:32.5,37.11N×20.70E,h10km±3km,MD3.5/12*
*THE **18** 14:15:33.1,37.14N×20.75E,h1km±1km,ML2.7/5,Error ellipse: s-maj=1.8km s-min=0.5km az=220.0*
*CSEM **18** 14:15:33.1±0.5,37.16N×20.74E,h2km,ML2.7/5,Error ellipse: s-maj=9.5km s-min=4.2km az=52.0*
ISC 18 14:15:32.5±1.7,37.11N±0.05×20.73E±0.05,h2km±11km, n50,σ0s56/76,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.84**	**105**	P	**Pg**	**14 15 48.6**	**+0.1**
PYL				S	**Sb**	**14 16 01.0**	**-0.4**
PYL	**PYLOS**	**0.84**	**105**	*e*PB	**Pg**	**14 15 48.8**	**+0.3**
PYL				*e*SB	**Sb**	**14 16 01.4**	**0.0**
PYL	**PYLOS**	**0.84**	**105**	P	**Pg**	**14 15 48.6**	**+0.1**
PYL				S	**Sb**	**14 16 01.0**	**-0.4**
PYL				*e*Sb	**Sb**	**14 16 01.4**	**0.0**
ITM	**Ithomi**	**0.96**	**86**	P	**Pg**	**14 15 50.9**	**+0.1**
ITM				S	**Sb**	**14 16 04.4**	**-0.5**
ITM	**Ithomi**	**0.96**	**86**	*e*PG	**Pg**	**14 15 50.9**	**+0.1**
ITM				*e*SB	**Sb**	**14 16 05.1**	**+0.2**
ITM	**Ithomi**	**0.96**	**86**	P	**Pg**	**14 15 50.9**	**+0.1**
ITM				S	**Sb**	**14 16 04.4**	**-0.5**
ITM				*e*Sb	**Sb**	**14 16 05.1**	**+0.2**
KFL	**Anninata**	**1.00**	**2**	P	**Pg**	**14 15 51.5**	**-0.1**
KFL	**Anninata**	**1.00**	**2**	P	**Pg**	**14 15 51.5**	**-0.1**
VLS	**Valsamata**	**1.07**	**354**	P	**Pg**	**14 15 53.0**	**0.0**
VLS				S	**Sb**	**14 16 07.9**	**-0.3**
VLS	**Valsamata**	**1.07**	**354**	*e*PN	**Pg**	**14 15 53.0**	**0.0**
VLS				*e*SB	**Sb**	**14 16 08.6**	**+0.4**
VLS	**Valsamata**	**1.07**	**354**	P	**Pg**	**14 15 53.0**	**0.0**
VLS				S	**Sb**	**14 16 07.9**	**-0.3**
VLS				*e*Sb	**Sb**	**14 16 08.6**	**+0.4**
RLS	**Riolos of Patr**	**1.11**	**31**	P	**Pg**	**14 15 53.2**	**-0.6**
RLS				S	**Sg**	**14 16 08.8**	**+0.7**
RLS	**Riolos of Patr**	**1.11**	**31**	*e*PB	**Pg**	**14 15 52.8**	**-0.9**
RLS	**Riolos of Patr**	**1.11**	**31**	*e*Pb	**Pg**	**14 15 52.8**	**-0.9**
RLS	**Riolos of Patr**	**1.11**	**31**	P	**Pg**	**14 15 53.2**	**-0.6**
RLS				S	**Sg**	**14 16 08.8**	**+0.7**
VLX	**Vlachokerasia**	**1.34**	**78**	P	**Pn**	**14 15 57.5**	**-0.8**
VLX				S	**Sn**	**14 16 17.3**	**+0.5**
VLX	**Vlachokerasia**	**1.34**	**78**	*e*PG	**Pn**	**14 15 57.7**	**-0.6**
VLX	**Vlachokerasia**	**1.34**	**78**	P	**Pn**	**14 15 57.5**	**-0.8**
VLX				S	**Sn**	**14 16 17.3**	**+0.5**
LAKA	**Lakka**	**1.50**	**41**	P	**Pn**	**14 16 00.1**	**-0.4**
LAKA				S	**Sb**	**14 16 20.8**	**+0.2**
LAKA	**Lakka**	**1.50**	**41**	P	**Pn**	**14 16 00.1**	**-0.4**
LAKA				S	**Sb**	**14 16 20.8**	**+0.2**
GUR	**Goura**	**1.52**	**57**	P	**Pn**	**14 15 59.7**	**-1.1**
GUR				S	**Sn**	**14 16 21.3**	**0.0**
GUR	**Goura**	**1.52**	**57**	*e*PN	**Pn**	**14 15 59.7**	**-1.1**
GUR	**Goura**	**1.52**	**57**	P	**Pn**	**14 15 59.7**	**-1.1**
GUR				S	**Sn**	**14 16 21.3**	**0.0**
EFP	**Efpalio**	**1.61**	**35**	P	**Pg**	**14 16 03.4**	**+0.2**
EFP				S	**Sb**	**14 16 23.6**	**-0.1**
EFP	**Efpalio**	**1.61**	**35**	*e*PB	**Pg**	**14 16 03.5**	**+0.2**
EFP	**Efpalio**	**1.61**	**35**	*e*Pb	**Pg**	**14 16 03.5**	**+0.2**
EFP				S	**Sb**	**14 16 23.6**	**-0.1**
TRIZ	**Trizonia**	**1.64**	**40**	P	**Pn**	**14 16 02.1**	**-0.3**
TRIZ	**Trizonia**	**1.64**	**40**	P	**Pn**	**14 16 02.1**	**-0.3**
LKD2	**Lefkada island**	**1.68**	**358**	P	**Pn**	**14 16 02.2**	**-0.7**
LKD2				S	**Sn**	**14 16 25.1**	**+0.1**
LKD2	**Lefkada island**	**1.68**	**358**	P	**Pn**	**14 16 02.2**	**-0.7**
LKD2				S	**Sn**	**14 16 25.1**	**+0.1**
KALE	**Kalithea**	**1.70**	**41**	P	**Pn**	**14 16 03.0**	**-0.2**
KALE				S	**Sn**	**14 16 25.9**	**+0.4**
KALE	**Kalithea**	**1.70**	**41**	P	**Pn**	**14 16 03.0**	**-0.2**
KALE				S	**Sn**	**14 16 25.9**	**+0.4**
VLI	**Veliai**	**1.81**	**102**	*e*PN	**Pb**	**14 16 06.3**	**0.0**
VLI	**Veliai**	**1.81**	**102**	*e*Pn	**Pb**	**14 16 06.3**	**0.0**
DESF	**Desfina**	**1.93**	**47**	P	**Pn**	**14 16 06.3**	**-0.1**
DESF	**Desfina**	**1.93**	**47**	P	**Pn**	**14 16 06.3**	**-0.1**
EVR	**Evrytania**	**1.99**	**25**	*e*PG	**Pb**	**14 16 09.3**	**-0.2**
EVR	**Evrytania**	**1.99**	**25**	*e*Pg	**Pb**	**14 16 09.3**	**-0.2**
LTK	**Loutraki**	**2.00**	**62**	P	**Pn**	**14 16 07.9**	**+0.7**
LTK	**Loutraki**	**2.00**	**62**	*e*PN	**Pn**	**14 16 08.0**	**+0.7**
LTK	**Loutraki**	**2.00**	**62**	P	**Pn**	**14 16 07.9**	**+0.7**
KYTH	**Kithira**	**2.03**	**113**	P	**Pb**	**14 16 09.9**	**-0.2**
KYTH	**Kithira**	**2.03**	**113**	*e*PN	**Pb**	**14 16 09.6**	**-0.5**
KYTH	**Kithira**	**2.03**	**113**	*e*Pn	**Pb**	**14 16 09.6**	**-0.5**
DID	**Didima**	**2.04**	**78**	P	**Pn**	**14 16 08.6**	**+0.8**
DID	**Didima**	**2.04**	**78**	*e*PN	**Pb**	**14 16 09.3**	**-0.9**
DID	**Didima**	**2.04**	**78**	P	**Pn**	**14 16 08.6**	**+0.8**
DID	**Didima**	**2.04**	**78**	*e*Pn	**Pb**	**14 16 09.3**	**-0.9**
THL	**Klokotos Trika**	**2.65**	**22**	*e*PB	**Pn**	**14 16 17.7**	**+1.5**
THL	**Klokotos Trika**	**2.65**	**22**	*e*Pn	**Pn**	**14 16 17.7**	**+1.5**

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*IDC **18** 14:20:39.0±1.4,4.26N×126.78E,h0km,mb4.1/7, mb1 4.2/7,mb1mx3.9/22,mbtmp4.1/7,MS3.1/3,Ms1 3.1/3, ms1mx2.6/33,Error ellipse: s-maj=75.5km s-min=16.6km az=64.0*
*DJA **18** 14:20:41,4.52N×126.89E,h10km,mb4.5/5*
*ISCJB **18** 14:20:44.0±0.7,4.20N±0.06×126.73E±0.08,h45km, mb4.2/8,MS3.2/1,Error ellipse: s-maj=12.9km s-min=7.2km az=150.0*
ISC 18 14:20:46.0±1.1,4.2N±0.1×126.7E±0.1,h45km,n23, σ0s97/17,mb4.1/8,1C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.56**	**317**	*i*P	**Pn**	**14 21 25.2**	**+0.2**
DAV	**Davao City (W)**	**3.05**	**338**	LR	LR	14 23 05.5	
	comp=Z,270nm,18.2s,baz=269,slow=48						
MNI	**Manado**	**3.32**	**214**	P	**Pn**	**14 21 35.2**	**-0.3**
TNTI	**Ternate**	**3.48**	**169**	P	**Pn**	**14 21 37.0**	**-0.6**
CTBH	**Cotabato--PC H**	**3.87**	**321**	*i*P	**Pn**	**14 21 44.0**	**+1.1**
KMSI	**Cibinong**	**4.52**	**217**	P	**Pn**	**14 21 51.7**	**-0.3**
LBMI	**Labuha**	**4.88**	**171**	P	**Pn**	**14 21 57.2**	**+0.3**
MRSI	**Marisa**	**6.04**	**232**	P	**Pn**	**14 22 13.6**	**+0.8**
	49nm,0.7s,3μm0.2nm						
SWI	**Sorong**	**6.79**	**138**	P	**Pn**	**14 22 24.7**	**+1.6**
	21nm,1.1s						
MYLDM	**Lahad Datu**	**8.24**	**277**	P	**Pn**	**14 22 45.1**	**+2.1**
	22nm,1.4s						
KDI	**Kendari**	**9.08**	**207**	P	**Pn**	**14 22 54.1**	**-0.5**
KAPI	**Kappang**	**11.50**	**217**	LR	LR	14 28 14.3	
	comp=Z,67nm,19.3s,baz=31,slow=39						
FITZ	**Fitzroy Crossi**	**22.20**	**183**	*e*P	**P**	**14 25 38.4**	**-0.2**
	8.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**22.20**	**183**	P	**P**	**14 25 37.2**	**-1.4**
	3.7nm,0.7s,baz=17,slow=11,SNR=5.3						
JOW	**Kunigami**	**22.55**	**4**	LR	LR	14 34 17.2	
	comp=Z,85nm,20.6s,baz=138,slow=36						
WRA	**Warramunga Arr**	**25.15**	**163**	P	**P**	**14 26 06.2**	**-1.0**
	9.8nm,0.8s,baz=343,slow=10,SNR=48						
ASAR	**Alice Springs**	**28.58**	**166**	P	P	14 26 36.8	-1.2
	0.6nm,0.5s,baz=342,slow=7.4,SNR=16						
CMAR	**Chiang Mai Arr**	**30.61**	**300**	P	**P**	**14 26 55.8**	**-0.3**
	1.2nm,0.9s,baz=112,slow=7.1,SNR=9.4						
EIDS	**Eidsvold**	**37.74**	**142**	*e*P	**P**	**14 27 58.0**	**+0.3**
	26nm,0.8s						
STKA	**Stephens Creek**	**38.58**	**159**	*e*P	**P**	**14 28 04.6**	**-0.1**
	5.6nm,0.8s						
STKA	**Stephens Creek**	**38.58**	**159**	P	**P**	**14 28 04.6**	**-0.1**
	10.0nm,1.0s,baz=337,slow=9.2,SNR=14						
MKAR	**Makanchi Array**	**57.15**	**325**	P	P	14 30 27.5	-0.7
	1.1nm,0.7s,baz=138,slow=6.3,SNR=6.9						
ZALV	**Zalesovo Beam**	**60.15**	**333**	P	P	14 30 47.9	-1.1
	0.6nm,0.5s,baz=125,slow=6.0,SNR=4.2						

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*CSEM **18** 14:23:15.6,45.62N×26.45E,h110km,MD3.2/2,After BUC*
BUC 18 14:23:15.6±1.5,45.62N×26.45E,h110km±14km,MD3.2/2, 38C-6D,Error ellipse: s-maj=10.5km s-min=9.4km az=65.0,Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.27**	**31**	*i*P	Pn	14 23 31.6	+0.3
PLOR	**Plostina**	**0.27**	**31**	*i*P	Pn	14 23 31.6	+0.3
PLOR				*i* S	Sn	14 23 43.2	+0.1
PLOR	**Plostina**	**0.27**	**31**	*i*P	Pn	14 23 31.6	+0.3
PLOR				*i* S	Sn	14 23 43.2	+0.1
VRI	**Vrincioaia**	**0.31**	**38**	*i*P	Pn	14 23 31.9	+0.4
VRI	**Vrincioaia**	**0.31**	**38**	*i*P	Pn	14 23 31.9	+0.4
VRI				*i* S	Sn	14 23 43.5	+0.1
VRI	**Vrincioaia**	**0.31**	**38**	*i*P	Pn	14 23 31.9	+0.4
VRI				*i* S	Sn	14 23 43.5	+0.1
MLR	**Muntele Rosu**	**0.38**	**250**	*i*P	Pn	14 23 32.2	+0.3
MLR	**Muntele Rosu**	**0.38**	**250**	*i*P	Pn	14 23 32.2	+0.3
MLR				*i* S	Sn	14 23 44.0	-0.2
MLR	**Muntele Rosu**	**0.38**	**250**	*i*P	Pn	14 23 32.2	+0.3
MLR				*i* S	Sn	14 23 44.0	-0.2
GRER		**0.44**	**123**	*i*P	Pn	14 23 33.5	+1.4
GRER		**0.44**	**123**	*i*P	Pn	14 23 33.5	+1.4
GRER				*i* S	Sn	14 23 45.4	+1.0
GRER		**0.44**	**123**	*i*P	Pn	14 23 33.5	+1.4
GRER				*i* S	Sn	14 23 45.4	+1.0
ISR	**Istrita**	**0.51**	**173**	*i*P	Pn	14 23 33.0	+0.4
ISR	**Istrita**	**0.51**	**173**	*i*P	Pn	14 23 33.0	+0.4
ISR	**Istrita**	**0.51**	**173**	*i*P	Pn	14 23 33.0	+0.4
PETR		**0.56**	**79**	*i*P	Pn	14 23 33.8	+1.0
PETR		**0.56**	**79**	*i*P	Pn	14 23 33.8	+1.0
PETR		**0.56**	**79**	*i*P	Pn	14 23 33.8	+1.0
SECR		**0.65**	**205**	*i*P	Pn	14 23 34.5	+0.9
SECR		**0.65**	**205**	*i*P	Pn	14 23 34.5	+0.9
SECR				*i* S	Sn	14 23 48.1	+1.1
SECR		**0.65**	**205**	*i*P	Pn	14 23 34.5	+0.9
SECR				*i* S	Sn	14 23 48.1	+1.1
PGOR	**Pogoanele**	**0.81**	**152**	*i*P	Pn	14 23 35.7	+0.8
PGOR	**Pogoanele**	**0.81**	**152**	*i*P	Pn	14 23 35.7	+0.8
PGOR				*i* S	Sn	14 23 50.6	+1.2
PGOR	**Pogoanele**	**0.81**	**152**	*i*P	Pn	14 23 35.7	+0.8
PGOR				*i* S	Sn	14 23 50.6	+1.2
TESR		**0.90**	**9**	*i*P	Pn	14 23 36.0	+0.2
TESR		**0.90**	**9**	*i*P	Pn	14 23 36.0	+0.2
TESR				*i* S	Sn	14 23 50.5	-0.6
TESR		**0.90**	**9**	*i*P	Pn	14 23 36.0	+0.2
TESR				*i* S	Sn	14 23 50.5	-0.6
SULR		**0.95**	**189**	*i*P	Pn	14 23 35.5	-0.8
SULR				*i* S	Sn	14 23 51.0	-0.9
SULR		**0.95**	**189**	*i*P	Pn	14 23 35.5	-0.8
SULR				*i* S	Sn	14 23 51.0	-0.9
VOIR		**1.00**	**260**	*i*P	Pn	14 23 36.9	0.0
VOIR		**1.00**	**260**	*i*P	Pn	14 23 36.9	0.0
VOIR				*i* S	Sn	14 23 52.1	-0.9
VOIR		**1.00**	**260**	*i*P	Pn	14 23 36.9	0.0
VOIR				*i* S	Sn	14 23 52.1	-0.9
CIOR	**Ciorogarla**	**1.24**	**199**	S	Sn	14 23 57.4	0.0
CIOR	**Ciorogarla**	**1.24**	**199**	*i* S	Sn	14 23 57.4	0.0
CIOR	**Ciorogarla**	**1.24**	**199**	*i* S	Sn	14 23 57.4	0.0
CFR	**Carcaliu**	**1.27**	**110**	*i*P	Pn	14 23 39.9	+0.3
CFR	**Carcaliu**	**1.27**	**110**	*i*P	Pn	14 23 39.9	+0.3
CFR				*i* S	Sn	14 23 57.7	-0.1
CFR	**Carcaliu**	**1.27**	**110**	*i*P	Pn	14 23 39.9	+0.3
CFR				*i* S	Sn	14 23 57.7	-0.1
HUMR	**Humele**	**1.51**	**224**	S	Sn	14 24 02.7	-0.3
HUMR	**Humele**	**1.51**	**224**	*i* S	Sn	14 24 02.7	-0.3
HUMR	**Humele**	**1.51**	**224**	*i* S	Sn	14 24 02.7	-0.3
LEOM	**Leova**	**1.51**	**55**	S	Sn	14 24 03.5	+0.5
LEOM	**Leova**	**1.51**	**55**	*i* S	Sn	14 24 03.5	+0.5
LEOM	**Leova**	**1.51**	**55**	*i* S	Sn	14 24 03.5	+0.5
TLCR		**1.72**	**104**	*i*P	Pn	14 23 45.7	+0.7
TLCR		**1.72**	**104**	*i*P	Pn	14 23 45.7	+0.7
TLCR				*i* S	Sn	14 24 07.9	+0.4
TLCR		**1.72**	**104**	*i*P	Pn	14 23 45.7	+0.7
TLCR				*i* S	Sn	14 24 07.9	+0.4
CVD	**Cernavoda**	**1.72**	**139**	S	Sn	14 24 07.6	+0.1
CVD	**Cernavoda**	**1.72**	**139**	*i* S	Sn	14 24 07.6	+0.1
CVD	**Cernavoda**	**1.72**	**139**	*i* S	Sn	14 24 07.6	+0.1
TIRR	**Tirgusor**	**1.81**	**129**	*i*P	Pn	14 23 46.6	+0.4
TIRR	**Tirgusor**	**1.81**	**129**	*i*P	Pn	14 23 46.6	+0.4
TIRR				*i* S	Sn	14 24 08.9	-0.6
TIRR	**Tirgusor**	**1.81**	**129**	*i*P	Pn	14 23 46.6	+0.4
TIRR				*i* S	Sn	14 24 08.9	-0.6
LOT	**Lotru**	**1.89**	**266**	S	Sn	14 24 11.8	+0.1
LOT	**Lotru**	**1.89**	**266**	*i* S	Sn	14 24 11.8	+0.1
LOT	**Lotru**	**1.89**	**266**	*i* S	Sn	14 24 11.8	+0.1
BURAR	**Bucovina Array**	**2.17**	**337**	*i*P	Pn	14 23 52.1	+1.2
BURAR	**Bucovina Array**	**2.17**	**337**	*i*P	Pn	14 23 52.1	+1.2
BURAR	**Bucovina Array**	**2.17**	**337**	*i*P	Pn	14 23 52.1	+1.2
GZR	**Gura Zlata**	**2.59**	**266**	S	Sn	14 24 28.0	+0.4
GZR	**Gura Zlata**	**2.59**	**266**	*i* S	Sn	14 24 28.0	+0.4
GZR	**Gura Zlata**	**2.59**	**266**	*i* S	Sn	14 24 28.0	+0.4

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*CSEM **18** 14:24:08.1±0.1,40.80N×27.79E,h10km,MD2.7,Error ellipse: s-maj=3.0km s-min=2.6km az=147.0*
*DDA **18** 14:24:08.2,40.81N×27.78E,h7km,MD2.9*
ISK 18 14:24:07.6,40.78N×27.80E,h15km,MD2.7,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKR	**Tekirdag**	**0.29**	**316**	*e*PG	Pg	14 24 14.1	+0.4
TKR				*e*SG	Sb	14 24 19.0	-0.2
TKR	**Tekirdag**	**0.29**	**316**	*e*Pg	Pg	14 24 14.1	+0.4
TKR				*e*Sg	Sb	14 24 19.0	-0.2
MFT	**Murefte**	**0.39**	**271**	*e*PG	Pg	14 24 15.7	0.0
MFT	**Murefte**	**0.39**	**271**	*e*Pg	Pg	14 24 15.7	0.0
BNT	**Bandirma**	**0.43**	**168**	*e*PG	Pb	14 24 16.8	-0.2
BNT				*e*SG	Sb	14 24 23.0	-0.4
BNT	**Bandirma**	**0.43**	**168**	*e*Pg	Pb	14 24 16.8	-0.2
BNT				*e*Sg	Sb	14 24 23.0	-0.4
EDC	**Edincik**	**0.44**	**174**	*e*PG	Pb	14 24 17.2	+0.2
EDC				*e*SG	Sb	14 24 23.6	+0.2
EDC	**Edincik**	**0.44**	**174**	*e*Pg	Pb	14 24 17.2	+0.2
EDC				*e*Sg	Sb	14 24 23.6	+0.2
SART	**Tekirdag**	**0.48**	**259**	*i* P	Pg	14 24 17.3	0.0
SART				*i* S	Sg	14 24 24.2	+0.4

s-maj=119.7km s-min=21.9km az=59.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.46**	**0**	Pn	Pn	14 32 24.9	-0.1
	5.3nm,0.3s,baz=344,slow=12,SNR=14						
WRA	**Warramunga Arr**	**39.61**	**121**	P	P	14 39 02.8	-0.5
	0.4nm,0.5s,baz=304,slow=8.8,SNR=5.3						
ASAR	**Alice Springs**	**40.91**	**127**	P	P	14 39 14.3	+0.3
	0.2nm,0.3s,baz=299,slow=7.6,SNR=4.6						
MKAR	**Makanchi Array**	**49.48**	**345**	P	P	14 40 21.1	-0.6
	0.2nm,0.4s,baz=152,slow=6.5,SNR=3.9						
ZALV	**Zalesovo Beam**	**55.68**	**350**	P	P	14 41 07.5	-0.1
	0.3nm,0.3s,baz=157,slow=7.8,SNR=2.7						

IDC 18 14:44:04.4±2.1, 4.00N×126.04E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, Error ellipse: s-maj=192.5km s-min=26.1km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.15**	**161**	P	P	14 49 30.7	-0.8
	0.5nm,0.5s,baz=341,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**28.54**	**165**	P	P	14 50 01.1	-1.0
	0.1nm,0.5s,baz=342,slow=7.3,SNR=6.0						
STKA	**Stephens Creek**	**38.62**	**159**	P	P	14 51 31.4	+1.8
	2.4nm,0.9s,baz=340,slow=10,SNR=3.1						
MKAR	**Makanchi Array**	**56.95**	**325**	P	P	14 53 51.6	0.0
	0.1nm,0.4s,baz=118,slow=7.5,SNR=4.7						

IDC 18 14:55:06.9±2.2, 4.26S×129.55E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, ML3.6/3, Error ellipse: s-maj=114.5km s-min=27.1km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.28**	**195**	Pn	Pn	14 58 31.2	+0.5
	0.4nm,0.3s,baz=9.5,slow=12,SNR=6.9						
WRA	**Warramunga Arr**	**16.27**	**164**	Pn	Pn	14 58 58.6	+1.5
	0.2nm,0.3s,baz=343,slow=11,SNR=18						
WRA				Sn	Sn	15 01 50.1	-8.4
	0.1nm,0.3s,baz=349,slow=25,SNR=3.6						
ASAR	**Alice Springs**	**19.75**	**168**	P	P	14 59 37.7	-0.9
	0.3nm,0.3s,baz=345,slow=12,SNR=27						
MKAR	**Makanchi Array**	**65.70**	**326**	P	P	15 05 53.5	0.0
	0.3nm,0.5s,baz=116,slow=7.5,SNR=6.4						

*ISCJB **18** 14:59:51.0±0.6, 50.32N±0.05×18.73E±0.03, h0km, Error ellipse: s-maj=6.6km s-min=3.0km az=3.9*
*CSEM **18** 14:59:51.9±0.3, 50.31N×18.73E, h2km, ML2.5/4, Error ellipse: s-maj=9.9km s-min=3.9km az=172.0*
*WAR **18** 14:59:52.4, 50.25N×18.76E*
*PRU **18** 14:59:53.1, 50.26N×18.70E, h0km*
*IPEC **18** 14:59:53.0±0.1, 50.24N×18.73E, h0km, ML1.5/3, Error ellipse: s-maj=2.3km s-min=0.8km az=169.0*

ISC 18 14:59:51.9±0.9, 50.27N±0.05×18.73E±0.02, h0km, n23, σ0.93/37, 2C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.57**	**222**	*e*Pg	**Pb**	**15 00 04.5**	**-0.3**
OKC				*e*Sg	**Sg**	**15 00 11.9**	**+1.7**
	comp=Z,12nm,0.6s						
OKC	**Ostrava-Krasne**	**0.57**	**222**	*e*Pg	**Pg**	**15 00 03.9**	**+1.1**
	baz=43						
OKC				Sg	**Sg**	**15 00 11.9**	**+1.7**
	12nm,0.6s						
OJC	**Ojcow**	**0.69**	**93**	*e*Pg	**Pg**	**15 00 05.1**	**0.0**
OJC				*e*Sg	**Sg**	**15 00 15.0**	**+1.1**
OJC	**Ojcow**	**0.69**	**93**	*e*Pg	**Pg**	**15 00 06.0**	**+0.9**
	baz=272						
OJC				*e*Sg	**Sg**	**15 00 14.5**	**+0.6**
	baz=272						
MORC	**Moravsky Berou**	**0.91**	**238**	↓*i*P	**Pg**	**15 00 09.9**	**+0.5**
MORC	**Moravsky Berou**	**0.91**	**238**	↓*i*P	**Pg**	**15 00 09.9**	**+0.5**
MORC				*e*Sg	**Sg**	**15 00 20.9**	**-0.2**
	9.6nm,0.2s,baz=59						
MORC				S	**Sb**	**15 00 22.7**	**-0.6**
KRLC	**Kraliky**	**1.27**	**262**	*e*PG	**Pg**	**15 00 16.3**	**+0.1**
KRLC				*e*SG	**Sg**	**15 00 32.5**	**-0.2**
KRLC	**Kraliky**	**1.27**	**262**	Pg	**Pg**	**15 00 16.3**	**+0.1**
KRLC				Sg	**Sg**	**15 00 32.5**	**-0.2**
NIE	**Niedzica**	**1.33**	**129**	*e*Pg	**Pg**	**15 00 17.1**	**-0.3**
NIE				*e*Sg	**Sn**	**15 00 37.0**	**+0.9**
DPC	**Dobruska-Polom**	**1.55**	**274**	*e*PG	**Pn**	**15 00 21.4**	**+0.6**
DPC				*e*SG	**Sn**	**15 00 42.0**	**+0.4**
	comp=Z,8.2nm,0.8s						
DPC	**Dobruska-Polom**	**1.55**	**274**	Pg	**Pn**	**15 00 21.4**	**+0.6**
DPC	**Dobruska-Polom**	**1.55**	**274**	*e*Pn	**Pb**	**15 00 21.8**	**+0.3**
	baz=93						
DPC				*e*Sg	**Sn**	**15 00 41.5**	**-0.1**
	baz=93						
KSP	**Ksiaz**	**1.66**	**291**	*e*Pg	**Pg**	**15 00 24.1**	**+0.3**
KSP				*e*Sg	**Sg**	**15 00 46.0**	**+0.8**
VRAC	**Vranov**	**1.69**	**236**	↓*i*P	**Pn**	**15 00 20.5**	**-2.1**
VRAC	**Vranov**	**1.69**	**236**	↓*i*P	**Pn**	**15 00 20.5**	**-2.1**
VRAC	**Vranov**	**1.69**	**236**	*e*Pn	**Pb**	**15 00 23.6**	**-0.2**
	baz=55						
VRAC				S	**Sn**	**15 00 45.1**	**+0.2**
KRUC	**Moravsky**	**1.94**	**232**	*e*Pn	**Pn**	**15 00 26.9**	**+0.8**
	baz=51						
KRUC				*e*Sn	**Sb**	**15 00 52.6**	**-0.2**
	3.2nm,0.2s,baz=51						
KWP	**Kalwaria Pacla**	**2.65**	**102**	↑*i*P	**Pn**	**15 00 34.4**	**-1.4**
KWP	**Kalwaria Pacla**	**2.65**	**102**	S	**Sn**	**15 01 09.1**	**+0.5**
KWP	**Kalwaria Pacla**	**2.65**	**102**	↑*i*P	**Pn**	**15 00 34.4**	**-1.4**
KHC	**Kasperske Hory**	**3.53**	**253**	*e*SG	**Sg**	**15 01 44.3**	**-1.1**
	comp=Z,3.3nm,0.5s						
KHC	**Kasperske Hory**	**3.53**	**253**	Sg	**Sg**	**15 01 44.3**	**-1.1**
	3.3nm,0.5s						
PKSM	**Moragy**	**4.06**	**181**	↓*i*P	**Pn**	**15 00 55.2**	**0.0**

IDC 18 15:02:10.3±1.6, 3.94N×126.11E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/21, mbtmp3.5/5, Error ellipse: s-maj=171.0km s-min=21.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.07**	**161**	P	P	15 07 35.7	-0.9
	1.1nm,0.7s,baz=341,slow=9.4,SNR=7.2						
ASAR	**Alice Springs**	**28.47**	**165**	P	P	15 08 08.1	+0.8
	0.2nm,0.5s,baz=343,slow=7.1,SNR=4.3						
STKA	**Stephens Creek**	**38.54**	**159**	P	P	15 09 35.2	+0.4
	0.6nm,0.6s,baz=350,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**57.03**	**325**	P	P	15 11 58.6	+0.5
	0.3nm,0.6s,baz=116,slow=8.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**60.12**	**333**	P	P	15 12 18.6	-0.8
	0.2nm,0.3s,baz=147,slow=8.2,SNR=2.6						

IDC 18 15:11:13.5±1.9, 3.71N×126.87E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, MS2.7/1, Ms1 2.7/1, ms1mx2.0/35, Error ellipse: s-maj=154.7km s-min=24.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**11.21**	**219**	LR	LR	15 18 40.3	
	comp=Z,36nm,19.2s,baz=266,slow=40						
WRA	**Warramunga Arr**	**24.62**	**163**	P	P	15 16 34.9	-1.0
	1.2nm,0.7s,baz=342,slow=10,SNR=10						
ASAR	**Alice Springs**	**28.06**	**166**	P	P	15 17 08.9	+2.0
	0.2nm,0.4s,baz=342,slow=8.9,SNR=6.5						
STKA	**Stephens Creek**	**38.06**	**159**	P	P	15 18 33.1	-0.9
	4.0nm,1.1s,baz=336,slow=9.6,SNR=2.8						
MKAR	**Makanchi Array**	**57.65**	**325**	P	P	15 21 05.6	-0.1
	0.4nm,0.5s,baz=122,slow=8.3,SNR=7.3						

IDC 18 15:12:20.9±1.2, 21.67N×57.67W, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/26, mbtmp3.5/4, Error ellipse: s-maj=35.0km s-min=28.1km az=111.0, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**55.89**	**332**	P	P	15 21 59.7	-0.5
	0.4nm,0.8s,baz=103,slow=7.9,SNR=5.8						
TORD	**Torodi Ar. Bea**	**56.99**	**88**	P	P	15 22 07.9	-1.0
	0.3nm,0.7s,baz=270,slow=8.2,SNR=2.6						
ILAR	**Eielson Array**	**70.30**	**333**	P	P	15 23 36.0	0.0
	0.3nm,0.7s,baz=81,slow=5.6,SNR=4.6						
BRTR	**Keskin Array B**	**77.45**	**52**	P	P	15 24 19.6	+1.0
	0.2nm,0.3s,baz=305,slow=5.1,SNR=4.4						

IDC 18 15:15:17.9±1.8, 3.59N×126.81E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.7/4, Error ellipse: s-maj=147.8km s-min=23.8km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.53**	**163**	P	P	15 20 38.5	-0.9
	1.9nm,0.8s,baz=342,slow=10,SNR=14						
ASAR	**Alice Springs**	**27.96**	**166**	P	P	15 21 12.1	+1.6
	0.6nm,1.0s,baz=344,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**37.97**	**159**	P	P	15 22 36.6	-1.0
	1.3nm,0.8s,baz=335,slow=14,SNR=3.9						
MKAR	**Makanchi Array**	**57.71**	**325**	P	P	15 25 10.4	-0.1
	0.4nm,0.5s,baz=119,slow=8.3,SNR=8.4						

IDC 18 15:19:12.3±2.9, 0.11S×132.96E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/19, mbtmp3.1/3, Error ellipse: s-maj=142.4km s-min=29.4km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.76**	**176**	P	P	15 23 44.2	+0.2
	0.1nm,0.3s,baz=356,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**23.43**	**178**	P	P	15 24 23.1	-0.3
	0.5nm,0.6s,baz=355,slow=8.7,SNR=12						
MKAR	**Makanchi Array**	**64.27**	**324**	P	P	15 29 49.6	+0.1
	0.2nm,0.7s,baz=129,slow=5.7,SNR=2.5						

WEL 18 15:30:56.9±0.5, 36.24S×179.94W, h33km, ML3.8/19, 3C, Error ellipse: s-maj=4.5km s-min=2.6km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.94**	**226**	PN	Pn	15 31 26.4	-1.1
MXZ				SN	Sn	15 31 47.4	-3.3
PUZ	**Puketiti**	**2.33**	**218**	PN	Pn	15 31 32.6	-0.4
PUZ				SN	Sn	15 31 57.9	-2.7
CNGZ	**Carnagh Statio**	**2.69**	**213**	PN	Pn	15 31 37.8	0.0
MWZ	**Matawai**	**2.91**	**223**	PN	Pn	15 31 40.2	-0.8
MWZ				SN	Sn	15 32 11.4	-3.5
URZ	**Urewera**	**3.10**	**229**	↑PN	Pn	15 31 42.8	-0.8
URZ				SN	Sn	15 32 15.0	-4.5
PRGZ	**Paritu Road**	**3.19**	**212**	PN	Pn	15 31 43.7	-1.2
PRGZ				SN	Sn	15 32 20.9	-1.0
OPRZ	**Ohinepanea**	**3.23**	**239**	PN	Pn	15 31 44.8	-0.5
KNZ	**Kokohu**	**3.37**	**214**	PN	Pn	15 31 45.4	-1.7
MHGZ	**Mahia Peninsul**	**3.38**	**210**	PN	Pn	15 31 46.1	-1.3
TARZ	**Mount Tarawera**	**3.47**	**234**	PN	Pn	15 31 48.4	-0.4
RRRZ	**Republican Roa**	**3.52**	**232**	↑PN	Pn	15 31 48.7	-0.7
KUZ	**Kuaotunu**	**3.54**	**260**	↑PN	Pn	15 31 48.5	-1.0
RAHZ	**Arahi**	**3.57**	**221**	PN	Pn	15 31 49.2	-0.9
PRRZ	**Plateau Road**	**3.69**	**231**	PN	Pn	15 31 50.6	-1.1
ALRZ	**Allen Road**	**3.77**	**231**	PN	Pn	15 31 51.7	-1.0
NMHZ	**Naumai**	**3.85**	**221**	PN	Pn	15 31 53.0	-1.0
TOZ	**Tahuroa Road**	**3.95**	**246**	PN	Pn	15 31 54.2	-0.8
MKAZ	**Moumakai**	**4.03**	**256**	PN	Pn	15 31 56.1	-0.2
BKZ	**Black Stump Fm**	**4.07**	**223**	PN	Pn	15 31 55.3	-1.7
MCHZ	**McNeill Hill**	**4.17**	**219**	PN	Pn	15 31 56.7	-1.5
KAHZ	**Kahuranaki**	**4.36**	**214**	PN	Pn	15 31 58.2	-2.7
BHHZ	**Black Hill Sta**	**4.54**	**223**	PN	Pn	15 32 01.9	-1.4
PXZ	**Pawanui**	**4.55**	**213**	PN	Pn	15 32 00.0	-3.4
TUVZ	**Tukino**	**4.62**	**228**	PN	Pn	15 32 03.2	-1.4
TWVZ	**Taurewa**	**4.64**	**231**	PN	Pn	15 32 04.1	-0.6
WPVZ	**Whakapapa**	**4.65**	**229**	PN	Pn	15 32 04.1	-0.8
MOVZ	**Moawhango**	**4.66**	**226**	PN	Pn	15 32 03.3	-1.7
WNVZ	**Wahianoa**	**4.70**	**228**	PN	Pn	15 32 04.3	-1.3
WPHZ	**Waipukurau**	**4.77**	**216**	PN	Pn	15 32 03.7	-2.8
WAZ	**Wanganui**	**5.33**	**227**	PN	Pn	15 32 13.0	-1.2
TIWZ	**Tintock**	**5.59**	**215**	PN	Pn	15 32 14.1	-3.8
MRZ	**Mangatainoka R**	**5.65**	**217**	PN	Pn	15 32 14.9	-3.6
TMWZ	**Te Maipa**	**5.86**	**213**	PN	Pn	15 32 17.6	-3.9
HOWZ	**Holdsworth Sta**	**5.86**	**216**	PN	Pn	15 32 17.5	-4.0

WEL 18 15:38:15.3±0.4, 36.90S×177.06E, h221km±4km, ML3.5/14, 1C-2D, Error ellipse: s-maj=5.5km s-min=5.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.20**	**124**	PN	Pn	15 38 48.4	-0.1
MXZ				SN	S	15 39 14.2	-0.2
URZ	**Urewera**	**1.36**	**178**	PN	Pn	15 38 49.9	+0.2
URZ				SN	S	15 39 16.7	0.0
MWZ	**Matawai**	**1.48**	**166**	PN	Pn	15 38 51.0	+0.3
MWZ				SN	S	15 39 18.5	0.0
PUZ	**Puketiti**	**1.51**	**141**	↑PN	Pn	15 38 50.9	-0.1
PUZ				SN	S	15 39 17.4	-1.4
CNGZ	**Carnagh Statio**	**1.83**	**150**	PN	Pn	15 38 54.2	+0.5
RAHZ	**Arahi**	**2.01**	**179**	PN	Pn	15 38 56.0	+0.4
RAHZ				SN	S	15 39 27.9	+0.9
KNZ	**Kokohu**	**2.17**	**167**	PN	Pn	15 38 56.8	-0.2
NMHZ	**Naumai**	**2.20**	**185**	PN	Pn	15 38 58.2	+0.7
BKZ	**Black Stump Fm**	**2.31**	**191**	PN	Pn	15 38 58.2	-0.3
BKZ				SN	S	15 39 31.7	-0.7
MHGZ	**Mahia Peninsul**	**2.35**	**164**	PN	Pn	15 38 59.0	+0.1
MCHZ	**McNeill Hill**	**2.56**	**186**	PN	Pn	15 39 01.3	+0.2
TUVZ	**Tukino**	**2.61**	**205**	PN	Pn	15 39 02.1	+0.2
FWVZ	**Far West T-bar**	**2.63**	**206**	PN	Pn	15 39 02.7	+0.4
WNVZ	**Wahianoa**	**2.68**	**205**	PN	Pn	15 39 02.8	+0.1
BHHZ	**Black Hill Sta**	**2.70**	**197**	↓PN	Pn	15 39 02.3	-0.4
KAHZ	**Kahuranaki**	**2.90**	**183**	PN	Pn	15 39 04.7	-0.2
PNHZ	**Pukenui**	**3.08**	**192**	↓PN	Pn	15 39 06.2	-0.8
PXZ	**Pawanui**	**3.13**	**183**	PN	Pn	15 39 06.6	-0.9
WPHZ	**Waipukurau**	**3.20**	**189**	PN	Pn	15 39 07.3	-0.9
TSZ	**Takapari Road**	**3.27**	**195**	PN	Pn	15 39 08.2	-1.0
TSZ				SN	S	15 39 50.9	-0.6
WAZ	**Wanganui**	**3.28**	**209**	PN	Pn	15 39 09.3	0.0
PRHZ	**Porangahau**	**3.38**	**186**	PN	Pn	15 39 09.4	-1.0
PRHZ				SN	S	15 39 51.1	-2.5
BFZ	**Birch Farm**	**3.83**	**189**	PN	Pn	15 39 14.1	-1.6
MRZ	**Mangatainoka R**	**3.93**	**197**	PN	Pn	15 39 15.0	-1.9
TIWZ	**Tintock**	**3.98**	**193**	PN	Pn	15 39 15.9	-1.7
HOWZ	**Holdsworth Sta**	**4.17**	**196**	PN	Pn	15 39 17.7	-2.2
OGWZ	**Otaki Gorge**	**4.18**	**200**	PN	Pn	15 39 18.2	-1.8
KIW	**Kapiti Island**	**4.30**	**202**	PN	Pn	15 39 19.3	-2.2
MTW	**Mount Morrison**	**4.42**	**195**	PN	Pn	15 39 20.6	-2.4
CAW	**Cannon Point**	**4.48**	**200**	PN	Pn	15 39 21.2	-2.4
TCW	**Tory Channel**	**4.82**	**206**	PN	Pn	15 39 25.6	-2.3
PLWZ	**Palliser**	**4.87**	**196**	PN	Pn	15 39 26.1	-2.5
TUWZ	**Tuamarina**	**5.13**	**207**	PN	Pn	15 39 29.3	-2.5
QRZ	**Quartz Range**	**5.28**	**221**	PN	Pn	15 39 31.0	-2.7
THZ	**Tophouse**	**5.83**	**212**	PN	Pn	15 39 38.7	-2.0
KHZ	**Kahutara**	**6.14**	**205**	PN	Pn	15 39 41.9	-2.7
DSZ	**Denniston Nort**	**6.33**	**218**	PN	Pn	15 39 43.4	-3.6
LTZ	**Lake Taylor**	**6.93**	**211**	PN	Pn	15 39 51.2	-3.6

IDC 18 15:40:20.1±3.6, 17.71S×175.13W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/18, mbtmp3.9/3, Error ellipse: s-maj=174.2km s-min=76.0km az=157.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.47**	**242**	P	P	15 48 08.9	-0.1
	1.4nm,0.9s,baz=90,slow=8.1,SNR=2.6						
WRA	**Warramunga Arr**	**47.74**	**259**	P	P	15 48 59.3	0.0
	0.6nm,0.3s,baz=96,slow=7.7,SNR=31						
WRA				PcP	PcP	15 50 28.4	-0.2
	0.3nm,0.8s,baz=94,slow=3.3,SNR=4.0						
ASAR	**Alice Springs**	**47.85**	**254**	P	P	15 48 59.9	-0.2
	1.1nm,0.5s,baz=87,slow=8.1,SNR=25						
ASAR				PcP	PcP	15 50 28.4	-0.5
	0.2nm,0.4s,baz=106,slow=4.0,SNR=5.0						

IDC 18 15:48:58.7±1.2, 45.87N×154.70E, h0km, mb3.2/4, mb1 3.5/6, mb1mx3.4/27, mbtmp3.3/6, ML3.0/2, Error ellipse: s-maj=37.3km s-min=24.4km az=120.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.51**	**14**	Pn	Pn	15 50 51.5	+2.1
	0.3nm,0.3s,baz=197,slow=15,SNR=4.8						
ASAJ	**Asahikawa**	**8.75**	**263**	Pn	Pn	15 51 06.9	+0.5
	0.2nm,0.3s,baz=87,slow=18,SNR=2.9						
MKAR	**Makanchi Array**	**48.33**	**299**	P	P	15 57 41.3	-0.4
	0.2nm,0.6s,baz=57,slow=5.8,SNR=2.6						
YKA	**Yellowknife Ar**	**50.98**	**37**	P	P	15 58 00.8	-0.8
	0.0nm,0.3s,baz=306,slow=5.4,SNR=3.2						
WRA	**Warramunga Arr**	**68.05**	**201**	P	P	15 59 59.5	-0.4
	0.8nm,1.1s,baz=17,slow=7.0,SNR=4.2						
ASAR	**Alice Springs**	**71.74**	**200**	P	P	16 00 23.4	+0.8
	0.3nm,0.8s,baz=14,slow=6.0,SNR=4.2						

KRSC 18 15:51:19.4±0.9, 50.77N×160.55E, h5km±5km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**2.10**	**323**	*e*P	Pn	15 51 55.1	0.0
RUS				*i* S	Sn	15 52 21.1	-0.4
MTVR	**Mutnovka**	**2.26**	**320**	*e*P	Pn	15 51 57.7	+0.1
MTVR				*i* S	Sn	15 52 25.1	-0.9
ASAK	**Asacha**	**2.31**	**315**	*e*P	Pn	15 51 58.2	0.0
ASAK				*i* S	Sn	15 52 26.9	-0.2
SDLR	**Sedlovina**	**2.71**	**338**	*e*P	Pn	15 52 05.0	+1.2

GUC 18 15:56:35.3±0.9, 33.34S×71.07W, h71km±7km, ML3.9, 4C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**0.33**	**161**	↑*i*P	Pn	15 56 46.5	-0.3
SAN	**Santiago**	**0.36**	**108**	↓*i*P	Pn	15 56 47.0	0.0
SAN				*i* S	Sn	15 56 55.7	+0.1
ROCH	**El Roble**	**0.37**	**7**	↓*e*P	Pn	15 56 47.4	0.0
ROCH				*i* S	Sn	15 56 57.2	+0.9
PEL	**Peldehue**	**0.38**	**58**	↓*i*P	Pn	15 56 47.5	+0.2
PEL				*i* S	Sn	15 56 56.4	+0.4
PEL				AML	AML	15 56 57.3	
	comp=E,8μm,0.4s						
ANTU	**Antumapu**	**0.43**	**122**	↑*i*P	Pn	15 56 47.5	-0.1
ANTU				*i* S	Sn	15 56 56.9	+0.2
ANTU				AML	AML	15 56 57.5	
	comp=E,12μm,0.4s						
LCCH	**Las Cruces**	**0.44**	**253**	↑*i*P	Pn	15 56 47.5	-0.2
PCH	**Pirque**	**0.54**	**121**	↓*i*P	Pn	15 56 48.8	0.0
PCH				*i* S	Sn	15 56 58.9	+0.3
LNV	**Longovilo**	**0.67**	**205**	↓*i*P	Pn	15 56 49.0	-0.9
CHCH	**Chadas Angostu**	**0.68**	**150**	↑*i*P	Pn	15 56 50.1	-0.1
JACH	**Jahuel**	**0.77**	**31**	*i* P	Pn	15 56 51.4	+0.1
JACH				*i* S	Sn	15 57 03.5	+0.5
CACH	**El Canelo**	**0.86**	**153**	*i* P	Pn	15 56 52.5	+0.1
CHNG	**Los Chungos**	**1.50**	**346**	*e*P	Pn	15 57 00.5	+0.2
CHNG				*i* S	Sn	15 57 18.6	-0.5

*ISK **18** 16:00:52.3, 37.86N×29.13E, h5km, MD3.7*
*DDA **18** 16:00:52.9, 37.90N×29.15E, h22km, ML3.8*
*ISCJB **18** 16:00:53.3±0.5, 37.88N±0.02×29.13E±0.02, h3km±4km, Error ellipse: s-maj=3.1km s-min=2.7km az=36.8*
*CSEM **18** 16:00:53.6±0.1, 37.86N×29.14E, h2km, ML3.8, Error ellipse: s-maj=2.4km s-min=2.2km az=119.0*

ISC 18 16:00:53.6±1.1, 37.89N±0.02×29.14E±0.02, h4km±9km, n133, σ0.985/171, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.21**	**200**	*i* P	**Pg**	**16 00 58.3**	**+0.6**
DNZL				*i* S	**Sg**	**16 01 01.8**	**+1.3**
DNZL	**Cakiroluk**	**0.21**	**200**	*i* P	**Pg**	**16 00 58.3**	**+0.6**
DNZL				*i* S	**Sg**	**16 01 01.8**	**+1.3**
KHL	**Karahalli**	**0.53**	**35**	*e*PG	**Pg**	**16 01 03.4**	**-0.5**
KHL	**Karahalli**	**0.53**	**35**	*e*Pg	**Pg**	**16 01 03.4**	**-0.5**
KHAL	**Karahalli**	**0.56**	**30**	*i* P	**Pg**	**16 01 03.6**	**-0.8**
KHAL				*i* S	**Sg**	**16 01 11.4**	**-0.2**
KHAL	**Karahalli**	**0.56**	**30**	*i* P	**Pg**	**16 01 03.6**	**-0.8**
KHAL				*i* S	**Sg**	**16 01 11.4**	**-0.2**
GOLH	**Golhisar**	**0.73**	**152**	*i* P	**Pg**	**16 01 07.0**	**-0.6**
GOLH				*i* S	**Sg**	**16 01 17.3**	**+0.2**
GOLH	**Golhisar**	**0.73**	**152**	*i* P	**Pg**	**16 01 07.0**	**-0.6**
GOLH				*i* S	**Sg**	**16 01 17.3**	**+0.2**
KULA	**Kula-Manisa**	**0.73**	**329**	*e*PG	**Pg**	**16 01 07.8**	**+0.2**
KULA	**Kula-Manisa**	**0.73**	**329**	*e*Pg	**Pg**	**16 01 07.9**	**+0.2**
MANT	**Manisa**	**0.76**	**323**	*i* P	**Pg**	**16 01 08.7**	**+0.5**
MANT				*i* S	**Sg**	**16 01 18.6**	**+0.6**
MANT	**Manisa**	**0.76**	**323**	*i* P	**Pg**	**16 01 08.7**	**+0.5**
MANT				*i* S	**Sg**	**16 01 18.6**	**+0.6**
YER	**Yerkesik**	**1.01**	**222**	*e*PG	**Pg**	**16 01 13.2**	**+0.1**
YER				*e*SG	**Sb**	**16 01 27.1**	**-0.4**
YER	**Yerkesik**	**1.01**	**222**	*e*Pg	**Pg**	**16 01 13.2**	**+0.1**
YER				*e*Sg	**Sb**	**16 01 27.1**	**-0.4**
AYDN	**Tasoluk**	**1.02**	**258**	*i* P	**Pg**	**16 01 13.4**	**+0.2**
AYDN				*i* S	**Sg**	**16 01 26.5**	**0.0**
**A

DURS	**Dursunbey**	**1.79**	**343**	*i* P		**Pn**	**16 01 25.3**	**-0.2**
DURS				*i* S		**Sn**	**16 01 48.7**	**0.0**
BALB	**Balikesir**	**2.01**	**331**	*e*PN		**Pn**	**16 01 29.0**	**+0.6**
BALB	**Balikesir**	**2.01**	**331**	*e*Pn		**Pn**	**16 01 29.0**	**+0.6**
URLA	**Izmir**	**2.06**	**284**	*i* P		**Pn**	**16 01 29.1**	**0.0**
URLA	**Izmir**	**2.06**	**284**	*i* P		**Pn**	**16 01 29.1**	**0.0**
ESKT	**Eskisehir**	**2.11**	**39**	*e*PN		**Pn**	**16 01 30.4**	**+0.5**
ESKT	**Eskisehir**	**2.11**	**39**	*e*Pn		**Pn**	**16 01 30.4**	**+0.5**
SEYT	**Eskypehyr**	**2.11**	**39**	*i* P		**Pb**	**16 01 32.1**	**-0.5**
SEYT				*i* S		**Sn**	**16 01 57.6**	**+0.9**
SEYT	**Eskypehyr**	**2.11**	**39**	*i* P		**Pb**	**16 01 32.1**	**-0.5**
SEYT				*i* S		**Sn**	**16 01 57.6**	**+0.9**
ORLT	**Orhaneli**	**2.17**	**355**	*e*PN		**Pn**	**16 01 31.3**	**+0.7**
ORLT	**Orhaneli**	**2.17**	**355**	*e*Pn		**Pn**	**16 01 31.3**	**+0.7**
BALY	**Balya**	**2.20**	**328**	*i* P		**Pn**	**16 01 31.1**	**+0.1**
BALY	**Balya**	**2.20**	**328**	*i* P		**Pn**	**16 01 31.1**	**+0.1**
BORA	**Eskisehir**	**2.24**	**27**	*i* P		**Pb**	**16 01 34.9**	**+0.2**
BORA				*i* S		**Sn**	**16 01 58.8**	**-1.0**
BORA	**Eskisehir**	**2.24**	**27**	*i* P		**Pb**	**16 01 34.9**	**+0.2**
BORA				*i* S		**Sn**	**16 01 58.8**	**-1.0**
ULDT	**Uludag**	**2.25**	**360**	*i* P		**Pn**	**16 01 33.1**	**+1.2**
ULDT	**Uludag**	**2.25**	**360**	*i* P		**Pn**	**16 01 33.1**	**+1.2**
KIZT	**Kizilcal**	**2.37**	**64**	*e*PN		**Pn**	**16 01 33.8**	**+0.3**
KIZT	**Kizilcal**	**2.37**	**64**	*e*Pn		**Pn**	**16 01 33.8**	**+0.3**
CAVI	**Cavuskoy**	**2.38**	**13**	*e*PN		**Pn**	**16 01 34.3**	**+0.8**
CAVI	**Cavuskoy**	**2.38**	**13**	*e*Pn		**Pn**	**16 01 34.3**	**+0.8**
KDHN	**Kadinhani**	**2.43**	**74**	*i* P		**Pn**	**16 01 34.7**	**+0.4**
KDHN	**Kadinhani**	**2.43**	**74**	*i* P		**Pn**	**16 01 34.7**	**+0.4**
SVRH	**Sivrihisar-ESK**	**2.43**	**49**	*e*PN		**Pn**	**16 01 34.8**	**+0.5**
SVRH	**Sivrihisar-ESK**	**2.43**	**49**	*e*Pn		**Pn**	**16 01 34.8**	**+0.5**
GONE	**Gonen-Balikesi**	**2.44**	**333**	*e*PN		**Pn**	**16 01 34.8**	**+0.5**
GONE	**Gonen-Balikesi**	**2.44**	**333**	*e*Pn		**Pn**	**16 01 34.8**	**+0.5**
KCTX	**Karacabey (Bur**	**2.45**	**346**	*e*PN		**Pn**	**16 01 35.5**	**+1.0**
KCTX	**Karacabey (Bur**	**2.45**	**346**	*e*Pn		**Pn**	**16 01 35.5**	**+1.0**
MDNY	**Mudanya-Bursa**	**2.49**	**356**	*e*PN		**Pn**	**16 01 35.7**	**+0.7**
MDNY	**Mudanya-Bursa**	**2.49**	**356**	*e*Pn		**Pn**	**16 01 35.7**	**+0.7**
KONT	**Konya--Tatoy**	**2.55**	**88**	*e*PN		**Pn**	**16 01 36.1**	**+0.3**
KONT	**Konya--Tatoy**	**2.55**	**88**	*e*Pn		**Pn**	**16 01 36.1**	**+0.3**
GPA	**Golpazari**	**2.57**	**20**	*e*PN		**Pn**	**16 01 36.8**	**+0.7**
GPA	**Golpazari**	**2.57**	**20**	*e*Pn		**Pn**	**16 01 36.8**	**+0.7**
LADK	**Ladik-KONYA**	**2.57**	**82**	*e*PN		**Pn**	**16 01 36.8**	**+0.6**
LADK	**Ladik-KONYA**	**2.57**	**82**	*e*Pn		**Pn**	**16 01 36.8**	**+0.6**
ADVT	**Abdulvahap**	**2.59**	**10**	*e*PN		**Pn**	**16 01 37.1**	**+0.8**
ADVT	**Abdulvahap**	**2.59**	**10**	*e*Pn		**Pn**	**16 01 37.1**	**+0.8**
BNT	**Bandirma**	**2.64**	**339**	*e*PN		**Pn**	**16 01 38.0**	**+0.9**
BNT	**Bandirma**	**2.64**	**339**	*e*Pn		**Pn**	**16 01 38.0**	**+0.9**
EDC	**Edincik**	**2.65**	**338**	*e*PN		**Pn**	**16 01 38.2**	**+1.0**
EDC	**Edincik**	**2.65**	**338**	*e*Pn		**Pn**	**16 01 38.2**	**+1.0**
ARMT	**Armutlu**	**2.68**	**356**	*e*PN		**Pn**	**16 01 38.4**	**+0.7**
ARMT	**Armutlu**	**2.68**	**356**	*e*Pn		**Pn**	**16 01 38.4**	**+0.7**
GULT	**Gulveren**	**2.76**	**22**	*e*PN		**Pn**	**16 01 39.6**	**+0.8**
GULT	**Gulveren**	**2.76**	**22**	*e*Pn		**Pn**	**16 01 39.6**	**+0.8**
KRBG	**Karabiga-Canak**	**2.88**	**331**	*e*PN		**Pn**	**16 01 41.2**	**+0.8**
KRBG	**Karabiga-Canak**	**2.88**	**331**	*e*Pn		**Pn**	**16 01 41.2**	**+0.8**
HRT	**Hereke**	**2.96**	**8**	*e*PN		**Pn**	**16 01 42.4**	**+0.9**
HRT	**Hereke**	**2.96**	**8**	*e*PN		**Pn**	**16 01 42.4**	**+0.9**
APE	**Apeiranthos**	**2.98**	**255**	*e*PN		**Pn**	**16 01 42.4**	**+0.6**
APE	**Apeiranthos**	**2.98**	**255**	*e*Pn		**Pn**	**16 01 42.4**	**+0.6**
GAZI	**Gazipasa**	**3.03**	**122**	*i* P		**Pb**	**16 01 46.1**	**-2.1**
ISK	**Istanbul-Kandi**	**3.18**	**359**	*e*PN		**Pn**	**16 01 45.6**	**+1.2**
ISK	**Istanbul-Kandi**	**3.18**	**359**	*e*Pn		**Pn**	**16 01 45.6**	**+1.2**
RKY	**Sarkoy-Tekirda**	**3.18**	**332**	*e*PN		**Pn**	**16 01 45.3**	**+0.7**
RKY	**Sarkoy-Tekirda**	**3.18**	**332**	*e*Pn		**Pn**	**16 01 45.3**	**+0.7**
SART	**Tekirdag**	**3.18**	**332**	*i* P		**Pn**	**16 01 44.5**	**-0.1**
SART	**Tekirdag**	**3.18**	**332**	*i* P		**Pn**	**16 01 44.5**	**-0.1**
SILT	**Sile**	**3.29**	**7**	*e*PN		**Pn**	**16 01 47.2**	**+1.3**
SILT	**Sile**	**3.29**	**7**	*e*Pn		**Pn**	**16 01 47.2**	**+1.3**
ELBA	**Catalca**	**3.30**	**351**	*i* P		**Pb**	**16 01 56.1**	**-0.8**
BGKT	**Bogazkoy**	**3.30**	**355**	*e*PN		**Pn**	**16 01 47.6**	**+1.5**
BGKT	**Bogazkoy**	**3.30**	**355**	*e*Pn		**Pn**	**16 01 47.6**	**+1.5**
CTKS	**Kestanelik-??a**	**3.38**	**352**	*e*PN		**Pn**	**16 01 48.3**	**+1.1**
CTKS	**Kestanelik-??a**	**3.38**	**352**	*e*Pn		**Pn**	**16 01 48.3**	**+1.1**
ERIK	**Erikli-Kesan**	**3.45**	**325**	*e*PN		**Pn**	**16 01 49.2**	**+1.2**
ERIK	**Erikli-Kesan**	**3.45**	**325**	*e*Pn		**Pn**	**16 01 49.3**	**+1.2**
ENEZ	**Enez**	**3.67**	**322**	*e*PN		**Pn**	**16 01 52.5**	**+1.3**
ENEZ	**Enez**	**3.67**	**322**	*e*Pn		**Pn**	**16 01 52.5**	**+1.3**
EDRB	**Edirne**	**4.36**	**336**	*e*PN		**Pn**	**16 02 02.3**	**+1.6**
EDRB	**Edirne**	**4.36**	**336**	*e*Pn		**Pn**	**16 02 02.3**	**+1.6**
CORM	**Corum**	**4.85**	**60**	*e*PN		**Pn**	**16 02 09.3**	**+1.7**
CORM	**Corum**	**4.85**	**60**	*e*Pn		**Pn**	**16 02 09.3**	**+1.7**

PRE 18 16:05:24.6±0.3, 26°42S×27°43E, h2km, ML1.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.50**	**187**	*e*P	Pg	16 05 34.4	-0.1
PRYS				*e*S	Sg	16 05 41.4	+0.2
PRYS				AML	AML	16 05 43.0	
	comp=Z,9.1nm,0.5s						
LBTB	**Lobatse**	**2.17**	**310**	*e*P	Pn	16 06 02.5	+0.6
LBTB				*e*S	Sn	16 06 30.2	+0.7
LBTB				AML	AML	16 06 33.1	
	comp=Z,6.4nm,0.2s						
BOSA	**Boshof**	**2.91**	**221**	*e*P	Pn	16 06 12.8	+0.7
BOSA				*e*S	Sn	16 06 48.1	+0.2
BOSA				AML	AML	16 06 50.7	
	comp=Z,1.2nm,0.8s						

*CSEM **18** 16:15:12.8, 36.75N×36.15E, h16km, MD3.1, After DDA*
DDA 18 16:15:12.8, 36.75N×36.15E, h16km, MD3.1, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAYL	**Yayladag**	**0.71**	**183**	*i* P	Pg	16 15 26.4	-0.5
YAYL				*i* S	Sb	16 15 36.9	+0.1
YAYL	**Yayladag**	**0.71**	**183**	*i* P	Pg	16 15 26.4	-0.5
YAYL				*i* S	Sb	16 15 36.9	+0.1
KUZU	**Kuzuini**	**0.74**	**88**	*i* P	Pg	16 15 21.6	-5.8
KUZU	**Kuzuini**	**0.74**	**88**	*i* P	Pg	16 15 21.6	-5.8
ANDN	**Andirin**	**0.84**	**11**	*i* P	Pn	16 15 31.2	+0.9
ANDN				*i* S	Sn	16 15 42.4	-0.1
ANDN	**Andirin**	**0.84**	**11**	*i* P	Pn	16 15 31.2	+0.9
ANDN				*i* S	Sn	16 15 42.4	-0.1
GZT	**Gaziantep**	**1.28**	**61**	*i* P	Pb	16 15 36.8	0.0
GZT				*i* S	Sg	16 15 54.7	0.0
PINB	**Pinarbasi**	**1.94**	**6**	*i* P	Pn	16 15 41.4	-4.1
PINB	**Pinarbasi**	**1.94**	**6**	*i* P	Pn	16 15 41.4	-4.0
AKCD	**Akcadag**	**2.09**	**42**	*i* P	Pb	16 15 50.2	-0.4
AKCD				*i* S	Sb	16 16 15.5	-0.9
AKCD	**Akcadag**	**2.09**	**42**	*i* P	Pb	16 15 50.2	-0.4
AKCD				*i* S	Sb	16 16 15.5	-1.0

*ISK **18** 16:15:17.8, 36.73N×30.65E, h8km, MD3.1*
*ISCJB **18** 16:15:18.2±0.9, 36.74N±0.05×30.66E±0.04, h10km±5km, Error ellipse: s-maj=8.3km s-min=5.5km az=161.2*
*DDA **18** 16:15:19.4, 36.81N×30.66E, h21km, MD3.2*
*CSEM **18** 16:15:19.0±0.3, 36.77N×30.63E, h10km, MD3.1, Error ellipse: s-maj=7.5km s-min=4.6km az=160.0*
ISC 18 16:15:18.4±1.1, 36.73N±0.04×30.68E±0.03, h12km±8km, n52, σ0.86/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	**Antalya**	**0.17**	**354**	*e*PG	**Pg**	**16 15 22.6**	**+0.3**
ANTB	**Antalya**	**0.17**	**354**	*e*Pg	**Pg**	**16 15 22.6**	**+0.3**
ELL	**Elmali**	**0.62**	**272**	*e*PG	**Pg**	**16 15 29.3**	**-1.2**
ELL				*e*SG	**Sg**	**16 15 38.7**	**+0.1**
ELL	**Elmali**	**0.62**	**272**	*e*Pg	**Pg**	**16 15 29.3**	**-1.2**
ELL				*e*Sg	**Sg**	**16 15 38.7**	**+0.1**
BCK	**Bucak**	**0.74**	**355**	*e*PG	**Pg**	**16 15 32.2**	**-0.6**
BCK				*e*SG	**Sg**	**16 15 42.9**	**+0.5**
BCK	**Bucak**	**0.74**	**355**	*e*Pg	**Pg**	**16 15 32.2**	**-0.6**
BCK				*e*Sg	**Sg**	**16 15 42.9**	**+0.5**
GOLH	**Golhisar**	**1.03**	**300**	*i* P	**Pb**	**16 15 37.2**	**-1.1**
GOLH				*i* S	**Sn**	**16 15 53.8**	**+0.6**
GOLH	**Golhisar**	**1.03**	**300**	*i* P	**Pb**	**16 15 37.2**	**-1.1**
GOLH				*i* S	**Sn**	**16 15 53.8**	**+0.6**
ISP	**Isparta**	**1.10**	**354**	*e*PN	**Pn**	**16 15 39.9**	**0.0**
ISP				*e*SN	**Sg**	**16 15 54.4**	**+0.3**
ISP	**Isparta**	**1.10**	**354**	*e*Pn	**Pn**	**16 15 39.9**	**0.0**
ISP				*e*Sn	**Sg**	**16 15 54.4**	**+0.3**
FETY	**Fethiye**	**1.28**	**266**	*e*PN	**Pn**	**16 15 42.3**	**+0.1**
FETY	**Fethiye**	**1.28**	**266**	*e*Pn	**Pn**	**16 15 42.3**	**+0.1**
GAZI	**Gazipasa**	**1.41**	**110**	*i* P	**Pg**	**16 15 46.1**	**+0.6**
GAZI	**Gazipasa**	**1.41**	**110**	*i* P	**Pg**	**16 15 46.4**	**+0.9**
GAZI	**Gazipasa**	**1.41**	**110**	*i* P	**Pg**	**16 15 46.4**	**+0.9**
DNZL	**Cakiroluk**	**1.62**	**307**	*i* P	**Pn**	**16 15 47.0**	**0.0**
DNZL	**Cakiroluk**	**1.62**	**307**	*i* P	**Pn**	**16 15 47.0**	**0.0**
TURN	**Turunc**	**1.67**	**276**	*i* P	**Pg**	**16 15 51.7**	**+1.2**
TURN	**Turunc**	**1.67**	**276**	*i* P	**Pg**	**16 15 51.7**	**+1.2**
ERMK	**Ermenek**	**1.80**	**92**	*i* P	**Pn**	**16 15 47.7**	**-1.8**
ERMK	**Ermenek**	**1.80**	**92**	*i* P	**Pn**	**16 15 47.7**	**-1.8**
KONT	**Konya--Tatoy**	**1.81**	**47**	*e*PN	**Pn**	**16 15 50.3**	**+0.8**
KONT	**Konya--Tatoy**	**1.81**	**47**	*e*Pn	**Pn**	**16 15 50.3**	**+0.8**
KHL	**Karahalli**	**1.84**	**330**	*e*PN	**Pn**	**16 15 50.1**	**+0.1**
KHL	**Karahalli**	**1.84**	**330**	*e*Pn	**Pn**	**16 15 50.1**	**+0.1**
KHAL	**Karahalli**	**1.89**	**331**	*i* P	**Pn**	**16 15 48.8**	**-1.9**
KHAL	**Karahalli**	**1.89**	**331**	*i* P	**Pn**	**16 15 48.8**	**-1.9**
YER	**Yerkesik**	**1.96**	**283**	*e*PN	**Pn**	**16 15 52.1**	**+0.5**
YER	**Yerkesik**	**1.96**	**283**	*e*Pn	**Pn**	**16 15 52.1**	**+0.5**
LADK	**Ladik-KONYA**	**1.99**	**42**	*e*PN	**Pn**	**16 15 52.7**	**+0.6**
LADK	**Ladik-KONYA**	**1.99**	**42**	*e*Pn	**Pn**	**16 15 52.7**	**+0.6**
KDHN	**Kadinhani**	**2.13**	**32**	*i* P	**Pn**	**16 15 52.8**	**-1.1**
KDHN	**Kadinhani**	**2.13**	**32**	*i* P	**Pn**	**16 15 52.8**	**-1.1**
KIZT	**Kizilcal**	**2.35**	**24**	*e*PN	**Pn**	**16 15 57.8**	**+0.8**
KIZT	**Kizilcal**	**2.35**	**24**	*e*Pn	**Pn**	**16 15 57.8**	**+0.8**
ALT	**Altintas**	**2.37**	**349**	*e*PN	**Pn**	**16 15 57.9**	**+0.7**
ALT	**Altintas**	**2.37**	**349**	*e*Pn	**Pn**	**16 15 57.9**	**+0.7**
KULA	**Kula-Manisa**	**2.40**	**319**	*e*PN	**Pn**	**16 15 58.1**	**+0.5**
KULA	**Kula-Manisa**	**2.40**	**319**	*e*Pn	**Pn**	**16 15 58.1**	**+0.5**
AYDN	**Tasoluk**	**2.42**	**294**	*i* P	**Pn**	**16 15 57.5**	**-0.4**
AYDN				*i* S	**Sn**	**16 16 27.5**	**0.0**
AYDN	**Tasoluk**	**2.42**	**294**	*i* P	**Pn**	**16 15 57.5**	**-0.4**
AYDN				*i* S	**Sn**	**16 16 27.5**	**0.0**
MANT	**Manisa**	**2.44**	**317**	*i* P	**Pn**	**16 15 59.7**	**+1.4**
MANT	**Manisa**	**2.44**	**317**	*i* P	**Pn**	**16 15 59.7**	**+1.4**
DAT	**Datca**	**2.49**	**271**	*e*PN	**Pn**	**16 15 59.6**	**+0.7**
DAT	**Datca**	**2.49**	**271**	*e*Pn	**Pn**	**16 15 59.6**	**+0.7**
BODT	**Bodrum**	**2.72**	**278**	*e*PN	**Pn**	**16 16 03.0**	**+1.0**
BODT	**Bodrum**	**2.72**	**278**	*e*Pn	**Pn**	**16 16 03.0**	**+1.0**
BORA	**Eskisehir**	**3.15**	**357**	*i* P	**Pn**	**16 16 08.6**	**+0.6**
BORA	**Eskisehir**	**3.15**	**357**	*i* P	**Pn**	**16 16 08.6**	**+0.6**
DURS	**Dursunbey**	**3.35**	**330**	*i* P	Pn	16 16 06.6	-4.2
DURS	**Dursunbey**	**3.35**	**330**	*i* P	Pn	16 16 06.6	-4.2

PRE 18 16:15:45.6±0.6, 26°48S×27°40E, h2km, ML1.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.45**	**184**	*e*S	Sg	16 16 00.9	+0.4
PRYS				AML	AML	16 16 03.0	
	comp=Z,14nm,0.5s						
LBTB	**Lobatse**	**2.18**	**312**	*i* P	Pn	16 16 23.9	+0.9
LBTB				*e*P	Pn	16 16 23.9	+0.9
LBTB				*e*S	Sn	16 16 51.5	+0.8
LBTB				AML	AML	16 16 53.8	
	comp=Z,4.6nm,0.7s						
BOSA	**Boshof**	**2.85**	**221**	*e*P	Pn	16 16 32.4	+0.1
BOSA				*e*S	Sn	16 17 07.8	+0.4
BOSA				AML	AML	16 17 13.5	
	comp=Z,1.4nm,0.4s						

CASC 18 16:20:30.9±4.4, 14°04N×88°88W, h0km±10km, MD3.9, ML3.7, 2C-5D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBRS	**Las Brisas**	**0.34**	**208**	*e*P	Pn	16 20 43.1	-0.1
SNVI	**San Vicente**	**0.43**	**175**	*e*P	Pb	16 20 42.9	+1.3
SNVI				*e*S	Sb	16 20 52.8	+4.1
LFRS	**El Faro**	**0.45**	**203**	*i*P	Pb	16 20 41.5	-0.4
SNET	**Serv Nac Est T**	**0.49**	**224**	*e*P	Pb	16 20 41.9	-0.6
SNET				*e*S	Sb	16 20 51.1	+0.8
SNET				AML	AML	16 20 53.4	
	comp=Z,4μm,0.3s						
BOQS	**Boqueron**	**0.49**	**232**	*i*P	Pb	16 20 42.8	0.0
BOQS				*e*S	Sb	16 20 52.5	+1.7
MTO2	**Montecristo 2**	**0.59**	**307**	*i*P	Pn	16 20 51.6	+4.8
CAHU	**Cacacuatique**	**0.70**	**112**	*e*P	Pn	16 20 50.8	+2.4
SNJE	**San Jose**	**0.72**	**256**	*e*P	Pg	16 20 45.2	+0.1
SBLS	**San Blas**	**0.75**	**254**	*e*P	Pg	16 20 44.9	-0.7
RTR	**El Retiro**	**0.76**	**259**	*e*P	Pg	16 20 46.0	+0.3
RTR				*e*S	Sb	16 20 57.8	-0.5
RBDL	**Robledal**	**0.79**	**275**	*e*P	Pn	16 20 48.8	-0.7
VSM	**San Miguel**	**0.85**	**136**	*e*P	Pb	16 20 48.5	-0.4
BLLM	**Bellamira**	**0.86**	**134**	*e*P	Pb	16 20 48.9	0.0
CNCH	**Conchagua**	**1.27**	**127**	*e*P	Pg	16 20 53.6	-1.9
CNCH				*e*S	Sg	16 21 12.3	+0.2
MRL	**Marmol**	**1.28**	**322**	*e*P	Pn	16 21 02.5	+6.1
MRL				*e*S	Sn	16 21 37.3	+23
NBG	**Las Nubes**	**1.52**	**291**	*e*P	Pg	16 21 01.6	+1.2
NBG				*e*S	Sn	16 21 30.2	+10
PCG	**Pacaya**	**1.71**	**282**	*e*P	Pn	16 21 01.0	-1.4
PCG				*e*S	Sg	16 21 29.2	+2.7
FUG	**Fuego 3**	**1.94**	**282**	*e*P	Pn	16 21 03.1	-2.4
FUG				*e*S	Sb	16 21 33.1	+0.6
TP2	**Tecpan 2**	**2.20**	**290**	*e*P	Pn	16 21 09.3	+0.1
TP2				*e*S	Sg	16 21 44.1	+1.5

*ISK **18** 16:22:45.1, 37.83N×29.13E, h9km, MD2.8*
*ISCJB **18** 16:22:47.4±0.7, 37.90N±0.04×29.17E±0.06, h9km±6km, Error ellipse: s-maj=8.3km s-min=4.8km az=34.2*
*DDA **18** 16:22:47.5, 37.89N×29.13E, h7km, MD2.8*
*CSEM **18** 16:22:47.0±0.3, 37.88N×29.20E, h10km, MD2.8, Error ellipse: s-maj=5.9km s-min=4.0km az=141.0*
ISC 18 16:22:46.7±1.2, 37.88N±0.04×29.15E±0.04, h12km±11km, n16, σ0.57/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.20**	**204**	*i* P	**Pb**	**16 22 52.4**	**0.0**
DNZL				*i* S	**Sb**	**16 22 55.7**	**+1.3**
DNZL	**Cakiroluk**	**0.20**	**204**	*i* P	**Pb**	**16 22 52.4**	**0.0**
DNZL				*i* S	**Sb**	**16 22 55.7**	**+1.3**
KHL	**Karahalli**	**0.54**	**33**	*e*PG	**Pg**	**16 22 56.9**	**-0.3**
KHL				*e*SG	**Sb**	**16 23 05.8**	**+0.1**
KHL	**Karahalli**	**0.54**	**33**	*e*Pg	**Pg**	**16 22 56.9**	**-0.3**
KHL				*e*Sg	**Sb**	**16 23 05.8**	**+0.1**
KHAL	**Karahalli**	**0.56**	**28**	*i* P	**Pg**	**16 22 57.6**	**-0.1**
KHAL				*i* S	**Sg**	**16 23 05.8**	**+0.6**
KHAL	**Karahalli**	**0.56**	**28**	*i* P	**Pg**	**16 22 57.6**	**-0.1**
KHAL				*i* S	**Sg**	**16 23 05.8**	**+0.6**
KULA	**Kula-Manisa**	**0.75**	**329**	*e*PG	**Pg**	**16 23 00.7**	**-0.5**
KULA				*e*SG	**Sb**	**16 23 11.7**	**-0.1**
KULA	**Kula-Manisa**	**0.75**	**329**	*e*Pg	**Pg**	**16 23 00.7**	**-0.5**
KULA				*e*Sg	**Sb**	**16 23 11.7**	**-0.1**
MANT	**Manisa**	**0.77**	**323**	*i* P	**Pn**	**16 23 03.2**	**-0.4**
MANT				*i* S	**Sb**	**16 23 12.6**	**-0.1**
MANT	**Manisa**	**0.77**	**323**	*i* P	**Pn**	**16 23 03.2**	**-0.4**
MANT				*i* S	**Sb**	**16 23 12.6**	**-0.1**
AYDN	**Tasoluk**	**1.03**	**258**	*i* P	**Pn**	**16 23 21.4**	**0.0**
AYDN				*i* S	**Sn**	**16 23 21.4**	**0.0**
AYDN	**Tasoluk**	**1.03**	**258**	*i* P	**Pn**	**16 23 08.0**	**+1.0**
AYDN				*i* S	**Sn**	**16 23 21.4**	**0.0**
SHUT	**Suhut-Afyon**	**1.29**	**58**	*e*PN	**Pn**	**16 23 10.4**	**-0.3**
SHUT	**Suhut-Afyon**	**1.29**	**58**	*e*Pn	**Pn**	**16 23 10.4**	**-0.3**
ALT	**Altintas**	**1.40**	**32**	*e*PN	**Pn**	**16 23 12.6**	**+0.5**
ALT	**Altintas**	**1.40**	**32**	*e*Pn	**Pn**	**16 23 12.6**	**+0.5**

*ISCJB **18** 16:28:56.8±0.4, 39.13N±0.02×29.06E±0.03, h11km±4km, Error ellipse: s-maj=4.5km s-min=3.3km az=146.0*
*ISK **18** 16:28:56.0, 39.16N×29.01E, h12km, MD2.8*
*DDA **18** 16:28:56.6, 39.13N×29.06E, h7km, ML3.1*
*CSEM **18** 16:28:56.9±0.1, 39.14N×29.05E, h15km, ML3.1, Error ellipse: s-maj=2.4km s-min=2.1km az=132.0*
ISC 18 16:28:56.9±0.9, 39.13N±0.02×29.05E±0.02, h15km±7km, n42, σ0.42/64, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**252**	*i* P	**Pb**	**16 29 03.4**	**-0.1**
DEMI				*i* S	**Sg**	**16 29 07.2**	**+0.3**
DEMI	**Demirci**	**0.27**	**252**	*i* P	**Pb**	**16 29 03.4**	**-0.1**
DEMI				*i* S	**Sg**	**16 29 07.2**	**+0.3**
GDZ	**Gediz**	**0.34**	**97**	*i* P	**Pg**	**16 29 04.0**	**+0.1**
GDZ				*i* S	**Sg**	**16 29 08.4**	**-0.4**
GDZ	**Gediz**	**0.34**	**97**	*i* P	**Pg**	**16 29 04.0**	**+0.1**
GDZ				*i* S	**Sg**	**16 29 08.4**	**-0.4**
TVSB	**Tavsanli**	**0.45**	**45**	*e*PG	**Pg**	**16 29 05.6**	**-0.4**
TVSB				*e*SG	**Sg**	**16 29 12.0**	**-0.2**
TVSB	**Tavsanli**	**0.45**	**45**	*e*Pg	**Pg**	**16 29 05.6**	**-0.4**
TVSB				*e*Sg	**Sg**	**16 29 12.0**	**-0.2**
DURS	**Dursunbey**	**0.65**	**317**	*i* P	**Pb**	**16 29 10.2**	**+0.3**
DURS				*i* S	**Sb**	**16 29 18.8**	**0.0**
DURS	**Dursunbey**	**0.65**	**317**	*i* P	**Pb**	**16 29 10.2**	**+0.3**
DURS				*i* S	**Sb**	**16 29 18.8**	**0.0**
KULA	**Kula-Manisa**	**0.69**	**206**	*e*PG	**Pg**	**16 29 10.3**	**0.0**
KULA				*e*SG	**Sg**	**16 29 19.5**	**+0.1**
KULA	**Kula-Manisa**	**0.69**	**206**	*e*Pg	**Pg**	**16 29 10.3**	**0.0**
KULA				*e*Sg	**Sg**	**16 29 19.5**	**+0.1**
MANT	**Manisa**	**0.74**	**211**	*i* P	**Pg**	**16 29 11.9**	**+0.5**
MANT				*i* S	**Sg**	**16 29 21.1**	**-0.2**
MANT	**Manisa**	**0.74**	**211**	*i* P	**Pg**	**16 29 11.9**	**+0.5**
MANT				*i* S	**Sg**	**16 29 21.1**	**-0.2**
ALT	**Altintas**	**0.83**	**95**	*e*PG	**Pg**	**16 29 13.6**	**+0.6**
ALT				*e*SG	**Sg**	**16 29 24.6**	**+0.7**
ALT	**Altintas**	**0.83**	**95**	*e*Pg	**Pg**	**16 29 13.6**	**+0.6**
ALT				*e*Sg	**Sg**	**16 29 24.7**	**+0.7**
KHAL	**Karahalli**	**0.83**	**155**	*i* P	**Pb**	**16 29 13.4**	**+0.3**
KHAL				*i* S	**Sb**	**16 29 23.3**	**-0.8**
KHAL	**Karahalli**	**0.83**	**155**	*i* P	**Pb**	**16 29 13.4**	**+0.3**
KHAL				*i* S	**Sb**	**16 29 23.3**	**-0.8**
KHL	**Karahalli**	**0.89**	**155**	*e*PG	**Pg**	**16 29 14.7**	**+0.6**
KHL	**Karahalli**	**0.89**	**155**	*e*Pg	**Pg**	**16 29 14.7**	**+0.6**
AKHS	**Akhisar**	**0.99**	**256**	*i* P	**Pg**	**16 29 16.7**	**+0.6**
AKHS				*i* S	**Sn**	**16 29 30.1**	**+0.1**
AKHS	**Akhisar**	**0.99**	**256**	*i* P	**Pg**	**16 29 16.7**	**+0.6**
AKHS				*i* S	**Sn**	**16 29 30.1**	**+0.1**
AKS	**Akhisar**	**0.99**	**256**	*e*PG	**Pb**	**16 29 15.7**	**-0.1**
AKS	**Akhisar**	**0.99**	**256**	*e*Pg	**Pb**	**16 29 15.7**	**-0.1**
ULDT	**Uludag**	**1.01**	**4**	*i* P	**Pn**	**16 29 16.7**	**0.0**
ULDT				*i* S	**Sg**	**16 29 30.2**	**+0.4**
ULDT	**Uludag**	**1.01**	**4**	*i* P	**Pn**	**16 29 16.7**	**0.0**
ULDT				*i* S	**Sg**	**16 29 30.2**	**+0.4**
CAVI	**Cavuskoy**	**1.23**	**30**	*e*PN	**Pn**	**16 29 19.1**	**-0.4**
CAVI	**Cavuskoy**	**1.23**	**30**	*e*Pn	**Pn**	**16 29 19.1**	**-0.4**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*PN	**P

BCK	**Bucak**	**1.22**	**111**	*e*PN	**Pg**	**16 47 40.6**	**0.0**
BCK	**Bucak**	**1.22**	**111**	*e*Pn	**Pg**	**16 47 40.6**	**0.0**
FETY	**Fethiye**	**1.27**	**183**	*e*PN	**Pg**	**16 47 41.1**	**-0.5**
FETY	**Fethiye**	**1.27**	**183**	*e*Pn	**Pg**	**16 47 41.1**	**-0.5**
SHUT	**Suhut-Afyon**	**1.27**	**59**	*e*PN	**Pb**	**16 47 41.9**	**-0.1**
SHUT	**Suhut-Afyon**	**1.27**	**59**	*e*Pn	**Pb**	**16 47 41.9**	**-0.1**
ELL	**Elmali**	**1.31**	**152**	*e*PN	**Pg**	**16 47 41.8**	**-0.4**
ELL	**Elmali**	**1.31**	**152**	*e*Pn	**Pg**	**16 47 41.8**	**-0.4**
ALT	**Altintas**	**1.37**	**33**	*e*PN	**Pg**	**16 47 43.6**	**+0.3**
ALT	**Altintas**	**1.37**	**33**	*e*Pn	**Pg**	**16 47 43.7**	**+0.3**
AKS	**Akhisar**	**1.43**	**313**	*e*PN	**Pb**	**16 47 44.4**	**-0.2**
AKS	**Akhisar**	**1.43**	**313**	*e*Pn	**Pb**	**16 47 44.4**	**-0.2**
GCAM	**G?zelcaml?**	**1.54**	**263**	*i* P	**Pb**	**16 47 46.0**	**-0.4**
GCAM				*i* S	**Sn**	**16 48 05.6**	**-0.5**
GCAM	**G?zelcaml?**	**1.54**	**263**	*i* P	**Pb**	**16 47 46.0**	**-0.4**
GCAM				*i* S	**Sn**	**16 48 05.6**	**-0.5**
TVSB	**Tavsanli**	**1.56**	**9**	*e*PN	**Pn**	**16 47 46.1**	**+0.1**
TVSB	**Tavsanli**	**1.56**	**9**	*e*Pn	**Pn**	**16 47 46.1**	**+0.1**
BDRM	**Kayabasi**	**1.60**	**239**	*i* P	**Pn**	**16 47 45.7**	**-0.8**
BDRM				*i* S	**Sn**	**16 48 06.8**	**-1.0**
BDRM	**Kayabasi**	**1.60**	**239**	*i* P	**Pn**	**16 47 45.7**	**-0.8**
BDRM				*i* S	**Sn**	**16 48 06.8**	**-1.0**
BOLV	**Bolvadin**	**1.63**	**60**	*i* P	**Pn**	**16 47 46.8**	**-0.2**
BOLV				*i* S	**Sg**	**16 48 11.3**	**+1.8**
BOLV	**Bolvadin**	**1.63**	**60**	*i* P	**Pn**	**16 47 46.8**	**-0.2**
BODT	**Bodrum**	**1.69**	**241**	*e*PN	**Pn**	**16 47 48.0**	**+0.2**
BODT	**Bodrum**	**1.69**	**241**	*e*Pn	**Pn**	**16 47 48.0**	**+0.2**
DAT	**Datca**	**1.72**	**227**	*e*PN	**Pn**	**16 47 47.7**	**-0.6**
DAT	**Datca**	**1.72**	**227**	*e*Pn	**Pn**	**16 47 47.7**	**-0.6**
BLCB	**Balcova**	**1.73**	**287**	*e*PN	**Pn**	**16 47 48.2**	**0.0**
BLCB	**Balcova**	**1.73**	**287**	*e*Pn	**Pn**	**16 47 48.3**	**0.0**
DURS	**Dursunbey**	**1.77**	**343**	*i* P	**Pn**	**16 47 48.4**	**-0.5**
DURS	**Dursunbey**	**1.77**	**343**	*i* P	**Pn**	**16 47 48.4**	**-0.5**
ORLT	**Orhaneli**	**2.14**	**355**	*e*PN	**Pn**	**16 47 54.6**	**+0.6**
ORLT	**Orhaneli**	**2.14**	**355**	*e*Pn	**Pn**	**16 47 54.6**	**+0.6**
BALY	**Balya**	**2.19**	**327**	*i* P	**Pn**	**16 47 54.2**	**-0.4**
BALY	**Balya**	**2.19**	**327**	*i* P	**Pn**	**16 47 54.2**	**-0.4**
CAVI	**Cavuskoy**	**2.35**	**13**	*e*PN	**Pn**	**16 47 57.8**	**+0.9**
CAVI	**Cavuskoy**	**2.35**	**13**	*e*Pn	**Pn**	**16 47 57.8**	**+0.9**
KIZT	**Kizilcal**	**2.35**	**65**	*e*PN	**Pn**	**16 47 57.5**	**+0.6**
KIZT	**Kizilcal**	**2.35**	**65**	*e*Pn	**Pn**	**16 47 57.5**	**+0.6**
GONE	**Gonen-Balikesi**	**2.42**	**332**	*e*PN	**Pn**	**16 47 58.3**	**+0.5**
GONE	**Gonen-Balikesi**	**2.42**	**332**	*e*Pn	**Pn**	**16 47 58.3**	**+0.5**
KCTX	**Karacabey (Bur**	**2.43**	**345**	*e*PN	**Pn**	**16 47 58.6**	**+0.6**
KCTX	**Karacabey (Bur**	**2.43**	**345**	*e*Pn	**Pn**	**16 47 58.6**	**+0.6**
YLV	**Yalova**	**2.66**	**4**	*e*PN	**Pn**	**16 48 02.3**	**+1.2**
YLV	**Yalova**	**2.66**	**4**	*e*Pn	**Pn**	**16 48 02.3**	**+1.2**
ARMT	**Armutlu**	**2.66**	**355**	*e*PN	**Pn**	**16 48 02.6**	**+1.5**
ARMT	**Armutlu**	**2.66**	**355**	*e*Pn	**Pn**	**16 48 02.6**	**+1.5**
GULT	**Gulveren**	**2.73**	**22**	*e*PN	**Pn**	**16 48 03.4**	**+1.2**
GULT	**Gulveren**	**2.73**	**22**	*e*Pn	**Pn**	**16 48 03.4**	**+1.2**

*ATH **18** 16:48:37.5, 37.˚09N×20.˚68E, h12km±3km, MD3.6/8*
*CSEM **18** 16:48:38.4±0.4, 37.˚10N×20.˚78E, h2km, ML3.3, Error ellipse: s-maj=8.6km s-min=3.7km az=50.0*
*THE **18** 16:48:40.0, 37.˚21N×20.˚86E, h0km±1km, ML3.3/7, Error ellipse: s-maj=2.2km s-min=0.6km az=230.0*
*BEO **18** 16:49:06.9±0.9, 39.˚36N×20.˚36E, h0km, ML3.2/4*

ISC 18 16:48:37.6±1.5, 37.11N±0.04×20.73E±0.05, h6km±10km, n87, σ0s96/121, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.84**	**104**	P	**Pg**	**16 48 54.2**	**+0.4**
PYL				S	**Sb**	**16 49 06.1**	**-0.1**
PYL	**PYLOS**	**0.84**	**104**	*e*PB	**Pg**	**16 48 54.2**	**+0.4**
PYL				*e*SB	**Sb**	**16 49 06.6**	**+0.4**
PYL	**PYLOS**	**0.84**	**104**	*e*Pg	**Pg**	**16 48 54.2**	**+0.4**
PYL				S	**Sg**	**16 49 04.4**	**-0.3**
PYL				*e*Sb	**Sb**	**16 49 06.6**	**+0.4**
ITM	**Ithomi**	**0.96**	**85**	P	**Pg**	**16 48 55.7**	**-0.4**
ITM				S	**Sg**	**16 49 08.3**	**-0.3**
ITM	**Ithomi**	**0.96**	**85**	*e*PG	**Pg**	**16 48 56.2**	**+0.1**
ITM				*e*SB	**Sb**	**16 49 10.4**	**+0.7**
ITM	**Ithomi**	**0.96**	**85**	P	**Pg**	**16 48 55.7**	**-0.4**
ITM	**Ithomi**	**0.96**	**85**	*e*Pg	**Pg**	**16 48 56.2**	**+0.1**
ITM				S	**Sg**	**16 49 08.6**	**0.0**
ITM				*e*Sb	**Sb**	**16 49 10.4**	**+0.7**
KFL	**Anninata**	**1.00**	**3**	P	**Pg**	**16 48 56.8**	**0.0**
KFL				S	**Sg**	**16 49 10.0**	**+0.1**
KFL	**Anninata**	**1.00**	**3**	P	**Pg**	**16 48 56.8**	**0.0**
KFL	**Anninata**	**1.00**	**3**	P	**Pg**	**16 48 56.8**	**0.0**
KFL				S	**Sb**	**16 49 11.4**	**+0.6**
VLS	**Valsamata**	**1.07**	**354**	P	**Pg**	**16 48 58.3**	**+0.1**
VLS				S	**Sb**	**16 49 13.5**	**+0.6**
VLS	**Valsamata**	**1.07**	**354**	*e*PB	**Pg**	**16 48 58.3**	**+0.3**
VLS	**Valsamata**	**1.07**	**354**	P	**Pg**	**16 48 58.3**	**+0.1**
VLS	**Valsamata**	**1.07**	**354**	*e*Pb	**Pg**	**16 48 58.5**	**+0.3**
VLS				S	**Sb**	**16 49 13.5**	**+0.6**
RLS	**Riolos of Patr**	**1.12**	**32**	P	**Pg**	**16 48 58.6**	**-0.4**
RLS	**Riolos of Patr**	**1.12**	**32**	*e*PG	**Pg**	**16 48 58.8**	**-0.2**
RLS				*e*SB	**Sn**	**16 49 15.7**	**+0.3**
RLS	**Riolos of Patr**	**1.12**	**32**	*e*Pg	**Pg**	**16 48 58.8**	**-0.2**
RLS				S	**Sb**	**16 49 14.0**	**-0.1**
RLS				*e*Sb	**Sn**	**16 49 15.7**	**+0.3**
DYR	**Agios Nikonas**	**1.33**	**104**	P	**Pg**	**16 49 02.4**	**-0.8**
DYR				S	**Sg**	**16 49 19.8**	**-0.7**
VLX	**Vlachokerasia**	**1.35**	**78**	P	**Pg**	**16 49 03.3**	**-0.1**
VLX				S	**Sb**	**16 49 21.0**	**+0.2**
VLX	**Vlachokerasia**	**1.35**	**78**	*e*PG	**Pg**	**16 49 02.9**	**-0.5**
VLX	**Vlachokerasia**	**1.35**	**78**	*e*Pg	**Pg**	**16 49 02.9**	**-0.5**
VLX	**Vlachokerasia**	**1.35**	**78**	P	**Pg**	**16 49 03.3**	**-0.1**
VLX				S	**Sg**	**16 49 20.5**	**-0.4**
LAKA	**Lakka**	**1.51**	**41**	P	**Pn**	**16 49 05.1**	**-0.1**
LAKA				S	**Sb**	**16 49 24.8**	**-0.5**
LAKA	**Lakka**	**1.51**	**41**	P	**Pn**	**16 49 05.8**	**+0.6**
LAKA				S	**Sb**	**16 49 24.8**	**-0.5**
GUR	**Goura**	**1.53**	**57**	P	**Pn**	**16 49 05.4**	**-0.1**
GUR				S	**Sn**	**16 49 25.9**	**+0.1**
GUR	**Goura**	**1.53**	**57**	*e*PN	**Pn**	**16 49 05.4**	**-0.1**
GUR	**Goura**	**1.53**	**57**	*e*Pn	**Pn**	**16 49 05.4**	**-0.1**
GUR	**Goura**	**1.53**	**57**	P	**Pn**	**16 49 05.7**	**+0.2**
GUR				S	**Sn**	**16 49 25.9**	**+0.1**
EFP	**Efpalio**	**1.62**	**35**	P	**Pn**	**16 49 06.8**	**+0.2**
EFP				S	**Sb**	**16 49 28.9**	**+0.4**
EFP	**Efpalio**	**1.62**	**35**	*e*PG	**Pn**	**16 49 07.6**	**+1.0**
EFP	**Efpalio**	**1.62**	**35**	*e*Pg	**Pn**	**16 49 07.6**	**+1.0**
EFP	**Efpalio**	**1.62**	**35**	P	**Pb**	**16 49 08.1**	**+0.3**
EFP				S	**Sb**	**16 49 28.9**	**+0.4**
TRIZ	**Trizonia**	**1.65**	**40**	P	**Pn**	**16 49 08.1**	**+1.0**
TRIZ	**Trizonia**	**1.65**	**40**	P	**Pn**	**16 49 08.1**	**+1.0**
LKD2	**Lefkada island**	**1.68**	**358**	P	**Pn**	**16 49 08.7**	**+1.2**
LKD2				S	**Sn**	**16 49 30.5**	**+1.1**
LKD2	**Lefkada island**	**1.68**	**358**	P	**Pn**	**16 49 08.7**	**+1.2**
LKD2				S	**Sn**	**16 49 30.5**	**+1.1**
KALE	**Kalithea**	**1.70**	**41**	P	**Pn**	**16 49 07.9**	**0.0**
KALE				S	**Sn**	**16 49 29.8**	**-0.2**
KALE	**Kalithea**	**1.70**	**41**	P	**Pb**	**16 49 09.5**	**+0.1**
KALE				S	**Sn**	**16 49 29.8**	**-0.2**
VLI	**Veliai**	**1.81**	**102**	P	**Pb**	**16 49 11.0**	**-0.2**
VLI				S	**Sg**	**16 49 35.2**	**-0.7**
VLI	**Veliai**	**1.81**	**102**	*e*PG	**Pb**	**16 49 11.7**	**+0.5**
VLI	**Veliai**	**1.81**	**102**	S	**Sg**	**16 49 35.2**	**-0.7**
VLI	**Veliai**	**1.81**	**102**	P	**Pb**	**16 49 11.0**	**-0.2**
VLI	**Veliai**	**1.81**	**102**	*e*Pg	**Pb**	**16 49 11.7**	**+0.5**
DSF	**Desfina**	**1.93**	**47**	P	**Pb**	**16 49 13.5**	**+0.2**
DSF	**Desfina**	**1.93**	**47**	P	**Pb**	**16 49 12.9**	**-0.4**
DSF				S	**Sb**	**16 49 37.8**	**+0.2**
DESF	**Desfina**	**1.94**	**47**	P	**Pn**	**16 49 12.1**	**+1.0**
DESF	**Desfina**	**1.94**	**47**	P	**Pn**	**16 49 12.1**	**+1.0**
EVR	**Evrytania**	**2.00**	**25**	P	**Pb**	**16 49 14.6**	**+0.2**
EVR	**Evrytania**	**2.00**	**25**	*e*PG	**Pb**	**16 49 14.7**	**+0.3**
EVR	**Evrytania**	**2.00**	**25**	P	**Pb**	**16 49 14.6**	**+0.2**
LTK	**Loutraki**	**2.00**	**62**	P	**Pn**	**16 49 12.8**	**+0.8**
LTK	**Loutraki**	**2.00**	**62**	*e*PN	**Pn**	**16 49 13.4**	**+1.4**
LTK	**Loutraki**	**2.00**	**62**	P	**Pn**	**16 49 12.8**	**+0.8**
LTK	**Loutraki**	**2.00**	**62**	*e*Pn	**Pn**	**16 49 13.4**	**+1.4**
DIDY	**Didyma**	**2.02**	**79**	P	**Pn**	**16 49 11.7**	**-0.5**
DIDY	**Didyma**	**2.02**	**79**	P	**Pn**	**16 49 11.7**	**-0.5**
KYTH	**Kithira**	**2.03**	**113**	P	**Pb**	**16 49 14.5**	**-0.4**
KYTH	**Kithira**	**2.03**	**113**	*e*PG	**Pb**	**16 49 15.3**	**+0.4**
KYTH	**Kithira**	**2.03**	**113**	P	**Pb**	**16 49 14.5**	**-0.4**
KYTH	**Kithira**	**2.03**	**113**	*e*Pg	**Pb**	**16 49 15.3**	**+0.4**
DID	**Didima**	**2.04**	**78**	P	**Pn**	**16 49 13.3**	**+0.8**
DID				S	**Sn**	**16 49 38.6**	**+0.3**
DID	**Didima**	**2.04**	**78**	*e*PB	**Pn**	**16 49 13.6**	**+1.1**
DID	**Didima**	**2.04**	**78**	P	**Pn**	**16 49 13.3**	**+0.8**
DID	**Didima**	**2.04**	**78**	*e*Pb	**Pn**	**16 49 13.6**	**+1.1**
DID				S	**Sn**	**16 49 38.6**	**+0.3**
MAKR	**Makrakomi, Fth**	**2.20**	**30**	P	**Pb**	**16 49 18.1**	**+0.2**
MAKR	**Makrakomi, Fth**	**2.20**	**30**	P	**Pb**	**16 49 18.1**	**+0.2**
AXAR	**Agios Charalam**	**2.25**	**42**	P	**Pb**	**16 49 17.6**	**-1.1**
AXAR	**Agios Charalam**	**2.25**	**42**	P	**Pb**	**16 49 17.6**	**-1.1**
LKR	**Lokris**	**2.37**	**49**	*e*PN	**Pn**	**16 49 19.2**	**+2.2**
LKR	**Lokris**	**2.37**	**49**	*e*Pn	**Pn**	**16 49 19.2**	**+2.2**
THL	**Klokotos Trika**	**2.66**	**22**	P	**Pn**	**16 49 22.9**	**+2.0**
THL	**Klokotos Trika**	**2.66**	**22**	*e*PN	**Pn**	**16 49 23.1**	**+2.2**
THL	**Klokotos Trika**	**2.66**	**22**	P	**Pn**	**16 49 22.9**	**+2.0**
XOR	**Xorichti**	**2.98**	**40**	P	**Pn**	**16 49 26.2**	**+0.8**
XOR	**Xorichti**	**2.98**	**40**	P	**Pn**	**16 49 26.2**	**+0.8**
LIT	**Litokhoron**	**3.29**	**24**	*e*PN	**Pn**	**16 49 30.8**	**+1.1**
LIT	**Litokhoron**	**3.29**	**24**	*e*Pn	**Pn**	**16 49 30.8**	**+1.1**
FNA	**Florina**	**3.71**	**8**	P	**Pn**	**16 49 36.4**	**+1.0**
FNA	**Florina**	**3.71**	**8**	P	**Pn**	**16 49 36.4**	**+1.0**
BIA	**Bitola**	**3.93**	**7**	*e*Pn	**Pn**	**16 49 39.6**	**+1.0**
BIA	**Bitola**	**3.93**	**7**	*e*Pn	**Pn**	**16 49 39.5**	**+0.9**
BARS	**Barje**	**5.76**	**8**	*e*Pn	**Pn**	**16 50 03.9**	**+0.3**
VTS	**Vitosha**	**5.80**	**18**	*e*Pn	**Pn**	**16 50 06.2**	**+1.9**
VTS				*e*Sg	**Sn**	**16 51 10.7**	**-0.5**
ZAPS	**Zavoj**	**6.33**	**13**	*e*Pn	**Pn**	**16 50 13.3**	**+1.9**
GRUS	**Gruza**	**6.77**	**360**	*e*Pn	**Pn**	**16 50 17.6**	**+0.1**
GRUS				*e*Sg	**Sn**	**16 51 31.1**	**-3.8**
DIVS	**Divibare**	**7.01**	**356**	*e*Pn	**Pn**	**16 50 18.7**	**-2.1**
DIVS				*e*Sg	**Sn**	**16 51 36.5**	**-4.3**
TEKS	**Tekeris**	**7.49**	**353**	*e*Sn	Sn	16 51 25.9	-27

*ISK **18** 16:49:15.6, 37.˚86N×29.˚20E, h15km, MD2.8*
*ISCJB **18** 16:49:16.2±0.6, 37.˚88N±0.˚03×29.˚20E±0.˚05, h14km±5km, Error ellipse: s-maj=6.7km s-min=4.2km az=31.2*
*DDA **18** 16:49:16.4, 37.˚91N×29.˚16E, h7km, MD2.8*
*CSEM **18** 16:49:16.1±0.2, 37.˚87N×29.˚20E, h15km, MD2.8, Error ellipse: s-maj=4.5km s-min=3.1km az=114.0*

ISC 18 16:49:16.0±0.9, 37.89N±0.˚03×29.19E±0.˚03, h16km±7km, n26, σ0s39/44, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.23**	**210**	*i* P	**Pg**	**16 49 21.4**	**+0.1**
DNZL				*i* S	**Sg**	**16 49 24.8**	**-0.1**
DNZL	**Cakiroluk**	**0.23**	**210**	*i* Pg	**Pg**	**16 49 21.4**	**+0.1**
DNZL				*i* S	**Sg**	**16 49 24.8**	**-0.1**
KHL	**Karahalli**	**0.51**	**31**	*e*PG	**Pg**	**16 49 26.5**	**+0.3**
KHL				*e*SG	**Sb**	**16 49 34.6**	**+0.7**
KHL	**Karahalli**	**0.51**	**31**	*e*Pg	**Pg**	**16 49 26.5**	**+0.3**
KHL				*e*Sg	**Sb**	**16 49 34.6**	**+0.7**
KHAL	**Karahalli**	**0.54**	**26**	*i* P	**Pg**	**16 49 26.7**	**0.0**
KHAL				*i* S	**Sg**	**16 49 33.8**	**-0.2**
KHAL	**Karahalli**	**0.54**	**26**	*i* P	**Pg**	**16 49 26.7**	**0.0**
KHAL				*i* S	**Sg**	**16 49 33.8**	**-0.2**
GOLH	**Golhisar**	**0.71**	**155**	*i* P	**Pb**	**16 49 30.4**	**+0.2**
GOLH	**Golhisar**	**0.71**	**155**	*i* P	**Pb**	**16 49 30.4**	**+0.2**
KULA	**Kula-Manisa**	**0.75**	**327**	*e*PG	**Pn**	**16 49 31.8**	**-0.3**
KULA				*e*SG	**Sb**	**16 49 41.7**	**+0.7**
KULA	**Kula-Manisa**	**0.75**	**327**	*e*Pg	**Pn**	**16 49 31.8**	**-0.3**
KULA				*e*Sg	**Sb**	**16 49 41.7**	**+0.7**
MANT	**Manisa**	**0.78**	**321**	*i* P	**Pg**	**16 49 31.3**	**0.0**
MANT				*i* S	**Sg**	**16 49 41.7**	**0.0**
MANT	**Manisa**	**0.78**	**321**	*i* P	**Pg**	**16 49 31.3**	**0.0**
MANT				*i* S	**Sg**	**16 49 41.7**	**0.0**
YER	**Yerkesik**	**1.04**	**224**	*e*PG	**Pb**	**16 49 35.5**	**-0.2**
YER				*e*SG	**Sn**	**16 49 50.6**	**+0.3**
YER	**Yerkesik**	**1.04**	**224**	*e*Pg	**Pb**	**16 49 35.5**	**-0.2**
YER				*e*Sg	**Sn**	**16 49 50.6**	**+0.3**
AYDN	**Tasoluk**	**1.06**	**258**	*i* P	**Pg**	**16 49 36.9**	**+0.3**
AYDN				*i* S	**Sb**	**16 49 49.8**	**0.0**
AYDN	**Tasoluk**	**1.06**	**258**	*i* Pg	**Pg**	**16 49 36.9**	**+0.3**
AYDN				*i* S	**Sb**	**16 49 49.8**	**0.0**
DEMI	**Demirci**	**1.21**	**342**	*i* P	**Pb**	**16 49 39.1**	**+0.4**
DEMI				*i* S	**Sb**	**16 49 53.3**	**-0.9**
DEMI	**Demirci**	**1.21**	**342**	*i* P	**Pb**	**16 49 39.1**	**+0.4**
DEMI				*i* S	**Sb**	**16 49 53.3**	**-0.9**
GDZ	**Gediz**	**1.22**	**11**	*i* P	**Pg**	**16 49 39.7**	**0.0**
GDZ				*i* S	**Sb**	**16 49 54.0**	**-0.5**
GDZ	**Gediz**	**1.22**	**11**	*i* P	**Pg**	**16 49 39.7**	**0.0**
GDZ				*i* S	**Sb**	**16 49 54.0**	**-0.5**
SHUT	**Suhut-Afyon**	**1.26**	**58**	*e*PN	**Pn**	**16 49 38.6**	**-0.6**
SHUT	**Suhut-Afyon**	**1.26**	**58**	*e*Pn	**Pn**	**16 49 38.6**	**-0.6**
ALT	**Altintas**	**1.37**	**32**	*e*PN	**Pn**	**16 49 40.8**	**+0.1**
ALT	**Altintas**	**1.37**	**32**	*e*Pn	**Pn**	**16 49 40.8**	**+0.1**
TVSB	**Tavsanli**	**1.57**	**8**	*e*PN	**Pb**	**16 49 44.9**	**0.0**
TVSB	**Tavsanli**	**1.57**	**8**	*e*Pn	**Pb**	**16 49 44.9**	**0.0**

ISC 18 16:52:27.3±1.5, 41.11N±0.˚07×43.90E±0.˚04, h10km±11km, n8, σ0s74/16, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	**Akhalkalaki**	**0.43**	**315**	P	**Pg**	**16 52 36.0**	**+0.2**
AKH				S	**Sg**	**16 52 41.9**	**+0.4**
TBLG	**Delisi**	**0.89**	**45**	P	**Pg**	**16 52 43.6**	**-0.7**
TBLG				S	**Sg**	**16 52 55.5**	**-0.4**
GOR	**Gori**	**0.89**	**10**	P	**Pg**	**16 52 44.4**	**-0.1**
GOR				S	**Sb**	**16 52 56.6**	**-0.2**
DGRG	**David-gareji**	**1.16**	**72**	P	**Pg**	**16 52 49.5**	**-0.1**
DGRG				S	**Sn**	**16 53 06.2**	**+0.6**
ARTV	**Artvin**	**1.49**	**274**	*i* P	**Pn**	**16 52 54.8**	**+0.5**
ARTV				*i* S	**Sn**	**16 53 12.2**	**-1.8**
DAGI	**Agillar**	**1.50**	**269**	*i* P	**Pg**	**16 52 56.0**	**-0.1**
DAGI				*i* S	**Sg**	**16 53 15.1**	**-0.5**
DDEM	**Demirkent**	**1.64**	**263**	*i* P	**Pb**	**16 52 57.7**	**0.0**
DDEM				*i* S	**Sb**	**16 53 18.8**	**+0.3**
DBOC	**Borcka**	**1.70**	**279**	*i* P	**Pn**	**16 52 58.1**	**+1.0**
DBOC				*i* S	**Sn**	**16 53 18.3**	**-0.6**

PRE 18 16:55:35.0±0.6, 26.˚42S×27.˚51E, h2km, ML2.4, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.11**	**53**	*e*P	Pg	16 55 36.9	-0.5
KLOF				*e*S	Sg	16 55 39.0	-0.1
KLOF				AML	AML	16 55 40.9	
	comp=Z,1μm,0.1s						
PRYS	**Parys**	**0.52**	**195**	*e*P	Pg	16 55 45.0	-0.3
PRYS				*e*S	Sg	16 55 52.4	+0.1
PRYS				AML	AML	16 55 54.7	
	comp=Z,66nm,0.2s						
ERPM	**east rand prop**	**0.66**	**84**	*e*P	Pg	16 55 48.1	+0.2
ERPM				*e*S	Sg	16 55 57.4	+0.7
ERPM				AML	AML	16 55 58.0	
	comp=Z,48nm,0.5s						
BFSD	**Buffelsfontein**	**0.79**	**235**	*e*P	Pg	16 55 50.7	+0.3
BFSD				*e*S	Sg	16 56 01.3	+0.6
BFSD				AML	AML	16 56 07.5	
	comp=Z,81nm,0.1s						
MOAB	**Moab Khotsong**	**0.85**	**228**	*e*P	Pg	16 55 51.7	+0.1
MOAB				*e*S	Sg	16 56 03.4	+0.6
MOAB				AML	AML	16 56 12.2	
	comp=Z,134nm,0.2s						
SLR	**Silverton**	**0.97**	**46**	*e*P	Pg	16 55 53.6	-0.2
SLR				*e*S	Sg	16 56 07.4	+0.8
SLR				AML	AML	16 56 14.2	
	comp=Z,46nm,0.2s						
SEK	**Senekal**	**1.90**	**177**	*e*P	Pn	16 56 09.4	+0.7
SEK				*e*S	Sn	16 56 34.1	+0.7
SEK				AML	AML	16 56 36.6	
	comp=Z,58nm,0.3s						
SWZ	**Schweizer**	**2.09**	**248**	*e*P	Pn	16 56 11.8	+0.5
SWZ				*e*S	Sn	16 56 38.1	+0.1
SWZ				AML	AML	16 56 41.3	
	comp=Z,35nm,0.6s						
LBTB	**Lobatse**	**2.22**	**309**	*e*P	Pn	16 56 13.6	+0.6
LBTB				*e*S	Sn	16 56 41.7	+0.6
LBTB				AML	AML	16 56 46.2	
	comp=Z,32nm,0.5s						
BOSA	**Boshof**	**2.96**	**222**	*e*P	Pn	16 56 23.8	+0.5
BOSA				*e*S	Sn	16 56 59.6	0.0
BOSA				AML	AML	16 57 18.6	
	comp=Z,4.9nm,0.5s						
SOE	**Somerset East**	**6.50**	**195**	*e*P	Pn	16 57 12.7	+0.9
SOE				*e*S	Sn	16 58 24.0	-2.6
SOE				AML	AML	16 59 02.4	
	comp=Z,3.4nm,0.8s						

*ATH **18** 16:59:34.6, 37.˚05N×20.˚66E, h5km±1km, MD3.5/15*

*THE **18** 16:59:36.6, 37.˚12N×20.˚75E, h7km±1km, ML3.2/5, Error ellipse: s-maj=1.8km s-min=0.7km az=233.0*
*CSEM **18** 16:59:37.0±0.5, 37.˚14N×20.˚77E, h2km, ML3.2/5, Error ellipse: s-maj=10.5km s-min=5.1km az=49.0*

ISC 18 16:59:36.4±1.5, 37.11N±0.04×20.74E±0.05, h5km±10km, n65, σ0s85/101, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.83**	**104**	P	**Pg**	**16 59 52.0**	**-0.3**
PYL				S	**Sb**	**17 00 04.2**	**-0.6**
PYL	**PYLOS**	**0.83**	**104**	*e*PB	**Pg**	**16 59 52.1**	**-0.3**
PYL				*e*SB	**Sg**	**17 00 03.9**	**+0.8**
PYL	**PYLOS**	**0.83**	**104**	*e*Pb	**Pg**	**16 59 52.1**	**-0.3**
PYL				S	**Sb**	**17 00 04.2**	**-0.6**
ITM	**Ithomi**	**0.95**	**85**	P	**Pg**	**16 59 53.7**	**-1.0**
ITM				S	**Sb**	**17 00 08.1**	**-0.3**
ITM	**Ithomi**	**0.95**	**85**	*e*PG	**Pg**	**16 59 53.5**	**-1.2**
ITM				*e*SB	**Sb**	**17 00 08.2**	**-0.2**
ITM	**Ithomi**	**0.95**	**85**	P	**Pg**	**16 59 53.7**	**-1.0**
ITM				S	**Sb**	**17 00 08.1**	**-0.3**
KFL	**Anninata**	**1.00**	**2**	P	**Pg**	**16 59 54.9**	**-0.8**
KFL				S	**Sb**	**17 00 09.8**	**-0.1**
KFL	**Anninata**	**1.00**	**2**	P	**Pg**	**16 59 54.9**	**-0.8**
KFL				S	**Sb**	**17 00 09.8**	**-0.1**
VLS	**Valsamata**	**1.08**	**354**	P	**Pg**	**16 59 56.3**	**-0.8**
VLS				S	**Sb**	**17 00 12.4**	**+0.4**
VLS	**Valsamata**	**1.08**	**354**	*e*PB	**Pg**	**16 59 56.4**	**-0.7**
VLS				*e*SB	**Sb**	**17 00 12.2**	**+0.2**
VLS	**Valsamata**	**1.08**	**354**	*e*Pb	**Pg**	**16 59 56.4**	**-0.7**
VLS				S	**Sb**	**17 00 12.4**	**+0.4**
RLS	**Riolos of Patr**	**1.11**	**31**	P	**Pg**	**16 59 57.5**	**-0.3**
RLS				S	**Sb**	**17 00 13.4**	**+0.4**
RLS	**Riolos of Patr**	**1.11**	**31**	*e*PB	**Pg**	**16 59 57.4**	**-0.3**
RLS				*e*SB	**Sn**	**17 00 14.2**	**-0.2**
RLS	**Riolos of Patr**	**1.11**	**31**	P	**Pg**	**16 59 57.5**	**-0.3**
RLS				S	**Sb**	**17 00 13.4**	**+0.4**
VLX	**Vlachokerasia**	**1.34**	**78**	P	**Pn**	**17 00 00.6**	**-1.3**
VLX				S	**Sb**	**17 00 19.6**	**+0.1**
VLX	**Vlachokerasia**	**1.34**	**78**	*e*PG	**Pn**	**17 00 00.5**	**-1.3**
VLX				*e*SB	**Sn**	**17 00 20.4**	**+0.3**
VLX	**Vlachokerasia**	**1.34**	**78**	P	**Pn**	**17 00 00.6**	**-1.3**
VLX				S	**Sb**	**17 00 19.6**	**+0.1**
VLX				*e*Sb	**Sn**	**17 00 20.4**	**+0.3**
UPR	**University Cam**	**1.44**	**35**	*e*PN	**Pn**	**17 00 02.0**	**-1.2**
**U

ISC 18 17:03:58.1±3.1, 3°58'N±0".08 × 126°5'E±0".2, h50km±27km, n51, σ1°35/58, mb4.3/24, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.60**	**345**	Sn	Sn	17 05 43.2	+11
	49nm,0.3s,baz=244,slow=10.0,SNR=2.6						
FITZ	**Fitzroy Crossi**	**21.56**	**182**	P	**P**	**17 08 43.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**21.56**	**182**	*eP*	**P**	**17 08 43.9**	**+0.4**
	9.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.56**	**182**	P	**P**	**17 08 43.0**	**-0.5**
	5.4nm,0.5s,baz=13,slow=12,SNR=9.9						
JOW	**Kunigami**	**23.18**	**4**	LR	LR	17 17 35.3	
	comp=Z,76nm,18.1s,baz=13,slow=36						
WRAB	**Tennant Creek**	**24.59**	**162**	*eP*	**P**	**17 09 12.8**	**-0.8**
	22nm,0.9s						
WRA	**Warramunga Arr**	**24.60**	**162**	P	**P**	**17 09 13.2**	**-0.6**
WRA				PcP	**PcP**	**17 12 52.0**	**+1.2**
WRA				S	**S**	**17 13 26.8**	**-4.8**
	0.5nm,0.6s,baz=332,slow=2.3,SNR=4.8						
WRA				S	**S**	**17 13 26.8**	**-4.8**
	0.5nm,0.9s,baz=347,slow=18,SNR=2.8						
MBWA	**Marble Bar**	**25.47**	**195**	*eP*	**P**	**17 09 24.0**	**+2.3**
MBWA	**Marble Bar**	**25.47**	**195**	*eP*	**P**	**17 09 23.2**	**+1.5**
AS31	**Alice Springs**	**28.01**	**166**	*eP*	**P**	**17 09 44.1**	**-0.5**
ASAR	**Alice Springs**	**28.01**	**166**	P	**P**	**17 09 44.6**	**+0.1**
ASAR				PcP	**PcP**	**17 12 59.8**	**+1.1**
ASAR				S	**S**	**17 14 28.4**	**+2.8**
ASAR	**Alice Springs**	**28.01**	**166**	P	**P**	**17 09 44.6**	**+0.1**
	1.1nm,0.4s,baz=344,slow=9.6,SNR=25						
ASAR				PcP	**PcP**	**17 12 59.8**	**+1.1**
	1.1nm,0.4s,baz=352,slow=2.2,SNR=9.6						
ASAR				S	**S**	**17 14 28.4**	**+2.8**
	0.2nm,0.6s,baz=347,slow=16,SNR=3.2						
CMAR	**Chiang Mai Arr**	**30.79**	**301**	P	**P**	**17 10 07.8**	**-1.4**
CMAR	**Chiang Mai Arr**	**30.79**	**301**	P	**P**	**17 10 07.8**	**-1.4**
	0.9nm,0.7s,baz=113,slow=6.9,SNR=9.6						
CHTO	**Chiang Mai**	**30.94**	**301**	*eP*	P	17 10 05.7	-4.9
	1.6nm,0.7s						
KSAR	**Wonju Array Be**	**33.73**	**2**	P	**P**	**17 10 34.8**	**+0.1**
KSRS	**Korea Array**	**33.74**	**2**	P	**P**	**17 10 34.8**	**0.0**
	3.6nm,0.8s,baz=182,slow=10.0,SNR=13						
KSRS				LR	LR	17 25 40.4	
	comp=Z,40nm,18.4s,baz=169,slow=39						
BJT	**Baijiatuan**	**37.47**	**347**	*eP*	**P**	**17 11 07.8**	**+1.0**
	17nm,0.6s						
STKA	**Stephens Creek**	**38.05**	**159**	P	**P**	**17 11 11.7**	**-0.2**
STKA				PcP	**PcP**	**17 13 26.2**	**-0.2**
STKA	**Stephens Creek**	**38.05**	**159**	*eP*	**P**	**17 11 12.0**	**+0.1**
	5.4nm,0.8s						
STKA	**Stephens Creek**	**38.05**	**159**	P	**P**	**17 11 11.7**	**-0.2**
	4.1nm,0.7s,baz=347,slow=10,SNR=13						
STKA				PcP	**PcP**	**17 13 26.2**	**-0.2**
	1.2nm,0.6s,baz=304,slow=9.0,SNR=3.6						
USRK	**Ussuriysk Arra**	**40.74**	**6**	P	**P**	**17 11 34.5**	**+0.5**
	1.8nm,0.7s,baz=182,slow=7.5,SNR=4.1						
MDJ	**Mudanjiang**	**40.96**	**3**	*eP*	**P**	**17 11 36.5**	**+0.6**
	5.3nm,0.8s						
LSA	**Lhasa**	**42.40**	**312**	*eP*	**P**	**17 11 49.9**	**+1.5**
	2.9nm,0.6s						
ASAJ	**Asahikawa**	**42.79**	**17**	P	**P**	**17 11 50.9**	**+0.1**
ASAJ	**Asahikawa**	**42.79**	**17**	P	**P**	**17 11 50.9**	**+0.1**
	8.9nm,0.7s,baz=306,slow=18,SNR=7.6						
SONM	**Songino Array**	**47.38**	**342**	P	**P**	**17 12 26.3**	**-1.1**
SONM	**Songino Array**	**47.38**	**342**	P	**P**	**17 12 26.3**	**-1.1**
	1.0nm,0.5s,baz=159,slow=7.1,SNR=2.9						
PETK	**Petropavlovsk-**	**55.64**	**22**	P	**P**	**17 13 29.5**	**+0.6**
PETK	**Petropavlovsk-**	**55.64**	**22**	P	**P**	**17 13 29.5**	**+0.6**
	4.1nm,0.6s,baz=198,slow=4.4,SNR=19						
MK31	**Makanchi Array**	**57.57**	**325**	*eP*	**P**	**17 13 42.7**	**-0.1**
MKAR	**Makanchi Array**	**57.57**	**325**	P	**P**	**17 13 42.8**	**0.0**
MKAR	**Makanchi Array**	**57.57**	**325**	P	**P**	**17 13 42.8**	**0.0**
	1.6nm,0.4s,baz=122,slow=8.7,SNR=25						
ZALV	**Zalesovo Beam**	**60.64**	**333**	P	**P**	**17 14 04.0**	**+0.2**
ZALV	**Zalesovo Beam**	**60.64**	**333**	P	**P**	**17 14 04.0**	**+0.2**
	0.8nm,0.6s,baz=156,slow=7.5,SNR=3.9						
KURK	**Kurchatov**	**61.77**	**328**	*eP*	**P**	**17 14 12.0**	**+0.5**
	4.5nm,0.6s						
BRVK	**Borovoye**	**67.42**	**327**	*eP*	**P**	**17 14 45.5**	**-2.8**
	4.9nm,0.9s						
ABKAR	**Akbulak array**	**72.15**	**321**	*eP*	**P**	**17 15 17.6**	**+0.2**
	1.0nm,0.6s						
ILAR	**Eielson Array**	**85.32**	**25**	P	**P**	**17 16 29.4**	**-0.2**
ILAR	**Eielson Array**	**85.32**	**25**	P	**P**	**17 16 29.4**	**-0.2**
	0.3nm,0.6s,baz=250,slow=6.6,SNR=4.8						
BRTR	**Keskin Array B**	**89.97**	**310**	P	**P**	**17 16 52.2**	**-0.4**
BRTR	**Keskin Array B**	**89.97**	**310**	P	**P**	**17 16 52.2**	**-0.4**
	0.6nm,0.8s,baz=131,slow=5.6,SNR=4.0						
ARCES	**ARCESS Array B**	**90.53**	**340**	P	**P**	**17 16 53.9**	**-0.5**
ARCES	**ARCESS Array B**	**90.53**	**340**	P	**P**	**17 16 53.9**	**-0.5**
	4.4nm,0.9s,baz=74,slow=6.2,SNR=11						
FINES	**FINESS Array B**	**91.88**	**332**	P	**P**	**17 17 00.7**	**0.0**
FINES	**FINESS Array B**	**91.88**	**332**	P	**P**	**17 17 00.7**	**0.0**
	0.6nm,0.5s,baz=60,slow=7.7,SNR=4.9						
TORD	**Torodi Ar. Bea**	**122.78**	**288**	PKP	**PKPdf**	**17 22 49.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**122.78**	**288**	PKP	**PKPdf**	**17 22 49.7**	**+0.1**
	0.4nm,0.8s,baz=92,slow=1.9,SNR=4.3						
CFAA	**Coronel Fontan**	**148.84**	**155**	PKPbc	**PKPbc**	**17 23 40.6**	**-0.3**
CFAA	**Coronel Fontan**	**148.84**	**155**	PKPbc	**PKPbc**	**17 23 40.6**	**-0.3**
	0.5nm,0.6s,baz=244,slow=4.2,SNR=7.9						

PRE 18 17:19:13.3±0.6, 26°43S × 27°48E, h2km, ML1.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.14**	**57**	*eP*	Pg	17 19 16.4	+0.2
KLOF				*eS*	Sg	17 19 17.8	-0.4
KLOF				AML	AML	17 19 18.1	
	comp=Z,325nm,0.2s						
PRYS	**Parys**	**0.51**	**192**	*eP*	Pg	17 19 23.5	+0.1
PRYS				*eS*	Sg	17 19 30.9	+0.7
PRYS				AML	AML	17 19 34.3	
	comp=Z,12nm,0.5s						
SEK	**Senekal**	**1.90**	**176**	*eP*	Pn	17 19 47.4	+0.4
SEK				*eS*	Sn	17 20 12.0	+0.5
SEK				AML	AML	17 20 13.9	
	comp=Z,12nm,0.3s						
SWZ	**Schweizer**	**2.06**	**248**	*eP*	Pn	17 19 49.9	+0.7
SWZ				*eS*	Sn	17 20 16.5	+0.8
SWZ				AML	AML	17 20 19.8	
	comp=Z,4.3nm,0.3s						
LBTB	**Lobatse**	**2.21**	**309**	*eP*	Pn	17 19 52.0	+0.9
LBTB				*eS*	Sn	17 20 19.7	+0.6
LBTB				AML	AML	17 20 22.1	
	comp=Z,5.2nm,0.2s						
BOSA	**Boshof**	**2.94**	**222**	*eP*	Pn	17 20 01.8	+0.5
BOSA				*eS*	Sn	17 20 37.4	+0.1
BOSA				AML	AML	17 20 48.8	
	comp=Z,1.4nm,0.4s						

IDC 18 17:21:47.1±2.7, 22°09S × 69°69W, h0km, mb4.1/2, mb1 3.9/4, mb1mx3.6/17, mbtmp3.8/4, ML3.1/2, Error ellipse: s-maj=59.1km s-min=56.5km az=41.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.96**	**15**	Pn	Pn	17 23 16.8	-0.7
	0.1nm,0.3s,baz=196,slow=6.9,SNR=3.6						
SIV	**San Ignacio**	**10.15**	**55**	Pn	Pn	17 24 15.0	+0.7
	0.3nm,0.3s,baz=246,slow=12,SNR=6.2						
SADO	**Sadowa**	**67.10**	**353**	P	P	17 32 42.2	0.0
	2.7nm,0.5s,baz=159,slow=8.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**78.23**	**71**	P	P	17 33 48.8	-0.5
	0.3nm,0.7s,baz=240,slow=7.4,SNR=2.5						
MKAR	**Makanchi Array**	**146.53**	**36**	PKPbc	PKPbc	17 41 30.1	-0.3
	0.2nm,0.7s,baz=310,slow=2.9,SNR=3.5						

*ISCJB **18** 17:22:39.8±0.3, 40°12N±0°.02 × 28°20E±0°.03, h6km±3km, Error ellipse: s-maj=3.4km s-min=2.8km az=9.2*
*ISK **18** 17:22:39.5, 40°12N × 28°19E, h8km, MD3.1*
*DDA **18** 17:22:39.8, 40°09N × 28°22E, h7km, MD2.9*
*CSEM **18** 17:22:40.0±0.1, 40°12N × 28°19E, h10km, MD3.1, Error ellipse: s-maj=2.0km s-min=1.9km az=89.0*

ISC 18 17:22:40.2±0.9, 40°12N±0°.02 × 28°19E±0°.02, h9km±7km, n66, σ0°49/96, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTX	**Karacabey (Bur**	**0.19**	**41**	*ePG*	**Pg**	**17 22 43.8**	**-0.4**
KCTX				*eSG*	**Sg**	**17 22 46.8**	**-0.1**
KCTX	**Karacabey (Bur**	**0.19**	**41**	*ePg*	**Pg**	**17 22 43.8**	**-0.4**
KCTX				*eSg*	**Sg**	**17 22 46.8**	**-0.1**
BNT	**Bandirma**	**0.31**	**318**	*ePG*	**Pg**	**17 22 46.5**	**+0.1**
BNT				*eSG*	**Sg**	**17 22 51.7**	**+1.1**
BNT	**Bandirma**	**0.31**	**318**	*ePg*	**Pg**	**17 22 46.5**	**+0.1**
BNT				*eSg*	**Sg**	**17 22 51.7**	**+1.1**
EDC	**Edincik**	**0.34**	**312**	*ePG*	**Pg**	**17 22 46.4**	**-0.5**
EDC				*eSG*	**Sg**	**17 22 51.9**	**+0.5**
EDC	**Edincik**	**0.34**	**312**	*ePg*	**Pg**	**17 22 46.4**	**-0.5**
EDC				*eSg*	**Sg**	**17 22 51.9**	**+0.5**
GONE	**Gonen-Balikesi**	**0.40**	**259**	*ePG*	**Pg**	**17 22 48.0**	**0.0**
GONE				*eSG*	**Sg**	**17 22 53.5**	**+0.3**
GONE	**Gonen-Balikesi**	**0.40**	**259**	*ePg*	**Pg**	**17 22 48.0**	**0.0**
GONE				*eSg*	**Sg**	**17 22 53.5**	**+0.3**
BALB	**Balikesir**	**0.54**	**207**	*ePG*	**Pg**	**17 22 50.2**	**-0.5**
BALB				*eSG*	**Sg**	**17 22 58.3**	**+0.6**
BALB	**Balikesir**	**0.54**	**207**	*ePg*	**Pg**	**17 22 50.2**	**-0.5**
BALB				*eSg*	**Sg**	**17 22 58.3**	**+0.6**
DURS	**Dursunbey**	**0.56**	**157**	*i* P	**Pg**	**17 22 51.0**	**-0.2**
DURS				*i* S	**Sg**	**17 22 57.9**	**-0.7**
DURS	**Dursunbey**	**0.56**	**157**	*i* P	**Pg**	**17 22 51.0**	**-0.2**
DURS				*i* S	**Sg**	**17 22 57.9**	**-0.7**
MDNY	**Mudanya-Bursa**	**0.58**	**65**	*ePG*	**Pb**	**17 22 52.2**	**-0.3**
MDNY	**Mudanya-Bursa**	**0.58**	**65**	*ePg*	**Pb**	**17 22 52.2**	**-0.3**
BALY	**Balya**	**0.58**	**229**	*i* P	**Pg**	**17 22 51.3**	**-0.2**
BALY				*i* S	**Sg**	**17 22 59.2**	**0.0**
BALY	**Balya**	**0.58**	**229**	*i* P	**Pg**	**17 22 51.3**	**-0.2**
BALY				*i* S	**Sg**	**17 22 59.2**	**0.0**
DST	**Dursunbey**	**0.61**	**148**	*ePG*	**Pg**	**17 22 52.2**	**+0.1**
DST	**Dursunbey**	**0.61**	**148**	*ePg*	**Pg**	**17 22 52.2**	**+0.1**
ARMT	**Armutlu**	**0.68**	**49**	*ePG*	**Pg**	**17 22 53.1**	**-0.2**
ARMT				*eSG*	**Sg**	**17 23 02.8**	**+0.7**
ARMT	**Armutlu**	**0.68**	**49**	*ePg*	**Pg**	**17 22 53.1**	**-0.2**
ARMT				*eSg*	**Sg**	**17 23 02.8**	**+0.7**
KRBG	**Karabiga-Canak**	**0.74**	**292**	*ePG*	**Pg**	**17 22 53.9**	**-0.5**
KRBG	**Karabiga-Canak**	**0.74**	**292**	*ePg*	**Pg**	**17 22 53.9**	**-0.5**
SART	**Tekirdag**	**0.96**	**306**	*i* P	**Pn**	**17 22 59.9**	**0.0**
SART				*i* S	**Sb**	**17 23 12.1**	**+0.3**
SART	**Tekirdag**	**0.96**	**306**	*i* P	**Pn**	**17 22 59.9**	**0.0**
SART				*i* S	**Sb**	**17 23 12.1**	**+0.3**
RKY	**Sarkoy-Tekirda**	**0.96**	**306**	*ePG*	**Pg**	**17 22 58.4**	**-0.2**
RKY	**Sarkoy-Tekirda**	**0.96**	**306**	*ePg*	**Pg**	**17 22 58.4**	**-0.2**
MFT	**Murefte**	**0.96**	**314**	*ePG*	**Pg**	**17 22 58.6**	**-0.1**
MFT	**Murefte**	**0.96**	**314**	*ePg*	**Pg**	**17 22 58.6**	**-0.1**
YLV	**Yalova**	**1.00**	**63**	*ePG*	**Pg**	**17 22 59.0**	**-0.5**
YLV	**Yalova**	**1.00**	**63**	*ePg*	**Pg**	**17 22 59.0**	**-0.5**
BUY	**Buyukada**	**1.01**	**44**	*i* P	**Pg**	**17 22 59.8**	**+0.1**
BUY				*i* S	**Sb**	**17 23 13.9**	**+0.6**
BUY	**Buyukada**	**1.01**	**44**	*i* P	**Pg**	**17 22 59.8**	**+0.1**
BUY				*i* S	**Sb**	**17 23 13.9**	**+0.6**
ELBA	**Catalca**	**1.04**	**10**	*i* P	**Pg**	**17 23 00.3**	**+0.1**
ELBA				*i* S	**Sg**	**17 23 13.2**	**-0.5**
ELBA	**Catalca**	**1.04**	**10**	*i* P	**Pg**	**17 23 00.3**	**+0.1**
ELBA				*i* S	**Sg**	**17 23 13.2**	**-0.5**
SLVT	**Silivri**	**1.11**	**1**	*ePN*	**Pg**	**17 23 00.4**	**-1.0**
SLVT	**Silivri**	**1.11**	**1**	*ePn*	**Pg**	**17 23 00.4**	**-1.0**
LPK	**Lapseki**	**1.12**	**283**	*ePN*	**Pg**	**17 23 00.8**	**-0.9**
LPK	**Lapseki**	**1.12**	**283**	*ePn*	**Pg**	**17 23 00.9**	**-0.9**
CTKS	**Kestanelik-??a**	**1.14**	**12**	*ePN*	**Pg**	**17 23 01.8**	**-0.3**
CTKS	**Kestanelik-??a**	**1.14**	**12**	*ePn*	**Pg**	**17 23 01.8**	**-0.3**
BGKT	**Bogazkoy**	**1.15**	**22**	*ePN*	**Pg**	**17 23 01.1**	**-1.1**
BGKT	**Bogazkoy**	**1.15**	**22**	*ePn*	**Pg**	**17 23 01.1**	**-1.1**
ISK	**Istanbul-Kandi**	**1.15**	**35**	*ePN*	**Pg**	**17 23 01.1**	**-1.2**
ISK	**Istanbul-Kandi**	**1.15**	**35**	*ePn*	**Pg**	**17 23 01.1**	**-1.2**
DEMI	**Demirci**	**1.15**	**159**	*i* P	**Pg**	**17 23 01.5**	**-0.8**
DEMI				*i* S	**Sb**	**17 23 17.8**	**+0.4**
DEMI	**Demirci**	**1.15**	**159**	*i* P	**Pg**	**17 23 01.5**	**-0.8**
DEMI				*i* S	**Sb**	**17 23 17.8**	**+0.4**
TVSB	**Tavsanli**	**1.19**	**124**	*ePN*	**Pb**	**17 23 02.9**	**0.0**
TVSB	**Tavsanli**	**1.19**	**124**	*ePn*	**Pb**	**17 23 02.9**	**0.0**
ADVT	**Abdulvahap**	**1.22**	**75**	*ePN*	**Pg**	**17 23 04.0**	**+0.3**
ADVT	**Abdulvahap**	**1.22**	**75**	*ePn*	**Pg**	**17 23 04.0**	**+0.3**
CAVI	**Cavuskoy**	**1.27**	**86**	*ePN*	**Pn**	**17 23 04.2**	**+0.1**
CAVI	**Cavuskoy**	**1.27**	**86**	*ePn*	**Pn**	**17 23 04.2**	**+0.1**
AKHS	**Akhisar**	**1.28**	**193**	*i* P	**Pn**	**17 23 03.9**	**-0.3**
AKHS				*i* S	**Sb**	**17 23 20.9**	**0.0**
AKHS	**Akhisar**	**1.28**	**193**	*i* P	**Pn**	**17 23 03.9**	**-0.3**
AKHS				*i* S	**Sb**	**17 23 20.9**	**0.0**
HRT	**Hereke**	**1.32**	**58**	*ePN*	**Pn**	**17 23 05.0**	**+0.2**
HRT	**Hereke**	**1.32**	**58**	*ePn*	**Pn**	**17 23 05.1**	**+0.2**
CTYL	**Yal??k??y-??at**	**1.35**	**3**	*ePN*	**Pn**	**17 23 04.9**	**-0.3**
CTYL	**Yal??k??y-??at**	**1.35**	**3**	*ePn*	**Pn**	**17 23 04.9**	**-0.3**
GDZ	**Gediz**	**1.43**	**136**	*i* P	**Pn**	**17 23 06.9**	**+0.5**
GDZ				*i* S	**Sn**	**17 23 25.6**	**+0.1**
GDZ	**Gediz**	**1.43**	**136**	*i* P	**Pn**	**17 23 06.9**	**+0.5**
GDZ				*i* S	**Sn**	**17 23 25.6**	**+0.1**
SILT	**Sile**	**1.51**	**47**	*ePN*	**Pn**	**17 23 07.6**	**+0.3**
SILT	**Sile**	**1.51**	**47**	*ePn*	**Pn**	**17 23 07.6**	**+0.3**
MANT	**Manisa**	**1.66**	**170**	*i* P	**Pn**	**17 23 09.9**	**+0.3**
MANT				*i* S	**Sn**	**17 23 31.0**	**0.0**
MANT	**Manisa**	**1.66**	**170**	*i* P	**Pn**	**17 23 09.9**	**+0.3**
MANT				*i* S	**Sn**	**17 23 31.0**	**0.0**
BORA	**Eskisehir**	**1.75**	**97**	*i* P	**Pn**	**17 23 10.5**	**-0.3**
BORA	**Eskisehir**	**1.75**	**97**	*i* P	**Pn**	**17 23 10.5**	**-0.3**

IGQ 18 17:41:46.2, 1°36S × 80°50W, h20km±11km, Mb4.1, Ms3.9, 8C-10D, Error ellipse: s-maj=6.7km s-min=3.8km az=8.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**0.39**	**324**	⇑P	Pb	17 41 53.6	-0.8
PECV	**Mancha de Ca P**	**0.73**	**38**	⇑P	Pb	17 41 58.7	-1.7
JAMA	**Jama**	**1.13**	**15**	S	Sn	17 42 23.2	+1.0
JAMA	**Jama**	**1.13**	**15**	P	Pn	17 42 06.7	-0.3
IGUA	**Igualata**	**1.86**	**94**	⇓P	Pb	17 42 19.6	-0.8
BMAS	**Trigal station**	**2.02**	**94**	⇓S	Sb	17 42 50.0	+2.1
BMAS	**Trigal station**	**2.02**	**94**	⇓P	Pb	17 42 22.1	-0.7
JUI6	**Juive**	**2.03**	**92**	P	Pb	17 42 22.2	-0.6
ARRY	**Arrayan**	**2.05**	**94**	⇓P	Pb	17 42 23.0	-0.9
PAT1	**Patacocha**	**2.06**	**94**	⇑P	Pb	17 42 23.1	-0.6
RUN5	**Runtun**	**2.07**	**91**	P	Pb	17 42 23.6	0.0
BRUN	**Tungurahua Vol**	**2.09**	**92**	⇓P	Pb	17 42 23.1	-0.8
ULBA	**Ulba**	**2.09**	**92**	P	Pb	17 42 23.2	-0.8
BMOR	**Cotopaxi Volca**	**2.13**	**73**	⇓P	Pn	17 42 23.1	+1.6
PISA	**Pisayambo**	**2.13**	**82**	P	Pb	17 42 23.7	-1.2
NAS2	**Nasa**	**2.15**	**71**	P	Pb	17 42 25.0	-0.2
MOV1	**Cotopaxi Vol s**	**2.16**	**73**	P	Pn	17 42 23.3	+1.5
BREF	**Cotopaxi Volca**	**2.17**	**72**	⇓S	Sb	17 42 57.3	+4.6
BREF	**Cotopaxi Volca**	**2.17**	**72**	⇓P	Pb	17 42 24.1	-1.6
BVC2	**Cotopaxi Volca**	**2.20**	**71**	⇑P	Pb	17 42 24.5	-1.6
JUA2	**San Juan 2**	**2.21**	**59**	⇑P	Pn	17 42 23.1	+0.7
VC1	**Cotopaxi 1**	**2.21**	**71**	P	Pb	17 42 25.5	-0.8
PITA	**Cotopaxi Volc**	**2.21**	**69**	⇑P	Pb	17 42 24.6	-1.6
TAMB	**Tambo**	**2.23**	**73**	P	Pb	17 42 26.4	-0.2
TERV	**Terraza Guagua**	**2.23**	**58**	P	Pn	17 42 24.1	+1.3
PINO	**Pino**	**2.24**	**58**	⇑P	Pn	17 42 23.8	+0.8
COV1	**Cotopaxi Volc**	**2.26**	**72**	⇑P	Pn	17 42 24.3	+0.9
ANTI	**Antisana**	**2.51**	**69**	⇓S	Sb	17 43 07.6	+5.3
ANTI	**Antisana**	**2.51**	**69**	⇓P	Pb	17 42 29.1	-2.2
OTAV	**Otavalo**	**2.59**	**52**	P	Pn	17 42 28.1	+0.5
COTA	**Cotacachi**	**2.74**	**52**	P	Pn	17 42 32.0	+2.2
COTA	**Cotacachi**	**2.74**	**52**	S	Sb	17 43 08.7	-0.3
CAYR	**Refugio Cayamb**	**2.84**	**61**	P	Pb	17 42 35.3	-1.9
CAYA	**Cayambe**	**2.88**	**60**	P	Pn	17 42 34.6	+2.8

WEL 18 17:41:52.3±0.3, 45°10S × 167°39E, h118km±2km, ML3.9/11, 3D, Error ellipse: s-maj=2.6km s-min=1.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.42**	**203**	PN	Pn	17 42 08.8	-0.6
DCZ				SN	Sn	17 42 21.4	-0.9
MSZ	**Milford Sound**	**0.57**	**42**	PN	Pn	17 42 10.4	0.0
MSZ				SN	Sn	17 42 24.1	+0.1
MLZ	**Mavora Lakes**	**0.61**	**115**	PN	Pn	17 42 10.6	-0.1
MLZ				SN	Sn	17 42 24.5	-0.1
WHZ	**Wether Hill Ro**	**0.89**	**154**	PN	Pn	17 42 13.0	0.0
WHZ				SN	Sn	17 42 28.3	-0.4
PYZ	**Puysegur Point**	**1.18**	**205**	⇓PN	Pn	17 42 15.7	-0.3
PYZ				SN	Sn	17 42 33.4	-0.5
WKZ	**Wanaka**	**1.19**	**78**	PN	Pn	17 42 16.2	+0.2
WKZ				SN	Sn	17 42 33.5	-0.5
EAZ	**Earnscleugh**	**1.36**	**96**	PN	Pn	17 42 18.0	0.0
EAZ				SN	Sn	17 42 35.8	-1.6
JCZ	**Jackson Bay**	**1.41**	**44**	PN	Pn	17 42 18.3	-0.4
JCZ				SN	Sn	17 42 37.5	-1.2
TUZ	**Tuapeka**	**1.80**	**119**	⇓PN	Pn	17 42 22.9	-0.1
TUZ				SN	Sn	17 42 44.0	-2.5
SYZ	**Scrubby Hill**	**1.89**	**140**	PN	Pn	17 42 24.1	0.0
SYZ				SN	Sn	17 42 46.8	-1.8
LBZ	**Lake Benmore**	**2.11**	**71**	⇓PN	Pn	17 42 25.7	-1.3
LBZ				SN	Sn	17 42 50.4	-3.2
FOZ	**Fox Glacier**	**2.25**	**48**	PN	Pn	17 42 28.2	-0.5
FOZ				SN	Sn	17 42 55.9	-0.8
ODZ	**Otahua Downs**	**2.31**	**90**	PN	Pn	17 42 28.6	-0.8
ODZ				SN	Sn	17 42 54.1	-3.9
RPZ	**Rata Peaks**	**2.97**	**64**	PN	Pn	17 42 35.9	-2.2
MOZ	**McQueen's Vall**	**4.02**	**72**	PN	Pn	17 42 50.2	-1.7
LTZ	**Lake Taylor**	**4.21**	**58**	PN	Pn	17 42 51.8	-2.9
KHZ	**Kahutara**	**5.20**	**61**	PN	Pn	17 43 06.1	-1.6
THZ	**Tophouse**	**5.22**	**52**	PN	Pn	17 43 05.0	-3.1
QRZ	**Quartz Range**	**5.69**	**43**	PN	Pn	17 43 12.4	-2.1
NNZ	**Nelson**	**5.85**	**51**	PN	Pn	17 43 16.0	-0.6

IGQ 18 17:46:56.9, 1°44S × 80°59W, h20km±13km, Mb4.2, Ms4.0, 8C-11D, Error ellipse: s-maj=7.8km s-min=4.5km az=9.0, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**0.41**	**341**	⇑P	Pb	17 47 05.7	+0.1
PECV	**Mancha de Ca P**	**0.85**	**39**	⇑S	Sb	17 47 21.0	-3.2
PECV	**Mancha de Ca P**	**0.85**	**39**	⇑P	Pb	17 47 10.7	-2.5
JAMA	**Jama**	**1.23**	**18**	S	Sn	17 47 35.5	+0.2
JAMA	**Jama**	**1.23**	**18**	P	Pn	17 47 19.0	-0.2
IGUA	**Igualata**	**1.95**	**91**	P	Pb	17 47 31.6	-0.9
BIL2	**Estacion Bilba**	**2.08**	**90**	P	Pb	17 47 35.3	+0.8
BMAS	**Trigal station**	**2.11**	**92**	P	Pb	17 47 34.2	-0.7
ARRY	**Arrayan**	**2.13**	**92**	⇓P	Pb	17 47 34.3	-1.1
ARRY	**Arrayan**	**2.13**	**92**	⇓S	Sb	17 48 02.1	+0.3
PAT1	**Patacocha**	**2.15**	**92**	⇑P	Pb	17 47 35.1	-0.8
RUN5	**Runtun**	**2.16**	**89**	P	Pb	17 47 35.0	-0.9
BRUN	**Tungurahua Vol**	**2.17**	**89**	⇓P	Pb	17 47 34.7	-1.4
ULBA	**Ulba**	**2.18**	**90**	⇓P	Pb	17 47 35.4	-0.8
PISA	**Pisayambo**	**2.23**	**80**	P	Pb	17 47 35.7	-1.6
BMOR	**Cotopaxi Volca**	**2.24**	**72**	⇓P	Pn	17 47 35.1	+1.4
MOV1	**Cotopaxi Vol s**	**2.27**	**71**	⇓P	Pn	17 47 35.5	+1.4
BREF	**Cotopaxi Volca**	**2.28**	**70**	⇓P	Pn	17 47 36.2	+1.9
BVC2	**Cotopaxi Volca**	**2.31**	**70**	⇑P	Pn	17 47 36.5	+1.9
BTAM	**Cotopaxi Volca**	**2.32**	**71**	⇑P	Pb	17 47 37.6	-1.2
VC1	**Cotopaxi 1**	**2.33**	**70**	P	Pb	17 47

ZALV	**Zalesovo Beam**	**60.38**	**333**	P		P	18 03 56.9	-0.4
	0.7nm,0.4s,baz=121,slow=6.3,SNR=4.5							

*ISCJB **18** 18:02:34.4±0.7,23°.52N±0°.03×122°.15E±0°.02,h19km±5km, Error ellipse: s-maj=5.6km s-min=2.8km az=156.4*
*TAP **18** 18:02:35.5,23°.58N×122°.03E,h14km,ML3.0,D*
*JMA **18** 18:02:37.3±0.3,23°.56N×122°.24E,h69km,M2.4*

ISC 18 18:02:34.8±1.3,23°.53N±0°.04×122°.11E±0°.03,h23km±14km, n33,σ0°49/62,3C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESL	**Shilin**	**0.68**	**295**⇑	*i*P	**Pb**	**18 02 47.7**	**-0.3**
	baz=292						
ESL				S	**Sb**	**18 02 56.5**	**-0.5**
	baz=292						
EHY	**Hungye**	**0.72**	**268**⇑	*i*P	**Pb**	**18 02 48.8**	**0.0**
	baz=262						
EHY				S	**Sb**	**18 02 58.3**	**+0.1**
	baz=262						
TWF1	**Yuli**	**0.77**	**257**⇑	*i*P	**Pb**	**18 02 49.2**	**-0.3**
	baz=250						
TWF1				S	**Sb**	**18 02 59.4**	**-0.1**
	baz=250						
ENA	**Nanau**	**0.95**	**339**	P	**Pb**	**18 02 52.8**	**+0.1**
	baz=343						
ENA				*i* S	**Sn**	**18 03 05.2**	**-0.5**
	baz=343						
WHF	**Hehuan Shan**	**0.99**	**309**⇓	*i*P	**Pn**	**18 02 53.1**	**-0.6**
	baz=308						
WHF				S	**Sb**	**18 03 05.7**	**-0.5**
	baz=308						
ELDTW	**Lidau**	**1.06**	**252**	*e*P	**Pn**	**18 02 53.3**	**-1.1**
	baz=246						
TWC	**Suao**	**1.10**	**348**	P	**Pb**	**18 02 55.3**	**+0.2**
	baz=351						
TWC				S	**Sb**	**18 03 09.3**	**+0.2**
	baz=351						
TWT	**Tachien**	**1.12**	**310**	P	**Pb**	**18 02 55.5**	**-0.1**
	baz=309						
TWT				*i* S	**Sn**	**18 03 09.6**	**-0.4**
	baz=309						
NNS	**Nan Shan**	**1.13**	**323**	P	**Pn**	**18 02 55.4**	**0.0**
	baz=325						
NNS				*i* S	**Sn**	**18 03 09.6**	**-0.7**
	baz=325						
SMLT	**Sun Moon Lake**	**1.16**	**288**	P	**Pn**	**18 02 55.9**	**+0.1**
	baz=286						
SMLT				*e*S	**Sb**	**18 03 11.3**	**+0.3**
	baz=286						
ALS	**Alishan**	**1.20**	**269**	P	**Pn**	**18 02 56.8**	**+0.4**
	baz=266						
ALS				*e*S	**Sn**	**18 03 11.9**	**-0.3**
	baz=266						
TYC	**Yuchr**	**1.21**	**288**	*e*P	**Pn**	**18 02 56.5**	**+0.2**
	baz=286						
ENTT	**Nioudou**	**1.21**	**336**	P	**Pb**	**18 02 57.0**	**0.0**
	baz=338						
ENTT				S	**Sb**	**18 03 12.3**	**0.0**
	baz=338						
YOJ	**Yonaguni jima**	**1.24**	**41**	P	**Pb**	**18 02 57.9**	**+0.4**
YOJ				*e*S	**Sb**	**18 03 12.6**	**-0.5**
TWE	**Neicheng**	**1.25**	**341**	*e*P	**Pb**	**18 02 57.6**	**-0.1**
	baz=344						
TWE				*e*S	**Sb**	**18 03 13.7**	**+0.3**
	baz=344						
STYT	**Tauyuan**	**1.30**	**254**	*e*P	**Pn**	**18 02 57.4**	**-0.2**
	baz=250						
CHN5	**Tsauling**	**1.32**	**273**	P	**Pb**	**18 02 58.9**	**0.0**
	baz=270						
CHN5				S	**Sb**	**18 03 15.5**	**+0.2**
	baz=270						
NSK	**Sanguang**	**1.33**	**329**	*e*P	**Pb**	**18 02 58.8**	**-0.3**
	baz=330						
NSK				*e*S	**Sn**	**18 03 14.7**	**-0.5**
	baz=330						
WNT	**Mingjian**	**1.35**	**285**	*e*P	**Pb**	**18 02 59.5**	**0.0**
	baz=283						
WNT				*e*S	**Sb**	**18 03 17.4**	**+1.1**
	baz=283						
WTP	**Ta-pu**	**1.40**	**259**	*i* P	**Pb**	**18 02 59.9**	**-0.4**
	baz=255						
WTP				*i* S	**Sn**	**18 03 17.6**	**+0.8**
	baz=255						
CHN4	**Tsaushan**	**1.41**	**263**	*e*P	**Pb**	**18 02 59.9**	**-0.4**
	baz=260						
CHN4				*e*S	**Sb**	**18 03 18.3**	**+0.5**
	baz=260						
WGK	**Gukeng**	**1.43**	**277**	*e*P	**Pb**	**18 03 00.5**	**-0.3**
	baz=274						
WGK				*e*S	**Sn**	**18 03 18.1**	**+0.7**
	baz=274						
TWQ1	**Liyutan**	**1.47**	**304**	*e*P	**Pb**	**18 03 01.7**	**+0.3**
	baz=303						
TWQ1				*e*S	**Sb**	**18 03 19.7**	**0.0**
	baz=303						
SGST	**Jiashian**	**1.47**	**253**	*e*P	**Pb**	**18 03 01.2**	**-0.2**
	baz=249						
SGST				*e*S	**Sn**	**18 03 19.3**	**+0.7**
	baz=249						
NSTT	**Nanjuang**	**1.49**	**317**	*e*P	**Pb**	**18 03 01.9**	**+0.1**
	baz=318						
NSTT				*e*S	**Sn**	**18 03 19.6**	**+0.5**
	baz=318						
CHN1	**Nanshi**	**1.49**	**257**	P	**Pb**	**18 03 01.2**	**-0.6**
	baz=253						
CHN1				S	**Sb**	**18 03 20.8**	**+0.4**
	baz=253						
TWK	**Hsinying**	**1.51**	**260**	*e*P	**Pb**	**18 03 01.9**	**-0.3**
	baz=257						
TWK				*e*S	**Sb**	**18 03 20.8**	**-0.2**
	baz=257						
SSD	**Sandimen**	**1.57**	**240**	P	**Pb**	**18 03 02.8**	**-0.3**
	baz=236						
SSD				S	**Sn**	**18 03 21.7**	**+0.8**
	baz=236						
HATJ	**Hateruma jima**	**1.64**	**71**	*e*S	**Sn**	**18 03 21.9**	**-0.7**
IRIF	**Iriomote-Funau**	**1.69**	**61**	P	**Pn**	**18 03 03.4**	**+0.6**
IRIF				*e*S	**Sn**	**18 03 23.4**	**-0.3**
JKRS	**Kuro-shima**	**1.88**	**68**	P	**Pn**	**18 03 06.2**	**+0.7**
JKRS				*e*S	**Sn**	**18 03 28.0**	**-0.4**
JIJ	**Ishigaki jima**	**2.04**	**66**	P	**Pn**	**18 03 07.9**	**+0.2**
JIJ				*e*S	**Sn**	**18 03 31.1**	**-1.3**
JTJ	**Tarama**	**2.61**	**64**	P	**Pn**	**18 03 16.3**	**+0.7**
JTJ				*e*S	**Sn**	**18 03 46.3**	**-0.4**

BJI 18 18:04:22.3,48°.55N×123°.07E,h19km,mb3.8/1,ML4.1/11, Ms3.8/1,Ms7 3.4/1,Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CN2	**Changchun**	**5.03**	**160**	*e*Pn	Pn	18 05 38.3	+1.6
CN2				*e*Sg	Sg	18 07 03.6	-0.1
CN2				smax	smax		
	comp=N,100nm,0.7s						
CN2				smax	smax		
	comp=E,100nm,0.7s						
SNY	**Shenyang**	**6.73**	**177**	Pg	Pg	18 06 27.9	-3.2
SNY				Sg	Sg	18 07 48.9	-9.3
SNY				smax	smax		
	comp=N,33nm,0.7s						
SNY				smax	smax		
	comp=E,37nm,0.7s						

*IDC **18** 18:23:30.4±0.6,3°.70N×126°.38E,h0km,mb4.0/17, mb1 4.1/17,mb1mx4.1/22,mbtmp4.0/17,MS3.2/7, Ms1 3.2/7,ms1mx2.9/28,Error ellipse: s-maj=31.8km s-min=11.2km az=74.0*
*ISCJB **18** 18:23:35.8±0.4,3°.72N±0°.06×126°.5E±0°.1,h53km, mb4.2/30,MS3.3/5,Error ellipse: s-maj=17.7km s-min=7.8km az=162.4*
*NEIC **18** 18:23:35.6±0.3,3°.75N×126°.48E,h35km,mb4.4/13,Error ellipse: s-maj=15.1km s-min=6.6km az=73.0*

ISC 18 18:23:37.9±0.5,3°.74N±0°.08×126°.4E±0°.2,h53km,n54, σ1s17/52,mb4.2/29,MS3.5/5,1C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.74**	**328**⇑	*i*P	**Pn**	**18 24 20.5**	**+0.8**
DAV	**Davao City (W)**	**3.41**	**346**	LR	LR	18 26 00.5	
	comp=Z,306nm,19.1s,baz=38,slow=44						
DMPH	**Davao City--Mi**	**3.44**	**345**⇓	*e*P	**Pn**	**18 24 31.8**	**+2.8**
DMPH				*i* S	Sn	18 25 19.6	+11
KAPI	**Kappang**		**10.95**	**217**	LR	LR	18 29 43.6	
	comp=Z,27nm,21.7s,baz=286,slow=34							
FITZ	**Fitzroy Crossi**		**21.72**	**182**	P	**P**	**18 28 23.1**	**-1.7**
FITZ	**Fitzroy Crossi**		**21.72**	**182**	P	**P**	**18 28 23.1**	**-1.7**
	2.2nm,0.8s,baz=4.8,slow=12,SNR=4.5							
WRAB	**Tennant Creek**		**24.79**	**162**	*e*P	**P**	**18 28 54.7**	**-0.4**
	14nm,1.0s							
WRA	**Warramunga Arr**		**24.80**	**162**	P	**P**	**18 28 53.9**	**-1.3**
WRA					S	**S**	**18 33 18.0**	**+3.8**
WRA	**Warramunga Arr**		**24.80**	**162**	P	**P**	**18 28 53.9**	**-1.3**
	4.3nm,0.8s,baz=344,slow=11,SNR=33							
WRA					S	**S**	**18 33 18.0**	**+3.8**
	1.0nm,1.1s,baz=342,slow=16,SNR=4.5							
CBIJ	**Chichi jima**		**27.69**	**31**	LR	LR	18 39 45.6	
	comp=Z,34nm,18.3s,baz=353,slow=35							
ASAR	**Alice Springs**		**28.21**	**165**	P	**P**	**18 29 25.6**	**-0.3**
ASAR	**Alice Springs**		**28.21**	**165**	P	**P**	**18 29 25.6**	**-0.3**
	0.5nm,0.6s,baz=345,slow=7.4,SNR=12							
CMAR	**Chiang Mai Arr**		**30.59**	**301**	P	**P**	**18 29 47.6**	**+0.6**
CMAR	**Chiang Mai Arr**		**30.59**	**301**	P	**P**	**18 29 47.6**	**+0.6**
	0.9nm,0.7s,baz=118,slow=7.8,SNR=12							
CMAR					LR	LR	18 43 07.8	
	comp=Z,9.7nm,18.1s,baz=110,slow=38							
CHTO	**Chiang Mai**		**30.74**	**301**	*e*P	**P**	**18 29 49.4**	**+1.0**
	1.9nm,0.8s							
ENH	**Enshi**		**30.86**	**331**	*e*P	**P**	**18 29 48.8**	**-0.6**
	4.5nm,0.7s							
JHJ	**Hachijo jima 2**		**31.79**	**22**	LR	LR	18 40 33.3	
	comp=Z,180nm,21.3s,baz=106,slow=32							
KSAR	**Wonju Array Be**		**33.56**	**2**	P	**P**	**18 30 13.2**	**+0.2**
KSRS	**Korea Array**		**33.58**	**2**	P	**P**	**18 30 13.2**	**+0.1**
	1.6nm,0.9s,baz=178,slow=11,SNR=4.8							
MJAR	**Matsushiro Arr**		**34.40**	**17**	P	**P**	**18 30 20.2**	**0.0**
MJAR	**Matsushiro Arr**		**34.40**	**17**	P	**P**	**18 30 20.2**	**0.0**
	2.7nm,1.0s,baz=214,slow=14,SNR=3.4							
BJT	**Baijiatuan**		**37.28**	**347**	P	**P**	**18 30 45.1**	**+0.3**
	11nm,0.6s							
STKA	**Stephens Creek**		**38.26**	**159**	*e*P	**P**	**18 30 53.9**	**+0.7**
STKA	**Stephens Creek**		**38.26**	**159**	P	**P**	**18 30 52.9**	**-0.3**
	4.1nm,0.6s,baz=346,slow=8.7,SNR=14							
USRK	**Ussuriysk Arra**		**40.59**	**6**	P	**P**	**18 31 12.1**	**-0.3**
	2.6nm,0.9s,baz=179,slow=7.8,SNR=2.8							
MDJ	**Mudanjiang**		**40.80**	**3**	*e*P	**P**	**18 31 12.6**	**-1.6**
	5.7nm,0.8s							
LSA	**Lhasa**		**42.19**	**312**	*e*P	**P**	**18 31 27.7**	**+1.3**
	4.1nm,0.6s							
HIA	**Hailar**		**45.71**	**354**	*e*P	**P**	**18 31 52.1**	**-1.6**
	5.1nm,0.8s							
ULN	**Ulaanbaatar**		**47.01**	**342**	*e*P	**P**	**18 32 04.3**	**+0.2**
	2.8nm,1.0s							
SONM	**Songino Array**		**47.18**	**342**	P	**P**	**18 32 05.2**	**-0.2**
SONM	**Songino Array**		**47.18**	**342**	P	**P**	**18 32 05.2**	**-0.2**
	0.9nm,0.6s,baz=152,slow=6.5,SNR=2.3							
MKAR	**Makanchi Array**		**57.36**	**325**	P	**P**	**18 33 20.7**	**-0.1**
MKAR	**Makanchi Array**		**57.36**	**325**	P	**P**	**18 33 20.7**	**-0.1**
	1.1nm,0.4s,baz=119,slow=7.5,SNR=27							
ZALV	**Zalesovo Beam**		**60.43**	**333**	P	**P**	**18 33 40.9**	**-1.1**
ZALV	**Zalesovo Beam**		**60.43**	**333**	P	**P**	**18 33 40.9**	**-1.1**
	1.3nm,0.8s,baz=146,slow=8.4,SNR=4.7							
ZALV					LR	LR	19 02 48.3	
	comp=Z,30nm,18.3s,baz=84,slow=39							
KBL	**Kabul**		**61.26**	**308**	*e*P	**P**	**18 33 49.1**	**+0.8**
	3.2nm,0.6s							
KURK	**Kurchatov**		**61.56**	**328**	*e*P	**P**	**18 33 49.3**	**-0.4**
	6.0nm,0.9s							
KKAR	**Karatay Array**		**63.00**	**317**	*e*P	**P**	**18 33 58.8**	**-0.7**
	2.9nm,0.8s							
BRVK	**Borovoye**		**67.20**	**327**	*e*P	**P**	**18 34 26.3**	**-0.2**
	5.5nm,0.9s							
ABKAR	**Akbulak array**		**71.94**	**321**	*e*P	**P**	**18 34 55.7**	**0.0**
	2.2nm,0.8s							
ILAR	**Eielson Array**		**85.23**	**25**	P	**P**	**18 36 08.8**	**+0.2**
ILAR	**Eielson Array**		**85.23**	**25**	P	**P**	**18 36 08.8**	**+0.2**
	0.2nm,0.6s,baz=258,slow=5.8,SNR=5.0							
BRTR	**Keskin Array B**		**89.76**	**310**	P	**P**	**18 36 30.0**	**-1.1**
BRTR	**Keskin Array B**		**89.76**	**310**	P	**P**	**18 36 30.0**	**-1.1**
	1.0nm,0.8s,baz=98,slow=8.9,SNR=5.6							
FINES	**FINESS Array B**		**91.67**	**332**	P	**P**	**18 36 39.1**	**-0.2**
FINES	**FINESS Array B**		**91.67**	**332**	P	**P**	**18 36 39.1**	**-0.2**
	1.6nm,0.8s,baz=54,slow=9.5,SNR=2.8							
AKASG	**Malin Array Be**		**91.68**	**321**	P	**P**	**18 36 39.5**	**-0.1**
AKASG	**Malin Array Be**		**91.68**	**321**	P	**P**	**18 36 39.5**	**-0.1**
	0.5nm,0.5s,baz=65,slow=4.3,SNR=3.9							
NOA	**NORSAR Array B**		**98.63**	**334**	P	**P**	**18 37 10.5**	**-0.7**
NOA	**NORSAR Array B**		**98.63**	**334**	P	**P**	**18 37 10.5**	**-0.7**
	0.7nm,0.8s,baz=53,slow=6.3,SNR=3.0							
NOA					LR	LR	19 24 40.8	
	comp=Z,24nm,18.1s,baz=165,slow=37							
YKA	**Yellowknife Ar**		**99.62**	**24**	P	**Pdif**	**18 37 15.2**	**-0.2**
YKA	**Yellowknife Ar**		**99.62**	**24**	P	**Pdif**	**18 37 15.2**	**-0.2**
	0.1nm,0.5s,baz=297,slow=5.4,SNR=3.8							
TORD	**Torodi Ar. Bea**		**122.61**	**288**	PKP	**PKPdf**	**18 42 27.7**	**-1.1**
TORD	**Torodi Ar. Bea**		**122.61**	**288**	PKP	**PKPdf**	**18 42 27.7**	**-1.1**
	0.3nm,0.7s,baz=51,slow=1.9,SNR=3.0							

IDC 18 18:56:38.2±2.3,3°.51N×126°.48E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/21,mbtmp3.3/3,Error ellipse: s-maj=194.2km s-min=28.3km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.55**	**162**	P	P	19 01 59.4	-0.6
	0.5nm,0.6s,baz=341,slow=10,SNR=7.4						
ASAR	**Alice Springs**	**27.97**	**165**	P	P	19 02 31.6	+0.8
	0.2nm,0.6s,baz=342,slow=9.1,SNR=4.6						
MKAR	**Makanchi Array**	**57.59**	**325**	P	P	19 06 29.7	-0.3
	0.4nm,0.6s,baz=126,slow=8.0,SNR=4.0						

IDC 18 18:59:03.0±2.1,4°.10N×126°.77E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.4/21,mbtmp3.5/4,Error ellipse: s-maj=164.1km s-min=27.0km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.03**	**163**	P	P	19 04 27.9	-1.1
	1.1nm,0.7s,baz=342,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**28.46**	**166**	P	P	19 05 01.9	+1.9
	0.1nm,0.6s,baz=345,slow=11,SNR=3.0						
STKA	**Stephens Creek**	**38.46**	**160**	P	P	19 06 26.2	-0.6
	0.6nm,0.6s,baz=336,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**57.27**	**325**	P	P	19 08 52.5	0.0
	0.3nm,0.9s,baz=117,slow=8.2,SNR=4.0						

IDC 18 19:06:22.6±1.9,3°.10N×126°.25E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.6/20,mbtmp3.8/4,Error ellipse: s-maj=168.2km s-min=24.3km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.24**	**161**	P	P	19 11 41.6	+0.1
	3.1nm,0.5s,baz=340,slow=11,SNR=34						
WRA					S	19 15 59.5	-1.7
	0.4nm,0.9s,baz=338,slow=20,SNR=4.2						
ASAR	**Alice Springs**	**27.63**	**165**	P	P	19 12 11.9	-0.3
	0.2nm,0.4s,baz=347,slow=7.9,SNR=13						
STKA	**Stephens Creek**	**37.72**	**158**	P	P	19 13 40.6	+0.5
	3.1nm,0.6s,baz=334,slow=9.8,SNR=9.0						
MKAR	**Makanchi Array**	**57.80**	**326**	P	P	19 16 15.4	-0.4
	0.2nm,0.4s,baz=122,slow=7.3,SNR=5.6						

*ISK **18** 19:12:49.3,37°.86N×29°.50E,h4km,MD2.7*
*CSEM **18** 19:12:49.7±0.3,37°.84N×29°.54E,h5km,MD2.9,Error ellipse: s-maj=6.4km s-min=4.0km az=140.0*
*DDA **18** 19:12:50.4,37°.89N×29°.48E,h7km,MD2.9*

ISC 18 19:12:50.6±1.4,37°.87N±0°.04×29°.51E±0°.05,h10km±12km, n16,σ0s63/26,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DNZL	**Cakiroluk**	**0.41**	**244**	*i* P	**Pg**	**19 12 58.3**	**-0.4**
DNZL				*i* S	**Sg**	**19 13 04.6**	**+0.5**
DNZL	**Cakiroluk**	**0.41**	**244**	*i* P	**Pg**	**19 12 58.3**	**-0.4**
DNZL				*i* S	**Sg**	**19 13 04.6**	**+0.5**
KHL	**Karahalli**	**0.46**	**1**	*e*PG	**Pg**	**19 12 58.9**	**-0.7**
KHL				*e*SG	**Sg**	**19 13 06.1**	**+0.5**
KHL	**Karahalli**	**0.46**	**1**	*e*Pg	**Pg**	**19 12 58.9**	**-0.7**
KHL				*e*Sg	**Sg**	**19 13 06.1**	**+0.5**
KHAL	**Karahalli**	**0.50**	**359**	*i* P	**Pg**	**19 12 60.0**	**-0.5**
KHAL				*i* S	**Sg**	**19 13 07.6**	**+0.5**
KHAL	**Karahalli**	**0.50**	**359**	*i* P	**Pg**	**19 13 00.0**	**-0.5**
KHAL				*i* S	**Sg**	**19 13 07.6**	**+0.5**
KULA	**Kula-Manisa**	**0.93**	**314**	*e*PG	**Pg**	**19 13 07.5**	**-1.0**
KULA				*e*SG	**Sb**	**19 13 21.6**	**+0.2**
KULA	**Kula-Manisa**	**0.93**	**314**	*e*Pg	**Pg**	**19 13 07.5**	**-1.0**
KULA				*e*Sg	**Sb**	**19 13 21.6**	**+0.2**
SHUT	**Suhut-Afyon**	**1.07**	**50**	*e*PG	**Pg**	**19 13 10.8**	**-0.4**
SHUT	**Suhut-Afyon**	**1.07**	**50**	*e*Pg	**Pg**	**19 13 10.8**	**-0.4**
ALT	**Altintas**	**1.28**	**22**	*e*PN	**Pn**	**19 13 14.4**	**-0.2**
ALT	**Altintas**	**1.28**	**22**	*e*Pn	**Pn**	**19 13 14.4**	**-0.2**
DEMI	**Demirci**	**1.33**	**332**	*i* P	**Pn**	**19 13 15.1**	**-0.2**
DEMI				*i* S	**Sg**	**19 13 34.6**	**+1.2**
DEMI	**Demirci**	**1.33**	**332**	*i* P	**Pn**	**19 13 15.1**	**-0.2**
DEMI				*i* S	**Sg**	**19 13 34.6**	**+1.2**
TVSB	**Tavsanli**	**1.58**	**359**	*e*PN	**Pn**	**19 13 19.0**	**+0.2**
TVSB	**Tavsanli**	**1.58**	**359**	*e*Pn	**Pn**	**19 13 19.0**	**+0.2**

IDC 18 19:13:45.8±2.6,16°.36S×173°.40W,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.8/19,mbtmp3.8/5,MS4.0/3,Ms1 4.0/3, ms1mx3.2/42,Error ellipse: s-maj=143.7km s-min=24.5km az=143.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.89**	**33**	Pn	Pn	19 14 28.8	-4.5
	7.7nm,0.3s,baz=209,slow=10,SNR=7.9						
AFI				Sn	Sn	19 14 57.2	-12
	19nm,0.3s,baz=202,slow=19,SNR=5.1						
HNR	**Honiara**	**26.86**	**282**	LR	LR	19 27 52.7	
	comp=Z,106nm,19.4s,baz=230,slow=32						
STKA	**Stephens Creek**	**43.57**	**241**	P	P	19 21 51.6	-0.1
	1.0nm,0.7s,baz=88,slow=16,SNR=3.2						
WRA	**Warramunga Arr**	**49.63**	**258**	P	P	19 22 39.2	-0.3
	0.3nm,0.4s,baz=95,slow=6.9,SNR=16						
ASAR	**Alice Springs**	**49.82**	**253**	P	P	19 22 40.5	-0.4
	1.5nm,0.5s,baz=89,slow=8.3,SNR=35						
PDAR	**Pinedale Array**	**82.97**	**42**	P	P	19 26 12.8	-0.3
	0.6nm,0.8s,baz=258,slow=4.4,SNR=5.1						
ILAR	**Eielson Array**	**83.38**	**11**	P	P	19 26 13.8	-0.6
	0.4nm,0.6s,baz=230,slow=5.9,SNR=9.2						
USHA	**Ushuaia**	**85.14**	**146**	LR	LR	19 58 22.1	
	comp=Z,148nm,19.5s,baz=235,slow=31						
TKL	**Tuckaleechee C**	**99.05**	**56**	LR	LR	20 05 07.5	
	comp=Z,71nm,18.5s,baz=240,slow=31						
MKAR	**Makanchi Array**	**111.49**	**314**	PKiKP	PKiKP	19 32 22.1	-0.1
	0.1nm,0.4s,baz=117,slow=1.6,SNR=2.5						
BRTR	**Keskin Array B**	**146.89**	**320**	PKPbc	PKPbc	19 33 30.6	0.0
	1.8nm,0.8s,baz=136,slow=1.6,SNR=13						
GERES	**GERESS Array B**	**147.08**	**351**	PKPbc	PKPbc	19 33 30.7	-0.1
	0.2nm,0.5s,baz=20,slow=3.1,SNR=6.9						

IDC 18 19:29:42.4±1.7,3°.74N×127°.20E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.6/22,mbtmp3.7/5,MS2.8/1,Ms1 2.8/1, ms1mx1.9/33,Error ellipse: s-maj=97.8km s-min=23.9km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.76**	**184**	P	P	19 34 35.4	-0.4
	0.7nm,0.5s,baz=355,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**24.55**	**164**	P	P	19 35 03.7	-0.4
	5.5nm,0.7s,baz=344,slow=11,SNR=50						
ASAR	**Alice Springs**	**28.01**	**167**	P	P	19 35 35.4	0.0
	0.3nm,0.5s,baz=342,slow=9.8,SNR=6.2						
KSRS	**Korea Array**	**33.56**	**1**	LR	LR	19 49 52.7	
	comp=Z,14nm,18.4s,baz=130,slow=36						
STKA	**Stephens Creek**	**37.97**	**160**	P	P	19 37 02.7	+0.6
	2.2nm,0.8s,baz=348,slow=9.8,SNR=5.5						
MKAR	**Makanchi Array**	**57.82**	**325**	P	P	19 39 35.6	-0.2
	0.3nm,0.6s,baz=131,slow=8.3,SNR=6.3						

KRSC 18 19:34:38.6±0.7,53°.72N×160°.85E,h45km±45km,ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.80**	**219**	*e*P	Pn	19 34 53.4	0.0
SPN				*i* S	Sn	19 35 04.0	-0.2
MKZ	**Mys Kozlova**	**0.98**	**31**	P	Pn	19 34 54.9	-1.1
MKZ				*i* S	Sn	19 35 06.3	-2.4
NLC	**Nalytchevo**	**1.05**	**239**	*e*P	Pn	19 34 57.1	+0.2
NLC				*i* S	Sn	19 35 10.8	+0.4
SDLR	**Sedlovina**	**1.25**	**250**	P	Pn	19 35 00.7	+0.8
SDLR				*i* S	Sn	19 35 16.9	+1.2
SMAR	**Somma**	**1.31**	**250**	*e*P	Pn	19 35 01.3	+0.6
SMAR				*i* S	Sn	19 35 18.1	+0.9
UGLR	**Uglovaya**	**1.31**	**248**	P	Pn	19 35 01.8	+1.1
UGLR				*i* S	Sn	19 35 18.5	+1.4
KRER	**Koryakskii**	**1.32**	**252**	*e*P	Pn	19 35 01.8	+0.9
KRER				*i* S	Sn	19 35 18.6	+1.1
AVH	**Avacha**	**1.34**	**251**	P	Pn	19 35 02.2	+1.2
AVH				*i* S	Sn	19 35 19.8	+2.1
KOK	**Koryaka**	**1.39**	**253**	P	Pn	19 35 02.7	+1.0
KOK				*i* S	Sn	19 35 20.3	+1.4
PET	**Petropavlovsk**	**1.49**	**243**	*e*P	Pn	19 35 03.6	+0.7
PET				*i* S	Sn	19 35 21.7	+0.6
TUMR	**Tumrok**	**1.62**	**346**	*e*P	Pn	19 35 05.3	+0.5
TUMR				*i* S	Sn	19 35 24.4	-0.2
RUS	**Russkaya**	**1.91**	**228**	*e*P	Pn	19 35 08.9	+0.3
RUS				*i* S	Sn	19 35 31.4	0.0
MTVR	**Mutnovka**	**2.03**	**233**	*e*P	Pn	19 35 12.0	+1.5
MTVR				*i* S	Sn	19 35 35.8	+1.1
KMNR	**Kam

	0.2nm,0.3s,baz=332,slow=9.5,SNR=18							
CFAA				Sn	Sn	19 39 42.3	-0.6	
	1.2nm,0.3s,baz=328,slow=20,SNR=7.4							
LPAZ	**La Paz**	**10.99**	**15**	*e*P	**Pn**	**19 40 01.7**	**-1.3**	
LPAZ	**La Paz**	**10.99**	**15**	Pn	**Pn**	**19 40 02.1**	**-0.9**	
	0.2nm,0.3s,baz=205,slow=6.4,SNR=5.2							
PLCA	**Paso Flores**	**13.72**	**178**	LR	LR	19 45 42.9		
	comp=Z,93nm,18.9s,baz=36,slow=36							
SIV	**San Ignacio**	**14.36**	**42**	Pn	**Pn**	**19 40 47.5**	**-1.0**	
SIV	**San Ignacio**	**14.36**	**42**	Pn	**Pn**	**19 40 47.5**	**-1.0**	
	0.2nm,0.3s,baz=216,slow=17,SNR=3.4							
BDFB	**Brasilia**	**24.23**	**67**	P	**P**	**19 42 40.9**	**-0.9**	
BDFB	**Brasilia**	**24.23**	**67**	P	**P**	**19 42 40.9**	**-0.9**	
	1.8nm,0.4s,baz=248,slow=16,SNR=3.6							
BDFB				LR	LR	19 53 26.6		
	comp=Z,82nm,19.2s,baz=181,slow=40							
QSPA	**South Pole Qui**	**63.23**	**180**	*e*P	**P**	**19 47 53.3**	**+0.6**	
	2.9nm,0.7s							
QSPA	**South Pole Qui**	**63.23**	**180**	P	**P**	**19 47 53.5**	**+0.8**	
	2.7nm,0.7s,baz=171,slow=1.5,SNR=17							
TOA0	**Torodi Ar. Sit**	**81.07**	**70**	*e*P	**P**	**19 49 40.6**	**+0.6**	
TORD	**Torodi Ar. Bea**	**81.07**	**70**	P	**P**	**19 49 40.6**	**+0.6**	
TORD	**Torodi Ar. Bea**	**81.07**	**70**	P	**P**	**19 49 40.6**	**+0.6**	
	5.8nm,0.7s,baz=255,slow=4.8,SNR=64							
ASAR	**Alice Springs**	**124.15**	**208**	PKP	**PKPdf**	**19 56 23.4**	**-0.3**	
ASAR	**Alice Springs**	**124.15**	**208**	PKP	**PKPdf**	**19 56 23.4**	**-0.3**	
	0.3nm,0.6s,baz=123,slow=1.6,SNR=5.6							
WRA	**Warramunga Arr**	**127.24**	**210**	PKP	**PKPdf**	**19 56 29.1**	**-0.5**	
WRA	**Warramunga Arr**	**127.24**	**210**	PKP	**PKPdf**	**19 56 29.1**	**-0.5**	
	0.6nm,0.6s,baz=152,slow=1.7,SNR=14							
ZAA0	**Zalesovo Array**	**147.73**	**27**	*e*P	**PKPdf**	**19 57 06.8**	**+0.9**	
ZALV	**Zalesovo Beam**	**147.73**	**27**	PKPbc	**PKPbc**	**19 57 07.8**	**-0.9**	
ZALV	**Zalesovo Beam**	**147.73**	**27**	PKPbc	**PKPbc**	**19 57 07.8**	**-0.9**	
	3.6nm,0.7s,baz=295,slow=3.1,SNR=19							
MK31	**Makanchi Array**	**151.17**	**40**	*e*PKPbc	**PKPbc**	**19 57 18.4**	**+0.8**	
MKAR	**Makanchi Array**	**151.17**	**40**	PKPbc	**PKPbc**	**19 57 18.4**	**+0.9**	
MKAR	**Makanchi Array**	**151.17**	**40**	PKPbc	**PKPbc**	**19 57 18.5**	**+0.9**	
	2.3nm,0.7s,baz=324,slow=2.2,SNR=31							

PRE 18 19:59:42.6±2.2, 26.58S×31.67E, h10km, ML3.4, 1C-3D, Swaziland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERPM	**east rand prop**	**3.08**	**274**	*i* P	Pn	20 00 33.0	+1.3
ERPM				*e*S	Sn	20 01 09.1	+0.4
ERPM				AML	AML	20 01 24.5	
	comp=Z,236nm,0.4s						
SLR	**Silverton**	**3.16**	**285**	*e*P	Pn	20 00 34.2	+1.6
SLR				*e*S	Sn	20 01 11.1	+0.5
SLR				AML	AML	20 01 26.6	
	comp=Z,138nm,1.6s						
KLOF	**Kloof**	**3.65**	**273**	*e*P	Pn	20 00 39.8	+0.4
KLOF				*e*S	Sn	20 01 22.8	+0.1
KLOF				AML	AML	20 01 38.3	
	comp=Z,277nm,0.3s						
PRYS	**Parys**	**3.87**	**264**	*i* P	Pn	20 00 43.0	+0.5
PRYS				*e*S	Sn	20 01 26.3	-1.8
PRYS				AML	AML	20 01 44.7	
	comp=Z,158nm,0.6s						
SEK	**Senekal**	**4.00**	**243**	*e*P	Pn	20 00 44.9	+0.7
SEK				*e*S	Sn	20 01 30.0	-1.2
SEK				AML	AML	20 01 51.4	
	comp=Z,97nm,0.9s						
MSNA	**Messina**	**4.47**	**340**	*e*P	Pn	20 00 50.7	+0.2
MSNA				*e*S	Sn	20 01 39.3	-3.4
MSNA				AML	AML	20 02 10.8	
	comp=Z,74nm,0.5s						
LBTB	**Lobatse**	**5.69**	**285**	*i* P	Pn	20 01 08.7	+1.3
LBTB				*e*S	Sn	20 02 12.4	-0.6
LBTB				AML	AML	20 02 45.8	
	comp=Z,63nm,0.5s						
SWZ	**Schweizer**	**5.70**	**262**	*i* P	Pn	20 01 09.2	+1.7
SWZ				*e*S	Sn	20 02 10.1	-3.0
SWZ				AML	AML	20 02 41.4	
	comp=Z,55nm,0.6s						
BOSA	**Boshof**	**6.04**	**249**	*e*P	Pn	20 01 11.9	-0.3
BOSA				*e*S	Sn	20 02 17.6	-4.1
BOSA				AML	AML	20 02 56.7	
	comp=Z,37nm,0.6s						
HVD	**Gariep Dam**	**6.75**	**232**	*e*P	Pn	20 01 22.6	+0.6
HVD				*e*S	Sn	20 02 37.5	-1.7
HVD				IAML		20 03 21.7	
	comp=Z,31nm,0.6s						
BLWY	**Bulawayo**	**7.00**	**336**	*i* P	Pn	20 01 23.5	-1.9
BLWY				*i*		20 01 23.8	
	baz=134,slow=28						
BLWY				*i* S	Sb	20 03 09.2	+1.0
GRM	**Grahamstown**	**8.07**	**212**	*e*P	Pn	20 01 41.8	+1.8
GRM				*e*S	Sn	20 03 09.3	-2.0
GRM				AML	AML	20 04 00.4	
	comp=Z,14nm,0.8s						
SOE	**Somerset East**	**8.10**	**220**	*e*P	Pn	20 01 40.7	+0.3
SOE				*e*S	Sn	20 03 09.4	-2.8
SOE				AML	AML	20 04 03.8	
	comp=Z,13nm,0.6s						
SUR	**Sutherland**	**11.09**	**236**	*e*P	Pn	20 02 21.9	+0.3
SUR				*e*S	Sn	20 04 20.2	-5.5
SUR				AML	AML	20 05 41.0	
	comp=Z,4.6nm,0.8s						
CVNA	**Calvinia**	**11.51**	**242**	*e*P	Pn	20 02 24.3	-2.9
CVNA				*e*S	Sn	20 04 26.8	-9.2
CVNA				AML	AML	20 05 58.9	
	comp=Z,14nm,0.7s						
LSZ	**Lusaka**	**11.70**	**343**	*e*P	Pn	20 02 24.8	-5.1
LSZ				*e*S	Sn	20 04 30.3	-11
CER	**Ceres**	**12.68**	**235**	*e*P	Pn	20 02 46.4	+3.3
CER				*e*S	Sn	20 04 58.1	-6.2
CER				AML	AML	20 06 26.7	
	comp=Z,4.6nm,0.7s						

*ISK **18** 20:05:37.8, 39.°11N×29.°04E, h5km, MD2.8*
*ISCJB **18** 20:05:38.1±0.4, 39.°11N±0.°03×29.°03E±0.°03, h5km±5km,*
Error ellipse: s-maj=4.7km s-min=3.2km az=162.6
*DDA **18** 20:05:38.0, 39.°13N×29.°03E, h7km, MD2.8*
*CSEM **18** 20:05:38.4±0.1, 39.°12N×29.°03E, h5km, MD2.8, Error*
ellipse: s-maj=1.9km s-min=1.7km az=171.0
ISC 18 20:05:38.2±0.8, 39.°11N±0.°02×29.°03E±0.°02, h17km±7km, n46, σ0°48/67, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**254**	*i* P	**Pg**	**20 05 43.9**	**0.0**
DEMI				*i* S	**Sg**	**20 05 47.5**	**-0.3**
DEMI	**Demirci**	**0.25**	**254**	*i* P	**Pg**	**20 05 43.9**	**0.0**
DEMI				*i* S	**Sg**	**20 05 47.5**	**-0.3**
GDZ	**Gediz**	**0.35**	**94**	*i* P	**Pg**	**20 05 45.6**	**-0.1**
GDZ				*i* S	**Sg**	**20 05 50.6**	**-0.1**
GDZ	**Gediz**	**0.35**	**94**	*i* P	**Pg**	**20 05 45.6**	**-0.1**
GDZ				*i* S	**Sg**	**20 05 50.6**	**-0.1**
TVSB	**Tavsanli**	**0.48**	**45**	*e*Pg	**Pg**	**20 05 47.5**	**-0.3**
TVSB				*e*Sg	**Sg**	**20 05 54.1**	**-0.2**
TVSB	**Tavsanli**	**0.48**	**45**	*e*PG	**Pg**	**20 05 47.5**	**-0.3**
TVSB				*e*SG	**Sg**	**20 05 54.1**	**-0.2**
DST	**Dursunbey**	**0.58**	**327**	*e*PG	**Pg**	**20 05 49.5**	**-0.2**
DST	**Dursunbey**	**0.58**	**327**	*e*Pg	**Pg**	**20 05 49.6**	**-0.2**
DURS	**Dursunbey**	**0.65**	**319**	*i* P	**Pg**	**20 05 50.9**	**-0.2**
DURS	**Dursunbey**	**0.65**	**319**	*i* P	**Pg**	**20 05 50.9**	**-0.2**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*PG	**Pg**	**20 05 51.2**	**-0.1**
KULA				*e*SG	**Sg**	**20 06 00.0**	**-0.1**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*Pg	**Pg**	**20 05 51.2**	**-0.1**
KULA				*e*Sg	**Sg**	**20 06 00.0**	**-0.1**
MANT	**Manisa**	**0.72**	**211**	*i* P	**Pg**	**20 05 52.3**	**-0.1**
MANT				*i* S	**Sg**	**20 06 01.4**	**-0.6**
MANT	**Manisa**	**0.72**	**211**	*i* P	**Pg**	**20 05 52.3**	**-0.1**
MANT				*i* S	**Sg**	**20 06 01.4**	**-0.6**
KHAL	**Karahalli**	**0.82**	**154**	*i* P	**Pn**	**20 05 55.8**	**+0.6**
KHAL				*i* S	**Sb**	**20 06 05.2**	**+0.2**
KHAL	**Karahalli**	**0.82**	**154**	*i* P	**Pn**	**20 05 55.8**	**+0.6**
KHAL				*i* S	**Sb**	**20 06 05.2**	**+0.2**
ALT	**Altintas**	**0.84**	**94**	*e*PG	**Pg**	**20 05 55.0**	**+0.3**
ALT				*e*SG	**Sb**	**20 06 05.9**	**+0.3**
ALT	**Altintas**	**0.84**	**94**	*e*Pg	**Pg**	**20 05 55.0**	**+0.3**
ALT				*e*Sg	**Sb**	**20 06 05.9**	**+0.3**
KHL	**Karahalli**	**0.88**	**154**	*e*PG	**Pb**	**20 05 55.2**	**+0.2**
KHL	**Karahalli**	**0.88**	**154**	*e*Pg	**Pb**	**20 05 55.2**	**+0.2**
AKHS	**Akhisar**	**0.97**	**257**	*i* P	**Pn**	**20 05 57.5**	**+0.4**
AKHS				*i* S	**Sb**	**20 06 09.4**	**+0.2**
AKHS	**Akhisar**	**0.97**	**257**	*i* P	**Pn**	**20 05 57.5**	**+0.4**
AKHS				*i* S	**Sb**	**20 06 09.4**	**+0.2**
AKS	**Akhisar**	**0.97**	**257**	*e*PG	**Pg**	**20 05 57.1**	**0.0**
AKS	**Akhisar**	**0.97**	**257**	*e*Pg	**Pg**	**20 05 57.1**	**0.0**
BALB	**Balikesir**	**1.03**	**301**	*e*PG	**Pg**	**20 05 58.2**	**0.0**
BALB	**Balikesir**	**1.03**	**301**	*e*Pg	**Pg**	**20 05 58.2**	**0.0**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*PN	**Pg**	**20 06 02.3**	**-0.2**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*Pn	**Pg**	**20 06 02.3**	**-0.2**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pg**	**20 06 02.4**	**-0.1**
BALY				*i* S	**Sg**	**20 06 18.6**	**-0.3**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pg**	**20 06 02.4**	**-0.1**
BALY				*i* S	**Sg**	**20 06 18.7**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*PN	**Pg**	**20 06 02.6**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*Pn	**Pg**	**20 06 02.6**	**+0.1**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*PN	**Pg**	**20 06 02.6**	**0.0**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*Pn	**Pg**	**20 06 02.6**	**0.0**
SHUT	**Suhut-Afyon**	**1.31**	**115**	*e*PN	**Pg**	**20 06 03.6**	**+0.1**
SHUT	**Suhut-Afyon**	**1.31**	**115**	*e*Pn	**Pg**	**20 06 03.7**	**+0.1**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pn**	**20 06 02.6**	**+0.3**
BORA				*i* S	**Sb**	**20 06 20.8**	**+0.8**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pn**	**20 06 02.6**	**+0.3**
BORA				*i* S	**Sb**	**20 06 20.8**	**+0.8**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*PN	**Pb**	**20 06 04.5**	**+0.7**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*Pn	**Pb**	**20 06 04.5**	**+0.7**
SEYT	**Eskypehyr**	**1.47**	**73**	*i* P	**Pn**	**20 06 04.5**	**+0.4**
SEYT				*i* S	**Sn**	**20 06 20.2**	**-2.8**
SEYT	**Eskypehyr**	**1.47**	**73**	*i* P	**Pn**	**20 06 04.5**	**+0.4**
YLV	**Yalova**	**1.48**	**10**	*e*PN	**Pb**	**20 06 05.7**	**+0.4**
YLV	**Yalova**	**1.48**	**10**	*e*Pn	**Pb**	**20 06 05.7**	**+0.4**
GULT	**Gulveren**	**1.75**	**41**	*e*PN	**Pb**	**20 06 10.2**	**+0.3**
GULT	**Gulveren**	**1.75**	**41**	*e*Pn	**Pb**	**20 06 10.2**	**+0.3**

*IDC **18** 20:09:22.4±1.3, 12.°07N×89.°08W, h0km, mb3.9/8,*
mb1 4.1/11, mb1mx3.9/27, mbtmp3.9/11, ML3.6/3, Error
ellipse: s-maj=34.0km s-min=19.0km az=53.0
*CASC **18** 20:09:25.9±2.0, 12.°18N×89.°12W, h10km±12km, MD3.7,*
ML3.7
ISC 18 20:09:23.1±3.0, 12.°11N±0.°07×89.°09W±0.°06, h3km±18km, n31, σ1°07/42, mb4.0/8, 2C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**1.51**	**1**	*e*P	**Pn**	**20 09 51.4**	**+0.1**
SNVI	**San Vicente**	**1.52**	**9**	*e*P	**Pn**	**20 09 51.3**	**-0.1**
VSM	**San Miguel**	**1.54**	**31**	*e*P	**Pb**	**20 09 52.6**	**+0.1**
BLLM	**Bellamira**	**1.57**	**32**	*e*P	**Pn**	**20 09 52.5**	**+0.4**
SNET	**Serv Nac Est T**	**1.58**	**355**	AML	AML	20 10 06.9	
	comp=Z,1μm,0.3s						
BQQS	**Boqueron**	**1.63**	**354**	*e*P	**Pn**	**20 09 53.5**	**+0.5**
CNCH	**Conchagua**	**1.69**	**46**	*e*P	**Pb**	**20 09 54.6**	**-0.5**
CNCH				*e*S	**Sg**	**20 10 17.5**	**0.0**
SBLS	**San Blas**	**1.80**	**343**	*e*P	**Pn**	**20 09 55.7**	**+0.3**
SNJE	**San Jose**	**1.82**	**344**	*e*P	**Pn**	**20 09 55.7**	**0.0**
RTR	**El Retiro**	**1.86**	**343**	*e*P	**Pn**	**20 09 56.6**	**+0.4**
CAHU	**Cacacuatique**	**1.86**	**27**	*e*P	**Pb**	**20 09 57.5**	**-0.6**
CAHU				*e*S	**Sn**	**20 10 21.3**	**+0.8**
RBDL	**Robledal**	**2.08**	**344**	*e*P	**Pn**	**20 09 59.9**	**+0.8**
RBDL				*e*S	**Sn**	**20 10 25.1**	**-0.5**
MTO2	**Montecristo 2**	**2.30**	**353**	*e*P	**Pn**	**20 10 03.3**	**+1.1**
MTO2				*e*S	**Sn**	**20 10 31.2**	**0.0**
IXG	**Ixpaco**	**2.45**	**327**	*e*P	**Pn**	**20 10 04.7**	**+0.5**
IXG				*e*S	**Sn**	**20 10 35.6**	**+0.8**
PCG	**Pacaya**	**2.71**	**327**	*e*P	**Pn**	**20 10 08.1**	**+0.1**
PCG				*e*S	**Sn**	**20 10 41.0**	**-0.5**
FUG	**Fuego 3**	**2.89**	**324**	*e*P	**Pn**	**20 10 10.9**	**+0.6**
FUG				*e*S	**Sn**	**20 10 45.4**	**-0.2**
FG6		**3.00**	**325**	*e*P	**Pn**	**20 10 11.1**	**-0.9**
FG6				*e*S	**Sn**	**20 10 50.4**	**+1.7**
MRL	**Marmol**	**3.00**	**349**	*e*P	**Pn**	**20 10 14.6**	**+2.7**
MRL				*e*S	**Sb**	**20 10 55.5**	**+0.9**
TP2	**Tecpan 2**	**3.26**	**325**	*e*P	**Pn**	**20 10 17.2**	**+1.7**
TP2				*e*S	**Sn**	**20 10 54.8**	**-0.4**
JTS	**JuntasAbangare**	**4.44**	**114**	Pn	**Pn**	**20 10 32.7**	**+1.1**
	comp=Z,1.8nm,0.3s,baz=300,slow=20,SNR=4.6						
JTS				Sn	**Sn**	**20 11 25.6**	**+1.7**
	comp=Z,2.3nm,0.3s,baz=287,slow=19,SNR=4.5						
CMIG	**Matias Romero**	**7.48**	**312**	Pn	**Pn**	**20 11 14.5**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=94,slow=7.7,SNR=5.1						
CMIG				Sn	**Sn**	**20 12 42.0**	**+3.1**
	comp=Z,0.6nm,0.3s,baz=120,slow=19,SNR=2.8						
TEIG	**Tepich**	**8.11**	**5**	Pn	**Pn**	**20 11 23.2**	**+1.3**
	comp=Z,1.4nm,0.3s,baz=188,slow=14,SNR=7.1						
TXAR	**Lajitas Array**	**21.86**	**324**	P	**P**	**20 14 18.3**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=130,slow=12,SNR=6.9						
TKL	**Tuckaleechee C**	**23.94**	**11**	P	**P**	**20 14 38.4**	**-0.3**
	comp=Z,5.8nm,0.9s,baz=175,slow=11,SNR=3.8						
SADO	**Sadowa**	**33.65**	**13**	P	**P**	**20 16 04.7**	**-0.5**
	comp=Z,2.6nm,0.5s,baz=207,slow=6.8,SNR=4.4						
ULM	**Lac du Bonnet**	**38.44**	**353**	P	**P**	**20 16 46.7**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=187,slow=8.1,SNR=3.4						
SCHQ	**Schefferville**	**46.08**	**18**	P	**P**	**20 17 47.6**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=225,slow=12,SNR=3.8						
YKA	**Yellowknife Ar**	**53.53**	**346**	P	**P**	**20 18 43.6**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=148,slow=7.1,SNR=14						
PLCA	**Paso Flores**	**55.30**	**163**	P	**P**	**20 18 57.0**	**-1.2**
	comp=Z,2.7nm,0.9s,baz=343,slow=11,SNR=2.9						
ILAR	**Eielson Array**	**65.69**	**337**	P	**P**	**20 20 08.8**	**0.0**
	comp=Z,0.1nm,0.5s,baz=142,slow=5.2,SNR=3.0						
CMAR	**Chiang Mai Arr**	**148.61**	**345**	PKPbc	**PKPbc**	**20 29 12.2**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=2.9,slow=3.6,SNR=4.7						

*ROM **18** 20:14:10.3±0.1, 44.°47N×8.°30E, h5km, Md1.9/4, Ml2.1/1,*
Error ellipse: s-maj=1.9km s-min=1.3km az=149.0
*CSEM **18** 20:14:10.1±0.2, 44.°52N×8.°32E, h15km, ML2.5/9, Error*
ellipse: s-maj=2.7km s-min=2.4km az=82.0
*GEN **18** 20:14:10.9, 44.°48N×8.°35E, h15km, ML1.5*
*LDG **18** 20:14:10.2±0.1, 44.°54N×8.°34E, h5km, Ml2.5/8, Error*
ellipse: s-maj=2.5km s-min=1.5km az=67.0
*ISCJB **18** 20:14:10.1±0.4, 44.°51N±0.°02×8.°28E±0.°03, h13km±3km,*
Error ellipse: s-maj=3.3km s-min=3.1km az=40.8
*STR **18** 20:14:12.5±0.4, 44.°42N×8.°32E, h5km, Ml2.5, Error ellipse:*
s-maj=0.0km s-min=0.0km az=0.0
ISC 18 20:14:10.4±0.8, 44.°49N±0.°02×8.°34E±0.°02, h18km±6km, n41, σ0°72/84, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCP	**Piancastagn**	**0.16**	**69**	Pg	**Pg**	**20 14 14.7**	**-0.1**
PCP				Sg	**Sg**	**20 14 17.5**	**-0.2**
PCP	**Piancastagn**	**0.16**	**69**	P	**Pg**	**20 14 14.7**	**-0.1**
PCP				S	**Sg**	**20 14 17.5**	**-0.2**
FINB	**Finale Ligure**	**0.31**	**182**	Pg	**Pg**	**20 14 17.3**	**+0.2**
FINB				Sg	**Sb**	**20 14 21.9**	**-0.2**
FINB	**Finale Ligure**	**0.31**	**182**	Pg	**Pg**	**20 14 17.3**	**+0.2**
FINB				Sg	**Sb**	**20 14 21.9**	**-0.2**
ROTM	**Rocchetta Tana**	**0.36**	**1**	P	**Pb**	**20 14 18.9**	**+0.5**
ROTM				S	**Sb**	**20 14 24.5**	**+0.7**
RORO	**Rocca Rossa**	**0.42**	**208**	Pg	**Pg**	**20 14 18.9**	**-0.2**
RORO				Sg	**Sg**	**20 14 24.9**	**0.0**
RORO	**Rocca Rossa**	**0.42**	**208**	P	**Pg**	**20 14 18.9**	**-0.2**
RORO				Sg	**Sg**	**20 14 24.9**	**0.0**
SAOF	**Saorge**	**0.75**	**229**	Pg	**Pb**	**20 14 26.0**	**+0.9**
SAOF				Sg	**Sb**	**20 14 35.6**	**+0.5**
SAOF	**Saorge**	**0.75**	**229**	Pg	**Pb**	**20 14 26.0**	**+0.9**
SAOF				Sg	**Sb**	**20 14 35.6**	**+0.5**
STV	**Sant Anna di V**	**0.77**	**252**	P	**Pg**	**20 14 25.1**	**-0.4**
STV				S	**Sg**	**20 14 34.8**	**-0.9**
DOI	**San Damiano**	**0.78**	**272**	Pg	**Pb**	**20 14 25.7**	**+0.1**
DOI				Sg	**Sb**	**20 14 36.0**	**0.0**
	64nm,0.2s						
DOI	**San Damiano**	**0.78**	**272**	Pg	**Pb**	**20 14 25.7**	**+0.1**
DOI				Sg	**Sb**	**20 14 36.0**	**0.0**
	64nm,0.2s						
NEGI	**Seborga**	**0.79**	**216**	P	**Pb**	**20 14 26.0**	**+0.4**
NEGI				S	**Sg**	**20 14 35.5**	**-0.7**
AUTN	**L'Aution**	**0.82**	**234**	Pg	**Pn**	**20 14 27.3**	**-0.1**
AUTN				Sg	**Sb**	**20 14 38.3**	**+1.2**
AUTN	**L'Aution**	**0.82**	**234**	Pg	**Pn**	**20 14 27.3**	**-0.1**
AUTN				Sg	**Sb**	**20 14 38.3**	**+1.2**
SC2M	**Scurtabo**	**0.86**	**95**	P	**Pg**	**20 14 27.1**	**-0.1**
SC2M				S	**Sg**	**20 14 37.6**	**-0.9**
PZZ	**Stroppo**	**0.88**	**272**	Pg	**Pb**	**20 14 27.6**	**+0.3**
PZZ				Sg	**Sb**	**20 14 38.9**	**+0.2**
PZZ	**Stroppo**	**0.88**	**272**	P	**Pg**	**20 14 27.1**	**-0.5**
PZZ	**Stroppo**	**0.88**	**272**	Pg	**Pb**	**20 14 27.6**	**+0.3**
PZZ				S	**Sg**	**20 14 38.0**	**-1.2**
PZZ				Sg	**Sb**	**20 14 38.9**	**+0.2**
SBF	**Sospel**	**0.90**	**227**	*e*Pg	**Pb**	**20 14 27.9**	**+0.3**
SBF				*e*Sg	**Sg**	**20 14 39.3**	**-0.6**
	42nm,0.3s						
SBF	**Sospel**	**0.90**	**227**	*e*Pg	**Pb**	**20 14 27.9**	**+0.3**
SBF				*e*Sg	**Sg**	**20 14 39.3**	**-0.6**
	21nm,0.3s						
TOUF	**Mont Tournerai**	**0.92**	**239**	Pg	**Pn**	**20 14 28.8**	**+0.1**
TOUF				Sg	**Sn**	**20 14 41.5**	**0.0**
TOUF	**Mont Tournerai**	**0.92**	**239**	Pg	**Pn**	**20 14 28.8**	**+0.1**
TOUF				Sg	**Sn**	**20 14 41.5**	**0.0**
RSP	**Reno Superiore**	**1.01**	**311**	P	**Pb**	**20 14 29.0**	**-0.6**
RSP				S	**Sb**	**20 14 41.2**	**-1.4**
MVIF	**Mont Vial**	**1.04**	**236**	Pg	**Pn**	**20 14 31.2**	**+0.9**
MVIF				Sg	**Sn**	**20 14 44.7**	**+0.2**
MVIF	**Mont Vial**	**1.04**	**236**	Pg	**Pn**	**20 14 31.2**	**+0.9**
MVIF				Sg	**Sn**	**20 14 44.7**	**+0.2**
TRAV	**Traversella**	**1.11**	**338**	P	**Pb**	**20 14 30.8**	**-0.4**
TRAV				S	**Sb**	**20 14 43.9**	**-1.5**
MBDF	**Montbardon**	**1.15**	**283**	*e*Pg	**Pb**	**20 14 31.8**	**-0.1**
MBDF				*e*Sg	**Sb**	**20 14 46.4**	**-0.1**
	11nm,0.3s						
MBDF	**Montbardon**	**1.15**	**283**	*e*Pg	**Pb**	**20 14 31.8**	**-0.1**
MBDF				*e*Sg	**Sb**	**20 14 46.4**	**-0.1**
	5.3nm,0.3s						
LPG	**La Plagne**	**1.52**	**312**	*e*Pg	**Pn**	**20 14 38.0**	**+1.0**
LPG				*e*Sg	**Sn**	**20 14 56.8**	**+0.3**
	4.3nm,0.3s						
LPG	**La Plagne**	**1.52**	**312**	*e*Pg	**Pn**	**20 14 38.0**	**+1.0**
LPG				*e*Sg	**Sn**	**20 14 56.8**	**+0.3**
	2.2nm,0.3s						
LPL	**La Plagne**	**1.54**	**313**	*e*Pg	**Pn**	**20 14 38.3**	**+1.0**
LPL				*e*Sg	**Sn**	**20 14 58.0**	**+1.1**
	3.3nm,0.3s						
LPL	**La Plagne**	**1.54**	**313**	*e*Pg	**Pn**	**20 14 38.3**	**+1.0**
LPL				*e*Sg	**Sn**	**20 14 58.0**	**+1.1**
	1.6nm,0.3s						
LMR	**La Mourre**	**1.75**	**230**	*e*Pg	**Pb**	**20 14 42.4**	**+0.3**
LMR				*e*Sg	**Sg**	**20 15 06.4**	**-0.6**
	11nm,0.2s						
LMR	**La Mourre**	**1.75**	**230**	*e*Pg	**Pb**	**20 14 42.4**	**+0.3**
LMR				*e*Sg	**Sg**	**20 15 06.4**	**-0.6**
	5.4nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.81**	**285**	*e*Pg	**Pb**	**20 14 43.9**	**+0.8**
ORIF				*e*Sg	**Sb**	**20 15 07.1**	**+1.6**
	3.1nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.81**	**285**	*e*Pg	**Pb**	**20 14 43.9**	**+0.8**
ORIF				*e*Sg	**Sb**	**20 15 07.1**	**+1.6**
	1.5nm,0.3s						
PGF	**Pioggiola**	**2.00**	**166**	*e*Pn	**Pn**	**20 14 43.8**	**+0.4**
PGF				*e*Sn	**Sn**	**20 15 06.5**	**-1.5**
	7.0nm,0.5s						
PGF	**Pioggiola**	**2.00**	**166**	*e*Pn	**Pn**	**20 14 43.8**	**+0.4**
PGF				*e*Sn	**Sn**	**20 15 06.5**	**-1.5**
	3.5nm,0.5s						
SMRF	**Simiane la Rot**	**2.05**	**257**	*e*Pn	**Pn**	**20 14 43.6**	**-0.6**
SMRF				*e*Sn	**Sn**	**20 15 08.6**	**-0.7**
SMRF				*e*Sg	**Sg**	**20 15 15.3**	**-1.2**
	5.1nm,0.3s						
SMRF	**Simiane la Rot**	**2.05**	**257**	*e*Pn	**Pn**	**20 14 43.6**	**-0.6**
SMRF				*e*Sn	**Sn**	**20 15 08.6**	**-0.7**
SMRF				*e*Sg	**Sg**	**20 15 15.3**

IDC 18 20:44:31.3±3.9, 16°05S×177°65E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.7/4, MS3.2/5, Ms1 3.3/5, ms1mx3.0/31, Error ellipse: s-maj=176.4km s-min=34.1km az=138.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.17**	**239**	LR	LR	20 50 35.6	
	comp=Z,84nm,19.2s,baz=127,slow=30						
HNR	**Honiara**	**18.47**	**289**	LR	LR	20 53 08.9	
	comp=Z,76nm,21.8s,baz=76,slow=28						
STKA	**Stephens Creek**	**36.33**	**238**	P	P	20 51 37.0	-0.1
	2.1nm,0.8s,baz=80,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**41.30**	**258**	P	P	20 52 18.6	-0.3
	0.8nm,1.0s,baz=90,slow=8.8,SNR=3.3						
ASAR	**Alice Springs**	**41.71**	**252**	P	P	20 52 22.4	0.0
	0.6nm,0.5s,baz=84,slow=8.4,SNR=10.0						
GUMO	**Guam**	**43.79**	**310**	LR	LR	21 08 21.2	
	comp=Z,19nm,21.2s,baz=110,slow=33						
KSRS	**Korea Array**	**70.84**	**320**	LR	LR	21 21 37.6	
	comp=Z,32nm,20.4s,baz=148,slow=31						
CMAR	**Chiang Mai Arr**	**84.71**	**291**	LR	LR	21 34 57.4	
	comp=Z,14nm,18.6s,baz=150,slow=36						
ILAR	**Eielson Array**	**84.98**	**14**	P	P	20 57 08.2	0.0
	0.8nm,1.0s,baz=224,slow=4.5,SNR=5.1						

IDC 18 20:50:19.6±1.8, 0°63S×133°38E, h0km, mb3.6/4, mb1 3.7/6, mb1mx3.6/21, mbtmp3.6/6, ML3.5/2, Error ellipse: s-maj=92.4km s-min=19.3km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.95**	**203**	P	Pn	20 54 42.9	-0.2
	0.1nm,0.3s,baz=26,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**19.21**	**177**	P	P	20 54 45.0	-0.4
	0.1nm,0.3s,baz=354,slow=11,SNR=9.2						
WRA				S	Sn	20 58 07.1	-15
	0.1nm,0.3s,baz=350,slow=24,SNR=4.2						
ASAR	**Alice Springs**	**22.90**	**179**	P	P	20 55 25.6	+0.3
	0.9nm,0.3s,baz=357,slow=11,SNR=18						
STKA	**Stephens Creek**	**32.03**	**167**	P	P	20 56 47.6	-0.4
	0.8nm,0.5s,baz=341,slow=10,SNR=5.5						
MKAR	**Makanchi Array**	**64.94**	**324**	P	P	21 01 01.1	-0.1
	0.2nm,0.6s,baz=116,slow=8.0,SNR=3.3						
KURBB	**Kurchatov Arra**	**69.01**	**326**	P	P	21 01 27.0	+0.1
	0.4nm,0.7s,baz=106,slow=7.4,SNR=2.9						

IDC ***18*** *20:52:04.4±1.6, 31°76N×104°37E, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.2/26, mbtmp3.2/3, Error ellipse: s-maj=82.6km s-min=29.4km az=59.0*

ISC 18 20:52:05.1±1.2, 31°82N±0°07×104°78E±0°09, h15km, n8, σ3§17/9, mb3.4/3, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.26**	**224**	Pg	Pg	20 52 45.9	+16
CD2				Sg	Sg	20 53 11.1	+25
CD2				smax	smax		
	comp=N,1μm,0.5s						
CD2				smax	smax		
	comp=E,750nm,0.5s						
XAN	**Xi'an**	**4.13**	**56**	Pn	**Pn**	**20 53 07.3**	**-0.4**
XAN				Pg	**Pb**	**20 53 14.6**	**-2.9**
XAN				Sg	**Sn**	**20 54 00.8**	**+5.0**
XAN				smax	smax		
	comp=N,120nm,0.6s						
XAN				smax	smax		
	comp=E,53nm,0.8s						
XAN				LR	LR		
	comp=N,100nm,7.0s						
XAN				LR	LR		
	comp=E,46nm,7.6s						
XAN				LR	LR		
	comp=Z,34nm,5.9s						
LZH	**Lanzhou**	**4.33**	**350**	Pg	**Pb**	**20 53 22.8**	**+1.8**
LZH				Sn	**Sn**	**20 53 57.3**	**-3.5**
LZH				Sg	**Sb**	**20 54 12.4**	**-0.6**
LZH				smax	smax		
	comp=N,230nm,1.0s						
LZH				smax	smax		
	comp=E,180nm,1.0s						
LZH				LR	LR		
	comp=N,340nm,7.0s						
LZH				LR	LR		
	comp=E,410nm,7.5s						
LZH				LR	LR		
	comp=Z,430nm,8.0s						
GYA	**Guiyang**	**5.59**	**162**	*e*Pn	Pb	20 53 46.1	+3.6
GYA				Pg	Pg	20 54 11.0	+19
GYA				Sn	**Sb**	**20 54 47.6**	**-1.9**
GYA				Sg	Sg	20 55 19.3	+14
GYA				smax	smax		
	comp=N,30nm,0.6s						
GYA				smax	smax		
	comp=E,20nm,0.8s						
GTA	**Gaotai**	**8.58**	**333**	*e*P	Pn	20 54 45.8	+37
GTA				pP		20 54 50.6	
GTA				sP	Sn	20 54 52.8	-53
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**22.83**	**317**	P	**P**	**20 57 06.6**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=106,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**58.76**	**147**	P	**P**	**21 02 05.1**	**+2.5**
	comp=Z,0.2nm,0.6s,baz=340,slow=7.8,SNR=3.3						
YKA	**Yellowknife Ar**	**80.84**	**17**	P	P	21 04 20.8	+2.8
	comp=Z,0.3nm,0.5s,baz=328,slow=5.2,SNR=7.8						

ISCJB ***18*** *21:01:44.0±0.4, 39°09N±0°03×29°05E±0°03, h9km±4km, Error ellipse: s-maj=4.6km s-min=3.3km az=155.8*
ISK ***18*** *21:01:43.5, 39°10N×29°05E, h9km, MD2.8*
DDA ***18*** *21:01:43.6, 39°13N×29°03E, h7km, MD2.8*
CSEM ***18*** *21:01:44.1±0.1, 39°09N×29°04E, h10km, MD2.8, Error ellipse: s-maj=1.4km s-min=1.2km az=149.0*

ISC 18 21:01:43.9±0.9, 39°10N±0°02×29°03E±0°02, h14km±8km, n42, σ0§58/63, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**257**	*i* P	**Pb**	**21 01 50.0**	**-0.4**
DEMI				*i* S	**Sg**	**21 01 53.5**	**+0.4**
DEMI	**Demirci**	**0.25**	**257**	*i* P	**Pb**	**21 01 50.0**	**-0.4**
DEMI				*i* S	**Sg**	**21 01 53.5**	**+0.4**
GDZ	**Gediz**	**0.35**	**92**	*i* P	**Pg**	**21 01 51.2**	**+0.1**
GDZ				*i* S	**Sb**	**21 01 56.3**	**-1.2**
GDZ	**Gediz**	**0.35**	**92**	*i* P	**Pg**	**21 01 51.2**	**+0.1**
GDZ				*i* S	**Sb**	**21 01 56.3**	**-1.2**
TVSB	**Tavsanli**	**0.48**	**43**	*e*PG	**Pg**	**21 01 53.3**	**-0.2**
TVSB				*e*SG	**Sg**	**21 01 59.7**	**-0.3**
TVSB	**Tavsanli**	**0.48**	**43**	*e*Pg	**Pg**	**21 01 53.3**	**-0.2**
TVSB				*e*Sg	**Sg**	**21 01 59.7**	**-0.3**
KULA	**Kula-Manisa**	**0.65**	**207**	*e*PG	**Pg**	**21 01 56.8**	**+0.1**
KULA				*e*SG	**Sb**	**21 02 06.3**	**+0.1**
KULA	**Kula-Manisa**	**0.65**	**207**	*e*Pg	**Pg**	**21 01 56.8**	**+0.1**
KULA				*e*Sg	**Sb**	**21 02 06.3**	**+0.1**
DURS	**Dursunbey**	**0.66**	**319**	*i* P	**Pg**	**21 01 56.8**	**-0.1**
DURS				*e*S	**Sn**	**21 02 10.0**	**+0.6**
DURS	**Dursunbey**	**0.66**	**319**	*i* P	**Pg**	**21 01 56.8**	**-0.1**
MANT	**Manisa**	**0.71**	**212**	*i* P	**Pg**	**21 01 57.7**	**-0.2**
MANT				*i* S	**Sg**	**21 02 07.2**	**-0.1**
MANT	**Manisa**	**0.71**	**212**	*i* P	**Pg**	**21 01 57.7**	**-0.2**
MANT				*i* S	**Sg**	**21 02 07.2**	**-0.1**
KHAL	**Karahalli**	**0.81**	**154**	*i* P	**Pb**	**21 01 59.9**	**0.0**
KHAL				*i* S	**Sb**	**21 02 10.6**	**-0.2**
KHAL	**Karahalli**	**0.81**	**154**	*i* P	**Pb**	**21 01 59.9**	**0.0**
KHAL				*i* S	**Sb**	**21 02 10.6**	**-0.2**
ALT	**Altintas**	**0.84**	**93**	*e*PG	**Pb**	**21 02 00.2**	**-0.2**
ALT				*e*SG	**Sb**	**21 02 11.8**	**+0.2**
ALT	**Altintas**	**0.84**	**93**	*e*Pg	**Pb**	**21 02 00.2**	**-0.2**
ALT				*e*Sg	**Sb**	**21 02 11.8**	**+0.2**
KHL	**Karahalli**	**0.86**	**154**	*e*PG	**Pg**	**21 02 00.4**	**-0.3**
KHL	**Karahalli**	**0.86**	**154**	*e*Pg	**Pg**	**21 02 00.4**	**-0.3**
AKHS	**Akhisar**	**0.98**	**257**	*i* P	**Pg**	**21 02 00.4**	**-2.4**
AKHS				*i* S	**Sb**	**21 02 15.8**	**+0.4**
AKHS	**Akhisar**	**0.98**	**257**	*i* P	**Pg**	**21 02 00.4**	**-2.4**
AKHS				*i* S	**Sb**	**21 02 15.8**	**+0.4**
AKS	**Akhisar**	**0.98**	**257**	*e*PG	**Pb**	**21 02 03.1**	**+0.4**
AKS	**Akhisar**	**0.98**	**257**	*e*Pg	**Pb**	**21 02 03.1**	**+0.4**
BALY	**Balya**	**1.27**	**301**	*i* P	**Pb**	**21 02 07.8**	**+0.1**
BALY				*i* S	**Sg**	**21 02 25.4**	**+0.5**
BALY	**Balya**	**1.27**	**301**	*i* P	**Pb**	**21 02 07.8**	**+0.1**
BALY				*i* S	**Sg**	**21 02 25.4**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*PN	**Pg**	**21 02 08.3**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.27**	**355**	*e*Pn	**Pg**	**21 02 08.3**	**-0.2**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*PN	**Pb**	**21 02 08.0**	**+0.2**
KCTX	**Karacabey (Bur**	**1.28**	**336**	*e*Pn	**Pb**	**21 02 08.0**	**+0.2**
BORA	**Eskisehir**	**1.35**	**54**	*i* P	**Pg**	**21 02 09.4**	**-0.4**
BORA				*i* S	**Sn**	**21 02 26.6**	**+0.4**
BORA	**Eskisehir**	**1.35**	**54**	*i* P	**Pg**	**21 02 09.4**	**-0.4**
BORA				*i* S	**Sn**	**21 02 26.6**	**+0.4**
GONE	**Gonen-Balikesi**	**1.41**	**313**	*e*PN	**Pg**	**21 02 10.4**	**-0.6**
GONE	**Gonen-Balikesi**	**1.41**	**313**	*e*Pn	**Pg**	**21 02 10.4**	**-0.6**
ADVT	**Abdulvahap**	**1.44**	**22**	*e*PN	**Pb**	**21 02 10.2**	**-0.4**
ADVT	**Abdulvahap**	**1.44**	**22**	*e*Pn	**Pb**	**21 02 10.2**	**-0.4**
ESKT	**Eskisehir**	**1.47**	**73**	*e*PN	**Pb**	**21 02 10.7**	**-0.5**
ESKT	**Eskisehir**	**1.47**	**73**	*e*Pn	**Pb**	**21 02 10.7**	**-0.5**
YLV	**Yalova**	**1.49**	**10**	*e*PN	**Pb**	**21 02 11.3**	**-0.2**
YLV	**Yalova**	**1.49**	**10**	*e*Pn	**Pb**	**21 02 11.3**	**-0.2**
EDC	**Edincik**	**1.54**	**324**	*e*PN	**Pb**	**21 02 12.1**	**-0.2**
EDC	**Edincik**	**1.54**	**324**	*e*Pn	**Pb**	**21 02 12.1**	**-0.2**
GULT	**Gulveren**	**1.75**	**40**	*e*PN	**Pn**	**21 02 14.5**	**+0.4**
GULT	**Gulveren**	**1.75**	**40**	*e*Pn	**Pn**	**21 02 14.5**	**+0.4**

NIED ***18*** *21:04:00, 36°40N×140°60E, h68km, Mw3.8 Best double couple: M0 5.81000×10^14 NP1:φs194.00000°, δ69.00000°, λ84.00000°. NP2:φs32.00000°, δ22.00000°, λ107.00000°.*
ISCJB ***18*** *21:04:43.6±0.6, 36°35N±0°04×140°59E±0°06, h74km±4km, mb3.7/7, Error ellipse: s-maj=8.4km s-min=6.1km az=22.7*
IDC ***18*** *21:04:44.9±2.2, 36°39N×140°38E, h64km±21km, mb3.4/7, mb1 3.6/10, mb1mx3.4/29, mbtmp3.5/10, Error ellipse: s-maj=21.3km s-min=9.5km az=61.0*
JMA ***18*** *21:04:45.2±0.1, 36°36N×140°55E, h62km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs185.00000°, δ83.00000°, λ79.00000°. NP2:φs63.00000°, δ13.00000°, λ148.00000°. Principal axes: T Plg51.0000°, Azm82.0000°; N Plg11.0000°, Azm186.0000°; P Plg37.0000°, Azm285.0000°;*
JMA Felt III J1.

ISC 18 21:04:44.8±0.9, 36°37N±0°05×140°55E±0°06, h66km±7km, n20, σ1§08/31, mb3.8/7, 5C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.24**	**4**	⇑P	**Pn**	**21 04 55.3**	**+0.1**
JHO				S	**Sn**	**21 05 02.5**	**-0.3**
JYT	**Yasato**	**0.32**	**244**	⇑P	**Pn**	**21 04 55.7**	**0.0**
JYT				S	**Sn**	**21 05 03.4**	**-0.2**
JAG	**Ashikaga**	**0.88**	**274**	⇑P	**Pn**	**21 05 02.1**	**+0.5**
JAG				S	**Sn**	**21 05 14.2**	**+0.1**
JFK	**Kawauchi**	**1.03**	**15**	P	**Pn**	**21 05 03.4**	**-0.1**
JFK				*e*S	**Sn**	**21 05 16.8**	**-0.7**
JKT	**Katashina**	**1.12**	**291**	P	**Pn**	**21 05 05.6**	**+0.9**
JKT				*e*S	**Sn**	**21 05 20.2**	**+0.7**
JFT	**Otama**	**1.16**	**352**	⇑P	**Pn**	**21 05 05.7**	**+0.5**
JFT				*e*S	**Sn**	**21 05 21.0**	**+0.6**
JFY	**Yanaizu**	**1.24**	**327**	⇓P	**Pn**	**21 05 07.2**	**+1.0**
JFY				*e*S	**Sn**	**21 05 23.5**	**+1.3**
JRY	**Ryogami san**	**1.38**	**256**	⇑P	**Pn**	**21 05 08.7**	**+0.7**
JRY				S	**Sn**	**21 05 25.8**	**+0.3**
MJAR	**Matsushiro Arr**	**1.89**	**276**	P	**Pn**	**21 05 14.2**	**-0.7**
	18nm,0.3s,baz=135,slow=7.7,SNR=116						
MJAR				S	**Sn**	**21 05 33.3**	**-4.5**
	24nm,0.3s,baz=84,slow=17,SNR=14						
MAT	**Matsushiro**	**1.89**	**276**	P	**Pn**	**21 05 16.5**	**+1.6**
MAT				S	**Sn**	**21 05 38.2**	**+0.3**
JHJ	**Hachijo jima 2**	**3.30**	**191**	P	**Pn**	**21 05 34.5**	**+0.4**
	14nm,0.3s,baz=72,slow=20,SNR=3.5						
JHJ				S	**Sn**	**21 06 12.9**	**+0.8**
	17nm,0.3s,baz=72,slow=20,SNR=4.6						
KSRS	**Korea Array**	**10.17**	**280**	P	**Pn**	**21 07 07.5**	**-0.3**
	0.2nm,0.3s,baz=88,slow=14,SNR=2.7						
USRK	**Ussuriysk Arra**	**10.18**	**323**	P	**Pn**	**21 07 08.1**	**0.0**
	0.2nm,0.3s,baz=144,slow=13,SNR=2.7						
ZALV	**Zalesovo Beam**	**41.85**	**313**	P	**P**	**21 12 28.4**	**+0.4**
	1.4nm,0.7s,baz=77,slow=7.8,SNR=6.7						
MKAR	**Makanchi Array**	**43.88**	**303**	P	**P**	**21 12 44.1**	**-0.5**
	1.8nm,1.0s,baz=89,slow=9.7,SNR=14						
KURBB	**Kurchatov Arra**	**45.87**	**308**	P	**P**	**21 12 59.8**	**-0.4**
	1.6nm,0.5s,baz=84,slow=7.9,SNR=14						
ILAR	**Eielson Array**	**50.43**	**32**	P	**P**	**21 13 34.8**	**-0.5**
	0.6nm,0.6s,baz=269,slow=6.4,SNR=8.0						
WRA	**Warramunga Arr**	**56.31**	**187**	P	**P**	**21 14 18.9**	**+0.1**
	0.9nm,0.8s,baz=2.2,slow=7.4,SNR=6.8						
ASAR	**Alice Springs**	**60.04**	**187**	P	**P**	**21 14 44.8**	**-0.1**
	0.5nm,0.8s,baz=10,slow=6.5,SNR=4.6						
YKA	**Yellowknife Ar**	**64.73**	**30**	P	**P**	**21 15 15.9**	**+0.3**
	0.1nm,0.4s,baz=310,slow=7.8,SNR=3.0						

IDC 18 21:16:21.9±1.6, 7°37S×129°82E, h0km, mb4.0/2, mb1 4.0/5, mb1mx3.8/18, mbtmp3.9/5, ML3.9/3, Error ellipse: s-maj=80.4km s-min=23.2km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.42**	**201**	Pn	Pn	21 19 07.3	+0.8
	0.8nm,0.3s,baz=28,slow=14,SNR=22						
FITZ				Sn	Sn	21 21 04.9	-10
	2.6nm,0.3s,baz=139,slow=19,SNR=10						
WRA	**Warramunga Arr**	**13.24**	**161**	Pn	Pn	21 19 30.4	-1.0
	0.5nm,0.3s,baz=334,slow=14,SNR=19						
WRA				Sn	Sn	21 21 48.1	-11
	1.4nm,0.3s,baz=358,slow=23,SNR=10						
ASAR	**Alice Springs**	**16.67**	**167**	Pn	Pn	21 20 17.3	+0.1
	0.4nm,0.3s,baz=339,slow=9.4,SNR=20						
ASAR				Sn	Sn	21 23 13.0	-10
	0.3nm,0.3s,baz=334,slow=15,SNR=5.4						
STKA	**Stephens Creek**	**26.74**	**157**	P	P	21 22 03.3	-0.1
	0.8nm,0.5s,baz=328,slow=12,SNR=4.6						
MKAR	**Makanchi Array**	**68.44**	**327**	P	P	21 27 25.8	0.0
	1.2nm,0.4s,baz=117,slow=8.1,SNR=44						

IDC 18 21:21:40.5±1.9, 30°50S×178°25W, h42km±7km, mb3.7/4, mb1 3.9/4, mb1mx3.7/17, mbtmp3.7/4, MS3.2/1, Ms1 3.2/1, ms1mx2.6/35, Error ellipse: s-maj=49.2km s-min=25.0km az=39.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.08**	**298**	LR	LR	21 30 09.0	
	comp=Z,76nm,18.3s,baz=240,slow=32						
STKA	**Stephens Creek**	**34.24**	**257**	P	P	21 28 22.2	-0.4
	1.5nm,0.9s,baz=90,slow=13,SNR=2.6						
STKA				pP	pP	21 28 33.3	-0.6
	2.1nm,0.7s,baz=93,slow=14,SNR=2.8						
ASAR	**Alice Springs**	**42.89**	**267**	P	P	21 29 35.0	-0.2
	1.1nm,0.7s,baz=106,slow=8.0,SNR=9.5						
ASAR				pP	pP	21 29 46.7	-0.1
	3.4nm,0.6s,baz=104,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**43.88**	**272**	P	P	21 29 43.2	0.0
	1.5nm,0.5s,baz=111,slow=8.0,SNR=10						
WRA				pP	pP	21 29 55.2	+0.3
	5.1nm,0.6s,baz=114,slow=7.7,SNR=22						
QSPA	**South Pole Qui**	**59.61**	**180**	P	P	21 31 40.1	+0.1
	1.5nm,0.9s,baz=3.0,slow=2.8,SNR=3.0						
QSPA				pP	pP	21 31 52.0	0.0
	2.6nm,0.7s,baz=40,slow=3.4,SNR=4.5						
FINES	**FINESS Array B**	**145.16**	**340**	PKPbc	PKPbc	21 41 11.4	-1.0
	2.2nm,0.7s,baz=35,slow=2.8,SNR=8.2						

IDC 18 21:27:09.7±1.7, 6°79S×143°39E, h0km, mb3.6/2, mb1 3.8/5, mb1mx3.6/16, mbtmp3.6/5, ML2.9/2, Error ellipse: s-maj=34.0km s-min=28.4km az=43.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.55**	**125**	Pn	Pn	21 28 20.0	+0.2
	1.5nm,0.3s,baz=270,slow=16,SNR=4.7						
PMG				Sn	Sn	21 29 12.2	-1.2
	0.4nm,0.3s,baz=329,slow=19,SNR=5.0						
WRA	**Warramunga Arr**	**15.75**	**213**	Pn	Pn	21 30 52.0	-1.1
	0.1nm,0.3s,baz=30,slow=13,SNR=4.9						
ASAR	**Alice Springs**	**19.09**	**208**	P	Pn	21 31 35.4	+0.5
	0.3nm,0.3s,baz=37,slow=9.2,SNR=22						
FITZ	**Fitzroy Crossi**	**20.64**	**235**	P	P	21 31 49.7	-1.2
	2.3nm,0.7s,baz=53,slow=7.2,SNR=3.4						
MKAR	**Makanchi Array**	**75.85**	**322**	P	P	21 38 58.3	+0.3
	0.3nm,0.7s,baz=112,slow=5.8,SNR=5.4						

IDC 18 21:28:55.0±2.1, 3°72S×151°91E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/17, mbtmp3.4/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/17, Error ellipse: s-maj=143.7km s-min=28.7km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.79**	**126**	LR	LR	21 34 01.1	
	comp=Z,62nm,20.7s,baz=29,slow=31						
WRA	**Warramunga Arr**	**23.53**	**225**	P	P	21 34 06.8	-0.3
	0.7nm,0.6s,baz=51,slow=9.8,SNR=6.0						
ASAR	**Alice Springs**	**26.37**	**220**	P	P	21 34 33.4	+0.1
	0.2nm,0.3s,baz=38,slow=8.6,SNR=2.9						
ILAR	**Eielson Array**	**81.50**	**22**	P	P	21 41 13.4	-0.7
	0.4nm,0.8s,baz=258,slow=4.7,SNR=4.7						
TORD	**Torodi Ar. Bea**	**149.12**	**289**	PKPbc	PKPbc	21 48 46.8	+0.3
	0.4nm,0.8s,baz=81,slow=2.0,SNR=6.4						

IDC 18 21:44:03.4±1.8, 0°93S×133°20E, h0km, mb3.7/3, mb1 4.0/6, mb1mx3.7/21, mbtmp3.9/6, ML3.9/3, Error ellipse: s-maj=54.6km s-min=23.2km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**14.02**	**253**	Pn	Pn	21 47 25.2	+1.7
	2.1nm,0.3s,baz=61,slow=5.9,SNR=5.5						
FITZ	**Fitzroy Crossi**	**18.61**	**203**	P	P	21 48 21.3	-1.2
	0.2nm,0.3s,baz=24,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**18.93**	**177**	P	P	21 48 26.2	+0.2
	0.4nm,0.3s,baz=355,slow=11,SNR=19						
ASAR	**Alice Springs**	**22.61**	**178**	P	P	21 49 06.7	+0.7
	1.3nm,0.4s,baz=353,slow=10,SNR=28						
STKA	**Stephens Creek**	**31.79**	**166**	P	P	21 50 29.0	-0.7
	0.8nm,0.4s,baz=352,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**65.07**	**324**	P	P	21 54 45.7	-0.1
	0.2nm,0.5s,baz=111,slow=9.8,SNR=3.2						

IDC ***18*** *21:45:39.5±1.2, 0°17S×124°26E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/21, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=76.4km s-min=20.2km az=73.0*
ISCJB ***18*** *21:45:48.1±0.8, 0°48S±0°06×124°31E±0°10, h60km, mb3.8/4, Error ellipse: s-maj=13.9km s-min=8.5km az=175.5*
DJA ***18*** *21:45:48.4±1.1, 0°S±5°×12°4E±°, h20km±13km, M4.1/4, MLv4.1/4*

ISC 18 21:45:48.1±1.0, 0°39S±0°08×124°30E±0°08, h60km, n9, σ2§05/10, mb3.8/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.01**	**342**	P	**Pn**	**21 46 06.6**	**+0.4**
MNI	**Manado**	**1.90**	**17**	P	**Pn**	**21 46 19.6**	**+1.4**
MNI				S	**Sn**	**21 46 44.1**	**+3.0**
MRSI	**Marisa**	**2.51**	**290**	P	**Pn**	**21 46 28.8**	**+2.3**
LBMI	**Labuha**	**3.21**	**94**	P	**Pn**	**21 46 37.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**17.65**	**176**	P	**P**	**21 49 50.9**	**+0.7**
	0.2nm,0.3s,baz=358,slow=15,SNR=3.7						
WRA	**Warramunga Arr**	**21.78**	**154**	P	**P**	**21 50 34.8**	**-0.3**
	1.7nm,0.6s,baz=334,slow=12,SNR=9.6						
ASAR	**Alice Springs**	**24.95**	**159**	P	**P**	**21 51 06.8**	**+0.8**
	2.4nm,0.7s,baz=333,slow=7.1,SNR=16						
USRK	**Ussuriysk Arra**	**44.92**	**8**	P	**P**	**21 53 54.9**	**-2.0**
	0.7nm,0.4s,baz=199,slow=9.8,SNR=4.4						
MKAR	**Makanchi Array**	**59.63**	**328**	P	**P**	**21 55 43.5**	**-2.5**
	0.4nm,0.4s,baz=117,slow=6.9,SNR=7.5						

IDC 18 21:48:43.6±1.3, 0°78S×132°82E, h0km, mb3.8/5, mb1 4.0/7, mb1mx3.8/22, mbtmp3.8/7, ML3.9/2, MS2.8/1, Ms1 2.8/1, ms1mx2.6/37, Error ellipse: s-maj=57.0km s-min=15.3km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**13.71**	**252**	LR	LR	21 57 21.6	
	comp=Z,37nm,18.0s,baz=130,slow=38						
FITZ	**Fitzroy Crossi**	**18.60**	**202**	P	Pn	21 53 03.7	+1.0
	0.3nm,0.3s,baz=38,slow=14,SNR=3.6						
WRA	**Warramunga Arr**	**19.10**	**176**	P	Pn	21 53 09.5	+0.6
	0.3nm,0.3s,baz=353,slow=11,SNR=8.5						
ASAR	**Alice Springs**	**22.77**	**177**	P	P	21 53 49.5	+1.6
	2.2nm,0.3s,baz=357,slow=11,SNR=31						
ASAR				S	S	21 57 57.9	-0.1
	1.4nm,1.0s,baz=357,slow=19,SNR=6.3						
CTA	**Charters Tower**	**23.26**	**146**	P	P	21 53 53.1	+0.2
	3.9nm,0.7s,baz=334,slow=11,SNR=6.3						
STKA	**Stephens Creek**	**32.02**	**166**	P	P	21 55 11.2	-0.7
	1.2nm,0.4s,baz=332,slow=13,SNR=2.8						
MKAR	**Makanchi Array**	**64.73**	**324**	P	P	21 59 24.0	+0.2
	0.3nm,0.5s,baz=112,slow=7.5,SNR=5.3						
KURBB	**Kurchatov Arra**	**68.82**	**326**	P	P	21 59 49.0	-0.7
	0.5nm,0.8s,baz=116,slow=6.5,SNR=4.9						

IDC ***18*** *21:53:41.3±0.3, 27°34S×176°36W, h0km, mb6.2/40, mb1 6.2/40, mb1mx6.2/40, mbtmp6.2/40, MS7.0/35, Ms1 7.1/35, ms1mx7.0/39, Error ellipse: s-maj=10.1km s-min=8.7km az=25.0*
BJI ***18*** *21:53:42.2, 26°94S×175°70W, h18km, mB7.4/56, mb6.5/52, Ms7.3/74, Ms7 7.1/67*
BGS ***18*** *21:53:44.6±1.7, 27°15S×176°50W, h20km,

MSVF Nonsavu 10.96 330 ⇓*i*Pn **Pn 21 56 22.7 +1.8**
MSVF *e*Sn **Sn 21 58 21.3 -1.4**
OUZ Omahuta 11.68 226 ⇓*i*Pn **Pn 21 56 33.2 +2.6**
OUZ *e*Sn **Sn 21 58 42.9 +3.0**
URZ Urewera 12.19 206 *e*Pn Pn 21 56 30.8 -6.7
URZ *e*Sn Sn 21 58 42.0 -11
AFI Afiamalu 14.04 18⇑*e*Pn Pn 21 56 54.0 -9.0
522nm,2.5s
AFI Sn Sn 21 59 18.5 -20
AFI Afiamalu 14.04 18 Pn Pn 21 56 55.1 -8.0
174nm,0.3s,baz=22,slow=1.5,SNR=46
AFI Sn Sn 21 59 18.5 -20
188nm,0.3s,baz=49,slow=23,SNR=4.1
SNZO South Karori 15.76 206 *e*Pn **Pn 21 57 23.7 -2.0**
1µm,0.6s
BAYA Yate Dam 16.19 285 *e*P **P 21 57 37.2 +2.9**
RAR Rarotonga 16.21 71 *e*Pn Pn 21 57 23.3 -8.3
2µm,0.9s
RAR *e*Sn Sn 22 00 07.7 -23
RAR Sn S 22 00 08.3 -35
RAR Rarotonga 16.21 71 Pn Pn 21 57 23.3 -8.3
219nm,0.3s,baz=243,slow=8.4,SNR=136
RAR Sn Sn 22 00 08.3 -22
213nm,0.3s,baz=79,slow=19,SNR=12
RAR LR LR 22 01 58.5
comp=Z,845µm,21.8s,baz=217,slow=30
PLUM Mont Dore 16.36 284 *e*P **P 21 57 38.6 +2.5**
NORM Noumea 16.51 284 *e*P **P 21 57 38.9 +1.1**
DZM Mont Dzumac 16.60 285 *e*P **P 21 57 41.1 +2.2**
11µm,1.2s
DZM *e*S **Sn 22 00 44.6 +4.4**
1420µm,33.5s
DZM *e*LR LR 22 01 31.8
3520µm,25.6s
DZM Mont Dzumac 16.60 285⇑*i*Pn **P 21 57 41.0 +2.2**
47nm,1.9s
DZM *e*Sn **Sn 22 00 38.8 -1.5**
DZM Mont Dzumac 16.60 285 Pn **P 21 57 41.0 +2.0**
8.2nm,0.3s,baz=100,slow=15,SNR=115
NOUC Port Laguerre 16.71 285 *e*P **P 21 57 41.7 +1.7**
KHZ Kahutara 17.16 206 *e*Pn **Pn 21 57 40.8 -2.6**
4µm,0.7s
KHZ *e*Sn Sn 22 00 34.0 -19
RPZ Rata Peaks 19.26 209 *e*P **P 21 58 06.2 -1.8**
985nm,0.9s
ODZ Otahua Downs 20.51 207 *e*P **P 21 58 20.1 -1.5**
641nm,0.9s
ODZ *e*S S 22 01 52.9 -17
WHZ Wether Hill Ro 22.33 210 *e*P **P 21 58 37.5 -3.7**
TBI Tubuai 24.51 87 *e*P **P 21 59 00.6 -2.2**
1µm,0.9s
TBI *e*LQ LQ 22 03 43.6
1334µm,29.2s
TBI *e*LR LR 22 04 31.0
2µm,27.8s
PAE Paea 26.41 74 *e*P **P 21 59 17.6 -2.5**
411nm,1.5s
PPT2 Papeete2 26.44 74 *e*P **P 21 59 16.1 -4.4**
1µm,1.6s
PPT2 *e*LQ LQ 22 04 27.5
929µm,25.8s
PPT2 *e*LR LR 22 05 26.4
1422µm,29.8s,baz=244
PPT Papeete 26.45 74 P **P 21 59 16.4 -4.1**
PPT Papeete 26.45 74 P **P 21 59 16.4 -4.1**
108nm,1.0s,baz=44,slow=23,SNR=5.5
PPT LR LR 22 06 41.8
comp=Z,529µm,21.5s,baz=246,slow=29
TVO Taravao 26.64 75 *e*P **P 21 59 19.8 -2.5**
2µm,1.5s
TIAR Tiarei 26.65 74 *e*P **P 21 59 20.7 -1.7**
2µm,1.2s
MEH Mehetia 27.62 76 *e*P **P 21 59 29.6 -1.4**
729nm,1.2s
ARMA Armidale 28.24 256 *e*P **P 21 59 37.9 +1.2**
970nm,1.2s
ARMA Armidale 28.24 256 *e*P **P 21 59 36.8 +0.1**
HNR Honiara 28.71 304⇑*i*P P 21 59 37.4 -3.3
1µm,0.9s
HNR Honiara 28.71 304 P **P 21 59 37.8 -2.9**
969nm,0.8s,baz=178,slow=1.7,SNR=42
HNR LR LR 22 09 11.6
comp=Z,700µm,21.8s,baz=136,slow=32
PMOR Pomariorio Ree 29.08 71 *e*P **P 21 59 41.0 -3.0**
856nm,1.4s
EIDS Eidsvold 29.30 266 *e*P **P 21 59 45.9 -0.1**
438nm,1.1s
CNB Canberra Magne 30.31 246 *e*P **P 21 59 56.0 +1.1**
4µm,1.5s
MCQ Macquarie Isla 32.60 207 *e*P **P 22 00 17.0 +2.4**
MCQ Macquarie Isla 32.60 207 *e*P **P 22 00 17.0 +2.4**
90µm,1.3s
MOO Moorlands 33.25 234 *e*P **P 22 00 21.0 +0.4**
4µm,1.2s
TAU Tasmania Unive 33.28 233 *e*P **P 22 00 21.2 +0.3**
TAU pmax pmax
comp=Z,1µm,1.2s
TAU MLR MLR
comp=Z,510µm,19.0s
TAU Tasmania Unive 33.28 233 *e*P **P 22 00 21.2 +0.3**
comp=Z,1µm,1.2s
TAU LR LR
comp=Z,510µm,19.0s
TOO Toolangi 33.64 243 *e*P **P 22 00 24.3 +0.2**
comp=Z,3µm,1.0s
XMAS Kiritimati 34.41 35 *e*P **P 22 00 31.4 +0.6**
comp=Z,2µm,1.5s
XMAS *e*S **S 22 06 01.3 +4.1**
XMAS LR LR
comp=Z,112µm,19.0s
CTA Charters Tower 35.00 274 P **P 22 00 35.5 -0.5**
CTA S **S 22 06 10.0 +3.5**
CTA Charters Tower 35.00 274 *e*P **P 22 00 35.8 -0.2**
comp=Z,1µm,0.6s
CTA Charters Tower 35.00 274 P **P 22 00 35.5 -0.5**
comp=Z,2µm,0.9s,baz=99,slow=12,SNR=321
CTA S **S 22 06 10.0 +3.5**
comp=Z,30nm,1.0s,baz=275,slow=12,SNR=5.6
CTA LR LR 22 13 08.0
comp=Z,766µm,20.5s,baz=112,slow=33
CTAO Charters Tower 35.00 274 *e*P **P 22 00 35.8 -0.2**
CTAO pmax pmax
comp=Z,1µm,0.6s
CTAO MLR MLR
comp=Z,705µm,20.0s
CTAO Charters Tower 35.00 274 *e*P **P 22 00 35.8 -0.2**
comp=Z,1µm,0.6s
CTAO LR LR
comp=Z,705µm,20.0s
STKA Stephens Creek 36.76 253 *e*P **P 22 00 50.5 -0.4**
comp=Z,445nm,1.7s
STKA S **S 22 06 34.7 +1.5**
STKA P'P' 22 33 42.0
STKA Stephens Creek 36.76 253⇑*i*P **P 22 00 50.9 -0.1**
comp=Z,629nm,1.5s
STKA Stephens Creek 36.76 253 P **P 22 00 50.5 -0.4**
comp=Z,802nm,1.2s,baz=96,slow=9.7,SNR=205
STKA S **S 22 06 34.7 +1.5**
comp=Z,10.0nm,0.7s,baz=331,slow=19,SNR=1.7
STKA LR LR 22 14 06.8
comp=Z,590µm,21.3s,baz=90,slow=33
STKA PKPPKP P'P'df 22 33 42.0 -8.0
comp=Z,2.7nm,0.9s,baz=261,slow=3.0,SNR=3.0
RKT Rikitea 37.44 93 *e*P **P 22 00 56.3 -0.5**
comp=Z,1µm,1.3s
RKT *e*S **S 22 06 37.9 -5.8**
comp=Z,27µm,31.5s
RKT *e*LQ LQ 22 09 25.8
comp=Z,251µm,27.8s
RKT *e*LR LR 22 10 33.3
comp=Z,956µm,28.0s
TAOE Nuku Hiva Isla 38.73 68 *e*P **P 22 01 06.0 -1.9**
comp=Z,2µm,1.5s
TAOE *e*S S 22 06 54.1 -9.5
comp=Z,29µm,25.6s
TAOE *e*LR LR 22 11 13.4
comp=Z,918µm,27.2s
TAOE Nuku Hiva Isla 38.73 68 ⇓*i*Pn **P 22 01 06.0 -1.9**
comp=Z,2µm,1.8s
TAOE *e*PP **PP 22 02 37.1 +0.3**
TAOE *e*S **S 22 07 04.5 +0.9**
PMG Port Moresby 38.87 290 *e*P **P 22 01 07.8 -1.1**
PMG Port Moresby 38.87 290 P **P 22 01 08.2 -0.7**
comp=Z,631nm,2.2s,comp=Z,24µmcomp=Z,144µm
PMG Port Moresby 38.87 290 P **P 22 01 07.1 -1.8**
comp=Z,198nm,0.7s,baz=109,slow=4.9,SNR=54
PMG LR LR 22 14 45.3
comp=Z,395µm,19.8s,baz=108,slow=33
COEN Coen 40.07 281 *e*P **P 22 01 18.3 -0.7**
comp=Z,7µm,1.4s
BBOO Buckleboo 41.35 251 *e*P **P 22 01 27.8 -1.6**
comp=Z,27µm,1.5s
JOHN Johnston Islan 44.34 9 PFAKE 22 02 10.0 +16
JOHN LR LR
comp=Z,32nm,22.0s
ASAR Alice Springs 44.91 263 P **P 22 01 57.1 -1.2**
ASAR S **S 22 08 36.5 +1.7**
ASAR P'P' 22 33 29.7
ASAR *e* 22 39 51.0
ASAR Alice Springs 44.91 263 P **P 22 01 57.1 -1.2**
comp=Z,167nm,0.5s,baz=100,slow=6.7,SNR=364
ASAR S **S 22 08 36.5 +1.7**
comp=Z,43nm,1.1s,baz=98,slow=16,SNR=6.6
ASAR PKPPKP P'P'df 22 33 29.7 -10
comp=Z,3.4nm,1.0s,baz=260,slow=1.7,SNR=4.4
ASAR P4KPbc 22 39 51.0
comp=Z,4.8nm,0.8s,baz=113,slow=4.5,SNR=30
MMPI Merauke 45.07 286 P **P 22 01 57.9 -1.7**
comp=Z,2µm,0.8s,comp=Z,36µmcomp=Z,323µm
WRAB Tennant Creek 45.63 268 *e*P **P 22 02 02.4 -1.6**
WRAB pmax pmax
comp=Z,5µm,2.6s
WRAB MLR MLR
comp=Z,247µm,22.0s
WRAB Tennant Creek 45.63 268 *e*P **P 22 02 02.4 -1.6**
comp=Z,5µm,2.6s
WRAB LR LR
comp=Z,247µm,22.0s
WRA Warramunga Arr 45.63 268 P **P 22 02 02.4 -1.7**
WRA PcP **PcP 22 03 42.2 +0.1**
WRA *S* **S 22 08 41.1 -4.1**
WRA *e* 22 39 53.8
WRA Warramunga Arr 45.63 268 P **P 22 02 02.4 -1.7**
comp=Z,268nm,0.9s,baz=104,slow=7.7,SNR=207
WRA PcP **PcP 22 03 42.2 +0.1**
comp=Z,154nm,1.0s,baz=105,slow=4.1,SNR=3.7
WRA S **S 22 08 41.1 -4.1**
comp=Z,50nm,1.2s,baz=91,slow=17,SNR=5.1
WRA LR LR 22 20 45.0
comp=Z,131µm,21.3s,baz=105,slow=36
WRA P4KPbc 22 39 53.8
comp=Z,11nm,0.9s,baz=100,slow=4.3,SNR=43
DRV Dumont d'Urvil 47.50 202 P P 22 02 08.0 -10
DRV Dumont d'Urvil 47.50 202 PP PP 22 03 57.0 -12
DRV S S 22 09 03.0 -7.7
DRV SS ScS 22 12 01.0 -8.3
DRV L L 22 13 00.0
DRV R 22 16 00.0
JAY Jayapura 48.01 293 P **P 22 02 23.0 +0.3**
comp=Z,468nm,3.3s,comp=Z,27µm
FORT Forrest 48.38 252 *e*P **P 22 02 23.3 -2.1**
comp=Z,2µm,0.6s
FORT Forrest 48.38 252 *e*P **P 22 02 23.2 -2.1**
comp=Z,1µm,0.5s
WAKE Wake Island 49.27 338 *e*P **P 22 02 31.9 -0.2**
WAKE LR LR
comp=Z,138µm,20.0s
SMPI Sarmi 49.94 292 P **P 22 02 37.7 +0.2**
comp=Z,394nm,1.3s,comp=Z,19µm
KKH Kailua Kona 50.70 25 *e*P P 22 02 51.0 +8.0
KKH Kailua Kona 50.70 25 *e*P P 22 02 51.0 +8.0
PUH Pauahi 50.76 26 *e*P **P 22 02 42.9 -0.6**
STCH Steam Cracks 50.80 26 *e*P **P 22 02 43.0 -0.9**
POHA Pohakuloa 50.98 25 *e*P **P 22 02 46.2 +0.9**
comp=Z,11µm,2.7s
SBA Scott Base 51.15 185 *e*P **P 22 02 46.1 +0.4**
SBA pmax pmax
comp=Z,2µm,1.5s
SBA MLR MLR
comp=Z,88µm,21.0s
SBA Scott Base 51.15 185 *e*P **P 22 02 46.1 +0.4**
comp=Z,2µm,1.5s
SBA LR LR
comp=Z,88µm,21.0s
VNDA Vanda 51.24 186 *e*P **P 22 02 49.5 +3.1**
comp=Z,1µm,1.9s
VNDA LR LR
comp=Z,85µm,21.0s
HON Honolulu 51.54 22 *e*P **P 22 02 49.6 +0.3**
HON Honolulu 51.54 22 *e*P **P 22 02 49.6 +0.3**
HKL Haleakala 51.58 24 *e*P **P 22 02 51.3 +1.2**
HKL Haleakala 51.58 24 *e*P **P 22 02 51.3 +1.2**
KIP Kipapa 51.63 22⇑*i*P **P 22 02 50.3 +0.4**
KIP pmax pmax
comp=Z,796nm,1.5s
KIP MLR MLR
comp=Z,26µm,17.0s
KIP Kipapa 51.63 22 *e*P **P 22 02 50.2 +0.2**
comp=Z,1µm,1.2s
KIP LR LR
comp=Z,46µm,20.0s
BAKI Biak 52.54 291 P **P 22 02 55.6 -1.4**
comp=Z,931nm,0.9s,comp=Z,36µm
FITZ Fitzroy Crossi 53.99 267 P **P 22 03 06.3 -1.3**
comp=Z,32nm,2.0s
FITZ S **S 22 10 38.5 -3.5**
FITZ Fitzroy Crossi 53.99 267⇑*i*P **P 22 03 06.3 -1.3**
comp=Z,606nm,1.1s
FITZ *e*S S 22 10 35.7 -6.3
FITZ Fitzroy Crossi 53.99 267 P **P 22 03 06.3 -1.3**
comp=Z,266nm,0.9s,baz=122,slow=6.3,SNR=98
FITZ S **S 22 10 38.5 -3.5**
comp=Z,12nm,1.0s,baz=184,slow=18,SNR=2.2
FITZ LR LR 22 26 27.2
comp=Z,279µm,18.4s,baz=113,slow=36
FAKI Fak Fak 54.85 287 P **P 22 03 12.3 -1.6**
comp=Z,526nm,1.0s,comp=Z,29µmcomp=Z,231µm
MIDW Midway 55.30 359 *e*P **P 22 03 17.0 +0.2**
comp=Z,1µm,1.6s
MIDW LR LR
comp=Z,81µm,19.0s
GUMO Guam 55.52 312 *e*P **P 22 03 17.1 -1.6**
GUMO Guam 55.52 312 P **P 22 03 16.2 -2.5**
comp=Z,234nm,0.6s,baz=176,slow=9.3,SNR=11
GUMO LR LR 22 25 13.0
comp=Z,73µm,19.1s,baz=122,slow=34
SWI Sorong 56.77 288 P **P 22 03 25.6 -2.1**
comp=Z,2µm,0.9s,comp=Z,37µmcomp=Z,289µm
KLBR Kellerberrin 56.83 249 *e*P **P 22 03 25.8 -2.2**
comp=Z,437nm,0.9s
NWAO Narrogin (SRO) 56.95 247 *e*P **P 22 03 26.7 -2.0**
comp=Z,2µm,2.8s
NWAO S **S 22 11 17.7 -3.5**
NWAO Narrogin (SRO) 56.95 247 P **P 22 03 26.7 -2.0**
comp=Z,37nm,0.5s,baz=109,slow=7.4,SNR=19
NWAO S **S 22 11 17.7 -3.5**
comp=Z,8.3nm,0.9s,baz=315,slow=19,SNR=1.7
NWAO LR LR 22 27 28.9
comp=Z,308µm,18.6s,baz=93,slow=36
MSAI Masohi 57.47 285 P **P 22 03 31.2 -1.4**
comp=Z,286nm,1.2s,comp=Z,5µm
AAI Ambon 57.93 284 P **P 22 03 34.6 -1.3**
comp=Z,1µm,2.2s,comp=Z,28µmcomp=Z,301µm
BLDU Ballidu 57.95 250⇑*i*P **P 22 03 33.6 -2.2**
MBWA Marble Bar 58.16 261 *e*P **P 22 03 35.5 -1.9**
comp=Z,634nm,1.1s
MBWA LR LR
comp=Z,553µm,20.0s
MBWA Marble Bar 58.16 261 *e*P **P 22 03 35.5 -1.9**
CASY Casey 58.51 207 *e*P **P 22 03 40.5 +1.3**
comp=Z,5µm,1.8s
CASY LR LR
comp=Z,83µm,19.0s
CASY Casey 58.51 207 *e*P **P 22 03 40.3 +1.2**
CASY *e*S **S 22 11 39.9 -0.8**
RPN Rapa Nui 58.77 107⇓*e*P **P 22 03 41.0 -0.6**
RPN *e*PcP **PcP 22 04 31.9 +0.8**
RPN Rapa Nui 58.77 107 P **P 22 03 40.8 -0.8**
comp=Z,687nm,1.1s,baz=284,slow=4.9,SNR=12
RPN LR LR 22 22 19.8
comp=Z,208µm,21.9s,baz=274,slow=29
LBMI Labuha 60.08 286 P **P 22 03 49.2 -1.6**
comp=Z,2µm,1.1s,comp=Z,22µmcomp=Z,154µm
MMRI Maumere 60.83 275 P **P 22 03 54.4 -1.5**
comp=Z,1µm,1.5s,comp=Z,30µmcomp=Z,208µm
TNTI Ternate 60.93 288 P **P 22 03 54.7 -1.9**
comp=Z,1µm,0.9s,comp=Z,29µmcomp=Z,211µm
BBSI Bau Bau 61.97 279 P **P 22 04 03.7 +0.1**
comp=Z,670nm,1.4s,comp=Z,20µmcomp=Z,148µm
WSI Waingapu 62.10 273 P **P 22 04 04.1 -0.4**
comp=Z,4µm,1.0s,comp=Z,40µmcomp=Z,198µm
WSI Waingapu 62.10 273 P **P 22 04 04.1 -0.4**
comp=Z,4µm,1.0s,comp=Z,40µmcomp=Z,198µm
KDI Kendari 62.65 280 P **P 22 04 06.3 -1.9**
comp=Z,359nm,0.9s,comp=Z,20µm
QSPA South Pole Qui 62.71 180 P **P 22 04 09.9 +1.9**
QSPA S **S 22 12 37.6 +3.0**
QSPA P'P' 22 33 04.5
QSPA LR LR
comp=Z,101µm,20.0s
QSPA South Pole Qui 62.71 180 P **P 22 04 09.9 +1.9**
comp=Z,472nm,0.9s,baz=42,slow=1.8,SNR=250
QSPA S **S 22 12 37.6 +3.0**
comp=Z,8.5nm,0.9s,baz=254,slow=19,SNR=5.6
QSPA PKPPKP P'P'df 22 33 04.4 -12
comp=Z,27nm,1.1s,baz=266,slow=2.2,SNR=8.9
KAPI Kappang 64.67 278 *e*P **P 22 04 19.4 -2.2**
comp=Z,937nm,1.5s
KAPI S **S 22 12 59.7 -0.4**
KAPI LR LR
comp=Z,142µm,22.0s
KAPI Kappang 64.67 278 P **P 22 04 19.2 -2.3**
comp=Z,789nm,1.9s,comp=Z,26µmcomp=Z,136µm
KAPI Kappang 64.67 278 P **P 22 04 19.3 -2.2**
comp=Z,90nm,0.8s,baz=129,slow=5.1,SNR=46
KAPI S **S 22 12 59.7 -0.4**
comp=Z,2.5nm,0.4s,baz=356,slow=22,SNR=4.3
MIR Mirnyy 65.50 206⇑*i*P **P 22 04 27.4 +1.4**
MIR *e* 22 06 52.0
MIR *e*S **S 22 13 09.0 +0.2**
MIR *e* 22 14 13.0
MIR *e*SS SS 22 17 30.0 +8.1
MIR pmax pmax
comp=Z,2µm,1.2s
MIR pmax pmax
comp=Z,34µm,6.0s
MIR pmax pmax
comp=E,12µm,5.0s
MIR smax smax
comp=N,51µm,9.0s
MIR smax smax
comp=E,22µm,10.0s
MIR MLR MLR
comp=N,37µm,16.0s
MIR MLR MLR
comp=E,35µm,16.0s
MIR MLR MLR
comp=Z,72µm,16.0s
DAV Davao City (W) 65.84 292 *e*P **P 22 04 27.7 -1.4**
DAV LR LR
comp=Z,87µm,20.0s
DAV Davao City (W) 65.84 292 P **P 22 04 29.0 -0.1**
comp=Z,1µm,1.0s,comp=Z,33µmcomp=Z,120µm
DAV Davao City (W) 65.84 292 P **P 22 04 27.1 -2.0**
comp=Z,824nm,0.8s,baz=56,slow=3.3,SNR=20
BUKP Musuan 66.72 293 *e*P **P 22 04 33.9 -0.9**
KHKI Kahang-Kahang 66.83 272 P **P 22 04 33.3 -2.1**
comp=Z,835nm,1.1s,comp=Z,26µm
BUTP Butuan 66.88 294 *e*P **P 22 04 34.3 -1.4**
CTBH Cotabato--PC H 67.02 292⇑*i*P **P 22 04 35.3 -1.3**
IGBI Denpasar 67.04 272 P **P 22 04 35.9 -0.9**
comp=Z,886nm,1.2s
CBIJ Chichi jima 67.32 320 P **P 22 04 36.9 -1.4**
CBIJ S **S 22 13 30.7 -1.1**
CBIJ Chichi jima 67.32 320 P **P 22 04 36.9 -1.4**
comp=Z,382nm,0.6s,baz=160,slow=2.8,SNR=28
CBIJ S **S 22 13 30.7 -1.1**
comp=Z,32nm,0.6s,baz=292,slow=19,SNR=3.4
CBIJ LR LR 22 32 43.6
comp=Z,112µm,19.0s,baz=147,slow=35
CGP Cagayan de Oro 67.34 293⇓*e*P **P 22 04 38.0 -0.6**
PAGZ Pagadian 68.08 292 *e*P **P 22 04 42.6 -0.7**
MSLP Maasin 68.15 295 *e*P **P 22 04 42.3 -1.5**
PLP Palo 68.64 296⇑*i*P **P 22 04 44.4 -2.4**
GMJI Gumukmas 68.79 272 P **P 22 04 46.3 -1.5**
comp=Z,2µm,0.8s,comp=Z,29µm
OCLP Ormoc 68.88 295 *e*P **P 22 04 47.1 -1.2**
BLJI Banyuglugur 68.89 272 P **P 22 04 47.1 -1.3**
comp=Z,697nm,1.8s,comp=Z,29µm
LLP Lapu-Lapu 68.98 294 *e*P **P 22 04 46.8 -2.1**
CNP Catarman 69.67 297 *e*P **P 22 04 51.9 -1.3**
GUIM Jordan 70.27 294 *e*P **P 22 04 54.3 -2.6**
RCP Roxas 70.67 295⇑*e*P **P 22 04 57.4 -1.9**
MYLDM Lahad Datu 70.76 287 P **P 22 05 01.0 +1.1**
MYLDM Lahad Datu 70.76 287 P **P 22 05 00.2 +0.3**
comp=Z,1µm,1.6s,comp=Z,33µmcomp=Z,304µm
TSM Tawau 70.84 286 P **P 22 05 00.4 -0.1**
UGM Wanagama 71.55 271 *e*P **P 22 05 04.0 -0.7**
comp=Z,934nm,1.0s
UGM Wanagama 71.55 271 P **P 22 05 04.6 -0.1**
comp=Z,1µm,1.4s,comp=Z,34µm
CUYO Cuyo Island 71.68 293 *e*P **P 22 05 04.8 -0.7**
OTRP Odiongan 71.70 295 *e*P **P 22 05 03.7 -1.8**
AUQP San Andres 71.72 296 *e*P **P 22 05 05.8 +0.2**
SMRI Semarang 72.00 271 P **P 22 05 07.1 -0.4**
SDKM Sandakan 72.11 286 P **P 22 05 07.9 -0.2**
GQP Guinayangan 72.23 297⇓*e*P **P 22 05 07.7 -1.0**
BOAC Boac 72.46 296 *e*P **P 22 05 09.2 -0.9**
KDM Kudat 73.07 287 P **P 22 05 14.8 +1.0**
KKM Kota Kinabalu 73.15 286 *e*P **P 22 05 12.5 -1.9**
comp=Z,634nm,1.0s
KKM LR LR
comp=Z,67µm,20.0s
KKM Kota Kinabalu 73.15 286 P **P 22 05 13.4 -0.9**
KKM Kota Kinabalu 73.15 286 P **P 22 05 13.1 -1.3**
comp=Z,707nm,0.8s,comp=Z,23µmcomp=Z,222µm
ENPP El Nido 73.18 292 *e*P **P 22 05 13.8 -0.6**
BATP Bataraza 73.24 289 *e*P **P 22 05 14.2 -0.6**
JHJ Hachijo jima 2 73.26 323 P **P 22 05 13.7 -0.7**
comp=Z,562nm,0.6s,baz=192,slow=14,SNR=20
JHJ S **S 22 14 40.2 -0.8**
comp=Z,111nm,0.9s,baz=261,slow=19,SNR=2.2
JHJ LR LR 22 34 37.4
comp=Z,47µm,19.1s,baz=151,slow=34
TGY Tagaytay City 73.55 296 P **P 22 05 15.8 -0.8**
TGY Tagaytay City 73.55 296 P **P 22 05 15.8 -0.8**
comp=Z,624nm,0.7s,baz=175,slow=3.6,SNR=19
LUBP Lubang 73.90 295 *e*P **P 22 05 16.3 -2.3**
BALP Baler 73.97 298 *e*P **P 22 05 17.8 -1.2**
PCPH Palayan 74.25 297⇑*e*P **P 22 05 18.9 -1.7**
PMSA Palmer Station 74.36 156⇓*e*P **P 22 05 20.5 0.0**
PMSA *e*PP **PP 22 08 04.6 -1.7**
PMSA S **S 22 14 53.5 +0.8**
PMSA Palmer Station 74.36 156 P **P 22 05 20.0 -0.5**
comp=Z,125nm,1.0s,baz=245,slow=6.9,SNR=6.6
PMSA S **S 22 14 53.5 +0.8**
comp=Z,22nm,1.1s,baz=161,slow=17,SNR=1.9
PMSA LR LR 22 35 52.9
comp=Z,75µm,18.1s,baz=241,slow=34
BTM Bintulu 74.44 282 P **P 22 05 22.3 +0.5**
CAUP Cauayan 74.47 299 *e*P **P 22 05 21.9 +0.1**
XMI Christmas Isla 74.74 266 *e*P **P 22 05 23.2 -0.4**
comp=Z,11µm,1.1s
XMIS Christmas Isla 74.76 266 *e*P **P 22 05 22.6 -1.1**
comp=Z,6µm,0.9s
SBUM Sibu 74.82 281 P **P 22 05 24.1 +0.1**
SBUM Sibu 74.82 281 P **P 22 05 23.4 -0.7**
comp=Z,537nm,1.3s,comp=Z,25µmcomp=Z,209µm
CVP Callao Caves 74.91 299⇓*e*P **P 22 05 23.9 -0.4**
BOLP Bolinao 75.65 297 *e*P **P 22 05 26.5 -2.1**
MAW Mawson 75.66 200 *e*P **P 22 05 29.9 +2.0**
MAW S **S 22 15 08.4 +1.4**
MAW Mawson 75.66 200 *e*P **P 22 05 29.6 +1.7**
comp=Z,605nm,1.5s
MAW Mawson 75.66 200 P **P 22 05 29.7 +1.8**
comp=Z,168nm,0.7s,baz=120,slow=7.2,SNR=39
MAW S **S 22 15 08.4 +1.4**
comp=Z,22nm,1.1s,baz=107,slow=20,SNR=1.3
MAW LR LR 22 37 15.3
comp=Z,112µm,18.8s,baz=118,slow=34
JOW Kunigami 75.84 311 *e*P **P 22 05 29.8 +0.3**
comp=Z,587nm,0.9s
JOW S **S 22 15 08.2 -2.0**
JOW Kunigami 75.84 311 P **P 22 05 29.9 +0.3**
comp=Z,1µm,0.9s,baz=139,slow=6.0,SNR=183
JOW S **S 22 15 08.2 -2.0**
comp=Z,5.8nm,0.8s,baz=63,slow=28,SNR=5.9
JOW LR LR 22 35 12.8
comp=Z,100µm,20.4s,baz=132,slow=33
KSM Kuching 76.03 279 *e*P **P 22 05 30.4 -0.6**
comp=Z,786nm,0.9s
KSM LR LR
comp=Z,126µm,21.0s
KSM Kuching 76.03 279 P **P 22 05 30.8 -0.2**
KSM Kuching 76.03 279 P **P 22 05 30.1 -0.9**
comp=Z,2µm,1.0s,comp=Z,25µmcomp=Z,186µm
MJAR Matsushiro Arr 76.70 324 P **P 22 05 33.6 -0.6**
MJAR S **S 22 15 18.2 -1.1**

MJAR Matsushiro Arr 76.70 324 P **P** **22 05 33.6 -0.6**
comp=Z,299nm,0.7s,baz=168,slow=6.2,SNR=300
MJAR S **S** **22 15 18.2 -1.1**
comp=Z,0.7nm,0.4s,baz=0.4,slow=28,SNR=3.2
MJAR LR LR 22 33 55.9
comp=Z,113μm,21.7s,baz=130,slow=32
MAJO Matsushiro 76.70 324 *e*P **P** **22 05 33.9 -0.4**
MAJO pmax pmax
comp=Z,924nm,1.2s
MAJO MLR MLR
comp=Z,134μm,22.0s
MAJO Matsushiro 76.70 324 *e*P **P** **22 05 33.9 -0.4**
comp=Z,924nm,1.2s
MAJO LR LR
comp=Z,134μm,22.0s
MAT Matsushiro 76.70 324 P **P** **22 05 33.7 -0.6**
MAT S **S** **22 15 19.0 -0.3**
JNU Nakatsue 78.38 317 *e*P **P** **22 05 43.6 -0.2**
comp=Z,561nm,1.3s
JNU S **S** **22 15 41.2 +3.5**
JNU Nakatsue 78.38 317 P **P** **22 05 43.5 -0.3**
comp=Z,548nm,1.1s,baz=88,slow=3.5,SNR=76
JNU S **S** **22 15 41.2 +3.5**
comp=Z,16nm,1.1s,baz=61,slow=22,SNR=4.7
JNU LR LR 22 39 45.0
comp=Z,48μm,18.7s,baz=100,slow=35
TWG Pinlang 78.47 303 *e*P P 22 05 41.2 -3.2
comp=Z,584nm,0.8s
TWG *e*S **S** **22 15 38.1 -0.8**
ERM Erimo 78.59 330 *d i*P **P** **22 05 45.4 +0.8**
ERM pmax pmax
comp=Z,878nm,1.4s
ERM Erimo 78.59 330 *e*P **P** **22 05 46.4 +1.8**
comp=Z,7μm,2.6s
ERM *e*S **S** **22 15 38.8 -0.6**
ERM LR LR
comp=Z,178μm,20.0s
YULB Yu-li 78.64 304⇑ *e*P **P** **22 05 43.6 -1.7**
comp=Z,332nm,1.3s
YULB PP **PP** **22 08 45.0 +1.2**
YULB *e*S **S** **22 15 39.9 -0.9**
NACB Ninganchiao 78.89 305 *e*P **P** **22 05 46.1 -0.6**
comp=Z,1μm,1.3s
NACB *e*S **S** **22 15 42.3 -1.0**
TPUB Ta-pu 79.08 303 *e*P **P** **22 05 45.5 -2.3**
comp=Z,373nm,0.9s
TPUB *e*S **S** **22 15 44.8 -0.7**
YUK Yuzh-Kuril'sk 79.10 333 *c i*P **P** **22 05 48.3 +0.9**
YUK *i* S **S** **22 15 47.8 +3.0**
YUK *i* 22 16 11.0
YUK *i* SS **SS** **22 20 56.5 +4.6**
YUK pmax pmax
comp=Z,13μm,3.1s
YUK pmax pmax
comp=N,1μm,1.5s
YUK pmax pmax
comp=Z,2μm,1.5s
YUK pmax pmax
comp=E,467nm,0.8s
YUK MLR MLR
comp=E,4μm,21.0s
YUK MLR MLR
comp=Z,73μm,21.0s
SSLB Suanglung 79.13 304 *e*P **P** **22 05 46.3 -1.8**
comp=Z,369nm,0.9s
SSLB *e*PP **PP** **22 08 45.1 -2.8**
SSLB *e*S **S** **22 15 45.4 -0.6**
YHNB Yeheng 79.34 305⇑ *i*P **P** **22 05 48.7 -0.6**
comp=Z,1μm,1.4s
YHNB *e*S **S** **22 15 50.2 +1.8**
TATO Taipei 79.44 305 *e*P **P** **22 05 49.1 -0.6**
comp=Z,3μm,1.2s
TATO *e*S **S** **22 15 48.2 -1.0**
COYC Coyhaique 80.04 136⇓ *i*P **P** **22 05 53.4 +0.6**
SYO Syowa Base 80.38 192⇓ *i*P **P** **22 05 53.0 -1.1**
FX1 Attu Island--F 80.47 354 P **P** **22 05 54.2 -0.4**
FX1 S **S** **22 16 01.9 +3.1**
FX1 Attu Island--F 80.47 354 P **P** **22 05 54.2 -0.4**
comp=Z,89nm,0.8s,baz=204,slow=5.6,SNR=9.7
FX1 S **S** **22 16 01.9 +3.1**
comp=Z,45nm,0.9s,baz=312,slow=23,SNR=11
FX1 LR LR 22 35 13.8
comp=Z,39μm,19.8s,baz=191,slow=31
ASAJ Asahikawa 80.52 331 P **P** **22 05 56.5 +1.3**
comp=Z,44nm,1.0s
ASAJ S **S** **22 16 03.8 +3.9**
ASAJ Asahikawa 80.52 331 P **P** **22 05 56.5 +1.3**
comp=Z,219nm,0.8s,baz=228,slow=9.0,SNR=70
ASAJ S **S** **22 16 03.8 +3.9**
comp=Z,3.3nm,0.4s,baz=308,slow=33,SNR=15
SNAA Sanae 81.10 178 *e*P P 22 05 50.9 -7.2
comp=Z,174nm,0.9s
SNAA Sanae 81.10 178 LR LR 22 42 32.3
comp=Z,126nm,18.0s,slow=36
BSC Santa Cruz Isl 81.26 45⇓ P **P** **22 05 59.3 0.0**
baz=82,SNR=14
SCI San Clemente I 81.28 46⇓ P **P** **22 05 59.8 +0.3**
baz=82
ILCA Isla Las Cabra 81.45 133⇓ *i*P P 22 05 56.6 -3.8
SKR Severo-Kuril's 81.49 343 *e*P P 22 05 56.0 -4.1
SKR *e* 22 06 10.7
SKR *e* 22 09 14.0
SKR *e*PPP PPP 22 11 02.0
SKR *i* S **S** **22 16 08.0 -1.6**
SKR *e*PS **PnS** **22 16 54.0 -6.0**
SKR *e*SS **SS** **22 21 34.0 +6.7**
SKR pmax pmax
comp=N,130nm,0.9s
SKR pmax pmax
comp=Z,160nm,0.9s
SKR pmax pmax
comp=N,6μm,10.0s
SKR pmax pmax
comp=Z,19μm,10.0s
SKR pmax pmax
comp=E,8μm,6.0s
SKR smax smax
comp=N,23μm,4.0s
SKR smax smax
comp=E,16μm,4.0s
SKR smax smax
comp=N,43μm,8.0s
SKR smax smax
comp=E,53μm,12.0s
SKR MLR MLR
comp=N,38μm,18.0s
SKR MLR MLR
comp=Z,80μm,18.0s
SKR MLR MLR
comp=E,16μm,16.0s
SBC Santa Barbara 81.50 44⇑ P **P** **22 06 01.2 +0.7**
baz=82
QZH Quanzhou 81.55 304⇑ *i*P **P** **22 06 02.3 +1.3**
QZH S **S** **22 16 08.3 -3.0**
QZH pmax pmax
comp=Z,3μm,1.2s
QZH pmax pmax
comp=Z,46μm,4.8s
QZH LR LR
comp=N,97μm,18.8s
QZH LR LR
comp=E,78μm,18.3s
QZH LR LR
comp=Z,135μm,19.5s
CIS Catalina Islan 81.65 46⇑ P **P** **22 06 01.2 -0.2**
baz=82,SNR=11
AKUT Akutan 81.69 6 *e*P **P** **22 06 01.0 0.0**
comp=Z,2μm,1.8s
BLG Laguna Peak 81.69 45⇓ P **P** **22 06 01.8 +0.2**
baz=82
BLG ⇓SKSac **S** **22 16 15.8 +3.3**
baz=82
BLG ⇓SKSac **S** **22 16 15.8 +3.3**
baz=82
BLG ⇓SKSac **S** **22 16 15.8 +3.3**
baz=82
PKM Peak Mountain 81.74 44⇓ P **P** **22 06 02.6 +0.5**
baz=82,SNR=33
COCO West Island 81.80 261 *e*P **P** **22 06 05.0 +2.3**
COCO pmax pmax
comp=Z,879nm,1.1s
COCO MLR MLR
comp=Z,214μm,19.0s
COCO West Island 81.80 261 *e*P **P** **22 06 05.0 +2.3**
comp=Z,879nm,1.1s
COCO LR LR
comp=Z,214μm,19.0s
COCO West Island 81.80 261 P **P** **22 06 05.0 +2.3**
comp=Z,1μm,1.2s,comp=Z,33μmcomp=Z,106μm
MYKOM Kota Tinggi 81.87 276 P **P** **22 06 03.1 +0.1**
MYKOM Kota Tinggi 81.87 276 P **P** **22 06 02.6 -0.4**
comp=Z,2μm,1.1s,comp=Z,26μmcomp=Z,193μm
SMMC Simmler 81.90 43⇓ P **P** **22 06 03.9 +1.1**
baz=82,SNR=5.7
FMP Fort Macarthur 81.92 46⇓ P **P** **22 06 03.1 +0.4**
baz=82
MAIT Maitri 81.94 183 *e*P **P** **22 06 04.5 +2.0**
NVL N'lazarevskaya 81.95 183⇓ *i*P P 22 05 53.2 -9.2
NVL *e* 22 06 00.4
NVL *e**PP **PcP** **22 06 05.4 -2.6**
NVL pmax pmax
comp=Z,343nm,1.9s
SAC San Andreas 82.01 40 *e*P **P** **22 06 04.7 +1.6**
SAC San Andreas 82.01 40 *e*P **P** **22 06 04.7 +1.6**
SAO San Andreas Ge 82.01 41 *e*P **P** **22 06 04.2 +1.0**
SAO pmax pmax
comp=Z,6μm,3.0s
SAO San Andreas Ge 82.01 41 *e*P **P** **22 06 04.2 +1.0**
comp=Z,6μm,3.0s
109C Camp Elliot, M 82.15 47⇑ P **P** **22 06 04.2 +0.2**
baz=82
OSI Osito Adit 82.23 45 *e*P **P** **22 06 04.9 +0.3**
comp=Z,3μm,2.3s
OSI Osito Adit 82.23 45⇑ P **P** **22 06 04.8 +0.3**
baz=82,SNR=11
DECC Green Verdugo 82.24 45⇓ P **P** **22 06 04.7 +0.2**
baz=83
PASC Pasadena Art C 82.28 45 *e*P **P** **22 06 05.7 +1.0**
comp=Z,5μm,3.0s
BAR Barrett 82.30 47 *e*P **P** **22 06 05.5 +0.7**
comp=Z,2μm,2.5s
MWC Mount Wilson 82.40 45 *e*P **P** **22 06 05.4 -0.1**
MWC pmax pmax
comp=Z,5μm,2.8s
MWC Mount Wilson 82.40 45 *e*P **P** **22 06 05.4 -0.1**
comp=Z,5μm,2.8s
ARVC Arvin 82.50 44⇓ P **P** **22 06 06.2 +0.4**
baz=83
MURC Murrieta 82.55 46⇑ P **P** **22 06 06.3 +0.1**
baz=83,SNR=22
MONP Monument Peak 82.60 47⇓ P **P** **22 06 06.8 +0.1**
baz=83,SNR=40
HOPS Hopland 82.61 39 *e*P **P** **22 06 08.0 +1.7**
comp=Z,3μm,2.1s
BFSC Mount Baldy Ra 82.66 45⇑ P **P** **22 06 07.0 +0.1**
baz=83,SNR=43
DVTC Desert V Tower 82.66 48⇑ P **P** **22 06 07.2 +0.4**
baz=83,SNR=19
YSS Yuzh-Sakhalins 82.75 333α *i*P **P** **22 06 08.5 +1.7**
YSS *i* 22 06 22.0
YSS *e* 22 09 12.0
YSS *i* S **S** **22 16 27.0 +4.3**
YSS *e*SS **SS** **22 21 52.0 +5.8**
YSS pmax pmax
comp=N,390nm,1.4s
YSS pmax pmax
comp=E,720nm,1.4s
YSS pmax pmax
comp=Z,1μm,1.4s
YSS pmax pmax
comp=N,4μm,7.0s
YSS pmax pmax
comp=E,2μm,7.0s
YSS pmax pmax
comp=Z,19μm,7.0s
YSS pmax pmax
comp=Z,8μm,14.0s
YSS pmax pmax
comp=N,4μm,13.0s
YSS pmax pmax
comp=E,4μm,11.0s
YSS smax smax
comp=N,30μm,8.0s
YSS smax smax
comp=E,58μm,8.0s
YSS MLR MLR
comp=Z,46μm,19.0s
YSS MLR MLR
comp=N,15μm,20.0s
YSS MLR MLR
comp=E,20μm,18.0s
YSS Yuzh-Sakhalins 82.75 333 *e*P **P** **22 06 07.1 +0.4**
comp=E,434nm,0.8s
YSS LR LR
comp=Z,21μm,20.0s
KCPM Cahto Peak 82.81 38 *e*P **P** **22 06 09.3 +1.8**
comp=Z,2μm,2.4s
VES Vestal, Richgr 82.81 43⇓ P **P** **22 06 07.3 -0.1**
baz=83,SNR=8.3
EDW2 Edwards Air Fo 82.87 45⇑ P **P** **22 06 08.0 +0.2**
baz=83,SNR=85
KIPM Iron Peak 82.95 38 *e*P **P** **22 06 09.5 +1.2**
comp=Z,5μm,2.6s
PET Petropavlovsk 83.01 345 *c i*P **P** **22 06 07.4 -0.6**
PET *e* 22 09 27.0
PET *e*S **S** **22 16 24.9 -0.2**
PET *e*PS **PnS** **22 17 17.9 -0.9**
PET *e*PPS PPS 22 17 36.2
PET *e*SS **SS** **22 21 55.2 +5.3**
PET pmax pmax
comp=Z,243nm,1.8s
PET pmax pmax
comp=Z,16μm,13.4s
PET pmax pmax
comp=Z,20μm,8.7s
PET smax smax
comp=E,31μm,8.2s
PET smax smax
comp=E,52μm,17.1s
PET Petropavlovsk 83.01 345 *e*P **P** **22 06 07.9 -0.1**
comp=E,4μm,2.8s
PET LR LR
comp=Z,84μm,21.0s
RCTC Rector, Farmer 83.03 43⇓ P **P** **22 06 08.7 +0.2**
baz=83
PFO Pinyon Flat Ob 83.03 47 *e*P **P** **22 06 08.8 0.0**
comp=Z,5μm,2.8s
PFO LR LR
comp=Z,154μm,21.0s
PFO Pinyon Flat Ob 83.03 47⇓ P **P** **22 06 08.9 +0.1**
baz=83,SNR=31
SWSC Sam W. Stewart 83.04 47⇑ P **P** **22 06 08.7 0.0**
baz=83,SNR=32
ISA Isabella 83.07 44 *e*P **P** **22 06 09.0 +0.1**
ISA pmax pmax
comp=Z,4μm,2.3s
ISA Isabella 83.07 44 *e*P **P** **22 06 09.0 +0.1**
comp=Z,4μm,2.3s
ISA Isabella 83.07 44⇑ P **P** **22 06 09.1 +0.2**
baz=83,SNR=124
KSRS Korea Array 83.10 318 P **P** **22 06 09.6 +0.8**
comp=Z,100nm,0.8s,baz=139,slow=5.9,SNR=264
KSRS S **S** **22 16 26.8 +0.2**
comp=Z,0.7nm,0.5s,baz=144,slow=40,SNR=3.2
KSRS PKPPKP **P'P'df** **22 32 33.1 +0.8**
comp=Z,1.7nm,0.9s,baz=299,slow=4.3,SNR=5.0
KSRS LR LR 22 41 08.3
comp=Z,66μm,19.9s,baz=140,slow=34
KSAR Wonju Array Be 83.11 318 P **P** **22 06 09.6 +0.7**
KSAR S **S** **22 16 26.8 0.0**
KSAR P'P' 22 32 33.1
BBRC Big Bear Solar 83.15 46⇓ P **P** **22 06 09.7 +0.2**
baz=84
PEA0B Petropavlovsk- 83.31 345⇑ *e*P **P** **22 06 09.5 -0.1**
PEA0B *e*PP **PP** **22 09 22.0 0.0**
PETK Petropavlovsk- 83.31 345 P **P** **22 06 09.8 +0.2**
PETK S S 22 16 34.3 +6.1
PETK pmax pmax
comp=Z,83nm,0.7s
PETK smax smax
comp=N,11nm,1.2s
PETK MLR MLR
comp=Z,60μm,20.7s
PETK Petropavlovsk- 83.31 345 P **P** **22 06 09.8 +0.2**
PETK PKiKP **PKiKP** **22 11 25.9 -1.5**
PETK S S 22 16 34.3 +6.1
PETK Petropavlovsk- 83.31 345 P **P** **22 06 09.8 +0.2**
comp=Z,83nm,0.7s,baz=137,slow=7.4,SNR=81
PETK PKiKP **PKiKP** **22 11 25.9 -1.5**
comp=Z,8.3nm,0.9s,baz=153,slow=3.9,SNR=5.3
PETK S S 22 16 34.3 +6.1
comp=Z,11nm,1.2s,baz=248,slow=10,SNR=3.7
PETK LR LR 22 38 30.5
comp=Z,60μm,20.7s,baz=336,slow=32
SSE Sheshan 83.33 310 P **P** **22 06 10.0 -0.2**
SSE PP **PP** **22 09 18.6 -3.9**
SSE S **S** **22 16 25.4 -3.9**
SSE pmax pmax
comp=Z,440nm,1.0s
SSE pmax pmax
comp=Z,19μm,10.3s
SSE LR LR
comp=N,55μm,17.7s
SSE LR LR
comp=E,51μm,17.7s
SSE LR LR
comp=Z,81μm,19.3s
PLCA Paso Flores 83.41 133 *e*P **P** **22 06 11.0 +0.2**
comp=Z,618nm,1.3s
PLCA S **S** **22 16 31.1 +0.8**
PLCA PKKPbc **PKKPbc** **22 24 29.5 -0.1**
PLCA P'P' 22 32 36.8
PLCA Paso Flores 83.41 133 P **P** **22 06 11.0 +0.2**
comp=Z,311nm,1.1s,baz=242,slow=5.2,SNR=38
PLCA S **S** **22 16 31.1 +0.8**
comp=Z,2.1nm,1.0s,baz=270,slow=2.0,SNR=2.7
PLCA PKKPbc **PKKPbc** **22 24 29.5 -0.1**
comp=Z,7.1nm,1.0s,baz=217,slow=6.5,SNR=5.9
PLCA PKPPKP **P'P'df** **22 32 36.8 -2.6**
comp=Z,6.8nm,1.0s,baz=54,slow=2.4,SNR=4.4
PLCA LR LR 22 34 23.2
comp=Z,66μm,21.6s,baz=241,slow=29
HKC Hong Kong Obse 83.43 299⇑ *i*P **P** **22 06 10.0 -0.9**
HKC *i* S **S** **22 16 30.0 -0.6**
LRMC Laurel Mountai 83.44 44⇑ P **P** **22 06 11.0 +0.2**
baz=84,SNR=25
RRX Edison Barstow 83.49 45⇑ P **P** **22 06 11.1 +0.1**
baz=84
CMB Columbia Colle 83.49 41 *e*P **P** **22 06 08.2 -2.7**
CMB pmax pmax
comp=Z,3μm,2.5s
CMB Columbia Colle 83.49 41 *e*P **P** **22 06 08.2 -2.7**
comp=Z,3μm,2.5s
SDPT Sand Point 83.50 9 *e*P **P** **22 06 11.1 +0.6**
comp=Z,2μm,1.4s
KHMM Horse Mountain 83.56 37 *e*P **P** **22 06 12.6 +1.2**
comp=Z,877nm,1.5s
BELC Belle Mtn. Jos 83.57 47⇑ P **P** **22 06 12.1 +0.6**
baz=84,SNR=80
BC3 Big Chuckawall 83.71 47⇑ P **P** **22 06 12.8 +0.6**
baz=84,SNR=89
GLA Glamis 83.75 48 *e*P **P** **22 06 13.5 +1.1**
GLA pmax pmax
comp=Z,1μm,1.8s
GLA Glamis 83.75 48 *e*P **P** **22 06 13.5 +1.1**
comp=Z,1μm,1.8s
GLA Glamis 83.75 48⇓ P **P** **22 06 12.9 +0.5**
baz=84,SNR=31
CWC Cottonwood Cre 83.82 44⇑ P **P** **22 06 12.9 +0.1**
baz=84,SNR=6.6
GSC Goldstone 83.88 45 *e*P **P** **22 06 13.0 0.0**
GSC pmax pmax
comp=Z,5μm,2.6s
GSC Goldstone 83.88 45 *e*P **P** **22 06 13.0 0.0**
comp=Z,5μm,2.6s
GSC Goldstone 83.88 45⇓ P **P** **22 06 13.1 0.0**
baz=84,SNR=61
HEC Hector,Ludlow 83.88 46⇑ P **P** **22 06 13.3 +0.3**
baz=84,SNR=108
INCN Inchon 83.88 318 *e*P **P** **22 06 13.6 +0.7**
comp=Z,2μm,1.8s
INCN LR LR
comp=Z,85μm,20.0s
KRMB Red Mountain 83.93 37 *e*P **P** **22 06 14.4 +1.2**
comp=Z,4μm,2.9s
MPMC Manual Prospec 83.94 44⇓ P **P** **22 06 13.9 +0.4**
baz=84,SNR=149
WDC Whiskeytown Da 84.00 38 *e*P **P** **22 06 13.7 +0.3**
WDC pmax pmax
comp=Z,6μm,2.8s
WDC Whiskeytown Da 84.00 38 *e*P **P** **22 06 13.7 +0.3**
comp=Z,6μm,2.8s
DAC Darwin (Calif) 84.01 44 PFAKE 22 06 30.0 +16
DAC LR LR
comp=Z,175μm,22.0s
TIN Tinemaha 84.13 43⇑ P **P** **22 06 14.5 +0.2**
baz=84,SNR=15
MLAC Mammoth Lakes 84.14 42⇑ P **P** **22 06 15.0 +0.5**
baz=84,SNR=17
IRM Iron Mountain 84.22 47⇓ P **P** **22 06 15.3 +0.5**
baz=84,SNR=118
KBO Bosley Butte 84.25 36 *e*P **P** **22 06 15.3 +0.6**
comp=Z,2μm,2.0s
KBO *e*PP **PP** **22 09 29.6 -0.3**
113A Mohawk Valley, 84.28 49⇓ P **P** **22 06 15.2 +0.2**
baz=85,SNR=44
GMRC Granite Mounta 84.28 46⇑ P **P** **22 06 15.4 +0.2**
baz=85,SNR=65
Y12C Blythe 84.38 47⇑ P **P** **22 06 15.8 +0.3**
baz=85,SNR=27
214A Organ Pipe Nat 84.43 50⇓ P **P** **22 06 16.2 +0.3**
baz=85,SNR=56
EFI East Falkland 84.45 147⇑ *i*P **P** **22 06 16.4 +0.7**
EFI East Falkland 84.45 147 *e*P **P** **22 06 15.6 -0.1**
comp=Z,999nm,1.2s
EFI LR LR
comp=Z,157μm,22.0s
CCHI Chillan 84.45 128⇓ *i*P **P** **22 06 16.0 0.0**
GZH Guangzhou 84.49 299 P **P** **22 06 17.8 +1.5**
GZH S **S** **22 16 37.3 -4.0**
GZH LR LR
comp=N,18μm,23.5s
GZH LR LR
comp=E,60μm,23.1s
GZH LR LR
comp=Z,98μm,22.9s
FRIM Kepong 84.51 276 P **P** **22 06 17.1 +0.4**
TUQ Turquoise Moun 84.52 45⇑ P **P** **22 06 16.9 +0.6**
baz=85,SNR=47
SHOC Shoshone 84.59 45⇓ P **P** **22 06 17.3 +0.7**
baz=85,SNR=13
FURC Furnace Creek, 84.59 44⇓ P **P** **22 06 17.0 +0.6**
baz=85,SNR=8.4
GRAC Grapevine Rang 84.62 43⇓ P **P** **22 06 17.2 +0.5**
baz=85,SNR=32
KEBM Edson Butte 84.66 36 *e*P P 22 06 11.2 -5.6
comp=Z,1μm,1.5s
YBH Yreka Blue Hor 84.71 37 *e*P **P** **22 06 17.0 -0.2**
comp=Z,361nm,1.2s
YBH PP **PP** **22 09 34.8 +1.0**
LDFC Landfair 84.82 46 *e*P **P** **22 06 19.3 +1.4**
comp=Z,12μm,3.0s
NEE2 Needles Airpor 84.94 47⇑ P **P** **22 06 19.0 +0.7**
baz=85
PDMCI Parker Dam,Lak 84.96 47⇑ P **P** **22 06 19.0 +0.6**
baz=85,SNR=26
NVAR Mina Array Bea 84.98 42 P **P** **22 06 18.6 -0.1**
NVAR PKKPbc **PKKPbc** **22 24 28.7 +1.3**
NVAR P'P' 22 32 34.2
NVAR Mina Array Bea 84.98 42 P **P** **22 06 18.6 -0.1**
comp=Z,137nm,1.0s,baz=222,slow=7.9,SNR=222
NVAR PKKPbc **PKKPbc** **22 24 28.7 +1.3**
comp=Z,4.2nm,0.8s,baz=112,slow=1.8,SNR=8.1
NVAR PKPPKP **P'P'df** **22 32 34.2 +4.9**
comp=Z,4.3nm,0.9s,baz=84,slow=2.4,SNR=9.3
NVAR LR LR 22 35 37.4
comp=Z,181μm,21.7s,baz=138,slow=30
QIZ Qiongzhong 85.14 294 P **P** **22 06 20.4 +0.7**
QIZ PP **PP** **22 09 35.9 -1.6**
QIZ S **S** **22 16 42.3 -5.7**
QIZ pmax pmax
comp=Z,320nm,2.0s
QIZ pmax pmax
comp=Z,20μm,11.7s
QIZ LR LR
comp=N,17μm,18.7s
QIZ LR LR
comp=E,12μm,20.4s
QIZ LR LR
comp=Z,52μm,39.2s
QIZ Qiongzhong 85.14 294 *e*P **P** **22 06 20.3 +0.6**
comp=Z,3μm,2.5s
QIZ LR LR
comp=Z,41μm,21.0s
Z14A Wintersburg 85.18 49⇑ P **P** **22 06 20.2 +0.6**
baz=86,SNR=50
HUMO Hull Mountain 85.19 36 *e*P **P** **22 06 19.9 +0.4**
comp=Z,7μm,3.0s
TPH Tonopah 85.40 43 PFAKE 22 06 30.0 +9.2
TPH LR LR

comp=Z,111µm,22.0s
Y14A Wickenburg 85.49 48 ⇓P **P** **22 06 21.6 +0.4**
baz=86,SNR=45
NJ2 Nanjing 85.50 310 *e*P **P** **22 06 22.3 +1.1**
NJ2 pP **pP** **22 06 30.1 -0.1**
NJ2 sP **sP** **22 06 32.6 -0.9**
NJ2 S **SKSac** **22 16 46.5 +2.0**
NJ2 sS **sS** **22 17 06.0 +0.1**
NJ2 SS **SS** **22 22 30.5 +3.1**
NJ2 pmax pmax
comp=Z,1µm,1.3s
NJ2 pmax pmax
comp=Z,27µm,9.9s
NJ2 LR LR
comp=N,84µm,29.6s
NJ2 LR LR
comp=E,90µm,28.8s
NJ2 LR LR
comp=Z,156µm,26.8s
USRK Ussuriysk Arra 85.53 325 P **P** **22 06 21.6 +0.6**
comp=Z,273nm,1.1s,baz=128,slow=2.9,SNR=115
USRK S **S** **22 16 54.5 +3.8**
comp=Z,2.0nm,0.9s,baz=175,slow=29,SNR=3.2
USRK PKKPbc **PKKPbc** **22 24 25.6 -0.5**
comp=Z,3.2nm,0.9s,baz=307,slow=6.9,SNR=5.0
USRK LR LR 22 38 55.9
comp=Z,122µm,21.3s,baz=122,slow=32
IPM Ipoh 85.61 277 *e*P **P** **22 06 21.9 -0.3**
comp=Z,409nm,1.1s
IPM Ipoh 85.61 277 P **P** **22 06 22.1 -0.1**
IPM Ipoh 85.61 277 P **P** **22 06 21.5 -0.7**
comp=Z,426nm,2.3s,comp=Z,21µmcomp=Z,166µm
W13A Hualapai Mount 85.62 47 ⇓P **P** **22 06 22.6 +0.6**
baz=86,SNR=59
RNO Roman Nose 85.70 35 P **P** **22 06 23.7 +1.8**
TUC Tucson 86.02 51 *e*P **P** **22 06 24.6 +0.7**
TUC pmax pmax
comp=Z,2µm,1.8s
TUC MLR MLR
comp=Z,109µm,21.0s
TUC Tucson 86.02 51 *e*P **P** **22 06 24.6 +0.7**
comp=Z,2µm,1.8s
TUC LR LR
comp=Z,109µm,21.0s
PAYG Puerto Ayora 86.09 89 ⇓*i*P **P** **22 06 25.7 +1.1**
comp=Z,447nm,1.4s
PAYG *e*PP **PP** **22 09 44.6 -0.6**
MOD Modoc 86.14 38 *e*P **P** **22 06 24.2 -0.1**
comp=Z,1µm,2.0s
MPOR Mary's Peak 86.22 35 P **P** **22 06 25.4 +0.8**
KULM Kulim 86.32 278 *e*P **P** **22 06 25.5 -0.2**
comp=Z,1µm,1.8s
KULM LR LR
comp=Z,90µm,19.0s
KULM Kulim 86.32 278 P **P** **22 06 25.8 +0.1**
KULM Kulim 86.32 278 P **P** **22 06 25.5 -0.2**
comp=Z,377nm,2.8s,comp=Z,23µm
COR Corvallis 86.40 35 *e*P **P** **22 06 26.3 +1.0**
COR pmax pmax
comp=Z,5µm,2.9s
COR Corvallis 86.40 35 *e*P **P** **22 06 26.3 +1.0**
comp=Z,5µm,2.9s
319A Douglas 86.53 52 ⇓P **P** **22 06 27.1 +0.7**
baz=87,SNR=88
R11A Troy Canyon, C 86.57 43 ⇑P **P** **22 06 26.7 +0.1**
baz=87
PSI Prapat 86.69 275 P **P** **22 06 26.3 -1.4**
PSI PP **PP** **22 09 51.0 +0.8**
PSI S S 22 16 52.0 -12
PSI PKKPbc **PKKPbc** **22 24 22.8 +1.2**
PSI Prapat 86.69 275 P **P** **22 06 25.8 -1.9**
comp=Z,713nm,0.8s,comp=Z,23µmcomp=Z,99µm
PSI Prapat 86.69 275 P **P** **22 06 26.3 -1.4**
comp=Z,426nm,1.1s,baz=168,slow=4.2,SNR=85
PSI PP **PP** **22 09 51.0 +0.8**
comp=Z,92nm,0.9s,baz=163,slow=6.8,SNR=7.9
PSI S S 22 16 52.0 -12
comp=Z,1.9nm,0.4s,baz=342,slow=20,SNR=5.2
PSI PKKPbc **PKKPbc** **22 24 22.8 +1.2**
comp=Z,2.5nm,0.4s,baz=188,slow=12,SNR=3.6
X16A Lo Mia Camp, P 86.81 49 ⇓P **P** **22 06 28.6 +0.7**
baz=87
BMN Battle Mountai 86.92 41 *e*P **P** **22 06 28.1 -0.1**
BMN pmax pmax
comp=Z,3µm,2.6s
BMN MLR MLR
comp=Z,152µm,22.0s
BMN Battle Mountai 86.92 41 *e*P **P** **22 06 28.1 -0.1**
comp=Z,3µm,2.6s
BMN LR LR
comp=Z,152µm,22.0s
320A Kipp Ranch, An 87.03 52 ⇓P **P** **22 06 29.8 +0.9**
baz=87,SNR=108
MDJ Mudanjiang 87.06 325 P **P** **22 06 29.3 +0.8**
MDJ pP **pP** **22 06 35.8 -1.8**
MDJ sP **sP** **22 06 38.3 -2.6**
MDJ S **S** **22 17 08.3 +2.7**
MDJ sS **sS** **22 17 19.0 -1.6**
MDJ SS **SS** **22 22 52.0 +2.2**
MDJ pmax pmax
comp=Z,86nm,1.2s
MDJ pmax pmax
comp=Z,17µm,5.3s
MDJ LR LR
comp=N,78µm,21.7s
MDJ LR LR
comp=E,44µm,24.7s
MDJ LR LR
comp=Z,118µm,24.7s
MDJ Mudanjiang 87.06 325 *e*P **P** **22 06 28.8 +0.3**
comp=Z,6µm,2.7s
MDJ LR LR
comp=Z,109µm,22.0s
KDAK Kodiak Island 87.14 12 P **P** **22 06 29.8 +1.2**
comp=Z,130nm,1.9s
KDAK S S 22 16 56.0 -10
KDAK Kodiak Island 87.14 12 P **P** **22 06 29.8 +1.2**
comp=Z,150nm,1.3s,baz=179,slow=3.3,SNR=25
KDAK S S 22 16 56.0 -10
comp=Z,4.6nm,0.9s,baz=151,slow=19,SNR=2.0
KDAK LR LR 22 40 35.3
comp=Z,88µm,20.7s,baz=122,slow=32
LMEL Las Melosas 87.17 127 ⇓*i*P **P** **22 06 29.3 -0.5**
X17A Forest Lakes 87.19 49 ⇓P **P** **22 06 30.2 +0.4**
baz=88
HABR Khabarovsk 87.20 330*c i*P **P** **22 06 30.4 +1.3**
HABR *e**PP **pP** **22 06 38.1 -0.1**
HABR *e**SP **sP** **22 06 42.1 +0.6**
HABR *e* 22 09 50.5
HABR *e*PPP PPP 22 11 46.0
HABR *e**SS **S** **22 17 09.8 +3.1**
HABR *e*SS **SS** **22 22 50.1 -1.7**
HABR *e*SSS SSS 22 26 24.1
HABR pmax pmax
comp=Z,12µm,4.6s
HABR MLR MLR
comp=N,20µm,17.0s
HABR MLR MLR
comp=E,27µm,20.0s
HABR MLR MLR
comp=Z,32µm,19.0s
220A Playas Peak, P 87.35 52 ⇓P **P** **22 06 31.2 +0.7**
baz=88,SNR=155
FCH Farellones 87.38 126 ⇓*i*P **P** **22 06 31.5 +0.5**
WVOR Wild Horse Val 87.42 39 PFAKE 22 06 40.0 +9.5
WVOR LR LR
comp=Z,85µm,22.0s
CCUT Cedar City 87.45 45 *e*P **P** **22 06 31.5 +0.6**
comp=Z,3µm,2.7s
U15A North Rim 87.45 46 ⇓P **P** **22 06 31.8 +0.7**
baz=88
R13A O'Grain Ranch, 87.46 44 ⇓P **P** **22 06 31.5 +0.6**
baz=88
WUAZ Wupatki 87.51 48 *e*P **P** **22 06 31.6 +0.5**
comp=Z,5µm,2.7s
WUAZ LR LR
comp=Z,142µm,20.0s
WUAZ Wupatki 87.51 48 ⇓P **P** **22 06 31.8 +0.6**
baz=88
ARUT Antelope Range 87.55 45 *e*P **P** **22 06 31.4 +0.1**
ARUT *e* 22 09 58.9
ARUT pmax pmax
comp=Z,4µm,2.9s
ARUT Antelope Range 87.55 45 *e*P **P** **22 06 31.4 +0.1**
comp=Z,4µm,2.9s
ARUT *e*PP **PP** **22 09 58.9 +2.0**

120A U Bar Ranch, L 87.64 51 ⇑P **P** **22 06 32.7 +0.8**
baz=88,SNR=97
VIPM Ingram Point 87.73 36 P **P** **22 06 31.9 -0.1**
VIPM Ingram Point 87.73 36 P **P** **22 06 31.9 -0.1**
WHN Wuhan 87.81 306 ⇑P **P** **22 06 32.4 -0.1**
WHN pP **pP** **22 06 43.4 +1.8**
WHN LR LR
comp=N,167µm,23.9s
WHN LR LR
comp=E,208µm,21.3s
WHN LR LR
comp=Z,469µm,24.0s
DL2 Dalian 87.82 316 ⇑*i*P **P** **22 06 33.3 +1.0**
DL2 SKS **SKSac** **22 16 59.3 +0.8**
DL2 S **S** **22 17 16.3 +3.1**
DL2 pmax pmax
comp=Z,300nm,2.1s
DL2 pmax pmax
comp=Z,10µm,4.3s
DL2 LR LR
comp=E,26µm,20.4s
DL2 LR LR
comp=Z,38µm,24.5s
VLL Laurance Lake 87.84 35 P **P** **22 06 33.2 +0.8**
CROR Criterion Ridg 87.86 36 P **P** **22 06 32.5 0.0**
X18A Snowflake 87.88 49 ⇓P **P** **22 06 33.7 +0.7**
baz=88,SNR=30
LVP Lakeview Peak 87.89 34 P **P** **22 06 32.7 0.0**
221A Mesquite Ranch 87.94 52 ⇓P **P** **22 06 34.0 +0.7**
baz=88,SNR=19
Z20A Nine Sixteen R 87.99 51 ⇓P **P** **22 06 34.4 +0.8**
baz=88,SNR=88
Y19A Nutrioso 88.02 50 ⇑P **P** **22 06 34.8 +1.0**
baz=88,SNR=98
NLWA Neilton Lookou 88.10 33 *e*P **P** **22 06 34.1 +0.5**
comp=Z,2µm,2.1s
NLWA LR LR
comp=Z,72µm,19.0s
TDL Tradedollar La 88.18 34 P **P** **22 06 34.4 +0.3**
121A Cookes Peak, D 88.23 52 ⇓P **P** **22 06 35.2 +0.5**
baz=88,SNR=91
ELK Elko 88.28 42 *e*P **P** **22 06 34.3 -0.5**
W18A Petrified Fore 88.36 49 ⇓P **P** **22 06 35.6 +0.4**
baz=89,SNR=19
222A Williams Famil 88.47 52 ⇓P **P** **22 06 36.2 +0.4**
baz=89,SNR=75
SNY Shenyang 88.49 320 ⇑P **P** **22 06 35.6 +0.2**
SNY SKS **SKSac** **22 17 02.0 -0.4**
SNY S **S** **22 17 21.5 +2.1**
SNY pmax pmax
comp=Z,16µm,4.9s
SNY LR LR
comp=N,33µm,19.6s
SNY LR LR
comp=E,42µm,23.5s
SNY LR LR
comp=Z,68µm,24.1s
R15A Junction 88.53 45 ⇑P **P** **22 06 37.2 +1.2**
baz=89
Y20A Horse Springs, 88.59 50 ⇓P **P** **22 06 37.5 +1.0**
baz=89,SNR=129
TLL Tololo Astrono 88.63 123 ⇓*i*P **P** **22 06 35.9 -1.1**
LON Longmire 88.66 34 *e*P **P** **22 06 36.0 -0.2**
LON pmax pmax
comp=Z,2µm,2.3s
LON Longmire 88.66 34 *e*P **P** **22 06 36.0 -0.2**
comp=Z,2µm,2.3s
S16A Weppner Ranch, 88.67 46 ⇓P **P** **22 06 36.8 +0.1**
baz=89
CN2 Changchun 88.71 322 ⇑*i*P **P** **22 06 36.6 +0.2**
CN2 *e*PP **PP** **22 10 09.0 +3.1**
CN2 *e*SKS **SKSac** **22 17 01.8 -1.9**
CN2 *e*S **S** **22 17 21.4 0.0**
CN2 *e*SS **SS** **22 23 18.6 +4.6**
CN2 pmax pmax
comp=Z,18µm,5.0s
CN2 LR LR
comp=N,51µm,25.0s
CN2 LR LR
comp=E,30µm,25.0s
CN2 LR LR
comp=Z,74µm,26.0s
Z21A St. Cloud Mine 88.74 51 ⇑P **P** **22 06 38.0 +0.9**
baz=89,SNR=78
MVU Marysvale 88.75 45 *e*P **P** **22 06 39.0 +1.9**
comp=Z,3µm,2.9s
MVU LR LR
comp=Z,18µm,19.0s
T17A Navajo Res., N 88.75 47 ⇑P **P** **22 06 37.9 +0.8**
baz=89,SNR=63
MSU Marysvale 88.78 45 *e*P **P** **22 06 38.0 +0.8**
MSU Marysvale 88.78 45 *e*P **P** **22 06 38.0 +0.8**
X20A Quemado 88.87 50 ⇑P **P** **22 06 38.6 +0.9**
baz=89,SNR=93
122A Conniff Cattle 88.87 52 ⇑P **P** **22 06 38.5 +0.8**
baz=89,SNR=28
223A Chaparral, Ant 88.89 53 ⇓P **P** **22 06 38.3 +0.6**
baz=89
GSM Grass Mountain 88.98 34 P **P** **22 06 38.0 +0.2**
GSM Grass Mountain 88.98 34 P **P** **22 06 38.0 +0.2**
R16A Teasdale 89.08 45 ⇑P **P** **22 06 39.1 +0.5**
baz=89,SNR=14
TIA Tai'an 89.09 312 ⇑P **P** **22 06 39.3 +0.9**
TIA sP **sP** **22 06 52.8 +2.0**
TIA pmax pmax
comp=Z,720nm,1.1s
TIA pmax pmax
comp=Z,24µm,9.3s
TIA LR LR
comp=N,55µm,26.5s
TIA LR LR
comp=E,51µm,24.0s
TIA LR LR
comp=Z,17µm,23.5s
S17A Black Ridge (B 89.13 46 ⇓P **P** **22 06 38.3 -0.5**
baz=89,SNR=44
Y21A Point of Rocks 89.13 51 ⇑P **P** **22 06 39.8 +0.8**
baz=89,SNR=170
V19A Window Rock 89.17 49 ⇓P **P** **22 06 39.4 +0.3**
baz=90,SNR=19
PGC Sidney 89.19 32 *e*P **P** **22 06 38.9 +0.3**
comp=Z,287nm,2.6s
W20A Ramah 89.20 49 ⇑P **P** **22 06 40.2 +0.9**
baz=90,SNR=97
Z22A Elephant Butte 89.20 52 ⇓P **P** **22 06 40.1 +0.8**
baz=90,SNR=100
626A Big Bend Ranch 89.23 56 ⇓P **P** **22 06 39.5 +0.1**
baz=90,SNR=138
KLR Kul'dur 89.25 329 ⇓*i*P **P** **22 06 37.0 -1.8**
KLR pmax pmax
comp=E,350nm,1.8s
KLR pmax pmax
comp=Z,1µm,1.8s
KLR pmax pmax
comp=N,4µm,11.0s
KLR pmax pmax
comp=E,3µm,11.0s
KLR pmax pmax
comp=Z,27µm,11.0s
324A Moseley Ranch, 89.26 54 ⇓P **P** **22 06 39.0 -0.5**
baz=90,SNR=91
425A Indio Mountain 89.26 55 ⇓P **P** **22 06 39.4 -0.1**
baz=90,SNR=96
X21A Alamocita Cree 89.30 50 ⇓P **P** **22 06 40.0 +0.2**
baz=90,SNR=123
LCO Las Campanas 89.30 122 *e*P **P** **22 06 39.1 -1.1**
comp=Z,855nm,1.9s
LCO LR LR
comp=Z,115µm,22.0s
P15A Leamington 89.35 44 ⇑P **P** **22 06 39.7 -0.1**
baz=90,SNR=11
123A Bell Site, Whi 89.35 52 ⇑P **P** **22 06 40.1 +0.2**
baz=90
EBG Ellensburg 89.39 34 P **P** **22 06 39.8 +0.1**
U19A Dine' College, 89.39 48 ⇑P **P** **22 06 40.5 +0.3**
baz=90,SNR=76
DUG Dugway 89.40 43 *e*P **P** **22 06 41.0 +1.0**
DUG pmax pmax
comp=Z,996nm,2.6s
DUG MLR MLR
comp=Z,118µm,21.0s
DUG Dugway 89.40 43 *e*P **P** **22 06 41.0 +1.0**
comp=Z,996nm,2.6s
DUG LR LR
comp=Z,118µm,21.0s
DUG Dugway 89.40 43 ⇓P **P** **22 06 39.8 -0.2**
baz=90,SNR=6.1

T18A Mexican Hat 89.44 47 ⇓P **P** **22 06 40.7 +0.5**
baz=90,SNR=151
TXAR Lajitas Array 89.45 56 P **P** **22 06 40.3 -0.1**
TXAR PKKPbc **PKKPbc** **22 24 16.8 +0.9**
TXAR P'P' 22 32 19.5
TXAR Lajitas Array 89.45 56 P **P** **22 06 40.3 -0.1**
comp=Z,73nm,1.1s,baz=211,slow=5.6,SNR=161
TXAR PKKPbc **PKKPbc** **22 24 16.8 +0.9**
comp=Z,1.6nm,0.8s,baz=93,slow=2.0,SNR=4.7
TXAR PKPPKP **P'P'df** **22 32 19.5 -3.0**
comp=Z,0.3nm,0.6s,baz=5.7,slow=1.3,SNR=3.4
TXAR LR LR 22 37 54.6
comp=Z,99µm,21.7s,baz=295,slow=30
526A Mary Lane Ranc 89.53 56 ⇓P **P** **22 06 40.7 -0.2**
baz=90,SNR=96
TBM Table Mountain 89.55 34 P **P** **22 06 40.9 +0.4**
HAWA Hanford 89.57 35 *e*P **P** **22 06 40.6 +0.2**
comp=Z,866nm,1.5s
HAWA LR LR
comp=Z,52µm,22.0s
224A Cornudas Mount 89.57 53 ⇑P **P** **22 06 41.1 +0.1**
baz=90,SNR=63
Y22A Socorro 89.58 51 ⇑P **P** **22 06 41.3 +0.3**
baz=90,SNR=54
325A Bean Ranch, Si 89.59 54 ⇑P **P** **22 06 40.7 -0.4**
baz=90,SNR=102
V20A Brimhall 89.60 49 ⇑P **P** **22 06 41.1 0.0**
baz=90,SNR=38
RSO Redoubt South 89.62 11 *e*P **P** **22 06 40.9 +0.4**
MFID Camas Ranch 89.62 39 *e*P **P** **22 06 40.8 -0.2**
comp=Z,1µm,2.3s
MFID Camas Ranch 89.62 39 ⇓P **P** **22 06 40.7 -0.2**
baz=90,SNR=41
R17A Hanksville Air 89.65 46 ⇓P **P** **22 06 41.1 -0.1**
baz=90,SNR=21
Q16A Castle Valley 89.65 45 ⇑P **P** **22 06 41.3 +0.1**
baz=90,SNR=19
O15A The Old Anders 89.66 43 ⇑P **P** **22 06 41.6 +0.4**
baz=90
S18A Hurst Farm, Bl 89.68 47 ⇑P **P** **22 06 41.5 -0.1**
baz=90,SNR=31
Y22D IRIS PASSCAL I 89.69 51 ⇑P **P** **22 06 42.2 +0.7**
baz=90
LENM Lemitar 89.70 51 *e*P **P** **22 06 41.9 +0.3**
LAZ Ladron 89.72 51 *e*P **P** **22 06 41.9 +0.2**
comp=Z,812nm,2.1s
Z23A Rita Site, Whi 89.72 52 ⇓P **P** **22 06 42.0 +0.3**
baz=90,SNR=27
627A Terlingua Ranc 89.72 56 ⇓P **P** **22 06 41.8 +0.1**
baz=90,SNR=195
BBB Bella Bella 89.72 27 LR LR 22 38 26.8
comp=Z,69µm,21.9s,baz=226,slow=30
BMO Blue Mountains 89.73 38 *e*P **P** **22 06 40.7 -0.7**
BMO pmax pmax
comp=Z,2µm,2.5s
BMO MLR MLR
comp=Z,39µm,20.0s
BMO Blue Mountains 89.73 38 *e*P **P** **22 06 40.7 -0.7**
comp=Z,2µm,2.5s
BMO LR LR
comp=Z,39µm,20.0s
P16A Fountain Green 89.75 44 ⇑P **P** **22 06 42.3 +0.6**
baz=90,SNR=9.9
CFAA Coronel Fontan 89.76 126 PKKPbc PKKPbc 22 24 14.9 +0.7
CFAA P'P' 22 32 19.6
CFAA Coronel Fontan 89.76 126 PKKPbc PKKPbc 22 24 14.9 +0.7
comp=Z,0.3nm,0.5s,baz=204,slow=3.2,SNR=3.3
CFAA PKPPKP P'P'df 22 32 19.6 -7.7
comp=Z,0.2nm,0.5s,baz=201,slow=7.0,SNR=5.4
W21A San Fidel 89.77 50 ⇑P **P** **22 06 42.3 +0.4**
baz=90,SNR=23
T19A Beclabito 89.82 48 ⇓P **P** **22 06 42.3 +0.3**
baz=90,SNR=19
TMUT Trail Mountain 89.85 45 *e*P **P** **22 06 42.9 +0.6**
comp=Z,6µm,3.0s
TMUT *e*PKKPbc **PKKPbc** **22 24 17.1 +1.5**
X22A Bernardo 89.86 51 ⇓P **P** **22 06 43.0 +0.7**
baz=90,SNR=15
U20A Newcomb 89.89 48 ⇓P **P** **22 06 42.5 +0.1**
baz=90,SNR=119
426A McDonald Obser 89.89 55 ⇓P **P** **22 06 42.4 -0.3**
baz=90,SNR=45
527A Woodward Ranch 89.92 56 ⇓P **P** **22 06 42.2 -0.4**
baz=90,SNR=59
BNM Barren Site 89.93 51 *e*P **P** **22 06 42.9 +0.2**
comp=Z,2µm,2.3s
MID Middleton Isla 89.96 15 *e*P **P** **22 06 43.7 +1.8**
MID pmax pmax
comp=Z,1µm,1.3s
MID Middleton Isla 89.96 15 *e*P **P** **22 06 43.7 +1.8**
comp=Z,1µm,1.3s
N15A Stansbury Isla 90.00 43 ⇓P **P** **22 06 42.7 -0.1**
baz=90,SNR=6.8
MPU Maple Canyon 90.01 44 *e*P P 22 06 38.1 -4.9
comp=Z,2µm,2.4s
LPM Los Pinos Moun 90.02 51 *e*P **P** **22 06 43.2 +0.1**
225A Deer Hill, Car 90.09 54 ⇓P **P** **22 06 43.7 +0.2**
baz=90,SNR=33
628A Black Gap, Mar 90.11 57 ⇓P **P** **22 06 43.2 -0.2**
baz=90,SNR=128
SLKM Skilak Lake 90.13 13 *e*P **P** **22 06 43.0 +0.2**
SLKM Skilak Lake 90.13 13 *e*P **P** **22 06 43.0 +0.2**
R18A Canyonlands Na 90.15 46 ⇓P **P** **22 06 43.6 0.0**
baz=90,SNR=90
V21A Milan 90.16 49 ⇓P **P** **22 06 43.9 +0.2**
baz=90,SNR=30
SRU San Rafael 90.17 45 *e*P **P** **22 06 43.6 -0.1**
SRU pmax pmax
comp=Z,1µm,2.3s
SRU San Rafael 90.17 45 *e*P **P** **22 06 43.6 -0.1**
comp=Z,1µm,2.3s
SRU *e*PKKPbc **PKKPbc** **22 24 14.9 +0.3**
SRU San Rafael 90.17 45 ⇑P **P** **22 06 43.7 +0.1**
baz=90,SNR=50
Y23A Lovelace Mesa, 90.21 51 ⇓P **P** **22 06 43.9 -0.1**
baz=90,SNR=62
P17A Butcher Ranch, 90.25 45 ⇓P **P** **22 06 44.0 0.0**
baz=91,SNR=17
I12A Atlanta 90.26 39 ⇑P **P** **22 06 43.9 0.0**
baz=91,SNR=125
L14A Malta 90.26 42 ⇑P **P** **22 06 43.9 0.0**
baz=91,SNR=20
S19A Harvey Farm, M 90.27 47 ⇓P **P** **22 06 44.2 0.0**
baz=91,SNR=63
326A Caldwell Ranch 90.27 55 ⇑P **P** **22 06 44.1 -0.1**
baz=90,SNR=24
W22A Albuquerque 90.28 50 ⇓P **P** **22 06 44.9 +0.7**
baz=91,SNR=16
CMIG Matias Romero 90.33 71 LR LR 22 37 28.4
comp=Z,78µm,21.9s,baz=250,slow=29
CTU Camp Tracy 90.34 43 *e*P **P** **22 06 44.2 -0.2**
comp=Z,1µm,2.2s
CRAG Craig 90.38 23 *e*P **P** **22 06 44.6 +0.7**
comp=Z,511nm,1.4s
CRAG *e*PP **PP** **22 10 20.4 +1.5**
HVU Hansel Valley 90.38 42 *e*P **P** **22 06 44.4 -0.1**
HVU pmax pmax
comp=Z,2µm,2.1s
HVU Hansel Valley 90.38 42 *e*P **P** **22 06 44.4 -0.1**
comp=Z,2µm,2.1s
MVCO Mesa Verde 90.38 48 *e*P **P** **22 06 44.5 -0.3**
comp=Z,2µm,3.0s
MVCO LR LR
comp=Z,164µm,22.0s
MVCO Mesa Verde 90.38 48 ⇓P **P** **22 06 44.9 +0.2**
baz=91,SNR=35
M15A Larsen Ranch, 90.38 42 ⇑P **P** **22 06 44.2 -0.3**
baz=91,SNR=71
Q18A Rafter H Ranch 90.41 45 ⇑P **P** **22 06 44.5 -0.2**
baz=91,SNR=32
TRQA Tornquist 90.42 134 *e*P **P** **22 06 44.6 -0.3**
comp=Z,349nm,1.4s
TRQA *e*PKKPbc **PKKPbc** **22 24 13.4 +0.7**
TRQA LR LR
comp=Z,125µm,21.0s
427A Hayter Ranch, 90.45 55 ⇑P **P** **22 06 44.9 -0.1**
baz=91,SNR=83
GDL2 Guadalupe Moun 90.47 54 *e*P **P** **22 06 45.0 -0.1**
X23A Hourglass Bar 90.47 51 ⇑P **P** **22 06 45.3 +0.1**
baz=91,SNR=60
JLU Jordanelle 90.47 44 *e*P **P** **22 06 45.9 +0.8**
comp=Z,1µm,2.2s
DAU Daniels Canyon 90.48 44 *e*P **P** **22 06 45.3 0.0**
DAU Daniels Canyon 90.48 44 *e*P **P** **22 06 45.3 0.0**
ANMO Albuquerque 90.49 50 *e*P **P** **22 06 45.3 0.0**
comp=Z,397nm,1.4s
ANMO Albuquerque 90.49 50 LR LR 22 38 28.0

comp=Z,147µm,21.7s,baz=222,slow=30
U21A Nageezi 90.50 49 ⇓P P 22 06 45.5 +0.2
baz=91,SNR=136
R19A Curley Farm, L 90.50 46 ⇓P P 22 06 45.3 0.0
baz=91,SNR=38
125A Gardner Draw, 90.50 53 ⇑P P 22 06 45.2 -0.1
baz=91,SNR=41
HLID Hailey 90.52 40 eP P 22 06 45.1 -0.1
comp=Z,2µm,2.8s
HLID LR LR
comp=Z,69µm,22.0s
HLID Hailey 90.52 40 ⇑P P 22 06 45.4 +0.2
baz=91,SNR=110
528A Cox Ranch, San 90.54 56 ⇓P P 22 06 45.3 -0.2
baz=91,SNR=140
J13A Cove Ranch, Pi 90.55 40 ⇑P P 22 06 45.3 0.0
baz=91,SNR=160
226A Malaga, Loving 90.58 54 ⇑P P 22 06 45.4 -0.2
baz=91,SNR=28
K14A Jones Ranch, D 90.61 41 ⇑P P 22 06 45.7 +0.1
baz=91,SNR=28
Y24A Capitan 90.64 52 ⇓P P 22 06 45.8 -0.1
baz=91,SNR=63
P18A Preston Nutter 90.65 45 ⇑P P 22 06 45.7 -0.3
baz=91,SNR=27
N16A Rees Ranch, Co 90.65 43 ⇓P P 22 06 45.7 -0.2
baz=91,SNR=26
OD2 Odessa Site #2 90.65 35 P P 22 06 45.4 -0.1
327A Balmorhea Ranc 90.66 55 ⇑P P 22 06 46.0 +0.1
baz=91
O17A Robinson Place 90.67 44 ⇑P P 22 06 46.3 +0.3
baz=91,SNR=49
V22A San Miguel Ran 90.71 49 ⇓P P 22 06 46.3 0.0
baz=91,SNR=35
L15A Malad City 90.75 42 ⇓P P 22 06 46.0 -0.2
baz=91,SNR=70
PV04 Paradox Valley 90.79 46 eP P 22 06 46.9 +0.3
Z25A Roswell 90.79 53 ⇑P P 22 06 46.9 +0.3
baz=91,SNR=62
W23A Werner Place, 90.81 50 ⇓P P 22 06 46.8 0.0
baz=91,SNR=20
S20A Disappointment 90.82 47 ⇓P P 22 06 46.7 -0.1
baz=91,SNR=58
CLNB Carlsbad 90.85 54 eP P 22 06 46.6 -0.3
comp=Z,91nm,1.6s
PV01 Paradox Valley 90.86 47 eP P 22 06 46.8 -0.2
comp=Z,8µm,1.0s
Q19A Hogan Spring (90.88 46 ⇓P P 22 06 46.5 -0.4
baz=91,SNR=13
H12A Diamond D Ranc 90.88 39 ⇑P P 22 06 46.4 -0.4
baz=91,SNR=182
T21A Navajo Lake 90.89 48 ⇑P P 22 06 47.2 +0.1
baz=91,SNR=31
I13A Wildhorse Cree 90.91 40 ⇑P P 22 06 46.9 -0.1
baz=91,SNR=67
428A Kincaid Ranch, 90.91 56 ⇓P P 22 06 47.3 +0.1
baz=91,SNR=49
SIT Sitka 90.92 21 eP P 22 06 47.7 +1.3
SIT e 22 10 29.7
SIT pmax pmax
comp=Z,349nm,1.4s
SIT Sitka 90.92 21 eP P 22 06 47.7 +1.3
comp=Z,350nm,1.4s
SIT ePP PP 22 10 29.7 +6.6
529A Stev Forest Ra 90.94 56 ⇓P P 22 06 46.6 -0.7
baz=91,SNR=76
126A Clayton Basin, 90.95 53 ⇑P P 22 06 46.7 -0.7
baz=91,SNR=36
X24A Lazy VL Ranch, 90.98 51 ⇑P P 22 06 47.3 -0.3
baz=91,SNR=13
G12A Big Creek, Yel 90.99 38 ⇓P P 22 06 47.0 -0.3
baz=91,SNR=157
HWUT Hardware Ranch 91.00 43 eP P 22 06 46.5 -1.0
comp=Z,1µm,2.3s
HWUT ePKKPbc PKKPbc 22 24 12.3 -0.4
HWUT LR LR
comp=Z,150µm,22.0s
U22A Llaves 91.00 49 ⇓P P 22 06 47.9 +0.3
baz=91,SNR=12
R20A Redvale 91.01 47 ⇓P P 22 06 47.6 0.0
baz=91,SNR=19
N17A Moffit Pass 91.05 44 ⇓P P 22 06 47.8 0.0
baz=91,SNR=40
K15A Arbon 91.07 41 ⇓P P 22 06 47.6 -0.2
baz=91,SNR=48
S21A Coal Bank Pass 91.10 48 ⇓P P 22 06 48.1 0.0
baz=91,SNR=52
V23A Ortiz Mt. (NFS 91.11 50 ⇑P P 22 06 48.7 +0.5
baz=91,SNR=15
227A Bennet, Jal 91.14 54 ⇓P P 22 06 47.9 -0.3
baz=91
Y25A Mesa, Roswell 91.15 52 ⇓P P 22 06 48.0 -0.3
baz=91,SNR=82
328A Wristen Ranch, 91.16 55 ⇓P P 22 06 47.9 -0.4
baz=91,SNR=27
O18A Roosevelt 91.17 44 ⇓P P 22 06 48.4 +0.1
baz=92,SNR=8.2
ENH Enshi 91.21 304 eP P 22 06 49.4 +0.9
comp=Z,2µm,1.2s
ENH ePKKPbc PKKPbc 22 24 12.7 +1.4
ENH LR LR
comp=Z,34µm,22.0s
H13A Challis 91.23 39 ⇓P P 22 06 48.5 +0.1
baz=92,SNR=79
I14A Mackay 91.29 40 ⇓P P 22 06 49.1 +0.3
baz=92,SNR=83
Z26A Caprock 91.31 53 ⇓P P 22 06 48.6 -0.4
baz=92,SNR=30
L16A Fish Haven 91.32 42 ⇑P P 22 06 48.5 -0.5
baz=92,SNR=34
T22A Edith 91.33 49 ⇓P P 22 06 49.1 -0.1
baz=92,SNR=25
PMR Palmer 91.34 13 eP P 22 06 47.8 -0.5
PMR pmax pmax
comp=Z,1µm,1.7s
PMR Palmer 91.34 13 eP P 22 06 47.8 -0.5
comp=Z,1µm,1.7s
W24A Lazy 6 Ranch, 91.35 51 ⇑P P 22 06 48.9 -0.4
baz=92,SNR=63
WRAK Wrangell Islan 91.40 23 eP P 22 06 50.0 +1.3
comp=Z,2µm,2.1s
WRAK e 22 06 56.3
WRAK LR LR
comp=Z,41µm,20.0s
GYA Guiyang 91.42 299 ⇑iP P 22 06 50.0 +0.3
GYA pP pP 22 06 58.6 -0.2
GYA PP PP 22 10 31.4 +3.4
GYA SKS SKSac 22 17 19.0 -1.6
GYA S S 22 17 42.8 -4.8
GYA SS SS 22 23 56.4 +2.2
GYA pmax pmax
comp=Z,370nm,1.0s
GYA pmax pmax
comp=Z,12µm,9.6s
GYA LR LR
comp=N,30µm,22.7s
GYA LR LR
comp=E,40µm,24.2s
GYA LR LR
comp=Z,54µm,22.1s
U23A El Rito 91.42 49 ⇓P P 22 06 49.9 +0.2
baz=92
429A Davenport Ranc 91.44 56 ⇓P P 22 06 48.9 -0.7
baz=92,SNR=150
127A Arkansas Junct 91.44 54 ⇓P P 22 06 49.2 -0.5
baz=92,SNR=18
P19A Cripple Cowboy 91.45 45 ⇑P P 22 06 49.0 -0.6
baz=92,SNR=32
M17A Scullys Gap (B 91.47 43 ⇓P P 22 06 49.1 -0.6
baz=92,SNR=22
Q20A Ridgley Place, 91.50 46 ⇑P P 22 06 49.6 -0.2
baz=92,SNR=46
X25A Clemmons Ranch 91.50 52 ⇑P P 22 06 49.6 -0.3
baz=92,SNR=24
J15A Blackfoot 91.56 41 ⇓P P 22 06 50.3 +0.3
baz=92,SNR=140
G13A Cobalt 91.57 39 ⇓P P 22 06 49.9 -0.1
baz=92,SNR=114
R21A Cimarron 91.65 47 ⇓P P 22 06 50.7 0.0
baz=92,SNR=104
E12A Beaver Dam Sad 91.67 37 ⇑P P 22 06 49.9 -0.5
baz=92,SNR=52
SML Sawmill 91.69 13 eP P 22 06 50.7 +0.7
SML pmax pmax
comp=Z,326nm,2.1s
SML Sawmill 91.69 13 eP P 22 06 50.7 +0.7
comp=Z,326nm,2.1s
228A UT Block 9, Go 91.70 55 ⇑P P 22 06 50.2 -0.6
baz=92,SNR=33
L17A Cokeville 91.71 43 ⇓P P 22 06 50.2 -0.5
baz=92,SNR=13
K16A Soda Springs 91.72 42 ⇑P P 22 06 50.8 0.0
baz=92,SNR=38
V24A Rampart Ranch, 91.72 50 ⇑P P 22 06 51.1 +0.1
baz=92,SNR=11
O19A Miners Draw (B 91.74 45 ⇓P P 22 06 50.7 -0.2
baz=92,SNR=31
P20A De Beque 91.75 46 ⇓P P 22 06 50.6 -0.3
baz=92,SNR=40
H14A Leadore 91.76 39 ⇓P P 22 06 51.2 +0.3
baz=92,SNR=30
S22A 4UR Ranch, Cre 91.78 48 ⇑P P 22 06 51.3 -0.1
baz=92,SNR=71
N18A Larsen Ranch, 91.79 44 ⇓P P 22 06 50.8 -0.3
baz=92,SNR=17
M18A Lyman 91.81 43 ⇑P P 22 06 51.3 0.0
baz=92,SNR=21
329A Wagon Wheel Ra 91.82 55 ⇑P P 22 06 50.6 -0.7
baz=92,SNR=68
Z27A Tatum 91.88 53 ⇑P P 22 06 50.9 -0.7
baz=92,SNR=53
BJT Baijiatuau 91.88 315 eP P 22 06 51.7 +0.4
comp=Z,3µm,2.2s
BJT LR LR
comp=Z,65µm,21.0s
I15A Monteview 91.89 40 ⇑P P 22 06 52.0 +0.5
baz=92,SNR=33
BJI Beijing 91.89 315 P P 22 06 51.6 +0.2
BJI SKS SKSac 22 17 20.8 -1.4
BJI S S 22 17 54.8 +3.9
BJI pmax pmax
comp=Z,280nm,2.0s
BJI pmax pmax
comp=Z,15µm,5.2s
BJI LR LR
comp=N,35µm,21.3s
BJI LR LR
comp=E,47µm,21.3s
BJI LR LR
comp=Z,64µm,32.0s
Q21A Lamborn Mesa, 91.90 47 ⇑P P 22 06 52.1 +0.4
baz=92,SNR=20
T23A Casias Ranch, 91.92 49 ⇓P P 22 06 51.9 0.0
baz=92,SNR=6.4
F13A Darby 91.95 38 ⇑P P 22 06 51.0 -0.7
baz=92,SNR=152
J16A Bone 91.96 41 ⇑P P 22 06 52.0 +0.1
baz=92,SNR=107
430A Baggett Ranch, 92.01 56 ⇓P P 22 06 51.5 -0.7
baz=92,SNR=17
W25A X Bar L Ranch, 92.01 51 ⇑P P 22 06 51.6 -0.7
baz=92,SNR=81
NEW Newport 92.03 35 eP P 22 06 52.0 +0.1
comp=Z,1µm,2.5s
NEW LR LR
comp=Z,77µm,22.0s
NEW Newport 92.03 35 ⇑P P 22 06 51.0 -0.9
baz=92,SNR=23
128A Castleberry Fa 92.04 54 ⇑P P 22 06 51.9 -0.5
baz=92,SNR=42
N19A John Jarvie Ra 92.05 44 ⇓P P 22 06 51.2 -1.2
baz=92,SNR=17
K17A Gardner Place, 92.06 42 ⇓P P 22 06 52.4 0.0
baz=92,SNR=60
U24A Moreno Valley 92.09 50 ⇑P P 22 06 53.2 +0.4
baz=92
G14A Jackson 92.09 39 ⇑P P 22 06 52.4 -0.1
baz=92
R22A Saguache, Gunn 92.09 48 ⇑P P 22 06 52.7 -0.1
baz=92,SNR=23
X26A CR and CF Fran 92.11 52 ⇑P P 22 06 52.4 -0.3
baz=92,SNR=49
L18A Fontenelle, Gr 92.11 43 ⇓P P 22 06 52.3 -0.3
baz=92,SNR=10
H15A Lima 92.17 40 ⇑P P 22 06 53.1 +0.3
baz=92,SNR=46
RRI2 Red Ridge 92.18 41 eP P 22 06 52.8 -0.3
comp=Z,844nm,1.8s
229A Bryant Ranch, 92.19 55 ⇓P P 22 06 52.6 -0.5
baz=92,SNR=13
O20A White River Ci 92.20 45 ⇓P P 22 06 53.0 -0.1
baz=92,SNR=5.4
Y27A Causey 92.21 53 ⇑P P 22 06 52.5 -0.7
baz=92,SNR=37
V25A Rancho No Teng 92.23 51 ⇓P P 22 06 53.5 +0.1
baz=92,SNR=41
S23A Nye Farm, Mont 92.31 48 ⇓P P 22 06 54.1 +0.4
baz=93
Q22A Crested Butte, 92.34 47 ⇑P P 22 06 53.8 -0.2
baz=93,SNR=54
P21A Newcastle 92.36 46 ⇑P P 22 06 54.0 +0.1
baz=93
I16A Newdale 92.39 41 ⇓P P 22 06 54.1 +0.3
baz=93,SNR=68
DCID1 Drake Creek 92.41 41 eP P 22 06 55.2 +1.3
comp=Z,395nm,1.3s
M19A Rock Springs 92.41 44 ⇓P P 22 06 53.7 -0.4
baz=93
W26A Owens Ranch, T 92.42 52 ⇓P P 22 06 53.6 -0.6
baz=93,SNR=9.1
E13A Victor 92.43 38 ⇓P P 22 06 53.2 -0.7
baz=93,SNR=36
Z28A Tucker Farm, M 92.45 54 ⇓P P 22 06 53.6 -0.7
baz=93,SNR=31
REDW Red Top Meadow 92.46 42 eP P 22 06 54.0 -0.2
comp=Z,605nm,1.4s
SMCO Snowmass 92.48 47 eP P 22 06 54.4 -0.2
comp=Z,260nm,1.4s
SMCO ePKKPbc PKKPbc 22 24 09.8 +0.8
TPAW Teton Pass 92.48 41 eP P 22 06 55.4 +1.0
comp=Z,542nm,1.5s
129A Stewart Farms, 92.49 54 ⇓P P 22 06 54.1 -0.3
baz=93,SNR=14
F14A Wisdom 92.49 39 ⇑P P 22 06 54.0 -0.3
baz=93,SNR=37
K18A Toltan Ranch, 92.52 43 ⇑P P 22 06 54.2 -0.3
baz=93,SNR=67
C12B Nagell Ranch, 92.53 36 ⇓P P 22 06 54.2 -0.1
baz=93,SNR=40
MSTX Muleshoe 92.53 53 ⇑P P 22 06 54.2 -0.5
baz=93,SNR=39
J17A Brown Place, J 92.55 42 ⇓P P 22 06 54.8 +0.2
baz=93,SNR=58
SNOW Snow King Moun 92.58 42 eP P 22 06 54.9 +0.1
comp=Z,717nm,1.4s
N20A Spence Gulch, 92.58 45 ⇓P P 22 06 54.9 0.0
baz=93,SNR=44
G15A Dillon 92.59 39 ⇓P P 22 06 54.5 -0.2
baz=93,SNR=124
T24A Torres, Weston 92.60 49 ⇑P P 22 06 55.4 +0.3
baz=93,SNR=6.4
L19A Farson 92.63 43 ⇑P P 22 06 54.9 -0.1
baz=93,SNR=21
DLMT Dillon 92.65 39 eP P 22 06 55.0 0.0
X27A F and S Farms, 92.66 52 ⇓P P 22 06 55.0 -0.2
baz=93,SNR=7.7
SDCO Great Sand Dun 92.66 49 eP P 22 06 54.9 -0.5
comp=Z,776nm,2.3s
SDCO ePKKPbc PKKPbc 22 24 09.9 +1.6
SDCO LR LR
comp=Z,120µm,21.0s
SDCO Great Sand Dun 92.66 49 ⇑P P 22 06 55.1 -0.3
baz=93,SNR=54
U25A Circle Dot Ran 92.67 50 ⇑P P 22 06 55.0 -0.4
baz=93,SNR=61
R23A Moffat 92.69 48 ⇑P P 22 06 55.2 -0.3
baz=93,SNR=28
D13A Huson 92.69 37 ⇑P P 22 06 54.1 -0.9
baz=93,SNR=37
NNA Nana 92.73 105 eP P 22 06 56.8 +0.8
comp=Z,2µm,2.6s
NNA Nana 92.73 105 P P 22 06 56.9 +0.8
comp=Z,52nm,0.9s,baz=256,slow=8.4,SNR=15
NNA LR LR 22 38 27.2
comp=Z,81µm,21.6s,baz=246,slow=29
O21A Pagoda 92.73 46 ⇑P P 22 06 54.7 -0.9
baz=93,SNR=15
MOOW Moose Ponds 92.75 41 eP P 22 06 55.3 -0.3
comp=Z,2µm,2.7s
LOHW Long Hollow 92.76 41 eP P 22 06 55.3 -0.3
comp=Z,696nm,1.8s
V26A Tequesquite Ra 92.78 51 ⇓P P 22 06 55.1 -0.7
baz=93,SNR=16
E14A Clinton 92.79 38 ⇑P P 22 06 55.3 -0.3
baz=93,SNR=56
S24A Houchin Ranch, 92.80 49 ⇑P P 22 06 56.3 +0.3
baz=93,SNR=34
MSO Missoula 92.80 37 eP P 22 06 55.7 +0.2
comp=Z,131nm,1.3s
MSO LR LR
comp=Z,41µm,22.0s
MSO Missoula 92.80 37 ⇓P P 22 06 54.5 -1.1
baz=93,SNR=32
P22A Eagle 92.85 46 ⇓P P 22 06 56.2 0.0
baz=93,SNR=23
J18A Kendall Valley 92.87 42 ⇑P P 22 06 56.1 -0.1
baz=93,SNR=204
Y28A McKinney Farm, 92.87 53 ⇓P P 22 06 55.6 -0.6
baz=93,SNR=10.0
SKAG Skagway 92.88 20 eP P 22 06 57.0 +1.5
comp=Z,1µm,1.9s
BW06 Boulder Array 92.89 43 eP P 22 06 55.4 -0.9
comp=Z,2µm,2.9s
BW06 LR LR
comp=Z,156µm,22.0s
BW06 Boulder Array 92.89 43 ⇓P P 22 06 55.4 -0.9
baz=93,SNR=45
PDAR Pinedale Array 92.89 43 P P 22 06 55.0 -1.2
PDAR PKKPbc PKKPbc 22 24 08.2 +0.3
PDAR P'P' 22 32 15.1
PDAR Pinedale Array 92.89 43 P P 22 06 55.0 -1.2
comp=Z,30nm,0.9s,baz=197,slow=3.1,SNR=143
PDAR PKKPbc PKKPbc 22 24 08.2 +0.3
comp=Z,2.6nm,0.7s,baz=73,slow=5.1,SNR=5.8
PDAR PKPPKP P'P'df 22 32 15.1 +0.3
comp=Z,1.2nm,1.0s,baz=86,slow=1.9,SNR=3.6
PDAR LR LR 22 40 31.3
comp=Z,130µm,22.0s,baz=229,slow=30
W27A Bowe Ranch, En 92.90 52 ⇓P P 22 06 55.6 -0.7
baz=93,SNR=30
JCT Junction City 92.92 57 eP P 22 06 55.4 -1.0
JCT pmax pmax
comp=Z,461nm,1.5s
JCT MLR MLR
comp=Z,145µm,22.0s
JCT Junction City 92.92 57 eP P 22 06 55.4 -1.0
comp=Z,461nm,1.5s
JCT LR LR
comp=Z,145µm,22.0s
JCT Junction City 92.92 57 ⇑P P 22 06 55.4 -1.0
baz=93
KVTX Kingsville 92.92 61 PFAKE 22 07 10.0 +14
KVTX LR LR
comp=Z,47µm,19.0s
Z29A Hungry Hill Ra 92.93 54 ⇓P P 22 06 55.5 -1.0
baz=93,SNR=33
B12A Libby 92.95 36 ⇑P P 22 06 55.5 -0.7
baz=93,SNR=11
I17A Pilgrim Ck. 92.95 41 ⇑P P 22 06 57.1 +0.6
baz=93,SNR=70
FLWY Flagg Ranch 92.98 41 eP P 22 06 56.9 +0.3
comp=Z,2µm,2.1s
BSMT Bassoo Peak 92.98 36 eP P 22 06 55.3 -1.2
C13A Hot Springs 92.99 37 ⇑P P 22 06 55.3 -1.1
baz=93,SNR=13
QLMT Earthquake Lak 92.99 40 eP P 22 06 57.1 +0.5
F15A Butte 93.00 39 ⇑P P 22 06 56.2 -0.5
baz=93,SNR=42
M20A Sweetwater, Wa 93.00 44 ⇑P P 22 06 56.2 -0.6
baz=93,SNR=29
LRM Limekiln Ridge 93.01 39 eP P 22 06 56.3 -0.4
N21A Black Mountain 93.01 45 ⇓P P 22 06 56.7 -0.2
baz=93,SNR=43
G16A Moss Hill, Enn 93.02 40 ⇑P P 22 06 56.5 -0.2
baz=93,SNR=67
H16A Russell Place, 93.02 40 ⇓P P 22 06 57.4 +0.6
baz=93,SNR=102
TIY Taiyuan 93.04 311 eP P 22 06 57.6 +0.7
TIY S S 22 17 56.3 -5.2
TIY pmax pmax
comp=Z,9µm,5.5s
TIY LR LR
comp=N,34µm,19.2s
TIY LR LR
comp=E,27µm,19.8s
TIY LR LR
comp=Z,70µm,21.8s
T25A Trinidad 93.07 49 ⇓P P 22 06 56.8 -0.4
baz=93,SNR=20
Q23A Hartsel 93.07 47 ⇑P P 22 06 56.8 -0.5
baz=93
YFT Old Faithful 93.11 41 eP P 22 06 58.5 +1.3
comp=Z,221nm,1.3s
YFT e 22 07 05.5
YFT ePP PP 22 10 40.2 -0.8
U26A Atchley Ranch, 93.12 50 ⇓P P 22 06 57.2 -0.3
baz=93,SNR=36
YMR Madison River 93.17 40 eP P 22 06 58.2 +0.7
comp=Z,517nm,1.4s
YMR ePP PP 22 10 45.1 +3.6
R24A Sanders Place, 93.18 48 ⇓P P 22 06 57.7 0.0
baz=94,SNR=26
JTMT Jette 93.18 37 eP P 22 06 57.0 -0.4
SWMT Swartz Lake 93.19 37 eP P 22 06 56.9 -0.4
D14A Greenough 93.19 37 ⇓P P 22 06 56.8 -0.6
baz=94,SNR=58
L20A Wamsutter 93.20 44 ⇓P P 22 06 57.4 -0.2
baz=94,SNR=37
A12A Yaak River Ran 93.21 35 ⇑P P 22 06 57.1 -0.2
baz=94,SNR=8.5
X28A Dimmitt 93.22 53 ⇓P P 22 06 57.0 -0.8
baz=94
CHMT Chamberlain Mo 93.23 38 eP P 22 06 56.8 -0.9
H17A Grant Village 93.23 41 ⇓P P 22 06 58.6 +0.8
baz=94,SNR=52
Y29A Porterfield Fa 93.26 53 ⇓P P 22 06 57.3 -0.7
baz=94
E15A Deer Lodge 93.27 38 ⇓P P 22 06 57.5 -0.3
baz=94,SNR=24
I18A Diamond G Ranc 93.27 42 ⇓P P 22 06 57.5 -0.5
baz=94,SNR=38
O22A Kremmling 93.29 46 ⇑P P 22 06 57.9 -0.4
baz=94,SNR=62
SLMT Seeley Lake 93.30 37 eP P 22 06 56.7 -1.2
BLMT Blacktail Moun 93.31 36 eP P 22 06 57.8 -0.2
BLMT ePP PP 22 10 50.3 +7.8
P23A Jefferson 93.32 47 ⇓P P 22 06 58.7 +0.3
baz=94,SNR=13
S25A Robets Cordova 93.33 49 ⇓P P 22 06 58.1 -0.2
baz=94,SNR=29
K19A Absolon Red Bu 93.35 43 ⇑P P 22 06 57.3 -1.1
baz=94,SNR=17
YNR Norris Junctio 93.36 41 eP P 22 06 59.2 +0.8
comp=Z,188nm,1.2s
YNR ePP PP 22 10 42.5 -0.5
BOZ Bozeman (W) 93.36 39 eP P 22 06 58.0 -0.2
BOZ pmax pmax
comp=Z,340nm,1.4s
BOZ MLR MLR
comp=Z,64µm,22.0s
BOZ Bozeman (W) 93.36 39 eP P 22 06 58.0 -0.2
comp=Z,340nm,1.4s
BOZ LR LR
comp=Z,64µm,22.0s
BOZ Bozeman (W) 93.36 39 ⇓P P 22 06 58.1 -0.2
baz=94,SNR=122
YBMT Yellow Bay 93.40 37 eP P 22 06 57.9 -0.4
comp=Z,89nm,1.5s
YBMT e 22 07 07.2
YBMT ePP PP 22 10 46.0 +2.9
SEY Seymchan 93.42 346 ceP P 22 06 57.6 -0.3
LKWY Lake 93.43 41 ⇓eP P 22 07 00.1 +1.4
LKWY pmax pmax
comp=Z,145nm,1.1s
LKWY MLR MLR
comp=Z,129µm,21.0s
LKWY Lake 93.43 41 ⇓eP P 22 07 00.1 +1.4
comp=Z,145nm,1.1s
LKWY ePP PP 22 10 38.1 -5.5
LKWY LR LR
comp=Z,129µm,21.0s
F16A Kennard Place, 93.45 39 ⇑P P 22 06 58.7 +0.1
baz=94,SNR=36
B13A Whitefish 93.47 36 ⇓P P 22 06 57.9 -0.7
baz=94,SNR=11
J19A Crowheart 93.48 42 ⇑P P 22 06 58.1 -0.8
baz=94,SNR=25
X29A Tulia 93.54 53 ⇓P P 22 06 58.8 -0.5
baz=94,SNR=21
Q24A Divide 93.55 48 ⇑P P 22 06 59.1 -0.4
baz=94,SNR=10
XAN Xi'an 93.55 307 P P 22 06 59.8 +0.5
XAN pP pP 22 07 06.0 -2.4

XAN SKS **SKSac** 22 17 33.3 +1.4
XAN S **S** 22 18 09.9 +3.8
XAN pmax pmax
comp=Z,45nm,1.2s
XAN pmax pmax
comp=Z,4µm,9.9s
XAN LR LR
comp=N,54µm,24.8s
XAN LR LR
comp=E,35µm,24.8s
XAN LR LR
comp=Z,43µm,24.8s
K20A Yellowstone Ra 93.56 43 ⇑P **P** 22 06 58.4 -0.9
baz=94,SNR=29
M21A Separation Pea 93.58 44 ⇓P **P** 22 06 58.7 -0.8
baz=94,SNR=52
W28A Vega 93.60 52 ⇑P **P** 22 06 58.5 -1.1
baz=94,SNR=5.6
T26A Comanche Natio 93.64 50 ⇑P **P** 22 06 59.3 -0.5
baz=94,SNR=27
ATAH Atahualpa 93.66 100 P **P** 22 07 01.4 +0.6
ATAH Atahualpa 93.66 100 P **P** 22 07 01.4 +0.6
comp=Z,68nm,1.2s,baz=239,slow=2.7,SNR=30
MENT Mentasta 93.67 14 *e*P **P** 22 06 59.3 +0.2
G17A Pierce Place, 93.68 40 ⇑P **P** 22 06 59.6 -0.1
baz=94
R25A Fountain Ranch 93.69 49 ⇑P **P** 22 06 59.4 -0.5
baz=94,SNR=13
ISCO Idaho Springs 93.70 47 *e*P **P** 22 07 00.8 +0.6
ISCO pmax pmax
comp=Z,845nm,2.6s
ISCO MLR MLR
comp=Z,113µm,22.0s
ISCO Idaho Springs 93.70 47 *e*P **P** 22 07 00.8 +0.6
comp=Z,845nm,2.6s
ISCO LR LR
comp=Z,113µm,22.0s
ISCO Idaho Springs 93.70 47 ⇓P **P** 22 06 60.0 -0.2
baz=94,SNR=12
D15A Lincoln 93.70 38 ⇑P **P** 22 06 59.5 -0.3
baz=94,SNR=30
N22A Wattenberg Ran 93.70 46 ⇓P **P** 22 06 59.7 -0.4
baz=94,SNR=41
RWWY Rawlins 93.72 44 *e*P **P** 22 06 59.5 -0.6
comp=Z,812nm,2.0s
O23A Lake Granby, G 93.72 46 ⇑P **P** 22 07 00.1 -0.2
baz=94,SNR=23
DLBC Dease Lake 93.76 22 *e*P **P** 22 07 00.8 +1.1
DLBC Dease Lake 93.76 22 P **P** 22 06 59.8 +0.1
comp=Z,27nm,1.1s,baz=208,slow=6.0,SNR=17
DLBC LR LR 22 43 54.6
comp=Z,48µm,19.4s,baz=250,slow=32
L21A Rawlins 93.77 44 ⇓P **P** 22 06 59.4 -0.9
baz=94,SNR=18
AMTX Amarillo 93.78 53 *e*P **P** 22 06 59.5 -0.8
comp=Z,455nm,1.7s
AMTX LR LR
comp=Z,140µm,21.0s
AMTX Amarillo 93.78 53 ⇓P **P** 22 06 59.8 -0.6
baz=94,SNR=19
V28A Channing 93.84 52 ⇑P **P** 22 07 00.3 -0.3
baz=94,SNR=11
E16A East Helena 93.86 39 ⇓P **P** 22 07 00.2 -0.3
baz=94,SNR=36
KMI Kunming 93.87 296 P **P** 22 07 02.6 +1.4
KMI pP **pP** 22 07 13.8 +3.5
KMI sP **sP** 22 07 18.1 +4.5
KMI PP **PP** 22 10 51.8 +4.5
KMI SKS **SKSac** 22 17 31.1 -3.3
KMI S **S** 22 18 08.0 -1.6
KMI SS **SS** 22 24 31.8 +2.2
KMI pmax pmax
comp=Z,400nm,1.9s
KMI pmax pmax
comp=Z,11µm,9.4s
KMI LR LR
comp=N,11µm,17.5s
KMI LR LR
comp=E,45µm,20.2s
KMI LR LR
comp=Z,66µm,18.8s
HRY Holter Researc 93.88 38 *e*P **P** 22 07 01.3 +0.7
CM31 Chiang Mai Arr 93.89 289 *e*P **P** 22 07 02.7 +1.6
comp=Z,381nm,1.0s
CM31 *e*PP **PP** 22 10 47.0 -0.3
CM31 LR LR
comp=Z,45µm,22.0s
CMAR Chiang Mai Arr 93.89 289 P **P** 22 07 01.9 +0.8
CMAR PP **PP** 22 10 47.8 +0.4
CMAR PKKPbc **PKKPbc** 22 24 05.2 +1.3
CMAR P'P' 22 32 14.3
CMAR Chiang Mai Arr 93.89 289 P **P** 22 07 01.9 +0.8
comp=Z,39nm,0.9s,baz=249,slow=32,SNR=5.0
CMAR PP **PP** 22 10 47.8 +0.4
comp=Z,27nm,0.9s,baz=127,slow=5.8,SNR=6.6
CMAR PKKPbc **PKKPbc** 22 24 05.2 +1.3
comp=Z,5.4nm,1.0s,baz=290,slow=4.8,SNR=9.5
CMAR PKPPKP **P'P'df** 22 32 14.3 -1.5
comp=Z,0.8nm,0.3s,baz=280,slow=3.0,SNR=8.5
W29A Amraillo 93.92 52 ⇑P **P** 22 07 00.6 -0.5
baz=94,SNR=14
H18A Shoshone NF, C 93.92 41 ⇓P **P** 22 07 00.8 -0.2
baz=94,SNR=14
M22A Cedar Creek Ra 93.94 45 ⇓P **P** 22 07 00.5 -0.7
baz=94,SNR=34
I19A Meeteetse 93.95 42 ⇓P **P** 22 07 00.9 -0.2
baz=94,SNR=76
S26A Kim 93.96 49 ⇓P **P** 22 07 00.1 -1.1
baz=94,SNR=34
LVC Limon Verde 94.00 118 *e*P **P** 22 07 02.7 +0.7
comp=Z,20nm,1.5s
LVC LR LR
comp=Z,5µm,21.0s
P24A Kohler Place, 94.00 47 ⇓P **P** 22 07 01.1 -0.3
baz=94
CHTO Chiang Mai 94.05 289 *e*P **P** 22 07 03.2 +1.3
CHTO pmax pmax
comp=Z,520nm,1.0s
CHTO MLR MLR
comp=Z,49µm,20.0s
CHTO Chiang Mai 94.05 289 *e*P **P** 22 07 03.2 +1.3
comp=Z,520nm,1.0s
CHTO LR LR
comp=Z,49µm,20.0s
CHTO Chiang Mai 94.05 289 P **P** 22 07 02.7 +0.8
comp=Z,675nm,1.0s,comp=Z,17µmcomp=Z,77µm
F17A Fitzpatrick Pl 94.06 40 ⇑P **P** 22 07 01.4 -0.1
baz=94,SNR=37
N23A Red Feather La 94.08 46 ⇓P **P** 22 07 01.6 -0.3
baz=94,SNR=23
B14A Marquette Ranc 94.10 37 ⇑P **P** 22 07 00.6 -1.0
baz=94,SNR=53
C15A Salmond Ranch, 94.10 37 ⇓P **P** 22 07 00.8 -0.8
baz=94,SNR=28
J20A Shoshoni 94.11 43 ⇑P **P** 22 07 01.2 -0.5
baz=94,SNR=52
Q25A Bedland, Calha 94.12 48 ⇓P **P** 22 07 01.1 -0.9
baz=94,SNR=18
T27A Campo 94.17 50 ⇓P **P** 22 07 01.6 -0.6
baz=94
WALA Waterton Lakes 94.19 36 *e*P **P** 22 07 01.1 -0.9
comp=Z,32nm,2.2s
K21A Alcova 94.22 44 ⇓P **P** 22 07 01.8 -0.5
baz=94,SNR=52
O24A Longmont 94.22 47 ⇑P **P** 22 07 02.6 +0.2
baz=94
D16A Dana Ranch, Ca 94.23 38 ⇑P **P** 22 07 02.2 0.0
baz=94,SNR=32
H19A Powell 94.32 41 ⇑P **P** 22 07 02.9 +0.3
baz=95,SNR=26
R26A Arlington 94.33 49 ⇑P **P** 22 07 02.3 -0.5
baz=95,SNR=20
G18A Lazy EL Ranch, 94.35 41 ⇑P **P** 22 07 02.8 0.0
baz=95,SNR=46
S27A Las Animas 94.38 50 ⇓P **P** 22 07 01.9 -1.2
baz=95,SNR=10
A14A Double T Ranch 94.39 36 ⇑P **P** 22 07 02.0 -0.9
baz=95,SNR=30
L22A Ellis Ranch, M 94.39 45 ⇓P **P** 22 07 03.2 +0.1
baz=95,SNR=24
V29A Stinnett 94.39 52 ⇓P **P** 22 07 02.5 -0.7
baz=95
RLMT Red Lodge 94.41 41 *e*P **P** 22 07 03.0 -0.2
comp=Z,2µm,2.9s
RLMT LR LR
comp=Z,96µm,22.0s
RLMT Red Lodge 94.41 41 ⇑P **P** 22 07 03.5 +0.3
baz=95,SNR=42
I20A Worland 94.42 42 ⇓P **P** 22 07 02.5 -0.6
baz=95,SNR=41
B15A Bradely Ranch, 94.44 37 ⇓P **P** 22 07 01.6 -1.5
baz=95,SNR=15
P25A Willow Gulch B 94.49 48 ⇓P **P** 22 07 03.4 -0.2
baz=95,SNR=16
J21A Lysite 94.49 43 ⇓P **P** 22 07 03.0 -0.6
baz=95,SNR=7.1
M23A Laramie 94.53 45 ⇑P **P** 22 07 03.4 -0.5
baz=95,SNR=18
GCMT Greycliff 94.56 40 *e*P **P** 22 07 04.6 +0.8
comp=Z,574nm,2.1s
C16A Fuhringer Ranc 94.58 38 ⇑P **P** 22 07 03.1 -0.6
baz=95,SNR=6.4
COLA College 94.58 12 *e*P **P** 22 07 02.9 -0.2
COLA *e* 22 10 50.0
COLA pmax pmax
comp=Z,105nm,0.9s
COLA MLR MLR
comp=Z,91µm,20.0s
COLA College 94.58 12 *e*P **P** 22 07 02.9 -0.2
comp=Z,105nm,0.9s
COLA *e*PP **PP** 22 10 50.0 -1.7
COLA LR LR
comp=Z,91µm,20.0s
F18A Big Timber 94.60 40 ⇑P **P** 22 07 04.2 +0.3
baz=95,SNR=40
Q26A Hugo 94.61 48 ⇑P **P** 22 07 03.5 -0.7
baz=95,SNR=9.6
PHWY Pilot Hill 94.61 46 *e*P **P** 22 07 05.1 +0.9
comp=Z,523nm,2.1s
ILAR Eielson Array 94.66 12 P **P** 22 07 02.9 -0.7
ILAR PP PP 22 11 02.7 +10
ILAR P'P' 22 32 11.8
ILAR Eielson Array 94.66 12 P **P** 22 07 02.9 -0.7
comp=Z,20nm,0.8s,baz=220,slow=4.5,SNR=92
ILAR PP PP 22 11 02.7 +10
comp=Z,18nm,1.1s,baz=227,slow=6.1,SNR=4.1
ILAR PKPPKP **P'P'df** 22 32 11.8 +2.9
comp=Z,0.9nm,1.1s,baz=342,slow=4.7,SNR=4.4
ILAR LR LR 22 50 25.8
comp=Z,34µm,18.1s,baz=215,slow=36
K22A Casper 94.67 44 ⇑P **P** 22 07 03.9 -0.5
baz=95,SNR=27
N24A Carr 94.72 46 ⇓P **P** 22 07 04.2 -0.4
baz=95,SNR=11
A15A Johnson Ranch, 94.75 36 ⇓P **P** 22 07 03.9 -0.6
baz=95,SNR=22
R27A Eads 94.76 49 ⇑P **P** 22 07 04.0 -0.8
baz=95,SNR=18
D17A Six Diamond Ra 94.78 39 ⇓P **P** 22 07 04.8 +0.1
baz=95,SNR=64
H20A Greybull 94.80 42 ⇑P **P** 22 07 04.1 -0.7
baz=95,SNR=24
O25A Wiggins 94.83 47 ⇓P **P** 22 07 04.8 -0.4
baz=95
I21A Big Trails, Te 94.84 43 ⇑P **P** 22 07 04.7 -0.4
baz=95,SNR=68
E18A Harlowton 94.87 39 ⇑P **P** 22 07 05.6 +0.4
baz=95,SNR=25
L23A Garrett 94.89 45 ⇓P **P** 22 07 04.7 -0.8
baz=95,SNR=81
LPA La Plata 94.92 133 *de*P P 22 07 09.0 +3.3
LPA PKIKP **PKiKP** 22 11 47.0 -0.5
LPA SKS **SKSac** 22 17 44.0 +4.4
LPA SS ScS 22 18 28.0 +8.8
LPA PS **PS** 22 19 39.0 +1.5
LPA SS **SS** 22 24 45.0 +2.8
LPA SSS SSS 22 28 30.0
LPA
comp=Z,68µm,19.0s
B16A M & M Farms, S 94.96 37 ⇑P **P** 22 07 04.5 -1.0
baz=95,SNR=24
F19A Roth Farm, Mol 95.02 40 ⇓P **P** 22 07 05.6 -0.2
baz=95,SNR=29
C17A Wharram Farm, 95.02 38 ⇑P **P** 22 07 05.1 -0.6
baz=95,SNR=32
P26A Davis Ranch, A 95.05 48 ⇑P **P** 22 07 05.7 -0.5
baz=95,SNR=6.3
G20A Bridger 95.08 41 ⇑P **P** 22 07 05.6 -0.5
baz=95,SNR=26
M24A Cheyenne 95.10 46 ⇑P **P** 22 07 06.2 -0.2
baz=95,SNR=17
J22A Midwest 95.12 43 ⇑P **P** 22 07 05.6 -0.8
baz=95,SNR=72
HIA Hailar 95.20 324 *e*P **P** 22 07 06.4 -0.1
comp=Z,252nm,1.9s
HIA LR LR
comp=Z,146µm,21.0s
N25A Grover 95.22 47 ⇑P **P** 22 07 06.5 -0.4
baz=96
KSCO Kaye Shedlock' 95.25 49 ⇓P **P** 22 07 06.7 -0.3
baz=96,SNR=5.1
HHC Hu-ho-hao-te 95.28 314 *e*P P 22 07 00.6 -6.5
HHC pP **PcP** 22 07 08.6 +1.2
HHC sP **sP** 22 07 11.8 -7.7
HHC PP **PP** 22 10 53.3 -4.6
HHC S SKKSac 22 18 12.3 +8.1
HHC sS **ScS** 22 18 25.1 +3.3
HHC SS **SS** 22 24 44.4 -4.5
HHC pmax pmax
comp=Z,370nm,1.0s
HHC pmax pmax
comp=Z,1µm,5.8s
HHC LR LR
comp=N,74µm,15.8s
HHC LR LR
comp=E,19µm,16.4s
HHC LR LR
comp=Z,33µm,18.6s
K23A Bowen Ranch, D 95.29 44 ⇓P **P** 22 07 06.8 -0.4
baz=96,SNR=47
D18A Linhart Farms, 95.30 39 ⇑P **P** 22 07 07.1 +0.1
baz=96,SNR=8.3
L24A Wheatland 95.34 45 ⇑P **P** 22 07 06.8 -0.6
baz=96,SNR=9.7
I22A 9 Mile Ranch, 95.38 43 ⇓P **P** 22 07 07.6 +0.1
baz=96,SNR=49
B17A L&G Farms, Che 95.38 38 ⇑P **P** 22 07 06.9 -0.5
baz=96,SNR=18
O26A Horse Wrangler 95.43 47 ⇑P **P** 22 07 07.1 -0.8
baz=96
F20A Billings 95.44 41 ⇓P **P** 22 07 07.4 -0.3
baz=96,SNR=17
H21A Big Horn, Sher 95.44 42 ⇑P **P** 22 07 07.3 -0.5
baz=96,SNR=15
E19A Rath Farm, Rou 95.45 40 ⇓P **P** 22 07 07.4 -0.3
baz=96,SNR=18
P27A Ficken Ranch, 95.56 48 ⇑P **P** 22 07 07.9 -0.6
baz=96
M25A Palm-Egli Farm 95.57 46 ⇑P **P** 22 07 08.2 -0.3
baz=96,SNR=9.0
HKT Hockley 95.66 59 *e*P **P** 22 07 08.8 -0.1
HKT pmax pmax
comp=Z,529nm,2.1s
HKT Hockley 95.66 59 *e*P **P** 22 07 08.8 -0.1
comp=Z,529nm,2.1s
G21A Lodge Grass 95.67 42 ⇑P **P** 22 07 08.4 -0.4
baz=96,SNR=15
J23A Dilts Ranch, B 95.68 44 ⇑P **P** 22 07 08.8 -0.1
baz=96,SNR=5.4
WMOK Wichita Mounta 95.77 54 *e*P **P** 22 07 09.0 -0.4
WMOK pmax pmax
comp=Z,305nm,2.1s
WMOK MLR MLR
comp=Z,42µm,20.0s
WMOK Wichita Mounta 95.77 54 *e*P **P** 22 07 09.0 -0.4
comp=Z,305nm,2.1s
WMOK *e*PKKPbc **PKKPdf** 22 24 01.5 +0.8
WMOK LR LR
comp=Z,42µm,20.0s
K24A Anderson Ranch 95.77 45 ⇑P **P** 22 07 09.4 0.0
baz=96
JTS JuntasAbangare 95.79 81 *e*P **P** 22 07 11.5 +1.6
JTS *e*PP **PP** 22 11 04.7 +2.6
JTS LR LR
comp=Z,134µm,22.0s
JTS JuntasAbangare 95.79 81 P **P** 22 07 10.4 +0.4
comp=Z,78nm,1.1s,baz=261,slow=2.8,SNR=13
JTS PP **PP** 22 11 04.3 +2.1
comp=Z,11nm,1.1s,baz=308,slow=2.1,SNR=4.4
N26A Koester Ranch, 95.79 47 ⇓P **P** 22 07 09.0 -0.5
baz=96
D19A Cripps Ranch, 95.79 39 ⇓P **P** 22 07 09.5 +0.2
baz=96,SNR=16
EGMT Eagleton 95.80 38 *e*P **P** 22 07 09.8 +0.5
comp=Z,1µm,2.5s
EGMT LR LR
comp=Z,73µm,21.0s
EGMT Eagleton 95.80 38 ⇑P **P** 22 07 08.9 -0.4
baz=96,SNR=9.6
CD2 Chengdu 95.81 302 ⇑*i*P **P** 22 07 10.8 +1.1
CD2 pP **pP** 22 07 21.4 +2.5
CD2 sP **sP** 22 07 25.3 +3.2
CD2 PP **PP** 22 11 05.5 +3.3
CD2 SKS **SKSac** 22 17 43.3 -0.9
CD2 S **S** 22 18 23.3 -2.6
CD2 sS **sS** 22 18 41.0 -0.2
CD2 SS **SS** 22 24 57.8 +1.0
CD2 pmax pmax
comp=Z,400nm,1.5s
CD2 pmax pmax
comp=Z,14µm,6.1s
CD2 LR LR
comp=N,39µm,21.9s
CD2 LR LR
comp=E,34µm,20.0s
CD2 LR LR
comp=Z,55µm,25.0s
A17A Triple J Farms 95.82 37 ⇑P **P** 22 07 09.1 -0.2
baz=96,SNR=12
EGAK Eagle 95.84 14 *e*P **P** 22 07 08.9 0.0
comp=Z,446nm,1.8s
EGAK LR LR
comp=Z,76µm,20.0s
H22A Clearmont 95.84 42 ⇑P **P** 22 07 09.3 -0.3
baz=96,SNR=6.2
E20A Meyer Farm, Mu 95.85 40 ⇓P **P** 22 07 09.3 -0.2
baz=96,SNR=13
O27A Beecher Island 95.95 48 ⇓P **P** 22 07 10.2 0.0
baz=96,SNR=5.5
B18A Beardsley Farm 96.00 38 ⇓P **P** 22 07 10.0 -0.1
baz=96,SNR=16
L25A Engebretsen Ra 96.01 45 ⇓P **P** 22 07 10.7 +0.2
baz=96
C19A Slack Wire Ran 96.02 39 ⇓P **P** 22 07 10.5 +0.2
baz=96,SNR=20
BILL Bilibino 96.03 353 *α iP* **P** 22 07 09.5 -0.2
BILL *e* 22 07 19.5
BILL *e* 22 17 44.1
BILL *i* 22 18 23.5
BILL *i* SS SS 22 25 02.8 +4.6
BILL *e*SSS SSS 22 28 40.0
BILL pmax pmax
comp=Z,700nm,2.1s
BILL pmax pmax
comp=Z,185nm,1.7s
BILL MLR MLR
comp=Z,58µm,20.0s
BILL Bilibino 96.03 353 *e*P **P** 22 07 09.2 -0.5
comp=Z,246nm,1.3s
BILL *e*PP **PP** 22 11 04.5 +1.6
BILL LR LR
comp=Z,63µm,20.0s
I23A Meade Ranch, G 96.03 43 ⇑P **P** 22 07 09.7 -0.8
baz=96
F21A Absaloka Mine, 96.05 41 ⇑P **P** 22 07 10.9 +0.4
baz=96,SNR=9.8
CGA2 Cerro Gallo 2 96.09 82 *e*P **PP** 22 11 05.2 +0.5
QCR Quepos 96.09 83 *e*P **PP** 22 11 02.2 -2.2
BTO Baotou 96.15 313 *e*P **P** 22 07 10.0 -1.1
D20A Manuel Ranch, 96.17 40 ⇓P **P** 22 07 10.9 -0.1
baz=96,SNR=19
M26A McRoberts Ranc 96.17 46 ⇑P **P** 22 07 10.9 -0.3
baz=96
J24A Dixon Ranch, L 96.19 44 ⇓P **P** 22 07 10.8 -0.5
baz=96,SNR=24
G22A Birney 96.21 42 ⇑P **P** 22 07 10.6 -0.7
baz=96,SNR=9.3
N27A Anderson Farm, 96.23 47 ⇑P **P** 22 07 10.8 -0.7
baz=96
A18A Metzger Ranch, 96.26 37 ⇓P **P** 22 07 11.0 -0.4
baz=97,SNR=24
H23A Clabaugh Cattl 96.39 43 ⇓P **P** 22 07 11.5 -0.6
baz=97
E21A Keefer Ranch, 96.47 40 ⇓P **P** 22 07 12.7 +0.3
baz=97,SNR=12
B19A Brinkman Farms 96.49 38 ⇑P **P** 22 07 12.2 -0.1
baz=97,SNR=6.6
I24A Kuemmerle Ranc 96.49 44 ⇓P **P** 22 07 11.7 -0.9
baz=97,SNR=16
L26A Underwood Farm 96.51 46 ⇑P **P** 22 07 12.2 -0.5
baz=97
BUS Buena Vista 96.51 83 *e*P **PP** 22 11 06.1 -2.2
F22A Rosebud 96.54 41 ⇓P **P** 22 07 12.4 -0.2
baz=97,SNR=13
C20A Veseth Ranch, 96.59 39 ⇑P **P** 22 07 12.8 0.0
baz=97,SNR=8.7
URSC Urasca 96.62 82 *e*P **PP** 22 11 06.7 -2.1
OGNE Ogallala 96.63 47 *e*P **P** 22 07 13.9 +0.7
comp=Z,683nm,2.3s
OGNE *e*PP **PP** 22 11 07.0 -1.3
OGNE LR LR
comp=Z,168µm,20.0s
OGNE Ogallala 96.63 47 ⇓P **P** 22 07 12.2 -1.0
baz=97
ACR Cerro Adams 96.63 84 *e*P **PP** 22 11 06.7 -2.0
M27A Reverse DX Ran 96.69 47 ⇓P **P** 22 07 13.1 -0.4
baz=97
G23A Biddle 96.74 42 ⇑P **P** 22 07 12.7 -0.9
baz=97,SNR=18
K26A Motz Farm, Whi 96.79 45 ⇑P **P** 22 07 13.7 -0.3
baz=97,SNR=31
B20A Solberg Farm, 96.99 39 ⇓P **P** 22 07 14.7 +0.1
baz=97,SNR=8.2
RSSD Black Hills 96.99 44 *e*P **P** 22 07 14.2 -0.8
RSSD pmax pmax
comp=Z,332nm,1.4s
RSSD Black Hills 96.99 44 *e*P **P** 22 07 14.2 -0.8
comp=Z,332nm,1.4s
H24A Dirks Ranch, A 97.00 43 ⇓P **P** 22 07 14.0 -0.8
baz=97,SNR=73
F23A Volborg 97.01 42 ⇓P **P** 22 07 14.5 -0.3
baz=97,SNR=25
L27A T5 Ranch, Ells 97.02 46 ⇓P **P** 22 07 15.0 -0.1
baz=97
OTAV Otavalo 97.03 93 *e*P Pdif 22 07 17.0 +0.7
comp=Z,160nm,2.0s
OTAV *e*PKKPbc **PKKPdf** 22 23 59.3 +1.8
OTAV LR LR
comp=Z,61µm,22.0s
E22A Miles City 97.07 41 ⇓P **P** 22 07 14.7 -0.4
baz=97,SNR=7.3
CBKS Cedar Bluff 97.09 50 PFAKE 22 07 30.0 +15
CBKS LR LR
comp=Z,144µm,20.0s
CBKS Cedar Bluff 97.09 50 ⇑P **P** 22 07 14.5 -0.8
baz=97
C21A Desert Coulee 97.17 39 ⇑P **P** 22 07 14.8 -0.7
baz=98,SNR=8.3
A20A Cobblestone Ra 97.28 38 ⇑P **P** 22 07 15.4 -0.6
baz=98,SNR=26
D22A Cohagen 97.32 40 ⇑P **P** 22 07 16.1 -0.1
baz=98,SNR=17
TEIG Tepich 97.33 71 P **P** 22 07 16.4 -0.4
TEIG Tepich 97.33 71 P **P** 22 07 16.4 -0.4
comp=Z,14nm,0.9s,baz=287,slow=13,SNR=3.7
TEIG LR LR 22 43 41.7
comp=Z,29µm,20.6s,baz=244,slow=31
K27A Flueckinger Fa 97.39 46 ⇓P **P** 22 07 16.1 -0.5
baz=98,SNR=5.8
G24A Alzada 97.39 43 ⇑P **P** 22 07 16.1 -0.5
baz=98,SNR=9.2
NATX Nacogdoches 97.40 58 PFAKE 22 07 30.0 +13
NATX LR LR
comp=Z,106µm,22.0s
CLNS Chul'man 97.45 332 *e*P **P** 22 07 16.0 -0.5
CLNS *e* 22 11 19.1
CLNS *e*S **SKSac** 22 17 50.5 -1.0
CLNS *e*SP **SP** 22 20 00.4 -0.7
CLNS *e*PS **PS** 22 20 04.8 -0.4
CLNS pmax pmax
comp=Z,46nm,1.8s
CLNS pmax pmax
comp=E,15nm,1.3s
CLNS pmax pmax
comp=N,29nm,1.4s
CLNS pmax pmax
comp=E,43nm,1.7s
CLNS pmax pmax
comp=N,68nm,1.7s
CLNS pmax pmax
comp=Z,59nm,1.7s

CLNS smax smax
comp=N,7µm,13.0s
CLNS smax smax
comp=E,21µm,13.4s
CLNS MLR MLR
comp=N,22µm,19.0s
CLNS MLR MLR
comp=Z,42µm,19.0s
CLNS MLR MLR
comp=E,29µm,21.0s
E23A Ismay 97.48 41 ⇑P **P 22 07 16.5 -0.4**
baz=98,SNR=6.2
B21A Ellsworth Farm 97.54 39 ⇓P Pdif 22 07 17.4 +0.2
baz=98
F24A Ekalaka 97.65 42 ⇑P **P 22 07 17.1 -0.6**
baz=98
C22A Vida 97.81 40 ⇑P **P 22 07 18.2 -0.1**
baz=98
D23A Lindsay 97.90 41 ⇓P **P 22 07 18.6 -0.2**
baz=98
A21A Bergtoll Ranch 97.90 38 ⇑Pdiff **P 22 07 18.6 -0.1**
baz=98
LPAZ La Paz 97.92 113 *e*P Pdif 22 07 20.8 +0.3
comp=E,153nm,1.5s
LPAZ PP **PP 22 11 20.7 +1.8**
LPAZ P'P' 22 32 09.5
LPAZ La Paz 97.92 113 P Pdif 22 07 20.7 +0.3
comp=E,20nm,1.1s,baz=250,slow=3.3,SNR=24
LPAZ PP **PP 22 11 20.7 +1.8**
comp=E,10nm,1.2s,baz=283,slow=6.5,SNR=3.9
LPAZ PKPPKP **P'P'df 22 32 09.5 -2.6**
comp=E,2.2nm,1.0s,baz=60,slow=8.4,SNR=5.0
LPAZ LR LR 22 40 58.6
comp=E,84µm,22.0s,baz=249,slow=29
B22A Reddig Ranch S 98.05 39 ⇑Pdiff Pdif 22 07 19.8 +0.3
baz=98
E24A Baker 98.10 41 ⇑Pdiff **P 22 07 19.5 -0.2**
baz=98
LZH Lanzhou 98.18 306 ⇑P Pdif 22 07 21.5 +1.0
LZH pP pP 22 07 32.1 +2.5
LZH sP sP 22 07 36.3 +3.4
LZH PP **PP 22 11 24.3 +3.8**
LZH SKS **SKSac 22 17 55.5 -1.0**
LZH S **S 22 18 43.0 -3.3**
LZH sS sS 22 19 00.3 -1.2
LZH SS **SS 22 25 30.6 +0.3**
LZH pmax pmax
comp=Z,1µm,1.5s
LZH pmax pmax
comp=Z,4µm,7.8s
LZH LR LR
comp=N,39µm,17.6s
LZH LR LR
comp=E,108µm,19.8s
LZH LR LR
comp=Z,188µm,20.5s
C23A Lambert 98.24 40 ⇓Pdiff Pdif 22 07 20.8 +0.4
baz=98
D24A Glendive 98.38 41 ⇓Pdiff **P 22 07 20.6 -0.3**
baz=99
A22A Carney Farms, 98.46 39 ⇓Pdiff **P 22 07 20.9 -0.4**
baz=99
TUL1 Tulsa 98.48 54 ⇑Pdiff **P 22 07 20.9 -0.7**
baz=99
C24A Savage 98.54 41 ⇑Pdiff Pdif 22 07 21.7 +0.1
baz=99
B23A Brockton 98.70 40 ⇑Pdiff **P 22 07 22.3 0.0**
baz=99
A23A Redstone 99.02 39 ⇓Pdiff **Pdif 22 07 24.0 +0.2**
baz=99
YAK Yakutsk 99.07 337 *c i*P **Pdif 22 07 22.7 -0.8**
YAK *e**PP pP 22 07 38.6 +5.9
YAK *e* 22 11 22.4
YAK *e*PPP PPP 22 13 33.3
YAK *e*S **SKSac 22 17 55.3 -4.0**
YAK *e* 22 18 50.7
YAK *e*SS **SS 22 25 37.4 -3.8**
YAK pmax pmax
comp=Z,61nm,1.5s
YAK pmax pmax
comp=N,12nm,1.3s
YAK pmax pmax
comp=E,14nm,1.2s
YAK pmax pmax
comp=Z,5µm,6.6s
YAK pmax pmax
comp=N,3µm,7.1s
YAK pmax pmax
comp=E,3µm,7.3s
YAK smax smax
comp=N,2µm,4.8s
YAK smax smax
comp=E,2µm,7.7s
YAK Yakutsk 99.07 337 *e*P **Pdif 22 07 22.6 -1.0**
comp=E,129nm,1.1s
YAK LR LR
comp=Z,69µm,21.0s
DGMT Dagmar 99.16 40 *e*P **Pdif 22 07 25.4 +1.0**
comp=Z,2µm,2.7s
DGMT LR LR
comp=Z,96µm,21.0s
DGMT Dagmar 99.16 40 ⇓Pdiff **Pdif 22 07 24.3 0.0**
baz=100
KSU1 Kansas State U 99.37 51 *e*P **Pdif 22 07 25.4 -0.1**
comp=Z,16nm,0.8s
KSU1 *e* 22 07 35.6
KSU1 LR LR
comp=Z,136µm,21.0s
BGNE Belgrade 99.41 48 ⇓Pdiff **Pdif 22 07 25.7 0.0**
baz=100
MIAR Mount Ida 99.47 56 PFAKE 22 07 40.0 +14
MIAR LR LR
comp=Z,108µm,21.0s
A24A Westby 99.50 40 ⇓Pdiff **Pdif 22 07 25.5 -0.4**
baz=100
BCIP Isla Barro Col 99.80 85 PFAKE 22 07 40.0 +12
BCIP LR LR
comp=Z,108µm,21.0s
CIT Chita 100.01 324 *e*P **Pdif 22 07 28.9 +0.8**
CIT *e* 22 07 44.0
CIT *e* 22 11 29.0
CIT *e* 22 18 01.4
CIT pmax pmax
comp=Z,253nm,4.3s
BRSD Miller 100.32 45 ⇑Pdiff **Pdif 22 07 28.8 -0.8**
baz=101
INK Inuvik 100.48 15 *e*Pdif **Pdif 22 07 29.7 0.0**
INK PP **PP 22 11 38.3 +1.3**
INK PKKPbc **PKKPbc 22 23 46.5 -0.9**
INK Inuvik 100.48 15 P **Pdif 22 07 29.7 0.0**
comp=Z,9.9nm,1.0s,baz=216,slow=5.9,SNR=23
INK PP **PP 22 11 38.3 +1.3**
comp=Z,21nm,1.1s,baz=232,slow=10,SNR=3.8
INK PKKPbc **PKKPbc 22 23 46.5 -0.9**
comp=Z,4.4nm,0.8s,baz=24,slow=4.8,SNR=5.1
UALR University of 100.48 56 *e*PP PP 22 11 39.0 +1.1
CPUP Villa Florida 100.59 127 P **Pdif 22 07 32.8 +1.4**
CPUP PKKPbc **PKKPbc 22 23 45.0 -0.3**
CPUP P'P' 22 32 04.4
CPUP LR LR
comp=Z,12µm,21.0s
CPUP Villa Florida 100.59 127 P **Pdif 22 07 32.8 +1.4**
comp=Z,1.6nm,0.5s,baz=203,slow=5.8,SNR=6.8
CPUP PKKPbc **PKKPbc 22 23 45.0 -0.3**
comp=Z,1.2nm,0.6s,baz=36,slow=6.4,SNR=3.7
CPUP PKPPKP **P'P'df 22 32 04.4 -2.2**
comp=Z,2.5nm,0.9s,baz=54,slow=6.8,SNR=3.5
VBMS Vicksburg 100.75 59 PFAKE 22 07 40.0 +8.2
VBMS LR LR
comp=Z,80µm,22.0s
IMP Imphal 100.86 292 *e*PKP **Pdif 22 07 32.0 -0.6**
IMP *ex* x 22 11 39.0
ECSD EROS Data Cent 101.49 47 *e*Pdif **Pdif 22 07 34.5 -0.3**
ECSD LR LR
comp=Z,158µm,20.0s
MDND Maddock 101.52 42 ⇑Pdiff **Pdif 22 07 33.8 -1.1**
baz=102
ULN Ulaanbaatar 101.58 318 *e*Pdif **Pdif 22 07 34.9 -0.4**
ULN LR LR
comp=Z,54µm,20.0s
ULN Ulaanbaatar 101.58 318 P **Pdif 22 07 35.8 +0.5**
SONM Songino Array 101.96 318 P **Pdif 22 07 37.3 +0.3**
SONM PKKPbc **PKKPbc 22 23 43.4 +0.7**
SONM Songino Array 101.96 318 P **Pdif 22 07 37.3 +0.3**
comp=Z,13nm,0.9s,baz=133,slow=4.3,SNR=10
SONM PKKPbc **PKKPbc 22 23 43.4 +0.7**
comp=Z,6.5nm,1.0s,baz=242,slow=3.2,SNR=6.1
YKA Yellowknife Ar 102.07 25 P **Pdif 22 07 37.2 +0.3**
YKA PP **PP 22 11 48.6 -0.5**
YKA PKKPbc **PKKPbc 22 23 40.6 -2.1**
YKA PKKP **PKKPdf 22 23 50.5 +0.3**
YKA P'P' 22 31 58.7
YKA Yellowknife Ar 102.07 25 P **Pdif 22 07 37.2 +0.3**
comp=Z,4.5nm,1.1s,baz=235,slow=4.2,SNR=36
YKA PP **PP 22 11 48.6 -0.5**
comp=Z,4.8nm,0.9s,baz=229,slow=7.4,SNR=7.8
YKA PKKPbc **PKKPbc 22 23 40.6 -2.1**
comp=Z,2.1nm,0.7s,baz=32,slow=2.7,SNR=4.6
YKA PKKP **PKKPdf 22 23 50.4 +0.3**
comp=Z,5.3nm,0.9s,baz=35,slow=2.9,SNR=6.2
YKA PKPPKP **P'P'df 22 31 58.7 +3.0**
comp=Z,0.4nm,0.8s,baz=36,slow=2.5,SNR=4.5
GTA Gaotai 102.52 308 ⇑P **Pdif 22 07 39.8 +0.1**
GTA pP 22 07 50.3
GTA sP 22 07 54.3
GTA PP **PKiKP 22 11 57.4 -3.5**
GTA SKS **SKSac 22 18 15.8 -1.7**
GTA S **Sdif 22 19 20.3 -2.1**
GTA sS sS 22 19 37.8 -0.3
GTA SS **SS 22 26 34.8 +4.2**
GTA pmax pmax
comp=Z,5µm,8.8s
GTA LR LR
comp=N,35µm,21.4s
GTA LR LR
comp=E,59µm,24.5s
GTA LR LR
comp=Z,94µm,23.3s
OXF Oxford 102.56 58 PFAKE 22 07 50.0 +10
OXF LR LR
comp=Z,129µm,21.0s
AGT Agartala 102.71 290 *e*PKP **Pdif 22 07 40.0 -0.7**
AGT *ex* x 22 09 30.0
BOD Bodaibo 102.83 329 *e*P **Pdif 22 07 38.8 -1.6**
BOD pmax pmax
comp=Z,29nm,2.7s
SHL Shillong 102.87 292 *e*PKP **Pdif 22 07 43.5 +1.9**
SHL *e*S **SKSac 22 18 21.0 +1.1**
BRAL Brewton 102.92 62 PFAKE 22 07 50.0 +8.5
BRAL LR LR
comp=Z,51µm,21.0s
SCIA State Center 102.94 49 PFAKE 22 07 50.0 +8.7
SCIA LR LR
comp=Z,76µm,19.0s
FFC Flin Flon 103.46 35 *e*P **Pdif 22 07 45.9 +2.6**
FFC MLR MLR
comp=Z,64µm,22.0s
FFC Flin Flon 103.46 35 *e*Pdif **Pdif 22 07 45.9 +2.6**
FFC LR LR
comp=Z,64µm,22.0s
PLAL Pickwick Lake 103.75 58 PFAKE 22 08 00.0 +15
PLAL LR LR
comp=Z,108µm,22.0s
SIV San Ignacio 103.79 116 Pdif **Pdif 22 07 44.9 -0.9**
SIV PP **PP 22 12 01.0 -1.5**
SIV PKKPbc **PKKPbc 22 23 36.9 +0.9**
SIV San Ignacio 103.79 116 Pdiff **Pdif 22 07 44.9 -0.9**
comp=Z,2.0nm,1.1s,baz=180,slow=20,SNR=3.1
SIV PP **PP 22 12 01.0 -1.5**
comp=Z,16nm,1.2s,baz=261,slow=13,SNR=4.9
SIV PKKPbc **PKKPbc 22 23 36.9 +0.9**
comp=Z,3.6nm,0.9s,baz=102,slow=4.5,SNR=7.1
LRAL Lakeview Retre 103.79 60 *e*Pdif **Pdif 22 07 44.5 -0.8**
LRAL *e*PKKPbc **PKKPbc 22 23 38.0 +1.5**
LRAL LR LR
comp=Z,121µm,22.0s
AGMN Agassiz Nation 103.97 43 *e*PKKPbc PKKPbc 22 23 38.5 +2.0
AGMN LR LR
comp=Z,93µm,19.0s
SPMN St. Paul 104.59 47 ⇓Pdiff **Pdif 22 07 48.0 -0.6**
baz=105
CAL Calcutta 104.61 288 *e*PKP **Pdif 22 07 48.5 -0.7**
CAL *ex* x 22 18 37.4
CAL AMP 22 23 10.7
comp=Z,11µm,20.1s
ULM Lac du Bonnet 104.79 41 Pdif **Pdif 22 07 50.4 +1.1**
ULM PP **PP 22 12 09.3 -0.5**
ULM PKKPbc **PKKPbc 22 23 35.2 +1.1**
ULM Lac du Bonnet 104.79 41 Pdiff **Pdif 22 07 50.4 +1.1**
comp=Z,4.7nm,0.8s,baz=232,slow=4.5,SNR=6.9
ULM PP **PP 22 12 09.3 -0.5**
comp=Z,10.0nm,1.0s,baz=246,slow=6.3,SNR=5.3
ULM PKKPbc **PKKPbc 22 23 35.2 +1.1**
comp=Z,4.6nm,0.9s,baz=84,slow=9.8,SNR=3.1
ZAK Zakamensk 104.92 319 *e*P **Pdif 22 07 50.3 +0.3**
ZAK *e* 22 18 29.4
ZAK pmax pmax
comp=Z,21nm,1.0s
LSA Lhasa 105.12 296 *e*P **Pdif 22 07 52.4 +0.5**
LSA MLR MLR
comp=Z,38µm,22.0s
LSA Lhasa 105.12 296 *e*Pdif **Pdif 22 07 52.4 +0.5**
LSA *e*PKKPbc PKKPbc 22 23 27.1 -5.9
LSA LR LR
comp=Z,38µm,22.0s
IRK Irkutsk 105.14 321 *e*P **Pdif 22 07 50.4 -0.4**
IRK *e* 22 18 29.6
IRK pmax pmax
comp=Z,82nm,3.9s
DGAR Diego Garcia 105.18 253 PFAKE 22 12 20.0
DGAR LR LR
comp=Z,75µm,19.0s
OLIL Olney 105.22 54 *e*PP PP 22 12 14.2 +0.9
OLIL *e*PKKPab **PKKPab 22 23 51.9 +4.2**
TLY Talaya 105.26 321 *c i*P **Pdif 22 07 50.0 -1.4**
TLY *e* 22 12 08.9
TLY *e* 22 18 32.1
TLY *e* 22 19 44.6
TLY *e*PPS PPS 22 22 24.1
TLY *e*SS SS 22 27 02.2 -5.2
TLY pmax pmax
comp=Z,21nm,1.1s
TLY MLR MLR
comp=Z,51µm,20.0s
TLY Talaya 105.26 321 *e*Pdif **Pdif 22 07 55.3 +3.9**
TLY LR LR
comp=Z,57µm,20.0s
SWET Sewanee 105.46 58 *e*PKiKP **PKiKP 22 12 07.0 +0.6**
SWET *e*PKKPab **PKKPab 22 23 51.4 +4.5**
MTDJ Mount Denham 105.67 77 PFAKE 22 12 20.0
MTDJ LR LR
comp=Z,76µm,22.0s
SAML Samuel 105.86 109 *e*Pdif **Pdif 22 07 54.7 -0.3**
comp=Z,22nm,1.4s
SAML *e*PKiKP **PKiKP 22 12 07.7 +0.1**
SAML *e*PP **PP 22 12 17.1 -0.9**
SAML LR LR
comp=Z,209µm,22.0s
WCI Wyandotte Cave 106.34 55 *e*PKKPab PKKPab 22 23 44.8 +1.9
EYMN Ely 106.50 44 *e*PKKPbc PKKPbc 22 23 29.8 +1.0
EYMN LR LR
comp=Z,64µm,20.0s
SFIN Scholer Farm 106.56 53 ⇑PKiKP **PKiKP 22 12 06.4 -1.7**
baz=107
CPCT Cooper Cave 106.61 58 *e*PP PP 22 12 25.9 +2.3
CPCT *e*PKKPbc **PKKPbc 22 23 32.2 +4.2**
GOGA Godfrey 106.66 61 *e*PKKPab PKKPab 22 23 44.5 +2.9
GOGA LR LR
comp=Z,110µm,21.0s
MOY Mondy 106.76 320 *e*P **Pdif 22 07 58.5 +0.3**
MOY pmax pmax
comp=Z,129nm,4.4s
TAPN Taplejung 107.01 292 *e*P **PKKPbc 22 23 27.0 +0.1**
comp=Z,71nm,1.4s
ODAN Odare 107.09 292 *e*P **PKKPbc 22 23 27.2 +0.7**
comp=Z,14nm,0.6s
TKL Tuckaleechee C 107.26 58 *e*PP PP 22 12 29.8 +1.4
TKL *e*PKKPab **PKKPdf 22 23 43.5 +4.1**
COWI Conover 107.30 47 PFAKE 22 12 20.0
COWI LR LR
comp=Z,102µm,19.0s
RAMN Ramite 107.78 292 *e*P **PKKPbc 22 23 24.5 +0.1**
MDRS Chennai 107.78 276 *i*/x x 22 09 12.2
MDRS *ex* x 22 12 13.2
SDV Santo Domingo 107.85 89 *e*PP PP 22 12 31.1 -2.2
SDV *e*PKKPab **PKKPab 22 23 39.0 +0.7**
SDV LR LR
comp=Z,27µm,22.0s
JIRN Jiri 108.38 292 *e*P **PKKPbc 22 23 21.8 -0.9**
comp=Z,23nm,1.5s
GTBY Guantanamo Bay 108.45 77 PFAKE 22 12 20.0
GTBY LR LR
comp=Z,35µm,21.0s
GUN Gumba 108.73 292 *e*P **PKKPbc 22 23 20.7 -0.8**
comp=Z,93nm,1.1s
KMSC Kings Mountain 108.94 60 ⇓PKiKP **PKiKP 22 12 11.0 -1.8**
baz=109
PKI Pulchoki 108.99 292 *e*P **PKKPbc 22 23 19.6 -1.1**
NHSC New Hope 109.12 62 PFAKE 22 12 20.0
NHSC LR LR
comp=E,60µm,19.0s
KKN Kakani 109.18 292 *e*P **PKKPbc 22 23 18.3 -1.6**
DMN Daman 109.25 292 *e*P **PKKPbc 22 23 18.7 -1.0**
comp=Z,72nm,1.3s
ACSO Alum Creek Sta 109.45 54 *e*PKKPbc PKKPbc 22 23 22.0 +2.9
ACSO LR LR
comp=Z,119µm,21.0s
AAM Ann Arbor 109.67 52 *e*PP PP 22 12 43.9 -1.9
AAM LR LR
comp=E,116µm,22.0s
GKN Gorkha 109.78 292 *e*P **PKKPbc 22 23 16.7 -1.2**
comp=Z,48nm,1.0s
GLMI Grayling 109.84 49 PFAKE 22 12 30.0
GLMI LR LR
comp=Z,114µm,22.0s
BLA Blacksburg 110.33 58 PFAKE 22 12 30.0
BLA LR LR
comp=Z,51µm,22.0s
HYB Hyderabad 111.03 279 *i* Pdiff **Pdif 22 08 18.0 +0.1**
HYB *e*PKP PKiKP 22 11 19.0 -58
HYB *e*PP PP 22 12 50.0 -6.1
HYB *e*SKS **SKSac 22 18 55.0 -0.6**
HYB *e*SKKS **SKKSac 22 19 56.0 -1.1**
HYB *e*SP **SP 22 22 24.0 -0.2**
HYB *e*PKKP **PKKPab 22 23 23.0 -0.5**
HYB *e* 22 23 33.5
HYB *e* 22 28 04.0
HYB *e*SS P'P'df 22 32 00.0 +16
HYB LR LR 22 55 44.0
comp=Z,56nm,22.0s
SDDR Presa de Saban 111.41 79 PFAKE 22 12 30.0
SDDR LR LR
comp=Z,74µm,22.0s
CNNC Cliffs of the 111.62 61 PFAKE 22 12 30.0
CNNC LR LR
comp=Z,60µm,19.0s
NGP Nagpur 112.02 283 *e*PKP **PKiKP 22 12 18.7 -0.2**
ERPA Erie 112.19 53 *e*PP PP 22 13 11.8 +7.8
ERPA LR LR
comp=Z,64µm,22.0s
JSRW J. Sargeant Re 112.41 58 *e*PKKPab PKKPab 22 23 19.4 +3.3
GRTK Grand Turk 112.49 77 PFAKE 22 12 30.0
GRTK LR LR
comp=Z,36µm,20.0s
MNGI Mangalore 112.53 273 *e*PKP **PKiKP 22 12 17.7 -2.4**
WMQ Urumqi 112.57 309 *e*PKP PKiKP 22 12 13.5 -5.9
WMQ sPKP 22 12 28.0
WMQ PKS PKSdf 22 15 49.0 -7.0
WMQ SKS SKSdf 22 19 21.0 -8.6
WMQ AMB AMB
comp=Z,4µm,9.7s
WMQ LR LR
comp=N,38µm,21.0s
WMQ LR LR
comp=E,43µm,26.4s
WMQ LR LR
comp=Z,88µm,28.4s
CBN Corbin 112.94 58 PFAKE 22 12 30.0
CBN LR LR
comp=Z,47µm,19.0s
SSPA Standing Stone 113.27 55 *e*PKKPab PKKPab 22 23 10.4 -1.7
SADO Sadowa 113.54 50 PKKPbc PKKPbc 22 23 11.5 +5.7
SADO Sadowa 113.54 50 PKKPbc PKKPbc 22 23 11.5 +5.7
comp=Z,17nm,0.9s,baz=96,slow=2.5,SNR=6.2
AKL Akola 113.62 282 *e*PKP **PKiKP 22 12 22.2 +0.2**
RES Resolute Bay 113.93 17 *e*PKiKP **PKiKP 22 12 19.9 -1.1**
RES *e*PKKPab **PKKPab 22 23 11.8 +4.0**
BDFB Brasilia 114.04 124 PKP PKPdf 22 12 23.9 +0.8
BDFB PKKPbc **PKKPab 22 23 09.3 -3.2**
BDFB LR LR
comp=Z,86µm,20.0s
BDFB Brasilia 114.04 124 PKP PKPdf 22 12 23.9 +0.8
comp=Z,3.4nm,0.6s,baz=357,slow=4.2,SNR=4.8
BDFB PKKPbc **PKKPab 22 23 09.3 -3.2**
comp=Z,18nm,0.9s,baz=52,slow=6.5,SNR=3.6
TRIS Tristan da Cun 114.12 166 PFAKE 22 12 30.0 +7.4
TRIS LR LR
comp=Z,16µm,20.0s
GOA Goa 114.44 275 ⇑*ex* **Pdif 22 08 33.7 +0.7**
GOA *ex* x 22 13 20.4
GOA AMS AMS 22 59 55.4
comp=Z,150µm,20.3s
LRS Lares 115.04 82 *e*PKiKP **PKPdf 22 12 24.4 -0.5**
BINY Binghamton 115.08 54 PFAKE 22 12 40.0 +16
BINY LR LR
comp=Z,103µm,22.0s
AGRA Agra 115.10 289 *e*PKP **PKPdf 22 12 24.3 -0.3**
OBIP Obispado Ponce 115.16 82 *e*PKKPab PKKPab 22 23 09.2 +3.9
CELP Cerrillos 115.19 82 *e*PKKPab PKKPab 22 23 02.5 -2.7
SJG San Juan 115.58 82 PKKPbc PKKPbc 22 23 04.8 +6.8
SJG LR LR
comp=Z,66µm,21.0s
SJG San Juan 115.58 82 PKKPbc PKKPbc 22 23 04.8 +6.8
comp=Z,36nm,0.9s,baz=87,slow=1.3,SNR=4.8
POO Poona 115.59 278 *ex* **Pdif 22 08 42.0 +3.9**
ASOR Ausora 115.73 290 *e*PKP **PKPdf 22 12 25.0 -0.8**
HUMP Col San Antoni 115.86 82 *e*PKKPab PKKPab 22 23 00.3 -1.8
DDI Dehra Dun 115.98 292 *ex* x 22 12 08.6
DDI *ex* x 22 19 22.0
NDI New Delhi 116.17 290 *e*PKP **PKPdf 22 12 25.0 -1.7**
NDI *ex* x 22 20 25.0
AYAN Aya Nagar 116.18 290 *e*PKP **PKPdf 22 12 25.4 -1.3**
KUDL Kundal 116.61 289 *e*PKP **PKPdf 22 12 27.5 0.0**
LONY Lake Ozonia 116.65 51 PFAKE 22 12 40.0 +13
LONY LR LR
comp=Z,95µm,22.0s
ZAA0 Zalesovo Array 116.80 319 *e*PKPdf **PKPdf 22 12 25.5 -1.6**
ZALV Zalesovo Beam 116.80 319 P **Pdif 22 08 45.4 +2.8**
ZALV 22 12 26.0
ZALV Zalesovo Beam 116.80 319 Pdif **Pdif 22 08 45.4 +2.8**
ZALV PKP **PKPdf 22 12 25.9 -1.1**
ZALV Zalesovo Beam 116.80 319 Pdiff **Pdif 22 08 45.4 +2.8**
comp=Z,0.7nm,0.6s,baz=108,slow=3.3,SNR=6.9
ZALV PKP **PKPdf 22 12 25.9 -1.1**
comp=Z,18nm,0.7s,baz=187,slow=1.2,SNR=28
KKR Kurukshetra 116.89 291 *ex* **PKPdf 22 12 23.7 -4.4**
SMLA Simla 116.95 293 *i* P **PKPdf 22 12 26.7 -1.4**
MKAR Makanchi Array 117.00 311 P **Pdif 22 08 47.8 +4.1**
MKAR 22 12 26.4
MKAR Makanchi Array 117.00 311 Pdif **Pdif 22 08 47.8 +4.1**
MKAR PKP **PKPdf 22 12 26.4 -1.4**
MKAR PKKPbc **PKKPbc 22 22 54.4 +0.5**
MKAR SKKPbc SKKPbc 22 26 46.3 +6.2
MKAR Makanchi Array 117.00 311 Pdiff **Pdif 22 08 47.8 +4.1**
comp=Z,3.8nm,0.7s,baz=94,slow=6.0,SNR=23
MKAR PKP **PKPdf 22 12 26.4 -1.4**
comp=Z,27nm,0.8s,baz=77,slow=2.0,SNR=34
MKAR PKKPbc **PKKPbc 22 22 54.4 +0.5**
comp=Z,9.2nm,1.0s,baz=291,slow=3.4,SNR=8.9
MKAR SKKPbc SKKPbc 22 26 46.3 +6.2
comp=Z,5.0nm,1.0s,baz=318,slow=3.4,SNR=4.2
ACCN Adirondack Com 117.02 53 *e*PKKPab PKKPab 22 22 55.7 +0.1
KHET Khetri 117.16 289 *e*PKP **PKPdf 22 12 28.2 -0.4**
GRGR Grenville 117.21 90 PFAKE 22 12 40.0 +11
GRGR LR LR
comp=Z,29µm,22.0s
FRNY Flat Rock 117.39 51 *e*PP PP 22 13 41.1 +0.6
FRNY *e*PKKPab **PKKPab 22 22 55.2 +1.4**
MDV Middlebury 117.50 52 *e*PKPdf **PKPdf 22 12 28.7 0.0**
ABPO Ambohimpanom 117.54 227 *e*PKIKP **PKPdf 22 12 28.9 -1.0**
ABPO MLR MLR
comp=Z,65µm,20.0s
ABPO Ambohimpanom 117.54 227 *e*PKPdf **PKPdf 22 12 28.9 -1.0**
ABPO LR LR
comp=Z,65µm,20.0s
AJM Ajmer 117.64 287 *ex* **Pdif 22 08 51.0 +3.9**
NVS Novosibirsk 117.86 320 *e*P **Pdif 22 08 46.6 -0.7**
NVS *i* 22 12 26.5
NVS *e* 22 19 18.7
NVS pmax pmax
comp=Z,549nm,2.8s
NVS pmax pmax
comp=E,386nm,2.5s
TOSP Speyside 117.86 91 *e*P PP 22 13 37.0 -7.3

TOSP	Speyside	117.86	91	*e*		**PS**	**22 23 28.5**	**-1.4**	
OPO	**Ambohidratompo**	**117.89**	**228**	PKKPbc	PKKPbc	22 22 54.9	+4.6		
OPO	**Ambohidratompo**	**117.89**	**228**	PKKPbc	PKKPbc	22 22 54.9	+4.6		
	comp=E,4.4nm,0.9s,baz=69,slow=2.3,SNR=5.1								
SVB	**Belmont**	**118.04**	**89**	*e*P	PP	22 13 39.1	-6.5		
SKI	**Saint Kitts**	**118.30**	**84**	*e*P	PP	22 13 39.8	-7.7		
SKI	**Saint Kitts**	**118.30**	**84**	*e*	**PS**	**22 23 30.6**	**-3.3**		
SUR	**Sutherland**	**118.38**	**196**	*e*PKPdf	**PKPdf**	**22 12 31.4**	**+0.1**		
SUR				*e*PP	**PP**	**22 13 49.1**	**+2.8**		
SUR				LR	LR				
	comp=Z,71µm,19.0s								
LBNH	**Lisbon**	**118.43**	**52**	PFAKE		22 12 40.0	+9.4		
LBNH				LR	LR				
	comp=Z,104µm,21.0s								
MCLT	**Moule a Chique**	**118.49**	**89**	*e*P	**PP**	**22 13 45.9**	**-2.8**		
MCLT	**Moule a Chique**	**118.49**	**89**	*e*	**PS**	**22 23 42.5**	**+6.8**		
ANWB	**Willy Bob**	**119.27**	**84**	PFAKE		22 12 40.0	+7.1		
ANWB				LR	LR				
	comp=Z,46µm,21.0s								
BBGH	**Gun Hill**	**119.49**	**90**	PFAKE		22 12 50.0	+17		
BBGH				LR	LR				
	comp=Z,79µm,21.0s								
KSH	**Kashi**	**120.01**	**302**	PKP	**PKPdf**	**22 12 33.9**	**0.0**		
KSH				PP	**PP**	**22 14 01.3**	**+2.3**		
KSH				PKS	**PKSdf**	**22 16 08.8**	**-1.9**		
KSH				SKS	**SKSdf**	**22 19 40.9**	**-3.3**		
KSH				SKKS	**SKKSac**	**22 20 52.1**	**-4.6**		
KSH				SS	**SKKSdf**	**22 30 25.6**	**-0.5**		
KSH				AMB	AMB				
	comp=Z,4µm,7.4s								
KSH				LR	LR				
	comp=N,25µm,19.6s								
KSH				LR	LR				
	comp=E,27µm,20.0s								
KSH				LR	LR				
	comp=Z,46µm,22.1s								
AAA	**Alma-Ata**	**120.03**	**306**	*e*PKIKP	**PKPdf**	**22 12 33.1**	**-0.7**		
AAA				pmax	pmax				
	comp=Z,2µm,6.5s								
AAA				MLR	MLR				
	comp=Z,69µm,22.0s								
KURK	**Kurchatov**	**120.06**	**315***c*	*i*PKIKP	**PKPdf**	**22 12 31.8**	**-1.7**		
KURK				pmax	pmax				
	comp=Z,215nm,1.7s								
KURK	**Kurchatov**	**120.06**	**315**	Pdif	Pdif	22 09 07.8	+11		
KURK				*e*PKPdf	**PKPdf**	**22 12 32.2**	**-1.3**		
KURK				PP	**PP**	**22 13 59.5**	**+0.7**		
KURK				PKKPbc	**PKKPbc**	**22 22 44.0**	**+1.2**		
KURK				SKKPbc	SKKPbc	22 26 24.9	-5.7		
KURK				LR	LR				
	comp=Z,52µm,21.0s								
KURBB	**Kurchatov Arra**	**120.11**	**315**	Pdiff	Pdif	22 09 07.8	+10		
	comp=Z,0.6nm,0.7s,baz=102,slow=4.2,SNR=4.5								
KURBB				PKP	**PKPdf**	**22 12 32.2**	**-1.3**		
	comp=Z,42nm,0.9s,baz=106,slow=1.9,SNR=49								
KURBB				PP	**PP**	**22 13 59.5**	**+0.3**		
	comp=Z,9.5nm,0.8s,baz=96,slow=7.2,SNR=5.5								
KURBB				PKKPbc	**PKKPbc**	**22 22 44.0**	**+1.4**		
	comp=Z,17nm,1.1s,baz=287,slow=4.8,SNR=14								
KURBB				SKKPbc	SKKPbc	22 26 24.9	-5.6		
	comp=Z,4.5nm,1.0s,baz=245,slow=3.6,SNR=4.1								
ULHL	**Ulahol**	**120.35**	**305**	P	**PKPdf**	**22 12 33.6**	**-1.0**		
	SNR=14								
BOSA	**Boshof**	**120.62**	**202**	*e*PKPdf	**PKPdf**	**22 12 35.8**	**+0.2**		
BOSA				PKP	**PKPdf**	**22 12 36.1**	**+0.6**		
BOSA				PKKPbc	**PKKPbc**	**22 22 42.5**	**+1.8**		
BOSA				LR	LR				
	comp=Z,52µm,20.0s								
BOSA	**Boshof**	**120.62**	**202**	PKP	**PKPdf**	**22 12 36.1**	**+0.6**		
	comp=Z,40nm,1.0s,baz=134,slow=2.4,SNR=28								
BOSA				PKKPbc	**PKKPbc**	**22 22 42.5**	**+1.8**		
	comp=Z,2.9nm,0.7s,baz=4.7,slow=7.1,SNR=3.6								
MSEY	**Mahe Island**	**120.80**	**246**	PFAKE		22 12 50.0	+14		
MSEY				LR	LR				
	comp=Z,79µm,19.0s								
NIL	**Nilore**	**120.82**	**295**	PFAKE		22 12 50.0	+14		
NIL				LR	LR				
	comp=Z,109nm,20.0s								
TKM2	**Tokmak 2**	**120.94**	**306**	*e*PKIKP	**PKPdf**	**22 12 34.7**	**-1.0**		
TKM2				MLR	MLR				
	comp=Z,48µm,22.0s								
TKM2	**Tokmak 2**	**120.94**	**306**	*e*PKPdf	**PKPdf**	**22 12 34.7**	**-1.0**		
TKM2				*e*PKKPab	**PKKPbc**	**22 22 40.1**	**+0.6**		
TKM2				LR	LR				
	comp=Z,48µm,22.0s								
TKM2	**Tokmak 2**	**120.94**	**306**	P	**PKPdf**	**22 12 34.8**	**-1.0**		
	SNR=17								
KZA	**Kyzart**	**121.05**	**305**	P	**PKPdf**	**22 12 36.4**	**+0.2**		
	SNR=31								
BBSR	**BB Station**	**121.34**	**67**	PFAKE		22 12 50.0	+14		
BBSR				LR	LR				
	comp=Z,41µm,21.0s								
KBK	**Karagaybulak**	**121.37**	**305**	P	**PKPdf**	**22 12 35.8**	**-0.7**		
	SNR=16								
PQI	**Presque Isle**	**121.55**	**50**	PKPdf	**PKPdf**	**22 12 34.7**	**-1.8**		
CHMS	**Chumysh**	**121.57**	**306**	P	**PKPdf**	**22 12 35.9**	**-0.8**		
	SNR=29								
UCH	**Uchtor**	**121.61**	**305**	P	**PKPdf**	**22 12 37.3**	**-0.1**		
	SNR=9.3								
FRU	**Bishkek**	**121.64**	**305**	*e*PKIKP	**PKPdf**	**22 12 35.0**	**-1.8**		
FRU				*i*		22 14 18.0			
FRU				pmax	pmax				
	comp=Z,243nm,1.8s								
AAK	**Ala-Archa**	**121.69**	**305**⇑	*i*PKIKP	**PKPdf**	**22 12 36.7**	**-0.4**		
AAK				pmax	pmax				
	comp=Z,156nm,1.7s								
AAK				MLR	MLR				
	comp=Z,144µm,21.0s								
AAK	**Ala-Archa**	**121.69**	**305**	Pdif	**Pdif**	**22 09 13.4**	**+8.5**		
AAK				PKP	**PKPdf**	**22 12 36.4**	**-0.7**		
AAK				PKKPbc	**PKKPbc**	**22 22 39.3**	**+2.7**		
AAK				LR	LR				
	comp=Z,85µm,22.0s								
AAK	**Ala-Archa**	**121.69**	**305**	P	**PKPdf**	**22 12 36.9**	**-0.2**		
	SNR=16								
AAK	**Ala-Archa**	**121.69**	**305**	Pdiff	**Pdif**	**22 09 13.4**	**+8.5**		
	comp=Z,2.2nm,0.9s,baz=329,slow=18,SNR=3.6								
AAK				PKP	**PKPdf**	**22 12 36.4**	**-0.7**		
	comp=Z,15nm,0.9s,baz=172,slow=1.6,SNR=17								
AAK				PKKPbc	**PKKPbc**	**22 22 39.3**	**+2.7**		
	comp=Z,5.5nm,0.7s,baz=283,slow=2.1,SNR=13								
USP	**Ospenovka**	**121.79**	**306**	P	**PKPdf**	**22 12 36.2**	**-0.9**		
	SNR=28								
AML	**Almayashu**	**122.20**	**304**	P	**PKPdf**	**22 12 37.7**	**-0.7**		
	SNR=25								
EKS2	**Erkin-Say**	**122.22**	**305**	*e*PKIKP	**PKPdf**	**22 12 37.4**	**-0.7**		
EKS2	**Erkin-Say**	**122.22**	**305**	*e*PKPdf	**PKPdf**	**22 12 37.4**	**-0.7**		
EKS2	**Erkin-Say**	**122.22**	**305**	P	**PKPdf**	**22 12 37.5**	**-0.6**		
	SNR=20								
SCHQ	**Schefferville**	**122.97**	**41**	PKP	**PKPdf**	**22 12 38.3**	**-0.6**		
SCHQ				PP	**PP**	**22 14 20.6**	**+2.1**		
SCHQ				PKKPbc	**PKKPbc**	**22 22 32.6**	**+0.8**		
SCHQ	**Schefferville**	**122.97**	**41**	PKP	**PKPdf**	**22 12 38.3**	**-0.6**		
	comp=Z,21nm,1.1s,baz=325,slow=0.7,SNR=12								
SCHQ				PP	**PP**	**22 14 20.6**	**+2.1**		
	comp=Z,7.7nm,1.0s,baz=284,slow=6.3,SNR=5.9								
SCHQ				PKKPbc	**PKKPbc**	**22 22 32.6**	**+0.8**		
	comp=Z,5.1nm,0.9s,baz=59,slow=6.8,SNR=9.9								
LBTB	**Lobatse**	**123.81**	**204**	*e*PKPdf	**PKPdf**	**22 12 42.2**	**+0.5**		
LBTB				LR	LR				
	comp=Z,47µm,20.0s								
KBL	**Kabul**	**124.42**	**295**	*e*PKIKP	**PKPdf**	**22 12 42.4**	**-0.3**		
KBL	**Kabul**	**124.42**	**295**	*e*PKPdf	**PKPdf**	**22 12 42.4**	**-0.3**		
KKAR	**Karatay Array**	**124.66**	**305**	*e*PKIKP	**PKPdf**	**22 12 41.8**	**-0.8**		
KKAR	**Karatay Array**	**124.66**	**305**	*e*PKPdf	**PKPdf**	**22 12 41.8**	**-0.8**		
BVAR	**Borovoye Array**	**125.30**	**317**	PKIKP	**PKPdf**	**22 12 42.3**	**-1.2**		
BVAR	**Borovoye Array**	**125.30**	**317**	PKP	**PKPdf**	**22 12 42.3**	**-1.2**		
BVAR				SKKPbc	SKKPbc	22 26 15.1	+1.7		
BVAR	**Borovoye Array**	**125.30**	**317**	PKP	**PKPdf**	**22 12 42.3**	**-1.2**		
	comp=Z,54nm,0.9s,baz=101,slow=3.0,SNR=60								
BVAR				SKKPbc	SKKPbc	22 26 15.1	+1.7		
	comp=Z,12nm,1.2s,baz=274,slow=3.9,SNR=4.4								
BRVK	**Borovoye**	**125.36**	**317***c*	*i*PKIKP	**PKPdf**	**22 12 43.1**	**-0.5**		
BRVK				pmax	pmax				
	comp=Z,271nm,1.7s								
BRVK				MLR	MLR				
	comp=Z,58µm,20.0s								
BRVK	**Borovoye**	**125.36**	**317**	*e*PKPdf	**PKPdf**	**22 12 42.0**	**-1.6**		
BRVK				LR	LR				
	comp=Z,55µm,19.0s								
KBS	**Kingsbay**	**128.25**	**358**	*e*P	**PKPdf**	**22 12 49.0**	**+0.6**		
KBS				*e*PP	**PP**	**22 14 56.9**	**+4.0**		
KBS				*e*SS	SS	22 32 05.3	-0.1		
KBS				AMS	AMS	23 03 25.9			
	comp=Z,31µm,21.7s								
KBS	**Kingsbay**	**128.25**	**358***c*	*i*PKIKP	**PKPdf**	**22 12 49.4**	**+1.0**		
KBS				pmax	pmax				
	comp=Z,236nm,1.7s								
KBS	**Kingsbay**	**128.25**	**358**	*e*PKPdf	**PKPdf**	**22 12 48.8**	**+0.3**		
KBS				LR	LR				
	comp=Z,38µm,22.0s								
SFJD	**Kangerlussuaq**	**128.63**	**24**	*e*PKPdf	**PKPdf**	**22 12 49.1**	**-0.3**		
SFJD				*e*PP	**PP**	**22 14 55.4**	**-0.2**		
SFJD				SKKPbc	SKKPbc	22 26 00.9	-1.7		
SFJD				LR	LR				
	comp=Z,48µm,22.0s								
SFJD	**Kangerlussuaq**	**128.63**	**24**⇑	*i*P	**PKPdf**	**22 12 48.5**	**-0.9**		
SFJD				*i* PP	**PP**	**22 14 57.0**	**+1.4**		
SFJD				*i*		22 32 09.2			
SFJD									
	comp=Z,36µm,23.0s								
SFJD	**Kangerlussuaq**	**128.63**	**24**	SKKPbc	SKKPbc	22 26 00.9	-1.7		
	comp=Z,18nm,1.1s,baz=97,slow=5.2,SNR=4.6								
SPA0	**Spitsbergen Ar**	**128.81**	**357**	*e*P	**PKPdf**	**22 12 49.2**	**-0.3**		
SPA0				*e*PP	**PP**	**22 14 58.5**	**+2.0**		
SPA0				*e*SS	SS	22 32 10.4	-1.8		
SPB4	**Spitsbergen Ar**	**128.81**	**357**	*e*PKPdf	**PKPdf**	**22 12 49.9**	**+0.3**		
SPITS	**Spitsbergen Ar**	**128.81**	**357**	PKP	**PKPdf**	**22 12 48.5**	**-1.0**		
SPITS	**Spitsbergen Ar**	**128.81**	**357**	PKP	**PKPdf**	**22 12 48.5**	**-1.0**		
	comp=Z,185nm,1.1s,baz=46,slow=3.6,SNR=28								
DAG	**Danmarks Havn**	**129.39**	**7**⇑	*i*PKIKP	**PKPdf**	**22 12 49.8**	**-0.8**		
DAG				*i*		22 15 03.0			
DAG				MLR	MLR				
	comp=Z,33µm,22.0s								
DAG	**Danmarks Havn**	**129.39**	**7**⇑	*i*P	**PKPdf**	**22 12 49.8**	**-0.8**		
DAG				*i* PP	**PP**	**22 15 03.0**	**+2.7**		
DAG									
	comp=Z,44µm,22.0s								
DAG	**Danmarks Havn**	**129.39**	**7**	*i* P	SKKPbc	22 25 45.1	-15		
SUMG	**Summit**	**129.40**	**15**⇑	*i*PKIKP	**PKPdf**	**22 12 51.2**	**-0.1**		
SUMG				*i*		22 15 03.7			
SUMG				MLR	MLR				
	comp=Z,36µm,24.0s								
SUMG	**Summit**	**129.40**	**15**	*e*PKPdf	**PKPdf**	**22 12 51.2**	**-0.1**		
SUMG	**Summit**	**129.40**	**15**⇑	*i*P	**PKPdf**	**22 12 51.2**	**-0.1**		
SUMG				*i* PP	**PP**	**22 15 03.7**	**+2.7**		
SUMG									
	comp=Z,36µm,24.0s								
RCBR	**Riachuelo**	**129.41**	**125**	PKP	**PKPdf**	**22 12 52.4**	**-0.2**		
RCBR				*e*PKPdf	**PKiKP**	**22 12 52.9**	**-0.5**		
RCBR				LR	LR				
	comp=Z,56µm,21.0s								
RCBR	**Riachuelo**	**129.41**	**125**	PKP	**PKPdf**	**22 12 52.4**	**-0.2**		
	comp=Z,43nm,1.1s,baz=175,slow=1.8,SNR=14								
HOPEN	**Hopen**	**129.75**	**354**	*e*P	**PKPdf**	**22 12 47.6**	**-3.7**		
HOPEN				*e*PP	**PP**	**22 15 01.9**	**-0.7**		
HOPEN				*e*SS	SS	22 32 24.3	+0.5		
HOPEN				AMS	AMS	23 07 17.9			
	comp=Z,41µm,20.7s								
SVE	**Sverdlovsk**	**130.50**	**323***d*	*i*PKIKP	**PKPdf**	**22 12 52.6**	**-0.6**		
SVE				*e*SP	SP	22 25 22.8	+6.9		
SVE				pmax	pmax				
	comp=Z,209nm,1.7s								
SVE				pmax	pmax				
	comp=Z,2µm,11.1s								
SVE				MLR	MLR				
	comp=E,54µm,23.0s								
SVE				MLR	MLR				
	comp=Z,72µm,22.0s								
SVE				MLR	MLR				
	comp=N,24µm,21.0s								
LSZ	**Lusaka**	**131.41**	**212**	*e*PKPdf	**PKPdf**	**22 12 53.2**	**-3.3**		
LSZ				LR	LR				
	comp=Z,58µm,20.0s								
ARU	**Arti**	**131.70**	**323**	*i* PKIKP	**PKPdf**	**22 12 54.7**	**-0.8**		
ARU						22 15 12.7			
ARU				PPP	PPP	22 18 08.0			
ARU				MLR	MLR				
	comp=Z,81µm,23.0s								
ARU	**Arti**	**131.70**	**323**	*e*PKPdf	**PKPdf**	**22 12 53.4**	**-2.1**		
ARU				LR	LR				
	comp=Z,75µm,21.0s								
TSUM	**Tsumeb**	**131.78**	**198**	*e*PKPdf	PKPdf	22 12 49.3	-7.8		
TSUM				*e*PP	**PP**	**22 15 14.7**	**-1.2**		
TSUM				LR	LR				
	comp=Z,70µm,19.0s								
ABKAR	**Akbulak array**	**132.06**	**313**	*e*PKPdf	**PKPdf**	**22 12 54.7**	**-1.7**		
BJO	**Bjornoya**	**132.16**	**354**	*e*P	**PKPdf**	**22 12 53.5**	**-2.5**		
BJO				*e*PP	**PP**	**22 15 18.8**	**+0.6**		
BJO				*e*SS	SS	22 32 53.5	+0.2		
AKTO	**Aktyubinsk**	**133.16**	**315**	PKIKP	PKPpre	22 12 53.3			
AKTO						22 12 58.0			
AKTO	**Aktyubinsk**	**133.16**	**315**	PKPpre	PKPpre	22 12 53.3			
AKTO				PKP	**PKPdf**	**22 12 58.0**	**-0.5**		
AKTO	**Aktyubinsk**	**133.16**	**315**	PKhKP	PKPpre	22 12 53.3			
	comp=Z,11nm,1.1s,baz=274,slow=3.1,SNR=5.4								
AKTO				PKP	**PKPdf**	**22 12 58.0**	**-0.5**		
	comp=Z,29nm,0.8s,baz=90,slow=3.6,SNR=30								
SCO	**Scoresbysund**	**134.45**	**12**	*e*PKIKP	**PKPdf**	**22 13 00.3**	**0.0**		
SCO				MLR	MLR				
	comp=Z,32µm,21.0s								
SCO	**Scoresbysund**	**134.45**	**12**	*i* P	**PKPdf**	**22 13 00.3**	**0.0**		
SCO									
	comp=Z,32µm,21.0s								
LVZ	**Lovozero**	**135.43**	**344**	*i* PKIKP	**PKPdf**	**22 13 01.5**	**-0.8**		
LVZ				MLR	MLR				
	comp=Z,21µm,20.0s								
LVZ	**Lovozero**	**135.43**	**344**	*e*PKPdf	**PKPdf**	**22 13 01.1**	**-1.2**		
LVZ				LR	LR				
	comp=Z,53µm,20.0s								
KEV	**Kevo**	**135.51**	**349**	*e*PKIKP	**PKPdf**	**22 12 59.2**	**-3.1**		
KEV				MLR	MLR				
	comp=Z,45µm,21.0s								
KEV	**Kevo**	**135.51**	**349**	*e*PKPdf	**PKPdf**	**22 12 59.2**	**-3.1**		
KEV				LR	LR				
	comp=Z,45µm,21.0s								
KEV	**Kevo**	**135.51**	**349**	*e*pkp	**PKPdf**	**22 12 58.1**	**-4.2**		
JMIC	**Jan Mayen**	**135.82**	**6**	*e*P	**PKPdf**	**22 13 01.5**	**-1.4**		
JMIC				*e*PP	**PP**	**22 15 40.9**	**-0.5**		
SHEL	**Horse Pasture**	**135.93**	**167**	PFAKE		22 13 20.0	+15		
SHEL				LR	LR				
	comp=Z,43µm,19.0s								
ARCES	**ARCESS Array B**	**135.96**	**349**	PKPpre	PKPpre	22 12 54.0			
ARCES				PKP	**PKPdf**	**22 13 01.4**	**-1.8**		
ARCES	**ARCESS Array B**	**135.96**	**349**	PKhKP	PKPpre	22 12 54.0			
	comp=Z,7.3nm,0.9s,baz=22,slow=1.9,SNR=22								
ARCES				PKP	**PKPdf**	**22 13 01.4**	**-1.8**		
	comp=Z,27nm,0.5s,baz=355,slow=1.1,SNR=33								
ARE0	**ARCESS Array S**	**135.96**	**349**	*e*P	**PKPdf**	**22 13 01.4**	**-1.8**		
ARE0				*e*PP	**PP**	**22 15 41.1**	**-1.3**		
ARE0				*e*SS	SS	22 33 38.4	-0.8		
ARE0	**ARCESS Array S**	**135.96**	**349**	*e*PKPdf	**PKPdf**	**22 13 02.6**	**-0.6**		
APA	**Apatity**	**135.99**	**344**⇓	*i*PKIKP	**PKPdf**	**22 13 02.0**	**-1.3**		
APA				*i*		22 15 41.0			
APA				*i*		22 20 13.0			
APA				*i* PS	**PS**	**22 26 03.0**	**-4.0**		
APA				*i* SS	SS	22 33 42.0	+2.4		
MUKL	**Al Mukalla**	**136.04**	**262**	*e*P	**PKPdf**	**22 13 03.6**	**-1.2**		
KTK1	**Kautokeino**	**136.79**	**350**	*e*P	**PKPdf**	**22 13 02.5**	**-2.2**		
KTK1				AMB	AMB	22 13 07.7			
	comp=Z,277nm,1.1s								
KTK1				*e*PP	**PP**	**22 15 45.4**	**-2.2**		
KTK1				*e*SS	SS	22 33 48.8	-0.4		
KTK1				AMS	AMS	23 06 39.5			
	comp=Z,94µm,19.2s								
TRO	**Tromso**	**136.81**	**352**	*e*P	**PKPdf**	**22 13 05.8**	**+1.1**		
TRO				*e*PP	**PP**	**22 15 46.9**	**-0.7**		
TRO				*e*SS	SS	22 33 48.4	-0.8		
TRO				AMS	AMS	23 15 06.1			
	comp=Z,35µm,21.9s								
KMBO	**Kilima Mbogo**	**137.09**	**234**	*e*PKPdf	PKPpre	22 12 59.3			
KMBO				LR	LR				
	comp=Z,68µm,21.0s								
KLMR	**Klimovskoe**	**138.79**	**334***d*	*i*PKHKP	PKPpre	22 12 57.3			
KLMR				MLR	MLR				
	comp=Z,64µm,22.0s								
BORG	**Borgarnes**	**139.36**	**16**	PFAKE		22 13 20.0	+10		
BORG				LR	LR				
	comp=Z,40µm,19.0s								
ATD	**Arta Tunnel**	**140.11**	**254**	PKPpre	PKPpre	22 13 06.0			
ATD				PKP	**PKPdf**	**22 13 12.9**	**+0.4**		
ATD	**Arta Tunnel**	**140.11**	**254**	PKhKP	PKPpre	22 13 06.0			
	comp=Z,13nm,0.8s,baz=74,slow=23,SNR=6.7								
ATD				PKP	**PKPdf**	**22 13 12.9**	**+0.4**		
	comp=Z,16nm,0.9s,baz=285,slow=5.0,SNR=7.5								
GOBA	**Gobu**	**140.12**	**301**	P	**PKPdf**	**22 13 13.9**	**+2.2**		
	SNR=3.7								
GOBA	**Gobu**	**140.12**	**301**	PKPdf	**PKPdf**	**22 13 13.9**	**+2.2**		
	SNR=3.7								
JOF	**Joensuu**	**140.15**	**341**	*e*PKHKP	PKPpre	22 13 02.3			
JOF	**Joensuu**	**140.15**	**341**	*e*pkp	PKPpre	22 13 02.3			
DHBB	**Dhamar BB**	**140.16**	**260**	*e*P	PKPdf	22 13 07.5	-5.4		
STOK	**Stokkvaagen**	**140.62**	**354**	*e*P	PKPdf	22 13 04.4	-7.3		
STOK				*e*PP	**PP**	**22 16 06.4**	**-4.8**		
MOR8	**Moi Rana**	**140.64**	**353**	*e*P	**PKPdf**	**22 13 10.1**	**-1.7**		
MOR8				AMB	AMB	22 13 32.1			
	comp=Z,151nm,1.6s								
SIZA	**Siyzn**	**140.69**	**302**	P	**PKPdf**	**22 13 12.2**	**-0.6**		
	SNR=5.5								
SIZA	**Siyzn**	**140.69**	**302**	PKPdf	**PKPdf**	**22 13 12.2**	**-0.6**		
	SNR=5.5								
ALIB	**Äli-Bayra**	**140.71**	**300**	P	**PKPdf**	**22 13 09.1**	**-3.6**		
	SNR=7.6								
ALIB	**Äli-Bayra**	**140.71**	**300**	PKPdf	**PKPdf**	**22 13 09.1**	**-3.6**		
	SNR=7.6								
PQL	**Pirkuli**	**140.95**	**302**	P	PKPdf	22 13 07.7	-5.7		
	SNR=6.7								
PQL	**Pirkuli**	**140.95**	**302**	PKPdf	PKPdf	22 13 07.7	-5.7		
	SNR=6.7								
LKRN	**Lenkeran, Azer**	**140.97**	**299**	P	**PKPdf**	**22 13 17.2**	**+3.9**		
	SNR=2.9								
LKRN	**Lenkeran, Azer**	**140.97**	**299**	PKPdf	**PKPdf**	**22 13 17.2**	**+3.9**		
	SNR=2.9								
QRN	**Al-Qurain**	**141.18**	**283**	*e*P	PKPdf	22 13 08.5	-5.5		
QRN				AMb	AMB	22 13 25.8			
	comp=Z,463nm,1.2s								
GLBA	**Clilabad**	**141.24**	**299**	P	**PKPdf**	**22 13 09.7**	**-4.1**		
	SNR=8.4								
GLBA	**Clilabad**	**141.24**	**299**	PKPdf	**PKPdf**	**22 13 09.7**	**-4.1**		
	SNR=8.4								
MAK	**Makhachkala**	**141.47**	**305**	*e*P	**Pdif**	**22 10 34.9**	**+2.3**		
MAK				*i*		22 16 13.4			
MAK				*e*PPP	PPP	22 19 19.8			
MAK				pmax	pmax				
	comp=Z,474nm,1.3s								
MAK				MLR	MLR				
	comp=Z,90µm,25.0s								
MIB	**Mutribah**	**141.83**	**284**	*e*P	PKPdf	22 13 09.3	-5.8		
MIB				AMb	AMB	22 13 21.1			
	comp=Z,235nm,1.4s								
NAY	**Al-Naaiem**	**141.84**	**283**	*e*P	PKPdf	22 13 09.0	-6.2		
NAY				AMb	AMB	22 13 28.4			
	comp=Z,100nm,1.1s								
SEKA	**Sheki**	**141.95**	**303**	P	**PKPdf**	**22 13 11.2**	**-3.9**		
	SNR=26								
SEKA	**Sheki**	**141.95**	**303**	PKPdf	**PKPdf**	**22 13 11.2**	**-3.9**		
	SNR=26								
MBAR	**Mbarara**	**141.96**	**227**	PFAKE		22 13 30.0	+14		
MBAR				LR	LR				
	comp=Z,621nm,21.0s								
KAF	**Kangasniemi**	**142.19**	**343**	*e*PKHKP	PKPpre	22 13 08.7			
KAF	**Kangasniemi**	**142.19**	**343**	*e*pkp	PKPpre	22 13 08.7			
NSS	**Namsos**	**142.48**	**354**	*e*P	PKPdf	22 13 08.2	-7.0		
NSS				*e*PP	**PP**	**22 16 19.4**	**-3.1**		
NSS				*e*SS	SS	22 34 55.7	-0.1		
MOS	**Moscow**	**142.65**	**329**	*e*PKHKP	PKPpre	22 13 07.6			
MOS				*e*		22 28 51.1			
MOS				pmax	pmax				
	comp=N,2µm,5.0s								
MOS				pmax	pmax				
	comp=Z,5µm,5.2s								
MOS				pmax	pmax				
	comp=E,2µm,6.1s								
MOS				pmax	pmax				
	comp=Z,345nm,1.8s								
GANJ	**Ganja**	**142.68**	**302**	P	**PKPdf**	**22 13 11.9**	**-4.5**		
	SNR=21								
GANJ	**Ganja**	**142.68**	**302**	PKPdf	**PKPdf**	**22 13 11.9**	**-4.5**		
	SNR=21								
FINES	**FINESS Array B**	**142.81**	**342**	PKPpre	PKPpre	22 13 11.3			
FINES	**FINESS Array B**	**142.81**	**342**	PKhKP	PKPpre	22 13 11.3			
	comp=Z,58nm,0.9s,baz=47,slow=4.1,SNR=86								
PUL	**Pulkovo**	**142.86**	**338***c*	*i*PKIKP	**PKPdf**

VANB	**Van**	**145.18**	**299**	*eP*		**PKPab**	**22 13 20.7**	**+0.1**	
VANT	**Van**	**145.30**	**299**	*eP*		**PKPbc**	**22 13 22.2**	**+1.2**	
AGRB	**Hanur-Agry**	**145.36**	**301**	*eP*		**PKPab**	**22 13 21.7**	**+0.3**	
GEVA	**Gevas**	**145.47**	**298**	*i* P		**PKPdf**	**22 13 18.8**	**-2.7**	
TUTA	**Tutak**	**145.52**	**300**	*i* P		**PKPdf**	**22 13 19.5**	**-2.1**	
FOO	**Floro**	**145.79**	**359**⇑	*i* P		**PKPdf**	**22 13 20.9**	**-0.1**	
FOO					AMB	AMB	22 13 42.5		
	comp=Z,2µm,1.5s								
FOO				*e*SS	SS		22 35 36.9	+3.3	
FOO					AMS	AMS	23 17 54.7		
	comp=Z,29µm,23.0s								
ARTV	**Artvin**	**145.88**	**304**	*i* P		**PKPdf**	**22 13 21.0**	**-1.2**	
DAGI	**Agillar**	**145.91**	**304**	*i* P		**PKPdf**	**22 13 21.1**	**-1.0**	
NB2	**NORSAR Subarra**	**145.98**	**354**		PKP	**PKPdf**	**22 13 21.5**	**0.0**	
	baz=12,slow=2.9								
NB2	**NORSAR Subarra**	**145.98**	**354**		PKP	**PKPdf**	**22 13 21.5**	**0.0**	
	comp=Z,3µm,2.0s,baz=12,slow=2.9								
NOA	**NORSAR Array B**	**145.98**	**354**		PKPbc	**PKPdf**	**22 13 20.9**	**-0.6**	
NOA	**NORSAR Array B**	**145.98**	**354**		PKPbc	**PKPdf**	**22 13 20.9**	**-0.6**	
	comp=Z,89nm,0.8s,baz=16,slow=4.5,SNR=239								
DBOC	**Borcka**	**146.04**	**304**	*i* P		**PKPdf**	**22 13 21.3**	**-0.9**	
BCA	**Borcka**	**146.05**	**304**	*eP*		**PKPbc**	**22 13 23.3**	**+0.2**	
TATV	**Tatvan**	**146.06**	**299**	*i* P		**PKPdf**	**22 13 21.0**	**-1.6**	
DDEM	**Demirkent**	**146.07**	**303**	*i* P		**PKPdf**	**22 13 19.2**	**-3.2**	
HOMI	**Horasan**	**146.11**	**302**	*i* P		**PKPdf**	**22 13 21.0**	**-1.6**	
HYA	**Hoyanger**	**146.19**	**358**	*eP*		**PKPdf**	**22 13 21.3**	**-0.4**	
NAO01	**NORSAR Array S**	**146.21**	**354**	*e*PKPdf		**PKPdf**	**22 13 21.9**	**+0.1**	
NAO01					LR	LR			
	comp=Z,30µm,20.0s								
NC602	**NORSAR Array S**	**146.25**	**353**	*eP*		**PKPdf**	**22 13 21.2**	**-0.6**	
NC602				*e*SS	SS		22 35 35.0	-4.0	
ERZM	**Erzurum**	**146.54**	**302**	*i* P		**PKPdf**	**22 13 23.9**	**+0.5**	
EZM	**Erzurum**	**146.54**	**302**	*eP*		**PKPab**	**22 13 25.4**	**-0.5**	
HFS	**Hagfors**	**146.57**	**351**		PKPbc	**PKPdf**	**22 13 21.5**	**-1.0**	
HFS	**Hagfors**	**146.57**	**351**		PKPbc	**PKPdf**	**22 13 21.5**	**-1.0**	
	comp=Z,177nm,0.8s,baz=90,slow=1.5,SNR=145								
VRTB	**Varto-Mus**	**146.60**	**300**	*eP*		**PKPbc**	**22 13 24.3**	**-0.6**	
PZAR	**Pazar-Rize**	**146.64**	**304**	*eP*		**PKPab**	**22 13 26.2**	**+0.3**	
BTMT	**Batman**	**146.71**	**299**	*eP*		**PKPbc**	**22 13 24.6**	**-0.6**	
BNGL	**BINGOL**	**146.87**	**300**	*i* P		**PKPdf**	**22 13 23.2**	**-0.7**	
SOC	**Sochi**	**146.87**	**309***c*	*i*PKIKP		**PKPdf**	**22 13 22.1**	**-1.3**	
SOC				*i*			22 13 26.6		
SOC				*i*			22 16 46.0		
SOC				*e*SS	SS		22 35 45.4	-2.7	
SOC				*e*SSS	SSS		22 41 13.8		
SOC					pmax	pmax			
	comp=Z,179nm,0.9s								
SOC					pmax	pmax			
	comp=Z,246nm,0.9s								
SOC					MLR	MLR			
	comp=Z,40µm,17.0s								
BEST	**Besiri**	**146.92**	**298**	*i* P		**PKPdf**	**22 13 23.9**	**+0.1**	
WAL1	**Walls**	**146.94**	**5**	*eP*		**PKPdf**	**22 13 23.3**	**+0.3**	
WAL1	**Walls**	**146.94**	**5**	P		**PKPdf**	**22 13 23.3**	**+0.3**	
BER	**Bergen**	**147.00**	**359**	*eP*		**PKPdf**	**22 13 22.3**	**-0.8**	
BER				*e*SS	SS		22 35 45.5	-1.8	
BER					AMS	AMS	23 20 26.2		
	comp=Z,29µm,23.2s								
LRW	**Lerwick**	**147.09**	**5**⇑	*eP*		**PKPdf**	**22 13 22.8**	**-0.5**	
LRW					AMB	AMB	22 13 36.1		
	comp=Z,2µm,4.0s								
LRW					AMS	AMS	23 22 28.4		
	comp=Z,29µm,20.6s								
LRW	**Lerwick**	**147.09**	**5**	P		**PKPdf**	**22 13 22.8**	**-0.5**	
LRW					AMB	AMB	22 13 36.1		
	comp=Z,2µm,4.0s								
LRW					AMS	AMS	23 22 28.4		
	comp=Z,29µm,20.6s								
KOPT	**Kop Dagi**	**147.18**	**302**	*i* P		**PKPdf**	**22 13 23.9**	**-0.5**	
BNGB	**Bing ¶ll**	**147.22**	**300**	*eP*		**PKPdf**	**22 13 24.4**	**0.0**	
BAYT	**Ayd –ntepe-Bay**	**147.37**	**303**	*eP*		**PKPdf**	**22 13 24.6**	**-0.1**	
MARD	**Mardin**	**147.38**	**297**	*i* P		**PKPdf**	**22 13 23.2**	**-1.5**	
KONO	**Kongsberg**	**147.50**	**354**	*eP*		**PKPdf**	**22 13 23.4**	**-0.6**	
KONO				*e*SS	SS		22 35 52.9	-0.3	
KONO					AMS	AMS	23 23 10.8		
	comp=Z,29µm,19.8s								
KONO	**Kongsberg**	**147.50**	**354**	*e*PKIKP		**PKPdf**	**22 13 24.6**	**+0.6**	
KONO					MLR	MLR			
	comp=Z,36µm,20.0s								
KONO	**Kongsberg**	**147.50**	**354**	*e*PKPdf		**PKPdf**	**22 13 24.6**	**+0.6**	
KONO					LR	LR			
	comp=Z,36µm,20.0s								
MACK	**Trabzon**	**147.53**	**304**	*i* P		**PKPdf**	**22 13 22.5**	**-2.2**	
MICGM	**Minsk**	**147.68**	**334**⇑	*i*PKP		**PKPdf**	**22 13 23.0**	**-1.4**	
MNK	**Minsk**	**147.70**	**334**	*d*iPKIKP		**PKPdf**	**22 13 23.0**	**-1.5**	
MNK				*e*PPP	PPP		22 20 26.0		
MNK				*e*SS	SS		22 35 50.0	-6.0	
MNK					pmax	pmax			
	comp=Z,1µm,1.0s								
MNK					pmax	pmax			
	comp=E,1µm,1.2s								
MNK					pmax	pmax			
	comp=N,1µm,1.0s								
MNK					pmax	pmax			
	comp=Z,114µm,8.0s								
DIY	**Diyarbakir**	**147.74**	**298**	*eP*		**PKPab**	**22 13 29.4**	**-1.1**	
NACGM	**Naroch**	**147.81**	**335**	*e*PKP		**PKPdf**	**22 13 21.0**	**-3.6**	
DIYA	**Diyarbakir**	**147.82**	**298**	*i* P		**PKPdf**	**22 13 24.7**	**-0.6**	
ERZN	**Erzincan**	**147.85**	**302**	*eP*		**PKPdf**	**22 13 26.5**	**+1.1**	
GUMT	**Gumushane**	**147.85**	**303**	*eP*		**PKPdf**	**22 13 25.2**	**-0.1**	
BLS5	**Blasjo**	**147.93**	**357**	*eP*		**PKPdf**	**22 13 25.8**	**+1.0**	
BLS5					AMB	AMB	22 13 49.4		
	comp=Z,341nm,1.1s								
ANN	**Anapa**	**148.02**	**312***c*	*i*PKIKP		**PKPdf**	**22 13 23.9**	**-1.4**	
ANN				*e*			22 20 20.4		
ANN				*e*SS	SS		22 36 01.1	+0.3	
ANN					pmax	pmax			
	comp=N,6µm,9.3s								
ANN					pmax	pmax			
	comp=E,4µm,9.3s								
ANN					pmax	pmax			
	comp=Z,22µm,9.3s								
ANN					pmax	pmax			
	comp=N,173nm,1.3s								
ANN					pmax	pmax			
	comp=E,119nm,1.3s								
ANN					pmax	pmax			
	comp=Z,742nm,1.3s								
KELT	**Kelkit**	**148.08**	**303**	*i* P		**PKPdf**	**22 13 24.7**	**-1.2**	
EZC	**Erzincan**	**148.09**	**302**	*eP*		**PKPbc**	**22 13 28.4**	**-0.7**	
ESPY	**Espiye-Giresun**	**148.30**	**304**	*eP*		**PKPdf**	**22 13 24.1**	**-1.9**	
SVRC	**Sivrice-ELAZID**	**148.38**	**299**	*eP*		**PKPdf**	**22 13 26.5**	**+0.1**	
ELZG	**Elazig**	**148.61**	**300**	*i* P		**PKPdf**	**22 13 26.2**	**-0.6**	
GRSN	**GIRESUNGRSN**	**148.63**	**304**	*i* P		**PKPdf**	**22 13 26.5**	**0.0**	
ILIC	**ilic-Erzincan**	**148.75**	**302**	*eP*		**PKPdf**	**22 13 26.9**	**+0.1**	
KEMA	**Kemaliye**	**148.84**	**301**	*i* P		**PKPdf**	**22 13 26.5**	**-0.5**	
SUSE	**Susehri**	**148.86**	**303**	*i* P		**PKPdf**	**22 13 25.4**	**-1.7**	
URFA	**Urfa**	**148.91**	**298**	*eP*		**PKPdf**	**22 13 27.4**	**+0.3**	
HOMB	**Homborsund**	**148.96**	**355**	*eP*		**PKPbc**	**22 13 30.4**	**0.0**	
HOMB				*e*SS	SS		22 36 07.3	-2.1	
MALT	**Malatya**	**149.07**	**299**	*eP*		**PKPdf**	**22 13 27.5**	**0.0**	
MALT	**Malatya**	**149.07**	**299**		PFAKE		22 13 40.0	+4.1	
MALT					LR	LR			
	comp=Z,776nm,22.0s								
MYA	**Malatya**	**149.07**	**299**	*eP*		**PKPdf**	**22 13 28.9**	**+1.5**	
KAC	**Achnashellach**	**149.23**	**10**⇑	*eP*		**PKPdf**	**22 13 26.8**	**-0.1**	
KAC	**Achnashellach**	**149.23**	**10**	P		**PKPdf**	**22 13 26.8**	**-0.1**	
ATAB	**Bozova**	**149.32**	**298**	*i* P		**PKPdf**	**22 13 25.4**	**-2.3**	
KPL	**Plockton**	**149.33**	**10**	*eP*		**PKPdf**	**22 13 26.6**	**-0.5**	
KPL					AMB	AMB	22 13 32.7		
	comp=Z,788nm,2.3s								
KPL					AMS	AMS	23 21 32.3		
	comp=Z,44µm,18.4s								
KPL	**Plockton**	**149.33**	**10**	P		**PKPdf**	**22 13 26.6**	**-0.5**	
KPL					AMB	AMB	22 13 32.7		
	comp=Z,788nm,2.3s								
KPL					AMS	AMS	23 21 32.3		
	comp=Z,44µm,18.4s								
DARE	**Darende-Malaty**	**149.43**	**301**	*eP*		**PKPdf**	**22 13 27.4**	**-0.5**	
RSDY	**Resadiye-TOKAT**	**149.46**	**304**	*eP*		**PKPdf**	**22 13 27.9**	**+0.1**	
AKCD	**Akcadag**	**149.47**	**300**	*i* P		**PKPdf**	**22 13 26.2**	**-1.9**	
AKASG	**Malin Array Be**	**149.73**	**327**		PKIKP	**PKPdf**	**22 13 26.5**	**-1.4**	
AKASG							22 13 32.4		
AKASG	**Malin Array Be**	**149.73**	**327**		PKP	**PKPdf**	**22 13 26.5**	**-1.4**	
AKASG					PKPbc	**PKPbc**	**22 13 32.4**	**-0.2**	
AKASG	**Malin Array Be**	**149.73**	**327**		PKP	**PKPdf**	**22 13 26.5**	**-1.4**	
	comp=Z,25nm,1.1s,baz=43,slow=1.2,SNR=50								
AKASG					PKPbc	**PKPbc**	**22 13 32.4**	**-0.2**	
	comp=Z,39nm,0.5s,baz=43,slow=3.5,SNR=101								
AKBB	**Malin Array Si**	**149.73**	**327**	*e*PKHKP		PKPpre	22 13 27.4		
AKBB				*e*			22 13 32.2		
AKBB	**Malin Array Si**	**149.73**	**327**	*e*PKPdf		**PKPdf**	**22 13 27.4**	**-0.5**	
AKBB				*e*PKPbc		**PKPbc**	**22 13 32.2**	**-0.4**	
SCER	**sogukcermik**	**149.74**	**303**	*i* P		**PKPdf**	**22 13 27.6**	**-0.8**	
KIEV	**Kiev**	**149.75**	**327**	*e*PKIKP		**PKPdf**	**22 13 26.7**	**-1.2**	
KIEV					MLR	MLR			
	comp=Z,68µm,22.0s								
KIEV	**Kiev**	**149.75**	**327**	*e*PKPdf		**PKPdf**	**22 13 26.7**	**-1.2**	
KIEV					LR	LR			
	comp=Z,68µm,22.0s								
ERBA	**Erbaa**	**149.81**	**305**	*i* P		**PKPdf**	**22 13 26.2**	**-2.3**	
SUW	**Suwalki**	**149.81**	**337**	*e*PKPdf		**PKPdf**	**22 13 27.5**	**-0.4**	
SUW				*e*PKiKP		**PKPbc**	**22 13 33.3**	**+0.6**	
SUW				*e*PP		**PP**	**22 17 07.1**	**+1.0**	
SUW				*e*SS	SS		22 36 14.8	-4.6	
SUW					LMZ	LR	23 15 18.6		
	comp=Z,64µm,24.9s								
SUW	**Suwalki**	**149.81**	**337**	*e*PKPdf		**PKPdf**	**22 13 27.5**	**-0.4**	
SUW				*e*PKiKP		**PKPbc**	**22 13 33.3**	**+0.6**	
SUW				*e*PP		**PP**	**22 17 07.1**	**+1.0**	
SUW				*e*SS	SS		22 36 14.8	-4.6	
SUW					LMZ	LR	23 15 18.6		
	comp=Z,64µm,24.9s								
SUW	**Suwalki**	**149.81**	**337**	*i* PKP2		**PKPbc**	**22 13 33.3**	**+0.6**	
SUW				*e*			22 17 07.1		
SUW				*e*SS	SS		22 36 14.8	-4.7	
SUW					MLR	MLR			
	comp=Z,64µm,24.9s								
SUW	**Suwalki**	**149.81**	**337**	*e*PKPdf		**PKPdf**	**22 13 27.6**	**-0.4**	
GZT	**Gaziantep**	**149.91**	**298**	*i* P		**PKPdf**	**22 13 30.0**	**+1.1**	
TOKA	**Tokat**	**150.10**	**304**	*i* P		**PKPdf**	**22 13 27.6**	**-1.3**	
SIM	**Simferopol'**	**150.12**	**314***c*	*i*PKHKP		PKPpre	22 13 28.1		
SIM					pmax	pmax			
	comp=Z,7µm,17.0s								
KVT	**Kavak**	**150.21**	**306**	*eP*		**PKPdf**	**22 13 28.9**	**-0.2**	
GAZ	**Gaziantep**	**150.22**	**298**	*eP*		**PKPdf**	**22 13 28.4**	**-0.8**	
KUZU	**Kuzuini**	**150.39**	**297**	*i* P		**PKPdf**	**22 13 26.9**	**-2.6**	
KMRS	**Kahramanmaras**	**150.41**	**298**	*eP*		**PKPdf**	**22 13 27.9**	**-1.6**	
HAVZ	**Havza**	**150.45**	**306**	*i* P		PKPdf	22 13 20.2	-9.2	
PINB	**Pinarbasi**	**150.56**	**301**	*i* P		**PKPdf**	**22 13 28.4**	**-1.6**	
DIKM	**Dikmen**	**150.60**	**307**	*eP*		**PKPdf**	**22 13 28.9**	**-0.7**	
EAB	**Aberfoyle**	**150.64**	**9**⇑	*eP*		**PKPdf**	**22 13 28.3**	**-0.8**	
EAB	**Aberfoyle**	**150.64**	**9**	P		**PKPdf**	**22 13 28.3**	**-0.8**	
MUD	**Monsted U'grnd**	**150.70**	**354**⇑	*i*PKIKP		**PKPdf**	**22 13 29.5**	**+0.3**	
MUD					*i*		22 36 25.1		
MUD					MLR	MLR			
	comp=Z,41µm,22.0s								
MUD	**Monsted U'grnd**	**150.70**	**354**⇑	*i*P		**PKPdf**	**22 13 29.5**	**+0.3**	
MUD					*i*		22 36 25.1		
MUD									
	comp=Z,41µm,22.0s								
PCED	**Cedros**	**150.70**	**59**	*e*PKP		**PKPbc**	**22 13 35.6**	**+0.2**	
CALA	**Caldeira**	**150.71**	**59**	*e*PKP		**PKPbc**	**22 13 34.9**	**-0.6**	
ANDN	**Andirin**	**150.83**	**299**	*i* P		**PKPdf**	**22 13 30.6**	**+0.4**	
PCAN	**Candelaria**	**150.90**	**59**	*e*PKP		**PKPab**	**22 13 42.0**	**-1.3**	
ASF	**Jabal al Asfar**	**150.92**	**288**	PKP		**PKPdf**	**22 13 30.5**	**0.0**	
ASF					PKPbc	**PKiKP**	**22 13 36.8**	**0.0**	
ASF					PKPab	**PKPab**	**22 13 44.0**	**+0.4**	
ASF	**Jabal al Asfar**	**150.92**	**288**	PKP		**PKPdf**	**22 13 30.5**	**0.0**	
	comp=Z,24nm,1.2s,baz=53,slow=0.3,SNR=22								
ASF					PKPbc	**PKiKP**	**22 13 36.8**	**0.0**	
	comp=Z,62nm,0.9s,baz=349,slow=0.5,SNR=51								
ASF					PKPab	**PKPab**	**22 13 44.0**	**+0.4**	
	comp=Z,440nm,0.9s,baz=344,slow=1.9,SNR=45								
BOYT	**Boyabat**	**150.92**	**307**	*i* P		**PKPbc**	**22 13 36.5**	**+0.6**	
PICO	**Pico**	**150.94**	**59**	*e*PKP		**PKPbc**	**22 13 36.4**	**+0.4**	
BNN	**Bunyan**	**150.94**	**301**	*eP*		**PKPdf**	**22 13 29.6**	**-0.8**	
PGBU	**Glenifferbraes**	**150.98**	**10**⇑	*eP*		**PKPdf**	**22 13 28.9**	**-0.8**	
PGBU					AMB	AMB	22 13 46.2		
	comp=Z,1µm,2.8s								
PGBU					AMS	AMS	23 22 53.0		
	comp=Z,39µm,18.9s								
PGBU	**Glenifferbraes**	**150.98**	**10**	P		**PKPdf**	**22 13 28.9**	**-0.8**	
PGBU					AMB	AMB	22 13 46.2		
	comp=Z,1µm,2.8s								
PGBU					AMS	AMS	23 22 53.0		
	comp=Z,39µm,18.9s								
COP	**Copenhagen**	**151.04**	**350**⇑	*i*PKIKP		**PKPdf**	**22 13 30.2**	**+0.5**	
COP				*i*			22 36 36.1		
COP					MLR	MLR			
	comp=Z,25µm,21.0s								
COP	**Copenhagen**	**151.04**	**350**⇑	*i*P		**PKPdf**	**22 13 30.2**	**+0.5**	
COP				*i*			22 36 36.1		
COP									
	comp=Z,25µm,21.0s								
EDI	**Edinburgh**	**151.05**	**8**⇑	*eP*		**PKPdf**	**22 13 29.2**	**-0.5**	
EDI					AMB	AMB	22 13 36.7		
	comp=Z,421nm,1.6s								
EDI					AMS	AMS	23 19 36.2		
	comp=Z,38µm,22.8s								
EDI	**Edinburgh**	**151.05**	**8**	P		**PKPdf**	**22 13 29.2**	**-0.5**	
EDI					AMB	AMB	22 13 36.7		
	comp=Z,421nm,1.6s								
EDI					AMS	AMS	23 19 36.2		
	comp=Z,38µm,22.8s								
EAU	**Auchinoon**	**151.09**	**8**⇑	*eP*		**PKPdf**	**22 13 29.0**	**-0.8**	
EAU	**Auchinoon**	**151.09**	**8**	P		**PKPdf**	**22 13 29.0**	**-0.8**	
ESY	**Stoneypath**	**151.13**	**7**⇑	*eP*		**PKPdf**	**22 13 28.8**	**-1.1**	
ESY	**Stoneypath**	**151.13**	**7**	P		**PKPdf**	**22 13 28.8**	**-1.1**	
BSD	**Bornholm Skovb**	**151.13**	**347**⇑	*i*PKIKP		**PKPdf**	**22 13 30.1**	**+0.2**	
BSD					MLR	MLR			
	comp=Z,47µm,23.0s								
BSD	**Bornholm Skovb**	**151.13**	**347**⇑	*i*P		**PKPdf**	**22 13 30.1**	**+0.2**	
BSD									
	comp=Z,47µm,23.0s								
YOZ	**Yozgat**	**151.14**	**303**	*eP*		**PKPdf**	**22 13 33.2**	**+2.5**	
PMAN	**Manadas**	**151.17**	**59**	*e*PKP		**PKPbc**	**22 13 36.7**	**+0.3**	
EBL	**Broad Law**	**151.22**	**8**⇑	*eP*		**PKPdf**	**22 13 29.9**	**-0.1**	
EBL	**Broad Law**	**151.22**	**8**	P		**PKPdf**	**22 13 29.9**	**-0.1**	
FKH	**Fakeheh**	**151.23**	**292**	*eP*		**PKPdf**	**22 13 30.2**	**-0.8**	
KOZT	**Kozan**	**151.25**	**299**	*eP*		**PKPdf**	**22 13 31.0**	**+0.2**	
CTKT	**Corum**	**151.25**	**305**	*i* P		**PKPdf**	**22 13 29.8**	**-1.1**	
YAYL	**Yayladag**	**151.27**	**296**	*i* P		**PKPdf**	**22 13 26.9**	**-4.1**	
BZK	**Bozkurt**	**151.37**	**308**	*eP*		**PKPdf**	**22 13 29.8**	**-0.9**	
CEYT	**Ceyhan**	**151.40**	**298**	*eP*		**PKPdf**	**22 13 30.3**	**-0.6**	
LLD	**Lille Linde**	**151.41**	**350**	*e*PKIKP		**PKPdf**	**22 13 30.2**	**-0.1**	
LLD				*i*			22 13 36.2		
LLD	**Lille Linde**	**151.41**	**350**	*i* P		**PKPdf**	**22 13 30.2**	**-0.1**	
LLD				*i*			22 13 36.2		
CORM	**Corum**	**151.50**	**305**	*eP*		**PKPdf**	**22 13 31.0**	**-0.2**	
HWQ	**Hawqa**	**151.61**	**292**	*eP*		**PKPdf**	**22 13 30.7**	**-0.9**	
ESK	**Eskdalemuir**	**151.64**	**8**	*eP*		**PKPdf**	**22 13 30.0**	**-0.7**	
ESK					AMB	AMB	22 13 47.9		
	comp=Z,720nm,3.0s								
ESK					AMS	AMS	23 19 35.2		
	comp=Z,48µm,20.5s								
ESK	**Eskdalemuir**	**151.64**	**8**	P		**PKPdf**	**22 13 30.0**	**-0.7**	
ESK					AMB	AMB	22 13 47.9		
	comp=Z,720nm,3.0s								
ESK					AMS	AMS	23 19 35.2		
	comp=Z,48µm,20.5s								
ESK	**Eskdalemuir**	**151.64**	**8**	*e*PKIKP		**PKPdf**	**22 13 30.0**	**-0.7**	
ESK					MLR	MLR			
	comp=Z,58µm,20.0s								
ESK	**Eskdalemuir**	**151.64**	**8**	*e*PKPdf		**PKPdf**	**22 13 30.0**	**-0.7**	
ESK					LR	LR			
	comp=Z,58µm,20.0s								
TOS	**Tosya**	**151.68**	**307**	*eP*		**PKPdf**	**22 13 32.7**	**+1.3**	
AVNT	**Avonos**	**151.71**	**302**	*i* P		**PKPdf**	**22 13 29.1**	**-2.5**	
SACV	**Santiago Islan**	**151.72**	**110**	*e*PKPdf		**PKPdf**	**22 13 31.9**	**-0.2**	
SACV					LR	LR			
	comp=Z,51µm,22.0s								
RCY	**Rachaya**	**151.76**	**290**	*eP*		**PKPdf**	**22 13 31.2**	**-0.6**	
KRTS	**Karatas**	**151.77**	**297**	*eP*		**PKPdf**	**22 13 31.8**	**+0.2**	
ADH	**Angra Heroismo**	**151.81**	**59**	*e*PKP		**PKPbc**	**22 13 40.9**	**+3.0**	
CDAG	**Cicekdag**	**151.85**	**304**	*i* P		**PKPdf**	**22 13 30.4**	**-1.4**	
GAL1	**Galloway**	**151.86**	**10**	*eP*		**PKPdf**	**22 13 30.5**	**-0.5**	
GAL1					AMS	AMS	23 17 33.8		
	comp=Z,51µm,22.4s								
GAL1	**Galloway**	**151.86**	**10**	P		**PKPdf**	**22 13 30.5**	**-0.5**	
GAL1					AMS	AMS	23 17 33.8		
	comp=Z,51µm,22.4s								
BHL	**Bhannes**	**151.88**	**291**	*eP*		**PKPdf**	**22 13 30.7**	**-1.3**	
GCD	**Castle Douglas**	**151.98**	**9**⇑	*eP*		**PKPdf**	**22 13 30.8**	**-0.5**	
GCD	**Castle Douglas**	**151.98**	**9**	P		**PKPdf**	**22 13 30.8**	**-0.5**	
NIG	**Nigde**	**152.06**	**300**	*eP*		**PKPdf**	**22 13 32.7**	**+0.4**	
CANT	**Cankiri**	**152.11**	**306**	*eP*		**PKPdf**	**22 13 30.3**	**-1.7**	
GULE	**Gulek**	**152.11**	**299**	*i* P		**PKPdf**	**22 13 31.4**	**-0.8**	
MMAI	**Mount Meron Ar**	**152.15**	**289**	PKP		**PKPdf**	**22 13 32.3**	**0.0**	
MMAI				PKPbc		**PKPbc**	**22 13 38.7**	**-0.3**	
MMAI				PKPab		**PKPab**	**22 13 49.6**	**+0.9**	
MMAI	**Mount Meron Ar**	**152.15**	**289**	PKP		**PKPdf**	**22 13 32.3**	**0.0**	
	comp=Z,15nm,1.1s,baz=286,slow=3.1,SNR=14								
MMAI				PKPbc		**PKPbc**	**22 13 38.7**	**-0.3**	
	comp=Z,156nm,0.9s,baz=70,slow=7.2,SNR=67								
MMAI				PKPab		**PKPab**	**22 13 49.6**	**+0.9**	
	comp=Z,798nm,1.2s,baz=87,slow=7.5,SNR=19								
XAL	**Allendale**	**152.21**	**7**	*eP*		**PKPdf**	**22 13 31.2**	**-0.4**	
XAL	**Allendale**	**152.21**	**7**	P		**PKPdf**	**22 13 31.2**	**-0.4**	
GMM	**Mts of Mourne**	**152.24**	**12**⇑	*eP*		**PKPdf**	**22 13 31.4**	**-0.2**	
GMM	**Mts of Mourne**	**152.24**	**12**	P		**PKPdf**	**22 13 31.4**	**-0.2**	
KIS	**Kishinev**	**152.25**	**322**α	*i*PKIKP		**PKPdf**	**22 13 30.0**	**-1.9**	
KIS				*i*			22 13 43.0		
KIS				*i*			22 17 20.0		
KIS				*i* SS	SS		22 36 50.0	+2.7	
KIS					pmax	pmax			
	comp=Z,1µm,2.0s								
KIS					pmax	pmax			
	comp=Z,6µm,11.0s								
KIS					pmax	pmax			
	comp=Z,10µm,25.0s								
KIS					MLR	MLR			
	comp=N,41µm,23.0s								
KIS					MLR	MLR			
	comp=Z,76µm,23.0s								
KIS					MLR	MLR			
	comp=E,35µm,24.0s								
KIS					MLR	MLR			
	comp=Z,82µm,26.0s								
KIS	**Kishinev**	**152.25**	**322**⇑	*i*P		**PKPdf**	**22 13 35.1**	**+3.2**	
KIS	**Kishinev**	**152.25**	**322**⇑	*i*PKIKP		**PKPdf**	**22 13 30.0**	**-1.9**	
KIS					M		22 13 34.0		
	comp=Z,4µm,7.0s								
KIS	**Kishinev**	**152.25**	**322**	*i* PP		PP	22 17 20.0	-0.6	
	comp=Z,10µm,25.0s								
KIS	**Kishinev**	**152.25**	**322**	*i* PPS		PPS	22 30 30.0		
KIS				*i* SS	SS		22 36 50.0	+2.7	
KIS					LRM	MLR	23 18 12.0		
	comp=Z,35µm,24.0s								
GKP	**Gorka Klasztor**	**152.28**	**342**	*e*PKPdf		**PKPdf**	**22 13 31.5**	**-0.2**	
GKP				*e*PKPab		**PKPab**	**22 13 48.9**	**+0.5**	
GKP				*e*PP		**PP**	**22 17 18.0**	**-2.2**	
GKP				*e*SS	SS		22 36 46.3	-0.2	
GKP					LMZ	LR	23 20 56.3		
	comp=Z,54µm,24.2s								
GKP	**Gorka Klasztor**	**152.28**	**342**	*e*PKPdf		**PKPdf**	**22 13 31.5**	**-0.2**	
GKP				*e*PKPab		**PKPab**	**22 13 48.9**	**+0.5**	
GKP				*e*PP		**PP**	**22 17 18.0**	**-2.2**	
GKP				*e*SS	SS		22 36 46.3	-0.2	
GKP					LMZ	LR	23 20 56.3		
	comp=Z,54µm,24.2s								
**

KWP *e*PP **PP** 22 17 26.6 -0.5
KWP LR LR
comp=Z,68µm,21.0s
KWP Kalwaria Pacla 153.45 332 ⇑*i*P **PKPdf** 22 13 33.5 -0.1
WPM1 Penmaenmawr 153.54 10 ⇑*e*P **PKPdf** 22 13 33.5 -0.1
WPM1 Penmaenmawr 153.54 10 P **PKPdf** 22 13 33.5 -0.1
GHRR 153.59 321 ⇑*i*P **PKPdf** 22 13 33.3 -0.6
CSS Prodhromos 153.67 294 *e*P **PKPdf** 22 13 32.5 -1.8
CSS Prodhromos 153.67 294 *e*PKPdf **PKPdf** 22 13 33.9 -0.5
CSS LR LR
comp=Z,119µm,20.0s
CSS Prodhromos 153.67 294 P **PKPdf** 22 13 33.4 -1.0
CFR Carcaliu 153.68 319 ⇓⇓PKIKP **PKPdf** 22 13 32.6 -1.4
CFR Carcaliu 153.68 319 ⇓*i*P **PKPdf** 22 13 32.6 -1.4
ERMK Ermenek 153.70 298 *i* P **PKPdf** 22 13 31.3 -3.3
MAMC Mammari 153.73 294 P **PKPdf** 22 13 34.2 -0.2
TESR 153.73 323 ⇓*i*P **PKPdf** 22 13 33.5 -0.6
BUR08 Bucovina Ar. S 153.74 326 *e*PKPdf **PKPdf** 22 13 33.9 -0.3
LADK Ladik-KONYA 153.75 301 *e*P **PKPdf** 22 13 32.2 -2.3
BURAR Bucovina Array 153.75 326 ⇑*i*P **PKPdf** 22 13 35.8 +1.6
KONT Konya--Tatoy 153.82 301 *e*P **PKPdf** 22 13 31.8 -2.8
PSMA Santa Maria 153.82 61 *e*PKP **PKPbc** 22 13 40.5 -1.9
RUE Ruedersdorf 153.84 346 *e*PKPdf **PKPdf** 22 13 34.7 +0.7
KDHN Kadinhani 153.85 302 *i* P **PKPdf** 22 13 35.0 +0.4
KBI1 Birley Grange 153.87 7 ⇑*e*P **PKPdf** 22 13 32.8 -1.3
KBI1 Birley Grange 153.87 7 P **PKPdf** 22 13 32.8 -1.3
PSMN Pico do Norte, 153.87 61 *e*PKP **PKPbc** 22 13 39.7 -2.9
PETR 153.89 321 ⇓*i*P **PKPbc** 22 13 42.3 0.0
TIRR Tirgusor 153.91 317 ⇑⇑PKIKP **PKPdf** 22 13 34.2 -0.2
TIRR Tirgusor 153.91 317 *e*PKPdf **PKPdf** 22 13 34.4 0.0
TIRR Tirgusor 153.91 317 ⇑*i*P **PKPdf** 22 13 34.2 -0.2
KIZT Kizilcal 153.92 303 *e*P **PKPdf** 22 13 35.2 +0.4
STNC Stoke 153.95 8 *e*P **PKPdf** 22 13 33.2 -1.0
STNC *e* 22 17 24.6
STNC AMS AMS 23 21 02.9
comp=Z,61µm,20.8s
STNC Stoke 153.95 8 P **PKPdf** 22 13 33.2 -1.0
STNC 22 17 24.6
STNC AMS AMS 23 21 02.9
comp=Z,61µm,20.8s
HENT Hendek 153.96 308 *i* P **PKPdf** 22 13 33.5 -1.1
LEF Lefka 154.00 294 *e*P **PKPdf** 22 13 33.7 -1.1
FOEL Foel Wylfa 154.00 10 ⇑*e*P **PKPdf** 22 13 34.5 +0.3
FOEL AMB AMB 22 13 45.2
comp=Z,437nm,3.5s
FOEL *e* 22 17 31.3
FOEL AMS AMS 23 24 41.7
comp=Z,40µm,19.6s
FOEL Foel Wylfa 154.00 10 P **PKPdf** 22 13 34.5 +0.3
FOEL AMB AMB 22 13 45.2
comp=Z,437nm,3.5s
FOEL 22 17 31.3
FOEL AMS AMS 23 24 41.7
comp=Z,40µm,19.6s
SVRH Sivrihisar-ESK 154.00 305 *e*P **PKPdf** 22 13 33.7 -1.1
SZAC Souni-Zanaja 154.06 294 P **PKPdf** 22 13 34.4 -0.6
VRI Vrincioaia 154.08 321 ⇓⇓PKIKP **PKPdf** 22 13 34.4 -0.2
VRI Vrincioaia 154.08 321 ⇓*i*P **PKPdf** 22 13 34.4 -0.2
OJC Ojcow 154.12 336 *e*PKPdf **PKPdf** 22 13 33.1 -1.4
OJC *e*PKPbc **PKPbc** 22 13 41.0 -1.6
OJC *ep*PKPdf **pPKPbc** 22 13 50.1 -1.9
OJC *e*PKPab **PKPab** 22 13 58.0 +1.7
OJC *e*PP PP 22 17 23.1 -7.6
OJC *e*SKSdf **SKSdf** 22 20 37.1 -2.2
OJC *e*SS **SS** 22 37 04.0 -3.0
OJC L L 23 19 00.0
comp=Z,93µm,23.5s
OJC Ojcow 154.12 336 *e*PKP2 **PKPab** 22 13 58.3 +2.0
OJC *e* 22 20 37.8
OJC *e*SS SS 22 37 04.2 -2.8
OJC MLR MLR
comp=Z,93µm,23.5s
PLOR Plostina 154.13 321 ⇑⇑PKIKP **PKPdf** 22 13 34.3 -0.4
PLOR Plostina 154.13 321 ⇑*i*P **PKPdf** 22 13 34.3 -0.4
MANR Mangalia 154.14 316 ⇑*i*P **PKPbc** 22 13 43.8 +0.9
KOLS Kolonicke sedl 154.16 331 *e*PKIKP **PKPdf** 22 13 34.4 -0.2
KOLS *i* 22 13 42.2
KOLS *e*SS SS 22 37 04.2 -3.6
KOLS Kolonicke sedl 154.16 331 *e*PKP **PKPdf** 22 13 34.4 -0.2
KOLS *e* 22 13 42.2
KOLS *e*SS SS 22 37 04.2 -3.6
ALFC Alevga 154.23 295 P **PKPdf** 22 13 34.7 -0.5
comp=Z,12nm,0.9s
GRER 154.24 320 ⇑*i*P **PKPbc** 22 13 41.2 -1.9
GAZI Gazipasa 154.26 297 *i* P **PKPdf** 22 13 31.3 -3.9
GULT Gulveren 154.38 307 *e*P **PKPdf** 22 13 34.4 -0.9
UZH Uzhgorod 154.38 331 *i* PKIKP **PKPdf** 22 13 34.0 -0.9
UZH *e* 22 13 41.0
UZH *e* 22 17 36.0
UZH *e* 22 20 36.0
UZH *e*PPP PPP 22 21 10.0
UZH MLR MLR
comp=Z,18µm,23.0s
HLM1 Long Mynd 154.41 9 *e*P **PKPdf** 22 13 33.9 -1.0
HLM1 AMB AMB 22 13 46.0
comp=Z,390nm,3.3s
HLM1 Long Mynd 154.41 9 P **PKPdf** 22 13 33.9 -1.0
HLM1 AMB AMB 22 13 46.0
comp=Z,390nm,3.3s
SPNC Sapanca-Adapaz 154.43 308 *e*P **PKPdf** 22 13 33.2 -2.1
PSN Preselentsi 154.46 316 *i* P **PKPdf** 22 13 34.8 -0.4
AKMC Akamas 154.47 294 P **PKPdf** 22 13 35.2 -0.3
ESKT Eskisehir 154.47 305 *e*P **PKPdf** 22 13 34.2 -1.4
SEYT Eskypehyr 154.47 305 *i* P **PKPdf** 22 13 33.9 -1.6
PPCY Paphos 154.48 294 P **PKPdf** 22 13 36.6 +1.1
PGOR Pogoanele 154.51 319 ⇓*i*P **PKPbc** 22 13 43.2 -0.4
CRVS Cervenica-Dubn 154.53 332 *e*PKIKP **PKPdf** 22 13 34.8 -0.4
CRVS *e*SS SS 22 37 05.1 -6.6
CRVS Cervenica-Dubn 154.53 332 *e*PKP **PKPdf** 22 13 34.8 -0.4
CRVS *e*SS SS 22 37 05.1 -6.6
BMR Baia Mare 154.54 328 ⇑⇑PKIKP **PKPdf** 22 13 35.1 -0.1
BMR Baia Mare 154.54 328 ⇑*i*P **PKPdf** 22 13 35.1 -0.1
NIE Niedzica 154.58 334 *e*PKPdf **PKPdf** 22 13 35.1 -0.2
NIE *e*PKPbc **PKPbc** 22 13 43.1 -0.6
NIE *e*PKPab **PKPab** 22 14 00.0 +1.7
NIE Niedzica 154.58 334 *e*PKIKP **PKPdf** 22 13 35.6 +0.4
BORA Eskisehir 154.63 306 *i* P **PKPdf** 22 13 31.3 -4.4
ISR Istrita 154.64 320 ⇑⇑PKIKP **PKPbc** 22 13 46.1 +2.1
ISR Istrita 154.64 320 ⇑*i*P **PKPbc** 22 13 46.1 +2.1
TRPA Tarpa 154.65 330 ⇓*i*P **PKPdf** 22 13 34.6 -0.7
TRPA Tarpa 154.65 330 ⇑⇑ePKPdf **PKPdf** 22 13 34.4 -0.9
BOLV Bolvadin 154.66 303 *i* P **PKPdf** 22 13 32.8 -3.0
SILT Sile 154.70 310 *e*P **PKPdf** 22 13 33.7 -1.9
KSP Ksiaz 154.72 341 *e*PKPdf **PKPdf** 22 13 35.0 -0.3
KSP *e*PP **PP** 22 17 29.4 -4.6
KSP *e*SS SS 22 37 11.7 -1.6
KSP LMZ LR 23 21 51.2
comp=Z,68µm,24.0s
KSP Ksiaz 154.72 341 *e*PKPdf **PKPdf** 22 13 35.0 -0.3
KSP *e*PP **PP** 22 17 29.4 -4.6
KSP *e*SS SS 22 37 11.7 -1.6
KSP LMZ LR 23 21 51.2
comp=Z,68µm,24.0s
KSP Ksiaz 154.72 341 *e*PKP2 **PKPab** 22 13 59.6 +0.8
KSP *e*SS SS 22 37 06.0 -7.3
KSP *e*SSS SSS 22 43 06.0
KSP MLR MLR
comp=Z,136µm,24.0s
MLR Muntele Rosu 154.75 322 PKP **PKPdf** 22 13 35.5 -0.3
MLR PKPbc **PKiKP** 22 13 45.8 +1.4
MLR PP **PP** 22 17 33.5 -1.4
MLR Muntele Rosu 154.75 322 ⇑*i*P **PKPdf** 22 13 35.0 -0.7
MLR Muntele Rosu 154.75 322 PKP **PKPdf** 22 13 35.5 -0.3
comp=Z,7.1nm,1.1s,baz=39,slow=4.8
MLR PKPbc **PKiKP** 22 13 45.8 +1.4
comp=Z,25nm,1.2s,baz=343,slow=1.9,SNR=25
MLR PP **PP** 22 17 33.5 -1.4
comp=Z,5.8nm,1.0s,baz=102,slow=6.3,SNR=3.3
RAC Raciborz 154.79 338 *e*PKIKP **PKPdf** 22 13 35.2 -0.2
RAC *e* 22 17 32.3
RAC *e*SS SS 22 37 15.3 +1.1
RAC MLR MLR
comp=Z,50µm,21.0s
RAC MLR MLR
comp=N,35µm,20.0s
RAC MLR MLR
comp=E,32µm,20.0s
HRT Hereke 154.82 309 *e*P **PKPdf** 22 13 33.7 -2.2
MCH1 Michaelchurch 154.90 10 ⇑*e*P **PKPdf** 22 13 34.8 -0.7
MCH1 AMB AMB 22 13 46.5
comp=Z,305nm,3.4s
MCH1 AMS AMS 23 29 08.0
comp=Z,46µm,19.1s
MCH1 Michaelchurch 154.90 10 P **PKPdf** 22 13 34.8 -0.7
MCH1 AMB AMB 22 13 46.5
comp=Z,305nm,3.4s
MCH1 AMS AMS 23 29 08.0
comp=Z,46µm,19.1s
ADVT Abdulvahap 154.93 308 *e*P **PKPdf** 22 13 33.7 -2.3
CAVI Cavuskoy 154.95 307 *e*P **PKPdf** 22 13 34.6 -1.4
SECR 154.96 321 ⇑*i*P **PKPdf** 22 13 37.2 +1.3
SHUT Suhut-Afyon 155.01 303 *e*P **PKPdf** 22 13 35.6 -0.7
OKC Ostrava-Krasne 155.01 338 *e*PKIKP **PKPdf** 22 13 34.8 -1.0
OKC *e* 22 13 44.1
OKC *e* 22 17 41.8
OKC *e*SS SS 22 37 17.7 +1.0
OKC MLR MLR
comp=Z,41µm,20.7s
OKC Ostrava-Krasne 155.01 338 *e*PKPDF **PKPdf** 22 13 34.8 -1.0
OKC ⇑*e*PKP PKPab 22 13 44.1 -16
OKC *e*PKPAB PKPab 22 14 01.9 +1.8
OKC *e*PP PP 22 17 41.8 +6.1
OKC *e*SKKS 22 28 07.8
OKC *e*SS **SS** 22 37 17.7 +1.0
OKC AMS AMS 23 30 40.0
comp=Z,41µm,20.7s
SULR 155.06 320 ⇓*i*P **PKPdf** 22 13 38.8 +2.8
SSW Stow on the Wo 155.09 8 *e*P **PKPdf** 22 13 36.0 +0.3
SSW Stow on the Wo 155.09 8 P **PKPdf** 22 13 36.0 +0.3
UPC Upice 155.09 341 *e*PKIKP **PKPdf** 22 13 35.5 -0.4
UPC *e* 22 13 46.1
UPC *e* 22 17 38.5
UPC Upice 155.09 341 *e*PKPDF **PKPdf** 22 13 35.5 -0.4
UPC ⇑*e*PKP PKPab 22 13 46.1 -14
UPC *ep*PKP pPKPdf 22 13 53.4 +8.1
UPC *e*PKPAB PKPab 22 14 02.0 +1.6
UPC *e*PP **PP** 22 17 38.5 +2.4
CLL Collm 155.11 346 *e*PKIKP **PKPdf** 22 13 35.0 -0.8
CLL *i* 22 13 45.3
CLL *e* 22 14 00.0
CLL pmax pmax
comp=Z,236nm,1.7s
CLL pmax pmax
comp=Z,277nm,1.3s
CLL MLR MLR
comp=Z,72µm,20.2s
CLL Collm 155.11 346 *e*PKPdf **PKPdf** 22 13 35.0 -0.8
comp=Z,236nm,1.7s
CLL *i* PKPdiff PKPab 22 13 45.3 -15
comp=Z,209nm,1.3s
CLL *i* 22 13 52.9
CLL *e*PKPab PKPab 22 14 00.0 -0.4
comp=Z,277nm,1.3s
CLL *i* pPKPab **pPKPab** 22 14 05.6 -4.0
CLL *e* 22 14 38.0
CLL *e*PP **PP** 22 17 34.0 -2.0
CLL *es*PP 22 17 47.0
CLL *e* 22 17 56.0
comp=Z,2µm,3.0s
CLL *e*SKSdf **SKSdf** 22 20 39.0 -1.3
CLL *e*PPP PPP 22 21 10.0
CLL *e*PPPP 22 23 31.0
CLL *e* 22 24 52.0
CLL *e* 22 27 04.0
CLL *e*SKSP 22 27 40.0
CLL *e*SKKSacre 22 28 18.0
CLL *e*PPS PPS 22 30 40.0
CLL *e* 22 33 00.0
CLL *e* 22 33 54.0
CLL *e*SS SS 22 37 25.0 +7.6
CLL *e*SSP SSP 22 38 11.0
CLL *e*PSPS 22 38 30.0
CLL *e* 22 39 48.0
CLL *e*SSS SSS 22 43 13.0
CLL *e* 22 44 12.0
CLL *e*SSSS 22 47 00.0
CLL *e* 22 47 54.0
CLL *e* 22 50 36.0
CLL LmV 23 30 00.0
comp=Z,72µm,20.2s
YLV Yalova 155.13 308 *e*P **PKPdf** 22 13 34.3 -2.0
ISK Istanbul-Kandi 155.14 310 *e*P **PKPdf** 22 13 34.8 -1.4
DPC Dobruska-Polom 155.15 341 *e*PKIKP **PKPdf** 22 13 35.5 -0.5
DPC *e* 22 13 44.4
DPC *e*SS SS 22 37 18.3 +0.2
DPC MLR MLR
comp=Z,67µm,22.2s
DPC Dobruska-Polom 155.15 341 *e*PKPDF **PKPdf** 22 13 35.5 -0.5
DPC ⇑*e*PKP PKPab 22 13 44.4 -16
DPC *ep*PKP pPKPdf 22 13 54.2 +8.8
DPC *e*PKPAB PKPab 22 14 02.9 +2.2
DPC *ex* x 22 27 55.8
DPC *e*SS SS 22 37 18.3 +0.2
DPC AMS AMS 23 23 30.0
comp=Z,67µm,22.2s
ALT Altintas 155.17 305 *e*P **PKPdf** 22 13 35.5 -0.9
BUY Buyukada 155.19 309 *i* P **PKPdf** 22 13 33.5 -2.7
PRD Provadia 155.20 316 *i* P **PKPdf** 22 13 34.8 -1.4
KRLC Kraliky 155.25 340 *e*PKPDF **PKPdf** 22 13 35.8 -0.4
KRLC ⇑*e*PKP PKPab 22 13 44.0 -17
KRLC *e*PKPAB PKPab 22 14 03.2 +2.0
KRLC *e*PP PP 22 17 46.6 +10
ISP Isparta 155.25 302 *e*P **PKPdf** 22 13 34.9 -1.8
ISP Isparta 155.25 302 *e*PKP2 **PKPab** 22 14 02.2 +0.5
ISP MLR MLR
comp=Z,78µm,20.0s
ISP Isparta 155.25 302 *e*PKPab **PKPab** 22 14 02.2 +0.5
ISP LR LR
comp=Z,78µm,20.0s
ISP Isparta 155.25 302 P **PKPdf** 22 13 35.1 -1.5
ISP Isparta 155.25 302 ⇓*i*P PKPdf 22 13 41.9 +5.3
MORC Moravsky Berou 155.27 338 ⇓⇓PKIKP **PKPdf** 22 13 35.4 -0.8
MORC Moravsky Berou 155.27 338 *e*PKPdf **PKPdf** 22 13 35.6 -0.6
MORC Moravsky Berou 155.27 338 ⇓*i*P **PKPdf** 22 13 35.3 -0.9
VOIR 155.27 322 ⇑⇑PKIKP **PKPdf** 22 13 37.1 +0.7
VOIR 155.27 322 ⇑*i*P **PKPdf** 22 13 37.1 +0.7
BGKT Bogazkoy 155.28 310 *e*P **PKPdf** 22 13 35.0 -1.4
BRG Berggiesshubel 155.30 344 *i* PKP **PKPdf** 22 13 35.6 -0.5
comp=Z,258nm,1.6s
BRG *i* 22 13 45.5
comp=Z,393nm,1.6s
BRG Berggiesshubel 155.30 344 *i* PKIKP **PKPdf** 22 13 35.6 -0.5
BRG *i* 22 13 45.5
BRG *i* 22 14 00.1
BRG 22 17 37.0
BRG SS SS 22 37 20.0 +0.5
BRG pmax pmax
comp=Z,258nm,1.6s
BRG pmax pmax
comp=Z,216nm,1.1s
BRG MLR MLR
comp=N,52µm,20.6s
BRG MLR MLR
comp=E,25µm,21.7s
BRG MLR MLR
comp=Z,61µm,21.7s
BCK Bucak 155.31 301 *e*P **PKPdf** 22 13 34.2 -2.5
WTSB Winterswijk 155.35 355 *e*PKP **PKPdf** 22 13 35.2 -0.9
comp=Z,319nm,1.3s
ANTB Antalya 155.41 299 *e*P **PKPdf** 22 13 34.6 -2.0
CTKS Kestanelik-??a 155.44 311 *e*P **PKPdf** 22 13 35.0 -1.6
ULDT Uludag 155.47 308 *i* P **PKPdf** 22 13 36.5 -0.5
PVCC Panska Ves 155.47 343 *e*PKIKP **PKPdf** 22 13 35.9 -0.5
PVCC *e* 22 13 45.2
PVCC *e* 22 14 02.2
PVCC *e*SS SS 22 37 17.4 -3.9
PVCC MLR MLR
comp=Z,75µm,22.2s
PVCC Panska Ves 155.47 343 *e*PKPDF **PKPdf** 22 13 35.9 -0.5
PVCC *ep*PKP **pPKPdf** 22 13 45.2 -0.6
PVCC *e*PKPAB **PKPab** 22 14 02.2 +0.2
PVCC *ex* x 22 17 51.9
PVCC *e*SKKS 22 28 13.0
PVCC *e*SS **SS** 22 37 17.4 -3.9
PVCC AMS AMS 23 24 10.0
comp=Z,75µm,22.2s
CTYL Yal??k??y-??at 155.48 311 *e*P **PKPdf** 22 13 34.6 -2.0
TVSB Tavsanli 155.50 306 *e*P **PKPdf** 22 13 35.9 -1.0
ELBA Catalca 155.53 310 *i* P **PKPdf** 22 13 33.5 -3.2
SWN1 Swindon 155.54 8 *e*P **PKPdf** 22 13 35.9 -0.5
SWN1 AMB AMB 22 13 46.7
comp=Z,550nm,4.4s
SWN1 *e* 22 17 32.6
SWN1 AMS AMS 23 29 35.6
comp=Z,50µm,18.7s
SWN1 Swindon 155.54 8 P **PKPdf** 22 13 35.9 -0.5
SWN1 AMB AMB 22 13 46.7
comp=Z,550nm,4.4s
SWN1 22 17 32.6
SWN1 AMS AMS 23 29 35.6
comp=Z,50µm,18.7s
DRGR 155.55 327 ⇑PKIKP **PKPdf** 22 13 35.4 -1.3
DRGR 155.55 327 ⇑*i*P **PKPdf** 22 13 35.4 -1.3
MDNY Mudanya-Bursa 155.55 308 *e*P **PKPdf** 22 13 35.1 -1.7
HTL Hartland 155.61 13 *e*P **PKPdf** 22 13 36.6 +0.1
HTL AMB AMB 22 13 47.1
comp=Z,315nm,4.2s
HTL *e* 22 17 27.4
HTL AMS AMS 23 16 23.8
comp=Z,66µm,23.8s
HTL Hartland 155.61 13 P **PKPdf** 22 13 36.6 +0.1
HTL AMB AMB 22 13 47.1
comp=Z,315nm,4.2s
HTL 22 17 27.4
HTL AMS AMS 23 16 23.8
comp=Z,66µm,23.8s
KORT Korkueli 155.61 300 *i* P **PKPdf** 22 13 34.3 -2.9
GDZ Gediz 155.62 305 *i* P **PKPdf** 22 13 34.3 -2.8
SLVT Silivri 155.64 311 *e*P **PKPdf** 22 13 34.6 -2.2
HEX Exmoor 155.67 12 ⇑*e*P **PKPdf** 22 13 35.5 -1.1
HEX Exmoor 155.67 12 P **PKPdf** 22 13 35.5 -1.1
WOL Wolverton 155.81 8 *e*P **PKPdf** 22 13 35.3 -1.5
WOL AMB AMB 22 13 55.9
comp=Z,484nm,2.4s
WOL *e* 22 17 36.0
WOL AMS AMS 23 27 48.9
comp=Z,45µm,18.7s
WOL Wolverton 155.81 8 P **PKPdf** 22 13 35.3 -1.5
WOL AMB AMB 22 13 55.9
comp=Z,484nm,2.4s
WOL 22 17 36.0
WOL AMS AMS 23 27 48.9
comp=Z,45µm,18.7s
KHAL Karahalli 155.85 303 *i* P **PKPdf** 22 13 35.8 -1.7
HUMR Humele 155.88 321 ⇓*i*P **PKPdf** 22 13 36.6 -0.5
VYHS Vyhne 155.90 335 *e*PKIKP **PKPdf** 22 13 36.2 -0.8
VYHS *e*SS SS 22 37 23.3 -3.1
VYHS Vyhne 155.90 335 *e*PKP **PKPdf** 22 13 36.2 -0.8
VYHS *e*SS SS 22 37 23.3 -3.1
PRA Prague 155.92 343 PKPDF **PKPdf** 22 13 36.0 -1.0
PRA pPKP **pPKPdf** 22 13 47.0 +0.6
PRA PKPAB **PKPab** 22 14 05.0 +1.0
PRA PP **PP** 22 17 44.0 +3.4
PRA SS SS 22 37 20.0 -6.2
PRA AMS AMS 23 25 00.0
LOT Lotru 155.95 324 ⇓⇓*i*P **PKPdf** 22 13 36.3 -1.0
PSZ Piszkesteto 155.95 333 ⇑⇑PKIKP **PKPdf** 22 13 37.1 -0.1
PSZ Piszkesteto 155.95 333 *e*PKPdf **PKPdf** 22 13 36.6 -0.6
PSZ LR LR
comp=Z,74µm,20.0s
PSZ Piszkesteto 155.95 333 ⇑*i*P **PKPdf** 22 13 37.1 -0.1
PSZ Piszkesteto 155.95 333 ⇑*e*PKPdf **PKPdf** 22 13 36.4 -0.8
KCTX Karacabey (Bur 155.96 309 *e*P **PKPdf** 22 13 36.1 -1.3
PRU Pruhonice 155.97 343 *e*PKIKP **PKPdf** 22 13 36.3 -0.7
PRU *e* 22 13 47.6
PRU *e* 22 17 40.0
PRU *e*SS SS 22 37 28.8 +2.0
PRU MLR MLR
comp=Z,87µm,22.8s
PRU Pruhonice 155.97 343 *e*PKPDF **PKPdf** 22 13 36.3 -0.7
PRU *ep*PKP **pPKPdf** 22 13 47.6 +1.2
PRU *ex* x 22 13 55.6
PRU *e*PKPAB **PKPab** 22 14 05.2 +1.0
PRU *e*PP **PP** 22 17 40.0 -0.9
PRU *ex* x 22 27 58.6
PRU *e*SS SS 22 37 28.8 +2.0
PRU AMS AMS 23 24 40.0
comp=Z,87µm,22.8s
VRAC Vranov 155.98 339 PKP **PKPdf** 22 13 36.5 -0.6
VRAC PKPab **PKPab** 22 14 04.6 +0.3
VRAC Vranov 155.98 339 ⇓*i*P **PKPdf** 22 13 36.9 -0.2
VRAC Vranov 155.98 339 PKP **PKPdf** 22 13 36.5 -0.6
comp=Z,5.4nm,0.3s,baz=344,slow=0.4,SNR=45
VRAC PKPab **PKPab** 22 14 04.6 +0.3
comp=Z,243nm,1.3s,baz=32,slow=4.1,SNR=18
CRLT Corlu 156.01 311 *e*P **PKPdf** 22 13 36.6 -0.8
ELL Elmali 156.02 299 *e*P **PKPdf** 22 13 36.1 -1.6
DST Dursunbey 156.04 307 *e*P **PKPdf** 22 13 37.0 -0.5
SZH Strazhica 156.07 317 *i* P **PKPdf** 22 13 35.8 -1.6
DEV Deva 156.10 326 ⇓⇓PKIKP **PKPdf** 22 13 32.5 -4.8
DEV Deva 156.10 326 ⇓*i*P **PKPdf** 22 13 32.5 -4.8
JMB Yambol 156.10 315 P **PKPdf** 22 13 37.0 -0.5
JMB Yambol 156.10 315 *i* P **PKPdf** 22 13 36.6 -0.9
DURS Dursunbey 156.15 307 *i* P **PKPdf** 22 13 35.0 -2.7
GOH Golhisar 156.16 301 *i* P **PKPdf** 22 13 36.2 -1.7
DEMI Demirci 156.19 306 *i* P **PKPdf** 22 13 35.8 -2.1
ELSH Elham, Standar 156.19 4 ⇑*e*P **PKPdf** 22 13 37.5 +0.2
ELSH AMB AMB 22 13 48.4
comp=Z,482nm,4.5s
ELSH *e* 22 17 34.1
ELSH AMS AMS 23 26 41.4
comp=Z,57µm,19.9s
ELSH Elham, Standar 156.19 4 P **PKPdf** 22 13 37.5 +0.2
ELSH AMB AMB 22 13 48.4
comp=Z,482nm,4.5s
ELSH 22 17 34.1
ELSH AMS AMS 23 26 41.4
comp=Z,57µm,19.9s
TKR Tekirdag 156.21 311 *e*P **PKPdf** 22 13 36.6 -1.1
BNT Bandirma 156.23 309 *e*P **PKPdf** 22 13 37.0 -0.7
NKC Novy Kostel 156.24 346 *e*PKIKP **PKPdf** 22 13 36.7 -0.7
NKC *e* 22 13 48.4
NKC *e* 22 17 51.2
NKC *e*SS SS 22 37 27.7 -2.0
NKC Novy Kostel 156.24 346 *e*PKPDF **PKPdf** 22 13 36.7 -0.7
NKC *ep*PKP **pPKPdf** 22 13 48.4 +1.6
NKC *ex* x 22 13 56.5
NKC *e*PKPAB **PKPab** 22 14 06.1 +0.7
NKC *e*PP PP 22 17 51.2 +8.8
NKC *ex* x 22 28 21.0
NKC *e*SS SS 22 37 27.7 -2.0
DYA Yadsworthy 156.25 12 *e*P **PKPdf** 22 13 36.0 -1.4
DYA *e* 22 17 36.0
DYA AMS AMS 23 16 52.0
comp=Z,69µm,23.4s
DYA Yadsworthy 156.25 12 P **PKPdf** 22 13 36.0 -1.4
DYA 22 17 36.0
DYA AMS AMS 23 16 52.0
comp=Z,69µm,23.4s
EDC Edincik 156.27 309 *e*P **PKPdf** 22 13 35.6 -2.2
EDRB Edirne 156.32 313 *e*P **PKPdf** 22 13 36.8 -0.9
TREC Trest 156.33 341 *e*PKIKP **PKPdf** 22 13 36.7 -0.9
TREC *e* 22 13 48.3
TREC *e*SS SS 22 37 23.1 -7.7
TREC MLR MLR
comp=Z,92µm,23.0s
TREC Trest 156.33 341 *e*PKPDF **PKPdf** 22 13 36.7 -0.9
TREC *ep*PKP **pPKPdf** 22 13 48.3 +1.3
TREC *e*PKPAB **PKPab** 22 14 06.3 +0.5
TREC *e*SKKS 22 28 00.4
TREC *ex* x 22 37 23.1
TREC AMS AMS 23 24 20.0
comp=Z,92µm,23.0s
SMOL Smolenice 156.39 337 *e*PKIKP **PKPdf** 22 13 38.6 +0.9
SMOL Smolenice 156.39 337 *e*PKP **PKPdf** 22 13 38.6 +0.9
DNZL Cakiroluk 156.41 302 *i* P **PKPdf** 22 13 37.6 -0.7
KULA Kula-Manisa 156.42 304 *e*P **PKPdf** 22 13 36.6 -1.6
PVL Pavlikeni 156.46 318 *i* P **PKPdf** 22 13 37.1 -0.8
MFT Murefte 156.47 311 *e*P **PKPdf** 22 13 36.8 -1.4
GZR Gura Zlata 156.50 325 ⇑⇑PKIKP **PKPdf** 22 13 37.2 -0.8
GZR Gura Zlata 156.50 325 ⇑*i*P **PKPdf** 22 13 37.2 -0.8
GONE Gonen-Balikesi 156.52 309 *e*P **PKPdf** 22 13 36.7 -1.4
BALB Balikesir 156.55 308 *e*P **PKPdf** 22 13 34.6 -3.5
BEBN Eben Emael 156.58 357 PKP **PKPdf** 22 13 36.3 -1.5
BEBN APKP **pPKPdf** 22 13 48.7 +1.5
BEBN PKPab **PKPab** 22 14 06.4 -0.3
BEBN APKPab 22 14 15.3
SART Tekirdag 156.58 311 *i* P **PKPdf** 22 13 35.8 -2.5
RKY Sarkoy-Tekirda 156.59 310 *e*P **PKPdf** 22 13 36.1 -2.2
HGN Heimansgroeve 156.60 357 *e*PKP **PKPdf** 22 13 37.9 +0.1
comp=Z,3µm,3.4s
HGN Heimansgroeve 156.60 357 *e*SS SS 22 37 34.5 +1.3
UCC Uccle 156.62 359 PKP **PKPdf** 22 13 38.2 +0.4
UCC APKP **pPKPdf** 22 13 47.5 +0.3
UCC PKPab **PKPab** 22 14 07.5 +0.6
UCC APKPab 22 14 16.0

KRBG **Karabiga-Canak** 156.64 310 *e*P PKPdf 22 13 36.6 -1.6
BUD **Budapest** 156.65 333 ⇑ePKPdf PKPdf 22 13 37.1 -0.9
CRAR **CRAIOVA** 156.66 322 PKIKP PKPdf 22 13 39.3 +1.2
FETY **Fethiye** 156.69 300 *e*P PKPdf 22 13 37.5 -0.9
BALY **Balya** 156.69 308 *i* P PKPdf 22 13 38.7 +0.3
MEM **Membach** 156.75 356 PKP PKPdf 22 13 37.2 -0.8
MEM APKP pPKPdf 22 13 45.9 -1.5
MEM PKPab PKPab 22 14 07.5 0.0
MEM APKPab 22 14 16.3
AKHS **Akhisar** 156.90 306 *i* P PKPdf 22 13 34.3 -4.4
AKS **Akhisar** 156.90 306 *e*P PKPdf 22 13 38.5 -0.2
SNF **Seneffe** 156.91 359 PKP PKPdf 22 13 38.7 +0.5
SNF PKPab PKPab 22 14 08.2 0.0
SNF APKPab 22 14 15.6
BZS **Buzias** 156.92 327 ⇓PKIKP PKPdf 22 13 37.3 -1.1
BZS **Buzias** 156.92 327 ⇓*i*P PKPdf 22 13 37.3 -1.1
PKSG 156.97 334 ⇑ePKPdf PKPdf 22 13 38.1 -0.3
BCLA **Clavier** 156.97 357 PKP PKPdf 22 13 38.5 +0.2
BCLA APKP pPKPdf 22 13 45.4 -2.3
BCLA PKPab PKPab 22 14 09.0 +0.6
DIM **Dimitrovgrad** 156.98 315 *i* P PKPdf 22 13 38.7 +0.1
TURN **Turunc** 156.99 300 *i* P PKPdf 22 13 36.5 -2.3
GRF **Grafenberg Arr** 157.00 348 *e*PKP PKPdf 22 13 37.6 -0.8
GRF *e*L L 23 23 26.8
comp=Z,53µm,21.6s
GRF **Grafenberg Arr** 157.00 348 *e*PKIKP PKPdf 22 13 37.6 -0.8
GRF MLR MLR
comp=Z,54µm,21.6s
GRFO **Grafenberg** 157.01 348 *e*PKIKP PKPdf 22 13 38.9 +0.5
GRFO **Grafenberg** 157.01 348 *e*PKPdf PKPdf 22 13 38.9 +0.5
KHC **Kasperske Hory** 157.01 343 *e*PKIKP PKPdf 22 13 38.0 -0.5
KHC *e* 22 13 46.0
KHC *e* 22 17 41.6
KHC *e*SS SS 22 37 36.8 -1.2
KHC MLR MLR
comp=Z,82µm,22.3s
KHC **Kasperske Hory** 157.01 343 *e*PKPdf PKPdf 22 13 36.5 -2.0
KHC **Kasperske Hory** 157.01 343 *e*PKPDF PKPdf 22 13 38.0 -0.5
KHC *e*pPKP pPKPdf 22 13 46.0 -1.9
KHC *e*PKPAB PKPab 22 14 09.0 +0.3
KHC *ex* x 22 14 21.5
KHC *e*PP PP 22 17 41.6 -5.1
KHC *e*SKKS 22 28 05.8
KHC *e*SS SS 22 37 36.8 -1.2
KHC AMS AMS 23 24 40.0
comp=Z,82µm,22.3s
LPK **Lapseki** 157.01 310 *e*P PKPdf 22 13 36.6 -2.1
ERIK **Erikli-Kesan** 157.04 311 *e*P PKPdf 22 13 37.5 -1.2
PKS6 **Bocsa** 157.13 331 ⇓ePKPdf PKPdf 22 13 39.6 +1.0
YER **Yerkesik** 157.16 301 *e*P PKPdf 22 13 37.0 -2.1
PKST **T"s** 157.22 334 ⇑ePKPdf PKPdf 22 13 38.5 -0.3
GERES **GERESS Array B** 157.24 343 PKP PKPdf 22 13 37.6 -1.2
GERES PKPab PKPab 22 14 09.8 0.0
GERES **GERESS Array B** 157.24 343 PKP PKPdf 22 13 37.6 -1.2
comp=Z,10.0nm,1.1s,baz=108,slow=0.4,SNR=47
GERES PKPab PKPab 22 14 09.8 0.0
comp=Z,15nm,1.0s,baz=26,slow=1.3,SNR=6.7
ENEZ **Enez** 157.25 312 *e*P PKPdf 22 13 37.0 -1.9
KDZ **Kurdzhali** 157.27 314 *i* P PKPdf 22 13 37.6 -1.4
AYDN **Tasoluk** 157.29 303 *i* P PKPdf 22 13 34.3 -5.0
GIVF **Givet** 157.31 358 *e*PKIKP PKPdf 22 13 38.1 -0.7
comp=Z,375nm,1.6s
MPEP **Malo Peshtene** 157.31 320 *i* P PKPdf 22 13 38.5 -0.5
DOU **Dourbes** 157.32 359 PKP PKPdf 22 13 39.0 +0.2
DOU APKP pPKPdf 22 13 48.9 +0.7
DOU PKPab PKPab 22 14 10.8 +0.8
LIC **Lamto** 157.35 157 *e*PKIKP PKPdf 22 13 40.0 +0.1
comp=Z,611nm,1.5s
LIC *e*R
comp=Z,60µm,19.5s
ABH **Alteburg** 157.35 354 PKP PKPdf 22 13 39.3 +0.4
PKS2 **Kecel** 157.36 331 ⇓ePKPdf PKPdf 22 13 40.0 +1.1
BAIF **Baives** 157.36 359 *e*PKIKP PKPdf 22 13 38.2 -0.6
comp=Z,326nm,1.7s
SOP **Sopron** 157.40 337 ⇑ePKPdf PKPdf 22 13 38.1 -0.9
CONA **Conrad Observa** 157.43 338 ⇓*i*PKPdf PKPdf 22 13 37.8 -1.3
comp=Z,9µm,7.8s,SNR=19
CONA ⇑*i*PKPab PKPab 22 14 13.1 +2.5
comp=Z,22µm,8.9s
PLD **Plovdiv** 157.47 316 *i* P PKPdf 22 13 36.4 -2.8
PLD **Plovdiv** 157.47 316 *i* P PKPdf 22 13 37.3 -1.9
TOD **Tromm** 157.48 351 PKIKP PKPdf 22 13 39.3 +0.2
TOD **Tromm** 157.48 351 PKP PKPdf 22 13 39.3 +0.2
AYVA **Ayvalik** 157.53 308 *i* P PKPdf 22 13 40.2 +0.8
PGB **Panagyurishte** 157.54 318 *i* P PKPdf 22 13 38.6 -0.8
RUP **Ruppelstein** 157.58 354 PKIKP PKPdf 22 13 38.9 -0.3
RUP **Ruppelstein** 157.58 354 PKP PKPdf 22 13 38.9 -0.3
BLCB **Balcova** 157.65 305 *e*P PKPdf 22 13 38.9 -0.7
PKS9 **Tamasi** 157.67 333 ⇑ePKPdf PKPdf 22 13 39.1 -0.2
WLF **Walferdange** 157.68 356 PKP PKPdf 22 13 39.2 -0.1
WLF APKP pPKPdf 22 13 48.1 -0.5
WLF PKPab PKPab 22 14 11.3 -0.2
WLF APKPab 22 14 20.2
WLF **Walferdange** 157.68 356 *e*PKIKP PKPdf 22 13 38.4 -0.8
WLF MLR MLR
comp=Z,68µm,21.0s
WLF **Walferdange** 157.68 356 *e*PKPdf PKPdf 22 13 38.4 -0.8
WLF LR LR
comp=Z,68µm,21.0s
RZN **Rozhen** 157.69 315 *i* P PKPdf 22 13 38.1 -1.7
BOZC **Bozcaada** 157.74 310 *i* P PKPdf 22 13 34.3 -5.4
JSA **Saint Aubin** 157.76 10 *e*P PKPdf 22 13 38.9 -0.4
JSA AMB AMB 22 13 50.5
comp=Z,356nm,4.2s
JSA *e* 22 17 45.5
JSA AMS AMS 23 30 39.4
comp=Z,39µm,18.9s
JSA **Saint Aubin** 157.76 10 P PKPdf 22 13 38.9 -0.4
JSA AMB AMB 22 13 50.5
comp=Z,356nm,4.2s
JSA 22 17 45.5
JSA AMS AMS 23 30 39.4
comp=Z,39µm,18.9s
GCAM **G?zelcaml?** 157.76 303 *i* P PKPdf 22 13 36.5 -3.2
DBIC **Dimbokro** 157.82 157 *e*PKPdf PKPdf 22 13 40.4 -0.1
DBIC PKPab PKPab 22 14 13.7 +0.7
DBIC LR LR
comp=Z,55µm,21.0s
DBIC **Dimbokro** 157.82 157 PKP PKPdf 22 13 40.4 -0.1
comp=Z,55nm,1.1s,baz=156,slow=1.2,SNR=49
DBIC PKPab PKPab 22 14 13.7 +0.7
comp=Z,78nm,0.9s,baz=195,slow=5.0,SNR=11
PKSM **Moragy** 157.82 332 ⇓PKIKP PKPdf 22 13 38.9 -0.6
PKSM **Moragy** 157.82 332 ⇓*i*P PKPdf 22 13 38.9 -0.6
PKSM **Moragy** 157.82 332 ⇑ePKPdf PKPdf 22 13 38.5 -1.0
PRK **Paraskevi** 157.85 308 P PKPdf 22 13 38.7 -1.1
KTD **Kalmit** 157.85 352 PKIKP PKPdf 22 13 39.7 +0.2
KTD **Kalmit** 157.85 352 PKP PKPdf 22 13 39.7 +0.2
BODT **Bodrum** 157.92 302 *e*P PKPdf 22 13 39.4 -0.6
URLA **Izmir** 157.98 306 *i* P PKPdf 22 13 38.0 -2.1
MOA **Molln** 157.99 341 ⇑*i*PKPdf PKPdf 22 13 38.2 -1.6
comp=Z,8µm,7.5s,SNR=12
MOA ⇑*i*PKPab PKPab 22 14 15.1 +2.1
comp=Z,11µm,5.3s
VTS **Vitosha** 158.08 319 ⇑PKIKP PKPdf 22 13 38.4 -1.8
VTS **Vitosha** 158.08 319 P PKPdf 22 13 38.4 -1.8
VTS **Vitosha** 158.08 319 ⇑*i*P PKPdf 22 13 38.4 -1.8
VTS **Vitosha** 158.08 319 *i* P PKPdf 22 13 39.0 -1.2
ARSA **Arzberg** 158.13 338 ⇑*i*PKPdf PKPdf 22 13 38.7 -1.3
comp=Z,6µm,7.8s,SNR=16
ARSA ⇑*i*PKPab PKPab 22 14 15.6 +2.0
comp=Z,9µm,6.1s
LANF **Langenberg** 158.22 353 PKIKP PKPdf 22 13 40.5 +0.5
LANF **Langenberg** 158.22 353 PKP PKPdf 22 13 40.5 +0.5
LANF **Langenberg** 158.22 353 PKP PKPdf 22 13 40.5 +0.5
STU **Stuttgart** 158.24 350 *e*PKIKP PKPdf 22 13 39.7 -0.3
STU **Stuttgart** 158.24 350 *e*PKPdf PKPdf 22 13 39.7 -0.3
RHK3 **Tenkes** 158.25 332 *e*PKPdf PKPdf 22 13 38.9 -1.2
BEHE **Becsehely** 158.36 335 ⇑ePKPdf PKPdf 22 13 38.1 -2.1
MMB **Musomiste** 158.36 316 *i* P PKPdf 22 13 38.6 -1.8
ROSF **Rostrenen** 158.38 13 *e*PKIKP PKPdf 22 13 39.3 -0.8
comp=Z,330nm,1.6s
FLN **La Foliniere** 158.41 8 *e*PKIKP PKPdf 22 13 39.4 -0.8
comp=Z,405nm,1.8s
FLN *e*R
comp=Z,86µm,21.2s
NVR **Nevrokopi** 158.41 315 P PKPdf 22 13 37.8 -2.7
KKB **Krupnik** 158.59 317 *i* P PKPdf 22 13 38.6 -2.1
SGMF **Saint Gilles** 158.60 12 *e*PKIKP PKPdf 22 13 39.5 -0.9
comp=Z,327nm,1.5s
LDF **La Druitiere** 158.62 7 *e*PKIKP PKPdf 22 13 39.5 -0.9
SRS **Serrai** 158.71 315 P PKPdf 22 13 38.4 -2.4

GRR **Gorron** 158.73 9 *e*PKIKP PKPdf 22 13 39.9 -0.7
comp=Z,278nm,1.7s
SOKA **Soboth** 158.79 338 ⇓*i*PKPdf PKPdf 22 13 39.2 -1.7
comp=Z,7µm,7.5s
SOKA ⇑*i*PKPab PKPab 22 14 18.3 +1.8
comp=Z,8µm,5.7s
BFO **Black Forest** 158.79 352 *e*PKIKP PKPdf 22 13 40.0 -0.7
BFO MLR MLR
comp=Z,51µm,19.0s
BFO **Black Forest** 158.79 352 *e*PKPdf PKPdf 22 13 40.0 -0.7
BFO LR LR
comp=Z,51µm,19.0s
QUIF **Quistinic** 158.81 13 *e*PKIKP PKPdf 22 13 40.0 -0.6
comp=Z,413nm,1.6s
PAGF **Fort de Pagny** 158.81 356 *e*PKIKP PKPdf 22 13 40.2 -0.5
comp=Z,116nm,1.6s
DIVS **Divibare** 158.82 326 P PKPdf 22 13 38.7 -2.2
GROS **Grobnik** 158.82 337 *i* PKPdf PKPdf 22 13 40.4 -0.5
CDF **Champ du Feu** 158.84 354 *e*PKIKP PKPdf 22 13 39.7 -1.1
comp=Z,248nm,1.8s
MEZF **Maizieres J'vi** 158.90 358 *e*PKIKP PKPdf 22 13 40.5 -0.3
comp=Z,625nm,1.6s
KBA **Koelnbreinsper** 158.95 342 ⇑*i*PKPdf PKPdf 22 13 39.1 -2.0
comp=Z,6µm,7.3s,SNR=9.7
KBA ⇑*i*PKPab PKPab 22 14 16.1 -1.3
comp=Z,7µm,5.3s
SOH **Sokhos** 159.02 315 P PKPdf 22 13 39.0 -2.2
ECH **Echery** 159.04 354 PKIKP PKPdf 22 13 41.0 0.0
ECH **Echery** 159.04 354 PKP PKPdf 22 13 41.0 0.0
ECH **Echery** 159.04 354 PKP PKPdf 22 13 41.0 0.0
LIBD **Limburg** 159.06 353 PKIKP PKPdf 22 13 41.3 +0.3
LIBD **Limburg** 159.06 353 PKP PKPdf 22 13 41.3 +0.3
OBKA **Obir** 159.10 339 ⇑*i*PKPdf PKPdf 22 13 39.6 -1.6
comp=Z,13µm,8.6s
KNT **Kendrikon** 159.12 316 P PKPdf 22 13 39.2 -2.1
THEF **They Montfort** 159.13 356 PKIKP PKPdf 22 13 41.7 +0.6
THEF **They Montfort** 159.13 356 PKP PKPdf 22 13 41.7 +0.6
THEF **They Montfort** 159.13 356 PKP PKPdf 22 13 41.7 +0.6
WATA **Walderalm** 159.17 345 ⇑*i*PKPdf PKPdf 22 13 39.7 -1.6
comp=Z,1µm,2.9s,SNR=9.6
WATA ⇓*i*PKPab PKPab 22 14 19.3 +1.0
comp=Z,2µm,2.2s
SFTF **Sexfontaines** 159.20 358 *e*PKIKP PKPdf 22 13 40.6 -0.5
comp=Z,608nm,1.4s
RETA **Reutte** 159.20 347 ⇑*i*PKPdf PKPdf 22 13 40.2 -1.1
comp=Z,8µm,7.4s
RETA ⇑*i*PKPab PKPab 22 14 19.9 +1.7
comp=Z,10µm,8.8s
PLG **Polygyros** 159.21 314 P PKPdf 22 13 38.1 -3.4
WTTA **Wattenberg** 159.22 345 ⇑*i*PKPdf PKPdf 22 13 39.4 -2.0
comp=Z,4µm,3.5s,SNR=12
WTTA ⇑*i*PKPab PKPab 22 14 20.3 +1.8
comp=Z,8µm,5.1s
VAY **Valandovo** 159.22 317 ⇑*i*PKP PKPdf 22 13 38.9 -2.5
VAY *i* PKP PKPab 22 14 19.0 +0.4
VAY *i* PKP PP 22 17 54.8 -4.8
APE **Apeiranthos** 159.25 303 *e*P PKPdf 22 13 40.1 -1.5
APE **Apeiranthos** 159.25 303 ⇑PKIKP PKPdf 22 13 41.7 +0.1
APE **Apeiranthos** 159.25 303 ⇑*i*P PKPdf 22 13 41.7 +0.1
MOTA **Moosalm** 159.26 346 ⇓*i*PKPdf PKPdf 22 13 40.5 -1.0
comp=Z,576nm,2.2s,SNR=14
MOTA ⇑*i*PKPab PKPab 22 14 19.9 +1.2
comp=Z,3µm,3.1s
MYKA **Terra Mystica** 159.27 340 ⇑*i*PKPdf PKPdf 22 13 39.2 -2.2
comp=Z,7µm,7.5s
MYKA ⇑*i*PKPab PKPab 22 14 19.9 +1.3
comp=Z,7µm,6.9s
FELD **Feldberg im Sc** 159.28 352 PKP PKPdf 22 13 41.5 +0.1
PAIG **Paliouri** 159.29 312 P PKPdf 22 13 39.2 -2.3
HORT **Hortiatis** 159.31 314 P PKPdf 22 13 39.4 -2.2
HAU **Haudompre** 159.32 355 *e*PKIKP PKPdf 22 13 40.5 -0.8
comp=Z,372nm,1.7s
HAU *e*R
comp=Z,73µm,22.2s
ZKR **Zakros** 159.35 297 P PKPdf 22 13 39.2 -2.5
THE **Thessaloniki** 159.38 315 P PKPdf 22 13 39.0 -2.6
MOF **Molkenrain** 159.41 354 PKIKP PKPdf 22 13 41.5 0.0
MOF **Molkenrain** 159.41 354 PKP PKPdf 22 13 41.5 0.0
MOF **Molkenrain** 159.41 354 PKP PKPdf 22 13 41.5 0.0
VNDS **Vrh nad Dolski** 159.41 338 *e*PKPdf PKPdf 22 13 40.0 -1.5
VNDS *e*PP PP 22 17 57.9 -2.0
HINF **Hinteralfeld** 159.47 354 *e*PKIKP PKPdf 22 13 40.5 -1.0
comp=Z,387nm,1.7s
ABTA **Abfaltersbach** 159.48 343 ⇑*i*PKPdf PKPdf 22 13 40.0 -1.7
comp=Z,6µm,7.3s,SNR=13
SKO **Skopje** 159.50 320 ⇑*i*PKP PKPdf 22 13 40.8 -0.9
SKO *i* PKP PKPab 22 14 21.7 +2.0
SKO *i* PKP PP 22 18 01.6 +0.6
LJU **Ljubljana** 159.52 338 *e*PKPdf PKPdf 22 13 40.8 -0.7
LJU *e*pPKPdf pPKPdf 22 13 50.6 -0.4
LJU *e*PKPab PKPab 22 14 25.6 +6.0
LJU *e*PP PP 22 17 58.6 -1.9
GRG **Griva** 159.54 316 P PKPdf 22 13 39.9 -1.9
THR1 **Thera Island** 159.55 301 P PKPab 22 14 21.3 +1.0
DAVA **Damuels** 159.57 348 ⇑*i*PKPdf PKPdf 22 13 40.5 -1.3
comp=Z,9µm,7.4s,SNR=13
DAVA ⇑*i*PKPab PKPab 22 14 21.7 +1.7
comp=Z,7µm,4.8s
FETA **Feichten** 159.65 346 ⇑*i*PKPdf PKPdf 22 13 41.1 -0.9
comp=Z,8µm,7.1s,SNR=28
PLE **Pljevlja** 159.68 326 ⇑*i*PKP PKPdf 22 13 39.3 -2.7
VOY **Vojsko** 159.73 339 *e*PKPdf PKPdf 22 13 40.6 -1.3
VOY *e* 22 14 20.5
VOY *e* 22 14 25.6
VOY *e* 22 18 27.7
BOJS **Bojanci** 159.74 336 *e*PKPdf PKPdf 22 13 40.7 -1.2
BOJS *e*pPKPdf pPKPdf 22 13 51.7 +0.4
BOJS *e*PKPab PKPab 22 14 21.0 +0.4
BOJS *e*PP PP 22 18 00.7 -1.0
IVA **Berane** 159.74 324 ⇑*i*PKP PKPdf 22 13 39.5 -2.5
BBS **Basel-Blauen** 159.75 353 PKIKP PKPdf 22 13 42.1 +0.2
BBS **Basel-Blauen** 159.75 353 PKP PKPdf 22 13 42.1 +0.2
NPS **Neapolis** 159.78 298 P PKPdf 22 13 40.4 -1.8
JAVS **Javornik** 159.80 339 *e*PKPdf PKPdf 22 13 41.1 -0.9
JAVS *e*pPKPdf pPKPdf 22 13 51.0 -0.5
PVY **Plav** 159.90 323 ⇑*i*PKP PKPdf 22 13 39.9 -2.4
XOR **Xorichti** 159.90 311 P PKPdf 22 13 39.8 -2.5
NEO **Neokhori** 159.91 311 P PKPdf 22 13 39.2 -3.1
LAST **Lasithi** 159.91 298 P PKPdf 22 13 41.5 -1.0
MRKA **Markates** 159.96 309 P PKPdf 22 13 40.1 -2.2
UPM **Unac-Piva** 160.01 326 ⇑*i*PKP PKPdf 22 13 39.9 -2.6
DAVOX **Davos/Dischmat** 160.05 348 PKP PKPdf 22 13 41.5 -0.9
DAVOX **Davos/Dischmat** 160.05 348 PKP PKPdf 22 13 41.5 -0.9
comp=Z,25nm,1.1s,baz=277,slow=3.2,SNR=26
HYF **Humbligny** 160.14 2 *e*PKIKP PKPdf 22 13 42.0 -0.3
BIA **Bitola** 160.16 318 ⇓*e*PKP PKPdf 22 13 41.8 -0.8
BIA *e*PKP PKPab 22 14 22.5 -0.2
LOR **Lormes** 160.16 360 *e*PKIKP PKPdf 22 13 41.8 -0.5
comp=Z,430nm,1.5s
LOR *e*R
comp=Z,67µm,21.5s
NKY **Niksic** 160.25 325 ⇑*i*PKP PKPdf 22 13 40.4 -2.3
FNA **Florina** 160.27 317 P PKPdf 22 13 41.1 -1.6
SSF **Saint Saulge** 160.36 1 *e*PKIKP PKPdf 22 13 42.0 -0.5
comp=Z,328nm,1.5s
TTG **Podgorica** 160.39 324 ⇑*i*PKP PKPdf 22 13 40.8 -1.8
LKR **Lokris** 160.39 310 P PKPdf 22 13 40.5 -2.3
BRY **Bratogost** 160.41 326 ⇑*i*PKP PKPdf 22 13 40.6 -2.3
TUE **Stuetta** 160.45 348 *e*PKPdf PKPdf 22 13 42.4 -0.5
TUE LR LR
comp=Z,62µm,19.0s
SIVA **Sivas** 160.48 298 P PKPdf 22 13 41.8 -1.2
AXAR **Agios Charalam** 160.56 310 P PKPdf 22 13 41.3 -1.7
THL **Klokotos Trika** 160.57 313 P PKPdf 22 13 41.1 -2.8
MFF **Saint Martin d** 160.58 8 *e*PKIKP PKPdf 22 13 42.2 -0.5
comp=Z,420nm,1.4s
BUM **Brajici-Budva** 160.67 324 ⇑*i*PKP PKPdf 22 13 40.4 -2.7
LTK **Loutraki** 160.71 308 P PKPdf 22 13 41.0 -2.2
ULC **Ulcinj** 160.72 323 ⇑*i*PKP PKPdf 22 13 41.1 -2.0
CABF **La Chapelle** 160.73 355 *e*PKIKP PKPdf 22 13 42.8 -0.2
comp=Z,784nm,1.7s
HCY **Herceg Novi** 160.77 325 *e*PKP PKPdf 22 13 41.1 -2.0
SMF **Signal de Mont** 160.78 360 *e*PKIKP PKPdf 22 13 43.2 +0.2
MAKR **Makrakomi, Fth** 160.79 312 P PKPdf 22 13 37.8 -5.5
TIR **Tirane** 160.80 321 *e*PKP2 PKPab 22 14 28.0 +2.6
TIR MLR MLR
comp=Z,92µm,22.0s
TIR **Tirane** 160.80 321 *e*PKPab PKPab 22 14 28.0 +2.6
TIR LR LR
comp=Z,92µm,22.0s
VAM **Vamos** 160.84 300 P PKPdf 22 13 42.3 -1.1
BGF **Bois d'Agland** 160.85 2 *e*PKIKP PKPdf 22 13 42.6 -0.5
comp=Z,552nm,1.8s
OG01 **Vacheresse** 160.96 354 PKP PKPdf 22 13 43.9 +0.6

OG01 **Vacheresse** 160.96 354 PKP PKPdf 22 13 43.9 +0.6
KARN **Karanos** 161.06 300 P PKPdf 22 13 42.8 -0.9
PMOZ **Porto Moniz, M** 161.08 68 *e*PKPdf PKPdf 22 13 46.0 +2.1
PMOZ **Porto Moniz, M** 161.08 68 *e*PKPab PKPab 22 14 25.9 -1.3
PMOZ **Porto Moniz, M** 161.08 68 *e*PP PP 22 18 10.3 -0.3
PMOZ *e*LR LR 23 08 45.4
comp=Z,34µm,22.0s
TCF **Toulx Ste Croi** 161.10 3 *e*PKIKP PKPdf 22 13 42.7 -0.7
comp=Z,515nm,1.8s
GVD **Gavdhos** 161.10 298 *e*PKPdf PKPdf 22 13 42.9 -0.7
GVD **Gavdhos** 161.10 298 P PKPdf 22 13 42.5 -1.2
KALE **Kalithea** 161.10 310 P PKPdf 22 13 41.6 -2.1
GUR **Goura** 161.19 309 P PKPdf 22 13 42.4 -1.4
LAKA **Lakka** 161.29 310 P PKPdf 22 13 42.8 -1.0
OG35 **Corcelles** 161.33 356 PKP PKPdf 22 13 44.1 +0.4
PMAR **Madeira** 161.34 68 *e*PKPdf PKPdf 22 13 45.5 +1.3
PMAR **Madeira** 161.34 68 *e*PP PP 22 18 13.6 +1.6
AGO **Saint Agoulin** 161.37 1 PKP PKPdf 22 13 43.6 0.0
AGO **Saint Agoulin** 161.37 1 PKP PKPdf 22 13 43.6 0.0
FUL **Funchal** 161.37 69 *e*PKPdf PKPdf 22 13 45.5 +1.5
FUL **Funchal** 161.37 69 *e*PP PP 22 18 13.4 +1.4
PLDF **La Plantade** 161.46 0 PKIKP PKPdf 22 13 43.6 -0.2
PLDF **La Plantade** 161.46 0 PKP PKPdf 22 13 43.6 -0.2
PLDF **La Plantade** 161.46 0 PKP PKPdf 22 13 43.6 -0.2
RSL **Roselend** 161.60 354 PKIKP PKPdf 22 13 45.4 +1.3
RSL **Roselend** 161.60 354 PKP PKPdf 22 13 45.4 +1.3
RSL **Roselend** 161.60 354 PKP PKPdf 22 13 45.4 +1.3
VERF **Verneugheol** 161.65 3 PKP PKPdf 22 13 44.6 +0.6
VERF **Verneugheol** 161.65 3 PKP PKPdf 22 13 44.6 +0.6
PYM **Petit Puy Mans** 161.67 2 PKIKP PKPdf 22 13 43.9 -0.1
PYM **Petit Puy Mans** 161.67 2 PKP PKPdf 22 13 43.9 -0.1
PYM **Petit Puy Mans** 161.67 2 PKP PKPdf 22 13 43.9 -0.1
PMPST **Porto Santo, M** 161.74 67 *e*PKPdf PKPdf 22 13 45.7 +1.3
PMPS **Porto Santo** 161.75 67 *e*PKPdf PKPdf 22 13 45.9 +1.5
PMPS **Porto Santo** 161.75 67 *e*PP PP 22 18 14.6 +0.7
LPL **La Plagne** 161.76 353 *e*PKIKP PKPdf 22 13 43.9 -0.4
comp=Z,224nm,1.5s
LPG **La Plagne** 161.77 353 *e*PKIKP PKPdf 22 13 44.1 -0.3
comp=Z,395nm,1.9s
ITM **Ithomi** 161.83 307 P PKPdf 22 13 41.5 -2.9
FRNF **Fournols** 162.01 3 PKP PKPdf 22 13 45.5 +1.1
FRNF **Fournols** 162.01 3 PKP PKPdf 22 13 45.5 +1.1
RJF **Les Rejaudoux** 162.03 5 *e*PKIKP PKPdf 22 13 43.9 -0.4
comp=Z,353nm,1.6s
RJF *e*R
comp=Z,78µm,20.5s
GRN **Grenoble** 162.11 355 PKIKP PKPdf 22 13 45.5 +1.0
GRN **Grenoble** 162.11 355 PKP PKPdf 22 13 45.5 +1.0
GRN **Grenoble** 162.11 355 PKP PKPdf 22 13 45.5 +1.0
GDM **Grand'Maison** 162.12 355 PKP PKPdf 22 13 45.4 +0.8
GDM **Grand'Maison** 162.12 355 PKP PKPdf 22 13 45.4 +0.8
SSB **Saint Sauveur** 162.14 358 PKIKP PKPdf 22 13 45.2 +0.7
SSB **Saint Sauveur** 162.14 358 PKP PKPdf 22 13 45.2 +0.7
SSB **Saint Sauveur** 162.14 358 PKP PKPdf 22 13 45.2 +0.7
LBL **Lubilhac** 162.19 1 PKIKP PKPdf 22 13 45.3 +0.7
LBL **Lubilhac** 162.19 1 PKP PKPdf 22 13 45.3 +0.7
LBL **Lubilhac** 162.19 1 PKP PKPdf 22 13 45.3 +0.7
BNI **Bardonecchia** 162.22 353 *e*PKIKP PKPdf 22 13 44.9 +0.2
BNI MLR MLR
comp=Z,85µm,22.0s
BNI **Bardonecchia** 162.22 353 *e*PKPdf PKPdf 22 13 44.9 +0.2
BNI LR LR
comp=Z,85µm,22.0s
LFF **La Frestale** 162.32 7 *e*PKIKP PKPdf 22 13 44.3 -0.3
comp=Z,340nm,1.7s
ORIF **Oris-en-Rattie** 162.43 355 *e*PKIKP PKPdf 22 13 44.4 -0.5
comp=Z,381nm,1.7s
ORIF *e*R
comp=Z,75µm,22.2s
VLC **Villacollemand** 162.44 344 *e*PKPdf PKPdf 22 13 45.5 +0.7
VLC LR LR
comp=Z,54µm,20.0s
PGAV **Gavieira, Arco** 162.44 31 *e*PKPdf PKPdf 22 13 46.0 +1.0
PGAV **Gavieira, Arco** 162.44 31 *i* PKPab PKPab 22 14 43.4 +11
PGAV **Gavieira, Arco** 162.44 31 *e*PP PP 22 18 21.8 +5.2
PGAV *e*LR LR 23 13 02.0
comp=Z,41µm,18.0s
CAF **Calviac** 162.45 4 *e*PKIKP PKPdf 22 13 44.6 -0.2
comp=Z,278nm,1.6s
MBDF **Montbardon** 162.53 353 *e*PKIKP PKPdf 22 13 44.5 -0.6
comp=Z,357nm,1.6s
VIVF **Saint-Julien-l** 162.56 358 *e*PKIKP PKPdf 22 13 44.7 -0.2
comp=Z,357nm,1.6s
PCAB **Cabril** 162.75 31 *e*PKPdf PKPdf 22 13 46.2 +1.0
PCAB **Cabril** 162.75 31 *e*PKPab PKPab 22 14 34.4 +0.4
PCAB **Cabril** 162.75 31 *e*PP PP 22 18 25.7 +7.5
SURF **Saint Ours** 162.77 353 PKP PKPdf 22 13 46.3 +1.0
SURF **Saint Ours** 162.77 353 PKP PKPdf 22 13 46.3 +1.0
POLO **Lamas de Olo** 163.12 31 *e*PKPdf PKPdf 22 13 46.6 +0.9
POLO **Lamas de Olo** 163.12 31 *e*PKPab PKPab 22 14 40.2 +4.5
POLO **Lamas de Olo** 163.12 31 *e*PP PP 22 18 26.8 +6.6
AQU **L'Aquila** 163.13 335 PFAKE 22 14 00.0 +14
AQU LR LR
comp=Z,88nm,22.0s
AQU **L'Aquila** 163.13 335 ⇑*i*P PKPdf 22 13 43.9 -1.7
SAOF **Saorge** 163.16 351 PKIKP PKPdf 22 13 45.9 +0.4
SAOF **Saorge** 163.16 351 PKP PKPdf 22 13 45.9 +0.4
SAOF **Saorge** 163.16 351 PKP PKPdf 22 13 45.9 +0.4
AUTN **L'Aution** 163.17 351 PKIKP PKPdf 22 13 45.9 +0.1
AUTN **L'Aution** 163.17 351 PKP PKPdf 22 13 45.9 +0.1
AUTN **L'Aution** 163.17 351 PKP PKPdf 22 13 45.9 +0.1
TOUF **Mont Tournerai** 163.18 351 PKIKP PKPdf 22 13 46.0 +0.2
TOUF **Mont Tournerai** 163.18 351 PKP PKPdf 22 13 46.0 +0.2
TOUF **Mont Tournerai** 163.18 351 PKP PKPdf 22 13 46.0 +0.2
PVRL **Vila Real** 163.24 31 *e*PKPdf PKPdf 22 13 46.9 +1.2
PVRL **Vila Real** 163.24 31 *i* PKPab PKPab 22 14 47.4 +11
PVRL **Vila Real** 163.24 31 *e*PP PP 22 18 19.6 -1.2
PBRG **Braganca** 163.24 28 *e*PKPdf PKPdf 22 13 46.1 +0.4
PBRG **Braganca** 163.24 28 *e*PKPab PKPab 22 14 35.3 -0.8
PBRG **Braganca** 163.24 28 *e*PP PP 22 18 22.8 +2.1
SBF **Sospel** 163.30 351 *e*PKIKP PKPdf 22 13 44.6 -1.1
comp=Z,357nm,1.3s
MVIF **Mont Vial** 163.31 351 PKIKP PKPdf 22 13 46.3 +0.5
MVIF **Mont Vial** 163.31 351 PKP PKPdf 22 13 46.3 +0.5
MVIF **Mont Vial** 163.31 351 PKP PKPdf 22 13 46.3 +0.5
LASF **Ste Croix** 163.35 360 *e*PKIKP PKPdf 22 13 45.6 -0.1
comp=Z,452nm,1.6s
SMRF **Simiane la Rot** 163.39 355 *e*PKIKP PKPdf 22 13 45.7 -0.1
comp=Z,737nm,1.8s
CALN **Calern** 163.48 352 PKIKP PKPdf 22 13 46.3 +0.3
CALN **Calern** 163.48 352 PKP PKPdf 22 13 46.3 +0.3
CALN **Calern** 163.48 352 PKP PKPdf 22 13 46.3 +0.3
PVIS **Viseu** 163.59 33 *e*PKPdf PKPdf 22 13 46.1 0.0
PVIS **Viseu** 163.59 33 *e*PKPab PKPab 22 14 44.5 +6.8
PVIS **Viseu** 163.59 33 *e*PP PP 22 18 30.1 +7.4
MVO **Moncorvo** 163.64 30 *e*PKPdf PKPdf 22 13 47.3 +1.2
MVO **Moncorvo** 163.64 30 *e*PKPab PKPab 22 14 37.9 0.0
MVO **Moncorvo** 163.64 30 *e*PP PP 22 18 27.6 +4.7
MVO *e*LR LR 23 10 11.7
comp=Z,49µm,18.0s
OSSF **Osses** 163.65 13 PKP PKPdf 22 13 46.4 +0.4
OSSF **Osses** 163.65 13 PKP PKPdf 22 13 46.4 +0.4
ORDF **Ordiarp** 163.76 12 PKP PKPdf 22 13 46.6 +0.5
ORDF **Ordiarp** 163.76 12 PKP PKPdf 22 13 46.6 +0.5
SJPF **Ste Jean** 163.80 13 *e*PKIKP PKPdf 22 13 46.3 +0.2
comp=Z,382nm,1.9s
ATE **Arette** 163.93 12 PKP PKPdf 22 13 47.2 +0.9
ATE **Arette** 163.93 12 PKP PKPdf 22 13 47.2 +0.9
LMR **La Mourre** 163.94 353 *e*PKIKP PKPdf 22 13 45.4 -0.8
comp=Z,465nm,1.9s
CUC **Castrocucco** 163.94 325 PFAKE 22 14 00.0 +14
CUC LR LR
comp=Z,44µm,20.0s
REYF **Montagne du Re** 164.00 11 PKP PKPdf 22 13 47.6 +1.2
REYF **Montagne du Re** 164.00 11 PKP PKPdf 22 13 47.6 +1.2
MTE **Manteigas** 164.00 33 *e*PKPdf PKPdf 22 13 47.3 +0.8
MTE **Manteigas** 164.00 33 *i* PKPab PKPab 22 14 45.1 +5.6
MTE **Manteigas** 164.00 33 *e*PP PP 22 18 27.6 +2.7
MTE *e*LR LR 23 11 35.6
comp=Z,46µm,20.0s
MTE **Manteigas** 164.00 33 *e*PKPdf PKPdf 22 13 46.5 0.0
MTE LR LR
comp=Z,48µm,19.0s
TIP **Timpagr

PMAFR	**Mafra**	**164.14**	**40**	*e*PP	PP	22 18 31.9	+6.2
EPF	**Esparros**	**164.15**	**9**	*e*PKIKP	**PKPdf**	**22 13 46.4**	**-0.1**
	comp=Z,271nm,1.7s						
PTOM	**Tomar**	**164.15**	**37**	*e*PKPdf	**PKPdf**	**22 13 48.0**	**+1.5**
PTOM	**Tomar**	**164.15**	**37**	*i* PKPab	PKPab	22 14 49.3	+9.2
PTOM	**Tomar**	**164.15**	**37**	*e*PP	PP	22 18 33.8	+8.1
VIEF	**Viey**	**164.25**	**10**	PKP	**PKPdf**	**22 13 48.1**	**+1.5**
VIEF	**Viey**	**164.25**	**10**	PKP	**PKPdf**	**22 13 48.1**	**+1.5**
PGF	**Pioggiola**	**164.29**	**346**	*e*PKIKP	**PKPdf**	**22 13 45.7**	**-1.0**
	comp=Z,320nm,1.5s						
MLS	**Moulis**	**164.32**	**7**	PKP	**PKPdf**	**22 13 47.4**	**+0.8**
MLS	**Moulis**	**164.32**	**7**	PKP	**PKPdf**	**22 13 47.4**	**+0.8**
MELF	**Melles**	**164.36**	**8**	PKP	**PKPdf**	**22 13 47.4**	**+0.7**
MELF	**Melles**	**164.36**	**8**	PKP	**PKPdf**	**22 13 47.4**	**+0.7**
RESF	**Ens**	**164.37**	**9**	PKP	**PKPdf**	**22 13 48.3**	**+1.5**
RESF	**Ens**	**164.37**	**9**	PKP	**PKPdf**	**22 13 48.3**	**+1.5**
LIS	**Lisbon**	**164.37**	**40**	*e*P	**PKPdf**	**22 13 46.8**	**0.0**
LIS				*e*PP	**PP**	**22 18 27.8**	**+0.8**
LIS				*e*SS	SS	22 38 59.0	+2.6
LIS	**Lisbon**	**164.37**	**40**	*e*PP	PP	22 18 27.8	+0.9
LIS				*e*SS	SS	22 38 59.0	+2.6
LIS				A	A	23 45 22.0	
	comp=Z,61µm,20.8s						
LIS	**Lisbon**	**164.37**	**40**	AMS	AMS	23 45 22.0	
	comp=Z,61µm,20.8s						
LIS	**Lisbon**	**164.37**	**40**	*e*PKIKP	**PKPdf**	**22 13 46.7**	**0.0**
LIS				*e*		22 18 27.7	
LIS				*e*SS	SS	22 38 59.0	+2.6
PCBR	**Castelo Branco**	**164.47**	**34**	*e*PKPdf	**PKPdf**	**22 13 47.8**	**+1.0**
PCBR	**Castelo Branco**	**164.47**	**34**	*e*PP	PP	22 18 32.9	+5.7
PMTG	**Montargil**	**164.65**	**38**	*e*PKPdf	**PKPdf**	**22 13 47.0**	**0.0**
PMTG	**Montargil**	**164.65**	**38**	*e*PP	PP	22 18 35.5	+7.2
PMRV	**Marv??o**	**164.82**	**35**	*e*PKPdf	**PKPdf**	**22 13 48.1**	**+0.9**
PMRV	**Marv??o**	**164.82**	**35**	*e*PP	PP	22 18 34.9	+5.8
PMRV				*e*LR	LR	23 10 54.8	
	comp=Z,61µm,18.0s						
FILF	**Fillols**	**164.83**	**3**	PKP	**PKPdf**	**22 13 47.7**	**+0.6**
FILF	**Fillols**	**164.83**	**3**	PKP	**PKPdf**	**22 13 47.7**	**+0.6**
VALF	**Valcebollere**	**164.96**	**5**	PKP	**PKPdf**	**22 13 48.5**	**+1.1**
VALF	**Valcebollere**	**164.96**	**5**	PKP	**PKPdf**	**22 13 48.5**	**+1.1**
PESTR	**Estremoz**	**165.13**	**37**	*e*PKPdf	**PKPdf**	**22 13 48.6**	**+1.1**
PESTR	**Estremoz**	**165.13**	**37**	*e*PKPab	**PKPab**	**22 14 44.1**	**-0.4**
PESTR	**Estremoz**	**165.13**	**37**	*e*PP	PP	22 18 36.8	+6.0
PNCL	**Nicolau / Gran**	**165.14**	**41**	*e*PKPdf	**PKPdf**	**22 13 48.7**	**+1.3**
PNCL	**Nicolau / Gran**	**165.14**	**41**	*e*PP	PP	22 18 36.2	+5.2
EVO	**Evora**	**165.15**	**39**	*e*PKPdf	**PKPdf**	**22 13 48.3**	**+0.9**
EVO	**Evora**	**165.15**	**39**	*e*PKPab	**PKPab**	**22 14 44.3**	**-0.3**
EVO	**Evora**	**165.15**	**39**	*e*PP	PP	22 18 38.2	+7.3
EVO	**Evora**	**165.15**	**39**	*e*PKIKP	**PKPdf**	**22 13 48.0**	**+0.6**
	comp=Z,1µm,1.9s						
EVO				*e*R			
	comp=Z,93µm,23.0s						
PTEO	**Sao Teotonio**	**165.40**	**43**	*e*PKPdf	**PKPdf**	**22 13 49.4**	**+1.7**
PTEO	**Sao Teotonio**	**165.40**	**43**	*e*PKPab	**PKPab**	**22 14 46.0**	**+0.3**
PTEO	**Sao Teotonio**	**165.40**	**43**	*e*PP	PP	22 18 33.4	+1.0
MESJ	**Messejana**	**165.50**	**41**	*e*P	**PKPdf**	**22 13 46.7**	**-1.1**
MESJ				*e*PP	**PP**	**22 18 34.0**	**+1.1**
MESJ				*e*SS	SS	22 39 10.2	+2.2
MESJ				AMS	AMS	23 24 50.3	
	comp=Z,54µm,15.5s						
MESJ	**Messejana**	**165.50**	**41**	*e*PP	PP	22 18 34.0	+1.1
MESJ				*e*SS	SS	22 39 10.2	+2.1
MESJ				A	A	23 24 50.3	
	comp=Z,54µm,15.5s						
MESJ	**Messejana**	**165.50**	**41**	*e*PKIKP	**PKPdf**	**22 13 46.7**	**-1.1**
MESJ				*e*		22 18 34.0	
MESJ				*e*SS	SS	22 39 10.2	+2.1
PBEJ	**Beja**	**165.58**	**40**	*e*PKPdf	**PKPdf**	**22 13 47.8**	**0.0**
PBEJ	**Beja**	**165.58**	**40**	*i* PKPab	PKPab	22 14 53.0	+6.5
PBEJ	**Beja**	**165.58**	**40**	*e*PP	PP	22 18 39.1	+5.9
MORF	**Marmelete**	**165.60**	**44**	*e*PKPdf	**PKPdf**	**22 13 49.2**	**+1.3**
MORF	**Marmelete**	**165.60**	**44**	*e*PKPab	PKPab	22 14 53.0	+6.3
MORF	**Marmelete**	**165.60**	**44**	*e*PP	PP	22 18 39.1	+5.6
MORF	**Marmelete**	**165.60**	**44**	*e*PKIKP	**PKPdf**	**22 13 47.1**	**-0.8**
MORF				*e*		22 18 34.2	
MORF				*e*SS	SS	22 39 11.3	+2.0
PFVI	**Vila Bisbo**	**165.60**	**44**	*e*PKPdf	**PKPdf**	**22 13 49.4**	**+1.5**
PFVI	**Vila Bisbo**	**165.60**	**44**	*e*PKPab	PKPab	22 14 54.0	+7.4
PFVI	**Vila Bisbo**	**165.60**	**44**	*e*PP	PP	22 18 43.2	+10
TOA0	**Torodi Ar. Sit**	**165.70**	**172**	PKP	**PKPdf**	**22 13 48.0**	**-0.6**
TOA0				*e*PKPab	**PKPab**	**22 14 47.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**165.70**	**172**	PKP	**PKPdf**	**22 13 47.9**	**-0.7**
TORD				PKPab	**PKPab**	**22 14 48.8**	**+1.5**
TORD				PP	PP	22 18 39.4	+6.4
TORD	**Torodi Ar. Bea**	**165.70**	**172**	PKP	**PKPdf**	**22 13 47.9**	**-0.7**
	comp=Z,61nm,1.0s,baz=309,slow=0.9,SNR=182						
TORD				PKPab	**PKPab**	**22 14 48.8**	**+1.5**
	comp=Z,277nm,1.1s,baz=190,slow=2.3,SNR=24						
TORD				PP	PP	22 18 39.4	+6.4
	comp=Z,37nm,1.2s,baz=161,slow=4.4,SNR=4.9						
PCVE	**Castro Verde**	**165.75**	**41**	*e*PKPdf	**PKPdf**	**22 13 49.6**	**+1.6**
PCVE	**Castro Verde**	**165.75**	**41**	*e*PKPab	PKPab	22 14 54.0	+6.7
PCVE	**Castro Verde**	**165.75**	**41**	*e*PP	PP	22 18 39.8	+5.6
PBAR	**Barrancos**	**165.93**	**37**	*e*PKPdf	**PKPdf**	**22 13 48.6**	**+0.5**
PBAR	**Barrancos**	**165.93**	**37**	*e*PKPab	PKPab	22 14 54.7	+6.7
PBAR	**Barrancos**	**165.93**	**37**	*e*PP	PP	22 18 42.0	+7.0
PBDV	**Barranco-do-Ve**	**166.07**	**42**	*e*PKPdf	**PKPdf**	**22 13 50.2**	**+1.9**
PBDV	**Barranco-do-Ve**	**166.07**	**42**	*e*PKPab	PKPab	22 14 55.7	+7.0
PBDV	**Barranco-do-Ve**	**166.07**	**42**	*e*PP	PP	22 18 37.5	+1.6
PVAQ	**Vaqueiros**	**166.09**	**41**	*e*PKPdf	**PKPdf**	**22 13 48.9**	**+0.6**
PVAQ	**Vaqueiros**	**166.09**	**41**	*e*PKPab	PKPab	22 14 54.9	+6.1
PVAQ	**Vaqueiros**	**166.09**	**41**	*e*PP	PP	22 18 38.5	+2.6
PVAQ				*e*LR	LR	23 11 31.4	
	comp=Z,69µm,18.0s						
PAB	**San Pablo**	**166.12**	**27**	PFAKE		22 14 00.0	+12
PAB				LR	LR		
	comp=Z,54µm,19.0s						
ESDC	**Sonseca Array**	**166.17**	**26**	PKP	**PKPdf**	**22 13 48.1**	**-0.2**
ESDC				PKPab	**PKPab**	**22 14 48.9**	**-0.1**
ESDC				PP	**PP**	**22 18 34.2**	**-1.6**
ESDC	**Sonseca Array**	**166.17**	**26**	PKP	**PKPdf**	**22 13 48.1**	**-0.2**
	comp=Z,20nm,1.0s,baz=346,slow=2.9,SNR=90						
ESDC				PKPab	**PKPab**	**22 14 48.9**	**-0.1**
	comp=Z,20nm,0.9s,baz=318,slow=4.1,SNR=7.1						
ESDC				PP	**PP**	**22 18 34.2**	**-1.6**
	comp=Z,7.4nm,1.0s,baz=340,slow=4.5,SNR=4.0						
ESLA	**Sonseca Array**	**166.17**	**26**	*e*PKPdf	**PKPdf**	**22 13 48.0**	**-0.4**
ESLA				*e*PP	**PP**	**22 18 34.9**	**-1.0**
ESLA				LR	LR		
	comp=Z,395µm,19.0s						
VSL	**Villasalto**	**167.05**	**340**	*e*PKPdf	**PKPdf**	**22 13 48.6**	**-0.3**
VSL				*e*PKPab	**PKPab**	**22 14 53.4**	**+0.6**
VSL				LR	LR		
	comp=Z,43µm,21.0s						
WDD	**Wield Dalam**	**167.54**	**315**	PFAKE		22 14 00.0	+11
WDD				LR	LR		
	comp=Z,83µm,22.0s						
RTC	**Rabat Centre**	**168.74**	**52**	PFAKE		22 14 00.0	+10
RTC				LR	LR		
	comp=Z,78µm,20.0s						
CMAH	**Djebel Manchou**	**170.29**	**342**	P	PKPdf	22 13 59.0	+7.8
KEST	**Kesra**	**170.42**	**332**	PKP	**PKPdf**	**22 13 51.4**	**+0.1**
KEST				*e*PKPdf	PKPdf	22 13 52.7	+1.4
KEST				*e*PKPab	**PKPab**	**22 15 07.9**	**-0.1**
KEST				PP	**PP**	**22 18 57.6**	**-0.1**
KEST	**Kesra**	**170.42**	**332**	PKP	**PKPdf**	**22 13 51.4**	**+0.1**
	comp=Z,14nm,1.1s,baz=265,slow=2.2,SNR=9.8						
KEST				PP	**PP**	**22 18 57.6**	**-0.1**
	comp=Z,14nm,1.2s,baz=358,slow=5.1,SNR=3.5						
ABA	**Alger-Bouzarea**	**170.60**	**4**	P	**PKPdf**	**22 13 53.1**	**+1.8**
ABSA	**Djebel Ababsia**	**170.60**	**341**	P	**PKPdf**	**22 13 52.2**	**+0.8**
CKFL	**Kef-Lekhel**	**170.67**	**345**	P	**PKPdf**	**22 13 53.1**	**+1.6**
CASM	**Ain Smara**	**170.86**	**346**	P	**PKPdf**	**22 13 52.0**	**+0.5**
USTO	**Oran**	**170.91**	**23**	P	**PKPdf**	**22 13 54.0**	**+2.5**
EBNR	**Beni Rached**	**170.93**	**12**	P	**PKPdf**	**22 13 52.1**	**+0.5**
MDT	**Midelt**	**170.95**	**51**	PKP	**PKPdf**	**22 13 52.2**	**+0.4**
MDT	**Midelt**	**170.95**	**51**	PKP	**PKPdf**	**22 13 52.2**	**+0.4**
	comp=Z,66nm,1.1s,baz=358,slow=0.6,SNR=3.8						
ECHA	**Ech Chlef**	**171.03**	**13**	P	**PKPdf**	**22 13 52.3**	**+0.8**
SET	**Setif**	**171.11**	**351**	P	**PKPdf**	**22 13 53.0**	**+1.3**
EANR	**`Ain N'Sour**	**171.17**	**14**	P	**PKPdf**	**22 13 52.5**	**+0.8**
ETRT	**Tiaret**	**171.75**	**14**	P	**PKPdf**	**22 13 53.2**	**+1.1**

IDC 18 22:33:28.6±1.2, 22.93°S×178.75°W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/17, mbtmp4.0/3, Error ellipse: s-maj=63.4km s-min=32.2km az=156.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.16**	**247**	P	P	22 40 33.7	+0.9
	2.5nm,0.5s,baz=91,slow=11,SNR=12						
ASAR	**Alice Springs**	**43.34**	**259**	P	P	22 41 32.6	-0.1
	1.1nm,0.8s,baz=91,slow=8.1,SNR=6.6						
WRA	**Warramunga Arr**	**43.63**	**265**	P	P	22 41 34.2	-0.9
	0.3nm,0.3s,baz=90,slow=5.8,SNR=34						
KURBB	**Kurchatov Arra**	**115.34**	**317**	PKP	PKPdf	22 52 10.2	-1.8
	0.2nm,0.8s,baz=81,slow=2.0,SNR=4.9						
BVAR	**Borovoye Array**	**120.47**	**319**	PKP	PKPdf	22 52 21.4	-0.4
	0.6nm,0.4s,baz=126,slow=2.3,SNR=11						
ARCES	**ARCESS Array B**	**131.17**	**349**	PKP	PKPdf	22 52 43.2	+1.4
	3.2nm,0.9s,baz=46,slow=3.5,SNR=9.1						
FINES	**FINESS Array B**	**137.88**	**342**	PKhKP	PKPpre	22 52 47.3	
	0.5nm,0.4s,baz=90,slow=1.9,SNR=4.1						
FINES				PKP	PKiKP	22 52 55.5	-1.0
	0.9nm,0.7s,baz=355,slow=2.3,SNR=5.2						
HFS	**Hagfors**	**141.81**	**350**	PKP	PKPdf	22 52 59.7	-2.0
	3.0nm,0.4s,baz=64,slow=3.4,SNR=51						
AKASG	**Malin Array Be**	**144.76**	**329**	PKP	PKPdf	22 53 07.4	+0.2
	2.1nm,0.6s,baz=46,slow=4.3,SNR=10						
BRTR	**Keskin Array B**	**147.89**	**309**	PKPbc	PKPbc	22 53 15.2	-0.8
	0.9nm,0.7s,baz=135,slow=5.0,SNR=6.2						
CLL	**Collm**	**150.24**	**345**	*e*(P)	PKPbc	22 53 24.0	+2.6
	comp=Z,6.0nm,0.7s						
BRG	**Berggiesshubel**	**150.41**	**344**	*e*P	PKPbc	22 53 24.4	+2.6
	comp=Z,5.0nm,0.5s						
TORD	**Torodi Ar. Bea**	**170.26**	**183**	PKPab	PKPab	22 54 54.0	-0.9
	comp=Z,1.4nm,0.9s,baz=194,slow=2.9,SNR=5.9						

PRE 18 22:40:48.0±2.0, 26.22°S×28.19°E, h2km, ML1.6, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPM	**east rand prop**	**0.13**	**161**	*e*P	Pg	22 40 49.8	-1.0
ERPM				*e*S	Sg	22 40 50.2	-2.6
ERPM				AML	AML	22 40 50.3	
	comp=Z,604nm,0.1s						
SLR	**Silverton**	**0.49**	**9**	*e*P	Pg	22 40 56.2	-1.4
SLR				*e*S	Sg	22 41 03.6	-0.4
SLR				AML	AML	22 41 09.4	
	comp=Z,32nm,0.6s						
PRYS	**Parys**	**1.03**	**226**	*e*P	Pg	22 41 07.5	-0.4
PRYS				*e*S	Sg	22 41 20.9	-0.6
PRYS				AML	AML	22 41 32.1	
	comp=Z,6.4nm,0.6s						
LBTB	**Lobatse**	**2.63**	**297**	*e*P	Pn	22 41 32.8	+1.1
LBTB				*e*S	Sn	22 42 06.5	+2.1
LBTB				AML	AML	22 42 16.0	
	comp=Z,2.2nm,0.6s						

IDC 18 22:44:46.8±6.2, 17.66°S×178.66°W, h582km±69km, mb3.0/6, mb1 3.3/6, mb1mx3.1/18, mbtmp3.0/6, Error ellipse: s-maj=74.2km s-min=29.7km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.54**	**241**	P	P	22 51 20.6	-0.1
	1.2nm,0.8s,baz=135,slow=13,SNR=3.0						
WRA	**Warramunga Arr**	**44.44**	**259**	P	P	22 52 06.8	-0.5
	1.5nm,0.4s,baz=95,slow=7.4,SNR=60						
WRA				PcP	PcP	22 53 37.4	-0.8
	0.3nm,0.4s,baz=88,slow=3.8,SNR=5.3						
ASAR	**Alice Springs**	**44.62**	**254**	P	P	22 52 08.9	+0.1
	7.0nm,0.6s,baz=87,slow=8.5,SNR=92						
ASAR				PcP	PcP	22 53 37.8	-1.0
	0.7nm,0.4s,baz=97,slow=3.9,SNR=5.7						
ILAR	**Eielson Array**	**85.70**	**13**	P	P	22 56 23.4	-1.0
	0.2nm,0.4s,baz=221,slow=4.6,SNR=2.9						
TXAR	**Lajitas Array**	**86.07**	**58**	P	P	22 56 27.7	+0.5
	0.3nm,0.7s,baz=231,slow=4.3,SNR=2.7						
CMAR	**Chiang Mai Arr**	**88.58**	**290**	P	P	22 56 40.5	+1.6
	0.3nm,0.4s,baz=117,slow=3.0,SNR=4.5						
BRTR	**Keskin Array B**	**144.44**	**315**	PKP	PKPdf	23 03 17.6	-0.4
	0.7nm,0.5s,baz=116,slow=2.9,SNR=6.5						
GERES	**GERESS Array B**	**147.31**	**345**	PKPbc	PKPbc	23 03 25.2	-0.6
	0.7nm,0.4s,baz=16,slow=2.9,SNR=12						

IDC 18 22:46:57.6±3.4, 10.05°S×119.11°E, h0km, mb3.4/1, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML2.8/1, MS5.0/1, Ms1 5.0/1, ms1mx4.2/23, Error ellipse: s-maj=273.4km s-min=29.5km az=49.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.04**	**7**	LR	LR	22 50 57.0	
	comp=Z,14µm,18.7s,baz=154,slow=48						
WRA	**Warramunga Arr**	**17.68**	**126**	P	Pn	22 51 05.1	-0.4
	0.0nm,0.3s,baz=299,slow=13,SNR=3.5						
ASAR	**Alice Springs**	**19.57**	**136**	P	P	22 51 27.6	+0.4
	baz=311,slow=12,SNR=6.2						
MKAR	**Makanchi Array**	**65.43**	**333**	P	P	22 57 42.2	0.0
	0.3nm,0.7s,baz=143,slow=6.8,SNR=4.7						

IDC 18 22:59:21.5±20.0, 31.46°S×178.45°E, h636km±197km, mb2.8/4, mb1 2.9/4, mb1mx2.9/16, mbtmp2.8/4, Error ellipse: s-maj=180.8km s-min=77.4km az=106.0

ISC 18 22:58:51.3±2.0, 31.53°S±0.10×180.0°W±0.3, h355km, n21, σ1.548/23, mb3.2/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.19**	**193**	PN	Pn	23 00 28.5	+4.2
MXZ				SN	**S**	**23 01 38.6**	**-1.2**
PUZ	**Puketiti**	**6.69**	**192**	PN	**P**	**23 00 34.2**	**+2.8**
PUZ				SN	**S**	**23 01 49.0**	**-1.5**
MWZ	**Matawai**	**7.10**	**196**	PN	**P**	**23 00 38.0**	**+1.8**
MWZ				SN	**S**	**23 01 56.8**	**-2.3**
CNGZ	**Carnagh Statio**	**7.10**	**192**	PN	**P**	**23 00 38.7**	**+2.5**
URZ	**Urewera**	**7.13**	**199**	PN	**P**	**23 00 37.6**	**+1.0**
RAHZ	**Arahi**	**7.76**	**197**	PN	**P**	**23 00 45.7**	**+1.9**
MCHZ	**McNeill Hill**	**8.36**	**198**	PN	**P**	**23 00 51.5**	**-0.6**
BHHZ	**Black Hill Sta**	**8.58**	**201**	PN	**P**	**23 00 53.8**	**-0.9**
KAHZ	**Kahuranaki**	**8.64**	**197**	PN	**P**	**23 00 56.2**	**+0.9**
PRHZ	**Porangahau**	**9.15**	**197**	PN	**P**	**23 01 01.3**	**+0.5**
ANWZ	**Angora Road**	**9.37**	**197**	PN	**P**	**23 01 03.9**	**+0.6**
POWZ	**Post Office Ro**	**9.50**	**200**	PN	**Pn**	**23 01 03.3**	**+0.2**
MRZ	**Mangatainoka R**	**9.80**	**200**	PN	**Pn**	**23 01 06.9**	**+0.1**
HOWZ	**Holdsworth Sta**	**10.04**	**200**	PN	**Pn**	**23 01 10.0**	**+0.4**
OGWZ	**Otaki Gorge**	**10.07**	**202**	PN	**Pn**	**23 01 10.1**	**+0.2**
CTA	**Charters Tower**	**32.37**	**282**	P	**P**	**23 04 50.3**	**+1.2**
	2.2nm,0.5s,baz=102,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**32.61**	**259**	P	**P**	**23 04 52.4**	**+1.3**
	0.5nm,0.3s,baz=123,slow=8.3,SNR=2.5						
ASAR	**Alice Springs**	**41.40**	**269**	P	**P**	**23 06 04.2**	**-0.3**
	0.8nm,0.6s,baz=109,slow=7.0,SNR=13						
WRA	**Warramunga Arr**	**42.49**	**274**	P	**P**	**23 06 12.2**	**-1.1**
	0.5nm,0.5s,baz=111,slow=8.1,SNR=4.7						
FINES	**FINESS Array B**	**145.60**	**338**	PKPbc	**PKPab**	**23 17 47.8**	**-1.1**
	2.4nm,0.5s,baz=44,slow=5.0,SNR=27						
BRTR	**Keskin Array B**	**151.63**	**296**	PKPbc	**PKPbc**	**23 18 02.0**	**-2.2**
	0.4nm,0.5s,baz=142,slow=3.2,SNR=3.2						

IDC 18 23:01:33.6±1.8, 4.48°S×143.88°E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, ML3.2/2, Error ellipse: s-maj=56.4km s-min=30.3km az=109.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.88**	**147**	Pn	Pn	23 03 00.4	-1.7
	1.5nm,0.3s,baz=301,slow=5.9,SNR=3.9						
PMG				Sn	Sn	23 03 59.1	-11
	1.1nm,0.3s,baz=244,slow=18,SNR=2.3						
WRA	**Warramunga Arr**	**17.96**	**210**	P	Pn	23 05 44.5	-0.5
	0.2nm,0.3s,baz=23,slow=13,SNR=12						
ASAR	**Alice Springs**	**21.37**	**206**	P	P	23 06 23.9	+1.0
	1.7nm,0.8s,baz=29,slow=12,SNR=16						
ILAR	**Eielson Array**	**85.33**	**24**	P	P	23 14 12.3	0.0
	0.5nm,0.8s,baz=242,slow=5.7,SNR=4.6						

ISCJB 18 23:07:00.4±0.4, 39.10°N±0.03×29.05°E±0.03, h5km±5km, Error ellipse: s-maj=4.3km s-min=3.5km az=169.8
ISK 18 23:07:00.1, 39.09°N×29.14°E, h6km, MD2.7
DDA 18 23:07:00.3, 39.12°N×29.04°E, h7km, MD2.8
CSEM 18 23:07:00.6±0.1, 39.10°N×29.07°E, h5km, MD2.8, Error ellipse: s-maj=2.5km s-min=2.5km az=22.0

ISC 18 23:07:00.4±0.9, 39.11N±0.02×29.07E±0.02, h13km±9km, n43, σ0.955/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.29**	**257**	*i* P	**Pg**	**23 07 06.6**	**+0.2**
DEMI				*i* S	**Sg**	**23 07 10.3**	**-0.1**
DEMI	**Demirci**	**0.29**	**257**	*i* P	**Pg**	**23 07 06.6**	**+0.2**
DEMI				*i* S	**Sg**	**23 07 10.3**	**-0.1**
GDZ	**Gediz**	**0.32**	**93**	*i* P	**Pb**	**23 07 07.6**	**-0.4**
GDZ				*i* S	**Sb**	**23 07 12.4**	**-0.8**
GDZ	**Gediz**	**0.32**	**93**	*i* P	**Pb**	**23 07 07.6**	**-0.4**
GDZ				*i* S	**Sb**	**23 07 12.4**	**-0.8**
TVSB	**Tavsanli**	**0.46**	**41**	*e*PG	**Pg**	**23 07 09.1**	**-0.3**
TVSB				*e*SG	**Sg**	**23 07 15.6**	**+0.1**
TVSB	**Tavsanli**	**0.46**	**41**	*e*Pg	**Pg**	**23 07 09.1**	**-0.3**
TVSB				*e*Sg	**Sg**	**23 07 15.6**	**+0.1**
DST	**Dursunbey**	**0.61**	**325**	*e*PG	**Pb**	**23 07 13.2**	**+0.2**
DST	**Dursunbey**	**0.61**	**325**	*e*Pg	**Pb**	**23 07 13.2**	**+0.2**
KULA	**Kula-Manisa**	**0.68**	**209**	*e*PG	**Pg**	**23 07 13.8**	**+0.2**
KULA	**Kula-Manisa**	**0.68**	**209**	*e*Pg	**Pg**	**23 07 13.8**	**+0.2**
DURS	**Dursunbey**	**0.68**	**317**	*i* P	**Pg**	**23 07 13.3**	**-0.3**
DURS				*i* S	**Sg**	**23 07 22.5**	**-0.1**
DURS	**Dursunbey**	**0.68**	**317**	*i* P	**Pg**	**23 07 13.3**	**-0.3**
DURS				*i* S	**Sg**	**23 07 22.5**	**-0.1**
MANT	**Manisa**	**0.74**	**213**	*i* P	**Pg**	**23 07 14.7**	**0.0**
MANT				*i* S	**Sg**	**23 07 24.5**	**+0.1**
MANT	**Manisa**	**0.74**	**213**	*i* P	**Pg**	**23 07 14.7**	**0.0**
MANT				*i* S	**Sg**	**23 07 24.5**	**+0.1**
KHAL	**Karahalli**	**0.81**	**156**	*i* P	**Pb**	**23 07 16.6**	**+0.3**
KHAL				*i* S	**Sb**	**23 07 27.6**	**+0.4**
KHAL	**Karahalli**	**0.81**	**156**	*i* P	**Pb**	**23 07 16.6**	**+0.3**
KHAL				*i* S	**Sb**	**23 07 27.6**	**+0.4**
ALT	**Altintas**	**0.81**	**93**	*e*PG	**Pg**	**23 07 15.1**	**-1.0**
ALT	**Altintas**	**0.81**	**93**	*e*Pg	**Pg**	**23 07 15.1**	**-1.0**
KHL	**Karahalli**	**0.86**	**156**	*e*PG	**Pg**	**23 07 16.5**	**-0.5**
KHL				*e*SG	**Sb**	**23 07 29.1**	**+0.4**
KHL	**Karahalli**	**0.86**	**156**	*e*Pg	**Pg**	**23 07 16.5**	**-0.5**
KHL				*e*Sg	**Sb**	**23 07 29.1**	**+0.4**
AKHS	**Akhisar**	**1.01**	**257**	*i* P	**Pg**	**23 07 19.8**	**0.0**
AKHS				*i* S	**Sg**	**23 07 32.5**	**-0.5**
AKHS	**Akhisar**	**1.01**	**257**	*i* P	**Pg**	**23 07 19.8**	**0.0**
AKHS				*i* S	**Sg**	**23 07 32.5**	**-0.5**
BALB	**Balikesir**	**1.07**	**300**	*e*PN	**Pn**	**23 07 21.9**	**+0.8**
BALB	**Balikesir**	**1.07**	**300**	*e*Pn	**Pn**	**23 07 21.9**	**+0.8**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*PN	**Pg**	**23 07 25.2**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.27**	**353**	*e*Pn	**Pg**	**23 07 25.2**	**+0.4**
BALY	**Balya**	**1.29**	**300**	*i* P	**Pn**	**23 07 22.0**	**-2.2**
BALY				*i* S	**Sb**	**23 07 40.0**	**-1.1**
BORA	**Eskisehir**	**1.32**	**54**	*i* P	**Pg**	**23 07 26.2**	**+0.5**
BORA				*i* S	**Sg**	**23 07 43.6**	**+0.7**
BORA	**Eskisehir**	**1.32**	**54**	*i* P	**Pg**	**23 07 26.2**	**+0.5**
BORA				*i* S	**Sg**	**23 07 43.6**	**+0.7**
GONE	**Gonen-Balikesi**	**1.43**	**312**	*e*PN	**Pg**	**23 07 27.6**	**-0.2**
GONE	**Gonen-Balikesi**	**1.43**	**312**	*e*Pn	**Pg**	**23 07 27.6**	**-0.2**
ESKT	**Eskisehir**	**1.44**	**73**	*e*PN	**Pn**	**23 07 26.5

σ1ᵍ75/58, **mb3.7/8,16C-16D, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAT1	**Patacocha**	**1.34**	**341**	⇑P	**Pn**	**23 27 00.3**	**-2.8**
ARRY	**Arrayan**	**1.34**	**341**	⇓P	**Pn**	**23 27 00.1**	**-3.1**
BMAS	**Trigal station**	**1.35**	**340**	⇑P	**Pn**	**23 27 00.6**	**-2.7**
ULBA	**Ulba**	**1.38**	**343**	⇓P	**Pn**	**23 27 01.2**	**-2.5**
BBIL	**Ulba Tungurahu**	**1.41**	**340**	⇓P	**Pn**	**23 27 02.0**	**-2.0**
BBIL	**Ulba Tungurahu**	**1.41**	**340**	⇓S	**Sn**	**23 27 21.3**	**-1.5**
BIL2	**Estacion Bilba**	**1.41**	**340**	S	**Sn**	**23 27 21.7**	**-1.1**
BIL2	**Estacion Bilba**	**1.41**	**340**	P	**Pn**	**23 27 02.1**	**-1.8**
BRUN	**Tungurahua Vol**	**1.41**	**343**	⇑P	**Pn**	**23 27 01.6**	**-2.5**
RUN5	**Runtun**	**1.42**	**343**	⇑P	**Pn**	**23 27 01.8**	**-2.4**
JUI6	**Juive**	**1.42**	**341**	⇑S	**Sn**	**23 27 20.8**	**-2.4**
JUI6	**Juive**	**1.42**	**341**	⇑P	**Pn**	**23 27 01.5**	**-2.7**
IGUA	**Igualata**	**1.43**	**344**	⇓P	**Pn**	**23 27 02.4**	**-2.1**
PISA	**Pisayambo**	**1.75**	**348**	P	**Pn**	**23 27 07.7**	**-1.2**
BMOR	**Cotopaxi Volca**	**2.09**	**348**	⇓P	**Pn**	**23 27 13.5**	**0.0**
MOV1	**Cotopaxi Vol s**	**2.10**	**348**	⇓P	**Pn**	**23 27 13.6**	**-0.2**
TAMB	**Tambo**	**2.10**	**350**	⇑P	**Pn**	**23 27 13.8**	**0.0**
BTAM	**Cotopaxi Volca**	**2.13**	**350**	⇓S	**Sb**	**23 27 45.0**	**+1.3**
BTAM	**Cotopaxi Volca**	**2.13**	**350**	⇓P	**Pn**	**23 27 14.1**	**0.0**
COV1	**Cotopaxi Volc**	**2.13**	**351**	⇑P	**Pn**	**23 27 15.0**	**+0.7**
BREF	**Cotopaxi Volca**	**2.14**	**348**	⇓S	**Sb**	**23 27 44.9**	**+0.7**
BREF	**Cotopaxi Volca**	**2.14**	**348**	⇓P	**Pn**	**23 27 14.7**	**+0.4**
BVC2	**Cotopaxi Volca**	**2.15**	**349**	⇓S	**Sb**	**23 27 45.0**	**+0.7**
BVC2	**Cotopaxi Volca**	**2.15**	**349**	⇓P	**Pn**	**23 27 14.5**	**+0.1**
VC1	**Cotopaxi 1**	**2.16**	**350**	⇑P	**Pn**	**23 27 15.0**	**+0.5**
NAS2	**Nasa**	**2.17**	**348**	P	**Pn**	**23 27 15.5**	**+0.8**
PITA	**Cotopaxi Volc**	**2.25**	**349**	⇑P	**Pn**	**23 27 16.6**	**+0.9**
ANTI	**Antisana**	**2.32**	**356**	⇓P	**Pn**	**23 27 16.6**	**-0.2**
JUA2	**San Juan 2**	**2.62**	**347**	P	**Pb**	**23 27 23.7**	**-1.6**
GGP	**Refugio Guagua**	**2.66**	**347**	⇓P	**Pb**	**23 27 24.0**	**-2.0**
TERV	**Terraza Guagua**	**2.66**	**347**	P	**Pb**	**23 27 24.5**	**-1.5**
PINO	**Pino**	**2.67**	**347**	⇑P	**Pb**	**23 27 24.1**	**-2.2**
LAV4	**Lava4-Reventad**	**2.70**	**8**	⇑S	**Sb**	**23 27 60.0**	**+0.1**
LAV4	**Lava4-Reventad**	**2.70**	**8**	⇑P	**Pn**	**23 27 20.6**	**-1.1**
CHAR	**Charly**	**2.70**	**7**	S	**Sb**	**23 28 00.2**	**+0.2**
CHAR	**Charly**	**2.70**	**7**	P	**Pn**	**23 27 21.9**	**+0.1**
YANA	**Yana**	**2.71**	**348**	P	**Pb**	**23 27 25.1**	**-1.6**
CONE	**Cono NE Rev Vo**	**2.72**	**8**	⇓P	**Pn**	**23 27 21.9**	**-0.2**
CAYR	**Refugio Cayamb**	**2.78**	**0**	S	**Sb**	**23 28 01.6**	**-0.9**
CAYR	**Refugio Cayamb**	**2.78**	**0**	P	**Pn**	**23 27 24.2**	**+1.0**
CAYA	**Cayambe**	**2.83**	**0**	⇑P	**Pn**	**23 27 24.8**	**+1.0**
PECV	**Mancha de Ca P**	**2.85**	**314**	P	**Pb**	**23 27 27.7**	**-1.2**
OTAV	**Otavalo**	**3.03**	**352**	⇑P	**Pb**	**23 27 29.9**	**-2.3**
COTA	**Cotacachi**	**3.11**	**354**	⇑P	**Pb**	**23 27 32.4**	**-1.3**
CHIS	**Cerro-Chispas-**	**3.21**	**302**	P	**Pn**	**23 27 27.3**	**-1.3**
ATAH	**Atahualpa** 33nm,0.3s,baz=10,slow=7.5,SNR=148	**4.34**	**185**	Pn	**Pn**	**23 27 45.9**	**+1.5**
ATAH	15nm,0.3s,baz=55,slow=21,SNR=9.9			Sn	**Sn**	**23 28 36.2**	**+0.8**
NNA	**Nana** 4.3nm,0.3s,baz=332,slow=14,SNR=5.8	**9.22**	**173**	Pn	**Pn**	**23 28 50.5**	**-0.6**
NNA	1.6nm,0.3s,baz=283,slow=20,SNR=3.1			Sn	**Sn**	**23 30 30.6**	**-4.5**
LPAZ	**La Paz** 0.1nm,0.3s,baz=342,slow=8.9,SNR=4.0	**16.57**	**145**	Pn	**Pn**	**23 30 29.5**	**-1.7**
SIV	**San Ignacio** 1.3nm,0.4s,baz=320,slow=11,SNR=5.7	**21.22**	**129**	P	**P**	**23 31 22.4**	**-1.9**
CMIG	**Matias Romero** 0.6nm,0.3s,baz=162,slow=13,SNR=3.2	**25.83**	**320**	P	**P**	**23 32 13.9**	**+4.1**
PDAR	**Pinedale Array** 0.5nm,0.8s,baz=141,slow=9.6,SNR=5.1	**53.54**	**331**	P	**P**	**23 36 02.2**	**+2.9**
ULM	**Lac du Bonnet** 1.6nm,0.5s,baz=148,slow=5.4,SNR=3.2	**55.02**	**346**	P	**P**	**23 36 10.2**	**+0.5**
NVAR	**Mina Array Bea** 0.3nm,0.5s,baz=136,slow=7.1,SNR=3.2	**55.35**	**322**	P	P	23 36 15.9	+3.3
YKA	**Yellowknife Ar** 0.3nm,0.5s,baz=140,slow=5.9,SNR=6.9	**70.75**	**343**	P	**P**	**23 37 55.5**	**+1.3**
TORD	**Torodi Ar. Bea** 1.1nm,1.1s,baz=261,slow=4.9,SNR=4.6	**80.62**	**76**	P	**P**	**23 38 51.5**	**-0.2**
ILAR	**Eielson Array** 0.7nm,0.8s,baz=143,slow=4.8,SNR=9.1	**83.64**	**336**	P	**P**	**23 39 08.3**	**+1.8**
WRA	**Warramunga Arr** 0.5nm,0.9s,baz=116,slow=2.2,SNR=4.8	**141.03**	**233**	PKP	**PKPdf**	**23 46 09.3**	**-0.4**

IDC 18 23:45:57.0±2.0, 3°19.N×126°16.E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=189.4km s-min=23.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.0nm,0.4s,baz=340,slow=11,SNR=18	**24.35**	**161**	P	P	23 51 16.8	-0.1
ASAR	**Alice Springs** 0.4nm,0.8s,baz=345,slow=6.7,SNR=3.9	**27.74**	**165**	P	P	23 51 47.8	+0.2
STKA	**Stephens Creek** 2.0nm,0.7s,baz=320,slow=7.9,SNR=3.6	**37.84**	**158**	P	P	23 53 15.6	+0.1
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=122,slow=7.2,SNR=7.7	**57.67**	**326**	P	P	23 55 49.0	-0.3

IDC 18 23:51:06.6±2.4, 3°66N×126°54E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/21, mbtmp3.3/3, Error ellipse: s-maj=201.3km s-min=27.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.6nm,0.4s,baz=342,slow=9.3,SNR=12	**24.67**	**162**	P	P	23 56 28.7	-0.7
ASAR	**Alice Springs** 0.2nm,0.3s,baz=336,slow=10,SNR=4.4	**28.09**	**166**	P	P	23 57 01.1	+0.8
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=125,slow=8.9,SNR=4.1	**57.51**	**325**	P	P	00 00 57.9	0.0

PRE 19 00:03:23.5±0.7, 26°29S×28°33E, h2km, ML1.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPM	**east rand prop**	**0.10**	**234**	*e*P	Pg	00 03 25.6	-0.1
ERPM				*e*S	Sg	00 03 26.4	-0.8
ERPM				AML	AML	00 03 26.7	
	comp=Z,244nm,0.3s						
PRYS	**Parys**	**1.08**	**234**	*e*P	Pg	00 03 43.6	-0.8
PRYS				*e*S	Sb	00 03 59.6	-0.2
PRYS				AML	AML	00 04 00.2	
	comp=Z,12nm,0.7s						
LBTB	**Lobatse**	**2.77**	**297**	*e*P	Pn	00 04 10.1	+1.0
LBTB				*e*S	Sn	00 04 43.7	+0.4
LBTB				AML	AML	00 04 45.7	
	comp=Z,2.5nm,0.7s						

ISCJB ***19*** *00:06:51.7±0.5, 39°.17N±0°.04×29°.02E±0°.04, h9km±6km, Error ellipse: s-maj=7.3km s-min=4.9km az=176.3*
ISK ***19*** *00:06:51.4, 39°.22N×28°.98E, h8km, MD2.7*
DDA ***19*** *00:06:51.7, 39°.10N×29°.01E, h7km, MD2.3*
CSEM ***19*** *00:06:52.1±0.2, 39°.18N×29°.01E, h12km, MD2.7, Error ellipse: s-maj=6.0km s-min=4.8km az=37.0*

ISC 19 00:06:51.7±1.0, 39°.17N±0°.03×29°.00E±0°.03, h11km±10km, n26, σ0ᵍ46/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**241**	*i* Pg	**Pg**	**00 06 57.2**	**+0.2**
DEMI				*i* Sg	**Sg**	**00 07 00.7**	**+0.2**
GDZ	**Gediz**	**0.38**	**101**	*i* P	**Pg**	**00 06 59.0**	**-0.3**
GDZ				*i* S	**Sg**	**00 07 03.9**	**-0.5**
TVSB	**Tavsanli**	**0.46**	**51**	*e*Pg	**Pg**	**00 07 00.4**	**-0.3**
TVSB				*e*Sg	**Sg**	**00 07 07.1**	**+0.3**
TVSB	**Tavsanli**	**0.46**	**51**	*e*Pg	**Pg**	**00 07 00.4**	**-0.3**
TVSB				*e*Sg	**Sg**	**00 07 07.1**	**+0.3**
DURS	**Dursunbey**	**0.60**	**317**	*i* P	**Pb**	**00 07 05.2**	**+1.0**
DURS				*e*S	**Sb**	**00 07 12.8**	**0.0**
DURS	**Dursunbey**	**0.60**	**317**	*i* P	**Pb**	**00 07 05.2**	**+1.0**
DURS				*e*S	**Sb**	**00 07 12.8**	**0.0**
KULA	**Kula-Manisa**	**0.70**	**202**	*e*PG	**Pb**	**00 07 06.0**	**0.0**
KULA	**Kula-Manisa**	**0.70**	**202**	*e*Pg	**Pb**	**00 07 06.0**	**0.0**
ALT	**Altintas**	**0.87**	**97**	*e*PG	**Pb**	**00 07 09.3**	**+0.4**
ALT	**Altintas**	**0.87**	**97**	*e*Pg	**Pb**	**00 07 09.3**	**+0.4**
KHL	**Karahalli**	**0.93**	**154**	*e*PG	**Pn**	**00 07 10.9**	**+0.1**
KHL	**Karahalli**	**0.93**	**154**	*e*Pg	**Pn**	**00 07 10.9**	**+0.1**
BALB	**Balikesir**	**0.99**	**299**	*e*PG	**Pg**	**00 07 09.8**	**-1.0**
BALB	**Balikesir**	**0.99**	**299**	*e*Pg	**Pg**	**00 07 09.8**	**-1.0**
MDNY	**Mudanya-Bursa**	**1.21**	**356**	*e*PN	**Pn**	**00 07 13.9**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.21**	**356**	*e*Pn	**Pn**	**00 07 13.9**	**-0.6**
KCTX	**Karacabey (Bur**	**1.21**	**336**	*e*PN	**Pn**	**00 07 14.4**	**-0.2**
KCTX	**Karacabey (Bur**	**1.21**	**336**	*e*Pn	**Pn**	**00 07 14.4**	**-0.2**
GONE	**Gonen-Balikesi**	**1.34**	**311**	*e*PN	**Pn**	**00 07 16.6**	**+0.2**
GONE	**Gonen-Balikesi**	**1.34**	**311**	*e*Pn	**Pn**	**00 07 16.6**	**+0.2**
ARMT	**Armutlu**	**1.40**	**356**	*e*PN	**Pn**	**00 07 17.4**	**+0.1**
ARMT	**Armutlu**	**1.40**	**356**	*e*Pn	**Pn**	**00 07 17.4**	**+0.1**
YLV	**Yalova**	**1.43**	**11**	*e*PN	**Pb**	**00 07 18.5**	**+0.1**
YLV	**Yalova**	**1.43**	**11**	*e*Pn	**Pb**	**00 07 18.5**	**+0.1**
GULT	**Gulveren**	**1.72**	**42**	*e*PN	**Pn**	**00 07 22.0**	**+0.3**
GULT	**Gulveren**	**1.72**	**42**	*e*Pn	**Pn**	**00 07 22.0**	**+0.3**

ISCJB ***19*** *00:10:41.3±0.5, 58°.80N±0°.04×15°.15E±0°.05, h0km, Error ellipse: s-maj=5.5km s-min=3.4km az=2.3*
CSEM ***19*** *00:10:42.4±0.2, 58°.82N×15°.10E, h2km, ML2.6, Error ellipse: s-maj=4.2km s-min=3.1km az=3.0, Suspected Mining explosion.*
UPP ***19*** *00:10:42.4, 58°.81N×15°.11E, h0km, ML2.6, Suspected Mining explosion.*
IDC ***19*** *00:10:43.0±1.7, 58°.76N×14°.89E, h0km, mb1 3.2/3, mb1mx2.9/26, mbtmp3.1/3, ML2.7/3, Error ellipse: s-maj=16.9km s-min=8.2km az=24.0*
HEL ***19*** *00:10:43.0±0.1, 58°.80N×15°.11E, h0km, ML2.3, ML2.6(UPP), MW1.7(BER)*
NAO ***19*** *00:10:44.0±2.1, 58°.86N×15°.09E, ML1.7*
BER ***19*** *00:10:46.8±1.7, 58°.89N×14°.95E, h15km, MW1.7, ML1.7(NAO)*

ISC 19 00:10:41.7±0.8, 58°.82N±0°.03×15°.13E±0°.02, h0km, n68, σ1ᵍ27/96, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASKU	**Askersund**	**0.17**	**296**	*i* P	**Pg**	**00 10 45.9**	**+0.9**
ASKU				*i* S	**Sg**	**00 10 48.3**	**+1.1**
ASKU	**Askersund**	**0.17**	**296**	P	**Pg**	**00 10 45.9**	**+0.9**
ASKU				S	**Sg**	**00 10 48.2**	**+1.1**
LNKU	**Linkoeping**	**0.63**	**161**	*i* P	**Pg**	**00 10 54.3**	**+0.5**
LNKU	**Linkoeping**	**0.63**	**161**	P	**Pg**	**00 10 54.2**	**+0.5**
NRAU	**Nora**	**0.75**	**357**	*i* P	**Pg**	**00 10 56.8**	**+0.7**
NRAU	**Nora**	**0.75**	**357**	P	**Pg**	**00 10 56.8**	**+0.7**
ESKU	**Eskilstuna**	**0.78**	**57**	*i* P	**Pg**	**00 10 57.2**	**+0.6**
ESKU				*i* S	**Sg**	**00 11 07.1**	**+0.5**
ESKU	**Eskilstuna** baz=240	**0.78**	**57**	P	**Pg**	**00 10 57.2**	**+0.6**
ESKU				S	**Sg**	**00 11 07.1**	**+0.5**
VIKU	**Vikbolandet**	**0.88**	**111**	*i* P	**Pg**	**00 10 59.0**	**+0.4**
VIKU	**Vikbolandet** baz=285	**0.88**	**111**	P	**Pg**	**00 10 59.0**	**+0.4**
FKPU	**Falk**	**0.99**	**229**	P	**Pg**	**00 11 00.7**	**0.0**
BACU	**Backbrunna**	**1.45**	**44**	*e*P	**Pn**	**00 11 09.5**	**+0.3**
BACU	**Backbrunna**	**1.45**	**44**	P	**Pn**	**00 11 09.5**	**+0.3**
FINU	**Finntorp**	**1.48**	**294**	*e*P	**Pn**	**00 11 09.4**	**-0.2**
FINU	**Finntorp**	**1.48**	**294**	P	**Pn**	**00 11 09.4**	**-0.2**
UDD	**Uddeholm**	**1.49**	**329**	*e*P	**Pn**	**00 11 09.8**	**+0.1**
UDD	**Uddeholm**	**1.49**	**329**	P	**Pn**	**00 11 09.8**	**+0.1**
NYNU	**Nynaeshamn**	**1.50**	**82**	*e*P	**Pn**	**00 11 10.1**	**+0.2**
NYNU	**Nynaeshamn**	**1.50**	**82**	P	**Pn**	**00 11 10.1**	**+0.2**
HFS	**Hagfors** baz=154,slow=16	**1.51**	**332**	Pg	**Pn**	**00 11 10.2**	**+0.3**
HFS				Lg	Lg	00 11 29.9	
	baz=148,slow=37						
HFS	**Hagfors** baz=154,slow=16	**1.51**	**332**	Pg	**Pn**	**00 11 10.2**	**+0.3**
HFS				Lg	Lg	00 11 29.9	
	baz=148,slow=37						
HFS	**Hagfors**	**1.51**	**332**	*e*P	**Pn**	**00 11 10.3**	**+0.3**
HFS				*e*PN	**Pb**	**00 11 10.7**	**+0.2**
HFS				*e*S	**Sg**	**00 11 30.3**	**+0.3**
HFS				*e*SN	**Sn**	**00 11 32.3**	**+2.1**
HFS	**Hagfors** 2.7nm,0.3s,baz=156,slow=18,SNR=143	**1.51**	**332**	Pg	**Pn**	**00 11 10.1**	**+0.2**
HFS				Lg	Lg	00 11 30.0	
	3.8nm,0.3s,baz=156,slow=30,SNR=13						
HFS	**Hagfors**	**1.51**	**332**	P	**Pn**	**00 11 10.3**	**+0.3**
HFS	**Hagfors**	**1.51**	**332**	Pn	**Pb**	**00 11 10.7**	**+0.2**
HFS				Lg	Lg	00 11 29.9	
	baz=148,slow=28,SNR=30						
HFS				S	**Sg**	**00 11 30.3**	**+0.3**
HFS				Sn	**Sn**	**00 11 32.3**	**+2.1**
UPP	**Uppsala**	**1.65**	**50**	*e*P	**Pb**	**00 11 12.9**	**-0.1**
UPP	**Uppsala**	**1.65**	**50**	P	**Pb**	**00 11 12.9**	**-0.1**
FALU	**Falun**	**1.72**	**12**	*e*P	**Pb**	**00 11 14.0**	**-0.1**
FALU	**Falun**	**1.72**	**12**	P	**Pb**	**00 11 14.0**	**-0.1**
OSTU	**Oestervaala**	**1.75**	**35**	*e*P	**Pb**	**00 11 14.5**	**-0.1**
OSTU	**Oestervaala**	**1.75**	**35**	P	**Pb**	**00 11 14.4**	**-0.1**
AAL	**Aland**	**2.83**	**59**	*e*P	**Pn**	**00 11 29.6**	**+1.5**
AAL				*e*PG	**Pb**	**00 11 34.2**	**+1.1**
AAL				*e*S	**Sn**	**00 12 03.5**	**+0.6**
AAL				*e*		00 12 06.1	
AAL				*e*SB	**Sb**	**00 12 08.3**	**+0.7**
AAL				MSG		00 12 10.3	
	comp=Z,1.0nm,1.0s						
AAL	**Aland**	**2.83**	**59**	P	**Pn**	**00 11 29.6**	**+1.5**
NB2	**NORSAR Subarra** baz=142,slow=14	**2.97**	**320**	Pn	**Pn**	**00 11 30.0**	**-0.1**
NB2				Lg	Lg	00 12 15.6	
	baz=134,slow=37						
NB2	**NORSAR Subarra** baz=142,slow=14	**2.97**	**320**	Pn	**Pn**	**00 11 30.0**	**-0.1**
NB2				Lg	Lg	00 12 15.6	
	baz=134,slow=37						
NB2	**NORSAR Subarra**	**2.97**	**320**	*e*P	**Pn**	**00 11 30.0**	**-0.1**
NB2				*e*SG	**Sg**	**00 12 15.6**	**-1.5**
NB2	**NORSAR Subarra**	**2.97**	**320**	P	**Pn**	**00 11 30.0**	**-0.1**
NB2				Sg	**Sg**	**00 12 15.6**	**-1.5**
NB2				Lg	Lg	00 12 15.6	
	baz=134,slow=36,SNR=30						
NOA	**NORSAR Array B** comp=Z,0.3nm,0.3s,baz=139,slow=14,SNR=14	**2.97**	**320**	Pn	**Pn**	**00 11 30.0**	**-0.1**
NOA				Pg	**Pb**	**00 11 33.8**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=138,slow=17,SNR=14						
NOA				Lg	Lg	00 12 15.3	
	comp=Z,1.3nm,0.3s,baz=135,slow=24,SNR=5.5						
RAF	**Rauma**	**4.01**	**54**	*e*P	**Pn**	**00 11 46.0**	**+1.8**
RAF				*e*PG	**Pb**	**00 11 54.2**	**+1.1**
RAF				*e*S	**Sn**	**00 12 30.7**	**-1.1**
RAF				*e*SG	**Sb**	**00 12 44.5**	**+2.5**
RAF				MSG		00 12 47.4	
	comp=Z,3.9nm,0.2s						
RAF	**Rauma**	**4.01**	**54**	P	**Pn**	**00 11 46.0**	**+1.8**
RAF				S	**Sn**	**00 12 30.7**	**-1.1**
SNART	**Snartemo**	**4.17**	**267**	*e*P	**Pn**	**00 11 47.0**	**+0.4**
SNART	**Snartemo**	**4.17**	**267**	*e*P	**Pn**	**00 11 47.0**	**+0.4**
BLS5	**Blasjo**	**4.51**	**281**	*e*P	**Pn**	**00 11 51.7**	**+0.5**
BLS5	**Blasjo**	**4.51**	**281**	*e*P	**Pn**	**00 11 51.7**	**+0.5**
BLS5	**Blasjo**	**4.51**	**281**	P	**Pn**	**00 11 51.6**	**+0.5**
MEF	**Metsahovi**	**4.92**	**70**	*e*P	**Pn**	**00 11 58.3**	**+1.5**
MEF				*e*S	**Sn**	**00 12 53.0**	**-1.4**
MEF				MSN		00 12 58.4	
	comp=Z,1.0nm,0.2s						
MEF	**Metsahovi**	**4.92**	**70**	P	**Pn**	**00 11 58.3**	**+1.5**
MEF				S	**Sn**	**00 12 53.0**	**-1.4**
KMY	**Karmoy**	**5.12**	**279**	*e*	Sg	00 13 20.2	-5.8
KMY	**Karmoy**	**5.12**	**279**	*e*	Sg	00 13 20.2	-5.8
VAF	**Ylistaro**	**5.61**	**38**	*e*P	**Pn**	**00 12 08.3**	**+2.1**
VAF				*e*S	**Sn**	**00 13 09.8**	**-1.4**
VAF				MSN		00 13 12.2	
	comp=Z,0.8nm,0.2s						
PVF	**Pernaja**	**5.71**	**68**	*e*P	**Pn**	**00 12 08.5**	**+0.9**
PVF				*e*S	**Sn**	**00 13 11.0**	**-2.7**
PVF				MSN		00 13 16.5	
	comp=Z,0.9nm,0.2s						
PVF	**Pernaja**	**5.71**	**68**	P	**Pn**	**00 12 08.5**	**+0.9**
KEF	**Keuruu**	**5.87**	**51**	*e*P	**Pn**	**00 12 11.0**	**+1.1**
KEF				*e*S	**Sn**	**00 13 15.4**	**-2.3**
KEF				MSN		00 13 20.0	
	comp=Z,0.6nm,0.2s						
KEF	**Keuruu**	**5.87**	**51**	P	**Pn**	**00 12 10.9**	**+1.1**
FIA0	**FINESS Array S**	**6.07**	**60**	Pn	**Pn**	**00 12 14.2**	**+1.5**
FIA0				Sn	**Sn**	**00 13 21.4**	**-1.3**
	baz=257,slow=18						
FIA0	**FINESS Array S**	**6.07**	**60**	Pn	**Pn**	**00 12 14.2**	**+1.5**
FIA0				Sn	**Sn**	**00 13 21.4**	**-1.3**
	baz=257,slow=18						
FIA0	**FINESS Array S**	**6.07**	**60**	*e*P	**Pn**	**00 12 14.5**	**+1.9**
FIA0				*e*S	**Sn**	**00 13 20.5**	**-2.2**
FIA0				MSN		00 13 28.8	
	comp=Z,0.8nm,0.2s						
FIA0	**FINESS Array S** SNR=55	**6.07**	**60**	Pn	**Pn**	**00 12 14.1**	**+1.5**
FIA0	**FINESS Array S**	**6.07**	**60**	P	**Pn**	**00 12 14.5**	**+1.9**
FIA0				Sn	**Sn**	**00 13 21.4**	**-1.3**
	baz=257,slow=18,SNR=55						
FINES	**FINESS Array B**	**6.07**	**60**	Pn	**Pn**	**00 12 14.7**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=244,slow=12,SNR=21						
FINES				Sn	**Sn**	**00 13 24.6**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=248,slow=22,SNR=6.9						
SUF	**Sumiainen**	**6.66**	**49**	*e*P	**Pn**	**00 12 21.9**	**+1.1**
SUF				*e*S	**Sn**	**00 13 34.2**	**-3.1**
SUF	**Sumiainen**	**6.66**	**49**	P	**Pn**	**00 12 21.8**	**+1.1**
MSF	**Maaselka**	**9.59**	**36**	*e*P	**Pn**	**00 12 59.6**	**-1.2**
MSF	**Maaselka**	**9.59**	**36**	P	**Pn**	**00 12 59.6**	**-1.2**
ARA0	**ARCESS Array S**	**11.64**	**18**	Pn	**Pn**	**00 13 26.4**	**-2.4**
ARA0	**ARCESS Array S**	**11.64**	**18**	P	**Pn**	**00 13 26.4**	**-2.4**
ARA0	**ARCESS Array S**	**11.64**	**18**	*e*P	**Pn**	**00 13 26.4**	**-2.4**
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=204,slow=15,SNR=3.7	**11.64**	**18**	Pn	**Pn**	**00 13 26.4**	**-2.5**

IDC ***19*** *00:12:17.2±1.6, 58°.56N×14°.82E, h0km, mb3.2/2, mb1 3.5/5, mb1mx3.2/26, mbtmp3.4/5, ML3.2/3, Error ellipse: s-maj=20.9km s-min=9.1km az=43.0*
ISCJB ***19*** *00:12:18.2±0.4, 58°.84N±0°.03×15°.13E±0°.05, h0km, mb3.1/2, Error ellipse: s-maj=4.0km s-min=3.6km az=29.1*
UPP ***19*** *00:12:19.0, 58°.82N×15°.11E, h0km, ML3.0, Suspected Mining explosion.*
NAO ***19*** *00:12:19.1±2.4, 58°.74N×15°.01E, ML2.5*
HEL ***19*** *00:12:19.8±0.1, 58°.80N×15°.09E, h0km, ML3.0(UPP)*
BER ***19*** *00:12:20.4±3.1, 58°.79N×14°.92E, h6km±27km, ML2.5(NAO)*
CSEM ***19*** *00:12:26.7±0.3, 59°.53N×15°.36E, h1km, ML3.0, Error ellipse: s-maj=6.6km s-min=6.5km az=3.0, Suspected Mining explosion.*

ISC 19 00:12:18.6±0.7, 58°.84N±0°.03×15°.12E±0°.02, h0km, n76, σ1ᵍ18/88, 10D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASKU	**Askersund**	**0.16**	**291**	⇓*e*P	**Pg**	**00 12 22.4**	**+0.8**
ASKU				*e*S	**Sg**	**00 12 24.8**	**+1.1**
ASKU	**Askersund**	**0.16**	**291**	⇓P	**Pg**	**00 12 24.2**	**+2.5**
ASKU				S	**Sg**	**00 12 26.5**	**+2.8**
LNKU	**Linkoeping**	**0.65**	**162**	*e*P	**Pg**	**00 12 30.9**	**-0.1**
LNKU	**Linkoeping**	**0.65**	**162**	P	**Pb**	**00 12 32.6**	**-0.2**
LNKU				S	**Sg**	**00 12 41.0**	**+1.6**
NRAU	**Nora**	**0.74**	**357**	*e*P	**Pg**	**00 12 33.4**	**+0.7**
NRAU				*e*S	**Sg**	**00 12 43.7**	**+1.5**
NRAU	**Nora**	**0.74**	**357**	P	**Pg**	**00 12 33.4**	**+0.7**
ESKU	**Eskilstuna** baz=240	**0.77**	**59**	*e*P	**Pg**	**00 12 33.7**	**+0.4**
ESKU				*e*S	**Sg**	**00 12 43.8**	**+0.6**
ESKU	**Eskilstuna**	**0.77**	**59**	P	**Pb**	**00 12 36.1**	**+1.3**
VIKU	**Vikbolandet** baz=278	**0.89**	**112**	*e*P	**Pg**	**00 12 35.7**	**0.0**
VIKU				*e*S	**Sg**	**00 12 47.3**	**+0.1**
VIKU	**Vikbolandet**	**0.89**	**112**	P	**Pb**	**00 12 37.6**	**+0.7**
BACU	**Backbrunna**	**1.44**	**44**	⇓*e*P	**Pn**	**00 12 46.1**	**+0.2**
BACU				*e*S	**Sg**	**00 13 05.0**	**+0.2**
BACU	**Backbrunna**	**1.44**	**44**	⇓P	**Pn**	**00 12 46.1**	**+0.2**
UDD	**Uddeholm**	**1.47**	**329**	*e*P	**Pn**	**00 12 46.4**	**0.0**
UDD	**Uddeholm**	**1.47**	**329**	P	**Pn**	**00 12 46.4**	**0.0**
HFS	**Hagfors** baz=155,slow=18	**1.49**	**331**	Pg	**Pn**	**00 12 46.8**	**+0.3**
HFS				Lg	Lg	00 13 07.1	
	baz=155,slow=28						
HFS	**Hagfors** baz=155,slow=18	**1.49**	**331**	Pg	**Pn**	**00 12 46.8**	**+0.3**
HFS				Lg	Lg	00 13 07.1	
	baz=155,slow=28						
HFS	**Hagfors**	**1.49**	**331**	*e*P	**Pn**	**00 12 47.0**	**+0.4**
HFS	**Hagfors** 10nm,0.3s,baz=155,slow=19,SNR=28	**1.49**	**331**	Pg	**Pn**	**00 12 46.8**	**+0.3**
HFS				Lg	Lg	00 13 09.6	
	15nm,0.3s,baz=153,

ISCJB ***19*** *00:12:47.7±0.2,58°.76N±0°.02×15°.31E±0°.04,h0km, mb3.7/9, Error ellipse: s-maj=3.2km s-min=2.7km az=0.6*
PRU ***19*** *00:12:49.5,58°.79N×15°.52E,h0km,M3.7*
UPP ***19*** *00:12:50.9,58°.81N×15°.09E,h0km,ML3.7, Suspected Mining explosion.*
CSEM ***19*** *00:12:50.3±0.1,58°.80N×15°.09E,h1km,Ms6.6, Error ellipse: s-maj=4.8km s-min=3.2km az=112.0, Suspected Mining explosion.*
HEL ***19*** *00:12:51.6±0.1,58°.82N×15°.12E,h0km,ML3.2, ML3.7(UPP),ML3.1(NAO)*
IDC ***19*** *00:12:52.4±1.3,58°.80N×14°.92E,h13km±10km,mb3.7/9, mb1 3.8/16,mb1mx3.6/32,mbtmp3.7/16,ML3.9/7,MS3.8/1, Ms1 3.9/1,ms1mx3.4/51,Error ellipse: s-maj=9.1km s-min=6.5km az=90.0*
NAO ***19*** *00:12:53.2±2.4,58°.89N×15°.13E,ML3.1*
BER ***19*** *00:12:57.0±3.3,59°.01N×15°.06E,h12km±32km, ML3.1(NAO)*

ISC 19 00:12:48.7±0.5,58°.79N±0°.02×15°.11E±0°.02,h0km,n146, σ1§94/179,mb3.9/9,13C-2D,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASKU	**Askersund**	**0.18**	**307**	*i* P	**Pg**	**00 12 54.2**	**+2.0**
ASKU				*i* S	**Sg**	**00 12 56.6**	**+2.1**
ASKU	**Askersund**	**0.18**	**307**	P	**Pg**	**00 12 54.2**	**+2.0**
ASKU				S	**Sg**	**00 12 56.6**	**+2.1**
HFS	**Hagfors**	**1.53**	**332**	Pg	**Pg**	**00 13 19.2**	**+1.2**
	baz=151,slow=18						
HFS				Lg	Lg	00 13 38.6	
	baz=156,slow=28						
HFS	**Hagfors**	**1.53**	**332**	Pg	**Pg**	**00 13 19.2**	**+1.2**
	baz=151,slow=18						
HFS				Lg	Lg	00 13 38.6	
	baz=156,slow=28						
HFS	**Hagfors**	**1.53**	**332**	*e*P	**Pg**	**00 13 19.4**	**+1.2**
HFS				*e*S	**Sg**	**00 13 38.5**	**+0.5**
HFS	**Hagfors**	**1.53**	**332**	Pg	**Pg**	**00 13 18.9**	**+0.8**
	43nm,0.3s,baz=156,slow=19,SNR=15						
HFS				Lg	Lg	00 13 38.9	
	77nm,0.3s,baz=152,slow=34,SNR=13						
HFS	**Hagfors**	**1.53**	**332**	P	**Pg**	**00 13 19.3**	**+1.2**
HFS				S	**Sg**	**00 13 38.4**	**+0.5**
HFS				Lg	Lg	00 13 38.6	
	baz=156,slow=24,SNR=30						
UPP	**Uppsala**	**1.68**	**49**	*e*P	**Pg**	**00 13 21.5**	**+0.6**
UPP				*e*S	**Sg**	**00 13 44.6**	**+2.0**
UPP	**Uppsala**	**1.68**	**49**	P	**Pg**	**00 13 21.5**	**+0.6**
UPP				S	**Sg**	**00 13 44.6**	**+2.0**
OSKU	**Oskarshamn**	**1.68**	**161**	*e*P	**Pg**	**00 13 21.9**	**+0.9**
OSKU				*e*S	**Sg**	**00 13 44.7**	**+2.0**
OSKU	**Oskarshamn**	**1.68**	**161**	P	**Pg**	**00 13 21.8**	**+0.9**
OSKU				S	**Sg**	**00 13 44.6**	**+1.9**
BORU	**Boraas**	**1.69**	**228**⇑	*e*P	**Pg**	**00 13 22.1**	**+1.0**
BORU				*e*S	**Sg**	**00 13 45.0**	**+1.9**
BORU	**Boraas**	**1.69**	**228** ⇑	P	**Pg**	**00 13 22.1**	**+1.0**
BORU				S	**Sg**	**00 13 44.9**	**+1.9**
FALU	**Falun**	**1.75**	**12**⇑	*e*P	**Pg**	**00 13 22.6**	**+0.3**
FALU	**Falun**	**1.75**	**12** ⇑	P	**Pg**	**00 13 22.6**	**+0.3**
VXJU	**Vaexsjoe**	**1.87**	**183**	*e*P	**Pg**	**00 13 25.1**	**+0.5**
VXJU	**Vaexsjoe**	**1.87**	**183**	P	**Pg**	**00 13 25.1**	**+0.5**
NRTU	**Norrtaelje**	**2.02**	**62**	*e*P	**Pg**	**00 13 26.6**	**-0.8**
NRTU				*e*S	**Sg**	**00 13 53.0**	**-0.5**
NRTU	**Norrtaelje**	**2.02**	**62**	P	**Pg**	**00 13 26.6**	**-0.8**
NRTU				S	**Sg**	**00 13 53.0**	**-0.5**
NC602	**NORSAR Array S**	**2.66**	**319**	*e*P	**Pb**	**00 13 36.9**	**-0.3**
AAL	**Aland**	**2.86**	**59**	*e*P	**Pb**	**00 13 37.9**	**-2.6**
AAL				*e*SB	**Sb**	**00 14 17.3**	**+1.4**
AAL	**Aland**	**2.86**	**59**	P	**Pb**	**00 13 37.9**	**-2.6**
AAL				Sb	**Sb**	**00 14 17.3**	**+1.4**
KONO	**Kongsberg**	**2.96**	**289**	*e*P	**Pb**	**00 13 41.7**	**-0.6**
NB2	**NORSAR Subarra**	**2.99**	**321**	Pn	**Pn**	**00 13 38.9**	**+1.4**
NB2	**NORSAR Subarra**	**2.99**	**321**	Pn	**Pn**	**00 13 38.9**	**+1.4**
NB2	**NORSAR Subarra**	**2.99**	**321**	*e*P	**Pn**	**00 13 38.9**	**+1.4**
NB2	**NORSAR Subarra**	**2.99**	**321**	P	**Pn**	**00 13 38.8**	**+1.4**
NOA	**NORSAR Array B**	**2.99**	**321**	Pn	**Pn**	**00 13 37.7**	**+0.3**
	5.7nm,0.3s,baz=135,slow=16,SNR=7.1						
NOA				Lg	Lg	00 14 23.4	
	23nm,0.3s,baz=136,slow=26,SNR=6.0						
NOA				LR	LR	00 14 50.0	
	comp=Z,2μm,18.9s,baz=225,slow=40						
BSD	**Bornholm Skovb**	**3.69**	**182**	*i* P	**Pn**	**00 13 48.6**	**+1.8**
BSD				*e*S	**Sg**	**00 14 46.2**	**-0.8**
BSD	**Bornholm Skovb**	**3.69**	**182**	*i* P	**Pn**	**00 13 48.6**	**+1.8**
MUD	**Monsted U'grnd**	**3.96**	**236**	*i* P	**Pn**	**00 13 52.5**	**+1.9**
MUD	**Monsted U'grnd**	**3.96**	**236**	*i* P	**Pn**	**00 13 52.5**	**+1.9**
RAF	**Rauma**	**4.03**	**53**	*e*P	**Pn**	**00 13 53.9**	**+2.3**
RAF				*e*SG	**Sb**	**00 14 53.1**	**+3.4**
RAF	**Rauma**	**4.03**	**53**	P	**Pn**	**00 13 53.9**	**+2.3**
SNART	**Snartemo**	**4.16**	**267**	*e*	**Sg**	**00 14 58.6**	**-3.7**
SNART	**Snartemo**	**4.16**	**267**	*e*SG	**Sg**	**00 14 58.6**	**-3.7**
ODD1	**Odda**	**4.49**	**288**	*e*	**Sg**	**00 15 09.7**	**-3.0**
ODD1	**Odda**	**4.49**	**288**	*e*SG	**Sg**	**00 15 09.7**	**-3.0**
ODD1	**Odda**	**4.49**	**288**	Sg	**Sg**	**00 15 09.7**	**-3.0**
BLS5	**Blasjo**	**4.51**	**282**	*e*	**Sg**	**00 15 11.8**	**-1.5**
BLS5	**Blasjo**	**4.51**	**282**	*e*SG	**Sg**	**00 15 11.8**	**-1.5**
BLS5	**Blasjo**	**4.51**	**282**	Sg	**Sg**	**00 15 11.8**	**-1.5**
MTSE	**Matsula**	**4.54**	**87**	*e*P	Pn	00 14 01.4	+2.9
MTSE				*e*S	**Sn**	**00 14 52.3**	**+0.3**
MTSE	**Matsula**	**4.54**	**87**	P	Pn	00 14 01.4	+2.9
MTSE				S	**Sn**	**00 14 52.2**	**+0.3**
SRPE	**Suurupi**	**4.83**	**78**	*e*P	Pn	00 14 06.0	+3.5
SRPE				*e*S	**Sn**	**00 14 59.1**	**+0.1**
SRPE				*e*SG	**Sg**	**00 15 18.9**	**-4.7**
SRPE	**Suurupi**	**4.83**	**78**	P	Pn	00 14 06.0	+3.5
SRPE				S	**Sn**	**00 14 59.1**	**+0.1**
MEF	**Metsahovi**	**4.95**	**69**	*e*P	**Pn**	**00 14 06.5**	**+2.4**
MEF				*e*S	**Sn**	**00 15 01.8**	**-0.2**
MEF	**Metsahovi**	**4.95**	**69**	P	**Pn**	**00 14 06.5**	**+2.4**
MEF				*e*S	**Sn**	**00 15 03.7**	**+1.7**
	93nm,0.4s,SNR=16						
VAF	**Ylistaro**	**5.64**	**38**	*e*S	**Sn**	**00 15 18.2**	**-0.9**
VAF				MSG		00 15 51.2	
	comp=Z,26nm,0.3s						
GKP	**Gorka Klasztor**	**5.66**	**167**	*e*Pn	Pn	00 14 17.0	+3.1
GKP				*e*Sn	**Sn**	**00 15 23.2**	**+3.7**
GKP	**Gorka Klasztor**	**5.66**	**167**	*e*Pn	Pn	00 14 17.0	+3.1
GKP				*e*Sn	**Sn**	**00 15 23.2**	**+3.7**
PVF	**Pernaja**	**5.73**	**68**	*e*P	**Pn**	**00 14 17.1**	**+2.1**
PVF				MSG		00 15 59.9	
	comp=Z,28nm,0.2s						
PVF	**Pernaja**	**5.73**	**68**	P	**Pn**	**00 14 17.0**	**+2.1**
KEF	**Keuruu**	**5.90**	**51**	*e*P	**Pn**	**00 14 19.4**	**+2.1**
KEF				*e*S	**Sn**	**00 15 25.1**	**-0.4**
KEF				MSG		00 15 58.2	
	comp=Z,34nm,0.3s						
KEF	**Keuruu**	**5.90**	**51**	P	**Pn**	**00 14 19.3**	**+2.1**
KEF				S	**Sn**	**00 15 25.0**	**-0.4**
VSU	**Vasula**	**6.08**	**88**	*e*P	**Pn**	**00 14 22.3**	**+2.5**
VSU				*e*S	**Sn**	**00 15 28.5**	**-1.5**
VSU	**Vasula**	**6.08**	**88**	P	**Pn**	**00 14 22.3**	**+2.5**
FIA0	**FINESS Array S**	**6.10**	**59**	Pn	Pn	00 14 23.1	+3.1
	baz=242,slow=12						
FIA0				Sn	**Sn**	**00 15 29.8**	**-0.5**
	baz=255,slow=22						
FIA0	**FINESS Array S**	**6.10**	**59**	Pn	Pn	00 14 23.1	+3.1
	baz=242,slow=12						
FIA0				Sn	**Sn**	**00 15 29.8**	**-0.5**
	baz=255,slow=22						
FIA0	**FINESS Array S**	**6.10**	**59**	*e*P	Pn	00 14 23.0	+3.1
FIA0				*e*S	**Sn**	**00 15 28.9**	**-1.4**
FIA0	**FINESS Array S**	**6.10**	**59**	P	Pn	00 14 23.0	+3.1
FIA0				Sn	**Sn**	**00 15 29.8**	**-0.5**
	baz=255,slow=21,SNR=55						
FINES	**FINESS Array B**	**6.10**	**59**	Pn	Pn	00 14 23.1	+3.1
	comp=Z,9.3nm,0.3s,baz=243,slow=11,SNR=28						
FINES				Sn	**Sn**	**00 15 30.5**	**+0.2**
	comp=Z,7.2nm,0.3s,baz=259,slow=20,SNR=12						
FINES				Lg	Lg	00 16 02.7	
	comp=Z,12nm,0.3s,baz=250,slow=28,SNR=5.7						
KAF	**Kangasniemi**	**6.46**	**54**	*e*P	**Pn**	**00 14 27.0**	**+1.9**
KAF				*e*S	**Sn**	**00 15 37.5**	**-1.9**
KAF	**Kangasniemi**	**6.46**	**54**	P	**Pn**	**00 14 26.9**	**+1.9**
VJF	**Virojoki**	**6.55**	**69**	*e*P	**Pn**	**00 14 27.4**	**+1.2**
VJF				MSG		00 16 21.1	
	comp=Z,20nm,0.2s						
VJF	**Virojoki**	**6.55**	**69**	P	**Pn**	**00 14 27.3**	**+1.2**
SUW	**Suwalki**	**6.55**	**133**	*e*Pn	Pn	00 14 29.0	+2.8
SUW				*e*Sn	**Sn**	**00 15 42.0**	**+0.4**
SUW	**Suwalki**	**6.55**	**133**	*e*Pn	Pn	00 14 29.0	+2.8
SUW				*e*Sn	**Sn**	**00 15 42.0**	**+0.4**
SUW	**Suwalki**	**6.55**	**133**	*e*Pn	Pn	00 14 29.0	+2.8
SUW				*e*Sn	**Sn**	**00 15 42.0**	**+0.4**
SUF	**Sumiainen**	**6.69**	**49**	*e*P	**Pn**	**00 14 29.8**	**+1.6**
SUF				*e*S	**Sn**	**00 15 42.3**	**-2.7**
SUF				MSG		00 16 26.2	
	comp=Z,20nm,0.2s						
SUF	**Sumiainen**	**6.69**	**49**	P	**Pn**	**00 14 29.7**	**+1.6**
BRG	**Berggiesshubel**	**7.96**	**185**	PN	**Pn**	**00 14 43.4**	**-2.2**
BRG				SG	**Sn**	**00 16 13.7**	**-2.5**
	comp=Z,19nm,1.2s						
KJN	**Kajaani**	**8.04**	**43**	*e*P	**Pn**	**00 14 48.7**	**+2.1**
KJN				*e*S	**Sn**	**00 16 15.0**	**-3.0**
KJN				MSG		00 17 05.6	
	comp=Z,20nm,0.3s						
KJN	**Kajaani**	**8.04**	**43**	P	**Pn**	**00 14 48.6**	**+2.1**
OUL	**Oulu**	**8.10**	**34**	*e*P	**Pn**	**00 14 48.7**	**+1.2**
OUL				*e*S	**Sn**	**00 16 16.3**	**-3.3**
OUL	**Oulu**	**8.10**	**34**	P	**Pn**	**00 14 48.6**	**+1.2**
UPC	**Upice**	**8.31**	**176**	*e*PN	**Pn**	**00 14 52.4**	**+2.0**
UPC				*e*SN	**Sn**	**00 16 21.2**	**-3.8**
UPC	**Upice**	**8.31**	**176**	Pn	**Pn**	**00 14 52.4**	**+2.0**
DPC	**Dobruska-Polom**	**8.48**	**175**	*e*PN	**Pn**	**00 14 54.1**	**+1.3**
DPC				*e*SN	**Sn**	**00 16 26.0**	**-3.2**
DPC	**Dobruska-Polom**	**8.48**	**175**	Pn	**Pn**	**00 14 54.1**	**+1.3**
KRLC	**Kraliky**	**8.78**	**173**	*e*PN	**Pn**	**00 14 57.7**	**+0.8**
KRLC				*e*SN	**Sn**	**00 16 32.8**	**-3.8**
KRLC				*ex*	x	00 17 21.5	
KRLC	**Kraliky**	**8.78**	**173**	Pn	**Pn**	**00 14 57.7**	**+0.8**
PRU	**Pruhonice**	**8.82**	**182**	*e*PN	**Pn**	**00 14 57.6**	**+0.2**
PRU	**Pruhonice**	**8.82**	**182**	Pn	**Pn**	**00 14 57.6**	**+0.2**
JOF	**Joensuu**	**8.92**	**55**	*e*P	**Pn**	**00 14 59.6**	**+1.0**
JOF				*e*S	**Sn**	**00 16 36.2**	**-3.5**
JOF				MSG		00 17 34.8	
	comp=Z,15nm,0.3s						
JOF	**Joensuu**	**8.92**	**55**	P	**Pn**	**00 14 59.6**	**+1.0**
OJC	**Ojcow**	**9.01**	**160**	*e*P	**Pn**	**00 14 59.1**	**-0.8**
OJC				*e*Sn	**Sn**	**00 16 38.0**	**-3.9**
OJC	**Ojcow**	**9.01**	**160**	*e*Sn	**Sn**	**00 16 38.1**	**-3.8**
MORC	**Moravsky Berou**	**9.14**	**170**	*i* P	**Pn**	**00 15 02.7**	**+0.9**
MORC	**Moravsky Berou**	**9.14**	**170**	S	**Sn**	**00 16 40.3**	**-5.0**
MORC	**Moravsky Berou**	**9.14**	**170**	S	**Sn**	**00 16 40.3**	**-5.0**
MORC				*e*Sn	**Sn**	00 16 43.6	-1.8
MORC	**Moravsky Berou**	**9.14**	**170**	*i* P	**Pn**	**00 15 02.7**	**+0.9**
OKC	**Ostrava-Krasne**	**9.14**	**168**	*e*PN	**Pn**	**00 15 02.5**	**+0.8**
OKC	**Ostrava-Krasne**	**9.14**	**168**	Pn	**Pn**	**00 15 02.5**	**+0.8**
RNF	**Rovaniemi**	**9.29**	**28**	*e*P	**Pn**	**00 15 04.2**	**+0.4**
RNF	**Rovaniemi**	**9.29**	**28**	P	**Pn**	**00 15 04.1**	**+0.4**
VRAC	**Vranov**	**9.54**	**174**	*i* P	**Pn**	**00 15 08.5**	**+1.3**
VRAC	**Vranov**	**9.54**	**174**	S	**Sn**	**00 16 49.8**	**-5.2**
VRAC	**Vranov**	**9.54**	**174**	Pn	**Pn**	**00 15 08.8**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=359,slow=15,SNR=3.7						
VRAC				Sn	**Sn**	**00 16 50.4**	**-4.6**
	comp=Z,0.9nm,0.3s,baz=67,slow=20,SNR=3.8						
VRAC	**Vranov**	**9.54**	**174**	*i* P	**Pn**	**00 15 08.5**	**+1.3**
VRAC	**Vranov**	**9.54**	**174**	*e*Pn	**Pn**	**00 15 08.5**	**+1.7**
MSF	**Maaselka**	**9.62**	**36**	*e*P	**Pn**	**00 15 08.5**	**+0.2**
MSF	**Maaselka**	**9.62**	**36**	P	**Pn**	**00 15 08.5**	**+0.2**
KHC	**Kasperske Hory**	**9.72**	**186**	*e*PN	Pn	00 15 17.5	+7.8
KHC				*ex*	x	00 16 20.0	
KHC				*ex*	x	00 16 56.5	
LANU	**Lannavaara**	**9.79**	**15**	*e*P	**Pn**	**00 15 11.6**	**+1.1**
LANU	**Lannavaara**	**9.79**	**15**	P	**Pn**	**00 15 11.6**	**+1.1**
KU6	**Riekki**	**9.96**	**37**	*e*P	**Pn**	**00 15 13.0**	**+0.1**
KU6	**Riekki**	**9.96**	**37**	P	**Pn**	**00 15 13.0**	**+0.1**
GERES	**GERESS Array B**	**10.00**	**185**	Pn	**Pn**	**00 15 12.8**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=359,slow=13,SNR=7.0						
GERES				Sn	**Sn**	**00 17 05.7**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=3.1,slow=20,SNR=3.6						
GERES				Lg	Lg	00 18 13.3	
	comp=Z,0.2nm,0.3s,baz=355,slow=30,SNR=4.2						
SGF	**Sodankyl**	**10.09**	**26**	*e*P	**Pn**	**00 15 14.6**	**-0.1**
SGF	**Sodankyl**	**10.09**	**26**	P	**Pn**	**00 15 14.5**	**-0.1**
KWP	**Kalwaria Pacla**	**10.19**	**151**	*e*Pn	**Pn**	**00 15 17.8**	**+1.7**
KWP	**Kalwaria Pacla**	**10.19**	**151**	*e*Pn	**Pn**	**00 15 17.8**	**+1.7**
KWP	**Kalwaria Pacla**	**10.19**	**151**	*e*Pn	**Pn**	**00 15 17.8**	**+1.7**
HEF	**Hetta**	**10.37**	**18**	*e*P	**Pn**	**00 15 19.1**	**+0.6**
HEF	**Hetta**	**10.37**	**18**	P	**Pn**	**00 15 19.0**	**+0.6**
VYHS	**Vyhne**	**10.54**	**166**	*e*	**Pn**	**00 15 22.9**	**+1.9**
KIF	**Kilpisjarvi**	**10.55**	**11**	*e*P	**Pn**	**00 15 21.4**	**+0.4**
KIF	**Kilpisjarvi**	**10.55**	**11**	P	**Pn**	**00 15 21.3**	**+0.4**
CRVS	**Cervenica-Dubn**	**10.59**	**157**	*e*	**Pn**	**00 15 23.8**	**+2.3**
KOLS	**Kolonicke sedl**	**10.73**	**154**	*e*	**Pn**	**00 15 24.0**	**+0.5**
VRF	**Varrio**	**11.07**	**30**	*e*P	**Pn**	**00 15 27.3**	**-0.9**
VRF				MSG		00 18 40.0	
	comp=Z,5.3nm,0.3s						
AKASG	**Malin Array Be**	**11.47**	**129**	Pn	**Pn**	**00 15 32.1**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=325,slow=12,SNR=4.3						
AKASG				Sn	**Sn**	**00 17 42.2**	**-0.2**
	comp=Z,1.9nm,0.3s,baz=318,slow=23,SNR=4.4						
AKASG				Lg	Lg	00 18 50.1	
	comp=Z,1.2nm,0.3s,baz=318,slow=29,SNR=5.3						
TRPA	**Tarpa**	**11.55**	**154**	*i* P	**Pn**	**00 15 34.3**	**-0.4**
ARA0	**ARCESS Array S**	**11.68**	**18**	Pn	**Pn**	**00 15 35.0**	**-1.3**
	baz=204,slow=14						
ARA0				Sn	Sn	00 17 37.8	-9.4
	baz=212,slow=22						
ARA0	**ARCESS Array S**	**11.68**	**18**	P	**Pn**	**00 15 35.0**	**-1.3**
	baz=204,slow=14						
ARA0				Sn	Sn	00 17 37.8	-9.4
	baz=212,slow=22						
ARA0	**ARCESS Array S**	**11.68**	**18**	*e*S	Sn	00 17 37.8	-9.4
ARCES	**ARCESS Array B**	**11.68**	**18**	Pn	**Pn**	**00 15 34.2**	**-2.1**
	comp=Z,1.4nm,0.3s,baz=205,slow=14,SNR=18						
ARCES				Sn	Sn	00 17 38.1	-9.1
	comp=Z,1.2nm,0.3s,baz=212,slow=20,SNR=8.4						
ARCES				Lg	Lg	00 18 51.0	
	comp=Z,0.7nm,0.3s,baz=204,slow=30,SNR=3.8						
BURAR	**Bucovina Array**	**12.71**	**147**	*i* P	**Pn**	**00 15 50.0**	**-0.6**
BURAR	**Bucovina Array**	**12.71**	**147**	S	**Sn**	**00 18 09.0**	**-3.7**
DRGR		**12.85**	**156**	*i* P	**Pn**	**00 15 52.5**	**-0.1**
DRGR		**12.85**	**156**	S	**Sn**	**00 18 10.3**	**-6.0**
TESR		**14.12**	**146**	*i* P	**Pn**	**00 16 08.1**	**-1.7**
PLOR	**Plostina**	**14.72**	**147**	*i* P	**Pn**	**00 16 17.1**	**-1.0**
VRI	**Vrincioaia**	**14.73**	**146**	*i* P	**Pn**	**00 16 18.1**	**0.0**
CFR	**Carcaliu**	**15.77**	**144**	*i* P	**Pn**	**00 16 31.1**	**-0.8**
SPITS	**Spitsbergen Ar**	**19.49**	**1**	P	**Pn**	**00 17 19.2**	**+1.2**
	baz=185,slow=12,SNR=3.4						
BRTR	**Keskin Array B**	**22.45**	**140**	P	**P**	**00 17 52.4**	**+3.2**
	comp=Z,0.8nm,0.8s,baz=336,slow=9.3,SNR=4.7						
AKTO	**Aktyubinsk**	**25.81**	**90**	P	**P**	**00 18 23.0**	**+1.8**
	comp=Z,0.7nm,0.5s,baz=324,slow=8.7,SNR=4.7						
BVAR	**Borovoye Array**	**30.74**	**76**	P	**P**	**00 19 06.9**	**+1.8**
	comp=Z,0.7nm,0.4s,baz=295,slow=8.7,SNR=8.2						
ZALV	**Zalesovo Beam**	**37.31**	**66**	P	**P**	**00 20 03.5**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=305,slow=11,SNR=6.6						
MKAR	**Makanchi Array**	**40.62**	**77**	P	**P**	**00 20 31.4**	**+1.5**
	comp=Z,1.4nm,0.4s,baz=314,slow=6.4,SNR=36						
SCHQ	**Schefferville**	**42.39**	**302**	P	**P**	**00 20 44.7**	**+0.3**
	comp=Z,2.4nm,1.0s,baz=37,slow=15,SNR=4.4						
TORD	**Torodi Ar. Bea**	**46.65**	**198**	P	**P**	**00 21 20.1**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=9.4,slow=8.2,SNR=16						
YKA	**Yellowknife Ar**	**53.01**	**333**	P	**P**	**00 22 07.7**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=25,slow=8.4,SNR=7.1						
ILAR	**Eielson Array**	**56.01**	**351**	P	**P**	**00 22 29.7**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=350,slow=5.0,SNR=5.7						

CSEM ***19*** *00:12:57.1,58°.88N×15°.09E,h0km,ML3.6,Suspected Mining explosion. After UPP*

UPP 19 00:12:57.1,58°.88N×15°.09E,h0km,ML3.6,1C, Suspected Mining explosion.,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASKU	**Askersund**	**0.14**	**278**	P	Pg	00 12 59.9	+0.2
ASKU				S	Sg	00 13 02.4	+0.9
FINU	**Finntorp**	**1.45**	**293**	P	Pn	00 13 23.9	-0.5
UPP	**Uppsala**	**1.63**	**52**	P	Pn	00 13 27.0	0.0
NRTU	**Norrtaelje**	**1.99**	**65**	P	Pn	00 13 32.7	+0.8
TJOU	**Tjoern**	**2.01**	**247**	P	Pn	00 13 32.7	+0.5
STRU	**Stroemstad**	**2.03**	**276**	⇑P	Pn	00 13 33.3	+0.8
COP	**Copenhagen**	**3.51**	**205**	*i* P	Pn	00 13 52.7	-0.1
COP				*i* S	Sn	00 14 39.0	+4.0
LLD	**Lille Linde**	**3.88**	**205**	*i* P	Pn	00 13 58.0	+0.1

IDC 19 00:17:32.3±1.2,43°.03S×72°.26W,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.9/15,mbtmp3.7/7,ML4.0/1,MS3.9/1, Ms1 3.9/1,ms1mx3.7/25,Error ellipse: s-maj=42.3km s-min=18.8km az=122.0,Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**2.63**	**30**	Pn	Pn	00 18 16.6	+0.5
	6.6nm,0.3s,baz=209,slow=14,SNR=87						
PLCA				Pg	Pb	00 18 20.1	-0.3
	11nm,0.3s,baz=217,slow=16,SNR=94						
PLCA				Lg	Lg	00 18 56.1	
	13nm,0.3s,baz=307,slow=20,SNR=9.4						
PLCA				LR	LR	00 19 03.7	
	comp=Z,2μm,19.5s,baz=81,slow=35						
CFAA	**Coronel Fontan**	**11.85**	**17**	Pn	Pn	00 20 19.3	-3.3
	0.0nm,0.3s,baz=197,slow=11,SNR=1.8						
CPUP	**Villa Florida**	**20.64**	**41**	P	P	00 22 12.8	-0.5
	1.0nm,0.6s,baz=212,slow=11,SNR=2.3						
LPAZ	**La Paz**	**26.89**	**9**	P	P	00 23 16.9	+1.2
	0.5nm,0.6s,baz=194,slow=10,SNR=2.8						
SIV	**San Ignacio**	**28.60**	**23**	P	P	00 23 28.7	-1.5
	1.0nm,0.8s,baz=210,slow=8.1,SNR=5.0						
TXAR	**Lajitas Array**	**77.58**	**332**	P	P	00 29 29.9	-0.2
	0.4nm,0.8s,baz=154,slow=6.9,SNR=4.9						
TORD	**Torodi Ar. Bea**	**87.49**	**70**	P	P	00 30 22.1	+0.1
	0.3nm,0.8s,baz=193,slow=5.8,SNR=3.0						
PDAR	**Pinedale Array**	**91.75**	**333**	P	P	00 30 41.0	-0.6
	0.3nm,0.6s,baz=128,slow=5.8,SNR=3.7						
ILAR	**Eielson Array**	**122.08**	**331**	PKP	PKPdf	00 36 27.5	-0.1
	0.4nm,0.9s,baz=128,slow=2.0,SNR=4.5						
AKTO	**Aktyubinsk**	**145.68**	**60**	PKPbc	PKPbc	00 37 12.4	+0.1
	1.4nm,0.8s,baz=322,slow=3.0,SNR=5.2						
MKAR	**Makanchi Array**	**161.61**	**69**	PKPab	PKPab	00 38 18.8	-0.8
	0.1nm,0.8s,baz=269,slow=2.5,SNR=5.0						

IDC 19 00:23:36.2±1.9,4°.03N×126°.67E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.6/21,mbtmp3.7/4,MS3.6/1,Ms1 3.6/1, ms1mx3.0/38,Error ellipse: s-maj=167.9km s-min=22.6km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.21**	**340**	LR	LR	00 25 18.7	
	comp=Z,860nm,20.5s,baz=84,slow=32						
WRA	**Warramunga Arr**	**24.99**	**163**	P	P	00 29 01.0	-0.9
	0.9nm,0.5s,baz=343,slow=11,SNR=17						
ASAR	**Alice Springs**	**28.42**	**166**	P	P	00 29 33.1	+0.2
	0.2nm,0.3s,baz=342,slow=8.3,SNR=4.1						
STKA	**Stephens Creek**	**38.43**	**159**	P	P	00 31 00.4	+0.6
	1.3nm,0.5s,baz=336,slow=8.8,SNR=6.2						
MKAR	**Makanchi Array**	**57.27**	**325**	P	P	00 33 25.7	-0.1
	0.3nm,0.4s,baz=124,slow=8.2,SNR=17						

IDC 19 00:27:48.3±1.1,3°.94N×126°.83E,h0km,mb3.5/5, mb1 3.7/5,mb1mx3.5/21,mbtmp3.5/5,Error ellipse: s-maj=51.5km s-min=21.8km az=62.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.85**	**163**	P	P	00 33 12.5	-0.1
	1.0nm,0.6s,baz=345,slow=9.6,SNR=

comp=Z,0.9nm,0.4s,baz=225,slow=3.7,SNR=5.2
JIRN Jiri 46.04 25 *e*P **P 00 37 16.0 +1.2**
comp=Z,9.9nm,0.9s
JIRN Jiri 46.04 25 *e*P **P 00 37 16.0 +1.2**
GUN Gumba 46.14 25 *e*P **P 00 37 16.8 +1.3**
comp=Z,63nm,1.0s
GUN Gumba 46.14 25 *e*P **P 00 37 16.8 +1.3**
CHTO Chiang Mai 46.15 45 P **P 00 37 17.7 +2.3**
comp=Z,46nm,1.4s
ELIM Elim 46.32 236 *e*P **P 00 37 16.3 -0.4**
ELIM AMB AMB 00 37 17.3
comp=Z,2µm,3.8s
TAPN Taplejung 46.41 27 *e*P **P 00 37 18.8 +1.1**
comp=Z,38nm,1.0s
TAPN Taplejung 46.41 27 *e*P **P 00 37 18.8 +1.1**
SBUM Sibu 48.62 74 P **P 00 37 36.2 +1.4**
comp=Z,46nm,1.1s
LSA Lhasa 49.98 29 P **P 00 37 47.3 +1.9**
LSA Lhasa 49.98 29 *e*P **P 00 37 46.2 +0.8**
LSA pmax pmax
comp=Z,14nm,1.0s
LSA Lhasa 49.98 29 *e*P **P 00 37 46.2 +0.8**
comp=Z,14nm,1.0s
KMI Kunming 53.02 43 P **P 00 38 09.4 +1.4**
KMI pmax pmax
comp=Z,8.0nm,1.1s
KAPI Kappang 53.57 86 P **P 00 38 10.4 -1.6**
KAPI Kappang 53.57 86 P **P 00 38 11.2 -0.8**
comp=Z,17nm,1.1s
KAPI Kappang 53.57 86 P **P 00 38 10.4 -1.6**
comp=Z,2.6nm,0.4s,baz=255,slow=10,SNR=6.2
KSH Kashi 54.33 9 P **P 00 38 14.3 -2.9**
KSH pP **pP 00 38 18.5 -3.8**
KSH sP **sP 00 38 21.4 -2.8**
KSH PcP **PcP 00 39 18.8 -2.3**
KSH PP **PP 00 40 17.3 -2.1**
KSH ScP **ScP 00 43 15.6 -3.3**
KSH PcS **PcS 00 43 17.3 -3.3**
KSH S S 00 45 48.1 -6.6
KSH ScS **ScS 00 47 59.0 -7.1**
KSH SS **SKiKP 00 49 28.4 +0.6**
KSH pmax pmax
comp=Z,10.0nm,0.7s
KSH LR LR
comp=N,340nm,11.8s
KSH LR LR
comp=E,570nm,14.8s
KSH LR LR
comp=Z,1µm,18.8s
QIZ Qiongzhong 54.34 54 P **P 00 38 15.8 -1.6**
GYA Guiyang 56.54 44 *e*P **P 00 38 35.8 +2.5**
GYA PP **PP 00 40 42.9 +3.5**
GYA S **S 00 46 25.4 +0.8**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,90nm,5.0s
FITZ Fitzroy Crossi 57.09 102 P **P 00 38 37.5 +0.2**
FITZ Fitzroy Crossi 57.09 102 *e*P **P 00 38 37.9 +0.6**
comp=Z,16nm,0.8s
FITZ Fitzroy Crossi 57.09 102 P **P 00 38 37.5 +0.2**
comp=Z,9.7nm,0.8s,baz=270,slow=8.1,SNR=12
AAK Ala-Archa 57.18 7 *e*P **P 00 38 36.0 -1.6**
AAK pmax pmax
comp=Z,6.0nm,1.3s
AAK Ala-Archa 57.18 7 *e*P **P 00 38 36.1 -1.6**
comp=Z,14nm,1.3s
AAK Ala-Archa 57.18 7 P **P 00 38 38.4 +0.8**
comp=Z,1.0nm,0.8s,baz=200,slow=9.3,SNR=4.4
KKAR Karatay Array 57.27 4 *e*P **P 00 38 38.4 +0.3**
KKAR pmax pmax
comp=Z,1.0nm,0.8s
KKAR Karatay Array 57.27 4 *e*P **P 00 38 38.4 +0.3**
comp=Z,1.0nm,0.8s
GNI Garni 57.71 341 *e*P **P 00 38 43.0 +1.6**
GNI Garni 57.71 341 P **P 00 38 42.1 +0.7**
comp=Z,1.4nm,0.3s,baz=274,slow=20,SNR=4.3
ZEI Tsey 60.35 341 *e*P P 00 38 55.6 -4.2
ZEI pmax pmax
comp=Z,7.0nm,1.2s
WMQ Urumqi 61.12 18 P **P 00 39 05.8 +1.0**
WMQ pP **pP 00 39 12.1 +2.1**
WMQ pmax pmax
comp=Z,10.0nm,1.5s
WMQ LR LR
comp=Z,1µm,19.7s
LZH Lanzhou 61.51 34 *e*P **P 00 39 08.6 +0.9**
LZH pP **pP 00 39 12.6 -0.3**
LZH sP **sP 00 39 14.0 -0.9**
LZH pmax pmax
comp=Z,21nm,1.3s
BRTR Keskin Array B 61.68 332 P **P 00 39 09.3 +0.5**
BRTR Keskin Array B 61.68 332 P **P 00 39 09.3 +0.5**
comp=Z,3.7nm,1.2s,baz=152,slow=6.4,SNR=9.8
BR131 Keskin Array S 61.68 332 *e*P **P 00 39 09.3 +0.5**
comp=Z,2.0nm,1.1s
KIV Kislovodsk 61.80 341 *e*P **P 00 39 11.1 +1.7**
KIV pmax pmax
comp=Z,6.0nm,1.1s
GTA Gaotai 62.00 29 ⇑P **P 00 39 11.8 +0.9**
GTA pP **pP 00 39 16.4 +0.3**
GTA sP **sP 00 39 18.8 +0.8**
GTA S **S 00 47 34.3 -0.7**
GTA SS **SS 00 51 37.9 -0.1**
GTA pmax pmax
comp=Z,24nm,1.1s
GTA LR LR
comp=N,800nm,19.0s
GTA LR LR
comp=E,700nm,18.0s
GTA LR LR
comp=Z,1µm,18.8s
MK31 Makanchi Array 62.54 12 *e*P **P 00 39 13.7 -0.5**
MK31 Makanchi Array 62.54 12 *e*P **P 00 39 13.7 -0.5**
MKAR Makanchi Array 62.54 12 P **P 00 39 13.8 -0.4**
MKAR Makanchi Array 62.54 12 P **P 00 39 13.8 -0.4**
MKAR Makanchi Array 62.54 12 P **P 00 39 13.8 -0.4**
comp=Z,2.5nm,0.7s,baz=201,slow=7.6,SNR=29
XAN Xi'an 63.02 39 P **P 00 39 17.5 -0.2**
XAN pP **pP 00 39 25.8 +2.9**
XAN pmax pmax
comp=Z,6.0nm,1.2s
ABKAR Akbulak array 63.52 355 *e*P **P 00 39 20.4 -0.3**
comp=Z,3.7nm,0.9s
ASAR Alice Springs 64.28 110 P **P 00 39 25.9 -0.5**
ASAR Alice Springs 64.28 110 P **P 00 39 25.9 -0.5**
comp=Z,5.2nm,0.8s,baz=271,slow=6.2,SNR=29
AKTO Aktyubinsk 64.85 354 P **P 00 39 29.4 0.0**
AKTO Aktyubinsk 64.85 354 P **P 00 39 29.4 0.0**
AKTO Aktyubinsk 64.85 354 P **P 00 39 29.4 0.0**
comp=Z,2.2nm,0.8s,baz=170,slow=6.1,SNR=7.8
WRA Warramunga Arr 65.07 106 P **P 00 39 31.8 +0.2**
WRA Warramunga Arr 65.07 106 P **P 00 39 31.8 +0.2**
comp=Z,12nm,0.9s,baz=270,slow=5.8,SNR=83
WRAB Tennant Creek 65.08 106 *e*P **P 00 39 31.5 -0.1**
WRAB pmax pmax
comp=Z,39nm,1.4s
WRAB Tennant Creek 65.08 106 *e*P **P 00 39 31.5 -0.1**
comp=Z,39nm,1.4s
KURK Kurchatov 65.67 9 *e*P **P 00 39 33.9 -0.7**
KURK pmax pmax
comp=Z,6.0nm,1.3s
KURK Kurchatov 65.67 9 *e*P **P 00 39 34.4 -0.2**
comp=Z,5.1nm,0.9s
BVAR Borovoye Array 67.16 3 P **P 00 39 44.2 0.0**
BVAR Borovoye Array 67.16 3 P **P 00 39 44.2 0.0**
BVAR Borovoye Array 67.16 3 P **P 00 39 44.2 0.0**
comp=Z,2.6nm,0.7s,baz=169,slow=8.4,SNR=12
BRVK Borovoye 67.19 3 *e*P **P 00 39 43.6 -0.7**
BRVK pmax pmax
comp=Z,5.0nm,1.3s
NJ2 Nanjing 68.37 47 *e*P **P 00 39 53.0 +0.8**
NJ2 pmax pmax
comp=Z,20nm,1.1s
CFR Carcaliu 68.48 332 ⇑P **P 00 39 53.6 +1.0**
CFR Carcaliu 68.48 332 *i*P **P 00 39 53.6 +1.0**
HHC Hu-ho-hao-te 69.16 35 *e*P **P 00 39 56.8 -0.3**
HHC sP **sP 00 40 03.8 -0.5**
HHC PP **PP 00 42 31.8 +1.6**
HHC S **S 00 49 01.9 -0.5**
HHC SS **SS 00 53 30.9 +1.7**
HHC pmax pmax
comp=Z,6.0nm,0.9s
HHC LR LR
comp=N,680nm,15.2s
HHC LR LR
comp=E,590nm,16.7s
HHC LR LR
comp=Z,940nm,16.2s
TORD Torodi Ar. Bea 69.37 290 P **P 00 39 58.8 -0.1**
TORD Torodi Ar. Bea 69.37 290 P **P 00 39 58.8 -0.1**
comp=Z,3.0nm,1.0s,baz=94,slow=5.8,SNR=12
VRI Vrincioaia 69.64 332 ⇑P **P 00 40 01.5 +1.6**
VRI Vrincioaia 69.64 332 *i*P **P 00 40 01.5 +1.6**
PLOR Plostina 69.67 332 ⇑P **P 00 40 01.3 +1.2**
PLOR Plostina 69.67 332 *i*P **P 00 40 01.3 +1.2**
MLR Muntele Rosu 69.73 331 *i*P **P 00 40 01.5 +0.9**
ZALV Zalesovo Beam 69.84 12 P **P 00 40 00.7 -0.2**
ZALV Zalesovo Beam 69.84 12 P **P 00 40 00.7 -0.2**
ZALV Zalesovo Beam 69.84 12 P **P 00 40 00.7 -0.2**
comp=Z,2.7nm,0.7s,baz=205,slow=7.0,SNR=13
VOIR 70.11 331 ⇓P **P 00 40 03.4 +0.5**
VOIR 70.11 331 ⇓*i*P **P 00 40 03.4 +0.5**
STKA Stephens Creek 70.38 119 P **P 00 40 04.2 -0.7**
STKA Stephens Creek 70.38 119 *e*P **P 00 40 04.1 -0.7**
comp=Z,2.4nm,0.8s
STKA Stephens Creek 70.38 119 P **P 00 40 04.2 -0.7**
comp=Z,1.9nm,0.8s,baz=297,slow=6.8,SNR=3.9
NVS Novosibirsk 70.39 10 *e*P **P 00 40 03.0 -1.3**
NVS pmax pmax
comp=Z,19nm,1.8s
NVS pmax pmax
comp=N,15nm,1.6s
ARU Arti 70.75 356 *c i*P **P 00 40 06.1 -0.3**
ARU S **S 00 49 17.3 -2.9**
ARU pmax pmax
comp=Z,5.0nm,1.2s
SVE Sverdlovsk 71.02 357 ⇓*e*P **P 00 40 08.6 +0.6**
SVE pmax pmax
comp=Z,10.0nm,1.4s
GZR Gura Zlata 71.18 329 ⇑P **P 00 40 10.2 +0.8**
GZR Gura Zlata 71.18 329 *i*P **P 00 40 10.2 +0.8**
BJI Beijing 71.32 38 P **P 00 40 11.4 +1.2**
BJI S **S 00 49 30.3 +2.9**
BJI pmax pmax
comp=Z,12nm,0.8s
BJI LR LR
comp=N,1µm,20.0s
BJI LR LR
comp=E,1µm,17.6s
BJI LR LR
comp=Z,1µm,19.7s
SONM Songino Array 71.53 27 P **P 00 40 11.7 +0.2**
SONM Songino Array 71.53 27 P **P 00 40 11.7 +0.2**
comp=Z,7.5nm,0.8s,baz=214,slow=6.2,SNR=23
BZS Buzias 71.92 329 ⇓P **P 00 40 13.7 0.0**
BZS Buzias 71.92 329 ⇓*i*P **P 00 40 13.7 0.0**
ZAK Zakamensk 72.19 24 ⇑*i*P **P 00 40 15.6 +0.2**
ZAK pmax pmax
comp=Z,2.0nm,1.3s
DRGR 72.21 330 ⇓P **P 00 40 16.3 +0.7**
DRGR 72.21 330 ⇓*i*P **P 00 40 16.3 +0.7**
AKASG Malin Array Be 72.33 336 P **P 00 40 15.6 -0.5**
AKASG Malin Array Be 72.33 336 P **P 00 40 15.6 -0.5**
AKASG Malin Array Be 72.33 336 P **P 00 40 15.6 -0.5**
comp=Z,0.8nm,0.6s,baz=139,slow=5.8,SNR=3.3
DBIC Dimbokro 73.40 282 P **P 00 40 23.0 -0.2**
DBIC Dimbokro 73.40 282 P **P 00 40 23.0 -0.2**
comp=Z,7.6nm,1.0s,baz=81,slow=5.6,SNR=7.3
DBIC Dimbokro 73.40 282 *e*P **P 00 40 20.7 -2.5**
LIC Lamto 73.43 281 *e*P **P 00 40 23.5 0.0**
comp=Z,16nm,0.8s
LIC Lamto 73.43 281 *e*P **P 00 40 23.5 0.0**
comp=Z,16nm,0.8s
OBN Obninsk 73.53 343 *e*P **P 00 40 25.3 +2.3**
OBN pmax pmax
comp=Z,45nm,2.6s
UZH Uzhgorod 73.72 331 *e*P **P 00 40 26.4 +2.0**
UZH *e* 00 40 30.6
UZH *e* 00 40 43.4
LVV L'vov 73.80 333 *e*P P 00 40 30.3 +5.5
KOLS Kolonicke sedl 73.95 332 *e*P **P 00 40 26.7 +1.0**
KOLS pmax pmax
comp=Z,3.0nm,1.2s
KOLS Kolonicke sedl 73.95 332 *e*P **P 00 40 26.7 +1.0**
KWP Kalwaria Pacla 74.25 332 ⇑P P 00 40 18.6 -8.9
KWP Kalwaria Pacla 74.25 332 *i*P P 00 40 18.6 -8.9
CRVS Cervenica-Dubn 74.31 331 *e*P **P 00 40 28.0 +0.2**
CRVS pmax pmax
comp=Z,5.0nm,1.5s
CRVS Cervenica-Dubn 74.31 331 *e*P **P 00 40 28.0 +0.2**
VYHS Vyhne 75.28 330 *e*P **P 00 40 34.2 +0.7**
VYHS pmax pmax
comp=Z,8.0nm,2.2s
VYHS Vyhne 75.28 330 *e*P **P 00 40 34.2 +0.7**
CTA Charters Tower 76.12 107 P **P 00 40 39.1 +0.1**
CTA Charters Tower 76.12 107 P **P 00 40 39.1 +0.1**
comp=Z,7.4nm,1.0s,baz=263,slow=4.2,SNR=6.6
ARSA Arzberg 76.14 327 ⇓*i*P **P 00 40 39.3 +0.8**
comp=Z,8.4nm,1.1s
CONA Conrad Observa 76.40 328 ⇓*i*P **P 00 40 40.5 +0.5**
comp=Z,18nm,1.4s
OKC Ostrava-Krasne 76.52 330 *e*P **P 00 40 40.7 +0.2**
OKC *e* 00 40 47.4
OKC Ostrava-Krasne 76.52 330 *e*P **P 00 40 40.7 +0.2**
OKC *ex* x 00 40 47.4
PGF Pioggiola 77.08 320 *e*P **P 00 40 43.9 -0.1**
comp=Z,136nm,1.5s
PGF Pioggiola 77.08 320 *e*P **P 00 40 43.9 -0.1**
PGF pmax pmax
comp=Z,136nm,1.5s
PGF Pioggiola 77.08 320 *e*P **P 00 40 43.9 -0.1**
comp=Z,136nm,1.5s
MOA Molln 77.18 327 ⇓*i*P **P 00 40 44.9 +0.6**
comp=Z,17nm,1.2s
KSAR Wonju Array Be 77.51 46 P **P 00 40 46.6 +0.3**
KSRS Korea Array 77.55 46 P **P 00 40 46.6 +0.1**
comp=Z,1.9nm,0.7s,baz=250,slow=6.9,SNR=8.5
DPC Dobruska-Polom 77.74 330 *e*P P 00 40 52.9 +5.5
DPC Dobruska-Polom 77.74 330 *e*pP P 00 40 52.9 +5.5
KLMR Klimovskoe 77.87 347 *e*P **P 00 40 46.4 -1.4**
KLMR pmax pmax
comp=Z,32nm,1.4s
GERES GERESS Array B 78.10 328 P **P 00 40 49.8 +0.3**
GERES GERESS Array B 78.10 328 P **P 00 40 49.8 +0.3**
comp=Z,0.5nm,0.7s,baz=127,slow=6.3,SNR=7.2
KHC Kasperske Hory 78.34 328 *e*P **P 00 40 50.5 -0.3**
KHC Kasperske Hory 78.34 328 *e*P **P 00 40 50.5 -0.3**
PRU Pruhonice 78.38 329 *e*P **P 00 40 51.4 +0.5**
PRU *e* 00 40 57.7
PRU Pruhonice 78.38 329 *e*P **P 00 40 51.4 +0.5**
PRU *e*pP **pP 00 40 57.7 +1.5**
PVCC Panska Ves 78.71 329 *e*P **P 00 40 52.9 +0.2**
PVCC *e* 00 40 59.9
PVCC Panska Ves 78.71 329 *e*P **P 00 40 52.9 +0.2**
PVCC *e*pP **PcP 00 40 59.9 -1.7**
SBF Sospel 78.76 321 *e*P **P 00 40 53.6 +0.4**
comp=Z,141nm,1.5s
SBF Sospel 78.76 321 *e*P **P 00 40 53.6 +0.4**
SBF pmax pmax
comp=Z,141nm,1.5s
SBF Sospel 78.76 321 *e*P **P 00 40 53.6 +0.4**
comp=Z,141nm,1.5s
LMR La Mourre 79.05 320 *e*P **P 00 40 55.5 +0.8**
comp=Z,216nm,1.7s
LMR La Mourre 79.05 320 *e*P **P 00 40 55.5 +0.8**
LMR pmax pmax
comp=Z,216nm,1.7s
LMR La Mourre 79.05 320 *e*P **P 00 40 55.5 +0.8**
comp=Z,216nm,1.7s
CN2 Changchun 79.13 39 *e*P **P 00 40 54.5 -0.7**
CN2 *es*P **sP 00 41 01.3 -1.1**
CN2 PcP **PcP 00 41 03.3 -0.2**
CN2 *e*S **S 00 50 52.6 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
BRG Berggiesshubel 79.24 329 *e*P **P 00 40 58.6 +3.0**
comp=Z,4.5nm,1.3s
BRG Berggiesshubel 79.24 329 *e*P **P 00 40 58.6 +3.0**
BRG pmax pmax
comp=Z,5.0nm,1.3s
MBDF Montbardon 79.62 321 *e*P **P 00 40 58.4 +0.4**
comp=Z,48nm,1.4s
MBDF Montbardon 79.62 321 *e*P **P 00 40 58.4 +0.4**
MBDF pmax pmax
comp=Z,48nm,1.4s
MBDF Montbardon 79.62 321 *e*P **P 00 40 58.4 +0.4**
comp=Z,48nm,1.4s
SMRF Simiane la Rot 79.96 320 *e*P **P 00 41 00.3 +0.5**
SMRF Simiane la Rot 79.96 320 *e*P **P 00 41 00.3 +0.5**
CLL Collm 79.97 329 *e*P **P 00 41 01.0 +1.4**
CLL *e* 00 41 07.0
CLL pmax pmax
comp=Z,36nm,2.1s
CLL Collm 79.97 329 *e*P **P 00 41 01.0 +1.4**
comp=Z,36nm,2.1s
CLL *e*(sP) **sP 00 41 07.0 +0.2**
LPG La Plagne 80.04 322 *e*P **P 00 41 01.3 +0.8**
LPG La Plagne 80.04 322 *e*P **P 00 41 01.3 +0.8**
LPG La Plagne 80.04 322 *e*P **P 00 41 01.3 +0.8**
LPL La Plagne 80.06 322 *e*P **P 00 41 01.1 +0.6**
LPL La Plagne 80.06 322 *e*P **P 00 41 01.1 +0.6**
LPL La Plagne 80.06 322 *e*P **P 00 41 01.1 +0.6**
ORIF Oris-en-Rattie 80.26 321 *e*P **P 00 41 01.6 +0.2**
comp=Z,93nm,1.7s
ORIF Oris-en-Rattie 80.26 321 *e*P **P 00 41 01.6 +0.2**
ORIF pmax pmax
comp=Z,93nm,1.7s
ORIF Oris-en-Rattie 80.26 321 *e*P **P 00 41 01.6 +0.2**
comp=Z,93nm,1.7s
VIVF Saint-Julien-l 80.97 321 *e*P **P 00 41 05.6 +0.5**
VIVF Saint-Julien-l 80.97 321 *e*P **P 00 41 05.6 +0.5**
VIVF Saint-Julien-l 80.97 321 *e*P **P 00 41 05.6 +0.5**
CABF La Chapelle 81.03 323 *e*P **P 00 41 05.9 +0.4**
comp=Z,49nm,1.4s
CABF La Chapelle 81.03 323 *e*P **P 00 41 05.9 +0.4**
CABF pmax pmax
comp=Z,49nm,1.4s
CABF La Chapelle 81.03 323 *e*P **P 00 41 05.9 +0.4**
comp=Z,49nm,1.4s
LASF Ste Croix 81.08 320 *e*P **P 00 41 05.8 0.0**
comp=Z,354nm,1.9s
LASF Ste Croix 81.08 320 *e*P **P 00 41 05.8 0.0**
comp=Z,354nm,1.9s
HINF Hinteralfeld 81.23 324 *e*P **P 00 41 07.1 +0.6**
HINF Hinteralfeld 81.23 324 *e*P **P 00 41 07.1 +0.6**
HINF Hinteralfeld 81.23 324 *e*P **P 00 41 07.1 +0.6**
CDF Champ du Feu 81.31 325 *e*P **P 00 41 06.8 -0.1**
CDF Champ du Feu 81.31 325 *e*P **P 00 41 06.8 -0.1**
CDF Champ du Feu 81.31 325 *e*P **P 00 41 06.8 -0.1**
HAU Haudompre 81.61 324 *e*P **P 00 41 08.3 -0.2**
HAU Haudompre 81.61 324 *e*P **P 00 41 08.3 -0.2**
HAU Haudompre 81.61 324 *e*P **P 00 41 08.3 -0.2**
BOD Bodaibo 81.93 24 *e*P **P 00 41 08.1 -1.8**
MDT Midelt 82.13 307 P **P 00 41 11.6 0.0**
MDT Midelt 82.13 307 P **P 00 41 11.6 0.0**
comp=Z,3.4nm,0.9s,baz=111,slow=7.4,SNR=7.8
PAGF Fort de Pagny 82.26 324 *e*P **P 00 41 12.0 +0.2**
comp=Z,19nm,1.6s
PAGF Fort de Pagny 82.26 324 *e*P **P 00 41 12.0 +0.2**
comp=Z,19nm,1.6s
SFTF Sexfontaines 82.47 324 *e*P **P 00 41 13.1 +0.2**
comp=Z,53nm,1.4s
SFTF Sexfontaines 82.47 324 *e*P **P 00 41 13.1 +0.2**
comp=Z,53nm,1.4s
MEZF Maizieres J'vi 82.61 324 *e*P **P 00 41 14.1 +0.4**
comp=Z,65nm,1.5s
MEZF Maizieres J'vi 82.61 324 *e*P **P 00 41 14.1 +0.4**
comp=Z,65nm,1.5s
LOR Lormes 82.67 323 *e*P **P 00 41 14.2 +0.1**
LOR Lormes 82.67 323 *e*P **P 00 41 14.2 +0.1**
SSF Saint Saulge 82.78 322 *e*P **P 00 41 14.6 0.0**
comp=Z,35nm,1.4s
SSF Saint Saulge 82.78 322 *e*P **P 00 41 14.6 0.0**
SSF pmax pmax
comp=Z,35nm,1.4s
SSF Saint Saulge 82.78 322 *e*P **P 00 41 14.6 0.0**
comp=Z,35nm,1.4s
EPF Esparros 82.83 318 *e*P **P 00 41 15.4 +0.4**
comp=Z,26nm,1.2s
EPF Esparros 82.83 318 *e*P **P 00 41 15.4 +0.4**
EPF pmax pmax
comp=Z,26nm,1.3s
EPF Esparros 82.83 318 *e*P **P 00 41 15.4 +0.4**
comp=Z,26nm,1.3s
BGF Bois d'Agland 82.92 322 *e*P **P 00 41 15.9 +0.5**
comp=Z,61nm,1.3s
BGF Bois d'Agland 82.92 322 *e*P **P 00 41 15.9 +0.5**
BGF pmax pmax
comp=Z,61nm,1.3s
BGF Bois d'Agland 82.92 322 *e*P **P 00 41 15.9 +0.5**
comp=Z,61nm,1.3s
RJF Les Rejaudoux 83.14 320 *e*P **P 00 41 17.1 +0.6**
comp=Z,33nm,1.4s
RJF Les Rejaudoux 83.14 320 *e*P **P 00 41 17.1 +0.6**
RJF pmax pmax
comp=Z,33nm,1.4s
RJF Les Rejaudoux 83.14 320 *e*P **P 00 41 17.1 +0.6**
comp=Z,33nm,1.4s
TCF Toulx Ste Croi 83.18 321 *e*P **P 00 41 17.1 +0.4**
comp=Z,15nm,1.2s
TCF Toulx Ste Croi 83.18 321 *e*P **P 00 41 17.1 +0.4**
TCF pmax pmax
comp=Z,15nm,1.2s
TCF Toulx Ste Croi 83.18 321 *e*P **P 00 41 17.1 +0.4**
comp=Z,15nm,1.2s
ETSF Etsaut 83.37 317 *e*P **P 00 41 18.5 +0.7**
comp=Z,30nm,1.2s
ETSF Etsaut 83.37 317 *e*P **P 00 41 18.5 +0.7**
ETSF pmax pmax
comp=Z,30nm,1.2s
ETSF Etsaut 83.37 317 *e*P **P 00 41 18.5 +0.7**
comp=Z,30nm,1.2s
USRK Ussuriysk Arra 83.44 41 P **P 00 41 16.9 -1.2**
comp=Z,3.1nm,0.9s,baz=242,slow=3.7,SNR=5.5
LFF La Frestale 83.45 319 *e*P **P 00 41 18.6 +0.5**
comp=Z,76nm,1.5s
LFF La Frestale 83.45 319 *e*P **P 00 41 18.6 +0.5**
LFF pmax pmax
comp=Z,76nm,1.5s
LFF La Frestale 83.45 319 *e*P **P 00 41 18.6 +0.5**
comp=Z,76nm,1.5s
GIVF Givet 83.57 325 *e*P **P 00 41 19.1 +0.5**
GIVF Givet 83.57 325 *e*P **P 00 41 19.1 +0.5**
GIVF Givet 83.57 325 *e*P **P 00 41 19.1 +0.5**
BAIF Baives 83.89 325 *e*P **P 00 41 20.9 +0.7**
comp=Z,61nm,1.6s
BAIF Baives 83.89 325 *e*P **P 00 41 20.9 +0.7**
BAIF pmax pmax
comp=Z,61nm,1.6s
BAIF Baives 83.89 325 *e*P **P 00 41 20.9 +0.7**
comp=Z,61nm,1.6s
SJPF Ste Jean 83.90 317 *e*P **P 00 41 21.1 +0.6**
comp=Z,33nm,1.2s
SJPF Ste Jean 83.90 317 *e*P **P 00 41 21.1 +0.6**
SJPF pmax pmax
comp=Z,33nm,1.2s
SJPF Ste Jean 83.90 317 *e*P **P 00 41 21.1 +0.6**
comp=Z,33nm,1.2s
ESDC Sonseca Array 84.33 313 P **P 00 41 23.8 +1.0**
ESDC Sonseca Array 84.33 313 P **P 00 41 23.8 +1.0**
comp=Z,4.9nm,0.9s,baz=103,slow=4.0,SNR=27
MJAR Matsushiro Arr 84.59 50 P **P 00 41 23.4 -0.7**
MJAR Matsushiro Arr 84.59 50 P **P 00 41 23.4 -0.7**
comp=Z,3.7nm,0.8s,baz=240,slow=5.9,SNR=6.3
MFF Saint Martin d 84.77 321 *e*P **P 00 41 25.1 +0.3**
comp=Z,45nm,1.4s
MFF Saint Martin d 84.77 321 *e*P **P 00 41 25.1 +0.3**
MFF pmax pmax
comp=Z,45nm,1.4s
MFF Saint Martin d 84.77 321 *e*P **P 00 41 25.1 +0.3**
comp=Z,45nm,1.4s
HFS Hagfors 85.22 337 P **P 00 41 27.1 +0.4**
HFS Hagfors 85.22 337 P **P 00 41 27.1 +0.4**
comp=Z,2.1nm,0.8s,baz=130,slow=6.2,SNR=3.4
KLR Kul'dur 85.61 37 *e*P P 00 41 25.4 -3.5
LDF La Druitiere 85.66 322 *e*P **P 00 41 29.3 +0.1**
comp=Z,31nm,1.3s
LDF La Druitiere 85.66 322 *e*P **P 00 41 29.3 +0.1**
LDF pmax pmax
comp=Z,31nm,1.3s
LDF La Druitiere 85.66 322 *e*P **P 00 41 29.3 +0.1**
comp=Z,31nm,1.3s
FLN La Foliniere 85.95 323 *e*P **P 00 41 30.6 0.0**
comp=Z,46nm,1.5s
FLN La Foliniere 85.95 323 *e*P **P 00 41 30.6 0.0**
FLN pmax pmax
comp=Z,46nm,1.5s
FLN La Foliniere 85.95 323 *e*P **P 00 41 30.6 0.0**
comp=Z,46nm,1.5s
PBAR Barrancos 85.97 311 *e*P P 00 41 38.6 +7.6
comp=Z,20nm,1.7s
GRR Gorron 86.00 322 *e*P **P 00 41 31.1 +0.2**
comp=Z,48nm,1.4s
GRR Gorron 86.00 322 *e*P **P 00 41 31.1 +0.2**

GRR pmax pmax
comp=Z,49nm,1.4s
GRR Gorron 86.00 322 *e*P **P 00 41 31.1 +0.2**
comp=Z,48nm,1.4s
PESTR Estremoz 86.62 311 *e*P **P 00 41 35.3 +1.1**
comp=Z,21nm,1.2s
PMRV Marv??o 86.68 312 *e*P **P 00 41 35.1 +0.6**
comp=Z,19nm,1.4s
EVO Evora 86.81 311 *e*P **P 00 41 36.4 +1.3**
comp=Z,20nm,0.8s
EVO Evora 86.81 311 *e*P **P 00 41 35.7 +0.6**
comp=Z,38nm,1.3s
EVOP Sao Brissos 86.89 311 *e*P **P 00 41 35.7 +0.2**
EVOP pmax pmax
comp=Z,38nm,1.3s
EVOP Sao Brissos 86.89 311 *e*P **P 00 41 35.7 +0.2**
comp=Z,38nm,1.3s
PCBR Castelo Branco 86.89 312 *e*P P 00 41 43.7 +8.2
comp=Z,27nm,1.8s
SGMF Saint Gilles 86.96 321 *e*P **P 00 41 35.4 -0.2**
comp=Z,63nm,1.5s
SGMF Saint Gilles 86.96 321 *e*P **P 00 41 35.4 -0.2**
SGMF pmax pmax
comp=Z,63nm,1.5s
SGMF Saint Gilles 86.96 321 *e*P **P 00 41 35.4 -0.2**
comp=Z,63nm,1.5s
MVO Moncorvo 87.06 314 *e*P P 00 41 45.1 +8.7
comp=Z,29nm,1.4s
PBRG Braganca 87.10 314 *e*P **P 00 41 37.5 +1.0**
comp=Z,22nm,1.1s
PMTG Montargil 87.16 311 *e*P **P 00 41 37.7 +0.9**
comp=Z,35nm,1.2s
PVRL Vila Real 87.59 314 *e*P **P 00 41 40.4 +1.5**
ARCES ARCESS Array B 88.34 347 P **P 00 41 42.1 +0.3**
ARCES ARCESS Array B 88.34 347 P **P 00 41 42.1 +0.3**
comp=Z,6.0nm,1.1s,baz=146,slow=6.6,SNR=4.6
BILL Bilibino 106.97 23 *e*P **Pdif 00 43 05.2 -1.0**
BILL pmax pmax
comp=Z,2.0nm,1.4s
ILAR Eielson Array 124.77 17 PKP **PKPdf 00 47 49.3 -0.6**
ILAR Eielson Array 124.77 17 PKP **PKPdf 00 47 49.3 -0.6**
comp=Z,0.4nm,0.8s,baz=330,slow=3.4,SNR=4.9
LPAZ La Paz 125.52 238 PKP **PKPdf 00 47 53.1 -0.4**
LPAZ La Paz 125.52 238 PKP **PKPdf 00 47 53.1 -0.4**
comp=Z,1.4nm,0.8s,baz=128,slow=2.8,SNR=6.9
SCHQ Schefferville 125.62 329 PKP **PKPdf 00 47 52.1 +0.3**
SCHQ Schefferville 125.62 329 PKP **PKPdf 00 47 52.1 +0.3**
comp=Z,2.0nm,0.9s,baz=26,slow=8.4,SNR=4.0
YKA Yellowknife Ar 131.88 0 PKP **PKPdf 00 48 03.1 -0.3**
YKA PP **PP 00 50 23.3 -0.2**
YKA Yellowknife Ar 131.88 0 PKP **PKPdf 00 48 03.1 -0.3**
comp=Z,0.7nm,0.8s,baz=350,slow=2.4,SNR=16
YKA PP **PP 00 50 23.3 -0.2**
comp=Z,0.2nm,0.7s,baz=358,slow=6.8,SNR=3.8
DGMT Dagmar 145.01 349 *e*PKPdf **PKPdf 00 48 28.4 +0.5**
DGMT Dagmar 145.01 349 ⇓P **PKPdf 00 48 28.2 +0.2**
baz=145
A20A Cobblestone Ra 145.18 353 ⇑P **PKPdf 00 48 28.9 +0.6**
baz=145
A17A Triple J Farms 145.36 356 ⇑P **PKPdf 00 48 29.7 +1.1**
baz=145
A15A Johnson Ranch, 145.42 359 ⇑P **PKPab 00 48 29.9 +1.1**
baz=145,SNR=18
B19A Brinkman Farms 145.71 354 ⇑P **PKPab 00 48 31.7 +1.9**
baz=146
B17A L&G Farms, Che 146.02 356 ⇑P **PKPab 00 48 32.4 +1.4**
baz=146
B13A Whitefish 146.03 1 ⇓P **PKPab 00 48 32.3 +1.3**
baz=146,SNR=12
NEW Newport 146.04 4 *e*PKPbc **PKPab 00 48 31.5 +0.4**
NEW Newport 146.04 4 ⇓P **PKPab 00 48 32.1 +1.1**
baz=146
B14A Marquette Ranc 146.04 359 ⇑P **PKPab 00 48 32.3 +1.1**
baz=146,SNR=9.8
B15A Bradely Ranch, 146.08 358 ⇓P **PKPab 00 48 32.5 +1.3**
baz=146,SNR=18
C21A Desert Coulee 146.11 352 ⇑P **PKPab 00 48 32.9 +1.6**
baz=146
C20A Veseth Ranch, 146.34 353 ⇓P **PKPab 00 48 33.2 +1.0**
baz=146
C19A Slack Wire Ran 146.43 354 ⇓P **PKPab 00 48 33.3 +0.7**
baz=146
D23A Lindsay 146.44 349 ⇑P **PKPab 00 48 33.4 +0.7**
baz=146
BSMT Bassoo Peak 146.55 1 *e*PKPbc **PKPab 00 48 33.9 +0.7**
C16A Fuhringer Ranc 146.56 357 ⇓P **PKPab 00 48 33.5 +0.3**
baz=146
C15A Salmond Ranch, 146.62 358 ⇓P **PKPab 00 48 33.6 +0.1**
baz=147
D22A Cohagen 146.63 350 ⇓P **PKPab 00 48 33.7 +0.4**
baz=147
C17A Wharram Farm, 146.67 356 ⇑P **PKPab 00 48 33.7 +0.1**
baz=147,SNR=7.5
OLIL Olney 146.69 322 *e*PKPbc **PKPbc 00 48 32.2 -0.5**
D18A Linhart Farms, 147.03 355 ⇑P **PKPab 00 48 34.6 -0.4**
baz=147
SLMT Seeley Lake 147.17 360 *e*PKPbc **PKPab 00 48 35.6 0.0**
D16A Dana Ranch, Ca 147.32 357 ⇑P **PKPbc 00 48 35.3 +0.9**
baz=147,SNR=15
D14A Greenough 147.33 360 ⇓P **PKPbc 00 48 35.2 +0.8**
baz=147,SNR=10
CHMT Chamberlain Mo 147.49 359 *e*PKPbc **PKPab 00 48 37.2 +0.2**
HRY Holter Researc 147.65 357 *e*PKPbc **PKPbc 00 48 36.3 +1.0**
E16A East Helena 147.82 357 ⇓P **PKPbc 00 48 36.9 +1.1**
baz=148,SNR=9.8
F23A Volborg 147.88 349 ⇑P **PKPbc 00 48 36.9 +1.0**
baz=148
WVT Waverly 148.12 318 *e*PKP2 **PKPbc 00 48 36.4 -0.3**
WVT Waverly 148.12 318 *e*PKPbc **PKPbc 00 48 36.4 -0.3**
F20A Billings 148.24 352 ⇓P **PKPbc 00 48 37.0 +0.1**
baz=148
F19A Roth Farm, Mol 148.28 353 ⇓P **PKPbc 00 48 37.5 +0.6**
baz=148,SNR=14
F18A Big Timber 148.31 354 ⇓P **PKPbc 00 48 37.6 +0.5**
baz=148
G22A Birney 148.52 350 ⇑P **PKPbc 00 48 38.1 +0.4**
baz=148
F13A Darby 148.62 1 ⇓P **PKPbc 00 48 38.1 +0.2**
baz=149
H24A Dirks Ranch, A 148.64 347 ⇑P **PKPbc 00 48 38.3 +0.3**
baz=149
BOZ Bozeman (W) 148.70 357 *e*PKP2 **PKPab 00 48 40.0 -1.7**
BOZ Bozeman (W) 148.70 357 *e*PKP **PKPab 00 48 40.0 -1.7**
BOZ Bozeman (W) 148.70 357 ⇓P **PKPbc 00 48 39.1 +1.0**
baz=149
G20A Bridger 148.82 352 ⇑P **PKPbc 00 48 39.7 +1.3**
baz=149
G18A Lazy EL Ranch, 148.88 354 ⇓P **PKPbc 00 48 40.0 +1.4**
baz=149
RLMT Red Lodge 149.04 354 ⇑P **PKPbc 00 48 40.4 +1.3**
baz=149,SNR=8.3
RSSD Black Hills 149.12 346 *e*PKP2 **PKPbc 00 48 39.9 +0.5**
RSSD Black Hills 149.12 346 *e*PKPbc **PKPbc 00 48 39.9 +0.5**
G16A Moss Hill, Enn 149.13 357 ⇓P **PKPbc 00 48 40.4 +1.1**
baz=149,SNR=8.2
H22A Clearmont 149.14 349 ⇑P **PKPbc 00 48 40.4 +1.2**
baz=149
G14A Jackson 149.16 359 ⇓P **PKPbc 00 48 40.2 +0.8**
baz=149
G15A Dillon 149.22 358 ⇑P **PKPbc 00 48 40.3 +0.8**
baz=149
H21A Big Horn, Sher 149.22 350 ⇑P **PKPbc 00 48 40.4 +0.9**
baz=149
G13A Cobalt 149.31 0 ⇓P **PKPbc 00 48 40.8 +1.1**
baz=149
H20A Greybull 149.51 352 ⇓P **PKPbc 00 48 40.8 +0.6**
baz=149
H18A Shoshone NF, C 149.52 354 ⇓P **PKPbc 00 48 40.6 +0.3**
baz=150
H14A Leadore 149.79 359 ⇓P **PKPbc 00 48 41.9 +1.0**
baz=150
I22A 9 Mile Ranch, 149.84 349 ⇑P **PKPbc 00 48 41.3 +0.3**
baz=150
H13A Challis 149.84 1 ⇑P **PKPbc 00 48 42.0 +1.0**
baz=150
H12A Diamond D Ranc 149.85 1 ⇑P **PKPbc 00 48 42.2 +1.1**
baz=150
H17A Grant Village 149.88 355 ⇑P **PKPbc 00 48 41.7 +0.4**
baz=150,SNR=7.1
J24A Dixon Ranch, L 150.01 346 ⇓P **PKPbc 00 48 41.6 +0.1**
baz=150
I20A Worland 150.05 352 ⇓P **PKPbc 00 48 42.2 +0.7**
baz=150,SNR=9.8
I21A Big Trails, Te 150.06 350 ⇓P **PKPbc 00 48 41.9 +0.3**
baz=150,SNR=12
I19A Meeteetse 150.08 353 ⇓P **PKPbc 00 48 42.7 +1.0**
baz=150
K26A Motz Farm, Whi 150.24 344 ⇓P **PKPbc 00 48 43.0 +1.0**
baz=150
J22A Midwest 150.31 349 ⇑P **PKPbc 00 48 42.3 +0.1**
baz=150,SNR=8.7
I17A Pilgrim Ck. 150.35 355 ⇓P **PKPbc 00 48 43.8 +1.4**
baz=150,SNR=11
I16A Newdale 150.46 356 ⇑P **PKPbc 00 48 43.8 +1.2**
baz=150
J21A Lysite 150.54 350 ⇑P **PKPbc 00 48 43.8 +1.0**
baz=150
L27A T5 Ranch, Ells 150.57 342 ⇑P **PKPbc 00 48 43.6 +0.8**
baz=150
I12A Atlanta 150.60 2 ⇑P **PKPbc 00 48 44.4 +1.5**
baz=150
J20A Shoshoni 150.63 351 ⇑P **PKPbc 00 48 43.8 +0.9**
baz=151
K23A Bowen Ranch, D 150.77 347 ⇑P **PKPbc 00 48 43.9 +0.6**
baz=151
HLID Hailey 150.84 1 ⇑P **PKPbc 00 48 44.8 +1.3**
baz=151
J19A Crowheart 150.85 353 ⇑P **PKPbc 00 48 44.8 +1.3**
baz=151,SNR=6.5
J17A Brown Place, J 150.92 355 ⇑P **PKPbc 00 48 44.4 +0.7**
baz=151
MFID Camas Ranch 150.95 3 ⇑P **PKPbc 00 48 45.1 +1.4**
baz=151
J15A Blackfoot 150.98 358 ⇑P **PKPbc 00 48 44.6 +0.8**
baz=151
KSU1 Kansas State U 150.99 332 *e*PKPbc **PKPbc 00 48 43.7 -0.1**
J18A Kendall Valley 151.01 354 ⇓P **PKPbc 00 48 44.7 +0.7**
baz=151
J13A Cove Ranch, Pi 151.01 0 ⇑P **PKPbc 00 48 44.7 +0.8**
baz=151
K22A Casper 151.05 349 ⇓P **PKPbc 00 48 44.7 +0.7**
baz=151
J16A Bone 151.07 357 ⇑P **PKPbc 00 48 44.9 +0.8**
baz=151
K21A Alcova 151.20 350 ⇓P **PKPbc 00 48 44.8 +0.4**
baz=151,SNR=8.0
K19A Absolon Red Bu 151.25 352 ⇓P **PKPbc 00 48 44.6 +0.1**
baz=151,SNR=6.0
K20A Yellowstone Ra 151.35 351 ⇓P **PKPbc 00 48 45.0 +0.3**
baz=151,SNR=8.8
BW06 Boulder Array 151.40 353 ⇓P **PKPbc 00 48 45.3 +0.4**
baz=151,SNR=8.7
PDAR Pinedale Array 151.40 353 PKPbc **PKPbc 00 48 45.4 +0.5**
PDAR Pinedale Array 151.40 353 PKPbc **PKPbc 00 48 45.4 +0.5**
comp=Z,3.8nm,0.7s,baz=77,slow=2.1,SNR=27
L23A Garrett 151.40 347 ⇑P **PKPbc 00 48 45.6 +0.7**
baz=151,SNR=8.8
K16A Soda Springs 151.51 356 ⇓P **PKPbc 00 48 45.7 +0.6**
baz=151
K18A Toltan Ranch, 151.58 354 ⇓P **PKPbc 00 48 46.2 +0.9**
baz=152
M25A Palm-Egli Farm 151.65 344 ⇑P **PKPbc 00 48 46.3 +0.8**
baz=152
K15A Arbon 151.70 358 ⇑P **PKPbc 00 48 46.4 +0.9**
baz=152
N27A Anderson Farm, 151.80 342 ⇑P **PKPbc 00 48 46.5 +0.8**
baz=152
M24A Cheyenne 151.82 345 ⇑P **PKPbc 00 48 46.6 +0.8**
baz=152
K14A Jones Ranch, D 151.86 359 ⇑P **PKPbc 00 48 46.7 +0.9**
baz=152
L21A Rawlins 151.87 350 ⇓P **PKPbc 00 48 46.6 +0.6**
baz=152
L20A Wamsutter 151.99 351 ⇑P **PKPbc 00 48 46.8 +0.6**
baz=152
M23A Laramie 152.02 347 ⇑P **PKPbc 00 48 47.3 +1.0**
baz=152
L19A Farson 152.03 353 ⇓P **PKPbc 00 48 47.0 +0.7**
baz=152
M21A Separation Pea 152.22 349 ⇑P **PKPbc 00 48 47.2 +0.4**
baz=152
M22A Cedar Creek Ra 152.27 348 ⇓P **PKPbc 00 48 47.6 +0.7**
baz=152
L18A Fontenelle, Gr 152.28 354 ⇑P **PKPbc 00 48 47.4 +0.5**
baz=152
L16A Fish Haven 152.31 356 ⇑P **PKPbc 00 48 47.7 +0.7**
baz=152
L14A Malta 152.37 359 ⇓P **PKPbc 00 48 47.7 +0.7**
baz=152
L15A Malad City 152.37 358 ⇑P **PKPbc 00 48 47.5 +0.5**
baz=152
N23A Red Feather La 152.62 347 ⇑P **PKPbc 00 48 48.5 +0.7**
baz=153
N22A Wattenberg Ran 152.82 348 ⇑P **PKPbc 00 48 49.1 +0.9**
baz=153
NVAR Mina Array Bea 155.66 8 PKPbc PKPdf 00 48 55.2 +10
NVAR PKPab **PKPab 00 49 10.5 -0.6**
NVAR Mina Array Bea 155.66 8 PKPbc PKPdf 00 48 55.2 +10
comp=Z,0.7nm,0.8s,baz=28,slow=4.1,SNR=4.3
NVAR PKPab **PKPab 00 49 10.5 -0.6**
comp=Z,1.0nm,0.8s,baz=336,slow=3.3,SNR=5.6
TXAR Lajitas Array 162.31 329 PKP **PKPdf 00 48 52.3 -0.7**
TXAR PKPab **PKPab 00 49 40.9 +0.9**
TXAR Lajitas Array 162.31 329 PKP **PKPdf 00 48 52.3 -0.7**
comp=Z,0.2nm,0.7s,baz=90,slow=2.7,SNR=3.6
TXAR PKPab **PKPab 00 49 40.9 +0.9**
comp=Z,0.4nm,0.8s,baz=102,slow=1.8,SNR=4.7

IDC 19 00:32:16.7±3.9, 46°82'N×155°37'E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/26, mbtmp3.4/4, Error ellipse: s-maj=121.5km s-min=32.8km az=178.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**35.53**	**39**	P	P			00 39 14.8	-0.2
	0.2nm,0.5s,baz=257,slow=8.0,SNR=4.5								
MKAR	**Makanchi Array**	**48.28**	**298**	P	P			00 40 58.9	-0.5
	0.2nm,0.6s,baz=61,slow=7.0,SNR=3.0								
BVAR	**Bovoye Array**	**52.00**	**310**	P	P			00 41 27.7	+0.2
	0.8nm,0.6s,baz=58,slow=8.7,SNR=3.7								
TXAR	**Lajitas Array**	**76.10**	**62**	P	P			00 44 06.5	+0.1
	0.3nm,0.6s,baz=293,slow=4.8,SNR=3.8								

*NEIC **19** 01:00:30.2, 38°.33N×110°.56W, h1km, ML2.8(SLC), After SLC.*
*IDC **19** 01:00:30.2±3.7, 38°.32N×110°.57W, h0km, mb2.7/1, mb1 3.1/2, mb1mx3.0/27, mbtmp2.7/2, ML3.3/2, Error ellipse: s-maj=51.3km s-min=12.7km az=133.0*

ISC 19 01:00:37.4±1.2, 38°.87N±0°.03×111°.24W±0°.03, h2km±10km, n76, σ1.9 39/65, 33C-40D, Utah

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
Q16A	**Castle Valley**	**0.07**	**52**	P	Pg			01 00 44.5	+5.7
	baz=0.3,SNR=382								
TMUT	**Trail Mountain**	**0.42**	**4**	*e*Pg	**Pg**			**01 00 45.3**	**-0.2**
SRU	**San Rafael**	**0.61**	**67**	*e*Pg	**Pn**			**01 00 53.1**	**-0.2**
SRU				*e*S	**Sn**			**01 01 04.3**	**+0.5**
SRU	**San Rafael**	**0.61**	**67**	P	**Pn**			**01 00 53.1**	**-0.2**
	baz=0.8,SNR=166								
SRU				⇑S	**Sn**			**01 01 03.1**	**-0.7**
	baz=0.8								
R16A	**Teasdale**	**0.62**	**198**	⇑P	**Pn**			**01 00 53.1**	**-0.3**
	baz=0.8,SNR=66								
R16A				⇑S	**Sn**			**01 01 03.9**	**-0.1**
	baz=0.8								
R17A	**Hanksville Air**	**0.62**	**137**	⇑P	Pn			01 00 55.2	+2.0
	baz=0.9,SNR=129								
R17A				⇓S	Sb			01 01 07.2	+6.9
	baz=0.9								
P17A	**Butcher Ranch,**	**0.72**	**33**	⇓P	**Pb**			**01 00 52.1**	**-0.6**
	baz=0.7,SNR=30								
P17A				⇓S	**Sg**			**01 01 01.7**	**+1.3**
	baz=0.7								
P16A	**Fountain Green**	**0.80**	**336**	⇑P	Pg			01 00 49.3	-3.4
	baz=0.6								
P16A				⇑S	Sg			01 00 57.2	-6.0
	baz=0.6								
MSU	**Marysvale**	**0.81**	**244**	*e*Pg	**Pg**			**01 00 52.6**	**-0.3**
MVU	**Marysvale**	**0.84**	**244**	*e*Pn	**Pg**			**01 00 53.6**	**+0.1**
Q18A	**Rafter H Ranch**	**0.90**	**75**	⇑P	Pn			01 00 58.8	+1.6
	baz=1.1,SNR=34								
Q18A				⇑S	**Sn**			**01 01 13.2**	**+2.4**
	baz=1.1								
R15A	**Junction**	**1.04**	**231**	⇓P	**Pn**			**01 00 58.1**	**-1.1**
	baz=1.0,SNR=38								
R15A				⇓S	**Sb**			**01 01 12.7**	**+0.2**
	baz=1.0								
P15A	**Leamington**	**1.06**	**311**	⇓P	Pg			01 00 53.4	-4.3
	baz=0.8								
P18A	**Preston Nutter**	**1.08**	**45**	⇓P	**Pn**			**01 00 59.6**	**-0.2**
	baz=1.1,SNR=132								
P18A				⇑S	**Sn**			**01 01 14.9**	**-0.7**
	baz=1.1								
R18A	**Canyonlands Na**	**1.16**	**114**	⇓P	Pn			01 01 04.5	+3.6
	baz=1.4,SNR=266								
R18A				⇓S	Sn			01 01 24.1	+6.7
	baz=1.4								
MPU	**Maple Canyon**	**1.18**	**345**	*e*Pn	Pg			01 00 56.6	-3.3
S16A	**Weppner Ranch,**	**1.18**	**194**	P	Pn			01 01 03.8	+2.7
	baz=1.3,SNR=116								
S16A				⇑S	Sn			01 01 21.6	+3.8
	baz=1.3								
S17A	**Black Ridge (B**	**1.28**	**164**	⇓P	Pn			01 01 06.3	+3.9
	baz=1.5,SNR=158								
S17A				⇑S	Sn			01 01 27.0	+6.7
	baz=1.5								
O17A	**Robinson Place**	**1.38**	**16**	⇓P	**Pn**			**01 01 02.4**	**-1.4**
	baz=1.3,SNR=39								
S18A	**Hurst Farm, Bl**	**1.54**	**140**	⇑Pb	Pb			01 01 11.8	+5.1
	baz=1.8								
S18A				⇓S	Sn			01 01 34.3	+7.3
	baz=1.8								
DAU	**Daniels Canyon**	**1.54**	**360**	*e*Pn	**Pn**			**01 01 04.1**	**-2.0**
Q19A	**Hogan Spring (**	**1.55**	**86**	⇑Pb	Pg			01 01 10.6	+3.6
	baz=1.8								
Q19A				⇓S	Sn			01 01 32.7	+5.9
	baz=1.8								
R19A	**Curley Farm, L**	**1.66**	**110**	⇑Pb	Pg			01 01 13.4	+4.2
	baz=1.9								
R19A				⇓Sg	Sg			01 01 41.1	+10
	baz=1.9								
O18A	**Roosevelt**	**1.69**	**34**	⇓Pb	**Pg**			**01 01 09.4**	**-0.3**
	baz=1.7,SNR=7.7								
O15A	**The Old Anders**	**1.69**	**326**	⇑P	Pn			01 01 04.9	-3.2
	baz=1.4,SNR=14								
JLU	**Jordanelle**	**1.73**	**355**	*e*Pn	**Pn**			**01 01 07.7**	**-1.1**
DUG	**Dugway**	**1.79**	**318**	*e*Pn	Pn			01 01 05.9	-3.6
DUG	**Dugway**	**1.79**	**318**	⇓P	Pn			01 01 06.1	-3.4
	baz=1.5								
CTU	**Camp Tracy**	**1.86**	**348**	*e*Pn	**Pn**			**01 01 09.0**	**-1.4**
T17A	**Navajo Res., N**	**1.91**	**169**	⇓Pb	Pg			01 01 17.6	+3.7
	baz=2.1								
P19A	**Cripple Cowboy**	**1.91**	**66**	⇓Pb	Pg			01 01 15.8	+1.7
	baz=2.1								
P19A				⇓Sg	Sg			01 01 44.8	+5.9
	baz=2.1								
S19A	**Harvey Farm, M**	**2.00**	**124**	⇑Pb	Pg			01 01 19.6	+3.9
	baz=2.3								
S19A				⇓Sb	Sg			01 01 50.2	+7.9
	baz=2.3								
N16A	**Rees Ranch, Co**	**2.02**	**356**	⇓Pb	**Pn**			**01 01 11.8**	**-0.8**
	baz=1.8,SNR=11								
ARUT	**Antelope Range**	**2.04**	**239**	Pn	**Pn**			**01 01 10.3**	**-2.6**
ARUT				*e*Pg	**Pg**			**01 01 15.5**	**-0.9**
T18A	**Mexican Hat**	**2.04**	**148**	⇓Pb	Pg			01 01 20.4	+3.9
	baz=2.3								
T18A				⇑Sb	Sg			01 01 50.8	+7.4
	baz=2.3								
N17A	**Moffit Pass**	**2.09**	**9**	⇑Pb	**Pn**			**01 01 13.9**	**+0.2**
	baz=2.0,SNR=17								
N17A				⇓Sg	**Sb**			**01 01 43.3**	**+0.5**
	baz=2.0								
CCUT	**Cedar City**	**2.13**	**232**	*e*Pn	**Pn**			**01 01 11.4**	**-2.7**
CCUT				*e*Pg	**Pb**			**01 01 16.0**	**-0.8**
O19A	**Miners Draw (B**	**2.17**	**48**	⇑Pb	**Pg**			**01 01 18.7**	**-0.3**
	baz=2.2								
O19A				⇑Sb	**Sg**			**01 01 48.0**	**+0.9**
	baz=2.2								
N15A	**Stansbury Isla**	**2.24**	**334**	⇑P	Pn			01 01 12.6	-3.0
	baz=2.0								
R13A	**O'Grain Ranch,**	**2.25**	**253**	⇑P	**Pn**			**01 01 16.0**	**+0.2**
	baz=2.1,SNR=70								
R13A				⇓Sg	**Sb**			**01 01 48.8**	**+1.7**
	baz=2.1								
Q20A	**Ridgley Place,**	**2.30**	**87**	⇑Sb	Sg			01 01 55.5	+4.2
	baz=2.5								
P20A	**De Beque**	**2.30**	**73**	⇓Sb	Sg			01 01 55.1	+3.7
	baz=2.5								
R20A	**Redvale**	**2.35**	**106**	⇓Sb	Sg			01 01 59.4	+6.5
	baz=2.6								
N18A	**Larsen Ranch,**	**2.42**	**29**	⇓Pb	**Pb**			**01 01 21.2**	**-0.6**
	baz=2.4								
N18A				⇓Sb	**Sb**			**01 01 52.9**	**+0.7**
	baz=2.4								
S20A	**Disappointment**	**2.50**	**114**	⇓P	Pg			01 01 25.1	-0.1
	baz=2.8								
S20A				⇓Sb	Sg			01 02 03.9	+6.4
	baz=2.8								
N19A	**John Jarvie Ra**	**2.57**	**38**	⇑Sb	**Sg**			**01 01 57.8**	**-2.1**
	baz=2.6								
U15A	**North Rim**	**2.58**	**199**	⇓Sb	**Sg**			**01 02 02.4**	**+2.2**
	baz=2.7								
O20A	**White River Ci**	**2.64**	**61**	⇓Sb	**Sg**			**01 02 03.8**	**+1.5**
	baz=2.8								
M18A	**Lyman**	**2.71**	**19**	⇑Sb	**Sb**			**01 02 00.5**	**+0.1**
	baz=2.6								
MVCO	**Mesa Verde**	**2.73**	**127**	⇑Sb	Sg			01 02 11.5	+5.8
	baz=3.0								
HWUT	**Hardware Ranch**	**2.74**	**355**	*e*Pn	**Pn**			**01 01 21.7**	**-0.9**
HWUT				*e*S	**Sb**			**01 02 03.9**	**+2.5**
M15A	**Larsen Ranch,**	**2.75**	**341**	⇓P	Pn			01 01 19.9	-2.6
	baz=2.5,SNR=34								
M15A				⇓S	Sn			01 01 51.5	-4.9
	baz=2.5								
Q21A	**Lamborn Mesa,**	**2.87**	**90**	⇓Sb	Sg			01 02 12.7	+3.3
	baz=3.1								
R21A	**Cimarron**	**2.94**	**99**	⇓Sb	Sg			01 02 15.5	+3.8
	baz=3.2								
S21A	**Coal Bank Pass**	**2.97**	**113**	⇑P	**Pg**			**01 01 32.3**	**-2.1**
	baz=3.2								
S21A				⇓Sb	Sg			01 02 17.7	+4.7
	baz=3.2								
P21A	**Newcastle**	**3.02**	**76**	⇑Sb	**Sg**			**01 02 16.2**	**+1.8**
	baz=3.2								
U19A	**Dine' College,**	**3.04**	**147**	⇑Sb	Sg			01 02 21.1	+6.0
	baz=3.3								
M19A	**Rock Springs**	**3.08**	**31**	⇑Sb	**Sb**			**01 02 12.1**	**+1.1**
	baz=3.0								
HVU	**Hansel Valley**	**3.13**	**339**	*e*Pn	**Pn**			**01 01 25.5**	**-2.4**
HVU				*e*S	**Sb**			**01 02 13.7**	**+1.2**
L16A	**Fish Haven**	**3.14**	**357**	⇑P	**Pn**			**01 01 27.3**	**-0.8**
	baz=3.0,SNR=8.6								
L18A	**Fontenelle, Gr**	**3.18**	**16**	⇑Sb	**Sb**			**01 02 13.6**	**-0.6**
	baz=3.1								
L15A	**Malad City**	**3.25**	**345**	⇓P	**Pn**			**01 01 27.2**	**-2.3**
	baz=3.0,SNR=7.2								
WUAZ	**Wupatki**	**3.35**	**182**	⇓Sb	Sg			01 02 27.4	+2.4
	baz=3.5								
R11A	**Troy Canyon, C**	**3.44**	**263**	⇓Sb	**Sb**			**01 02 20.1**	**-1.3**
	baz=3.2								
M20A	**Sweetwater, Wa**	**3.51**	**41**	⇑Sb	**Sg**			**01 02 26.6**	**-3.5**
	baz=3.5								
ELK	**Elko**	**3.60**	**303**	*e*Pn	Pn			01 01 37.9	+3.4
ELK				*e*S	**Sb**			**01 02 25.1**	**-1.0**
BW06	**Boulder Array**	**4.09**	**18**	*e*Pn	**Pn**			**01 01 41.5**	**+0.3**
PDAR	**Pinedale Array**	**4.09**	**18**	Pn	**Pn**			**01 01 41.7**	**+0.5**
PDAR				Pg	**Pb**			**01 01 52.3**	**+2.0**
PDAR				Lg	Lg			01 02 51.2	
PDAR	**Pinedale Array**	**4.09**	**18**	Pn	**Pn**			**01 01 41.7**	**+0.5**
	0.3nm,0.3s,baz=197,slow=12,SNR=4.6								
PDAR				Pg	**Pb**			**01 01 52.3**	**+2.0**
	1.2nm,0.3s,baz=196,slow=17,SNR=28								
PDAR				Lg	Lg			01 02 51.2	
	1.5nm,0.3s,baz=206,slow=33,SNR=10								
RRI2	**Red Ridge**	**4.47**	**359**	*e*Pn	**Pn**			**01 01 45.8**	**-0.6**
	8.3nm,0.6s								
LOHW	**Long Hollow**	**4.76**	**6**	*e*Pn	**Pn**			**01 01 49.3**	**-1.0**
	3.4nm,0.5s								
HLID	**Hailey**	**5.26**	**334**	*e*Pn	**Pn**			**01 01 56.0**	**-1.1**
	1.8nm,0.6s								
NVAR	**Mina Array Bea**	**5.54**	**268**	Pn	**Pn**			**01 02 01.9**	**+0.8**
NVAR				Pg	**Pb**			**01 02 17.1**	**+2.1**
NVAR	**Mina Array Bea**	**5.54**	**268**	Pn	**Pn**			**01 02 01.9**	**+0.8**
	0.3nm,0.3s,baz=79,slow=13,SNR=5.3								
NVAR				Pg	**Pb**			**01 02 17.1**	**+2.1**
	0.7nm,0.3s,baz=80,slow=15,SNR=16								
YKA	**Yellowknife Ar**	**23.74**	**356**	P	**P**			**01 05 50.0**	**-0.6**
YKA	**Yellowknife Ar**	**23.74**	**356**	P	**P**			**01 05 50.0**	**-0.6**
	0.3nm,1

ellipse: s-maj=3.2km s-min=2.3km az=54.0
*ROM **19** 01:01:11.6±0.8,39˚.24N×20˚.63E,h10km,Md3.1/7,Ml3.5/3, Error ellipse: s-maj=11.4km s-min=9.1km az=151.0*
*THE **19** 01:01:11.4,39˚.15N×20˚.60E,h0km±2km,ML3.9/11, Error ellipse: s-maj=2.0km s-min=0.6km az=270.0*
*ATH **19** 01:01:11.8,39˚.18N×20˚.66E,h17km±1km, ML3.8*
*IDC **19** 01:01:15.5±1.9,39˚.28N×20˚.59E,h52km±19km,mb3.5/10, mb1 3.6/20,mb1mx3.5/36,mbtmp3.4/20,ML3.6/9, Error ellipse: s-maj=17.4km s-min=14.9km az=1.0*

ISC 19 01:01:11.3±0.8,39˚.17N±0˚.01×20˚.56E±0˚.02,h17km±6km, n235,σ1§58/299,mb3.7/10,16C-31D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RGA	**Parga**	**0.22**	**313**	P		**Pb**		**01 01 16.8**	**0.0**
RGA				S		**Sg**		**01 01 21.6**	**+1.7**
RGA	**Parga**	**0.22**	**313**	P		**Pb**		**01 01 16.8**	**0.0**
LKD2	**Lefkada island**	**0.39**	**169**	P		**Pg**		**01 01 18.6**	**-0.7**
LKD2				S		**Sg**		**01 01 24.2**	**-0.6**
LKD2	**Lefkada island**	**0.39**	**169**	*e*PB		**Pg**		**01 01 19.1**	**-0.2**
LKD2				*e*SB		**Sb**		**01 01 25.5**	**0.0**
LKD2	**Lefkada island**	**0.39**	**169**	P		**Pg**		**01 01 18.6**	**-0.7**
LKD2	**Lefkada island**	**0.39**	**169**	*e*Pb		**Pg**		**01 01 19.1**	**-0.2**
LKD2				S		**Sg**		**01 01 24.2**	**-0.6**
LKD2				*e*Sb		**Sb**		**01 01 25.5**	**0.0**
IGT	**Igoumenitsa**	**0.40**	**334**	P		**Pg**		**01 01 18.7**	**-0.8**
IGT				S		**Sb**		**01 01 26.2**	**+0.5**
IGT	**Igoumenitsa**	**0.40**	**334**	P		**Pg**		**01 01 18.7**	**-0.8**
IGT				S		**Sb**		**01 01 26.2**	**+0.5**
JAN	**Janina**	**0.53**	**25**	P		**Pg**		**01 01 20.7**	**-1.2**
JAN				S		**Sb**		**01 01 29.6**	**0.0**
JAN	**Janina**	**0.53**	**25**	*e*PN		**Pg**		**01 01 21.0**	**-0.9**
JAN				*e*SN		**Sb**		**01 01 29.7**	**+0.1**
JAN	**Janina**	**0.53**	**25**	P		**Pg**		**01 01 20.7**	**-1.2**
JAN	**Janina**	**0.53**	**25**	*e*Pn		**Pg**		**01 01 21.0**	**-0.9**
JAN				S		**Sb**		**01 01 29.6**	**0.0**
KEK	**Kerkira**	**0.80**	**313**	P		**Pg**		**01 01 26.3**	**-0.5**
KEK				S		**Sn**		**01 01 39.6**	**+0.4**
KEK	**Kerkira**	**0.80**	**313**	*e*PN		**Pn**		**01 01 27.9**	**+0.2**
KEK				*e*SN		**Sn**		**01 01 40.2**	**+1.0**
KEK	**Kerkira**	**0.80**	**313**	P		**Pg**		**01 01 26.3**	**-0.5**
KEK	**Kerkira**	**0.80**	**313**	*e*Pn		**Pn**		**01 01 27.9**	**+0.2**
KEK				*e*Sn		**Sn**		**01 01 40.2**	**+1.0**
MEV	**Metsovon**	**0.80**	**40**	P		**Pg**		**01 01 25.6**	**-1.4**
MEV	**Metsovon**	**0.80**	**40**	P		**Pg**		**01 01 25.6**	**-1.4**
VLS	**Valsamata**	**0.99**	**179**	P		**Pb**		**01 01 29.1**	**-0.9**
VLS				S		**Sg**		**01 01 43.6**	**0.0**
VLS	**Valsamata**	**0.99**	**179**	*e*PN		**Pn**		**01 01 31.4**	**+1.0**
VLS				*e*SN		**Sn**		**01 01 46.0**	**+1.9**
VLS	**Valsamata**	**0.99**	**179**	P		**Pb**		**01 01 29.1**	**-0.9**
VLS	**Valsamata**	**0.99**	**179**	*e*Pn		**Pn**		**01 01 31.4**	**+1.0**
VLS				S		**Sg**		**01 01 43.6**	**0.0**
VLS				*e*Sn		**Sn**		**01 01 46.0**	**+1.9**
EVR	**Evrytania**	**1.01**	**104**	P		**Pb**		**01 01 29.2**	**-1.1**
EVR	**Evrytania**	**1.01**	**104**	*e*PN		**Pb**		**01 01 29.9**	**-0.4**
EVR				*e*SN		**Sb**		**01 01 42.1**	**-1.2**
EVR	**Evrytania**	**1.01**	**104**	P		**Pb**		**01 01 29.2**	**-1.1**
EVR	**Evrytania**	**1.01**	**104**	*e*Pn		**Pb**		**01 01 29.9**	**-0.4**
KFL	**Anninata**	**1.08**	**170**	P		**Pb**		**01 01 30.4**	**-1.0**
KFL				S		**Sn**		**01 01 47.1**	**+1.0**
KFL	**Anninata**	**1.08**	**170**	P		**Pb**		**01 01 30.4**	**-1.0**
KFL				S		**Sn**		**01 01 47.1**	**+1.0**
THL	**Klokotos Trika**	**1.20**	**70**	P		**Pn**		**01 01 31.7**	**-1.5**
THL				S		**Sn**		**01 01 50.4**	**+1.4**
THL	**Klokotos Trika**	**1.20**	**70**	*e*PN		**Pb**		**01 01 33.5**	**+0.1**
THL	**Klokotos Trika**	**1.20**	**70**	*e*Pn		**Pb**		**01 01 33.5**	**+0.1**
THL				S		**Sn**		**01 01 50.4**	**+1.4**
MAKR	**Makrakomi, Fth**	**1.23**	**97**	P		**Pn**		**01 01 33.0**	**-0.8**
MAKR				S		**Sg**		**01 01 50.9**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.23**	**97**	P		**Pn**		**01 01 33.0**	**-0.8**
MAKR				S		**Sg**		**01 01 50.9**	**-0.4**
EFP	**Efpalio**	**1.29**	**125**	P		**Pn**		**01 01 33.8**	**-0.7**
EFP				S		**Sg**		**01 01 53.6**	**+0.6**
EFP	**Efpalio**	**1.29**	**125**	*e*PB		**Pn**		**01 01 34.1**	**-0.4**
EFP	**Efpalio**	**1.29**	**125**	P		**Pn**		**01 01 33.8**	**-0.7**
EFP	**Efpalio**	**1.29**	**125**	*e*Pb		**Pn**		**01 01 34.1**	**-0.4**
EFP				S		**Sg**		**01 01 53.6**	**+0.6**
NEST	**Nestorio**	**1.30**	**17**	P		**Pn**		**01 01 34.9**	**+0.2**
NEST				S		**Sg**		**01 01 55.9**	**+2.6**
NEST	**Nestorio**	**1.30**	**17**	P		**Pn**		**01 01 34.9**	**+0.2**
UPR	**University Cam**	**1.31**	**132**	*e*PN		**Pn**		**01 01 34.8**	**+0.1**
UPR	**University Cam**	**1.31**	**132**	*e*Pn		**Pn**		**01 01 34.8**	**+0.1**
RLS	**Riolos of Patr**	**1.32**	**147**	P		**Pn**		**01 01 34.3**	**-0.6**
RLS				S		**Sg**		**01 01 55.2**	**+1.2**
RLS	**Riolos of Patr**	**1.32**	**147**	*e*PB		**Pn**		**01 01 34.5**	**-0.4**
RLS	**Riolos of Patr**	**1.32**	**147**	P		**Pn**		**01 01 34.3**	**-0.6**
RLS				S		**Sg**		**01 01 55.2**	**+1.2**
TRIZ	**Trizonia**	**1.43**	**124**	P		**Pn**		**01 01 36.7**	**+0.3**
TRIZ				S		**Sg**		**01 01 57.6**	**+0.1**
TRIZ	**Trizonia**	**1.43**	**124**	P		**Pn**		**01 01 36.7**	**+0.3**
TRIZ				S		**Sg**		**01 01 57.6**	**+0.1**
LAKA	**Lakka**	**1.45**	**130**	P		**Pn**		**01 01 36.8**	**+0.1**
LAKA				S		**Sg**		**01 01 58.5**	**+0.4**
LAKA	**Lakka**	**1.45**	**130**	P		**Pn**		**01 01 36.8**	**+0.1**
LAKA				S		**Sg**		**01 01 58.5**	**+0.4**
KALE	**Kalithea**	**1.46**	**122**	P		**Pn**		**01 01 37.4**	**+0.5**
KALE				S		**Sg**		**01 01 57.7**	**-0.8**
KALE	**Kalithea**	**1.46**	**122**	P		**Pn**		**01 01 37.4**	**+0.5**
KALE				S		**Sg**		**01 01 57.7**	**-0.8**
KZN	**Kozani**	**1.47**	**39**	P		**Pb**		**01 01 38.0**	**-0.2**
KZN				S		**Sg**		**01 01 59.1**	**+0.4**
KZN	**Kozani**	**1.47**	**39**	*e*PN		**Pb**		**01 01 38.3**	**+0.1**
KZN				*e*SN		**Sg**		**01 01 58.8**	**+0.1**
KZN	**Kozani**	**1.47**	**39**	P		**Pb**		**01 01 38.0**	**-0.2**
KZN	**Kozani**	**1.47**	**39**	*e*Pn		**Pb**		**01 01 38.3**	**+0.1**
KZN				*e*Sn		**Sg**		**01 01 58.8**	**+0.1**
KZN				S		**Sg**		**01 01 59.1**	**+0.4**
AXAR	**Agios Charalam**	**1.69**	**103**	P		**Pb**		**01 01 41.6**	**-0.2**
AXAR	**Agios Charalam**	**1.69**	**103**	P		**Pb**		**01 01 41.6**	**-0.2**
DSF	**Desfina**	**1.72**	**116**	P		**Pn**		**01 01 41.7**	**+1.3**
DSF				S		**Sb**		**01 02 03.9**	**+0.2**
DSF	**Desfina**	**1.72**	**116**	P		**Pn**		**01 01 41.7**	**+1.3**
DSF				S		**Sb**		**01 02 03.9**	**+0.2**
DESF	**Desfina**	**1.72**	**116**	P		**Pn**		**01 01 40.8**	**+0.3**
DESF	**Desfina**	**1.72**	**116**	P		**Pn**		**01 01 40.8**	**+0.3**
FNA	**Florina**	**1.73**	**21**	P		**Pb**		**01 01 42.4**	**-0.2**
FNA	**Florina**	**1.73**	**21**	P		**Pb**		**01 01 42.4**	**-0.2**
LIT	**Litokhoron**	**1.76**	**58**	P		**Pb**		**01 01 42.6**	**-0.4**
LIT	**Litokhoron**	**1.76**	**58**	*e*PN		**Pb**		**01 01 42.9**	**-0.1**
LIT				*e*SN		**Sb**		**01 02 05.3**	**+0.5**
LIT	**Litokhoron**	**1.76**	**58**	P		**Pb**		**01 01 42.6**	**-0.4**
LIT	**Litokhoron**	**1.76**	**58**	*e*Pn		**Pb**		**01 01 42.9**	**-0.1**
LIT				*e*Sn		**Sb**		**01 02 05.3**	**+0.5**
SCTE	**Santa Cesarea**	**1.85**	**300**	Pn		**Pn**		**01 01 43.3**	**+1.4**
SCTE				Sn		**Sb**		**01 02 07.5**	**+0.1**
SCTE	**Santa Cesarea**	**1.85**	**300**	Pn		**Pn**		**01 01 43.6**	**+1.4**
SCTE				Sn		**Sb**		**01 02 07.5**	**+0.1**
BIA	**Bitola**	**1.94**	**17**	*i* Pn		**Pb**		**01 01 46.5**	**+0.3**
BIA	**Bitola**	**1.94**	**17**	*i* Pn		**Pb**		**01 01 46.4**	**+0.3**
LKR	**Lokris**	**1.98**	**105**	P		**Pb**		**01 01 45.7**	**-1.0**
LKR	**Lokris**	**1.98**	**105**	*e*PN		**Pb**		**01 01 46.0**	**-0.7**
LKR	**Lokris**	**1.98**	**105**	P		**Pb**		**01 01 45.7**	**-1.0**
LKR	**Lokris**	**1.98**	**105**	*e*Pn		**Pb**		**01 01 46.0**	**-0.7**
ATAL	**Atalanti**	**1.98**	**103**	P		**Pb**		**01 01 46.0**	**-0.8**
ATAL	**Atalanti**	**1.98**	**103**	P		**Pb**		**01 01 46.0**	**-0.8**
XOR	**Xorichti**	**2.05**	**84**	P		**Pn**		**01 01 46.6**	**+1.6**
XOR	**Xorichti**	**2.05**	**84**	P		**Pn**		**01 01 46.6**	**+1.6**
NEO	**Neokhori**	**2.07**	**85**	P		**Pn**		**01 01 46.9**	**+1.6**
NEO	**Neokhori**	**2.07**	**85**	*e*PN		**Pn**		**01 01 46.6**	**+1.3**
NEO				*e*SN		**Sn**		**01 02 11.9**	**+1.1**
NEO	**Neokhori**	**2.07**	**85**	*e*Pn		**Pn**		**01 01 46.6**	**+1.3**
NEO	**Neokhori**	**2.07**	**85**	P		**Pn**		**01 01 46.9**	**+1.6**
NEO				*e*Sn		**Sn**		**01 02 11.9**	**+1.1**
LTK	**Loutraki**	**2.21**	**121**	P		**Pn**		**01 01 49.0**	**+1.8**
LTK	**Loutraki**	**2.21**	**121**	*e*PN		**Pb**		**01 01 49.3**	**-1.4**
LTK	**Loutraki**	**2.21**	**121**	P		**Pn**		**01 01 49.0**	**+1.8**
LTK	**Loutraki**	**2.21**	**121**	*e*Pn		**Pb**		**01 01 49.3**	**-1.4**
TIR	**Tirane**	**2.24**	**346**	⇓*i*Pn		**Pb**		**01 01 50.1**	**-1.1**
TIR				*e*Sn		**Sb**		**01 02 17.2**	**-1.4**
TIR	**Tirane**	**2.24**	**346**	⇓*i*Pn		**Pb**		**01 01 50.1**	**-1.1**
TIR				*e*Sn		**Sb**		**01 02 17.2**	**-1.4**
GRG	**Griva**	**2.27**	**38**	P		**Pn**		**01 01 49.8**	**+1.7**
GRG	**Griva**	**2.27**	**38**	P		**Pn**		**01 01 49.8**	**+1.7**
THE	**Thessaloniki**	**2.36**	**51**	P		**Pb**		**01 01 51.4**	**-1.8**
THE	**Thessaloniki**	**2.36**	**51**	P		**Pb**		**01 01 51.4**	**-1.8**
MRKA	**Markates**	**2.41**	**100**	P		**Pn**		**01 01 51.7**	**+1.8**
MRKA	**Markates**	**2.41**	**100**	P		**Pn**		**01 01 51.7**	**+1.8**
HORT	**Hortiatis**	**2.42**	**53**	P		**Pn**		**01 01 51.8**	**+1.7**
HORT	**Hortiatis**	**2.42**	**53**	P		**Pn**		**01 01 51.8**	**+1.7**
PAIG	**Paliouri**	**2.53**	**72**	P		**Pn**		**01 01 52.2**	**+0.7**
PAIG	**Paliouri**	**2.53**	**72**	P		**Pn**		**01 01 52.2**	**+0.7**
PLG	**Polygyros**	**2.53**	**61**	P		**Pn**		**01 01 53.4**	**+1.8**
PLG	**Polygyros**	**2.53**	**61**	*e*PN		**Pn**		**01 01 53.2**	**+1.6**
PLG				*e*SN		**Sn**		**01 02 23.4**	**+1.4**
PLG	**Polygyros**	**2.53**	**61**	P		**Pn**		**01 01 53.4**	**+1.8**
PLG				*e*Sn		**Sn**		**01 02 23.4**	**+1.4**
VAY	**Valandovo**	**2.64**	**35**	*i* Pn		**Pn**		**01 01 54.9**	**+1.8**
VAY	**Valandovo**	**2.64**	**35**	*i* Pn		**Pn**		**01 01 55.4**	**+2.3**
DID	**Didima**	**2.68**	**127**	*e*PN		**Pn**		**01 01 55.6**	**+1.9**
DID	**Didima**	**2.68**	**127**	*e*Pn		**Pn**		**01 01 55.6**	**+1.9**
NAIG	**Nisos Aigina**	**2.70**	**121**	*e*PN		**Pn**		**01 01 55.9**	**+2.0**
NAIG	**Nisos Aigina**	**2.70**	**121**	*e*Pn		**Pn**		**01 01 55.9**	**+2.0**
SOH	**Sokhos**	**2.71**	**52**	P		**Pn**		**01 01 56.2**	**+2.2**
SOH	**Sokhos**	**2.71**	**52**	P		**Pn**		**01 01 56.2**	**+2.2**
ATH	**Athens Observa**	**2.75**	**115**	*e*PN		**Pn**		**01 01 56.6**	**+2.0**
ATH	**Athens Observa**	**2.75**	**115**	*e*Pn		**Pn**		**01 01 56.6**	**+2.0**
PTL	**Penteli**	**2.82**	**112**	P		**Pn**		**01 01 57.5**	**+1.9**
PTL	**Penteli**	**2.82**	**112**	P		**Pn**		**01 01 57.5**	**+1.9**
TAR1	**Taranto**	**2.86**	**299**	*e*Pn		**Pn**		**01 01 57.4**	**+1.3**
TAR1				*e*Sn		**Sn**		**01 02 29.7**	**-0.4**
SKO	**Skopje**	**2.88**	**13**	*i* Pn		**Pb**		**01 01 59.5**	**-2.6**
SKO	**Skopje**	**2.88**	**13**	*e*Pn		**Pn**		**01 01 58.2**	**+1.9**
SKO				*e*Sn		**Sn**		**01 02 30.9**	**+0.4**
SKO	**Skopje**	**2.88**	**13**	*e*Pn		**Pn**		**01 01 58.2**	**+1.9**
SKO				*e*Sn		**Sn**		**01 02 30.9**	**+0.4**
PIPA	**Pietrapaola**	**2.92**	**277**	Pn		**Pn**		**01 01 58.7**	**+1.8**
PIPA				Sn		**Sn**		**01 02 35.1**	**+3.5**
PIPA	**Pietrapaola**	**2.92**	**277**	Pn		**Pn**		**01 01 58.7**	**+1.8**
PIPA				Sn		**Sn**		**01 02 35.1**	**+3.5**
SRS	**Serrai**	**3.03**	**49**	P		**Pn**		**01 02 00.1**	**+1.7**
SRS	**Serrai**	**3.03**	**49**	P		**Pn**		**01 02 00.1**	**+1.7**
GRI	**Girifalco**	**3.24**	**265**	Pn		**Pn**		**01 02 03.4**	**+2.0**
GRI	**Girifalco**	**3.24**	**265**	Pn		**Pn**		**01 02 03.4**	**+2.0**
NVR	**Nevrokopi**	**3.33**	**48**	P		**Pn**		**01 02 04.5**	**+1.9**
NVR	**Nevrokopi**	**3.33**	**48**	*e*PN		**Pn**		**01 02 04.7**	**+2.1**
NVR	**Nevrokopi**	**3.33**	**48**	P		**Pn**		**01 02 04.5**	**+1.9**
CARO	**Carolei**	**3.37**	**273**	Pn		**Pn**		**01 02 06.0**	**+2.8**
CARO	**Carolei**	**3.37**	**273**	Pn		**Pn**		**01 02 06.0**	**+2.8**
PDG	**Podgorica**	**3.40**	**344**	Pn		**Pn**		**01 02 05.1**	**+1.6**
PDG	**Podgorica**	**3.40**	**344**	⇓*i*Pn		**Pn**		**01 02 04.6**	**+1.1**
PDG				*e*Sn		**Sn**		**01 02 45.8**	**+2.4**
PDG	**Podgorica**	**3.40**	**344**	Pn		**Pn**		**01 02 05.1**	**+1.6**
SG1	**Sgolgore (BA)**	**3.41**	**300**	*e*Pn		**Pn**		**01 02 04.8**	**+1.1**
SG1				*e*Sn		**Sn**		**01 02 44.1**	**+0.3**
BAI	**Bari**	**3.42**	**306**	*e*Pn		**Pn**		**01 02 05.1**	**+1.4**
BAI				*e*Sn		**Sn**		**01 02 46.4**	**+2.6**
KYTH	**Kithira**	**3.49**	**145**	P		**Pn**		**01 02 07.9**	**+3.1**
KYTH	**Kithira**	**3.49**	**145**	*e*PN		Pn		01 02 08.3	+3.5
KYTH	**Kithira**	**3.49**	**145**	P		**Pn**		**01 02 07.9**	**+3.1**
KYTH	**Kithira**	**3.49**	**145**	*e*Pn		Pn		01 02 08.3	+3.5
SCHR	**S. Chirico Rap** 239nm,2.2s	**3.61**	**288**	Pn		**Pn**		**01 02 09.6**	**+3.2**
SCHR	**S. Chirico Rap** 239nm,2.2s	**3.61**	**288**	Pn		**Pn**		**01 02 09.6**	**+3.2**
LIA	**Limnos Island**	**3.65**	**77**	*e*PN		**Pn**		**01 02 08.6**	**+1.7**
LIA	**Limnos Island**	**3.65**	**77**	*e*Pn		**Pn**		**01 02 08.6**	**+1.7**
BARS	**Barje**	**3.76**	**14**	⇓*i*Pn		**Pn**		**01 02 10.3**	**+1.8**
BARS				*e*Sn		**Sn**		**01 02 53.7**	**+1.3**
BARS	**Barje**	**3.76**	**14**	⇓*i*Pn		**Pn**		**01 02 10.3**	**+1.8**
BARS				*e*Sn		**Sn**		**01 02 53.7**	**+1.3**
CDT	**Castel del Mon**	**3.80**	**301**	*e*Pn		**Pn**		**01 02 10.8**	**+1.8**
CDT				*e*Sn		**Sn**		**01 02 52.2**	**-1.1**
VTS	**Vitosha**	**3.96**	**30**	P		**Pn**		**01 02 13.9**	**+2.6**
VTS	**Vitosha**	**3.96**	**30**	⇓*i*P		**Pn**		**01 02 14.1**	**+2.7**
VTS	**Vitosha**	**3.96**	**30**	⇓*i*Pn		**Pn**		**01 02 14.0**	**+2.6**
VTS				*e*Sn		**Sn**		**01 03 01.1**	**+3.6**
VTS	**Vitosha**	**3.96**	**30**	P		**Pn**		**01 02 13.9**	**+2.6**
VTS				*e*Sn		**Sn**		**01 03 01.1**	**+3.6**
SELS	**Selova**	**4.07**	**6**	⇓*i*Pn		**Pn**		**01 02 14.1**	**+1.4**
CDRU	**Civita di Ruta** 93nm,1.4s	**4.25**	**290**	Pn		**Pn**		**01 02 18.4**	**+3.1**
CDRU	**Civita di Ruta** 93nm,1.4s	**4.25**	**290**	Pn		**Pn**		**01 02 18.4**	**+3.1**
CHOS	**Chios island**	**4.37**	**99**	*e*PN		**Pn**		**01 02 20.0**	**+3.1**
CHOS	**Chios island**	**4.37**	**99**	*e*Pn		**Pn**		**01 02 20.0**	**+3.1**
ZAPS	**Zavoj**	**4.38**	**20**	*e*Pn		**Pn**		**01 02 19.5**	**+2.4**
ZAPS				*e*Sn		**Sn**		**01 03 10.1**	**+2.3**
IVAS	**Ivanjica**	**4.41**	**356**	*e*PN		**Pn**		**01 02 18.0**	**+0.6**
IVAS	**Ivanjica**	**4.41**	**356**	*e*Pn		**Pn**		**01 02 18.0**	**+0.6**
PRK	**Paraskevi**	**4.44**	**87**	*e*PN		**Pn**		**01 02 19.7**	**+1.9**
PRK	**Paraskevi**	**4.44**	**87**	*e*Pn		**Pn**		**01 02 19.7**	**+1.9**
APE	**Apeiranthos**	**4.45**	**117**	*e*PN		**Pn**		**01 02 20.0**	**+2.0**
APE	**Apeiranthos**	**4.45**	**117**	*e*Pn		**Pn**		**01 02 20.0**	**+2.0**
ALN	**Alexandroupoli**	**4.55**	**66**	*e*PN		**Pn**		**01 02 21.4**	**+2.1**
ALN	**Alexandroupoli**	**4.55**	**66**	*e*Pn		**Pn**		**01 02 21.4**	**+2.1**
GRUS	**Gruza**	**4.71**	**1**	⇓*i*Pn		**Pn**		**01 02 22.5**	**+1.0**
GRUS				*e*Sn		**Sn**		**01 03 15.3**	**-0.5**
GRUS	**Gruza**	**4.71**	**1**	⇓*i*Pn		**Pn**		**01 02 22.5**	**+1.0**
BOLS	**Boljevac**	**4.77**	**12**	*i* Pn		**Pn**		**01 02 24.6**	**+2.3**
BOLS	**Boljevac**	**4.77**	**12**	*i* Pn		**Pn**		**01 02 24.6**	**+2.3**
DIVS	**Divibare**	**4.94**	**355**	⇓*i*Pn		**Pn**		**01 02 25.3**	**+0.6**
DIVS				*e*Sn		**Sn**		**01 03 22.0**	**+0.5**
DIVS	**Divibare**	**4.94**	**355**	⇓*i*Pn		**Pn**		**01 02 25.3**	**+0.6**
DIVS				*e*Sn		**Sn**		**01 03 22.0**	**+0.5**
TRUS	**Trudelj**	**5.05**	**359**	*e*PN		**Pn**		**01 02 25.9**	**-0.2**
TRUS	**Trudelj**	**5.05**	**359**	*e*Pn		**Pn**		**01 02 25.9**	**-0.2**
PTRJ	**Pietraroja** 212nm,1.2s	**5.10**	**297**	Pn		**Pn**		**01 02 29.8**	**+2.8**
PTRJ	**Pietraroja** 212nm,1.2s	**5.10**	**297**	Pn		**Pn**		**01 02 29.8**	**+2.8**
TEKS	**Tekeris**	**5.43**	**352**	⇓*i*Pn		**Pn**		**01 02 31.6**	**+0.2**
TEKS	**Tekeris**	**5.43**	**352**	⇓*i*Pn		**Pn**		**01 02 31.6**	**+0.2**
FGSL	**Fruska Gora**	**6.01**	**355**	*e*Pn		**Pn**		**01 02 39.4**	**+0.1**
FRGS	**Fruska Gora**	**6.01**	**355**	*e*Pn		**Pn**		**01 02 39.4**	**+0.1**
BLY	**Banja Luka**	**6.11**	**337**	⇓*i*Pn		**Pn**		**01 02 41.1**	**+0.3**
BLY				*e*Sn		**Sn**		**01 03 49.4**	**-0.8**
BLY	**Banja Luka**	**6.11**	**337**	⇓*i*Pn		**Pn**		**01 02 41.1**	**+0.3**
GZR	**Gura Zlata**	**6.43**	**14**	⇓*i*P		**Pn**		**01 02 47.1**	**+1.9**
GZR	**Gura Zlata**	**6.43**	**14**	⇓*i*P		**Pn**		**01 02 47.1**	**+1.9**
BZS	**Buzias**	**6.49**	**7**	⇓*i*P		**Pn**		**01 02 47.9**	**+2.0**
LOT	**Lotru**	**6.71**	**20**	⇑*i*P		**Pn**		**01 02 51.0**	**+2.0**
LOT	**Lotru**	**6.71**	**20**	⇑*i*P		**Pn**		**01 02 51.0**	**+2.0**
NRCA	**Norcia**	**6.71**	**305**	Pn		**Pn**		**01 02 51.4**	**+2.3**
NRCA	**Norcia**	**6.71**	**305**	Pn		**Pn**		**01 02 51.4**	**+2.3**
NVLJ	**Novalja**	**6.86**	**324**	*e*Pn		**Pn**		**01 02 51.4**	**+0.5**
NVLJ				Sn		**Sn**		**01 04 06.2**	**-2.3**
VOIR		**7.09**	**27**	⇓*i*P		**Pn**		**01 02 57.4**	**+3.2**
VOIR		**7.09**	**27**	⇓*i*Pn		**Pn**		**01 02 57.4**	**+3.2**
ISR	**Istrita**	**7.42**	**35**	⇑*i*P		Pn		01 03 02.6	+3.9
ISR	**Istrita**	**7.42**	**35**	⇑*i*P		Pn		01 03 02.6	+3.9
PGOR	**Pogoanele**	**7.46**	**38**	⇓*i*P		Pn		01 03 04.0	+4.7
MLR	**Muntele Rosu**	**7.47**	**31**	⇑*i*P		Pn		01 03 03.2	+3.7
MLR	**Muntele Rosu** 0.3nm,0.3s,baz=275,slow=18,SNR=19	**7.47**	**31**	P		**Pn**		**01 03 01.7**	**+2.3**
MLR	**Muntele Rosu**	**7.47**	**31**	⇑*i*P		Pn		01 03 03.2	+3.7
PLOR	**Plostina**	**8.05**	**32**	⇓*i*P		Pn		01 03 11.5	+4.2
PLOR	**Plostina**	**8.05**	**32**	⇓*i*P		Pn		01 03 11.5	+4.2
VRI	**Vrincioaia**	**8.09**	**32**	⇑*i*P		Pn		01 03 11.8	+3.9
VRI	**Vrincioaia**	**8.09**	**32**	⇑*i*P		Pn		01 03 11.8	+3.9
VOY	**Vojsko**	**8.43**	**327**	*e*Pn		**Pn**		**01 03 13.5**	**+0.8**
VOY				*e*Sn		**Sn**		**01 04 44.2**	**-3.2**
VOY	**Vojsko**	**8.43**	**327**	*e*Pn		**Pn**		**01 03 13.5**	**+0.8**
SOKA	**Soboth**	**8.52**	**333**	⇑*i*Pn		**Pn**		**01 03 13.8**	**-0.1**
SOKA				⇓*i*Sn		**Sn**		**01 04 45.9**	**-3.8**
SOKA	**Soboth**	**8.52**	**333**	Pn		**Pn**		**01 03 13.8**	**-0.1**
OBKA	**Obir**	**8.55**	**331**	⇑*i*Pn		**Pn**		**01 03 14.0**	**-0.3**
OBKA				⇓*i*Sn		**Sn**		**01 04 46.9**	**-3.6**
OBKA	**Obir**	**8.55**	**331**	Pn		**Pn**		**01 03 14.0**	**-0.3**
TESR		**8.59**	**29**	⇓*i*P		**Pn**		**01 03 17.4**	**+2.7**
TESR		**8.59**	**29**	⇓*i*P		**Pn**		**01 03 17.4**	**+2.7**
PSZ	**Piszkesteto**	**8.76**	**357**	⇑*i*P		Pn		01 03 21.9	+4.8
BURAR	**Bucovina Array**	**9.09**	**20**	⇓*i*P		**Pn**		**01 03 24.5**	**+2.8**
BURAR	**Bucovina Array**	**9.09**	**20**	⇓*i*P		**Pn**		**01 03 24.5**	**+2.8**
KEST	**Kesra** 0.1nm,0.3s,baz=55,slow=12,SNR=4.6	**9.55**	**252**	P		Pn		01 03 31.7	+3.6
ABTA	**Abfaltersbach**	**9.59**	**325**	⇑*i*Pn		**Pn**		**01 03 28.1**	**-0.5**
ABTA				⇑*i*Sn		**Sn**		**01 05 12.3**	**-3.6**
ABTA	**Abfaltersbach**	**9.59**	**325**	Pn		**Pn**		**01 03 28.1**	**-0.5**
MOA	**Molln**	**9.80**	**334**	⇓*i*Pn		**Pn**		**01 03 30.4**	**-0.9**
MOA				⇓*i*Sn		**Sn**		**01 05 17.1**	**-3.8**
BRTR	**Keskin Array B** 0.1nm,0.3s,baz=262,slow=11,SNR=2.7	**10.13**	**83**	P		**Pn**		**01 03 38.5**	**+2.4**
MOTA	**Moosalm**	**10.68**	**323**	⇑*i*Pn		**Pn**		**01 03 42.5**	**-1.0**
MOTA				⇑*i*Sn		**Sn**		**01 05 38.8**	**-4.0**
GERES	**GERESS Array B** 0.3nm,0.3s,baz=156,slow=14,SNR=14	**10.85**	**335**	P		**Pn**		**01 03 45.4**	**-0.4**
GERES				S		**Sn**		**01 05 45.3**	**-1.5**
	0.4nm,0.3s,baz=154,slow=22,SNR=7.0								
**

mb3.8/7, Error ellipse: s-maj=19.1km s-min=6.9km az=170.5
*IDC **19** 01:18:39.4±5.1, 30.92S×179.65E, h480km±51km, mb3.5/7, mb1 3.7/8, mb1mx3.5/20, mbtmp3.5/8, Error ellipse: s-maj=33.3km s-min=24.3km az=59.0*

ISC 19 01:18:33.9±0.8, 31.21S±0.08×179.9E±0.1, h426km, n71, σ1§44/68, mb3.9/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**6.47**	**191**	PN	**P**	**01 20 13.8**	**+1.8**
MXZ				SN	**S**	**01 21 30.4**	**-2.2**
PUZ	**Puketiti**	**6.97**	**190**	PN	**P**	**01 20 19.2**	**+1.3**
PUZ				SN	**S**	**01 21 40.6**	**-2.1**
MWZ	**Matawai**	**7.36**	**194**	PN	**P**	**01 20 22.3**	**+0.1**
MWZ				SN	**S**	**01 21 47.7**	**-2.8**
CNGZ	**Carnagh Statio**	**7.39**	**190**	PN	**P**	**01 20 23.7**	**+1.3**
URZ	**Urewera**	**7.39**	**197**	PN	**P**	**01 20 23.5**	**+1.1**
URZ				SN	**S**	**01 21 49.2**	**-1.7**
TARZ	**Mount Tarawera**	**7.53**	**200**	PN	P	01 20 27.9	+3.8
RRRZ	**Republican Roa**	**7.63**	**200**	PN	P	01 20 28.2	+3.2
PRRZ	**Plateau Road**	**7.81**	**200**	PN	P	01 20 30.2	+3.2
PRGZ	**Paritu Road**	**7.87**	**191**	PN	**P**	**01 20 30.4**	**+2.8**
ALRZ	**Allen Road**	**7.88**	**200**	PN	**P**	**01 20 30.4**	**+2.6**
KNZ	**Kokohu**	**8.00**	**192**	PN	**P**	**01 20 31.6**	**+2.6**
RAHZ	**Arahi**	**8.02**	**196**	PN	**P**	**01 20 30.4**	**+1.3**
MHGZ	**Mahia Peninsul**	**8.09**	**191**	PN	**P**	**01 20 32.1**	**+2.2**
NMHZ	**Naumai**	**8.26**	**197**	PN	**P**	**01 20 32.6**	**+0.8**
BKZ	**Black Stump Fm**	**8.40**	**198**	PN	**P**	**01 20 35.1**	**+1.7**
KRVZ	**Karewarewa**	**8.59**	**202**	PN	**P**	**01 20 37.6**	**+2.1**
MCHZ	**McNeill Hill**	**8.61**	**197**	PN	**P**	**01 20 37.1**	**+1.5**
WTVZ	**West Tongariro**	**8.63**	**203**	PN	**P**	**01 20 37.7**	**+1.7**
OTVZ	**Oturere**	**8.64**	**202**	PN	**P**	**01 20 35.6**	**-0.6**
NGZ	**Ngauruhoe**	**8.68**	**202**	PN	**P**	**01 20 38.6**	**+2.0**
CKHZ	**Cape Kidnapper**	**8.73**	**194**	PN	**P**	**01 20 38.3**	**+1.4**
FWVZ	**Far West T-bar**	**8.77**	**202**	PN	**P**	**01 20 36.8**	**-0.8**
WNVZ	**Wahianoa**	**8.81**	**202**	PN	**P**	**01 20 39.7**	**+1.6**
BHHZ	**Black Hill Sta**	**8.82**	**199**	PN	**P**	**01 20 37.3**	**-0.7**
MOVZ	**Moawhango**	**8.84**	**201**	PN	**P**	**01 20 39.2**	**+1.0**
KAHZ	**Kahuranaki**	**8.90**	**195**	PN	**P**	**01 20 40.1**	**+1.2**
MTVZ	**Mangateitei**	**8.91**	**202**	PN	**P**	**01 20 41.0**	**+2.0**
PXZ	**Pawanui**	**9.13**	**195**	PN	**P**	**01 20 40.2**	**-1.2**
PNHZ	**Pukenui**	**9.18**	**198**	PN	P	01 20 39.8	-2.1
WPHZ	**Waipukurau**	**9.26**	**196**	PN	**P**	**01 20 44.1**	**+1.2**
TSZ	**Takapari Road**	**9.38**	**199**	PN	P	01 20 41.8	-2.3
WAZ	**Wanganui**	**9.40**	**204**	PN	**P**	**01 20 46.1**	**+1.7**
PRHZ	**Porangahau**	**9.41**	**195**	PN	**P**	**01 20 45.0**	**+0.6**
DVHZ	**Dannevirke**	**9.55**	**197**	PN	**P**	**01 20 46.9**	**+0.9**
ANWZ	**Angora Road**	**9.63**	**196**	PN	**P**	**01 20 47.9**	**+1.1**
POWZ	**Post Office Ro**	**9.74**	**199**	PN	**P**	**01 20 49.8**	**+1.7**
PRWZ	**Pori Road**	**9.84**	**198**	PN	**P**	**01 20 50.5**	**+1.3**
BFZ	**Birch Farm**	**9.89**	**196**	PN	**P**	**01 20 51.5**	**+1.7**
MRZ	**Mangatainoka R**	**10.05**	**199**	PN	**P**	**01 20 50.8**	**-0.7**
TIWZ	**Tintock**	**10.07**	**197**	PN	**P**	**01 20 53.0**	**+1.2**
HOWZ	**Holdsworth Sta**	**10.29**	**199**	PN	**P**	**01 20 54.2**	**+0.2**
OGWZ	**Otaki Gorge**	**10.31**	**200**	PN	**P**	**01 20 53.3**	**-1.0**
TMWZ	**Te Maipa**	**10.38**	**197**	PN	**P**	**01 20 55.7**	**+0.6**
KIW	**Kapiti Island**	**10.43**	**201**	PN	**P**	**01 20 55.2**	**-0.5**
MTW	**Mount Morrison**	**10.53**	**198**	PN	**P**	**01 20 57.3**	**+0.5**
CAW	**Cannon Point**	**10.61**	**200**	PN	**P**	**01 20 58.0**	**+0.4**
DUWZ	**D'Urville Isla**	**10.71**	**205**	PN	**P**	**01 20 58.4**	**-0.3**
TRWZ	**Traveller**	**10.71**	**197**	PN	**P**	**01 21 00.4**	**+1.7**
PAWZ	**Paruwai Farm**	**10.76**	**198**	PN	**P**	**01 21 00.3**	**+1.0**
MSWZ	**Moikau Station**	**10.84**	**199**	PN	**P**	**01 21 00.1**	**-0.1**
SNZO	**South Karori**	**10.90**	**201**	PN	**P**	**01 21 00.5**	**-0.2**
TCW	**Tory Channel**	**10.95**	**203**	PN	**P**	**01 21 00.8**	**-0.5**
PLWZ	**Palliser**	**10.98**	**198**	PN	**P**	**01 21 01.8**	**+0.1**
DZM	**Mont Dzumac**	**15.04**	**304**	P	**P**	**01 21 47.2**	**+1.0**
	1.0nm,0.3s,baz=115,slow=15,SNR=6.3						
CTA	**Charters Tower**	**32.13**	**282**	P	**P**	**01 24 25.4**	**+1.0**
	2.0nm,0.3s,baz=115,slow=10,SNR=4.3						
STKA	**Stephens Creek**	**32.50**	**259**	P	**P**	**01 24 29.2**	**+1.7**
	2.0nm,0.3s,baz=106,slow=11,SNR=9.0						
ASAR	**Alice Springs**	**41.23**	**269**	P	**P**	**01 25 39.5**	**-0.5**
	2.4nm,0.4s,baz=109,slow=7.7,SNR=15						
WRA	**Warramunga Arr**	**42.29**	**274**	P	**P**	**01 25 47.9**	**-0.6**
	7.9nm,0.3s,baz=111,slow=8.1,SNR=179						
FITZ	**Fitzroy Crossi**	**50.52**	**272**	P	**P**	**01 26 51.7**	**+0.3**
	3.6nm,0.6s,baz=101,slow=6.7,SNR=11						
QSPA	**South Pole Qui**	**58.90**	**180**	P	**P**	**01 27 53.0**	**+2.9**
	2.4nm,1.0s,baz=185,slow=1.2,SNR=6.5						
NVAR	**Mina Array Bea**	**90.09**	**44**	P	**P**	**01 30 47.1**	**-0.2**
	0.1nm,0.5s,baz=235,slow=8.7,SNR=3.6						
ARCES	**ARCESS Array B**	**136.98**	**347**	PKhKP	PKPpre	01 37 01.8	
	4.7nm,1.0s,baz=29,slow=2.8,SNR=8.7						
ARCES				PKP	**PKPdf**	**01 37 09.3**	**-0.5**
	3.2nm,0.9s,baz=64,slow=4.1,SNR=5.3						
JOF	**Joensuu**	**142.46**	**337**	*e*pkp	PKPdf	01 37 11.3	-4.9
	0.8nm,0.5s						
KBZ	**Khabaz**	**144.00**	**303**	PKP	PKPbc	01 37 18.3	-0.1
	2.3nm,0.8s,baz=153,slow=1.3,SNR=5.7						
KAF	**Kangasniemi**	**144.66**	**339**	*e*pkp	PKPbc	01 37 17.2	-2.8
	3.7nm,0.6s						
FINES	**FINESS Array B**	**145.23**	**338**	PKP	**PKPdf**	**01 37 20.4**	**-0.6**
	5.9nm,0.4s,baz=64,slow=3.2,SNR=86						
NB2	**NORSAR Subarra**	**149.23**	**349**	PKP	**PKPbc**	**01 37 31.2**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.23**	**349**	PKPbc	**PKPbc**	**01 37 31.4**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=15,slow=4.2,SNR=8.9						
AKASG	**Malin Array Be**	**150.78**	**320**	PKPbc	**PKPbc**	**01 37 35.2**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=49,slow=3.4,SNR=7.8						
BRTR	**Keskin Array B**	**151.33**	**297**	PKPbc	**PKPbc**	**01 37 37.4**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=142,slow=3.8,SNR=8.8						
BRTR				PKPab	**PKPab**	**01 37 47.3**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=133,slow=6.5,SNR=3.6						
GERES	**GERESS Array B**	**159.49**	**333**	PKPab	**PKPab**	**01 38 21.0**	**-2.0**
	comp=Z,0.4nm,0.8s,baz=116,slow=4.5,SNR=3.6						

IDC 19 01:24:55.2±2.4, 2.61S×136.69E, h0km, mb3.5/3, mb1 3.8/5, mb1mx3.8/17, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=94.4km s-min=22.9km az=88.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.38**	**187**	P	Pn	01 28 59.7	+0.3
	0.1nm,0.3s,baz=9.0,slow=13,SNR=6.1						
FITZ	**Fitzroy Crossi**	**18.83**	**214**	P	Pn	01 29 17.0	-0.2
	0.1nm,0.3s,baz=11,slow=10,SNR=2.7						
ASAR	**Alice Springs**	**21.11**	**187**	P	P	01 29 41.2	-0.4
	1.9nm,0.5s,baz=10,slow=10,SNR=13						
SONM	**Songino Array**	**56.79**	**336**	P	P	01 34 41.8	+0.4
	0.2nm,0.5s,baz=126,slow=7.3,SNR=2.3						
MKAR	**Makanchi Array**	**68.49**	**323**	P	P	01 35 59.0	-0.5
	0.2nm,0.4s,baz=116,slow=6.6,SNR=6.6						

PRE 19 01:35:49.2±0.9, 27.71S×26.65E, h2km, ML1.2, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**1.00**	**39**	*e*P	Pg	01 36 08.8	+0.2
PRYS				*e*S	Sg	01 36 22.3	+0.5
PRYS				AML	AML	01 36 34.0	
	comp=Z,1.3nm,0.2s						
SEK	**Senekal**	**1.06**	**126**	*e*P	Pg	01 36 09.2	-0.6
SEK				*e*S	Sg	01 36 24.1	+0.5
SEK				AML	AML	01 36 34.9	
	comp=Z,3.4nm,0.3s						
SWZ	**Schweizer**	**1.29**	**294**	*e*P	Pb	01 36 14.4	0.0
SWZ				*e*S	Sg	01 36 31.2	+0.2
SWZ				AML	AML	01 36 39.5	
	comp=Z,3.9nm,0.3s						
BOSA	**Boshof**	**1.53**	**233**	*e*P	Pb	01 36 18.4	-0.1
BOSA				*e*S	Sg	01 36 39.9	+1.2
BOSA				AML	AML	01 36 44.4	
	comp=Z,3.3nm,0.7s						

*ISK **19** 01:38:05.9, 37.90N×29.13E, h14km, MD3.1*
*ISCJB **19** 01:38:06.2±0.5, 37.89N±0.02×29.15E±0.04, h8km±4km, Error ellipse: s-maj=5.4km s-min=3.7km az=26.5*
*DDA **19** 01:38:06.2, 37.89N×29.17E, h7km, MD3.3*
*CSEM **19** 01:38:06.2±0.1, 37.89N×29.15E, h10km, MD3.3, Error ellipse: s-maj=3.4km s-min=2.9km az=110.0*

ISC 19 01:38:06.3±0.9, 37.90N±0.02×29.15E±0.03, h12km±7km, n47, σ0§86/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DNZL	**Cakiroluk**	**0.22**	**202**	*i* P	**Pg**	**01 38 11.0**	**-0.2**
DNZL				*i* S	**Sg**	**01 38 14.7**	**+0.1**
DNZL	**Cakiroluk**	**0.22**	**202**	*i* P	**Pg**	**01 38 11.0**	**-0.2**
DNZL				*i* S	**Sg**	**01 38 14.7**	**+0.1**
KHL	**Karahalli**	**0.52**	**34**	*e*PG	**Pg**	**01 38 16.5**	**0.0**
KHL				*e*SG	**Sb**	**01 38 24.4**	**-0.5**
KHL	**Karahalli**	**0.52**	**34**	*e*Pg	**Pg**	**01 38 16.5**	**0.0**
KHL				*e*Sg	**Sb**	**01 38 24.4**	**-0.5**
KHAL	**Karahalli**	**0.54**	**29**	*i* P	**Pg**	**01 38 16.3**	**-0.7**
KHAL				*i* S	**Sg**	**01 38 24.5**	**+0.2**
KHAL	**Karahalli**	**0.54**	**29**	*i* P	**Pg**	**01 38 16.3**	**-0.7**
KHAL				*i* S	**Sg**	**01 38 24.5**	**+0.2**
KULA	**Kula-Manisa**	**0.73**	**328**	*e*PG	**Pg**	**01 38 20.3**	**-0.2**
KULA				*e*SG	**Sb**	**01 38 30.9**	**0.0**
KULA	**Kula-Manisa**	**0.73**	**328**	*e*Pg	**Pg**	**01 38 20.3**	**-0.2**
KULA				*e*Sg	**Sb**	**01 38 30.9**	**0.0**
MANT	**Manisa**	**0.76**	**322**	*i* P	**Pb**	**01 38 21.3**	**-0.2**
MANT				*i* S	**Sn**	**01 38 35.7**	**+1.3**
MANT	**Manisa**	**0.76**	**322**	*i* P	**Pb**	**01 38 21.3**	**-0.2**
YER	**Yerkesik**	**1.03**	**223**	*e*PG	**Pb**	**01 38 25.8**	**-0.2**
YER				*e*SG	**Sn**	**01 38 40.5**	**-0.4**
YER	**Yerkesik**	**1.03**	**223**	*e*Pg	**Pb**	**01 38 25.8**	**-0.2**
YER				*e*Sg	**Sn**	**01 38 40.5**	**-0.4**
AYDN	**Tasoluk**	**1.03**	**257**	*i* P	**Pb**	**01 38 26.2**	**0.0**
AYDN				*i* S	**Sn**	**01 38 41.1**	**0.0**
AYDN	**Tasoluk**	**1.03**	**257**	*i* P	**Pb**	**01 38 26.2**	**0.0**
AYDN				*i* S	**Sn**	**01 38 41.1**	**0.0**
ISP	**Isparta**	**1.09**	**93**	*e*PN	**Pn**	**01 38 28.2**	**+0.8**
ISP	**Isparta**	**1.09**	**93**	*e*Pn	**Pn**	**01 38 28.2**	**+0.8**
DEMI	**Demirci**	**1.20**	**344**	*i* P	Pn	01 38 20.3	-8.6
DEMI				*i* S	**Sn**	**01 38 46.6**	**+1.6**
BCK	**Bucak**	**1.22**	**110**	*e*PN	**Pn**	**01 38 29.4**	**+0.2**
BCK	**Bucak**	**1.22**	**110**	*e*Pn	**Pn**	**01 38 29.4**	**+0.2**
FETY	**Fethiye**	**1.26**	**182**	*e*PN	**Pn**	**01 38 29.6**	**-0.1**
FETY	**Fethiye**	**1.26**	**182**	*e*Pn	**Pn**	**01 38 29.6**	**-0.1**
SHUT	**Suhut-Afyon**	**1.28**	**59**	*e*PN	**Pn**	**01 38 30.4**	**+0.3**
SHUT	**Suhut-Afyon**	**1.28**	**59**	*e*Pn	**Pn**	**01 38 30.4**	**+0.3**
ELL	**Elmali**	**1.29**	**152**	*e*PN	**Pn**	**01 38 29.9**	**-0.4**
ELL	**Elmali**	**1.29**	**152**	*e*Pn	**Pn**	**01 38 29.9**	**-0.4**
KORT	**Korkueli**	**1.31**	**133**	*i* P	**Pg**	**01 38 32.0**	**+0.5**
KORT				*i* S	Sg	01 38 56.1	+7.7
KORT	**Korkueli**	**1.31**	**133**	*i* P	**Pg**	**01 38 32.0**	**+0.5**
ALT	**Altintas**	**1.38**	**33**	*e*PN	**Pn**	**01 38 31.2**	**-0.2**
ALT	**Altintas**	**1.38**	**33**	*e*Pn	**Pn**	**01 38 31.2**	**-0.2**
AKHS	**Akhisar**	**1.44**	**313**	*i* P	**Pn**	**01 38 31.4**	**-0.8**
AKHS				*i* S	**Sg**	**01 38 55.9**	**+3.2**
AKHS	**Akhisar**	**1.44**	**313**	*i* P	**Pn**	**01 38 31.4**	**-0.8**
AKS	**Akhisar**	**1.44**	**313**	*e*PN	**Pn**	**01 38 32.0**	**-0.2**
AKS	**Akhisar**	**1.44**	**313**	*e*Pn	**Pn**	**01 38 32.0**	**-0.2**
TVSB	**Tavsanli**	**1.57**	**9**	*e*PN	**Pn**	**01 38 33.9**	**-0.2**
TVSB	**Tavsanli**	**1.57**	**9**	*e*Pn	**Pn**	**01 38 33.9**	**-0.2**
BODT	**Bodrum**	**1.69**	**241**	*e*PN	**Pn**	**01 38 35.3**	**-0.3**
BODT	**Bodrum**	**1.69**	**241**	*e*Pn	**Pn**	**01 38 35.3**	**-0.3**
BLCB	**Balcova**	**1.73**	**287**	*e*PN	**Pn**	**01 38 36.4**	**+0.2**
BLCB	**Balcova**	**1.73**	**287**	*e*Pn	**Pn**	**01 38 36.4**	**+0.2**
DURS	**Dursunbey**	**1.78**	**343**	*i* P	**Pb**	**01 38 38.2**	**-0.7**
DURS				*i* S	**Sn**	**01 38 55.7**	**-3.9**
DURS	**Dursunbey**	**1.78**	**343**	*i* P	**Pb**	**01 38 38.2**	**-0.7**
BALB	**Balikesir**	**2.00**	**331**	*e*PN	**Pn**	**01 38 39.8**	**-0.1**
BALB	**Balikesir**	**2.00**	**331**	*e*Pn	**Pn**	**01 38 39.8**	**-0.1**
ADVT	**Abdulvahap**	**2.57**	**10**	*e*PN	**Pn**	**01 38 48.5**	**+0.7**
ADVT	**Abdulvahap**	**2.57**	**10**	*e*Pn	**Pn**	**01 38 48.5**	**+0.7**
YLV	**Yalova**	**2.67**	**4**	*e*PN	**Pn**	**01 38 50.7**	**+1.5**
YLV	**Yalova**	**2.67**	**4**	*e*Pn	**Pn**	**01 38 50.7**	**+1.5**

IDC 19 01:38:48.6±1.9, 4.68S×142.85E, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.7/17, mbtmp3.7/5, ML3.7/1, Error ellipse: s-maj=74.1km s-min=26.1km az=112.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.29**	**208**	P	Pn	01 42 50.5	-1.0
	0.3nm,0.3s,baz=28,slow=13,SNR=17						
ASAR	**Alice Springs**	**20.75**	**204**	P	P	01 43 31.6	+0.5
	1.9nm,0.7s,baz=31,slow=11,SNR=11						
FITZ	**Fitzroy Crossi**	**21.48**	**230**	P	P	01 43 38.8	-0.1
	2.1nm,0.5s,baz=48,slow=10,SNR=9.9						
MKAR	**Makanchi Array**	**73.88**	**321**	P	P	01 50 25.7	+0.2
	0.1nm,0.3s,baz=104,slow=6.1,SNR=4.2						
ILAR	**Eielson Array**	**85.93**	**24**	P	P	01 51 30.1	-0.2
	0.3nm,0.7s,baz=249,slow=5.6,SNR=4.2						

MAN 19 01:48:14, 9.28N×126.01E, h23km, mb4.1, ML2.9, MS2.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**1.42**	**307**	*e*P	Pn	01 48 25.4	-13
CGP	**Cagayan de Oro**	**1.53**	**238**	*i*P	Pn	01 48 39.9	-0.1
CGP				*i* S	Sb	01 49 00.5	-0.3
BUKP	**Musuan**	**1.67**	**214**	*e*P	Pn	01 48 38.4	-3.6
TBP	**Tagbilaran**	**2.16**	**281**	*e*P	Pn	01 48 48.9	+0.3
TBP				*e*S	Sn	01 49 16.6	+1.9
MATI	**Mati**	**2.33**	**174**	*e*P	Pn	01 48 42.9	-8.1

DJA 19 02:04:54.2±0.4, 2°S±4°×12°3E±°, h10km, M3.7/7, MLv3.7/7, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDI	**Kendari**	**2.35**	**197**	P	Pn	02 05 34.1	+1.3
KMSI	**Cibinong**	**2.36**	**17**	P	Pg	02 05 47.9	+8.5
KMSI				S	Sb	02 06 05.0	-1.0
MRSI	**Marisa**	**2.56**	**328**	P	Pn	02 05 37.6	+1.8
MNI	**Manado**	**3.48**	**26**	P	Pn	02 05 47.6	-0.8
TTSI	**Tana Toraja**	**3.73**	**249**	P	Pn	02 05 52.7	+0.7
BBSI	**Bau Bau**	**3.83**	**191**	P	Pn	02 05 54.1	+0.8
NLAI	**Namlea**	**4.08**	**112**	P	Sg	02 07 03.3	-2.2
SPSI	**Sidrap Palu**	**4.19**	**237**	P	Pn	02 05 59.5	+1.3
LBMI	**Labuha**	**4.32**	**76**	P	Pn	02 06 01.9	+1.9

*ISK **19** 02:04:57.9, 38.16N×38.58E, h13km, MD2.9*
*ISCJB **19** 02:04:58.5±0.4, 38.15N±0.02×38.56E±0.04, h7km±4km, Error ellipse: s-maj=4.7km s-min=3.7km az=12.3*
*DDA **19** 02:04:58.4, 38.15N×38.51E, h13km, MD3.2*
*CSEM **19** 02:04:58.4±0.1, 38.16N×38.55E, h10km, MD2.9, Error ellipse: s-maj=3.5km s-min=2.8km az=99.0*

ISC 19 02:04:58.4±0.9, 38.16N±0.02×38.56E±0.03, h13km±6km, n31, σ0§46/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MALT	**Malatya**	**0.19**	**326**	*e*PG	**Pg**	**02 05 02.9**	**+0.1**
MALT				*e*SG	**Sg**	**02 05 06.0**	**+0.2**
MALT	**Malatya**	**0.19**	**326**	*e*Pg	**Pg**	**02 05 02.9**	**+0.1**
MALT				*e*Sg	**Sg**	**02 05 06.0**	**+0.2**
MYA	**Malataya**	**0.20**	**328**	*e*PG	**Pg**	**02 05 02.7**	**-0.2**
MYA				*e*SG	**Sg**	**02 05 06.3**	**+0.2**
MYA	**Malataya**	**0.20**	**328**	*e*Pg	**Pg**	**02 05 02.7**	**-0.2**
MYA				*e*Sg	**Sg**	**02 05 06.3**	**+0.2**
ELZG	**Elazig**	**0.47**	**44**	*i* P	**Pb**	**02 05 08.6**	**-0.2**
ELZG				*i* S	**Sb**	**02 05 16.4**	**+0.6**
ELZG	**Elazig**	**0.47**	**44**	*i* P	**Pb**	**02 05 08.6**	**-0.2**
ELZG				*i* S	**Sb**	**02 05 16.4**	**+0.6**
AKCD	**Akcadag**	**0.52**	**285**	*i* P	**Pg**	**02 05 08.2**	**-0.5**
AKCD				*i* S	**Sg**	**02 05 15.7**	**0.0**
AKCD	**Akcadag**	**0.52**	**285**	*i* P	**Pg**	**02 05 08.2**	**-0.5**
AKCD				*i* S	**Sg**	**02 05 15.7**	**0.0**
SVRC	**Sivrice-ELAZID**	**0.63**	**69**	*e*PG	**Pg**	**02 05 10.2**	**-0.5**
SVRC				*e*SG	**Sg**	**02 05 19.2**	**+0.2**
SVRC	**Sivrice-ELAZID**	**0.63**	**69**	*e*Pg	**Pg**	**02 05 10.2**	**-0.5**
SVRC				*e*Sg	**Sg**	**02 05 19.2**	**+0.2**
ATAB	**Bozova**	**0.72**	**197**	*i* P	**Pg**	**02 05 12.3**	**-0.1**
ATAB				*i* S	**Sg**	**02 05 21.9**	**0.0**
ATAB	**Bozova**	**0.72**	**197**	*i* P	**Pg**	**02 05 12.3**	**-0.1**
ATAB				*i* S	**Sg**	**02 05 21.9**	**0.0**
URFA	**Urfa**	**0.74**	**164**	*e*PG	**Pg**	**02 05 12.7**	**-0.2**
URFA				*e*SG	**Sb**	**02 05 23.5**	**+0.1**
URFA	**Urfa**	**0.74**	**164**	*e*Pg	**Pg**	**02 05 12.7**	**-0.2**
URFA				*e*Sg	**Sb**	**02 05 23.5**	**+0.1**
DARE	**Darende-Malaty**	**0.99**	**323**	*e*PG	**Pb**	**02 05 16.7**	**-0.8**
DARE	**Darende-Malaty**	**0.99**	**323**	*e*Pg	**Pb**	**02 05 16.7**	**-0.8**
KEMA	**Kemaliye**	**1.11**	**357**	*i* P	**Pb**	**02 05 18.7**	**-0.9**
KEMA				*i* S	**Sn**	**02 05 35.9**	**+0.8**
KEMA	**Kemaliye**	**1.11**	**357**	*i* P	**Pb**	**02 05 18.7**	**-0.9**
KEMA				*i* S	**Sn**	**02 05 35.9**	**+0.8**
GZT	**Gaziantep**	**1.12**	**225**	*e*P	**Pg**	**02 05 20.2**	**+0.1**
GZT				*i* S	**Sn**	**02 05 35.0**	**-0.4**
ILIC	**ilic-Erzincan**	**1.29**	**0**	*e*PN	**Pn**	**02 05 22.2**	**-0.1**
ILIC				*e*SN	**Sg**	**02 05 39.9**	**-0.3**
ILIC	**ilic-Erzincan**	**1.29**	**0**	*e*Pn	**Pn**	**02 05 22.2**	**-0.1**
ILIC				*e*Sn	**Sg**	**02 05 39.9**	**-0.3**
GAZ	**Gaziantep**	**1.46**	**228**	*e*PN	**Pn**	**02 05 24.6**	**+0.1**
GAZ	**Gaziantep**	**1.46**	**228**	*e*Pn	**Pn**	**02 05 24.6**	**+0.1**
KMRS	**Kahramanmaras**	**1.47**	**244**	*e*PN	**Pb**	**02 05 25.2**	**-0.4**
KMRS	**Kahramanmaras**	**1.47**	**244**	*e*Pn	**Pb**	**02 05 25.2**	**-0.4**
KUZU	**Kuzuini**	**1.82**	**221**	*i* P	**Pg**	**02 05 33.4**	**+0.1**
KUZU				*i* S	**Sg**	**02 05 56.5**	**-0.5**
KUZU	**Kuzuini**	**1.82**	**221**	*i* P	**Pg**	**02 05 33.4**	**+0.1**
KUZU				*i* S	**Sg**	**02 05 56.5**	**-0.5**
BNN	**Bunyan**	**2.24**	**289**	*e*PN	**Pn**	**02 05 35.8**	**+0.4**
BNN	**Bunyan**	**2.24**	**289**	*e*Pn	**Pn**	**02 05 35.8**	**+0.4**
KOZT	**Kozan**	**2.27**	**254**	*e*PN	**Pn**	**02 05 36.6**	**+1.0**
KOZT	**Kozan**	**2.27**	**254**	*e*Pn	**Pn**	**02 05 36.6**	**+1.0**

MEX 19 02:09:24.3±0.4, 16.10N×97.52W, h20km±28km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.65**	**296**	*e*P	Pb	02 09 34.7	-2.4
PNIG				*i* S	Sb	02 09 43.4	-2.3
VHO	**Vista Hermosa**	**1.23**	**38**	*e*P	Pn	02 09 43.2	-3.4
VHO				*i* S	Sb	02 09 58.0	-4.6
HUIG	**Huatulco**	**1.40**	**104**	*e*P	Pn	02 09 46.0	-2.7
HUIG				*e*S	Sn	02 10 02.2	-4.4
UTMO	**Huajuapan**	**1.74**	**351**	*i* P	Pn	02 09 50.8	-2.9
UTMO				*i* S	Sn	02 10 11.7	-3.8

IDC 19 02:16:35.2±1.9, 0.30S×132.42E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.7/20, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=79.4km s-min=24.1km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.91**	**200**	P	P	02 20 56.9	-0.7
	0.1nm,0.3s,baz=25,slow=9.4,SNR=3.3						
FITZ				S	Sn	02 24 16.1	-14
	0.1nm,0.3s,baz=108,slow=19,SNR=2.7						
WRA	**Warramunga Arr**	**19.61**	**175**	P	P	02 21 04.8	-0.6
	0.3nm,0.3s,baz=355,slow=12,SNR=18						
WRA				S	Sn	02 24 33.0	-15
	0.1nm,0.3s,baz=352,slow=21,SNR=3.9						
ASAR	**Alice Springs**	**23.27**	**177**	P	P	02 21 44.5	-0.2
	1.4nm,0.4s,baz=1.4,slow=9.1,SNR=11						
STKA	**Stephens Creek**	**32.58**	**165**	P	P	02 23 09.2	+0.7
	0.9nm,0.6s,baz=336,slow=12,SNR=2.4						
MKAR	**Makanchi Array**	**64.11**	**324**	P	P	02 27 11.4	0.0
	0.7nm,0.8s,baz=114,slow=7.1,SNR=5.8						

*ATH **19** 02:41:28.3, 36.42N×24.04E, h19km, MD3.1/8*
*ISCJB **19** 02:41:30.5±0.8, 36.40N±0.03×23.98E±0.

ISC 19 02:49:40.3±0.7, 65°18N±0°04×145°17W±0°03, h10km, n61, σ1§68/65, 6D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRP	**Porcupine Dome**	**0.37**	**336**	P	**Pb**	**02 49 50.8**	**+1.8**
IL1	**Eielson Array**	**0.84**	**242**	P	**Pg**	**02 49 56.2**	**-0.1**
IL1				S	**Sb**	**02 50 07.6**	**-0.5**
ILAR	**Eielson Array**	**0.84**	**242**	Pg	**Pb**	**02 49 57.0**	**+0.1**
ILAR				Lg	Lg	02 50 06.8	
ILAR	**Eielson Array**	**0.84**	**242**	Pg	**Pb**	**02 49 57.0**	**+0.1**
	153nm,0.3s,baz=62,slow=14,SNR=2680						
ILAR				Lg	Lg	02 50 06.8	
	838nm,0.3s,baz=66,slow=25,SNR=118						
GLM	**Gilmore Dome**	**0.96**	**259**	P	**Pb**	**02 49 59.6**	**+0.6**
HDA	**Harding Lake**	**1.09**	**225**	P	**Pb**	**02 50 01.5**	**+0.3**
COLA	**College**	**1.18**	**256**	*e*Pg	**Pn**	**02 50 03.1**	**+0.3**
COLA				S	**Sn**	**02 50 18.6**	**-0.2**
CCB	**Clear Creek Bu**	**1.25**	**246**	P	**Pn**	**02 50 03.4**	**-0.3**
MDM	**Murphy Dome**	**1.32**	**262**	P	**Pn**	**02 50 04.8**	**0.0**
DDM	**Donnelly Dome**	**1.43**	**193**	P	**Pn**	**02 50 06.4**	**+0.1**
WRH	**Wood River Hil**	**1.44**	**242**	P	**Pn**	**02 50 06.2**	**-0.2**
DOT	**Dot Lake**	**1.61**	**162**	P	**Pn**	**02 50 08.6**	**-0.1**
EGAK	**Eagle**	**1.75**	**101**	*e*Pn	**Pn**	**02 50 11.3**	**+0.6**
EGAK				*e*S	**Sn**	**02 50 33.8**	**+0.8**
NEA	**Nenana**	**1.77**	**252**	P	**Pn**	**02 50 10.8**	**-0.1**
MCK	**McKinley**	**2.19**	**230**	P	**Pn**	**02 50 16.8**	**+0.2**
PAX	**Paxson**	**2.22**	**184**	P	**Pn**	**02 50 17.4**	**+0.2**
BM3	**Burnt Mountain**	**2.26**	**5**	P	**Pn**	**02 50 19.6**	**+1.9**
DHY	**Denali Highway**	**2.32**	**206**	P	**Pn**	**02 50 19.4**	**+0.8**
MENT	**Mentasta**	**2.34**	**164**	*e*Pn	**Pn**	**02 50 18.6**	**-0.1**
MENT				*e*S	**Sb**	**02 50 52.8**	**+1.4**
MLY	**Manley**	**2.36**	**269**	P	**Pn**	**02 50 18.7**	**-0.4**
RND	**Reindeer**	**2.40**	**224**	P	**Pn**	**02 50 20.2**	**+0.6**
BCA3	**Beaver Creek A**	**2.59**	**144**	P	**Pn**	**02 50 21.9**	**-0.3**
HARP	**HAARP**	**2.78**	**180**	P	**Pn**	**02 50 25.6**	**+0.8**
TRF	**Thorofare Moun**	**2.83**	**234**	P	**Pn**	**02 50 25.2**	**-0.4**
COLD	**Coldfoot**	**2.90**	**317**	P	**Pn**	**02 50 28.0**	**+1.6**
SCM	**Sheep Creek Mo**	**3.50**	**197**	P	**Pn**	**02 50 36.3**	**+1.7**
IM3	**Indian Mountai**	**3.66**	**287**	P	**Pn**	**02 50 36.9**	**+0.1**
SML	**Sawmill**	**3.67**	**204**	P	**Pn**	**02 50 38.9**	**+1.8**
KLU	**Klutina**	**3.72**	**186**	P	**Pn**	**02 50 39.0**	**+1.3**
PPLA	**Purkeypile**	**3.84**	**237**	P	**Pn**	**02 50 39.4**	**-0.1**
PMR	**Palmer**	**4.02**	**208**	*e*Pn	**Pn**	**02 50 43.7**	**+2.0**
BMRM	**Bremner River**	**4.24**	**176**	P	**Pn**	**02 50 46.4**	**+1.6**
BALM	**Baldy**	**4.35**	**162**	P	**Pn**	**02 50 49.1**	**+2.6**
SUA	**Susitna One**	**4.50**	**217**	P	**Pn**	**02 50 49.8**	**+1.4**
RC01	**Rabbit Creek A**	**4.60**	**209**	P	**Pn**	**02 50 52.7**	**+3.0**
STLK	**Strandline Lak**	**4.76**	**222**	P	**Pn**	**02 50 53.2**	**+1.2**
KHIT	**Khitrov Hills**	**4.83**	**169**	P	**Pn**	**02 50 56.0**	**+2.9**
SPU	**Mount Spurr**	**5.08**	**221**	P	**Pn**	**02 50 57.9**	**+1.5**
TABL	**Table Mountain**	**5.10**	**157**	P	**Pn**	**02 50 58.8**	**+1.9**
TT01	**Tatalina**	**5.29**	**249**	P	**Pn**	**02 50 58.3**	**-0.8**
INK	**Inuvik**	**5.58**	**51**	*e*Pn	**Pn**	**02 51 04.9**	**+1.8**
INK				*e*S	**Sn**	**02 52 06.8**	**-0.3**
INK				Lg	Lg	02 52 39.2	
INK	**Inuvik**	**5.58**	**51**	⇑P	**Pn**	**02 51 04.8**	**+1.6**
INK				⇑Sn	Sn	02 51 59.8	-7.4
INK	**Inuvik**	**5.58**	**51**	Pn	**Pn**	**02 51 05.5**	**+2.4**
	0.7nm,0.3s,baz=242,slow=13,SNR=18						
INK				Sn	**Sn**	**02 52 03.8**	**-3.4**
	1.1nm,0.3s,baz=244,slow=18,SNR=4.6						
INK				Lg	Lg	02 52 39.2	
	0.7nm,0.3s,baz=306,slow=13,SNR=4.5						
HYT	**Haines Junctio**	**5.59**	**138**	⇓Pg	Pg	02 51 24.8	-2.4
HYT				⇑Sg	**Sg**	**02 52 35.4**	**-4.1**
DFR	**Drift River**	**5.74**	**220**	P	**Pn**	**02 51 08.6**	**+3.1**
WHY	**Whitehorse**	**6.52**	**129**	⇓Pn	Pn	02 51 20.0	+3.7
WHY				⇑Sg	Sg	02 53 02.1	-7.2
KDAK	**Kodiak Island**	**8.22**	**209**	Pn	**Pn**	**02 51 40.2**	**+0.9**
KDAK				Sn	Sn	02 53 03.8	-8.4
KDAK	**Kodiak Island**	**8.22**	**209**	Pn	**Pn**	**02 51 40.2**	**+0.9**
	0.2nm,0.3s,baz=20,slow=8.8,SNR=4.4						
KDAK				Sn	Sn	02 53 03.8	-8.4
	baz=340,slow=18,SNR=2.0						
DLBC	**Dease Lake**	**9.83**	**126**	Pn	**Pn**	**02 52 03.8**	**+2.3**
DLBC				Sn	Sn	02 53 59.2	+7.5
DLBC				Lg	Lg	02 54 45.6	
DLBC	**Dease Lake**	**9.83**	**126**	⇓Sg	Sn	02 54 44.7	+53
DLBC	**Dease Lake**	**9.83**	**126**	Pn	**Pn**	**02 52 03.8**	**+2.3**
	0.3nm,0.3s,baz=308,slow=9.9,SNR=9.2						
DLBC				Sn	Sn	02 53 59.2	+7.5
	0.2nm,0.3s,baz=315,slow=19,SNR=2.3						
DLBC				Lg	Lg	02 54 45.6	
	0.3nm,0.3s,baz=224,slow=20,SNR=4.5						
GALN	**Gameti Lake**	**11.94**	**82**	⇓P	**Pn**	**02 52 29.1**	**-1.2**
CTLN	**Castor Lake**	**12.39**	**80**	⇓P	**Pn**	**02 52 35.0**	**-1.4**
YKW3	**Yellowknife Ar**	**13.64**	**87**	⇓P	**Pn**	**02 52 53.3**	**-0.1**
YKA	**Yellowknife Ar**	**13.67**	**87**	Pn	Pn	02 52 51.2	-2.7
YKA				Sn	**Sn**	**02 52 51.5**	**-4.0**
YKA	**Yellowknife Ar**	**13.67**	**87**	Pn	Pn	02 52 51.2	-2.7
	0.0nm,0.3s,baz=292,slow=13,SNR=4.3						
YKA				Sn	**Sn**	**02 55 21.5**	**-4.0**
	0.0nm,0.3s,baz=296,slow=24,SNR=4.8						
JERN	**Jeri Cho Mine,**	**13.86**	**71**	⇑P	**Pn**	**02 52 55.0**	**-1.4**
TXAR	**Lajitas Array**	**44.12**	**124**	P	**P**	**02 57 51.0**	**+2.4**
TXAR	**Lajitas Array**	**44.12**	**124**	P	**P**	**02 57 51.0**	**+2.4**
	0.5nm,0.7s,baz=323,slow=5.7,SNR=4.2						
MKAR	**Makanchi Array**	**62.45**	**325**	P	**P**	**03 00 03.5**	**+0.4**
MKAR	**Makanchi Array**	**62.45**	**325**	P	**P**	**03 00 03.5**	**+0.4**
	0.2nm,0.6s,baz=45,slow=4.8,SNR=3.6						

*ISCJB **19** 02:55:29.4±0.4, 4°07S±0°05×128°25E±0°05, h192km±4km, mb3.8/7, Error ellipse: s-maj=9.1km s-min=6.8km az=148.2*
*DJA **19** 02:55:31, 4°10S×128°27E, h172km, MLv4.2/9*
*IDC **19** 02:55:31.3±2.9, 4°14S×128°16E, h193km±28km, mb3.7/8, mb1 3.7/10, mb1mx3.6/23, mbtmpg3.6/10, Error ellipse: s-maj=41.1km s-min=12.9km az=63.0*

ISC 19 02:55:30.1±0.7, 4°11S±0°06×128°27E±0°07, h188km±6km, n22, σ1§37/30, mb4.1/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.43**	**350**	P	**Pn**	**02 55 56.0**	**+0.5**
AAI				S	**Sn**	**02 56 14.7**	**-0.5**
MSAI	**Masohi**	**1.01**	**41**	P	**Pn**	**02 55 58.7**	**+0.1**
MSAI				S	**Sn**	**02 56 20.3**	**-0.4**
NLAI	**Namlea**	**1.46**	**307**	P	**Pn**	**02 56 02.6**	**+0.3**
NLAI				S	**Sn**	**02 56 26.0**	**-1.2**
BNDI	**Bandanaira**	**1.68**	**104**	P	**Pn**	**02 56 06.0**	**+1.6**
LBMI	**Labuha**	**3.54**	**347**	P	**Pn**	**02 56 25.9**	**+0.2**
LBMI				S	**Sn**	**02 57 07.8**	**-1.5**
SWI	**Sorong**	**4.40**	**43**	P	**Pn**	**02 56 36.6**	**+0.1**
SWI				S	**Sn**	**02 57 27.2**	**-1.5**
TLE	**Tual**	**4.70**	**109**	P	**Pn**	**02 56 41.9**	**+1.5**
TNTI	**Ternate**	**4.94**	**349**	P	**Pn**	**02 56 43.8**	**+0.4**
KDI	**Kendari**	**5.64**	**271**	P	**Pn**	**02 56 52.3**	**-0.2**
	18nm,0.8s						
MRSI	**Marisa**	**7.80**	**306**	P	**Pn**	**02 57 20.8**	**0.0**
	32nm,0.9s						
SPSI	**Sidrap Palu**	**8.48**	**271**	P	**Pn**	**02 57 30.9**	**+1.2**
	26nm,0.8s						
FITZ	**Fitzroy Crossi**	**14.14**	**190**	P	**Pn**	**02 58 42.0**	**-0.2**
	0.1nm,0.3s,baz=20,slow=13,SNR=2.8						
WRA	**Warramunga Arr**	**16.81**	**160**	P	**P**	**02 59 14.3**	**+0.5**
	1.2nm,0.3s,baz=339,slow=12,SNR=79						
WRA				S	**S**	**03 02 15.3**	**-4.4**
	0.2nm,0.3s,baz=345,slow=20,SNR=3.6						
ASAR	**Alice Springs**	**20.19**	**165**	P	**P**	**02 59 51.5**	**+1.1**
	6.0nm,0.4s,baz=342,slow=12,SNR=80						
ASAR				S	**S**	**03 03 23.6**	**-3.2**
	1.1nm,0.5s,baz=346,slow=22,SNR=6.8						
ASAR				ScP	**ScP**	**03 07 15.6**	**-0.2**
	0.2nm,0.3s,baz=343,slow=1.9,SNR=4.7						
PSI	**Prapat**	**30.12**	**283**	P	**P**	**03 01 21.8**	**-0.9**
	3.4nm,0.6s,baz=63,slow=6.8,SNR=4.1						
STKA	**Stephens Creek**	**30.32**	**157**	P	**P**	**03 01 25.0**	**+1.0**
	1.6nm,0.4s,baz=326,slow=10,SNR=11						
CMAR	**Chiang Mai Arr**	**36.58**	**309**	P	**P**	**03 02 19.4**	**+1.0**
	2.4nm,0.5s,baz=133,slow=7.1,SNR=8.2						
SONM	**Songino Array**	**55.18**	**342**	P	**P**	**03 04 44.5**	**+1.1**
	0.2nm,0.4s,baz=161,slow=9.2,SNR=3.0						
MKAR	**Makanchi Array**	**64.88**	**327**	P	**P**	**03 05 49.7**	**+0.4**
	0.9nm,0.4s,baz=114,slow=8.0,SNR=34						
ZALV	**Zalesovo Beam**	**68.25**	**334**	P	**P**	**03 06 09.9**	**-0.5**
	0.7nm,0.3s,baz=97,slow=6.2,SNR=3.3						
KURBB	**Kurchatov Arra**	**69.17**	**329**	P	**P**	**03 06 16.4**	**+0.3**
	1.6nm,0.3s,baz=131,slow=5.8,SNR=5.3						
TORD	**Torodi Ar. Bea**	**126.52**	**283**	PKP	**PKPdf**	**03 14 11.8**	**-0.1**
	0.7nm,1.1s,baz=58,slow=1.7,SNR=4.7						

IDC 19 02:56:29.3±9.6, 7°08S×113°34E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.6/19, mbtmpg4.1/3, Error ellipse: s-maj=168.6km s-min=138.6km az=178.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.05**	**124**	P	P	03 01 46.3	-0.1
	2.9nm,0.7s,baz=298,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.73**	**132**	P	P	03 02 01.8	+0.1
	1.6nm,0.4s,baz=308,slow=8.1,SNR=6.8						
STKA	**Stephens Creek**	**36.09**	**137**	P	P	03 03 33.0	-0.1
	2.6nm,0.4s,baz=329,slow=9.6,SNR=11						

*CSEM **19** 02:56:56.4, 39°28N×44°32E, h28km, MD3.1, After ISK*
ISK 19 02:56:56.4, 39°28N×44°32E, h28km, MD3.1, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLDR	**Caldiran**	**0.34**	**246**	*e*Pg	Pb	02 57 04.9	+0.3
CLDR	**Caldiran**	**0.34**	**246**	*e*Pg	Pb	02 57 04.9	+0.3
GNI	**Garni**	**0.93**	**20**	*e*PG	Pn	02 57 13.9	+0.1
GNI				*e*SG	Sn	02 57 26.7	+0.4
GNI	**Garni**	**0.93**	**20**	*e*Pg	Pn	02 57 13.9	+0.1
GNI				*e*Sg	Sn	02 57 26.7	+0.3
VANB	**Van**	**1.00**	**227**	*e*PG	Pn	02 57 14.9	+0.2
VANB	**Van**	**1.00**	**227**	*e*Pg	Pn	02 57 14.9	+0.2
AGRB	**Hanur-Agry**	**1.07**	**286**	*e*PG	Pn	02 57 16.0	+0.2
AGRB	**Hanur-Agry**	**1.07**	**286**	*e*Pg	Pn	02 57 16.0	+0.2
CUKT	**Cukurca**	**2.11**	**196**	*e*PN	Pn	02 57 30.9	+0.9
CUKT	**Cukurca**	**2.11**	**196**	*e*Pn	Pn	02 57 30.9	+0.9

*ATH **19** 02:57:49.5, 38°32N×22°05E, h4km*
*CSEM **19** 02:57:49.4±0.1, 38°33N×22°07E, h0km±1km, ML1.7/3, Error ellipse: s-maj=2.7km s-min=2.6km az=176.0*
THE 19 02:57:49.1, 38°34N×22°06E, h7km, ML1.7/3, Error ellipse: s-maj=0.9km s-min=0.3km az=336.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRIZ	**Trizonia**	**0.03**	**17**	P	Pg	02 57 50.4	0.0
TRIZ				S	Sg	02 57 51.3	-0.1
TRIZ	**Trizonia**	**0.03**	**17**	P	Pg	02 57 50.4	0.0
TRIZ				S	Sg	02 57 51.3	-0.1
KALE	**Kalithea**	**0.08**	**48**	P	Pg	02 57 51.2	0.0
KALE				S	Sg	02 57 52.7	0.0
KALE	**Kalithea**	**0.08**	**48**	P	Pg	02 57 51.2	0.0
KALE				S	Sg	02 57 52.7	0.0
LAKA	**Lakka**	**0.12**	**214**	P	Pg	02 57 51.7	0.0
LAKA				S	Sg	02 57 53.6	+0.1
LAKA	**Lakka**	**0.12**	**214**	P	Pg	02 57 51.7	0.0
LAKA				S	Sg	02 57 53.6	+0.1
EFP	**Efpalio**	**0.15**	**306**	P	Pg	02 57 52.2	-0.1
EFP				S	Sg	02 57 54.7	+0.3
EFP	**Efpalio**	**0.15**	**306**	*e*PG	Pg	02 57 52.2	-0.1
EFP				*e*SG	Sg	02 57 55.2	+0.9
EFP	**Efpalio**	**0.15**	**306**	*e*Pg	Pg	02 57 52.3	0.0
EFP				S	Sg	02 57 54.7	+0.3
EFP				*e*Sg	Sg	02 57 55.3	+0.9
DSF	**Desfina**	**0.37**	**78**	P	Pg	02 57 56.0	-0.5
DSF				S	Sg	02 58 01.9	+0.4
DSF	**Desfina**	**0.37**	**78**	P	Pg	02 57 56.0	-0.5
DSF				S	Sg	02 58 01.9	+0.4
EVR	**Evrytania**	**0.61**	**341**	*e*PG	Pg	02 58 01.7	+0.6
EVR				*e*SG	Sg	02 58 10.0	+0.8
EVR	**Evrytania**	**0.61**	**341**	*e*Pg	Pg	02 58 01.7	+0.6
EVR				*e*Sg	Sg	02 58 10.0	+0.8
LTK	**Loutraki**	**0.78**	**113**	*e*PB	Pb	02 58 04.7	-0.3
LTK				*e*SG	Sg	02 58 15.0	+0.7
LTK	**Loutraki**	**0.78**	**113**	*e*Pb	Pb	02 58 04.7	-0.3
LTK				*e*Sg	Sg	02 58 15.0	+0.7
LKR	**Lokris**	**0.80**	**67**	*e*PG	Pg	02 58 04.6	+0.1
LKR				*e*SG	Sb	02 58 16.5	+0.1
LKR	**Lokris**	**0.80**	**67**	*e*Pg	Pg	02 58 04.6	+0.1
LKR				*e*Sg	Sb	02 58 16.5	+0.1
THL	**Klokotos Trika**	**1.23**	**358**	*e*PB	Pn	02 58 13.4	+0.7
THL	**Klokotos Trika**	**1.23**	**358**	*e*Pb	Pn	02 58 13.4	+0.7

*CSEM **19** 02:57:59.9±0.3, 37°82N×21°25E, h2km, ML2.7/5, Error ellipse: s-maj=4.8km s-min=3.7km az=44.0*
*ATH **19** 02:57:59.4, 37°79N×21°24E, h5km±1km, MD3.1/12*
THE 19 02:58:00.2, 37°83N×21°25E, h2km±3km, ML2.7/5, Error ellipse: s-maj=3.0km s-min=0.5km az=337.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.28**	**36**	P	Pg	02 58 05.7	0.0
RLS				S	Sg	02 58 08.8	+0.4
RLS	**Riolos of Patr**	**0.28**	**36**	*e*PB	Pg	02 58 05.8	+0.1
RLS				*e*SG	Sg	02 58 10.7	+1.3
RLS	**Riolos of Patr**	**0.28**	**36**	*e*Pb	Pg	02 58 05.8	+0.1
RLS				S	Sg	02 58 09.8	+0.4
RLS				*e*Sg	Sb	02 58 10.7	-2.6
KFL	**Anninata**	**0.46**	**308**	P	Pg	02 58 09.2	+0.1
KFL				S	Sg	02 58 16.2	+1.0
KFL	**Anninata**	**0.46**	**308**	P	Pg	02 58 09.2	+0.1
KFL				S	Sg	02 58 16.2	+1.0
UPR	**University Cam**	**0.62**	**43**	P	Pg	02 58 11.3	-0.8
UPR				S	Sg	02 58 21.2	+1.0
UPR	**University Cam**	**0.62**	**43**	*e*PB	Pg	02 58 12.6	+0.5
UPR				*e*SB	Sb	02 58 21.9	-1.0
UPR	**University Cam**	**0.62**	**43**	P	Pg	02 58 11.3	-0.8
UPR	**University Cam**	**0.62**	**43**	*e*Pb	Pg	02 58 12.6	+0.5
UPR				S	Sg	02 58 21.2	+1.0
UPR				*e*Sb	Sb	02 58 21.9	-1.0
VLS	**Valsamata**	**0.63**	**304**	P	Pg	02 58 11.8	-0.5
VLS				S	Sg	02 58 21.1	+0.6
VLS	**Valsamata**	**0.63**	**304**	*e*PB	Pg	02 58 11.9	-0.4
VLS				*e*SB	Sg	02 58 21.9	+1.4
VLS	**Valsamata**	**0.63**	**304**	*e*Pb	Pg	02 58 11.9	-0.4
VLS	**Valsamata**	**0.63**	**304**	P	Pg	02 58 11.8	-0.5
VLS				S	Sg	02 58 21.1	+0.6
VLS				*e*Sb	Sb	02 58 21.9	-1.4
LAKA	**Lakka**	**0.70**	**54**	P	Pg	02 58 13.4	-0.4
LAKA				S	Sg	02 58 23.9	+0.9
LAKA	**Lakka**	**0.70**	**54**	P	Pg	02 58 13.4	-0.4
LAKA				S	Sg	02 58 23.9	+0.9
EFP	**Efpalio**	**0.79**	**41**	P	Pg	02 58 15.2	-0.2
EFP				S	Sg	02 58 26.7	+1.1
EFP	**Efpalio**	**0.79**	**41**	*e*PB	Pg	02 58 15.4	0.0
EFP				*e*SG	Sg	02 58 26.6	+1.0
EFP	**Efpalio**	**0.79**	**41**	*e*Pb	Pg	02 58 15.4	0.0
EFP				*e*Sg	Sg	02 58 26.6	+1.0
ITM	**Ithomi**	**0.84**	**140**	P	Pg	02 58 16.5	+0.1
ITM	**Ithomi**	**0.84**	**140**	*e*PB	Pg	02 58 16.1	-0.3
ITM				*e*SB	Sg	02 58 27.5	+0.2
ITM	**Ithomi**	**0.84**	**140**	*e*Sb	Sg	02 58 27.5	+0.2
ITM	**Ithomi**	**0.84**	**140**	*e*Pb	Pg	02 58 16.1	-0.3
ITM	**Ithomi**	**0.84**	**140**	P	Pg	02 58 16.5	+0.1
KALE	**Kalithea**	**0.90**	**51**	P	Pg	02 58 16.7	-0.8
KALE				S	Sb	02 58 30.3	-0.8
KALE	**Kalithea**	**0.90**	**51**	P	Pg	02 58 16.7	-0.8
KALE				S	Sb	02 58 30.3	-0.8
PYL	**PYLOS**	**1.01**	**157**	P	Pg	02 58 18.9	-0.7
PYL	**PYLOS**	**1.01**	**157**	*e*PB	Pg	02 58 18.4	-1.2
PYL				*e*SG	Sg	02 58 31.7	-1.0
PYL	**PYLOS**	**1.01**	**157**	*e*Pb	Pg	02 58 18.4	-1.2
PYL	**PYLOS**	**1.01**	**157**	P	Pg	02 58 18.9	-0.7
PYL				*e*Sg	Sg	02 58 31.7	-1.0
LKD2	**Lefkada island**	**1.07**	**334**	P	Pg	02 58 19.2	-0.9
LKD2				S	Sb	02 58 35.7	-0.2
LKD2	**Lefkada island**	**1.07**	**334**	*e*PG	Pg	02 58 19.7	-1.0
LKD2				*e*SG	Sb	02 58 35.4	-0.5
LKD2	**Lefkada island**	**1.07**	**334**	P	Pg	02 58 19.8	-0.9
LKD2				*e*Sg	Sb	02 58 35.4	-0.5
LKD2				S	Sg	02 58 35.7	+1.1
DSF	**Desfina**	**1.16**	**60**	P	Pg	02 58 21.4	-1.2
DSF	**Desfina**	**1.16**	**60**	P	Pg	02 58 21.4	-1.2
EVR	**Evrytania**	**1.17**	**22**	*e*PB	Pg	02 58 22.5	-0.3
EVR				*e*SN	Sb	02 58 38.7	-0.4
EVR	**Evrytania**	**1.17**	**22**	*e*Pb	Pg	02 58 22.5	-0.3
EVR				*e*Sn	Sb	02 58 38.7	-0.4
LTK	**Loutraki**	**1.37**	**81**	*e*PB	Pn	02 58 25.8	-0.6
LTK				*e*SG	Sg	02 58 44.2	-0.1
LTK	**Loutraki**	**1.37**	**81**	*e*Pb	Pn	02 58 25.8	-0.6
LTK				*e*Sg	Sg	02 58 44.2	-0.1
LKR	**Lokris**	**1.60**	**59**	P	Pn	02 58 28.7	-0.8
LKR	**Lokris**	**1.60**	**59**	*e*PB	Pb	02 58 30.7	+0.2
LKR				*e*SB	Sg	02 58 52.8	+1.1
LKR	**Lokris**	**1.60**	**59**	P	Pn	02 58 28.7	-0.8
LKR	**Lokris**	**1.60**	**59**	*e*Pb	Pb	02 58 30.7	+0.2
LKR				*e*Sb	Sg	02 58 52.8	+1.1
DID	**Didima**	**1.61**	**101**	*e*PB	Pb	02 58 30.7	0.0
DID				*e*SB	Sg	02 58 52.5	+0.5
DID	**Didima**	**1.61**	**101**	*e*Pb	Pb	02 58 30.7	0.0
DID				*e*Sb	Sg	02 58 52.5	+0.5
VLI	**Veliai**	**1.74**	**129**	*e*PN	Pn	02 58 32.0	+0.5
VLI				*e*SN	Sg	02 58 56.3	+0.1
NAIG	**Nisos Aigina**	**1.77**	**92**	*e*PN	Pb	02 58 33.2	-0.2
NAIG	**Nisos Aigina**	**1.77**	**92**	*e*Pn	Pb	02 58 33.2	-0.2
THL	**Klokotos Trika**	**1.83**	**19**	*e*PG	Pb	02 58 34.2	-0.3
THL				*e*SN	Sg	02 59 00.7	+1.6
JAN	**Janina**	**1.85**	**350**	*e*PG	Pb	02 58 34.1	-0.8
JAN	**Janina**	**1.85**	**350**	*e*Pg	Pb	02 58 34.1	-0.8
PTL	**Penteli**	**2.08**	**83**	*e*PG	Pb	02 58 38.0	-0.7
PTL				*e*SN	Sb	02 59 05.1	+0.1
PTL	**Penteli**	**2.08**	**83**	*e*Pg	Pb	02 58 38.0	-0.7
PTL				*e*Sn	Sb	02 59 05.1	+0.1
KYTH	**Kithira**	**2.10**	**137**	*e*PN	Pb	02 58 37.8	-1.3
KYTH	**Kithira**	**2.10**	**137**	*e*Pn	Pb	02 58 37.8	-1.3
LIT	**Litokhoron**	**2.46**	**23**	*e*PN	Pb	02 58 43.8	-1.5
LIT	**Litokhoron**	**2.46**	**23**	*e*Pn	Pb	02 58 43.8	-1.5

*DDA **19** 03:10:36.8, 37°90N×43°74E, h7km, MD3.4*
*ISK **19** 03:10:37.5, 37°79N×43°46E, h5km, MD3.3*
*CSEM **19** 03:10:38.6±0.3, 37°79N×43°50E, h2km, MD3.3, Error ellipse: s-maj=10.6km s-min=5.5km az=73.0*
ISC 19 03:10:38.7±1.0, 37°80N±0°03×43°60E±0°04, h13km±10km, n24, σ1§09/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAKT	**HAKKARI**	**0.26**	**160**	*i* P	**Pg**	**03 10 43.4**	**-0.9**
HAKT				*i* S	**Sb**	**03 10 49.7**	**0.0**
HAKT	**HAKKARI**	**0.26**	**160**	*i* P	**Pg**	**03 10 43.4**	**-0.9**
HAKT				*i* S	**Sb**	**03 10 49.7**	**0.0**
CUKT	**Cukurca**	**0.55**	**179**	*e*Pg	**Pg**	**03 10 49.3**	**-0.2**
CUKT				*e*Sg	**Sb**	**03 10 58.1**	**0.0**
CUKT	**Cukurca**	**0.55**	**179**	*e*PG	**Pg**	**03 10 49.3**	**-0.2**
CUKT				*e*SG	**Sb**	**03 10 58.1**	**0.0**
GEVA	**Gevas**	**0.66**	**321**	*i* P	**Pg**	**03 10 50.3**	**-1.3**
GEVA				*i* S	**Sg**	**03 11 00.9**	**+0.4**
GEVA	**Gevas**	**0.66**	**321**	*i* P	**Pg**	**03 10 50.3**	**-1.3**
GEVA				*i* S	**Sg**	**03 11 00.9**	**+0.4**
VANT	**Van**	**0.67**	**337**	*e*PG	**Pg**	**03 10 51.1**	**-0.7**
VANT	**Van**	**0.67**	**337**	*e*Pg	**Pg**	**03 10 51.2**	**-0.7**
VANB	**Van**	**0.81**	**349**	*e*PG	**Pg**	**03 10 54.0**	**-0.4**
VANB	**Van**	**0.81**	**349**	*e*Pg	**Pg**	**03 10 54.0**	**-0.4**
CLDR	**Caldiran**	**1.36**	**11**	*e*PN	**Pg**	**03 11 05.0**	**+0.1**
CLDR				*e*SN	**Sg**	**03 11 25.2**	**+2.5**
CLDR	**Caldiran**	**1.36**	**11**	*e*Pn	**Pg**	**03 11 05.1**	**+0.1**
CLDR				*e*Sn	**Sg**	**03 11 25.2**	**+2.5**
BTMT	**Batman**	**1.71**	**284**	*e*PN	**Pb**	**03 11 09.9**	**-0.1**
BTMT	**Batman**	**1.71**	**284**	*e*Pn	**Pb**	**03 11 09.9**	**-0.1**
AGRB	**Hanur-Agry**	**1.

IDC 19 03:53:30.6±1.4, 3°80'N×127°15'E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/23, mbtmp3.7/5, Error ellipse: s-maj=97.7km s-min=19.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.81**	**184**	P	P	03 58 24.5	-0.1
	0.6nm,0.4s,baz=29,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**24.63**	**164**	P	P	03 58 52.9	-0.2
	1.9nm,0.7s,baz=344,slow=10,SNR=25						
STKA	**Stephens Creek**	**38.05**	**160**	P	P	04 00 51.1	+0.1
	1.3nm,0.7s,baz=338,slow=14,SNR=2.0						
MKAR	**Makanchi Array**	**57.74**	**325**	P	P	04 03 23.4	0.0
	0.4nm,0.4s,baz=118,slow=7.7,SNR=15						
KURBB	**Kurchatov Arra**	**61.91**	**327**	P	P	04 03 51.8	-0.1
	0.6nm,0.5s,baz=134,slow=6.4,SNR=5.3						

*ISCJB **19** 04:02:02.2±0.4, 0.°08S±0.°04×123.°30E±0.°04, h149km±4km, mb3.7/12, Error ellipse: s-maj=7.1km s-min=6.2km az=163.0*
*DJA **19** 04:02:04.7±0.5, 0.°3S×12.°3E±.°, h125km±5km, M4.4/8, mb4.4/2, mB4.5/1, MLv4.3/8, Mw(mB)3.6/1*
*IDC **19** 04:02:06.3±2.6, 0.°04S×123.°20E, h178km±25km, mb3.5/12, mb1 3.5/14, mb1mx3.5/24, mbtmp3.4/14, Error ellipse: s-maj=25.7km s-min=10.5km az=74.0*

ISC 19 04:02:03.1±0.7, 0.°10S±0.°05×123.°31E±0.°04, h148km±6km, n35, σ1°34/46, mb4.1/22, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.94**	**45**	P	**Pn**	**04 02 28.2**	**+0.9**
KMSI				S	**Sn**	**04 02 47.3**	**+1.6**
LUWI	**Luwuk**	**1.08**	**210**	P	**Pn**	**04 02 27.4**	**-1.1**
LUWI				S	**Sn**	**04 02 45.8**	**-2.1**
MRSI	**Marisa**	**1.48**	**293**	P	**Pn**	**04 02 30.1**	**-2.3**
APSI	**Ampana**	**1.85**	**244**	S	**Sn**	**04 03 00.2**	**-1.7**
KDI	**Kendari**	**3.90**	**190**	P	**Pn**	**04 03 02.2**	**+0.2**
LBMI	**Labuha**	**4.22**	**97**	P	**Pn**	**04 03 07.3**	**+1.0**
LBMI				S	**Sn**	**04 03 53.3**	**-2.1**
TTSI	**Tana Toraja**	**4.56**	**230**	P	**Pn**	**04 03 11.6**	**+0.9**
TTSI				S	**Sn**	**04 04 03.3**	**0.0**
NLAI	**Namlea**	**4.91**	**130**	P	**Pn**	**04 03 16.1**	**+0.8**
NLAI				S	**Sn**	**04 04 10.6**	**-1.0**
SPSI	**Sidrap Palu**	**5.22**	**223**	P	**Pn**	**04 03 21.6**	**+2.1**
	17nm,0.6s,564nm0.2nm						
KAPI	**Kappang**	**6.04**	**216**	P	**Pn**	**04 03 32.6**	**+2.2**
	2.2nm,0.3s,baz=120,slow=7.3,SNR=5.0						
KAPI				S	**Sn**	**04 04 38.5**	**-0.2**
	3.7nm,0.3s,baz=62,slow=22,SNR=7.5						
MYLDM	**Lahad Datu**	**7.11**	**318**	P	**Pn**	**04 03 47.8**	**+3.1**
FITZ	**Fitzroy Crossi**	**18.04**	**173**	P	**Pn**	**04 06 04.2**	**-0.4**
	0.3nm,0.3s,baz=358,slow=12,SNR=6.3						
WRA	**Warramunga Arr**	**22.49**	**152**	P	**P**	**04 06 51.0**	**+0.6**
	1.8nm,0.5s,baz=332,slow=10,SNR=44						
WRA				PcP	**PcP**	**04 10 39.2**	**-0.1**
	0.2nm,0.5s,baz=320,slow=2.5,SNR=4.6						
ASAR	**Alice Springs**	**25.59**	**157**	P	**P**	**04 07 21.8**	**+3.1**
	0.4nm,0.3s,baz=348,slow=12,SNR=5.3						
ASAR				PcP	**PcP**	**04 10 46.0**	**0.0**
	0.8nm,0.4s,baz=354,slow=2.1,SNR=8.1						
CMAR	**Chiang Mai Arr**	**30.22**	**309**	P	**P**	**04 08 01.3**	**+1.4**
	0.9nm,0.5s,baz=141,slow=7.5,SNR=4.8						
STKA	**Stephens Creek**	**36.03**	**153**	P	**P**	**04 08 51.4**	**+1.1**
	1.9nm,0.6s,baz=335,slow=11,SNR=5.7						
STKA				PcP	**PcP**	**04 11 13.6**	**+0.1**
	1.1nm,0.5s,baz=0.0,slow=4.0,SNR=5.7						
KSRS	**Korea Array**	**37.60**	**6**	P	**P**	**04 09 04.6**	**+1.2**
	0.7nm,0.4s,baz=187,slow=8.6,SNR=3.2						
ODAN	**Odare**	**43.72**	**311**	*eP*	**P**	**04 09 54.0**	**-0.1**
	10.0nm,0.4s						
TAPN	**Taplejung**	**43.74**	**312**	*eP*	**P**	**04 09 54.1**	**-0.2**
	8.1nm,0.5s						
RAMN	**Ramite**	**44.37**	**310**	*eP*	**P**	**04 10 00.4**	**+1.1**
	20nm,0.6s						
USRK	**Ussuriysk Arra**	**44.78**	**9**	P	**P**	**04 10 01.2**	**-0.6**
	0.7nm,0.3s,baz=183,slow=5.9,SNR=5.5						
JIRN	**Jiri**	**45.05**	**311**	*eP*	**P**	**04 10 05.7**	**+0.9**
	3.8nm,0.5s						
GUN	**Gumba**	**45.41**	**311**	*eP*	**P**	**04 10 08.0**	**+0.4**
	22nm,0.5s						
PKI	**Pulchoki**	**45.60**	**310**	*eP*	**P**	**04 10 09.4**	**+0.3**
	6.5nm,0.5s						
DMN	**Daman**	**45.85**	**310**	*eP*	**P**	**04 10 11.5**	**+0.5**
	6.4nm,0.5s						
GKN	**Gorkha**	**46.40**	**310**	*eP*	**P**	**04 10 15.5**	**+0.3**
	5.3nm,0.3s						
KOLN	**Koldanda**	**47.09**	**309**	*eP*	**P**	**04 10 21.1**	**+0.6**
	17nm,0.6s						
DANN	**Dangsing**	**47.25**	**310**	*eP*	**P**	**04 10 22.2**	**+0.3**
	27nm,0.6s						
ASAJ	**Asahikawa**	**47.26**	**19**	P	**P**	**04 10 21.2**	**-0.1**
	9.3nm,1.0s,baz=246,slow=10.0,SNR=3.3						
SONM	**Songino Array**	**49.95**	**345**	P	**P**	**04 10 42.4**	**+0.4**
	1.0nm,0.4s,baz=159,slow=8.9,SNR=17						
SONM				PcP	**PcP**	**04 11 59.1**	**-1.0**
	0.3nm,0.4s,baz=167,slow=2.9,SNR=3.6						
MKAR	**Makanchi Array**	**58.86**	**328**	P	**P**	**04 11 45.0**	**-1.2**
	0.5nm,0.4s,baz=125,slow=8.4,SNR=22						
MKAR				pP	pP	04 12 27.4	+6.3
	0.2nm,0.5s,baz=123,slow=9.0,SNR=2.1						
MKAR				PcP	**PcP**	**04 12 32.6**	**-1.5**
	0.5nm,0.4s,baz=159,slow=1.5,SNR=8.5						
ZALV	**Zalesovo Beam**	**62.53**	**336**	P	**P**	**04 12 08.9**	**-2.0**
	0.4nm,0.3s,baz=122,slow=7.0,SNR=3.1						
QSPA	**South Pole Qui**	**89.84**	**180**	P	**P**	**04 14 45.4**	**+0.5**
	1.1nm,0.8s,baz=299,slow=2.9,SNR=6.9						
ILAR	**Eielson Array**	**90.00**	**25**	P	**P**	**04 14 44.0**	**-1.6**
	0.1nm,0.4s,baz=241,slow=4.5,SNR=6.1						
TORD	**Torodi Ar. Bea**	**120.73**	**285**	PKP	**PKPdf**	**04 20 37.2**	**-1.4**
	0.4nm,0.6s,baz=80,slow=1.5,SNR=7.5						

*ISCJB **19** 04:10:00.3±0.6, 52.°93S±0.°09×20.°9E±0.°2, h11km, mb4.2/16, MS3.8/4, Error ellipse: s-maj=19.4km s-min=12.5km az=14.8*
*IDC **19** 04:10:00.0±0.6, 52.°97S×21.°07E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.1/20, mbtmp4.1/12, MS3.9/4, Ms1 3.9/4, ms1mx3.5/24, Error ellipse: s-maj=25.7km s-min=18.6km az=84.0*
*NEIC **19** 04:10:01.3±0.3, 52.°97S×21.°05E, h10km, mb4.4/7, Error ellipse: s-maj=15.5km s-min=9.9km az=107.0*

ISC 19 04:10:01.6±0.5, 53.°0S±0.°1×21.°0E±0.°1, h11km, n59, σ0°90/64, mb4.3/16, MS3.8/4, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.58**	**360**	P	**P**	**04 14 41.2**	**+0.6**
SUR	**Sutherland**	**20.58**	**360**	P	**P**	**04 14 41.2**	**+0.6**
	12nm,0.9s,baz=110,slow=4.6,SNR=4.6						
SUR				LR	LR	04 20 53.9	
	comp=Z,346nm,19.1s,baz=360,slow=32						
SNAA	**Sanae**	**21.48**	**200**	*eP*	P	04 14 44.1	-5.7
	19nm,1.0s						
BOSA	**Boshof**	**24.54**	**9**	P	**P**	**04 15 22.2**	**+1.0**
BOSA	**Boshof**	**24.54**	**9**	P	**P**	**04 15 22.2**	**+1.0**
	3.5nm,1.0s,baz=153,slow=14,SNR=2.3						
BOSA				LR	LR	04 22 54.5	
	comp=Z,295nm,20.8s,baz=188,slow=32						
LBTB	**Lobatse**	**28.14**	**9**	LR	LR	04 25 23.4	
	comp=Z,264nm,18.6s,baz=126,slow=33						
TSUM	**Tsumeb**	**33.81**	**354**	*eP*	**P**	**04 16 43.6**	**-0.1**
	9.2nm,1.1s						
TSUM	**Tsumeb**	**33.81**	**354**	P	**P**	**04 16 43.4**	**-0.4**
	1.6nm,0.6s,baz=161,slow=12,SNR=4.4						
QSPA	**South Pole Qui**	**37.25**	**180**	P	**P**	**04 17 13.7**	**+0.7**
QSPA	**South Pole Qui**	**37.25**	**180**	P	**P**	**04 17 13.6**	**+0.7**
	8.8nm,0.9s,baz=245,slow=3.3,SNR=24						
LSZ	**Lusaka**	**38.04**	**11**	*eP*	**P**	**04 17 19.5**	**-0.5**
	1.6nm,0.4s						
KMBO	**Kilima Mbogo**	**53.42**	**20**	*eP*	**P**	**04 19 21.8**	**+0.2**
	1.2nm,0.7s						
TRQA	**Tornquist**	**56.82**	**249**	*eP*	**P**	**04 19 46.3**	**+0.6**
	3.9nm,0.8s						
CPUP	**Villa Florida**	**62.53**	**262**	P	**P**	**04 20 25.5**	**+0.3**
CPUP	**Villa Florida**	**62.53**	**262**	P	**P**	**04 20 25.5**	**+0.3**
	2.5nm,0.8s,baz=107,slow=5.8,SNR=7.1						
BDFB	**Brasilia**	**65.03**	**277**	P	**P**	**04 20 40.9**	**-1.0**
BDFB	**Brasilia**	**65.03**	**277**	P	**P**	**04 20 40.9**	**-1.0**
	2.3nm,0.8s,baz=109,slow=2.2,SNR=3.1						
TOA0	**Torodi Ar. Sit**	**67.91**	**340**	*eP*	**P**	**04 20 59.3**	**-0.7**
TORD	**Torodi Ar. Bea**	**67.91**	**340**	P	**P**	**04 20 59.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**67.91**	**340**	P	**P**	**04 20 59.7**	**-0.3**
	1.0nm,1.0s,baz=188,slow=4.2,SNR=5.1						
LPAZ	**La Paz**	**76.65**	**261**	*eP*	**P**	**04 21 55.0**	**+1.8**
	1.0nm,0.6s						
LPAZ	**La Paz**	**76.65**	**261**	P	**P**	**04 21 54.8**	**+1.6**
	1.1nm,1.0s,baz=83,slow=7.0,SNR=3.3						
SAML	**Samuel**	**79.41**	**269**	*eP*	**P**	**04 22 07.9**	**+0.1**
	6.3nm,1.0s						
ASAR	**Alice Springs**	**84.14**	**122**	P	**P**	**04 22 32.6**	**-0.1**
ASAR	**Alice Springs**	**84.14**	**122**	P	**P**	**04 22 32.6**	**-0.1**
	1.3nm,0.9s,baz=206,slow=5.0,SNR=11						
WRA	**Warramunga Arr**	**87.45**	**120**	P	**P**	**04 22 48.6**	**-0.5**
WRA	**Warramunga Arr**	**87.45**	**120**	P	**P**	**04 22 48.6**	**-0.5**
	1.1nm,0.9s,baz=204,slow=3.1,SNR=6.1						
MDT	**Midelt**	**88.30**	**339**	P	**P**	**04 22 54.5**	**+1.8**
MDT	**Midelt**	**88.30**	**339**	P	**P**	**04 22 54.5**	**+1.8**
	1.5nm,0.8s,baz=124,slow=4.2,SNR=4.7						
KEST	**Kesra**	**88.92**	**351**	LR	LR	05 06 49.8	
	comp=Z,47nm,19.4s,baz=13,slow=38						
BRTR	**Keskin Array B**	**92.97**	**10**	P	**P**	**04 23 15.5**	**+1.1**
BRTR	**Keskin Array B**	**92.97**	**10**	P	**P**	**04 23 15.5**	**+1.1**
	0.3nm,0.7s,baz=211,slow=4.5,SNR=3.3						
ZALV	**Zalesovo Beam**	**118.99**	**37**	PKP	**PKPdf**	**04 28 47.6**	**-1.4**
ZALV	**Zalesovo Beam**	**118.99**	**37**	PKP	**PKPdf**	**04 28 47.6**	**-1.4**
	0.6nm,0.3s,baz=240,slow=2.9,SNR=3.8						
SONM	**Songino Array**	**123.77**	**54**	PKP	**PKPdf**	**04 28 58.0**	**-0.6**
SONM	**Songino Array**	**123.77**	**54**	PKP	**PKPdf**	**04 28 58.0**	**-0.6**
	0.6nm,0.7s,baz=212,slow=2.5,SNR=5.8						
ULM	**Lac du Bonnet**	**141.82**	**292**	PKP	**PKPdf**	**04 29 33.6**	**+1.4**
ULM	**Lac du Bonnet**	**141.82**	**292**	PKP	**PKPdf**	**04 29 33.6**	**+1.4**
	1.0nm,0.4s,baz=283,slow=1.2,SNR=3.0						
CCUT	**Cedar City**	**145.02**	**262**	*e*PKPbc	**PKPdf**	**04 29 38.6**	**0.0**
ARUT	**Antelope Range**	**145.22**	**263**	*e*PKPbc	**PKPdf**	**04 29 39.7**	**+0.9**
PDAR	**Pinedale Array**	**145.93**	**273**	PKPbc	**PKPdf**	**04 29 39.9**	**-0.1**
PDAR	**Pinedale Array**	**145.93**	**273**	PKPbc	**PKPdf**	**04 29 39.9**	**-0.1**
	3.8nm,0.9s,baz=127,slow=4.4,SNR=24						
PD02	**Pinedale Array**	**145.94**	**273**	*e*PKPbc	**PKPdf**	**04 29 39.7**	**-0.3**
PD01	**Pinedale Array**	**145.95**	**273**	*e*PKPbc	**PKPdf**	**04 29 39.8**	**-0.2**
ISA	**Isabella**	**146.78**	**255**	*e*PKPbc	**PKPab**	**04 29 43.8**	**-0.7**
RES	**Resolute Bay**	**146.93**	**334**	*e*PKPbc	**PKPdf**	**04 29 40.4**	**+0.1**
FFC	**Flin Flon**	**147.10**	**296**	*e*PKPbc	**PKPbc**	**04 29 43.0**	**-0.4**
QLMT	**Earthquake Lak**	**148.20**	**275**	*e*PKPbc	**PKPbc**	**04 29 46.8**	**-0.2**
NVAR	**Mina Array Bea**	**148.54**	**259**	PKP	**PKPdf**	**04 29 45.6**	**+1.1**
NVAR				PKPbc	**PKiKP**	**04 29 48.9**	**-0.7**
NVAR	**Mina Array Bea**	**148.54**	**259**	PKP	**PKPdf**	**04 29 45.6**	**+1.1**
	2.0nm,0.8s,baz=134,slow=3.9,SNR=10						
NVAR				PKPbc	**PKiKP**	**04 29 48.9**	**-0.7**
	3.1nm,0.9s,baz=141,slow=3.2,SNR=15						
EGMT	**Eagleton**	**148.79**	**281**	*e*PKPbc	**PKPbc**	**04 29 48.1**	**-0.1**
WVOR	**Wild Horse Val**	**151.22**	**265**	*e*PKPab	**PKPbc**	**04 29 55.2**	**+0.9**
YBMT	**Yellow Bay**	**151.25**	**278**	*e*PKPbc	**PKPbc**	**04 29 54.0**	**-0.3**
YBMT				*e*PKPab	**PKPab**	**04 30 00.9**	**-1.5**
JTMT	**Jette**	**151.36**	**278**	*e*PKPbc	**PKPbc**	**04 29 54.2**	**-0.4**
JTMT				*e*PKPab	**PKPab**	**04 30 01.2**	**-1.6**
BMO	**Blue Mountains**	**151.76**	**270**	*e*PKPdf	**PKPdf**	**04 29 48.9**	**-0.3**
BMO				*e*PKPbc	**PKiKP**	**04 29 55.5**	**-0.4**
BMO				*e*PKPab	**PKPab**	**04 30 02.6**	**-1.9**
YKA	**Yellowknife Ar**	**154.95**	**310**	PKP	**PKPdf**	**04 29 51.7**	**-1.2**
YKA				PKPab	**PKPab**	**04 30 17.0**	**-0.4**
YKA	**Yellowknife Ar**	**154.95**	**310**	PKP	**PKPdf**	**04 29 51.7**	**-1.2**
	0.4nm,0.8s,baz=73,slow=2.0,SNR=4.9						
YKA				PKPab	**PKPab**	**04 30 17.0**	**-0.4**
	1.2nm,0.8s,baz=93,slow=4.7,SNR=15						
ILAR	**Eielson Array**	**166.65**	**337**	PKPab	**PKPab**	**04 31 08.1**	**-0.2**
ILAR	**Eielson Array**	**166.65**	**337**	PKPab	**PKPab**	**04 31 08.1**	**-0.2**
	0.3nm,0.9s,baz=12,slow=1.3,SNR=3.5						

*ISCJB **19** 04:17:28.5±0.4, 39.°11N±0.°03×29.°08E±0.°03, h5km±5km, Error ellipse: s-maj=4.4km s-min=3.6km az=163.6*
*ISK **19** 04:17:28.3, 39.°12N×29.°10E, h5km, MD2.8*
*DDA **19** 04:17:28.5, 39.°10N×29.°07E, h12km, MD2.9*
*CSEM **19** 04:17:28.7±0.1, 39.°11N×29.°08E, h5km, MD2.9, Error ellipse: s-maj=1.8km s-min=1.7km az=64.0*

ISC 19 04:17:29.0±1.0, 39.°11N±0.°02×29.°08E±0.°02, h7km±11km, n38, σ0°36/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.29**	**256**	*i* P	**Pg**	**04 17 34.8**	**+0.1**
DEMI				*i* S	**Sg**	**04 17 38.9**	**+0.3**
DEMI	**Demirci**	**0.29**	**256**	*i* P	**Pg**	**04 17 34.8**	**+0.1**
DEMI				*i* S	**Sg**	**04 17 38.9**	**+0.3**
GDZ	**Gediz**	**0.31**	**94**	*i* P	**Pg**	**04 17 35.1**	**0.0**
GDZ				*i* S	**Sg**	**04 17 39.8**	**+0.5**
GDZ	**Gediz**	**0.31**	**94**	*i* P	**Pg**	**04 17 35.1**	**0.0**
GDZ				*i* S	**Sg**	**04 17 39.8**	**+0.5**
TVSB	**Tavsanli**	**0.45**	**41**	*e*PG	**Pg**	**04 17 37.2**	**-0.4**
TVSB				*e*SG	**Sg**	**04 17 42.8**	**-0.8**
TVSB	**Tavsanli**	**0.45**	**41**	*e*Pg	**Pg**	**04 17 37.3**	**-0.4**
TVSB				*e*Sg	**Sg**	**04 17 42.8**	**-0.8**
DST	**Dursunbey**	**0.61**	**324**	*e*PG	**Pg**	**04 17 41.1**	**+0.4**
DST	**Dursunbey**	**0.61**	**324**	*e*Pg	**Pg**	**04 17 41.1**	**+0.4**
DURS	**Dursunbey**	**0.68**	**316**	*i* P	**Pg**	**04 17 42.2**	**+0.2**
DURS				*i* S	**Sg**	**04 17 50.8**	**0.0**
DURS	**Dursunbey**	**0.68**	**316**	*i* P	**Pg**	**04 17 42.2**	**+0.2**
DURS				*i* S	**Sg**	**04 17 50.8**	**0.0**
KULA	**Kula-Manisa**	**0.68**	**209**	*e*PG	**Pg**	**04 17 41.9**	**-0.2**
KULA	**Kula-Manisa**	**0.68**	**209**	*e*Pg	**Pg**	**04 17 41.9**	**-0.2**
MANT	**Manisa**	**0.74**	**213**	*i* P	**Pg**	**04 17 43.0**	**-0.3**
MANT				*i* S	**Sg**	**04 17 52.8**	**-0.2**
MANT	**Manisa**	**0.74**	**213**	*i* P	**Pg**	**04 17 43.0**	**-0.3**
MANT				*i* S	**Sg**	**04 17 52.8**	**-0.2**
ALT	**Altintas**	**0.80**	**94**	*e*PG	**Pg**	**04 17 44.1**	**-0.3**
ALT				*e*SG	**Sg**	**04 17 55.4**	**+0.5**
ALT	**Altintas**	**0.80**	**94**	*e*Pg	**Pg**	**04 17 44.1**	**-0.3**
ALT				*e*Sg	**Sg**	**04 17 55.4**	**+0.5**
KHAL	**Karahalli**	**0.81**	**156**	*i* P	**Pg**	**04 17 44.5**	**0.0**
KHAL				*i* S	**Sg**	**04 17 55.3**	**+0.2**
KHAL	**Karahalli**	**0.81**	**156**	*i* P	**Pg**	**04 17 44.5**	**0.0**
KHAL				*i* S	**Sg**	**04 17 55.3**	**+0.2**
KHL	**Karahalli**	**0.86**	**156**	*e*PG	**Pg**	**04 17 44.7**	**-0.9**
KHL	**Karahalli**	**0.86**	**156**	*e*Pg	**Pg**	**04 17 44.7**	**-0.9**
AKHS	**Akhisar**	**1.01**	**257**	*i* P	**Pg**	**04 17 48.2**	**-0.3**
AKHS				*i* S	**Sg**	**04 18 01.5**	**-0.2**
AKHS	**Akhisar**	**1.01**	**257**	*i* P	**Pg**	**04 17 48.2**	**-0.3**
AKHS				*i* S	**Sg**	**04 18 01.5**	**-0.2**
ULDT	**Uludag**	**1.03**	**2**	*i* P	**Pg**	**04 17 48.8**	**+0.1**
ULDT				*i* S	**Sg**	**04 18 01.5**	**-0.6**
ULDT	**Uludag**	**1.03**	**2**	*i* P	**Pg**	**04 17 48.8**	**+0.1**
ULDT				*i* S	**Sg**	**04 18 01.5**	**-0.6**
BALB	**Balikesir**	**1.07**	**300**	*e*PN	**Pb**	**04 17 49.8**	**0.0**
BALB				*e*SN	**Sb**	**04 18 04.1**	**+0.1**
BALB	**Balikesir**	**1.07**	**300**	*e*Pn	**Pb**	**04 17 49.8**	**0.0**
BALB				*e*Sn	**Sb**	**04 18 04.1**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.26**	**353**	*e*PN	**Pn**	**04 17 52.8**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.26**	**353**	*e*Pn	**Pn**	**04 17 52.8**	**-0.3**
KCTX	**Karacabey (Bur**	**1.28**	**334**	*e*PN	**Pg**	**04 17 53.6**	**+0.1**
KCTX	**Karacabey (Bur**	**1.28**	**334**	*e*Pn	**Pg**	**04 17 53.6**	**+0.1**
GONE	**Gonen-Balikesi**	**1.43**	**311**	*e*PN	**Pb**	**04 17 55.8**	**-0.1**
GONE	**Gonen-Balikesi**	**1.43**	**311**	*e*Pn	**Pb**	**04 17 55.8**	**-0.1**
ARMT	**Armutlu**	**1.46**	**353**	*e*PN	**Pb**	**04 17 56.6**	**+0.1**
ARMT	**Armutlu**	**1.46**	**353**	*e*Pn	**Pb**	**04 17 56.6**	**+0.1**
GULT	**Gulveren**	**1.72**	**40**	*e*PN	**Pn**	**04 17 59.6**	**+0.2**
GULT	**Gulveren**	**1.72**	**40**	*e*Pn	**Pn**	**04 17 59.6**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.92**	**79**	*e*PN	**Pn**	**04 18 02.8**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.92**	**79**	*e*Pn	**Pn**	**04 18 02.8**	**+0.6**

*IGQ **19** 04:27:38.5, 2.°74S×78.°09W, h12km±152km, Mb4.8, Ms4.7, Error ellipse: s-maj=5.2km s-min=2.1km az=2.6*
*IDC **19** 04:27:39.9±0.5, 2.°87S×77.°87W, h0km, mb4.2/17, mb1 4.4/21, mb1mx4.4/27, mbtmp4.3/21, ML4.3/4, MS3.8/6, Ms1 3.8/6, ms1mx3.4/32, Error ellipse: s-maj=23.6km s-min=11.0km az=63.0*
*ISCJB **19** 04:27:40.3±0.2, 2.°80S±0.°03×77.°70W±0.°04, h9km, mb4.5/55, MS4.4/6, Error ellipse: s-maj=6.7km s-min=3.3km az=156.0*
*NEIC **19** 04:27:42.1±0.3, 2.°80S×77.°70W, h10km, mb4.8/40, MD4.8(IGQ), Error ellipse: s-maj=10.6km s-min=5.1km az=60.0*
NEIC Felt at Macas, Puyo and Sucua, Ecuador.
*BJI **19** 04:27:44.6, 2.°30S×77.°10W, h17km, mB5.4/4, Ms5.7/3, Ms7 5.4/2*

ISC 19 04:27:41.4±0.3, 2.°79S±0.°04×77.°75W±0.°07, h9km, n470, σ1°31/464, mb4.7/56, MS3.9/6, 153C-176D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAT1	**Patacocha**	**1.45**	**331**	⇓P	Pn	04 28 02.6	-5.7
ARRY	**Arrayan**	**1.46**	**331**	⇓P	Pn	04 28 02.3	-6.0
BMAS	**Trigal station**	**1.48**	**330**	⇓S	Sn	04 28 20.9	-7.2
BMAS	**Trigal station**	**1.48**	**330**	⇓P	Pn	04 28 02.7	-5.8
ULBA	**Ulba**	**1.49**	**334**	⇓P	Pn	04 28 03.5	-5.2
RETU	**Refugio**	**1.50**	**332**	⇓P	Pn	04 28 03.7	-5.4
BRUN	**Tungurahua Vol**	**1.52**	**334**	⇓P	Pn	04 28 03.9	-5.2
BBIL	**Ulba Tungurahu**	**1.52**	**331**	⇓S	Sn	04 28 23.2	-6.1
BBIL	**Ulba Tungurahu**	**1.52**	**331**	⇓P	Pn	04 28 03.7	-5.5
RUN5	**Runtun**	**1.53**	**334**	⇓P	Pn	04 28 03.9	-5.2
BIL2	**Estacion Bilba**	**1.53**	**330**	⇓P	Pn	04 28 04.2	-5.0
JUI6	**Juive**	**1.54**	**332**	⇓P	Pn	04 28 03.9	-5.4
IGUA	**Igualata**	**1.57**	**325**	⇓P	Pn	04 28 04.8	-5.2
PISA	**Pisayambo**	**1.84**	**340**	⇑P	Pn	04 28 10.2	-3.4
BMOR	**Cotopaxi Volca**	**2.17**	**341**	⇓P	**Pn**	**04 28 16.1**	**-2.1**
BMOR	**Cotopaxi Volca**	**2.17**	**341**	⇓S	**Sn**	**04 28 45.2**	**-0.3**
TAMB	**Tambo**	**2.17**	**343**	⇓P	**Pn**	**04 28 16.2**	**-2.1**
MOV1	**Cotopaxi Vol s**	**2.18**	**341**	⇓P	Pn	04 28 15.9	-2.5
COV1	**Cotopaxi Volc**	**2.20**	**344**	⇓P	**Pn**	**04 28 17.2**	**-1.5**
BTAM	**Cotopaxi Volca**	**2.20**	**343**	⇓P	**Pn**	**04 28 16.6**	**-2.1**
BREF	**Cotopaxi Volca**	**2.22**	**342**	⇓S	**Sn**	**04 28 47.4**	**+0.6**
BREF	**Cotopaxi Volca**	**2.22**	**342**	⇓P	**Pn**	**04 28 17.2**	**-1.8**
BVC2	**Cotopaxi Volca**	**2.22**	**343**	⇓S	**Sn**	**04 28 46.7**	**-0.1**
BVC2	**Cotopaxi Volca**	**2.22**	**343**	⇓P	**Pn**	**04 28 17.0**	**-1.9**
VC1	**Cotopaxi 1**	**2.23**	**343**	P	**Pn**	**04 28 17.3**	**-1.8**
NAS2	**Nasa**	**2.25**	**341**	P	**Pn**	**04 28 17.8**	**-1.5**
ANTI	**Antisana**	**2.36**	**350**	⇓P	**Pn**	**04 28 19.2**	**-1.7**
LAV4	**Lava4-Reventad**	**2.68**	**2**	⇑P	**Pn**	**04 28 23.8**	**-1.3**
CHAR	**Charly**	**2.69**	**2**	P	**Pn**	**04 28 24.6**	**-0.6**
JUA2	**San Juan 2**	**2.70**	**341**	⇓P	**Pn**	**04 28 26.1**	**+0.6**
CONE	**Cono NE Rev Vo**	**2.71**	**2**	P	**Pn**	**04 28 23.8**	**-1.6**
GGP	**Refugio Guagua**	**2.73**	**342**	⇓P	**Pn**	**04 28 25.5**	**-0.5**
TERV	**Terraza Guagua**	**2.74**	**342**	⇓P	**Pn**	**04 28 26.9**	**+0.9**
PINO	**Pino**	**2.75**	**342**	⇑P	**Pn**	**04 28 25.9**	**-0.4**
YANA	**Yana**	**2.78**	**343**	⇓P	**Pn**	**04 28 27.4**	**+0.9**
CAYA	**Cayambe**	**2.85**	**355**	⇓P	**Pn**	**04 28 27.5**	**-0.1**
OTAV	**Otavalo**	**3.09**	**347**	*e*Pn	**Pn**	**04 28 32.0**	**+1.2**
OTAV	**Otavalo**	**3.09**	**347**	⇓P	**Pn**	**04 28 32.0**	**+1.2**
COTA	**Cotacachi**	**3.16**	**349**	⇓P	**Pn**	**04 28 34.6**	**+2.7**
GOLV	**Golondrinas**	**3.29**	**335**	⇓S	**Sb**	**04 29 19.0**	**-1.2**
GOLV	**Golondrinas**	**3.29**	**335**	⇑P	**Pn**	**04 28 35.0**	**+1.8**
CHIS	**Cerro-Chispas-**	**3.44**	**300**	⇓

125A	Gardner Draw, baz=44	43.50	326	⇓P	P	04 35 46.8	+1.3
224A	Cornudas Mount baz=44	43.56	325	⇓P	P	04 35 46.7	+0.7
AMTX	Amarillo 15nm,0.9s	43.70	331	eP	P	04 35 48.5	+1.5
AMTX	Amarillo baz=44,SNR=6.2	43.70	331	⇓P	P	04 35 48.0	+1.0
W29A	Amraillo baz=44	43.87	331	⇑P	P	04 35 49.3	+0.9
X27A	F and S Farms, baz=44	44.21	330	⇑P	P	04 35 51.7	+0.5
Z24A	Sheeppen Canyo baz=45	44.40	326	⇓P	P	04 35 53.0	+0.2
V29A	Stinnett baz=45,SNR=9.1	44.43	332	⇑P	P	04 35 53.9	+1.0
W27A	Bowe Ranch, En baz=45	44.52	330	⇓P	P	04 35 54.8	+1.2
320A	Kipp Ranch, An baz=45	44.83	322	⇑P	P	04 35 57.2	+1.0
Z23A	Rita Site, Whi baz=45	44.84	325	⇓P	P	04 35 56.7	+0.5
Y24A	Capitan baz=45	44.88	327	⇑P	P	04 35 57.1	+0.4
X25A	Clemmons Ranch baz=45	44.92	328	⇑P	P	04 35 57.5	+0.5
121A	Cookes Peak, D baz=45	45.21	323	⇓P	P	04 35 59.4	+0.2
220A	Playas Peak, P baz=45	45.22	322	⇑P	P	04 36 00.3	+1.0
Y23A	Lovelace Mesa, baz=45	45.23	326	⇑P	P	04 35 59.8	+0.4
Z22A	Elephant Butte baz=45	45.25	325	⇓P	P	04 36 00.7	+1.1
319A	Douglas baz=46	45.33	321	⇑P	P	04 36 01.3	+1.2
W25A	X Bar L Ranch, baz=46	45.35	329	⇓P	P	04 36 01.1	+0.8
V26A	Tequesquite Ra baz=46,SNR=6.0	45.46	330	⇑P	P	04 36 02.2	+1.1
Z21A	St. Cloud Mine baz=46	45.70	324	⇑P	P	04 36 04.6	+1.5
120A	U Bar Ranch, L baz=46	45.73	323	⇑P	P	04 36 04.3	+0.9
W24A	Lazy 6 Ranch, baz=46	45.84	328	⇓P	P	04 36 05.0	+0.7
U26A	Atchley Ranch, baz=46	45.91	330	⇓P	P	04 36 06.5	+1.7
V25A	Rancho No Teng baz=46,SNR=5.5	45.91	329	⇓P	P	04 36 05.9	+1.1
T27A	Campo baz=46	45.95	332	⇑P	P	04 36 06.4	+1.4
Z20A	Nine Sixteen R baz=46	46.10	323	⇑P	P	04 36 08.1	+1.8
CBKS	Cedar Bluff 23nm,0.9s	46.10	336	eP	P	04 36 07.3	+1.2
CBKS	Cedar Bluff baz=46	46.10	336	⇑P	P	04 36 07.5	+1.5
V24A	Rampart Ranch, baz=46	46.16	329	⇓P	P	04 36 08.2	+1.4
W23A	Werner Place, baz=46	46.20	327	⇓P	P	04 36 08.2	+1.1
ANMO	Albuquerque 7.0nm,0.8s	46.21	327	eP	P	04 36 04.7	-2.5
ANMO	Albuquerque 8.1nm,0.8s,baz=151,slow=9.9,SNR=13	46.21	327	P	P	04 36 06.4	-0.7
U25A	Circle Dot Ran baz=46	46.24	330	⇓P	P	04 36 09.2	+1.8
T26A	Comanche Natio baz=47	46.46	331	⇑P	P	04 36 10.3	+1.3
Y20A	Horse Springs, baz=47	46.53	324	⇑P	P	04 36 11.4	+1.6
S27A	Las Animas baz=47	46.54	332	⇑P	P	04 36 10.9	+1.3
X21A	Alamocita Cree baz=47	46.58	325	⇓P	P	04 36 11.9	+1.7
S26A	Kim baz=47,SNR=9.1	46.76	332	⇑P	P	04 36 12.8	+1.5
T25A	Trinidad baz=47	46.83	331	⇑P	P	04 36 12.8	+0.8
TUC	Tucson 2.9nm,0.7s	46.90	321	eP	P	04 36 13.3	+0.8
R27A	Eads baz=47,SNR=12	46.98	333	⇑P	P	04 36 14.5	+1.4
X20A	Quemado baz=47	47.06	325	⇑P	P	04 36 15.4	+1.5
Y19A	Nutrioso baz=47	47.09	324	⇓P	P	04 36 15.5	+1.4
T24A	Torres, Weston baz=47	47.09	330	⇑P	P	04 36 15.7	+1.5
U23A	El Rito baz=47	47.10	328	⇓P	P	04 36 15.5	+1.3
V22A	San Miguel Ran baz=47	47.17	327	⇑P	P	04 36 16.2	+1.5
S25A	Robets Cordova baz=47,SNR=7.9	47.25	331	⇓P	P	04 36 16.8	+1.5
LONY	Lake Ozonia 18nm,0.8s	47.28	3	eP	P	04 36 13.5	-1.6
R26A	Arlington baz=48,SNR=9.6	47.29	332	⇓P	P	04 36 16.9	+1.4
V21A	Milan baz=48	47.49	327	⇓P	P	04 36 18.5	+1.3
KSCO	Kaye Shedlock' baz=48	47.50	334	⇑P	P	04 36 18.7	+1.6
T23A	Casias Ranch, baz=48	47.56	329	⇑P	P	04 36 18.4	+0.6
BGNE	Belgrade baz=48	47.75	339	⇑P	P	04 36 19.5	+0.6
Q26A	Hugo baz=48	47.83	333	⇓P	P	04 36 21.1	+1.4
SDCO	Great Sand Dun 4.4nm,0.6s	47.84	330	eP	P	04 36 20.2	+0.2
SDCO	Great Sand Dun baz=48,SNR=9.6	47.84	330	⇑P	P	04 36 21.2	+1.2
X18A	Snowflake baz=48	47.90	324	⇑P	P	04 36 22.3	+2.0
P27A	Ficken Ranch, baz=48	47.92	334	⇑P	P	04 36 21.7	+1.3
U21A	Nageezi baz=48	47.96	327	⇓P	P	04 36 22.1	+1.3
214A	Organ Pipe Nat baz=48	47.98	319	⇑P	P	04 36 22.8	+2.0
R24A	Sanders Place, baz=48	48.03	331	⇓P	P	04 36 22.9	+1.6
Q25A	Bedland, Calha baz=48	48.16	332	⇑P	P	04 36 23.7	+1.4
P26A	Davis Ranch, A baz=48	48.27	333	⇑P	P	04 36 24.4	+1.3
T21A	Navajo Lake baz=48	48.31	328	⇓P	P	04 36 25.5	+1.9
R23A	Moffat baz=48	48.35	330	⇓P	P	04 36 25.1	+1.3
U20A	Newcomb baz=49	48.39	326	⇓P	P	04 36 26.0	+1.9
O27A	Beecher Island baz=49	48.41	335	⇑P	P	04 36 25.5	+1.4
P25A	Willow Gulch B baz=49	48.60	333	⇑P	P	04 36 27.2	+1.5
X16A	Lo Mia Camp, P baz=49,SNR=7.1	48.72	322	⇑P	P	04 36 28.0	+1.3
O26A	Horse Wrangler baz=49	48.81	334	⇓P	P	04 36 28.1	+0.9
P24A	Kohler Place, baz=49	48.95	332	⇓P	P	04 36 30.1	+1.8
S21A	Coal Bank Pass baz=49	48.95	328	⇓P	P	04 36 30.3	+1.7
MVCO	Mesa Verde baz=49	48.99	327	⇓P	P	04 36 31.0	+2.2
O25A	Wiggins baz=49	49.06	333	⇑P	P	04 36 30.5	+1.3
P23A	Jefferson baz=50	49.28	331	⇓P	P	04 36 33.2	+2.2
ECSD	EROS Data Cent 64nm,2.5s	49.32	342	eP	P	04 36 28.6	-2.3
Y14A	Wickenburg baz=50	49.37	321	⇑P	P	04 36 32.7	+1.2
S20A	Disappointment baz=50	49.38	328	⇑P	P	04 36 33.2	+1.4
Q22A	Crested Butte, baz=50,SNR=7.3	49.41	330	⇓P	P	04 36 33.5	+1.5
ISCO	Idaho Springs 8.5nm,1.4s	49.50	332	eP	P	04 36 34.4	+1.6
ISCO	Idaho Springs baz=50	49.50	332	⇓P	P	04 36 33.5	+0.8
O24A	Longmont baz=50	49.51	332	⇑P	P	04 36 33.7	+1.1
SMCO	Snowmass 11nm,1.4s	49.68	330	eP	P	04 36 36.9	+2.7
T18A	Mexican Hat baz=50,SNR=5.8	49.69	326	⇓P	P	04 36 35.9	+1.9
S19A	Harvey Farm, M baz=50	49.73	327	⇑P	P	04 36 35.8	+1.4
P22A	Eagle baz=50	49.89	331	⇑P	P	04 36 37.0	+1.3
O23A	Lake Granby, G baz=50,SNR=16	49.97	332	⇑P	P	04 36 37.7	+1.4
N24A	Carr baz=50	49.98	333	⇓P	P	04 36 37.5	+1.3
M25A	Palm-Egli Farm baz=50	50.11	334	⇓P	P	04 36 38.2	+1.0
T17A	Navajo Res., N baz=50	50.12	325	⇓P	P	04 36 38.5	+1.1
S18A	Hurst Farm, Bl baz=50	50.16	327	⇓P	P	04 36 39.2	+1.5
P21A	Newcastle baz=50,SNR=7.4	50.18	330	⇑P	P	04 36 39.8	+2.0
R19A	Curley Farm, L baz=50	50.19	328	⇑P	P	04 36 39.0	+1.0
O22A	Kremmling baz=50,SNR=5.9	50.23	331	⇑P	P	04 36 39.0	+0.7
K27A	Flueckinger Fa baz=51	50.41	337	⇑P	P	04 36 40.2	+0.9
M24A	Cheyenne baz=51	50.47	334	⇑P	P	04 36 41.1	+1.1
N23A	Red Feather La baz=51	50.52	332	⇑P	P	04 36 41.6	+1.2
S17A	Black Ridge (B baz=51	50.57	326	⇓P	P	04 36 42.1	+1.4
U15A	North Rim baz=51	50.59	324	⇑P	P	04 36 42.6	+1.6
R18A	Canyonlands Na baz=51	50.60	327	⇑P	P	04 36 42.3	+1.3
PHWY	Pilot Hill 5.9nm,0.6s	50.62	333	eP	P	04 36 42.6	+1.4
L25A	Engebretsen Ra baz=51	50.66	335	⇑P	P	04 36 42.7	+1.4
W13A	Hualapai Mount baz=51,SNR=5.7	50.67	321	⇑P	P	04 36 42.8	+1.2
Q19A	Hogan Spring (baz=51	50.68	328	⇓P	P	04 36 42.1	+0.6
N22A	Wattenberg Ran baz=51	50.69	332	⇓P	P	04 36 43.0	+1.3
IRM	Iron Mountain baz=51	50.88	320	⇑P	P	04 36 44.2	+1.2
O20A	White River Ci baz=51	51.04	330	⇓P	P	04 36 45.2	+1.0
R17A	Hanksville Air baz=51	51.07	327	⇑P	P	04 36 45.7	+1.3
S16A	Weppner Ranch, baz=51	51.07	325	⇑P	P	04 36 46.0	+1.5
N21A	Black Mountain baz=51	51.16	331	⇑P	P	04 36 46.6	+1.4
Q18A	Rafter H Ranch baz=51	51.25	328	⇓P	P	04 36 47.2	+1.4
BELC	Belle Mtn. Jos baz=52	51.34	319	⇓P	P	04 36 48.2	+1.6
L23A	Garrett baz=52	51.38	333	⇑P	P	04 36 48.1	+1.3
SRU	San Rafael 46nm,2.5s	51.47	327	eP	P	04 36 49.8	+2.3
SRU	San Rafael baz=52	51.47	327	⇓P	P	04 36 48.7	+1.2
N20A	Spence Gulch, baz=52	51.58	331	⇓P	P	04 36 49.9	+1.5
GMRC	Granite Mounta baz=52	51.60	320	⇓P	P	04 36 50.0	+1.5
O19A	Miners Draw (B baz=52	51.61	329	⇑P	P	04 36 50.0	+1.5
Q16A	Castle Valley baz=52	51.68	327	⇑P	P	04 36 50.6	+1.5
M21A	Separation Pea baz=52	51.74	332	⇑P	P	04 36 50.8	+1.2
P17A	Butcher Ranch, baz=52	51.84	328	⇑P	P	04 36 51.3	+1.1
K23A	Bowen Ranch, D baz=52	51.86	334	⇓P	P	04 36 51.3	+1.0
MVU	Marysvale	51.97	326	eP	P	04 36 55.2	+3.9
L21A	Rawlins baz=52	52.02	332	⇓P	P	04 36 52.9	+1.2
O18A	Roosevelt baz=52	52.04	329	⇓P	P	04 36 53.3	+1.7
M20A	Sweetwater, Wa baz=52	52.05	331	⇑P	P	04 36 53.1	+1.3
HEC	Hector,Ludlow baz=52	52.06	319	⇓P	P	04 36 53.2	+1.3
N19A	John Jarvie Ra baz=52	52.08	330	⇑P	P	04 36 54.0	+2.0
K22A	Casper baz=52	52.18	333	⇓P	P	04 36 53.6	+0.9
RSSD	Black Hills 10nm,0.9s	52.31	336	eP	P	04 36 55.0	+1.3
O17A	Robinson Place baz=52	52.37	328	⇓P	P	04 36 55.9	+1.7
N18A	Larsen Ranch, baz=53	52.39	330	⇑P	P	04 36 56.1	+1.8
K21A	Alcova baz=53	52.49	333	⇓P	P	04 36 57.1	+2.0
SHOC	Shoshone baz=53	52.69	321	⇓P	P	04 36 58.2	+1.8
R13A	O'Grain Ranch, baz=53	52.75	324	⇓P	P	04 36 58.8	+1.7
I23A	Meade Ranch, G baz=53	52.77	335	⇓P	P	04 36 57.7	+0.7
DAU	Daniels Canyon	52.80	328	eP	P	04 36 58.3	+0.8
M18A	Lyman baz=53,SNR=5.3	52.93	330	⇓P	P	04 36 59.8	+1.5
N17A	Moffit Pass baz=53	52.96	329	⇓P	P	04 37 00.1	+1.4
K20A	Yellowstone Ra baz=53	53.02	332	⇓P	P	04 36 59.8	+0.9
H24A	Dirks Ranch, A baz=53	53.04	336	⇓P	P	04 36 59.9	+1.0
L19A	Farson baz=53	53.08	331	⇓P	P	04 37 00.5	+1.0
J21A	Lysite baz=53	53.14	333	⇑P	P	04 37 00.7	+0.9
I22A	9 Mile Ranch, baz=53,SNR=9.8	53.15	334	⇓P	P	04 37 00.4	+0.5
EDW2	Edwards Air Fo baz=53	53.18	318	⇓P	P	04 37 01.2	+1.1
M17A	Scullys Gap (B baz=53,SNR=8.5	53.26	329	⇑P	P	04 37 01.0	+0.2
L18A	Fontenelle, Gr baz=54	53.28	330	⇓P	P	04 37 02.0	+1.0
AGMN	Agassiz Nation 9.4nm,0.6s	53.28	345	eP	P	04 36 59.8	-0.8
K19A	Absolon Red Bu baz=54	53.38	332	⇑P	P	04 37 02.4	+0.8
J20A	Shoshoni baz=54,SNR=8.9	53.44	333	⇓P	P	04 37 02.7	+0.8
I21A	Big Trails, Te baz=54	53.44	334	⇓P	P	04 37 02.6	+0.6
G24A	Alzada baz=54	53.46	337	⇓P	P	04 37 03.1	+1.1
DUG	Dugway baz=54	53.48	327	⇑P	P	04 37 03.6	+1.2
MPMC	Manual Prospec baz=54	53.56	320	⇑P	P	04 37 04.1	+1.0
BW06	Boulder Array	53.68	331	eP	P	04 37 04.7	+0.8
BW06	Boulder Array baz=54	53.68	331	⇑P	P	04 37 04.5	+0.6
PDAR	Pinedale Array	53.68	331	P	P	04 37 04.2	+0.3
PDAR	Pinedale Array 2.7nm,1.0s,baz=128,slow=9.9,SNR=13	53.68	331	P	P	04 37 04.2	+0.3
PD01	Pinedale Array	53.70	331	eP	P	04 37 05.2	+1.2
G23A	Biddle baz=54	53.75	336	⇓P	P	04 37 05.0	+0.9
BSC	Santa Cruz Isl baz=54	53.78	317	⇓P	P	04 37 06.0	+1.5
N15A	Stansbury Isla baz=54	53.81	328	⇑P	P	04 37 05.8	+1.1
K18A	Toltan Ranch, baz=54,SNR=8.2	53.82	331	⇓P	P	04 37 05.2	+0.3
J19A	Crowheart baz=54	53.82	332	⇑P	P	04 37 05.7	+0.9
R11A	Troy Canyon, C baz=54	53.82	323	⇓P	P	04 37 06.1	+1.1
HWUT	Hardware Ranch	53.82	329	eP	P	04 37 05.5	+0.6
L17A	Cokeville baz=54	53.83	330	⇓P	P	04 37 06.0	+1.0
ARVC	Arvin baz=54	53.89	318	⇓P	P	04 37 06.9	+1.6
F24A	Ekalaka baz=54	53.90	337	⇓P	P	04 37 06.4	+1.1
I20A	Worland baz=54,SNR=17	53.92	333	⇓P	P	04 37 06.1	+0.6
ISA	Isabella baz=54	53.96	319	⇓P	P	04 37 07.3	+1.4
H21A	Big Horn, Sher baz=54	53.98	334	⇑P	P	04 37 06.8	+0.9
L16A	Fish Haven baz=54	54.05	329	⇑P	P	04 37 07.7	+1.2
G22A	Birney baz=54,SNR=5.0	54.13	335	⇓P	P	04 37 07.3	+0.3
M15A	Larsen Ranch, baz=54,SNR=7.0	54.18	328	⇓P	P	04 37 08.2	+0.7
F23A	Volborg baz=54,SNR=8.2	54.18	336	⇓P	P	04 37 07.6	+0.3
J18A	Kendall Valley baz=54,SNR=8.8	54.24	331	⇓P	P	04 37 08.3	+0.3
H20A	Greybull baz=54,SNR=14	54.28	334	⇓P	P	04 37 08.5	+0.4
K17A	Gardner Place, baz=54,SNR=5.9	54.33	330	⇑P	P	04 37 09.4	+0.8
I19A	Meeteetse baz=55	54.38	333	⇑P	P	04 37 09.7	+0.7
PKM	Peak Mountain baz=55	54.42	317	⇑P	P	04 37 10.5	+1.1
I18A	Diamond G Ranc baz=55	54.51	332	⇑P	P	04 37 10.9	+0.9
G21A	Lodge Grass baz=55	54.52	335	⇑P	P	04 37 10.8	+1.0
L15A	Malad City baz=55,SNR=15	54.53	329	⇓P	P	04 37 10.9	+0.9
J17A	Brown Place, J baz=55,SNR=9.6	54.69	331	⇓P	P	04 37 11.3	+0.2
K16A	Soda Springs baz=55	54.73	330	⇓P	P	04 37 12.3	+0.8
REDW	Red Top Meadow 4.8nm,0.9s	54.75	331	eP	P	04 37 12.4	+0.7
SNOW	Snow King Moun 13nm,1.3s	54.78	331	eP	P	04 37 13.2	+1.3
LOHW	Long Hollow 6.1nm,1.0s	54.82	331	eP	P	04 37 13.3	+1.2
H19A	Powell baz=55	54.87	333	⇓P	P	04 37 13.0	+0.6
TPAW	Teton Pass 6.9nm,1.1s	54.90	331	eP	P	04 37 15.0	+2.2
D24A	Glendive baz=55	54.92	338	⇓P	P	04 37 13.8	+1.2
G20A	Bridger baz=55,SNR=5.9	54.95	334	⇑P	P	04 37 12.6	-0.4
RRI2	Red Ridge 8.5nm,0.8s	54.97	330	eP	P	04 37 13.8	+0.5
E22A	Miles City baz=55	54.98	336	⇓P	P	04 37 13.6	+0.5
MOOW	Moose Ponds 21nm,1.9s	54.99	331	eP	P	04 37 14.1	+0.7
I17A	Pilgrim Ck. baz=55	55.04	331	⇑P	P	04 37 14.7	+1.0
J16A	Bone baz=55	55.06	330	⇑P	P	04 37 15.3	+1.4
ULM	Lac du Bonnet	55.09	346	P	P	04 37 12.4	-1.2
ULM	Lac du Bonnet 5.0nm,0.7s,baz=155,slow=7.8,SNR=7.7	55.09	346	P	P	04 37 12.4	-1.2
H18A	Shoshone NF, C baz=55,SNR=5.3	55.18	333	⇑P	P	04 37 15.0	+0.3
FLWY	Flagg Ranch 8.6nm,0.8s	55.22	331	eP	P	04 37 16.2	+1.2
K14A	Jones Ranch, D baz=56	55.33	329	⇓P	P	04 37 16.9	+1.2
RLMT	Red Lodge baz=56,SNR=6.3	55.34	333	⇑P	P	04 37 16.4	+0.4
H17A	Grant Village baz=56	55.39	332	⇑P	P	04 37 17.6	+1.3
I16A	Newdale baz=56	55.44	331	⇑P	P	04 37 17.8	+1.2
E21A	Keefer Ranch, baz=56	55.52	336	⇑P	P	04 37 18.1	+1.1
NVAR	Mina Array Bea	55.52	322	P	P	04 37 18.6	+1.2
NVAR	Mina Array Bea 2.5nm,0.9s,baz=121,slow=6.4,SNR=10	55.52	322	P	P	04 37 18.6	+1.2
J15A	Blackfoot baz=56,SNR=8.0	55.56	330	⇑P	P	04 37 18.6	+1.2
G18A	Lazy EL Ranch, baz=56,SNR=5.7	55.63	333	⇑P	P	04 37 18.4	+0.5
D22A	Cohagen baz=56,SNR=12	55.66	337	⇑P	P	04 37 19.2	+1.3
F19A	Roth Farm, Mol baz=56	55.77	334	⇑P	P	04 37 19.8	+1.0
C23A	Lambert baz=56	55.81	338	⇑P	P	04 37 20.1	+1.1
E20A	Meyer Farm, Mu baz=56,SNR=5.1	55.93	335	⇓P	P	04 37 21.1	+1.1
H16A	Russell Place, baz=56,SNR=7.8	55.94	332	⇓P	P	04 37 21.7	+1.4
C22A	Vida baz=56,SNR=7.7	56.03	337	⇑P	P	04 37 21.1	+0.5
J14A	Carey baz=56	56.06	329	⇑P	P	04 37 22.2	+1.2
F18A	Big Timber baz=56,SNR=28	56.15	334	⇓P	P	04 37 22.7	+1.1
G17A	Pierce Place, baz=56,SNR=14	56.17	332	⇑P	P	04 37 23.4	+1.7
E19A	Rath Farm, Rou baz=56	56.18	335	⇓P	P	04 37 22.5	+0.8
B23A	Brocton baz=56	56.29	339	⇑P	P	04 37 23.5	+1.1
A24A	Westby baz=56	56.33	339	⇑P	P	04 37 23.8	+1.2
D20A	Manuel Ranch, baz=57	56.40	335	⇓P	P	04 37 24.4	+1.1
J13A	Cove Ranch, Pi baz=57	56.45	329	⇓P	P	04 37 24.9	+1.1
I14A	Mackay baz=57,SNR=6.7	56.46	330	⇑P	P	04 37 24.7	+0.8
H15A	Lima baz=57,SNR=7.2	56.55	331	⇓P	P	04 37 25.9	+1.3
C21A	Desert Coulee baz=57,SNR=12	56.57	337	⇑P	P	04 37 25.4	+0.9
F17A	Fitzpatrick Pl baz=57	56.57	333	⇓P	P	04 37 25.6	+1.0
G16A	Moss Hill, Enn baz=57,SNR=5.1	56.60	332	⇑P	P	04 37 25.9	+1.1
A23A	Redstone baz=57	56.67	339	⇑P	P	04 37 25.8	+0.7
HLID	Hailey 5.1nm,1.0s	56.69	329	eP	P	04 37 26.7	+1.1
HLID	Hailey baz=57,SNR=6.9	56.69	329	⇑P	P	04 37 27.1	+1.6
E18A	Harlowton baz=57	56.75	334	⇓P	P	04 37 26.7	+0.8
D19A	Cripps Ranch, baz=57	56.77	335	⇑P	P	04 37 26.5	+0.6
I13A	Wildhorse Cree baz=57,SNR=7.6	56.78	329	⇑P	P	04 37 27.4	+1.1
MCMT	McKenzie Canyo 1.2nm,0.7s	56.80	331	eP	P	04 37 27.5	+1.1
BOZ	Bozeman (W) 8.6nm,0.9s	56.83	332	eP	P	04 37 27.0	+0.6
BOZ	Bozeman (W) baz=57	56.83	332	⇑P	P	04 37 27.7	+1.2
C20A	Veseth Ranch, baz=57	56.84	336	⇑P	P	04 37 27.5	+1.1
G15A	Dillon baz=57	56.88	331	⇓P	P	04 37 28.2	+1.4
F16A	Kennard Place, baz=57	56.93	332	⇑P	P	04 37 28.3	+1.2
WCN	Washoe City baz=57	56.95	322	⇓P	P	04 37 29.9	+2.4
B21A	Ellsworth Farm baz=57	57.03	337	⇓P	P	04 37 28.8	+1.1
A22A	Carney Farms, baz=57	57.07	338	⇓P	P	04 37 29.3	+1.3
DLMT	Dillon 6.7nm,1.1s	57.07	331	eP	P	04 37 29.4	+1.3
E17A	Martinsdale baz=57	57.09	333	⇓P	P	04 37 29.7	+1.4
D18A	Linhart Farms, baz=57	57.19	334	⇑P	P	04 37 30.3	+1.4
I12A	Atlanta baz=57	57.23	328	⇑P	P	04 37 30.5	+1.2
C19A	Slack Wire Ran baz=58	57.29	335	⇓P	P	04 37 30.7	+1.1
H13A	Challis baz=58	57.31	330	⇓P	P	04 37 31.4	+1.4
MFID	Camas Ranch 14nm,1.0s	57.33	328	eP	P	04 37 31.2	+1.2
MFID	Camas Ranch baz=58	57.33	328	⇑P	P	04 37 31.9	+1.9
F15A	Butte baz=58	57.38	332	⇓P	P	04 37 31.8	+1.4
G14A	Jackson baz=58	57.40	331	⇑P	P	04 37 31.7	+1.1

B20A	Solberg Farm, baz=58	57.43	337	⇑P		P	04 37 31.5	+1.0
A21A	Bergtoll Ranch baz=58	57.45	338	⇑P		P	04 37 31.9	+1.2
E16A	East Helena baz=58	57.51	333	⇑P		P	04 37 32.1	+0.9
D17A	Six Diamond Ra baz=58	57.54	334	⇓P		P	04 37 32.3	+0.8
H12A	Diamond D Ranc baz=58	57.61	329	⇑P		P	04 37 33.2	+1.2
G13A	Cobalt baz=58	57.68	330	⇑P		P	04 37 33.5	+1.1
A20A	Cobblestone Ra baz=58	57.75	337	⇑P		P	04 37 33.7	+1.0
F14A	Wisdom baz=58	57.77	331	⇑P		P	04 37 33.8	+0.6
EGMT	Eagleton 8.3nm,0.8s	57.81	335	eP		P	04 37 34.0	+0.7
EGMT	Eagleton baz=58	57.81	335	⇓P		P	04 37 34.2	+1.0
D16A	Dana Ranch, Ca baz=58	57.83	333	⇑P		P	04 37 34.4	+1.0
E15A	Deer Lodge baz=58	57.88	332	⇓P		P	04 37 34.7	+0.9
C17A	Wharram Farm, baz=58	57.94	334	⇓P		P	04 37 35.2	+1.0
A19A	Klindworth Far baz=58	58.11	336	⇓P		P	04 37 36.2	+0.8
B18A	Beardsley Farm baz=58	58.11	335	⇑P		P	04 37 36.2	+0.9
SCHQ	Schefferville	58.13	7	P		P	04 37 35.9	+0.7
SCHQ	Schefferville 3.1nm,1.0s,baz=141,slow=10,SNR=4.0	58.13	7	P		P	04 37 35.9	+0.7
F13A	Darby baz=58	58.22	331	⇑P		P	04 37 37.4	+1.2
WVOR	Wild Horse Val 6.3nm,1.0s	58.23	325	eP		P	04 37 37.3	+0.9
G12A	Big Creek, Yel baz=58	58.25	329	⇑P		P	04 37 37.6	+1.0
E14A	Clinton baz=58	58.27	332	⇓P		P	04 37 37.9	+1.3
D15A	Lincoln baz=58	58.28	333	⇓P		P	04 37 37.5	+0.9
B17A	L&G Farms, Che baz=59	58.46	335	⇑P		P	04 37 38.8	+1.0
C16A	Fuhringer Ranc baz=59	58.50	334	⇓P		P	04 37 39.0	+0.9
A18A	Metzger Ranch, baz=59	58.55	336	⇓P		P	04 37 39.0	+0.6
E13A	Victor baz=59	58.62	331	⇓P		P	04 37 40.1	+1.1
F12A	Elk City baz=59	58.66	330	⇑P		P	04 37 40.5	+1.2
D14A	Greenough baz=59	58.76	332	⇓P		P	04 37 41.5	+1.5
MSO	Missoula baz=59	58.78	332	⇑P		P	04 37 41.3	+1.2
C15A	Salmond Ranch, baz=59	58.86	333	⇑P		P	04 37 41.9	+1.2
A17A	Triple J Farms baz=59	58.92	335	⇑P		P	04 37 42.0	+1.0
B16A	M & M Farms, S baz=59	58.94	334	⇓P		P	04 37 41.8	+0.6
D13A	Huson baz=59	59.22	332	⇓P		P	04 37 44.2	+1.1
B15A	Bradely Ranch, baz=59	59.24	334	⇑P		P	04 37 43.9	+0.6
E12A	Beaver Dam Sad baz=60	59.27	330	⇓P		P	04 37 44.5	+0.9
A16A	West Butte Ran baz=60	59.30	335	⇑P		P	04 37 44.8	+1.1
C14A	Swan Lake baz=60	59.38	333	⇑P		P	04 37 45.6	+1.4
B14A	Marquette Ranc baz=60	59.60	333	⇑P		P	04 37 46.7	+0.9
JTMT	Jette	59.61	332	eP		P	04 37 49.0	+3.1
D12A	Red Ives Fores baz=60	59.62	331	⇑P		P	04 37 46.6	+0.7
C13A	Hot Springs baz=60	59.70	332	⇓P		P	04 37 47.3	+0.9
A15A	Johnson Ranch, baz=60	59.82	334	⇓P		P	04 37 47.8	+0.6
BSMT	Bassoo Peak	59.92	332	eP		P	04 37 49.0	+0.9
C12B	Naegeli Ranch, baz=60	60.14	332	⇓P		P	04 37 50.8	+1.4
B13A	Whitefish baz=60	60.15	333	⇓P		P	04 37 50.4	+0.9
A13A	Flathead Natio baz=61	60.53	333	⇓P		P	04 37 53.4	+1.2
C11A	Tepee Creek (N baz=61	60.61	331	⇓P		P	04 37 53.7	+1.1
B12A	Libby baz=61	60.74	332	⇓P		P	04 37 54.7	+1.2
A12A	Yaak River Ran baz=61	61.10	332	⇓P		P	04 37 57.5	+1.5
NEW	Newport 9.1nm,0.8s	61.32	331	eP		P	04 37 58.0	+0.6
NEW	Newport baz=62	61.32	331	⇑P		P	04 37 58.5	+1.1
YKA	Yellowknife Ar	70.84	343	P		P	04 38 57.9	-0.4
YKA	Yellowknife Ar 1.1nm,0.5s,baz=140,slow=6.2,SNR=37	70.84	343	P		P	04 38 57.9	-0.4
LIC	Lamto 36nm,1.2s,baz=266	73.15	83	eP		P	04 39 13.9	+0.7
LIC	Lamto 36nm,1.2s	73.15	83	eP		P	04 39 13.9	+0.7
DBIC	Dimbokro	73.36	82	P		P	04 39 15.9	+1.5
DBIC	Dimbokro 2.4nm,0.6s,baz=240,slow=3.9,SNR=7.4	73.36	82	P		P	04 39 15.9	+1.5
ESDC	Sonseca Array	79.36	49	P		P	04 39 49.5	+1.5
ESDC	Sonseca Array 0.1nm,0.3s,baz=266,slow=7.2,SNR=4.3	79.36	49	P		P	04 39 49.5	+1.5
TORD	Torodi Ar. Bea	80.36	76	P		P	04 39 54.2	+0.3
TORD	Torodi Ar. Bea 0.7nm,0.5s,baz=278,slow=5.8,SNR=22	80.36	76	P		P	04 39 54.2	+0.3
INK	Inuvik 17nm,1.1s	80.56	342	eP		P	04 39 54.7	+0.9
EGAK	Eagle 7.3nm,0.9s	81.50	337	eP		P	04 39 59.7	+0.8
EPF	Esparros 2.4nm,0.5s	83.20	46	eP		P	04 40 09.0	+0.6
EPF	Esparros 2.4nm,0.5s	83.20	46	eP		P	04 40 09.0	+0.6
GRR	Gorron	83.40	41	eP		P	04 40 11.2	+2.0
GRR	Gorron	83.40	41	eP		P	04 40 11.2	+2.0
MFF	Saint Martin d	83.52	43	eP		P	04 40 10.1	+0.3
MFF	Saint Martin d	83.52	43	eP		P	04 40 10.1	+0.3
FLN	La Foliniere 3.8nm,0.6s	83.72	40	eP		P	04 40 12.2	+1.4
FLN	La Foliniere 3.8nm,0.6s	83.72	40	eP		P	04 40 12.2	+1.4
ILAR	Eielson Array	83.76	336	P		P	04 40 10.8	+0.1
ILAR					PP	PP	04 43 23.1	-0.6
ILAR	Eielson Array 2.3nm,0.8s,baz=141,slow=4.6,SNR=39	83.76	336	P		P	04 40 10.8	+0.1
ILAR					PP	PP	04 43 23.1	-0.6
	0.4nm,0.9s,baz=104,slow=7.6,SNR=4.1							
LFF	La Frestale	83.83	44	eP		P	04 40 12.4	+1.0
LFF	La Frestale	83.83	44	eP		P	04 40 12.4	+1.0
LDF	La Druitiere 8.9nm,0.9s	83.92	41	eP		P	04 40 12.9	+1.1
LDF	La Druitiere 8.9nm,0.9s	83.92	41	eP		P	04 40 12.9	+1.1
RJF	Les Rejaudoux	84.43	44	eP		P	04 40 15.6	+1.1
RJF	Les Rejaudoux	84.43	44	eP		P	04 40 15.6	+1.1
TCF	Toulx Ste Croi 4.3nm,0.7s	85.07	43	eP		P	04 40 18.9	+1.1
TCF	Toulx Ste Croi 4.3nm,0.7s	85.07	43	eP		P	04 40 18.9	+1.1
BGF	Bois d'Agland	85.55	43	eP		P	04 40 21.0	+0.9
BGF	Bois d'Agland	85.55	43	eP		P	04 40 21.0	+0.9
LOR	Lormes	86.34	42	eP		P	04 40 25.1	+1.1
LOR	Lormes	86.34	42	eP		P	04 40 25.1	+1.1
QSPA	South Pole Qui	87.28	180	P		P	04 40 26.1	-2.3
QSPA	South Pole Qui 9.2nm,1.0s,baz=151,slow=2.2,SNR=15	87.28	180	P		P	04 40 26.1	-2.3
GIVF	Givet	87.35	40	eP		P	04 40 30.4	+1.5
GIVF	Givet	87.35	40	eP		P	04 40 30.4	+1.5
NOA	NORSAR Array B comp=Z,32nm,19.6s,baz=180,slow=32	91.92	29	LR		LR	05 17 12.5	
ABKAR	Akbulak array	121.36	31	ePKPdf		PKPdf	04 46 36.1	+0.9
ZALV	Zalesovo Beam	127.03	13	PKP		PKPdf	04 46 47.3	+1.4
ZALV	Zalesovo Beam 1.5nm,0.4s,baz=257,slow=5.2,SNR=3.5	127.03	13	PKP		PKPdf	04 46 47.3	+1.4
MKAR	Makanchi Array	132.86	19	PKP		PKPdf	04 46 57.7	+0.4
MKAR	Makanchi Array 0.2nm,0.5s,baz=335,slow=2.0,SNR=5.0	132.86	19	PKP		PKPdf	04 46 57.7	+0.4
AAK	Ala-Archa	133.23	28	PKP		PKPdf	04 46 58.1	-0.3
AAK	Ala-Archa 1.3nm,0.9s,baz=47,slow=3.8,SNR=2.4	133.23	28	PKP		PKPdf	04 46 58.1	-0.3
SONM	Songino Array	134.99	356	PKP		PKPdf	04 46 59.0	-2.5
SONM	Songino Array 0.4nm,0.7s,baz=75,slow=1.6,SNR=3.8	134.99	356	PKP		PKPdf	04 46 59.0	-2.5
KSH	Kashi	136.34	30	ePKP		PKPdf	04 47 03.3	-0.9
KSH				PP		PP	04 49 45.8	+1.9
KSH				PKS		PKSdf	04 50 38.4	-2.2
KSH				SKS		SKSdf	04 54 09.0	-6.7
KSH				SKKS		SKKSac	04 56 32.9	-7.4
KSH				SS		SS	05 07 38.8	-6.4
KSH	comp=Z,70nm,6.9s			AMB		AMB		
KSH	comp=N,46nm,5.8s			LR		LR		
KSH	comp=E,41nm,6.0s			LR		LR		
KSH	comp=Z,160nm,6.3s			LR		LR		
WMQ	Urumqi	137.15	16	ePKP		PKPdf	04 47 08.0	+2.5
ASAR	Alice Springs	139.49	228	PKPpre		PKPpre	04 46 59.2	
ASAR				PKP		PKPdf	04 47 10.9	+0.6
ASAR	Alice Springs comp=Z,0.1nm,0.3s,baz=114,slow=3.7,SNR=2.8	139.49	228	PKhKP		PKPpre	04 46 59.2	
ASAR	comp=Z,0.5nm,0.7s,baz=113,slow=2.3,SNR=5.1			PKP		PKPdf	04 47 10.9	+0.6
HHC	Hu-ho-hao-te	141.19	349	ePKP		PKPdf	04 47 10.8	-2.2
HHC				sPKP			04 47 25.3	
HHC				PP		PP	04 50 16.5	+3.1
HHC				PKS		PKSdf	04 50 45.8	-3.2
HHC				SKS		SKSdf	04 54 15.6	-8.1
HHC				SKKS		SKKSac	04 57 02.1	-6.6
HHC				SS		SS	05 08 38.9	-2.6
HHC	comp=N,660nm,19.6s			LR		LR		
HHC	comp=E,340nm,20.6s			LR		LR		
HHC	comp=Z,820nm,19.8s			LR		LR		
WRA	Warramunga Arr	141.24	233	PKPpre		PKPpre	04 47 02.5	
WRA				PKP		PKPdf	04 47 10.9	-2.7
WRA	Warramunga Arr comp=Z,0.4nm,0.7s,baz=124,slow=3.0,SNR=6.2	141.24	233	PKhKP		PKPpre	04 47 02.5	
WRA	comp=Z,0.6nm,0.7s,baz=126,slow=2.1,SNR=5.2			PKP		PKPdf	04 47 10.9	-2.7
GTA	Gaotai	143.48	3	ePKP		PKPdf	04 47 18.3	+1.1
LZH	Lanzhou	146.84	358	ePKPbc		PKPab	04 47 26.8	+0.8
LZH	comp=N,550nm,16.7s			LR		LR		
LZH	comp=E,330nm,15.5s			LR		LR		
XAN	Xi'an	148.29	349	PKPbc		PKPbc	04 47 29.1	+0.3
GYA	Guiyang	156.09	350	ePKP		PKPdf	04 47 36.0	-1.3
GYA				pPKP		pPKPdf	04 47 48.3	+7.9
GYA				PKPab		PKPab	04 48 05.9	+1.4
GYA				PKS		PKSdf	04 51 09.4	-2.1
GYA				PP		PP	04 51 43.3	+3.1
KMI	Kunming	157.79	359	PKP		PKPdf	04 47 39.3	-0.4

*ISK **19** 05:05:50.7,38˚.89N×42˚.08E,h5km,MD3.2*
*CSEM **19** 05:05:53.8±0.6,38˚.97N×42˚.01E,h20km,MD3.2, Error ellipse: s-maj=17.2km s-min=10.2km az=162.0*
*DDA **19** 05:05:55.5,39˚.07N×41˚.86E,h14km,MD3.1*

ISC 19 05:05:53.3±1.3,39˚.03N±0˚.03×42˚.01E±0˚.03,h3km±11km, n26,σ1°09/37,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VRTB	Varto-Mus	0.45	287	ePG		Pg		05 06 01.9	-0.1
VRTB				eSG		Sb		05 06 11.9	+0.7
VRTB	Varto-Mus	0.45	287	ePg		Pg		05 06 01.9	-0.1
VRTB				eSg		Sb		05 06 11.9	+0.7
BNGL	BINGOL	0.67	264	iP		Pg		05 06 05.2	-1.1
BNGL				iS		Sg		05 06 15.4	+0.5
TUTA	Tutak	0.73	59	iP		Pn		05 06 10.1	-0.6
TUTA				iS		Sn		05 06 23.8	+1.2
TUTA	Tutak	0.73	59	iP		Pn		05 06 10.1	-0.6
TUTA				iS		Sn		05 06 23.8	+1.2
BTMT	Batman	0.93	206	ePG		Pg		05 06 10.7	-0.4
BTMT	Batman	0.93	206	ePg		Pg		05 06 10.7	-0.4
AGRB	Hanur-Agry	0.94	54	ePG		Pg		05 06 10.9	-0.4
AGRB				eSG		Sb		05 06 25.6	+0.3
AGRB	Hanur-Agry	0.94	54	ePg		Pg		05 06 10.9	-0.4
AGRB				eSg		Sb		05 06 25.6	+0.3
ERZM	Erzurum	1.01	331	iP		Pg		05 06 13.3	+0.6
ERZM	Erzurum	1.01	331	iP		Pg		05 06 13.3	+0.6
EZM	Erzurum	1.01	330	ePN		Pb		05 06 13.6	0.0
HOMI	Horasan	1.02	356	iP		Pb		05 06 14.0	+0.3
HOMI				iS		Sn		05 06 30.6	+0.8
BNGB	Bingˆ¶l	1.04	268	ePN		Pg		05 06 13.1	-0.1
BNGB				eSN		Sn		05 06 29.4	-0.6
BINT	Bingol	1.20	263	ePn		Pb		05 06 13.1	-3.6
BINT				eSn		Sb		05 06 29.4	-3.2
BEST	Besiri	1.27	207	iP		Pg		05 06 19.3	+1.6
BEST				iS		Sn		05 06 37.5	+1.7
CLDR	Caldiran	1.49	85	ePN		Pn		05 06 19.2	-2.0
CLDR	Caldiran	1.49	85	ePn		Pn		05 06 19.2	-2.0
MARD	Mardin	1.97	210	iP		Pg		05 06 32.0	+1.0
MARD				iS		Sg		05 06 57.4	+1.0
BAYT	Ayd¯–ntepe-Bay	1.98	314	ePN		Pb		05 06 28.9	-1.3
BAYT	Ayd¯–ntepe-Bay	1.98	314	ePn		Pb		05 06 28.9	-1.3
DAGI	Agillar	2.05	358	iP		Pb		05 06 31.9	+0.7
SVRC	Sivrice-ELAZID	2.21	254	ePN		Pn		05 06 30.7	-0.4
SVRC	Sivrice-ELAZID	2.21	254	ePn		Pn		05 06 30.7	-0.4
ILIC	ilic-Erzincan	2.71	280	ePN		Pn		05 06 38.2	+0.4
ILIC	ilic-Erzincan	2.71	280	ePn		Pn		05 06 38.2	+0.4

IDC 19 05:15:54.2±1.6,17˚.20S×177˚.58W,h0km,mb4.1/7, mb1 4.4/7,mb1mx4.0/19,mbtmp4.1/7,Error ellipse: s-maj=107.2km s-min=21.2km az=150.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek 1.4nm,0.3s,baz=78,slow=11,SNR=9.8	39.66	241	P		P		05 23 28.3	+0.2
WRA	Warramunga Arr 3.4nm,0.3s,baz=97,slow=7.3,SNR=69	45.54	259	P		P		05 24 16.6	+0.5
ASAR	Alice Springs 6.1nm,0.7s,baz=88,slow=8.0,SNR=82	45.74	254	P		P		05 24 17.8	+0.1
FITZ	Fitzroy Crossi 1.0nm,0.3s,baz=106,slow=9.4,SNR=7.7	53.92	260	P		P		05 25 18.6	-1.4
TXAR	Lajitas Array 0.5nm,0.8s,baz=222,slow=1.7,SNR=3.9	84.95	57	P		P		05 28 31.7	-0.1
ILAR	Eielson Array 0.2nm,0.5s,baz=220,slow=5.2,SNR=5.3	85.03	13	P		P		05 28 31.7	+0.4
PDAR	Pinedale Array 0.3nm,0.8s,baz=268,slow=2.7,SNR=2.9	86.30	43	P		P		05 28 38.3	-0.1

IDC 19 05:19:38.8±2.7,1˚.90S×151˚.71W,h0km,mb3.9/4, mb1 4.1/5,mb1mx3.6/24,mbtmp3.9/5,ML3.2/1,MS3.5/6, Ms1 3.5/6,ms1mx3.2/30,Error ellipse: s-maj=106.8km s-min=43.9km az=153.0,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro 0.1nm,0.3s,baz=219,slow=13,SNR=3.5	13.78	52	Pn		Pn		05 22 55.3	-0.3
DBIC	comp=Z,128nm,21.3s,baz=265,slow=33			LR		LR		05 27 08.3	
RCBR	Riachuelo comp=Z,85nm,20.1s,baz=241,slow=30	20.51	258	LR		LR		05 29 56.4	
TORD	Torodi Ar. Bea 3.9nm,1.0s,baz=220,slow=9.8,SNR=10	22.84	49	P		P		05 24 44.1	+0.2
TORD	comp=Z,104nm,19.2s,baz=265,slow=34			LR		LR		05 32 32.6	
KEST	Kesra comp=Z,26nm,20.5s,baz=286,slow=38	44.15	30	LR		LR		05 47 55.3	
LPAZ	La Paz comp=Z,69nm,19.6s,baz=79,slow=35	53.52	251	LR		LR		05 50 45.6	
BRTR	Keskin Array B 0.8nm,0.9s,baz=232,slow=6.1,SNR=3.9	61.24	42	P		P		05 29 55.0	-1.2
ATAH	Atahualpa comp=Z,79nm,18.0s,baz=291,slow=35	62.66	263	LR		LR		05 56 08.2	
KBZ	Khabaz 2.4nm,0.9s,baz=263,slow=6.5,SNR=3.8	69.23	41	P		P		05 30 48.9	+1.3
YKA	Yellowknife Ar 0.3nm,0.9s,baz=88,slow=5.2,SNR=5.0	95.79	333	P		P		05 33 06.6	-0.2
ASAR	Alice Springs 0.4nm,0.7s,baz=221,slow=3.5,SNR=4.5	141.02	133	PKP		PKPdf		05 39 09.4	-2.7
WRA	Warramunga Arr 0.5nm,0.7s,baz=242,slow=2.3,SNR=8.7	143.47	128	PKP		PKPdf		05 39 17.1	+0.6

IDC 19 05:25:48.3±1.3,0˚.01S×128˚.73E,h0km,mb3.5/5, mb1 3.7/5,mb1mx3.6/19,mbtmp3.6/5,Error ellipse: s-maj=115.9km s-min=19.8km az=70.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.7nm,0.8s,baz=345,slow=11,SNR=4.8	20.56	165	P		P		05 30 27.8	-1.0
ASAR	Alice Springs 1.8nm,0.7s,baz=346,slow=9.9,SNR=9.8	24.05	168	P		P		05 31 04.8	-0.6
STKA	Stephens Creek 1.3nm,0.8s,baz=309,slow=6.5,SNR=3.2	33.96	160	P		P		05 32 35.0	+1.4
SONM	Songino Array 0.3nm,0.5s,baz=148,slow=8.5,SNR=3.2	51.45	341	P		P		05 34 55.1	-0.4
MKAR	Makanchi Array 0.3nm,0.8s,baz=109,slow=6.3,SNR=3.2	61.74	326	P		P		05 36 08.8	+0.1

*IDC **19** 06:09:29.2±2.6,8˚.21S×119˚.96E,h179km±24km,mb3.0/3, mb1 3.2/6,mb1mx3.0/22,mbtmp3.1/6,Error ellipse: s-maj=86.0km s-min=15.0km az=58.0*
*DJA **19** 06:09:36.4±1.0,8˚.5±5˚×119˚.9E±1˚.3,h20km,M3.6/5, MLv3.6/5*

ISC 19 06:09:26.6±1.4,8˚.45S±0˚.09×119˚.5E±0˚.3,h150km,n11, σ1°34/12,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WSI	Waingapu	1.43	148	P		Sn		06 10 19.4	+1.8
BKSI	Bulukumba	3.17	11	P		Pn		06 10 17.0	+0.9
BKSI				S		Sn		06 10 54.7	+0.2
KAPI	Kappang	3.42	4	P		Pn		06 10 19.5	0.0
KAPI	Kappang 5.9nm,0.3s,baz=192,slow=7.8,SNR=30	3.42	4	P		Pn		06 10 19.7	+0.2
SPSI	Sidrap Palu	4.46	3	P		Pn		06 10 34.1	+1.1
TTSI	Tana Toraja	5.38	3	P		Pn		06 10 48.2	+3.1
FITZ	Fitzroy Crossi 0.6nm,0.3s,baz=353,slow=7.4,SNR=13	11.28	149	P		Pn		06 12 04.3	+0.7
FITZ				S		Sn		06 14 02.9	-5.5
WRA	Warramunga Arr 0.2nm,0.3s,baz=307,slow=13,SNR=14	18.33	130	P		P		06 13 29.1	-0.5
WRA				S		S		06 16 42.9	-8.5
ASAR	Alice Springs 0.6nm,0.5s,baz=315,slow=10,SNR=7.8	20.46	139	P		P		06 13 53.0	+0.4
ASAR				S		S		06 17 30.6	-3.0
STKA	Stephens Creek 0.7nm,0.4s,baz=322,slow=13,SNR=4.2	31.05	142	P		P		06 15 30.1	-0.3
MKAR	Makanchi Array 0.4nm,0.6s,baz=130,slow=6.1,SNR=3.8	64.21	333	P		P		06 19 44.6	-0.9

*NNC **19** 06:10:32.3±4.4,41˚.78N×78˚.27E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=51.7km s-min=20.8km az=179.0*
*ISCJB **19** 06:10:36.7±1.9,42˚.0N±0˚.2×78˚.4E±0˚.1,h33km,Error ellipse: s-maj=27.1km s-min=12.5km az=164.3*

ISC 19 06:10:41.0±2.9,42˚.1N±0˚.2×78˚.2E±0˚.1,h35km,n13, σ2°07/12,2C-2D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ULHL	Ulahol SNR=38	1.48	276	P		Pn		06 10 58.8	-6.4
TKM2	Tokmak 2 25nm,0.6s	2.10	293	⇓Pn		Pn		06 11 11.6	-2.2
TKM2	25nm,0.4s			⇑Sn		Sn		06 11 41.7	+2.8
TKM2	Tokmak 2 SNR=48	2.10	293	P		Pn		06 11 11.5	-2.4
KZA	Kyzart SNR=24	2.21	270	P		Pn		06 11 13.7	-1.8
KBK	Karagaybulak SNR=18	2.48	284	P		Pn		06 11 16.4	-2.7
CHMS	Chumysh SNR=11	2.71	290	P		Pn		06 11 20.4	-1.7
UCH	Uchtor SNR=8.2	2.76	274	P		Pn		06 11 22.4	-0.7
AAK	Ala-Archa SNR=16	2.81	282	P		Pn		06 11 22.0	-1.6
USP	Ospenovka SNR=9.6	2.98	294	P		Pn		06 11 25.1	-0.7
EKS2	Erkin-Say SNR=10	3.34	281	P		Pn		06 11 32.4	+1.6
AML	Almayashu SNR=17	3.37	272	P		Pn		06 11 32.2	+0.8
MK31	Makanchi Array 0.7nm,0.3s,baz=206,slow=12,SNR=61	5.51	31	Pn		Pn		06 12 00.3	-0.3
MK31	3.9nm,0.6s			⇑Lg		Lg		06 13 30.3	
KK31	Karatay Array 0.5nm,0.5s,baz=100,slow=14,SNR=9.1	5.78	282	Pg		Pn		06 12 15.6	+12
KK31	1.4nm,0.5s,baz=98,slow=27,SNR=4.3			⇓Lg		Lg		06 13 35.5	

IDC 19 06:39:09.2±4.9,0˚.63S×131˚.52E,h0km,mb3.5/2, mb1 3.6/3,mb1mx3.4/19,mbtmp3.4/3,ML3.3/1,Error ellipse: s-maj=331.5km s-min=27.6km az=72.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.1nm,0.3s,baz=353,slow=11,SNR=6.9	19.39	172	P		P		06 43 36.5	-0.5
ASAR	Alice Springs 1.1nm,0.8s,baz=348,slow=8.8,SNR=11	23.02	174	P		P		06 44 16.2	+0.2
MKAR	Makanchi Array 0.2nm,0.5s,baz=121,slow=7.4,SNR=4.3	63.85	325	P		P		06 49 43.7	0.0

IDC 19 07:31:48.1±2.4,18˚.50S×173˚.09W,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.7/20,mbtmp3.7/5,ML2.5/1,Error ellipse: s-maj=91.6km s-min=28.0km az=139.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu 13nm,0.3s,baz=86,slow=1.4,SNR=20	4.73	16	Pn		Pn		07 33 01.5	+0.6
AFI	63nm,0.3s,baz=28,slow=23,SNR=17			Sn		Sn		07 33 39.2	-17
WRA	Warramunga Arr 0.1nm,0.4s,baz=93,slow=7.5,SNR=4.6	49.50	259	P		P		07 40 40.1	-0.7
ASAR	Alice Springs 0.7nm,0.8s,baz=85,slow=8.6,SNR=6.8	49.50	254	P		P		07 40 41.5	+0.6
PDAR	Pinedale Array 0.3nm,0.6s,baz=197,slow=4.5,SNR=4.2	84.37	41	P		P		07 44 22.5	-0.2
SONM	Songino Array 0.4nm,0.9s,baz=96,slow=5.8,SNR=2.2	97.33	318	P		Pdif		07 45 23.8	+0.3
BRTR	Keskin Array B 0.5nm,0.6s,baz=64,slow=2.9,SNR=3.6	148.69	318	PKPbc		PKPbc		07 51 36.4	-1.5

*ISCJB **19** 07:31:57.4±0.3,60˚.08N±0˚.03×152˚.61W±0˚.07,h99km±3km,*

mb3.5/3, Error ellipse: s-maj=6.1km s-min=4.3km az=25.4
IDC ***19*** *07:31:57.8±1.5, 60.07N×152.57W, h87km±27km, mb3.3/3, mb1 3.2/7, mb1mx3.1/28, mbtmp3.1/7, Error ellipse: s-maj=40.1km s-min=10.7km az=109.0*
NEIC ***19*** *07:31:59.4, 60.11N×152.70W, h86km, MG3.1(AEIC), After AEIC.*

ISC 19 07:31:58.4±0.8, 60°07'N±0'.03×152°63'W±0'.04, h91km±6km, n72, σ0°62/82, mb3.4/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INE	**Iliamna NE**	**0.22**	**267**	P	**Pn**	**07 32 11.4**	**-0.3**
INE				S	**Sn**	**07 32 21.6**	**0.0**
ILW	**Iliamna West**	**0.26**	**267**	P	**Pn**	**07 32 11.6**	**-0.3**
ILW				S	**Sn**	**07 32 22.1**	**+0.2**
RSO	**Redoubt South**	**0.40**	**351**	P	**Pn**	**07 32 12.7**	**0.0**
RDN	**Redoubt North**	**0.45**	**351**	P	**Pn**	**07 32 12.9**	**-0.1**
RDN				S	**Sn**	**07 32 23.4**	**-0.4**
NCT	**North Crescent**	**0.51**	**343**	P	**Pn**	**07 32 13.1**	**-0.3**
NCT				S	**Sn**	**07 32 24.2**	**-0.4**
DFR	**Drift River**	**0.52**	**357**	P	**Pn**	**07 32 13.3**	**-0.2**
DFR				S	**Sn**	**07 32 24.3**	**-0.4**
OPT	**Oil Point**	**0.52**	**216**	P	**Pn**	**07 32 13.5**	**+0.1**
AUNW	**Augustine NWes**	**0.82**	**212**	P	**Pn**	**07 32 16.4**	**+0.3**
AUW	**Augustine West**	**0.83**	**212**	P	**Pn**	**07 32 16.5**	**+0.3**
BRLK	**Bradley Lake**	**0.93**	**109**	P	**Pn**	**07 32 18.2**	**+0.8**
CKL	**Chakachamna La**	**1.14**	**7**	P	**Pn**	**07 32 19.8**	**0.0**
SPU	**Mount Spurr**	**1.15**	**14**	P	**Pn**	**07 32 19.9**	**+0.1**
BGL	**Barrier Glacie**	**1.20**	**5**	P	**Pn**	**07 32 20.7**	**+0.2**
SPCG	**Spurr Capps Gl**	**1.26**	**13**	P	**Pn**	**07 32 21.5**	**+0.3**
SLKM	**Skilak Lake**	**1.27**	**69**	P	**Pn**	**07 32 22.6**	**+1.3**
FOPK	**Fourpeaked Vol**	**1.39**	**199**	P	**Pn**	**07 32 22.6**	**-0.2**
STLK	**Strandline Lak**	**1.48**	**15**	P	**Pn**	**07 32 24.2**	**+0.2**
SEW	**Seward**	**1.59**	**88**	P	**Pn**	**07 32 25.2**	**0.0**
SUA	**Susitna One**	**1.67**	**33**	P	**Pn**	**07 32 27.1**	**+0.7**
SUA				S	**Sn**	**07 32 48.7**	**+1.0**
KAPH	**Katmai Pasha**	**1.73**	**212**	P	**Pn**	**07 32 27.4**	**+0.4**
KARR	**Katmai Rainbow**	**1.91**	**215**	P	**Pn**	**07 32 29.9**	**+0.5**
KABU	**Katmai Buttres**	**2.27**	**218**	P	**Pn**	**07 32 34.7**	**+0.5**
PMR	**Palmer**	**2.29**	**47**	P	**Pn**	**07 32 34.4**	**+0.1**
KABR	**Katmai Barrier**	**2.29**	**213**	P	**Pn**	**07 32 35.0**	**+0.6**
KDAK	**Kodiak Island**	**2.30**	**179**	P	**Pn**	**07 32 33.8**	**-0.6**
KDAK				S	**Sn**	**07 33 01.9**	**-0.2**
KDAK	**Kodiak Island**	**2.30**	**179**	P	**Pn**	**07 32 33.8**	**-0.6**
	12nm,0.3s,baz=37,slow=8.1,SNR=171						
KDAK				S	**Sn**	**07 33 01.9**	**-0.2**
	16nm,0.3s,baz=122,slow=19,SNR=11						
SML	**Sawmill**	**2.72**	**48**	P	**Pn**	**07 32 40.0**	**-0.1**
PPLA	**Purkeypile**	**2.84**	**4**	P	**Pn**	**07 32 43.0**	**+1.2**
SCM	**Sheep Creek Mo**	**3.13**	**53**	P	**Pn**	**07 32 45.7**	**0.0**
TT01	**Tatalina**	**3.28**	**332**	P	**Pn**	**07 32 47.1**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.46**	**79**	P	**Pn**	**07 32 49.9**	**0.0**
TRF	**Thorofare Moun**	**3.57**	**17**	P	**Pn**	**07 32 52.6**	**+1.0**
KLU	**Klutina**	**3.58**	**64**	P	**Pn**	**07 32 51.0**	**-0.7**
RND	**Reindeer**	**3.79**	**27**	P	**Pn**	**07 32 55.4**	**+0.8**
DHY	**Denali Highway**	**3.92**	**38**	P	**Pn**	**07 32 56.8**	**+0.4**
GOAT	**Goat Mountain**	**3.96**	**79**	P	**Pn**	**07 32 55.5**	**-1.4**
BMRM	**Bremner River**	**4.07**	**74**	P	**Pn**	**07 32 56.8**	**-1.4**
MCK	**McKinley**	**4.07**	**24**	P	**Pn**	**07 32 59.4**	**+1.2**
BERG	**Berg Lake**	**4.46**	**82**	P	**Pn**	**07 33 03.9**	**+0.4**
PAX	**Paxson**	**4.49**	**47**	P	**Pn**	**07 33 04.4**	**+0.4**
GRIN	**Grindle Hills**	**4.65**	**83**	P	**Pn**	**07 33 06.6**	**+0.4**
VRDI	**Verde Repeater**	**4.66**	**72**	P	**Pn**	**07 33 06.3**	**-0.1**
KHIT	**Khitrov Hills**	**4.69**	**81**	P	**Pn**	**07 33 06.6**	**-0.1**
WRH	**Wood River Hil**	**4.89**	**24**	P	**Pn**	**07 33 09.9**	**+0.5**
KULT	**Kultieth River**	**4.95**	**84**	P	**Pn**	**07 33 10.6**	**+0.3**
BARK	**Barkley Ridge**	**5.06**	**82**	P	**Pn**	**07 33 11.9**	**+0.1**
CCB	**Clear Creek Bu**	**5.11**	**24**	P	**Pn**	**07 33 12.3**	**0.0**
ISLE	**Juniper Island**	**5.14**	**80**	P	**Pn**	**07 33 12.9**	**0.0**
KIAG	**Kiagna River**	**5.15**	**76**	P	**Pn**	**07 33 13.5**	**+0.5**
BALM	**Baldy**	**5.16**	**75**	P	**Pn**	**07 33 13.4**	**+0.2**
BAGL	**Bagley Icefiel**	**5.26**	**81**	P	**Pn**	**07 33 15.1**	**+0.7**
COLA	**College**	**5.30**	**23**	P	**Pn**	**07 33 15.3**	**+0.4**
MDM	**Murphy Dome**	**5.31**	**21**	P	**Pn**	**07 33 15.9**	**+0.8**
MESA	**MESA**	**5.34**	**84**	P	**Pn**	**07 33 15.6**	**-0.1**
ILAR	**Eielson Array**	**5.41**	**27**	P	**Pn**	**07 33 16.2**	**-0.2**
ILAR				S	**Sn**	**07 34 15.9**	**-1.5**
ILAR	**Eielson Array**	**5.41**	**27**	P	**Pn**	**07 33 16.2**	**-0.2**
	1.6nm,0.3s,baz=212,slow=12,SNR=73						
ILAR				S	**Sn**	**07 34 15.9**	**-1.5**
	1.2nm,0.3s,baz=207,slow=23,SNR=4.8						
IL1	**Eielson Array**	**5.42**	**27**	P	**Pn**	**07 33 16.4**	**-0.1**
RKAV	**Rock Avalanche**	**5.63**	**83**	P	**Pn**	**07 33 20.4**	**+0.8**
CHX	**Chaix Hills**	**5.76**	**85**	P	**Pn**	**07 33 22.4**	**+1.0**
SAMH	**Samovar Hills**	**5.93**	**84**	P	**Pn**	**07 33 24.6**	**+1.0**
BCA3	**Beaver Creek A**	**5.98**	**55**	P	**Pn**	**07 33 24.1**	**-0.2**
PNL	**Peninsula**	**6.67**	**88**	P	**Pn**	**07 33 33.7**	**0.0**
INK	**Inuvik**	**11.67**	**37**	P	**Pn**	**07 34 42.1**	**+0.7**
INK	**Inuvik**	**11.67**	**37**	P	**Pn**	**07 34 42.1**	**+0.7**
	0.1nm,0.3s,baz=236,slow=12,SNR=4.3						
YKA	**Yellowknife Ar**	**18.25**	**66**	P	**Pn**	**07 36 05.2**	**0.0**
YKA	**Yellowknife Ar**	**18.25**	**66**	P	**Pn**	**07 36 05.2**	**0.0**
	0.0nm,0.3s,baz=276,slow=10,SNR=6.8						
SONM	**Songino Array**	**54.90**	**306**	P	**P**	**07 41 20.1**	**+0.8**
SONM	**Songino Array**	**54.90**	**306**	P	**P**	**07 41 20.1**	**+0.8**
	0.4nm,0.9s,baz=31,slow=7.9,SNR=6.7						
ZALV	**Zalesovo Beam**	**57.43**	**324**	P	**P**	**07 41 36.5**	**-0.5**
ZALV	**Zalesovo Beam**	**57.43**	**324**	P	**P**	**07 41 36.4**	**-0.5**
	0.6nm,0.4s,baz=33,slow=6.7,SNR=4.5						
MKAR	**Makanchi Array**	**64.49**	**321**	P	**P**	**07 42 24.1**	**-0.9**
MKAR	**Makanchi Array**	**64.49**	**321**	P	**P**	**07 42 24.1**	**-0.9**
	0.2nm,0.6s,baz=72,slow=4.7,SNR=2.8						

IDC 19 07:45:04.7±5.1, 29°12S×177°94W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/16, mbtmp3.8/3, Error ellipse: s-maj=196.2km s-min=78.8km az=158.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.84**	**255**	P	P	07 51 57.7	+0.1
	2.1nm,0.9s,baz=90,slow=8.1,SNR=3.3						
ASAR	**Alice Springs**	**43.24**	**266**	P	P	07 53 08.4	+0.3
	0.6nm,0.6s,baz=103,slow=6.9,SNR=13						
WRA	**Warramunga Arr**	**44.11**	**271**	P	P	07 53 14.3	-0.8
	1.5nm,1.1s,baz=110,slow=8.1,SNR=10						
FINES	**FINESS Array B**	**143.96**	**341**	PKP	PKPdf	08 04 41.1	-0.3
	1.2nm,0.5s,baz=35,slow=4.7,SNR=6.9						

PRE 19 07:50:14.3±1.0, 26°42S×27°50E, h2km, ML2.7, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.13**	**55**	*e*P	Pg	07 50 17.8	+0.8
KLOF				*e*S	Sg	07 50 19.2	+0.3
KLOF				AML	AML	07 50 20.1	
	comp=Z,3μm,0.2s						
PRYS	**Parys**	**0.52**	**194**	*e*P	Pg	07 50 24.7	+0.3
PRYS				*e*S	Sg	07 50 31.3	0.0
PRYS				AML	AML	07 50 33.6	
	comp=Z,151nm,0.2s						
ERPM	**east rand prop**	**0.68**	**83**	*e*P	Pg	07 50 27.6	+0.1
ERPM				*e*S	Sg	07 50 36.6	+0.1
ERPM				AML	AML	07 50 37.1	
	comp=Z,98nm,0.6s						
BFSD	**Buffelsfontein**	**0.77**	**235**	*e*P	Pg	07 50 29.2	-0.2
BFSD				*e*S	Sg	07 50 39.5	0.0
BFSD				AML	AML	07 50 46.3	
	comp=Z,180nm,0.1s						
MOAB	**Moab Khotsong**	**0.84**	**228**	*e*P	Pg	07 50 30.4	-0.2
MOAB				*e*S	Sg	07 50 42.1	+0.4
MOAB				AML	AML	07 50 50.2	
	comp=Z,152nm,0.2s						
TLEK	**Tau Lekoa**	**0.91**	**234**	*e*P	Pb	07 50 32.6	-0.4
TLEK				*e*S	Sg	07 50 44.6	+0.6
SLR	**Silverton**	**0.98**	**46**	*e*P	Pg	07 50 33.2	-0.2
SLR				*e*S	Sg	07 50 46.6	+0.3
SLR				AML	AML	07 50 52.9	
	comp=Z,102nm,0.2s						
SEK	**Senekal**	**1.90**	**177**	*e*P	Pn	07 50 48.8	+0.9
SEK				*e*S	Sn	07 51 13.3	+0.7
SEK				AML	AML	07 51 15.4	
	comp=Z,127nm,0.3s						
SWZ	**Schweizer**	**2.08**	**248**	*e*P	Pn	07 50 51.0	+0.7
SWZ				*e*S	Sn	07 51 17.4	+0.4
SWZ				AML	AML	07 51 20.1	
	comp=Z,92nm,0.6s						
LBTB	**Lobatse**	**2.21**	**309**	*e*P	Pn	07 50 52.4	+0.2
LBTB				*e*S	Sn	07 51 21.0	+0.7
LBTB				AML	AML	07 51 24.3	
	comp=Z,73nm,0.3s						
BOSA	**Boshof**	**2.95**	**222**	*e*P	Pn	07 51 02.8	+0.4
BOSA				*e*S	Sn	07 51 39.1	+0.5
BOSA				AML	AML	07 51 57.4	
	comp=Z,9.9nm,0.5s						
BLWY	**Bulawayo**	**6.34**	**10**	*i* P	Pn	07 51 43.6	-5.4
BLWY				*i*		07 51 43.7	
	baz=311,slow=28						
BLWY				*i* S	Sb	07 53 28.6	+6.6

ISCJB ***19*** *08:03:33.8±0.3, 47.66N±0.02×7.35E±0.02, h10km±3km, Error ellipse: s-maj=3.6km s-min=2.6km az=1.5*
CSEM ***19*** *08:03:34.0±0.1, 47.66N×7.38E, h15km, ML2.0/9, Error ellipse: s-maj=1.2km s-min=1.0km az=25.0*
LEDBW ***19*** *08:03:34.6±0.1, 47.669N±0.005×7.396E±0.004, h9km±2km, ML1.8, Error ellipse: s-maj=2.0km s-min=1.2km az=178.0*
ZUR ***19*** *08:03:34.5, 47.67N×7.41E, h9km±2km, ML1.5/4*
STR ***19*** *08:03:34.0±0.2, 47.66N×7.39E, h10km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
LDG ***19*** *08:03:34.6±0.1, 47.66N×7.39E, h8km, Md2.2/2, Ml2.2/7, Error ellipse: s-maj=0.9km s-min=0.8km az=51.0*

ISC 19 08:03:34.4±0.9, 47°66N±0'.02×7°38E±0'.02, h13km±6km, n51, σ0°56/83, 4C-7D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBS	**Basel-Blauen**	**0.21**	**157**	Pg	**Pg**	**08 03 39.2**	**0.0**
BBS	**Basel-Blauen**	**0.21**	**157**	Pg	**Pg**	**08 03 39.0**	**-0.2**
BBS				Sg	**Sg**	**08 03 42.1**	**-0.3**
ENDD	**Endenburg**	**0.24**	**77**	⇑*i* Pg	**Pg**	**08 03 39.4**	**-0.3**
ENDD				Sg	**Sg**	**08 03 42.8**	**-0.5**
MOF	**Molkenrain**	**0.26**	**319**	Pg	**Pg**	**08 03 39.8**	**-0.1**
MOF				Sg	**Sg**	**08 03 43.5**	**-0.1**
MOF	**Molkenrain**	**0.26**	**319**	⇓*i* Pg	**Pg**	**08 03 39.9**	**-0.1**
MOF				Sg	**Sg**	**08 03 43.6**	**-0.1**
MOF	**Molkenrain**	**0.26**	**319**	*i* Pg	**Pg**	**08 03 39.8**	**-0.1**
MOF				Sg	**Sg**	**08 03 43.5**	**-0.1**
BOURR	**Bourrignon**	**0.29**	**201**	⇑*i* Pg	**Pg**	**08 03 40.6**	**+0.2**
	45nm,0.8s						
BOURR	**Bourrignon**	**0.29**	**201**	⇑*i* Pg	**Pg**	**08 03 40.6**	**+0.2**
	45nm,0.8s						
BALST	**Balsthal**	**0.39**	**147**	⇓*i* Pg	**Pg**	**08 03 42.2**	**0.0**
	67nm,0.4s						
BALST	**Balsthal**	**0.39**	**147**	⇓*i* Pg	**Pg**	**08 03 42.2**	**0.0**
	67nm,0.4s						
HINF	**Hinteralfeld**	**0.39**	**294**	*e*Pg	**Pg**	**08 03 42.0**	**-0.3**
HINF				*e*Sg	**Sg**	**08 03 47.1**	**-0.5**
	12nm,0.2s						
HINF	**Hinteralfeld**	**0.39**	**294**	*e*Pg	**Pg**	**08 03 42.0**	**-0.3**
HINF				*e*Sg	**Sg**	**08 03 47.1**	**-0.5**
	5.8nm,0.2s						
KIZ	**Kirchzarten**	**0.47**	**50**	⇑*i* Pg	**Pg**	**08 03 43.4**	**-0.3**
KIZ				*i* Sg	**Sg**	**08 03 49.6**	**-0.3**
FELD	**Feldberg im Sc**	**0.47**	**63**	⇓*i* Pg	**Pg**	**08 03 43.7**	**-0.2**
FELD				Sg	**Sg**	**08 03 49.9**	**-0.2**
FELD	**Feldberg im Sc**	**0.47**	**63**	Pg	**Pg**	**08 03 43.6**	**-0.2**
FELD				Sg	**Sg**	**08 03 49.9**	**-0.2**
LOMF	**Lomont**	**0.49**	**231**	Pg	**Pg**	**08 03 44.0**	**-0.1**
LOMF				Sg	**Sg**	**08 03 50.8**	**+0.2**
LOMF	**Lomont**	**0.49**	**231**	Pg	**Pg**	**08 03 44.2**	**+0.1**
LOMF				Sg	**Sg**	**08 03 51.3**	**+0.1**
LOMF	**Lomont**	**0.49**	**231**	Pg	**Pg**	**08 03 44.0**	**-0.1**
LOMF				Sg	**Sg**	**08 03 50.8**	**+0.2**
SULZ	**Cheisacher**	**0.51**	**105**	⇓*i* Pg	**Pg**	**08 03 44.2**	**-0.3**
	47nm,0.6s						
SULZ	**Cheisacher**	**0.51**	**105**	⇓*i* Pg	**Pg**	**08 03 44.2**	**-0.3**
	47nm,0.6s						
ECH	**Echery**	**0.58**	**345**	Pg	**Pg**	**08 03 45.7**	**0.0**
ECH				Sg	**Sg**	**08 03 52.8**	**-0.6**
ECH	**Echery**	**0.58**	**345**	Pg	**Pg**	**08 03 45.7**	**0.0**
ECH				Sg	**Sg**	**08 03 52.9**	**-0.5**
ECH				SmS		08 03 55.8	
ECH	**Echery**	**0.58**	**345**	Pg	**Pg**	**08 03 45.7**	**0.0**
ECH				Sg	**Sg**	**08 03 52.8**	**-0.6**
CDF	**Champ du Feu**	**0.76**	**355**	*e*Pg	**Pg**	**08 03 49.4**	**+0.3**
CDF				*e*Sg	**Sg**	**08 03 59.1**	**0.0**
	3.8nm,0.2s						
CDF	**Champ du Feu**	**0.76**	**355**	*e*Pg	**Pg**	**08 03 49.4**	**+0.3**
CDF				*e*Sg	**Sg**	**08 03 59.1**	**0.0**
	1.9nm,0.2s						
SLE	**Schleitheim**	**0.76**	**82**	⇑*i* Pg	**Pg**	**08 03 48.7**	**-0.4**
	116nm,0.5s						
SLE	**Schleitheim**	**0.76**	**82**	⇑*i* Pg	**Pg**	**08 03 48.7**	**-0.4**
	116nm,0.5s						
HAU	**Haudompre**	**0.78**	**297**	*e*Pg	**Pg**	**08 03 49.2**	**-0.3**
HAU				*e*Sg	**Sg**	**08 03 59.6**	**-0.2**
HAU				*e*Sn	**Sb**	**08 04 01.6**	**+1.3**
	14nm,0.2s						
HAU	**Haudompre**	**0.78**	**297**	*e*Pg	**Pg**	**08 03 49.2**	**-0.3**
HAU				*e*Sg	**Sg**	**08 03 59.6**	**-0.2**
HAU				*e*Sn	**Sb**	**08 04 01.6**	**+1.3**
	7.2nm,0.2s						
BFO	**Black Forest**	**0.92**	**43**	⇓*i* Pn	**Pb**	**08 03 51.6**	**-0.7**
BFO				Sn	**Sg**	**08 04 04.1**	**-0.3**
BFO	**Black Forest**	**0.92**	**43**	PmP		08 03 52.3	
BFO	**Black Forest**	**0.92**	**43**	P	**Pb**	**08 03 52.0**	**-0.2**
THEF	**They Montfort**	**1.10**	**302**	Pg	**Pb**	**08 03 55.3**	**+0.1**
THEF				Sg	**Sb**	**08 04 09.8**	**+0.4**
THEF	**They Montfort**	**1.10**	**302**	P	**Pb**	**08 03 55.4**	**+0.1**
THEF	**They Montfort**	**1.10**	**302**	PmP		08 03 55.6	
THEF				S	**Sg**	**08 04 10.2**	**+0.3**
THEF				SmS		08 04 10.7	
THEF	**They Montfort**	**1.10**	**302**	Pg	**Pb**	**08 03 55.3**	**+0.1**
THEF				Sg	**Sb**	**08 04 09.8**	**+0.4**
GUT	**Gutenstein**	**1.24**	**70**	P	**Pn**	**08 03 57.6**	**+0.2**
GUT				S	**Sn**	**08 04 14.2**	**+0.2**
CABF	**La Chapelle**	**1.37**	**221**	*e*Pg	**Pb**	**08 04 00.3**	**+0.3**
CABF				*e*Sg	**Sg**	**08 04 18.5**	**-0.2**
	2.4nm,0.3s						
CABF	**La Chapelle**	**1.37**	**221**	*e*Pg	**Pb**	**08 04 00.3**	**+0.3**
CABF				*e*Sg	**Sg**	**08 04 18.5**	**-0.2**
	1.2nm,0.3s						
PAGF	**Fort de Pagny**	**1.43**	**309**	*e*Pg	**Pg**	**08 04 01.5**	**-0.4**
PAGF				*e*Sg	**Sg**	**08 04 20.6**	**+0.2**
	1.2nm,0.2s						
PAGF	**Fort de Pagny**	**1.43**	**309**	*e*Pg	**Pg**	**08 04 01.5**	**-0.4**
PAGF				*e*Sg	**Sg**	**08 04 20.6**	**+0.2**
	0.6nm,0.2s						
BUCH	**Bad Urach**	**1.54**	**58**	S	**Sg**	**08 04 23.8**	**-0.2**
SFTF	**Sexfontaines**	**1.67**	**290**	*e*Pg	**Pg**	**08 04 06.2**	**-0.3**
SFTF				*e*Sg	**Sg**	**08 04 27.7**	**-0.4**
	3.4nm,0.2s						
SFTF	**Sexfontaines**	**1.67**	**290**	*e*Pg	**Pg**	**08 04 06.2**	**-0.3**
SFTF				*e*Sg	**Sg**	**08 04 27.7**	**-0.4**
	1.7nm,0.2s						
SIND	**Sindeldorf**	**2.24**	**40**	Sx	Sx	08 04 45.0	
LOR	**Lormes**	**2.42**	**262**	*e*Pg	**Pg**	**08 04 20.3**	**-0.6**
LOR				*e*Sg	**Sg**	**08 04 50.7**	**-1.6**
	3.4nm,0.2s						
LOR	**Lormes**	**2.42**	**262**	*e*Pg	**Pg**	**08 04 20.3**	**-0.6**
LOR				*e*Sg	**Sg**	**08 04 50.7**	**-1.6**
	1.7nm,0.2s						
SMF	**Signal de Mont**	**2.62**	**249**	*e*Sg	**Sg**	**08 04 57.3**	**-1.4**
	1.6nm,0.2s						
SMF	**Signal de Mont**	**2.62**	**249**	*e*Sg	**Sg**	**08 04 57.3**	**-1.4**
	0.8nm,0.2s						
SSF	**Saint Saulge**	**2.70**	**259**	*e*Sg	**Sg**	**08 04 59.6**	**-1.6**
	1.1nm,0.2s						
SSF	**Saint Saulge**	**2.70**	**259**	*e*Sg	**Sg**	**08 04 59.6**	**-1.6**
	0.6nm,0.2s						

ISCJB ***19*** *08:04:03.9±0.4, 36.69N±0.03×70.59E±0.05, h283km±4km, mb3.9/26, Error ellipse: s-maj=7.1km s-min=3.9km az=164.4*
MOS ***19*** *08:04:03.0±0.8, 36.66N×70.60E, h276km, mb4.1/20, Error ellipse: s-maj=12.1km s-min=6.3km az=89.1*
BJI ***19*** *08:04:04.0, 36.88N×70.57E, h266km, mB4.4/4, mb4.4/5*
IDC ***19*** *08:04:05.3±0.6, 36.64N×70.66E, h286km±4km, mb3.6/15, mb1 3.8/21, mb1mx3.6/31, mbtmp3.7/21, Error ellipse: s-maj=12.0km s-min=10.3km az=17.0*
NNC ***19*** *08:04:16.8±8.1, 37.74N×71.26E, h296km±61km, mb3.2, mpv4.5, Error ellipse: s-maj=83.8km s-min=43.3km az=4.0*

ISC 19 08:04:05.3±0.4, 36.71N±0.05×70.70E±0.05, h286km±3km, h285km: pP-P, n106, σ1°34/132, mb4.0/26, 13C-9D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.05**	**161**	⇑P	**Pn**	**08 05 01.1**	**+0.3**
CEP				S	**S**	**08 05 43.0**	**-2.0**
CHCP	**Chirah Chowk**	**3.70**	**145**	P	**Pn**	**08 05 08.1**	**+0.5**
THW	**Thamme Wali**	**4.00**	**167**	⇑P	**Pn**	**08 05 10.8**	**-0.1**
KSH	**Kashi**	**5.01**	**54**	*i* P	Pn	08 05 17.3	-5.2
KSH				S	S	08 06 04.3	-20
KSH				smax	smax		
	comp=N,150nm,0.5s						
KSH				smax	smax		
	comp=E,150nm,0.3s						
AML	**Almayashu**	**5.89**	**22**	P	**Pn**	**08 05 32.5**	**-0.7**
	SNR=97						
THN	**Thein Dam**	**5.94**	**134**	*e*PKP	**Pn**	**08 05 33.1**	**-0.5**
THN				*ex*	x	08 06 35.4	
DLH	**Dalhousie**	**6.01**	**132**	*e*PKP	**Pn**	**08 05 34.0**	**-0.7**
DLH				*ex*	**S**	**08 06 44.0**	**-2.5**
UCH	**Uchtor**	**6.25**	**27**	P	**S**	**08 06 49.8**	**-2.1**
	SNR=6.8						
KK31	**Karatay Array**	**6.39**	**359**	⇓P	**Pn**	**08 05 38.1**	**-0.7**
	comp=E,58nm,0.5s,baz=180,slow=12						
KK31				⇓S	S	08 06 46.8	-7.4
	comp=E,62nm,0.9s,baz=192,slow=22						
KK31	**Karatay Array**	**6.39**	**359**	PN	**Pn**	**08 05 38.1**	**-0.7**
KK31				pmax	pmax		
	comp=Z,79nm,0.4s						
EKS2	**Erkin-Say**	**6.40**	**21**	P	**Pn**	**08 05 38.8**	**-0.3**
	SNR=37						
KZA	**Kyzart**	**6.41**	**32**	P	**Pn**	**08 05 40.3**	**+0.7**
	SNR=9.3						
DHRM	**DHARAMSHALA**	**6.42**	**132**	*e*P	**Pn**	**08 05 39.7**	**+0.1**
AAK	**Ala-Archa**	**6.60**	**25**	*d* iPN	**Pn**	**08 05 41.3**	**-0.3**
AAK				pmax	pmax		
	comp=Z,42nm,0.5s						
AAK	**Ala-Archa**	**6.60**	**25**	P	**Pn**	**08 05 41.5**	**-0.1**
	SNR=42						
AAK	**Ala-Archa**	**6.60**	**25**	P	**Pn**	**08 05 41.3**	**-0.3**
	comp=Z,8.1nm,0.3s,baz=196,slow=6.8,SNR=110						
AAK				S	S	08 06 50.4	-8.7
	comp=Z,1.2nm,0.3s,baz=207,slow=17,SNR=3.7						
KBK	**Karagaybulak**	**6.78**	**28**	P	**Pn**	**08 05 44.0**	**+0.2**
	SNR=8.6						
ULHL	**Ulahol**	**6.99**	**36**	P	**Pn**	**08 05 46.3**	**-0.2**
	SNR=5.8						
BHK	**Bhakra**	**7.10**	**136**	*e*PKP	**Pn**	**08 05 48.8**	**+1.1**
BHK				*ex*	x	08 07 04.2	
USP	**Ospenovka**	**7.17**	**23**	P	**Pn**	**08 05 47.3**	**-1.1**
	SNR=11						
TKM2	**Tokmak 2**	**7.26**	**30**	⇑P	**Pn**	**08 05 49.1**	**-0.6**
	comp=Z,10nm,0.5s						
TKM2				⇑S	S	08 06 58.5	-16
	comp=Z,23nm,0.9s						
TKM2	**Tokmak 2**	**7.26**	**30**	*i* PN	**Pn**	**08 05 49.2**	**-0.5**
TKM2	**Tokmak 2**	**7.26**	**30**	P	**Pn**	**08 05 49.2**	**-0.5**
	SNR=26						
SDNR	**Sundarnagar**	**7.35**	**133**	*e*PKP	**Pn**	**08 05 51.6**	**+0.7**
SDNR				*ex*	S	08 07 10.6	-5.5
SMLA	**Simla**	**7.74**	**134**	*i* P	**Pn**	**08 05 55.8**	**+0.2**
SMLA				*i* S	**S**	**08 07 20.6**	**-4.2**
SMLA				⇓AML	AML	08 07 23.3	
	comp=N,553nm,0.1s						
SMLA				⇓AML	AML	08 07 23.4	
	comp=E,587nm,0.2s						
DDI	**Dehra Dun**	**8.85**	**134**	*ex*	**Pn**	**08 06 08.2**	**-1.2**
DDI				*ex*	**S**	**08 07 51.0**	**+0.9**
KHET	**Khetri**	**9.63**	**152**	*e*PKP	**Pn**	**08 06 18.0**	**-1.1**
KHET				*e*S	S	08 07 58.7	-9.3
NDI	**New Delhi**	**9.70**	**144**	*ex*	Pn	08 06 17.0	-3.0
NDI				*ex*	x	08 08 02.0	
KUDL	**Kundal**	**9.84**	**149**	*e*PKP	**Pn**	**08 06 20.5**	**-1.1**
KUDL				*e*S	S	08 08 04.5	-8.2
AGRA	**Agra**	**11.27**	**145**	*ex*	**Pn**	**08 06 39.0**	**-0.2**
AGRA				*e*S	**S**	**08 08 42.0**	**-3.3**
AGRA				AML	AML	08 08 45.3	
	comp=E,95nm,0.4s						
AGRA				AML	AML	08 08 45.7	
	comp=N,64nm,0.3s						
MK31	**Makanchi Array**	**13.27**	**37**	⇑P	**P**	**08 07 03.6**	**-0.2**
	comp=N,3.7nm,0.4s,ba

ZALV					pmax	pmax			
	comp=Z,6.0nm,0.3s								
ZALV	**Zalesovo Beam**	**19.83**	**25**	P		**P**	**08 08 15.0**	**0.0**	
	comp=Z,6.2nm,0.3s,baz=221,slow=11,SNR=74								
ZALV					S	**S**	**08 11 40.3**	**-1.6**	
	comp=Z,0.2nm,0.3s,baz=217,slow=16,SNR=3.9								
NVS	**Novosibirsk**	**20.07**	**21**	*e*P		**P**	**08 08 16.4**	**-1.1**	
NVS				*e*S		**S**	**08 11 44.8**	**-1.4**	
NVS					pmax	pmax			
	comp=Z,30nm,1.3s								
NVS					pmax	pmax			
	comp=N,12nm,0.8s								
NVS					smax	smax			
	comp=N,15nm,1.3s								
NVS					smax	smax			
	comp=E,8.0nm,1.3s								
HYB	**Hyderabad**	**20.43**	**158**	*e*P		**P**	**08 08 21.5**	**-0.3**	
HYB				*e*S		S	08 12 55.0	+62	
SHL	**Shillong**	**21.22**	**116**	*ex*		**P**	**08 08 31.0**	**+1.4**	
SHL				*ex*		x	08 12 13.0		
ARU	**Arti**	**21.36**	**341**	*c i*P		**P**	**08 08 31.5**	**+1.2**	
ARU					S	**S**	**08 12 12.9**	**+5.7**	
ARU					pmax	pmax			
	comp=Z,18nm,0.7s								
BHD	**Baghdad**	**21.81**	**269**	*ex*		**pP**	**08 09 21.0**	**+0.2**	
BHD				*ex*		x	08 13 37.5		
VIS	**Vishakhapatnam**	**21.96**	**146**	*ex*		**P**	**08 08 38.6**	**+2.5**	
KIV	**Kislovodsk**	**22.48**	**297**	*e*P		**P**	**08 08 38.3**	**-2.4**	
KIV					pmax	pmax			
	comp=Z,7.0nm,1.0s								
GTA	**Gaotai**	**23.04**	**74**	*e*P		**P**	**08 08 49.3**	**+3.3**	
ZAK	**Zakamensk**	**27.04**	**49**	*e*P		**P**	**08 09 17.7**	**-4.0**	
ZAK				*e*			08 12 32.6		
ZAK					pmax	pmax			
	comp=Z,2.0nm,1.0s								
SONM	**Songino Array**	**28.42**	**56**	P		**P**	**08 09 35.9**	**+2.0**	
	comp=Z,3.1nm,0.8s,baz=256,slow=9.8,SNR=12								
BRTR	**Keskin Array B**	**29.14**	**287**	P		**P**	**08 09 41.3**	**+0.8**	
	comp=Z,0.4nm,0.4s,baz=86,slow=10,SNR=4.5								
BRTR					pP	**pP**	**08 10 35.1**	**-0.6**	
	comp=Z,1.8nm,0.8s,baz=92,slow=8.4,SNR=6.1								
OBN	**Obninsk**	**29.62**	**319**	*e*P		**P**	**08 09 44.9**	**+0.7**	
OBN				*e**PP		**pP**	**08 10 41.4**	**+1.9**	
OBN					pmax	pmax			
	comp=Z,8.0nm,0.6s								
CMAR	**Chiang Mai Arr**	**30.77**	**119**	P		**P**	**08 09 56.3**	**+1.5**	
	comp=Z,1.2nm,0.3s,baz=298,slow=8.1,SNR=4.7								
KLMR	**Klimovskoe**	**31.18**	**331**	*e*P		**P**	**08 09 55.1**	**-2.7**	
KLMR					pmax	pmax			
	comp=Z,18nm,1.4s								
AKASG	**Malin Array Be**	**32.62**	**309**	P		**P**	**08 10 10.8**	**+0.3**	
AKASG				*SP		**sP**	**08 11 40.0**	**+0.6**	
AKASG					pmax	pmax			
	comp=Z,2.0nm,0.6s								
AKASG					pmax	pmax			
	comp=Z,2.0nm,0.6s								
AKASG	**Malin Array Be**	**32.62**	**309**	P		**P**	**08 10 10.8**	**+0.3**	
	comp=Z,1.7nm,0.6s,baz=79,slow=7.1,SNR=7.1								
AKASG					sP	**sP**	**08 11 40.0**	**+0.6**	
	comp=Z,1.8nm,0.6s,baz=82,slow=7.4,SNR=3.1								
BOD	**Bodaibo**	**35.34**	**39**	*e*P		**P**	**08 10 34.7**	**+1.0**	
JOF	**Joensuu**	**35.56**	**330**	*e*P		**P**	**08 10 35.9**	**+0.4**	
JOF					pmax	pmax			
	comp=Z,9.0nm,0.5s								
JOF	**Joensuu**	**35.56**	**330**	*ep*		**P**	**08 10 35.9**	**+0.4**	
	comp=Z,9.2nm,0.5s								
VSU	**Vasula**	**35.87**	**321**	*i* P		**P**	**08 10 38.7**	**+0.6**	
VSU					pmax	pmax			
	comp=Z,6.0nm,0.6s								
FINES	**FINESS Array B**	**37.17**	**326**	P		**P**	**08 10 49.3**	**+0.2**	
	comp=Z,6.0nm,0.6s,baz=105,slow=10,SNR=21								
KAF	**Kangasniemi**	**37.32**	**327**	*e*P		**P**	**08 10 49.6**	**-0.7**	
KAF					pmax	pmax			
	comp=Z,3.0nm,0.8s								
KAF	**Kangasniemi**	**37.32**	**327**	*ep*		**P**	**08 10 49.6**	**-0.7**	
	comp=Z,3.4nm,0.8s								
KEV	**Kevo**	**40.52**	**338**	*e*P		**P**	**08 11 16.5**	**0.0**	
KEV					pmax	pmax			
	comp=Z,1.0nm,0.3s								
KEV	**Kevo**	**40.52**	**338**	*ep*		**P**	**08 11 16.5**	**0.0**	
	comp=Z,1.1nm,0.3s								
ARCES	**ARCESS Array B**	**40.86**	**338**	P		**P**	**08 11 20.3**	**+0.9**	
	comp=Z,8.7nm,0.7s,baz=110,slow=7.5,SNR=34								
YAK	**Yakutsk**	**43.94**	**36**	*e*P		**P**	**08 11 43.9**	**-0.1**	
YAK					pmax	pmax			
	comp=Z,15nm,0.9s								
NB2	**NORSAR Subarra**	**44.07**	**323**	P		**P**	**08 11 45.3**	**+0.1**	
	comp=Z,5.0nm,0.7s,baz=97,slow=7.9								
NOA	**NORSAR Array B**	**44.07**	**323**	P		**P**	**08 11 45.3**	**+0.1**	
	comp=Z,4.5nm,0.7s,baz=96,slow=7.7,SNR=23								
NOA					pP	**pP**	**08 12 45.5**	**+1.5**	
	comp=Z,1.7nm,0.8s,baz=96,slow=8.3,SNR=4.3								
NOA					sP	**sP**	**08 13 16.1**	**-0.2**	
	comp=Z,1.4nm,0.7s,baz=97,slow=8.2,SNR=2.9								
KSRS	**Korea Array**	**45.04**	**71**	P		**P**	**08 11 53.5**	**+0.4**	
	comp=Z,1.0nm,0.6s,baz=275,slow=6.7,SNR=3.5								
SEY	**Seymchan**	**54.38**	**34**	*e*P		**P**	**08 13 04.6**	**+1.9**	
BILL	**Bilíbino**	**58.52**	**26**	*e*P		**P**	**08 13 33.6**	**+1.9**	
BILL				*e*			08 15 45.0		
BILL					pmax	pmax			
	comp=Z,4.0nm,0.8s								
TORD	**Torodi Ar. Bea**	**65.48**	**268**	P		**P**	**08 14 17.5**	**-1.0**	
	comp=Z,6.8nm,0.7s,baz=49,slow=5.8,SNR=59								
DBIC	**Dimbokro**	**74.47**	**267**	P		**P**	**08 15 12.4**	**-0.5**	
	comp=Z,1.9nm,0.7s,baz=38,slow=9.9,SNR=3.9								
ILAR	**Eielson Array**	**74.64**	**16**	P		**P**	**08 15 13.2**	**+0.1**	
	comp=Z,1.8nm,0.9s,baz=321,slow=4.8,SNR=25								
ILAR					pP	**pP**	**08 16 19.3**	**+0.5**	
	comp=Z,0.7nm,1.0s,baz=329,slow=4.6,SNR=3.3								
BOSA	**Boshof**	**77.75**	**220**	P		**P**	**08 15 31.5**	**+0.4**	
	comp=Z,2.8nm,0.9s,baz=18,slow=6.4,SNR=4.0								
YKA	**Yellowknife Ar**	**81.05**	**2**	P		**P**	**08 15 48.7**	**+0.4**	
	comp=Z,1.7nm,0.7s,baz=350,slow=5.4,SNR=45								
YKA					pP	**pP**	**08 16 56.5**	**+1.5**	
	comp=Z,0.7nm,0.7s,baz=350,slow=5.6,SNR=5.4								
YKA					sP	**sP**	**08 17 24.9**	**-0.4**	
	comp=Z,0.9nm,0.8s,baz=349,slow=5.5,SNR=3.7								
YKA				PKKPbc		**PKKPbc**	**08 34 21.2**	**-1.6**	
	comp=Z,0.1nm,0.6s,baz=178,slow=2.2,SNR=4.1								
WRA	**Warramunga Arr**	**82.31**	**122**	P		**P**	**08 15 54.4**	**-1.0**	
	comp=Z,0.8nm,0.6s,baz=329,slow=5.1,SNR=15								
WRA					pP	**pP**	**08 17 02.6**	**0.0**	
	comp=Z,0.6nm,0.8s,baz=323,slow=5.0,SNR=3.8								
ASAR	**Alice Springs**	**84.57**	**125**	P		**P**	**08 16 05.6**	**-1.3**	
	comp=Z,0.8nm,0.7s,baz=313,slow=5.0,SNR=12								
ASAR					pP	**pP**	**08 17 14.7**	**+0.3**	
	comp=Z,0.4nm,0.6s,baz=310,slow=5.3,SNR=3.4								
CPUP	**Villa Florida**	**134.98**	**268**	PKP		**PKPdf**	**08 22 49.5**	**-1.1**	
	comp=Z,1.3nm,0.7s,baz=358,slow=4.6,SNR=4.7								
PLCA	**Paso Flores**	**149.67**	**250**	PKPbc		**PKPbc**	**08 23 21.1**	**0.0**	
	comp=Z,3.6nm,0.9s,baz=18,slow=3.2,SNR=5.3								

*BEO **19** 08:23:07.3±0.5, 44°.19N×18°.09E, h2km±5km, ML2.4/4*
*CSEM **19** 08:23:07.3±0.1, 44°.19N×18°.13E, h2km, ML2.4, Error ellipse: s-maj=5.7km s-min=2.5km az=27.0*
*VIE **19** 08:23:14.6±0.5, 44°.73N×18°.08E, h10km, mb2.4/1, ML2.6/3, Error ellipse: s-maj=4.2km s-min=2.6km az=1.0 48 km S of Slavonski Brod*

ISC 19 08:23:06.7±1.1, 44°.16N±0°.03×18°.04E±0°.02, h11km±10km, n35, σ1s13/53, 5C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLY	**Banja Luka**	**0.85**	**314**	*i*Pg	**Pb**	**08 23 23.5**	**0.0**
BLY				*e*Sg	**Sb**	**08 23 35.6**	**+0.6**
BLY	**Banja Luka**	**0.85**	**314**	*i*Pg	**Pb**	**08 23 23.5**	**0.0**
BLY				*e*Sg	**Sb**	**08 23 35.6**	**+0.6**
TEKS	**Tekeris**	**1.14**	**69**	*e*Pn	**Pn**	**08 23 28.8**	**+0.2**
TEKS	**Tekeris**	**1.14**	**69**	*e*Pn	**Pn**	**08 23 28.8**	**+0.2**
STON	**Ston**	**1.31**	**191**	*i* Pg	**Pn**	**08 23 30.3**	**-0.5**
STON				Sg	**Sb**	**08 23 48.1**	**+0.1**
STON	**Ston**	**1.31**	**191**	*i* Pg	**Pn**	**08 23 30.3**	**-0.5**
STON				Sg	**Sb**	**08 23 48.0**	**+0.1**
DIVS	**Divibare**	**1.41**	**92**	*e*Pn	**Pg**	**08 23 33.8**	**0.0**
DIVS				*e*Sg	**Sb**	**08 23 51.0**	**-0.1**
DIVS	**Divibare**	**1.41**	**92**	*e*Pn	**Pg**	**08 23 33.8**	**0.0**
DIVS				*e*Sg	**Sb**	**08 23 51.0**	**-0.1**
FGSL	**Fruska Gora**	**1.61**	**51**	*i*Pn	**Pn**	**08 23 35.4**	**+0.2**
FGSL				*e*Sn	**Sg**	**08 23 57.4**	**-1.3**
FRGS	**Fruska Gora**	**1.61**	**51**	*i*Pn	**Pn**	**08 23 35.4**	**+0.2**
FRGS				*e*Sn	**Sg**	**08 23 57.4**	**-1.3**
IVAS	**Ivanjica**	**1.64**	**110**	*i*Pn	**Pb**	**08 23 37.1**	**+0.2**
IVAS	**Ivanjica**	**1.64**	**110**	*i*Pn	**Pb**	**08 23 37.1**	**+0.2**
TRUS	**Trudelj**	**1.71**	**87**	*e*Pn	**Pn**	**08 23 37.0**	**+0.6**
TRUS	**Trudelj**	**1.71**	**87**	*e*Pn	**Pn**	**08 23 37.0**	**+0.6**
PDG	**Podgorica**	**1.94**	**152**	*e*Pn	**Pn**	**08 23 40.7**	**+1.1**
PDG				*e*Sn	**Sb**	**08 24 07.0**	**+0.8**
PDG	**Podgorica**	**1.94**	**152**	*e*Pn	**Pn**	**08 23 40.7**	**+1.1**
PDG				*e*Sn	**Sb**	**08 24 07.0**	**+0.8**
GRUS	**Gruza**	**1.95**	**97**	*e*Pn	**Pn**	**08 23 40.5**	**+0.8**
GRUS	**Gruza**	**1.95**	**97**	*e*Pn	**Pn**	**08 23 40.5**	**+0.8**
PKSM	**Moragy**	**2.10**	**12**	*i*P	**Pn**	**08 23 42.6**	**+0.8**
PKSM	**Moragy**	**2.10**	**12**	*e*Pn	**Pn**	**08 23 42.7**	**+0.9**
PKSM	**Moragy**	**2.10**	**12**	*e*Pn	**Pn**	**08 23 42.7**	**+0.9**
NVLJ	**Novalja**	**2.31**	**281**	*e*Pn	**Pb**	**08 23 47.4**	**-1.0**
NVLJ					Sn	**Sb**	**08 24 15.8**	**-1.0**
NVLJ	**Novalja**	**2.31**	**281**	*e*Pn	**Pb**	**08 23 47.3**	**-1.0**
NVLJ					Sn	**Sb**	**08 24 15.8**	**-1.0**
BZS	**Buzias**	**2.93**	**59**	*i*P	**Pn**	**08 23 54.3**	**+1.0**
BARS	**Barje**	**3.06**	**115**	*e*Pn	**Pn**	**08 23 56.0**	**+1.0**
BARS	**Barje**	**3.06**	**115**	*e*Pn	**Pn**	**08 23 56.0**	**+1.0**
OBKA	**Obir**	**3.41**	**315**	*i*Pn	Pn	08 24 03.2	+3.4
OBKA				*i*Sg	**Sg**	**08 24 55.9**	**-0.2**
	5.0nm,0.5s						
OBKA	**Obir**	**3.41**	**315**	Pn	Pn	08 24 03.2	+3.4
OBKA				Sg	**Sg**	**08 24 55.9**	**-0.2**
	5.0nm,0.5s						
ZAPS	**Zavoj**	**3.45**	**103**	*e*Pn	**Pn**	**08 24 00.6**	**+0.2**
ZAPS				*e*Sn	**Sn**	**08 24 42.0**	**+0.8**
VOY	**Vojsko**	**3.48**	**304**	*e*Pn	**Pn**	**08 24 03.2**	**+2.3**
VOY				*e*		08 24 09.9	
VOY				*e*Sn	**Sn**	**08 24 42.2**	**0.0**
VOY	**Vojsko**	**3.48**	**304**	*e*Pn	**Pn**	**08 24 03.2**	**+2.3**
VOY				*e*Sn	**Sn**	**08 24 42.2**	**0.0**
ARSA	**Arzberg**	**3.56**	**331**	*i*Pn	**Pn**	**08 24 03.9**	**+2.0**
ARSA				*i*Sn	**Sn**	**08 24 41.1**	**-3.0**
ARSA	**Arzberg**	**3.56**	**331**	Pn	**Pn**	**08 24 03.9**	**+2.0**
MOA	**Molln**	**4.53**	**326**	*i*Pn	**Pn**	**08 24 17.2**	**+1.9**
MOA				*i*Sn	**Sn**	**08 25 06.0**	**-2.0**
MOA	**Molln**	**4.53**	**326**	Pn	**Pn**	**08 24 17.2**	**+1.9**
MOA				Sn	**Sn**	**08 25 06.0**	**-2.0**

*CASC **19** 08:26:19.5±3.4, 13°.06N×91°.83W, h0km±66km, MD4.2, ML3.9*
*ISCJB **19** 08:26:22.9±0.7, 13°.27N±0°.06×91°.69W±0°.04, h10km, mb3.9/10, MS3.8/7, Error ellipse: s-maj=9.3km s-min=5.2km az=22.6*
*IDC **19** 08:26:23.8±0.9, 13°.73N×90°.98W, h0km, mb3.8/9, mb1 4.1/11, mb1mx3.9/26, mbtmp3.8/11, ML4.1/2, MS3.7/7, Ms1 3.8/7, ms1mx3.2/36, Error ellipse: s-maj=44.6km s-min=16.5km az=59.0*

ISC 19 08:26:25.0±0.7, 13°.36N±0°.06×91°.51W±0°.06, h10km, n39, σ1s36/41, mb4.0/10, MS3.7/7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**1.27**	**31**	*e*P	**Pn**	**08 26 49.4**	**+0.5**
FUG				*e*S	Sn	08 27 19.3	+13
FG6		**1.34**	**27**	*e*P	**Pn**	**08 26 50.7**	**+0.6**
FG6				*e*S	Sg	08 27 22.8	+14
PCG	**Pacaya**	**1.36**	**40**	*e*P	**Pn**	**08 26 51.2**	**+0.9**
PCG				*e*S	Sg	08 27 20.8	+11
TP2	**Tecpan 2**	**1.50**	**19**	*e*P	**Pn**	**08 26 53.3**	**+1.0**
TP2				*e*S	Sg	08 27 27.0	+13
NBG	**Las Nubes**	**1.67**	**43**	*e*P	**Pn**	**08 26 55.9**	**+1.3**
NBG				*e*S	Sg	08 27 26.9	+8.2
RTR	**El Retiro**	**1.89**	**73**	*e*P	**Pn**	**08 26 57.8**	**+0.2**
SBLS	**San Blas**	**1.90**	**75**	*e*P	**Pn**	**08 26 57.7**	**0.0**
SNJE	**San Jose**	**1.92**	**74**	*e*P	**Pn**	**08 26 58.3**	**+0.3**
RBDL	**Robledal**	**1.93**	**67**	*e*P	**Pn**	**08 26 58.5**	**+0.5**
BOQS	**Boqueron**	**2.21**	**80**	*e*P	**Pn**	**08 27 02.4**	**+0.6**
SNET	**Serv Nac Est T**	**2.24**	**81**	*e*P	**Pn**	**08 27 02.7**	**+0.4**
SNET				AML	AML	08 27 43.4	
	comp=Z,738nm,0.9s						
SNET				AML	AML	08 27 44.0	
	comp=Z,882nm,0.7s						
MTO2	**Montecristo 2**	**2.33**	**63**	*e*P	**Pn**	**08 27 04.3**	**+0.7**
MTO2				*e*S	**Sb**	**08 27 34.7**	**-1.6**
LFRS	**El Faro**	**2.40**	**83**	*e*P	**Pn**	**08 27 05.8**	**+1.3**
LBRS	**Las Brisas**	**2.43**	**81**	*e*P	**Pn**	**08 27 06.1**	**+1.2**
MRL	**Marmol**	**2.45**	**46**	*e*P	**Pn**	**08 27 07.7**	**+2.5**
MRL				*e*S	**Sb**	**08 27 42.1**	**+2.4**
SNVI	**San Vicente**	**2.61**	**84**	*e*P	**Pn**	**08 27 08.8**	**+1.3**
VSM	**San Miguel**	**3.15**	**88**	*e*P	**Pn**	**08 27 16.8**	**+1.8**
BLLM	**Bellamira**	**3.19**	**88**	*e*P	**Pn**	**08 27 16.9**	**+1.7**
CAHU	**Cacaquatique**	**3.24**	**82**	*e*P	**Pn**	**08 27 17.3**	**+1.2**
CNCH	**Conchagua**	**3.58**	**91**	*e*P	**Pn**	**08 27 21.8**	**+1.0**
CMIG	**Matias Romero**	**4.94**	**319**	Pn	**Pn**	**08 27 39.5**	**+0.2**
	comp=Z,2.8nm,0.3s,baz=118,slow=10,SNR=39						
CMIG				Sn	**Sn**	**08 28 34.7**	**-1.8**
	comp=Z,3.3nm,0.3s,baz=60,slow=4.8,SNR=5.1						
JTS	**JuntasAbangare**	**7.11**	**115**	Pn	**Pn**	**08 28 11.4**	**+2.2**
	comp=Z,1.0nm,0.3s,baz=298,slow=15,SNR=12						
JTS				Sn	**Sn**	**08 29 27.0**	**-3.1**
	comp=Z,1.1nm,0.3s,baz=282,slow=20,SNR=2.9						
JTS				Lg	Lg	08 30 07.0	
	baz=273,slow=16,SNR=4.5						
TEIG	**Tepich**	**7.50**	**24**	Pn	**Pn**	**08 28 15.0**	**+0.4**
	comp=Z,9.4nm,0.3s,baz=203,slow=13,SNR=62						
TEIG				Sn	**Sn**	**08 29 39.2**	**-0.5**
	baz=331,slow=19,SNR=1.5						
TXAR	**Lajitas Array**	**19.49**	**327**	P	**P**	**08 30 54.0**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=156,slow=13,SNR=31						
TKL	**Tuckaleechee C**	**23.28**	**16**	P	**P**	**08 31 31.3**	**-1.6**
	comp=Z,6.5nm,0.6s,baz=184,slow=10,SNR=14						
TKL				LR	LR	08 41 31.8	
	comp=Z,206nm,18.3s,baz=270,slow=40						
ANMO	**Albuquerque**	**25.40**	**330**	P	**P**	**08 31 51.3**	**-1.6**
	comp=Z,1.1nm,0.7s,baz=142,slow=14,SNR=6.8						
PDAR	**Pinedale Array**	**33.20**	**335**	P	**P**	**08 33 02.5**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=137,slow=9.4,SNR=3.2						
NVAR	**Mina Array Bea**	**34.47**	**321**	P	**P**	**08 33 15.4**	**+2.0**
	comp=Z,1.8nm,0.6s,baz=133,slow=7.7,SNR=7.3						
ULM	**Lac du Bonnet**	**36.97**	**355**	P	P	08 33 31.3	-3.1
	comp=Z,2.2nm,0.6s,baz=155,slow=7.2,SNR=3.9						
ULM				LR	LR	08 52 44.3	
	comp=Z,126nm,18.6s,baz=217,slow=43						
SIV	**San Ignacio**	**41.91**	**133**	P	**P**	**08 34 15.9**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=310,slow=9.4,SNR=6.9						
SIV				LR	LR	08 52 02.6	
	comp=Z,62nm,20.4s,slow=37						
SCHQ	**Schefferville**	**45.66**	**20**	P	P	08 34 41.8	-4.0
	comp=Z,2.2nm,0.7s,baz=215,slow=11,SNR=7.2						
SCHQ				LR	LR	08 54 25.6	
	comp=Z,175nm,18.2s,baz=250,slow=37						
CFAA	**Coronel Fontan**	**49.97**	**154**	P	**P**	**08 35 20.3**	**+0.8**
	comp=Z,0.1nm,0.4s,baz=324,slow=19,SNR=3.5						
YKA	**Yellowknife Ar**	**51.76**	**347**	P	**P**	**08 35 30.8**	**-1.7**
	comp=Z,1.2nm,0.7s,baz=149,slow=7.7,SNR=36						
YKA				PcP	**PcP**	**08 36 44.9**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=152,slow=3.7,SNR=13						
ILAR	**Eielson Array**	**63.62**	**337**	P	**P**	**08 36 55.1**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=134,slow=3.9,SNR=26						
ILAR				LR	LR	09 05 56.2	
	comp=Z,68nm,18.5s,baz=296,slow=37						
NOA	**NORSAR Array B**	**84.48**	**28**	LR	LR	09 14 10.8	
	comp=Z,24nm,19.6s,baz=85,slow=34						
ARCES	**ARCESS Array B**	**86.60**	**18**	LR	LR	09 15 59.4	
	comp=Z,53nm,20.5s,baz=329,slow=35						
WRA	**Warramunga Arr**	**135.69**	**255**	PKP	**PKPdf**	**08 45 46.5**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=92,slow=3.1,SNR=5.5						
ASAR	**Alice Springs**	**135.89**	**250**	PKP	**PKPdf**	**08 45 46.9**	**-0.1**
	comp=Z,0.4nm,1.0s,baz=41,slow=3.0,SNR=2.5						
CMAR	**Chiang Mai Arr**	**146.75**	**342**	PKPbc	**PKPdf**	**08 46 08.0**	**+1.4**
	comp=Z,2.4nm,0.8s,baz=344,slow=3.9,SNR=15						

IDC 19 08:26:32.8±0.8, 4°.24N×126°.76E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.8/22, mbtmp3.7/9, MS3.3/2, Ms1 3.3/2, ms1mx2.4/44, Error ellipse: s-maj=57.5km s-min=15.5km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.22**	**183**	P	P	08 31 30.9	-0.3
	1.1nm,0.4s,baz=16,slow=9.8,SNR=3.5						
WRA	**Warramunga Arr**	**25.16**	**163**	P	P	08 31 59.9	0.0
	4.6nm,0.9s,baz=342,slow=10,SNR=24						
ASAR	**Alice Springs**	**28.59**	**166**	P	P	08 32 30.8	-0.1
	0.5nm,0.7s,baz=351,slow=7.8,SNR=6.0						
CMAR	**Chiang Mai Arr**	**30.65**	**300**	LR	LR	08 44 55.6	
	comp=Z,28nm,18.4s,baz=210,slow=36						
STKA	**Stephens Creek**	**38.59**	**160**	P	P	08 33 58.0	+0.4
	1.1nm,0.3s,baz=338,slow=9.5,SNR=6.2						
STKA				LR	LR	08 52 15.6	
	comp=Z,60nm,18.3s,baz=24,slow=40						
SONM	**Songino Array**	**46.83**	**341**	P	P	08 35 05.9	+1.3
	0.3nm,0.6s,baz=153,slow=9.7,SNR=3.0						
MKAR	**Makanchi Array**	**57.16**	**325**	P	P	08 36 21.5	-0.1
	0.6nm,0.4s,baz=124,slow=8.4,SNR=12						
ZALV	**Zalesovo Beam**	**60.16**	**333**	P	P	08 36 41.1	-1.1
	0.3nm,0.4s,baz=132,slow=8.6,SNR=2.7						
ILAR	**Eielson Array**	**84.64**	**25**	P	P	08 39 07.2	-0.9
	0.3nm,0.8s,baz=251,slow=5.4,SNR=3.5						
YKA	**Yellowknife Ar**	**99.03**	**24**	P	Pdif	08 40 16.0	+0.6
	0.1nm,0.5s,baz=302,slow=4.6,SNR=2.7						

*ISCJB **19** 08:39:47.2±2.2, 13°.03N±0°.07×91°.73W±0°.06, h15km±22km, mb3.3/2, Error ellipse: s-maj=11.8km s-min=10.0km az=147.3*
*CASC **19** 08:39:49.5±2.9, 13°.12N×91°.62W, h14km±12km, MD3.8*
*IDC **19** 08:39:57.6±7.1, 13°.39N×91°.30W, h77km±68km, mb2.8/2, mb1 3.2/4, mb1mx3.1/23, mbtmp2.8/4, ML3.0/1, Error ellipse: s-maj=258.2km s-min=49.1km az=38.0*

ISC 19 08:39:49.8±3.1, 13°.18N±0°.09×91°.66W±0°.08, h14km±15km, n20, σ1s03/27, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**1.49**	**32**	*e*P	**Pn**	**08 40 14.7**	**-1.6**
FUG				*e*S	**Sg**	**08 40 38.3**	**+0.3**
FG6		**1.57**	**29**	*e*P	**Pn**	**08 40 17.9**	**+0.4**
FG6				*e*S	**Sg**	**08 40 40.5**	**+0.1**
PCG	**Pacaya**	**1.58**	**40**	*e*P	**Pn**	**08 40 16.6**	**-1.0**
PCG				*e*S	**Sg**	**08 40 40.2**	**-0.8**
TP2	**Tecpan 2**	**1.71**	**21**	*e*P	**Pn**	**08 40 18.5**	**-1.0**
TP2				*e*S	**Sb**	**08 40 44.5**	**+1.7**
NBG	**Las Nubes**	**1.90**	**42**	*e*P	**Pn**	**08 40 21.7**	**-0.3**
NBG				*e*S	**Sn**	**08 40 47.4**	**+1.6**
RTR	**El Retiro**	**2.09**	**70**	*e*P	**Pn**	**08 40 24.1**	**-0.4**
SBLS	**San Blas**	**2.09**	**71**	*e*P	**Pn**	**08 40 23.8**	**-0.8**
SBLS				*e*S	**Sn**	**08 40 50.2**	**-0.3**
SNJE	**San Jose**	**2.11**	**71**	*e*P	**Pn**	**08 40 24.6**	**-0.3**
RBDL	**Robledal**	**2.13**	**64**	*e*P	**Pn**	**08 40 23.9**	**-1.2**
BOQS	**Boqueron**	**2.38**	**76**	*e*P	**Pn**	**08 40 28.3**	**-0.3**
MTO2	**Montecristo 2**	**2.54**	**61**	*e*P	**Pn**	**08 40 29.6**	**-1.2**
MTO2				*e*S	**Sn**	**08 40 59.4**	**-2.3**
LFRS	**El Faro**	**2.57**	**80**	*e*P	**Pn**	**08 40 31.0**	**-0.1**
MRL	**Marmol**	**2.68**	**45**	*i* Pg	**Pn**	**08 40 32.6**	**0.0**
MRL				*e*P	Pb	08 40 33.0	-4.6
MRL				*e*S	**Sn**	**08 41 05.8**	**+0.9**
SNVI	**San Vicente**	**2.78**	**81**	*e*P	**Pn**	**08 40 33.9**	**-0.1**
BLLM	**Bellamira**	**3.34**	**85**	*e*P	**Pn**	**08 40 42.3**	**+0.6**
CNCH	**Conchagua**	**3.73**	**88**	*e*P	**Pn**	**08 40 47.8**	**+0.8**
JTS	**JuntasAbangare**	**7.17**	**113**	P	Pn	08 41 36.7	+2.5
	0.3nm,0.3s,baz=293,slow=15,SNR=4.4						
TXAR	**Lajitas Array**	**19.56**	**327**	P	**Pn**	**08 44 19.7**	**+1.0**
	0.1nm,0.3s,baz=161,slow=12,SNR=5.8						
YKA	**Yellowknife Ar**

KRUC			*e*Sg		**Sn**	**08 44 39.9**	**-0.3**
	48nm,0.7s,baz=60						
UPC	**Upice**	**1.72 294**	*e*PG		**Pn**	**08 44 22.2**	**+0.8**
UPC			*e*SG		**Sb**	**08 44 45.5**	**+0.7**
UPC	**Upice**	**1.72 294**	Pg		**Pn**	**08 44 22.2**	**+0.8**
UPC			Sg		**Sb**	**08 44 45.5**	**+0.7**
KSP	**Ksiaz**	**1.72 307**	*e*Pn		**Pn**	**08 44 21.0**	**-0.4**
KSP			*e*Sn		**Sg**	**08 44 46.1**	**+0.6**
KSP	**Ksiaz**	**1.72 307**	*e*Pn		**Pn**	**08 44 21.0**	**-0.4**
KSP			*e*Sn		**Sg**	**08 44 46.1**	**+0.6**
KSP	**Ksiaz**	**1.72 307**	*e*PG		**Pb**	**08 44 23.0**	**+0.3**
KSP	**Ksiaz**	**1.72 307**	*e*Pn		**Pn**	**08 44 20.8**	**-0.6**
KSP	**Ksiaz**	**1.72 307**	*e*Pg		**Pb**	**08 44 23.4**	**+0.7**
KSP			*e*Sg		**Sb**	**08 44 45.4**	**+0.5**
PSZ	**Piszkesteto**	**2.14 153**	⇓*i*P		**Pg**	**08 44 31.6**	**+0.4**
PSZ	**Piszkesteto**	**2.14 153**	⇑e			08 44 34.3	
CRVS	**Cervenica-Dubn**	**2.17 114**	*e*PG		**Pb**	**08 44 31.5**	**+1.2**
CRVS			*e*SG		**Sg**	**08 45 01.8**	**+2.0**
CRVS	**Cervenica-Dubn**	**2.17 114**	*e*Pg		**Pb**	**08 44 31.5**	**+1.2**
CRVS			*e*Sg		**Sg**	**08 45 01.8**	**+2.0**
SOP	**Sopron**	**2.50 211**	⇑e			08 44 42.4	
PRU	**Pruhonice**	**2.54 275**	*e*PG		**Pb**	**08 44 36.9**	**+0.2**
PRU			*e*SG		**Sg**	**08 45 11.1**	**-0.8**
	comp=Z,12nm,0.7s						
PRU	**Pruhonice**	**2.54 275**	Pg		**Pb**	**08 44 36.9**	**+0.2**
PRU			Sg		**Sg**	**08 45 11.1**	**-0.8**
	12nm,0.7s						
CONA	**Conrad Observa**	**2.57 223**	⇓*i*Pn		**Pn**	**08 44 32.6**	**-0.6**
CONA			⇑*i*Sn		**Sn**	**08 45 02.8**	**-2.4**
CONA	**Conrad Observa**	**2.57 223**	Pn		**Pn**	**08 44 32.6**	**-0.6**
CONA			Sn		**Sn**	**08 45 02.8**	**-2.4**
KOLS	**Kolonicke sedl**	**2.64 109**	*e*PG		**Pg**	**08 44 40.7**	**-0.2**
KOLS	**Kolonicke sedl**	**2.64 109**	*e*Pg		**Pg**	**08 44 40.7**	**-0.2**
BRG	**Berggiesshubel**	**3.08 291**	PG		**Pb**	**08 44 46.7**	**+0.8**
BRG			SG		**Sg**	**08 45 28.3**	**-0.8**
	21nm,1.1s						
TRPA	**Tarpa**	**3.18 121**	⇑e			08 44 50.5	
KHC	**Kasperske Hory**	**3.27 259**	*e*PN		**Pn**	**08 44 42.0**	**-0.7**
KHC			*e*PG		**Pb**	**08 44 49.9**	**+0.8**
KHC			*e*SG		**Sg**	**08 45 35.4**	**+0.3**
	comp=Z,14nm,0.5s						
KHC	**Kasperske Hory**	**3.27 259**	Pn		**Pn**	**08 44 42.0**	**-0.7**
KHC			Sg		**Sg**	**08 45 35.4**	**+0.3**
	14nm,0.5s						
MOA	**Molln**	**3.42 236**	⇑*i*Pn		**Pn**	**08 44 44.5**	**-0.2**
MOA			⇓*i*Sg		**Sg**	**08 45 39.3**	**-0.6**
	4.7nm,0.6s						
MOA	**Molln**	**3.42 236**	Pn		**Pn**	**08 44 44.5**	**-0.2**
MOA			Sg		**Sg**	**08 45 39.3**	**-0.6**
	4.7nm,0.6s						
BEHE	**Becsehely**	**3.56 199**	⇑e			08 44 36.4	
CLL	**Collm**	**3.78 295**	*e*Sg		**Sg**	**08 45 49.0**	**-2.7**
	comp=Z,14nm,0.6s						

IDC 19 08:47:45.5±1.3,**2°13N×127°76E**,**h0**km,**mb4.0**/6,
mb1 4.3/6,**mb1mx3.9**/21,**mbtmp4.1**/6,**MS4.9**/1,**Ms1 4.9**/1,
ms1mx2.5/37,**Error ellipse: s-maj=90.0km**
s-min=17.8km az=69.0,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.21 186**		P	P	08 52 22.1	-0.1
	2.0nm,0.5s,baz=18,slow=10,SNR=8.9						
WRA	**Warramunga Arr**	**22.87 164**		P	P	08 52 51.4	+0.6
	18nm,0.5s,baz=343,slow=11,SNR=220						
JOW	**Kunigami**	**24.57 1**		LR	LR	09 01 33.0	
	comp=Z,3µm,21.8s,baz=46,slow=34						
ASAR	**Alice Springs**	**26.33 167**		P	P	08 53 22.8	-0.6
	2.3nm,0.5s,baz=350,slow=7.5,SNR=55						
STKA	**Stephens Creek**	**36.28 160**		P	P	08 54 50.7	-0.2
	5.3nm,0.6s,baz=340,slow=8.8,SNR=20						
MKAR	**Makanchi Array**	**59.45 325**		P	P	08 57 50.8	+0.5
	0.1nm,0.3s,baz=119,slow=7.4,SNR=7.1						
KURBB	**Kurchatov Arra**	**63.63 327**		P	P	08 58 18.1	-0.3
	0.4nm,0.6s,baz=129,slow=5.5,SNR=3.5						

IDC 19 08:57:13.1±1.2,*4°81S×133°55E*,*h0*km,*mb3.8/3,*
mb1 4.0/7,mb1mx3.8/17,mbtmp3.9/7,ML4.0/3,MS3.9/11,
Ms1 3.9/11,ms1mx3.5/37,Error ellipse: s-maj=53.3km
s-min=22.5km az=74.0
DJA 19 08:57:25,4°43S×132°25E,h134km,mb4.9/6
ISC 19 08:57:17.3±0.8,**4°89S**±0°06×**133°46E**±0°08,**h25**km,**n27,**
σ1**s50**/16,**mb3.9**/4,**MS3.8**/10,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**1.03 224**		P	**Sn**	**08 57 52.9**	**+3.0**
BNDI	**Bandanaira**	**3.56 276**		P	Pb	08 58 25.4	+5.8
BAKI	**Biak**	**4.52 36**		P	Pn	08 58 30.8	+6.6
SWI	**Sorong**	**4.56 331**		P	**Pb**	**08 58 36.0**	**-0.6**
MSAI	**Masohi**	**4.77 289**		P	**Pb**	**08 58 40.5**	**+0.3**
	34nm,0.8s,1µm0.1nm						
WAMI	**Wamena**	**5.33 79**		P	Pn	08 58 40.6	+5.2
	357nm,0.7s,12µm3.3nm						
AAI	**Ambon**	**5.38 283**		P	**Pb**	**08 58 49.8**	**-0.9**
	296nm,0.6s,3µm1.0nm						
NLAI	**Namlea**	**6.55 284**		P	Pb	08 59 04.1	-6.5
	106nm,0.7s,1µm0.4nm						
LBMI	**Labuha**	**7.29 305**		P	Pb	08 59 14.4	-8.8
	147nm,1.0s,1µm0.5nm						
APSI	**Ampana**	**12.44 288**		P	**P**	**09 00 25.2**	**+0.7**
PMG	**Port Moresby**	**14.31 109**		Pn	**Pn**	**09 00 41.3**	**+2.7**
	0.7nm,0.3s,baz=283,slow=18,SNR=4.5						
WRA	**Warramunga Arr**	**14.99 177**		Pn	**Pn**	**09 00 45.4**	**-2.3**
	0.3nm,0.3s,baz=354,slow=13,SNR=16						
WRA				Sn	**Sn**	**09 03 32.0**	**-1.1**
	0.6nm,0.3s,baz=358,slow=23,SNR=5.6						
FITZ	**Fitzroy Crossi**	**15.20 210**		Pn	**Pn**	**09 00 50.6**	**+0.2**
	0.4nm,0.3s,baz=38,slow=12,SNR=9.4						
FITZ				Sn	**Sn**	**09 03 38.0**	**-0.1**
	1.1nm,0.3s,baz=196,slow=17,SNR=6.7						
ASAR	**Alice Springs**	**18.68 179**		P	**Pn**	**09 01 34.2**	**0.0**
	0.4nm,0.3s,baz=7.4,slow=11,SNR=38						
ASAR				S	**Sn**	**09 05 00.7**	**-1.9**
	0.1nm,0.3s,baz=360,slow=28,SNR=3.7						
CTA	**Charters Tower**	**19.58 142**		P	**P**	**09 01 43.3**	**-0.4**
	0.3nm,0.3s,baz=338,slow=11,SNR=6.0						
CTA				LR	LR	09 10 11.1	
	comp=Z,811nm,19.3s,baz=338,slow=40						
GUMO	**Guam**	**21.57 32**		LR	LR	09 09 08.6	
	comp=Z,177nm,18.4s,baz=95,slow=33						
HNR	**Honiara**	**26.66 101**		LR		09 13 28.9	
	comp=Z,257nm,18.9s,baz=284,slow=37						
STKA	**Stephens Creek**	**27.91 165**		P	P	09 03 11.4	+5.9
	1.1nm,0.5s,baz=337,slow=13,SNR=4.7						
STKA				LR	LR	09 15 19.7	
	comp=Z,257nm,20.6s,baz=24,slow=39						
JNU	**Nakatsue**	**37.88 356**		LR	LR	09 18 49.3	
	comp=Z,190nm,19.1s,baz=349,slow=34						
CMAR	**Chiang Mai Arr**	**41.18 305**		LR	LR	09 20 21.6	
	comp=Z,88nm,21.0s,baz=313,slow=34						
MJAR	**Matsushiro Arr**	**41.45 6**		LR	LR	09 21 38.0	
	comp=Z,96nm,18.7s,baz=170,slow=35						
KSRS	**Korea Array**	**42.44 353**		LR	LR	09 21 17.5	
	comp=Z,162nm,20.5s,baz=154,slow=34						
PETK	**Petropavlovsk-**	**61.30 16**		LR	LR	09 28 48.3	
	comp=Z,69nm,21.0s,baz=15,slow=31						
MKAR	**Makanchi Array**	**68.42 325**		P	**P**	**09 08 17.0**	**-0.1**
	0.6nm,0.4s,baz=125,slow=7.7,SNR=16						
KURBB	**Kurchatov Arra**	**72.57 327**		P	**P**	**09 08 41.8**	**-0.5**
	0.4nm,0.3s,baz=125,slow=5.6,SNR=3.7						
PPT	**Papeete**	**76.13 107**		LR	LR	09 36 39.7	
	comp=Z,147nm,20.0s,baz=154,slow=31						
ILAR	**Eielson Array**	**89.99 25**		P	**P**	**09 10 13.3**	**-1.0**
	0.2nm,0.9s,baz=254,slow=6.4,SNR=2.6						
ILAR				LR	LR	09 44 00.2	
	comp=Z,53nm,21.1s,baz=260,slow=31						

BJI 19 09:03:14.7,7°99S×121°21E,h584km,mB4.6/20,mb5.1/49
MOS 19 09:03:20.8±1.0,*7°21S×120°71E,h583km,mb5.0/34,Error*
ellipse: s-maj=10.5km s-min=5.9km az=118.6
TEH 19 09:03:21.0,7°41S×120°65E,h578km,ML4.9
ISCJB 19 09:03:21.1±0.2,*7°50S*±0°02×*120°63E*±0°02,*h602km*±2km,
mb5.1/122,Error ellipse: s-maj=3.5km s-min=2.8km
az=179.2
NEIC 19 09:03:21.4±0.3,*7°39S×120°64E,h586km*±3km,*mb4.9/36,*
Error ellipse: s-maj=5.3km s-min=3.4km az=50.0
IDC 19 09:03:21.8±0.4,*7°38S×120°71E,h591km*±4km,*mb4.6/30,*
mb1 4.6/34,mb1mx4.6/35,mbtmp4.7/34,Error ellipse:
s-maj=7.9km s-min=4.7km az=58.0

DJA 19 09:03:22,7°54S×120°55E,h587km,Mw4.9/40
BGS 19 09:03:24.2±1.9,*5°32S×120°96E,h586km,mb4.9(NEIC)*
ISC 19 09:03:21.6±0.2,**7°52S**±0°03×**120°64E**±0°03,**h593**km±2km,
h594km:**pP-P,n1040,**σ1**s32**/1241,**mb5.1**/118,**201C-213D,**
Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.93 125**		P	**P**	**09 04 34.0**	**-1.1**
WSI	**Waingapu**	**2.16 189**		P	**P**	**09 04 35.8**	**-0.2**
WSI				S	**S**	**09 05 35.5**	**-1.0**
BKSI	**Bulukumba**	**2.25 347**		P	**P**	**09 04 36.9**	**+0.5**
BKSI				S	**S**	**09 05 37.7**	**+0.5**
KAPI	**Kappang**	**2.64 341**		*e*P	**P**	**09 04 36.6**	**-1.8**
KAPI				P	P	09 04 38.7	+0.3
KAPI				S	**S**	**09 05 39.8**	**-0.9**
KAPI				*e*S	S	09 05 40.8	+0.1
KAPI	**Kappang**	**2.64 341**		P	**P**	**09 04 38.7**	**+0.3**
	342nm,0.3s,baz=152,slow=1.9,SNR=1280						
KAPI				S	**S**	**09 05 39.8**	**-0.9**
	baz=211,slow=19,SNR=28						
BBSI	**Bau Bau**	**2.79 44**		P	**P**	**09 04 40.3**	**+1.2**
BBSI				S	**S**	**09 05 45.4**	**+3.3**
SPSI	**Sidrap Palu**	**3.64 346**		P	**P**	**09 04 45.0**	**+0.8**
SPSI				S	**S**	**09 05 52.8**	**+1.4**
KDI	**Kendari**	**4.05 29**		P	**P**	**09 04 47.9**	**+0.8**
KDI				S	**S**	**09 05 56.9**	**+0.3**
TTSI	**Tana Toraja**	**4.52 350**		P	**P**	**09 04 50.7**	**+0.2**
KHKI	**Kahang-Kahang**	**5.05 260**		P	**P**	**09 04 53.8**	**-0.7**
	2µm,0.7s,16µm6.2nm						
KHKI				S	**S**	**09 06 06.5**	**-3.8**
	2µm,0.7s,16µm6.2nm						
DNP	**Denpasar**	**5.49 258**		P	**P**	**09 04 58.1**	**0.0**
	4µm,0.4s,255µm70nm						
DNP				S	**S**	**09 06 14.8**	**-2.1**
	4µm,0.4s,255µm70nm						
NBBI	**Negara**	**6.02 262**		P	**P**	**09 04 59.6**	**-3.0**
	2µm,0.7s,32µm11nm						
NBBI				S	S	09 06 18.2	-6.9
	2µm,0.7s,32µm11nm						
KBKI	**Kotabaru**	**6.11 313**		P	**P**	**09 05 03.8**	**+0.3**
	1µm,0.8s,10µm4.7nm						
BYJI	**Banyuwangi**	**6.26 263**		P	**P**	**09 05 05.5**	**+0.8**
	820nm,1.1s,21µm7.4nm						
BYJI				S	**S**	**09 06 28.8**	**-0.2**
	820nm,1.1s,21µm7.4nm						
JAGI	**Jajag, Banyuwa**	**6.49 261**		P	**P**	**09 05 05.3**	**-1.5**
	543nm,0.9s,50µm17nm						
JAGI				S	**S**	**09 06 26.9**	**-5.8**
	543nm,0.9s,50µm17nm						
KMMI	**Kalianget**	**6.63 274**		P	**P**	**09 05 09.6**	**+1.6**
	141nm,0.7s,4µm1.0nm						
LUWI	**Luwuk**	**6.78 18**		P	**P**	**09 05 09.5**	**+0.1**
	2µm,0.9s,17µm5.6nm						
BLJI	**Banyuglugur**	**6.98 268**		P	**P**	**09 05 11.1**	**-0.1**
	386nm,0.7s,5µm3.6nm						
BBKI	**Banjar Baru**	**7.04 305**		P	**P**	**09 05 13.2**	**+1.4**
	4µm,0.7s,34µm11nm						
BBKI				S	**S**	**09 06 45.0**	**+3.1**
	4µm,0.7s,34µm11nm						
GMJI	**Gumukmas**	**7.16 264**		P	**P**	**09 05 12.0**	**-0.9**
	279nm,0.9s,3µm3.3nm						
GMJI				S	S	09 06 37.7	-6.2
	279nm,0.9s,3µm3.3nm						
NLAI	**Namlea**	**7.71 57**		P	**P**	**09 05 18.4**	**+0.3**
	994nm,0.5s,11µm4.0nm						
NLAI				S	**S**	**09 06 52.0**	**-1.4**
	994nm,0.5s,11µm4.0nm						
SMKI	**Samarinda**	**7.82 334**		P	**P**	**09 05 21.2**	**+2.1**
	4µm,0.8s,33µm12nm						
MRSI	**Marisa**	**8.05 9**		P	**P**	**09 05 21.1**	**-0.2**
	3µm,0.8s,25µm						
MRSI				S	**S**	**09 06 57.8**	**-1.5**
	3µm,0.8s,25µm						
GRJI	**Gresik**	**8.11 274**		S	**S**	**09 06 57.7**	**-2.7**
KRKI	**Karangkates**	**8.13 265**		P	**P**	**09 05 21.7**	**-0.3**
	507nm,0.5s						
KRKI				S	**S**	**09 06 56.6**	**-4.1**
	507nm,0.5s						
PLKI	**Palangkaraya**	**8.49 308**		P	**P**	**09 05 25.7**	**+0.2**
	3µm,0.8s,25µm						
KMSI	**Cibinong**	**8.71 23**		P	**P**	**09 05 27.9**	**+0.3**
	2µm,0.8s,19µm						
PWJI	**Pagerwojo**	**8.77 266**		P	**P**	**09 05 27.7**	**-0.4**
	288nm,0.6s,3µm3.1nm						
PWJI				S	S	09 07 05.4	-6.5
	288nm,0.6s,3µm3.1nm						
SJI	**Sawahan**	**8.79 268**		P	**P**	**09 05 28.7**	**+0.2**
	205nm,0.9s,3µm						
SJI				S	**S**	**09 07 08.6**	**-3.9**
	205nm,0.9s,3µm						
MSAI	**Masohi**	**9.24 64**		P	**P**	**09 05 30.2**	**-2.6**
	45nm,0.4s,4µm						
PCJI	**Pacitan**	**9.39 265**		P	**P**	**09 05 33.2**	**-1.1**
	207nm,0.5s,3µm						
PCJI				S	S	09 07 14.8	-8.4
	207nm,0.5s,3µm						
LBMI	**Labuha**	**9.68 45**		P	**P**	**09 05 36.6**	**-0.5**
	313nm,0.8s,3µm						
LBMI				S	**S**	**09 07 26.2**	**-2.1**
	313nm,0.8s,3µm						
BNDI	**Bandanaira**	**9.69 73**		P	**P**	**09 05 37.2**	**0.0**
	653nm,1.2s,6µm						
BNDI				S	**S**	**09 07 31.8**	**+3.3**
	653nm,1.2s,6µm						
MNI	**Manado**	**9.85 25**		P	**P**	**09 05 38.1**	**-0.7**
	3µm,0.9s,20µm76µm						
MNI				S	**S**	**09 07 29.5**	**-1.9**
	3µm,0.9s,20µm76µm						
UGM	**Wanagama**	**10.03 267**		*e*P	**P**	**09 05 39.9**	**-0.8**
UGM	**Wanagama**	**10.03 267**		P	**P**	**09 05 40.6**	**-0.1**
	376nm,0.8s						
SMRI	**Semarang**	**10.12 272**		P	**P**	**09 05 41.4**	**-0.2**
	180nm,0.5s						
SMRI				S	**S**	**09 07 35.2**	**-1.3**
	180nm,0.5s						
PBKI	**Pangkalan Bun**	**10.13 298**		P	**P**	**09 05 42.7**	**+1.1**
	3µm,1.0s,27µm						
YOGI	**Yogyakarta**	**10.25 268**		P	**P**	**09 05 42.3**	**-0.6**
	520nm,0.8s						
YOGI				S	**S**	**09 07 34.8**	**-4.0**
	520nm,0.8s						
TNTI	**Ternate**	**10.63 39**		P	**P**	**09 05 45.2**	**-1.4**
	351nm,0.6s,3µm						
TNTI				S	**S**	**09 07 43.0**	**-2.7**
	351nm,0.6s,3µm						
BJII	**Banjamegara**	**10.84 270**		P	**P**	**09 05 48.5**	**-0.3**
	236nm,0.7s,3µm						
BJII				S	**S**	**09 07 48.6**	**-1.0**
	236nm,0.7s,3µm						
TGJI	**Tegal**	**11.44 273**		P	**P**	**09 05 53.7**	**-1.1**
	177nm,1.1s						
CLJI	**Cilicap**	**11.52 268**		P	**P**	**09 05 52.8**	**-2.8**
	367nm,0.4s,6µm						
CLJI				S	S	09 07 54.2	-7.9
	367nm,0.4s,6µm						
FITZ	**Fitzroy Crossi**	**11.59 156**		*e*P	**P**	**09 05 56.7**	**+0.5**
	9.1nm,0.3s						
FITZ				S	**S**	**09 08 02.8**	**-0.4**
FITZ				*e*S	S	09 08 03.4	+0.2
FITZ	**Fitzroy Crossi**	**11.59 156**		⇑*i*P	**P**	**09 05 56.6**	**+0.4**
	2µm,1.0s						
FITZ	**Fitzroy Crossi**	**11.59 156**		P	**P**	**09 05 56.7**	**+0.4**
	78nm,0.3s,baz=349,slow=7.4,SNR=255						
FITZ				S	**S**	**09 08 02.8**	**-0.4**
	2.1nm,0.3s,baz=360,slow=19,SNR=4.1						
MTN	**Manton Dam**	**11.60 118**		*e*P	**P**	**09 05 56.0**	**-0.4**
STKI	**Sintang**	**11.84 309**		P	**P**	**09 05 59.5**	**+0.6**
	686nm,1.1s,25µm						
TSM	**Tawau**	**12.06 347**		P	**P**	**09 06 01.4**	**+0.3**
TLE	**Tual**	**12.17 82**		P	**P**	**09 06 03.2**	**+1.0**
	195nm,0.8s						
TLE				S	S	09 08 07.7	-6.4
	195nm,0.8s						
FAKI	**Fak Fak**	**12.44 69**		P	**P**	**09 06 03.6**	**-1.3**
	164nm,0.7s,2µm						
SWI	**Sorong**	**12.49 58**		P	**P**	**09 06 04.0**	**-1.4**
	211nm,0.8s						
SWI				S	**S**	**09 08 15.6**	**-4.5**
	211nm,0.8s						
CISI	**Cisompet, Garu**	**12.71 269**		P	**P**	**09 06 05.6**	**-2.1**
	364nm,0.7s,4µm						
CISI				S	**S**	**09 08 19.7**	**-4.6**
	364nm,0.7s,4µm						
MYLDM	**Lahad Datu**	**12.80 350**		P	**P**	**09 06 09.3**	**+0.8**
MYLDM	**Lahad Datu**	**12.80 350**		P	**P**	**09 06 09.5**	**+1.0**
	1µm,0.9s,10µm						
LEM	**Lembang**	**12.94 272**		P	**P**	**09 06 09.4**	**-0.7**
	357nm,0.7s,3µm						
LEM				S	**S**	**09 08 26.6**	**-2.0**
	357nm,0.7s,3µm						
SBUM	**Sibu**	**12.99 319**		P	**P**	**09 06 11.5**	**+1.1**
SBUM	**Sibu**	**12.99 319**		P	**P**	**09 06 11.1**	**+0.6**
	1µm,0.9s,10µm						
BTM	**Bintulu**	**13.05 324**		P	**P**	**09 06 11.7**	**+0.6**
SDKM	**Sandakan**	**13.52 345**		P	**P**	**09 06 15.9**	**-0.1**
MBWA	**Marble Bar**	**13.59 184**		*e*P	**P**	**09 06 16.5**	**+0.1**
KSM	**Kuching**	**13.64 311**		*e*P	**P**	**09 06 17.2**	**+0.1**
KSM	**Kuching**	**13.64 311**		P	**P**	**09 06 17.0**	**-0.2**
KSM	**Kuching**	**13.64 311**		P	**P**	**09 06 17.2**	**+0.1**
	996nm,1.0s,8µm						
CBJI	**Citeko**	**13.73 274**		P	**P**	**09 06 15.6**	**-2.4**
	938nm,0.9s						
CBJI				S	**S**	**09 08 39.4**	**-3.2**
	938nm,0.9s						
TPI	**Tanjungpandan**	**13.77 289**		P	**P**	**09 06 18.2**	**-0.2**
	330nm,1.0s,3µm						
TPI				S	**S**	**09 08 41.9**	**-1.4**
	330nm,1.0s,3µm						
DBJI	**Dramaga**	**13.81 273**		P	**P**	**09 06 17.3**	**-1.6**
	234nm,0.8s,6µm						
DBJI				S	**S**	**09 08 44.1**	**-0.1**
	234nm,0.8s,6µm						
SKJI	**Sukabumi**	**13.98 271**		S	**S**	**09 08 41.9**	**-5.0**
KKM	**Kota Kinabalu**	**14.18 342**		*i*P	**P**	**09 06 21.3**	**-1.2**
KKM				*e*S	**S**	**09 08 48.9**	**-1.7**
KKM	**Kota Kinabalu**	**14.18 342**		P	**P**	**09 06 21.4**	**-1.2**
KKM	**Kota Kinabalu**	**14.18 342**		P	**P**	**09 06 21.4**	**-1.2**
	1µm,0.8s,3µm						
KDM	**Kudat**	**14.84 345**		P	**P**	**09 06 27.8**	**-0.8**
CGJI	**Cibinong**	**14.86 273**		P	**P**	**09 06 26.6**	**-2.2**
	369nm,0.5s,4µm						
CGJI				S	**S**	**09 08 56.3**	**-5.5**
	369nm,0.5s,4µm						
CTBH	**Cotabato--PC H**	**15.08 14**		⇓*i*P	**P**	**09 06 30.2**	**-0.7**
DAV	**Davao City (W)**	**15.31 19**		P	**P**	**09 06 31.3**	**-1.7**
DAV	**Davao City (W)**	**15.31 19**		P	**P**	**09 06 31.3**	**-1.7**
	35nm,0.3s,baz=73,slow=17,SNR=4.6						
PPBI	**Pangkal Pinang**	**15.39 290**		P	**P**	**09 06 34.4**	**+0.6**
	227nm,1.2s,7µm						
PAGZ	**Pagadian**	**15.51 10**		*e*P	**P**	**09 06 32.6**	**-2.2**
KASI	**Kota Agung**	**16.16 276**		P	**P**	**09 06 38.6**	**-2.2**
	242nm,0.9s,2µm						
KASI				S	**S**	**09 09 18.9**	**-4.3**
	242nm,0.9s,2µm						
BAKI	**Biak**	**16.65 69**		P	**P**	**09 06 46.1**	**+0.7**
	137nm,1.1s						
LWLI	**Liwa**	**16.66 278**		P	**P**	**09 06 44.7**	**-0.9**
	124nm,0.7s,8µm						
WRA	**Warramunga Arr**	**18.14 134**		P	**P**	**09 06 59.6**	**+0.8**
WRA				S	**S**	**09 09 53.3**	**-2.0**
WRA				PKiKP	**PKiKP**	**09 18 50.2**	**-1.4**
WRA				*e*		09 41 18.4	
WRA				P4KP		09 49 35.2	
WRA	**Warramunga Arr**	**18.14 134**		P	**P**	**09 06 59.6**	**+0.8**
	80nm,0.3s,baz=314,slow=10,SNR=828						
WRA				S	**S**	**09 09 53.3**	**-2.0**
	2.6nm,0.3s,baz=312,slow=16,SNR=9.1						
WRA				PKiKP	**PKiKP**	**09 18 50.2**	**-1.4**
	0.1nm,0.3s,baz=301,slow=0.9,SNR=5.6						
WRA				P3KPbc		09 41 18.4	
	0.0nm,0.3s,baz=126,slow=4.2,SNR=6.0						
WRA				P4KP		09 49 35.2	
	0.0nm,0.3s,baz=320,slow=4.1,SNR=4.9						
WRAB	**Tennant Creek**	**18.14 134**		*e*P	**P**	**09 06 59.7**	**+0.8**
WRAB	**Tennant Creek**	**18.14 134**		*e*P	**P**	**09 06 59.7**	**+0.8**
SMPI	**Sarmi**	**18.83 74**		P	**P**	**09 07 06.1**	**+0.9**
	98nm,1.2s,2µm						
MYKOM	**Kota Tinggi**	**19.13 298**		P	**P**	**09 07 09.5**	**+1.5**
MYKOM	**Kota Tinggi**	**19.13 298**		P	**P**	**09 07 09.1**	**+1.1**
	115nm,1.0s,1µm						
KGM	**Kluang**	**19.70 298**		P	**P**	**09 07 15.1**	**+2.0**
OTRP	**Odiongan**	**19.80 4**		*e*P	P	09 07 04.7	-9.3
ASAR	**Alice Springs**	**20.49 143**		P	**P**	**09 07 21.0**	**+0.8**
ASAR				S	**S**	**09 10 31.9**	**-0.9**
ASAR				PcP	**PcP**	**09 11 04.8**	**-0.1**
ASAR				ScP	**ScP**	**09 13 45.9**	**-0.2**
ASAR				PKiKP	**PKiKP**	**09 18 51.5**	**-1.2**
ASAR				*e*		09 41 24.2	
ASAR				P4KP		09 49 46.0	
ASAR	**Alice Springs**	**20.49 143**		P	**P**	**09 07 21.0**	**+0.8**
	136nm,0.3s,baz=320,slow=8.6,SNR=974						
ASAR				S	**S**	**09 10 31.9**	**-0.9**
	21nm,0.7s,baz=313,slow=14,SNR=4.8						
ASAR				PcP	**PcP**	**09 11 04.8**	**-0.1**
	33nm,0.7s,baz=328,slow=1.5,SNR=5.6						
ASAR				ScP	**ScP**	**09 13 45.9**	**-0.2**
	32nm,0.6s,baz=308,slow=1.1,SNR=12						
ASAR				PKiKP	**PKiKP**	**09 18 51.5**	**-1.2**
	1.5nm,0.8s,baz=359,slow=1.3,SNR=5.3						
ASAR				P3KPbc		09 41 24.2	
	0.6nm,1.0s,baz=61,slow=3.4,SNR=6.2						
ASAR				P4KP		09 49 46.0	
	0.3

CTAO Charters Tower 27.78 119 *e*P **P** **09 08 26.1 +1.4**
comp=Z,59nm,0.9s
QIZ Qiongzhong 28.45 338 P **P** **09 08 30.8 +0.3**
QIZ S **S** **09 12 40.4 +2.9**
QIZ pmax pmax
comp=Z,58nm,1.0s
QIZ pmax pmax
comp=Z,150nm,4.4s
BBOO Buckleboo 28.95 152 *e*P **P** **09 08 35.6 +0.9**
comp=Z,6µm,0.6s
BBOO *e*S **S** **09 12 47.3 +2.3**
BBOO *e*ScP **ScP** **09 14 10.4 +0.4**
STKA Stephens Creek 31.12 144 P **P** **09 08 54.5 +1.2**
STKA S **S** **09 13 18.1 -0.2**
STKA ScP **ScP** **09 14 17.1 -0.2**
STKA Stephens Creek 31.12 144⇑ *i*P **P** **09 08 54.4 +1.2**
comp=Z,238nm,0.3s
STKA *e*S **S** **09 13 18.0 -0.3**
STKA *e*SCP **ScP** **09 14 16.7 -0.5**
STKA *e*SCS **ScS** **09 18 11.3 -4.9**
STKA Stephens Creek 31.12 144 P **P** **09 08 54.5 +1.2**
comp=Z,279nm,0.4s,baz=325,slow=9.2,SNR=1821
STKA S **S** **09 13 18.1 -0.2**
comp=Z,41nm,0.7s,baz=199,slow=18,SNR=8.2
STKA ScP **ScP** **09 14 17.1 -0.2**
comp=Z,41nm,0.7s,baz=308,slow=6.6,SNR=4.8
GUMO Guam 31.92 49 P **P** **09 08 59.4 -0.9**
GUMO Guam 31.92 49 P **P** **09 08 59.4 -0.9**
comp=Z,62nm,0.4s,baz=199,slow=7.5,SNR=7.1
CM31 Chiang Mai Arr 33.53 321 *e*P **P** **09 09 14.6 +0.8**
comp=Z,4.1nm,0.4s
CMAR Chiang Mai Arr 33.53 321 P **P** **09 09 14.1 +0.2**
CMAR PcP **PcP** **09 11 38.0 +1.3**
CMAR S **S** **09 13 57.1 +1.8**
CMAR ScP **ScP** **09 14 27.4 +1.5**
CMAR PKiKP **PKiKP** **09 19 00.0 -0.5**
CMAR Chiang Mai Arr 33.53 321 P **P** **09 09 14.1 +0.2**
comp=Z,12nm,0.7s,baz=150,slow=6.7,SNR=52
CMAR PcP **PcP** **09 11 38.0 +1.3**
comp=Z,26nm,0.6s,baz=173,slow=2.9,SNR=20
CMAR S **S** **09 13 57.1 +1.8**
comp=Z,1.2nm,0.3s,baz=273,slow=15,SNR=5.3
CMAR ScP **ScP** **09 14 27.4 +1.5**
comp=Z,11nm,0.8s,baz=171,slow=2.9,SNR=15
CMAR PKiKP **PKiKP** **09 19 00.0 -0.5**
comp=Z,0.9nm,0.3s,baz=315,slow=0.6,SNR=4.8
CHTO Chiang Mai 33.80 321 *e*P **P** **09 09 16.5 +0.4**
CHTO pmax pmax
comp=Z,8.0nm,0.6s
CHTO Chiang Mai 33.80 321 *e*P **P** **09 09 16.5 +0.4**
comp=Z,8.4nm,0.6s
EIDS Eidsvold 34.03 125 *e*P **P** **09 09 18.6 +0.7**
comp=Z,8.2nm,0.4s
EIDS *e*pP **pP** **09 10 55.5 0.0**
JOW Kunigami 34.95 12 P **P** **09 09 24.7 -0.8**
JOW PcP **PcP** **09 11 41.8 +1.0**
JOW Kunigami 34.95 12 P **P** **09 09 24.7 -0.8**
comp=Z,16nm,0.5s,baz=207,slow=6.8,SNR=5.6
JOW PcP **PcP** **09 11 41.8 +1.0**
comp=Z,22nm,0.6s,baz=130,slow=2.6,SNR=4.1
GYA Guiyang 36.40 339⇑ *i*P **P** **09 09 38.8 +1.2**
GYA PcP **PcP** **09 11 47.0 +1.6**
GYA S **S** **09 14 42.0 +3.8**
GYA ScS **ScS** **09 18 46.9 +1.9**
KMI Kunming 36.83 332 P **P** **09 09 41.3 0.0**
KMI pmax pmax
comp=Z,19nm,0.7s
ARMA Armidale 36.90 132 *e*P **P** **09 09 44.4 +2.7**
comp=Z,37nm,0.7s
ARMA *e*pP **PP** **09 11 24.8 -2.4**
ARMA Armidale 36.90 132⇑ *i*P **P** **09 09 44.4 +2.7**
ARMA *e*pP **PP** **09 11 24.8 -2.4**
ARMA *e*S S 09 14 51.6 +6.1
TOO Toolangi 37.46 147 *e*P **P** **09 09 48.3 +2.3**
comp=Z,409nm,0.5s
TOO *e*pP **PP** **09 11 30.3 -1.9**
CNB Canberra Magne 38.20 141 *e*P **P** **09 09 53.8 +1.7**
comp=Z,89nm,0.4s
CNB *e* 09 11 38.1
RIV Riverview 38.46 137 *e*P **P** **09 09 57.1 +3.0**
HNR Honiara 38.91 96 P **P** **09 09 57.9 -0.2**
HNR Honiara 38.91 96 P **P** **09 09 57.9 -0.2**
comp=Z,52nm,0.4s,baz=240,slow=2.9,SNR=5.5
NJ2 Nanjing 39.39 358 *e*P **P** **09 10 02.3 +0.7**
NJ2 pmax pmax
comp=Z,60nm,0.8s
CBIJ Chichi jima 40.25 30 P **P** **09 10 07.2 -1.4**
CBIJ S **S** **09 15 29.2 -5.1**
CBIJ Chichi jima 40.25 30 P **P** **09 10 07.2 -1.4**
comp=Z,220nm,0.7s,baz=269,slow=9.5
CBIJ S **S** **09 15 29.2 -5.1**
comp=Z,170nm,1.1s,baz=309,slow=24,SNR=6.1
IMP Imphal 41.33 322 *e*PKP **P** **09 10 15.0 -2.2**
CD2 Chengdu 41.50 338 P **P** **09 10 18.4 0.0**
CD2 PcP **PcP** **09 12 01.3 -0.3**
CD2 pP **pP** **09 12 02.9 +1.8**
CD2 sP **sP** **09 13 08.6 +0.8**
CD2 S **S** **09 15 53.4 +1.1**
CD2 sS **sS** **09 19 00.0 0.0**
CD2 ScS **ScS** **09 19 12.6 -2.5**
CD2 SS **SS** **09 19 17.3 -2.3**
CD2 pmax pmax
comp=Z,80nm,0.4s
CD2 pmax pmax
comp=Z,90nm,5.2s
JNU Nakatsue 41.58 13 P **P** **09 10 17.4 -1.6**
JNU PcP **PcP** **09 12 01.7 -0.1**
JNU Nakatsue 41.58 13 P **P** **09 10 17.4 -1.6**
comp=Z,14nm,0.8s,baz=128,slow=6.6,SNR=6.9
JNU PcP **PcP** **09 12 01.7 -0.1**
comp=Z,17nm,0.8s,baz=98,slow=2.8,SNR=6.1
MOO Moorlands 41.93 150 *e*P **P** **09 10 24.1 +2.5**
comp=Z,147nm,0.8s
XAN Xi'an 42.80 346 P **P** **09 10 27.9 -0.7**
XAN pP **PcP** **09 12 06.6 +0.6**
XAN pmax pmax
comp=Z,11nm,0.7s
SHL Shillong 43.17 321 *e*PKP **P** **09 10 31.0 -0.8**
SHL *ex* x 09 16 13.0
KSAR Wonju Array Be 45.24 8 P **P** **09 10 46.8 -0.4**
KSAR PcP **PcP** **09 12 15.0 +0.7**
KSRS Korea Array 45.26 8 P **P** **09 10 46.8 -0.5**
comp=Z,19nm,0.7s,baz=189,slow=8.4,SNR=85
KSRS PcP **PcP** **09 12 15.0 +0.7**
comp=Z,22nm,0.7s,baz=188,slow=3.4,SNR=37
LZH Lanzhou 46.16 341 *e*P **P** **09 10 55.8 +1.4**
LZH PcP **PcP** **09 12 19.8 +2.0**
LZH ScP **ScP** **09 15 18.4 +3.2**
LZH *e*S **S** **09 16 59.4 +1.1**
LZH sS **sS** **09 20 14.1 +3.5**
LZH SS **SS** **09 20 35.3 +0.9**
LZH pmax pmax
comp=Z,67nm,1.2s
LZH pmax pmax
comp=Z,170nm,4.9s
DZM Mont Dzumac 46.40 113 P **P** **09 10 57.5 +1.1**
DZM Mont Dzumac 46.40 113 P **P** **09 10 57.5 +1.1**
comp=Z,2.9nm,0.6s,baz=283,slow=14,SNR=6.8
LSA Lhasa 46.62 324 P **P** **09 10 59.0 +0.6**
MAJO Matsushiro 46.83 19 *e*P **P** **09 10 57.9 -1.4**
MAJO *e* 09 12 20.7
MAJO pmax pmax
comp=Z,22nm,0.7s
MAJO Matsushiro 46.83 19 *e*P **P** **09 10 57.9 -1.4**
comp=Z,22nm,0.7s
MAJO *e*PcP **PcP** **09 12 20.6 +0.6**
MAT Matsushiro 46.83 19 P **P** **09 10 57.8 -1.5**
MJAR Matsushiro Arr 46.83 19 P **P** **09 10 57.7 -1.6**
MJAR PcP **PcP** **09 12 20.2 +0.1**
MJAR Matsushiro Arr 46.83 19 P **P** **09 10 57.7 -1.6**
comp=Z,30nm,0.7s,baz=194,slow=9.1,SNR=96
MJAR PcP **PcP** **09 12 20.2 +0.1**
comp=Z,11nm,0.8s,baz=206,slow=5.1,SNR=11
JIRN Jiri 48.30 318 *e*P **P** **09 11 10.8 -0.1**
JIRN Jiri 48.30 318 *e*P **P** **09 11 10.8 -0.1**
GUN Gumba 48.67 318 *e*P **P** **09 11 13.5 -0.1**
comp=Z,153nm,0.6s
GUN Gumba 48.67 318 *e*P **P** **09 11 13.5 -0.1**
PKI Pulchoki 48.77 317 *e*P **P** **09 11 13.8 -0.5**
comp=Z,123nm,0.4s
PKI Pulchoki 48.77 317 *e*P **P** **09 11 13.8 -0.5**
PKI pmax pmax
comp=Z,123nm,0.4s
PKI Pulchoki 48.77 317 *e*P **P** **09 11 13.8 -0.5**
comp=Z,123nm,0.4s
HHC Hu-ho-hao-te 48.85 351 *e*P **P** **09 11 15.9 +1.6**
HHC pP **pP** **09 13 04.0 +1.7**
HHC PP **PP** **09 13 20.8 +4.6**
HHC S **S** **09 17 37.6 +2.6**
HHC sS **sS** **09 20 53.8 +3.7**
HHC SS **SS** **09 21 21.5 +4.9**
HHC pmax pmax
comp=Z,74nm,0.8s
KKN Kakani 49.00 317 *e*P **P** **09 11 15.4 -0.4**
comp=Z,48nm,0.4s
KKN Kakani 49.00 317 *e*P **P** **09 11 15.4 -0.4**
KKN pmax pmax
comp=Z,48nm,0.4s
KKN Kakani 49.00 317 *e*P **P** **09 11 15.4 -0.4**
comp=Z,48nm,0.4s
DMN Daman 49.00 317 *e*P **P** **09 11 15.7 -0.2**
comp=Z,57nm,0.4s
DMN Daman 49.00 317 *e*P **P** **09 11 15.7 -0.2**
comp=Z,57nm,0.4s
GKN Gorkha 49.57 317 *e*P **P** **09 11 19.6 -0.3**
comp=Z,143nm,0.4s
GKN Gorkha 49.57 317 *e*P **P** **09 11 19.6 -0.3**
comp=Z,143nm,0.4s
KOLN Koldanda 50.13 316 *e*P **P** **09 11 23.8 -0.3**
comp=Z,108nm,0.5s
KOLN Koldanda 50.13 316 *e*P **P** **09 11 23.8 -0.3**
comp=Z,108nm,0.5s
DANN Dangsing 50.38 317 *e*P **P** **09 11 25.8 -0.2**
comp=Z,440nm,0.5s
DANN Dangsing 50.38 317 *e*P **P** **09 11 25.8 -0.2**
comp=Z,440nm,0.5s
GTA Gaotai 50.53 339⇓ *i*P **P** **09 11 27.5 +0.8**
GTA ScP **ScP** **09 15 35.3 +1.6**
GTA S **S** **09 17 56.8 -0.9**
GTA pmax pmax
comp=Z,60nm,0.8s
GTA pmax pmax
comp=Z,150nm,4.5s
CN2 Changchun 51.27 4 *e*P **P** **09 11 30.0 -1.7**
CN2 PcP **PcP** **09 12 34.4 -1.8**
CN2 *e*pP pP 09 13 14.1 -7.2
CN2 *e*S **S** **09 18 09.1 +1.9**
CN2 *e*SS **SS** **09 21 56.1 +1.8**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,8.0s
USRK Ussuriysk Arra 52.50 10 P **P** **09 11 39.9 -0.6**
comp=Z,49nm,0.6s,baz=192,slow=6.7,SNR=156
MDJ Mudanjiang 52.52 8 P **P** **09 11 40.5 -0.2**
MDJ pmax pmax
comp=Z,90nm,0.8s
MDJ pmax pmax
comp=Z,59nm,4.0s
POO Poona 52.91 300⇓ *i*P **P** **09 11 42.0 -2.0**
comp=Z,80nm,1.0s
ERM Erimo 53.43 21 *i* P **P** **09 11 47.1 -0.1**
AGRA Agra 53.86 312 *e*PKP **P** **09 11 48.8 -1.8**
AGRA AMb AMB 09 11 49.6
comp=Z,50nm,0.4s
ASOR Ausora 54.84 313 *e*PKP **P** **09 11 56.4 -1.0**
AYAN Aya Nagar 55.16 312 *e*PKP **P** **09 11 57.6 -1.9**
AYAN AMb AMB 09 11 58.1
comp=Z,27nm,0.5s
BHGR Bahadurgarh 55.41 312 *e*PKP **P** **09 11 59.7 -1.6**
KUDL Kundal 55.44 312 *e*PKP **P** **09 11 59.0 -2.5**
KUDL AMb AMB 09 12 00.3
comp=Z,59nm,0.3s
DDI Dehra Dun 55.53 315 *ex* PcP 09 12 10.5 -43
KHET Khetri 55.91 311 *e*PKP **P** **09 12 03.2 -1.6**
KKR Kurukshetra 56.20 314 *e*PKP **P** **09 12 06.0 -0.7**
KKR AMb AMB 09 12 17.0
comp=Z,268nm,0.6s
ULN Ulaanbaatar 56.44 349 *e*P **P** **09 12 08.3 +0.1**
comp=Z,48nm,1.0s
ULN Ulaanbaatar 56.44 349 P **P** **09 12 08.4 +0.2**
SNR=12
ULN Ulaanbaatar 56.44 349 P **P** **09 12 08.3 +0.1**
comp=Z,36nm,1.1s,comp=Z,472nm
SONM Songino Array 56.54 349 P **P** **09 12 08.6 -0.2**
SONM PcP **PcP** **09 12 56.5 -0.2**
SONM P'P' 09 41 56.4
SONM Songino Array 56.54 349 P **P** **09 12 08.6 -0.2**
comp=Z,31nm,0.6s,baz=162,slow=8.2,SNR=228
SONM PcP **PcP** **09 12 56.5 -0.2**
comp=Z,5.5nm,0.6s,baz=168,slow=4.7,SNR=5.8
SONM PKPPKP **P'P'df** **09 41 56.4 +5.0**
comp=Z,0.8nm,0.9s,baz=287,slow=1.4,SNR=4.2
RPZ Rata Peaks 56.79 138 *e*P **P** **09 12 12.0 +1.4**
comp=Z,46nm,0.6s
KLR Kul'dur 57.35 9 *e*P P 09 12 09.8 -4.4
KLR *e* 09 12 56.7
KLR pmax pmax
comp=Z,64nm,1.8s
YSS Yuzh-Sakhalins 57.69 18⇓ *i*P **P** **09 12 16.8 +0.3**
YSS pmax pmax
comp=N,50nm,0.6s
YSS pmax pmax
comp=Z,70nm,0.6s
YSS Yuzh-Sakhalins 57.69 18 *e*P **P** **09 12 16.4 -0.1**
comp=Z,38nm,0.6s
WMQ Urumqi 59.16 333⇓ *i*P **P** **09 12 27.5 +0.9**
WMQ PcP **PcP** **09 13 08.5 +1.2**
WMQ PP **PP** **09 14 50.0 +2.6**
WMQ S **S** **09 19 50.0 +0.3**
WMQ pmax pmax
comp=Z,56nm,0.7s
WMQ pmax pmax
comp=Z,160nm,5.9s
URZ Urewera 59.25 130 *e*P **P** **09 12 27.7 +0.4**
comp=Z,6.6nm,0.6s
ZAK Zakamensk 59.60 347⇓ *i*P **P** **09 12 29.1 -0.3**
ZAK *e* 09 13 09.3
ZAK pmax pmax
comp=Z,18nm,1.0s
TLY Talaya 60.75 348 *e*P **P** **09 12 35.9 -1.0**
TLY pmax pmax
comp=Z,31nm,0.9s
TLY Talaya 60.75 348 P **P** **09 12 37.5 +0.6**
SNR=5.1
MOY Mondy 61.33 346 *e*P **P** **09 12 40.9 +0.2**
MOY pmax pmax
comp=Z,34nm,1.8s
KSH Kashi 62.41 322⇓ *i*P **P** **09 12 48.6 +0.5**
KSH PcP **PcP** **09 13 21.8 +1.1**
KSH PP **PP** **09 15 16.4 +0.5**
KSH PcS **PcS** **09 17 23.4 -1.4**
KSH S **S** **09 20 34.6 +4.5**
KSH ScS **ScS** **09 21 44.4 +2.3**
KSH SS **SS** **09 24 54.0 +4.9**
KSH pmax pmax
comp=Z,150nm,0.6s
MK31 Makanchi Array 63.91 332 *e*P **P** **09 12 57.7 +0.4**
MK31 *e* 09 13 27.0
MK31 Makanchi Array 63.91 332 *e*P **P** **09 12 57.7 +0.4**
MK31 *e*PcP **PcP** **09 13 27.0 +0.4**
MKAR Makanchi Array 63.91 332 P **P** **09 12 57.6 +0.2**
MKAR 09 13 26.8
MKAR S **S** **09 20 47.0 -0.7**
MKAR Makanchi Array 63.91 332 P **P** **09 12 57.5 +0.2**
MKAR PcP **PcP** **09 13 26.8 +0.2**
MKAR S **S** **09 20 47.0 -0.7**
MKAR P'P' 09 41 42.2
MKAR Makanchi Array 63.91 332 P **P** **09 12 57.5 +0.2**
comp=Z,115nm,0.6s,baz=148,slow=6.5,SNR=1130
MKAR PcP **PcP** **09 13 26.8 +0.2**
comp=Z,9.9nm,0.5s,baz=156,slow=4.5,SNR=5.2
MKAR S **S** **09 20 47.0 -0.7**
comp=Z,1.2nm,0.7s,baz=130,slow=13,SNR=9.9
MKAR PKPPKP **P'P'df** **09 41 42.2 +1.8**
comp=Z,0.8nm,0.8s,baz=352,slow=2.9,SNR=3.6
ULHL Ulahol 63.96 325 P **P** **09 12 57.0 -1.0**
SNR=6.5
KBL Kabul 64.21 314 *e*P **P** **09 12 59.5 -0.2**
KBL *e* 09 13 28.2
KBL pmax pmax
comp=Z,83nm,0.6s
KBL Kabul 64.21 314 *e*P **P** **09 12 59.5 -0.2**
comp=Z,83nm,0.6s
KBL *e*PcP **PcP** **09 13 28.1 -0.2**
CLNS Chul'man 64.23 3 *e*P **P** **09 12 58.8 -0.4**
CLNS *e* 09 13 28.2
CLNS *e**PP **pP** **09 14 55.8 -0.7**
CLNS *e* 09 15 30.5
CLNS *e*PPP PPP 09 17 15.2
CLNS *e*S **S** **09 20 54.9 +3.8**
CLNS *e*SSS SSS 09 28 19.4
CLNS pmax pmax
comp=Z,27nm,0.8s
CLNS pmax pmax
comp=E,9.0nm,0.8s
CLNS pmax pmax
comp=N,19nm,0.9s
CLNS pmax pmax
comp=N,4.0nm,0.7s
CLNS pmax pmax
comp=E,4.0nm,1.1s
CLNS pmax pmax
comp=Z,3.0nm,1.1s
CLNS smax smax
comp=N,161nm,14.2s
CLNS smax smax
comp=E,218nm,12.1s
KZA Kyzart 64.43 324 P **P** **09 13 01.8 +0.6**
SNR=11
TKM2 Tokmak 2 64.76 325 *e*P **P** **09 13 03.2 +0.1**
TKM2 *e* 09 13 31.1
TKM2 Tokmak 2 64.76 325 *e*P **P** **09 13 03.2 +0.1**
TKM2 *e*PcP **PcP** **09 13 31.1 +0.6**
TKM2 Tokmak 2 64.76 325 P **P** **09 13 03.3 +0.2**
SNR=51
KBK Karagaybulak 64.97 324 P **P** **09 13 04.3 0.0**
SNR=14
AAK Ala-Archa 65.22 324 *d* *i*P **P** **09 13 06.3 +0.5**
AAK pmax pmax
comp=Z,163nm,0.8s
AAK Ala-Archa 65.22 324 *e*P **P** **09 13 05.9 +0.1**
comp=Z,270nm,0.6s
AAK P **P** **09 13 06.4 +0.6**
AAK PcP **PcP** **09 13 33.4 +1.1**
AAK *e*PcP PcP 09 13 33.6 +1.3
AAK S **S** **09 21 03.3 -0.5**
AAK Ala-Archa 65.22 324 P **P** **09 13 06.7 +0.8**
SNR=20
AAK Ala-Archa 65.22 324 P **P** **09 13 06.5 +0.6**
SNR=9.2
AAK Ala-Archa 65.22 324 P **P** **09 13 06.4 +0.6**
comp=Z,64nm,0.6s,baz=125,slow=5.4,SNR=169
AAK PcP **PcP** **09 13 33.4 +1.1**
comp=Z,18nm,0.8s,baz=118,slow=2.3,SNR=7.4
AAK S **S** **09 21 03.3 -0.5**
comp=Z,2.9nm,0.8s,baz=319,slow=19,SNR=24
FRU Bishkek 65.27 324 *e*P **P** **09 13 05.0 -1.0**
FRU *e* 09 13 32.0
CHMS Chumysh 65.29 325 P **P** **09 13 06.0 -0.1**
SNR=7.4
BOD Bodaibo 65.34 356⇑ *i*P **P** **09 13 05.5 -0.6**
BOD pmax pmax
comp=Z,45nm,0.8s
AML Almayashu 65.38 323 P **P** **09 13 07.7 +0.6**
SNR=10.0
SKR Severo-Kuril's 65.59 24 *e*P **P** **09 13 05.5 -2.2**
SKR pmax pmax
comp=Z,70µm,0.7s
SKR pmax pmax
comp=N,70nm,0.7s
USP Ospenovka 65.60 325 P **P** **09 13 08.3 +0.2**
SNR=8.9
EKS2 Erkin-Say 65.65 324 *e*P **P** **09 13 09.1 +0.6**
EKS2 *e* 09 13 35.0
EKS2 pmax pmax
comp=Z,54nm,0.9s
EKS2 Erkin-Say 65.65 324 *e*P **P** **09 13 09.1 +0.6**
comp=Z,54nm,0.9s
EKS2 *e*PcP **PcP** **09 13 35.0 +0.9**
EKS2 Erkin-Say 65.65 324 P **P** **09 13 09.2 +0.7**
SNR=30
WBK Wadi Bani Khal 67.35 298⇓ P **P** **09 13 19.4 +0.2**
SNR=6.2
KK31 Karatay Array 67.85 323 *e*P **P** **09 13 21.0 -0.9**
KK31 pmax pmax
comp=Z,11nm,0.5s
KKAR Karatay Array 67.85 323 *e*P **P** **09 13 21.4 -0.5**
KKAR pmax pmax
comp=Z,12nm,0.5s
KKAR Karatay Array 67.85 323 *e*P **P** **09 13 21.4 -0.5**
comp=Z,12nm,0.5s
JMDO Jabal Madar 68.03 298⇓ P **P** **09 13 23.3 -0.1**
SNR=9.5
PEA0B Petropavlovsk- 68.08 23 *e*P **P** **09 13 23.6 +0.5**
PETK Petropavlovsk- 68.08 23 P **P** **09 13 23.6 +0.5**
PETK Petropavlovsk- 68.08 23 P **P** **09 13 23.6 +0.5**
PETK Petropavlovsk- 68.08 23 P **P** **09 13 23.6 +0.5**
comp=Z,85nm,0.7s,baz=205,slow=3.8,SNR=80
ZAA0 Zalesovo Array 68.26 338 *e*P **P** **09 13 23.2 -0.9**
ZAA0 *e*PcP **PcP** **09 13 43.7 -0.9**
ZALV Zalesovo Beam 68.26 338 P **P** **09 13 23.2 -0.9**
ZALV S **S** **09 21 33.9 -4.7**
ZALV Zalesovo Beam 68.26 338 P **P** **09 13 23.1 -0.9**
ZALV S **S** **09 21 33.9 -4.7**
ZALV ⇑ *e* 09 41 27.8
ZALV Zalesovo Beam 68.26 338 P **P** **09 13 23.1 -0.9**
comp=Z,96nm,0.5s,baz=136,slow=5.0,SNR=440
ZALV S **S** **09 21 33.9 -4.7**
comp=Z,9.2nm,0.8s,baz=132,slow=10,SNR=20
ZALV PKP2bc 09 41 27.8
comp=Z,0.5nm,0.5s,baz=325,slow=2.3,SNR=2.5
SMDO Samad 68.30 298⇑ P **P** **09 13 25.2 +0.1**
SNR=10
KURBB Kurchatov Arra 68.39 333 PKP2bc 09 41 27.7
comp=Z,0.8nm,0.5s,baz=297,slow=4.1,SNR=3.2
KURK Kurchatov 68.41 333 *d* *i*P **P** **09 13 24.8 -0.2**
KURK pmax pmax
comp=Z,154nm,1.3s
KURK Kurchatov 68.41 333 *e*P **P** **09 13 25.0 0.0**
comp=Z,92nm,0.8s
KURK *e*PcP **PcP** **09 13 45.5 +0.2**
KURK ⇑ *e* 09 41 27.7
KURK Kurchatov 68.41 333 P **P** **09 13 25.1 +0.1**
SNR=33
BSY Bisya 68.94 298⇓ P **P** **09 13 28.9 0.0**
BSY P **P** **09 13 29.3 +0.4**
SNR=6.6
HOQ Hoqain 69.11 299⇑ P **P** **09 13 30.1 +0.3**
SNR=14
NVS Novosibirsk 69.54 338⇓ *i*P **P** **09 13 29.5 -2.2**
NVS *i* S S 09 21 47.2 -6.0
NVS pmax pmax
comp=Z,85nm,1.4s
NVS pmax pmax
comp=N,33nm,1.1s
NVS pmax pmax
comp=E,32nm,1.3s
NVS smax smax
comp=E,77nm,1.7s
NVS smax smax
comp=N,40nm,1.8s
YAK Yakutsk 69.70 5 *d* *i*P **P** **09 13 32.1 -0.4**
YAK *e* 09 13 49.9
YAK *e*S **S** **09 21 51.5 -3.2**
YAK *e* 09 22 33.8
YAK pmax pmax
comp=Z,196nm,0.8s
YAK pmax pmax
comp=N,71nm,1.1s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK smax smax
comp=N,30nm,1.2s
YAK smax smax
comp=E,31nm,1.0s
YAK Yakutsk 69.70 5 *e*P **P** **09 13 31.7 -0.8**
comp=E,310nm,0.8s
ARQ Araqi 69.72 298⇑ P **P** **09 13 33.5 0.0**
SNR=5.5

RBK **Rabkut** 70.16 292 ⇓P P 09 13 36.1 -0.2
SNR=11
HATD **Hatta, Dubai** 70.52 300 ⇑P P 09 13 38.5 +0.3
SNR=5.6
ASHO **Ashiyiah** 70.54 299 ⇓P P 09 13 38.6 +0.3
SNR=6.5
ABTO **Aybut** 70.96 291 P P 09 13 41.2 +0.3
SNR=22
MAW **Mawson** 71.17 200 P P 09 13 42.7 +1.6
MAW **Mawson** 71.17 200 P P 09 13 42.7 +1.6
comp=E,13nm,0.7s,baz=55,slow=8.6,SNR=4.2
IMYA **Miami** 71.52 312 eP P 09 13 45.3 +1.3
IMYA **Miami** 71.52 312 eP P 09 13 45.1 +1.1
IMOG **Moghan** 71.98 312 eP P 09 13 48.0 +1.1
IMOG **Moghan** 71.98 312 eP P 09 13 48.0 +1.1
OPO **Ambohidratompo** 71.99 253 P P 09 13 48.1 +1.0
OPO **Ambohidratompo** 71.99 253 P P 09 13 48.1 +1.0
comp=E,34nm,0.7s,baz=92,slow=6.7,SNR=99
IPAY **Payeh** 72.37 312 eP P 09 13 50.5 +1.5
IPAY **Payeh** 72.37 312 eP P 09 13 50.5 +1.5
IAKL **Akhelmad** 72.61 312 eP P 09 13 50.9 +0.4
IAKL **Akhelmad** 72.61 312 eP P 09 13 50.6 +0.1
IKRD **Kardeh** 72.86 312 eP P 09 13 48.9 -2.9
IEMG **Emamgholi** 73.01 313 eP P 09 13 53.5 +0.7
IEMG **Emamgholi** 73.01 313 eP P 09 13 52.6 -0.2
IBAF **Bafgh** 73.21 306 eP P 09 13 54.1 +0.3
IBAF **Bafgh** 73.21 306 eP P 09 13 53.6 -0.2
VOSK **Vostochnaya** 73.31 331 P P 09 13 53.0 -0.7
VOSK pmax pmax
comp=Z,54nm,0.6s
ISFR **Sfrayin** 73.35 312 eP P 09 13 55.5 +0.9
ISFR **Sfrayin** 73.35 312 eP P 09 13 55.5 +0.9
BVA0 **Borovoye Array** 73.78 331 i P P 09 13 55.8 -0.6
BVA0 pmax pmax
comp=Z,5.0nm,0.9s
BRVK **Borovoye** 73.85 331 eP P 09 13 56.3 -0.4
BRVK e 09 14 08.6
BRVK pmax pmax
comp=Z,31nm,0.8s
BRVK **Borovoye** 73.85 331 eP P 09 13 56.3 -0.4
comp=Z,30nm,0.8s
BRVK ePcP PcP 09 14 08.6 +0.1
BRVK **Borovoye** 73.85 331 P P 09 13 56.6 -0.1
SNR=11
SEY **Seymchan** 74.33 14⇓eP P 09 13 59.9 +0.7
ISRV **Sarvestan** 74.49 303 eP P 09 14 01.5 +0.2
ISRV **Sarvestan** 74.49 303 eP P 09 14 01.5 +0.2
IPAR **Pars** 74.69 304 eP P 09 14 02.9 +0.5
IPAR **Pars** 74.69 304 eP P 09 14 02.9 +0.5
IANJ **Anjilo** 75.83 309 eP P 09 14 09.0 +0.5
IANJ **Anjilo** 75.83 309 eP P 09 14 08.8 +0.3
IGAR **Gharneh** 76.31 306 eP P 09 14 11.4 +0.2
IGAR **Gharneh** 76.31 306 eP P 09 14 10.8 -0.4
ISHM **Shahmirzad** 76.43 309 eP P 09 14 12.7 +0.8
ISHM **Shahmirzad** 76.43 309 eP P 09 14 12.7 +0.8
AB31 **Akbulak array** 77.31 324 i P P 09 14 15.2 -0.7
AB31 pmax pmax
comp=Z,16nm,0.5s
ABKAR **Akbulak array** 77.31 324 eP P 09 14 15.4 -0.5
comp=Z,19nm,0.6s
ABKAR ePcP PcP 09 14 23.4 -0.2
IPIR **Pirpir** 77.31 306 eP P 09 14 18.0 +1.2
IPIR **Pirpir** 77.31 306 eP P 09 14 18.0 +1.2
QRN **Al-Qurain** 78.67 301 eP P 09 14 24.1 +0.3
QRN AMb AMB 09 14 24.8
comp=Z,518nm,0.5s
IRAZ **Razeghan** 78.89 308 eP P 09 14 25.9 +0.8
IRAZ **Razeghan** 78.89 308 eP P 09 14 25.9 +0.8
AKTO **Aktyubinsk** 78.95 325 P P 09 14 24.2 -0.5
AKTO pmax pmax
comp=Z,9.0nm,0.8s
KBD **Kabd** 78.97 302 eP P 09 14 25.6 +0.3
KBD AMb AMB 09 14 27.7
comp=Z,60nm,0.8s
RDF **Al-Radifah** 79.03 301 eP P 09 14 26.1 +0.5
RDF AMb AMB 09 14 26.9
comp=Z,253nm,0.6s
NAY **Al-Naaiem** 79.37 302 eP P 09 14 27.4 -0.1
NAY AMb AMB 09 14 28.3
comp=Z,105nm,0.6s
MIB **Mutribah** 79.43 302 eP P 09 14 27.9 +0.2
MIB AMb AMB 09 14 29.2
comp=Z,169nm,1.0s
SYO **Syowa Base** 79.81 201⇑iP P 09 14 28.6 -0.3
SVE **Sverdlovsk** 80.57 331⇑eP P 09 14 32.2 -0.8
SVE pmax pmax
comp=Z,48nm,1.0s
ARU **Arti** 81.38 330d iP P 09 14 36.1 -1.1
ARU *PP pP 09 16 38.8 -3.7
ARU 09 17 54.5
ARU S S 09 23 58.4 -1.6
ARU SS SS 09 29 41.0 +6.7
ARU pmax pmax
comp=Z,25nm,1.0s
ARU **Arti** 81.38 330 eP P 09 14 36.2 -1.1
comp=Z,18nm,0.8s
IDHR **Dehrash** 81.48 307 eP P 09 14 37.7 -0.8
IDHR **Dehrash** 81.48 307 eP P 09 14 37.7 -0.8
BILL **Bilibino** 81.94 16d iP P 09 14 39.6 -0.2
BILL eS S 09 24 01.5 -3.6
BILL pmax pmax
comp=Z,14nm,0.6s
BILL **Bilibino** 81.94 16 eP P 09 14 39.5 -0.2
comp=Z,14nm,0.6s
QSPA **South Pole Qui** 82.46 180 P P 09 14 43.7 +1.0
QSPA pP pP 09 16 48.6 +0.1
QSPA S S 09 24 06.8 -4.0
QSPA **South Pole Qui** 82.46 180 P P 09 14 43.7 +1.0
comp=Z,16nm,0.5s,baz=313,slow=1.4,SNR=267
QSPA pP pP 09 16 48.6 +0.1
comp=Z,16nm,1.1s,baz=307,slow=2.0,SNR=5.9
QSPA S S 09 24 06.8 -4.0
comp=Z,8.4nm,1.1s,baz=287,slow=19,SNR=15
KMBO **Kilima Mbogo** 83.29 270 eP P 09 14 49.1 +1.0
comp=Z,22nm,0.8s
KMBO epP pP 09 16 53.7 -0.5
KMBO esP sP 09 17 53.8 -0.3
KMBO **Kilima Mbogo** 83.29 270 P P 09 14 49.7 +1.5
SNR=9.2
SOKR **Solikamsk** 83.65 333c iP P 09 14 48.4 -0.1
SOKR pmax pmax
comp=Z,50nm,1.0s
DGRG **David-gareji** 84.04 313 P P 09 14 53.0 +2.0
GNI **Garni** 84.16 312 eP P 09 14 52.9 +1.2
comp=Z,29nm,0.8s
TBLG **Delisi** 84.57 313 P P 09 14 54.8 +1.3
TBLG **Delisi** 84.57 313 P P 09 14 54.8 +1.3
GOR **Gori** 85.09 313 P P 09 14 57.7 +1.6
AKH **Akhalkalaki** 85.40 313 P P 09 14 59.2 +1.5
ZEI **Tsey** 85.44 314 eP P 09 14 57.9 0.0
ZEI pmax pmax
comp=Z,37nm,0.7s
KBZ **Khabaz** 86.38 315 P P 09 15 02.4 +0.3
KBZ **Khabaz** 86.38 315 P P 09 15 02.4 +0.3
KBZ PKKPbc PKKPbc 09 32 56.1 -0.8
KBZ **Khabaz** 86.38 315 P P 09 15 02.4 +0.3
comp=Z,25nm,0.8s,baz=114,slow=4.2,SNR=45
KBZ PKKPbc PKKPbc 09 32 56.1 -0.8
comp=Z,1.5nm,0.6s,baz=200,slow=5.4,SNR=4.1
KIV **Kislovodsk** 86.59 315 eP P 09 15 02.7 -0.5
KIV pmax pmax
comp=Z,22nm,1.0s
KIV **Kislovodsk** 86.59 315 eP P 09 15 03.2 +0.1
comp=Z,16nm,0.8s
LSZ **Lusaka** 90.39 255 eP P 09 15 22.2 +0.6
comp=Z,36nm,0.8s
LSZ **Lusaka** 90.39 255 P P 09 15 22.0 +0.5
SNR=6.9
ANN **Anapa** 90.45 315 eP P 09 15 23.0 +2.1
ANN *PP pP 09 17 27.8 -1.7
ANN e 09 19 05.0
ANN e 09 24 57.7
ANN pmax pmax
comp=Z,55nm,1.3s
BOSA **Boshof** 91.13 241 P P 09 15 25.5 +0.8
BOSA PKKPbc PKKPbc 09 32 44.1 -0.8
BOSA **Boshof** 91.13 241 P P 09 15 25.5 +0.8
comp=Z,16nm,0.5s,baz=112,slow=4.3,SNR=36
BOSA PKKPbc PKKPbc 09 32 44.1 -0.8
comp=Z,2.6nm,0.8s,baz=227,slow=6.1,SNR=3.7
LBTB **Lobatse** 91.39 245 eP P 09 15 26.6 +0.6
comp=Z,14nm,1.1s
LBTB epP pP 09 17 33.8 -0.8
KLMR **Klimovskoe** 92.20 331 eP P 09 15 24.9 -3.8
KLMR pmax pmax
comp=Z,65nm,1.5s
BR131 **Keskin Array S** 92.45 310 eP P 09 15 29.6 -0.9
comp=Z,14nm,0.8s
BRTR **Keskin Array B** 92.45 310 P P 09 15 29.5 -1.0
BRTR pP pP 09 17 39.0 -0.3
BRTR PKiKP PKiKP 09 20 16.7 +1.4
BRTR PKKPbc PKKPdf 09 32 39.9 +0.7
BRTR **Keskin Array B** 92.45 310 P P 09 15 29.5 -1.0
comp=Z,14nm,0.8s,baz=122,slow=5.5,SNR=56
BRTR pP pP 09 17 39.0 -0.3
comp=Z,0.8nm,0.8s,baz=117,slow=5.4,SNR=2.1
BRTR PKiKP PKiKP 09 20 16.7 +1.4
comp=Z,0.7nm,0.8s,baz=145,slow=5.4,SNR=3.6
BRTR PKKPbc PKKPdf 09 32 39.9 +0.7
comp=Z,0.7nm,0.8s,baz=198,slow=0.8,SNR=3.7
OBN **Obninsk** 92.73 325d iP P 09 15 30.3 -0.9
OBN e*PP pP 09 17 40.4 +0.4
OBN e*SP sP 09 18 38.6 -0.4
OBN e 09 19 21.2
OBN eS SKSac 09 25 06.4 -1.8
OBN pmax pmax
comp=Z,34nm,0.6s
OBN MLR MLR
comp=Z,100nm,13.0s
SNAA **Sanae** 92.84 195 eP P 09 15 25.5 -6.1
comp=Z,14nm,0.6s
JOF **Joensuu** 96.33 333 eP P 09 15 45.2 -2.2
JOF pmax pmax
comp=Z,7.0nm,0.7s
JOF **Joensuu** 96.33 333 ep P 09 15 45.2 -2.2
comp=Z,6.7nm,0.7s
AKASG **Malin Array Be** 96.66 320 P P 09 15 47.5 -1.6
AKASG **Malin Array Be** 96.66 320 P P 09 15 47.5 -1.6
AKASG **Malin Array Be** 96.66 320 P P 09 15 47.5 -1.6
comp=Z,8.4nm,0.7s,baz=86,slow=4.2,SNR=21
PMR **Palmer** 96.67 29 eP P 09 15 47.9 -1.0
PMR pmax pmax
comp=Z,14nm,0.9s
PMR **Palmer** 96.67 29 eP P 09 15 47.9 -1.0
comp=Z,14nm,0.9s
COLA **College** 97.40 25 eP Pdif 09 15 50.6 -1.5
COLA pmax pmax
comp=Z,4.0nm,0.8s
COLA **College** 97.40 25 eP Pdif 09 15 50.6 -1.5
comp=Z,3.9nm,0.8s
ILAR **Eielson Array** 97.81 26 P Pdif 09 15 52.0 -2.0
ILAR PKiKP PKiKP 09 20 23.2 -0.5
ILAR PKKPbc PKKPbc 09 32 25.6 -3.1
ILAR **Eielson Array** 97.81 26 P Pdif 09 15 52.0 -2.0
comp=Z,2.4nm,0.6s,baz=241,slow=5.2,SNR=64
ILAR PKiKP PKiKP 09 20 23.2 -0.5
comp=Z,0.7nm,0.6s,baz=269,slow=3.7,SNR=6.7
ILAR PKKPbc PKKPbc 09 32 25.6 -3.1
comp=Z,2.6nm,0.9s,baz=93,slow=1.9,SNR=7.3
KEV **Kevo** 98.27 339 eP Pdif 09 15 55.5 -0.3
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV **Kevo** 98.27 339 ep Pdif 09 15 55.5 -0.3
comp=Z,1.0nm,0.4s
VSU **Vasula** 98.40 328⇓eP Pdif 09 15 56.2 -0.5
VSU pmax pmax
comp=Z,19nm,0.6s
KAF **Kangasniemi** 98.63 332 eP Pdif 09 15 55.8 -1.8
KAF pmax pmax
comp=Z,7.0nm,0.7s
KAF **Kangasniemi** 98.63 332 ep Pdif 09 15 55.8 -1.8
comp=Z,6.8nm,0.7s
FINES **FINESS Array B** 98.74 331 P Pdif 09 15 57.3 -0.8
FINES PKiKP PKiKP 09 20 25.6 +0.2
FINES PKKPbc PKKPbc 09 32 23.1 -2.8
FINES **FINESS Array B** 98.74 331 P Pdif 09 15 57.3 -0.8
comp=Z,7.4nm,0.7s,baz=76,slow=5.9,SNR=21
FINES PKiKP PKiKP 09 20 25.6 +0.2
comp=Z,2.4nm,0.5s,baz=106,slow=3.4,SNR=9.9
FINES PKKPbc PKKPbc 09 32 23.1 -2.8
comp=Z,0.9nm,0.6s,baz=267,slow=2.5,SNR=5.8
ARCES **ARCESS Array B** 98.80 339 P Pdif 09 15 57.3 -1.0
ARCES PKiKP PKiKP 09 20 25.4 0.0
ARCES PKKPbc PKKPbc 09 32 22.4 -3.7
ARCES **ARCESS Array B** 98.80 339 P Pdif 09 15 57.3 -1.0
comp=Z,14nm,0.9s,baz=92,slow=6.3,SNR=18
ARCES PKiKP PKiKP 09 20 25.4 0.0
comp=Z,3.5nm,0.8s,baz=96,slow=1.1,SNR=14
ARCES PKKPbc PKKPbc 09 32 22.4 -3.7
comp=Z,6.4nm,1.0s,baz=242,slow=1.9,SNR=6.3
DOT **Dot Lake** 99.05 27 eP Pdif 09 15 59.5 0.0
comp=Z,3.6nm,0.8s
DOT epP pP 09 18 09.5 +0.5
DOT esP sP 09 19 02.4 -5.5
BUR08 **Bucovina Ar. S** 99.17 317 ePdif Pdif 09 16 00.6 0.0
MENT **Mentasta** 99.22 27 ePdif Pdif 09 16 00.6 +0.3
EGAK **Eagle** 100.26 26 ePdif Pdif 09 16 04.9 +0.1
comp=Z,5.7nm,0.9s
NB2 **NORSAR Subarra** 105.91 331 P Pdif 09 16 28.7 -1.4
baz=76,slow=4.4
NB2 **NORSAR Subarra** 105.91 331 P Pdif 09 16 28.7 -1.4
comp=Z,3.9nm,0.8s,baz=76,slow=4.4
NOA **NORSAR Array B** 105.91 331 Pdif Pdif 09 16 28.9 -1.2
NOA PKiKP PKiKP 09 20 38.5 -0.1
NOA **NORSAR Array B** 105.91 331 Pdiff Pdif 09 16 28.9 -1.2
comp=Z,3.5nm,0.8s,baz=77,slow=4.5,SNR=13
NOA PKiKP PKiKP 09 20 38.5 -0.1
comp=Z,1.1nm,0.8s,baz=108,slow=2.7,SNR=3.4
GERES **GERESS Array B** 106.76 319 PKiKP PKiKP 09 20 40.5 -0.2
GERES PKKPbc PKKPbc 09 32 01.1 -1.2
GERES **GERESS Array B** 106.76 319 PKiKP PKiKP 09 20 40.5 -0.2
comp=Z,2.4nm,0.5s,baz=64,slow=2.3,SNR=20
GERES PKKPbc PKKPbc 09 32 01.1 -1.2
comp=Z,0.6nm,0.6s,baz=300,slow=1.9,SNR=5.5
KHC **Kasperske Hory** 106.80 319 ePKP PKiKP 09 20 40.5 -0.1
ABTA **Abfaltersbach** 107.85 317⇑iPKiKP PKiKP 09 20 42.4 -0.3
comp=Z,6.2nm,0.7s
WTTA **Wattenberg** 108.36 317⇓iPKiKP PKiKP 09 20 43.8 +0.1
comp=Z,16nm,0.5s
FETA **Feichten** 109.02 317⇑iPKiKP PKiKP 09 20 45.2 +0.2
comp=Z,6.2nm,1.1s
DAVA **Damuels** 109.54 318⇑iPKiKP PKiKP 09 20 46.3 +0.4
comp=Z,15nm,0.9s
DAVOX **Davos/Dischmat** 109.63 317 PKiKP PKiKP 09 20 46.1 -0.1
DAVOX **Davos/Dischmat** 109.63 317 PKiKP PKiKP 09 20 46.1 -0.1
comp=Z,3.6nm,0.4s,baz=18,slow=3.2,SNR=7.2
RES **Resolute Bay** 109.86 9 ePKPdf PKiKP 09 20 45.4 -0.2
CDF **Champ du Feu** 111.03 319 ePKIKP PKiKP 09 20 49.0 +0.3
CDF **Champ du Feu** 111.03 319 ePKIKP PKiKP 09 20 49.0 +0.3
CDF **Champ du Feu** 111.03 319 ePKPdf PKiKP 09 20 49.0 +0.3
HINF **Hinteralfeld** 111.44 319 ePKIKP PKiKP 09 20 48.9 -0.5
comp=Z,17nm,0.6s
HINF **Hinteralfeld** 111.44 319 ePKIKP PKiKP 09 20 48.9 -0.5
HINF **Hinteralfeld** 111.44 319 ePKPdf PKiKP 09 20 48.9 -0.5
KEST **Kesra** 111.62 305 PKiKP PKiKP 09 20 49.9 -0.3
KEST **Kesra** 111.62 305 PKiKP PKiKP 09 20 49.9 -0.3
comp=Z,2.1nm,0.8s,baz=296,slow=6.2,SNR=4.3
HAU **Haudompre** 111.73 319 ePKIKP PKiKP 09 20 49.6 -0.3
HAU **Haudompre** 111.73 319 ePKIKP PKiKP 09 20 49.6 -0.3
HAU **Haudompre** 111.73 319 ePKPdf PKiKP 09 20 49.6 -0.3
LPG **La Plagne** 112.01 316 ePKIKP PKiKP 09 20 50.8 -0.1
comp=Z,19nm,0.8s
LPG **La Plagne** 112.01 316 ePKIKP PKiKP 09 20 50.8 -0.1
LPG **La Plagne** 112.01 316 ePKPdf PKiKP 09 20 50.8 -0.1
LPL **La Plagne** 112.02 316 ePKIKP PKiKP 09 20 50.8 0.0
comp=Z,11nm,0.5s
LPL **La Plagne** 112.02 316 ePKIKP PKiKP 09 20 50.8 0.0
LPL **La Plagne** 112.02 316 ePKPdf PKiKP 09 20 50.8 0.0
MBDF **Montbardon** 112.16 315 ePKIKP PKiKP 09 20 52.0 +1.0
comp=Z,12nm,0.9s
MBDF **Montbardon** 112.16 315 ePKIKP PKiKP 09 20 52.0 +1.0
MBDF **Montbardon** 112.16 315 ePKPdf PKiKP 09 20 52.0 +1.0
GIVF **Givet** 112.18 321 ePKIKP PKiKP 09 20 51.1 +0.4
comp=Z,19nm,0.7s
GIVF **Givet** 112.18 321 ePKIKP PKiKP 09 20 51.1 +0.4
GIVF **Givet** 112.18 321 ePKPdf PKiKP 09 20 51.1 +0.4
YKA **Yellowknife Ar** 112.19 24 Pdif PKiKP 09 16 57.2 -0.7
YKA PKiKP PKiKP 09 20 49.8 -0.5
YKA PKKPbc PKKPbc 09 31 42.5 -2.9
YKA SKKPbc SKKPbc 09 34 30.0 -4.5
YKA **Yellowknife Ar** 112.19 24 Pdiff Pdif 09 16 57.2 -0.7
comp=Z,0.3nm,0.7s,baz=302,slow=6.0,SNR=4.4
YKA PKiKP PKiKP 09 20 49.8 -0.5
comp=Z,11nm,0.5s,baz=300,slow=1.9,SNR=94
YKA PKKPbc PKKPbc 09 31 42.5 -2.9
comp=Z,1.7nm,0.7s,baz=113,slow=3.1,SNR=22
YKA SKKPbc SKKPbc 09 34 30.0 -4.5
comp=Z,0.2nm,0.5s,baz=121,slow=3.2,SNR=6.8
CABF **La Chapelle** 112.22 317 ePKIKP PKiKP 09 20 51.1 +0.1
comp=Z,29nm,0.7s
CABF **La Chapelle** 112.22 317 ePKIKP PKiKP 09 20 51.1 +0.1
CABF **La Chapelle** 112.22 317 ePKPdf PKiKP 09 20 50.7 -0.5
MEZF **Maizieres J'vi** 112.45 320 ePKIKP PKiKP 09 20 50.7 -0.5
MEZF **Maizieres J'vi** 112.45 320 ePKPdf PKiKP 09 20 50.7 -0.5
BAIF **Baives** 112.57 321 ePKIKP PKiKP 09 20 51.8 +0.4
comp=Z,19nm,0.7s
BAIF **Baives** 112.57 321 ePKIKP PKiKP 09 20 51.8 +0.4
BAIF **Baives** 112.57 321 ePKPdf PKiKP 09 20 51.8 +0.4
ORIF **Oris-en-Rattie** 112.74 316 ePKIKP PKiKP 09 20 52.8 +0.8
comp=Z,13nm,0.6s
ORIF **Oris-en-Rattie** 112.74 316 ePKIKP PKiKP 09 20 52.8 +0.8
ORIF **Oris-en-Rattie** 112.74 316 ePKPdf PKiKP 09 20 52.8 +0.8
SMRF **Simiane la Rot** 113.15 315 ePKPdf PKiKP 09 20 53.1 +0.3
comp=Z,17nm,0.8s
SMRF **Simiane la Rot** 113.15 315 ePKPdf PKiKP 09 20 53.1 +0.3
LOR **Lormes** 113.54 318 ePKIKP PKiKP 09 20 53.3 -0.1
comp=Z,6.5nm,0.5s
LOR **Lormes** 113.54 318 ePKPdf PKiKP 09 20 53.3 -0.1
VIVF **Saint-Julien-l** 113.59 316 ePKIKP PKiKP 09 20 53.5 -0.1
VIVF **Saint-Julien-l** 113.59 316 ePKIKP PKiKP 09 20 53.5 -0.1
VIVF **Saint-Julien-l** 113.59 316 ePKPdf PKiKP 09 20 53.5 -0.1
SSF **Saint Saulge** 113.83 318 ePKIKP PKiKP 09 20 54.0 +0.1
comp=Z,23nm,0.7s
SSF **Saint Saulge** 113.83 318 ePKIKP PKiKP 09 20 54.0 +0.1
SSF **Saint Saulge** 113.83 318 ePKPdf PKiKP 09 20 54.0 +0.1
LASF **Ste Croix** 114.34 315 ePKIKP PKPdf 09 20 55.4 +0.4
LASF **Ste Croix** 114.34 315 ePKPdf PKPdf 09 20 55.4 +0.4
BGF **Bois d'Agland** 114.40 318 ePKIKP PKPdf 09 20 55.4 +0.3
comp=Z,39nm,0.6s
BGF **Bois d'Agland** 114.40 318 ePKIKP PKPdf 09 20 55.4 +0.3
BGF **Bois d'Agland** 114.40 318 ePKPdf PKPdf 09 20 55.4 +0.3
ESY **Stoneypath** 114.43 329 eP PKPdf 09 20 54.7 -0.1
ESY **Stoneypath** 114.43 329 P PKPdf 09 20 54.7 -0.1
EBL **Broad Law** 114.71 329 eP PKPdf 09 20 55.6 +0.2
EBL **Broad Law** 114.71 329 P PKPdf 09 20 55.6 +0.2
EAU **Auchinoon** 114.88 329 eP PKPdf 09 20 55.6 -0.1
EAU **Auchinoon** 114.88 329 P PKPdf 09 20 55.6 -0.1
ESK **Eskdalemuir** 114.98 328 eP PKPdf 09 20 55.9 +0.1
ESK **Eskdalemuir** 114.98 328 P PKPdf 09 20 55.9 +0.1
KESW **Keswick, Cumbr** 115.23 328 eP PKPdf 09 20 56.4 0.0
KESW **Keswick, Cumbr** 115.23 328 P PKPdf 09 20 56.4 0.0
CAF **Calviac** 115.36 316 ePKIKP PKPdf 09 20 57.4 +0.4
comp=Z,16nm,0.6s
CAF **Calviac** 115.36 316 ePKIKP PKPdf 09 20 57.4 +0.4
CAF **Calviac** 115.36 316 ePKPdf PKPdf 09 20 57.4 +0.4
RJF **Les Rejaudoux** 115.64 317 ePKIKP PKPdf 09 20 57.8 +0.3
comp=Z,17nm,0.9s
RJF **Les Rejaudoux** 115.64 317 ePKIKP PKPdf 09 20 57.8 +0.3
RJF **Les Rejaudoux** 115.64 317 ePKPdf PKPdf 09 20 57.8 +0.3
LDF **La Druitiere** 115.72 321 ePKIKP PKPdf 09 20 57.4 -0.1
comp=Z,11nm,0.6s
LDF **La Druitiere** 115.72 321 ePKIKP PKPdf 09 20 57.4 -0.1
LDF **La Druitiere** 115.72 321 ePKPdf PKPdf 09 20 57.4 -0.1
HAWA **Hanford** 115.80 42 ePKPdf PKPdf 09 20 58.5 +0.7
FLN **La Foliniere** 115.89 321 ePKIKP PKPdf 09 20 57.8 0.0
comp=Z,36nm,0.8s
FLN **La Foliniere** 115.89 321 ePKIKP PKPdf 09 20 57.8 0.0
FLN **La Foliniere** 115.89 321 ePKPdf PKPdf 09 20 57.8 0.0
HLM1 **Long Mynd** 115.94 325 eP PKPdf 09 20 57.8 0.0
HLM1 **Long Mynd** 115.94 325 P PKPdf 09 20 57.8 0.0
WPM1 **Penmaenmawr** 116.21 327 eP PKPdf 09 20 58.4 +0.1
WPM1 **Penmaenmawr** 116.21 327 P PKPdf 09 20 58.4 +0.1
MCH1 **Michaelchurch** 116.22 325 eP PKPdf 09 20 58.2 -0.2
MCH1 **Michaelchurch** 116.22 325 P PKPdf 09 20 58.2 -0.2
GRR **Gorron** 116.25 321 ePKIKP PKPdf 09 20 58.6 +0.1
comp=Z,20nm,0.4s
GRR **Gorron** 116.25 321 ePKIKP PKPdf 09 20 58.6 +0.1
GRR **Gorron** 116.25 321 ePKPdf PKPdf 09 20 58.6 +0.1
LFF **La Frestale** 116.27 317 ePKIKP PKPdf 09 20 59.1 +0.4
comp=Z,26nm,0.5s
LFF **La Frestale** 116.27 317 ePKIKP PKPdf 09 20 59.1 +0.4
LFF **La Frestale** 116.27 317 ePKPdf PKPdf 09 20 59.1 +0.4
MFF **Saint Martin d** 116.36 319 ePKIKP PKPdf 09 20 58.8 0.0
comp=Z,17nm,0.7s
MFF **Saint Martin d** 116.36 319 ePKIKP PKPdf 09 20 58.8 0.0
MFF **Saint Martin d** 116.36 319 ePKPdf PKPdf 09 20 58.8 0.0
WME **Myndd Eilian** 116.37 327 eP PKPdf 09 20 58.5 -0.1
WME **Myndd Eilian** 116.37 327 P PKPdf 09 20 58.5 -0.1
WLF1 **Llynfaes** 116.47 327 eP PKPdf 09 20 59.0 +0.2
WLF1 **Llynfaes** 116.47 327 P PKPdf 09 20 59.0 +0.2
MOD **Modoc** 116.49 47 ePKPdf PKPdf 09 21 00.3 +0.9
NEW **Newport** 116.76 39 ⇑P PKPdf 09 20 59.7 +0.1
baz=117
EPF **Esparros** 117.08 315 ePKIKP PKPdf 09 21 01.0 +0.6
comp=Z,6.9nm,0.4s
EPF **Esparros** 117.08 315 ePKIKP PKPdf 09 21 01.0 +0.6
EPF **Esparros** 117.08 315 ePKPdf PKPdf 09 21 01.0 +0.6
SGMF **Saint Gilles** 117.36 321 ePKIKP PKPdf 09 21 00.3 -0.4
comp=Z,32nm,0.9s
SGMF **Saint Gilles** 117.36 321 ePKIKP PKPdf 09 21 00.3 -0.4
SGMF **Saint Gilles** 117.36 321 ePKPdf PKPdf 09 21 00.3 -0.4
A12A **Yaak River Ran** 117.43 38 ⇓P PKPdf 09 21 01.7 +0.8
baz=117
C11A **Tepee Creek (N** 117.45 39 ⇑P PKPdf 09 21 01.3 +0.3
baz=117
HTL **Hartland** 117.47 324 eP PKPdf 09 21 01.0 +0.2
HTL **Hartland** 117.47 324 P PKPdf 09 21 01.0 +0.2
WCN **Washoe City** 117.53 50 ⇓P PKPdf 09 21 02.6 +1.1
baz=117
WVOR **Wild Horse Val** 117.55 46 ePKIKP PKPdf 09 21 01.8 +0.4
WVOR **Wild Horse Val** 117.55 46 ePKPdf PKPdf 09 21 01.8 +0.4
B12A **Libby** 117.64 39 ⇑P PKPdf 09 21 01.8 +0.5
baz=118
ETSF **Etsaut** 117.75 315 ePKIKP PKPdf 09 21 02.3 +0.6
comp=Z,9.5nm,0.6s
ETSF **Etsaut** 117.75 315 ePKIKP PKPdf 09 21 02.3 +0.6
ETSF **Etsaut** 117.75 315 ePKPdf PKPdf 09 21 02.3 +0.6
BMO **Blue Mountains** 117.76 43 ePKIKP PKPdf 09 21 01.7 0.0
BMO **Blue Mountains** 117.76 43 ePKPdf PKPdf 09 21 01.7 0.0
ROSF **Rostrenen** 117.77 321 ePKIKP PKPdf 09 21 01.2 -0.3
comp=Z,19nm,0.7s
ROSF **Rostrenen** 117.77 321 ePKIKP PKPdf 09 21 01.2 -0.3
ROSF **Rostrenen** 117.77 321 ePKPdf PKPdf 09 21 01.2 -0.3
QUIF **Quistinic** 117.86 321 ePKIKP PKPdf 09 21 01.4 -0.2
comp=Z,19nm,0.7s
QUIF **Quistinic** 117.86 321 ePKIKP PKPdf 09 21 01.4 -0.2
QUIF **Quistinic** 117.86 321 ePKPdf PKPdf 09 21 01.4 -0.2
C12B **Naegeli Ranch,** 117.99 39 ⇓P PKPdf 09 21 01.8 -0.2
baz=118
SJPF **Ste Jean** 118.15 315 ePKIKP PKPdf 09 21 03.1 +0.7
comp=Z,21nm,0.8s
SJPF **Ste Jean** 118.15 315 ePKIKP PKPdf 09 21 03.1 +0.7
SJPF **Ste Jean** 118.15 315 ePKPdf PKPdf 09 21 03.1 +0.7
A13A **Flathead Natio** 118.19 38 ⇓P PKPdf 09 21 03.2 +0.8
baz=118
D12A **Red Ives Fores** 118.30 40 ⇑P PKPdf 09 21 02.3 -0.4
baz=118
BSMT **Bassoo Peak** 118.37 39 ePKPdf PKPdf 09 21 02.9 0.0
B13A **Whitefish** 118.37 38 ⇓P PKPdf 09 21 03.0 +0.3
baz=118
E12A **Beaver Dam Sad** 118.39 41 ⇓P PKPdf 09 21 02.8 -0.1
baz=118
PKM **Peak Mountain** 118.42 54 ⇓P PKPdf 09 21 05.0 +1.6
baz=118
WALA **Waterton Lakes** 118.44 38 ePKPdf PKPdf 09 21 02.9 -0.1
C13A **Hot Springs** 118.57 39 ⇓P PKPdf 09 21 03.0 -0.1
baz=118
JTMT **Jette** 118.72 39 ePKPdf PKPdf 09 21 03.0 -0.5
A14A **Double T Ranch** 118.77 37 ⇓P PKPdf 09 21 03.3 -0.3
baz=119
VES **Vestal, Richgr** 118.82 53 ⇑P PKPdf 09 21 04.2 +0.3
baz=119
NVAR **Mina Array Bea** 118.83 50 PKP PKPdf 09 21 04.9 +0.8
NVAR PP PP 09 22 32.2 -1.4
NVAR PKiKPbc PKKPbc 09 31 23.4 +1.0
NVAR **Mina Array Bea** 118.83 50 PKP PKPdf 09 21 04.9 +0.8
comp=Z,5.7nm,0.7s,baz=252,slow=3.0,SNR=38
NVAR PP PP 09 22 32.2 -1.4
comp=Z,2.8nm,0.8s,baz=276,slow=8.1,SNR=7.8
NVAR PKKPbc PKKPbc 09 31 23.4 +1.0
comp=Z,2.0nm,0.7s,baz=138,slow=4.1,SNR=14
YBMT **Yellow Bay** 118.85 39 ePKPdf PKPdf 09 21 03.7 -0.1
D13A **Huson** 118.86 40 ⇑P PKPdf 09 21 03.5 -0.3
baz=119
SWMT **Swartz Lake** 118.99 39 ePKPdf PKPdf 09 21 03.7 -0.3
G12A **Big Creek, Yel** 119.00 42 ⇑P PKPdf 09 21 04.2 0.0
baz=119
C14A **Swan Lake** 119.05 39 ⇓P PKPdf 09 21 04.2 +0.1
baz=119
B14A **Marquette Ranc** 119.11 38 ⇑P PKPdf 09 21 04.3 0.0
baz=119
ARVC **Arvin** 119.17 54 ⇓P PKPdf 09 21 05.6 +1.0
baz=119

A15A Johnson Ranch, 119.19 37 ⇑P PKPdf 09 21 04.3 0.0
baz=119
MFID Camas Ranch 119.22 44 ePKPdf PKPdf 09 21 05.4 +0.8
MFID Camas Ranch 119.22 44 ⇓P PKPdf 09 21 05.4 +0.8
baz=119
E13A Victor 119.27 40 ⇓P PKPdf 09 21 05.0 +0.4
baz=119
MSO Missoula 119.28 40 ePKPdf PKPdf 09 21 04.5 -0.1
MSO Missoula 119.28 40 ⇓P PKPdf 09 21 04.6 0.0
baz=119
ISA Isabella 119.34 53 ePKIKP PKPdf 09 21 05.8 +0.8
ISA Isabella 119.34 53 ePKPdf PKPdf 09 21 05.8 +0.8
ISA Isabella 119.34 53 ⇓P PKPdf 09 21 05.2 +0.2
baz=119
OSI Osito Adit 119.36 55 ePKPdf PKPdf 09 21 06.5 +1.5
OSI Osito Adit 119.36 55 ⇓P PKPdf 09 21 05.0 0.0
baz=119
SLMT Seeley Lake 119.41 39 ePKPdf PKPdf 09 21 04.8 -0.1
F13A Darby 119.42 41 ⇓P PKPdf 09 21 04.5 -0.4
baz=119
D14A Greenough 119.46 40 ⇑P PKPdf 09 21 05.1 +0.1
baz=119
CWC Cottonwood Cre 119.48 52 ⇓P PKPdf 09 21 05.8 +0.5
baz=119
H12A Diamond D Ranc 119.51 43 ⇓P PKPdf 09 21 06.1 +0.9
baz=119
B15A Bradely Ranch, 119.56 38 ⇑P PKPdf 09 21 04.8 -0.3
baz=119
I12A Atlanta 119.58 44 ⇓P PKPdf 09 21 06.6 +1.2
baz=119
CHMT Chamberlain Mo 119.69 40 ePKPdf PKPdf 09 21 05.3 -0.2
E14A Clinton 119.73 40 ⇑P PKPdf 09 21 06.4 +0.8
baz=120
G13A Cobalt 119.73 42 ⇓P PKPdf 09 21 05.8 +0.2
baz=120
C15A Salmond Ranch, 119.75 38 ⇑P PKPdf 09 21 05.7 +0.1
baz=120
TOA0 Torodi Ar. Sit 119.79 281 ePKPdf PKPdf 09 21 06.3 +0.1
TORD Torodi Ar. Bea 119.79 281 PKP PKPdf 09 21 06.2 -0.1
TORD pPKP pPKPdf 09 23 22.0 -1.6
TORD PKKPbc PKKPbc 09 31 18.1 -0.1
TORD Torodi Ar. Bea 119.79 281 PKP PKPdf 09 21 06.2 -0.1
comp=Z,24nm,0.6s,baz=48,slow=2.2,SNR=144
TORD pPKP pPKPdf 09 23 22.0 -1.6
comp=Z,1.3nm,0.6s,baz=40,slow=0.6,SNR=2.4
TORD PKKPbc PKKPbc 09 31 18.1 -0.1
comp=Z,0.8nm,0.6s,baz=287,slow=3.7,SNR=5.3
CIS Catalina Islan 119.86 56 ⇑P PKPdf 09 21 06.9 +0.9
baz=120
A16A West Butte Ran 119.88 37 ⇓P PKPdf 09 21 05.9 +0.2
baz=120
PASC Pasadena Art C 119.89 55 ePKPdf PKPdf 09 21 07.1 +1.1
EDW2 Edwards Air Fo 119.90 54 ⇑P PKPdf 09 21 07.5 +1.4
baz=120
GRAC Grapevine Rang 119.90 52 ⇑P PKPdf 09 21 07.0 +1.0
baz=120
H13A Challis 119.91 42 ⇓P PKPdf 09 21 07.2 +1.3
baz=120
LRMC Laurel Mountai 120.01 53 ⇑P PKPdf 09 21 07.8 +1.5
baz=120
MPMC Manual Prospec 120.03 53 ⇑P PKPdf 09 21 08.0 +1.5
baz=120
F14A Wisdom 120.03 41 ⇑P PKPdf 09 21 06.9 +0.8
baz=120
B16A M & M Farms, S 120.04 38 ⇓P PKPdf 09 21 05.9 0.0
baz=120
D15A Lincoln 120.10 39 ⇑P PKPdf 09 21 06.6 +0.4
baz=120
HLID Hailey 120.15 44 ePKPdf PKPdf 09 21 07.0 +0.5
HLID Hailey 120.15 44 ⇓P PKPdf 09 21 08.0 +1.6
baz=120
G14A Jackson 120.19 41 ⇓P PKPdf 09 21 07.2 +0.7
baz=120
I13A Wildhorse Cree 120.23 43 ⇑P PKPdf 09 21 08.1 +1.4
baz=120
E15A Deer Lodge 120.27 40 ⇑P PKPdf 09 21 06.8 +0.2
baz=120
C16A Fuhringer Ranc 120.27 38 ⇑P PKPdf 09 21 06.5 +0.1
baz=120
BFSC Mount Baldy Ra 120.30 55 ⇑P PKPdf 09 21 07.9 +0.9
baz=120
J13A Cove Ranch, Pi 120.37 44 ⇑P PKPdf 09 21 08.5 +1.6
baz=120
A17A Triple J Farms 120.41 37 ⇑P PKPdf 09 21 07.3 +0.6
baz=120
FURC Furnace Creek, 120.43 52 ⇑P PKPdf 09 21 08.6 +1.7
baz=120
F15A Butte 120.59 41 ⇓P PKPdf 09 21 07.8 +0.5
baz=120
LRM Limekiln Ridge 120.62 41 ePKPdf PKPdf 09 21 07.7 +0.3
B17A L&G Farms, Che 120.64 37 ⇓P PKPdf 09 21 07.2 +0.1
baz=120
HRY Holter Researc 120.67 39 ePKPdf PKPdf 09 21 07.6 +0.3
I14A Mackay 120.67 43 ⇓P PKPdf 09 21 08.4 +1.0
baz=120
RRX Edison Barstow 120.69 54 ⇑P PKPdf 09 21 08.8 +1.2
baz=121
DLMT Dillon 120.71 41 ePKPdf PKPdf 09 21 08.5 +1.1
D16A Dana Ranch, Ca 120.71 39 ⇑P PKPdf 09 21 08.0 +0.6
baz=121
MCMT McKenzie Canyo 120.75 42 ePKPdf PKPdf 09 21 08.6 +1.0
GSC Goldstone 120.75 53 ePKIKP PKPdf 09 21 09.3 +1.6
GSC Goldstone 120.75 53 ePKPdf PKPdf 09 21 09.3 +1.6
GSC Goldstone 120.75 53 ⇑P PKPdf 09 21 09.3 +1.6
baz=121
MURC Murrieta 120.81 55 ⇓P PKPdf 09 21 08.6 +0.8
baz=121
E16A East Helena 120.83 40 ⇓P PKPdf 09 21 07.8 +0.2
baz=121
J14A Carey 120.84 44 ⇓P PKPdf 09 21 09.2 +1.5
baz=121
G15A Dillon 120.85 41 ⇓P PKPdf 09 21 08.5 +0.7
baz=121
BBRC Big Bear Solar 120.89 55 ⇓P PKPdf 09 21 09.5 +1.3
baz=121
R11A Troy Canyon, C 120.92 50 ⇓P PKPdf 09 21 09.3 +1.2
baz=121
A18A Metzger Ranch, 120.93 36 ⇓P PKPdf 09 21 07.9 +0.3
baz=121
C17A Wharram Farm, 120.94 38 ⇓P PKPdf 09 21 07.5 -0.2
baz=121
H15A Lima 120.96 42 ⇓P PKPdf 09 21 09.1 +1.1
baz=121
SHOC Shoshone 121.02 53 ⇑P PKPdf 09 21 09.7 +1.5
baz=121
109C Camp Elliot, M 121.04 56 ⇑P PKPdf 09 21 09.2 +1.0
baz=121
ESDC Sonseca Array 121.15 312 PKP PKPdf 09 21 08.5 +0.2
ESDC Sonseca Array 121.15 312 PKP PKPdf 09 21 08.5 +0.2
comp=Z,3.6nm,0.5s,baz=25,slow=2.9,SNR=16
F16A Kennard Place, 121.17 40 ⇓P PKPdf 09 21 09.2 +1.0
baz=121
D17A Six Diamond Ra 121.19 39 ⇓P PKPdf 09 21 08.3 0.0
baz=121
B18A Beardsley Farm 121.20 37 ⇓P PKPdf 09 21 08.5 +0.3
baz=121
BOZ Bozeman (W) 121.22 40 ePKIKP PKPdf 09 21 09.3 +0.9
BOZ Bozeman (W) 121.22 40 ePKPdf PKPdf 09 21 09.3 +0.9
BOZ Bozeman (W) 121.22 40 ⇑P PKPdf 09 21 09.5 +1.0
baz=121
HEC Hector,Ludlow 121.24 54 ⇑P PKPdf 09 21 10.1 +1.4
baz=121
G16A Moss Hill, Enn 121.28 41 ⇑P PKPdf 09 21 09.4 +0.9
baz=121
I15A Monteview 121.30 42 ⇓P PKPdf 09 21 10.0 +1.4
baz=121
K14A Jones Ranch, D 121.35 44 ⇑P PKPdf 09 21 10.1 +1.4
baz=121
E17A Martinsdale 121.38 39 ⇑P PKPdf 09 21 09.3 +0.5
baz=121
EGMT Eagleton 121.38 37 ePKPdf PKPdf 09 21 08.7 +0.2
EGMT Eagleton 121.38 37 ⇓P PKPdf 09 21 09.1 +0.6
baz=121
PFO Pinyon Flat Ob 121.42 55 ePKPdf PKPdf 09 21 10.4 +1.3
PFO Pinyon Flat Ob 121.42 55 ⇓P PKPdf 09 21 09.7 +0.5
baz=121
L14A Malta 121.48 45 ⇓P PKPdf 09 21 10.2 +1.2
baz=121
J15A Blackfoot 121.55 43 ⇑P PKPdf 09 21 11.1 +2.0
baz=121
A19A Klindworth Far 121.57 36 ⇓P PKPdf 09 21 09.2 +0.3
baz=121
MONP Monument Peak 121.60 56 ⇓P PKPdf 09 21 11.0 +1.4
baz=122
B19A Brinkman Farms 121.67 37 ⇑P PKPdf 09 21 09.8 +0.7
baz=122
QLMT Earthquake Lak 121.68 41 ePKPdf PKPdf 09 21 10.9 +1.5

BELC Belle Mtn. Jos 121.70 55 ⇑P PKPdf 09 21 11.3 +1.6
baz=122
D18A Linhart Farms, 121.72 38 ⇓P PKPdf 09 21 09.8 +0.5
baz=122
F17A Fitzpatrick Pl 121.74 40 ⇓P PKPdf 09 21 10.6 +1.2
baz=122
K15A Arbon 121.75 44 ⇓P PKPdf 09 21 11.0 +1.5
baz=122
GMRC Granite Mounta 121.79 54 ⇑P PKPdf 09 21 11.6 +1.8
baz=122
H16A Russell Place, 121.84 41 ⇓P PKPdf 09 21 11.3 +1.5
baz=122
DVTC Desert V Tower 121.91 56 ⇓P PKPdf 09 21 11.9 +1.8
baz=122
E18A Harlowton 121.93 39 ⇑P PKPdf 09 21 10.2 +0.4
baz=122
G17A Pierce Place, 121.93 40 ⇓P PKPdf 09 21 11.3 +1.5
baz=122
C19A Slack Wire Ran 121.94 37 ⇓P PKPdf 09 21 10.3 +0.7
baz=122
FFC Flin Flon 121.95 28 ePKIKP PKPdf 09 21 09.3 0.0
FFC Flin Flon 121.95 28 ePKPdf PKPdf 09 21 09.3 0.0
I16A Newdale 122.01 42 ⇑P PKPdf 09 21 11.5 +1.4
baz=122
YMR Madison River 122.04 41 ePKPdf PKPdf 09 21 11.8 +1.7
A20A Cobblestone Ra 122.06 36 ⇑P PKPdf 09 21 09.9 +0.1
baz=122
L15A Malad City 122.09 45 ⇓P PKPdf 09 21 10.9 +0.7
baz=122
SWSC Sam W. Stewart 122.10 56 ⇑P PKPdf 09 21 11.6 +1.3
baz=122
J16A Bone 122.16 43 ⇑P PKPdf 09 21 11.5 +1.1
baz=122
R13A O'Grain Ranch, 122.19 49 ⇓P PKPdf 09 21 11.6 +1.0
baz=122
YFT Old Faithful 122.22 41 ePKPdf PKPdf 09 21 13.0 +2.5
BC3 Big Chuckawall 122.22 55 ⇓P PKPdf 09 21 12.1 +1.4
baz=122
B20A Solberg Farm, 122.22 36 ⇓P PKPdf 09 21 10.3 +0.2
baz=122
M15A Larsen Ranch, 122.24 45 ⇑P PKPdf 09 21 11.2 +0.7
baz=122
D19A Cripps Ranch, 122.30 38 ⇓P PKPdf 09 21 10.5 +0.2
baz=122
DCID1 Drake Creek 122.32 43 ePKPdf PKPdf 09 21 11.9 +1.3
RRI2 Red Ridge 122.33 43 ePKPdf PKPdf 09 21 11.9 +1.1
F18A Big Timber 122.33 40 ⇑P PKPdf 09 21 11.6 +1.1
baz=122
K16A Soda Springs 122.34 43 ⇓P PKPdf 09 21 11.8 +1.1
baz=122
IRM Iron Mountain 122.34 54 ⇑P PKPdf 09 21 12.4 +1.7
baz=122
N15A Stansbury Isla 122.38 46 ⇓P PKPdf 09 21 11.6 +0.8
baz=122
DUG Dugway 122.41 47 ePKIKP PKPdf 09 21 11.9 +1.0
DUG Dugway 122.41 47 ePKPdf PKPdf 09 21 11.9 +1.0
DUG Dugway 122.41 47 ⇑P PKPdf 09 21 11.9 +1.0
baz=122
H17A Grant Village 122.41 41 ⇑P PKPdf 09 21 13.0 +2.1
baz=122
GCMT Greycliff 122.41 40 ePKPdf PKPdf 09 21 11.7 +1.0
PBRG Braganca 122.44 315 ePKPdf PKPdf 09 21 11.2 +0.5
LKWY Lake 122.45 41 ePKIKP PKPdf 09 21 11.8 +0.8
LKWY Lake 122.45 41 ePKPdf PKPdf 09 21 11.8 +0.8
TPAW Teton Pass 122.52 43 ePKPdf PKPdf 09 21 13.4 +2.3
MOOW Moose Ponds 122.55 42 ePKPdf PKPdf 09 21 12.0 +0.9
C20A Veseth Ranch, 122.57 37 ⇑P PKPdf 09 21 11.5 +0.7
baz=122
A21A Bergtoll Ranch 122.59 35 ⇓P PKPdf 09 21 11.3 +0.5
baz=122
I17A Pilgrim Ck. 122.60 42 ⇑P PKPdf 09 21 12.3 +1.1
baz=122
O15A The Old Anders 122.63 47 ⇓P PKPdf 09 21 12.2 +0.9
baz=122
REDW Red Top Meadow 122.63 43 ePKPdf PKPdf 09 21 12.7 +1.4
SNOW Snow King Moun 122.66 43 ePKPdf PKPdf 09 21 12.6 +1.2
E19A Rath Farm, Rou 122.67 39 ⇑P PKPdf 09 21 11.3 +0.2
baz=122
G18A Lazy EL Ranch, 122.68 40 ⇓P PKPdf 09 21 11.7 +0.5
baz=122
LOHW Long Hollow 122.70 42 ePKPdf PKPdf 09 21 12.3 +0.9
J17A Brown Place, J 122.73 43 ⇓P PKPdf 09 21 12.6 +1.1
baz=123
L16A Fish Haven 122.75 44 ⇓P PKPdf 09 21 12.1 +0.6
baz=123
D20A Manuel Ranch, 122.78 38 ⇓P PKPdf 09 21 11.5 +0.3
baz=123
HWUT Hardware Ranch 122.80 45 ePKPdf PKPdf 09 21 12.3 +0.7
B21A Ellsworth Farm 122.81 36 ⇑P PKPdf 09 21 11.8 +0.6
baz=123
K17A Gardner Place, 122.82 43 ⇓P PKPdf 09 21 12.4 +0.8
baz=123
F19A Roth Farm, Mol 122.84 39 ⇑P PKPdf 09 21 11.9 +0.4
baz=123
H18A Shoshone NF, C 122.89 41 ⇑P PKPdf 09 21 12.8 +1.0
baz=123
Y12C Blythe 122.95 55 ⇑P PKPdf 09 21 13.1 +1.2
baz=123
RLMT Red Lodge 122.95 40 ⇓P PKPdf 09 21 12.9 +1.0
baz=123
P15A Leamington 123.00 47 ⇓P PKPdf 09 21 13.0 +1.0
baz=123
E20A Meyer Farm, Mu 123.06 38 ⇑P PKPdf 09 21 12.2 +0.4
baz=123
C21A Desert Coulee 123.06 37 ⇑P PKPdf 09 21 12.4 +0.7
baz=123
L17A Cokeville 123.10 44 ⇓P PKPdf 09 21 12.7 +0.5
baz=123
W13A Hualapai Mount 123.11 53 ⇓P PKPdf 09 21 13.9 +1.4
baz=123
PDMCI Parker Dam,Lak 123.12 54 ⇑P PKPdf 09 21 13.1 +1.0
baz=123
N16A Rees Ranch, Co 123.15 46 ⇑P PKPdf 09 21 12.7 +0.3
baz=123
A22A Carney Farms, 123.16 35 ⇓P PKPdf 09 21 12.4 +0.5
baz=123
I18A Diamond G Ranc 123.19 42 ⇓P PKPdf 09 21 13.1 +0.7
baz=123
J18A Kendall Valley 123.25 43 ⇑P PKPdf 09 21 13.2 +0.7
baz=123
PVRL Vila Real 123.31 315 ePKPdf PKPdf 09 21 11.1 -1.3
H19A Powell 123.33 41 ⇑P PKPdf 09 21 13.8 +1.4
baz=123
POLO Lamas de Olo 123.33 315 ePKPdf PKPdf 09 21 13.4 +0.9
F20A Billings 123.36 39 ⇓P PKPdf 09 21 13.0 +0.6
baz=123
PCAB Cabril 123.37 316 ePKPdf PKPdf 09 21 13.3 +0.8
PGAV Gavieira, Arco 123.44 316 ePKPdf PKPdf 09 21 13.6 +0.9
R15A Junction 123.44 49 ⇓P PKPdf 09 21 14.0 +1.0
baz=123
B22A Reddig Ranch S 123.47 36 ⇑P PKPdf 09 21 13.3 +0.8
baz=123
K18A Toltan Ranch, 123.47 43 ⇓P PKPdf 09 21 14.0 +1.1
baz=123
M17A Scullys Gap (B 123.48 45 ⇑P PKPdf 09 21 13.7 +0.7
baz=123
MDT Midelt 123.50 304 PKP PKPdf 09 21 14.0 +0.9
MDT PKKPbc PKKPbc 09 31 04.1 -0.9
MDT Midelt 123.50 304 PKP PKPdf 09 21 14.0 +0.9
comp=Z,9.4nm,0.7s,baz=88,slow=2.3,SNR=25
MDT PKKPbc PKKPbc 09 31 04.1 -0.9
comp=Z,0.6nm,0.4s,baz=320,slow=3.2,SNR=3.7
MTE Manteigas 123.50 314 ePKPdf PKPdf 09 21 13.8 +1.0
N17A Moffit Pass 123.56 45 ⇓P PKPdf 09 21 14.3 +1.1
baz=123
G20A Bridger 123.58 40 ⇑P PKPdf 09 21 13.8 +0.9
baz=123
I19A Meeteetse 123.59 41 ⇑P PKPdf 09 21 13.8 +0.8
baz=123
PVIS Viseu 123.64 314 ePKPdf PKPdf 09 21 14.3 +1.2
PCBR Castelo Branco 123.65 313 ePKPdf PKPdf 09 21 14.3 +1.3
E21A Keefer Ranch, 123.69 38 ⇑P PKPdf 09 21 14.1 +1.1
baz=124
PD01 Pinedale Array 123.72 43 ePKPdf PKPdf 09 21 12.5 -0.9
PD02 Pinedale Array 123.73 43 ePKPdf PKPdf 09 21 13.5 +0.1
PMRV Marv??o 123.73 313 ePKPdf PKPdf 09 21 13.9 +0.7
BW06 Boulder Array 123.74 43 ⇑P PKPdf 09 21 13.9 +0.4
baz=124
PDAR Pinedale Array 123.74 43 PKP PKPdf 09 21 12.4 -1.0
PDAR PKKPbc PKKPab 09 31 03.6 -0.5
PDAR SKKPbc SKKPbc 09 33 55.0 -2.8
PDAR Pinedale Array 123.74 43 PKP PKPdf 09 21 12.4 -1.0
comp=Z,3.3nm,0.7s,baz=106,slow=1.8,SNR=28
PDAR PKKPbc PKKPab 09 31 03.6 -0.5
comp=Z,3.9nm,0.7s,baz=119,slow=6.1,SNR=30
PDAR SKKPbc SKKPbc 09 33 55.0 -2.8
comp=Z,0.8nm,0.8s,baz=117,slow=5.2,SNR=5.1

L18A Fontenelle, Gr 123.75 44 ⇓P PKPdf 09 21 14.6 +1.2
baz=124
A23A Redstone 123.76 34 ⇑P PKPdf 09 21 13.8 +0.7
baz=124
113A Mohawk Valley, 123.80 56 ⇑P PKPdf 09 21 14.7 +1.2
baz=124
C22A Vida 123.81 36 ⇑P PKPdf 09 21 14.0 +0.8
baz=124
J19A Crowheart 123.88 42 ⇓P PKPdf 09 21 14.5 +0.9
baz=124
PBAR Barrancos 123.89 311 ePKPdf PKPdf 09 21 14.5 +1.0
O17A Robinson Place 123.90 46 ⇑P PKPdf 09 21 15.2 +1.4
baz=124
M18A Lyman 123.92 45 ⇓P PKPdf 09 21 14.8 +1.0
baz=124
D22A Cohagen 123.93 37 ⇓P PKPdf 09 21 14.7 +1.3
baz=124
B23A Brockton 123.96 35 ⇑P PKPdf 09 21 14.1 +0.7
baz=124
U15A North Rim 123.98 51 ⇑P PKPdf 09 21 15.3 +1.1
baz=124
F21A Absaloka Mine, 123.99 39 ⇑P PKPdf 09 21 14.5 +0.8
baz=124
R16A Teasdale 124.01 49 ⇑P PKPdf 09 21 15.3 +1.2
baz=124
H20A Greybull 124.04 40 ⇑P PKPdf 09 21 14.4 +0.6
baz=124
S16A Weppner Ranch, 124.11 49 ⇓P PKPdf 09 21 15.3 +1.0
baz=124
Y14A Wickenburg 124.12 54 ⇑P PKPdf 09 21 15.3 +1.1
baz=124
L19A Farson 124.14 44 ⇑P PKPdf 09 21 15.3 +1.1
baz=124
C23A Lambert 124.19 36 ⇑P PKPdf 09 21 15.1 +1.2
baz=124
I20A Worland 124.19 41 ⇑P PKPdf 09 21 15.0 +0.9
baz=124
K19A Absolon Red Bu 124.19 43 ⇑P PKPdf 09 21 14.9 +0.6
baz=124
G21A Lodge Grass 124.22 39 ⇓P PKPdf 09 21 14.8 +0.7
baz=124
A24A Westby 124.27 34 ⇑P PKPdf 09 21 14.7 +0.7
baz=124
Z14A Wintersburg 124.32 55 ⇓P PKPdf 09 21 15.9 +1.4
baz=124
N18A Larsen Ranch, 124.36 45 ⇑P PKPdf 09 21 15.2 +0.6
baz=124
O18A Roosevelt 124.39 46 ⇓P PKPdf 09 21 14.6 0.0
baz=124
DGMT Dagmar 124.41 35 ePKPdf PKPdf 09 21 14.9 +0.6
DGMT Dagmar 124.41 35 ⇓P PKPdf 09 21 15.1 +0.8
baz=124
E22A Miles City 124.42 38 ⇓P PKPdf 09 21 15.3 +0.9
baz=124
PMTG Montargil 124.47 313 ePKPdf PKPdf 09 21 15.5 +0.9
J20A Shoshoni 124.48 42 ⇑P PKPdf 09 21 15.5 +0.8
baz=124
EVO Evora 124.50 312 ePKIKP PKPdf 09 21 14.3 -0.4
comp=Z,10nm,0.6s
M19A Rock Springs 124.52 44 ⇑P PKPdf 09 21 15.7 +0.8
baz=124
R17A Hanksville Air 124.54 48 ⇓P PKPdf 09 21 15.7 +0.7
baz=124
F22A Rosebud 124.55 38 ⇑P PKPdf 09 21 15.5 +0.8
baz=124
PBEJ Beja 124.56 311 ePKPdf PKPdf 09 21 15.9 +1.1
EVOP Sao Brissos 124.58 312 ePKIKP PKPdf 09 21 14.3 -0.5
EVOP Sao Brissos 124.58 312 ePKPdf PKPdf 09 21 14.3 -0.5
H21A Big Horn, Sher 124.59 40 ⇓P PKPdf 09 21 15.1 +0.2
baz=124
K20A Yellowstone Ra 124.60 43 ⇑P PKPdf 09 21 15.8 +0.7
baz=124
N19A John Jarvie Ra 124.74 45 ⇑P PKPdf 09 21 16.0 +0.7
baz=125
C24A Savage 124.77 36 ⇓P PKPdf 09 21 15.9 +0.9
baz=125
E23A Ismay 124.77 37 ⇓P PKPdf 09 21 16.2 +1.1
baz=125
214A Organ Pipe Nat 124.78 56 ⇓P PKPdf 09 21 16.8 +1.3
baz=125
G22A Birney 124.79 39 ⇑P PKPdf 09 21 16.0 +0.8
baz=125
I21A Big Trails, Te 124.80 41 ⇑P PKPdf 09 21 15.5 +0.2
baz=125
PCVE Castro Verde 124.82 311 ePKPdf PKPdf 09 21 16.5 +1.2
L20A Wamsutter 124.87 43 ⇓P PKPdf 09 21 16.5 +0.9
baz=125
J21A Lysite 124.90 41 ⇑P PKPdf 09 21 16.2 +0.6
baz=125
T17A Navajo Res., N 124.94 50 ⇓P PKPdf 09 21 17.3 +1.4
baz=125
WUAZ Wupatki 124.97 52 ⇑P PKPdf 09 21 17.4 +1.5
baz=125
O19A Miners Draw (B 125.01 45 ⇓P PKPdf 09 21 16.8 +0.9
baz=125
PNCL Nicolau / Gran 125.02 312 ePKPdf PKPdf 09 21 16.8 +1.1
D24A Glendive 125.04 36 ⇓P PKPdf 09 21 16.6 +1.0
baz=125
H22A Clearmont 125.05 40 ⇓P PKPdf 09 21 16.5 +0.7
baz=125
F23A Volborg 125.10 38 ⇓P PKPdf 09 21 16.4 +0.7
baz=125
R18A Canyonlands Na 125.15 48 ⇓P PKPdf 09 21 17.2 +1.0
baz=125
M20A Sweetwater, Wa 125.19 44 ⇓P PKPdf 09 21 17.3 +1.0
baz=125
X16A Lo Mia Camp, P 125.24 53 ⇓P PKPdf 09 21 17.9 +1.4
baz=125
I22A 9 Mile Ranch, 125.28 40 ⇑P PKPdf 09 21 16.7 +0.4
baz=125
S18A Hurst Farm, Bl 125.32 49 ⇑P PKPdf 09 21 17.8 +1.1
baz=125
E24A Baker 125.34 37 ⇓P PKPdf 09 21 17.2 +1.1
baz=125
K21A Alcova 125.34 42 ⇑P PKPdf 09 21 17.2 +0.7
baz=125
G23A Biddle 125.36 39 ⇑P PKPdf 09 21 16.9 +0.7
baz=125
MORF Marmelete 125.39 311 ePKPdf PKPdf 09 21 18.0 +1.5
N20A Spence Gulch, 125.40 45 ⇑P PKPdf 09 21 17.9 +1.2
baz=125
L21A Rawlins 125.55 43 ⇑P PKPdf 09 21 17.6 +0.7
baz=125
PFVI Vila Bisbo 125.58 311 ePKPdf PKPdf 09 21 17.9 +1.1
T18A Mexican Hat 125.60 49 ⇓P PKPdf 09 21 18.6 +1.5
baz=126
F24A Ekalaka 125.62 38 ⇓P PKPdf 09 21 17.2 +0.4
baz=126
H23A Clabaugh Cattl 125.66 39 ⇓P PKPdf 09 21 18.1 +1.2
baz=126
O20A White River Ci 125.69 45 ⇓P PKPdf 09 21 18.7 +1.5
baz=126
M21A Separation Pea 125.70 43 ⇓P PKPdf 09 21 18.5 +1.2
baz=126
X17A Forest Lakes 125.76 53 ⇓P PKPdf 09 21 19.3 +1.7
baz=126
K22A Casper 125.82 42 ⇓P PKPdf 09 21 18.2 +0.8
baz=126
P20A De Beque 125.83 46 ⇑P PKPdf 09 21 19.0 +1.5
baz=126
G24A Alzada 125.90 38 ⇓P PKPdf 09 21 17.2 -0.1
baz=126
DBIC Dimbokro 125.93 273 PKP PKPdf 09 21 18.7 +0.6
DBIC ePKPdf PKiKP 09 21 18.9 +0.3
DBIC Dimbokro 125.93 273 PKP PKPdf 09 21 18.7 +0.6
comp=Z,22nm,0.7s,baz=85,slow=2.5,SNR=33
S19A Harvey Farm, M 125.94 48 ⇓P PKPdf 09 21 18.8 +1.0
baz=126
N21A Black Mountain 125.95 44 ⇓P PKPdf 09 21 19.1 +1.3
baz=126
LIC Lamto 126.06 272 ePKIKP PKPdf 09 21 18.7 +0.3
comp=Z,56nm,0.7s
LIC Lamto 126.06 272 ePKPdf PKPdf 09 21 18.7 +0.3
H24A Dirks Ranch, A 126.10 39 ⇓P PKPdf 09 21 18.1 +0.4
baz=126
Q20A Ridgley Place, 126.11 47 ⇓P PKPdf 09 21 19.8 +1.7
baz=126
L22A Ellis Ranch, M 126.15 42 ⇑P PKPdf 09 21 19.6 +1.5
baz=126
O21A Pagoda 126.20 45 ⇓P PKPdf 09 21 19.6 +1.3
baz=126
R20A Redvale 126.33 48 ⇓P PKPdf 09 21 19.8 +1.3
baz=126
K23A Bowen Ranch, D 126.36 41 ⇓P PKPdf 09 21 18.6 +0.2
baz=126
W18A Petrified Fore 126.36 52 ⇑P PKPdf 09 21 20.5 +1.9
baz=126
X18A Snowflake 126.38 52 ⇓P PKPdf 09 21 20.1 +1.4

	baz=126							
U19A	Dine' College, baz=126	126.39	50	⇑P		PKPdf	09 21 20.4	+1.7
S20A	Disappointment baz=126	126.48	48	⇓P		PKPdf	09 21 20.5	+1.6
I24A	Kuemmerle Ranc baz=126	126.49	40	⇑P		PKPdf	09 21 18.6	+0.1
L23A	Garrett baz=126	126.60	42	⇑P		PKPdf	09 21 19.4	+0.5
MVCO	Mesa Verde	126.60	49	*e*PKPdf		PKPdf	09 21 20.3	+1.2
MVCO	Mesa Verde baz=126	126.60	49	⇑P		PKPdf	09 21 21.0	+1.9
N22A	Wattenberg Ran baz=126	126.67	44	⇑P		PKPdf	09 21 20.7	+1.5
Q21A	Lamborn Mesa, baz=126	126.68	47	⇓P		PKPdf	09 21 20.7	+1.6
V19A	Window Rock baz=127	126.70	51	⇓P		PKPdf	09 21 20.9	+1.6
J24A	Dixon Ranch, L baz=127	126.72	40	⇓P		PKPdf	09 21 19.3	+0.3
RSSD	Black Hills	126.73	39	*e*PKIKP		PKPdf	09 21 19.0	-0.1
RSSD	Black Hills	126.73	39	*e*PKPdf		PKPdf	09 21 19.0	-0.1
O22A	Kremmling baz=127	126.87	45	⇓P		PKPdf	09 21 19.8	+0.2
R21A	Cimarron baz=127	126.87	47	⇓P		PKPdf	09 21 20.3	+0.8
M23A	Laramie baz=127	126.88	43	⇑P		PKPdf	09 21 20.3	+0.8
U20A	Newcomb baz=127	126.88	50	⇑P		PKPdf	09 21 20.7	+1.2
P22A	Eagle baz=127	126.95	45	⇑P		PKPdf	09 21 21.1	+1.4
S21A	Coal Bank Pass baz=127	126.96	48	⇓P		PKPdf	09 21 21.6	+1.8
N23A	Red Feather La baz=127	126.97	44	⇑P		PKPdf	09 21 21.0	+1.3
Y19A	Nutrioso baz=127	127.11	53	⇑P		PKPdf	09 21 22.1	+1.9
V20A	Brimhall baz=127	127.12	50	⇓P		PKPdf	09 21 21.7	+1.6
Q22A	Crested Butte, baz=127	127.14	46	⇓P		PKPdf	09 21 21.8	+1.7
O23A	Lake Granby, G baz=127	127.29	44	⇓P		PKPdf	09 21 22.1	+1.7
MDND	Maddock baz=127	127.30	33	⇑P		PKPdf	09 21 20.6	+0.8
W20A	Ramah baz=127	127.32	51	⇓P		PKPdf	09 21 22.5	+1.9
T21A	Navajo Lake baz=127	127.40	49	⇑P		PKPdf	09 21 22.7	+2.1
M24A	Cheyenne baz=127	127.48	42	⇑P		PKPdf	09 21 21.7	+1.1
R22A	Saguache, Gunn baz=127	127.50	47	⇑P		PKPdf	09 21 22.7	+1.8
U21A	Nageezi baz=127	127.51	49	⇓P		PKPdf	09 21 22.8	+2.0
X20A	Quemado baz=127	127.51	52	⇑P		PKPdf	09 21 23.0	+2.1
S22A	4UR Ranch, Cre baz=128	127.64	48	⇓P		PKPdf	09 21 23.3	+2.1
ISCO	Idaho Springs baz=128	127.67	45	⇑P		PKPdf	09 21 22.7	+1.6
ULM	Lac du Bonnet	127.69	29	PKP		PKPdf	09 21 20.6	+0.1
ULM				SKPbc		SKiKP	09 23 44.0	-17
ULM	Lac du Bonnet comp=Z,10nm,0.6s,baz=322,slow=2.7,SNR=20	127.69	29	PKP		PKPdf	09 21 20.6	+0.1
ULM	comp=Z,2.7nm,0.6s,baz=285,slow=4.9,SNR=4.2			SKPbc		SKiKP	09 23 44.0	-17
P23A	Jefferson baz=128	127.69	45	⇑P		PKPdf	09 21 22.6	+1.4
L25A	Engebretsen Ra baz=128	127.73	41	⇓P		PKPdf	09 21 22.3	+1.3
N24A	Carr baz=128	127.73	43	⇓P		PKPdf	09 21 22.4	+1.4
V21A	Milan baz=128	127.75	50	⇑P		PKPdf	09 21 22.6	+1.3
Y20A	Horse Springs, baz=128	127.81	53	⇓P		PKPdf	09 21 23.6	+2.1
319A	Douglas baz=128	127.84	56	⇑P		PKPdf	09 21 23.7	+2.3
T22A	Edith baz=128	127.86	48	⇑P		PKPdf	09 21 24.0	+2.4
Z20A	Nine Sixteen R baz=128	127.89	54	⇑P		PKPdf	09 21 23.7	+2.1
Q23A	Hartsel baz=128	127.89	46	⇑P		PKPdf	09 21 23.8	+2.1
K26A	Motz Farm, Whi baz=128	127.97	40	⇑P		PKPdf	09 21 21.9	+0.5
W21A	San Fidel baz=128	127.98	51	⇑P		PKPdf	09 21 23.5	+1.7
M25A	Palm-Egli Farm baz=128	128.01	42	⇓P		PKPdf	09 21 23.0	+1.4
120A	U Bar Ranch, L baz=128	128.03	54	⇓P		PKPdf	09 21 24.1	+2.2
X21A	Alamocita Cree baz=128	128.10	52	⇑P		PKPdf	09 21 24.1	+2.0
U22A	Llaves baz=128	128.13	49	⇑P		PKPdf	09 21 24.2	+2.2
R23A	Moffat baz=128	128.19	47	⇑P		PKPdf	09 21 24.3	+2.2
S23A	Nye Farm, Mont baz=128	128.25	47	⇑P		PKPdf	09 21 24.6	+2.3
P24A	Kohler Place, baz=128	128.29	45	⇑P		PKPdf	09 21 23.9	+1.7
220A	Playas Peak, P baz=128	128.31	55	⇓P		PKPdf	09 21 24.2	+1.8
Y21A	Point of Rocks baz=128	128.33	52	⇓P		PKPdf	09 21 24.8	+2.3
320A	Kipp Ranch, An baz=128	128.47	56	⇓P		PKPdf	09 21 24.9	+2.2
T23A	Casias Ranch, baz=128	128.49	48	⇓P		PKPdf	09 21 24.9	+2.1
Z21A	St. Cloud Mine baz=128	128.56	53	⇑P		PKPdf	09 21 24.9	+2.0
O25A	Wiggins baz=128	128.57	44	⇑P		PKPdf	09 21 24.0	+1.4
K27A	Flueckinger Fa baz=128	128.57	40	⇑P		PKPdf	09 21 23.1	+0.6
SDCO	Great Sand Dun baz=128	128.60	47	⇓P		PKPdf	09 21 24.6	+1.6
U23A	El Rito baz=128	128.65	49	⇑P		PKPdf	09 21 24.8	+1.8
X22A	Bernardo baz=129	128.68	51	⇓P		PKPdf	09 21 24.8	+1.7
121A	Cookes Peak, D baz=129	128.72	54	⇑P		PKPdf	09 21 24.6	+1.4
P25A	Willow Gulch B baz=129	128.80	44	⇑P		PKPdf	09 21 24.6	+1.4
S24A	Houchin Ranch, baz=129	128.85	47	⇓P		PKPdf	09 21 25.5	+2.0
V23A	Ortiz Mt. (NFS baz=129	128.87	50	⇑P		PKPdf	09 21 25.8	+2.3
Y22A	Socorro baz=129	128.91	52	⇓P		PKPdf	09 21 25.1	+1.6
ANMO	Albuquerque	128.95	51	*e*PKPdf		PKPdf	09 21 24.6	+1.0
Q25A	Bedland, Calha baz=129	129.01	45	⇓P		PKPdf	09 21 25.1	+1.5
O26A	Horse Wrangler baz=129	129.06	43	⇓P		PKPdf	09 21 24.9	+1.4
BNM	Barren Site	129.10	52	*e*PKPdf		PKPdf	09 21 25.2	+1.2
W23A	Werner Place, baz=129	129.11	50	⇑P		PKPdf	09 21 25.3	+1.4
Z22A	Elephant Butte baz=129	129.14	53	⇑P		PKPdf	09 21 25.4	+1.5
T24A	Torres, Weston baz=129	129.20	48	⇑P		PKPdf	09 21 25.6	+1.5
X23A	Hourglass Bar baz=129	129.29	51	⇑P		PKPdf	09 21 25.9	+1.7
N27A	Anderson Farm, baz=129	129.31	42	⇑P		PKPdf	09 21 25.5	+1.5
P26A	Davis Ranch, A baz=129	129.35	44	⇓P		PKPdf	09 21 25.4	+1.2
S25A	Robets Cordova baz=129	129.41	47	⇓P		PKPdf	09 21 25.5	+1.1
Q26A	Hugo baz=129	129.51	45	⇓P		PKPdf	09 21 26.4	+1.9
V24A	Rampart Ranch, baz=129	129.57	49	⇑P		PKPdf	09 21 26.6	+1.8
Y23A	Lovelace Mesa, baz=130	129.62	52	⇑P		PKPdf	09 21 26.3	+1.4
T25A	Trinidad baz=130	129.64	47	⇓P		PKPdf	09 21 26.6	+1.7
W24A	Lazy 6 Ranch, baz=130	129.66	50	⇓P		PKPdf	09 21 26.5	+1.6
Z23A	Rita Site, Whi baz=130	129.72	53	⇑P		PKPdf	09 21 26.4	+1.4
R26A	Arlington baz=130	129.84	45	⇑P		PKPdf	09 21 26.7	+1.6
X24A	Lazy VL Ranch, baz=130	129.88	51	⇓P		PKPdf	09 21 26.2	+0.8
P27A	Ficken Ranch, baz=130	129.88	44	⇑P		PKPdf	09 21 25.7	+0.6
123A	Bell Site, Whi baz=130	129.90	53	⇓P		PKPdf	09 21 26.7	+1.4
U25A	Circle Dot Ran baz=130	129.95	48	⇑P		PKPdf	09 21 26.9	+1.5
V25A	Rancho No Teng baz=130	130.01	49	⇓P		PKPdf	09 21 26.9	+1.3
KSCO	Kaye Shedlock' baz=130	130.10	44	⇓P		PKPdf	09 21 26.8	+1.2
Y24A	Capitan baz=130	130.11	52	⇑P		PKPdf	09 21 27.1	+1.3
S26A	Kim baz=130	130.12	46	⇓P		PKPdf	09 21 26.7	+1.1
T26A	Comanche Natio baz=130	130.22	47	⇑P		PKPdf	09 21 27.1	+1.2
R27A	Eads baz=130	130.31	45	⇑P		PKPdf	09 21 27.2	+1.2
W25A	X Bar L Ranch, baz=130	130.37	50	⇑P		PKPdf	09 21 27.5	+1.2
Z24A	Sheeppen Canyo baz=130	130.37	52	⇓P		PKPdf	09 21 27.7	+1.4
U26A	Atchley Ranch, baz=130	130.44	48	⇓P		PKPdf	09 21 27.7	+1.3
V26A	Tequesquite Ra baz=130	130.65	49	⇑P		PKPdf	09 21 28.1	+1.4
224A	Cornudas Mount baz=131	130.68	54	⇓P		PKPdf	09 21 28.5	+1.7
Y25A	Mesa, Roswell baz=131	130.68	51	⇑P		PKPdf	09 21 28.0	+1.2
PLCA	Paso Flores	130.89	169	PKP		PKPdf	09 21 28.3	+1.3
PLCA				SKPbc		SKPab	09 23 58.0	+0.5
PLCA	Paso Flores comp=Z,7.3nm,0.6s,baz=9.9,slow=0.7,SNR=27	130.89	169	PKP		PKPdf	09 21 28.3	+1.3
PLCA	comp=Z,20nm,0.9s,baz=212,slow=4.3,SNR=22			SKPbc		SKPab	09 23 58.0	+0.5
Z25A	Roswell baz=131	130.90	52	⇑P		PKPdf	09 21 28.7	+1.5
T27A	Campo baz=131	130.90	47	⇓P		PKPdf	09 21 28.9	+1.8
MNTX	Cornudas Mount	130.91	54	*e*PKPdf		PKPdf	09 21 28.2	+1.0
MNTX	Cornudas Mount baz=131	130.91	54	⇓P		PKPdf	09 21 28.7	+1.6
324A	Moseley Ranch, baz=131	130.92	55	⇓P		PKPdf	09 21 28.9	+1.5
W26A	Owens Ranch, T baz=131	130.95	49	⇑P		PKPdf	09 21 28.7	+1.4
X26A	CR and CF Fran baz=131	131.12	50	⇑P		PKPdf	09 21 29.0	+1.3
125A	Gardner Draw, baz=131	131.16	53	⇓P		PKPdf	09 21 28.8	+1.1
225A	Deer Hill, Car baz=131	131.22	54	⇓P		PKPdf	09 21 29.6	+1.6
T28A	Walsh baz=131	131.31	46	⇑P		PKPdf	09 21 28.8	+0.9
325A	Bean Ranch, Si baz=131	131.35	55	⇑P		PKPdf	09 21 29.1	+0.9
Y26A	Elida baz=131	131.35	51	⇓P		PKPdf	09 21 29.4	+1.3
EYMN	Ely	131.36	28	*e*PKPdf		PKPdf	09 21 27.3	-0.2
Z26A	Caprock baz=131	131.48	52	⇑P		PKPdf	09 21 29.3	+1.0
W27A	Bowe Ranch, En baz=132	131.49	49	⇓P		PKPdf	09 21 29.3	+1.0
425A	Indio Mountain baz=131	131.53	55	⇑P		PKPdf	09 21 29.8	+1.3
126A	Clayton Basin, baz=132	131.67	53	⇑P		PKPdf	09 21 29.3	+0.6
226A	Malaga, Loving baz=132	131.81	53	⇓P		PKPdf	09 21 29.7	+0.7
V28A	Channing baz=132	131.82	48	⇑P		PKPdf	09 21 30.0	+1.1
BGNE	Belgrade baz=132	131.84	39	⇓P		PKPdf	09 21 28.9	+0.2
Y27A	Causey baz=132	131.88	51	⇓P		PKPdf	09 21 29.8	+0.7
W28A	Vega baz=132	132.04	49	⇓P		PKPdf	09 21 30.4	+1.1
Z27A	Tatum baz=132	132.05	51	⇑P		PKPdf	09 21 30.5	+1.1
MSTX	Muleshoe baz=132	132.14	50	⇑P		PKPdf	09 21 30.5	+1.0
CBKS	Cedar Bluff baz=132	132.17	43	⇑P		PKPdf	09 21 30.4	+1.0
326A	Caldwell Ranch baz=132	132.17	54	⇓P		PKPdf	09 21 30.5	+0.8
127A	Arkansas Junct baz=132	132.18	52	⇓P		PKPdf	09 21 30.7	+1.1
V29A	Stinnett baz=132	132.29	47	⇑P		PKPdf	09 21 30.9	+1.2
426A	McDonald Obser baz=132	132.35	55	⇑P		PKPdf	09 21 31.4	+1.3
X28A	Dimmitt baz=132	132.36	49	⇑P		PKPdf	09 21 30.9	+1.0
SCHQ	Schefferville	132.44	6	PKP		PKPdf	09 21 30.2	+0.9
SCHQ				SKPbc		SKPab	09 24 02.8	-0.8
SCHQ	Schefferville comp=Z,23nm,0.6s,baz=5.1,slow=2.9,SNR=58	132.44	6	PKP		PKPdf	09 21 30.2	+0.9
SCHQ	comp=Z,2.6nm,0.5s,baz=0.9,slow=6.9,SNR=4.4			SKPbc		SKPab	09 24 02.8	-0.8
227A	Bennet, Jal baz=132	132.47	53	⇓P		PKPdf	09 21 31.3	+1.1
526A	Mary Lane Ranc baz=132	132.50	56	⇓P		PKPdf	09 21 31.7	+1.3
Y28A	McKinney Farm, baz=132	132.57	50	⇓P		PKPdf	09 21 31.4	+1.1
SPMN	St. Paul baz=132	132.59	32	⇑P		PKPdf	09 21 31.4	+1.5
AMTX	Amarillo baz=132	132.59	49	⇑P		PKPdf	09 21 31.3	+1.0
626A	Big Bend Ranch baz=132	132.62	57	⇓P		PKPdf	09 21 31.7	+1.2
Z28A	Tucker Farm, M baz=133	132.70	51	⇑P		PKPdf	09 21 31.2	+0.6
X29A	Tulia baz=133	132.76	49	⇑P		PKPdf	09 21 31.4	+0.7
427A	Hayter Ranch, baz=133	132.79	55	⇓P		PKPdf	09 21 31.8	+0.9
527A	Woodward Ranch baz=133	132.86	56	⇓P		PKPdf	09 21 32.1	+1.1
128A	Castleberry Fa baz=133	132.88	52	⇓P		PKPdf	09 21 31.7	+0.7
228A	UT Block 9, Go baz=133	132.99	53	⇓P		PKPdf	09 21 32.2	+1.1
Y29A	Porterfield Fa baz=133	133.02	50	⇑P		PKPdf	09 21 32.0	+0.9
TXAR	Lajitas Array	133.08	57	PKP		PKPdf	09 21 33.2	+1.8
TXAR				SKPbc		SKPbc	09 24 05.0	+0.4
TXAR				SKKPbc		SKKPbc	09 33 25.8	+1.1
TXAR	Lajitas Array comp=Z,1.8nm,0.7s,baz=262,slow=1.8,SNR=17	133.08	57	PKiKP		PKPpre	09 21 19.3	
TXAR	comp=Z,6.0nm,0.8s,baz=211,slow=3.2,SNR=23			PKP		PKPdf	09 21 33.2	+1.8
TXAR	comp=Z,0.5nm,0.5s,baz=264,slow=0.9,SNR=6.7			SKPbc		SKPbc	09 24 05.0	+0.4
TXAR	comp=Z,0.3nm,0.9s,baz=134,slow=8.9,SNR=3.6			SKKPbc		SKKPbc	09 33 25.8	+1.1
328A	Wristen Ranch, baz=133	133.09	54	⇓P		PKPdf	09 21 32.0	+0.7
Z29A	Hungry Hill Ra baz=133	133.24	51	⇓P		PKPdf	09 21 32.3	+0.7
627A	Terlingua Ranc baz=133	133.27	56	⇓P		PKPdf	09 21 33.0	+1.2
129A	Stewart Farms, baz=133	133.36	52	⇑P		PKPdf	09 21 32.8	+1.0
428A	Kincaid Ranch, baz=133	133.42	54	⇑P		PKPdf	09 21 33.3	+1.3
528A	Cox Ranch, San baz=133	133.53	55	⇓P		PKPdf	09 21 33.5	+1.2
229A	Bryant Ranch, baz=134	133.66	52	⇑P		PKPdf	09 21 33.2	+0.8
628A	Black Gap, Mar baz=134	133.67	56	⇓P		PKPdf	09 21 33.9	+1.4
329A	Wagon Wheel Ra baz=134	133.71	53	⇓P		PKPdf	09 21 33.6	+1.1
529A	Stev Forest Ra baz=134	134.00	55	⇓P		PKPdf	09 21 34.4	+1.3
429A	Davenport Ranc baz=134	134.09	54	⇑P		PKPdf	09 21 34.4	+1.2
KSU1	Kansas State U	134.09	41	*e*PKPdf		PKPdf	09 21 31.8	-1.1
430A	Baggett Ranch, baz=134	134.56	54	⇓P		PKPdf	09 21 35.3	+1.2
TRQA	Tornquist	134.59	177	*e*PKPdf		PKPdf	09 21 34.8	+0.8
JCT	Junction City	135.82	53	*e*PKIKP		PKPdf	09 21 36.9	+0.5
JCT	Junction City	135.82	53	*e*PKPdf		PKPdf	09 21 36.9	+0.5
JCT	Junction City	135.82	53	⇓P		PKPdf	09 21 37.5	+1.0
	baz=136							
MIAR	Mount Ida	138.61	45	*e*PKHKP		PKPpre	09 21 34.7	
MIAR	Mount Ida	138.61	45	*e*PKPdf		PKPpre	09 21 34.7	
NATX	Nacogdoches	139.24	49	*e*PKPdf		PKPdf	09 21 45.3	+2.7
UALR	University of	139.34	43	*e*PKPdf		PKPpre	09 21 37.3	
OLIL	Olney	139.55	35	*e*PKPpre		PKPpre	09 21 36.0	
SIUC	Southern Illin	139.57	37	*e*PKPdf		PKPpre	09 21 36.7	
PARMO	Parma	139.91	39	*e*PKPdf		PKPpre	09 21 37.1	
HBAR	Harrisburg	140.01	41	*e*PKPdf		PKPpre	09 21 37.8	
BLO	Bloomington	140.14	34	*e*PKHKP		PKPpre	09 21 37.4	
BLO	Bloomington	140.14	34	*e*PKPdf		PKPpre	09 21 37.4	
USIN	University of	140.32	36	*e*PKPdf		PKPpre	09 21 38.0	
LONY	Lake Ozonia	140.74	17	*e*PKPdf		PKPpre	09 21 39.1	
WCI	Wyandotte Cave	140.93	34	*e*PKHKP		PKPpre	09 21 39.6	
WCI	Wyandotte Cave	140.93	34	*e*PKPdf		PKPpre	09 21 39.6	
ACSO	Alum Creek Sta	141.18	29	*e*PKPdf		PKPpre	09 21 40.6	
WVT	Waverly	141.44	38	*e*PKHKP		PKPpre	09 21 42.0	
WVT	Waverly	141.44	38	*e*PKPdf		PKPpre	09 21 42.0	
OXF	Oxford	141.45	42	*e*PKHKP		PKPpre	09 21 42.3	
OXF	Oxford	141.45	42	*e*PKPdf		PKPpre	09 21 42.3	
MDV	Middlebury	141.71	16	*e*PKPdf		PKPdf	09 21 42.9	-3.8
VBMS	Vicksburg	142.02	45	*e*PKPdf		PKPdf	09 21 45.3	-2.2
PLAL	Pickwick Lake	142.03	40	*e*PKPdf		PKPdf	09 21 47.3	-0.2
LCO	Las Campanas	142.07	164	*e*PKPdf		PKPdf	09 21 45.5	-2.6
HNH	Hanover	142.22	15	*e*PKPdf		PKPdf	09 21 44.9	-2.6
TRY	Troy	142.74	17	*e*PKPdf		PKPdf	09 21 46.5	-2.0
SSPA	Standing Stone	143.12	24	*e*PKPdf		PKPbc	09 21 47.4	-0.2
SWET	Sewanee	143.21	38	*e*PKPdf		PKPab	09 21 47.1	-0.6
CPCT	Cooper Cave	143.88	36	*e*PKPdf		PKPbc	09 21 50.0	-0.1
LRAL	Lakeview Retre	143.94	41	*e*PKPdf		PKPab	09 21 50.5	0.0
BRYW	Bryant College	144.09	16	*e*PKPbc		PKPdf	09 21 51.0	+0.1
TKL	Tuckaleechee C	144.17	35	*e*PKPbc		PKPdf	09 21 51.3	0.0
SACV	Santiago Islan	144.20	285	*e*PKPbc		PKPab	09 21 52.1	+0.1
PAL	Palisades	144.23	19	*e*PKIKP		PKPab	09 21 51.3	-0.1
PAL	Palisades	144.23	19	*e*PKPbc		PKPab	09 21 51.3	-0.1
BRNJ	Basking Ridge	144.30	20	*e*PKPbc		PKPab	09 21 51.8	+0.1
CPNY	Central Park	144.41	19	*e*PKPbc		PKPab	09 21 51.9	-0.2
SDMD	Soldier's Deli	144.58	24	*e*PKPbc		PKPdf	09 21 51.9	0.0
BLA	Blacksburg	144.79	30	*e*PKIKP		PKPbc	09 21 52.8	-0.1
BLA	Blacksburg	144.79	30	*e*PKPbc		PKPbc	09 21 52.8	-0.1
BRAL	Brewton	145.13	44	*e*PKPbc		PKPbc	09 21 54.5	+0.5
BRAL				*e*PKPab		PKPab	09 21 55.5	+0.3
CBN	Corbin	145.38	25	*e*PKPbc		PKPdf	09 21 53.9	+0.6
JSRW	J. Sargeant Re	145.59	26	*e*PKPbc		PKPbc	09 21 54.8	-0.3
JSRW				*e*PKPab		PKPab	09 21 56.7	0.0
GOGA	Godfrey	145.93	38	*e*PKIKP		PKPdf	09 21 54.9	+0.6
GOGA				*e*			09 21 57.9	
GOGA	Godfrey	145.93	38	*e*PKPdf		PKPdf	09 21 54.9	+0.6
GOGA				*e*PKPbc		PKPbc	09 21 56.5	+0.3
GOGA				*e*PKPab		PKPab	09 21 57.9	-0.4
CAM4	Nova Friburgo	146.05	209	⇑P		PKPdf	09 21 55.6	+0.5
CAM4				*i*			09 21 56.9	
CAM4				*i*			09 21 58.2	
CAM4				*i*			09 22 04.2	
CAM4				*i*			09 22 16.3	
CPUP	Villa Florida	146.29	183	PKP		PKPdf	09 21 56.0	+0.9
CPUP				PKPbc		PKPbc	09 21 58.4	+0.9
CPUP				pPKPbc		pPKPbc	09 24 12.1	-0.2
CPUP	Villa Florida comp=Z,53nm,0.7s,baz=146,slow=2.7,SNR=110	146.29	183	PKP		PKPdf	09 21 56.0	+0.9
CPUP	comp=Z,53nm,0.7s,baz=138,slow=3.1,SNR=99			PKPbc		PKPbc	09 21 58.4	+0.9
CPUP	comp=Z,8.4nm,0.8s,baz=156,slow=4.6,SNR=4.6			pPKPbc		pPKPbc	09 24 12.1	-0.2
JSC	Jenkinsville	146.59	34	*e*PKIKP		PKPdf	09 21 55.5	+0.1
JSC				*e*			09 22 00.9	
JSC	Jenkinsville	146.59	34	*e*PKPdf		PKPdf	09 21 55.5	+0.1
JSC				*e*PKPbc		PKPbc	09 21 58.3	+0.3
JSC				*e*PKPab		PKPab	09 22 00.9	+0.1
COW	Cow Castle Cre	147.56	35	*e*PKPdf		PKPdf	09 21 56.7	-0.3
COW				*e*PKPbc		PKiKP	09 22 01.4	-0.7
COW				*e*PKPab		PKPab	09 22 04.8	0.0
CNNC	Cliffs of the	147.59	29	*e*PKPdf		PKPdf	09 21 57.5	+0.5
CNNC				*e*PKPbc		PKPbc	09 22 01.1	+0.5
CNNC				*e*PKPab		PKPab	09 22 05.3	+0.4
TEIG	Tepich	149.29	63	*e*PKPdf		PKPdf	09 22 00.6	+0.5
TEIG				*e*PKPbc		PKiKP	09 22 05.8	-0.2
TEIG				*e*PKPab		PKPab	09 22 11.5	-0.9
BDFB	Brasilia	154.38	206	PKP		PKPdf	09 22 08.9	+1.0
BDFB				PKPbc		PKPbc	09 22 17.4	+0.5
BDFB				PKPab		PKPab	09 22 35.3	+1.3
BDFB	Brasilia comp=Z,17nm,0.8s,baz=148,slow=1.6,SNR=23	154.38	206	PKP		PKPdf	09 22 08.9	+1.0
BDFB	comp=Z,6.0nm,0.6s,baz=179,slow=3.4,SNR=5.0			PKPbc		PKPbc	09 22 17.4	+0.5
BDFB	comp=Z,17nm,0.8s,baz=134,slow=3.6,SNR=8.8			PKPab		PKPab	09 22 35.3	+1.3
JTS	JuntasAbangare	154.57	82	*e*PKPdf		PKPdf	09 22 08.5	+0.4
JTS				*e*PKPbc		PKPbc	09 22 17.7	+0.5
JTS				*e*PKPab		PKPab	09 22 36.3	+1.2
LPAZ	La Paz	154.80	160	PKP		PKPdf	09 22 10.3	+1.2
LPAZ				PKPbc		PKPbc	09 22 21.2	+2.8
LPAZ				PKPab		PKPab	09 22 37.6	+1.2
LPAZ				pPKPab		pPKPab	09 24 49.2	+2.5
LPAZ	La Paz comp=Z,8.7nm,0.8s,baz=119,slow=1.4,SNR=32	154.80	160	PKP		PKPdf	09 22 10.3	+1.2
LPAZ	comp=Z,5.5nm,0.7s,baz=306,slow=5.4,SNR=18			PKPbc		PKPbc	09 22 21.2	+2.8
LPAZ	comp=Z,17nm,0.6s,baz=201,slow=5.3,SNR=17			PKPab		PKPab	09 22 37.6	+1.2
LPAZ	comp=Z,7.1nm,0.7s,baz=185,slow=3.7,SNR=7.0			pPKPab		pPKPab	09 24 49.2	+2.5
OTAV	Otavalo	159.64	110	*e*PKPdf		PKPdf	09 22 16.2	+1.2
SAML	Samuel	163.20	167	*e*PKPdf		PKPdf	09 22 18.8	+0.8
SAML				*e*PKPab		PKPab	09 23 13.2	+1.0
SDDR	Presa de Saban	163.75	44	*e*PKPab		PKPab	09 23 15.2	+0.3
SDV	Santo Domingo	168.76	82	*e*PKPdf		PKPdf	09 22 22.2	-0.5

CASC 19 09:20:49.2±2.9, 13°.19N×91°.73W, h0km±19km, MD3.9, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FUG	Fuego 3	1.52	34	*e*P		Pn		09 21 17.1	-0.8
FUG				*e*S		Sn		09 21 41.7	+3.1
PCG	Pacaya	1.62	42	*e*P		Pn		09 21 19.1	-0.2
PCG				*e*S		Sn		09 21 40.7	-0.5
TP2	Tecpan 2	1.73	23	*e*P		Pn		09 21 21.1	+0.1
TP2				*e*S		Sg		09 21 47.0	+1.4
RTR	El Retiro	2.14	71	*e*P		Pn		09 21 26.7	+0.3
SBLS	San Blas	2.15	72	*e*P		Pn		09 21 26.2	-0.4
SNJE	San Jose	2.17	72	*e*P		Pn		09 21 26.1	-0.7
RBDL	Rob

BOSA				P		pP	09 34 57.9	-1.8
BOSA	**Boshof**	**34.31**	**93**	P		P	09 34 56.2	-0.4
	4.5nm,1.0s,baz=249,slow=8.6,SNR=4.0							
BDFB	**Brasilia**	**35.09**	**293**	P		P	09 35 02.7	-0.8
BDFB	**Brasilia**	**35.09**	**293**	P		P	09 35 02.7	-0.8
	15nm,0.9s,baz=131,slow=6.8,SNR=14							
BDFB				LR		LR	09 47 40.4	
	comp=Z,44nm,19.5s,baz=53,slow=34							
TRQA	**Tornquist**	**38.34**	**250**	P		P	09 35 31.4	+0.5
	2.4nm,0.8s							
DBIC	**Dimbokro**	**41.17**	**15**	P		P	09 35 53.3	-1.2
DBIC	**Dimbokro**	**41.17**	**15**	P		P	09 35 53.3	-1.2
	4.6nm,0.9s,baz=178,slow=11,SNR=4.5							
DBIC				LR		LR	09 48 14.6	
	comp=Z,95nm,21.5s,baz=190,slow=29							
USHA	**Ushuaia**	**42.72**	**224**	LR		LR	09 49 20.2	
	comp=Z,193nm,20.6s,baz=353,slow=30							
TOAO	**Torodi Ar. Sit**	**49.07**	**21**	*eP*		P	09 36 57.9	+0.6
TORD	**Torodi Ar. Bea**	**49.07**	**21**	P		P	09 36 57.5	+0.1
TORD	**Torodi Ar. Bea**	**49.07**	**21**	P		P	09 36 57.5	+0.1
	6.5nm,0.9s,baz=199,slow=7.6,SNR=26							
TORD				LR		LR	09 53 24.7	
	comp=Z,162nm,20.1s,baz=175,slow=31							
SACV	**Santiago Islan**	**49.13**	**348**	*eP*		P	09 36 57.3	-0.5
	20nm,0.8s							
SAML	**Samuel**	**50.95**	**287**	*eP*		P	09 37 13.5	+1.8
	13nm,1.1s							
LPAZ	**La Paz**	**50.98**	**276**	*eP*		P	09 37 11.8	-0.9
	5.7nm,1.4s							
LPAZ	**La Paz**	**50.98**	**276**	P		P	09 37 10.6	-2.1
	1.8nm,0.8s,baz=99,slow=7.4,SNR=15							
MAW	**Mawson**	**54.60**	**153**	LR		LR	09 55 08.8	
	comp=Z,100nm,18.3s,baz=249,slow=30							
QSPA	**South Pole Qui**	**56.57**	**180**	LR		LR	09 57 03.0	
	comp=Z,74nm,19.4s,baz=239,slow=31							
KEST	**Kesra**	**72.58**	**20**	P		P	09 39 38.5	+1.3
KEST	**Kesra**	**72.58**	**20**	P		P	09 39 38.5	+1.3
	1.2nm,0.6s,baz=309,slow=3.5,SNR=4.6							
KEST				LR		LR	10 09 30.5	
	comp=Z,59nm,19.3s,baz=227,slow=34							
GRFO	**Grafenberg**	**86.10**	**16**	*eP*		P	09 40 49.3	-1.2
	45nm,1.2s							
KHC	**Kasperske Hory**	**86.17**	**18**	*eP*		P	09 40 50.7	-0.1
	14nm,0.6s							
VYHS	**Vyhne**	**87.08**	**22**	*eP*		P	09 40 57.0	+1.7
CRVS	**Cervenica-Dubn**	**88.26**	**23**	*eP*		P	09 41 00.6	-0.4
YKA	**Yellowknife Ar**	**123.80**	**327**	PKP		**PKPdf**	09 47 07.5	+0.4
YKA	**Yellowknife Ar**	**123.80**	**327**	PKP		**PKPdf**	09 47 07.4	+0.4
	0.5nm,0.9s,baz=99,slow=2.1,SNR=6.7							
ILAR	**Eielson Array**	**137.67**	**332**	PKP		**PKPdf**	09 47 34.4	+1.1
ILAR	**Eielson Array**	**137.67**	**332**	PKP		**PKPdf**	09 47 34.4	+1.1
	0.9nm,0.9s,baz=325,slow=1.1,SNR=11							
KSAR	**Wonju Array Be**	**149.36**	**72**	PKPbc		**PKPbc**	09 47 59.6	+0.7
KSRS	**Korea Array**	**149.39**	**72**	PKPbc		**PKPbc**	09 47 59.6	+0.6
	0.6nm,0.6s,baz=253,slow=1.8,SNR=4.9							

*CSEM **19** 09:31:01.5±0.1, 40.71N×27.92E, h7km±1km, MD2.7, Error ellipse: s-maj=1.9km s-min=1.6km az=165.0*
*DDA **19** 09:31:03.5, 40.59N×27.93E, h7km, MD2.8*
ISK 19 09:31:01.1, 40.70N×27.91E, h8km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNT	**Bandirma**	**0.34**	**178**	*ePG*		Pg	09 31 08.3	+0.4
BNT	**Bandirma**	**0.34**	**178**	*ePg*		Pg	09 31 08.3	+0.4
EDC	**Edincik**	**0.35**	**186**	*ePG*		Pg	09 31 08.5	+0.4
EDC	**Edincik**	**0.35**	**186**	*ePg*		Pg	09 31 08.5	+0.4
MFT	**Murefte**	**0.48**	**280**	*ePG*		Pb	09 31 11.4	-0.6
MFT				*eSG*		Sb	09 31 18.3	-1.1
MFT	**Murefte**	**0.48**	**280**	*ePg*		Pb	09 31 11.4	-0.6
MFT				*eSg*		Sb	09 31 18.3	-1.1
KCTX	**Karacabey (Bur**	**0.55**	**142**	*ePG*		Pg	09 31 12.1	+0.2
KCTX	**Karacabey (Bur**	**0.55**	**142**	*ePg*		Pg	09 31 12.1	+0.2
RKY	**Sarkoy-Tekirda**	**0.56**	**269**	*ePG*		Pg	09 31 12.3	+0.4
RKY	**Sarkoy-Tekirda**	**0.56**	**269**	*ePg*		Pg	09 31 12.4	+0.4
KRBG	**Karabiga-Canak**	**0.56**	**237**	*ePG*		Pg	09 31 12.3	+0.4
KRBG				*eSG*		Sb	09 31 20.6	-0.6
KRBG	**Karabiga-Canak**	**0.56**	**237**	*ePg*		Pg	09 31 12.3	+0.4
KRBG				*eSg*		Sb	09 31 20.6	-0.6
ELBA	**Catalca**	**0.60**	**41**	*iP*		Pn	09 31 17.3	+1.4
ELBA				*iS*		Sn	09 31 27.5	+1.6
ELBA	**Catalca**	**0.60**	**41**	*iP*		Pn	09 31 17.3	+1.4
GONE	**Gonen-Balikesi**	**0.68**	**195**	*ePG*		Pg	09 31 14.6	+0.5
GONE	**Gonen-Balikesi**	**0.68**	**195**	*ePg*		Pg	09 31 14.6	+0.5
CTKS	**Kestanelik-??a**	**0.70**	**40**	*ePG*		Pg	09 31 15.1	+0.5
CTKS	**Kestanelik-??a**	**0.70**	**40**	*ePg*		Pb	09 31 15.1	-0.5
ARMT	**Armutlu**	**0.74**	**100**	*ePG*		Pb	09 31 15.9	-0.4
ARMT	**Armutlu**	**0.74**	**100**	*ePg*		Pb	09 31 15.9	-0.4
BGKT	**Bogazkoy**	**0.81**	**54**	*ePG*		Pg	09 31 16.9	+0.2
BGKT	**Bogazkoy**	**0.81**	**54**	*ePg*		Pg	09 31 16.9	+0.2
MDNY	**Mudanya-Bursa**	**0.81**	**114**	*ePG*		Pg	09 31 17.0	+0.2
MDNY	**Mudanya-Bursa**	**0.81**	**114**	*ePg*		Pg	09 31 17.0	+0.2
CTYL	**Yal??k??y-??at**	**0.82**	**20**	*ePG*		Pb	09 31 17.4	-0.3
CTYL	**Yal??k??y-??at**	**0.82**	**20**	*ePg*		Pb	09 31 17.4	-0.3
BUY	**Buyukada**	**0.93**	**80**	*iP*		Pn	09 31 21.1	+0.6
BUY				*iS*		Sn	09 31 35.0	+1.0
BUY	**Buyukada**	**0.93**	**80**	*iP*		Pn	09 31 21.1	+0.6
BUY				*iS*		Sn	09 31 35.0	+1.0
LPK	**Lapseki**	**0.93**	**250**	*ePG*		Pb	09 31 19.3	-0.2
LPK	**Lapseki**	**0.93**	**250**	*ePg*		Pg	09 31 19.3	+0.2
ISK	**Istanbul-Kandi**	**0.95**	**67**	*ePG*		Pg	09 31 19.5	+0.2
ISK	**Istanbul-Kandi**	**0.95**	**67**	*ePg*		Pg	09 31 19.5	+0.2
BALY	**Balya**	**0.98**	**193**	*iP*		Pn	09 31 21.5	+0.2
BALY				*iS*		Sb	09 31 33.8	+0.1
BALY	**Balya**	**0.98**	**193**	*iP*		Pn	09 31 21.5	+0.2
BALY				*iS*		Sb	09 31 33.8	+0.1
ORLT	**Orhaneli**	**1.00**	**131**	*ePG*		Pb	09 31 21.1	+0.4
ORLT	**Orhaneli**	**1.00**	**131**	*ePg*		Pb	09 31 21.1	+0.4
BALB	**Balikesir**	**1.06**	**181**	*ePG*		Pn	09 31 22.4	+0.2
BALB	**Balikesir**	**1.06**	**181**	*ePg*		Pn	09 31 22.4	+0.2
ERIK	**Erikli-Kesan**	**1.06**	**269**	*ePG*		Pg	09 31 21.4	-0.1
ERIK	**Erikli-Kesan**	**1.06**	**269**	*ePg*		Pg	09 31 21.4	-0.1
YLV	**Yalova**	**1.12**	**96**	*ePN*		Pn	09 31 23.4	+0.1
YLV	**Yalova**	**1.12**	**96**	*ePn*		Pn	09 31 23.4	+0.2
DURS	**Dursunbey**	**1.18**	**158**	*iP*		Pb	09 31 23.2	-0.7
DURS				*iS*		Sg	09 31 39.0	-0.4
DURS	**Dursunbey**	**1.18**	**158**	*iP*		Pb	09 31 23.2	-0.7
DURS				*iS*		Sg	09 31 39.0	-0.4
DST	**Dursunbey**	**1.22**	**153**	*ePN*		Pg	09 31 24.8	+0.1
DST	**Dursunbey**	**1.22**	**153**	*ePn*		Pg	09 31 24.8	+0.1
ENEZ	**Enez**	**1.33**	**272**	*ePN*		Pg	09 31 26.6	-0.1
ENEZ	**Enez**	**1.33**	**272**	*ePn*		Pg	09 31 26.6	-0.1
HRT	**Hereke**	**1.34**	**84**	*ePN*		Pg	09 31 26.9	-0.1
HRT	**Hereke**	**1.34**	**84**	*ePn*		Pg	09 31 26.9	-0.1
SILT	**Sile**	**1.39**	**70**	*ePN*		Pb	09 31 27.4	+0.1
SILT	**Sile**	**1.39**	**70**	*ePn*		Pb	09 31 27.4	+0.1
EDRB	**Edirne**	**1.44**	**323**	*ePN*		Pb	09 31 27.9	-0.3
EDRB	**Edirne**	**1.44**	**323**	*ePn*		Pb	09 31 27.9	-0.3
EZN	**Ezine**	**1.49**	**235**	*ePN*		Pb	09 31 28.7	-0.4
EZN	**Ezine**	**1.49**	**235**	*ePn*		Pb	09 31 28.7	-0.4
TVSB	**Tavsanli**	**1.73**	**136**	*ePN*		Pn	09 31 32.4	+0.8
TVSB	**Tavsanli**	**1.73**	**136**	*ePn*		Pn	09 31 32.4	+0.8
DEMI	**Demirci**	**1.77**	**159**	*iP*		Pg	09 31 35.9	+0.8
DEMI				*iS*		Sb	09 31 56.7	+0.4
DEMI	**Demirci**	**1.77**	**159**	*iP*		Pg	09 31 35.9	+0.7
DEMI				*iS*		Sb	09 31 56.7	+0.4

CASC 19 09:35:04.3±1.9, 13.29N×91.55W, h10km±25km, MD3.8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**1.34**	**31**	*eP*		Pn	09 35 28.1	-1.2
FUG				*eS*		Sn	09 35 47.4	0.0
PCG	**Pacaya**	**1.43**	**40**	*eP*		Pn	09 35 30.0	-0.6
PCG				*eS*		Sg	09 35 50.5	-0.4
TP2	**Tecpan 2**	**1.57**	**19**	*eP*		Pn	09 35 31.9	-0.8
TP2				*eS*		Sn	09 35 53.8	+0.2
NBG	**Las Nubes**	**1.74**	**42**	*eP*		Pn	09 35 35.2	+0.3
NBG				*eS*		Sn	09 35 58.0	+0.6
RTR	**El Retiro**	**1.95**	**72**	*eP*		Pn	09 35 37.9	+0.2
SBLS	**San Blas**	**1.95**	**73**	*eP*		Pn	09 35 36.6	-1.2
RBDL	**Robledal**	**1.99**	**65**	*eP*		Pn	09 35 37.6	-0.6
BOQS	**Boqueron**	**2.25**	**78**	*eP*		Pn	09 35 42.5	+0.6
BOQS				*eS*		Sn	09 36 10.5	+0.6
MTO2	**Montecristo 2**	**2.39**	**62**	*eP*		Pn	09 35 43.1	-0.7
LFRS	**El Faro**	**2.44**	**82**	*eP*		Pn	09 35 45.0	+0.5
LFRS				*eS*		Sn	09 36 14.9	+0.4
MRL	**Marmol**	**2.52**	**45**	*eP*		Pn	09 35 46.5	+0.9
MRL				*eS*		Sn	09 36 18.8	+2.3

IDC 19 09:35:10.3±1.2, 27.09S×176.32W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/18, mbtmp4.0/5, MS3.6/1, Ms1 3.6/1, ms1mx2.8/23, Error ellipse: s-maj=37.0km s-min=30.3km az=44.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**28.48**	**304**	LR	LR	09 50 32.2	
	comp=Z,129nm,19.7s,baz=234,slow=32						
CTA	**Charters Tower**	**34.90**	**273**	P	P	09 42 05.7	+1.8
	2.7nm,0.4s,baz=89,slow=12,SNR=8.2						
ASAR	**Alice Springs**	**44.87**	**263**	P	P	09 43 25.8	-1.0
	0.5nm,0.4s,baz=100,slow=8.0,SNR=13						
WRA	**Warramunga Arr**	**45.57**	**268**	P	P	09 43 31.1	-1.2
	1.2nm,0.8s,baz=107,slow=7.7,SNR=11						
QSPA	**South Pole Qui**	**63.01**	**180**	P	P	09 45 39.3	+0.3
	2.4nm,1.0s,baz=327,slow=0.5,SNR=5.5						
MJAR	**Matsushiro Arr**	**76.41**	**324**	P	P	09 47 01.7	+0.1
	1.0nm,0.6s,baz=168,slow=5.8,SNR=3.8						
HFS	**Hagfors**	**146.26**	**351**	PKPbc	PKPdf	09 54 50.7	-0.5
	2.8nm,0.8s,baz=5.7,slow=4.5,SNR=4.9						
AKASG	**Malin Array Be**	**149.44**	**327**	PKPbc	PKPbc	09 54 59.7	-1.4
	0.6nm,0.5s,baz=46,slow=4.0,SNR=3.7						
BRTR	**Keskin Array B**	**152.13**	**305**	PKPbc	PKPbc	09 55 09.5	+1.5
	0.6nm,0.9s,baz=62,slow=3.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**166.01**	**172**	PKPab	PKPab	09 56 17.2	-0.7
	0.5nm,0.7s,baz=187,slow=4.4,SNR=3.2						

*NEIC **19** 09:36:40.5, 18.61N×68.95W, h120km, MD3.6(RSPR), After RSPR.*
RSPR 19 09:36:40.5, 18.61N×68.95W, h120km±2km, MD3.6/7, 8C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DR12	**Loma Pena Alta**	**0.45**	**294**	*eP*		Pn	09 36 57.5	-0.7
DR12				*eS*		Sn	09 37 11.0	-0.4
DR12	**Loma Pena Alta**	**0.45**	**294**	*eP*		Pn	09 36 57.5	-0.7
DR12				*eS*		Sn	09 37 11.0	-0.4
SMN1	**Samana, DR**	**0.65**	**332**	*i* Pu		Pn	09 36 58.8	-0.7
SMN1				*eS*		Sn	09 37 14.1	+0.2
LSP	**Las Mesas**	**1.82**	**103**	*ePn*		Pn	09 37 12.4	+0.6
CRPR	**Cabo Rojo, PR**	**1.85**	**109**	*eP*		Pn	09 37 11.9	-0.1
CRPR	**Cabo Rojo, PR**	**1.85**	**109**	*eP*		Pn	09 37 11.9	-0.1
LRS	**Lares**	**2.02**	**99**	*eP*		Pn	09 37 14.4	+0.2
LRS				*eS*		Sn	09 37 39.9	-0.2
LRS	**Lares**	**2.02**	**99**	*eP*		Pn	09 37 14.4	+0.2
LRS				*eS*		Sn	09 37 39.9	-0.2
AOPR	**Arecibo Observ**	**2.10**	**97**	*eP*		Pn	09 37 15.4	+0.2
AOPR	**Arecibo Observ**	**2.10**	**97**	*eP*		Pn	09 37 15.4	+0.2
AOPR				*eS*		Sn	09 37 41.5	-0.3
CELP	**Cerrillos**	**2.31**	**103**	*ePn*		Pn	09 37 19.1	+1.2
CELP				*eSn*		Sn	09 37 49.9	+3.4
HUMP	**Col San Antoni**	**2.98**	**98**	*eP*		Pn	09 37 26.9	+0.4
HUMP	**Col San Antoni**	**2.98**	**98**	*eP*		Pn	09 37 26.9	+0.4
MTP	**Monte Pirata**	**3.27**	**98**	*eP*		Pn	09 37 30.9	+0.6
MTP	**Monte Pirata**	**3.27**	**98**	*eP*		Pn	09 37 30.9	+0.6

GUC 19 09:46:35.5±0.9, 31.73S×69.83W, h11km±9km, MD3.6, ML2.7, 3C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**1.43**	**263**	*iP*		Pn	09 47 00.8	-0.5
CHNG				*i* S		Sn	09 47 18.9	-1.3
CHNG				AML	AML	09 47 28.2	
	comp=E,205nm,0.5s						
PEL	**Peldehue**	**1.59**	**207**	*iP*		Pn	09 47 02.9	-0.8
PEL				*i* S		Sn	09 47 24.0	-0.2
PEL				AML	AML	09 47 25.9	
	comp=N,232nm,0.4s						
ROCH	**El Roble**	**1.59**	**218**	*iP*		Pn	09 47 02.8	-1.2
ROCH				*i* S		Sn	09 47 23.2	-1.6
ROCH				AML	AML	09 47 26.1	
	comp=N,197nm,0.2s						
OVCH	**Ovalle**	**1.62**	**313**	*iP*		Pn	09 47 03.6	-0.5
OVCH				*eS*		Sn	09 47 24.9	0.0
TLL	**Tololo Astrono**	**1.77**	**331**	*iP*		Pn	09 47 06.5	+0.1
TLL				*i* S		Sn	09 47 29.6	+0.5
LMEL	**Las Melosas**	**2.14**	**188**	*eP*		Pn	09 47 12.4	+0.9
LMEL				*i* S		Sb	09 47 40.0	-1.3
LMEL				AML	AML	09 47 47.2	
	comp=E,66nm,0.2s						

IDC 19 10:01:07.8±2.1, 3.94N×126.56E, h0km, mb3.2/4, mb1 3.3/4, mb1mx3.2/22, mbtmp3.2/4, Error ellipse: s-maj=210.6km s-min=23.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.93**	**162**	P	P	10 06 31.2	-1.7
	0.3nm,0.6s,baz=340,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**28.35**	**166**	P	P	10 07 05.6	+1.8
	0.2nm,0.8s,baz=343,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**57.29**	**325**	P	P	10 10 57.6	+0.2
	0.1nm,0.3s,baz=117,slow=8.4,SNR=5.2						
KURBB	**Kurchatov Arra**	**61.48**	**327**	P	P	10 11 26.0	-0.2
	0.2nm,0.4s,baz=125,slow=5.0,SNR=4.5						

*ISCJB **19** 10:08:08.7±0.7, 30.13N±0.04×131.20E±0.06, h50km±7km, mb3.5/6, MS3.3/1, Error ellipse: s-maj=9.3km s-min=5.3km az=21.7*
*JMA **19** 10:08:09.1±0.1, 30.16N×131.19E, h31km±1km, M3.3*
*IDC **19** 10:08:11.0±1.5, 30.22N×130.89E, h44km±15km, mb3.3/6, mb1 3.4/9, mb1mx3.3/28, mbtmp3.3/9, ML3.2/1, MS3.3/1, Ms1 3.3/1, ms1mx2.1/38, Error ellipse: s-maj=26.9km s-min=8.9km az=102.0*
ISC 19 10:08:09.1±1.3, 30.21N±0.04×131.12E±0.06, h32km±10km, n21, σ1§26/30, mb3.6/6, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.46**	**344**	P	**Pn**	**10 08 19.7**	**+0.2**
JTN				S	**Sn**	**10 08 27.5**	**+0.9**
JKC	**Kuchinoerabu**	**0.84**	**288**	P	**Pb**	**10 08 25.8**	**+0.6**
JKC				S	**Sn**	**10 08 37.9**	**+2.0**
JTSR	**Tashiro 2**	**0.97**	**350**	P	**Pb**	**10 08 27.6**	**+0.2**
JTSR				S	**Sb**	**10 08 41.4**	**+1.4**
JNN	**Nakanoshima**	**1.14**	**252**	P	**Pb**	**10 08 30.5**	**+0.2**
JNN				S	**Sb**	**10 08 45.0**	**+0.1**
JNAR	**Kushima--Naru**	**1.32**	**5**	P	**Pb**	**10 08 32.9**	**-0.4**
JNAR				*eS*	**Sb**	**10 08 49.9**	**0.0**
JSU	**Suzuyama**	**1.42**	**336**	P	**Pb**	**10 08 34.0**	**-0.9**
JSU				S	**Sb**	**10 08 52.9**	**+0.3**
JTZ	**Takazaki**	**1.69**	**359**	P	**Pb**	**10 08 38.3**	**-1.2**
JTZ				S	**Sb**	**10 08 59.1**	**-1.3**
JSJ	**Shimokoshiki**	**1.90**	**321**	P	**Pb**	**10 08 41.5**	**-1.6**
JSJ				*eS*	**Sb**	**10 09 04.9**	**-1.6**
JZO	**Okuchi**	**1.98**	**347**	P	**Pb**	**10 08 42.1**	**-2.3**
JAM	**Amami Oshima**	**2.23**	**217**	P	**Pn**	**10 08 44.7**	**+0.9**
JNU	**Nakatsue**	**2.91**	**356**	P	**Pn**	**10 08 55.2**	**+2.0**
	2.2nm,0.3s,baz=101,slow=4.5,SNR=24						
JNU				S	**Sn**	**10 09 28.9**	**+1.8**
	2.6nm,0.3s,baz=163,slow=23,SNR=6.7						
JOW	**Kunigami**	**4.20**	**217**	P	**Pn**	**10 09 10.3**	**-0.5**
	3.0nm,0.3s,baz=104,slow=24,SNR=12						
JOW				S	**Sn**	**10 09 57.8**	**-1.0**
	9.1nm,0.3s,baz=130,slow=27,SNR=9.4						
MJAR	**Matsushiro Arr**	**8.66**	**41**	P	**Pn**	**10 10 14.3**	**+2.2**
	0.2nm,0.3s,baz=222,slow=31,SNR=3.0						
CBIJ	**Chichi jima**	**10.20**	**105**	P	**Pn**	**10 10 32.8**	**-0.4**
	7.7nm,0.3s,baz=271,slow=21,SNR=6.1						
SONM	**Songino Array**	**25.88**	**320**	P	**P**	**10 13 37.3**	**-0.7**
	0.2nm,0.4s,baz=125,slow=9.4,SNR=4.6						
MKAR	**Makanchi Array**	**40.95**	**308**	P	**P**	**10 15 48.5**	**-0.2**
	0.2nm,0.5s,baz=93,slow=9.1,SNR=2.9						
KURBB	**Kurchatov Arra**	**43.87**	**313**	LR	LR	10 36 38.1	
	comp=Z,32nm,18.6s,baz=265,slow=39						
BVAR	**Borovoye Array**	**49.11**	**316**	P	**P**	**10 16 51.9**	**-1.5**
	0.4nm,0.5s,baz=96,slow=10,SNR=3.5						
WRA	**Warramunga Arr**	**49.96**	**176**	P	**P**	**10 17 00.7**	**+0.6**
	0.3nm,0.6s,baz=353,slow=8.4,SNR=6.7						
ASAR	**Alice Springs**	**53.63**	**177**	P	**P**	**10 17 28.7**	**+1.2**
	0.4nm,0.5s,baz=9.9,slow=14,SNR=11						
FINES	**FINESS Array B**	**70.67**	**331**	P	**P**	**10 19 20.8**	**-0.5**
	1.1nm,0.6s,baz=64,slow=4.4,SNR=6.2						

*ISCJB **19** 10:13:59.5±0.9, 39.41N±0.03×25.83E±0.04, h6km±6km,*
Error ellipse: s-maj=6.0km s-min=4.3km az=150.0
*ISK **19** 10:13:59.4, 39.45N×25.94E, h5km, MD3.2*
*CSEM **19** 10:13:59.7±0.2, 39.41N×25.82E, h3km, MD3.3, Error ellipse: s-maj=5.7km s-min=4.2km az=47.0*
*DDA **19** 10:14:00.9, 39.46N×26.00E, h6km, ML3.0*
*ATH **19** 10:14:00.3, 39.47N×25.95E, h19km±1km, MD3.3/7*
ISC 19 10:14:00.8±1.1, 39.46N±0.02×25.93E±0.03, h10km±11km, n66, σ1§01/80, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.34**	**128**	*ePB*	**Pg**	**10 14 07.5**	**-0.1**
PRK				*eSB*	**Sg**	**10 14 12.8**	**+0.7**
PRK	**Paraskevi**	**0.34**	**128**	*ePb*	**Pg**	**10 14 07.5**	**-0.1**
PRK				*eSb*	**Sg**	**10 14 12.8**	**+0.7**
BOZC	**Bozcaada**	**0.40**	**14**	*iP*	**Pg**	**10 14 08.7**	**+0.1**
BOZC				*i* S	**Sb**	**10 14 15.0**	**-1.1**
EZN	**Ezine**	**0.48**	**40**	*ePG*	**Pg**	**10 14 10.2**	**0.0**
EZN				*eSG*	**Sb**	**10 14 17.8**	**-0.7**
EZN	**Ezine**	**0.48**	**40**	*ePg*	**Pg**	**10 14 10.2**	**0.0**
EZN				*eSg*	**Sb**	**10 14 17.8**	**-0.7**
AYVA	**Ayvalik**	**0.61**	**104**	*eP*	**Pg**	**10 14 12.6**	**-0.1**
AYVA				*eS*	**Sb**	**10 14 21.8**	**-0.5**
AYVA	**Ayvalik**	**0.61**	**104**	*eP*	**Pg**	**10 14 12.6**	**-0.1**
AYVA				*eS*	**Sb**	**10 14 21.8**	**-0.5**
LIA	**Limnos Island**	**0.72**	**308**	*ePN*	**Pg**	**10 14 14.4**	**-0.3**
LIA				*eSN*	**Sb**	**10 14 25.2**	**-0.2**
LIA	**Limnos Island**	**0.72**	**308**	*ePn*	**Pg**	**10 14 14.4**	**-0.3**
CHOS	**Chios island**	**1.07**	**175**	*ePN*	**Pg**	**10 14 20.5**	**-1.0**
CHOS				*eSN*	**Sg**	**10 14 35.7**	**+0.3**
CHOS	**Chios island**	**1.07**	**175**	*ePn*	**Pg**	**10 14 20.5**	**-1.0**
CHOS				*eSn*	**Sg**	**10 14 35.7**	**+0.3**
LPK	**Lapseki**	**1.12**	**35**	*ePN*	**Pg**	**10 14 21.7**	**-0.6**
LPK	**Lapseki**	**1.12**	**35**	*ePn*	**Pg**	**10 14 21.7**	**-0.6**
ENEZ	**Enez**	**1.29**	**8**	*ePN*	**Pg**	**10 14 25.1**	**-0.5**
ENEZ	**Enez**	**1.29**	**8**	*ePn*	**Pg**	**10 14 25.1**	**-0.5**
ERIK	**Erikli-Kesan**	**1.29**	**20**	*ePN*	**Pg**	**10 14 24.9**	**-0.7**
ERIK	**Erikli-Kesan**	**1.29**	**20**	*ePn*	**Pg**	**10 14 24.9**	**-0.7**
BALY	**Balya**	**1.34**	**77**	*eP*	**Pg**	**10 14 25.7**	**-0.8**
BALY				*eS*	**Sg**	**10 14 43.1**	**-0.8**
BALY	**Balya**	**1.34**	**77**	*eP*	**Pg**	**10 14 25.7**	**-0.8**
BALY				*eS*	**Sg**	**10 14 43.1**	**-0.8**
BLCB	**Balcova**	**1.38**	**141**	*ePN*	**Pn**	**10 14 26.4**	**+0.2**
BLCB	**Balcova**	**1.38**	**141**	*ePn*	**Pn**	**10 14 26.4**	**+0.2**
KRBG	**Karabiga-Canak**	**1.41**	**48**	*ePN*	**Pb**	**10 14 27.0**	**-0.2**
KRBG	**Karabiga-Canak**	**1.41**	**48**	*ePn*	**Pb**	**10 14 27.0**	**-0.2**
ALN	**Alexandroupoli**	**1.44**	**4**	*ePN*	**Pn**	**10 14 26.7**	**-0.3**
ALN				*eSN*	**Sb**	**10 14 46.4**	**+0.3**
ALN	**Alexandroupoli**	**1.44**	**4**	*ePn*	**Pn**	**10 14 26.7**	**-0.3**
ALN				*eSn*	**Sb**	**10 14 46.4**	**+0.3**
GONE	**Gonen-Balikesi**	**1.48**	**66**	*ePN*	**Pn**	**10 14 27.8**	**+0.3**
GONE	**Gonen-Balikesi**	**1.48**	**66**	*ePn*	**Pn**	**10 14 27.8**	**+0.3**

1.3nm,0.6s,baz=76,slow=10,SNR=13
SONM Songino Array 32.99 342 P **P 10 37 21.8 -0.5**
0.6nm,0.5s,baz=165,slow=10,SNR=7.1
WRA Warramunga Arr 39.01 159 P P 10 38 11.2 -2.6
0.9nm,0.5s,baz=339,slow=9.2,SNR=4.9
WRA PcP **PcP 10 40 21.9 -0.4**
0.6nm,0.6s,baz=343,slow=3.1,SNR=5.1
ASAR Alice Springs 42.36 162 P P 10 38 39.2 -2.1
0.8nm,0.3s,baz=340,slow=7.0,SNR=12
MKAR Makanchi Array 43.47 322 P **P 10 38 49.6 -0.4**
0.6nm,0.7s,baz=111,slow=9.1,SNR=6.7
KURBB Kurchatov Arra 47.53 325 P **P 10 39 20.9 -1.2**
1.7nm,0.8s,baz=122,slow=8.0,SNR=12
STKA Stephens Creek 52.51 157 P P 10 39 57.0 -2.8
2.2nm,0.7s,baz=319,slow=5.8,SNR=7.6
AKTO Aktyubinsk 59.76 319 P **P 10 40 49.8 -1.5**
1.0nm,0.5s,baz=103,slow=9.0,SNR=5.3

*IDC **19** 10:42:56.3±0.9,4°.20N×127°.27E,h0km,mb3.7/9, mb1 3.9/9,mb1mx3.7/23,mbtmp3.7/9, Error ellipse: s-maj=68.3km s-min=16.1km az=72.0*
ISC 19 10:43:01.6±0.9,4°.1N±0°.2×127°.0E±0°.3,h36km,n14, σ1§14/10,**mb3.8/9,1C,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.25**	**334**	Pn	Pn	10 43 56.5	+6.3
	41nm,0.3s,baz=170,slow=19,SNR=2.0						
DAV				Sn	Sn	10 44 43.0	+15
	82nm,0.3s,baz=315,slow=7.1,SNR=3.1						
CTBH	**Cotabato--PC H**	**4.13**	**318**	*iP*	**Pn**	**10 44 01.0**	**-1.1**
BUTP	**Butuan**	**5.00**	**344**	*eP*	Pn	10 44 19.5	+5.2
PAGZ	**Pagadian**	**5.17**	**316**	*eP*	Pn	10 44 09.1	-7.4
PAGZ				*eS*	Sn	10 44 26.8	-48
PAGZ	**Pagadian**	**5.17**	**316**	*eP*	Pn	10 44 21.9	+5.4
FITZ	**Fitzroy Crossi**	**22.13**	**183**	P	**P**	**10 47 55.1**	**+0.9**
	1.2nm,0.5s,baz=23,slow=15,SNR=3.7						
WRA	**Warramunga Arr**	**24.98**	**164**	P	**P**	**10 48 21.9**	**-0.2**
	5.2nm,0.7s,baz=342,slow=10,SNR=31						
ASAR	**Alice Springs**	**28.43**	**167**	P	**P**	**10 48 52.0**	**-1.2**
	0.4nm,0.7s,baz=356,slow=7.4,SNR=2.8						
STKA	**Stephens Creek**	**38.40**	**160**	P	**P**	**10 50 20.1**	**+0.4**
	2.1nm,0.7s,baz=332,slow=7.9,SNR=6.5						
SONM	**Songino Array**	**47.01**	**341**	P	**P**	**10 51 31.5**	**+1.9**
	0.5nm,0.8s,baz=134,slow=6.2,SNR=3.0						
MKAR	**Makanchi Array**	**57.39**	**325**	P	**P**	**10 52 47.3**	**+0.7**
	0.4nm,0.4s,baz=109,slow=7.5,SNR=11						
ZALV	**Zalesovo Beam**	**60.36**	**333**	P	**P**	**10 53 06.9**	**-0.1**
	0.4nm,0.3s,baz=126,slow=7.3,SNR=2.7						
KURBB	**Kurchatov Arra**	**61.56**	**327**	P	**P**	**10 53 15.2**	**0.0**
	1.0nm,0.5s,baz=125,slow=6.4,SNR=4.7						
ILAR	**Eielson Array**	**84.62**	**25**	P	**P**	**10 55 30.2**	**-1.0**
	0.2nm,0.9s,baz=256,slow=3.6,SNR=3.3						

WEL 19 10:43:24.0±0.4,37°.30S×179°.85W,h33km,ML3.5/13, Error ellipse: s-maj=3.3km s-min=2.9km az=90.0,East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.49**	**259**	PN	Pn	10 43 47.9	-0.6
MXZ				SN	Sn	10 44 05.7	-1.1
PUZ	**Puketiti**	**1.69**	**242**	PN	Pn	10 43 50.6	-0.7
PUZ				SN	Sn	10 44 10.1	-1.7
CNGZ	**Carnagh Statio**	**1.94**	**232**	PN	Pn	10 43 54.5	-0.1
MWZ	**Matawai**	**2.32**	**243**	PN	Pn	10 43 59.1	-0.9
MWZ				SN	Sn	10 44 25.3	-2.2
PRGZ	**Paritu Road**	**2.42**	**227**	PN	Pn	10 44 00.7	-0.6
MHGZ	**Mahia Peninsul**	**2.56**	**223**	PN	Pn	10 44 01.9	-1.3
URZ	**Urewera**	**2.59**	**247**	PN	Pn	10 44 03.4	-0.3
URZ				SN	Sn	10 44 33.0	-1.0
RAHZ	**Arahi**	**2.91**	**235**	PN	Pn	10 44 07.1	-0.9
BKZ	**Black Stump Fm**	**3.43**	**236**	PN	Pn	10 44 14.0	-1.3
MCHZ	**McNeill Hill**	**3.46**	**231**	PN	Pn	10 44 14.3	-1.3
KAHZ	**Kahuranaki**	**3.58**	**225**	PN	Pn	10 44 14.9	-2.3
KUZ	**Kuaotunu**	**3.59**	**277**	PN	Pn	10 44 16.8	-0.5
PXZ	**Pawanui**	**3.75**	**222**	PN	Pn	10 44 17.2	-2.3
BHHZ	**Black Hill Sta**	**3.89**	**235**	PN	Pn	10 44 20.0	-1.5
MKAZ	**Moumakai**	**3.98**	**271**	PN	Pn	10 44 22.7	0.0
MRZ	**Mangatainoka R**	**4.90**	**225**	PN	Pn	10 44 32.0	-3.3

*ISK **19** 10:56:44.7,37°.59N×34°.61E,h6km,MD2.9*
*DDA **19** 10:56:44.3,37°.70N×34°.53E,h7km,MD2.9*
*ISCJB **19** 10:56:45.3±0.6,37°.62N±0°.03×34°.60E±0°.06,h9km±8km, Error ellipse: s-maj=8.3km s-min=5.2km az=167.4*
*CSEM **19** 10:56:45.7±0.2,37°.64N×34°.62E,h5km,MD2.9, Error ellipse: s-maj=6.5km s-min=3.9km az=67.0*
ISC 19 10:56:45.1±1.2,37°.61N±0°.03×34°.54E±0°.04,h13km±12km, n20,σ1§**26/29,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GULE	**Gulek**	**0.38**	**150**	*i* P	**Pb**	**10 56 53.8**	**0.0**
GULE				*i* S	**Sb**	**10 56 59.7**	**0.0**
GULE	**Gulek**	**0.38**	**150**	*i* P	**Pb**	**10 56 53.8**	**0.0**
GULE				*i* S	**Sb**	**10 56 59.7**	**0.0**
NIG	**Nigde**	**0.50**	**6**	*e*PG	**Pg**	**10 56 55.2**	**+0.2**
NIG				*e*SG	**Sb**	**10 57 02.8**	**-0.5**
NIG	**Nigde**	**0.50**	**6**	*e*Pg	**Pg**	**10 56 55.2**	**+0.2**
NIG				*e*Sg	**Sb**	**10 57 02.8**	**-0.5**
MERS	**Mersin**	**0.74**	**181**	*e*PG	**Pg**	**10 56 59.0**	**-0.5**
MERS				*e*SG	**Sg**	**10 57 09.6**	**+0.3**
SULT	**Sultanhani-AKS**	**1.00**	**306**	*e*PG	**Pn**	**10 57 05.3**	**+0.3**
SULT	**Sultanhani-AKS**	**1.00**	**306**	*e*Pg	**Pn**	**10 57 05.3**	**+0.3**
KOZT	**Kozan**	**1.03**	**97**	*e*PG	**Pg**	**10 57 03.7**	**-1.3**
KOZT				*e*SG	**Sg**	**10 57 17.7**	**-0.7**
KOZT	**Kozan**	**1.03**	**97**	*e*Pg	**Pg**	**10 57 03.7**	**-1.3**
KOZT				*e*Sg	**Sg**	**10 57 17.7**	**-0.7**
AVNT	**Avonos**	**1.19**	**12**	*e*P	**Pb**	**10 57 07.6**	**-0.1**
AVNT				*e*S	**Sb**	**10 57 21.4**	**-1.7**
AVNT	**Avonos**	**1.19**	**12**	*e*P	**Pb**	**10 57 07.6**	**-0.1**
AVNT				*e*S	**Sb**	**10 57 21.4**	**-1.7**
ANDN	**Andirin**	**1.43**	**91**	*e*P	Pg	10 57 17.7	+5.0
ANDN				*e*S	**Sg**	**10 57 35.5**	**+4.2**
BNN	**Bunyan**	**1.61**	**39**	*e*PN	**Pb**	**10 57 14.1**	**-0.7**
BNN	**Bunyan**	**1.61**	**39**	*e*Pn	**Pb**	**10 57 14.1**	**-0.7**
KAMT	**Kaman**	**1.87**	**340**	*e*PN	**Pb**	**10 57 18.6**	**-0.7**
KAMT	**Kaman**	**1.87**	**340**	*e*Pn	**Pb**	**10 57 18.6**	**-0.7**
KMRS	**Kahramanmaras**	**1.88**	**93**	*e*PN	**Pn**	**10 57 17.5**	**+0.5**
KMRS	**Kahramanmaras**	**1.88**	**93**	*e*Pn	**Pn**	**10 57 17.5**	**+0.5**
CORM	**Corum**	**2.56**	**1**	*e*PN	**Pn**	**10 57 28.6**	**+2.0**
CORM	**Corum**	**2.56**	**1**	*e*Pn	**Pn**	**10 57 28.6**	**+2.0**

*ISCJB **19** 11:03:13.9±0.6,59°.31N±0°.03×26°.95E±0°.08,h0km, Error ellipse: s-maj=5.6km s-min=3.9km az=4.2*
*NAO **19** 11:03:14.3±1.0,59°.30N×27°.00E,ML2.4*
*BER **19** 11:03:14.7±3.2,59°.32N×27°.20E,h0km,ML2.4(NAO), Suspected explosion*
*CSEM **19** 11:03:14.9±0.3,59°.31N×27°.03E,h2km,ML2.4, Error ellipse: s-maj=6.9km s-min=4.3km az=97.0, Mining explosion.*
*HEL **19** 11:03:15.5±0.2,59°.33N×27°.12E,h0km,ML2.0, ML2.4(NAO), Explosion*
*IDC **19** 11:03:15.1±2.1,59°.37N×27°.29E,h0km,mb1 3.3/4, mb1mx3.0/26,mbtmp3.2/4,ML2.7/4, Error ellipse: s-maj=19.2km s-min=11.2km az=117.0*
ISC 19 11:03:13.6±0.9,59°.31N±0°.02×27°.13E±0°.05,h0km,n46, σ1§**64/73,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**0.88**	**194**	Pg	**Pg**	**11 03 31.0**	**+0.6**
VSU				Lg	Lg	11 03 42.1	
VSU	**Vasula**	**0.88**	**194**	Pg	**Pg**	**11 03 31.0**	**+0.6**
VSU				Lg	Lg	11 03 42.1	
VSU	**Vasula**	**0.88**	**194**	*i* PG	**Pg**	**11 03 31.0**	**+0.6**
VSU				*i* SG	**Sg**	**11 03 42.1**	**+0.3**
VSU	**Vasula**	**0.88**	**194**	Pg	**Pg**	**11 03 31.0**	**+0.6**
VSU				*e*S	**Sg**	**11 03 41.6**	**-0.2**
	199nm,0.8s,SNR=68						
VSU				Sg	**Sg**	**11 03 42.0**	**+0.3**
VSU				Lg	Lg	11 03 42.1	
	SNR=28						
VJF	**Virojoki**	**1.25**	**10**	*e*P	**Pg**	**11 03 37.2**	**-0.3**
VJF				*e*SB	**Sg**	**11 03 54.1**	**+0.4**
VJF				MSG		11 03 54.1	
	comp=Z,8.0nm,0.2s						
VJF				*e*RG	Rg	11 03 59.4	
VJF	**Virojoki**	**1.25**	**10**	P	**Pg**	**11 03 37.2**	**-0.3**
VJF				Sb	**Sg**	**11 03 54.1**	**+0.4**
PVF	**Pernaja**	**1.39**	**333**	*e*P	**Pn**	**11 03 40.1**	**-0.2**
PVF				MSG	**Sg**	**11 03 58.0**	**-0.3**
	comp=Z,4.6nm,0.2s						
PVF				*e*SB	**Sg**	**11 03 58.0**	**-0.3**
PVF	**Pernaja**	**1.39**	**333**	P	**Pn**	**11 03 40.0**	**-0.2**
PVF				Sb	**Sg**	**11 03 58.0**	**-0.3**
MEF	**Metsahovi**	**1.65**	**304**	*e*PG	**Pn**	**11 03 44.9**	**+1.0**
MEF				*e*SG	**Sn**	**11 04 06.3**	**+0.5**
MEF				MSG		11 04 06.3	
	comp=Z,11nm,0.1s						
MEF	**Metsahovi**	**1.65**	**304**	Pg	**Pn**	**11 03 44.9**	**+1.0**
MEF				*e*S	**Sn**	**11 04 05.7**	**-0.1**
	comp=Z,30nm,0.7s,SNR=68						
MEF				Sg	**Sn**	**11 04 06.3**	**+0.5**
MTSE	**Matsula**	**1.82**	**252**	*e*P	**Pn**	**11 03 47.4**	**+1.2**
MTSE				*e*S	**Sn**	**11 04 10.8**	**+1.0**
MTSE	**Matsula**	**1.82**	**252**	P	**Pn**	**11 03 47.3**	**+1.2**
MTSE				S	**Sn**	**11 04 10.8**	**+1.0**
FIA0	**FINESS Array S**	**2.20**	**347**	Pn	**Pn**	**11 03 52.4**	**+1.0**
	baz=162,slow=16						
FIA0				Pg	**Pb**	**11 03 53.8**	**-0.5**
	baz=158,slow=16						
FIA0				Lg	Lg	11 04 23.7	
	baz=171,slow=37						
FIA0				Rg	Rg	11 04 35.6	
	baz=161,slow=37						
FIA0	**FINESS Array S**	**2.20**	**347**	Pn	**Pn**	**11 03 52.4**	**+1.0**
	baz=162,slow=16						
FIA0				Pg	**Pb**	**11 03 53.8**	**-0.5**
	baz=158,slow=16						
FIA0				Lg	Lg	11 04 23.7	
	baz=171,slow=37						
FIA0				Rg	Rg	11 04 35.6	
	baz=161,slow=37						
FIA0	**FINESS Array S**	**2.20**	**347**	*e*P	**Pn**	**11 03 52.9**	**+1.5**
FIA0				*e*SB	**Sb**	**11 04 21.8**	**-0.2**
FIA0				MSG		11 04 21.8	
	comp=Z,6.2nm,0.5s						
FIA0				*e*RG	Rg	11 04 36.5	
FIA0	**FINESS Array S**	**2.20**	**347**	Pn	**Pn**	**11 03 52.4**	**+1.0**
	baz=162,slow=16,SNR=6.3						
FIA0	**FINESS Array S**	**2.20**	**347**	P	**Pn**	**11 03 52.9**	**+1.5**
FIA0	**FINESS Array S**	**2.20**	**347**	Pg	**Pb**	**11 03 53.8**	**-0.5**
	baz=158,slow=15,SNR=90						
FIA0				Sb	**Sb**	**11 04 21.8**	**-0.2**
FIA0				Lg	Lg	11 04 23.7	
	baz=171,slow=29,SNR=1.7						
FINES	**FINESS Array B**	**2.20**	**347**	Pn	**Pn**	**11 03 52.3**	**+1.0**
	comp=Z,2.8nm,0.3s,baz=163,slow=15,SNR=52						
FINES				Pg	**Pb**	**11 03 53.7**	**-0.5**
	comp=Z,2.8nm,0.3s,baz=162,slow=16,SNR=58						
FINES				Sn	**Sn**	**11 04 20.8**	**+1.5**
	comp=Z,2.3nm,0.3s,baz=149,slow=19,SNR=3.9						
FINES				Lg	Lg	11 04 24.1	
	comp=Z,4.8nm,0.3s,baz=168,slow=28,SNR=20						
FINES				Rg	Rg	11 04 38.8	
	comp=Z,50nm,0.9s,baz=163,slow=33,SNR=9.9						
KAF	**Kangasniemi**	**2.84**	**352**	*e*P	**Pn**	**11 04 01.5**	**+1.3**
KAF				*e*SG	**Sb**	**11 04 42.3**	**+1.9**
KAF				MSG		11 04 42.3	
	comp=Z,7.5nm,0.4s						
KAF	**Kangasniemi**	**2.84**	**352**	P	**Pn**	**11 04 01.5**	**+1.3**
KAF				Sg	**Sb**	**11 04 42.3**	**+1.9**
SLIT	**Slitere, Latvi**	**3.05**	**238**	*e*P	**Pb**	**11 04 07.3**	**-1.4**
	SNR=50						
KEF	**Keuruu**	**3.07**	**340**	*e*P	**Pn**	**11 04 05.7**	**+2.3**
KEF				MSG	**Sb**	**11 04 49.1**	**+2.0**
	comp=Z,5.6nm,0.4s						
KEF				*e*SG	**Sb**	**11 04 49.1**	**+2.0**
KEF	**Keuruu**	**3.07**	**340**	P	**Pn**	**11 04 05.7**	**+2.3**
KEF				Sg	**Sb**	**11 04 49.1**	**+2.0**
RAF	**Rauma**	**3.18**	**305**	*e*P	**Pn**	**11 04 07.1**	**+2.3**
RAF				*e*SG	**Sb**	**11 04 54.6**	**+4.4**
RAF				MSG		11 04 54.6	
	comp=Z,3.9nm,0.4s						
RAF	**Rauma**	**3.18**	**305**	P	**Pn**	**11 04 07.1**	**+2.3**
RAF				*e*S	**Sn**	**11 04 45.5**	**+2.0**
	comp=Z,9.7nm,0.4s,SNR=50						
RAF				Sg	**Sb**	**11 04 54.6**	**+4.4**
SUF	**Sumiainen**	**3.45**	**352**	*e*P	**Pn**	**11 04 10.7**	**+2.1**
SUF				MSG	**Sb**	**11 05 00.2**	**+2.2**
	comp=Z,8.2nm,0.4s						
SUF				*e*SG	**Sb**	**11 05 00.2**	**+2.2**
SUF	**Sumiainen**	**3.45**	**352**	P	**Pn**	**11 04 10.7**	**+2.1**
AAL	**Aland**	**3.71**	**287**	*e*SG	**Sb**	**11 05 08.8**	**+3.3**
AAL	**Aland**	**3.71**	**287**	Sg	**Sb**	**11 05 08.8**	**+3.3**
JOF	**Joensuu**	**4.15**	**27**	*e*P	**Pn**	**11 04 20.2**	**+2.1**
JOF				*e*SG	**Sb**	**11 05 21.5**	**+3.5**
JOF				MSG		11 05 21.5	
	comp=Z,4.6nm,0.4s						
JOF	**Joensuu**	**4.15**	**27**	P	**Pn**	**11 04 20.2**	**+2.1**
HFS	**Hagfors**	**6.84**	**283**	Lg	Lg	11 06 45.8	
	baz=90,slow=37						
HFS	**Hagfors**	**6.84**	**283**	Lg	Lg	11 06 45.8	
	baz=90,slow=37						
HFS	**Hagfors**	**6.84**	**283**	SG	Sb	11 06 45.8	+10
HFS	**Hagfors**	**6.84**	**283**	Pn	**Pn**	**11 04 55.6**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=119,slow=15,SNR=2.6						
HFS				Sn	**Sn**	**11 06 12.8**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=105,slow=22,SNR=3.6						
HFS				Lg	Lg	11 06 46.0	
	comp=Z,0.9nm,0.3s,baz=94,slow=33,SNR=8.3						
HFS	**Hagfors**	**6.84**	**283**	Lg	Lg	11 06 45.8	
	baz=90,slow=28,SNR=5.8						
NB2	**NORSAR Subarra**	**8.12**	**289**	Pn	**Pn**	**11 05 11.6**	**-1.1**
	baz=92,slow=14						
NB2				Lg	Lg	11 07 27.4	
	baz=116,slow=37						
NB2	**NORSAR Subarra**	**8.12**	**289**	Pn	**Pn**	**11 05 11.6**	**-1.1**
	baz=92,slow=14						
NB2				Lg	Lg	11 07 27.4	
	baz=116,slow=37						
NB2	**NORSAR Subarra**	**8.12**	**289**	PN	**Pn**	**11 05 11.6**	**-1.1**
NB2				SG	Sg	11 07 27.4	-6.7
NB2	**NORSAR Subarra**	**8.12**	**289**	Pn	**Pn**	**11 05 11.6**	**-1.1**
	baz=92,slow=13,SNR=4.5						
NB2				Lg	Lg	11 07 27.4	
	baz=116,slow=36,SNR=3.0						
NOA	**NORSAR Array B**	**8.12**	**289**	Pn	**Pn**	**11 05 11.0**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=84,slow=13,SNR=6.2						
NOA				Lg	Lg	11 07 28.0	
	comp=Z,0.5nm,0.3s,baz=95,slow=15,SNR=5.3						
ARA0	**ARCESS Array S**	**10.29**	**357**	Pn	**Pn**	**11 05 41.0**	**-1.3**
	baz=170,slow=14						
ARA0	**ARCESS Array S**	**10.29**	**357**	Pn	**Pn**	**11 05 41.0**	**-1.3**
	baz=170,slow=14						
ARA0	**ARCESS Array S**	**10.29**	**357**	PN	**Pn**	**11 05 41.0**	**-1.3**
ARCES	**ARCESS Array B**	**10.29**	**357**	Pn	**Pn**	**11 05 40.9**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=171,slow=14,SNR=7.2						
ARCES				Sn	Sn	11 07 28.8	-9.4
	comp=Z,0.1nm,0.3s,baz=178,slow=24,SNR=2.6						
ARCES				Lg	Lg	11 08 27.9	
	comp=Z,0.3nm,0.3s,baz=172,slow=24,SNR=3.2						

IDC 19 11:18:26.9±2.1,17°.53S×177°.41W,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.7/18,mbtmp3.8/4,Error ellipse: s-maj=124.5km s-min=27.2km az=152.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.63**	**259**	P	P	11 26 49.8	+0.2
	0.3nm,0.3s,baz=98,slow=7.2,SNR=20						
ASAR	**Alice Springs**	**45.81**	**254**	P	P	11 26 50.5	-0.3
	0.9nm,0.7s,baz=90,slow=7.7,SNR=16						
TXAR	**Lajitas Array**	**84.99**	**57**	P	P	11 31 05.3	+0.7
	0.6nm,0.8s,baz=211,slow=7.0,SNR=5.8						
ILAR	**Eielson Array**	**85.31**	**13**	P	P	11 31 04.5	-0.8
	1.4nm,1.2s,baz=224,slow=4.7,SNR=7.7						

*CASC **19** 11:18:34.0±4.0,14°.04N×85°.23W,h20km,MD3.9*
*IDC **19** 11:18:45.9±3.7,12°.00N×86°.64W,h16km±26km,mb3.5/7, mb1 3.9/8,mb1mx3.7/23,mbtmp3.6/8,ML3.3/2, Error ellipse: s-maj=53.1km s-min=16.0km az=46.0*
ISC 19 11:18:44.3±0.7,11°.9N±0°.2×86°.8W±0°.2,h10km,n23, σ1§**05/25,mb3.5/7,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGAN	**Managua**	**0.57**	**62**	*e*P	Sg	11 19 07.7	+4.7
CNCH	**Conchagua**	**1.73**	**323**	*e*P	**Pg**	**11 19 17.8**	**+0.2**
CAHU	**Cacacuatique**	**2.35**	**323**	*e*P	**Pb**	**11 19 26.1**	**-0.7**
JTS	**JuntasAbangare**	**2.38**	**131**	Pn	**Pn**	**11 19 24.3**	**+0.8**
	1.3nm,0.3s,baz=311,slow=22,SNR=16						
JTS				Pg	**Pg**	**11 19 29.4**	**-0.6**
	9.9nm,0.3s,baz=317,slow=16,SNR=40						
JTS				Sn	**Sb**	**11 19 54.6**	**-2.2**
	20nm,0.3s,baz=311,slow=20,SNR=7.4						
SNVI	**San Vicente**	**2.66**	**311**	*e*P	**Pn**	**11 19 28.4**	**+1.0**
LFRS	**El Faro**	**2.83**	**308**	*e*P	**Pn**	**11 19 30.0**	**+0.2**
LFRS				*e*S	**Sb**	**11 20 07.9**	**-1.9**
CGA2	**Cerro Gallo 2**	**2.92**	**129**	*e*P	**Pb**	**11 19 36.4**	**-0.2**
CGA2				*e*S	**Sn**	**11 20 06.6**	**+0.3**
SBLS	**San Blas**	**3.40**	**305**	*e*P	**Pn**	**11 19 37.8**	**+0.2**
RTR	**El Retiro**	**3.45**	**306**	*e*P	**Pn**	**11 19 37.6**	**-0.7**
QCR	**Quepos**	**3.54**	**133**	*e*P	**Pn**	**11 19 40.5**	**+1.1**
RBDL	**Robledal**	**3.61**	**308**	*e*P	**Pn**	**11 19 41.3**	**+0.9**
BUS	**Buena Vista**	**3.75**	**128**	*e*P	Pb	11 19 47.4	-3.6
ACR	**Cerro Adams**	**4.78**	**132**	*e*P	**Pn**	**11 19 58.7**	**+2.2**
CMIG	**Matias Romero**	**9.41**	**304**	Pn	**Pn**	**11 21 00.4**	**+0.3**
	1.5nm,0.3s,baz=124,slow=11,SNR=19						
TXAR	**Lajitas Array**	**23.44**	**320**	P	**P**	**11 23 55.0**	**+1.0**
	0.9nm,0.6s,baz=138,slow=9.5,SNR=18						
PDAR	**Pinedale Array**	**36.59**	**331**	P	**P**	**11 25 51.7**	**+0.8**
	0.5nm,0.7s,baz=104,slow=9.3,SNR=5.1						
NVAR	**Mina Array Bea**	**38.57**	**319**	P	**P**	**11 26 07.8**	**+0.1**
	0.2nm,0.5s,baz=145,slow=6.5,SNR=2.9						
SCHQ	**Schefferville**	**45.63**	**16**	P	**P**	**11 27 04.2**	**-0.7**
	0.6nm,0.3s,baz=213,slow=13,SNR=8.3						
BDFB	**Brasilia**	**47.11**	**125**	P	**P**	**11 27 16.7**	**-0.3**
	1.4nm,0.3s,baz=270,slow=5.1,SNR=2.9						
YKA	**Yellowknife Ar**	**54.34**	**345**	P	**P**	**11 28 10.4**	**-0.4**
	0.3nm,0.6s,baz=138,slow=7.8,SNR=8.9						
ILAR	**Eielson Array**	**66.81**	**336**	P	**P**	**11 29 36.2**	**+0.3**
	0.3nm,0.6s,baz=146,slow=4.3,SNR=5.5						
WRA	**Warramunga Arr**	**139.75**	**253**	PKP	**PKPdf**	**11 38 15.2**	**+1.7**
	0.3nm,0.5s,baz=96,slow=2.3,SNR=4.6						
CMAR	**Chiang Mai Arr**	**149.33**	**349**	PKPbc	**PKPbc**	**11 38 34.2**	**-0.2**
	1.0nm,0.3s,baz=332,slow=4.0,SNR=6.3						

IDC 19 11:20:43.7±1.1,11°.91N×86°.76W,h0km,mb3.5/6, mb1 3.8/8,mb1mx3.7/26,mbtmp3.5/8,ML3.8/1,Error ellipse: s-maj=51.3km s-min=17.0km az=54.0,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**2.39**	**132**	Pn	Pn	11 21 24.9	+0.7
	baz=300,slow=20,SNR=2.1						
JTS				Sn	Sn	11 21 54.9	+0.6
	13nm,0.3s,baz=323,slow=21,SNR=3.8						
CMIG	**Matias Romero**	**9.41**	**304**	Pn	Pn	11 23 00.7	0.0
	0.9nm,0.3s,baz=123,slow=11,SNR=6.8						
ATAH	**Atahualpa**	**20.67**	**156**	P	P	11 25 25.7	-0.2
	2.8nm,0.6s,baz=326,slow=13,SNR=2.5						
TXAR	**Lajitas Array**	**23.42**	**320**	P	P	11 25 55.2	+0.5
	0.6nm,0.5s,baz=135,slow=9.8,SNR=7.3						
TKL	**Tuckaleechee C**	**23.80**	**6**	P	P	11 25 58.8	+0.5
	6.3nm,1.0s,baz=124,slow=11,SNR=2.1						
PDAR	**Pinedale Array**	**36.57**	**331**	P	P	11 27 52.8	+1.1
	0.3nm,0.8s,baz=161,slow=5.7,SNR=3.1						
YKA	**Yellowknife Ar**	**54.31**	**345**	P	P	11 30 09.7	-1.9
	0.2nm,0.6s,baz=138,slow=7.6,SNR=4.9						
ILAR	**Eielson Array**	**66.79**	**336**	P	P	11 31 36.2	-0.6
	0.2nm,0.5s,baz=137,slow=5.4,SNR=4.3						
WRA	**Warramunga Arr**	**139.77**	**253**	PKP	PKPdf	11 40 12.7	-2.0
	0.3nm,0.8s,baz=98,slow=4.7,SNR=2.6						
CMAR	**Chiang Mai Arr**	**149.31**	**349**	PKPbc	PKPbc	11 40 35.5	0.0
	0.7nm,0.3s,baz=7.1,slow=3.6,SNR=4.1						

*IDC **19** 11:29:01.2±0.8,3°.34N×125°.92E,h0km,mb3.9/10, mb1 4.0/10,mb1mx3.9/23,mbtmp3.9/10,MS2.9/2, Ms1 2.9/2,ms1mx2.5/32,Error ellipse: s-maj=72.1km s-min=15.8km az=67.0*
*NEIC **19** 11:29:06.6±0.5,3°.48N×126°.23E,h35km,mb4.4/3,Error ellipse: s-maj=40.5km s-min=10.3km az=71.0*
ISC 19 11:29:06.7±0.7,3°.55N±0°.09×126°.2E±0°.3,h35km,n29, σ1§**16/31,mb3.9/13,1C,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.16**	**331**	*eP*	**Pn**	**11 30 07.4**	**-0.3**
KAPI	**Kappang**	**10.70**	**217**	LR	LR	11 34 51.8	
	comp=Z,37nm,18.8s,baz=81,slow=34						
FITZ	**Fitzroy Crossi**	**21.52**	**182**	*eP*	**P**	**11 33 53.9**	**+1.0**
	3.2nm,0.7s						
FITZ				S	**S**	**11 37 50.7**	**+1.0**
FITZ	**

JIRN	**Jiri**	**47.56**	**306**	*eP*	P		11 45 53.5	+0.1
	3.7nm,0.3s							
GUN	**Gumba**	**47.91**	**306**	*eP*	P		11 45 56.0	-0.1
	16nm,0.5s							
PKI	**Pulchoki**	**48.16**	**305**	*eP*	P		11 45 57.3	-0.6
	4.8nm,0.4s							
KKN	**Kakani**	**48.35**	**306**	*eP*	P		11 45 59.0	-0.2
DMN	**Daman**	**48.42**	**305**	*eP*	P		11 45 59.6	-0.2
GKN	**Gorkha**	**48.96**	**306**	*eP*	P		11 46 03.5	-0.3
SONM	**Songino Array**	**49.01**	**340**	P	P		11 46 03.7	0.0
	0.5nm,0.6s,baz=151,slow=7.6,SNR=5.3							
KOLN	**Koldanda**	**49.72**	**305**	*eP*	P		11 46 09.7	+0.1
	17nm,0.4s							
DANN	**Dangsing**	**49.81**	**306**	*eP*	P		11 46 10.2	-0.2
	24nm,0.5s							
MKAR	**Makanchi Array**	**59.57**	**325**	P	P		11 47 19.6	-0.2
	2.5nm,0.5s,baz=122,slow=7.9,SNR=12							
ILAR	**Eielson Array**	**85.35**	**25**	P	P		11 49 52.4	+1.0
	0.3nm,1.0s,baz=256,slow=3.6,SNR=3.7							
ARCES	**ARCESS Array B**	**92.18**	**340**	P	P		11 50 22.4	-1.2
	6.1nm,1.0s,baz=86,slow=6.4,SNR=6.9							
TORD	**Torodi Ar. Bea**	**125.05**	**288**	PKP	PKPdf		11 56 13.9	-0.6
	0.3nm,0.5s,baz=74,slow=2.2,SNR=2.7							

*ISCJB **19** 11:38:10.0±0.6,0.°12N±0.°04×97.°09E±0.°07,h22km, mb4.2/12,MS3.2/3,Error ellipse: s-maj=9.6km s-min=5.8km az=173.3*
*NEIC **19** 11:38:13.5±0.5,0.°12N×97.°10E,h35km,mb4.1/2,Error ellipse: s-maj=14.1km s-min=8.2km az=82.0*
*IDC **19** 11:38:13.8±9.0,0.°12N×97.°11E,h33km±64km,mb4.0/11, mb1 4.1/13,mb1mx3.9/26,mbtmp4.0/13,ML4.3/2,MS3.2/3, Ms1 3.2/3,ms1mx2.7/39,Error ellipse: s-maj=47.6km s-min=15.6km az=65.0*
*DJA **19** 11:38:22,0.°87N×97.°18E,h59km,MLv4.1/6*

ISC 19 11:38:11.3±0.8,0.°08N±0.°05×97.°08E±0.°10,h22km,n59, σ1s41/60,mb4.3/12,MS3.3/3,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GSI	**Gunungsitoli**	**1.31**	**22**	P		Pn	**11 38 34.1**	**-0.2**
GSI				S		**Sn**	**11 38 49.1**	**-2.1**
SISI	**Saibi**	**2.45**	**125**	P		**Pn**	**11 38 50.1**	**+0.1**
	195nm,0.6s,12µm							
MNSI	**Mandailing Nat**	**2.60**	**74**	P		**Pn**	**11 38 52.2**	**+0.1**
MNSI	**Mandailing Nat**	**2.60**	**74**	P		**Pn**	**11 38 51.7**	**-0.4**
	730nm,0.4s,41µm							
PSI	**Prapat**	**3.27**	**34**	Pn		**Pn**	**11 39 00.2**	**-1.2**
PSI	**Prapat**	**3.27**	**34**	P		**Pn**	**11 38 59.6**	**-1.8**
PSI	**Prapat**	**3.27**	**34**	P		**Pn**	**11 39 00.9**	**-0.5**
	57nm,0.9s,893nm							
PSI	**Prapat**	**3.27**	**34**	Pn		**Pn**	**11 39 00.2**	**-1.2**
	10nm,0.3s,baz=198,slow=13,SNR=48							
PPI	**Padang Panjang**	**3.36**	**99**	P		**Pn**	**11 39 02.6**	**0.0**
TSI	**Tuntungan**	**3.71**	**24**	P		**Pn**	**11 39 07.8**	**+0.5**
TSI				S		**Sn**	**11 39 48.7**	**-1.6**
TSI	**Tuntungan**	**3.71**	**24**	P		**Pn**	**11 39 08.2**	**+0.9**
	275nm,0.8s							
BKNI	**Bangkinang**	**3.97**	**86**	P		**Pn**	**11 39 12.7**	**+1.8**
FRIM	**Kepong**	**5.52**	**55**	P		**Pn**	**11 39 33.0**	**+0.7**
BSI	**Banda Aceh**	**5.67**	**342**	S		**Sn**	**11 40 33.1**	**-5.6**
IPM	**Ipoh**	**5.89**	**42**	*e*Pn		**Pn**	**11 39 37.9**	**+0.6**
	86nm,0.8s							
IPM	**Ipoh**	**5.89**	**42**	P		**Pn**	**11 39 38.3**	**+1.0**
IPM	**Ipoh**	**5.89**	**42**	P		**Pn**	**11 39 38.1**	**+0.8**
	91nm,0.8s,906nm							
KULM	**Kulim**	**6.29**	**35**	*e*Pn		**Pn**	**11 39 42.3**	**-0.4**
	82nm,0.6s							
KULM	**Kulim**	**6.29**	**35**	P		**Pn**	**11 39 42.9**	**+0.1**
KULM	**Kulim**	**6.29**	**35**	P		**Pn**	**11 39 42.8**	**+0.1**
	135nm,0.8s,1µm							
KGM	**Kluang**	**6.53**	**73**	P		**Pn**	**11 39 46.6**	**+0.4**
KSI	**Kapahiang**	**6.64**	**124**	P		**Pn**	**11 39 48.3**	**+0.6**
	65nm,0.7s,4µm							
KSI				S		**Sn**	**11 40 59.7**	**-3.2**
	65nm,0.7s,4µm							
MYKOM	**Kota Tinggi**	**6.98**	**76**	P		**Pn**	**11 39 52.7**	**+0.4**
MYKOM	**Kota Tinggi**	**6.98**	**76**	P		**Pn**	**11 39 51.1**	**-1.2**
MNAI	**Manna**	**7.35**	**127**	S		**Sn**	**11 41 15.4**	**-4.7**
KTGM	**Kuala Trenggan**	**7.98**	**49**	P		**Pn**	**11 40 06.5**	**+0.4**
CMAR	**Chiang Mai Arr**	**18.35**	**6**	P		**Pn**	**11 42 25.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**18.35**	**6**	P		**Pn**	**11 42 25.4**	**+0.8**
	0.9nm,0.3s,baz=198,slow=12,SNR=34							
CHTO	**Chiang Mai**	**18.71**	**6**	*e*P		**Pn**	**11 42 28.8**	**-0.1**
	7.5nm,0.8s							
SDKM	**Sandakan**	**20.83**	**74**	P		**P**	**11 42 52.1**	**+0.4**
FITZ	**Fitzroy Crossi**	**33.39**	**124**	P		**P**	**11 44 51.0**	**+2.5**
FITZ	**Fitzroy Crossi**	**33.39**	**124**	P		**P**	**11 44 51.0**	**+2.5**
	2.5nm,0.9s,baz=314,slow=10,SNR=3.5							
WRA	**Warramunga Arr**	**41.56**	**121**	P		**P**	**11 45 58.3**	**+0.6**
WRA	**Warramunga Arr**	**41.56**	**121**	P		**P**	**11 45 58.3**	**+0.6**
	1.7nm,0.4s,baz=303,slow=8.9,SNR=20							
WRAB	**Tennant Creek**	**41.57**	**121**	*e*P		**P**	**11 45 57.5**	**-0.3**
	2.3nm,0.4s							
ASAR	**Alice Springs**	**42.83**	**126**	P		**P**	**11 46 08.4**	**+0.4**
ASAR	**Alice Springs**	**42.83**	**126**	P		**P**	**11 46 08.4**	**+0.4**
	1.2nm,0.8s,baz=300,slow=7.7,SNR=10							
JNU	**Nakatsue**	**45.73**	**41**	P		**P**	**11 46 31.7**	**+0.6**
JNU	**Nakatsue**	**45.73**	**41**	P		**P**	**11 46 31.7**	**+0.6**
	6.8nm,0.9s,baz=223,slow=6.6,SNR=2.4							
JNU				LR		LR	12 07 08.4	
	comp=Z,35nm,19.5s,baz=195,slow=38							
KSAR	**Wonju Array Be**	**46.81**	**34**	P		**P**	**11 46 40.0**	**+0.6**
KSRS	**Korea Array**	**46.84**	**34**	P		**P**	**11 46 40.0**	**+0.4**
	2.7nm,0.6s,baz=218,slow=8.7,SNR=16							
KSRS				LR		LR	12 06 46.7	
	comp=Z,21nm,20.6s,baz=225,slow=37							
SONM	**Songino Array**	**48.25**	**8**	P		**P**	**11 46 51.8**	**+1.1**
SONM	**Songino Array**	**48.25**	**8**	P		**P**	**11 46 51.8**	**+1.1**
	1.6nm,0.5s,baz=188,slow=9.2,SNR=19							
MK31	**Makanchi Array**	**48.29**	**346**	*e*P		**P**	**11 46 51.0**	**+0.1**
MKAR	**Makanchi Array**	**48.29**	**346**	P		**P**	**11 46 52.4**	**+1.5**
MKAR	**Makanchi Array**	**48.29**	**346**	P		**P**	**11 46 52.4**	**+1.5**
	1.8nm,0.6s,baz=158,slow=8.1,SNR=24							
MJAR	**Matsushiro Arr**	**52.60**	**42**	P		**P**	**11 47 23.7**	**0.0**
MJAR	**Matsushiro Arr**	**52.60**	**42**	P		**P**	**11 47 23.7**	**0.0**
	1.1nm,0.8s,baz=244,slow=6.1,SNR=4.1							
MJAR				LR		LR	12 11 42.6	
	comp=Z,26nm,18.2s,baz=0.0,slow=38							
STKA	**Stephens Creek**	**52.71**	**131**	P		**P**	**11 47 25.6**	**+1.1**
STKA	**Stephens Creek**	**52.71**	**131**	P		**P**	**11 47 25.6**	**+1.1**
	0.7nm,0.3s,baz=291,slow=7.5,SNR=3.2							
USRK	**Ussuriysk Arra**	**53.79**	**31**	P		**P**	**11 47 32.2**	**0.0**
	4.5nm,0.7s,baz=228,slow=6.0,SNR=12							
ZAA0	**Zalesovo Array**	**54.64**	**351**	*e*P		**P**	**11 47 38.3**	**+0.1**
ZALV	**Zalesovo Beam**	**54.64**	**351**	P		**P**	**11 47 38.1**	**-0.1**
ZALV	**Zalesovo Beam**	**54.64**	**351**	P		**P**	**11 47 38.1**	**-0.1**
	5.4nm,0.5s,baz=180,slow=7.0,SNR=21							
QSPA	**South Pole Qui**	**90.03**	**180**	*e*P		**P**	**11 51 08.4**	**-0.7**
CPUP	**Villa Florida**	**144.09**	**221**	PKP		PKPbc	11 57 44.8	+0.7
CPUP	**Villa Florida**	**144.09**	**221**	PKP		PKPbc	11 57 44.8	+0.7
	1.7nm,0.7s,baz=88,slow=4.3,SNR=6.9							
TXAR	**Lajitas Array**	**144.68**	**32**	PKP		**PKPdf**	**11 57 46.9**	**-0.4**
TXAR	**Lajitas Array**	**144.68**	**32**	PKP		**PKPdf**	**11 57 46.9**	**-0.4**
	0.2nm,0.5s,baz=179,slow=0.6,SNR=4.6							

*NEIC **19** 11:50:03.0,35.°02S×178.°14E,h222km,MG4.0(WEL), After WEL.*

WEL 19 11:50:01.3±0.3,34.°92S×178.°32E,h231km±5km,ML4.0/12, 1C,Error ellipse: s-maj=6.4km s-min=5.9km az=90.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	**Matakaoa Point**	**2.64**	**180**	PN		Pn	11 50 49.1	+0.5
MXZ				SN		S	11 51 25.7	-0.2
MXZ	**Matakaoa Point**	**2.64**	**180**	Pn		Pn	11 50 49.1	+0.5
MXZ				Sn		S	11 51 23.7	-2.2
PUZ	**Puketiti**	**3.15**	**181**	PN		Pn	11 50 54.2	-0.1
PUZ				SN		S	11 51 35.0	-1.1
PUZ	**Puketiti**	**3.15**	**181**	Pn		Pn	11 50 54.2	-0.1
PUZ				Sn		S	11 51 35.0	-1.1
MWZ	**Matawai**	**3.47**	**190**	PN		Pn	11 50 58.4	+0.4
MWZ	**Matawai**	**3.47**	**190**	Pn		Pn	11 50 58.4	+0.4
URZ	**Urewera**	**3.48**	**196**	PN		Pn	11 50 58.1	+0.1
URZ				SN		S	11 51 42.6	-0.2
URZ	**Urewera**	**3.48**	**196**	Pn		Pn	11 50 58.0	+0.1
RAHZ	**Arahi**	**4.12**	**194**	PN		Pn	11 51 06.3	+0.7
RAHZ	**Arahi**	**4.12**	**194**	Pn		Pn	11 51 06.3	+0.7
KNZ	**Kokohu**	**4.13**	**187**	PN		Pn	11 51 06.0	+0.3
KNZ	**Kokohu**	**4.13**	**187**	Pn		Pn	11 51 06.0	+0.3
MHGZ	**Mahia Peninsul**	**4.24**	**184**	PN		Pn	11 51 07.4	+0.3
MHGZ	**Mahia Peninsul**	**4.24**	**184**	Pn		Pn	11 51 07.4	+0.3
BKZ	**Black Stump Fm**	**4.49**	**198**	PN		Pn	11 51 09.7	-0.5
BKZ	**Black Stump Fm**	**4.49**	**198**	Pn		Pn	11 51 09.7	-0.5
BHHZ	**Black Hill Sta**	**4.91**	**201**	PN		Pn	11 51 14.4	-0.9
BHHZ	**Black Hill Sta**	**4.91**	**201**	Pn		Pn	11 51 14.4	-0.9
WNVZ	**Wahianoa**	**4.91**	**205**	⇑PN		Pn	11 51 15.6	0.0
WNVZ	**Wahianoa**	**4.91**	**205**	Pn		Pn	11 51 15.6	0.0
KAHZ	**Kahuranaki**	**5.01**	**193**	PN		Pn	11 51 15.9	-0.7
KAHZ	**Kahuranaki**	**5.01**	**193**	Pn		Pn	11 51 15.9	-0.7
PXZ	**Pawanui**	**5.24**	**192**	PN		Pn	11 51 17.8	-1.5
PXZ	**Pawanui**	**5.24**	**192**	Pn		Pn	11 51 17.8	-1.5
PNHZ	**Pukenui**	**5.27**	**198**	PN		Pn	11 51 18.4	-1.4
PNHZ	**Pukenui**	**5.27**	**198**	Pn		Pn	11 51 18.4	-1.4
WPHZ	**Waipukurau**	**5.35**	**196**	PN		Pn	11 51 19.5	-1.3
WPHZ	**Waipukurau**	**5.35**	**196**	Pn		Pn	11 51 19.5	-1.3
PRHZ	**Porangahau**	**5.51**	**194**	PN		Pn	11 51 21.4	-1.3
PRHZ	**Porangahau**	**5.51**	**194**	Pn		Pn	11 51 21.4	-1.3
WAZ	**Wanganui**	**5.51**	**208**	PN		Pn	11 51 22.7	-0.1
WAZ	**Wanganui**	**5.51**	**208**	Pn		Pn	11 51 22.7	-0.1
DVHZ	**Dannevirke**	**5.64**	**197**	PN		Pn	11 51 22.4	-2.1
DVHZ	**Dannevirke**	**5.64**	**197**	Pn		Pn	11 51 22.4	-2.1
POWZ	**Post Office Ro**	**5.83**	**200**	PN		Pn	11 51 25.0	-1.8
POWZ	**Post Office Ro**	**5.83**	**200**	Pn		Pn	11 51 25.0	-1.8
BFZ	**Birch Farm**	**5.99**	**195**	PN		Pn	11 51 26.8	-2.0
BFZ	**Birch Farm**	**5.99**	**195**	Pn		Pn	11 51 26.8	-2.0
MRZ	**Mangatainoka R**	**6.13**	**200**	PN		Pn	11 51 28.2	-2.5
MRZ	**Mangatainoka R**	**6.13**	**200**	Pn		Pn	11 51 28.1	-2.5
TIWZ	**Tintock**	**6.16**	**197**	PN		Pn	11 51 28.5	-2.5
TIWZ	**Tintock**	**6.16**	**197**	Pn		Pn	11 51 28.5	-2.5
HOWZ	**Holdsworth Sta**	**6.37**	**200**	PN		Pn	11 51 30.7	-3.0
HOWZ	**Holdsworth Sta**	**6.37**	**200**	Pn		Pn	11 51 30.7	-3.0
OGWZ	**Otaki Gorge**	**6.40**	**202**	PN		Pn	11 51 31.3	-2.6
OGWZ	**Otaki Gorge**	**6.40**	**202**	Pn		Pn	11 51 31.3	-2.6
TMWZ	**Te Maipa**	**6.47**	**197**	PN		Pn	11 51 32.3	-2.6
TMWZ	**Te Maipa**	**6.47**	**197**	Pn		Pn	11 51 32.3	-2.6
KIW	**Kapiti Island**	**6.52**	**203**	PN		Pn	11 51 32.9	-2.7
KIW	**Kapiti Island**	**6.52**	**203**	Pn		Pn	11 51 32.9	-2.7
MTW	**Mount Morrison**	**6.62**	**199**	PN		Pn	11 51 33.7	-3.0
MTW	**Mount Morrison**	**6.62**	**199**	Pn		Pn	11 51 33.7	-3.0
CAW	**Cannon Point**	**6.70**	**202**	PN		Pn	11 51 34.4	-3.3
CAW	**Cannon Point**	**6.70**	**202**	Pn		Pn	11 51 34.4	-3.3
MSWZ	**Moikau Station**	**6.93**	**200**	PN		Pn	11 51 37.3	-3.4
MSWZ	**Moikau Station**	**6.93**	**200**	Pn		Pn	11 51 37.3	-3.4
TCW	**Tory Channel**	**7.05**	**206**	PN		Pn	11 51 38.8	-3.4
TCW	**Tory Channel**	**7.05**	**206**	Pn		Pn	11 51 38.8	-3.4
PLWZ	**Palliser**	**7.07**	**199**	PN		Pn	11 51 39.1	-3.4
PLWZ	**Palliser**	**7.07**	**199**	Pn		Pn	11 51 39.1	-3.4
TUWZ	**Tuamarina**	**7.36**	**207**	PN		Pn	11 51 42.7	-3.5
TUWZ	**Tuamarina**	**7.36**	**207**	Pn		Pn	11 51 42.7	-3.5
NNZ	**Nelson**	**7.40**	**210**	PN		Pn	11 51 43.4	-3.3
NNZ	**Nelson**	**7.40**	**210**	Pn		Pn	11 51 43.5	-3.3
QRZ	**Quartz Range**	**7.47**	**216**	PN		Pn	11 51 44.4	-3.2
QRZ	**Quartz Range**	**7.47**	**216**	Pn		Pn	11 51 44.4	-3.2
THZ	**Tophouse**	**8.05**	**210**	PN		Pn	11 51 52.1	-3.1
THZ	**Tophouse**	**8.05**	**210**	Pn		Pn	11 51 52.1	-3.1
KHZ	**Kahutara**	**8.37**	**205**	PN		Pn	11 51 55.7	-3.5
KHZ	**Kahutara**	**8.37**	**205**	Pn		Pn	11 51 55.7	-3.5
LTZ	**Lake Taylor**	**9.16**	**209**	PN		Pn	11 52 05.2	-4.2
LTZ	**Lake Taylor**	**9.16**	**209**	Pn		Pn	11 52 05.2	-4.2
FOZ	**Fox Glacier**	**10.92**	**215**	Pn		Pn	11 52 26.5	-5.0

IDC 19 11:50:37.2±1.4,3.°52N×126.°81E,h0km,mb3.6/7, mb1 3.8/7,mb1mx3.6/22,mbtmp3.6/7,MS3.2/2,Ms1 3.2/2, ms1mx2.5/39,Error ellipse: s-maj=73.5km s-min=17.6km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DAV	**Davao City (W)**	**3.74**	**341**	LR		LR	11 53 16.0	
	comp=Z,118nm,20.1s,baz=197,slow=42							
FITZ	**Fitzroy Crossi**	**21.52**	**183**	P		P	11 55 26.7	-1.3
	1.3nm,0.8s,baz=0.0,slow=4.0,SNR=2.6							
WRA	**Warramunga Arr**	**24.46**	**163**	P		P	11 55 58.5	+0.4
	3.2nm,0.9s,baz=343,slow=10,SNR=20							
ASAR	**Alice Springs**	**27.89**	**166**	P		P	11 56 29.8	+0.7
	0.2nm,0.8s,baz=346,slow=7.1,SNR=4.1							
CMAR	**Chiang Mai Arr**	**31.05**	**301**	P		P	11 56 57.7	+0.5
	0.3nm,0.4s,baz=110,slow=7.8,SNR=3.7							
STKA	**Stephens Creek**	**37.90**	**159**	P		P	11 57 55.8	-0.5
	1.6nm,0.6s,baz=352,slow=7.1,SNR=5.0							
SONM	**Songino Array**	**47.52**	**341**	P		P	11 59 14.3	-0.1
	0.4nm,0.6s,baz=147,slow=7.3,SNR=3.8							
MKAR	**Makanchi Array**	**57.78**	**325**	P		P	12 00 29.8	-0.6
	0.3nm,0.5s,baz=119,slow=6.9,SNR=5.3							
AKTO	**Aktyubinsk**	**73.88**	**322**	LR		LR	12 38 55.8	
	comp=Z,46nm,18.7s,baz=134,slow=39							

IDC 19 12:03:41.0±1.5,3.°89N×126.°33E,h0km,mb3.3/4, mb1 3.5/4,mb1mx3.4/21,mbtmp3.3/4,Error ellipse: s-maj=153.5km s-min=22.8km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.96**	**162**	P		P	12 09 06.0	-0.3
	1.4nm,0.8s,baz=342,slow=11,SNR=10.0							
ASAR	**Alice Springs**	**28.37**	**165**	P		P	12 09 37.4	+0.3
	0.2nm,0.7s,baz=336,slow=7.4,SNR=3.1							
SONM	**Songino Array**	**47.02**	**342**	P		P	12 12 15.0	+0.7
	0.2nm,0.5s,baz=154,slow=8.8,SNR=2.3							
MKAR	**Makanchi Array**	**57.20**	**325**	P		P	12 13 29.4	-0.6
	0.2nm,0.4s,baz=129,slow=7.2,SNR=6.4							

IDC 19 12:05:50.0±5.5,22.°56N×144.°37E,h132km±27km,mb3.0/6, mb1 3.1/7,mb1mx3.0/26,mbtmp3.1/7,Error ellipse: s-maj=207.9km s-min=17.7km az=75.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**4.93**	**337**	P		Pn	12 07 04.0	+1.8
	4.7nm,0.3s,baz=264,slow=22,SNR=11							
CBIJ				S		Sn	12 07 57.3	-1.1
	12nm,0.3s,baz=269,slow=23,SNR=8.7							
KSRS	**Korea Array**	**20.52**	**320**	P		P	12 10 19.4	+1.6
	1.7nm,0.6s,baz=148,slow=8.5,SNR=10							
SONM	**Songino Array**	**39.39**	**319**	P		P	12 13 06.9	+0.1
	0.3nm,0.4s,baz=127,slow=8.5,SNR=4.2							
WRA	**Warramunga Arr**	**43.37**	**194**	P		P	12 13 38.9	-0.5
	0.3nm,0.5s,baz=16,slow=8.9,SNR=12							
ASAR	**Alice Springs**	**47.06**	**193**	P		P	12 14 08.5	-0.1
	0.1nm,0.5s,baz=20,slow=7.3,SNR=4.5							
ZALV	**Zalesovo Beam**	**54.22**	**321**	P		P	12 15 01.4	-0.4
	0.4nm,0.3s,baz=115,slow=9.7,SNR=3.1							
MKAR	**Makanchi Array**	**54.93**	**312**	P		P	12 15 06.9	-0.3
	0.2nm,0.4s,baz=95,slow=7.5,SNR=3.3							

IDC 19 12:11:52.9±1.1,3.°61N×126.°85E,h0km,mb3.6/8, mb1 3.7/8,mb1mx3.6/24,mbtmp3.6/8,Error ellipse: s-maj=91.4km s-min=15.9km az=70.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.61**	**183**	P		P	12 16 43.5	-1.1
	0.5nm,0.5s,baz=21,slow=8.6,SNR=1.6							
WRA	**Warramunga Arr**	**24.54**	**163**	P		P	12 17 14.6	+0.1
	0.8nm,0.4s,baz=345,slow=10,SNR=14							
ASAR	**Alice Springs**	**27.97**	**166**	P		P	12 17 45.8	+0.3
	0.3nm,0.5s,baz=339,slow=10,SNR=5.4							
STKA	**Stephens Creek**	**37.98**	**159**	P		P	12 19 12.9	+0.4
	1.6nm,0.6s,baz=333,slow=8.6,SNR=3.9							
SONM	**Songino Array**	**47.45**	**341**	P		P	12 20 30.4	+0.9
	0.4nm,0.6s,baz=143,slow=8.0,SNR=4.6							
MKAR	**Makanchi Array**	**57.72**	**325**	P		P	12 21 45.2	-0.3
	0.3nm,0.5s,baz=119,slow=8.6,SNR=11							
KURBB	**Kurchatov Arra**	**61.90**	**327**	P		P	12 22 13.9	-0.2
	0.7nm,0.4s,baz=131,slow=6.5,SNR=4.8							
BVAR	**Borovoye Array**	**67.48**	**327**	P		P	12 22 50.3	-0.3
	0.3nm,0.5s,baz=130,slow=4.5,SNR=4.2							

IDC 19 12:15:26.7±1.0,3.°89N×127.°34E,h0km,mb3.9/10, mb1 4.0/10,mb1mx3.8/24,mbtmp3.9/10,MS2.8/2, Ms1 2.9/2,ms1mx2.2/31,Error ellipse: s-maj=65.2km s-min=14.9km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.92**	**184**	P		P	12 20 23.5	+1.8
	1.5nm,0.8s,baz=24,slow=10,SNR=4.2							
WRA	**Warramunga Arr**	**24.66**	**164**	P		P	12 20 48.8	-0.6
	2.0nm,0.4s,baz=340,slow=11,SNR=24							
ASAR	**Alice Springs**	**28.13**	**167**	P		P	12 21 19.9	-0.7
	0.3nm,0.6s,baz=347,slow=6.4,SNR=6.5							
CMAR	**Chiang Mai Arr**	**31.32**	**300**	P		P	12 21 49.0	0.0
	0.2nm,0.3s,baz=122,slow=6.5,SNR=3.1							
CMAR				LR		LR	12 36 25.1	
	comp=Z,13nm,18.4s,baz=325,slow=40							
KSRS	**Korea Array**	**33.41**	**1**	LR		LR	12 36 04.4	
	comp=Z,17nm,20.7s,baz=150,slow=37							
STKA	**Stephens Creek**	**38.07**	**160**	P		P	12 22 47.2	+0.1
	5.0nm,1.1s,baz=335,slow=6.9,SNR=8.2							
SONM	**Songino Array**	**47.34**	**341**	P		P	12 24 03.7	+1.2
	0.4nm,0.6s,baz=145,slow=8.0,SNR=4.1							
MKAR	**Makanchi Array**	**57.77**	**325**	P		P	12 25 19.5	-0.2
	0.5nm,0.5s,baz=122,slow=7.3,SNR=6.4							
KURBB	**Kurchatov Arra**	**61.93**	**327**	P		P	12 25 47.8	-0.4
	0.8nm,0.4s,baz=126,slow=6.7,SNR=5.7							
BVAR	**Borovoye Array**	**67.52**	**327**	P		P	12 26 23.7	-1.0
	0.3nm,0.4s,baz=153,slow=9.7,SNR=2.5							
ARCES	**ARCESS Array B**	**90.51**	**340**	P		P	12 28 31.0	+0.8
	4.2nm,0.9s,baz=67,slow=6.9,SNR=3.0							

*IDC **19** 12:20:45.1±0.9,33.°08N×88.°40E,h0km,mb3.5/7, mb1 3.8/9,mb1mx3.6/27,mbtmp3.5/9,ML3.9/1,MS2.9/2, Ms1 2.9/2,ms1mx2.5/31,Error ellipse: s-maj=40.1km s-min=19.5km az=59.0*
*ISCJB **19** 12:20:48.4±0.6,33.°24N±0.°05×88.°5E±0.°1,h33km,mb3.5/5, MS2.9/1,Error ellipse: s-maj=14.7km s-min=7.0km az=11.8*

ISC 19 12:20:50.5±0.7,33.°22N±0.°09×88.°5E±0.°1,h35km,n22, σ0s82/20,mb3.6/5,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**4.16**	**147**	P		Pn	12 21 58.3	+6.4
GUN	**Gumba**	**5.77**	**204**	*e*P		**Pn**	**12 22 14.2**	**+0.2**
	11nm,0.5s							
TAPN	**Taplejung**	**5.90**	**187**	*e*P		**Pn**	**12 22 17.0**	**+1.3**
	25nm,0.5s							
JIRN	**Jiri**	**5.90**	**201**	*e*P		**Pn**	**12 22 16.4**	**+0.6**
	3.4nm,0.4s							
KKN	**Kakani**	**6.10**	**208**	*e*P		**Pn**	**12 22 18.2**	**-0.2**
	7.1nm,0.5s							
GKN	**Gorkha**	**6.20**	**214**	*e*P		**Pn**	**12 22 19.1**	**-0.6**
	6.3nm,0.5s							
PKI	**Pulchoki**	**6.25**	**206**	*e*P		**Pn**	**12 22 21.6**	**+1.1**
	9.1nm,0.3s							
DANN	**Dangsing**	**6.37**	**222**	*e*P		**Pn**	**12 22 22.7**	**+0.6**
	8.9nm,0.4s							
ODAN	**Odare**	**6.42**	**189**	*e*P		**Pn**	**12 22 23.7**	**+0.9**
	61nm,0.7s							
RAMN	**Ramite**	**6.47**	**196**	*e*P		**Pn**	**12 22 24.1**	**+0.5**
	40nm,0.5s							
AAK	**Ala-Archa**	**14.52**	**314**	LR		LR	12 30 30.6	
	comp=Z,32nm,18.1s,baz=288,slow=40							
CMAR	**Chiang Mai Arr**	**17.41**	**145**	P		**Pn**	**12 24 49.0**	**-1.7**
	0.2nm,0.3s,baz=325,slow=12,SNR=4.2							
KURBB	**Kurchatov Arra**	**18.89**	**340**	P		**P**	**12 25 06.7**	**-1.0**
	baz=154,slow=12,SNR=4.5							
SONM	**Songino Array**	**19.86**	**37**	P		**Pn**	**12 25 20.1**	**-0.3**
	0.6nm,0.6s,baz=225,slow=11,SNR=6.3							
ZALV

0.3nm,0.6s,baz=86,slow=9.3,SNR=10
ASAR **Alice Springs** 32.25 247 P P 12 37 56.1 +0.3
0.8nm,0.6s,baz=72,slow=9.6,SNR=23
ILAR **Eielson Array** 85.55 18 P P 12 44 03.8 -0.3
0.3nm,0.9s,baz=239,slow=5.0,SNR=3.3

IDC 19 12:51:31.5±1.1, 49°16S×123°47E, h0km, mb4.0/5, mb1 4.2/6, mb1mx4.0/14, mbtmp4.1/6, ML2.9/1, MS3.6/4, Ms1 3.5/4, ms1mx3.2/22, Error ellipse: s-maj=46.2km s-min=23.3km az=99.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**16.88**	**342**	Pn	Pn	12 55 29.6	+0.6
	2.2nm,0.3s,baz=155,slow=13,SNR=10						
NWAO				LR	LR	13 00 28.9	
	comp=Z,549nm,19.5s,baz=176,slow=32						
STKA	**Stephens Creek**	**21.99**	**45**	P	P	12 56 28.8	+1.7
	2.1nm,0.6s,baz=232,slow=6.4,SNR=5.2						
STKA				LR	LR	13 03 17.7	
	comp=Z,226nm,20.5s,baz=206,slow=32						
ASAR	**Alice Springs**	**26.74**	**22**	P	P	12 57 11.7	-1.1
	2.2nm,0.9s,baz=201,slow=9.1,SNR=16						
WRA	**Warramunga Arr**	**30.43**	**21**	P	P	12 57 44.4	-1.2
	0.6nm,1.0s,baz=195,slow=9.2,SNR=3.2						
MAW	**Mawson**	**34.89**	**216**	LR	LR	13 10 09.5	
	comp=Z,41nm,21.4s,baz=324,slow=32						
QSPA	**South Pole Qui**	**40.96**	**180**	P	P	12 59 15.1	-0.6
	4.1nm,1.0s,baz=352,slow=5.7,SNR=7.1						
KAPI	**Kappang**	**44.10**	**355**	LR	LR	13 16 28.4	
	comp=Z,53nm,20.1s,baz=88,slow=34						
CMAR	**Chiang Mai Arr**	**70.76**	**335**	P	P	13 02 49.8	+0.3
	1.1nm,0.7s,baz=186,slow=5.4,SNR=9.0						
ILAR	**Eielson Array**	**132.83**	**36**	PKP	PKPdf	13 10 49.2	+2.1
	0.1nm,0.7s,baz=315,slow=0.3,SNR=3.3						
YKA	**Yellowknife Ar**	**146.03**	**45**	PKPbc	PKPdf	13 11 10.9	-0.2
	0.9nm,0.7s,baz=267,slow=3.2,SNR=20						

*IDC **19** 12:57:38.9±3.0, 0°56S×131°94E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.4/19, mbtmp3.4/4, ML3.2/1, MS4.3/1, Ms1 4.3/1, ms1mx2.5/22, Error ellipse: s-maj=224.8km s-min=22.6km az=75.0*
*DJA **19** 12:57:41.0±0.9, 0°52.6'×13°1E±°, h28km±7km, M4.0/5, MLv4.0/5*
*ISCJB **19** 12:57:42.1±0.9, 0°61S±0°09×131°44E±0°09, h33km, mb3.4/3, Error ellipse: s-maj=14.0km s-min=12.6km az=139.5*

ISC 19 12:57:44.7±1.0, 0°50S±0°08×131°35E±0°08, h35km, n10, σ2s80/9, mb3.5/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**0.37**	**194**	P	Pn	12 57 52.3	-1.2
FAKI	**Fak Fak**	**2.56**	**159**	P	Pn	12 58 19.8	-4.0
FAKI				S	Sn	12 58 57.6	+3.8
LBMI	**Labuha**	**3.85**	**268**	P	Pn	12 58 39.4	-2.1
BNDI	**Bandanaira**	**4.24**	**200**	P	Pn	12 58 45.7	-1.2
BAKI	**Biak**	**4.28**	**98**	P	Pn	12 58 52.6	-2.1
PMG	**Port Moresby**	**18.05**	**120**	LR	LR	13 07 46.0	
	comp=Z,1μm,20.1s,baz=205,slow=35						
WRA	**Warramunga Arr**	**19.54**	**172**	P	P	13 02 06.6	-2.9
	0.1nm,0.3s,baz=351,slow=11,SNR=8.1						
ASAR	**Alice Springs**	**23.16**	**174**	P	P	13 02 46.1	-2.2
	0.2nm,0.4s,baz=355,slow=10.0,SNR=12						
SONM	**Songino Array**	**52.81**	**339**	P	P	13 06 57.5	+0.7
	0.6nm,1.1s,baz=149,slow=5.9,SNR=4.6						
MKAR	**Makanchi Array**	**63.65**	**325**	P	P	13 08 15.2	+2.7
	0.6nm,0.6s,baz=116,slow=8.3,SNR=7.2						

IDC 19 13:04:19.5±2.4, 50°29N×179°15W, h0km, mb3.2/4, mb1 3.6/6, mb1mx3.4/29, mbtmp3.5/6, ML3.4/2, Error ellipse: s-maj=59.3km s-min=16.3km az=10.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FX1	**Attu Island--F**	**5.45**	**301**	Pn	Pn	13 05 41.9	+0.1
	3.7nm,0.3s,baz=217,slow=8.1,SNR=7.0						
FX1				Sn	Sn	13 06 39.0	-6.1
	1.7nm,0.3s,baz=127,slow=20,SNR=2.3						
KDAK	**Kodiak Island**	**17.23**	**54**	P	P	13 08 22.2	-0.7
	0.2nm,0.3s,baz=274,slow=13,SNR=3.8						
ILAR	**Eielson Array**	**22.24**	**37**	P	P	13 09 17.8	+0.3
	0.3nm,1.0s,baz=230,slow=8.3,SNR=4.5						
PDAR	**Pinedale Array**	**46.86**	**71**	P	P	13 12 50.6	-0.8
	0.1nm,0.4s,baz=308,slow=4.4,SNR=2.5						
SONM	**Songino Array**	**46.94**	**297**	P	P	13 12 51.9	+0.1
	0.2nm,0.5s,baz=50,slow=7.7,SNR=3.1						
MKAR	**Makanchi Array**	**60.53**	**309**	P	P	13 14 30.2	-1.1
	0.4nm,0.5s,baz=50,slow=6.1,SNR=12						

IDC 19 13:06:49.7±0.8, 16°55N×140°31E, h0km, mb3.9/12, mb1 4.1/12, mb1mx4.0/23, mbtmp3.9/12, MS2.9/3, Ms1 2.9/3, ms1mx2.5/49, Error ellipse: s-maj=26.4km s-min=18.3km az=86.0, West of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.30**	**123**	Pn	Pn	13 08 14.8	+4.7
	13nm,0.3s,baz=24,slow=21,SNR=7.3						
GUMO				T	T	13 13 45.6	
	20nm,0.3s,baz=240,slow=21,SNR=5.1						
CBIJ	**Chichi jima**	**10.63**	**9**	LR	LR	13 13 23.9	
	comp=Z,80nm,18.4s,baz=182,slow=37						
MJAR	**Matsushiro Arr**	**20.00**	**355**	LR	LR	13 17 14.9	
	comp=Z,34nm,20.5s,baz=205,slow=31						
KSRS	**Korea Array**	**23.52**	**335**	P	P	13 12 02.5	+1.1
	1.2nm,0.7s,baz=160,slow=11,SNR=3.9						
KSRS				LR	LR	13 21 37.5	
	comp=Z,23nm,18.2s,baz=145,slow=38						
WRA	**Warramunga Arr**	**36.74**	**189**	P	P	13 13 58.7	-0.2
	0.2nm,0.5s,baz=7.5,slow=9.5,SNR=6.5						
CMAR	**Chiang Mai Arr**	**39.44**	**279**	P	P	13 14 22.2	+0.4
	0.8nm,0.5s,baz=77,slow=6.7,SNR=8.2						
ASAR	**Alice Springs**	**40.46**	**189**	P	P	13 14 29.9	-0.3
	0.2nm,0.5s,baz=10.0,slow=7.9,SNR=5.4						
ASAR				PcP	PcP	13 16 33.5	+0.3
	0.5nm,0.8s,baz=357,slow=1.9,SNR=4.9						
SONM	**Songino Array**	**41.80**	**326**	P	P	13 14 41.4	+0.2
	0.8nm,0.8s,baz=145,slow=8.5,SNR=7.9						
SONM				PcP	PcP	13 16 35.8	-1.6
	0.6nm,0.9s,baz=150,slow=4.9,SNR=3.7						
MKAR	**Makanchi Array**	**56.31**	**316**	P	P	13 16 32.6	+0.3
	1.8nm,0.7s,baz=96,slow=8.2,SNR=19						
ZALV	**Zalesovo Beam**	**56.66**	**324**	P	P	13 16 34.3	-0.3
	1.0nm,0.5s,baz=103,slow=6.1,SNR=8.0						
ILAR	**Eielson Array**	**67.83**	**26**	P	P	13 17 48.8	-0.6
	0.6nm,0.7s,baz=249,slow=6.7,SNR=13						
YKA	**Yellowknife Ar**	**82.25**	**27**	P	P	13 19 12.9	+0.3
	0.9nm,0.7s,baz=292,slow=5.4,SNR=20						
ARCES	**ARCESS Array B**	**82.90**	**341**	P	P	13 19 15.8	-0.2
	2.6nm,0.9s,baz=65,slow=6.8,SNR=5.2						
JOF	**Joensuu**	**83.75**	**334**	*ep*	P	13 19 19.3	-1.2
	2.4nm,0.5s						
FINES	**FINESS Array B**	**86.61**	**334**	P	P	13 19 33.4	-1.4
	2.8nm,0.6s,baz=66,slow=5.8,SNR=14						
NVAR	**Mina Array Bea**	**88.48**	**50**	P	P	13 19 46.1	+1.5
	1.5nm,0.7s,baz=269,slow=5.6,SNR=8.1						

*ISCJB **19** 13:14:11.3±0.7, 36°60N±0°05×71°3E±0°2, h114km, Error ellipse: s-maj=23.2km s-min=6.0km az=171.3*
*NNC **19** 13:14:17.9±9.7, 36°94N×71°40E, h155km±134km, mb2.9, mpv3.9, Error ellipse: s-maj=86.4km s-min=52.7km az=6.0*

ISC 19 13:14:12.4±1.0, 36°59N±0°06×71°3E±0°1, h114km, n7, σ1s58/10, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.81**	**170**	⇓P	Pn	13 14 56.1	0.0
CEP				S	Sn	13 15 29.0	-0.7
CHCP	**Chirah Chowk**	**3.34**	**151**	P	Pn	13 15 03.9	+0.9
THW	**Thamme Wali**	**3.81**	**174**	P	Pn	13 15 08.6	-0.6
KK31	**Karatay Array**	**6.53**	**355**	P	Pn	13 15 47.0	+1.0
	12nm,0.4s,baz=182,slow=13,SNR=115						
KK31				⇑S	Sn	13 16 58.7	-0.3
	4.6nm,0.5s,baz=177,slow=23,SNR=5.8						
TKM2	**Tokmak 2**	**7.14**	**26**	⇓P	Pn	13 15 56.2	+1.9
	1.9nm,0.6s						
TKM2				⇑S	Sn	13 17 10.7	-3.2
	3.2nm,0.7s						
AB31	**Akbulak array**	**15.12**	**330**	⇓P	Pn	13 17 38.9	-0.9
	0.6nm,0.3s,baz=157,slow=12,SNR=4.5						
AKTO	**Aktyubinsk**	**16.82**	**329**	⇑P	P	13 18 01.6	+0.5
	0.5nm,0.8s						

*IDC **19** 13:18:22.1±0.6, 17°56N×145°18E, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.2/25, mbtmp4.2/14, ML3.7/1, MS3.7/24, Ms1 3.7/24, ms1mx3.5/44, Error ellipse: s-maj=21.6km s-min=15.3km az=89.0*
*NEIC **19** 13:18:23.5±0.2, 17°55N×145°20E, h10km, mb4.8/19, Error ellipse: s-maj=7.2km s-min=6.8km az=66.0*
*ISCJB **19** 13:18:24.1±0.4, 17°54N±0°06×145°11E±0°08, h25km, mb4.5/31, MS3.7/22, Error ellipse: s-maj=10.8km s-min=9.2km az=164.6*

ISC 19 13:18:25.7±0.5, 17°56N±0°09×145°2E±0°1, h25km, n74, σ0s83/70, mb4.5/31, MS3.6/22, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**18.19**	**303**	LR	LR	13 28 24.3	
	comp=Z,481nm,19.4s,baz=105,slow=33						
MJAR	**Matsushiro Arr**	**19.90**	**343**	P	P	13 22 55.6	+0.2
MJAR	**Matsushiro Arr**	**19.90**	**343**	P	P	13 22 55.6	+0.2
	0.2nm,0.3s,baz=169,slow=9.6,SNR=26						
MJAR				LR	LR	13 29 54.5	
	comp=Z,271nm,19.3s,baz=175,slow=35						
MAJO	**Matsushiro**	**19.90**	**343**	*eP*	P	13 22 55.4	-0.1
	9.4nm,0.9s						
MAT	**Matsushiro**	**19.90**	**343**	P	P	13 22 55.2	-0.3
MAT				S	S	13 26 37.0	-1.3
TATO	**Taipei**	**23.29**	**293**	*eP*	P	13 23 31.2	-0.5
	691nm,2.4s						
KSRS	**Korea Array**	**24.98**	**326**	P	P	13 23 47.3	-0.1
	3.5nm,1.0s,baz=148,slow=10.0,SNR=7.0						
KSRS				LR	LR	13 33 31.0	
	comp=Z,79nm,18.2s,baz=150,slow=36						
KSAR	**Wonju Array Be**	**25.00**	**326**	P	P	13 23 47.3	-0.2
ASAJ	**Asahikawa**	**26.57**	**356**	LR	LR	13 33 31.8	
	comp=Z,98nm,20.3s,baz=63,slow=34						
USRK	**Ussuriysk Arra**	**28.80**	**340**	LR	LR	13 34 56.3	
	comp=Z,140nm,21.4s,baz=172,slow=34						
HNR	**Honiara**	**30.51**	**150**	LR	LR	13 35 39.5	
	comp=Z,129nm,20.2s,baz=86,slow=34						
KAPI	**Kappang**	**33.70**	**231**	LR	LR	13 36 43.4	
	comp=Z,59nm,19.2s,baz=283,slow=33						
PETK	**Petropavlovsk-**	**36.80**	**13**	LR	LR	13 37 51.8	
	comp=Z,65nm,20.2s,baz=96,slow=32						
WRA	**Warramunga Arr**	**38.77**	**196**	P	P	13 25 48.4	0.0
WRA				PcP	PcP	13 28 00.6	+0.8
WRA	**Warramunga Arr**	**38.77**	**196**	P	P	13 25 48.4	0.0
	4.3nm,1.0s,baz=17,slow=9.2,SNR=12						
WRA				PcP	PcP	13 28 00.6	+0.8
	0.8nm,0.8s,baz=14,slow=3.5,SNR=4.8						
WRA				LR	LR	13 42 20.0	
	comp=Z,58nm,18.0s,baz=170,slow=37						
FITZ	**Fitzroy Crossi**	**40.33**	**210**	P	P	13 25 60.0	-1.5
FITZ				*eP*	pP	13 26 00.7	-8.3
FITZ	**Fitzroy Crossi**	**40.33**	**210**	P	P	13 25 60.0	-1.5
	1.7nm,0.8s,baz=45,slow=7.1,SNR=3.2						
FITZ				PcP	PcP	13 28 05.9	+1.2
	3.7nm,1.0s,baz=22,slow=4.4,SNR=4.3						
ASAR	**Alice Springs**	**42.44**	**195**	P	P	13 26 18.1	-0.6
ASAR				PcP	PcP	13 28 12.8	+1.2
ASAR	**Alice Springs**	**42.44**	**195**	P	P	13 26 18.1	-0.6
	0.4nm,0.3s,baz=26,slow=6.8,SNR=5.8						
ASAR				PcP	PcP	13 28 12.8	+1.2
	0.5nm,0.6s,baz=24,slow=3.2,SNR=5.8						
SONM	**Songino Array**	**43.76**	**322**	P	P	13 26 29.7	+0.5
SONM				PcP	PcP	13 28 16.4	+0.5
SONM	**Songino Array**	**43.76**	**322**	P	P	13 26 29.7	+0.5
	0.8nm,0.7s,baz=134,slow=8.2,SNR=7.9						
SONM				PcP	PcP	13 28 16.4	+0.5
	2.1nm,1.0s,baz=147,slow=4.1,SNR=6.7						
SONM				LR	LR	13 42 36.7	
	comp=Z,39nm,21.0s,baz=204,slow=33						
CMAR	**Chiang Mai Arr**	**43.93**	**279**	P	P	13 26 31.1	+0.2
CMAR	**Chiang Mai Arr**	**43.93**	**279**	P	P	13 26 31.1	+0.2
	3.1nm,1.0s,baz=69,slow=6.7,SNR=18						
CMAR				LR	LR	13 43 02.7	
	comp=Z,42nm,19.2s,baz=142,slow=34						
PSI	**Prapat**	**47.71**	**257**	LR	LR	13 44 54.0	
	comp=Z,149nm,20.1s,baz=340,slow=33						
STKA	**Stephens Creek**	**49.27**	**184**	*eP*	P	13 27 12.1	-0.4
	2.5nm,1.5s						
STKA	**Stephens Creek**	**49.27**	**184**	LR	LR	13 49 27.4	
	comp=Z,64nm,18.2s,baz=24,slow=38						
BILL	**Bilibino**	**52.22**	**10**	*eP*	P	13 27 34.6	+0.4
	8.0nm,1.2s						
ZAA0	**Zalesovo Array**	**58.64**	**323**	*eP*	P	13 28 20.0	-0.8
ZALV	**Zalesovo Beam**	**58.64**	**323**	P	P	13 28 20.9	+0.1
ZALV				PcP	PcP	13 29 09.0	-1.6
ZALV	**Zalesovo Beam**	**58.64**	**323**	P	P	13 28 20.9	+0.1
	4.3nm,0.9s,baz=94,slow=6.5,SNR=22						
ZALV				PcP	PcP	13 29 09.0	-1.6
	1.8nm,0.7s,baz=110,slow=4.0,SNR=4.5						
ZALV				LR	LR	13 51 09.7	
	comp=Z,42nm,20.4s,baz=50,slow=34						
MK31	**Makanchi Array**	**58.93**	**314**	*eP*	P	13 28 23.2	+0.3
MKAR	**Makanchi Array**	**58.93**	**314**	P	P	13 28 23.6	+0.8
MKAR				PcP	PcP	13 29 11.5	-0.5
MKAR	**Makanchi Array**	**58.93**	**314**	P	P	13 28 23.6	+0.8
	1.3nm,0.8s,baz=89,slow=8.2,SNR=12						
MKAR				PcP	PcP	13 29 11.5	-0.5
	2.5nm,0.9s,baz=108,slow=4.0,SNR=7.9						
MKAR				LR	LR	13 53 08.3	
	comp=Z,48nm,20.8s,baz=173,slow=35						
KURK	**Kurchatov**	**61.82**	**319**	*eP*	P	13 28 42.8	+0.2
	8.2nm,1.1s						
KURBB	**Kurchatov Arra**	**61.86**	**318**	LR	LR	13 55 58.6	
	comp=Z,96nm,19.7s,baz=105,slow=36						
TKM2	**Tokmak 2**	**63.42**	**310**	*eP*	P	13 28 53.8	+0.1
	4.6nm,1.2s						
SML	**Sawmill**	**63.58**	**29**	*eP*	P	13 28 51.8	-2.4
	2.8nm,1.0s						
AAK	**Ala-Archa**	**64.23**	**309**	LR	LR	13 57 19.6	
	comp=Z,44nm,19.2s,baz=258,slow=36						
ILAR	**Eielson Array**	**64.86**	**26**	P	P	13 29 01.9	-0.6
ILAR	**Eielson Array**	**64.86**	**26**	P	P	13 29 01.9	-0.6
	2.7nm,0.9s,baz=262,slow=5.4,SNR=24						
BMRM	**Bremer River**	**65.19**	**30**	*eP*	P	13 29 04.3	-0.4
	11nm,1.2s						
BVAR	**Borovoye Array**	**67.06**	**321**	LR	LR	14 00 18.4	
	comp=Z,71nm,18.1s,baz=267,slow=38						
BRVK	**Borovoye**	**67.13**	**321**	*eP*	P	13 29 16.8	-0.4
	14nm,0.9s						
KKAR	**Karatay Array**	**67.14**	**310**	*eP*	P	13 29 18.3	+0.7
INK	**Inuvik**	**70.59**	**23**	*eP*	P	13 29 38.3	-0.2
PPT	**Papeete**	**73.04**	**115**	LR	LR	13 56 32.5	
	comp=Z,74nm,19.7s,baz=308,slow=31						
ARU	**Arti**	**73.73**	**325**	*eP*	P	13 29 57.5	0.0
	14nm,0.9s						
ABKAR	**Akbulak array**	**73.86**	**317**	*eP*	P	13 29 58.5	+0.1
AKTO	**Aktyubinsk**	**74.92**	**319**	LR	LR	14 03 54.7	
	comp=Z,102nm,18.1s,baz=269,slow=36						
YKA	**Yellowknife Ar**	**79.20**	**28**	P	P	13 30 28.6	+0.2
YKA	**Yellowknife Ar**	**79.20**	**28**	P	P	13 30 28.5	+0.2
	2.2nm,0.9s,baz=290,slow=5.5,SNR=26						
MOD	**Modoc**	**81.72**	**49**	*eP*	P	13 30 42.8	+0.3
	5.0nm,0.9s						
CMB	**Columbia Colle**	**82.75**	**53**	*eP*	P	13 30 48.8	+1.0
	4.2nm,0.9s						
WCN	**Washoe City**	**82.86**	**51**	*eP*	P	13 30 48.9	+0.3
	13nm,1.6s						
BMO	**Blue Mountains**	**82.96**	**45**	*eP*	P	13 30 49.3	+0.3
	80nm,2.9s						
ARCES	**ARCESS Array B**	**83.43**	**342**	LR	LR	14 11 07.6	
	comp=Z,92nm,18.6s,baz=135,slow=38						
BSMT	**Bassoo Peak**	**83.68**	**42**	*eP*	P	13 30 53.3	+0.6
	11nm,1.6s						
NVAR	**Mina Array Bea**	**84.20**	**52**	P	P	13 30 57.0	+1.5
NVAR	**Mina Array Bea**	**84.20**	**52**	P	P	13 30 57.0	+1.5
	4.5nm,0.8s,baz=264,slow=6.6,SNR=23						
MFID	**Camas Ranch**	**84.42**	**46**	*eP*	P	13 30 57.6	+1.2
	7.4nm,1.0s						
HLID	**Hailey**	**85.35**	**46**	*eP*	P	13 31 01.2	+0.1
	61nm,2.6s						
HRY	**Holter Researc**	**85.96**	**42**	*eP*	P	13 31 04.4	+0.4
KBZ	**Khabaz**	**86.62**	**315**	P	P	13 31 08.4	+1.2
KBZ	**Khabaz**	**86.62**	**315**	P	P	13 31 08.4	+1.2
	2.1nm,0.8s,baz=80,slow=3.1,SNR=5.6						
KBZ				LR	LR	14 15 23.6	
	comp=Z,58nm,18.2s,baz=288,slow=40						
ARUT	**Antelope Range**	**88.03**	**51**	*eP*	P	13 31 15.0	+0.6
	5.7nm,1.0s						
CCUT	**Cedar City**	**88.17**	**51**	*eP*	P	13 31 15.3	+0.2
	4.7nm,1.2s						
NOA	**NORSAR Array B**	**93.48**	**339**	LR	LR	14 14 27.4	
	comp=Z,52nm,18.6s,baz=120,slow=36						
BRTR	**Keskin Array B**	**94.58**	**314**	P	P	13 31 43.7	-1.0
BRTR	**Keskin Array B**	**94.58**	**314**	P	P	13 31 43.7	-1.0
	1.6nm,0.9s,baz=139,slow=2.6,SNR=6.5						
EIL	**Elat**	**98.05**	**304**	LR	LR	14 20 46.6	
	comp=Z,27nm,18.4s,baz=252,slow=38						
LPAZ	**La Paz**	**148.09**	**93**	PKPbc	PKPab	13 38 12.4	-1.3
LPAZ	**La Paz**	**148.09**	**93**	PKPbc	PKPab	13 38 12.4	-1.3
	1.4nm,0.9s,baz=203,slow=1.2,SNR=4.0						
CPUP	**Villa Florida**	**157.36**	**117**	PKPab	PKPab	13 38 52.0	+0.5
CPUP	**Villa Florida**	**157.36**	**117**	PKPab	PKPab	13 38 52.0	+0.5
	0.5nm,0.3s,baz=18,slow=3.2,SNR=3.1						

WEL 19 13:36:47.1±0.8, 35°83S×178°55E, h198km±8km, ML3.5/13, Error ellipse: s-maj=14.6km s-min=11.8km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.74**	**186**	PN	Pn	13 37 22.8	0.0
MXZ				SN	Sn	13 37 49.5	-1.2
PUZ	**Puketiti**	**2.25**	**186**	PN	Pn	13 37 28.3	+0.2
PUZ				SN	Sn	13 37 59.5	-0.7
MWZ	**Matawai**	**2.63**	**198**	PN	Pn	13 37 33.0	+0.6
CNGZ	**Carnagh Statio**	**2.66**	**186**	PN	Pn	13 37 33.6	+1.0
URZ	**Urewera**	**2.68**	**205**	PN	Pn	13 37 33.1	+0.2
URZ				SN	Sn	13 38 09.6	+0.8
KNZ	**Kokohu**	**3.26**	**192**	PN	Pn	13 37 39.6	-0.1
RAHZ	**Arahi**	**3.29**	**200**	PN	Pn	13 37 40.5	+0.3
MHGZ	**Mahia Peninsul**	**3.35**	**189**	PN	Pn	13 37 41.2	+0.4
BKZ	**Black Stump Fm**	**3.71**	**206**	PN	Pn	13 37 45.3	+0.1
BHHZ	**Black Hill Sta**	**4.15**	**208**	PN	Pn	13 37 50.5	-0.3
KAHZ	**Kahuranaki**	**4.17**	**198**	PN	Pn	13 37 50.9	-0.1
PXZ	**Pawanui**	**4.40**	**197**	PN	Pn	13 37 52.6	-1.2
PNHZ	**Pukenui**	**4.48**	**204**	PN	Pn	13 37 53.7	-1.2
PRHZ	**Porangahau**	**4.68**	**198**	PN	Pn	13 37 56.4	-1.0
TSZ	**Takapari Road**	**4.69**	**205**	PN	Pn	13 37 56.8	-0.8
BFZ	**Birch Farm**	**5.17**	**200**	PN	Pn	13 38 02.8	-0.8
MRZ	**Mangatainoka R**	**5.36**	**205**	PN	Pn	13 38 04.5	-1.6
TIWZ	**Tintock**	**5.36**	**202**	PN	Pn	13 38 04.7	-1.4
HOWZ	**Holdsworth Sta**	**5.59**	**204**	PN	Pn	13 38 07.2	-1.9
OGWZ	**Otaki Gorge**	**5.64**	**207**	PN	Pn	13 38 07.7	-2.0
TMWZ	**Te Maipa**	**5.67**	**201**	PN	Pn	13 38 08.3	-1.7
KIW	**Kapiti Island**	**5.78**	**209**	PN	Pn	13 38 09.6	-1.8
MTW	**Mount Morrison**	**5.83**	**203**	PN	Pn	13 38 10.0	-2.1
CAW	**Cannon Point**	**5.93**	**206**	PN	Pn	13 38 09.5	-4.0
TCW	**Tory Channel**	**6.33**	**211**	PN	Pn	13 38 16.1	-2.4
TUWZ	**Tuamarina**	**6.65**	**211**	PN	Pn	13 38 20.0	-2.7
NNZ	**Nelson**	**6.73**	**215**	PN	Pn	13 38 21.8	-2.0
QRZ	**Quartz Range**	**6.87**	**222**	PN	Pn	13 38 23.2	-2.4
THZ	**Tophouse**	**7.38**	**215**	PN	Pn	13 38 29.9	-2.5
KHZ	**Kahutara**	**7.64**	**209**	PN	Pn	13 38 33.6	-1.9
LTZ	**Lake Taylor**	**8.47**	**213**	PN	Pn	13 38 43.4	-3.2

*NEIC **19** 13:39:46.8, 69°90N×145°92W, h9km, ML3.0(AEIC), After AEIC.*
*ISCJB **19** 13:39:47.5±1.2, 69°74N±0°09×146°4W±0°2, h10km, mb3.3/1, Error ellipse: s-maj=14.3km s-min=8.3km az=153.6*
*IDC **19** 13:39:49.0±1.6, 69°68N×146°91W, h0km, mb3.1/1, mb1 3.5/4, mb1mx3.3/28, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=27.4km s-min=19.1km az=74.0*

ISC 19 13:39:49.3±1.4, 69.62N±0°09×146°25W±0°07, h10km, n15, σ1s97/19, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BM3	**Burnt Mountain**	**2.29**	**164**	P	Pb	13 40 29.4	-1.3
COLD	**Coldfoot**	**2.81**	**213**	P	Pn	13 40 34.5	+0.3
COLD				S	Sb	13 41 15.5	+1.6
PRP	**Porcupine Dome**	**4.13**	**176**	P	Pn	13 40 54.6	+2.1
MDM	**Murphy Dome**	**4.74**	**190**	P	Pn	13 41 02.2	+1.4
INK	**Inuvik**	**4.77**	**100**	Pn	Pn	13 41 04.0	+2.9
	0.6nm,0.3s,baz=302,slow=9.5,SNR=18						
INK				Sn	Sn	13 41 58.3	+1.9
	1.1nm,0.3s,baz=102,slow=14,SNR=4.9						
COLA	**College**	**4.81**	**188**	P	Pn	13 41 03.2	+1.6
IL1	**Eielson Array**	**4.88**	**183**	P	Pn	13 41 04.2	+1.6
ILAR	**Eielson Array**	**4.88**	**183**	Pn	Pn	13 41 04.2	+1.7
	1.1nm,0.3s,baz=1.6,slow=14,SNR=81						
ILAR				Sn	Sn	13 41 59.0	0.0
	1.0nm,0.3s,baz=358,slow=22,SNR=4.9						
ILAR				Lg	Lg	13 42 22.4	
	0.7nm,0.3s,baz=9.2,slow=31,SNR=4.5						
CCB	**Clear Creek Bu**	**5.03**	**188**	P	Pn	13 41 06.2	+1.6
NEA	**Nenana**	**5.18**	**194**	P	Pn	13 41 08.3	+1.5
WRH	**Wood River Hil**	**5.22**	**189**	P	Pn	13 41 08.9	+1.6
HDA	**Harding Lake**	**5.24**	**183**	P	Pn	13 41 09.9	+2.2
MCK	**McKinley**	**6.01**	**191**	P	Pn	13 41 19.7	+1.6
YKA	**Yellow

LKR	**Lokris**	**0.37**	**251**	*e*PB	**Pg**	**14 03 08.6**	**+0.1**
LKR				*e*SB	**Sb**	**14 03 15.3**	**0.0**
LKR	**Lokris**	**0.37**	**251**	*e*Pb	**Pg**	**14 03 08.6**	**+0.1**
LKR				*e*Sb	**Sb**	**14 03 15.3**	**0.0**
SKIA	**Skiathos**	**0.40**	**3**	P	**Pg**	**14 03 09.1**	**+0.1**
SKIA				S	**Sg**	**14 03 14.7**	**+0.3**
SKIA	**Skiathos**	**0.40**	**3**	P	**Pg**	**14 03 09.1**	**+0.1**
SKIA				S	**Sg**	**14 03 14.7**	**+0.3**
XOR	**Xorichti**	**0.63**	**342**	P	**Pg**	**14 03 13.2**	**-0.2**
XOR				S	**Sg**	**14 03 21.9**	**+0.3**
XOR	**Xorichti**	**0.63**	**342**	P	**Pg**	**14 03 13.2**	**-0.2**
XOR				S	**Sg**	**14 03 21.9**	**+0.3**
PTL	**Penteli**	**0.79**	**155**	*e*PN	**Pn**	**14 03 18.5**	**+0.3**
PTL	**Penteli**	**0.79**	**155**	*e*Pn	**Pn**	**14 03 18.5**	**+0.3**
LTK	**Loutraki**	**0.83**	**207**	*e*PB	Pg	14 03 10.1	-7.1
LTK	**Loutraki**	**0.83**	**207**	*e*Pb	Pg	14 03 10.1	-7.1
GUR	**Goura**	**1.20**	**226**	*e*PN	Pn	14 03 12.5	-11
GUR	**Goura**	**1.20**	**226**	*e*Pn	Pn	14 03 12.5	-11

PRE 19 14:09:17.6±1.4**, 26°28S**×**28°37E, h2**km**, ML1.9, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPM	**east rand prop**	**0.13**	**240**	*e*P	Pg	14 09 18.8	-1.7
ERPM				*e*S	Sg	14 09 21.5	-1.0
ERPM				AML	AML	14 09 22.2	
	comp=Z,255nm,0.4s						
PRYS	**Parys**	**1.11**	**234**	*e*P	Pg	14 09 38.7	-0.5
PRYS				*e*S	Sb	14 09 54.8	-0.1
PRYS				AML	AML	14 10 04.0	
	comp=Z,20nm,0.7s						
LBTB	**Lobatse**	**2.80**	**296**	*e*P	Pn	14 10 04.8	+1.2
LBTB				*e*S	Sn	14 10 39.4	+1.3
LBTB				AML	AML	14 10 46.4	
	comp=Z,4.8nm,0.6s						

IDC ***19*** *14:26:46.7±7.7, 34°.99N×139°.94E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/26, mbtmp3.3/4, ML3.0/1, Error ellipse: s-maj=280.4km s-min=20.6km az=62.0*
ISCJB ***19*** *14:26:49.5±0.5, 35°.19N±0°.04×140°.16E±0°.04, h39km±5km, mb3.4/3, Error ellipse: s-maj=7.5km s-min=4.8km az=32.6*
JMA ***19*** *14:26:49.4±0.1, 35°.27N×140°.19E, h36km±1km, M3.1*
JMA Felt I J1.
ISC 19 14:26:50.5±1.0**, 35°.18N**±0°.04×**140°.15E**±0°.04**, h34**km±2km**, n15**, σ1°11/25**, mb3.5/3, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTR	**Katsuura**	**0.14**	**104**	P	**Pb**	**14 26 55.7**	**-0.9**
KTR				S	**Sb**	**14 27 00.1**	**-0.8**
JCN	**Nagara**	**0.24**	**10**	P	**Pn**	**14 26 56.3**	**-0.8**
JCN				S	**Sb**	**14 27 02.0**	**-0.5**
BSO4	**Boso 4**	**0.24**	**141**	P	**Pb**	**14 26 57.7**	**+0.1**
TATJ	**Tateyama 2**	**0.26**	**235**	P	**Pb**	**14 26 58.2**	**+0.3**
TATJ				*e*S	**Sb**	**14 27 03.3**	**+0.4**
BSO3	**Boso 3**	**0.48**	**142**	P	**Pn**	**14 27 00.4**	**-0.2**
BSO3				*e*S	**Sb**	**14 27 07.1**	**-0.5**
BSO2	**Boso 2**	**0.65**	**131**	*e*S	**Sb**	**14 27 13.6**	**+1.4**
JIM2	**Oshima 3**	**0.75**	**232**	P	**Pn**	**14 27 03.7**	**-0.9**
JIM2				S	**Sn**	**14 27 14.2**	**-0.6**
BSO1	**Boso 1**	**0.86**	**128**	P	**Pn**	**14 27 04.5**	**-1.1**
BSO1				S	**Sb**	**14 27 17.0**	**-0.6**
JOD2	**Odawara 2**	**0.88**	**276**	P	**Pn**	**14 27 05.0**	**-1.3**
JOD2				S	**Sn**	**14 27 16.4**	**-1.5**
JIZS	**Izushimoda**	**1.14**	**247**	P	**Pn**	**14 27 09.4**	**-0.6**
JIZS				S	**Sn**	**14 27 23.8**	**-0.7**
MJAR	**Matsushiro Arr**	**2.08**	**311**	Pn	**Pn**	**14 27 21.0**	**-2.0**
	4.7nm,0.3s,baz=126,slow=10,SNR=37						
MJAR				Sn	**Sn**	**14 27 49.0**	**+1.3**
	9.3nm,0.3s,baz=120,slow=15,SNR=7.7						
MAT	**Matsushiro**	**2.08**	**311**	P	**Pn**	**14 27 22.3**	**-0.7**
MAT				S	**Sn**	**14 27 48.7**	**+0.9**
MKAR	**Makanchi Array**	**44.26**	**304**	P	**P**	**14 34 58.9**	**+2.3**
	0.2nm,0.6s,baz=91,slow=3.7,SNR=4.3						
WRA	**Warramunga Arr**	**55.10**	**187**	P	**P**	**14 36 18.2**	**-1.0**
	0.8nm,1.0s,baz=6.4,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**58.82**	**187**	P	**P**	**14 36 46.0**	**+0.5**
	0.3nm,0.8s,baz=3.9,slow=9.2,SNR=8.2						

ISK ***19*** *14:38:20.9, 40°.54N×26°.14E, h8km, MD3.2*
ATH ***19*** *14:38:20.2, 40°.55N×26°.30E, h11km±2km, MD3.2/6*
DDA ***19*** *14:38:21.7, 40°.52N×26°.24E, h7km, MD3.1*
CSEM ***19*** *14:38:21.0±0.1, 40°.55N×26°.10E, h5km, MD3.2, Error ellipse: s-maj=2.8km s-min=2.1km az=51.0*
BEO ***19*** *14:38:22.9±1.6, 40°.25N×25°.64E, h17km±6km, ML3.0/3*
ISC 19 14:38:21.2±0.9**, 40°.56N**±0°.02×**26°.12E**±0°.02**, h15**km±7km**, n96**, σ1°20/131**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.18**	**7**	PG	**Pg**	**14 38 25.6**	**0.0**
ENEZ	**Enez**	**0.18**	**7**	*i* Pg	**Pg**	**14 38 25.6**	**0.0**
ERIK	**Erikli-Kesan**	**0.32**	**69**	PG	**Pg**	**14 38 27.8**	**0.0**
ERIK	**Erikli-Kesan**	**0.32**	**69**	*i* Pg	**Pg**	**14 38 27.8**	**0.0**
ALN	**Alexandroupoli**	**0.34**	**350**	*e*PB	**Pg**	**14 38 28.5**	**+0.2**
ALN				*e*SB	**Sg**	**14 38 32.8**	**-0.3**
ALN	**Alexandroupoli**	**0.34**	**350**	*e*Pb	**Pg**	**14 38 28.5**	**+0.2**
ALN				*e*Sb	**Sg**	**14 38 32.8**	**-0.3**
LPK	**Lapseki**	**0.52**	**111**	*e*PG	**Pg**	**14 38 31.4**	**-0.1**
LPK				*e*SG	**Sg**	**14 38 38.6**	**+0.1**
LPK	**Lapseki**	**0.52**	**111**	*e*Pg	**Pg**	**14 38 31.4**	**-0.1**
LPK				*e*Sg	**Sg**	**14 38 38.6**	**+0.1**
BOZC	**Bozcaada**	**0.72**	**184**	*i* P	**Pb**	**14 38 35.4**	**0.0**
BOZC				*i* S	**Sb**	**14 38 45.1**	**+0.1**
EZN	**Ezine**	**0.75**	**168**	*e*PG	**Pg**	**14 38 35.4**	**-0.4**
EZN				*e*SG	**Sb**	**14 38 45.8**	**-0.1**
EZN	**Ezine**	**0.75**	**168**	*e*Pg	**Pg**	**14 38 35.4**	**-0.4**
EZN				*e*Sg	**Sb**	**14 38 45.8**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.81**	**81**	*e*PG	**Pg**	**14 38 36.8**	**-0.2**
RKY	**Sarkoy-Tekirda**	**0.81**	**81**	*e*Pg	**Pg**	**14 38 36.8**	**-0.2**
SART	**Tekirdag**	**0.81**	**81**	*i* P	**Pg**	**14 38 36.2**	**-0.9**
SART				*i* S	**Sg**	**14 38 47.1**	**-0.7**
SART	**Tekirdag**	**0.81**	**81**	*i* P	**Pg**	**14 38 36.2**	**-0.9**
SART				*i* S	**Sg**	**14 38 47.1**	**-0.7**
MFT	**Murefte**	**0.91**	**75**	*e*PG	**Pb**	**14 38 38.6**	**-0.1**
MFT	**Murefte**	**0.91**	**75**	*e*Pg	**Pb**	**14 38 38.6**	**-0.1**
KRBG	**Karabiga-Canak**	**0.91**	**100**	*e*PG	**Pb**	**14 38 37.8**	**-0.9**
KRBG	**Karabiga-Canak**	**0.91**	**100**	*e*Pg	**Pb**	**14 38 37.8**	**-0.9**
LIA	**Limnos Island**	**0.98**	**228**	*e*PB	**Pn**	**14 38 40.5**	**+0.2**
LIA				*e*SB	**Sn**	**14 38 54.9**	**+1.0**
LIA	**Limnos Island**	**0.98**	**228**	*e*Pb	**Pn**	**14 38 40.5**	**+0.2**
TKR	**Tekirdag**	**1.16**	**68**	*e*PN	**Pb**	**14 38 43.1**	**+0.3**
TKR	**Tekirdag**	**1.16**	**68**	*e*Pn	**Pb**	**14 38 43.1**	**+0.3**
GONE	**Gonen-Balikesi**	**1.30**	**113**	*e*PN	**Pb**	**14 38 45.7**	**+0.4**
GONE	**Gonen-Balikesi**	**1.30**	**113**	*e*Pn	**Pb**	**14 38 45.7**	**+0.4**
PRK	**Paraskevi**	**1.32**	**175**	*e*PG	**Pn**	**14 38 44.5**	**-0.5**
PRK				*e*SB	**Sn**	**14 39 02.8**	**+0.6**
PRK	**Paraskevi**	**1.32**	**175**	*e*Pg	**Pn**	**14 38 44.5**	**-0.5**
PRK				*e*Sb	**Sn**	**14 39 02.8**	**+0.6**
AYVA	**Ayvalik**	**1.32**	**161**	*i* P	**Pb**	**14 38 45.7**	**0.0**
AYVA				*i* S	**Sg**	**14 39 03.3**	**-0.7**
AYVA	**Ayvalik**	**1.32**	**161**	*i* P	**Pb**	**14 38 45.7**	**0.0**
AYVA				*i* S	**Sg**	**14 39 03.3**	**-0.7**
EDC	**Edincik**	**1.34**	**99**	*e*PN	**Pb**	**14 38 46.3**	**+0.2**
EDC	**Edincik**	**1.34**	**99**	*e*Pn	**Pb**	**14 38 46.3**	**+0.2**
CRLT	**Corlu**	**1.35**	**65**	*e*PN	**Pb**	**14 38 46.6**	**+0.5**
CRLT	**Corlu**	**1.35**	**65**	*e*Pn	**Pb**	**14 38 46.6**	**+0.5**
EDRB	**Edirne**	**1.37**	**20**	*e*PN	**Pn**	**14 38 46.1**	**+0.5**
EDRB	**Edirne**	**1.37**	**20**	*e*Pn	**Pn**	**14 38 46.2**	**+0.5**
BNT	**Bandirma**	**1.39**	**98**	*e*PN	**Pb**	**14 38 46.6**	**-0.2**
BNT	**Bandirma**	**1.39**	**98**	*e*Pn	**Pb**	**14 38 46.6**	**-0.2**
BALY	**Balya**	**1.41**	**125**	*i* P	**Pb**	**14 38 47.7**	**+0.5**
BALY				*i* S	**Sb**	**14 39 05.6**	**+0.7**
BALY	**Balya**	**1.41**	**125**	*i* P	**Pb**	**14 38 47.7**	**+0.5**
BALY				*i* S	**Sb**	**14 39 05.6**	**+0.7**
BALB	**Balikesir**	**1.63**	**124**	*e*PN	**Pb**	**14 38 50.4**	**-0.5**
BALB	**Balikesir**	**1.63**	**124**	*e*Pn	**Pb**	**14 38 50.4**	**-0.5**
SLVT	**Silivri**	**1.72**	**66**	*e*PN	**Pb**	**14 38 51.9**	**-0.5**
SLVT	**Silivri**	**1.72**	**66**	*e*Pn	**Pb**	**14 38 51.9**	**-0.5**
KCTX	**Karacabey (Bur**	**1.73**	**99**	*e*PN	**Pn**	**14 38 51.4**	**+0.7**
KCTX	**Karacabey (Bur**	**1.73**	**99**	*e*Pn	**Pn**	**14 38 51.4**	**+0.7**
ELBA	**Catalca**	**1.84**	**71**	*i* P	**Pn**	**14 38 50.0**	**-2.3**
ELBA	**Catalca**	**1.84**	**71**	*i* P	**Pn**	**14 38 50.0**	**-2.3**
CTYL	**Yal??k??y-??at**	**1.88**	**60**	*e*PN	**Pn**	**14 38 54.0**	**+1.3**
CTYL	**Yal??k??y-??at**	**1.88**	**60**	*e*Pn	**Pn**	**14 38 54.0**	**+1.3**
NVR	**Nevrokopi**	**1.89**	**295**	*e*PN	**Pg**	**14 38 56.6**	**-0.8**
NVR				*e*SN	**Sg**	**14 39 22.0**	**+0.1**
NVR	**Nevrokopi**	**1.89**	**295**	*e*Pn	**Pg**	**14 38 56.6**	**-0.8**
NVR				*e*Sn	**Sg**	**14 39 22.0**	**+0.1**
CTKS	**Kestanelik-??a**	**1.93**	**69**	*e*PN	**Pb**	**14 38 54.9**	**-1.1**
CTKS	**Kestanelik-??a**	**1.93**	**69**	*e*Pn	**Pb**	**14 38 54.9**	**-1.1**
DURS	**Dursunbey**	**2.04**	**117**	*i* P	**Pn**	**14 38 55.8**	**+0.7**
DURS				*i* S	**Sn**	**14 39 18.1**	**-2.2**
DURS	**Dursunbey**	**2.04**	**117**	*i* P	**Pn**	**14 38 55.8**	**+0.7**
DURS				*i* S	**Sn**	**14 39 18.1**	**-2.2**
PLG	**Polygyros**	**2.05**	**266**	*e*PN	**Pb**	**14 38 59.1**	**+0.9**
PLG				*e*SN	**Sg**	**14 39 26.6**	**-0.6**
PLG	**Polygyros**	**2.05**	**266**	*e*Pn	**Pb**	**14 38 59.1**	**+0.9**
PLG				*e*Sn	**Sg**	**14 39 26.6**	**-0.6**
BGKT	**Bogazkoy**	**2.10**	**72**	*e*PN	**Pn**	**14 38 57.4**	**+1.6**
BGKT	**Bogazkoy**	**2.10**	**72**	*e*Pn	**Pn**	**14 38 57.4**	**+1.6**
MDNY	**Mudanya-Bursa**	**2.11**	**94**	*e*PN	**Pn**	**14 38 57.4**	**+1.5**
MDNY	**Mudanya-Bursa**	**2.11**	**94**	*e*Pn	**Pn**	**14 38 57.4**	**+1.5**
AKHS	**Akhisar**	**2.12**	**142**	*i* P	**Pn**	**14 38 54.9**	**-1.2**
AKHS				*i* S	**Sn**	**14 39 22.8**	**+0.6**
AKHS	**Akhisar**	**2.12**	**142**	*i* P	**Pn**	**14 38 54.9**	**-1.2**
AKHS				*i* S	**Sn**	**14 39 22.8**	**+0.6**
AKS	**Akhisar**	**2.12**	**142**	*e*PN	**Pn**	**14 38 57.2**	**+1.1**
AKS	**Akhisar**	**2.12**	**142**	*e*Pn	**Pn**	**14 38 57.2**	**+1.1**
DST	**Dursunbey**	**2.14**	**116**	*e*PN	**Pn**	**14 38 57.9**	**+1.5**
DST	**Dursunbey**	**2.14**	**116**	*e*Pn	**Pn**	**14 38 57.9**	**+1.5**
CHOS	**Chios island**	**2.17**	**181**	*e*PN	**Pn**	**14 38 57.9**	**+1.1**
CHOS				*e*SN	**Sb**	**14 39 26.0**	**-0.9**
CHOS	**Chios island**	**2.17**	**181**	*e*Pn	**Pn**	**14 38 57.9**	**+1.1**
CHOS				*e*Sn	**Sb**	**14 39 26.0**	**-0.9**
ORLT	**Orhaneli**	**2.18**	**103**	*e*PN	**Pn**	**14 38 58.8**	**+1.9**
ORLT	**Orhaneli**	**2.18**	**103**	*e*Pn	**Pn**	**14 38 58.8**	**+1.9**
ISK	**Istanbul-Kandi**	**2.28**	**76**	*e*PN	**Pn**	**14 39 00.2**	**+1.9**
ISK	**Istanbul-Kandi**	**2.28**	**76**	*e*Pn	**Pn**	**14 39 00.2**	**+1.9**
BUY	**Buyukada**	**2.29**	**82**	*i* P	Pn	14 38 53.9	-4.5
YLV	**Yalova**	**2.48**	**89**	*e*PN	**Pn**	**14 39 03.3**	**+2.3**
YLV	**Yalova**	**2.48**	**89**	*e*Pn	**Pn**	**14 39 03.3**	**+2.3**
DEMI	**Demirci**	**2.51**	**126**	*i* P	**Pn**	**14 39 03.3**	**+1.8**
DEMI	**Demirci**	**2.51**	**126**	*i* P	**Pn**	**14 39 03.3**	**+1.8**
HRT	**Hereke**	**2.71**	**83**	*e*PN	**Pn**	**14 39 06.4**	**+2.2**
HRT	**Hereke**	**2.71**	**83**	*e*Pn	**Pn**	**14 39 06.4**	**+2.2**
TVSB	**Tavsanli**	**2.79**	**112**	*e*PN	**Pn**	**14 39 07.0**	**+1.6**
TVSB	**Tavsanli**	**2.79**	**112**	*e*Pn	**Pn**	**14 39 07.0**	**+1.6**
VAY	**Valandovo**	**2.80**	**287**	*e*Pn	**Pg**	**14 39 16.9**	**+2.1**
VTS	**Vitosha**	**2.98**	**314**	*e*Pn	**Pn**	**14 39 09.2**	**+1.1**
VTS				*e*SN	**Sn**	**14 39 43.6**	**0.0**
VTS				*e*Sg	**Sg**	**14 39 56.7**	**-0.4**
VTS	**Vitosha**	**2.98**	**314**	*e*Pn	**Pn**	**14 39 09.2**	**+1.1**
VTS				*e*Sn	**Sn**	**14 39 43.6**	**0.0**
VTS				*e*Sg	**Sg**	**14 39 56.7**	**-0.4**
ALT	**Altintas**	**3.42**	**115**	*e*PN	**Pn**	**14 39 15.3**	**+1.3**
ALT	**Altintas**	**3.42**	**115**	*e*Pn	**Pn**	**14 39 15.3**	**+1.3**
KHL	**Karahalli**	**3.45**	**129**	*e*PN	**Pn**	**14 39 16.5**	**+2.1**
KHL	**Karahalli**	**3.45**	**129**	*e*Pn	**Pn**	**14 39 16.5**	**+2.1**
ZAPS	**Zavoj**	**3.76**	**317**	*e*Pn	**Pn**	**14 39 21.1**	**+2.5**
ZAPS				*e*Sn	**Sn**	**14 40 03.8**	**+1.2**
ZAPS				*e*Sg	**Sg**	**14 40 22.7**	**+0.8**
BARS	**Barje**	**3.94**	**306**	*e*Pn	**Pn**	**14 39 20.8**	**-0.2**
BARS				*e*Sn	**Sn**	**14 40 05.6**	**-1.3**
BARS				*e*Sg	**Sg**	**14 40 25.3**	**-2.3**
BARS	**Barje**	**3.94**	**306**	*e*Pn	**Pn**	**14 39 20.8**	**-0.2**
BARS				*e*Sn	**Sn**	**14 40 05.6**	**-1.3**
BARS				*e*Sg	**Sg**	**14 40 25.3**	**-2.3**
GRUS	**Gruza**	**5.21**	**311**	*e*Sg	**Sg**	**14 41 07.4**	**-1.1**
GRUS	**Gruza**	**5.21**	**311**	*e*Sg	**Sg**	**14 41 07.4**	**-1.1**
IVAS	**Ivanjica**	**5.37**	**306**	*e*Sg	**Sg**	**14 41 10.1**	**-3.4**
IVAS	**Ivanjica**	**5.37**	**306**	*e*Sg	**Sg**	**14 41 10.1**	**-3.4**

GUC 19 14:42:56.9±0.5**, 23°.35S**×**68°.41W, h123**km±5km**, ML3.6, 3C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**0.48**	**24**	⇓ *i*P	Pn	14 43 16.1	+0.5
SPCH				*i* S	Sn	14 43 30.5	+0.9
SPCH				AML	AML	14 43 31.1	
	comp=N,3μm,0.4s						
PB04	**Plate Boundary**	**1.47**	**317**	⇑ *i*P	Pn	14 43 30.2	+6.1
PB04				*i* S	Sn	14 43 55.6	+11
PB04				AML	AML	14 43 59.6	
	comp=N,356nm,0.4s						
PB07	**Plate Boundary**	**2.11**	**320**	⇑ *i*P	Pn	14 43 33.3	+1.1
PB07				*i* S	Sn	14 44 00.6	+1.4
PB07				AML	AML	14 44 04.9	
	comp=N,336nm,0.4s						
PB01	**Plate Boundary**	**2.50**	**336**	⇑ *i*P	Pn	14 43 37.5	+0.5
PB01				*i* S	Sn	14 44 09.5	+1.6
PB01				AML	AML	14 44 12.6	
	comp=N,222nm,0.4s						

IDC ***19*** *14:59:06.5±1.0, 1°.08S×127°.15E, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.9/23, mbtmp4.0/8, ML4.0/2, Error ellipse: s-maj=45.3km s-min=16.9km az=69.0*
ISCJB ***19*** *14:59:09.5±0.5, 1°.00S±0°.06×126°.85E±0°.04, h34km, mb4.0/5, Error ellipse: s-maj=8.8km s-min=4.8km az=16.6*
DJA ***19*** *14:59:14, 1°.35S×126°.67E, h10km, MLv4.4/12*
ISC 19 14:59:11.5±0.8**, 1°.01S**±0°.08×**126°.86E**±0°.07**, h34**km**, n26, σ1°43/28, mb4.0/5, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.84**	**16**	P	**Pn**	**14 59 38.7**	**-2.0**
AAI	**Ambon**	**2.98**	**153**	P	**Pn**	**14 59 56.6**	**+0.3**
MSAI	**Masohi**	**3.11**	**138**	P	**Pn**	**14 59 59.2**	**+1.1**
LUWI	**Luwuk**	**4.09**	**269**	P	**Pn**	**15 00 10.0**	**-1.6**
SWI	**Sorong**	**4.40**	**88**	P	**Pn**	**15 00 16.1**	**+0.2**
SWI				S	Sb	15 01 11.9	-8.9
BNDI	**Bandanaira**	**4.63**	**139**	P	**Pn**	**15 00 19.3**	**+0.2**
MRSI	**Marisa**	**5.14**	**287**	P	**Pn**	**15 00 24.9**	**-1.1**
	18nm,0.7s,0.1nm						
MRSI				S	**Sn**	**15 01 22.5**	**-1.7**
	18nm,0.7s,0.1nm						
KDI	**Kendari**	**5.15**	**235**	P	**Pn**	**15 00 25.9**	**-0.4**
	29nm,0.5s,855nm0.1nm						
APSI	**Ampana**	**5.21**	**271**	P	**Pn**	**15 00 27.5**	**+0.4**
	1μm,0.9s,6.2nm						
FAKI	**Fak Fak**	**5.71**	**109**	P	**Pn**	**15 00 32.5**	**-1.4**
	46nm,0.9s,672nm0.2nm						
FAKI				S	**Sn**	**15 01 39.8**	**+1.5**
	46nm,0.9s,672nm0.2nm						
TTSI	**Tana Toraja**	**7.32**	**254**	P	**Pn**	**15 00 57.2**	**+1.1**
	39nm,0.7s,686nm0.2nm						
TLE	**Tual**	**7.45**	**128**	P	**Pn**	**15 00 58.1**	**+0.2**
	110nm,0.9s,0.4nm						
SPSI	**Sidrap Palu**	**7.67**	**247**	P	**Pn**	**15 01 01.9**	**+1.0**
	181nm,0.5s,4μm0.9nm						
BKSI	**Bulukumba**	**7.98**	**237**	P	**Pn**	**15 01 07.6**	**+2.5**
	48nm,0.7s,839nm0.2nm						
KAPI	**Kappang**	**8.14**	**241**	P	**Pn**	**15 01 08.0**	**+0.7**
	34nm,0.7s,0.1nm						
KAPI	**Kappang**	**8.14**	**241**	Pn	**Pn**	**15 01 08.0**	**+0.7**
	4.6nm,0.3s,baz=82,slow=4.0,SNR=29						
FITZ	**Fitzroy Crossi**	**17.03**	**184**	Pn	**Pn**	**15 03 07.0**	**-0.1**
	0.2nm,0.3s,baz=7.0,slow=5.3,SNR=5.2						
WRA	**Warramunga Arr**	**20.19**	**159**	P	**P**	**15 03 40.8**	**-2.7**
	2.6nm,0.4s,baz=341,slow=11,SNR=52						
COEN	**Coen**	**20.64**	**129**	*e*P	**P**	**15 03 47.5**	**-0.9**
	76nm,0.6s						
QIS	**Mount Isa**	**23.08**	**148**	*e*P	**P**	**15 04 14.4**	**0.0**
ASAR	**Alice Springs**	**23.54**	**164**	P	**P**	**15 04 16.6**	**-2.2**
	4.4nm,0.8s,baz=342,slow=10,SNR=58						
STKA	**Stephens Creek**	**33.71**	**157**	*e*P	**P**	**15 05 48.5**	**-1.2**
	5.1nm,0.9s						
STKA	**Stephens Creek**	**33.71**	**157**	P	**P**	**15 05 48.4**	**-1.2**
	5.4nm,0.6s,baz=337,slow=7.7,SNR=20						
SONM	**Songino Array**	**51.81**	**343**	P	**P**	**15 08 18.3**	**+2.0**
	0.6nm,0.7s,baz=156,slow=7.0,SNR=4.0						
MKAR	**Makanchi Array**	**61.53**	**327**	P	**P**	**15 09 25.9**	**+0.7**
	0.5nm,0.4s,baz=123,slow=7.7,SNR=14						
KURBB	**Kurchatov Arra**	**65.80**	**329**	P	**P**	**15 09 55.3**	**+2.0**
	0.4nm,0.6s,baz=131,slow=6.4,SNR=5.7						

IDC 19 15:00:47.0±1.5**, 3°.96N×126°.67E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, Error ellipse: s-maj=102.2km s-min=19.2km az=69.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.94**	**183**	P	P	15 05 41.6	-0.7
	1.1nm,0.7s,baz=354,slow=9.2,SNR=2.4						
WRA	**Warramunga Arr**	**24.92**	**163**	P	P	15 06 10.0	-2.0
	0.7nm,0.5s,baz=344,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**28.35**	**166**	P	P	15 06 43.8	+0.8
	0.2nm,0.5s,baz=348,slow=7.6,SNR=2.7						
STKA	**Stephens Creek**	**38.36**	**159**	P	P	15 08 11.5	+1.6
	1.3nm,0.7s,baz=348,slow=9.3,SNR=2.9						
MKAR	**Makanchi Array**	**57.33**	**325**	P	P	15 10 35.9	-1.0
	0.3nm,0.3s,baz=120,slow=7.6,SNR=4.4						
KURBB	**Kurchatov Arra**	**61.52**	**327**	P	P	15 11 06.3	+0.6
	0.7nm,0.8s,baz=128,slow=7.1,SNR=3.3						

IDC ***19*** *15:03:45.9±1.1, 31°.04N×103°.62E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/25, mbtmp3.4/5, Error ellipse: s-maj=82.6km s-min=21.0km az=58.0*
ISC 19 15:03:48.6±1.1**, 31°.13N**±0°.06×**103°.49E**±0°.09**, h16**km**, n8, σ1°30/12, mb3.3/5, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.32**	**134**	Pg	**Pb**	**15 03 56.3**	**+0.3**
CD2				Sg	**Sb**	**15 04 03.1**	**+2.1**
CD2				smax	smax		
	comp=N,6μm,0.4s						
CD2				smax	smax		
	comp=E,2μm,0.6s						
XAN	**Xi'an**	**5.42**	**56**	Pg	**Pg**	**15 05 32.4**	**-0.1**
XAN				Sg	**Sg**	**15 06 42.4**	**-0.3**
XAN				smax	smax		
	comp=N,24nm,0.9s						
XAN				smax	smax		
	comp=E,11nm,1.0s						
GYA	**Guiyang**	**5.43**	**148**	*e*Pn	**Pn**	**15 05 07.3**	**-1.7**
GYA				Sn	**Sn**	**15 06 11.3**	**+0.1**
GYA				Sg	**Sg**	**15 06 43.5**	**+0.6**
GYA				smax	smax		
	comp=N,810nm,0.8s						
GYA				smax	smax		
	comp=E,20nm,0.7s						
MKAR	**Makanchi Array**	**22.61**	**320**	P	**P**	**15 08 50.6**	**+2.0**
	comp=E,0.5nm,0.9s,baz=124,slow=9.0,SNR=4.1						
KURBB	**Kurchatov Arra**	**26.90**	**324**	P	**P**	**15 09 28.8**	**+0.1**
	comp=E,0.5nm,0.7s,baz=130,slow=9.5,SNR=6.3						
WRA	**Warramunga Arr**	**58.80**	**146**	P	**P**	**15 13 44.9**	**-1.3**
	comp=E,0.3nm,0.4s,baz=337,slow=7.6,SNR=10						
ASAR	**Alice Springs**	**61.79**	**148**	P	**P**	**15 14 05.8**	**-1.0**
	comp=E,0.1nm,0.5s,baz=336,slow=7.4,SNR=7.5						
YKA	**Yellowknife Ar**	**81.82**	**17**	P	**P**	**15 16 07.2**	**+0.7**
	comp=E,0.2nm,0.5s,baz=327,slow=5.3,SNR=5.1						

THE ***19*** *15:04:09.9, 39°.31N×22°.96E, h2km±25km, ML2.5/2, Error ellipse: s-maj=25.4km s-min=0.5km az=215.0*
CSEM ***19*** *15:04:09.9±0.2, 39°.32N×22°.95E, h2km, ML2.5/2, Error ellipse: s-maj=5.6km s-min=2.9km az=34.0*
ATH ***19*** *15:04:10.5, 39°.35N×22°.99E, h5km, MD2.6/4*
ISC 19 15:04:10.0±1.2**, 39°.32N**±0°.04×**22°.95E**±0°.04**, h4**km±16km**, n19**, σ0°34/29**, Greece**

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

BTMT	**Batman**	**1.84**	**14**	*e*PN	**Pn**	**15 19 32.6**	**-0.9**
BTMT	**Batman**	**1.84**	**14**	*e*Pn	**Pn**	**15 19 32.6**	**-0.9**
URFA	**Urfa**	**1.98**	**302**	*e*PN	**Pn**	**15 19 36.5**	**+1.2**
URFA				*e*SN	**Sb**	**15 20 02.9**	**+0.2**
URFA	**Urfa**	**1.98**	**302**	*e*Pn	**Pn**	**15 19 36.6**	**+1.2**
URFA				*e*Sn	**Sb**	**15 20 02.9**	**+0.2**
JHLN	**Al Jahlan**	**2.15**	**251**	*e*P	**Pn**	**15 19 36.2**	**-1.4**
JHLN				*e*S	**Sn**	**15 20 04.3**	**-0.1**
JHLN				AML	AML	15 20 16.2	
	comp=E,64nm,0.3s						
JHLN				AML	AML	15 20 16.5	
	comp=Z,72nm,0.5s						
JHLN				AML	AML	15 20 18.9	
	comp=N,41nm,0.4s						
JHLN	**Al Jahlan** SNR=45	**2.15**	**251**	*e*P	**Pn**	**15 19 36.2**	**-1.4**
JHLN				*e*S	**Sn**	**15 20 04.3**	**-0.1**
	comp=N,41nm,0.4s,SNR=40						
CUKT	**Cukurca**	**2.31**	**68**	*e*PN	**Pb**	**15 19 42.1**	**-1.4**
CUKT	**Cukurca**	**2.31**	**68**	*e*Pn	**Pb**	**15 19 42.1**	**-1.4**
SVRC	**Sivrice-ELAZID**	**2.36**	**327**	*e*PN	**Pn**	**15 19 42.1**	**+1.4**
SVRC	**Sivrice-ELAZID**	**2.36**	**327**	*e*Pn	**Pn**	**15 19 42.1**	**+1.4**
SLMH	**Al Salmeh**	**2.43**	**266**	*e*P	**Pn**	**15 19 41.4**	**-0.2**
SLMH				*e*S	**Sn**	**15 20 12.2**	**+0.6**
SLMH				AML	AML	15 20 27.4	
	comp=E,38nm,0.3s						
SLMH				AML	AML	15 20 28.8	
	comp=N,74nm,0.7s						
SLMH				AML	AML	15 20 29.2	
	comp=Z,64nm,0.4s						
HAKT	**HAKKARI**	**2.50**	**62**	*i* P	**Pn**	**15 19 44.0**	**+1.2**
HAKT				*i* S	**Sn**	**15 20 12.9**	**-0.7**
HAKT	**HAKKARI**	**2.50**	**62**	*i* P	**Pn**	**15 19 44.0**	**+1.2**
HAKT				*i* S	**Sn**	**15 20 12.9**	**-0.7**
BNGL	**BINGOL**	**2.55**	**4**	*i* P	**Pg**	**15 19 50.4**	**0.0**
BNGL				*i* S	**Sg**	**15 20 23.1**	**-0.3**
GEVA	**Gevas**	**2.55**	**41**	*i* P	**Pb**	**15 19 48.2**	**+0.6**
GEVA				*i* S	**Sg**	**15 20 24.0**	**+0.5**
GEVA	**Gevas**	**2.55**	**41**	*i* P	**Pb**	**15 19 48.2**	**+0.6**
ELZG	**Elazig**	**2.60**	**324**	*i* P	**Pb**	**15 19 46.6**	**-1.9**
ELZG				*i* S	**Sb**	**15 20 21.2**	**+0.6**
ELZG	**Elazig**	**2.60**	**324**	*i* P	**Pb**	**15 19 46.6**	**-1.9**
ELZG				*i* S	**Sb**	**15 20 21.2**	**+0.6**
MALT	**Malatya**	**2.76**	**314**	*e*PN	**Pn**	**15 19 48.3**	**+2.2**
MALT	**Malatya**	**2.76**	**314**	*e*Pn	**Pn**	**15 19 48.3**	**+2.2**
PTK	**Pertek**	**2.77**	**334**	*e*PN	**Pn**	**15 19 47.3**	**+1.0**
PTK	**Pertek**	**2.77**	**334**	*e*Pn	**Pn**	**15 19 47.3**	**+1.0**
GZT	**Gaziantep**	**2.86**	**290**	*i* P	**Pn**	**15 19 46.7**	**-0.8**
AKCD	**Akcadag**	**3.05**	**309**	*i* P	**Pn**	**15 19 50.5**	**+0.3**
AKCD	**Akcadag**	**3.05**	**309**	*i* P	**Pn**	**15 19 50.5**	**+0.3**
GAZ	**Gaziantep**	**3.08**	**285**	*e*PN	**Pn**	**15 19 53.0**	**+2.5**
GAZ	**Gaziantep**	**3.08**	**285**	*e*Pn	**Pn**	**15 19 53.1**	**+2.5**
KUZU	**Kuzuini**	**3.12**	**278**	*i* P	**Pn**	**15 19 51.0**	**-0.1**
KUZU				*i* S	**Sb**	**15 20 35.2**	**-0.4**
KUZU	**Kuzuini**	**3.12**	**278**	*i* P	**Pn**	**15 19 51.0**	**-0.1**
KMRS	**Kahramanmaras**	**3.41**	**290**	*e*PN	**Pn**	**15 19 57.7**	**+2.7**
KMRS	**Kahramanmaras**	**3.41**	**290**	*e*Pn	**Pn**	**15 19 57.7**	**+2.7**
KEMA	**Kemaliye**	**3.45**	**327**	*i* P	**Pg**	**15 20 07.0**	**-0.6**
KEMA				*i* S	**Sb**	**15 20 45.2**	**+0.2**

DJA 19 15:31:08.2±0.8,**10°S**±7″×**11°3E**±°,**h10**km,**M4.0**/12,
MLv4.0/12,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMJI	**Gumukmas**	**1.37**	**1**	P	Pn	15 31 31.3	-2.1
JAGI	**Jajag, Banyuwa**	**1.38**	**32**	P	Pn	15 31 31.9	-1.6
NBBI	**Negara**	**1.74**	**43**	P	Pb	15 31 40.4	+0.2
KRKI	**Karangkates**	**1.76**	**327**	P	Pb	15 31 40.3	-0.4
BLJI	**Banyuglugur**	**1.90**	**5**	P	Pn	15 31 40.9	+0.2
DNP	**Denpasar**	**2.02**	**61**	P	Pn	15 31 37.2	-5.1
PWJI	**Pagerwojo**	**2.27**	**315**	P	Pn	15 31 47.3	+1.5
PWJI				S	Sn	15 32 13.1	-0.8
SJI	**Sawahan**	**2.51**	**319**	P	Pn	15 31 50.8	+1.6
SJI				S	Sn	15 32 21.0	+1.1
KHKI	**Kahang-Kahang**	**2.51**	**60**	P	Sb	15 32 20.3	-4.1
KMMI	**Kalianget**	**2.64**	**12**	P	Pn	15 31 51.5	+0.6
PCJI	**Pacitan**	**2.65**	**303**	P	Pb	15 31 53.4	-2.3
PCJI				S	Sn	15 32 20.8	-2.3
UGM	**Wanagama**	**3.34**	**301**	P	Pn	15 32 03.7	+3.1
YOGI	**Yogyakarta**	**3.59**	**300**	P	Pn	15 31 59.6	-4.3

IDC 19 15:43:09.1±2.7,**19°59S**×**69°22W**,**h111**km±21km,**mb3.8**/6,
mb1 3.8/8,**mb1mx3.6**/19,**mbtmp3.7**/8,**Error ellipse:**
s-maj=27.6km s-min=21.3km az=93.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.44**	**18**	P	Pn	15 44 03.4	+1.5
	2.6nm,0.3s,baz=191,slow=8.8,SNR=19						
LPAZ				S	Sn	15 44 42.0	-0.6
	2.2nm,0.3s,baz=248,slow=22,SNR=5.4						
SIV	**San Ignacio**	**8.54**	**67**	P	Pn	15 45 08.5	-1.6
	2.1nm,0.3s,baz=270,slow=10,SNR=51						
BDFB	**Brasilia**	**20.58**	**82**	P	P	15 47 41.0	+1.5
	4.9nm,0.5s,baz=243,slow=9.0,SNR=6.3						
PLCA	**Paso Flores**	**21.10**	**183**	P	P	15 47 44.5	-0.4
	2.6nm,0.9s,baz=6.1,slow=10.0,SNR=4.4						
RCBR	**Riachuelo**	**35.16**	**72**	P	P	15 49 53.7	+1.1
	4.1nm,0.5s,baz=234,slow=8.9,SNR=7.9						
DBIC	**Dimbokro**	**68.48**	**74**	P	P	15 53 60.0	+0.1
	1.0nm,0.4s,baz=178,slow=6.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**76.99**	**71**	P	P	15 54 49.1	-1.1
	1.3nm,0.5s,baz=259,slow=5.1,SNR=30						
YKA	**Yellowknife Ar**	**89.30**	**341**	P	P	15 55 52.8	+0.5
	0.7nm,0.7s,baz=134,slow=4.5,SNR=19						
YKA				pP	pP	15 56 21.5	+0.2
	0.3nm,0.6s,baz=134,slow=4.8,SNR=4.6						
ASAR	**Alice Springs**	**131.45**	**209**	PKP	PKPdf	16 02 08.9	-0.4
	0.2nm,0.5s,baz=142,slow=1.7,SNR=6.7						

*ISCJB **19** 16:02:06.6±0.6,20°3S±0.1°×178°4W±0.1°,h602km,*
mb4.1/17, Error ellipse: s-maj=21.9km s-min=7.9km
az=145.5
*IDC **19** 16:02:10.2±2.0,20°29S×178°54W,h629km±24km,*
mb3.5/14,mb1 3.7/15,mb1mx3.6/21,mbtmp3.5/15,Error
ellipse: s-maj=17.8km s-min=11.9km az=150.0
ISC 19 16:02:07.2±0.7,**20°2S**±0.2°×**178°4W**±0.1,**h602**km,**n34**,
s21/37,**mb4.0**/17,**4C,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.90**	**46**	P	**P**	**16 04 14.4**	**-1.0**
	7.0nm,0.3s,baz=27,slow=2.8,SNR=10.0						
AFI				S	**S**	**16 05 58.7**	**-1.8**
	3.8nm,0.3s,baz=125,slow=22,SNR=4.3						
DZM	**Mont Dzumac**	**14.28**	**260**	*e*P	**P**	**16 05 08.6**	**-0.3**
DZM	**Mont Dzumac**	**14.28**	**260**	P	**P**	**16 05 08.7**	**-0.1**
	2.3nm,0.3s,baz=88,slow=18,SNR=39						
ARMA	**Armidale**	**28.87**	**243**	⇑*i*P	**P**	**16 07 20.0**	**+0.7**
CTA	**Charters Tower**	**33.16**	**264**	⇑*i*P	**P**	**16 07 56.3**	**+0.5**
	8.8nm,0.4s						
CTA	**Charters Tower**	**33.16**	**264**	P	**P**	**16 07 56.4**	**+0.5**
	10nm,0.4s,baz=94,slow=9.8,SNR=41						
PMG	**Port Moresby**	**34.93**	**283**	P	**P**	**16 08 11.0**	**+0.3**
	16nm,1.0s,baz=122,slow=6.9,SNR=5.8						
TOO	**Toolangi**	**35.78**	**233**	*e*P	**P**	**16 08 17.4**	**0.0**
	43nm,0.6s						
STKA	**Stephens Creek**	**37.59**	**244**	⇑*i*P	**P**	**16 08 32.4**	**+0.2**
	5.5nm,0.5s						
STKA	**Stephens Creek**	**37.59**	**244**	P	**P**	**16 08 32.5**	**+0.3**
	7.0nm,0.5s,baz=93,slow=10,SNR=39						
ASAR	**Alice Springs**	**44.23**	**256**	P	**P**	**16 09 24.9**	**0.0**
	12nm,0.5s,baz=88,slow=8.4,SNR=534						
ASAR				S	**S**	**16 15 13.8**	**-2.3**
	1.1nm,0.8s,baz=98,slow=15,SNR=10						
WRA	**Warramunga Arr**	**44.29**	**262**	P	**P**	**16 09 24.7**	**-0.6**
	8.4nm,0.3s,baz=97,slow=7.9,SNR=437						
WRA				S	**S**	**16 15 13.8**	**-3.1**
	0.6nm,0.9s,baz=98,slow=13,SNR=3.7						
FORT	**Forrest**	**49.08**	**246**	*e*P	**P**	**16 10 00.6**	**-0.5**
	15nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.71**	**262**	*e*P	**P**	**16 10 27.5**	**0.0**
	4.4nm,0.4s						
MJAR	**Matsushiro Arr**	**69.77**	**324**	P	**P**	**16 12 18.1**	**-0.2**
	2.8nm,0.6s,baz=161,slow=6.3,SNR=9.8						
QSPA	**South Pole Qui**	**69.85**	**180**	P	**P**	**16 12 18.8**	**+0.4**
	3.5nm,0.8s,baz=71,slow=2.7,SNR=18						
PETK	**Petropavlovsk-**	**75.91**	**345**	P	**P**	**16 12 53.6**	**+0.6**
	4.0nm,0.8s,baz=133,slow=7.7,SNR=8.2						
KSRS	**Korea Array**	**76.44**	**319**	P	**P**	**16 12 57.5**	**+1.4**
	1.0nm,0.6s,baz=132,slow=5.8,SNR=6.5						
USRK	**Ussuriysk Arra**	**78.53**	**326**	P	**P**	**16 13 09.2**	**+1.9**
	2.4nm,0.7s,baz=64,slow=4.2,SNR=5.3						
NVAR	**Mina Array Bea**	**81.07**	**44**	P	**P**	**16 13 22.9**	**+1.9**
	0.5nm,0.6s,baz=225,slow=11,SNR=3.9						
ILAR	**Eielson Array**	**88.12**	**13**	P	**P**	**16 13 53.9**	**-0.5**
	1.2nm,0.7s,baz=220,slow=5.5,SNR=20						
PDAR	**Pinedale Array**	**89.00**	**43**	P	**P**	**16 14 00.1**	**+0.7**
	0.5nm,0.6s,baz=204,slow=3.3,SNR=4.6						
CMAR	**Chiang Mai Arr**	**89.68**	**290**	P	**P**	**16 14 04.7**	**+2.0**
	1.3nm,0.8s,baz=121,slow=2.7,SNR=14						
MKAR	**Makanchi Array**	**110.75**	**314**	PKiKP	**PKiKP**	**16 19 31.8**	**-0.8**
	0.4nm,0.7s,baz=45,slow=1.9,SNR=4.3						
ARCES	**ARCESS Array B**	**128.58**	**350**	PKP	**PKPdf**	**16 20 05.8**	**-0.3**
	2.2nm,0.7s,baz=46,slow=3.9,SNR=3.9						
FINES	**FINESS Array B**	**135.40**	**344**	PKP	**PKPdf**	**16 20 19.8**	**+0.7**
	1.1nm,0.8s,baz=284,slow=1.6,SNR=3.4						
AKASG	**Malin Array Be**	**142.59**	**331**	PKP	**PKPdf**	**16 20 29.1**	**-3.4**
	3.5nm,0.5s,baz=43,slow=4.3,SNR=16						
BRTR	**Keskin Array B**	**146.39**	**312**	PKPbc	**PKPbc**	**16 20 41.9**	**-0.2**
	1.3nm,0.6s,baz=127,slow=4.3,SNR=8.0						
MMAI	**Mount Meron Ar**	**147.36**	**300**	PKPbc	**PKPbc**	**16 20 45.8**	**+0.9**
	2.6nm,0.5s,baz=56,slow=11,SNR=5.6						
CLL	**Collm**	**147.71**	**347**	⇑*i*PKPbc	**PKPbc**	**16 20 45.3**	**+0.3**
	comp=Z,7.0nm,0.7s						
CLL				*i*		16 20 49.6	
BRG	**Berggiesshubel**	**147.90**	**345**	*e*PKP	**PKPbc**	**16 20 45.8**	**+0.3**
	comp=Z,2.6nm,0.8s						
EIL	**Elat**	**148.44**	**294**	PKPbc	**PKPbc**	**16 20 47.5**	**-0.1**
	comp=Z,3.8nm,0.7s,baz=37,slow=5.0,SNR=3.6						
KHC	**Kasperske Hory**	**149.60**	**344**	*e*P	**PKPbc**	**16 20 49.5**	**-0.3**
KHC				*ex*	x	16 20 57.5	
GERES	**GERESS Array B**	**149.83**	**344**	PKPbc	**PKPbc**	**16 20 50.5**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=45,slow=3.3,SNR=6.6						

*THE **19** 16:06:08.6,34°88N×22°59E,h18km±16km,Error ellipse:*
s-maj=21.7km s-min=1.6km az=224.0
*ATH **19** 16:06:11.3,35°11N×22°90E,h30km±2km,MD3.2/7*
*IDC **19** 16:06:11.0±4.1,35°11N×22°93E,h41km±29km,mb3.7/9,*
mb1 3.7/14,mb1mx3.5/31,mbtmp3.7/14,ML3.8/5,MS2.6/1,
Ms1 2.6/1,ms1mx2.0/55,Error ellipse: s-maj=43.6km
s-min=20.3km az=48.0
*CSEM **19** 16:06:12.0±0.5,35°10N×22°89E,h20km,MD3.2, Error*
ellipse: s-maj=14.1km s-min=4.5km az=39.0
ISC 19 16:06:08.8±2.4,**34°99N**±0°10×**22°69E**±0°09,**h31**km±14km,
n46,s39/51,**mb3.9**/9,**Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARN	**Karanos**	**1.09**	**67**	*e*PN	**Pb**	**16 06 29.0**	**0.0**
KARN				*e*SN	**Sb**	**16 06 41.1**	**-1.8**
KARN	**Karanos**	**1.09**	**67**	*e*Pn	**Pb**	**16 06 29.0**	**0.0**
KARN				*e*Sn	**Sb**	**16 06 41.1**	**-1.8**
GVD	**Gavdhos**	**1.16**	**97**	*e*PN	**Pb**	**16 06 30.3**	**+0.1**
GVD	**Gavdhos**	**1.16**	**97**	*e*Pn	**Pb**	**16 06 30.3**	**+0.1**
VAM	**Vamos**	**1.30**	**71**	P	**Pb**	**16 06 32.3**	**-0.4**
VAM				S	**Sb**	**16 06 51.4**	**+2.3**
VAM	**Vamos**	**1.30**	**71**	*e*PN	**Pb**	**16 06 32.3**	**-0.4**
VAM				*e*SN	**Sb**	**16 06 47.9**	**-1.2**
VAM	**Vamos**	**1.30**	**71**	P	**Pb**	**16 06 32.3**	**-0.4**
VAM				*e*Sn	**Sb**	**16 06 47.9**	**-1.2**
VAM				S	**Sb**	**16 06 51.4**	**+2.3**
KYTH	**Kithira**	**1.32**	**12**	P	**Pb**	**16 06 32.9**	**0.0**
KYTH	**Kithira**	**1.32**	**12**	*e*PN	**Pb**	**16 06 33.0**	**0.0**
KYTH	**Kithira**	**1.32**	**12**	*e*Pn	**Pb**	**16 06 33.0**	**0.0**
VLI	**Veliai**	**1.74**	**7**	P	**Pb**	**16 06 39.1**	**-0.9**
VLI	**Veliai**	**1.74**	**7**	*e*PN	**Pb**	**16 06 40.0**	**0.0**
VLI	**Veliai**	**1.74**	**7**	P	**Pb**	**16 06 39.1**	**-0.9**
VLI	**Veliai**	**1.74**	**7**	*e*Pn	**Pb**	**16 06 40.0**	**0.0**
SIVA	**Sivas**	**1.74**	**89**	*e*PN	**Pb**	**16 06 39.5**	**-0.6**
SIVA	**Sivas**	**1.74**	**89**	*e*Pn	**Pb**	**16 06 39.5**	**-0.6**
ITM	**Ithomi**	**2.27**	**344**	*e*PN	**Pb**	**16 06 48.1**	**-1.0**
ITM	**Ithomi**	**2.27**	**344**	*e*Pn	**Pb**	**16 06 48.1**	**-1.0**
LAST	**Lasithi**	**2.29**	**85**	*e*PN	**Pn**	**16 06 46.5**	**+2.0**
LAST	**Lasithi**	**2.29**	**85**	*e*Pn	**Pn**	**16 06 46.5**	**+2.0**
NPS	**Neapolis**	**2.41**	**83**	P	**Pn**	**16 06 48.2**	**+2.1**
NPS	**Neapolis**	**2.41**	**83**	*e*PN	**Pn**	**16 06 48.2**	**+2.1**
NPS	**Neapolis**	**2.41**	**83**	P	**Pn**	**16 06 48.2**	**+2.1**
DID	**Didima**	**2.55**	**10**	P	**Pn**	**16 06 49.9**	**+1.9**
DID	**Didima**	**2.55**	**10**	P	**Pn**	**16 06 49.9**	**+1.9**
ZKR	**Zakros**	**2.90**	**87**	*e*PN	**Pn**	**16 06 54.8**	**+2.1**
ZKR	**Zakros**	**2.90**	**87**	*e*Pn	**Pn**	**16 06 54.8**	**+2.1**
APE	**Apeiranthos**	**3.10**	**47**	*e*PN	**Pn**	**16 06 57.5**	**+1.9**
APE	**Apeiranthos**	**3.10**	**47**	*e*Pn	**Pn**	**16 06 57.5**	**+1.9**
BRTR	**Keskin Array B**	**9.91**	**58**	P	**Pn**	**16 08 29.7**	**+0.5**
	0.2nm,0.3s,baz=230,slow=15,SNR=7.7						
MMAI	**Mount Meron Ar**	**10.74**	**97**	P	**Pn**	**16 08 39.3**	**-1.1**
	1.5nm,0.3s,baz=287,slow=11,SNR=7.5						
MMAI				S	Sn	16 10 31.8	-7.7
	2.2nm,0.3s,baz=258,slow=24,SNR=6.2						
EIL	**Elat**	**11.64**	**1**	P	**Pn**	**16 08 51.1**	**-1.7**
	0.7nm,0.3s,baz=5.7,slow=21,SNR=15						
EIL				S	Sn	16 10 53.3	-8.4
	0.6nm,0.3s,baz=86,slow=21,SNR=5.6						
GERES	**GERESS Array B**	**15.36**	**337**	P	**Pn**	**16 09 46.3**	**+3.0**
	0.2nm,0.3s,baz=152,slow=12,SNR=4.6						
AKASG	**Malin Array Be**	**16.41**	**15**	P	**Pn**	**16 09 57.1**	**+0.5**
	1.1nm,0.3s,baz=207,slow=9.6,SNR=4.1						
GNI	**Garni**	**18.21**	**67**	LR	LR	16 19 01.2	
	comp=Z,17nm,18.3s,baz=165,slow=43						
HFS	**Hagfors**	**25.83**	**350**	P	**P**	**16 11 36.5**	**-0.5**
	1.3nm,0.4s,baz=159,slow=12,SNR=15						
FINES	**FINESS Array B**	**26.56**	**4**	P	**P**	**16 11 43.4**	**-0.2**
	0.4nm,0.3s,baz=155,slow=10,SNR=5.4						
NOA	**NORSAR Array B**	**27.09**	**348**	P	**P**	**16 11 49.4**	**+1.0**
	0.6nm,0.8s,baz=156,slow=8.9,SNR=5.2						
AKTO	**Aktyubinsk**	**29.86**	**48**	P	**P**	**16 12 11.7**	**-1.5**
	0.4nm,0.3s,baz=215,slow=8.9,SNR=4.4						
ARCES	**ARCESS Array B**	**34.63**	**2**	P	**P**	**16 12 54.0**	**-0.8**
	6.9nm,1.2s,baz=185,slow=8.5,SNR=5.4						
MKAR	**Makanchi Array**	**45.55**	**56**	P	**P**	**16 14 25.0**	**-0.6**
	0.7nm,0.3s,baz=269,slow=7.7,SNR=22						
ZALV	**Zalesovo Beam**	**46.58**	**46**	P	**P**	**16 14 32.2**	**-1.3**
	1.5nm,0.3s,baz=269,slow=9.0,SNR=13						
USRK	**Ussuriysk Arra**	**78.39**	**44**	P	**P**	**16 18 05.7**	**-0.5**
	0.6nm,0.4s,baz=270,slow=4.1,SNR=4.4						
KSRS	**Korea Array**	**79.98**	**51**	P	**P**	**16 18 15.5**	**+0.5**
	0.6nm,0.5s,baz=311,slow=5.4,SNR=4.6						
WRA	**Warramunga Arr**	**118.59**	**95**	PKP	**PKPdf**	**16 24 54.4**	**+0.5**
	0.1nm,0.7s,baz=305,slow=1.9,SNR=3.9						
ASAR	**Alice Springs**	**120.02**	**99**	PKP	**PKPdf**	**16 24 57.5**	**+0.9**
	0.4nm,1.0s,baz=296,slow=1.1,SNR=3.6						

*ISK **19** 16:10:09.8,38°97N×26°69E,h5km,MD3.1*
*CSEM **19** 16:10:12.3±0.4,38°97N×26°78E,h10km,ML2.8,Error*
ellipse: s-maj=9.7km s-min=5.7km az=66.0
*DDA **19** 16:10:14.7,39°07N×27°00E,h7km,ML2.8*
ISC 19 16:10:11.8±1.3,**39°02N**±0°02×**26°79E**±0°04,**h3**km±11km,
n43,s0°83/51,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.30**	**345**	*i* P	**Pn**	**16 10 21.6**	**-1.5**
AYVA				*i* S	**Sb**	**16 10 26.9**	**+1.7**
AYVA	**Ayvalik**	**0.30**	**345**	*i* P	**Pn**	**16 10 21.6**	**-1.5**
BLCB	**Balcova**	**0.66**	**163**	*e*PG	**Pg**	**16 10 23.4**	**-1.0**
BLCB				*e*SG	**Sg**	**16 10 33.4**	**+0.4**
BLCB	**Balcova**	**0.66**	**163**	*e*Pg	**Pg**	**16 10 23.4**	**-1.0**
BLCB				*e*Sg	**Sg**	**16 10 33.4**	**+0.4**
URLA	**Izmir**	**0.67**	**193**	*i* P	**Pn**	**16 10 29.5**	**+1.2**
URLA				*i* S	**Sn**	**16 10 40.8**	**+1.5**
EZN	**Ezine**	**0.89**	**336**	*e*PG	**Pg**	**16 10 28.2**	**-0.6**
EZN	**Ezine**	**0.89**	**336**	*e*Pg	**Pg**	**16 10 28.2**	**-0.6**
BALY	**Balya**	**0.97**	**41**	*i* P	**Pg**	**16 10 30.9**	**+0.6**
BALY				*i* S	**Sg**	**16 10 43.3**	**+0.5**
BALY	**Balya**	**0.97**	**41**	*i* P	**Pg**	**16 10 30.9**	**+0.6**
BALY				*i* S	**Sg**	**16 10 43.3**	**+0.5**
BALB	**Balikesir**	**1.05**	**53**	*e*PN	**Pn**	**16 10 32.6**	**-0.8**
BALB	**Balikesir**	**1.05**	**53**	*e*Pn	**Pn**	**16 10 32.6**	**-0.8**
GONE	**Gonen-Balikesi**	**1.24**	**34**	*e*PN	**Pg**	**16 10 36.0**	**+0.4**
GONE	**Gonen-Balikesi**	**1.24**	**34**	*e*Pn	**Pg**	**16 10 36.0**	**+0.4**
LPK	**Lapseki**	**1.35**	**359**	*e*PN	**Pb**	**16 10 37.4**	**-0.4**
LPK	**Lapseki**	**1.35**	**359**	*e*Pn	**Pb**	**16 10 37.4**	**-0.4**
KRBG	**Karabiga-Canak**	**1.43**	**16**	*e*PN	**Pb**	**16 10 39.0**	**-0.1**
KRBG	**Karabiga-Canak**	**1.43**	**16**	*e*Pn	**Pb**	**16 10 39.0**	**-0.1**
DURS	**Dursunbey**	**1.43**	**65**	*e*P	**Pn**	**16 10 38.5**	**-0.3**
DURS				*i* S	**Sn**	**16 10 56.4**	**-1.7**
DURS	**Dursunbey**	**1.43**	**65**	*e*P	**Pn**	**16 10 38.4**	**-0.3**
DURS				*i* S	**Sn**	**16 10 56.4**	**-1.7**
DST	**Dursunbey**	**1.53**	**67**	*e*PN	**Pb**	**16 10 40.7**	**-0.2**
DST	**Dursunbey**	**1.53**	**67**	*e*Pn	**Pb**	**16 10 40.7**	**-0.2**
KULA	**Kula-Manisa**	**1.54**	**108**	*e*PN	**Pb**	**16 10 40.4**	**-0.7**
KULA	**Kula-Manisa**	**1.54**	**108**	*e*Pn	**Pb**	**16 10 40.4**	**-0.7**
EDC	**Edincik**	**1.56**	**32**	*e*PN	**Pb**	**16 10 41.0**	**-0.4**
EDC	**Edincik**	**1.56**	**32**	*e*Pn	**Pb**	**16 10 41.0**	**-0.4**
BNT	**Bandirma**	**1.59**	**33**	*e*PN	**Pb**	**16 10 41.2**	**-0.7**
BNT	**Bandirma**	**1.59**	**33**	*e*Pn	**Pb**	**16 10 41.3**	**-0.7**
ERIK	**Erikli-Kesan**	**1.67**	**353**	*e*PN	**Pn**	**16 10 41.8**	**-0.1**
ERIK	**Erikli-Kesan**	**1.67**	**353**	*e*Pn	**Pn**	**16 10 41.8**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.69**	**10**	*e*PN	**Pn**	**16 10 42.4**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.69**	**10**	*e*Pn	**Pn**	**16 10 42.4**	**0.0**
KCTX	**Karacabey (Bur**	**1.74**	**44**	*e*PN	**Pb**	**16 10 43.5**	**-0.9**
KCTX	**Karacabey (Bur**	**1.74**	**44**	*e*Pn	**Pb**	**16 10 43.5**	**-0.9**
MFT	**Murefte**	**1.81**	**12**	*e*PN	**Pn**	**16 10 44.2**	**+0.3**
MFT	**Murefte**	**1.81**	**12**	*e*Pn	**Pn**	**16 10 44.2**	**+0.3**
TVSB	**Tavsanli**	**2.12**	**77**	*e*PN	**Pn**	**16 10 48.7**	**+0.5**
TVSB	**Tavsanli**	**2.12**	**77**	*e*Pn	**Pn**	**16 10 48.7**	**+0.5**
ARMT	**Armutlu**	**2.22**	**45**	*e*PN	**Pn**	**16 10 50.6**	**+1.0**
ARMT	**Armutlu**	**2.22**	**45**	*e*Pn	**Pn**	**16 10 50.6**	**+1.0**
CTKS	**Kestanelik-??a**	**2.58**	**30**	*e*PN	**Pn**	**16 10 55.3**	**+0.9**
CTKS	**Kestanelik-??a**	**2.58**	**30**	*e*Pn	**Pn**	**16 10 55.3**	**+0.9**
EDRB	**Edirne**	**2.83**	**359**	*e*PN	**Pn**	**16 10 58.6**	**+0.7**
EDRB	**Edirne**	**2.83**	**359**	*e*Pn	**Pn**	**16 10 58.6**	**+0.7**

PRE 19 16:12:01.3±1.9,**26°44S**×**27°42E**,**h2**km,**ML2.2,1C-1D,**
South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.20**	**62**	*e*P	Pg	16 12 06.4	+1.0
KLOF				*e*S	Sg	16 12 08.6	+0.5
KLOF				AML	AML	16 12 09.0	
	comp=Z,570nm,0.1s						
BFSD	**Buffelsfontein**	**0.70**	**233**	*e*P	Pg	16 12 15.7	+0.6
BFSD				*e*S	Sg	16 12 23.7	-0.7
BFSD				AML	AML	16 12 24.6	
	comp=Z,89nm,0.1s						
ERPM	**east rand prop**	**0.75**	**83**	⇓*i*P	Pg	16 12 16.6	+0.7
ERPM				*e*S	Sg	16 12 24.9	-0.9
ERPM				AML	AML	16 12 26.0	
	comp=Z,22nm,0.4s						
SLR	**Silverton**	**1.05**	**48**	*e*P	Pg	16 12 21.3	-0.4
SLR				*e*S	Sg	16 12 35.6

MONP			⇓S		Sg	16 25 13.4	-1.3	
	baz=1.1							
CBX	Cerro Bola	1.20	271⇑	*e*P	Pg	16 25 00.3	-0.3	
CBX				*e*S	Sg	16 25 15.6	-0.6	
BAR	Barrett	1.26	288	*e*Pn	Pn	16 25 00.4	-0.7	
BAR				*e*Sn	Sg	16 25 16.3	-1.9	
SPX	San Pedro Mart	1.27	188⇑	*e*P	Pn	16 25 02.1	+0.6	
SPX				*e*S	Sn	16 25 19.5	+0.9	
ECNX	Esteban Cantu	1.31	241⇑	*e*P	Pb	16 25 02.5	+0.2	
ECNX			⇑	*e*P	Pn	16 25 01.7	-0.2	
ECNX				*e*S	Sb	16 25 18.7	-0.5	
ECNX				*e*S	Sn	16 25 20.3	+0.8	
113A	Mohawk Valley, baz=1.4	1.34	69 ⇑	P	Pn	16 25 02.2	+0.1	
BC3	Big Chuckawall baz=1.4	1.36	353	⇓P	Pn	16 25 01.4	-1.3	
PBX	Punta Banda	1.37	246⇑	*e*P	Pn	16 25 03.3	+0.6	
PBX				*e*S	Sn	16 25 21.8	+1.0	
Y12C	Blythe baz=1.6	1.57	23	⇑Sb	Sg	16 25 27.7	-0.4	
PFO	Pinyon Flat Ob	1.65	322	*e*Pn	Pn	16 25 04.8	-1.9	
PFO	Pinyon Flat Ob baz=1.6	1.65	322	⇓P	Pn	16 25 05.2	-1.4	
109C	Camp Elliot, M baz=1.6	1.67	291	⇓S	Sn	16 25 28.8	+0.6	
IRM	Iron Mountain baz=1.9	1.86	3	⇑P	Pn	16 25 08.7	-0.7	
MURC	Murrieta baz=2.1	2.09	309	⇑Sb	Sb	16 25 41.8	+0.3	
214A	Organ Pipe Nat baz=2.1	2.10	99	⇑P	Pn	16 25 12.6	-0.1	
GMRC	Granite Mounta baz=2.5	2.50	352	⇓P	Pn	16 25 17.6	-0.6	
LDFC	Landfair	2.77	2	*e*Pn	Pg	16 25 29.3	-1.5	
CIS	Catalina Islan baz=2.9	2.87	293	⇓Sb	Sb	16 26 05.3	+1.3	
MWC	Mount Wilson	3.04	310	*e*Pn	Pb	16 25 31.3	-0.5	
MWC				*e*Sn	Sb	16 26 10.8	+1.9	
PASC	Pasadena Art C	3.09	308	*e*Pn	Pb	16 25 33.5	+1.0	
PASC				*e*Sn	Sb	16 26 11.2	+1.1	
GSC	Goldstone	3.26	337	*e*Pn	Pn	16 25 32.7	+3.9	
GSC				*e*Sn	Sg	16 26 30.4	+8.0	
TUC	Tucson	3.78	89	*e*Pn	Pn	16 25 30.2	-5.7	
TUC				*e*Sg	Sg	16 26 39.1	+0.1	
ISA	Isabella	4.29	322	*e*Pn	Pb	16 25 53.5	+0.4	
WUAZ	Wupatki	4.55	44	*e*Pn	Pn	16 25 48.7	+2.2	
CCUT	Cedar City comp=N,14nm,0.8s	5.46	16	*e*Pn	Pn	16 25 59.6	+0.5	
ARUT	Antelope Range comp=N,16nm,0.6s	5.67	15	Pn	Pn	16 26 08.5	+6.6	
MVU	Marysvale comp=N,9.5nm,0.8s	6.67	21	*e*Pn	Pn	16 26 21.0	+5.3	
MVU				*e*Pg	Pg	16 26 44.0	-1.3	
MVCO	Mesa Verde comp=N,8.0nm,0.6s	7.41	47	*e*Pn	Pn	16 26 29.5	+3.7	
BNM	Barren Site comp=N,2.3nm,0.3s	7.46	73	*e*Pn	Pn	16 26 25.0	-1.5	
PV10	Paradox Valley comp=N,229nm,0.6s	7.90	38	*e*Pn	Pn	16 26 35.2	+2.5	
MNTX	Cornudas Mount	8.40	91	Pn	Pn	16 26 39.1	-0.2	
MNTX				*e*Sn	Sn	16 28 13.9	-0.3	

IDC 19 16:30:13.8±4.7, 49°36S×123°51E, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/12, mbtmp3.5/2, MS3.2/3, Ms1 3.2/3, ms1mx2.9/19, Error ellipse: s-maj=262.8km s-min=65.3km az=99.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NWAO	Narrogin (SRO)	17.07	342	LR	LR	16 39 08.2	
	comp=Z,72nm,19.4s,baz=80,slow=31						
STKA	Stephens Creek	22.12	45	LR	LR	16 41 32.3	
	comp=Z,60nm,19.3s,baz=204,slow=31						
ASAR	Alice Springs	26.92	21	P	P	16 35 56.5	-0.1
	0.7nm,0.4s,baz=192,slow=8.9,SNR=32						
WRA	Warramunga Arr	30.61	20	P	P	16 36 29.6	+0.1
	0.1nm,0.5s,baz=193,slow=7.9,SNR=4.2						
FITZ	Fitzroy Crossi	31.23	4	LR	LR	16 47 51.8	
	comp=Z,52nm,18.9s,baz=344,slow=34						
YKA	Yellowknife Ar	146.15	45	PKPbc	PKPdf	16 49 53.8	+0.2
	1.0nm,0.9s,baz=265,slow=3.5,SNR=16						

KRSC 19 16:45:36.9±0.9, 51°60N×157°36E, h5km±5km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIPR	Malaya Ipel'ka	0.77	331	*e*P	Pb	16 45 52.9	0.0
MTVR	Mutnovka	1.02	30	*e*P	Pg	16 45 56.8	+0.1
MTVR				*i* S	Sb	16 46 11.4	+0.3
RUS	Russkaya	1.10	40	*e*P	Pg	16 45 57.8	-0.1
RUS				*i* S	Sb	16 46 12.9	0.0
APC	Apacha	1.33	355	*e*P	Pn	16 46 02.1	-0.1
APC				*i* S	Sn	16 46 20.2	-0.1
PET	Petropavlovsk	1.63	29	*e*P	Pb	16 46 07.3	-0.2
PET				*i* S	Sg	16 46 29.2	-0.1
SDLR	Sedlovina	1.92	28	*e*P	Pb	16 46 12.5	-0.1
SDLR				*i* S	Sg	16 46 38.9	-0.1
SPN	Mys Shipunski	2.22	46	*e*P	Pn	16 46 15.1	+0.8

KRSC 19 16:47:57.0±0.0, 51°79N×157°38E, h0km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIPR	Malaya Ipel'ka	0.62	322	*e*P	Pb	16 48 11.2	+0.4
MTVR	Mutnovka	0.85	35	*e*P	Pb	16 48 15.6	+0.7
MTVR				*e*S	Sn	16 48 29.4	-0.4
RUS	Russkaya	0.95	47	*e*P	Pb	16 48 16.4	+0.1
RUS				*e*S	Sn	16 48 31.0	-0.8
APC	Apacha	1.15	353	*e*P	Pn	16 48 20.6	+0.3
APC				*e*S	Sn	16 48 38.3	+1.6
PET	Petropavlovsk	1.46	32	*e*S	Sn	16 48 47.5	+3.1
KOK	Koryaka	1.69	27	*e*P	Pg	16 48 31.4	+1.9
AVH	Avacha	1.69	29	*e*P	Pg	16 48 32.2	+2.6
AVH				*e*S	Sg	16 48 58.9	+7.2
SPN	Mys Shipunski	2.08	50	*e*S	Sg	16 49 04.4	+0.5

IDC 19 16:49:47.0±1.6, 2°54N×125°02E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/22, mbtmp3.5/4, Error ellipse: s-maj=182.0km s-min=21.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.14	158	P	P	16 55 04.3	-0.7
	0.9nm,0.5s,baz=337,slow=11,SNR=14						
ASAR	Alice Springs	27.45	162	P	P	16 55 36.1	+1.2
	0.2nm,0.4s,baz=342,slow=9.7,SNR=12						
MKAR	Makanchi Array	57.58	326	P	P	16 59 38.1	-0.6
	0.2nm,0.6s,baz=140,slow=7.7,SNR=3.6						
KURBB	Kurchatov Arra	61.83	328	P	P	17 00 07.8	-0.1
	0.8nm,0.8s,baz=126,slow=6.3,SNR=7.2						

IDC 19 16:51:46.4±2.0, 3°87N×126°33E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, Error ellipse: s-maj=180.4km s-min=23.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.94	162	P	P	16 57 10.2	-1.3
	2.1nm,0.7s,baz=340,slow=9.9,SNR=14						
ASAR	Alice Springs	28.35	165	P	P	16 57 44.2	+1.9
	0.2nm,0.7s,baz=346,slow=12,SNR=4.7						
STKA	Stephens Creek	38.40	159	P	P	16 59 08.9	-0.7
	1.2nm,0.8s,baz=328,slow=13,SNR=3.8						
MKAR	Makanchi Array	57.22	325	P	P	17 01 35.5	0.0
	0.1nm,0.5s,baz=124,slow=7.7,SNR=2.9						

IDC 19 17:12:01.1±2.8, 7°13S×153°54E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, ML2.5/1, Error ellipse: s-maj=85.5km s-min=42.5km az=146.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	6.70	250	Pn	Pn	17 13 42.8	+1.9
	0.6nm,0.3s,baz=99,slow=5.7,SNR=3.7						
PMG				Sn	Sn	17 14 59.6	+1.6
	0.4nm,0.3s,baz=36,slow=19,SNR=2.1						

WRA	Warramunga Arr	22.56	234	P	P	17 17 02.1	-1.0	
	0.9nm,0.4s,baz=60,slow=11,SNR=20							
ASAR	Alice Springs	25.01	227	P	P	17 17 27.2	+0.2	
	0.3nm,0.4s,baz=58,slow=9.7,SNR=16							
TORD	Torodi Ar. Bea	151.66	284	PKPbc	PKPbc	17 31 58.6	-0.1	
	0.5nm,0.7s,baz=84,slow=3.6,SNR=2.7							

IDC 19 17:14:14.1±9.7, 30°79S×177°02W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.5/17, mbtmp3.4/2, Error ellipse: s-maj=429.4km s-min=56.2km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	43.94	267	P	P	17 22 22.9	-0.2
	0.3nm,0.7s,baz=109,slow=7.1,SNR=6.1						
WRA	Warramunga Arr	44.96	272	P	P	17 22 31.1	-0.1
	0.3nm,0.4s,baz=113,slow=8.1,SNR=16						
FINES	FINESS Array B	145.79	340	PKPbc	PKPdf	17 33 53.6	-0.4
	0.9nm,0.5s,baz=48,slow=2.8,SNR=7.5						

PRE 19 17:20:07.4±1.5, 26°47S×27°60E, h2km, ML1.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLOF	Kloof	0.12	5	*e*P	Pg	17 20 10.3	+0.3
KLOF				*e*S	Sg	17 20 11.5	-0.3
KLOF				AML	AML	17 20 11.7	
	comp=Z,222nm,0.3s						
PRYS	Parys	0.50	205	*e*P	Pb	17 20 18.3	-0.8
PRYS				*e*S	Sg	17 20 23.9	0.0
PRYS				AML	AML	17 20 29.9	
	comp=Z,7.1nm,0.7s						
ERPM	east rand prop	0.59	78	*e*P	Pb	17 20 20.1	-0.7
ERPM				*e*S	Sg	17 20 27.0	+0.1
ERPM				AML	AML	17 20 28.1	
	comp=Z,7.3nm,0.1s						
LBTB	Lobatse	2.32	308	*e*P	Pn	17 20 47.5	+0.8
LBTB				*e*S	Sn	17 21 16.1	+0.2
LBTB				AML	AML	17 21 19.0	
	comp=Z,6.2nm,0.2s						
BOSA	Boshof	2.98	224	*e*P	Pn	17 20 56.1	+0.2
BOSA				*e*S	Sn	17 21 31.5	-0.8
BOSA				AML	AML	17 21 49.6	
	comp=Z,0.9nm,0.6s						

*ISCJB **19** 17:46:20.7±0.5, 37°93N±0°04×21°49E±0°03, h22km±5km, Error ellipse: s-maj=6.4km s-min=4.1km az=173.5*
*THE **19** 17:46:20.3, 37°90N×21°51E, h16km±1km, ML2.7/5, Error ellipse: s-maj=2.1km s-min=0.6km az=351.0*
*ATH **19** 17:46:20.3, 37°92N×21°46E, h18km±1km, MD2.6/7*
*CSEM **19** 17:46:20.1±0.2, 37°91N×21°49E, h13km±2km, ML2.8, Error ellipse: s-maj=4.4km s-min=3.3km az=171.0*
ISC 19 17:46:20.3±1.0, 37°92N±0°03×21°49E±0°02, h19km±2km, n35, σ0°57/60, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RLS	Riolos of Patr	0.14	353	P	Pg	17 46 24.5	-0.1
RLS				S	Sg	17 46 27.8	+0.4
RLS	Riolos of Patr	0.14	353	*e*PB	Pg	17 46 24.5	-0.1
RLS				*e*SB	Sg	17 46 27.6	+0.2
RLS	Riolos of Patr	0.14	353	P	Pg	17 46 24.5	-0.1
RLS				S	Sg	17 46 27.8	+0.4
UPR	University Cam	0.44	32	*e*PB	Pb	17 46 29.3	-0.2
UPR				*e*SB	Sb	17 46 36.0	+0.3
UPR	University Cam	0.44	32	P	Pg	17 46 28.7	-0.6
UPR	University Cam	0.44	32	*e*Pb	Pb	17 46 29.3	-0.2
UPR				*e*Sb	Sb	17 46 36.0	+0.3
LAKA	Lakka	0.50	50	P	Pg	17 46 30.0	-0.5
LAKA				S	Sb	17 46 38.2	+0.6
LAKA	Lakka	0.50	50	P	Pg	17 46 30.0	-0.5
LAKA				S	Sg	17 46 36.8	-0.6
KFL	Anninata	0.59	289	P	Pb	17 46 31.9	0.0
KFL				S	Sn	17 46 41.9	-0.8
KFL	Anninata	0.59	289	P	Pb	17 46 31.8	-0.1
KFL				S	Sb	17 46 40.7	+0.9
EFP	Efpalio	0.61	33	P	Pb	17 46 31.6	-0.6
EFP				S	Sb	17 46 41.1	+0.7
EFP	Efpalio	0.61	33	*e*PB	Pb	17 46 32.1	-0.1
EFP				*e*SN	Sb	17 46 41.0	+0.7
EFP	Efpalio	0.61	33	P	Pb	17 46 31.7	-0.5
EFP	Efpalio	0.61	33	*e*Pb	Pb	17 46 32.1	-0.1
EFP				S	Sb	17 46 40.6	+0.2
EFP				*e*Sn	Sb	17 46 41.0	+0.7
TRIZ	Trizonia	0.64	46	P	Pb	17 46 32.1	-0.7
TRIZ				S	Sg	17 46 42.7	+1.0
GUR	Goura	0.68	88	P	Pb	17 46 33.1	-0.4
GUR				S	Sg	17 46 43.5	+0.8
GUR	Goura	0.68	88	*e*PB	Pg	17 46 33.5	-0.2
GUR				*e*SN	Sn	17 46 44.1	-1.0
GUR	Goura	0.68	88	P	Pb	17 46 33.1	-0.4
GUR	Goura	0.68	88	*e*Pb	Pg	17 46 33.5	-0.2
GUR				S	Sg	17 46 43.5	+0.8
GUR				*e*Sn	Sn	17 46 44.1	-1.0
KALE	Kalithea	0.70	47	P	Pb	17 46 33.4	-0.5
KALE				S	Sg	17 46 44.5	+1.1
KALE	Kalithea	0.70	47	P	Pb	17 46 33.3	-0.6
KALE				S	Sg	17 46 43.5	+0.1
VLS	Valsamata	0.76	290	P	Pb	17 46 34.4	-0.5
VLS				S	Sn	17 46 46.2	-0.7
VLS	Valsamata	0.76	290	*e*PN	Pb	17 46 34.4	-0.5
VLS				*e*SN	Sg	17 46 45.7	+0.5
VLS	Valsamata	0.76	290	P	Pb	17 46 34.4	-0.5
VLS				*e*Sn	Sg	17 46 45.7	+0.5
VLS				S	Sn	17 46 46.2	-0.7
ITM	Ithomi	0.81	155	*e*PN	Pg	17 46 36.2	0.0
ITM	Ithomi	0.81	155	P	Pg	17 46 36.1	-0.1
DSF	Desfina	0.96	59	P	Pb	17 46 37.8	-0.5
EVR	Evrytania	1.03	14	*e*PN	Pn	17 46 39.8	-0.1
EVR	Evrytania	1.03	14	*e*Pn	Pn	17 46 39.8	-0.1
PYL	PYLOS	1.04	169	*e*PN	Pg	17 46 40.2	-0.2
PYL	PYLOS	1.04	169	*e*Pn	Pg	17 46 40.2	-0.2
LTK	Loutraki	1.17	84	*e*PN	Pg	17 46 43.3	+0.3
DID	Didima	1.45	106	*e*PN	Pg	17 46 48.1	-0.1
DID				*e*SN	Sg	17 47 08.4	+1.4
THL	Klokotos Trika	1.70	14	*e*PN	Pb	17 46 51.6	+0.7
THL	Klokotos Trika	1.70	14	*e*Pn	Pb	17 46 51.6	+0.7

*ISCJB **19** 17:50:52.8±0.7, 39°74N±0°06×42°48E±0°05, h8km±10km, Error ellipse: s-maj=10.4km s-min=4.8km az=23.9*
*DDA **19** 17:50:52.9, 39°69N×42°41E, h7km, MD2.8*
*CSEM **19** 17:50:52.6±0.3, 39°75N×42°50E, h12km, MD2.7, Error ellipse: s-maj=9.8km s-min=3.7km az=15.0*
*ISK **19** 17:50:53.5, 39°59N×42°52E, h12km, MD2.7*
ISC 19 17:50:51.5±1.6, 39°67N±0°07×42°50E±0°04, h3km±15km, n12, σ0°81/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUTA	Tutak	0.36	137	*i* P	Pb	17 51 00.6	-0.2
TUTA				*e*S	Sb	17 51 08.5	+1.6
TUTA	Tutak	0.36	137	*i* P	Pb	17 51 00.6	-0.2
TUTA				*e*S	Sb	17 51 08.5	+1.6
AGRB	Hanur-Agry	0.39	103	*e*PG	Pb	17 51 00.7	-0.6
AGRB				*e*SG	Sb	17 51 07.5	-0.3
AGRB	Hanur-Agry	0.39	103	*e*Pg	Pb	17 51 00.7	-0.6
AGRB				*e*Sg	Sb	17 51 07.5	-0.3
HOMI	Horasan	0.59	310	*i* P	Pg	17 51 02.3	-0.6
HOMI				*e*S	Sg	17 51 11.3	+0.8
ERZM	Erzurum	0.90	286	*e*P	Pb	17 51 09.9	-0.1
ERZM				*e*S	Sn	17 51 25.0	-0.1
ERZM	Erzurum	0.90	286	*e*P	Pb	17 51 09.9	-0.1
ERZM				*e*S	Sn	17 51 25.0	-0.1
EZM	Erzurum	0.91	286	*e*PG	Pn	17 51 12.4	+1.0
VRTB	Varto-Mus	0.95	238	*e*PG	Pn	17 51 11.8	-0.1
VRTB				*e*SG	Sn	17 51 25.0	-1.1
VRTB	Varto-Mus	0.95	238	*e*Pg	Pn	17 51 11.9	-0.1
VRTB				*e*Sg	Sn	17 51 25.0	-1.1
CLDR	Caldiran	1.22	115	*e*PN	Pn	17 51 16.2	+0.6
CLDR				*e*PG		17 53 08.0	
CLDR	Caldiran	1.22	115	*e*Pn	Pn	17 51 16.3	+0.6

DDA 19 17:53:02.5, 39°55N×43°64E, h7km, ML2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DYDN	Diyadin	0.04	92	*i* P	Pg	17 53 03.7	-0.6
DYDN				*i* S	Sg	17 53 05.9	+0.3
AGRB	Hanur-Agry	0.50	274	*e*PG	Pg	17 53 11.3	-1.2
AGRB				*e*SG	Sg	17 53 19.6	+0.2
TUTA	Tutak	0.66	258	*i* P	Pg	17 53 15.1	-0.4
TUTA				*i* S	Sb	17 53 25.3	-0.9
GNI	Garni	1.04	54	*e*PN	Pg	17 53 20.6	-2.2

*IDC **19** 18:02:07.9±2.4, 3°14N×126°63E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/20, mbtmp3.2/3, MS2.7/1, Ms1 3.0/1, ms1mx2.4/17, Error ellipse: s-maj=216.0km s-min=25.2km az=66.0*
MAN 19 18:01:49, 7°38N×126°38E, h118km, mb4.4, ML3.2, MS3.1, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DMPH	Davao City--Mi	0.91	251⇓	*e*P	Pn	18 02 11.6	+1.6
DMPH				*i* S	Sn	18 02 30.3	+4.4
KCP	Kidapawan	1.33	254⇑	*i* P	Pn	18 02 15.2	+0.8
KCP				*i* S	Sn	18 02 35.4	+1.7
BUKP	Musuan	1.40	291	*e*P	Pn	18 02 06.2	-9.0
BUKP				*e*S	Sn	18 02 34.8	-0.2
BUTP	Butuan	1.75	335	*e*P	Pn	18 02 17.1	-2.2
GSPH	General Santos	1.91	228⇑	*e*P	Pn	18 02 20.5	-0.9
GSPH				*i* S	Sn	18 02 46.1	0.0
CTBH	Cotabato--PC H	2.12	266⇓	*e*P	Pn	18 02 24.2	+0.4
MSLP	Maasin	3.13	331	*e*P	Pn	18 02 35.3	-1.6
WRA	Warramunga Arr	28.25	164	P	P	18 07 25.2	-6.0
	0.2nm,0.8s,baz=342,slow=10.0,SNR=2.8						
CMAR	Chiang Mai Arr	28.87	295	LR	LR	18 22 56.4	
	comp=Z,14nm,18.7s,baz=200,slow=40						
ASAR	Alice Springs	31.72	167	P	P	18 07 57.7	-4.1
	0.1nm,0.3s,baz=343,slow=7.1,SNR=6.4						
MKAR	Makanchi Array	54.40	324	P	PcP	18 12 02.4	-3.8
	0.8nm,0.7s,baz=117,slow=6.2,SNR=6.8						

IDC 19 18:03:24.6±4.0, 3°06N×78°30W, h0km, mb3.4/2, mb1 3.5/2, mb1mx3.3/22, mbtmp3.5/2, Error ellipse: s-maj=234.1km s-min=58.0km az=46.0, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	21.69	153	P	P	18 08 18.1	+0.1
	0.5nm,0.5s,baz=340,slow=11,SNR=2.7						
SIV	San Ignacio	25.47	139	P	P	18 08 54.5	-0.1
	0.6nm,0.5s,baz=311,slow=14,SNR=4.0						
ASAR	Alice Springs	142.74	234	PKP	PKPdf	18 23 01.5	+0.5
	0.2nm,0.8s,baz=115,slow=3.2,SNR=3.8						
WRA	Warramunga Arr	144.00	240	PKP	PKPdf	18 23 02.2	-1.0
	0.5nm,0.7s,baz=106,slow=3.2,SNR=4.7						

*BJI **19** 18:14:20.4, 30°89N×103°42E, h14km, ML3.3/10*
*IDC **19** 18:14:25.2±5.9, 31°96N×103°35E, h0km, mb3.2/4, mb1 3.3/4, mb1mx3.2/27, mbtmp3.3/4, Error ellipse: s-maj=138.6km s-min=32.4km az=8.0*
ISC 19 18:14:22.2±1.4, 31°08N±0°10×103°46E±0°09, h16km, n7, σ2°46/9, mb3.2/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	Chengdu	0.31	122	Pg	Pg	18 14 28.6	-0.1
CD2				smax	smax		
	comp=N,3μm,0.9s						
CD2				smax	smax		
	comp=E,3μm,0.7s						
XAN	Xi'an	5.48	56	Pn	Pb	18 15 52.8	-4.7
XAN				Pg	Pg	18 16 08.6	+1.5
XAN				Sn	Sn	18 16 47.3	+1.4
XAN				Sg	Sg	18 17 14.1	-4.0
XAN				smax	smax		
	comp=N,52nm,0.6s						
XAN				smax	smax		
	comp=E,21nm,0.8s						
SONM	Songino Array	16.89	7	Pn	P	18 18 20.8	+0.9
	comp=E,0.1nm,0.3s,baz=186,slow=15,SNR=2.8						
KSRS	Korea Array	21.17	66	P	P	18 19 08.9	+2.3
	comp=E,0.8nm,0.7s,baz=253,slow=9.9,SNR=4.4						
MKAR	Makanchi Array	22.64	320	P	P	18 19 20.0	-2.4
	comp=E,0.8nm,0.9s,baz=124,slow=11,SNR=6.5						
AAK	Ala-Archa	25.76	305	P	P	18 19 52.7	+0.4
	comp=E,0.5nm,0.6s,baz=113,slow=7.7,SNR=5.2						
ZALV	Zalesovo Beam	26.51	335	P	P	18 19 56.6	-2.1
	comp=E,0.2nm,0.3s,baz=141,slow=9.3,SNR=2.1						

*DDA **19** 18:31:38.8, 40°21N×31°59E, h7km, ML2.3*
*ISK **19** 18:31:39.1, 40°12N×31°77E, h23km, MD2.9*
*ISCJB **19** 18:31:41.9±0.6, 40°08N±0°04×31°54E±0°06, h28km±7km, Error ellipse: s-maj=7.7km s-min=6.5km az=142.1*
*CSEM **19** 18:31:41.4±0.3, 40°08N×31°55E, h20km, MD2.9, Error ellipse: s-maj=8.0km s-min=6.2km az=27.0*
ISC 19 18:31:39.9±1.3, 40°13N±0°04×31°57E±0°03, h20km±6km, n25, σ0°86/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDUB	Mudurnu	0.45	321	*e*PG	Pn	18 31 51.0	-0.3
MDUB				*e*SG	Sn	18 31 59.5	+0.7
MDUB	Mudurnu	0.45	321	*e*Pg	Pn	18 31 51.0	-0.3
MDUB				*e*Sg	Sn	18 31 59.6	+0.7
SVRH	Sivrihisar-ESK	0.68	183	*e*PG	Pb	18 31 53.5	+0.4
SVRH				*e*SG	Sn	18 32 03.8	-0.8
SVRH	Sivrihisar-ESK	0.68	183	*e*Pg	Pb	18 31 53.5	+0.4
SVRH				*e*Sg	Sn	18 32 03.8	-0.8
ESKT	Eskisehir	0.82	223	*e*PG	Pn	18 31 57.1	+0.6
ESKT	Eskisehir	0.82	223	*e*Pg	Pn	18 31 57.1	+0.6
GULT	Gulveren	0.86	291	*e*PG	Pn	18 31 58.2	+1.2
GULT	Gulveren	0.86	291	*e*Pg	Pn	18 31 58.2	+1.2
BORA	Eskisehir	0.89	254	*e*P	Pb	18 31 56.1	-0.6
BORA				*i* S	Sn	18 32 17.3	+7.5
BORA	Eskisehir	0.89	254	*e*P	Pb	18 31 56.1	-0.6
LOD	Lodumlu	0.95	104	*e*PG	Pb	18 31 55.2	-2.6
KIZT	Kizilcal	1.27	169	*e*PN	Pn	18 32 02.0	-0.6
KIZT	Kizilcal	1.27	169	*e*Pn	Pn	18 32 02.0	-0.6
CAVI	Cavuskoy	1.32	274	*e*PN	Pg	18 32 04.8	-0.7
CAVI	Cavuskoy	1.32	274	*e*Pn	Pg	18 32 04.8	-0.7
BBAL	Bala	1.33	115	*i* P	Pg	18 32 05.7	0.0
BBAL				*e*S	Sg	18 32 24.0	+0.9
BBAL	Bala	1.33	115	*i* P	Pg	18 32 05.

comp=Z,194nm,19.2s,baz=81,slow=32
STKA Stephens Creek 29.89 225 LR LR 19 03 27.8
comp=Z,99nm,18.1s,baz=25,slow=36
WRA Warramunga Arr 31.36 251 P **P** **18 51 54.5 -0.3**
2.4nm,1.1s,baz=83,slow=8.8,SNR=11
ASAR Alice Springs 32.56 245 P **P** **18 52 05.0 -0.3**
1.5nm,1.0s,baz=73,slow=9.4,SNR=12
PPT2 Papeete2 43.26 103 *e*LR LR 19 05 42.0
88nm,26.5s
TBI Tubuai 43.77 111 *e*LR LR 19 05 53.5
104nm,28.2s
JOW Kunigami 53.21 317 LR LR 19 14 17.3
comp=Z,933nm,18.8s,baz=56,slow=32
CMAR Chiang Mai Arr 72.70 294 P **P** **18 57 03.3 +1.2**
0.6nm,0.8s,baz=120,slow=4.3,SNR=4.6
SONM Songino Array 79.58 324 P **P** **18 57 40.9 +0.1**
0.6nm,0.9s,baz=123,slow=6.3,SNR=4.6
ILAR Eielson Array 84.36 18 P **P** **18 58 05.3 -0.1**
0.2nm,0.7s,baz=236,slow=6.6,SNR=4.7
NVAR Mina Array Bea 86.48 50 LR LR 19 31 31.1
comp=Z,93nm,18.4s,baz=20,slow=32
MKAR Makanchi Array 94.38 317 P **P** **18 58 53.2 -0.2**
1.5nm,0.8s,baz=98,slow=5.6,SNR=20
ZALV Zalesovo Beam 94.47 324 P **P** **18 58 52.6 -1.0**
0.8nm,0.7s,baz=107,slow=5.0,SNR=4.9

ISCJB ***19*** *18:54:55.9±0.2, 44.09N±0.01×105.34W±0.02, h0km, Error ellipse: s-maj=2.4km s-min=1.7km az=165.6*
IDC ***19*** *18:54:55.8±1.9, 44.00N×105.46W, h0km, mb1 3.4/3, mb1mx3.2/28, mbtmp3.1/3, ML3.1/3, Error ellipse: s-maj=46.5km s-min=8.3km az=146.0*
NEIC ***19*** *18:54:56.2±0.6, 44.00N×105.19W, h0km, ML3.2, Error ellipse: s-maj=7.9km s-min=7.1km az=150.0, Suspected Mining explosion.*
NEIC 40 km [25 miles] SE of Gillette.
ISC 19 18:54:55.8±0.6, 44.08N±0.02×105.30W±0.02, h0km, n114, σ0.96/139, 51C-52D, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I23A	**Meade Ranch, G**	**0.17**	**224**	P	**Pg**	**18 54 59.8**	**+0.7**
	baz=0.2,SNR=930						
I23A				⇑S	**Sg**	**18 55 02.8**	**+1.7**
	baz=0.2						
H23A	**Clabaugh Cattl**	**0.49**	**352**	⇑P	**Pg**	**18 55 05.5**	**+0.3**
	baz=0.6						
I24A	**Kuemmerle Ranc**	**0.54**	**114**	⇓P	**Pb**	**18 55 07.2**	**-1.0**
	baz=0.4						
I24A				⇑S	**Sb**	**18 55 16.0**	**-0.5**
	baz=0.4						
J23A	**Dilts Ranch, B**	**0.70**	**195**	⇑P	**Pg**	**18 55 09.6**	**+0.4**
	baz=0.7						
J23A				⇑S	**Sg**	**18 55 19.7**	**+1.4**
	baz=0.7						
H24A	**Dirks Ranch, A**	**0.86**	**39**	P	**Pg**	**18 55 12.7**	**+0.5**
	baz=0.9,SNR=135						
I22A	**9 Mile Ranch,**	**0.87**	**258**	⇓P	**Pg**	**18 55 12.3**	**-0.3**
	baz=0.9,SNR=146						
H22A	**Clearmont**	**0.91**	**305**	⇑P	**Pg**	**18 55 13.4**	**+0.1**
	baz=1.0,SNR=80						
RSSD	**Black Hills**	**0.91**	**87**	*e*P	**Pb**	**18 55 13.9**	**-0.8**
G23A	**Biddle**	**1.12**	**357**	⇑P	**Pg**	**18 55 17.3**	**0.0**
	baz=1.2,SNR=125						
G22A	**Birney**	**1.34**	**329**	⇓P	**Pg**	**18 55 21.1**	**-0.4**
	baz=1.5,SNR=106						
K23A	**Bowen Ranch, D**	**1.35**	**190**	⇓P	**Pg**	**18 55 21.5**	**-0.1**
	baz=1.3,SNR=19						
K23A				⇓S	**Sn**	**18 55 41.5**	**+0.8**
	baz=1.3						
H21A	**Big Horn, Sher**	**1.36**	**294**	⇓P	**Pg**	**18 55 21.3**	**-0.7**
	baz=1.5,SNR=73						
G24A	**Alzada**	**1.40**	**27**	⇓P	**Pn**	**18 55 22.7**	**0.0**
	baz=1.4,SNR=33						
K24A	**Anderson Ranch**	**1.40**	**165**	⇓P	**Pg**	**18 55 22.5**	**-0.2**
	baz=1.3						
K24A				⇓S	**Sn**	**18 55 43.8**	**+1.7**
	baz=1.3						
I21A	**Big Trails, Te**	**1.46**	**260**	⇑P	**Pn**	**18 55 22.2**	**-1.5**
	baz=1.5,SNR=201						
I21A				⇓S	**Sg**	**18 55 42.2**	**-0.6**
	baz=1.5						
F23A	**Volborg**	**1.64**	**357**	⇑P	**Pn**	**18 55 26.2**	**+0.2**
	baz=1.7,SNR=130						
F23A				⇑Sb	**Sg**	**18 55 49.5**	**+0.9**
	baz=1.7						
K22A	**Casper**	**1.68**	**212**	P	**Pn**	**18 55 26.7**	**0.0**
	baz=1.7,SNR=110						
J21A	**Lysite**	**1.72**	**245**	⇓P	**Pn**	**18 55 26.6**	**-0.6**
	baz=1.8,SNR=133						
J21A				⇓S	**Sn**	**18 55 49.5**	**-0.4**
	baz=1.8						
G21A	**Lodge Grass**	**1.78**	**311**	⇑P	**Pn**	**18 55 27.8**	**-0.1**
	baz=1.9,SNR=106						
G21A				⇓Sb	**Sb**	**18 55 52.7**	**+0.5**
	baz=1.9						
F22A	**Rosebud**	**1.83**	**339**	P	**Pn**	**18 55 28.6**	**0.0**
	baz=1.9,SNR=123						
F22A				⇓Sb	**Sb**	**18 55 54.5**	**+0.8**
	baz=1.9						
F24A	**Ekalaka**	**1.87**	**19**	⇓P	**Pn**	**18 55 29.5**	**+0.4**
	baz=1.9						
F24A				⇓Sb	**Sg**	**18 55 56.7**	**+0.9**
	baz=1.9						
H20A	**Greybull**	**1.98**	**283**	⇓P	**Pn**	**18 55 30.3**	**-0.4**
	baz=2.1						
H20A				⇓S	**Sn**	**18 55 56.1**	**-0.2**
	baz=2.1						
L23A	**Garrett**	**1.99**	**189**	⇑P	**Pn**	**18 55 31.1**	**+0.2**
	baz=1.9,SNR=58						
L23A				⇑S	**Sb**	**18 55 57.9**	**-0.5**
	baz=1.9						
K21A	**Alcova**	**2.03**	**225**	⇑P	**Pn**	**18 55 31.9**	**+0.5**
	baz=2.0,SNR=106						
K21A				⇑S	**Sn**	**18 55 58.3**	**+0.7**
	baz=2.0						
I20A	**Worland**	**2.04**	**267**	⇓P	**Pn**	**18 55 31.8**	**+0.2**
	baz=2.1,SNR=140						
I20A				⇓Sb	**Sb**	**18 55 59.9**	**0.0**
	baz=2.1						
L24A	**Wheatland**	**2.05**	**172**	⇓P	**Pn**	**18 55 32.6**	**+0.8**
	baz=2.0,SNR=8.6						
K26A	**Motz Farm, Whi**	**2.07**	**131**	⇓P	**Pb**	**18 55 33.7**	**-0.7**
	baz=2.0,SNR=8.3						
K26A				⇑S	**Sg**	**18 56 01.2**	**-1.1**
	baz=2.0						
J20A	**Shoshoni**	**2.14**	**251**	⇑P	**Pb**	**18 55 34.9**	**-0.7**
	baz=2.2						
J20A				⇑Sb	**Sb**	**18 56 03.5**	**+0.7**
	baz=2.2						
L25A	**Engebretsen Ra**	**2.16**	**153**	⇓P	**Pb**	**18 55 34.4**	**-1.5**
	baz=2.0,SNR=38						
L25A				⇓S	**Sb**	**18 56 03.0**	**-0.3**
	baz=2.0						
F21A	**Absaloka Mine,**	**2.17**	**324**	⇓P	**Pn**	**18 55 32.6**	**-0.6**
	baz=2.3						
F21A				⇑S	**Sn**	**18 56 01.7**	**+0.8**
	baz=2.3						
G20A	**Bridger**	**2.37**	**300**	⇑P	**Pn**	**18 55 35.6**	**-0.5**
	baz=2.5,SNR=151						
E22A	**Miles City**	**2.40**	**349**	⇓P	**Pn**	**18 55 36.4**	**0.0**
	baz=2.5						
E22A				⇑Sb	**Sb**	**18 56 10.7**	**+0.5**
	baz=2.5						
E23A	**Ismay**	**2.42**	**360**	⇑P	**Pn**	**18 55 37.3**	**+0.6**
	baz=2.5						
E23A				⇑Sb	**Sb**	**18 56 11.6**	**+1.0**
	baz=2.5						
K27A	**Flueckinger Fa**	**2.62**	**121**	⇓P	**Pb**	**18 55 41.5**	**-2.2**
	baz=2.5,SNR=13						
K20A	**Yellowstone Ra**	**2.63**	**238**	⇓P	**Pn**	**18 55 40.9**	**+1.1**
	baz=2.7						
M24A	**Cheyenne**	**2.63**	**172**	⇓P	**Pn**	**18 55 41.6**	**+1.8**
	baz=2.5,SNR=17						
F20A	**Billings**	**2.65**	**311**	⇑P	**Pn**	**18 55 39.4**	**-0.6**
	baz=2.8,SNR=25						
F20A				⇓Sb	**Sb**	**18 56 18.2**	**+0.7**
	baz=2.8						
I19A	**Meeteetse**	**2.66**	**270**	⇑P	**Pn**	**18 55 40.5**	**+0.4**
	baz=2.7						
E21A	**Keefer Ranch,**	**2.76**	**334**	⇑P	**Pn**	**18 55 41.4**	**0.0**
	baz=2.9						
RWWY	**Rawlins**	**2.77**	**211**	*e*P	**Pn**	**18 55 41.1**	**-0.6**
PHWY	**Pilot Hill**	**2.78**	**182**	*e*P	**Pn**	**18 55 42.2**	**+0.3**
M25A	**Palm-Egli Farm**	**2.80**	**160**	⇑P	**Pn**	**18 55 44.2**	**+2.2**
	baz=2.7,SNR=5.1						
K19A	**Absolon Red Bu**	**2.87**	**245**	⇓P	**Pn**	**18 55 44.0**	**+1.0**
	baz=2.9						
M21A	**Separation Pea**	**2.90**	**212**	⇓P	**Pn**	**18 55 45.2**	**+1.7**
	baz=2.9						
RLMT	**Red Lodge**	**3.02**	**292**	*e*P	**Pn**	**18 55 45.6**	**+0.6**
RLMT	**Red Lodge**	**3.02**	**292**	⇑P	**Pn**	**18 55 45.7**	**+0.6**
	baz=3.1						
D23A	**Lindsay**	**3.09**	**1**	⇓P	**Pn**	**18 55 47.3**	**+1.3**
	baz=3.2						
D22A	**Cohagen**	**3.13**	**349**	⇑P	**Pn**	**18 55 46.8**	**+0.4**
	baz=3.2						
D22A				⇓Sb	**Sb**	**18 56 32.0**	**+0.9**
	baz=3.2						
F19A	**Roth Farm, Mol**	**3.13**	**306**	⇑P	**Pn**	**18 55 47.4**	**+0.8**
	baz=3.2						
F19A				⇑S	**Sn**	**18 56 24.7**	**0.0**
	baz=3.2						
E20A	**Meyer Farm, Mu**	**3.14**	**322**	⇑Sb	**Sb**	**18 56 32.5**	**+1.1**
	baz=3.3						
H18A	**Shoshone NF, C**	**3.18**	**282**	⇑P	**Pn**	**18 55 47.3**	**-0.1**
	baz=3.3						
N23A	**Red Feather La**	**3.22**	**189**	⇓P	**Pn**	**18 55 49.2**	**+1.3**
	baz=3.2,SNR=12						
G18A	**Lazy EL Ranch,**	**3.28**	**294**	⇓P	**Pn**	**18 55 49.0**	**+0.4**
	baz=3.4						
G18A				⇑S	**Sn**	**18 56 28.3**	**-0.1**
	baz=3.4						
BW06	**Boulder Array**	**3.37**	**249**	*e*Pn	**Pn**	**18 55 51.0**	**+1.1**
BW06	**Boulder Array**	**3.37**	**249**	⇑P	**Pn**	**18 55 50.6**	**+0.7**
	baz=3.4						
BW06				⇓Sb	**Sb**	**18 56 38.3**	**+0.2**
	baz=3.4						
BW06				⇓Sb	**Sb**	**18 56 38.3**	**+0.2**
	baz=3.4						
PDAR	**Pinedale Array**	**3.37**	**249**	Pn	**Pn**	**18 55 50.9**	**+1.0**
PDAR				Lg	Lg	18 56 37.1	
PDAR	**Pinedale Array**	**3.37**	**249**	Pn	**Pn**	**18 55 50.9**	**+1.0**
	1.1nm,0.3s,baz=74,slow=16,SNR=36						
PDAR				Lg	Lg	18 56 37.1	
	14nm,0.3s,baz=66,slow=33,SNR=20						
PD02	**Pinedale Array**	**3.37**	**249**	*e*Pn	**Pn**	**18 55 50.5**	**+0.6**
PD01	**Pinedale Array**	**3.38**	**249**	*e*P	**Pn**	**18 55 51.0**	**+0.9**
C24A	**Savage**	**3.50**	**10**	⇑P	**Pn**	**18 55 53.2**	**+1.6**
	baz=3.6						
J18A	**Kendall Valley**	**3.53**	**257**	⇓P	**Pn**	**18 55 52.8**	**+0.6**
	baz=3.6						
L19A	**Farson**	**3.57**	**238**	⇑P	**Pn**	**18 55 54.1**	**+1.4**
	baz=3.6						
D20A	**Manuel Ranch,**	**3.61**	**328**	⇑P	**Pn**	**18 55 53.2**	**+0.2**
	baz=3.7						
F18A	**Big Timber**	**3.62**	**302**	⇓P	**Pn**	**18 55 53.8**	**+0.5**
	baz=3.7						
C22A	**Vida**	**3.69**	**354**	⇓P	**Pn**	**18 55 54.4**	**+0.3**
	baz=3.8						
C23A	**Lambert**	**3.72**	**1**	⇓P	**Pn**	**18 55 56.0**	**+1.4**
	baz=3.8						
LOHW	**Long Hollow**	**3.86**	**265**	*e*Pn	Pn	18 56 00.6	+3.8
FLWY	**Flagg Ranch**	**3.89**	**272**	*e*Pn	**Pn**	**18 55 57.7**	**+0.7**
MOOW	**Moose Ponds**	**3.95**	**267**	*e*Pn	**Pn**	**18 55 59.4**	**+1.6**
OGNE	**Ogallala**	**3.96**	**141**	*e*P	**Pn**	**18 55 54.9**	**-2.9**
YFT	**Old Faithful**	**3.99**	**277**	P	**Pn**	**18 56 00.0**	**+1.5**
O25A	**Wiggins**	**4.06**	**167**	⇑P	**Pn**	**18 56 00.5**	**+1.2**
	baz=4.0						
REDW	**Red Top Meadow**	**4.09**	**262**	*e*P	Pn	18 56 03.1	+3.3
YMR	**Madison River**	**4.10**	**280**	*e*P	**Pn**	**18 56 01.4**	**+1.4**
O26A	**Horse Wrangler**	**4.11**	**158**	⇓P	**Pn**	**18 56 01.4**	**+1.4**
	baz=4.0,SNR=6.6						
TPAW	**Teton Pass**	**4.13**	**264**	P	Pn	18 56 04.0	+3.6
ISCO	**Idaho Springs**	**4.28**	**183**	*e*Pn	**Pn**	**18 56 03.5**	**+0.9**
RRI2	**Red Ridge**	**4.42**	**263**	*e*Pn	**Pn**	**18 56 05.5**	**+1.0**
DGMT	**Dagmar**	**4.46**	**10**	*e*Pn	**Pn**	**18 56 07.6**	**+2.9**
P25A	**Willow Gulch B**	**4.64**	**169**	⇑P	**Pn**	**18 56 08.4**	**+1.1**
	baz=4.5,SNR=10						
P26A	**Davis Ranch, A**	**4.75**	**161**	⇑P	**Pn**	**18 56 10.4**	**+1.6**
	baz=4.6,SNR=19						
BOZ	**Bozeman (W)**	**4.76**	**291**	*e*Pn	**Pn**	**18 56 08.5**	**-0.4**
BOZ	**Bozeman (W)**	**4.76**	**291**	⇓P	**Pn**	**18 56 08.6**	**-0.4**
	baz=4.9						
D17A	**Six Diamond Ra**	**4.87**	**311**	⇑P	**Pn**	**18 56 10.6**	**+0.2**
	baz=5.0						
P27A	**Ficken Ranch,**	**4.96**	**155**	⇓P	**Pn**	**18 56 13.5**	**+1.9**
	baz=4.8,SNR=5.1						
EGMT	**Eagleton**	**5.01**	**323**	*e*Pn	**Pn**	**18 56 12.2**	**-0.1**
	22nm,0.8s						
A21A	**Bergtoll Ranch**	**5.04**	**348**	⇓P	**Pn**	**18 56 12.8**	**+0.1**
	baz=5.1						
SMCO	**Snowmass**	**5.06**	**195**	*e*Pg	Pg	18 56 29.4	-3.3
E16A	**East Helena**	**5.12**	**301**	⇓P	**Pn**	**18 56 14.2**	**+0.3**
	baz=5.2						
Q25A	**Bedland, Calha**	**5.22**	**171**	⇑P	**Pn**	**18 56 16.1**	**+0.7**
	baz=5.1						
HWUT	**Hardware Ranch**	**5.23**	**244**	*e*Pn	**Pn**	**18 56 16.5**	**+1.1**
	12nm,0.4s						
Q26A	**Hugo**	**5.32**	**165**	P	**Pn**	**18 56 17.7**	**+1.0**
	baz=5.2,SNR=12						
E15A	**Deer Lodge**	**5.69**	**297**	⇑P	**Pn**	**18 56 21.2**	**-0.5**
	baz=5.8,SNR=12						
DAU	**Daniels Canyon**	**5.74**	**232**	*e*Pn	**Pn**	**18 56 24.4**	**+1.9**
	11nm,0.7s						
P18A	**Preston Nutter**	**5.78**	**221**	⇓P	**Pn**	**18 56 24.2**	**+1.1**
	baz=5.8,SNR=10						
R24A	**Sanders Place,**	**5.85**	**178**	⇑P	**Pn**	**18 56 25.6**	**+1.6**
	baz=5.8						
D15A	**Lincoln**	**5.87**	**303**	⇑P	**Pn**	**18 56 24.6**	**+0.5**
	baz=6.0						
R26A	**Arlington**	**5.94**	**166**	P	**Pn**	**18 56 26.0**	**+0.8**
	baz=5.8,SNR=21						
HVU	**Hansel Valley**	**5.95**	**250**	*e*Pn	**Pn**	**18 56 26.5**	**+1.2**
	3.8nm,0.5s						
R25A	**Fountain Ranch**	**5.98**	**172**	⇓P	**Pn**	**18 56 26.3**	**+0.7**
	baz=5.9						
R27A	**Eads**	**6.09**	**161**	⇑P	**Pn**	**18 56 28.5**	**+1.3**
	baz=6.0,SNR=6.7						
SRU	**San Rafael**	**6.32**	**220**	*e*Pn	**Pn**	**18 56 29.4**	**-1.1**
	10.0nm,0.4s						
S25A	**Robets Cordova**	**6.45**	**174**	⇑P	**Pn**	**18 56 32.6**	**+0.4**
	baz=6.4						
D14A	**Greenough**	**6.49**	**300**	⇑P	**Pn**	**18 56 32.0**	**-0.7**
	baz=6.6,SNR=6.4						
S26A	**Kim**	**6.60**	**167**	⇓P	**Pn**	**18 56 34.7**	**+0.5**
	baz=6.5,SNR=17						
R18A	**Canyonlands Na**	**6.66**	**213**	⇑P	**Pn**	**18 56 35.5**	**+0.4**
	baz=6.6,SNR=11						
DUG	**Dugway**	**6.80**	**238**	*e*Pn	**Pn**	**18 56 37.6**	**+0.6**
	8.1nm,0.4s						
DUG	**Dugway**	**6.80**	**238**	⇓P	**Pn**	**18 56 37.4**	**+0.5**
	baz=6.8,SNR=26						
T27A	**Hampo**	**7.28**	**163**	⇓P	**Pn**	**18 56 44.5**	**+1.0**
	baz=7.2						
S18A	**Hurst Farm, Bl**	**7.30**	**211**	⇑P	**Pn**	**18 56 44.4**	**+0.4**
	baz=7.3,SNR=5.7						
ULM	**Lac du Bonnet**	**8.90**	**43**	Pn	**Pn**	**18 57 04.5**	**-1.1**
ULM				Sn	**Sn**	**18 58 46.0**	**-0.5**
ULM				Lg	Lg	18 59 32.3	
ULM	**Lac du Bonnet**	**8.90**	**43**	Pn	**Pn**	**18 57 04.5**	**-1.1**
	0.7nm,0.3s,baz=229,slow=12,SNR=3.6						
ULM				Sn	**Sn**	**18 58 46.0**	**-0.5**
	0.3nm,0.3s,baz=154,slow=3.8,SNR=4.4						
ULM				Lg	Lg	18 59 32.3	
	0.4nm,0.3s,baz=195,slow=19,SNR=3.4						
YKA	**Yellowknife Ar**	**19.23**	**347**	P	**Pn**	**18 59 22.5**	**+0.4**
YKA	**Yellowknife Ar**	**19.23**	**347**	P	**Pn**	**18 59 22.5**	**+0.4**
	0.1nm,0.3s,baz=152,slow=14,SNR=4.1						

NIED ***19*** *19:00:00, 40.40N×143.80E, h14km, Mw4.8 Best double couple: M0 1.65000×10^16 NP1:φs 37.00000°, δ 74.00000°, λ 121.00000°. NP2:φs 152.00000°, δ 34.00000°, λ 29.00000°.*
ISCJB ***19*** *19:00:40.4±0.9, 40.44N±0.02×143.77E±0.03, h7km±5km, mb4.8/122, MS4.5/40, Error ellipse: s-maj=4.1km s-min=2.9km az=144.5*
BJI ***19*** *19:00:40.8, 40.39N×143.62E, h10km, mB5.1/31, mb5.0/46, Ms4.7/38, Ms7 4.4/36*
IDC ***19*** *19:00:40.8±0.5, 40.40N×143.76E, h0km, mb4.4/27, mb1 4.5/34, mb1mx4.5/38, mbtmp4.4/34, ML3.9/7, MS4.1/17, Ms1 4.1/17, ms1mx3.8/44, Error ellipse: s-maj=14.3km s-min=11.8km az=140.0*
NEIC ***19*** *19:00:42.5±1.6, 40.42N×143.72E, h10km±9km, mb5.2/47, MW4.8(NIED), Error ellipse: s-maj=5.3km s-min=3.7km az=127.0*
NEIC Recorded [1 JMA] in Aomori and Iwate.
JMA ***19*** *19:00:42.4±0.2, 40.42N×143.80E, h27km, M4.8*
JMA Felt I J1.
MOS ***19*** *19:00:45.6±1.0, 40.57N×143.53E, h33km, mb5.2/62, MS4.7/17, Error ellipse: s-maj=7.8km s-min=4.3km az=111.5*
SZGRF ***19*** *19:01:01.6, 42.37N×143.27E, h31km, mb4.7, MS4.6, Hokkaido, Japan, region*
ISC 19 19:00:44.5±0.5, 40.44N±0.04×143.82E±0.04, h26km±2km, h25km:pP-P, n480, σ1.23/508, mb5.0/128, MS4.5/40, 54C-38D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.58**	**252**	P	**Pn**	**19 01 09.1**	**-1.7**
JTH				*e*S	**Sn**	**19 01 28.2**	**-2.2**
ERM	**Erimo**	**1.65**	**343**	*d*P	**Pn**	**19 01 10.7**	**-1.1**
ERM	**Erimo**	**1.65**	**343**	*e*P	**Pn**	**19 01 10.3**	**-1.5**
JEM	**Erimo**	**1.65**	**343**	P	**Pn**	**19 01 10.8**	**-1.0**
JANG	**Nango**	**1.76**	**269**	P	**Pn**	**19 01 11.8**	**-1.5**
MIYJ	**Miyakonagasawa**	**1.76**	**241**	P	**Pn**	**19 01 11.8**	**-1.5**
MIYJ				*e*S	**Sn**	**19 01 32.7**	**-2.2**
JNBK	**Urakawa-nobuka**	**2.01**	**337**	P	**Pn**	**19 01 16.1**	**-0.6**
JNBK				*e*S	**Sn**	**19 01 40.8**	**-0.1**
JOM	**Ohasama**	**2.17**	**244**	P	**Pn**	**19 01 18.2**	**-0.7**
JOM				*e*S	**Sn**	**19 01 44.0**	**-0.9**
JCH	**Churui**	**2.20**	**351**	P	**Pn**	**19 01 18.3**	**-1.1**
JCH				*e*S	**Sn**	**19 01 44.5**	**-1.2**
JOT	**Ohata**	**2.30**	**295**	P	**Pn**	**19 01 20.0**	**-0.7**
JOT				*e*S	**Sn**	**19 01 47.1**	**-1.1**
JMK	**Ichinoseki**	**2.50**	**234**	P	**Pn**	**19 01 22.7**	**-0.7**
JMK				*e*S	**Sn**	**19 01 51.5**	**-1.5**
JKB	**Kayabe**	**2.55**	**305**	P	**Pn**	**19 01 23.4**	**-0.8**
JAK	**Akkeshi**	**2.64**	**14**	P	**Pn**	**19 01 23.9**	**-1.5**
JAK				*e*S	**Sn**	**19 01 54.4**	**-2.1**
JAR	**Ashorobuto**	**2.85**	**359**	P	**Pn**	**19 01 26.8**	**-1.6**
JAR				S	**Sn**	**19 01 59.4**	**-2.5**
JFR	**Furan**	**2.87**	**342**	P	**Pn**	**19 01 29.0**	**+0.4**
JFR				*e*S	**Sn**	**19 02 02.7**	**+0.4**
JEW	**Eniwo**	**2.98**	**324**	P	**Pn**	**19 01 30.6**	**+0.5**
JEW				*e*S	**Sn**	**19 02 05.4**	**+0.3**
JYK	**Kaneyama**	**3.07**	**241**	P	**Pn**	**19 01 30.7**	**-0.6**
NEM2	**Nemuro 2**	**3.26**	**26**	P	**Pn**	**19 01 32.0**	**-1.9**
NEM2				*e*S	**Sn**	**19 02 07.9**	**-3.9**
JTKR	**Abashiri--Toko**	**3.53**	**1**	P	**Pn**	**19 01 36.7**	**-0.9**
JTKR				*e*S	**Sn**	**19 02 16.5**	**-2.0**
JHR	**Hokuryu**	**3.65**	**335**	P	**Pn**	**19 01 39.7**	**+0.4**
JHR				*e*S	**Sn**	**19 02 22.1**	**+0.6**
JOSM	**Okushiri--Mats**	**3.66**	**298**	P	**Pn**	**19 01 38.5**	**-0.9**
ASAJ	**Asahikawa**	**3.79**	**347**	Pn	**Pn**	**19 01 41.0**	**-0.1**
ASAJ				Sn	**Sn**	**19 02 29.8**	**+4.9**
ASAJ	**Asahikawa**	**3.79**	**347**	Pn	**Pn**	**19 01 41.0**	**-0.1**
	8.1nm,0.3s,baz=203,slow=14,SNR=79						
ASAJ				Sn	**Sn**	**19 02 29.8**	**+4.9**
	39nm,0.3s,baz=180,slow=25,SNR=6.8						
YUK	**Yuzh-Kuril'sk**	**3.90**	**22**	*i* P	**Pn**	**19 01 41.0**	**-1.7**
YUK				*i* S	**Sn**	**19 02 24.1**	**-3.5**
YUK				pmax	pmax		
	comp=N,182nm,0.2s						
YUK				pmax	pmax		
	comp=E,161nm,0.2s						
YUK				pmax	pmax		
	comp=Z,407nm,0.3s						
YUK				smax	smax		
	comp=E,2μm,0.6s						
YUK				smax	smax		
	comp=N,611nm,0.3s						
YUK				MLR	MLR		
	comp=N,368nm,15.0s						
YUK				MLR	MLR		
	comp=Z,2μm,15.0s						
YUK				MLR	MLR		
	comp=E,2μm,15.0s						
KUR	**Kuril'sk**	**5.64**	**31**	*e*P	**Pn**	**19 02 05.9**	**-0.7**
KUR				*i* S	**Sn**	**19 03 07.3**	**-3.2**
KUR				pmax	pmax		
	comp=Z,940nm,1.0s						
KUR				pmax	pmax		
	comp=N,290nm,0.8s						
KUR				pmax	pmax		
	comp=E,380nm,1.0s						
KUR				smax	smax		
	comp=N,390nm,0.6s						
KUR				smax	smax		
	comp=E,490nm,0.6s						
KUR				MLR	MLR		
	comp=N,5μm,14.0s						
KUR				MLR	MLR		
	comp=E,5μm,14.0s						
KUR				MLR	MLR		
	comp=Z,5μm,14.0s						
MAJO	**Matsushiro**	**5.87**	**230**	*e*P	**Pn**	**19 02 10.0**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,169nm,0.9s						
MAJO	**Matsushiro**	**5.87**	**230**	*e*P	**Pn**	**19 02 10.0**	**+0.1**
	comp=Z,169nm,0.9s						
MAT	**Matsushiro**	**5.87**	**230**	P	**Pn**	**19 02 10.0**	**+0.1**
MAT				S	**Sn**	**19 03 14.2**	**-2.2**
MJAR	**Matsushiro Arr**	**5.87**	**230**	Pn	**Pn**	**19 02 09.8**	**-0.1**
MJAR	**Matsushiro Arr**	**5.87**	**230**	Pn	**Pn**	**19 02 09.8**	**-0.1**
	comp=Z,7.7nm,0.3s,baz=40,slow=11,SNR=140						
YSS	**Yuzh-Sakhalins**	**6.56**	**354**	*e*P	**Pn**	**19 02 19.0**	**-0.2**
YSS				*e*S	**Sn**	**19 03 29.6**	**-3.5**
YSS				smax	smax		
	comp=N,130nm,1.0s						
YSS				MLR	MLR		
	comp=Z,3μm,14.0s						
YSS				MLR	MLR		
	comp=N,2μm,13.0s						
YSS	**Yuzh-Sakhalins**	**6.56**	**354**	*e*P	**Pn**	**19 02 19.8**	**+0.6**
	comp=N,54nm,0.7s						
JHJ	**Hachijo jima 2**	**7.99**	**205**	Pn	**Pn**	**19 02 35.9**	**-3.1**
	comp=N,22nm,0.3s,baz=66,slow=19,SNR=6.8						
JHJ				Sn	Sn	19 03 59.0	-9.4
	comp=N,38nm,0.3s,baz=53,slow=20,SNR=4.8						
UGL	**Uglegorsk**	**8.73**	**352**	P	Pn	19 03 00.5

comp=Z,0.4nm,0.3s,baz=77,slow=12,SNR=17
KSRS LR LR 19 08 16.1
comp=Z,1μm,18.4s,baz=71,slow=36
KSAR Wonju Array Be 12.76 262 Pn **Pn** **19 03 43.8 -0.4**
OKH Okha 13.13 358 *eP* **Pn** **19 03 50.0 +0.9**
SKR Severo-Kuril's 13.37 36 *eP* Pn 19 03 57.0 +4.6
SKR MLR MLR
comp=Z,3μm,16.0s
SKR MLR MLR
comp=N,2μm,14.0s
SKR MLR MLR
comp=E,3μm,14.0s
CBIJ Chichi jima 13.38 186 Sn Sn 19 06 08.0 -13
CBIJ Chichi jima 13.38 186 Sn Sn 19 06 08.0 -13
comp=E,6.2nm,0.3s,baz=300,slow=20,SNR=3.6
CN2 Changchun 14.04 290 *eP* **Pn** **19 04 01.3 -0.4**
CN2 *ePP* **PnPn** **19 04 12.1 +2.6**
CN2 *eS* **Sn** **19 06 36.4 -0.2**
CN2 *eSS* **SnSn** **19 06 51.9 +3.1**
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,14.0s
CN2 LR LR
comp=E,2μm,14.0s
CN2 LR LR
comp=Z,2μm,13.0s
SNY Shenyang 15.32 282 ⇑P **Pn** **19 04 17.8 -1.0**
SNY pmax pmax
comp=Z,39nm,1.1s
SNY pmax pmax
comp=Z,340nm,2.8s
SNY LR LR
comp=N,770nm,14.8s
SNY LR LR
comp=E,2μm,14.6s
SNY LR LR
comp=Z,2μm,13.6s
PETK Petropavlovsk- 15.80 32 P **Pn** **19 04 26.2 +1.1**
PETK 19 07 15.0
PETK Petropavlovsk- 15.80 32 Pn **Pn** **19 04 26.2 +1.1**
PETK Sn **Sn** **19 07 15.0 -4.4**
PETK Petropavlovsk- 15.80 32 Pn **Pn** **19 04 26.2 +1.1**
comp=Z,0.1nm,0.3s,baz=200,slow=13,SNR=3.8
PETK Sn **Sn** **19 07 15.0 -4.4**
comp=Z,1.2nm,0.3s,baz=269,slow=20,SNR=8.5
PETK LR LR 19 10 08.1
comp=Z,282nm,20.3s,baz=50,slow=36
HIA Hailar 19.15 305 *eP* **P** **19 05 03.4 -2.3**
comp=Z,30nm,0.7s
CLNS Chul'man 20.51 329 *eP* **P** **19 05 19.2 -1.3**
CLNS *e**PP **pP** **19 05 28.5 +0.9**
CLNS *e* 19 05 36.7
CLNS *eS* **S** **19 09 06.2 -2.5**
CLNS *e* 19 09 30.6
CLNS *eSS* SS 19 09 34.0
CLNS pmax pmax
comp=Z,32nm,1.3s
CLNS pmax pmax
comp=N,33nm,1.3s
CLNS pmax pmax
comp=E,11nm,1.3s
CLNS pmax pmax
comp=Z,28nm,1.4s
CLNS pmax pmax
comp=N,74nm,1.1s
CLNS pmax pmax
comp=E,27nm,0.9s
CLNS smax smax
comp=N,213nm,16.1s
CLNS smax smax
comp=E,273nm,15.2s
CLNS MLR MLR
comp=Z,980nm,14.0s
CLNS MLR MLR
comp=N,887nm,13.0s
CLNS MLR MLR
comp=E,568nm,13.0s
SSE Sheshan 20.55 250 P **P** **19 05 19.3 -1.7**
SSE pP Pn 19 05 24.8 +1.4
SSE sP **sP** **19 05 27.8 -3.6**
SSE S **S** **19 09 09.8 +0.2**
SSE pmax pmax
comp=Z,35nm,0.9s
SSE pmax pmax
comp=Z,340nm,4.0s
SSE LR LR
comp=N,520nm,12.5s
SSE LR LR
comp=E,750nm,12.5s
SSE LR LR
comp=Z,840nm,13.7s
BJI Beijing 21.08 278 P **P** **19 05 24.3 -2.4**
BJI S **S** **19 09 20.3 +0.3**
BJI pmax pmax
comp=Z,25nm,1.1s
BJI pmax pmax
comp=Z,150nm,3.5s
BJI LR LR
comp=N,940nm,14.2s
BJI LR LR
comp=E,1μm,13.4s
BJI LR LR
comp=Z,430nm,20.5s
BJT Baijiatuau 21.09 278 *eP* **P** **19 05 24.0 -2.8**
comp=Z,65nm,1.0s
NJ2 Nanjing 21.75 255 *eP* **P** **19 05 31.6 -2.4**
NJ2 S **S** **19 09 31.5 -1.9**
NJ2 pmax pmax
comp=Z,30nm,0.7s
NJ2 pmax pmax
comp=Z,450nm,4.8s
NJ2 LR LR
comp=N,930nm,18.4s
NJ2 LR LR
comp=E,820nm,17.4s
NJ2 LR LR
comp=Z,1μm,19.2s
SEY Seymchan 23.10 10 *i* P **P** **19 05 47.2 -0.8**
YAK Yakutsk 23.26 343 *eP* **P** **19 05 45.5 -4.1**
YAK *e**SP sP 19 05 54.1 -6.0
YAK *e*PPP PPP 19 06 16.2
YAK *e* 19 09 37.5
YAK *eS* **S** **19 09 52.9 -7.1**
YAK *e*SSS SSS 19 10 37.9
YAK *e* 19 16 56.3
YAK pmax pmax
comp=Z,10.0nm,0.8s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=N,24nm,0.9s
YAK pmax pmax
comp=E,15nm,0.8s
YAK smax smax
comp=N,162nm,1.9s
YAK smax smax
comp=E,172nm,3.7s
YAK MLR MLR
comp=E,555nm,18.0s
YAK MLR MLR
comp=Z,847nm,14.0s
YAK MLR MLR
comp=N,954nm,17.0s
YAK Yakutsk 23.26 343 *eP* **P** **19 05 45.1 -4.5**
comp=N,55nm,0.8s
FX1 Attu Island--F 23.49 48 LR LR 19 12 50.3
comp=N,120nm,20.3s,baz=268,slow=31
CIT Chita 23.75 309 *eP* **P** **19 05 51.8 -2.8**
CIT *e* 19 06 04.8
CIT *e* 19 06 23.0
CIT *e* 19 06 30.1
CIT *eS* **S** **19 10 09.9 +1.7**
CIT pmax pmax
comp=Z,161nm,1.8s
BTO Baotou 25.61 281 *eP* **P** **19 06 09.9 -1.8**
BOD Bodaibo 25.82 322 ⇑*iP* **P** **19 06 12.5 -0.8**
BOD pmax pmax
comp=Z,72nm,0.9s
ULN Ulaanbaatar 27.20 298 *eP* **P** **19 06 26.0 -0.1**
comp=Z,22nm,1.1s
ULN Ulaanbaatar 27.20 298 P **P** **19 06 26.8 +0.6**
SNR=10
SONM Songino Array 27.64 298 P **P** **19 06 29.8 -0.2**
SONM Songino Array 27.64 298 P **P** **19 06 29.8 -0.2**
comp=Z,6.5nm,0.6s,baz=78,slow=8.5,SNR=27
SONM LR LR 19 18 18.7
comp=Z,538nm,19.6s,baz=24,slow=38
XAN Xi'an 28.38 268 P **P** **19 06 36.8 +0.1**
XAN pmax pmax
comp=Z,6.0nm,1.1s
XAN pmax pmax
comp=Z,33nm,5.2s
XAN LR LR
comp=N,400nm,14.3s
XAN LR LR
comp=E,140nm,12.6s
XAN LR LR
comp=Z,220nm,14.7s
IRK Irkutsk 29.38 307 *eP* **P** **19 06 46.1 +0.8**
IRK pmax pmax
comp=Z,70nm,1.3s
ENH Enshi 29.62 261 *eP* **P** **19 06 46.8 -0.8**
comp=Z,35nm,0.8s
TLY Talaya 29.69 306 *eP* **P** **19 06 48.3 +0.2**
TLY pmax pmax
comp=Z,32nm,1.0s
TLY Talaya 29.69 306 *eP* **P** **19 06 48.3 +0.2**
comp=Z,32nm,1.0s
TLY Talaya 29.69 306 P **P** **19 06 50.9 +2.8**
SNR=18
ZAK Zakamensk 29.81 303 *eP* **P** **19 06 48.3 -1.0**
ZAK pmax pmax
comp=Z,11nm,1.3s
BILL Bilibino 30.23 17 *eP* **P** **19 06 52.2 -0.5**
BILL *e* 19 07 03.4
BILL *e* 19 09 51.9
BILL *eS* **S** **19 11 51.1 +0.7**
BILL pmax pmax
comp=Z,10.0nm,0.8s
BILL MLR MLR
comp=Z,400nm,16.0s
MOY Mondy 31.34 306 *eP* P 19 07 06.4 +3.7
MOY pmax pmax
comp=Z,30nm,1.9s
LZH Lanzhou 31.50 275 *eP* **P** **19 07 06.0 +1.6**
LZH pmax pmax
comp=Z,38nm,1.2s
LZH pmax pmax
comp=Z,180nm,4.0s
LZH LR LR
comp=N,2μm,12.5s
LZH LR LR
comp=E,1μm,12.0s
LZH LR LR
comp=Z,2μm,13.2s
GTA Gaotai 33.50 283 ⇑P **P** **19 07 22.3 +0.4**
GTA pP **pP** **19 07 27.8 -1.7**
GTA sP **sP** **19 07 31.0 -1.7**
GTA S **S** **19 12 45.8 +3.6**
GTA sS **sS** **19 12 55.8 +1.0**
GTA pmax pmax
comp=Z,43nm,1.1s
GTA pmax pmax
comp=Z,170nm,5.9s
GTA LR LR
comp=N,510nm,16.6s
GTA LR LR
comp=E,1μm,15.4s
GTA LR LR
comp=Z,1μm,15.9s
WMQ Urumqi 41.08 294 P **P** **19 08 26.5 +0.5**
WMQ pP **pP** **19 08 36.8 +3.0**
WMQ S S 19 14 27.0 -10
WMQ sS **sS** **19 14 51.0 +1.0**
WMQ pmax pmax
comp=Z,27nm,0.9s
WMQ pmax pmax
comp=Z,230nm,5.2s
WMQ LR LR
comp=N,800nm,13.0s
WMQ LR LR
comp=E,860nm,14.6s
WMQ LR LR
comp=Z,920nm,15.4s
ZAA0 Zalesovo Array 41.10 310 *eP* **P** **19 08 25.5 -0.4**
ZALV Zalesovo Beam 41.10 310 P **P** **19 08 25.6 -0.3**
ZALV pmax pmax
comp=Z,14nm,0.7s
ZALV MLR MLR
comp=Z,150nm,18.3s
ZALV Zalesovo Beam 41.10 310 P **P** **19 08 25.6 -0.3**
ZALV Zalesovo Beam 41.10 310 P **P** **19 08 25.6 -0.3**
comp=Z,14nm,0.7s,baz=89,slow=7.8,SNR=89
ZALV LR LR 19 26 05.3
comp=Z,150nm,18.3s,baz=249,slow=37
NVS Novosibirsk 41.94 311 ⇑*iP* **P** **19 08 31.9 -0.8**
NVS *e* 19 10 16.0
NVS *eS* **S** **19 14 44.9 -4.5**
NVS pmax pmax
comp=N,19nm,1.8s
NVS pmax pmax
comp=Z,62nm,1.8s
NVS pmax pmax
comp=E,35nm,1.7s
NVS smax smax
comp=N,13nm,2.0s
NVS smax smax
comp=E,42nm,2.5s
KDAK Kodiak Island 43.33 44 P **P** **19 08 44.5 +0.5**
KDAK Kodiak Island 43.33 44 P **P** **19 08 44.5 +0.5**
comp=E,11nm,1.1s,baz=307,slow=5.1,SNR=3.7
LSA Lhasa 43.84 273 P **P** **19 08 49.5 +0.4**
LSA pmax pmax
comp=Z,20nm,0.6s
LSA Lhasa 43.84 273 *eP* **P** **19 08 49.6 +0.4**
LSA pmax pmax
comp=Z,38nm,1.3s
LSA Lhasa 43.84 273 *eP* **P** **19 08 49.6 +0.5**
comp=Z,38nm,1.3s
MK31 Makanchi Array 43.99 300 *i* P **P** **19 08 49.2 -0.3**
MK31 pmax pmax
comp=Z,32nm,0.9s
MK31 Makanchi Array 43.99 300 *eP* **P** **19 08 49.5 -0.1**
MKAR Makanchi Array 43.99 300 P **P** **19 08 49.4 -0.2**
MKAR Makanchi Array 43.99 300 P **P** **19 08 49.4 -0.2**
MKAR Makanchi Array 43.99 300 P **P** **19 08 49.4 -0.2**
comp=Z,11nm,0.4s,baz=76,slow=9.8,SNR=37
MKAR LR LR 19 27 54.2
comp=Z,247nm,18.8s,baz=260,slow=37
CHTO Chiang Mai 43.99 254 *eP* **P** **19 08 49.3 -0.5**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 43.99 254 *eP* **P** **19 08 49.2 -0.5**
comp=Z,7.7nm,0.8s
CM31 Chiang Mai Arr 44.22 254 *eP* **P** **19 08 50.2 -1.5**
comp=Z,2.7nm,0.6s
CMAR Chiang Mai Arr 44.22 254 P **P** **19 08 52.0 +0.4**
CMAR Chiang Mai Arr 44.22 254 P **P** **19 08 52.0 +0.4**
comp=Z,2.3nm,0.7s,baz=44,slow=7.1,SNR=29
KURK Kurchatov 45.39 306*e i*P **P** **19 09 00.4 -0.2**
KURK pmax pmax
comp=Z,44nm,1.0s
KURK MLR MLR
comp=Z,418nm,17.0s
KURK Kurchatov 45.39 306 P **P** **19 09 01.0 +0.4**
KURK Kurchatov 45.39 306 P **P** **19 09 01.0 +0.4**
SNR=19
KURBB Kurchatov Arra 45.47 306 P **P** **19 09 01.0 -0.2**
comp=Z,31nm,0.9s,baz=79,slow=8.5,SNR=153
ILAR Eielson Array 45.62 34 P **P** **19 09 02.3 +0.1**
ILAR Eielson Array 45.62 34 P **P** **19 09 02.3 +0.1**
comp=Z,2.3nm,0.7s,baz=260,slow=6.5,SNR=10
TAPN Taplejung 47.64 272 *eP* **P** **19 09 19.4 +0.5**
comp=Z,116nm,1.4s
TAPN Taplejung 47.64 272 *eP* **P** **19 09 19.4 +0.5**
ODAN Odare 48.13 272 *eP* **P** **19 09 23.2 +0.5**
comp=Z,81nm,1.1s
ODAN Odare 48.13 272 *eP* **P** **19 09 23.2 +0.5**
JIRN Jiri 48.64 273 *eP* **P** **19 09 27.1 +0.4**
comp=Z,12nm,0.7s
JIRN Jiri 48.64 273 *eP* **P** **19 09 27.1 +0.4**
RAMN Ramite 48.69 272 *eP* **P** **19 09 27.2 +0.2**
comp=Z,66nm,0.7s
RAMN Ramite 48.69 272 *eP* **P** **19 09 27.2 +0.2**
GUN Gumba 48.74 274 *eP* **P** **19 09 27.7 +0.2**
comp=Z,80nm,0.6s
GUN Gumba 48.74 274 *eP* **P** **19 09 27.7 +0.2**
KKN Kakani 49.26 274 *eP* **P** **19 09 31.5 +0.2**
comp=Z,65nm,0.8s
KKN Kakani 49.26 274 *eP* **P** **19 09 31.5 +0.2**
KKN Kakani 49.26 274 *eP* **P** **19 09 31.5 +0.2**
PKI Pulchoki 49.28 274 *eP* **P** **19 09 31.6 0.0**
PKI Pulchoki 49.28 274 *eP* **P** **19 09 31.6 0.0**
PKI Pulchoki 49.28 274 *eP* **P** **19 09 31.6 0.0**
DMN Daman 49.49 274 *eP* **P** **19 09 33.4 +0.3**
comp=Z,60nm,0.9s
DMN Daman 49.49 274 *eP* **P** **19 09 33.4 +0.3**
GKN Gorkha 49.64 275 *eP* **P** **19 09 34.2 0.0**
comp=Z,43nm,0.8s
GKN Gorkha 49.64 275 *eP* **P** **19 09 34.2 0.0**
TKM2 Tokmak 2 49.73 297 *eP* **P** **19 09 35.0 +0.3**
TKM2 Tokmak 2 49.73 297 *eP* **P** **19 09 35.0 +0.3**
TKM2 Tokmak 2 49.73 297 P **P** **19 09 35.1 +0.5**
SNR=46
BVA0 Borovoye Array 49.73 311 P **P** **19 09 34.1 -0.2**
BVA0 pmax pmax
comp=Z,4.0nm,1.3s
BVAR Borovoye Array 49.73 311 P **P** **19 09 34.5 +0.2**
BVAR Borovoye Array 49.73 311 P **P** **19 09 34.5 +0.2**
BVAR Borovoye Array 49.73 311 P **P** **19 09 34.5 +0.2**
comp=Z,11nm,0.9s,baz=74,slow=8.1,SNR=52
BRVK Borovoye 49.78 311 *eP* **P** **19 09 35.1 +0.4**
BRVK pmax pmax
comp=Z,32nm,1.1s
BRVK Borovoye 49.78 311 *eP* **P** **19 09 35.1 +0.4**
comp=Z,32nm,1.1s
BRVK Borovoye 49.78 311 P **P** **19 09 35.7 +1.1**
SNR=15
DANN Dangsing 50.13 276 *eP* **P** **19 09 38.6 +0.6**
comp=Z,91nm,0.6s
DANN Dangsing 50.13 276 *eP* **P** **19 09 38.6 +0.6**
KBK Karagaybulak 50.27 297 P **P** **19 09 38.9 +0.2**
SNR=31
CHMS Chumysh 50.27 297 P **P** **19 09 38.8 +0.2**
SNR=5.2
KZA Kyzart 50.28 296 P **P** **19 09 40.3 +1.2**
SNR=9.2
USP Ospennovka 50.34 297 P **P** **19 09 39.3 +0.2**
SNR=12
KAPI Kappang 50.34 212 LR LR 19 32 34.1
comp=Z,59nm,18.2s,baz=181,slow=38
FRU Bishkek 50.43 297 *eP* **P** **19 09 39.0 -0.8**
INK Inuvik 50.50 29 P **P** **19 09 40.5 +0.6**
INK Inuvik 50.50 29 P **P** **19 09 40.5 +0.6**
comp=Z,1.9nm,0.9s,baz=282,slow=4.3,SNR=2.9
KOLN Koldanda 50.55 275 *eP* **P** **19 09 41.3 +0.2**
comp=Z,24nm,0.7s
KOLN Koldanda 50.55 275 *eP* **P** **19 09 41.3 +0.2**
AAK Ala-Archa 50.59 297 *eP* **P** **19 09 41.0 -0.1**
AAK pmax pmax
comp=Z,37nm,0.8s
AAK Ala-Archa 50.59 297 *eP* **P** **19 09 41.0 -0.1**
comp=Z,37nm,0.8s
AAK Ala-Archa 50.59 297 P **P** **19 09 41.5 +0.4**
SNR=8.0
AAK Ala-Archa 50.59 297 P **P** **19 09 41.3 +0.1**
SNR=9.9
EKS2 Erkin-Say 51.06 297 *eP* **P** **19 09 44.6 -0.1**
EKS2 pmax pmax
comp=Z,9.0nm,0.7s
EKS2 Erkin-Say 51.06 297 *eP* **P** **19 09 44.6 -0.1**
comp=Z,9.3nm,0.7s
EKS2 Erkin-Say 51.06 297 P **P** **19 09 44.9 +0.2**
SNR=14
AML Almayashu 51.33 296 P **P** **19 09 47.7 +0.7**
SNR=22
HNR Honiara 51.81 160 LR LR 19 29 14.4
comp=Z,122nm,20.1s,baz=298,slow=33
KK31 Karatay Array 53.09 299 *i* P **P** **19 09 59.0 -0.6**
KK31 pmax pmax
comp=Z,10.0nm,0.8s
KKAR Karatay Array 53.09 299 *eP* **P** **19 09 59.3 -0.3**
KKAR pmax pmax
comp=Z,5.0nm,0.6s
KKAR Karatay Array 53.09 299 *eP* **P** **19 09 59.3 -0.3**
comp=Z,4.7nm,0.6s
SMLA Simla 53.72 282 *i* P **P** **19 10 04.6 +0.3**
SMLA AML AML 19 10 09.7
comp=Z,81nm,0.1s
SMLA *i* S **S** **19 17 38.6 +1.7**
SMLA *i* S S 19 17 42.8 +5.9
SVE Sverdlovsk 53.88 317⇓*eP* **P** **19 10 05.9 +0.8**
SVE pmax pmax
comp=Z,42nm,1.2s
SVE MLR MLR
comp=Z,1μm,15.0s
DLBC Dease Lake 54.80 40 P **P** **19 10 14.1 +2.1**
DLBC Dease Lake 54.80 40 P **P** **19 10 14.1 +2.1**
comp=Z,1.6nm,0.7s,baz=270,slow=8.1,SNR=3.0
SOKR Solikamsk 54.81 322 *eP* P 19 10 19.2 +7.4
SOKR pmax pmax
comp=Z,20nm,1.5s
ARU Arti 55.09 318 *eP* **P** **19 10 14.1 +0.1**
ARU pmax pmax
comp=Z,17nm,0.9s
ARU Arti 55.09 318 *eP* **P** **19 10 14.1 +0.1**
comp=Z,17nm,0.9s
ALE Alert 56.59 4 P **P** **19 10 25.5 +1.1**
comp=Z,74nm,1.1s,SNR=5.7
AB31 Akbulak array 57.22 309 *i* P **P** **19 10 29.4 +0.2**
AB31 pmax pmax
comp=Z,11nm,0.6s
ABKAR Akbulak array 57.22 309 *eP* **P** **19 10 29.3 +0.1**
comp=Z,10.0nm,0.6s
AKTO Aktyubinsk 57.83 311 P **P** **19 10 33.5 0.0**
AKTO pmax pmax
comp=Z,2.0nm,0.8s
RES Resolute Bay 58.83 15 P **P** **19 10 40.9 +0.8**
RES Resolute Bay 58.83 15 P **P** **19 10 40.9 +0.8**
comp=Z,3.3nm,0.8s,baz=311,slow=6.0,SNR=8.2
YKA Yellowknife Ar 59.92 32 P **P** **19 10 48.0 +0.2**
YKA Yellowknife Ar 59.92 32 P **P** **19 10 48.0 +0.2**
comp=Z,0.7nm,0.7s,baz=296,slow=6.6,SNR=8.5
HYB Hyderabad 60.19 268 *i* P **P** **19 10 49.5 -0.9**
FITZ Fitzroy Crossi 60.65 200 *eP* **P** **19 10 53.2 0.0**
comp=Z,6.5nm,1.0s
WRAB Tennant Creek 60.70 190 *eP* **P** **19 10 52.4 -1.3**
WRAB pmax pmax
comp=Z,6.0nm,1.0s
WRAB Tennant Creek 60.70 190 *eP* **P** **19 10 52.4 -1.3**
comp=Z,6.1nm,1.0s
WRA Warramunga Arr 60.72 190 P **P** **19 10 52.9 -0.8**
WRA Warramunga Arr 60.72 190 P **P** **19 10 52.9 -0.8**
comp=Z,0.7nm,0.5s,baz=7.7,slow=7.0,SNR=16
KEV Kevo 60.93 339 *ep* P 19 11 08.4 +14
comp=Z,0.7nm,0.4s
ARCES ARCESS Array B 61.48 339 P **P** **19 10 58.2 -0.1**
ARCES ARCESS Array B 61.48 339 P **P** **19 10 58.2 -0.1**
comp=Z,6.3nm,1.1s,baz=46,slow=7.8,SNR=2.6
ARCES LR LR 19 43 35.8
comp=Z,395nm,18.1s,baz=184,slow=42
KLMR Klimovskoe 61.89 327 *eP* **P** **19 11 00.5 -0.8**
KLMR *e* 19 13 19.7
KLMR pmax pmax
comp=Z,39nm,1.8s
KLMR MLR MLR
comp=Z,459nm,14.0s
ABKT Ailbek 63.85 299 P **P** **19 11 14.6 -0.1**
comp=Z,75nm,0.9s,SNR=8.5
JOF Joensuu 63.85 332 *eP* **P** **19 11 13.3 -0.9**
JOF pmax pmax
comp=Z,5.0nm,0.7s
JOF Joensuu 63.85 332 *ep* **P** **19 11 13.3 -0.9**
comp=Z,4.9nm,0.7s
ASAR Alice Springs 64.44 190 P **P** **19 11 17.8 -0.8**
ASAR Alice Springs 64.44 190 P **P** **19 11 17.8 -0.8**
comp=Z,0.9nm,0.8s,baz=15,slow=6.4,SNR=7.7
MOS Moscow 65.64 323 *eP* P 19 11 17.7 -8.3
MOS *e* 19 11 32.1
MOS *e* 19 11 53.5
MOS pmax pmax
comp=Z,27nm,0.8s
DZM Mont Dzumac 65.66 157 *e*LR LR 19 31 20.9
comp=Z,130nm,22.9s
DZM Mont Dzumac 65.66 157 LR LR 19 35 53.7
comp=Z,100nm,21.3s,baz=52,slow=32
KAF Kangasniemi 66.14 333 *eP* **P** **19 11 27.7 -1.5**
KAF pmax pmax
comp=Z,6.0nm,0.8s
KAF Kangasniemi 66.14 333 *ep* **P** **19 11 27.7 -1.5**
comp=Z,6.4nm,0.8s

VRHR **Novokhopersk** 66.43 318 *e*P P 19 11 29.8 -1.4
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR pmax pmax
comp=E,8.0nm,0.8s
OBN Obninsk 66.50 323⇑ *e*P P 19 11 31.6 +0.1
OBN *e* 19 13 57.2
OBN pmax pmax
comp=Z,26nm,1.5s
OBN MLR MLR
comp=Z,300nm,14.0s
FINES FINESS Array B 66.68 332 P P 19 11 32.8 +0.2
FINES FINESS Array B 66.68 332 P P 19 11 32.8 +0.2
comp=Z,9.3nm,0.8s,baz=49,slow=8.6,SNR=25
YBH Yreka Blue Hor 66.80 54 P P 19 11 34.2 +0.3
YBH Yreka Blue Hor 66.80 54 P P 19 11 34.2 +0.3
comp=Z,2.5nm,1.0s,baz=1.0,slow=5.1,SNR=3.6
C11A Tepee Creek (N 67.12 46 ⇑P P 19 11 36.5 +0.7
baz=67
SUMG Summit 67.27 1 *e*P P 19 11 37.6 +0.9
SUMG pmax pmax
comp=Z,13nm,0.8s
SUMG Summit 67.27 1 *e*P P 19 11 37.6 +0.9
comp=Z,13nm,0.8s
SUMG Summit 67.27 1 *i* P P 19 11 37.6 +0.9
comp=Z,9.6nm,0.8s
VSR Storozhevoye 67.61 319 *e*P P 19 11 38.6 -0.1
VORD Divnogorie 67.70 319 *e*P P 19 11 38.3 -0.9
VORD pmax pmax
comp=Z,20nm,0.6s
VORD pmax pmax
comp=N,40nm,0.7s
VORD pmax pmax
comp=E,60nm,0.6s
B13A Whitefish 67.78 45 ⇓P P 19 11 40.9 +1.0
baz=68
A15A Johnson Ranch, 68.34 44 ⇑P P 19 11 43.1 -0.4
baz=68
B14A Marquette Ranc 68.42 44 ⇑P P 19 11 44.0 -0.1
baz=68
D13A Huson 68.54 46 ⇑P P 19 11 44.7 -0.1
baz=68
B15A Bradely Ranch, 68.83 44 ⇓P P 19 11 47.1 +0.5
baz=69
F12A Elk City 68.90 47 ⇑P P 19 11 48.2 +1.2
baz=69
D14A Greenough 69.07 46 ⇓P P 19 11 48.4 +0.2
baz=69
C15A Salmond Ranch, 69.14 45 ⇑P P 19 11 49.7 +1.1
baz=69
G12A Big Creek, Yel 69.23 48 ⇑P P 19 11 49.7 +0.5
baz=69
C16A Fuhringer Ranc 69.58 44 ⇓P P 19 11 51.3 +0.1
baz=69
H12A Diamond D Ranc 69.85 48 ⇓P P 19 11 53.1 +0.1
baz=70
E15A Deer Lodge 69.94 46 ⇑P P 19 11 53.4 -0.1
baz=70
KIV Kislovodsk 70.09 311 *e*P P 19 11 55.5 +1.1
KIV *e* 19 12 19.1
KIV *e*S S 19 21 04.2 +0.4
KIV pmax pmax
comp=Z,37nm,1.1s
KIV pmax pmax
comp=Z,58nm,4.4s
KIV Kislovodsk 70.09 311 *e*P P 19 11 55.4 +0.9
comp=Z,42nm,1.1s
KIV Kislovodsk 70.09 311 P P 19 11 56.4 +2.0
SNR=9.4
ZEI Tsey 70.10 310 *e*P P 19 11 53.9 -0.8
ZEI pmax pmax
comp=Z,12nm,1.0s
KBZ Khabaz 70.11 311 P P 19 11 55.0 +0.7
KBZ Khabaz 70.11 311 P P 19 11 55.0 +0.7
KBZ Khabaz 70.11 311 P P 19 11 55.0 +0.7
comp=Z,9.6nm,0.8s,baz=68,slow=3.7,SNR=24
I12A Atlanta 70.14 49 ⇓P P 19 11 54.6 -0.2
baz=70
H13A Challis 70.18 48 ⇓P P 19 11 55.1 +0.1
baz=70
B18A Beardsley Farm 70.24 43 ⇑P P 19 11 55.5 +0.2
baz=70
F15A Butte 70.38 46 ⇓P P 19 11 56.6 +0.3
baz=70
E16A East Helena 70.40 45 ⇓P P 19 11 56.8 +0.5
baz=70
LRM Limekiln Ridge 70.42 46 *e*P P 19 11 57.7 +1.1
comp=Z,110nm,1.2s
A19A Klindworth Far 70.44 42 ⇑P P 19 11 56.7 +0.3
baz=70
I13A Wildhorse Cree 70.65 49 ⇑P P 19 11 58.4 +0.4
baz=70
G15A Dillon 70.80 47 ⇑P P 19 11 59.3 +0.5
baz=71
E17A Martinsdale 70.89 45 ⇓P P 19 11 59.7 +0.3
baz=71
F16A Kennard Place, 70.89 46 ⇓P P 19 11 59.7 +0.4
baz=71
NACGM Naroch 70.91 327 *e* P 19 12 06.0 +6.9
I14A Mackay 71.02 48 ⇓P P 19 12 01.1 +0.9
baz=71
C19A Slack Wire Ran 71.04 43 ⇓P P 19 12 00.5 +0.4
baz=71
G16A Moss Hill, Enn 71.14 46 ⇑P P 19 12 01.2 +0.3
baz=71
F17A Fitzpatrick Pl 71.34 45 ⇑P P 19 12 01.9 -0.1
baz=71
NVAR Mina Array Bea 71.47 55 P P 19 12 04.2 +1.1
NVAR Mina Array Bea 71.47 55 P P 19 12 04.2 +1.1
comp=Z,1.6nm,0.7s,baz=284,slow=6.8,SNR=6.7
C20A Veseth Ranch, 71.59 43 ⇑P P 19 12 03.9 +0.5
baz=71
NB2 NORSAR Subarra 71.76 338 P P 19 12 04.3 +0.1
comp=Z,0.9nm,0.8s,baz=46,slow=6.2
NOA NORSAR Array B 71.76 338 P P 19 12 04.3 +0.1
NOA NORSAR Array B 71.76 338 P P 19 12 04.3 +0.1
comp=Z,6.8nm,0.8s,baz=38,slow=6.0,SNR=27
NOA LR LR 19 51 05.5
comp=Z,165nm,18.1s,baz=25,slow=42
A22A Carney Farms, 71.82 41 ⇑P P 19 12 05.2 +0.4
baz=72
WBK Wadi Bani Khal 71.92 285 ⇑P P 19 12 06.7 +0.9
SNR=7.4
D20A Manuel Ranch, 71.93 43 ⇑P P 19 12 06.4 +0.9
baz=72
J15A Blackfoot 71.93 48 ⇓P P 19 12 06.5 +0.8
baz=72
STKA Stephens Creek 71.98 182 P P 19 12 07.0 +1.4
STKA Stephens Creek 71.98 182 P P 19 12 07.0 +1.4
comp=Z,1.2nm,0.8s,baz=0.0,slow=9.1,SNR=3.1
K14A Jones Ranch, D 72.04 49 ⇑P P 19 12 07.1 +0.8
baz=72
E20A Meyer Farm, Mu 72.31 44 ⇑P P 19 12 09.1 +1.3
baz=72
ANN Anapa 72.52 314 *e*P P 19 12 04.0 -4.9
ANN *e**PP pP 19 12 10.5 -6.6
ANN *e*S S 19 21 23.8 -7.7
ANN pmax pmax
comp=Z,75nm,1.3s
ANN MLR MLR
comp=N,636nm,19.0s
ANN MLR MLR
comp=Z,526nm,19.0s
B23A Brockton 72.63 41 ⇓P P 19 12 10.0 +0.5
baz=72
H18A Shoshone NF, C 72.67 46 ⇓P P 19 12 10.7 +0.6
baz=72
AKASG Malin Array Be 72.74 323 P P 19 12 10.3 +0.1
AKASG Malin Array Be 72.74 323 P P 19 12 10.2 +0.1
AKASG Malin Array Be 72.74 323 P P 19 12 10.2 +0.1
comp=Z,9.2nm,0.8s,baz=44,slow=6.1,SNR=24
AKBB Malin Array Si 72.74 323 *e*P P 19 12 10.2 +0.1
AKBB Malin Array Si 72.74 323 *e*P P 19 12 10.2 +0.1
KIEV Kiev 72.75 323 *e*P P 19 12 10.1 -0.1
KIEV pmax pmax
comp=Z,14nm,0.8s
KIEV Kiev 72.75 323 *e*P P 19 12 10.1 -0.1
comp=Z,14nm,0.8s
K16A Soda Springs 72.77 48 ⇑P P 19 12 12.2 +1.5
baz=73
L15A Malad City 72.84 49 ⇓P P 19 12 12.0 +0.9
baz=73
D22A Cohagen 72.90 42 ⇑P P 19 12 11.8 +0.6
baz=73
ISA Isabella 73.04 58 ⇑P P 19 12 12.8 +0.5
baz=73
M15A Larsen Ranch, 73.14 50 ⇑P P 19 12 13.3 +0.4
baz=73
DUG Dugway 73.73 51 *e*P P 19 12 16.8 +0.4
DUG pmax pmax
comp=Z,12nm,1.4s
DUG Dugway 73.73 51 *e*P P 19 12 16.8 +0.4
comp=Z,12nm,1.4s
DUG Dugway 73.73 51 ⇓P P 19 12 17.0 +0.6
baz=74
J19A Crowheart 73.92 47 ⇓P P 19 12 18.0 +0.5
baz=74
BW06 Boulder Array 73.96 47 ⇑P P 19 12 17.6 -0.2
baz=74
PDAR Pinedale Array 73.96 47 P P 19 12 18.6 +0.8
PDAR Pinedale Array 73.96 47 P P 19 12 18.5 +0.8
comp=Z,1.1nm,0.7s,baz=288,slow=2.6,SNR=5.5
J22A Midwest 75.23 45 ⇓P P 19 12 25.0 -0.1
baz=75
LVV L'vov 75.72 325 *e*P P 19 12 27.6 +0.1
LVV MLR MLR
comp=Z,200nm,15.0s
LVV MLR MLR
comp=N,100nm,14.0s
LVV MLR MLR
comp=E,400nm,14.0s
SRU San Rafael 75.78 51 ⇓P P 19 12 28.6 +0.3
baz=76
MIB Mutribah 75.84 297 *e*P P 19 12 28.1 -0.5
MIB AMb AMB 19 12 29.4
comp=Z,37nm,0.9s
QRN Al-Qurain 76.10 296 *e*P P 19 12 29.9 -0.2
QRN AMb AMB 19 12 31.1
comp=Z,62nm,1.1s
IRM Iron Mountain 76.11 57 ⇑P P 19 12 30.9 +0.8
baz=76
RDF Al-Radifah 76.24 296 *e*P P 19 12 30.8 0.0
NAY Al-Naaiem 76.25 297 *e*P P 19 12 30.2 -0.7
NAY AMb AMB 19 12 31.7
comp=Z,20nm,1.4s
KWP Kalwaria Pacla 76.44 325 *e*P P 19 12 32.8 +1.2
KWP Kalwaria Pacla 76.44 325 *e*P P 19 12 32.8 +1.2
KWP Kalwaria Pacla 76.44 325 *e*P P 19 12 32.8 +1.2
KWP pmax pmax
comp=Z,29nm,1.0s
KWP Kalwaria Pacla 76.44 325 *e*P P 19 12 32.8 +1.2
comp=Z,29nm,1.0s
KWP Kalwaria Pacla 76.44 325⇑ *i*P P 19 12 32.8 +1.2
R18A Canyonlands Na 76.62 51 ⇓P P 19 12 33.4 +0.3
baz=76
BUR08 Bucovina Ar. S 76.77 322 *e*P P 19 12 34.3 +0.6
BURAR Bucovina Array 76.79 322⇑ *i*P P 19 12 34.6 +0.8
TESR 76.90 321⇓ *i*P P 19 12 35.1 +0.8
CFR Carcaliu 77.13 319 ⇑P P 19 12 35.8 +0.3
CFR Carcaliu 77.13 319⇑ *i*P P 19 12 35.8 +0.3
KOLS Kolonicke sedl 77.15 325 *e*P P 19 12 36.3 +0.6
KOLS pmax pmax
comp=Z,7.0nm,1.2s
KOLS Kolonicke sedl 77.15 325 *e*P P 19 12 36.3 +0.6
VRI Vrincioaia 77.33 320 ⇓P P 19 12 38.6 +1.9
VRI Vrincioaia 77.33 320⇓ *i*P P 19 12 38.6 +1.9
UZH Uzhgorod 77.37 325 *e*P P 19 12 32.8 -4.0
UZH *e* 19 12 49.4
UZH *e*S S 19 22 17.0 -8.4
UZH MLR MLR
comp=Z,270nm,14.5s
PLOR Plostina 77.38 320 ⇓P P 19 12 43.9 +6.9
PLOR Plostina 77.38 320⇓ *i*P P 19 12 43.9 +6.9
CRVS Cervenica-Dubn 77.53 325 *e*P P 19 12 38.9 +1.1
CRVS pmax pmax
comp=Z,12nm,1.8s
CRVS Cervenica-Dubn 77.53 325 *e*P P 19 12 38.9 +1.1
TRPA Tarpa 77.63 324⇓ *i*P P 19 12 39.8 +1.5
NIE Niedzica 77.63 326 *e*P P 19 12 40.0 +1.7
NIE Niedzica 77.63 326 *e*P P 19 12 40.1 +1.7
BSEG Bad Segeberg 77.85 334 *e*P P 19 12 40.4 +1.0
BSEG Bad Segeberg 77.85 334 *e*P P 19 12 40.4 +1.0
BRTR Keskin Array B 77.98 312 P P 19 12 41.1 +0.4
BRTR PP PP 19 15 33.8 -2.5
BRTR Keskin Array B 77.98 312 P P 19 12 41.1 +0.4
comp=Z,1.8nm,0.9s,baz=72,slow=4.4,SNR=8.9
BRTR PP PP 19 15 33.8 -2.5
comp=Z,1.6nm,0.9s,baz=73,slow=4.8,SNR=3.8
BRTR LR LR 19 50 15.6
comp=Z,60nm,18.4s,baz=284,slow=38
MLR Muntele Rosu 77.98 321⇑ *i*P P 19 12 42.3 +1.8
KSP Ksiaz 78.17 329 *e*P P 19 12 42.9 +1.5
KSP Ksiaz 78.17 329 *e*P P 19 12 42.9 +1.5
KSP Ksiaz 78.17 329 *e*P P 19 12 42.5 +1.2
KSP *e* 19 12 51.6
OKC Ostrava-Krasne 78.22 327 AMS AMS 19 56 30.0
comp=Z,500nm,18.1s
VOIR 78.45 321 ⇓P P 19 12 44.3 +1.2
VOIR 78.45 321⇓ *i*P P 19 12 44.3 +1.2
MORC Moravsky Berou 78.51 328 *e*P P 19 12 44.2 +0.9
MORC pmax pmax
comp=Z,6.0nm,0.8s
MORC Moravsky Berou 78.51 328 *e*P P 19 12 44.2 +0.9
comp=Z,6.1nm,0.8s
MORC Moravsky Berou 78.51 328⇑ *i*P P 19 12 44.2 +0.9
DRGR 78.55 323 ⇑P P 19 12 44.3 +0.7
DRGR 78.55 323⇑ *i*P P 19 12 44.3 +0.7
UPC Upice 78.55 329 *e*P P 19 12 44.6 +1.2
UPC *e* 19 12 54.5
UPC Upice 78.55 329 *e*P P 19 12 44.6 +1.2
UPC *e*PCP PcP 19 12 54.5 +2.1
DPC Dobruska-Polom 78.55 329 *e*P P 19 12 44.7 +1.2
DPC *e* 19 12 54.8
DPC MLR MLR
comp=Z,400nm,12.4s
DPC Dobruska-Polom 78.55 329 *e*P P 19 12 44.7 +1.2
DPC *e*PCP PcP 19 12 54.8 +2.3
DPC AMS AMS 19 53 10.0
comp=Z,400nm,12.4s
PSZ Piszkesteto 78.96 325 ⇑P P 19 12 47.6 +1.8
PSZ Piszkesteto 78.96 325 *e*P P 19 12 45.1 -0.7
comp=Z,50nm,1.8s
PSZ Piszkesteto 78.96 325⇑ *i*P P 19 12 47.6 +1.8
VYHS Vyhne 78.97 326 *e*P P 19 12 46.2 +0.4
VYHS pmax pmax
comp=Z,23nm,2.4s
VYHS Vyhne 78.97 326 *e*P P 19 12 46.2 +0.4
BRG Berggiesshubel 79.06 330 *e*P P 19 12 47.7 +1.5
comp=Z,6.1nm,1.1s
BRG
comp=N,385nm,12.9s
BRG
comp=E,232nm,21.0s
BRG
comp=Z,491nm,13.0s
BRG Berggiesshubel 79.06 330 *e*P P 19 12 46.8 +0.6
comp=Z,6.0nm,1.0s
BRG Berggiesshubel 79.06 330 *e*P P 19 12 47.7 +1.5
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG MLR MLR
comp=N,385nm,12.9s
BRG MLR MLR
comp=E,232nm,21.0s
BRG MLR MLR
comp=Z,491nm,13.0s
CLL Collm 79.06 331 *e*P P 19 12 46.5 +0.3
comp=Z,10.0nm,0.9s
CLL Collm 79.06 331⇑ *i*P P 19 12 46.5 +0.3
CLL *i* 19 12 55.5
CLL pmax pmax
comp=Z,10.0nm,0.9s
CLL MLR MLR
comp=Z,300nm,20.2s
CLL Collm 79.06 331⇑ *i*P P 19 12 46.5 +0.3
comp=Z,10.0nm,0.9s
CLL *i* pP PcP 19 12 55.5 +0.9
CLL LmH 19 46 00.0
comp=N,300nm,20.1s
CLL LmH 19 46 00.0
comp=E,600nm,22.0s
CLL LmV 19 50 00.0
comp=Z,300nm,20.2s
PVCC Panska Ves 79.09 330 *e*P P 19 12 48.0 +1.6
PVCC *e* 19 12 57.1
PVCC MLR MLR
comp=Z,500nm,14.2s
PVCC Panska Ves 79.09 330 *e*P P 19 12 48.0 +1.6
PVCC *e*PCP PcP 19 12 57.1 +2.3
PVCC AMS AMS 19 54 10.0
comp=Z,500nm,14.2s
NRDL Niedersach Rie 79.12 333 *e*P P 19 12 47.0 +0.6
R23A Moffat 79.13 49 ⇓P P 19 12 47.9 +0.7
baz=79
VRAC Vranov 79.26 328⇑ *i*P P 19 12 47.0 -0.4
PRU Pruhonice 79.54 329 *e*P P 19 12 50.2 +1.4
PRU *e* 19 12 59.5
PRU MLR MLR
comp=Z,500nm,11.8s
PRU Pruhonice 79.54 329 *e*P P 19 12 50.2 +1.4
PRU *e*PCP pP 19 12 59.5 +2.4
PRU AMS AMS 19 53 00.0
comp=Z,500nm,11.8s
GZR Gura Zlata 79.56 322 ⇑P P 19 12 49.6 +0.5
GZR Gura Zlata 79.56 322⇑ *i*P P 19 12 49.6 +0.5
CLZ Clausthal 79.56 333 *e*P P 19 12 50.0 +1.0
comp=Z,17nm,1.2s
CLZ Clausthal 79.56 333 *e*P P 19 12 50.0 +1.0
CLZ pmax pmax
comp=Z,17nm,1.2s
TREC Trest 79.72 329 *e*P P 19 12 51.2 +1.3
TREC MLR MLR
comp=Z,400nm,11.1s
TREC Trest 79.72 329 *e*P P 19 12 51.2 +1.3
TREC AMS AMS 19 54 10.0
comp=Z,400nm,11.1s
IBBN Ibbenburen 80.06 334 *e*P P 19 12 52.2 +0.6
MOX Moxa 80.11 331 *e*P P 19 12 52.6 +0.7
comp=Z,7.0nm,1.3s
MOX *e*L L 19 51 21.0
comp=Z,238nm,18.3s
MOX Moxa 80.11 331 *e*P P 19 12 52.6 +0.7
MOX pmax pmax
comp=Z,7.0nm,1.3s
MOX MLR MLR
comp=Z,200nm,18.3s
Y20A Horse Springs, 80.52 53 ⇓P P 19 12 55.8 +1.0
baz=80
KHC Kasperske Hory 80.60 329 *e*P P 19 12 55.5 +0.9
KHC *e* 19 13 05.2
KHC MLR MLR
comp=Z,600nm,20.1s
KHC Kasperske Hory 80.60 329 *e*P P 19 12 55.6 +0.9
comp=Z,6.1nm,0.8s
KHC Kasperske Hory 80.60 329 *e*P P 19 12 55.5 +0.9
KHC *e*PCP pP 19 13 05.2 +2.3
KHC AMS AMS 19 52 40.0
comp=Z,600nm,20.1s
ROTZ Rotzenmuhle 80.61 331 *e*P P 19 12 55.8 +1.2
CONA Conrad Observa 80.65 327⇑ *i*pP P 19 12 56.4 +1.4
comp=Z,7.7nm,1.0s
GEC2 GERESS Array S 80.78 329 *e*P P 19 12 56.3 +0.6
comp=Z,3.0nm,1.0s
GEC2 GERESS Array S 80.78 329 *e*P P 19 12 56.3 +0.6
GEC2 pmax pmax
comp=Z,3.0nm,1.0s
GERES GERESS Array B 80.78 329 P P 19 12 55.9 +0.2
GERES GERESS Array B 80.78 329 P P 19 12 55.9 +0.2
comp=Z,2.2nm,0.8s,baz=28,slow=6.0,SNR=12
WET Wettzell 80.86 330 *e*P P 19 12 57.1 +1.1
comp=Z,12nm,1.2s
WET Wettzell 80.86 330 *e*P P 19 12 57.1 +1.1
WET pmax pmax
comp=Z,12nm,1.2s
BUG Bochum--Univer 80.96 334 *e*P P 19 12 56.8 +0.4
GRF Grafenberg Arr 81.03 331 *e*P P 19 12 58.1 +1.2
comp=Z,19nm,1.2s
GRF *e*pP pP 19 13 06.9 +1.8
GRF *e*L L 19 49 21.4
comp=Z,208nm,18.7s
GRF Grafenberg Arr 81.03 331 *e*P P 19 12 58.1 +1.2
GRF *e**PP pP 19 13 07.0 +1.8
GRF pmax pmax
comp=Z,19nm,1.2s
GRF MLR MLR
comp=Z,200nm,18.7s
RAYN Ar Rayn 81.08 293 P P 19 12 57.0 -0.6
comp=Z,40nm,1.6s,SNR=7.3
ARSA Arzberg 81.33 327⇓ *i*pP P 19 12 59.6 +1.0
comp=Z,4.4nm,0.9s
W24A Lazy 6 Ranch, 81.42 51 ⇑P P 19 13 00.2 +0.7
baz=81
VTS Vitosha 81.45 320 ⇓P P 19 13 00.8 +1.4
VTS Vitosha 81.45 320⇓ *i*P P 19 13 00.8 +1.4
SCHQ Schefferville 81.54 17 LR LR 19 53 23.7
comp=Z,171nm,18.8s,baz=246,slow=39
TNS Taunus Mts 81.59 333 *e*P P 19 13 00.5 +0.6
comp=Z,7.0nm,1.1s
TNS Taunus Mts 81.59 333 *e*P P 19 13 00.5 +0.6
TNS pmax pmax
comp=Z,7.0nm,1.1s
SOKA Soboth 81.99 327⇑ *i*pP P 19 13 02.7 +0.6
comp=Z,11nm,0.8s
RJOB Jochberg 82.03 329 *e*P P 19 13 03.5 +1.2
comp=Z,12nm,1.1s
FUR Furstenfeldbru 82.27 330 *e*P P 19 13 04.7 +1.2
FUR Furstenfeldbru 82.27 330 *e*P P 19 13 04.7 +1.2
OBKA Obir 82.32 327⇑ *i*P P 19 13 04.2 +0.4
comp=Z,8.1nm,0.8s
KBA Koelnbreinsper 82.35 328⇑ *i*pP P 19 13 05.7 +1.6
comp=Z,11nm,1.0s
MOTA Moosalm 83.01 330⇑ *i*pP P 19 13 08.2 +0.7
comp=Z,10nm,0.9s
BAIF Baives 83.15 335 *e*P P 19 13 08.3 +0.4
BAIF Baives 83.15 335 *e*P P 19 13 08.3 +0.4
BAIF Baives 83.15 335 *e*P P 19 13 08.3 +0.4
FETA Feichten 83.42 330⇑ *i*pP P 19 13 10.5 +0.8
comp=Z,10nm,1.2s
CDF Champ du Feu 83.53 333 *e*P P 19 13 10.6 +0.5
comp=Z,15nm,1.0s
CDF Champ du Feu 83.53 333 *e*P P 19 13 10.6 +0.5
CDF pmax pmax
comp=Z,15nm,1.0s
CDF Champ du Feu 83.53 333 *e*P P 19 13 10.6 +0.5
comp=Z,15nm,1.0s
PAGF Fort de Pagny 83.94 333 *e*P P 19 13 12.9 +0.8
comp=Z,11nm,1.1s
PAGF Fort de Pagny 83.94 333 *e*P P 19 13 12.9 +0.8
comp=Z,11nm,1.1s
HINF Hinteralfeld 84.19 332 *e*P P 19 13 13.5 +0.1
HINF Hinteralfeld 84.19 332 *e*P P 19 13 13.5 +0.1
HINF Hinteralfeld 84.19 332 *e*P P 19 13 13.5 +0.1
HAU Haudompre 84.20 333 *e*P P 19 13 13.7 +0.2
comp=Z,12nm,0.8s
HAU *e*R
comp=Z,275nm,21.2s
HAU Haudompre 84.20 333 *e*P P 19 13 13.7 +0.2
HAU pmax pmax
comp=Z,12nm,0.8s
HAU Haudompre 84.20 333 *e*P P 19 13 13.7 +0.2
comp=Z,12nm,0.8s
MEZF Maizieres J'vi 84.22 334 *e*P P 19 13 14.2 +0.7
MEZF Maizieres J'vi 84.22 334 *e*P P 19 13 14.2 +0.7
SFTF Sexfontaines 84.48 334 *e*P P 19 13 15.4 +0.6
comp=Z,18nm,0.9s
SFTF Sexfontaines 84.48 334 *e*P P 19 13 15.4 +0.6
comp=Z,18nm,0.9s
PPT Papeete 84.53 118 LR LR 19 43 08.2
comp=Z,225nm,19.8s,baz=7.1,slow=30
PPT2 Papeete2 84.55 118 *e*LR LR 19 39 46.7
comp=Z,222nm,21.8s
CABF La Chapelle 85.49 332 *e*P P 19 13 20.5 +0.5
CABF La Chapelle 85.49 332 *e*P P 19 13 20.5 +0.5
CABF La Chapelle 85.49 332 *e*P P 19 13 20.5 +0.5
LOR Lormes 85.69 334 *e*P P 19 13 21.4 +0.5
comp=Z,20nm,0.9s
LOR *e*R
comp=Z,279nm,18.5s
LOR Lormes 85.69 334 *e*P P 19 13 21.4 +0.5
comp=Z,20nm,0.9s
FLN La Foliniere 85.74 337 *e*P P 19 13 21.6 +0.5
comp=Z,17nm,1.0s
FLN *e*R
comp=Z,220nm,17.8s
FLN La Foliniere 85.74 337 *e*P P 19 13 21.6 +0.5
FLN pmax pmax
comp=Z,17nm,1.0s
FLN La Foliniere 85.74 337 *e*P P 19 13 21.6 +0.5
comp=Z,17nm,1.0s
LDF La Druitiere 85.78 337 *e*P P 19 13 21.7 +0.4
comp=Z,20nm,1.2s
LDF La Druitiere 85.78 337 *e*P P 19 13 21.7 +0.4
LDF pmax pmax
comp=Z,20nm,1.2s
LDF La Druitiere 85.78 337 *e*P P 19 13 21.7 +0.4
comp=Z,20nm,1.2s

SSF	Saint Saulge	85.99 334	eP	P	19 13 23.0	+0.6
	comp=Z,15nm,0.9s					
SSF	Saint Saulge	85.99 334	eP	P	19 13 23.0	+0.6
SSF			pmax	pmax		
	comp=Z,15nm,0.9s					
SSF	Saint Saulge	85.99 334	eP	P	19 13 23.0	+0.6
	comp=Z,15nm,0.9s					
HYF	Humbligny	86.09 335	eP	P	19 13 24.0	+1.1
HYF	Humbligny	86.09 335	eP	P	19 13 24.0	+1.1
GRR	Gorron	86.18 337	eP	P	19 13 24.1	+0.8
	comp=Z,48nm,1.2s					
GRR	Gorron	86.18 337	eP	P	19 13 24.1	+0.8
GRR			pmax	pmax		
	comp=Z,48nm,1.2s					
GRR	Gorron	86.18 337	eP	P	19 13 24.1	+0.8
	comp=Z,48nm,1.2s					
LPL	La Plagne	86.19 331	eP	P	19 13 24.5	+0.8
	comp=Z,16nm,0.8s					
LPL	La Plagne	86.19 331	eP	P	19 13 24.5	+0.8
LPL			pmax	pmax		
	comp=Z,16nm,0.8s					
LPL	La Plagne	86.19 331	eP	P	19 13 24.5	+0.8
	comp=Z,16nm,0.8s					
LPG	La Plagne	86.20 331	eP	P	19 13 24.6	+0.8
	comp=Z,22nm,0.9s					
LPG	La Plagne	86.20 331	eP	P	19 13 24.6	+0.8
LPG			pmax	pmax		
	comp=Z,22nm,0.9s					
LPG	La Plagne	86.20 331	eP	P	19 13 24.6	+0.8
	comp=Z,22nm,0.9s					
TXAR	Lajitas Array	86.58 54	P	P	19 13 27.1	+1.3
TXAR	Lajitas Array	86.58 54	P	P	19 13 27.1	+1.3
	comp=Z,1.0nm,0.8s,baz=270,slow=3.8,SNR=4.4					
BGF	Bois d'Agland	86.65 334	eP	P	19 13 26.2	+0.5
	comp=Z,8.4nm,0.9s					
BGF	Bois d'Agland	86.65 334	eP	P	19 13 26.2	+0.5
BGF			pmax	pmax		
	comp=Z,8.0nm,0.9s					
BGF	Bois d'Agland	86.65 334	eP	P	19 13 26.2	+0.5
	comp=Z,8.4nm,0.9s					
SGMF	Saint Gilles	86.80 338	eP	P	19 13 27.2	+0.9
	comp=Z,42nm,1.2s					
SGMF	Saint Gilles	86.80 338	eP	P	19 13 27.2	+0.9
SGMF			pmax	pmax		
	comp=Z,42nm,1.2s					
SGMF	Saint Gilles	86.80 338	eP	P	19 13 27.2	+0.9
	comp=Z,42nm,1.2s					
MBDF	Montbardon	86.85 331	eP	P	19 13 26.9	0.0
	comp=Z,16nm,1.0s					
MBDF	Montbardon	86.85 331	eP	P	19 13 26.9	0.0
MBDF			pmax	pmax		
	comp=Z,16nm,1.0s					
MBDF	Montbardon	86.85 331	eP	P	19 13 26.9	0.0
	comp=Z,16nm,1.0s					
ROSF	Rostrenen	86.92 339	eP	P	19 13 28.1	+1.2
	comp=Z,63nm,1.5s					
ROSF	Rostrenen	86.92 339	eP	P	19 13 28.1	+1.2
ROSF			pmax	pmax		
	comp=Z,63nm,1.5s					
ROSF	Rostrenen	86.92 339	eP	P	19 13 28.1	+1.2
	comp=Z,63nm,1.5s					
ORIF	Oris-en-Rattie	87.01 332	eP	P	19 13 28.3	+0.7
	comp=Z,25nm,1.1s					
ORIF			eR			
	comp=Z,291nm,20.5s					
ORIF	Oris-en-Rattie	87.01 332	eP	P	19 13 28.3	+0.7
ORIF			pmax	pmax		
	comp=Z,25nm,1.1s					
ORIF	Oris-en-Rattie	87.01 332	eP	P	19 13 28.3	+0.7
	comp=Z,25nm,1.1s					
TCF	Toulx Ste Croi	87.09 334	eP	P	19 13 28.8	+0.9
	comp=Z,74nm,1.4s					
TCF	Toulx Ste Croi	87.09 334	eP	P	19 13 28.8	+0.9
TCF			pmax	pmax		
	comp=Z,74nm,1.4s					
TCF	Toulx Ste Croi	87.09 334	eP	P	19 13 28.8	+0.9
	comp=Z,74nm,1.4s					
QUIF	Quistinic	87.27 338	eP	P	19 13 29.5	+0.9
QUIF	Quistinic	87.27 338	eP	P	19 13 29.5	+0.9
QUIF	Quistinic	87.27 338	eP	P	19 13 29.5	+0.9
VIVF	Saint-Julien-l	87.50 332	eP	P	19 13 30.7	+0.8
	comp=Z,32nm,1.2s					
VIVF	Saint-Julien-l	87.50 332	eP	P	19 13 30.7	+0.8
VIVF			pmax	pmax		
	comp=Z,32nm,1.2s					
VIVF	Saint-Julien-l	87.50 332	eP	P	19 13 30.7	+0.8
	comp=Z,32nm,1.2s					
MFF	Saint Martin d	87.57 336	eP	P	19 13 31.0	+0.9
	comp=Z,19nm,1.0s					
MFF	Saint Martin d	87.57 336	eP	P	19 13 31.0	+0.9
MFF			pmax	pmax		
	comp=Z,19nm,1.0s					
MFF	Saint Martin d	87.57 336	eP	P	19 13 31.0	+0.9
	comp=Z,19nm,1.0s					
RJF	Les Rejaudoux	88.19 334	eP	P	19 13 34.1	+1.0
	comp=Z,31nm,1.2s					
RJF			eR			
	comp=Z,298nm,17.0s					
RJF	Les Rejaudoux	88.19 334	eP	P	19 13 34.1	+1.0
RJF			pmax	pmax		
	comp=Z,31nm,1.2s					
RJF	Les Rejaudoux	88.19 334	eP	P	19 13 34.1	+1.0
	comp=Z,31nm,1.2s					
CAF	Calviac	88.34 334	eP	P	19 13 35.3	+1.4
	comp=Z,20nm,0.9s					
CAF	Calviac	88.34 334	eP	P	19 13 35.3	+1.4
CAF			pmax	pmax		
	comp=Z,20nm,0.9s					
CAF	Calviac	88.34 334	eP	P	19 13 35.3	+1.4
	comp=Z,20nm,0.9s					
LFF	La Frestale	88.77 335	eP	P	19 13 37.2	+1.4
LFF	La Frestale	88.77 335	eP	P	19 13 37.2	+1.4
LFF	La Frestale	88.77 335	eP	P	19 13 37.2	+1.4
ETSF	Etsaut	91.01 335	eP	P	19 13 47.7	+1.2
ETSF	Etsaut	91.01 335	eP	P	19 13 47.7	+1.2
ETSF	Etsaut	91.01 335	eP	P	19 13 47.7	+1.2
ESDC	Sonseca Array	95.02 336	P	P	19 14 05.8	+0.9
ESDC	Sonseca Array	95.02 336	P	P	19 14 05.8	+0.9
	comp=Z,0.2nm,0.4s,baz=0.0,slow=5.1,SNR=3.1					
ESDC			LR	LR	19 59 05.9	
	comp=Z,207nm,19.7s,baz=250,slow=37					
TORD	Torodi Ar. Bea	116.16 318	PP	PP	19 20 24.5	-5.6
TORD	Torodi Ar. Bea	116.16 318	PP	PP	19 20 24.5	-5.6
	comp=Z,0.8nm,0.8s,baz=28,slow=5.6,SNR=2.8					
PLCA	Paso Flores	153.99 102	PKPbc	PKPbc	19 20 43.2	+1.7
PLCA	Paso Flores	153.99 102	PKPbc	PKPbc	19 20 43.2	+1.7
	comp=Z,1.4nm,0.8s,baz=256,slow=0.9,SNR=2.8					

ISCJB ***19*** *19:02:42.8±1.5,52.1N±0.1×175.90E±0.10,h67km±10km, mb4.1/23, Error ellipse: s-maj=18.7km s-min=8.9km az=163.0*

IDC ***19*** *19:02:43.2±0.7,52.11N×175.88E,h56km±5km, mb4.0/19, mb1 4.1/21,mb1mx4.0/30,mbtmp4.0/21,MS3.4/2, Ms1 3.5/2,ms1mx2.8/39,Error ellipse: s-maj=14.5km s-min=7.1km az=10.0*

NEIC ***19*** *19:02:43.8±1.0,52.10N×175.89E,h62km±8km, mb4.6/2, Error ellipse: s-maj=12.7km s-min=6.0km az=158.0*

ISC 19 19:02:43.0±0.7,52.1N±0.1×175.92E±0.06,h55km±4km, h55km:pP-P,n86,σ0.966/108,mb4.5/34,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMY	Shemya	1.30	302	ePn	Pn	19 03 04.6	-0.3
SMY				eSn	Sn	19 03 21.8	+0.5
FX1	Attu Island--F	1.88	297	P	Pn	19 03 12.3	-0.4
FX1				S	Sn	19 03 34.4	-0.9
FX1	Attu Island--F	1.88	297	P	Pn	19 03 12.3	-0.4
	499nm,0.3s,baz=205,slow=4.1,SNR=812						
FX1				S	Sn	19 03 34.4	-0.9
	514nm,0.3s,baz=113,slow=23,SNR=26						
PETK	Petropavlovsk-	11.14	283	P	Pn	19 05 20.9	+1.5
PETK	Petropavlovsk-	11.14	283	P	Pn	19 05 20.9	+1.5
	0.7nm,0.3s,baz=96,slow=18,SNR=5.9						
BILL	Bilibino	16.71	347	eP	P	19 06 36.5	+1.9
KDAK	Kodiak Island	18.87	60	P	P	19 06 59.0	+0.6
KDAK	Kodiak Island	18.87	60	P	P	19 06 59.0	+0.6
	2.4nm,0.3s,baz=320,slow=21,SNR=17						
ILAR	Eielson Array	22.86	42	P	P	19 07 40.8	-0.5
ILAR	Eielson Array	22.86	42	P	P	19 07 40.8	-0.5
	0.4nm,0.6s,baz=253,slow=6.3,SNR=11						
ILAR				LR	LR	19 17 08.1	
	comp=Z,81nm,18.0s,baz=145,slow=38						
ASAJ	Asahikawa	23.47	264	P	P	19 07 47.5	+0.1
ASAJ	Asahikawa	23.47	264	P	P	19 07 47.5	+0.1
	17nm,0.8s,baz=66,slow=9.9,SNR=9.2						
EGAK	Eagle	25.25	43	P	P	19 08 04.4	+1.0
	13nm,1.0s						
USRK	Ussuriysk Arra	29.96	272	P	P	19 08 44.9	-0.9
	3.2nm,0.9s,baz=53,slow=11,SNR=4.3						
DLBC	Dease Lake	30.72	56	LR	LR	19 21 33.4	
	comp=Z,82nm,18.1s,baz=300,slow=37						
KSRS	Korea Array	36.38	266	P	P	19 09 43.0	+1.4
	2.7nm,0.6s,baz=54,slow=8.1,SNR=8.5						
KSAR	Wonju Array Be	36.41	266	P	P	19 09 43.0	+1.1
YKA	Yellowknife Ar	37.14	46	P	P	19 09 48.8	+0.9
YKA				ScP	ScP	19 15 46.9	-2.0
YKA	Yellowknife Ar	37.14	46	P	P	19 09 48.8	+0.9
	0.2nm,0.4s,baz=289,slow=7.8,SNR=4.6						
YKA				ScP	ScP	19 15 46.9	-2.0
	0.3nm,0.7s,baz=292,slow=4.2,SNR=4.3						
JNU	Nakatsue	37.45	258	P	P	19 09 51.5	+0.6
JNU	Nakatsue	37.45	258	P	P	19 09 51.5	+0.6
	22nm,1.0s,baz=147,slow=11,SNR=5.9						
SONM	Songino Array	43.38	293	P	P	19 10 40.2	+0.3
SONM				PcP	PcP	19 12 27.8	+0.4
SONM	Songino Array	43.38	293	P	P	19 10 40.2	+0.3
	2.6nm,0.6s,baz=64,slow=7.0,SNR=16						
SONM				PcP	PcP	19 12 27.8	+0.4
	0.6nm,0.6s,baz=48,slow=3.2,SNR=3.4						
PDAR	Pinedale Array	49.19	70	P	P	19 11 24.8	-0.8
PDAR				pP	pP	19 11 40.4	+0.1
PDAR	Pinedale Array	49.19	70	P	P	19 11 24.8	-0.8
	0.4nm,0.8s,baz=319,slow=3.8,SNR=3.2						
PDAR				pP	pP	19 11 40.4	+0.1
	0.6nm,0.8s,baz=344,slow=1.5,SNR=2.0						
ZALV	Zalesovo Beam	51.14	311	PcP	PcP	19 12 54.6	0.0
ZALV	Zalesovo Beam	51.14	311	PcP	PcP	19 12 54.6	0.0
	1.1nm,0.7s,baz=28,slow=6.5,SNR=3.1						
KURK	Kurchatov	56.13	311	P	P	19 12 17.2	+0.8
KURK				PcP	PcP	19 13 13.9	+0.2
KURBB	Kurchatov Arra	56.24	311	P	P	19 12 17.2	+0.1
	2.5nm,0.7s,baz=41,slow=7.1,SNR=5.9						
KURBB				PcP	PcP	19 13 13.9	-0.2
	1.1nm,0.7s,baz=47,slow=5.9,SNR=4.9						
ARCES	ARCESS Array B	56.81	348	P	P	19 12 19.9	-1.1
ARCES	ARCESS Array B	56.81	348	P	P	19 12 19.9	-1.1
	2.4nm,0.9s,baz=28,slow=8.3,SNR=3.9						
MKAR	Makanchi Array	57.00	305	P	P	19 12 21.7	-0.9
MKAR				pP	pP	19 12 36.6	-1.0
MKAR				PcP	PcP	19 13 17.0	-0.2
MKAR	Makanchi Array	57.00	305	P	P	19 12 21.7	-0.9
	0.9nm,0.4s,baz=56,slow=6.2,SNR=6.3						
MKAR				pP	pP	19 12 36.6	-1.0
	0.7nm,0.4s,baz=52,slow=5.6,SNR=3.1						
MKAR				PcP	PcP	19 13 17.0	-0.2
	0.8nm,0.6s,baz=65,slow=4.5,SNR=2.3						
BVAR	Borovoye Array	58.20	317	P	P	19 12 30.5	-0.5
BVAR				pP	pP	19 12 45.7	-0.2
BVAR	Borovoye Array	58.20	317	P	P	19 12 30.5	-0.5
	1.7nm,0.6s,baz=50,slow=7.2,SNR=3.7						
BVAR				pP	pP	19 12 45.7	-0.2
	1.4nm,0.5s,baz=53,slow=7.0,SNR=2.6						
SCHQ	Schefferville	61.45	36	P	P	19 12 53.5	+0.2
SCHQ				pP	pP	19 13 08.1	-0.2
SCHQ	Schefferville	61.45	36	P	P	19 12 53.5	+0.2
	3.3nm,0.8s,baz=321,slow=9.0,SNR=8.8						
SCHQ				pP	pP	19 13 08.1	-0.2
	3.2nm,0.6s,baz=346,slow=6.7,SNR=4.6						
TXAR	Lajitas Array	61.76	78	P	P	19 12 56.9	+1.0
TXAR	Lajitas Array	61.76	78	P	P	19 12 56.9	+1.0
	0.7nm,0.6s,baz=305,slow=4.4,SNR=4.8						
LSA	Lhasa	64.11	286	eP	P	19 13 12.7	+0.8
FINES	FINESS Array B	64.33	344	P	P	19 13 11.4	-0.8
FINES	FINESS Array B	64.33	344	P	P	19 13 11.4	-0.8
	1.9nm,0.6s,baz=23,slow=7.5,SNR=2.2						
NB2	NORSAR Subarra	66.59	352	P	P	19 13 26.6	-0.3
	comp=Z,1.6nm,0.5s,baz=11,slow=6.5						
NOA	NORSAR Array B	66.59	352	P	P	19 13 26.8	-0.1
NOA	NORSAR Array B	66.59	352	P	P	19 13 26.8	-0.1
	comp=Z,1.7nm,0.5s,baz=12,slow=6.4,SNR=8.1						
CHTO	Chiang Mai	67.42	272	eP	P	19 13 32.0	-0.7
CM31	Chiang Mai Arr	67.69	272	eP	P	19 13 34.2	-0.2
CMAR	Chiang Mai Arr	67.69	272	P	P	19 13 34.0	-0.4
CMAR				pP	pP	19 13 49.8	+0.1
CMAR	Chiang Mai Arr	67.69	272	P	P	19 13 34.0	-0.4
	comp=Z,2.0nm,0.8s,baz=29,slow=6.4,SNR=12						
CMAR				pP	pP	19 13 49.8	+0.1
	comp=Z,0.8nm,0.6s,baz=30,slow=6.6,SNR=4.5						
TAPN	Taplejung	67.88	286	eP	P	19 13 36.1	+0.2
	comp=Z,22nm,0.7s						
TAPN	Taplejung	67.88	286	eP	P	19 13 36.1	+0.2
ODAN	Odare	68.43	286	eP	P	19 13 38.9	-0.4
	comp=Z,8.9nm,0.5s						
ODAN	Odare	68.43	286	eP	P	19 13 38.9	-0.4
GUN	Gumba	68.54	288	eP	P	19 13 40.3	+0.2
	comp=Z,60nm,0.7s						
GUN	Gumba	68.54	288	eP	P	19 13 40.3	+0.2
JIRN	Jiri	68.54	288	eP	P	19 13 40.5	+0.4
	comp=Z,9.5nm,0.6s						
JIRN	Jiri	68.54	288	eP	P	19 13 40.5	+0.4
RAMN	Ramite	68.83	287	eP	P	19 13 41.9	+0.1
	comp=Z,50nm,0.7s						
RAMN	Ramite	68.83	287	eP	P	19 13 41.9	+0.1
KKN	Kakani	68.98	288	eP	P	19 13 42.9	+0.2
	comp=Z,19nm,0.5s						
KKN	Kakani	68.98	288	eP	P	19 13 42.9	+0.2
PKI	Pulchoki	69.07	288	eP	P	19 13 43.5	+0.1
	comp=Z,19nm,0.5s						
PKI	Pulchoki	69.07	288	eP	P	19 13 43.5	+0.1
GKN	Gorkha	69.20	289	eP	P	19 13 44.0	+0.1
	comp=Z,26nm,0.9s						
GKN	Gorkha	69.20	289	eP	P	19 13 44.0	+0.1
DMN	Daman	69.22	288	eP	P	19 13 44.5	+0.3
	comp=Z,11nm,0.5s						
DMN	Daman	69.22	288	eP	P	19 13 44.5	+0.3
DANN	Dangsing	69.45	290	eP	P	19 13 45.9	+0.2
	comp=Z,26nm,0.8s						
DANN	Dangsing	69.45	290	eP	P	19 13 45.9	+0.2
KOLN	Koldanda	69.98	290	eP	P	19 13 48.7	-0.1
	comp=Z,7.4nm,0.5s						
KOLN	Koldanda	69.98	290	eP	P	19 13 48.7	-0.1
AKASG	Malin Array Be	73.81	339	P	P	19 14 10.7	-0.4
AKASG				pP	pP	19 14 26.2	-0.3
AKASG	Malin Array Be	73.81	339	P	P	19 14 10.7	-0.4
	comp=Z,1.0nm,0.4s,baz=25,slow=5.9,SNR=3.7						
AKASG				pP	pP	19 14 26.2	-0.3
	comp=Z,1.1nm,0.5s,baz=22,slow=6.1,SNR=4.4						
WRA	Warramunga Arr	80.34	219	P	P	19 14 47.8	-0.3
WRA	Warramunga Arr	80.34	219	P	P	19 14 47.8	-0.3
	comp=Z,6.0nm,0.6s,baz=32,slow=6.3,SNR=40						
FITZ	Fitzroy Crossi	82.39	228	eP	P	19 14 58.9	0.0
	comp=Z,11nm,1.1s						
ASAR	Alice Springs	83.88	218	P	P	19 15 06.8	+0.3
ASAR	Alice Springs	83.88	218	P	P	19 15 06.8	+0.3
	comp=Z,3.0nm,0.7s,baz=20,slow=5.5,SNR=29						
STKA	Stephens Creek	88.83	209	P	P	19 15 29.8	-0.7
STKA	Stephens Creek	88.83	209	P	P	19 15 29.8	-0.7
	comp=Z,3.2nm,0.9s,baz=12,slow=0.2,SNR=4.1						
TORD	Torodi Ar. Bea	114.88	354	PKP	PKPdf	19 21 16.6	-1.0
TORD	Torodi Ar. Bea	114.88	354	PKP	PKPdf	19 21 16.6	-1.0
	comp=Z,0.3nm,0.5s,baz=350,slow=1.9,SNR=4.9						
DBIC	Dimbokro	121.50	1	PKP	PKPdf	19 21 29.9	-0.5
DBIC	Dimbokro	121.50	1	PKP	PKPdf	19 21 29.9	-0.5
	comp=Z,1.4nm,0.4s,baz=259,slow=3.0,SNR=7.2						
BOSA	Boshof	148.00	306	PKP	PKPdf	19 22 19.2	+0.4
BOSA				PKPbc	PKPbc	19 22 22.2	+0.2
BOSA	Boshof	148.00	306	PKP	PKPdf	19 22 19.2	+0.4
	comp=Z,2.5nm,0.8s,baz=103,slow=6.3,SNR=4.0						
BOSA				PKPbc	PKPbc	19 22 22.2	+0.2
	comp=Z,2.5nm,0.8s,baz=84,slow=2.8,SNR=4.7						

MEX 19 19:05:12.0±0.5,16.06N×98.85W,h5km±8km, MD3.7,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	Pinotepa	0.77	64	*i* P	Pg	19 05 25.4	-1.6
PNIG				*i* S	Sg	19 05 36.6	-0.4
CAIG	El Cayaco	1.68	306	*i* P	Pn	19 05 37.7	-4.4
CAIG				*i* S	Sn	19 05 59.3	-4.6
MEIG	Mezcala	2.00	339	eP	Pn	19 05 43.3	-3.2
MEIG				eS	Sn	19 06 06.9	-5.2
UTMO	Huajuapan	2.03	30	eP	Pn	19 05 43.4	-3.8
UTMO				*i* S	Sn	19 06 08.0	-5.2
VHO	Vista Hermosa	2.27	63	eP	Pn	19 05 47.3	-3.2
VHO				eS	Sn	19 06 14.5	-4.6
PLIG	Platanillo	2.41	345	eP	Pn	19 05 49.7	-2.5
PLIG				*i* S	Sn	19 06 18.2	-3.9
HUIG	Huatulco	2.66	96	eP	Pn	19 05 52.0	-3.5
HUIG				*i* S	Sn	19 06 23.3	-4.8
YAIG	Yautepec	2.80	356	*i* P	Pn	19 05 55.2	-2.5
YAIG				*i* S	Sn	19 06 27.8	-4.2

JMA 19 19:07:43.1±0.2,26.11N×124.86E,h143km,M3.5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMJ	Miyako jima 2	1.35	163	P	Pn	19 08 11.0	+0.4
JMJ				eS	Sn	19 08 31.2	-0.3
JOGS	Gusukube	1.43	160	P	Pn	19 08 12.0	+0.6
JOGS				S	Sn	19 08 32.8	-0.2
JTJ	Tarama	1.47	186	P	Pn	19 08 12.2	+0.4
JTJ				S	Sn	19 08 33.1	-0.6
JKE	Kume jima 2	1.74	82	P	Pn	19 08 15.2	+0.4
JIJ	Ishigaki jima	1.86	201	P	Pn	19 08 15.7	-0.4
JIJ				S	Sn	19 08 39.8	-1.6
JKRS	Kuro-shima	2.02	203	P	Pn	19 08 17.8	-0.2
JKRS				S	Sn	19 08 44.2	-0.6
IRIF	Iriomote-Funau	2.04	210	P	Pn	19 08 18.1	-0.2
IRIF				S	Sn	19 08 45.0	-0.3
JAGN	Aguni-jima	2.19	77	P	Pn	19 08 20.0	0.0
JAGN				S	Sn	19 08 47.5	-0.9
HATJ	Hateruma jima	2.26	205	P	Pn	19 08 20.7	-0.2
HATJ				eS	Sn	19 08 49.1	-0.9
YOJ	Yonaguni jima	2.34	226	P	Pn	19 08 22.7	+0.7
YOJ				eS	Sn	19 08 53.6	+1.8
NAH1	Naha	2.54	87	P	Pn	19 08 24.3	-0.1
NAH1				eS	Sn	19 08 54.4	-1.8
JJT2	Tamagusuku 2	2.60	89	P	Pn	19 08 25.0	-0.1
JJT2				eS	Sn	19 08 56.2	-1.2
JIH	Iheya	2.93	71	P	Pn	19 08 29.0	-0.3
JIH				eS	Sn	19 09 02.5	-2.4
JOW	Kunigami	3.14	76	P	Pn	19 08 30.9	-1.1
JOW				eS	Sn	19 09 06.0	-3.9

ISK ***19*** *19:27:50.7,37.88N×27.61E,h9km, MD2.9*
DDA ***19*** *19:27:50.6,37.88N×27.62E,h2km, ML3.0*
CSEM ***19*** *19:27:50.9±0.1,37.88N×27.61E,h5km, ML3.0, Error ellipse: s-maj=2.8km s-min=2.1km az=109.0*

ISC 19 19:27:50.9±1.1,37.86N±0.02×27.62E±0.02,h4km±11km, n32,σ0.965/46,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AYDN	Tasoluk	0.28	134	*i* P	Pg	19 27 56.8	+0.4
AYDN				*i* S	Sg	19 28 00.9	+0.8
AYDN	Tasoluk	0.28	134	*i* P	Pg	19 27 56.8	+0.4
AYDN				*i* S	Sg	19 28 00.9	+0.8
GCAM	G?zelcaml?	0.34	243	*i* P	Pg	19 27 57.2	-0.3
GCAM				*i* S	Sg	19 28 01.6	-0.4
GCAM	G?zelcaml?	0.34	243	*i* P	Pg	19 27 57.2	-0.3
GCAM				*i* S	Sg	19 28 01.6	-0.4
BLCB	Balcova	0.70	319	ePG	Pg	19 28 04.2	-0.1
BLCB	Balcova	0.70	319	ePg	Pg	19 28 04.2	-0.1
BDRM	Kayabasi	0.80	190	*i* P	Pg	19 28 05.8	-0.5
BDRM				eS	Sb	19 28 18.8	+0.1
BDRM	Kayabasi	0.80	190	*i* P	Pg	19 28 05.8	-0.5
BDRM				eS	Sb	19 28 18.8	+0.1
BODT	Bodrum	0.83	197	ePG	Pb	19 28 07.4	-0.5
BODT				eSG	Sb	19 28 19.7	+0.2
BODT	Bodrum	0.83	197	ePg	Pb	19 28 07.4	-0.5
BODT				eSg	Sb	19 28 19.7	+0.2
YER	Yerkesik	0.89	144	ePG	Pb	19 28 08.9	0.0
YER	Yerkesik	0.89	144	ePg	Pb	19 28 09.0	0.0
URLA	Izmir	0.95	302	eP	Pg	19 28 09.1	0.0
URLA	Izmir	0.95	302	eP	Pg	19 28 09.1	0.0
MANT	Manisa	0.97	49	*i* P	Pg	19 28 09.0	-0.6
MANT				*i* S	Sg	19 28 21.9	-0.2
MANT	Manisa	0.97	49	*i* P	Pg	19 28 09.0	-0.6
MANT				*i* S	Sg	19 28 22.0	-0.2
AKHS	Akhisar	1.03	8	*i* P	Pg	19 28 10.1	-0.6
AKHS				*i* S	Sb	19 28 24.2	-1.0
AKHS	Akhisar	1.03	8	*i* P	Pg	19 28 10.1	-0.6
AKHS				*i* S	Sb	19 28 24.2	-1.0
AKS	Akhisar	1.03	8	ePG	Pg	19 28 10.6	-0.1
AKS	Akhisar	1.03	8	ePg	Pg	19 28 10.6	-0.1
KULA	Kula-Manisa	1.05	51	ePG	Pb	19 28 11.2	-0.5
KULA	Kula-Manisa	1.05	51	ePg	Pb	19 28 11.2	-0.5
DNZL	Cakiroluk	1.14	98	eP	Pn	19 28 13.4	-0.5
DNZL				eS	Sn	19 28 31.3	+1.2
DNZL	Cakiroluk	1.14	98	eP	Pn	19 28 13.4	-0.5
KHL	Karahalli	1.57	72	ePN	Pn	19 28 19.4	-0.3
KHL	Karahalli	1.57	72	ePn	Pn	19 28 19.4	-0.3
AYVA	Ayvalik	1.62	334	eP	Pg	19 28 24.5	+2.5
AYVA				*i* S	Sg	19 28 44.2	+1.2
BALB	Balikesir	1.79	6	ePN	Pn	19 28 22.4	-0.1
BALB	Balikesir	1.79	6	ePn	Pn	19 28 22.5	-0.1
APE	Apeiranthos	1.84	245	ePN	Pn	19 28 23.2	-0.1
APE	Apeiranthos	1.84	245	ePn	Pn	19 28 23.2	-0.1
ULDT	Uludag	2.57	27	eP	Pb	19 28 38.2	+0.5

IDC 19 19:27:50.4±5.3,5.67S×147.70E,h179km±49km,mb3.1/2, mb1 3.4/4,mb1mx3.0/18,mbtmp3.2/4,Error ellipse: s-maj=79.9km s-min=45.8km az=127.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res

GAZI	**Gazipasa**	**1.97**	**328**	*i* P	**Pn**	**19 43 40.0**	**-1.4**
GAZI				*i* S	**Sn**	**19 44 04.7**	**-1.7**
GAZI	**Gazipasa**	**1.97**	**328**	*i* P	**Pn**	**19 43 40.0**	**-1.4**
GAZI				*i* S	**Sn**	**19 44 04.7**	**-1.7**
ERMK	**Ermenek**	**2.15**	**345**	*i* P	**Pn**	**19 43 43.1**	**-1.0**
ERMK				*i* S	**Sn**	**19 44 11.5**	**+0.4**
ERMK	**Ermenek**	**2.15**	**345**	*i* P	**Pn**	**19 43 43.1**	**-1.0**
ERMK				*i* S	**Sn**	**19 44 11.5**	**+0.4**
MERS	**Mersin**	**2.42**	**18**	*e*PN	**Pn**	**19 43 47.7**	**+0.1**
MERS	**Mersin**	**2.42**	**18**	*e*Pn	**Pn**	**19 43 47.7**	**+0.1**
KOZT	**Kozan**	**3.43**	**31**	*e*PN	**Pn**	**19 44 01.4**	**0.0**
KOZT	**Kozan**	**3.43**	**31**	*e*Pn	**Pn**	**19 44 01.4**	**0.0**
KONT	**Konya--Tatoy**	**3.52**	**344**	*e*PN	**Pn**	**19 44 04.2**	**+1.4**
KONT	**Konya--Tatoy**	**3.52**	**344**	*e*Pn	**Pn**	**19 44 04.2**	**+1.4**
KORT	**Korkueli**	**3.59**	**314**	*e*P	**Pg**	**19 44 16.2**	**0.0**
SULT	**Sultanhani-AKS**	**3.63**	**359**	*e*PN	**Pn**	**19 44 05.5**	**+1.3**
SULT	**Sultanhani-AKS**	**3.63**	**359**	*e*Pn	**Pn**	**19 44 05.6**	**+1.3**

IDC 19 19:56:13.9±1.8, 3°95N×126°83E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, Error ellipse: s-maj=146.4km s-min=24.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.86**	**163**	P	P	20 01 38.0	-0.4
	1.0nm,0.7s,baz=342,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.30**	**166**	P	P	20 02 10.7	+1.3
	0.1nm,0.3s,baz=349,slow=13,SNR=3.3						
STKA	**Stephens Creek**	**38.30**	**160**	P	P	20 03 35.4	-1.0
	1.0nm,0.7s,baz=339,slow=8.6,SNR=4.3						
MKAR	**Makanchi Array**	**57.43**	**325**	P	P	20 06 04.6	0.0
	0.1nm,0.2s,baz=120,slow=5.7,SNR=4.9						

IDC 19 20:01:19.1±2.2, 5°07S×128°80E, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, ML3.4/2, MS2.5/1, Ms1 2.5/1, ms1mx2.4/21, Error ellipse: s-maj=160.9km s-min=29.6km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.01**	**270**	LR	LR	20 07 02.3	
	comp=Z,30nm,18.6s,baz=1.0,slow=38						
WRA	**Warramunga Arr**	**15.73**	**160**	Pn	Pn	20 05 02.6	+0.4
	0.1nm,0.3s,baz=342,slow=13,SNR=7.0						
WRA				Sn	Sn	20 07 42.8	-15
	0.2nm,0.3s,baz=330,slow=23,SNR=6.0						
ASAR	**Alice Springs**	**19.13**	**166**	P	P	20 05 43.8	-0.2
	0.2nm,0.3s,baz=348,slow=11,SNR=18						
ASAR				S	Sn	20 09 04.1	-16
	0.0nm,0.3s,baz=338,slow=17,SNR=2.7						
MKAR	**Makanchi Array**	**65.97**	**327**	P	P	20 12 07.3	0.0
	0.3nm,0.6s,baz=120,slow=7.8,SNR=5.7						

WEL 19 20:04:33.3±0.4, 36°11S×178°07E, h222km±3km, ML3.5/4, Error ellipse: s-maj=6.1km s-min=6.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**2.26**	**191**	PN	Pn	20 05 16.6	+0.4
MWZ				SN	S	20 05 49.6	-0.1
URZ	**Urewera**	**2.28**	**199**	PN	Pn	20 05 16.5	+0.2
URZ				SN	S	20 05 49.8	0.0
CNGZ	**Carnagh Statio**	**2.38**	**177**	PN	Pn	20 05 17.3	0.0
PXZ	**Pawanui**	**4.03**	**193**	PN	Pn	20 05 36.3	+0.1
PXZ				SN	S	20 06 24.6	-1.2
BFZ	**Birch Farm**	**4.78**	**197**	PN	Pn	20 05 46.1	+0.5
BFZ				SN	S	20 06 43.3	+0.7
MRZ	**Mangatainoka R**	**4.95**	**202**	PN	Pn	20 05 47.7	+0.1

*ISCJB **19** 20:07:47.7±0.5, 39°06N±0°02×26°95E±0°03, h7km±4km, Error ellipse: s-maj=4.2km s-min=3.0km az=169.3*
*ISK **19** 20:07:47.2, 39°05N×26°94E, h9km, MD3.3*
*DDA **19** 20:07:47.6, 39°05N×27°00E, h7km, ML3.2*
*CSEM **19** 20:07:48.1±0.1, 39°06N×26°95E, h10km, ML3.2, Error ellipse: s-maj=3.8km s-min=2.7km az=86.0*

ISC 19 20:07:47.8±1.1, 39°05N±0°02×26°95E±0°02, h8km±11km, n87, σ0°71/110, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.32**	**322**	*i* P	**Pg**	**20 07 54.6**	**+0.4**
AYVA				*i* S	**Sb**	**20 07 59.9**	**-1.3**
AYVA	**Ayvalik**	**0.32**	**322**	*i* P	**Pg**	**20 07 54.6**	**+0.4**
AYVA				*i* S	**Sb**	**20 07 59.9**	**-1.3**
BLCB	**Balcova**	**0.67**	**174**	*e*PG	**Pg**	**20 08 00.4**	**-0.4**
BLCB				*e*SG	**Sg**	**20 08 09.7**	**+0.2**
BLCB	**Balcova**	**0.67**	**174**	*e*Pg	**Pg**	**20 08 00.4**	**-0.4**
BLCB				*e*Sg	**Sg**	**20 08 09.7**	**+0.2**
AKS	**Akhisar**	**0.70**	**104**	*e*PG	**Pb**	**20 08 01.8**	**-0.4**
AKS	**Akhisar**	**0.70**	**104**	*e*Pg	**Pb**	**20 08 01.8**	**-0.4**
AKHS	**Akhisar**	**0.70**	**104**	*i* P	**Pg**	**20 08 00.9**	**-0.4**
AKHS				*e*S	**Sb**	**20 08 12.7**	**+0.7**
AKHS	**Akhisar**	**0.70**	**104**	*i* P	**Pg**	**20 08 00.9**	**-0.4**
AKHS				*e*S	**Sb**	**20 08 12.7**	**+0.7**
URLA	**Izmir**	**0.74**	**202**	*i* P	**Pb**	**20 08 02.3**	**-0.7**
URLA				*i* S	**Sb**	**20 08 13.3**	**0.0**
URLA	**Izmir**	**0.74**	**202**	*i* P	**Pb**	**20 08 02.3**	**-0.7**
URLA				*i* S	**Sb**	**20 08 13.3**	**0.0**
BALY	**Balya**	**0.86**	**37**	*i* P	**Pg**	**20 08 03.8**	**-0.6**
BALY				*i* S	**Sb**	**20 08 16.3**	**-0.4**
BALY	**Balya**	**0.86**	**37**	*i* P	**Pg**	**20 08 03.8**	**-0.6**
BALY				*i* S	**Sb**	**20 08 16.3**	**-0.4**
EZN	**Ezine**	**0.91**	**328**	*e*PG	**Pg**	**20 08 05.3**	**0.0**
EZN				*e*SG	**Sb**	**20 08 18.6**	**+0.6**
EZN	**Ezine**	**0.91**	**328**	*e*Pg	**Pg**	**20 08 05.3**	**0.0**
EZN				*e*Sg	**Sb**	**20 08 18.6**	**+0.6**
BALB	**Balikesir**	**0.93**	**51**	*e*PG	**Pg**	**20 08 05.7**	**0.0**
BALB				*e*SG	**Sb**	**20 08 19.2**	**+0.5**
BALB	**Balikesir**	**0.93**	**51**	*e*Pg	**Pg**	**20 08 05.7**	**0.0**
BALB				*e*Sg	**Sb**	**20 08 19.2**	**+0.5**
BOZC	**Bozcaada**	**1.05**	**319**	*i* P	**Pg**	**20 08 07.6**	**-0.4**
BOZC				*i* S	**Sg**	**20 08 21.4**	**-0.2**
GONE	**Gonen-Balikesi**	**1.15**	**30**	*e*PN	**Pg**	**20 08 08.8**	**-1.0**
GONE	**Gonen-Balikesi**	**1.15**	**30**	*e*Pn	**Pg**	**20 08 08.8**	**-1.0**
DURS	**Dursunbey**	**1.30**	**65**	*i* P	**Pn**	**20 08 11.6**	**-0.8**
DURS				*i* S	**Sb**	**20 08 29.4**	**-0.1**
DURS	**Dursunbey**	**1.30**	**65**	*i* P	**Pn**	**20 08 11.6**	**-0.8**
DURS				*i* S	**Sb**	**20 08 29.4**	**-0.1**
LPK	**Lapseki**	**1.33**	**354**	*e*PN	**Pn**	**20 08 12.0**	**-0.6**
LPK	**Lapseki**	**1.33**	**354**	*e*Pn	**Pn**	**20 08 12.0**	**-0.6**
KRBG	**Karabiga-Canak**	**1.36**	**11**	*e*PN	**Pn**	**20 08 12.2**	**-0.9**
KRBG	**Karabiga-Canak**	**1.36**	**11**	*e*Pn	**Pn**	**20 08 12.2**	**-0.9**
GCAM	**G?zelcaml?**	**1.37**	**170**	*i* P	**Pn**	**20 08 11.9**	**-1.3**
GCAM				*i* S	**Sb**	**20 08 30.7**	**-0.5**
GCAM	**G?zelcaml?**	**1.37**	**170**	*i* P	**Pn**	**20 08 11.9**	**-1.3**
GCAM				*i* S	**Sb**	**20 08 30.7**	**-0.5**
MANT	**Manisa**	**1.38**	**114**	*e*P	**Pn**	**20 08 12.8**	**-0.7**
MANT				*i* S	**Sb**	**20 08 31.5**	**-0.3**
MANT	**Manisa**	**1.38**	**114**	*e*P	**Pn**	**20 08 12.8**	**-0.7**
MANT				*i* S	**Sb**	**20 08 31.5**	**-0.3**
KULA	**Kula-Manisa**	**1.44**	**111**	*e*PN	**Pn**	**20 08 14.1**	**-0.2**
KULA	**Kula-Manisa**	**1.44**	**111**	*e*Pn	**Pn**	**20 08 14.1**	**-0.2**
EDC	**Edincik**	**1.47**	**28**	*e*PN	**Pn**	**20 08 13.5**	**-1.1**
EDC	**Edincik**	**1.47**	**28**	*e*Pn	**Pn**	**20 08 13.5**	**-1.1**
BNT	**Bandirma**	**1.50**	**30**	*e*PN	**Pn**	**20 08 14.0**	**-1.0**
BNT	**Bandirma**	**1.50**	**30**	*e*Pn	**Pn**	**20 08 14.0**	**-1.0**
AYDN	**Tasoluk**	**1.57**	**152**	*i* P	**Pb**	**20 08 17.2**	**+0.1**
AYDN				*i* S	**Sb**	**20 08 36.9**	**-0.2**
AYDN	**Tasoluk**	**1.57**	**152**	*i* P	**Pb**	**20 08 17.2**	**+0.1**
AYDN				*i* S	**Sb**	**20 08 36.9**	**-0.2**
KCTX	**Karacabey (Bur**	**1.63**	**41**	*e*PN	**Pn**	**20 08 15.7**	**-1.1**
KCTX	**Karacabey (Bur**	**1.63**	**41**	*e*Pn	**Pn**	**20 08 15.7**	**-1.1**
RKY	**Sarkoy-Tekirda**	**1.64**	**6**	*e*PN	**Pn**	**20 08 17.0**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.64**	**6**	*e*Pn	**Pn**	**20 08 17.0**	**0.0**
ERIK	**Erikli-Kesan**	**1.65**	**348**	*e*PN	**Pn**	**20 08 17.5**	**+0.5**
ERIK	**Erikli-Kesan**	**1.65**	**348**	*e*Pn	**Pn**	**20 08 17.5**	**+0.5**
MFT	**Murefte**	**1.75**	**8**	*e*PN	**Pn**	**20 08 18.6**	**+0.1**
MFT	**Murefte**	**1.75**	**8**	*e*Pn	**Pn**	**20 08 18.6**	**+0.1**
ENEZ	**Enez**	**1.79**	**340**	*e*PN	**Pn**	**20 08 19.2**	**+0.3**
ENEZ	**Enez**	**1.79**	**340**	*e*Pn	**Pn**	**20 08 19.2**	**+0.3**
ORLT	**Orhaneli**	**1.80**	**56**	*e*PN	**Pn**	**20 08 19.2**	**0.0**
ORLT	**Orhaneli**	**1.80**	**56**	*e*Pn	**Pn**	**20 08 19.2**	**0.0**
GDZ	**Gediz**	**1.97**	**88**	*i* P	**Pb**	**20 08 24.5**	**+0.5**
GDZ	**Gediz**	**1.97**	**88**	*i* P	**Pb**	**20 08 24.5**	**+0.5**
MDNY	**Mudanya-Bursa**	**1.99**	**48**	*e*PN	**Pn**	**20 08 22.0**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.99**	**48**	*e*Pn	**Pn**	**20 08 22.0**	**+0.3**
TVSB	**Tavsanli**	**1.99**	**78**	*e*PN	**Pn**	**20 08 22.4**	**+0.6**
TVSB	**Tavsanli**	**1.99**	**78**	*e*Pn	**Pn**	**20 08 22.4**	**+0.6**
BODT	**Bodrum**	**2.01**	**172**	*e*PN	**Pn**	**20 08 23.1**	**+1.1**
BODT	**Bodrum**	**2.01**	**172**	*e*Pn	**Pn**	**20 08 23.1**	**+1.1**
ARMT	**Armutlu**	**2.11**	**44**	*e*PN	**Pn**	**20 08 24.3**	**+0.9**
ARMT	**Armutlu**	**2.11**	**44**	*e*Pn	**Pn**	**20 08 24.3**	**+0.9**
KHL	**Karahalli**	**2.14**	**109**	*e*PN	**Pn**	**20 08 24.6**	**+0.7**
KHL	**Karahalli**	**2.14**	**109**	*e*Pn	**Pn**	**20 08 24.6**	**+0.7**
CRLT	**Corlu**	**2.16**	**16**	*e*PN	**Pn**	**20 08 23.6**	**-0.5**
CRLT	**Corlu**	**2.16**	**16**	*e*Pn	**Pn**	**20 08 23.6**	**-0.5**
YER	**Yerkesik**	**2.19**	**151**	*e*PN	**Pn**	**20 08 24.8**	**+0.4**
YER	**Yerkesik**	**2.19**	**151**	*e*Pn	**Pn**	**20 08 24.8**	**+0.4**
APE	**Apeiranthos**	**2.27**	**210**	*e*PN	**Pn**	**20 08 26.8**	**+1.1**
APE	**Apeiranthos**	**2.27**	**210**	*e*Pn	**Pn**	**20 08 26.8**	**+1.1**
SLVT	**Silivri**	**2.38**	**24**	*e*PN	**Pn**	**20 08 27.8**	**+0.7**
SLVT	**Silivri**	**2.38**	**24**	*e*Pn	**Pn**	**20 08 27.8**	**+0.7**
YLV	**Yalova**	**2.40**	**50**	*e*PN	**Pn**	**20 08 28.7**	**+1.3**
YLV	**Yalova**	**2.40**	**50**	*e*Pn	**Pn**	**20 08 28.7**	**+1.3**
ALT	**Altintas**	**2.46**	**89**	*e*PN	**Pn**	**20 08 28.5**	**+0.2**
ALT	**Altintas**	**2.46**	**89**	*e*Pn	**Pn**	**20 08 28.5**	**+0.2**
CTKS	**Kestenelik-??a**	**2.49**	**28**	*e*PN	**Pn**	**20 08 29.3**	**+0.8**
CTKS	**Kestenelik-??a**	**2.49**	**28**	*e*Pn	**Pn**	**20 08 29.3**	**+0.8**
BGKT	**Bogazkoy**	**2.54**	**33**	*e*PN	**Pn**	**20 08 30.2**	**+0.9**
BGKT	**Bogazkoy**	**2.54**	**33**	*e*Pn	**Pn**	**20 08 30.2**	**+0.9**
ADVT	**Abdulvahap**	**2.56**	**56**	*e*PN	**Pn**	**20 08 30.6**	**+1.1**
ADVT	**Abdulvahap**	**2.56**	**56**	*e*Pn	**Pn**	**20 08 30.6**	**+1.1**
ISK	**Istanbul-Kandi**	**2.58**	**38**	*e*PN	**Pn**	**20 08 30.7**	**+0.8**
ISK	**Istanbul-Kandi**	**2.58**	**38**	*e*Pn	**Pn**	**20 08 30.7**	**+0.8**
EDRB	**Edirne**	**2.79**	**357**	*e*PN	**Pn**	**20 08 33.8**	**+1.0**
EDRB	**Edirne**	**2.79**	**357**	*e*Pn	**Pn**	**20 08 33.8**	**+1.0**
SILT	**Sile**	**2.94**	**44**	*e*PN	**Pn**	**20 08 35.8**	**+1.0**
SILT	**Sile**	**2.94**	**44**	*e*Pn	**Pn**	**20 08 35.8**	**+1.0**
GULT	**Gulveren**	**3.08**	**62**	*e*PN	**Pn**	**20 08 37.7**	**+1.0**
GULT	**Gulveren**	**3.08**	**62**	*e*Pn	**Pn**	**20 08 37.7**	**+1.0**

*IDC **19** 20:09:09.7±2.0, 3°06S×127°98E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, ML3.5/1, MS2.9/2, Ms1 2.9/2, ms1mx2.3/28, Error ellipse: s-maj=166.7km s-min=27.0km az=66.0*
*ISCJB **19** 20:09:11.6±0.6, 3°35S±0°06×127°46E±0°06, h38km, mb3.6/3, MS2.8/1, Error ellipse: s-maj=8.3km s-min=7.9km az=16.8*
*DJA **19** 20:09:11.6±0.2, 3°S±3°×12°8E±°, h76km±9km, M4.1/16, mb4.1/13, mB6.5/2, MLv4.1/16, Mw(mB)6.2/2*

ISC 19 20:09:14.9±0.8, 3°29S±0°06×127°49E±0°07, h38km, n24, σ1°67/16, mb3.7/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**0.80**	**119**	P	**Pn**	**20 09 28.8**	**-0.9**
MSAI	**Masohi**	**1.44**	**92**	P	Pn	20 09 35.0	-3.4
LBMI	**Labuha**	**2.63**	**0**	P	**Pn**	**20 09 53.0**	**-1.9**
LBMI				S	**Sn**	**20 10 26.5**	**+0.8**
BNDI	**Bandanaira**	**2.70**	**117**	P	Pn	20 09 48.9	-6.9
TNTI	**Ternate**	**4.04**	**358**	P	**Pn**	**20 10 11.7**	**-2.5**
SWI	**Sorong**	**4.47**	**57**	P	Pn	20 10 13.6	-6.5
FAKI	**Fak Fak**	**4.76**	**86**	P	Pn	20 10 17.3	-6.9
KDI	**Kendari**	**4.91**	**262**	P	**Pn**	**20 10 23.8**	**-2.4**
	8.0nm,0.8s,0.0nm						
KMSI	**Cibinong**	**5.20**	**318**	P	**Pn**	**20 10 27.6**	**-2.6**
	61nm,0.5s,0.5nm						
BBSI	**Bau Bau**	**5.37**	**246**	P	Pn	20 10 29.4	-3.1
	25nm,1.0s,0.1nm						
MNI	**Manado**	**5.40**	**331**	P	Pn	20 10 29.4	-3.5
	60nm,0.5s,2µm0.6nm						
TLE	**Tual**	**5.72**	**114**	P	Pn	20 10 29.4	-8.0
	47nm,1.7s,0.2nm						
APSI	**Ampana**	**6.30**	**292**	P	**Pn**	**20 10 45.9**	**+0.6**
	913nm,0.8s,874µm88nm						
MRSI	**Marisa**	**6.69**	**304**	P	**Pn**	**20 10 51.8**	**+1.1**
	22nm,0.5s,0.1nm						
BKSI	**Bulukumba**	**7.62**	**254**	P	**Pn**	**20 11 01.5**	**-1.9**
	8.3nm,1.3s,0.0nm						
SPSI	**Sidrap Palu**	**7.74**	**265**	P	**Pn**	**20 11 04.2**	**-0.8**
	7.4nm,0.7s,0.1nm						
MYLDM	**Lahad Datu**	**12.31**	**313**	P	**Pn**	**20 12 08.3**	**+0.6**
	12nm,2.9s						
KKM	**Kota Kinabalu**	**14.59**	**309**	P	**Pn**	**20 12 38.4**	**-0.5**
	16nm,1.4s						
FITZ	**Fitzroy Crossi**	**14.83**	**187**	LR	LR	20 18 49.8	
	comp=Z,50nm,18.4s,baz=18,slow=38						
WRA	**Warramunga Arr**	**17.85**	**159**	P	**P**	**20 13 21.3**	**+0.5**
	0.2nm,0.3s,baz=341,slow=12,SNR=7.8						
ASAR	**Alice Springs**	**21.18**	**164**	P	**P**	**20 13 58.9**	**+1.7**
	4.3nm,0.9s,baz=346,slow=11,SNR=36						
STKA	**Stephens Creek**	**31.38**	**157**	P	**P**	**20 15 31.0**	**-1.2**
	1.1nm,0.8s,baz=333,slow=11,SNR=2.3						
KSRS	**Korea Array**	**40.54**	**1**	LR	LR	20 32 31.3	
	comp=Z,13nm,18.7s,baz=0.0,slow=35						
MKAR	**Makanchi Array**	**63.77**	**327**	P	**P**	**20 19 44.2**	**+1.1**
	0.2nm,0.8s,baz=131,slow=7.9,SNR=2.7						

IDC 19 20:10:02.7±1.2, 3°30N×125°39E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, 1C, Error ellipse: s-maj=213.5km s-min=18.2km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.06**	**344**	*i* P	Pb	20 11 16.9	+1.7
WRA	**Warramunga Arr**	**24.71**	**160**	P	P	20 15 24.8	-1.1
	5.3nm,1.1s,baz=341,slow=9.6,SNR=12						
ASAR	**Alice Springs**	**28.06**	**163**	P	P	20 15 57.4	+1.3
	0.2nm,0.3s,baz=343,slow=8.4,SNR=4.6						
ASAR				PcP	PcP	20 19 11.2	+0.2
	0.1nm,0.3s,baz=358,slow=2.2,SNR=4.5						
STKA	**Stephens Creek**	**38.22**	**157**	P	P	20 17 24.2	-0.3
	1.2nm,0.5s,baz=336,slow=9.9,SNR=5.0						
SONM	**Songino Array**	**47.29**	**343**	P	P	20 18 38.4	+0.2
	0.3nm,0.4s,baz=162,slow=5.5,SNR=3.0						
MKAR	**Makanchi Array**	**57.16**	**326**	P	P	20 19 51.1	-0.3
	0.6nm,0.4s,baz=119,slow=7.2,SNR=17						
ZALV	**Zalesovo Beam**	**60.37**	**334**	P	P	20 20 13.4	-0.2
	0.3nm,0.3s,baz=131,slow=8.2,SNR=2.3						

IDC 19 20:17:05.1±2.2, 3°02N×126°67E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.1/20, mbtmp3.0/3, Error ellipse: s-maj=191.3km s-min=25.2km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.03**	**162**	P	P	20 22 21.9	-0.1
	0.3nm,0.5s,baz=341,slow=10,SNR=5.0						
ASAR	**Alice Springs**	**27.44**	**165**	P	P	20 22 53.1	+0.2
	0.2nm,0.8s,baz=341,slow=9.7,SNR=3.9						
MKAR	**Makanchi Array**	**58.11**	**326**	P	P	20 27 00.3	-0.2
	0.1nm,0.4s,baz=112,slow=8.7,SNR=4.0						

IDC 19 20:19:32.0±2.1, 3°18N×126°94E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, Error ellipse: s-maj=155.7km s-min=26.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.10**	**163**	P	P	20 24 49.6	0.0
	0.6nm,0.5s,baz=343,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**27.54**	**166**	P	P	20 25 20.8	0.0
	0.2nm,0.5s,baz=341,slow=8.3,SNR=5.6						
MKAR	**Makanchi Array**	**58.12**	**325**	P	P	20 29 27.5	-0.1
	0.1nm,0.4s,baz=115,slow=7.4,SNR=5.2						

*IDC **19** 20:31:47.9±3.2, 38°34N×72°60E, h0km, mb3.7/2, mb1 3.5/6, mb1mx3.3/30, mbtmp3.5/6, ML3.1/4, MS3.3/1, Ms1 3.3/1, ms1mx2.2/44, Error ellipse: s-maj=60.2km s-min=23.2km az=126.0*
*NNC **19** 20:31:48.4±5.7, 38°21N×71°17E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=46.5km s-min=37.5km az=171.0*
*ISCJB **19** 20:31:51.5±1.6, 38°4N±0°1×71°7E±0°1, h25km, mb3.6/2, MS3.3/1, Error ellipse: s-maj=18.4km s-min=12.5km az=42.9*

ISC 19 20:31:53.2±1.8, 38°4N±0°1×72°0E±0°1, h25km, n12, σ2°50/13, 4C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.61**	**24**	Pn	**Pn**	**20 33 01.1**	**-0.3**
	1.0nm,0.3s,baz=168,slow=5.2,SNR=20						
AAK				Sn	**Sn**	**20 33 59.0**	**+4.8**
	1.3nm,0.3s,baz=312,slow=20,SNR=7.9						

KK31	**Karatay Array**	**4.80**	**347**	⇓Pn	**Pn**	**20 33 03.8**	**-0.1**
	3.3nm,0.4s,baz=166,slow=13,SNR=76						
KK31				⇑Sn	**Sn**	**20 34 00.3**	**+1.5**
	2.4nm,0.3s,baz=165,slow=24,SNR=3.5						
KK31				⇓Lg	Lg	20 34 26.1	
	12nm,0.6s						
TKM2	**Tokmak 2**	**5.25**	**30**	⇑Pn	Pn	20 33 13.0	+2.7
	3.3nm,0.6s						
TKM2				⇓Sn	**Sb**	**20 34 26.4**	**-0.6**
	11nm,0.8s						
MKAR	**Makanchi Array**	**11.27**	**39**	Pn	**Pn**	**20 34 31.0**	**-1.7**
	0.0nm,0.3s,baz=221,slow=16,SNR=4.0						
AB31	**Akbulak array**	**13.86**	**325**	⇑P	**Pn**	**20 35 05.2**	**-2.8**
	1.3nm,0.7s,baz=132,slow=13,SNR=10						
BVAR	**Borovoye Array**	**14.64**	**356**	Pn	**Pn**	**20 35 16.1**	**-2.5**
	0.0nm,0.3s,baz=166,slow=11,SNR=2.5						
AKTO	**Aktyubinsk**	**15.58**	**325**	⇑P	**Pn**	**20 35 29.8**	**-1.3**
	0.4nm,0.8s						
AKTO	**Aktyubinsk**	**15.58**	**325**	Pn	**Pn**	**20 35 29.1**	**-1.9**
	0.1nm,0.3s,baz=132,slow=14,SNR=2.3						
ZALV	**Zalesovo Beam**	**17.83**	**25**	P	**Pn**	**20 35 57.1**	**-2.3**
	0.1nm,0.3s,baz=220,slow=13,SNR=2.8						
FINES	**FINESS Array B**	**36.35**	**324**	P	**P**	**20 38 57.5**	**+2.7**
	0.8nm,0.6s,baz=107,slow=6.4,SNR=4.7						
JNU	**Nakatsue**	**47.37**	**78**	LR	LR	21 02 01.5	
	comp=Z,29nm,19.2s,baz=103,slow=39						
TORD	**Torodi Ar. Bea**	**66.56**	**268**	P	**P**	**20 42 42.7**	**+1.3**
	0.2nm,0.6s,baz=51,slow=5.7,SNR=4.7						

*SZGRF **19** 20:37:28.9,21°65S×176°73W, h33km, Fiji Islands region*
*IDC **19** 20:38:25.8±2.1, 20°50S×177°88W, h501km±22km, mb3.8/15, mb1 3.9/17, mb1mx3.8/24, mbtmp3.8/17, Error ellipse: s-maj=16.2km s-min=13.4km az=136.0*
*NEIC **19** 20:38:26.5±0.8, 20°51S×177°86W, h514km±7km, mb4.6/8, Error ellipse: s-maj=13.4km s-min=8.8km az=147.0*
*ISCJB **19** 20:38:28.3±0.7, 20°54S±0°10×178°1W±0°1, h534km, mb4.4/24, Error ellipse: s-maj=15.8km s-min=10.9km az=39.7*

ISC 19 20:38:28.4±0.5, 20°6S±0°1×177°99W±0°09, h534km, n117, σ0°86/134, mb4.6/24, 16C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.70**	**306**	*e*P	**P**	**20 39 53.9**	**-1.1**
AFI	**Afiamalu**	**8.90**	**43**	P	P	20 40 29.7	-5.4
AFI				S	S	20 42 06.3	-13
AFI	**Afiamalu**	**8.90**	**43**	P	P	20 40 29.7	-5.4
	11nm,0.3s,baz=23,slow=2.0,SNR=7.3						
AFI				S	S	20 42 06.3	-13
	6.6nm,0.3s,baz=180,slow=9.1,SNR=6.6						
DZM	**Mont Dzumac**	**14.59**	**261**	*e*P	**P**	**20 41 33.8**	**-0.2**
	11nm,0.6s						
DZM	**Mont Dzumac**	**14.59**	**261**	P	**P**	**20 41 33.2**	**-0.8**
	1.0nm,0.3s,baz=81,slow=16,SNR=17						
URZ	**Urewera**	**18.12**	**192**	*e*P	**P**	**20 42 07.9**	**-0.1**
	28nm,0.4s						
EIDS	**Eidsvold**	**28.84**	**255**	*e*P	**P**	**20 43 43.6**	**-0.2**
	5.1nm,0.4s						
EIDS	**Eidsvold**	**28.84**	**255**	*e*P	**P**	**20 43 43.8**	**0.0**
	35nm,0.4s						
CNB	**Canberra Magne**	**32.19**	**236**	*e*P	**P**	**20 44 14.0**	**+1.4**
	56nm,0.5s						
CTA	**Charters Tower**	**33.49**	**264**	P	**P**	**20 44 24.4**	**+0.5**
CTA	**Charters Tower**	**33.49**	**264**	*e*P	**P**	**20 44 24.4**	**+0.5**
	8.6nm,0.8s						

FINES	**FINESS Array B**	**135.85 344**	PKPpre	PKPpre	20 56 36.9	
FINES			PKP	**PKPdf**	**20 56 46.9**	**-1.1**
FINES	**FINESS Array B**	**135.85 344**	PKhKP	PKPpre	20 56 36.9	
	1.2nm,0.9s,baz=46,slow=11,SNR=3.3					
FINES			PKP	**PKPdf**	**20 56 46.8**	**-1.1**
	1.4nm,0.8s,baz=70,slow=4.6,SNR=7.4					
AKASG	**Malin Array Be**	**143.09 331**	PKPpre	PKPpre	20 56 58.8	
AKASG	**Malin Array Be**	**143.09 331**	PKhKP	PKPpre	20 56 58.8	
	7.4nm,0.5s,baz=42,slow=4.1,SNR=34					
BSEG	**Bad Segeberg**	**146.10 351**	*e*PKPbc	**PKPab**	**20 57 09.0**	**-1.5**
KWP	**Kalwaria Pacla**	**146.66 335**	*e*PKPbc	**PKPbc**	**20 57 10.0**	**-0.2**
KWP	**Kalwaria Pacla**	**146.66 335** ⇓	*i*P	**PKPbc**	**20 57 10.7**	**+0.5**
ASF	**Jabal al Asfar**	**146.82 298**	PKPbc	**PKPbc**	**20 57 12.1**	**+0.8**
ASF	**Jabal al Asfar**	**146.82 298**	PKPbc	**PKPbc**	**20 57 12.1**	**+0.8**
	4.6nm,0.9s,baz=63,slow=2.3,SNR=6.1					
BR131	**Keskin Array S**	**146.90 312**	*e*PKPbc	**PKPbc**	**20 57 11.4**	**+0.1**
BRTR	**Keskin Array B**	**146.90 312**	PKPbc	**PKPbc**	**20 57 11.6**	**+0.2**
BRTR	**Keskin Array B**	**146.90 312**	PKPbc	**PKPbc**	**20 57 11.6**	**+0.2**
	3.4nm,0.6s,baz=131,slow=4.2,SNR=20					
TLCR		**146.98 324** ⇑	*i*P	**PKPbc**	**20 57 11.6**	**+0.4**
BUR08	**Bucovina Ar. S**	**147.12 331**	*e*PKPbc	**PKPbc**	**20 57 12.2**	**+0.6**
BURAR	**Bucovina Array**	**147.14 331** ⇑	*i*P	**PKPab**	**20 57 13.2**	**-1.8**
KOLS	**Kolonicke sedl**	**147.39 355**	*e*PKP	**PKPab**	**20 57 16.4**	**+0.5**
NRDL	**Niedersach Rie**	**147.53 351**	*e*PKPbc	**PKPbc**	**20 57 12.4**	**+0.1**
VRI	**Vrincioaia**	**147.64 327** ⇑	*i*P	**PKPbc**	**20 57 13.3**	**+0.4**
CRVS	**Cervenica-Dubn**	**147.73 336**	*e*PKP	**PKPbc**	**20 57 14.0**	**+1.0**
TRPA	**Tarpa**	**147.92 334** ⇓	*i*P	**PKPbc**	**20 57 14.0**	**+0.5**
CLZ	**Clausthal**	**148.12 350**	*e*PKPbc	**PKPbc**	**20 57 14.7**	**+0.7**
CLL	**Collm**	**148.14 347**	*e*PKPbc	**PKPbc**	**20 57 14.5**	**+0.5**
CLL	**Collm**	**148.14 347** ⇓	*i*PKPbc	**PKPbc**	**20 57 14.4**	**+0.5**
	comp=Z,15nm,0.9s					
CLL			*i* PKPab	**PKPab**	**20 57 19.0**	**+0.2**
UPC	**Upice**	**148.15 343** ⇑	*e*PKP	**PKPbc**	**20 57 14.8**	**+0.8**
UPC			*e*PKPAB	**PKPab**	**20 57 20.2**	**+1.3**
DPC	**Dobruska-Polom**	**148.21 343** ⇑	*e*PKP	**PKPbc**	**20 57 15.1**	**+0.9**
DPC			*e*PKPAB	**PKPab**	**20 57 20.4**	**+1.2**
MLR	**Muntele Rosu**	**148.30 327** ⇑	*i*P	**PKPbc**	**20 57 14.9**	**+0.2**
BRG	**Berggiesshubel**	**148.34 346**	*i* PKP	**PKPbc**	**20 57 15.1**	**+0.6**
	comp=Z,6.7nm,0.9s					
BRG			*e*		20 57 20.1	
	comp=Z,3.5nm,0.8s					
BRG	**Berggiesshubel**	**148.34 346**	*e*PKPbc	**PKPbc**	**20 57 15.4**	**+0.9**
MORC	**Moravsky Berou**	**148.35 341** ⇓	*i*P	**PKPbc**	**20 57 15.3**	**+0.7**
PVCC	**Panska Ves**	**148.51 345** ⇑	*e*PKP	**PKPbc**	**20 57 15.8**	**+0.9**
VOIR		**148.79 328** ⇓	*i*P	**PKPbc**	**20 57 16.9**	**+1.0**
DRGR		**148.88 332** ⇓	*i*P	**PKPbc**	**20 57 16.1**	**0.0**
PRU	**Pruhonice**	**149.01 344** ⇑	*e*PKP	**PKPbc**	**20 57 16.8**	**+0.6**
PRU			*e*PKPAB	**PKPab**	**20 57 23.1**	**+0.6**
VYHS	**Vyhne**	**149.04 338**	*e*PKP	**PKPbc**	**20 57 17.2**	**+0.9**
MOX	**Moxa**	**149.05 348**	*e*PKPbc	**PKPbc**	**20 57 17.0**	**+0.7**
TANN	**Tannenbergstha**	**149.10 347**	*e*PKPbc	**PKPbc**	**20 57 17.1**	**+0.6**
PSZ	**Piszkesteto**	**149.14 336** ⇑	*i*P	**PKPbc**	**20 57 16.8**	**+0.2**
TRST	**Trest**	**149.39 343** ⇑	*e*PKP	**PKPbc**	**20 57 17.9**	**+0.8**
ROTZ	**Rotzenmuhle**	**149.77 347**	*e*PKPbc	**PKPbc**	**20 57 18.6**	**+0.6**
GZR	**Gura Zlata**	**149.91 330** ⇓	*i*P	**PKPbc**	**20 57 18.7**	**+0.1**
TNS	**Taunus Mts**	**149.98 352**	*e*PKPbc	**PKPbc**	**20 57 19.4**	**+0.8**
GRF	**Grafenberg Arr**	**150.04 348**	*e*PKPbc	**PKPbc**	**20 57 19.0**	**+0.3**
KHC	**Kasperske Hory**	**150.05 345** ⇑	*e*PKP	**PKPbc**	**20 57 19.5**	**+0.8**
KHC			*e*PKPAB	**PKPab**	**20 57 27.2**	**+0.3**
GEC2	**GERESS Array S**	**150.28 344**	*e*PKPbc	**PKPbc**	**20 57 19.7**	**+0.3**
GERES	**GERESS Array B**	**150.28 344**	PKPbc	**PKPbc**	**20 57 19.4**	**0.0**
GERES			PKPab	**PKPab**	**20 57 27.4**	**-0.6**
GERES	**GERESS Array B**	**150.28 344**	PKPbc	**PKPbc**	**20 57 19.4**	**0.0**
	comp=Z,1.8nm,0.6s,baz=48,slow=2.0,SNR=12					
GERES			PKPab	**PKPab**	**20 57 27.4**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=28,slow=4.6,SNR=5.6					
CONA	**Conrad Observa**	**150.51 341** ⇑	*i*PKiKP	**PKiKP**	**20 57 20.4**	**0.0**
	comp=Z,4.8nm,0.6s					
MOA	**Molln**	**151.05 343** ⇑	*i*PKPbc	**PKPbc**	**20 57 20.9**	**-0.2**
	comp=Z,1.1nm,0.5s					
BFO	**Black Forest**	**151.85 351**	*e*PKPbc	**PKPbc**	**20 57 22.8**	**0.0**
WTTA	**Wattenberg**	**152.26 346** ⇑	*i*PKiKP	**PKiKP**	**20 57 23.9**	**-0.2**
	comp=Z,4.7nm,0.8s					
ABTA	**Abfaltersbach**	**152.53 344** ⇑	*i*PKPbc	**PKPbc**	**20 57 24.1**	**-0.4**
	comp=Z,3.8nm,0.6s					
FETA	**Feichten**	**152.69 347** ⇑	*i*PKiKP	**PKiKP**	**20 57 25.3**	**+0.3**
	comp=Z,3.9nm,0.9s					
DBIC	**Dimbokro**	**164.65 153**	PKPab	**PKPab**	**20 58 31.1**	**+0.3**
DBIC	**Dimbokro**	**164.65 153**	PKPab	**PKPab**	**20 58 31.1**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=158,slow=5.4,SNR=3.5					
TORD	**Torodi Ar. Bea**	**172.60 178**	PKP	**PKPdf**	**20 57 36.2**	**-0.8**
TORD			PKPab	**PKPab**	**20 59 04.8**	**-1.1**
TORD	**Torodi Ar. Bea**	**172.60 178**	PKP	**PKPdf**	**20 57 36.2**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=212,slow=1.4,SNR=5.8					
TORD			PKPab	**PKPab**	**20 59 04.8**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=172,slow=4.8,SNR=5.0					

PRE 19 20:42:58.6±1.5, 21°.31S×32°.92E, h10km, ML3.1, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BLWY	**Bulawayo**	**4.20**	**285**	*i* P		Pn	20 44 06.9	+4.0
BLWY				*i*			20 44 07.3	
	baz=116,slow=11							
BLWY				*i* S		Sg	20 45 12.2	-1.6
ERPM	**east rand prop**	**6.59**	**220**	*e*S		Sn	20 45 46.0	-5.3
ERPM				AML		AML	20 46 25.0	
	comp=Z,14nm,0.4s							
LSZ	**Lusaka**	**7.49**	**322**	*e*P		Pn	20 44 50.8	+2.6
LSZ				*e*S		Sn	20 46 09.0	-4.4
PRYS	**Parys**	**7.55**	**221**	*e*P		Pn	20 44 49.5	+0.5
PRYS				*e*S		Sn	20 46 12.6	-2.3
PRYS				AML		AML	20 47 01.4	
	comp=Z,10nm,0.6s							
LBTB	**Lobatse**	**7.68**	**240**	*e*P		Pn	20 44 52.4	+1.7
LBTB				*e*S		Sn	20 46 14.7	-3.3
LBTB				AML		AML	20 47 04.5	
	comp=Z,15nm,0.7s							
BOSA	**Boshof**	**10.06**	**222**	*e*P		Pn	20 45 23.2	-0.2
BOSA				*e*S		Sn	20 47 12.0	-4.5
BOSA				AML		AML	20 48 25.2	
	comp=Z,5.4nm,0.6s							

*IDC **19** 21:20:19.3±1.1, 52°.14N×171°.30W, h0km, mb3.6/9, mb1 3.8/11, mb1mx3.6/29, mbtmp3.6/11, ML3.1/2, Error ellipse: s-maj=33.2km s-min=17.1km az=163.0*
*ISCJB **19** 21:20:24.3±0.8, 52°.2N±0°.1×171°.09W±0°.09, h42km, mb3.6/9, Error ellipse: s-maj=22.0km s-min=4.6km az=162.8*
*NEIC **19** 21:20:26.8, 52°.31N×171°.14W, h25km, ML2.9(AEIC), After AEIC.*

ISC 19 21:20:25.4±1.1, 52°.2N±0°.2×171°.16W±0°.07, h42km, n22, σ1s26/25, mb3.5/9, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.62**	**59**	P		**Pn**	**21 20 51.1**	**-0.2**
NIKO				S		**Sn**	**21 21 09.8**	**-1.1**
KOFP	**Korovin Flat P**	**1.81**	**274**	P		**Pn**	**21 20 55.1**	**+1.0**
ATKA	**Atka Island**	**1.87**	**272**	P		**Pn**	**21 20 54.5**	**-0.3**
ATKA				S		**Sn**	**21 21 18.3**	**+1.1**
KOKL	**Mount Kliuchef**	**1.88**	**276**	P		**Pn**	**21 20 56.6**	**+1.6**
KOWE	**Korovin West**	**1.91**	**277**	P		**Pn**	**21 20 57.5**	**+2.0**
OKCE	**Okmok Cone E**	**2.21**	**54**	P		**Pn**	**21 20 59.2**	**-0.3**
MSOM	**Makushin Julie**	**3.03**	**55**	P		**Pn**	**21 21 12.5**	**+1.8**
MSW	**Makushin Switc**	**3.16**	**55**	P		**Pn**	**21 21 13.9**	**+1.3**
UNV	**Unalaska Valle**	**3.27**	**57**	P		**Pn**	**21 21 13.8**	**-0.2**
AKUT	**Akutan**	**3.79**	**57**	*e*Pn		**Pn**	**21 21 23.6**	**+2.5**
AKUT				*e*Sn		**Sn**	**21 22 04.5**	**+0.1**
FX1	**Attu Island--F**	**9.59**	**280**	Pn		**Pn**	**21 22 38.6**	**-2.0**
	0.6nm,0.3s,baz=149,slow=8.8,SNR=2.1							
KDAK	**Kodiak Island**	**12.04**	**55**	Pn		**Pn**	**21 23 12.2**	**-1.9**
	0.1nm,0.3s,baz=315,slow=17,SNR=2.6							
ILAR	**Eielson Array**	**17.74**	**35**	P		**Pn**	**21 24 27.9**	**-0.9**
	0.0nm,0.3s,baz=228,slow=11,SNR=3.0							
INK	**Inuvik**	**24.12**	**34**	P		**P**	**21 25 36.7**	**0.0**
	0.6nm,0.4s,baz=239,slow=7.6,SNR=8.2							
YKA	**Yellowknife Ar**	**31.19**	**48**	P		**P**	**21 26 40.8**	**+0.7**
	0.2nm,0.3s,baz=273,slow=8.0,SNR=5.4							
PDAR	**Pinedale Array**	**41.52**	**75**	P		**P**	**21 28 09.9**	**+1.4**
	0.3nm,0.5s,baz=296,slow=4.9,SNR=3.2							
SONM	**Songino Array**	**50.45**	**300**	P		**P**	**21 29 18.6**	**-0.1**
	0.2nm,0.4s,baz=65,slow=8.1,SNR=3.8							
MKAR	**Makanchi Array**	**63.13**	**312**	P		**P**	**21 30 48.0**	**-0.5**
	0.1nm,0.3s,baz=44,slow=6.4,SNR=7.2							
FINES	**FINESS Array B**	**65.90**	**351**	P		**P**	**21 31 05.6**	**-0.6**
	0.9nm,0.8s,baz=328,slow=6.8,SNR=3.8							
CMAR	**Chiang Mai AR**	**75.58**	**281**	P		**P**	**21 32 06.3**	**+0.6**
	1.4nm,0.7s,baz=28,slow=6.5,SNR=15							
WRA	**Warramunga Arr**	**86.03**	**230**	P		**P**	**21 33 00.1**	**-1.2**
	0.2nm,0.6s,baz=35,slow=5.9,SNR=3.7							
ASAR	**Alice Springs**	**89.44**	**229**	P		**P**	**21 33 17.1**	**-0.5**
	0.5nm,0.5s,baz=28,slow=4.6,SNR=10							

MEX 19 21:23:36.3±0.7, 16°.42N×95°.19W, h76km±17km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.73**	**24**	*e*P		Pn	21 23 50.7	-1.3
CMIG				*i* S		Sn	21 24 01.6	-2.1
HUIG	**Huatulco**	**1.10**	**234**	*i* P		Pn	21 23 54.4	-2.0
HUIG				*i* S		Sn	21 24 09.7	-1.7
VHO	**Vista Hermosa**	**1.62**	**294**	*e*P		Pn	21 24 01.0	-2.3
VHO				*i* S		Sn	21 24 22.9	-0.9
PCIG		**2.02**	**110**	*e*P		Pn	21 24 08.0	-0.4
PCIG				*i* S		Sn	21 24 30.6	-2.3
PNIG	**Pinotepa**	**2.82**	**270**	*e*P		Pn	21 24 16.8	-2.5
PNIG				*i* S		Sn	21 24 49.1	-3.1
UTMO	**Huajuapan**	**2.87**	**300**	*e*P		Pn	21 24 19.1	-1.0
UTMO				*i* S		Sn	21 24 51.6	-2.2

PRE 19 21:25:41.8±3.1, 26°.51S×27°.61E, h2km, ML2.8, 2C-3D, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.16**	**360**	⇑ *i*P		Pg	21 25 45.0	-0.2
KLOF				*e*S		Sg	21 25 46.3	-1.1
PRYS	**Parys**	**0.47**	**208**	*e*P		Pb	21 25 53.0	0.0
PRYS				*e*S		Sg	21 25 53.7	-3.7
PRYS				AML		AML	21 25 59.9	
	comp=Z,163nm,0.2s							
ERPM	**east rand prop**	**0.59**	**74**	*e*P		Pb	21 25 54.5	-0.6
ERPM				*e*S		Sg	21 26 01.4	+0.2
ERPM				AML		AML	21 26 03.0	
	comp=Z,123nm,0.2s							
BFSD	**Buffelsfontein**	**0.82**	**244**	*e*P		Pb	21 25 59.1	+0.1
BFSD				*e*S		Sg	21 26 08.2	-0.3
BFSD				AML		AML	21 26 09.2	
	comp=Z,304nm,0.2s							
SLR	**Silverton**	**0.98**	**38**	⇓ *i*P		Pg	21 26 00.3	-0.5
SLR				*e*S		Sb	21 26 15.3	0.0
SLR				AML		AML	21 26 19.6	
	comp=Z,97nm,1.0s							
SWZ	**Schweizer**	**2.14**	**251**	⇓ *i*P		Pn	21 26 19.6	+0.7
SWZ				*e*S		Sn	21 26 46.5	+0.3
SWZ				AML		AML	21 26 49.8	
	comp=Z,147nm,0.2s							
LBTB	**Lobatse**	**2.35**	**309**	⇓ *i*P		Pn	21 26 22.4	+0.9
LBTB				*e*S		Sn	21 26 52.0	+0.9
LBTB				AML		AML	21 26 53.8	
	comp=Z,101nm,0.6s							
BOSA	**Boshof**	**2.96**	**224**	⇑ *i*P		Pn	21 26 30.9	+0.9
BOSA				*e*S		Sn	21 27 08.7	+2.4
BOSA				AML		AML	21 27 16.0	
	comp=Z,25nm,0.3s							
MSNA	**Messina**	**4.69**	**28**	*e*P		Pn	21 26 51.3	-2.5
MSNA				*e*S		Sn	21 27 44.9	-3.9
MSNA				AML		AML	21 28 08.9	
	comp=Z,12nm,0.6s							
SOE	**Somerset East**	**6.43**	**196**	*e*S		Sn	21 28 31.8	0.0
SOE				AML		AML	21 29 10.9	
	comp=Z,7.4nm,0.4s							
SUR	**Sutherland**	**8.33**	**224**	*e*P		Pn	21 27 44.3	+0.5
SUR				*e*S		Sn	21 29 15.8	-2.8
SUR				AML		AML	21 30 05.7	
	comp=Z,7.5nm,0.7s							
CVNA	**Calvinia**	**8.47**	**232**	*e*P		Pn	21 27 46.4	+0.7
CVNA				*e*S		Sn	21 29 16.4	-5.6
CVNA				AML		AML	21 30 07.0	
	comp=Z,14nm,0.6s							

IDC 19 21:31:27.7±1.9, 3°.05N×126°.00E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=175.4km s-min=24.5km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.28**	**161**	P		P	21 36 46.8	-0.1
	2.4nm,0.8s,baz=339,slow=10,SNR=19							
ASAR	**Alice Springs**	**27.65**	**164**	P		P	21 37 18.1	+0.7
	0.3nm,0.6s,baz=346,slow=7.0,SNR=5.5							
STKA	**Stephens Creek**	**37.77**	**158**	P		P	21 38 45.2	-0.5
	1.9nm,0.8s,baz=344,slow=9.6,SNR=4.0							
MKAR	**Makanchi Array**	**57.69**	**326**	P		P	21 41 19.9	-0.3
	0.3nm,0.6s,baz=123,slow=8.7,SNR=6.2							

IDC 19 21:38:50.0±1.4, 52°.86S×21°.11E, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/16, mbtmp3.7/2, MS3.3/1, Ms1 3.1/1, ms1mx2.8/22, Error ellipse: s-maj=185.5km s-min=41.6km az=26.0, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**24.42**	**9**	LR		LR	21 52 04.9	
	comp=Z,64nm,20.5s,baz=345,slow=33							
ASAR	**Alice Springs**	**84.15**	**122**	P		P	21 51 23.1	+0.1
	0.5nm,0.6s,baz=204,slow=5.4,SNR=5.0							
WRA	**Warramunga Arr**	**87.44**	**120**	P		P	21 51 39.4	0.0
	0.4nm,1.1s,baz=211,slow=4.5,SNR=3.5							
PDAR	**Pinedale Array**	**145.99**	**273**	PKPbc	PKPdf		21 58 29.9	-0.6
	0.7nm,0.7s,baz=128,slow=5.8,SNR=7.0							
NVAR	**Mina Array Bea**	**148.63**	**259**	PKPbc	PKPbc		21 58 38.5	-0.1
	0.3nm,0.3s,baz=145,slow=6.9,SNR=3.8							
YKA	**Yellowknife Ar**	**154.93**	**310**	PKPab	PKPab		21 59 07.2	-0.4
	0.2nm,0.6s,baz=92,slow=4.9,SNR=4.6							

IDC 19 22:01:41.1±3.0, 6°.12S×148°.17E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/16, mbtmp3.4/3, Error ellipse: s-maj=78.3km s-min=45.4km az=101.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.22**	**223**	P		P	22 06 06.0	-0.9
	0.2nm,0.3s,baz=50,slow=11,SNR=12							
ASAR	**Alice Springs**	**22.20**	**217**	P		P	22 06 39.0	-0.2
	0.4nm,0.4s,baz=53,slow=9.0,SNR=8.6							
STKA	**Stephens Creek**	**26.36**	**193**	P		P	22 07 19.7	+0.7
	1.3nm,0.7s,baz=22,slow=11,SNR=2.2							
TORD	**Torodi Ar. Bea**	**146.24**	**284**	PKPbc	PKPdf		22 21 23.7	+0.1
	0.2nm,0.5s,baz=72,slow=4.7,SNR=4.2							

IDC 19 22:01:51.2±2.0, 4°.19N×126°.76E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.5/3, Error ellipse: s-maj=172.6km s-min=27.5km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.11**	**163**	P		P	22 07 16.6	-1.3
	0.6nm,0.6s,baz=343,slow=10,SNR=4.5							
STKA	**Stephens Creek**	**38.55**	**160**	P		P	22 09 16.9	+1.1
	0.9nm,0.5s,baz=331,slow=9.5,SNR=4.0							
MKAR	**Makanchi Array**	**57.20**	**325**	P		P	22 11 40.1	-0.1
	0.3nm,0.6s,baz=124,slow=7.4,SNR=5.7							

IDC 19 22:16:08.2±3.1, 4°.87S×133°.62E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=130.9km s-min=28.9km az=82.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.99**	**177**	Pn		Pn	22 19 39.7	-1.9
	0.1nm,0.3s,baz=355,slow=13,SNR=10							
WRA				Sn		Sn	22 22 19.1	-10
	0.0nm,0.3s,baz=355,slow=24,SNR=2.7							
FITZ	**Fitzroy Crossi**	**15.29**	**210**	Pn		Pn	22 19 45.5	0.0
	0.2nm,0.3s,baz=39,slow=12,SNR=4.3							
FITZ				Sn		Sn	22 22 29.1	-6.7
	0.2nm,0.3s,baz=176,slow=15,SNR=2.2							
ASAR	**Alice Springs**	**18.69**	**179**	P		Pn	22 20 28.9	+0.4
	0.2nm,0.3s,baz=4.7,slow=11,SNR=13							
MKAR	**Makanchi Array**	**68.50**	**325**	P		P	22 27 12.5	0.0
	0.2nm,0.8s,baz=119,slow=6.6,SNR=2.8							

IDC 19 22:17:37.7±14.0, 5°.08S×151°.75E, h100km±128km, mb2.9/4, mb1 3.2/4, mb1mx3.1/17, mbtmp2.9/4, MS3.1/1, Ms1 3.0/1, ms1mx2.4/12, Error ellipse: s-maj=71.5km s-min=38.3km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.48**	**227**	P		P	22 22 28.9	0.0
	0.3nm,0.5s,baz=51,slow=10.0,SNR=6.9							
ASAR	**Alice Springs**	**25.24**	**221**	P		P	22 22 55.2	+0.6
	0.4nm,0.6s,baz=58,slow=9.3,SNR=4.4							
STKA	**Stephens Creek**	**28.30**	**198**	LR		LR	22 34 22.6	
	comp=Z,39nm,19.1s,baz=96,slow=36							
SONM	**Songino Array**	**66.01**	**328**	P		P	22 28 14.1	+0.4
	0.1nm,0.5s,baz=141,slow=4.5,SNR=2.6							
ILAR	**Eielson Array**	**82.81**	**22**	P		P	22 29 50.7	+0.1
	0.4nm,0.9s,baz=263,slow=5.4,SNR=3.5							
TORD	**Torodi Ar. Bea**	**149.39**	**287**	PKPbc	PKPbc		22 37 14.6	-1.6
	0.4nm,0.9s,baz=54,slow=2.3,SNR=3.0							

*IDC **19** 22:21:15.4±0.7, 3°.66N×126°.64E, h0km, mb4.0/10, mb1 4.1/10, mb1mx4.0/21, mbtmp4.0/10, Error ellipse: s-maj=49.3km s-min=14.9km az=69.0*
*NEIC **19** 22:21:20.1±0.5, 3°.83N×126°.95E, h35km, mb4.3/6, Error ellipse: s-maj=33.5km s-min=7.8km az=68.0*

ISC 19 22:21:21.4±5.3, 3°.8N±0°.1×126°.8E±0°.2, h41km±49km, n32, σ0s97/38, mb4.2/17, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.77**	**183**	P		**P**	**22 26 11.5**	**+1.7**
FITZ	**Fitzroy Crossi**	**21.77**	**183**	P		**P**	**22 26 11.5**	**+1.7**
	1.6nm,0.5s,baz=45,slow=1.2,SNR=6.8							
WRAB	**Tennant Creek**	**24.70**	**163**	*e*P		**P**	**22 26 37.1**	**-1.7**
	2.8nm,0.6s							
WRA	**Warramunga Arr**	**24.71**	**163**	P		**P**	**22 26 37.7**	**-1.2**
WRA	**Warramunga Arr**	**24.71**	**163**	P		**P**	**22 26 37.7**	**-1.2**
	1.3nm,0.5s,baz=344,slow=11,SNR=32							
ASAR	**Alice Springs**	**28.14**	**166**	P		**P**	**22 27 07.8**	**-2.1**
ASAR					PcP	**PcP**	**22 30 23.9**	**+0.4**
ASAR	**Alice Springs**	**28.14**	**166**	P		**P**	**22 27 07.8**	**-2.1**
	0.2nm,0.5s,baz=0.0,slow=8.3,SNR=3.9							
ASAR					PcP	**PcP**	**22 30 23.9**	**+0.4**
	0.2nm,0.3s,baz=346,slow=1.7,SNR=4.2							
CMAR	**Chiang Mai Arr**	**30.92**	**300**	P		**P**	**22 27 34.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**30.92**	**300**	P		**P**	**22 27 34.2**	**-0.3**
	0.7nm,0.3s,baz=113,slow=7.2,SNR=8.3							
ENH	**Enshi**	**31.03**	**330**	*e*P		**P**	**22 27 34.6**	**-0.7**
	5.5nm,0.7s							
STKA	**Stephens Creek**	**38.15**	**159**	P		**P**	**22 28 36.8**	**0.0**
STKA	**Stephens Creek**	**38.15**	**159**	P		**P**	**22 28 36.8**	**0.0**
	2.2nm,0.6s,baz=345,slow=8.0,SNR=9.1							
USRK	**Ussuriysk Arra**	**40.51**	**6**	P		**P**	**22 28 57.6**	**+1.2**
	0.7nm,0.6s,baz=211,slow=10.0,SNR=3.1							
LSA	**Lhasa**	**42.47**	**311**	*e*P		**P**	**22 29 13.5**	**+0.3**
	5.3nm,0.6s							
SONM	**Songino Array**	**47.28**	**341**	P		**P**	**22 29 50.9**	**+0.1**
SONM					PcP	**PcP**	**22 31 22.6**	**+1.1**
SONM	**Songino Array**	**47.28**	**341**	P		**P**	**22 29 50.9**	**+0.1**
	0.9nm,0.6s,baz=158,slow=8.0,SNR=10							
SONM					PcP	**PcP**	**22 31 22.6**	**+1.1**
	0.4nm,0.7s,baz=152,slow=2.6,SNR=3.5							
MK31	**Makanchi Array**	**57.56**	**325**	*e*P		**P**	**22 31 06.2**	**-0.8**
MKAR	**Makanchi Array**	**57.56**	**325**	P		**P**	**22 31 06.4**	**-0.6**
MKAR					PcP	**PcP**	**22 32 00.1**	**+0.1**
MKAR	**Makanchi Array**	**57.56**	**325**	P		**P**	**22 31 06.4**	**-0.6**
	2.2nm,0.4s,baz=120,slow=7.1,SNR=40							
MKAR					PcP	**PcP**	**22 32 00.1**	**+0.1**
	0.6nm,0.6s,baz=108,slow=4.0,SNR=4.4							
ZALV	**Zalesovo Beam**	**60.58**	**333**	P		**P**	**22 31 26.6**	**-1.0**
ZALV	**Zalesovo Beam**	**60.58**	**333**	P		**P**	**22 31 26.6**	**-1.0**
	0.8nm,0.3s,baz=127,slow=7.3,SNR=6.5							
KURK	**Kurch

BORA				*i* S	**Sb**	**22 26 25.6**	**+0.3**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*PN	**Pn**	**22 26 09.2**	**+0.4**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*PN	**Pn**	**22 26 09.2**	**+0.4**
ADVT	**Abdulvahap**	**1.41**	**22**	*e*PN	**Pn**	**22 26 09.6**	**+0.6**
ADVT	**Abdulvahap**	**1.41**	**22**	*e*Pn	**Pn**	**22 26 09.6**	**+0.6**
DNZL	**Cakiroluk**	**1.43**	**180**	*i* P	**Pn**	**22 26 08.9**	**-0.5**
DNZL				*e*S	**Sn**	**22 26 32.0**	**+3.4**
DNZL	**Cakiroluk**	**1.43**	**180**	*i* P	**Pn**	**22 26 08.9**	**-0.5**
ESKT	**Eskisehir**	**1.45**	**74**	*e*PN	**Pn**	**22 26 09.4**	**-0.3**
ESKT	**Eskisehir**	**1.45**	**74**	*e*Pn	**Pn**	**22 26 09.4**	**-0.3**
SEYT	**Eskypehyr**	**1.45**	**74**	*i* P	**Pn**	**22 26 09.3**	**-0.3**
SEYT				*e*S	**Sg**	**22 26 29.2**	**-0.4**
SEYT	**Eskypehyr**	**1.45**	**74**	*i* P	**Pn**	**22 26 09.3**	**-0.3**
SEYT				*e*S	**Sg**	**22 26 29.2**	**-0.4**
YLV	**Yalova**	**1.46**	**10**	*e*PN	**Pg**	**22 26 11.3**	**+0.4**
YLV	**Yalova**	**1.46**	**10**	*e*Pn	**Pg**	**22 26 11.3**	**+0.4**
BNT	**Bandirma**	**1.51**	**325**	*e*PN	**Pg**	**22 26 11.6**	**-0.1**
BNT	**Bandirma**	**1.51**	**325**	*e*Pn	**Pg**	**22 26 11.6**	**-0.1**
GPA	**Golpazari**	**1.52**	**40**	*e*PN	**Pb**	**22 26 11.4**	**0.0**
GPA	**Golpazari**	**1.52**	**40**	*e*Pn	**Pb**	**22 26 11.4**	**0.0**
EDC	**Edincik**	**1.53**	**324**	*e*PN	**Pg**	**22 26 12.0**	**-0.1**
EDC	**Edincik**	**1.53**	**324**	*e*Pn	**Pg**	**22 26 12.0**	**-0.1**
AYDN	**Tasoluk**	**1.72**	**213**	*e*P	**Pg**	**22 26 15.4**	**-0.5**
AYDN				*e*S	**Sg**	**22 26 40.1**	**+1.9**
AYDN	**Tasoluk**	**1.72**	**213**	*e*P	**Pg**	**22 26 15.4**	**-0.5**
BUY	**Buyukada**	**1.73**	**2**	*i* P	**Pn**	**22 26 12.4**	**-0.9**
BUY				*e*S	**Sg**	**22 26 39.0**	**+0.6**
BUY	**Buyukada**	**1.73**	**2**	*i* P	**Pn**	**22 26 12.4**	**-0.9**
BUY				*e*S	**Sg**	**22 26 39.0**	**+0.6**
GULT	**Gulveren**	**1.73**	**40**	*e*PN	**Pn**	**22 26 14.0**	**+0.6**
GULT	**Gulveren**	**1.73**	**40**	*e*Pn	**Pn**	**22 26 14.0**	**+0.6**
BLCB	**Balcova**	**1.73**	**245**	*e*PN	**Pb**	**22 26 14.5**	**-0.5**
BLCB	**Balcova**	**1.73**	**245**	*e*Pn	**Pb**	**22 26 14.5**	**-0.5**
ISP	**Isparta**	**1.74**	**138**	*e*PN	**Pn**	**22 26 12.9**	**-0.7**
ISP	**Isparta**	**1.74**	**138**	*e*Pn	**Pn**	**22 26 12.9**	**-0.7**
HRT	**Hereke**	**1.76**	**16**	*e*PN	**Pn**	**22 26 14.9**	**+1.1**
HRT	**Hereke**	**1.76**	**16**	*e*Pn	**Pn**	**22 26 14.9**	**+1.1**
SPNC	**Sapanca-Adapaz**	**1.84**	**31**	*e*PN	**Pn**	**22 26 15.3**	**+0.5**
SPNC	**Sapanca-Adapaz**	**1.84**	**31**	*e*Pn	**Pn**	**22 26 15.3**	**+0.5**
AYVA	**Ayvalik**	**1.84**	**277**	*i* P	**Pb**	**22 26 17.0**	**+0.2**
AYVA				*i* S	**Sg**	**22 26 42.6**	**+0.6**
AYVA	**Ayvalik**	**1.84**	**277**	*i* P	**Pb**	**22 26 17.0**	**+0.2**
AYVA				*i* S	**Sg**	**22 26 42.6**	**+0.6**
KRBG	**Karabiga-Canak**	**1.85**	**314**	*e*PN	**Pb**	**22 26 16.7**	**-0.3**
KRBG	**Karabiga-Canak**	**1.85**	**314**	*e*Pn	**Pb**	**22 26 16.7**	**-0.3**
ISK	**Istanbul-Kandi**	**1.94**	**0**	*e*PN	**Pn**	**22 26 17.3**	**+1.1**
ISK	**Istanbul-Kandi**	**1.94**	**0**	*e*Pn	**Pn**	**22 26 17.3**	**+1.1**
SVRH	**Sivrihisar-ESK**	**1.95**	**80**	*e*PN	**Pn**	**22 26 16.4**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.95**	**80**	*e*Pn	**Pn**	**22 26 16.4**	**0.0**
BCK	**Bucak**	**2.06**	**143**	*e*PN	**Pn**	**22 26 17.8**	**-0.1**
BCK	**Bucak**	**2.06**	**143**	*e*Pn	**Pn**	**22 26 17.8**	**-0.1**
BGKT	**Bogazkoy**	**2.07**	**354**	*e*PN	**Pn**	**22 26 19.3**	**+1.3**
BGKT	**Bogazkoy**	**2.07**	**354**	*e*Pn	**Pn**	**22 26 19.3**	**+1.3**
YER	**Yerkesik**	**2.07**	**197**	*e*PN	**Pn**	**22 26 18.6**	**+0.5**
YER	**Yerkesik**	**2.07**	**197**	*e*Pn	**Pn**	**22 26 18.6**	**+0.5**
SILT	**Sile**	**2.08**	**13**	*e*PN	**Pn**	**22 26 18.9**	**+0.8**
SILT	**Sile**	**2.08**	**13**	*e*Pn	**Pn**	**22 26 18.9**	**+0.8**
RKY	**Sarkoy-Tekirda**	**2.12**	**318**	*e*PN	**Pn**	**22 26 20.4**	**+1.6**
RKY	**Sarkoy-Tekirda**	**2.12**	**318**	*e*Pn	**Pn**	**22 26 20.4**	**+1.6**
MDUB	**Mudurnu**	**2.13**	**50**	*e*PN	**Pn**	**22 26 19.3**	**+0.3**
MDUB	**Mudurnu**	**2.13**	**50**	*e*Pn	**Pn**	**22 26 19.3**	**+0.3**
MFT	**Murefte**	**2.15**	**321**	*e*PN	**Pb**	**22 26 21.1**	**-1.0**
MFT	**Murefte**	**2.15**	**321**	*e*Pn	**Pb**	**22 26 21.1**	**-1.0**
CTKS	**Kestanelik-??a**	**2.15**	**349**	*e*PN	**Pn**	**22 26 20.4**	**+1.3**
CTKS	**Kestanelik-??a**	**2.15**	**349**	*e*Pn	**Pn**	**22 26 20.4**	**+1.3**
LPK	**Lapseki**	**2.16**	**306**	*e*PN	**Pn**	**22 26 20.8**	**+1.6**
LPK	**Lapseki**	**2.16**	**306**	*e*Pn	**Pn**	**22 26 20.8**	**+1.6**
TKR	**Tekirdag**	**2.20**	**329**	*e*PN	**Pn**	**22 26 21.1**	**+1.3**
TKR	**Tekirdag**	**2.20**	**329**	*e*Pn	**Pn**	**22 26 21.1**	**+1.3**
SLVT	**Silivri**	**2.20**	**343**	*e*PN	**Pn**	**22 26 21.1**	**+1.3**
SLVT	**Silivri**	**2.20**	**343**	*e*Pn	**Pn**	**22 26 21.1**	**+1.3**
HENT	**Hendek**	**2.22**	**39**	*i* P	**Pb**	**22 26 24.2**	**+0.9**
HENT				*e*S	**Sg**	**22 26 54.1**	**+0.1**
EZN	**Ezine**	**2.22**	**289**	*e*PN	**Pn**	**22 26 21.1**	**+1.0**
EZN	**Ezine**	**2.22**	**289**	*e*Pn	**Pn**	**22 26 21.1**	**+1.0**
KIZT	**Kizilcal**	**2.22**	**95**	*e*PN	**Pn**	**22 26 20.0**	**-0.2**
KIZT	**Kizilcal**	**2.22**	**95**	*e*Pn	**Pn**	**22 26 20.0**	**-0.2**
CRLT	**Corlu**	**2.24**	**334**	*e*PN	**Pn**	**22 26 22.2**	**+1.8**
CRLT	**Corlu**	**2.24**	**334**	*e*Pn	**Pn**	**22 26 22.2**	**+1.8**
CTYL	**Yal??k??y-??at**	**2.42**	**346**	*e*PN	**Pn**	**22 26 24.6**	**+1.8**
CTYL	**Yal??k??y-??at**	**2.42**	**346**	*e*Pn	**Pn**	**22 26 24.6**	**+1.8**
ELL	**Elmali**	**2.47**	**164**	*e*PN	**Pn**	**22 26 23.7**	**+0.1**
ELL	**Elmali**	**2.47**	**164**	*e*Pn	**Pn**	**22 26 23.7**	**+0.1**
BODT	**Bodrum**	**2.47**	**214**	*e*PN	**Pn**	**22 26 24.4**	**+0.8**
BODT	**Bodrum**	**2.47**	**214**	*e*Pn	**Pn**	**22 26 24.4**	**+0.8**
FETY	**Fethiye**	**2.48**	**179**	*e*PN	**Pn**	**22 26 23.7**	**0.0**
FETY	**Fethiye**	**2.48**	**179**	*e*Pn	**Pn**	**22 26 23.7**	**0.0**
ERIK	**Erikli-Kesan**	**2.49**	**309**	*e*PN	**Pn**	**22 26 25.9**	**+2.2**
ERIK	**Erikli-Kesan**	**2.49**	**309**	*e*Pn	**Pn**	**22 26 25.9**	**+2.2**
ENEZ	**Enez**	**2.75**	**307**	*e*PN	**Pn**	**22 26 28.6**	**+1.3**
ENEZ	**Enez**	**2.75**	**307**	*e*Pn	**Pn**	**22 26 28.6**	**+1.3**
LADK	**Ladik-KONYA**	**2.76**	**108**	*e*PN	**Pn**	**22 26 27.4**	**-0.1**
LADK	**Ladik-KONYA**	**2.76**	**108**	*e*Pn	**Pn**	**22 26 27.5**	**-0.1**
KONT	**Konya--Tatoy**	**2.85**	**113**	*e*PN	**Pn**	**22 26 29.2**	**+0.4**
KONT	**Konya--Tatoy**	**2.85**	**113**	*e*Pn	**Pn**	**22 26 29.2**	**+0.4**
LOD	**Lodumlu**	**2.98**	**74**	*e*PN	**Pn**	**22 26 31.2**	**+0.7**
LOD	**Lodumlu**	**2.98**	**74**	*e*Pn	**Pn**	**22 26 31.2**	**+0.7**
AFSR	**Af˙ar-Bala (A**	**3.14**	**83**	*e*PN	**Pn**	**22 26 33.2**	**+0.4**
AFSR	**Af˙ar-Bala (A**	**3.14**	**83**	*e*Pn	**Pn**	**22 26 33.2**	**+0.4**
EDRB	**Edirne**	**3.24**	**328**	*e*PN	**Pn**	**22 26 36.3**	**+2.2**
EDRB	**Edirne**	**3.24**	**328**	*e*Pn	**Pn**	**22 26 36.3**	**+2.2**
SAFT	**Safranbolu**	**3.50**	**52**	*e*PN	**Pn**	**22 26 38.7**	**+1.0**
SAFT	**Safranbolu**	**3.50**	**52**	*e*Pn	**Pn**	**22 26 38.7**	**+1.0**
KAMT	**Kaman**	**3.63**	**85**	*e*PN	**Pn**	**22 26 39.8**	**+0.2**
KAMT	**Kaman**	**3.63**	**85**	*e*Pn	**Pn**	**22 26 39.8**	**+0.2**
CORM	**Corum**	**4.44**	**74**	*e*PN	**Pn**	**22 26 51.9**	**+1.2**
CORM	**Corum**	**4.44**	**74**	*e*Pn	**Pn**	**22 26 51.9**	**+1.2**
TIRR	**Tirgusor**	**5.35**	**355**	⇑*i* P	**Pn**	**22 27 02.5**	**-0.6**
TIRR	**Tirgusor**	**5.35**	**355**	⇑*i* P	**Pn**	**22 27 02.5**	**-0.6**
VTS	**Vitosha**	**5.62**	**310**	*e*Pn	**Pn**	**22 27 09.7**	**+2.7**
VTS				*e*Sg	**Sg**	**22 28 39.7**	**-3.6**
VTS	**Vitosha**	**5.62**	**310**	*e*Pn	**Pn**	**22 27 09.7**	**+2.7**
TLCR		**6.06**	**358**	⇑*i* P	**Pn**	**22 27 12.8**	**0.0**
TLCR		**6.06**	**358**	⇑*i* P	**Pn**	**22 27 12.8**	**0.0**
CFR	**Carcaliu**	**6.09**	**354**	⇑*i* P	**Pn**	**22 27 11.4**	**-1.8**
ZAPS	**Zavoj**	**6.37**	**313**	*e*Pn	**Pn**	**22 27 19.6**	**+2.5**
ZAPS				*e*Sn	**Sn**	**22 28 27.0**	**-3.1**
ZAPS				*e*Sg	**Sg**	**22 29 05.3**	**-2.0**
BARS	**Barje**	**6.60**	**306**	*e*Sg	**Sg**	**22 29 10.0**	**-4.6**
MLR	**Muntele Rosu**	**6.77**	**341**	⇑*i* P	**Pn**	**22 27 26.3**	**+3.6**
MLR	**Muntele Rosu**	**6.77**	**341**	⇑*i* P	Pn	**22 27 26.3**	**+3.6**
VRI	**Vrincioaia**	**6.95**	**346**	⇑*i* P	**Pn**	**22 27 25.5**	**+0.4**
VRI	**Vrincioaia**	**6.95**	**346**	⇑*i* P	**Pn**	**22 27 25.5**	**+0.4**
VOIR		**6.97**	**336**	⇑*i* P	**Pn**	**22 27 28.0**	**+2.6**
VOIR		**6.97**	**336**	⇑*i* P	**Pn**	**22 27 28.0**	**+2.6**
TESR		**7.59**	**347**	⇑*i* P	Pn	22 27 27.5	-6.4
BZS	**Buzias**	**8.50**	**322**	*e*Pn	**Pn**	**22 27 48.1**	**+1.7**
BZS	**Buzias**	**8.50**	**322**	*e*Pn	**Pn**	**22 27 48.1**	**+1.7**

*ISCJB **19** 22:26:31.1±1.2, 30°.6S±0°.2×178°.0W±0°.2, h46km, mb4.5/7, Error ellipse: s-maj=34.7km s-min=23.0km az=0.0*
*IDC **19** 22:26:41.1±14.0, 30°.58S×178°.14W, h121km±122km, mb3.9/6, mb1 4.1/6, mb1mx3.9/19, mbtmp3.9/6, Error ellipse: s-maj=52.1km s-min=24.2km az=58.0*

ISC 19 22:26:32.0±0.9, 30°.5S±0°.2×177°.9W±0°.2, h46km, n21, σ0°.86/18, mb4.5/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.35**	**297**	P	P	22 30 31.0	+10
	0.6nm,0.3s,baz=90,slow=11,SNR=9.5						
CMSA	**Cobar Meteorol**	**31.15**	**259**	*e*P	**P**	**22 32 47.1**	**+0.6**
	27nm,0.5s						
CTA	**Charters Tower**	**33.91**	**279**	*e*P	**P**	**22 33 12.0**	**+1.2**
	4.0nm,0.6s						
CTA	**Charters Tower**	**33.91**	**279**	P	**P**	**22 33 12.3**	**+1.5**
	4.9nm,0.6s,baz=103,slow=10,SNR=12						
STKA	**Stephens Creek**	**34.56**	**257**	*e*P	**P**	**22 33 16.4**	**+0.1**
	6.1nm,0.6s						
STKA	**Stephens Creek**	**34.56**	**257**	P	**P**	**22 33 16.4**	**+0.1**
	6.9nm,0.6s,baz=99,slow=8.3,SNR=26						
ASAR	**Alice Springs**	**43.21**	**267**	P	**P**	**22 34 27.5**	**-1.3**
	1.2nm,0.3s,baz=107,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**44.20**	**272**	P	**P**	**22 34 35.6**	**-1.1**
	2.1nm,0.3s,baz=110,slow=8.1,SNR=22						
QSPA	**South Pole Qui**	**59.63**	**180**	P	**P**	**22 36 31.7**	**+0.6**
	4.0nm,0.9s,baz=355,slow=1.0,SNR=11						
NVAR	**Mina Array Bea**	**88.23**	**43**	P	**P**	**22 39 19.3**	**+0.8**
	0.3nm,0.4s,baz=252,slow=5.1,SNR=2.8						

MKAR	**Makanchi Array**	**117.90**	**310**	PKP	**PKPdf**	**22 45 12.0**	**-1.2**
	0.1nm,0.3s,baz=235,slow=2.2,SNR=10						
KEV	**Kevo**	**138.22**	**347**	*e*pkp	**PKPdf**	**22 45 50.8**	**-0.2**
ARCES	**ARCESS Array B**	**138.69**	**348**	PKhKP	PKPpre	22 45 41.9	
	7.1nm,1.1s,baz=46,slow=2.6,SNR=2.7						
ARCES				PKP	**PKPdf**	**22 45 52.1**	**+0.2**
	4.9nm,1.1s,baz=0.8,slow=8.5,SNR=3.7						
JOF	**Joensuu**	**142.53**	**338**	*e*pkp	PKPdf	22 45 54.7	-4.3
KAF	**Kangasniemi**	**144.66**	**341**	*e*pkp	PKPbc	22 46 00.7	-1.0
FINES	**FINESS Array B**	**145.26**	**340**	PKPbc	**PKPdf**	**22 46 03.3**	**-0.5**
	5.7nm,0.5s,baz=58,slow=4.2,SNR=79						
NB2	**NORSAR Subarra**	**148.85**	**351**	PKP	**PKPbc**	**22 46 14.2**	**+0.3**
	comp=Z,1.8nm,1.0s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.85**	**351**	PKPbc	**PKPbc**	**22 46 14.2**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=14,slow=4.1,SNR=5.1						
AKASG	**Malin Array Be**	**151.43**	**323**	PKPbc	**PKPbc**	**22 46 19.8**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=52,slow=3.2,SNR=6.1						
BRTR	**Keskin Array B**	**152.73**	**298**	PKPbc	**PKPbc**	**22 46 23.2**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=157,slow=4.0,SNR=3.7						
TORD	**Torodi Ar. Bea**	**162.74**	**179**	PKPab	**PKPab**	**22 47 17.6**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=176,slow=4.1,SNR=13						

IDC 19 22:27:11.8±1.1, 3°.78N×126°.78E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/21, mbtmp3.9/8, Error ellipse: s-maj=82.0km s-min=17.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.72**	**163**	P	P	22 32 33.8	-1.2
	1.0nm,0.6s,baz=345,slow=11,SNR=18						
ASAR	**Alice Springs**	**28.15**	**166**	P	P	22 33 07.5	+1.6
	0.3nm,0.4s,baz=347,slow=7.8,SNR=2.5						
CMAR	**Chiang Mai Arr**	**30.89**	**300**	P	P	22 33 30.5	+0.2
	0.3nm,0.4s,baz=118,slow=9.3,SNR=5.0						
STKA	**Stephens Creek**	**38.16**	**159**	P	P	22 34 33.0	-0.1
	2.1nm,0.7s,baz=334,slow=11,SNR=2.1						
SONM	**Songino Array**	**47.27**	**341**	P	P	22 35 47.4	+0.4
	0.5nm,0.6s,baz=156,slow=8.0,SNR=5.1						
MKAR	**Makanchi Array**	**57.54**	**325**	P	P	22 37 02.7	-0.5
	1.2nm,0.4s,baz=118,slow=6.9,SNR=26						
MKAR				PcP	PcP	22 37 55.9	-0.8
	0.4nm,0.7s,baz=104,slow=3.9,SNR=3.8						
ZALV	**Zalesovo Beam**	**60.56**	**333**	P	P	22 37 23.1	-0.9
	0.6nm,0.3s,baz=142,slow=7.3,SNR=3.5						
FINES	**FINESS Array B**	**91.81**	**332**	P	P	22 40 22.9	+1.4
	1.0nm,0.8s,baz=72,slow=6.6,SNR=4.5						

KRSC 19 22:37:11.1±0.4, 52°.70N×160°.17E, h20km±19km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.41**	**347**	*e*P	Pb	22 37 20.7	+1.1
SPN				*e*S	Sb	22 37 26.9	+1.5
NLC	**Nalytchevo**	**0.69**	**314**	*e*S	Sn	22 37 34.7	-1.0
UGLR	**Uglovaya**	**0.96**	**303**	P	Pn	22 37 29.6	0.0
UGLR				*e*S	Sn	22 37 43.2	+0.4
SDLR	**Sedlovina**	**0.97**	**307**	P	Pb	22 37 29.5	+0.1
SDLR				*e*S	Sn	22 37 42.8	-0.2
PET	**Petropavlovsk**	**0.97**	**290**	P	Pn	22 37 29.7	+0.1
PET				*e*S	Sn	22 37 42.7	-0.1
SMAR	**Somma**	**1.00**	**305**	P	Pn	22 37 30.2	-0.1
AVH	**Avacha**	**1.03**	**304**	P	Pn	22 37 30.7	+0.1
AVH				*e*S	Sn	22 37 44.7	+0.2
RUS	**Russkaya**	**1.05**	**256**	P	Pn	22 37 30.7	+0.1
RUS				*e*S	Sn	22 37 45.3	+0.7
KRER	**Koryakskii**	**1.05**	**306**	P	Pn	22 37 31.0	0.0
KRER				*e*S	Sn	22 37 45.6	+0.4
KOK	**Koryaka**	**1.10**	**303**	P	Pb	22 37 31.7	+0.1
MTVR	**Mutnovka**	**1.23**	**261**	*e*P	Pb	22 37 33.7	-0.2
MTVR				*e*S	Sn	22 37 50.5	+1.0
ASAK	**Asacha**	**1.42**	**258**	P	Pb	22 37 36.9	-0.1
ASAK				*e*S	Sb	22 37 55.8	+1.0
APC	**Apacha**	**1.84**	**278**	*e*P	Pb	22 37 43.5	-0.6
APC				*e*S	Sb	22 38 07.1	+0.5
MKZ	**Mys Kozlova**	**2.08**	**26**	*e*P	Pn	22 37 43.4	-1.4
MKZ				*e*S	Sn	22 38 07.6	-2.4
TUMR	**Tumrok**	**2.59**	**360**	*e*P	Pn	22 37 53.2	+1.2
KMNR	**Kamenistaya**	**3.06**	**1**	*e*P	Pn	22 38 01.4	+2.9
KMNR				*e*S	Sb	22 38 38.7	-3.3
KBTR	**Krutoberegovo**	**3.84**	**23**	*e*P	Pn	22 38 10.4	+1.4

IDC 19 23:08:47.7±1.5, 0°.38N×121°.94E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, Error ellipse: s-maj=190.1km s-min=24.2km az=61.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.57**	**150**	P	P	23 14 00.6	+0.4
	0.9nm,0.5s,baz=326,slow=11,SNR=22						
ASAR	**Alice Springs**	**26.57**	**155**	P	P	23 14 27.4	-0.4
	0.3nm,0.5s,baz=344,slow=15,SNR=9.6						
MKAR	**Makanchi Array**	**57.74**	**329**	P	P	23 18 40.5	-0.1
	0.1nm,0.4s,baz=121,slow=8.8,SNR=3.0						

IDC 19 23:50:46.4±1.5, 3°.68N×126°.35E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.3/21, mbtmp3.3/3, Error ellipse: s-maj=138.0km s-min=26.1km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.75**	**162**	P	P	23 56 09.9	0.0
	0.4nm,0.5s,baz=342,slow=10,SNR=9.6						
SONM	**Songino Array**	**47.23**	**342**	P	P	23 59 21.6	+0.4
	0.3nm,0.7s,baz=155,slow=6.5,SNR=3.4						
MKAR	**Makanchi Array**	**57.38**	**325**	P	P	00 00 36.1	-0.6
	0.1nm,0.4s,baz=114,slow=7.8,SNR=7.3						

*ISCJB **19** 23:55:31.5±0.5, 39°.12N±0°.03×29°.08E±0°.03, h9km±4km, Error ellipse: s-maj=4.6km s-min=3.8km az=151.9*
*DDA **19** 23:55:31.2, 39°.11N×29°.06E, h7km, MD3.0*
*CSEM **19** 23:55:31.6±0.1, 39°.12N×29°.09E, h8km, MD3.0, Error ellipse: s-maj=3.2km s-min=2.9km az=135.0*
*ISK **19** 23:55:32.3, 39°.15N×29°.22E, h20km, MD2.7*

ISC 19 23:55:31.7±0.9, 39°.12N±0°.02×29°.09E±0°.02, h10km±8km, n32, σ0°.62/52, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.30**	**255**	*i* P	**Pg**	**23 55 37.7**	**-0.1**
DEMI				*i* S	**Sg**	**23 55 41.5**	**-0.3**
DEMI	**Demirci**	**0.30**	**255**	*i* P	**Pg**	**23 55 37.7**	**-0.1**
DEMI				*i* S	**Sg**	**23 55 41.5**	**-0.3**
GDZ	**Gediz**	**0.31**	**96**	*i* P	**Pg**	**23 55 38.3**	**+0.3**
GDZ				*i* S	**Sg**	**23 55 42.9**	**+0.8**
GDZ	**Gediz**	**0.31**	**96**	*i* P	**Pg**	**23 55 38.3**	**+0.3**
GDZ				*i* S	**Sg**	**23 55 42.9**	**+0.8**
TVSB	**Tavsanli**	**0.44**	**42**	*e*PG	**Pg**	**23 55 40.5**	**+0.2**
TVSB				*e*SG	**Sg**	**23 55 46.0**	**-0.1**
TVSB	**Tavsanli**	**0.44**	**42**	*e*Pg	**Pg**	**23 55 40.5**	**+0.2**
TVSB				*e*Sg	**Sg**	**23 55 46.0**	**-0.1**
DURS	**Dursunbey**	**0.67**	**315**	*i* P	**Pg**	**23 55 44.5**	**-0.3**
DURS				*i* S	**Sg**	**23 55 52.9**	**-0.7**
DURS	**Dursunbey**	**0.67**	**315**	*i* P	**Pg**	**23 55 44.5**	**-0.3**
DURS				*i* S	**Sg**	**23 55 52.9**	**-0.7**
MANT	**Manisa**	**0.75**	**213**	*i* P	**Pg**	**23 55 46.0**	**-0.3**
MANT				*i* S	**Sg**	**23 55 55.3**	**-0.8**
MANT	**Manisa**	**0.75**	**213**	*i* P	**Pg**	**23 55 46.0**	**-0.3**
MANT				*i* S	**Sg**	**23 55 55.3**	**-0.8**
KHAL	**Karahalli**	**0.81**	**157**	*i* P	**Pg**	**23 55 47.4**	**0.0**
KHAL				*i* S	**Sg**	**23 55 57.4**	**-0.6**
KHAL	**Karahalli**	**0.81**	**157**	*i* P	**Pg**	**23 55 47.4**	**0.0**
KHAL				*i* S	**Sg**	**23 55 57.4**	**-0.6**
KHL	**Karahalli**	**0.87**	**157**	*e*PG	**Pb**	**23 55 49.3**	**+0.4**
KHL	**Karahalli**	**0.87**	**157**	*e*Pg	**Pb**	**23 55 49.3**	**+0.4**
AKHS	**Akhisar**	**1.02**	**257**	*e*P	**Pg**	**23 55 51.2**	**-0.1**
AKHS				*i* S	**Sg**	**23 56 05.0**	**+0.4**
AKHS	**Akhisar**	**1.02**	**257**	*e*P	**Pg**	**23 55 51.2**	**-0.1**
AKHS				*i* S	**Sg**	**23 56 05.0**	**+0.4**
BALB	**Balikesir**	**1.07**	**299**	*e*PN	**Pn**	**23 55 53.7**	**+1.0**
BALB	**Balikesir**	**1.07**	**299**	*e*Pn	**Pn**	**23 55 53.7**	**+1.0**
KCTX	**Karacabey (Bur**	**1.27**	**334**	*e*PN	**Pg**	**23 55 56.3**	**+0.2**
KCTX				*e*SN	**Sn**	**23 56 13.6**	**+0.9**
KCTX	**Karacabey (Bur**	**1.27**	**334**	*e*Pn	**Pg**	**23 55 56.3**	**+0.2**
KCTX				*e*Sn	**Sn**	**23 56 13.6**	**+0.9**
BORA	**Eskisehir**	**1.30**	**54**	*i* P	**Pn**	**23 55 56.2**	**+0.2**
BORA				*i* S	**Sn**	**23 56 13.9**	**+0.4**
BORA	**Eskisehir**	**1.30**	**54**	*i* P	**Pn**	**23 55 56.2**	**+0.2**
BORA				*i* S	**Sn**	**23 56 13.9**	**+0.4**
ADVT	**Abdulvahap**	**1.40**	**21**	*e*PN	**Pn**	**23 55 56.6**	**-0.7**
ADVT				*e*SN	**Sb**	**23 56 14.6**	**-1.3**
ADVT	**Abdulvahap**	**1.40**	**21**	*e*Pn	**Pn**	**23 55 56.6**	**-0.7**
ADVT				*e*Sn	**Sb**	**23 56 14.6**	**-1.3**
GONE	**Gonen-Balikesi**	**1.42**	**311**	*e*PN	**Pb**	**23 55 58.6**	**+0.3**
GONE	**Gonen-Balikesi**	**1.42**	**311**	*e*Pn	**Pb**	**23 55 58.6**	**+0.3**
GPA	**Golpazari**	**1.50**	**39**	*e*PN	**Pn**	**23 55 57.7**	**-1.0**
GPA	**Golpazari**	**1.50**	**39**	*e*Pn	**Pn**	**23 55 57.7**	**-1.0**
EDC	**Edincik**	**1.54**	**323**	*e*PN	**Pn**	**23 55 60.0**	**+0.7**
EDC	**Edincik**	**1.54**	**323**	*e*Pn	**Pn**	**23 56 00.0**	**+0.7**
GULT	**Gulveren**	**1.71**	**40**	*e*PN	**Pn**	**23 56 00.8**	**-0.8**
GULT	**Gulveren**	**1.71**	**40**	*e*Pn	**Pn**	**23 56 00.8**	**-0.8**

IDC 20 00:00:10.0±1.1, 25°.57N×141°.21E, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.6/24, mbtmp3.6/7, Error ellipse: s-maj=31.4km s-min=19.1km az=121.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.75**	**30**	Pn	Pn	00 00 41.7	0.0
	37nm,0.3s,baz=117,slow=23,SNR=24						
CBIJ				Sn	Sn	00 01 04.0	-0.7
	70nm,0.3s,baz=300,slow=23,SNR=25						
SONM	**Songino Array**	**35.23**	**318**	P	P	00 07 06.9	+0.6
	0.3nm,0.6s,baz=135,slow=

KNZ	Kokohu	1.82	47	⇑PN	Pn	00 12 09.6	-1.3
KNZ	Kokohu	1.82	47	Pn	Pn	00 12 09.6	-1.3
NRZ	Ngariki Road	1.83	300	PN	Pn	00 12 12.0	+0.9
NRZ	Ngariki Road	1.83	300	Pn	Pn	00 12 12.0	+0.9
MHGZ	Mahia Peninsul	1.87	53	⇑PN	Pn	00 12 10.7	-0.9
MHGZ	Mahia Peninsul	1.87	53	Pn	Pn	00 12 10.7	-0.9
PKE	Pukeiti	1.88	305	PN	Pn	00 12 12.9	+1.1
PKE	Pukeiti	1.88	305	Pn	Pn	00 12 12.9	+1.1
TUWZ	Tuamarina	1.92	233	⇓PN	Pn	00 12 10.5	-1.7
TUWZ	Tuamarina	1.92	233	Pn	Pn	00 12 10.5	-1.7
HIZ	Hauiti	1.97	334	⇓PN	Pn	00 12 12.4	-0.6
HIZ	Hauiti	1.97	334	Pn	Pn	00 12 12.4	-0.6
RRRZ	Republican Roa	1.99	12	⇓PN	Pn	00 12 11.9	-1.4
RRRZ	Republican Roa	1.99	12	Pn	Pn	00 12 11.9	-1.4
PRGZ	Paritu Road	2.01	48	⇓PN	Pn	00 12 12.2	-1.3
PRGZ	Paritu Road	2.01	48	Pn	Pn	00 12 12.2	-1.3
BSWZ	Blackbirch Sta	2.13	227	PN	Pn	00 12 13.5	-1.7
BSWZ	Blackbirch Sta	2.13	227	Pn	Pn	00 12 13.5	-1.7
NNZ	Nelson	2.18	244	⇓PN	Pn	00 12 14.3	-1.5
NNZ	Nelson	2.18	244	Pn	Pn	00 12 14.3	-1.5
URZ	Urewera	2.21	24	PN	Pn	00 12 14.1	-2.0
URZ	Urewera	2.21	24	ePn	Pn	00 12 14.1	-2.0
URZ				eSn	Sn	00 12 39.8	-2.6
MWZ	Matawai	2.29	32	⇑PN	Pn	00 12 15.6	-1.7
MWZ	Matawai	2.29	32	Pn	Pn	00 12 15.6	-1.7
CNGZ	Carnagh Statio	2.50	45	PN	Pn	00 12 18.5	-1.5
CNGZ	Carnagh Statio	2.50	45	Pn	Pn	00 12 18.5	-1.5
TOZ	Tahuroa Road	2.58	352	PN	Pn	00 12 20.4	-0.8
TOZ	Tahuroa Road	2.58	352	Pn	Pn	00 12 20.4	-0.8
QRZ	Quartz Range	2.68	257	PN	Pn	00 12 20.7	-1.8
QRZ	Quartz Range	2.68	257	Pn	Pn	00 12 20.7	-1.8
THZ	Tophouse	2.75	237	⇑PN	Pn	00 12 21.9	-1.7
THZ	Tophouse	2.75	237	Pn	Pn	00 12 21.9	-1.7
KHZ	Kahutara	2.81	220	ePn	Pn	00 12 21.8	-2.4
KHZ				eSn	Sn	00 12 51.1	-5.8
PUZ	Puketiti	2.83	39	PN	Pn	00 12 22.3	-2.3
PUZ	Puketiti	2.83	39	Pn	Pn	00 12 22.3	-2.3
DSZ	Denniston Nort	3.48	244	⇓PN	Pn	00 12 31.7	-1.7
DSZ	Denniston Nort	3.48	244	Pn	Pn	00 12 31.7	-1.7
LTZ	Lake Taylor	3.73	227	PN	Pn	00 12 34.1	-2.9
LTZ	Lake Taylor	3.73	227	Pn	Pn	00 12 34.1	-2.9
MQZ	McQueen's Vall	4.22	215	PN	Pn	00 12 39.5	-3.9
MQZ	McQueen's Vall	4.22	215	Pn	Pn	00 12 39.5	-3.9
WVZ	Waitaha Valley	4.81	233	⇓PN	Pn	00 12 50.1	-1.4
WVZ	Waitaha Valley	4.81	233	Pn	Pn	00 12 50.1	-1.4
RPZ	Rata Peaks	5.02	225	PN	Pn	00 12 51.4	-3.0
RPZ	Rata Peaks	5.02	225	Pn	Pn	00 12 51.4	-3.0
FOZ	Fox Glacier	5.72	233	Pn	Pn	00 12 59.7	-4.2
LBZ	Lake Benmore	5.93	224	PN	Pn	00 13 04.2	-2.7
LBZ	Lake Benmore	5.93	224	Pn	Pn	00 13 04.2	-2.7
ODZ	Otahua Downs	6.17	218	PN	Pn	00 13 06.2	-3.9
ODZ	Otahua Downs	6.17	218	ePn	Pn	00 13 07.2	-2.8
ODZ				eSn	Sn	00 14 09.8	-9.4
CTZ	Chatham Island	6.50	124	Pn	Pn	00 13 15.4	+0.7
WKZ	Wanaka	6.85	226	Pn	Pn	00 13 15.6	-3.9
EAZ	Earnscleugh	6.96	223	PN	Pn	00 13 18.1	-2.8
EAZ	Earnscleugh	6.96	223	Pn	Pn	00 13 18.1	-2.8
TUZ	Tuapeka	7.32	217	PN	Pn	00 13 23.0	-2.8
TUZ	Tuapeka	7.32	217	Pn	Pn	00 13 23.0	-2.8

MEX 20 00:12:53.7±0.7, 16°00'N×96°88'W, h20km±91km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.78	107	eP	Pb	00 13 06.5	-2.1
HUIG				i S	Sb	00 13 16.0	-2.8
VHO	Vista Hermosa	1.07	8	eP	Pb	00 13 10.0	-3.8
VHO				i S	Sb	00 13 23.5	-4.1
PNIG	Pinotepa	1.26	288	eP	Pn	00 13 12.8	-3.4
PNIG				i S	Sn	00 13 28.8	-3.8
UTMO	Huajuapan	2.02	334	eP	Pn	00 13 24.5	-2.4
UTMO				eS	Sn	00 13 48.5	-3.3
CMIG	Matias Romero	2.20	60	i P	Pn	00 13 25.9	-3.2
CMIG				i S	Sn	00 13 51.6	-4.2

IDC 20 00:19:35.0±1.1, 67°89N×20°52E, h0km, mb1 3.0/4, mb1mx2.9/27, mbtmp2.9/4, ML2.2/4, Error ellipse: s-maj=16.6km s-min=6.8km az=124.0, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCES	ARCESS Array B	2.46	45	Pn	Pb	00 20 18.6	-1.5
	0.8nm,0.3s,baz=228,slow=14,SNR=6.4						
ARCES				Lg	Lg	00 20 51.5	
	1.4nm,0.3s,baz=228,slow=26,SNR=11						
FINES	FINESS Array B	6.89	157	Pn	Pn	00 21 16.6	-0.6
	0.0nm,0.3s,baz=348,slow=13,SNR=2.9						
FINES				Sn	Sn	00 22 37.9	+1.6
	0.1nm,0.3s,baz=354,slow=24,SNR=3.3						
FINES				Lg	Lg	00 23 08.8	
	0.2nm,0.3s,baz=348,slow=27,SNR=4.1						
NOA	NORSAR Array B	7.95	215	Pn	Pn	00 21 28.8	-3.0
	0.1nm,0.3s,baz=19,slow=12,SNR=3.0						
NOA				Sn	Sn	00 22 59.9	-2.5
	0.1nm,0.3s,baz=28,slow=22,SNR=3.1						
HFS	Hagfors	8.34	204	Pn	Pn	00 21 34.3	-2.6
	0.0nm,0.3s,baz=22,slow=13,SNR=4.1						

*ISCJB **20** 00:22:44.1±0.3, 17°.42N±0°.06×94°.70W±0°.03, h145km±4km, mb3.7/13, Error ellipse: s-maj=9.8km s-min=4.3km az=21.5*
*IDC **20** 00:22:45.2±0.6, 17°.41N×94°.58W, h139km±4km, mb3.6/14, mb1 3.7/17, mb1mx3.6/28, mbtmp3.6/17, Error ellipse: s-maj=16.1km s-min=12.3km az=72.0*
*NEIC **20** 00:22:47.3, 17°.41N×94°.72W, h136km, MD4.5(MEX), After MEX.*
*MEX **20** 00:22:47.3±0.5, 17°.41N×94°.72W, h136km±4km, MD4.5*

ISC 20 00:22:44.7±0.5, 17°29N±0°05×94°77W±0°03, h141km±4km, n45, σ1§37/72, mb3.8/13, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.22	210	eP	Pn	00 23 04.7	+0.7
CMIG				i S	Sn	00 23 18.6	-0.1
CMIG	Matias Romero	0.22	210	eP	Pn	00 23 04.7	+0.7
CMIG				i S	Sn	00 23 18.6	-0.1
CMIG	Matias Romero	0.22	210	P	Pn	00 23 04.7	+0.7
	84nm,0.3s,baz=42,slow=2.1,SNR=1619						
CMIG				S	Sn	00 23 18.3	-0.3
	562nm,0.3s,baz=204,slow=19,SNR=289						
TGIG		1.65	108	i P	Pn	00 23 16.2	+0.8
TGIG				i S	Sn	00 23 38.9	+0.1
TGIG		1.65	108	i P	Pn	00 23 16.2	+0.8
TGIG				i S	Sn	00 23 38.9	+0.1
VHO	Vista Hermosa	1.89	264	eP	Pn	00 23 19.6	+1.4
VHO				i S	Sn	00 23 45.6	+1.8
VHO	Vista Hermosa	1.89	264	eP	Pn	00 23 19.6	+1.4
VHO				i S	Sn	00 23 45.6	+1.8
HUIG	Huatulco	1.98	221	eP	Pn	00 23 18.5	-0.7
HUIG				i S	Sn	00 23 45.8	+0.3
HUIG	Huatulco	1.98	221	eP	Pn	00 23 18.5	-0.7
HUIG				i S	Sn	00 23 45.8	+0.3
PCIG		2.17	136	eP	Pn	00 23 22.6	+1.3
PCIG				i S	Sn	00 23 51.1	+1.7
PCIG		2.17	136	eP	Pn	00 23 22.6	+1.3
PCIG				i S	Sn	00 23 51.1	+1.7
CCIG	Comitan	2.71	111	eP	Pn	00 23 29.2	+0.9
CCIG				i S	Sn	00 24 03.0	+1.2
CCIG	Comitan	2.71	111	eP	Pn	00 23 29.2	+0.9
CCIG				i S	Sn	00 24 03.0	+1.2
TPIG	Tehuac#an	2.71	295	eP	Pn	00 23 29.8	+1.5
TPIG				i S	Sn	00 24 02.1	+0.3
TPIG	Tehuac#an	2.71	295	eP	Pn	00 23 29.8	+1.5
TPIG				i S	Sn	00 24 02.1	+0.3
PNIG	Pinotepa	3.34	255	eP	Pn	00 23 35.3	-0.9
PNIG				i S	Sn	00 24 14.5	-1.4
PNIG	Pinotepa	3.34	255	eP	Pn	00 23 35.3	-0.9
PNIG				i S	Sn	00 24 14.5	-1.4
THIG		3.38	134	i P	Pn	00 23 39.1	+2.5
THIG				i S	Sn	00 24 18.4	+1.7
THIG		3.38	134	i P	Pn	00 23 39.1	+2.5
THIG				i S	Sn	00 24 18.4	+1.7
PPM	Popocatepetl	4.07	296	eP	Pn	00 23 48.7	+2.5
PPM				i S	Sn	00 24 33.9	+0.1
PPM	Popocatepetl	4.07	296	eP	Pn	00 23 48.7	+2.5
PPM				i S	Sn	00 24 33.9	+0.1
YAIG	Yautepec	4.38	292	eP	Pn	00 23 51.8	+1.9
YAIG				i S	Sn	00 24 41.7	+1.1
YAIG	Yautepec	4.38	292	eP	Pn	00 23 51.8	+1.9
YAIG				i S	Sn	00 24 41.7	+1.1
TEIG	Tepich	6.81	64	P	Pn	00 24 20.4	-1.7
	8.8nm,0.3s,baz=271,slow=6.6,SNR=57						
TEIG				S	Sn	00 25 34.4	-4.1
	1.7nm,0.3s,baz=77,slow=19,SNR=9.3						
JTS	JuntasAbangare	11.80	125	P	Pn	00 25 29.3	+0.6
	2.2nm,0.3s,baz=312,slow=20,SNR=6.5						
TXAR	Lajitas Array	14.50	327	P	P	00 26 05.2	-0.9
	0.2nm,0.3s,baz=149,slow=13,SNR=7.1						
ANMO	Albuquerque	20.45	332	P	Pn	00 27 15.2	+0.1
	0.9nm,0.5s,baz=146,slow=16,SNR=3.3						
TKL	Tuckaleechee C	20.75	26	P	P	00 27 13.6	-0.7
	6.0nm,0.8s,baz=208,slow=14,SNR=4.6						
PDAR	Pinedale Array	28.35	337	pP	pP	00 28 60.0	+4.3
	0.4nm,0.8s,baz=121,slow=8.7,SNR=2.3						
NVAR	Mina Array Bea	29.45	320	pP	pP	00 29 09.2	+3.6
	2.2nm,0.9s,baz=139,slow=8.6,SNR=7.4						
SADO	Sadowa	30.38	22	P	P	00 28 41.1	-2.2
	5.5nm,0.8s,baz=240,slow=11,SNR=5.0						
ULM	Lac du Bonnet	32.89	359	P	P	00 29 04.2	-1.0
	4.5nm,0.8s,baz=183,slow=9.3,SNR=7.4						
LPAZ	La Paz	42.45	140	P	P	00 30 27.9	+1.2
	1.3nm,0.7s,baz=333,slow=11,SNR=5.5						
SCHQ	Schefferville	43.18	23	P	P	00 30 29.0	-2.3
	3.4nm,1.0s,baz=252,slow=6.4,SNR=3.7						
SIV	San Ignacio	46.87	133	P	P	00 31 01.5	+0.4
	2.1nm,0.6s,baz=319,slow=9.0,SNR=8.6						
YKA	Yellowknife Ar	47.25	348	P	P	00 31 03.5	+0.2
	0.7nm,0.6s,baz=151,slow=7.4,SNR=13						
YKA				pP	pP	00 31 36.3	+1.0
	0.1nm,0.3s,baz=152,slow=7.4,SNR=3.0						
YKA				sP	sP	00 31 51.2	0.0
	0.5nm,0.7s,baz=149,slow=7.8,SNR=3.4						
DLBC	Dease Lake	48.58	336	pP	pP	00 31 49.8	+3.9
	1.1nm,0.5s,baz=114,slow=5.5,SNR=2.5						
FRB	Frobisher Bay	49.78	15	P	P	00 31 21.2	-1.4
	1.4nm,0.6s,baz=216,slow=9.9,SNR=5.3						
INK	Inuvik	56.55	344	P	P	00 32 13.0	+0.9
	0.4nm,0.4s,baz=109,slow=7.5,SNR=3.0						
INK				pP	pP	00 32 46.1	+0.9
	2.3nm,0.9s,baz=146,slow=7.9,SNR=4.6						
RES	Resolute Bay	57.41	360	P	P	00 32 18.2	+0.2
	0.7nm,0.6s,baz=153,slow=2.3,SNR=3.6						
ILAR	Eielson Array	58.78	337	P	P	00 32 28.8	+1.0
	0.2nm,0.5s,baz=109,slow=4.9,SNR=4.0						
ILAR				pP	pP	00 33 01.6	+0.5
	0.6nm,0.9s,baz=143,slow=5.3,SNR=3.8						
ILAR				sP	sP	00 33 15.2	-1.4
	0.6nm,0.9s,baz=118,slow=6.8,SNR=4.2						
ESDC	Sonseca Array	79.78	52	P	P	00 34 36.4	-1.1
	0.2nm,0.3s,baz=304,slow=4.5,SNR=6.8						
NOA	NORSAR Array B	82.53	28	P	P	00 34 51.9	+0.3
	0.8nm,0.8s,baz=292,slow=5.3,SNR=3.8						
NOA				pP	pP	00 35 26.4	-0.6
	1.5nm,0.8s,baz=291,slow=5.3,SNR=3.9						
ARCES	ARCESS Array B	83.85	18	P	P	00 34 58.3	+0.2
	1.2nm,0.7s,baz=275,slow=5.3,SNR=3.5						
WRA	Warramunga Arr	133.51	259	PKP	PKPdf	00 41 46.3	+1.1
	0.4nm,1.1s,baz=62,slow=1.3,SNR=5.4						
WRA				pPKP	pPKPdf	00 42 24.6	+1.8
	0.3nm,0.7s,baz=84,slow=2.5,SNR=2.5						

*ISCJB **20** 00:23:26.7±0.5, 50°.29N±0°.04×19°.00E±0°.03, h0km, Error ellipse: s-maj=5.6km s-min=2.3km az=10.6*
*CSEM **20** 00:23:28.1±0.2, 50°.26N×19°.01E, h2km, ML2.8/7, Error ellipse: s-maj=6.4km s-min=2.5km az=8.0*
*IPEC **20** 00:23:28.2±0.2, 50°.23N×19°.06E, h2km±1km, ML2.0/3, Error ellipse: s-maj=2.1km s-min=1.0km az=171.0*
*PRU **20** 00:23:29.1, 50°.20N×19°.00E, h0km*
*VIE **20** 00:23:30.4±0.8, 49°.76N×19°.04E, h0km, mb2.0/2, ML2.2/3, Error ellipse: s-maj=5.8km s-min=4.5km az=143.0 55 km S of Katowice Suspected Mining induced.*

ISC 20 00:23:28.4±0.8, 50°16N±0°03×19°02E±0°02, h0km, n47, σ1§03/74, 7C-10D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.50	83	ePg	Pg	00 23 37.1	-0.9
OJC				eSg	Sg	00 23 44.0	-0.5
OJC	Ojcow	0.50	83	ePg	Pg	00 23 37.5	-0.5
	baz=271						
OJC				eSg	Sg	00 23 44.5	0.0
OKC	Ostrava-Krasne	0.65	241	ePG	Pg	00 23 41.7	+0.9
OKC				eSG	Sg	00 23 49.3	0.0
	comp=Z,21nm,0.5s						
OKC	Ostrava-Krasne	0.65	241	Pg	Pg	00 23 41.7	+0.9
OKC				Sg	Sg	00 23 49.3	0.0
	21nm,0.5s						
MORC	Moravsky Berou	1.03	249	⇓iP	Pg	00 23 48.5	+0.4
MORC	Moravsky Berou	1.03	249	⇓iP	Pg	00 23 48.5	+0.4
MORC				eSg	Sg	00 24 02.1	+0.7
	29nm,0.3s,baz=65						
MORC				S	Sb	00 24 03.6	+0.4
NIE	Niedzica	1.12	131	ePg	Pg	00 23 50.0	+0.2
NIE				eSg	Sb	00 24 07.0	+1.3
NIE	Niedzica	1.12	131	ePg	Pg	00 23 50.1	+0.2
NIE				eSg	Sb	00 24 07.0	+1.3
KRLC	Kraliky	1.45	267	ePG	Pn	00 23 54.9	-1.0
KRLC				eSG	Sg	00 24 14.1	-0.7
KRLC	Kraliky	1.45	267	Pg	Pn	00 23 54.9	-1.0
KRLC				Sg	Sg	00 24 14.1	-0.7
VYHS	Vyhne	1.67	184	ePN	Pn	00 23 58.7	-0.2
VYHS				eSN	Sn	00 24 18.4	-2.7
VYHS	Vyhne	1.67	184	ePn	Pn	00 23 58.8	-0.2
	baz=4.7						
VYHS				eSn	Sn	00 24 18.4	-2.7
DPC	Dobruska-Polom	1.74	277	ePG	Pn	00 23 59.5	-0.5
DPC				eSG	Sb	00 24 23.7	0.0
	comp=Z,19nm,0.6s						
DPC	Dobruska-Polom	1.74	277	Pg	Pn	00 23 59.5	-0.5
DPC				Sg	Sb	00 24 23.7	0.0
	19nm,0.6s						
VRAC	Vranov	1.79	243	⇓iP	Pn	00 24 01.3	+0.7
VRAC	Vranov	1.79	243	ePn	Pn	00 24 01.1	+0.5
	baz=59						
VRAC				S	Sb	00 24 25.5	+0.4
VRAC				eSg	Sg	00 24 26.2	+0.3
	10nm,0.4s,baz=59						
KSP	Ksiaz	1.87	292	ePn	Pn	00 24 01.3	-0.4
	baz=108						
KSP	Ksiaz	1.87	292	i Pg	Pb	00 24 03.7	+0.2
KSP				eSg	Sg	00 24 28.5	0.0
UPC	Upice	1.96	281	eSG	Sg	00 24 31.4	+0.1
UPC	Upice	1.96	281	Sg	Sg	00 24 31.4	+0.1
CRVS	Cervenica-Dubn	2.03	127	ePN	Pb	00 24 06.5	+0.4
CRVS	Cervenica-Dubn	2.03	127	ePn	Pb	00 24 06.5	+0.4
KRUC	Moravsky	2.03	238	ePn	Pn	00 24 04.4	+0.5
	baz=55						
KRUC				eSn	Sb	00 24 31.8	-0.2
	7.8nm,0.6s,baz=55						
PSZ	Piszkesteto	2.32	165	⇑iP	Pn	00 24 09.7	+1.9
PSZ	Piszkesteto	2.32	165	⇑iP	Pn	00 24 09.7	+1.9
KWP	Kalwaria Pacla	2.44	101	⇓iP	Pn	00 24 08.4	-1.1
KWP	Kalwaria Pacla	2.44	101	⇓iP	Pn	00 24 08.4	-1.1
KWP				S	Sn	00 24 40.6	+0.5
KOLS	Kolonicke sedl	2.45	119	ePN	Pn	00 24 09.4	-0.2
KOLS	Kolonicke sedl	2.45	119	ePn	Pn	00 24 09.4	-0.2
PVCC	Panska Ves	2.88	279	eSG	Sg	00 25 00.7	-0.1
	comp=Z,12nm,0.4s						
PVCC	Panska Ves	2.88	279	Sg	Sg	00 25 00.7	-0.1
	12nm,0.4s						
PRU	Pruhonice	2.89	268	ePG	Pb	00 24 21.2	+0.4
PRU				eSG	Sb	00 24 58.6	+1.9
	comp=Z,5.5nm,0.6s						
PRU	Pruhonice	2.89	268	Pg	Pb	00 24 21.2	+0.4
PRU				Sg	Sb	00 24 58.6	+1.9
	5.5nm,0.6s						
BRG	Berggiesshubel	3.32	284	PG	Pb	00 24 30.2	+2.1
BRG				SG	Sg	00 25 13.3	-1.7
	3.9nm,0.6s						
KHC	Kasperske Hory	3.69	256	ePN	Pn	00 24 26.5	-0.1
KHC				ex	x	00 24 33.6	
KHC				eSG	Sg	00 25 25.3	-1.4
	comp=Z,6.6nm,0.6s						
KHC	Kasperske Hory	3.69	256	Pn	Pn	00 24 26.5	-0.1
KHC				Sg	Sg	00 25 25.3	-1.4
	6.6nm,0.6s						
MOA	Molln	3.89	235	⇑iPg	Pg	00 24 41.0	-2.0
MOA				⇓iSg	Sg	00 25 31.7	-1.7
	4.9nm,0.7s						
MOA	Molln	3.89	235	Pg	Pg	00 24 41.0	-2.0
MOA				Sg	Sg	00 25 31.7	-1.7
	4.9nm,0.7s						
CLL	Collm	3.99	289	ePg	Pg	00 24 46.0	+1.1
CLL				eSg	Sg	00 25 37.0	+0.4
DRGR		4.17	143	⇓iP	Pn	00 24 33.8	+0.5
DRGR		4.17	143	⇓iP	Pn	00 24 33.8	+0.5
BURAR	Bucovina Array	4.81	120	⇑iP	Pn	00 24 42.7	+0.5
BURAR	Bucovina Array	4.81	120	⇑iP	Pn	00 24 42.7	+0.5
BZS	Buzias	4.87	158	⇑iP	Pn	00 24 44.0	+1.1
BZS	Buzias	4.87	158	⇑iP	Pn	00 24 44.0	+1.1
GZR	Gura Zlata	5.40	151	⇓iP	Pn	00 24 51.3	+1.1
GZR	Gura Zlata	5.40	151	⇓iP	Pn	00 24 51.3	+1.1

*ISK **20** 00:31:58.8, 39°.11N×29°.12E, h8km, MD3.4*
*DDA **20** 00:31:58.8, 39°.13N×29°.07E, h11km, ML3.6*
*CSEM **20** 00:31:59.1±0.1, 39°.12N×29°.11E, h2km, ML3.6, Error ellipse: s-maj=2.2km s-min=2.0km az=56.0*

ISC 20 00:31:59.1±1.1, 39°13N±0°02×29°11E±0°02, h3km±10km, n151, σ0§70/173, 7C-14D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.32	253	i P	Pg	00 32 05.2	0.0
DEMI				i S	Sg	00 32 09.2	-0.1
DEMI	Demirci	0.32	253	i P	Pg	00 32 05.2	0.0
DEMI				i S	Sg	00 32 09.2	-0.1
TVSB	Tavsanli	0.42	41	ePG	Pg	00 32 07.3	+0.1
TVSB				eSG	Sg	00 32 13.5	+0.8
TVSB	Tavsanli	0.42	41	ePg	Pg	00 32 07.3	+0.1
TVSB				eSg	Sg	00 32 13.5	+0.8
DURS	Dursunbey	0.68	314	i P	Pg	00 32 11.9	-0.2
DURS				i S	Sg	00 32 20.6	-0.3
DURS	Dursunbey	0.68	314	i P	Pg	00 32 11.9	-0.2
DURS				i S	Sg	00 32 20.6	-0.3
KULA	Kula-Manisa	0.71	209	ePG	Pg	00 32 12.3	-0.4
KULA	Kula-Manisa	0.71	209	ePg	Pg	00 32 12.3	-0.4
MANT	Manisa	0.77	214	i P	Pg	00 32 13.4	-0.5
MANT				i S	Sg	00 32 23.5	-0.4
MANT	Manisa	0.77	214	i P	Pg	00 32 13.4	-0.5
MANT				i S	Sg	00 32 23.5	-0.4
ALT	Altintas	0.79	95	ePG	Pg	00 32 14.0	-0.2
ALT	Altintas	0.79	95	ePg	Pg	00 32 14.0	-0.2
KHAL	Karahalli	0.82	158	i P	Pg	00 32 14.8	0.0
KHAL				i S	Sg	00 32 25.7	+0.3
KHAL	Karahalli	0.82	158	i P	Pg	00 32 14.8	0.0
KHAL				i S	Sg	00 32 25.7	+0.3
KHL	Karahalli	0.87	158	ePG	Pb	00 32 16.1	-0.8
KHL	Karahalli	0.87	158	ePg	Pb	00 32 16.1	-0.8
ORLT	Orhaneli	0.93	350	ePG	Pb	00 32 17.7	-0.1
ORLT	Orhaneli	0.93	350	ePg	Pb	00 32 17.7	-0.1
ULDT	Uludag	1.01	1	i P	Pg	00 32 18.2	-0.2
ULDT				i S	Sg	00 32 32.0	+0.5
ULDT	Uludag	1.01	1	i P	Pg	00 32 18.2	-0.2
ULDT				i S	Sg	00 32 32.0	+0.5
AKS	Akhisar	1.04	256	ePG	Pg	00 32 18.9	-0.1
AKS	Akhisar	1.04	256	ePg	Pg	00 32 18.9	-0.1
BALB	Balikesir	1.08	298	ePN	Pb	00 32 20.4	+0.1
BALB	Balikesir	1.08	298	ePn	Pb	00 32 20.4	+0.1
CAVI	Cavuskoy	1.21	28	ePN	Pn	00 32 23.0	+0.1
CAVI	Cavuskoy	1.21	28	ePn	Pn	00 32 23.0	+0.1
MDNY	Mudanya-Bursa	1.25	352	ePN	Pn	00 32 23.4	0.0
MDNY	Mudanya-Bursa	1.25	352	ePn	Pn	00 32 23.4	0.0
SHUT	Suhut-Afyon	1.27	117	ePN	Pn	00 32 24.0	+0.2
SHUT	Suhut-Afyon	1.27	117	ePn	Pn	00 32 24.0	+0.2
KCTX	Karacabey (Bur	1.27	333	ePN	Pg	00 32 23.0	-0.4
KCTX	Karacabey (Bur	1.27	333	ePn	Pg	00 32 23.0	-0.4
BALY	Balya	1.30	298	i P	Pn	00 32 23.4	-0.8
BALY				i S	Sg	00 32 40.5	-0.4
BALY	Balya	1.30	298	i P	Pn	00 32 23.4	-0.8
BALY				i S	Sg	00 32 40.5	-0.4
ADVT	Abdulvahap	1.39	20	ePN	Pg	00 32 26.0	+0.3
ADVT	Abdulvahap	1.39	20	ePn	Pg	00 32 26.0	+0.3
ESKT	Eskisehir	1.41	74	ePN	Pn	00 32 24.8	-0.9
ESKT	Eskisehir	1.41	74	ePn	Pn	00 32 24.8	-0.9
SEYT	Eskypehyr	1.41	74	i P	Pn	00 32 25.5	-0.2
SEYT				i S	Sb	00 32 43.6	-0.8
SEYT	Eskypehyr	1.41	74	i P	Pn	00 32 25.5	-0.2
SEYT				i S	Sb	00 32 43.6	-0.8
GONE	Gonen-Balikesi	1.43	310	ePN	Pn	00 32 25.4	-0.4
GONE	Gonen-Balikesi	1.43	310	ePn	Pn	00 32 25.4	-0.4
DNZL	Cakiroluk	1.44	182	i P

ERIK	Erikli-Kesan	2.52 308	*e*Pn	Pn	00 32 42.2 +1.4
LADK	Ladik-KONYA	2.72 109	*e*PN	Pn	00 32 44.5 +0.8
LADK	Ladik-KONYA	2.72 109	*e*PN	Pn	00 32 44.5 +0.8
ENEZ	Enez	2.78 306	*e*PN	Pn	00 32 45.4 +1.0
ENEZ	Enez	2.78 306	*e*Pn	Pn	00 32 45.4 +1.0
KONT	Konya--Tatoy	2.81 114	*e*PN	Pn	00 32 44.8 -0.2
KONT	Konya--Tatoy	2.81 114	*e*Pn	Pn	00 32 44.8 -0.2
LOD	Lodumlu	2.93 74	*e*PN	Pn	00 32 47.1 +0.5
LOD	Lodumlu	2.93 74	*e*Pn	Pn	00 32 47.1 +0.5
AFSR	Af˙ar-Bala (A	3.09 83	*e*PN	Pn	00 32 49.4 +0.5
AFSR	Af˙ar-Bala (A	3.09 83	*e*Pn	Pn	00 32 49.4 +0.5
EDRB	Edirne	3.25 327	*e*PN	Pn	00 32 52.2 +1.2
EDRB	Edirne	3.25 327	*e*Pn	Pn	00 32 52.2 +1.2
SAFT	Safranbolu	3.46 51	*e*PN	Pn	00 32 54.5 +0.7
SAFT	Safranbolu	3.46 51	*e*Pn	Pn	00 32 54.5 +0.7
SULT	Sultanhani-AKS	3.58 104	*e*PN	Pn	00 32 56.2 +0.7
SULT	Sultanhani-AKS	3.58 104	*e*Pn	Pn	00 32 56.2 +0.7
KAMT	Kaman	3.58 85	*e*PN	Pn	00 32 56.5 +0.9
KAMT	Kaman	3.58 85	*e*Pn	Pn	00 32 56.5 +0.9
TIRR	Tirgusor	5.35 355 ⇓	*i*P	Pn	00 33 19.4 -0.3
TIRR	Tirgusor	5.35 355 ⇓	*i*P	Pn	00 33 19.4 -0.3
VTS	Vitosha	5.65 310 ⇑	*i*P	Pn	00 33 16.2 -7.8
TLCR		6.05 358 ⇑	*i*P	Pn	00 33 29.8 +0.4
TLCR		6.05 358 ⇑	*i*P	Pn	00 33 29.8 +0.4
CFR	Carcaliu	6.08 354 ⇓	*i*P	Pn	00 33 29.4 -0.4
CFR	Carcaliu	6.08 354 ⇓	*i*P	Pn	00 33 29.4 -0.4
ISR	Istrita	6.28 343 ⇑	*i*P	Pb	00 33 47.5 -1.5
MLR	Muntele Rosu	6.77 341 ⇓	*i*P	Pn	00 33 40.9 +1.5
MLR	Muntele Rosu	6.77 341 ⇓	*i*P	Pn	00 33 40.9 +1.5
PLOR	Plostina	6.95 346 ⇓	*i*P	Pn	00 33 44.3 +2.5
PLOR	Plostina	6.95 346 ⇓	*i*P	Pn	00 33 44.3 +2.5
VRI	Vrincioaia	6.95 346 ⇑	*i*P	Pn	00 33 42.3 +0.5
VRI	Vrincioaia	6.95 346 ⇑	*i*P	Pn	00 33 42.3 +0.5
VOIR		6.98 336 ⇓	*i*P	Pn	00 33 42.2 0.0
VOIR		6.98 336 ⇓	*i*P	Pn	00 33 42.2 0.0
GZR	Gura Zlata	7.82 325 ⇓	*i*P	Pn	00 33 52.5 -1.2
GZR	Gura Zlata	7.82 325 ⇓	*i*P	Pn	00 33 52.5 -1.2
BURAR	Bucovina Array	8.94 343 ⇓	*i*P	Pn	00 34 10.0 +0.9
BURAR	Bucovina Array	8.94 343 ⇓	*i*P	Pn	00 34 10.0 +0.9

*CSEM **20** 00:33:32.9, 39˚.01N×29˚.12E, h5km, MD2.7, After ISK*
*ISK **20** 00:33:32.9, 39˚.01N×29˚.12E, h5km, MD2.7*
*ISCJB **20** 00:33:33.8±0.6, 39˚.08N±0˚.04×29˚.05E±0˚.04, h1km±8km, Error ellipse: s-maj=6.2km s-min=5.7km az=26.2*
*DDA **20** 00:33:34.5, 39˚.12N×29˚.10E, h7km, MD2.8*

ISC 20 00:33:32.9±1.3, 39˚.04N±0˚.03×29˚.12E±0˚.03, h9km±12km, n21, σ1§98/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	Demirci	0.31	271	*i* P	Pb	00 33 41.7	+1.0
DEMI				*i* S	Sb	00 33 46.1	+0.1
DEMI	Demirci	0.31	271	*i* P	Pb	00 33 41.7	+1.0
DEMI				*i* S	Sb	00 33 46.1	+0.1
TVSB	Tavsanli	0.49	33	*e*PG	Pb	00 33 43.6	-0.1
TVSB				*e*SG	Sb	00 33 50.3	-0.8
KULA	Kula-Manisa	0.63	215	*e*PG	Pg	00 33 45.0	-0.2
KHAL	Karahalli	0.73	156	*i* P	Pn	00 33 48.9	-0.5
KHAL				*i* S	Sn	00 34 01.8	+1.0
KHAL	Karahalli	0.73	156	*i* P	Pn	00 33 48.9	-0.5
KHAL				*i* S	Sn	00 34 01.7	+1.0
DURS	Dursunbey	0.75	319	*i* P	Pg	00 33 47.2	-0.2
DURS				*i* S	Sg	00 33 57.3	+0.1
DURS	Dursunbey	0.75	319	*i* P	Pg	00 33 47.2	-0.2
DURS				*i* S	Sg	00 33 57.3	0.0
ALT	Altintas	0.77	88	*e*PG	Pb	00 33 48.6	-0.2
AKS	Akhisar	1.03	262	*e*PG	Pg	00 33 52.6	-0.1
BALB	Balikesir	1.13	302	*e*PN	Pn	00 33 56.0	+1.1
CAVI	Cavuskoy	1.29	25	*e*PN	Pg	00 33 58.9	+1.2
MDNY	Mudanya-Bursa	1.34	352	*e*PN	Pg	00 33 59.3	+0.6
BALY	Balya	1.36	302	*e*P	Pn	00 33 58.1	0.0
BALY				*i* S	Sb	00 34 13.2	-2.8
BALY	Balya	1.36	302	*e*P	Pn	00 33 58.1	0.0
BALY				*i* S	Sb	00 34 13.2	-2.8
KCTX	Karacabey (Bur	1.36	335	*e*PN	Pg	00 33 59.4	+0.4
ADVT	Abdulvahap	1.48	19	*e*PN	Pg	00 34 01.4	+0.2
GONE	Gonen-Balikesi	1.50	313	*e*PN	Pg	00 34 01.4	-0.3
YLV	Yalova	1.54	7	*e*PN	Pg	00 34 03.0	+0.5
BNT	Bandirma	1.61	325	*e*PN	Pb	00 34 03.1	+0.3
EDC	Edincik	1.63	324	*e*PN	Pb	00 34 02.8	-0.3

ISK 20 00:33:55.3, 39˚.11N×29˚.11E, h6km, MD2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	Tavsanli	0.44	39	*e*PG	Pg	00 34 04.6	+0.6
TVSB				*e*SG	Sg	00 34 10.4	+0.6
TVSB	Tavsanli	0.44	39	*e*Pg	Pg	00 34 04.6	+0.7
TVSB				*e*Sg	Sg	00 34 10.4	+0.6
KULA	Kula-Manisa	0.69	210	*e*PG	Pb	00 34 09.4	-0.5
KULA				*e*SG	Sg	00 34 18.0	+0.3
KULA	Kula-Manisa	0.69	210	*e*Pg	Pb	00 34 09.4	-0.5
KULA				*e*Sg	Sg	00 34 18.0	+0.2
ALT	Altintas	0.78	94	*e*PG	Pb	00 34 11.2	-0.3
ALT	Altintas	0.78	94	*e*Pg	Pb	00 34 11.2	-0.3
KHL	Karahalli	0.85	157	*e*PG	Pb	00 34 12.3	-0.3
KHL	Karahalli	0.85	157	*e*Pg	Pb	00 34 12.3	-0.3
AKS	Akhisar	1.03	257	*e*PG	Pb	00 34 15.8	+0.1
AKS	Akhisar	1.03	257	*e*Pg	Pb	00 34 15.8	+0.2
BALB	Balikesir	1.09	299	*e*PN	Pb	00 34 16.6	+0.1
BALB	Balikesir	1.09	299	*e*Pn	Pb	00 34 16.6	+0.1
SHUT	Suhut-Afyon	1.26	116	*e*PN	Pg	00 34 19.8	+0.1
SHUT	Suhut-Afyon	1.26	116	*e*Pn	Pg	00 34 19.8	+0.1
MDNY	Mudanya-Bursa	1.27	352	*e*PN	Pg	00 34 19.8	+0.1
MDNY	Mudanya-Bursa	1.27	352	*e*Pn	Pg	00 34 19.8	+0.2
KCTX	Karacabey (Bur	1.29	334	*e*PN	Pg	00 34 20.3	+0.2
KCTX	Karacabey (Bur	1.29	334	*e*Pn	Pg	00 34 20.3	+0.2
ADVT	Abdulvahap	1.41	20	*e*PN	Pb	00 34 22.1	0.0
ADVT	Abdulvahap	1.41	20	*e*Pn	Pb	00 34 22.1	+0.1
ESKT	Eskisehir	1.41	73	*e*PN	Pb	00 34 22.1	-0.2
ESKT	Eskisehir	1.41	73	*e*Pn	Pb	00 34 22.1	-0.2
GONE	Gonen-Balikesi	1.44	311	*e*PN	Pb	00 34 22.3	-0.2
GONE	Gonen-Balikesi	1.44	311	*e*Pn	Pb	00 34 22.3	-0.3
YLV	Yalova	1.47	8	*e*PN	Pb	00 34 23.1	-0.1
YLV	Yalova	1.47	8	*e*Pn	Pb	00 34 23.1	0.0
BNT	Bandirma	1.54	324	*e*PN	Pb	00 34 24.3	0.0
BNT	Bandirma	1.54	324	*e*Pn	Pb	00 34 24.3	0.0
GULT	Gulveren	1.71	39	*e*PN	Pn	00 34 26.3	+0.6
GULT	Gulveren	1.71	39	*e*Pn	Pn	00 34 26.3	+0.5
KRBG	Karabiga-Canak	1.89	313	*e*PN	Pn	00 34 28.9	+0.8
KRBG	Karabiga-Canak	1.89	313	*e*Pn	Pn	00 34 28.9	+0.8
CTKS	Kestanelik-??a	2.17	348	*e*PN	Pn	00 34 32.9	+0.9
CTKS	Kestanelik-??a	2.17	348	*e*Pn	Pn	00 34 32.9	+0.9

IDC 20 00:38:18.0±1.5, 2˚.22N×127˚.93E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/21, mbtmp3.7/6, Error ellipse: s-maj=101.9km s-min=18.5km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.32	186	P	P	00 42 55.3	-0.6
	0.9nm,0.6s,baz=23,slow=13,SNR=2.7						
WRA	Warramunga Arr	22.90	164	P	P	00 43 23.6	-0.1
	2.3nm,0.4s,baz=342,slow=9.9,SNR=55						
ASAR	Alice Springs	26.38	168	P	P	00 43 55.2	-1.0
	0.9nm,0.5s,baz=348,slow=7.3,SNR=12						
STKA	Stephens Creek	36.30	160	P	P	00 45 23.2	-0.3
	1.3nm,0.6s,baz=339,slow=10,SNR=4.2						
MKAR	Makanchi Array	59.48	325	P	P	00 48 23.7	+0.8
	0.1nm,0.3s,baz=114,slow=7.6,SNR=7.9						
KURBB	Kurchatov Arra	63.65	327	P	P	00 48 51.5	+0.4
	0.2nm,0.4s,baz=128,slow=6.4,SNR=4.3						

*ROM **20** 00:47:29.9±0.1, 44˚.56N×7˚.18E, h10km±1km, Md2.3/9, Ml2.0/6, Error ellipse: s-maj=3.4km s-min=1.8km az=65.0*
*ISCJB **20** 00:47:30.0±0.2, 44˚.55N±0˚.01×7˚.16E±0˚.03, h11km±2km, Error ellipse: s-maj=3.2km s-min=2.2km az=156.1*
*STR **20** 00:47:30.8±0.5, 44˚.56N×7˚.19E, h5km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*CSEM **20** 00:47:30.4±0.1, 44˚.56N×7˚.19E, h5km, ML2.4/13, Error ellipse: s-maj=2.2km s-min=1.6km az=69.0*
*GEN **20** 00:47:30.7, 44˚.55N×7˚.19E, h7km, ML2.0*
*LDG **20** 00:47:31.5±0.1, 44˚.53N×7˚.16E, h2km, Md2.4/2, Ml2.5/10, Error ellipse: s-maj=3.4km s-min=1.8km az=56.0*

ISC 20 00:47:30.5±0.8, 44˚.56N±0˚.01×7˚.20E±0˚.02, h10km±4km, n72, σ0§78/118, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOI	San Damiano	0.06	147	Pg	Pg	00 47 32.7	0.0
DOI				Sg	Sg	00 47 33.9	-0.4
	2µm,0.3s						
DOI	San Damiano	0.06	147	Pg	Pg	00 47 32.7	0.0
DOI				Sg	Sg	00 47 33.9	-0.4
	2µm,0.3s						
PZZ	Stroppo	0.08	229	Pg	Pg	00 47 32.8	-0.1
PZZ				Sg	Sg	00 47 34.1	-0.6
	2µm,0.3s						
SURF	Saint Ours	0.29	255	Pg	Pg	00 47 36.4	+0.1
SURF				Sg	Sg	00 47 40.1	-0.1
SURF	Saint Ours	0.29	255	Pg	Pg	00 47 36.4	+0.1
SURF				Sg	Sg	00 47 40.1	-0.1
STV	Sant Anna di V	0.33	164	Pg	Pg	00 47 37.2	+0.2
STV				Sg	Sg	00 47 41.4	+0.1
	69nm,0.2s						
STV	Sant Anna di V	0.33	164	P	Pg	00 47 37.1	+0.1
STV				S	Sg	00 47 41.4	+0.1
MBDF	Montbardon	0.35	299	*e*Pg	Pg	00 47 37.6	+0.1
	SNR=1.0						
MBDF				*e*Sg	Sg	00 47 42.5	+0.4
	169nm,0.3s						
MBDF	Montbardon	0.35	299	*e*Pg	Pg	00 47 37.6	+0.1
	SNR=1.0						
MBDF				*e*Sg	Sg	00 47 42.5	+0.4
	84nm,0.3s						
TOUF	Mont Tournerai	0.55	176	Pg	Pg	00 47 41.4	+0.3
TOUF	Mont Tournerai	0.55	176	Pg	Pg	00 47 41.4	+0.3
AUTN	L'Aution	0.58	164	Pg	Pg	00 47 41.9	0.0
AUTN				Sg	Sg	00 47 49.6	0.0
AUTN	L'Aution	0.58	164	Pg	Pg	00 47 41.9	0.0
AUTN				Sg	Sg	00 47 49.6	0.0
RSP	Reno Superiore	0.59	5	Pg	Pg	00 47 41.6	-0.4
RSP				Sg	Sg	00 47 49.4	-0.4
	50nm,0.1s						
RSP	Reno Superiore	0.59	5	P	Pg	00 47 41.7	-0.3
RSP				S	Sg	00 47 49.5	-0.4
BNI	Bardonecchia	0.62	323	Pg	Pg	00 47 42.4	-0.1
BNI				Sg	Sg	00 47 50.3	-0.3
	13nm,0.3s						
BNI	Bardonecchia	0.62	323	Pg	Pg	00 47 42.4	-0.1
BNI				Sg	Sg	00 47 50.3	-0.3
	13nm,0.3s						
SAOF	Saorge	0.63	156	Pg	Pg	00 47 42.7	+0.1
SAOF				Sg	Sg	00 47 50.9	+0.1
SAOF	Saorge	0.63	156	Pg	Pg	00 47 42.7	+0.1
SAOF				Sg	Sg	00 47 50.9	+0.1
MVIF	Mont Vial	0.66	183	Pg	Pg	00 47 43.6	+0.3
MVIF				Sg	Sg	00 47 52.7	+0.7
MVIF	Mont Vial	0.66	183	Pg	Pg	00 47 43.6	+0.3
MVIF				Sg	Sg	00 47 52.7	+0.7
SBF	Sospel	0.71	166	*e*Pg	Pg	00 47 44.4	+0.1
	SNR=1.0						
SBF				*e*Sg	Sg	00 47 54.3	+0.7
	48nm,0.4s						
SBF	Sospel	0.71	166	*e*Pg	Pg	00 47 44.4	+0.1
	SNR=1.0						
SBF				*e*Sg	Sg	00 47 54.3	+0.7
	24nm,0.4s						
MONC	Moncucco Torin	0.73	45	Pg	Pg	00 47 44.9	+0.3
MONC	Moncucco Torin	0.73	45	Pg	Pg	00 47 44.9	+0.3
NEGI	Seborga	0.80	153	P	Pg	00 47 45.8	0.0
NEGI				S	Sg	00 47 56.1	-0.1
IMI	Imperia	0.82	142	Pg	Pg	00 47 46.1	-0.1
IMI				Sg	Sg	00 47 56.7	-0.2
IMI	Imperia	0.82	142	Pg	Pg	00 47 46.1	-0.1
IMI				S	Sg	00 47 56.7	-0.2
REVF	Revere	0.83	171	Pg	Pb	00 47 47.4	+0.5
REVF	Revere	0.83	171	Pg	Pb	00 47 47.4	+0.5
CALN	Calern	0.83	196	Pg	Pg	00 47 46.9	+0.3
CALN				Sg	Sb	00 47 58.7	+0.2
CALN	Calern	0.83	196	Pg	Pg	00 47 46.9	+0.3
CALN				Sg	Sb	00 47 58.7	+0.2
ROTM	Rocchetta Tana	0.87	70	P	Pb	00 47 48.0	+0.3
ROTM				S	Sb	00 47 59.9	+0.4
FINB	Finale Ligure	0.89	115	Pg	Pg	00 47 47.4	-0.3
FINB	Finale Ligure	0.89	115	Pg	Pg	00 47 47.4	-0.3
LSD	Lago del Serru	0.90	357	P	Pg	00 47 47.7	-0.2
LSD				S	Sg	00 47 59.4	-0.3
PCP	Piancastagn	0.96	90	P	Pg	00 47 48.5	-0.5
LPG	La Plagne	0.99	342	*e*Pg	Pg	00 47 49.3	-0.3
	SNR=1.0						
LPG				*e*Sg	Sg	00 48 03.3	+0.8
	26nm,0.4s,SNR=1.0						
LPG	La Plagne	0.99	342	*e*Pg	Pg	00 47 49.3	-0.3
	SNR=1.0						
LPG				*e*Sg	Sg	00 48 03.3	+0.8
	13nm,0.4s,SNR=1.0						
ORIF	Oris-en-Rattie	1.01	291	*e*Pg	Pg	00 47 49.6	-0.2
	SNR=1.0						
ORIF				*e*Sg	Sg	00 48 02.2	-0.7
	17nm,0.3s						
ORIF	Oris-en-Rattie	1.01	291	*e*Pg	Pg	00 47 49.6	-0.2
	SNR=1.0						
ORIF				*e*Sg	Sg	00 48 02.2	-0.7
	8.6nm,0.3s						
LPL	La Plagne	1.01	341	*e*Pg	Pg	00 47 49.8	-0.2
	SNR=1.0						
LPL				*e*Sg	Sg	00 48 03.5	+0.3
	21nm,0.3s,SNR=1.0						
LPL	La Plagne	1.01	341	*e*Pg	Pg	00 47 49.8	-0.2
	SNR=1.0						
LPL				*e*Sg	Sg	00 48 03.5	+0.3
	10nm,0.3s,SNR=1.0						
TRAV	Traversella	1.03	22	P	Pg	00 47 48.2	-2.1
SMRF	Simiane la Rot	1.30	244	*e*Pg	Pg	00 47 56.2	+0.7
SMRF	Simiane la Rot	1.30	244	*e*P	Pg	00 47 56.8	+1.3
	SNR=1.0						
SMRF				*e*Sg	Sb	00 48 12.0	+0.1
	21nm,0.3s,SNR=1.0						
SMRF	Simiane la Rot	1.30	244	*e*Pg	Pg	00 47 56.2	+0.7
SMRF	Simiane la Rot	1.30	244	*e*P	Pg	00 47 56.8	+1.3
	SNR=1.0						
SMRF				*e*Sg	Sb	00 48 12.0	+0.1
	11nm,0.3s,SNR=1.0						
LMR	La Mourre	1.32	202	*e*Pg	Pb	00 47 55.4	+0.1
	SNR=1.0						
LMR				*e*Sg	Sb	00 48 12.5	+0.2
	51nm,0.4s						
LMR	La Mourre	1.32	202	*e*Pg	Pb	00 47 55.4	+0.1
	SNR=1.0						
LMR				*e*Sg	Sb	00 48 12.5	+0.2
	26nm,0.4s						
VIVF	Saint-Julien-l	1.82	280	*e*Pn	Pn	00 48 02.2	+0.2
	SNR=1.0						
VIVF	Saint-Julien-l	1.82	280	*e*Pg	Pb	00 48 04.3	+0.3
	SNR=1.0						
VIVF				*e*Sn	Sn	00 48 23.8	-1.4
	SNR=1.0						
VIVF				*e*Sg	Sg	00 48 28.5	-0.6
	5.3nm,0.4s,SNR=1.0						
VIVF	Saint-Julien-l	1.82	280	*e*Pn	Pn	00 48 02.2	+0.2
	SNR=1.0						
VIVF	Saint-Julien-l	1.82	280	*e*Pg	Pb	00 48 04.3	+0.3
	SNR=1.0						
VIVF				*e*Sn	Sn	00 48 23.8	-1.4
	SNR=1.0						
VIVF				*e*Sg	Sg	00 48 28.5	-0.6
	2.7nm,0.4s,SNR=1.0						
CABF	La Chapelle	2.20	340	*e*Pn	Pn	00 48 08.4	+1.3
	SNR=1.0						
CABF	La Chapelle	2.20	340	*e*Pn	Pn	00 48 08.4	+1.3
	SNR=1.0						
PGF	Pioggiola	2.40	146	*e*Pn	Pn	00 48 09.9	0.0
	SNR=1.0						
PGF				*e*Sn	Sn	00 48 37.0	-2.4
	7.6nm,0.7s,SNR=1.0						
PGF	Pioggiola	2.40	146	*e*Pn	Pn	00 48 09.9	0.0
	SNR=1.0						
PGF				*e*Sn	Sn	00 48 37.0	-2.4
	3.8nm,0.7s,SNR=1.0						
LASF	Ste Croix	2.45	260	*e*Pn	Pn	00 48 10.4	-0.1
	SNR=1.0						
LASF				*e*Sn	Sn	00 48 38.9	-1.6
	5.1nm,0.7s,SNR=1.0						
LASF	Ste Croix	2.45	260	*e*Pn	Pn	00 48 10.4	-0.1
	SNR=1.0						
LASF				*e*Sn	Sn	00 48 38.9	-1.6
	2.5nm,0.7s,SNR=1.0						
HINF	Hinteralfeld	3.27	356	*e*Sn	Sn	00 49 01.6	+0.8
	1.9nm,0.4s,SNR=1.0						
HINF	Hinteralfeld	3.27	356	*e*Sn	Sn	00 49 01.6	+0.8
	0.9nm,0.4s,SNR=1.0						
HAU	Haudompre	3.50	351	*e*Pn	Pn	00 48 26.5	+1.5
	SNR=1.0						
HAU	Haudompre	3.50	351	*e*Pn	Pn	00 48 26.5	+1.5
	SNR=1.0						
LOR	Lormes	3.58	320	*e*Pn	Pn	00 48 27.0	+1.0
	SNR=1.0						
LOR	Lormes	3.58	320	*e*Pn	Pn	00 48 27.0	+1.0
	SNR=1.0						
BGF	Bois d'Agland	3.65	305	*e*Pn	Pn	00 48 28.8	+1.7
	SNR=1.0						
BGF	Bois d'Agland	3.65	305	*e*Pn	Pn	00 48 28.8	+1.7
	SNR=1.0						
CAF	Calviac	3.68	278	*e*Sg	Sg	00 49 26.1	-2.4
	0.6nm,0.3s						
CAF	Calviac	3.68	278	*e*Sg	Sg	00 49 26.1	-2.4
	0.3nm,0.3s						
CDF	Champ du Feu	3.86	1	*e*Pn	Pn	00 48 31.0	+1.1
	SNR=1.0						
CDF	Champ du Feu	3.86	1	*e*Pn	Pn	00 48 31.0	+1.1
	SNR=1.0						

*IDC **20** 00:50:27.4±1.2, 34˚.44N×26˚.03E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/25, mbtmp3.6/9, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.2/36, Error ellipse: s-maj=25.1km s-min=23.8km az=174.0*
*ISCJB **20** 00:50:28.9±0.5, 34˚.06N±0˚.04×26˚.16E±0˚.06, h26km, mb3.5/7, MS3.2/1, Error ellipse: s-maj=8.5km s-min=5.4km az=147.2*
*ATH **20** 00:50:28.3, 33˚.91N×26˚.00E, h48km, MD3.3/5*
*CSEM **20** 00:50:28.0±0.1, 34˚.00N×25˚.89E, h2km, MD3.3, Error ellipse: s-maj=6.0km s-min=2.8km az=73.0*

ISC 20 00:50:29.2±0.8, 34˚.02N±0˚.05×25˚.97E±0˚.07, h26km, n26, σ1§54/28, mb3.4/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	1.11	11	*e*P	Pb	00 50 50.0	+0.2
ZKR				*e*S	Sn	00 51 05.8	+2.2
ZKR	Zakros	1.11	11	*e*P	Pb	00 50 50.0	+0.2
ZKR				*e*S	Sn	00 51 05.8	+2.2
LAST	Lasithi	1.21	341	*e*P	Pb	00 50 51.4	-0.1
LAST	Lasithi	1.21	341	*e*P	Pb	00 50 51.4	-0.1
NPS	Neapolis	1.27	347	*e*P	Pb	00 50 51.8	-0.7
NPS	Neapolis	1.27	347	*e*P	Pb	00 50 51.8	-0.7
SIVA	Sivas	1.38	316	*e*P	Pn	00 50 53.3	+0.5
SIVA	Sivas	1.38	316	*e*P	Pn	00 50 53.3	+0.5
VAM	Vamos	2.01	314	*e*P	Pn	00 51 02.9	+1.5
VAM	Vamos	2.01	314	*e*P	Pn	00 51 02.9	+1.5
KARN	Karanos	2.18	310	*e*P	Pn	00 51 05.1	+1.3
KARN	Karanos	2.18	310	*e*P	Pn	00 51 05.1	+1.3
SLUM		2.60	194	P	Pn	00 51 10.4	+0.8
HMAT	Matruh	3.07	162	S	Sn	00 51 53.2	+1.2
SWAZ		4.78	185	P	Pn	00 51 41.0	+1.4
HNAT	Natroun	5.90	137	P	Pn	00 51 56.9	+1.9
HHAG	Hagoal	6.60	126	P	Pn	00 52 06.9	+2.3
MMAI	Mount Meron Ar	7.94	95	Pn	Pn	00 52 23.0	-0.1
	1.0nm,0.3s,baz=273,slow=11,SNR=12						
MMAI				Sn	Sn	00 53 49.1	-3.0
	0.9nm,0.3s,baz=270,slow=24,SNR=4.4						
EIL	Elat	8.79	117	Pn	Pn	00 52 36.4	+1.8
	1.0nm,0.3s,baz=230,slow=7.9,SNR=12						
EIL				Sn	Sn	00 54 07.6	-5.1
	0.5nm,0.3s,baz=30,slow=16,SNR=3.5						
HFS	Hagfors	27.33	347	P	P	00 56 10.6	-1.2
	2.7nm,1.0s,baz=143,slow=14,SNR=2.8						
HFS				LR	LR	01 07 45.7	
	comp=Z,70nm,20.0s,baz=72,slow=38						
FINES	FINESS Array B	27.44	0	P	P	00 56 10.2	-2.5
	0.3nm,0.3s,baz=162,slow=10,SNR=7.2						
TORD	Torodi Ar. Bea	30.30	233	P	P	00 56 43.3	+4.8
	0.3nm,0.8s,baz=34,slow=9.0,SNR=3.9						
ARCES	ARCESS Array B	35.57	360	P	P	00 57 21.4	-2.5
	2.1nm,0.9s,baz=179,slow=9.0,SNR=6.0						
MKAR	Makanchi Array	43.85	56	P	P	00 58 33.2	0.0
	0.4nm,0.6s,baz=278,slow=6.3,SNR=5.7						
ZALV	Zalesovo Beam	45.32	45	P	P	00 58 44.6	-0.1
	0.3nm,0.4s,baz=261,slow=11,SNR=2.7						
SONM	Songino Array	59.69	50	P	P	01 00 32.4	+0.9
	0.2nm,0.7s,baz=291,slow=6.3,SNR=3.1						

*ISCJB **20** 01:03:25.9±0.4, 31˚.93N±0˚.04×104˚.27E±0˚.07, h15km, mb4.0/19, Error ellipse: s-maj=8.8km s-min=5.3km az=31.7*
*IDC **20** 01:03:25.1±0.7, 31˚.87N×104˚.19E, h0km, mb3.9/15, mb1 4.1/17, mb1mx4.0/30, mbtmp3.9/17, ML3.9/2, Error ellipse: s-maj=24.0km s-min=14.6km az=51.0*
*BJI **20** 01:03:28.4, 31˚.90N×104˚.32E, h16km, mB4.3/1, mb4.4/2, ML3.9/14, Ms3.7/5, Ms7

AKASG	**Malin Array Be**	**57.02 313**	P		**P**	**01 13 10.7**	**-1.2**	
	comp=Z,0.7nm,0.4s,baz=68,slow=6.8,SNR=3.9							
FINES	**FINESS Array B**	**57.05 326**	P		**P**	**01 13 12.3**	**+0.4**	
	comp=Z,1.9nm,0.5s,baz=91,slow=7.8,SNR=26							
WRA	**Warramunga Arr**	**58.99 147**	P		**P**	**01 13 27.1**	**+1.1**	
	comp=Z,3.7nm,0.7s,baz=339,slow=7.5,SNR=55							
ASAR	**Alice Springs**	**62.04 149**	P		**P**	**01 13 48.1**	**+1.3**	
	comp=Z,1.0nm,0.5s,baz=334,slow=6.1,SNR=14							
HFS	**Hagfors**	**63.26 326**	P		**P**	**01 13 54.4**	**0.0**	
	comp=Z,1.0nm,0.4s,baz=100,slow=7.5,SNR=15							
NB2	**NORSAR Subarra**	**64.13 327**	P		**P**	**01 13 59.8**	**-0.5**	
	comp=Z,0.9nm,0.5s,baz=73,slow=6.9							
NOA	**NORSAR Array B**	**64.13 327**	P		**P**	**01 14 00.0**	**-0.3**	
	comp=Z,1.3nm,0.6s,baz=75,slow=6.6,SNR=5.7							
ILAR	**Eielson Array**	**69.03 26**	P		**P**	**01 14 31.3**	**-0.2**	
	comp=Z,0.2nm,0.3s,baz=288,slow=4.2,SNR=6.1							
CDF	**Champ du Feu**	**71.22 316**	*e*P		**P**	**01 14 45.6**	**+0.3**	
PAGF	**Fort de Pagny**	**72.07 316**	*e*P		**P**	**01 14 50.3**	**0.0**	
	comp=Z,1.8nm,0.7s							
LPG	**La Plagne**	**72.89 313**	*e*P		**P**	**01 14 56.5**	**+0.9**	
	comp=Z,6.3nm,0.7s							
LPL	**La Plagne**	**72.89 313**	*e*P		**P**	**01 14 56.4**	**+0.9**	
	comp=Z,3.8nm,0.5s							
SBF	**Sospel**	**73.23 311**	*e*P		**P**	**01 14 58.6**	**+1.2**	
LMR	**La Mourre**	**74.07 311**	*e*P		**P**	**01 15 02.7**	**+0.5**	
GRR	**Gorron**	**75.95 318**	*e*P		**P**	**01 15 13.5**	**+0.5**	
	comp=Z,4.2nm,0.6s							
RJF	**Les Rejaudoux**	**76.19 315**	*e*P		**P**	**01 15 15.4**	**+1.0**	
LFF	**La Frestale**	**76.84 315**	*e*P		**P**	**01 15 18.8**	**+0.7**	
YKA	**Yellowknife Ar**	**80.88 17**	P		**P**	**01 15 40.2**	**+0.3**	
	comp=Z,0.3nm,0.5s,baz=329,slow=5.2,SNR=9.8							

IDC ***20*** *01:14:07.2±2.9, 14°.09N×60°.28W, h0km, mb3.3/3, mb1 3.7/3, mb1mx3.4/24, mbtmp3.3/3, Error ellipse: s-maj=73.6km s-min=26.3km az=20.0*

ISCJB ***20*** *01:14:10.7±1.1, 13°.87N±0°.03×60°.33W±0°.09, h44km±12km, mb3.5/3, Error ellipse: s-maj=14.7km s-min=5.5km az=8.3*

TRN ***20*** *01:14:10.2, 13°.87N×60°.42W, h28km, MD3.5, M3.3(FDF)*

ISC 20 01:14:12.2±1.3, 13°.87N±0°.04×60°.4W±0°.1, h39km±6km, n21, σ0s81/28, mb3.5/3, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MCLT	**Moule a Chique**	**0.54**	**253**	*e*P		**P**	**Pn**	**01 14 22.0**	**-1.5**
MCLT				*e*S			**Sn**	**01 14 30.8**	**-0.7**
SLB	**Belfond**	**0.61**	**266↑**	*e*P		**P**	**Pn**	**01 14 24.2**	**-0.4**
SLB				*e*S			**Sn**	**01 14 34.1**	**+0.8**
MVM	**Montagne Vaucl**	**0.83**	**325**	*e*P		**P**	**Pn**	**01 14 26.0**	**-1.4**
BHS	**Barnard House**	**0.90**	**231**	*e*S			**Sn**	**01 14 41.5**	**+1.3**
BIM	**Bigot**	**0.91**	**315**	*e*P		**P**	**Pn**	**01 14 27.4**	**-1.1**
BIM	**Bigot**	**0.91**	**315**	*e*P		**P**	**Pn**	**01 14 27.6**	**-0.9**
BIM				*e*S			**Sn**	**01 14 40.8**	**+0.3**
SVV	**Soufriere Volc**	**0.96**	**235**	*e*P		**P**	**Pn**	**01 14 29.4**	**+0.3**
SVV				*e*S			**Sn**	**01 14 42.2**	**+0.6**
SVB	**Belmont**	**1.01**	**234**	*e*P		**P**	**Pn**	**01 14 29.1**	**-0.8**
SVB				*e*S			**Sn**	**01 14 43.6**	**+0.7**
FCV	**Fort Charlotte**	**1.08**	**229**	*e*P		**P**	**Pn**	**01 14 30.5**	**-0.4**
FCV				*e*S			**Sn**	**01 14 45.9**	**+1.3**
FDF	**Fort de France**	**1.12**	**320**	*e*P		**P**	**Pn**	**01 14 30.8**	**-0.7**
FDF				*e*S			**Sn**	**01 14 45.8**	**+0.1**
MGG	**Marie-Galante**	**2.22**	**337**	*e*P		**P**	**Pn**	**01 14 46.6**	**+0.1**
TBG	**Guadaloupe-3**	**2.31**	**329**	*e*P		**P**	**Pn**	**01 14 47.9**	**+0.2**
HMG	**Houelmont**	**2.44**	**329**	*e*P		**P**	**Pn**	**01 14 50.0**	**+0.3**
PHG	**Guadaloupe-2**	**2.44**	**331**	*e*P		**P**	**Pn**	**01 14 50.4**	**+0.7**
DOG	**Dongo Capester**	**2.45**	**332**	*e*P		**P**	**Pn**	**01 14 50.5**	**+0.9**
BCG	**Bois Riant Cap**	**2.49**	**332**	*e*P		**P**	**Pn**	**01 14 50.1**	**-0.2**
TOSP	**Speyside**	**2.56**	**183**	*e*S			**Sn**	**01 15 20.9**	**-0.2**
SEG	**Port Louis**	**2.73**	**337**	*e*P		**P**	**Pn**	**01 14 53.5**	**-0.1**
PDAR	**Pinedale Array**	**51.03**	**314**	P		**P**	**P**	**01 23 11.5**	**+0.8**
	0.3nm,0.5s,baz=110,slow=9.9,SNR=3.4								
YKA	**Yellowknife Ar**	**61.66**	**335**	P		**P**	**P**	**01 24 25.8**	**-0.1**
	0.2nm,0.5s,baz=108,slow=7.5,SNR=4.8								
ILAR	**Eielson Array**	**76.07**	**334**	P		**P**	**P**	**01 25 54.8**	**-0.7**
	0.2nm,0.5s,baz=89,slow=5.6,SNR=5.9								

NEIC ***20*** *01:17:42.9, 17°.98N×68°.66W, h82km, MD3.8(RSPR), After RSPR.*

RSPR 20 01:17:42.9, 17°.98N×68°.66W, h82km±6km, MD3.8/11, 17C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**1.06**	**320**	*i*P			Pn	01 18 02.0	-0.8
DR12				*e*S			Sn	01 18 16.6	-1.1
DR12	**Loma Pena Alta**	**1.06**	**320**	*i* Pu			Pn	01 18 02.0	-0.8
DR12				*e*S			Sn	01 18 16.6	-1.1
SMN1	**Samana, DR**	**1.34**	**334↑**	*e*P			Pn	01 18 05.3	-0.9
SMN1				*e*S			Sn	01 18 23.7	-0.2
CRPR	**Cabo Rojo, PR**	**1.47**	**89↑**	*e*P			Pn	01 18 07.7	-0.1
CRPR	**Cabo Rojo, PR**	**1.47**	**89↑**	*e*P			Pn	01 18 07.7	-0.1
CRPR				*e*S			Sn	01 18 26.0	-0.8
LSP	**Las Mesas**	**1.50**	**82↑**	*e*P			Pn	01 18 08.2	-0.1
LSP	**Las Mesas**	**1.50**	**82↑**	*e*P			Pn	01 18 08.2	-0.1
AGPR	**Aguadilla, PR**	**1.55**	**71↑**	*e*P			Pn	01 18 08.6	-0.2
AGPR	**Aguadilla, PR**	**1.55**	**71↑**	*e*P			Pn	01 18 08.6	-0.2
AGPR				*e*S			Sn	01 18 29.0	+0.5
LRS	**Lares**	**1.75**	**80↑**	*i*P			Pn	01 18 11.7	+0.1
LRS				*e*S			Sn	01 18 32.9	-0.5
LRS	**Lares**	**1.75**	**80**	*i* Pu			Pn	01 18 11.7	+0.1
LRS				*e*S			Sn	01 18 32.9	-0.5
AOPR	**Arecibo Observ**	**1.84**	**78↑**	*e*P			Pn	01 18 12.2	-0.6
AOPR	**Arecibo Observ**	**1.84**	**78↑**	*e*P			Pn	01 18 12.2	-0.6
AOPR				*e*S			Sn	01 18 35.7	+0.1
OBIP	**Obispado Ponce**	**1.95**	**88↑**	*e*P			Pn	01 18 13.5	-0.7
OBIP	**Obispado Ponce**	**1.95**	**88↑**	*e*P			Pn	01 18 13.5	-0.7
OBIP				*e*S			Sn	01 18 37.1	-0.9
CELP	**Cerrillos**	**1.98**	**87↑**	*i*P			Pn	01 18 14.0	-0.5
CELP				*e*S			Sn	01 18 38.0	-0.7
CELP	**Cerrillos**	**1.98**	**87**	*i* Pu			Pn	01 18 14.0	-0.5
CELP				*e*S			Sn	01 18 38.0	-0.7
HUMP	**Col San Antoni**	**2.67**	**86↑**	*e*P			Pn	01 18 23.4	-0.5
HUMP	**Col San Antoni**	**2.67**	**86↑**	*e*P			Pn	01 18 23.4	-0.5
HUMP				*e*S			Sn	01 18 55.3	0.0
CBYP	**Canovanas**	**2.68**	**83↑**	*e*P			Pn	01 18 22.7	-1.3
CBYP	**Canovanas**	**2.68**	**83↑**	*e*P			Pn	01 18 22.7	-1.3
SDDR	**Presa de Saban**	**2.69**	**292↑**	*e*P			Pn	01 18 24.3	+0.2
SDDR	**Presa de Saban**	**2.69**	**292↑**	*e*P			Pn	01 18 24.3	+0.2
MTP	**Monte Pirata**	**2.95**	**87↓**	*e*P			Pn	01 18 27.6	-0.1
MTP	**Monte Pirata**	**2.95**	**87↓**	*e*P			Pn	01 18 27.6	-0.1
STVI	**Saint Thomas**	**3.54**	**83↓**	*e*P			Pn	01 18 34.6	-1.0
STVI	**Saint Thomas**	**3.54**	**83↓**	*e*P			Pn	01 18 34.6	-1.0
STVI				*e*S			Sn	01 19 15.5	-0.8

IDC 20 01:29:30.3±1.3, 3°.50N×126°.25E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, Error ellipse: s-maj=98.0km s-min=19.3km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.47**	**182**	P		P	P	01 34 20.2	-0.4
	0.3nm,0.3s,baz=354,slow=10,SNR=1.6								
WRA	**Warramunga Arr**	**24.61**	**161**	P		P	P	01 34 52.6	+0.1
	0.8nm,0.6s,baz=341,slow=10,SNR=14								
STKA	**Stephens Creek**	**38.09**	**159**	P		P	P	01 36 51.0	+0.1
	1.5nm,0.8s,baz=331,slow=10.0,SNR=2.8								
SONM	**Songino Array**	**47.36**	**342**	P		P	P	01 38 05.9	-0.4
	0.3nm,0.6s,baz=159,slow=7.1,SNR=3.8								
MKAR	**Makanchi Array**	**57.47**	**326**	P		P	P	01 39 21.2	0.0
	0.9nm,0.5s,baz=119,slow=7.0,SNR=21								

PRU 20 01:32:54.9, 50°.12N×18°.43E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.34**	**213**	*e*PG		Pg	Pn	01 33 01.4	0.0
OKC				*e*SG		Sg	Sn	01 33 05.4	-0.3
	3.0nm,0.5s								
DPC	**Dobruska-Polom**	**1.37**	**280**	*e*PG		Pg	Pn	01 33 20.2	-1.1
DPC				*e*SG		Sg	Sn	01 33 38.8	-0.4

IDC 20 01:36:06.8±2.8, 6°.07S×146°.75E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.5/18, mbtmp3.7/5, ML3.0/2, Error ellipse: s-maj=32.9km s-min=23.8km az=142.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.34**	**173**			Pn	Pn	01 37 02.4	+1.9
	2.4nm,0.3s,baz=3.2,slow=7.4,SNR=7.2								
PMG						Pg	Pb	01 37 07.4	+0.4
	12nm,0.3s,baz=27,slow=8.8,SNR=57								
PMG						Sn	Sn	01 37 43.1	+2.2
	4.0nm,0.3s,baz=222,slow=22,SNR=7.2								
WRA	**Warramunga Arr**	**18.32**	**220**	P		P	P	01 40 23.7	+0.8
	0.2nm,0.3s,baz=40,slow=12,SNR=16								
WRA				S		S	S	01 43 51.0	-2.4
	0.0nm,0.3s,baz=49,slow=21,SNR=3.2								
ASAR	**Alice Springs**	**21.43**	**214**	P		P	P	01 40 57.6	+0.9
	1.0nm,0.5s,baz=56,slow=8.8,SNR=16								
ASAR				S		S	S	01 44 53.9	-1.6
	0.5nm,0.6s,baz=36,slow=21,SNR=6.2								
FITZ	**Fitzroy Crossi**	**23.82**	**238**	P		P	P	01 41 21.0	-0.8
	4.1nm,0.6s,baz=67,slow=10.0,SNR=24								
STKA	**Stephens Creek**	**26.13**	**190**	P		P	P	01 41 42.9	+0.2
	1.7nm,0.8s,baz=5.9,slow=13,SNR=2.9								

BJI ***20*** *01:46:16.7, 18°.27S×178°.35W, h518km, mB5.0/28, mb4.9/42*

DJA ***20*** *01:46:17, 19°.17S×178°.65W, h514km, mb5.1/17*

NEIC ***20*** *01:46:17.9±0.1, 18°.37S×178°.75W, mb5.1/127, MW5.6, Error ellipse: s-maj=5.6km s-min=3.0km az=152.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.46; $M_{\theta\theta}$1.22; $M_{\phi\phi}$0.25; $M_{r\theta}$2.02; $M_{\theta\phi}$1.28; $M_{\phi r}$-0.17; Best double couple: M_o2.80000×10^{17} NP1: ϕ_s27.00000°, δ31.00000°, λ-143.00000°. NP2: ϕ_s264.00000°, δ72.00000°, λ-64.00000°. Principal axes: T 2.7600, Plg22.0000°, Azm334.0000°; N 0.0000, Plg24.0000°, Azm75.0000°; P -2.7500, Plg55.0000°, Azm207.0000°;*

SZGRF ***20*** *01:46:17.8, 18°.61S×176°.23W, h524km, Fiji Islands region*

BGS ***20*** *01:46:18.2±6.0, 18°.37S×178°.75W, h515km, mb5.1(NEIC)*

ISCJB ***20*** *01:46:18.7±0.7, 18°.40S±0°.05×178°.80W±0°.03, h531km±7km, mb5.0/179, Error ellipse: s-maj=8.0km s-min=3.5km az=163.0*

IDC ***20*** *01:46:18.3±0.7, 18°.41S×178°.69W, h519km±6km, mb4.5/23, mb1 4.7/24, mb1mx4.7/25, mbtmp4.5/24, Error ellipse: s-maj=11.8km s-min=8.6km az=153.0*

MOS ***20*** *01:46:19.0±0.9, 18°.23S×178°.76W, h526km, mb5.1/51, Error ellipse: s-maj=8.4km s-min=7.2km az=49.8*

ISC 20 01:46:18.4±0.2, 18°.44S±0°.04×178°.66W±0°.04, h522km±1km, h523km=pP-P, n1370, σ1s09/1709, mb5.1/179, 277C-269D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.20**	**282**	*e*P		**P**		**01 47 34.0**	**+1.4**
MSVF				*e*S		**S**		**01 48 36.2**	**+3.2**
MSVF	**Nonsavu**	**3.20**	**282**	*e*P		**P**		**01 47 34.0**	**+1.4**
MSVF				*e*S		**S**		**01 48 36.2**	**+3.2**
MSVF	**Nonsavu**	**3.20**	**282**	P		**P**		**01 47 34.7**	**+2.1**
	44µm,0.8s								
AFI	**Afiamalu**	**8.00**	**57**	*e*P		P		01 48 11.1	-4.4
AFI				S		S		01 49 40.1	-11
AFI				*e*S		S		01 49 43.4	-8.1
AFI	**Afiamalu**	**8.00**	**57**	P		P		01 48 11.1	-4.4
	20nm,0.3s,baz=10.0,slow=3.7,SNR=19								
AFI				S		S		01 49 40.1	-11
	21nm,0.3s,baz=240,slow=23,SNR=6.5								
DZM	**Mont Dzumac**	**14.44**	**253**	*e*P		**P**		**01 49 21.6**	**-0.9**
	3.7nm,0.2s								
DZM	**Mont Dzumac**	**14.44**	**253**	*e*P		**P**		**01 49 19.8**	**-2.7**
DZM	**Mont Dzumac**	**14.44**	**253**	P		**P**		**01 49 21.3**	**-1.2**
DZM	**Mont Dzumac**	**14.44**	**253**	P		**P**		**01 49 21.3**	**-1.2**
	1.2nm,0.3s,baz=86,slow=14,SNR=33								
NOUC	**Port Laguerre**	**14.57**	**253**	*e*P		**P**		**01 49 21.6**	**-2.2**
RAR	**Rarotonga**	**17.98**	**102**	*e*P		**P**		**01 49 57.7**	**+0.2**
	179nm,0.9s								
OUZ	**Omahuta**	**18.08**	**201**	*e*P		**P**		**01 50 00.8**	**+2.6**
	723nm,1.9s								
HNR	**Honiara**	**22.59**	**290**	*e*P		**P**		**01 50 39.1**	**-0.2**
	307nm,0.8s								
KHZ	**Kahutara**	**24.81**	**194**	*e*P		**P**		**01 50 57.9**	**-0.8**
	48nm,0.9s								
PAE	**Paea**	**27.65**	**93**	*e*P		**P**		**01 51 25.2**	**+1.1**
	34nm,1.3s								
PPT	**Papeete**	**27.66**	**93**	P		**P**		**01 51 24.7**	**+0.5**
PPT	**Papeete**	**27.66**	**93**	P		**P**		**01 51 24.7**	**+0.5**
	79nm,1.0s,baz=221,slow=20,SNR=3.0								
TBI	**Tubuai**	**27.69**	**105**	*e*P		**P**		**01 51 25.2**	**+0.8**
	121nm,0.8s								
TIAR	**Tiarei**	**27.88**	**93**	*e*P		**P**		**01 51 28.5**	**+2.3**
	120nm,0.9s								
EIDS	**Eidsvold**	**28.86**	**251**	*e*P		**P**		**01 51 34.6**	**0.0**
	85nm,1.2s								
EIDS				*e*S		**S**		**01 55 46.7**	**-1.3**
ARMA	**Armidale**	**29.47**	**240**	*e*P		**P**		**01 51 41.1**	**+1.1**
	64nm,1.0s								
ARMA	**Armidale**	**29.47**	**240**	*e*P		**P**		**01 51 40.9**	**+0.9**
ARMA				*e*S		**S**		**01 55 57.0**	**-0.6**
CNB	**Canberra Magne**	**32.92**	**233**	*e*P		**P**		**01 52 10.1**	**+0.7**
	640nm,0.9s								
CTA	**Charters Tower**	**33.12**	**261**	P		**P**		**01 52 11.1**	**-0.2**
CTA				PcP		**PcP**		**01 54 39.1**	**-0.2**
CTA				S		**S**		**01 56 51.5**	**-2.3**
CTA	**Charters Tower**	**33.12**	**261**	*e*P		**P**		**01 52 11.0**	**-0.3**
	68nm,0.8s								
CTA				*e*S		**S**		**01 56 51.6**	**-2.1**
CTA	**Charters Tower**	**33.12**	**261**	P		**P**		**01 52 11.1**	**-0.2**
	74nm,0.7s,baz=90,slow=10,SNR=163								
CTA				PcP		**PcP**		**01 54 39.1**	**-0.2**
	10.0nm,0.9s,baz=59,slow=1.1,SNR=4.7								
CTA				S		**S**		**01 56 51.5**	**-2.3**
	3.5nm,0.7s,baz=194,slow=20,SNR=11								
CTAO	**Charters Tower**	**33.12**	**261**	*e*P		**P**		**01 52 11.4**	**+0.1**
CTAO				*e*				01 54 39.7	
CTAO					pmax	pmax			
	comp=Z,91nm,0.8s								
CTAO	**Charters Tower**	**33.12**	**261**	*e*P		**P**		**01 52 11.4**	**+0.1**
	comp=Z,91nm,0.8s								
CTAO				*e*PcP		**PcP**		**01 54 39.6**	**+0.4**
PMG	**Port Moresby**	**34.31**	**280**	*e*P		**P**		**01 52 21.1**	**-0.2**
	comp=Z,77nm,0.8s								
PMG				*e*S		**S**		**01 57 08.9**	**-2.9**
TOO	**Toolangi**	**36.65**	**231**	*e*P		**P**		**01 52 41.1**	**+0.5**
	comp=Z,832nm,0.8s								
TOO				*e*S		**S**		**01 57 44.5**	**-1.9**
COEN	**Coen**	**36.87**	**271**	*e*P		**P**		**01 52 42.6**	**-0.1**
	comp=Z,367nm,0.8s								
TAU	**Tasmania Unive**	**37.69**	**222**	*e*P		**P**		**01 52 49.6**	**+0.7**
TAU					pmax	pmax			
	comp=Z,72nm,1.1s								
TAU	**Tasmania Unive**	**37.69**	**222**	*e*P		**P**		**01 52 49.6**	**+0.7**
	comp=Z,72nm,1.1s								
STKA	**Stephens Creek**	**38.17**	**242**	P		**P**		**01 52 53.2**	**+0.2**
STKA	**Stephens Creek**	**38.17**	**242**	*e*P		**P**		**01 52 53.4**	**+0.4**
	comp=Z,84nm,0.9s								
STKA				*e*S		**S**		**01 58 07.6**	**-1.3**
STKA				*e*				01 58 44.9	
STKA	**Stephens Creek**	**38.17**	**242**	P		**P**		**01 52 53.2**	**+0.2**
	comp=Z,99nm,0.9s,baz=77,slow=8.3,SNR=140								
WAKE	**Wake Island**	**40.16**	**338**	*e*P		**P**		**01 53 08.3**	**-0.9**
	comp=Z,678nm,1.4s								
RKT	**Rikitea**	**41.00**	**104**	*e*P		**P**		**01 53 17.5**	**+1.6**
	comp=Z,94nm,1.1s								
BBOO	**Buckleboo**	**42.94**	**241**	*e*P		**P**		**01 53 31.3**	**+0.1**
	comp=Z,3µm,0.9s								
WAMI	**Wamena**	**44.10**	**284**	P		**PP**		**01 55 37.2**	**+3.6**
	comp=Z,272nm,0.5s								
WRAB	**Tennant Creek**	**44.29**	**260**	*e*P		**P**		**01 53 40.9**	**-0.9**
WRAB				*e*				01 55 15.2	
WRAB				*e*S		**S**		**01 59 33.1**	**-4.8**
WRAB					pmax	pmax			
	comp=Z,57nm,0.9s								
WRAB	**Tennant Creek**	**44.29**	**260**	*e*P		**P**		**01 53 40.9**	**-0.9**
	comp=Z,57nm,0.9s								
WRAB				*e*PcP		**PcP**		**01 55 15.2**	**+0.3**
WRAB				*e*S		**S**		**01 59 33.0**	**-4.8**
WRAB	**Tennant Creek**	**44.29**	**260**	P		**P**		**01 53 40.0**	**-1.8**
	comp=Z,350nm,0.9s,SNR=58								
WRA	**Warramunga Arr**	**44.30**	**260**	P		**P**		**01 53 40.9**	**-1.1**
WRA				PcP		**PcP**		**01 55 14.8**	**-0.1**
WRA				ScP		**ScP**		**01 58 19.2**	**+2.0**
WRA				S		**S**		**01 59 34.1**	**-3.9**
WRA				ScS		**ScS**		**02 02 44.4**	**+2.0**
WRA	**Warramunga Arr**	**44.30**	**260**	P		**P**		**01 53 40.9**	**-1.1**
	comp=Z,36nm,0.8s,baz=95,slow=7.0,SNR=236								
WRA				PcP		**PcP**		**01 55 14.8**	**-0.1**
	comp=Z,28nm,1.1s,baz=93,slow=4.0,SNR=16								
WRA				ScP		**ScP**		**01 58 19.2**	**+2.0**
	comp=Z,4.8nm,1.1s,baz=96,slow=4.4,SNR=4.7								
WRA				S		**S**		**01 59 34.1**	**-3.9**
	comp=Z,16nm,1.0s,baz=92,slow=14,SNR=15								
WRA				ScS		**ScS**		**02 02 44.4**	**+2.0**
	comp=Z,7.9nm,1.3s,baz=97,slow=6.3,SNR=5.7								
AS31	**Alice Springs**	**44.42**	**255**	*e*P		**P**		**01 53 42.6**	**-0.2**
AS31				*e*S		**S**		**01 59 37.2**	**-2.3**
ASAR	**Alice Springs**	**44.42**	**255**	P		**P**		**01 53 42.6**	**-0.2**
ASAR				PcP		**PcP**		**01 55 15.6**	**+0.2**
ASAR				PP		PP		01 55 30.0	-6.3
ASAR				ScP		**ScP**		**01 58 18.6**	**+0.9**
ASAR				S		**S**		**01 59 37.5**	**-2.1**
ASAR				ScS		**ScS**		**02 02 45.4**	**+2.2**
ASAR	**Alice Springs**	**44.42**	**255**	P		**P**		**01 53 42.6**	**-0.2**
	comp=Z,203nm,0.7s,baz=86,slow=8.4,SNR=1244								
ASAR				PcP		**PcP**		**01 55 15.6**	**+0.2**
	comp=Z,13nm,0.6s,baz=96,slow=5.2,SNR=7.8								
ASAR				PP		PP		01 55 30.0	-6.3
	comp=Z,20nm,1.0s,baz=86,slow=8.2,SNR=4.2								
ASAR				ScP		**ScP**		**01 58 18.6**	**+0.9**
	comp=Z,2.0nm,0.9s,baz=130,slow=6.9,SNR=4.2								
ASAR				S		**S**		**01 59 37.5**	**-2.1**
	comp=Z,36nm,1.0s,baz=90,slow=16,SNR=57								
ASAR				ScS		**ScS**		**02 02 45.4**	**+2.2**
	comp=Z,2.7nm,1.0s,baz=80,slow=6.8,SNR=5.1								
GUMO	**Guam**	**48.02 309**		P		**P**		**01 54 10.4**	**+0.3**
GUMO	**Guam**	**48.02 309**		P		**P**		**01 54 10.4**	**+0.3**
	comp=Z,266nm,1.0s,baz=199,slow=10,SNR=5.9								
FORT	**Forrest**	**49.56 245**		*e*P		**P**		**01 54 21.0**	**-0.5**
	comp=Z,220nm,0.8s								
FORT	**Forrest**	**49.56 245**		*e*P		**P**		**01 54 20.9**	**-0.6**
	comp=Z,144nm,0.7s								
FORT				*e*S		**S**		**02 00 47.9**	**-2.8**
FAKI	**Fak Fak**	**50.45 282**		P		S		02 00 56.9	-6.2
BNDI	**Bandanaira**	**52.08 279**		P		S		**02 01 26.1**	**+1.1**
	comp=Z,902nm,1.5s,comp=Z,12µm								
FITZ	**Fitzroy Crossi**	**52.71 261**		*e*P		**P**		**01 54 44.6**	**+0.1**
	comp=Z,246nm,1.6s								
FITZ				*e*S		**S**		**02 01 31.7**	**-1.6**
FITZ				S		S		02 01 32.1	-1.2
FITZ	**Fitzroy Crossi**	**52.71 261**		*e*P		**P**		**01 54 44.5**	**+0.1**
	comp=Z,89nm,1.5s								
FITZ				*e*S		**S**		**02 01 31.6**	**-1.6**
FITZ	**Fitzroy Crossi**	**52.71 261**		P		**P**		**01 54 44.7**	**+0.1**
	comp=Z,32nm,0.9s,baz=92,slow=6.1,SNR=91								
FITZ				S		**S**		**02 01 32.1**	**-1.2**
	comp=Z,4.0nm,1.0s,baz=207,slow=12,SNR=9.3								
AAI	**Ambon**	**53.96 279**		P		**S**		**02 01 50.4**	**+0.4**
	comp=Z,83nm,1.4s,comp=Z,2µm								
DRV	**Dumont d'Urvil**	**55.09 199**		S		**S**		**02 01 58.0**	**-5.1**
DRV				SS		**SS**		**02 06 01.0**	**+4.0**
NLAI	**Namlea**	**55.14 279**		P		**S**		**02 02 08.6**	**+3.2**
MBWA	**Marble Bar**	**57.71 256**		*e*P		**P**		**01 55 18.9**	**-0.5**
	comp=Z,107nm,1.0s								
MBWA				*e*PcP		**PcP**		**01 56 05.0**	**-0.2**
MBWA	**Marble Bar**	**57.71 256**		P		**P**		**01 55 19.4**	**0.0**
	SNR=14								
MMRI	**Maumere**	**58.07 271**		P		**S**		**02 02 42.5**	**-0.6**
NWAO	**Narrogin (SRO)**	**58.75 242**		*e*P		**P**		**01 55 26.5**	**+0.2**
	comp=Z,130nm,1.4s								
SBA	**Scott Base**	**59.88 184**		*e*P		**P**		**01 55 34.5**	**+1.5**
SBA					pmax	pmax			
	comp=Z,329nm,1.7s								
SBA	**Scott Base**	**59.88 184**		*e*P		**P**		**01 55 34.5**	**+1.5**
	comp=Z,329nm,1.7s								
VNDA	**Vanda**	**59.90 185**		*e*P		**P**		**01 55 35.0**	**+1.9**
	comp=Z,177nm,1.8s								
KAPI	**Kappang**	**61.49 274**		*e*P		**P**		**01 55 43.7**	**-1.0**

BSC	Santa Cruz Isl	76.65	47	⇑P	P	01 57 16.5	+0.9
	baz=77						
SBC	Santa Barbara	76.84	47	⇓P	P	01 57 17.4	+0.9
	baz=77						
SCI	San Clemente I	76.86	48	⇑P	P	01 57 17.4	+0.7
	baz=77						
USRK	Ussuriysk Arra	76.91	326	P	P	01 57 18.1	+1.5
	comp=Z,7.9nm,0.7s,baz=114,slow=4.4,SNR=16						
USRK				pP	pP	01 59 08.2	+0.3
	comp=Z,1.1nm,0.6s,baz=192,slow=36,SNR=3.4						
SAO	San Andreas Ge	76.97	44	eP	P	01 57 18.1	+0.9
SAO				e*PP	pP	01 59 09.3	+0.8
SAO				pmax	pmax		
	comp=Z,46nm,0.9s						
SAO	San Andreas Ge	76.97	44	eP	P	01 57 18.1	+0.9
	comp=Z,46nm,0.9s						
SAO				epP	pP	01 59 09.3	+0.8
PKM	Peak Mountain	77.01	46	⇑P	P	01 57 18.6	+0.9
	baz=77,SNR=13						
BLG	Laguna Peak	77.11	47	⇑P	P	01 57 18.5	+0.5
	baz=77						
SMMC	Simmler	77.12	46	⇓P	P	01 57 19.1	+1.0
	baz=77						
PTRM	Twissleman Ran	77.17	45	eP	P	01 57 19.1	+0.8
PTRM				epP	pP	01 59 11.8	+2.1
CIS	Catalina Islan	77.19	48	⇑P	P	01 57 18.9	+0.4
	baz=77						
HOPS	Hopland	77.23	41	eP	P	01 57 19.4	+0.9
	comp=Z,41nm,1.1s						
FMP	Fort Macarthur	77.43	48	⇓P	P	01 57 20.5	+0.8
	baz=78						
OSI	Osito Adit	77.62	47	⇑P	P	01 57 21.4	+0.6
	baz=78						
DECC	Green Verdugo	77.69	47	⇑P	P	01 57 21.5	+0.3
	baz=78						
PASC	Pasadena Art C	77.75	48	eP	P	01 57 22.3	+0.8
	comp=Z,28nm,1.0s						
ARVC	Arvin	77.82	46	⇓P	P	01 57 22.4	+0.6
	baz=78,SNR=5.6						
109C	Camp Elliot, M	77.85	49	⇓P	P	01 57 22.6	+0.6
	baz=78						
MWC	Mount Wilson	77.87	48	eP	P	01 57 22.8	+0.4
MWC				e*PP	pP	01 59 13.4	-0.6
MWC				pmax	pmax		
	comp=Z,27nm,0.9s						
MWC	Mount Wilson	77.87	48	eP	P	01 57 22.8	+0.4
	comp=Z,27nm,0.9s						
MWC				epP	pP	01 59 13.4	-0.6
KHMM	Horse Mountain	77.95	39	eP	P	01 57 24.0	+1.4
	comp=Z,64nm,1.2s						
VES	Vestal, Richgr	78.03	46	⇑P	P	01 57 23.1	+0.2
	baz=78,SNR=14						
BAR	Barrett	78.05	50	eP	P	01 57 23.6	+0.5
	comp=Z,102nm,2.1s						
NJ2	Nanjing	78.09	310	eP	P	01 57 24.5	+1.2
NJ2				pmax	pmax		
	comp=Z,50nm,1.2s						
MURC	Murrieta	78.15	49	⇓P	P	01 57 24.2	+0.6
	baz=78,SNR=8.0						
BFSC	Mount Baldy Ra	78.16	48	⇑P	P	01 57 24.0	+0.2
	baz=78,SNR=11						
RCTC	Rector, Farmer	78.19	45	⇓P	P	01 57 23.9	+0.2
	baz=78						
EDW2	Edwards Air Fo	78.27	47	⇑P	P	01 57 24.9	+0.5
	baz=78,SNR=45						
MONP	Monument Peak	78.34	49	⇑P	P	01 57 25.6	+0.7
	baz=78,SNR=31						
HABR	Khabarovsk	78.35	331	eP	P	01 57 24.1	-0.2
HABR				e		01 57 30.4	
HABR				e*PP	pP	01 59 16.4	+0.2
HABR				e		02 00 27.9	
HABR				eS	S	02 06 35.6	-1.3
HABR				e		02 06 53.8	
HABR				eSSS	SSS	02 15 23.1	
HABR				pmax	pmax		
	comp=Z,106nm,1.6s						
HABR				pmax	pmax		
	comp=E,24nm,0.8s						
HABR				pmax	pmax		
	comp=N,24nm,1.3s						
HABR				MLR	MLR		
	comp=Z,31nm,16.0s						
ISA	Isabella	78.35	46	eP	P	01 57 25.5	+0.7
ISA				e*PP	pP	01 59 15.4	-1.2
ISA				pmax	pmax		
	comp=Z,53nm,1.0s						
ISA	Isabella	78.35	46	eP	P	01 57 25.5	+0.7
	comp=Z,54nm,1.0s						
ISA				epP	pP	01 59 15.4	-1.2
ISA	Isabella	78.35	46	⇑P	P	01 57 25.5	+0.7
	baz=78,SNR=41						
CMB	Columbia Colle	78.39	43	eP	P	01 57 25.3	+0.4
CMB				e*PP	pP	01 59 16.9	+0.2
CMB				pmax	pmax		
	comp=Z,52nm,1.1s						
CMB	Columbia Colle	78.39	43	eP	P	01 57 25.3	+0.4
	comp=Z,52nm,1.1s						
CMB				epP	pP	01 59 16.9	+0.2
OHCM	Honcut	78.43	42	eP	P	01 57 25.2	+0.3
OHCM				epP	pP	01 59 17.6	+0.8
DVTC	Desert V Tower	78.45	50	⇑P	P	01 57 26.4	+1.0
	baz=79,SNR=15						
MDJ	Mudanjiang	78.48	325	P	P	01 57 26.3	+1.2
MDJ				pP	pP	01 59 18.8	+1.8
MDJ				sP	sP	02 00 08.4	-2.3
MDJ				PP	PP	02 00 33.0	+0.7
MDJ				S	S	02 06 43.0	+4.6
MDJ				sS	sS	02 09 58.9	+1.0
MDJ				pmax	pmax		
	comp=Z,67nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,120nm,3.7s						
MDJ	Mudanjiang	78.48	325	eP	P	01 57 26.3	+1.2
	comp=Z,66nm,1.0s						
PFO	Pinyon Flat Ob	78.68	49	⇑P	P	01 57 27.2	+0.5
	baz=79,SNR=11						
BBRC	Big Bear Solar	78.69	48	⇑P	P	01 57 27.1	+0.2
	baz=79						
MYKOM	Kota Tinggi	78.71	276	P	P	01 57 28.5	+1.4
MYKOM	Kota Tinggi	78.71	276	P	P	01 57 28.2	+1.1
	comp=Z,56nm,1.4s						
LRMC	Laurel Mountai	78.80	47	⇓P	P	01 57 27.9	+0.7
	baz=79,SNR=14						
SWSC	Sam W. Stewart	78.82	50	⇑P	P	01 57 28.0	+0.8
	baz=79,SNR=12						
RRX	Edison Barstow	78.96	48	⇑P	P	01 57 28.5	+0.6
	baz=79						
KDAK	Kodiak Island	78.97	14	eP	P	01 57 27.6	+0.3
	comp=Z,181nm,1.5s						
KDAK	Kodiak Island	78.97	14	P	P	01 57 27.1	-0.3
	comp=Z,64nm,1.1s,baz=172,slow=5.5,SNR=12						
CWC	Cottonwood Cre	79.04	46	⇓P	P	01 57 29.0	+0.4
	baz=79						
YBH	Yreka Blue Hor	79.08	39	eP	P	01 57 29.1	+0.6
	comp=Z,46nm,1.1s						
YBH				epP	pP	01 59 20.6	-0.1
MLAC	Mammoth Lakes	79.18	44	⇑P	P	01 57 30.2	+0.9
	baz=79,SNR=9.7						
MTUM	Tungsten Hills	79.21	45	eP	P	01 57 29.9	+0.4
MTUM				epP	pP	01 59 22.4	+0.8
BELC	Belle Mtn. Jos	79.21	49	⇓P	P	01 57 30.2	+0.8
	baz=79,SNR=21						
MPMC	Manual Prospec	79.24	46	⇓P	P	01 57 30.4	+0.8
	baz=79,SNR=32						
TIN	Tinemaha	79.27	45	⇑P	P	01 57 30.5	+0.8
	baz=80,SNR=7.1						
KGM	Kluang	79.28	276	P	P	01 57 31.4	+1.2
GSC	Goldstone	79.31	47	eP	P	01 57 30.5	+0.5
GSC				e*PP	pP	01 59 21.9	-0.2
GSC				pmax	pmax		
	comp=Z,78nm,1.6s						
GSC	Goldstone	79.31	47	eP	P	01 57 30.5	+0.5
	comp=Z,78nm,1.6s						
GSC				epP	pP	01 59 21.9	-0.2
GSC	Goldstone	79.31	47	⇑P	P	01 57 30.3	+0.4
	baz=80,SNR=8.7						
HEC	Hector,Ludlow	79.40	48	⇑P	P	01 57 30.8	+0.4
	baz=80,SNR=17						
BC3	Big Chuckawall	79.43	49	⇓P	P	01 57 31.5	+0.9
	baz=80,SNR=12						
QIZ	Qiongzhong	79.45	294	P	P	01 57 30.3	-0.5
QIZ				pP	pP	01 59 21.5	-1.5
QIZ				sP	sP	02 00 15.1	-1.6
QIZ				S	S	02 06 49.4	-0.1
QIZ				pmax	pmax		
	comp=Z,58nm,4.2s						
HUMO	Hull Mountain	79.46	38	eP	P	01 57 31.3	+0.9
	comp=Z,49nm,1.1s						
HUMO				epP	pP	01 59 23.4	+0.7
WCN	Washoe City	79.51	43	eP	P	01 57 31.7	+0.7
WCN				e*PP	pP	01 59 22.7	-0.5
WCN				pmax	pmax		
	comp=Z,52nm,1.1s						
WCN	Washoe City	79.51	43	eP	P	01 57 31.7	+0.7
	comp=Z,52nm,1.1s						
WCN				epP	pP	01 59 22.7	-0.5
WCN	Washoe City	79.51	43	⇑P	P	01 57 31.8	+0.7
	baz=80,SNR=25						
GLA	Glamis	79.58	50	eP	P	01 57 32.6	+1.3
GLA				e*PP	pP	01 59 22.8	-0.8
GLA				pmax	pmax		
	comp=Z,57nm,1.2s						
GLA	Glamis	79.58	50	eP	P	01 57 32.6	+1.3
	comp=Z,57nm,1.2s						
GLA				epP	pP	01 59 22.8	-0.8
GLA	Glamis	79.58	50	⇑P	P	01 57 32.5	+1.3
	baz=80,SNR=11						
GRAC	Grapevine Rang	79.82	46	⇓P	P	01 57 33.4	+0.9
	baz=80,SNR=25						
GMRC	Granite Mounta	79.85	48	⇓P	P	01 57 33.4	+0.6
	baz=80,SNR=15						
FURC	Furnace Creek,	79.89	46	⇓P	P	01 57 33.6	+0.9
	baz=80,SNR=9.8						
IRM	Iron Mountain	79.90	49	⇓P	P	01 57 33.8	+0.8
	baz=80,SNR=17						
NVAR	Mina Array Bea	79.97	44	P	P	01 57 34.0	+0.6
NVAR				pP	pP	01 59 24.2	-1.7
NVAR				P'P'		02 24 21.9	
NVAR	Mina Array Bea	79.97	44	P	P	01 57 34.0	+0.6
	comp=Z,23nm,0.8s,baz=226,slow=8.7,SNR=125						
NVAR				pP	pP	01 59 24.2	-1.7
	comp=Z,15nm,1.1s,baz=225,slow=8.3,SNR=8.6						
NVAR				PKPPKP	P'P'df	02 24 21.9	+4.8
	comp=Z,0.4nm,0.7s,baz=37,slow=0.5,SNR=3.9						
SHOC	Shoshone	79.99	47	⇓P	P	01 57 33.8	+0.5
	baz=80,SNR=6.5						
TUQ	Turquoise Moun	80.00	47	⇓P	P	01 57 34.3	+0.7
	baz=80,SNR=10						
Y12C	Blythe	80.14	50	⇓P	P	01 57 35.1	+0.9
	baz=80,SNR=10						
113A	Mohawk Valley,	80.21	51	⇓P	P	01 57 35.5	+0.9
	baz=80,SNR=23						
CN2	Changchun	80.29	323	eP	P	01 57 35.3	+0.6
CN2				epP	pP	01 59 29.4	+2.1
CN2				eS	S	02 06 58.0	+0.8
CN2				pmax	pmax		
	comp=Z,60nm,1.2s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
LDFC	Landfair	80.39	48	eP	P	01 57 36.8	+1.1
	comp=Z,120nm,1.2s						
LDFC				epP	pP	01 59 28.2	0.0
KLR	Kul'dur	80.44	330	eP	P	01 57 32.8	-2.6
KLR				e		01 59 28.1	
KLR				pmax	pmax		
	comp=E,28nm,1.6s						
KLR				pmax	pmax		
	comp=Z,80nm,1.6s						
COR	Corvallis	80.46	37	eP	P	01 57 36.9	+1.3
COR				pmax	pmax		
	comp=Z,120nm,1.7s						
COR	Corvallis	80.46	37	eP	P	01 57 36.9	+1.3
	comp=Z,120nm,1.7s						
214A	Organ Pipe Nat	80.53	52	⇓P	P	01 57 37.5	+1.2
	baz=81,SNR=13						
NEE2	Needles Airpor	80.58	49	⇑P	P	01 57 37.3	+0.9
	baz=81						
MOD	Modoc	80.64	40	eP	P	01 57 37.3	+0.5
	comp=Z,44nm,0.9s						
MOD				epP	pP	01 59 28.9	-0.6
PDMCI	Parker Dam,Lak	80.69	49	⇑P	P	01 57 37.9	+0.8
	baz=81,SNR=7.0						
IRO	Indian Ridge	80.71	38	P	P	01 57 37.4	+0.2
WHN	Wuhan	80.72	306	P	P	01 57 38.4	+1.1
BROR	Big Rock Looko	80.76	37	P	P	01 57 37.5	+0.4
Z14A	Wintersburg	81.10	51	⇓P	P	01 57 40.3	+1.1
	baz=81,SNR=6.1						
W13A	Hualapai Mount	81.27	49	⇑P	P	01 57 41.1	+0.8
	baz=82,SNR=15						
FRIM	Kepong	81.28	276	P	P	01 57 41.7	+1.1
Y14A	Wickenburg	81.34	50	⇓P	P	01 57 41.1	+0.7
	baz=82,SNR=17						
RVW	Rose Valley	81.73	36	P	P	01 57 42.8	+0.6
R11A	Troy Canyon, C	81.73	45	⇑P	P	01 57 42.9	+0.4
	baz=82						
BMN	Battle Mountai	81.76	43	eP	P	01 57 43.3	+0.7
BMN				e*PP	pP	01 59 36.1	+0.4
BMN				pmax	pmax		
	comp=Z,83nm,1.1s						
BMN	Battle Mountai	81.76	43	eP	P	01 57 43.3	+0.7
	comp=Z,83nm,1.1s						
BMN				epP	pP	01 59 36.1	+0.4
SEW	Seward	81.78	14	eP	P	01 57 41.5	-0.4
	comp=Z,48nm,1.0s						
LVP	Lakeview Peak	81.86	36	P	P	01 57 43.3	+0.3
NLWA	Neilton Lookou	81.88	34	eP	P	01 57 43.6	+0.7
	comp=Z,60nm,1.2s						
OSR	Olympics--Salm	81.90	34	P	P	01 57 43.9	+0.8
VFP	Flag Point	81.95	37	P	P	01 57 43.6	+0.2
VIPM	Ingram Point	81.96	38	P	P	01 57 43.9	+0.3
VIPM	Ingram Point	81.96	38	P	P	01 57 43.9	+0.3
SLKM	Skilak Lake	81.96	14	eP	P	01 57 42.4	-0.6
SLKM				e*PP	pP	01 59 35.6	-0.5
SLKM	Skilak Lake	81.96	14	eP	P	01 57 42.4	-0.6
SLKM				epP	pP	01 59 35.6	-0.5
WVOR	Wild Horse Val	81.96	40	eP	P	01 57 44.0	+0.4
WVOR				e*PP	pP	01 59 36.0	-0.7
WVOR				pmax	pmax		
	comp=Z,76nm,1.1s						
WVOR	Wild Horse Val	81.96	40	eP	P	01 57 44.0	+0.4
	comp=Z,76nm,1.1s						
WVOR				epP	pP	01 59 36.0	-0.7
FL2	Flat Top 2	81.97	36	P	P	01 57 44.1	+0.5
TDL	Tradedollar La	82.14	36	P	P	01 57 45.2	+0.8
SPU	Mount Spurr	82.17	13	eP	P	01 57 42.5	-1.6
TUC	Tucson	82.21	52	eP	P	01 57 45.9	+0.9
TUC				e*PP	pP	01 59 38.5	+0.3
TUC				pmax	pmax		
	comp=Z,60nm,1.2s						
TUC	Tucson	82.21	52	eP	P	01 57 45.9	+0.9
	comp=Z,60nm,1.2s						
TUC				epP	pP	01 59 38.5	+0.3
IPM	Ipoh	82.25	277	eP	P	01 57 46.0	+0.5
	comp=Z,81nm,1.1s						
IPM				epP	pP	01 59 39.1	+0.4
IPM	Ipoh	82.25	277	P	P	01 57 46.5	+1.0
IPM	Ipoh	82.25	277	P	P	01 57 46.1	+0.5
	comp=Z,79nm,1.2s,comp=Z,958nm						
HDW	Hoodsport	82.47	34	P	P	01 57 46.8	+0.8
LON	Longmire	82.61	35	eP	P	01 57 46.5	-0.1
LON				e*PP	pP	01 59 37.8	-2.2
LON				pmax	pmax		
	comp=Z,85nm,1.8s						
LON	Longmire	82.61	35	eP	P	01 57 46.5	-0.1
	comp=Z,85nm,1.8s						
LON				epP	pP	01 59 37.8	-2.2
X16A	Lo Mia Camp, P	82.70	50	⇓P	P	01 57 48.8	+1.2
	baz=83						
R13A	O'Grain Ranch,	82.74	46	⇓P	P	01 57 48.7	+0.9
	baz=83						
CCUT	Cedar City	82.85	47	eP	P	01 57 49.3	+1.0
	comp=Z,51nm,1.2s						
CCUT				epP	pP	01 59 41.5	-0.3
KULM	Kulim	82.87	278	eP	P	01 57 48.2	-0.5
	comp=Z,60nm,1.4s						
KULM				epP	pP	01 59 39.2	-2.8
KULM	Kulim	82.87	278	P	P	01 57 49.4	+0.8
KULM	Kulim	82.87	278	P	P	01 57 50.0	+1.4
	comp=Z,44nm,1.3s,comp=Z,707nm						
PGC	Sidney	82.88	33	eP	P	01 57 48.2	+0.3
	comp=Z,3.7nm,1.2s						
PGC				epP	pP	01 59 40.4	-0.8
ARUT	Antelope Range	82.91	46	eP	P	01 57 49.2	+0.7
ARUT				pmax	pmax		
	comp=Z,61nm,1.4s						
ARUT	Antelope Range	82.91	46	eP	P	01 57 49.2	+0.7
	comp=Z,61nm,1.4s						
319A	Douglas	82.93	54	⇑P	P	01 57 50.2	+1.5
	baz=83						
U15A	North Rim	83.05	48	⇓P	P	01 57 50.6	+1.2
	baz=83						
X17A	Forest Lakes	83.13	51	⇑P	P	01 57 51.0	+1.2
	baz=83						
PMR	Palmer	83.17	14	eP	P	01 57 48.1	-0.9
PMR				e*PP	pP	01 59 42.5	0.0
PMR				pmax	pmax		
	comp=Z,121nm,1.4s						
PMR	Palmer	83.17	14	eP	P	01 57 48.0	-0.9
	comp=Z,121nm,1.4s						
PMR				epP	pP	01 59 42.5	0.0
ELK	Elko	83.20	43	eP	P	01 57 50.4	+0.4
ELK				epP	pP	01 59 42.8	-0.8
WUAZ	Wupatki	83.27	49	eP	P	01 57 50.9	+0.5
	comp=Z,61nm,1.2s						
WUAZ	Wupatki	83.27	49	⇓P	P	01 57 51.3	+0.9
	baz=83						
MAW	Mawson	83.28	200	P	P	01 57 50.8	+1.2
MAW	Mawson	83.28	200	P	P	01 57 50.8	+1.2
	comp=Z,42nm,1.0s,baz=96,slow=7.3,SNR=3.7						
JCW	Jim Creek	83.41	34	P	P	01 57 50.7	+0.2
320A	Kipp Ranch, An	83.49	54	⇓P	P	01 57 53.4	+1.8
	baz=84						
SML	Sawmill	83.54	14	eP	P	01 57 50.5	-0.4
SML				e*PP	pP	01 59 45.6	+1.0
SML				pmax	pmax		
	comp=Z,24nm,1.6s						
SML	Sawmill	83.54	14	eP	P	01 57 50.5	-0.4
	comp=Z,24nm,1.6s						
SML				epP	pP	01 59 45.6	+1.0
DIV	Divide	83.57	15	eP	P	01 57 50.9	-0.2
	comp=Z,66nm,1.0s						
DIV				epP	pP	01 59 45.6	+0.8
HAWA	Hanford	83.67	37	eP	P	01 57 52.5	+0.6
	comp=Z,95nm,1.2s						
HAWA				epP	pP	01 59 44.7	-0.9
PSI	Prapat	83.69	275	P	P	01 57 52.3	-0.6
PSI				pP	pP	01 59 50.0	+3.5
PSI	Prapat	83.69	275	P	P	01 57 52.3	-0.6
PSI	Prapat	83.69	275	P	P	01 57 52.3	-0.6
	comp=Z,42nm,1.0s,baz=165,slow=4.4,SNR=33						
PSI				pP	pP	01 59 50.0	+3.5
	comp=Z,4.4nm,0.5s,baz=195,slow=5.4,SNR=3.2						
BMRM	Bremner River	83.73	16	eP	P	01 57 51.3	-0.6
	comp=Z,140nm,1.3s						
BMRM				epP	pP	01 59 46.0	+0.3
220A	Playas Peak, P	83.74	54	⇓P	P	01 57 54.3	+1.5
	baz=84						
X18A	Snowflake	83.85	51	⇑P	P	01 57 54.3	+1.0
	baz=84						
R15A	Junction	83.92	47	⇑P	P	01 57 54.9	+1.3
	baz=84						
120A	U Bar Ranch, L	83.94	53	⇓P	P	01 57 55.0	+1.2
	baz=84						
BJT	Baijiatuau	83.98	316	eP	P	01 57 53.9	+0.3
	comp=Z,19nm,0.8s						
BJI	Beijing	83.99	316	P	P	01 57 54.4	+0.8
BJI				S	S	02 07 36.1	+1.9
BJI				SS	SS	02 13 20.1	+1.8
BJI				pmax	pmax		
	comp=Z,43nm,1.2s						
BJI				pmax	pmax		
	comp=Z,100nm,3.5s						
WRAK	Wrangell Islan	84.09	24	eP	P	01 57 54.0	+0.4
	comp=Z,66nm,1.3s						
WRAK				epP	pP	01 59 45.6	-1.9
Y19A	Nutrioso	84.10	51	⇓P	P	01 57 56.0	+1.3
	baz=84						
BMO	Blue Mountains	84.10	39	eP	P	01 57 54.3	+0.1
BMO				e*PP	pP	01 59 47.0	-1.1
BMO				pmax	pmax		
	comp=Z,130nm,2.0s						
BMO	Blue Mountains	84.10	39	eP	P	01 57 54.2	+0.1
	comp=Z,130nm,2.0s						
BMO				epP	pP	01 59 47.0	-1.1
MVU	Marysvale	84.11	46	eP	P	01 57 55.5	+1.0
	comp=Z,43nm,1.3s						
MVU				epP	pP	01 59 48.2	-0.3
MSU	Marysvale	84.13	46	eP	P	01 57 55.8	+1.1
MSU				e*PP	pP	01 59 49.6	+1.1
MSU	Marysvale	84.13	46	eP	P	01 57 55.8	+1.1
MSU				epP	pP	01 59 49.6	+1.1
S16A	Weppner Ranch,	84.16	47	⇑P	P	01 57 55.2	+0.4
	baz=84						
NLW	Nelson Butte	84.20	35	P	P	01 57 54.9	+0.2
Z20A	Nine Sixteen R	84.22	52	⇑P	P	01 57 56.5	+1.4
	baz=84						
MFID	Camas Ranch	84.23	41	eP	P	01 57 55.4	+0.5
	comp=Z,62nm,1.2s						
MFID				epP	pP	01 59 47.7	-1.1
MFID	Camas Ranch	84.23	41	⇓P	P	01 57 55.3	+0.5
	baz=84,SNR=24						
SEY	Seymchan	84.23	347	⇓eP	P	01 57 53.7	-0.5
W18A	Petrified Fore	84.27	50	⇓P	P	01 57 56.0	+0.7
	baz=84						
221A	Mesquite Ranch	84.36	54	⇑P	P	01 57 57.1	+1.3
	baz=84						
ENH	Enshi	84.37	304	eP	P	01 57 56.3	+0.6
	comp=Z,173nm,1.3s						
ENH				epP	pP	01 59 50.5	+0.8
T17A	Navajo Res., N	84.37	48	⇓P	P	01 57 56.9	+1.0
	baz=84						
R16A	Teasdale	84.50	47	⇓P	P	01 57 57.6	+1.0
	baz=85						
DUG	Dugway	84.52	45	eP	P	01 57 57.1	+0.6
DUG				pmax	pmax		
	comp=Z,42nm,1.8s						
DUG	Dugway	84.52	45	eP	P	01 57 57.0	+0.6
	comp=Z,42nm,1.8s						
DUG	Dugway	84.52	45	⇑P	P	01 57 56.7	+0.2
	baz=85						
TRF	Thorofare Moun	84.58	12	eP	P	01 57 54.2	-1.9
	comp=Z,93nm,0.9s						
TRF				epP	pP	01 59 49.3	-0.9
P15A	Leamington	84.58	45	⇑P	P	01 57 57.1	+0.4
	baz=85						
121A	Cookes Peak, D	84.58	53	⇑P	P	01 57 58.2	+1.3
	baz=85,SNR=11						
S17A	Black Ridge (B	84.67	48	⇓P	P	01 57 57.4	+0.2
	baz=85						
OD2	Odessa Site #2	84.70	36	P	P	01 57 57.2	+0.3
Y20A	Horse Springs,	84.73	52	⇓P	P	01 57 59.1	+1.3
	baz=85,SNR=20						
O15A	The Old Anders	84.80	45	⇓P	P	01 57 58.3	+0.5
	baz=85						
I12A	Atlanta	84.86	41	⇑P	P	01 57 58.9	+0.8
	baz=85,SNR=47						
222A	Williams Famil	84.92	54	⇓P	P	01 57 59.8	+1.2
	baz=85,SNR=5.7						
X20A	Quemado	84.92	51	⇓P	P	01 57 59.6	+1.0
	baz=85,SNR=14						
Z21A	St. Cloud Mine	85.00	53	⇑P	P	01 58 00.3	+1.3
	baz=85,SNR=18						
P16A	Fountain Green	85.02	46	⇑P	P	01 57 59.8	+0.9
	baz=85						
Q16A	Castle Valley	85.02	46	⇑P	P	01 58 00.0	+1.0
	baz=85						
V19A	Window Rock	85.04	50	⇑P	P	01 57 59.7	+0.5
	baz=85						
N15A	Stansbury Isla	85.06	44	⇑P	P	01 57 59.2	+0.2
	baz=85						
GYA	Guiyang	85.09	300	P	P	01 57 58.9	-0.6
GYA				pP	pP	01 59 53.0	-0.6
GYA				sP	sP	02 00 44.5	-2.3
GYA				PP	PP	02 01 27.4	+1.0
GYA				SKS	SKSac	02 07 33.9	-0.7
GYA				S	SKSac	02 07 43.0	+0.2
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.4s						
T18A	Mexican Hat	85.09	48

baz=85,SNR=18
HLID Hailey 85.18 41 *e*P P 01 58 00.3 +0.7
comp=Z,24nm,0.9s
HLID *e*pP pP 01 59 54.1 +0.3
HLID Hailey 85.18 41 ⇓P P 01 58 00.4 +0.8
baz=85,SNR=30
U19A Dine' College, 85.19 49 ⇑P P 01 58 00.4 +0.5
baz=85,SNR=15
PAX Paxson 85.22 15 *e*P P 01 57 58.1 -1.1
PAX *e**PP pP 01 59 53.2 -0.3
PAX pmax pmax
comp=Z,34nm,1.0s
PAX Paxson 85.22 15 *e*P P 01 57 58.1 -1.1
comp=Z,34nm,1.0s
PAX *e*pP pP 01 59 53.2 -0.3
MPU Maple Canyon 85.23 45 *e*P P 01 58 00.6 +0.6
comp=Z,12nm,1.1s
122A Conniff Cattle 85.25 53 ⇓P P 01 58 01.4 +1.2
baz=85
J13A Cove Ranch, Pi 85.25 41 ⇓P P 01 58 00.7 +0.7
baz=85,SNR=31
S18A Hurst Farm, Bl 85.26 48 ⇑P P 01 58 00.4 +0.2
baz=85,SNR=7.2
SKAG Skagway 85.28 21 *e*P P 01 58 00.2 +0.8
comp=Z,94nm,1.4s
SKAG *e*pP pP 01 59 53.3 -0.4
Y21A Point of Rocks 85.30 52 ⇓P P 01 58 01.7 +1.2
baz=86,SNR=24
HVU Hansel Valley 85.33 43 *e*P P 01 58 01.0 +0.6
HVU *e**PP pP 01 59 53.5 -1.1
HVU pmax pmax
comp=Z,114nm,2.0s
HVU Hansel Valley 85.33 43 *e*P P 01 58 01.0 +0.6
comp=Z,114nm,2.0s
HVU *e*pP pP 01 59 53.5 -1.1
M15A Larsen Ranch, 85.39 44 ⇓P P 01 58 00.8 +0.2
baz=86,SNR=15
223A Chaparral, Ant 85.39 54 ⇑P P 01 58 01.7 +0.9
baz=86
X21A Alamocita Cree 85.41 52 ⇓P P 01 58 01.7 +0.7
baz=86,SNR=15
H12A Diamond D Ranc 85.42 40 ⇓P P 01 58 01.2 +0.4
baz=86,SNR=50
G12A Big Creek, Yel 85.44 39 ⇓P P 01 58 01.2 +0.4
baz=86
K14A Jones Ranch, D 85.45 42 ⇓P P 01 58 01.6 +0.7
baz=86,SNR=24
V20A Brimhall 85.50 50 ⇓P P 01 58 01.6 +0.3
baz=86
Z22A Elephant Butte 85.51 53 ⇑P P 01 58 02.3 +0.8
baz=86
I13A Wildhorse Cree 85.55 41 ⇑P P 01 58 02.2 +0.7
baz=86,SNR=17
SRU San Rafael 85.55 46 *e*P P 01 58 02.0 +0.5
SRU *e**PP pP 01 59 55.7 -0.2
SRU pmax pmax
comp=Z,22nm,1.0s
SRU San Rafael 85.55 46 *e*P P 01 58 02.0 +0.5
comp=Z,22nm,1.0s
SRU *e*pP pP 01 59 55.7 -0.2
SRU San Rafael 85.55 46 ⇓P P 01 58 01.9 +0.5
baz=86,SNR=16
T19A Beclabito 85.56 49 ⇑P P 01 58 02.0 +0.4
baz=86,SNR=8.7
P17A Butcher Ranch, 85.58 46 ⇓P P 01 58 02.2 +0.6
baz=86,SNR=5.2
MENT Mentasta 85.62 15 *e*P P 01 58 00.7 -0.4
J14A Carey 85.62 42 ⇓P P 01 58 03.0 +1.2
baz=86
JLU Jordanelle 85.63 45 *e*P P 01 58 02.3 +0.4
comp=Z,164nm,2.5s
JLU *e*pP pP 01 59 56.0 -0.3
R18A Canyonlands Na 85.65 47 ⇓P P 01 58 02.4 +0.3
baz=86,SNR=17
DAU Daniels Canyon 85.67 45 *e*P P 01 58 02.9 +0.7
DAU *e**PP pP 01 59 55.7 -0.9
DAU Daniels Canyon 85.67 45 *e*P P 01 58 02.9 +0.7
DAU *e*pP pP 01 59 55.7 -0.9
L15A Malad City 85.69 43 ⇓P P 01 58 02.2 +0.1
baz=86,SNR=14
U20A Newcomb 85.72 50 ⇓P P 01 58 02.9 +0.5
baz=86
N16A Rees Ranch, Co 85.78 45 ⇓P P 01 58 03.2 +0.7
baz=86
123A Bell Site, Whi 85.79 54 ⇓P P 01 58 03.4 +0.7
baz=86
H13A Challis 85.80 40 ⇓P P 01 58 03.0 +0.5
baz=86,SNR=33
W21A San Fidel 85.80 51 ⇓P P 01 58 03.2 +0.4
baz=86
Y22A Socorro 85.80 52 ⇓P P 01 58 03.6 +0.8
baz=86,SNR=12
F12A Elk City 85.81 39 ⇓P P 01 58 02.7 +0.1
baz=86,SNR=103
Q18A Rafter H Ranch 85.82 47 ⇓P P 01 58 02.9 +0.2
baz=86,SNR=16
M16A Huntsville 85.85 44 ⇓P P 01 58 03.3 +0.3
baz=86
LAZ Ladron 85.87 52 *e*P P 01 58 04.0 +0.8
comp=Z,8.2nm,1.3s
LAZ *e*pP pP 01 59 58.4 +0.7
324A Moseley Ranch, 85.89 55 ⇓P P 01 58 04.0 +0.7
baz=86,SNR=21
S19A Harvey Farm, M 85.89 48 ⇑P P 01 58 03.6 +0.3
baz=86,SNR=7.2
LENM Lemitar 85.89 52 *e*P P 01 58 04.1 +0.8
LENM *e*pP pP 01 59 58.3 +0.5
Y22D IRIS PASSCAL I 85.89 52 ⇑P P 01 58 04.1 +0.8
baz=86
O17A Robinson Place 85.92 45 ⇓P P 01 58 04.0 +0.7
baz=86,SNR=14
K15A Arbon 85.94 43 ⇑P P 01 58 03.7 +0.5
baz=86,SNR=8.7
E12A Beaver Dam Sad 85.97 38 ⇓P P 01 58 02.9 -0.4
baz=86
I14A Mackay 85.97 41 ⇑P P 01 58 04.2 +0.7
baz=86,SNR=49
P18A Preston Nutter 85.99 46 ⇓P P 01 58 04.3 +0.6
baz=86,SNR=7.7
425A Indio Mountain 86.01 56 ⇓P P 01 58 05.2 +1.3
baz=86,SNR=31
HWUT Hardware Ranch 86.04 44 *e*P P 01 58 03.8 +0.1
comp=Z,10nm,0.9s
HWUT *e*pP pP 02 00 00.5 +2.2
R19A Curley Farm, L 86.05 48 ⇓P P 01 58 04.2 +0.3
baz=86
Z23A Rita Site, Whi 86.07 53 ⇑P P 01 58 05.0 +0.9
baz=86
MNTX Cornudas Mount 86.08 55 *e*P P 01 58 04.7 +0.7
comp=Z,30nm,1.4s
MNTX *e*pP pP 01 59 58.9 +0.4
MNTX Cornudas Mount 86.08 55 ⇑P P 01 58 04.9 +1.0
baz=86,SNR=19
NEW Newport 86.08 36 *e*P P 01 58 03.3 -0.2
comp=Z,22nm,1.0s
NEW *e*pP pP 01 59 57.0 -1.2
NEW Newport 86.08 36 ⇓P P 01 58 03.4 -0.2
baz=86,SNR=20
G13A Cobalt 86.08 40 ⇓P P 01 58 04.3 +0.4
baz=86,SNR=28
MVCO Mesa Verde 86.11 49 ⇓P P 01 58 04.4 +0.1
baz=86
V21A Milan 86.11 50 ⇑P P 01 58 04.7 +0.4
baz=86,SNR=5.8
224A Cornudas Mount 86.12 55 ⇓P P 01 58 05.5 +1.2
baz=86,SNR=15
DOT Dot Lake 86.13 15 *e*P P 01 58 03.1 -0.4
comp=Z,47nm,1.0s
DOT *e*pP pP 01 59 58.4 +0.3
BNM Barren Site 86.15 52 *e*P P 01 58 05.0 +0.5
comp=Z,17nm,1.3s
626A Big Bend Ranch 86.19 57 ⇑P P 01 58 06.2 +1.5
baz=86,SNR=45
N17A Moffit Pass 86.20 45 ⇓P P 01 58 05.1 +0.4
baz=86,SNR=6.0
LPM Los Pinos Moun 86.21 52 *e*P P 01 58 05.3 +0.5
LPM *e*pP pP 02 00 00.3 +0.9
325A Bean Ranch, Si 86.26 55 ⇑P P 01 58 05.9 +0.8
baz=86,SNR=20
L16A Fish Haven 86.32 44 ⇓P P 01 58 05.2 +0.1
baz=86,SNR=19
C11A Tepee Creek (N 86.33 37 ⇑P P 01 58 05.4 +0.5
baz=86,SNR=97
COLA College 86.34 13 *e*P P 01 58 03.1 -1.3
COLA *e**PP pP 01 59 58.9 -0.1
COLA pmax pmax
comp=Z,87nm,1.1s
COLA College 86.34 13 *e*P P 01 58 03.1 -1.3
comp=Z,87nm,1.1s
COLA *e*pP pP 01 59 58.9 -0.1
J15A Blackfoot 86.35 42 ⇑P P 01 58 06.4 +1.2
baz=86,SNR=55
PV04 Paradox Valley 86.35 48 *e*P P 01 58 05.7 +0.4
Q19A Hogan Spring (86.35 47 ⇓P P 01 58 05.5 +0.2
baz=86
W22A Albuquerque 86.36 51 ⇑P P 01 58 06.2 +0.7
baz=86
U21A Nageezi 86.37 50 ⇑P P 01 58 06.2 +0.7
baz=86,SNR=40
H14A Leadore 86.37 41 ⇓P P 01 58 06.1 +0.8
baz=87,SNR=29
F13A Darby 86.38 39 ⇑P P 01 58 05.3 +0.1
baz=87,SNR=37
XAN Xi'an 86.39 308 P P 01 58 06.1 +0.7
XAN pP pP 02 00 01.3 +1.2
XAN SKS SKSac 02 07 42.3 +0.2
XAN S S 02 08 02.8 +5.1
XAN pmax pmax
comp=Z,22nm,1.3s
XAN pmax pmax
comp=Z,32nm,3.7s
DLBC Dease Lake 86.41 23 *e*P P 01 58 05.1 +0.1
DLBC *e*pP pP 01 59 58.9 -0.8
526A Mary Lane Ranc 86.43 57 ⇓P P 01 58 07.1 +1.2
baz=87,SNR=29
D12A Red Ives Fores 86.44 38 ⇓P P 01 58 05.2 -0.2
baz=87
O18A Roosevelt 86.44 46 ⇑P P 01 58 06.3 +0.6
baz=87
ILAR Eielson Array 86.45 13 P P 01 58 03.6 -1.4
ILAR pP pP 01 59 59.1 -0.6
ILAR S S 02 07 51.8 -5.1
ILAR PKKP PKKPdf 02 15 57.2 +2.7
ILAR Eielson Array 86.45 13 P P 01 58 03.6 -1.4
comp=Z,30nm,1.0s,baz=230,slow=5.5,SNR=153
ILAR pP pP 01 59 59.1 -0.6
comp=Z,28nm,1.1s,baz=225,slow=5.6,SNR=15
ILAR S S 02 07 51.8 -5.1
comp=Z,1.7nm,1.2s,baz=221,slow=9.5,SNR=5.4
ILAR PKKP PKKPdf 02 15 57.2 +2.7
comp=Z,0.2nm,0.5s,baz=345,slow=2.1,SNR=5.3
PV01 Paradox Valley 86.47 48 *e*P P 01 58 06.1 +0.1
comp=Z,3µm,1.6s
PV01 *e*pP pP 01 59 60.0 -0.7
TXAR Lajitas Array 86.48 58 P P 01 58 07.5 +1.4
TXAR pP pP 02 00 01.9 +1.2
TXAR Lajitas Array 86.48 58 P P 01 58 07.5 +1.4
comp=Z,31nm,0.9s,baz=224,slow=5.2,SNR=123
TXAR pP pP 02 00 01.9 +1.2
comp=Z,0.9nm,1.0s,baz=140,slow=21,SNR=3.0
S20A Disappointment 86.48 48 ⇓P P 01 58 06.4 +0.3
baz=87,SNR=12
Y23A Lovelace Mesa, 86.49 53 ⇓P P 01 58 06.5 +0.4
baz=87,SNR=11
M17A Scullys Gap (B 86.57 44 ⇑P P 01 58 06.5 +0.2
baz=87,SNR=6.2
I15A Monteview 86.61 41 ⇓P P 01 58 07.4 +1.1
baz=87,SNR=15
K16A Soda Springs 86.61 43 ⇓P P 01 58 07.4 +0.9
baz=87,SNR=26
ANMO Albuquerque 86.61 52 *e*P P 01 58 07.0 +0.3
comp=Z,24nm,1.1s
ANMO *e*pP pP 02 00 02.0 +0.6
R20A Redvale 86.63 48 ⇓P P 01 58 06.7 0.0
baz=87
G14A Jackson 86.63 40 ⇑P P 01 58 07.0 +0.5
baz=87,SNR=7.6
HIA Hailar 86.66 325 *e*P P 01 58 06.6 +0.3
comp=Z,58nm,1.4s
HIA *e*pP pP 02 00 02.8 +1.7
X23A Hourglass Bar 86.66 52 ⇓P P 01 58 07.3 +0.4
baz=87,SNR=6.1
225A Deer Hill, Car 86.68 55 ⇓P P 01 58 08.0 +1.0
baz=87
V22A San Miguel Ran 86.69 51 ⇓P P 01 58 07.1 0.0
baz=87
T21A Navajo Lake 86.70 49 ⇓P P 01 58 07.6 +0.6
baz=87,SNR=7.5
C12B Naegeli Ranch, 86.71 37 ⇓P P 01 58 06.8 +0.2
baz=87,SNR=5.6
426A McDonald Obser 86.72 56 ⇓P P 01 58 08.4 +1.1
baz=87,SNR=47
L17A Cokeville 86.73 44 ⇑P P 01 58 06.9 -0.1
baz=87
627A Terlingua Ranc 86.75 58 ⇑P P 01 58 08.9 +1.5
baz=87,SNR=44
Z24A Sheeppen Canyo 86.76 53 ⇑P P 01 58 07.7 +0.3
baz=87
MCMT McKenzie Canyo 86.80 41 *e*P P 01 58 08.0 +0.7
comp=Z,19nm,1.0s
MCMT *e*pP pP 02 00 02.0 -0.2
E13A Victor 86.80 39 ⇑P P 01 58 06.9 -0.3
baz=87,SNR=13
J16A Bone 86.81 42 ⇑P P 01 58 08.3 +0.9
baz=87,SNR=48
S21A Coal Bank Pass 86.81 49 ⇑P P 01 58 08.2 +0.5
baz=87,SNR=16
H15A Lima 86.82 41 ⇑P P 01 58 08.2 +0.8
baz=87,SNR=30
527A Woodward Ranch 86.84 57 ⇓P P 01 58 08.8 +1.0
baz=87
P19A Cripple Cowboy 86.86 46 ⇓P P 01 58 07.8 +0.1
baz=87,SNR=6.9
U22A Llaves 86.93 50 ⇑P P 01 58 08.7 +0.5
baz=87,SNR=5.2
BILL Bilibino 86.93 354 *d* iP P 01 58 06.6 -0.5
BILL *i* *PP pP 02 00 02.9 +0.9
BILL *i* 02 01 41.7
BILL *i* S SKSac 02 07 42.3 -1.4
BILL pmax pmax
comp=Z,72nm,1.7s
BILL Bilibino 86.93 354 *e*P P 01 58 06.7 -0.5
comp=Z,40nm,1.0s
W23A Werner Place, 86.93 52 ⇑P P 01 58 08.4 +0.2
baz=87,SNR=7.7
M18A Lyman 86.94 45 ⇓P P 01 58 08.6 +0.4
baz=87,SNR=11
Y24A Capitan 86.95 53 ⇑P P 01 58 08.9 +0.6
baz=87,SNR=36
F14A Wisdom 86.97 40 ⇑P P 01 58 08.3 +0.2
baz=87,SNR=16
D13A Huson 86.98 38 ⇓P P 01 58 08.6 +0.7
baz=87,SNR=10
K17A Gardner Place, 87.00 43 ⇑P P 01 58 08.8 +0.5
baz=87,SNR=13
326A Caldwell Ranch 87.02 56 ⇑P P 01 58 09.1 +0.5
baz=87,SNR=12
Q20A Ridgley Place, 87.03 47 ⇓P P 01 58 08.9 +0.4
baz=87,SNR=12
125A Gardner Draw, 87.03 54 ⇑P P 01 58 09.3 +0.7
baz=87,SNR=8.3
RRI2 Red Ridge 87.03 42 *e*P P 01 58 09.2 +0.7
comp=Z,73nm,1.0s
RRI2 *e*pP pP 02 00 03.8 +0.3
B12A Libby 87.05 36 ⇓P P 01 58 08.5 +0.3
baz=87,SNR=6.1
O19A Miners Draw (B 87.06 46 ⇓P P 01 58 08.7 +0.1
baz=87,SNR=12
GDL2 Guadalupe Moun 87.07 55 *e*P P 01 58 09.9 +1.1
GDL2 *e*pP pP 02 00 04.9 +1.2
MSO Missoula 87.14 38 *e*P P 01 58 08.7 -0.1
comp=Z,9.6nm,1.1s
MSO *e*pP pP 02 00 03.9 +0.2
MSO Missoula 87.14 38 ⇓P P 01 58 08.2 -0.6
baz=87,SNR=7.1
V23A Ortiz Mt. (NFS 87.15 51 ⇑P P 01 58 10.2 +0.9
baz=87,SNR=13
628A Black Gap, Mar 87.16 58 ⇑P P 01 58 10.4 +1.2
baz=87,SNR=38
T22A Edith 87.17 50 ⇓P P 01 58 09.5 +0.2
baz=87,SNR=6.6
BSMT Bassoo Peak 87.18 37 *e*P P 01 58 08.8 -0.2
BSMT *e*pP pP 02 00 03.0 -0.9
I16A Newdale 87.18 42 ⇓P P 01 58 10.2 +1.1
baz=87,SNR=44
G15A Dillon 87.18 40 ⇑P P 01 58 09.7 +0.6
baz=87,SNR=44
L18A Fontenelle, Gr 87.19 44 ⇓P P 01 58 09.7 +0.4
baz=87,SNR=5.4
E14A Clinton 87.20 39 ⇑P P 01 58 09.2 +0.1
baz=87,SNR=26
P20A De Beque 87.20 47 ⇑P P 01 58 09.9 +0.5
baz=87,SNR=16
C13A Hot Springs 87.21 37 ⇑P P 01 58 08.6 -0.5
baz=87,SNR=5.9
DLMT Dillon 87.22 40 *e*P P 01 58 09.8 +0.6
comp=Z,57nm,1.3s
DLMT *e*pP pP 02 00 03.4 -0.8
226A Malaga, Loving 87.22 55 ⇑P P 01 58 10.1 +0.6
baz=87,SNR=12
Z25A Roswell 87.23 54 ⇑P P 01 58 10.2 +0.7
baz=87,SNR=9.9
DCID1 Drake Creek 87.24 42 *e*P P 01 58 10.1 +0.7
comp=Z,51nm,1.3s
A12A Yaak River Ran 87.26 36 ⇑P P 01 58 09.7 +0.5
baz=87,SNR=7.2
427A Hayter Ranch, 87.29 56 ⇑P P 01 58 11.0 +1.1
baz=87,SNR=40
R21A Cimarron 87.29 48 ⇑P P 01 58 10.4 +0.6
baz=88,SNR=23
N19A John Jarvie Ra 87.29 45 ⇑P P 01 58 09.6 -0.1
baz=88,SNR=8.0
TPAW Teton Pass 87.34 42 *e*P P 01 58 10.4 +0.4
comp=Z,41nm,1.1s
TPAW *e*pP pP 02 00 04.3 -0.6
REDW Red Top Meadow 87.34 43 *e*P P 01 58 10.5 +0.5
comp=Z,74nm,1.1s
REDW *e*pP pP 02 00 04.6 -0.3
U23A El Rito 87.39 50 ⇓P P 01 58 10.9 +0.5
baz=88,SNR=10
JTMT Jette 87.42 38 *e*P P 01 58 09.8 -0.3
JTMT *e*pP pP 02 00 04.3 -0.7
J17A Brown Place, J 87.43 43 ⇓P P 01 58 10.9 +0.6
baz=88,SNR=23
SNOW Snow King Moun 87.45 42 *e*P P 01 58 11.4 +0.9
comp=Z,60nm,1.0s
SNOW *e*pP pP 02 00 05.5 0.0
SWMT Swartz Lake 87.46 38 *e*P P 01 58 09.4 -0.8
HHC Hu-ho-hao-te 87.47 315 *e*P P 01 58 12.1 +1.7
HHC pP pP 02 00 06.6 +1.1
HHC sP sP 02 00 59.0 +0.6
HHC PP PP 02 01 48.9 +3.8
HHC SKS SKSac 02 07 49.6 +1.2
HHC S S 02 08 07.1 -0.6
HHC sS sS 02 11 27.3 -5.4
HHC SS SS 02 14 10.4 +1.4
HHC pmax pmax
comp=Z,52nm,1.2s
HHC pmax pmax
comp=Z,220nm,6.1s
CLNB Carlsbad 87.47 55 *e*P P 01 58 11.2 +0.5
comp=Z,4.0nm,0.9s
Q21A Lamborn Mesa, 87.48 48 ⇑P P 01 58 11.2 +0.5
baz=88,SNR=8.0
W24A Lazy 6 Ranch, 87.50 52 ⇓P P 01 58 11.1 +0.2
baz=88,SNR=10
528A Cox Ranch, San 87.51 57 ⇓P P 01 58 12.0 +1.1
baz=88,SNR=32
Y25A Mesa, Roswell 87.51 53 ⇓P P 01 58 11.1 +0.2
baz=88,SNR=13
126A Clayton Basin, 87.52 55 ⇓P P 01 58 10.8 0.0
baz=88
F15A Butte 87.52 40 ⇓P P 01 58 11.0 +0.3
baz=88,SNR=19
K18A Toltan Ranch, 87.52 43 ⇓P P 01 58 11.5 +0.7
baz=88,SNR=36
D14A Greenough 87.53 38 ⇓P P 01 58 10.1 -0.5
baz=88,SNR=16
LRM Limekiln Ridge 87.53 40 *e*P P 01 58 11.0 +0.2
LRM *e*pP pP 02 00 05.1 -0.8
S22A 4UR Ranch, Cre 87.53 49 ⇑P P 01 58 11.8 +0.7
baz=88,SNR=17
M19A Rock Springs 87.59 45 ⇓P P 01 58 11.2 0.0
baz=88,SNR=10
O20A White River Ci 87.59 46 ⇓P P 01 58 11.5 +0.4
baz=88,SNR=11
MOOW Moose Ponds 87.59 42 *e*P P 01 58 11.6 +0.5
comp=Z,76nm,1.7s
MOOW *e*pP pP 02 00 06.6 +0.4
CHMT Chamberlain Mo 87.60 39 *e*P P 01 58 10.8 -0.3
LOHW Long Hollow 87.62 42 *e*P P 01 58 11.7 +0.5
comp=Z,92nm,1.7s
SLMT Seeley Lake 87.62 38 *e*P P 01 58 10.7 -0.4
YBMT Yellow Bay 87.63 38 *e*P P 01 58 10.5 -0.6
comp=Z,11nm,1.1s
YBMT *e*pP pP 02 00 05.4 -0.7
B13A Whitefish 87.64 37 ⇑P P 01 58 10.7 -0.3
baz=88,SNR=12
G16A Moss Hill, Enn 87.64 41 ⇓P P 01 58 11.7 +0.5
baz=88,SNR=20
QLMT Earthquake Lak 87.68 41 *e*P P 01 58 12.6 +1.1
QLMT *e*pP pP 02 00 06.2 -0.3
E15A Deer Lodge 87.72 39 ⇑P P 01 58 11.6 +0.1
baz=88,SNR=14
L19A Farson 87.72 44 ⇓P P 01 58 12.2 +0.5
baz=88,SNR=23
H16A Russell Place, 87.73 41 ⇑P P 01 58 13.0 +1.3
baz=88,SNR=55
C14A Swan Lake 87.74 38 ⇑P P 01 58 10.9 -0.6
baz=88
FLWY Flagg Ranch 87.78 42 *e*P P 01 58 13.1 +1.1
comp=Z,76nm,1.1s
FLWY *e*pP pP 02 00 07.6 +0.5
I17A Pilgrim Ck. 87.78 42 ⇑P P 01 58 13.1 +1.1
baz=88,SNR=26
X25A Clemmons Ranch 87.78 53 ⇑P P 01 58 12.1 0.0
baz=88,SNR=7.2
EGAK Eagle 87.78 15 *e*P P 01 58 10.8 -0.3
comp=Z,51nm,1.1s
EGAK *e*pP pP 02 00 06.5 +0.2
CPRX Cap Rock 87.79 54 *e*P P 01 58 12.5 +0.3
comp=Z,25nm,1.1s
CPRX *e*pP pP 02 00 07.4 +0.1
R22A Saguache, Gunn 87.79 49 ⇑P P 01 58 13.1 +0.8
baz=88,SNR=12
Z26A Caprock 87.80 54 ⇑P P 01 58 12.5 +0.3
baz=88,SNR=10
J18A Kendall Valley 87.80 43 ⇑P P 01 58 12.6 +0.4
baz=88,SNR=100
T23A Casias Ranch, 87.80 50 ⇓P P 01 58 12.4 +0.1
baz=88
428A Kincaid Ranch, 87.81 57 ⇓P P 01 58 13.3 +1.1
baz=88,SNR=8.8
V24A Rampart Ranch, 87.82 51 ⇑P P 01 58 12.8 +0.4
baz=88,SNR=9.1
227A Bennet, Jal 87.83 55 ⇓P P 01 58 12.7 +0.3
baz=88
KMI Kunming 87.86 297 P P 01 58 14.6 +1.8
KMI pP pP 02 00 08.3 +0.4
KMI sP sP 02 00 58.6 -2.2
KMI PP PP 02 01 50.1 +1.5
KMI SKS SKSac 02 07 50.4 -1.2
KMI S S 02 08 11.6 -0.6
KMI sS sS 02 11 33.3 -4.0
KMI SS SS 02 14 18.9 +3.5
KMI pmax pmax
comp=Z,36nm,1.4s
KMI pmax pmax
comp=Z,160nm,3.1s
P21A Newcastle 87.87 47 ⇓P P 01 58 13.0 +0.5
baz=88,SNR=6.2
YFT Old Faithful 87.87 42 *e*P P 01 58 14.5 +2.1
comp=Z,66nm,1.2s
N20A Spence Gulch, 87.89 46 ⇑P P 01 58 13.0 +0.5
baz=88,SNR=16
YMR Madison River 87.89 41 *e*P P 01 58 13.5 +1.1
comp=Z,123nm,1.5s
YMR *e*pP pP 02 00 07.4 -0.3
BW06 Boulder Array 87.90 44 *e*P P 01 58 12.5 -0.1
comp=Z,34nm,1.1s
BW06 Boulder Array 87.90 44 ⇑P P 01 58 12.7 +0.1
baz=88,SNR=35
PDAR Pinedale Array 87.90 44 P P 01 58 12.4 -0.2
PDAR pP pP 02 00 06.0 -1.7
PDAR PP PP 02 01 45.5 -3.1
PDAR Pinedale Array 87.90 44 P P 01 58 12.4 -0.2
comp=Z,16nm,0.9s,baz=218,slow=3.1,SNR=115
PDAR pP pP 02 00 06.0 -1.7
comp=Z,1.9nm,1.0s,baz=193,slow=4.6,SNR=3.6
PDAR PP PP 02 01 45.5 -3.1
comp=Z,2.7nm,1.1s,baz=228,slow=5.8,SNR=4.7
529A Stev Forest Ra 87.95 57 ⇓P P 01 58 13.5 +0.6
baz=88,SNR=9.1
BOZ Bozeman (W) 87.95 40 *e*P P 01 58 13.1 +0.5
BOZ *e**PP pP 02 00 06.8 -1.0
BOZ pmax pmax
comp=Z,51nm,1.4s
BOZ Bozeman (W) 87.95 40 *e*P P 01 58 13.1 +0.5
comp=Z,51nm,1.4s
BOZ *e*pP pP 02 00 06.8 -1.0

BOZ	**Bozeman (W)**	87.95	40	⇑P		P	01 58 13.1	+0.5	
	baz=88,SNR=15								
A13A	**Flathead Natio**	87.95	36	⇓P		P	01 58 12.6	+0.1	
	baz=88								
Q22A	**Crested Butte,**	87.96	48	⇑P		P	01 58 13.5	+0.5	
	baz=88,SNR=15								
328A	**Wristen Ranch,**	87.96	56	⇑P		P	01 58 13.3	+0.4	
	baz=88,SNR=14								
COLD	**Coldfoot**	87.97	11	*e*P		P	01 58 12.1	+0.1	
	comp=Z,48nm,1.0s								
H17A	**Grant Village**	88.00	42	⇑P		P	01 58 14.8	+1.8	
	baz=88,SNR=32								
F16A	**Kennard Place,**	88.02	40	⇓P		P	01 58 13.5	+0.6	
	baz=88,SNR=7.9								
127A	**Arkansas Junct**	88.04	55	⇑P		P	01 58 13.7	+0.3	
	baz=88,SNR=6.6								
SMCO	**Snowmass**	88.05	48	*e*P		P	01 58 13.9	+0.3	
	comp=Z,55nm,1.6s								
SMCO				*ep*P		pP	02 00 09.6	+0.8	
YNR	**Norris Junctio**	88.09	41	*e*P		P	01 58 14.8	+1.3	
	comp=Z,70nm,1.6s								
YNR				*ep*P		pP	02 00 09.8	+1.2	
D15A	**Lincoln**	88.09	39	⇓P		P	01 58 13.4	+0.2	
	baz=88,SNR=19								
O21A	**Pagoda**	88.15	46	⇓P		P	01 58 14.0	+0.2	
	baz=88								
I18A	**Diamond G Ranc**	88.16	43	⇓P		P	01 58 14.2	+0.4	
	baz=88,SNR=9.9								
Y26A	**Elida**	88.17	53	⇓P		P	01 58 14.1	+0.1	
	baz=88,SNR=6.3								
LKWY	**Lake**	88.20	42	*e*P		P	01 58 15.9	+2.0	
LKWY				pmax		pmax			
	comp=Z,47nm,1.1s								
LKWY	**Lake**	88.20	42	*e*P		P	01 58 15.9	+2.0	
	comp=Z,47nm,1.1s								
W25A	**X Bar L Ranch,**	88.22	52	⇑P		P	01 58 14.3	+0.1	
	baz=88,SNR=11								
M20A	**Sweetwater, Wa**	88.23	45	⇓P		P	01 58 14.7	+0.5	
	baz=88,SNR=8.5								
B14A	**Marquette Ranc**	88.31	37	⇓P		P	01 58 14.0	-0.2	
	baz=88,SNR=43								
G17A	**Pierce Place,**	88.34	41	⇓P		P	01 58 15.2	+0.7	
	baz=88,SNR=6.8								
HRY	**Holter Researc**	88.34	39	*e*P		P	01 58 14.8	+0.4	
HRY				*ep*P		pP	02 00 09.8	+0.1	
E16A	**East Helena**	88.35	39	⇓P		P	01 58 14.8	+0.4	
	baz=88,SNR=18								
V25A	**Rancho No Teng**	88.35	51	⇓P		P	01 58 15.2	+0.3	
	baz=88,SNR=7.9								
L20A	**Wamsutter**	88.36	45	⇑P		P	01 58 15.4	+0.7	
	baz=88,SNR=5.4								
N21A	**Black Mountain**	88.36	46	⇑P		P	01 58 15.5	+0.7	
	baz=88,SNR=19								
P22A	**Eagle**	88.38	47	⇑P		P	01 58 15.2	+0.3	
	baz=88,SNR=6.7								
K19A	**Absolon Red Bu**	88.39	44	⇑P		P	01 58 14.7	-0.2	
	baz=88,SNR=25								
429A	**Davenport Ranc**	88.40	57	⇓P		P	01 58 15.7	+0.7	
	baz=89,SNR=52								
Z27A	**Tatum**	88.40	54	⇑P		P	01 58 14.9	-0.1	
	baz=89								
C15A	**Salmond Ranch,**	88.41	38	⇑P		P	01 58 14.5	-0.2	
	baz=89,SNR=21								
228A	**UT Block 9, Go**	88.42	55	⇓P		P	01 58 15.4	+0.3	
	baz=89,SNR=8.7								
X26A	**CR and CF Fran**	88.44	53	⇓P		P	01 58 15.4	+0.2	
	baz=89								
R23A	**Moffat**	88.44	49	⇓P		P	01 58 15.7	+0.4	
	baz=89,SNR=8.6								
J19A	**Crowheart**	88.46	43	⇓P		P	01 58 15.4	+0.3	
	baz=89,SNR=24								
SDCO	**Great Sand Dun**	88.49	49	*e*P		P	01 58 16.1	+0.6	
	comp=Z,12nm,1.3s								
SDCO	**Great Sand Dun**	88.49	49	⇑P		P	01 58 15.8	+0.2	
	baz=89,SNR=8.5								
T24A	**Torres, Weston**	88.54	50	⇓P		P	01 58 16.0	+0.3	
	baz=89								
A14A	**Double T Ranch**	88.54	37	⇓P		P	01 58 15.3	+0.1	
	baz=89,SNR=27								
K20A	**Yellowstone Ra**	88.65	44	⇑P		P	01 58 15.7	-0.3	
	baz=89,SNR=29								
S24A	**Houchin Ranch,**	88.65	50	⇓P		P	01 58 16.8	+0.5	
	baz=89,SNR=6.9								
329A	**Wagon Wheel Ra**	88.66	56	⇓P		P	01 58 16.8	+0.6	
	baz=89,SNR=20								
Y27A	**Causey**	88.66	54	⇓P		P	01 58 16.2	0.0	
	baz=89,SNR=7.8								
D16A	**Dana Ranch, Ca**	88.67	39	⇑P		P	01 58 16.3	+0.4	
	baz=89,SNR=9.7								
F17A	**Fitzpatrick Pl**	88.67	40	⇓P		P	01 58 16.8	+0.9	
	baz=89,SNR=18								
W26A	**Owens Ranch, T**	88.68	52	⇑P		P	01 58 16.1	-0.2	
	baz=89								
128A	**Castleberry Fa**	88.70	55	⇓P		P	01 58 16.9	+0.5	
	baz=89,SNR=13								
B15A	**Bradely Ranch,**	88.70	38	⇓P		P	01 58 15.6	-0.4	
	baz=89,SNR=14								
H18A	**Shoshone NF, C**	88.71	42	⇓P		P	01 58 16.7	+0.4	
	baz=89,SNR=7.2								
U25A	**Circle Dot Ran**	88.73	51	⇓P		P	01 58 16.8	+0.2	
	baz=89,SNR=8.9								
O22A	**Kremmling**	88.77	47	⇑P		P	01 58 17.3	+0.5	
	baz=89,SNR=25								
E17A	**Martinsdale**	88.81	40	⇑P		P	01 58 17.2	+0.5	
	baz=89								
CMAR	**Chiang Mai Arr**	88.83	290	P		P	01 58 18.6	+1.5	
CMAR				pP		pP	02 00 12.4	-0.1	
CMAR	**Chiang Mai Arr**	88.83	290	P		P	01 58 18.6	+1.5	
	comp=Z,15nm,0.9s,baz=108,slow=2.8,SNR=76								
CMAR				pP		pP	02 00 12.4	-0.1	
	comp=Z,0.8nm,0.0s,baz=283,slow=33,SNR=3.5								
M21A	**Separation Pea**	88.84	45	⇑P		P	01 58 17.1	+0.2	
	baz=89,SNR=16								
I19A	**Meeteetse**	88.84	43	⇓P		P	01 58 17.5	+0.6	
	baz=89,SNR=18								
C16A	**Fuhringer Ranc**	88.92	38	⇓P		P	01 58 16.8	-0.3	
	baz=89,SNR=18								
A15A	**Johnson Ranch,**	88.93	37	⇑P		P	01 58 16.9	-0.2	
	baz=89,SNR=25								
V26A	**Tequesquite Ra**	88.95	52	⇓P		P	01 58 17.1	-0.4	
	baz=89								
CHTO	**Chiang Mai**	88.95	290	*e*P		P	01 58 18.7	+1.0	
CHTO				*e**PP		pP	02 00 11.1	-2.1	
CHTO				pmax		pmax			
	comp=Z,107nm,1.8s								
CHTO	**Chiang Mai**	88.95	290	*e*P		P	01 58 18.7	+1.0	
	comp=Z,107nm,1.8s								
CHTO				*ep*P		pP	02 00 11.1	-2.1	
229A	**Bryant Ranch,**	88.97	56	⇑P		P	01 58 18.0	+0.4	
	baz=89,SNR=7.5								
R24A	**Sanders Place,**	88.97	49	⇓P		P	01 58 17.9	+0.2	
	baz=89								
430A	**Baggett Ranch,**	88.98	57	⇑P		P	01 58 18.1	+0.4	
	baz=89,SNR=8.6								
L21A	**Rawlins**	88.99	45	⇑P		P	01 58 17.7	0.0	
	baz=89,SNR=10								
MSTX	**Muleshoe**	89.00	54	⇑P		P	01 58 18.1	+0.3	
	baz=89,SNR=13								
X27A	**F and S Farms,**	89.01	53	⇓P		P	01 58 17.9	+0.1	
	baz=89,SNR=5.1								
T25A	**Trinidad**	89.03	50	⇓P		P	01 58 17.9	0.0	
	baz=89								
Z28A	**Tucker Farm, M**	89.03	54	⇑P		P	01 58 17.7	-0.2	
	baz=89,SNR=5.5								
G18A	**Lazy EL Ranch,**	89.07	41	⇑P		P	01 58 18.5	+0.6	
	baz=89,SNR=5.2								
N22A	**Wattenberg Ran**	89.11	46	⇑P		P	01 58 19.0	+0.7	
	baz=89,SNR=18								
J20A	**Shoshoni**	89.13	43	⇑P		P	01 58 18.9	+0.7	
	baz=89,SNR=43								
H19A	**Powell**	89.14	42	⇑P		P	01 58 19.0	+0.8	
	baz=89,SNR=18								
CD2	**Chengdu**	89.15	303	P		P	01 58 18.3	-0.2	
CD2				pP		pP	02 00 15.9	+2.0	
CD2				sP		sP	02 01 08.3	+1.6	
CD2				PP		PP	02 02 00.3	+1.8	
CD2				SKS		SKSac	02 07 56.8	-1.8	
CD2				S		S	02 08 20.6	-2.9	
CD2				sS		sS	02 11 48.5	-0.9	
CD2				SS		SS	02 14 33.8	+0.3	
CD2				pmax		pmax			
	comp=Z,20nm,0.5s								
CD2				pmax		pmax			
	comp=Z,100nm,5.6s								
RLMT	**Red Lodge**	89.17	42	*e*P		P	01 58 19.6	+1.2	
	comp=Z,34nm,1.1s								
RLMT	**Red Lodge**	89.17	42	⇑P		P	01 58 19.1	+0.7	
	baz=89,SNR=19								
129A	**Stewart Farms,**	89.18	55	⇓P		P	01 58 19.0	+0.4	
	baz=89,SNR=12								
W27A	**Bowe Ranch, En**	89.20	53	⇑P		P	01 58 18.4	-0.3	
	baz=89,SNR=6.3								
U26A	**Atchley Ranch,**	89.22	51	⇓P		P	01 58 18.8	-0.1	
	baz=89,SNR=8.7								
S25A	**Robets Cordova**	89.22	50	⇓P		P	01 58 19.2	+0.4	
	baz=89								
GCMT	**Greycliff**	89.23	41	*e*P		P	01 58 19.4	+0.9	
	comp=Z,38nm,1.4s								
GCMT				*ep*P		pP	02 00 13.8	-0.3	
O23A	**Lake Granby, G**	89.23	47	⇑P		P	01 58 19.3	+0.4	
	baz=89,SNR=11								
D17A	**Six Diamond Ra**	89.24	39	⇑P		P	01 58 19.2	+0.6	
	baz=89,SNR=28								
B16A	**M & M Farms, S**	89.25	38	⇑P		P	01 58 18.6	+0.1	
	baz=89								
Q24A	**Divide**	89.25	48	⇑P		P	01 58 19.7	+0.6	
	baz=89								
F18A	**Big Timber**	89.25	41	⇑P		P	01 58 19.5	+0.9	
	baz=89,SNR=12								
ISCO	**Idaho Springs**	89.27	47	*e*P		P	01 58 20.1	+1.0	
ISCO				pmax		pmax			
	comp=Z,34nm,1.7s								
ISCO	**Idaho Springs**	89.27	47	*e*P		P	01 58 20.1	+1.0	
	comp=Z,34nm,1.7s								
ISCO	**Idaho Springs**	89.27	47	⇑P		P	01 58 19.7	+0.6	
	baz=89								
M22A	**Cedar Creek Ra**	89.27	46	⇓P		P	01 58 19.2	+0.2	
	baz=89,SNR=16								
531A	**Rocksprings**	89.30	58	⇑P		P	01 58 20.0	+0.8	
	baz=90								
K21A	**Alcova**	89.36	44	⇑P		P	01 58 19.4	+0.1	
	baz=90,SNR=23								
I20A	**Worland**	89.36	43	⇑P		P	01 58 19.5	+0.3	
	baz=90,SNR=23								
Y28A	**McKinney Farm,**	89.38	54	⇓P		P	01 58 19.3	-0.2	
	baz=90								
C17A	**Wharram Farm,**	89.43	39	⇓P		P	01 58 19.6	+0.2	
	baz=90,SNR=28								
E18A	**Harlowton**	89.44	40	⇑P		P	01 58 20.4	+0.9	
	baz=90,SNR=17								
431A	**Sonora**	89.45	57	⇑P		P	01 58 20.2	+0.4	
	baz=90,SNR=5.6								
N23A	**Red Feather La**	89.50	46	⇓P		P	01 58 20.8	+0.7	
	baz=90,SNR=15								
J21A	**Lysite**	89.54	44	⇑P		P	01 58 20.7	+0.5	
	baz=90,SNR=46								
Z29A	**Hungry Hill Ra**	89.55	55	⇑P		P	01 58 20.1	-0.2	
	baz=90,SNR=7.9								
A16A	**West Butte Ran**	89.57	37	⇑P		P	01 58 20.1	0.0	
	baz=90								
T26A	**Comanche Natio**	89.64	51	⇑P		P	01 58 21.7	+1.0	
	baz=90								
L22A	**Ellis Ranch, M**	89.64	45	⇓P		P	01 58 21.5	+0.8	
	baz=90,SNR=14								
X28A	**Dimmitt**	89.65	53	⇑P		P	01 58 20.9	+0.1	
	baz=90								
H20A	**Greybull**	89.69	42	⇓P		P	01 58 20.6	-0.1	
	baz=90,SNR=12								
F19A	**Roth Farm, Mol**	89.70	41	⇑P		P	01 58 21.1	+0.4	
	baz=90,SNR=13								
B17A	**L&R Farms, Che**	89.72	38	⇑P		P	01 58 20.7	0.0	
	baz=90,SNR=14								
O24A	**Longmont**	89.78	47	⇑P		P	01 58 22.1	+0.8	
	baz=90,SNR=6.0								
D18A	**Linhart Farms,**	89.80	39	⇓P		P	01 58 21.9	+0.7	
	baz=90,SNR=7.1								
Y29A	**Porterfield Fa**	89.80	54	⇓P		P	01 58 21.6	+0.1	
	baz=90,SNR=14								
I21A	**Big Trails, Te**	89.85	43	⇓P		P	01 58 21.4	-0.1	
	baz=90,SNR=32								
K22A	**Casper**	89.85	45	⇑P		P	01 58 21.7	+0.1	
	baz=90,SNR=11								
Q25A	**Bedland, Calha**	89.87	49	⇓P		P	01 58 22.0	+0.2	
	baz=90								
G20A	**Bridger**	89.88	42	⇓P		P	01 58 21.7	+0.1	
	baz=90,SNR=6.1								
M23A	**Laramie**	89.89	46	⇑P		P	01 58 22.4	+0.5	
	baz=90,SNR=5.4								
S26A	**Kim**	89.91	50	⇓P		P	01 58 22.0	0.0	
	baz=90,SNR=7.2								
YAK	**Yakutsk**	89.97	338	*e*P		P	01 58 20.2	-1.2	
YAK				*e*			02 01 59.6		
YAK				*e*S		SKSac	02 07 59.6	-2.1	
YAK				*e*			02 08 24.7		
YAK				*e*SS		SS	02 14 48.0	+4.2	
YAK				pmax		pmax			
	comp=Z,28nm,1.2s								
YAK				pmax		pmax			
	comp=E,12nm,1.4s								
YAK				pmax		pmax			
	comp=N,7.0nm,1.4s								
YAK				pmax		pmax			
	comp=Z,23nm,1.0s								
YAK				pmax		pmax			
	comp=N,22nm,1.2s								
YAK				pmax		pmax			
	comp=E,22nm,1.4s								
YAK				smax		smax			
	comp=N,375nm,2.3s								
YAK				smax		smax			
	comp=E,115nm,2.2s								
YAK	**Yakutsk**	89.97	338	*e*P		P	01 58 20.6	-0.8	
PHWY	**Pilot Hill**	90.00	46	*e*P		P	01 58 22.4	0.0	
	comp=E,15nm,0.9s								
JCT	**Junction City**	90.02	58	*e*P		P	01 58 22.7	+0.2	
JCT				pmax		pmax			
	comp=Z,179nm,2.3s								
JCT	**Junction City**	90.02	58	*e*P		P	01 58 22.7	+0.2	
	comp=Z,180nm,2.3s								
JCT	**Junction City**	90.02	58	⇓P		P	01 58 22.4	0.0	
	baz=90								
E19A	**Rath Farm, Rou**	90.08	40	⇑P		P	01 58 23.1	+0.7	
	baz=90,SNR=10								
A17A	**Triple J Farms**	90.09	38	⇓P		P	01 58 22.7	+0.3	
	baz=90,SNR=13								
V28A	**Channing**	90.10	52	⇑P		P	01 58 23.0	+0.2	
	baz=90								
P25A	**Willow Gulch B**	90.17	48	⇓P		P	01 58 23.5	+0.4	
	baz=90,SNR=9.3								
L23A	**Garrett**	90.17	45	⇑P		P	01 58 23.5	+0.4	
	baz=90,SNR=20								
F20A	**Billings**	90.18	41	⇑P		P	01 58 23.5	+0.6	
	baz=90								
AMTX	**Amarillo**	90.18	53	*e*P		P	01 58 23.7	+0.5	
	comp=Z,66nm,1.5s								
AMTX	**Amarillo**	90.18	53	⇑P		P	01 58 23.3	+0.1	
	baz=90,SNR=7.4								
R26A	**Arlington**	90.20	50	⇑P		P	01 58 23.3	+0.1	
	baz=90,SNR=6.6								
N24A	**Carr**	90.20	47	⇓P		P	01 58 24.0	+0.8	
	baz=90,SNR=13								
J22A	**Midwest**	90.21	44	⇑P		P	01 58 23.3	+0.1	
	baz=90,SNR=28								
EGMT	**Eagleton**	90.21	39	*e*P		P	01 58 23.6	+0.6	
	comp=Z,56nm,1.6s								
EGMT	**Eagleton**	90.21	39	⇑P		P	01 58 23.3	+0.3	
	baz=90,SNR=5.6								
T27A	**Campo**	90.24	51	⇓P		P	01 58 23.6	+0.1	
	baz=90								
D19A	**Cripps Ranch,**	90.34	40	⇑P		P	01 58 24.4	+0.8	
	baz=90,SNR=17								
H21A	**Big Horn, Sher**	90.36	43	⇑P		P	01 58 24.2	+0.4	
	baz=90,SNR=9.1								
B18A	**Beardsley Farm**	90.37	38	⇑P		P	01 58 23.9	+0.2	
	baz=90,SNR=26								
I22A	**9 Mile Ranch,**	90.41	43	⇑P		P	01 58 24.6	+0.6	
	baz=91,SNR=19								
O25A	**Wiggins**	90.44	48	⇓P		P	01 58 24.6	+0.3	
	baz=91								
K23A	**Bowen Ranch, D**	90.49	45	⇓P		P	01 58 24.6	0.0	
	baz=91,SNR=10								
C19A	**Slack Wire Ran**	90.50	39	⇑P		P	01 58 24.8	+0.5	
	baz=91,SNR=21								
E20A	**Meyer Farm, Mu**	90.50	41	⇓P		P	01 58 25.1	+0.8	
	baz=91,SNR=6.7								
M24A	**Cheyenne**	90.50	46	⇓P		P	01 58 25.3	+0.6	
	baz=91,SNR=9.9								
G21A	**Lodge Grass**	90.52	42	⇑P		P	01 58 24.8	+0.3	
	baz=91								
A18A	**Metzger Ranch,**	90.57	38	⇑P		P	01 58 24.5	-0.1	
	baz=91,SNR=21								
R27A	**Eads**	90.66	50	⇑P		P	01 58 25.8	+0.5	
	baz=91,SNR=5.5								
L24A	**Wheatland**	90.67	46	⇓P		P	01 58 26.1	+0.8	
	baz=91,SNR=7.6								
T28A	**Walsh**	90.71	51	⇓P		P	01 58 25.4	-0.2	
	baz=91,SNR=6.8								
NVL	**N'lazarevskaya**	90.73	183	*e*P		P	01 58 14.4	-11	
NVL				pmax		pmax			
	comp=Z,35nm,0.9s								
D20A	**Manuel Ranch,**	90.76	40	⇑P		P	01 58 26.0	+0.5	
	baz=91,SNR=15								
H22A	**Clearmont**	90.79	43	⇓P		P	01 58 26.2	+0.3	
	baz=91,SNR=14								
J23A	**Dilts Ranch, B**	90.81	44	⇑P		P	01 58 26.2	+0.3	
	baz=91								
F21A	**Absaloka Mine,**	90.83	42	⇓P		P	01 58 26.5	+0.6	
	baz=91								
B19A	**Brinkman Farms**	90.89	39	⇑P		P	01 58 26.5	+0.5	
	baz=91,SNR=20								
ABTX	**Abilene, Hawle**	90.92	56	⇑P		P	01 58 26.9	+0.3	
	baz=91,SNR=19								
M25A	**Palm-Egli Farm**	91.02	46	⇓P		P	01 58 27.6	+0.6	
	baz=91,SNR=8.7								
LZH	**Lanzhou**	91.02	308	*e*P		P	01 58 28.9	+1.8	
LZH				pP		pP	02 00 25.3	+2.4	
LZH				sP		sP	02 01 15.0	-0.5	
LZH				PP		PP	02 02 14.4	+1.3	
LZH				*e*S		S	02 08 40.0	-0.3	
LZH				sS		sS	02 12 03.3	-4.1	
LZH				SS		SS	02 15 05.5	+5.3	
LZH				pmax		pmax			
	comp=Z,55nm,1.0s								
LZH				pmax		pmax			
	comp=Z,210nm,4.8s								
O26A	**Horse Wrangler**	91.06	48	⇓P		P	01 58 27.9	+0.7	
	baz=91								
G22A	**Birney**	91.10	42	⇑P		P	01 58 27.4	+0.2	
	baz=91,SNR=5.4								
C20A	**Veseth Ranch,**	91.12	40	⇑P		P	01 58 28.0	+0.9	
	baz=91,SNR=31								
PLCA	**Paso Flores**	91.14	134	*e*P		P	01 58 28.5	+0.9	
	comp=Z,26nm,1.4s								
PLCA	**Paso Flores**	91.14	134	P		P	01 58 27.9	+0.2	
	comp=Z,19nm,1.3s,baz=234,slow=8.3,SNR=3.0								
E21A	**Keefer Ranch,**	91.17	41	⇑P		P	01 58 28.5	+1.0	
	baz=91,SNR=14								
A19A	**Klindworth Far**	91.22	38	⇓P		P	01 58 27.8	+0.2	
	baz=91,SNR=12								
P27A	**Ficken Ranch,**	91.31	49	⇓P		P	01 58 28.7	+0.4	
	baz=92								
F22A	**Rosebud**	91.36	42	⇑P		P	01 58 28.9	+0.6	
	baz=92								
L25A	**Engebretsen Ra**	91.37	46	⇓P		P	01 58 29.3	+0.7	
	baz=92,SNR=8.3								
I24A	**Kuemmerle Ranc**	91.61	44	⇓P		P	01 58 29.6	-0.1	
	baz=92								
M26A	**McRoberts Ranc**	91.66	47	⇓P		P	01 58 30.4	+0.5	
	baz=92								
G23A	**Biddle**	91.67	43	⇑P		P	01 58 30.0	+0.2	
	baz=92,SNR=11								
C21A	**Desert Coulee**	91.72	40	⇑P		P	01 58 30.4	+0.5	
	baz=92,SNR=14								
N27A	**Anderson Farm,**	91.82	48	⇑P		P	01 58 31.0	+0.4	
	baz=92								
E22A	**Miles City**	91.83	41	⇓P		P	01 58 30.8	+0.3	
	baz=92								
F23A	**Volborg**	91.88	42	⇓P		P	01 58 31.1	+0.4	
	baz=92,SNR=16								
L26A	**Underwood Farm**	91.93	46	⇓P		P	01 58 31.9	+0.8	
	baz=92								
D22A	**Cohagen**	91.99	41	⇓P		P	01 58 32.1	+0.9	
	baz=92,SNR=16								
H24A	**Dirks Ranch, A**	92.03	43	⇑P		P	01 58 31.4	0.0	
	baz=92,SNR=29								
B21A	**Ellsworth Farm**	92.03	39	⇓P		P	01 58 32.1	+0.8	
	baz=92								
RSSD	**Black Hills**	92.11	44	*e*P		P	01 58 31.8	-0.2	
RSSD				*e**PP		pP	02 00 27.5	-0.4	
RSSD				pmax		pmax			
	comp=Z,21nm,1.0s								
RSSD	**Black Hills**	92.11	44	*e*P		P	01 58 31.8	-0.2	
	comp=Z,21nm,1.0s								
RSSD				*ep*P		pP	02 00 27.5	-0.4	
K26A	**Motz Farm, Whi**	92.12	46	⇑P		P	01 58 32.5	+0.6	
	baz=92,SNR=17								
M27A	**Reverse DX Ran**	92.21	47	⇑P		P	01 58 33.1	+0.7	
	baz=92								
OGNE	**Ogallala**	92.23	48	⇓P		P	01 58 32.9	+0.4	
	baz=92								
E23A	**Ismay**	92.26	41	⇑P		P	01 58 32.9	+0.5	
	baz=92,SNR=6.5								
A21A	**Bergtoll Ranch**	92.33	39	⇓P		P	01 58 32.9	+0.3	
	baz=92								
G24A	**Alzada**	92.35	43	⇓P		P	01 58 33.1	+0.1	
	baz=92								
C22A	**Vida**	92.42	40	⇑P		P	01 58 33.5	+0.3	
	baz=93								
WHTX	**Lake Whitney**	92.43	57	⇓P		P	01 58 33.5	0.0	
	baz=93								
INK	**Inuvik**	92.46	15	*e*P		P	01 58 31.8	-0.9	
	comp=Z,50nm,1.0s								
L27A	**T5 Ranch, Ells**	92.47	46	⇓P		P	01 58 34.1	+0.5	
	baz=93								
F24A	**Ekalaka**	92.54	42	⇓P		P	01 58 34.2	+0.4	
	baz=93								
B22A	**Reddig Ranch S**	92.59	40	⇑P		P	01 58 34.3	+0.4	
	baz=93								
D23A	**Lindsay**	92.60

comp=Z,4.0nm,1.2s
TLY Talaya 96.89 322 *e*P **P** 01 58 52.3 -1.0
TLY *e* 02 00 54.0
TLY pmax pmax
comp=Z,4.0nm,1.0s
RES Resolute Bay 106.00 16 *e*PKP **PKiKP** 02 03 41.4 -0.6
ZALV Zalesovo Beam 108.50 322 P **Pdif** 01 59 43.9 -0.9
ZALV 02 04 22.9
ZALV Zalesovo Beam 108.50 322 Pdif **Pdif** 01 59 43.9 -0.9
ZALV pP 02 01 39.5
ZALV PKiKP **PKiKP** 02 03 46.0 -1.3
ZALV PP **PP** 02 04 22.9 -0.1
ZALV Zalesovo Beam 108.50 322 Pdiff **Pdif** 01 59 43.9 -0.9
comp=Z,0.3nm,0.4s,baz=116,slow=3.4,SNR=5.1
ZALV pP 02 01 39.5
comp=Z,0.3nm,0.3s,baz=90,slow=4.4,SNR=3.0
ZALV PKiKP **PKiKP** 02 03 46.0 -1.3
comp=Z,1.6nm,0.6s,baz=135,slow=1.5,SNR=11
ZALV PP **PP** 02 04 22.9 -0.1
comp=Z,0.8nm,0.5s,baz=64,slow=6.8,SNR=4.5
MK31 Makanchi Array 109.33 314 *e*PKP **PKiKP** 02 03 48.2 -0.9
MKAR Makanchi Array 109.33 314 P **Pdif** 01 59 50.3 +1.5
MKAR Makanchi Array 109.33 314 Pdif **Pdif** 01 59 50.3 +1.5
MKAR *e* 02 01 44.7
MKAR PKiKP **PKiKP** 02 03 47.9 -1.2
MKAR PKKPbc **PKKPbc** 02 14 56.3 -1.0
MKAR Makanchi Array 109.33 314 Pdiff **Pdif** 01 59 50.3 +1.5
comp=Z,0.7nm,0.9s,baz=89,slow=5.6,SNR=6.1
MKAR pPdiff **pPdif** 02 01 44.7 -0.4
comp=Z,0.9nm,1.1s,baz=41,slow=3.9,SNR=2.5
MKAR PKiKP **PKiKP** 02 03 47.9 -1.2
comp=Z,3.5nm,0.8s,baz=203,slow=1.0,SNR=18
MKAR PKKPbc **PKKPbc** 02 14 56.3 -1.0
comp=Z,0.8nm,0.9s,baz=251,slow=2.2,SNR=4.4
KURK Kurchatov 112.06 318*c* PKiKP **PKiKP** 02 03 53.1 -1.0
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 112.06 318 *e*PKP **PKiKP** 02 03 52.4 -1.7
KURK PP **PP** 02 04 47.3 -1.0
KURBB Kurchatov Arra 112.11 318 PKiKP **PKiKP** 02 03 53.1 -1.1
comp=Z,3.2nm,0.8s,baz=86,slow=1.9,SNR=34
KURBB PP **PP** 02 04 47.3 -1.4
comp=Z,0.7nm,0.6s,baz=93,slow=6.5,SNR=4.2
KSH Kashi 113.19 306 PKP **PKiKP** 02 03 57.3 +0.5
KSH PP PP 02 05 02.8 +6.0
KSH PKS **PKSdf** 02 07 33.4 -0.2
KSH SKS **SKSdf** 02 10 18.0 -1.4
KSH SKKS **SKKSac** 02 11 00.1 -3.9
KSH SS **SS** 02 20 06.9 +4.3
KSH AMB AMB
comp=Z,91nm,5.0s
TKM2 Tokmak 2 113.73 309 *e*PKIKP **PKiKP** 02 03 56.3 -1.5
TKM2 Tokmak 2 113.73 309 *e*PKP **PKiKP** 02 03 56.3 -1.5
TKM2 Tokmak 2 113.73 309 P **PKiKP** 02 03 56.7 -1.1
SNR=7.6
KZA Kyzart 113.94 308 P **PKiKP** 02 03 58.6 +0.1
SNR=6.2
AAK Ala-Archa 114.53 309 *e*PKIKP PKPdf 02 03 58.7 -0.6
AAK 02 14 47.8
AAK Ala-Archa 114.53 309 *e*PKP PKPdf 02 03 58.7 -0.6
AAK PKKPab **PKKPab** 02 14 47.8 +1.1
AAK Ala-Archa 114.53 309 PKP PKPdf 02 03 58.8 -0.5
comp=Z,5.1nm,1.1s,baz=154,slow=4.6,SNR=10
AAK PKKPab **PKKPab** 02 14 47.8 +1.1
comp=Z,0.8nm,0.6s,baz=209,slow=6.2,SNR=3.9
USP Ospenovka 114.55 310 P PKPdf 02 03 58.7 -0.5
SNR=7.5
EKS2 Erkin-Say 115.06 309 *e*PKIKP **PKPdf** 02 03 59.4 -0.9
EKS2 Erkin-Say 115.06 309 *e*PKP **PKPdf** 02 03 59.4 -0.9
EKS2 Erkin-Say 115.06 309 P **PKPdf** 02 03 59.7 -0.6
SNR=8.2
AML Almayashu 115.09 308 P **PKPdf** 02 04 00.1 -0.6
SNR=12
FRB Frobisher Bay 115.26 28 PKP **PKPdf** 02 03 58.6 -1.2
FRB Frobisher Bay 115.26 28 PKP **PKPdf** 02 03 58.6 -1.2
comp=Z,1.1nm,0.3s,baz=299,slow=5.0,SNR=5.9
BVAR Borovoye Array 117.10 321 PKIKP **PKPdf** 02 04 02.8 -0.9
BVAR 02 05 24.8
BVAR Borovoye Array 117.10 321 PKP **PKPdf** 02 04 02.8 -0.9
BVAR PP **PP** 02 05 24.8 +1.5
BVAR pPKP **pPKPdf** 02 06 06.4 -0.4
BVAR Borovoye Array 117.10 321 PKP **PKPdf** 02 04 02.8 -0.9
comp=Z,3.3nm,0.4s,baz=86,slow=1.5,SNR=49
BVAR PP **PP** 02 05 24.8 +1.5
comp=Z,2.7nm,0.9s,baz=95,slow=7.9,SNR=4.4
BVAR pPKP **pPKPdf** 02 06 06.4 -0.4
comp=Z,2.1nm,0.9s,baz=79,slow=0.8,SNR=3.4
BRVK Borovoye 117.16 321 *e*PKIKP **PKPdf** 02 04 02.6 -1.2
BRVK Borovoye 117.16 321 *e*PKPdf **PKPdf** 02 04 02.6 -1.2
KKAR Karatay Array 117.47 310 *e*PKIKP **PKPdf** 02 04 04.1 -0.7
KKAR Karatay Array 117.47 310 *e*PKPdf **PKPdf** 02 04 04.1 -0.7
KBL Kabul 118.34 300 *e*PKIKP **PKPdf** 02 04 06.7 -0.3
KBL Kabul 118.34 300 *e*PKPdf **PKPdf** 02 04 06.7 -0.3
SPITS Spitsbergen Ar 119.78 356 PKP **PKPdf** 02 04 07.8 -0.4
SPITS Spitsbergen Ar 119.78 356 PKP **PKPdf** 02 04 07.8 -0.4
comp=Z,16nm,1.0s,baz=69,slow=4.6,SNR=11
DAG Danmarks Havn 120.75 5 *i* PKIKP **PKPdf** 02 04 08.5 -1.6
DAG pmax pmax
comp=Z,9.0nm,1.1s
DAG Danmarks Havn 120.75 5 *i* P **PKPdf** 02 04 08.5 -1.6
comp=Z,85nm,1.1s
BDFB Brasilia 120.77 122 PKP **PKPdf** 02 04 10.8 -1.3
BDFB Brasilia 120.77 122 PKP **PKPdf** 02 04 10.8 -1.3
comp=Z,0.7nm,0.4s,baz=202,slow=7.5,SNR=4.0
SFJD Kangerlussuaq 121.26 21 PKP **PKPdf** 02 04 10.2 -1.0
SFJD Kangerlussuaq 121.26 21 PKP **PKPdf** 02 04 10.2 -1.0
comp=Z,7.6nm,0.9s,baz=221,slow=3.9,SNR=4.2
SUMG Summit 121.30 13 *i* PKIKP **PKPdf** 02 04 11.5 -0.3
SUMG pmax pmax
comp=Z,12nm,1.0s
SUMG Summit 121.30 13 *e*PKPdf **PKPdf** 02 04 11.4 -0.4
SUMG Summit 121.30 13 *i* P **PKPdf** 02 04 11.5 -0.3
comp=Z,12nm,1.0s
SVE Sverdlovsk 121.94 326 *i* PKIKP **PKPdf** 02 04 11.5 -1.4
SVE pmax pmax
comp=Z,26nm,1.2s
SOKR Solikamsk 123.00 330*c* PKIKP **PKPdf** 02 04 14.6 -0.2
SOKR pmax pmax
comp=Z,30nm,0.8s
ARU Arti 123.15 326 *i* PKIKP **PKPdf** 02 04 14.5 -0.7
ARU 02 06 00.3
ARU SP SP 02 15 07.7 -0.1
ARU Arti 123.15 326 *e*PKPdf **PKPdf** 02 04 14.6 -0.7
ABKAR Akbulak array 124.16 317 *e*PKPdf **PKPdf** 02 04 16.9 -0.5
AKTO Aktyubinsk 125.11 319 PKIKP **PKPdf** 02 04 18.7 -0.5
AKTO Aktyubinsk 125.11 319 PKP **PKPdf** 02 04 18.7 -0.5
AKTO Aktyubinsk 125.11 319 PKP **PKPdf** 02 04 18.7 -0.5
comp=Z,10nm,0.9s,baz=87,slow=2.7,SNR=34
SCO Scoresbysund 126.09 9 *i* PKIKP **PKPdf** 02 04 19.9 -0.5
SCO pmax pmax
comp=Z,12nm,1.1s
SCO Scoresbysund 126.09 9 *i* P **PKPdf** 02 04 19.9 -0.5
comp=Z,12nm,1.1s
KEV Kevo 126.33 349 *e*PKIKP **PKPdf** 02 04 20.3 -0.6
KEV pmax pmax
comp=Z,1.0nm,0.3s
ARCES ARCESS Array B 126.79 350 PKP **PKPdf** 02 04 21.4 -0.5
ARCES ARCESS Array B 126.79 350 PKP **PKPdf** 02 04 21.4 -0.5
comp=Z,16nm,0.9s,baz=13,slow=1.4,SNR=25
SMDO Samad 127.04 285 ⇑P **PKPdf** 02 04 23.8 0.0
SNR=11
HOQ Hoqain 127.77 286 P **PKPdf** 02 04 25.4 +0.4
SNR=6.3
BSY Bisya 127.78 285 ⇓P **PKPdf** 02 04 24.8 -0.4
SNR=7.5
BOSA Boshof 127.82 207 PKP **PKPdf** 02 04 25.6 +0.3
BOSA *e*PKPdf **PiKiKP** 02 04 25.8 -0.2
BOSA Boshof 127.82 207 PKP **PKPdf** 02 04 25.6 +0.3
comp=Z,12nm,1.1s,baz=97,slow=4.6,SNR=7.1
ARQ Araqi 128.46 285 P **PKPdf** 02 04 26.7 +0.3
SNR=5.1
HATD Hatta, Dubai 128.94 287 ⇓P **PKPdf** 02 04 27.5 +0.2
SNR=6.1
ASHO Ashiyiah 129.00 287 ⇑P **PKPdf** 02 04 27.2 -0.2
SNR=7.6
KLMR Klimovskoe 129.75 337 *e*PKIKP **PKPdf** 02 04 26.0 -1.7
KLMR pmax pmax
comp=Z,70nm,1.6s
JOF Joensuu 130.99 342 *e*PKIKP **PKPdf** 02 04 25.3 -4.7
JOF pmax pmax
comp=Z,5.0nm,0.6s
JOF Joensuu 130.99 342 *ep* **SKPbc** 02 07 06.0 +0.3
comp=Z,3.3nm,0.6s
KAF Kangasniemi 133.00 344 *e*PKIKP **PKPdf** 02 04 29.7 -4.1
KAF pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 133.63 344 PKPpre PKPpre 02 04 26.2
FINES PKP **PKPdf** 02 04 34.0 -1.0
FINES SKPbc **SKPbc** 02 07 15.6 +0.8
FINES FINESS Array B 133.63 344 PKhKP PKPpre 02 04 26.2
comp=Z,2.5nm,0.6s,baz=95,slow=2.1,SNR=5.9
FINES PKP **PKPdf** 02 04 34.0 -1.0
comp=Z,8.7nm,0.8s,baz=64,slow=4.4,SNR=13
FINES SKPbc **SKPbc** 02 07 15.6 +0.8
comp=Z,7.8nm,0.9s,baz=45,slow=5.7,SNR=8.5
VRHR Novokhopersk 134.47 325 *e*PKIKP **PKPdf** 02 04 37.4 +0.5
VRHR *e* 02 07 18.2
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,10.0nm,1.1s
VRHR pmax pmax
comp=E,5.0nm,0.5s
VRHR pmax pmax
comp=Z,30nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,1.3s
OBN Obninsk 134.65 332 *i* PKIKP **PKPdf** 02 04 36.8 -0.2
OBN *i* 02 07 19.4
OBN pmax pmax
comp=Z,31nm,1.2s
VSR Storozhevoye 135.72 326 *e*PKIKP **PKPdf** 02 04 38.8 -0.4
VSR *e* 02 07 22.3
VORD Divnogorie 135.79 326 *e*PKIKP **PKPdf** 02 04 38.7 -0.6
VORD *e* 02 07 22.7
VORD pmax pmax
comp=Z,20nm,0.8s
VORD pmax pmax
comp=N,8.0nm,0.3s
VORD pmax pmax
comp=E,30nm,0.4s
VORD pmax pmax
comp=Z,20nm,0.9s
VORD pmax pmax
comp=N,30nm,0.6s
VORD pmax pmax
comp=E,30nm,0.7s
VSU Vasula 135.90 341 *i* PKIKP **PKPdf** 02 04 39.4 +0.1
DGRG David-gareji 136.08 311 P **SKPdf** 02 07 25.6 -0.1
TBLG Delisi 136.44 312 P **SKPdf** 02 07 26.5 +0.1
RDF Al-Radifah 136.65 293 *e*P **SKPdf** 02 07 27.1 0.0
RDF AMb AMB 02 07 28.5
comp=Z,103nm,1.3s
ZEI Tsey 136.68 313 *i* PKIKP **PKPdf** 02 04 40.9 -0.7
ZEI pmax pmax
comp=Z,10.0nm,1.4s
MIB Mutribah 136.77 294 *e*P **SKPdf** 02 07 27.3 0.0
MIB AMb AMB 02 07 34.1
comp=Z,52nm,1.0s
GOR Gori 136.81 312 P **SKPdf** 02 07 27.5 +0.5
NB2 NORSAR Subarra 136.87 353 PKPdf PKPpre 02 04 30.5
baz=14,slow=1.8
NB2 NORSAR Subarra 136.87 353 PKPdf PKPpre 02 04 30.5
comp=Z,9.9nm,1.2s,baz=14,slow=1.8
NOA NORSAR Array B 136.87 353 PKPpre PKPpre 02 04 31.7
NOA PKP **PKPdf** 02 04 40.5 -0.6
NOA pPKP pPKPdf 02 06 45.3 +1.0
NOA SKP 02 07 26.6
NOA NORSAR Array B 136.87 353 PKhKP PKPpre 02 04 31.7
comp=Z,10nm,1.2s,baz=17,slow=4.7,SNR=5.5
NOA PKP **PKPdf** 02 04 40.5 -0.6
comp=Z,3.4nm,0.8s,baz=14,slow=4.1,SNR=6.4
NOA pPKP pPKPdf 02 06 45.3 +1.0
comp=Z,1.1nm,0.9s,baz=14,slow=4.1,SNR=2.3
NOA SKP 02 07 26.6
comp=Z,3.9nm,1.1s,baz=15,slow=4.3,SNR=3.9
NAY Al-Naaiem 136.89 293 *e*P **SKPdf** 02 07 27.2 -0.3
NAY AMb AMB 02 07 31.6
comp=Z,26nm,1.5s
GNI Garni 136.93 310 PKP **PKPdf** 02 04 40.2 -1.8
GNI *e*PKPdf **PKiKP** 02 04 40.4 -3.6
GNI *e*SKP 02 07 28.2
GNI Garni 136.93 310 PKP **PKPdf** 02 04 40.2 -1.8
comp=Z,8.2nm,0.8s,baz=348,slow=9.9,SNR=7.0
GNI SKP 02 07 28.2
comp=Z,10nm,1.0s,baz=40,slow=14,SNR=6.4
KBZ Khabaz 137.01 315 PKIKP **PKPdf** 02 04 41.5 -0.3
KBZ 02 07 27.8
KBZ Khabaz 137.01 315 PKP **PKPdf** 02 04 41.5 -0.3
KBZ SKP 02 07 27.8
KBZ Khabaz 137.01 315 PKP **PKPdf** 02 04 41.5 -0.3
comp=Z,5.3nm,0.9s,baz=112,slow=2.9,SNR=8.1
KBZ SKP 02 07 27.8
comp=Z,5.4nm,1.0s,baz=163,slow=4.0,SNR=6.1
ONI Oni 137.05 313 P **SKPdf** 02 07 28.6 +1.1
KIV Kislovodsk 137.06 316 *i* PKIKP **PKPdf** 02 04 42.1 0.0
KIV *i* 02 06 43.3
KIV pmax pmax
comp=Z,14nm,1.1s
KIV Kislovodsk 137.06 316 *e*PKPdf **PKPdf** 02 04 41.6 -0.5
NAO01 NORSAR Array S 137.10 353 *e*PKPpre PKPpre 02 04 34.2
LSZ Lusaka 137.32 220 *e*PKPdf **PKPdf** 02 04 43.8 +0.4
HFS Hagfors 137.41 351 PKPpre PKPpre 02 04 30.2
HFS Hagfors 137.41 351 PKhKP PKPpre 02 04 30.2
comp=Z,2.9nm,0.8s,baz=72,slow=4.7,SNR=3.4
AKH Akhalkalaki 137.43 312 P **SKPdf** 02 07 29.0 +0.7
CLDR Caldiran 137.84 308 *e*P PKPdf 02 04 35.9 -7.9
MICGM Minsk 138.65 337 *e* **SKPbc** 02 07 32.0 +2.0
TSUM Tsumeb 139.34 204 *e*PKPdf **PKPdf** 02 04 48.6 +1.5
VRTB Varto-Mus 139.65 309 *e*P PKPdf 02 04 39.6 -7.5
KMBO Kilima Mbogo 139.69 245 *e*PKPpre PKPpre 02 04 41.5
KMBO *e*PKPdf **PKPdf** 02 04 48.5 +0.6
KMBO Kilima Mbogo 139.69 245 P **PKPdf** 02 04 49.4 +1.4
SNR=5.5
BAYT Ayd¯ıntepe-Bay 140.17 312 *e*P **PKPdf** 02 04 43.2 -4.7
BNGB Bing¯l¶l 140.28 309 *e*P PKPdf 02 04 40.6 -7.5
GUMT Gumushane 140.61 312 *e*P PKPdf 02 04 42.5 -6.2
KAC Achnashellach 140.68 6 *e*P PKPdf 02 04 42.0 -6.1
KAC Achnashellach 140.68 6 P PKPdf 02 04 42.0 -6.1
SUW Suwalki 140.70 340 *e*PKP **PKPdf** 02 04 44.2 -4.0
SUW Suwalki 140.70 340 *e*PKP **PKPdf** 02 04 44.2 -4.0
SUW Suwalki 140.70 340 *e*PKHKP PKPpre 02 04 41.1
SUW *e* 02 04 47.9
SUW Suwalki 140.70 340 *e*PKPpre PKPpre 02 04 41.1
SUW *e*PKPdf **PKPdf** 02 04 47.9 -0.3
AKASG Malin Array Be 140.91 332 PKHKP PKPpre 02 04 42.0
AKASG Malin Array Be 140.91 332 PKPpre PKPpre 02 04 42.0
AKASG pPKP pPKPdf 02 06 50.9 -1.0
AKASG SKPbc **SKiKP** 02 07 37.2 -0.8
AKASG Malin Array Be 140.91 332 PKhKP PKPpre 02 04 42.0
comp=Z,4.6nm,0.5s,baz=42,slow=4.0,SNR=25
AKASG pPKP pPKPdf 02 06 50.9 -1.0
comp=Z,1.0nm,0.6s,baz=32,slow=1.9,SNR=2.9
AKASG SKPbc **SKiKP** 02 07 37.2 -0.8
comp=Z,5.9nm,0.8s,baz=38,slow=3.7,SNR=7.8
AKBB Malin Array Si 140.91 332 *e*PKHKP PKPpre 02 04 41.8
AKBB Malin Array Si 140.91 332 *e*PKPpre PKPpre 02 04 41.8
KIEV Kiev 140.92 332 *e*PKHKP PKPpre 02 04 42.2
KIEV Kiev 140.92 332 *e*PKPpre PKPpre 02 04 42.1
PTK Pertek 141.25 310 *e*P PKPdf 02 04 41.0 -9.0
MUD Monsted U'grnd 141.59 353 *i* PKHKP PKPpre 02 04 45.6
MUD pmax pmax
comp=Z,8.0nm,1.0s
MUD Monsted U'grnd 141.59 353 *i* P PKPpre 02 04 45.6
comp=Z,8.2nm,1.0s
ELZG Elazig 141.69 309 *i* P **PKPdf** 02 04 47.3 -3.4
BSD Bornholm Skovb 141.95 347 *i* PKHKP PKPpre 02 04 45.2
BSD pmax pmax
comp=Z,20nm,0.9s
BSD Bornholm Skovb 141.95 347 *i* P PKPpre 02 04 45.2
comp=Z,20nm,0.9s
EAU Auchinoon 142.48 4 *e*P **PKPdf** 02 04 47.4 -4.0
EAU Auchinoon 142.48 4 P **PKPdf** 02 04 47.4 -4.0
AKCD Akcadag 142.54 310 *i* P **PKPdf** 02 04 49.9 -2.3
EBL Broad Law 142.58 4 *e*P **PKPdf** 02 04 47.8 -3.8
EBL Broad Law 142.58 4 P **PKPdf** 02 04 47.8 -3.8
KVT Kavak 142.72 315 *e*P **PKPdf** 02 04 47.5 -4.8
DIKM Dikmen 142.99 316 *e*P PKPdf 02 04 46.1 -6.6
ESK Eskdalemuir 143.02 4 *e*P PKPab 02 04 47.3 -2.4
ESK Eskdalemuir 143.02 4 P PKPab 02 04 47.3 -2.4
ESK Eskdalemuir 143.02 4 *i* PKIKP PKPbc 02 04 50.3 0.0
ESK Eskdalemuir 143.02 4 *e*PKPdf PKPab 02 04 49.0 -0.7
GKP Gorka Klasztor 143.10 344 *e*PKP PKPab 02 04 50.2 +0.1
GKP Gorka Klasztor 143.10 344 *e*PKP PKPab 02 04 50.2 +0.1
GKP Gorka Klasztor 143.10 344 *e*PKIKP PKPab 02 04 50.2 +0.1
GZT Gaziantep 143.14 308 *i* P PKPbc 02 04 51.6 +0.1
ECK Cauldkaine Hil 143.16 4 *e*P PKPab 02 04 48.1 -2.1
ECK Cauldkaine Hil 143.16 4 P PKPab 02 04 48.1 -2.1
BEL Belsk 143.31 340 *e*PKP PKPbc 02 04 51.5 +0.3
BEL Belsk 143.31 340 *e*PKP PKPbc 02 04 51.5 +0.3
BEL Belsk 143.31 340 *e*PKIKP PKPbc 02 04 51.5 +0.3
GAZ Gaziantep 143.47 308 *e*P PKPab 02 04 49.0 -3.2
XAL Allendale 143.54 3 *e*P PKPab 02 04 50.8 -0.9
XAL Allendale 143.54 3 P PKPab 02 04 50.8 -0.9
KMRS Kahramanmaras 143.58 309 *e*P PKPab 02 04 49.0 -3.5
BZK Bozkurt 143.65 317 *e*P PKPab 02 04 51.9 -0.6
KIS Kishinev 143.67 328 *e*PKHKP PKPab 02 04 51.0 -1.5
KIS *i* 02 04 56.0
KIS pmax pmax
comp=Z,360nm,1.2s
KIS Kishinev 143.67 328⇓ *e*UNK PKPab 02 04 51.0 -1.5
KIS XM 02 04 52.5
comp=Z,400nm,1.2s
KESW Keswick, Cumbr 143.75 4 *e*P PKPab 02 04 51.8 -0.7
KESW Keswick, Cumbr 143.75 4 P PKPab 02 04 51.8 -0.7
CTKT Corum 143.78 315 *i* P PKPab 02 04 53.8 +0.4
LVV L'vov 143.78 335 *e*PKIKP PKPab 02 04 52.1 -0.7
BNN Bunyan 143.82 311 *e*P PKPbc 02 04 49.7 -3.8
GMM Mts of Mourne 143.82 7 *e*P PKPbc 02 04 51.5 -1.2
GMM Mts of Mourne 143.82 7 P PKPbc 02 04 51.5 -1.2
YOZ Yozgat 143.86 313 *e*P PKPbc 02 04 50.5 -3.1
BSEG Bad Segeberg 143.90 351 *e*PKPbc PKPbc 02 04 52.8 -0.2
BSEG Bad Segeberg 143.90 351 *e*PKIKP PKPbc 02 04 52.8 -0.2
ANDN Andirin 143.96 309 *i* P **PKPdf** 02 04 58.4 +3.7
CORM Corum 144.09 314 *e*P PKPbc 02 04 50.5 -3.8
IAS Iasi 144.16 329 ⇑*i*PKIKP **PKPab** 02 04 54.2 -0.1
IAS Iasi 144.16 329⇑ *i*P **PKPab** 02 04 54.2 -0.1
LEOM Leova 144.31 328 ⇓*i*PKIKP **PKPdf** 02 04 54.7 -0.1
LEOM Leova 144.31 328⇓ *i*P **PKPdf** 02 04 54.7 -0.1
KOZT Kozan 144.38 309 *e*P PKPbc 02 04 53.4 -1.8
KWP Kalwaria Pacla 144.45 336 *e*PKP **PKPdf** 02 04 55.2 +0.1
KWP Kalwaria Pacla 144.45 336 *e*PKP **PKPdf** 02 04 55.2 +0.1
KWP Kalwaria Pacla 144.45 336 ⇓*i*PKIKP **PKPdf** 02 04 55.0 0.0
KWP Kalwaria Pacla 144.45 336 *e*PKPdf PKPbc 02 04 54.9 0.0
KWP Kalwaria Pacla 144.45 336⇓ *i*P **PKPdf** 02 04 55.0 0.0
CANT Cankiri 144.57 315 *e*P **PKPdf** 02 04 54.8 -0.8
HTY Hatay 144.65 307 *e*P **PKPdf** 02 04 52.6 -3.1
DLF Lyons Farm 144.68 8⇓ *i*P **PKPdf** 02 04 54.7 -0.5
YAYL Yayladag 144.70 307 *i* P **PKPdf** 02 04 56.5 +0.5
ELDT Eldivan 144.76 315 *i* P PKPbc 02 04 56.4 0.0
WME Myndd Eilian 144.83 6 *e*P **PKPdf** 02 04 54.9 -0.6
WME Myndd Eilian 144.83 6 P **PKPdf** 02 04 54.9 -0.6
SAFT Safranbolu 144.87 317 *e*P **PKPdf** 02 04 53.8 -2.2
TLCR 144.87 325 ⇑*i*PKIKP PKPbc 02 04 56.6 +0.3
TLCR 144.87 325⇑ *i*P PKPbc 02 04 56.5 +0.2
TLCR 144.87 325⇑ *i*P pPKPdf 02 06 58.5 -0.7
WLF1 Llynfaes 144.93 6 *e*P **PKPdf** 02 04 55.0 -0.6
WLF1 Llynfaes 144.93 6 P **PKPdf** 02 04 55.0 -0.6
BUR08 Bucovina Ar. S 144.95 332 *e*PKPdf PKPbc 02 04 56.9 +0.3
YRC Rhoscolyn 144.95 6 *e*P **PKPdf** 02 04 55.4 -0.3
YRC Rhoscolyn 144.95 6 P **PKPdf** 02 04 55.4 -0.3
BURAR Bucovina Array 144.96 332⇑ *i*P **PKPab** 02 04 57.2 -0.3
BR131 Keskin Array S 144.98 314 *e*PKPdf **PKPdf** 02 04 56.0 -0.5
BR131 *e*pPKPdf **pPKPdf** 02 06 58.4 -1.3
BRTR Keskin Array B 144.98 314 PKP **PKPdf** 02 04 55.9 -0.5
BRTR pPKP **pPKPdf** 02 06 58.6 -1.1
BRTR Keskin Array B 144.98 314 PKP **PKPdf** 02 04 55.9 -0.5
comp=Z,41nm,1.0s,baz=135,slow=3.6,SNR=101
BRTR pPKP **pPKPdf** 02 06 58.6 -1.1
comp=Z,16nm,1.1s,baz=101,slow=1.3,SNR=14
WPM1 Penmaenmawr 145.01 5 *e*P **PKPdf** 02 04 55.3 -0.5
WPM1 Penmaenmawr 145.01 5 P **PKPdf** 02 04 55.3 -0.5
OJC Ojcow 145.02 339 *e*PKPbc **PKPdf** 02 04 55.1 -0.9
OJC *e*PKPab **PKPdf** 02 04 56.1 +0.1
OJC *e*PKiKP **PiKiKP** 02 05 00.1 0.0
OJC Ojcow 145.02 339 *i* PKIKP **PKPab** 02 05 00.5 +3.0
OJC Ojcow 145.02 339 *e*PKPdf **PKPdf** 02 04 56.0 +0.1
GHRR 145.02 328⇑ *i*P **PKPab** 02 04 58.0 +0.4
TESR 145.09 329⇑ *i*P **PKPbc** 02 04 57.3 +0.3
KAMT Kaman 145.09 314 *e*P **PKPdf** 02 04 54.8 -1.8
KBI1 Birley Grange 145.18 3 *e*P **PKPdf** 02 04 55.7 -0.4
KBI1 Birley Grange 145.18 3 P **PKPdf** 02 04 55.7 -0.4
KOLS Kolonicke sedl 145.19 336 *e*PKIKP **PKPdf** 02 04 56.7 +0.4
KOLS *e* 02 07 00.5
KOLS Kolonicke sedl 145.19 336 *e*PKP **PKPdf** 02 04 56.7 +0.4
KOLS *e* 02 07 00.5
GULE Gulek 145.23 310 *i* P **PKPbc** 02 04 58.3 +0.3
CFR Carcaliu 145.24 326 ⇓*i*PKIKP **PKPbc** 02 04 57.3 -0.1
CFR Carcaliu 145.24 326⇓ *i*P **PKPbc** 02 04 57.3 -0.1
STNC Stoke 145.30 4 *e*P **PKPbc** 02 04 56.9 -0.4
STNC Stoke 145.30 4 P **PKPbc** 02 04 56.9 -0.4
NRDL Niedersach Rie 145.32 351 *e*PKPbc **PKPbc** 02 04 57.5 +0.2
PETR 145.34 327⇓ *i*P **PKPab** 02 04 58.8 -0.1
UZH Uzhgorod 145.42 335 *i* PKIKP **PKPbc** 02 04 57.4 -0.4
UZH *i* 02 06 59.2
FOEL Foel Wylfa 145.43 5 *e*P **PKPbc** 02 04 57.2 -0.6
FOEL Foel Wylfa 145.43 5 P **PKPbc** 02 04 57.2 -0.6
LOD Lodumlu 145.49 315 *e*P **PKPdf** 02 04 54.1 -3.1
AFSR Af¯ar-Bala (A 145.50 314 *e*P **PKPdf** 02 04 56.0 -1.3
VRI Vrincioaia 145.50 328 ⇑PKIKP **PKPdf** 02 04 56.5 -0.4
VRI Vrincioaia 145.50 328⇑ *i*P **PKPdf** 02 04 56.5 -0.4
NIE Niedzica 145.52 338 *e*PKPdf **PKPdf** 02 04 57.1 +0.2
NIE *e*PKPab **PKPbc** 02 04 58.1 -0.1
NIE Niedzica 145.52 338 *e*PKP2 **PKPab** 02 04 58.9 -0.6
CRVS Cervenica-Dubn 145.52 336 *e*PKIKP **PKPdf** 02 04 57.4 +0.5
CRVS *e* 02 06 55.8
CRVS Cervenica-Dubn 145.52 336 *e*PKP **PKPdf** 02 04 57.4 +0.5
CRVS *e* 02 06 55.8
KSP Ksiaz 145.54 343 *e*PKP **PKPbc** 02 04 58.6 +0.4
KSP Ksiaz 145.54 343 *e*PKP **PKPbc** 02 04 58.6 +0.4
KSP Ksiaz 145.54 343 *i* PKP2 **PKPbc** 02 04 58.5 +0.3
PLOR Plostina 145.55 328 ⇓PKIKP **PKPbc** 02 04 58.3 -0.1
PLOR Plostina 145.55 328⇓ *i*P **PKPbc** 02 04 58.3 -0.1
TIRR Tirgusor 145.56 325 *e*PKP2 **PKPab** 02 05 00.8 +1.1
TIRR Tirgusor 145.56 325 *e*PKPab **PKPab** 02 05 00.8 +1.1
MERS Mersin 145.58 309 *e*P **PKPdf** 02 04 56.2 -1.2
BMR Baia Mare 145.68 333 ⇑PKIKP **PKPdf** 02 04 57.1 0.0
BMR Baia Mare 145.68 333⇑ *i*P **PKPdf** 02 04 57.1 0.0
TRPA Tarpa 145.72 335⇑ *i*P **PKPdf** 02 04 57.1 -0.1
TRPA Tarpa 145.72 335 ⇓*i*P pPKPdf 02 06 59.0 -0.9
TRPA Tarpa 145.72 335 ⇓*e* **PKPdf** 02 04 58.8 +0.1
RCY Rachaya 145.73 303 *e*P **PKPdf** 02 05 00.0 +2.1
BHL Bhannes 145.75 304 *e*P **PKPdf** 02 04 59.1 +1.2
SULT Sultanhani-AKS 145.75 312 *e*P **PKPdf** 02 04 55.5 -2.2
IBBN Ibbenburen 145.83 353 *e*PKPdf **PKPdf** 02 04 57.6 +0.4
IBBN *e*PKPbc **PKPbc** 02 04 59.1 +0.2
HLM1 Long Mynd 145.83 5 *e*P **PKPdf** 02 04 57.6 +0.4
HLM1 Long Mynd 145.83 5 P **PKPdf** 02 04 57.6 +0.4
OKC Ostrava-Krasne 145.89 340 *e*PKIKP **PKPdf** 02 04 57.7 +0.3
OKC *i* 02 04 59.4
OKC *e* 02 07 00.1
OKC Ostrava-Krasne 145.89 340 *e*PKPDF **PKPdf** 02 04 57.7 +0.3
OKC ⇑*i*PKP **PKPbc** 02 04 59.4 +0.2
OKC *e*pPKP **pPKPdf** 02 07 00.1 -0.7
CLZ Clausthal 145.91 350 *e*PKPdf **PKPdf** 02 04 57.9 +0.4
CLZ *e*PKPbc **PKPbc** 02 04 59.5 +0.3
CLZ Clausthal 145.91 350 *e*PKP2 **PKPbc** 02 04 59.5 +0.3
CLL Collm 145.92 347 *e*PKPdf **PKPdf** 02 04 57.7 +0.3
CLL *e*PKPbc **PKPbc** 02 04 59.3 +0.1
CLL Collm 145.92 347⇓ *e*PKIKP **PKPdf** 02 04 58.0 +0.6
CLL *i* 02 04 59.3
CLL *i* 02 07 01.2
CLL pmax pmax
comp=Z,265nm,1.0s
CLL Collm 145.92 347 *e*PKPdf **PKPdf** 02 04 58.0 +0.6
CLL ⇓*i*PKPbc **PKPbc** 02 04 59.3 +0.1
comp=Z,265nm,1.0s
CLL *i* pPKPdf **pPKPdf** 02 07 01.2 +0.4
CLL *i* SKPbc **SKiKP** 02 07 50.0 +1.6
UPC Upice 145.92 343 *e*PKIKP **PKPbc** 02 04 58.5 -0.8
UPC *i* 02 07 01.2
UPC Upice 145.92 343 *e*PKPDF **PKPbc** 02 04 58.5 -0.8
UPC ⇑*i*PKP **PKPab** 02 04 59.8 -1.2
DPC Dobruska-Polom 145.98 343 *e*PKIKP **PKPdf** 02 04 58.1 +0.5
DPC *i* 02 05 00.1
DPC *e* 02 07 01.0
DPC Dobruska-Polom 145.98 343 *e*PKPdf **PKPdf** 02 04 57.5 -0.2
DPC Dobruska-Polom 145.98 343 *e*PKPDF **PKPdf** 02 04 58.1 +0.5
DPC ⇑*i*PKP **PKPbc** 02 05 00.1 +0.6
DPC *e*pPKP **pPKPd

	comp=Z,232nm,1.4s						
BRG				*i* pPKP	**pPKPdf**	02 07 00.4	-0.8
	comp=Z,32nm,1.3s						
BRG				*e*		02 07 43.7	
	comp=Z,9.1nm,1.3s						
BRG				*e*		02 14 00.6	
	comp=Z,13nm,1.8s						
BRG	**Berggiesshubel**	**146.12**	**346**	*e*PKPdf	**PKPdf**	**02 04 57.8**	**0.0**
BRG				*e*PKPbc	**PKPbc**	**02 04 59.9**	**+0.1**
BRG	**Berggiesshubel**	**146.12**	**346**	*i* PKIKP	**PKPdf**	**02 04 57.7**	**-0.1**
BRG				*i*		02 05 00.0	
BRG				*i*		02 07 00.4	
BRG				pmax	pmax		
	comp=Z,42nm,1.5s						
MORC	**Moravsky Berou**	**146.13**	**341**	⇓PKIKP	**PKPdf**	**02 04 57.8**	**-0.1**
MORC	**Moravsky Berou**	**146.13**	**341**	*e*PKPdf	**PKPdf**	**02 04 57.9**	**-0.1**
MORC	**Moravsky Berou**	**146.13**	**341**	⇓*i*P	**PKPdf**	**02 04 57.8**	**-0.1**
MORC	**Moravsky Berou**	**146.13**	**341**	⇓*i*P	pPKPdf	02 07 01.1	-0.2
MLR	**Muntele Rosu**	**146.15**	**328**	PKPbc	**PKPdf**	**02 04 58.8**	**+0.6**
MLR				pPKPbc	pPKPbc	02 07 00.7	-0.7
MLR	**Muntele Rosu**	**146.15**	**328**	⇓*i*P	**PKPbc**	**02 04 59.7**	**-0.5**
MLR	**Muntele Rosu**	**146.15**	**328**	⇓*i*P	pPKPdf	02 07 02.4	+0.8
MLR	**Muntele Rosu**	**146.15**	**328**	PKPbc	**PKPdf**	**02 04 58.8**	**+0.6**
	comp=Z,14nm,1.1s,baz=18,slow=2.6,SNR=20						
MLR				pPKPbc	pPKPbc	02 07 00.7	-0.7
	comp=Z,7.1nm,1.1s,baz=21,slow=3.9,SNR=6.2						
MDUB	**Mudurnu**	**146.23**	**317**	*e*P	**PKPdf**	**02 04 57.0**	**-1.5**
WTSB	**Winterswijk**	**146.27**	**354**	*e*PKPdf	**PKPdf**	**02 04 57.2**	**-0.8**
	comp=Z,41nm,0.9s						
WTSB				*e*PKPbc	**PKPbc**	**02 05 00.0**	**-0.1**
	comp=Z,237nm,1.0s						
WTSB				*ep*PKPbc	pPKPbc	02 07 00.3	-1.0
	comp=Z,48nm,1.4s						
PVCC	**Panska Ves**	**146.28**	**345**	*e*PKIKP	**PKPdf**	**02 04 58.5**	**+0.4**
PVCC				*i*		02 05 00.7	
PVCC				*e*		02 07 01.4	
PVCC	**Panska Ves**	**146.28**	**345**	*e*PKPDF	**PKPdf**	**02 04 58.5**	**+0.4**
PVCC				⇑*i*PKP	**PKPbc**	**02 05 00.7**	**+0.4**
PVCC				*ep*PKP	**pPKPdf**	**02 07 01.4**	**-0.1**
MCH1	**Michaelchurch**	**146.34**	**5**	*e*P	**PKPbc**	**02 04 59.3**	**-1.0**
MCH1	**Michaelchurch**	**146.34**	**5**	P	**PKPbc**	**02 04 59.3**	**-1.0**
SECR		**146.41**	**328**	⇓*i*P	**PKPbc**	**02 05 01.0**	**+0.2**
SECR		**146.41**	**328**	⇓*i*P	pPKPdf	02 07 02.9	+1.0
MDB	**Medias**	**146.44**	**331**	PKP2	**PKPbc**	**02 05 01.6**	**+0.8**
MDB	**Medias**	**146.44**	**331**	⇓*i*P	**PKPbc**	**02 05 01.6**	**+0.8**
SSW	**Stow on the Wo**	**146.45**	**4**	*e*P	**PKPbc**	**02 05 00.3**	**-0.4**
SSW	**Stow on the Wo**	**146.45**	**4**	P	**PKPbc**	**02 05 00.3**	**-0.4**
SVRH	**Sivrihisar-ESK**	**146.54**	**315**	*e*P	**PKPdf**	**02 04 55.5**	**-3.5**
KIZT	**Kizilcal**	**146.58**	**314**	*e*P	**PKPdf**	**02 04 57.7**	**-1.4**
VOIR		**146.63**	**329**	⇑PKP2	**PKPbc**	**02 05 01.6**	**+0.1**
VOIR		**146.63**	**329**	⇑*i*P	**PKPbc**	**02 05 01.6**	**+0.1**
VOIR		**146.63**	**329**	⇓*i*P	pPKPdf	02 07 03.5	+1.1
GULT	**Gulveren**	**146.69**	**317**	*e*P	**PKPdf**	**02 04 55.5**	**-3.7**
DRGR		**146.70**	**333**	⇓PKP2	**PKPbc**	**02 05 01.4**	**-0.2**
DRGR		**146.70**	**333**	⇓*i*P	**PKPbc**	**02 05 01.4**	**-0.2**
DRGR		**146.70**	**333**	⇑*i*P	pPKPdf	02 07 02.5	+0.1
BUG	**Bochum--Univer**	**146.73**	**353**	*e*PKPdf	**PKPdf**	**02 04 58.9**	**+0.1**
BUG				*e*PKPbc	**PKPbc**	**02 05 01.5**	**+0.1**
BUG				*ep*PKPbc	pPKPbc	02 07 03.7	+1.0
PRA	**Prague**	**146.74**	**345**	PKPDF	**PKPdf**	**02 04 59.0**	**+0.2**
PRA				⇑PKP	**PKPbc**	**02 05 02.0**	**+0.5**
PRA				PKPAB	**PKPab**	**02 05 05.0**	**+0.8**
PRA				pPKP	**pPKPdf**	**02 07 03.0**	**+0.7**
PRU	**Pruhonice**	**146.79**	**344**	*e*PKIKP	**PKPdf**	**02 04 59.1**	**+0.2**
PRU				*i*		02 05 01.7	
PRU				*e*		02 07 03.2	
PRU	**Pruhonice**	**146.79**	**344**	*e*PKPDF	**PKPdf**	**02 04 59.1**	**+0.2**
PRU				⇑*i*PKP	**PKPbc**	**02 05 01.7**	**+0.1**
PRU				*ep*PKP	**pPKPdf**	**02 07 03.2**	**+0.8**
VYHS	**Vyhne**	**146.82**	**339**	*e*PKIKP	**PKPdf**	**02 04 59.6**	**+0.5**
VYHS				*e*		02 07 03.4	
VYHS	**Vyhne**	**146.82**	**339**	*e*PKP	**PKPdf**	**02 04 59.6**	**+0.5**
VYHS				*e*		02 07 03.4	
VRAC	**Vranov**	**146.83**	**342**	PKPbc	**PKPbc**	**02 05 01.8**	**0.0**
VRAC				pPKPbc	pPKPbc	02 07 03.4	+0.3
VRAC	**Vranov**	**146.83**	**342**	⇓*i*P	**PKPdf**	**02 04 58.9**	**-0.2**
VRAC	**Vranov**	**146.83**	**342**	⇑*i*P	pPKPdf	02 07 04.3	+1.8
VRAC	**Vranov**	**146.83**	**342**	PKPbc	**PKPbc**	**02 05 01.8**	**0.0**
	comp=Z,57nm,1.1s,baz=45,slow=1.8,SNR=46						
VRAC				pPKPbc	pPKPbc	02 07 03.4	+0.3
	comp=Z,38nm,1.2s,baz=37,slow=3.0,SNR=7.0						
MOX	**Moxa**	**146.84**	**348**	*e*PKPdf	**PKPdf**	**02 04 59.0**	**0.0**
MOX				*e*PKPbc	**PKPbc**	**02 05 02.0**	**+0.2**
MOX				*ep*PKPbc	pPKPbc	02 07 03.4	+0.3
MOX	**Moxa**	**146.84**	**348**	*e*PKP2	**PKPbc**	**02 05 02.0**	**+0.2**
TANN	**Tannenbergstha**	**146.88**	**347**	*e*PKPdf	**PKPdf**	**02 04 59.0**	**-0.2**
TANN				*e*PKPbc	**PKPbc**	**02 05 02.2**	**+0.2**
TANN				*ep*PKPbc	pPKPbc	02 07 03.6	+0.3
SWN1	**Swindon**	**146.90**	**4**	*e*P	**PKPbc**	**02 05 01.2**	**-0.7**
SWN1	**Swindon**	**146.90**	**4**	P	**PKPbc**	**02 05 01.2**	**-0.7**
GPA	**Golpazari**	**146.90**	**317**	*e*P	**PKPdf**	**02 04 59.9**	**+0.4**
CIOR	**Ciorogarla**	**146.91**	**327**	⇑*i*P	**PKPbc**	**02 05 02.8**	**+0.7**
PSZ	**Piszkesteto**	**146.93**	**337**	*e*PKIKP	**PKPdf**	**02 04 59.6**	**+0.2**
PSZ				*e*		02 05 02.1	
PSZ				*e*		02 07 03.1	
PSZ	**Piszkesteto**	**146.93**	**337**	*e*PKPdf	**PKPdf**	**02 04 59.6**	**+0.2**
PSZ				*e*PKPbc	**PKPbc**	**02 05 02.1**	**-0.1**
PSZ				*ep*PKPdf	**pPKPdf**	**02 07 03.0**	**+0.3**
PSZ	**Piszkesteto**	**146.93**	**337**	⇓*i*P	**PKPbc**	**02 05 02.5**	**+0.3**
PSZ	**Piszkesteto**	**146.93**	**337**	⇓*e*	**PKPbc**	**02 05 02.3**	**+0.1**
LFK	**Lefkose**	**146.93**	**307**	*e*P	**PKPdf**	**02 04 59.9**	**+0.1**
PRD	**Provadia**	**146.93**	**324**	P	**PKPbc**	**02 05 02.8**	**+0.6**
ESKT	**Eskisehir**	**146.96**	**316**	*e*P	**PKPdf**	**02 04 59.1**	**-0.6**
SEYT	**Eskypehyr**	**146.96**	**316**	*i* P	**PKPdf**	**02 04 59.7**	**0.0**
UBBA	**Unterbreizbach**	**146.96**	**350**	*e*PKPdf	**PKPdf**	**02 04 58.9**	**-0.2**
UBBA				*e*PKPbc	**PKPbc**	**02 05 02.7**	**+0.8**
UBBA				*ep*PKPbc	pPKPbc	02 07 04.0	+0.7
NKC	**Novy Kostel**	**147.05**	**347**	*e*PKIKP	**PKPdf**	**02 04 59.8**	**+0.4**
NKC				*i*		02 05 02.6	
NKC	**Novy Kostel**	**147.05**	**347**	*e*PKPDF	**PKPdf**	**02 04 59.8**	**+0.4**
NKC				⇑*i*PKP	**PKPbc**	**02 05 02.6**	**+0.2**
NKC				*ep*PKP	**pPKPdf**	**02 07 05.9**	**+3.1**
WOL	**Wolverton**	**147.13**	**3**	*e*P	**PKPbc**	**02 05 01.4**	**-1.1**
WOL	**Wolverton**	**147.13**	**3**	P	**PKPbc**	**02 05 01.4**	**-1.1**
TREC	**Trest**	**147.17**	**343**	*i* PKP2	**PKPbc**	**02 05 02.8**	**+0.1**
TREC	**Trest**	**147.17**	**343**	⇑*i*PKP	**PKPbc**	**02 05 02.8**	**+0.1**
TREC				*e*PKPAB	**PKPab**	**02 05 06.5**	**+0.5**
TREC				*ep*PKP	**pPKPdf**	**02 07 04.7**	**+1.6**
HTL	**Hartland**	**147.19**	**7**	*e*P	**PKPbc**	**02 05 01.5**	**-1.2**
HTL	**Hartland**	**147.19**	**7**	P	**PKPbc**	**02 05 01.5**	**-1.2**
HEX	**Exmoor**	**147.19**	**6**	*e*P	**PKPbc**	**02 05 01.5**	**-1.2**
HEX	**Exmoor**	**147.19**	**6**	P	**PKPbc**	**02 05 01.5**	**-1.2**
ADVT	**Abdulvahap**	**147.19**	**318**	*e*P	**PKPdf**	**02 05 00.6**	**+0.7**
CSS	**Prodhromos**	**147.20**	**307**	*e*P	**PKPdf**	**02 04 59.0**	**-1.1**
CSS	**Prodhromos**	**147.20**	**307**	*e*PKPbc	**PKPbc**	**02 05 02.7**	**-0.5**
CSS				*ep*PKPdf	**pPKPdf**	**02 07 02.8**	**-0.7**
LOT	**Lotru**	**147.24**	**330**	⇑*i*P	**PKPbc**	**02 05 01.8**	**-1.4**
LOT	**Lotru**	**147.24**	**330**	⇑*i*P	pPKPdf	02 07 06.2	+2.8
HUMR	**Humele**	**147.32**	**328**	⇓*i*P	**PKPdf**	**02 05 00.9**	**+0.9**
YLV	**Yalova**	**147.35**	**318**	*e*P	**PKPdf**	**02 04 58.5**	**-1.7**
ELSH	**Elham, Standar**	**147.36**	**0**	*e*P	**PKPbc**	**02 05 03.3**	**+0.2**
ELSH	**Elham, Standar**	**147.36**	**0**	P	**PKPbc**	**02 05 03.3**	**+0.2**
CTKS	**Kestanelik-??a**	**147.50**	**320**	*e*P	**PKPdf**	**02 04 59.9**	**-0.5**
BEBN	**Eben Emael**	**147.53**	**355**	PKPbc	**PKPbc**	**02 05 03.5**	**0.0**
BEBN				APKP	**pPKPdf**	**02 07 05.7**	**+2.1**
HGN	**Heimansgroeve**	**147.54**	**355**	*e*PKPdf	**PKPdf**	**02 04 58.4**	**-1.7**
	comp=Z,30nm,1.4s						
HGN				*e*PKPbc	**PKPbc**	**02 05 03.4**	**-0.2**
	comp=Z,123nm,1.2s						
HGN				*ep*PKPbc	**pPKPbc**	**02 07 04.8**	**-0.3**
ROTZ	**Rotzenmuhle**	**147.54**	**347**	*e*PKPdf	**PKPdf**	**02 05 00.1**	**-0.1**
ROTZ				*e*PKPbc	**PKPbc**	**02 05 04.3**	**+0.6**
ROTZ				*ep*PKPbc	**pPKPbc**	**02 07 06.4**	**+1.2**
BUD	**Budapest**	**147.61**	**337**	⇓*e*	**PKPbc**	**02 05 03.8**	**-0.1**
UCC	**Uccle**	**147.62**	**356**	PKPbc	**PKPbc**	**02 05 04.2**	**+0.4**
SZH	**Strazhica**	**147.69**	**325**	P	**PKPbc**	**02 05 03.9**	**-0.3**
ULDT	**Uludag**	**147.74**	**318**	*i* P	**PKPbc**	**02 05 04.6**	**-0.1**
GZR	**Gura Zlata**	**147.74**	**331**	⇓PKHKP	**PKPbc**	**02 05 03.9**	**-0.5**
GZR	**Gura Zlata**	**147.74**	**331**	⇓*i*P	**PKPbc**	**02 05 03.9**	**-0.5**
GZR	**Gura Zlata**	**147.74**	**331**	⇑*i*P	pPKPdf	02 07 06.3	+2.1
TNS	**Taunus Mts**	**147.78**	**351**	*e*PKPdf	**PKPdf**	**02 05 00.6**	**0.0**
TNS				*e*PKPbc	**PKPbc**	**02 05 04.5**	**+0.2**
TNS				*e*PKPab	**PKPab**	**02 05 08.1**	**-0.4**
TNS				*ep*PKPbc	**pPKPbc**	**02 07 06.0**	**0.0**
TNS	**Taunus Mts**	**147.78**	**351**	*e*PKP2	**PKPab**	**02 05 08.1**	**-0.4**
DYA	**Yadsworthy**	**147.80**	**6**	*e*P	**PKPbc**	**02 05 03.3**	**-1.0**
DYA	**Yadsworthy**	**147.80**	**6**	P	**PKPbc**	**02 05 03.3**	**-1.0**
GRF	**Grafenberg Arr**	**147.82**	**348**	*e*PKPdf	**PKPdf**	**02 05 00.8**	**+0.1**
GRF				*e*PKPbc	**PKPbc**	**02 05 04.9**	**+0.5**
GRF				*e*PKPab	**PKPab**	**02 05 09.0**	**+0.3**
GRF				*ep*PKPbc	**pPKPbc**	**02 07 06.7**	**+0.7**
GRF	**Grafenberg Arr**	**147.82**	**348**	*e*PKP2	**PKPab**	**02 05 09.0**	**+0.3**
GRFO	**Grafenberg**	**147.82**	**348**	*e*PKIKP	**PKPdf**	**02 05 00.2**	**-0.5**
GRFO				*e*		02 05 08.8	
GRFO	**Grafenberg**	**147.82**	**348**	*e*PKPdf	**PKPdf**	**02 05 00.1**	**-0.5**
GRFO				*e*PKPbc	**PKPbc**	**02 05 04.5**	**+0.1**
GRFO				*e*PKPab	**PKPab**	**02 05 08.8**	**+0.1**
KHC	**Kasperske Hory**	**147.82**	**345**	*e*PKIKP	**PKPdf**	**02 05 00.9**	**+0.2**
KHC				*e*		02 05 09.2	
KHC	**Kasperske Hory**	**147.82**	**345**	*e*PKPdf	**PKPdf**	**02 05 00.4**	**-0.3**
KHC				*e*PKPbc	**PKPbc**	**02 05 04.6**	**+0.2**
KHC				*e*PKPab	**PKPab**	**02 05 08.7**	**-0.1**
KHC	**Kasperske Hory**	**147.82**	**345**	*e*PKPDF	**PKPdf**	**02 05 00.9**	**+0.2**
KHC				⇑*i*PKP	**PKPbc**	**02 05 04.7**	**+0.2**
KHC				*e*PKPAB	**PKPab**	**02 05 09.2**	**+0.5**
KHC				*ep*PKP	**pPKPdf**	**02 07 07.1**	**+2.9**
JMB	**Yambol**	**147.86**	**324**	P	**PKPbc**	**02 05 04.9**	**+0.2**
TVSB	**Tavsanli**	**147.91**	**317**	*e*P	**PKPdf**	**02 05 02.0**	**+0.8**
SNF	**Seneffe**	**147.91**	**356**	PKPdf	**PKPdf**	**02 05 01.5**	**+0.7**
SNF				PKPbc	**PKPbc**	**02 05 04.6**	**+0.1**
SNF				PKPab	**PKPab**	**02 05 08.9**	**-0.1**
SNF				APKP	**pPKPdf**	**02 07 06.7**	**+2.5**
PKSG		**147.92**	**338**	⇑*e*	**PKPbc**	**02 05 04.9**	**+0.2**
BCLA	**Clavier**	**147.93**	**355**	PKPdf	**PKPdf**	**02 05 00.5**	**-0.3**
BCLA				PKPbc	**PKPbc**	**02 05 04.8**	**+0.2**
BCLA				APKPbc		02 07 04.1	
WET	**Wettzell**	**147.98**	**346**	*e*PKPdf	**PKPdf**	**02 05 00.9**	**-0.1**
WET				*e*PKPbc	**PKPbc**	**02 05 05.2**	**+0.4**
WET				*e*PKPab	**PKPab**	**02 05 09.9**	**+0.5**
WET				*ep*PKPbc	**pPKPbc**	**02 07 06.7**	**+0.2**
WET	**Wettzell**	**147.98**	**346**	*e*PKP2	**PKPab**	**02 05 09.9**	**+0.5**
ISP	**Isparta**	**148.03**	**313**	*e*PKHKP	**PKPbc**	**02 05 04.4**	**-1.0**
ISP	**Isparta**	**148.03**	**313**	*e*PKPdf	**PKPbc**	**02 05 04.4**	**-1.0**
PVL	**Pavlikeni**	**148.05**	**326**	P	**PKPbc**	**02 05 05.4**	**+0.3**
CRAR	**CRAIOVA**	**148.05**	**329**	PKP2	**PKPbc**	**02 05 06.2**	**+1.1**
GEC2	**GERESS Array S**	**148.06**	**344**	*e*PKPdf	**PKPdf**	**02 05 00.7**	**-0.5**
GEC2				*e*PKPbc	**PKPbc**	**02 05 05.3**	**+0.2**
GEC2				*e*PKPab	**PKPab**	**02 05 10.5**	**+0.7**
GEC2				*ep*PKPbc	**pPKPbc**	**02 07 06.4**	**-0.5**
GEC2	**GERESS Array S**	**148.06**	**344**	*e*PKP2	**PKPab**	**02 05 10.5**	**+0.7**
GERES	**GERESS Array B**	**148.06**	**344**	PKP	**PKPdf**	**02 05 01.1**	**-0.1**
GERES				PKPbc	**PKPbc**	**02 05 04.7**	**-0.4**
GERES				pPKPbc	**pPKPbc**	**02 07 07.4**	**+0.5**
GERES	**GERESS Array B**	**148.06**	**344**	PKP	**PKPdf**	**02 05 01.1**	**-0.1**
	comp=Z,35nm,0.9s,baz=19,slow=6.1,SNR=22						
GERES				PKPbc	**PKPbc**	**02 05 04.7**	**-0.4**
	comp=Z,35nm,0.9s,baz=28,slow=2.3,SNR=104						
GERES				pPKPbc	**pPKPbc**	**02 07 07.4**	**+0.5**
	comp=Z,7.7nm,0.9s,baz=349,slow=1.4,SNR=7.0						
BZS	**Buzias**	**148.09**	**333**	⇑PKHKP	**PKPdf**	**02 05 01.0**	**-0.2**
BZS	**Buzias**	**148.09**	**333**	⇑*i*P	**PKPdf**	**02 05 01.0**	**-0.2**
PKS6	**Bocsa**	**148.15**	**336**	⇑*e*	**PKPbc**	**02 05 05.7**	**+0.5**
KCTX	**Karacabey (Bur**	**148.16**	**319**	*e*P	**PKPdf**	**02 05 02.1**	**+0.5**
PKST	**T``s**	**148.16**	**338**	⇓*e*	**PKPbc**	**02 05 04.8**	**-0.5**
EDRB	**Edirne**	**148.17**	**323**	*e*P	**PKPdf**	**02 04 59.9**	**-1.6**
ABH	**Alteburg**	**148.24**	**352**	PKP	**PKPdf**	**02 05 01.4**	**0.0**
CONA	**Conrad Observa**	**148.28**	**341**	⇑*i*PKPdf	**PKPdf**	**02 05 01.9**	**+0.3**
	comp=Z,9.1nm,1.2s,SNR=40						
CONA				⇓*i*PKiKP	**PKPbc**	**02 05 06.1**	**+0.4**
	comp=Z,198nm,1.3s						
CONA				⇓*i*pPKiKP	**pPKiKP**	**02 07 08.1**	**-1.7**
	comp=Z,44nm,1.2s						
GIVF	**Givet**	**148.28**	**356**	*e*PKIKP	**PKPdf**	**02 05 01.2**	**-0.2**
	comp=Z,95nm,1.4s						
GIVF	**Givet**	**148.28**	**356**	*e*PKHKP	**PKPdf**	**02 05 01.2**	**-0.2**
GIVF	**Givet**	**148.28**	**356**	*e*PKPdf	**PKPdf**	**02 05 01.2**	**-0.2**
SOP	**Sopron**	**148.28**	**340**	⇓*e*	**PKPbc**	**02 05 05.9**	**+0.3**
DOU	**Dourbes**	**148.31**	**356**	PKPdf	**PKPdf**	**02 05 01.7**	**+0.3**
DOU				PKPbc	**PKPbc**	**02 05 05.7**	**+0.1**
DOU				APKP	**pPKPdf**	**02 07 08.1**	**+3.2**
TOD	**Tromm**	**148.33**	**351**	PKHKP	**PKPdf**	**02 05 01.2**	**-0.3**
TOD	**Tromm**	**148.33**	**351**	PKP	**PKPdf**	**02 05 01.2**	**-0.3**
BAIF	**Baives**	**148.37**	**356**	*e*PKIKP	**PKPdf**	**02 05 01.2**	**-0.3**
	comp=Z,35nm,1.4s						
BAIF	**Baives**	**148.37**	**356**	*e*PKHKP	**PKPdf**	**02 05 01.2**	**-0.3**
BAIF	**Baives**	**148.37**	**356**	*e*PKPdf	**PKPdf**	**02 05 01.2**	**-0.3**
PKS2	**Kecel**	**148.37**	**336**	⇑*e*	**PKPbc**	**02 05 06.3**	**+0.5**
BNT	**Bandirma**	**148.38**	**319**	*e*P	**PKPbc**	**02 05 05.8**	**-0.3**
KHL	**Karahalli**	**148.46**	**315**	*e*P	**PKPdf**	**02 05 03.5**	**+1.3**
RUP	**Ruppelstein**	**148.47**	**353**	PKHKP	**PKPdf**	**02 05 02.0**	**+0.2**
RUP	**Ruppelstein**	**148.47**	**353**	PKP	**PKPdf**	**02 05 02.0**	**+0.2**
WLF	**Walferdange**	**148.61**	**354**	*e*PKPdf	**PKPdf**	**02 05 02.2**	**+0.3**
WLF				*e*PKPbc	**PKiKP**	**02 05 07.1**	**-0.3**
WLF				*ep*PKPbc	**pPKPbc**	**02 07 08.6**	**+0.4**
WLF	**Walferdange**	**148.61**	**354**	*e*PKHKP	**PKPdf**	**02 05 02.3**	**+0.3**
WLF	**Walferdange**	**148.61**	**354**	*e*PKPdf	**PKPdf**	**02 05 02.3**	**+0.4**
WLF				*e*PKPbc	**PKPbc**	**02 05 06.8**	**+0.4**
WLF				*ep*PKPdf	**pPKPdf**	**02 07 08.9**	**+3.5**
PKS9	**Tamasi**	**148.64**	**337**	⇑*e*	**PKPbc**	**02 05 06.3**	**+0.1**
DIM	**Dimitrovgrad**	**148.72**	**324**	P	**PKPbc**	**02 05 06.7**	**-0.1**
KRBG	**Karabiga-Canak**	**148.74**	**320**	*e*P	**PKPdf**	**02 05 04.2**	**+1.8**
MOA	**Molln**	**148.82**	**343**	⇑*i*PKPdf	**PKPdf**	**02 05 01.7**	**-0.7**
	comp=Z,11nm,1.5s,SNR=16						
MOA				⇑*i*PKiKP	**PKPbc**	**02 05 07.2**	**+0.3**
	comp=Z,86nm,1.4s						
MOA				⇑*i*PKPab	**PKPab**	**02 05 13.6**	**+0.7**
	comp=Z,92nm,1.4s						
PKSM	**Moragy**	**148.82**	**336**	⇑PKIKP	**PKPdf**	**02 05 02.0**	**-0.4**
PKSM	**Moragy**	**148.82**	**336**	⇑*i*P	**PKPdf**	**02 05 02.0**	**-0.4**
PKSM	**Moragy**	**148.82**	**336**	⇓*i*P	pPKPdf	02 07 13.3	+7.4
PKSM	**Moragy**	**148.82**	**336**	⇓*e*	**PKPbc**	**02 05 06.7**	**-0.2**
KULA	**Kula-Manisa**	**148.93**	**316**	*e*P	**PKPdf**	**02 05 02.8**	**+0.2**
ELL	**Elmali**	**148.97**	**312**	*e*P	**PKPbc**	**02 05 06.4**	**-1.4**
ARSA	**Arzberg**	**148.99**	**341**	⇑*i*PKPdf	**PKPdf**	**02 05 02.4**	**-0.3**
	comp=Z,6.7nm,1.3s,SNR=16						
ARSA				⇑*i*PKPbc	**PKPbc**	**02 05 06.4**	**-1.0**
	comp=Z,57nm,1.3s						
KDZ	**Kurdzhali**	**149.05**	**324**	P	**PKPbc**	**02 05 07.2**	**-0.5**
STU	**Stuttgart**	**149.08**	**350**	*e*PKPdf	**PKPdf**	**02 05 02.4**	**-0.3**
STU				*e*PKPbc	**PKPbc**	**02 05 07.8**	**+0.3**
STU				*e*PKPab	**PKPab**	**02 05 13.4**	**-0.4**
STU	**Stuttgart**	**149.08**	**350**	*e*PKHKP	**PKPdf**	**02 05 03.1**	**+0.4**
STU				*e*		02 05 13.9	
STU	**Stuttgart**	**149.08**	**350**	*e*PKPdf	**PKPdf**	**02 05 03.1**	**+0.4**
STU				*e*PKPbc	**PKPbc**	**02 05 07.9**	**+0.3**
STU				*e*PKPab	**PKPab**	**02 05 13.9**	**-0.1**
LPK	**Lapseki**	**149.08**	**320**	*e*P	**PKPbc**	**02 05 06.4**	**-1.4**
LANF	**Langenberg**	**149.08**	**352**	PKIKP	**PKPdf**	**02 05 02.3**	**-0.4**
LANF	**Langenberg**	**149.08**	**352**	PKP	**PKPdf**	**02 05 02.3**	**-0.4**
DNZL	**Cakiroluk**	**149.10**	**314**	*i* P	**PKPbc**	**02 05 08.7**	**+0.5**
PGB	**Panagyurishte**	**149.13**	**326**	P	**PKPbc**	**02 05 07.6**	**-0.3**
PLD	**Plovdiv**	**149.15**	**325**	P	**PKPbc**	**02 05 07.1**	**-0.8**
JSA	**Saint Aubin**	**149.19**	**4**	*e*P	**PKPbc**	**02 05 07.2**	**-0.5**
JSA	**Saint Aubin**	**149.19**	**4**	P	**PKPbc**	**02 05 07.2**	**-0.5**
ENEZ	**Enez**	**149.22**	**321**	*e*P	**PKPdf**	**02 05 01.3**	**-1.8**
RHK3	**Tenkes**	**149.24**	**337**	⇓*e*	**PKPbc**	**02 05 07.8**	**-0.2**
FUR	**Furstenfeldbru**	**149.26**	**347**	*e*PKPdf	**PKPdf**	**02 05 02.6**	**-0.5**
FUR				*e*PKPbc	**PKPbc**	**02 05 08.2**	**+0.2**
FUR				*e*PKPab	**PKPab**	**02 05 14.7**	**0.0**
FUR				*ep*PKPbc	**pPKPbc**	**02 07 10.1**	**0.0**
FUR	**Furstenfeldbru**	**149.26**	**347**	*e*PKHKP	**PKPbc**	**02 05 08.2**	**+0.2**
BEHE	**Becsehely**	**149.28**	**339**	⇓*e*	**PKPbc**	**02 05 08.1**	**0.0**
RJOB	**Jochberg**	**149.31**	**345**	*e*PKPbc	**PKPbc**	**02 05 08.1**	**-0.1**
RJOB				*e*PKPab	**PKPab**	**02 05 15.6**	**+0.7**
RJOB				*ep*PKPbc	**pPKPbc**	**02 07 10.4**	**+0.1**
RZN	**Rozhen**	**149.42**	**324**	P	**PKPbc**	**02 05 08.2**	**-0.6**
VTS	**Vitosha**	**149.60**	**327**	⇓PKHKP	**PKPbc**	**02 05 09.0**	**-0.2**
VTS	**Vitosha**	**149.60**	**327**	⇓*i*P	**PKPbc**	**02 05 08.9**	**-0.2**
VTS	**Vitosha**	**149.60**	**327**	⇓*i*P	pPKPdf	02 07 11.9	+4.4
VTS	**Vitosha**	**149.60**	**327**	P	**PKPbc**	**02 05 08.9**	**-0.2**
BFO	**Black Forest**	**149.64**	**351**	*e*PKPbc	**PKPbc**	**02 05 08.9**	**0.0**
BFO				*e*PKPab	**PKPab**	**02 05 15.9**	**-0.3**
BFO				*ep*PKPbc	**pPKPbc**	**02 07 10.8**	**-0.3**
BFO	**Black Forest**	**149.64**	**351**	*e*PKIKP	**PKPdf**	**02 05 03.5**	**-0.2**
BFO				*e*		02 05 15.9	
BFO	**Black Forest**	**149.64**	**351**	*e*PKPdf	**PKPdf**	**02 05 03.5**	**-0.2**
BFO				*e*PKPbc	**PKPbc**	**02 05 08.6**	**-0.3**
BFO				*e*PKPab	**PKPab**	**02 05 15.9**	**-0.3**
BFO				*ep*PKPdf	**pPKPdf**	**02 07 09.8**	**+2.5**
SOKA	**Soboth**	**149.66**	**341**	⇑*i*PKPdf	**PKPdf**	**02 05 03.2**	**-0.6**
	comp=Z,13nm,1.5s						
SOKA				⇑*i*PKPbc	**PKPbc**	**02 05 08.9**	**-0.2**
	comp=Z,100nm,1.3s						
EZN	**Ezine**	**149.67**	**320**	*e*P	**PKPbc**	**02 05 07.1**	**-2.1**
GROS	**Grobnik**	**149.70**	**340**	*i* PKPdf	**PKPdf**	**02 05 03.4**	**-0.4**
GROS				*i* PKPbc	**PKPbc**	**02 05 08.5**	**-0.7**
GROS				*i* pPKPbc	**pPKPbc**	**02 07 11.2**	**-0.1**
CDF	**Champ du Feu**	**149.71**	**352**	*e*PKIKP	**PKPdf**	**02 05 03.3**	**-0.5**
	comp=Z,20nm,1.1s						
CDF	**Champ du Feu**	**149.71**	**352**	*e*PKIKP	**PKPdf**	**02 05 03.3**	**-0.5**
CDF	**Champ du Feu**	**149.71**	**352**	*e*PKPdf	**PKPdf**	**02 05 03.3**	**-0.5**
FLN

MFF	**Saint Martin d**	**151.88**	**2**	*e*PKIKP	**PKPdf**	**02 05 06.5**	**-0.6**	
	comp=Z,62nm,1.3s							
MFF	**Saint Martin d**	**151.88**	**2**	*e*PKIKP	**PKPdf**	**02 05 06.5**	**-0.6**	
MFF	**Saint Martin d**	**151.88**	**2**	*e*PKPdf	**PKPdf**	**02 05 06.5**	**-0.6**	
BGF	**Bois d'Agland**	**151.93 358**		*e*PKIKP	**PKPdf**	**02 05 07.0**	**-0.2**	
	comp=Z,92nm,1.7s							
BGF	**Bois d'Agland**	**151.93 358**		*e*PKIKP	**PKPdf**	**02 05 07.0**	**-0.2**	
BGF	**Bois d'Agland**	**151.93 358**		*e*PKPdf	**PKPdf**	**02 05 07.0**	**-0.2**	
TCF	**Toulx Ste Croi**	**152.22 359**		*e*PKIKP	**PKPdf**	**02 05 07.1**	**-0.5**	
	comp=Z,98nm,1.6s							
TCF	**Toulx Ste Croi**	**152.22 359**		*e*PKIKP	**PKPdf**	**02 05 07.1**	**-0.5**	
TCF	**Toulx Ste Croi**	**152.22 359**		*e*PKPdf	**PKPdf**	**02 05 07.1**	**-0.5**	
OG35	**Corcelles**	**152.25 354**		PKP	**PKPdf**	**02 05 07.9**	**+0.2**	
AGO	**Saint Agoulin**	**152.42 357**		PKP	**PKPdf**	**02 05 08.3**	**+0.4**	
AGO	**Saint Agoulin**	**152.42 357**		PKP	**PKPdf**	**02 05 08.3**	**+0.4**	
RSL	**Roselend**	**152.47 352**		PKP	**PKPdf**	**02 05 08.6**	**+0.4**	
PLDF	**La Plantade**	**152.48 357**		PKIKP	**PKPdf**	**02 05 08.8**	**+0.7**	
PLDF	**La Plantade**	**152.48 357**		PKP	**PKPdf**	**02 05 08.8**	**+0.7**	
PLDF	**La Plantade**	**152.48 357**		PKP	**PKPdf**	**02 05 08.8**	**+0.7**	
LPL	**La Plagne**	**152.63 352**		*e*PKIKP	**PKPdf**	**02 05 08.5**	**0.0**	
	comp=Z,60nm,1.6s							
LPL	**La Plagne**	**152.63 352**		*e*PKIKP	**PKPdf**	**02 05 08.5**	**0.0**	
LPL	**La Plagne**	**152.63 352**		*e*PKPdf	**PKPdf**	**02 05 08.5**	**0.0**	
LPG	**La Plagne**	**152.64 352**		*e*PKIKP	**PKPdf**	**02 05 08.7**	**+0.1**	
	comp=Z,37nm,1.5s							
LPG	**La Plagne**	**152.64 352**		*e*PKIKP	**PKPdf**	**02 05 08.7**	**+0.1**	
LPG	**La Plagne**	**152.64 352**		*e*PKPdf	**PKPdf**	**02 05 08.7**	**+0.1**	
BNI	**Bardonecchia**	**153.09 352**		*e*PKIKP	**PKPdf**	**02 05 09.9**	**+0.8**	
BNI	**Bardonecchia**	**153.09 352**		*e*PKPdf	**PKPdf**	**02 05 09.9**	**+0.8**	
BNI				*e*PKPbc	**PKPbc**	**02 05 17.0**	**0.0**	
BNI				*ep*PKPdf	**pPKPdf**	**02 07 19.5**	**+6.7**	
SSB	**Saint Sauveur**	**153.10 355**		PKP	**PKPdf**	**02 05 09.0**	**0.0**	
RJF	**Les Rejaudoux**	**153.21 360**		*e*PKIKP	**PKPdf**	**02 05 08.8**	**-0.3**	
	comp=Z,59nm,1.4s							
RJF	**Les Rejaudoux**	**153.21 360**		*e*PKIKP	**PKPdf**	**02 05 08.8**	**-0.3**	
RJF	**Les Rejaudoux**	**153.21 360**		*e*PKPdf	**PKPdf**	**02 05 08.8**	**-0.3**	
LBL	**Lubilhac**	**153.23 357**		PKIKP	**PKPdf**	**02 05 09.3**	**+0.1**	
LBL	**Lubilhac**	**153.23 357**		PKP	**PKPdf**	**02 05 09.3**	**+0.1**	
LBL	**Lubilhac**	**153.23 357**		PKP	**PKPdf**	**02 05 09.3**	**+0.1**	
ORIF	**Oris-en-Rattie**	**153.32 353**		*e*PKIKP	**PKPdf**	**02 05 08.9**	**-0.5**	
	comp=Z,89nm,1.7s							
ORIF	**Oris-en-Rattie**	**153.32 353**		*e*PKIKP	**PKPdf**	**02 05 08.9**	**-0.5**	
ORIF	**Oris-en-Rattie**	**153.32 353**		*e*PKPdf	**PKPdf**	**02 05 08.9**	**-0.5**	
MBDF	**Montbardon**	**153.40 351**		*e*PKIKP	**PKPdf**	**02 05 08.9**	**-0.6**	
	comp=Z,85nm,1.7s							
MBDF	**Montbardon**	**153.40 351**		*e*PKIKP	**PKPdf**	**02 05 08.9**	**-0.6**	
MBDF	**Montbardon**	**153.40 351**		*e*PKPdf	**PKPdf**	**02 05 08.9**	**-0.6**	
VIVF	**Saint-Julien-l**	**153.51 355**		*e*PKIKP	**PKPdf**	**02 05 09.5**	**0.0**	
	comp=Z,88nm,1.6s							
VIVF	**Saint-Julien-l**	**153.51 355**		*e*PKIKP	**PKPdf**	**02 05 09.5**	**0.0**	
VIVF	**Saint-Julien-l**	**153.51 355**		*e*PKPdf	**PKPdf**	**02 05 09.5**	**0.0**	
LFF	**La Frestale**	**153.57**	**1**	*e*PKIKP	**PKPdf**	**02 05 09.4**	**-0.2**	
	comp=Z,75nm,1.5s							
LFF	**La Frestale**	**153.57**	**1**	*e*PKIKP	**PKPdf**	**02 05 09.4**	**-0.2**	
LFF	**La Frestale**	**153.57**	**1**	*e*PKPdf	**PKPdf**	**02 05 09.4**	**-0.2**	
CAF	**Calviac**	**153.58 359**		*e*PKIKP	**PKPdf**	**02 05 09.5**	**-0.1**	
	comp=Z,63nm,1.7s							
CAF	**Calviac**	**153.58 359**		*e*PKIKP	**PKPdf**	**02 05 09.5**	**-0.1**	
CAF	**Calviac**	**153.58 359**		*e*PKPdf	**PKPdf**	**02 05 09.5**	**-0.1**	
AQU	**L'Aquila**	**154.04 339**		*e*PKPbc	**PKPbc**	**02 05 19.2**	**+0.2**	
AQU				*e*PKPab	**PKPab**	**02 05 35.6**	**+0.6**	
SBF	**Sospel**	**154.13 350**		*e*PKIKP	**PKPdf**	**02 05 09.7**	**-0.8**	
SBF	**Sospel**	**154.13 350**		*e*PKIKP	**PKPdf**	**02 05 09.7**	**-0.8**	
SBF	**Sospel**	**154.13 350**		*e*PKPdf	**PKPdf**	**02 05 09.7**	**-0.8**	
SMRF	**Simiane la Rot**	**154.29 353**		*e*PKIKP	**PKPdf**	**02 05 10.6**	**-0.1**	
	comp=Z,201nm,1.9s							
SMRF	**Simiane la Rot**	**154.29 353**		*e*PKPdf	**PKPdf**	**02 05 10.6**	**-0.1**	
LASF	**Ste Croix**	**154.35 356**		*e*PKIKP	**PKPdf**	**02 05 10.8**	**+0.1**	
	comp=Z,55nm,1.4s							
LASF	**Ste Croix**	**154.35 356**		*e*PKPdf	**PKPdf**	**02 05 10.8**	**+0.1**	
LMR	**La Mourre**	**154.80 351**		*e*PKIKP	**PKPdf**	**02 05 10.9**	**-0.4**	
LMR	**La Mourre**	**154.80 351**		*e*PKIKP	**PKPdf**	**02 05 10.9**	**-0.4**	
LMR	**La Mourre**	**154.80 351**		*e*PKPdf	**PKPdf**	**02 05 10.9**	**-0.4**	
PGF	**Pioggiola**	**155.10 346**		*e*PKIKP	**PKPdf**	**02 05 12.0**	**+0.1**	
	comp=Z,71nm,1.2s							
PGF	**Pioggiola**	**155.10 346**		*e*PKIKP	**PKPdf**	**02 05 12.0**	**+0.1**	
PGF	**Pioggiola**	**155.10 346**		*e*PKPdf	**PKPdf**	**02 05 12.0**	**+0.1**	
SJPF	**Ste Jean**	**155.30**	**4**	*e*PKIKP	**PKPdf**	**02 05 12.1**	**+0.1**	
	comp=Z,44nm,1.4s							
SJPF	**Ste Jean**	**155.30**	**4**	*e*PKIKP	**PKPdf**	**02 05 12.1**	**+0.1**	
SJPF	**Ste Jean**	**155.30**	**4**	*e*PKPdf	**PKPdf**	**02 05 12.1**	**+0.1**	
EPF	**Esparros**	**155.47**	**2**	*e*PKIKP	**PKPdf**	**02 05 12.3**	**0.0**	
	comp=Z,37nm,1.4s							
EPF	**Esparros**	**155.47**	**2**	*e*PKIKP	**PKPdf**	**02 05 12.3**	**0.0**	
EPF	**Esparros**	**155.47**	**2**	*e*PKPdf	**PKPdf**	**02 05 12.3**	**0.0**	
ETSF	**Etsaut**	**155.56**	**3**	*e*PKIKP	**PKPdf**	**02 05 12.8**	**+0.3**	
	comp=Z,31nm,1.2s							
ETSF	**Etsaut**	**155.56**	**3**	*e*PKIKP	**PKPdf**	**02 05 12.8**	**+0.3**	
ETSF	**Etsaut**	**155.56**	**3**	*e*PKPdf	**PKPdf**	**02 05 12.8**	**+0.3**	
POLO	**Lamas de Olo**	**155.84**	**17**	*e*PKPab	**PKPab**	**02 05 43.1**	**+0.3**	
MVO	**Moncorvo**	**156.24**	**16**	*e*PKPdf	**PKPdf**	**02 05 11.7**	**-1.7**	
MVO	**Moncorvo**	**156.24**	**16**	*e*PKPab	**PKPab**	**02 05 44.6**	**+0.1**	
MTE	**Manteigas**	**156.81**	**17**	*e*PKPdf	**PKPdf**	**02 05 14.0**	**-0.1**	
MTE	**Manteigas**	**156.81**	**17**	*e*PKPab	**PKPab**	**02 05 46.7**	**-0.3**	
MTE	**Manteigas**	**156.81**	**17**	*e*PKPab	**PKPab**	**02 05 45.8**	**-1.2**	
PMRV	**Marv??o**	**157.75**	**18**	*e*PKPdf	**PKPdf**	**02 05 15.8**	**+0.5**	
PMRV	**Marv??o**	**157.75**	**18**	*e*PKPab	**PKPab**	**02 05 50.9**	**-0.2**	
PMTG	**Montargil**	**157.82**	**20**	*e*PKPab	**PKPab**	**02 05 50.9**	**-0.5**	
PESTR	**Estremoz**	**158.21**	**19**	*e*PKPdf	**PKPdf**	**02 05 15.9**	**+0.1**	
PESTR	**Estremoz**	**158.21**	**19**	*e*PKPab	**PKPab**	**02 05 52.7**	**-0.4**	
ESDC	**Sonseca Array**	**158.34**	**11**	PKP	**PKPdf**	**02 05 15.6**	**-0.4**	
ESDC				PKPab	**PKPab**	**02 05 53.2**	**-0.5**	
ESDC	**Sonseca Array**	**158.34**	**11**	PKP	**PKPdf**	**02 05 15.6**	**-0.4**	
	comp=Z,2.0nm,0.9s,baz=348,slow=3.5,SNR=12							
ESDC				PKPab	**PKPab**	**02 05 53.2**	**-0.5**	
	comp=Z,8.2nm,0.9s,baz=349,slow=4.0,SNR=23							
ESLA	**Sonseca Array**	**158.34**	**11**	*e*PKPdf	**PKPdf**	**02 05 15.6**	**-0.4**	
ESLA				*e*PKPab	**PKPab**	**02 05 52.8**	**-0.9**	
EVOP	**Sao Brissos**	**158.35**	**20**	⇓*i*PKIKP	**PKPdf**	**02 05 16.1**	**+0.1**	
EVOP	**Sao Brissos**	**158.35**	**20**	⇓*i*PKPdf	**PKPdf**	**02 05 16.1**	**+0.1**	
EVO	**Evora**	**158.38**	**20**	*e*PKPdf	**PKPdf**	**02 05 16.4**	**+0.4**	
EVO	**Evora**	**158.38**	**20**	*e*PKPab	**PKPab**	**02 05 53.6**	**-0.2**	
EVO	**Evora**	**158.38**	**20**	⇓*i*PKIKP	**PKPdf**	**02 05 16.1**	**+0.1**	
	comp=Z,77nm,1.4s							
PAB	**San Pablo**	**158.40**	**12**	*e*PKIKP	**PKPdf**	**02 05 16.8**	**+0.7**	
PAB	**San Pablo**	**158.40**	**12**	*e*PKPdf	**PKPdf**	**02 05 16.8**	**+0.7**	
PNCL	**Nicolau / Gran**	**158.59**	**22**	*e*PKPdf	**PKPdf**	**02 05 15.3**	**-1.0**	
PNCL	**Nicolau / Gran**	**158.59**	**22**	*e*PKPab	**PKPab**	**02 05 54.7**	**0.0**	
PBAR	**Barrancos**	**159.02**	**19**	*e*PKPdf	**PKPdf**	**02 05 17.8**	**+1.0**	
PBAR	**Barrancos**	**159.02**	**19**	*e*PKPab	**PKPab**	**02 05 56.0**	**-0.6**	
PCVE	**Castro Verde**	**159.19**	**21**	*e*PKPdf	**PKPdf**	**02 05 17.4**	**+0.4**	
PCVE	**Castro Verde**	**159.19**	**21**	*e*PKPab	**PKPab**	**02 05 57.4**	**0.0**	
PVAQ	**Vaqueiros**	**159.50**	**21**	*e*PKPdf	**PKPdf**	**02 05 17.6**	**+0.2**	
PVAQ	**Vaqueiros**	**159.50**	**21**	*e*PKPab	**PKPab**	**02 05 58.9**	**+0.2**	
KEST	**Kesra**	**161.37 339**		PKPdf	**PKPab**	**02 06 06.9**	**-0.2**	
KEST	**Kesra**	**161.37 339**		PKPab	**PKPab**	**02 06 06.9**	**-0.2**	
	comp=Z,4.6nm,1.0s,baz=249,slow=2.6,SNR=6.1							
LIC	**Lamto**	**166.37 152**		*e*PKIKP	**PKPdf**	**02 05 23.3**	**-1.3**	
	comp=Z,173nm,1.4s							
LIC	**Lamto**	**166.37 152**		*e*PKPdf	**PKPdf**	**02 05 23.3**	**-1.3**	
DBIC	**Dimbokro**	**166.84 152**		PKP	**PKPdf**	**02 05 23.6**	**-1.3**	
DBIC				PKPdf	PKPdf	02 05 23.9	-0.9	
DBIC				*e*PKPab	**PKPab**	**02 06 32.1**	**+0.6**	
DBIC	**Dimbokro**	**166.84 152**		PKP	**PKPdf**	**02 05 23.6**	**-1.3**	
	comp=Z,13nm,1.0s,baz=162,slow=0.9,SNR=8.2							
DBIC				PKPab	**PKPab**	**02 06 32.1**	**+0.6**	
	comp=Z,3.0nm,0.7s,baz=171,slow=9.3,SNR=4.6							
TORD	**Torodi Ar. Bea**	**174.73 184**		PKP	**PKPdf**	**02 05 27.7**	**-1.2**	
TORD				PKPab	**PKPab**	**02 07 06.0**	**-0.4**	
TORD				pPKP	**pPKPdf**	**02 07 32.8**	**-0.6**	
TORD				pPKPab	**pPKPab**	**02 09 03.5**	**+0.6**	
TORD				PP	**PP**	**02 10 57.7**	**0.0**	
TORD	**Torodi Ar. Bea**	**174.73 184**		PKP	**PKPdf**	**02 05 27.7**	**-1.2**	
	comp=Z,15nm,1.1s,baz=319,slow=0.8,SNR=37							
TORD				PKPab	**PKPab**	**02 07 06.0**	**-0.4**	
	comp=Z,2.3nm,0.6s,baz=182,slow=4.2,SNR=13							
TORD				pPKP	**pPKPdf**	**02 07 32.8**	**-0.6**	
	comp=Z,3.1nm,1.1s,baz=191,slow=0.3,SNR=3.1							
TORD				pPKPab	**pPKPab**	**02 09 03.5**	**+0.6**	
	comp=Z,0.2nm,0.7s,baz=244,slow=37,SNR=2.1							
TORD				PP	**PP**	**02 10 57.7**	**0.0**	
	comp=Z,7.4nm,1.2s,baz=164,slow=4.1,SNR=9.2							

***IDC 20 02:07:37.8**±1.4,**3°34N**×**127°18E**,**h0**km,**mb3.7**/6,*
mb1 3.8**/6,**mb1mx3.6**/23,**mbtmp3.7**/6,**Error ellipse:
s-maj=142.1km s-min=17.8km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.18**	**163**	P	P	02 12 55.5	-0.7
	1.4nm,0.8s,baz=343,slow=10,SNR=17						
ASAR	**Alice Springs**	**27.63**	**167**	P	P	02 13 27.9	+0.6
	0.1nm,0.3s,baz=337,slow=9.7,SNR=3.3						
STKA	**Stephens Creek**	**37.61**	**160**	P	P	02 14 54.4	-0.1
	1.1nm,0.7s,baz=332,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**58.13**	**325**	P	P	02 17 33.5	+0.1
	0.5nm,0.7s,baz=131,slow=7.8,SNR=5.6						
KURBB	**Kurchatov Arra**	**62.30**	**327**	P	P	02 18 01.4	-0.4
	1.4nm,0.8s,baz=126,slow=6.1,SNR=12						
BVAR	**Borovoye Array**	**67.89**	**327**	P	P	02 18 38.5	+0.4
	1.3nm,0.9s,baz=124,slow=7.4,SNR=4.5						

*ISCJB **20** 02:10:02.5±0.8,36°.88N±0°.05×28°.21E±0°.04,h1km±8km,*
Error ellipse: s-maj=8.4km s-min=5.5km az=23.0
*ISK **20** 02:10:02.3,36°.89N×28°.21E,h5km,MD2.8*
*CSEM **20** 02:10:02.6±0.1,36°.87N×28°.20E,h2km,MD2.8,Error*
ellipse: s-maj=3.6km s-min=2.3km az=18.0
*DDA **20** 02:10:04.5,36°.98N×28°.18E,h7km,MD2.8*
ISC 20 02:10:02.8±1.2,**36°.88N**±0°.04×**28°.21E**±0°.03,**h5**km±12km,
n22,σ0**°54**/32,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.26**	**14**	*e*PG	**Pg**	**02 10 08.0**	**+0.2**
YER				*e*SG	**Sg**	**02 10 12.0**	**+0.7**
YER	**Yerkesik**	**0.26**	**14**	*e*Pg	**Pg**	**02 10 08.0**	**+0.2**
YER				*e*Sg	**Sg**	**02 10 12.0**	**+0.7**
TURN	**Turunc**	**0.32**	**92**	*i* P	**Pg**	**02 10 09.0**	**0.0**
TURN				*i* S	**Sg**	**02 10 12.7**	**-0.4**
TURN	**Turunc**	**0.32**	**92**	*i* P	**Pg**	**02 10 09.0**	**0.0**
TURN				*i* S	**Sg**	**02 10 12.7**	**-0.4**
BDRM	**Kayabasi**	**0.64**	**287**	*i* P	**Pg**	**02 10 14.7**	**-0.3**
BDRM				*i* S	**Sb**	**02 10 26.9**	**+1.4**
BDRM	**Kayabasi**	**0.64**	**287**	*i* P	**Pg**	**02 10 14.7**	**-0.3**
BDRM				*i* S	**Sb**	**02 10 26.9**	**+1.4**
BODT	**Bodrum**	**0.74**	**284**	*e*PG	**Pg**	**02 10 16.9**	**-0.1**
BODT	**Bodrum**	**0.74**	**284**	*e*Pg	**Pg**	**02 10 16.9**	**-0.1**
FETY	**Fethiye**	**0.75**	**109**	*e*PG	**Pg**	**02 10 17.1**	**0.0**
FETY	**Fethiye**	**0.75**	**109**	*e*Pg	**Pg**	**02 10 17.1**	**0.0**
AYDN	**Tasoluk**	**0.82**	**341**	*i* P	**Pg**	**02 10 18.8**	**+0.3**
AYDN				*i* S	**Sg**	**02 10 28.4**	**-0.7**
AYDN	**Tasoluk**	**0.82**	**341**	*i* P	**Pg**	**02 10 18.8**	**+0.3**
AYDN				*i* S	**Sg**	**02 10 28.4**	**-0.7**
DNZL	**Cakiroluk**	**1.05**	**40**	*i* P	**Pb**	**02 10 23.4**	**-0.1**
DNZL				*i* S	**Sb**	**02 10 37.1**	**-0.4**
DNZL	**Cakiroluk**	**1.05**	**40**	*i* P	**Pb**	**02 10 23.4**	**-0.1**
DNZL				*i* S	**Sb**	**02 10 37.1**	**-0.4**
ELL	**Elmali**	**1.37**	**95**	*e*PN	**Pb**	**02 10 29.1**	**+0.1**
ELL	**Elmali**	**1.37**	**95**	*e*Pn	**Pb**	**02 10 29.1**	**+0.1**
KULA	**Kula-Manisa**	**1.67**	**12**	*e*PN	**Pn**	**02 10 32.5**	**-0.1**
KULA	**Kula-Manisa**	**1.67**	**12**	*e*Pn	**Pn**	**02 10 32.5**	**-0.1**
BLCB	**Balcova**	**1.76**	**329**	*e*PN	**Pb**	**02 10 34.8**	**-0.7**
BLCB	**Balcova**	**1.76**	**329**	*e*Pn	**Pb**	**02 10 34.8**	**-0.7**
KHL	**Karahalli**	**1.78**	**36**	*e*PN	**Pn**	**02 10 34.2**	**0.0**
KHL	**Karahalli**	**1.78**	**36**	*e*Pn	**Pn**	**02 10 34.2**	**0.0**

*ISCJB **20** 02:15:42.7±0.6,50°.26N±0°.04×18°.95E±0°.04,h0km,Error*
ellipse: s-maj=6.5km s-min=3.4km az=7.8
*CSEM **20** 02:15:43.6±0.3,50°.13N×18°.94E,h2km,ML2.7/4,Error*
ellipse: s-maj=7.8km s-min=4.5km az=8.0
*PRU **20** 02:15:44.5,50°.20N×18°.98E,h0km*
*VIE **20** 02:15:45.3±0.8,49°.66N×19°.07E,h0km,mb1.4/2,ML2.4/3,*
Error ellipse: s-maj=5.7km s-min=4.6km az=131.0 55 km
NNE of Zilina Suspected Mining induced.
ISC 20 02:15:44.2±0.9,**50°.16N**±0°.04×**18°.96E**±0°.03,**h0**km,**n26**,
σ0**°92**/42,**2C**,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.55**	**83**	*e*Pg	**Pg**	**02 15 54.0**	**-0.6**
OJC				*e*Sg	**Sg**	**02 16 01.1**	**-0.7**
OJC	**Ojcow**	**0.55**	**83**	*e*Pg	**Pg**	**02 15 54.5**	**-0.2**
OJC				*e*Sg	**Sg**	**02 16 01.5**	**-0.2**
OKC	**Ostrava-Krasne**	**0.61**	**239**	*e*PG	**Pb**	**02 15 58.1**	**+0.3**
OKC				*e*SG	**Sb**	**02 16 06.4**	**-0.5**
	comp=Z,14nm,0.4s						
MORC	**Moravsky Berou**	**0.99**	**248**	*e*Pg	**Pb**	**02 16 03.9**	**-0.3**
MORC				*e*Sg	**Sb**	**02 16 18.0**	**+0.2**
KRLC	**Kraliky**	**1.40**	**268**	*e*PG	**Pn**	**02 16 10.4**	**-0.7**
KRLC				*e*SG	**Sb**	**02 16 29.9**	**+0.2**
KRLC	**Kraliky**	**1.40**	**268**	Pg	**Pn**	**02 16 10.4**	**-0.7**
KRLC				Sg	**Sb**	**02 16 29.9**	**+0.2**
VYHS	**Vyhne**	**1.67**	**183**	*e*PN	**Pn**	**02 16 14.6**	**-0.1**
VYHS				*e*SN	**Sg**	**02 16 37.3**	**-0.4**
VYHS	**Vyhne**	**1.67**	**183**	*e*Pg	**Pn**	**02 16 14.6**	**-0.1**
VYHS				*e*Sg	**Sg**	**02 16 37.3**	**-0.4**
DPC	**Dobruska-Polom**	**1.70**	**278**	*e*PG	**Pn**	**02 16 14.9**	**-0.3**
DPC				*e*SG	**Sb**	**02 16 39.0**	**+0.7**
	comp=Z,9.3nm,0.2s						
DPC	**Dobruska-Polom**	**1.70**	**278**	Pg	**Pn**	**02 16 14.9**	**-0.3**
DPC				Sg	**Sb**	**02 16 39.0**	**+0.7**
	9.3nm,0.2s						
VRAC	**Vranov**	**1.75**	**242**	*e*Pn	**Pn**	**02 16 16.2**	**+0.4**
VRAC				*e*Sg	**Sg**	**02 16 40.4**	**0.0**
KSP	**Ksiaz**	**1.83**	**293**	*e*Pg	**Pb**	**02 16 18.9**	**+0.3**
KSP				*e*Sg	**Sb**	**02 16 43.0**	**+1.0**
KSP	**Ksiaz**	**1.83**	**293**	*e*Pg	**Pb**	**02 16 18.9**	**+0.3**
KSP				*e*Sg	**Sb**	**02 16 43.0**	**+1.0**
KSP	**Ksiaz**	**1.83**	**293**	*e*Pn	**Pn**	**02 16 16.5**	**-0.5**
KSP	**Ksiaz**	**1.83**	**293**	*e*Pg	**Pb**	**02 16 18.7**	**+0.1**
KSP				*e*Sg	**Sg**	**02 16 43.5**	**+0.4**
UPC	**Upice**	**1.92**	**282**	*e*SG	**Sb**	**02 16 45.0**	**+0.5**
UPC	**Upice**	**1.92**	**282**	Sg	**Sb**	**02 16 45.0**	**+0.5**
CRVS	**Cervenica-Dubn**	**2.06**	**127**	*e*PG	**Pg**	**02 16 23.0**	**-0.7**
CRVS	**Cervenica-Dubn**	**2.06**	**127**	*e*Pg	**Pg**	**02 16 23.0**	**-0.7**
PRU	**Pruhonice**	**2.85**	**268**	*e*SG	**Sb**	**02 17 13.1**	**+1.8**
	comp=Z,2.9nm,0.5s						
PRU	**Pruhonice**	**2.85**	**268**	Sg	**Sb**	**02 17 13.1**	**+1.8**
	2.9nm,0.5s						
BRG	**Berggiesshubel**	**3.28**	**285**	SG	**Sg**	**02 17 28.6**	**-0.9**
	2.3nm,0.4s						
KHC	**Kasperske Hory**	**3.64**	**256**	*e*SG	**Sg**	**02 17 39.8**	**-1.3**
	comp=Z,4.6nm,0.5s						
KHC	**Kasperske Hory**	**3.64**	**256**	Sg	**Sg**	**02 17 39.8**	**-1.3**
	4.6nm,0.5s						
MOA	**Molln**	**3.85**	**235**	⇑*i*Pg	**Pb**	**02 16 55.2**	**+2.1**
MOA				⇑*i*Sg	**Sg**	**02 17 46.3**	**-1.7**
	1.6nm,0.4s						
MOA	**Molln**	**3.85**	**235**	Pg	**Pb**	**02 16 55.2**	**+2.1**
MOA				Sg	**Sg**	**02 17 46.3**	**-1.7**
	1.6nm,0.4s						

*IDC **20** 02:46:23.9±1.1,0°.40S×132°.94E,h0km,mb3.9/7,*
mb1 4.1/9,mb1mx3.9/22,mbtmp4.0/9,ML4.1/2,MS3.1/5,
Ms1 3.1/5,ms1mx3.0/31,Error ellipse: s-maj=54.9km
s-min=15.4km az=69.0
*ISCJB **20** 02:46:26.8±0.6,0°.32S±0°.06×133°.03E±0°.04,h32km,*
mb3.9/7,MS3.2/2,Error ellipse: s-maj=8.4km s-min=6.0km
az=5.4
*DJA **20** 02:46:27,0°.26S×133°.09E,h27km,mb4.3/9*
ISC 20 02:46:28.4±0.8,**0°.33S**±0°.08×**133°.04E**±0°.05,**h32**km,**n23**,
σ1**°78**/24,**mb4.0/7**,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**1.85**	**253**	P	**Pn**	**02 46 57.8**	**-0.2**
SWI				S	**Sn**	**02 47 19.3**	**-1.0**
FAKI	**Fak Fak**	**2.69**	**197**	P	**Pn**	**02 47 10.6**	**+1.1**
FAKI				S	**Sn**	**02 47 36.2**	**-4.8**
BAKI	**Biak**	**3.19**	**106**	P	**Pb**	**02 47 22.3**	**-2.1**
BAKI				S	**Sn**	**02 47 53.9**	**+0.6**
MSAI	**Masohi**	**5.08**	**234**	P	**Pn**	**02 47 43.9**	**+1.5**
TLE	**Tual**	**5.28**	**183**	P	**Pn**	**02 47 47.1**	**+1.9**
TLE				S	**Sn**	**02 48 46.5**	**+1.5**
LBMI	**Labuha**	**5.54**	**267**	P	Pn	02 47 54.2	+5.4
	56nm,0.7s,1μm0.3nm						
AAI	**Ambon**	**5.88**	**235**	P	**Pn**	**02 47 54.3**	**+0.9**
	145nm,0.5s,3μm0.7nm						
NLAI	**Namlea**	**6.60**	**244**	P	**Pn**	**02 48 03.7**	**+0.4**
	46nm,0.5s,0.2nm						
NLAI				S	**Sn**	**02 49 18.2**	**+0.7**
	46nm,0.5s,0.2nm						
JAY	**Jayapura**	**7.97**	**106**	P	Pn	02 48 10.6	-12
SPSI	**Sidrap Palu**	**13.74**	**255**	P	**Pn**	**02 49 41.6**	**+0.5**
KAPI	**Kappang**	**14.06**	**250**	Pn	**Pn**	**02 49 48.5**	**+2.9**
	0.6nm,0.3s,baz=102,slow=9.9,SNR=4.7						
KAPI				LR	LR	02 54 36.5	
	comp=Z,34nm,20.3s,baz=276,slow=35						
GUMO	**Guam**	**18.13**	**40**	LR	LR	02 56 57.3	
	comp=Z,114nm,18.9s,baz=60,slow=35						
FITZ	**Fitzroy Crossi**	**19.10**	**202**	P	**P**	**02 50 47.5**	**-1.2**
	0.3nm,0.3s,baz=29,slow=12,SNR=7.8						
FITZ				S	Sn	02 54 07.1	-16
	0.2nm,0.3s,baz=45,slow=19,SNR=4.2						
FITZ				LR	LR	02 57 10.7	
	comp=Z,51nm,20.3s,baz=182,slow=34						
WRA	**Warramunga Arr**	**19.53**	**176**	P	**P**	**02 50 52.8**	**-0.6**
	0.6nm,0.3s,baz=354,slow=11,SNR=38						
WRA				S	S	02 54 21.3	-11
	0.2nm,0.3s,baz=355,slow=24,SNR=5.2						
ASAR	**Alice Springs**	**23.21**	**178**	P	**P**	**02 51 32.2**	**-0.6**
	2.4nm,0.4s,baz=358,slow=11,SNR=45						
ASAR				S	**S**	**02 55 46.5**	**+3.6**
	1.3nm,0.8s,baz=0.2,slow=25,SNR=4.3						
CTA	**Charters Tower**	**23.52**	**147**	P	**P**	**02 51 36.5**	**+0.6**
	3.5nm,0.9s,baz=337,slow=9.8,SNR=5.7						
STKA	**Stephens Creek**	**32.40**	**166**	P	**P**	**02 52 54.3**	**-1.1**
	4.6nm,0.6s,baz=322,slow=10.0,SNR=14						
MJAR	**Matsushiro Arr**	**37.00**	**7**	LR	LR	03 05 59.5	
	comp=Z,46nm,18.9s,baz=200,slow=32						
KSRS	**Korea Array**	**37.89**	**353**	LR	LR	03 10 12.1	
	com

HFS	**Hagfors**	**62.09**	**344**	P		**P**	**03 02 59.5**	**-0.1**
	comp=Z,1.4nm,1.0s,baz=354,slow=5.8,SNR=4.6							
TXAR	**Lajitas Array**	**67.76**	**70**	P		**P**	**03 03 38.7**	**+1.6**
	comp=Z,0.4nm,1.0s,baz=297,slow=6.0,SNR=2.9							

*IDC **20** 02:59:15.0±1.2, 27.26S×176.38W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.9/16, mbtmp3.8/4, Error ellipse: s-maj=58.4km s-min=29.1km az=160.0*
*ISCJB **20** 02:59:18.8±1.1, 27.2S±0.1×176.4W±0.2, h34km, mb4.1/8, Error ellipse: s-maj=24.2km s-min=16.7km az=23.4*
*NEIC **20** 02:59:21.8±2.8, 27.38S×176.39W, h48km±22km, mb4.4/5, Error ellipse: s-maj=22.8km s-min=16.9km az=203.0*

ISC 20 02:59:20.3±0.8, 27.3S±0.1×176.4W±0.2, h34km, n23, σ0.6s63/24, mb4.0/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.36**	**215**	*e*Pn		**Pn**		**02 59 58.0**	**+1.3**
RAO				*e*Sn		**Sb**		**03 00 30.5**	**-0.5**
KHZ	**Kahutara** 17nm,0.8s	**17.17**	**206**	*e*P		**Pn**		**03 03 15.8**	**-1.7**
CTAO	**Charters Tower** 2.9nm,0.7s	**34.87**	**274**	*e*P		**P**		**03 06 08.7**	**0.0**
STKA	**Stephens Creek**	**36.66**	**253**	P		**P**		**03 06 24.6**	**+0.7**
STKA	**Stephens Creek** 1.7nm,0.8s,baz=99,slow=13,SNR=3.2	**36.66**	**253**	P		**P**		**03 06 24.6**	**+0.7**
ASAR	**Alice Springs**	**44.80**	**263**	P		**P**		**03 07 30.5**	**-0.7**
ASAR	**Alice Springs** 0.7nm,0.6s,baz=98,slow=6.7,SNR=6.9	**44.80**	**263**	P		**P**		**03 07 30.5**	**-0.7**
WRAB	**Tennant Creek** 1.7nm,0.8s	**45.51**	**268**	*e*P		**P**		**03 07 37.0**	**+0.2**
WRA	**Warramunga Arr**	**45.51**	**268**	P		**P**		**03 07 36.2**	**-0.7**
WRA	**Warramunga Arr** 1.0nm,0.7s,baz=108,slow=7.5,SNR=12	**45.51**	**268**	P		**P**		**03 07 36.2**	**-0.7**
QSPA	**South Pole Qui** 6.2nm,0.9s	**62.78**	**180**	*e*P		**P**		**03 09 42.7**	**+0.5**
NVAR	**Mina Array Bea**	**85.01**	**42**	P		**P**		**03 11 52.6**	**+0.1**
NVAR	**Mina Array Bea** 0.7nm,0.9s,baz=216,slow=7.6,SNR=4.1	**85.01**	**42**	P		**P**		**03 11 52.6**	**+0.1**
KULM	**Kulim** 7.9nm,0.9s	**86.19**	**278**	*e*P		**P**		**03 11 58.8**	**+0.1**
NB2	**NORSAR Subarra1** comp=Z,0.7nm,0.7s,baz=12,slow=2.8	**145.89**	**353**	PKP		**PKPdf**		**03 18 54.5**	**-0.5**
NOA	**NORSAR Array B**	**145.89**	**353**	PKPbc		**PKPdf**		**03 18 54.8**	**-0.2**
NOA	**NORSAR Array B** comp=Z,1.0nm,0.7s,baz=14,slow=4.4,SNR=4.4	**145.89**	**353**	PKPbc		**PKPdf**		**03 18 54.8**	**-0.2**
AKASG	**Malin Array Be**	**149.60**	**327**	PKPbc		**PKPbc**		**03 19 05.6**	**-0.3**
AKASG	**Malin Array Be** comp=Z,0.5nm,0.5s,baz=35,slow=4.3,SNR=3.0	**149.60**	**327**	PKPbc		**PKPbc**		**03 19 05.6**	**-0.3**
BRTR	**Keskin Array B**	**152.22**	**304**	PKPbc		**PKPbc**		**03 19 12.8**	**+0.2**
BRTR	**Keskin Array B** comp=Z,0.8nm,1.0s,baz=336,slow=6.6,SNR=2.4	**152.22**	**304**	PKPbc		**PKPbc**		**03 19 12.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**165.79**	**172**	PKPab		**PKPab**		**03 20 21.2**	**-0.2**
TORD	**Torodi Ar. Bea** comp=Z,1.1nm,0.8s,baz=192,slow=2.8,SNR=6.5	**165.79**	**172**	PKPab		**PKPab**		**03 20 21.2**	**-0.2**

IDC 20 03:13:40.3±1.2, 3.72N×127.14E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/22, mbtmp3.9/6, MS3.2/1, Ms1 3.2/1, ms1mx2.3/43, Error ellipse: s-maj=87.0km s-min=17.7km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 1.8nm,0.6s,baz=7.6,slow=11,SNR=7.2	**21.74**	**184**	P		P		03 18 33.3	-0.1
WRA	**Warramunga Arr** 13nm,0.7s,baz=344,slow=11,SNR=86	**24.56**	**164**	P		P		03 19 01.9	-0.2
ASAR	**Alice Springs** 1.0nm,0.5s,baz=344,slow=8.3,SNR=11	**28.01**	**167**	P		P		03 19 33.3	+0.1
KSRS	**Korea Array** comp=Z,33nm,18.4s,baz=147,slow=38	**33.58**	**1**	LR		LR		03 34 39.3	
STKA	**Stephens Creek** 2.4nm,0.6s,baz=351,slow=8.5,SNR=8.7	**37.98**	**160**	P		P		03 21 00.1	+0.1
SONM	**Songino Array** 0.3nm,0.7s,baz=148,slow=7.8,SNR=2.4	**47.43**	**341**	P		P		03 22 17.0	+0.2
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=115,slow=8.1,SNR=11	**57.79**	**325**	P		P		03 23 33.0	-0.5

*ISCJB **20** 03:24:02.2±1.0, 36.94N±0.08×28.3E±0.1, h12km±10km, Error ellipse: s-maj=17.2km s-min=8.5km az=140.5*
*DDA **20** 03:24:03.0, 36.97N×28.27E, h7km, MD2.8*

ISC 20 03:24:02.2±1.4, 36.92N±0.08×28.28E±0.07, h7km±25km, n4, σ0.035/8, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.21**	**360**	*e*PG		**Pg**		**03 24 06.1**	**-0.3**
YER				*e*SG		**Sg**		**03 24 09.9**	**+0.6**
TURN	**Turunc**	**0.26**	**101**	*i* P		**Pg**		**03 24 07.4**	**0.0**
TURN				*i* S		**Sg**		**03 24 10.8**	**-0.1**
BDRM	**Kayabasi**	**0.69**	**282**	*i* P		**Pg**		**03 24 15.4**	**-0.1**
BDRM				*i* S		**Sb**		**03 24 26.2**	**+0.1**
AYDN	**Tasoluk**	**0.80**	**336**	*i* P		**Pg**		**03 24 17.8**	**+0.1**
AYDN				*i* S		**Sg**		**03 24 27.9**	**-0.2**

TAP 20 03:46:02.7, 23.47N×121.34E, h10km, ML3.5, 5C-3D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EHY	**Hungye** baz=348	**0.04**	**341**	⇓*i* P		Pg		03 46 04.8	+0.2
TWF1	**Yuli** baz=194	**0.12**	**197**	*i* P		Pg		03 46 05.9	+0.3
TWF1				*e*S		Sg		03 46 07.9	+0.2
ESL	**Shilin** baz=16	**0.35**	**15**	⇑*i* P		Pg		03 46 09.9	+0.1
ESL				*e*S		Sg		03 46 14.2	-0.4
CHKT	**Chengkung** baz=162	**0.37**	**176**	P		Pb		03 46 11.5	+0.1
CHKT				*e*S		Sb		03 46 18.5	+1.3
ELDTW	**Lidau** baz=226	**0.41**	**227**	⇓*i* P		Pg		03 46 10.7	-0.2
ELDTW				*e*S		Sg		03 46 15.7	-0.7
ESF	**Shoufeng Towns** baz=22	**0.43**	**21**	*e*P		Pg		03 46 11.3	+0.2
ESF				*e*S		Sg		03 46 16.5	-0.3
ALS	**Alishan** baz=275	**0.49**	**275**	P		Pb		03 46 13.4	-0.4
ALS				*e*S		Sg		03 46 19.8	+0.4
HWA	**Hwalien** baz=20	**0.56**	**26**	*e*P		Pb		03 46 14.2	-0.4
SMLT	**Sun Moon Lake** baz=317	**0.57**	**316**	*e*P		Pg		03 46 14.1	+0.1
SMLT				*e*S		Sg		03 46 21.5	-0.2
CHN5	**Tsauling** baz=282	**0.62**	**282**	⇑*i* P		Pb		03 46 15.9	+0.1
CHN5				S		Sb		03 46 24.5	-0.1
TYC	**Yuchr** baz=316	**0.62**	**315**	⇑*i* P		Pb		03 46 15.1	-0.4
TYC				*e*S		Sg		03 46 23.5	+0.7
TWD	**Chiawan** baz=13	**0.65**	**21**	*e*P		Pg		03 46 15.0	-0.4
TWD				*e*S		Sg		03 46 23.6	-0.4
WHF	**Hehuan Shan** baz=356	**0.68**	**354**	⇑*i* P		Pg		03 46 15.9	-0.5
WHF				*e*S		Sg		03 46 25.4	-0.2
TWG	**Pinlang** baz=209	**0.69**	**201**	*e*P		Pg		03 46 15.9	-0.1
TWG				*e*S		Sb		03 46 25.8	-0.6
CHN4	**Tsaushan** baz=254	**0.69**	**260**	P		Pb		03 46 17.4	+0.5
CHN4				S		Sb		03 46 26.6	+0.1
WTP	**Ta-pu** baz=251	**0.70**	**252**	*e*P		Pb		03 46 17.0	0.0
WTP				*e*S		Sb		03 46 26.5	-0.3
WNT	**Mingjian** baz=305	**0.72**	**304**	P		Pn		03 46 18.6	-0.4
WNT				*e*S		Sn		03 46 30.1	0.0
WGK	**Gukeng** baz=287	**0.74**	**287**	*e*P		Pn		03 46 18.7	-0.5
WGK				*e*S		Sn		03 46 30.4	-0.2
SGST	**Jiashian** baz=239	**0.79**	**241**	*e*P		Pb		03 46 18.8	+0.2
SGST				*e*S		Sb		03 46 29.8	+0.4
CHN2	**Minshiung** baz=291	**0.79**	**275**	*e*P		Pn		03 46 19.6	-0.3
CHN2				*e*S		Sn		03 46 31.9	+0.1
TWT	**Tachien** baz=349	**0.79**	**349**	P		Pg		03 46 18.2	-0.1
TWT				*e*S		Sg		03 46 28.4	-0.5
CHN1	**Nanshi** baz=249	**0.80**	**249**	*e*P		Pb		03 46 19.1	+0.4
CHN1				*e*S		Sb		03 46 30.4	+0.9
TWK	**Hsinying** baz=247	**0.81**	**256**	*e*P		Pb		03 46 19.5	+0.6
TWK				S		Sb		03 46 30.7	+0.9
CHY	**Chiayi** baz=287	**0.84**	**272**	P		Pn		03 46 20.5	-0.1
CHY				S		Sn		03 46 32.7	-0.2
TCU	**Taichung** baz=318	**0.91**	**318**	*e*P		Pn		03 46 21.8	+0.2
ECL	**Taimali** baz=187	**0.94**	**202**	*e*P		Pg		03 46 20.0	-0.7
NNS	**Nan Shan** baz=355	**0.97**	**2**	*e*P		Pg		03 46 21.2	-0.3
NNS				*e*S		Sg		03 46 34.1	-0.1
SSD	**Sandimen** baz=213	**0.97**	**222**	*e*P		Pg		03 46 20.7	-0.7
TWQ1	**Liyutan** baz=331	**1.01**	**330**	⇑*i* P		Pn		03 46 24.0	+0.9
TWQ1				*e*S		Sn		03 46 38.8	+1.4
ENA	**Nanau** baz=22	**1.02**	**21**	*e*P		Pg		03 46 21.8	-0.6
CHN8	**Yiju** baz=262	**1.04**	**263**	*e*P		Pn		03 46 23.7	+0.4
CHN8				*e*S		Sn		03 46 38.9	+1.0
WTCT	**Ta-ch'eng** baz=292	**1.04**	**292**	*e*P		Pn		03 46 23.2	-0.2
WTCT				*e*S		Sn		03 46 39.1	+1.1
TWM1	**Shoushan** baz=219	**1.06**	**233**	*e*P		Pn		03 46 24.9	+1.2
EAST	**Anshuo** baz=190	**1.17**	**203**	*e*P		Pb		03 46 24.1	-1.0
ENTT	**Nioudou** baz=23	**1.19**	**10**	P		Pb		03 46 25.2	-0.1
ENTT				*e*S		Sg		03 46 41.0	+0.1
NSTT	**Nanjuang** baz=346	**1.20**	**345**	*e*P		Pg		03 46 25.8	+0.1
NSTT				*e*S		Sg		03 46 41.5	+0.2
NSK	**Sanguang** baz=3.0	**1.20**	**1**	P		Pb		03 46 25.6	0.0
NSK				*e*S		Sb		03 46 40.8	-0.5
TWC	**Suao** baz=17	**1.23**	**22**	*e*P		Pn		03 46 25.5	-0.4
TWC				*e*S		Sb		03 46 41.9	-0.1
TWE	**Neicheng** baz=24	**1.28**	**14**	*e*P		Pb		03 46 26.9	-0.1
TWE				*e*S		Sn		03 46 43.7	-0.2
TWS1	**Kuangyinshan** baz=30	**1.63**	**3**	*e*P		Pb		03 46 32.9	+0.1
TWS1				*e*S		Sg		03 46 54.8	-0.2
PNG	**Penghu** baz=272	**1.64**	**274**	*e*P		Pn		03 46 31.5	0.0
PNG				*e*S		Sb		03 46 53.3	-0.4
NWF	**Wu-fen Shan** baz=20	**1.65**	**14**	*e*P		Pn		03 46 32.5	+0.6
NWF				*e*S		Sb		03 46 54.8	+0.7

*SZGRF **20** 03:48:37.4, 32.84N×74.82E, h33km, mb5.5, MS4.8, Southwestern Kashmir*
*IDC **20** 03:48:46.6±0.4, 34.24N×73.82E, h0km, mb5.1/37, mb1 5.2/42, mb1mx5.2/42, mbtmp5.2/42, ML5.4/4, MS5.0/34, Ms1 5.0/34, ms1mx4.8/42, Error ellipse: s-maj=8.5km s-min=6.8km az=28.0*
*NDI **20** 03:48:48.6±6.2, 34.15N×73.46E, h10km, ML5.4, mb5.5(NEIC)*
*ISCJB **20** 03:48:48.5±0.5, 34.28N±0.01×73.88E±0.02, h20km±3km, mb5.3/261, MS5.2/80, Error ellipse: s-maj=2.6km s-min=2.0km az=23.2*
*BGS **20** 03:48:48.6±1.5, 34.24N×73.62E, h10km, mb5.2*
*NEIC **20** 03:48:48.5±0.1, 34.20N×73.90E, h12km, mb5.5/124, ME5.2, MW5.4, Error ellipse: s-maj=4.2km s-min=2.5km az=28.0 Broadband fault plane solution: P waves. NP1: ϕs120.00000°, δ70.00000°, λ90.00000°. NP2: ϕs300.00000°, δ20.00000°, λ90.00000°. Principal axes: T Plg65.0000°, Azm30.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm210.0000°; Moment Tensor Solution. s45 Moment tensor: Scale 10^17 Nm; Mrr1.09; Mθθ-0.65; Mϕϕ-0.44; Mrθ0.51; Mθϕ0.53; Mϕr-0.74; Best double couple: M0 1.40000×10^17 NP1:ϕs300.00000°, δ26.00000°, λ72.00000°. NP2:ϕs140.00000°, δ65.00000°, λ99.00000°. Principal axes: T 1.4300, Plg68.0000°, Azm66.0000°; N -0.0300, Plg7.0000°, Azm315.0000°; P -1.3900, Plg19.0000°, Azm223.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC At least 44 people injured and landslides in Kashmir. Some buildings damaged at Balgran, Hattian, Islamabad, Jhelum, Jura, Lahore, Malial, Masarm, Muzzaffarabad, Rawalpindi and Uri, Pakistan. Some buildings damaged at Baramulla and Marsar, India. Felt strongly in the Chandigarh-Srinagar area, India.
*MOS **20** 03:48:50.2±1.0, 34.26N×73.84E, h33km, mb5.6/111, MS5.1/31 Error ellipse: s-maj=5.2km s-min=3.1km az=122.0*
*DJA **20** 03:48:50, 34.14N×73.97E, h10km, mb5.6/24*
*TEH **20** 03:48:51.0, 34.25N×73.85E, h26km, ML5.4*
*NNC **20** 03:48:52.5±2.5, 34.60N×73.23E, h0km, mb5.7, mpv5.8, Error ellipse: s-maj=24.2km s-min=19.1km az=107.0*
*LDG **20** 03:48:52.4±0.5, 34.37N×73.93E, h60km, Mb5.3/42, Ms4.7/10, Error ellipse: s-maj=23.6km s-min=6.5km az=151.0*
*BJI **20** 03:48:53.9, 34.37N×74.49E, h29km, mB5.7/47, mb5.2/53, ML5.7/3, Ms5.6/63, Ms7 5.3/60*

ISC 20 03:48:50.2±0.2, 34.24N±0.02×73.82E±0.02, h21km±2km, h21km:pP-P, n1058, σ1.953/1193, mb5.4/259, MS5.1/84, 177C-55D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**0.74**	**219**	P		**Pb**		**03 49 03.3**	**-1.2**
NIL	**Nilore**	**0.75**	**219**	*e*Pg		**Pb**		**03 49 03.7**	**-0.9**
NIL				*e*Sg		**Sb**		**03 49 13.9**	**-0.6**
CEP	**Cherat**	**1.64**	**256**	P		**Pn**		**03 49 18.6**	**+0.6**
CEP				S		**Sb**		**03 49 43.0**	**+2.8**
THW	**Thamme Wali**	**2.26**	**231**	P		**Pn**		**03 49 27.9**	**+1.5**
THN	**Thein Dam**	**2.40**	**138**	*e*PKP		**Pn**		**03 49 30.1**	**+1.9**
THN				*ex*		x		03 50 18.8	
DLH	**Dalhousie**	**2.46**	**133**	*e*PKP		**Pn**		**03 49 31.0**	**+1.6**
DLH				*ex*		x		03 50 31.0	
SARP	**Sargodha**	**2.50**	**203**	P		**Pn**		**03 49 31.1**	**+1.4**
BHK	**Bhakra**	**3.56**	**141**	*e*PKP		**Pn**		**03 49 47.0**	**+2.7**
BHK				*ex*		**Sn**		**03 50 28.2**	**+2.5**
SDNR	**Sundarnagar**	**3.80**	**135**	*e*PKP		**Pn**		**03 49 49.2**	**+1.6**
SDNR				*ex*		**Sb**		**03 50 45.0**	**+2.7**
KBL	**Kabul**	**3.96**	**276**	*e*P		**Pn**		**03 49 52.8**	**+2.8**
KBL	**Kabul**	**3.96**	**276**	*e*Pn		**Pn**		**03 49 52.8**	**+2.8**
SMLA	**Simla**	**4.19**	**137**	*i* P		**Pn**		**03 49 54.6**	**+1.7**
SMLA				*i* S		**Sn**		**03 50 43.6**	**+2.4**
SMLA	comp=N,51μm,0.3s			⇓AML		AML		03 50 44.7	
SMLA	comp=E,50μm,0.2s			⇓AML		AML		03 50 45.4	
KKR	**Kurukshetra**	**4.96**	**148**	*e*PKP		**Pn**		**03 50 05.4**	**+1.8**
KKR				*ex*		x		03 50 52.3	
DDI	**Dehra Dun**	**5.30**	**136**	*e*PKP		**Pn**		**03 50 09.0**	**+0.8**
KSH	**Kashi**	**5.54**	**17**	Pn		**Pn**		**03 50 10.1**	**-1.5**
KSH				Sg		**Sb**		**03 51 35.0**	**+2.5**
KSH	comp=N,8μm,1.3s			smax		smax			
KSH	comp=E,14μm,1.6s			smax		smax			
BHGR	**Bahadurgarh**	**6.14**	**153**	*e*PKP		**Pn**		**03 50 20.0**	**+0.3**
BHGR				*ex*		**Sn**		**03 51 31.0**	**+1.7**
NDI	**New Delhi**	**6.25**	**151**	*e*S		Pg		03 50 50.9	
NDI	comp=E,3μm,0.6s			AML		AML		03 51 36.1	
NDI	comp=N,1μm,0.4s			AML		AML		03 51 36.1	
KHET	**Khetri**	**6.37**	**164**	*e*PKP		**Pn**		**03 50 22.2**	**-0.7**
KHET				*e*S		**Sn**		**03 51 30.8**	**-4.3**
KHET				*e*S		**Sn**		**03 51 31.8**	**-3.4**
AYAN	**Aya Nagar**	**6.39**	**153**	*i* P		**Pn**		**03 50 23.8**	**+0.6**
KUDL	**Kundal**	**6.49**	**159**	*e*PKP		**Pn**		**03 50 24.3**	**-0.2**
KUDL				*e*S		**Sn**		**03 51 34.6**	**-3.3**
PTH	**Pithoragarh**	**7.17**	**129**	*e*PKP		**Pn**		**03 50 36.9**	**+2.9**
PTH				*e*S		**Sn**		**03 51 55.9**	**+1.0**
AJM	**Ajmer**	**7.76**	**175**	*ex*		**Pn**		**03 50 40.0**	**-2.1**
AML	**Almayashu** SNR=34	**7.88**	**359**	P		**Pn**		**03 50 45.6**	**+1.6**
KZA	**Kyzart** SNR=25	**7.91**	**8**	P		**Pn**		**03 50 46.5**	**+2.2**
UCH	**Uchtor** SNR=93	**8.00**	**4**	P		Pn		03 50 49.1	+3.5
ULHL	**Ulahol** SNR=209	**8.22**	**13**	P		Pn		03 50 51.9	+3.4
AAK	**Ala-Archa**	**8.40**	**3**	P		**Pn**		**03 50 53.3**	**+2.4**
AAK								03 52 27.5	
AAK	comp=Z,8.0nm,0.3s			pmax		pmax			
AAK	comp=N,15nm,0.3s			smax		smax			
AAK	comp=Z,20μm,21.3s			MLR		MLR			
AAK	**Ala-Archa** comp=Z,401nm,0.9s	**8.40**	**3**	*e*Pn		**Pn**		**03 50 53.4**	**+2.6**
AAK				Sn		**Sn**		**03 52 27.5**	**+2.4**
AAK				Lg		Lg		03 53 14.3	
AAK	**Ala-Archa** comp=Z,1μm,0.5s,SNR=88	**8.40**	**3**	Pn		**Pn**		**03 50 54.0**	**+3.1**
AAK	**Ala-Archa** SNR=177	**8.40**	**3**	P		**Pn**		**03 50 53.4**	**+2.6**
AAK	**Ala-Archa** SNR=186	**8.40**	**3**	P		Pn		03 50 54.4	+3.5
AAK	**Ala-Archa** comp=Z,8.1nm,0.3s,baz=176,slow=15,SNR=114	**8.40**	**3**	Pn		**Pn**		**03 50 53.3**	**+2.4**
AAK	comp=Z,15nm,0.3s,baz=194,slow=22,SNR=3.9			Sn		**Sn**		**03 52 27.5**	**+2.4**
AAK	baz=150,slow=20,SNR=2.2			Lg		Lg		03 53 14.3	
AAK	comp=Z,20μm,21.3s,baz=177,slow=40			LR		LR		03 54 27.2	
EKS2	**Erkin-Say**	**8.41**	**360**	*e*P		**Pn**		**03 50 52.3**	**+1.3**
EKS2				*e*				03 52 23.3	
EKS2	**Erkin-Say**	**8.41**	**360**	*e*Pn		**Pn**		**03 50 52.3**	**+1.3**
EKS2				*e*Sn		**Sn**		**03 52 23.3**	**-2.1**
EKS2	**Erkin-Say** SNR=36	**8.41**	**360**	P		**Pn**		**03 50 53.5**	**+2.5**
KBK	**Karagaybulak** SNR=183	**8.45**	**6**	P		Pn		03 50 55.3	+3.7
FRU	**Bishkek**	**8.61**	**4**	⇑*i* P		Pn		03 50 57.0	+3.4
FRU				*i* S		**Sn**		**03 52 34.5**	**+4.5**
FRU	comp=Z,2μm,2.0s			pmax		pmax			
FRU	comp=N,3μm,2.0s			smax		smax			
FRU	comp=E,76μm,14.0s			MLR		MLR			
CHMS	**Chumysh** SNR=23	**8.78**	**4**	P		Pn		03 50 59.9	+3.9
TKM2	**Tokmak 2** comp=E,514nm,1.4s	**8.78**	**9**	⇑P		**Pn**		**03 50 58.0**	**+1.8**
TKM2	comp=E,808nm,0.8s			⇑S		**Sn**		**03 52 39.4**	**+4.8**
TKM2	**Tokmak 2**	**8.78**	**9**	*i* P		Pn		03 50 59.9	+3.8
TKM2	**Tokmak 2** SNR=30	**8.78**	**9**	P		Pn		03 50 59.9	+3.8
USP	**Ospenovka** SNR=13	**9.03**	**3**	P		Pn		03 51 03.0	+3.6
KK31	**Karatay Array** comp=E,233nm,0.5s,baz=161,slow=12,SNR=3235	**9.22**	**345**	⇓P		**Pn**		**03 51 02.6**	**+0.6**
KK31	comp=E,780nm,0.8s,baz=165,slow=23,SNR=14			⇓S		**Sn**		**03 52 43.8**	**-1.3**
KK31	**Karatay Array**	**9.22**	**345**	*e*P		**Pn**		**03 51 02.6**	**+0.6**
KK31								03 52 43.8	
KK31	comp=Z,493nm,0.6s			pmax		pmax			
KK31	comp=Z,256nm,0.3s			smax		smax			
KKAR	**Karatay Array**	**9.22**	**345**	*e*P		**Pn**		**03 51 01.8**	**-0.2**
KKAR				*e*				03 52 43.9	
KKAR	**Karatay Array**	**9.22**	**345**	*e*Pn		**Pn**		**03 51 01.8**	**-0.2**
KKAR				*e*Sn		**Sn**		**03 52 43.9**	**-1.2**
KNDC	**Almaty** comp=Z,307nm,1.1s	**9.30**	**14**	⇑P		**Pn**		**03 51 06.2**	**+3.1**
KNDC	comp=Z,937nm,1.4s			⇓S		**Sn**		**03 52 49.9**	**+3.0**
AAA	**Alma-Ata**	**9.35**	**14**	*i* P		**Pn**		**03 51 06.4**	**+2.7**
AAA				*i* S		**Sn**		**03 52 53.0**	**+4.8**
AAA	comp=Z,4μm,2.3s			pmax		pmax			
AAA	comp=E,4μm,3.1s			smax		smax			
AAA	comp=Z,49μm,12.0s			MLR		MLR			
DANN	**Dangsing** comp=Z,322nm,0.3s	**10.32**	**122**	*e*P		**Pn**		**03 51 15.4**	**-2.0**
DANN				*e*S		Sn		03 53 06.3	-6.4
DANN	**Dangsing** comp=Z,322nm,0.3s	**10.32**	**122**	*e*P		**Pn**		**03 51 15.4**	**-2.0**
DANN				*e*S		Sn		03 53 06.3	-6.4
KOLN	**Koldanda** comp=Z,363nm,0.4s	**10.57**	**125**	*e*P		**Pn**		**03 51 19.0**	**-1.8**
KOLN				*e*S		**Sn**		**03 53 13.8**	**-4.9**
KOLN	**Koldanda** comp=Z,363nm,0.4s	**10.57**	**125**	*e*P		**Pn**		**03 51 19.0**	**-1.8**
KOLN				*e*S		**Sn**		**03 53 13.8**	**-4.9**
GKN	**Gorkha** comp=Z,518nm,0.4s	**11.15**	**121**	*e*P		**Pn**		**03 51 26.1**	**-2.5**
GKN	**Gorkha** comp=Z,518nm,0.4s	**11.15**	**121**	*e*P		**Pn**		**03 51 26.1**	**-2.5**
ALBI	**Allahabad**	**11.28**	**140**	*ex*		Pn		03 51 26.0	-4.2
IMYA	**Miami**	**11.41**	**285**	*e*P		**Pn**		**03 51 33.3**	**+1.2**
DMN	**Daman** comp=Z,847nm,0.6s	**11.72**	**121**	*e*P		**Pn**		**03 51 34.3**	**-2.2**
DMN	**Daman** comp=Z,847nm,0.6s	**11.72**	**121**	*e*P		**Pn**		**03 51 34.3**	**-2.2**
KKN	**Kakani** comp=Z,1μm,0.6s	**11.74**	**120**	*e*P		**Pn**		**03 51 34.3**	**-2.4**
KKN				*e*S		Sn		03 53 40.2	-7.0
KKN	**Kakani**	**11.74**	**120**	*e*P		**Pn**		**03 51 34.3**	**-2.4**
KKN				*e*S		Sn		03 53 40.2	-7.0
KKN	comp=Z,1μm,0.6s			pmax		pmax			
KKN	**Kakani** comp=Z,1μm,0.6s	**11.74**	**120**	*e*P		**Pn**		**03 51 34.3**	**-2.4**
KKN				*e*S		Sn		03 53 40.2	-7.0
IMON	**Monand**	**11.84**	**269**	*e*P		**Pn**		**03 51 41.0**	**+3.0**
PKI	**Pulchoki** comp=Z,755nm,0.5s	**11.96**	**121**	*e*P		Pn		03 51 36.5	-3.3
PKI	**Pulchoki** comp=Z,755nm,0.5s	**11.96**	**121**	*e*P		Pn		03 51 36.5	-3.3
PKI				pmax		pmax			
PKI	**Pulchoki** comp=Z,755nm,0.5s	**11.96**	**121**	*e*P		Pn		03 51 36.5	-3.3
IMOG	**Moghan**	**12.00**	**283**	*e*P		**Pn**		**03 51 41.4**	**+1.1**
GUN	**Gumba** comp=Z,433nm,0.4s	**12.10**	**118**	*e*P		**Pn**		**03 51 39.1**	**-2.7**
GUN	**Gumba** comp=Z,433nm,0.4s	**12.10**	**118**	*e*P		**Pn**		**03 51 39.1**	**-2.7**

IPAY Payeh 12.31 285 *e*P Pn 03 51 44.7 +0.2
JIRN Jiri 12.47 118 *e*P Pn 03 51 44.1 -2.7
comp=Z,257nm,0.4s
JIRN Jiri 12.47 118 *e*P Pn 03 51 44.1 -2.7
comp=Z,257nm,0.4s
IKOO Kooshah 12.53 266 *e*P Pn 03 51 49.0 +1.5
ITEG Tejag 12.65 268 *e*P Pn 03 51 51.4 +2.3
IKRD Kardeh 12.73 286 *e*P Pn 03 51 41.4 -8.8
RAMN Ramite 13.18 120 *e*P Pn 03 51 52.2 -4.2
comp=Z,624nm,0.6s
RAMN Ramite 13.18 120 *e*P Pn 03 51 52.2 -4.2
comp=Z,624nm,0.6s
ABKT Ailbek 13.23 291 Pn Pn 03 51 57.7 +0.9
comp=Z,870nm,0.6s,SNR=20
TAPN Taplejung 13.76 116 *e*P Pn 03 52 00.3 -4.1
comp=Z,669nm,0.6s
TAPN Taplejung 13.76 116 *e*P Pn 03 52 00.3 -4.1
comp=Z,669nm,0.6s
AKL Akola 13.77 167 ⇓*i*P Pn 03 52 01.2 -3.2
AKL *ex* x 03 54 23.0
ODAN Odare 13.80 119 *e*P Pn 03 52 01.7 -3.2
comp=Z,830nm,0.8s
ODAN Odare 13.80 119 *e*P Pn 03 52 01.7 -3.2
comp=Z,830nm,0.8s
NGP Nagpur 13.83 159 *e*PKP Pn 03 51 59.0 -6.1
NGP *e*S Sn 03 54 28.1 -10
MK31 Makanchi Array 14.09 25 ⇓P Pn 03 52 07.6 -0.9
comp=Z,59nm,0.7s,baz=205,slow=12,SNR=394
MK31 Makanchi Array 14.09 25 *e*P Pn 03 52 07.6 -0.9
MK31 Makanchi Array 14.09 25 *e*Pn Pn 03 52 07.6 -0.9
MKAR Makanchi Array 14.09 25 P Pn 03 52 07.6 -0.6
MKAR 03 54 46.7
MKAR Makanchi Array 14.09 25 Pn Pn 03 52 07.9 -0.6
MKAR Sn Sn 03 54 46.7 +2.6
MKAR Lg Lg 03 56 19.6
MKAR Makanchi Array 14.09 25 Pn Pn 03 52 07.9 -0.6
comp=Z,0.8nm,0.3s,baz=203,slow=10,SNR=70
MKAR Sn Sn 03 54 46.7 +2.6
baz=215,slow=18,SNR=2.0
MKAR Lg Lg 03 56 19.6
baz=203,slow=22,SNR=2.0
MKAR LR LR 03 58 36.9
comp=Z,4μm,21.2s,baz=210,slow=42
WMQ Urumqi 14.40 44 P Pn 03 52 11.0 -1.8
WMQ pP P 03 52 17.0 -2.6
WMQ sP 03 52 21.0
WMQ S Sn 03 54 46.8 -5.0
WMQ sS Sn 03 54 53.8 +2.0
WMQ pmax pmax
comp=Z,160nm,0.6s
WMQ pmax pmax
comp=Z,1μm,4.2s
WMQ LR LR
comp=N,22μm,13.2s
WMQ LR LR
comp=E,24μm,12.8s
WMQ LR LR
comp=Z,18μm,19.0s
GTK Gangtok 14.45 114 *e*PKP Pn 03 52 15.0 +1.3
GTK *ex* x 03 54 38.0
LSA Lhasa 15.38 102 P Pn 03 52 23.3 -3.2
LSA S Sn 03 55 04.8 -12
LSA LR LR
comp=N,5μm,10.4s
LSA LR LR
comp=E,15μm,11.0s
LSA LR LR
comp=Z,18μm,11.1s
LSA Lhasa 15.38 102 *e*P Pn 03 52 23.2 -3.2
LSA pmax pmax
comp=Z,339nm,0.8s
LSA Lhasa 15.38 102 *e*Pn Pn 03 52 23.2 -3.2
comp=Z,339nm,0.8s
IBAF Bafgh 15.56 265 *e*P P 03 52 30.8 -1.9
POO Poona 15.64 180 *i* PP P 03 52 37.0 +3.5
LATR Latur 15.94 171 *ex* Pn 03 52 28.6 -4.7
LATR *ex* x 03 55 15.7
IBND Bandar-abas 16.30 250 *e*P P 03 52 40.3 -0.4
IBND *e*P P 03 52 40.3 -0.4
ICHK Chekchek 16.37 268 *e*P P 03 52 41.2 -0.5
IANJ Anjilo 16.39 280 *e*P Pn 03 52 39.8 +0.5
IMEH Mehriz 16.40 265 *e*P P 03 52 40.7 -1.4
IGLO Ghaloghah 16.47 284 *e*P P 03 52 42.2 -0.6
IKIA Kiasar 16.58 283 *e*P P 03 52 44.4 +0.4
KURBB Kurchatov Arra 16.73 10 ⇓P Pn 03 52 40.5 -2.7
comp=Z,53nm,1.0s
KURBB ⇑S Sn 03 55 53.1 +4.8
comp=Z,24nm,1.1s
KURBB Kurchatov Arra 16.73 10 Pn Pn 03 52 40.3 -2.9
comp=Z,3.0nm,0.3s,baz=198,slow=11,SNR=116
KURBB Sn Sn 03 55 47.1 -1.2
baz=185,slow=19,SNR=2.1
KURBB Lg Lg 03 57 43.9
baz=199,slow=28,SNR=4.9
KURBB LR LR 03 59 40.9
comp=Z,11μm,19.4s,baz=195,slow=39
KURK Kurchatov 16.84 11 ⇑P Pn 03 52 41.5 -3.1
comp=Z,525nm,1.3s
KURK ⇑S Sn 03 55 54.7 +3.8
comp=Z,240nm,1.5s
KURK Kurchatov 16.84 11 *e*P Pn 03 52 41.3 -3.2
KURK 03 55 47.2
KURK pmax pmax
comp=Z,500nm,1.2s
KURK Kurchatov 16.84 11 *e*Pn Pn 03 52 41.3 -3.2
comp=Z,500nm,1.2s
KURK Sn Sn 03 55 47.1 -3.7
KURK Lg Lg 03 57 43.9
KURK Kurchatov 16.84 11 Pn Pn 03 52 42.1 -2.4
comp=Z,1μm,1.2s,SNR=57
KAD Karad 16.86 179 *ex* Pn 03 52 41.1 -4.0
KAD *ex* x 03 57 22.9
ISHM Shahmirzad 16.89 281 *e*P Pn 03 52 46.2 +0.6
ISAD Sadrabad 17.04 268 *e*P P 03 52 51.0 +1.8
ILAS Lasjerd 17.18 280 *e*P P 03 52 51.2 +0.5
CAL Calcutta 17.26 129 *ex* Pn 03 52 41.1 -8.9
CAL *ex* x 03 55 48.7
BANOM Banah 17.27 246 ⇑P Pn 03 52 49.7 -0.4
SNR=7.1
HYB Hyderabad 17.28 165 *i* P Pn 03 52 44.0 -6.3
HYB *e* 03 55 42.0
HYB *e*S Sn 03 56 02.0 0.0
HYB LR LR 03 59 30.0
comp=Z,22nm,10.0s
IALA Alasht 17.28 282 *e*P P 03 52 51.5 -0.4
IFIR Firoozkooh 17.33 281 *e*P P 03 52 52.1 -0.3
WBK Wadi Bani Khal 17.44 232 ⇑P Pn 03 52 51.5 -0.7
SNR=71
BWNR Bhubaneshwar 17.48 140 *ex* x 03 52 43.0
BWNR *ex* x 03 55 50.0
IPRN Peran 17.66 283 *e*P P 03 52 57.6 +1.7
SMDO Samad 17.74 235 P Pn 03 52 55.9 -0.3
SNR=81
SHL Shillong 17.86 114 *ex* Pn 03 52 52.0 -5.7
SHL *i* x x 03 59 05.0
HOQ Hoqain 17.91 238 P P 03 53 00.8 +2.2
SNR=32
IZEF Zefreh 17.96 272 *e*P P 03 52 59.9 +0.5
HATD Hatta, Dubai 18.00 243 P P 03 52 59.3 -0.3
SNR=14
ASHO Ashiyiah 18.14 243 P P 03 52 02.0 +0.9
SNR=29
IPAR Pars 18.14 262 *e*P P 03 53 03.0 +1.5
JMDO Jabal Madar 18.18 234 ⇑P P 03 53 01.5 0.0
SNR=63
AB31 Akbulak array 18.19 330 ⇑P Pn 03 52 59.9 -1.4
comp=Z,133nm,0.6s,baz=146,slow=12,SNR=2148
AB31 S Sn 03 56 15.1 -8.5
comp=Z,104nm,0.8s,baz=141,slow=23,SNR=8.9
AB31 Akbulak array 18.19 330 *e*P Pn 03 52 59.9 -1.4
AB31 pmax pmax
comp=Z,142nm,0.6s
ABKAR Akbulak array 18.19 330 *e*Pn Pn 03 52 58.3 -2.9
ABKAR *e*Sn Sn 03 56 14.8 -8.8
IVRN Varamin 18.20 279 *e*P P 03 53 02.3 +0.5
IVRN *e*P P 03 53 02.3 +0.5
ISRV Sarvestan 18.25 260 *e*P P 03 53 03.3 +0.7
NAZ Nazwa, Dubai 18.26 245 ⇓P P 03 53 03.0 +0.6
SNR=12
IGAR Gharneh 18.30 270 *e*P P 03 53 05.0 +2.0
AGT Agartala 18.37 120 *ex* Pn 03 52 54.0 -10
AGT *ex* x 03 53 09.0
IKLH Kolahrood 18.52 273 *e*P Pn 03 53 06.5 +0.8
BSY Bisya 18.54 236 P Pn 03 53 07.0 +1.3
SNR=51
VOSK Vostochnaya 18.59 355 ⇑P P 03 53 04.5 -1.4
comp=Z,348nm,1.4s
VOSK ⇓S Sn 03 56 27.5 -5.9
comp=Z,227nm,1.9s
ARQ Araqi 18.62 239 ⇑P Pn 03 53 08.8 +2.0
SNR=46
GOA Goa 18.66 180 ⇓*i*P Pn 03 53 07.0 -0.3
GOA *i* S Sn 03 56 34.9 -0.6
BVA0 Borovoye Array 18.94 354 P P 03 53 09.5 -0.2
BVA0 S Sn 03 56 42.5 +0.7
comp=Z,4.9nm,0.9s,baz=174,slow=28,SNR=5.9
BVAR Borovoye Array 18.94 354 P P 03 53 08.0 -1.7
BVAR S Sn 03 56 40.3 -1.5
BVAR pmax pmax
comp=Z,40nm,0.3s
BVAR smax smax
comp=N,1.0nm,0.3s
BVAR MLR MLR
comp=Z,8μm,19.6s
BVAR Borovoye Array 18.94 354 P P 03 53 08.1 -1.7
BVAR S Sn 03 56 40.3 -1.5
BVAR Lg Lg 03 58 50.8
BVAR Borovoye Array 18.94 354 P P 03 53 08.0 -1.7
comp=Z,40nm,0.3s,baz=157,slow=11,SNR=340
BVAR S Sn 03 56 40.3 -1.5
comp=Z,1.2nm,0.3s,baz=170,slow=25,SNR=3.9
BVAR Lg Lg 03 58 50.8
comp=Z,0.4nm,0.3s,baz=150,slow=32,SNR=3.0
BVAR LR LR 04 00 53.6
comp=Z,8μm,19.6s,baz=172,slow=38
BRVK Borovoye 18.98 353 ⇑P P 03 53 10.0 -0.1
comp=Z,299nm,0.7s
BRVK ⇑S Sn 03 56 40.0 -2.8
comp=Z,514nm,1.5s
BRVK Borovoye 18.98 353 *e*P P 03 53 09.8 -0.4
BRVK *e*S Sn 03 56 43.9 +1.1
BRVK pmax pmax
comp=Z,199nm,0.7s
BRVK Borovoye 18.98 353 *e*P P 03 53 09.8 -0.4
comp=Z,198nm,0.7s
BRVK *e*S Sn 03 56 43.9 +1.1
BRVK Borovoye 18.98 353 P P 03 53 10.6 +0.4
comp=Z,2μm,0.7s
ZRNK Zerenda 19.02 351 ⇑P P 03 53 09.3 -1.3
comp=Z,138nm,0.7s
ZRNK ⇓S Sn 03 56 36.8 -6.9
comp=Z,235nm,1.4s
IPIR Pirpir 19.19 272 *e*P Pn 03 53 15.4 +1.5
IRAZ Razeghan 19.65 280 *e*P Pn 03 53 19.3 0.0
IMP Imphal 19.85 113 *ex* Pn 03 53 17.0 -4.6
IMP *ex* x 03 56 54.0
AKTO Aktyubinsk 19.89 329 ⇑P Pn 03 53 21.4 -0.5
comp=Z,96nm,0.7s
AKTO ⇑S S 03 56 59.3 -3.8
comp=Z,48nm,1.4s
AKTO Aktyubinsk 19.89 329 P P 03 53 19.4 -0.8
AKTO S S 03 56 55.3 -7.7
AKTO Aktyubinsk 19.89 329 P P 03 53 19.4 -0.8
AKTO S S 03 56 55.3 -7.7
AKTO Lg Lg 03 59 22.0
AKTO Aktyubinsk 19.89 329 P P 03 53 19.4 -0.8
comp=Z,30nm,0.3s,baz=131,slow=11,SNR=154
AKTO S S 03 56 55.3 -7.7
comp=Z,1.0nm,0.3s,baz=217,slow=20,SNR=2.6
AKTO Lg Lg 03 59 22.0
comp=Z,0.2nm,0.3s,baz=60,slow=20,SNR=2.1
AKTO LR LR 04 01 58.3
comp=Z,3μm,19.4s,baz=145,slow=40
GOBA Gobu 20.09 295 P Pn 03 53 27.8 +3.5
SNR=7.6
GOBA Gobu 20.09 295 P Pn 03 53 27.8 +3.5
SNR=7.6
GOBA Gobu 20.09 295 P Pn 03 53 27.8 +3.5
SNR=7.6
SIZA Siyzn 20.84 296 P Pn 03 53 35.9 +2.7
SNR=6.8
SIZA Siyzn 20.84 296 P Pn 03 53 35.9 +2.7
SNR=6.8
SIZA Siyzn 20.84 296 P Pn 03 53 35.9 +2.7
SNR=6.8
GLBA Clilabad 20.95 291 P Pn 03 53 34.8 +0.5
SNR=22
GLBA Clilabad 20.95 291 P Pn 03 53 34.8 +0.5
SNR=22
GLBA Clilabad 20.95 291 P Pn 03 53 34.8 +0.4
SNR=22
PQL Pirkuli 21.02 296 P P 03 53 34.4 +1.8
SNR=13
PQL Pirkuli 21.02 296 P P 03 53 34.4 +1.8
SNR=13
PQL Pirkuli 21.02 296 P P 03 53 34.4 +1.8
SNR=13
ZALV Zalesovo Beam 21.18 18 P P 03 53 32.4 -1.6
ZALV S Sn 03 57 32.8 -2.9
ZALV Zalesovo Beam 21.18 18 P P 03 53 32.4 -1.6
ZALV S Sn 03 57 32.8 -2.9
ZALV Lg Lg 04 00 00.8
ZALV Zalesovo Beam 21.18 18 P P 03 53 32.4 -1.6
comp=Z,105nm,0.5s,baz=210,slow=11,SNR=197
ZALV S Sn 03 57 32.8 -2.9
comp=Z,20nm,0.7s,baz=201,slow=20,SNR=4.0
ZALV Lg Lg 04 00 00.8
comp=Z,6.4nm,0.9s,baz=262,slow=20,SNR=2.8
ZALV LR LR 04 03 10.2
comp=Z,2μm,20.7s,baz=208,slow=41
QUBA Quba, Azerbaij 21.20 297 P P 03 53 40.7 +6.3
SNR=16
QUBA Quba, Azerbaij 21.20 297 P P 03 53 40.7 +6.3
SNR=16
QUBA Quba, Azerbaij 21.20 297 P P 03 53 40.7 +6.3
SNR=16
IML Ismayilli 21.32 295 P P 03 53 37.5 +1.7
SNR=24
IML Ismayilli 21.32 295 P P 03 53 37.5 +1.7
SNR=24
IML Ismayilli 21.32 295 P P 03 53 37.5 +1.7
SNR=24
GTA Gaotai 21.40 68 P P 03 53 36.4 -0.3
GTA pP pP 03 53 42.8 +0.1
GTA sP sP 03 53 47.0 +1.6
GTA pmax pmax
comp=Z,160nm,1.1s
GTA pmax pmax
comp=Z,3μm,7.8s
GTA LR LR
comp=N,5μm,10.4s
GTA LR LR
comp=E,4μm,14.5s
GTA LR LR
comp=Z,4μm,15.0s
ISRB Sarab 21.43 287 *e*P P 03 53 38.6 +1.5
NVS Novosibirsk 21.63 15 ⇑*i*P P 03 53 37.2 -1.6
NVS *i* S S 03 57 30.2 -7.0
NVS pmax pmax
comp=N,657nm,2.2s
NVS pmax pmax
comp=Z,988nm,2.2s
NVS pmax pmax
comp=E,72nm,1.1s
NVS smax smax
comp=N,611nm,3.3s
NVS smax smax
comp=E,382nm,2.0s
IKOM Komasi 21.75 277 *e*P P 03 53 42.2 +1.7
IHRS Heris 21.94 288 *e*P P 03 53 43.5 +0.9
BRDA Brd 22.00 294 P P 03 53 45.4 +2.4
SNR=37
BRDA Brd 22.00 294 P P 03 53 45.4 +2.4
SNR=37
BRDA Brd 22.00 294 P P 03 53 45.4 +2.4
SNR=37
IBST Bostanabad 22.04 287 *e*P P 03 53 45.5 +1.8
IVIS Veis 22.25 278 *e*P P 03 53 45.6 -0.2
MAK Makhachkala 22.27 301 *e*P P 03 53 42.0 -3.8
MAK *e*PPP PPP 03 54 13.4
MAK *e*S S 03 57 49.8 +0.1
MAK *e*SSS SSS 03 58 31.2
MAK pmax pmax
comp=Z,353nm,2.2s
MAK MLR MLR
comp=Z,6μm,12.0s
IGHG Ghaleghazi 22.50 278 *e*P P 03 53 50.2 +1.5
IDHR Dehrash 22.60 279 *e*P P 03 53 50.7 +1.0
UMR Umm Al-Rimmam 22.63 265 *e*P P 03 53 50.2 +0.4
UMR AMb AMB 03 53 56.0
comp=Z,493nm,0.7s
GANJ Ganja 22.70 294 P P 03 53 54.0 +3.5
SNR=11
GANJ Ganja 22.70 294 P P 03 53 54.0 +3.5
SNR=11
GANJ Ganja 22.70 294 P P 03 53 54.0 +3.5
SNR=11
QRN Al-Qurain 22.73 263 *e*P P 03 53 50.5 -0.3
QRN AMb AMB 03 53 58.3
comp=Z,447nm,0.6s
KBD Kabd 22.77 264 *e*P P 03 53 51.1 -0.1
KBD AMb AMB 03 54 01.0
comp=Z,299nm,0.8s
MIB Mutribah 22.86 266 *e*P P 03 53 52.6 +0.4
MIB AMb AMB 03 53 59.9
comp=Z,1μm,0.7s
RDF Al-Radifah 22.97 264 *e*P P 03 53 53.5 +0.1
RDF AMb AMB 03 53 57.9
comp=Z,487nm,0.6s
NAY Al-Naaiem 23.12 265 *e*P P 03 53 55.0 +0.1
NAY AMb AMB 03 54 03.3
comp=Z,246nm,0.8s
DGRG David-gareji 23.52 296 P P 03 54 02.9 +4.0
DGRG S S 03 58 14.7 +3.0
GNI Garni 23.85 293 *e*P P 03 54 05.2 +3.1
GNI Garni 23.85 293 *e*P P 03 54 04.9 +2.7
comp=Z,306nm,0.9s
GNI S S 03 58 20.0 +2.9
GNI Garni 23.85 293 P P 03 54 04.9 +2.7
SNR=41
GNI Garni 23.85 293 P P 03 54 04.8 +2.7
comp=Z,77nm,0.8s,baz=15,slow=2.5,SNR=18
GNI S S 03 58 20.0 +2.9
comp=Z,14nm,1.0s,baz=158,slow=19,SNR=1.6
GNI LR LR 04 05 23.9
comp=Z,2μm,18.8s,baz=249,slow=42
TBLG Delisi 24.04 297 P P 03 54 02.9 -0.9
TBLG Delisi 24.04 297 P P 03 54 02.9 -0.9
TBLG S S 03 58 26.2 +6.3
RBK Rabkut 24.20 231 P P 03 54 06.8 +1.3
SNR=50
SVE Sverdlovsk 24.32 342 *d*iP P 03 54 07.1 +0.9
SVE *e*S S 03 58 25.5 +1.5
SVE pmax pmax
comp=Z,317nm,0.7s
SVE smax smax
comp=N,1μm,9.4s
SVE MLR MLR
comp=Z,14μm,11.0s
SVE MLR MLR
comp=N,7μm,11.0s
SVE MLR MLR
comp=E,5μm,11.0s
CLDR Caldiran 24.42 290 *e*P P 03 54 09.6 +2.0
BHD Baghdad 24.47 276 *ex* P 03 54 08.3 +0.6
BHD *i* x x 03 58 23.3
GOR Gori 24.54 297 P P 03 54 09.5 +1.1
ARU Arti 24.54 339 *c*iP P 03 54 09.0 +0.8
ARU PPP PPP 03 54 48.0
ARU S S 03 58 29.9 +2.4
ARU SS SnSn 03 59 12.0 -0.9
ARU pmax pmax
comp=Z,482nm,2.5s
ARU MLR MLR
comp=Z,6μm,19.0s
ARU Arti 24.54 339 *e*P P 03 54 07.5 -0.7
comp=Z,150nm,0.7s
ARU Arti 24.54 339 P P 03 54 09.2 +1.0
comp=Z,1μm,0.6s,SNR=17
LZH Lanzhou 24.57 77 ⇑P P 03 54 09.8 +0.9
LZH pP pP 03 54 17.4 +2.2
LZH sP sP 03 54 20.3 +2.4
LZH PcP PcP 03 57 49.0 +2.4
LZH *e*S S 03 58 24.5 -4.3
LZH sS sS 03 58 35.4 -3.8
LZH pmax pmax
comp=Z,81nm,1.2s
LZH pmax pmax
comp=Z,350nm,4.8s
LZH LR LR
comp=N,3μm,9.3s
LZH LR LR
comp=E,5μm,11.9s
LZH LR LR
comp=Z,7μm,14.8s
VANB Van 24.82 289 *e*P P 03 54 16.7 +5.7
ZEI Tsey 24.82 299 *e*P P 03 54 10.6 -0.6
ZEI pmax pmax
comp=Z,50nm,0.6s
ABTO Aybut 24.90 233 P P 03 54 12.9 +1.1
SNR=64
AKH Akhalkalaki 24.92 296 P P 03 54 12.8 +0.8
AKH S S 03 58 38.5 +4.2
ONI Oni 25.11 298 P P 03 54 12.2 -1.4
ONI S S 03 58 42.7 +5.5
AGRB Hanur-Agry 25.15 291 *e*P P 03 54 16.7 +2.6
KARS Kars 25.15 294 *e*P P 03 54 17.5 +3.4
CD2 Chengdu 25.40 89 ⇑P P 03 54 16.3 0.0
CD2 pP pP 03 54 23.6 +1.0
CD2 sP sP 03 54 27.3 +2.0
CD2 PP PP 03 54 55.3
CD2 PcP PcP 03 57 49.6 +1.3
CD2 S S 03 58 38.4 -3.5
CD2 sS sS 03 58 50.6 -1.8
CD2 pmax pmax
comp=Z,50nm,0.5s
CD2 pmax pmax
comp=Z,1μm,9.0s
CD2 LR LR
comp=N,10μm,12.3s
CD2 LR LR
comp=E,8μm,12.2s
CD2 LR LR
comp=Z,7μm,11.5s
KBZ Khabaz 25.71 301 P P 03 54 18.6 -0.4
KBZ S S 03 58 49.3 +2.8
KBZ Khabaz 25.71 301 P P 03 54 18.6 -0.4
KBZ S S 03 58 49.3 +2.8
KBZ Khabaz 25.71 301 P P 03 54 18.6 -0.4
comp=Z,9.8nm,0.6s,baz=102,slow=10,SNR=36
KBZ S S 03 58 49.3 +2.8
comp=Z,7.0nm,0.8s,baz=29,slow=13,SNR=1.6
KBZ LR LR 04 06 10.1
comp=Z,1μm,18.3s,baz=239,slow=41
KIV Kislovodsk 25.91 301 ⇑P P 03 54 21.5 +0.6
comp=Z,117nm,0.8s
KIV Kislovodsk 25.91 301 *c*iP P 03 54 21.3 +0.4
KIV *i* 03 55 00.7
KIV *i* S S 03 58 51.0 +1.1
KIV pmax pmax
comp=Z,88nm,1.6s
KIV MLR MLR
comp=Z,2μm,17.0s
KIV Kislovodsk 25.91 301 *e*P P 03 54 22.5 +1.6
comp=Z,91nm,0.8s
KIV Kislovodsk 25.91 301 P P 03 54 22.2 +1.4
SNR=11
KIV Kislovodsk 25.91 301 P P 03 54 22.6 +1.7
comp=Z,375nm,0.6s,SNR=5.7
MOY Mondy 26.21 40 *e*P P 03 54 24.7 +1.2
MOY pmax pmax
comp=Z,188nm,2.8s
BCA Borcka 26.32 295 *e*P P 03 54 27.0 +2.5
VRTB Varto-Mus 26.33 290 *e*P P 03 54 30.2 +5.4
ERZM Erzurum 26.42 292 *i* P P 03 54 30.7 +5.0
EZM Erzurum 26.42 292 *e*P P 03 54 28.6 +2.9
BEST Besiri 26.49 287 *i* P P 03 54 28.9 +2.7
KMI Kunming 26.64 102 P P 03 54 29.8 +2.0
KMI pP pP 03 54 36.3 +2.2
KMI sP sP 03 54 39.4 +2.6
KMI PP PP 03 55 12.3
KMI PcP PcP 03 57 53.6 +2.1
KMI S S 03 59 00.4 -1.6
KMI sS sS 03 59 12.8 +0.3
KMI pmax pmax
comp=Z,82nm,0.7s
KMI pmax pmax
comp=Z,920nm,4.4s
KMI LR LR
comp=N,5μm,14.4s
KMI LR LR
comp=E,3μm,13.3s
KMI LR LR
comp=Z,4μm,11.1s
SARR Saratov 26.81 318 *c*eP P 03 54 28.4 -0.4

SARR pmax pmax
comp=Z,41nm,0.9s
ZAK Zakamensk 26.87 44 *e*P **P 03 54 29.1 -0.4**
ZAK pmax pmax
comp=Z,35nm,1.4s
RAYN Ar Rayn 26.92 254 P **P 03 54 30.5 +0.4**
comp=Z,571nm,0.7s,SNR=48
BNGB Bing¯ǁl 26.93 290 *e*P **P 03 54 31.0 +0.8**
CHTO Chiang Mai 27.12 118 *e*P **P 03 54 31.6 -0.3**
CHTO pmax pmax
comp=Z,117nm,0.8s
CHTO Chiang Mai 27.12 118 *e*P **P 03 54 31.6 -0.3**
comp=Z,118nm,0.8s
CM31 Chiang Mai Arr 27.35 119 *e*P **P 03 54 33.7 -0.2**
comp=Z,61nm,0.8s
CMAR Chiang Mai Arr 27.35 119 P **P 03 54 33.5 -0.4**
CMAR S **S 03 59 14.3 +1.6**
CMAR Chiang Mai Arr 27.35 119 P **P 03 54 33.5 -0.4**
comp=Z,29nm,0.9s,baz=305,slow=8.7,SNR=31
CMAR S **S 03 59 14.3 +1.6**
comp=Z,2.9nm,0.7s,baz=305,slow=8.4,SNR=3.6
CMAR LR LR 04 06 59.8
comp=Z,1μm,18.4s,baz=305,slow=40
BAYT Ayd¯ıntepe-Bay 27.37 293 *e*P **P 03 54 37.4 +3.2**
DIYA Diyarbakir 27.40 288 *i*P **P 03 54 38.5 +4.2**
TLY Talaya 27.66 42 *e*P **P 03 54 37.9 +1.5**
TLY *e* 03 55 50.8
TLY *e*S S 03 59 39.6 +22
TLY pmax pmax
comp=Z,21nm,1.1s
TLY MLR MLR
comp=Z,16μm,18.0s
TLY Talaya 27.66 42 *e*P **P 03 54 37.9 +1.5**
comp=Z,234nm,2.5s
TLY Talaya 27.66 42 P **P 03 54 38.1 +1.6**
SNR=12
TLY Talaya 27.66 42 P **P 03 54 38.7 +2.3**
comp=Z,121nm,1.5s,SNR=7.0
SOKR Solikamsk 27.72 341*c* *i*P **P 03 54 38.3 +1.5**
SOKR S **S 03 59 18.6 +0.9**
SOKR pmax pmax
comp=Z,130nm,1.9s
SOKR MLR MLR
comp=Z,10μm,21.0s
SONM Songino Array 27.84 51 P **P 03 54 38.0 -0.3**
SONM S S 03 59 36.1 +16
SONM Songino Array 27.84 51 P **P 03 54 38.0 -0.3**
comp=Z,40nm,0.8s,baz=255,slow=7.2,SNR=255
SONM S S 03 59 36.1 +16
comp=Z,2.8nm,1.0s,baz=254,slow=19,SNR=2.2
SONM LR LR 04 07 13.3
comp=Z,18μm,18.8s,baz=248,slow=40
GUMT Gumushane 27.88 293 *e*P **P 03 54 42.1 +3.4**
PTK Pertek 27.94 290 *e*P **P 03 54 41.3 +2.0**
EZC Erzincan 27.96 291 *e*P **P 03 54 42.1 +2.7**
SOC Sochi 27.97 300 *e*P **P 03 54 34.9 -4.4**
SOC *e**PP **pP 03 54 43.5 -2.1**
SOC *e* 03 55 24.1
SOC *e*S **S 03 59 18.8 -3.3**
IRK Irkutsk 28.26 41 *e*P **P 03 54 42.2 +0.4**
IRK pmax pmax
comp=Z,132nm,1.4s
ELZG Elazig 28.27 289 *i*P **P 03 54 45.2 +3.0**
ULN Ulaanbaatar 28.28 51 *e*P **P 03 54 41.9 -0.2**
comp=Z,40nm,1.0s
ULN Ulaanbaatar 28.28 51 P **P 03 54 43.3 +1.2**
SNR=22
ULN Ulaanbaatar 28.28 51 P **P 03 54 42.0 -0.2**
comp=Z,43nm,1.3s,comp=Z,1μm
ESPY Espiye-Giresun 28.47 294 *e*P P 03 54 40.5 -3.2
KEMA Kemaliye 28.63 290 *i*P **P 03 54 47.5 +2.2**
VRHR Novokhopersk 28.75 316 *e*P **P 03 54 46.0 -0.1**
VRHR *e*PPP PPP 03 55 52.8
VRHR pmax pmax
comp=Z,30nm,1.7s
VRHR pmax pmax
comp=N,10.0nm,1.6s
VRHR pmax pmax
comp=E,50nm,1.8s
GRSN GIRESUNGRSN 28.82 294 *i*P **P 03 54 46.5 -0.4**
XAN Xi'an 28.97 80 P **P 03 54 47.4 -0.9**
XAN pP **pP 03 54 55.1 +0.4**
XAN S **S 03 59 36.8 -1.3**
XAN pmax pmax
comp=Z,6.0nm,1.2s
XAN pmax pmax
comp=Z,140nm,9.8s
XAN LR LR
comp=N,3μm,16.6s
XAN LR LR
comp=E,900nm,15.3s
XAN LR LR
comp=Z,1μm,12.0s
AKCD Akcadag 29.11 288 *i*P **P 03 54 51.9 +2.2**
GYA Guiyang 29.29 96⇑*i*P **P 03 54 51.3 0.0**
GYA pP **pP 03 55 01.0 +3.3**
GYA PP **PnPn 03 55 46.8 +2.1**
GYA S **S 03 59 42.4 -1.1**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,150nm,4.9s
GYA LR LR
comp=N,5μm,16.7s
GYA LR LR
comp=E,2μm,17.2s
GYA LR LR
comp=Z,4μm,16.1s
BTO Baotou 29.30 67 *e*P **P 03 54 52.0 +0.8**
GZT Gaziantep 29.46 287 *i*P **P 03 54 54.0 +1.2**
ANN Anapa 29.76 302 *e*P **P 03 54 56.2 +1.0**
ANN *e**PP **pP 03 55 01.4 -0.2**
ANN *e*S **S 03 59 51.2 +0.9**
ANN pmax pmax
comp=Z,90nm,1.1s
ANN MLR MLR
comp=Z,4μm,18.0s
MUKL Al Mukalla 29.81 235 *e*P **P 03 54 57.8 +2.0**
VORD Divnogorie 30.07 314 *e*P **P 03 54 57.6 -0.2**
VORD pmax pmax
comp=Z,50nm,1.5s
VORD pmax pmax
comp=N,70nm,0.6s
VORD pmax pmax
comp=E,80nm,0.6s
VSR Storozhevoye 30.23 315 *e*P **P 03 54 58.4 -0.8**
VSR *e*PPP PPP 03 56 05.4
VSR *e*SS SS 04 01 30.8 -36
VOR Voronezh 30.40 316 P **P 03 55 02.0 +1.3**
VOR pmax pmax
comp=Z,250nm,2.0s
ANDN Andirin 30.41 287 *i*P P 03 55 07.5 +6.4
HHC Hu-ho-hao-te 30.47 66 *e*P **P 03 55 03.4 +1.8**
HHC pP **pP 03 55 10.5 +2.5**
HHC sP **sP 03 55 14.0 +3.3**
HHC PP **PnPn 03 56 02.8 +2.3**
HHC S **S 04 00 04.3 +2.5**
HHC sS **sS 04 00 13.8 +1.5**
HHC pmax pmax
comp=Z,73nm,0.5s
HHC pmax pmax
comp=Z,220nm,5.0s
HHC LR LR
comp=N,500nm,16.6s
HHC LR LR
comp=E,730nm,15.5s
HHC LR LR
comp=Z,530nm,15.5s
GULE Gulek 31.68 287 *i*P **P 03 55 14.5 +2.1**
MMAI Mount Meron Ar 31.89 279 P **P 03 55 15.2 +1.0**
MMAI S **S 04 00 28.6 +4.6**
MMAI Mount Meron Ar 31.89 279 P **P 03 55 15.2 +1.0**
comp=Z,12nm,0.6s,baz=64,slow=9.8,SNR=10
MMAI S **S 04 00 28.6 +4.6**
comp=Z,2.9nm,0.8s,baz=223,slow=2.9,SNR=1.9
MMAI LR LR 04 09 55.5
comp=Z,1μm,18.3s,baz=75,slow=40
SIM Simferopol' 32.12 301 *e*P **P 03 55 17.2 +1.2**
SIM *e*S **S 04 00 30.0 +2.7**
SIM pmax pmax
comp=Z,73nm,1.6s
KAMT Kaman 32.33 291 *e*P **P 03 55 18.6 +0.6**
BR131 Keskin Array S 32.37 292 *e*P **P 03 55 19.7 +1.3**
comp=Z,26nm,0.8s
BRTR Keskin Array B 32.37 292 P **P 03 55 19.6 +1.2**
BRTR S **S 04 00 34.6 +3.1**
BRTR Keskin Array B 32.37 292 P **P 03 55 19.6 +1.2**
comp=Z,9.8nm,0.7s,baz=97,slow=8.8,SNR=27
BRTR S **S 04 00 34.6 +3.1**
comp=Z,2.2nm,1.1s,baz=25,slow=11,SNR=2.2
BRTR LR LR 04 10 34.2
comp=Z,878nm,20.3s,baz=249,slow=40
ELDT Eldivan 32.50 293 *i*P **P 03 55 21.1 +1.6**
BALT Daday 32.51 295 *i*P **P 03 55 20.4 +0.7**
LBOS 32.86 239 *e*P **P 03 55 23.3 +0.3**
MOS Moscow 32.86 322 *e*P P 03 55 18.9 -3.4
MOS *e*PPP PPP 03 56 38.9
MOS *e* 03 58 02.8
MOS *e*S **S 04 00 35.6 -2.9**
MOS *e*SS **SnSn 04 02 34.8 -0.8**
MOS pmax pmax
comp=Z,400nm,2.3s
MOS pmax pmax
comp=Z,172nm,2.0s
MOS MLR MLR
comp=Z,2μm,9.0s
SAFT Safranbolu 33.04 294 *e*P **P 03 55 24.2 +0.1**
OBN Obninsk 33.15 321*c* *i*P **P 03 55 24.9 +0.1**
OBN *i* 03 56 36.5
OBN *i* 03 58 11.4
OBN *i*S **S 04 00 43.6 +0.6**
OBN pmax pmax
comp=Z,64nm,1.6s
OBN MLR MLR
comp=Z,2μm,17.0s
OBN Obninsk 33.15 321 *e*P **P 03 55 25.1 +0.3**
comp=Z,77nm,0.5s
OBN Obninsk 33.15 321 P **P 03 55 25.0 +0.1**
comp=Z,778nm,0.6s,SNR=8.2
EIL Elat 33.16 273 P **P 03 55 26.8 +1.5**
EIL S **S 04 00 46.6 +3.0**
EIL Elat 33.16 273 P **P 03 55 26.8 +1.5**
comp=Z,12nm,0.7s,baz=19,slow=8.9,SNR=11
EIL S **S 04 00 46.6 +3.0**
comp=Z,3.3nm,0.8s,baz=66,slow=16,SNR=1.6
EIL LR LR 04 11 01.8
comp=Z,3μm,19.7s,baz=83,slow=40
CSS Prodhromos 33.18 283 *e*P **P 03 55 26.9 +1.5**
comp=Z,17nm,0.6s
CIT Chita 33.48 46 *e*P **P 03 55 27.6 -0.3**
CIT *e* 03 55 41.4
CIT *e* 03 56 44.6
CIT pmax pmax
comp=Z,222nm,2.4s
KIZT Kizilcal 33.79 290 *e*P P 03 55 27.4 -3.5
BJT Baijiatuau 34.01 68 *e*P **P 03 55 34.1 +1.5**
comp=Z,45nm,0.8s
BJI Beijing 34.01 68 P **P 03 55 33.5 +1.0**
BJI S **S 04 00 56.6 -0.1**
BJI pmax pmax
comp=Z,52nm,1.0s
BJI pmax pmax
comp=Z,960nm,4.4s
BJI LR LR
comp=N,2μm,10.4s
BJI LR LR
comp=E,4μm,12.9s
BJI LR LR
comp=Z,2μm,19.7s
WHN Wuhan 34.26 85 P **P 03 55 34.3 -0.5**
WHN S **S 04 01 00.6 -0.1**
WHN LR LR
comp=N,6μm,9.6s
WHN LR LR
comp=E,4μm,11.9s
WHN LR LR
comp=Z,10μm,15.6s
HENT Hendek 34.40 294 *i*P **P 03 55 36.7 +0.7**
BOLV Bolvadin 34.53 290 *i*P **P 03 55 39.1 +1.8**
SEYT Eskypehyr 34.53 292 *i*P **P 03 55 38.2 +1.0**
KLMR Klimovskoe 34.58 331 *e*P **P 03 55 36.2 -1.0**
KLMR S S 04 00 55.0 -10
KLMR pmax pmax
comp=Z,130nm,1.4s
KLMR MLR MLR
comp=Z,3μm,13.0s
GULT Gulveren 34.72 293 *e*P **P 03 55 38.5 -0.3**
BSI Banda Aceh 34.84 140 P **P 03 55 37.6 -2.3**
comp=Z,71nm,0.9s,comp=Z,580nmcomp=Z,30μm
TIA Tai'an 35.21 74⇑P **P 03 55 43.8 +0.8**
TIA S **S 04 01 18.5 +3.2**
TIA pmax pmax
comp=Z,50nm,1.4s
TIA pmax pmax
comp=Z,900nm,6.8s
TIA LR LR
comp=N,5μm,15.7s
TIA LR LR
comp=E,3μm,13.7s
TIA LR LR
comp=Z,4μm,15.7s
QIZ Qiongzhong 35.37 106 P **P 03 55 43.8 -0.7**
QIZ pP **pP 03 55 51.1 +0.1**
QIZ sP **sP 03 55 53.5 -0.1**
QIZ S **S 04 01 15.8 -2.2**
QIZ sS **sS 04 01 28.4 -0.2**
QIZ pmax pmax
comp=Z,340nm,6.1s
QIZ LR LR
comp=N,2μm,11.8s
QIZ LR LR
comp=Z,3μm,12.4s
YLV Yalova 35.58 294 *e*P **P 03 55 46.5 +0.3**
KHAL Karahalli 35.71 290 *i*P **P 03 55 47.3 -0.1**
BOD Bodaibo 35.73 36⇓*i*P **P 03 55 47.0 -0.1**
BOD pmax pmax
comp=Z,24nm,1.1s
ULDT Uludag 35.79 293 *i*P **P 03 55 47.4 -0.7**
TLCR 35.89 301⇑P **P 03 55 49.6 +0.9**
TLCR 35.89 301⇑*i*P **P 03 55 49.5 +0.9**
LHMI Lhok Sumawe 35.95 138 P P 03 55 57.9 +8.4
KIS Kishinev 35.98 305 *e*P **P 03 55 48.0 -1.4**
KIS *e* 03 55 57.0
KIS *e* 03 57 10.0
KIS *e*S **S 04 01 24.0 -2.8**
KIS MLR MLR
comp=Z,2μm,18.0s
KIS MLR MLR
comp=N,1μm,12.0s
KIS MLR MLR
comp=E,2μm,20.0s
KIS MLR MLR
comp=Z,2μm,18.0s
KIS Kishinev 35.98 305 *e*P **P 03 55 48.0 -1.4**
KIS Kishinev 35.98 305 *e*PP PP 03 57 10.0 -1.2
KIS Kishinev 35.98 305 *i*PPP PPP 03 57 24.0
KIS *e*S **S 04 01 24.0 -2.8**
KIS *e*ScP **ScP 04 01 59.0 -1.8**
KIS *e*SS SnSn 04 03 40.0 -11
KIS *e*LR LR 04 11 20.0
comp=Z,2μm,18.0s
DNZL Cakiroluk 36.15 289 *i*P **P 03 55 52.8 +1.6**
TIRR Tirgusor 36.16 300⇓P **P 03 55 51.9 +0.9**
TIRR Tirgusor 36.16 300⇓*i*P **P 03 55 51.9 +0.9**
AKASG Malin Array Be 36.16 311 P **P 03 55 50.0 -1.0**
AKASG S **S 04 01 30.2 +0.7**
AKASG Malin Array Be 36.16 311 P **P 03 55 50.0 -1.0**
AKASG S **S 04 01 30.2 +0.7**
AKASG Malin Array Be 36.16 311 P **P 03 55 50.0 -1.0**
comp=Z,17nm,0.6s,baz=84,slow=7.6,SNR=44
AKASG S **S 04 01 30.2 +0.7**
comp=Z,5.6nm,1.0s,baz=95,slow=15,SNR=5.7
AKBB Malin Array Si 36.16 311 *e*P **P 03 55 50.8 -0.1**
AKBB Malin Array Si 36.16 311 *e*P **P 03 55 50.8 -0.1**
DEMI Demirci 36.23 291 *i*P **P 03 55 52.6 +0.9**
TURN Turunc 36.63 287 *i*P P 03 56 00.0 +4.9
HIA Hailar 36.80 52 *e*P **P 03 55 57.6 +1.1**
comp=Z,67nm,1.3s
BALY Balya 36.99 292 *i*P **P 03 55 58.5 +0.3**
AYDN Tasoluk 37.07 289 *i*P P 03 56 03.5 +4.6
VRI Vrincioaia 37.37 303⇑*i*P P 03 56 06.6 +5.3
PLOR Plostina 37.42 302⇓P **P 03 56 03.7 +1.9**
PLOR Plostina 37.42 302⇓*i*P **P 03 56 03.7 +1.9**
TESR 37.44 304⇓*i*P **P 03 56 02.4 +0.5**
NJ2 Nanjing 37.54 80 *e*P **P 03 56 03.5 +0.6**
NJ2 pP **pP 03 56 09.1 -0.2**
NJ2 sP **sP 03 56 12.0 +0.1**
NJ2 PP **PP 03 57 28.0 -0.6**
NJ2 sS **sS 04 02 00.0 -1.5**
NJ2 pmax pmax
comp=Z,20nm,0.7s
NJ2 pmax pmax
comp=Z,1μm,5.0s
NJ2 LR LR
comp=N,2μm,24.2s
NJ2 LR LR
comp=E,2μm,24.2s
NJ2 LR LR
comp=Z,3μm,22.9s
TPTI 37.72 140 P P 03 56 09.3 +4.8
MICGM Minsk 37.73 317⇓*e*P **P 03 56 03.0 -1.2**
MNK Minsk 37.76 317⇓*e*P **P 03 56 03.0 -1.4**
MNK *e*S **S 04 01 51.0 -2.7**
MNK *e*SSS SSS 04 04 26.0
MNK pmax pmax
comp=Z,310nm,2.0s
MNK MLR MLR
comp=Z,5μm,10.0s
PRAR RASCA 37.77 305⇓*i*P **P 03 56 05.5 +0.8**
MLR Muntele Rosu 37.92 302⇑*i*P **P 03 56 08.2 +2.1**
KULM Kulim 38.05 133 *e*P **P 03 56 07.6 +0.3**
comp=Z,60nm,0.9s
KULM Kulim 38.05 133 P **P 03 56 07.8 +0.4**
KULM Kulim 38.05 133 P **P 03 56 07.1 -0.2**
comp=Z,78nm,1.0s,comp=Z,716nm
DL2 Dalian 38.33 69⇑P **P 03 56 10.6 +1.1**
DL2 S **S 04 02 06.8 +4.1**
DL2 pmax pmax
comp=Z,50nm,0.8s
DL2 pmax pmax
comp=Z,400nm,5.2s
DL2 LR LR
comp=N,650nm,16.5s
DL2 LR LR
comp=E,1μm,15.7s
DL2 LR LR
comp=Z,1μm,11.4s
NACGM Naroch 38.44 317 *e*P **P 03 56 08.0 -2.2**
BURAR Bucovina Array 38.46 305⇑*i*P **P 03 56 11.1 +0.5**
BUR08 Bucovina Ar. S 38.48 305 *e*P **P 03 56 10.8 +0.1**
VOIR 38.55 302⇑P **P 03 56 12.3 +1.0**
VOIR 38.55 302⇑*i*P **P 03 56 12.3 +1.0**
HUMR Humele 38.61 300⇑*i*P **P 03 56 13.1 +1.3**
IPM Ipoh 38.91 133 *e*P **P 03 56 12.7 -2.0**
comp=Z,85nm,0.8s
IPM Ipoh 38.91 133 P **P 03 56 14.6 0.0**
IPM Ipoh 38.91 133 P **P 03 56 14.0 -0.6**
comp=Z,121nm,0.8s,comp=Z,1μm
JOF Joensuu 38.97 331 *e*P **P 03 56 12.7 -1.9**
JOF pmax pmax
comp=Z,93nm,0.7s
JOF Joensuu 38.97 331 *e*p **P 03 56 12.7 -1.9**
comp=Z,93nm,0.7s
APE Apeiranthos 39.01 288⇑P **P 03 56 16.6 +1.3**
APE Apeiranthos 39.01 288⇑*i*P **P 03 56 16.6 +1.3**
PSI Prapat 39.05 138 P **P 03 56 13.7 -2.2**
comp=Z,46nm,0.8s,comp=Z,429nm
PSI Prapat 39.05 138 LR LR 04 12 37.5
comp=Z,2μm,21.8s,baz=303,slow=37
LVV L'vov 39.37 309 *e*P **P 03 56 17.8 -0.3**
LVV *e* 03 57 53.7
LVV *i*PPP PPP 03 58 20.9
LVV *e*S **S 04 02 13.1 -5.1**
LVV *e*SS SS 04 04 58.5 -14
LVV *e*SSS SSS 04 05 45.9
VSU Vasula 39.38 323*c* *i*P **P 03 56 17.9 -0.1**
VSU pmax pmax
comp=Z,37nm,0.6s
LOT Lotru 39.45 302⇑*i*P **P 03 56 20.4 +1.5**
GSI Gunungsitoli 39.58 141 P **P 03 56 20.4 +0.3**
comp=Z,117nm,0.9s,comp=Z,1μm
BMR Baia Mare 39.63 305⇓P **P 03 56 21.6 +1.4**
BMR Baia Mare 39.63 305⇓*i*P **P 03 56 21.6 +1.4**
SSE Sheshan 39.72 81 P **P 03 56 19.3 -1.9**
SSE PP **PnPn 03 57 54.3 -1.4**
SSE S **S 04 02 23.8 0.0**
SSE pmax pmax
comp=Z,16nm,0.8s
SSE pmax pmax
comp=Z,410nm,4.5s
SSE LR LR
comp=N,1μm,21.5s
SSE LR LR
comp=E,620nm,21.8s
SSE LR LR
comp=Z,1μm,17.9s
QZH Quanzhou 39.75 91 P **P 03 56 22.3 +0.8**
QZH PP **PnPn 03 57 58.4 +2.2**
QZH *e*S **S 04 02 23.6 -0.8**
QZH LR LR
comp=N,6μm,11.8s
QZH LR LR
comp=E,3μm,12.4s
QZH LR LR
comp=Z,7μm,12.1s
VTS Vitosha 40.02 297⇓P **P 03 56 25.3 +1.5**
VTS Vitosha 40.02 297⇓*i*P **P 03 56 25.3 +1.5**
DEV Deva 40.04 303⇑P **P 03 56 25.8 +2.1**
DEV Deva 40.04 303⇑*i*P **P 03 56 25.8 +2.1**
GZR Gura Zlata 40.15 302⇓P **P 03 56 25.5 +0.8**
GZR Gura Zlata 40.15 302⇓*i*P **P 03 56 25.5 +0.8**
DRGR 40.16 304⇓P **P 03 56 26.1 +1.3**
DRGR 40.16 304⇓*i*P **P 03 56 26.1 +1.3**
KWP Kalwaria Pacla 40.21 308 *e*P **P 03 56 25.8 +0.7**
KWP LMZ LR 04 15 53.5
comp=Z,2μm,18.8s
KWP Kalwaria Pacla 40.21 308 *e*P **P 03 56 25.8 +0.7**
KWP LMZ LR 04 15 53.5
comp=Z,2μm,18.8s
KWP Kalwaria Pacla 40.21 308⇑P **P 03 56 26.6 +1.4**
KWP Kalwaria Pacla 40.21 308 *e*P **P 03 56 25.6 +0.5**
comp=Z,117nm,1.0s
KWP Kalwaria Pacla 40.21 308⇑*i*P **P 03 56 26.5 +1.4**
FRIM Kepong 40.26 134 P **P 03 56 26.6 +0.8**
TRPA Tarpa 40.28 306⇑*i*P **P 03 56 26.8 +1.1**
TRPA Tarpa 40.28 306⇑P **P 03 56 26.7 +1.1**
SUW Suwalki 40.34 315 *e*P **P 03 56 25.5 -0.6**
SUW LMZ LR 04 16 14.6
comp=Z,2μm,19.3s
SUW Suwalki 40.34 315 *e*P **P 03 56 25.5 -0.6**
SUW LMZ LR 04 16 14.6
comp=Z,2μm,19.3s
SUW Suwalki 40.34 315 *e*P **P 03 56 25.3 -0.8**
SUW pmax pmax
comp=Z,61nm,0.9s
SUW Suwalki 40.34 315 *e*P **P 03 56 25.3 -0.8**
comp=Z,61nm,0.9s
LVZ Lovozero 40.41 338 *i*P **P 03 56 26.2 -0.3**
LVZ Lovozero 40.41 338 *e*P **P 03 56 26.7 +0.2**
comp=Z,36nm,0.7s
LVZ Lovozero 40.41 338 P **P 03 56 26.3 -0.3**
comp=Z,273nm,0.9s,SNR=6.8
UZH Uzhgorod 40.45 307 *e*P **P 03 56 27.0 -0.1**
UZH *i* 03 58 06.2
UZH *e* 03 59 29.6
UZH *e*S **S 04 02 32.4 -2.0**
UZH *e* 04 06 08.2
KOLS Kolonicke sedl 40.47 307 *e*P **P 03 56 27.8 +0.5**
KOLS pmax pmax
comp=Z,22nm,1.9s
KOLS Kolonicke sedl 40.47 307 *e*P **P 03 56 27.8 +0.5**
APA Apatity 40.61 338⇓*i*P **P 03 56 31.0 +2.9**
APA *i*S **S 04 02 42.0 +5.8**
APA *i*SS SS 04 05 29.0 -7.2
APA MLR MLR
comp=Z,9μm,15.0s
VAY Valandovo 40.63 296 *e*P **P 03 56 28.6 -0.1**
FINES FINESS Array B 40.64 327 P **P 03 56 27.1 -1.3**
FINES FINESS Array B 40.64 327 P **P 03 56 27.1 -1.3**
comp=Z,17nm,0.5s,baz=112,slow=9.0,SNR=112
FINES LR LR 04 13 46.8
comp=Z,2μm,19.7s,baz=109,slow=37
CN2 Changchun 40.65 61⇑P **P 03 56 29.4 +0.6**
CN2 *e*pP **pP 03 56 40.0 +4.7**
CN2 PP **PnPn 03 58 07.1 +0.6**
CN2 PcP **PcP 03 58 31.6 +1.3**
CN2 *e*S **S 04 02 36.9 -0.6**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,3μm,11.0s

CN2 LR LR
comp=E,2µm,11.0s
CN2 LR LR
comp=Z,2µm,13.0s
KAF Kangasniemi 40.77 328 *e*P **P 03 56 27.4 -2.1**
KAF pmax pmax
comp=Z,24nm,0.8s
KAF Kangasniemi 40.77 328 *e*p **P 03 56 27.4 -2.1**
comp=Z,24nm,0.8s
BZS Buzias 40.95 302 ⇑P **P 03 56 32.0 +0.7**
BZS Buzias 40.95 302 ⇑*i*P **P 03 56 32.0 +0.7**
CRVS Cervenica-Dubn 41.01 307 *e*P **P 03 56 32.1 +0.4**
CRVS pmax pmax
comp=Z,40nm,2.4s
CRVS Cervenica-Dubn 41.01 307 *e*P **P 03 56 32.1 +0.4**
CLNS Chul'man 41.06 41 *e*P **P 03 56 32.4 +0.3**
CLNS *e**PP **pP 03 56 37.9 -0.7**
CLNS *e* 03 58 07.7
CLNS *e*PPP PPP 03 58 33.6
CLNS *e*S **S 04 02 42.1 -1.3**
CLNS pmax pmax
comp=Z,32nm,0.9s
CLNS pmax pmax
comp=E,20nm,1.0s
CLNS pmax pmax
comp=N,11nm,1.1s
CLNS pmax pmax
comp=E,14nm,1.1s
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=Z,13nm,0.9s
CLNS smax smax
comp=N,308nm,15.9s
CLNS smax smax
comp=E,216nm,11.8s
CLNS MLR MLR
comp=N,4µm,13.0s
CLNS MLR MLR
comp=Z,6µm,14.0s
CLNS MLR MLR
comp=E,5µm,13.0s
MNSI Mandailing Nat 41.08 139 P **P 03 56 32.3 -0.2**
comp=E,92nm,0.7s,comp=E,9µm
BIA Bitola 41.60 295 *e*P **P 03 56 38.0 +1.2**
NIE Niedzica 41.77 308 *e*P **P 03 56 38.1 +0.1**
NIE *e*pP **pP 03 56 43.0 -1.4**
NIE Niedzica 41.77 308 *e*P **P 03 56 38.6 +0.7**
PSZ Piszkesteto 42.05 306 ⇑P **P 03 56 41.2 +0.9**
PSZ Piszkesteto 42.05 306 *e*P **P 03 56 40.8 +0.4**
comp=E,32nm,0.9s
PSZ Piszkesteto 42.05 306 ⇑*i*P **P 03 56 41.2 +0.9**
PSZ Piszkesteto 42.05 306 ⇑P **P 03 56 41.3 +0.9**
OJC Ojcow 42.11 309 *e*P **P 03 56 39.0 -1.7**
OJC *e*pP **pP 03 56 44.0 -3.2**
OJC *e*sP **sP 03 56 46.1 -3.8**
OJC *e*PP **PP 03 58 17.1 -1.1**
OJC *e*S **S 04 02 57.0 -2.0**
OJC *e*SS **SS 04 06 04.1 -2.6**
OJC L L 04 16 31.0
comp=E,1µm,20.4s
OJC Ojcow 42.11 309 *e*P **P 03 56 39.5 -1.2**
OJC *e**SP **sP 03 56 46.7 -3.2**
OJC *e* 03 58 17.8
OJC *e*S **S 04 02 57.2 -1.9**
OJC *e*SS **SS 04 06 04.6 -2.0**
OJC MLR MLR
comp=Z,1µm,20.4s
OJC Ojcow 42.11 309 *e*P **P 03 56 41.0 +0.2**
comp=Z,24nm,0.8s
KGM Kluang 42.25 133 P **P 03 56 42.7 +0.6**
PKS6 Bocsa 42.33 304 *e*P **P 03 56 43.7 +1.2**
INCN Inchon 42.46 70 *e*P **P 03 56 43.8 +0.1**
PPI Padang Panjang 42.57 139 P **P 03 56 44.1 -0.6**
comp=Z,97nm,0.8s,comp=Z,810nm
BUD Budapest 42.66 305 ⇑P **P 03 56 45.1 -0.1**
TWG Pinlang 42.70 93 *e*P **P 03 56 46.6 +0.8**
VYHS Vyhne 42.75 307 *e*P **P 03 56 46.3 +0.4**
VYHS pmax pmax
comp=Z,22nm,1.6s
VYHS Vyhne 42.75 307 *e*P **P 03 56 46.3 +0.4**
MYKOM Kota Tinggi 42.75 133 P **P 03 56 47.1 +0.9**
MYKOM Kota Tinggi 42.75 133 P **P 03 56 46.7 +0.5**
comp=Z,96nm,1.0s
PKSM Moragy 42.99 303 ⇑P **P 03 56 48.4 +0.6**
PKSM Moragy 42.99 303 ⇑*i*P **P 03 56 48.4 +0.6**
PKSM Moragy 42.99 303 ⇑P **P 03 56 48.5 +0.6**
PKSG 43.09 305 ⇑P **P 03 56 48.9 +0.2**
OKC Ostrava-Krasne 43.18 309 *e*P **P 03 56 49.6 +0.3**
OKC *e*S **S 04 03 14.3 -0.4**
OKC *e* 04 06 25.0
OKC MLR MLR
comp=Z,1µm,11.6s
OKC Ostrava-Krasne 43.18 309 *e*P **P 03 56 49.6 +0.3**
OKC *e*pP **pP 03 56 53.9 -2.0**
OKC *e*S **S 04 03 14.3 -0.4**
OKC *e*SS **SS 04 06 25.0 -2.5**
OKC AMS AMS 04 17 00.0
comp=Z,1µm,11.6s
PKS9 Tamasi 43.22 304 ⇓P **P 03 56 50.5 +0.8**
PKST T''s 43.34 305 ⇓P **P 03 56 51.2 +0.5**
KSAR Wonju Array Be 43.44 70 P **P 03 56 51.8 +0.2**
KSRS Korea Array 43.47 70 P **P 03 56 51.8 0.0**
comp=Z,29nm,0.9s,baz=274,slow=7.2,SNR=27
KSRS LR LR 04 18 59.4
comp=Z,536nm,20.8s,baz=288,slow=42
MDJ Mudanjiang 43.54 59 P **P 03 56 52.0 -0.4**
MDJ pP **pP 03 57 00.6 +1.7**
MDJ sP **sP 03 57 03.3 +1.8**
MDJ S **S 04 03 19.3 -0.9**
MDJ sS **sS 04 03 33.4 +2.4**
MDJ pmax pmax
comp=Z,33nm,1.6s
MDJ pmax pmax
comp=Z,460nm,4.9s
MDJ LR LR
comp=N,2µm,14.7s
MDJ LR LR
comp=E,2µm,14.3s
MDJ LR LR
comp=Z,4µm,14.1s
MDJ Mudanjiang 43.54 59 *e*P **P 03 56 52.9 +0.5**
comp=Z,44nm,1.1s
RGRI Rengat 43.56 136 P P 03 56 58.1 +5.3
MORC Moravsky Berou 43.57 309 ⇑P **P 03 56 53.4 +0.8**
MORC Moravsky Berou 43.57 309 *e*P **P 03 56 52.0 -0.6**
comp=Z,38nm,0.9s
MORC Moravsky Berou 43.57 309 ⇑*i*P **P 03 56 53.4 +0.8**
SMOL Smolenice 43.68 307 *e*P **P 03 56 54.1 +0.6**
SMOL Smolenice 43.68 307 *e*P **P 03 56 54.1 +0.6**
KEV Kevo 43.75 338 *e*P **P 03 56 52.5 -1.2**
KEV pmax pmax
comp=Z,26nm,0.7s
KEV Kevo 43.75 338 *e*P **P 03 56 54.0 +0.3**
comp=Z,658nm,2.7s
KEV Kevo 43.75 338 *e*p **P 03 56 52.5 -1.2**
comp=Z,26nm,0.7s
GKP Gorka Klasztor 43.80 314 *e*P **P 03 56 54.5 +0.2**
GKP LMZ LR 04 18 10.0
comp=Z,2µm,16.4s
GKP Gorka Klasztor 43.80 314 *e*P **P 03 56 54.5 +0.2**
GKP LMZ LR 04 18 10.0
comp=Z,2µm,16.4s
GKP Gorka Klasztor 43.80 314 *e*P **P 03 56 54.5 +0.2**
GKP MLR MLR
comp=Z,2µm,16.4s
STON Ston 44.02 299 P **P 03 56 57.1 +0.9**
KRLC Kraliky 44.05 309 *e*P **P 03 56 57.2 +0.7**
KRLC *e*pP **pP 03 57 00.9 -2.1**
ARCES ARCESS Array B 44.11 338 P **P 03 56 55.5 -1.1**
ARCES ARCESS Array B 44.11 338 P **P 03 56 55.5 -1.1**
comp=Z,42nm,0.7s,baz=116,slow=8.2,SNR=101
ARCES LR LR 04 16 37.4
comp=Z,7µm,18.7s,baz=7.3,slow=38
ARE0 ARCESS Array S 44.11 338 *e*P **P 03 56 56.4 -0.2**
VRAC Vranov 44.20 308 ⇑*i*P **P 03 56 58.7 +1.1**
BEHE Becsehely 44.26 304 ⇑P P 03 56 50.4 -7.7
SOP Sopron 44.31 306 ⇑P **P 03 56 59.0 +0.5**
DPC Dobruska-Polom 44.34 309 *e*P **P 03 56 59.5 +0.7**
DPC *e*S **S 04 03 32.9 +1.1**
DPC Dobruska-Polom 44.34 309 *e*P **P 03 56 58.4 -0.4**
comp=Z,79nm,0.9s
DPC Dobruska-Polom 44.34 309 *e*P **P 03 56 59.5 +0.7**
DPC *e*pP **pP 03 57 03.6 -1.7**
KSP Ksiaz 44.35 310 *e*P **P 03 56 59.1 +0.3**
KSP LMZ LR 04 17 14.5
comp=Z,1µm,19.8s
KSP Ksiaz 44.35 310 *e*P **P 03 56 59.1 +0.3**
KSP LMZ LR 04 17 14.5
comp=Z,1µm,19.8s
KSP Ksiaz 44.35 310⇓ *e*P **P 03 56 58.8 0.0**
KSP *e*S S 04 03 25.0 -6.8
KSP *e*SS **SS 04 06 44.0 -6.5**
YAK Yakutsk 44.51 34 *e*P **P 03 56 59.8 -0.1**
YAK *e**PP **pP 03 57 10.9 +4.5**
YAK *e* 03 58 37.3
YAK *e* 03 58 46.6
YAK *e*PPP PPP 03 59 21.5
YAK *e*S **S 04 03 35.3 +1.5**
YAK *e* 04 06 58.6
YAK *e*SSS SSS 04 07 40.9
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=Z,76nm,1.0s
YAK pmax pmax
comp=E,17nm,1.1s
YAK pmax pmax
comp=Z,438nm,3.3s
YAK pmax pmax
comp=E,137nm,2.5s
YAK pmax pmax
comp=N,57nm,2.8s
YAK smax smax
comp=N,184nm,3.8s
YAK smax smax
comp=E,261nm,4.2s
YAK MLR MLR
comp=Z,7µm,14.0s
YAK MLR MLR
comp=N,2µm,16.0s
YAK MLR MLR
comp=E,5µm,13.0s
YAK Yakutsk 44.51 34 *e*P **P 03 56 60.0 +0.1**
comp=E,89nm,0.6s
UPC Upice 44.54 310 *e*P **P 03 57 01.0 +0.7**
UPC Upice 44.54 310 *e*P **P 03 57 01.0 +0.7**
UPC *e*pP **pP 03 57 04.9 -1.9**
KLR Kul'dur 44.66 52 *e*P P 03 56 58.3 -3.0
KLR *e*S S 04 03 27.0 -9.3
KLR pmax pmax
comp=Z,1µm,10.0s
KLR MLR MLR
comp=E,7µm,14.0s
KLR MLR MLR
comp=Z,22µm,14.0s
CONA Conrad Observa 44.76 306 ⇑*i*pP **P 03 57 02.9 +0.7**
comp=Z,53nm,0.9s,SNR=21
TREC Trest 44.92 308 *e*P **P 03 57 04.2 +0.8**
TREC Trest 44.92 308 *e*P **P 03 57 04.2 +0.8**
TREC *e*pP **pP 03 57 08.2 -1.8**
TREC AMS AMS 04 17 50.0
ARSA Arzberg 45.05 305 ⇑*i*P **P 03 57 04.2 -0.2**
comp=Z,26nm,1.4s
GROS Grobnik 45.14 304 *i* P **P 03 57 05.7 +0.5**
BSD Bornholm Skovb 45.24 316 *i* P **P 03 57 04.6 -1.1**
BSD pmax pmax
comp=Z,46nm,0.9s
BSD MLR MLR
comp=Z,2µm,10.0s
BSD Bornholm Skovb 45.24 316 *i* P **P 03 57 04.6 -1.1**
comp=Z,46nm,0.9s
BSD
comp=Z,2µm,10.0s
USRK Ussuriysk Arra 45.31 59 P **P 03 57 06.0 -0.4**
comp=Z,4.8nm,0.7s,baz=273,slow=7.0,SNR=10
USRK LR LR 04 17 37.4
comp=Z,3µm,18.9s,baz=270,slow=38
BOJS Bojanci 45.42 303 *i* P **P 03 57 08.6 +1.2**
SOKA Soboth 45.44 304 ⇑*i*P **P 03 57 08.2 +0.7**
comp=Z,42nm,0.7s
PVCC Panska Ves 45.46 310 *e*P **P 03 57 08.2 +0.6**
PVCC *e* 04 07 07.1
PVCC Panska Ves 45.46 310 *e*P **P 03 57 08.2 +0.6**
PVCC *e*pP **pP 03 57 12.2 -2.0**
PVCC *e*SCS 04 07 07.1
PRU Pruhonice 45.50 309 *e*P **P 03 57 08.4 +0.5**
PRU *e*S **S 04 03 48.9 +0.4**
PRU *e* 04 07 04.2
PRU MLR MLR
comp=Z,1µm,16.0s
PRU Pruhonice 45.50 309 *e*P **P 03 57 08.4 +0.5**
PRU *e*pP **pP 03 57 12.4 -2.1**
PRU *e*S **S 04 03 48.9 +0.4**
PRU *e*SCS **ScS 04 07 04.2 +1.2**
PRU AMS AMS 04 21 40.0
comp=Z,1µm,16.0s
PRA Prague 45.57 309 P **P 03 57 09.0 +0.6**
PRA *ex* x 03 57 12.0
VISS Visnje 45.67 303 *i* P **P 03 57 10.4 +1.1**
OBKA Obir 45.79 304 ⇑*i*P **P 03 57 09.4 -1.0**
comp=Z,40nm,1.1s
BRG Berggiesshubel 45.84 310 *e*P **P 03 57 11.2 +0.6**
comp=Z,17nm,0.7s
BRG *i* 03 57 15.2
comp=Z,44nm,0.8s
BRG S **S 04 03 56.0 +2.7**
BRG SS SS 04 07 25.0 +7.4
BRG
comp=N,1µm,22.5s
BRG
comp=E,1µm,12.8s
BRG
comp=Z,1µm,11.7s
BRG Berggiesshubel 45.84 310 *e*P **P 03 57 10.7 +0.1**
comp=Z,47nm,0.8s
BRG Berggiesshubel 45.84 310 *e*P **P 03 57 11.2 +0.6**
BRG S **S 04 03 56.0 +2.7**
BRG pmax pmax
comp=Z,17nm,0.7s
BRG MLR MLR
comp=N,1µm,22.5s
BRG MLR MLR
comp=E,1µm,12.8s
BRG MLR MLR
comp=Z,1µm,11.7s
MOA Molln 45.84 306 ⇑*i*P **P 03 57 11.1 +0.4**
comp=Z,53nm,0.9s,SNR=14
LJU Ljubljana 45.85 303 *e*P **P 03 57 11.5 +0.7**
CUC Castrocucco 45.92 295 *e*P **P 03 57 14.1 +2.7**
comp=Z,92nm,0.7s
GEC2 GERESS Array S 46.13 307 *e*P **P 03 57 13.0 0.0**
comp=Z,58nm,2.1s
GEC2 GERESS Array S 46.13 307 *e*P **P 03 57 13.0 0.0**
GEC2 pmax pmax
comp=Z,58nm,2.1s
GERES GERESS Array B 46.13 307 P **P 03 57 12.6 -0.4**
GERES GERESS Array B 46.13 307 P **P 03 57 12.6 -0.4**
comp=Z,6.4nm,0.8s,baz=76,slow=7.0,SNR=17
GERES LR LR 04 19 40.6
comp=Z,1µm,19.6s,baz=82,slow=40
KHC Kasperske Hory 46.18 308 *e*P **P 03 57 14.0 +0.6**
KHC *e* 03 57 21.6
KHC *e*S **S 04 03 58.8 +0.3**
KHC *e* 04 07 07.7
KHC MLR MLR
comp=Z,1µm,18.0s
KHC Kasperske Hory 46.18 308 *e*P **P 03 57 14.1 +0.6**
comp=Z,18nm,0.8s
KHC Kasperske Hory 46.18 308 *e*P **P 03 57 14.0 +0.6**
KHC *e*pP **pP 03 57 17.6 -2.4**
KHC *e*sP **sP 03 57 21.6 -1.0**
KHC *e*S **S 04 03 58.8 +0.3**
KHC *e*SCS **ScS 04 07 07.7 +0.1**
KHC AMS AMS 04 18 30.0
comp=Z,1µm,18.0s
JAVS Javornik 46.19 303 *i* P **P 03 57 14.5 +0.9**
TRO Tromso 46.26 337 *e*P **P 03 57 12.7 -0.9**
TRO *e*S **S 04 03 59.8 +0.9**
TRO *e*SS **SS 04 07 28.9 +5.0**
VOY Vojsko 46.29 303 *e*P **P 03 57 14.7 +0.3**
VOY *e* 03 57 21.0
VOY *e* 03 57 54.6
VOY *e* 03 58 55.7
MYKA Terra Mystica 46.39 304 ⇑*i*P **P 03 57 14.7 -0.4**
comp=Z,23nm,1.0s
CLL Collm 46.41 311 *e*P **P 03 57 14.6 -0.5**
comp=Z,70nm,1.9s
CLL Collm 46.41 311 ⇑*i*P **P 03 57 15.2 +0.1**
CLL *i* *SP **sP 03 57 21.2 -3.1**
CLL *e*S **S 04 03 59.0 -2.5**
CLL pmax pmax
comp=Z,15nm,0.8s
CLL MLR MLR
comp=Z,2µm,18.0s
CLL Collm 46.41 311 ⇑*i*P **P 03 57 15.2 +0.1**
comp=Z,15nm,0.8s
CLL *i* pP **pP 03 57 18.8 -2.9**
CLL *i* sP **sP 03 57 21.2 -3.1**
CLL *e* 03 57 28.0
CLL *e*PP PP 03 58 59.0 -5.0
CLL *e* 03 59 19.0
CLL *e*S **S 04 03 59.0 -2.5**
CLL *e*SS **SS 04 07 30.0 +3.0**
CLL LmH 04 16 00.0
comp=N,1µm,19.9s
CLL LmH 04 16 00.0
comp=E,600nm,18.5s
CLL LmV 04 19 00.0
comp=Z,2µm,18.0s
KBA Koelnbreinsper 46.54 305 ⇑*i*P **P 03 57 16.8 +0.3**
comp=Z,19nm,0.7s,SNR=10.0
WET Wettzell 46.64 308 *e*P **P 03 57 17.0 0.0**
comp=Z,51nm,2.1s
WET Wettzell 46.64 308 *e*P **P 03 57 17.0 0.0**
WET pmax pmax
comp=Z,51nm,2.1s
COP Copenhagen 46.67 317 *i* P P 03 57 21.1 +4.1
COP pmax pmax
comp=Z,54nm,0.9s
COP Copenhagen 46.67 317 *i* P P 03 57 21.1 +4.1
comp=Z,54nm,0.9s
COP
comp=Z,750nm,11.0s
LLD Lille Linde 46.79 316 *i* P **P 03 57 19.3 +1.4**
LLD pmax pmax
comp=Z,75nm,0.9s
LLD Lille Linde 46.79 316 *i* P **P 03 57 19.3 +1.4**
comp=Z,75nm,0.9s
TANN Tannenbergstha 46.81 310 *e*P **P 03 57 18.5 +0.2**
NKC Novy Kostel 46.83 309 *e*P **P 03 57 19.0 +0.6**
NKC Novy Kostel 46.83 309 *e*P **P 03 57 19.0 +0.6**
RJOB Jochberg 46.84 306 *e*P **P 03 57 18.2 -0.4**
HABR Khabarovsk 46.89 53 *e*P **P 03 57 17.4 -1.5**
HABR *e**SP **sP 03 57 26.1 -1.9**
HABR *e* 03 58 49.4
HABR *e**SS **sS 04 04 18.7 -0.6**
HABR *e* 04 07 10.5
HABR pmax pmax
comp=N,88nm,3.0s
HABR pmax pmax
comp=Z,307nm,3.0s
HABR pmax pmax
comp=E,109nm,2.0s
HABR MLR MLR
comp=N,3µm,15.0s
HABR MLR MLR
comp=Z,7µm,14.0s
HABR MLR MLR
comp=E,6µm,14.0s
MOR8 Moi Rana 46.91 331 *e*P **P 03 57 16.6 -2.2**
JNU Nakatsue 46.95 75 *e*P **P 03 57 20.7 +1.1**
comp=E,40nm,1.0s
JNU Nakatsue 46.95 75 P **P 03 57 20.0 +0.4**
comp=E,98nm,1.0s,baz=351,slow=3.7,SNR=13
ROTZ Rotzenmuhle 47.02 309 *e*P **P 03 57 20.8 +0.9**
STEI Steigen 47.02 334 *e*P **P 03 57 20.1 +0.5**
KSM Kuching 47.14 126 *e*P **P 03 57 21.6 +0.4**
comp=E,43nm,0.7s
KSM Kuching 47.14 126 P **P 03 57 22.4 +1.1**
KSM Kuching 47.14 126 P **P 03 57 21.8 +0.6**
comp=E,66nm,0.8s,comp=E,792nm
MOX Moxa 47.33 310 *e*P **P 03 57 22.5 +0.2**
comp=Z,98nm,2.0s
MOX Moxa 47.33 310 *e*P **P 03 57 22.5 +0.2**
MOX pmax pmax
comp=Z,98nm,2.0s
FLOS Flostrand 47.37 331 *e*P **P 03 57 22.9 +0.5**
NC602 NORSAR Array S 47.38 324 *e*P **P 03 57 19.8 -2.8**
STOK Stokkvaagen 47.51 331 *e*P **P 03 57 22.2 -1.1**
NB2 NORSAR Subarra 47.57 324 P **P 03 57 21.8 -2.2**
baz=97,slow=7.9
NB2 NORSAR Subarra 47.57 324 P **P 03 57 21.8 -2.2**
comp=Z,64nm,0.8s,baz=97,slow=7.9
NOA NORSAR Array B 47.57 324 P **P 03 57 22.3 -1.7**
NOA NORSAR Array B 47.57 324 P **P 03 57 22.3 -1.7**
comp=Z,34nm,0.6s,baz=96,slow=7.6,SNR=162
NOA LR LR 04 18 02.3
comp=Z,1µm,18.6s,baz=90,slow=37
NSS Namsos 47.63 329 *e*P **P 03 57 23.3 -1.1**
GRF Grafenberg Arr 47.67 309 *e*P **P 03 57 26.0 +1.0**
comp=Z,125nm,1.8s
GRF *e*L L 04 19 27.6
comp=Z,862nm,18.4s
GRF Grafenberg Arr 47.67 309 *e*P **P 03 57 26.0 +1.0**
GRF pmax pmax
comp=Z,125nm,1.8s
GRF MLR MLR
comp=Z,900nm,18.4s
GRFO Grafenberg 47.67 309 *e*P **P 03 57 26.4 +1.4**
GRFO pmax pmax
comp=Z,139nm,1.8s
GRFO Grafenberg 47.67 309 *e*P **P 03 57 26.4 +1.4**
comp=Z,139nm,1.8s
WTTA Wattenberg 47.68 305 ⇑*i*P **P 03 57 24.8 -0.5**
comp=Z,61nm,1.3s
NAO01 NORSAR Array S 47.71 324 *e*P **P 03 57 23.9 -1.2**
comp=Z,41nm,0.8s
SBUM Sibu 47.74 123 P **P 03 57 27.4 +1.6**
SBUM Sibu 47.74 123 P **P 03 57 26.1 +0.2**
comp=Z,56nm,0.8s,comp=Z,587nm
HOPEN Hopen 47.74 346 *e*P P 03 57 28.6 +3.5
HOPEN AMS AMS 04 19 57.7
comp=Z,4µm,12.0s
FUR Furstenfeldbru 47.80 307 *e*P **P 03 57 26.3 +0.3**
comp=Z,162nm,1.9s
FUR Furstenfeldbru 47.80 307 *e*P **P 03 57 26.3 +0.3**
FUR pmax pmax
comp=Z,162nm,1.9s
BSEG Bad Segeberg 47.92 315 *e*P **P 03 57 27.0 +0.2**
comp=Z,87nm,0.8s
BSEG Bad Segeberg 47.92 315 *e*P **P 03 57 27.0 +0.2**
BSEG pmax pmax
comp=Z,87nm,0.8s
CLZ Clausthal 48.01 312 *e*P **P 03 57 27.8 +0.2**
comp=Z,69nm,1.0s
CLZ Clausthal 48.01 312 *e*P **P 03 57 27.8 +0.2**
CLZ pmax pmax
comp=Z,69nm,1.0s
MOTA Moosalm 48.02 306 ⇓*i*P **P 03 57 25.5 -2.4**
comp=Z,23nm,0.6s,SNR=23
KDM Kudat 48.05 114 P **P 03 57 28.4 +0.1**
BJO Bjornoya 48.06 343 *e*P **P 03 57 27.3 -0.3**
NRDL Niedersach Rie 48.13 313 *e*P **P 03 57 28.6 +0.2**
KKM Kota Kinabalu 48.16 116 *e*P **P 03 57 30.2 +0.9**
comp=Z,95nm,0.8s
KKM Kota Kinabalu 48.16 116 P **P 03 57 29.9 +0.7**
KKM Kota Kinabalu 48.16 116 P **P 03 57 30.1 +0.9**
comp=Z,142nm,0.9s,comp=Z,1µm
RETA Reutte 48.23 306 ⇑*i*P **P 03 57 28.8 -0.7**
comp=Z,25nm,1.2s,SNR=5.9
KONO Kongsberg 48.29 322 *e*P **P 03 57 27.8 -1.7**
KONO AMS AMS 04 18 58.0
comp=Z,2µm,9.8s
KONO Kongsberg 48.29 322 *e*P **P 03 57 28.7 -0.8**
KONO pmax pmax
comp=Z,47nm,0.8s
KONO Kongsberg 48.29 322 *e*P **P 03 57 28.7 -0.8**
comp=Z,47nm,0.8s
FETA Feichten 48.32 305 ⇑*i*P **P 03 57 28.9 -1.4**
comp=Z,27nm,0.7s,SNR=13
UBBA Unterbreizbach 48.34 310 *e*P **P 03 57 30.7 +0.8**
MUD Monsted U'grnd 48.49 318 *e*P **P 03 57 33.1 +1.9**
MUD pmax pmax
comp=Z,22nm,1.1s
MUD Monsted U'grnd 48.49 318 *i* P **P 03 57 33.1 +1.9**
comp=Z,22nm,1.1s
FUORN Ofenpass-Fuorn 48.70 305 *e*P **P 03 57 33.2 0.0**
comp=Z,23nm,0.7s
HOMB Homborsund 48.83 320 *e*P **P 03 57 33.9 +0.2**
DAVA Damuels 48.86 306 ⇓*i*P **P 03 57 34.0 -0.3**
comp=Z,86nm,0.7s,SNR=30
VLC Villacollemand 49.05 302 *e*P **P 03 57 37.6 +1.9**
comp=Z,88nm,1.5s

STU **Stuttgart** 49.09 308 *eP* P 03 57 36.0 0.0
STU **Stuttgart** 49.09 308 *eP* P 03 57 36.7 +0.7
STU pmax pmax
comp=Z,35nm,0.8s
STU **Stuttgart** 49.09 308 *eP* P 03 57 36.7 +0.7
comp=Z,35nm,0.8s
KMBO **Kilima Mbogo** 49.13 232 *eP* P 03 57 38.2 +1.3
comp=Z,20nm,0.9s
KMBO **Kilima Mbogo** 49.13 232 *eP* P 03 57 38.7 +1.8
SDKM **Sandakan** 49.15 115 P P 03 57 37.6 +0.8
TOD **Tromm** 49.24 309 *eP* P 03 57 37.2 +0.1
TOD **Tromm** 49.24 309 *eP* P 03 57 37.2 +0.1
TUE **Stuetta** 49.35 305 *eP* P 03 57 37.9 -0.3
comp=Z,93nm,1.7s
TNS **Taunus Mts** 49.39 310 *eP* P 03 57 38.3 +0.1
comp=Z,23nm,0.9s
TNS **Taunus Mts** 49.39 310 *eP* P 03 57 38.3 +0.1
TNS pmax pmax
comp=Z,23nm,0.9s
MOL **Molde** 49.40 326 *eP* P 03 57 39.4 +1.3
MOL AMS AMS 04 18 58.9
comp=Z,3µm,12.8s
SNART **Snartemo** 49.52 320 *eP* P 03 57 39.0 +0.1
IBBN **Ibbenburen** 49.58 313 *eP* P 03 57 39.6 0.0
BFO **Black Forest** 49.73 307 *eP* P 03 57 40.5 -0.3
comp=Z,28nm,1.4s
BFO **Black Forest** 49.73 307 *eP* P 03 57 40.5 -0.3
BFO pmax pmax
comp=Z,28nm,1.4s
BFO **Black Forest** 49.73 307 *eP* P 03 57 40.3 -0.6
comp=Z,18nm,1.0s
ODD1 **Odda** 49.79 323 *eP* P 03 57 41.3 +0.2
ODD1 AMB AMB 03 57 49.3
comp=Z,76nm,2.0s
BLS5 **Blasjo** 49.89 322 *eP* P 03 57 42.0 +0.2
LANF **Langenberg** 49.97 308 *eP* P 03 57 43.0 +0.3
LANF **Langenberg** 49.97 308 *eP* P 03 57 43.0 +0.3
LANF **Langenberg** 49.97 308 *eP* P 03 57 43.0 +0.3
BUG **Bochum--Univer** 49.98 311 *eP* P 03 57 42.6 0.0
ABH **Alteburg** 50.01 309 *eP* P 03 57 42.9 0.0
FELD **Feldberg im Sc** 50.02 307 *eP* P 03 57 42.6 -0.6
WTSB **Winterswijk** 50.20 312 *eP* P 03 57 44.1 -0.2
comp=Z,33nm,0.1s
SPA0 **Spitsbergen Ar** 50.22 347 *eP* P 03 57 44.4 +0.3
SPITS **Spitsbergen Ar** 50.22 347 P P 03 57 44.2 +0.1
SPITS **Spitsbergen Ar** 50.22 347 P P 03 57 44.2 +0.1
comp=Z,26nm,0.6s,baz=116,slow=13,SNR=54
SPB4 **Spitsbergen Ar** 50.22 347 *eP* P 03 57 44.3 +0.2
RUP **Ruppelstein** 50.35 309 *eP* P 03 57 45.6 +0.1
RUP **Ruppelstein** 50.35 309 *eP* P 03 57 45.6 +0.1
PGF **Pioggiola** 50.38 300⇑ *iP* P 03 57 45.4 -0.5
comp=Z,76nm,1.0s
PGF **Pioggiola** 50.38 300⇑ *iP* P 03 57 45.4 -0.5
PGF pmax pmax
comp=Z,76nm,1.0s
PGF **Pioggiola** 50.38 300⇑ *iP* P 03 57 45.4 -0.5
comp=Z,76nm,1.0s
BBS **Basel-Blauen** 50.42 306 *eP* P 03 57 44.9 -1.2
BBS **Basel-Blauen** 50.42 306 *eP* P 03 57 44.9 -1.2
MYLDM **Lahad Datu** 50.43 115 P P 03 57 47.9 +1.4
MYLDM **Lahad Datu** 50.43 115 P P 03 57 48.2 +1.7
comp=Z,106nm,0.8s
BER **Bergen** 50.44 323 *eP* P 03 57 44.9 -1.1
BER AMS AMS 04 20 16.3
comp=Z,2µm,14.4s
EGD **Espegrend** 50.49 323 *eP* P 03 57 44.7 -1.7
EGD AMB AMB 03 57 47.8
comp=Z,156nm,1.7s
ASK **Askoy** 50.50 323 *eP* P 03 57 44.6 -1.9
ASK AMB AMB 03 57 49.6
comp=Z,107nm,1.6s
ECH **Echery** 50.52 307 *eP* P 03 57 46.2 -0.6
ECH **Echery** 50.52 307 *eP* P 03 57 46.2 -0.6
ECH **Echery** 50.52 307 *eP* P 03 57 46.2 -0.6
TSM **Tawau** 50.55 116 P P 03 57 47.9 +0.5
FOO **Floro** 50.56 325 *eP* P 03 57 45.2 -1.6
MOF **Molkenrain** 50.60 307 *eP* P 03 57 47.3 -0.2
MOF **Molkenrain** 50.60 307 *eP* P 03 57 47.3 -0.2
MOF **Molkenrain** 50.60 307 *eP* P 03 57 47.3 -0.2
HINF **Hinteralfeld** 50.79 307⇑ *iP* P 03 57 48.6 -0.3
comp=Z,36nm,0.8s
HINF **Hinteralfeld** 50.79 307⇑ *iP* P 03 57 48.6 -0.3
HINF pmax pmax
comp=Z,36nm,0.8s
HINF **Hinteralfeld** 50.79 307⇑ *iP* P 03 57 48.6 -0.3
comp=Z,36nm,0.8s
MEM **Membach** 50.88 310 P P 03 57 49.9 +0.4
comp=Z,21nm,1.2s
LOMF **Lomont** 50.89 306 *eP* P 03 57 49.3 -0.4
LOMF **Lomont** 50.89 306 *eP* P 03 57 49.3 -0.4
LOMF **Lomont** 50.89 306 *eP* P 03 57 49.3 -0.4
HGN **Heimansgroeve** 50.91 311 *eP* P 03 57 50.1 +0.4
comp=Z,32nm,1.6s
WLF **Walferdange** 50.93 309 P P 03 57 50.9 +1.0
comp=Z,31nm,1.6s
WLF **Walferdange** 50.93 309 *eP* P 03 57 50.3 +0.4
WLF **Walferdange** 50.93 309 *eP* P 03 57 50.5 +0.6
WLF pmax pmax
comp=Z,45nm,0.8s
WLF **Walferdange** 50.93 309 *eP* P 03 57 50.5 +0.6
comp=Z,45nm,0.8s
BEBN **Eben Emael** 51.06 311 P P 03 57 50.9 +0.1
SAOF **Saorge** 51.08 302 *eP* P 03 57 51.4 +0.3
SAOF **Saorge** 51.08 302 *eP* P 03 57 51.4 +0.3
SAOF **Saorge** 51.08 302 *eP* P 03 57 51.4 +0.3
HAU **Haudompre** 51.09 307⇑ *iP* P 03 57 51.0 -0.1
comp=Z,31nm,0.7s
HAU *eR*
comp=Z,749nm,21.2s
HAU **Haudompre** 51.09 307⇑ *iP* P 03 57 51.0 -0.1
HAU pmax pmax
comp=Z,31nm,0.7s
HAU **Haudompre** 51.09 307⇑ *iP* P 03 57 51.0 -0.1
comp=Z,31nm,0.7s
AUTN **L'Aution** 51.17 302 *eP* P 03 57 52.0 0.0
AUTN **L'Aution** 51.17 302 *eP* P 03 57 52.0 0.0
AUTN **L'Aution** 51.17 302 *eP* P 03 57 52.0 0.0
SBF **Sospel** 51.19 302⇑ *iP* P 03 57 52.2 +0.2
comp=Z,84nm,0.7s
SBF **Sospel** 51.19 302⇑ *iP* P 03 57 52.2 +0.2
SBF pmax pmax
comp=Z,84nm,0.7s
SBF **Sospel** 51.19 302⇑ *iP* P 03 57 52.2 +0.2
comp=Z,84nm,0.7s
THEF **They Montfort** 51.29 307 *eP* P 03 57 52.3 -0.3
THEF **They Montfort** 51.29 307 *eP* P 03 57 52.3 -0.3
THEF **They Montfort** 51.29 307 *eP* P 03 57 52.3 -0.3
TOUF **Mont Tournerai** 51.29 302 *eP* P 03 57 53.2 +0.3
TOUF **Mont Tournerai** 51.29 302 *eP* P 03 57 53.2 +0.3
TOUF **Mont Tournerai** 51.29 302 *eP* P 03 57 53.2 +0.3
LPG **La Plagne** 51.31 304⇑ *iP* P 03 57 53.5 +0.3
comp=Z,79nm,0.8s
LPG **La Plagne** 51.31 304⇑ *iP* P 03 57 53.5 +0.3
LPG pmax pmax
comp=Z,79nm,0.8s
LPG **La Plagne** 51.31 304⇑ *iP* P 03 57 53.5 +0.3
comp=Z,79nm,0.8s
LPL **La Plagne** 51.32 304⇑ *iP* P 03 57 53.4 +0.3
comp=Z,134nm,0.9s
LPL **La Plagne** 51.32 304⇑ *iP* P 03 57 53.4 +0.3
LPL pmax pmax
comp=Z,134nm,0.9s
LPL **La Plagne** 51.32 304⇑ *iP* P 03 57 53.4 +0.3
comp=Z,134nm,0.9s
KBS **Kingsbay** 51.32 347 *eP* P 03 57 54.0 +1.6
KBS AMS AMS 04 23 23.4
comp=Z,4µm,15.1s
KBS **Kingsbay** 51.32 347 *eP* P 03 57 53.3 +0.9
KBS pmax pmax
comp=Z,61nm,1.0s
KBS **Kingsbay** 51.32 347 *eP* P 03 57 53.3 +0.9
comp=Z,61nm,1.0s
BCLA **Clavier** 51.35 310 P P 03 57 53.7 +0.7
MVIF **Mont Vial** 51.38 302 *eP* P 03 57 53.2 -0.3
MVIF **Mont Vial** 51.38 302 *eP* P 03 57 53.2 -0.3
MVIF **Mont Vial** 51.38 302 *eP* P 03 57 53.2 -0.3
PAGF **Fort de Pagny** 51.40 308⇑ *iP* P 03 57 53.9 +0.5
comp=Z,17nm,0.7s
PAGF **Fort de Pagny** 51.40 308⇑ *iP* P 03 57 53.9 +0.5
comp=Z,17nm,0.7s
BNI **Bardonecchia** 51.46 303 *eP* P 03 57 54.1 0.0
BNI pmax pmax
comp=Z,67nm,1.2s
BNI **Bardonecchia** 51.46 303 *eP* P 03 57 54.1 0.0
comp=Z,67nm,1.2s
MBDF **Montbardon** 51.46 303 *eP* P 03 57 53.8 -0.3
comp=Z,73nm,0.6s
MBDF **Montbardon** 51.46 303 *eP* P 03 57 53.8 -0.3
MBDF pmax pmax
comp=Z,73nm,0.6s
MBDF **Montbardon** 51.46 303 *eP* P 03 57 53.8 -0.3
comp=Z,73nm,0.6s
SURF **Saint Ours** 51.49 303 *eP* P 03 57 54.4 0.0
SURF **Saint Ours** 51.49 303 *eP* P 03 57 54.4 0.0
CABF **La Chapelle** 51.53 305⇑ *iP* P 03 57 54.7 +0.1
comp=Z,103nm,1.1s
CABF **La Chapelle** 51.53 305⇑ *iP* P 03 57 54.7 +0.1
CABF pmax pmax
comp=Z,103nm,1.1s
CABF **La Chapelle** 51.53 305⇑ *iP* P 03 57 54.7 +0.1
comp=Z,103nm,1.1s
MAJO **Matsushiro** 51.65 68 *eP* P 03 57 55.5 0.0
MAJO pmax pmax
comp=Z,121nm,1.7s
MAJO **Matsushiro** 51.65 68 *eP* P 03 57 55.5 0.0
comp=Z,121nm,1.7s
MAT **Matsushiro** 51.65 68 P P 03 57 54.8 -0.7
MAT S S 04 05 18.6 +3.0
MJAR **Matsushiro Arr** 51.65 68 P P 03 57 55.3 -0.2
MJAR **Matsushiro Arr** 51.65 68 P P 03 57 55.3 -0.2
comp=Z,22nm,1.0s,baz=280,slow=8.9,SNR=19
MJAR LR LR 04 23 28.5
comp=Z,1µm,18.8s,baz=290,slow=40
GIVF **Givet** 51.71 310⇑ *iP* P 03 57 56.2 +0.5
comp=Z,116nm,1.2s
GIVF **Givet** 51.71 310⇑ *iP* P 03 57 56.2 +0.5
GIVF pmax pmax
comp=Z,116nm,1.2s
GIVF **Givet** 51.71 310⇑ *iP* P 03 57 56.2 +0.5
comp=Z,116nm,1.2s
MEZF **Maizieres J'vi** 51.85 308⇑ *iP* P 03 57 57.1 +0.3
comp=Z,161nm,1.3s
MEZF **Maizieres J'vi** 51.85 308⇑ *iP* P 03 57 57.1 +0.3
comp=Z,161nm,1.3s
DOU **Dourbes** 51.86 310 P P 03 57 57.3 +0.5
comp=Z,28nm,2.3s
SFTF **Sexfontaines** 51.92 308 *eP* P 03 57 57.2 -0.1
comp=Z,122nm,1.3s
SFTF **Sexfontaines** 51.92 308 *eP* P 03 57 57.2 -0.1
comp=Z,122nm,1.3s
LMR **La Mourre** 51.97 301 *eP* P 03 57 57.2 -0.5
comp=Z,110nm,1.7s
LMR **La Mourre** 51.97 301 *eP* P 03 57 57.2 -0.5
LMR pmax pmax
comp=Z,110nm,1.7s
LMR **La Mourre** 51.97 301 *eP* P 03 57 57.2 -0.5
comp=Z,110nm,1.7s
KEST **Kesra** 51.97 291 *eP* P 03 57 59.4 +1.4
KEST **Kesra** 51.97 291 P P 03 57 58.6 +0.6
comp=Z,9.9nm,0.7s,baz=50,slow=2.6,SNR=24
SNF **Seneffe** 51.98 311 P P 03 57 58.3 +0.6
comp=Z,28nm,1.5s
ORIF **Oris-en-Rattie** 52.04 303 *eP* P 03 57 57.7 -0.7
comp=Z,25nm,0.6s
ORIF *eR*
comp=Z,834nm,21.5s
ORIF **Oris-en-Rattie** 52.04 303 *eP* P 03 57 57.7 -0.7
ORIF pmax pmax
comp=Z,25nm,0.6s
ORIF **Oris-en-Rattie** 52.04 303 *eP* P 03 57 57.7 -0.7
comp=Z,25nm,0.6s
GRN **Grenoble** 52.06 304 *eP* P 03 57 58.0 -0.5
GRN **Grenoble** 52.06 304 *eP* P 03 57 58.0 -0.5
GRN **Grenoble** 52.06 304 *eP* P 03 57 58.0 -0.5
BAIF **Baives** 52.11 310⇑ *iP* P 03 57 59.1 +0.4
comp=Z,70nm,0.9s
BAIF **Baives** 52.11 310⇑ *iP* P 03 57 59.1 +0.4
BAIF pmax pmax
comp=Z,70nm,0.9s
BAIF **Baives** 52.11 310⇑ *iP* P 03 57 59.1 +0.4
comp=Z,70nm,0.9s
YSS **Yuzh-Sakhalins** 52.27 54 *eP* P 03 58 00.0 +0.1
YSS *e* 03 58 08.0
YSS *eS* S 04 05 24.0 +0.3
YSS pmax pmax
comp=Z,120nm,1.2s
YSS MLR MLR
comp=N,2µm,15.0s
YSS MLR MLR
comp=Z,2µm,15.0s
YSS MLR MLR
comp=E,4µm,13.0s
YSS **Yuzh-Sakhalins** 52.27 54 *eP* P 03 57 59.9 +0.1
comp=E,73nm,1.0s
SMRF **Simiane la Rot** 52.47 302 *eP* P 03 58 01.6 +0.1
comp=E,25nm,0.7s
SMRF **Simiane la Rot** 52.47 302 *eP* P 03 58 01.6 +0.1
comp=E,25nm,0.7s
PRAF **Pradon** 52.80 302 *eP* P 03 58 04.2 +0.2
PRAF **Pradon** 52.80 302 *eP* P 03 58 04.2 +0.2
ASAJ **Asahikawa** 52.80 57 *eP* P 03 58 04.4 +0.5
comp=E,7.0nm,0.7s
ASAJ **Asahikawa** 52.80 57 P P 03 58 04.8 +0.8
comp=E,15nm,0.6s,baz=316,slow=6.3
ASAJ LR LR 04 21 47.0
comp=E,1µm,20.1s,baz=316,slow=38
VIVF **Saint-Julien-l** 52.89 304⇑ *iP* P 03 58 04.7 +0.1
comp=E,61nm,0.9s
VIVF **Saint-Julien-l** 52.89 304⇑ *iP* P 03 58 04.7 +0.1
VIVF pmax pmax
comp=E,61nm,0.9s
VIVF **Saint-Julien-l** 52.89 304⇑ *iP* P 03 58 04.7 +0.1
comp=E,61nm,0.9s
LOR **Lormes** 52.89 307 *eP* P 03 58 03.9 -0.6
comp=E,72nm,1.3s
LOR *eR*
comp=Z,1µm,23.0s
LOR **Lormes** 52.89 307 *eP* P 03 58 03.9 -0.6
comp=E,72nm,1.3s
SSF **Saint Saulge** 53.17 306⇑ *iP* P 03 58 06.2 -0.4
comp=Z,102nm,1.2s
SSF **Saint Saulge** 53.17 306⇑ *iP* P 03 58 06.2 -0.4
SSF pmax pmax
comp=Z,102nm,1.2s
SSF **Saint Saulge** 53.17 306⇑ *iP* P 03 58 06.2 -0.4
comp=Z,102nm,1.2s
LASF **Ste Croix** 53.65 303⇑ *iP* P 03 58 10.6 +0.4
comp=Z,141nm,1.2s
LASF **Ste Croix** 53.65 303⇑ *iP* P 03 58 10.6 +0.4
comp=Z,141nm,1.2s
LRW **Lerwick** 53.69 323 *eP* P 03 58 09.8 -0.3
LRW AMB AMB 03 58 11.1
comp=Z,141nm,2.0s
LRW **Lerwick** 53.69 323 P P 03 58 09.8 -0.3
LRW AMB AMB 03 58 11.1
comp=Z,141nm,2.0s
HYF **Humbligny** 53.70 307 *eP* P 03 58 10.6 +0.1
HYF **Humbligny** 53.70 307 *eP* P 03 58 10.6 +0.1
BGF **Bois d'Agland** 53.73 306⇑ *iP* P 03 58 10.4 -0.3
comp=Z,32nm,0.8s
BGF **Bois d'Agland** 53.73 306⇑ *iP* P 03 58 10.4 -0.3
BGF pmax pmax
comp=Z,32nm,0.8s
BGF **Bois d'Agland** 53.73 306⇑ *iP* P 03 58 10.4 -0.3
comp=Z,32nm,0.8s
JHJ **Hachijo jima 2** 54.00 71 P P 03 58 14.1 +1.3
comp=Z,181nm,0.8s,baz=243,slow=6.8,SNR=2.1
TCF **Toulx Ste Croi** 54.22 306⇑ *iP* P 03 58 14.4 +0.1
comp=Z,144nm,1.1s
TCF **Toulx Ste Croi** 54.22 306⇑ *iP* P 03 58 14.4 +0.1
TCF pmax pmax
comp=Z,144nm,1.1s
TCF **Toulx Ste Croi** 54.22 306⇑ *iP* P 03 58 14.4 +0.1
comp=Z,144nm,1.1s
CAF **Calviac** 54.66 304⇑ *iP* P 03 58 17.9 +0.3
comp=Z,90nm,1.1s
CAF **Calviac** 54.66 304⇑ *iP* P 03 58 17.9 +0.3
CAF pmax pmax
comp=Z,90nm,1.1s
CAF **Calviac** 54.66 304⇑ *iP* P 03 58 17.9 +0.3
comp=Z,90nm,1.1s
RJF **Les Rejaudoux** 54.94 305⇑ *iP* P 03 58 20.1 +0.6
comp=Z,54nm,1.0s
RJF *eR*
comp=Z,471nm,21.2s
RJF **Les Rejaudoux** 54.94 305⇑ *iP* P 03 58 20.1 +0.6
RJF pmax pmax
comp=Z,55nm,1.0s
RJF **Les Rejaudoux** 54.94 305⇑ *iP* P 03 58 20.1 +0.6
comp=Z,54nm,1.0s
SEY **Seymchan** 55.03 33⇑ *eP* P 03 58 20.7 +0.8
MME1 **Meikle Cairn** 55.03 320 *eP* P 03 58 20.0 0.0
MME1 **Meikle Cairn** 55.03 320 P P 03 58 20.0 0.0
ESY **Stoneypath** 55.09 318 *eP* P 03 58 19.1 -1.4
ESY **Stoneypath** 55.09 318 P P 03 58 19.1 -1.4
YUK **Yuzh-Kuril'sk** 55.10 57 *i* P P 03 58 19.8 -0.8
YUK *i* 04 00 23.4
YUK *i* S S 04 06 03.2 +1.1
YUK pmax pmax
comp=N,4.0nm,1.4s
YUK pmax pmax
comp=Z,15nm,1.3s
YUK pmax pmax
comp=E,1.0nm,1.4s
YUK MLR MLR
comp=E,1µm,18.0s
YUK MLR MLR
comp=Z,2µm,18.0s
MCD **Coleburn Disti** 55.14 320 *eP* P 03 58 19.6 -1.1
MCD **Coleburn Disti** 55.14 320 P P 03 58 19.6 -1.1
LDF **La Druitiere** 55.19 309⇑ *iP* P 03 58 20.6 -0.7
comp=Z,53nm,0.8s
LDF **La Druitiere** 55.19 309⇑ *iP* P 03 58 20.6 -0.7
LDF pmax pmax
comp=Z,53nm,0.8s
LDF **La Druitiere** 55.19 309⇑ *iP* P 03 58 20.6 -0.7
comp=Z,53nm,0.8s
WOL **Wolverton** 55.24 312 *eP* P 03 58 20.8 -0.8
WOL AMB AMB 03 58 22.6
comp=Z,84nm,2.5s
WOL **Wolverton** 55.24 312 P P 03 58 20.8 -0.8
WOL AMB AMB 03 58 22.6
comp=Z,84nm,2.5s
EBL **Broad Law** 55.36 318 *eP* P 03 58 21.6 -0.8
EBL **Broad Law** 55.36 318 P P 03 58 21.6 -0.8
FLN **La Foliniere** 55.38 309 *eP* P 03 58 21.9 -0.7
comp=Z,49nm,0.9s
FLN *eR*
comp=Z,1µm,22.2s
FLN **La Foliniere** 55.38 309 *eP* P 03 58 21.9 -0.7
FLN pmax pmax
comp=Z,49nm,0.9s
FLN **La Foliniere** 55.38 309 *eP* P 03 58 21.9 -0.7
comp=Z,49nm,0.9s
EDI **Edinburgh** 55.41 318 *eP* P 03 58 21.9 -0.8
EDI AMB AMB 03 58 23.6
comp=Z,53nm,1.8s
EDI **Edinburgh** 55.41 318 P P 03 58 21.9 -0.8
EDI AMB AMB 03 58 23.6
comp=Z,53nm,1.8s
ECK **Cauldkaine Hil** 55.53 317 *eP* P 03 58 22.5 -1.1
ECK **Cauldkaine Hil** 55.53 317 P P 03 58 22.5 -1.1
ESK **Eskdalemuir** 55.54 318 *eP* P 03 58 22.8 -0.9
ESK **Eskdalemuir** 55.54 318 P P 03 58 22.8 -0.9
ESK **Eskdalemuir** 55.54 318 *eP* P 03 58 23.3 -0.4
ESK pmax pmax
comp=Z,19nm,0.8s
ESK **Eskdalemuir** 55.54 318 *eP* P 03 58 23.2 -0.4
comp=Z,19nm,0.8s
ESK **Eskdalemuir** 55.54 318 P P 03 58 22.6 -1.1
comp=Z,169nm,1.7s,SNR=6.1
LFF **La Frestale** 55.57 305⇑ *iP* P 03 58 24.3 +0.3
comp=Z,51nm,0.7s
LFF **La Frestale** 55.57 305⇑ *iP* P 03 58 24.3 +0.3
LFF pmax pmax
comp=Z,51nm,0.7s
LFF **La Frestale** 55.57 305⇑ *iP* P 03 58 24.3 +0.3
comp=Z,51nm,0.7s
EAU **Auchinoon** 55.57 318 *eP* P 03 58 22.9 -0.9
EAU **Auchinoon** 55.57 318 P P 03 58 22.9 -0.9
KESW **Keswick, Cumbr** 55.64 317 *eP* P 03 58 24.0 -0.4
KESW **Keswick, Cumbr** 55.64 317 P P 03 58 24.0 -0.4
MFF **Saint Martin d** 55.71 307⇑ *iP* P 03 58 24.5 -0.6
comp=Z,43nm,1.0s
MFF **Saint Martin d** 55.71 307⇑ *iP* P 03 58 24.5 -0.6
MFF pmax pmax
comp=Z,43nm,1.0s
MFF **Saint Martin d** 55.71 307⇑ *iP* P 03 58 24.5 -0.6
comp=Z,43nm,1.0s
GRR **Gorron** 55.71 309⇑ *iP* P 03 58 24.3 -0.7
comp=Z,42nm,0.8s
GRR **Gorron** 55.71 309⇑ *iP* P 03 58 24.3 -0.7
GRR pmax pmax
comp=Z,42nm,0.8s
GRR **Gorron** 55.71 309⇑ *iP* P 03 58 24.3 -0.7
comp=Z,42nm,0.8s
MDO **Dochfour** 55.75 320 *eP* P 03 58 24.2 -1.0
MDO **Dochfour** 55.75 320 P P 03 58 24.2 -1.0
MLS **Moulis** 55.89 302 *eP* P 03 58 26.1 -0.3
MLS **Moulis** 55.89 302 *eP* P 03 58 26.1 -0.3
HLM1 **Long Mynd** 55.96 314 *eP* P 03 58 25.4 -1.4
HLM1 **Long Mynd** 55.96 314 P P 03 58 25.4 -1.4
EAB **Aberfoyle** 55.99 319 *eP* P 03 58 26.2 -0.7
EAB **Aberfoyle** 55.99 319 P P 03 58 26.2 -0.7
GCD **Castle Douglas** 56.05 317 *eP* P 03 58 26.6 -0.7
GCD **Castle Douglas** 56.05 317 P P 03 58 26.6 -0.7
FOEL **Foel Wylfa** 56.07 315 *eP* P 03 58 27.1 -0.5
FOEL AMB AMB 03 58 27.3
comp=Z,64nm,2.8s
FOEL **Foel Wylfa** 56.07 315 P P 03 58 27.1 -0.5
FOEL AMB AMB 03 58 27.3
comp=Z,64nm,2.8s
PGBU **Glenifferbraes** 56.15 318 *eP* P 03 58 27.2 -0.8
PGBU AMB AMB 03 58 30.3
comp=Z,86nm,2.2s
PGBU **Glenifferbraes** 56.15 318 P P 03 58 27.2 -0.8
PGBU AMB AMB 03 58 30.3
comp=Z,86nm,2.2s
MCH1 **Michaelchurch** 56.16 314 *eP* P 03 58 27.2 -1.0
MCH1 AMB AMB 03 58 28.7
comp=Z,82nm,2.5s
MCH1 **Michaelchurch** 56.16 314 P P 03 58 27.2 -1.0
MCH1 AMB AMB 03 58 28.7
comp=Z,82nm,2.5s
KAC **Achnashellach** 56.23 320 *eP* P 03 58 27.4 -1.2
KAC **Achnashellach** 56.23 320 P P 03 58 27.4 -1.2
EPF **Esparros** 56.39 302 *eP* P 03 58 29.2 -0.9
comp=Z,18nm,0.6s
EPF **Esparros** 56.39 302 *eP* P 03 58 29.2 -0.9
EPF pmax pmax
comp=Z,18nm,0.6s
EPF **Esparros** 56.39 302 *eP* P 03 58 29.2 -0.9
comp=Z,18nm,0.6s
WPM1 **Penmaenmawr** 56.39 315 *eP* P 03 58 29.0 -0.8
WPM1 **Penmaenmawr** 56.39 315 P P 03 58 29.0 -0.8
KPL **Plockton** 56.45 320 *eP* P 03 58 29.6 -0.6
KPL **Plockton** 56.45 320 P P 03 58 29.6 -0.6
RESF **Ens** 56.46 302 *eP* P 03 58 31.1 +0.4
RESF **Ens** 56.46 302 *eP* P 03 58 31.1 +0.4
WME **Myndd Eilian** 56.59 315 *eP* P 03 58 30.6 -0.6
WME **Myndd Eilian** 56.59 315 P P 03 58 30.6 -0.6
VIEF **Viey** 56.66 302 *eP* P 03 58 32.4 +0.4
VIEF **Viey** 56.66 302 *eP* P 03 58 32.4 +0.4
WLF1 **Llynfaes** 56.67 315 *eP* P 03 58 31.1 -0.7
WLF1 AMB AMB 03 58 35.1
comp=Z,52nm,2.3s
WLF1 **Llynfaes** 56.67 315 P P 03 58 31.1 -0.7
WLF1 AMB AMB 03 58 35.1
comp=Z,52nm,2.3s
YRC **Rhoscolyn** 56.79 315 *eP* P 03 58 32.0 -0.5
YRC **Rhoscolyn** 56.79 315 P P 03 58 32.0 -0.5
SGMF **Saint Gilles** 56.84 309⇑ *iP* P 03 58 32.7 -0.4
comp=Z,45nm,0.9s
SGMF **Saint Gilles** 56.84 309⇑ *iP* P 03 58 32.7 -0.4
SGMF pmax pmax
comp=Z,45nm,0.9s
SGMF **Saint Gilles** 56.84 309⇑ *iP* P 03 58 32.7 -0.4
comp=Z,45nm,0.9s
HEX **Exmoor** 56.87 313 *eP* P 03 58 32.6 -0.7
HEX **Exmoor** 56.87 313 P P 03 58 32.6 -0.7
REYF **Montagne du Re** 56.89 303 *eP* P 03 58 35.3 +1.6
REYF **Montagne du Re** 56.89 303 *eP* P 03 58 35.3 +1.6
ETSF **Etsaut** 57.06 303 *eP* P 03 58 35.1 +0.2
comp=Z,75nm,0.7s
ETSF **Etsaut** 57.06 303 *eP* P 03 58 35.1 +0.2
ETSF pmax pmax
comp=Z,75nm,0.7s
ETSF **Etsaut** 57.06 303 *eP* P 03 58 35.1 +0.2
comp=Z,75nm,0.7s
ROSF **Rostrenen** 57.28 309⇑ *iP* P 03 58 35.6 -0.6
comp=Z,78nm,1.0s
ROSF **Rostrenen** 57.28 309⇑ *iP* P 03 58 35.6 -0.6
ROSF pmax pmax
comp=Z,78nm,1.0s
ROSF **Rostrenen** 57.28 309⇑ *iP* P 03 58 35.6 -0.6

comp=Z,78nm,1.0s
LARF Larrau 57.32 303 *e*P **P 03 58 37.1 +0.5**
LARF Larrau 57.32 303 *e*P **P 03 58 37.1 +0.5**
QUIF Quistinic 57.33 309⇑ *i*P **P 03 58 35.8 -0.7**
comp=Z,68nm,1.1s
QUIF Quistinic 57.33 309⇑ *i*P **P 03 58 35.8 -0.7**
QUIF pmax pmax
comp=Z,68nm,1.1s
QUIF Quistinic 57.33 309⇑ *i*P **P 03 58 35.8 -0.7**
comp=Z,68nm,1.1s
SJPF Ste Jean 57.46 303 *e*P **P 03 58 37.9 +0.3**
comp=Z,83nm,1.2s
SJPF Ste Jean 57.46 303 *e*P **P 03 58 37.9 +0.3**
SJPF pmax pmax
comp=Z,83nm,1.2s
SJPF Ste Jean 57.46 303 *e*P **P 03 58 37.9 +0.3**
comp=Z,83nm,1.2s
DAG Danmarks Havn 57.54 344 *i*P **P 03 58 37.9 +0.3**
DAG pmax pmax
comp=Z,23nm,0.7s
DAG MLR MLR
comp=Z,1µm,19.0s
DAG Danmarks Havn 57.54 344 *i*P **P 03 58 37.9 +0.3**
comp=Z,229nm,0.7s
DAG
comp=Z,2µm,19.0s
KAPI Kappang 58.30 123 *e*P P 03 58 40.2 -3.6
comp=Z,19nm,0.9s
KAPI Kappang 58.30 123 P **P 03 58 42.2 -1.5**
comp=Z,26nm,1.0s
KAPI Kappang 58.30 123 LR LR 04 26 55.6
comp=Z,497nm,20.8s,baz=63,slow=39
ABPO Ambohimpanom 58.70 210 *e*P **P 03 58 47.2 +0.6**
ABPO pmax pmax
comp=Z,10.0nm,0.8s
ABPO Ambohimpanom 58.70 210 *e*P **P 03 58 47.2 +0.6**
comp=Z,10.0nm,0.8s
BILL Bilibino 59.63 26*c* *i*P **P 03 58 53.6 +1.3**
BILL *i* 03 59 46.4
BILL *i*S **S 04 07 04.8 +3.7**
BILL *i*SS **SS 04 10 58.7 +2.6**
BILL pmax pmax
comp=Z,45nm,1.0s
BILL MLR MLR
comp=Z,4µm,16.0s
BILL Bilibino 59.63 26 *e*P **P 03 58 52.9 +0.6**
comp=Z,41nm,1.0s
PETK Petropavlovsk- 59.99 44 P **P 03 58 55.0 0.0**
PETK Petropavlovsk- 59.99 44 P **P 03 58 55.0 0.0**
PETK Petropavlovsk- 59.99 44 P **P 03 58 55.0 0.0**
comp=Z,15nm,0.9s,baz=216,slow=6.2,SNR=7.4
PETK LR LR 04 27 26.5
comp=Z,6µm,18.3s,baz=281,slow=39
SCO Scoresbysund 60.04 337 *i*P **P 03 58 56.1 +1.1**
SCO MLR MLR
comp=Z,2µm,17.0s
SCO Scoresbysund 60.04 337 *i*P **P 03 58 56.1 +1.1**
comp=Z,6.0nm,0.8s
SCO
comp=Z,2µm,17.0s
PET Petropavlovsk 60.57 44 *e*P **P 03 58 57.4 -1.5**
PET *e* 04 01 13.3
PET *e*PPP PPP 04 02 35.8
PET *e*S **S 04 07 08.8 -4.7**
PET pmax pmax
comp=Z,42nm,1.0s
PET pmax pmax
comp=Z,300nm,16.9s
PET pmax pmax
comp=Z,300nm,17.4s
PET MLR MLR
comp=Z,7µm,17.0s
PET MLR MLR
comp=Z,6µm,19.0s
PET Petropavlovsk 60.57 44 *e*P **P 03 58 58.1 -0.7**
comp=Z,38nm,1.0s
ESDC Sonseca Array 60.57 300 P **P 03 58 58.8 -0.5**
ESDC Sonseca Array 60.57 300 P **P 03 58 58.8 -0.5**
comp=Z,9.6nm,0.7s,baz=56,slow=7.3,SNR=49
ESDC LR LR 04 30 09.6
comp=Z,239nm,18.7s,baz=45,slow=41
ESLA Sonseca Array 60.57 300 *e*P **P 03 58 59.0 -0.3**
comp=Z,3.3nm,0.8s
PAB San Pablo 60.89 300 *e*P **P 03 59 01.4 -0.1**
PAB pmax pmax
comp=Z,22nm,1.1s
PAB San Pablo 60.89 300 *e*P **P 03 59 01.4 -0.1**
comp=Z,22nm,1.1s
ALE Alert 61.53 354 P **P 03 59 04.6 -0.5**
comp=Z,342nm,0.6s,SNR=18
MVO Moncorvo 62.18 303 *e*P **P 03 59 10.0 -0.2**
comp=Z,34nm,1.7s
MVO *e*S **S 04 07 33.0 -1.6**
MVO *e*LQ LQ 04 23 32.7
MVO *e*LR LR 04 26 53.3
comp=Z,553nm,18.0s
POLO Lamas de Olo 62.63 303 *e*S S 04 07 53.3 +13
PGAV Gavieira, Arco 62.74 304 *e*P **P 03 59 14.0 +0.1**
PGAV *e*S **S 04 07 42.1 +0.5**
PGAV *e*LQ LQ 04 14 56.5
MTE Manteigas 62.84 302 *e*P **P 03 59 14.8 +0.2**
comp=Z,59nm,1.5s
MTE *e*S **S 04 07 42.5 -0.4**
MTE *e*LQ LQ 04 14 52.0
MTE *e*LR LR 04 26 15.0
comp=Z,774nm,18.0s
MTE Manteigas 62.84 302 *e*P **P 03 59 14.9 +0.4**
comp=Z,31nm,0.9s
PMRV Marv??o 63.11 301 *e*P **P 03 59 17.1 +0.8**
comp=Z,23nm,1.6s
PMRV *e*S **S 04 07 48.6 +2.4**
PMRV *e*LR LR 04 26 00.8
comp=Z,319nm,18.0s
PBAR Barrancos 63.36 299 *e*P **P 03 59 18.1 +0.1**
comp=Z,48nm,1.4s
PBAR *e*S **S 04 07 51.4 +2.1**
PESTR Estremoz 63.48 300 *e*P **P 03 59 19.4 +0.6**
comp=Z,38nm,1.6s
PESTR *e*S **S 04 07 55.2 +4.4**
PMTG Montargil 63.85 301 *e*P **P 03 59 21.6 +0.4**
comp=Z,31nm,1.5s
PMTG *e*S **S 04 07 55.2 -0.2**
EVO Evora 63.91 300 *e*P **P 03 59 21.8 +0.2**
comp=Z,37nm,1.3s
EVO Evora 63.91 300 *e*P **P 03 59 22.4 +0.8**
comp=Z,38nm,1.1s
EVO *e*R
comp=Z,552nm,21.2s
SUMG Summit 63.94 342 *e*P **P 03 59 22.1 +0.4**
SUMG pmax pmax
comp=Z,58nm,0.8s
SUMG Summit 63.94 342 *e*P **P 03 59 22.1 +0.4**
comp=Z,58nm,0.8s
SUMG Summit 63.94 342 *i*P **P 03 59 22.2 +0.5**
comp=Z,60nm,0.9s
EVOP Sao Brissos 64.00 300 *e*P **P 03 59 22.4 +0.3**
EVOP pmax pmax
comp=Z,38nm,1.1s
EVOP Sao Brissos 64.00 300 *e*P **P 03 59 22.4 +0.3**
comp=Z,38nm,1.1s
PVAQ Vaqueiros 64.17 299 *e*P **P 03 59 23.2 -0.1**
comp=Z,40nm,1.3s
PVAQ *e*S **S 04 08 00.0 +0.7**
PVAQ *e*LQ LQ 04 23 27.2
PVAQ *e*LR LR 04 26 24.8
comp=Z,308nm,18.0s
PCVE Castro Verde 64.30 299 *e*P **P 03 59 26.2 +2.0**
comp=Z,29nm,1.8s
PCVE *e*S **S 04 08 04.7 +3.6**
PBDV Barranco-do-Ve 64.39 299 *e*P **P 03 59 25.3 +0.5**
comp=Z,49nm,1.2s
PBDV *e*S **S 04 08 07.5 +5.3**
PNCL Nicolau / Gran 64.46 300 *e*P **P 03 59 26.5 +1.3**
PNCL *e*S **S 04 08 08.5 +5.6**
PMAFR Mafra 64.65 301 *e*P **P 03 59 27.1 +0.7**
comp=Z,136nm,1.5s
PMAFR *e*S **S 04 08 09.4 +4.1**
MORF Marmelete 64.88 299 *e*S S 04 08 21.7 +13
LSZ Lusaka 65.64 229 *e*P **P 03 59 33.4 +0.3**
comp=Z,34nm,1.3s
LSZ Lusaka 65.64 229 *e*P **P 03 59 33.8 +0.6**
GUMO Guam 66.89 89 LR LR 04 30 44.8
comp=Z,572nm,19.3s,baz=263,slow=38
TORD Torodi Ar. Bea 68.02 271 P **P 03 59 46.5 -1.9**
TORD Torodi Ar. Bea 68.02 271 P **P 03 59 46.5 -1.9**
comp=Z,41nm,0.6s,baz=47,slow=5.4,SNR=267
TORD LR LR 04 33 20.1
comp=Z,2µm,18.9s,baz=50,slow=39
FX1 Attu Island--F 68.66 40 P **P 03 59 52.1 +0.3**
FX1 Attu Island--F 68.66 40 P **P 03 59 52.1 +0.3**
comp=Z,38nm,0.6s,baz=281,slow=6.4,SNR=11
BLWY Bulawayo 69.10 226 *i*P **P 03 59 52.2 -2.9**
BLWY *i* 03 59 52.4
baz=100,slow=18
BLWY *i*S **pP 04 00 03.8 +1.9**
GAMB Gambell 69.56 26 *e*P **P 03 59 58.0 +0.9**
comp=Z,30nm,1.0s
MSNA Messina 70.01 223 *e*P **P 04 00 01.4 +0.9**
MSNA AMB AMB 04 00 10.6
comp=Z,34nm,2.1s
MBWA Marble Bar 70.30 135 *e*P **P 04 00 01.8 -0.4**
comp=Z,17nm,1.0s
SFJD Kangerlussuaq 70.68 340 *e*P **P 04 00 03.4 -0.6**
comp=Z,22nm,0.9s
SFJD Kangerlussuaq 70.68 340 *i*P **P 04 00 03.4 -0.6**
comp=Z,18nm,0.9s
SFJD
comp=Z,830nm,16.0s
RES Resolute Bay 71.10 357 *e*P **P 04 00 06.7 +0.3**
comp=Z,21nm,1.1s
RES Resolute Bay 71.10 357 P **P 04 00 07.0 +0.6**
comp=Z,6.6nm,0.7s,baz=7.2,slow=6.4,SNR=16
FITZ Fitzroy Crossi 71.69 128 *e*P **P 04 00 09.9 -0.8**
comp=Z,9.7nm,0.9s
FITZ Fitzroy Crossi 71.69 128 *e*P **P 04 00 10.7 0.0**
comp=Z,18nm,0.9s
ERPM east rand prop 74.15 222 *e*P **P 04 00 25.8 +0.4**
ERPM AMB AMB 04 00 32.6
comp=Z,33nm,2.3s
LBTB Lobatse 74.62 225 *e*P **P 04 00 28.0 0.0**
comp=Z,34nm,0.8s
LBTB Lobatse 74.62 225 *e*P **P 04 00 27.8 -0.2**
LBTB AMB AMB 04 00 34.6
comp=Z,64nm,4.1s
PRYS Parys 75.09 222 *e*P **P 04 00 30.9 +0.1**
PRYS AMB AMB 04 00 36.7
comp=Z,42nm,4.2s
TSUM Tsumeb 75.40 234 *e*P **P 04 00 33.6 +0.9**
comp=Z,26nm,0.7s
TSUM Tsumeb 75.40 234 *e*P **P 04 00 33.5 +0.7**
INK Inuvik 75.74 10 *e*P **P 04 00 33.7 -0.1**
comp=Z,28nm,0.6s
INK Inuvik 75.74 10 P **P 04 00 33.2 -0.6**
comp=Z,25nm,0.8s,baz=342,slow=6.2,SNR=61
COLA College 75.98 17 *e*P **P 04 00 35.5 +0.3**
COLA pmax pmax
comp=Z,39nm,0.8s
COLA College 75.98 17 *e*P **P 04 00 35.5 +0.3**
comp=Z,39nm,0.8s
ILAR Eielson Array 76.30 17 P **P 04 00 35.7 -1.4**
ILAR PKKPbc **PKKPbc 04 19 48.6 -2.0**
ILAR Eielson Array 76.30 17 P **P 04 00 35.7 -1.4**
comp=Z,8.7nm,0.7s,baz=345,slow=4.0,SNR=73
ILAR PKKPbc **PKKPbc 04 19 48.6 -2.0**
comp=Z,0.3nm,0.8s,baz=160,slow=2.3,SNR=7.0
SWZ Schweizer 76.43 223 *e*P **P 04 00 38.2 -0.2**
SWZ AMB AMB 04 00 51.5
comp=Z,27nm,4.2s
DBIC Dimbokro 76.93 269 *e*P **P 04 00 41.1 -0.4**
comp=Z,24nm,0.8s
DBIC Dimbokro 76.93 269 P **P 04 00 41.0 -0.5**
comp=Z,18nm,0.8s,baz=42,slow=7.3,SNR=36
DBIC LR LR 04 38 00.4
comp=Z,1µm,19.4s,baz=41,slow=38
DBIC Dimbokro 76.93 269 *e*P **P 04 00 41.1 -0.4**
LIC Lamto 77.32 269 *e*P **P 04 00 43.2 -0.5**
comp=Z,70nm,0.8s
LIC *e*R
comp=Z,2µm,20.8s
LIC Lamto 77.32 269 *e*P **P 04 00 43.2 -0.5**
comp=Z,70nm,0.8s
KLBR Kellerberrin 77.45 143 *e*P **P 04 00 42.9 -1.1**
comp=Z,21nm,0.6s
BOSA Boshof 77.57 222 *e*P **P 04 00 44.9 +0.1**
comp=Z,30nm,0.9s
BOSA Boshof 77.57 222 P **P 04 00 44.8 -0.1**
comp=Z,17nm,0.7s,baz=28,slow=6.2,SNR=30
BOSA LR LR 04 37 47.9
comp=Z,885nm,18.5s,baz=31,slow=38
BOSA Boshof 77.57 222 *e*P **P 04 00 44.6 -0.2**
BOSA AMB AMB 04 00 56.2
comp=Z,28nm,0.9s
EGAK Eagle 77.58 15 *e*P **P 04 00 44.2 -0.1**
comp=Z,20nm,1.0s
NWAO Narrogin (SRO) 78.28 144 *e*P **P 04 00 47.4 -1.1**
comp=Z,30nm,0.6s
NWAO Narrogin (SRO) 78.28 144 LR LR 04 35 16.0
comp=Z,554nm,18.7s,baz=334,slow=36
PMR Palmer 78.35 19 *e*P **P 04 00 48.4 -0.2**
PMR pmax pmax
comp=Z,28nm,0.8s
PMR Palmer 78.35 19 *e*P **P 04 00 48.4 -0.2**
comp=Z,28nm,0.8s
WRA Warramunga Arr 78.83 123 P **P 04 00 49.9 -2.0**
WRA PKKPbc **PKKPbc 04 19 45.5 -0.1**
WRA Warramunga Arr 78.83 123 P **P 04 00 49.9 -2.0**
comp=Z,18nm,0.7s,baz=322,slow=5.1,SNR=214
WRA PKKPbc **PKKPbc 04 19 45.5 -0.1**
comp=Z,1.1nm,0.7s,baz=135,slow=1.8,SNR=6.6
WRA LR LR 04 43 21.5
comp=Z,403nm,20.1s,baz=275,slow=42
WRAB Tennant Creek 78.83 123 *e*P **P 04 00 51.2 -0.6**
WRAB pmax pmax
comp=Z,51nm,0.8s
WRAB Tennant Creek 78.83 123 *e*P **P 04 00 51.2 -0.6**
comp=Z,51nm,0.8s
WRAB Tennant Creek 78.83 123 P **P 04 00 52.5 +0.6**
comp=Z,409nm,0.7s,SNR=32
SLKM Skilak Lake 78.93 21 *e*P **P 04 00 51.7 -0.2**
SLKM Skilak Lake 78.93 21 *e*P **P 04 00 51.7 -0.2**
KDAK Kodiak Island 80.39 23 *e*P **P 04 01 00.3 +0.5**
comp=Z,84nm,1.2s
KDAK Kodiak Island 80.39 23 P **P 04 01 01.0 +1.2**
comp=Z,315nm,0.9s,SNR=6.9
KDAK Kodiak Island 80.39 23 P **P 04 01 00.1 +0.4**
comp=Z,52nm,1.0s,baz=342,slow=6.1,SNR=17
AS31 Alice Springs 81.06 126 *e*P **P 04 01 04.0 +0.1**
ASAR Alice Springs 81.06 126 P **P 04 01 03.0 -0.9**
ASAR PKKPbc **PKKPbc 04 19 40.5 -0.2**
ASAR Alice Springs 81.06 126 P **P 04 01 03.0 -0.9**
comp=Z,14nm,0.5s,baz=310,slow=5.1,SNR=155
ASAR PKKPbc **PKKPbc 04 19 40.5 -0.2**
comp=Z,0.8nm,0.7s,baz=138,slow=2.2,SNR=3.7
COEN Coen 81.41 113 *e*P **P 04 01 06.1 +0.2**
comp=Z,170nm,1.1s
PMG Port Moresby 81.75 107 *e*P **P 04 01 08.2 +0.5**
comp=Z,41nm,0.9s
PMG Port Moresby 81.75 107 P **P 04 01 08.7 +1.0**
comp=Z,48nm,1.0s,comp=Z,585nm
FORT Forrest 82.44 135 *e*P **P 04 01 10.7 -0.2**
comp=Z,107nm,0.6s
FORT Forrest 82.44 135 *e*P **P 04 01 10.9 0.0**
comp=Z,96nm,0.6s
SUR Sutherland 82.92 223 *e*P **P 04 01 14.8 +1.1**
comp=Z,13nm,0.8s
YKA Yellowknife Ar 83.37 4 P **P 04 01 14.8 -0.5**
YKA PKKPbc **PKKPbc 04 19 32.6 -2.4**
YKA Yellowknife Ar 83.37 4 P **P 04 01 14.8 -0.5**
comp=Z,11nm,0.7s,baz=345,slow=5.4,SNR=4.6
YKA PKKPbc **PKKPbc 04 19 32.6 -2.4**
comp=Z,0.5nm,0.6s,baz=166,slow=2.4,SNR=9.7
SKAG Skagway 83.57 14 *e*P **P 04 01 16.4 -0.1**
comp=Z,20nm,0.9s
SCHQ Schefferville 85.06 338 P **P 04 01 23.4 -0.8**
SCHQ Schefferville 85.06 338 P **P 04 01 23.4 -0.8**
comp=Z,7.3nm,0.8s,baz=0.3,slow=5.7,SNR=13
SCHQ LR LR 04 38 59.0
comp=Z,1µm,19.9s,baz=41,slow=35
DLBC Dease Lake 85.54 12 *e*P **P 04 01 26.9 +0.3**
DLBC Dease Lake 85.54 12 P **P 04 01 26.8 +0.3**
comp=Z,6.7nm,0.9s,baz=340,slow=4.1,SNR=10
WRAK Wrangell Islan 87.00 14 *e*P **P 04 01 34.7 +1.0**
comp=Z,21nm,1.0s
CTA Charters Tower 87.49 116 P **P 04 01 36.6 0.0**
CTA Charters Tower 87.49 116 *e*P **P 04 01 36.8 +0.2**
comp=Z,24nm,0.8s
CTA Charters Tower 87.49 116 P **P 04 01 36.6 0.0**
comp=Z,29nm,0.8s,baz=302,slow=5.6,SNR=29
CTAO Charters Tower 87.49 116 *e*P **P 04 01 36.3 -0.3**
CTAO pmax pmax
comp=Z,28nm,0.8s
CTAO Charters Tower 87.49 116 *e*P **P 04 01 36.3 -0.3**
comp=Z,28nm,0.8s
BBOO Buckleboo 88.68 132 *e*P **P 04 01 41.5 -0.5**
comp=Z,806nm,0.8s
FFC Flin Flon 91.33 358 *i*P **P 04 01 53.9 -0.2**
FFC Flin Flon 91.33 358 *e*P **P 04 01 54.3 +0.2**
comp=Z,40nm,1.1s
FFC Flin Flon 91.33 358 P **P 04 01 54.6 +0.5**
comp=Z,171nm,1.1s,SNR=12
STKA Stephens Creek 91.59 128 P **P 04 01 55.5 0.0**
STKA Stephens Creek 91.59 128 *e*P **P 04 01 54.8 -0.7**
comp=Z,10nm,0.6s
STKA Stephens Creek 91.59 128 P **P 04 01 55.5 0.0**
comp=Z,5.5nm,0.7s,baz=308,slow=5.6,SNR=9.3
STKA LR LR 04 46 52.6
comp=Z,562nm,20.3s,baz=111,slow=38
EIDS Eidsvold 94.20 118 *e*P **P 04 02 07.3 -0.5**
comp=Z,11nm,1.1s
ULM Lac du Bonnet 95.39 353 *e*P **P 04 02 12.1 -0.8**
comp=Z,25nm,1.4s
ULM Lac du Bonnet 95.39 353 P **P 04 02 12.5 -0.4**
comp=Z,5.8nm,0.8s,baz=16,slow=6.1,SNR=8.9
ULM LR LR 04 47 38.4
comp=Z,912nm,21.6s,baz=173,slow=37
A15A Johnson Ranch, 96.95 4⇑P **P 04 02 19.7 -0.4**
baz=97
A16A West Butte Ran 97.04 4⇓P **P 04 02 20.4 -0.2**
baz=97
A17A Triple J Farms 97.09 3⇓P Pdif 04 02 21.2 +0.4
baz=97
A21A Bergtoll Ranch 97.14 0⇑P Pdif 04 02 21.4 +0.4
baz=97
A22A Carney Farms, 97.14 360⇑P **P 04 02 20.9 0.0**
baz=97
A18A Metzger Ranch, 97.15 2⇓P **P 04 02 20.9 -0.1**
baz=97
A19A Klindworth Far 97.17 2⇑P Pdif 04 02 21.5 +0.3
baz=97
A24A Westby 97.19 359⇑P **P 04 02 21.2 0.0**
baz=97
A20A Cobblestone Ra 97.24 1⇑P **P 04 02 21.6 +0.2**
baz=97
NEW Newport 97.29 7 *e*P Pdif 04 02 22.2 +0.5
comp=Z,3.5nm,0.8s
NEW Newport 97.29 7⇑P Pdif 04 02 21.9 +0.2
baz=97
AGMN Agassiz Nation 97.32 353 *e*P **P 04 02 21.7 0.0**
comp=Z,5.2nm,0.7s
B13A Whitefish 97.43 6⇑P **P 04 02 22.2 -0.1**
baz=97
ARMA Armidale 97.53 122 *e*P Pdif 04 02 23.5 +0.5
B15A Bradely Ranch, 97.62 4⇓P **P 04 02 21.9 -1.3**
baz=97
TOO Toolangi 97.64 130 *e*P Pdif 04 02 27.8 +4.5
comp=Z,33nm,0.8s
DGMT Dagmar 97.64 359 *e*P Pdif 04 02 24.5 +1.2
comp=Z,16nm,0.9s
DGMT Dagmar 97.64 359⇓P **P 04 02 22.4 -0.9**
baz=97
B23A Brockton 97.66 359⇑P **P 04 02 23.5 +0.1**
baz=97
B18A Beardsley Farm 97.68 2⇓P **P 04 02 23.5 +0.1**
baz=97
B21A Ellsworth Farm 97.70 1⇑P Pdif 04 02 23.9 +0.3
baz=97
B22A Reddig Ranch S 97.83 360⇑P **P 04 02 24.3 +0.2**
baz=98
EGMT Eagleton 98.05 2⇑P **P 04 02 24.4 -0.7**
baz=98
C15A Salmond Ranch, 98.16 4⇑P **P 04 02 24.6 -1.1**
baz=98
C21A Desert Coulee 98.30 1⇓P Pdif 04 02 26.5 +0.2
baz=98
C23A Lambert 98.33 359⇑P **P 04 02 25.6 -0.7**
baz=98
C22A Vida 98.39 360⇑P **P 04 02 26.3 -0.3**
baz=98
C17A Wharram Farm, 98.40 3⇑P **P 04 02 26.0 -0.7**
baz=98
D12A Red Ives Fores 98.66 6⇓P **P 04 02 27.2 -0.7**
baz=98
D14A Greenough 98.78 5⇓P **P 04 02 27.8 -0.7**
baz=98
CHMT Chamberlain Mo 98.97 5 *e*P Pdif 04 02 29.7 +0.3
comp=Z,1.2nm,0.5s
D22A Cohagen 98.98 0⇓P **Pdif 04 02 28.2 -1.1**
baz=99
E22A Miles City 99.70 360⇓P **Pdif 04 02 31.4 -1.1**
baz=99
PDAR Pinedale Array 103.31 3 Pdif **Pdif 04 02 49.9 +1.0**
PDAR PKiKP **PKiKP 04 07 07.9 -0.1**
PDAR PKKPbc **PKKPbc 04 18 41.9 -1.4**
PDAR Pinedale Array 103.31 3 Pdiff **Pdif 04 02 49.9 +1.0**
comp=Z,0.3nm,0.6s,baz=348,slow=2.2,SNR=2.8
PDAR PKiKP **PKiKP 04 07 07.9 -0.1**
comp=Z,1.3nm,0.6s,baz=55,slow=3.4,SNR=3.9
PDAR PKKPbc **PKKPbc 04 18 41.9 -1.4**
comp=Z,0.4nm,0.8s,baz=157,slow=7.8,SNR=3.6
DZM Mont Dzumac 104.14 107 *e*LR LR 04 37 02.5
comp=Z,486nm,25.1s
NVAR Mina Array Bea 106.83 10 Pdif **Pdif 04 03 02.7 -1.9**
NVAR PKiKP **PKiKP 04 07 14.4 -0.1**
NVAR Mina Array Bea 106.83 10 Pdiff **Pdif 04 03 02.7 -1.9**
comp=Z,0.1nm,0.4s,baz=38,slow=1.6,SNR=2.7
NVAR PKiKP **PKiKP 04 07 14.4 -0.1**
comp=Z,0.6nm,0.6s,baz=304,slow=2.1,SNR=3.8
WMOK Wichita Mounta 111.04 353 *e*PKIKP **PKiKP 04 07 22.1 -0.2**
WMOK Wichita Mounta 111.04 353 *e*PKP **PKiKP 04 07 22.1 -0.2**
DRV Dumont d'Urvil 112.36 157 SKKS **SKSdf 04 14 36.0 +2.2**
DRV SS SS 04 23 38.0 -10
Z27A Tatum 112.75 357⇑P **PKiKP 04 07 25.3 -0.4**
baz=112
Z21A St. Cloud Mine 112.80 1⇑P **PKiKP 04 07 25.4 -0.5**
baz=112
Z22A Elephant Butte 112.86 1⇓P **PKiKP 04 07 25.2 -0.7**
baz=112
Z20A Nine Sixteen R 112.97 2⇓P **PKiKP 04 07 25.8 -0.4**
baz=113
121A Cookes Peak, D 113.57 1⇓P **PKiKP 04 07 26.8 -0.6**
baz=113
TUC Tucson 113.66 4 *e*PKIKP **PKiKP 04 07 28.1 +0.7**
TUC Tucson 113.66 4 *e*PKP **PKiKP 04 07 28.1 +0.7**
Z22A Williams Famil 114.00 1⇓P **PKiKP 04 07 27.8 -0.3**
baz=114
MNTX Cornudas Mount 114.41 359 *e*PKP PKPdf 04 07 30.2 +1.4
MNTX Cornudas Mount 114.41 359⇓P PKPdf 04 07 28.8 0.0
baz=114
325A Bean Ranch, Si 114.73 359⇑P PKPdf 04 07 28.9 -0.7
baz=114
428A Kincaid Ranch, 115.30 357⇑P **PKPdf 04 07 30.1 -0.5**
baz=115
JCT Junction City 115.35 354 *e*PKIKP **PKPdf 04 07 30.8 +0.1**
JCT Junction City 115.35 354 *e*PKPdf **PKPdf 04 07 30.8 +0.1**
JCT Junction City 115.35 354⇓P **PKPdf 04 07 30.4 -0.3**
baz=115
429A Davenport Ranc 115.36 356⇑P **PKPdf 04 07 30.3 -0.4**
baz=115
426A McDonld Obser 115.41 358⇓P **PKPdf 04 07 30.6 -0.4**
baz=115
532A Rocksprings 115.71 354⇑P **PKPdf 04 07 30.8 -0.6**
baz=115
531A Rocksprings 115.72 355⇑P **PKPdf 04 07 30.7 -0.7**
baz=115
529A Stev Forest Ra 115.88 356⇓P **PKPdf 04 07 31.2 -0.5**
baz=116
527A Woodward Ranch 115.92 358⇑P **PKPdf 04 07 31.7 -0.2**
baz=116
626A Big Bend Ranch 116.52 358⇑P **PKPdf 04 07 32.4 -0.6**
baz=116
628A Black Gap, Mar 116.55 357⇑P **PKPdf 04 07 32.5 -0.5**
baz=116
627A Terlingua Ranc 116.60 357⇓P **PKPdf 04 07 32.3 -0.9**
baz=116
TXAR Lajitas Array 116.73 358 PKP **PKPdf 04 07 33.3 -0.1**
TXAR PKKPbc **PKKPbc 04 17 59.6 -0.1**
TXAR Lajitas Array 116.73 358 PKP **PKPdf 04 07 33.3 -0.1**
comp=Z,0.9nm,0.7s,baz=243,slow=0.8,SNR=7.7
TXAR PKKPbc **PKKPbc 04 17 59.6 -0.1**
comp=Z,0.8nm,0.8s,baz=178,slow=7.3,SNR=6.6
QSPA South Pole Qui 124.03 180 PKP **PKPdf 04 07 45.4 -0.7**
QSPA South Pole Qui 124.03 180 PKP **PKPdf 04 07 45.4 -0.7**
comp=Z,15nm,1.0s,baz=282,slow=1.7,SNR=15
BDFB Brasilia 124.83 274 PKP **PKPdf 04 07 50.8 +1.7**
BDFB Brasilia 124.83 274 PKP **PKPdf 04 07 50.8 +1.7**
comp=Z,1.5nm,0.8s,baz=146,slow=7.3,SNR=2.5
SDV Santo Domingo 125.46 315 *e*PKPdf **PKPdf 04 07 52.0 +1.4**
SAML Samuel 133.25 292 *e*PKPdf **PKPdf 04 08 04.6 -0.6**
OTAV Otavalo 136.97 317 *e*PKPdf **PKPdf 04 08 14.6 +1.8**
CPUP Villa Florida 137.42 267 PKP **PKPdf 04 08 11.7 -0.8**

CPUP				*e*PKPdf	**PKiKP**	**04 08 12.5**	**-1.9**
CPUP	**Villa Florida**	**137.42**	**267**	PKP	**PKPdf**	**04 08 11.7**	**-0.8**
	comp=Z,1.2nm,0.5s,baz=53,slow=3.6,SNR=7.1						
PPT2	**Papeete2**	**137.93**	**78**	*e*LR	LR	04 52 37.4	
	comp=Z,568nm,22.5s						
TBI	**Tubuai**	**140.80**	**86**	*e*LR	LR	04 54 01.4	
	comp=Z,314nm,24.5s						
LPAZ	**La Paz**	**141.51**	**288**	PKP	**PKPdf**	**04 08 20.6**	**-0.4**
LPAZ				*e*PKPdf	**PKiKP**	**04 08 21.4**	**-2.4**
LPAZ	**La Paz**	**141.51**	**288**	PKP	**PKPdf**	**04 08 20.6**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=313,slow=3.3,SNR=4.7						
TRQA	**Tornquist**	**144.36**	**251**	*e*PKPdf	**PKPab**	**04 08 22.9**	**+0.1**
NNA	**Nana**	**145.31**	**303**	*e*PKPdf	**PKPbc**	**04 08 27.0**	**+0.2**
LVC	**Limon Verde**	**145.42**	**280**	*e*PKPbc	**PKPbc**	**04 08 27.3**	**0.0**
LCO	**Las Campanas**	**149.45**	**270**	*e*PKPbc	**PKPbc**	**04 08 38.2**	**-0.1**

IDC 20 03:52:42.8±4.5, 15°29S×179°97W, h0km, mb4.2/2, mb1 4.3/2, mb1mx3.8/17, mbtmp4.2/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/29, Error ellipse: s-maj=248.6km s-min=67.2km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**8.04**	**81**	LR	LR	03 57 08.8	
	comp=Z,382nm,21.1s,baz=2.6,slow=33						
DZM	**Mont Dzumac**	**14.53**	**240**	LR	LR	03 59 51.2	
	comp=Z,127nm,18.5s,baz=30,slow=30						
HNR	**Honiara**	**20.46**	**284**	LR	LR	04 02 56.5	
	comp=Z,53nm,18.3s,baz=122,slow=30						
STKA	**Stephens Creek**	**38.67**	**238**	P	P	04 00 08.2	-0.1
	2.5nm,0.9s,baz=45,slow=8.6,SNR=3.3						
ASAR	**Alice Springs**	**44.13**	**252**	P	P	04 00 53.2	-0.1
	3.4nm,0.7s,baz=83,slow=8.7,SNR=34						
GERES	**GERESS Array B**	**144.71**	**344**	PKP	PKPbc	04 12 21.1	+0.6
	0.8nm,0.7s,baz=46,slow=3.0,SNR=4.0						

*ISCJB **20** 04:03:23.2±0.5, 39°55N±0°02×23°50E±0°03, h3km±5km, Error ellipse: s-maj=4.2km s-min=3.2km az=15.6*
*ATH **20** 04:03:23.9, 39°55N×23°46E, h5km, ML2.9*
*CSEM **20** 04:03:23.7±0.1, 39°56N×23°47E, h8km, ML2.8/8, Error ellipse: s-maj=3.4km s-min=2.3km az=100.0*
*THE **20** 04:03:24.2, 39°53N×23°44E, h12km±1km, ML2.8/8, Error ellipse: s-maj=1.3km s-min=0.5km az=210.0*

ISC 20 04:03:23.6±1.0, 39°54N±0°02×23°49E±0°02, h8km±9km, n60, σ0953/90, 2C-2D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XOR	**Xorichti**	**0.29**	**233**	P	**Pg**	**04 03 29.1**	**-0.3**
XOR				S	**Sg**	**04 03 33.5**	**+0.2**
XOR	**Xorichti**	**0.29**	**233**	P	**Pg**	**04 03 29.1**	**-0.3**
XOR				S	**Sg**	**04 03 33.5**	**+0.2**
NEO	**Neokhori**	**0.32**	**221**	*e*PG	**Pg**	**04 03 29.8**	**0.0**
NEO				*e*SB	**Sg**	**04 03 34.3**	**+0.3**
NEO	**Neokhori**	**0.32**	**221**	*e*Pg	**Pg**	**04 03 29.8**	**0.0**
NEO				*e*Sb	**Sg**	**04 03 34.3**	**+0.3**
AOS	**Alonnisos**	**0.48**	**141**	P	**Pb**	**04 03 33.8**	**-0.5**
AOS				S	**Sb**	**04 03 40.7**	**-0.7**
AOS	**Alonnisos**	**0.48**	**141**	P	**Pb**	**04 03 33.8**	**-0.5**
AOS				S	**Sb**	**04 03 40.7**	**-0.7**
PLG	**Polygyros**	**0.83**	**358**	*i*PG	**Pg**	**04 03 39.6**	**0.0**
PLG				*e*SB	**Sg**	**04 03 50.3**	**-0.1**
PLG	**Polygyros**	**0.83**	**358**	*i*Pg	**Pg**	**04 03 39.6**	**0.0**
PLG				*e*Sb	**Sg**	**04 03 50.3**	**-0.1**
OUR	**Ouranopolis**	**0.88**	**25**	P	**Pb**	**04 03 41.4**	**+0.4**
OUR				S	**Sn**	**04 03 54.4**	**-0.7**
OUR	**Ouranopolis**	**0.88**	**25**	P	**Pb**	**04 03 41.4**	**+0.4**
OUR				S	**Sn**	**04 03 54.4**	**-0.7**
LKR	**Lokris**	**0.97**	**203**	*i*PG	**Pg**	**04 03 42.2**	**0.0**
LKR				*e*SB	**Sb**	**04 03 55.7**	**+0.1**
LKR	**Lokris**	**0.97**	**203**	*i*Pg	**Pg**	**04 03 42.2**	**0.0**
LKR				*e*Sb	**Sb**	**04 03 55.7**	**+0.1**
HORT	**Hortiatis**	**1.09**	**344**	P	**Pg**	**04 03 44.2**	**-0.4**
HORT				S	**Sn**	**04 04 00.3**	**-0.3**
HORT	**Hortiatis**	**1.09**	**344**	P	**Pg**	**04 03 44.2**	**-0.4**
HORT				S	**Sn**	**04 04 00.3**	**-0.3**
THL	**Klokotos Trika**	**1.14**	**272**	*e*PN	**Pg**	**04 03 45.0**	**-0.5**
THL				*e*SB	**Sb**	**04 04 00.8**	**+0.3**
THL	**Klokotos Trika**	**1.14**	**272**	*e*Pn	**Pg**	**04 03 45.0**	**-0.5**
THL				*e*Sb	**Sb**	**04 04 00.8**	**+0.3**
THE	**Thessaloniki**	**1.16**	**340**	P	**Pg**	**04 03 45.5**	**-0.3**
THE				S	**Sb**	**04 04 01.5**	**+0.5**
THE	**Thessaloniki**	**1.16**	**340**	P	**Pg**	**04 03 45.5**	**-0.3**
THE				S	**Sb**	**04 04 01.5**	**+0.5**
SOH	**Sokhos**	**1.28**	**355**	P	**Pn**	**04 03 47.7**	**-0.1**
SOH				S	**Sn**	**04 04 05.5**	**+0.3**
SOH	**Sokhos**	**1.28**	**355**	P	**Pn**	**04 03 47.7**	**-0.1**
SOH				S	**Sn**	**04 04 05.5**	**+0.3**
LIA	**Limnos Island**	**1.35**	**74**	*e*PG	**Pb**	**04 03 49.3**	**+0.2**
LIA	**Limnos Island**	**1.35**	**74**	*e*Pg	**Pb**	**04 03 49.3**	**+0.2**
EVR	**Evrytania**	**1.45**	**245**	*e*PB	**Pg**	**04 03 51.5**	**+0.1**
EVR	**Evrytania**	**1.45**	**245**	*e*Pb	**Pg**	**04 03 51.5**	**+0.1**
PTL	**Penteli**	**1.52**	**169**	*e*PB	**Pg**	**04 03 52.6**	**-0.2**
PTL	**Penteli**	**1.52**	**169**	*e*Pb	**Pg**	**04 03 52.6**	**-0.2**
LTK	**Loutraki**	**1.57**	**195**	*e*PB	**Pg**	**04 03 53.9**	**+0.2**
LTK	**Loutraki**	**1.57**	**195**	*e*Pb	**Pg**	**04 03 53.9**	**+0.2**
SRS	**Serrai**	**1.57**	**3**	P	**Pn**	**04 03 51.4**	**-0.4**
SRS				S	**Sn**	**04 04 11.6**	**-0.8**
SRS	**Serrai**	**1.57**	**3**	P	**Pn**	**04 03 51.4**	**-0.4**
SRS				S	**Sn**	**04 04 11.6**	**-0.8**
ATH	**Athens Observa**	**1.58**	**174**	*e*PB	**Pg**	**04 03 53.9**	**0.0**
ATH	**Athens Observa**	**1.58**	**174**	*e*Pb	**Pg**	**04 03 53.9**	**0.0**
GRG	**Griva**	**1.64**	**330**	P	**Pn**	**04 03 51.5**	**-1.2**
GRG	**Griva**	**1.64**	**330**	P	**Pn**	**04 03 51.5**	**-1.2**
KAVA	**Kavala**	**1.65**	**28**	P	**Pn**	**04 03 51.8**	**-1.0**
KAVA				S	**Sn**	**04 04 14.6**	**+0.4**
KAVA	**Kavala**	**1.65**	**28**	P	**Pn**	**04 03 51.8**	**-1.0**
KAVA				S	**Sn**	**04 04 14.6**	**+0.4**
EFP	**Efpalio**	**1.67**	**228**	*e*PB	**Pg**	**04 03 55.3**	**-0.2**
EFP	**Efpalio**	**1.67**	**228**	*e*Pb	**Pg**	**04 03 55.3**	**-0.2**
KNT	**Kendrikon**	**1.68**	**345**	P	**Pn**	**04 03 53.0**	**-0.2**
KNT				S	**Sn**	**04 04 14.6**	**-0.3**
KNT	**Kendrikon**	**1.68**	**345**	P	**Pn**	**04 03 53.0**	**-0.2**
KNT				S	**Sn**	**04 04 14.6**	**-0.3**
MEV	**Metsovon**	**1.76**	**279**	P	**Pn**	**04 03 54.2**	**-0.3**
MEV	**Metsovon**	**1.76**	**279**	P	**Pn**	**04 03 54.2**	**-0.3**
GUR	**Goura**	**1.84**	**210**	*e*PG	**Pb**	**04 03 58.0**	**+0.5**
GUR	**Goura**	**1.84**	**210**	*e*Pg	**Pb**	**04 03 58.0**	**+0.5**
VAY	**Valandovo**	**1.91**	**339**	*e*Pn	**Pg**	**04 03 59.8**	**-0.4**
VAY	**Valandovo**	**1.91**	**339**	*e*Pn	**Pg**	**04 04 00.2**	**0.0**
DID	**Didima**	**2.04**	**186**	*e*PN	**Pb**	**04 04 00.5**	**-0.5**
DID	**Didima**	**2.04**	**186**	*e*Pn	**Pb**	**04 04 00.5**	**-0.5**
MMB	**Musomiste**	**2.05**	**5**	P	**Pb**	**04 04 00.4**	**-0.7**
MMB	**Musomiste**	**2.05**	**5**	P	**Pb**	**04 04 00.4**	**-0.7**
PRK	**Paraskevi**	**2.17**	**97**	*e*PG	**Pg**	**04 04 05.2**	**-0.1**
PRK	**Paraskevi**	**2.17**	**97**	*e*Pg	**Pg**	**04 04 05.2**	**-0.1**
BIA	**Bitola**	**2.22**	**312**	*e*Pn	**Pg**	**04 04 06.7**	**+0.6**
CHOS	**Chios island**	**2.31**	**119**	P	**Pn**	**04 04 02.1**	**+0.1**
CHOS				S	**Sn**	**04 04 31.1**	**+0.5**
CHOS	**Chios island**	**2.31**	**119**	P	**Pn**	**04 04 02.1**	**+0.1**
CHOS				S	**Sn**	**04 04 31.1**	**+0.5**
KKB	**Krupnik**	**2.34**	**353**	P	**Pn**	**04 04 02.8**	**+0.4**
KKB	**Krupnik**	**2.34**	**353**	P	**Pn**	**04 04 02.8**	**+0.4**
ALN	**Alexandroupoli**	**2.38**	**55**	P	**Pn**	**04 04 02.4**	**-0.4**
ALN				S	**Sn**	**04 04 33.6**	**+1.5**
ALN	**Alexandroupoli**	**2.38**	**55**	P	**Pn**	**04 04 02.4**	**-0.4**
ALN				S	**Sn**	**04 04 33.6**	**+1.5**
VTS	**Vitosha**	**3.05**	**356**	P	**Pb**	**04 04 20.0**	**+1.8**

*ISCJB **20** 04:08:21.2±0.6, 7°13S±0°05×130°22E±0°08, h78km, mb3.8/7, Error ellipse: s-maj=11.3km s-min=6.4km az=14.8*
*IDC **20** 04:08:22.0±5.6, 6°85S×130°57E, h66km±55km, mb3.6/7, mb1 3.9/10, mb1mx3.8/19, mbtmp3.7/10, ML4.3/3, Error ellipse: s-maj=59.3km s-min=31.3km az=58.0*
*DJA **20** 04:08:25.8±0.6, 7°S±3°×13°1E±°, h146km±20km, M4.6/4, mb4.7/2, mB5.2/2, MLv4.6/4, Mw(mB)4.6/2*

ISC 20 04:08:23.0±0.7, 7°12S±0°06×130°37E±0°10, h78km, n16, σ2924/19, mb3.8/7, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.62**	**350**	P	Pn	04 09 06.6	+3.3
TLE	**Tual**	**2.77**	**58**	P	Pn	04 09 12.5	+7.2
TLE				S	**Sn**	**04 09 39.6**	**+2.0**
FAKI	**Fak Fak**	**4.57**	**24**	P	**Pn**	**04 09 31.2**	**+1.4**
FAKI				S	**Sn**	**04 10 18.3**	**-3.4**

SWI	**Sorong**	**6.28**	**8**	P	**Pn**	**04 09 52.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**11.85**	**202**	P	**Pn**	**04 11 12.0**	**+2.9**
	4.0nm,0.3s,baz=36,slow=11,SNR=69						
FITZ				S	**Sn**	**04 13 17.2**	**-2.4**
	1.2nm,0.3s,baz=94,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**13.31**	**164**	P	**Pn**	**04 11 31.0**	**+2.1**
	1.2nm,0.3s,baz=334,slow=13,SNR=39						
WRA				S	**Sn**	**04 13 50.7**	**-4.5**
	1.3nm,0.3s,baz=336,slow=23,SNR=9.4						
ASAR	**Alice Springs**	**16.80**	**169**	P	**P**	**04 12 16.6**	**+2.2**
	0.7nm,0.3s,baz=339,slow=9.0,SNR=31						
ASAR				S	**Sn**	**04 15 15.9**	**-3.8**
	0.3nm,0.3s,baz=354,slow=26,SNR=6.4						
CMAR	**Chiang Mai Arr**	**40.09**	**310**	P	**P**	**04 15 51.5**	**+0.3**
	0.6nm,0.3s,baz=136,slow=7.2,SNR=5.0						
SONM	**Songino Array**	**58.67**	**341**	P	**P**	**04 18 12.0**	**-0.4**
	0.2nm,0.3s,baz=166,slow=7.4,SNR=4.5						
MKAR	**Makanchi Array**	**68.53**	**327**	P	**P**	**04 19 16.9**	**-0.4**
	3.4nm,0.5s,baz=119,slow=7.4,SNR=92						
ZALV	**Zalesovo Beam**	**71.85**	**334**	P	**P**	**04 19 36.1**	**-1.3**
	0.4nm,0.4s,baz=123,slow=5.3,SNR=2.8						
KURBB	**Kurchatov Arra**	**72.81**	**328**	P	**P**	**04 19 42.6**	**-0.5**
	1.7nm,0.5s,baz=126,slow=4.7,SNR=6.4						
BVAR	**Borovoye Array**	**78.36**	**328**	P	**P**	**04 20 14.8**	**0.0**
	0.5nm,0.4s,baz=116,slow=4.7,SNR=3.2						
ILAR	**Eielson Array**	**93.30**	**25**	P	**P**	**04 21 27.6**	**-1.3**
	0.2nm,0.7s,baz=264,slow=4.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**129.20**	**281**	PKP	**PKPdf**	**04 27 23.7**	**+0.4**
	0.3nm,0.5s,baz=86,slow=2.0,SNR=8.2						
DBIC	**Dimbokro**	**135.56**	**272**	PKP	**PKPdf**	**04 27 36.0**	**+0.7**
	1.3nm,0.6s,baz=9.9,slow=1.9,SNR=2.9						

*ISCJB **20** 04:11:48.9±0.3, 7°17S±0°04×146°19E±0°08, h170km, mb4.0/24, Error ellipse: s-maj=11.5km s-min=5.7km az=174.9*
*IDC **20** 04:11:49.5±1.0, 7°19S×146°24E, h162km±11km, mb3.8/14, mb1 4.0/17, mb1mx4.0/19, mbtmp3.8/17, Error ellipse: s-maj=20.3km s-min=9.5km az=101.0*
*NEIC **20** 04:11:50.4±0.8, 7°17S×146°21E, h169km±8km, mb4.4/16, Error ellipse: s-maj=10.2km s-min=6.4km az=98.0*

ISC 20 04:11:50.1±0.5, 7°16S±0°05×146°38E±0°10, h170km, n60, σ1906/68, mb4.1/23, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.36**	**161**	P	**Pn**	**04 12 30.6**	**-0.1**
PMG				S	**Sn**	**04 13 01.7**	**-0.5**
PMG	**Port Moresby**	**2.36**	**161**	P	**Pn**	**04 12 30.6**	**-0.1**
	32nm,0.3s,baz=349,slow=12,SNR=71						
PMG				S	**Sn**	**04 13 01.7**	**-0.5**
	17nm,0.3s,baz=237,slow=23,SNR=8.9						
COEN	**Coen**	**7.45**	**205**	*e*P	**Pn**	**04 13 36.1**	**-0.1**
	80nm,0.6s						
CTA	**Charters Tower**	**12.85**	**181**	P	**Pn**	**04 14 46.5**	**-0.3**
CTA	**Charters Tower**	**12.85**	**181**	P	**Pn**	**04 14 46.5**	**-0.3**
	0.3nm,0.3s,baz=351,slow=12,SNR=9.6						
CTAO	**Charters Tower**	**12.85**	**181**	*e*P	**Pn**	**04 14 48.5**	**+1.6**
	13nm,0.9s						
WRAB	**Tennant Creek**	**17.24**	**221**	*e*P	**P**	**04 15 37.9**	**-2.0**
	12nm,0.7s						
WRA	**Warramunga Arr**	**17.26**	**221**	P	**P**	**04 15 38.3**	**-1.7**
WRA				S	**Sn**	**04 18 58.4**	**+3.5**
	0.3nm,0.3s,baz=351,slow=12,SNR=9.6						
WRA				ScP	**ScP**	**04 23 34.4**	**+1.2**
WRA	**Warramunga Arr**	**17.26**	**221**	P	**P**	**04 15 38.3**	**-1.7**
	1.8nm,0.3s,baz=41,slow=12,SNR=7.9						
WRA				S	**Sn**	**04 18 58.4**	**+3.5**
	0.1nm,0.3s,baz=41,slow=17,SNR=3.7						
WRA				ScP	**ScP**	**04 23 34.4**	**+1.2**
	0.0nm,0.3s,baz=47,slow=2.3,SNR=3.7						
EIDS	**Eidsvold**	**18.66**	**167**	*e*P	**Pn**	**04 15 57.2**	**-0.3**
	18nm,0.8s						
AS31	**Alice Springs**	**20.32**	**215**	*e*P	**P**	**04 16 13.9**	**+0.7**
ASAR	**Alice Springs**	**20.32**	**215**	P	**P**	**04 16 12.2**	**-0.9**
ASAR				S	**S**	**04 19 51.2**	**-0.5**
ASAR				ScP	**ScP**	**04 23 41.5**	**+1.5**
ASAR	**Alice Springs**	**20.32**	**215**	P	**P**	**04 16 12.2**	**-0.9**
	4.2nm,0.4s,baz=37,slow=12,SNR=20						
ASAR				S	**S**	**04 19 51.2**	**-0.5**
	0.7nm,0.6s,baz=34,slow=20,SNR=4.1						
ASAR				ScP	**ScP**	**04 23 41.5**	**+1.5**
	0.3nm,0.5s,baz=31,slow=2.6,SNR=4.8						
GUMO	**Guam**	**20.67**	**356**	P	**P**	**04 16 17.0**	**+0.1**
GUMO	**Guam**	**20.67**	**356**	P	**P**	**04 16 17.0**	**+0.1**
	28nm,0.5s,baz=187,slow=17,SNR=2.1						
FITZ	**Fitzroy Crossi**	**22.94**	**240**	P	**P**	**04 16 37.5**	**-2.3**
FITZ	**Fitzroy Crossi**	**22.94**	**240**	P	**P**	**04 16 37.5**	**-2.3**
	3.9nm,0.4s,baz=59,slow=9.7,SNR=3.5						
ARMA	**Armidale**	**23.66**	**169**	*e*P	**P**	**04 16 47.1**	**+0.9**
	3.3nm,0.5s						
ARMA	**Armidale**	**23.66**	**169**	*e*P	**P**	**04 16 47.5**	**+1.2**
STKA	**Stephens Creek**	**24.99**	**190**	P	**P**	**04 16 57.6**	**-0.7**
STKA	**Stephens Creek**	**24.99**	**190**	*e*P	**P**	**04 16 57.7**	**-0.6**
	7.5nm,0.5s						
STKA	**Stephens Creek**	**24.99**	**190**	P	**P**	**04 16 57.6**	**-0.7**
	9.6nm,0.5s,baz=14,slow=12,SNR=24						
FORT	**Forrest**	**29.10**	**214**	*e*P	**P**	**04 17 34.0**	**-0.9**
	9.2nm,0.7s						
MJAR	**Mahiro Arr**	**44.14**	**351**	P	**P**	**04 19 41.3**	**-0.5**
MJAR	**Matsushiro Arr**	**44.14**	**351**	P	**P**	**04 19 41.3**	**-0.5**
	2.7nm,0.7s,baz=184,slow=9.3,SNR=5.1						
IPM	**Ipoh**	**46.71**	**283**	*e*P	**P**	**04 20 00.8**	**-1.7**
	9.6nm,0.7s						
KSRS	**Korea Array**	**47.62**	**340**	P	**P**	**04 20 09.5**	**+0.5**
	3.1nm,1.0s,baz=166,slow=8.8,SNR=4.4						
KSAR	**Wonju Array Be**	**47.62**	**340**	P	**P**	**04 20 09.5**	**+0.5**
USRK	**Ussuriysk Arra**	**52.75**	**347**	P	**P**	**04 20 47.6**	**+0.2**
	1.7nm,0.5s,baz=152,slow=6.4,SNR=6.4						
CMAR	**Chiang Mai Arr**	**53.26**	**299**	P	**P**	**04 20 51.7**	**0.0**
CMAR	**Chiang Mai Arr**	**53.26**	**299**	P	**P**	**04 20 51.7**	**0.0**
	1.1nm,0.3s,baz=114,slow=5.9,SNR=6.3						
CHTO	**Chiang Mai**	**53.41**	**300**	*e*P	**P**	**04 20 52.4**	**-0.3**
PETK	**Petropavlovsk-**	**60.80**	**8**	P	**P**	**04 21 45.2**	**+1.1**
PETK	**Petropavlovsk-**	**60.80**	**8**	P	**P**	**04 21 45.2**	**+1.1**
	1.9nm,0.6s,baz=186,slow=7.2,SNR=2.7						
LSA	**Lhasa**	**64.44**	**308**	*e*P	**P**	**04 22 10.0**	**+0.8**
	3.3nm,0.5s						
ULN	**Ulaanbaatar**	**64.83**	**332**	*e*P	**P**	**04 22 11.6**	**+0.6**
	1.5nm,0.7s						
SONM	**Songino Array**	**65.11**	**331**	P	**P**	**04 22 12.8**	**+0.1**
SONM	**Songino Array**	**65.11**	**331**	P	**P**	**04 22 12.8**	**+0.1**
	0.6nm,0.9s,baz=149,slow=6.6,SNR=4.9						
VNDA	**Vanda**	**70.80**	**176**	*e*P	**P**	**04 22 47.9**	**+0.3**
	8.0nm,1.1s						
BILL	**Bilibino**	**76.33**	**8**	*e*P	**P**	**04 23 20.6**	**+0.7**
	3.1nm,1.0s						
MK31	**Makanchi Array**	**77.99**	**321**	*e*P	**P**	**04 23 29.7**	**0.0**
MKAR	**Makanchi Array**	**77.99**	**321**	P	**P**	**04 23 29.9**	**+0.1**
MKAR	**Makanchi Array**	**77.99**	**321**	P	**P**	**04 23 29.9**	**+0.1**
	0.7nm,0.6s,baz=102,slow=4.4,SNR=9.8						
ZALV	**Zalesovo Beam**	**79.66**	**328**	P	**P**	**04 23 38.0**	**-0.6**
ZALV	**Zalesovo Beam**	**79.66**	**328**	P	**P**	**04 23 38.0**	**-0.6**
	0.6nm,0.4s,baz=107,slow=5.1,SNR=4.7						
TKM2	**Tokmak 2**	**81.03**	**315**	*e*P	**P**	**04 23 45.7**	**-0.8**
	0.7nm,0.6s						
EKS2	**Erkin-Say**	**82.22**	**315**	*e*P	**P**	**04 23 53.1**	**+0.5**
	1.8nm,0.8s						
QSPA	**South Pole Qui**	**82.81**	**180**	*e*P	**P**	**04 23 55.0**	**-0.3**
	3.7nm,0.6s						
PMR	**Palmer**	**84.51**	**26**	*e*P	**P**	**04 24 04.1**	**+0.4**
	5.9nm,0.8s						
COLA	**College**	**86.45**	**23**	*e*P	**P**	**04 24 13.2**	**0.0**
	4.0nm,0.9s						
ILAR	**Eielson Array**	**86.78**	**23**	P	**P**	**04 24 14.4**	**-0.5**
ILAR	**Eielson Array**	**86.78**	**23**	P	**P**	**04 24 14.4**	**-0.5**
	2.7nm,0.8s,baz=251,slow=5.0,SNR=35						
NVAR	**Mina Array Bea**	**98.56**	**52**	P	Pdif	04 25 10.6	+0.5
NVAR	**Mina Array Bea**	**98.56**	**52**	P	Pdif	04 25 10.6	+0.5
	0.3nm,0.7s,baz=258,slow=4.5,SNR=2.7						
YKA	**Yellowknife Ar**	**100.48**	**28**	P	**Pdif**	**04 25 17.9**	**+0.2**
YKA	**Yellowknife Ar**	**100.48**	**28**	P	**Pdif**	**04 25 17.9**	**+0.2**
	0.2nm,0.5s,baz=273,slow=4.9,SNR=5.8						
TORD	**Torodi Ar. Bea**	**144.75**	**283**	PKP	**PKPab**	**04 31 06.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**144.75**	**283**	PKP	**PKPab**	**04 31 06.8**	**-0.3**
	5.5nm,0.7s,baz=64,slow=3.2,SNR=49						
DBIC	**Dimbokro**	**151.44**	**271**	PKPbc	**PKPbc**	**04 31 25.1**	**+0.1**
DBIC	**Dimbokro**	**151.44**	**271**	PKPbc	**PKPbc**	**04 31 25.1**	**+0.1**
	5.1nm,0.5s,baz=95,slow=3.8,SNR=21						

*ISCJB **20** 04:29:14.1±0.4, 32°18N±0°04×104°91E±0°04, h14km, mb4.1/23, Error ellipse: s-maj=6.7km s-min=4.7km az=158.8*
*BJI **20** 04:29:15.6, 32°13N×104°82E, h11km, mb4.1/2, ML3.9/17, Ms3.9/6, Ms7 3.6/6*
*NEIC **20** 04:29:15.8±0.3, 32°25N×104°84E, h10km, mb4.2/4, Error ellipse: s-maj=10.8km s-min=6.0km az=72.0*
*IDC **20** 04:29:19.2±8.0, 32°23N×104°77E, h33km±62km, mb3.8/16, mb1 3.9/17, mb1mx3.8/30, mbtmp3.8/17, ML4.5/1, Error ellipse: s-maj=31.7km s-min=14.0km az=60.0*

ISC 20 04:29:16.3±0.5, 32°19N±0°04×104°81E±0°05, h14km, n47, σ1910/56, mb4.1/23, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.56**	**215**	Pn	**Pn**	**04 29 43.8**	**+0.1**
CD2				Pg	**Pg**	**04 29 45.4**	**+0.4**
CD2				Sg	**Sn**	**04 30 04.0**	**+0.2**
CD2				smax	smax		
	comp=N,13μm,0.7s						
CD2				smax	smax		
	comp=E,10μm,0.6s						
XAN	**Xi'an**	**3.91**	**61**	Pn	**Pn**	**04 30 18.3**	**+2.3**
XAN				Pg	**Pg**	**04 30 30.3**	**-0.9**
XAN				Sn	**Sn**	**04 31 02.0**	**+0.2**
XAN				Sg	**Sg**	**04 31 21.1**	**-0.8**
XAN				smax	smax		
	comp=N,440nm,0.6s						
XAN				smax	smax		
	comp=E,190nm,0.8s						
XAN				LR	LR		
	comp=N,390nm,8.9s						
XAN				LR	LR		
	comp=E,200nm,11.0s						
XAN				LR	LR		
	comp=Z,190nm,8.9s						
LZH	**Lanzhou**	**3.97**	**349**	*e*Pn	**Pn**	**04 30 18.5**	**+1.6**
LZH				Pg	**Pb**	**04 30 26.1**	**0.0**
LZH				Sn	**Sn**	**04 31 07.3**	**+4.0**
LZH				Sg	**Sg**	**04 31 18.8**	**-4.9**
LZH				smax	smax		
	comp=N,560nm,0.6s						
LZH				smax	smax		
	comp=E,350nm,0.6s						
LZH				LR	LR		
	comp=N,1μm,5.1s						
LZH				LR	LR		
	comp=E,670nm,6.2s						
LZH				LR	LR		
	comp=Z,2μm,6.6s						
WHN	**Wuhan**	**8.32**	**99**	*e*P	**Pn**	**04 31 15.4**	**-1.1**
WHN				S	**Sn**	**04 32 49.3**	**-1.0**
CMAR	**Chiang Mai Arr**	**14.66**	**203**	Pn	**Pn**	**04 32 44.7**	**+1.3**
CMAR	**Chiang Mai Arr**	**14.66**	**203**	Pn	**Pn**	**04 32 44.7**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=7.8,slow=10.0,SNR=4.2						
SONM	**Songino Array**	**15.67**	**4**	Pn	**Pn**	**04 32 56.2**	**-0.6**
SONM	**Songino Array**	**15.67**	**4**	Pn	**Pn**	**04 32 56.2**	**-0.6**
	baz=99,slow=22,SNR=2.9						
MKAR	**Makanchi Array**	**22.58**	**317**	P	**P**	**04 34 16.2**	**0.0**
MKAR	**Makanchi Array**	**22.58**	**317**	P	**P**	**04 34 16.2**	**0.0**
	comp=Z,1.5nm,0.7s,baz=113,slow=12,SNR=18						
TKM2	**Tokmak 2**	**25.40**	**303**	*e*P	**P**	**04 34 43.7**	**+0.2**
	comp=Z,4.3nm,0.9s						
ZALV	**Zalesovo Beam**	**26.02**	**333**	P	**P**	**04 34 48.7**	**0.0**
ZALV	**Zalesovo Beam**	**26.02**	**333**	P	**P**	**04 34 48.7**	**0.0**
	comp=Z,4.6nm,0.6s,baz=131,slow=9.9,SNR=27						
KURBB	**Kurchatov Arra**	**26.75**	**321**	P	**P**	**04 34 55.6**	**+0.2**
	comp=Z,2.7nm,0.3s,baz=129,slow=8.7,SNR=5.8						
KURK	**Kurchatov**	**26.75**	**321**	*e*P	**P**	**04 34 55.7**	**+0.3**
	comp=Z,4.1nm,1.1s	

mb4.3/34,MS4.2/1, Error ellipse: s-maj=17.0km s-min=6.3km az=156.2
*NEIC **20** 04:43:33.5±0.2,3.70N×126.60E,h35km,mb4.5/18, Error ellipse: s-maj=11.3km s-min=4.2km az=66.0*
ISC 20 04:43:35.5±0.5,3.69N±0.09×126.6E±0.2,h53km,n56, σ0s60/58,mb4.4/34,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBP	**Tagbilaran**	**6.56**	**335**	*eP*	**Pn**	**04 45 10.7**	**+1.2**
TBP				*eS*	sPn	04 45 32.8	+7.4
KAPI	**Kappang**	**11.04**	**218**	LR	LR	04 50 55.6	
	comp=Z,187nm,19.1s,baz=273,slow=40						
SSLB	**Suanglung**	**20.72**	**345**	*eP*	**P**	**04 48 11.1**	**-0.5**
	18nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.68**	**183**	P	**P**	**04 48 21.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**21.68**	**183**	P	**P**	**04 48 21.8**	**-0.1**
	2.4nm,0.5s,baz=7.7,slow=9.7,SNR=14						
COEN	**Coen**	**24.02**	**137**	*eP*	**P**	**04 48 45.3**	**-0.4**
	39nm,0.9s						
PMG	**Port Moresby**	**24.25**	**123**	*eP*	**P**	**04 48 47.3**	**-0.5**
	3.3nm,0.6s						
WRAB	**Tennant Creek**	**24.67**	**162**	*eP*	**P**	**04 48 50.9**	**-0.7**
	14nm,0.6s						
WRA	**Warramunga Arr**	**24.68**	**162**	P	**P**	**04 48 51.0**	**-0.7**
WRA	**Warramunga Arr**	**24.68**	**162**	P	**P**	**04 48 51.0**	**-0.7**
	16nm,0.8s,baz=343,slow=10,SNR=60						
MBWA	**Marble Bar**	**25.60**	**195**	*eP*	**P**	**04 48 59.8**	**-0.2**
	5.6nm,1.0s						
ASAR	**Alice Springs**	**28.10**	**166**	P	**P**	**04 49 22.4**	**-0.2**
ASAR	**Alice Springs**	**28.10**	**166**	P	**P**	**04 49 22.4**	**-0.2**
	0.9nm,0.5s,baz=351,slow=7.0,SNR=12						
CMAR	**Chiang Mai Arr**	**30.80**	**301**	P	**P**	**04 49 46.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**30.80**	**301**	P	**P**	**04 49 46.0**	**-0.6**
	0.7nm,0.3s,baz=126,slow=8.1,SNR=6.9						
FORT	**Forrest**	**34.30**	**178**	*eP*	**P**	**04 50 16.7**	**-0.2**
	15nm,0.8s						
EIDS	**Eidsvold**	**37.38**	**142**	*eP*	**P**	**04 50 43.4**	**-0.1**
	5.5nm,1.1s						
STKA	**Stephens Creek**	**38.13**	**159**	P	**P**	**04 50 50.0**	**+0.3**
STKA				PcP	**PcP**	**04 53 04.7**	**+0.9**
STKA	**Stephens Creek**	**38.13**	**159**	P	**P**	**04 50 50.0**	**+0.3**
	8.4nm,0.8s,baz=333,slow=8.2,SNR=9.0						
STKA				PcP	**PcP**	**04 53 04.7**	**+0.9**
	1.2nm,0.7s,baz=341,slow=5.0,SNR=3.6						
USRK	**Ussuriysk Arra**	**40.62**	**6**	P	**P**	**04 51 09.6**	**-0.6**
	1.5nm,0.7s,baz=175,slow=7.1,SNR=3.4						
ARMA	**Armidale**	**41.49**	**147**	*eP*	**P**	**04 51 19.2**	**+1.5**
	8.1nm,1.0s						
ULN	**Ulaanbaatar**	**47.12**	**342**	*eP*	**P**	**04 52 03.8**	**+1.2**
	3.1nm,1.0s						
SONM	**Songino Array**	**47.30**	**342**	P	**P**	**04 52 03.6**	**-0.4**
SONM				PcP	**PcP**	**04 53 34.6**	**+0.3**
SONM	**Songino Array**	**47.30**	**342**	P	**P**	**04 52 03.6**	**-0.4**
	1.3nm,0.8s,baz=157,slow=6.7,SNR=9.5						
SONM				PcP	**PcP**	**04 53 34.6**	**+0.3**
	0.6nm,0.8s,baz=166,slow=3.6,SNR=4.0						
PETK	**Petropavlovsk-**	**55.51**	**22**	P	**P**	**04 53 05.1**	**+0.1**
PETK	**Petropavlovsk-**	**55.51**	**22**	P	**P**	**04 53 05.1**	**+0.1**
	3.0nm,0.7s,baz=194,slow=3.4,SNR=4.2						
MK31	**Makanchi Array**	**57.53**	**325**	*eP*	**P**	**04 53 19.2**	**-0.5**
MKAR	**Makanchi Array**	**57.53**	**325**	P	**P**	**04 53 19.1**	**-0.5**
MKAR	**Makanchi Array**	**57.53**	**325**	P	**P**	**04 53 19.1**	**-0.5**
	0.9nm,0.4s,baz=118,slow=7.6,SNR=20						
TKM2	**Tokmak 2**	**59.71**	**319**	*eP*	**P**	**04 53 34.1**	**-1.0**
	2.1nm,1.0s						
AAK	**Ala-Archa**	**60.31**	**318**	*eP*	**P**	**04 53 38.7**	**-0.5**
	9.3nm,1.0s						
AAK	**Ala-Archa**	**60.31**	**318**	P	**P**	**04 53 39.5**	**+0.3**
	0.4nm,0.3s,baz=142,slow=11,SNR=4.2						
ZALV	**Zalesovo Beam**	**60.58**	**333**	P	**P**	**04 53 39.3**	**-1.2**
ZALV	**Zalesovo Beam**	**60.58**	**333**	P	**P**	**04 53 39.3**	**-1.2**
	0.5nm,0.4s,baz=114,slow=7.2,SNR=4.4						
EKS2	**Erkin-Say**	**60.81**	**318**	*eP*	**P**	**04 53 43.0**	**+0.5**
	1.7nm,0.8s						
KURBB	**Kurchatov Arra**	**61.72**	**327**	P	**P**	**04 53 48.1**	**-0.2**
	4.6nm,0.7s,baz=124,slow=6.2,SNR=22						
KURK	**Kurchatov**	**61.72**	**328**	*eP*	**P**	**04 53 47.2**	**-1.1**
	5.9nm,0.8s						
KKAR	**Karatay Array**	**63.19**	**317**	*eP*	**P**	**04 53 58.6**	**+0.3**
	2.7nm,0.9s						
BVAR	**Borovoye Array**	**67.30**	**327**	P	**P**	**04 54 25.7**	**+0.9**
BVAR	**Borovoye Array**	**67.30**	**327**	P	**P**	**04 54 25.7**	**+0.9**
	4.2nm,1.0s,baz=124,slow=7.4,SNR=16						
BRVK	**Borovoye**	**67.37**	**327**	*eP*	**P**	**04 54 25.7**	**+0.5**
	9.1nm,1.1s						
ABKAR	**Akbulak array**	**72.11**	**321**	*eP*	**P**	**04 54 54.5**	**0.0**
	0.7nm,0.4s						
AKTO	**Aktyubinsk**	**73.62**	**322**	P	**P**	**04 55 03.7**	**+0.3**
AKTO	**Aktyubinsk**	**73.62**	**322**	P	**P**	**04 55 03.7**	**+0.3**
	3.4nm,0.9s,baz=86,slow=8.8,SNR=11						
PMR	**Palmer**	**84.03**	**29**	*eP*	**P**	**04 55 60.0**	**-0.2**
	6.5nm,0.9s						
ILAR	**Eielson Array**	**85.18**	**25**	P	**P**	**04 56 06.0**	**0.0**
ILAR	**Eielson Array**	**85.18**	**25**	P	**P**	**04 56 06.0**	**0.0**
	0.8nm,0.9s,baz=233,slow=5.7,SNR=10						
BRTR	**Keskin Array B**	**89.97**	**310**	P	**P**	**04 56 29.7**	**0.0**
BRTR	**Keskin Array B**	**89.97**	**310**	P	**P**	**04 56 29.7**	**0.0**
	1.6nm,0.9s,baz=99,slow=4.0,SNR=4.9						
ARCES	**ARCESS Array B**	**90.45**	**340**	P	**P**	**04 56 31.0**	**-0.1**
ARCES	**ARCESS Array B**	**90.45**	**340**	P	**P**	**04 56 31.0**	**-0.1**
	5.5nm,1.0s,baz=73,slow=4.2,SNR=5.0						
FINES	**FINESS Array B**	**91.82**	**332**	P	**P**	**04 56 37.5**	**-0.1**
FINES	**FINESS Array B**	**91.82**	**332**	P	**P**	**04 56 37.5**	**-0.1**
	2.2nm,0.8s,baz=84,slow=4.3,SNR=3.5						
SUW	**Suwalki**	**94.89**	**325**	*eP*	**P**	**04 56 51.8**	**-0.1**
	9.1nm,0.8s						
BUR08	**Bucovina Ar. S**	**94.97**	**318**	*eP*	**P**	**04 56 52.2**	**-0.3**
NOA	**NORSAR Array B**	**98.78**	**334**	LR	LR	05 45 53.1	
	comp=Z,68nm,18.8s,baz=305,slow=38						

*IDC **20** 05:07:03.5±0.8,3.75N×126.76E,h0km,mb3.9/11, mb1 4.0/11,mb1mx3.9/24,mbtmp3.9/11,MS3.0/1, Ms1 3.0/1,ms1mx2.3/37, Error ellipse: s-maj=44.6km s-min=14.3km az=71.0*
*ISCJB **20** 05:07:08.6±0.5,3.69N±0.09×126.7E±0.2,h53km, mb3.9/13, Error ellipse: s-maj=30.4km s-min=9.7km az=163.4*
*NEIC **20** 05:07:08.6±0.5,3.69N×126.72E,h35km,mb4.2/3, Error ellipse: s-maj=25.5km s-min=8.0km az=72.0*
ISC 20 05:07:10.6±0.7,3.7N±0.1×126.8E±0.2,h53km,n24, σ0s69/23,mb4.0/13,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**11.14**	**219**	LR	LR	05 14 40.8	
	comp=Z,79nm,18.5s,baz=70,slow=41						
FITZ	**Fitzroy Crossi**	**21.71**	**183**	*eP*	**P**	**05 11 55.9**	**-1.5**
	1.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.71**	**183**	P	**P**	**05 11 56.7**	**-0.7**
	1.3nm,0.5s,baz=15,slow=9.3,SNR=5.1						
WRAB	**Tennant Creek**	**24.66**	**163**	*eP*	**P**	**05 12 25.7**	**-0.9**
	5.4nm,0.6s						
WRA	**Warramunga Arr**	**24.67**	**163**	P	**P**	**05 12 25.6**	**-1.0**
WRA	**Warramunga Arr**	**24.67**	**163**	P	**P**	**05 12 25.6**	**-1.0**
	4.7nm,0.8s,baz=335,slow=11,SNR=48						
ASAR	**Alice Springs**	**28.10**	**166**	P	**P**	**05 12 58.6**	**+1.0**
ASAR	**Alice Springs**	**28.10**	**166**	P	**P**	**05 12 58.6**	**+1.0**
	0.6nm,0.4s,baz=343,slow=10,SNR=9.3						
CMAR	**Chiang Mai Arr**	**30.89**	**300**	P	**P**	**05 13 22.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**30.89**	**300**	P	**P**	**05 13 22.1**	**-0.4**
	0.4nm,0.3s,baz=110,slow=7.8,SNR=4.2						
KSAR	**Wonju Array Be**	**33.58**	**2**	P	**P**	**05 13 45.7**	**0.0**
KSRS	**Korea Array**	**33.59**	**2**	P	**P**	**05 13 45.7**	**-0.1**
	2.0nm,0.6s,baz=177,slow=9.3,SNR=4.6						
STKA	**Stephens Creek**	**38.11**	**159**	P	**P**	**05 14 24.5**	**-0.1**
STKA	**Stephens Creek**	**38.11**	**159**	P	**P**	**05 14 24.5**	**-0.1**
	1.7nm,0.5s,baz=329,slow=8.3,SNR=6.5						
SONM	**Songino Array**	**47.31**	**341**	P	**P**	**05 15 39.4**	**+0.3**
SONM	**Songino Array**	**47.31**	**341**	P	**P**	**05 15 39.4**	**+0.3**
	0.2nm,0.3s,baz=160,slow=10.0,SNR=4.7						
MKAR	**Makanchi Array**	**57.57**	**325**	P	**P**	**05 16 55.4**	**+0.4**
MKAR	**Makanchi Array**	**57.57**	**325**	P	**P**	**05 16 55.4**	**+0.4**
	0.4nm,0.5s,baz=116,slow=7.2,SNR=9.9						
KURBB	**Kurchatov Arra**	**61.76**	**327**	P	**P**	**05 17 23.6**	**0.0**
	1.0nm,0.6s,baz=129,slow=6.4,SNR=12						
KURK	**Kurchatov**	**61.76**	**327**	*eP*	**P**	**05 17 24.3**	**+0.6**
	3.1nm,0.8s						
BVAR	**Borovoye Array**	**67.34**	**327**	P	**P**	**05 17 59.5**	**-0.6**
BVAR	**Borovoye Array**	**67.34**	**327**	P	**P**	**05 17 59.5**	**-0.6**
	1.3nm,0.8s,baz=107,slow=7.9,SNR=6.0						
ILAR	**Eielson Array**	**85.11**	**25**	P	**P**	**05 19 40.5**	**-0.1**
ILAR	**Eielson Array**	**85.11**	**25**	P	**P**	**05 19 40.5**	**-0.1**
	0.2nm,0.5s,baz=247,slow=5.3,SNR=5.2						

IGQ 20 05:21:08.8,1.38S×81.35W,h10km±10km,Mb4.2,Ms4.0, 6C-10D, Error ellipse: s-maj=7.2km s-min=3.4km az=5.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHIS	**Cerro-Chispas-**	**0.71**	**62**	⇓S	Sg	05 21 31.3	-0.5
CHIS	**Cerro-Chispas-**	**0.71**	**62**	⇓P	Pb	05 21 23.1	-0.2
JAMA	**Jama**	**1.60**	**46**	⇓S	Sn	05 21 58.0	0.0
JAMA	**Jama**	**1.60**	**46**	⇓P	Pb	05 21 39.0	+0.4
ARNL	**Arenillas**	**2.50**	**149**	⇓P	Pb	05 21 52.4	-1.5
IGUA	**Igualata**	**2.71**	**92**	P	Pn	05 21 54.2	+1.0
GOLV	**Golondrinas**	**2.72**	**54**	P	Pn	05 21 54.2	+1.6
BMAS	**Trigal station**	**2.87**	**92**	⇑P	Pn	05 21 57.1	+1.9
ARRY	**Arrayan**	**2.90**	**92**	⇑S	Sn	05 22 29.9	-0.8
ARRY	**Arrayan**	**2.90**	**92**	⇑P	Pn	05 21 56.6	+1.1
PAT1	**Patacocha**	**2.91**	**92**	⇑P	Pn	05 21 58.5	+2.6
RUN5	**Runtun**	**2.92**	**91**	P	Pn	05 21 58.0	+2.2
BRUN	**Tungurahua Vol**	**2.94**	**91**	⇑P	Pn	05 21 57.9	+1.8
ULBA	**Ulba**	**2.94**	**91**	P	Pn	05 21 58.0	+1.8
BMOR	**Cotopaxi Volca**	**2.96**	**77**	P	Pn	05 21 58.2	+1.5
JUA2	**San Juan 2**	**2.98**	**67**	P	Pn	05 21 58.5	+1.7
PISA	**Pisayambo**	**2.98**	**84**	P	Pn	05 21 58.4	+1.5
BREF	**Cotopaxi Volca**	**2.99**	**76**	⇓P	Pn	05 21 58.9	+1.6
TERV	**Terraza Guagua**	**3.00**	**66**	P	Pn	05 21 58.6	+1.4
PINO	**Pino**	**3.00**	**66**	P	Pn	05 21 57.9	+0.7
GGP	**Refugio Guagua**	**3.00**	**66**	P	Pn	05 21 58.0	+0.7
BVC2	**Cotopaxi Volca**	**3.02**	**76**	⇓P	Pn	05 21 59.3	+1.8
BTAM	**Cotopaxi Volca**	**3.04**	**77**	P	Pb	05 22 00.9	-2.8
VC1	**Cotopaxi 1**	**3.04**	**76**	P	Pb	05 22 01.0	-2.8
COV1	**Cotopaxi Volc**	**3.09**	**77**	⇑P	Pn	05 21 59.7	+1.1
OTAV	**Otavalo**	**3.31**	**61**	⇓P	Pn	05 22 03.6	+2.2
ANTI	**Antisana**	**3.32**	**74**	P	Pn	05 22 04.8	+3.1
COTA	**Cotacachi**	**3.46**	**60**	P	Pn	05 22 06.3	+2.8
YANT	**Yantaza**	**3.57**	**134**	⇓P	Pb	05 22 08.6	-3.6
CAYA	**Cayambe**	**3.66**	**67**	⇓P	Pb	05 22 10.5	-3.8

IDC 20 05:39:57.0±5.2,30.96S×178.25W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.9/16,mbtmp4.0/3, Error ellipse: s-maj=201.5km s-min=50.2km az=152.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.15**	**258**	P	P	05 46 43.9	+0.1
	0.3nm,0.3s,baz=110,slow=15,SNR=2.1						
ASAR	**Alice Springs**	**42.87**	**268**	P	P	05 47 56.8	-0.5
	1.1nm,0.5s,baz=106,slow=7.5,SNR=13						
WRA	**Warramunga Arr**	**43.91**	**273**	P	P	05 48 05.7	0.0
	1.8nm,0.3s,baz=112,slow=8.0,SNR=78						
FINES	**FINESS Array B**	**145.59**	**339**	PKPbc	PKPdf	05 59 35.9	-0.6
	1.9nm,0.7s,baz=19,slow=4.7,SNR=3.6						

DDA 20 06:03:09.7,39.12N×29.07E,h7km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.28**	**254**	*i* P	Pg	06 03 16.1	+0.6
DEMI				*i* S	Sg	06 03 20.0	+0.7
DURS	**Dursunbey**	**0.66**	**316**	*i* P	Pg	06 03 23.1	+0.5
DURS				*i* S	Sg	06 03 32.0	+0.6
MANT	**Manisa**	**0.75**	**212**	*i* P	Pg	06 03 24.3	-0.1
MANT				*i* S	Sg	06 03 34.0	-0.3

*ISK **20** 06:04:20.4,38.91N×41.35E,h5km,MD3.1*
*DDA **20** 06:04:21.4,38.96N×41.32E,h16km,MD3.4*
*CSEM **20** 06:04:21.9±0.1,38.93N×41.35E,h2km,MD3.1, Error ellipse: s-maj=4.4km s-min=2.9km az=123.0*
ISC 20 06:04:22.2±1.0,38.93N±0.03×41.33E±0.03,h7km±9km, n51,σ0s77/65,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNGL	**BINGOL**	**0.14**	**278**	*i* P	**Pg**	**06 04 25.1**	**-0.2**
BNGL				*i* S	**Sg**	**06 04 28.0**	**+0.6**
VRTB	**Varto-Mus**	**0.25**	**23**	*e*PG	**Pg**	**06 04 26.8**	**-0.4**
VRTB				*e*SG	**Sg**	**06 04 31.5**	**+1.0**
VRTB	**Varto-Mus**	**0.25**	**23**	*e*Pg	**Pg**	**06 04 26.8**	**-0.4**
VRTB				*e*Sg	**Sg**	**06 04 31.5**	**+1.0**
BNGB	**Bingˆ¶l**	**0.51**	**277**	*e*PG	**Pg**	**06 04 31.0**	**-1.1**
BTMT	**Batman**	**0.75**	**170**	*e*PG	**Pg**	**06 04 36.8**	**+0.2**
BTMT	**Batman**	**0.75**	**170**	*e*Pg	**Pg**	**06 04 36.8**	**+0.2**
ERZM	**Erzurum**	**0.97**	**2**	*i* P	**Pg**	**06 04 39.9**	**-1.0**
ERZM				*i* S	**Sg**	**06 04 53.5**	**0.0**
ERZM	**Erzurum**	**0.97**	**2**	*i* P	**Pg**	**06 04 39.9**	**-1.0**
ERZM				*i* S	**Sg**	**06 04 53.5**	**0.0**
EZM	**Erzurum**	**0.97**	**1**	*e*PG	**Pg**	**06 04 40.5**	**-0.4**
EZM	**Erzurum**	**0.97**	**1**	*e*Pg	**Pg**	**06 04 40.5**	**-0.4**
BEST	**Besiri**	**1.04**	**183**	*i* P	**Pg**	**06 04 41.7**	**-0.4**
BEST				*i* S	**Sn**	**06 04 57.6**	**-0.6**
DIY	**Diyarbakir**	**1.35**	**220**	*e*PN	**Pn**	**06 04 47.1**	**-0.5**
DIY	**Diyarbakir**	**1.35**	**220**	*e*Pn	**Pn**	**06 04 47.1**	**-0.5**
DIYA	**Diyarbakir**	**1.39**	**224**	*i* P	**Pn**	**06 04 47.9**	**-0.1**
DIYA				*i* S	**Sn**	**06 05 06.7**	**+0.1**
DIYA	**Diyarbakir**	**1.39**	**224**	*i* P	**Pn**	**06 04 47.9**	**-0.1**
DIYA				*i* S	**Sn**	**06 05 06.7**	**+0.1**
ERZN	**Erzincan**	**1.41**	**298**	*e*PN	**Pn**	**06 04 47.9**	**-0.5**
AGRB	**Hanur-Agry**	**1.44**	**63**	*e*Pn	**Pn**	**06 04 48.6**	**-0.3**
AGRB	**Hanur-Agry**	**1.44**	**63**	*e*Pn	**Pn**	**06 04 48.6**	**-0.3**
PTK	**Pertek**	**1.51**	**269**	*e*PN	**Pn**	**06 04 49.9**	**0.0**
PTK	**Pertek**	**1.51**	**269**	*e*Pn	**Pn**	**06 04 49.9**	**0.0**
MARD	**Mardin**	**1.67**	**195**	*i* P	**Pn**	**06 04 51.8**	**-0.2**
MARD				*i* S	**Sb**	**06 05 15.2**	**+0.5**
SVRC	**Sivrice-ELAZID**	**1.68**	**251**	*e*PN	**Pn**	**06 04 52.1**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.68**	**251**	*e*Pn	**Pn**	**06 04 52.2**	**0.0**
BAYT	**Ayd¯–ntepe-Bay**	**1.73**	**328**	*e*PN	**Pn**	**06 04 53.4**	**+0.6**
BAYT	**Ayd¯–ntepe-Bay**	**1.73**	**328**	*e*Pn	**Pn**	**06 04 53.4**	**+0.6**
EZC	**Erzincan**	**1.74**	**299**	*e*PN	**Pn**	**06 04 53.0**	**0.0**
EZC	**Erzincan**	**1.74**	**299**	*e*Pn	**Pn**	**06 04 53.0**	**0.0**
ELZG	**Elazig**	**1.89**	**257**	*i* P	**Pn**	**06 04 55.7**	**+0.7**
ELZG				*i* S	**Sg**	**06 05 23.6**	**+0.8**
ELZG	**Elazig**	**1.89**	**257**	*i* P	**Pn**	**06 04 55.7**	**+0.7**
ELZG				*i* S	**Sg**	**06 05 23.6**	**+0.8**
CLDR	**Caldiran**	**2.02**	**83**	*e*PN	**Pn**	**06 04 56.6**	**-0.4**
CLDR	**Caldiran**	**2.02**	**83**	*e*Pn	**Pn**	**06 04 56.6**	**-0.4**
GUMT	**Gumushane**	**2.09**	**317**	*e*PN	**Pn**	**06 04 58.7**	**+0.9**
GUMT	**Gumushane**	**2.09**	**317**	*e*Pn	**Pn**	**06 04 58.7**	**+0.9**
ILIC	**ilic-Erzincan**	**2.21**	**284**	*e*PN	**Pn**	**06 05 00.0**	**+0.6**
ILIC	**ilic-Erzincan**	**2.21**	**284**	*e*Pn	**Pn**	**06 05 00.0**	**+0.6**
KEMA	**Kemaliye**	**2.23**	**280**	*i* P	**Pn**	**06 05 01.0**	**+1.3**
KEMA				*i* S	**Sg**	**06 05 33.3**	**-0.7**
KEMA	**Kemaliye**	**2.23**	**280**	*i* P	**Pn**	**06 05 01.0**	**+1.3**
KEMA				*i* S	**Sg**	**06 05 33.3**	**-0.7**
MYA	**Malataya**	**2.35**	**256**	*e*PN	**Pn**	**06 05 02.1**	**+0.7**
MYA	**Malataya**	**2.35**	**256**	*e*Pn	**Pn**	**06 05 02.1**	**+0.7**
MALT	**Malatya**	**2.36**	**256**	*e*PN	**Pn**	**06 05 02.5**	**+1.1**
MALT	**Malatya**	**2.36**	**256**	*e*Pn	**Pn**	**06 05 02.5**	**+1.1**
URFA	**Urfa**	**2.48**	**234**	*e*PN	**Pn**	**06 05 03.6**	**+0.6**
URFA	**Urfa**	**2.48**	**234**	*e*Pn	**Pn**	**06 05 03.6**	**+0.6**
AKCD	**Akcadag**	**2.75**	**258**	*i* P	**Pb**	**06 05 10.5**	**-1.2**
AKCD				*i* S	**Sb**	**06 05 47.5**	**+1.9**
AKCD	**Akcadag**	**2.75**	**258**	*i* P	**Pb**	**06 05 10.5**	**-1.2**
ESPY	**Espiye-Giresun**	**2.82**	**316**	*e*PN	**Pn**	**06 05 08.7**	**+1.0**
ESPY	**Espiye-Giresun**	**2.82**	**316**	*e*Pn	**Pn**	**06 05 08.7**	**+1.0**
GNI	**Garni**	**2.90**	**64**	*e*PN	**Pn**	**06 05 10.3**	**+1.3**
GNI	**Garni**	**2.90**	**64**	*e*Pn	**Pn**	**06 05 10.3**	**+1.3**
GAZ	**Gaziantep**	**3.70**	**243**	*e*PN	**Pn**	**06 05 21.0**	**+1.2**
GAZ	**Gaziantep**	**3.70**	**243**	*e*Pn	**Pn**	**06 05 21.0**	**+1.2**

*ISCJB **20** 06:06:49.5±0.4,19.67S±0.03×68.99W±0.05,h110km±3km, mb4.2/31, Error ellipse: s-maj=8.1km s-min=5.1km az=166.8*
*NEIC **20** 06:06:50.9±0.4,19.71S×68.98W,h110km±4km,mb4.3/23, Error ellipse: s-maj=7.8km s-min=5.6km az=54.0*
*GUC **20** 06:06:50.6±0.9,19.73S×69.22W,h114km±9km,ML4.8*
*IDC **20** 06:06:52.1±2.2,19.68S×68.94W,h123km±18km,mb4.1/12, mb1 4.2/16,mb1mx4.1/24,mbtmp4.1/16,MS3.0/3, Ms1 3.0/3,ms1mx2.9/29, Error ellipse: s-maj=22.9km s-min=13.8km az=36.0*
ISC 20 06:06:50.5±0.7,19.70S±0.04×69.02W±0.06,h107km±6km, n382,σ0s87/386,mb4.3/31,144C-158D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNMC	**Minimini**	**0.79**	**316**	*i* ⇑P	**Pn**	**06 07 10.2**	**+0.6**
MNMC				*i* S	**Sn**	**06 07 24.4**	**+0.4**
MNMC					AML	AML	06 07 25.6	
	comp=N,127μm,0.5s						
HMBC	**Humberstone**	**1.00**	**235**	⇑*i* P	**Pn**	**06 07 11.2**	**-0.3**
HMBC	**Humberstone**	**1.00**	**235**	⇑*i* P	**Pn**	**06 07 11.2**	**-0.3**
HMBC				*i* S	**Sn**	**06 07 26.7**	**-0.7**
HMBC					AML	AML	06 07 27.5	
	comp=N,18μm,0.5s						
PSGC	**Pisagua**	**1.05**	**276**	⇑*i* P	**Pn**	**06 07 11.4**	**-0.6**
PSGC	**Pisagua**	**1.05**	**276**	⇑*i* P	**Pn**	**06 07 11.4**	**-0.6**
PSGC				*i* S	**Sn**	**06 07 26.9**	**-1.4**
PSGC					AML	AML	06 07 27.8	
	comp=N,17μm,0.3s						
PB01	**Plate Boundary**	**1.41**	**198**	⇑*i* P	**Pn**	**06 07 16.8**	**+0.7**
PB01				*i* S	**Sn**	**06 07 36.1**	**+0.7**
PB01					AML	AML	06 07 37.7	
	comp=E,24μm,0.4s						
PB09	**Plate Boundary**	**2.10**	**186**	⇑*i* P	**Pn**	**06 07 25.8**	**+1.1**
PB09				*i* S	**Sn**	**06 07 51.6**	**+0.8**
PB09					AML	AML	06 07 55.8	
	comp=E,15μm,0.5s						
PB07	**Plate Boundary**	**2.17**	**202**	⇑*i* P	**Pn**	**06 07 25.5**	**-0.2**
PB07				*i* S	**Sn**	**06 07 51.0**	**-1.6**
PB07					AML	AML	06 07 58.7	
	comp=E,6μm,0.7s						
PB04	**Plate Boundary**	**2.59**	**190**	*i* P	Pn	06 07 34.2	+3.3
LVC	**Limon Verde**	**2.90**	**178**	*e*Pn	**Pn**	**06 07 37.4**	**+2.1**
LVC				*e*Sn	**Sn**	**06 08 08.3**	**-1.5**
LVC	**Limon Verde**	**2.90**	**178**	*e*P	**Pn**	**06 07 37.0**	**+1.7**
LVC					AML	AML	06 08 19.4	
	comp=N,631nm,0.5s						
LPAZ	**La Paz**	**3.50**	**14**	*e*Pn	Pn	06 07 46.5	+2.8
LPAZ	**La Paz**	**3.50**	**14**	P	Pn	06 07 46.6	+3.0
	comp=N,20nm,0.3s,baz=197,slow=6.4,SNR=262						
LPAZ					S	**Sn**	**06 08 24.8**	**+0.2**
	comp=N,2.9nm,0.3s,baz=142,slow=24,SNR=2.7						
LPAZ					LR	LR	06 09 23.7	
	comp=N,147nm,19.3s,baz=233,slow=44						
SIV	**San Ignacio**	**8.42**	**65**	P	**Pn**	**06 08 48.6**	**-1.1**
SIV	**San Ignacio**	**8.42**	**65**	P	**Pn**	**06 08 48.6**	**-1.1**
	comp=N,12nm,0.3s,baz=265,slow=11,SNR=347						
SIV					LR	LR	06 11 36.0	
	comp=N,100nm,20.2s,slow=34						
LCO	**Las Campanas**	**9.39**	**189**	*e*Pn	Pn	06 08 58.9	-4.2
LCO				*e*Sn	**Sn**	**06 10 41.2**	**-5.9**
NNA	**Nana**	**10.74**	**314**	Pn	**Pn**	**06 09 23.0**	**+1.6**
NNA				S	Sn	06 11 12.6	-7.1
NNA	**Nana**	**10.74**	**314**	S	Sn	06 11 12.6	-7.1
	comp=N,0.8nm,0.3s,baz=148,slow=22,SNR=2.5						
CFAA	**Coronel Fontan**	**11.87**	**177**	P	**Pn**	**06 09 37.7**	**+1.4**
CFAA	**Coronel Fontan**	**11.87**	**177**	P	**Pn**	**06 09 37.7**	**+1.4**
	comp=N,0.1nm,0.3s,baz=4.9,slow=6.7,SNR=12						
SAML	**Samuel**	**12.09**	**29**	*e*Pn	Pn	06 09 35.7	-3.5
	comp=

Y27A	Causey	62.44	328	⇓P	P	06 17 01.9	-0.6	
	baz=63							
AMTX	Amarillo	62.53	330	⇓P	P	06 17 02.2	-0.8	
	baz=63							
Z25A	Roswell	62.75	327	⇑P	P	06 17 04.0	-0.6	
	baz=63							
Z24A	Sheeppen Canyo	63.12	326	⇓P	P	06 17 06.6	-0.5	
	baz=63							
Y25A	Mesa, Roswell	63.24	327	⇓P	P	06 17 07.1	-0.8	
	baz=64							
W27A	Bowe Ranch, En	63.34	329	⇑P	P	06 17 07.8	-0.7	
	baz=64							
320A	Kipp Ranch, An	63.35	322	⇑P	P	06 17 09.0	+0.3	
	baz=64							
V28A	Channing	63.49	330	⇓P	P	06 17 08.6	-0.9	
	baz=64							
Z23A	Rita Site, Whi	63.53	326	⇓P	P	06 17 09.6	-0.2	
	baz=64							
220A	Playas Peak, P	63.77	323	⇑P	P	06 17 11.8	+0.4	
	baz=64							
319A	Douglas	63.81	322	⇑P	P	06 17 12.6	+0.9	
	baz=64							
121A	Cookes Peak, D	63.82	324	⇑P	P	06 17 12.2	+0.5	
	baz=64							
Z22A	Elephant Butte	63.92	325	⇓P	P	06 17 12.7	+0.3	
	baz=64							
W25A	X Bar L Ranch,	64.14	328	⇓P	P	06 17 13.0	-0.7	
	baz=64							
V26A	Tequesquite Ra	64.28	329	⇑P	P	06 17 14.1	-0.5	
	baz=64							
120A	U Bar Ranch, L	64.31	323	⇓P	P	06 17 15.5	+0.6	
	baz=65							
Y22A	Socorro	64.44	325	⇓P	P	06 17 15.8	0.0	
	baz=65							
X23A	Hourglass Bar	64.53	326	⇑P	P	06 17 16.0	-0.4	
	baz=65							
T28A	Walsh	64.56	331	⇓P	P	06 17 15.3	-1.1	
	baz=65							
W24A	Lazy 6 Ranch,	64.61	327	⇑P	P	06 17 16.5	-0.5	
	baz=65							
Z20A	Nine Sixteen R	64.70	324	⇑P	P	06 17 18.8	+1.3	
	baz=65							
V25A	Rancho No Teng	64.71	328	⇓P	P	06 17 17.0	-0.5	
	baz=65							
U26A	Atchley Ranch,	64.73	329	⇓P	P	06 17 17.1	-0.6	
	baz=65							
T27A	Campo	64.79	331	⇓P	P	06 17 17.7	-0.2	
	baz=65							
CBKS	Cedar Bluff	64.94	334	⇓P	P	06 17 18.3	-0.4	
	baz=65							
V24A	Rampart Ranch,	64.95	328	⇑P	P	06 17 19.0	-0.2	
	baz=65							
ANMO	Albuquerque	64.95	327	eP	P	06 17 18.8	-0.3	
	comp=N,1.1nm,0.6s							
U25A	Circle Dot Ran	65.06	329	⇑P	P	06 17 19.6	-0.2	
	baz=65							
Y20A	Horse Springs,	65.18	324	⇑P	P	06 17 21.1	+0.4	
	baz=65							
X21A	Alamocita Cree	65.27	325	⇓P	P	06 17 21.7	+0.5	
	baz=66							
T26A	Comanche Natio	65.29	330	⇓P	P	06 17 21.0	-0.3	
	baz=66							
V23A	Ortiz Mt. (NFS	65.43	327	⇓P	P	06 17 22.3	+0.1	
	baz=66							
S26A	Kim	65.59	330	⇑P	P	06 17 22.9	-0.2	
	baz=66							
Y19A	Nutrioso	65.70	324	⇑P	P	06 17 24.7	+0.6	
	baz=66,SNR=6.3							
X20A	Quemado	65.72	325	⇓P	P	06 17 24.9	+0.8	
	baz=66							
U23A	El Rito	65.89	328	⇓P	P	06 17 25.4	+0.3	
	baz=66							
T24A	Torres, Weston	65.91	329	⇓P	P	06 17 25.4	+0.1	
	baz=66							
V22A	San Miguel Ran	65.93	327	⇑P	P	06 17 26.0	+0.6	
	baz=66							
S25A	Robets Cordova	66.08	330	⇓P	P	06 17 26.0	-0.3	
	baz=66							
R26A	Arlington	66.13	331	⇓P	P	06 17 26.4	-0.2	
	baz=66							
W20A	Ramah	66.16	325	⇑P	P	06 17 28.0	+1.0	
	baz=66							
214A	Organ Pipe Nat	66.32	320	⇓P	P	06 17 29.2	+1.4	
	baz=67							
S24A	Houchin Ranch,	66.44	329	⇓P	P	06 17 28.4	-0.3	
	baz=67							
BGNE	Belgrade	66.53	336	⇓P	P	06 17 28.3	-0.5	
	baz=67							
V20A	Brimhall	66.65	326	⇑P	P	06 17 30.4	+0.4	
	baz=67							
SDCO	Great Sand Dun	66.66	329	eP	P	06 17 30.3	+0.2	
	comp=N,5.7nm,1.0s							
SDCO	Great Sand Dun	66.66	329	⇓P	P	06 17 30.2	+0.1	
	baz=67							
U21A	Nageezi	66.71	327	⇑P	P	06 17 30.8	+0.4	
	baz=67							
X17A	Forest Lakes	66.85	323	⇑P	P	06 17 32.5	+1.2	
	baz=67							
V19A	Window Rock	66.90	325	⇓P	P	06 17 32.1	+0.5	
	baz=67							
T21A	Navajo Lake	67.08	327	⇓P	P	06 17 33.2	+0.5	
	baz=67							
U20A	Newcomb	67.12	326	⇑P	P	06 17 33.2	+0.3	
	baz=67							
R23A	Moffat	67.17	329	⇓P	P	06 17 33.5	+0.1	
	baz=67							
O27A	Beecher Island	67.25	333	⇑P	P	06 17 33.5	-0.1	
	baz=68							
X16A	Lo Mia Camp, P	67.27	323	⇓P	P	06 17 35.1	+1.2	
	baz=68							
S22A	4UR Ranch, Cre	67.31	328	⇓P	P	06 17 34.7	+0.5	
	baz=68							
P25A	Willow Gulch B	67.44	331	⇓P	P	06 17 35.0	+0.1	
	baz=68							
Q24A	Divide	67.46	330	⇓P	P	06 17 34.9	-0.3	
	baz=68							
S21A	Coal Bank Pass	67.72	328	⇓P	P	06 17 37.0	+0.1	
	baz=68							
T19A	Beclabito	67.73	326	⇓P	P	06 17 37.7	+0.9	
	baz=68							
MVCO	Mesa Verde	67.74	327	⇑P	P	06 17 37.1	+0.2	
	baz=68							
WUAZ	Wupatki	68.03	324	⇓P	P	06 17 40.1	+1.5	
	baz=68							
S20A	Disappointment	68.14	327	⇓P	P	06 17 40.2	+0.8	
	baz=68							
Q22A	Crested Butte,	68.22	329	⇓P	P	06 17 40.6	+0.6	
	baz=68							
M27A	Reverse DX Ran	68.32	334	⇓P	P	06 17 40.0	-0.3	
	baz=69							
ISCO	Idaho Springs	68.34	330	⇓P	P	06 17 40.7	0.0	
	baz=69							
T18A	Mexican Hat	68.41	326	⇓P	P	06 17 41.4	+0.4	
	baz=69							
R20A	Redvale	68.43	327	⇑P	P	06 17 41.8	+0.7	
	baz=69							
S19A	Harvey Farm, M	68.48	327	⇓P	P	06 17 41.7	+0.2	
	baz=69							
PV01	Paradox Valley	68.48	327	eP	P	06 17 42.3	+0.7	
SMCO	Snowmass	68.50	329	eP	P	06 17 42.1	+0.3	
	comp=N,3.3nm,0.9s							
Q21A	Lamborn Mesa,	68.52	328	⇓P	P	06 17 42.1	+0.4	
	baz=69							
Y12C	Blythe	68.60	320	⇓P	P	06 17 43.4	+1.3	
	baz=69							
P22A	Eagle	68.72	329	⇑P	P	06 17 43.3	+0.3	
	baz=69							
T17A	Navajo Res., N	68.80	325	⇓P	P	06 17 45.0	+1.6	
	baz=69							
O23A	Lake Granby, G	68.81	330	⇑P	P	06 17 43.8	+0.2	
	baz=69							
N24A	Carr	68.83	332	⇓P	P	06 17 43.9	+0.4	
	baz=69							
S18A	Hurst Farm, Bl	68.88	326	⇑P	P	06 17 45.1	+1.0	
	baz=69							
M25A	Palm-Egli Farm	68.95	332	⇓P	P	06 17 44.3	+0.1	
	baz=69							
P21A	Newcastle	69.00	329	⇑P	P	06 17 45.4	+0.7	
	baz=69							
L26A	Underwood Farm	69.03	333	⇓P	P	06 17 44.7	0.0	
	baz=69							
O22A	Kremmling	69.06	330	⇓P	P	06 17 45.4	+0.2	
	baz=69							
BC3	Big Chuckawall	69.10	320	⇑P	P	06 17 46.6	+1.3	
	baz=69							
W13A	Hualapai Mount	69.16	322	⇑P	P	06 17 47.2	+1.5	
	baz=69							
MONP	Monument Peak	69.18	318	⇓P	P	06 17 47.5	+1.6	
	baz=69							
U15A	North Rim	69.20	324	⇑P	P	06 17 47.4	+1.4	
	baz=70							
K27A	Flueckinger Fa	69.23	334	⇑P	P	06 17 46.1	+0.2	
	baz=70							
IRM	Iron Mountain	69.26	320	⇓P	P	06 17 47.8	+1.6	
	baz=70							
S17A	Black Ridge (B	69.27	326	⇓P	P	06 17 47.0	+0.8	
	baz=70							
M24A	Cheyenne	69.32	332	⇓P	P	06 17 46.9	+0.3	
	baz=70							
R18A	Canyonlands Na	69.35	327	⇓P	P	06 17 47.4	+0.6	
	baz=70							
N23A	Red Feather La	69.36	331	⇓P	P	06 17 47.2	+0.3	
	baz=70							
P20A	De Beque	69.44	328	⇓P	P	06 17 47.7	+0.4	
	baz=70							
Q19A	Hogan Spring (	69.46	327	⇑P	P	06 17 48.5	+1.1	
	baz=70							
N22A	Wattenberg Ran	69.53	330	⇓P	P	06 17 48.6	+0.6	
	baz=70							
BELC	Belle Mtn. Jos	69.67	320	⇑P	P	06 17 49.8	+1.0	
	baz=70							
PFO	Pinyon Flat Ob	69.68	319	⇓P	P	06 17 50.1	+1.2	
	baz=70							
R17A	Hanksville Air	69.80	326	⇑P	P	06 17 50.2	+0.7	
	baz=70,SNR=5.1							
P19A	Cripple Cowboy	69.83	328	⇑P	P	06 17 50.3	+0.4	
	baz=70							
O20A	White River Ci	69.85	329	⇑P	P	06 17 50.3	+0.4	
	baz=70							
GMRC	Granite Mounta	69.99	320	⇓P	P	06 17 52.1	+1.4	
	baz=70							
N21A	Black Mountain	69.99	330	⇑P	P	06 17 51.3	+0.5	
	baz=70							
M22A	Cedar Creek Ra	70.07	331	⇓P	P	06 17 51.8	+0.6	
	baz=70							
SRU	San Rafael	70.22	327	eP	P	06 17 52.6	+0.4	
	comp=N,4.4nm,0.8s							
SRU	San Rafael	70.22	327	⇑P	P	06 17 52.6	+0.4	
	baz=70,SNR=5.6							
K24A	Anderson Ranch	70.33	333	⇓P	P	06 17 53.2	+0.5	
	baz=71							
N20A	Spence Gulch,	70.41	329	⇑P	P	06 17 53.6	+0.3	
	baz=71							
O19A	Miners Draw (B	70.41	328	⇓P	P	06 17 53.2	-0.1	
	baz=71							
Q16A	Castle Valley	70.41	326	⇓P	P	06 17 54.7	+1.3	
	baz=71							
HEC	Hector,Ludlow	70.43	320	⇓P	P	06 17 55.2	+1.8	
	baz=71							
P18A	Preston Nutter	70.47	327	⇓P	P	06 17 54.4	+0.6	
	baz=71,SNR=5.2							
R15A	Junction	70.48	325	⇑P	P	06 17 54.8	+1.0	
	baz=71							
M21A	Separation Pea	70.58	330	⇑P	P	06 17 54.7	+0.4	
	baz=71							
TUQ	Turquoise Moun	70.60	321	⇓P	P	06 17 56.0	+1.6	
	baz=71							
CCUT	Cedar City	70.60	324	eP	P	06 17 55.9	+1.4	
	comp=N,6.5nm,1.1s							
CCUT				e		06 18 23.8		
P17A	Butcher Ranch,	70.60	327	⇓P	P	06 17 55.6	+1.1	
	baz=71							
MVU	Marysvale	70.66	325	eP	P	06 17 55.8	+0.9	
	comp=N,7.0nm,1.2s							
J24A	Dixon Ranch, L	70.76	333	⇑P	P	06 17 55.8	+0.6	
	baz=71							
O18A	Roosevelt	70.83	328	⇓P	P	06 17 56.5	+0.8	
	baz=71							
BFSC	Mount Baldy Ra	70.85	319	⇓P	P	06 17 58.1	+2.1	
	baz=71							
L21A	Rawlins	70.86	331	⇑P	P	06 17 56.0	-0.1	
	baz=71,SNR=5.2							
M20A	Sweetwater, Wa	70.88	330	⇓P	P	06 17 56.6	+0.4	
	baz=71							
N19A	John Jarvie Ra	70.89	329	⇑P	P	06 17 56.2	+0.1	
	baz=71,SNR=5.1							
K22A	Casper	71.02	332	⇑P	P	06 17 57.4	+0.5	
	baz=71							
GSC	Goldstone	71.03	320	⇓P	P	06 17 58.7	+1.6	
	baz=71							
SHOC	Shoshone	71.12	321	⇓P	P	06 17 59.5	+2.0	
	baz=71							
O17A	Robinson Place	71.14	327	⇑P	P	06 17 58.5	+0.7	
	baz=71,SNR=6.1							
RSSD	Black Hills	71.14	334	eP	P	06 17 57.9	+0.2	
	comp=N,5.0nm,0.8s							
I24A	Kuemmerle Ranc	71.17	334	⇓P	P	06 17 58.0	+0.3	
	baz=72							
K21A	Alcova	71.34	331	⇓P	P	06 17 59.3	+0.4	
	baz=72,SNR=6.6							
L20A	Wamsutter	71.35	330	⇑P	P	06 17 59.3	+0.4	
	baz=72							
R13A	O'Grain Ranch,	71.39	324	⇓P	P	06 18 01.2	+1.9	
	baz=72							
EDW2	Edwards Air Fo	71.48	319	⇑P	P	06 18 00.5	+0.8	
	baz=72							
J22A	Midwest	71.61	332	⇑P	P	06 18 00.3	-0.1	
	baz=72							
M18A	Lyman	71.73	329	⇑P	P	06 18 01.7	+0.4	
	baz=72							
N17A	Moffit Pass	71.75	328	⇓P	P	06 18 02.1	+0.7	
	baz=72,SNR=7.6							
JLU	Jordanelle	71.81	327	eP	P	06 18 02.3	+0.5	
	comp=N,3.4nm,0.7s							
FURC	Furnace Creek,	71.86	321	⇑P	P	06 18 03.5	+1.7	
	baz=72							
K20A	Yellowstone Ra	71.86	331	⇑P	P	06 18 01.8	-0.2	
	baz=72,SNR=5.9							
H24A	Dirks Ranch, A	71.87	334	⇓P	P	06 18 01.8	0.0	
	baz=72							
L19A	Farson	71.91	330	⇓P	P	06 18 02.9	+0.6	
	baz=72							
MPMC	Manual Prospec	71.96	320	⇑P	P	06 18 03.4	+0.7	
	baz=72							
I22A	9 Mile Ranch,	71.99	332	⇓P	P	06 18 02.8	+0.1	
	baz=72,SNR=5.3							
N16A	Rees Ranch, Co	72.01	327	⇓P	P	06 18 03.7	+0.7	
	baz=72							
M17A	Scullys Gap (B	72.06	328	⇑P	P	06 18 03.8	+0.6	
	baz=72							
L18A	Fontenelle, Gr	72.10	329	⇓P	P	06 18 04.0	+0.6	
	baz=72							
DUG	Dugway	72.21	326	eP	P	06 18 04.9	+0.8	
	comp=N,8.5nm,1.4s							
DUG	Dugway	72.21	326	⇓P	P	06 18 05.1	+1.0	
	baz=72							
K19A	Absolon Red Bu	72.22	330	⇓P	P	06 18 03.8	-0.4	
	baz=72							
I21A	Big Trails, Te	72.28	332	⇓P	P	06 18 04.4	-0.1	
	baz=73,SNR=7.8							
G24A	Alzada	72.29	335	⇓P	P	06 18 04.1	-0.2	
	baz=73							
ISA	Isabella	72.29	319	eP	P	06 18 05.6	+1.0	
	comp=N,2.5nm,0.6s							
ISA	Isabella	72.29	319	⇑P	P	06 18 06.1	+1.6	
	baz=72							
R11A	Troy Canyon, C	72.41	323	⇑P	P	06 18 06.9	+1.6	
	baz=73							
M16A	Huntsville	72.43	328	⇓P	P	06 18 06.1	+0.7	
	baz=73							
BW06	Boulder Array	72.51	330	⇓P	P	06 18 06.4	+0.5	
	baz=73							
PDAR	Pinedale Array	72.51	330	P	P	06 18 05.6	-0.3	
PDAR	Pinedale Array	72.51	330	P	P	06 18 05.6	-0.3	
	comp=N,0.8nm,0.5s,baz=122,slow=8.5,SNR=6.8							
GRAC	Grapevine Rang	72.52	321	⇑P	P	06 18 08.1	+2.3	
	baz=73							
G23A	Biddle	72.58	334	⇓P	P	06 18 06.1	+0.1	
	baz=73							
HWUT	Hardware Ranch	72.61	328	eP	P	06 18 06.4	-0.1	
	comp=N,3.4nm,0.7s							
MDND	Maddock	72.62	339	⇑P	P	06 18 06.2	0.0	
	baz=73							
PKM	Peak Mountain	72.62	318	⇑P	P	06 18 07.9	+1.2	
	baz=73							
L17A	Cokeville	72.64	329	⇓P	P	06 18 06.4	-0.2	
	baz=73							
K18A	Toltan Ranch,	72.64	330	⇓P	P	06 18 07.3	+0.6	
	baz=73							
J19A	Crowheart	72.66	331	⇓P	P	06 18 07.0	+0.3	
	baz=73							
F24A	Ekalaka	72.72	335	⇑P	P	06 18 06.4	-0.5	
	baz=73,SNR=5.7							
I20A	Worland	72.77	332	⇓P	P	06 18 07.3	0.0	
	baz=73							
L16A	Fish Haven	72.85	328	⇑P	P	06 18 08.7	+0.8	
	baz=73							
M15A	Larsen Ranch,	72.95	327	⇓P	P	06 18 09.0	+0.6	
	baz=73							
G22A	Birney	72.97	333	⇑P	P	06 18 08.0	-0.4	
	baz=73							
F23A	Volborg	73.01	334	⇑P	P	06 18 08.8	+0.2	
	baz=73,SNR=5.7							
J18A	Kendall Valley	73.07	330	⇑P	P	06 18 09.3	+0.1	
	baz=73,SNR=8.3							
K17A	Gardner Place,	73.15	329	⇓P	P	06 18 10.1	+0.4	
	baz=73							
I19A	Meeteetse	73.23	331	⇓P	P	06 18 10.3	+0.2	
	baz=74							
E24A	Baker	73.26	335	⇑P	P	06 18 10.5	+0.5	
	baz=74							
L15A	Malad City	73.32	328	⇑P	P	06 18 10.9	+0.3	
	baz=74,SNR=6.4							
I18A	Diamond G Ranc	73.35	330	⇑P	P	06 18 11.4	+0.5	
	baz=74,SNR=5.2							
G21A	Lodge Grass	73.37	333	⇑P	P	06 18 10.8	+0.1	
	baz=74							
F22A	Rosebud	73.41	334	⇓P	P	06 18 11.0	0.0	
	baz=74							
J17A	Brown Place, J	73.51	330	⇓P	P	06 18 12.4	+0.6	
	baz=74							
K16A	Soda Springs	73.54	329	⇑P	P	06 18 12.6	+0.7	
	baz=74							
ULM	Lac du Bonnet	73.58	342	P	P	06 18 10.6	-1.1	
ULM	Lac du Bonnet	73.58	342	P	P	06 18 10.6	-1.1	
	comp=N,1.5nm,0.3s,baz=140,slow=5.7,SNR=6.5							
E23A	Ismay	73.60	335	⇓P	P	06 18 12.1	+0.1	
	baz=74							
H19A	Powell	73.71	331	⇓P	P	06 18 13.0	+0.2	
	baz=74							
L14A	Malta	73.77	327	⇓P	P	06 18 14.3	+1.1	
	baz=74							
G20A	Bridger	73.80	332	⇓P	P	06 18 13.4	+0.1	
	baz=74							
F21A	Absaloka Mine,	73.81	333	⇑P	P	06 18 13.9	+0.7	
	baz=74							
I17A	Pilgrim Ck.	73.87	330	⇓P	P	06 18 14.7	+0.9	
	baz=74							
J16A	Bone	73.88	329	⇑P	P	06 18 14.7	+0.8	
	baz=74							
K15A	Arbon	73.89	328	⇑P	P	06 18 14.6	+0.7	
	baz=74							
NVAR	Mina Array Bea	74.02	322	P	P	06 18 15.6	+0.7	
NVAR	Mina Array Bea	74.02	322	P	P	06 18 15.6	+0.7	
	comp=N,2.0nm,0.9s,baz=162,slow=6.9,SNR=9.9							
H18A	Shoshone NF, C	74.03	331	⇑P	P	06 18 15.1	+0.3	
	baz=74,SNR=7.2							
FLWY	Flagg Ranch	74.05	330	eP	P	06 18 15.8	+0.9	
	comp=N,8.4nm,0.9s							
D23A	Lindsay	74.11	335	⇓P	P	06 18 15.9	+0.9	
	baz=74							
K14A	Jones Ranch, D	74.11	328	⇓P	P	06 18 15.7	+0.5	
	baz=74							
I16A	Newdale	74.27	330	⇑P	P	06 18 17.1	+1.0	
	baz=74							
E21A	Keefer Ranch,	74.36	334	⇓P	P	06 18 17.1	+0.6	
	baz=75							
J15A	Blackfoot	74.37	329	⇓P	P	06 18 17.8	+1.1	
	baz=75							
D22A	Cohagen	74.48	335	⇑P	P	06 18 17.8	+0.7	
	baz=75,SNR=5.6							
F19A	Roth Farm, Mol	74.62	332	⇓P	P	06 18 18.1	+0.1	
	baz=75							
C23A	Lambert	74.62	336	⇓P	P	06 18 18.4	+0.5	
	baz=75							
E20A	Meyer Farm, Mu	74.77	333	⇓P	P	06 18 19.5	+0.7	
	baz=75							
H16A	Russell Place,	74.78	330	⇓P	P	06 18 20.3	+1.2	
	baz=75							
I15A	Monteview	74.84	329	⇓P	P	06 18 20.5	+1.1	
	baz=75							
C22A	Vida	74.84	335	⇑P	P	06 18 19.5	+0.3	
	baz=75							
J14A	Carey	74.85	328	⇑P	P	06 18 20.9	+1.4	
	baz=75							
F18A	Big Timber	75.00	332	⇓P	P	06 18 20.8	+0.6	
	baz=75,SNR=6.3							
E19A	Rath Farm, Rou	75.02	333	⇑P	P	06 18 20.8	+0.5	
	baz=75,SNR=6.6							
B23A	Brockton	75.08	336	⇑P	P	06 18 21.1	+0.5	
	baz=75							
A24A	Westby	75.09	337	⇓P	P	06 18 21.0	+0.4	
	baz=75							
J13A	Cove Ranch, Pi	75.23	328	⇑P	P	06 18 22.7	+1.0	
	baz=76							
D20A	Manuel Ranch,	75.24	334	⇑P	P	06 18 21.8	+0.3	
	baz=76							
I14A	Mackay	75.26	328	⇑P	P	06 18 23.2	+1.3	
	baz=76							
B22A	Reddig Ranch S	75.34	335	⇑P	P	06 18 22.7	+0.6	
	baz=76							
C21A	Desert Coulee	75.39	335	⇑P	P	06 18 22.7	+0.4	
	baz=76							
F17A	Fitzpatrick Pl	75.42	331	⇑P	P	06 18 23.2	+0.6	
	baz=76							
G16A	Moss Hill, Enn	75.43	330	⇑P	P	06 18 23.3	+0.5	
	baz=76							
A23A	Redstone	75.45	336	⇑P	P	06 18 23.1	+0.5	
	baz=76							
HLID	Hailey	75.47	328	eP	P	06 18 24.2	+1.1	
	comp=N,3.6nm,0.9s							
HLID	Hailey	75.47	328	⇑P	P	06 18 24.4	+1.3	
	baz=76							
I13A	Wildhorse Cree	75.58	328	⇓P	P	06 18 25.1	+1.3	
	baz=76							
E18A	Harlowton	75.59	332	⇓P	P	06 18 24.3	+0.6	
	baz=76							
D19A	Cripps Ranch,	75.61	333	⇑P	P	06 18 23.9	+0.2	
	baz=76							
MCMT	McKenzie Canyo	75.63	329	eP	P	06 18 25.1	+1.1	
	comp=N,1.0nm,0.9s							
C20A	Veseth Ranch,	75.68	334	⇑P	P	06 18 24.0	0.0	
	baz=76							
G15A	Dillon	75.71	330	⇓P	P	06 18 25.5	+1.1	
	baz=76							
H14A	Leadore	75.72	329	⇓P	P	06 18 25.4	+0.8	
	baz=76							
A22A	Carney Farms,	75.87	336	⇓P	P	06 18 25.7	+0.7	
	baz=76,SNR=6.1							
E17A	Martinsdale	75.93	332	⇓P	P	06 18 26.4	+0.7	
	baz=76							
I12A	Atlanta	76.00	327	⇓P	P	06 18 27.6	+1.4	
	baz=76							
MFID	Camas Ranch	76.09	327	eP	P	06 18 27.6	+1.0	
	comp=N,2.6nm,1.0s							
MFID	Camas Ranch	76.09	327	⇓P	P	06 18 28.1	+1.6	
	baz=76							
H13A	Challis	76.12	328	⇓P	P	06 18 27.9	+1.2	
	baz=76							
C19A	Slack Wire Ran	76.13	333	⇑P	P	06 18 27.0	+0.4	
	baz=76							
F15A	Butte	76.21	330	⇓P	P	06 18 28.0	+0.7	
	baz=76							
B20A	Solberg Farm,	76.26	334	⇑P	P	06 18 27.6	+0.3	
	baz=76							
A21A	Bergtoll Ranch	76.26	335	⇓P	P	06 18 28.0	+0.7	
	baz=76							
D17A	Six Diamond Ra	76.38

E14A	**Clinton** baz=77	**77.11**	**330**	⇑P	**P**	**06 18 33.1**	**+0.9**
D15A	**Lincoln** baz=77	**77.12**	**331**	⇑P	**P**	**06 18 33.3**	**+1.0**
B17A	**L&G Farms, Che** baz=78	**77.31**	**333**	⇓P	**P**	**06 18 33.0**	**-0.1**
C16A	**Fuhringer Ranc** baz=78	**77.34**	**332**	⇓P	**P**	**06 18 33.9**	**+0.4**
A18A	**Metzger Ranch,** baz=78	**77.39**	**334**	⇑P	**P**	**06 18 33.5**	**-0.1**
E13A	**Victor** baz=78	**77.45**	**330**	⇓P	**P**	**06 18 35.3**	**+1.2**
F12A	**Elk City** baz=78	**77.47**	**329**	⇓P	**P**	**06 18 35.4**	**+1.2**
D14A	**Greenough** baz=78	**77.60**	**331**	⇑P	**P**	**06 18 35.9**	**+0.9**
MSO	**Missoula** baz=78	**77.62**	**330**	⇑P	**P**	**06 18 36.8**	**+1.8**
C15A	**Salmond Ranch,** baz=78	**77.71**	**332**	⇓P	**P**	**06 18 36.8**	**+1.3**
A17A	**Triple J Farms** baz=78	**77.76**	**333**	⇑P	**P**	**06 18 36.2**	**+0.5**
BMO	**Blue Mountains** comp=N,4.5nm,0.9s	**77.86**	**327**	*eP*	**P**	**06 18 37.3**	**+0.9**
D13A	**Huson** baz=78	**78.06**	**330**	⇑P	**P**	**06 18 38.6**	**+1.2**
B15A	**Bradely Ranch,** baz=78	**78.09**	**332**	⇓P	**P**	**06 18 37.8**	**+0.3**
E12A	**Beaver Dam Sad** baz=78	**78.09**	**329**	⇑P	**P**	**06 18 38.5**	**+0.8**
A16A	**West Butte Ran** baz=78	**78.15**	**333**	⇓P	**P**	**06 18 38.9**	**+1.0**
C14A	**Swan Lake** baz=78	**78.22**	**331**	⇑P	**P**	**06 18 39.1**	**+0.8**
B14A	**Marquette Ranc** baz=79	**78.44**	**332**	⇑P	**P**	**06 18 40.3**	**+0.7**
D12A	**Red Ives Fores** baz=79	**78.45**	**330**	⇑P	**P**	**06 18 40.3**	**+0.7**
C13A	**Hot Springs** baz=79	**78.53**	**331**	⇑P	**P**	**06 18 41.1**	**+1.1**
A15A	**Johnson Ranch,** baz=79	**78.66**	**332**	⇓P	**P**	**06 18 40.5**	**-0.2**
BSMT	**Bassoo Peak**	**78.76**	**331**	*eP*	**P**	**06 18 42.2**	**+0.9**
A14A	**Double T Ranch** baz=79	**78.96**	**332**	⇑P	**P**	**06 18 42.5**	**+0.2**
C12B	**Naegeli Ranch,** baz=79	**78.98**	**330**	⇓P	**P**	**06 18 43.6**	**+1.2**
B13A	**Whitefish** baz=79	**78.99**	**331**	⇓P	**P**	**06 18 43.4**	**+0.9**
WALA	**Waterton Lakes** comp=N,0.1nm,0.7s	**79.24**	**332**	*eP*	**P**	**06 18 44.0**	**+0.1**
A13A	**Flathead Natio** baz=80	**79.38**	**331**	⇓P	**P**	**06 18 45.8**	**+1.2**
C11A	**Tepee Creek (N** baz=80	**79.44**	**330**	⇑P	**P**	**06 18 45.6**	**+0.7**
B12A	**Libby** baz=80	**79.58**	**331**	⇓P	**P**	**06 18 46.6**	**+1.0**
A12A	**Yaak River Ran** baz=80	**79.94**	**331**	⇑P	**P**	**06 18 48.8**	**+1.2**
YKA	**Yellowknife Ar**	**89.47**	**341**	P	**P**	**06 19 34.9**	**-0.1**
YKA	**Yellowknife Ar** comp=N,4.9nm,0.6s,baz=134,slow=4.7,SNR=117	**89.47**	**341**	P	**P**	**06 19 34.9**	**-0.1**
STKA	**Stephens Creek**	**120.91**	**210**	PKP	**PKPdf**	**06 25 30.5**	**-0.4**
STKA	**Stephens Creek** comp=N,1.2nm,0.9s,baz=294,slow=5.9,SNR=3.1	**120.91**	**210**	PKP	**PKPdf**	**06 25 30.5**	**-0.4**
ASAR	**Alice Springs**	**131.44**	**208**	PKP	**PKPdf**	**06 25 51.1**	**-0.1**
ASAR	**Alice Springs** comp=N,0.7nm,0.5s,baz=144,slow=1.9,SNR=5.0	**131.44**	**208**	PKP	**PKPdf**	**06 25 51.1**	**-0.1**
WRA	**Warramunga Arr**	**134.44**	**211**	PKP	**PKPdf**	**06 25 56.8**	**-0.1**
WRA	**Warramunga Arr** comp=N,0.9nm,0.4s,baz=160,slow=1.8,SNR=7.3	**134.44**	**211**	PKP	**PKPdf**	**06 25 56.8**	**-0.1**
ZALV	**Zalesovo Beam**	**140.37**	**24**	PKP	**PKPdf**	**06 26 07.7**	**+0.9**
ZALV	**Zalesovo Beam** comp=N,0.5nm,0.4s,baz=307,slow=3.7,SNR=4.0	**140.37**	**24**	PKP	**PKPdf**	**06 26 07.7**	**+0.9**
MKAR	**Makanchi Array**	**144.23**	**34**	PKP	**PKPdf**	**06 26 14.2**	**+0.3**
MKAR	**Makanchi Array** comp=N,0.6nm,0.7s,baz=318,slow=1.6,SNR=4.1	**144.23**	**34**	PKP	**PKPdf**	**06 26 14.2**	**+0.3**
USRK	**Ussuriysk Arra** comp=N,1.2nm,0.7s,baz=157,slow=1.0,SNR=2.7	**149.93**	**329**	PKP	**PKPdf**	**06 26 20.9**	**-2.5**
USRK	comp=N,3.3nm,0.9s,baz=181,slow=3.8,SNR=6.1			PKPbc	**PKPbc**	**06 26 28.4**	**0.0**
MJAR	**Matsushiro Arr**	**150.85**	**311**	PKPbc	**PKPbc**	**06 26 29.9**	**-0.9**
MJAR	**Matsushiro Arr** comp=N,3.6nm,0.8s,baz=91,slow=2.2,SNR=5.7	**150.85**	**311**	PKPbc	**PKPbc**	**06 26 29.9**	**-0.9**
SONM	**Songino Array**	**151.69**	**7**	PKPbc	**PKPbc**	**06 26 32.8**	**+0.2**
SONM	**Songino Array** comp=N,4.0nm,0.7s,baz=298,slow=1.4,SNR=12	**151.69**	**7**	PKPbc	**PKPbc**	**06 26 32.8**	**+0.2**

*FUNV **20** 06:07:29.2,6.78N×73.13W,h172km,MW3.6*
*ISCJB **20** 06:07:30.8±1.1,7.03N±0.09×72.88W±0.08,h183km±7km, mb3.5/6, Error ellipse: s-maj=15.9km s-min=11.6km az=31.2*
*IDC **20** 06:08:06.0±7.5,8.50N×73.83W,h410km±85km,mb3.0/6, mb1 3.3/7,mb1mx3.1/22,mbtmp3.1/7, Error ellipse: s-maj=88.8km s-min=30.0km az=27.0*

ISC 20 06:07:31.1±1.4,7.0N±0.1×72.92W±0.09,h175km±9km,n25, σ0s75/29,mb3.5/6,10C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
CAPV	**Capacho**	**1.05**	**35**	⇑*iP*		**Pn**	**06 07 58.4**	**-0.6**
CAPV				*eS*		**Sn**	**06 08 19.8**	**-0.6**
VIGV	**El Vigia**	**2.39**	**40**	⇑*iP*		**Pn**	**06 08 13.5**	**+1.2**
VIGV				*eS*		**Sn**	**06 08 45.8**	**+1.5**
SOCV	**Socops**	**2.41**	**58**	⇑*eP*		**Pn**	**06 08 13.0**	**+0.5**
SOCV				*eS*		**Sn**	**06 08 44.9**	**+0.2**
ELOV	**Elorza**	**3.41**	**90**	⇑*eP*		**Pn**	**06 08 24.4**	**-0.2**
VIRV	**Villa del Rosa**	**3.52**	**8**	⇑*iP*		**Pn**	**06 08 25.1**	**-0.9**
VIRV				*eS*		**Sn**	**06 09 08.2**	**-0.8**
QARV	**Quebrada Arrib**	**3.97**	**36**	⇑*iP*		**Pn**	**06 08 32.7**	**+0.9**
CURV	**Curarigua**	**4.19**	**44**	⇑*eP*		**Pn**	**06 08 35.0**	**+0.4**
DABV	**Dabajuro**	**4.51**	**30**	*eP*		**Pn**	**06 08 39.0**	**+0.4**
DABV				*eS*		**Sn**	**06 09 29.7**	**-1.8**
TEPV	**Terepaima**	**4.72**	**51**	⇑*eP*		**Pn**	**06 08 41.7**	**+0.3**
SIQV	**Siquisique**	**4.76**	**40**	⇑*iP*		**Pn**	**06 08 42.1**	**+0.2**
BAUV	**El Baul**	**5.20**	**68**	⇑*eP*		**Pn**	**06 08 46.7**	**-1.0**
IMOV	**Isla Los Monje**	**5.69**	**20**	*eP*		**Pn**	**06 08 53.8**	**-0.2**
MONV	**Montecano**	**5.72**	**30**	*eP*		**Pn**	**06 08 54.1**	**-0.3**
TURV	**Turiamo**	**6.08**	**55**	*eP*		**Pn**	**06 08 59.3**	**+0.1**
MERV	**Las Mercedes**	**6.93**	**71**	*eP*		**Pn**	**06 09 09.7**	**-0.6**
BIRV	**Birongo**	**7.43**	**62**	*eP*		**Pn**	**06 09 16.4**	**-0.5**
CUPV	**Caopira**	**7.68**	**66**	*eP*		**Pn**	**06 09 19.5**	**-0.8**
PCRV	**Puerto La Cruz**	**8.78**	**68**	*eP*		**Pn**	**06 09 34.3**	**-0.5**
TEIG	**Tepich** 0.9nm,0.3s,baz=116,slow=16,SNR=6.8	**19.87**	**313**	P		**Pn**	**06 11 52.5**	**-0.1**
TXAR	**Lajitas Array** 0.3nm,0.4s,baz=125,slow=8.7,SNR=5.9	**36.50**	**311**	P		**P**	**06 14 19.9**	**0.0**
ULM	**Lac du Bonnet** 1.4nm,0.5s,baz=139,slow=9.9,SNR=4.2	**47.19**	**340**	P		**P**	**06 15 46.0**	**-0.1**
PDAR	**Pinedale Array** 0.3nm,0.5s,baz=130,slow=8.3,SNR=3.2	**48.06**	**324**	P		**P**	**06 15 53.6**	**+0.3**
NVAR	**Mina Array Bea** 0.3nm,0.7s,baz=106,slow=9.5,SNR=2.5	**151.50**	**314**	P		**P**	**06 16 19.9**	**+0.6**
YKA	**Yellowknife Ar** 0.7nm,0.5s,baz=133,slow=6.7,SNR=29	**63.17**	**340**	P		**P**	**06 17 40.5**	**+0.3**
TORD	**Torodi Ar. Bea** 5.0nm,0.9s,baz=251,slow=5.3,SNR=6.6	**73.51**	**78**	P		P	06 18 59.4	+14

*MAN **20** 06:17:04,16.17N×119.52E,h0km,mb4.7,ML3.6,MS3.6*
*ISCJB **20** 06:17:06.0±0.5,16.11N±0.06×119.50E±0.05,h43km, mb3.9/10,MS3.5/4, Error ellipse: s-maj=9.0km s-min=7.5km az=11.3*
*IDC **20** 06:17:11.3±2.7,16.08N×119.69E,h84km±27km,mb3.7/10, mb1 3.8/12,mb1mx3.6/25,mbtmp3.7/12,MS3.5/6, Ms1 3.6/6,ms1mx3.2/29, Error ellipse: s-maj=32.7km s-min=14.0km az=61.0*

ISC 20 06:17:07.5±0.7,16.15N±0.06×119.55E±0.08,h43km,n25, σ2s01/21,mb4.0/10,MS3.4/4,2C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
BOLP	**Bolinao**	**0.41**	**57**	*eP*		Pn	06 17 12.3	-5.0
BOLP				*eS*		**Sn**	**06 17 19.4**	**-4.8**
SCZP	**Santa Cruz**	**0.51**	**137**	*eP*		Pn	06 17 15.3	-3.2
BCPH	**Baguio City Da**	**1.02**	**77**	⇑*iP*		Pn	06 17 22.0	-3.4
BCPH				*iS*		**Sn**	**06 17 38.8**	**+0.2**
PCPH	**Palayan**	**1.60**	**111**	⇓*eP*		**Pn**	**06 17 32.9**	**-0.3**
ABRA	**Dolores**	**1.86**	**37**	*eP*		**Pn**	**06 17 37.2**	**+0.4**
BALP	**Baler**	**1.99**	**102**	*eP*		**Pn**	**06 17 40.2**	**+1.5**
CAUP	**Cauayan**	**2.32**	**70**	*eP*		**Pn**	**06 17 45.0**	**+1.9**
TGY	**Tagaytay City** 135nm,0.3s,baz=169,slow=2.4,SNR=9.3	**2.44**	**147**	P		**Pn**	**06 17 47.5**	**+2.6**
TGY				*S*		Sn	06 18 21.4	+7.9
LUBP	**Lubang**	**2.50**	**164**	*eP*		**Pn**	**06 17 47.0**	**+1.4**
CVP	**Callao Caves**	**2.67**	**54**	⇑*eP*		**Pn**	**06 17 48.5**	**+0.6**
CVP				*iS*		**Sn**	**06 18 24.0**	**+5.0**
PALP	**Palanan**	**2.90**	**71**	*eP*		Pn	06 17 44.1	-7.1
JNU	**Nakatsue** comp=Z,101nm,18.1s,baz=237,slow=38	**19.76**	**29**	LR		LR	06 29 40.7	
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=93,slow=9.0,SNR=4.7	**19.81**	**280**	P		**Pn**	**06 21 37.1**	**+0.8**
CMAR	comp=Z,110nm,18.4s,baz=95,slow=37			LR		LR	06 29 35.8	
KSRS	**Korea Array** comp=Z,93nm,19.5s,baz=160,slow=39	**22.47**	**18**	LR		LR	06 31 52.8	
GUMO	**Guam** comp=Z,89nm,19.9s,baz=107,slow=35	**24.60**	**93**	LR		LR	06 31 26.5	
SONM	**Songino Array** 1.2nm,0.7s,baz=162,slow=11,SNR=8.1	**33.40**	**344**	P		**P**	**06 23 43.5**	**+1.5**
WRA	**Warramunga Arr** 3.2nm,0.7s,baz=337,slow=9.3,SNR=28	**38.70**	**157**	P		**P**	**06 24 25.8**	**-1.7**
ASAR	**Alice Springs** 2.8nm,0.6s,baz=334,slow=7.1,SNR=34	**41.99**	**160**	P		**P**	**06 24 53.6**	**-1.0**
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=113,slow=8.9,SNR=5.4	**43.41**	**323**	P		**P**	**06 25 06.1**	**+0.1**
KURBB	**Kurchatov Array** 0.9nm,0.3s,baz=121,slow=8.3,SNR=7.2	**47.55**	**325**	P		**P**	**06 25 39.2**	**+0.6**
STKA	**Stephens Creek** 0.9nm,0.5s,baz=333,slow=3.3,SNR=4.3	**52.23**	**156**	P		**P**	**06 26 13.2**	**-1.1**
STKA	comp=Z,54nm,19.9s,baz=24,slow=35			LR		LR	06 47 33.4	
ILAR	**Eielson Array** 0.3nm,0.5s,baz=264,slow=5.4,SNR=14	**77.04**	**26**	P		**P**	**06 28 54.9**	**-0.9**
FINES	**FINESS Array B** 1.0nm,0.7s,baz=72,slow=6.2,SNR=5.3	**77.61**	**331**	P		**P**	**06 28 59.0**	**0.0**
NOA	**NORSAR Array B** 0.6nm,0.7s,baz=67,slow=5.1,SNR=3.7	**84.58**	**332**	P		**P**	**06 29 35.8**	**-0.4**
NOA	comp=Z,47nm,18.2s,baz=55,slow=39			LR		LR	07 11 48.0	
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=317,slow=4.6,SNR=9.6	**90.94**	**22**	P		**P**	**06 30 06.0**	**-0.6**

*IDC **20** 06:21:11.0±2.1,6.73S×129.06E,h0km,mb3.5/1, mb1 4.1/4,mb1mx3.8/18,mbtmp3.9/4,ML4.1/3, Error ellipse: s-maj=79.7km s-min=28.4km az=76.0*
*DJA **20** 06:21:30.0±0.6,8°S-4°×12°9E-°,h114km±15km,M4.4/5, mB5.0/2,mb4.0/5,MLv4.6/3,Mw(mB)4.3/2*

ISC 20 06:21:26.6±1.1,7.58S±0.07×128.9E±0.1,h151km,n7, σ2s93/9,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
TLE	**Tual**	**4.31**	**64**	P		Pn	06 22 36.6	+5.6
FAKI	**Fak Fak** 20nm,1.3s,653nm0.1nm	**5.73**	**36**	P		**Pn**	**06 22 52.3**	**+2.5**
FAKI	20nm,1.3s,653nm0.1nm			*S*		**Sn**	**06 23 51.6**	**-3.2**
TNTI	**Ternate**	**8.43**	**350**	P		Px	06 24 36.1	
FITZ	**Fitzroy Crossi** 1.8nm,0.3s,baz=29,slow=10,SNR=55	**10.92**	**196**	Pn		**Pn**	**06 23 59.3**	**+0.5**
FITZ	0.9nm,0.3s,baz=274,slow=23,SNR=4.3			Sn		**Sn**	**06 25 57.5**	**-2.2**
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=339,slow=12,SNR=16	**13.39**	**157**	Pn		**P**	**06 24 33.4**	**-1.6**
WRA	1.4nm,0.3s,baz=332,slow=22,SNR=12			Sn		**Sn**	**06 26 56.7**	**-2.5**
ASAR	**Alice Springs** 0.8nm,0.3s,baz=339,slow=10,SNR=18	**16.72**	**164**	P		**Pn**	**06 25 16.4**	**+4.3**
ASAR	0.3nm,0.3s,baz=353,slow=28,SNR=5.3			*S*		**S**	**06 28 19.1**	**+1.2**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=126,slow=7.8,SNR=4.9	**68.09**	**327**	P		**P**	**06 32 08.9**	**-1.2**

*ISCJB **20** 06:23:29.9±0.5,39.13N±0.03×29.01E±0.03,h2km±6km, Error ellipse: s-maj=4.9km s-min=3.8km az=3.5*
*ISK **20** 06:23:29.8,39.14N×29.02E,h4km,MD3.0*
*DDA **20** 06:23:29.7,39.10N×29.03E,h9km,MD3.0*
*CSEM **20** 06:23:30.1±0.1,39.12N×29.01E,h2km,MD3.0, Error ellipse: s-maj=2.0km s-min=1.7km az=9.0*

ISC 20 06:23:30.3±1.1,39.13N±0.02×29.02E±0.02,h5km±10km, n60,σ0s39/77,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
DEMI	**Demirci**	**0.25**	**251**	*iP*		**Pg**	**06 23 35.4**	**+0.2**
DEMI				*iS*		**Sg**	**06 23 38.9**	**+0.3**
DEMI	**Demirci**	**0.25**	**251**	*iP*		**Pg**	**06 23 35.4**	**+0.2**
DEMI				*iS*		**Sg**	**06 23 38.9**	**+0.3**
GDZ	**Gediz**	**0.36**	**96**	*iP*		**Pg**	**06 23 37.1**	**-0.2**
GDZ				*iS*		**Sg**	**06 23 42.1**	**0.0**
GDZ	**Gediz**	**0.36**	**96**	*iP*		**Pg**	**06 23 37.1**	**-0.2**
GDZ				*iS*		**Sg**	**06 23 42.1**	**0.0**
TVSB	**Tavsanli**	**0.47**	**46**	*ePG*		**Pg**	**06 23 39.0**	**-0.4**
TVSB	**Tavsanli**	**0.47**	**46**	*ePg*		**Pg**	**06 23 39.0**	**-0.4**
DURS	**Dursunbey**	**0.64**	**318**	*iP*		**Pg**	**06 23 42.5**	**-0.1**
DURS				*iS*		**Sn**	**06 23 56.7**	**0.0**
DURS	**Dursunbey**	**0.64**	**318**	*iP*		**Pg**	**06 23 42.5**	**-0.1**
MANT	**Manisa**	**0.73**	**210**	*iP*		**Pg**	**06 23 43.7**	**-0.6**
MANT				*iS*		**Sg**	**06 23 53.4**	**-0.4**
MANT	**Manisa**	**0.73**	**210**	*iP*		**Pg**	**06 23 43.7**	**-0.6**
MANT				*iS*		**Sg**	**06 23 53.4**	**-0.4**
ALT	**Altintas**	**0.85**	**94**	*ePG*		**Pg**	**06 23 46.9**	**+0.2**
ALT				*eSG*		**Sb**	**06 23 59.2**	**-0.2**
ALT	**Altintas**	**0.85**	**94**	*ePg*		**Pg**	**06 23 46.9**	**+0.2**
ALT				*eSg*		**Sb**	**06 23 59.2**	**-0.2**
KHL	**Karahalli**	**0.89**	**154**	*ePG*		**Pg**	**06 23 47.6**	**+0.2**
KHL	**Karahalli**	**0.89**	**154**	*ePg*		**Pg**	**06 23 47.6**	**+0.2**
ORLT	**Orhaneli**	**0.92**	**354**	*ePG*		**Pg**	**06 23 47.9**	**-0.2**
ORLT				*eSG*		**Sb**	**06 24 01.0**	**-0.5**
ORLT	**Orhaneli**	**0.92**	**354**	*ePg*		**Pg**	**06 23 47.9**	**-0.2**
ORLT				*eSg*		**Sb**	**06 24 01.0**	**-0.5**
AKS	**Akhisar**	**0.97**	**256**	*ePG*		**Pg**	**06 23 49.0**	**0.0**
AKS	**Akhisar**	**0.97**	**256**	*ePg*		**Pg**	**06 23 49.0**	**0.0**
ULDT	**Uludag**	**1.02**	**5**	*iP*		**Pg**	**06 23 49.4**	**-0.5**
ULDT				*iS*		**Sg**	**06 24 03.2**	**+0.1**
ULDT	**Uludag**	**1.02**	**5**	*iP*		**Pg**	**06 23 49.4**	**-0.5**
ULDT				*iS*		**Sg**	**06 24 03.2**	**+0.1**
BALB	**Balikesir**	**1.02**	**301**	*ePG*		**Pg**	**06 23 50.0**	**+0.1**
BALB	**Balikesir**	**1.02**	**301**	*ePg*		**Pg**	**06 23 50.0**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*ePN*		**Pg**	**06 23 54.1**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*ePn*		**Pg**	**06 23 54.1**	**-0.1**
CAVI	**Cavuskoy**	**1.25**	**30**	*ePN*		**Pg**	**06 23 54.3**	**0.0**
CAVI	**Cavuskoy**	**1.25**	**30**	*ePn*		**Pg**	**06 23 54.3**	**0.0**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*ePN*		**Pg**	**06 23 53.9**	**-0.4**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*ePn*		**Pg**	**06 23 53.9**	**-0.4**
SHUT	**Suhut-Afyon**	**1.32**	**115**	*ePN*		**Pn**	**06 23 55.0**	**-0.6**
SHUT	**Suhut-Afyon**	**1.32**	**115**	*ePn*		**Pn**	**06 23 55.0**	**-0.6**
BORA	**Eskisehir**	**1.34**	**55**	*iP*		**Pn**	**06 23 55.1**	**-0.7**
BORA				*iS*		**Sb**	**06 24 13.5**	**0.0**
BORA	**Eskisehir**	**1.34**	**55**	*iP*		**Pn**	**06 23 55.1**	**-0.7**
BORA				*iS*		**Sb**	**06 24 13.5**	**0.0**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*ePN*		**Pn**	**06 23 56.2**	**0.0**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*ePn*		**Pn**	**06 23 56.2**	**0.0**
ADVT	**Abdulvahap**	**1.42**	**23**	*ePN*		**Pn**	**06 23 57.0**	**+0.2**
ADVT	**Abdulvahap**	**1.42**	**23**	*ePn*		**Pn**	**06 23 57.0**	**+0.2**
ARMT	**Armutlu**	**1.44**	**355**	*ePN*		**Pn**	**06 23 57.2**	**+0.1**
ARMT	**Armutlu**	**1.44**	**355**	*ePn*		**Pn**	**06 23 57.2**	**+0.1**
ESKT	**Eskisehir**	**1.47**	**74**	*ePN*		**Pn**	**06 23 58.0**	**+0.4**
ESKT	**Eskisehir**	**1.47**	**74**	*ePn*		**Pn**	**06 23 58.0**	**+0.4**
SEYT	**Eskypehyr**	**1.47**	**74**	*iP*		**Pn**	**06 23 57.7**	**+0.1**
SEYT				*iS*		**Sn**	**06 24 17.2**	**-0.1**
SEYT	**Eskypehyr**	**1.47**	**74**	*iP*		**Pn**	**06 23 57.7**	**+0.1**
SEYT				*iS*		**Sn**	**06 24 17.2**	**-0.1**
EDC	**Edincik**	**1.51**	**324**	*ePN*		**Pn**	**06 23 58.3**	**+0.3**
EDC	**Edincik**	**1.51**	**324**	*ePn*		**Pn**	**06 23 58.3**	**+0.3**
GPA	**Golpazari**	**1.53**	**40**	*ePN*		**Pn**	**06 23 58.5**	**+0.2**
GPA	**Golpazari**	**1.53**	**40**	*ePn*		**Pn**	**06 23 58.5**	**+0.2**
GULT	**Gulveren**	**1.74**	**41**	*ePN*		**Pn**	**06 24 01.9**	**+0.6**
GULT	**Gulveren**	**1.74**	**41**	*ePn*		**Pn**	**06 24 01.9**	**+0.6**
HRT	**Hereke**	**1.77**	**16**	*ePN*		**Pn**	**06 24 01.6**	**+0.1**
HRT	**Hereke**	**1.77**	**16**	*ePn*		**Pn**	**06 24 01.7**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.97**	**80**	*ePN*		**Pn**	**06 24 05.0**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.97**	**80**	*ePn*		**Pn**	**06 24 05.0**	**+0.6**
SILT	**Sile**	**2.08**	**13**	*ePN*		**Pn**	**06 24 06.1**	**+0.3**
SILT	**Sile**	**2.08**	**13**	*ePn*		**Pn**	**06 24 06.1**	**+0.3**
CTKS	**Kestanelik-??a**	**2.15**	**350**	*ePN*		**Pn**	**06 24 07.5**	**+0.8**
CTKS	**Kestanelik-??a**	**2.15**	**350**	*ePn*		**Pn**	**06 24 07.5**	**+0.8**
MDUB	**Mudurnu**	**2.15**	**51**	*ePN*		**Pn**	**06 24 07.7**	**+0.8**
MDUB	**Mudurnu**	**2.15**	**51**	*ePn*		**Pn**	**06 24 07.7**	**+0.8**
KIZT	**Kizilcal**	**2.24**	**95**	*ePN*		**Pn**	**06 24 09.1**	**+0.9**
KIZT	**Kizilcal**	**2.24**	**95**	*ePn*		**Pn**	**06 24 09.1**	**+0.9**

*CASC **20** 06:31:49.7±2.4,7.20N×82.29W,h0km±13km,MD4.0*
*IDC **20** 06:31:57.0±5.6,8.29N×81.92W,h0km,mb3.8/5,mb1 4.1/6, mb1mx3.8/21,mbtmp3.8/6,ML4.4/1,MS3.1/2,Ms1 3.1/2, ms1mx2.8/28,Error ellipse: s-maj=136.3km s-min=45.0km az=13.0*

ISC 20 06:31:50.8±4.2,7.4N±0.2×81.91W±0.06,h3km±20km,n19, σ1s44/17,mb3.9/5,2C-1D,Panama

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
TBS2		**1.61**	**333**	*eP*		**Pb**	**06 32 21.4**	**+0.1**
TBS2				*eS*		**Sb**	**06 32 42.9**	**+0.9**
BRU2	**Volcan**	**1.62**	**332**	*eP*		**Pn**	**06 32 18.9**	**-1.6**
BRU2				*eS*		**Sg**	**06 32 43.6**	**+0.5**
ACR	**Cerro Adams**	**1.79**	**316**	⇓*eP*		Pn	06 32 19.3	-3.4
BCIP	**Isla Barro Col**	**2.73**	**49**	*eP*		**Pb**	**06 32 40.7**	**+0.4**
BCIP				*eS*		**Sg**	**06 33 18.8**	**+0.2**
BUS	**Buena Vista**	**2.85**	**320**	*eP*		**Pn**	**06 32 35.8**	**-1.8**
UPIG		**2.86**	**55**	*eP*		Pg	06 32 50.9	+5.2
UPIG				*eS*		**Sn**	**06 33 11.1**	**-1.2**
QCR	**Quepos**	**3.03**	**313**	⇑*eP*		Pn	06 32 36.3	-3.4
LAJ	**Bijagual**	**3.31**	**319**	*eP*		**Pn**	**06 32 42.8**	**-1.0**
SJS	**Escuela Geolog**	**3.33**	**321**	⇑*eP*		**Pn**	**06 32 43.1**	**-0.8**
CGA2	**Cerro Gallo 2**	**3.66**	**316**	*eP*		**Pn**	**06 32 47.0**	**-1.4**
JTS	**JuntasAbangare** 33nm,0.3s,baz=131,slow=6.3,SNR=129	**4.19**	**314**	Pn		**Pn**	**06 32 52.7**	**-3.0**
JTS	2.7nm,0.3s,baz=312,slow=20,SNR=3.6			Sn		Sn	06 33 38.0	-7.1
TEIG	**Tepich** comp=Z,115nm,19.5s,baz=97,slow=38	**14.20**	**335**	LR		LR	06 40 25.4	
ATAH	**Atahualpa** comp=Z,48nm,19.3s,baz=315,slow=33	**14.82**	**166**	LR		LR	06 40 42.0	
PTP	**Ponta Puerca**	**19.20**	**54**	*eP*		x	06 32 11.1	
PTP				*eS*		x	06 32 28.3	
PDAR	**Pinedale Array** 0.5nm,0.8s,baz=141,slow=9.1,SNR=3.4	**42.85**	**330**	P		**P**	**06 39 51.0**	**+0.3**
ULM	**Lac du Bonnet** 2.7nm,0.6s,baz=171,slow=8.8,SNR=6.8	**44.32**	**347**	P		**P**	**06 40 01.1**	**-0.9**
NVAR	**Mina Array Bea** 0.9nm,0.6s,baz=134,slow=7.1,SNR=11	**45.10**	**319**	P		**P**	**06 40 10.6**	**+1.9**
YKA	**Yellowknife Ar** 0.6nm,0.6s,baz=136,slow=7.0,SNR=21	**59.98**	**343**	P		**P**	**06 41 59.0**	**+0.7**
ILAR	**Eielson Array** 0.4nm,0.6s,baz=111,slow=4.6,SNR=10	**72.86**	**336**	P		**P**	**06 43 21.7**	**+0.9**

IDC 20 06:41:48.4±2.6,13.03N×87.64W,h0km,mb3.5/4, mb1 3.7/5,mb1mx3.5/22,mbtmp3.5/5,ML2.6/1,Error ellipse: s-maj=89.5km s-min=29.9km az=51.0, Honduras

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
JTS	**JuntasAbangare** 0.4nm,0.3s,baz=329,slow=20,SNR=7.2	**3.78**	**136**	Pn		Pn	06 42 48.1	0.0
JTS	1.5nm,0.3s,baz=298,slow=17,SNR=3.5			Sn		Sn	06 43 26.6	-6.8
TXAR	**Lajitas Array** 0.6nm,0.7s,baz=142,slow=11,SNR=6.4	**22.02**	**320**	P		P	06 46 44.5	-0.1
ULM	**Lac du Bonnet** 1.4nm,0.6s,baz=163,slow=11,SNR=3.8	**37.73**	**351**	P		P	06 49 05.9	+0.2
FRB	**Frobisher Bay** 1.4nm,0.9s,baz=216,slow=10.0,SNR=4.5	**52.40**	**11**	P		P	06 51 02.1	-0.1
YKA	**Yellowknife Ar** 0.1nm,0.6s,baz=137,sl

comp=E,0.8nm,0.3s,baz=20,slow=13,SNR=14
OTAV Otavalo 24.46 330 eP P 07 49 51.1 +1.6
comp=E,6.8nm,0.7s
SDV Santo Domingo 30.43 352 eP P 07 50 41.3 -1.0
comp=E,9.2nm,0.6s
USHA Ushuaia 33.33 182 P P 07 51 05.6 -1.3
USHA Ushuaia 33.33 182 P P 07 51 05.6 -1.3
comp=E,2.4nm,0.4s,baz=88,slow=6.6,SNR=7.3
RCBR Riachuelo 33.60 67 eP P 07 51 10.2 +0.3
comp=E,17nm,0.7s
RCBR Riachuelo 33.60 67 P P 07 51 08.7 -1.2
comp=E,12nm,0.7s,baz=231,slow=12,SNR=16
GRGR Grenville 33.77 9 eP P 07 51 10.3 -0.8
comp=E,76nm,0.5s
SJG San Juan 39.35 1 eP P 07 52 00.3 +2.1
comp=E,18nm,0.8s
WVT Waverly 60.70 340 eP P 07 54 37.4 -0.7
comp=E,4.0nm,0.5s
531A Rocksprings 60.81 326 ⇓P P 07 54 40.2 +1.0
baz=61
431A Sonora 61.26 327 ⇑P P 07 54 42.8 +0.7
baz=62
628A Black Gap, Mar 61.52 324 ⇑P P 07 54 45.4 +1.5
baz=62
529A Stev Forest Ra 61.66 325 ⇑P P 07 54 45.7 +0.9
baz=62
430A Baggett Ranch, 61.67 326 ⇓P P 07 54 45.4 +0.5
baz=62
627A Terlingua Ranc 61.77 324 ⇑P P 07 54 46.3 +0.6
baz=62
TXAR Lajitas Array 61.83 323 P P 07 54 46.3 +0.2
TXAR Lajitas Array 61.83 323 P P 07 54 46.3 +0.2
comp=E,0.4nm,0.7s,baz=137,slow=7.9,SNR=4.7
429A Davenport Ranc 61.88 326 ⇑P P 07 54 47.3 +1.0
baz=62
528A Cox Ranch, San 61.99 325 ⇓P P 07 54 47.5 +0.4
baz=62
626A Big Bend Ranch 62.26 323 ⇓P P 07 54 49.3 +0.4
baz=62
428A Kincaid Ranch, 62.38 325 ⇑P P 07 54 50.7 +1.1
baz=63
329A Wagon Wheel Ra 62.61 326 ⇑P P 07 54 51.5 +0.4
baz=63
328A Wristen Ranch, 62.96 326 ⇑P P 07 54 54.0 +0.5
baz=63
426A McDonald Obser 63.06 324 ⇓P P 07 54 55.6 +1.3
baz=63
425A Indio Mountain 63.68 323 ⇓P P 07 54 59.1 +0.9
baz=64
128A Castleberry Fa 63.77 327 ⇑P P 07 54 58.9 +0.2
baz=64
325A Bean Ranch, Si 64.12 324 ⇓P P 07 55 02.0 +0.8
baz=64
Y29A Porterfield Fa 64.35 328 ⇑P P 07 55 02.9 +0.5
baz=65
324A Moseley Ranch, 64.45 324 ⇑P P 07 55 03.4 +0.1
baz=65
MNTX Cornudas Mount 64.59 324 ⇑P P 07 55 04.3 +0.3
baz=65
Z27A Tatum 64.69 327 ⇑P P 07 55 05.0 +0.3
baz=65
X29A Tulia 64.83 328 ⇑P P 07 55 06.2 +0.6
baz=65
125A Gardner Draw, 64.94 325 ⇓P P 07 55 06.7 +0.3
baz=65
224A Cornudas Mount 64.96 324 ⇑P P 07 55 06.9 +0.4
baz=65
MSTX Muleshoe 64.98 327 ⇓P P 07 55 07.4 +0.8
baz=65
Y27A Causey 65.11 327 ⇓P P 07 55 07.4 -0.1
baz=65
Z25A Roswell 65.45 325 ⇑P P 07 55 09.7 +0.1
baz=66
Z24A Sheeppen Canyo 65.83 325 ⇑P P 07 55 12.6 +0.5
baz=66
Y25A Mesa, Roswell 65.93 326 ⇑P P 07 55 13.2 +0.5
baz=66
X26A CR and CF Fran 65.97 327 ⇓P P 07 55 13.6 +0.6
baz=66
LIC Lamto 66.38 73 eP P 07 55 15.2 -0.6
comp=E,17nm,0.7s
LIC Lamto 66.38 73 eP P 07 55 15.2 -0.6
comp=E,17nm,0.7s
220A Playas Peak, P 66.52 322 ⇓P P 07 55 17.7 +1.2
baz=67
121A Cookes Peak, D 66.56 323 ⇓P P 07 55 18.3 +1.6
baz=67
319A Douglas 66.57 321 ⇓P P 07 55 18.6 +1.8
baz=67
Z22A Elephant Butte 66.64 324 ⇑P P 07 55 19.0 +1.8
baz=67
Y23A Lovelace Mesa, 66.66 325 ⇑P P 07 55 19.3 +1.9
baz=67
W25A X Bar L Ranch, 66.82 327 ⇓P P 07 55 19.3 +1.0
baz=67
V26A Tequesquite Ra 66.94 328 ⇑P P 07 55 19.8 +0.8
baz=67
V25A Rancho No Teng 67.39 327 ⇑P P 07 55 23.1 +1.2
baz=68
U26A Atchley Ranch, 67.39 328 ⇓P P 07 55 23.2 +1.2
baz=68
T27A Campo 67.43 329 ⇑P P 07 55 23.2 +1.1
baz=68
Z20A Nine Sixteen R 67.44 323 ⇑P P 07 55 24.1 +1.8
baz=68
CBKS Cedar Bluff 67.51 333 ⇑P P 07 55 23.8 +1.3
baz=68
V24A Rampart Ranch, 67.63 327 ⇓P P 07 55 25.0 +1.5
baz=68
ANMO Albuquerque 67.65 325 eP P 07 55 24.9 +1.3
comp=E,0.9nm,0.6s
U25A Circle Dot Ran 67.72 328 ⇑P P 07 55 25.2 +1.2
baz=68
T26A Comanche Natio 67.94 329 ⇑P P 07 55 26.7 +1.4
baz=68
X21A Alamocita Cree 67.98 324 ⇓P P 07 55 27.4 +1.7
baz=68
V23A Ortiz Mt. (NFS 68.12 326 ⇓P P 07 55 28.3 +1.8
baz=68
S26A Kim 68.23 329 ⇓P P 07 55 28.2 +1.1
baz=68
T25A Trinidad 68.31 328 ⇑P P 07 55 29.1 +1.5
baz=69
Y19A Nutrioso 68.44 323 ⇑P P 07 55 30.6 +2.0
baz=69
X20A Quemado 68.45 324 ⇓P P 07 55 30.4 +1.8
baz=69
T24A Torres, Weston 68.57 328 ⇓P P 07 55 31.6 +2.2
baz=69
V22A San Miguel Ran 68.62 326 ⇓P P 07 55 31.4 +1.7
baz=69
S25A Robets Cordova 68.73 329 ⇓P P 07 55 31.7 +1.5
baz=69
R26A Arlington 68.77 330 ⇓P P 07 55 31.6 +1.3
baz=69
S24A Houchin Ranch, 69.09 328 ⇓P P 07 55 34.6 +2.0
baz=69
SDCO Great Sand Dun 69.32 328 eP P 07 55 35.4 +1.4
comp=E,1.6nm,0.6s
SDCO Great Sand Dun 69.32 328 ⇑P P 07 55 35.6 +1.6
baz=70
X17A Forest Lakes 69.59 322 ⇓P P 07 55 37.9 +2.2
baz=70
V19A Window Rock 69.62 324 ⇑P P 07 55 38.0 +2.2
baz=70
T21A Navajo Lake 69.77 326 ⇓P P 07 55 38.4 +1.8
baz=70
R23A Moffat 69.83 328 ⇑P P 07 55 38.7 +1.6
baz=70
S22A 4UR Ranch, Cre 69.98 327 ⇑P P 07 55 39.6 +1.6
baz=70
X16A Lo Mia Camp, P 70.02 322 ⇓P P 07 55 40.2 +2.0
baz=70
P24A Kohler Place, 70.42 329 ⇑P P 07 55 42.6 +2.0
baz=71
T19A Beclabito 70.43 325 ⇓P P 07 55 42.3 +1.7
baz=71
MVCO Mesa Verde 70.44 326 ⇑P P 07 55 42.5 +1.7
baz=71
WUAZ Wupatki 70.77 323 ⇓P P 07 55 44.5 +1.9
baz=71
S20A Disappointment 70.83 326 ⇑P P 07 55 45.1 +2.0
baz=71
Q22A Crested Butte, 70.88 328 ⇑P P 07 55 46.2 +2.7
baz=71
R20A Redvale 71.11 326 ⇓P P 07 55 47.0 +2.2
baz=71,SNR=5.2
T18A Mexican Hat 71.12 325 ⇑P P 07 55 46.4 +1.7
baz=71,SNR=6.1
PV01 Paradox Valley 71.17 326 eP P 07 55 46.9 +1.8
S19A Harvey Farm, M 71.18 326 ⇓P P 07 55 46.5 +1.4
baz=72
P22A Eagle 71.37 328 ⇑P P 07 55 48.1 +1.8
baz=72
Y12C Blythe 71.38 319 ⇑P P 07 55 48.0 +1.8
baz=72
T17A Navajo Res., N 71.52 324 ⇓P P 07 55 49.4 +2.2
baz=72
S18A Hurst Farm, Bl 71.59 325 ⇓P P 07 55 49.4 +1.7
baz=72
SWSC Sam W. Stewart 71.61 318 ⇓P P 07 55 49.2 +1.7
baz=72
R19A Curley Farm, L 71.65 326 ⇑P P 07 55 49.4 +1.4
baz=72
P21A Newcastle 71.66 328 ⇑P P 07 55 49.7 +1.7
baz=72
O22A Kremmling 71.71 329 ⇑P P 07 55 50.3 +1.9
baz=72
BC3 Big Chuckawall 71.88 319 ⇓P P 07 55 51.1 +1.8
baz=72
W13A Hualapai Mount 71.92 321 ⇓P P 07 55 51.6 +2.0
baz=72
M24A Cheyenne 71.93 331 ⇑P P 07 55 51.3 +1.8
baz=72
U15A North Rim 71.94 323 ⇑P P 07 55 52.0 +2.2
baz=72
S17A Black Ridge (B 71.98 324 ⇑P P 07 55 52.2 +2.3
baz=72
R18A Canyonlands Na 72.05 326 ⇑P P 07 55 51.7 +1.4
baz=72
Q19A Hogan Spring (72.15 326 ⇓P P 07 55 52.8 +2.0
baz=72
BELC Belle Mtn. Jos 72.45 319 ⇑P P 07 55 54.8 +2.1
baz=73
S16A Weppner Ranch, 72.48 324 ⇑P P 07 55 54.6 +1.8
baz=73
R17A Hanksville Air 72.51 325 ⇓P P 07 55 54.8 +1.9
baz=73,SNR=5.5
P19A Cripple Cowboy 72.51 327 ⇓P P 07 55 54.7 +1.7
baz=73
GMRC Granite Mounta 72.77 319 ⇓P P 07 55 56.5 +1.9
baz=73
R16A Teasdale 72.83 325 ⇑P P 07 55 57.0 +2.1
baz=73
L23A Garrett 72.84 331 ⇓P P 07 55 57.3 +2.4
baz=73
SRU San Rafael 72.92 326 eP P 07 55 56.9 +1.5
comp=E,5.0nm,0.6s
SRU San Rafael 72.92 326 ⇑P P 07 55 57.3 +1.8
baz=73,SNR=5.6
N20A Spence Gulch, 73.06 328 ⇓P P 07 55 58.0 +1.7
baz=73
O19A Miners Draw (B 73.08 327 ⇑P P 07 55 58.1 +1.8
baz=73
Q16A Castle Valley 73.12 325 ⇓P P 07 55 58.6 +2.0
baz=73
P18A Preston Nutter 73.16 326 ⇑P P 07 55 58.9 +2.0
baz=73,SNR=6.9
R15A Junction 73.20 324 ⇓P P 07 55 59.1 +2.0
baz=74
CCUT Cedar City 73.34 323 eP P 07 56 00.2 +2.2
comp=E,5.2nm,0.9s
MVU Marysvale 73.38 324 eP P 07 56 00.4 +2.2
comp=E,19nm,1.7s
L21A Rawlins 73.50 330 ⇓P P 07 56 00.7 +1.9
baz=74
O18A Roosevelt 73.51 327 ⇓P P 07 56 00.4 +1.6
baz=74
O17A Robinson Place 73.83 326 ⇓P P 07 56 02.6 +1.9
baz=74
K21A Alcova 73.96 330 ⇓P P 07 56 03.1 +1.7
baz=74
L20A Wamsutter 73.99 329 ⇓P P 07 56 03.4 +1.7
baz=74
J22A Midwest 74.22 331 ⇓P P 07 56 04.9 +2.1
baz=74
EDW2 Edwards Air Fo 74.26 318 ⇓P P 07 56 05.0 +1.9
baz=74
M18A Lyman 74.40 328 ⇓P P 07 56 05.6 +1.6
baz=75
N17A Moffit Pass 74.43 327 ⇓P P 07 56 06.3 +2.0
baz=75,SNR=7.6
H24A Dirks Ranch, A 74.43 333 ⇑P P 07 56 04.5 +0.5
baz=75
K20A Yellowstone Ra 74.49 329 ⇓P P 07 56 05.8 +1.3
baz=75
L19A Farson 74.56 328 ⇓P P 07 56 06.9 +2.0
baz=75
I22A 9 Mile Ranch, 74.59 331 ⇑P P 07 56 06.1 +1.2
baz=75
J21A Lysite 74.60 330 ⇓P P 07 56 06.5 +1.4
baz=75
FURC Furnace Creek, 74.62 320 ⇑P P 07 56 07.0 +1.9
baz=75
MPMC Manual Prospec 74.73 319 ⇑P P 07 56 07.7 +1.7
baz=75
L18A Fontenelle, Gr 74.76 328 ⇑P P 07 56 07.8 +1.7
baz=75
G24A Alzada 74.84 333 ⇑P P 07 56 07.6 +1.3
baz=75
I21A Big Trails, Te 74.90 331 ⇑P P 07 56 07.8 +1.1
baz=75
J20A Shoshoni 74.91 330 ⇓P P 07 56 09.0 +2.2
baz=75
DUG Dugway 74.92 325 ⇑P P 07 56 08.8 +1.8
baz=75
ISA Isabella 75.07 319 eP P 07 56 10.0 +2.2
comp=E,3.5nm,0.7s
ISA Isabella 75.07 319 ⇓P P 07 56 09.8 +2.0
baz=75
MDND Maddock 75.08 338 ⇑P P 07 56 08.9 +1.4
baz=75
R11A Troy Canyon, C 75.15 322 ⇓P P 07 56 10.5 +2.2
baz=75
G23A Biddle 75.15 333 ⇑P P 07 56 09.3 +1.3
baz=76
BW06 Boulder Array 75.16 329 ⇑P P 07 56 09.5 +1.2
baz=76
PDAR Pinedale Array 75.16 329 P P 07 56 09.1 +0.8
PDAR Pinedale Array 75.16 329 P P 07 56 09.1 +0.8
comp=E,0.9nm,0.5s,baz=123,slow=7.8,SNR=10.0
F24A Ekalaka 75.27 334 ⇑P P 07 56 09.6 +0.9
baz=76
HWUT Hardware Ranch 75.29 327 eP P 07 56 10.2 +1.1
comp=E,2.0nm,0.6s
J19A Crowheart 75.29 329 ⇑P P 07 56 10.7 +1.7
baz=76
K18A Toltan Ranch, 75.30 328 ⇓P P 07 56 10.7 +1.6
baz=76
L17A Cokeville 75.30 328 ⇓P P 07 56 10.5 +1.3
baz=76
I20A Worland 75.39 330 ⇓P P 07 56 11.1 +1.6
baz=76
TORD Torodi Ar. Bea 75.39 69 P P 07 56 09.7 -0.3
TORD pP pP 07 57 03.9 +1.9
TORD Torodi Ar. Bea 75.39 69 P P 07 56 09.7 -0.3
comp=E,33nm,0.5s,baz=256,slow=5.5,SNR=359
TORD pP pP 07 57 03.9 +1.9
comp=E,3.0nm,0.8s,baz=252,slow=6.2,SNR=1.9
PKM Peak Mountain 75.42 317 ⇑P P 07 56 11.4 +1.5
baz=76
L16A Fish Haven 75.52 327 ⇓P P 07 56 12.1 +1.7
baz=76
VES Vestal, Richgr 75.56 318 ⇑P P 07 56 12.3 +1.8
baz=76
F23A Volborg 75.58 333 ⇓P P 07 56 11.7 +1.3
baz=76
M15A Larsen Ranch, 75.64 326 ⇑P P 07 56 12.9 +1.9
baz=76
J18A Kendall Valley 75.72 329 ⇓P P 07 56 12.9 +1.4
baz=76,SNR=8.9
E24A Baker 75.80 334 ⇑P P 07 56 13.0 +1.3
baz=76
K17A Gardner Place, 75.81 328 ⇓P P 07 56 13.4 +1.4
baz=76,SNR=5.6
I19A Meeteetse 75.85 330 ⇓P P 07 56 14.0 +1.8
baz=76
ULM Lac du Bonnet 75.95 341 eP P 07 56 12.3 0.0
comp=E,3.6nm,0.5s
ULM Lac du Bonnet 75.95 341 P P 07 56 12.4 0.0
comp=E,3.8nm,0.5s,baz=152,slow=6.2,SNR=13
I18A Diamond G Ranc 75.99 329 ⇓P P 07 56 14.6 +1.6
baz=76
L15A Malad City 76.00 327 ⇓P P 07 56 14.2 +1.1
baz=76
SCHQ Schefferville 76.00 360 P P 07 56 12.5 -0.1
SCHQ Schefferville 76.00 360 P P 07 56 12.5 -0.1
comp=E,2.9nm,0.6s,baz=159,slow=5.8,SNR=9.2
E23A Ismay 76.15 334 ⇓P P 07 56 15.1 +1.5
baz=76
J17A Brown Place, J 76.16 329 ⇓P P 07 56 15.0 +1.0
baz=76
K16A Soda Springs 76.20 328 ⇓P P 07 56 16.2 +2.0
baz=76
LOHW Long Hollow 76.30 329 eP P 07 56 16.0 +1.2
comp=E,2.3nm,0.6s
H19A Powell 76.33 330 ⇑P P 07 56 16.3 +1.5
baz=77
G20A Bridger 76.40 331 ⇓P P 07 56 16.4 +1.2
baz=77
L14A Malta 76.46 326 ⇑P P 07 56 17.4 +1.7
baz=77
I17A Pilgrim Ck. 76.51 329 ⇑P P 07 56 18.1 +2.1
baz=77
K15A Arbon 76.57 327 ⇓P P 07 56 17.8 +1.6
baz=77
H18A Shoshone NF, C 76.65 330 ⇑P P 07 56 18.3 +1.6
baz=77
NVAR Mina Array Bea 76.78 321 P P 07 56 19.1 +1.5
NVAR pP pP 07 57 13.9 +4.1
NVAR Mina Array Bea 76.78 321 P P 07 56 19.1 +1.5
comp=E,1.2nm,0.8s,baz=149,slow=5.2,SNR=11
NVAR pP pP 07 57 13.9 +4.1
comp=E,0.9nm,0.9s,baz=146,slow=4.6,SNR=3.5
RLMT Red Lodge 76.81 331 ⇓P P 07 56 19.5 +1.9
baz=77
LKWY Lake 76.91 330 eP P 07 56 20.9 +2.6
comp=E,4.5nm,0.9s
I16A Newdale 76.92 328 ⇓P P 07 56 19.9 +1.8
baz=77
D22A Cohagen 77.04 334 ⇓P P 07 56 20.5 +1.9
baz=77
J15A Blackfoot 77.04 328 ⇓P P 07 56 20.6 +1.8
baz=77
F19A Roth Farm, Mol 77.22 331 ⇑P P 07 56 21.3 +1.5
baz=78
DGMT Dagmar 77.30 335 ⇓P P 07 56 21.6 +1.6
baz=78
E20A Meyer Farm, Mu 77.36 332 ⇓P P 07 56 22.2 +1.7
baz=78
I15A Monteview 77.50 328 ⇑P P 07 56 23.8 +2.4
baz=78
J14A Carey 77.53 327 ⇑P P 07 56 23.9 +2.3
baz=78
F18A Big Timber 77.61 331 ⇓P P 07 56 23.9 +2.0
baz=78
B23A Brockton 77.61 335 ⇑P P 07 56 23.6 +1.9
baz=78
E19A Rath Farm, Rou 77.61 332 ⇓P P 07 56 23.3 +1.5
baz=78
D20A Manuel Ranch, 77.82 332 ⇑P P 07 56 24.4 +1.5
baz=78
J13A Cove Ranch, Pi 77.92 327 ⇓P P 07 56 25.7 +2.0
baz=78
I14A Mackay 77.93 327 ⇑P P 07 56 26.2 +2.4
baz=78
F17A Fitzpatrick Pl 78.04 330 ⇓P P 07 56 26.5 +2.2
baz=78
TSUM Tsumeb 78.04 106 eP P 07 56 26.1 +1.1
comp=E,13nm,0.7s
HLID Hailey 78.16 327 eP P 07 56 27.1 +2.0
comp=E,3.0nm,0.6s
HLID Hailey 78.16 327 ⇑P P 07 56 27.3 +2.2
baz=78,SNR=7.2
I13A Wildhorse Cree 78.26 327 ⇑P P 07 56 27.8 +2.1
baz=78
H14A Leadore 78.39 328 ⇓P P 07 56 28.5 +2.2
baz=79
A22A Carney Farms, 78.40 335 ⇓P P 07 56 27.9 +1.8
baz=79
E17A Martinsdale 78.55 331 ⇑P P 07 56 28.8 +1.7
baz=79
I12A Atlanta 78.69 326 ⇑P P 07 56 29.6 +1.7
baz=79
H13A Challis 78.79 327 ⇑P P 07 56 30.4 +2.0
baz=79,SNR=6.2
D17A Six Diamond Ra 78.99 331 ⇑P P 07 56 30.7 +1.2
baz=79
G13A Cobalt 79.16 328 ⇓P P 07 56 32.5 +2.1
baz=79,SNR=8.7
B19A Brinkman Farms 79.22 333 ⇓P P 07 56 31.9 +1.4
baz=80
F14A Wisdom 79.25 329 ⇓P P 07 56 32.8 +1.9
baz=80
D16A Dana Ranch, Ca 79.29 331 ⇓P P 07 56 33.0 +2.0
baz=80
A19A Klindworth Far 79.50 333 ⇑P P 07 56 33.1 +1.0
baz=80
B18A Beardsley Farm 79.53 332 ⇓P P 07 56 33.5 +1.2
baz=80
F13A Darby 79.70 328 ⇓P P 07 56 35.3 +2.0
baz=80
D15A Lincoln 79.75 330 ⇑P P 07 56 35.3 +1.8
baz=80
E13A Victor 80.10 329 ⇓P P 07 56 37.5 +2.1
baz=80
F12A Elk City 80.13 328 ⇑P P 07 56 37.5 +1.9
baz=80
D14A Greenough 80.23 330 ⇑P P 07 56 37.6 +1.4
baz=80
C15A Salmond Ranch, 80.32 331 ⇓P P 07 56 38.2 +1.6
baz=81,SNR=6.5
A17A Triple J Farms 80.34 332 ⇑P P 07 56 37.5 +1.0
baz=81
D13A Huson 80.70 329 ⇓P P 07 56 40.1 +1.6
baz=81
B15A Bradely Ranch, 80.70 331 ⇓P P 07 56 39.1 +0.6
baz=81
A16A West Butte Ran 80.74 332 ⇓P P 07 56 40.0 +1.2
baz=81
E12A Beaver Dam Sad 80.75 328 ⇓P P 07 56 40.3 +1.4
baz=81
C14A Swan Lake 80.85 330 ⇓P P 07 56 40.9 +1.6
baz=81
JTMT Jette 81.08 330 eP P 07 56 41.8 +1.2
D12A Red Ives Fores 81.10 329 ⇓P P 07 56 42.5 +1.8
baz=81
EVO Evora 81.14 43 eP P 07 56 40.7 -0.2
comp=E,4.2nm,0.5s
C13A Hot Springs 81.17 330 ⇑P P 07 56 42.5 +1.5
baz=82
BSMT Bassoo Peak 81.39 330 eP P 07 56 43.8 +1.4
A14A Double T Ranch 81.57 331 ⇓P P 07 56 44.2 +1.1
baz=82
BOSA Boshof 81.61 117 eP P 07 56 44.9 +0.9
comp=E,43nm,1.4s
BOSA Boshof 81.61 117 P P 07 56 44.6 +0.6
comp=E,13nm,0.6s,baz=254,slow=4.2,SNR=33
B13A Whitefish 81.62 330 ⇓P P 07 56 44.9 +1.6
baz=82
WALA Waterton Lakes 81.86 331 eP P 07 56 45.3 +0.7
A13A Flathead Natio 81.99 330 ⇓P P 07 56 46.8 +1.5
baz=82,SNR=8.5
C11A Tepee Creek (N 82.09 329 ⇓P P 07 56 46.9 +1.1
baz=82
B12A Libby 82.21 330 ⇓P P 07 56 47.7 +1.4
baz=82
HAWA Hanford 82.74 326 eP P 07 56 50.7 +1.6
comp=E,5.7nm,0.8s
LBTB Lobatse 83.12 114 eP P 07 56 52.8 +0.9
comp=E,27nm,1.3s
ESDC Sonseca Array 84.37 44 P P 07 56 58.2 +0.6
ESDC Sonseca Array 84.37 44 P P 07 56 58.2 +0.6
comp=E,1.6nm,0.7s,baz=248,slow=4.0,SNR=9.1
LSZ Lusaka 88.90 106 eP P 07 57 22.7 +2.5
comp=E,6.8nm,0.7s
QUIF Quistinic 89.42 37 eP P 07 57 21.6 0.0
ROSF Rostrenen 89.59 37 eP P 07 57 22.4 0.0
comp=E,7.3nm,0.7s
MFF Saint Martin d 90.45 39 eP P 07 57 26.0 -0.5
comp=E,8.4nm,0.7s
GRR Gorron 90.97 37 eP P 07 57 28.6 -0.3
comp=E,13nm,0.7s
LDF La Druitiere 91.50 38 eP P 07 57 31.2 -0.1
comp=E,6.2nm,0.6s
YKA Yellowknife Ar 91.88 340 P P 07 57 33.4 +0.7
YKA pP pP 07 58 29.3 +2.8
YKA Yellowknife Ar 91.88 340 P P 07 57 33.3 +0.7
comp=E,3.0nm,0.7s,baz=128,slow=4.5,SNR=83
YKA pP pP 07 58 29.3 +2.8
comp=E,2.6nm,0.8s,baz=133,slow=4.6,SNR=8.5
LOR Lormes 93.16 40 eP P 07 57 39.1 +0.1
ABKAR Akbulak array 129.72 43 ePKPdf PKPdf 08 03 34.8 +2.0
ASAR Alice Springs 130.86 205 PKP PKPdf 08 03 36.5 +0.6

ASAR				SKPbc	**SKPbc**	**08 06 39.0**	**-0.4**	
ASAR	**Alice Springs**	**130.86**	**205**	PKP	**PKPdf**	**08 03 36.5**	**+0.6**	
	comp=E,2.4nm,0.5s,baz=143,slow=2.3,SNR=17							
ASAR				SKPbc	**SKPbc**	**08 06 39.0**	**-0.4**	
	comp=E,1.6nm,0.7s,baz=140,slow=3.5,SNR=8.1							
WRA	**Warramunga Arr**	**133.99**	**208**	PKP	**PKPdf**	**08 03 42.7**	**+0.8**	
WRA				SKPbc	**SKPbc**	**08 06 51.0**	**+0.7**	
WRA	**Warramunga Arr**	**133.99**	**208**	PKP	**PKPdf**	**08 03 42.7**	**+0.8**	
	comp=E,2.3nm,0.5s,baz=154,slow=1.7,SNR=12							
WRA				SKPbc	**SKPbc**	**08 06 51.0**	**+0.7**	
	comp=E,1.6nm,0.7s,baz=152,slow=3.2,SNR=4.9							
ZALV	**Zalesovo Beam**	**141.03**	**27**	PKPpre	PKPpre	08 03 50.0		
ZALV				SKPbc	**SKPbc**	**08 07 09.3**	**-0.3**	
ZALV	**Zalesovo Beam**	**141.03**	**27**	PKhKP	PKPpre	08 03 50.0		
	comp=E,3.9nm,0.7s,baz=299,slow=3.7,SNR=6.9							
ZALV				SKPbc	**SKPbc**	**08 07 09.3**	**-0.3**	
	comp=E,2.2nm,0.8s,baz=291,slow=4.1,SNR=7.6							
AAK	**Ala-Archa**	**141.36**	**48**	PKP	**PKPdf**	**08 03 56.3**	**+1.5**	
AAK				*e*PKPdf	**PKiKP**	**08 03 56.6**	**-1.1**	
AAK	**Ala-Archa**	**141.36**	**48**	PKP	**PKPdf**	**08 03 56.3**	**+1.5**	
	comp=E,1.6nm,0.6s,baz=88,slow=5.9,SNR=5.3							
KSH	**Kashi**	**143.45**	**52**	*e*PKP	PKPbc	08 03 56.8	+0.3	
KSH				pPKP	pPKPdf	08 04 53.8	-1.3	
KSH				PP	**PP**	**08 07 14.3**	**+1.6**	
KSH				PKS	**PKSdf**	**08 07 32.5**	**-1.9**	
KSH				SKS	**SKSdf**	**08 10 42.6**	**-4.8**	
KSH				SKKS	**SKKSac**	**08 13 39.8**	**-3.7**	
KSH				SS	**SS**	**08 25 32.5**	**-3.6**	
KSH				AMB	AMB			
	comp=Z,82nm,5.8s							
KSH				LR	LR			
	comp=N,43nm,4.4s							
KSH				LR	LR			
	comp=E,36nm,4.9s							
KSH				LR	LR			
	comp=Z,240nm,5.5s							
MK31	**Makanchi Array**	**144.37**	**37**	*e*PKPdf	**PKPdf**	**08 03 59.9**	**0.0**	
MKAR	**Makanchi Array**	**144.37**	**37**	*e*PKPdf	**PKPdf**	**08 03 59.8**	**-0.1**	
MKAR				SKPbc	**SKiKP**	**08 07 19.5**	**+0.7**	
MKAR	**Makanchi Array**	**144.37**	**37**	PKP	**PKPdf**	**08 03 59.8**	**-0.1**	
	comp=Z,21nm,0.8s,baz=315,slow=3.8,SNR=169							
MKAR				SKPbc	**SKiKP**	**08 07 19.5**	**+0.7**	
	comp=Z,0.8nm,0.7s,baz=321,slow=2.8,SNR=5.2							
WMQ	**Urumqi**	**149.20**	**38**	PKPbc	**PKPbc**	**08 04 13.4**	**+0.8**	
USRK	**Ussuriysk Arra**	**152.57**	**330**	PKPbc	**PKPbc**	**08 04 21.3**	**+1.0**	
	comp=Z,3.0nm,0.7s,baz=94,slow=1.2,SNR=6.7							
KAPI	**Kappang**	**152.93**	**194**	*e*PKPbc	**PKPbc**	**08 04 22.3**	**+0.4**	
KAPI				*e*PKPab	**PKPab**	**08 04 34.5**	**+0.7**	
SONM	**Songino Array**	**153.12**	**10**	PKP	**PKPdf**	**08 04 15.8**	**+1.7**	
SONM				PKPbc	**PKiKP**	**08 04 22.6**	**+0.9**	
SONM	**Songino Array**	**153.12**	**10**	PKP	**PKPdf**	**08 04 15.8**	**+1.7**	
	comp=Z,3.0nm,0.8s,baz=316,slow=0.9,SNR=19							
SONM				PKPbc	**PKiKP**	**08 04 22.6**	**+0.9**	
	comp=Z,5.4nm,0.7s,baz=317,slow=1.6,SNR=27							
HHC	**Hu-ho-hao-te**	**160.63**	**4**	*e*PKP	**PKPdf**	**08 04 21.4**	**-2.4**	
HHC				pPKP	**pPKPdf**	**08 05 17.0**	**-3.5**	
HHC				sPKP		08 05 40.8		
HHC				PP	**PP**	**08 08 51.0**	**+2.3**	
HHC				SKS	**SKSdf**	**08 11 03.1**	**-5.0**	
HHC				SKKS	**SKKSac**	**08 15 14.0**	**-2.5**	
HHC				SS	**SS**	**08 28 40.9**	**-1.0**	
HHC				AMB	AMB			
	comp=Z,250nm,7.5s							
BJI	**Beijing**	**161.34**	**353**	PKP	**PKPdf**	**08 04 24.8**	**+0.5**	
BJI				SS	SS	08 28 54.0	+5.0	
BJI				LR	LR			
	comp=N,250nm,14.4s							
BJI				LR	LR			
	comp=E,290nm,14.7s							
BJI				LR	LR			
	comp=Z,23nm,19.1s							
CMAR	**Chiang Mai Arr**	**166.14**	**100**	PKP	**PKPdf**	**08 04 30.0**	**+0.6**	
CMAR	**Chiang Mai Arr**	**166.14**	**100**	PKP	**PKPdf**	**08 04 30.0**	**+0.6**	
	comp=Z,0.5nm,0.3s,baz=276,slow=1.8,SNR=5.7							
KMI	**Kunming**	**169.61**	**68**	PKP	**PKPdf**	**08 04 32.0**	**+0.1**	
GYA	**Guiyang**	**172.15**	**50**	*e*PKP	**PKPdf**	**08 04 33.0**	**-0.1**	
GYA				pPKP	**pPKPdf**	**08 05 25.3**	**-4.7**	
GYA				sPKP		08 05 45.3		
GYA				PKPab	**PKPab**	**08 05 58.9**	**+1.0**	
GYA				PKS	**PKSdf**	**08 08 03.3**	**-2.3**	
GYA				PP	**PP**	**08 09 51.6**	**+2.4**	
GYA				AMB	AMB			
	comp=Z,70nm,8.3s							

IDC 20 07:57:44.3±2.2, 28°32N×140°39E, h433km±51km, mb2.9/3, mb1 2.9/4, mb1mx2.7/24, mbtmp3.0/4, Error ellipse: s-maj=222.0km s-min=65.7km az=21.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.00**	**127**	P	P	07 58 45.0	+1.6
	12nm,0.3s,baz=119,slow=21,SNR=7.0						
CBIJ				S	S	07 59 31.1	0.0
	10.0nm,0.3s,baz=286,slow=22,SNR=3.3						
SONM	**Songino Array**	**32.73**	**316**	P	P	08 03 39.5	+0.2
	0.5nm,0.4s,baz=126,slow=8.7,SNR=6.6						
MKAR	**Makanchi Array**	**48.47**	**309**	P	P	08 05 45.1	-0.6
	0.4nm,0.5s,baz=85,slow=11,SNR=5.0						
FINES	**FINESS Array B**	**76.15**	**333**	P	P	08 08 46.0	-0.1
	0.5nm,0.4s,baz=69,slow=6.3,SNR=5.2						

IDC 20 07:58:43.0±5.9, 6°93S×128°49E, h150km±57km, mb3.2/1, mb1 3.6/4, mb1mx3.3/18, mbtmp3.4/4, Error ellipse: s-maj=65.0km s-min=23.3km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.45**	**194**	P	Pn	08 01 23.5	+1.3
	0.5nm,0.3s,baz=39,slow=10,SNR=9.2						
FITZ				S	Sn	08 03 25.3	-3.5
	1.1nm,0.3s,baz=100,slow=20,SNR=5.9						
WRA	**Warramunga Arr**	**14.13**	**157**	P	Pn	08 01 55.6	-1.0
	0.2nm,0.3s,baz=336,slow=12,SNR=4.2						
WRA				S	Sn	08 04 25.8	-7.6
	0.5nm,0.3s,baz=335,slow=21,SNR=4.6						
ASAR	**Alice Springs**	**17.44**	**163**	P	Pn	08 02 37.8	+0.5
	0.7nm,0.3s,baz=340,slow=9.9,SNR=28						
ASAR				S	S	08 05 50.4	+0.1
	0.2nm,0.3s,baz=345,slow=25,SNR=5.3						
MKAR	**Makanchi Array**	**67.35**	**327**	P	P	08 09 21.8	-0.2
	0.3nm,0.4s,baz=133,slow=6.4,SNR=5.8						
MKAR				pP	PcP	08 09 46.9	-1.6
	0.4nm,0.5s,baz=121,slow=7.7,SNR=4.7						

NNC 20 08:23:16.4±4.6, 38°20N×69°17E, h0km, mb3.6, mpv3.2, 3C-2D, Error ellipse: s-maj=46.5km s-min=31.6km az=27.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.01**	**11**	⇑Pn	Pn	08 24 35.1	+2.3
	0.9nm,0.5s,baz=193,slow=13,SNR=8.9						
KK31				⇑Pg	Pg	08 24 49.1	-3.3
	3.8nm,0.7s,baz=191,slow=13,SNR=9.4						
KK31				⇓Lg	Lg	08 25 54.4	
	7.1nm,0.6s,baz=192,slow=28,SNR=6.8						
TKM2	**Tokmak 2**	**6.79**	**44**	⇑Pn	Pn	08 24 57.5	-0.1
	1.0nm,0.4s						
AB31	**Akbulak array**	**12.90**	**332**	Pn	Pn	08 26 23.9	+3.0
	0.2nm,0.3s,baz=159,slow=12,SNR=6.4						
AB31				⇓Sn	Sn	08 28 44.0	-1.2
	0.1nm,0.2s,baz=156,slow=24,SNR=2.7						

ISCJB ***20*** *08:58:40.8±1.0, 10°64N±0°.04×68°.83W±0°.03, h11km±7km, mb3.5/4, Error ellipse: s-maj=6.7km s-min=4.6km az=21.4*
FUNV ***20*** *08:58:41.2, 10°.68N×68°.82W, h2km, MW3.5*
IDC ***20*** *08:58:42.6±4.0, 11°.28N×68°.89W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.6/24, mbtmp3.5/4, Error ellipse: s-maj=149.8km s-min=31.6km az=21.0*

ISC 20 08:58:40.3±1.4, 10°.67N±0°.04×68°.84W±0°.03, h9km±10km, n17, σ0°56/27, mb3.6/4, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACV	**Jacura**	**0.41**	**1**	*e*P	**Pb**	**08 58 49.9**	**0.0**
JACV				*e*S	**Sb**	**08 58 55.6**	**-0.7**
SIQV	**Siquisique**	**0.95**	**269**	*e*P	**Pg**	**08 58 58.7**	**0.0**
SIQV				*e*S	**Sn**	**08 59 13.6**	**-0.1**
TURV	**Turiamo**	**1.01**	**103**	*e*S	**Sg**	**08 59 12.8**	**+0.1**
MONV	**Montecano**	**1.69**	**319**	*e*P	**Pn**	**08 59 10.6**	**+0.5**
MONV				*e*S	**Sb**	**08 59 33.4**	**+0.4**
QARV	**Quebrada Arrib**	**1.72**	**255**	*e*P	**Pb**	**08 59 12.0**	**-0.2**
QARV				*e*S	**Sg**	**08 59 35.6**	**-0.1**
DABV	**Dabajuro**	**1.78**	**278**	*e*P	**Pb**	**08 59 12.6**	**-0.7**
DABV				*e*S	**Sb**	**08 59 36.0**	**+0.2**
BAUV	**El Baul**	**1.89**	**155**	*e*P	**Pb**	**08 59 14.3**	**-0.7**
BAUV				*e*S	**Sb**	**08 59 38.8**	**0.0**
MERV	**Las Mercedes**	**2.87**	**119**	*e*P	**Pn**	**08 59 26.9**	**+0.5**
MERV				*e*S	**Sn**	**09 00 01.2**	**0.0**
VIGV	**El Vigia**	**3.08**	**234**	*e*P	**Pn**	**08 59 30.3**	**+1.0**
VIGV				*e*S	**Sn**	**09 00 07.2**	**+0.8**
SOCV	**Socops**	**3.10**	**220**	*e*P	**Pn**	**08 59 29.7**	**+0.2**
SOCV				*e*S	**Sn**	**09 00 07.2**	**+0.6**
VIRV	**Villa del Rosa**	**3.51**	**268**	*e*S	**Sn**	**09 00 16.5**	**-0.4**
ELOV	**Elorza**	**3.70**	**190**	*e*P	**Pn**	**08 59 38.5**	**+0.8**
ELOV				*e*S	**Sn**	**09 00 21.6**	**0.0**
CAPV	**Capacho**	**4.42**	**231**	*e*P	**Pn**	**08 59 48.1**	**+0.2**
CAPV				*e*S	**Sn**	**09 00 38.4**	**-1.2**
TXAR	**Lajitas Array**	**37.42**	**305**	P	P	**09 05 54.5**	**+0.3**
	0.5nm,0.9s,baz=132,slow=6.7,SNR=4.0						
PDAR	**Pinedale Array**	**47.70**	**319**	P	**P**	**09 07 17.8**	**+0.1**
	0.2nm,0.5s,baz=123,slow=11,SNR=3.8						
YKA	**Yellowknife Ar**	**61.23**	**338**	P	**P**	**09 08 54.8**	**-0.7**
	0.4nm,0.5s,baz=120,slow=6.9,SNR=9.1						
TORD	**Torodi Ar. Bea**	**68.86**	**80**	P	P	09 09 49.5	+3.5
	0.4nm,0.4s,baz=276,slow=6.8,SNR=4.6						

NIED ***20*** *09:17:00, 36°.00N×140°.10E, h74km, Mw4.2 Best double couple: M₀2.10000×10¹⁵ NP1:ϕs4.00000°, δ70.00000°, λ91.00000°. NP2:ϕs180.00000°, δ20.00000°, λ87.00000°.*
ISCJB ***20*** *09:17:19.1±0.4, 35°.95N×140°.04×140°.20E±0°.06, h76km±3km, mb4.3/32, Error ellipse: s-maj=8.2km s-min=5.5km az=157.9*
NEIC ***20*** *09:17:20.2±0.8, 35°.91N×140°.18E, h70km±6km, mb4.6/7, MW4.1(NIED), Error ellipse: s-maj=8.2km s-min=6.8km az=74.0*
NEIC Recorded [3 JMA] in Ibaraki and Tochigi; [2 JMA] in Chiba, Gumma, Saitama and Tokyo; [1 JMA] in Fukushima and Kanagawa.
JMA ***20*** *09:17:21.0±0.1, 35°.99N×140°.09E, h64km±1km, M4.4 Broadband fault plane solution: P waves. NP1: ϕs2.00000°, δ63.00000°, λ87.00000°. NP2:ϕs189.00000°, δ27.00000°, λ96.00000°. Principal axes: T Plg72.0000°, Azm264.0000°; N Plg3.0000°, Azm3.0000°; P Plg18.0000°, Azm94.0000°;*
JMA Felt III J1.
IDC ***20*** *09:17:22.2±1.2, 35°.85N×140°.05E, h88km±10km, mb3.8/22, mb1 4.0/26, mb1mx3.9/34, mbtmp3.8/26, MS3.2/1, Ms1 3.2/1, ms1mx2.2/42 Error ellipse: s-maj=15.4km s-min=6.9km az=66.0*

ISC 20 09:17:20.3±0.7, 35°97N±0°.05×140°19E±0°.05, h70km±6km, n82, σ1s05/92, mb4.3/32, 2C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.25**	**0**	⇑P	**Pn**	**09 17 31.2**	**0.0**
JYT				S	**Sn**	**09 17 38.6**	**-0.6**
TOK	**Tokyo**	**0.45**	**231**	P	**Pn**	**09 17 33.4**	**+0.7**
JAG	**Ashikaga**	**0.75**	**307**	⇓P	**Pn**	**09 17 35.4**	**-0.4**
JAG				S	**Sn**	**09 17 45.8**	**-1.4**
JRY	**Ryogami san**	**1.05**	**273**	⇓P	**Pn**	**09 17 38.9**	**-0.5**
JKT	**Katashina**	**1.10**	**316**	⇓P	**Pn**	**09 17 39.8**	**-0.4**
JOD2	**Odawara 2**	**1.14**	**232**	⇓P	**Pn**	**09 17 39.9**	**-0.8**
BSO3	**Boso 3**	**1.20**	**167**	⇑P	**Pn**	**09 17 41.2**	**+0.1**
JIM2	**Oshima 3**	**1.40**	**207**	P	**Pn**	**09 17 43.0**	**-1.0**
JYN	**Shimob**	**1.42**	**251**	⇓P	**Pn**	**09 17 44.0**	**-0.3**
BSO1	**Boso 1**	**1.47**	**154**	P	**Pn**	**09 17 45.1**	**+0.8**
MJAR	**Matsushiro Arr**	**1.70**	**290**	P	**Pn**	**09 17 47.4**	**-0.6**
MJAR				S	**Sn**	**09 18 10.3**	**+1.4**
MJAR	**Matsushiro Arr**	**1.70**	**290**	P	**Pn**	**09 17 47.4**	**-0.6**
	188nm,0.3s,baz=99,slow=8.2,SNR=1782						
MJAR				S	**Sn**	**09 18 10.3**	**+1.4**
	56nm,0.3s,baz=73,slow=17,SNR=8.5						
MAJO	**Matsushiro**	**1.70**	**290**	*i* Pn	**Pn**	**09 17 48.1**	**+0.1**
MAT	**Matsushiro**	**1.70**	**290**	P	**Pn**	**09 17 47.2**	**-0.8**
MAT				S	**Sn**	**09 18 08.5**	**-0.4**
JHJ	**Hachijo jima 2**	**2.87**	**187**	P	**Pn**	**09 18 04.5**	**+0.8**
	132nm,0.3s,baz=46,slow=9.4,SNR=19						
JHJ				S	**Sn**	**09 18 36.2**	**-0.9**
	162nm,0.3s,baz=61,slow=19,SNR=9.2						
JNU	**Nakatsue**	**8.19**	**252**	P	**Pn**	**09 19 17.1**	**+0.6**
JNU	**Nakatsue**	**8.19**	**252**	P	**Pn**	**09 19 17.1**	**+0.6**
	0.8nm,0.3s,baz=21,slow=13,SNR=7.4						
ASAJ	**Asahikawa**	**8.34**	**12**	P	**Pn**	**09 19 18.1**	**-0.3**
ASAJ				S	**Sn**	**09 20 47.8**	**-3.2**
ASAJ	**Asahikawa**	**8.34**	**12**	P	**Pn**	**09 19 18.1**	**-0.3**
	3.6nm,0.3s,baz=230,slow=12,SNR=17						
ASAJ				S	**Sn**	**09 20 47.8**	**-3.2**
	0.9nm,0.3s,baz=53,slow=18,SNR=2.8						
CBIJ	**Chichi jima**	**9.01**	**169**	P	**Pn**	**09 19 25.6**	**-2.1**
CBIJ				S	Sn	09 20 58.6	-9.0
CBIJ	**Chichi jima**	**9.01**	**169**	P	**Pn**	**09 19 25.6**	**-2.1**
	19nm,0.3s,baz=284,slow=22,SNR=5.8						
CBIJ				S	Sn	09 20 58.6	-9.0
	9.5nm,0.3s,baz=94,slow=19,SNR=3.4						
KSRS	**Korea Array**	**9.96**	**282**	P	**Pn**	**09 19 43.0**	**+2.5**
	0.8nm,0.3s,baz=96,slow=14,SNR=8.4						
KSRS				LR	LR	09 23 10.5	
	comp=Z,117nm,18.5s,baz=146,slow=35						
KSAR	**Wonju Array Be**	**9.99**	**282**	P	**Pn**	**09 19 43.0**	**+2.1**
USRK	**Ussuriysk Arra**	**10.33**	**325**	P	**Pn**	**09 19 48.3**	**+2.6**
	0.4nm,0.3s,baz=147,slow=12,SNR=12						
ENH	**Enshi**	**26.27**	**266**	*e*P	**P**	**09 22 47.8**	**-1.4**
	22nm,0.9s						
SONM	**Songino Array**	**27.59**	**306**	P	**P**	**09 22 59.8**	**-1.1**
SONM	**Songino Array**	**27.59**	**306**	P	**P**	**09 22 59.8**	**-1.1**
	1.1nm,0.6s,baz=106,slow=9.5,SNR=9.2						
CMAR	**Chiang Mai Arr**	**40.28**	**255**	P	**P**	**09 24 49.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**40.28**	**255**	P	**P**	**09 24 49.5**	**-1.2**
	0.6nm,0.4s,baz=46,slow=7.7,SNR=6.0						
LSA	**Lhasa**	**41.33**	**276**	*e*P	**P**	**09 25 00.8**	**+1.0**
	8.3nm,1.1s						
ZALV	**Zalesovo Beam**	**41.91**	**313**	P	**P**	**09 25 03.2**	**-0.5**
ZALV	**Zalesovo Beam**	**41.91**	**313**	P	**P**	**09 25 03.2**	**-0.5**
	4.6nm,0.6s,baz=93,slow=7.4,SNR=15						
MK31	**Makanchi Array**	**43.86**	**303**	*e*P	**P**	**09 25 19.6**	**0.0**
MKAR	**Makanchi Array**	**43.86**	**303**	P	**P**	**09 25 19.6**	**0.0**
MKAR	**Makanchi Array**	**43.86**	**303**	P	**P**	**09 25 19.6**	**0.0**
	5.7nm,0.9s,baz=88,slow=9.8,SNR=27						
KURK	**Kurchatov**	**45.82**	**309**	P	**P**	**09 25 35.1**	**+0.1**
KURBB	**Kurchatov Arra**	**45.88**	**309**	P	**P**	**09 25 35.1**	**-0.4**
	6.3nm,0.5s,baz=84,slow=7.8,SNR=30						
TKM2	**Tokmak 2**	**49.27**	**299**	*e*P	**P**	**09 26 02.6**	**+0.4**
	34nm,0.8s						
AAK	**Ala-Archa**	**50.13**	**299**	P	**P**	**09 26 07.6**	**-1.0**
AAK	**Ala-Archa**	**50.13**	**299**	P	**P**	**09 26 07.6**	**-1.0**
	0.9nm,0.4s,baz=76,slow=8.3,SNR=5.3						
BVAR	**Borovoye Array**	**50.56**	**313**	P	**P**	**09 26 11.2**	**-0.4**
BVAR	**Borovoye Array**	**50.56**	**313**	P	**P**	**09 26 11.2**	**-0.4**
	1.4nm,0.5s,baz=75,slow=7.0,SNR=9.4						
BRVK	**Borovoye**	**50.62**	**313**	*e*P	**P**	**09 26 14.6**	**+2.6**
	5.0nm,1.0s						
ILAR	**Eielson Array**	**50.91**	**32**	P	**P**	**09 26 15.2**	**+1.2**
ILAR	**Eielson Array**	**50.91**	**32**	P	**P**	**09 26 15.2**	**+1.2**
	1.9nm,0.7s,baz=269,slow=6.2,SNR=31						
FITZ	**Fitzroy Crossi**	**55.52**	**197**	P	**P**	**09 26 47.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**55.52**	**197**	P	**P**	**09 26 47.6**	**-0.6**
	3.9nm,1.0s,baz=4.5,slow=9.0,SNR=6.6						
WRAB	**Tennant Creek**	**55.88**	**187**	*e*P	**P**	**09 26 50.2**	**-0.6**
	1.8nm,0.4s						
WRA	**Warramunga Arr**	**55.88**	**187**	P	**P**	**09 26 50.2**	**-0.6**
WRA	**Warramunga Arr**	**55.88**	**187**	P	**P**	**09 26 50.2**	**-0.6**
	1.9nm,0.5s,baz=1.9,slow=7.5,SNR=85						
ABKAR	**Akbulak array**	**57.87**	**310**	*e*P	**P**	**09 27 04.5**	**-0.1**
	1.5nm,0.4s						
AKTO	**Aktyubinsk**	**58.65**	**312**	P	**P**	**09 27 10.2**	**0.0**
AKTO	**Aktyubinsk**	**58.65**	**312**	P	**P**	**09 27 10.2**	**0.0**
	1.7nm,0.6s,baz=76,slow=8.3,SNR=4.8						
ASAR	**Alice Springs**	**59.61**	**187**	P	**P**	**09 27 16.4**	**-0.5**
ASAR	**Alice Springs**	**59.61**	**187**	P	**P**	**09 27 16.4**	**-0.5**
	0.6nm,0.5s,baz=1.6,slow=7.3,SNR=16						
MBWA	**Marble Bar**	**60.03**	**202**	*e*P	**P**	**09 27 19.6**	**-0.3**
	5.7nm,0.6s						
KEV	**Kevo**	**64.08**	**339**	*e*p	**P**	**09 27 46.0**	**-0.4**
	5.8nm,0.8s						
ARCES	**ARCESS Array B**	**64.64**	**339**	P	**P**	**09 27 50.2**	**+0.2**
ARCES	**ARCESS Array B**	**64.64**	**339**	P	**P**	**09 27 50.2**	**+0.2**
	4.1nm,0.9s,baz=46,slow=7.9,SNR=12						
YKA	**Yellowknife Ar**	**65.22**	**30**	P	**P**	**09 27 54.7**	**+0.8**
	0.3nm,0.7s,baz=306,slow=6.6,SNR=9.1						
JOF	**Joensuu**	**66.43**	**332**	*e*p	**P**	**09 28 00.7**	**-1.0**
	1.3nm,0.3s						
FINES	**FINESS Array B**	**69.29**	**332**	P	**P**	**09 28 19.4**	**-0.3**
FINES	**FINESS Array B**	**69.29**	**332**	P	**P**	**09 28 19.4**	**-0.3**
	1.5nm,0.3s,baz=54,slow=7.2,SNR=8.0						
KBZ	**Khabaz**	**70.84**	**310**	P	**P**	**09 28 29.4**	**-0.1**
KBZ	**Khabaz**	**70.84**	**310**	P	**P**	**09 28 29.4**	**-0.1**
	5.0nm,1.3s,baz=90,slow=4.0,SNR=4.4						
AKASG	**Malin Array Be**	**74.53**	**322**	P	**P**	**09 28 50.8**	**-0.5**
AKASG	**Malin Array Be**	**74.53**	**322**	P	**P**	**09 28 50.8**	**-0.5**
	2.3nm,0.5s,baz=48,slow=6.1,SNR=8.4						
NOA	**NORSAR Array B**	**74.78**	**337**	P	**P**	**09 28 52.3**	**-0.3**
NOA	**NORSAR Array B**	**74.78**	**337**	P	**P**	**09 28 52.3**	**-0.3**
	1.3nm,0.8s,baz=39,slow=6.0,SNR=4.9						
NVAR	**Mina Array Bea**	**76.41**	**52**	P	**P**	**09 29 03.2**	**+0.6**
NVAR	**Mina Array Bea**	**76.41**	**52**	P	**P**	**09 29 03.2**	**+0.6**
	0.5nm,0.7s,baz=310,slow=4.6,SNR=4.7						
BRTR	**Keskin Array B**	**78.81**	**311**	P	**P**	**09 29 15.8**	**0.0**
BRTR	**Keskin Array B**	**78.81**	**311**	P	**P**	**09 29 15.8**	**0.0**
	1.0nm,0.7s,baz=91,slow=6.2,SNR=5.2						
PDAR	**Pinedale Array**	**79.11**	**45**	P	**P**	**09 29 18.7**	**+1.2**
PDAR	**Pinedale Array**	**79.11**	**45**	P	**P**	**09 29 18.7**	**+1.2**
	0.6nm,0.7s,baz=346,slow=2.2,SNR=5.3						
GVD	**Gavdhos**	**87.77**	**312**	*e*P	**P**	**09 30 01.7**	**0.0**
	395nm,0.6s						
TXAR	**Lajitas Array**	**91.55**	**52**	P	**P**	**09 30 21.1**	**+1.4**
TXAR	**Lajitas Array**	**91.55**	**52**	P	**P**	**09 30 21.1**	**+1.4**
	0.4nm,0.6s,baz=318,slow=2.6,SNR=8.4						
PMSA	**Palmer Station**	**147.71**	**161**	*e*PKPdf	**PKPdf**	**09 36 52.4**	**-0.6**
PMSA				*e*PKPbc	**PKPbc**	**09 36 55.0**	**-1.0**
PMSA				*e*PKPab	**PKiKP**	**09 36 57.3**	**-0.5**
LPAZ	**La Paz**	**148.08**	**60**	PKPbc	**PKPbc**	**09 36 59.6**	**+0.5**
LPAZ	**La Paz**	**148.08**	**60**	PKPbc	**PKPbc**	**09 36 59.6**	**+0.5**
	1.8nm,0.9s,baz=12,slow=6.5,SNR=5.6						

TIR ***20*** *09:41:29.6±1.0, 41°.40N×19°.54E, h31km±9km, ML2.9*
SKO ***20*** *09:41:31.2, 41°.37N×19°.45E, h0km*
CSEM ***20*** *09:41:32.2±0.5, 41°.47N×19°.55E, h2km, ML2.9, Error ellipse: s-maj=9.4km s-min=5.8km az=49.0*
BEO ***20*** *09:41:32.2±1.0, 41°.51N×19°.42E, h0km, ML2.3/4*

ISC 20 09:41:30.8±1.4, 41°48N±0°.04×19°46E±0°.04, h0km±11km, n23, σ1s07/44, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.33**	**114**	*i* PG	**Pg**	**09 41 37.3**	**+0.2**
TIR				*i* SG	**Sg**	**09 41 41.8**	**+0.4**
TIR	**Tirane**	**0.33**	**114**	*i* Pg	**Pg**	**09 41 37.3**	**+0.2**
	SNR=13						
TIR				*i* Sg	**Sg**	**09 41 41.8**	**+0.4**
	SNR=13						
PUK	**Puka**	**0.65**	**30**	*i* PG	**Pg**	**09 41 43.9**	**+0.7**
PUK				*i* SG	**Sb**	**09 41 54.9**	**+0.3**
PUK	**Puka**	**0.65**	**30**	*i* Pg	**Pg**	**09 41 43.9**	**+0.7**
	SNR=9.0						
PUK				*i* Sg	**Sb**	**09 41 54.9**	**+0.3**
	SNR=9.0						
PHP	**Peshkopia**	**0.76**	**74**	*i* PG	**Pg**	**09 41 44.9**	**-0.5**
PHP				*i* SG	**Sg**	**09 41 55.6**	**+0.4**
PHP	**Peshkopia**	**0.76**	**74**	*i* Pg	**Pg**	**09 41 44.9**	**-0.5**
	SNR=9.0						
PHP				*i* Sg	**Sg**	**09 41 55.6**	**+0.4**
	SNR=9.0						
BCI	**Bajram Curri**	**0.99**	**27**	*i* PG	**Pg**	**09 41 49.2**	**-0.6**
BCI	**Bajram Curri**	**0.99**	**27**	*i* Pg	**Pg**	**09 41 49.2**	**-0.6**
	SNR=9.0						
BIA	**Bitola**	**1.48**	**108**	*e*Pn	**Pn**	**09 41 58.2**	**-0.5**
BIA				*e*Sn	**Sg**	**09 42 18.4**	**+0.1**
BIA

KBK	**Karagaybulak**	**3.48**	**307**	P		**Pn**	**10 03 24.2**	**+0.7**	
	SNR=182								
UCH	**Uchtor**	**3.54**	**298**	P		**Pn**	**10 03 24.9**	**+0.2**	
	SNR=41								
AAK	**Ala-Archa**	**3.75**	**304**	*e*PN		**Pn**	**10 03 27.9**	**+0.7**	
AAK				*e*			10 04 22.5		
AAK	**Ala-Archa**	**3.75**	**304**	*e*Pn		**Pn**	**10 03 27.9**	**+0.7**	
AAK				Sn		**Sb**	**10 04 22.4**	**+0.5**	
AAK				*e*Sg		Sn	10 04 22.5	+12	
AAK	**Ala-Archa**	**3.75**	**304**	Pn		Pn	10 03 29.8	+2.6	
	comp=E,14μm,0.9s								
AAK	**Ala-Archa**	**3.75**	**304**	P		**Pn**	**10 03 28.2**	**+1.0**	
	SNR=984								
AAK	**Ala-Archa**	**3.75**	**304**	P		**Pn**	**10 03 28.6**	**+1.3**	
	SNR=126								
AAK	**Ala-Archa**	**3.75**	**304**	Pn		**Pn**	**10 03 28.4**	**+1.2**	
	comp=E,20nm,0.3s,baz=116,slow=14,SNR=106								
AAK				Sn		**Sb**	**10 04 22.4**	**+0.5**	
	comp=E,908nm,0.3s,baz=356,slow=19,SNR=18								
AAK				LR		LR	10 05 00.5		
	comp=E,11μm,18.0s,baz=112,slow=41								
FRU	**Bishkek**	**3.78**	**307**	⇑*e*PN		**Pn**	**10 03 28.5**	**+0.9**	
FRU				*i* S		**Sb**	**10 04 22.0**	**-0.7**	
FRU				pmax	pmax				
	comp=Z,14μm,1.8s								
FRU				smax	smax				
	comp=N,127μm,2.3s								
FRU				MLR	MLR				
	comp=E,120μm,7.0s								
CHMS	**Chumnysh**	**3.80**	**310**	P		**Pn**	**10 03 29.3**	**+1.5**	
	SNR=14								
AML	**Almayashu**	**4.07**	**294**	P		**Pn**	**10 03 31.9**	**+0.1**	
	SNR=168								
USP	**Ospenovka**	**4.11**	**312**	P		**Pn**	**10 03 33.2**	**+1.2**	
	SNR=43								
EKS2	**Erkin-Say**	**4.22**	**301**	*e*PN		**Pn**	**10 03 34.7**	**+1.0**	
EKS2				*e*			10 04 36.8		
EKS2	**Erkin-Say**	**4.22**	**301**	*e*Pn		**Pn**	**10 03 34.7**	**+1.0**	
EKS2				*e*Sg		**Sb**	**10 04 36.8**	**+1.3**	
EKS2	**Erkin-Say**	**4.22**	**301**	P		**Pn**	**10 03 34.5**	**+0.8**	
	SNR=57								
KK31	**Karatay Array**	**6.61**	**295**	Pn		**Pn**	**10 04 05.4**	**-0.9**	
	comp=E,14nm,0.6s,baz=114,slow=11,SNR=93								
KK31				Pg		**Pb**	**10 04 26.3**	**+0.8**	
	comp=E,213nm,0.6s,baz=106,slow=15,SNR=74								
KK31				Lg	Lg		10 05 52.5		
	comp=E,2μm,1.0s,baz=119,slow=27,SNR=8.8								
KK31	**Karatay Array**	**6.61**	**295**	*i* PN		**Pn**	**10 04 05.4**	**-0.9**	
KK31				*e*			10 05 52.5		
KK31				pmax	pmax				
	comp=Z,315nm,0.6s								
KK31				pmax	pmax				
	comp=Z,591nm,0.5s								
KKAR	**Karatay Array**	**6.61**	**295**	*e*PN		**Pn**	**10 04 05.6**	**-0.8**	
KKAR				*e*			10 05 52.8		
KKAR				pmax	pmax				
	comp=Z,343nm,0.6s								
KKAR	**Karatay Array**	**6.61**	**295**	*e*Pn		**Pn**	**10 04 05.6**	**-0.8**	
	comp=Z,343nm,0.6s								
KKAR				*e*Sg		Sb	10 05 52.8	+8.9	
MK31	**Makanchi Array**	**6.70**	**22**	⇑Pn		**Pn**	**10 04 07.5**	**-0.1**	
	comp=Z,68nm,0.5s,baz=191,slow=11,SNR=2020								
MK31				⇓Pg		**Pb**	**10 04 28.2**	**+1.1**	
	comp=Z,223nm,0.6s,baz=202,slow=14,SNR=12								
MK31				⇑Sn		Sn	10 05 28.5	+5.6	
	comp=Z,1μm,1.2s,baz=192,slow=24,SNR=3.5								
MK31				⇓Lg	Lg		10 05 50.5		
	comp=Z,547nm,0.7s,baz=208,slow=28,SNR=3.7								
MK31	**Makanchi Array**	**6.70**	**22**	PN		**Pn**	**10 04 06.8**	**-0.9**	
MK31							10 05 28.5		
MK31							10 05 51.9		
MK31				pmax	pmax				
	comp=Z,191nm,0.5s								
MK31				smax	smax				
	comp=Z,272nm,0.6s								
MK31				pmax	pmax				
	comp=Z,361nm,0.6s								
MK31	**Makanchi Array**	**6.70**	**22**	*e*Pn		**Pn**	**10 04 06.7**	**-0.9**	
MK31				*e*Sg		Sb	10 05 54.8	+8.1	
MKAR	**Makanchi Array**	**6.70**	**22**	*e*PN		**Pn**	**10 04 06.8**	**-0.9**	
MKAR							10 05 25.7		
MKAR	**Makanchi Array**	**6.70**	**22**	*e*Pn		**Pn**	**10 04 06.8**	**-0.9**	
MKAR				Sn		**Sn**	**10 05 25.6**	**+2.7**	
MKAR				Lg		Lg	10 05 53.8		
MKAR	**Makanchi Array**	**6.70**	**22**	Pn		**Pn**	**10 04 06.7**	**-0.9**	
	comp=Z,22nm,0.3s,baz=200,slow=11,SNR=454								
MKAR				Sn		**Sn**	**10 05 25.6**	**+2.7**	
	comp=Z,29nm,0.3s,baz=197,slow=23,SNR=3.5								
MKAR				Lg		Lg	10 05 53.8		
	comp=Z,63nm,0.3s,baz=208,slow=30,SNR=5.9								
WMQ	**Urumqi**	**7.40**	**61**	*e*Pn		Pb	10 04 45.1	+6.1	
WMQ				Sn		**Sb**	**10 06 06.4**	**-0.4**	
WMQ				smax	smax				
	comp=N,840nm,1.1s								
WMQ				smax	smax				
	comp=E,810nm,0.9s								
WMQ				LR	LR				
	comp=N,2μm,3.2s								
WMQ				LR	LR				
	comp=E,2μm,4.0s								
WMQ	**Urumqi**	**7.40**	**61**	Pn		**Pn**	**10 04 18.6**	**+1.3**	
WMQ				smax	smax				
	comp=N,1μm,1.3s								
WMQ				smax	smax				
	comp=E,2μm,1.2s								
CHCP	**Chirah Chowk**	**8.19**	**214**	⇓P		**Pn**	**10 04 30.2**	**+2.1**	
DLH	**Dalhousie**	**8.35**	**196**	*e*PKP		**Pn**	**10 04 32.0**	**+1.5**	
DLH				*ex*	x		10 06 03.0		
THN	**Thein Dam**	**8.51**	**197**	*e*PKP		**Pn**	**10 04 32.8**	**+0.3**	
THN				*e*S		Sn	10 06 01.7	-5.7	
CEP	**Cherat**	**8.68**	**221**	P		**Pn**	**10 04 36.2**	**+1.3**	
CEP				S		**Sn**	**10 06 13.0**	**+1.2**	
SDNR	**Sundarnagar**	**9.20**	**189**	*e*PKP		**Pn**	**10 04 42.0**	**0.0**	
SDNR				*ex*	x		10 06 23.0		
BHK	**Bhakra**	**9.36**	**192**	*ex*		**Pn**	**10 04 46.8**	**+2.6**	
BHK				*ex*	x		10 06 29.0		
SMLA	**Simla**	**9.55**	**188**	*i* P		**Pn**	**10 04 46.5**	**-0.2**	
SMLA				*i* x	x		10 06 28.7		
THW	**Thamme Wali**	**9.60**	**218**	P		**Pn**	**10 04 48.0**	**+0.6**	
KBL	**Kabul**	**9.77**	**235**	*e*P		**Pn**	**10 04 50.7**	**+0.7**	
KBL	**Kabul**	**9.77**	**235**	*e*Pn		**Pn**	**10 04 50.7**	**+0.7**	
SARP	**Sargodha**	**9.94**	**211**	P		**Pn**	**10 04 53.0**	**+0.8**	
KURBB	**Kurchatov Arra**	**10.01**	**359**	Pn		**Pn**	**10 04 52.0**	**-1.0**	
	comp=E,1.6nm,0.3s,baz=186,slow=12,SNR=114								
KURBB				Lg	Lg		10 07 38.0		
	comp=E,5.5nm,0.3s,baz=194,slow=29,SNR=8.7								
KURBB				LR	LR		10 08 13.2		
	comp=E,2μm,19.8s,baz=185,slow=35								
KURK	**Kurchatov**	**10.10**	**360**	⇑Pn		**Pn**	**10 04 53.2**	**-1.0**	
	comp=E,200nm,1.3s								
KURK				⇑Lg		Lg	10 07 41.7		
	comp=E,5μm,1.3s								
KURK	**Kurchatov**	**10.10**	**360**	*e*P		**Pn**	**10 04 52.8**	**-1.4**	
KURK				*e*			10 06 45.0		
KURK	**Kurchatov**	**10.10**	**360**	*e*Pn		**Pn**	**10 04 52.8**	**-1.4**	
KURK				*e*Sn		**Sn**	**10 06 45.0**	**-1.4**	
KURK				Lg	Lg		10 07 38.0		
KURK	**Kurchatov**	**10.10**	**360**	Pn		**Pn**	**10 04 53.7**	**-0.5**	
	comp=E,1μm,0.7s,SNR=44								
DDI	**Dehra Dun**	**10.28**	**183**	*e*PKP		**Pn**	**10 04 56.0**	**-0.8**	
DDI				*ex*	x		10 06 47.0		
PTH	**Pithoragarh**	**11.11**	**173**	*e*PKP		**Pn**	**10 05 08.1**	**-0.1**	
PTH				*ex*	x		10 07 08.8		
NDI	**New Delhi**	**11.96**	**186**	*e*PKP		**Pn**	**10 05 18.0**	**-1.8**	
NDI				*ex*	x		10 07 26.0		
DANN	**Dangsing**	**12.92**	**160**	*e*P		**Pn**	**10 05 31.7**	**-1.4**	
	comp=E,207nm,0.6s								
DANN	**Dangsing**	**12.92**	**160**	*e*P		**Pn**	**10 05 31.7**	**-1.4**	
	comp=E,207nm,0.6s								
VOSK	**Vostochnaya**	**13.21**	**339**	⇑Pn		**Pn**	**10 05 33.9**	**-2.8**	
	comp=E,162nm,1.1s								
VOSK				⇑Lg		Lg	10 09 23.1		
	comp=E,3μm,1.7s								
KOLN	**Koldanda**	**13.43**	**161**	*e*P		Pn	10 05 37.4	-2.6	
	comp=E,155nm,0.5s								
KOLN				*e*S		**Sn**	**10 08 04.0**	**-4.4**	
KOLN	**Koldanda**	**13.43**	**161**	*e*P		Pn	10 05 37.4	-2.6	
	comp=E,155nm,0.5s								
KOLN				*e*S		**Sn**	**10 08 04.0**	**-4.4**	
GKN	**Gorkha**	**13.49**	**157**	*e*P		**Pn**	**10 05 39.6**	**-1.3**	
	comp=E,153nm,0.4s								
GKN				*e*S		**Sn**	**10 08 06.0**	**-3.8**	
GKN	**Gorkha**	**13.49**	**157**	*e*P		**Pn**	**10 05 39.6**	**-1.3**	
	comp=E,153nm,0.4s								
GKN				*e*S		**Sn**	**10 08 06.0**	**-3.8**	
BVA0	**Borovoye Array**	**13.65**	**338**	Pn		**Pn**	**10 05 39.6**	**-3.1**	
	comp=E,19nm,0.9s,baz=151,slow=16,SNR=502								
BVA0				⇑Lg		Lg	10 09 34.5		
	comp=E,477nm,1.9s								
BVA0	**Borovoye Array**	**13.65**	**338**	*i* P		**Pn**	**10 05 39.5**	**-3.1**	
BVA0				pmax	pmax				
	comp=Z,26nm,0.9s								
BVAR	**Borovoye Array**	**13.65**	**338**	P		**Pn**	**10 05 39.6**	**-3.1**	
BVAR	**Borovoye Array**	**13.65**	**338**	Pn		**Pn**	**10 05 39.6**	**-3.1**	
BVAR				Lg		Lg	10 09 31.0		
BVAR	**Borovoye Array**	**13.65**	**338**	Pn		**Pn**	**10 05 39.6**	**-3.1**	
	comp=Z,4.5nm,0.3s,baz=153,slow=13,SNR=148								
BVAR				Lg		Lg	10 09 31.0		
	comp=Z,4.2nm,0.3s,baz=150,slow=26,SNR=7.3								
BVAR				LR		LR	10 11 07.9		
	comp=Z,3μm,19.3s,baz=152,slow=38								
BRVK	**Borovoye**	**13.71**	**338**	⇓Pn		**Pn**	**10 05 40.3**	**-3.1**	
	comp=Z,191nm,0.8s								
BRVK				⇑Lg		Lg	10 09 35.6		
	comp=Z,2μm,1.4s								
BRVK	**Borovoye**	**13.71**	**338**	*ce*P		**Pn**	**10 05 40.4**	**-3.1**	
BRVK				pmax	pmax				
	comp=Z,121nm,0.7s								
BRVK	**Borovoye**	**13.71**	**338**	*e*Pn		**Pn**	**10 05 40.6**	**-2.9**	
BRVK	**Borovoye**	**13.71**	**338**	Pn		**Pn**	**10 05 40.7**	**-2.7**	
	comp=Z,991nm,0.9s,SNR=70								
KKN	**Kakani**	**13.89**	**155**	*e*P		**Pn**	**10 05 45.0**	**-1.3**	
	comp=Z,132nm,0.5s								
KKN	**Kakani**	**13.89**	**155**	*e*P		**Pn**	**10 05 45.0**	**-1.3**	
KKN				pmax	pmax				
	comp=Z,132nm,0.5s								
KKN	**Kakani**	**13.89**	**155**	*e*P		**Pn**	**10 05 45.0**	**-1.3**	
	comp=Z,132nm,0.5s								
ZALV	**Zalesovo Beam**	**13.96**	**15**	P		**Pn**	**10 05 45.5**	**-1.5**	
ZALV	**Zalesovo Beam**	**13.96**	**15**	Pn		**Pn**	**10 05 45.5**	**-1.5**	
ZALV				Lg		Lg	10 09 44.7		
ZALV	**Zalesovo Beam**	**13.96**	**15**	Pn		**Pn**	**10 05 45.5**	**-1.5**	
	comp=Z,3.7nm,0.3s,baz=198,slow=13,SNR=40								
ZALV				Lg		Lg	10 09 44.7		
	baz=209,slow=31,SNR=2.8								
ZALV				LR		LR	10 11 36.3		
	comp=Z,1μm,21.1s,baz=202,slow=40								
GUN	**Gumba**	**13.98**	**153**	*e*P		**Pn**	**10 05 46.3**	**-1.4**	
	comp=Z,212nm,0.5s								
GUN	**Gumba**	**13.98**	**153**	*e*P		**Pn**	**10 05 46.3**	**-1.4**	
	comp=Z,212nm,0.5s								
ZRNK	**Zerenda**	**14.00**	**335**	⇑Pn		Pn	10 05 44.1	-3.4	
	comp=Z,95nm,0.8s								
ZRNK				⇑Lg		Lg	10 09 44.7		
	comp=Z,2μm,1.4s								
DMN	**Daman**	**14.01**	**156**	*e*P		**Pn**	**10 05 46.3**	**-1.6**	
	comp=Z,283nm,0.9s								
DMN	**Daman**	**14.01**	**156**	*e*P		**Pn**	**10 05 46.3**	**-1.6**	
	comp=Z,283nm,0.9s								
PKI	**Pulchoki**	**14.14**	**155**	*e*P		**Pn**	**10 05 48.1**	**-1.7**	
	comp=Z,243nm,0.7s								
PKI	**Pulchoki**	**14.14**	**155**	*e*P		**Pn**	**10 05 48.1**	**-1.7**	
PKI				pmax	pmax				
	comp=Z,243nm,0.7s								
PKI	**Pulchoki**	**14.14**	**155**	*e*P		**Pn**	**10 05 48.1**	**-1.7**	
	comp=Z,243nm,0.7s								
JIRN	**Jiri**	**14.32**	**152**	*e*P		**Pn**	**10 05 51.4**	**-0.9**	
	comp=Z,57nm,0.6s								
JIRN	**Jiri**	**14.32**	**152**	*e*P		**Pn**	**10 05 51.4**	**-0.9**	
	comp=Z,57nm,0.6s								
AJM	**Ajmer**	**14.49**	**195**	*ex*		Pn	10 05 49.0	-5.4	
AJM				*ex*	x		10 08 24.0		
NVS	**Novosibirsk**	**14.55**	**10**	⇑*i* P		**P**	**10 06 01.0**	**-0.1**	
NVS				*e*			10 08 36.5		
LSA	**Lhasa**	**14.89**	**133**	P		**Pn**	**10 06 00.0**	**-0.1**	
LSA				S		S	10 08 56.3	-5.4	
LSA				LR		LR			
	comp=N,860nm,9.2s								
LSA				LR		LR			
	comp=E,2μm,10.2s								
LSA				LR		LR			
	comp=Z,3μm,9.4s								
LSA	**Lhasa**	**14.89**	**133**	*e*P		**Pn**	**10 06 03.1**	**+3.0**	
LSA				pmax	pmax				
	comp=Z,92nm,0.8s								
LSA	**Lhasa**	**14.89**	**133**	*e*Pn		**Pn**	**10 06 03.1**	**+3.0**	
	comp=Z,92nm,0.8s								
RAMN	**Ramite**	**15.11**	**152**	*e*P		**Pn**	**10 06 01.6**	**-1.3**	
	comp=Z,405nm,0.8s								
RAMN	**Ramite**	**15.11**	**152**	*e*P		**Pn**	**10 06 01.6**	**-1.3**	
	comp=Z,405nm,0.8s								
TAPN	**Taplejung**	**15.18**	**148**	*e*P		**Pn**	**10 06 03.8**	**0.0**	
TAPN	**Taplejung**	**15.18**	**148**	*e*P		**Pn**	**10 06 03.8**	**0.0**	
ALBI	**Allahabad**	**15.48**	**169**	*ex*		Pn	10 06 01.0	-6.5	
ODAN	**Odare**	**15.49**	**150**	*e*P		**Pn**	**10 06 07.3**	**-0.5**	
	comp=Z,198nm,0.7s								
ODAN	**Odare**	**15.49**	**150**	*e*P		**Pn**	**10 06 07.3**	**-0.5**	
	comp=Z,198nm,0.7s								
AB31	**Akbulak array**	**15.82**	**309**	⇓P		**Pn**	**10 06 08.3**	**-3.4**	
	comp=Z,19nm,0.6s								
AB31	**Akbulak array**	**15.82**	**309**	P		**Pn**	**10 06 08.6**	**-3.1**	
AB31				pmax	pmax				
	comp=Z,16nm,0.5s								
ABKT	**Ailbek**	**16.17**	**267**	P		**P**	**10 06 20.6**	**+1.4**	
	comp=Z,1μm,0.9s,SNR=19								
GTA	**Gaotai**	**16.22**	**87**	P		**Pn**	**10 06 14.4**	**-2.6**	
GTA				pP		**P**	**10 06 21.6**	**+1.7**	
GTA				sP		**sP**	**10 06 27.1**	**-4.7**	
GTA				S		**Sn**	**10 09 12.6**	**-3.4**	
GTA				sS		**S**	**10 09 25.6**	**-2.7**	
GTA				pmax	pmax				
	comp=Z,22nm,1.1s								
GTA				pmax	pmax				
	comp=Z,260nm,6.4s								
GTA				LR	LR				
	comp=N,5μm,13.5s								
GTA				LR	LR				
	comp=E,6μm,16.4s								
GTA				LR	LR				
	comp=Z,6μm,15.0s								
AKTO	**Aktyubinsk**	**17.46**	**311**	⇑P		**Pn**	**10 06 29.5**	**-2.9**	
	comp=Z,16nm,1.1s								
AKTO	**Aktyubinsk**	**17.46**	**311**	P		**Pn**	**10 06 29.7**	**-2.7**	
AKTO	**Aktyubinsk**	**17.46**	**311**	Pn		**Pn**	**10 06 29.6**	**-2.7**	
AKTO				Lg		Lg	10 11 25.4		
AKTO	**Aktyubinsk**	**17.46**	**311**	Pn		**Pn**	**10 06 29.6**	**-2.7**	
	comp=Z,0.6nm,0.3s,baz=111,slow=14,SNR=25								
AKTO				Lg		Lg	10 11 25.4		
	comp=Z,0.4nm,0.3s,baz=137,slow=19,SNR=2.1								
AKTO				LR		LR	10 13 01.2		
	comp=Z,1μm,18.3s,baz=120,slow=36								
SHL	**Shillong**	**18.59**	**140**	*e*PKP		**P**	**10 06 46.0**	**-0.3**	
SHL				*i* S		**Sn**	**10 10 13.0**	**-0.7**	
NGP	**Nagpur**	**19.40**	**179**	*e*PKP		**P**	**10 06 55.1**	**+0.2**	
NGP				*ex*	x		10 07 05.5		
	comp=Z,356nm,0.9s								
NGP				*ex*	x		10 10 14.5		
CAL	**Calcutta**	**19.77**	**153**	*e*PKP		Pn	10 07 07.8	+7.2	
CAL				*e*S		**Sn**	**10 10 48.5**	**+6.7**	
AKL	**Akola**	**19.90**	**185**	*e*PKP		**P**	**10 06 58.1**	**-2.3**	
AKL				*i* S		**S**	**10 10 39.5**	**-3.3**	
SVE	**Sverdlovsk**	**20.03**	**330**	⇓*e*P		**P**	**10 07 01.0**	**-0.5**	
SVE				*e*S		**S**	**10 10 38.7**	**-6.2**	
SVE				pmax	pmax				
	comp=Z,78nm,0.9s								
SVE				MLR	MLR				
	comp=Z,7μm,12.0s								
LZH	**Lanzhou**	**20.20**	**95**	*e*P		Pn	10 07 05.0	-0.8	
LZH				pP		pP	10 07 08.9	-3.0	
LZH				sP		sP	10 07 11.8	-4.0	
LZH				*e*S		**S**	**10 10 44.0**	**-5.0**	
LZH				SS		SS	10 11 19.8		
LZH				pmax	pmax				
	comp=Z,76nm,1.1s								
LZH				pmax	pmax				
	comp=Z,430nm,4.7s								
LZH				LR	LR				
	comp=N,1μm,10.9s								
LZH				LR	LR				
	comp=E,6μm,11.4s								
LZH				LR	LR				
	comp=Z,7μm,11.7s								
IMP	**Imphal**	**20.28**	**136**	*e*PKP		**P**	**10 07 04.0**	**-0.6**	
TLY	**Talaya**	**20.41**	**49**	*e*P		Pn	10 07 08.5	+0.5	
TLY				*e*			10 07 26.8		
TLY				*e*S		**S**	**10 10 53.6**	**+0.9**	
TLY				*e*SS		SS	10 11 06.6		
TLY				pmax	pmax				
	comp=Z,31nm,1.0s								
TLY				MLR	MLR				
	comp=Z,1μm,14.0s								
TLY	**Talaya**	**20.41**	**49**	P		**P**	**10 07 04.7**	**-1.1**	
	comp=Z,93nm,1.5s								
ARU	**Arti**	**20.58**	**327**	*c i*P		**P**	**10 07 06.7**	**-0.8**	
ARU				*e*			10 07 24.6		
ARU				PPP	PPP		10 07 34.0		
ARU				S		**S**	**10 10 56.8**	**+1.0**	
ARU				SS	SS		10 11 15.6		
ARU				pmax	pmax				
	comp=Z,117nm,0.8s								
ARU				MLR	MLR				
	comp=Z,3μm,12.0s								
ARU	**Arti**	**20.58**	**327**	*e*Pn		**P**	**10 07 06.9**	**-0.5**	
	comp=Z,135nm,0.8s								
ARU	**Arti**	**20.58**	**327**	P		**P**	**10 07 07.7**	**+0.2**	
	comp=Z,1μm,0.8s,SNR=37								
IRK	**Irkutsk**	**20.99**	**48**	*e*P		Pn	10 07 14.2	-0.5	
IRK				*e*			10 07 32.7		
IRK				pmax	pmax				
	comp=Z,450nm,1.8s								
SONM	**Songino Array**	**21.04**	**61**	P		**P**	**10 07 13.2**	**+0.5**	
SONM	**Songino Array**	**21.04**	**61**	P		**P**	**10 07 13.2**	**+0.5**	
	comp=Z,116nm,0.9s,baz=257,slow=10,SNR=504								
SONM				LR	LR		10 15 55.3		
	comp=Z,3μm,18.1s,baz=264,slow=38								
ULN	**Ulaanbaatar**	**21.48**	**61**	*e*P		**P**	**10 07 18.1**	**+0.6**	
	comp=Z,91nm,0.9s								
ULN	**Ulaanbaatar**	**21.48**	**61**	P		**P**	**10 07 18.0**	**+0.6**	
	SNR=63								
ULN	**Ulaanbaatar**	**21.48**	**61**	P		**P**	**10 07 17.8**	**+0.3**	
	comp=Z,132nm,1.2s,comp=Z,2μm								
LATR	**Latur**	**22.20**	**185**	*e*PKP		**P**	**10 07 26.0**	**+0.9**	
LATR				*ex*	x		10 11 17.6		
POO	**Poona**	**22.40**	**192**	⇓*i* P		**P**	**10 07 28.0**	**+0.6**	
	comp=Z,159nm,1.2s								
POO				*e*SCS			10 18 45.0		
CD2	**Chengdu**	**22.45**	**108**	P		**P**	**10 07 30.5**	**+2.6**	
CD2				pP		**pP**	**10 07 34.8**	**-1.3**	
CD2				sP		**sP**	**10 07 37.5**	**-2.5**	
CD2				PP	PP		10 07 57.9		
CD2				PcP		**PcP**	**10 11 26.1**	**+4.5**	
CD2				S		**S**	**10 11 32.4**	**-0.2**	
CD2				sS		sS	10 11 38.4	-7.9	
CD2				SS		SS	10 12 13.1		
CD2				PcS		**PcS**	**10 15 03.5**	**+3.0**	
CD2				pmax	pmax				
	comp=Z,100nm,1.2s								
CD2				pmax	pmax				
	comp=Z,370nm,4.0s								
CD2				LR	LR				
	comp=N,2μm,8.4s								
CD2				LR	LR				
	comp=E,2μm,12.2s								
CD2				LR	LR				
	comp=Z,3μm,9.1s								
HYB	**Hyderabad**	**23.12**	**180**	*i* P		**P**	**10 07 36.0**	**+1.1**	
HYB				*e*S		**S**	**10 11 43.0**	**-1.2**	
MAK	**Makhachkala**	**23.32**	**286**	*e*P		**P**	**10 07 36.3**	**-0.4**	
MAK				*e*			10 08 00.6		
MAK				*e*PPP		PPP	10 08 14.0		
MAK				*e*S		**S**	**10 11 47.0**	**-0.2**	
MAK				*e*SS		**SnSn**	**10 12 25.0**	**+2.2**	
MAK				*e*SSS		SSS	10 12 45.0		
MAK				pmax	pmax				
	comp=Z,198nm,1.3s								
MAK				MLR	MLR				
	comp=Z,2μm,11.0s								
SOKR	**Solikamsk**	**23.42**	**331**	*c i*P		**P**	**10 07 37.7**	**+0.3**	
SOKR				S		**S**	**10 11 48.6**	**+0.2**	
SOKR				pmax	pmax				
	comp=Z,200nm,0.9s								
SOKR				MLR	MLR				
	comp=Z,3μm,13.0s								
KAD	**Karad**	**23.55**	**191**	*e*PKP		**P**	**10 07 38.0**	**-1.2**	
KAD				*e*S		**S**	**10 11 52.0**	**+0.7**	
BTO	**Baotou**	**23.71**	**80**	*e*P		**P**	**10 07 40.8**	**+0.1**	
DBC	**Dubki**	**23.81**	**286**	*i* P		**P**	**10 07 41.2**	**-0.3**	
WBK	**Wadi Bani Khal**	**24.49**	**229**	⇑P		**P**	**10 07 49.9**	**+2.0**	
	SNR=12								
HATD	**Hatta, Dubai**	**24.57**	**237**	⇓P		**P**	**10 07 50.4**	**+1.8**	
ASHO	**Ashoiyiah**	**24.71**	**237**	⇓P		**P**	**10 07 51.1**	**+1.1**	
	SNR=11								
HHC	**Hu-ho-hao-te**	**24.82**	**79**	*e*P		**P**	**10 07 52.4**	**+1.5**	
HHC				pP		**pP**	**10 08 02.3**	**+2.6**	
HHC				sP		sP	10 08 06.4	+3.0	
HHC				PP	PP		10 08 29.8		
HHC				S		**S**	**10 12 09.8**	**-1.9**	
HHC				sS		**sS**	**10 12 25.3**	**-0.9**	
HHC				SS		**SnSn**	**10 13 08.0**	**+8.1**	
HHC				pmax	pmax				
	comp=Z,16nm,0.6s								
HHC				pmax	pmax				
	comp=Z,260nm,4.9s								
HHC				LR	LR				
	comp=N,3μm,15.5s								
HHC				LR	LR				
	comp=E,2μm,13.1s								
HHC				LR	LR				
	comp=Z,3μm,16.7s								
XAN	**Xi'an**	**24.83**	**96**	P		**P**	**10 07 51.9**	**+1.0**	
XAN				pP		**pP**	**10 07 59.4**	**-0.3**	
XAN				S		**S**	**10 12 18.1**	**+6.4**	
XAN				pmax	pmax				
	comp=Z,28nm,0.7s								
XAN				pmax	pmax				
	comp=Z,100nm,7.1s								
XAN				LR	LR				
	comp=N,3μm,19.

CLDR Caldiran 26.64 278 *e*P **P 10 08 08.7 +1.2**
KIV Kislovodsk 26.72 289 ⇓P **P 10 08 07.5 -0.6**
comp=Z,56nm,0.8s
KIV Kislovodsk 26.72 289*c* *i*P **P 10 08 07.9 -0.2**
KIV pmax pmax
comp=Z,87nm,1.2s
KIV MLR MLR
comp=Z,1μm,15.0s
KIV Kislovodsk 26.72 289 *e*P **P 10 08 08.5 +0.4**
comp=Z,65nm,0.8s
KIV Kislovodsk 26.72 289 P **P 10 08 08.2 +0.1**
SNR=8.2
KIV Kislovodsk 26.72 289 P **P 10 08 08.1 +0.1**
comp=Z,435nm,0.7s,SNR=7.2
KARS Kars 26.93 282 *e*P **P 10 08 12.8 +2.8**
ENH Enshi 26.99 103 *e*P **P 10 08 11.8 +1.2**
comp=Z,48nm,0.9s
ENH LR LR
comp=Z,1μm,19.0s
GYA Guiyang 27.11 113 P **P 10 08 14.8 +3.1**
GYA pP pP 10 08 25.4 +4.9
GYA PP PnPn 10 09 02.8 +7.7
GYA S **S 10 12 49.5 +1.4**
GYA sS **sS 10 13 05.3 +2.6**
GYA SS **SnSn 10 14 06.0 +10**
GYA ScP **ScP 10 15 11.3 +1.3**
GYA ScS **ScS 10 19 01.0 -0.4**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.0s
GYA LR LR
comp=N,4μm,16.7s
GYA LR LR
comp=E,480nm,18.2s
GYA LR LR
comp=Z,3μm,17.1s
AGRB Hanur-Agry 27.23 280 *e*P **P 10 08 14.9 +2.2**
HAKT HAKKARI 27.23 275 *i* P **P 10 08 13.8 +1.0**
CUKT Cukurca 27.40 274 *e*P **P 10 08 15.1 +0.9**
TUTA Tutak 27.41 279 *i* P **P 10 08 15.6 +1.2**
GEVA Gevas 27.50 277 *i* P **P 10 08 16.2 +1.0**
UMR Umm Al-Rimmam 27.52 256 *e*P **P 10 08 15.6 +0.4**
UMR AMb AMB 10 08 21.4
comp=Z,283nm,1.1s
VRHR Novokhopersk 27.60 305 *e*P **P 10 08 14.4 -1.3**
VRHR pmax pmax
comp=Z,140nm,1.4s
VRHR pmax pmax
comp=N,30nm,1.0s
VRHR pmax pmax
comp=E,140nm,1.2s
VRHR MLR MLR
comp=Z,3μm,13.0s
VRHR MLR MLR
comp=N,390nm,9.0s
VRHR MLR MLR
comp=E,2μm,12.0s
MIB Mutribah 27.67 257 *e*P **P 10 08 17.2 +0.6**
MIB AMb AMB 10 08 22.8
comp=Z,213nm,1.0s
ARTV Artvin 27.68 283 *i* P **P 10 08 18.3 +1.5**
CHTO Chiang Mai 27.82 135 *e*P **P 10 08 18.6 +0.7**
CHTO pmax pmax
comp=Z,23nm,1.0s
CHTO Chiang Mai 27.82 135 *e*P **P 10 08 18.6 +0.7**
comp=Z,23nm,1.0s
CHTO Chiang Mai 27.82 135 P **P 10 08 18.8 +0.9**
SNR=11
CHTO Chiang Mai 27.82 135 P **P 10 08 18.4 +0.5**
comp=Z,26nm,1.2s
BCA Borcka 27.85 284 *e*P **P 10 08 18.9 +0.8**
HOMI Horasan 27.93 281 *i* P **P 10 08 21.0 +1.9**
NAY Al-Naaiem 28.04 256 *e*P **P 10 08 20.2 +0.4**
NAY AMb AMB 10 08 24.8
comp=Z,63nm,0.7s
CM31 Chiang Mai Arr 28.11 136 *e*P **P 10 08 21.6 +1.1**
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 28.11 136 P **P 10 08 21.0 +0.5**
CMAR Chiang Mai Arr 28.11 136 P **P 10 08 21.0 +0.5**
comp=Z,13nm,0.9s,baz=319,slow=8.9,SNR=34
BHD Baghdad 28.27 266 *ex* P 10 08 30.5 +8.7
BHD *ex* x 10 13 20.5
BOD Bodaibo 28.32 41 *e*P **P 10 08 20.9 -1.2**
BOD pmax pmax
comp=Z,31nm,1.5s
ERZM Erzurum 28.37 281 *i* P **P 10 08 24.5 +1.4**
EZM Erzurum 28.37 281 *e*P **P 10 08 23.6 +0.5**
BJI Beijing 28.43 79 P **P 10 08 24.4 +1.2**
BJI S **S 10 13 10.0 +1.5**
BJI pmax pmax
comp=Z,17nm,0.7s
BJI pmax pmax
comp=Z,120nm,3.5s
BJI LR LR
comp=N,3μm,16.6s
BJI LR LR
comp=E,4μm,15.6s
BJI LR LR
comp=Z,2μm,16.3s
SOC Sochi 28.90 289*c* *i*P **P 10 08 26.8 -0.6**
SOC *e**SP **sP 10 08 40.3 +0.3**
SOC *e* 10 09 19.1
SOC *e*S **S 10 13 17.4 +1.6**
SOC *e*SS SS 10 14 35.9 -43
SOC pmax pmax
comp=Z,94nm,1.0s
SOC MLR MLR
comp=Z,1μm,11.0s
VORD Divnogorie 29.05 304 *e*P **P 10 08 27.7 -0.9**
VORD pmax pmax
comp=Z,70nm,0.7s
VORD pmax pmax
comp=N,60nm,1.4s
VORD pmax pmax
comp=E,190nm,0.9s
VORD MLR MLR
comp=Z,3μm,18.0s
VORD MLR MLR
comp=N,2μm,13.0s
VORD MLR MLR
comp=E,2μm,12.0s
BNGB Bing¶ll 29.11 279 *e*P **P 10 08 30.5 +1.0**
VSR Storozhevoye 29.15 305 *e*P **P 10 08 28.5 -1.0**
BAYT Ayd¯-ntepe-Bay 29.17 282 *e*P **P 10 08 31.1 +1.1**
GUMT Gumushane 29.65 283 *e*P **P 10 08 35.4 +1.2**
KELT Kelkit 29.89 282 *i* P **P 10 08 38.0 +1.5**
EZC Erzincan 29.91 281 *e*P **P 10 08 38.0 +1.5**
ESPY Espiye-Giresun 30.10 284 *e*P **P 10 08 38.3 +0.2**
PTK Pertek 30.11 280 *e*P **P 10 08 39.4 +1.0**
TIA Tai'an 30.26 86 ⇑P **P 10 08 40.8 +1.3**
TIA S S 10 13 43.6 +6.4
TIA pmax pmax
comp=Z,50nm,0.8s
TIA LR LR
comp=N,2μm,13.7s
TIA LR LR
comp=E,2μm,11.6s
TIA LR LR
comp=Z,3μm,11.8s
ANN Anapa 30.38 292*c* *i*P **P 10 08 39.7 -0.7**
ANN *i**PP **pP 10 08 48.8 -0.5**
ANN *e* 10 09 35.8
ANN *e*S **S 10 13 37.8 -1.1**
ANN *e*SS **ScP 10 15 18.9 -0.9**
ANN pmax pmax
comp=Z,255nm,1.3s
ANN MLR MLR
comp=Z,2μm,14.0s
WHN Wuhan 30.50 98 P **P 10 08 43.3 +1.6**
WHN S **S 10 13 43.8 +2.7**
WHN LR LR
comp=N,2μm,11.5s
WHN LR LR
comp=E,5μm,14.0s
WHN LR LR
comp=Z,5μm,13.0s
ELZG Elazig 30.52 279 *i* P **P 10 08 43.9 +1.9**
ILIC ilic-Erzincan 30.57 281 *e*P **P 10 08 43.4 +1.0**
KEMA Kemaliye 30.68 281 *i* P **P 10 08 44.8 +1.6**
MOS Moscow 30.76 313 *e*P **P 10 08 41.6 -2.1**
MOS pmax pmax
comp=Z,400nm,1.4s
MOS pmax pmax
comp=Z,231nm,1.1s
MOS MLR MLR
comp=Z,2μm,10.0s
MYA Malataya 30.99 279 *e*P **P 10 08 47.4 +1.3**
MALT Malatya 31.00 279 *e*P **P 10 08 46.7 +0.6**
OBN Obninsk 31.23 312*c* *i*P **P 10 08 47.3 -0.5**
OBN *i* 10 09 50.3
OBN *i*S **S 10 13 57.3 +5.2**
OBN pmax pmax
comp=Z,111nm,1.1s
OBN MLR MLR
comp=Z,1μm,17.0s
OBN Obninsk 31.23 312 *e*P **P 10 08 45.9 -1.9**
comp=Z,90nm,1.0s
RBK Rabkut 31.25 230 P **P 10 08 49.2 +0.8**
SNR=8.0
KLMR Klimovskoe 31.32 323*c* *i*P **P 10 08 48.0 -0.6**
KLMR S S 10 13 43.9 -9.4
KLMR pmax pmax
comp=Z,200nm,1.3s
KLMR pmax pmax
comp=Z,106nm,4.2s
KLMR MLR MLR
comp=Z,5μm,10.0s
ERBA Erbaa 31.61 284 *i* P **P 10 08 51.4 -0.1**
GZT Gaziantep 31.94 278 *i* P **P 10 08 55.8 +1.3**
KVT Kavak 32.04 285 *e*P **P 10 08 55.2 0.0**
DIKM Dikmen 32.49 286 *e*P **P 10 08 58.7 -0.3**
RAYN Ar Rayn 32.65 249 P **P 10 09 01.5 +0.8**
comp=Z,574nm,0.8s,SNR=49
SIM Simferopol' **32.70 293** *e*P **P 10 09 01.1 +0.2**
SIM *e* 10 10 22.0
SIM *e*S **S 10 14 13.0 -2.2**
SIM pmax pmax
comp=Z,116nm,0.8s
SIM MLR MLR
comp=Z,2μm,17.0s
ANDN Andirin 32.79 279 *i* P P 10 09 06.0 +4.1
DL2 Dalian 32.80 79 *e*P **P 10 09 02.9 +1.1**
DL2 S **S 10 14 20.8 +3.9**
DL2 pmax pmax
comp=Z,20nm,1.0s
DL2 LR LR
comp=N,1μm,18.2s
DL2 LR LR
comp=E,810nm,18.8s
DL2 LR LR
comp=Z,1μm,15.8s
BYBT Boyabat 32.89 286 *e*P **P 10 09 02.5 0.0**
CTKT Corum 33.08 285 *i* P **P 10 09 04.6 +0.1**
NJ2 Nanjing 33.22 92 *e*P **P 10 09 07.1 +1.6**
NJ2 pP **pP 10 09 16.1 +1.7**
NJ2 sP **sP 10 09 20.1 +2.0**
NJ2 PP **PP 10 10 22.1 +1.3**
NJ2 S **S 10 14 28.5 +5.0**
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 pmax pmax
comp=Z,260nm,4.2s
NJ2 LR LR
comp=N,2μm,21.9s
NJ2 LR LR
comp=E,2μm,23.3s
NJ2 LR LR
comp=Z,2μm,25.6s
CORM Corum 33.31 284 *e*P **P 10 09 06.8 +0.3**
BZK Bozkurt 33.33 287 *e*P **P 10 09 06.5 +0.1**
SNY Shenyang 33.48 73 ⇑P P 10 09 16.0 +8.3
SNY S S 10 14 37.8 +10
SNY pmax pmax
comp=Z,9.0nm,0.7s
SNY pmax pmax
comp=Z,230nm,3.9s
SNY LR LR
comp=N,2μm,11.4s
SNY LR LR
comp=E,4μm,13.7s
SNY LR LR
comp=Z,3μm,15.5s
AVNT Avonos 33.53 281 *i* P **P 10 09 09.1 +0.7**
TOS Tosya 33.54 286 *e*P **P 10 09 08.5 +0.2**
CLNS Chul'man 33.76 46 *e*P **P 10 09 09.9 -0.1**
CLNS *e**PP **pP 10 09 19.3 +0.4**
CLNS *e* 10 10 22.0
CLNS *e*PPP PPP 10 10 35.7
CLNS *e* 10 11 44.8
CLNS *e*S **S 10 14 33.1 +1.6**
CLNS *e*SSS SSS 10 16 59.2
CLNS pmax pmax
comp=N,4.0nm,0.7s
CLNS pmax pmax
comp=Z,21nm,0.9s
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS pmax pmax
comp=N,5.0nm,1.0s
CLNS pmax pmax
comp=Z,8.0nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,1.1s
CLNS smax smax
comp=N,105nm,13.8s
CLNS smax smax
comp=E,197nm,16.1s
CLNS MLR MLR
comp=N,668nm,12.0s
BALT Daday 33.88 287 *i* P **P 10 09 11.9 +0.4**
NIG Nigde 33.92 280 *e*P **P 10 09 13.2 +1.3**
CANT Cankiri 33.94 285 *e*P **P 10 09 12.6 +0.7**
BR131 Keskin Array S 34.16 284 *e*P **P 10 09 14.2 +0.3**
comp=N,112nm,0.8s
BRTR Keskin Array B 34.16 284 P **P 10 09 14.1 +0.2**
BRTR Keskin Array B 34.16 284 P **P 10 09 14.1 +0.2**
comp=N,117nm,0.8s,baz=94,slow=8.1,SNR=207
BRTR LR LR 10 23 30.1
comp=N,333nm,18.6s,baz=232,slow=37
QIZ Qiongzhong 34.25 120 P **P 10 09 16.8 +2.2**
QIZ pP **pP 10 09 26.1 +2.6**
QIZ sP sP 10 09 29.9 +2.7
QIZ S **S 10 14 43.9 +4.3**
QIZ pmax pmax
comp=Z,15nm,1.0s
QIZ pmax pmax
comp=Z,100nm,4.4s
QIZ LR LR
comp=N,950nm,20.6s
QIZ LR LR
comp=E,490nm,22.0s
QIZ LR LR
comp=Z,980nm,12.9s
QIZ Qiongzhong 34.25 120 *e*P **P 10 09 16.4 +1.8**
comp=Z,23nm,0.9s
CN2 Changchun 34.41 69 *e*P **P 10 09 16.5 +0.7**
CN2 *es*P **sP 10 09 30.3 +1.9**
CN2 *e*S **S 10 14 40.6 -1.2**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,13.0s
CN2 LR LR
comp=E,1μm,13.0s
CN2 LR LR
comp=Z,2μm,14.0s
ASF Jabal al Asfar 34.43 269 P **P 10 09 17.4 +1.2**
ASF Jabal al Asfar 34.43 269 P **P 10 09 17.4 +1.2**
comp=Z,25nm,1.1s,baz=336,slow=16,SNR=6.3
SAFT Safranbolu 34.46 286 *e*P **P 10 09 16.8 +0.5**
LOD Lodumlu 34.77 284 *e*P **P 10 09 19.2 +0.2**
MMAI Mount Meron Ar 35.20 272 P **P 10 09 22.5 -0.4**
MMAI Mount Meron Ar 35.20 272 P **P 10 09 22.5 -0.4**
comp=Z,7.8nm,0.7s,baz=74,slow=11,SNR=5.2
PUL Pulkovo 35.40 319*c* *e*P **P 10 09 24.7 +0.6**
PUL pmax pmax
comp=Z,239nm,0.7s
AKASG Malin Array Be 35.42 303 P **P 10 09 23.4 -1.0**
AKASG Malin Array Be 35.42 303 P **P 10 09 23.4 -1.0**
AKASG Malin Array Be 35.42 303 P **P 10 09 23.4 -1.0**
comp=Z,46nm,0.8s,baz=73,slow=8.6,SNR=65
AKASG LR LR 10 26 32.0
comp=Z,1μm,18.4s,baz=105,slow=41
AKBB Malin Array Si 35.42 303 *e*P **P 10 09 23.5 -0.8**
AKBB Malin Array Si 35.42 303 *e*P **P 10 09 23.5 -0.8**
SSE Sheshan 35.42 92 P **P 10 09 25.9 +1.3**
SSE S **S 10 14 57.8 +0.3**
SSE pmax pmax
comp=Z,62nm,0.7s
SSE pmax pmax
comp=Z,300nm,4.7s
SSE LR LR
comp=N,2μm,15.3s
SSE LR LR
comp=E,790nm,15.3s
SSE LR LR
comp=Z,2μm,14.2s
KIEV Kiev 35.43 303 *e*P **P 10 09 23.1 -1.4**
KIEV Kiev 35.43 303 *e*P **P 10 09 23.1 -1.4**
JOF Joensuu 35.67 325 *e*P **P 10 09 25.9 -0.5**
JOF pmax pmax
comp=Z,71nm,0.8s
JOF Joensuu 35.67 325 *e*p **P 10 09 25.9 -0.5**
comp=Z,70nm,0.8s
KIZT Kizilcal 35.72 283 *e*P **P 10 09 27.9 +0.6**
MDUB Mudurnu 35.76 286 *e*P **P 10 09 27.7 +0.1**
HENT Hendek 35.88 286 *i* P **P 10 09 28.7 +0.2**
KIS Kishinev 36.06 297κ *i*P **P 10 09 29.0 -0.9**
KIS *e* 10 17 32.0
KIS *e* 10 19 50.0
KIS pmax pmax
comp=Z,360nm,1.3s
KIS MLR MLR
comp=Z,1μm,16.0s
KIS MLR MLR
comp=N,2μm,13.0s
KIS MLR MLR
comp=E,1μm,17.0s
KIS MLR MLR
comp=Z,1μm,16.0s
KIS Kishinev 36.06 297 ⇓*i*P **P 10 09 29.0 -0.9**
comp=Z,400nm,1.3s
KIS LRM MLR 10 26 00.0
comp=Z,2μm,13.0s
LVZ Lovozero 36.17 334*d* *i*P **P 10 09 30.1 -0.6**
LVZ pmax pmax
comp=Z,194nm,1.2s
LVZ Lovozero 36.17 334 *e*P **P 10 09 29.9 -0.8**
comp=Z,165nm,1.0s
LVZ Lovozero 36.17 334 P **P 10 09 30.6 -0.1**
comp=Z,831nm,1.0s,SNR=10
MICGM Minsk 36.18 310 ⇑*i*P **P 10 09 29.0 -1.8**
MNK Minsk 36.21 310 ⇑*i*P **P 10 09 29.0 -2.1**
MNK MLR MLR
comp=N,5μm,6.0s
MNK MLR MLR
comp=Z,5μm,8.0s
MNK MLR MLR
comp=E,4μm,8.0s
APA Apatity 36.46 333 ⇓*i*P **P 10 09 33.0 -0.1**
APA *e* 10 11 50.0
APA *e*S **S 10 15 12.0 -0.6**
APA *i* SS **SnSn 10 17 44.0 +1.9**
APA pmax pmax
comp=Z,44nm,1.0s
APA MLR MLR
comp=Z,9μm,10.0s
LEOM Leova 36.53 296 P **P 10 09 34.5 +0.6**
NACGM Naroch 36.82 311 *e* P 10 09 33.0 -3.3
ADVT Abdulvahap 36.83 286 *e*P **P 10 09 38.1 +1.5**
INCN Inchon 36.99 79 *e*P **P 10 09 39.4 +1.3**
VSU Vasula 37.05 317*c* *i*P **P 10 09 37.8 -0.4**
VSU pmax pmax
comp=Z,130nm,1.0s
EIL Elat 37.07 267 P **P 10 09 38.8 +0.1**
EIL Elat 37.07 267 *e*P **P 10 09 41.0 +2.3**
EIL Elat 37.07 267 P **P 10 09 38.8 +0.1**
comp=Z,45nm,1.1s,baz=45,slow=3.4,SNR=8.9
ISP Isparta 37.07 282 *e*P **P 10 09 39.0 +0.2**
ISP pmax pmax
comp=Z,105nm,0.9s
ISP Isparta 37.07 282 *e*P **P 10 09 39.0 +0.2**
comp=Z,105nm,0.9s
YAK Yakutsk 37.08 37*c* *i*P **P 10 09 37.3 -1.1**
YAK *e**PP **pP 10 09 46.8 -0.5**
YAK *e* 10 10 58.5
YAK *e* 10 12 03.7
YAK *e*S S 10 15 14.8 -7.3
YAK *e*SS **SnSn 10 17 50.4 -6.7**
YAK *e* 10 19 47.3
YAK pmax pmax
comp=Z,65nm,1.2s
YAK pmax pmax
comp=E,33nm,1.0s
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=Z,35nm,1.6s
YAK pmax pmax
comp=E,42nm,1.7s
YAK pmax pmax
comp=N,20nm,2.0s
YAK smax smax
comp=E,129nm,11.4s
YAK smax smax
comp=N,70nm,12.6s
YAK MLR MLR
comp=Z,3μm,16.0s
YAK MLR MLR
comp=E,2μm,13.0s
YAK MLR MLR
comp=N,536nm,13.0s
YAK Yakutsk 37.08 37 *e*P **P 10 09 37.5 -0.8**
comp=N,89nm,1.0s
MDJ Mudanjiang 37.17 67 P **P 10 09 39.9 +0.5**
MDJ pP **pP 10 09 48.8 +0.4**
MDJ sP **sP 10 09 52.8 +0.7**
MDJ PP **PP 10 11 02.4 -1.9**
MDJ S **S 10 15 24.8 +0.8**
MDJ ScS **ScS 10 19 53.6 +2.3**
MDJ pmax pmax
comp=Z,19nm,1.3s
MDJ pmax pmax
comp=Z,210nm,4.7s
MDJ LR LR
comp=N,2μm,11.8s
MDJ LR LR
comp=E,2μm,14.2s
MDJ LR LR
comp=Z,3μm,13.0s
MDJ Mudanjiang 37.17 67 *e*P **P 10 09 40.1 +0.7**
comp=Z,20nm,0.9s
BGKT Bogazkoy 37.33 288 *e*P **P 10 09 41.3 +0.5**
CTKS Kestanelik-??a 37.50 288 *e*P **P 10 09 42.4 +0.1**
TESR 37.61 297 ⇑*i*P **P 10 09 43.2 +0.1**
KHL Karahalli 37.65 283 *e*P **P 10 09 44.1 +0.5**
VRI Vrincioaia 37.67 296 ⇑P **P 10 09 45.1 +1.4**
VRI Vrincioaia 37.67 296 ⇑*i*P **P 10 09 45.1 +1.4**
PLOR Plostina 37.73 296 ⇓P **P 10 09 45.1 +0.9**
PLOR Plostina 37.73 296 ⇓*i*P **P 10 09 45.1 +0.9**
FINES FINESS Array B 37.75 321 P **P 10 09 43.4 -0.7**
FINES FINESS Array B 37.75 321 P **P 10 09 43.4 -0.7**
comp=Z,56nm,0.8s,baz=98,slow=10,SNR=129
FINES LR LR 10 25 19.5
comp=Z,1μm,18.7s,baz=99,slow=36
KAF Kangasniemi 37.75 323 *e*P **P 10 09 43.5 -0.6**
KAF pmax pmax
comp=Z,15nm,0.8s
KAF Kangasniemi 37.75 323 *e*p **P 10 09 43.5 -0.6**
comp=Z,15nm,0.8s
PRD Provadia 37.79 291 P P **10 09 46.0 +1.4**
KLR Kul'dur 37.84 59 *e*P P 10 09 41.9 -3.2
KLR *e*S **S 10 15 31.5 -2.6**
KLR pmax pmax
comp=E,53nm,1.8s
KLR pmax pmax
comp=Z,85nm,1.8s
KLR MLR MLR
comp=E,2μm,12.0s
KLR MLR MLR
comp=Z,7μm,12.0s
KSAR Wonju Array Be 37.94 78 P **P 10 09 46.3 +0.3**
KSRS Korea Array 37.97 78 P **P 10 09 46.3 +0.1**
comp=Z,9.2nm,0.6s,baz=287,slow=8.5,SNR=28
KSRS LR LR 10 28 31.2
comp=Z,1μm,19.2s,baz=290,slow=41
BNT Bandirma 38.18 287 *e*P **P 10 09 48.4 +0.3**
MLR Muntele Rosu 38.29 295 P **P 10 09 50.0 +1.0**
MLR Muntele Rosu 38.29 295 ⇓*i*P **P 10 09 50.6 +1.6**
MLR Muntele Rosu 38.29 295 P **P 10 09 50.0 +1.0**
comp=Z,19nm,0.9s,baz=117,slow=6.5,SNR=39
BURAR Bucovina Array 38.38 299 ⇑*i*P **P 10 09 49.7 0.0**

BUR08 Bucovina Ar. S 38.38 299 *e*P **P 10 09 49.4 -0.4**
BALB Balikesir 38.43 286 *e*P **P 10 09 49.7 -0.4**
BUC1 Bucharest 38.48 294 P **P 10 09 52.5 +2.0**
JMB Yambol 38.55 290 P **P 10 09 52.6 +1.5**
AKS Akhisar 38.73 285 *e*P **P 10 09 51.9 -0.7**
SZH Strazhica 38.81 292 P **P 10 09 53.3 0.0**
LVV L'vov 38.82 303 *e*P **P 10 09 52.5 -0.8**
LVV *e* 10 11 22.1
LVV *e*PPP PPP 10 11 48.1
LVV *e*S **S 10 15 44.3 -4.5**
LVV MLR MLR
comp=Z,900nm,15.0s
LVV MLR MLR
comp=N,900nm,14.0s
LVV MLR MLR
comp=E,800nm,16.0s
VOIR 38.91 295 P **P 10 09 54.9 +0.7**
VOIR 38.91 295⇑*i*P **P 10 09 54.5 +0.3**
SUW Suwalki 38.94 309 *e*P **P 10 09 53.9 -0.4**
SUW LMZ LR 10 26 14.3
comp=E,1μm,14.5s
SUW Suwalki 38.94 309 *e*P **P 10 09 53.9 -0.4**
SUW LMZ LR 10 26 14.3
comp=E,1μm,14.5s
SUW Suwalki 38.94 309 *e*P **P 10 09 53.8 -0.4**
SUW pmax pmax
comp=Z,139nm,0.9s
SUW Suwalki 38.94 309 *e*P **P 10 09 53.8 -0.4**
comp=Z,139nm,0.9s
USRK Ussuriysk Arra 38.94 67 P **P 10 09 54.8 +0.5**
comp=Z,8.4nm,0.8s,baz=304,slow=7.7,SNR=13
USRK LR LR 10 27 40.2
comp=Z,2μm,18.1s,baz=275,slow=39
HUMR Humele 39.17 294⇑*i*P **P 10 09 56.8 +0.6**
DIM Dimitrovgrad 39.42 290 P **P 10 09 59.1 +0.8**
KEV Kevo 39.46 335 *e*P **P 10 09 56.6 -1.7**
KEV pmax pmax
comp=Z,21nm,0.7s
KEV Kevo 39.46 335 *e*p **P 10 09 56.6 -1.7**
comp=Z,21nm,0.7s
LBOS 39.53 237 *e*P **P 10 10 01.5 +1.7**
RDO Rodhopi 39.68 289 *e*P **P 10 10 00.7 +0.2**
KWP Kalwaria Pacla 39.70 302 *e*P **P 10 10 00.8 +0.2**
KWP LMZ LR 10 29 03.0
comp=Z,2μm,16.0s
KWP Kalwaria Pacla 39.70 302 *e*P **P 10 10 00.8 +0.2**
KWP LMZ LR 10 29 03.0
comp=Z,2μm,16.0s
KWP Kalwaria Pacla 39.70 302 ⇓P **P 10 10 01.1 +0.5**
KWP Kalwaria Pacla 39.70 302 *e*P **P 10 10 00.6 0.0**
comp=Z,203nm,1.0s
KWP Kalwaria Pacla 39.70 302⇓*i*P **P 10 10 01.1 +0.5**
PRK Paraskevi 39.74 286 *e*P **P 10 10 00.9 -0.2**
ARCES ARCESS Array B 39.88 334 P **P 10 10 01.0 -0.9**
ARCES ARCESS Array B 39.88 334 P **P 10 10 01.0 -0.9**
comp=Z,82nm,0.9s,baz=103,slow=7.5,SNR=95
ARCES LR LR 10 26 59.9
comp=Z,701nm,20.4s,baz=277,slow=37
ARE0 ARCESS Array S 39.88 334 *e*P **P 10 10 01.5 -0.4**
TRPA Tarpa 40.06 300 ⇓P **P 10 10 04.4 +0.8**
TRPA Tarpa 40.06 300 ⇑P **P 10 10 03.9 +0.3**
KOLS Kolonicke sedl 40.09 301 *e*P **P 10 10 03.6 -0.3**
KOLS pmax pmax
comp=Z,25nm,1.4s
KOLS Kolonicke sedl 40.09 301 *e*P **P 10 10 03.6 -0.3**
RZN Rozhen 40.11 290 P **P 10 10 04.7 +0.4**
HABR Khabarovsk 40.11 59 P **P 10 10 01.3 -2.7**
HABR *e**PP **pP 10 10 10.9 -2.2**
HABR *e*S **S 10 16 05.1 -3.1**
HABR *e**SS **sS 10 16 21.3 -1.8**
HABR *e*SS **SS 10 19 04.0 -2.1**
HABR *e* 10 20 05.8
HABR MLR MLR
comp=Z,2μm,17.0s
UZH Uzhgorod 40.13 301⇑*e*P **P 10 10 04.0 -0.2**
UZH *i* 10 10 22.3
UZH *e* 10 11 34.9
UZH *e* 10 12 07.4
UZH *e*S **S 10 16 06.0 -2.5**
UZH *e* 10 18 53.7
UZH *e* 10 19 35.3
UZH MLR MLR
comp=N,950nm,13.0s
UZH MLR MLR
comp=E,1μm,13.0s
UZH MLR MLR
comp=Z,800nm,13.0s
DRGR 40.21 298 ⇓P **P 10 10 05.9 +0.9**
DRGR 40.21 298⇓*i*P **P 10 10 05.9 +0.9**
PGB Panagyurishte 40.25 291 P **P 10 10 06.7 +1.3**
KULM Kulim 40.31 145 P **P 10 10 06.6 +0.6**
comp=Z,35nm,1.3s
GZR Gura Zlata 40.48 296 ⇑P **P 10 10 07.3 +0.1**
GZR Gura Zlata 40.48 296⇑*i*P **P 10 10 07.3 +0.1**
BEL Belsk 40.59 306 *e*P **P 10 10 07.6 -0.3**
BEL LMZ LR 10 29 40.0
comp=Z,2μm,19.1s
BEL Belsk 40.59 306 *e*P **P 10 10 07.6 -0.3**
BEL LMZ LR 10 29 40.0
comp=Z,2μm,19.1s
BEL Belsk 40.59 306 *e*P **P 10 10 07.6 -0.3**
BEL MLR MLR
comp=Z,2μm,19.1s
CRVS Cervenica-Dubn 40.62 302 *e*P **P 10 10 09.5 +1.2**
CRVS pmax pmax
comp=Z,18nm,1.0s
CRVS Cervenica-Dubn 40.62 302 *e*P **P 10 10 09.5 +1.2**
NVR Nevrokopi 40.82 290 P **P 10 10 08.9 -1.1**
NVR Nevrokopi 40.82 290 *e*P **P 10 10 09.6 -0.4**
MMB Musomiste 40.84 290 P **P 10 10 10.2 0.0**
VTS Vitosha 40.92 292 ⇑P **P 10 10 11.3 +0.3**
VTS Vitosha 40.92 292 P **P 10 10 11.3 +0.3**
VTS Vitosha 40.92 292⇑*i*P **P 10 10 11.3 +0.3**
VTS Vitosha 40.92 292 P **P 10 10 10.7 -0.3**
APE Apeiranthos 41.05 283 ⇓P **P 10 10 12.3 +0.3**
APE Apeiranthos 41.05 283 *e*P **P 10 10 14.1 +2.1**
APE Apeiranthos 41.05 283⇓*i*P **P 10 10 12.3 +0.3**
SRS Serrai 41.08 289 P **P 10 10 12.3 +0.1**
IPM Ipoh 41.20 145 *e*P **P 10 10 13.2 -0.1**
comp=Z,15nm,0.7s
IPM Ipoh 41.20 145 P **P 10 10 14.0 +0.7**
comp=Z,33nm,0.9s
KKB Krupnik 41.22 291 P **P 10 10 14.3 +1.0**
BZS Buzias 41.22 297 ⇓P **P 10 10 13.9 +0.7**
BZS Buzias 41.22 297⇓*i*P **P 10 10 13.9 +0.7**
NIE Niedzica 41.27 303 *i* P **P 10 10 14.0 +0.4**
NIE *e*pP **pP 10 10 24.1 +1.4**
NIE Niedzica 41.27 303⇑*i*P **P 10 10 14.4 +0.7**
NIE *e**PP **pP 10 10 24.8 +2.1**
PLG Polygyros 41.43 288 *e*P **P 10 10 15.0 -0.1**
OJC Ojcow 41.45 304 *e*P **P 10 10 14.1 -1.0**
OJC *e*pP **pP 10 10 25.0 +0.9**
OJC *e*PP **PnPn 10 11 55.0 -0.8**
OJC *e*S **S 10 16 30.0 +1.8**
OJC L L 10 30 45.0
comp=Z,1μm,17.0s
OJC Ojcow 41.45 304 *e*P **P 10 10 14.8 -0.3**
OJC *e**PP **pP 10 10 25.2 +1.0**
OJC *e* 10 11 55.0
OJC *e*S **S 10 16 30.0 +1.8**
OJC MLR MLR
comp=Z,1μm,17.0s
XRY Khrisi 41.78 280 *e*P **P 10 10 18.1 +0.1**
LAST Lasithi 41.83 280 *e*P **P 10 10 18.5 0.0**
PSI Prapat 41.84 149 P **P 10 10 18.4 -0.3**
PSI Prapat 41.84 149 P **P 10 10 18.4 -0.3**
comp=Z,16nm,0.8s,baz=307,slow=10,SNR=5.8
PSZ Piszkesteto 41.84 300 *e*P **P 10 10 18.5 +0.1**
PSZ pmax pmax
comp=Z,30nm,0.9s
PSZ Piszkesteto 41.84 300 *e*P **P 10 10 18.4 +0.1**
comp=Z,30nm,0.9s
PSZ Piszkesteto 41.84 300⇑*i*P **P 10 10 18.5 +0.1**
PSZ Piszkesteto 41.84 300 ⇑P **P 10 10 18.5 +0.1**
JNU Nakatsue 41.89 83 P **P 10 10 18.6 -0.3**
JNU Nakatsue 41.89 83 P **P 10 10 18.6 -0.3**
comp=Z,16nm,0.9s,baz=331,slow=10,SNR=2.8
NEO Neokhori 41.95 287 *e*P P 10 10 23.9 +4.6
ATH Athens Observa 42.06 285 *e*P **P 10 10 19.5 -0.7**
TRO Tromso 42.14 333 *e*P **P 10 10 19.3 -1.1**
PKS6 Bocsa 42.37 299 ⇓P **P 10 10 23.6 +1.0**
VYHS Vyhne 42.41 301 *e*P **P 10 10 23.1 +0.2**
VYHS pmax pmax
comp=Z,29nm,1.2s
VYHS Vyhne 42.41 301 *e*P **P 10 10 23.1 +0.2**
VYHS *e* 10 26 17.2
BUD Budapest 42.51 300 ⇑P **P 10 10 24.4 +0.6**
GKP Gorka Klasztor 42.54 309 *e*P **P 10 10 23.5 -0.4**
GKP LMZ LR 10 31 11.7
comp=Z,2μm,15.7s
GKP Gorka Klasztor 42.54 309 *e*P **P 10 10 23.5 -0.4**
GKP LMZ LR 10 31 11.7
comp=Z,2μm,15.7s
GKP Gorka Klasztor 42.54 309 *e*P **P 10 10 23.5 -0.4**
GKP MLR MLR
comp=Z,2μm,15.7s
OKC Ostrava-Krasne 42.57 304 *e*P **P 10 10 24.7 +0.5**
OKC MLR MLR
comp=Z,1μm,10.3s
OKC Ostrava-Krasne 42.57 304⇑*e*P **P 10 10 24.7 +0.5**
OKC *e*SS SS 10 19 58.3 +3.5
OKC AMS AMS 10 31 10.0
comp=Z,1μm,10.3s
LTK Loutraki 42.59 285 *e*P **P 10 10 23.5 -1.1**
PKS2 Kecel 42.63 298 ⇑P **P 10 10 24.9 +0.2**
KZN Kozani 42.66 289 *e*P **P 10 10 25.7 +0.6**
DIVS Divibare 42.74 295 P **P 10 10 25.5 -0.2**
FNA Florina 42.78 290 P **P 10 10 25.1 -1.0**
ATD Arta Tunnel 42.82 238 P **P 10 10 28.4 +1.8**
ATD Arta Tunnel 42.82 238 P **P 10 10 28.4 +1.8**
comp=Z,51nm,0.9s,baz=22,slow=3.9,SNR=17
KARN Karanos 42.90 281 *e*P **P 10 10 30.2 +3.1**
PKSG 42.95 300 ⇓P **P 10 10 27.9 +0.6**
MORC Moravsky Berou 42.97 304 ⇑P **P 10 10 27.5 0.0**
MORC Moravsky Berou 42.97 304 *e*P **P 10 10 27.4 -0.1**
comp=Z,49nm,1.0s
MORC Moravsky Berou 42.97 304⇑*i*P **P 10 10 27.5 0.0**
GUR Goura 43.08 285 *e*P P 10 10 32.8 +4.2
PKSM Moragy 43.08 298 ⇓P **P 10 10 28.9 +0.5**
PKSM Moragy 43.08 298⇓*i*P **P 10 10 28.9 +0.5**
PKSM Moragy 43.08 298 ⇑P **P 10 10 28.3 -0.1**
EVR Evrytania 43.11 287 *e*P **P 10 10 29.2 +0.3**
KYTH Kithira 43.20 283 *e*P **P 10 10 28.0 -1.6**
STEI Steigen 43.21 330 *e*P **P 10 10 28.7 -0.4**
EFP Efpalio 43.22 286 *e*P **P 10 10 29.1 -0.5**
PKST T``s 43.22 300 ⇑P **P 10 10 27.5 -2.0**
PKST ⇓P pP 10 10 29.7 -8.9
PKS9 Tamasi 43.23 299 ⇑P **P 10 10 30.2 +0.6**
SMOL Smolenice 43.32 302 *e*P **P 10 10 31.3 +1.0**
UPR University Cam 43.36 286 *e*P **P 10 10 31.5 +0.8**
KRLC Kraliky 43.39 304⇑*e*P **P 10 10 30.9 0.0**
RHK3 Tenkes 43.43 298 ⇓P **P 10 10 31.0 -0.2**
KSP Ksiaz 43.53 305 *e*P **P 10 10 31.9 -0.1**
KSP LMZ LR 10 29 27.4
comp=Z,2μm,16.3s
KSP Ksiaz 43.53 305 *e*P **P 10 10 31.9 -0.1**
KSP LMZ LR 10 29 27.4
comp=Z,2μm,16.3s
KSP Ksiaz 43.53 305⇑*e*P **P 10 10 31.8 -0.2**
KSP *e* 10 12 16.0
KSP MLR MLR
comp=Z,4μm,16.2s
JAN Janina 43.54 288 *e*P **P 10 10 31.7 -0.6**
DPC Dobruska-Polom 43.62 305⇑*i*P **P 10 10 33.1 +0.4**
DPC *e* 10 10 44.2
DPC MLR MLR
comp=Z,1μm,14.5s
DPC Dobruska-Polom 43.62 305⇑*i*P **P 10 10 33.1 +0.4**
DPC *ex* x 10 10 44.2
DPC AMS AMS 10 29 30.0
comp=Z,1μm,14.5s
BSD Bornholm Skovb 43.62 312 *i* P **P 10 10 31.4 -1.2**
BSD pmax pmax
comp=Z,40nm,0.9s
BSD Bornholm Skovb 43.62 312 *i* P **P 10 10 31.4 -1.2**
comp=Z,40nm,0.9s
VRAC Vranov 43.67 303 P **P 10 10 33.4 +0.2**
VRAC Vranov 43.67 303⇑*i*P **P 10 10 33.8 +0.6**
VRAC Vranov 43.67 303 P **P 10 10 33.4 +0.2**
comp=Z,32nm,1.0s,baz=81,slow=9.8,SNR=25
HFS Hagfors 43.75 319 P **P 10 10 32.8 -0.9**
HFS Hagfors 43.75 319 P **P 10 10 32.8 -0.9**
comp=Z,87nm,0.9s,baz=94,slow=8.7,SNR=82
HFS LR LR 10 28 22.7
comp=Z,501nm,18.9s,baz=84,slow=36
UPC Upice 43.78 305⇑*i*P **P 10 10 34.3 +0.3**
UPC Upice 43.78 305⇑*i*P **P 10 10 34.3 +0.3**
PYL PYLOS 43.92 284 *e*P **P 10 10 32.6 -2.7**
MNSI Mandailing Nat 43.93 149 P **P 10 10 36.1 +0.6**
comp=Z,53nm,0.9s,comp=Z,.14μm
SOP Sopron 44.08 301 ⇑P **P 10 10 36.1 -0.3**
TREC Trest 44.38 303 *e*P **P 10 10 39.0 +0.2**
TREC MLR MLR
comp=Z,2μm,18.2s
TREC Trest 44.38 303⇑*e*P **P 10 10 39.0 +0.2**
TREC AMS AMS 10 32 20.0
comp=Z,2μm,18.2s
CONA Conrad Observa 44.48 301⇓*i*P **P 10 10 39.8 +0.1**
comp=Z,79nm,1.1s,SNR=29
PVCC Panska Ves 44.67 305 *e*P **P 10 10 41.4 +0.3**
PVCC Panska Ves 44.67 305⇑*e*P **P 10 10 41.4 +0.3**
NC602 NORSAR Array S 44.77 320 *e*P **P 10 10 41.0 -0.8**
PRU Pruhonice 44.81 304⇑*i*P **P 10 10 42.4 +0.1**
PRU *e* 10 10 53.9
PRU MLR MLR
comp=Z,1μm,18.9s
PRU Pruhonice 44.81 304⇑*i*P **P 10 10 42.4 +0.1**
PRU *ex* x 10 10 53.9
PRU AMS AMS 10 30 20.0
comp=Z,1μm,18.9s
ARSA Arzberg 44.88 300⇑*i*P **P 10 10 42.1 -0.8**
comp=Z,34nm,1.3s,SNR=11
NB2 NORSAR Subarra 44.91 320 P **P 10 10 41.9 -1.0**
baz=86,slow=8.6
NB2 NORSAR Subarra 44.91 320 P **P 10 10 41.9 -1.0**
comp=Z,118nm,1.1s,baz=86,slow=8.6
NOA NORSAR Array B 44.91 320 P **P 10 10 41.9 -1.0**
NOA NORSAR Array B 44.91 320 P **P 10 10 41.9 -1.0**
comp=Z,54nm,0.9s,baz=84,slow=8.0,SNR=127
NOA LR LR 10 29 47.2
comp=Z,641nm,20.6s,baz=100,slow=36
COP Copenhagen 44.94 313 *i* P **P 10 10 43.8 +0.7**
COP pmax pmax
comp=Z,38nm,1.1s
COP Copenhagen 44.94 313 *i* P **P 10 10 43.8 +0.7**
comp=Z,38nm,1.1s
BKNI Bangkinang 44.94 147 P **P 10 10 44.3 +0.7**
comp=Z,76nm,0.9s
SPITS Spitsbergen Ar 44.98 345 P **P 10 10 43.6 +0.3**
SPITS Spitsbergen Ar 44.98 345 P **P 10 10 43.6 +0.3**
comp=Z,34nm,1.1s,baz=104,slow=10,SNR=7.8
BRG Berggiesshubel 44.98 306 *i* P **P 10 10 43.6 0.0**
comp=Z,57nm,1.2s
BRG PP **PP 10 12 31.0 +2.2**
BRG SS SS 10 20 40.0 -1.8
BRG
comp=N,1μm,14.3s
BRG
comp=E,1μm,14.3s
BRG
comp=Z,2μm,11.9s
BRG Berggiesshubel 44.98 306 *e*P **P 10 10 43.2 -0.4**
comp=Z,57nm,1.2s
BRG Berggiesshubel 44.98 306 *i* P **P 10 10 43.6 0.0**
BRG 10 12 31.0
BRG SS SS 10 20 40.0 -1.8
BRG pmax pmax
comp=Z,57nm,1.2s
BRG MLR MLR
comp=N,1μm,14.3s
BRG MLR MLR
comp=E,1μm,14.3s
BRG MLR MLR
comp=Z,2μm,11.9s
NAO01 NORSAR Array S 45.08 320 *e*P **P 10 10 43.2 -1.1**
comp=Z,85nm,1.1s
GROS Grobnik 45.11 299 *i* P **P 10 10 44.0 -0.8**
LLD Lille Linde 45.12 312 *i* P **P 10 10 44.9 +0.4**
LLD pmax pmax
comp=Z,56nm,0.8s
LLD Lille Linde 45.12 312 *i* P **P 10 10 44.9 +0.4**
comp=Z,56nm,0.8s
TBLU Trondheim 45.19 324 *e*P **P 10 10 41.9 -3.1**
SOKA Soboth 45.36 300⇑*i*P **P 10 10 46.3 -0.4**
comp=Z,92nm,1.2s
CLL Collm 45.46 307 *e*P **P 10 10 46.5 -0.9**
comp=Z,57nm,1.0s
CLL Collm 45.46 307⇑*i*P **P 10 10 47.0 -0.4**
CLL *e*S **S 10 17 31.0 +4.2**
CLL pmax pmax
comp=Z,57nm,1.0s
CLL Collm 45.46 307⇑*i*P **P 10 10 47.0 -0.4**
comp=Z,57nm,1.0s
CLL *i* pP pP 10 10 50.4 -6.1
CLL *e**PP **PP 10 12 31.0 -2.8**
CLL *e* 10 12 57.0
CLL *e*S **S 10 17 31.0 +4.2**
CLL *e* 10 18 00.0
CLL *e*SS **SS 10 20 51.0 +0.8**
YSS Yuzh-Sakhalins 45.52 60 *e*P **P 10 10 49.0 +1.1**
YSS MLR MLR
comp=Z,1μm,14.0s
YSS MLR MLR
comp=N,1μm,13.0s
YSS MLR MLR
comp=E,1μm,12.0s
MOA Molln 45.53 302⇑*i*P **P 10 10 47.7 -0.3**
comp=E,45nm,1.2s,SNR=16
BOJS Bojanci 45.55 298 *i* P **P 10 10 48.0 -0.2**
GEC2 GERESS Array S 45.63 303 *e*P **P 10 10 48.8 -0.1**
comp=Z,80nm,1.1s
GEC2 pmax pmax
comp=Z,80nm,1.1s
GERES GERESS Array B 45.63 303 P **P 10 10 48.7 -0.2**
GERES GERESS Array B 45.63 303 P **P 10 10 48.7 -0.2**
comp=Z,46nm,1.0s,baz=74,slow=7.2,SNR=112
GERES LR LR 10 33 31.5
comp=Z,901nm,18.8s,baz=78,slow=41
KHC Kasperske Hory 45.63 304⇑*i*P **P 10 10 48.9 +0.1**
KHC *e* 10 10 59.7
KHC *e* 10 12 27.0
KHC MLR MLR
comp=Z,2μm,15.8s
KHC Kasperske Hory 45.63 304 *e*P **P 10 10 48.6 -0.3**
comp=Z,47nm,1.3s
KHC Kasperske Hory 45.63 304⇑*i*P **P 10 10 48.9 +0.1**
KHC *ex* x 10 10 59.7
KHC *ex* x 10 11 09.0
KHC *e*PCP **PcP 10 12 27.0 +0.3**
KHC AMS AMS 10 32 50.0
comp=Z,2μm,15.8s
OBKA Obir 45.72 300⇑*i*P **P 10 10 49.4 -0.3**
comp=Z,53nm,1.1s,SNR=12
VISS Visnje 45.74 299 *i* P **P 10 10 49.5 -0.1**
KONO Kongsberg 45.86 319 *e*P **P 10 10 49.8 -0.6**
KONO AMB AMB 10 10 51.7
comp=Z,113nm,1.1s
KONO Kongsberg 45.86 319 *e*P **P 10 10 49.7 -0.6**
KONO pmax pmax
comp=Z,99nm,1.1s
KONO Kongsberg 45.86 319 *e*P **P 10 10 49.7 -0.6**
comp=Z,99nm,1.1s
MAT Matsushiro 45.93 75 P **P 10 10 50.6 -0.7**
MJAR Matsushiro Arr 45.93 75 P **P 10 10 51.3 0.0**
MJAR Matsushiro Arr 45.93 75 P **P 10 10 51.3 0.0**
comp=Z,9.0nm,0.8s,baz=338,slow=7.9,SNR=14
MJAR LR LR 10 31 38.1
comp=Z,376nm,18.4s,baz=285,slow=38
TANN Tannenbergstha 46.01 306 *e*P **P 10 10 51.4 -0.4**
NKC Novy Kostel 46.06 305 *e*P **P 10 10 52.0 -0.2**
NKC MLR MLR
comp=Z,2μm,13.9s
NKC Novy Kostel 46.06 305⇑*e*P **P 10 10 52.0 -0.2**
NKC AMS AMS 10 30 40.0
comp=Z,2μm,13.9s
WET Wettzell 46.08 304 *e*P **P 10 10 52.0 -0.3**
comp=Z,46nm,1.2s
WET Wettzell 46.08 304 *e*P **P 10 10 52.0 -0.3**
WET pmax pmax
comp=Z,46nm,1.2s
JAVS Javornik 46.23 299 *i* P **P 10 10 52.8 -0.8**
ASAJ Asahikawa 46.28 63 P **P 10 10 53.4 -0.5**
ASAJ Asahikawa 46.28 63 P **P 10 10 53.4 -0.5**
comp=Z,13nm,1.0s,baz=268,slow=13,SNR=4.4
ASAJ LR LR 10 33 10.3
comp=Z,907nm,18.8s,baz=274,slow=40
MYKA Terra Mystica 46.29 300⇓*i*P **P 10 10 53.4 -0.7**
comp=Z,23nm,1.4s
VOY Vojsko 46.30 299 *e*P **P 10 10 53.2 -1.0**
VOY *e* 10 10 56.8
VOY *e* 10 11 24.4
ROTZ Rotzenmuhle 46.33 305 *e*P **P 10 10 54.5 +0.2**
KBA Koelnbreinsper 46.35 301⇓*i*P **P 10 10 54.0 -0.7**
comp=Z,37nm,1.6s,SNR=7.5
BSEG Bad Segeberg 46.47 311 *e*P **P 10 10 55.2 -0.1**
comp=Z,122nm,1.2s
BSEG Bad Segeberg 46.47 311 *e*P **P 10 10 55.2 -0.1**
BSEG pmax pmax
comp=Z,122nm,1.2s
MOX Moxa 46.47 306 *e*P **P 10 10 54.9 -0.5**
comp=Z,60nm,1.3s
MOX Moxa 46.47 306 *e*P **P 10 10 54.9 -0.5**
MOX pmax pmax
comp=Z,60nm,1.3s
MOL Molde 46.48 323 *e*P **P 10 10 55.0 -0.3**
MOL AMB AMB 10 10 57.0
comp=Z,95nm,1.4s
RJOB Jochberg 46.52 302 *e*P **P 10 10 55.3 -0.5**
MUD Monsted U'grnd 46.60 314 *i* P **P 10 10 56.5 +0.3**
MUD pmax pmax
comp=Z,30nm,1.1s
MUD Monsted U'grnd 46.60 314 *i* P **P 10 10 56.5 +0.3**
comp=Z,30nm,1.1s
HOMB Homborsund 46.63 317 *e*P **P 10 10 53.3 -3.1**
NRDL Niedersach Rie 46.93 309 *e*P **P 10 10 58.7 -0.1**
CLZ Clausthal 46.93 308 *e*P **P 10 10 58.5 -0.5**
comp=Z,46nm,1.3s
CLZ Clausthal 46.93 308 *e*P **P 10 10 58.5 -0.5**
CLZ pmax pmax
comp=Z,46nm,1.3s
GRF Grafenberg Arr 46.97 305 *e*P **P 10 10 59.5 +0.2**
comp=Z,103nm,0.9s
GRF *e*L L 10 33 59.8
comp=Z,933nm,18.3s
GRF Grafenberg Arr 46.97 305 *e*P **P 10 10 59.5 +0.2**
GRF pmax pmax
comp=Z,103nm,0.9s
GRF MLR MLR
comp=Z,900nm,18.3s
GRFO Grafenberg 46.97 305 *e*P **P 10 11 00.0 +0.7**
GRFO pmax pmax
comp=Z,81nm,0.9s
GRFO Grafenberg 46.97 305 *e*P **P 10 11 00.0 +0.7**
comp=Z,81nm,0.9s
ABTA Abfaltersbach 46.99 301⇑*i*P **P 10 10 57.4 -2.2**
comp=Z,24nm,1.3s,SNR=7.8
CUC Castrocucco 47.03 291 *e*P **P 10 11 00.2 +0.3**
comp=Z,85nm,0.9s
CUC Castrocucco 47.03 291 *e*P **P 10 11 01.0 +1.1**
SNART Snartemo 47.29 317 *e*P **P 10 11 01.6 0.0**
SNART AMB AMB 10 11 03.3
comp=Z,94nm,1.3s
ODD1 Odda 47.30 319 *e*P **P 10 11 01.7 0.0**
ODD1 AMB AMB 10 11 03.6
comp=Z,59nm,1.2s
HYA Hoyanger 47.31 321 *e*P **P 10 11 01.2 -0.5**
FUR Furstenfeldbru 47.37 303 *e*P **P 10 11 02.6 +0.2**
comp=Z,87nm,0.9s
FUR Furstenfeldbru 47.37 303 *e*P **P 10 11 02.6 +0.2**
FUR pmax pmax
comp=Z,87nm,0.9s
WTTA Wattenberg 47.41 302 *i* P **P 10 11 02.2 -0.8**
comp=Z,64nm,1.2s,SNR=12
UBBA Unterbreizbach 47.42 307 *e*P **P 10 11 02.8 +0.2**
WATA Walderalm 47.42 302⇑*i*P **P 10 11 01.8 -1.2**
comp=Z,51nm,1.3s,SNR=8.1
SEY Seymchan 47.59 36*d* *i*P **P 10 11 03.7 -0.1**
MOTA Moosalm 47.73 302⇓*i*P **P 10 11 04.5 -0.9**
comp=Z,42nm,0.8s,SNR=23
FOO Floro 47.79 322 *e*P **P 10 11 04.3 -1.1**
RUND Rundenannen 47.84 320 *e*P **P 10 11 04.9 -1.0**
RUND AMB AMB 10 11 06.7
comp=Z,179nm,1.3s
BER Bergen 47.86 320 *e*P **P 10 11 04.8 -1.1**
RETA Reutte 47.90 302⇑*i*P **P 10 11 06.0 -0.6**
comp=Z,61nm,1.1s,SNR=18
ASK Askoy 47.91 320 *e*P **P 10 11 05.3 -1.1**
ASK AMB AMB 10 11 07.2
comp=Z,240nm,1.4s
EGD Espegrend 47.93 320 *e*P **P 10 11 05.5 -1.1**
STAV Stavanger 47.95 318 *e*P P 10 11 19.2 +13

KKM **Kota Kinabalu** 48.05 126 *e*P P 10 11 10.5 +2.3
comp=Z,44nm,1.0s
FETA **Feichten** 48.07 302⇑*i*P P 10 11 06.9 -1.1
comp=Z,40nm,1.1s,SNR=14
KSM **Kuching** 48.34 135 *e*P P 10 11 12.1 +1.9
comp=Z,16nm,0.9s
KSM **Kuching** 48.34 135 P P 10 11 12.1 +1.9
comp=Z,30nm,1.0s,comp=Z,453nm
IBBN **Ibbenburen** 48.37 309 *e*P P 10 11 09.5 -0.5
TOD **Tromm** 48.50 305 *e*P P 10 11 10.8 -0.4
TOD **Tromm** 48.50 305 *e*P P 10 11 10.8 -0.4
STU **Stuttgart** 48.51 304 *e*P P 10 11 10.8 -0.4
comp=Z,72nm,1.1s
STU **Stuttgart** 48.51 304 *e*P P 10 11 11.4 +0.2
STU pmax pmax
comp=Z,81nm,1.1s
STU **Stuttgart** 48.51 304 *e*P P 10 11 11.4 +0.2
comp=Z,81nm,1.1s
YUK **Yuzh-Kuril'sk** 48.52 63*d*iP P 10 11 06.0 -5.3
YUK *i* S S 10 18 07.4 -3.2
YUK *i* SS SS 10 21 32.5 -7.8
DAVA **Damuels** 48.54 302⇓*i*P P 10 11 10.9 -0.7
comp=Z,89nm,0.9s,SNR=11
TNS **Taunus Mts** 48.54 306 *e*P P 10 11 10.9 -0.6
comp=Z,26nm,1.1s
TNS **Taunus Mts** 48.54 306 *e*P P 10 11 10.9 -0.6
TNS pmax pmax
comp=Z,26nm,1.1s
SBUM **Sibu** 48.57 133 P P 10 11 11.8 -0.2
comp=Z,34nm,1.3s
DAVOX **Davos/Dischmat** 48.70 301 P P 10 11 12.0 -1.0
DAVOX **Davos/Dischmat** 48.70 301 P P 10 11 12.0 -1.0
comp=Z,29nm,0.8s,baz=64,slow=8.6,SNR=29
DAVOX LR LR 10 32 42.5
comp=Z,887nm,21.8s,baz=67,slow=37
BUG **Bochum--Univer** 48.90 308 *e*P P 10 11 13.8 -0.3
SPAK **Spaichingen-Ko** 48.98 303 *e*P P 10 11 14.2 -0.7
TUE **Stuetta** 49.15 301 *e*P P 10 11 15.2 -1.2
comp=Z,21nm,0.8s
KSI **Kapahiang** 49.18 148 P P 10 11 16.9 +0.2
comp=Z,87nm,0.8s
BFO **Black Forest** 49.19 304 *e*P P 10 11 15.7 -0.7
comp=Z,44nm,1.1s
BFO **Black Forest** 49.19 304 *e*P P 10 11 15.8 -0.7
BFO pmax pmax
comp=Z,52nm,1.2s
BFO **Black Forest** 49.19 304 *e*P P 10 11 15.8 -0.6
comp=Z,52nm,1.2s
BFO **Black Forest** 49.19 304 P P 10 11 16.2 -0.3
comp=Z,196nm,1.2s,SNR=18
ABH **Alteburg** 49.19 306 *e*P P 10 11 16.3 -0.2
VLC **Villacollemand** 49.26 298 *e*P P 10 11 18.2 +1.1
comp=Z,137nm,0.9s
FELD **Feldberg im Sc** 49.55 303 *e*P P 10 11 18.8 -0.5
RUP **Ruppelstein** 49.55 306 *e*P P 10 11 19.0 -0.2
RUP **Ruppelstein** 49.55 306 *e*P P 10 11 19.0 -0.2
CDF **Champ du Feu** 49.83 304⇑*i*P P 10 11 20.7 -0.7
comp=Z,110nm,1.1s
CDF **Champ du Feu** 49.83 304⇑*i*P P 10 11 20.7 -0.7
CDF pmax pmax
comp=Z,110nm,1.1s
CDF **Champ du Feu** 49.83 304⇑*i*P P 10 11 20.7 -0.7
comp=Z,110nm,1.1s
MEM **Membach** 49.91 307 P P 10 11 21.5 -0.4
comp=Z,22nm,1.9s
ECH **Echery** 49.97 304 *e*P P 10 11 21.5 -0.9
ECH **Echery** 49.97 304 *e*P P 10 11 21.5 -0.9
ECH **Echery** 49.97 304 *e*P P 10 11 21.5 -0.9
BBS **Basel-Blauen** 50.00 303 *e*P P 10 11 21.3 -1.4
BBS **Basel-Blauen** 50.00 303 *e*P P 10 11 21.3 -1.4
BEBN **Eben Emael** 50.05 308 P P 10 11 23.2 +0.3
MOF **Molkenrain** 50.11 304 *e*P P 10 11 22.6 -0.9
MOF **Molkenrain** 50.11 304 *e*P P 10 11 22.6 -0.9
MOF **Molkenrain** 50.11 304 *e*P P 10 11 22.6 -0.9
WLF **Walferdange** 50.12 306 P P 10 11 24.0 +0.5
comp=Z,34nm,1.3s
WLF **Walferdange** 50.12 306 *e*P P 10 11 23.3 -0.2
WLF **Walferdange** 50.12 306 *e*P P 10 11 24.0 +0.5
WLF pmax pmax
comp=Z,61nm,1.2s
WLF **Walferdange** 50.12 306 *e*P P 10 11 23.9 +0.5
comp=Z,61nm,1.2s
STKI **Sintang** 50.14 135 P P 10 11 26.5 +2.5
comp=Z,70nm,0.9s,comp=Z,20µm
MYLDM **Lahad Datu** 50.15 124 P P 10 11 26.6 +2.5
HINF **Hinteralfeld** 50.30 304⇑*i*P P 10 11 24.2 -0.7
comp=Z,182nm,1.2s
HINF **Hinteralfeld** 50.30 304⇑*i*P P 10 11 24.2 -0.7
HINF pmax pmax
comp=Z,182nm,1.2s
HINF **Hinteralfeld** 50.30 304⇑*i*P P 10 11 24.2 -0.7
comp=Z,182nm,1.2s
BCLA **Clavier** 50.40 307 P P 10 11 25.7 +0.2
comp=Z,20nm,1.5s
LOMF **Lomont** 50.47 303 *e*P P 10 11 24.9 -1.4
LOMF **Lomont** 50.47 303 *e*P P 10 11 24.9 -1.4
LOMF **Lomont** 50.47 303 *e*P P 10 11 24.9 -1.4
HAU **Haudompre** 50.55 304⇑*i*P P 10 11 26.0 -0.8
comp=Z,87nm,1.0s
HAU *e*R
comp=Z,1µm,17.8s
HAU **Haudompre** 50.55 304⇑*i*P P 10 11 26.0 -0.8
HAU pmax pmax
comp=Z,87nm,1.0s
HAU **Haudompre** 50.55 304⇑*i*P P 10 11 26.0 -0.8
comp=Z,87nm,1.0s
THEF **They Montfort** 50.70 304 *e*P P 10 11 27.1 -0.8
THEF **They Montfort** 50.70 304 *e*P P 10 11 27.1 -0.8
THEF **They Montfort** 50.70 304 *e*P P 10 11 27.1 -0.8
PAGF **Fort de Pagny** 50.75 305⇑*i*P P 10 11 28.0 -0.3
comp=Z,34nm,1.4s
PAGF **Fort de Pagny** 50.75 305⇑*i*P P 10 11 28.0 -0.3
comp=Z,34nm,1.4s
GIVF **Givet** 50.79 307⇑*i*P P 10 11 28.3 -0.2
comp=Z,101nm,1.1s
GIVF **Givet** 50.79 307⇑*i*P P 10 11 28.3 -0.2
GIVF pmax pmax
comp=Z,101nm,1.1s
GIVF **Givet** 50.79 307⇑*i*P P 10 11 28.3 -0.2
comp=Z,101nm,1.1s
PGF **Pioggiola** 50.80 297⇑*i*P P 10 11 28.3 -0.6
comp=Z,284nm,1.3s
PGF **Pioggiola** 50.80 297⇑*i*P P 10 11 28.3 -0.6
PGF pmax pmax
comp=Z,284nm,1.3s
PGF **Pioggiola** 50.80 297⇑*i*P P 10 11 28.3 -0.6
comp=Z,284nm,1.3s
OG01 **Vacheresse** 50.93 302 *e*P P 10 11 29.2 -0.5
OG01 **Vacheresse** 50.93 302 *e*P P 10 11 29.2 -0.5
DOU **Dourbes** 50.93 307 P P 10 11 29.8 +0.2
comp=Z,20nm,1.5s
SNF **Seneffe** 50.98 308 P P 10 11 29.8 -0.1
comp=Z,15nm,1.6s
BAIF **Baives** 51.18 307⇑*i*P P 10 11 31.2 -0.2
comp=Z,98nm,1.1s
BAIF **Baives** 51.18 307⇑*i*P P 10 11 31.2 -0.2
BAIF pmax pmax
comp=Z,99nm,1.1s
BAIF **Baives** 51.18 307⇑*i*P P 10 11 31.2 -0.2
comp=Z,98nm,1.1s
LPG **La Plagne** 51.19 301⇑*i*P P 10 11 31.6 -0.4
comp=Z,114nm,0.9s
LPG **La Plagne** 51.19 301⇑*i*P P 10 11 31.6 -0.4
LPG pmax pmax
comp=Z,114nm,0.9s
LPG **La Plagne** 51.19 301⇑*i*P P 10 11 31.6 -0.4
comp=Z,114nm,0.9s
LPL **La Plagne** 51.19 301⇑*i*P P 10 11 31.5 -0.4
comp=Z,320nm,1.3s
LPL **La Plagne** 51.19 301⇑*i*P P 10 11 31.5 -0.4
LPL pmax pmax
comp=Z,320nm,1.3s
LPL **La Plagne** 51.19 301⇑*i*P P 10 11 31.5 -0.4
comp=Z,320nm,1.3s
MEZF **Maizieres J'vi** 51.19 305⇑*i*P P 10 11 31.4 -0.2
comp=Z,257nm,1.2s
MEZF **Maizieres J'vi** 51.19 305⇑*i*P P 10 11 31.4 -0.2
comp=Z,257nm,1.2s
RSL **Roselend** 51.20 301 *e*P P 10 11 32.4 +0.5
RSL **Roselend** 51.20 301 *e*P P 10 11 32.4 +0.5
RSL **Roselend** 51.20 301 *e*P P 10 11 32.4 +0.5
CABF **La Chapelle** 51.21 302⇑*i*P P 10 11 30.9 -1.0
comp=Z,75nm,1.1s
CABF **La Chapelle** 51.21 302⇑*i*P P 10 11 30.9 -1.0
CABF pmax pmax
comp=Z,75nm,1.1s
CABF **La Chapelle** 51.21 302⇑*i*P P 10 11 30.9 -1.0
comp=Z,75nm,1.1s
SAOF **Saorge** 51.22 299 *e*P P 10 11 31.5 -0.4
SAOF **Saorge** 51.22 299 *e*P P 10 11 31.5 -0.4
SAOF **Saorge** 51.22 299 *e*P P 10 11 31.5 -0.4
AUTN **L'Aution** 51.30 299 *e*P P 10 11 32.1 -0.7
AUTN **L'Aution** 51.30 299 *e*P P 10 11 32.1 -0.7
AUTN **L'Aution** 51.30 299 *e*P P 10 11 32.1 -0.7
SFTF **Sexfontaines** 51.30 305⇑*i*P P 10 11 31.7 -0.8
comp=Z,148nm,1.2s
SFTF **Sexfontaines** 51.30 305⇑*i*P P 10 11 31.7 -0.8
comp=Z,148nm,1.2s
OG22 **Abries** 51.31 300 *e*P P 10 11 32.3 -0.5
OG22 **Abries** 51.31 300 *e*P P 10 11 32.3 -0.5
SBF **Sospel** 51.35 299⇑*i*P P 10 11 32.4 -0.5
comp=Z,132nm,0.7s
SBF **Sospel** 51.35 299⇑*i*P P 10 11 32.4 -0.5
SBF pmax pmax
comp=Z,132nm,0.7s
SBF **Sospel** 51.35 299⇑*i*P P 10 11 32.4 -0.5
comp=Z,132nm,0.7s
BNI **Bardonecchia** 51.40 300 *e*P P 10 11 32.3 -1.1
BNI pmax pmax
comp=Z,134nm,1.1s
BNI **Bardonecchia** 51.40 300 *e*P P 10 11 32.3 -1.1
comp=Z,134nm,1.1s
TOUF **Mont Tournerai** 51.42 299 *e*P P 10 11 33.1 -0.5
TOUF **Mont Tournerai** 51.42 299 *e*P P 10 11 33.1 -0.5
TOUF **Mont Tournerai** 51.42 299 *e*P P 10 11 33.1 -0.5
REVF **Revere** 51.44 299 *e*P P 10 11 33.4 -0.2
REVF **Revere** 51.44 299 *e*P P 10 11 33.4 -0.2
REVF **Revere** 51.44 299 *e*P P 10 11 33.4 -0.2
MBDF **Montbardon** 51.46 300⇑*i*P P 10 11 32.6 -1.3
comp=Z,85nm,0.8s
MBDF **Montbardon** 51.46 300⇑*i*P P 10 11 32.6 -1.3
MBDF pmax pmax
comp=Z,85nm,0.8s
MBDF **Montbardon** 51.46 300⇑*i*P P 10 11 32.6 -1.3
comp=Z,85nm,0.8s
MVIF **Mont Vial** 51.53 299 *e*P P 10 11 34.1 -0.3
MVIF **Mont Vial** 51.53 299 *e*P P 10 11 34.1 -0.3
MVIF **Mont Vial** 51.53 299 *e*P P 10 11 34.1 -0.3
SURF **Saint Ours** 51.53 300 *e*P P 10 11 33.7 -0.7
SURF **Saint Ours** 51.53 300 *e*P P 10 11 33.7 -0.7
GDM **Grand'Maison** 51.71 301 *e*P P 10 11 35.2 -0.5
GDM **Grand'Maison** 51.71 301 *e*P P 10 11 35.2 -0.5
OG35 **Corcelles** 51.75 302 *e*P P 10 11 35.5 -0.4
CALN **Calern** 51.76 299 *e*P P 10 11 35.7 -0.4
CALN **Calern** 51.76 299 *e*P P 10 11 35.7 -0.4
CALN **Calern** 51.76 299 *e*P P 10 11 35.7 -0.4
GRN **Grenoble** 51.94 301 *e*P P 10 11 37.0 -0.3
GRN **Grenoble** 51.94 301 *e*P P 10 11 37.0 -0.3
GRN **Grenoble** 51.94 301 *e*P P 10 11 37.0 -0.3
ORIF **Oris-en-Rattie** 51.98 300⇑*i*P P 10 11 36.4 -1.2
comp=Z,117nm,1.0s
ORIF *e*R
comp=Z,1µm,20.0s
ORIF **Oris-en-Rattie** 51.98 300⇑*i*P P 10 11 36.4 -1.2
ORIF pmax pmax
comp=Z,117nm,1.0s
ORIF **Oris-en-Rattie** 51.98 300⇑*i*P P 10 11 36.4 -1.2
comp=Z,117nm,1.0s
OG25 **Le Caire** 52.06 300 *e*P P 10 11 37.0 -1.3
OG25 **Le Caire** 52.06 300 *e*P P 10 11 37.0 -1.3
LMR **La Mourre** 52.18 298 *e*P P 10 11 38.3 -0.7
comp=Z,191nm,1.4s
LMR **La Mourre** 52.18 298 *e*P P 10 11 38.3 -0.7
LMR pmax pmax
comp=Z,191nm,1.4s
LMR **La Mourre** 52.18 298 *e*P P 10 11 38.3 -0.7
comp=Z,191nm,1.4s
BILL **Bilibino** 52.20 28 *e*P P 10 11 38.7 -0.1
BILL *i* S S 10 19 23.5 +22
BILL pmax pmax
comp=Z,22nm,1.2s
BILL MLR MLR
comp=Z,700nm,16.0s
BILL **Bilibino** 52.20 28 *e*P P 10 11 38.7 -0.1
comp=Z,22nm,0.9s
STOF **St-Etienne Org** 52.31 299 *e*P P 10 11 38.5 -1.6
STOF **St-Etienne Org** 52.31 299 *e*P P 10 11 38.5 -1.6
TAVF **Tavernes** 52.37 299 *e*P P 10 11 40.5 0.0
TAVF **Tavernes** 52.37 299 *e*P P 10 11 40.5 0.0
LOR **Lormes** 52.39 304⇑*i*P P 10 11 39.1 -1.5
comp=Z,48nm,1.1s
LOR *e*R
comp=Z,749nm,17.0s
LOR **Lormes** 52.39 304⇑*i*P P 10 11 39.1 -1.5
comp=Z,48nm,1.1s
OG26 **St.-Nazaire-De** 52.49 300 *e*P P 10 11 41.3 -0.1
OCF **Saint Nazaire** 52.49 300 *e*P P 10 11 41.3 -0.1
VILF **Villemus** 52.50 299 *e*P P 10 11 41.7 +0.2
VILF **Villemus** 52.50 299 *e*P P 10 11 41.7 +0.2
DAG **Danmarks Havn** 52.52 343 *i* P P 10 11 40.0 -1.0
DAG pmax pmax
comp=Z,29nm,1.0s
DAG MLR MLR
comp=Z,620nm,23.0s
DAG **Danmarks Havn** 52.52 343 *i* P P 10 11 40.0 -1.0
comp=Z,287nm,1.0s
DAG
comp=Z,820nm,23.0s
SMRF **Simiane la Rot** 52.54 300⇑*i*P P 10 11 41.2 -0.6
comp=Z,88nm,1.1s
SMRF **Simiane la Rot** 52.54 300⇑*i*P P 10 11 41.2 -0.6
comp=Z,88nm,1.1s
SSF **Saint Saulge** 52.69 304⇑*i*P P 10 11 41.6 -1.2
comp=Z,87nm,1.2s
SSF **Saint Saulge** 52.69 304⇑*i*P P 10 11 41.6 -1.2
SSF pmax pmax
comp=Z,87nm,1.2s
SSF **Saint Saulge** 52.69 304⇑*i*P P 10 11 41.6 -1.2
comp=Z,87nm,1.2s
SSB **Saint Sauveur** 52.71 301 *e*P P 10 11 42.4 -0.6
SSB **Saint Sauveur** 52.71 301 *e*P P 10 11 42.4 -0.6
SSB **Saint Sauveur** 52.71 301 *e*P P 10 11 42.4 -0.6
BERF **Bertagne** 52.73 299 *e*P P 10 11 42.0 -1.3
BERF **Bertagne** 52.73 299 *e*P P 10 11 42.0 -1.3
PETK **Petropavlovsk-** 52.77 48 LR LR 10 33 56.9
comp=Z,349nm,19.7s,baz=290,slow=36
VIVF **Saint-Julien-l** 52.79 301⇑*i*P P 10 11 42.8 -0.8
comp=Z,141nm,1.3s
VIVF **Saint-Julien-l** 52.79 301⇑*i*P P 10 11 42.8 -0.8
VIVF pmax pmax
comp=Z,141nm,1.3s
VIVF **Saint-Julien-l** 52.79 301⇑*i*P P 10 11 42.8 -0.8
comp=Z,141nm,1.3s
TREF **Trevaresse** 52.81 299 *e*P P 10 11 42.5 -1.2
TREF **Trevaresse** 52.81 299 *e*P P 10 11 42.5 -1.2
MCD **Coleburn Disti** 52.87 318 *e*P P 10 11 43.3 -0.6
MCD **Coleburn Disti** 52.87 318 P P 10 11 43.3 -0.6
GELF **Grande-Etoile** 52.88 299 *e*P P 10 11 42.0 -2.3
GELF **Grande-Etoile** 52.88 299 *e*P P 10 11 42.0 -2.3
PRAF **Pradon** 52.88 299 *e*P P 10 11 42.9 -1.4
PRAF **Pradon** 52.88 299 *e*P P 10 11 42.9 -1.4
AVF **Avril sur Loir** 52.89 304⇑*i*P P 10 11 43.2 -1.0
comp=Z,229nm,1.1s
AVF **Avril sur Loir** 52.89 304⇑*i*P P 10 11 43.2 -1.0
AVF pmax pmax
comp=Z,229nm,1.1s
AVF **Avril sur Loir** 52.89 304⇑*i*P P 10 11 43.2 -1.0
comp=Z,229nm,1.1s
PLDF **La Plantade** 53.03 302 *e*P P 10 11 44.9 -0.5
PLDF **La Plantade** 53.03 302 *e*P P 10 11 44.9 -0.5
PLDF **La Plantade** 53.03 302 *e*P P 10 11 44.9 -0.5
ESY **Stoneypath** 53.09 316⇑*e*P P 10 11 44.5 -1.1
ESY **Stoneypath** 53.09 316 P P 10 11 44.5 -1.1
HYF **Humbligny** 53.16 304⇑*i*P P 10 11 45.6 -0.6
HYF **Humbligny** 53.16 304⇑*i*P P 10 11 45.6 -0.6
XAL **Allendale** 53.24 315⇑*e*P P 10 11 45.6 -1.1
XAL **Allendale** 53.24 315 P P 10 11 45.6 -1.1
BGF **Bois d'Agland** 53.30 303⇑*i*P P 10 11 46.2 -1.1
comp=Z,83nm,1.2s
BGF **Bois d'Agland** 53.30 303⇑*i*P P 10 11 46.2 -1.1
BGF pmax pmax
comp=Z,83nm,1.2s
BGF **Bois d'Agland** 53.30 303⇑*i*P P 10 11 46.2 -1.1
comp=Z,83nm,1.2s
AGO **Saint Agoulin** 53.32 303 *e*P P 10 11 46.8 -0.6
AGO **Saint Agoulin** 53.32 303 *e*P P 10 11 46.8 -0.6
PET **Petropavlovsk** 53.34 48 *e*P P 10 11 55.2 +7.8
PET *e*S S 10 19 21.3 +4.3
PET pmax pmax
comp=Z,100nm,13.2s
PET MLR MLR
comp=Z,900nm,19.0s
EBL **Broad Law** 53.37 316⇑*e*P P 10 11 46.4 -1.2
EBL **Broad Law** 53.37 316 P P 10 11 46.4 -1.2
EDI **Edinburgh** 53.39 316 *e*P P 10 11 46.8 -0.9
EDI AMB AMB 10 11 51.3
comp=Z,48nm,2.1s
EDI **Edinburgh** 53.39 316 P P 10 11 46.8 -0.9
EDI AMB AMB 10 11 51.3
comp=Z,48nm,2.1s
KBI1 **Birley Grange** 53.42 312⇑*e*P P 10 11 47.0 -1.0
KBI1 **Birley Grange** 53.42 312 P P 10 11 47.0 -1.0
KEST **Kesra** 53.47 289 P P 10 11 48.2 -0.5
KEST **Kesra** 53.47 289 P P 10 11 48.2 -0.5
comp=Z,11nm,1.0s,baz=72,slow=3.2,SNR=13
KEST LR LR 10 40 00.2
comp=Z,123nm,18.6s,baz=319,slow=42
MDO **Dochfour** 53.48 318 *e*P P 10 11 46.8 -1.6
MDO **Dochfour** 53.48 318 P P 10 11 46.8 -1.6
EAU **Auchinoon** 53.55 316⇑*e*P P 10 11 48.3 -0.7
EAU **Auchinoon** 53.55 316 P P 10 11 48.3 -0.7
LBL **Lubilhac** 53.57 302 *e*P P 10 11 48.6 -0.8
LBL **Lubilhac** 53.57 302 *e*P P 10 11 48.6 -0.8
LBL **Lubilhac** 53.57 302 *e*P P 10 11 48.6 -0.8
ESK **Eskdalemuir** 53.61 315⇑*e*P P 10 11 48.2 -1.1
ESK AMB AMB 10 11 50.2
comp=Z,57nm,1.2s
ESK **Eskdalemuir** 53.61 315 P P 10 11 48.2 -1.1
ESK AMB AMB 10 11 50.2
comp=Z,57nm,1.2s
ESK **Eskdalemuir** 53.61 315 *e*P P 10 11 48.3 -1.1
ESK pmax pmax
comp=Z,52nm,1.0s
ESK **Eskdalemuir** 53.61 315 *e*P P 10 11 48.3 -1.1
comp=Z,52nm,1.0s
ESK **Eskdalemuir** 53.61 315 P P 10 11 48.4 -1.0
comp=Z,279nm,1.1s,SNR=11
LASF **Ste Croix** 53.64 300⇑*i*P P 10 11 49.4 -0.4
comp=Z,149nm,1.2s
LASF **Ste Croix** 53.64 300⇑*i*P P 10 11 49.4 -0.4
comp=Z,149nm,1.2s
TCF **Toulx Ste Croi** 53.81 303⇑*i*P P 10 11 50.4 -0.7
comp=Z,115nm,1.2s
TCF **Toulx Ste Croi** 53.81 303⇑*i*P P 10 11 50.4 -0.7
TCF pmax pmax
comp=Z,115nm,1.2s
TCF **Toulx Ste Croi** 53.81 303⇑*i*P P 10 11 50.4 -0.7
comp=Z,115nm,1.2s
KESW **Keswick, Cumbr** 53.82 314⇑*e*P P 10 11 49.6 -1.3
KESW AMB AMB 10 11 52.1
comp=Z,69nm,1.2s
KESW **Keswick, Cumbr** 53.82 314 P P 10 11 49.6 -1.3
KESW AMB AMB 10 11 52.1
comp=Z,69nm,1.2s
VERF **Verneugheol** 53.85 303 *e*P P 10 11 51.2 -0.2
VERF **Verneugheol** 53.85 303 *e*P P 10 11 51.2 -0.2
KAC **Achnashellach** 53.93 318 *e*P P 10 11 50.6 -1.2
KAC **Achnashellach** 53.93 318 P P 10 11 50.6 -1.2
LDF **La Druitiere** 54.35 307⇑*i*P P 10 11 53.7 -1.2
comp=Z,111nm,1.3s
LDF **La Druitiere** 54.35 307⇑*i*P P 10 11 53.7 -1.2
LDF pmax pmax
comp=Z,111nm,1.3s
LDF **La Druitiere** 54.35 307⇑*i*P P 10 11 53.7 -1.2
comp=Z,111nm,1.3s
HLM1 **Long Mynd** 54.46 312⇑*e*P P 10 11 54.5 -1.1
HLM1 AMB AMB 10 11 59.5
comp=Z,48nm,1.6s
HLM1 **Long Mynd** 54.46 312 P P 10 11 54.5 -1.1
HLM1 AMB AMB 10 11 59.5
comp=Z,48nm,1.6s
CAF **Calviac** 54.46 302⇑*i*P P 10 11 55.4 -0.4
comp=Z,76nm,1.2s
CAF **Calviac** 54.46 302⇑*i*P P 10 11 55.4 -0.4
CAF pmax pmax
comp=Z,76nm,1.2s
CAF **Calviac** 54.46 302⇑*i*P P 10 11 55.4 -0.4
comp=Z,76nm,1.2s
FOEL **Foel Wylfa** 54.50 313 *e*P P 10 11 55.5 -0.4
FOEL AMB AMB 10 12 00.7
comp=Z,50nm,1.5s
FOEL **Foel Wylfa** 54.50 313 P P 10 11 55.5 -0.4
FOEL AMB AMB 10 12 00.7
comp=Z,50nm,1.5s
FLN **La Foliniere** 54.50 307⇑*i*P P 10 11 54.7 -1.3
comp=Z,60nm,1.3s
FLN *e*R
comp=Z,1µm,18.2s
FLN **La Foliniere** 54.50 307⇑*i*P P 10 11 54.7 -1.3
FLN pmax pmax
comp=Z,60nm,1.3s
FLN **La Foliniere** 54.50 307⇑*i*P P 10 11 54.7 -1.3
comp=Z,60nm,1.3s
RJF **Les Rejaudoux** 54.65 302⇑*i*P P 10 11 56.9 -0.3
comp=Z,208nm,1.4s
RJF *e*R
comp=Z,806nm,21.0s
RJF **Les Rejaudoux** 54.65 302⇑*i*P P 10 11 56.9 -0.3
RJF pmax pmax
comp=Z,208nm,1.4s
RJF **Les Rejaudoux** 54.65 302⇑*i*P P 10 11 56.9 -0.3
comp=Z,208nm,1.4s
MCH1 **Michaelchurch** 54.72 311 *e*P P 10 11 56.4 -1.1
MCH1 AMB AMB 10 12 01.2
comp=Z,74nm,1.8s
MCH1 **Michaelchurch** 54.72 311 P P 10 11 56.4 -1.1
MCH1 AMB AMB 10 12 01.2
comp=Z,74nm,1.8s
WPM1 **Penmaenmawr** 54.75 313 *e*P P 10 11 57.1 -0.6
WPM1 **Penmaenmawr** 54.75 313 P P 10 11 57.1 -0.6
GRR **Gorron** 54.88 307⇑*i*P P 10 11 57.4 -1.4
comp=Z,133nm,1.2s
GRR **Gorron** 54.88 307⇑*i*P P 10 11 57.4 -1.4
GRR pmax pmax
comp=Z,133nm,1.2s
GRR **Gorron** 54.88 307⇑*i*P P 10 11 57.4 -1.4
comp=Z,133nm,1.2s
WME **Mynydd Eilian** 54.92 313⇑*e*P P 10 11 58.0 -0.9
WME **Mynydd Eilian** 54.92 313 P P 10 11 58.0 -0.9
WLF1 **Llynfaes** 55.01 313 *e*P P 10 11 58.6 -1.0
WLF1 AMB AMB 10 12 00.2
comp=Z,41nm,1.4s
WLF1 **Llynfaes** 55.01 313 P P 10 11 58.6 -1.0
WLF1 AMB AMB 10 12 00.2
comp=Z,41nm,1.4s
YRC **Rhoscolyn** 55.12 313⇑*e*P P 10 11 59.6 -0.8
YRC **Rhoscolyn** 55.12 313 P P 10 11 59.6 -0.8
MFF **Saint Martin d** 55.17 305⇑*i*P P 10 11 59.6 -1.3
comp=Z,106nm,1.3s
MFF **Saint Martin d** 55.17 305⇑*i*P P 10 11 59.6 -1.3
MFF pmax pmax
comp=Z,106nm,1.3s
MFF **Saint Martin d** 55.17 305⇑*i*P P 10 11 59.6 -1.3
comp=Z,106nm,1.3s
LFF **La Frestale** 55.31 302⇑*i*P P 10 12 01.5 -0.4
comp=Z,194nm,1.1s
LFF **La Frestale** 55.31 302⇑*i*P P 10 12 01.5 -0.4
LFF pmax pmax
comp=Z,194nm,1.1s
LFF **La Frestale** 55.31 302⇑*i*P P 10 12 01.5 -0.4
comp=Z,194nm,1.1s
GMM **Mts of Mourne** 55.49 315 *e*P P 10 12 01.6 -1.4
GMM **Mts of Mourne** 55.49 315 P P 10 12 01.6 -1.4
ALE **Alert** 55.59 354 P P 10 12 03.5 +0.1
comp=Z,94nm,1.0s,SNR=6.8
SCO **Scoresbysund** 55.71 336 *i* P P 10 12 04.7 +0.3
SCO pmax pmax
comp=Z,5.0nm,1.2s
SCO **Scoresbysund** 55.71 336 *i* P P 10 12 04.7 +0.3
comp=Z,5.1nm,1.2s
MLS **Moulis** 55.93 300 *e*P P 10 12 05.0 -1.4
MLS **Moulis** 55.93 300 *e*P P 10 12 05.0 -1.4
SGMF **Saint Gilles** 55.97 307⇑*i*P P 10 12 05.6 -1.0
comp=Z,134nm,1.3s
SGMF **Saint Gilles** 55.97 307⇑*i*P P 10 12 05.6 -1.0
SGMF pmax pmax
comp=Z,134nm,1.3s
SGMF **Saint Gilles** 55.97 307⇑*i*P P 10 12 05.6 -1.0
comp=Z,134nm,1.3s
SET **Setif** 56.07 291 P P 10 12 09.0 +1.4
KMBO **Kilima Mbogo** 56.10 233 *e*P P 10 12 08.8 +0.7
comp=Z,38nm,1.5s
KMBO **Kilima Mbogo** 56.10 233 P P 10 12 09.2 +1.0
SNR=12
KMBO **Kilima Mbogo** 56.10 233 *e*P P 10 12 08.9 +0.7

ROSF	Rostrenen	56.37	307	⇑*i*P		P	10 12 08.4	-1.1	
	comp=Z,112nm,1.3s								
ROSF	Rostrenen	56.37	307	⇑*i*P		P	10 12 08.4	-1.1	
ROSF				pmax	pmax				
	comp=Z,113nm,1.3s								
ROSF	Rostrenen	56.37	307	⇑*i*P		P	10 12 08.4	-1.1	
	comp=Z,112nm,1.3s								
EPF	Esparros	56.40	300	⇑*i*P		P	10 12 08.2	-1.6	
	comp=Z,69nm,1.4s								
EPF	Esparros	56.40	300	⇑*i*P		P	10 12 08.2	-1.6	
EPF				pmax	pmax				
	comp=Z,69nm,1.4s								
EPF	Esparros	56.40	300	⇑*i*P		P	10 12 08.2	-1.6	
	comp=Z,69nm,1.4s								
QUIF	Quistinic	56.48	307	⇑*i*P		P	10 12 09.1	-1.1	
	comp=Z,143nm,1.3s								
QUIF	Quistinic	56.48	307	⇑*i*P		P	10 12 09.1	-1.1	
QUIF				pmax	pmax				
	comp=Z,143nm,1.3s								
QUIF	Quistinic	56.48	307	⇑*i*P		P	10 12 09.1	-1.1	
	comp=Z,143nm,1.3s								
RESF	Ens	56.50	300	*e*P		P	10 12 10.4	-0.2	
RESF	Ens	56.50	300	*e*P		P	10 12 10.4	-0.2	
VIEF	Viey	56.67	300	*e*P		P	10 12 11.6	-0.2	
VIEF	Viey	56.67	300	*e*P		P	10 12 11.6	-0.2	
BST	Brest	56.86	308	*e*P		P	10 12 11.8	-1.1	
BST	Brest	56.86	308	*e*P		P	10 12 11.8	-1.1	
ETSF	Etsaut	57.05	301	⇑*i*P		P	10 12 14.0	-0.4	
	comp=Z,100nm,1.2s								
ETSF	Etsaut	57.05	301	⇑*i*P		P	10 12 14.0	-0.4	
ETSF				pmax	pmax				
	comp=Z,100nm,1.2s								
ETSF	Etsaut	57.05	301	⇑*i*P		P	10 12 14.0	-0.4	
	comp=Z,100nm,1.2s								
SJPF	Ste Jean	57.38	301	*e*P		P	10 12 15.6	-1.1	
	comp=Z,60nm,1.3s								
SJPF	Ste Jean	57.38	301	*e*P		P	10 12 15.6	-1.1	
SJPF				pmax	pmax				
	comp=Z,60nm,1.3s								
SJPF	Ste Jean	57.38	301	*e*P		P	10 12 15.6	-1.1	
	comp=Z,60nm,1.3s								
KAPI	Kappang	58.96	130	*e*P		P	10 12 26.8	-1.1	
	comp=Z,20nm,1.1s								
SUMG	Summit	59.10	342	*i* P		P	10 12 27.9	-0.8	
SUMG				pmax	pmax				
	comp=Z,12nm,1.0s								
SUMG	Summit	59.10	342	*e*P		P	10 12 28.1	-0.6	
	comp=Z,16nm,1.0s								
SUMG	Summit	59.10	342	*i* P		P	10 12 27.9	-0.8	
	comp=Z,12nm,1.0s								
MBAR	Mbarara	59.81	239	*e*P		P	10 12 33.3	-0.9	
ESDC	Sonseca Array	60.84	299	P		P	10 12 39.9	-0.9	
ESDC	Sonseca Array	60.84	299	P		P	10 12 39.9	-0.9	
	comp=Z,7.4nm,0.7s,baz=58,slow=7.1,SNR=27								
ESDC				LR	LR		10 41 44.9		
	comp=Z,221nm,18.7s,baz=5.0,slow=39								
ESLA	Sonseca Array	60.84	299	*e*P		P	10 12 40.1	-0.7	
	comp=Z,14nm,1.2s								
PAB	San Pablo	61.16	299	*e*P		P	10 12 42.5	-0.5	
PAB				pmax	pmax				
	comp=Z,35nm,1.3s								
PAB	San Pablo	61.16	299	*e*P		P	10 12 42.5	-0.5	
	comp=Z,35nm,1.3s								
FX1	Attu Island--F	61.32	44	LR		LR	10 40 14.8		
	comp=Z,457nm,18.1s,baz=133,slow=37								
MVO	Moncorvo	62.10	302	*e*P		P	10 12 48.9	-0.4	
	comp=Z,58nm,1.3s								
MVO				*e*LR		LR	10 37 11.4		
	comp=Z,412nm,15.9s								
PCAB	Cabril	62.47	303	*e*P		P	10 12 51.5	-0.2	
	comp=Z,94nm,1.4s								
POLO	Lamas de Olo	62.49	302	*e*P		P	10 12 52.0	+0.1	
	comp=Z,17nm,1.4s								
POLO				*e*LQ		LQ	10 34 40.8		
POLO				*e*LR		LR	10 36 13.6		
PGAV	Gavieira, Arco	62.49	303	*e*P		P	10 12 50.8	-1.1	
	comp=Z,83nm,1.4s								
PGAV	Gavieira, Arco	62.49	303	*e*PP		PP	10 15 08.4	-0.8	
PGAV				*e*LR		LR	10 35 58.2		
	comp=Z,262nm,23.8s								
PGAV				*e*LQ		LQ	10 36 08.4		
MTE	Manteigas	62.83	301	*e*P		P	10 12 53.3	-0.9	
	comp=Z,59nm,1.5s								
MTE				*e*LQ		LQ	10 34 40.9		
MTE				*e*LR		LR	10 36 42.6		
	comp=Z,273nm,18.2s								
MTE	Manteigas	62.83	301	*e*P		P	10 12 53.2	-0.9	
	comp=Z,51nm,1.3s								
PCBR	Castelo Branco	63.08	301	*e*P		P	10 12 55.8	+0.1	
	comp=Z,28nm,1.4s								
PMRV	Marv??o	63.24	300	*e*P		P	10 12 56.1	-0.8	
	comp=Z,63nm,1.4s								
PMRV	Marv??o	63.24	300	*e*PP		PP	10 15 15.2	-0.6	
PMRV				*e*LQ		LQ	10 32 09.0		
PMRV				*e*LR		LR	10 38 19.0		
	comp=Z,348nm,22.1s								
PBAR	Barrancos	63.66	299	*e*P		P	10 12 59.3	-0.4	
	comp=Z,82nm,1.4s								
PBAR	Barrancos	63.66	299	*e*PP		PP	10 15 18.9	-0.6	
PBAR				*e*LQ		LQ	10 33 28.8		
PBAR				*e*LR		LR	10 37 27.6		
PESTR	Estremoz	63.66	300	*e*LQ		LQ	10 33 07.8		
PESTR				*e*LR		LR	10 38 28.3		
PMTG	Montargil	63.98	300	*e*P		P	10 13 00.5	-1.2	
	comp=Z,39nm,1.3s								
PMTG	Montargil	63.98	300	*e*PP		PP	10 15 21.6	-0.6	
PMTG				*e*LQ		LQ	10 27 28.8		
EVO	Evora	64.12	300	*e*P		P	10 13 05.2	+2.5	
	comp=Z,34nm,1.5s								
EVO	Evora	64.12	300	*e*P		P	10 13 02.5	-0.2	
	comp=Z,83nm,1.4s								
EVO				*e*R					
	comp=Z,385nm,20.2s								
EVOP	Sao Brissos	64.20	300	*e*P		P	10 13 02.5	-0.6	
EVOP				pmax	pmax				
	comp=Z,83nm,1.4s								
EVOP	Sao Brissos	64.20	300	*e*P		P	10 13 02.5	-0.6	
	comp=Z,83nm,1.4s								
PBEJ	Beja	64.30	299	*e*P		P	10 13 03.8	0.0	
	comp=Z,38nm,1.4s								
PVAQ	Vaqueiros	64.53	298	*e*P		P	10 13 05.3	-0.1	
	comp=Z,72nm,1.4s								
PVAQ	Vaqueiros	64.53	298	*e*PP		PP	10 15 26.4	-0.8	
PVAQ				*e*LR		LR	10 36 27.3		
	comp=Z,284nm,15.0s								
PCVE	Castro Verde	64.62	299	*e*P		P	10 13 05.9	-0.1	
	comp=Z,32nm,1.4s								
PCVE				*e*LQ		LQ	10 36 03.4		
PCVE				*e*LR		LR	10 37 47.5		
PNCL	Nicolau / Gran	64.69	299	*e*P		P	10 13 06.3	-0.1	
	comp=Z,46nm,1.4s								
PNCL	Nicolau / Gran	64.69	299	*e*PP		PP	10 15 25.8	-2.7	
PNCL				*e*LQ		LQ	10 33 32.1		
PNCL				*e*LR		LR	10 39 50.3		
PMAFR	Mafra	64.73	300	*e*LQ		LQ	10 33 49.0		
PMAFR				*e*LR		LR	10 40 31.5		
PBDV	Barranco-do-Ve	64.76	298	*e*P		P	10 13 06.9	0.0	
	comp=Z,83nm,1.4s								
PBDV				*e*LR		LR	10 37 36.7		
RES	Resolute Bay	64.91	358	LR		LR	10 46 43.5		
	comp=Z,230nm,18.2s,baz=20,slow=41								
MORF	Marmelete	65.21	299	*e*LQ		LQ	10 33 44.8		
MORF				*e*LR		LR	10 35 20.3		
SFJD	Kangerlussuaq	66.01	341	*e*P		P	10 13 13.6	-0.8	
	comp=Z,37nm,1.0s								
SFJD	Kangerlussuaq	66.01	341	*i* P		P	10 13 13.3	-1.1	
	comp=Z,20nm,1.0s								
ABPO	Ambohimpanom	66.16	213	*e*P		P	10 13 16.8	+0.7	
ABPO				pmax	pmax				
	comp=Z,16nm,1.2s								
ABPO	Ambohimpanom	66.16	213	*e*P		P	10 13 16.8	+0.7	
	comp=Z,16nm,1.2s								
COLA	College	68.72	19	*e*P		P	10 13 31.0	-0.6	
COLA				pmax	pmax				
	comp=Z,19nm,0.9s								
COLA				MLR		MLR			
	comp=Z,859nm,22.0s								
COLA	College	68.72	19	*e*P		P	10 13 30.9	-0.6	
	comp=Z,19nm,0.9s								
COLA				LR		LR			
	comp=Z,859nm,22.0s								
INK	Inuvik	68.75	12	*e*P		P	10 13 30.9	-0.8	
	comp=Z,28nm,1.1s								
INK	Inuvik	68.75	12	LR		LR	10 45 49.7		
	comp=Z,433nm,20.5s,baz=323,slow=38								
ILAR	Eielson Array	69.05	19	P		P	10 13 31.9	-1.8	
	comp=Z,8.6nm,0.8s,baz=322,slow=5.1,SNR=62								
ILAR				LR		LR	10 44 53.4		
	comp=Z,584nm,19.6s,baz=324,slow=37								
EGAK	Eagle	70.40	17	*e*P		P	10 13 41.3	-0.7	
	comp=Z,16nm,1.2s								
PMR	Palmer	71.03	22	*e*P		P	10 13 44.7	-1.1	
PMR				pmax	pmax				
	comp=Z,17nm,1.0s								
PMR	Palmer	71.03	22	*e*P		P	10 13 44.7	-1.1	
	comp=Z,17nm,1.0s								
MENT	Mentasta	71.36	19	*e*P		P	10 13 46.2	-1.7	
SLKM	Skilak Lake	71.58	23	*e*P		P	10 13 48.4	-0.9	
SLKM	Skilak Lake	71.58	23	*e*P		P	10 13 48.4	-0.9	
TOA0	Torodi Ar. Sit	71.75	272	*e*P		P	10 13 49.3	-1.6	
TORD	Torodi Ar. Bea	71.75	272	P		P	10 13 49.3	-1.6	
TORD	Torodi Ar. Bea	71.75	272	P		P	10 13 49.3	-1.6	
	comp=Z,29nm,1.0s,baz=47,slow=5.3,SNR=91								
MBWA	Marble Bar	72.34	140	*e*P		P	10 13 54.9	+0.7	
	comp=Z,25nm,0.8s								
LSZ	Lusaka	72.70	231	*e*P		P	10 13 56.3	-0.3	
	comp=Z,32nm,1.3s								
LSZ	Lusaka	72.70	231	P		P	10 13 57.2	+0.6	
	SNR=8.0								
LSZ	Lusaka	72.70	231	*e*P		P	10 13 56.6	0.0	
FITZ	Fitzroy Crossi	72.89	133	P		P	10 13 58.0	+0.5	
FITZ	Fitzroy Crossi	72.89	133	*e*P		P	10 13 58.2	+0.7	
	comp=Z,22nm,0.9s								
FITZ	Fitzroy Crossi	72.89	133	P		P	10 13 58.0	+0.5	
	comp=Z,12nm,0.8s,baz=315,slow=5.2,SNR=30								
KDAK	Kodiak Island	72.99	26	*e*P		P	10 13 57.7	+0.1	
	comp=Z,71nm,1.2s								
KDAK	Kodiak Island	72.99	26	P		P	10 13 57.0	-0.6	
	comp=Z,249nm,0.7s,SNR=8.3								
KDAK	Kodiak Island	72.99	26	LR		LR	10 46 49.3		
	comp=Z,430nm,18.4s,baz=125,slow=36								
SKAG	Skagway	76.39	17	*e*P		P	10 14 17.7	+0.4	
	comp=Z,35nm,1.1s								
YKA	Yellowknife Ar	76.68	6	P		P	10 14 17.4	-1.5	
YKA				P'P'			10 41 31.6		
YKA	Yellowknife Ar	76.68	6	P		P	10 14 17.4	-1.5	
	comp=Z,10.0nm,0.8s,baz=345,slow=5.7,SNR=81								
YKA				PKPPKP		P'P'df	10 41 31.5	-6.3	
	comp=Z,0.5nm,1.0s,baz=154,slow=2.5,SNR=5.6								
MSNA	Messina	77.28	225	*e*P		P	10 14 23.5	+0.7	
MSNA				AMB	AMB		10 14 24.2		
	comp=Z,47nm,1.4s								
MOPA	Mopani	77.50	224	*e*P		P	10 14 23.6	-0.4	
MOPA				AMB	AMB		10 14 25.1		
	comp=Z,38nm,1.2s								
DLBC	Dease Lake	78.44	15	LR		LR	10 51 13.2		
	comp=Z,327nm,18.7s,baz=147,slow=37								
WRAB	Tennant Creek	79.37	128	*e*P		P	10 14 34.9	+0.5	
WRAB				pmax	pmax				
	comp=Z,66nm,1.4s								
WRAB	Tennant Creek	79.37	128	*e*P		P	10 14 34.9	+0.5	
	comp=Z,66nm,1.4s								
WRAB	Tennant Creek	79.37	128	P		P	10 14 35.0	+0.5	
	comp=Z,176nm,1.0s,SNR=14								
WRA	Warramunga Arr	79.37	128	P		P	10 14 35.0	+0.6	
WRA	Warramunga Arr	79.37	128	P		P	10 14 35.0	+0.6	
	comp=Z,20nm,0.9s,baz=327,slow=5.3,SNR=145								
WRAK	Wrangell Islan	79.82	17	*e*P		P	10 14 37.0	+0.7	
	comp=Z,23nm,1.1s								
PMG	Port Moresby	80.18	111	*e*P		P	10 14 39.7	+0.8	
	comp=Z,14nm,1.0s								
PMG	Port Moresby	80.18	111	P		P	10 14 38.4	-0.5	
	comp=Z,11nm,0.8s,baz=309,slow=8.1,SNR=8.4								
KLBR	Kellerberrin	80.42	147	*e*P		P	10 14 39.6	-0.2	
	comp=Z,13nm,0.7s								
SCHQ	Schefferville	80.46	341	P		P	10 14 38.1	-1.8	
SCHQ	Schefferville	80.46	341	P		P	10 14 38.1	-1.8	
	comp=Z,9.8nm,1.0s,baz=343,slow=3.7,SNR=6.6								
SCHQ				LR		LR	10 54 38.1		
	comp=Z,352nm,18.1s,baz=214,slow=39								
COEN	Coen	80.61	117	*e*P		P	10 14 41.8	+0.6	
	comp=Z,75nm,0.8s								
DBIC	Dimbokro	80.82	271	*e*P		P	10 14 41.1	-1.4	
	comp=Z,20nm,1.1s								
DBIC	Dimbokro	80.82	271	P		P	10 14 40.8	-1.6	
	comp=Z,11nm,0.9s,baz=26,slow=6.4,SNR=10.0								
DBIC				LR		LR	10 56 27.9		
	comp=Z,207nm,18.2s,baz=258,slow=40								
DBIC	Dimbokro	80.82	271	*e*P		P	10 14 38.9	-3.5	
SLR	Silverton	80.94	225	*e*P		P	10 14 43.2	+0.2	
SLR				AMB	AMB		10 14 43.9		
	comp=Z,24nm,1.4s								
LIC	Lamto	81.23	271	*e*P		P	10 14 43.1	-1.6	
	comp=Z,66nm,1.3s								
LIC				*e*R					
	comp=Z,275nm,21.5s								
LIC	Lamto	81.23	271	*e*P		P	10 14 43.1	-1.6	
	comp=Z,66nm,1.3s								
NWAO	Narrogin (SRO)	81.37	148	*e*P		P	10 14 45.1	+0.3	
	comp=Z,11nm,0.6s								
ERPM	east rand prop	81.45	224	*e*P		P	10 14 45.7	+0.1	
ERPM				AMB	AMB		10 14 46.0		
	comp=Z,33nm,1.1s								
LBTB	Lobatse	81.84	227	*e*P		P	10 14 48.7	+1.0	
	comp=Z,40nm,1.0s								
LBTB	Lobatse	81.84	227	⇑*i*P		P	10 14 48.2	+0.6	
LBTB				AMB	AMB		10 14 49.0		
	comp=Z,48nm,1.1s								
AS31	Alice Springs	81.98	131	*e*P		P	10 14 48.5	+0.1	
ASAR	Alice Springs	81.98	131	P		P	10 14 48.4	0.0	
ASAR	Alice Springs	81.98	131	P		P	10 14 48.4	0.0	
	comp=Z,15nm,0.8s,baz=322,slow=5.4,SNR=167								
TSUM	Tsumeb	82.22	237	*e*P		P	10 14 50.1	+0.3	
	comp=Z,28nm,1.1s								
TSUM				LR		LR			
	comp=Z,260nm,19.0s								
TSUM	Tsumeb	82.22	237	*e*P		P	10 14 50.1	+0.3	
PRYS	Parys	82.39	225	*e*P		P	10 14 49.6	-0.9	
PRYS				AMB	AMB		10 14 53.0		
	comp=Z,30nm,3.8s								
SWZ	Schweizer	83.69	226	*e*P		P	10 14 57.5	+0.2	
SWZ				AMB	AMB		10 14 58.0		
	comp=Z,38nm,1.1s								
FORT	Forrest	84.45	139	*e*P		P	10 15 01.3	+0.4	
	comp=Z,53nm,0.8s								
FORT	Forrest	84.45	139	*e*P		P	10 15 01.2	+0.4	
	comp=Z,40nm,0.7s								
BOSA	Boshof	84.86	225	*e*P		P	10 15 02.8	-0.4	
	comp=Z,16nm,0.8s								
BOSA	Boshof	84.86	225	P		P	10 15 03.1	0.0	
	comp=Z,21nm,0.8s,baz=25,slow=4.8,SNR=35								
BOSA				LR		LR	10 52 52.0		
	comp=Z,113nm,18.1s,baz=297,slow=36								
BOSA	Boshof	84.86	225	*e*P		P	10 15 01.8	-1.3	
BOSA				AMB	AMB		10 15 07.1		
	comp=Z,46nm,4.7s								
FFC	Flin Flon	85.03	0	*e*P		P	10 15 02.5	-1.1	
FFC				pmax	pmax				
	comp=Z,33nm,1.0s								
FFC	Flin Flon	85.03	0	*e*P		P	10 15 02.5	-1.1	
	comp=Z,33nm,1.0s								
FFC	Flin Flon	85.03	0	P		P	10 15 02.5	-1.1	
	comp=Z,171nm,1.0s,SNR=20								
CTA	Charters Tower	87.03	120	*e*P		P	10 15 14.3	+0.4	
	comp=Z,6.7nm,0.7s								
CTAO	Charters Tower	87.03	120	*e*P		P	10 15 14.5	+0.6	
CTAO				pmax	pmax				
	comp=Z,63nm,1.7s								
CTAO	Charters Tower	87.03	120	*e*P		P	10 15 14.5	+0.6	
	comp=Z,63nm,1.7s								
ULM	Lac du Bonnet	89.39	357	*e*P		P	10 15 23.1	-1.7	
	comp=Z,8.4nm,0.9s								
ULM	Lac du Bonnet	89.39	357	P		P	10 15 22.8	-2.0	
	comp=Z,7.2nm,0.8s,baz=14,slow=5.5,SNR=8.4								
ULM				LR		LR	11 00 30.9		
	comp=Z,319nm,20.4s,baz=357,slow=39								
A12A	Yaak River Ran	89.94	9	⇑P		P	10 15 26.6	-0.9	
	baz=90,SNR=9.0								
A13A	Flathead Natio	90.08	9	⇑P		P	10 15 27.1	-1.2	
	baz=90								
A14A	Double T Ranch	90.15	8	⇑P		P	10 15 27.3	-1.3	
	baz=90,SNR=11								
A15A	Johnson Ranch,	90.22	8	⇑P		P	10 15 27.6	-1.3	
	baz=90,SNR=35								
A16A	West Butte Ran	90.36	7	⇑P		P	10 15 27.7	-1.8	
	baz=90								
NEW	Newport	90.40	11	*e*P		P	10 15 28.9	-0.7	
	comp=Z,17nm,1.2s								
NEW	Newport	90.40	11	⇑P		P	10 15 28.4	-1.2	
	baz=90,SNR=12								
B12A	Libby	90.40	9	⇓P		P	10 15 28.5	-1.1	
	baz=90								
A17A	Triple J Farms	90.44	6	⇑P		P	10 15 28.4	-1.4	
	baz=90,SNR=14								
A18A	Metzger Ranch,	90.53	6	⇓P		P	10 15 29.0	-1.2	
	baz=90,SNR=30								
A19A	Klindworth Far	90.60	5	⇓P		P	10 15 29.3	-1.3	
	baz=90,SNR=12								
B13A	Whitefish	90.63	9	⇑P		P	10 15 29.7	-1.0	
	baz=90								
A21A	Bergtoll Ranch	90.64	4	⇓P		P	10 15 29.5	-1.3	
	baz=90,SNR=6.4								
A22A	Carney Farms,	90.68	3	⇓P		P	10 15 30.3	-0.6	
	baz=90								
A23A	Redstone	90.75	2	⇓P		P	10 15 30.4	-0.9	
	baz=90								
B14A	Marquette Ranc	90.77	8	⇓P		P	10 15 30.0	-1.5	
	baz=90,SNR=9.1								
A24A	Westby	90.81	2	⇓P		P	10 15 30.8	-0.8	
	baz=90								
B16A	M & M Farms, S	90.88	7	⇑P		P	10 15 30.2	-1.7	
	baz=90,SNR=7.5								
B15A	Bradely Ranch,	90.89	7	⇓P		P	10 15 30.6	-1.4	
	baz=90,SNR=25								
C11A	Tepee Creek (N	90.93	10	⇑P		P	10 15 30.7	-1.5	
	baz=90								
BLMT	Blacktail Moun	91.00	9	*e*P		P	10 15 31.6	-1.0	
	comp=Z,3.0nm,0.2s								
B19A	Brinkman Farms	91.06	5	⇓P		P	10 15 31.3	-1.4	
	baz=91								
B18A	Beardsley Farm	91.06	6	⇑P		P	10 15 31.2	-1.5	
	baz=91,SNR=9.5								
B17A	L&G Farms, Che	91.08	6	⇑P		P	10 15 31.4	-1.4	
	baz=91								
BSMT	Bassoo Peak	91.11	9	*e*P		P	10 15 33.2	+0.1	
	comp=Z,47nm,1.4s								
B20A	Solberg Farm,	91.13	4	⇓P		P	10 15 31.5	-1.5	
	baz=91,SNR=6.9								
C12B	Naegeli Ranch,	91.16	10	⇑P		P	10 15 31.7	-1.5	
	baz=91,SNR=15								
YBMT	Yellow Bay	91.19	9	*e*P		P	10 15 32.9	-0.5	
	comp=Z,4.0nm,0.9s								
B21A	Ellsworth Farm	91.20	4	⇓P		P	10 15 32.2	-1.1	
	baz=91								
B23A	Brockton	91.24	2	⇑P		P	10 15 32.5	-1.0	
	baz=91								
DGMT	Dagmar	91.26	2	⇑P		P	10 15 32.7	-0.9	
	baz=91								
JTMT	Jette	91.27	9	*e*P		P	10 15 33.3	-0.5	
	comp=Z,25nm,1.4s								
C13A	Hot Springs	91.30	9	⇓P		P	10 15 32.5	-1.4	
	baz=91,SNR=14								
AGMN	Agassiz Nation	91.34	356	*e*P		P	10 15 32.9	-1.1	
	comp=Z,54nm,1.5s								
B22A	Reddig Ranch S	91.37	3	⇓P		P	10 15 33.4	-0.8	
	baz=91								
EYMN	Ely	91.39	353	*e*P		P	10 15 33.5	-0.8	
	comp=Z,16nm,1.1s								
C15A	Salmond Ranch,	91.42	8	⇑P		P	10 15 33.2	-1.4	
	baz=91,SNR=17								
EGMT	Eagleton	91.43	6	*e*P		P	10 15 33.6	-0.8	
	comp=Z,48nm,1.4s								
EGMT	Eagleton	91.43	6	⇑P		P	10 15 33.3	-1.2	
	baz=91,SNR=9.2								
C16A	Fuhringer Ranc	91.48	7	⇑P		P	10 15 33.2	-1.6	
	baz=91,SNR=11								
SWMT	Swartz Lake	91.53	9	*e*P		P	10 15 34.4	-0.6	
	comp=Z,3.7nm,0.8s								
C17A	Wharram Farm,	91.73	6	⇑P		P	10 15 34.2	-1.7	
	baz=91,SNR=12								
C19A	Slack Wire Ran	91.77	5	⇓P		P	10 15 34.6	-1.4	
	baz=91								
C21A	Desert Coulee	91.79	4	⇑P		P	10 15 35.1	-1.0	
	baz=91,SNR=8.2								
D12A	Red Ives Fores	91.82	10	⇑P		P	10 15 35.1	-1.2	
	baz=91								
C20A	Veseth Ranch,	91.85	5	⇑P		P	10 15 35.2	-1.1	
	baz=91								
SLMT	Seeley Lake	91.86	8	*e*P		P	10 15 35.9	-0.7	
	comp=Z,20nm,1.1s								
D13A	Huson	91.89	9	⇓P		P	10 15 35.1	-1.5	
	baz=92								
C23A	Lambert	91.90	3	⇑P		P	10 15 35.9	-0.7	
	baz=92								
MDND	Maddock	91.91	359	⇑P		P	10 15 35.5	-1.1	
	baz=92								
C22A	Vida	91.93	3	⇑P		P	10 15 35.7	-1.0	
	baz=92								
D14A	Greenough	92.01	8	⇓P		P	10 15 35.6	-1.6	
	baz=92,SNR=7.2								
D15A	Lincoln	92.16	8	⇓P		P	10 15 36.2	-1.8	
	baz=92								
C24A	Savage	92.19	2	⇑P		P	10 15 36.9	-1.0	
	baz=92								
CHMT	Chamberlain Mo	92.20	8	⇑P		P	10 15 37.2	-1.0	
	comp=Z,10nm,1.3s								
MSO	Missoula	92.21	9	⇑P		P	10 15 36.4	-1.7	
	baz=92								
D17A	Six Diamond Ra	92.22	6	⇓P		P	10 15 37.1	-1.1	
	baz=92,SNR=15								
D18A	Linhart Farms,	92.25	6	⇑P		P	10 15 36.6	-1.7	
	baz=92								
D16A

	baz=94								
F24A	**Ekalaka**	**93.88**	**2**	⇓P		**P**	**10 15 44.8**	**-1.0**
	baz=94								
G13A	**Cobalt**	**93.89**	**9**	⇑P		**P**	**10 15 44.9**	**-1.0**
	baz=94								
F23A	**Volborg**	**93.97**	**3**	⇑P		**P**	**10 15 45.0**	**-1.2**
	baz=94								
G15A	**Dillon**	**94.02**	**8**	⇑P		**P**	**10 15 45.5**	**-1.1**
	baz=94								
G16A	**Moss Hill, Enn**	**94.02**	**7**	⇓P		**P**	**10 15 45.6**	**-1.0**
	baz=94								
G17A	**Pierce Place,**	**94.03**	**7**	⇑P		**P**	**10 15 45.5**	**-1.1**
	baz=94								
SPMN	**St. Paul**	**94.21**	**354**	⇑P		**P**	**10 15 46.2**	**-1.0**
	baz=94								
MCMT	**McKenzie Canyo**	**94.31**	**8**	*e*P		**P**	**10 15 47.6**	**-0.4**
	comp=Z,2.3nm,0.8s								
G20A	**Bridger**	**94.32**	**5**	⇑P		**P**	**10 15 46.6**	**-1.3**
	baz=94								
RLMT	**Red Lodge**	**94.35**	**6**	⇑P		**P**	**10 15 47.2**	**-0.9**
	baz=94								
G21A	**Lodge Grass**	**94.38**	**4**	⇓P		**P**	**10 15 47.4**	**-0.8**
	baz=94								
H13A	**Challis**	**94.41**	**9**	⇑P		**P**	**10 15 47.0**	**-1.3**
	baz=94								
G22A	**Birney**	**94.43**	**4**	⇑P		**P**	**10 15 47.6**	**-0.8**
	baz=94								
H14A	**Leadore**	**94.46**	**9**	⇑P		**P**	**10 15 47.4**	**-1.3**
	baz=94								
G23A	**Biddle**	**94.49**	**3**	⇑P		**P**	**10 15 47.6**	**-1.0**
	baz=94								
H15A	**Lima**	**94.54**	**8**	⇓P		**P**	**10 15 47.9**	**-1.1**
	baz=94								
H16A	**Russell Place,**	**94.60**	**7**	⇑P		**P**	**10 15 48.1**	**-1.2**
	baz=94								
H18A	**Shoshone NF, C**	**94.76**	**6**	⇑P		**P**	**10 15 48.6**	**-1.5**
	baz=94								
H19A	**Powell**	**94.82**	**6**	⇑P		**P**	**10 15 49.0**	**-1.2**
	baz=94								
H17A	**Grant Village**	**94.96**	**7**	⇑P		**P**	**10 15 50.2**	**-0.9**
	baz=94								
H24A	**Dirks Ranch, A**	**94.97**	**2**	⇓P		**P**	**10 15 49.9**	**-0.9**
	baz=94								
H21A	**Big Horn, Sher**	**94.98**	**4**	⇓P		**P**	**10 15 50.1**	**-0.8**
	baz=95								
I12A	**Atlanta**	**95.05**	**10**	⇑P		**P**	**10 15 50.1**	**-1.2**
	baz=95								
I13A	**Wildhorse Cree**	**95.06**	**9**	⇑P		**P**	**10 15 50.2**	**-1.3**
	baz=95								
I14A	**Mackay**	**95.13**	**9**	⇑P		**P**	**10 15 50.6**	**-1.1**
	baz=95								
FLWY	**Flagg Ranch**	**95.26**	**7**	*e*P		**P**	**10 15 53.0**	**+0.7**
	comp=Z,10nm,1.0s								
MFID	**Camas Ranch**	**95.33**	**11**	⇓P		**P**	**10 15 51.4**	**-1.2**
	baz=95								
HLID	**Hailey**	**95.38**	**10**	⇑P		**P**	**10 15 51.6**	**-1.2**
	baz=95								
I16A	**Newdale**	**95.39**	**7**	⇑P		**P**	**10 15 52.0**	**-0.9**
	baz=95								
I17A	**Pilgrim Ck.**	**95.44**	**7**	⇓P		**P**	**10 15 52.0**	**-1.2**
	baz=95								
J13A	**Cove Ranch, Pi**	**95.57**	**9**	⇑P		**P**	**10 15 52.6**	**-1.1**
	baz=95								
I20A	**Worland**	**95.59**	**5**	⇑P		**P**	**10 15 53.3**	**-0.5**
	baz=95								
RSSD	**Black Hills**	**95.61**	**2**	*e*P		**P**	**10 15 53.7**	**-0.3**
RSSD					pmax	pmax			
	comp=Z,23nm,1.4s								
RSSD	**Black Hills**	**95.61**	**2**	*e*P		**P**	**10 15 53.7**	**-0.3**
	comp=Z,23nm,1.4s								
DCID1	**Drake Creek**	**95.70**	**7**	*e*P		**P**	**10 15 55.5**	**+1.1**
	comp=Z,14nm,1.2s								
J14A	**Carey**	**95.72**	**9**	⇑P		**P**	**10 15 53.4**	**-1.0**
	baz=95								
I22A	**9 Mile Ranch,**	**95.75**	**4**	⇑P		**P**	**10 15 53.1**	**-1.4**
	baz=95								
J15A	**Blackfoot**	**95.77**	**8**	⇓P		**P**	**10 15 53.6**	**-1.0**
	baz=95								
I21A	**Big Trails, Te**	**95.78**	**4**	⇓P		**P**	**10 15 53.8**	**-0.9**
	baz=95								
I24A	**Kuemmerle Ranc**	**95.86**	**2**	⇓P		**P**	**10 15 53.8**	**-1.1**
	baz=95								
J17A	**Brown Place, J**	**95.97**	**7**	⇓P		**P**	**10 15 54.8**	**-0.8**
	baz=96								
J16A	**Bone**	**95.98**	**8**	⇓P		**P**	**10 15 54.4**	**-1.2**
	baz=96								
J18A	**Kendall Valley**	**96.19**	**6**	⇓P		**P**	**10 15 55.0**	**-1.6**
	baz=96								
J20A	**Shoshoni**	**96.19**	**5**	⇑P		**P**	**10 15 55.1**	**-1.4**
	baz=96								
J19A	**Crowheart**	**96.21**	**6**	⇑P		**P**	**10 15 55.7**	**-0.9**
	baz=96								
J22A	**Midwest**	**96.23**	**4**	⇓P		**P**	**10 15 55.1**	**-1.5**
	baz=96								
J21A	**Lysite**	**96.24**	**5**	⇓P		**P**	**10 15 55.6**	**-1.2**
	baz=96								
K16A	**Soda Springs**	**96.42**	**8**	⇑P		**P**	**10 15 56.4**	**-1.2**
	baz=96								
K15A	**Arbon**	**96.46**	**8**	⇓P		**P**	**10 15 57.3**	**-0.5**
	baz=96								
K14A	**Jones Ranch, D**	**96.53**	**9**	⇓P		**P**	**10 15 57.3**	**-0.7**
	baz=96								
K17A	**Gardner Place,**	**96.56**	**7**	⇑P		**P**	**10 15 57.1**	**-1.2**
	baz=96								
BW06	**Boulder Array**	**96.67**	**6**	⇑P		**P**	**10 15 57.7**	**-1.1**
	baz=96								
PDAR	**Pinedale Array**	**96.67**	**6**	P		**P**	**10 15 57.0**	**-1.8**
PDAR	**Pinedale Array**	**96.67**	**6**	P		**P**	**10 15 57.0**	**-1.8**
	comp=Z,1.2nm,0.8s,baz=46,slow=2.6,SNR=9.3								
PDAR					LR	LR	11 02 19.3		
	comp=Z,261nm,18.2s,baz=236,slow=37								
K18A	**Toltan Ranch,**	**96.75**	**6**	⇓P		**P**	**10 15 57.9**	**-1.3**
	baz=96								
K20A	**Yellowstone Ra**	**96.87**	**5**	⇓P		**P**	**10 15 58.5**	**-1.1**
	baz=96								
K22A	**Casper**	**96.98**	**4**	⇑P		**P**	**10 15 58.9**	**-1.2**
	baz=97								
L14A	**Malta**	**97.03**	**9**	⇓P		**P**	**10 15 59.3**	**-1.0**
	baz=97								
L16A	**Fish Haven**	**97.24**	**8**	⇓P		**P**	**10 16 00.5**	**-0.9**
	baz=97								
L19A	**Farson**	**97.34**	**6**	⇑P		**P**	**10 16 00.7**	**-1.1**
	baz=97								
L18A	**Fontenelle, Gr**	**97.46**	**7**	⇓P		**P**	**10 16 01.2**	**-1.1**
	baz=97								
L21A	**Rawlins**	**97.62**	**5**	⇑P		**P**	**10 16 02.1**	**-1.0**
	baz=97								
HWUT	**Hardware Ranch**	**97.63**	**8**	*e*P		Pdif	10 16 03.1	-0.1
	comp=Z,10nm,1.0s								
M15A	**Larsen Ranch,**	**97.68**	**8**	⇓P		**P**	**10 16 02.2**	**-1.0**
	baz=97								
M18A	**Lyman**	**97.95**	**7**	⇓P		**P**	**10 16 03.6**	**-1.0**
	baz=98								
N21A	**Black Mountain**	**98.81**	**5**	⇑Pdiff		**P**	**10 16 06.5**	**-2.0**
	baz=98								
N22A	**Wattenberg Ran**	**98.83**	**4**	⇓Pdiff		**P**	**10 16 06.7**	**-1.9**
	baz=98								
O19A	**Miners Draw (B**	**99.15**	**6**	⇓Pdiff		**Pdif**	**10 16 07.9**	**-2.0**
	baz=99								
O22A	**Kremmling**	**99.46**	**4**	⇑Pdiff		**Pdif**	**10 16 09.8**	**-1.7**
	baz=99								
NVAR	**Mina Array Bea**	**99.81**	**13**	P		**Pdif**	**10 16 11.7**	**-1.3**
NVAR	**Mina Array Bea**	**99.81**	**13**	P		**Pdif**	**10 16 11.7**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=325,slow=4.6,SNR=3.0								
R17A	**Hanksville Air**	**100.88**	**8**	⇓Pdiff		**Pdif**	**10 16 16.0**	**-1.6**
	baz=100								
DZM	**Mont Dzumac**	**102.38**	**108**	eLR		LR	10 50 14.4		
	comp=Z,197nm,24.1s								
BLG	**Laguna Peak**	**103.86**	**15**	⇑Pdiff		**Pdif**	**10 16 28.6**	**-2.2**
	baz=104								
W20A	**Ramah**	**104.34**	**6**	⇑Pdiff		**Pdif**	**10 16 31.8**	**-1.4**
	baz=104								
Y25A	**Mesa, Roswell**	**105.77**	**3**	⇓Pdiff		**PKiKP**	**10 20 51.5**	**-0.6**
	baz=105								
MNTX	**Cornudas Mount**	**107.95**	**4**	⇑Pdiff		**PKiKP**	**10 20 56.8**	**+0.8**
	baz=108								
NVL	**N'lazarevskaya**	**120.84**	**201**	*e*PKIKP		PKPdf	10 21 10.0	-9.2
NVL					pmax	pmax			
	comp=Z,10.0nm,0.8s								
PPT2	**Papeete2**	**132.69**	**76**	eLR		LR	11 04 07.4		
	comp=Z,216nm,22.2s								
OTAV	**Otavalo**	**134.34**	**327**	*e*PKPdf		**PKPdf**	**10 21 48.0**	**+0.7**
CPUP	**Villa Florida**	**141.06**	**278**	PKP		**PKPdf**	**10 21 56.1**	**-2.5**
CPUP	**Villa Florida**	**141.06**	**278**	PKP		**PKPdf**	**10 21 56.1**	**-2.5**
	comp=Z,1.5nm,0.6s,baz=356,slow=3.0,SNR=5.1								
NNA	**Nana**	**144.28**	**316**	*e*PKPdf		**PKPab**	**10 22 02.7**	**0.0**
LVC	**Limon Verde**	**147.35**	**293**	*e*PKPbc		**PKPbc**	**10 22 13.0**	**+0.5**
PMSA	**Palmer Station**	**147.73**	**209**	*e*PKPdf		**PKPdf**	**10 22 08.9**	**-0.1**
PMSA				*e*PKPbc		**PKPbc**	**10 22 12.4**	**+0.5**
PMSA				*e*PKPab		**PKPab**	**10 22 14.7**	**+0.4**
EFI	**East Falkland**	**148.51**	**235**	*e*PKIKP		**PKPdf**	**10 22 10.9**	**+0.2**
EFI				*e*			10 22 14.7		
EFI				*e*			10 22 18.5		
EFI	**East Falkland**	**148.51**	**235**	*e*PKPdf		**PKPdf**	**10 22 10.8**	**+0.2**
EFI				*e*PKPbc		**PKPbc**	**10 22 14.7**	**+0.4**
EFI				*e*PKPab		**PKPab**	**10 22 18.5**	**+0.6**
TRQA	**Tornquist**	**149.66**	**262**	*e*PKPdf		**PKPdf**	**10 22 13.4**	**+0.3**
TRQA				*e*PKPbc		**PKPbc**	**10 22 17.4**	**-0.3**
TRQA				*e*PKPab		**PKPab**	**10 22 23.5**	**+0.5**
LCO	**Las Campanas**	**152.48**	**285**	*e*PKPdf		**PKPdf**	**10 22 18.9**	**+0.9**
LCO				*e*PKPbc		**PKPbc**	**10 22 24.9**	**0.0**

*ISK **20** 10:26:32.7,38°.08N×40°.34E,h10km,MD2.6*
*ISCJB **20** 10:26:33.5±0.9,38°.09N±0°.06×40°.3E±0°.1,h7km±13km, Error ellipse: s-maj=19.0km s-min=6.0km az=25.8*
*CSEM **20** 10:26:34.2±0.3,38°.01N×40°.18E,h12km,MD2.6, Error ellipse: s-maj=11.1km s-min=7.6km az=80.0*

ISC 20 10:26:33.6±1.1,**38°.08N**±0°.05×**40°.28E**±0°.06,**h7**km±13km, **n12**,σ0°**62**/17,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DIY	**Diyarbakir**	**0.19**	**194**	*e*PG	**Pg**	**10 26 37.4**	**-0.1**
DIY				*e*SG	**Sg**	**10 26 40.8**	**+0.8**
DIY	**Diyarbakir**	**0.19**	**194**	*e*Pg	**Pg**	10 26 37.4	-0.1
DIY				*e*Sg	**Sg**	**10 26 40.8**	**+0.8**
DIYA	**Diyarbakir**	**0.20**	**220**	*i* P	**Pg**	10 26 37.3	-0.4
DIYA				*i* S	**Sg**	**10 26 40.6**	**+0.1**
DIYA	**Diyarbakir**	**0.20**	**220**	*i* P	**Pg**	10 26 37.3	-0.4
BINT	**Bingol**	**0.81**	**11**	*e*Pg	**Pn**	**10 26 51.5**	**-0.1**
BINT				*e*Sg	**Sn**	**10 27 05.1**	**+1.1**
SVRC	**Sivrice-ELAZID**	**0.82**	**292**	*e*PG	**Pg**	**10 26 49.7**	**+0.2**
SVRC	**Sivrice-ELAZID**	**0.82**	**292**	*e*Pg	**Pg**	**10 26 49.7**	**+0.2**
BNGB	**Bing˜¶ǁ**	**0.96**	**19**	*e*PG	**Pg**	**10 26 51.5**	**-0.7**
BNGB				*e*SG	**Sg**	**10 27 05.1**	**+0.4**
PTK	**Pertek**	**1.07**	**320**	*e*PN	**Pb**	**10 26 54.5**	**-0.1**
PTK	**Pertek**	**1.07**	**320**	*e*Pn	**Pb**	**10 26 54.5**	**-0.1**
MALT	**Malatya**	**1.48**	**280**	*e*PN	**Pb**	**10 27 00.6**	**-0.9**
MALT	**Malatya**	**1.48**	**280**	*e*Pn	**Pb**	**10 27 00.6**	**-0.9**

*NEIC **20** 10:29:27.6,38°.81N×122°.81W,h2km,MW3.7(BRK),After NCEDC.*
NEIC Felt at Cobb and Kelseyville.
*IDC **20** 10:29:29.0±3.2,38°.80N×122°.87W,h0km,mb1 3.8/3, mb1mx3.3/26,mbtmp3.3/3,ML3.2/4, Error ellipse: s-maj=42.3km s-min=12.3km az=39.0*

ISC 20 10:29:27.4±1.7,**38°.84N**±0°.04×**122°.82W**±0°.04,**h8**km±14km, **n22**,σ1°**43**/30,**Northern California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPS	**Hopland**	**0.25**	**309**	*e*Pg	**Pb**	**10 29 33.6**	**-0.6**
HOPS				*e*Sg	**Sg**	**10 29 35.8**	**-0.1**
KCPM	**Cahto Peak**	**1.03**	**325**	Pg	**Pn**	**10 29 47.9**	**-0.4**
KCPM				*e*Sg	**Sb**	**10 30 01.8**	**+0.4**
KIPM	**Iron Peak**	**1.10**	**332**	*e*Pg	**Pn**	10 29 49.0	-0.2
KIPM				*e*Sg	**Sg**	**10 30 03.7**	**+0.9**
SAC	**San Andreas**	**1.29**	**166**	*e*Pg	**Pb**	10 29 51.0	-0.9
SAC				*e*Sg	**Sn**	**10 30 10.0**	**+0.8**
WDC	**Whiskeytown Da**	**1.76**	**7**	*e*Pn	**Pb**	10 29 59.2	-0.7
WDC				*e*Sn	**Sb**	**10 30 21.9**	**-0.2**
CMB	**Columbia Colle**	**2.07**	**112**	*e*Pn	**Pn**	**10 30 02.2**	**-0.3**
CMB				*e*Sn	**Sb**	**10 30 30.1**	**-1.2**
KHMM	**Horse Mountain**	**2.15**	**341**	Pn	**Pb**	**10 30 05.5**	**-1.2**
KHMM				*e*Sg	**Sg**	**10 30 38.8**	**+2.2**
SAO	**San Andreas Ge**	**2.34**	**152**	*e*Pn	**Pn**	**10 30 05.5**	**-0.7**
WCN	**Washoe City**	**2.43**	**78**	*e*Pn	**Pn**	**10 30 08.7**	**+1.1**
WCN				*e*Sn	**Sb**	**10 30 39.1**	**-2.6**
YBH	**Yreka Blue Hor**	**2.90**	**2**	*e*Pn	**Pn**	**10 30 14.9**	**+1.0**
YBH				Pn	**Pb**	**10 30 18.4**	**-0.9**
YBH				*e*Sg	**Sg**	**10 31 00.8**	**+0.4**
YBH	**Yreka Blue Hor**	**2.90**	**2**	Pn	**Pb**	**10 30 18.5**	**-0.9**
	1.1nm,0.3s,baz=171,slow=11,SNR=28						
NVAR	**Mina Array Bea**	**3.56**	**95**	Pn	**Pn**	**10 30 24.9**	**+1.8**
NVAR				Pg	**Pb**	**10 30 32.2**	**+1.5**
NVAR				Lg	Lg	10 31 22.1	
NVAR	**Mina Array Bea**	**3.56**	**95**	Pn	**Pn**	**10 30 24.9**	**+1.8**
	0.8nm,0.3s,baz=273,slow=13,SNR=32						
NVAR				Pg	**Pb**	**10 30 32.2**	**+1.5**
	3.6nm,0.3s,baz=280,slow=16,SNR=46						
NVAR				Lg	Lg	10 31 22.1	
	1.9nm,0.3s,baz=272,slow=29,SNR=3.7						
MOD	**Modoc**	**3.62**	**31**	*e*Pn	Pn	10 30 26.8	+2.9
HUMO	**Hull Mountain**	**3.77**	**358**	*e*Pn	**Pn**	**10 30 26.5**	**+0.7**
ISA	**Isabella**	**4.70**	**131**	*e*Pn	**Pn**	**10 30 40.9**	**+2.2**
WVOR	**Wild Horse Val**	**4.80**	**40**	*e*Pn	**Pn**	**10 30 42.0**	**+1.9**
ELK	**Elko**	**6.14**	**70**	*e*Pn	**Pn**	**10 30 56.4**	**-2.3**
ELK				*e*Sg	**Sg**	**10 32 42.2**	**-2.4**
PDAR	**Pinedale Array**	**10.79**	**64**	Pn	Pn	10 32 08.5	+6.1
PDAR	**Pinedale Array**	**10.79**	**64**	Pn	Pn	10 32 08.5	+6.1
	0.0nm,0.3s,baz=247,slow=12,SNR=7.2						
TXAR	**Lajitas Array**	**18.45**	**115**	P	Pn	10 33 48.0	+4.4
TXAR	**Lajitas Array**	**18.45**	**115**	P	Pn	10 33 48.0	+4.4
	0.0nm,0.3s,baz=289,slow=11,SNR=7.2						

*ISCJB **20** 10:37:12.1±0.6,10°.71N±0°.04×61°.43W±0°.04,h61km±7km, Error ellipse: s-maj=8.0km s-min=5.2km az=30.2*
*FUNV **20** 10:37:13.2,10°.64N×61°.40W,h18km,MW3.1*
*TRN **20** 10:37:14.1,10°.76N×61°.48W,h39km,MD3.3*

ISC 20 10:37:13.3±1.3,**10°.71N**±0°.04×**61°.42W**±0°.05,**h50**km±9km, **n17**,σ1°**19**/24,**1C**,**Trinidad**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.07**	**163**	⇑*i*P	**Pn**	**10 37 20.9**	**-0.1**
TRN				*e*S	**Sn**	**10 37 25.5**	**-0.9**
TPP	**Pointe-a-Pierr**	**0.39**	**184**	*e*S	**Sn**	**10 37 31.4**	**+0.9**
GUIV	**Guiria**	**0.79**	**265**	*e*P	**Pn**	**10 37 28.8**	**+0.6**
GUIV				*e*S	**Sn**	**10 37 38.6**	**-0.5**
TOSP	**Speyside**	**1.05**	**56**	*e*P	**Pn**	**10 37 32.7**	**+1.0**
TOSP				*e*S	**Sn**	**10 37 46.8**	**+1.6**
GRGR	**Grenville**	**1.43**	**351**	*e*P	**Pn**	**10 37 36.8**	**-0.1**
GRGR				*e*S	**Sn**	**10 37 54.8**	**+0.3**
GUNV	**Guanoco**	**1.59**	**250**	*e*P	**Pn**	**10 37 40.8**	**+1.7**
GUNV				*e*S	**Sn**	**10 38 00.5**	**+2.0**
CRUV	**Carupano**	**1.78**	**269**	*e*S	**Sn**	**10 38 05.1**	**+2.0**
ORIV	**Oritupano**	**2.55**	**230**	*e*P	**Pn**	**10 37 52.7**	**+0.5**
SVB	**Belmont**	**2.55**	**4**	*e*S	**Sn**	**10 38 21.5**	**-0.6**
RIOV	**Rio Grande**	**2.66**	**188**	*e*P	**Pn**	**10 37 54.2**	**+0.6**
RIOV				*e*S	**Sn**	**10 38 23.5**	**-1.1**
MCLT	**Moule a Chique**	**3.02**	**9**	*e*S	**Sn**	**10 38 32.0**	**-1.6**
PCRV	**Puerto La Cruz**	**3.21**	**261**	*e*P	**Pn**	**10 38 01.2**	**-0.1**
CUPV	**Cœpira**	**4.34**	**262**	*e*P	**Pn**	**10 38 17.3**	**+0.4**
CUPV				*e*S	**Sn**	**10 39 04.3**	**-2.0**
BIRV	**Birongo**	**4.77**	**268**	*e*P	**Pn**	**10 38 22.9**	**+0.2**
LUEV	**Luepa**	**4.84**	**180**	*e*P	**Pn**	**10 38 22.9**	**-0.9**
MERV	**Las Mercedes**	**5.01**	**254**	*e*P	**Pn**	**10 38 25.8**	**-0.3**
BAUV	**El Baul**	**6.75**	**255**	*e*P	**Pn**	**10 38 48.6**	**-1.4**

*ISK **20** 10:57:18.5,37°.00N×44°.72E,h5km,MD3.5,ML3.6*
*CSEM **20** 10:57:22.4±0.3,37°.23N×44°.71E,h2km,MD3.5,Error ellipse: s-maj=9.1km s-min=5.7km az=26.0*
*TEH **20** 10:57:24.0,37°.53N×44°.79E,h8km,ML3.5*
*DDA **20** 10:57:29.6,37°.43N×44°.05E,h5km,MD3.5,ML3.7*

ISC 20 10:57:21.7±0.9,**37°.29N**±0°.03×**44°.76E**±0°.02,**h1**km±8km, **n64**,σ1°**49**/76,**2D**,**Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAKT	**HAKKARI**	**0.88**	**288**	*i* P	**Pg**	**10 57 36.3**	**-2.2**
HAKT				*i* S	**Sg**	**10 57 49.7**	**-0.2**
HAKT	**HAKKARI**	**0.88**	**288**	*i* P	**Pg**	**10 57 36.3**	**-2.2**
HAKT				*i* S	**Sg**	**10 57 49.7**	**-0.2**
CUKT	**Cukurca**	**0.92**	**268**	*e*PG	**Pg**	**10 57 37.2**	**-2.1**
CUKT				*e*SG	**Sg**	**10 57 51.2**	**0.0**
CUKT	**Cukurca**	**0.92**	**268**	*e*Pg	**Pg**	**10 57 37.2**	**-2.1**
IAZR	**Azarshahr**	**1.05**	**68**	*e*Pg	**Pg**	**10 57 41.3**	**-0.5**
IAZR				*e*		10 58 04.5	
	comp=Z,45μm,0.2s						
IAZR	**Azarshahr**	**1.05**	**68**	*e*Pg	**Pg**	**10 57 41.3**	**-0.5**
ITBZ	**Tabriz**	**1.45**	**49**	ǁ*e*Pg	**Pn**	**10 57 47.5**	**-1.7**
ITBZ				*e*Sg	**Sb**	**10 58 03.6**	**-5.1**
	comp=Z,5μm,0.2s						
ITBZ	**Tabriz**	**1.45**	**49**	ǁ*e*Pg	**Pn**	**10 57 47.5**	**-1.7**
ITBZ				*e*Sg	**Sb**	**10 58 03.6**	**-5.1**
IFTB	**Fath-abad**	**1.49**	**60**	*e*Pn	**Pb**	**10 57 49.9**	**-0.4**
IFTB	**Fath-abad**	**1.49**	**60**	*e*Pn	**Pb**	**10 57 49.9**	**-0.4**
VANT	**Van**	**1.64**	**314**	*e*PN	**Pb**	**10 57 52.2**	**-0.6**
VANT	**Van**	**1.64**	**314**	*e*Pn	**Pb**	**10 57 52.2**	**-0.6**
GEVA	**Gevas**	**1.69**	**308**	*i* P	**Pb**	**10 57 52.9**	**-0.8**
GEVA				*i* S	**Sg**	**10 58 16.6**	**+0.6**
GEVA	**Gevas**	**1.69**	**308**	*i* P	**Pb**	**10 57 52.9**	**-0.8**
GEVA				*i* S	**Sg**	**10 58 16.6**	**+0.6**
VANB	**Van**	**1.69**	**321**	*e*PN	**Pb**	**10 57 52.7**	**-1.1**
VANB	**Van**	**1.69**	**321**	*e*Pn	**Pb**	**10 57 52.7**	**-1.1**
IBST	**Bostanabad**	**1.75**	**76**	*e*Pn	**Pn**	**10 57 53.1**	**-0.3**
IBST				*e*Sg	**Sb**	**10 58 16.6**	**-0.6**
IBST				*e*		10 58 22.3	
	comp=Z,6μm,0.3s						
IBST	**Bostanabad**	**1.75**	**76**	*e*Pn	**Pn**	**10 57 53.1**	**-0.3**
IBST				*e*Sg	**Sb**	**10 58 16.6**	**-0.6**
SIRN	**S˜¨rnak**	**1.88**	**277**	*i* P	**Pn**	**10 57 54.7**	**-0.3**
SIRN				*i* S	**Sn**	**10 58 19.5**	**+0.1**
SIRN	**S˜¨rnak**	**1.88**	**277**	*i* P	**Pn**	**10 57 54.7**	**-0.3**
SIRN				*i* S	**Sn**	**10 58 19.5**	**+0.1**
CLDR	**Caldiran**	**1.97**	**341**	*e*PN	**Pb**	**10 57 57.9**	**-0.5**
CLDR				*e*SN	**Sg**	**10 58 27.5**	**+2.5**
CLDR	**Caldiran**	**1.97**	**341**	*e*Pn	**Pb**	**10 57 57.9**	**-0.5**
IHRS	**Heris**	**2.08**	**60**	*e*Pn	**Pn**	**10 57 57.5**	**-0.5**
IHRS				*e*		10 58 39.6	
	comp=Z,4μm,0.3s						
IHRS	**Heris**	**2.08**	**60**	*e*Pn	**Pn**	**10 57 57.5**	**-0.5**
TATV	**Tatvan**	**2.32**	**303**	*e*P	**Pb**	**10 58 04.1**	**-0.3**
TATV	**Tatvan**	**2.32**	**303**	*e*P	**Pb**	**10 58 04.1**	**-0.3**
ISRB	**Sarab**	**2.37**	**76**	*e*		10 58 15.1	
	comp=Z,2μm,0.2s						
ISRB				*e*Pn	**Pn**	**10 58 02.8**	**+0.8**
DYDN	**Diyadin**	**2.40**	**340**	*i* P	**Pb**	**10 58 06.0**	**+0.1**
DYDN	**Diyadin**	**2.40**	**340**	*i* P	**Pb**	**10 58 06.0**	**+0.1**
TUTA	**Tutak**	**2.61**	**325**	*i* P	**Pb**	**10 58 09.0**	**-0.3**
TUTA	**Tutak**	**2.61**	**325**	*i* P	**Pb**	**10 58 09.0**	**-0.3**
AGRB	**Hanur-Agry**	**2.67**	**329**	*e*PN	**Pn**	**10 58 07.5**	**+1.4**
AGRB	**Hanur-Agry**	**2.67**	**329**	*e*Pn	**Pn**	**10 58 07.5**	**+1.4**
BTMT	**Batman**	**2.74**	**290**	*e*PN	**Pn**	**10 58 08.3**	**+1.4**
BTMT	**Batman**	**2.74**	**290**	*e*Pn	**Pn**	**10 58 08.3**	**+1.4**
BEST	**Besiri**	**2.83**	**283**	*i* P	**Pb**	**10 58 11.7**	**-1.5**
BEST				*i* S	**Sg**	**10 58 51.0**	**-1.8**
GNI	**Garni**	**2.86**	**360**	*e*PN	**Pb**	**10 58 11.8**	**-1.8**
GNI	**Garni**	**2.86**	**360**	*e*Pn	**Pb**	**10 58 11.8**	**-1.8**
IDHR	**Dehrash**	**2.90**	**152**	*e*Pn	Pn	10 58 12.3	+3.1
IDHR				*e*		10 58 12.6	
	comp=Z,7μm,0.1s						
IDHR	**Dehrash**	**2.90**	**152**	*e*Pn	Pn	10 58 12.3	+3.1
GRMI	**Germi**	**2.91**	**58**	*e*Pn	**Pb**	**10 58 11.5**	**-2.9**
SNGE	**Sanandaj**	**3.03**	**135**	*e*Pn	Pn	10 58 14.1	+3.1
SNGE				*e*Sg	**Sg**	**10 59 00.4**	**+1.3**
MARD	**Mardin**	**3.17**	**272**	*i* P	**Pb**	**10 58 18.7**	**-0.3**
MARD				*e*S	**Sb**	**10 58 58.6**	**+0.5**
ZNJK	**Zanjan**	**3.21**	**100**	*e*Pn	Pn	10 58 16.3	+2.9
ZNJK				*e*Sg	**Sg**	**10 59 05.6**	**+0.9**
IVIS	**Veis**	**3.24**	**148**	*e*Pn	**Pb**	**10 58 17.9**	**-2.1**
IVIS				*e*		10 59 10.7	
	comp=Z,1μ

comp=Z,31nm,20.1s,baz=50,slow=38
HNR Honiara 35.69 94 LR LR 11 25 02.9
comp=Z,537nm,21.4s,baz=310,slow=32
CMAR Chiang Mai Arr 36.75 318 P P 11 13 09.6 +0.8
1.2nm,0.5s,baz=142,slow=8.3,SNR=8.7
DZM Mont Dzumac 42.92 113 LR LR 11 28 30.9
comp=Z,92nm,21.9s,baz=59,slow=31
USRK Ussuriysk Arra 53.56 7 P P 11 15 22.4 +1.0
1.3nm,0.5s,baz=198,slow=9.6,SNR=4.7
SONM Songino Array 58.74 346 P P 11 15 58.6 +0.1
0.3nm,0.6s,baz=166,slow=6.4,SNR=3.5
MKAR Makanchi Array 66.79 330 P P 11 16 51.6 -0.3
0.7nm,0.4s,baz=136,slow=7.2,SNR=12
AAK Ala-Archa 68.32 323 P P 11 17 02.1 +0.2
0.8nm,0.4s,baz=161,slow=5.6,SNR=4.9
ZALV Zalesovo Beam 70.90 337 P P 11 17 15.8 -1.3
0.8nm,0.5s,baz=152,slow=5.4,SNR=6.7
BVAR Borovoye Array 76.67 330 P P 11 17 50.5 -0.5
0.4nm,0.6s,baz=86,slow=4.5,SNR=3.8
AKTO Aktyubinsk 82.04 324 P P 11 18 19.8 -0.5
0.6nm,0.5s,baz=121,slow=5.9,SNR=3.9
TORD Torodi Ar. Bea 123.13 280 PKP PKPdf 11 24 57.8 +0.5
0.2nm,0.6s,baz=117,slow=3.6,SNR=2.4

*ISK **20** 11:09:52.7, 40.85N×31.03E, h4km, MD3.2*
*DDA **20** 11:09:53.1, 40.81N×31.01E, h20km, MD3.3*
*CSEM **20** 11:09:53.7±0.1, 40.83N×31.01E, h5km, MD3.3, Error ellipse: s-maj=3.7km s-min=2.5km az=6.0*
*ISCJB **20** 11:09:54.1±0.6, 40.81N±0.03×31.01E±0.03, h10km±3km, Error ellipse: s-maj=5.4km s-min=3.9km az=1.5*
ISC 20 11:09:54.2±0.9, 40.81N±0.03×31.00E±0.02, h13km±6km, n80, σ0s90/96, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
HENT	**Hendek**	**0.08**	**278**	*i* P		**Pg**	**11 09 56.5**	**-0.5**
HENT				*i* S		**Sg**	**11 10 00.5**	**+1.5**
HENT	**Hendek**	**0.08**	**278**	*i* P		**Pg**	**11 09 56.5**	**-0.5**
MDUB	**Mudurnu**	**0.37**	**157**	*e*PG		**Pg**	**11 10 00.8**	**-0.9**
MDUB	**Mudurnu**	**0.37**	**157**	*e*Pg		**Pg**	**11 10 00.8**	**-0.9**
GULT	**Gulveren**	**0.53**	**225**	*e*PG		**Pg**	**11 10 04.5**	**-0.1**
GULT				*e*SG		**Sb**	**11 10 12.8**	**-0.2**
GULT	**Gulveren**	**0.53**	**225**	*e*Pg		**Pg**	**11 10 04.5**	**-0.1**
GULT				*e*Sg		**Sb**	**11 10 12.8**	**-0.2**
SPNC	**Sapanca-Adapaz**	**0.54**	**257**	*e*PG		**Pg**	**11 10 04.6**	**-0.2**
SPNC				*e*SG		**Sb**	**11 10 13.2**	**-0.1**
SPNC	**Sapanca-Adapaz**	**0.54**	**257**	*e*Pg		**Pg**	**11 10 04.6**	**-0.2**
SPNC				*e*Sg		**Sb**	**11 10 13.2**	**-0.1**
GPA	**Golpazari**	**0.74**	**226**	*e*PG		**Pg**	**11 10 08.1**	**-0.5**
GPA	**Golpazari**	**0.74**	**226**	*e*Pg		**Pg**	**11 10 08.1**	**-0.5**
HRT	**Hereke**	**1.01**	**271**	*e*PG		**Pg**	**11 10 13.1**	**-0.6**
HRT	**Hereke**	**1.01**	**271**	*e*Pg		**Pg**	**11 10 13.1**	**-0.6**
BORA	**Eskisehir**	**1.02**	**204**	*i* P		**Pg**	**11 10 12.9**	**-1.0**
BORA				*i* S		**Sg**	**11 10 26.8**	**-0.4**
BORA	**Eskisehir**	**1.02**	**204**	*i* P		**Pg**	**11 10 12.9**	**-1.0**
BORA				*i* S		**Sg**	**11 10 26.8**	**-0.4**
ADVT	**Abdulvahap**	**1.03**	**249**	*e*PG		**Pg**	**11 10 13.6**	**-0.5**
ADVT	**Abdulvahap**	**1.03**	**249**	*e*Pg		**Pg**	**11 10 13.6**	**-0.5**
CAVI	**Cavuskoy**	**1.07**	**236**	*e*Pn		**Pg**	**11 10 13.9**	**-1.0**
CAVI	**Cavuskoy**	**1.07**	**236**	*e*Pn		**Pg**	**11 10 13.9**	**-1.0**
SILT	**Sile**	**1.08**	**289**	*e*PN		**Pg**	**11 10 14.1**	**-1.0**
SILT	**Sile**	**1.08**	**289**	*e*Pn		**Pg**	**11 10 14.1**	**-1.0**
YLV	**Yalova**	**1.26**	**259**	*e*PN		**Pn**	**11 10 18.3**	**+0.7**
YLV	**Yalova**	**1.26**	**259**	*e*Pn		**Pn**	**11 10 18.3**	**+0.7**
ESKT	**Eskisehir**	**1.30**	**185**	*e*PN		**Pb**	**11 10 18.9**	**+0.4**
ESKT	**Eskisehir**	**1.30**	**185**	*e*Pn		**Pb**	**11 10 18.9**	**+0.4**
SEYT	**Eskypehyr**	**1.30**	**185**	*i* P		**Pn**	**11 10 18.1**	**0.0**
SEYT				*i* S		**Sg**	**11 10 32.8**	**-3.2**
SEYT	**Eskypehyr**	**1.30**	**185**	*i* P		**Pn**	**11 10 18.1**	**0.0**
SAFT	**Safranbolu**	**1.34**	**71**	*e*PN		**Pn**	**11 10 18.3**	**-0.4**
SAFT	**Safranbolu**	**1.34**	**71**	*e*Pn		**Pn**	**11 10 18.3**	**-0.4**
SVRH	**Sivrihisar-ESK**	**1.42**	**164**	*e*PN		**Pn**	**11 10 20.4**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.42**	**164**	*e*Pn		**Pn**	**11 10 20.4**	**+0.6**
BUY	**Buyukada**	**1.43**	**272**	*i* P		**Pn**	**11 10 20.3**	**+0.5**
BUY				*i* S		**Sb**	**11 10 38.8**	**0.0**
BUY	**Buyukada**	**1.43**	**272**	*i* P		**Pn**	**11 10 20.3**	**+0.5**
BUY				*i* S		**Sb**	**11 10 38.8**	**0.0**
ISK	**Istanbul-Kandi**	**1.50**	**280**	*e*PN		**Pn**	**11 10 21.0**	**+0.3**
ISK	**Istanbul-Kandi**	**1.50**	**280**	*e*Pn		**Pn**	**11 10 21.0**	**+0.3**
ULDT	**Uludag**	**1.57**	**245**	*i* P		**Pn**	**11 10 22.3**	**+0.3**
ULDT				*i* S		**Sb**	**11 10 43.5**	**+0.4**
ULDT	**Uludag**	**1.57**	**245**	*i* P		**Pn**	**11 10 22.3**	**+0.3**
ULDT				*i* S		**Sb**	**11 10 43.5**	**+0.4**
LOD	**Lodumlu**	**1.63**	**124**	*e*PN		**Pn**	**11 10 23.7**	**+1.1**
LOD	**Lodumlu**	**1.63**	**124**	*e*Pn		**Pn**	**11 10 23.7**	**+1.1**
MDNY	**Mudanya-Bursa**	**1.67**	**255**	*e*PN		**Pn**	**11 10 24.2**	**+1.0**
MDNY	**Mudanya-Bursa**	**1.67**	**255**	*e*Pn		**Pn**	**11 10 24.2**	**+1.0**
BGKT	**Bogazkoy**	**1.73**	**283**	*e*PN		**Pn**	**11 10 24.1**	**+0.2**
BGKT	**Bogazkoy**	**1.73**	**283**	*e*Pn		**Pn**	**11 10 24.1**	**+0.2**
TVSB	**Tavsanli**	**1.80**	**221**	*e*PN		**Pn**	**11 10 25.8**	**+0.8**
TVSB	**Tavsanli**	**1.80**	**221**	*e*Pn		**Pn**	**11 10 25.8**	**+0.8**
ELDT	**Eldivan**	**1.87**	**99**	*i* P		**Pn**	**11 10 26.3**	**+0.2**
ELDT				*i* S		**Sn**	**11 10 50.5**	**+0.9**
ELDT	**Eldivan**	**1.87**	**99**	*i* P		**Pn**	**11 10 26.3**	**+0.2**
ELDT				*i* S		**Sn**	**11 10 50.5**	**+0.9**
ALT	**Altintas**	**1.89**	**202**	*e*PN		**Pn**	**11 10 27.5**	**+1.3**
ALT	**Altintas**	**1.89**	**202**	*e*Pn		**Pn**	**11 10 27.5**	**+1.3**
CTKS	**Kestanelik-??a**	**1.94**	**283**	*e*PN		**Pn**	**11 10 27.1**	**+0.4**
CTKS	**Kestanelik-??a**	**1.94**	**283**	*e*Pn		**Pn**	**11 10 27.1**	**+0.4**
BALT	**Daday**	**1.94**	**67**	*i* P		**Pn**	**11 10 27.1**	**+0.1**
BALT				*i* S		**Sb**	**11 10 54.3**	**+0.7**
BALT	**Daday**	**1.94**	**67**	*i* P		**Pn**	**11 10 27.1**	**+0.1**
BALT				*i* S		**Sb**	**11 10 54.3**	**+0.7**
KIZT	**Kizilcal**	**2.04**	**160**	*e*PN		**Pn**	**11 10 29.6**	**+1.2**
KIZT	**Kizilcal**	**2.04**	**160**	*e*Pn		**Pn**	**11 10 29.6**	**+1.2**
KCTX	**Karacabey (Bur**	**2.09**	**256**	*e*PN		**Pn**	**11 10 29.7**	**+0.8**
KCTX	**Karacabey (Bur**	**2.09**	**256**	*e*Pn		**Pn**	**11 10 29.7**	**+0.8**
AFSR	**Af˘ar-Bala (A**	**2.09**	**130**	*e*PN		**Pn**	**11 10 29.6**	**+0.6**
AFSR	**Af˘ar-Bala (A**	**2.09**	**130**	*e*Pn		**Pn**	**11 10 29.6**	**+0.6**
CTYL	**Yal??k??y-??at**	**2.15**	**289**	*e*PN		**Pn**	**11 10 30.6**	**+0.8**
CTYL	**Yal??k??y-??at**	**2.15**	**289**	*e*Pn		**Pn**	**11 10 30.6**	**+0.8**
SLVT	**Silivri**	**2.15**	**282**	*e*PN		**Pn**	**11 10 30.6**	**+0.8**
SLVT	**Silivri**	**2.15**	**282**	*e*Pn		**Pn**	**11 10 30.6**	**+0.8**
DST	**Dursunbey**	**2.19**	**237**	*e*PN		**Pb**	**11 10 32.3**	**-1.3**
DST	**Dursunbey**	**2.19**	**237**	*e*Pn		**Pb**	**11 10 32.3**	**-1.3**
SHUT	**Suhut-Afyon**	**2.28**	**189**	*e*PN		**Pn**	**11 10 32.5**	**+0.9**
SHUT	**Suhut-Afyon**	**2.28**	**189**	*e*Pn		**Pn**	**11 10 32.5**	**+0.9**
GONE	**Gonen-Balikesi**	**2.65**	**254**	*e*PN		**Pn**	**11 10 37.9**	**+1.4**
GONE	**Gonen-Balikesi**	**2.65**	**254**	*e*Pn		**Pn**	**11 10 37.9**	**+1.4**
BALB	**Balikesir**	**2.66**	**245**	*e*PN		**Pn**	**11 10 37.8**	**+1.1**
BALB	**Balikesir**	**2.66**	**245**	*e*Pn		**Pn**	**11 10 37.8**	**+1.1**
KHL	**Karahalli**	**2.74**	**205**	*e*PN		**Pn**	**11 10 39.2**	**+1.3**
KHL	**Karahalli**	**2.74**	**205**	*e*Pn		**Pn**	**11 10 39.2**	**+1.3**
LADK	**Ladik-KONYA**	**2.81**	**158**	*e*PN		**Pn**	**11 10 40.5**	**+1.6**
LADK	**Ladik-KONYA**	**2.81**	**158**	*e*Pn		**Pn**	**11 10 40.6**	**+1.6**
CORM	**Corum**	**2.84**	**102**	*e*PN		**Pn**	**11 10 39.9**	**+0.6**
CORM	**Corum**	**2.84**	**102**	*e*Pn		**Pn**	**11 10 39.9**	**+0.6**
KULA	**Kula-Manisa**	**2.92**	**219**	*e*PN		**Pn**	**11 10 41.9**	**+1.5**
KULA	**Kula-Manisa**	**2.92**	**219**	*e*Pn		**Pn**	**11 10 41.9**	**+1.5**
EDRB	**Edirne**	**3.37**	**289**	*e*PN		**Pn**	**11 10 47.8**	**+1.3**
EDRB	**Edirne**	**3.37**	**289**	*e*Pn		**Pn**	**11 10 47.8**	**+1.3**

*IDC **20** 11:14:43.6±2.8, 4.72S×102.25E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/21, mbtmp3.8/7, Error ellipse: s-maj=125.6km s-min=17.5km az=57.0*
*ISCJB **20** 11:14:45.3±1.1, 5.05S±0.1×101.8E±0.1, h37km, mb3.8/7, Error ellipse: s-maj=20.2km s-min=12.3km az=137.4*
*DJA **20** 11:14:54.5±1.3, 4˚S±11˚×10˚E±˚, h10km, M4.1/4, MLv4.1/4*
ISC 20 11:14:48.1±1.2, 4.8S±0.1×101.9E±0.2, h37km, n12, σ1s37/13, mb4.0/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.16**	**66**	P		**Pn**	**11 15 09.5**	**+1.6**
KSI	**Kapahiang**	**1.37**	**31**	P		**Pn**	**11 15 09.9**	**-0.8**
LWLI	**Liwa**	**2.17**	**95**	P		**Pn**	**11 15 20.5**	**-1.3**
KASI	**Kota Agung**	**2.69**	**105**	P		**Pn**	**11 15 31.0**	**+2.2**
CMAR	**Chiang Mai Arr**	**23.32**	**353**	P		**P**	**11 19 53.3**	**+0.2**
	0.7nm,0.5s,baz=185,slow=8.9,SNR=8.2							
WRA	**Warramunga Arr**	**34.97**	**118**	P		**P**	**11 21 34.7**	**-2.4**
	0.2nm,0.4s,baz=302,slow=9.0,SNR=7.5							
ASAR	**Alice Springs**	**36.09**	**124**	P		**P**	**11 21 45.5**	**-1.3**
	0.4nm,0.6s,baz=299,slow=8.0,SNR=11							
STKA	**Stephens Creek**	**45.88**	**131**	P		**P**	**11 23 07.2**	**+0.1**
	1.4nm,0.6s,baz=300,slow=8.1,SNR=4.1							
SONM	**Songino Array**	**52.59**	**4**	P		**P**	**11 23 58.6**	**+0.4**
	1.2nm,0.6s,baz=186,slow=9.1,SNR=16							
SONM					PcP	**PcP**	**11 25 08.4**	**+0.3**
	0.2nm,0.3s,baz=185,slow=6.5,SNR=4.4							
MKAR	**Makanchi Array**	**54.25**	**344**	P		**P**	**11 24 11.4**	**+1.1**
	1.0nm,0.6s,baz=148,slow=7.8,SNR=9.5							
ZALV	**Zalesovo Beam**	**60.29**	**348**	P		**P**	**11 24 53.2**	**+0.5**
	2.0nm,0.4s,baz=167,slow=5.8,SNR=14							
TXAR	**Lajitas Array**	**145.67**	**42**	PKPbc		**PKPdf**	**11 34 23.3**	**-0.1**
	0.5nm,0.6s,baz=267,slow=1.6,SNR=7.2							

*DDA **20** 11:21:02.5, 39.07N×27.12E, h7km, MD3.0*
*ISCJB **20** 11:21:03.1±0.5, 39.07N±0.03×27.11E±0.03, h6km±5km, Error ellipse: s-maj=4.6km s-min=3.9km az=23.5*
*ISK **20** 11:21:03.2, 39.05N×27.11E, h6km, MD2.8*
*CSEM **20** 11:21:03.3±0.2, 39.07N×27.11E, h5km, MD3.0, Error ellipse: s-maj=3.8km s-min=3.3km az=130.0*
ISC 20 11:21:03.1±1.0, 39.08N±0.02×27.11E±0.02, h14km±10km, n30, σ0s39/47, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.40**	**305**	*i* P		**Pg**	**11 21 11.2**	**+0.1**
AYVA				*i* S		**Sg**	**11 21 16.7**	**+0.1**
AYVA	**Ayvalik**	**0.40**	**305**	*i* P		**Pg**	**11 21 11.2**	**+0.1**
AYVA				*i* S		**Sg**	**11 21 16.7**	**+0.1**
AKS	**Akhisar**	**0.58**	**110**	*e*PG		**Pg**	**11 21 14.5**	**0.0**
AKS				*e*SG		**Sb**	**11 21 22.9**	**-0.3**
AKS	**Akhisar**	**0.58**	**110**	*e*Pg		**Pg**	**11 21 14.5**	**0.0**
AKS				*e*Sg		**Sb**	**11 21 22.9**	**-0.3**
AKHS	**Akhisar**	**0.58**	**110**	*i* P		**Pg**	**11 21 14.5**	**0.0**
AKHS				*i* S		**Sg**	**11 21 22.5**	**+0.3**
AKHS	**Akhisar**	**0.58**	**110**	*i* P		**Pg**	**11 21 14.5**	**0.0**
AKHS				*i* S		**Sg**	**11 21 22.5**	**+0.3**
BLCB	**Balcova**	**0.69**	**185**	*e*PG		**Pg**	**11 21 16.5**	**-0.1**
BLCB				*e*SG		**Sg**	**11 21 26.1**	**+0.4**
BLCB	**Balcova**	**0.69**	**185**	*e*Pg		**Pg**	**11 21 16.5**	**-0.1**
BLCB				*e*Sg		**Sg**	**11 21 26.1**	**+0.4**
BALY	**Balya**	**0.77**	**30**	*i* P		**Pg**	**11 21 17.8**	**-0.3**
BALY				*i* S		**Sb**	**11 21 29.4**	**+0.7**
BALY	**Balya**	**0.77**	**30**	*i* P		**Pg**	**11 21 17.8**	**-0.3**
BALY				*i* S		**Sb**	**11 21 29.4**	**+0.7**
BALB	**Balikesir**	**0.82**	**46**	*e*PG		**Pn**	**11 21 20.2**	**0.0**
BALB	**Balikesir**	**0.82**	**46**	*e*Pg		**Pn**	**11 21 20.2**	**0.0**
URLA	**Izmir**	**0.82**	**210**	*i* P		**Pg**	**11 21 18.3**	**-0.8**
URLA				*i* S		**Sb**	**11 21 31.0**	**+0.8**
URLA	**Izmir**	**0.82**	**210**	*i* P		**Pg**	**11 21 18.3**	**-0.8**
URLA				*i* S		**Sb**	**11 21 31.0**	**+0.8**
EZN	**Ezine**	**0.96**	**321**	*e*PG		**Pn**	**11 21 22.3**	**0.0**
GONE	**Gonen-Balikesi**	**1.06**	**24**	*e*PN		**Pn**	**11 21 23.8**	**+0.1**
GONE	**Gonen-Balikesi**	**1.06**	**24**	*e*Pn		**Pn**	**11 21 23.8**	**+0.1**
BOZC	**Bozcaada**	**1.12**	**313**	*i* P		**Pn**	**11 21 24.6**	**+0.2**
BOZC				*i* S		**Sb**	**11 21 39.1**	**+0.4**
DURS	**Dursunbey**	**1.18**	**63**	*i* P		**Pn**	**11 21 25.3**	**0.0**
DURS				*i* S		**Sb**	**11 21 40.2**	**-0.3**
DURS	**Dursunbey**	**1.18**	**63**	*i* P		**Pn**	**11 21 25.3**	**0.0**
DURS				*i* S		**Sb**	**11 21 40.2**	**-0.3**
DEMI	**Demirci**	**1.25**	**91**	*i* P		**Pn**	**11 21 26.4**	**+0.1**
DEMI				*i* S		**Sb**	**11 21 42.8**	**+0.3**
DEMI	**Demirci**	**1.25**	**91**	*i* P		**Pn**	**11 21 26.4**	**+0.1**
DEMI				*i* S		**Sb**	**11 21 42.8**	**+0.3**
DST	**Dursunbey**	**1.28**	**65**	*e*PN		**Pg**	**11 21 28.4**	**+0.6**
DST	**Dursunbey**	**1.28**	**65**	*e*Pn		**Pg**	**11 21 28.4**	**+0.6**
KULA	**Kula-Manisa**	**1.33**	**114**	*e*PN		**Pg**	**11 21 28.8**	**0.0**
KULA	**Kula-Manisa**	**1.33**	**114**	*e*Pn		**Pg**	**11 21 28.8**	**0.0**
KCTX	**Karacabey (Bur**	**1.53**	**39**	*e*PN		**Pg**	**11 21 31.9**	**-0.5**
KCTX	**Karacabey (Bur**	**1.53**	**39**	*e*Pn		**Pg**	**11 21 31.9**	**-0.5**
TVSB	**Tavsanli**	**1.86**	**78**	*e*PN		**Pb**	**11 21 36.5**	**-0.5**
TVSB	**Tavsanli**	**1.86**	**78**	*e*Pn		**Pb**	**11 21 36.5**	**-0.5**

IDC 20 11:24:00.4±0.9, 3.44N×127.07E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/21, mbtmp3.7/6, Error ellipse: s-maj=70.2km s-min=18.1km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.31**	**163**	P		P	11 29 19.5	-0.4
	3.0nm,0.9s,baz=340,slow=11,SNR=24							
WRA					PcP	PcP	11 33 00.5	+0.4
	0.2nm,0.5s,baz=330,slow=2.3,SNR=5.3							
ASAR	**Alice Springs**	**27.75**	**166**	P		P	11 29 50.8	-0.3
	0.4nm,0.6s,baz=352,slow=7.4,SNR=10							
ASAR					PcP	PcP	11 33 08.0	0.0
	0.2nm,0.5s,baz=336,slow=2.7,SNR=5.1							
STKA	**Stephens Creek**	**37.74**	**160**	P		P	11 31 18.1	0.0
	3.2nm,0.9s,baz=338,slow=9.8,SNR=4.9							
SONM	**Songino Array**	**47.68**	**341**	P		P	11 32 39.1	+0.3
	0.3nm,0.6s,baz=161,slow=8.9,SNR=3.1							
PETK	**Petropavlovsk-**	**55.57**	**22**	P		P	11 33 37.2	-0.4
	2.7nm,0.9s,baz=220,slow=2.2,SNR=4.3							
MKAR	**Makanchi Array**	**57.99**	**325**	P		P	11 33 54.3	-0.6
	0.3nm,0.5s,baz=124,slow=8.0,SNR=5.9							

IDC 20 11:33:15.4±6.2, 2.53N×95.40E, h0km, mb3.8/3, mb1 3.7/5, mb1mx3.5/26, mbtmp3.7/5, ML3.2/2, Error ellipse: s-maj=125.6km s-min=39.3km az=25.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.54**	**86**	Pn		Pn	11 34 12.1	+0.3
	0.3nm,0.3s,baz=335,slow=14,SNR=3.4							
CMAR	**Chiang Mai Arr**	**16.20**	**12**	Pn			11 37 06.0	+1.4
	0.1nm,0.3s,baz=200,slow=10,SNR=5.2							
MKAR	**Makanchi Array**	**45.54**	**347**	P		P	11 41 36.8	-0.1
	1.1nm,0.6s,baz=155,slow=8.8,SNR=10							
SONM	**Songino Array**	**46.12**	**10**	P		P	11 41 40.4	-1.2
	0.7nm,0.6s,baz=188,slow=9.6,SNR=8.0							
ZALV	**Zalesovo Beam**	**51.98**	**352**	P		P	11 42 27.0	+0.7
	0.7nm,0.5s,baz=167,slow=7.0,SNR=4.3							

*IDC **20** 11:33:33.3±0.7, 1.89N×128.67E, h0km, mb3.8/13, mb1 3.9/13, mb1mx3.9/21, mbtmp3.8/13, MS2.7/2, Ms1 2.7/2, ms1mx2.3/35, Error ellipse: s-maj=33.4km s-min=14.1km az=78.0*
*ISCJB **20** 11:33:42.2±0.6, 1.84N±0.08×128.8E±0.1, h92km, mb3.8/12, Error ellipse: s-maj=19.2km s-min=9.7km az=159.5*
ISC 20 11:33:44.1±0.7, 1.8N±0.1×128.7E±0.2, h92km, n24, σ0s67/22, mb3.8/12, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**11.20**	**233**	LR		LR	11 40 51.3	
	comp=Z,41nm,20.5s,baz=125,slow=39							
GUMO	**Guam**	**19.84**	**53**	LR		LR	11 43 42.9	
	comp=Z,26nm,21.4s,baz=171,slow=31							
FITZ	**Fitzroy Crossi**	**20.01**	**188**	P		**P**	**11 38 09.6**	**0.0**
	0.9nm,0.5s,baz=14,slow=8.3,SNR=4.1							
WRA	**Warramunga Arr**	**22.32**	**166**	P		**P**	**11 38 34.0**	**-0.4**
	2.2nm,0.7s,baz=348,slow=12,SNR=16							
ASAR	**Alice Springs**	**25.83**	**169**	P		**P**	**11 39 06.8**	**-0.3**
	0.4nm,0.5s,baz=345,slow=9.0,SNR=13							
CMAR	**Chiang Mai Arr**	**33.52**	**302**	P		**P**	**11 40 14.8**	**-0.4**
	0.3nm,0.4s,baz=120,slow=6.7,SNR=7.2							
KSRS	**Korea Array**	**35.48**	**359**	P		**P**	**11 40 31.2**	**-0.6**
	1.0nm,0.6s,baz=174,slow=10,SNR=4.0							
MJAR	**Matsushiro Arr**	**35.66**	**13**	P		**P**	**11 40 31.6**	**-1.8**
	1.8nm,0.6s,baz=192,slow=9.3,SNR=6.7							
STKA	**Stephens Creek**	**35.68**	**161**	P		**P**	**11 40 33.5**	**-0.1**
	1.9nm,1.0s,baz=337,slow=7.7,SNR=3.2							
TAPN	**Taplejung**	**46.71**	**307**	*e*P		**P**	**11 42 04.8**	**+0.4**
	20nm,1.1s							
ODAN	**Odare**	**46.76**	**306**	*e*P		**P**	**11 42 05.2**	**+0.5**
	20nm,0.7s							
RAMN	**Ramite**	**47.44**	**306**	*e*P		**P**	**11 42 10.7**	**+0.7**
	26nm,0.6s							
JIRN	**Jiri**	**48.06**	**306**	*e*P		**P**	**11 42 15.2**	**+0.2**
	6.5nm,0.7s							
GUN	**Gumba**	**48.42**	**307**	*e*P		**P**	**11 42 18.1**	**+0.4**
	23nm,0.6s							
DMN	**Daman**	**48.92**	**306**	*e*P		**P**	**11 42 21.6**	**+0.1**
GKN	**Gorkha**	**49.46**	**306**	*e*P		**P**	**11 42 25.5**	**+0.1**
SONM	**Songino Array**	**49.73**	**340**	P		**P**	**11 42 26.6**	**-0.5**
	0.3nm,0.5s,baz=147,slow=9.0,SNR=3.3							
KOLN	**Koldanda**	**50.21**	**305**	*e*P		**P**	**11 42 31.7**	**+0.5**
	21nm,0.6s							
DANN	**Dangsing**	**50.31**	**306**	*e*P		**P**	**11 42 32.3**	**+0.3**
	24nm,0.6s							
PETK	**Petropavlovsk-**	**56.50**	**21**	P		**P**	**11 43 17.2**	**+0.7**
	5.6nm,1.1s,baz=198,slow=7.0,SNR=5.2							
MKAR	**Makanchi Array**	**60.23**	**325**	P		**P**	**11 43 42.6**	**-0.1**
	2.0nm,0.4s,baz=119,slow=8.5,SNR=25							
ZALV	**Zalesovo Beam**	**63.17**	**333**	P		**P**	**11 44 02.6**	**+0.4**
	0.3nm,0.3s,baz=126,slow=7.3,SNR=2.5							
KURBB	**Kurchatov Arra**	**64.39**	**327**	P		**P**	**11 44 10.3**	**0.0**
	2.6nm,0.5s,baz=127,slow=5.9,SNR=8.3							
ILAR	**Eielson Array**	**85.99**	**25**	P		**P**	**11 46 15.5**	**+1.5**
	0.2nm,0.9s,baz=250,slow=5.4,SNR=4.7							

*ISCJB **20** 11:41:09.8±0.8, 1.40N±0.08×99.07E±0.07, h90km, mb3.7/5, Error ellipse: s-maj=10.9km s-min=10.6km az=155.9*
*IDC **20** 11:41:11.3±4.1, 1.38N×99.01E, h92km±22km, mb3.4/5, mb1 3.6/6, mb1mx3.4/24, mbtmp3.4/6, MS3.0/1, Ms1 3.0/1, ms1mx2.3/26, Error ellipse: s-maj=94.3km s-min=17.1km az=61.0*
*DJA **20** 11:41:14.4±1.7, 1˚N±8˚×9˚9E±˚, h67km±25km, M3.5/5, MLv3.5/5*
ISC 20 11:41:11.2±1.0, 1.43N±0.09×99.04E±0.09, h90km, n12, σ0s79/13, mb3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**0.83**	**139**	P		Pn	11 41 33.2	+4.2
PSI	**Prapat**	**1.37**	**355**	P		**Pn**	**11 41 35.8**	**+0.3**
PSI	**Prapat**	**1.37**	**355**	P		**Pn**	**11 41 35.7**	**+0.3**
	20nm,0.3s,baz=316,slow=2.9,SNR=42							
PSI				S		**Sn**	**11 41 52.5**	**-1.3**
	4.8nm,0.3s,baz=30,slow=16,SNR=7.2							
GSI	**Gunungsitoli**	**1.47**	**265**	P		**Pn**	**11 41 37.2**	**+0.6**
GSI				S		**Sn**	**11 41 54.6**	**-1.1**
TPTI		**2.60**	**314**	P		**Pn**	**11 41 51.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**16.93**	**360**	P		**P**	**11 45 03.7**	**+0.6**
	0.2nm,0.3s,baz=191,slow=10,SNR=10							
FITZ	**Fitzroy Crossi**	**32.59**	**128**	LR		LR	12 02 17.4	
	comp=Z,24nm,18.8s,baz=187,slow=39							
WRA	**Warramunga Arr**	**40.61**	**123**	P		**P**	**11 48 42.2**	**-0.4**
	1.6nm,0.6s,baz=302,slow=9.0,SNR=27							
WRA					PcP	**PcP**	**11 50 42.9**	**-0.2**
	0.3nm,0.9s,baz=318,slow=2.6,SNR=4.6							
ASAR	**Alice Springs**	**42.08**	**129**	P		**P**	**11 48 54.1**	**-0.5**
	0.3nm,0.5s,baz=304,slow=7.9,SNR=10							
SONM	**Songino Array**	**46.66**	**7**	P		**P**	**11 49 32.1**	**+1.3**
	0.2nm,0.4s,baz=193,slow=8.9,SNR=5.1							
MKAR	**Makanchi Array**	**47.49**	**344**	P		**P**	**11 49 36.9**	**-0.3**
	0.3nm,0.3s,baz=160,slow=8.1,SNR=3.7							
ZALV	**Zalesovo Beam**	**53.65**	**350**	P		**P**	**11 50 22.9**	**-0.4**
	1.1nm

VES	**Vestal, Richgr**	**1.47**	**266**	⇑Pb	**Pb**	12 19 41.5	-0.5
	baz=1.4,SNR=75						
VES				⇓S	**Sb**	12 20 00.5	-0.7
	baz=1.4						
ARVC	**Arvin**	**1.51**	**237**	⇓Pb	**Pb**	12 19 42.4	-0.4
	baz=1.5						
ARVC				⇓S	**Sg**	12 20 02.6	+0.1
	baz=1.5						
RCTC	**Rector, Farmer**	**1.62**	**283**	⇓Pb	**Pb**	12 19 43.8	-0.8
	baz=1.6						
RCTC				⇑Sg	**Sg**	12 20 06.9	+1.1
	baz=1.6						
BBRC	**Big Bear Solar**	**1.73**	**170**	⇓P	**Pn**	12 19 44.8	-0.6
	baz=1.7						
BBRC				⇑Sg	**Sg**	12 20 11.5	+2.1
	baz=1.7						
BFSC	**Mount Baldy Ra**	**1.75**	**190**	⇓P	**Pn**	12 19 45.3	-0.3
	baz=1.8,SNR=88						
BFSC				⇑Sb	**Sg**	12 20 11.2	+1.0
	baz=1.8						
GMRC	**Granite Mounta**	**1.78**	**131**	P	**Pn**	12 19 44.8	-1.2
	baz=1.8,SNR=311						
GMRC				⇑Sb	**Sg**	12 20 11.8	+0.7
	baz=1.8						
OSI	**Osito Adit**	**1.79**	**221**	*e*Pn	**Pb**	12 19 47.3	-0.2
OSI				*e*Sn	**Sb**	12 20 09.8	-0.8
OSI	**Osito Adit**	**1.79**	**221**	⇑Sg	**Sg**	12 20 13.1	+1.7
	baz=1.8						
MWC	**Mount Wilson**	**1.85**	**200**	*e*Pn	**Pn**	12 19 47.1	+0.1
MWC				*e*Sn	**Sb**	12 20 11.8	-0.7
DECC	**Green Verdugo**	**1.92**	**207**	⇓P	**Pn**	12 19 47.4	-0.4
	baz=1.9						
DECC				⇑Sg	**Sg**	12 20 17.4	+1.9
	baz=1.9						
PASC	**Pasadena Art C**	**1.94**	**203**	*e*Pn	**Pb**	12 19 48.4	-1.7
PASC				*e*Sn	**Sb**	12 20 13.3	-1.5
LDFC	**Landfair**	**1.98**	**116**	*e*Pn	**Pn**	12 19 47.5	-1.3
LDFC				*e*Sn	**Sb**	12 20 14.9	-1.3
MLAC	**Mammoth Lakes**	**2.07**	**324**	⇑Pg	**Pg**	12 19 53.0	-0.6
	baz=2.1						
BELC	**Belle Mtn. Jos**	**2.23**	**151**	P	**Pn**	12 19 52.1	-0.1
	baz=2.3,SNR=130						
BELC				⇓Sb	**Sg**	12 20 25.5	0.0
	baz=2.3						
SMMC	**Simmler**	**2.31**	**254**	⇑Pb	**Pb**	12 19 55.6	-0.8
	baz=2.3						
SMMC				⇑Sb	**Sg**	12 20 26.6	-1.4
	baz=2.3						
PKM	**Peak Mountain**	**2.33**	**243**	⇓Pb	**Pb**	12 19 56.1	-0.7
	baz=2.3						
PKM				⇑Sb	**Sb**	12 20 27.3	+1.0
	baz=2.3						
MURC	**Murrieta**	**2.36**	**178**	⇓P	**Pn**	12 19 54.1	+0.1
	baz=2.4,SNR=24						
MURC				⇓Sb	**Sg**	12 20 29.9	+0.1
	baz=2.4						
PFO	**Pinyon Flat Ob**	**2.45**	**164**	*e*Pn	**Pn**	12 19 55.0	-0.2
PFO				*e*Sn	**Sn**	12 20 24.6	-1.4
PFO	**Pinyon Flat Ob**	**2.45**	**164**	⇑P	**Pn**	12 19 54.8	-0.4
	baz=2.5,SNR=18						
PFO				⇓S	**Sn**	12 20 25.3	-0.7
	baz=2.5						
SBC	**Santa Barbara**	**2.51**	**233**	⇓Pg	**Pg**	12 20 01.8	-0.1
	baz=2.5						
SBC				⇓Sg	**Sg**	12 20 36.5	+2.1
	baz=2.5						
IRM	**Iron Mountain**	**2.51**	**135**	⇑P	**Pn**	12 19 55.1	-0.9
	baz=2.5,SNR=27						
IRM				⇑Sb	**Sg**	12 20 34.4	-0.2
	baz=2.5						
NVAR	**Mina Array Bea**	**2.59**	**342**	Pn	**Pn**	12 19 57.1	-0.1
NVAR				Pg	**Pb**	12 20 01.7	+0.5
NVAR				Sn	**Sg**	12 20 37.1	0.0
NVAR	**Mina Array Bea**	**2.59**	**342**	Pn	**Pn**	12 19 57.1	-0.1
	1.8nm,0.3s,baz=167,slow=15,SNR=52						
NVAR				Pg	**Pb**	12 20 01.7	+0.5
	22nm,0.3s,baz=164,slow=17,SNR=128						
NVAR				Sn	**Sg**	12 20 37.1	0.0
	8.7nm,0.3s,baz=271,slow=25,SNR=7.5						
CIS	**Catalina Islan**	**2.72**	**200**	⇑P	**Pn**	12 19 59.1	+0.4
	baz=2.7,SNR=6.0						
CIS				⇑Sb	**Sg**	12 20 40.8	-0.3
	baz=2.7						
R11A	**Troy Canyon, C**	**2.74**	**29**	⇑P	**Pn**	12 19 58.5	-0.7
	baz=2.7,SNR=22						
R11A				⇓Sb	**Sb**	12 20 39.5	+1.6
	baz=2.7						
BC3	**Big Chuckawall**	**2.76**	**146**	⇑P	**Pn**	12 19 58.7	-0.7
	baz=2.8,SNR=8.5						
BC3				⇓Sb	**Sg**	12 20 41.2	-1.2
	baz=2.8						
W13A	**Hualapai Mount**	**2.90**	**106**	⇑P	**Pn**	12 20 01.1	-0.4
	baz=2.9,SNR=20						
W13A				⇓Sb	**Sg**	12 20 46.2	-1.0
	baz=2.9						
PDMCI	**Parker Dam,Lak**	**3.07**	**122**	⇑P	**Pn**	12 20 03.2	-0.4
	baz=3.1						
109C	**Camp Elliot, M**	**3.08**	**177**	⇑Sb	**Sb**	12 20 49.9	+2.4
	baz=3.1						
MONP	**Monument Peak**	**3.15**	**167**	⇓P	**Pn**	12 20 04.7	-0.2
	baz=3.2,SNR=7.1						
MONP				⇑Sb	**Sb**	12 20 52.5	+2.6
	baz=3.2						
Y12C	**Blythe**	**3.17**	**133**	P	**Pn**	12 20 04.3	-0.7
	baz=3.2,SNR=19						
CMB	**Columbia Colle**	**3.23**	**311**	*e*Pn	**Pb**	12 20 09.0	-3.0
CMB				*e*Sn	**Sn**	12 20 44.6	-0.4
BAR	**Barrett**	**3.32**	**171**	*e*Pn	**Pn**	12 20 07.3	+0.2
BAR				*e*Sg	**Sg**	12 20 59.6	-0.9
R13A	**O'Grain Ranch,**	**3.45**	**49**	⇓P	**Pn**	12 20 08.7	-0.3
	baz=3.5,SNR=5.8						
SAO	**San Andreas Ge**	**3.45**	**285**	*e*Pn	Pb	12 20 11.8	-4.1
SAO				*e*Sn	**Sn**	12 20 51.0	+0.5
CCUT	**Cedar City**	**3.52**	**62**	*e*Pn	**Pn**	12 20 11.0	+0.9
CCUT				*e*Sg	**Sg**	12 21 06.8	-0.2
GLA	**Glamis**	**3.55**	**144**	*e*Pn	**Pn**	12 20 10.5	+0.3
GLA				*e*Sn	**Sn**	12 20 52.2	-0.7
ARUT	**Antelope Range**	**3.58**	**58**	*e*Pn	**Pn**	12 20 11.6	+0.8
ARUT				*e*Sg	**Sg**	12 21 09.5	+0.7
WCN	**Washoe City**	**3.86**	**330**	*e*Pg	**Pg**	12 20 26.7	-1.2
BMN	**Battle Mountai**	**4.46**	**1**	*e*Pg	**Pg**	12 20 39.2	-0.1
BMN				*e*Sn	**Sn**	12 21 15.9	+0.5
MVU	**Marysvale**	**4.77**	**56**	*e*Pn	Pn	12 20 29.4	+2.2
MVU				*e*Sg	**Sg**	12 21 48.5	+1.3
MSU	**Marysvale**	**4.80**	**57**	*e*Pn	Pn	12 20 30.8	+3.2
MSU				*e*Sg	**Sg**	12 21 49.0	+0.9
WUAZ	**Wupatki**	**4.83**	**94**	*e*Pn	**Pn**	12 20 30.1	+2.1
WUAZ				*e*Sg	**Sg**	12 21 49.1	+0.1
ELK	**Elko**	**5.03**	**18**	*e*Pn	**Pn**	12 20 32.1	+1.3
ELK				*e*Sg	**Sg**	12 21 54.0	-1.5
DUG	**Dugway**	**5.50**	**39**	*e*Pg	Pg	12 20 54.9	-4.3
	14nm,0.7s						
DUG				*e*Sg	**Sg**	12 22 10.2	-0.3
TMUT	**Trail Mountain**	**5.86**	**54**	*e*Pn	**Pn**	12 20 42.4	+0.2
	11nm,0.8s						
TMUT				*e*Sg	**Sg**	12 22 21.9	-0.1
SRU	**San Rafael**	**6.22**	**58**	*e*Pn	**Pn**	12 20 47.7	+0.6
	6.7nm,0.7s						
DAU	**Daniels Canyon**	**6.50**	**45**	*e*Pn	Pn	12 20 55.2	+4.2
	6.8nm,0.7s						
TUC	**Tucson**	**6.51**	**122**	*e*Pn	**Pn**	12 20 51.0	+0.1
	3.9nm,0.7s						
TUC				*e*Sg	**Sg**	12 22 41.0	-1.9
JLU	**Jordanelle**	**6.51**	**43**	*e*Pn	**Pn**	12 20 50.0	-1.2
	8.8nm,0.8s						
WVOR	**Wild Horse Val**	**6.54**	**351**	*e*Pg	**Pg**	12 21 20.0	+0.8
	9.3nm,1.1s						
WVOR				*e*Sg	**Sg**	12 22 43.8	-0.1
HVU	**Hansel Valley**	**6.78**	**30**	*e*Pn	**Pn**	12 20 52.7	-2.1
	6.2nm,0.7s						
HVU				*e*Sg	**Sg**	12 22 53.0	+1.3
PV04	**Paradox Valley**	**7.11**	**68**	*e*Pn	**Pn**	12 21 00.1	+0.7
PV04				*e*Sg	**Sg**	12 23 01.9	-0.4
MVCO	**Mesa Verde**	**7.18**	**77**	*e*Pn	Pn	12 20 55.4	-4.9
	18nm,1.0s						
MVCO				*e*Sg	**Sg**	12 23 07.9	+3.6
HWUT	**Hardware Ranch**	**7.18**	**37**	Pn	**Pn**	12 20 59.7	-0.6
	5.8nm,0.8s						
PV01	**Paradox Valley**	**7.30**	**70**	*e*Pn	Pn	12 20 55.6	-6.2
	358nm,0.6s						
PV01				*e*Sg	**Sg**	12 23 04.5	-3.7
MFID	**Camas Ranch**	**7.52**	**8**	*e*Pg	**Pg**	12 21 36.5	-1.4
	4.6nm,0.8s						
HLID	**Hailey**	**7.90**	**15**	*e*Pn	**Pn**	12 21 07.5	-2.6
	4.3nm,0.6s						
HLID				*e*Sn	**Sn**	12 22 42.6	+2.3

ANMO	**Albuquerque**	**8.89**	**93**	Pg	Pg	12 21 58.5	-5.6
	0.1nm,0.3s,baz=284,slow=12,SNR=5.2						
ANMO				Lg	Lg	12 23 51.2	
	0.1nm,0.3s,baz=101,slow=16,SNR=3.5						
PDAR	**Pinedale Array**	**9.04**	**39**	Pn	Pn	12 21 28.4	+2.5
PDAR	**Pinedale Array**	**9.04**	**39**	Pn	Pn	12 21 28.4	+2.5
	0.0nm,0.3s,baz=247,slow=12,SNR=3.6						
TXAR	**Lajitas Array**	**13.24**	**116**	Pn	Pn	12 22 26.1	+3.0
TXAR	**Lajitas Array**	**13.24**	**116**	Pn	Pn	12 22 26.1	+3.0
	0.1nm,0.3s,baz=297,slow=14,SNR=4.8						
YKA	**Yellowknife Ar**	**26.60**	**3**	P	**P**	12 24 55.7	+2.1
YKA	**Yellowknife Ar**	**26.60**	**3**	P	**P**	12 24 55.7	+2.1
	0.2nm,0.7s,baz=183,slow=8.7,SNR=4.4						
MKAR	**Makanchi Array**	**95.75**	**347**	P	**P**	12 32 42.8	+1.1
MKAR	**Makanchi Array**	**95.75**	**347**	P	**P**	12 32 42.8	+1.1
	0.6nm,0.9s,baz=346,slow=3.0,SNR=4.0						

ISK ***20*** *12:26:30.6,38.13N×27.38E,h5km,MD2.9*
DDA ***20*** *12:26:30.9,38.15N×27.41E,h16km,MD3.1*
ISCJB ***20*** *12:26:31.3±0.5,38.14N±0.02×27.41E±0.03,h1km±5km, Error ellipse: s-maj=4.3km s-min=3.3km az=167.1*
CSEM ***20*** *12:26:31.6±0.2,38.13N×27.39E,h2km,MD2.9,Error ellipse: s-maj=5.2km s-min=4.3km az=91.0*

ISC 20 12:26:30.8±1.0,38.13N±0.02×27.38E±0.02,h13km±9km, n54,σ0961/81,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.37**	**314**	PG		**Pb**	**12 26 39.5**	**+0.3**
BLCB				*e*SG		**Sb**	**12 26 45.0**	**0.0**
BLCB	**Balcova**	**0.37**	**314**	*i* Pg		**Pb**	**12 26 39.6**	**+0.3**
BLCB				*e*Sg		**Sb**	**12 26 45.0**	**0.0**
GCAM	**G?zelcaml?**	**0.44**	**195**	*i* P		**Pb**	**12 26 40.6**	**+0.1**
GCAM				*i* S		**Sb**	**12 26 46.4**	**-0.6**
GCAM	**G?zelcaml?**	**0.44**	**195**	*i* P		**Pb**	**12 26 40.6**	**+0.1**
GCAM				*i* S		**Sb**	**12 26 46.4**	**-0.6**
AYDN	**Tasoluk**	**0.61**	**140**	*i* P		**Pb**	**12 26 43.7**	**+0.3**
AYDN				*i* S		**Sg**	**12 26 51.2**	**+0.3**
AYDN	**Tasoluk**	**0.61**	**140**	*i* P		**Pb**	**12 26 43.7**	**+0.3**
AYDN				*i* S		**Sg**	**12 26 51.2**	**+0.3**
URLA	**Izmir**	**0.66**	**291**	*i* P		**Pb**	**12 26 44.8**	**+0.6**
URLA				*i* S		**Sb**	**12 26 54.1**	**+0.8**
URLA	**Izmir**	**0.66**	**291**	*i* P		**Pb**	**12 26 44.8**	**+0.6**
URLA				*i* S		**Sb**	**12 26 54.1**	**+0.8**
AKHS	**Akhisar**	**0.82**	**24**	*i* P		**Pb**	**12 26 47.1**	**+0.1**
AKHS				*i* S		**Sb**	**12 26 57.7**	**-0.3**
AKS	**Akhisar**	**0.82**	**24**	*e*PG		**Pg**	**12 26 46.8**	**0.0**
AKS	**Akhisar**	**0.82**	**24**	*e*Pg		**Pg**	**12 26 46.8**	**0.0**
MANT	**Manisa**	**0.99**	**68**	*i* P		**Pg**	**12 26 50.1**	**0.0**
MANT				*i* S		**Sg**	**12 27 01.7**	**-1.3**
BDRM	**Kayabasi**	**1.06**	**177**	*i* P		**Pn**	**12 26 51.5**	**+0.1**
BDRM				*i* S		**Sn**	**12 27 06.0**	**-0.1**
BDRM	**Kayabasi**	**1.06**	**177**	*i* P		**Pn**	**12 26 51.5**	**+0.1**
BDRM				*i* S		**Sn**	**12 27 06.0**	**-0.1**
BODT	**Bodrum**	**1.07**	**183**	*e*PG		**Pn**	**12 26 51.9**	**+0.4**
BODT	**Bodrum**	**1.07**	**183**	*e*Pg		**Pn**	**12 26 51.9**	**+0.4**
KULA	**Kula-Manisa**	**1.08**	**69**	*e*PG		**Pn**	**12 26 52.1**	**+0.4**
KULA	**Kula-Manisa**	**1.08**	**69**	*e*Pg		**Pn**	**12 26 52.1**	**+0.4**
YER	**Yerkesik**	**1.22**	**144**	*e*PN		**Pg**	**12 26 54.7**	**+0.3**
YER	**Yerkesik**	**1.22**	**144**	*e*Pn		**Pg**	**12 26 54.7**	**+0.3**
AYVA	**Ayvalik**	**1.30**	**336**	*i* P		**Pn**	**12 26 53.6**	**-1.0**
AYVA				*i* S		**Sg**	**12 27 13.1**	**+0.5**
AYVA	**Ayvalik**	**1.30**	**336**	*i* P		**Pn**	**12 26 53.6**	**-1.0**
AYVA				*i* S		**Sg**	**12 27 13.1**	**+0.5**
DEMI	**Demirci**	**1.39**	**48**	*i* P		**Pg**	**12 26 57.5**	**0.0**
DEMI				*i* S		**Sn**	**12 27 14.0**	**-0.2**
DEMI	**Demirci**	**1.39**	**48**	*i* P		**Pg**	**12 26 57.5**	**0.0**
DEMI				*i* S		**Sn**	**12 27 14.0**	**-0.2**
DNZL	**Cakiroluk**	**1.39**	**108**	*i* P		**Pg**	**12 26 57.6**	**+0.1**
DNZL				*i* S		**Sg**	**12 27 17.3**	**+1.7**
BALB	**Balikesir**	**1.56**	**14**	*e*PN		**Pg**	**12 27 00.4**	**-0.4**
BALB	**Balikesir**	**1.56**	**14**	*e*Pn		**Pg**	**12 27 00.4**	**-0.4**
TURN	**Turunc**	**1.59**	**142**	*i* P		**Pn**	**12 26 58.2**	**-0.4**
TURN				*i* S		**Sn**	**12 27 17.3**	**-1.6**
TURN	**Turunc**	**1.59**	**142**	*i* P		**Pn**	**12 26 58.2**	**-0.4**
BALY	**Balya**	**1.62**	**6**	*i* P		**Pn**	**12 26 59.6**	**+0.5**
BALY				*i* S		**Sn**	**12 27 20.2**	**+0.3**
BALY	**Balya**	**1.62**	**6**	*i* P		**Pn**	**12 26 59.6**	**+0.5**
BALY				*i* S		**Sn**	**12 27 20.2**	**+0.3**
KHAL	**Karahalli**	**1.68**	**81**	*i* P		**Pg**	**12 27 03.2**	**+0.1**
KHAL				*i* S		**Sn**	**12 27 22.3**	**+0.9**
KHAL	**Karahalli**	**1.68**	**81**	*i* P		**Pg**	**12 27 03.2**	**+0.1**
KHAL				*i* S		**Sn**	**12 27 22.3**	**+0.9**
KHL	**Karahalli**	**1.70**	**83**	*e*PN		**Pg**	**12 27 03.4**	**0.0**
KHL	**Karahalli**	**1.70**	**83**	*e*Pn		**Pg**	**12 27 03.4**	**0.0**
DURS	**Dursunbey**	**1.70**	**30**	*i* P		**Pn**	**12 27 00.8**	**+0.6**
DURS				*i* S		**Sn**	**12 27 22.5**	**+0.6**
DURS	**Dursunbey**	**1.70**	**30**	*i* P		**Pn**	**12 27 00.8**	**+0.6**
DURS				*i* S		**Sn**	**12 27 22.5**	**+0.6**
DST	**Dursunbey**	**1.76**	**33**	*e*PN		**Pg**	**12 27 04.0**	**-0.7**
DST	**Dursunbey**	**1.76**	**33**	*e*Pn		**Pg**	**12 27 04.0**	**-0.7**
APE	**Apeiranthos**	**1.81**	**235**	*e*PN		**Pg**	**12 27 04.8**	**-0.8**
APE	**Apeiranthos**	**1.81**	**235**	*e*Pn		**Pg**	**12 27 04.8**	**-0.8**
GDZ	**Gediz**	**1.90**	**59**	*i* P		**Pg**	**12 27 07.0**	**-0.4**
GDZ				*i* S		**Sg**	**12 27 31.1**	**-1.0**
GDZ	**Gediz**	**1.90**	**59**	*i* P		**Pg**	**12 27 07.0**	**-0.4**
GDZ				*i* S		**Sg**	**12 27 31.1**	**-1.0**
GONE	**Gonen-Balikesi**	**1.93**	**7**	*e*PN		**Pb**	**12 27 06.3**	**+0.5**
GONE	**Gonen-Balikesi**	**1.93**	**7**	*e*Pn		**Pb**	**12 27 06.3**	**+0.5**
TVSB	**Tavsanli**	**2.09**	**50**	*e*PN		**Pb**	**12 27 08.9**	**+0.2**
TVSB	**Tavsanli**	**2.09**	**50**	*e*Pn		**Pb**	**12 27 08.9**	**+0.2**
KCTX	**Karacabey (Bur**	**2.27**	**19**	*e*PN		**Pb**	**12 27 11.1**	**-0.5**
KCTX	**Karacabey (Bur**	**2.27**	**19**	*e*Pn		**Pb**	**12 27 11.1**	**-0.5**
ALT	**Altintas**	**2.33**	**66**	*e*PN		**Pb**	**12 27 12.3**	**-0.4**
ALT	**Altintas**	**2.33**	**66**	*e*Pn		**Pb**	**12 27 12.3**	**-0.4**
ULDT	**Uludag**	**2.43**	**34**	*i* P		**Pb**	**12 27 15.6**	**+1.1**
ULDT	**Uludag**	**2.43**	**34**	*i* P		**Pb**	**12 27 15.6**	**+1.1**
BORA	**Eskisehir**	**2.96**	**53**	*i* P		**Pg**	**12 27 26.1**	**-1.5**
BORA				*i* S		**Sg**	**12 28 05.6**	**-0.5**

IDC ***20*** *12:33:56.5±0.6,35.42N×22.72E,h0km,mb4.1/18, mb1 4.1/25,mb1mx4.1/35,mbtmp4.0/25,ML4.0/6,MS3.5/2, Ms1 3.5/2,ms1mx2.6/51,Error ellipse: s-maj=14.9km s-min=13.9km az=156.0*
ATH ***20*** *12:33:59.8,35.31N×22.49E,h28km±1km,ML3.9*
CSEM ***20*** *12:34:02.8±0.2,35.30N×22.58E,h55km±2km,mb4.3/11, Ms3.0,Error ellipse: s-maj=4.8km s-min=2.9km az=56.0*
THE ***20*** *12:34:02.2,35.36N×22.59E,h11km±3km,ML4.2/2,Error ellipse: s-maj=4.2km s-min=0.9km az=215.0*
HLW ***20*** *12:34:04.9,35.26N×23.29E,h30km±21km,Md4.0,Ml3.9*

ISC 20 12:34:01.6±0.6,35.32N±0.03×22.57E±0.03,h38km±1km, n285,σ1872/305,mb4.1/29,14C-2D,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.04**	**21**	P		**Pn**	**12 34 20.5**	**+0.8**
KYTH	**Kithira**	**1.04**	**21**	*e*PN		**Pn**	**12 34 20.4**	**+0.8**
KYTH	**Kithira**	**1.04**	**21**	P		**Pn**	**12 34 20.5**	**+0.8**
KARN	**Karanos**	**1.11**	**85**	P		**Pn**	**12 34 22.5**	**+1.9**
KARN	**Karanos**	**1.11**	**85**	*e*PN		**Pn**	**12 34 22.0**	**+1.4**
KARN				*e*SN		**Sn**	**12 34 38.0**	**+3.4**
KARN	**Karanos**	**1.11**	**85**	*e*Pn		**Pn**	**12 34 22.0**	**+1.4**
KARN	**Karanos**	**1.11**	**85**	P		**Pn**	**12 34 22.5**	**+1.9**
GVD	**Gavdhos**	**1.33**	**110**	*e*PN		**Pn**	**12 34 25.6**	**+1.9**
GVD	**Gavdhos**	**1.33**	**110**	*e*Pn		**Pn**	**12 34 25.6**	**+1.9**
VAM	**Vamos**	**1.34**	**86**	P		**Pn**	**12 34 25.5**	**+1.8**
VAM	**Vamos**	**1.34**	**86**	*e*PN		**Pn**	**12 34 25.5**	**+1.8**
VAM				*e*SN		**Sn**	**12 34 44.1**	**+3.8**
VAM	**Vamos**	**1.34**	**86**	P		**Pn**	**12 34 25.5**	**+1.8**
VLI	**Veliai**	**1.43**	**12**	P		**Pn**	**12 34 26.9**	**+1.9**
VLI	**Veliai**	**1.43**	**12**	*e*PN		**Pn**	**12 34 26.3**	**+1.3**
VLI				*e*SN		**Sn**	**12 34 45.7**	**+3.1**
VLI	**Veliai**	**1.43**	**12**	*e*Pn		**Pn**	**12 34 26.3**	**+1.3**
VLI	**Veliai**	**1.43**	**12**	P		**Pn**	**12 34 26.9**	**+1.9**
VLI				*e*Sn		**Sn**	**12 34 45.7**	**+3.1**
PYL	**PYLOS**	**1.71**	**337**	P		**Pn**	**12 34 30.1**	**+1.2**
PYL	**PYLOS**	**1.71**	**337**	*e*PN		**Pn**	**12 34 30.2**	**+1.3**
PYL				*e*SB		**Sn**	**12 34 50.8**	**+1.3**
PYL	**PYLOS**	**1.71**	**337**	*e*Pn		**Pn**	**12 34 30.2**	**+1.3**
PYL				*e*Sb		**Sn**	**12 34 50.8**	**+1.3**
SIVA	**Sivas**	**1.86**	**99**	P		**Pn**	**12 34 32.8**	**+1.9**
SIVA	**Sivas**	**1.86**	**99**	*e*PN		**Pn**	**12 34 32.6**	**+1.7**
SIVA				*e*SN		**Sn**	**12 34 56.5**	**+3.3**
SIVA	**Sivas**	**1.86**	**99**	P		**Pn**	**12 34 32.8**	**+1.9**
ITM	**Ithomi**	**1.93**	**345**	P		**Pn**	**12 34 33.6**	**+1.7**
ITM	**Ithomi**	**1.93**	**345**	*e*PB		**Pn**	**12 34 33.4**	**+1.5**
ITM				*e*SB		**Sn**	**12 34 57.4**	**+2.4**
ITM	**Ithomi**	**1.93**	**345**	P		**Pn**	**12 34 33.6**	**+1.7**
ITM				*e*Sb		**Sn**	**12 34 57.4**	**+2.4**
VLX	**Vlachokerasia**	**2.06**	**356**	P		**Pn**	**12 34 35.8**	**+2.1**
VLX				S		**Sn**	**12 35 00.8**	**+2.6**
VLX	**Vlachokerasia**	**2.06**	**356**	*e*PB		**Pn**	**12 34 35.0**	**+1.3**
VLX				*e*SN		**Sn**	**12 35 00.1**	**+1.9**
VLX	**Vlachokerasia**	**2.06**	**356**	*e*Pb		**Pn**	**12 34 35.0**	**+1.3**
VLX	**Vlachokerasia**	**2.06**	**356**	P		**Pn**	**12 34 35.8**	**+2.1**
VLX				*e*Sn		**Sn**	**12 35 00.1**	**+1.9**
VLX				S			12 35 00.8	
DIDY	**Didyma**	**2.22**	**13**	P		**Pn**	**12 34 37.1**	**+1.2**
DIDY	**Didyma**	**2.22**	**13**	P		**Pn**	**12 34 37.1**	**+1.2**
DID	**Didima**	**2.25**	**14**	P		**Pn**	**12 34 37.7**	**+1.4**
DID				S		**Sn**	**12 35 06.2**	**+3.3**
DID	**Didima**	**2.25**	**14**	*e*PN		**Pn**	**12 34 37.7**	**+1.4**
DID				*e*SN		**Sn**	**12 35 05.0**	**+2.1**
DID	**Didima**	**2.25**	**14**	P		**Pn**	**12 34 37.7**	**+1.4**
DID				*e*Sn		**Sn**	**12 35 05.0**	**+2.1**
DID				S			12 35 06.2	
LAST	**Lasithi**	**2.39**	**93**	P		**Pn**	**12 34 40.4**	**+2.2**
LAST	**Lasithi**	**2.39**	**93**	*e*PN		**Pn**	**12 34 40.2**	**+2.0**
LAST				*e*SN		**Sn**	**12 35 09.9**	**+3.6**
LAST	**Lasithi**	**2.39**	**93**	*e*Pn		**Pn**	**12 34 40.2**	**+2.0**
NPS	**Neapolis**	**2.49**	**90**	P		**Pn**	**12 34 41.8**	**+2.2**
NPS	**Neapolis**	**2.49**	**90**	*e*PN		**Pn**	**12 34 40.9**	**+1.3**
NPS				*e*SN		**Sn**	**12 35 12.0**	**+3.2**
NPS	**Neapolis**	**2.49**	**90**	*e*Pn		**Pn**	**12 34 40.9**	**+1.3**
NPS	**Neapolis**	**2.49**	**90**	P		**Pn**	**12 34 41.8**	**+2.2**
THR6	**Thira Island,**	**2.52**	**65**	P		**Pn**	**12 34 41.1**	**+1.1**
THR6	**Thira Island,**	**2.52**	**65**	P		**Pn**	**12 34 41.1**	**+1.1**
NAIG	**Nisos Aigina**	**2.55**	**17**	*e*PN		**Pn**	**12 34 41.5**	**+1.1**
NAIG	**Nisos Aigina**	**2.55**	**17**	*e*Pn		**Pn**	**12 34 41.5**	**+1.1**
THR2	**Thira island,**	**2.59**	**63**	P		**Pn**	**12 34 42.1**	**+1.2**
THR2	**Thira island,**	**2.59**	**63**	P		**Pn**	**12 34 42.1**	**+1.2**
XRY	**Khrisi**	**2.60**	**99**	*e*PN		**Pn**	**12 34 43.2**	**+2.1**
XRY	**Khrisi**	**2.60**	**99**	*e*Pn		**Pn**	**12 34 43.2**	**+2.1**
GUR	**Goura**	**2.62**	**356**	P		**Pn**	**12 34 43.4**	**+1.9**
GUR	**Goura**	**2.62**	**356**	*e*PN		**Pn**	**12 34 43.0**	**+1.5**
GUR	**Goura**	**2.62**	**356**	*e*Pn		**Pn**	**12 34 43.0**	**+1.5**
GUR	**Goura**	**2.62**	**356**	P		**Pn**	**12 34 43.4**	**+1.9**
LTK	**Loutraki**	**2.72**	**7**	P		**Pn**	**12 34 44.6**	**+1.8**
LTK	**Loutraki**	**2.72**	**7**	*e*PN		**Pn**	**12 34 43.7**	**+0.9**
LTK	**Loutraki**	**2.72**	**7**	P		**Pn**	**12 34 44.6**	**+1.8**
ATH	**Athens Observa**	**2.81**	**19**	*e*PN		**Pn**	**12 34 45.2**	**+1.3**
ATH				*e*SN		**Sn**	**12 35 18.8**

NVR	Nevrokopi	6.11	9	*e*Pn		Pn	12 35 31.2	+1.9	
ALN	Alexandroupoli	6.21	25	*e*PN		Pn	12 35 33.1	+2.4	
ALN	Alexandroupoli	6.21	25	*e*Pn		Pn	12 35 33.1	+2.4	
RDO	Rodhopi	6.27	21	*e*PN		Pn	12 35 33.5	+2.0	
RDO	Rodhopi	6.27	21	*e*Pn		Pn	12 35 33.5	+2.0	
MMB	Musomiste	6.33	8	P		Pn	12 35 32.9	+0.6	
MMB	Musomiste	6.33	8	P		Pn	12 35 32.9	+0.6	
KHAL	Karahalli	6.33	59	*i* P		Pn	12 35 34.4	+1.9	
KHAL	Karahalli	6.33	59	*i* P		Pn	12 35 34.4	+1.9	
KORT	Korkueli	6.52	73	*i* P		Pn	12 35 35.7	+0.7	
SWA2		6.53	157	P		Pn	12 35 35.2	+0.1	
SWA2				S		Sn	12 36 43.8	-4.5	
SWA2		6.53	157	P		Pn	12 35 35.2	+0.1	
	baz=162								
SWA2				S		Sn	12 36 43.8	-4.5	
	baz=162								
RZN	Rozhen	6.58	14	P		Pn	12 35 37.3	+1.4	
RZN	Rozhen	6.58	14	P		Pn	12 35 37.3	+1.4	
SKO	Skopje	6.71	353	*e*Pn		Pn	12 35 38.0	+0.5	
SKO	Skopje	6.71	353	*e*Pn		Pn	12 35 38.5	+1.0	
VTS	Vitosha	7.28	4	*i* P		Pn	12 35 46.4	+0.9	
VTS	Vitosha	7.28	4	P		Pn	12 35 47.5	+2.0	
VTS	Vitosha	7.28	4	*i* P		Pn	12 35 46.4	+0.9	
PVL	Pavlikeni	8.18	14	P		Pn	12 36 05.0	+7.4	
AWBH		8.81	141	P		Pn	12 36 04.6	-1.8	
AWBH		8.81	141	P		Pn	12 36 04.6	-1.8	
	baz=143								
BRTR	Keskin Array B	9.83	60	Pn		Pn	12 36 22.2	+1.7	
	comp=N,0.3nm,0.3s,baz=240,slow=14,SNR=15								
GULE	Gulek	10.05	75	*i* P		Pn	12 36 23.4	-0.1	
GULE	Gulek	10.05	75	*i* P		Pn	12 36 23.4	-0.1	
GZR	Gura Zlata	10.07	1	*i* P		Pn	12 36 22.6	-1.0	
GZR	Gura Zlata	10.07	1	*i* P		Pn	12 36 22.6	-1.0	
LOT	Lotru	10.16	5	*i* P		Pn	12 36 24.0	-0.9	
LOT	Lotru	10.16	5	*i* P		Pn	12 36 24.0	-0.9	
SUZ		10.23	119	P		Pn	12 36 23.4	-2.5	
SUZ		10.23	119	P		Pn	12 36 23.4	-2.5	
	baz=121								
VOIR		10.29	10	*i* P		Pn	12 36 27.7	+1.1	
VOIR		10.29	10	*i* P		Pn	12 36 27.7	+1.1	
BZS	Buzias	10.32	356	*i* P		Pn	12 36 25.4	-1.5	
ZAF		10.37	123	P		Pn	12 36 25.1	-2.6	
ZAF		10.37	123	P		Pn	12 36 25.1	-2.6	
	baz=124								
MLR	Muntele Rosu	10.48	13	*i* P		Pn	12 36 31.8	+2.4	
MLR	Muntele Rosu	10.48	13	Pn		Pn	12 36 29.1	-0.2	
	comp=N,0.1nm,0.3s,baz=163,slow=14,SNR=2.4								
MLR	Muntele Rosu	10.48	13	*i* P		Pn	12 36 31.8	+2.4	
GRER		10.60	17	*i* P		Pn	12 36 33.2	+2.4	
GRER		10.60	17	*i* P		Pn	12 36 33.2	+2.4	
KEST	Kesra	10.78	276	Sn		Sn	12 38 29.2	-3.7	
	comp=N,0.1nm,0.3s,baz=19,slow=23,SNR=1.6								
MMAI	Mount Meron Ar	10.88	99	Pn		Pn	12 36 31.1	-3.7	
	comp=N,2.2nm,0.3s,baz=292,slow=11,SNR=8.1								
MMAI				Sn		Sn	12 38 28.7	-6.5	
	comp=N,2.5nm,0.3s,baz=311,slow=19,SNR=1.6								
EIL	Elat	11.87	115	Pn		Pn	12 36 46.0	-2.3	
	comp=N,1.2nm,0.3s,baz=313,slow=9.2,SNR=22								
EIL				Sn		Sn	12 38 50.9	-8.5	
	comp=N,1.5nm,0.3s,baz=287,slow=22,SNR=3.7								
ASF	Jabal al Asfar	12.33	101	Sn		Sn	12 39 00.7	-10	
	comp=N,0.2nm,0.3s,baz=207,slow=18,SNR=1.3								
NIE	Niedzica	14.19	354	*e*P		P	12 37 28.1	+1.4	
NIE	Niedzica	14.19	354	*e*P		P	12 37 28.7	+2.0	
LMR	La Mourre	14.77	308	*e*P		Pn	12 37 23.0	-4.6	
MORC	Moravsky Berou	14.91	347	*i* P		P	12 37 35.9	+1.2	
MORC	Moravsky Berou	14.91	347	*i* P		P	12 37 35.9	+1.2	
GERES	GERESS Array B	15.02	337	Pn		Pn	12 37 30.5	-0.6	
	comp=N,0.2nm,0.3s,baz=150,slow=11,SNR=4.3								
KHC	Kasperske Hory	15.31	337	*e*P		P	12 37 40.0	+0.9	
KHC				*ex*		x	12 37 49.0		
KHC				*ex*		x	12 38 06.0		
KHC	Kasperske Hory	15.31	337	P		P	12 37 40.0	+0.9	
AKASG	Malin Array Be	16.12	15	Pn		Pn	12 37 41.8	-3.3	
	comp=N,1.5nm,0.3s,baz=206,slow=11,SNR=4.0								
CABF	La Chapelle	16.76	317	*e*P		Pn	12 37 51.0	-2.4	
	comp=N,11nm,0.9s								
CDF	Champ du Feu	17.30	324	*e*P		Pn	12 38 00.0	-0.2	
	comp=N,3.0nm,0.4s								
CDF	Champ du Feu	17.30	324	*e*P		Pn	12 38 00.0	-0.2	
	comp=N,1.5nm,0.4s								
CLL	Collm	17.41	340	*e*(sP)		sP	12 38 08.0	-8.8	
CLL				*e*PP		pP	12 38 17.0	+5.1	
CLL				*e*			12 38 23.0		
CLL				Lm		MLR	12 45 00.0		
	comp=N,100nm,18.2s								
CLL				Lm		MLR	12 45 00.0		
	comp=E,100nm,21.0s								
HAU	Haudompre	17.49	321	*e*P		Pn	12 38 02.5	0.0	
	comp=E,5.3nm,0.5s								
HAU				*e*R					
	comp=E,136nm,18.2s								
HAU	Haudompre	17.49	321	*e*P		Pn	12 38 02.5	0.0	
	comp=E,2.7nm,0.5s								
KBZ	Khabaz	17.76	56	Pn		Pn	12 38 05.4	-0.4	
	comp=E,0.2nm,0.3s,baz=261,slow=10,SNR=5.9								
KBZ				Sn		Sn	12 41 17.1	-5.4	
	comp=E,0.5nm,0.3s,baz=259,slow=21,SNR=3.2								
PAGF	Fort de Pagny	18.17	322	*e*P		Pn	12 38 10.9	+0.2	
	comp=E,4.4nm,0.8s								
PAGF	Fort de Pagny	18.17	322	*e*P		Pn	12 38 10.9	+0.2	
	comp=E,2.2nm,0.8s								
GNI	Garni	18.18	68	P		P	12 38 10.2	-0.9	
	comp=E,0.6nm,0.3s,baz=343,slow=11,SNR=2.2								
GNI				S		Sn	12 41 19.9	-13	
	comp=E,0.9nm,0.3s,baz=183,slow=18,SNR=1.8								
LOR	Lormes	18.39	316	*e*P		P	12 38 13.3	+0.1	
LOR	Lormes	18.39	316	*e*P		P	12 38 13.3	+0.1	
MEZF	Maizieres J'vi	18.48	321	*e*P		Pn	12 38 14.6	+0.1	
MEZF	Maizieres J'vi	18.48	321	*e*P		Pn	12 38 14.6	+0.1	
SSF	Saint Saulge	18.48	315	*e*P		Pn	12 38 15.1	+0.6	
SSF	Saint Saulge	18.48	315	*e*P		Pn	12 38 15.1	+0.6	
EPF	Esparros	18.84	301	*e*P		Pn	12 38 19.6	+0.6	
EPF	Esparros	18.84	301	*e*P		Pn	12 38 19.6	+0.6	
RJF	Les Rejaudoux	18.85	308	*e*P		Pn	12 38 20.4	+1.4	
RJF	Les Rejaudoux	18.85	308	*e*P		Pn	12 38 20.4	+1.4	
TCF	Toulx Ste Croi	18.86	312	*e*P		Pn	12 38 19.4	+0.3	
TCF	Toulx Ste Croi	18.86	312	*e*P		Pn	12 38 19.4	+0.3	
ETSF	Etsaut	19.44	300	*e*P		Pn	12 38 26.3	+0.1	
	comp=E,4.1nm,0.5s								
ETSF	Etsaut	19.44	300	*e*P		Pn	12 38 26.3	+0.1	
	comp=E,2.0nm,0.5s								
GIVF	Givet	19.63	324	*e*P		Pn	12 38 27.8	-0.5	
	comp=E,4.1nm,0.3s								
GIVF	Givet	19.63	324	*e*P		Pn	12 38 27.8	-0.5	
	comp=E,2.0nm,0.3s								
BAIF	Baives	19.90	323	*e*P		Pn	12 38 30.7	-0.8	
	comp=E,7.5nm,0.5s								
BAIF	Baives	19.90	323	*e*P		Pn	12 38 30.7	-0.8	
	comp=E,3.8nm,0.5s								
SJPF	Ste Jean	19.97	300	*e*P		Pn	12 38 31.9	-0.5	
	comp=E,10nm,0.9s								
SJPF	Ste Jean	19.97	300	*e*P		Pn	12 38 31.9	-0.5	
	comp=E,5.2nm,0.9s								
MFF	Saint Martin d	20.45	310	*e*P		Pn	12 38 37.0	-1.0	
	comp=E,7.2nm,0.5s								
MFF	Saint Martin d	20.45	310	*e*P		Pn	12 38 37.0	-1.0	
	comp=E,3.6nm,0.5s								
LDF	La Druitiere	21.36	315	*e*P		P	12 38 45.9	+0.4	
	comp=E,12nm,0.6s								
LDF	La Druitiere	21.36	315	*e*P		P	12 38 45.9	+0.4	
	comp=E,5.8nm,0.6s								
ESDC	Sonseca Array	21.46	290	P		P	12 38 48.2	+1.5	
	comp=E,0.5nm,0.4s,baz=86,slow=12,SNR=7.3								
MIB	Mutribah	21.57	98	*e*P		P	12 38 47.4	-0.5	
MIB				AMb		AMB	12 38 47.9		
	comp=Z,27nm,0.5s								
MIB	Mutribah	21.57	98	*e*P		P	12 38 47.3	-0.5	
	comp=Z,27nm,0.5s								
FLN	La Foliniere	21.66	315	*e*P		P	12 38 48.7	+0.1	
	comp=Z,16nm,0.6s								
FLN	La Foliniere	21.66	315	*e*P		P	12 38 48.7	+0.1	
	comp=Z,7.8nm,0.6s								
GRR	Gorron	21.69	314	*e*P		P	12 38 49.8	+0.8	
	comp=Z,5.2nm,0.6s								
GRR	Gorron	21.69	314	*e*P		P	12 38 49.8	+0.8	
	comp=Z,2.6nm,0.6s								
NAY	Al-Naaiem	21.69	99	*e*P		P	12 38 48.9	-0.3	
NAY				AMb		AMB	12 38 50.1		
	comp=Z,11nm,0.4s								
NAY	Al-Naaiem	21.69	99	*e*P		P	12 38 48.9	-0.3	
	comp=Z,11nm,0.4s								
UMR	Umm Al-Rimmam	21.96	98	*e*P		P	12 38 51.8	-0.3	
UMR				AMb		AMB	12 38 52.8		
	comp=Z,48nm,0.5s								
UMR	Umm Al-Rimmam	21.96	98	*e*P		P	12 38 51.8	-0.3	
	comp=Z,48nm,0.5s								
MDT	Midelt	22.63	271	P		P	12 39 00.3	+0.9	
	comp=Z,1.8nm,0.8s,baz=111,slow=9.6,SNR=6.5								
SGMF	Saint Gilles	22.64	313	*e*P		P	12 38 58.5	-0.7	
	comp=Z,12nm,0.8s								
SGMF	Saint Gilles	22.64	313	*e*P		P	12 38 58.5	-0.7	
	comp=Z,5.8nm,0.8s								
ROSF	Rostrenen	23.11	312	*e*P		P	12 39 03.3	-0.7	
	comp=Z,5.6nm,0.5s								
ROSF	Rostrenen	23.11	312	*e*P		P	12 39 03.3	-0.7	
	comp=Z,2.8nm,0.5s								
HFS	Hagfors	25.49	350	P		P	12 39 25.1	-0.8	
	comp=Z,2.8nm,0.3s,baz=156,slow=11,SNR=36								
FINES	FINESS Array B	26.24	4	P		P	12 39 31.2	-1.5	
	comp=Z,1.1nm,0.3s,baz=172,slow=9.4,SNR=12								
FINES				PcP		PcP	12 42 59.5	+1.1	
	comp=Z,0.5nm,0.4s,baz=174,slow=3.8,SNR=3.8								
NB2	NORSAR Subarra	26.75	348	P		P	12 39 36.4	-1.0	
	comp=Z,1.4nm,0.5s,baz=155,slow=9.3								
NB2	NORSAR Subarra	26.75	348	P		P	12 39 36.4	-1.0	
	comp=Z,1.4nm,0.5s,SNR=9.0								
NOA	NORSAR Array B	26.75	348	P		P	12 39 36.6	-0.8	
	comp=Z,1.7nm,0.5s,baz=156,slow=8.9,SNR=11								
NOA				LR		LR	12 51 28.9		
	comp=Z,31nm,21.4s,baz=180,slow=40								
KAF	Kangasniemi	26.92	4	*e*p		P	12 39 37.7	-1.2	
	comp=Z,1.9nm,0.5s								
KAF	Kangasniemi	26.92	4	*e*P		P	12 39 37.7	-1.2	
	comp=Z,1.9nm,0.5s								
JOF	Joensuu	28.16	8	*e*p		P	12 39 47.1	-2.8	
	comp=Z,0.7nm,0.5s								
TORD	Torodi Ar. Bea	29.02	226	P		P	12 40 00.1	+2.1	
	comp=Z,0.8nm,0.6s,baz=34,slow=8.2,SNR=5.9								
AKTO	Aktyubinsk	29.72	48	P		P	12 40 03.5	-0.4	
	comp=Z,0.8nm,0.3s,baz=264,slow=3,SNR=6.5								
ARCES	ARCESS Array B	34.31	2	P		P	12 40 42.8	-1.2	
	comp=Z,2.3nm,0.7s,baz=185,slow=8.0,SNR=12								
ARCES				PcP		PcP	12 43 20.0	+0.7	
	comp=Z,2.6nm,0.9s,baz=130,slow=1.9,SNR=4.4								
KEV	Kevo	34.58	3	*e*p		P	12 40 45.1	-1.2	
	comp=Z,10nm,0.9s								
KEV	Kevo	34.58	3	*e*P		P	12 40 45.1	-1.2	
	comp=Z,10nm,0.9s								
MKAR	Makanchi Array	45.46	56	P		P	12 42 15.8	-1.0	
	comp=Z,2.2nm,0.4s,baz=265,slow=7.7,SNR=64								
MKAR				PcP		PcP	12 43 56.0	+0.7	
	comp=Z,1.1nm,0.7s,baz=275,slow=3.6,SNR=3.7								
ZALV	Zalesovo Beam	46.43	46	P		P	12 42 22.6	-1.7	
	comp=Z,1.8nm,0.3s,baz=265,slow=9.3,SNR=13								
SONM	Songino Array	61.02	50	P		P	12 44 11.0	-0.3	
	comp=Z,1.3nm,0.4s,baz=285,slow=7.4,SNR=16								
BOSA	Boshof	63.64	177	P		P	12 44 30.6	+1.8	
	comp=Z,1.9nm,0.7s,baz=295,slow=4.2,SNR=5.5								
CMAR	Chiang Mai Arr	68.66	82	P		P	12 45 01.3	+0.1	
	comp=Z,0.8nm,0.6s,baz=300,slow=7.1,SNR=5.8								
YKA	Yellowknife Ar	76.63	341	P		P	12 45 48.0	+0.1	
	comp=Z,0.8nm,0.5s,baz=34,slow=5.4,SNR=19								
USRK	Ussuriysk Arra	78.22	44	P		P	12 45 56.8	-0.4	
	comp=Z,2.4nm,0.8s,baz=290,slow=4.6,SNR=3.9								
ULM	Lac du Bonnet	78.98	325	P		P	12 46 01.8	+0.5	
	comp=Z,1.8nm,0.6s,baz=15,slow=5.0,SNR=5.0								
KSRS	Korea Array	79.86	51	P		P	12 46 06.0	-0.2	
	comp=Z,1.5nm,0.5s,baz=105,slow=4.5,SNR=5.8								
ILAR	Eielson Array	79.90	355	P		P	12 46 06.9	+0.9	
	comp=Z,0.4nm,0.4s,baz=337,slow=3.6,SNR=22								
BDFB	Brasilia	83.81	246	LR		LR	13 21 48.2		
	comp=Z,80nm,19.1s,baz=190,slow=34								
WRA	Warramunga Arr	118.72	95	PKP		PKPdf	12 52 46.0	0.0	
	comp=Z,0.3nm,0.6s,baz=317,slow=1.3,SNR=8.1								
ASAR	Alice Springs	120.17	99	PKP		PKPdf	12 52 49.2	+0.5	
	comp=Z,0.5nm,0.6s,baz=289,slow=0.9,SNR=7.9								
QSPA	South Pole Qui	125.17	180	PKP		PKPdf	12 52 57.8	+0.8	
	comp=Z,1.3nm,1.1s,baz=289,slow=2.9,SNR=5.4								

*IDC **20** 12:35:47.9±0.8, 3.°64S×149.°82E, h0km, mb4.0/12, mb1 4.2/13, mb1mx4.1/19, mbtmp4.0/13, ML3.6/1, MS3.9/7, Ms1 3.9/7, ms1mx3.5/26, Error ellipse: s-maj=24.1km s-min=12.7km az=113.0*

*ISCJB **20** 12:35:49.2±0.5, 3.°58S±0.°06×149.°8E±0.°1, h19km, mb4.2/17, MS3.9/6, Error ellipse: s-maj=16.3km s-min=7.8km az=12.0*

*NEIC **20** 12:35:49.4±0.6, 3.°62S×149.°87E, h10km, mb4.6/5, Error ellipse: s-maj=18.3km s-min=9.1km az=99.0*

ISC 20 12:35:50.9±0.6, 3.°60S±0.°07×149.°9E±0.°1, h19km, n44, σ1§14/44, mb4.0/17, MS4.0/6, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.38	205	*e*Pn	Pn	Pn	12 37 22.2	-1.8
PMG					Sn	Sn	12 38 37.3	+1.1
PMG	Port Moresby	6.38	205	Pn	Pn	Pn	12 37 26.1	+2.2
	0.8nm,0.3s,baz=24,slow=7.0,SNR=11							
PMG					Sn	Sn	12 38 37.3	+1.1
	0.4nm,0.3s,baz=16,slow=21,SNR=1.5							
CTA	Charters Tower	16.77	192	Pn	Pn	Pn	12 39 45.4	+0.5
CTA	Charters Tower	16.77	192	*e*P	P	P	12 39 46.9	-0.2
	9.5nm,1.1s							
CTA	Charters Tower	16.77	192	Pn	Pn	Pn	12 39 45.4	+0.5
	0.1nm,0.3s,baz=13,slow=10,SNR=6.1							
CTAO	Charters Tower	16.77	192	*e*Pn	Pn	Pn	12 39 43.5	-1.4
	28nm,1.3s							
GUMO	Guam	17.79	344	LR	LR	LR	12 45 25.8	
	comp=Z,220nm,21.9s,baz=171,slow=32							
EIDS	Eidsvold	21.68	177	*e*P	P	P	12 40 41.3	+0.6
	33nm,1.1s							
WRAB	Tennant Creek	22.21	222	*e*P	P	P	12 40 45.0	-1.6
	14nm,0.8s							
WRA	Warramunga Arr	22.23	222	P	P	P	12 40 45.5	-1.2
WRA				S	S	S	12 44 49.1	-1.6
WRA	Warramunga Arr	22.23	222	P	P	P	12 40 45.5	-1.2
	3.7nm,0.8s,baz=45,slow=11,SNR=30							
WRA				S	S	S	12 44 49.1	-1.6
	0.6nm,0.9s,baz=52,slow=1.8,SNR=4.2							
WRA				LR	LR	LR	12 49 09.7	
	comp=Z,113nm,20.7s,baz=80,slow=36							
DZM	Mont Dzumac	24.40	140	*e*P	P	P	12 41 09.2	+0.7
	27nm,1.3s							
DZM	Mont Dzumac	24.40	140	P	P	P	12 41 09.2	+0.7
	13nm,1.0s,baz=338,slow=12,SNR=10							
AS31	Alice Springs	25.23	216	*e*P	P	P	12 41 16.7	+0.8
ASAR	Alice Springs	25.23	216	P	P	P	12 41 15.2	-0.7
ASAR	Alice Springs	25.23	216	P	P	P	12 41 15.2	-0.7
	3.4nm,0.9s,baz=55,slow=8.8,SNR=22							
ARMA	Armidale	26.73	177	*e*P	P	P	12 41 30.2	+0.7
FITZ	Fitzroy Crossi	27.78	237	*e*P	P	P	12 41 40.3	+1.4
	8.6nm,0.6s							
FITZ	Fitzroy Crossi	27.78	237	*e*P	P	P	12 41 40.4	+1.4
	18nm,0.6s							
FITZ	Fitzroy Crossi	27.78	237	P	P	P	12 41 40.0	+1.0
	8.0nm,0.6s,baz=65,slow=7.9,SNR=54							
FITZ				LR	LR	LR	12 53 29.5	
	comp=Z,223nm,18.0s,baz=62,slow=38							
STKA	Stephens Creek	29.19	195	P	P	P	12 41 50.3	-1.1
STKA	Stephens Creek	29.19	195	P	P	P	12 41 50.3	-1.1
	1.6nm,0.9s,baz=288,slow=6.4,SNR=2.3							
STKA				LR	LR	LR	12 54 18.1	
	comp=Z,224nm,18.2s,baz=26,slow=38							
CNB	Canberra Magne	31.56	181	*e*P	P	P	12 42 13.3	+0.9
	47nm,0.8s							
TOO	Toolangi	34.05	186	*e*P	P	P	12 42 34.3	+0.2
	39nm,0.9s							
AFI	Afiamalu	39.19	108	LR	LR	LR	12 54 58.1	
	comp=Z,511nm,21.1s,baz=110,slow=29							
CMAR	Chiang Mai Arr	54.74	295	P	P	P	12 45 20.6	+0.8
CMAR	Chiang Mai Arr	54.74	295	P	P	P	12 45 20.6	+0.8
	0.9nm,0.7s,baz=101,slow=4.8,SNR=5.9							
PETK	Petropavlovsk-	56.88	6	P	P	P	12 45 33.0	-1.4
PETK	Petropavlovsk-	56.88	6	P	P	P	12 45 33.0	-1.4
	5.8nm,1.1s,baz=179,slow=8.6,SNR=3.1							
SONM	Songino Array	63.78	329	P	P	P	12 46 22.9	+0.9
SONM	Songino Array	63.78	329	P	P	P	12 46 22.9	+0.9
	0.2nm,0.6s,baz=98,slow=2.9,SNR=2.2							
CASY	Casey	68.33	196	P	P	P	12 46 48.2	-2.4
	18nm,0.5s							
MKAR	Makanchi Array	77.52	319	P	P	P	12 47 45.8	+0.3
MKAR	Makanchi Array	77.52	319	P	P	P	12 47 45.8	+0.3
	0.2nm,0.6s,baz=93,slow=5.8,SNR=3.1							
ZALV	Zalesovo Beam	78.56	327	P	P	P	12 47 50.0	-1.1
ZALV	Zalesovo Beam	78.56	327	P	P	P	12 47 50.0	-1.1
	0.3nm,0.5s,baz=141,slow=2.8,SNR=2.7							
ILAR	Eielson Array	82.16	23	P	P	P	12 48 09.7	-0.6
ILAR	Eielson Array	82.16	23	P	P	P	12 48 09.7	-0.6
	1.3nm,1.0s,baz=250,slow=5.3,SNR=21							
BBB	Bella Bella	87.91	38	LR	LR	LR	13 25 35.5	
	comp=Z,81nm,19.0s,baz=220,slow=34							
YBH	Yreka Blue Hor	90.43	48	LR	LR	LR	13 25 15.3	
	comp=Z,70nm,18.9s,baz=160,slow=33							
YKA	Yellowknife Ar	95.72	28	P	P	P	12 49 16.2	+0.8
YKA	Yellowknife Ar	95.72	28	P	P	P	12 49 16.2	+0.8
	0.4nm,0.6s,baz=272,slow=4.7,SNR=7.3							
TORD	Torodi Ar. Bea	147.17	289	PKPbc	PKPbc	PKPbc	12 55 34.5	+0.5
TORD	Torodi Ar. Bea	147.17	289	PKPbc	PKPbc	PKPbc	12 55 34.5	+0.5
	2.7nm,0.9s,baz=79,slow=2.5,SNR=12							

*IDC **20** 12:55:07.9±0.8, 3.°55S×149.°91E, h0km, mb4.1/11, mb1 4.2/13, mb1mx4.1/20, mbtmp4.1/13, ML3.3/2, MS4.0/13, Ms1 4.0/13, ms1mx3.9/21, Error ellipse: s-maj=25.4km s-min=15.8km az=106.0*

*ISCJB **20** 12:55:09.5±0.6, 3.°56S±0.°07×149.°8E±0.°1, h19km, mb4.2/14, MS4.0/11, Error ellipse: s-maj=17.8km s-min=9.5km az=8.7*

*NEIC **20** 12:55:09.8±0.5, 3.°57S×149.°75E, h10km, mb4.6/6, Error ellipse: s-maj=15.5km s-min=7.7km az=97.0*

ISC 20 12:55:11.1±0.7, 3.°57S±0.°08×149.°9E±0.°2, h19km, n37, σ0§97/33, mb4.2/14, MS4.0/11, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.38	205	*e*Pn	Pn	Pn	12 56 43.1	-1.1
	15nm,0.8s							
PMG	Port Moresby	6.38	205	Pn	Pn	Pn	12 56 45.7	+1.5
	1.7nm,0.3s,baz=6.7,slow=12,SNR=9.3							
CTA	Charters Tower	16.79	192	Pn	Pn	Pn	12 59 04.9	-0.5
CTA	Charters Tower	16.79	192	Pn	Pn	Pn	12 59 04.9	-0.5
	0.2nm,0.3s,baz=38,slow=12,SNR=2.2							
CTA				LR	LR	LR	13 04 52.8	
	comp=Z,237nm,21.8s,baz=9.8,slow=35							
CTAO	Charters Tower	16.79	192	*e*Pn	Pn	Pn	12 59 04.9	-0.5
	30nm,1.6s							
GUMO	Guam	17.75	344	LR	LR	LR	13 04 34.0	
	comp=Z,623nm,19.8s,baz=156,slow=32							
EIDS	Eidsvold	21.71	177	*e*P	P	P	13 00 02.8	+1.6
	22nm,1.2s							
WRAB	Tennant Creek	22.21	222	*e*P	P	P	13 00 05.2	-1.5
	12nm,0.9s							
WRA	Warramunga Arr	22.22	222	P	P	P	13 00 05.2	-1.7
WRA	Warramunga Arr	22.22	222	P	P	P	13 00 05.2	-1.7
	4.6nm,0.8s,baz=51,slow=12,SNR=22							
WRA				LR	LR	LR	13 09 16.9	
	comp=Z,336nm,20.5s,baz=40,slow=38							
DZM	Mont Dzumac	24.44	140	*e*P	P	P	13 00 29.4	+0.3
	29nm,1.3s							
DZM	Mont Dzumac	24.44	140	P	P	P	13 00 28.5	-0.6
	4.2nm,0.6s,baz=298,slow=6.5,SNR=13							
AS31	Alice Springs	25.23	216	*e*P	P	P	13 00 36.5	+0.4
ASAR	Alice Springs	25.23	216	P	P	P	13 00 36.1	0.0
ASAR	Alice Springs	25.23	216	P	P	P	13 00 36.1	0.0
	3.7nm,0.8s,baz=49,slow=8.2,SNR=32							
FITZ	Fitzroy Crossi	27.76	237	*e*P	P	P	13 00 57.1	-1.9
	17nm,0.9s							
FITZ	Fitzroy Crossi	27.76	237	P	P	P	13 01 00.1	+1.2
	12nm,0.8s,baz=52,slow=9.2,S

comp=Z,34nm,18.2s,baz=127,slow=36
WRA Warramunga Arr 24.19 169 P P 13 22 41.2 +0.2
0.9nm,0.4s,baz=345,slow=11,SNR=27
ASAR Alice Springs 27.76 171 P P 13 23 12.6 -0.7
0.2nm,0.3s,baz=352,slow=7.2,SNR=8.3
ASAR PcP PcP 13 26 31.2 +1.0
0.1nm,0.4s,baz=354,slow=2.0,SNR=6.6
CMAR Chiang Mai Arr 33.22 298 P P 13 24 00.2 -1.4
1.0nm,0.8s,baz=101,slow=6.5,SNR=7.2
SONM Songino Array 48.06 339 P P 13 26 03.4 -0.6
0.3nm,0.7s,baz=149,slow=9.6,SNR=2.6
MKAR Makanchi Array 59.02 324 P P 13 27 25.2 +0.8
1.2nm,0.6s,baz=117,slow=8.9,SNR=11
ZALV Zalesovo Beam 61.71 332 P P 13 27 43.3 +0.7
0.9nm,0.8s,baz=116,slow=3.4,SNR=4.6
ILAR Eielson Array 83.72 25 P P 13 29 52.3 -1.0
0.5nm,0.7s,baz=248,slow=4.7,SNR=7.6

IDC 20 13:34:28.9±1.8, 13°01'S×166°62'E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/20, mbtmpg3.9/8, MS3.7/2, Ms1 3.7/2, ms1mx2.9/32, Error ellipse: s-maj=65.3km s-min=24.3km az=138.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.45**	**298**	Pn	Pn	13 36 13.6	-5.3
	8.2nm,0.3s,baz=168,slow=12,SNR=4.6						
HNR				Sn	Sn	13 37 29.6	-15
	9.8nm,0.3s,baz=205,slow=23,SNR=3.7						
CTA	**Charters Tower**	**20.74**	**247**	LR	LR	13 45 44.8	
	comp=Z,53nm,20.0s,baz=56,slow=33						
WRA	**Warramunga Arr**	**31.67**	**253**	P	P	13 40 53.6	-0.8
	0.4nm,0.8s,baz=83,slow=8.3,SNR=4.7						
ASAR	**Alice Springs**	**32.73**	**246**	P	P	13 41 03.2	-0.5
	0.7nm,0.7s,baz=72,slow=9.2,SNR=12						
FITZ	**Fitzroy Crossi**	**39.74**	**257**	P	P	13 42 03.7	+0.1
	1.0nm,0.7s,baz=91,slow=6.1,SNR=3.1						
ASAJ	**Asahikawa**	**60.92**	**340**	P	P	13 44 43.2	-0.4
	7.0nm,0.9s,baz=233,slow=16,SNR=6.6						
CMAR	**Chiang Mai Arr**	**73.68**	**294**	P	P	13 46 06.0	+0.9
	0.3nm,0.5s,baz=132,slow=7.8,SNR=4.4						
KDAK	**Kodiak Island**	**78.09**	**21**	LR	LR	14 12 36.5	
	comp=Z,156nm,20.9s,baz=352,slow=29						
SONM	**Songino Array**	**80.75**	**324**	P	P	13 46 44.7	+0.3
	0.5nm,0.4s,baz=145,slow=6.4,SNR=8.3						
ILAR	**Eielson Array**	**85.10**	**18**	P	P	13 47 04.9	-1.5
	0.5nm,0.8s,baz=238,slow=4.6,SNR=6.0						
MKAR	**Makanchi Array**	**95.53**	**317**	P	P	13 47 55.4	-0.6
	0.4nm,0.6s,baz=103,slow=5.2,SNR=4.6						
ARCES	**ARCESS Array B**	**118.44**	**345**	PKP	PKPdf	13 53 17.8	-0.2
	4.7nm,0.9s,baz=60,slow=2.5,SNR=5.2						
FINES	**FINESS Array B**	**123.90**	**338**	PKP	PKPdf	13 53 29.0	+0.3
	0.6nm,0.5s,baz=112,slow=2.1,SNR=4.1						
KEST	**Kesra**	**149.48**	**322**	PKPbc	PKPbc	13 54 21.7	+0.9
	1.6nm,0.9s,baz=117,slow=4.5,SNR=3.6						
ESDC	**Sonseca Array**	**152.17**	**344**	PKPbc	PKPbc	13 54 27.3	+0.3
	0.2nm,0.4s,baz=16,slow=1.6,SNR=4.0						

*DDA **20** 13:39:12.8, 39°46'N×28°16'E, h7km, MD2.8*
*ISK **20** 13:39:12.7, 39°45'N×28°17'E, h9km, MD2.5*
*CSEM **20** 13:39:13.2±0.2, 39°47'N×28°18'E, h1km, MD2.8, Error ellipse: s-maj=4.6km s-min=3.4km az=43.0*
ISC 20 13:39:12.3±0.8, 39°47'N×28°16'E±0°02, h0km, n22, σ0°89/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.28**	**309**	*e*PG	**Pb**	**13 39 19.1**	**-1.1**
BALB				*e*SG	**Sb**	**13 39 23.6**	**-1.8**
BALB	**Balikesir**	**0.28**	**309**	*e*Pg	**Pb**	**13 39 19.1**	**-1.1**
BALB				*e*Sg	**Sb**	**13 39 23.6**	**-1.8**
DURS	**Dursunbey**	**0.28**	**61**	*i* P	**Pb**	**13 39 19.0**	**-1.3**
DURS	**Dursunbey**	**0.28**	**61**	*i* P	**Pb**	**13 39 19.0**	**-1.3**
BALY	**Balya**	**0.50**	**303**	*i* P	**Pg**	**13 39 22.6**	**+0.7**
BALY				*i* S	**Sg**	**13 39 30.3**	**+2.0**
BALY	**Balya**	**0.50**	**303**	*i* P	**Pg**	**13 39 22.6**	**+0.7**
BALY				*i* S	**Sg**	**13 39 30.3**	**+2.0**
AKS	**Akhisar**	**0.65**	**205**	*e*PG	**Pb**	**13 39 25.6**	**-0.8**
AKS	**Akhisar**	**0.65**	**205**	*e*Pg	**Pb**	**13 39 25.6**	**-0.8**
GONE	**Gonen-Balikesi**	**0.69**	**328**	*e*PG	**Pg**	**13 39 26.3**	**+0.8**
GONE				*e*SG	**Sb**	**13 39 37.0**	**-0.2**
GONE	**Gonen-Balikesi**	**0.69**	**328**	*e*Pg	**Pg**	**13 39 26.3**	**+0.8**
GONE				*e*Sg	**Sb**	**13 39 37.0**	**-0.2**
TVSB	**Tavsanli**	**1.01**	**90**	*e*PG	**Pb**	**13 39 32.8**	**+0.1**
TVSB	**Tavsanli**	**1.01**	**90**	*e*Pg	**Pb**	**13 39 32.8**	**+0.1**
ULDT	**Uludag**	**1.01**	**48**	*i* P	**Pg**	**13 39 31.6**	**-0.1**
ULDT				*i* S	**Sb**	**13 39 46.1**	**-0.6**
ULDT	**Uludag**	**1.01**	**48**	*i* P	**Pg**	**13 39 31.6**	**-0.1**
ULDT				*i* S	**Sb**	**13 39 46.1**	**-0.6**
MANT	**Manisa**	**1.02**	**162**	*i* P	**Pn**	**13 39 34.1**	**0.0**
MANT				*i* S	**Sg**	**13 39 45.3**	**+0.2**
MANT	**Manisa**	**1.02**	**162**	*i* P	**Pn**	**13 39 34.1**	**0.0**
MANT				*i* S	**Sg**	**13 39 45.3**	**+0.2**
KULA	**Kula-Manisa**	**1.03**	**157**	*e*PG	**Pg**	**13 39 32.1**	**+0.1**
KULA	**Kula-Manisa**	**1.03**	**157**	*e*Pg	**Pg**	**13 39 32.1**	**+0.1**
GDZ	**Gediz**	**1.09**	**110**	*i* P	**Pb**	**13 39 34.0**	**-0.2**
GDZ				*i* S	**Sb**	**13 39 49.6**	**+0.6**
GDZ	**Gediz**	**1.09**	**110**	*i* P	**Pb**	**13 39 34.0**	**-0.2**
GDZ				*i* S	**Sb**	**13 39 49.6**	**+0.6**
YLV	**Yalova**	**1.44**	**40**	*e*PN	**Pn**	**13 39 39.7**	**0.0**
YLV	**Yalova**	**1.44**	**40**	*e*Pn	**Pn**	**13 39 39.7**	**0.0**

*DDA **20** 13:42:34.9, 36°78'N×34°30'E, h19km, MD3.0*
*ISCJB **20** 13:42:36.8±0.7, 36°82'N±0°03×34°32'E±0°04, h10km±5km, Error ellipse: s-maj=5.2km s-min=5.0km az=140.3*
*ISK **20** 13:42:36.4, 36°89'N×34°30'E, h7km, MD3.2*
*CSEM **20** 13:42:37.2±0.1, 36°83'N×34°33'E, h10km, MD3.2, Error ellipse: s-maj=3.5km s-min=3.4km az=64.0*
ISC 20 13:42:37.0±1.0, 36°84'N±0°03×34°32'E±0°03, h12km±6km, n57, σ0°71/71, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MERS	**Mersin**	**0.17**	**82**	PG	**Pg**	**13 42 40.6**	**-0.3**
MERS				SG	**Sg**	**13 42 43.6**	**0.0**
MERS	**Mersin**	**0.17**	**82**	*i* Pg	**Pg**	**13 42 40.6**	**-0.3**
MERS				*i* Sg	**Sg**	**13 42 43.6**	**0.0**
GULE	**Gulek**	**0.57**	**40**	*i* P	**Pg**	**13 42 47.4**	**-0.8**
GULE				*i* S	**Sg**	**13 42 56.2**	**+0.3**
GULE	**Gulek**	**0.57**	**40**	*i* P	**Pg**	**13 42 47.4**	**-0.8**
GULE				*i* S	**Sg**	**13 42 56.2**	**+0.3**
KRTS	**Karatas**	**0.89**	**107**	PG	**Pb**	**13 42 54.8**	**+0.4**
KRTS	**Karatas**	**0.89**	**107**	*i* Pg	**Pb**	**13 42 54.8**	**+0.4**
BSTP	**Nigde**	**1.12**	**351**	*i* P	**Pg**	**13 42 57.6**	**-1.0**
CEYT	**Ceyhan**	**1.16**	**81**	*e*PN	**Pb**	**13 42 58.7**	**-0.3**
CEYT	**Ceyhan**	**1.16**	**81**	*e*Pn	**Pb**	**13 42 58.7**	**-0.3**
NIG	**Nigde**	**1.28**	**10**	*e*PN	**Pn**	**13 43 00.1**	**-1.0**
NIG	**Nigde**	**1.28**	**10**	*e*Pn	**Pn**	**13 43 00.1**	**-1.0**
EREN	**Erenkoy**	**1.32**	**185**	*e*PN	**Pg**	**13 43 02.2**	**-0.1**
EREN	**Erenkoy**	**1.32**	**185**	*e*Pn	**Pg**	**13 43 02.2**	**-0.1**
KOZT	**Kozan**	**1.36**	**62**	*e*PN	**Pb**	**13 43 02.9**	**+0.4**
KOZT	**Kozan**	**1.36**	**62**	*e*Pn	**Pb**	**13 43 02.9**	**+0.4**
SULT	**Sultanhani-AKS**	**1.50**	**335**	*e*PN	**Pn**	**13 43 04.3**	**+0.5**
SULT	**Sultanhani-AKS**	**1.50**	**335**	*e*Pn	**Pn**	**13 43 04.3**	**+0.5**
HTY	**Hatay**	**1.63**	**116**	*e*PN	**Pn**	**13 43 06.2**	**+0.6**
HTY	**Hatay**	**1.63**	**116**	*e*Pn	**Pn**	**13 43 06.2**	**+0.6**
YAYL	**Yayladag**	**1.65**	**119**	*i* P	**Pn**	**13 43 06.1**	**+0.1**
YAYL				*i* S	**Sn**	**13 43 27.5**	**+0.3**
YAYL	**Yayladag**	**1.65**	**119**	*i* P	**Pn**	**13 43 06.1**	**+0.1**
YAYL				*i* S	**Sn**	**13 43 27.5**	**+0.3**
LFK	**Lefkose**	**1.69**	**202**	*e*PN	**Pn**	**13 43 07.1**	**+0.7**
LFK	**Lefkose**	**1.69**	**202**	*e*Pn	**Pn**	**13 43 07.1**	**+0.7**
GAZI	**Gazipasa**	**1.72**	**250**	*i* P	**Pn**	**13 43 06.4**	**-0.5**
GAZI				*i* S	**Sn**	**13 43 28.2**	**-0.7**
GAZI	**Gazipasa**	**1.72**	**250**	*i* P	**Pn**	**13 43 06.4**	**-0.5**
GAZI				*i* S	**Sn**	**13 43 28.2**	**-0.7**
ANDN	**Andirin**	**1.78**	**65**	*i* P	**Pg**	**13 43 11.1**	**0.0**
ANDN	**Andirin**	**1.78**	**65**	*i* P	**Pg**	**13 43 11.1**	**0.0**
AVNT	**Avonos**	**1.98**	**12**	*i* P	**Pn**	**13 43 11.7**	**+1.2**
AVNT				*i* S	**Sb**	**13 43 37.7**	**-0.1**
AVNT	**Avonos**	**1.98**	**12**	*i* P	**Pn**	**13 43 11.7**	**+1.2**
AVNT				*i* S	**Sb**	**13 43 37.7**	**-0.1**
CSS	**Prodhromos**	**2.04**	**203**	*e*PN	**Pn**	**13 43 12.1**	**+0.8**
CSS	**Prodhromos**	**2.04**	**203**	*e*Pn	**Pn**	**13 43 12.1**	**+0.8**
LADK	**Ladik-KONYA**	**2.06**	**312**	*e*PN	**Pn**	**13 43 12.1**	**+0.5**
LADK	**Ladik-KONYA**	**2.06**	**312**	*e*Pn	**Pn**	**13 43 12.1**	**+0.5**
KMRS	**Kahramanmaras**	**2.17**	**71**	*e*PN	**Pn**	**13 43 14.0**	**+1.0**
KMRS	**Kahramanmaras**	**2.17**	**71**	*e*Pn	**Pn**	**13 43 14.0**	**+1.0**
KUZU	**Kuzuini**	**2.21**	**91**	*i* P	**Pn**	**13 43 13.7**	**+0.1**
KUZU				*i* S	**Sn**	**13 43 39.7**	**-1.3**
KUZU	**Kuzuini**	**2.21**	**91**	*i* P	**Pn**	**13 43 13.7**	**+0.1**
KUZU				*i* S	**Sn**	**13 43 39.7**	**-1.3**
GAZ	**Gaziantep**	**2.34**	**81**	*e*PN	**Pn**	**13 43 16.1**	**+0.7**
GAZ	**Gaziantep**	**2.34**	**81**	*e*Pn	**Pn**	**13 43 16.1**	**+0.7**
BNN	**Bunyan**	**2.34**	**31**	*e*PN	**Pn**	**13 43 15.6**	**+0.1**
BNN	**Bunyan**	**2.34**	**31**	*e*Pn	**Pn**	**13 43 15.6**	**+0.1**
KDHN	**Kadinhani**	**2.42**	**314**	*i* P	**Pn**	**13 43 17.7**	**+1.2**
KDHN	**Kadinhani**	**2.42**	**314**	*i* P	**Pn**	**13 43 17.7**	**+1.2**
PINB	**Pinarbasi**	**2.46**	**41**	*i* P	**Pn**	**13 43 18.3**	**+1.0**
PINB	**Pinarbasi**	**2.46**	**41**	*i* P	**Pn**	**13 43 18.3**	**+1.0**
GZT	**Gaziantep**	**2.64**	**78**	*i* P	**Pn**	**13 43 19.6**	**0.0**
CDAG	**Cicekdag**	**2.78**	**1**	*i* P	**Pn**	**13 43 22.8**	**+1.4**
CDAG				*i* S	**Sb**	**13 44 00.7**	**0.0**
CDAG	**Cicekdag**	**2.78**	**1**	*i* P	**Pn**	**13 43 22.8**	**+1.4**
CDAG				*i* S	**Sb**	**13 44 00.7**	**0.0**
AFSR	**Af˙ar-Bala (A**	**2.78**	**340**	*e*PN	**Pn**	**13 43 22.3**	**+0.8**
AFSR	**Af˙ar-Bala (A**	**2.78**	**340**	*e*Pn	**Pn**	**13 43 22.3**	**+0.8**
KIZT	**Kizilcal**	**2.80**	**317**	*e*PN	**Pn**	**13 43 22.8**	**+1.0**
KIZT	**Kizilcal**	**2.80**	**317**	*e*Pn	**Pn**	**13 43 22.8**	**+1.0**
HWQ	**Hawqa**	**2.88**	**152**	*e*P	**Pn**	**13 43 22.6**	**-0.3**
HWQ	**Hawqa**	**2.88**	**152**	*e*P	**Pn**	**13 43 22.6**	**-0.3**
YOZ	**Yozgat**	**2.90**	**15**	*e*PN	**Pn**	**13 43 23.8**	**+0.6**
YOZ	**Yozgat**	**2.90**	**15**	*e*Pn	**Pn**	**13 43 23.8**	**+0.6**
RCY	**Rachaya**	**3.56**	**159**	*e*P	**Pn**	**13 43 31.9**	**-0.4**

PRE 20 13:44:04.0±0.9, 26°98S×26°58E, h2km, ML1.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOAB	**Moab Khotsong**	**0.20**	**93**	*e*P	Pg	13 44 08.5	+0.4
MOAB				*e*S	Sg	13 44 10.6	-0.3
MOAB				AML	AML	13 44 11.1	
	comp=Z,193nm,0.2s						
PRYS	**Parys**	**0.70**	**86**	*e*P	Pg	13 44 17.3	-0.3
PRYS				*e*S	Sg	13 44 27.2	+0.2
PRYS				AML	AML	13 44 31.7	
	comp=Z,17nm,0.8s						
BOSA	**Boshof**	**2.01**	**215**	*e*P	Pb	13 44 40.3	-1.1
BOSA				*e*S	Sn	13 45 05.3	+0.4
BOSA				AML	AML	13 45 06.4	
	comp=Z,2.5nm,0.3s						
LBTB	**Lobatse**	**2.14**	**335**	*e*P	Pn	13 44 41.2	+0.2
LBTB				*e*S	Sn	13 45 09.2	+0.9
LBTB				AML	AML	13 45 13.1	
	comp=Z,3.6nm,0.3s						

*IDC **20** 13:47:06.2±0.7, 3°71S×149°82E, h0km, mb4.3/15, mb1 4.5/15, mb1mx4.4/20, mbtmp4.3/15, MS3.8/21, Ms1 3.8/21, ms1mx3.7/32, Error ellipse: s-maj=21.9km s-min=11.4km az=111.0*
*ISCJB **20** 13:47:08.5±0.4, 3°72S±0°04×149°76E±0°08, h19km, mb4.7/46, MS3.9/22, Error ellipse: s-maj=12.2km s-min=6.4km az=174.8*
*NEIC **20** 13:47:08.5±0.4, 3°63S×149°84E, h10km, mb5.0/21, Error ellipse: s-maj=12.7km s-min=6.7km az=90.0*
*BJI **20** 13:47:16.3, 3°53S×149°87E, h72km, mB5.2/14, mb4.7/24, Ms5.0/10, Ms7 4.7/11*
ISC 20 13:47:09.8±0.5, 3°64S±0°06×149°9E±0°1, h19km, n107, σ1°48/101, mb4.7/47, MS3.9/22, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.32**	**205**	*e*Pn	**Pn**	**13 48 44.9**	**+2.9**
PMG	**Port Moresby**	**6.32**	**205**	Pn	Pn	13 48 46.4	+4.3
	2.7nm,0.3s,baz=50,slow=5.4,SNR=11						
PMG					Sn	13 50 01.0	+7.2
	baz=26,slow=16,SNR=3.8						
CTA	**Charters Tower**	**16.72**	**192**	Pn	**P**	**13 51 05.6**	**+0.2**
CTA	**Charters Tower**	**16.72**	**192**	*e*P	**P**	**13 51 07.8**	**+2.4**
	6.8nm,0.8s						
CTA	**Charters Tower**	**16.72**	**192**	Pn	**P**	**13 51 05.6**	**+0.2**
	0.2nm,0.3s,baz=15,slow=12,SNR=7.8						
CTA				LR	LR	13 57 06.7	
	comp=Z,79nm,18.1s,baz=12,slow=36						
CTAO	**Charters Tower**	**16.72**	**192**	*e*Pn	**Pn**	**13 51 03.2**	**+0.1**
	63nm,1.8s						
GUMO	**Guam**	**17.82**	**344**	LR	LR	13 56 34.2	
	comp=Z,377nm,21.3s,baz=257,slow=32						
MTN	**Manton Dam**	**20.64**	**243**	*e*P	**P**	**13 51 47.2**	**-1.2**
EIDS	**Eidsvold**	**21.64**	**177**	*e*P	**P**	**13 51 59.1**	**0.0**
	34nm,1.1s						
WRAB	**Tennant Creek**	**22.15**	**222**	*e*P	**P**	**13 52 03.9**	**-0.9**
	46nm,1.1s						
WRA	**Warramunga Arr**	**22.17**	**222**	P	**P**	**13 52 03.6**	**-1.3**
WRA				S	**S**	**13 56 08.1**	**-0.4**
WRA	**Warramunga Arr**	**22.17**	**222**	P	**P**	**13 52 03.6**	**-1.3**
	9.4nm,0.9s,baz=43,slow=9.9,SNR=48						
WRA				S	**S**	**13 56 08.1**	**-0.4**
	0.7nm,0.7s,baz=52,slow=2.3,SNR=3.2						
WRA				LR	LR	14 01 24.5	
	comp=Z,443nm,18.1s,baz=50,slow=39						
DZM	**Mont Dzumac**	**24.39**	**140**	*e*P	**P**	**13 52 27.4**	**+0.1**
DZM				*e*PcP	**PcP**	**13 56 02.4**	**-4.1**
DZM	**Mont Dzumac**	**24.39**	**140**	P	**P**	**13 52 27.3**	**0.0**
	14nm,0.9s,baz=343,slow=8.4,SNR=15						
DZM				LR	LR	14 00 49.3	
	comp=Z,627nm,19.4s,baz=116,slow=34						
AS31	**Alice Springs**	**25.17**	**216**	*e*P	**P**	**13 52 33.2**	**-1.1**
ASAR	**Alice Springs**	**25.17**	**216**	P	**P**	**13 52 33.8**	**-0.4**
ASAR				S	**S**	**13 56 59.1**	**+0.5**
ASAR	**Alice Springs**	**25.17**	**216**	P	**P**	**13 52 33.8**	**-0.4**
	6.6nm,0.9s,baz=51,slow=8.4,SNR=70						
ASAR				S	**S**	**13 56 59.1**	**+0.5**
	0.3nm,1.0s,baz=332,slow=36,SNR=2.5						
DAV	**Davao City (W)**	**26.45**	**294**	LR	LR	14 01 17.3	
	comp=Z,115nm,19.4s,baz=55,slow=32						
ARMA	**Armidale**	**26.69**	**177**	*e*P	**P**	**13 52 48.2**	**+0.2**
	30nm,1.1s						
ARMA	**Armidale**	**26.69**	**177**	*e*P	**P**	**13 52 48.8**	**+0.8**
FITZ	**Fitzroy Crossi**	**27.72**	**237**	*e*P	**P**	**13 52 55.6**	**-1.6**
	21nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.72**	**237**	*e*P	**P**	**13 52 55.5**	**-1.8**
	36nm,0.8s						
FITZ	**Fitzroy Crossi**	**27.72**	**237**	P	**P**	**13 52 56.1**	**-1.2**
	16nm,0.6s,baz=65,slow=8.6,SNR=55						
FITZ				LR	LR	14 04 49.1	
	comp=Z,314nm,18.1s,baz=60,slow=38						
STKA	**Stephens Creek**	**29.14**	**195**	P	**P**	**13 53 08.1**	**-1.6**
STKA	**Stephens Creek**	**29.14**	**195**	*e*P	P	13 52 55.5	-14
	1.3nm,0.6s						
STKA	**Stephens Creek**	**29.14**	**195**	P	**P**	**13 53 08.1**	**-1.6**
	2.5nm,0.7s,baz=31,slow=5.9,SNR=4.5						
STKA				LR	LR	14 05 47.7	
	comp=Z,224nm,18.7s,baz=19,slow=39						
KAPI	**Kappang**	**30.04**	**266**	LR	LR	14 05 21.8	
	comp=Z,74nm,21.1s,baz=287,slow=36						
CBIJ	**Chichi jima**	**31.44**	**347**	LR	LR	14 04 01.8	
	comp=Z,427nm,21.9s,baz=100,slow=32						
CNB	**Canberra Magne**	**31.52**	**181**	*e*P	**P**	**13 53 31.6**	**+0.7**
	34nm,0.7s						
FORT	**Forrest**	**33.93**	**215**	*e*P	**P**	**13 53 51.2**	**-0.8**
	11nm,0.6s						
TOO	**Toolangi**	**34.01**	**186**	*e*P	**P**	**13 53 53.4**	**+0.9**
	46nm,1.1s						
JNU	**Nakatsue**	**40.73**	**335**	LR	LR	14 09 08.9	
	comp=Z,52nm,18.0s,baz=166,slow=32						
MJAR	**Matsushiro Arr**	**41.42**	**346**	LR	LR	14 09 14.6	
	comp=Z,158nm,18.7s,baz=175,slow=32						
NWAO	**Narrogin (SRO)**	**42.17**	**222**	LR	LR	14 12 53.0	
	comp=Z,334nm,19.6s,baz=35,slow=37						
QIZ	**Qiongzhong**	**45.35**	**301**	P	P	13 55 32.8	+5.6
QIZ				S	S	14 02 01.3	-6.1
QIZ				LR	LR		
	comp=Z,140nm,27.7s						
KSRS	**Korea Array**	**45.68**	**335**	LR	LR	14 10 55.3	
	comp=Z,81nm,21.0s,baz=157,slow=31						
NJ2	**Nanjing**	**46.12**	**323**	*e*P	**P**	**13 55 35.3**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ASAJ	**Asahikawa**	**47.98**	**353**	LR	LR	14 14 56.3	
	comp=Z,83nm,20.6s,baz=19,slow=35						
USRK	**Ussuriysk Arra**	**50.25**	**343**	P	**P**	**13 56 05.0**	**+0.3**
	comp=Z,3.6nm,0.8s,baz=160,slow=6.1,SNR=5.4						
USRK				LR	LR	14 13 41.5	
	comp=Z,145nm,20.1s,baz=250,slow=32						
MDJ	**Mudanjiang**	**51.35**	**342**	P	P	13 56 16.8	+3.7
MDJ				pmax	pmax		
	comp=Z,15nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,160nm,5.8s						

GYA Guiyang 51.36 308 *e*P **P** **13 56 15.0 +1.4**
GYA pmax pmax
comp=Z,10.0nm,1.0s
CN2 Changchun 52.08 338 *e*P P 13 56 23.8 +5.3
CN2 *e*S **S** **14 03 42.1 +0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
BJI Beijing 53.33 328 P **P** **13 56 30.8 +3.0**
BJI S **S** **14 03 59.3 +0.6**
BJI pmax pmax
comp=Z,9.0nm,1.1s
BJI pmax pmax
comp=Z,150nm,4.9s
BJI LR LR
comp=N,240nm,25.1s
BJI LR LR
comp=E,290nm,24.8s
BJI LR LR
comp=Z,110nm,29.9s
XAN Xi'an 53.77 318 P **P** **13 56 29.5 -1.8**
XAN pmax pmax
comp=Z,1.0nm,0.9s
KMI Kunming 53.90 305 P **P** **13 56 35.3 +2.7**
KMI pmax pmax
comp=Z,13nm,0.9s
CM31 Chiang Mai Arr 54.72 296 *e*P **P** **13 56 38.8 +0.4**
comp=Z,1.5nm,0.4s
CMAR Chiang Mai Arr 54.72 296 P **P** **13 56 38.5 +0.1**
CMAR Chiang Mai Arr 54.72 296 P **P** **13 56 38.5 +0.1**
comp=Z,4.9nm,0.9s,baz=121,slow=5.9,SNR=16
CMAR LR LR 14 17 19.3
comp=Z,45nm,19.6s,baz=293,slow=33
CHTO Chiang Mai 54.83 296 *e*P **P** **13 56 39.4 +0.2**
comp=Z,5.3nm,1.2s
CHTO *e*PcP PcP 13 57 32.5 -9.0
HHC Hu-ho-hao-te 56.41 326 *e*P P 13 56 54.4 +4.1
HHC pP pP 13 57 14.5 +18
HHC sP sP 13 57 22.8 +24
HHC PP PP 13 59 02.8 +6.7
HHC S **S** **14 04 39.3 -1.1**
HHC sS sS 14 05 11.4 +21
HHC ScS **ScS** **14 06 32.9 -6.0**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,200nm,4.8s
HHC LR LR
comp=N,620nm,15.5s
HHC LR LR
comp=E,710nm,13.1s
HHC LR LR
comp=Z,690nm,17.8s
PETK Petropavlovsk- 56.92 6 P **P** **13 56 53.5 -0.1**
PETK Petropavlovsk- 56.92 6 P **P** **13 56 53.5 -0.1**
comp=Z,6.2nm,0.8s,baz=168,slow=7.6,SNR=6.7
PETK LR LR 14 16 27.9
comp=Z,66nm,20.0s,baz=304,slow=31
LZH Lanzhou 58.36 317 *e*P P 13 57 10.3 +6.0
LZH pP pP 13 57 29.3 +19
LZH sP sP 13 57 37.4 +25
LZH pmax pmax
comp=Z,29nm,1.2s
GTA Gaotai 62.82 318 *e*P **P** **13 57 33.8 -0.8**
GTA pmax pmax
comp=Z,2.0nm,0.9s
SONM Songino Array 63.80 329 P **P** **13 57 39.9 -0.9**
SONM Songino Array 63.80 329 P **P** **13 57 39.9 -0.9**
comp=Z,1.3nm,1.0s,baz=146,slow=5.4,SNR=5.9
SONM LR LR 14 23 41.2
comp=Z,91nm,20.5s,baz=76,slow=34
LSA Lhasa 65.16 305 P **P** **13 57 51.8 +1.2**
LSA Lhasa 65.16 305 *e*P **P** **13 57 50.4 -0.2**
comp=Z,27nm,1.4s
LSA *e*PcP **PcP** **13 58 21.5 -1.7**
TAPN Taplejung 67.29 302 *e*P **P** **13 58 04.5 +0.4**
comp=Z,48nm,1.1s
TAPN Taplejung 67.29 302 *e*P **P** **13 58 04.5 +0.4**
comp=Z,48nm,1.1s
ODAN Odare 67.42 301 *e*P **P** **13 58 05.2 +0.3**
comp=Z,44nm,1.1s
ODAN Odare 67.42 301 *e*P **P** **13 58 05.2 +0.3**
comp=Z,44nm,1.1s
RAMN Ramite 68.12 301 *e*P **P** **13 58 10.3 +1.0**
RAMN Ramite 68.12 301 *e*P **P** **13 58 10.3 +1.0**
JIRN Jiri 68.67 301 *e*P **P** **13 58 13.9 +1.0**
comp=Z,3.0nm,0.7s
JIRN Jiri 68.67 301 *e*P **P** **13 58 13.9 +1.0**
comp=Z,3.0nm,0.7s
GUN Gumba 69.01 302 *e*P **P** **13 58 15.3 +0.4**
comp=Z,36nm,0.9s
GUN Gumba 69.01 302 *e*P **P** **13 58 15.3 +0.4**
comp=Z,36nm,0.9s
PKI Pulchoki 69.31 301 *e*P **P** **13 58 17.7 +0.9**
PKI Pulchoki 69.31 301 *e*P **P** **13 58 17.7 +0.9**
KKN Kakani 69.48 301 *e*P **P** **13 58 17.9 +0.2**
KKN Kakani 69.48 301 *e*P **P** **13 58 17.9 +0.2**
DMN Daman 69.58 301 *e*P **P** **13 58 18.9 +0.5**
comp=Z,49nm,1.0s
DMN Daman 69.58 301 *e*P **P** **13 58 18.9 +0.5**
comp=Z,49nm,1.0s
GKN Gorkha 70.09 301 *e*P **P** **13 58 21.3 -0.1**
comp=Z,42nm,1.2s
GKN Gorkha 70.09 301 *e*P **P** **13 58 21.3 -0.1**
comp=Z,42nm,1.2s
KOLN Koldanda 70.91 301 *e*P **P** **13 58 26.7 +0.2**
comp=Z,19nm,0.9s
KOLN Koldanda 70.91 301 *e*P **P** **13 58 26.7 +0.2**
comp=Z,19nm,0.9s
DANN Dangsing 70.93 302 *e*P **P** **13 58 26.1 -0.6**
comp=Z,27nm,1.1s
DANN Dangsing 70.93 302 *e*P **P** **13 58 26.1 -0.6**
comp=Z,27nm,1.1s
**BILL Bilibino 72.

GDL2	**Guadalupe Moun**	**105.29**	**58**	*e*Pdif	**Pdif**	**14 01 20.0**	**+2.1**
CLNB	**Carlsbad**	**105.69**	**58**	*e*Pdif	**Pdif**	**14 01 20.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**147.15**	**289**	PKPbc	**PKPdf**	**14 06 51.7**	**+1.1**
TORD	**Torodi Ar. Bea**	**147.15**	**289**	PKPbc	**PKPdf**	**14 06 51.7**	**+1.1**
	comp=Z,2.4nm,0.9s,baz=64,slow=3.1,SNR=8.5						
DBIC	**Dimbokro**	**154.63**	**278**	PKPab	**PKPab**	**14 07 26.7**	**+1.3**
DBIC	**Dimbokro**	**154.63**	**278**	PKPab	**PKPab**	**14 07 26.7**	**+1.3**
	comp=Z,1.8nm,0.7s,baz=117,slow=4.9,SNR=4.7						

IDC 20 13:49:33.6±1.6, 1°.63N×126°.98E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, Error ellipse: s-maj=160.5km s-min=19.2km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.62**	**162**	P	P	13 54 36.7	+0.5
	0.5nm,0.3s,baz=340,slow=11,SNR=11						
ASAR	**Alice Springs**	**26.03**	**165**	P	P	13 55 08.8	+0.2
	0.2nm,0.3s,baz=346,slow=11,SNR=3.4						
STKA	**Stephens Creek**	**36.09**	**159**	P	P	13 56 36.6	-0.7
	2.0nm,1.0s,baz=302,slow=13,SNR=2.3						
MKAR	**Makanchi Array**	**59.42**	**326**	P	P	13 59 38.2	+0.1
	0.3nm,0.4s,baz=119,slow=7.8,SNR=5.5						
KURBB	**Kurchatov Arra**	**63.63**	**328**	P	P	14 00 06.3	-0.1
	0.3nm,0.4s,baz=125,slow=5.8,SNR=3.6						

IDC 20 14:02:22.7±2.7, 21°.00S×179°.02W, h600km±29km, mb3.0/9, mb1 3.1/10, mb1mx3.0/20, mbtmp3.0/10, Error ellipse: s-maj=25.7km s-min=18.2km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.57**	**263**	P	P	14 05 17.4	-0.1
	0.1nm,0.3s,baz=126,slow=19,SNR=3.2						
CTA	**Charters Tower**	**32.49**	**265**	P	P	14 08 06.3	+0.4
	1.8nm,0.4s,baz=86,slow=12,SNR=8.2						
STKA	**Stephens Creek**	**36.71**	**245**	P	P	14 08 41.2	+0.5
	0.6nm,0.4s,baz=94,slow=14,SNR=3.6						
ASAR	**Alice Springs**	**43.48**	**257**	P	P	14 09 34.3	-0.4
	1.9nm,0.5s,baz=94,slow=7.7,SNR=75						
ASAR				PcP	PcP	14 11 08.6	-0.5
	0.3nm,0.6s,baz=111,slow=4.0,SNR=4.4						
ASAR				ScP	ScP	14 14 04.7	+0.5
	0.3nm,0.7s,baz=110,slow=4.2,SNR=4.6						
WRA	**Warramunga Arr**	**43.59**	**263**	P	P	14 09 34.8	-0.8
	1.0nm,0.3s,baz=97,slow=7.4,SNR=95						
FITZ	**Fitzroy Crossi**	**52.02**	**263**	P	P	14 10 38.3	0.0
	0.7nm,0.5s,baz=90,slow=5.1,SNR=4.3						
QSPA	**South Pole Qui**	**69.07**	**180**	P	P	14 12 29.8	+0.3
	2.3nm,1.1s,baz=354,slow=1.0,SNR=3.7						
PETK	**Petropavlovsk-**	**76.52**	**346**	P	P	14 13 12.9	+1.0
	4.6nm,1.0s,baz=138,slow=8.9,SNR=6.8						
NVAR	**Mina Array Bea**	**82.04**	**44**	P	P	14 13 42.0	+0.3
	0.2nm,0.4s,baz=232,slow=8.7,SNR=2.3						
ILAR	**Eielson Array**	**89.02**	**13**	P	P	14 14 13.7	-0.6
	0.2nm,0.4s,baz=214,slow=5.4,SNR=13						
BVAR	**Borovoye Array**	**118.85**	**320**	PKP	PKPdf	14 20 02.7	-1.0
	0.3nm,0.3s,baz=99,slow=3.1,SNR=3.7						
FINES	**FINESS Array B**	**135.98**	**343**	PKP	PKPdf	14 20 36.6	+0.7
	1.4nm,0.8s,baz=151,slow=4.4,SNR=3.4						
AKASG	**Malin Array Be**	**142.98**	**330**	PKP	PKPdf	14 20 46.0	-3.0
	1.6nm,0.3s,baz=44,slow=4.3,SNR=10						
BRTR	**Keskin Array B**	**146.46**	**311**	PKPbc	PKPbc	14 20 57.5	-0.6
	0.6nm,0.7s,baz=100,slow=1.0,SNR=3.1						
MMAI	**Mount Meron Ar**	**147.22**	**299**	PKPbc	PKPbc	14 21 00.6	+0.4
	2.1nm,0.6s,baz=64,slow=6.6,SNR=3.4						
GERES	**GERESS Array B**	**150.41**	**343**	PKPbc	PKPbc	14 21 06.3	-1.2
	0.6nm,0.7s,baz=54,slow=5.0,SNR=3.1						

PRE 20 14:11:10.1±1.1, 26°.47S×27°.36E, h2km, ML1.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.45**	**180**	*e*P	Pg	14 11 19.3	+0.3
PRYS				*e*S	Sg	14 11 24.6	-0.5
PRYS				AML	AML	14 11 29.1	
	comp=Z,16nm,0.2s						
SWZ	**Schweizer**	**1.94**	**248**	*e*P	Pn	14 11 45.4	+1.1
SWZ				*e*S	Sn	14 12 10.3	+0.8
SWZ				AML	AML	14 12 13.5	
	comp=Z,6.2nm,0.3s						
LBTB	**Lobatse**	**2.15**	**312**	*e*P	Pn	14 11 48.2	+1.1
LBTB				*e*S	Sn	14 12 14.5	0.0
LBTB				AML	AML	14 12 17.6	
	comp=Z,13nm,0.7s						
BOSA	**Boshof**	**2.83**	**221**	*e*P	Pn	14 11 57.4	+0.8
BOSA				*e*S	Sn	14 12 32.1	+0.6
BOSA				AML	AML	14 12 38.8	
	comp=Z,2.2nm,0.4s						

*IDC **20** 14:13:22.2±0.8, 3°.55S×149°.99E, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.0/20, mbtmp4.0/11, ML3.2/2, MS3.4/11, Ms1 3.4/11, ms1mx3.2/30, Error ellipse: s-maj=26.6km s-min=17.2km az=106.0*

*ISCJB **20** 14:13:23.5±0.6, 3°.57S±0°.07×149°.85E±0°.09, h19km, mb4.0/11, MS3.4/9, Error ellipse: s-maj=12.9km s-min=10.7km az=6.6*

*NEIC **20** 14:13:23.6±0.5, 3°.58S×149°.92E, h10km, mb4.6/3, Error ellipse: s-maj=11.2km s-min=9.2km az=96.0*

ISC 20 14:13:25.2±0.6, 3°.59S±0°.09×149°.9E±0°.1, h19km, n41, σ1§01/36, mb4.0/11, MS3.4/9, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.41**	**205**	*e*Pn	**Pn**	**14 14 57.6**	**-1.0**
	12nm,0.6s						
PMG				Pn	**Pn**	**14 15 00.1**	**+1.5**
PMG	**Port Moresby**	**6.41**	**205**	Pn	**Pn**	**14 15 00.1**	**+1.5**
	2.0nm,0.3s,baz=76,slow=4.4,SNR=14						
CTA	**Charters Tower**	**16.79**	**192**	Pn	**P**	**14 17 20.5**	**-1.1**
CTA	**Charters Tower**	**16.79**	**192**	Pn	**P**	**14 17 20.5**	**-1.1**
	0.1nm,0.3s,baz=21,slow=16,SNR=3.2						
CTA				LR	LR	14 22 56.9	
	comp=Z,72nm,20.6s,baz=207,slow=34						
GUMO	**Guam**	**17.79**	**344**	LR	LR	14 23 52.9	
	comp=Z,100nm,18.7s,baz=118,slow=36						
MTN	**Manton Dam**	**20.74**	**243**	*e*P	**P**	**14 18 03.3**	**-1.7**
EIDS	**Eidsvold**	**21.69**	**177**	*e*P	**P**	**14 18 14.7**	**-0.4**
	8.4nm,0.9s						
WRAB	**Tennant Creek**	**22.25**	**222**	*e*P	**P**	**14 18 20.8**	**-0.4**
	45nm,1.6s						
WRA	**Warramunga Arr**	**22.27**	**222**	P	**P**	**14 18 19.8**	**-1.6**
WRA	**Warramunga Arr**	**22.27**	**222**	P	**P**	**14 18 19.8**	**-1.6**
	1.6nm,0.5s,baz=47,slow=9.7,SNR=53						
DZM	**Mont Dzumac**	**24.38**	**140**	P	**P**	**14 18 42.8**	**+0.4**
DZM	**Mont Dzumac**	**24.38**	**140**	P	**P**	**14 18 42.8**	**+0.4**
	3.0nm,0.8s,baz=253,slow=11,SNR=5.2						
DZM				LR	LR	14 26 03.9	
	comp=Z,119nm,21.3s,baz=24,slow=31						
AS31	**Alice Springs**	**25.27**	**216**	*e*P	**P**	**14 18 50.4**	**-0.1**
ASAR	**Alice Springs**	**25.27**	**216**	P	**P**	**14 18 50.7**	**+0.2**
ASAR	**Alice Springs**	**25.27**	**216**	P	**P**	**14 18 50.7**	**+0.2**
	1.9nm,0.7s,baz=43,slow=9.4,SNR=40						
ARMA	**Armidale**	**26.74**	**177**	*e*P	**P**	**14 19 03.1**	**-0.7**
ARMA	**Armidale**	**26.74**	**177**	*e*P	**P**	**14 19 04.7**	**+0.9**
FITZ	**Fitzroy Crossi**	**27.83**	**237**	*e*P	**P**	**14 19 13.7**	**+0.1**
	8.0nm,0.6s						
FITZ				P	**P**	**14 19 14.8**	**+1.2**
FITZ	**Fitzroy Crossi**	**27.83**	**237**	*e*P	**P**	**14 19 14.8**	**+1.2**
	16nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.83**	**237**	P	**P**	**14 19 14.8**	**+1.2**
	9.2nm,0.6s,baz=63,slow=8.1,SNR=46						
FITZ				LR	LR	14 30 15.7	
	comp=Z,62nm,21.9s,baz=242,slow=36						
STKA	**Stephens Creek**	**29.21**	**195**	LR	LR	14 32 11.8	
	comp=Z,97nm,18.4s,baz=26,slow=39						
KAPI	**Kappang**	**30.13**	**266**	*e*P	**P**	**14 19 32.9**	**-1.3**
MSVF	**Nonsavu**	**30.93**	**119**	*e*P	**P**	**14 19 39.6**	**-1.6**
JOW	**Kunigami**	**36.78**	**327**	LR	LR	14 31 50.4	
	comp=Z,80nm,21.9s,baz=134,slow=30						
RAO	**Raoul Island**	**39.76**	**133**	*e*P	**P**	**14 20 58.5**	**+1.5**
JNU	**Nakatsue**	**40.72**	**335**	LR	LR	14 37 13.9	
	comp=Z,52nm,18.0s,baz=208,slow=35						
MJAR	**Matsushiro Arr**	**41.40**	**346**	LR	LR	14 35 48.8	
	comp=Z,101nm,18.5s,baz=85,slow=33						
KSRS	**Korea Array**	**45.67**	**335**	LR	LR	14 39 25.5	
	comp=Z,31nm,19.2s,baz=160,slow=34						
CMAR	**Chiang Mai Arr**	**54.78**	**295**	P	**P**	**14 22 54.8**	**+0.6**
	1.1nm,0.6s,baz=123,slow=5.8,SNR=10						
SONM	**Songino Array**	**63.80**	**329**	P	**P**	**14 23 57.2**	**+0.9**
SONM	**Songino Array**	**63.80**	**329**	P	**P**	**14 23 57.2**	**+0.9**
	0.3nm,0.7s,baz=155,slow=5.1,SNR=2.6						
SONM				LR	LR	14 54 10.9	
	comp=Z,40nm,18.2s,baz=153,slow=38						
ZALV	**Zalesovo Beam**	**78.57**	**327**	P	**P**	**14 25 24.9**	**-0.5**
ZALV	**Zalesovo Beam**	**78.57**	**327**	P	**P**	**14 25 24.9**	**-0.5**
	0.6nm,0.6s,baz=116,slow=6.6,SNR=3.0						
ILAR	**Eielson Array**	**82.13**	**23**	P	**P**	**14 25 43.6**	**-0.8**
ILAR	**Eielson Array**	**82.13**	**23**	P	**P**	**14 25 43.6**	**-0.8**
	1.1nm,0.8s,baz=244,slow=5.1,SNR=16						
YKA	**Yellowknife Ar**	**95.69**	**28**	P	**P**	**14 26 49.8**	**+0.3**
YKA	**Yellowknife Ar**	**95.69**	**28**	P	**P**	**14 26 49.8**	**+0.3**
	0.7nm,0.8s,baz=272,slow=4.7,SNR=14						
RPN	**Rapa Nui**	**97.90**	**118**	LR	LR	15 04 22.7	
	comp=Z,7.0nm,18.7s,baz=272,slow=31						
TORD	**Torodi Ar. Bea**	**147.22**	**289**	PKPbc	**PKPbc**	**14 33 07.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**147.22**	**289**	PKPbc	**PKPbc**	**14 33 07.8**	**-0.6**
	1.5nm,0.8s,baz=58,slow=2.6,SNR=8.1						

PRE 20 14:25:17.2±0.9, 25°.74S×27°.72E, h2km, ML1.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPM	**east rand prop**	**0.76**	**142**	*e*S	Sg	14 25 40.3	-2.0
ERPM				AML	AML	14 25 43.1	
	comp=Z,16nm,0.6s						
PRYS	**Parys**	**1.22**	**195**	*e*P	Pg	14 25 40.9	0.0
PRYS				*e*S	Sb	14 25 57.8	+0.1
PRYS				AML	AML	14 26 02.2	
	comp=Z,6.1nm,0.3s						
LBTB	**Lobatse**	**2.05**	**290**	*e*P	Pn	14 25 52.8	-0.1
LBTB				*e*S	Sb	14 26 20.6	-0.7
LBTB				AML	AML	14 26 22.8	
	comp=Z,2.4nm,0.7s						

IDC 20 14:54:12.2±60.0, 17°.19S×178°.10E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=1078.0km s-min=145.3km az=76.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.09**	**239**	P	P	15 01 16.3	+0.3
	0.9nm,0.4s,baz=82,slow=11,SNR=5.8						
WRA	**Warramunga Arr**	**41.49**	**259**	P	P	15 02 01.2	-0.2
	0.2nm,0.5s,baz=94,slow=7.9,SNR=6.3						
ASAR	**Alice Springs**	**41.79**	**254**	P	P	15 02 03.4	-0.4
	1.6nm,0.5s,baz=89,slow=7.9,SNR=58						

MEX 20 15:01:34.5±0.4, 15°.73N×97°.61W, h5km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.83**	**323**	*i* P	Pg	15 01 48.9	-1.7
PNIG				*i* S	Sg	15 02 00.3	-1.1
HUIG	**Huatulco**	**1.44**	**88**	*e*P	Pn	15 01 57.6	-3.7
HUIG				*i* S	Sb	15 02 15.8	-4.7
VHO	**Vista Hermosa**	**1.58**	**32**	*i* P	Pn	15 01 59.4	-4.1
VHO				*i* S	Sn	15 02 19.7	-4.8
UTMO	**Huajuapan**	**2.10**	**355**	*i* P	Pn	15 02 07.9	-2.8
UTMO				*i* S	Sn	15 02 32.1	-5.3
CMIG	**Matias Romero**	**2.94**	**62**	*i* P	Pn	15 02 18.9	-3.1
CMIG				*i* S	Sn	15 02 53.4	-4.3

IDC 20 15:42:00.5±1.9, 4°.65S×149°.22E, h0km, mb3.4/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.5/4, MS3.7/2, Ms1 3.7/2, ms1mx2.8/19, Error ellipse: s-maj=112.8km s-min=26.7km az=127.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**11.66**	**115**	LR	LR	15 48 42.2	
	comp=Z,65nm,18.8s,baz=145,slow=34						
WRA	**Warramunga Arr**	**21.00**	**222**	P	P	15 46 46.9	+1.1
	0.9nm,0.8s,baz=47,slow=9.9,SNR=12						
ASAR	**Alice Springs**	**23.99**	**217**	P	P	15 47 16.8	-0.4
	0.5nm,0.8s,baz=49,slow=8.6,SNR=7.6						
FITZ	**Fitzroy Crossi**	**26.65**	**238**	P	P	15 47 40.8	-0.4
	0.8nm,0.6s,baz=66,slow=9.4,SNR=6.5						
CBIJ	**Chichi jima**	**32.28**	**348**	LR	LR	15 59 18.6	
	comp=Z,589nm,18.6s,baz=80,slow=32						
ILAR	**Eielson Array**	**83.38**	**23**	P	P	15 54 29.5	+0.1
	0.3nm,0.8s,baz=236,slow=6.1,SNR=2.8						

*NNC **20** 15:42:35.7±2.8, 40°.55N×78°.80E, h0km, mb4.3, mpv4.4, Error ellipse: s-maj=27.4km s-min=17.0km az=11.0*

*IDC **20** 15:42:36.5±0.7, 40°.65N×78°.69E, h0km, mb4.0/14, mb1 4.1/20, mb1mx4.0/34, mbtmp4.0/20, ML3.8/6, MS3.1/3, Ms1 3.2/3, ms1mx2.5/40, Error ellipse: s-maj=13.6km s-min=10.9km az=55.0*

*ISCJB **20** 15:42:36.1±0.2, 40°.71N±0°.03×78°.89E±0°.04, h10km, mb4.4/36, MS3.6/5, Error ellipse: s-maj=5.0km s-min=3.2km az=144.6*

*BJI **20** 15:42:37.7, 40°.80N×78°.60E, h50km, mB4.7/15, mb4.5/24, ML4.1/8, Ms4.2/15, Ms7 3.8/16*

*MOS **20** 15:42:39.7±1.3, 40°.72N×78°.84E, h37km, mb4.3/5, Error ellipse: s-maj=9.8km s-min=5.6km az=113.0*

*NEIC **20** 15:42:41.8±0.4, 40°.80N×78°.83E, h35km, mb4.9/8, Error ellipse: s-maj=9.6km s-min=6.7km az=214.0*

ISC 20 15:42:37.2±0.4, 40°.69N±0°.04×78°.63E±0°.04, h10km, n180, σ1§87/169, mb4.4/38, MS3.5/5, 11C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.35**	**241**	P	Pg	15 43 27.3	+5.0
KSH				smax	smax		
	comp=N,750nm,0.8s						
KSH				smax	smax		
	comp=E,770nm,0.7s						
ULHL	**Ulahol**	**2.37**	**312**	P	**Pb**	**15 43 20.7**	**+0.5**
	SNR=82						
KNDC	**Almaty**	**2.81**	**334**	⇑Pn	**Pb**	**15 43 26.4**	**-1.2**
	comp=E,417nm,0.8s						
KNDC				⇑Sn	**Sb**	**15 44 03.4**	**+1.3**
	comp=E,2μm,1.5s						
AAA	**Alma-Ata**	**2.87**	**335**	*i* PN	**Pb**	**15 43 29.0**	**+0.5**
AAA				*i* S	**Sb**	**15 44 04.2**	**+0.6**
AAA				pmax	pmax		
	comp=Z,1μm,0.4s						
AAA				smax	smax		
	comp=N,2μm,0.6s						
KZA	**Kyzart**	**2.89**	**300**	P	**Pb**	**15 43 28.6**	**-0.6**
	SNR=35						
TKM2	**Tokmak 2**	**3.18**	**315**	⇑Pn	**Pb**	**15 43 31.2**	**-2.7**
	comp=N,41nm,0.5s						
TKM2				⇓Pg	**Pg**	**15 43 35.1**	**-3.0**
	comp=N,348nm,0.6s						
TKM2				⇑Lg	Lg	15 44 18.0	
	comp=N,623nm,1.0s						
TKM2	**Tokmak 2**	**3.18**	**315**	*e*PN	**Pb**	**15 43 31.4**	**-2.5**
TKM2	**Tokmak 2**	**3.18**	**315**	*e*Pn	**Pb**	**15 43 31.4**	**-2.5**
TKM2	**Tokmak 2**	**3.18**	**315**	P	**Pb**	**15 43 31.4**	**-2.5**
	SNR=534						
KBK	**Karagaybulak**	**3.38**	**307**	P	**Pb**	**15 43 35.0**	**-2.4**
	SNR=18						
UCH	**Uchtor**	**3.45**	**298**	P	**Pb**	**15 43 40.4**	**+1.6**
	SNR=30						
AAK	**Ala-Archa**	**3.65**	**303**	*c i* PN	Pb	15 43 38.5	-3.5
AAK	**Ala-Archa**	**3.65**	**303**	*e*Pn	Pb	15 43 38.4	-3.5
AAK				Lg	Lg	15 44 32.5	
AAK	**Ala-Archa**	**3.65**	**303**	P	Pb	15 43 38.6	-3.5
	SNR=19						
AAK	**Ala-Archa**	**3.65**	**303**	Pn	**Pb**	**15 43 39.5**	**-2.5**
	comp=N,21nm,0.3s,baz=114,slow=9.3,SNR=70						
AAK				Pg	Pg	15 43 43.7	-3.5
	comp=N,21nm,0.3s,baz=115,slow=9.8,SNR=110						
AAK				Lg	Lg	15 44 32.5	
	comp=N,18nm,0.3s,baz=284,slow=18,SNR=17						
FRU	**Bishkek**	**3.68**	**307**	*e*PN	**Pb**	**15 43 42.0**	**-0.4**
FRU				*e*S	**Sg**	**15 44 33.0**	**-2.6**
FRU				pmax	pmax		
	comp=Z,320nm,1.8s						
FRU				smax	smax		
	comp=N,2μm,2.0s						
CHMS	**Chumysh**	**3.70**	**310**	P	Pb	15 43 39.0	-3.7
	SNR=51						
AML	**Almayashu**	**3.98**	**293**	P	Pb	15 43 43.2	-4.5
	SNR=14						
USP	**Ospenovka**	**4.01**	**311**	P	**Pb**	**15 43 48.3**	**+0.3**
	SNR=23						
EKS2	**Erkin-Say**	**4.13**	**300**	*e*PN	Pb	15 43 45.2	-4.9
EKS2	**Erkin-Say**	**4.13**	**300**	*e*Pn	Pb	15 43 45.2	-4.9
EKS2	**Erkin-Say**	**4.13**	**300**	P	Pb	15 43 53.1	+3.0
	SNR=62						
KK31	**Karatay Array**	**6.52**	**294**	Pg	Pb	15 44 35.1	+4.4
KK31				⇑Lg	Lg	15 46 03.1	
	comp=N,31nm,0.6s						
KK31	**Karatay Array**	**6.52**	**294**	PN	Pb	15 44 35.7	+5.0
KK31				pmax	pmax		
	comp=Z,16nm,0.5s						
KKAR	**Karatay Array**	**6.52**	**294**	*e*PN	Pb	15 44 34.9	+4.2
KKAR	**Karatay Array**	**6.52**	**294**	*e*P	Pb	15 44 34.9	+4.2
MK31	**Makanchi Array**	**6.65**	**22**	⇓Pn	Pn	15 44 17.7	+2.7
	comp=Z,2.1nm,0.3s,baz=205,slow=13,SNR=208						
MK31				⇑Pg	Pg	15 44 39.4	-5.1
	comp=Z,7.1nm,0.5s,baz=210,slow=15,SNR=9.2						
MK31				⇓Lg	Lg	15 46 03.9	
	comp=Z,30nm,0.6s,baz=210,slow=23,SNR=3.7						
MK31	**Makanchi Array**	**6.65**	**22**	PN	Pn	15 44 17.7	+2.7
MK31				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MK31				pmax	pmax		
	comp=Z,41nm,0.6s						
MK31	**Makanchi Array**	**6.65**	**22**	*e*Pn	**Pn**	**15 44 14.6**	**-0.4**
MKAR	**Makanchi Array**	**6.65**	**22**	*e*PN	**Pn**	**15 44 17.1**	**+2.1**
MKAR						15 45 31.6	
MKAR	**Makanchi Array**	**6.65**	**22**	*e*Pn	**Pn**	**15 44 17.1**	**+2.1**
MKAR				Pg	Pg	15 44 40.5	-4.0
MKAR				Sn	**Sn**	**15 45 31.6**	**+0.8**
MKAR				Lg	Lg	15 46 04.2	
MKAR	**Makanchi Array**	**6.65**	**22**	Pn	Pn	15 44 17.4	+2.4
	comp=Z,2.6nm,0.3s,baz=204,slow=12,SNR=138						
MKAR				Pg	Pg	15 44 40.5	-4.0
	comp=Z,5.0nm,0.3s,baz=196,slow=16,SNR=10.0						
MKAR				Sn	**Sn**	**15 45 31.6**	**+0.8**
	comp=Z,4.8nm,0.3s,baz=194,slow=30,SNR=6.3						
MKAR				Lg	Lg	15 46 04.2	
	comp=Z,4.5nm,0.3s,baz=206,slow=30,SNR=5.6						
WMQ	**Urumqi**	**7.42**	**62**	P	Pn	15 44 29.3	+3.8
WMQ				S	**Sn**	**15 45 52.6**	**+2.9**
WMQ				smax	smax		
	comp=N,62nm,1.4s						
WMQ				smax	smax		
	comp=E,87nm,1.0s						
WMQ				LR	LR		
	comp=N,410nm,3.8s						
WMQ				LR	LR		
	comp=E,230nm,3.4s						
KBL	**Kabul**	**9.77**	**234**	*e*P	Pn	15 45 03.1	+5.1
KBL	**Kabul**	**9.77**	**234**	*e*Pn	Pn	15 45 03.1	+5.1
KURBB	**Kurchatov Arra**	**9.93**	**360**	Pn	**Pn**	**15 45 01.5**	**+1.6**
	comp=E,0.2nm,0.3s,baz=186,slow=12,SNR=20						
KURBB				Sn	**Sn**	**15 46 49.4**	**-1.9**
	comp=E,0.2nm,0.3s,baz=76,slow=7.9,SNR=4.9						
KURBB				Lg	Lg	15 47 52.1	
	comp=E,0.3nm,0.3s,baz=178,slow=30,SNR=5.1						
KURBB				LR	LR	15 49 08.1	
	comp=E,68nm,19.0s,baz=195,slow=39						
KURK	**Kurchatov**	**10.02**	**360**	⇑Pn	**Pn**	**15 45 02.4**	**+1.1**
	comp=E,4.6nm,0.8s						
KURK				⇓Lg	Lg	15 47 55.7	
	comp=E,89nm,1.0s						
KURK	**Kurchatov**	**10.02**	**360**	*e*P	**Pn**	**15 45 02.3**	**+1.1**
KURK						15 46 49.4	
KURK	**Kurchatov**	**10.02**	**360**	*e*Pn	**Pn**	**15 45 02.3**	**+1.1**
KURK				Sn	**Sn**	**15 46 49.4**	**-4.2**
KURK				Lg	Lg	15 47 52.1	
DDI	**Dehra Dun**	**10.36**	**183**	*ex*	Pn	15 45 10.0	+4.1
DANN	**Dangsing**	**13.02**	**160**	*e*P	**Pn**	**15 45 41.3**	**-1.2**
	comp=E,4.2nm,0.2s						
DANN	**Dangsing**	**13.02**	**160**	*e*P	**Pn**	**15 45 41.3**	**-1.2**
VOSK	**Vostochnaya**	**13.12**	**339**	⇑P	**Pn**	**15 45 44.8**	**+1.3**
	comp=E,6.5nm,0.7s						
KOLN	**Koldanda**	**13.53**	**161**	*e*P	**Pn**	**15 45 48.8**	**-0.6**
	comp=E,6.5nm,0.4s						
KOLN	**Koldanda**	**13.53**	**161**	*e*P	**Pn**	**15 45 48.8**	**-0.6**
BVA0	**Borovoye Array**	**13.55**	**338**	Pn	**Pn**	**15 45 49.5**	**+0.1**
	comp=E,1.0nm,0.8s,baz=240,slow=42,SNR=29						
BVAR	**Borovoye Array**	**13.55**	**338**	P	**Pn**	**15 45 49.4**	**0.0**
BVAR	**Borovoye Array**	**13.55**	**338**	Pn	**Pn**	**15 45 49.4**	**0.0**
BVAR				Lg	Lg	15 49 46.6	
BVAR	**Borovoye Array**	**13.55**	**338**	Pn	**Pn**	**15 45 49.4**	**0.0**
	comp=E,0.9nm,0.3s,baz=145,slow=13,SNR=28						
BVAR				Lg	Lg	15 49 46.6	
	comp=E,0.3nm,0.3s,baz=139,slow=27,SNR=9.1						
BVAR				LR	LR	15 51 11.6	
	comp=E,67nm,18.1s,baz=148,slow=38						
GKN	**Gorkha**	**13.59**	**157**	*e*P	**Pn**	**15 45 49.0**	**-1.2**
	comp=E,16nm,0.4s						
GKN	**Gorkha**	**13.59**	**157**	*e*P	**Pn**	**15 45 49.0**	**-1.2**
BRVK	**Borovoye**	**13.61**	**338**	⇑Pn	**Pn**	**15 45 49.5**	**-0.7**
	comp=E,11nm,0.7s						
BRVK	**Borovoye**	**13.61**	**338**	*e*P	**Pn**	**15 45 50.4**	**+0.2**
BRVK	**Borovoye**	**13.61**	**338**	*e*Pn	**Pn**	**15 45 50.4**	**+0.2**
ZALV	**Zalesovo Beam**	**13.90**	**15**	P	Pn	**15 45 55.2**	**+1.0**
ZALV						15 48 29.3	
ZALV	**Zalesovo Beam**	**

	comp=Z,66nm,5.7s								
GTA					LR	LR			
	comp=N,110nm,11.9s								
GTA					LR	LR			
	comp=E,190nm,11.9s								
GTA					LR	LR			
	comp=Z,150nm,11.9s								
AKTO	**Aktyubinsk**	**17.36**	**311**	⇓Pn	**P**		**15 46 44.2**	**+3.3**	
	comp=Z,0.8nm,1.1s								
AKTO	**Aktyubinsk**	**17.36**	**311**	P	**P**		**15 46 42.8**	**+1.9**	
AKTO	**Aktyubinsk**	**17.36**	**311**	P	**P**		**15 46 42.8**	**+1.9**	
AKTO	**Aktyubinsk**	**17.36**	**311**	P	**P**		**15 46 42.8**	**+1.9**	
	comp=Z,0.1nm,0.3s,baz=120,slow=14,SNR=4.9								
ZAK	**Zakamensk**	**19.72**	**52**	*e*P	**Pn**		**15 47 08.3**	**0.0**	
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.0s								
LZH	**Lanzhou**	**20.27**	**95**	*e*P	Pn		15 47 14.5	-0.5	
LZH				pP	pP		15 47 28.3	+12	
LZH				sP	sP		15 47 30.5	+13	
LZH				pmax	pmax				
	comp=Z,13nm,1.0s								
ARU	**Arti**	**20.48**	**327**	*d* iP	**P**		**15 47 14.2**	**-0.7**	
ARU							15 47 35.0		
ARU				S	**S**		**15 51 00.1**	**-3.8**	
ARU				pmax	pmax				
	comp=Z,5.0nm,1.2s								
ARU	**Arti**	**20.48**	**327**	*e*Pn	Pn		15 47 16.0	-1.1	
	comp=Z,8.0nm,0.7s								
SONM	**Songino Array**	**21.05**	**61**	P	**P**		**15 47 23.4**	**+2.0**	
SONM	**Songino Array**	**21.05**	**61**	P	**P**		**15 47 23.4**	**+2.0**	
	comp=Z,4.4nm,0.8s,baz=258,slow=11,SNR=26								
ULN	**Ulaanbaatar**	**21.49**	**61**	*e*P	**P**		**15 47 23.9**	**-2.3**	
	comp=Z,6.2nm,0.8s								
CD2	**Chengdu**	**22.53**	**108**	P	**P**		**15 47 37.3**	**0.0**	
CD2				pP	pP		15 47 51.8	+12	
CD2				PP	PnPn		15 48 07.1	+6.6	
CD2				PcP	**PcP**		**15 51 31.5**	**+0.6**	
CD2				S	S		15 51 34.5	-10	
CD2				sS	Sn		15 51 58.8	+1.3	
CD2				SS	**SnSn**		**15 52 19.3**	**+6.2**	
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
CD2				pmax	pmax				
	comp=Z,120nm,5.2s								
HYB	**Hyderabad**	**23.20**	**180**	*i* P	**P**		**15 47 45.5**	**+1.2**	
SOKR	**Solikamsk**	**23.32**	**331**	*e*P	P		15 47 50.3	+5.2	
SOKR				pmax	pmax				
	comp=Z,6.0nm,0.6s								
HHC	**Hu-ho-hao-te**	**24.87**	**79**	*e*P	**P**		**15 47 58.8**	**-1.3**	
HHC				pP	pP		15 48 12.9	+10	
HHC				PP	**PnPn**		**15 48 36.8**	**+4.4**	
HHC				S	S		15 52 13.3	-10	
HHC				sS	sS		15 52 36.9	+8.9	
HHC				SS	**SnSn**		**15 53 13.8**	**+3.7**	
HHC				pmax	pmax				
	comp=Z,12nm,0.7s								
HHC				pmax	pmax				
	comp=Z,130nm,4.3s								
HHC				LR	LR				
	comp=E,190nm,14.3s								
HHC				LR	LR				
	comp=Z,110nm,16.7s								
XAN	**Xi'an**	**24.89**	**96**	P	**P**		**15 48 01.9**	**+1.6**	
XAN				pP	pP		15 48 08.1	+4.8	
KMI	**Kunming**	**25.40**	**120**	P	**P**		**15 48 03.6**	**-1.5**	
KMI				pmax	pmax				
	comp=Z,9.0nm,1.0s								
GYA	**Guiyang**	**27.19**	**113**	P	**P**		**15 48 21.0**	**-0.2**	
GYA				PP	PnPn		15 49 09.6	+5.2	
GYA				S	**S**		**15 52 53.4**	**-6.7**	
GYA				sS	sS		15 53 20.0	+15	
GYA				SS	**SnSn**		**15 54 11.3**	**+4.0**	
GYA				pmax	pmax				
	comp=Z,20nm,0.8s								
GYA				pmax	pmax				
	comp=Z,90nm,4.8s								
GYA				LR	LR				
	comp=N,2μm,16.7s								
GYA				LR	LR				
	comp=E,1μm,18.2s								
GYA				LR	LR				
	comp=Z,2μm,17.1s								
CMAR	**Chiang Mai Arr**	**28.21**	**136**	P	**P**		**15 48 31.1**	**+0.8**	
CMAR	**Chiang Mai Arr**	**28.21**	**136**	P	**P**		**15 48 31.1**	**+0.8**	
	comp=Z,0.6nm,0.4s,baz=311,slow=8.4,SNR=5.1								
BJI	**Beijing**	**28.48**	**79**	P	**P**		**15 48 30.1**	**-2.3**	
BJI				S	S		15 53 12.3	-7.5	
BJI				pmax	pmax				
	comp=Z,7.0nm,0.6s								
BJI				pmax	pmax				
	comp=Z,130nm,4.5s								
BJI				LR	LR				
	comp=N,240nm,14.7s								
BJI				LR	LR				
	comp=E,270nm,15.3s								
BJI				LR	LR				
	comp=Z,22nm,15.3s								
OBN	**Obninsk**	**31.14**	**312**	*e*P	**P**		**15 48 55.5**	**-0.3**	
OBN				pmax	pmax				
	comp=Z,4.0nm,0.8s								
NJ2	**Nanjing**	**33.28**	**92**	*e*P	**P**		**15 49 12.8**	**-2.1**	
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
SNY	**Shenyang**	**33.52**	**73**	⇓P	P		15 49 21.3	+4.5	
SNY				S	S		15 54 43.1	+4.5	
SNY				pmax	pmax				
	comp=Z,170nm,4.0s								
SNY				pmax	pmax				
	comp=Z,12nm,2.1s								
SNY				LR	LR				
	comp=N,320nm,4.4s								
SNY				LR	LR				
	comp=E,430nm,3.8s								
SNY				LR	LR				
	comp=Z,220nm,5.3s								
BR131	**Keskin Array S**	**34.09**	**283**	*e*P	**P**		**15 49 24.0**	**+2.0**	
	comp=Z,4.2nm,0.6s								
BRTR	**Keskin Array B**	**34.09**	**283**	P	**P**		**15 49 24.4**	**+2.3**	
BRTR	**Keskin Array B**	**34.09**	**283**	P	**P**		**15 49 24.4**	**+2.3**	
	comp=Z,6.1nm,0.7s,baz=91,slow=8.2,SNR=14								
QIZ	**Qiongzhong**	**34.34**	**120**	P	**P**		**15 49 23.3**	**-0.9**	
QIZ				sP	sP		15 49 46.1	+18	
QIZ				S	**S**		**15 54 47.5**	**-4.3**	
QIZ				pmax	pmax				
	comp=Z,12nm,1.8s								
QIZ				pmax	pmax				
	comp=Z,140nm,5.9s								
QIZ				LR	LR				
	comp=Z,250nm,8.1s								
CN2	**Changchun**	**34.44**	**69**	*e*P	**P**		**15 49 22.0**	**-2.8**	
CN2				*e*S	S		15 54 42.6	-10	
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
CN2				pmax	pmax				
	comp=Z,200nm,4.0s								
AKASG	**Malin Array Be**	**35.32**	**303**	P	**P**		**15 49 33.9**	**+1.5**	
AKASG	**Malin Array Be**	**35.32**	**303**	P	**P**		**15 49 33.9**	**+1.5**	
AKASG	**Malin Array Be**	**35.32**	**303**	P	**P**		**15 49 33.9**	**+1.5**	
	comp=Z,1.4nm,0.5s,baz=69,slow=9.6,SNR=3.5								
JOF	**Joensuu**	**35.57**	**325**	*e*P	**P**		**15 49 35.3**	**+1.0**	
JOF				pmax	pmax				
	comp=Z,3.0nm,0.6s								
JOF	**Joensuu**	**35.57**	**325**	*e*p	**P**		**15 49 35.3**	**+1.0**	
	comp=Z,2.8nm,0.6s								
MDJ	**Mudanjiang**	**37.19**	**67**	P	**P**		**15 49 45.4**	**-3.0**	
MDJ				pP	pP		15 50 00.6	+9.1	
MDJ				sP	sP		15 50 07.8	+15	
MDJ				PP	**PP**		**15 51 09.8**	**-3.2**	
MDJ				S	S		15 55 24.8	-10	
MDJ				pmax	pmax				
	comp=Z,16nm,1.9s								
MDJ				pmax	pmax				
	comp=Z,95nm,5.2s								
MDJ				LR	LR				
	comp=Z,31nm,16.6s								
FINES	**FINESS Array B**	**37.65**	**321**	P	**P**		**15 49 53.5**	**+1.5**	
FINES	**FINESS Array B**	**37.65**	**321**	P	**P**		**15 49 53.5**	**+1.5**	
	comp=Z,3.0nm,0.6s,baz=114,slow=13,SNR=7.9								
TATO	**Taipei**	**38.87**	**100**	*e*P	**P**		**15 50 02.3**	**-0.5**	
	comp=Z,512nm,1.9s								
SSLB	**Suanglung**	**39.15**	**102**	*e*P	**P**		**15 50 03.2**	**-2.0**	
	comp=Z,93nm,1.6s								
NACB	**Ninganchiao**	**39.41**	**101**	*e*P	**P**		**15 50 05.3**	**-1.9**	
	comp=Z,604nm,3.0s								
KWP	**Kalwaria Pacla**	**39.60**	**302**	*e*P	**P**		**15 50 09.7**	**+1.0**	
KWP				pmax	pmax				
	comp=Z,37nm,0.4s								
KWP	**Kalwaria Pacla**	**39.60**	**302**	*e*P	**P**		**15 50 09.7**	**+1.0**	
	comp=Z,37nm,0.4s								
ARCES	**ARCESS Array B**	**39.78**	**334**	P	**P**		**15 50 10.2**	**+0.3**	
ARCES	**ARCESS Array B**	**39.78**	**334**	P	**P**		**15 50 10.2**	**+0.3**	
	comp=Z,2.5nm,0.6s,baz=89,slow=7.6,SNR=8.0								
IPM	**Ipoh**		**41.30**	**145**	*e*P	**P**	**15 50 23.3**	**+0.3**	
	comp=Z,12nm,1.1s								
VYHS	**Vyhne**	**42.32**	**301**	*e*P	**P**		**15 50 32.5**	**+1.4**	
VYHS	**Vyhne**	**42.32**	**301**	*e*P	**P**		**15 50 32.5**	**+1.4**	
JOW	**Kunigami**	**42.98**	**93**	*e*P	**P**		**15 50 35.3**	**-1.4**	
	comp=Z,86nm,1.6s								
HFS	**Hagfors**	**43.65**	**319**	P	**P**		**15 50 43.1**	**+1.4**	
HFS	**Hagfors**	**43.65**	**319**	P	**P**		**15 50 43.1**	**+1.4**	
	comp=Z,3.8nm,0.7s,baz=108,slow=9.5,SNR=9.7								
NB2	**NORSAR Subarra**	**44.80**	**320**	P	**P**		**15 50 51.9**	**+0.9**	
	comp=Z,2.1nm,0.6s,baz=86,slow=7.9								
NOA	**NORSAR Array B**	**44.80**	**320**	P	**P**		**15 50 52.2**	**+1.3**	
NOA	**NORSAR Array B**	**44.80**	**320**	P	**P**		**15 50 52.3**	**+1.3**	
	comp=Z,2.1nm,0.6s,baz=86,slow=7.9,SNR=8.9								
NOA					LR	LR	16 11 53.6		
	comp=Z,39nm,19.9s,baz=0.0,slow=39								
CLL	**Collm**	**45.37**	**307**	*e*P	P		15 50 59.0	+3.5	
CLL	**Collm**	**45.37**	**307**	*e*P	P		15 50 59.0	+3.5	
GERES	**GERESS Array B**	**45.54**	**303**	P	**P**		**15 50 58.3**	**+1.3**	
GERES	**GERESS Array B**	**45.54**	**303**	P	**P**		**15 50 58.3**	**+1.3**	
	comp=Z,1.0nm,0.7s,baz=82,slow=9.8,SNR=6.9								
HINF	**Hinteralfeld**	**50.20**	**304**	*e*P	**P**		**15 51 34.8**	**+1.7**	
HINF	**Hinteralfeld**	**50.20**	**304**	*e*P	**P**		**15 51 34.8**	**+1.7**	
HINF	**Hinteralfeld**	**50.20**	**304**	*e*P	**P**		**15 51 34.8**	**+1.7**	
PGF	**Pioggiola**	**50.72**	**296**	*e*P	**P**		**15 51 38.9**	**+1.8**	
PGF	**Pioggiola**	**50.72**	**296**	*e*P	**P**		**15 51 38.9**	**+1.8**	
PGF	**Pioggiola**	**50.72**	**296**	*e*P	**P**		**15 51 38.9**	**+1.8**	
LPG	**La Plagne**	**51.09**	**301**	*e*P	P		15 51 42.9	+2.7	
LPG	**La Plagne**	**51.09**	**301**	*e*P	P		15 51 42.9	+2.7	
LPG	**La Plagne**	**51.09**	**301**	*e*P	P		15 51 42.9	+2.7	
LPL	**La Plagne**	**51.10**	**301**	*e*P	P		15 51 42.8	+2.7	
LPL	**La Plagne**	**51.10**	**301**	*e*P	P		15 51 42.8	+2.7	
LPL	**La Plagne**	**51.10**	**301**	*e*P	P		15 51 42.8	+2.7	
SBF	**Sospel**	**51.26**	**299**	*e*P	**P**		**15 51 43.4**	**+2.2**	
	comp=Z,36nm,0.9s								
SBF	**Sospel**	**51.26**	**299**	*e*P	**P**		**15 51 43.4**	**+2.2**	
SBF	**Sospel**	**51.26**	**299**	*e*P	**P**		**15 51 43.4**	**+2.2**	
MBDF	**Montbardon**	**51.37**	**300**	*e*P	**P**		**15 51 43.9**	**+1.8**	
	comp=Z,13nm,0.9s								
MBDF	**Montbardon**	**51.37**	**300**	*e*P	**P**		**15 51 43.9**	**+1.8**	
MBDF	**Montbardon**	**51.37**	**300**	*e*P	**P**		**15 51 43.9**	**+1.8**	
VIVF	**Saint-Julien-l**	**52.70**	**301**	*e*P	**P**		**15 51 53.3**	**+1.5**	
VIVF	**Saint-Julien-l**	**52.70**	**301**	*e*P	**P**		**15 51 53.3**	**+1.5**	
VIVF	**Saint-Julien-l**	**52.70**	**301**	*e*P	**P**		**15 51 53.3**	**+1.5**	
AVF	**Avril sur Loir**	**52.79**	**303**	*e*P	**P**		**15 51 53.0**	**+0.5**	
	comp=Z,7.1nm,0.7s								
AVF	**Avril sur Loir**	**52.79**	**303**	*e*P	**P**		**15 51 53.0**	**+0.5**	
AVF	**Avril sur Loir**	**52.79**	**303**	*e*P	**P**		**15 51 53.0**	**+0.5**	
LASF	**Ste Croix**	**53.55**	**300**	*e*P	**P**		**15 52 00.1**	**+2.0**	
LASF	**Ste Croix**	**53.55**	**300**	*e*P	**P**		**15 52 00.1**	**+2.0**	
ETSF	**Etsaut**	**56.95**	**301**	*e*P	**P**		**15 52 24.5**	**+1.8**	
	comp=Z,4.9nm,0.8s								
ETSF	**Etsaut**	**56.95**	**301**	*e*P	**P**		**15 52 24.5**	**+1.8**	
ETSF	**Etsaut**	**56.95**	**301**	*e*P	**P**		**15 52 24.5**	**+1.8**	
ILAR	**Eielson Array**	**68.99**	**19**	P	**P**		**15 53 42.2**	**-0.2**	
ILAR	**Eielson Array**	**68.99**	**19**	P	**P**		**15 53 42.2**	**-0.2**	
	comp=Z,0.5nm,0.8s,baz=320,slow=4.8,SNR=7.7								
TORD	**Torodi Ar. Bea**	**71.69**	**272**	P	**P**		**15 53 59.1**	**-0.4**	
TORD	**Torodi Ar. Bea**	**71.69**	**272**	P	**P**		**15 53 59.1**	**-0.4**	
	comp=Z,0.9nm,0.7s,baz=44,slow=5.5,SNR=6.7								
YKA	**Yellowknife Ar**	**76.61**	**6**	P	**P**		**15 54 27.9**	**+0.3**	
YKA	**Yellowknife Ar**	**76.61**	**6**	P	**P**		**15 54 27.9**	**+0.3**	
	comp=Z,0.3nm,0.5s,baz=347,slow=5.3,SNR=9.2								
WRA	**Warramunga Arr**	**79.47**	**128**	P	**P**		**15 54 44.6**	**+0.6**	
WRA	**Warramunga Arr**	**79.47**	**128**	P	**P**		**15 54 44.6**	**+0.6**	
	comp=Z,1.3nm,1.0s,baz=330,slow=5.4,SNR=7.5								
ASAR	**Alice Springs**	**82.08**	**130**	P	**P**		**15 54 58.8**	**+0.8**	
ASAR	**Alice Springs**	**82.08**	**130**	P	**P**		**15 54 58.8**	**+0.8**	
	comp=Z,0.7nm,0.8s,baz=324,slow=5.5,SNR=10								

IDC 20 15:45:12.6±2.0, 4.15N×126.77E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/22, mbtmpb3.4/4, Error ellipse: s-maj=184.3km s-min=21.5km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.07**	**163**	P	P	15 50 38.7	-0.3
	0.8nm,0.6s,baz=342,slow=11,SNR=12						
ASAR	**Alice Springs**	**28.51**	**166**	P	P	15 51 10.1	+0.1
	0.3nm,0.8s,baz=346,slow=7.6,SNR=6.9						
MKAR	**Makanchi Array**	**57.23**	**325**	P	P	15 55 01.6	-0.3
	0.4nm,0.9s,baz=129,slow=7.8,SNR=3.6						
KURBB	**Kurchatov Arra**	**61.41**	**327**	P	P	15 55 30.9	+0.3
	0.3nm,0.4s,baz=129,slow=6.0,SNR=5.2						

IDC 20 16:16:18.1±1.6, 3.24N×126.45E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/21, mbtmpb3.7/5, Error ellipse: s-maj=107.0km s-min=21.3km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.23**	**182**	P	P	16 21 06.4	+0.7
	0.9nm,0.7s,baz=17,slow=14,SNR=2.3						
WRA	**Warramunga Arr**	**24.31**	**162**	P	P	16 21 36.2	-1.4
	1.2nm,0.4s,baz=339,slow=10,SNR=19						
ASAR	**Alice Springs**	**27.72**	**165**	P	P	16 22 09.7	+1.3
	0.3nm,0.5s,baz=345,slow=8.4,SNR=14						
STKA	**Stephens Creek**	**37.78**	**159**	P	P	16 23 35.9	-0.2
	2.4nm,0.7s,baz=334,slow=9.3,SNR=7.5						
MKAR	**Makanchi Array**	**57.79**	**326**	P	P	16 26 11.0	-0.3
	0.3nm,0.5s,baz=127,slow=7.4,SNR=15						

WEL 20 16:51:34.3±0.4, 37.68S×176.18E, h198km±3km, ML3.8/10, 6C-1D, Error ellipse: s-maj=5.1km s-min=4.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.94**	**128**	⇑PN	Pn	16 52 03.5	+0.1
URZ				SN	Sn	16 52 25.6	-0.5
MWZ	**Matawai**	**1.25**	**122**	PN	Pn	16 52 06.0	+0.2
MWZ				SN	Sn	16 52 29.9	-0.4
RAHZ	**Arahi**	**1.43**	**150**	PN	Pn	16 52 07.4	+0.2
RAHZ				SN	Sn	16 52 32.2	-0.8
NMHZ	**Naumai**	**1.50**	**161**	PN	Pn	16 52 08.2	+0.3
NMHZ				SN	Sn	16 52 33.9	-0.3
OTVZ	**Oturere**	**1.54**	**195**	PN	Pn	16 52 07.4	-1.0
WPVZ	**Whakapapa**	**1.60**	**198**	PN	Pn	16 52 08.3	-0.6
PUZ	**Puketiti**	**1.69**	**104**	PN	Pn	16 52 09.6	-0.1
KNZ	**Kokohu**	**1.78**	**139**	PN	Pn	16 52 10.0	-0.5
CNGZ	**Carnagh Statio**	**1.79**	**117**	PN	Pn	16 52 11.2	+0.6
MCHZ	**McNeill Hill**	**1.81**	**167**	⇑PN	Pn	16 52 10.5	-0.2
BHHZ	**Black Hill Sta**	**1.81**	**183**	⇑PN	Pn	16 52 09.7	-1.1
PRGZ	**Paritu Road**	**1.83**	**133**	PN	Pn	16 52 10.5	-0.5
MHGZ	**Mahia Peninsul**	**2.00**	**138**	PN	Pn	16 52 12.1	-0.6
CKHZ	**Cape Kidnapper**	**2.10**	**161**	PN	Pn	16 52 12.7	-1.0
KAHZ	**Kahuranaki**	**2.18**	**166**	PN	Pn	16 52 13.5	-1.1
PNHZ	**Pukenui**	**2.23**	**180**	PN	Pn	16 52 13.5	-1.7
WAZ	**Wanganui**	**2.27**	**204**	PN	Pn	16 52 15.0	-0.6
TSZ	**Takapari Road**	**2.38**	**184**	⇑PN	Pn	16 52 15.0	-1.9
WPHZ	**Waipukurau**	**2.39**	**175**	PN	Pn	16 52 15.2	-1.7
PXZ	**Pawanui**	**2.41**	**167**	⇑PN	Pn	16 52 15.2	-1.8
PRHZ	**Porangahau**	**2.61**	**172**	PN	Pn	16 52 17.1	-2.2
DVHZ	**Dannevirke**	**2.62**	**180**	PN	Pn	16 52 17.0	-2.4
POWZ	**Post Office Ro**	**2.73**	**187**	PN	Pn	16 52 18.2	-2.5
BFZ	**Birch Farm**	**3.00**	**179**	PN	Pn	16 52 20.8	-3.0
MRZ	**Mangatainoka R**	**3.01**	**189**	⇑PN	Pn	16 52 21.0	-3.0
OGWZ	**Otaki Gorge**	**3.23**	**194**	PN	Pn	16 52 23.5	-3.0
HOWZ	**Holdsworth Sta**	**3.25**	**189**	⇓PN	Pn	16 52 23.6	-3.3
KIW	**Kapiti Island**	**3.33**	**197**	PN	Pn	16 52 24.3	-3.5
TMWZ	**Te Maipa**	**3.43**	**184**	PN	Pn	16 52 25.5	-3.5
MTW	**Mount Morrison**	**3.51**	**188**	PN	Pn	16 52 26.0	-4.0
CAW	**Cannon Point**	**3.53**	**194**	PN	Pn	16 52 26.6	-3.6
TRWZ	**Traveller**	**3.73**	**186**	PN	Pn	16 52 28.8	-3.9
PAWZ	**Paruwai Farm**	**3.74**	**189**	PN	Pn	16 52 28.7	-4.1
WEL	**Wellington**	**3.76**	**196**	PN	Pn	16 52 29.2	-3.8
MSWZ	**Moikau Station**	**3.80**	**191**	PN	Pn	16 52 29.3	-4.2
TCW	**Tory Channel**	**3.82**	**202**	PN	Pn	16 52 29.9	-3.9
BHW	**Baring Head**	**3.86**	**195**	PN	Pn	16 52 30.0	-4.1
PLWZ	**Palliser**	**3.95**	**190**	PN	Pn	16 52 31.1	-4.4
TUWZ	**Tuamarina**	**4.12**	**204**	PN	Pn	16 52 33.5	-4.0
NNZ	**Nelson**	**4.14**	**211**	PN	Pn	16 52 34.1	-3.7
QRZ	**Quartz Range**	**4.23**	**221**	PN	Pn	16 52 35.0	-3.9
BSWZ	**Blackbirch Sta**	**4.40**	**203**	PN	Pn	16 52 37.0	-4.1
THZ	**Tophouse**	**4.79**	**211**	PN	Pn	16 52 42.2	-3.9
KHZ	**Kahutara**	**5.15**	**202**	PN	Pn	16 52 46.1	-4.4

IDC 20 16:54:28.8±2.1, 29.80N×68.90E, h0km, mb3.3/5, mb1 3.5/7, mb1mx3.3/31, mbtmpb3.4/7, ML3.5/1, Error ellipse: s-maj=65.5km s-min=21.5km az=78.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**13.58**	**18**	Pn	Pn	16 57 43.1	+0.2
	0.3nm,0.3s,baz=203,slow=8.0,SNR=5.7						
AAK				Sn	Sn	17 00 13.7	-0.9
	0.1nm,0.3s,baz=268,slow=19,SNR=2.9						
MKAR	**Makanchi Array**	**19.91**	**28**	P	P	16 59 01.7	-0.3
	0.1nm,0.3s,baz=212,slow=10,SNR=8.9						
KURBB	**Kurchatov Arra**	**22.02**	**17**	P	P	16 59 26.1	+1.4
	1.9nm,1.2s,baz=208,slow=9.8,SNR=4.1						
AKTO	**Aktyubinsk**	**22.18**	**341**	P	P	16 59 27.2	+0.7
	1.2nm,0.9s,baz=141,slow=13,SNR=4.0						
BVAR	**Borovoye Array**	**23.23**	**2**	P	P	16 59 36.1	-1.4
	0.5nm,0.7s,baz=169,slow=10,SNR=2.8						
WRA	**Warramunga Arr**	**80.08**	**120**	P	P	17 06 41.2	+0.3
	0.3nm,0.7s,baz=323,slow=4.8,SNR=6.1						
ASAR	**Alice Springs**	**81.98**	**123**	P	P	17 06 50.8	-0.2
	0.4nm,0.8s,baz=307,slow=5.3,SNR=11						

IDC 20 17:01:25.7±2.0, 1.74S×148.66E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/18, mbtmpb3.4/4, Error ellipse: s-maj=126.0km s-min=32.2km az=125.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.88**	**217**	P	P	17 06 32.8	+1.6
	0.4nm,0.8s,baz=36,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**26.07**	**212**	P		17 06 59.8	-1.5
	0.4nm,1.0s,baz=48,slow=10.0,SNR=3.5						
FITZ	**Fitzroy Crossi**	**27.84**	**233**	P	P	17 07 17.9	+0.7
	0.9nm,0.6s,baz=57,slow=10,SNR=6.5						
YKA	**Yellowknife Ar**	**94.65**	**28**	P	P	17 14 47.8	-0.7
	0.2nm,0.8s,baz=279,slow=5.1,SNR=4.1						

DDA ***20*** *17:10:53.8, 36.95N×28.18E, h7km, MD2.7*
CSEM ***20*** *17:10:53.8, 36.95N×28.18E, h7km, MD2.7, After DDA*
ISC 20 17:10:52.1±1.3, 36.87N±0.05×28.21E±0.03, h1km±12km, n13, σ0.37, 24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.27**	**12**	*e*PG	**Pg**	**17 10 57.8**	**+0.4**
YER				*e*SG	**Sg**	**17 11 01.2**	**+0.3**
TURN	**Turunc**	**0.31**	**89**	*i* P	**Pg**	**17 10 58.2**	**+0.1**
TURN				*i* S	**Sg**	**17 11 01.7**	**-0.5**
TURN	**Turunc**	**0.31**	**89**	*i* P	**Pg**	**17 10 58.2**	**+0.1**
TURN				*i* S	**Sg**	**17 11 01.7**	**-0.5**
BDRM	**Kayabasi**	**0.65**	**288**	*i* P	**Pg**	**17 11 04.4**	**-0.1**
BDRM				*i* S	**Sg**	**17 11 15.7**	**0.0**
BDRM	**Kayabasi**	**0.65**	**288**	*i* P	**Pg**	**17 11 04.4**	**-0.1**
BDRM				*i* S	**Sg**	**17 11 15.7**	**0.0**
FETY	**Fethiye**	**0.74**	**108**	*e*PG	**Pn**	**17 11 10.4**	**+0.8**
BODT	**Bodrum**	**0.75**	**285**	*e*PG	**Pg**	**17 11 06.5**	**0.0**
AYDN	**Tasoluk**	**0.84**	**341**	*i* P	**Pg**	**17 11 08.5**	**+0.3**
AYDN				*i* S	**Sg**	**17 11 18.6**	**-0.4**
AYDN	**Tasoluk**	**0.84**	**341**	*i* P	**Pg**	**17 11 08.5**	**+0.3**
AYDN				*i* S	**Sg**	**17 11 18.6**	**-0.4**
DNZL	**Cakiroluk**	**1.06**	**39**	*i* P	**Pg**	**17 11 12.2**	**-0.2**
DNZL				*i* S	**Sn**	**17 11 29.1**	**-0.5**
DNZL	**Cakiroluk**	**1.06**	**39**	*i* P	**Pg**	**17 11 12.2**	**-0.2**
DNZL				*i* S	**Sn**	**17 11 29.1**	**-0.5**
GCAM	**G?zelcaml?**	**1.14**	**317**	*i* P	**Pb**	**17 11 14.7**	**+0.1**
GCAM				*i* S	**Sb**	**17 11 29.6**	**-0.3**
GCAM	**G?zelcaml?**	**1.14**	**317**	*i* P	**Pb**	**17 11 14.7**	**+0.1**
GCAM				*i* S	**Sb**	**17

*IDC **20** 17:43:36.3±0.7,3°.43N×126°.93E,h0km,mb4.0/12, mb1 4.1/12,mb1mx4.0/25,mbtmp4.0/12,MS4.1/2, Ms1 4.1/2,ms1mx2.9/29,Error ellipse: s-maj=41.0km s-min=13.7km az=70.0*

*ISCJB **20** 17:43:41.0±0.4,3°.39N±0°.07×126°.8E±0°.1,h48km, mb4.1/21,MS4.0/2,Error ellipse: s-maj=19.8km s-min=7.7km az=156.5*

*NEIC **20** 17:43:41.3±0.4,3°.44N×126°.81E,h35km,mb4.3/9,Error ellipse: s-maj=19.1km s-min=7.2km az=67.0*

*DJA **20** 17:43:43,1°.84N×127°.72E,h394km,mb3.9/3*

ISC 20 17:43:43.0±0.6,3°.4N±0°.1×126°.8E±0°.2,h48km,n39, σ0§82/35,mb4.1/21,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.86**	**341**	P	Pn	17 44 35.1	-4.8
FITZ	**Fitzroy Crossi**	**21.39**	**183**	P	**P**	**17 48 27.7**	**+1.0**
FITZ	**Fitzroy Crossi**	**21.39**	**183**	P	**P**	**17 48 27.7**	**+1.0**
	3.0nm,0.6s,baz=8.1,slow=9.9,SNR=4.5						
PMG	**Port Moresby**	**23.93**	**122**	P	**P**	**17 48 53.6**	**+0.9**
WRAB	**Tennant Creek**	**24.33**	**163**	*e*P	**P**	**17 48 55.6**	**-0.8**
	16nm,1.2s						
WRA	**Warramunga Arr**	**24.34**	**163**	P	**P**	**17 48 55.5**	**-1.0**
WRA	**Warramunga Arr**	**24.34**	**163**	P	**P**	**17 48 55.5**	**-1.0**
	5.6nm,0.8s,baz=342,slow=10,SNR=25						
MBWA	**Marble Bar**	**25.37**	**196**	*e*P	**P**	**17 49 05.2**	**-0.6**
	6.1nm,1.0s						
ASAR	**Alice Springs**	**27.76**	**166**	P	**P**	**17 49 26.9**	**-0.5**
ASAR	**Alice Springs**	**27.76**	**166**	P	**P**	**17 49 26.9**	**-0.5**
	0.6nm,0.6s,baz=355,slow=7.9,SNR=10						
JNU	**Nakatsue**	**29.82**	**7**	LR	LR	17 59 15.3	
	comp=Z,2µm,21.8s,baz=150,slow=32						
CTAO	**Charters Tower**	**30.14**	**141**	P	**P**	**17 49 48.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**31.12**	**301**	P	**P**	**17 49 57.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**31.12**	**301**	P	**P**	**17 49 57.8**	**+0.5**
	1.2nm,0.9s,baz=116,slow=7.2,SNR=10						
CHTO	**Chiang Mai**	**31.27**	**301**	P	**P**	**17 49 58.1**	**-0.5**
	2.0nm,0.8s						
MJAR	**Matsushiro Arr**	**34.62**	**16**	LR	LR	18 04 02.3	
	comp=Z,75nm,19.1s,baz=195,slow=36						
STKA	**Stephens Creek**	**37.78**	**159**	P	**P**	**17 50 54.3**	**-0.3**
STKA	**Stephens Creek**	**37.78**	**159**	P	**P**	**17 50 54.3**	**-0.3**
	7.4nm,0.9s,baz=329,slow=7.8,SNR=11						
LSA	**Lhasa**	**42.73**	**312**	P	**P**	**17 51 36.0**	**-0.3**
HIA	**Hailar**	**46.11**	**354**	P	**P**	**17 52 05.4**	**+3.0**
	3.0nm,0.7s						
ULN	**Ulaanbaatar**	**47.47**	**342**	*e*P	**P**	**17 52 12.9**	**-0.4**
	2.0nm,0.9s						
SONM	**Songino Array**	**47.65**	**341**	P	**P**	**17 52 14.4**	**-0.1**
SONM	**Songino Array**	**47.65**	**341**	P	**P**	**17 52 14.4**	**-0.1**
	0.9nm,0.7s,baz=158,slow=9.1,SNR=6.8						
TLY	**Talaya**	**51.88**	**342**	P	**P**	**17 52 48.2**	**+1.7**
PETK	**Petropavlovsk-**	**55.71**	**22**	P	**P**	**17 53 14.3**	**-0.2**
PETK	**Petropavlovsk-**	**55.71**	**22**	P	**P**	**17 53 14.3**	**-0.2**
	4.7nm,1.0s,baz=198,slow=5.1,SNR=3.2						
MKAR	**Makanchi Array**	**57.88**	**325**	P	**P**	**17 53 30.1**	**0.0**
MKAR	**Makanchi Array**	**57.88**	**325**	P	**P**	**17 53 30.1**	**0.0**
	0.7nm,0.6s,baz=121,slow=7.6,SNR=18						
YAK	**Yakutsk**	**58.54**	**2**	P	**P**	**17 53 33.7**	**-0.6**
	10nm,1.2s						
TKM2	**Tokmak 2**	**60.06**	**319**	P	P	17 53 42.1	-3.4
	2.4nm,1.0s						
ZALV	**Zalesovo Beam**	**60.93**	**333**	P	**P**	**17 53 50.8**	**-0.1**
ZALV	**Zalesovo Beam**	**60.93**	**333**	P	**P**	**17 53 50.8**	**-0.1**
	0.5nm,0.5s,baz=141,slow=9.3,SNR=3.2						
KURBB	**Kurchatov Arra**	**62.07**	**327**	P	**P**	**17 53 58.8**	**+0.1**
	1.5nm,0.8s,baz=129,slow=6.5,SNR=13						
KURK	**Kurchatov**	**62.07**	**328**	*e*P	**P**	**17 53 57.3**	**-1.4**
	2.8nm,0.8s						
BVAR	**Borovoye Array**	**67.65**	**327**	P	**P**	**17 54 35.4**	**+0.4**
BVAR	**Borovoye Array**	**67.65**	**327**	P	**P**	**17 54 35.4**	**+0.4**
	1.4nm,0.8s,baz=126,slow=7.5,SNR=6.8						
ABKAR	**Akbulak array**	**72.47**	**321**	*e*P	**P**	**17 55 04.4**	**-0.1**
	1.0nm,0.6s						
AKTO	**Aktyubinsk**	**73.98**	**322**	P	**P**	**17 55 13.5**	**0.0**
AKTO	**Aktyubinsk**	**73.98**	**322**	P	**P**	**17 55 13.5**	**0.0**
	1.2nm,0.6s,baz=108,slow=6.5,SNR=5.5						

*MAN **20** 18:08:27,16°.24N×119°.64E,h13km*

*IDC **20** 18:08:32.9±2.6,16°.11N×119°.91E,h95km±26km,mb3.4/9, mb1 3.5/9,mb1mx3.3/25,mbtmp3.4/9,Error ellipse: s-maj=43.4km s-min=15.9km az=59.0*

ISC 20 18:08:27.6±0.7,16°.16N±0°.04×119°.76E±0°.06,h33km,n21, σ1§87/23,mb3.7/8,3C-3D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.26**	**33**	*e*P	**Pb**	**18 08 35.0**	**+0.1**
SCZP	**Santa Cruz**	**0.41**	**160**	*e*P	**Pb**	**18 08 37.4**	**+0.6**
BCPH	**Baguio City Da**	**0.81**	**74**	↑*i*P	**Pn**	**18 08 43.5**	**+0.6**
BCPH				*i* S	**Sn**	**18 08 54.8**	**+0.8**
SIPP	**Brgy, Tapao**	**1.88**	**21**	↓*i*P	**Pb**	**18 09 04.0**	**+2.7**
CAUP	**Cauayan**	**2.12**	**68**	*e*P	**Pb**	**18 09 04.6**	**-0.8**
PIP	**Pasuquin**	**2.30**	**21**	↑*i*P	**Pn**	**18 09 06.0**	**+2.7**
TGY	**Tagaytay City**	**2.34**	**151**	*i*P	**Pb**	**18 09 09.3**	**+0.2**
TGY	**Tagaytay City**	**2.34**	**151**	P	**Pb**	**18 09 08.5**	**-0.7**
	214nm,0.3s,baz=307,slow=4.0,SNR=28						
TGY				S	**Sb**	**18 09 42.4**	**+4.8**
	116nm,0.3s,baz=179,slow=20,SNR=4.5						
LUBP	**Lubang**	**2.46**	**169**	*e*P	**Pn**	**18 09 08.0**	**+2.6**
CVP	**Callao Caves**	**2.50**	**52**	↓*e*P	**Pn**	**18 09 08.7**	**+2.8**
CVP				*i* S	**Sb**	**18 09 41.0**	**-1.2**
PALP	**Palanan**	**2.71**	**70**	↓*e*P	Pn	18 09 12.5	+3.7
ENPP	**El Nido**	**4.94**	**184**	*e*P	**Pn**	**18 09 40.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**20.01**	**280**	P	**Pn**	**18 13 00.1**	**+0.5**
	1.6nm,0.9s,baz=97,slow=9.2,SNR=11						
SONM	**Songino Array**	**33.46**	**344**	P	**P**	**18 15 03.4**	**-0.3**
	0.6nm,0.5s,baz=172,slow=7.9,SNR=5.7						
WRA	**Warramunga Arr**	**38.63**	**158**	P	**P**	**18 15 46.1**	**-2.0**
	0.4nm,0.4s,baz=343,slow=8.2,SNR=2.7						
ASAR	**Alice Springs**	**41.92**	**160**	P	**P**	**18 16 13.7**	**-1.7**
	0.6nm,0.5s,baz=339,slow=7.0,SNR=3.8						
MKAR	**Makanchi Array**	**43.53**	**323**	P	**P**	**18 16 28.1**	**-0.1**
	0.3nm,0.5s,baz=123,slow=8.8,SNR=7.0						
KURBB	**Kurchatov Arra**	**47.66**	**325**	P	**P**	**18 17 00.2**	**-0.5**
	0.9nm,0.7s,baz=122,slow=8.4,SNR=7.9						
FINES	**FINESS Array B**	**77.71**	**331**	P	**P**	**18 20 19.8**	**-1.0**
	1.2nm,0.7s,baz=35,slow=4.7,SNR=7.2						
NOA	**NORSAR Array B**	**84.67**	**332**	P	**P**	**18 20 56.0**	**-2.0**
	0.3nm,0.5s,baz=93,slow=6.2,SNR=2.8						
RES	**Resolute Bay**	**86.76**	**9**	P	**P**	**18 21 07.0**	**-1.0**
	0.4nm,0.5s,baz=36,slow=5.3,SNR=3.7						

*IDC **20** 18:08:39.0±0.7,3°.41N×126°.91E,h0km,mb3.9/9, mb1 4.1/9,mb1mx3.9/22,mbtmp3.9/9,Error ellipse: s-maj=41.8km s-min=14.5km az=71.0*

*ISCJB **20** 18:08:43.6±0.6,3°.53N±0°.06×127°.17E±0°.08,h48km, mb3.9/9,Error ellipse: s-maj=12.1km s-min=8.4km az=155.7*

*DJA **20** 18:08:48.7±2.2,3°.N±25°.×12°.7E±°,h88km±130km,M4.2/5, mb4.3/3,mB4.6/1,MLv4.2/5,Mw(mB)3.8/1*

ISC 20 18:08:45.8±0.7,3°.47N±0°.08×127°.10E±0°.10,h48km,n16, σ1§29/19,mb3.8/9,1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.69**	**174**	P	**Pn**	**18 09 27.1**	**+0.5**
MNI	**Manado**	**3.02**	**228**	P	**Pn**	**18 09 33.4**	**+2.2**
KMSI	**Cibinong**	**4.24**	**227**	P	**Pn**	**18 09 49.0**	**+1.1**
CTBH	**Cotabato--PC H**	**4.69**	**323**	↓*i*P	**Pn**	**18 09 55.1**	**+1.1**
MRSI	**Marisa**	**5.95**	**240**	P	**Pn**	**18 10 12.2**	**+0.8**
	35nm,0.6s,646nm0.2nm						
SWI	**Sorong**	**5.98**	**136**	P	**Pn**	**18 10 13.5**	**+1.7**
	24nm,0.9s,0.1nm						
MYLDM	**Lahad Datu**	**8.74**	**282**	P	**Pn**	**18 10 51.4**	**+1.7**
FITZ	**Fitzroy Crossi**	**21.48**	**184**	P	**P**	**18 13 28.5**	**-2.0**
	1.8nm,0.4s,baz=4.3,slow=9.5,SNR=13						
WRA	**Warramunga Arr**	**24.33**	**163**	P	**P**	**18 13 58.0**	**-1.2**
	2.5nm,0.4s,baz=334,slow=11,SNR=53						
WRA				PcP	**PcP**	**18 17 39.2**	**+1.0**
	0.2nm,0.4s,baz=331,slow=2.2,SNR=5.1						
ASAR	**Alice Springs**	**27.77**	**167**	P	**P**	**18 14 29.2**	**-1.1**
	0.7nm,0.5s,baz=347,slow=7.2,SNR=28						
ASAR				PcP	**PcP**	**18 17 46.9**	**+0.8**
	0.4nm,0.5s,baz=349,slow=2.1,SNR=6.1						
CMAR	**Chiang Mai Arr**	**31.32**	**300**	P	**P**	**18 15 00.9**	**-1.0**
	0.8nm,0.8s,baz=111,slow=6.2,SNR=6.3						
STKA	**Stephens Creek**	**37.76**	**160**	P	**P**	**18 15 57.1**	**-0.2**
	4.5nm,0.8s,baz=338,slow=9.9,SNR=7.7						
STKA				PcP	**PcP**	**18 18 14.5**	**+1.0**
	2.7nm,1.0s,baz=293,slow=2.8,SNR=3.4						
SONM	**Songino Array**	**47.66**	**341**	P	**P**	**18 17 17.2**	**-0.3**
	0.7nm,0.6s,baz=151,slow=7.5,SNR=4.8						
PETK	**Petropavlovsk-**	**55.53**	**22**	P	**P**	**18 18 16.8**	**+0.7**
	1.2nm,0.6s,baz=183,slow=4.8,SNR=8.3						
MKAR	**Makanchi Array**	**57.98**	**325**	P	**P**	**18 18 32.5**	**-1.0**
	0.7nm,0.4s,baz=120,slow=7.7,SNR=19						
ZALV	**Zalesovo Beam**	**60.99**	**333**	P	**P**	**18 18 53.1**	**-1.0**
	0.3nm,0.4s,baz=129,slow=8.0,SNR=2.1						

IDC 20 18:18:41.7±1.9,2°.11N×124°.38E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.2/21,mbtmp3.2/3,Error ellipse: s-maj=193.7km s-min=26.4km az=64.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.99**	**156**	P	P	18 23 57.7	-0.6
	0.3nm,0.4s,baz=335,slow=11,SNR=11						
ASAR	**Alice Springs**	**27.24**	**161**	P	P	18 24 28.9	+1.1
	0.2nm,0.6s,baz=338,slow=6.6,SNR=3.1						
MKAR	**Makanchi Array**	**57.58**	**327**	P	P	18 28 32.7	-0.7
	0.1nm,0.5s,baz=125,slow=8.7,SNR=4.1						

IDC 20 18:40:37.1±5.8,5°.55S×154°.07E,h48km±50km,mb3.4/7, mb1 3.7/8,mb1mx3.5/20,mbtmp3.5/8,MLB3.0/1,Error ellipse: s-maj=42.6km s-min=28.5km az=106.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.85**	**240**	P	Pn	18 42 30.6	+1.8
	1.1nm,0.3s,baz=35,slow=9.6,SNR=6.7						
PMG				S	Sn	18 43 55.5	-0.9
	1.0nm,0.3s,baz=69,slow=16,SNR=3.3						
WRA	**Warramunga Arr**	**23.94**	**232**	P	P	18 45 46.9	-0.1
	1.3nm,0.8s,baz=54,slow=9.6,SNR=16						
ASAR	**Alice Springs**	**26.49**	**225**	P	P	18 46 10.1	-0.1
	1.0nm,0.9s,baz=57,slow=9.6,SNR=6.0						
FITZ	**Fitzroy Crossi**	**30.44**	**243**	P	P	18 46 44.5	-0.9
	1.7nm,0.6s,baz=94,slow=8.6,SNR=7.5						
CMAR	**Chiang Mai Arr**	**59.34**	**295**	P	P	18 50 35.8	+1.0
	0.4nm,0.8s,baz=125,slow=5.8,SNR=4.6						
MKAR	**Makanchi Array**	**81.72**	**319**	P	P	18 52 51.3	+0.7
	0.9nm,0.9s,baz=92,slow=8.6,SNR=4.0						
ILAR	**Eielson Array**	**82.38**	**22**	P	P	18 52 52.5	-1.1
	0.5nm,1.1s,baz=236,slow=4.0,SNR=3.1						
QSPA	**South Pole Qui**	**84.42**	**180**	P	P	18 53 04.8	+0.4
	1.0nm,0.8s,baz=295,slow=8.2,SNR=3.6						

MAN 20 18:41:47,11°.22N×124°.62E,h18km,mb4.6,ML3.5,MS3.4, 1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.36**	**99**	↓*i*P	Pb	18 41 56.0	+1.1
PLP				*i* S	Sn	18 42 02.6	-1.4
BESP	**Borongan**	**0.89**	**65**	*e*P	Pn	18 42 05.0	+0.4
LLP	**Lapu-Lapu**	**1.10**	**216**	*e*P	Pn	18 42 07.5	-0.1
LLP				*e*S	Sg	18 42 23.8	+0.9
MSLP	**Maasin**	**1.11**	**168**	*e*P	Pg	18 42 09.0	+0.5
MSLP				*e*S	Sg	18 42 24.1	+1.1
CNP	**Catarman**	**1.28**	**2**	*e*P	Pn	18 42 09.2	-0.9
TBP	**Tagbilaran**	**1.69**	**206**	*e*P	Pb	18 42 18.0	+0.4
TBP				*e*S	Sg	18 42 45.1	+3.4
OTRP	**Odiongan**	**2.78**	**294**	*e*P	Pn	18 42 32.4	+1.7
PAGZ	**Pagadian**	**3.57**	**200**	*e*P	Pn	18 42 45.4	+4.0

IDC 20 18:44:04.7±13.0,26°.28S×171°.68W,h0km,mb3.7/5, mb1 3.8/5,mb1mx3.7/20,mbtmp3.7/5,MS3.8/2,Ms1 3.7/2, ms1mx2.8/26,Error ellipse: s-maj=261.3km s-min=115.2km az=56.0,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.39**	**277**	P	P	18 48 42.7	-0.6
	2.7nm,0.8s,baz=62,slow=14,SNR=2.5						
CTA	**Charters Tower**	**39.03**	**270**	P	P	18 51 33.8	+0.5
	1.4nm,0.4s,baz=102,slow=14,SNR=2.2						
STKA	**Stephens Creek**	**40.97**	**251**	P	P	18 51 48.9	-0.4
	1.1nm,0.8s,baz=241,slow=14,SNR=1.9						
STKA				LR	LR	19 05 25.2	
	comp=Z,53nm,19.8s,baz=26,slow=31						
ASAR	**Alice Springs**	**49.09**	**261**	P	P	18 52 53.7	-0.5
	0.2nm,0.5s,baz=95,slow=6.7,SNR=9.6						
WRA	**Warramunga Arr**	**49.76**	**265**	P	P	18 52 59.5	+0.3
	0.2nm,0.5s,baz=108,slow=7.4,SNR=8.2						
RPN	**Rapa Nui**	**55.17**	**106**	LR	LR	19 10 56.3	
	comp=Z,184nm,21.5s,baz=208,slow=29						

IDC 20 18:50:02.8±12.0,30°.35S×178°.99E,h539km±101km, mb3.0/4,mb1 3.1/5,mb1mx3.0/16,mbtmp3.0/5,Error ellipse: s-maj=140.5km s-min=58.9km az=136.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**13.94**	**303**	P	P	18 53 01.9	+0.2
	0.2nm,0.3s,baz=128,slow=19,SNR=5.4						
STKA	**Stephens Creek**	**31.95**	**258**	P	P	18 55 44.6	-0.1
	0.5nm,0.3s,baz=100,slow=6.5,SNR=4.4						
ASAR	**Alice Springs**	**40.51**	**268**	P	P	18 56 55.0	-0.5
	0.6nm,0.4s,baz=106,slow=7.2,SNR=24						
WRA	**Warramunga Arr**	**41.49**	**274**	P	P	18 57 03.0	-0.2
	1.0nm,0.3s,baz=111,slow=8.0,SNR=49						
FITZ	**Fitzroy Crossi**	**49.76**	**271**	P	P	18 58 06.4	+0.2
	0.9nm,0.7s,baz=159,slow=6.1,SNR=3.0						
FINES	**FINESS Array B**	**144.16**	**338**	PKP	PKPbc	19 08 35.9	-0.3
	2.6nm,1.1s,baz=23,slow=6.2,SNR=4.2						

*ISCJB **20** 18:50:26.6±0.5,50°.17N±0°.03×18°.37E±0°.03,h0km, Error ellipse: s-maj=4.8km s-min=2.8km az=16.1*

*CSEM **20** 18:50:27.5±0.3,50°.16N×18°.37E,h1km,ML2.9/6,Error ellipse: s-maj=6.5km s-min=3.5km az=10.0*

*IPEC **20** 18:50:28.1±0.2,50°.09N×18°.47E,h1km±2km,ML2.2/3, Error ellipse: s-maj=2.0km s-min=1.1km az=160.0*

*WAR **20** 18:50:28.5,50°.08N×18°.45E*

*PRU **20** 18:50:29.0,50°.14N×18°.34E,h0km*

ISC 20 18:50:27.5±0.8,50°.14N±0°.03×18°.43E±0°.02,h0km,n35, σ1§01/60,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.16**	**249**	*e*Pg	**Pg**	**18 50 32.5**	**+1.9**
RAC				*e*Sg	**Sg**	**18 50 35.6**	**+2.9**
OKC	**Ostrava-Krasne**	**0.35**	**211**	*e*PG	**Pg**	**18 50 35.0**	**+0.7**
OKC				*e*SG	**Sg**	**18 50 39.3**	**+0.5**
	comp=Z,75nm,0.4s						
OKC	**Ostrava-Krasne**	**0.35**	**211**	*e*Pg	**Pg**	**18 50 34.5**	**+0.2**
	baz=39						
OKC				Sg	**Sg**	**18 50 39.3**	**+0.5**
	75nm,0.4s						
MORC	**Moravsky Berou**	**0.68**	**238**	*e*Pg	**Pg**	**18 50 40.9**	**+0.4**
	baz=62						
MORC				*e*Sg	**Sg**	**18 50 49.3**	**0.0**
	49nm,0.2s,baz=62						
OJC	**Ojcow**	**0.89**	**84**	*e*Pg	**Pg**	**18 50 44.1**	**-0.4**
OJC				*e*Sg	**Sg**	**18 50 57.0**	**+1.1**
OJC	**Ojcow**	**0.89**	**84**	*e*Pg	**Pg**	**18 50 44.8**	**+0.3**
	baz=262						
OJC				*e*Sg	**Sb**	**18 50 57.5**	**-0.6**
KRLC	**Kraliky**	**1.06**	**267**	*e*PG	**Pg**	**18 50 47.8**	**0.0**
KRLC				*e*SG	**Sg**	**18 51 01.7**	**+0.1**
KRLC	**Kraliky**	**1.06**	**267**	Pg	**Pg**	**18 50 47.8**	**0.0**
KRLC				Sg	**Sg**	**18 51 01.7**	**+0.1**
LIKS	**Likavka**	**1.18**	**158**	*e*PG	**Pn**	**18 50 51.5**	**+0.3**
LIKS				*e*SG	**Sn**	**18 51 08.3**	**+0.3**
LIKS	**Likavka**	**1.18**	**158**	*e*Pg	**Pn**	**18 50 51.5**	**+0.3**
DPC	**Dobruska-Polom**	**1.37**	**280**	*e*PG	**Pn**	**18 50 54.3**	**+0.4**
DPC				*e*SG	**Sg**	**18 51 11.7**	**+0.3**
	comp=Z,25nm,0.3s						
DPC	**Dobruska-Polom**	**1.37**	**280**	*e*Pg	**Pn**	**18 50 54.1**	**+0.2**
	baz=100						
DPC				Sg	**Sg**	**18 51 11.7**	**+0.3**
	25nm,0.3s						
NIE	**Niedzica**	**1.42**	**120**	*e*Pg	**Pb**	**18 50 55.0**	**+0.1**
NIE				*e*Sg	**Sn**	**18 51 14.1**	**0.0**
NIE	**Niedzica**	**1.42**	**120**	*e*Pg	**Pb**	**18 50 55.0**	**+0.1**
NIE				*e*Sg	**Sn**	**18 51 14.5**	**+0.5**
VRAC	**Vranov**	**1.45**	**236**	*e*Pg	**Pn**	**18 50 54.7**	**-0.3**
VRAC				*e*Sg	**Sg**	**18 51 13.5**	**-0.7**
KSP	**Ksiaz**	**1.53**	**298**	*e*Pg	**Pn**	**18 50 56.4**	**+0.2**
KSP				*e*Sg	**Sn**	**18 51 17.9**	**+1.1**
KSP	**Ksiaz**	**1.53**	**298**	*e*Pg	**Pn**	**18 50 56.4**	**+0.2**
KSP				*e*Sg	**Sn**	**18 51 17.9**	**+1.1**
KSP	**Ksiaz**	**1.53**	**298**	*e*Pg	**Pn**	**18 50 56.3**	**+0.2**
KSP				*e*Sg	**Sn**	**18 51 17.2**	**+0.4**
UPC	**Upice**	**1.59**	**284**	*e*PG	**Pn**	**18 50 57.7**	**+0.8**
UPC	**Upice**	**1.59**	**284**	Pg	**Pn**	**18 50 57.7**	**+0.8**
VYHS	**Vyhne**	**1.67**	**171**	*e*PN	**Pb**	**18 50 58.2**	**-0.9**
VYHS				*e*SN	**Sg**	**18 51 19.8**	**-1.3**
VYHS	**Vyhne**	**1.67**	**171**	*e*Pn	**Pb**	**18 50 58.2**	**-0.9**
KRUC	**Moravsky**	**1.71**	**232**	*e*Pn	**Pn**	**18 50 58.7**	**+0.2**
	baz=52						
TREC	**Trest**	**2.09**	**247**	*e*PG	**Pb**	**18 51 05.6**	**-0.7**
TREC				*e*SG	**Sb**	**18 51 32.4**	**-0.3**
	comp=Z,12nm,0.3s						
TREC	**Trest**	**2.09**	**247**	Pg	**Pb**	**18 51 05.6**	**-0.7**
TREC				Sg	**Sb**	**18 51 32.4**	**-0.3**
	12nm,0.3s						
CRVS	**Cervenica-Dubn**	**2.33**	**121**	*e*PN	**Pb**	**18 51 11.1**	**+0.7**
CRVS				*e*SN	**Sg**	**18 51 42.3**	**-0.1**
PRU	**Pruhonice**	**2.51**	**268**	*e*PG	**Pb**	**18 51 13.2**	**-0.2**
PRU				*e*SG	**Sb**	**18 51 45.4**	**+0.6**
	comp=Z,8.1nm,0.2s						
PRU	**Pruhonice**	**2.51**	**268**	Pg	**Pb**	**18 51 13.2**	**-0.2**
KOLS	**Kolonicke sedl**	**2.78**	**114**	*e*	**Pg**	**18 51 20.0**	**-0.8**
KOLS	**Kolonicke sedl**	**2.78**	**114**	*e*SN	**Sb**	**18 51 53.7**	**+1.0**
KHC	**Kasperske Hory**	**3.31**	**254**	*e*PN	**Pn**	**18 51 20.2**	**-0.4**
KHC				*e*PG	**Pb**	**18 51 28.7**	**+1.6**
KHC				*e*SG	**Sg**	**18 52 12.2**	**-1.6**
	comp=Z,8.6nm,0.3s						
KHC	**Kasperske Hory**	**3.31**	**254**	Pn	**Pn**	**18 51 20.2**	**-0.4**
CLL	**Collm**	**3.64**	**291**	*e*	**Sb**	**18 52 14.0**	**-3.3**
CLL				*e*Sg	**Sg**	**18 52 24.0**	**-0.4**
	comp=Z,8.0nm,1.0s						
NKC	**Novy Kostel**	**3.84**	**274**	*e*SG	**Sg**	**18 52 28.3**	**-2.6**
	comp=Z,7.1nm,0.4s						
NKC	**Novy Kostel**	**3.84**	**274**	Sg	**Sg**	**18 52 28.3**	**-2.6**
	comp=Z,7.1nm,0.4s						

IDC 20 18:57:43.7±1.9,2°.75N×125°.54E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.3/20,mbtmp3.4/4,MS3.0/1,Ms1 3.0/1, ms1mx2.6/18,Error ellipse: s-maj=178.7km s-min=24.7km az=64.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**21.93**	**60**	LR	LR	19 10 54.4	
	comp=Z,34nm,18.7s,baz=76,slow=36						
WRA	**Warramunga Arr**	**24.15**	**159**	P	P	19 03 01.3	-0.5
	0.5nm,0.5s,baz=338,slow=11,SNR=7.7						
ASAR	**Alice Springs**	**27.49**	**163**	P	P	19 03 32.5	+0.5
	0.2nm,0.7s,baz=352,slow=7.6,SNR=4.2						
STKA	**Stephens Creek**	**37.66**	**157**	P	P	19 05 01.4	+0.6
	1.4nm,0.7s,baz=338,slow=11,SNR=3.0						
MKAR	**Makanchi Array**	**57.69**	**326**	P	P	19 07 35.6	-0.5
	0.1nm,0.4s,baz=120,slow=8.3,SNR=6.2						

*ISCJB **20** 18:59:36.2±0.5,23°.60N±0°.06×122°.99E±0°.03, h33km±39km,Error ellipse: s-maj=10.7km s-min=3.7km az=161.5*

*TAP **20** 18:59:36.1,23°.70N×122°.91E,h96km±3km,ML3.1,D*

*JMA **20** 18:59:36.7±0.4,23°.59N×123°.08E,h55km*

ISC 20 18:59:35.9±1.9,23°.59N±0°.07×123°.00E±0°.04,h30km±18km, n28,σ1§11/42,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.87**	**58**	*e*S	**Sb**	**19 00 03.4**	**-0.3**
IRIF	**Iriomote-Funau**	**0.99**	**42**	P	**Pn**	**18 59 54.1**	**+0.3**
IRIF				*e*S	**Sb**	**19 00 07.0**	**-0.3**
JKRS	**Kuro-shima**	**1.12**	**55**	S	**Sn**	**19 00 10.5**	**+0.6**
JIJ	**Ishigaki jima**	**1.29**	**53**	P	**Pn**	**18 59 58.4**	**+0.5**
JIJ				S	**Sn**	**19 00 13.3**	**-0.9**
TWD	**Chiawan**	**1.38**	**291**	*e*P	**Pn**	**18 59 59.0**	**0.0**
	baz=294						
TWD				*e*S	**Sn**	**19 00 15.2**	**-1.0**
	baz=294						
ENA	**Nanau**	**1.42**	**306**	*e*P	**Pn**	**18 59 59.8**	**+0.1**
	baz=308						
ENA				*e*S	**Sn**	**19 00 17.8**	**+0.4**

SIVA	**Sivas**	**1.52**	**47**	*eP*	**Pn**	**19 01 16.6**	**+1.2**
VAM	**Vamos**	**1.55**	**23**	*eP*	**Pn**	**19 01 16.5**	**+0.7**
VAM	**Vamos**	**1.55**	**23**	*eP*	**Pn**	**19 01 16.5**	**+0.7**
LAST	**Lasithi**	**2.04**	**54**	*eP*	**Pn**	**19 01 24.2**	**+1.6**
LAST	**Lasithi**	**2.04**	**54**	*eP*	**Pn**	**19 01 24.2**	**+1.6**
NPS	**Neapolis**	**2.19**	**53**	*eP*	Pn	19 01 26.6	+2.0
NPS	**Neapolis**	**2.19**	**53**	*eP*	Pn	19 01 26.6	+2.0
KYTH	**Kithira**	**2.33**	**351**	*eP*	**Pn**	**19 01 27.6**	**+1.1**
KYTH	**Kithira**	**2.33**	**351**	*eP*	**Pn**	**19 01 27.6**	**+1.1**
ZKR	**Zakros**	**2.54**	**63**	*eP*	**Pn**	**19 01 31.4**	**+2.0**
ZKR	**Zakros**	**2.54**	**63**	*eP*	**Pn**	**19 01 31.4**	**+2.0**
VLI	**Veliai**	**2.77**	**351**	*eP*	**Pn**	**19 01 34.4**	**+1.8**
VLI	**Veliai**	**2.77**	**351**	*eP*	**Pn**	**19 01 34.4**	**+1.8**
ITM	**Ithomi**	**3.43**	**339**	*eP*	Pn	19 01 46.0	+4.3
ITM	**Ithomi**	**3.43**	**339**	*eP*	Pn	19 01 46.0	+4.3
VLX	**Vlachokerasia**	**3.50**	**346**	*eP*	**Pn**	**19 01 45.4**	**+2.7**
VLX	**Vlachokerasia**	**3.50**	**346**	*eP*	**Pn**	**19 01 45.4**	**+2.7**
APE	**Apeiranthos**	**3.52**	**28**	*eP*	**Pn**	**19 01 43.1**	**+0.2**
APE	**Apeiranthos**	**3.52**	**28**	*eP*	**Pn**	**19 01 43.1**	**+0.2**
DID	**Didima**	**3.53**	**357**	*eP*	**Pn**	**19 01 43.1**	**+0.1**
DID	**Didima**	**3.53**	**357**	*eP*	**Pn**	**19 01 43.1**	**+0.1**
NAIG	**Nisos Aigina**	**3.77**	**0**	*eP*	**Pn**	**19 01 46.3**	**-0.1**
NAIG	**Nisos Aigina**	**3.77**	**0**	*eP*	**Pn**	**19 01 46.3**	**-0.1**
LTK	**Loutraki**	**4.06**	**354**	*eP*	**Pn**	**19 01 52.4**	**+2.1**
LTK	**Loutraki**	**4.06**	**354**	*eP*	**Pn**	**19 01 52.4**	**+2.1**
BRTR	**Keskin Array B**	**9.97**	**52**	Pn	**Pn**	**19 03 12.8**	**+1.3**
	0.1nm,0.3s,baz=219,slow=14,SNR=4.6						
MMAI	**Mount Meron Ar**	**10.02**	**92**	Pn	**Pn**	**19 03 13.9**	**+1.7**
	0.8nm,0.3s,baz=282,slow=12,SNR=6.5						
MMAI				Sn	**Sn**	**19 05 00.3**	**-3.0**
	1.1nm,0.3s,baz=276,slow=23,SNR=4.5						
EIL	**Elat**	**10.67**	**111**	Pn	**Pn**	**19 03 22.2**	**+1.2**
	0.3nm,0.3s,baz=267,slow=14,SNR=3.5						
EIL				Sn	**Sn**	**19 05 15.4**	**-3.9**
	0.4nm,0.3s,baz=270,slow=22,SNR=3.8						
ASF	**Jabal al Asfar**	**11.41**	**95**	Pn	**Pn**	**19 03 33.8**	**+2.5**
	0.2nm,0.3s,baz=344,slow=19,SNR=3.2						
ASF				Sn	**Sn**	**19 05 40.6**	**+3.1**
	0.2nm,0.3s,baz=162,slow=24,SNR=2.6						
PGF	**Pioggiola**	**14.21**	**311**	*eP*	Pn	19 04 01.1	-8.4
SBF	**Sospel**	**15.88**	**313**	*eP*	Pn	19 04 23.5	-8.0
LMR	**La Mourre**	**16.18**	**310**	*eP*	Pn	19 04 29.4	-5.9
GERES	**GERESS Array B**	**16.54**	**337**	Pn	**Pn**	**19 04 39.5**	**-0.4**
	0.1nm,0.3s,baz=137,slow=16,SNR=2.5						
MBDF	**Montbardon**	**16.76**	**315**	*eP*	Pn	19 04 37.2	-5.5
	7.1nm,0.9s						
KHC	**Kasperske Hory**	**16.83**	**337**	*eP*	**P**	**19 04 47.0**	**+1.7**
KHC				*ex*	x	19 04 55.0	
AKASG	**Malin Array Be**	**17.24**	**12**	P	**Pn**	**19 04 47.3**	**-1.2**
	0.9nm,0.3s,baz=205,slow=10,SNR=4.5						
GNI	**Garni**	**18.05**	**64**	LR	LR	19 12 24.1	
	comp=Z,43nm,18.9s,baz=66,slow=39						
SFTF	**Sexfontaines**	**19.80**	**321**	*eP*	**P**	**19 05 16.5**	**-1.4**
MEZF	**Maizieres J'vi**	**19.98**	**322**	*eP*	**P**	**19 05 18.2**	**-1.7**
	4.5nm,0.5s						
LDF	**La Druitiere**	**22.84**	**317**	*eP*	**P**	**19 05 47.7**	**-2.9**
	18nm,1.2s						
FLN	**La Foliniere**	**23.13**	**317**	*eP*	**P**	**19 05 50.8**	**-2.8**
	34nm,1.3s						
SGMF	**Saint Gilles**	**24.09**	**314**	*eP*	**P**	**19 05 59.9**	**-2.9**
	3.9nm,0.5s						
HFS	**Hagfors**	**26.94**	**349**	P	**P**	**19 06 28.0**	**-0.4**
	1.0nm,0.4s,baz=162,slow=10,SNR=9.6						
FINES	**FINESS Array B**	**27.54**	**3**	P	**P**	**19 06 32.4**	**-1.4**
	1.7nm,0.9s,baz=157,slow=10,SNR=3.8						
NOA	**NORSAR Array B**	**28.22**	**347**	P	**P**	**19 06 39.9**	**0.0**
	1.0nm,0.8s,baz=152,slow=20,SNR=3.2						
TORD	**Torodi Ar. Bea**	**28.66**	**229**	P	P	19 06 45.5	+1.3
	0.7nm,0.9s,baz=35,slow=8.4,SNR=3.3						
TORD				LR	LR	19 19 54.7	
	comp=Z,92nm,19.6s,baz=60,slow=40						
AKTO	**Aktyubinsk**	**30.08**	**46**	P	**P**	**19 06 55.6**	**-0.9**
	0.5nm,0.5s,baz=270,slow=12,SNR=4.1						
ARCES	**ARCESS Array B**	**35.63**	**1**	P	**P**	**19 07 44.0**	**-0.8**
	3.3nm,0.9s,baz=167,slow=6.0,SNR=3.6						
AAK	**Ala-Archa**	**40.44**	**62**	P	**P**	**19 08 26.6**	**+0.7**
	0.6nm,0.5s,baz=204,slow=6.1,SNR=4.5						
MKAR	**Makanchi Array**	**45.60**	**55**	P	**P**	**19 09 08.1**	**+0.7**
	2.8nm,0.6s,baz=272,slow=6.7,SNR=45						
ZALV	**Zalesovo Beam**	**46.83**	**45**	P	**P**	**19 09 16.4**	**-0.4**
	0.7nm,0.3s,baz=274,slow=8.2,SNR=6.5						
SONM	**Songino Array**	**61.32**	**50**	P	**P**	**19 11 03.7**	**+0.9**
	0.6nm,0.7s,baz=283,slow=7.2,SNR=4.7						
YKA	**Yellowknife Ar**	**78.13**	**342**	P	**P**	**19 12 46.6**	**+0.8**
	0.1nm,0.5s,baz=38,slow=5.6,SNR=3.3						

IDC 20 19:03:17.1±8.5, 41°.27S×85°.40W, h0km, mb3.9/5, mb1 4.1/6, mb1mx4.0/17, mbtmp3.8/6, ML3.0/1, MS3.6/7, Ms1 3.7/7, ms1mx3.5/20, Error ellipse: s-maj=230.1km s-min=36.5km az=171.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**16.82**	**60**	Pn		Pn	Pn	19 07 14.0	-0.1
	0.1nm,0.3s,baz=221,slow=15,SNR=6.1								
CFAA				LR			LR	19 12 29.7	
	comp=Z,39nm,19.1s,baz=35,slow=33								
CPUP	**Villa Florida**	**27.53**	**66**	LR			LR	19 19 25.1	
	comp=Z,214nm,20.0s,baz=215,slow=35								
LPAZ	**La Paz**	**29.02**	**36**	P			P	19 09 20.3	+0.6
	1.9nm,0.8s,baz=160,slow=2.2,SNR=6.3								
LPAZ				LR			LR	19 18 22.6	
	comp=Z,233nm,18.3s,baz=258,slow=31								
SIV	**San Ignacio**	**32.80**	**47**	P			P	19 09 51.9	-0.4
	1.4nm,0.7s,baz=220,slow=16,SNR=6.0								
SIV				LR			LR	19 22 31.0	
	comp=Z,68nm,19.7s,slow=35								
BDFB	**Brasilia**	**41.14**	**63**	LR			LR	19 28 02.1	
	comp=Z,133nm,20.5s,baz=250,slow=36								
ROSC	**El Rosal**	**47.01**	**15**	LR			LR	19 29 33.1	
	comp=Z,126nm,19.8s,baz=0.6,slow=34								
JTS	**JuntasAbangare**	**51.31**	**1**	LR			LR	19 27 51.6	
	comp=Z,56nm,20.8s,baz=51,slow=29								
TXAR	**Lajitas Array**	**72.26**	**343**	P			P	19 14 43.2	-1.0
	1.2nm,0.8s,baz=157,slow=6.8,SNR=5.7								
NVAR	**Mina Array Bea**	**84.82**	**335**	P			P	19 15 55.2	+1.7
	0.1nm,0.4s,baz=154,slow=5.0,SNR=2.5								
PDAR	**Pinedale Array**	**86.45**	**342**	P			P	19 16 00.2	-1.3
	1.0nm,1.0s,baz=178,slow=5.4,SNR=3.7								

GUC 20 19:18:06.6±0.5, 33°.70S×70°.82W, h81km±2km, MD4.0, ML4.1, 6C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TACH	**Talagante**	**0.11**	**296**	⇑*iP*			Pn	19 18 18.1	-0.2
TACH				*i*	S		Sn	19 18 26.8	-0.1
ANTU	**Antumapu**	**0.21**	**51**	⇓*i*	P		Pn	19 18 18.5	-0.1
ANTU				*i*	S		Sn	19 18 27.6	0.0
ANTU					AML		AML	19 18 27.9	
	comp=N,29μm,0.2s								
RCDM	**Rinconada Maip**	**0.21**	**4**	*i*	P		Pn	19 18 18.4	-0.3
RCDM				*i*	S		Sn	19 18 27.4	-0.1
RCDM					AML		AML	19 18 27.6	
	comp=N,54μm,0.2s								
PCH	**Pirque**	**0.27**	**73**	⇑*iP*			Pn	19 18 18.9	-0.1
PCH				*i*	S		Sn	19 18 28.4	+0.2
CHCH	**Chadas Angostu**	**0.27**	**149**	⇑*iP*			Pn	19 18 19.0	0.0
CHCH				*i*	S		Sn	19 18 28.1	0.0
SAN	**Santiago**	**0.28**	**29**	⇑*iP*			Pn	19 18 18.6	-0.4
SAN				*i*	S		Sn	19 18 28.1	-0.1
SAN					AML		AML	19 18 28.2	
	comp=N,8μm,0.5s								
FSR	**Penalolen**	**0.33**	**48**	⇓*iP*			Pn	19 18 19.3	0.0
FSR				*i*	S		Sn	19 18 28.9	+0.2
CLCH	**Cerro Calan**	**0.39**	**38**	⇓*iP*			Pn	19 18 20.0	+0.3
CLCH				*i*	S		Sn	19 18 29.6	+0.3
CLCH					AML		AML	19 18 34.3	
	comp=E,8μm,0.3s								
SJCH	**San Jose de Ma**	**0.40**	**82**	⇓*iP*			Pn	19 18 19.0	-0.8
SJCH				*i*	S		Sn	19 18 29.0	-0.6
SJCH					AML		AML	19 18 30.4	
	comp=N,9μm,0.1s								
CACH	**El Canelo**	**0.46**	**156**	*i*	P		Pn	19 18 20.9	+0.6
CACH				*i*	S		Sn	19 18 31.8	+1.3
LNV	**Longovilo**	**0.55**	**242**	*i*	P		Pn	19 18 21.1	+0.2
LNV				*i*	S		Sn	19 18 31.6	0.0
PEL	**Peldehue**	**0.57**	**12**	⇑*iP*			Pn	19 18 20.7	-0.4
PEL				*i*	S		Sn	19 18 31.8	-0.1
PEL					AML		AML	19 18 32.4	
	comp=N,18μm,0.3s								
FCH	**Farellones**	**0.58**	**50**	AML			AML	19 18 22.3	
	comp=E,13μm,0.3s								
LCCH	**Las Cruces**	**0.66**	**290**	⇓*iP*			Pn	19 18 22.0	0.0
LCCH				*i*	S		Sn	19 18 33.8	+0.4
ROCH	**El Roble**	**0.74**	**348**	AML			AML	19 18 35.4	
	comp=N,9μm,0.2s								
IHA	**Instituto Hidr**	**0.96**	**314**	*i*	P		Pn	19 18 25.0	-0.2
IHA				*i*	S		Sn	19 18 39.6	+0.5
TALC	**Talca**	**1.82**	**201**	⇑*iP*			Pn	19 18 36.6	+0.5
TALC				*i*	S		Sn	19 18 59.1	+0.5
TALC					AML		AML	19 19 00.5	
	comp=E,3μm,0.1s								

MAN 20 19:28:15,11°.26N×124°.63E, h1km, mb4.1, ML2.9, MS2.6, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.21**	**186**	*iP*			Pg	19 28 19.1	+0.1
OCLP						*eS*	Sg	19 28 22.9	+1.2
PLP	**Palo**	**0.35**	**105**	⇓*eP*			Pg	19 28 22.8	+1.0
PLP				*i*	S		Sg	19 28 27.3	+0.9

IDC 20 19:36:17.7±1.2, 3°.86N×126°.74E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.6/22, mbtmp3.5/7, Error ellipse: s-maj=68.9km s-min=16.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.85**	**183**	P			P	19 41 11.8	-0.2
	0.9nm,0.6s,baz=5.7,slow=11,SNR=3.5								
WRA	**Warramunga Arr**	**24.80**	**163**	P			P	19 41 41.1	-0.5
	2.9nm,0.7s,baz=343,slow=10,SNR=30								
ASAR	**Alice Springs**	**28.24**	**166**	P			P	19 42 13.5	+0.9
	0.2nm,0.7s,baz=352,slow=9.4,SNR=4.8								
CMAR	**Chiang Mai Arr**	**30.82**	**300**	P			P	19 42 35.9	+0.3
	0.2nm,0.3s,baz=114,slow=10,SNR=2.9								
STKA	**Stephens Creek**	**38.25**	**159**	P			P	19 43 39.5	-0.2
	2.6nm,0.9s,baz=330,slow=14,SNR=4.2								
SONM	**Songino Array**	**47.18**	**341**	P			P	19 44 52.6	+0.4
	0.1nm,0.5s,baz=152,slow=6.5,SNR=2.3								
MKAR	**Makanchi Array**	**57.46**	**325**	P			P	19 46 07.7	-0.8
	0.2nm,0.5s,baz=126,slow=8.1,SNR=8.5								

IDC 20 19:38:42.0±2.0, 2°.69N×125°.62E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/20, mbtmp3.1/3, Error ellipse: s-maj=192.5km s-min=25.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.06**	**160**	P			P	19 43 58.1	-1.1
	0.9nm,0.7s,baz=338,slow=11,SNR=6.4								
ASAR	**Alice Springs**	**27.41**	**163**	P			P	19 44 30.9	+1.3
	0.1nm,0.8s,baz=344,slow=11,SNR=3.4								
MKAR	**Makanchi Array**	**57.79**	**326**	P			P	19 48 34.8	-0.4
	0.2nm,0.9s,baz=126,slow=6.5,SNR=2.2								

MAN 20 19:40:06,11°.17N×124°.66E, h6km, mb4.5, ML3.4, MS3.3, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.13**	**202**	*eP*			Pg	19 40 10.0	+1.4
OCLP						*eS*	Sg	19 40 15.8	+5.4
PLP	**Palo**	**0.32**	**91**	⇓*eP*			Pb	19 40 13.7	-0.4
PLP				*i*	S		Sb	19 40 18.1	-1.4
MSLP	**Maasin**	**1.05**	**169**	*eP*			Pg	19 40 26.3	+0.2
MSLP						*eS*	Sn	19 40 44.0	+1.9
LLP	**Lapu-Lapu**	**1.08**	**219**	*eP*			Pg	19 40 26.6	-0.3
LLP						*eS*	Sn	19 40 42.5	-0.7
TBP	**Tagbilaran**	**1.66**	**208**	*eP*			Pb	19 40 37.1	0.0
TBP						*eS*	Sg	19 40 60.0	+0.4

MAN 20 19:47:27,11°.11N×124°.68E, h8km, mb4.4, ML3.3, MS3.1, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.09**	**229**	*eP*			Pg	19 47 30.2	+1.1
OCLP						*eS*	Sg	19 47 33.7	+3.0
PLP	**Palo**	**0.30**	**79**	⇓*iP*			Pg	19 47 33.8	+0.7
PLP				*i*	S		Sg	19 47 38.0	+0.9
MSLP	**Maasin**	**0.98**	**169**	*eP*			Pb	19 47 46.3	0.0
MSLP						*eS*	Sg	19 47 57.1	-1.7
LLP	**Lapu-Lapu**	**1.05**	**222**	*eP*			Pg	19 47 46.7	-0.5
LLP						*eS*	Sn	19 48 02.6	-0.3
TBP	**Tagbilaran**	**1.62**	**210**	*eP*			Pg	19 47 57.7	-0.4
TBP						*eS*	Sg	19 48 21.1	+1.9

*IDC **20** 19:48:25.5±1.6, 36°.95N×54°.79E, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.4/28, mbtmp3.6/6, ML3.2/2, MS3.1/3, Ms1 3.1/3, ms1mx2.4/42, Error ellipse: s-maj=25.5km s-min=17.2km az=16.0*
*THR **20** 19:48:26.2±0.8, 37°.08N×54°.78E, h15km, ML3.9*
*CSEM **20** 19:48:26.0±0.2, 37°.10N×54°.65E, h2km, ML4.0, Error ellipse: s-maj=5.2km s-min=3.3km az=158.0*
*TEH **20** 19:48:27.5, 37°.08N×54°.65E, h7km, ML4.0*
ISC 20 19:48:26.1±1.4, 37°.04N±0°.05×54°.67E±0°.03, h2km±12km, n92, σ1°.34/108, mb3.6/3, 3C-2D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IGLO	**Ghaloghah**	**0.86**	**232**	*eP*	g	**Pg**	**Pg**	**19 48 43.4**	**+0.7**
IGLO						*eS*	**Sg**	**19 48 55.7**	**+1.8**
IGLO						*e*		19 49 02.2	
	comp=Z,25μm,0.1s								
IKIA	**Kiasar**	**1.15**	**224**	*eP*	g	**Pg**	**Pg**	**19 48 48.5**	**+0.3**
IKIA						*eS*	**Sb**	**19 49 05.7**	**+1.4**
IKIA						*e*		19 49 09.9	
	comp=Z,21μm,0.1s								
IKIA	**Kiasar**	**1.15**	**224**	*eP*	g	**Pg**	**Pg**	**19 48 48.5**	**+0.3**
IKIA						*eS*	**Sb**	**19 49 05.7**	**+1.4**
MRVT	**Maraveh tapeh**	**1.29**	**61**	*eP*	N5			19 48 50.0	
ISHM	**Shahmirzad**	**1.66**	**223**	*eP*	n	**Pn**	**Pn**	**19 48 57.5**	**+1.0**
ISHM						*e*		19 49 23.5	
	comp=Z,45μm,0.2s								
ISHM	**Shahmirzad**	**1.66**	**223**	*eP*	n	**Pn**	**Pn**	**19 48 57.5**	**+1.0**
IANJ	**Anjilo**	**1.68**	**202**	*eP*	n	**Pn**	**Pn**	**19 48 57.5**	**+0.7**
IANJ						*eSg*	**Sb**	**19 49 20.8**	**+1.1**
IANJ						*e*		19 49 23.1	
	comp=Z,20μm,0.2s								
IANJ	**Anjilo**	**1.68**	**202**	*eP*	n	**Pn**	**Pn**	**19 48 57.5**	**+0.7**
IANJ						*eSg*	**Sb**	**19 49 20.8**	**+1.1**
IALA	**Alasht**	**1.78**	**238**	⇑*eP*	n	**Pn**	**Pn**	**19 48 58.1**	**0.0**
IALA						*eSg*	**Sb**	**19 49 23.5**	**+1.1**
IALA						*e*		19 49 26.2	
	comp=Z,27μm,0.1s								
IALA	**Alasht**	**1.78**	**238**	⇑*eP*	n	**Pn**	**Pn**	**19 48 58.1**	**0.0**
IALA						*eSg*	**Sb**	**19 49 23.5**	**+1.1**
IPRN	**Peran**	**2.04**	**248**	⇑*eP*	n	**Pn**	**Pn**	**19 49 01.5**	**-0.1**
IPRN						*e*		19 49 36.1	
	comp=Z,56μm,0.1s								
IFIR	**Firoozkooh**	**2.08**	**229**	*eP*	n	**Pn**	**Pn**	**19 49 03.7**	**+1.4**
IFIR						*eSg*	**Sb**	**19 49 32.6**	**+1.4**
IFIR						*e*		19 49 37.2	
	comp=Z,25μm,0.1s								
IFIR	**Firoozkooh**	**2.08**	**229**	*eP*	n	**Pn**	**Pn**	**19 49 03.7**	**+1.4**
IFIR						*eSg*	**Sb**	**19 49 32.6**	**+1.4**
ILAS	**Lasjerd**	**2.16**	**220**	*eSg*			**Sb**	**19 49 34.6**	**+1.3**
ILAS						*ePn*	**Pn**	**19 49 04.3**	**+1.0**
ILAS						*e*		19 49 36.1	
	comp=Z,10μm,0.2s								
BJRD	**Bojnurd**	**2.28**	**72**	*eP*	n	**Pn**	**Pn**	**19 49 04.4**	**-0.4**
BJRD	**Bojnurd**	**2.28**	**72**	*ePn*			**Pn**	**19 49 04.4**	**-0.4**
ISHV	**Shirvan**	**2.47**	**78**	*e*				19 49 56.1	
	comp=Z,8μm,0.3s								
ISHV						*ePn*	**Pn**	**19 49 08.3**	**+0.8**
IDMV	**Damavand**	**2.58**	**236**	*eP*	n	**Pn**	**Pn**	**19 49 10.6**	**+1.4**
IDMV						*e*		19 49 53.1	
	comp=Z,9μm,0.2s								
IDMV	**Damavand**	**2.58**	**236**	*eP*	n	**Pn**	**Pn**	**19 49 10.6**	**+1.4**
DAMV	**Damavand**	**2.59**	**238**	*eP*	n	**Pn**	**Pn**	**19 49 10.9**	**+1.6**
DAMV						AML	AML	19 49 57.6	
	comp=Z,268nm,0.4s								
DAMV	**Damavand**	**2.59**	**238**	*eP*	n	**Pn**	**Pn**	**19 49 10.9**	**+1.6**
ISFR	**Sfrayin**	**2.66**	**89**	*eP*	n	**Pn**	**Pn**	**19 49 10.7**	**+0.4**
ISFR						*e*		19 49 58.7	
	comp=Z,4μm,0.3s								
ISFR	**Sfrayin**	**2.66**	**89**	*eP*	n	**Pn**	**Pn**	**19 49 10.7**	**+0.4**
IKRD	**Kardeh**	**3.09**	**94**	*ePn*			**Pg**	**19 49 27.8**	**+2.4**
IKRD				*e*				19 50 53.5	
	comp=Z,789nm,0.4s								
IKRD	**Kardeh**	**3.09**	**94**	*ePn*			**Pg**	**19 49 27.8**	**+2.4**
IVRN	**Varamin**	**3.14**	**230**	*ePn*			**Pn**	**19 49 17.3**	**+0.7**
IVRN				*ePn*			**Pn**	**19 49 17.5**	**+0.9**
IVRN				*eSg*			**Sb**	**19 50 05.1**	**+3.7**
IVRN				*eSg*			**Sg**	**19 50 05.4**	**-1.6**
IVRN				*e*				19 50 10.2	
	comp=Z,5μm,0.1s								
IVRN	**Varamin**	**3.14**	**230**	*ePn*			**Pn**	**19 49 17.5**	**+0.9**
IVRN				*eSg*			**Sb**	**19 50 05.1**	**+3.7**
THKV	**Tehran--Karaj**	**3.26**	**251**	*ePn*			**Pn**	**19 49 20.7**	**+2.3**
THKV					AML		AML	19 50 12.9	
	comp=E,581nm,0.4s								
THKV					AML		AML	19 50 14.2	
	comp=N,483nm,0.1s								
THKV	**Tehran--Karaj**	**3.26**	**251**	*ePn*			**Pn**	**19 49 20.7**	**+2.3**
IAKL	**Akhelmad**	**3.31**	**96**	*ePn*			**Pn**	**19 49 19.7**	**+0.6**
IAKL				*e*				19 50 21.9	
	comp=Z,1μm,0.3s								
ISFB	**Sefidab**	**3.33**	**217**	*ePn*			**Pn**	**19 49 19.8**	**+0.5**
ISFB				*e*				19 50 23.3	
	comp=Z,3μm,0.2s								
ISFB	**Sefidab**	**3.33**	**217**	*ePn*			**Pn**	**19 49 19.8**	**+0.5**
IR3	**Iran Long-Peri**	**3.34**	**243**	*ePn*			**Pn**	**19 49 19.9**	**+0.5**
IR3	**Iran Long-Peri**	**3.34**	**243**	*ePn*			**Pn**	**19 49 19.9**	**+0.5**
IPAY	**Payeh**	**3.52**	**98**	*ePn*			**Pn**	**19 49 22.6**	**+0.5**
IPAY				*e*				19 50 27.4	
	comp=Z,889nm,0.3s								
IPAY	**Payeh**	**3.52**	**98**	*ePn*			**Pn**	**19 49 22.6**	**+0.5**
IR5	**Iran Long-Peri**	**3.78**	**242**	*ePn*			**Pn**	**19 49 26.3**	**+0.8**
IMOG	**Moghan**	**3.87**	**103**	*ePn*			**Pn**	**19 49 27.1**	**+0.2**
IMOG				*e*				19 49 38.5	
	comp=Z,547nm,0.2s								
IMOG	**Moghan**	**3.87**	**103**	*ePn*			**Pn**	**19 49 27.1**	**+0.2**
ISRO	**Mashad**	**3.92**	**99**	*ePn*			**Pn**	**19 49 29.2**	**+1.7**
ISRO	**Mashad**	**3.92**	**99**	*ePn*			**Pn**	**19 49 29.2**	**+1.7**
TABS	**Tabas**	**3.93**	**149**	*ePn*			**Pn**	**19 49 27.9**	**+0.4**
TABS					AML		AML	19 50 46.2	
	comp=N,118nm,0.6s								
TABS	**Tabas**	**3.93**	**149**	*ePn*			**Pn**	**19 49 27.9**	**+0.4**
IRAZ	**Razeghan**	**4.17**	**248**	*ePn*			**Pn**	**19 49 31.6**	**+0.7**
IRAZ				*e*				19 50 46.4	
	comp=Z,2μm,0.2s								
IRAZ	**Razeghan**	**4.17**	**248**	*ePn*			**Pn**	**19 49 31.6**	**+0.7**
IMYA	**Miami**	**4.42**	**97**	*ePn*			**Pn**	**19 49 34.8**	**+0.5**
IMYA				*e*				19 51 04.7	
	comp=Z,620nm,0.6s								
IMYA	**Miami**	**4.42**	**97**	*ePn*			**Pn**	**19 49 34.8**	**+0.5**
IKLH	**Kolahrood**	**4.49**	**215**	*ePn*			**Pn**	**19 49 35.8**	**+0.4**
IKLH						*eSg*	**Sg**	**19 50 48.1**	**-2.4**
IKLH				*e*				19 51 02.4	
	comp=Z,954nm,0.3s								
IKLH	**Kolahrood**	**4.49**	**215**	*ePn*			**Pn**	**19 49 35.8**	**+0.4**
IKLH						*eSg*	**Sg**	**19 50 48.1**	**-2.4**
IZEF	**Zefreh**	**4.56**	**206**	*ePn*			**Pn**	**19 49 36.8**	**+0.5**
IZEF						*eSg*	**Sg**	**19 50 50.7**	**-1.9**
IZEF				*e*				19 51 08.2	
	comp=Z,461nm,0.3s								
IZEF	**Zefreh**	**4.56**	**206**	*ePn*			**Pn**	**19 49 36.8**	**+0.5**
IZEF						*eSg*	**Sg**	**19 50 50.7**	**-1.9**
ICHK	**Chekchek**	**4.79**	**183**	*ePn*			**Pn**	**19 49 39.9**	**+0.4**
ICHK				*e*				19 49 44.1	
	comp=Z,1μm,0.1s								
ICHK	**Chekchek**	**4.79**	**183**	*ePn*			**Pn**	**19 49 39.9**	**+0.4**
IGAR	**Gharneh**	**5.11**	**206**	*

0.2nm,0.3s,baz=343,slow=8.6,SNR=22
ASAR S S 19 56 28.2 -0.7
0.1nm,0.3s,baz=355,slow=25,SNR=5.2
MKAR Makanchi Array 68.19 327 P P 20 00 11.7 -0.1
0.2nm,0.4s,baz=115,slow=7.8,SNR=8.7

MAN 20 19:51:38,11˝.10N×124˚.66E,h9km,mb4.5,ML3.4,MS3.3, 1D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.07**	**225**	*eP*	Pg	19 51 41.9	+1.8
OCLP				*eS*	Sg	19 51 45.6	+3.9
PLP	**Palo**	**0.32**	**79**↓	*eP*	Pb	19 51 45.7	-0.2
PLP				*i* S	Sb	19 51 50.1	-1.0
MSLP	**Maasin**	**0.98**	**169**	*eP*	Pn	19 51 58.0	0.0
MSLP				*eS*	Sg	19 52 09.6	-0.1
LLP	**Lapu-Lapu**	**1.04**	**221**	*eP*	Pn	19 51 58.5	-0.2
TBP	**Tagbilaran**	**1.61**	**209**	*eP*	Pg	19 52 09.4	+0.5
TBP				*eS*	Sg	19 52 31.7	+1.9

IDC 20 20:00:37.2±4.0,22˚.15S×177˚.79W,h0km,mb3.9/5, mb1 4.1/5,mb1mx3.8/17,mbtmp3.9/5,Error ellipse: s-maj=139.5km s-min=57.5km az=147.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.56**	**267**	P	P	20 07 21.1	+2.0
	2.1nm,0.5s,baz=92,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**37.28**	**246**	P	P	20 07 50.5	-0.5
	0.4nm,0.3s,baz=95,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**44.36**	**258**	P	P	20 08 49.0	-0.6
	0.8nm,0.7s,baz=89,slow=6.1,SNR=13						
WRA	**Warramunga Arr**	**44.59**	**264**	P	P	20 08 50.1	-1.4
	0.5nm,0.2s,baz=96,slow=8.3,SNR=44						
CMAR	**Chiang Mai Arr**	**90.85**	**282**	P	P	20 13 43.9	+0.7
	0.4nm,0.7s,baz=150,slow=3.9,SNR=5.9						
AKASG	**Malin Array Be**	**144.54**	**330**	PKP	PKPbc	20 20 14.2	+0.2
	0.7nm,0.5s,baz=39,slow=4.4,SNR=4.8						

*IDC **20** 20:10:52.2±0.7,4˚.11N×126˚.71E,h0km,mb3.9/12, mb1 4.1/12,mb1mx3.9/24,mbtmp3.9/12,MS3.3/2, Ms1 3.3/2,ms1mx2.3/42,Error ellipse: s-maj=47.0km s-min=13.6km az=69.0*
*ISCJB **20** 20:10:57.1±0.7,4˚.0N±0˚.1×126˚.7E±0˚.2,h45km,mb3.9/12, MS3.7/1,Error ellipse: s-maj=33.7km s-min=9.0km az=155.8*
ISC 20 20:10:58.9±0.8,4˚.0N±0˚.1×126˚.7E±0˚.2,h45km,n17, σ1↓18/16,mb4.0/12,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.24**	**340**	LR	LR	20 13 13.5	
	comp=Z,197nm,18.1s,baz=55,slow=45						
CTBH	**Cotabato--PC H**	**4.02**	**323**↑	*eP*	**Pn**	**20 11 58.4**	**+0.4**
BUKP	**Musuan**	**4.18**	**337**	*eP*	**Pn**	**20 12 01.8**	**+1.6**
PAGZ	**Pagadian**	**5.05**	**319**	*eP*	**Pn**	**20 12 13.4**	**+1.3**
FITZ	**Fitzroy Crossi**	**22.00**	**183**	P	**P**	**20 15 49.6**	**+0.2**
	1.2nm,0.4s,baz=19,slow=14,SNR=8.5						
WRA	**Warramunga Arr**	**24.96**	**163**	P	**P**	**20 16 17.8**	**-0.5**
	1.9nm,0.5s,baz=343,slow=9.3,SNR=46						
ASAR	**Alice Springs**	**28.39**	**166**	P	**P**	**20 16 49.2**	**-0.1**
	0.5nm,0.6s,baz=350,slow=7.5,SNR=15						
CMAR	**Chiang Mai Arr**	**30.71**	**300**	P	**P**	**20 17 10.1**	**+0.2**
	0.6nm,0.8s,baz=110,slow=6.9,SNR=6.6						
STKA	**Stephens Creek**	**38.40**	**159**	P	**P**	**20 18 16.6**	**+0.6**
	4.3nm,0.7s,baz=334,slow=9.2,SNR=10.0						
STKA				LR	LR	20 34 55.7	
	comp=Z,110nm,18.9s,baz=204,slow=38						
SONM	**Songino Array**	**47.03**	**341**	P	**P**	**20 19 25.0**	**-1.0**
	0.4nm,0.6s,baz=157,slow=9.0,SNR=3.6						
MKAR	**Makanchi Array**	**57.31**	**325**	P	**P**	**20 20 41.0**	**-1.4**
	0.8nm,0.4s,baz=114,slow=7.7,SNR=16						
ZALV	**Zalesovo Beam**	**60.33**	**333**	P	**P**	**20 21 00.7**	**-2.3**
	0.8nm,0.4s,baz=118,slow=6.1,SNR=4.3						
KURBB	**Kurchatov Arra**	**61.49**	**327**	P	**P**	**20 21 09.5**	**-1.5**
	1.2nm,0.4s,baz=122,slow=6.8,SNR=19						
BVAR	**Borovoye Array**	**67.07**	**327**	P	**P**	**20 21 47.0**	**-0.6**
	1.0nm,0.6s,baz=132,slow=10,SNR=7.3						
ILAR	**Eielson Array**	**84.86**	**25**	P	**P**	**20 23 29.0**	**+0.3**
	0.3nm,0.7s,baz=257,slow=5.9,SNR=7.0						
FINES	**FINESS Array B**	**91.59**	**332**	P	**P**	**20 24 02.1**	**+1.4**
	3.7nm,1.1s,baz=70,slow=6.7,SNR=4.0						
TORD	**Torodi Ar. Bea**	**122.81**	**288**	PKP	**PKPdf**	**20 29 50.6**	**-0.5**
	0.3nm,0.6s,baz=89,slow=3.2,SNR=3.7						

MAN 20 20:29:28,11˚.16N×124˚.63E,h9km,mb4.5,ML3.4,MS3.3, 1C,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.11**	**190**	*eP*	Pg	20 29 32.3	+1.6
OCLP				*eS*	Sg	20 29 36.6	+4.0
PLP	**Palo**	**0.34**	**90**↑	*eP*	Pb	20 29 35.9	-0.4
PLP				*eS*	Sb	20 29 41.2	-0.7
MSLP	**Maasin**	**1.05**	**168**	*eP*	Pb	20 29 48.4	0.0
MSLP				*eS*	Sn	20 30 05.4	+1.8
LLP	**Lapu-Lapu**	**1.06**	**218**	*eP*	Pn	20 29 49.0	-0.1
LLP				*eS*	Sn	20 30 04.2	+0.1
TBP	**Tagbilaran**	**1.65**	**207**	*eP*	Pg	20 29 59.7	0.0
TBP				*eS*	Sg	20 30 20.8	-0.3

IDC 20 20:39:54.0±1.3,3˚.46N×126˚.75E,h0km,mb3.7/7, mb1 3.8/7,mb1mx3.7/22,mbtmp3.7/7,MS2.8/1,Ms1 2.8/1, ms1mx2.1/43,1D,Error ellipse: s-maj=79.3km s-min=16.5km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**4.49**	**326**↓	*i* P	Pn	20 41 07.7	+4.3
KAPI	**Kappang**	**10.94**	**220**	LR	LR	20 47 42.6	
	comp=Z,47nm,18.1s,baz=325,slow=43						
FITZ	**Fitzroy Crossi**	**21.45**	**183**	P	P	20 44 46.0	+1.9
	1.0nm,0.5s,baz=5.9,slow=6.9,SNR=7.8						
WRA	**Warramunga Arr**	**24.42**	**163**	P	P	20 45 14.0	-0.6
	1.1nm,0.5s,baz=338,slow=11,SNR=23						
ASAR	**Alice Springs**	**27.85**	**166**	P	P	20 45 44.9	-0.7
	0.2nm,0.4s,baz=352,slow=8.5,SNR=4.5						
CMAR	**Chiang Mai Arr**	**31.02**	**301**	P	P	20 46 13.1	-0.7
	0.3nm,0.6s,baz=123,slow=6.8,SNR=4.1						
STKA	**Stephens Creek**	**37.87**	**159**	P	P	20 47 12.7	-0.2
	1.4nm,0.5s,baz=324,slow=7.6,SNR=6.7						
MKAR	**Makanchi Array**	**57.79**	**325**	P	P	20 49 45.9	-1.2
	0.9nm,0.5s,baz=120,slow=7.2,SNR=19						
ZALV	**Zalesovo Beam**	**60.83**	**333**	P	P	20 50 09.8	+1.7
	0.3nm,0.3s,baz=138,slow=8.9,SNR=2.7						

MEX 20 20:40:50.0±0.8,15˚.31N×92˚.94W,h110km±7km,MD4.1, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.47**	**326**	*eP*	Pn	20 41 05.8	-0.9
PCIG				*i* S	Sn	20 41 17.8	-1.4
THIG		**0.77**	**121**	*eP*	Pn	20 41 07.4	-1.6
THIG				*eS*	Sn	20 41 21.3	-2.0
CCIG	**Comitan**	**1.24**	**39**	*eP*	Pn	20 41 13.2	-0.8
CCIG				*i* S	Sn	20 41 30.5	-1.7
SCX	**San Cristobal**	**1.45**	**12**	*i* P	Pn	20 41 17.2	+1.0
SCX				*i* S	Sn	20 41 36.5	+0.4
TGIG		**1.47**	**353**	*eP*	Pn	20 41 15.4	-1.2
TGIG				*i* S	Sn	20 41 34.4	-2.3
CMIG	**Matias Romero**	**2.57**	**314**	*eP*	Pn	20 41 29.9	-0.4
CMIG				*i* S	Sn	20 41 59.2	-2.2
HUIG	**Huatulco**	**3.08**	**279**	*i* P	Pn	20 41 36.2	-0.9
HUIG				*i* S	Sn	20 42 10.7	-2.8
VHO	**Vista Hermosa**	**4.04**	**296**	*eP*	Pn	20 41 50.9	+0.7
VHO				*i* S	Sn	20 42 34.8	-2.0
PNIG	**Pinotepa**	**5.10**	**283**	*i* P	Pn	20 42 02.7	-1.6
PNIG				*i* S	Sn	20 43 00.5	-1.7
UTMO	**Huajuapan**	**5.29**	**299**	*eP*	Pn	20 42 05.7	-1.3
UTMO				*i* S	Sn	20 43 06.0	-1.0

*ISCJB **20** 20:42:05.2±0.8,51˚.63N±0˚.06×178˚.46W±0˚.03,h47km±6km, mb4.4/56,MS3.7/4,Error ellipse: s-maj=10.6km s-min=3.5km az=177.5*

*NEIC **20** 20:42:05.7±0.5,51˚.58N×178˚.55W,h38km±3km,mb4.5/36, ML4.6(AEIC),Error ellipse: s-maj=9.4km s-min=4.1km az=172.0*
*IDC **20** 20:42:06.9±1.6,51˚.60N×178˚.47W,h50km±13km,mb3.9/27, mb1 4.0/28,mb1mx4.0/36,mbtmp3.9/28,ML4.1/1,MS3.6/5, Ms1 3.6/5,ms1mx3.1/60,Error ellipse: s-maj=17.8km s-min=8.7km az=168.0*
ISC 20 20:42:07.1±0.9,51˚.5N±0˚.1×178˚.42W±0˚.04,h54km±6km, n337,σ0↓89/353,mb4.5/63,MS3.8/4,87C-98D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**4.76**	**287**	P	**Pn**	**20 43 15.8**	**-0.4**
SMY				S	Sn	**20 44 11.0**	**+1.1**
FX1	**Attu Island--F**	**5.34**	**288**	P	**Pn**	**20 43 23.6**	**-0.5**
FX1				S	Sn	20 44 25.5	
FX1	**Attu Island--F**	**5.34**	**288**	P	**Pn**	**20 43 23.6**	**-0.6**
	23nm,0.3s,baz=201,slow=8.5,SNR=19						
FX1				S	**Sn**	**20 44 23.8**	**-0.5**
	11nm,0.3s,baz=277,slow=19,SNR=2.9						
OKSP	**Okmok Steeple**	**6.43**	**71**	P	**Pn**	**20 43 40.0**	**+0.8**
OKFG	**Magazine Ridge**	**6.69**	**70**	P	**Pn**	**20 43 43.1**	**+0.5**
OKFG				S	**Sn**	**20 44 57.1**	**-0.3**
MSOM	**Makushin Julie**	**7.34**	**67**	P	**Pn**	**20 43 51.5**	**+0.1**
MREP	**Makushin Rep't**	**7.45**	**68**	P	**Pn**	**20 43 54.2**	**+1.0**
MSW	**Makushin Switc**	**7.46**	**67**	P	**Pn**	**20 43 53.1**	**0.0**
UNV	**Unalaska Valle**	**7.60**	**68**	P	**Pn**	**20 43 56.9**	**+1.8**
ZRO	**Akutan Zero**	**7.96**	**66**	P	**Pn**	**20 44 00.6**	**+0.6**
AKGG	**Akutan Green G**	**7.98**	**66**	P	**Pn**	**20 44 00.5**	**+0.3**
AHB	**Akutan Harbor**	**8.06**	**66**	P	**Pn**	**20 44 02.1**	**+0.8**
AKUT	**Akutan**	**8.09**	**66**	*ePn*	**Pn**	**20 44 02.0**	**+0.3**
WESE	**West Dahl East**	**8.84**	**65**	P	**Pn**	**20 44 12.8**	**+0.7**
SDPT	**Sand Point**	**11.35**	**63**	*ePn*	**Pn**	**20 44 44.1**	**-2.3**
GAMB	**Gambell**	**12.77**	**14**	*ePn*	**Pn**	**20 45 04.0**	**-1.7**
	14nm,1.0s						
PET	**Petropavlovsk**	**14.10**	**285**	*ePn*	Pn	20 45 19.0	-4.7
PETK	**Petropavlovsk-**	**14.67**	**285**	P	**Pn**	**20 45 33.3**	**+2.0**
PETK	**Petropavlovsk-**	**14.67**	**285**	P	**Pn**	**20 45 33.3**	**+2.0**
	0.2nm,0.3s,baz=94,slow=13,SNR=3.4						
PETK				LR	LR	20 50 47.6	
	comp=Z,152nm,21.5s,baz=95,slow=36						
SVW2	**Sparrevohn**	**15.79**	**44**	*ePn*	**P**	**20 45 50.3**	**+1.7**
KDAK	**Kodiak Island**	**16.14**	**57**	P	**Pn**	**20 45 46.0**	**-4.0**
KDAK				S	**Sn**	**20 48 46.9**	**-0.9**
KDAK	**Kodiak Island**	**16.14**	**57**	P	**Pn**	**20 45 46.0**	**-4.0**
	5.7nm,0.3s,baz=282,slow=7.5,SNR=34						
KDAK				S	**Sn**	**20 48 46.9**	**-0.9**
	0.4nm,0.3s,baz=321,slow=12,SNR=5.1						
SPU	**Mount Spurr**	**17.38**	**46**	*ePn*	**P**	**20 46 07.5**	**+1.2**
SLKM	**Skilak Lake**	**18.00**	**49**	*ePn*	**P**	**20 46 12.9**	**-0.2**
BILL	**Bilibino**	**18.15**	**341**	*eP*	**Pn**	**20 46 15.9**	**+1.0**
	4.7nm,0.6s						
SEW	**Seward**	**18.26**	**51**	*ePn*	**P**	**20 46 15.4**	**-0.5**
	45nm,1.2s						
PMR	**Palmer**	**18.85**	**46**	P	**P**	**20 46 21.2**	**-1.0**
TRF	**Thorofare Moun**	**19.06**	**40**	*ePn*	**P**	**20 46 25.2**	**+0.4**
	30nm,0.9s						
MCK	**McKinley**	**19.72**	**40**	*eP*	**P**	**20 46 32.4**	**+0.5**
	11nm,0.7s						
DIV	**Divide**	**20.27**	**49**	*ePn*	Pn	20 46 39.9	-0.4
	24nm,1.0s						
COLA	**College**	**20.64**	**38**	P	**P**	**20 46 40.1**	**-1.6**
	14nm,0.9s						
BMRM	**Bremner River**	**20.79**	**50**	*ePn*	Pn	20 46 45.1	-1.3
	19nm,0.8s						
PAX	**Paxson**	**20.91**	**44**	*eP*	**P**	**20 46 45.5**	**+0.8**
	16nm,0.8s						
ILAR	**Eielson Array**	**20.97**	**39**	P	**P**	**20 46 43.2**	**-2.1**
ILAR				PcP	**PcP**	**20 50 50.0**	**-0.6**
ILAR				ScP	**ScP**	**20 54 22.9**	**+0.5**
ILAR	**Eielson Array**	**20.97**	**39**	P	**P**	**20 46 43.2**	**-2.1**
	0.8nm,0.4s,baz=244,slow=11,SNR=29						
ILAR				PcP	**PcP**	**20 50 50.0**	**-0.6**
	0.8nm,0.5s,baz=280,slow=3.5,SNR=12						
ILAR				ScP	**ScP**	**20 54 22.9**	**+0.5**
	0.8nm,0.6s,baz=280,slow=3.5,SNR=16						
MENT	**Mentasta**	**21.66**	**45**	*eP*	**P**	**20 46 52.6**	**-0.1**
DOT	**Dot Lake**	**21.72**	**43**	*eP*	**P**	**20 46 54.2**	**+0.9**
	12nm,0.6s						
EGAK	**Eagle**	**23.27**	**41**	*eP*	**P**	**20 47 08.4**	**-1.1**
	85nm,2.0s						
INK	**Inuvik**	**27.19**	**35**	P	**P**	**20 47 44.3**	**-0.8**
INK				*ep*P	**pP**	**20 48 03.5**	**+4.9**
INK				PcP	**PcP**	**20 51 04.2**	**+0.4**
INK				ScP	**ScP**	**20 54 39.7**	**+0.3**
INK	**Inuvik**	**27.19**	**35**	P	**P**	**20 47 44.3**	**-0.8**
	0.7nm,0.3s,baz=251,slow=9.2,SNR=8.0						
INK				PcP	**PcP**	**20 51 04.2**	**+0.4**
	0.4nm,0.3s,baz=268,slow=3.5,SNR=4.0						
INK				ScP	**ScP**	**20 54 39.7**	**+0.3**
	0.3nm,0.6s,baz=221,slow=3.8,SNR=3.1						
BBB	**Bella Bella**	**30.57**	**69**	P	**P**	**20 48 16.1**	**+0.8**
BBB	**Bella Bella**	**30.57**	**69**	P	**P**	**20 48 16.1**	**+0.8**
	5.6nm,0.9s,baz=327,slow=21,SNR=2.6						
USRK	**Ussuriysk Arra**	**33.50**	**277**	P	**P**	**20 48 40.2**	**-0.8**
	3.1nm,0.5s,baz=55,slow=9.2,SNR=8.9						
MJAR	**Matsushiro Arr**	**34.04**	**261**	P	**P**	**20 48 46.0**	**+0.1**
MJAR	**Matsushiro Arr**	**34.04**	**261**	P	**P**	**20 48 46.0**	**+0.1**
	4.9nm,0.7s,baz=50,slow=6.2,SNR=11						
MAT	**Matsushiro**	**34.04**	**261**	P	**P**	**20 48 46.3**	**+0.4**
YKA	**Yellowknife Ar**	**34.95**	**47**	P	**P**	**20 48 52.5**	**-0.8**
YKA				PcP	**PcP**	**20 51 25.2**	**+0.6**
YKA				ScP	**ScP**	**20 55 05.8**	**+0.6**
YKA	**Yellowknife Ar**	**34.95**	**47**	P	**P**	**20 48 52.5**	**-0.8**
	1.1nm,0.4s,baz=275,slow=9.5,SNR=24						
YKA				PcP	**PcP**	**20 51 25.2**	**+0.6**
	0.3nm,0.3s,baz=283,slow=3.2,SNR=6.8						
YKA				ScP	**ScP**	**20 55 05.8**	**+0.6**
	0.5nm,0.5s,baz=289,slow=3.4,SNR=10.0						
LON	**Longmire**	**36.55**	**75**	*eP*	**P**	**20 49 08.8**	**+1.4**
	5.8nm,0.9s						
HAWA	**Hanford**	**38.09**	**74**	*eP*	**P**	**20 49 21.3**	**+1.0**
	16nm,0.9s						
CBIJ	**Chichi jima**	**38.36**	**246**	P	**P**	**20 49 22.9**	**+0.2**
CBIJ	**Chichi jima**	**38.36**	**246**	P	**P**	**20 49 23.0**	**+0.2**
	109nm,1.0s,baz=265,slow=22,SNR=3.0						
HIA	**Hailar**	**38.44**	**292**	*eP*	**P**	**20 49 21.6**	**-1.6**
	3.8nm,0.6s						
NEW	**Newport**	**38.60**	**70**	*eP*	**P**	**20 49 25.2**	**+0.5**
	5.7nm,0.8s						
NEW	**Newport**	**38.60**	**70**	↓P	**P**	**20 49 25.3**	**+0.7**
	baz=38						
YBH	**Yreka Blue Hor**	**38.62**	**82**	P	**P**	**20 49 27.0**	**+2.0**
YBH	**Yreka Blue Hor**	**38.62**	**82**	P	**P**	**20 49 27.0**	**+2.0**
	2.3nm,0.7s,baz=349,slow=7.4,SNR=8.5						
C11A	**Tepee Creek (N**	**39.32**	**70**	↓P	**P**	**20 49 30.3**	**-0.4**
	baz=39						
C12B	**Naegeli Ranch,**	**39.84**	**70**	↑P	**P**	**20 49 35.6**	**+0.5**
	baz=40						
A13A	**Flathead Natio**	**39.86**	**68**	↑P	**P**	**20 49 35.3**	**0.0**
	baz=40						
KSRS	**Korea Array**	**39.87**	**271**	P	**P**	**20 49 35.8**	**+0.5**
	3.8nm,0.8s,baz=53,slow=8.0,SNR=10						
KSAR	**Wonju Array Be**	**39.90**	**271**	P	**P**	**20 49 35.8**	**+0.3**
MOD	**Modoc**	**40.01**	**80**	*ep*P	pP	20 49 47.3	-3.3
BSMT	**Bassoo Peak**	**40.17**	**69**	*eP*	**P**	**20 49 38.0**	**+0.1**
BMO	**Blue Mountains**	**40.22**	**75**	*eP*	**P**	**20 49 38.8**	**+0.5**
	4.3nm,0.8s						
D12A	**Red Ives Fores**	**40.24**	**71**	↓P	**P**	**20 49 38.5**	**+0.1**
	baz=40						
BLMT	**Blacktail Moun**	**40.34**	**69**	*eP*	**P**	**20 49 39.4**	**0.0**
C13A	**Hot Springs**	**40.38**	**69**	↓P	**P**	**20 49 39.5**	**-0.1**
	baz=40						
A14A	**Double T Ranch**	**40.41**	**67**	↑P	**P**	**20 49 40.4**	**+0.6**
	baz=40,SNR=5.7						
E12A	**Beaver Dam Sad**	**40.44**	**72**	↓P	**P**	**20 49 40.3**	**+0.2**
	baz=40						
WVOR	**Wild Horse Val**	**40.74**	**79**	*eP*	**P**	**20 49 41.2**	**-1.3**
	7.5nm,0.8s						
D13A	**Huson**	**40.75**	**70**	↓P	**P**	**20 49 42.9**	**+0.4**
	baz=41						
B14A	**Marquette Ranc**	**40.80**	**68**	↑P	**P**	**20 49 43.5**	**+0.5**
	baz=41						
A15A	**Johnson Ranch,**	**40.81**	**67**	↑P	**P**	**20 49 42.7**	**-0.4**
	baz=41						
C14A	**Swan Lake**	**40.82**	**69**	↓P	**P**	**20 49 43.7**	**+0.5**
	baz=41						
JNU	**Nakatsue**	**40.83**	**263**	P	**P**	**20 49 43.8**	**+0.5**
JNU	**Nakatsue**	**40.83**	**263**	P	**P**	**20 49 43.8**	**+0.5**
	9.6nm,0.8s,baz=224,slow=19,SNR=4.5						
JNU				LR	LR	21 03 41.7	
	comp=Z,36nm,21.6s,baz=135,slow=32						
F12A	**Elk City**	**40.97**	**72**	↓P	**P**	**20 49 44.9**	**+0.5**
	baz=41,SNR=7.7						
MSO	**Missoula**	**41.19**	**70**	*eP*	**P**	**20 49 46.2**	**-0.1**
	2.9nm,0.8s						
MSO	**Missoula**	**41.19**	**70**	↓P	**P**	**20 49 46.1**	**-0.1**
	baz=41						
B15A	**Bradely Ranch,**	**41.23**	**68**	↓P	**P**	**20 49 46.6**	**+0.1**
	baz=41						
E13A	**Victor**	**41.24**	**71**	↓P	**P**	**20 49 47.3**	**+0.7**
	baz=41						
G12A	**Big Creek, Yel**	**41.26**	**73**	↓P	**P**	**20 49 47.7**	**+0.7**
	baz=41						
D14A	**Greenough**	**41.31**	**70**	↓P	**P**	**20 49 46.6**	**-0.7**
	baz=41						
A16A	**West Butte Ran**	**41.47**	**66**	↓P	**P**	**20 49 47.7**	**-0.8**
	baz=41						
C15A	**Salmond Ranch,**	**41.48**	**68**	↓P	**P**	**20 49 48.7**	**+0.1**
	baz=41,SNR=10						
F13A	**Darby**	**41.50**	**72**	↓P	**P**	**20 49 49.6**	**+0.8**
	baz=41						
E14A	**Clinton**	**41.67**	**70**	↑P	**P**	**20 49 50.8**	**+0.6**
	baz=42						
B16A	**M & M Farms, S**	**41.68**	**67**	↑P	**P**	**20 49 50.5**	**+0.4**
	baz=42						
H12A	**Diamond D Ranc**	**41.86**	**74**	↑P	**P**	**20 49 52.1**	**+0.3**
	baz=42						
MFID	**Camas Ranch**	**41.90**	**76**	↓P	**P**	**20 49 52.9**	**+0.8**
	baz=42						
D15A	**Lincoln**	**41.91**	**69**	↓P	**P**	**20 49 52.0**	**-0.2**
	baz=42						
G13A	**Cobalt**	**41.94**	**73**	↑P	**P**	**20 49 52.8**	**+0.4**
	baz=42						
C16A	**Fuhringer Ranc**	**41.97**	**68**	↓P	**P**	**20 49 52.8**	**+0.2**
	baz=42						
A17A	**Triple J Farms**	**41.98**	**66**	↑P	**P**	**20 49 52.1**	**-0.5**
	baz=42,SNR=5.2						
F14A	**Wisdom**	**42.06**	**71**	↑P	**P**	**20 49 53.7**	**+0.2**
	baz=42						
I12A	**Atlanta**	**42.11**	**75**	↑P	**P**	**20 49 54.4**	**+0.5**
	baz=42,SNR=9.7						
E15A	**Deer Lodge**	**42.16**	**70**	↓P	**P**	**20 49 54.8**	**+0.6**
	baz=42						
H13A	**Challis**	**42.21**	**73**	↓P	**P**	**20 49 55.0**	**+0.4**
	baz=42						
G14A	**Jackson**	**42.31**	**72**	↓P	**P**	**20 49 55.9**	**+0.3**
	baz=42						
D16A	**Dana Ranch, Ca**	**42.48**	**69**	↑P	**P**	**20 49 56.8**	**0.0**
	baz=42						
A18A	**Metzger Ranch,**	**42.48**	**65**	↑P	**P**	**20 49 56.6**	**-0.1**
	baz=42						
HRY	**Holter Researc**	**42.49**	**69**	*eP*	**P**	**20 49 56.3**	**-0.5**
F15A	**Butte**	**42.56**	**71**	↓P	**P**	**20 49 57.8**	**+0.2**
	baz=42						
C17A	**Wharram Farm,**	**42.62**	**67**	↑P	**P**	**20 49 58.4**	**+0.5**
	baz=42						
I13A	**Wildhorse Cree**	**42.65**	**74**	↓P	**P**	**20 49 58.7**	**+0.3**
	baz=43,SNR=12						
HLID	**Hailey**	**42.67**	**75**	*eP*	**P**	**20 49 58.4**	**-0.1**
	10nm,1.1s						
HLID	**Hailey**	**42.67**	**75**	↓P	**P**	**20 49 59.0**	**+0.6**
	baz=43,SNR=5.9						
E16A	**East Helena**	**42.67**	**69**	↓P	**P**	**20 49 58.6**	**+0.2**
	baz=43						
H14A	**Leadore**	**42.71**	**73**	↓P	**P**	**20 49 59.1**	**+0.3**
	baz=43						
MCMT	**McKenzie Canyo**	**42.90**	**72**	*eP*	**P**	**20 49 59.9**	**-0.5**
	2.1nm,0.5s						
J13A	**Cove Ranch, Pi**	**42.91**	**75**	↑P	**P**	**20 50 01.0**	**+0.7**
	baz=43,SNR=11						
D17A	**Six Diamond Ra**	**42.92**	**68**	↓P	**P**	**20 50 00.9**	**+0.5**
	baz=43						
G15A	**Dillon**	**42.93**	**72**	↓P	**P**	**20 50 00.4**	**-0.2**
	baz=43						
EGMT	**Eagleton**	**43.00**	**66**	↓P	**P**	**20 50 01.2**	**+0.3**
	baz=43						
I14A	**Mackay**	**43.04**	**74**	↓P	**P**	**20 50 02.1**	**+0.6**
	baz=43,SNR=5.9						
A19A	**Klindworth Far**	**43.10**	**65**	↑P	**P**	**20 50 01.9**	**+0.2**
	baz=43						
F16A	**Kennard Place,**	**43.10**	**70**	↑P	**P**	**20 50 01.9**	**+0.1**
	baz=43						
H15A	**Lima**	**43.14**	**72**	↑P	**P**	**20 50 02.8**	**+0.6**
	baz=43						
BOZ	**Bozeman (W)**	**43.18**	**70**	*eP*	**P**	**20 50 02.2**	**-0.3**
	12nm,1.4s						
BOZ	**Bozeman (W)**	**43.18**	**70**	↑P	**P**	**20 50 02.5**	**+0.1**
	baz=43,SNR=7.3						
E17A	**Martinsdale**	**43.19**	**69**	↓P	**P**	**20 50 02.8**	**+0.2**
	baz=43						
B19A	**Brinkman Farms**	**43.23**	**66**	↓P	**P**	**20 50 03.2**	**+0.4**
	baz=43						
NVAR	**Mina Array Bea**	**43.30**	**83**	P	**P**	**20 50 04.8**	**+1.2**
NVAR	**Mina Array Bea**	**43.30**	**83**	P	**P**	**20 50 04.8**	**+1.2**
	0.8nm,0.5s,baz=293,slow=8.0,SNR=9.3						
G16A	**Moss Hill, Enn**	**43.30**	**71**	↑P	**P**	**20

J18A	Kendall Valley baz=45	45.50	72	⇓P	P	20 50 21.1	0.0
D22A	Cohagen baz=45	45.51	66	⇓P	P	20 50 21.3	+0.4
LRMC	Laurel Mountai baz=46	45.54	86	⇑P	P	20 50 23.0	+1.6
DUG	Dugway 20nm,1.4s	45.60	78	*e*P	P	20 50 23.0	+1.1
DUG	Dugway baz=46,SNR=7.7	45.60	78	⇑P	P	20 50 22.7	+0.8
I19A	Meeteetse baz=46	45.63	71	⇓P	P	20 50 22.3	+0.2
M16A	Huntsville baz=46	45.65	76	⇑P	P	20 50 23.0	+0.7
C23A	Lambert baz=46	45.71	64	⇑P	P	20 50 22.5	0.0
A24A	Westby baz=46	45.76	62	⇑P	P	20 50 22.4	-0.5
K18A	Toltan Ranch, baz=46	45.82	73	⇓P	P	20 50 23.7	0.0
BW06	Boulder Array 7.9nm,0.8s	46.03	73	*e*P	P	20 50 25.5	+0.1
BW06	Boulder Array baz=46,SNR=11	46.03	73	⇓P	P	20 50 25.3	0.0
PDAR	Pinedale Array	46.03	73	P	P	20 50 25.4	+0.1
PDAR	Pinedale Array 7.3nm,0.6s,baz=303,slow=3.7,SNR=58	46.03	73	P	P	20 50 25.4	+0.1
E22A	Miles City baz=46	46.04	66	⇓P	P	20 50 25.3	+0.2
GSC	Goldstone 8.9nm,0.8s	46.20	86	*e*P	P	20 50 27.4	+0.8
GSC	Goldstone baz=46	46.20	86	⇑P	P	20 50 27.7	+1.2
BFSC	Mount Baldy Ra baz=46	46.36	87	⇓P	P	20 50 29.2	+1.3
H21A	Big Horn, Sher baz=46	46.44	69	⇑P	P	20 50 28.6	+0.2
L19A	Farson baz=46	46.55	73	⇑P	P	20 50 29.1	-0.3
I21A	Big Trails, Te baz=47	46.76	70	⇑P	P	20 50 30.8	-0.2
SONM	Songino Array	46.78	297	P	P	20 50 30.8	-0.3
SONM				PcP	PcP	20 52 03.5	+0.1
SONM				ScP	ScP	20 55 51.5	-0.7
SONM	Songino Array 1.0nm,0.6s,baz=63,slow=10.0,SNR=7.7	46.78	297	P	P	20 50 30.8	-0.3
SONM	1.4nm,0.5s,baz=75,slow=2.9,SNR=7.6			PcP	PcP	20 52 03.5	+0.1
SONM	0.5nm,0.6s,baz=36,slow=3.6,SNR=4.0			ScP	ScP	20 55 51.5	-0.7
SONM	comp=Z,126nm,18.2s,baz=78,slow=37			LR	LR	21 10 55.4	
HEC	Hector,Ludlow baz=47	46.80	86	⇑P	P	20 50 32.4	+1.1
JOW	Kunigami	46.83	259	P	P	20 50 29.0	-2.5
JOW	Kunigami 16nm,0.4s,baz=222,slow=26,SNR=3.6	46.83	259	P	P	20 50 29.0	-2.5
CCUT	Cedar City 3.4nm,0.8s	46.90	81	*e*P	P	20 50 33.9	+1.7
MVU	Marysvale 5.7nm,1.0s	47.01	79	*e*P	P	20 50 34.8	+1.7
MSU	Marysvale	47.02	79	*e*P	P	20 50 34.4	+1.3
TMUT	Trail Mountain 8.7nm,0.7s	47.13	77	*e*P	P	20 50 37.1	+3.0
I22A	9 Mile Ranch, baz=47	47.19	70	⇓P	P	20 50 34.4	+0.1
N19A	John Jarvie Ra baz=47	47.38	74	⇓P	P	20 50 35.7	-0.2
K21A	Alcova baz=47	47.48	71	⇓P	P	20 50 35.9	-0.7
P18A	Preston Nutter baz=47	47.51	76	⇓P	P	20 50 37.4	+0.4
M20A	Sweetwater, Wa baz=48	47.61	73	⇑P	P	20 50 37.9	+0.2
SRU	San Rafael 7.1nm,0.7s	47.66	77	*e*P	P	20 50 40.1	+2.1
SRU	San Rafael baz=48	47.66	77	⇓P	P	20 50 39.4	+1.3
O19A	Miners Draw (B baz=48	47.78	75	⇑P	P	20 50 39.6	+0.6
L21A	Rawlins baz=48	47.81	72	⇑P	P	20 50 39.3	+0.1
K22A	Casper baz=48	47.90	71	⇑P	P	20 50 39.9	+0.1
Q18A	Rafter H Ranch baz=48	47.91	77	⇓P	P	20 50 40.6	+0.8
N20A	Spence Gulch, baz=48	47.97	74	⇓P	P	20 50 40.8	+0.3
R17A	Hanksville Air baz=48	47.98	78	⇑P	P	20 50 40.9	+0.5
M21A	Separation Pea baz=48	48.03	73	⇓P	P	20 50 40.8	-0.2
W13A	Hualapai Mount baz=48	48.15	84	⇓P	P	20 50 42.4	+0.6
U15A	North Rim baz=48,SNR=6.1	48.27	81	⇑P	P	20 50 43.6	+0.6
DVTC	Desert V Tower baz=48	48.38	88	⇑P	P	20 50 44.2	+0.7
O20A	White River Ci baz=48	48.41	75	⇓P	P	20 50 44.1	+0.3
S17A	Black Ridge (B baz=48,SNR=8.7	48.42	79	⇓P	P	20 50 44.9	+1.0
R18A	Canyonlands Na baz=48	48.50	78	⇓P	P	20 50 45.3	+0.8
Q19A	Hogan Spring (baz=48	48.53	77	⇓P	P	20 50 45.2	+0.5
L23A	Garrett baz=49,SNR=7.3	48.71	71	⇓P	P	20 50 45.8	-0.3
P20A	De Beque baz=49	48.72	75	⇓P	P	20 50 46.6	+0.4
O21A	Pagoda baz=49	48.83	74	⇓P	P	20 50 47.1	0.0
S18A	Hurst Farm, Bl baz=49,SNR=7.7	48.88	78	⇑P	P	20 50 47.6	+0.1
GLA	Glamis baz=49	48.91	86	⇑P	P	20 50 48.0	+0.4
R19A	Curley Farm, L baz=49	48.95	77	⇑P	P	20 50 48.5	+0.6
N22A	Wattenberg Ran baz=49	49.07	73	⇓P	P	20 50 48.9	0.0
PV04	Paradox Valley	49.10	77	*e*P	P	20 50 50.3	+1.2
P21A	Newcastle baz=49	49.27	75	⇓P	P	20 50 50.5	0.0
T18A	Mexican Hat baz=49	49.31	79	⇓P	P	20 50 51.1	+0.4
S19A	Harvey Farm, M baz=49	49.37	78	⇓P	P	20 50 51.3	+0.1
WUAZ	Wupatki baz=49	49.43	81	⇓P	P	20 50 52.5	+0.9
PV01	Paradox Valley	49.47	77	*e*P	P	20 50 52.6	+0.6
O23A	Lake Granby, G baz=50,SNR=5.7	49.76	73	⇓P	P	20 50 54.7	+0.5
S20A	Disappointment baz=50,SNR=5.6	49.79	77	⇑P	P	20 50 54.2	-0.3
Q22A	Crested Butte, baz=50	50.01	75	⇓P	P	20 50 56.4	+0.3
T19A	Beclabito baz=50,SNR=6.9	50.02	79	⇓P	P	20 50 56.1	-0.1
M25A	Palm-Egli Farm baz=50	50.10	71	⇓P	P	20 50 56.5	-0.1
ISCO	Idaho Springs baz=50	50.20	73	⇓P	P	20 50 57.7	+0.1
S21A	Coal Bank Pass baz=50	50.24	77	⇑P	P	20 50 58.1	+0.2
R22A	Saguache, Gunn baz=50	50.51	76	⇑P	P	20 51 00.7	+0.7
M26A	McRoberts Ranc baz=50	50.62	70	⇑P	P	20 50 60.0	-0.5
R23A	Moffat baz=51	51.09	75	⇓P	P	20 51 04.8	+0.4
U21A	Nageezi baz=51	51.12	78	⇑P	P	20 51 05.2	+0.7
P25A	Willow Gulch B baz=51	51.24	73	⇑P	P	20 51 05.4	+0.1
SDCO	Great Sand Dun 7.1nm,1.2s	51.58	75	*e*P	P	20 51 09.3	+1.3
SDCO	Great Sand Dun baz=52	51.58	75	⇑P	P	20 51 08.4	+0.4
S24A	Houchin Ranch, baz=52	51.82	75	⇑P	P	20 51 09.9	+0.1
X20A	Quemado baz=52	51.85	80	⇑P	P	20 51 10.9	+0.9
TUC	Tucson 5.0nm,1.1s	51.93	84	*e*P	P	20 51 11.2	+0.8
R25A	Fountain Ranch baz=52	52.05	74	⇑P	P	20 51 11.2	-0.1
S25A	Robets Cordova baz=52	52.27	75	⇑P	P	20 51 13.8	+0.7
Y20A	Horse Springs, baz=52	52.34	81	⇑P	P	20 51 14.6	+0.9
X21A	Alamocita Cree baz=52	52.35	80	⇑P	P	20 51 14.9	+1.2
R26A	Arlington baz=52	52.45	73	⇑P	P	20 51 14.6	+0.4
T25A	Trinidad baz=52	52.63	75	⇓P	P	20 51 16.2	+0.5
Y21A	Point of Rocks baz=53	52.71	80	⇑P	P	20 51 17.1	+0.7
Z20A	Nine Sixteen R baz=53	52.74	82	⇑P	P	20 51 17.5	+1.0
FRB	Frobisher Bay	52.76	32	P	P	20 51 15.4	-0.6
FRB	Frobisher Bay 1.1nm,0.3s,baz=332,slow=7.8,SNR=5.8	52.76	32	P	P	20 51 15.4	-0.6
R27A	Eads baz=53	52.85	73	⇑P	P	20 51 17.4	+0.2
S26A	Kim baz=53	52.88	74	⇓P	P	20 51 17.6	+0.1
120A	U Bar Ranch, L baz=53	53.10	82	⇑P	P	20 51 20.4	+1.2
U25A	Circle Dot Ran baz=53	53.12	76	⇑P	P	20 51 19.6	+0.3
Y22A	Socorro baz=53	53.19	80	⇑P	P	20 51 20.5	+0.7
X23A	Hourglass Bar baz=53	53.24	79	⇓P	P	20 51 20.5	+0.3
BNM	Barren Site 2.3nm,0.6s	53.26	79	P	P	20 51 19.8	-0.6
V25A	Rancho No Teng baz=53	53.36	77	⇑P	P	20 51 21.2	+0.1
U26A	Atchley Ranch, baz=53	53.52	75	⇓P	P	20 51 22.4	+0.1
220A	Playas Peak, P baz=54	53.61	83	⇓P	P	20 51 23.7	+0.9
121A	Cookes Peak, D baz=54	53.64	82	⇓P	P	20 51 24.0	+0.9
Y23A	Lovelace Mesa, baz=54	53.76	79	⇓P	P	20 51 24.8	+0.8
W25A	X Bar L Ranch, baz=54	53.87	77	⇓P	P	20 51 24.8	+0.1
V26A	Tequesquite Ra baz=54	53.89	76	⇓P	P	20 51 25.3	+0.4
T28A	Walsh baz=54	54.02	74	⇓P	P	20 51 26.0	+0.2
ZALV	Zalesovo Beam	54.09	314	PcP	PcP	20 52 31.4	+1.4
ZALV	Zalesovo Beam 0.5nm,0.5s,baz=42,slow=5.4,SNR=2.7	54.09	314	PcP	PcP	20 52 31.4	+1.4
Y24A	Capitan baz=54,SNR=8.2	54.14	79	⇓P	P	20 51 27.5	+0.7
224A	Cornudas Mount baz=55	55.34	81	⇑P	P	20 51 36.0	+0.5
Z26A	Caprock baz=55	55.47	78	⇑P	P	20 51 36.5	+0.2
125A	Gardner Draw, baz=55	55.48	79	⇑P	P	20 51 36.7	+0.3
Z27A	Tatum baz=56	55.91	78	⇑P	P	20 51 39.8	+0.3
325A	Bean Ranch, Si baz=56	56.17	81	⇓P	P	20 51 41.8	+0.4
425A	Indio Mountain baz=56	56.57	81	⇓P	P	20 51 44.9	+0.7
326A	Caldwell Ranch baz=57	56.82	80	⇑P	P	20 51 46.2	+0.2
426A	McDonald Obser baz=57	57.24	81	⇓P	P	20 51 48.7	-0.4
328A	Wristen Ranch, baz=57	57.49	79	⇑P	P	20 51 50.6	0.0
526A	Mary Lane Ranc baz=58	57.62	81	⇑P	P	20 51 52.2	+0.5
527A	Woodward Ranch baz=58	57.86	81	⇑P	P	20 51 53.4	+0.1
626A	Big Bend Ranch baz=58	57.95	82	⇓P	P	20 51 54.1	+0.1
ARCES	ARCESS Array B	57.97	350	P	P	20 51 52.7	-0.6
ARCES	ARCESS Array B 7.0nm,1.1s,baz=20,slow=8.0,SNR=5.9	57.97	350	P	P	20 51 52.7	-0.6
428A	Kincaid Ranch, baz=58	58.02	80	⇑P	P	20 51 54.7	+0.2
528A	Cox Ranch, San baz=58	58.36	80	⇑P	P	20 51 57.1	+0.3
TXAR	Lajitas Array	58.40	82	P	P	20 51 57.1	0.0
TXAR	Lajitas Array 1.4nm,0.5s,baz=315,slow=5.9,SNR=10	58.40	82	P	P	20 51 57.1	0.0
TXAR	comp=Z,57nm,19.9s,baz=0.0,slow=33			LR	LR	21 14 16.7	
627A	Terlingua Ranc baz=58	58.48	81	⇑P	P	20 51 57.3	-0.3
628A	Black Gap, Mar baz=59	58.77	81	⇓P	P	20 51 59.8	+0.2
430A	Baggett Ranch, baz=59	58.87	79	⇓P	P	20 52 00.0	-0.3
SCHQ	Schefferville	59.73	39	P	P	20 52 06.7	+0.9
SCHQ	Schefferville 1.3nm,0.6s,baz=256,slow=15,SNR=2.7	59.73	39	P	P	20 52 06.7	+0.9
SCHQ	comp=Z,124nm,20.3s,baz=58,slow=34			LR	LR	21 16 22.5	
MKAR	Makanchi Array	60.12	309	P	P	20 52 08.7	+0.1
MKAR	Makanchi Array 0.2nm,0.4s,baz=52,slow=6.3,SNR=9.7	60.12	309	P	P	20 52 08.7	+0.1
BVAR	Borovoye Array	60.91	320	P	P	20 52 14.6	+0.7
BVAR	Borovoye Array 1.0nm,0.5s,baz=40,slow=7.5,SNR=6.6	60.91	320	P	P	20 52 14.6	+0.7
LONY	Lake Ozonia	63.89	51	*e*P	P	20 52 39.2	+5.3
FINES	FINESS Array B	65.67	347	P	P	20 52 44.1	-1.1
FINES	FINESS Array B 2.2nm,0.9s,baz=24,slow=5.7,SNR=8.0	65.67	347	P	P	20 52 44.1	-1.1
NOA	NORSAR Array B	67.50	355	P	P	20 52 57.0	0.0
NOA	NORSAR Array B 0.5nm,0.5s,baz=7.8,slow=6.7,SNR=6.3	67.50	355	P	P	20 52 57.0	0.0
AKTO	Aktyubinsk	67.69	325	P	P	20 52 59.6	+1.4
AKTO	Aktyubinsk 1.0nm,0.6s,baz=53,slow=7.3,SNR=5.1	67.69	325	P	P	20 52 59.6	+1.4
CMAR	Chiang Mai Arr	71.23	276	P	P	20 53 20.4	-0.2
CMAR	Chiang Mai Arr 2.4nm,0.7s,baz=30,slow=7.1,SNR=25	71.23	276	P	P	20 53 20.4	-0.2
TAPN	Taplejung 11nm,0.6s	71.37	291	*e*P	P	20 53 22.5	+0.9
TAPN	Taplejung	71.37	291	*e*P	P	20 53 22.5	+0.9
GUN	Gumba 24nm,0.3s	72.01	292	*e*P	P	20 53 25.3	-0.3
JIRN	Jiri 2.5nm,0.5s	72.02	292	*e*P	P	20 53 25.6	0.0
JIRN	Jiri	72.02	292	*e*P	P	20 53 25.6	0.0
RAMN	Ramite 12nm,0.5s	72.32	291	*e*P	P	20 53 27.0	-0.3
RAMN	Ramite	72.32	291	*e*P	P	20 53 27.0	-0.3
KKN	Kakani 9.2nm,0.6s	72.45	293	*e*P	P	20 53 27.7	-0.3
KKN	Kakani	72.45	293	*e*P	P	20 53 27.7	-0.3
GKN	Gorkha 5.8nm,0.4s	72.66	293	*e*P	P	20 53 28.3	-0.9
DANN	Dangsing 8.5nm,0.7s	72.90	294	*e*P	P	20 53 30.5	-0.3
DANN	Dangsing	72.90	294	*e*P	P	20 53 30.5	-0.3
GERES	GERESS Array B	79.45	352	P	P	20 54 08.4	+1.0
GERES	GERESS Array B 0.4nm,0.8s,baz=42,slow=4.2,SNR=3.6	79.45	352	P	P	20 54 08.4	+1.0
WRA	Warramunga Arr	82.30	224	P	P	20 54 22.2	-0.4
WRA	Warramunga Arr 1.0nm,0.9s,baz=32,slow=5.9,SNR=8.5	82.30	224	P	P	20 54 22.2	-0.4
PSI	Prapat	83.24	266	P	P	20 54 28.0	0.0
PSI	Prapat 8.4nm,0.7s,baz=20,slow=4.3,SNR=9.8	83.24	266	P	P	20 54 28.0	0.0
BRTR	Keskin Array B	84.89	336	P	P	20 54 37.0	+0.9
BRTR	Keskin Array B 0.8nm,0.8s,baz=24,slow=8.4,SNR=2.8	84.89	336	P	P	20 54 37.0	+0.9
ASAR	Alice Springs	85.77	223	P	P	20 54 40.5	+0.2
ASAR	Alice Springs 2.3nm,1.1s,baz=23,slow=5.7,SNR=9.6	85.77	223	P	P	20 54 40.5	+0.2
TORD	Torodi Ar. Bea	115.58	360	PKP	PKPdf	21 00 42.2	-1.0
TORD	Torodi Ar. Bea 0.4nm,0.5s,baz=352,slow=2.1,SNR=11	115.58	360	PKP	PKPdf	21 00 42.2	-1.0
DBIC	Dimbokro	121.75	8	PKP	PKPdf	21 00 54.5	-0.7
DBIC	Dimbokro 2.1nm,0.4s,baz=330,slow=2.3,SNR=16	121.75	8	PKP	PKPdf	21 00 54.5	-0.7
BOSA	Boshof	151.04	313	PKPbc	PKPbc	21 01 53.9	+0.1
BOSA	Boshof 6.3nm,0.5s,baz=29,slow=2.0,SNR=27	151.04	313	PKPbc	PKPbc	21 01 53.9	+0.1

*NEIC **20** 20:49:36.0±0.5, 3.°92N×126.°97E, h35km, mb4.4/15, Error ellipse: s-maj=14.9km s-min=7.5km az=64.0*
*IDC **20** 20:49:39.1±6.9, 3.°72N×126.°50E, h54km±66km, mb3.9/11, mb1 4.0/11, mb1mx3.8/22, mbtmpb3.9/11, MS2.9/3, Ms1 2.9/3, ms1mx2.8/40, Error ellipse: s-maj=46.4km s-min=14.4km az=69.0*
*DJA **20** 20:49:44, 3.°47N×126.°74E, h56km, mb4.5/14*
*MAN **20** 20:49:57, 5.°09N×126.°11E, h83km, mb4.7, ML3.6, MS3.5*

ISC 20 20:49:35.8±2.0, 3.°98N±0.°04×126.°85E±0.°07, h30km±14km, n72, σ1§44/64, mb4.3/25, 1C-1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSPH	General Santos	2.83	318	⇑*i*P			Pn	20 50 22.2	+3.1
MATI	Mati	3.01	349	*e*P			Pb	20 50 28.4	-0.4
MATI				*e*S			Sn	20 50 51.4	-5.1
MNI	Manado	3.22	219	P			Pn	20 50 24.3	0.0
MNI				S			Sn	20 51 01.8	+0.1
TNTI	Ternate	3.22	171	P			Pn	20 50 25.7	+1.3
TNTI				S			Sn	20 51 00.9	-0.9
DAV	Davao City (W)	3.32	338	P			Pb	20 50 44.2	+10
DAV	Davao City (W) comp=Z,136nm,18.7s,baz=316,slow=44	3.32	338	LR			LR	20 52 10.9	
CTBH	Cotabato--PC H	4.14	321	⇓*i*P			Pn	20 50 42.3	+5.4
BUKP	Musuan	4.27	335	*e*P			Pb	20 50 44.8	-5.4
KMSI	Cibinong	4.43	220	P			Pn	20 50 43.7	+2.7
KMSI				S			Sn	20 51 27.4	-4.2
LBMI	Labuha	4.63	172	P			Pn	20 50 42.4	-1.3
LBMI				S			Sn	20 51 36.4	-0.1
PAGZ	Pagadian	5.17	318	*e*P			Pn	20 50 55.5	+4.4
MRSI	Marisa	6.01	235	P			Pn	20 51 04.1	+1.4
MRSI				S			Sn	20 52 06.4	-4.2
SWI	Sorong	6.52	137	P			Pn	20 51 12.9	+3.1
SWI				S			Sn	20 52 25.9	+2.7
MSAI	Masohi	7.56	164	P			Pn	20 51 24.6	+0.5
AAI	Ambon	7.73	170	P			Pn	20 51 27.8	+1.4
MYLDM	Lahad Datu 40nm,0.8s	8.41	278	P			Pn	20 51 44.7	+9.0
FAKI	Fak Fak	8.72	142	P			Pn	20 51 44.7	+4.7
KDI	Kendari 15nm,0.8s	8.94	208	P			Pn	20 51 43.3	+0.3
TTSI	Tana Tinaja	9.90	225	P			Pn	20 52 00.2	+4.1
KKM	Kota Kinabalu 11nm,0.9s	10.79	281	*e*P			Pn	20 52 11.8	+3.4
KAPI	Kappang comp=Z,131nm,19.8s,baz=82,slow=40	11.40	219	LR			LR	20 57 03.0	
BBKI	Banjar Baru	14.09	239	P			P	20 53 01.2	+0.4
SBUM	Sibu	14.68	265	P			P	20 53 09.1	+1.7
KSM	Kuching 16nm,1.0s	16.71	262	*e*Pn			P	20 53 29.7	-0.2
GUMO	Guam comp=Z,28nm,21.9s,baz=293,slow=34	20.19	61	LR			LR	21 01 13.7	
FITZ	Fitzroy Crossi	21.97	183	P			P	20 54 25.7	-1.6
FITZ	Fitzroy Crossi 2.4nm,0.4s,baz=22,slow=9.0,SNR=20	21.97	183	P			P	20 54 25.7	-1.6
WRAB	Tennant Creek 12nm,0.8s	24.88	163	*e*P			P	20 54 54.3	-1.8
WRA	Warramunga Arr	24.88	163	P			P	20 54 54.5	-1.6
WRA	Warramunga Arr 6.9nm,0.7s,baz=343,slow=10,SNR=13	24.88	163	P			P	20 54 54.5	-1.6
MBWA	Marble Bar 6.1nm,0.8s	25.93	195	*e*P			P	20 55 04.1	-1.5
KULM	Kulim 12nm,1.2s	26.14	274	P			P	20 55 07.6	0.0
ASAR	Alice Springs	28.32	166	P			P	20 55 27.8	+0.6
ASAR	Alice Springs 0.6nm,0.4s,baz=349,slow=7.6,SNR=7.0	28.32	166	P			P	20 55 27.8	+0.6
CMAR	Chiang Mai Arr	30.85	300	P			P	20 55 50.2	+0.6
CMAR	Chiang Mai Arr 0.8nm,0.5s,baz=107,slow=5.8,SNR=7.1	30.85	300	P			P	20 55 50.2	+0.6
CHTO	Chiang Mai 3.5nm,1.1s	31.00	301	*e*P			P	20 55 51.0	+0.1
KSAR	Wonju Array Be	33.32	2	P			P	20 56 15.1	+4.1
KSRS	Korea Array 0.9nm,0.5s,baz=178,slow=9.9,SNR=3.7	33.33	2	P			P	20 56 15.1	+4.0
STKA	Stephens Creek	38.32	160	P			P	20 56 53.7	-0.2
STKA				PcP			PcP	20 59 07.5	-0.1
STKA	Stephens Creek 3.2nm,0.6s,baz=329,slow=11,SNR=11	38.32	160	P			P	20 56 53.7	-0.2
STKA	1.2nm,0.5s,baz=328,slow=8.3,SNR=2.9			PcP			PcP	20 59 07.5	-0.1
LSA	Lhasa 3.5nm,0.6s	42.37	311	*e*P			P	20 57 28.9	+0.8
TAPN	Taplejung 4.3nm,0.4s	43.97	306	*e*P			P	20 57 40.3	-0.6
ODAN	Odare 6.2nm,0.4s	44.02	305	*e*P			P	20 57 40.3	-1.0
RAMN	Ramite 6.7nm,0.6s	44.71	305	*e*P			P	20 57 46.3	-0.4
RAMN	Ramite 6.7nm,0.6s	44.71	305	*e*P			P	20 57 46.3	-0.4
GUN	Gumba 8.1nm,0.4s	45.68	306	*e*P			P	20 57 54.0	-0.6
PKI	Pulchoki 3.4nm,0.3s	45.92	305	*e*P			P	20 57 55.5	-1.0
KKN	Kakani 3.5nm,0.4s	46.12	305	*e*P			P	20 57 56.8	-1.1
GKN	Gorkha 3.0nm,0.4s	46.72	305	*e*P			P	20 58 01.5	-1.1
ULN	Ulaanbaatar 1.9nm,0.6s	46.92	342	P			P	20 58 05.8	+1.9
SONM	Songino Array	47.10	341	P			P	20 58 07.0	+1.8
SONM				PcP			PcP	20 59 38.3	+1.6
SONM	Songino Array 1.1nm,0.6s,baz=154,slow=8.6,SNR=7.9	47.10	341	P			P	20 58 07.0	+1.8
SONM	0.6nm,0.8s,baz=161,slow=5.8,SNR=2.5			PcP			PcP	20 59 38.3	+1.6
KOLN	Koldanda 11nm,0.4s	47.48	305	*e*P			P	20 58 07.9	-0.7
DANN	Dangsing 16nm,0.5s	47.57	305	*e*P			P	20 58 08.4	-0.9
DANN	Dangsing	47.57	305	*e*P			P	20 58 08.4	-0.9
DGAR	Diego Garcia	55.45	258	*e*P			P	20 59 04.4	-3.7
MKAR	Makanchi Array	57.42	325	P			P	20 59 21.9	+0.1
MKAR	Makanchi Array 1.7nm,0.4s,baz=120,slow=7.5,SNR=50	57.42	325	P			P	20 59 21.9	+0.1
TKM2	Tokmak 2 2.0nm,0.5s	59.64	318	*e*P			P	20 59 37.6	+0.1
AAK	Ala-Archa 6.0nm,0.8s	60.26	318	*e*P			P	20 59 41.0	-0.7
ZALV	Zalesovo Beam	60.42	333	P			P	20 59 41.6	-0.7
ZALV	Zalesovo Beam 0.5nm,0.4s,baz=120,slow=8.3,SNR=5.6	60.42	333	P			P	20 59 41.6	-0.7
EKS2	Erkin-Say 3.2nm,0.7s	60.75	317	*e*P			P	20 59 45.8	+0.8
KURK	Kurchatov 6.0nm,0.5s	61.60	327	*e*P			P	20 59 50.6	+0.2
BRVK	Borovoye 1.7nm,0.4s	67.25	327	*e*P			P	21 00 26.9	-0.4
ABKAR	Akbulak array 2.0nm,0.6s	72.04	321	*e*P			P	21 00 57.1	+0.2
ARU	Arti	74.79	328	*e*P			P	21 01 12.6	-0.4
BRTR	Keskin Array B	89.96	310	P			P	21 02 32.2	-0.6
BRTR	Keskin Array B 0.6nm,0.8s,baz=79,slow=6.4,SNR=3.8	89.96	310	P			P	21 02 32.2	-0.6
FINES	FINESS Array B	91.67	332	P			P	21 02 40.6	+0.6
FINES	FINESS Array B 4.1nm,1.1s,baz=67,slow=6.4,SNR=4.7	91.67	332	P			P	21 02 40.6	+0.6

*JMA **20** 20:52:54.1±0.3, 28.°44N×140.°46E, h417km±4km, M4.0*
*IDC **20** 20:52:54.2±0.6, 28.°23N×139.°95E, h393km±6km, mb3.2/18, mb1 3.4/22, mb1mx3.3/30, mbtmpb3.2/22, Error ellipse: s-maj=15.7km s-min=8.5km az=77.0*

ISC 20 20:52:54.3±0.6, 28.°41N±0.°07×140.°4E±0.°1, h400km, n43, σ1§60/50, mb3.5/19, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.07	129	P			Pn	20 53 52.0	+1.2
CBIJ				*e*S			S	20 54 38.0	+1.7
CBIJ	Chichi jima 99nm,0.3s,baz=278,slow=17,SNR=38	2.07	129	P			Pn	20 53 52.1	+1.3
CBIJ	79nm,0.3s,baz=174,slow=23,SNR=14			S			S	20 54 37.2	+0.9
JHHJ	Haha-jima-NKT	2.39	137	P			Pn	20 53 54.2	+1.3
JHHJ				S			S	20 54 40.6	+0.3
JHJ2	Mitsune	4.71	354	P			Pn	20 54 14.7	+1.4
JHJ	Hachijo jima 2 77nm,0.3s,baz=86,slow=21,SNR=7.9	4.72	354	P			Pn	20 54 14.8	+1.5
JHJ	24nm,0.3s,baz=71,slow=18,SNR=2.4			S			S	20 55 22.5	+4.8
TK02	Tokai 2	5.96	339	P			Pn	20 54 28.2	+2.1
BSO1	Boso 1	6.25	5	P			Pn	20 54 31.0	+2.1
BSO3	Boso 3	6.37	1	P			Pn	20 54 32.4	+1.8
BSO4

JNY	**Yasuok**	**7.25**	**344**	P		**P**	**20 54 41.9**	**+0.6**	
JAO	**Obara**	**7.33**	**340**	P		**P**	**20 54 42.9**	**+0.7**	
JHU	**Hanno**	**7.48**	**353**	P		**Pn**	**20 54 42.5**	**-0.7**	
JHU				*e*S		**S**	**20 56 09.3**	**-3.1**	
JRY	**Ryogami san**	**7.69**	**351**	P		**P**	**20 54 46.1**	**0.0**	
JRY				*e*S		**S**	**20 56 14.0**	**-2.8**	
JYT	**Yasato**	**7.80**	**359**	P		**P**	**20 54 47.6**	**+0.3**	
JYT				*e*S		**S**	**20 56 16.4**	**-2.6**	
JAG	**Ashikaga**	**8.03**	**355**	P		**Pn**	**20 54 49.0**	**-0.5**	
JAG				*e*S		**S**	**20 56 19.9**	**-4.0**	
MJAR	**Matsushiro Arr**	**8.31**	**348**	P		**Pn**	**20 54 52.6**	**-0.2**	
	1.3nm,0.3s,baz=116,slow=13,SNR=10								
MAT	**Matsushiro**	**8.31**	**348**	P		**Pn**	**20 54 53.2**	**+0.4**	
USRK	**Ussuriysk Arra**	**17.13**	**339**	P		**P**	**20 56 30.6**	**+1.2**	
	1.1nm,0.3s,baz=144,slow=9.9,SNR=17								
SONM	**Songino Array**	**32.66**	**316**	P		**P**	**20 58 50.4**	**-0.6**	
	0.4nm,0.3s,baz=123,slow=8.0,SNR=5.5								
ZALV	**Zalesovo Beam**	**47.45**	**319**	P		**P**	**21 00 49.1**	**-1.3**	
	0.5nm,0.5s,baz=108,slow=8.4,SNR=2.5								
ZALV				PcP		**pP**	**21 02 13.0**	**+3.0**	
	0.9nm,0.6s,baz=122,slow=2.9,SNR=5.0								
MKAR	**Makanchi Array**	**48.40**	**309**	P		**P**	**21 00 57.9**	**+0.1**	
	0.3nm,0.5s,baz=113,slow=7.0,SNR=1.9								
MKAR				PcP		**PcP**	**21 02 16.9**	**-0.3**	
	0.8nm,0.6s,baz=64,slow=5.7,SNR=7.5								
MKAR				ScP		**ScP**	**21 05 32.3**	**-0.6**	
	0.3nm,0.8s,baz=91,slow=5.8,SNR=2.5								
WRA	**Warramunga Arr**	**48.42**	**188**	P		**P**	**21 00 57.4**	**-0.8**	
	0.5nm,0.5s,baz=5.6,slow=7.7,SNR=10.0								
CTA	**Charters Tower**	**48.55**	**173**	P		**P**	**21 00 58.6**	**-0.5**	
	1.8nm,0.7s,baz=69,slow=19,SNR=2.7								
ASAR	**Alice Springs**	**52.15**	**188**	P		**P**	**21 01 25.1**	**-0.7**	
	0.2nm,0.5s,baz=354,slow=4.8,SNR=5.0								
KDAK	**Kodiak Island**	**54.29**	**37**	P		P	21 01 44.5	+3.8	
	8.0nm,1.1s,baz=143,slow=19,SNR=3.0								
ILAR	**Eielson Array**	**57.34**	**29**	P		**P**	**21 02 03.9**	**+1.9**	
	0.4nm,0.6s,baz=297,slow=7.6,SNR=7.0								
STKA	**Stephens Creek**	**59.96**	**179**	P		**P**	**21 02 20.2**	**0.0**	
	1.1nm,0.6s,baz=343,slow=23,SNR=2.1								
INK	**Inuvik**	**62.51**	**25**	P		P	21 02 39.3	+2.7	
	0.6nm,0.3s,baz=289,slow=4.4,SNR=4.9								
KEV	**Kevo**	**71.21**	**340**	*e*p		**P**	**21 03 31.1**	**+0.4**	
YKA	**Yellowknife Ar**	**71.75**	**28**	P		P	21 03 36.7	+2.7	
	0.7nm,0.6s,baz=294,slow=5.8,SNR=18								
ARCES	**ARCESS Array B**	**71.77**	**340**	P		**P**	**21 03 34.9**	**+0.8**	
	6.1nm,0.9s,baz=76,slow=10,SNR=6.1								
JOF	**Joensuu**	**73.19**	**333**	*e*p		**P**	**21 03 42.1**	**-0.3**	
	2.7nm,0.7s								
KAF	**Kangasniemi**	**75.59**	**334**	*e*p		**P**	**21 03 54.5**	**-1.6**	
KBZ	**Khabaz**	**75.94**	**312**	P		**P**	**21 03 58.6**	**+0.2**	
	1.8nm,0.7s,baz=148,slow=20,SNR=3.2								
FINES	**FINESS Array B**	**76.06**	**333**	P		**P**	**21 03 58.9**	**+0.2**	
	0.9nm,0.3s,baz=60,slow=5.2,SNR=18								
NVAR	**Mina Array Bea**	**80.96**	**51**	P		P	21 04 30.0	+4.0	
	1.0nm,0.6s,baz=289,slow=5.5,SNR=7.5								
NOA	**NORSAR Array B**	**81.79**	**338**	P		**P**	**21 04 29.3**	**-0.3**	
	1.1nm,0.9s,baz=38,slow=5.0,SNR=3.2								
BRTR	**Keskin Array B**	**83.93**	**312**	P		**P**	**21 04 40.5**	**-0.5**	
	0.7nm,0.7s,baz=114,slow=3.4,SNR=6.5								
GERES	**GERESS Array B**	**89.55**	**328**	P		**P**	**21 05 06.9**	**-0.7**	
	0.2nm,0.6s,baz=22,slow=3.2,SNR=2.7								
TORD	**Torodi Ar. Bea**	**122.51**	**310**	PKP		**PKPdf**	**21 11 02.6**	**-1.1**	
	0.1nm,0.3s,baz=45,slow=0.9,SNR=5.1								

*MDD **20** 21:02:25.1±2.2, 37.°15N×13.°09W, h0km, mb3.6/7, Error ellipse: s-maj=20.1km s-min=17.6km az=141.0, PRXIMO SOLUCIN POBRE*

*INMG **20** 21:02:26.9±1.1, 37.°01N×13.°47W, h10km, ML2.5, Error ellipse: s-maj=6.6km s-min=5.2km az=95.0*

*CSEM **20** 21:02:27.8±0.4, 37.°26N×12.°86W, h10km, ML3.2/23, Error ellipse: s-maj=6.5km s-min=6.3km az=158.0*

ISC 20 21:02:24.4±3.6, 37°21N±0°09×13°1W±0°2, h10km, n69, σ1§38/113, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
PMAFR	**Mafra**	**3.46**	**59**	*e*Pn	**Pn**	**21 03 20.8**			**+2.4**
PMAFR				*e*Sn	**Sn**	**21 04 00.1**			**+0.7**
PMAFR				A	A	21 04 03.8			
	14nm,0.2s								
PMAFR	**Mafra**	**3.46**	**59**	Pn	**Pn**	**21 03 20.2**			**+1.8**
	1.3nm,0.2s,SNR=7.9								
PMAFR				Sn	**Sn**	**21 04 00.3**			**+0.9**
	8.1nm,0.1s,SNR=9.8								
PMAFR	**Mafra**	**3.46**	**59**	Pn	**Pn**	**21 03 20.2**			**+1.8**
	1.3nm,0.2s,SNR=7.9								
PMAFR				*e*Sn	**Sn**	**21 04 00.1**			**+0.7**
	14nm,0.2s								
PTEO	**Sao Teotonio**	**3.48**	**83**	*e*Pn	**Pn**	**21 03 19.6**			**+1.0**
PTEO				*e*Sn	**Sn**	**21 03 59.2**			**-0.6**
PTEO				A	A	21 04 02.1			
	8.5nm,0.5s								
PTEO	**Sao Teotonio**	**3.48**	**83**	Pn	**Pn**	**21 03 19.6**			**+1.0**
PTEO				Sn	**Sn**	**21 03 59.2**			**-0.6**
	4.2nm,0.5s								
PTEO	**Sao Teotonio**	**3.48**	**83**	Pn	**Pn**	**21 03 19.6**			**+1.0**
PTEO				*e*Sn	**Sn**	**21 03 59.2**			**-0.6**
	8.5nm,0.5s								
MORF	**Marmelete**	**3.53**	**87**	*e*Pn	**Pn**	**21 03 19.9**			**+0.5**
MORF				*e*Sn	**Sn**	**21 04 00.4**			**-0.8**
MORF				A	A	21 04 06.4			
	9.5nm,0.2s								
MORF	**Marmelete**	**3.53**	**87**	Pn	**Pn**	**21 03 19.9**			**+0.5**
MORF				Sn	**Sn**	**21 04 00.4**			**-0.8**
	9.5nm,0.2s								
MORF	**Marmelete**	**3.53**	**87**	Pn	**Pn**	**21 03 19.9**			**+0.5**
MORF				*e*Sn	**Sn**	**21 04 00.4**			**-0.8**
	9.5nm,0.2s								
PNCL	**Nicolau / Gran**	**3.71**	**75**	*e*Pn	**Pn**	**21 03 23.7**			**+1.8**
PNCL				*e*Sn	**Sn**	**21 04 05.7**			**0.0**
PNCL				A	A	21 04 10.7			
	6.1nm,0.2s								
PNCL	**Nicolau / Gran**	**3.71**	**75**	*e*Pn	**Pn**	**21 03 23.7**			**+1.8**
PNCL				*e*Sn	**Sn**	**21 04 05.7**			**0.0**
	6.1nm,0.2s								
MOE	**Montemor**	**3.96**	**69**	*e*Sn	**Sn**	**21 04 11.4**			**-0.3**
MOE	**Montemor**	**3.96**	**69**	Sn	**Sn**	**21 04 11.4**			**-0.3**
MOE	**Montemor**	**3.96**	**69**	Sn	**Sn**	**21 04 11.4**			**-0.3**
PCVE	**Castro Verde**	**4.03**	**82**	*e*Pn	**Pn**	**21 03 27.0**			**+0.8**
PCVE				*e*Sn	**Sn**	**21 04 12.5**			**-0.9**
PCVE				A	A	21 04 21.7			
	3.1nm,0.2s								
PCVE	**Castro Verde**	**4.03**	**82**	Pn	**Pn**	**21 03 27.0**			**+0.8**
PCVE				Sn	**Sn**	**21 04 12.5**			**-0.9**
	3.1nm,0.2s								
PCVE	**Castro Verde**	**4.03**	**82**	Pn	**Pn**	**21 03 27.0**			**+0.8**
PCVE				*e*Sn	**Sn**	**21 04 12.5**			**-0.9**
	3.1nm,0.2s								
PBDV	**Barranco-do-Ve**	**4.10**	**88**	*e*Pn	**Pn**	**21 03 28.1**			**+0.9**
PBDV				*e*Sn	**Sn**	**21 04 14.2**			**-1.1**
PBDV				A	A	21 04 21.8			
	4.9nm,0.4s								
PBDV	**Barranco-do-Ve**	**4.10**	**88**	Pn	**Pn**	**21 03 28.1**			**+0.9**
PBDV				Sn	**Sn**	**21 04 14.2**			**-1.1**
	4.9nm,0.4s								
PBDV	**Barranco-do-Ve**	**4.10**	**88**	Pn	**Pn**	**21 03 28.1**			**+0.9**
PBDV				*e*Sn	**Sn**	**21 04 14.2**			**-1.1**
	4.9nm,0.4s								
PBEJ	**Beja**	**4.21**	**77**	*e*Sn	**Sn**	**21 04 17.7**			**-0.3**
PBEJ				A	A	21 04 23.5			
	2.9nm,0.2s								
PBEJ	**Beja**	**4.21**	**77**	Sn	**Sn**	**21 04 17.7**			**-0.3**
	1.4nm,0.2s								
PBEJ	**Beja**	**4.21**	**77**	*e*Sn	**Sn**	**21 04 17.7**			**-0.3**
	2.9nm,0.2s								
PMTG	**Montargil**	**4.25**	**63**	*e*Sn	**Sn**	**21 04 18.2**			**-0.6**
PMTG				A	A	21 04 23.4			
	3.9nm,0.2s								
PMTG	**Montargil**	**4.25**	**63**	*e*Sn	**Sn**	**21 04 18.2**			**-0.6**
	3.9nm,0.2s								
PVAQ	**Vaqueiros**	**4.27**	**86**	*e*Pn	**Pn**	**21 03 30.6**			**+1.1**
PVAQ				*e*Sn	**Sn**	**21 04 18.7**			**-0.8**
PVAQ				A	A	21 04 23.5			
	7.4nm,0.1s								
PVAQ	**Vaqueiros**	**4.27**	**86**	Pn	**Pn**	**21 03 30.6**			**+1.1**
PVAQ				Sn	**Sn**	**21 04 18.7**			**-0.8**
	7.4nm,0.1s								
PVAQ	**Vaqueiros**	**4.27**	**86**	Pn	**Pn**	**21 03 30.6**			**+1.1**
PVAQ				*e*Sn	**Sn**	**21 04 18.7**			**-0.8**
	7.4nm,0.1s								
PTOM	**Tomar**	**4.38**	**55**	*e*Sn	**Sn**	**21 04 24.3**			**+2.2**
PTOM				A	A	21 04 25.8			
	8.0nm,0.1s								
PTOM	**Tomar**	**4.38**	**55**	Sn	**Sn**	**21 04 24.3**			**+2.2**
	4.0nm,0.1s								
PTOM	**Tomar**	**4.38**	**55**	*e*Sn	**Sn**	**21 04 24.3**			**+2.2**
	8.0nm,0.1s								
EGRO	**El Granado**	**4.46**	**84**	Pn	**Pn**	**21 03 33.2**			**+1.0**
	0.5nm,0.1s,SNR=7.9								
EGRO				Sn	**Sn**	**21 04 22.4**			**-1.7**
	1.4nm,0.1s,SNR=7.9								
EGRO	**El Granado**	**4.46**	**84**	Pn	**Pn**	**21 03 33.2**			**+1.0**
	0.5nm,0.1s,SNR=7.9								
EGRO				Sn	**Sn**	**21 04 22.4**			**-1.7**
	1.4nm,0.1s,SNR=7.9								
PESTR	**Estremoz**	**4.63**	**67**	*e*Pn	**Pn**	**21 03 35.7**			**+1.2**
PESTR				*e*Sn	**Sn**	**21 04 27.8**			**-0.5**
PESTR				A	A	21 04 38.3			
	2.8nm,0.7s								
PESTR	**Estremoz**	**4.63**	**67**	Pn	**Pn**	**21 03 35.7**			**+1.2**
PESTR				Sn	**Sn**	**21 04 27.8**			**-0.5**
	1.4nm,0.7s								
PESTR	**Estremoz**	**4.63**	**67**	Pn	**Pn**	**21 03 35.7**			**+1.2**
PESTR				*e*Sn	**Sn**	**21 04 27.8**			**-0.5**
	2.8nm,0.7s								
PBAR	**Barrancos**	**4.88**	**77**	*e*Pn	**Pn**	**21 03 39.3**			**+1.4**
PBAR				*e*Sn	**Sn**	**21 04 33.2**			**-1.2**
PBAR				A	A	21 04 40.7			
	1.8nm,0.1s								
PBAR	**Barrancos**	**4.88**	**77**	Pn	**Pn**	**21 03 39.3**			**+1.4**
PBAR				Sn	**Sn**	**21 04 33.2**			**-1.2**
	1.8nm,0.1s								
PBAR	**Barrancos**	**4.88**	**77**	Pn	**Pn**	**21 03 39.3**			**+1.4**
PBAR				*e*Sn	**Sn**	**21 04 33.2**			**-1.2**
	1.8nm,0.1s								
PMRV	**Marv??o**	**4.99**	**62**	*e*Pn	**Pn**	**21 03 40.9**			**+1.6**
PMRV				*e*Sn	**Sn**	**21 04 36.5**			**-0.5**
PMRV				A	A	21 04 40.4			
	3.6nm,0.2s								
PMRV	**Marv??o**	**4.99**	**62**	Pn	**Pn**	**21 03 40.9**			**+1.6**
PMRV				Sn	**Sn**	**21 04 36.5**			**-0.5**
	3.6nm,0.2s								
PMRV	**Marv??o**	**4.99**	**62**	Pn	**Pn**	**21 03 40.9**			**+1.6**
PMRV				*e*Sn	**Sn**	**21 04 36.5**			**-0.5**
	3.6nm,0.2s								
EBAD	**Badajoz**	**5.03**	**70**	Pn	**Pn**	**21 03 39.8**			**-0.1**
	0.4nm,0.1s,SNR=7.9								
EBAD				Sn	**Sn**	**21 04 36.2**			**-1.9**
	3.0nm,0.1s,SNR=7.9								
EBAD	**Badajoz**	**5.03**	**70**	Pn	**Pn**	**21 03 39.8**			**-0.1**
	0.4nm,0.1s,SNR=7.9								
EBAD				Sn	**Sn**	**21 04 36.2**			**-1.9**
	3.0nm,0.1s,SNR=7.9								
PCBR	**Castelo Branco**	**5.11**	**57**	*e*Sn	**Sn**	**21 04 39.1**			**-1.0**
PCBR				A	A	21 04 46.7			
	1.6nm,0.3s								
PCBR	**Castelo Branco**	**5.11**	**57**	Sn	**Sn**	**21 04 39.1**			**-1.0**
	0.8nm,0.3s								
PCBR	**Castelo Branco**	**5.11**	**57**	*e*Sn	**Sn**	**21 04 39.1**			**-1.0**
	1.6nm,0.3s								
EMIN	**Mina Concepcio**	**5.12**	**82**	Pn	**Pn**	**21 03 41.8**			**+0.6**
	0.5nm,0.3s,SNR=7.9								
EMIN				Sn	**Sn**	**21 04 38.1**			**-2.2**
	0.4nm,0.1s,SNR=9.9								
EMIN	**Mina Concepcio**	**5.12**	**82**	Pn	**Pn**	**21 03 41.8**			**+0.6**
	0.5nm,0.3s,SNR=7.9								
EMIN				Sn	**Sn**	**21 04 38.1**			**-2.2**
	0.4nm,0.1s,SNR=9.9								
MTE	**Manteigas**	**5.36**	**52**	*e*Sn	**Sn**	**21 04 46.2**			**-0.2**
MTE	**Manteigas**	**5.36**	**52**	Sn	**Sn**	**21 04 46.2**			**-0.2**
MTE	**Manteigas**	**5.36**	**52**	Sn	**Sn**	**21 04 46.2**			**-0.2**
ESPR	**Espera**	**5.78**	**91**	Pn	**Pn**	**21 03 51.6**			**+1.3**
	1.1nm,0.2s,SNR=7.9								
ESPR				Sn	**Sn**	**21 04 54.9**			**-1.7**
	1.1nm,0.1s,SNR=7.9								
ESPR	**Espera**	**5.78**	**91**	Pn	**Pn**	**21 03 51.6**			**+1.3**
	1.1nm,0.2s,SNR=7.9								
ESPR				Sn	**Sn**	**21 04 54.9**			**-1.7**
	1.1nm,0.1s,SNR=7.9								
POLO	**Lamas de Olo**	**5.83**	**43**	*e*Pn	**Pn**	**21 03 52.0**			**+0.9**
POLO				*e*Sn	**Sn**	**21 04 56.2**			**-1.8**
POLO				A	A	21 05 09.2			
	0.9nm,0.7s								
POLO	**Lamas de Olo**	**5.83**	**43**	*e*Pn	**Pn**	**21 03 52.0**			**+0.9**
POLO				*e*Sn	**Sn**	**21 04 56.2**			**-1.8**
	0.9nm,0.7s								
EZAM	**Zamans**	**5.97**	**33**	Sn	**Sn**	**21 04 56.9**			**-4.6**
	0.9nm,0.1s,SNR=7.9								
PGAV	**Gavieira, Arco**	**6.02**	**37**	*e*Pn	**Pn**	**21 03 55.1**			**+1.4**
PGAV				*e*Sn	**Sn**	**21 05 00.1**			**-2.6**
PGAV				A	A	21 05 05.9			
	4.0nm,0.6s								
PGAV	**Gavieira, Arco**	**6.02**	**37**	*e*Pn	**Pn**	**21 03 55.1**			**+1.4**
ELOB	**Lobios**	**6.05**	**38**	Sn	**Sn**	**21 05 00.3**			**-3.1**
	1.0nm,0.1s,SNR=7.9								
MVO	**Moncorvo**	**6.13**	**48**	*e*Sn	**Sn**	**21 05 03.6**			**-1.8**
MVO				A	A	21 05 09.0			
	3.2nm,0.5s								
MVO	**Moncorvo**	**6.13**	**48**	Pn	**Pn**	**21 03 56.1**			**+1.0**
	0.5nm,0.1s,SNR=7.9								
MVO				Sn	**Sn**	**21 05 03.0**			**-2.4**
	1.3nm,0.1s,SNR=8.3								
MVO	**Moncorvo**	**6.13**	**48**	Pn	**Pn**	**21 03 56.1**			**+1.0**
	0.5nm,0.1s,SNR=7.9								
MVO				*e*Sn	**Sn**	**21 05 03.6**			**-1.8**
	3.2nm,0.5s								
EPLA	**Plasencia**	**6.17**	**60**	Sn	**Sn**	**21 05 04.1**			**-2.1**
	0.7nm,0.1s,SNR=7.9								
EPLA	**Plasencia**	**6.17**	**60**	Sn	**Sn**	**21 05 04.1**			**-2.1**
	0.7nm,0.1s,SNR=7.9								
ECAL	**Calabor**	**6.80**	**44**	Sn	**Sn**	**21 05 19.9**			**-1.9**
	0.4nm,0.1s,SNR=7.9								
ECAL	**Calabor**	**6.80**	**44**	Sn	**Sn**	**21 05 19.9**			**-1.9**
	0.4nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**6.80**	**79**	Pn	**Pn**	**21 04 05.3**			**+1.0**
	0.2nm,0.1s,SNR=7.9								
EADA				Sn	**Sn**	**21 05 20.6**			**-1.3**
	0.9nm,0.1s,SNR=7.9								
EADA	**Adamuz**	**6.80**	**79**	Pn	**Pn**	**21 04 05.3**			**+1.0**
	0.2nm,0.1s,SNR=7.9								
EADA				Sn	**Sn**	**21 05 20.6**			**-1.3**
	0.9nm,0.1s,SNR=7.9								

NNC 20 21:02:57.9±3.4, 39°13N×67°37E, h0km, mb3.6, mpv3.0, 5C-3D, Error ellipse: s-maj=27.7km s-min=19.5km az=2.0, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
KK31	**Karatay Array**	**4.63**	**30**	⇑Pn	Pn	21 04 11.9			+2.9
	0.4nm,0.2s,baz=216,slow=22,SNR=59								
KK31				⇑Sn	Sb	21 05 10.3			-6.0
	0.9nm,0.3s,baz=216,slow=22,SNR=5.4								
TKM2	**Tokmak 2**	**7.28**	**56**	⇑Pn	Pn	21 04 44.0			-1.8
	0.9nm,0.5s								
TKM2				⇑Sn	Sn	21 06 08.2			-1.2
	3.6nm,0.8s								
TKM2				⇓Lg	Lg	21 06 52.5			
	6.8nm,1.3s								
AB31	**Akbulak array**	**11.43**	**335**	Pn	Pn	21 05 42.5			+0.1
	0.4nm,0.3s,baz=157,slow=13,SNR=29								
AB31				Sn	Sn	21 07 53.6			+2.9
	0.6nm,0.5s,baz=165,slow=23,SNR=10								
BVA0	**Borovoye Array**	**14.05**	**8**	⇑Pn	Pn	21 06 19.2			+1.0
	0.4nm,1.0s,baz=170,slow=14,SNR=31								
BVA0				⇓Sn	Sn	21 08 56.4			+1.6
	0.5nm,1.4s,baz=177,slow=21,SNR=4.2								
BRVK	**Borovoye**	**14.08**	**7**	⇓Pn	Pn	21 06 19.7			+1.2
	2.5nm,0.5s								

*ISCJB **20** 21:06:06.9±0.3, 62.°99N±0.°02×151.°03W±0.°06, h132km±3km, mb3.5/8, Error ellipse: s-maj=4.5km s-min=3.8km az=13.9*

*IDC **20** 21:06:06.3±1.9, 63.°08N×151.°45W, h106km±18km, mb3.3/8, mb1 3.5/13, mb1mx3.4/30, mbtmp3.3/13, MS3.3/1, Ms1 3.3/1, ms1mx2.7/29, Error ellipse: s-maj=18.4km s-min=15.2km az=75.0*

*NEIC **20** 21:06:08.8, 63.°01N×151.°02W, h117km, MG3.6(AEIC), After AEIC.*

ISC 20 21:06:08.0±0.7, 62°97N±0°03×151°10W±0°04, h128km±5km, n93, σ1§05/111, mb3.5/8, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
PPLA	**Purkeypile**	**0.51**	**262**	P	**Pn**	**21 06 27.1**			**+0.1**
PPLA				S	**Sn**	**21 06 41.1**			**-0.2**
TRF	**Thorofare Moun**	**0.60**	**37**	P	**Pn**	**21 06 25.1**			**-2.5**
TRF				S	**Sn**	**21 06 41.1**			**-1.4**
HUR	**Hurricane**	**0.67**	**89**	P	**Pn**	**21 06 27.8**			**-0.1**
CUT	**Chulitna**	**0.69**	**146**	P	**Pn**	**21 06 28.0**			**+0.1**
TRAP	**Trapper Creek**	**0.75**	**148**	P	**Pn**	**21 06 28.5**			**+0.1**
TRAP				S	**Sn**	**21 06 44.2**			**+0.3**
SKT	**Skwentna**	**1.02**	**192**	P	**Pn**	**21 06 31.0**			**+0.2**
SKT				S	**Sn**	**21 06 48.3**			**+0.1**
CHUM	**Lake Minchumin**	**1.06**	**330**	P	**Pn**	**21 06 31.2**			**0.0**
CHUM				S	**Sn**	**21 06 48.1**			**-0.8**
RND	**Reindeer**	**1.11**	**66**	P	**Pn**	**21 06 31.5**			**-0.3**
RND				S	**Sn**	**21 06 49.0**			**-0.8**
MCK	**McKinley**	**1.24**	**51**	P	**Pn**	**21 06 33.0**			**0.0**
MCK				S	**Sn**	**21 06 51.1**			**-1.0**
STLK	**Strandline Lak**	**1.52**	**193**	P	**Pn**	**21 06 36.3**			**+0.1**
SUA	**Susitna One**	**1.52**	**174**	P	**Pn**	**21 06 36.8**			**+0.5**
PMR	**Palmer**	**1.66**	**146**	P	**Pn**	**21 06 37.4**			**-0.3**
DHY	**Denali Highway**	**1.70**	**85**	P	**Pn**	**21 06 38.2**			**-0.2**
DHY				S	**Sn**	**21 07 00.7**			**-0.9**
CGLM	**Capps Glacier**	**1.73**	**195**	P	**Pn**	**21 06 38.8**			**+0.2**
SML	**Sawmill**	**1.74**	**131**	P	**Pn**	**21 06 38.4**			**-0.3**
SML				S	**Sn**	**21 07 02.1**			**0.0**
SPCG	**Spurr Capps Gl**	**1.74**	**195**	P	**Pn**	**21 06 38.9**			**+0.1**
SPCG				S	**Sn**	**21 07 02.1**			**-0.2**
BGL	**Barrier Glacie**	**1.82**	**200**	P	**Pn**	**21 06 40.2**			**+0.5**
NEA	**Nenana**	**1.84**	**28**	P	**Pn**	**21 06 39.4**			**-0.5**
SPU	**Mount Spurr**	**1.85**	**194**	P	**Pn**	**21 06 40.2**			**+0.1**
CKL	**Chakachamna La**	**1.88**	**199**	P	**Pn**	**21 06 40.7**			**+0.3**
WRH	**Wood River Hil**	**2.01**	**40**	P	**Pn**	**21 06 41.7**			**-0.2**
MLY	**Manley**	**2.07**	**4**	P	**Pn**	**21 06 42.5**			**-0.2**
SCM	**Sheep Creek Mo**	**2.09**	**121**	P	**Pn**	**21 06 42.4**			**-0.6**
CCB	**Clear Creek Bu**	**2.23**	**40**	P	**Pn**	**21 06 44.2**			**-0.3**
TT01	**Tatalina**	**2.25**	**270**	P	**Pn**	**21 06 44.8**			**-0.1**
HDA	**Harding Lake**	**2.34**	**50**	P	**Pn**	**21 06 46.2**			**+0.2**
MDM	**Murphy Dome**	**2.36**	**31**	P	**Pn**	**21 06 45.9**			**-0.4**
COLA	**College**	**2.39**	**35**	P	**Pn**	**21 06 46.2**			**-0.3**
SLKM	**Skilak Lake**	**2.51**	**170**	P	**Pn**	**21 06 48.8**			**+0.6**
PAX	**Paxson**	**2.57**	**88**	P	**Pn**	**21 06 48.9**			**-0.1**
ILAR	**Eielson Array**	**2.59**	**44**	P	**Pn**	**21 06 48.6**			**-0.5**
ILAR				S	**Sn**	**21 07 19.3**			**-1.6**
ILAR	**Eielson Array**	**2.59**	**44**	P	**Pn**	**21 06 48.6**			**-0.5**
	13nm,0.3s,baz=226,slow=13,SNR=1593								
ILAR				S	**Sn**	**21 07 19.3**			**-1.6**
	11nm,0.3s,baz=221,slow=17,SNR=8.9								
IL1	**Eielson Array**	**2.59**	**44**	P	**Pn**	**21 06 48.6**			**-0.6**
GLM	**Gilmore Dome**	**2.60**	**37**	P	**Pn**	**21 06 49.0**			**-0.3**
HARP	**HAARP**	**2.80**	**99**	P	**Pn**	**21 06 52.0**			**+0.2**
VLZ	**Valdez**	**2.91**	**127**	P	**Pn**	**21 06 52.0**			**-1.2**
SEW	**Seward**	**2.99**	**164**	P	**Pn**	**21 06 54.2**			**-0.1**
GCSA	**Galena City Sc**	**3.12**	**307**	P	**Pn**	**21 06 56.2**			**+0.3**
BRLK	**Bradley Lake**	**3.22**	**178**	P	**Pn**	**21 06 57.8**			**+0.4**
IM3	**Indian Mountai**	**3.23**	**340**	P	**Pn**	**21 06 57.1**			**-0.3**
DOT	**Dot Lake**	**3.25**	**75**	P	**Pn**	**21 06 57.1**			**-0.6**
EYAK	**Cordova Ski Ar**	**3.52**	**131**	P	**Pn**	**21 07 00.9**			**-0.3**
PRP	**Porcupine Dome**	**3.53**	**41**	P	**Pn**	**21 07 01.2**			**-0.3**
BMRM	**Bremner

LCCH	Las Cruces	1.73	178	*i*	P		Pn	21 09 30.1	-0.5
RCDM	Rinconada Maip	1.87	158	⇓	*i*	P	Pn	21 09 32.4	-0.1
RCDM						AML	AML	21 10 00.2	
	comp=E,2μm,0.1s								
CLCH	Cerro Calan	1.89	151	⇑	*i*	P	Pn	21 09 32.6	-0.2
CLCH					*i*	S	Sn	21 09 54.6	-1.0
CLCH						AML	AML	21 10 11.2	
	comp=E,1μm,0.4s								
FCH	Farellones	1.94	145	⇑	*i*	P	Pn	21 09 32.6	-1.2
FCH					*i*	S	Sn	21 09 55.6	-1.7
FCH						AML	AML	21 09 59.6	
	comp=E,987nm,0.2s								
FSR	Penalolen	1.96	152		*e*	P	Pn	21 09 35.2	+1.4
FSR					*i*	S	Sn	21 09 57.2	-0.2
FSR						AML	AML	21 10 06.2	
	comp=N,222nm,0.2s								
TACH	Talagante	1.99	163	⇑	*i*	P	Pn	21 09 34.0	-0.2
ANTU	Antumapu	2.00	155		*e*	P	Pn	21 09 34.0	-0.3
ANTU					*e*	S	Sn	21 09 57.5	-0.9
ANTU						AML	AML	21 10 02.4	
	comp=E,853nm,0.4s								
LNV	Longovilo	2.21	175	⇑	*i*	P	Pn	21 09 36.4	-0.8
CHCH	Chadas Angostu	2.33	160		*e*	P	Pn	21 09 38.9	+0.1
CACH	El Canelo	2.52	160	⇓	*i*	P	Pn	21 09 42.0	+0.6
LCO	Las Campanas	2.84	17		*e*	Pn	Pn	21 09 46.2	+0.2
LCO						eSn	Sn	21 10 19.3	+0.2
CFAA	Coronel Fontan	2.89	88		Pg	P	Pn	21 09 47.6	+1.1
CFAA						Lg	Lg	21 10 21.4	
CFAA	Coronel Fontan	2.89	88		Pg	P	Pn	21 09 47.6	+1.1
	comp=E,2.9nm,0.3s,baz=255,slow=16,SNR=201								
CFAA						Lg	Lg	21 10 21.4	
	comp=E,3.2nm,0.3s,baz=28,slow=23,SNR=3.2								
VACH	Vallenar	3.25	14		*i*	P	Pn	21 09 49.0	-2.3
VACH					*i*	S	Sn	21 10 26.4	-2.4
VACH						AML	AML	21 10 28.1	
	comp=E,2μm,0.1s								
LVC	Limon Verde	9.41	16		*e*	Pn	Pn	21 11 16.5	+0.6
TRQA	Tornquist	10.12	131		*e*	Pn	Pn	21 11 24.0	-1.3
LPAZ	La Paz	15.71	12		Pn		Pn	21 12 41.0	+0.1
LPAZ	La Paz	15.71	12		Pn		Pn	21 12 41.0	+0.1
	comp=E,0.2nm,0.3s,baz=193,slow=7.2,SNR=8.8								
SIV	San Ignacio	18.40	34		P		Pn	21 13 12.8	-0.8
SIV	San Ignacio	18.40	34		P		Pn	21 13 12.8	-0.8
	comp=E,0.7nm,0.3s,baz=219,slow=10,SNR=29								
NNA	Nana	20.24	345		*e*	P	Pn	21 13 35.0	-0.5
BDFB	Brasilia	26.83	59		P		P	21 14 37.4	-0.1
BDFB	Brasilia	26.83	59		P		P	21 14 37.4	-0.1
	comp=E,2.1nm,0.5s,baz=215,slow=11,SNR=4.5								
QSPA	South Pole Qui	58.48	180		P		P	21 18 52.7	+0.4
QSPA	South Pole Qui	58.48	180		P		P	21 18 52.7	+0.4
	comp=E,1.4nm,0.8s,baz=123,slow=11,SNR=2.8								
NVAR	Mina Array Bea	82.24	325		P		P	21 21 18.8	+1.4
NVAR	Mina Array Bea	82.24	325		P		P	21 21 18.8	+1.4
	comp=E,0.3nm,0.5s,baz=153,slow=6.1,SNR=3.5								
WRA	Warramunga Arr	122.89	209		PKP		PKPdf	21 27 51.7	-0.8
WRA	Warramunga Arr	122.89	209		PKP		PKPdf	21 27 51.7	-0.8
	comp=E,0.2nm,0.5s,baz=156,slow=1.7,SNR=10								
BVAR	Borovoye Array	145.38	41		PKPbc		PKPab	21 28 33.7	+0.4
BVAR	Borovoye Array	145.38	41		PKPbc		PKPab	21 28 33.7	+0.4
	comp=E,1.1nm,0.5s,baz=343,slow=2.1,SNR=5.7								
KURBB	Kurchatov Arra	150.97	41		PKPbc		PKPbc	21 28 47.9	-0.2
	comp=E,0.5nm,0.5s,baz=307,slow=3.0,SNR=4.5								
KURK	Kurchatov	150.97	41		PKPbc		PKPbc	21 28 47.9	-0.2
AAK	Ala-Archa	151.08	58		PKPbc		PKPbc	21 28 49.3	+0.5
AAK	Ala-Archa	151.08	58		PKPbc		PKPbc	21 28 49.3	+0.5
	comp=E,1.4nm,0.6s,baz=260,slow=3.5,SNR=5.7								
ZALV	Zalesovo Beam	152.13	30		PKPbc		PKPbc	21 28 50.8	+0.2
ZALV	Zalesovo Beam	152.13	30		PKPbc		PKPbc	21 28 50.8	+0.2
	comp=E,2.0nm,0.6s,baz=308,slow=3.3,SNR=13								

IDC 20 21:09:10.8±1.3, 32°.33S×71°.73W, h0km, mb3.7/1, mb1 3.8/3, mb1mx3.7/15, mbtmp3.7/3, ML4.0/2, Error ellipse: s-maj=51.3km s-min=31.5km az=151.0, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	3.06	77	Pg		Pb	21 10 07.5	+1.3
	5.9nm,0.3s,baz=260,slow=14,SNR=27							
CFAA				Lg		Lg	21 10 41.8	
	6.3nm,0.3s,baz=82,slow=6.7,SNR=7.3							
LPAZ	La Paz	16.31	12	Pn		Pn	21 13 03.3	+1.3
	0.3nm,0.3s,baz=197,slow=9.5,SNR=4.1							
SIV	San Ignacio	18.93	33	P		P	21 13 33.5	+0.1
	0.2nm,0.3s,baz=231,slow=9.9,SNR=3.9							
TORD	Torodi Ar. Bea	83.40	70	P		P	21 21 39.3	-1.0
	0.6nm,0.9s,baz=240,slow=3.5,SNR=3.8							
WRA	Warramunga Arr	122.34	209	PKP		PKPdf	21 28 09.0	+0.5
	0.2nm,0.6s,baz=155,slow=1.7,SNR=3.2							
BVAR	Borovoye Array	145.88	41	PKPbc		PKPdf	21 28 50.7	-0.4
	0.9nm,0.6s,baz=73,slow=4.8,SNR=3.7							
KURBB	Kurchatov Arra	151.47	41	PKPbc		PKPbc	21 29 06.0	-0.2
	0.8nm,0.6s,baz=305,slow=2.7,SNR=4.3							
ZALV	Zalesovo Beam	152.68	31	PKPbc		PKPbc	21 29 08.7	-0.2
	0.9nm,0.4s,baz=297,slow=2.8,SNR=7.2							

SKO 20 21:10:04.7, 38°.83N×20°.14E, h1km
ISCJB 20 21:10:09.6±0.6, 39°.41N±0°.02×20°.08E±0°.02, h12km±4km, mb4.2/30, MS3.6/10, Error ellipse: s-maj=3.4km s-min=1.9km az=137.9
IDC 20 21:10:09.2±0.6, 39°.60N×20°.33E, h0km, mb4.1/17, mb1 4.1/22, mb1mx4.1/34, mbtmp4.1/22, ML4.1/4, MS3.5/12, Ms1 3.5/12, ms1mx3.2/53, Error ellipse: s-maj=13.2km s-min=12.2km az=71.0
ATH 20 21:10:10.2, 39°.36N×20°.27E, h13km, ML4.2
CSEM 20 21:10:10.6±0.1, 39°.39N×20°.21E, h2km, mb4.5/12, Ms3.6, Error ellipse: s-maj=3.5km s-min=2.1km az=48.0
THE 20 21:10:10.9, 39°.36N×20°.25E, h0km±2km, ML4.2/2, Error ellipse: s-maj=2.4km s-min=0.8km az=134.0
PDG 20 21:10:11.0±0.9, 39°.46N×20°.21E, h2km±1km, ML3.8/10, Error ellipse: s-maj=1.0km s-min=0.9km az=90.0
MOS 20 21:10:13.0±1.4, 39°.51N×20°.16E, h33km, mb4.3/12, Error ellipse: s-maj=10.8km s-min=4.5km az=83.9
PRU 20 21:10:13.0, 39°.43N×20°.11E, h0km
VIE 20 21:10:20.7±0.8, 39°.92N×19°.21E, h10km, mb3.3/5, Ms3.6/5, Error ellipse: s-maj=11.1km s-min=5.0km az=81.0 154 km S of Durres

ISC 20 21:10:10.3±0.9, 39°.38N±0°.02×20°.23E±0°.02, h7km±6km, n364, σ1§48/408, mb4.3/31, MS3.6/10, 32C-28D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RGA	Parga	0.11	122	P		Pg	21 10 12.3	-0.5
RGA				S		Sg	21 10 14.3	-0.2
RGA	Parga	0.11	122	P		Pg	21 10 12.3	-0.5
RGA				S		Sg	21 10 14.3	-0.2
IGT	Igoumenitsa	0.17	27	P		Pg	21 10 13.2	-0.6
IGT	Igoumenitsa	0.17	27	P		Pg	21 10 13.2	-0.6
KEK	Kerkira	0.47	315	P		Pg	21 10 20.0	+0.5
KEK				S		Sb	21 10 28.4	+0.2
KEK	Kerkira	0.47	315	*e*PB		Pg	21 10 20.0	+0.5
KEK				*e*SB		Sb	21 10 27.2	-1.0
KEK	Kerkira	0.47	315	P		Pg	21 10 19.9	+0.5
KEK				*e*Sb		Sb	21 10 27.2	-1.0
KEK				S		Sg	21 10 27.7	+2.1
JAN	Janina	0.55	60	P		Pg	21 10 20.8	-0.2
JAN				S		Sb	21 10 30.3	-0.2
JAN	Janina	0.55	60	*e*PB		Pg	21 10 20.6	-0.4
JAN				*e*SB		Sg	21 10 27.9	-0.3
JAN	Janina	0.55	60	P		Pg	21 10 20.8	-0.2
JAN				*e*Sb		Sg	21 10 27.9	-0.3
JAN				S		Sb	21 10 29.0	-1.5
LKD2	Lefkada island	0.68	151	P		Pg	21 10 23.0	-0.4
LKD2	Lefkada island	0.68	151	*e*PB		Pg	21 10 23.0	-0.4
LKD2				*e*SB		Sg	21 10 31.6	-0.6
LKD2	Lefkada island	0.68	151	P		Pg	21 10 23.0	-0.4
LKD2				*e*Sb		Sg	21 10 31.6	-0.6
MEV	Metsovon	0.87	62	P		Pg	21 10 26.5	-0.6
MEV	Metsovon	0.87	62	P		Pg	21 10 26.5	-0.6
NEST	Nestorio	1.21	31	P		Pb	21 10 32.9	-0.7
NEST	Nestorio	1.21	31	P		Pb	21 10 32.9	-0.7
VLS	Valsamata	1.23	167	P		Pn	21 10 33.2	-0.8
VLS	Valsamata	1.23	167	*e*PB		Pn	21 10 33.3	-0.8
VLS				*e*SB		Sb	21 10 49.9	-0.2
VLS	Valsamata	1.23	167	*e*Pb		Pn	21 10 33.3	-0.8
VLS				*e*Sb		Sb	21 10 49.9	-0.2
EVR	Evrytania	1.31	110	P		Pn	21 10 34.9	-0.3
EVR	Evrytania	1.31	110	*e*PB		Pn	21 10 34.8	-0.4
EVR				*e*SB		Sb	21 10 52.1	-0.3
EVR	Evrytania	1.31	110	P		Pn	21 10 34.9	-0.3
EVR				*e*Sb		Sb	21 10 52.1	-0.3
EVR				S		Sn	21 10 53.9	+0.9
KFL	Anninata	1.34	161	P		Pn	21 10 35.9	+0.4
KFL	Anninata	1.34	161	P		Pn	21 10 35.9	+0.4
KFL				S		Sg	21 10 55.0	+1.5
THL	Klokotos Trika	1.39	82	P		Pn	21 10 35.6	-0.6
THL	Klokotos Trika	1.39	82	*e*PG		Pn	21 10 35.8	-0.4
THL				*e*SB		Sb	21 10 54.7	+0.1
THL	Klokotos Trika	1.39	82	P		Pn	21 10 35.7	-0.4
THL				*e*Sb		Sb	21 10 54.7	+0.1
THL				S		Sg	21 10 56.9	+1.8
KZN	Kozani	1.50	52	P		Pn	21 10 38.2	+0.5
KZN	Kozani	1.50	52	*e*PB		Pb	21 10 38.4	-0.2
KZN				*e*SB		Sg	21 10 59.2	+0.6
KZN	Kozani	1.50	52	P		Pn	21 10 38.3	+0.5
KZN				S		Sg	21 10 59.3	+0.6
MAKR	Makrakomi, Fth	1.52	103	P		Pb	21 10 38.7	-0.1
MAKR	Makrakomi, Fth	1.52	103	P		Pb	21 10 38.8	-0.1
MAKR				S		Sg	21 11 00.0	+0.8
EFP	Efpalio	1.62	126	P		Pn	21 10 39.5	+0.2
EFP	Efpalio	1.62	126	*e*PG		Pn	21 10 39.5	+0.2
EFP				*e*SB		Sb	21 11 01.1	0.0
EFP	Efpalio	1.62	126	*e*Pg		Pn	21 10 39.5	+0.2
EFP	Efpalio	1.62	126	P		Pn	21 10 40.0	+0.7
EFP				*e*Sb		Sb	21 11 01.1	0.0
EFP				S		Sg	21 11 02.9	+0.6
UPR	University Cam	1.64	132	P		Pb	21 10 40.6	-0.2
UPR	University Cam	1.64	132	*e*PB		Pb	21 10 40.6	-0.2
UPR				*e*SB		Sb	21 11 02.3	+0.7
UPR	University Cam	1.64	132	P		Pb	21 10 40.6	-0.2
UPR				*e*Sb		Sb	21 11 02.3	+0.7
UPR				S		Sg	21 11 05.1	+2.2
RLS	Riolos of Patr	1.64	143	P		Pn	21 10 40.0	+0.5
RLS	Riolos of Patr	1.64	143	*e*PG		Pn	21 10 40.1	+0.5
RLS				*e*SB		Sb	21 11 02.3	+0.6
RLS	Riolos of Patr	1.64	143	P		Pn	21 10 40.0	+0.5
RLS				*e*Sb		Sb	21 11 02.3	+0.6
FNA	Florina	1.65	32	P		Pb	21 10 40.8	-0.4
FNA	Florina	1.65	32	P		Pb	21 10 41.5	+0.3
TRIZ	Trizonia	1.76	125	P		Pb	21 10 42.5	-0.4
TRIZ	Trizonia	1.76	125	P		Pb	21 10 42.5	-0.4
LAKA	Lakka	1.78	129	P		Pb	21 10 43.1	-0.2
LAKA	Lakka	1.78	129	P		Pb	21 10 43.1	-0.2
KALE	Kalithea	1.79	123	P		Pb	21 10 43.3	-0.1
KALE	Kalithea	1.79	123	P		Pb	21 10 43.3	-0.1
BIA	Bitola	1.84	27	*e*Pn		Pb	21 10 44.8	+0.4
BIA				*e*Sn		Sg	21 11 15.7	+5.6
BIA	Bitola	1.84	27	*e*Pn		Pb	21 10 44.7	+0.4
LIT	Litokhoron	1.88	67	P		Pb	21 10 44.6	-0.5
LIT	Litokhoron	1.88	67	*e*PG		Pb	21 10 44.6	-0.5
LIT				*e*SN		Sb	21 11 08.7	-0.1
LIT	Litokhoron	1.88	67	*e*Pg		Pb	21 10 44.6	-0.5
LIT				*e*Sn		Sb	21 11 08.7	-0.1
AXAR	Agios Charalam	1.99	107	P		Pn	21 10 45.5	+1.1
AXAR	Agios Charalam	1.99	107	P		Pn	21 10 45.5	+1.1
DSF	Desfina	2.04	118	P		Pb	21 10 47.3	-0.4
DSF	Desfina	2.04	118	P		Pb	21 10 47.2	-0.4
DSF				S		Sb	21 11 14.4	+1.2
DESF	Desfina	2.04	118	P		Pn	21 10 46.1	+1.0
DESF	Desfina	2.04	118	P		Pn	21 10 46.1	+1.0
GUR	Goura	2.19	130	P		Pn	21 10 49.2	+1.9
GUR	Goura	2.19	130	*e*PN		Pn	21 10 48.4	+1.1
GUR				*e*SN		Sn	21 11 15.6	+0.9
GUR	Goura	2.19	130	*e*Pn		Pn	21 10 48.4	+1.1
GUR	Goura	2.19	130	P		Pn	21 10 49.0	+1.7
GUR				*e*Sn		Sn	21 11 15.6	+0.9
GUR				S		Sb	21 11 18.4	+0.6
LKR	Lokris	2.28	108	P		Pn	21 10 49.9	+1.6
LKR	Lokris	2.28	108	*e*PN		Pn	21 10 50.0	+1.6
LKR	Lokris	2.28	108	P		Pn	21 10 49.9	+1.6
ATAL	Atalanti	2.28	107	P		Pn	21 10 48.5	+0.1
ATAL	Atalanti	2.28	107	P		Pn	21 10 48.5	+0.1
GRG	Griva	2.29	46	P		Pn	21 10 49.6	+1.0
GRG	Griva	2.29	46	P		Pn	21 10 49.6	+1.0
XOR	Xorichti	2.29	89	P		Pn	21 10 49.1	+0.5
XOR	Xorichti	2.29	89	P		Pn	21 10 49.1	+0.5
NEO	Neokhori	2.32	91	*e*PN		Pn	21 10 50.6	+1.6
NEO	Neokhori	2.32	91	*e*Pn		Pn	21 10 50.6	+1.6
THE	Thessaloniki	2.44	58	P		Pn	21 10 52.4	+1.8
THE	Thessaloniki	2.44	58	P		Pn	21 10 52.4	+1.8
HORT	Hortiatis	2.52	60	P		Pn	21 10 53.1	+1.4
HORT	Hortiatis	2.52	60	P		Pn	21 10 53.1	+1.4
LTK	Loutraki	2.53	122	P		Pn	21 10 53.4	+1.6
LTK	Loutraki	2.53	122	*e*PN		Pn	21 10 53.5	+1.6
LTK	Loutraki	2.53	122	P		Pn	21 10 53.4	+1.6
TAR1	Taranto	2.54	298	*e*Pn		Pn	21 10 52.0	+0.1
ITM	Ithomi	2.57	148	P		Pn	21 10 54.2	+1.8
ITM	Ithomi	2.57	148	*e*PN		Pn	21 10 54.0	+1.6
ITM	Ithomi	2.57	148	*e*Pn		Pn	21 10 54.0	+1.6
VLX	Vlachokerasia	2.62	139	P		Pn	21 10 55.0	+1.8
VLX	Vlachokerasia	2.62	139	*e*PN		Pn	21 10 54.6	+1.4
VLX	Vlachokerasia	2.62	139	*e*Pn		Pn	21 10 54.6	+1.4
VLX	Vlachokerasia	2.62	139	P		Pn	21 10 55.0	+1.8
VAY	Valandovo	2.63	42	*e*Pn		Pn	21 10 54.6	+1.3
VAY	Valandovo	2.63	42	*e*Pn		Pn	21 10 55.0	+1.7
PLG	Polygyros	2.66	67	P		Pn	21 10 54.5	+0.8
PLG	Polygyros	2.66	67	*e*PN		Pn	21 10 54.7	+1.0
PLG	Polygyros	2.66	67	*e*Pn		Pn	21 10 54.7	+1.0
ULC	Ulcinj	2.69	344	⇑	*i*	Pn	21 10 54.5	+0.5
ULC						eSn	Sn	21 11 28.7	+1.9
ULC	Ulcinj	2.69	344	⇑	*i*	Pn	21 10 54.5	+0.5
ULC						eSn	Sn	21 11 28.7	+1.9
MRKA	Markates	2.70	103	P		Pn	21 10 56.1	+1.9
MRKA	Markates	2.70	103	P		Pn	21 10 56.1	+1.9
KNT	Kendrikon	2.71	48	P		Pn	21 10 55.4	+1.1
KNT	Kendrikon	2.71	48	P		Pn	21 10 55.4	+1.1
PYL	PYLOS	2.75	154	*e*PN		Pn	21 10 55.6	+0.7
PYL	PYLOS	2.75	154	*e*Pn		Pn	21 10 55.6	+0.7
SOH	Sokhos	2.79	58	P		Pn	21 10 56.6	+1.1
SOH	Sokhos	2.79	58	P		Pn	21 10 56.6	+1.1
ERET	Eretria	2.94	107	P		Pn	21 10 59.4	+1.8
ERET	Eretria	2.94	107	P		Pn	21 10 59.4	+1.8
DID	Didima	3.01	127	P		Pn	21 10 59.1	+0.6
DID	Didima	3.01	127	*e*PN		Pn	21 10 59.5	+1.0
DID	Didima	3.01	127	P		Pn	21 10 59.1	+0.6
DID	Didima	3.01	127	*e*Pn		Pn	21 10 59.5	+1.0
NAIG	Nisos Aigina	3.02	121	*e*PN		Pn	21 11 00.0	+1.4
NAIG	Nisos Aigina	3.02	121	*e*Pn		Pn	21 11 00.0	+1.4
OUR	Ouranopolis	3.04	71	P		Pn	21 11 00.2	+1.4
OUR	Ouranopolis	3.04	71	P		Pn	21 11 00.2	+1.4
ATH	Athens Observa	3.07	116	*e*PN		Pn	21 11 00.4	+1.2
ATH	Athens Observa	3.07	116	*e*Pn		Pn	21 11 00.4	+1.2
BUM	Brajici-Budva	3.09	341	*e*Pn		Pn	21 10 59.6	0.0
BUM				*e*Sn		Sn	21 11 38.6	+1.8
BUM	Brajici-Budva	3.09	341	*e*Pn		Pn	21 10 59.6	0.0
BUM				*e*Sn		Sn	21 11 38.6	+1.8
SG1	Sgolgore (BA)	3.09	299	*e*Pn		Pn	21 11 00.0	+0.4
BAI	Bari	3.09	305	*e*Pn		Pn	21 11 00.7	+1.2
SRS	Serrai	3.10	55	P		Pn	21 11 00.5	+0.8
SRS	Serrai	3.10	55	P		Pn	21 11 00.5	+0.8
TTG	Podgorica	3.13	347	⇓	*i*	Pn	21 11 00.5	+0.4
TTG						eSn	Sn	21 11 39.8	+2.1
PDG	Podgorica	3.13	347	⇓	*i*	Pn	21 11 00.5	+0.4
PDG						eSn	Sn	21 11 39.8	+2.0
PTL	Penteli	3.14	114	P		Pn	21 11 01.8	+1.6
PTL	Penteli	3.14	114	*e*PN		Pn	21 11 00.9	+0.7
PTL	Penteli	3.14	114	*e*Pn		Pn	21 11 00.9	+0.7
PTL	Penteli	3.14	114	P		Pn	21 11 01.8	+1.6
PVY	Plav	3.22	356	⇓	*i*	Pn	21 11 02.5	+1.1
PVY						eSn	Sn	21 11 41.8	+1.8
PVY	Plav	3.22	356	⇓	*i*	Pn	21 11 02.5	+1.1
PVY						eSn	Sn	21 11 41.8	+1.8
HCY	Herceg Novi	3.33	337	⇑	*i*	Pn	21 11 03.4	+0.5
HCY						eSn	Sn	21 11 44.8	+2.0
HCY	Herceg Novi	3.33	337	⇑	*i*	Pn	21 11 03.4	+0.5
HCY						eSn	Sn	21 11 44.8	+2.0
NVR	Nevrokopi	3.40	53	P		Pn	21 11 05.3	+1.7
NVR	Nevrokopi	3.40	53	*e*PN		Pn	21 11 05.3	+1.5
NVR	Nevrokopi	3.40	53	*e*Pn		Pn	21 11 05.3	+1.5
VLI	Veliai	3.41	140	P		Pn	21 11 05.5	+1.6
VLI	Veliai	3.41	140	*e*PN		Pn	21 11 05.8	+1.9
VLI	Veliai	3.41	140	P		Pn	21 11 05.5	+1.6
VLI	Veliai	3.41	140	*e*Pn		Pn	21 11 05.8	+1.9
CDT	Castel del Mon	3.47	301	*e*Pn		Pn	21 11 05.1	+0.3
IVA	Berane	3.50	356	*e*Pn		Pn	21 11 06.0	+0.8
IVA				*e*Sn		Sn	21 11 48.5	+1.6
BEY	Berane	3.50	356	*e*Pn		Pn	21 11 06.0	+0.8
BEY				*e*Sn		Sn	21 11 48.5	+1.6
NKY	Niksic	3.55	345	⇑	*i*	Pn	21 11 07.1	+1.1
NKY				*e*Sn		Sn	21 11 49.9	+1.6
NKY	Niksic	3.55	345	⇑	*i*	Pn	21 11 07.1	+1.1
NKY				*e*Sn		Sn	21 11 49.9	+1.6
KAVA	Kavala	3.66	62	P		Pn	21 11 08.1	+0.8
KAVA	Kavala	3.66	62	P		Pn	21 11 08.1	+0.8
BRY	Bratogost	3.74	341	⇑	*i*	Pn	21 11 10.2	+1.6
BRY				*e*Sn		Sn	21 11 54.8	+1.8
BRY	Bratogost	3.74	341	⇑	*i*	Pn	21 11 10.2	+1.6
KYTH	Kithira	3.81	143	P		Pn	21 11 11.1	+1.7
KYTH	Kithira	3.81	143	*e*PN		Pn	21 11 11.1	+1.7
KYTH	Kithira	3.81	143	P		Pn	21 11 11.1	+1.7
LIA	Limnos Island	3.86	81	*e*PN		Pn	21 11 11.6	+1.6
LIA	Limnos Island	3.86	81	*e*Pn		Pn	21 11 11.6	+1.6
VTS	Vitosha	3.92	34	⇑	P	Pn	21 11 13.4	+2.3
VTS	Vitosha	3.92	34	P		Pn	21 11 13.0	+1.9
VTS	Vitosha	3.92	34	⇑	*i*	Pn	21 11 13.4	+2.3
VTS	Vitosha	3.92	34	P		Pn	21 11 13.0	+1.9
UPM	Unac-Piva	3.95	346	⇓	*i*	Pn	21 11 12.7	+1.2
UPM				*e*Sn		Sn	21 11 59.2	+1.1
UPM	Unac-Piva	3.95	346	⇓	*i*	Pn	21 11 12.7	+1.2
STON	Ston	3.98	332	*i*	Pn	Pn	21 11 11.5	-0.2
STON						Sn	Sn	21 11 57.1	-1.4
STON	Ston	3.98	332	*i*	Pn	Pn	21 11 11.4	-0.2
STON						Sn	Sn	21 11 57.1	-1.4
PLE	Pljevlja	4.00	351	⇓	*i*	Pn	21 11 13.4	+1.3
PLE				*e*Sn		Sn	21 12 00.4	+1.2
PLE	Pljevlja	4.00	351	⇓	*i*	Pn	21 11 13.4	+1.3
PLE				*e*Sn		Sn	21 12 00.4	+1.2
RDO	Rodhopi	4.42	65	*e*PN		Pn	21 11 20.4	+2.5
RDO	Rodhopi	4.42	65	*e*Pn		Pn	21 11 20.4	+2.5
CHOS	Chios island	4.65	100	*e*PN		Pn	21 11 22.6	+1.5
CHOS	Chios island	4.65	100	*e*Pn		Pn	21 11 22.6	+1.5
PRK	Paraskevi	4.69	90	*e*PN		Pn	21 11 22.9	+1.4
PRK	Paraskevi	4.69	90	*e*Pn		Pn	21 11 22.9	+1.4
ALN	Alexandroupoli	4.71	69	*e*PN		Pn	21 11 23.0	+1.3
ALN	Alexandroupoli	4.71	69	*e*Pn		Pn	21 11 23.0	+1.3
DIVS	Divibare	4.72	358	P		Pn	21 11 21.9	-0.1
DIVS	Divibare	4.72	358	P		Pn	21 11 21.9	-0.1
APE	Apeiranthos	4.77	117	⇓	P	Pb	21 11 30.4	-3.8
APE	Apeiranthos	4.77	117	*e*PN		Pn	21 11 24.6	+2.0
APE	Apeiranthos	4.77	117	⇓	*i*	Pb	21 11 30.4	-3.8
APE	Apeiranthos	4.77	117	*e*Pn		Pn	21 11 24.6	+2.0
KARN	Karanos	4.94	142	P		Pn	21 11 25.5	+0.5
KARN	Karanos	4.94	142	P		Pn	21 11 25.5	+0.5
URLA	Izmir	5.07	100	*i*	P	Pn	21 11 26.5	-0.3
URLA	Izmir	5.07	100	*i*	P	Pn	21 11 26.5	-0.3
VAM	Vamos	5.07	140	P		Pn	21 11 28.0	+1.2
VAM	Vamos	5.07	140	*e*PN		Pn	21 11 28.

MOTA					⇓*i*Sn		Sn		21 14 24.7	-11
GERES	**GERESS Array B**	**10.56**	**336**		Pn		**Pn**		**21 12 40.4**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=159,slow=14,SNR=20									
GERES					Sn		Sn		21 14 33.3	-7.2
	comp=Z,0.3nm,0.3s,baz=168,slow=14,SNR=3.9									
OKC	**Ostrava-Krasne**	**10.56**	**353**	*e*P			**Pn**		**21 12 44.2**	**+2.2**
OKC	**Ostrava-Krasne**	**10.56**	**353**	*e*PN			**Pn**		**21 12 44.2**	**+2.2**
OKC	**Ostrava-Krasne**	**10.56**	**353**	Pn			**Pn**		**21 12 44.2**	**+2.2**
SBF	**Sospel**	**10.57**	**299**	*e*P			Pn		21 12 34.3	-8.0
	comp=Z,130nm,1.4s									
KHC	**Kasperske Hory**	**10.85**	**336**	*e*P			**Pn**		**21 12 46.3**	**+0.3**
KHC	**Kasperske Hory**	**10.85**	**336**	*e*PN			**Pn**		**21 12 46.3**	**+0.3**
KHC				*ex*			x		21 13 09.0	
KHC				*ex*			x		21 13 40.0	
KHC	**Kasperske Hory**	**10.85**	**336**	Pn			**Pn**		**21 12 46.3**	**+0.3**
LMR	**La Mourre**	**11.04**	**295**	*e*P			Pn		21 12 40.9	-7.7
	comp=Z,33nm,1.1s									
PRU	**Pruhonice**	**11.35**	**341**	*e*P			**Pn**		**21 12 52.1**	**-0.7**
PRU	**Pruhonice**	**11.35**	**341**	*e*PN			**Pn**		**21 12 52.1**	**-0.7**
PRU	**Pruhonice**	**11.35**	**341**	Pn			**Pn**		**21 12 52.1**	**-0.7**
LPG	**La Plagne**	**11.68**	**306**	*e*P			**Pn**		**21 12 56.4**	**-1.2**
	comp=Z,14nm,0.9s									
LPG	**La Plagne**	**11.68**	**306**	*e*P			**Pn**		**21 12 56.4**	**-1.2**
	comp=Z,14nm,0.9s									
LPL	**La Plagne**	**11.70**	**306**	*e*P			**Pn**		**21 12 56.7**	**-1.1**
LPL	**La Plagne**	**11.70**	**306**	*e*P			**Pn**		**21 12 56.7**	**-1.1**
BRG	**Berggiesshubel**	**12.31**	**341**	*e*P			**Pn**		**21 13 07.3**	**+1.3**
	comp=Z,5.8nm,1.4s									
BRG										
	comp=N,180nm,19.9s									
BRG										
	comp=E,338nm,13.6s									
BRG										
	comp=Z,383nm,15.4s									
BRG	**Berggiesshubel**	**12.31**	**341**	*e*P			**Pn**		**21 13 07.3**	**+1.3**
BRG					pmax		pmax			
	comp=Z,6.0nm,1.4s									
BRG					MLR		MLR			
	comp=N,180nm,19.9s									
BRG					MLR		MLR			
	comp=E,338nm,13.6s									
BRG					MLR		MLR			
	comp=Z,383nm,15.4s									
BRG	**Berggiesshubel**	**12.31**	**341**	*e*P			**Pn**		**21 13 07.3**	**+1.3**
	comp=Z,383nm,15.4s									
CABF	**La Chapelle**	**12.62**	**310**	*e*P			**Pn**		**21 13 07.4**	**-2.8**
CLL	**Collm**	**12.96**	**339**	*e*P			Pn		21 13 25.0	+10
CLL	**Collm**	**12.96**	**339**	*e*(P)			Pn		21 13 25.0	+10
CLL				*e*					21 16 51.0	
CLL					Lmax				21 19 00.0	
CDF	**Champ du Feu**	**12.98**	**318**	*e*P			**Pn**		**21 13 14.3**	**-0.8**
CDF	**Champ du Feu**	**12.98**	**318**	*e*P			**Pn**		**21 13 14.3**	**-0.8**
HAU	**Haudompre**	**13.22**	**315**	*e*P			**Pn**		**21 13 18.4**	**0.0**
HAU	**Haudompre**	**13.22**	**315**	*e*P			**Pn**		**21 13 18.4**	**0.0**
MMAI	**Mount Meron Ar**	**13.79**	**113**	Pn			**Pn**		**21 13 24.6**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=310,slow=13,SNR=6.3									
SSF	**Saint Saulge**	**14.39**	**308**	*e*P			Pn		21 13 26.8	-7.6
NACGM	**Naroch**	**16.14**	**14**	*e*			**Pn**		**21 13 56.0**	**-1.5**
KIV	**Kislovodsk**	**17.37**	**67**	*e*P			P		21 14 20.5	+5.9
KIV					pmax		pmax			
	comp=Z,10.0nm,1.2s									
KIV					MLR		MLR			
	comp=Z,100nm,17.0s									
KBZ	**Khabaz**	**17.50**	**68**	P			**Pn**		**21 14 14.2**	**-0.5**
KBZ					MLR		MLR			
	comp=Z,43nm,20.8s									
KBZ	**Khabaz**	**17.50**	**68**	P			**Pn**		**21 14 14.2**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=267,slow=17,SNR=3.9									
KBZ					LR		LR		21 21 31.2	
	comp=Z,43nm,20.8s,baz=115,slow=39									
ZEI	**Tsey**	**18.15**	**72**	*e*P			**Pn**		**21 14 23.2**	**+0.2**
ZEI					pmax		pmax			
	comp=Z,11nm,1.7s									
ZEI	**Tsey**	**18.15**	**72**	*e*P			**Pn**		**21 14 23.2**	**+0.2**
	comp=Z,11nm,1.7s									
ESDC	**Sonseca Array**	**18.66**	**279**	P			**Pn**		**21 14 30.2**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=73,slow=11,SNR=18									
GNI	**Garni**	**18.85**	**80**	LR			LR		21 22 12.5	
	comp=Z,104nm,19.6s,baz=102,slow=39									
OBN	**Obninsk**	**19.17**	**29**	*e*P			**Pn**		**21 14 35.9**	**+0.8**
OBN					pmax		pmax			
	comp=Z,11nm,1.2s									
OBN	**Obninsk**	**19.17**	**29**	*e*P			**Pn**		**21 14 35.9**	**+0.8**
	comp=Z,11nm,1.2s									
MOS	**Moscow**	**20.04**	**30**	*e*P			Pn		21 14 45.4	-0.1
MOS					pmax		pmax			
	comp=Z,43nm,1.3s									
MOS	**Moscow**	**20.04**	**30**	*e*P			Pn		21 14 45.4	-0.1
	comp=Z,43nm,1.3s									
MDT	**Midelt**	**21.08**	**260**	P			**P**		**21 14 58.0**	**+2.7**
	comp=Z,4.6nm,0.8s,baz=87,slow=11,SNR=10									
HFS	**Hagfors**	**21.18**	**351**	P			**P**		**21 14 54.4**	**-1.6**
	comp=Z,4.0nm,0.5s,baz=154,slow=11,SNR=45									
HFS					LR		LR		21 22 52.0	
	comp=Z,86nm,19.9s,baz=134,slow=36									
PBAR	**Barrancos**	**21.27**	**275**	*e*P			**P**		**21 14 59.8**	**+2.6**
	comp=Z,43nm,1.7s									
PBAR	**Barrancos**	**21.27**	**275**	*e*P			**P**		**21 14 59.8**	**+2.6**
	comp=Z,43nm,1.7s									
PMRV	**Marv??o**	**21.32**	**279**	*e*P			**P**		**21 15 01.1**	**+3.4**
	comp=Z,38nm,2.1s									
PMRV	**Marv??o**	**21.32**	**279**	*e*P			**P**		**21 15 01.1**	**+3.4**
	comp=Z,38nm,2.1s									
PVIS	**Viseu**	**21.54**	**283**	*e*P			**P**		**21 14 59.9**	**-0.2**
	comp=Z,26nm,1.9s									
PVIS	**Viseu**	**21.54**	**283**	*e*P			**P**		**21 14 59.9**	**-0.2**
	comp=Z,26nm,1.9s									
PESTR	**Estremoz**	**21.56**	**278**	*e*P			**P**		**21 15 04.3**	**+3.9**
	comp=Z,17nm,1.3s									
PBEJ	**Beja**	**21.94**	**275**	*e*P			**P**		**21 15 06.8**	**+2.4**
	comp=Z,32nm,2.2s									
PBEJ	**Beja**	**21.94**	**275**	*e*P			**P**		**21 15 06.8**	**+2.4**
	comp=Z,32nm,2.2s									
EVO	**Evora**	**21.95**	**277**	*e*P			**P**		**21 15 01.2**	**-3.3**
	comp=Z,96nm,1.9s									
PCVE	**Castro Verde**	**22.16**	**274**	*e*P			**P**		**21 15 07.8**	**+1.0**
	comp=Z,32nm,1.8s									
PCVE	**Castro Verde**	**22.16**	**274**	*e*P			**P**		**21 15 07.8**	**+1.0**
	comp=Z,32nm,1.8s									
PBDV	**Barranco-do-Ve**	**22.17**	**273**	*e*P			**P**		**21 15 09.7**	**+2.8**
	comp=Z,19nm,1.1s									
PBDV	**Barranco-do-Ve**	**22.17**	**273**	*e*P			**P**		**21 15 09.7**	**+2.8**
	comp=Z,19nm,1.1s									
FINES	**FINESS Array B**	**22.38**	**7**	P			**P**		**21 15 07.4**	**-1.5**
	comp=Z,5.6nm,0.9s,baz=182,slow=11,SNR=20									
FINES					LR		LR		21 24 37.7	
	comp=Z,224nm,19.2s,baz=140,slow=39									
NB2	**NORSAR Subarra**	**22.40**	**348**	P			**P**		**21 15 08.1**	**-1.0**
	comp=Z,9.3nm,0.8s,baz=160,slow=10									
NB2	**NORSAR Subarra**	**22.40**	**348**	P			**P**		**21 15 08.1**	**-1.0**
	comp=Z,9.3nm,0.8s,SNR=4.6									
NOA	**NORSAR Array B**	**22.40**	**348**	P			**P**		**21 15 07.8**	**-1.4**
	comp=Z,5.0nm,0.8s,baz=164,slow=11,SNR=22									
PNCL	**Nicolau / Gran**	**22.43**	**276**	*e*P			**P**		**21 15 12.0**	**+2.3**
	comp=Z,57nm,1.7s									
PNCL	**Nicolau / Gran**	**22.43**	**276**	*e*P			**P**		**21 15 12.0**	**+2.3**
	comp=Z,57nm,1.7s									
PTEO	**Sao Teotonio**	**22.71**	**275**	*e*P			**P**		**21 15 11.7**	**-0.9**
	comp=Z,44nm,1.3s									
PTEO	**Sao Teotonio**	**22.71**	**275**	*e*P			**P**		**21 15 11.7**	**-0.9**
	comp=Z,44nm,1.3s									
KAF	**Kangasniemi**	**23.06**	**7**	*e*P			**P**		**21 15 13.5**	**-2.6**
KAF					pmax		pmax			
	comp=Z,4.0nm,0.7s									
KAF	**Kangasniemi**	**23.06**	**7**	*e*p			**P**		**21 15 13.5**	**-2.6**
	comp=Z,3.9nm,0.7s									
JOF	**Joensuu**	**24.50**	**12**	*e*P			**P**		**21 15 28.3**	**-1.6**
JOF					pmax		pmax			
	comp=Z,3.0nm,0.6s									
JOF	**Joensuu**	**24.50**	**12**	*e*p			**P**		**21 15 28.3**	**-1.6**
	comp=Z,2.6nm,0.6s									
AKTO	**Aktyubinsk**	**28.65**	**55**	P			**P**		**21 16 05.9**	**-1.6**
AKTO					pmax		pmax			
	comp=Z,1.0nm,0.4s									
AKTO					MLR		MLR			
	comp=Z,118nm,18.8s									
AKTO	**Aktyubinsk**	**28.65**	**55**	P			**P**		**21 16 05.9**	**-1.6**
	comp=Z,1.2nm,0.4s,baz=235,slow=4.9,SNR=6.5									
AKTO					LR		LR		21 29 29.8	
	comp=Z,118nm,18.8s,baz=343,slow=41									
ARCES	**ARCESS Array B**	**30.35**	**4**	P			**P**		**21 16 19.6**	**-2.6**
	comp=Z,3.9nm,0.9s,baz=195,slow=8.7,SNR=5.9									
ARCES					LR		LR		21 29 33.6	
	comp=Z,157nm,18.5s,baz=222,slow=39									
TORD	**Torodi Ar. Bea**	**30.84**	**217**	P			**P**		**21 16 27.3**	**+0.2**
	comp=Z,11nm,0.9s,baz=30,slow=7.9,SNR=27									
TORD					LR		LR		21 30 08.2	
	comp=Z,67nm,18.4s,baz=285,slow=39									
SVE	**Sverdlovsk**	**31.54**	**43**	*e*P			**P**		**21 16 31.7**	**-1.2**
SVE					pmax		pmax			
	comp=Z,10.0nm,0.9s									
SPITS	**Spitsbergen Ar**	**38.94**	**359**	P			**P**		**21 17 35.8**	**-0.6**
	comp=Z,14nm,1.0s,baz=154,slow=18,SNR=5.7									
SPITS	**Spitsbergen Ar**	**38.94**	**359**	P			**P**		**21 17 35.8**	**-0.6**
	comp=Z,14nm,1.0s									
DBIC	**Dimbokro**	**39.63**	**221**	P			**P**		**21 17 45.7**	**+2.9**
	comp=Z,6.4nm,1.2s,baz=27,slow=12,SNR=4.1									
DBIC					LR		LR		21 35 25.2	
	comp=Z,146nm,19.0s,baz=349,slow=38									
DBIC	**Dimbokro**	**39.63**	**221**	P			**P**		**21 17 45.7**	**+2.9**
	comp=Z,146nm,19.0s									
LIC	**Lamto**	**40.10**	**221**	*e*P			P		21 17 37.5	-9.2
	comp=Z,62nm,1.3s									
MKAR	**Makanchi Array**	**44.87**	**59**	P			**P**		**21 18 23.6**	**-1.7**
MKAR					pmax		pmax			
	comp=Z,2.0nm,0.6s									
MKAR					MLR		MLR			
	comp=Z,57nm,18.8s									
MKAR	**Makanchi Array**	**44.87**	**59**	P			**P**		**21 18 23.6**	**-1.7**
	comp=Z,2.3nm,0.6s,baz=275,slow=7.5,SNR=44									
MKAR					LR		LR		21 38 27.3	
	comp=Z,57nm,18.8s,baz=93,slow=38									
ZALV	**Zalesovo Beam**	**45.06**	**49**	P			**P**		**21 18 25.1**	**-1.5**
ZALV					pmax		pmax			
	comp=Z,2.0nm,0.4s									
ZALV	**Zalesovo Beam**	**45.06**	**49**	P			**P**		**21 18 25.1**	**-1.5**
	comp=Z,2.1nm,0.4s,baz=281,slow=8.5,SNR=21									
SCHQ	**Schefferville**	**57.43**	**317**	P			**P**		**21 19 57.8**	**-1.6**
	comp=Z,1.4nm,0.6s,baz=269,slow=19,SNR=7.5									
SONM	**Songino Array**	**59.87**	**51**	P			**P**		**21 20 15.2**	**-1.5**
	comp=Z,1.0nm,1.0s,baz=311,slow=11,SNR=3.1									
SONM					LR		LR		21 46 18.8	
	comp=Z,63nm,19.0s,baz=151,slow=36									
BOSA	**Boshof**	**67.81**	**175**	P			**P**		**21 21 11.6**	**+2.6**
	comp=Z,2.8nm,0.8s,baz=41,slow=7.5,SNR=3.6									
BOSA	**Boshof**	**67.81**	**175**	P			**P**		**21 21 11.6**	**+2.6**
	comp=Z,3.0nm,0.8s									
CMAR	**Chiang Mai Arr**	**69.95**	**82**	P			**P**		**21 21 21.3**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=321,slow=7.0,SNR=3.8									
YKA	**Yellowknife Ar**	**72.18**	**340**	P			**P**		**21 21 34.2**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=35,slow=6.3,SNR=7.0									
ILAR	**Eielson Array**	**75.69**	**354**	P			**P**		**21 21 54.9**	**-1.0**
	comp=Z,0.4nm,1.0s,baz=356,slow=3.6,SNR=2.9									
KSRS	**Korea Array**	**78.74**	**51**	LR			LR		22 02 27.5	
	comp=Z,25nm,20.3s,baz=280,slow=40									
PETK	**Petropavlovsk-**	**80.80**	**24**	LR			LR		21 59 36.6	
	comp=Z,45nm,18.5s,baz=147,slow=37									
WRA	**Warramunga Arr**	**120.80**	**91**	PKP			**PKPdf**		**21 29 01.8**	**-1.7**
	comp=Z,0.4nm,0.8s,baz=325,slow=1.6,SNR=3.4									

IDC ***20*** *21:21:43.5±4.1, 40.61N×78.72E, h0km, mb3.0/1, mb1 3.1/5, mb1mx3.0/31, mbtmp3.1/5, ML2.9/4, Error ellipse: s-maj=47.4km s-min=23.8km az=1.0*
NNC ***20*** *21:21:50.0±3.8, 41.06N×78.80E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=38.0km s-min=24.5km az=5.0*

ISC 20 21:21:49.6±1.4, 40.91N±0.09×78.89E±0.09, h20km, n13, σ2.863/12, 4C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.63**	**239**	Pn	**Pb**	**21 22 33.8**	**-2.3**
KSH				Sn	**Sb**	**21 23 12.4**	**+4.4**
KSH				*s*max	*s*max		
	comp=N,67nm,0.5s						
KSH				*s*max	*s*max		
	comp=E,41nm,0.5s						
KNDC	**Almaty**	**2.71**	**329**	⇑Pn	**Pb**	**21 22 35.2**	**-2.3**
	comp=E,21nm,0.5s						
KNDC				⇓Lg	Lg	21 23 11.1	
	comp=E,106nm,0.6s						
TKM2	**Tokmak 2**	**3.17**	**310**	⇓Pn	**Pn**	**21 22 38.2**	**-0.4**
	comp=E,10.0nm,0.6s						
TKM2				⇑Lg	Lg	21 23 24.3	
	comp=E,66nm,0.5s						
AAK	**Ala-Archa**	**3.71**	**299**	Pg	Pb	21 22 50.8	-3.8
	comp=E,1.3nm,0.3s,baz=126,slow=12,SNR=16						
AAK				Lg	Lg	21 23 38.5	
	comp=E,1.5nm,0.3s,baz=85,slow=23,SNR=8.1						
MK31	**Makanchi Array**	**6.38**	**22**	Pn	**Pn**	**21 23 24.7**	**+2.3**
	comp=E,0.4nm,0.5s,baz=199,slow=12,SNR=25						
MK31				⇓Lg	Lg	21 25 07.2	
	comp=E,2.3nm,0.6s,baz=208,slow=30,SNR=4.7						
MKAR	**Makanchi Array**	**6.38**	**22**	Pn	**Pn**	**21 23 25.1**	**+2.6**
	comp=E,0.3nm,0.3s,baz=191,slow=12,SNR=22						
MKAR				Sn	**Sn**	**21 24 37.4**	**+2.8**
	comp=E,0.1nm,0.3s,baz=211,slow=21,SNR=2.2						
MKAR				Lg	Lg	21 25 01.1	
	comp=E,0.2nm,0.3s,baz=196,slow=20,SNR=3.2						
KK31	**Karatay Array**	**6.61**	**292**	Pg	**Pb**	**21 23 45.9**	**+2.0**
	comp=E,1.1nm,0.6s,baz=0.0,slow=0.1,SNR=6.3						
KK31				⇑Lg	Lg	21 25 12.6	
	comp=E,3.5nm,0.8s,baz=109,slow=24,SNR=5.1						
KURBB	**Kurchatov Arra**	**9.72**	**359**	Lg	Lg	21 26 50.9	
	comp=E,1.5nm,0.8s						
KURBB	**Kurchatov Arra**	**9.72**	**359**	Pn	**Pn**	**21 24 08.8**	**+0.6**
	comp=E,0.0nm,0.3s,baz=185,slow=12,SNR=5.1						
KURBB				Lg	Lg	21 26 53.0	
	comp=E,0.0nm,0.3s,baz=191,slow=28,SNR=5.9						
KURK	**Kurchatov**	**9.81**	**359**	⇑Lg	Lg	21 26 54.6	
	comp=E,2.8nm,0.8s						
BVAR	**Borovoye Array**	**13.43**	**337**	Pn	**Pn**	**21 24 56.4**	**-2.4**
	comp=E,0.1nm,0.3s,baz=106,slow=15,SNR=3.9						
ZALV	**Zalesovo Beam**	**13.64**	**15**	Pn	**Pn**	**21 25 01.4**	**-0.4**
	comp=E,0.0nm,0.3s,baz=195,slow=11,SNR=4.0						
SONM	**Songino Array**	**20.77**	**61**	P	**P**	**21 26 28.0**	**-1.3**
	comp=E,0.4nm,0.6s,baz=265,slow=11,SNR=2.6						

ISCJB ***20*** *21:25:31.4±0.7, 22.75±0.1×69.8E±0.1, h10km, mb4.1/14, MS4.1/8, Error ellipse: s-maj=22.3km s-min=15.3km az=35.1*
IDC ***20*** *21:25:31.5±0.7, 22.74S×69.72E, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.0/28, mbtmp4.1/13, MS4.0/8, Ms1 4.0/8, ms1mx3.5/30, Error ellipse: s-maj=25.3km s-min=17.8km az=38.0*
NEIC ***20*** *21:25:33.0±0.6, 22.75S×69.72E, h10km, mb4.4/2, Error ellipse: s-maj=20.8km s-min=14.2km az=215.0*

ISC 20 21:25:33.1±0.7, 22.8S±0.2×69.8E±0.1, h10km, n35, σ1.904/31, mb4.2/14, MS4.1/8, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**21.52**	**277**	P	LR	21 36 07.2	
	comp=Z,448nm,21.1s,baz=258,slow=30						
BOSA	**Boshof**	**40.35**	**252**	LR	LR	21 45 56.1	
	comp=Z,214nm,20.3s,baz=95,slow=30						
CMAR	**Chiang Mai Arr**	**49.91**	**37**	P	**P**	**21 34 27.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**49.91**	**37**	P	**P**	**21 34 27.9**	**+0.7**
	2.4nm,1.1s,baz=232,slow=7.1,SNR=15						
FITZ	**Fitzroy Crossi**	**52.32**	**96**	*e*P	**P**	**21 34 46.6**	**+1.1**
	8.0nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.32**	**96**	P	**P**	**21 34 46.5**	**+1.1**
	4.2nm,0.8s,baz=237,slow=6.7,SNR=11						
ASAR	**Alice Springs**	**58.50**	**105**	P	**P**	**21 35 29.8**	**-0.1**
ASAR	**Alice Springs**	**58.50**	**105**	P	**P**	**21 35 29.8**	**-0.1**
	2.2nm,0.7s,baz=254,slow=6.3,SNR=30						
WRA	**Warramunga Arr**	**59.79**	**101**	P	**P**	**21 35 39.1**	**+0.2**
WRA	**Warramunga Arr**	**59.79**	**101**	P	**P**	**21 35 39.1**	**+0.2**
	2.2nm,1.0s,baz=253,slow=7.0,SNR=12						
WRA				LR	LR	21 59 38.5	
	comp=Z,98nm,21.7s,baz=270,slow=34						
WRAB	**Tennant Creek**	**59.81**	**101**	*e*P	**P**	**21 35 39.4**	**+0.3**
	2.8nm,1.0s						
STKA	**Stephens Creek**	**63.46**	**115**	LR	LR	21 59 47.8	
	comp=Z,168nm,18.4s,baz=205,slow=32						
AAK	**Ala-Archa**	**65.20**	**4**	P	**P**	**21 36 15.8**	**+1.1**
AAK	**Ala-Archa**	**65.20**	**4**	P	**P**	**21 36 15.8**	**+1.1**
	1.4nm,0.8s,baz=155,slow=4.6,SNR=3.8						
QSPA	**South Pole Qui**	**67.37**	**180**	P	**P**	**21 36 28.8**	**+0.4**
QSPA	**South Pole Qui**	**67.37**	**180**	P	**P**	**21 36 28.8**	**+0.4**
	1.4nm,0.7s,baz=277,slow=5.2,SNR=6.4						
MKAR	**Makanchi Array**	**70.14**	**9**	P	**P**	**21 36 45.1**	**-0.5**
MKAR	**Makanchi Array**	**70.14**	**9**	P	**P**	**21 36 45.1**	**-0.5**
	1.3nm,0.9s,baz=189,slow=4.9,SNR=9.6						
CTA	**Charters Tower**	**70.50**	**104**	P	**P**	**21 36 47.1**	**-1.4**
CTA	**Charters Tower**	**70.50**	**104**	P	**P**	**21 36 47.1**	**-1.4**
	2.8nm,0.7s,baz=218,slow=9.4,SNR=4.0						
CTA				LR	LR	22 05 56.5	
	comp=Z,167nm,18.1s,baz=229,slow=34						
BRTR	**Keskin Array B**	**70.71**	**331**	P	**P**	**21 36 48.2**	**-1.2**
BRTR	**Keskin Array B**	**70.71**	**331**	P	**P**	**21 36 48.2**	**-1.2**
	1.1nm,1.0s,baz=120,slow=8.5,SNR=3.1						
AKTO	**Aktyubinsk**	**73.60**	**352**	P	**P**	**21 37 04.8**	**-1.5**
AKTO	**Aktyubinsk**	**73.60**	**352**	P	**P**	**21 37 04.8**	**-1.5**
	1.0nm,0.5s,baz=122,slow=13,SNR=4.0						
TORD	**Torodi Ar. Bea**	**75.58**	**291**	P	**P**	**21 37 19.5**	**+0.9**
TORD	**Torodi Ar. Bea**	**75.58**	**291**	P	**P**	**21 37 19.5**	**+0.9**
	2.0nm,1.1s,baz=95,slow=5.0,SNR=6.3						
TORD				LR	LR	22 09 21.4	
	comp=Z,107nm,18.1s,baz=275,slow=35						
SONM	**Songino Array**	**77.59**	**24**	P	**P**	**21 37 31.0**	**+1.6**
SONM	**Songino Array**	**77.59**	**24**	P	**P**	**21 37 31.0**	**+1.6**
	2.0nm,1.2s,baz=228,slow=3.8,SNR=5.6						
DBIC	**Dimbokro**	**78.53**	**282**	P	**P**	**21 37 35.8**	**+0.6**
DBIC	**Dimbokro**	**78.53**	**282**	P	**P**	**21 37 35.8**	**+0.6**
	3.2nm,0.8s,baz=66,slow=7.9,SNR=3.5						
DBIC				LR	LR	22 09 38.3	
	comp=Z,125nm,19.0s,baz=272,slow=34						
JNU	**Nakatsue**	**80.50**	**48**	LR	LR	22 10 48.6	
	comp=Z,44nm,19.8s,baz=214,slow=34						
YKA	**Yellowknife Ar**	**140.17**	**3**	PKP	**PKPdf**	**21 45 01.1**	**-0.3**
YKA	**Yellowknife Ar**	**140.17**	**3**	PKP	**PKPdf**	**21 45 01.1**	**-0.3**
	0.2nm,0.7s,baz=336,slow=2.0,SNR=3.6						
ULM	**Lac du Bonnet**	**150.33**	**341**	PKPbc	**PKPbc**	**21 45 23.1**	**-1.4**
ULM	**Lac du Bonnet**	**150.33**	**341**	PKPbc	**PKPbc**	**21 45 23.1**	**-1.4**
	1.4nm,0.6s,baz=33,slow=6.7,SNR=3.5						

SKO ***20*** *21:28:51.8, 39.01N×20.28E, h0km*
IDC ***20*** *21:28:52.5±1.1, 39.47N×20.24E, h0km, mb4.0/9, mb1 4.1/12, mb1mx3.9/29, mbtmp4.0/12, ML4.1/3, MS3.2/1, Ms1 3.2/1, ms1mx2.3/55, Error ellipse: s-maj=20.6km s-min=18.9km az=71.0*
ATH ***20*** *21:28:54.4, 39.38N×20.26E, h14km, ML3.9*
THE ***20*** *21:28:54.8, 39.38N×20.26E, h0km±3km, ML4.1/3, Error ellipse: s-maj=3.3km s-min=0.8km az=215.0*
CSEM ***20*** *21:28:54.0±0.1, 39.37N×20.14E, h2km, ML4.1/3, Ms3.5, Error ellipse: s-maj=4.5km s-min=2.3km az=52.0*
PDG ***20*** *21:28:55.6±1.0, 39.55N×20.22E, h0km±11km, ML3.6/9, Error ellipse: s-maj=1.3km s-min=1.2km az=90.0*
VIE ***20*** *21:29:01.1±0.6, 39.75N×19.61E, h10km, mb3.1/5, Ms3.5/5, Error ellipse: s-maj=8.9km s-min=3.7km az=78.0 173 km S of Durres*

ISC 20 21:28:53.5±1.0, 39.39N±0.02×20.16E±0.02, h6km±7km, n222, σ1.940/275, mb4.1/11, 24C-25D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RGA	**Parga**	**0.16**	**114**	P	**Pg**	**21 28 56.5**	**-0.3**
RGA				S	**Sg**	**21 28 58.6**	**-0.4**
RGA	**Parga**	**0.16**	**114**	P	**Pg**	**21 28 56.5**	**-0.3**
RGA				S	**Sg**	**21 28 58.6**	**-0.4**
IGT	**Igoumenitsa**	**0.20**	**42**	P	**Pg**	**21 28 57.3**	**-0.1**
IGT				S	**Sg**	**21 29 00.6**	**+0.5**
IGT	**Igoumenitsa**	**0.20**	**42**	P	**Pg**	**21 28 57.3**	**-0.1**
IGT				S	**Sg**	**21 29 00.6**	**+0.5**
KEK	**Kerkira**	**0.43**	**319**	P	**Pb**	**21 29 04.0**	**+0.5**
KEK				S	**Sb**	**21 29 11.5**	**+1.2**
KEK	**Kerkira**	**0.43**	**319**	*e*PB	**Pb**	**21 29 04.1**	**+

VLX	**Vlachokerasia**	**2.66**	**138**	*e*PB	**Pn**	**21 29 38.0**	**+1.0**
VLX	**Vlachokerasia**	**2.66**	**138**	*e*Pb	**Pn**	**21 29 38.0**	**+1.0**
ULC	**Ulcinj**	**2.67**	**345**	*e*Pn	**Pn**	**21 29 38.4**	**+1.4**
ULC				*e*Sn	**Sn**	**21 30 11.9**	**+2.2**
ULC	**Ulcinj**	**2.67**	**345**	*e*Pn	**Pn**	**21 29 38.4**	**+1.4**
ULC				*e*Sn	**Sn**	**21 30 11.9**	**+2.2**
VAY	**Valandovo**	**2.67**	**43**	*e*Pn	**Pn**	**21 29 38.5**	**+1.5**
VAY	**Valandovo**	**2.67**	**43**	*e*Pn	**Pn**	**21 29 38.9**	**+1.9**
PLG	**Polygyros**	**2.71**	**68**	P	**Pn**	**21 29 38.9**	**+1.3**
PLG	**Polygyros**	**2.71**	**68**	*e*PB	**Pn**	**21 29 38.9**	**+1.3**
PLG	**Polygyros**	**2.71**	**68**	P	**Pn**	**21 29 38.9**	**+1.3**
KNT	**Kendrikon**	**2.74**	**49**	P	**Pn**	**21 29 40.1**	**+2.0**
KNT	**Kendrikon**	**2.74**	**49**	P	**Pn**	**21 29 40.1**	**+2.0**
SKO	**Skopje**	**2.76**	**20**	*e*Pn	**Pn**	**21 29 40.8**	**+2.5**
SKO	**Skopje**	**2.76**	**20**	*e*Pn	**Pb**	**21 29 41.3**	**-1.9**
PYL	**PYLOS**	**2.78**	**153**	P	**Pn**	**21 29 39.5**	**+0.9**
PYL	**PYLOS**	**2.78**	**153**	*e*PN	**Pn**	**21 29 39.9**	**+1.3**
PYL	**PYLOS**	**2.78**	**153**	P	**Pn**	**21 29 39.5**	**+0.9**
PYL	**PYLOS**	**2.78**	**153**	*e*Pn	**Pn**	**21 29 39.9**	**+1.3**
SG1	**Sgolgore (BA)**	**3.04**	**300**	*e*Pn	**Pn**	**21 29 44.1**	**+1.9**
BAI	**Bari**	**3.04**	**305**	*e*Pn	**Pn**	**21 29 44.5**	**+2.3**
DID	**Didima**	**3.06**	**127**	*e*PN	**Pn**	**21 29 44.1**	**+1.7**
DID	**Didima**	**3.06**	**127**	*e*Pn	**Pn**	**21 29 44.1**	**+1.7**
BUM	**Brajici-Budva**	**3.07**	**342**	⇑*i*Pn	**Pn**	**21 29 44.0**	**+1.4**
BUM				*e*Sn	**Sn**	**21 30 21.5**	**+1.9**
BUM	**Brajici-Budva**	**3.07**	**342**	⇑*i*Pn	**Pn**	**21 29 44.0**	**+1.4**
BUM				*e*Sn	**Sn**	**21 30 21.5**	**+1.9**
TTG	**Podgorica**	**3.12**	**348**	⇓*i*Pn	**Pn**	**21 29 44.6**	**+1.5**
TTG				*e*Sn	**Sn**	**21 30 23.3**	**+2.6**
PDG	**Podgorica**	**3.12**	**348**	⇓*i*Pn	**Pn**	**21 29 44.6**	**+1.4**
PDG				*e*Sn	**Sn**	**21 30 23.3**	**+2.6**
ATH	**Athens Observa**	**3.12**	**116**	*e*PN	**Pn**	**21 29 44.0**	**+0.8**
ATH	**Athens Observa**	**3.12**	**116**	*e*Pn	**Pn**	**21 29 44.0**	**+0.8**
PVY	**Plav**	**3.21**	**357**	*e*Pn	**Pn**	**21 29 46.1**	**+1.5**
PVY				*e*Sn	**Sn**	**21 30 25.5**	**+2.3**
PVY	**Plav**	**3.21**	**357**	*e*Pn	**Pn**	**21 29 46.1**	**+1.5**
PVY				*e*Sn	**Sn**	**21 30 25.5**	**+2.3**
HCY	**Herceg Novi**	**3.31**	**338**	⇓*i*Pn	**Pn**	**21 29 46.4**	**+0.6**
HCY				*e*Sn	**Sn**	**21 30 27.2**	**+1.7**
HCY	**Herceg Novi**	**3.31**	**338**	⇓*i*Pn	**Pn**	**21 29 46.4**	**+0.6**
HCY				*e*Sn	**Sn**	**21 30 27.2**	**+1.7**
CDT	**Castel del Mon**	**3.42**	**301**	*e*Pn	**Pn**	**21 29 49.5**	**+2.1**
NVR	**Nevrokopi**	**3.44**	**54**	*e*PN	**Pn**	**21 29 49.6**	**+1.9**
NVR	**Nevrokopi**	**3.44**	**54**	*e*Pn	**Pn**	**21 29 49.6**	**+1.9**
BEY	**Berane**	**3.49**	**357**	⇑*i*Pn	**Pn**	**21 29 50.9**	**+2.5**
BEY				*e*Sn	**Sn**	**21 30 32.4**	**+2.4**
IVA	**Berane**	**3.49**	**357**	⇑*i*Pn	**Pn**	**21 29 50.9**	**+2.5**
IVA				*e*Sn	**Sn**	**21 30 32.4**	**+2.4**
NKY	**Niksic**	**3.54**	**346**	⇑*i*Pn	**Pn**	**21 29 50.7**	**+1.7**
NKY				*e*Sn	**Sn**	**21 30 32.7**	**+1.5**
NKY	**Niksic**	**3.54**	**346**	⇑*i*Pn	**Pn**	**21 29 50.7**	**+1.7**
NKY				*e*Sn	**Sn**	**21 30 32.7**	**+1.5**
LIA	**Limnos Island**	**3.91**	**81**	*e*PN	**Pn**	**21 29 55.8**	**+1.8**
LIA	**Limnos Island**	**3.91**	**81**	*e*Pn	**Pn**	**21 29 55.8**	**+1.8**
UPM	**Unac-Piva**	**3.93**	**346**	⇓*i*Pn	**Pn**	**21 29 56.2**	**+1.7**
UPM				*e*Sn	**Sn**	**21 30 42.2**	**+1.2**
UPM	**Unac-Piva**	**3.93**	**346**	⇓*i*Pn	**Pn**	**21 29 56.2**	**+1.7**
UPM				*e*Sn	**Sn**	**21 30 42.2**	**+1.2**
VTS	**Vitosha**	**3.94**	**35**	⇓*i*P	**Pn**	**21 29 57.5**	**+2.8**
VTS	**Vitosha**	**3.94**	**35**	⇓*i*P	**Pn**	**21 29 57.5**	**+2.8**
STON	**Ston**	**3.95**	**333**	*e*Pn	**Pn**	**21 29 54.6**	**+0.1**
STON				Sn	**Sn**	**21 30 41.5**	**+0.3**
STON	**Ston**	**3.95**	**333**	*e*Pn	**Pn**	**21 29 54.6**	**+0.1**
STON				Sn	**Sn**	**21 30 41.5**	**+0.3**
PLE	**Pljevlja**	**3.98**	**352**	⇓*i*Pn	**Pn**	**21 29 57.4**	**+2.2**
PLE				*e*Sn	**Sn**	**21 30 43.8**	**+1.5**
PLE	**Pljevlja**	**3.98**	**352**	⇓*i*Pn	**Pn**	**21 29 57.4**	**+2.2**
PLE				*e*Sn	**Sn**	**21 30 43.8**	**+1.5**
RDO	**Rodhopi**	**4.47**	**65**	*e*PN	**Pn**	**21 30 03.2**	**+1.4**
RDO	**Rodhopi**	**4.47**	**65**	*e*Pn	**Pn**	**21 30 03.2**	**+1.4**
CHOS	**Chios island**	**4.70**	**100**	*e*PN	**Pn**	**21 30 07.0**	**+1.9**
CHOS	**Chios island**	**4.70**	**100**	*e*Pn	**Pn**	**21 30 07.0**	**+1.9**
PRK	**Paraskevi**	**4.74**	**90**	*e*PN	**Pn**	**21 30 07.8**	**+2.3**
PRK	**Paraskevi**	**4.74**	**90**	*e*Pn	**Pn**	**21 30 07.8**	**+2.3**
ALN	**Alexandroupoli**	**4.75**	**70**	*e*PN	**Pn**	**21 30 07.3**	**+1.6**
ALN	**Alexandroupoli**	**4.75**	**70**	*e*Pn	**Pn**	**21 30 07.3**	**+1.6**
VAM	**Vamos**	**5.11**	**140**	*e*PN	**Pn**	**21 30 13.3**	**+2.7**
VAM	**Vamos**	**5.11**	**140**	*e*Pn	**Pn**	**21 30 13.3**	**+2.7**
AQU	**L'Aquila**	**5.92**	**302**	⇑*i*P	Pb	21 30 29.6	-7.5
GZR	**Gura Zlata**	**6.31**	**17**	⇑*i*P	**Pn**	**21 30 27.7**	**+0.6**
GZR	**Gura Zlata**	**6.31**	**17**	⇑*i*P	**Pn**	**21 30 27.7**	**+0.6**
BZS	**Buzias**	**6.32**	**9**	⇑*i*P	**Pn**	**21 30 28.0**	**+0.8**
BZS	**Buzias**	**6.32**	**9**	⇑*i*P	**Pn**	**21 30 28.0**	**+0.8**
NVLJ	**Novalja**	**6.50**	**324**	*e*Pn	**Pn**	**21 30 30.6**	**+0.9**
NVLJ				Sn	**Sn**	**21 31 42.6**	**-1.6**
NVLJ	**Novalja**	**6.50**	**324**	*e*Pn	**Pn**	**21 30 30.5**	**+0.9**
NVLJ				Sn	**Sn**	**21 31 42.5**	**-1.6**
LOT	**Lotru**	**6.62**	**23**	⇓*i*P	**Pn**	**21 30 33.9**	**+2.5**
LOT	**Lotru**	**6.62**	**23**	⇓*i*P	**Pn**	**21 30 33.9**	**+2.5**
PKSM	**Moragy**	**6.91**	**351**	⇑*i*P	**Pn**	**21 30 35.4**	**+0.1**
PKSM	**Moragy**	**6.91**	**351**	⇑*i*P	**Pn**	**21 30 35.4**	**+0.1**
VOIR		**7.04**	**29**	⇓*i*P	**Pn**	**21 30 40.3**	**+3.1**
VOIR		**7.04**	**29**	⇓*i*P	**Pn**	**21 30 40.3**	**+3.1**
BOJS	**Bojanci**	**7.11**	**331**	*i* Pn	**Pn**	**21 30 38.9**	**+0.9**
BOJS				*i* Sn	**Sn**	**21 31 56.1**	**-2.9**
BOJS	**Bojanci**	**7.11**	**331**	Pn	**Pn**	**21 30 38.9**	**+0.9**
SECR		**7.14**	**36**	⇑*i*P	**Pn**	**21 30 39.1**	**+0.6**
SECR		**7.14**	**36**	⇑*i*P	**Pn**	**21 30 39.1**	**+0.6**
GBRS	**Gornja Briga**	**7.30**	**329**	*i* Pn	**Pn**	**21 30 41.9**	**+1.2**
CRES	**Cresnjev**	**7.31**	**333**	*i* Pn	**Pn**	**21 30 41.2**	**+0.4**
CRES	**Cresnjev**	**7.31**	**333**	*i* Pn	**Pn**	**21 30 41.2**	**+0.4**
MLR	**Muntele Rosu**	**7.45**	**33**	⇓*i*P	Pn	21 30 46.9	+4.1
MLR	**Muntele Rosu**	**7.45**	**33**	Pn	Pn	21 30 46.9	+4.1
	0.3nm,0.3s,baz=144,slow=16,SNR=11						
MLR	**Muntele Rosu**	**7.45**	**33**	⇓*i*P	Pn	21 30 46.9	+4.1
VISS	**Visnje**	**7.52**	**330**	*i* Pn	**Pn**	**21 30 44.2**	**+0.6**
VISS				*i* Sn	**Sn**	**21 32 09.1**	**-0.1**
VISS	**Visnje**	**7.52**	**330**	*i* Pn	**Pn**	**21 30 44.2**	**+0.6**
VISS				*i* Sn	**Sn**	**21 32 09.1**	**-0.1**
DRGR		**7.63**	**13**	⇓*i*P	**Pn**	**21 30 47.4**	**+2.1**
DRGR		**7.63**	**13**	⇓*i*P	**Pn**	**21 30 47.4**	**+2.1**
GROS	**Grobnik**	**7.85**	**336**	*i* Pn	**Pn**	**21 30 48.4**	**+0.1**
GROS				*i* Sn	**Sn**	**21 32 13.7**	**-3.8**
GROS	**Grobnik**	**7.85**	**336**	*i* Pn	**Pn**	**21 30 48.4**	**+0.1**
JAVS	**Javornik**	**7.90**	**327**	*i* Pn	**Pn**	**21 30 49.2**	**+0.2**
JAVS				*i* Sn	**Sn**	**21 32 16.1**	**-2.6**
JAVS	**Javornik**	**7.90**	**327**	*i* Pn	**Pn**	**21 30 49.2**	**+0.2**
PLOR	**Plostina**	**8.04**	**34**	⇑*i*P	Pn	21 30 54.1	+3.3
PLOR	**Plostina**	**8.04**	**34**	⇑*i*P	Pn	21 30 54.1	+3.3
VRI	**Vrincioaia**	**8.08**	**35**	⇑*i*P	Pn	21 30 54.8	+3.4
VRI	**Vrincioaia**	**8.08**	**35**	⇑*i*P	Pn	21 30 54.8	+3.4
VOY	**Vojsko**	**8.09**	**327**	*e*Pn	**Pn**	**21 30 52.3**	**+0.8**
VOY				*e*Sn	**Sn**	**21 32 20.7**	**-2.5**
VOY	**Vojsko**	**8.09**	**327**	*e*Pn	**Pn**	**21 30 52.3**	**+0.8**
SOKA	**Soboth**	**8.20**	**334**	⇓*i*Pn	**Pn**	**21 30 52.9**	**-0.1**
SOKA				⇓*i*Sn	**Sn**	**21 32 21.5**	**-4.5**
SOKA	**Soboth**	**8.20**	**334**	Pn	**Pn**	**21 30 52.9**	**-0.1**
OBKA	**Obir**	**8.22**	**332**	⇓*i*Pn	**Pn**	**21 30 53.6**	**+0.2**
OBKA				⇓*i*Sn	**Sn**	**21 32 22.4**	**-4.2**
OBKA	**Obir**	**8.22**	**332**	Pn	**Pn**	**21 30 53.6**	**+0.2**
CADS	**Cadrg**	**8.31**	**327**	*i* Pn	**Pn**	**21 30 55.5**	**+1.0**
CADS	**Cadrg**	**8.31**	**327**	*i* Pn	**Pn**	**21 30 55.5**	**+1.0**
PSZ	**Piszkesteto**	**8.53**	**359**	⇓*i*P	**Pn**	**21 30 58.8**	**+1.2**
PSZ	**Piszkesteto**	**8.53**	**359**	⇓*i*P	**Pn**	**21 30 58.8**	**+1.2**
ARSA	**Arzberg**	**8.56**	**338**	⇓*i*Pn	**Pn**	**21 30 58.0**	**+0.1**
ARSA	**Arzberg**	**8.56**	**338**	⇓*i*Pn	**Pn**	**21 30 58.0**	**+0.1**
KBA	**Koelnbreinsper**	**9.15**	**329**	⇑*i*Pn	**Pn**	**21 31 06.4**	**+0.2**
KBA				⇓*i*Sn	**Sn**	**21 32 44.7**	**-5.0**
KBA	**Koelnbreinsper**	**9.15**	**329**	Pn	**Pn**	**21 31 06.4**	**+0.2**
VYHS	**Vyhne**	**9.15**	**354**	*e*PN	**Pn**	**21 31 07.8**	**+1.7**
VYHS	**Vyhne**	**9.15**	**354**	*e*Pn	**Pn**	**21 31 07.8**	**+1.7**
MOA	**Molln**	**9.48**	**335**	⇑*i*Pn	**Pn**	**21 31 10.8**	**+0.3**
MOA				⇑*i*Sn	**Sn**	**21 32 53.9**	**-3.4**
MOA	**Molln**	**9.48**	**335**	Pn	**Pn**	**21 31 10.8**	**+0.3**
CRVS	**Cervenica-Dubn**	**9.56**	**5**	*e*PN	**Pn**	**21 31 13.1**	**+1.5**
CRVS	**Cervenica-Dubn**	**9.56**	**5**	*e*Pn	**Pn**	**21 31 13.1**	**+1.5**
MOTA	**Moosalm**	**10.33**	**323**	⇑*i*Pn	**Pn**	**21 31 22.9**	**+0.7**
MOTA	**Moosalm**	**10.33**	**323**	Pn	**Pn**	**21 31 22.9**	**+0.7**
BRTR	**Keskin Array B**	**10.41**	**84**	Pn	Pn	21 31 27.4	+3.9
	0.1nm,0.3s,baz=264,slow=12,SNR=3.7						
GERES	**GERESS Array B**	**10.53**	**336**	Pn	**Pn**	**21 31 24.4**	**-0.6**
	0.5nm,0.3s,baz=160,slow=14,SNR=20						
KHC	**Kasperske Hory**	**10.82**	**336**	*e*PN	**Pn**	**21 31 29.4**	**+0.5**
KHC				*ex*	x	21 31 42.0	
KHC	**Kasperske Hory**	**10.82**	**336**	Pn	**Pn**	**21 31 29.4**	**+0.5**
MBDF	**Montbardon**	**11.29**	**303**	*e*P	Pn	21 31 28.1	-7.4
	16nm,1.1s						
LPG	**La Plagne**	**11.63**	**306**	*e*P	**Pn**	**21 31 39.1**	**-1.2**
	10.0nm,0.9s						
LPG	**La Plagne**	**11.63**	**306**	*e*P	**Pn**	**21 31 39.1**	**-1.2**
LPL	**La Plagne**	**11.65**	**306**	*e*P	**Pn**	**21 31 39.7**	**-0.8**
LPL	**La Plagne**	**11.65**	**306**	*e*P	**Pn**	**21 31 39.7**	**-0.8**
ORIF	**Oris-en-Rattie**	**11.95**	**302**	*e*P	Pn	21 31 38.4	-6.0
	25nm,1.4s						
CLL	**Collm**	**12.93**	**340**	*e*(P)	**Pn**	**21 31 57.0**	**-0.7**
CLL				Lmax		21 39 00.0	
HAU	**Haudompre**	**13.18**	**315**	*e*P	**Pn**	**21 31 59.8**	**-1.3**
HAU	**Haudompre**	**13.18**	**315**	*e*P	**Pn**	**21 31 59.8**	**-1.3**
MMAI	**Mont Meron Ar**	**13.84**		Pn	**Pn**	**21 32 09.9**	**-0.4**
	0.3nm,0.3s,baz=310,slow=11,SNR=2.8						
SSF	**Saint Saulge**	**14.35**	**308**	*e*P	Pn	21 32 09.8	-7.3
	5.2nm,0.8s						
ESDC	**Sonseca Array**	**18.61**	**279**	P	**Pn**	**21 33 13.8**	**+2.0**
	0.3nm,0.3s,baz=75,slow=11,SNR=9.0						
HFS	**Hagfors**	**21.16**	**351**	P	**P**	**21 33 38.9**	**-0.3**
	5.1nm,0.5s,baz=163,slow=11,SNR=45						
NB2	**NORSAR Subarra**	**22.38**	**349**	P	**P**	**21 33 51.6**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=164,slow=12						
NB2	**NORSAR Subarra**	**22.38**	**349**	P	**P**	**21 33 51.6**	**-0.7**
	comp=Z,2.1nm,0.5s,SNR=6.4						
NOA	**NORSAR Array B**	**22.38**	**349**	P	**P**	**21 33 52.0**	**-0.3**
	comp=Z,5.3nm,0.7s,baz=166,slow=10,SNR=16						
FINES	**FINESS Array B**	**22.38**	**7**	P	**P**	**21 33 51.4**	**-0.8**
	comp=Z,2.5nm,0.5s,baz=175,slow=11,SNR=13						
KAF	**Kangasniemi**	**23.06**	**7**	*ep*	**P**	**21 33 57.6**	**-1.8**
	comp=Z,2.3nm,0.7s						
JOF	**Joensuu**	**24.51**	**12**	*ep*	**P**	**21 34 12.6**	**-0.7**
	comp=Z,2.4nm,0.6s						
AKTO	**Aktyubinsk**	**28.70**	**55**	LR	LR	21 49 35.7	
	comp=Z,48nm,18.5s,baz=98,slow=44						
ARCES	**ARCESS Array B**	**30.34**	**4**	P	**P**	**21 35 04.5**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=186,slow=11,SNR=4.5						
TORD	**Torodi Ar. Bea**	**30.81**	**217**	P	**P**	**21 35 10.6**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=30,slow=8.8,SNR=14						
MKAR	**Makanchi Array**	**44.92**	**59**	P	**P**	**21 37 07.9**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=274,slow=7.5,SNR=34						
ZALV	**Zalesovo Beam**	**45.10**	**49**	P	**P**	**21 37 09.2**	**-1.0**
	comp=Z,1.8nm,0.4s,baz=284,slow=8.6,SNR=12						
SCHQ	**Schefferville**	**57.39**	**317**	P	**P**	**21 38 41.1**	**-1.4**
	comp=Z,1.0nm,0.5s,baz=276,slow=15,SNR=5.6						
YKA	**Yellowknife Ar**	**72.16**	**340**	P	**P**	**21 40 19.0**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=35,slow=5.3,SNR=5.3						

*THE **20** 21:32:48.2, 39.43N×20.27E, h1km±3km, ML3.0/4, Error ellipse: s-maj=3.4km s-min=0.8km az=214.0*
*CSEM **20** 21:32:48.3±0.2, 39.42N×20.20E, h2km, ML3.0/4, Error ellipse: s-maj=5.8km s-min=3.9km az=48.0*
*ATH **20** 21:32:49.2, 39.40N×20.24E, h12km±4km, MD3.3/10*
ISC 20 21:32:47.9±1.1, 39.42N±0.02×20.24E±0.02, h2km±9km, n36, σ0.95/65, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RGA	**Parga**	**0.13**	**135**	P		**Pg**		**21 32 49.9**	**-0.6**
RGA				S		**Sg**		**21 32 52.3**	**0.0**
RGA	**Parga**	**0.13**	**135**	P		**Pg**		**21 32 49.9**	**-0.6**
RGA				S		**Sg**		**21 32 52.3**	**0.0**
IGT	**Igoumenitsa**	**0.14**	**33**	P		**Pg**		**21 32 50.7**	**0.0**
IGT				S		**Sg**		**21 32 52.0**	**-0.5**
IGT	**Igoumenitsa**	**0.14**	**33**	P		**Pg**		**21 32 50.7**	**0.0**
IGT				S		**Sg**		**21 32 52.0**	**-0.5**
KEK	**Kerkira**	**0.45**	**312**	P		**Pg**		**21 32 57.3**	**+0.7**
KEK				S		**Sg**		**21 33 03.6**	**+1.2**
KEK	**Kerkira**	**0.45**	**312**	*e*PB		**Pg**		**21 32 57.5**	**+0.9**
KEK				*e*SB		**Sb**		**21 33 05.5**	**-0.2**
KEK	**Kerkira**	**0.45**	**312**	P		**Pg**		**21 32 57.3**	**+0.7**
KEK	**Kerkira**	**0.45**	**312**	*e*Pb		**Pg**		**21 32 57.5**	**+0.9**
KEK				S		**Sg**		**21 33 03.6**	**+1.2**
KEK				*e*Sb		**Sb**		**21 33 05.5**	**-0.2**
JAN	**Janina**	**0.53**	**63**	P		**Pg**		**21 32 58.0**	**-0.2**
JAN				S		**Sg**		**21 33 05.3**	**+0.2**
JAN	**Janina**	**0.53**	**63**	*e*PB		**Pg**		**21 32 58.7**	**+0.5**
JAN				*e*SB		**Sb**		**21 33 06.3**	**-1.9**
JAN	**Janina**	**0.53**	**63**	P		**Pg**		**21 32 58.0**	**-0.2**
JAN	**Janina**	**0.53**	**63**	*e*Pb		**Pg**		**21 32 58.7**	**+0.5**
JAN				S		**Sg**		**21 33 05.3**	**+0.2**
JAN				*e*Sb		**Sb**		**21 33 06.3**	**-1.9**
LKD2	**Lefkada island**	**0.71**	**152**	P		**Pg**		**21 33 01.8**	**+0.3**
LKD2				S		**Sb**		**21 33 12.3**	**-0.8**
LKD2	**Lefkada island**	**0.71**	**152**	*e*PG		**Pg**		**21 33 02.0**	**+0.5**
LKD2				*e*SB		**Sb**		**21 33 12.6**	**-0.5**
LKD2	**Lefkada island**	**0.71**	**152**	P		**Pg**		**21 33 01.8**	**+0.3**
LKD2	**Lefkada island**	**0.71**	**152**	*e*Pg		**Pg**		**21 33 02.0**	**+0.5**
LKD2				S		**Sb**		**21 33 12.3**	**-0.8**
LKD2				*e*Sb		**Sb**		**21 33 12.6**	**-0.5**
VLS	**Valsamata**	**1.27**	**167**	*e*PG		**Pg**		**21 33 12.6**	**+0.4**
VLS				*e*SB		**Sn**		**21 33 30.9**	**+0.7**
VLS	**Valsamata**	**1.27**	**167**	*e*Pg		**Pg**		**21 33 12.6**	**+0.4**
VLS				*e*Sb		**Sn**		**21 33 30.9**	**+0.7**
EVR	**Evrytania**	**1.32**	**112**	*e*PB		**Pn**		**21 33 13.9**	**+0.4**
EVR				*e*SB		**Sn**		**21 33 32.0**	**+0.3**
EVR	**Evrytania**	**1.32**	**112**	*e*Pb		**Pn**		**21 33 13.9**	**+0.4**
EVR				*e*Sb		**Sn**		**21 33 32.0**	**+0.3**
THL	**Klokotos Trika**	**1.39**	**83**	*e*PG		**Pb**		**21 33 15.1**	**+0.6**
THL				*e*SB		**Sn**		**21 33 34.7**	**+1.6**
THL	**Klokotos Trika**	**1.39**	**83**	*e*Pg		**Pb**		**21 33 15.1**	**+0.6**
THL				*e*Sb		**Sn**		**21 33 34.7**	**+1.6**
KZN	**Kozani**	**1.48**	**53**	*e*PB		**Pg**		**21 33 17.3**	**+1.0**
KZN				*e*SB		**Sn**		**21 33 38.0**	**+2.4**
KZN	**Kozani**	**1.48**	**53**	*e*Pb		**Pg**		**21 33 17.3**	**+1.0**
KZN				*e*Sb		**Sn**		**21 33 38.0**	**+2.4**
EFP	**Efpalio**	**1.64**	**127**	*e*PB		**Pg**		**21 33 19.5**	**+0.2**
EFP				*e*SB		**Sg**		**21 33 41.8**	**+1.4**
EFP	**Efpalio**	**1.64**	**127**	*e*Pb		**Pg**		**21 33 19.5**	**+0.2**
EFP				*e*Sb		**Sg**		**21 33 41.8**	**+1.4**
GUR	**Goura**	**2.21**	**131**	*e*PN		**Pb**		**21 33 27.9**	**-0.8**
GUR	**Goura**	**2.21**	**131**	*e*Pn		**Pb**		**21 33 27.9**	**-0.8**
LKR	**Lokris**	**2.28**	**109**	*e*PN		**Pb**		**21 33 29.3**	**-0.5**
LKR	**Lokris**	**2.28**	**109**	*e*Pn		**Pb**		**21 33 29.3**	**-0.5**
NEO	**Neokhori**	**2.32**	**92**	*e*PN		**Pb**		**21 33 29.9**	**-0.6**
NEO	**Neokhori**	**2.32**	**92**	*e*Pn		**Pb**		**21 33 29.9**	**-0.6**
STON	**Ston**	**3.95**	**332**	*e*Pn		**Pn**		**21 33 48.7**	**-0.7**
STON				Sn		**Sn**		**21 34 35.2**	**-1.1**
STON	**Ston**	**3.95**	**332**	*e*Pn		**Pn**		**21 33 48.7**	**-0.7**
STON				Sn		**Sn**		**21 34 35.2**	**-1.1**
NVLJ	**Novalja**	**6.51**	**324**	*e*Pn		**Pn**		**21 34 24.4**	**-0.3**
NVLJ				Sn		**Sn**		**21 35 37.1**	**-2.4**
NVLJ	**Novalja**	**6.51**	**324**	*e*Pn		**Pn**		**21 34 24.4**	**-0.3**

IDC 20 21:41:34.2±1.6, 11.11N×92.44E, h0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/25, mbtmp3.4/6, ML3.5/1, MS2.6/1, Ms1 2.6/1, ms1mx2.1/31, Error ellipse: s-maj=54.1km s-min=25.2km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.64**	**40**	Pn		Pn		21 43 53.4	-1.0
	0.1nm,0.3s,baz=233,slow=15,SNR=5.5								
PSI	**Prapat**	**10.46**		LR		LR		21 48 58.7	
	comp=Z,37nm,20.2s,baz=126,slow=42								
MKAR	**Makanchi Array**	**36.59**	**348**	P		P		21 48 41.8	-0.2
	0.1nm,0.3s,baz=169,slow=9.9,SNR=5.1								
SONM	**Songino Array**	**38.44**	**15**	P		P		21 48 59.2	+1.4
	0.2nm,0.5s,baz=116,slow=3.4,SNR=3.8								
ZALV	**Zalesovo Beam**	**43.16**	**353**	P		P		21 49 35.5	-1.0
	0.2nm,0.3s,baz=160,slow=9.4,SNR=2.7								
WRA	**Warramunga Arr**	**51.51**	**127**	P		P		21 50 41.5	-0.6
	0.1nm,0.4s,baz=301,slow=10,SNR=4.9								
WRA				PcP		PcP		21 51 56.8	+0.3
	0.2nm,0.6s,baz=312,slow=2.8,SNR=6.1								
FINES	**FINESS Array B**	**69.08**	**332**	P		P		21 52 42.0	+0.1
	2.7nm,1.0s,baz=46,slow=5.5,SNR=3.7								

*ISCJB **20** 21:48:40.2±0.7, 11.12N×61.95W, h13km, MW3.5*
*TRN **20** 21:48:42.5, 11.02N×61.83W, h28km, MD3.4*
ISC 20 21:48:40.7±1.0, 11.08N±0.03×61.97W±0.03, h28km±12km, n25, σ1.952/40, 4C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.50**	**210**	⇑*e*P		**Pb**		**21 48 50.8**	**-0.2**
GUIV				*e*S		**Sb**		**21 48 58.5**	**+0.5**
TRN	**Trinidad (W)**	**0.70**	**128**	⇑*i*P		**Pb**		**21 48 53.6**	**-0.8**
TRN				*e*S		**Sb**		**21 49 02.7**	**-1.0**
TPP	**Pointe-a-Pierr**	**0.91**	**146**	*e*P		**Pb**		**21 48 58.1**	**+0.2**
GRW	**Mount Saint Ca**	**1.11**	**16**	*e*P		**Pb**		**21 49 02.4**	**+1.0**
GRHS	**Sauteurs**	**1.18**	**16**	*e*P		**Pb**		**21 49 03.7**	**+1.3**
GRHS				*e*S		**Sb**		**21 49 14.0**	**-3.3**
GRIC	**Isle de Caille**	**1.25**	**17**	*e*P		**Pb**		**21 49 05.5**	**+1.8**
GRIC				*e*S		**Sn**		**21 49 17.3**	**-0.9**
GRSS	**Sisters**	**1.26**	**16**	*e*P		**Pb**		**21 49 05.1**	**+1.3**
GRSS				*e*S		**Sn**		**21 49 17.6**	**-0.8**
CRUV	**Carupano**	**1.31**	**252**	⇑*e*P		**Pn**		**21 49 03.6**	**+0.5**
CRUV				*e*S		**Sb**		**21 49 21.4**	**+0.4**
GUNV	**Guanoco**	**1.32**	**227**	⇑*e*P		**Pn**		**21 49 04.2**	**+1.0**
GUNV				*e*S		**Sb**		**21 49 23.3**	**+1.8**
TOSP	**Speyside**	**1.42**	**81**	*e*P		**Pn**		**21 49 05.9**	**+1.3**
TOSP				*e*S		**Sn**		**21 49 20.9**	**-1.5**
SVB	**Belmont**	**2.29**	**18**	*e*P		**Pn**		**21 49 18.7**	**+2.1**
SVB				*e*S		**Sb**		**21 49 47.0**	**-2.2**
ORIV	**Oritup

LZH	**Lanzhou**	**13.26**	**111**	*e*P	**Pn**	**22 21 39.0**	**-0.2**
LZH				pP	P	22 21 41.6	-6.9
LZH				pmax	pmax		
	comp=Z,14nm,1.3s						
SONM	**Songino Array**	**13.95**	**59**	Lg	Lg	22 25 46.3	
	comp=Z,0.2nm,0.3s,baz=248,slow=34,SNR=4.3						
BVAR	**Borovoye Array**	**16.47**	**318**	Pn	**Pn**	**22 22 17.5**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=128,slow=12,SNR=2.2						
CMAR	**Chiang Mai Arr**	**25.05**	**156**	P	**P**	**22 23 55.0**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=337,slow=9.0,SNR=9.0						
WRA	**Warramunga Arr**	**74.73**	**136**	P	**P**	**22 30 09.2**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=334,slow=6.1,SNR=4.6						
ASAR	**Alice Springs**	**77.61**	**138**	P	**P**	**22 30 26.2**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=328,slow=5.8,SNR=5.4						
TORD	**Torodi Ar. Bea**	**79.01**	**278**	P	**P**	**22 30 33.7**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=41,slow=5.9,SNR=8.9						

IDC 20 22:23:13.2±2.0, 3.60S×128.23E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.3/20, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=98.8km s-min=30.2km az=67.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.30**	**160**	P	P	22 27 17.7	-0.2
	0.1nm,0.3s,baz=340,slow=14,SNR=6.7						
ASAR	**Alice Springs**	**20.69**	**165**	P	P	22 27 54.6	-0.4
	0.2nm,0.8s,baz=332,slow=9.9,SNR=4.0						
MKAR	**Makanchi Array**	**64.43**	**327**	P	P	22 33 51.3	-0.1
	0.5nm,1.0s,baz=116,slow=3.4,SNR=3.5						

NIED ***20*** *22:29:00, 38.90N×142.10E, h89km, Mw4.3 Best double couple: M0 3.69000×10^15 NP1:φ=13.00000°, δ=72.00000°, λ=135.00000°. NP2:φ=120.00000°, δ=47.00000°, λ=25.00000°.*
IDC ***20*** *22:29:01.1±6.7, 39.19N×142.45E, h0km, mb3.8/4, mb1 3.7/6, mb1mx3.4/28, mbtmp3.6/6, ML2.4/2, Error ellipse: s-maj=122.1km s-min=45.7km az=106.0*
ISCJB ***20*** *22:29:06.9±1.3, 38.91N×0.05×142.1E±0.1, h52km±7km, mb3.7/4, Error ellipse: s-maj=18.6km s-min=7.2km az=18.9*
JMA ***20*** *22:29:07.2±0.1, 38.91N×142.13E, h44km±1km, M3.7*
JMA Felt I J1.
ISC 20 22:29:07.4±2.2, 38.91N±0.07×142.1E±0.1, h42km±14km, n16, σ=80/22, mb3.7/4, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.39**	**296**	⇓P	**Pn**	**22 29 17.0**	**+0.2**
OFUJ				S	**Sn**	**22 29 23.6**	**+0.2**
JMK	**Ichinoseki**	**0.70**	**274**	⇓P	**Pn**	**22 29 20.9**	**0.0**
JMK				S	**Sn**	**22 29 30.5**	**-0.1**
JIO	**Ouri**	**0.76**	**233**	⇓P	**Pn**	**22 29 21.3**	**-0.3**
JIO				S	**Sn**	**22 29 30.8**	**-1.0**
JOM	**Ohasama**	**0.85**	**311**	⇓P	**Pn**	**22 29 23.2**	**+0.3**
JOM				*e*S	**Sn**	**22 29 34.5**	**+0.2**
JTH	**Tanohata**	**1.05**	**349**	P	**Pn**	**22 29 25.8**	**+0.2**
JTH				*e*S	**Sn**	**22 29 39.3**	**+0.3**
JRG	**Rokugo**	**1.25**	**293**	⇓P	**Pn**	**22 29 28.8**	**+0.4**
JOU	**Okura**	**1.26**	**245**	P	**Pn**	**22 29 28.7**	**+0.1**
JOU				*e*S	**Sn**	**22 29 44.5**	**+0.2**
JYK	**Kaneyama**	**1.37**	**271**	⇓P	**Pn**	**22 29 30.4**	**+0.4**
JMM	**Marumori**	**1.47**	**225**	P	**Pn**	**22 29 30.9**	**-0.5**
JANG	**Nango**	**1.53**	**343**	P	**Pn**	**22 29 32.6**	**+0.3**
MJAR	**Matsushiro Arr**	**3.90**	**234**	Pn	**Pn**	**22 30 07.2**	**+2.5**
	1.2nm,0.3s,baz=36,slow=12,SNR=9.2						
USRK	**Ussuriysk Arra**	**9.24**	**308**	Pn	**Pn**	**22 31 16.2**	**-1.7**
	0.1nm,0.3s,baz=113,slow=16,SNR=2.7						
ZALV	**Zalesovo Beam**	**41.09**	**311**	P	**P**	**22 36 46.8**	**0.0**
	0.2nm,0.3s,baz=86,slow=9.3,SNR=3.7						
MKAR	**Makanchi Array**	**43.62**	**301**	P	**P**	**22 37 07.3**	**-0.2**
	0.5nm,0.5s,baz=86,slow=10.0,SNR=9.7						
KURBB	**Kurchatov Arra**	**45.31**	**307**	P	**P**	**22 37 20.6**	**-0.4**
	1.8nm,0.5s,baz=81,slow=8.0,SNR=20						
BVAR	**Borovoye Array**	**49.74**	**311**	P	**P**	**22 37 55.0**	**-0.3**
	0.6nm,0.5s,baz=68,slow=8.3,SNR=6.1						

MAN 20 22:29:16, 11.16N×124.65E, h9km, mb4.0, ML2.7, MS2.4, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.12**	**200**	*e*P	Pg	22 29 20.4	+1.7
OCLP				*e*S	Sg	22 29 23.6	+2.9
PLP	**Palo**	**0.32**	**89** ⇑	*e*P	Pb	22 29 23.9	-0.1
PLP				*e*S	Sg	22 29 27.5	-0.7
MSLP	**Maasin**	**1.04**	**169**	*e*P	Pn	22 29 36.6	-0.1
MSLP				*e*S	Sn	22 29 53.2	+1.7

ISCJB ***20*** *22:33:03.6±0.6, 50.31N±0.04×18.82E±0.03, h0km, Error ellipse: s-maj=6.1km s-min=2.8km az=15.9*
CSEM ***20*** *22:33:04.8±0.3, 50.28N×18.85E, h1km, ML2.6/5, Error ellipse: s-maj=6.8km s-min=3.1km az=10.0*
WAR ***20*** *22:33:05.6, 50.24N×18.94E*
PRU ***20*** *22:33:06.2, 50.26N×18.83E, h0km*
ISC 20 22:33:04.9±0.8, 50.25N±0.04×18.90E±0.02, h0km, n29, σ=99/44, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.57**	**92**	*e*Pg	**Pg**	**22 33 16.1**	**+0.1**
OJC				*e*Sg	**Sg**	**22 33 24.0**	**+0.7**
OJC	**Ojcow**	**0.57**	**92**	*e*Pg	**Pb**	**22 33 16.7**	**-1.2**
OJC				*e*Sg	**Sg**	**22 33 24.1**	**+0.7**
OKC	**Ostrava-Krasne**	**0.64**	**230**	*e*PG	**Pg**	**22 33 17.5**	**+0.4**
OKC				*e*SG	**Sg**	**22 33 25.8**	**+0.4**
	comp=Z,9.7nm,0.4s						
OKC	**Ostrava-Krasne**	**0.64**	**230**	Pg	**Pg**	**22 33 17.5**	**+0.4**
OKC				Sg	**Sg**	**22 33 25.8**	**+0.4**
	9.7nm,0.4s						
MORC	**Moravsky Berou**	**1.00**	**242**	*e*Pg	**Pg**	**22 33 24.0**	**0.0**
MORC				*e*Sg	**Sg**	**22 33 37.1**	**+0.2**
NIE	**Niedzica**	**1.23**	**132**	*e*Pg	**Pb**	**22 33 29.0**	**-0.1**
NIE				*e*Sg	**Sb**	**22 33 45.0**	**-0.5**
NIE	**Niedzica**	**1.23**	**132**	*e*Pg	**Pn**	**22 33 29.3**	**-0.2**
NIE				*e*Sg	**Sb**	**22 33 45.3**	**-0.3**
KRC	**Kraliky**	**1.38**	**264**	*e*PG	**Pn**	**22 33 30.0**	**-1.4**
KRLC	**Kraliky**	**1.38**	**264**	Pg	**Pn**	**22 33 30.0**	**-1.4**
DPC	**Dobruska-Polom**	**1.66**	**275**	*e*PG	**Pn**	**22 33 34.8**	**-0.5**
DPC				*e*SG	**Sn**	**22 33 56.6**	**-0.8**
	comp=Z,5.5nm,0.2s						
DPC	**Dobruska-Polom**	**1.66**	**275**	Pg	**Pn**	**22 33 34.8**	**-0.5**
DPC				Sg	**Sn**	**22 33 56.6**	**-0.8**
	5.5nm,0.2s						
VYHS	**Vyhne**	**1.75**	**181**	*e*PN	**Pb**	**22 33 38.2**	**+0.2**
VYHS				*e*SN	**Sn**	**22 33 59.7**	**0.0**
VYHS	**Vyhne**	**1.75**	**181**	*e*Pn	**Pb**	**22 33 38.2**	**+0.2**
VYHS				*e*Sn	**Sn**	**22 33 59.7**	**0.0**
VRAC	**Vranov**	**1.77**	**239**	*e*Sg	**Sn**	**22 33 59.9**	**-0.1**
KSP	**Ksiaz**	**1.77**	**291**	*e*Pg	**Pb**	**22 33 38.0**	**-0.2**
KSP				*e*Sg	**Sn**	**22 34 01.1**	**+1.1**
KSP	**Ksiaz**	**1.77**	**291**	*e*Pg	**Pb**	**22 33 38.5**	**+0.3**
KSP				*e*Sg	**Sb**	**22 34 01.9**	**+0.9**
UPC	**Upice**	**1.87**	**279**	*e*SG	**Sb**	**22 34 04.2**	**+0.3**
UPC	**Upice**	**1.87**	**279**	Sg	**Sb**	**22 34 04.2**	**+0.3**
CRVS	**Cervenica-Dubn**	**2.14**	**128**	*e*PN	**Pg**	**22 33 46.2**	**+0.3**
CRVS				*e*SN	**Sg**	**22 34 12.9**	**-0.8**
CRVS	**Cervenica-Dubn**	**2.14**	**128**	*e*Pn	**Pg**	**22 33 46.2**	**+0.3**
CRVS				*e*Sn	**Sg**	**22 34 12.9**	**-0.8**
KOLS	**Kolonicke sedl**	**2.56**	**120**	*e*	**Pg**	**22 33 56.0**	**+2.1**
PVCC	**Panska Ves**	**2.79**	**277**	*e*SG	**Sg**	**22 34 34.0**	**-0.5**
	comp=Z,8.5nm,0.3s						
PVCC	**Panska Ves**	**2.79**	**277**	Sg	**Sg**	**22 34 34.0**	**-0.5**
	8.5nm,0.3s						
PRU	**Pruhonice**	**2.82**	**266**	*e*SG	**Sb**	**22 34 33.8**	**+2.6**
	comp=Z,2.4nm,0.3s						
PRU	**Pruhonice**	**2.82**	**266**	Sg	**Sb**	**22 34 33.8**	**+2.6**
	2.4nm,0.3s						
BRG	**Berggiesshubel**	**3.23**	**283**	SG	**Sg**	**22 34 49.1**	**+0.6**
	2.9nm,0.3s						
KHC	**Kasperske Hory**	**3.63**	**254**	*e*SG	**Sg**	**22 34 59.7**	**-1.9**
	comp=Z,4.3nm,0.5s						
KHC	**Kasperske Hory**	**3.63**	**254**	Sg	**Sg**	**22 34 59.7**	**-1.9**
	4.3nm,0.5s						
CLL	**Collm**	**3.89**	**288**	*e*Sg	**Sg**	**22 35 09.0**	**-0.9**

JMA 20 22:34:29.2, 35.66N×136.31E, h10km±1km, M2.9, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFM	**Mihama**	**0.30**	**244**	P	Pg	22 34 35.3	+0.1
JFM				S	Sg	22 34 39.3	+0.1
JGM	**Miyama**	**0.34**	**83**	P	Pg	22 34 35.9	0.0
JGM				S	Sg	22 34 40.6	+0.1
TSUJ	**Tsu 2**	**0.95**	**175**	P	Pg	22 34 47.2	-0.3
TSUJ				S	Sg	22 34 59.5	-0.4
MAT	**Matsushiro**	**1.77**	**60**	P	Pn	22 35 00.6	+0.7
MAT				S	Sb	22 35 24.8	+0.7

ISCJB ***20*** *22:37:40.7±0.7, 39.45N±0.04×44.02E±0.08, h5km±8km, Error ellipse: s-maj=11.7km s-min=5.5km az=28.9*
ISK ***20*** *22:37:40.3, 39.45N×43.97E, h8km, MD2.8*
CSEM ***20*** *22:37:41.0±0.3, 39.46N×43.98E, h10km, MD3.0, Error ellipse: s-maj=11.2km s-min=6.3km az=108.0*
DDA ***20*** *22:37:43.1, 39.40N×43.88E, h22km, MD3.0*
ISC 20 22:37:40.6±1.3, 39.43N±0.03×44.02E±0.04, h5km±14km, n20, σ=69/29, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	**Diyadin**	**0.28**	**293**	*i* P	**Pb**	**22 37 48.5**	**+0.2**
DYDN				*i* S	**Sb**	**22 37 55.6**	**+2.2**
DYDN	**Diyadin**	**0.28**	**293**	*i* P	**Pb**	**22 37 48.5**	**+0.2**
CLDR	**Caldiran**	**0.30**	**196**	*e*PG	**Pg**	**22 37 46.6**	**0.0**
CLDR	**Caldiran**	**0.30**	**196**	*e*Pg	**Pg**	**22 37 46.6**	**0.0**
AGRB	**Hanur-Agry**	**0.81**	**280**	*e*PG	**Pg**	**22 37 55.6**	**-0.6**
AGRB	**Hanur-Agry**	**0.81**	**280**	*e*Pg	**Pg**	**22 37 55.6**	**-0.6**
GNI	**Garni**	**0.91**	**38**	*e*PG	**Pg**	**22 37 58.1**	**+0.1**
GNI				*e*SG	**Sb**	**22 38 11.8**	**+0.5**
GNI	**Garni**	**0.91**	**38**	*e*Pg	**Pg**	**22 37 58.1**	**+0.1**
GNI				*e*Sg	**Sb**	**22 38 11.8**	**+0.5**
VANB	**Van**	**0.97**	**211**	*e*PG	**Pg**	**22 37 59.1**	**-0.2**
VANB				*e*SG	**Sb**	**22 38 13.6**	**+0.5**
VANB	**Van**	**0.97**	**211**	*e*Pg	**Pg**	**22 37 59.1**	**-0.2**
VANB				*e*Sg	**Sb**	**22 38 13.6**	**+0.5**
VANT	**Van**	**1.17**	**210**	*e*PN	**Pg**	**22 38 03.1**	**0.0**
VANT	**Van**	**1.17**	**210**	*e*Pn	**Pg**	**22 38 03.1**	**0.0**
GEVA	**Gevas**	**1.35**	**214**	*i* P	**Pn**	**22 38 05.9**	**-0.3**
GEVA				*i* S	**Sg**	**22 38 24.3**	**+0.3**
GEVA	**Gevas**	**1.35**	**214**	*i* P	**Pn**	**22 38 05.9**	**-0.3**
GEVA				*i* S	**Sg**	**22 38 24.3**	**+0.3**
KARS	**Kars**	**1.40**	**329**	*e*PN	**Pn**	**22 38 05.8**	**-1.1**
KARS	**Kars**	**1.40**	**329**	*e*Pn	**Pn**	**22 38 05.8**	**-1.1**
HAKT	**HAKKARI**	**1.89**	**188**	*i* P	**Pb**	**22 38 15.3**	**-0.4**
HAKT				*e*S	**Sb**	**22 38 39.0**	**-0.7**
HAKT	**HAKKARI**	**1.89**	**188**	*i* P	**Pb**	**22 38 15.3**	**-0.4**
HAKT				*e*S	**Sb**	**22 38 39.0**	**-0.7**
CUKT	**Cukurca**	**2.21**	**189**	*e*PN	**Pn**	**22 38 18.7**	**+0.7**
CUKT	**Cukurca**	**2.21**	**189**	*e*Pn	**Pn**	**22 38 18.7**	**+0.7**

ISCJB ***20*** *22:51:24.8±0.4, 23.78N±0.02×122.00E±0.02, h24km±3km, Error ellipse: s-maj=4.2km s-min=2.6km az=149.9*
TAP ***20*** *22:51:25.5, 23.79N×121.96E, h32km, ML3.1, C*
JMA ***20*** *22:51:25.6±0.5, 23.72N×122.02E, h37km, M2.5*
ISC 20 22:51:25.2±1.0, 23.79N±0.03×121.95E±0.03, h32km±8km, n41, σ=61/74, 1C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.37**	**301**	*e*P	**Pb**	**22 51 33.9**	**+0.1**
	baz=297						
HWA				*e*S	**Sb**	**22 51 39.4**	**-0.3**
	baz=297						
TEGC	**Jichi Village**	**0.39**	**259**	*e*P	**Pb**	**22 51 34.0**	**0.0**
	baz=258						
TEGC				*e*S	**Sn**	**22 51 41.1**	**+0.2**
	baz=258						
ESF	**Shoufeng Towns**	**0.42**	**282**	*e*P	**Pb**	**22 51 34.3**	**-0.1**
	baz=285						
ESF				*e*S	**Sb**	**22 51 41.2**	**+0.4**
	baz=285						
TWD	**Chiawan**	**0.44**	**312**	P	**Pb**	**22 51 34.7**	**-0.1**
	baz=312						
TWD				S	**Sb**	**22 51 41.4**	**+0.1**
	baz=312						
ESL	**Shilin**	**0.48**	**274** ⇓	*i* P	**Pb**	**22 51 35.1**	**-0.3**
	baz=267						
ESL				*e*S	**Sb**	**22 51 42.0**	**-0.4**
	baz=267						
EHY	**Hungye**	**0.64**	**244**	*e*P	**Pb**	**22 51 37.7**	**-0.3**
	baz=259						
EHY				*e*S	**Sb**	**22 51 46.9**	**0.0**
	baz=259						
ENA	**Nanau**	**0.67**	**343**	P	**Pn**	**22 51 38.3**	**-0.2**
	baz=333						
ENA				S	**Sn**	**22 51 47.9**	**-0.1**
	baz=333						
WHF	**Hehuan Shan**	**0.72**	**300**	P	**Pn**	**22 51 39.1**	**-0.5**
	baz=292						
WHF				S	**Sb**	**22 51 49.1**	**-0.5**
	baz=292						
TWF1	**Yuli**	**0.74**	**235**	P	**Pn**	**22 51 39.4**	**-0.1**
	baz=249						
TWF1				*e*S	**Sn**	**22 51 49.8**	**+0.1**
	baz=249						
TWC	**Suao**	**0.83**	**353**	*e*P	**Pn**	**22 51 40.6**	**-0.1**
	baz=353						
TWC				*e*S	**Sb**	**22 51 52.3**	**+0.4**
	baz=353						
NNS	**Nan Shan**	**0.84**	**321**	*e*P	**Pn**	**22 51 41.1**	**+0.1**
	baz=312						
NNS				S	**Sb**	**22 51 52.6**	**+0.1**
	baz=312						
TWT	**Tachien**	**0.85**	**303**	*e*P	**Pb**	**22 51 41.5**	**-0.2**
	baz=302						
TWT				*e*S	**Sn**	**22 51 52.9**	**+0.2**
	baz=302						
CHKT	**Chengkung**	**0.87**	**218**	*e*P	**Pn**	**22 51 38.8**	**-2.5**
	baz=207						
ENTT	**Nioudou**	**0.92**	**337**	*e*P	**Pn**	**22 51 42.2**	**+0.2**
	baz=337						
ENTT				*e*S	**Sb**	**22 51 54.7**	**0.0**
	baz=337						
TWE	**Neicheng**	**0.97**	**344**	P	**Pn**	**22 51 42.9**	**+0.2**
	baz=345						
TWE				*e*S	**Sb**	**22 51 56.1**	**+0.1**
	baz=345						
SMLT	**Sun Moon Lake**	**0.97**	**276** ⇑	*i* P	**Pb**	**22 51 43.2**	**-0.4**
	baz=283						
SMLT				S	**Sn**	**22 51 55.9**	**+0.4**
	baz=283						
TYC	**Yuchr**	**1.01**	**277**	P	**Pn**	**22 51 43.6**	**+0.4**
	baz=284						
TYC				S	**Sb**	**22 51 56.9**	**-0.3**
	baz=284						
NSK	**Sanguang**	**1.04**	**329**	*e*P	**Pn**	**22 51 44.1**	**+0.4**
	baz=328						
NSK				*e*S	**Sn**	**22 51 57.0**	**-0.2**
	baz=328						
ELDTW	**Lidau**	**1.04**	**236**	*e*P	**Pn**	**22 51 43.1**	**-0.7**
	baz=235						
ALS	**Alishan**	**1.09**	**256**	P	**Pb**	**22 51 45.4**	**-0.3**
	baz=255						
ALS				S	**Sn**	**22 51 59.3**	**+0.6**
	baz=255						
YOJ	**Yonaguni jima**	**1.18**	**55**	*e*S	**Sb**	**22 52 00.9**	**-1.0**
CHN5	**Tsauling**	**1.18**	**261**	*e*P	**Pb**	**22 51 46.6**	**-0.6**
	baz=261						
CHN5				*e*S	**Sb**	**22 52 02.6**	**+0.3**
	baz=261						
NSTT	**Nanjuang**	**1.21**	**314**	*e*P	**Pb**	**22 51 47.6**	**0.0**
	baz=314						
NSTT				*e*S	**Sb**	**22 52 02.2**	**-0.7**
	baz=314						
TWQ1	**Liyutan**	**1.22**	**298**	*e*P	**Pb**	**22 51 47.1**	**-0.6**
	baz=297						
TWQ1				*e*S	**Sb**	**22 52 02.3**	**-0.7**
	baz=297						
TCU	**Taichung**	**1.22**	**287**	*e*P	**Pb**	**22 51 48.0**	**+0.2**
	baz=287						
TCU				*e*S	**Sb**	**22 52 04.6**	**+1.3**
	baz=287						
TWG	**Pinlang**	**1.26**	**220**	*e*P	**Pn**	**22 51 46.7**	**+0.1**
	baz=220						
NSY	**Sanyi**	**1.26**	**300**	*e*P	**Pn**	**22 51 47.1**	**+0.5**
	baz=300						
NWF	**Wu-fen Shan**	**1.29**	**353**	*e*P	**Pb**	**22 51 48.5**	**-0.4**
	baz=353						
CHN4	**Tsaushan**	**1.32**	**251**	*e*P	**Pb**	**22 51 49.5**	**0.0**
	baz=251						
CHN4				*e*S	**Sb**	**22 52 06.6**	**+0.6**
	baz=251						
WTP	**Ta-pu**	**1.34**	**247**	*e*P	**Pb**	**22 51 49.1**	**-0.7**
	baz=236						
WTP				*e*S	**Sb**	**22 52 06.6**	**0.0**
	baz=236						
TWS1	**Kuangyinshan**	**1.40**	**340**	*e*P	**Pb**	**22 51 49.5**	**-1.3**
	baz=339						
TWS1				*e*S	**Sb**	**22 52 07.6**	**-0.6**
	baz=339						
CHN1	**Nanshi**	**1.44**	**246**	*e*P	**Pb**	**22 51 51.0**	**-0.5**
	baz=246						
CHN1				*e*S	**Sb**	**22 52 09.7**	**+0.2**
	baz=246						
SGST	**Jiashian**	**1.44**	**241**	*e*P	**Pb**	**22 51 51.8**	**+0.3**
	baz=230						
SGST				*e*S	**Sb**	**22 52 09.2**	**-0.3**
	baz=230						
TWK	**Hsinying**	**1.44**	**249**	*e*P	**Pn**	**22 51 49.8**	**+0.6**
	baz=249						
TWK				*e*S	**Sb**	**22 52 09.5**	**0.0**
	baz=249						
SSD	**Sandimen**	**1.60**	**230**	*e*P	**Pb**	**22 51 52.9**	**-1.2**
	baz=225						
SSD				S	**Sn**	**22 52 12.1**	**+1.3**
	baz=225						
IRIF	**Iriomote-Funau**	**1.71**	**71**	P	**Pn**	**22 51 53.6**	**+0.7**
IRIF				*e*S	**Sn**	**22 52 14.3**	**+0.6**
HATJ	**Hateruma jima**	**1.72**	**81**	P	**Pn**	**22 51 53.2**	**+0.3**
HATJ				*e*S	**Sn**	**22 52 14.0**	**+0.3**
EAST	**Anshuo**	**1.73**	**216**	*e*P	**Pn**	**22 51 54.0**	**+0.8**
	baz=216						
JKRS	**Kuro-shima**	**1.93**	**76**	P	**Pn**	**22 51 56.9**	**+1.0**
JKRS				*e*S	**Sn**	**22 52 19.6**	**+0.5**
JIJ	**Ishigaki jima**	**2.08**	**74**	P	**Pn**	**22 51 58.3**	**+0.4**
JIJ				*e*S	**Sn**	**22 52 21.9**	**-0.9**
JTJ	**Tarama**	**2.65**	**71**	*e*S	**Sn**	**22 52 37.6**	**+0.8**

IDC 20 22:56:49.1±3.7, 18.01S×178.60W, h623km±42km, mb3.0/4, mb1 3.2/4, mb1mx2.9/18, mbtmp3.0/4, Error ellipse: s-maj=32.2km s-min=18.7km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.43**	**260**	P	P	23 04 07.0	+0.1
	0.6nm,0.5s,baz=95,slow=9.1,SNR=6.1						
WRA				PcP	PcP	23 05 36.7	+0.2
	0.2nm,0.3s,baz=91,slow=3.5,SNR=2.7						
ASAR	**Alice Springs**	**44.59**	**254**	P	P	23 04 08.2	+0.1
	2.3nm,0.6s,baz=88,slow=8.6,SNR=38						
ASAR				PcP	PcP	23 05 37.0	0.0
	0.7nm,0.5s,baz=106,slow=3.6,SNR=7.1						
ASAR				S	S	23 10 00.1	-0.3
	0.1nm,0.5s,baz=88,slow=15,SNR=3.5						
QSPA	**South Pole Qui**	**72.05**	**180**	P	P	23 07 11.2	-0.3
	1.6nm,0.8s,baz=58,slow=5.7,SNR=6.2						
ILAR	**Eielson Array**	**86.02**	**13**	P	P	23 08 23.1	-1.4
	0.3nm,0.5s,baz=221,slow=5.0,SNR=15						
FINES	**FINESS Array B**	**133.23**	**344**	PKP	PKPdf	23 14 55.3	+0.4
	2.6nm,1.0s,baz=270,slow=1.9,SNR=3.7						
BRTR	**Keskin Array B**	**144.72**	**315**	PKP	PKPbc	23 15 17.6	+0.3
	1.0nm,0.8s,baz=70,slow=2.4,SNR=8.7						
BRG	**Berggiesshubel**	**145.72**	**346**	*e*P	PKPbc	23 15 19.9	+0.3
	2.5nm,0.6s						
GERES	**GERESS Array B**	**147.66**	**345**	PKPbc	PKPbc	23 15 24.9	0.0
	1.0nm,0.5s,baz=22,slow=3.2,SNR=15						

ISK ***20*** *23:07:10.2, 37.39N×36.57E, h17km, MD2.4*
ISCJB ***20*** *23:07:11.3±0.7, 37.37N±0.05×36.61E±0.05, h24km±8km, Error ellipse: s-maj=9.5km s-min=5.3km az=25.0*
CSEM ***20*** *23:07:11.1±0.3, 37.36N×36.60E, h20km, MD2.4, Error ellipse: s-maj=9.8km s-min=6.0km az=32.0*
DDA ***20*** *23:07:12.1, 37.36N×36.68E, h7km, MD2.5*
ISC 20 23:07:10.5±1.2, 37.34N±0.04×36.56E±0.04, h12km±11km, n15, σ=67/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.29**	**325**	*i* P	**Pn**	**23 07 19.9**	**-0.8**
ANDN				*i* S	**Sb**	**23 07 24.1**	**+1.5**
ANDN	**Andirin**	**0.29**	**325**	*i* P	**Pn**	**23 07 19.9**	**-0.8**
ANDN				*i* S	**Sb**	**23 07 24.1**	**+1.5**
KMRS	**Kahramanmaras**	**0.32**	**59**	*e*PG	**Pg**	**23 07 17.1**	**+0.1**
KMRS				*e*SG	**Sg**	**23 07 21.3**	**-0.1**
KMRS	**Kahramanmaras**	**0.32**	**59**	*e*Pg	**Pg**	**23 07 17.1**	**+0.1**
KMRS				*e*Sg	**Sg**	**23 07 21.3**	**-0.1**
GAZ	**Gaziantep**	**0.55**	**108**	*e*PG	**Pg**	**23 07 21.4**	**+0.1**
GAZ	**Gaziantep**	**0.55**	**108**	*e*Pg	**Pg**	**23 07 21.4**	**+0.1**
KOZT	**Kozan**	**0.60**	**284**	*e*PG	**Pg**	**23 07 22.4**	**+0.2**
KOZT				*e*SG	**Sb**	**23 07 31.2**	**-0.1**
KOZT	**Kozan**	**0.60**	**284**	*e*Pg	**Pg**	**23 07 22.4**	**+0.2**
KOZT				*e*Sg	**Sb**	**23 07 31.2**	**-0.1**
KUZU	**Kuzuini**	**0.70**	**144**	*i* P	**Pg**	**23 07 24.7**	**+0.6**
KUZU				*i* S	**Sb**	**23 07 34.8**	**+0.4**
KUZU	**Kuzuini**	**0.70**	**144**	*i* P	**Pg**	**23 07 24.7**	**+0.6**
KUZU				*i* S	**Sb**	**23 07 34.8**	**+0.4**
GZT	**Gaziantep**	**0.80**	**89**	*i* P	**Pg**	**23 07 26.0**	**-0.1**
GZT				*i* S	**Sg**	**23 07 36.1**	**-0.6**
PINB	**Pinarbasi**	**1.34**	**355**	*e*P	**Pn**	**23 07 35.4**	**+0.1**
PINB	**Pinarbasi**	**1.34**	**355**	*e*P	**Pn**	**23 07 35.4**	**+0.1**
BNN	**Bunyan**	**1.61**	**340**	*e*PN	**Pn**	**23 07 37.9**	**-0.9**
BNN	**Bunyan**	**1.61**	**340**	*e*Pn	**Pn**	**23 07 37.9**	**-0.9**

DJA ***20*** *23:12:22, 0.56S×132.77E, h61km, MLv4.2/9*
**IDC 20 23:12:14.2±1.0, 0.48S×133.01E, h0km, mb3.

ILW	**Iliamna West**	**0.65**	**340**	P		**Pn**		**23 32 50.7**	**+0.1**
FOPK	**Fourpeaked Vol**	**0.81**	**210**	P		**Pn**		**23 32 52.0**	**-0.2**
FOSS	**Fourpeaked Sta**	**0.84**	**219**	P		**Pn**		**23 32 52.5**	**0.0**
FOSS				S		**Sn**		**23 33 05.0**	**-0.2**
BRLK	**Bradley Lake**	**0.97**	**71**	P		**Pn**		**23 32 54.3**	**+0.3**
BRLK				S		**Sn**		**23 33 09.2**	**+1.4**
RSO	**Redoubt South**	**1.01**	**358**	P		**Pn**		**23 32 55.2**	**+0.5**
REF	**Redoubt East F**	**1.03**	**360**	P		**Pn**		**23 32 55.5**	**+0.6**
REF				S		**Sn**		**23 33 10.2**	**+0.7**
RDN	**Redoubt North**	**1.06**	**358**	P		**Pn**		**23 32 55.8**	**+0.6**
RDN				S		**Sn**		**23 33 10.0**	**+0.1**
DFR	**Drift River**	**1.14**	**0**	P		**Pn**		**23 32 56.7**	**+0.6**
KAPH	**Katmai Pasha**	**1.22**	**225**	P		**Pn**		**23 32 57.4**	**+0.4**
KAPH				S		**Sn**		**23 33 13.2**	**-0.1**
KARR	**Katmai Rainbow**	**1.42**	**228**	P		**Pn**		**23 33 00.1**	**+0.5**
SLKM	**Skilak Lake**	**1.63**	**49**	P		**Pn**		**23 33 03.0**	**+0.7**
KDAK	**Kodiak Island**	**1.68**	**178**	P		**Pn**		**23 33 03.0**	**0.0**
KAKN	**Katmai Knife C**	**1.69**	**228**	P		**Pn**		**23 33 03.5**	**+0.3**
KAKN				S		**Sn**		**23 33 24.3**	**-0.1**
CKL	**Chakachamna La**	**1.75**	**6**	P		**Pn**		**23 33 05.0**	**+1.0**
SPU	**Mount Spurr**	**1.76**	**10**	P		**Pn**		**23 33 05.0**	**+0.9**
SEW	**Seward**	**1.76**	**67**	P		**Pn**		**23 33 04.2**	**+0.2**
KCE	**Katmai Mt Cerb**	**1.78**	**228**	P		**Pn**		**23 33 05.2**	**+0.9**
KABR	**Katmai Barrier**	**1.78**	**223**	P		**Pn**		**23 33 04.7**	**+0.3**
KABU	**Katmai Buttres**	**1.80**	**230**	P		**Pn**		**23 33 05.2**	**+0.6**
KABU				S		**Sn**		**23 33 27.1**	**+0.4**
BGL	**Barrier Glacie**	**1.82**	**5**	P		**Pn**		**23 33 06.0**	**+1.0**
SPCG	**Spurr Capps Gl**	**1.87**	**10**	P		**Pn**		**23 33 06.9**	**+1.2**
STLK	**Strandline Lak**	**2.09**	**11**	P		**Pn**		**23 33 09.7**	**+1.1**
RC01	**Rabbit Creek A**	**2.20**	**41**	P		**Pn**		**23 33 10.8**	**+0.9**
PMR	**Palmer**	**2.77**	**38**	P		**Pn**		**23 33 17.7**	**+0.1**
PMR				S		**Sn**		**23 33 48.6**	**-1.3**
SML	**Sawmill**	**3.19**	**40**	P		**Pn**		**23 33 23.3**	**+0.1**
SML				S		**Sn**		**23 33 59.0**	**-1.2**
PPLA	**Purkeypile**	**3.46**	**4**	P		**Pn**		**23 33 28.8**	**+1.8**
SCM	**Sheep Creek Mo**	**3.56**	**46**	P		**Pn**		**23 33 28.7**	**+0.4**
TT01	**Tatalina**	**3.82**	**336**	P		**Pn**		**23 33 32.4**	**+0.6**
ANNW	**Aniakchak Nort**	**3.84**	**232**	P		**Pn**		**23 33 32.1**	**-0.1**
TRF	**Thorofare Moun**	**4.17**	**15**	P		**Pn**		**23 33 37.4**	**+0.7**
BMRM	**Bremner River**	**4.31**	**66**	P		**Pn**		**23 33 37.7**	**-0.9**
RND	**Reindeer**	**4.37**	**23**	P		**Pn**		**23 33 40.6**	**+1.3**
DHY	**Denali Highway**	**4.45**	**33**	P		**Pn**		**23 33 41.3**	**+0.8**
NICHA	**Nichawak Mount**	**4.47**	**76**	P		**Pn**		**23 33 40.5**	**-0.2**
BERG	**Berg Lake**	**4.62**	**74**	P		**Pn**		**23 33 42.9**	**+0.2**
MCK	**McKinley**	**4.65**	**21**	P		**Pn**		**23 33 43.6**	**+0.5**
HARP	**HAARP**	**4.72**	**48**	P		**Pn**		**23 33 44.8**	**+0.7**
GRIN	**Grindle Hills**	**4.80**	**76**	P		**Pn**		**23 33 45.6**	**+0.5**
KHIT	**Khitrov Hills**	**4.85**	**74**	P		**Pn**		**23 33 45.9**	**0.0**
VRDI	**Verde Repeater**	**4.92**	**65**	P		**Pn**		**23 33 46.2**	**-0.7**
KULT	**Kultieth River**	**5.09**	**77**	P		**Pn**		**23 33 49.5**	**+0.3**
BARK	**Barkley Ridge**	**5.22**	**75**	P		**Pn**		**23 33 51.9**	**+0.9**
ISLE	**Juniper Island**	**5.32**	**73**	P		**Pn**		**23 33 52.6**	**+0.3**
KIAG	**Kiagna River**	**5.36**	**70**	P		**Pn**		**23 33 53.0**	**0.0**
BAGL	**Bagley Icefiel**	**5.42**	**74**	P		**Pn**		**23 33 54.7**	**+1.1**
DDM	**Donnelly Dome**	**5.43**	**34**	P		**Pn**		**23 33 55.2**	**+1.4**
MESA	**MESA**	**5.47**	**78**	P		**Pn**		**23 33 55.0**	**+0.6**
BARN	**Barnard Glacie**	**5.72**	**69**	P		**Pn**		**23 33 59.0**	**+1.1**
RKAV	**Rock Avalanche**	**5.78**	**77**	P		**Pn**		**23 33 59.2**	**+0.6**
CHX	**Chaix Hills**	**5.88**	**79**	P		**Pn**		**23 34 01.8**	**+1.8**
TABL	**Table Mountain**	**5.89**	**75**	P		**Pn**		**23 34 00.9**	**+0.7**
IL1	**Eielson Array**	**5.99**	**25**	P		**Pn**		**23 34 01.4**	**+0.1**
ILAR	**Eielson Array**	**5.99**	**25**	P		**Pn**		**23 34 01.6**	**+0.3**
ILAR				S		**Sn**		**23 35 06.7**	**-1.6**
ILAR	**Eielson Array**	**5.99**	**25**	P		**Pn**		**23 34 01.6**	**+0.3**
	1.0nm,0.3s,baz=207,slow=14,SNR=42								
ILAR				S		**Sn**		**23 35 06.7**	**-1.6**
	2.9nm,0.3s,baz=192,slow=12,SNR=14								
SAMH	**Samovar Hills**	**6.05**	**78**	P		**Pn**		**23 34 03.5**	**+1.2**
BCA3	**Beaver Creek A**	**6.38**	**51**	P		**Pn**		**23 34 06.9**	**+0.1**
IM3	**Indian Mountai**	**6.57**	**356**	P		**Pn**		**23 34 08.7**	**-0.5**
PNL	**Peninsula**	**6.76**	**82**	P		**Pn**		**23 34 12.2**	**+0.3**
YKA	**Yellowknife Ar**	**18.54**	**64**	P		**Pn**		**23 36 47.0**	**+0.4**
YKA	**Yellowknife Ar**	**18.54**	**64**	P		**Pn**		**23 36 46.9**	**+0.4**
	0.1nm,0.3s,baz=277,slow=9.5,SNR=8.9								
SONM	**Songino Array**	**55.24**	**306**	P		**P**		**23 41 59.8**	**-0.4**
SONM	**Songino Array**	**55.24**	**306**	P		**P**		**23 41 59.8**	**-0.4**
	0.4nm,0.6s,baz=43,slow=6.7,SNR=3.0								
ZALV	**Zalesovo Beam**	**57.91**	**324**	P		**P**		**23 42 18.2**	**-0.6**
ZALV	**Zalesovo Beam**	**57.91**	**324**	P		**P**		**23 42 18.2**	**-0.6**
	0.4nm,0.5s,baz=32,slow=8.7,SNR=3.5								
FINES	**FINESS Array B**	**59.42**	**1**	LR		LR		00 12 48.7	
	comp=Z,118nm,18.2s,baz=310,slow=41								
KURK	**Kurchatov**	**62.57**	**326**	P		**P**		**23 42 51.5**	**+0.9**
BVAR	**Borovoye Array**	**62.62**	**332**	P		**P**		**23 42 51.6**	**+0.6**
BVAR	**Borovoye Array**	**62.62**	**332**	P		**P**		**23 42 51.6**	**+0.6**
	0.8nm,0.6s,baz=24,slow=7.4,SNR=5.8								
KURBB	**Kurchatov Arra**	**62.67**	**326**	P		**P**		**23 42 51.5**	**+0.1**
	0.2nm,0.5s,baz=31,slow=5.8,SNR=4.1								
MKAR	**Makanchi Array**	**64.95**	**322**	P		**P**		**23 43 05.9**	**-0.6**
MKAR	**Makanchi Array**	**64.95**	**322**	P		**P**		**23 43 05.9**	**-0.6**
	0.5nm,1.1s,baz=38,slow=7.3,SNR=2.4								

IDC 20 23:43:03.7±1.9, 2°27.N×124°64.E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, Error ellipse: s-maj=192.2km s-min=26.0km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.04**	**157**	P	P	23 48 20.2	-0.5
	0.4nm,0.4s,baz=335,slow=11,SNR=4.5						
ASAR	**Alice Springs**	**27.31**	**161**	P	P	23 48 51.6	+1.2
	0.2nm,0.6s,baz=349,slow=7.2,SNR=5.6						
MKAR	**Makanchi Array**	**57.59**	**327**	P	P	23 52 54.8	-0.7
	0.1nm,0.4s,baz=138,slow=8.9,SNR=5.4						

IDC 20 23:48:53.4±3.5, 38°.95N×67°.79E, h0km, mb3.5/1, mb1 3.3/4, mb1mx3.2/28, mbtmp3.3/4, ML3.2/3, MS4.2/1, Ms1 4.2/1, ms1mx2.5/38, Error ellipse: s-maj=168.4km s-min=15.4km az=150.0, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.63**	**25**	Pn	Pg	23 50 26.0	+3.7
	0.7nm,0.2s,baz=176,slow=12,SNR=106						
KK31				Sn	Sg	23 51 37.2	+15
	1.7nm,0.3s,baz=185,slow=22,SNR=8.5						
AAK	**Ala-Archa**	**6.28**	**52**	Pn	Pn	23 50 28.3	+0.8
	0.5nm,0.3s,baz=195,slow=3.7,SNR=12						
AAK				Sn	Sn	23 51 40.3	+0.2
	0.4nm,0.3s,baz=344,slow=20,SNR=6.9						
MKAR	**Makanchi Array**	**13.20**	**49**	Pn	Pn	23 52 00.4	-1.7
	0.1nm,0.3s,baz=208,slow=9.4,SNR=5.3						
ZALV	**Zalesovo Beam**	**18.97**	**32**	P	P	23 53 15.3	-0.9
	0.2nm,0.3s,baz=211,slow=10,SNR=5.9						
KSRS	**Korea Array**	**46.52**	**72**	LR	LR	00 17 25.3	
	comp=Z,268nm,19.5s,baz=160,slow=37						
TORD	**Torodi Ar. Bea**	**63.30**	**265**	P	P	23 59 24.4	0.0
	0.3nm,0.5s,baz=48,slow=5.2,SNR=8.4						

*DJA **20** 23:50:53, 10°.65S×114°.56E, h10km, MLv4.1/12*

IDC 20 23:50:53.5±2.5, 12°.15S×115°.21E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.5/19, mbtmp3.5/5, ML3.2/1, Error ellipse: s-maj=129.4km s-min=22.1km az=44.0, Northwest of Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.67**	**122**	Pn	Pn	23 53 41.6	+0.1
	0.3nm,0.3s,baz=301,slow=11,SNR=6.2						
FITZ				Sn	Sn	23 55 48.8	-3.9
	0.2nm,0.3s,baz=188,slow=18,SNR=8.6						
WRA	**Warramunga Arr**	**19.93**	**115**	P	P	23 55 28.0	+0.8
	0.1nm,0.3s,baz=289,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**21.12**	**125**	P	P	23 55 39.4	-0.7
	0.6nm,1.0s,baz=305,slow=8.3,SNR=6.3						
MKAR	**Makanchi Array**	**55.67**	**336**	P	P	00 01 39.6	-0.1
	0.6nm,0.6s,baz=146,slow=7.9,SNR=9.8						
KURBB	**Kurchatov Arra**	**70.23**	**336**	P	P	00 02 08.4	+0.1
	0.3nm,0.5s,baz=151,slow=6.2,SNR=5.7						

*KRSC **20** 23:56:01.7±0.3, 54°.91N×165°.67E, h37km±43km, ML4.0*

*IDC **20** 23:56:02.4±1.7, 55°.42N×165°.36E, h0km, mb3.6/9, mb1 3.7/10, mb1mx3.5/31, mbtmp3.6/10, ML4.0/1, Error ellipse: s-maj=50.7km s-min=17.1km az=170.0*

ISC 20 23:56:01.8±1.6, 54°.97N±0°.05×165°.42E±0°.05, h8km±11km, n39, σ1°876/64, mb3.7/9, Komandorsky Islands region

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

BKI	**Bering**	**0.40**	**53**	*eP*		**Pg**		**23 56 09.6**	**+0.1**
BKI				*eS*		**Sg**		**23 56 14.7**	**0.0**
KBTR	**Krutoberegovo**	**1.93**	**311**	*eP*		**Pn**		**23 56 33.8**	**-1.1**
KBTR				*eS*		**Sn**		**23 56 57.9**	**-1.4**
KBG	**Krutoberegovo**	**2.01**	**311**	*eS*		**Sn**		**23 57 00.9**	**-0.3**
MKZ	**Mys Kozlova**	**2.18**	**261**	*eP*		**Pn**		**23 56 38.9**	**+0.7**
MKZ				*eS*		**Sn**		**23 57 05.4**	**+0.1**
SMKR	**Semkarok**	**2.76**	**308**	*eP*		**Pn**		**23 56 47.8**	**+1.5**
SMKR				*eS*		**Sn**		**23 57 22.1**	**+2.3**
ZLN	**Zelenaya**	**2.83**	**294**	*eP*		**Pn**		**23 56 49.6**	**+2.3**
ZLN				*eS*		**Sb**		**23 57 25.8**	**-1.6**
BZGR	**Bezymyannyi-Gr**	**2.86**	**292**	*eP*		**Pn**		**23 56 49.9**	**+2.1**
BZGR				*eS*		**Sn**		**23 57 24.0**	**+1.6**
BDR	**Baidarnaya**	**2.87**	**306**	*eP*		**Pn**		**23 56 49.2**	**+1.3**
BDR				*eS*		**Sn**		**23 57 24.8**	**+2.2**
SRKR	**Sorokina**	**2.94**	**307**	*eP*		**Pn**		**23 56 48.9**	**+0.2**
SRKR				*eS*		**Sn**		**23 57 23.7**	**-0.5**
BZMR	**Bezymyannaya**	**2.97**	**291**	*eP*		**Pn**		**23 56 51.6**	**+2.3**
BZMR				*eS*		**Sb**		**23 57 28.7**	**-2.8**
BZWR	**Bezymyannyi-We**	**2.98**	**292**	*eP*		**Pn**		**23 56 51.5**	**+2.1**
BZWR				*eS*		**Sb**		**23 57 28.6**	**-3.0**
KLY	**Klyuchi**	**3.02**	**298**	*eS*		**Sn**		**23 57 25.6**	**-0.5**
KRSR	**Krestovskiy**	**3.03**	**296**	*eP*		**Pn**		**23 56 52.2**	**+2.2**
KRSR				*eS*		**Sn**		**23 57 28.8**	**+2.3**
TUMR	**Tumrok**	**3.04**	**278**	*eP*		**Pn**		**23 56 52.2**	**+1.9**
KIRR	**Kirishev**	**3.06**	**291**	*eP*		**Pn**		**23 56 52.9**	**+2.4**
KIRR				*eS*		**Sb**		**23 57 31.2**	**-2.7**
KMNR	**Kamenistaya**	**3.06**	**287**	*eP*		**Pn**		**23 56 53.2**	**+2.7**
KMNR				*eS*		**Sb**		**23 57 31.2**	**-2.9**
KPT	**Kopyto**	**3.12**	**291**	*eP*		**Pn**		**23 56 53.0**	**+1.6**
KPT				*eS*		**Sn**		**23 57 31.6**	**+2.7**
KOZ	**Kozyrevsk**	**3.34**	**291**	*eP*		**Pn**		**23 56 55.9**	**+1.7**
KOZ				*eS*		**Sn**		**23 57 34.9**	**+0.9**
SRDR	**Sredinnyy**	**3.50**	**295**	*eP*		Pn		23 56 59.4	+2.9
SRDR				*eS*		**Sn**		**23 57 40.3**	**+2.1**
SPN	**Mys Shipunski**	**3.69**	**242**	*eP*		**Pn**		**23 56 59.1**	**0.0**
SPN				*eS*		**Sn**		**23 57 40.3**	**-2.4**
SDLR	**Sedlovina**	**4.20**	**249**	*eP*		**Pn**		**23 57 07.5**	**+1.3**
SDLR				*eS*		**Sn**		**23 57 56.0**	**+0.6**
SMAR	**Somma**	**4.25**	**249**	*eP*		**Pn**		**23 57 08.7**	**+1.7**
SMAR				*eS*		**Sn**		**23 57 57.0**	**+0.2**
UGLR	**Uglovaya**	**4.26**	**248**	*eP*		**Pn**		**23 57 08.1**	**+1.1**
UGLR				*eS*		**Sn**		**23 57 56.0**	**-1.0**
AVH	**Avacha**	**4.29**	**249**	*eP*		**Pn**		**23 57 09.3**	**+2.0**
AVH				*eS*		**Sn**		**23 57 58.1**	**+0.6**
PET	**Petropavlovsk**	**4.44**	**247**	*eP*		**Pn**		**23 57 10.6**	**+1.3**
PET				*eS*		**Sn**		**23 57 59.7**	**-1.5**
RUS	**Russkaya**	**4.83**	**241**	*eP*		**Pn**		**23 57 15.5**	**+0.9**
PETK	**Petropavlovsk-**	**4.92**	**251**	Pn		**Pn**		**23 57 18.1**	**+2.2**
	5.0nm,0.3s,baz=72,slow=17,SNR=45								
PETK					Sn	**Sn**		**23 58 15.4**	**+2.4**
	0.9nm,0.3s,baz=262,slow=30,SNR=3.5								
MTVR	**Mutnovka**	**4.96**	**243**	*eP*		**Pn**		**23 57 18.2**	**+1.5**
MTVR				*eS*		**Sn**		**23 58 13.0**	**-1.3**
ASAK	**Asacha**	**5.17**	**243**	*eP*		**Pn**		**23 57 21.6**	**+2.2**
ASAK				*eS*		**Sn**		**23 58 19.0**	**-0.1**
APC	**Apacha**	**5.29**	**251**	*eP*		**Pn**		**23 57 23.6**	**+2.6**
APC				*eS*		**Sn**		**23 58 24.4**	**+2.3**
ILAR	**Eielson Array**	**25.24**	**48**	P		**P**		**00 01 26.1**	**-1.7**
	1.3nm,0.8s,baz=258,slow=8.7,SNR=13								
INK	**Inuvik**	**30.44**	**40**	P		**P**		**00 02 13.8**	**-0.4**
	0.5nm,0.4s,baz=297,slow=10,SNR=3.2								
SONM	**Songino Array**	**36.52**	**284**	P		**P**		**00 03 09.1**	**+1.6**
	0.8nm,0.6s,baz=60,slow=8.5,SNR=4.4								
YKA	**Yellowknife Ar**	**39.63**	**46**	P		**P**		**00 03 32.6**	**-0.7**
	0.3nm,0.7s,baz=294,slow=8.0,SNR=4.0								
KURBB	**Kurchatov Arra**	**49.48**	**303**	P		**P**		**00 04 52.0**	**-0.1**
	0.9nm,0.6s,baz=56,slow=7.8,SNR=9.4								
MKAR	**Makanchi Array**	**50.13**	**297**	P		**P**		**00 04 56.1**	**-1.1**
	0.2nm,0.5s,baz=58,slow=7.5,SNR=4.5								
BVAR	**Borovoye Array**	**51.64**	**310**	P		**P**		**00 05 08.1**	**-0.3**
	0.2nm,0.4s,baz=75,slow=7.8,SNR=3.1								
NVAR	**Mina Array Bea**	**52.18**	**75**	P		**P**		**00 05 14.7**	**+1.8**
	0.2nm,0.3s,baz=302,slow=6.9,SNR=3.9								
FINES	**FINESS Array B**	**59.58**	**339**	P		**P**		**00 06 04.1**	**-1.2**
	1.9nm,0.9s,baz=352,slow=8.6,SNR=2.4								

IDC 20 23:58:49.3±1.7, 24°.00S×66°.74W, h192km±15km, mb3.4/6, mb1 3.6/10, mb1mx3.5/18, mbtmp3.4/10, Error ellipse: s-maj=18.9km s-min=15.0km az=54.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**7.69**	**190**	P	Pn	00 00 37.9	-0.7
	0.1nm,0.3s,baz=18,slow=13,SNR=16						
CFAA				S	Sn	00 01 58.5	-6.8
	0.4nm,0.3s,baz=247,slow=17,SNR=12						
LPAZ	**La Paz**	**7.78**	**350**	P	Pn	00 00 41.5	+0.9
	0.5nm,0.3s,baz=176,slow=8.5,SNR=14						
LPAZ				S	Sn	00 02 07.2	-1.6
	0.5nm,0.3s,baz=261,slow=23,SNR=7.5						
CPUP	**Villa Florida**	**8.84**	**107**	P	Pn	00 00 53.6	+0.2
	0.8nm,0.3s,baz=264,slow=11,SNR=15						
SIV	**San Ignacio**	**9.58**	**35**	P	Pn	00 01 03.4	+0.1
	0.6nm,0.3s,baz=243,slow=13,SNR=7.1						
BDFB	**Brasilia**	**19.46**	**68**	P	P	00 03 02.1	+0.4
	0.1nm,0.3s,baz=242,slow=12,SNR=19						
TXAR	**Lajitas Array**	**63.81**	**324**	P	P	00 09 01.4	+0.1
	0.1nm,0.4s,baz=152,slow=8.3,SNR=4.2						
DBIC	**Dimbokro**	**67.58**	**71**	P	P	00 09 26.1	+0.6
	0.6nm,0.3s,baz=252,slow=9.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**76.35**	**69**	P	P	00 10 17.1	-0.5
	0.6nm,0.4s,baz=258,slow=4.7,SNR=36						
PDAR	**Pinedale Array**	**77.27**	**329**	P	P	00 10 23.2	+0.6
	0.2nm,0.5s,baz=119,slow=9.4,SNR=2.6						
ULM	**Lac du Bonnet**	**78.30**	**341**	P	P	00 10 26.8	-1.0
	1.4nm,0.6s,baz=147,slow=6.1,SNR=4.3						
YKA	**Yellowknife Ar**	**94.20**	**340**	P	P	00 11 46.0	+0.2
	0.5nm,0.5s,baz=136,slow=4.6,SNR=23						
ASAR	**Alice Springs**	**128.56**	**204**	PKP	PKPdf	00 17 34.1	0.0
	0.9nm,0.7s,baz=154,slow=2.2,SNR=9.4						
WRA	**Warramunga Arr**	**131.74**	**207**	PKP	PKPdf	00 17 40.3	+0.1
	0.5nm,0.4s,baz=162,slow=1.6,SNR=7.3						
KURBB	**Kurchatov Arra**	**142.24**	**36**	PKhKP	PKPpre	00 17 54.2	
	0.1nm,0.4s,baz=307,slow=3.0,SNR=3.7						
ZALV	**Zalesovo Beam**	**143.28**	**28**	PKP	PKPbc	00 17 58.4	+0.5
	1.3nm,0.6s,baz=304,slow=4.2,SNR=9.2						
MKAR	**Makanchi Array**	**146.37**	**40**	PKPbc	PKPdf	00 18 06.2	+0.4
	2.3nm,0.6s,baz=314,slow=2.5,SNR=21						

MAN 21 00:07:02, 11°.20N×124°.63E, h6km, mb4.0, ML2.7, MS2.4, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.15**	**187**	*eP*	Pg	00 07 06.2	+1.1
OCLP				*eS*	Sg	00 07 08.5	+1.4
PLP	**Palo**	**0.35**	**96**	*ieP*	Pb	00 07 09.7	-0.9
PLP				*i* S	Sg	00 07 14.5	+1.1
MSLP	**Maasin**	**1.08**	**168**	*eP*	Pg	00 07 22.9	+0.1
MSLP				*eS*	Sg	00 07 30.2	-6.7

*ISCJB **21** 00:07:08.3±0.2, 43°.20N±0°.02×0°.16W±0°.02, h7km±3km, Error ellipse: s-maj=2.8km s-min=2.2km az=160.5*

*CSEM **21** 00:07:09.6±0.1, 43°.14N×0°.18W, h8km, ML2.5/15, Error ellipse: s-maj=2.5km s-min=1.9km az=177.0*

*MDD **21** 00:07:10.8±0.3, 43°.11N×0°.21W, h0km, mbLg1.9/33, Error ellipse: s-maj=3.7km s-min=2.0km az=180.0, PRXIMO*

*STR **21** 00:07:10.2±0.1, 43°.06N×0°.22W, h5km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

*LDG **21** 00:07:10.3±0.1, 43°.09N×0°.21W, h5km, Md2.6/3, Ml2.6/11, Error ellipse: s-maj=1.6km s-min=1.2km az=2.0*

ISC 21 00:07:09.6±0.9, 43°.15N±0°.02×0°.20W±0°.01, h10km±6km, n104, σ0882/150, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
REYF	**Montagne du Re**	**0.17**	**240**	Pg	**Pg**	**00 07 13.2**	**0.0**
REYF				Sg	**Sg**	**00 07 15.0**	**-0.8**
REYF	**Montagne du Re**	**0.17**	**240**	Pg	**Pg**	**00 07 13.2**	**0.0**
REYF				Sg	**Sg**	**00 07 15.0**	**-0.8**
LABF	**Labassere**	**0.22**	**118**	Pg	**Pg**	**00 07 14.7**	**+0.5**
LABF				Sg	**Sg**	**00 07 17.9**	**+0.5**
LABF	**Labassere**	**0.22**	**118**	Pg	**Pg**	**00 07 14.7**	**+0.5**
LABF				Sg	**Sg**	**00 07 17.9**	**+0.5**
VIEF	**Viey**	**0.31**	**149**	Pg	**Pg**	**00 07 15.4**	**-0.5**
VIEF				Sg	**Sg**	**00 07 18.9**	**-1.2**
VIEF	**Viey**	**0.31**	**149**	Pg	**Pg**	**00 07 15.4**	**-0.5**
VIEF				Sg	**Sg**	**00 07 18.9**	**-1.2**
ETSF	**Etsaut**	**0.37**	**226**	*ePg*	**Pg**	**00 07 16.2**	**-0.7**
	SNR=1.0						
ETSF				*eSg*	**Sg**	**00 07 20.3**	**-1.5**
	235nm,0.2s						
ETSF	**Etsaut**	**0.37**	**226**	Pg	**Pg**	**00 07 16.2**	**-0.7**
ETSF				Lg	Lg	00 07 20.3	
	59nm,0.2s						
EPF	**Esparros**	**0.41**	**107**	*ePg*	**Pg**	**00 07 18.4**	**+0.7**
	SNR=1.0						
EPF				*eSg*	**Sg**	**00 07 23.7**	**+0.6**
	32nm,0.2s						
EPF	**Esparros**	**0.41**	**107**	Pg	**Pg**	**00 07 18.4**	**+0.7**
EPF				*eSg*	**Sg**	**00 07 23.7**	**+0.6**
	16nm,0.2s						
RESF	**Ens**	**0.52**	**131**	Pg	**Pg**	**00 07 19.6**	**-0.2**
RESF				Sg	**Sg**	**00 07 26.5**	**-0.2**
RESF	**Ens**	**0.52**	**131**	Pg	**Pg**	**00 07 19.6**	**-0.2**
RESF				Sg	**Sg**	**00 07 26.5**	**-0.2**
ORDF	**Ordiarp**	**0.54**	**277**	Pg	**Pg**	**00 07 20.6**	**+0.4**
ORDF				Sg	**Sb**	**00 07 29.2**	**+0.1**
ORDF	**Ordiarp**	**0.54**	**277**	Pg	**Pg**	**00 07 20.6**	**+0.4**
ORDF				Sg	**Sb**	**00 07 29.2**	**+0.1**
LARF	**Larrau**	**0.59**	**259**	Pg	**Pg**	**00 07 21.0**	**-0.1**
LARF				Sg	**Sg**	**00 07 29.2**	**+0.4**
LARF	**Larrau**	**0.59**	**259**	Pg	**Pg**	**00 07 21.0**	**-0.1**
LARF				Sg	**Sg**	**00 07 29.2**	**+0.4**
SJPF	**Ste Jean**	**0.75**	**267**	*ePg*	**Pg**	**00 07 24.2**	**+0.1**
SJPF	**Ste Jean**	**0.75**	**267**	*eP*	**Pb**	**00 07 26.0**	**+1.2**
	SNR=1.0						
SJPF				*eSg*	**Sg**	**00 07 34.2**	**+0.2**
	12nm,0.2s,SNR=1.0						
SJPF	**Ste Jean**	**0.75**	**267**	Pg	**Pg**	**00 07 24.2**	**+0.1**
SJPF	**Ste Jean**	**0.75**	**267**	*eP*	**Pb**	**00 07 26.0**	**+1.2**
	SNR=1.0						
SJPF				Lg	Lg	00 07 34.2	
	3.0nm,0.2s						
MELF	**Melles**	**0.76**	**111**	Pg	**Pg**	**00 07 24.5**	**+0.3**
MELF				Sg	**Sg**	**00 07 34.4**	**+0.4**
MELF	**Melles**	**0.76**	**111**	Pg	**Pg**	**00 07 24.5**	**+0.3**
MELF				Sg	**Sg**	**00 07 34.4**	**+0.4**
OSSF	**Osses**	**0.79**	**278**	Pg	**Pg**	**00 07 24.4**	**-0.3**
OSSF				Sg	**Sb**	**00 07 36.2**	**+0.1**
OSSF	**Osses**	**0.79**	**278**	Pg	**Pg**	**00 07 24.4**	**-0.3**
OSSF				Sg	**Sb**	**00 07 36.2**	**+0.1**
IELO	**Elcoad**	**

CBRU					Lg		Lg	00 08 09.5	
	3.8nm,0.4s								
EPOB	**Poblet**	**2.03**	**152**		Pg		**Pb**	**00 07 46.8**	**+0.1**
	1.1nm,0.1s,SNR=10.0								
EPOB					Lg		Lg	00 08 12.2	
	4.4nm,0.2s,SNR=5.0								
EPOB	**Poblet**	**2.03**	**152**		Pg		**Pb**	**00 07 46.8**	**+0.1**
	1.1nm,0.1s,SNR=10.0								
EPOB					Lg		Lg	00 08 12.2	
	4.4nm,0.2s,SNR=5.0								
CORI	**Orista**	**2.04**	**125**		Pg		**Pb**	**00 07 47.3**	**+0.6**
CORI					Lg		Lg	00 08 11.9	
	10nm,0.2s								
CORI	**Orista**	**2.04**	**125**		Pg		**Pb**	**00 07 47.3**	**+0.6**
CORI					Lg		Lg	00 08 11.9	
	10nm,0.2s								
ERTA	**Horta de San J**	**2.23**	**170**		Pn		**Pn**	**00 07 47.5**	**+0.8**
	0.1nm,0.1s,SNR=7.9								
ERTA					Pg		**Pb**	**00 07 50.2**	**+0.2**
	1.0nm,0.2s,SNR=11								
ERTA					Lg		Lg	00 08 17.5	
	3.0nm,0.1s,SNR=5.0								
ERTA	**Horta de San J**	**2.23**	**170**		Pn		**Pn**	**00 07 47.5**	**+0.8**
	0.1nm,0.1s,SNR=7.9								
CBEU	**Beuda**	**2.30**	**112**		Pg		**Pb**	**00 07 51.4**	**+0.2**
CBEU					Lg		Lg	00 08 19.1	
	11nm,0.5s								
CBEU	**Beuda**	**2.30**	**112**		Pg		**Pb**	**00 07 51.4**	**+0.2**
CBEU					Lg		Lg	00 08 19.1	
	11nm,0.5s								
ELAN	**Lanestosa**	**2.37**	**273**		Pn		**Pb**	**00 07 52.3**	**0.0**
	0.3nm,0.2s,SNR=7.9								
ELAN					Sn		**Sb**	**00 08 20.6**	**-1.0**
	0.8nm,0.2s,SNR=7.9								
ELAN	**Lanestosa**	**2.37**	**273**		Pn		**Pb**	**00 07 52.3**	**0.0**
	0.3nm,0.2s,SNR=7.9								
ELAN					Sn		**Sb**	**00 08 20.6**	**-1.0**
	0.8nm,0.2s,SNR=7.9								
EJON	**La Jonquera**	**2.38**	**106**		Pn		**Pb**	**00 07 51.3**	**-1.2**
	0.4nm,0.1s,SNR=7.9								
EJON					Lg		Lg	00 08 27.1	
	1.0nm,0.2s,SNR=7.9								
EJON	**La Jonquera**	**2.38**	**106**		Pn		**Pb**	**00 07 51.3**	**-1.2**
	0.4nm,0.1s,SNR=7.9								
EJON					Lg		Lg	00 08 27.1	
	1.0nm,0.2s,SNR=7.9								
CFON	**Fontmartina**	**2.39**	**125**		Pn		**Pn**	**00 07 51.0**	**+2.0**
	0.9nm,0.1s,SNR=6.6								
CFON					Pg		**Pb**	**00 07 54.4**	**+1.6**
	1.5nm,0.2s,SNR=7.9								
CFON					Lg		Lg	00 08 25.3	
	13nm,0.2s,SNR=5.0								
CFON	**Fontmartina**	**2.39**	**125**		Pn		**Pn**	**00 07 51.0**	**+2.0**
	0.9nm,0.1s,SNR=6.6								
CAF	**Calviac**	**2.41**	**42**	*e*Pg			**Pg**	**00 07 55.8**	**+0.1**
	SNR=1.0								
CAF				*e*Sn			**Sn**	**00 08 18.3**	**-0.4**
	SNR=1.0								
CAF				*e*Sg			**Sg**	**00 08 27.9**	**+1.0**
	4.7nm,0.2s,SNR=1.0								
CAF	**Calviac**	**2.41**	**42**	Pg			**Pg**	**00 07 55.8**	**+0.1**
CAF				Sn			**Sn**	**00 08 18.3**	**-0.4**
CAF				*e*Sg			**Sg**	**00 08 27.9**	**+1.0**
	2.3nm,0.2s,SNR=1.0								
CMAS	**Mas de Barbera**	**2.46**	**171**		Pg		**Pb**	**00 07 53.8**	**-0.1**
CMAS					Lg		Lg	00 08 21.3	
CMAS	**Mas de Barbera**	**2.46**	**171**		Pg		**Pb**	**00 07 53.8**	**-0.1**
CMAS					Lg		Lg	00 08 21.3	
RJF	**Les Rejaudoux**	**2.48**	**29**	*e*Pg			**Pg**	**00 07 57.3**	**+0.2**
	SNR=1.0								
RJF				*e*Sn			**Sn**	**00 08 20.4**	**0.0**
	SNR=1.0								
RJF				*e*Sg			**Sg**	**00 08 29.4**	**+0.2**
	4.1nm,0.2s,SNR=1.0								
RJF	**Les Rejaudoux**	**2.48**	**29**	Pg			**Pg**	**00 07 57.3**	**+0.2**
RJF				Sn			**Sn**	**00 08 20.4**	**0.0**
RJF				*e*Sg			**Sg**	**00 08 29.4**	**+0.2**
	2.0nm,0.2s,SNR=1.0								
ETOR	**Torete**	**2.71**	**211**		Pn		**Pn**	**00 07 53.8**	**+0.4**
	2.1nm,0.1s,SNR=7.9								
ETOR					Pg		**Pb**	**00 07 59.3**	**+1.0**
	1.3nm,0.2s,SNR=7.9								
ETOR					Sn		**Sn**	**00 08 25.5**	**-0.8**
	2.5nm,0.2s,SNR=7.9								
ETOR					Lg		Lg	00 08 32.5	
	7.1nm,0.2s,SNR=7.9								
ETOR	**Torete**	**2.71**	**211**		Pn		**Pn**	**00 07 53.8**	**+0.4**
	2.1nm,0.1s,SNR=7.9								
EMOS	**Mosqueruela**	**2.79**	**184**		Pn		**Pn**	**00 07 55.2**	**+0.6**
	0.1nm,0.1s,SNR=4.0								
EMOS					Pg		**Pb**	**00 08 00.4**	**+0.6**
	0.8nm,0.2s,SNR=7.9								
EMOS					Sn		**Sn**	**00 08 26.9**	**-1.6**
	0.4nm,0.2s,SNR=7.9								
EMOS					Lg		Lg	00 08 34.2	
	2.3nm,0.3s,SNR=7.9								
EMOS	**Mosqueruela**	**2.79**	**184**		Pn		**Pn**	**00 07 55.2**	**+0.6**
	0.1nm,0.1s,SNR=4.0								
LASF	**Ste Croix**	**3.08**	**71**	*e*Pn			**Pn**	**00 07 58.8**	**+0.4**
	SNR=1.0								
LASF	**Ste Croix**	**3.08**	**71**	*e*Pg			**Pg**	**00 08 07.7**	**-1.0**
LASF				*e*Sg			**Sg**	**00 08 47.9**	**-0.8**
	1.8nm,0.3s,SNR=1.0								
LASF	**Ste Croix**	**3.08**	**71**	Pn			**Pn**	**00 07 58.8**	**+0.4**
LASF	**Ste Croix**	**3.08**	**71**	Pg			**Pg**	**00 08 07.7**	**-1.0**
LASF				Lg			Lg	00 08 47.9	
	0.4nm,0.3s								
LASF				*e*Sg			**Sg**	**00 08 47.9**	**-0.8**
	0.9nm,0.3s,SNR=1.0								
MFF	**Saint Martin d**	**3.45**	**1**	*e*Pn			**Pn**	**00 08 03.3**	**-0.1**
	SNR=1.0								
MFF				*e*Sn			**Sn**	**00 08 42.0**	**-2.3**
	SNR=1.0								
MFF				*e*Sg			**Sg**	**00 09 00.0**	**-0.3**
	2.8nm,0.3s,SNR=1.0								
MFF	**Saint Martin d**	**3.45**	**1**	Pn			**Pn**	**00 08 03.3**	**-0.1**
MFF				Sn			**Sn**	**00 08 42.0**	**-2.3**
MFF				*e*Sg			**Sg**	**00 09 00.0**	**-0.3**
	1.4nm,0.3s,SNR=1.0								
TCF	**Toulx Ste Croi**	**3.57**	**28**	*e*Pg			**Pg**	**00 08 17.4**	**-0.6**
TCF				*e*Sg			**Sg**	**00 09 03.1**	**-1.2**
	5.6nm,0.4s,SNR=1.0								
TCF	**Toulx Ste Croi**	**3.57**	**28**	Pg			**Pg**	**00 08 17.4**	**-0.6**
TCF				*e*Sg			**Sg**	**00 09 03.1**	**-1.2**
	2.8nm,0.4s,SNR=1.0								
EARI	**Arriondas**	**3.67**	**274**	Pn			**Pn**	**00 08 08.8**	**+2.4**
	0.2nm,0.1s,SNR=7.9								
EARI				Sn			**Sn**	**00 08 51.1**	**+1.4**
	0.2nm,0.2s,SNR=4.0								
EARI	**Arriondas**	**3.67**	**274**	Pn			**Pn**	**00 08 08.8**	**+2.4**
	0.2nm,0.1s,SNR=7.9								
EARI				Sn			**Sn**	**00 08 51.1**	**+1.4**
	0.2nm,0.2s,SNR=4.0								
GUD	**Guadarrama**	**3.88**	**231**	Sn			**Sn**	**00 08 53.7**	**-1.3**
	0.7nm,0.3s,SNR=7.9								
GUD	**Guadarrama**	**3.88**	**231**	Sn			**Sn**	**00 08 53.7**	**-1.3**
	0.7nm,0.3s,SNR=7.9								
VIVF	**Saint-Julien-l**	**3.90**	**62**	*e*Sg			**Sg**	**00 09 14.1**	**-0.8**
	4.2nm,0.6s,SNR=1.0								
VIVF	**Saint-Julien-l**	**3.90**	**62**	*e*Sg			**Sg**	**00 09 14.1**	**-0.8**
	2.1nm,0.6s,SNR=1.0								
BGF	**Bois d'Agland**	**4.03**	**31**	*e*Sg			**Sg**	**00 09 18.8**	**-0.3**
	8.6nm,0.4s								
BGF	**Bois d'Agland**	**4.03**	**31**	*e*Sg			**Sg**	**00 09 18.8**	**-0.3**
	4.3nm,0.4s								
SSF	**Saint Saulge**	**4.71**	**33**	*e*Sg			**Sg**	**00 09 41.2**	**+0.6**
	2.2nm,0.4s,SNR=1.0								
SSF	**Saint Saulge**	**4.71**	**33**	*e*Sg			**Sg**	**00 09 41.2**	**+0.6**
	1.1nm,0.4s,SNR=1.0								
SSF					Lg		Lg	00 09 41.2	
	0.6nm,0.4s								
LDF	**La Druitiere**	**5.44**	**1**	*e*Sn			**Sn**	**00 09 31.6**	**-1.8**
	2.0nm,0.6s,SNR=1.0								
LDF	**La Druitiere**	**5.44**	**1**	*e*Sn			**Sn**	**00 09 31.6**	**-1.8**
	1.0nm,0.6s,SNR=1.0								

*ISCJB **21** 00:09:28.2±0.8, 43.˙05N±0.˙1×0.˙21W±0.˙04, h11km, Error ellipse: s-maj=16.9km s-min=4.3km az=177.6*
*LDG **21** 00:09:28.9±0.0, 43.˙05N×0.˙22W, h3km, Md1.4/2, Error ellipse: s-maj=2.1km s-min=0.6km az=174.0*
*CSEM **21** 00:09:28.6±0.2, 42.˙95N×0.˙21W, h15km, ML0.9*
*MDD **21** 00:09:29.4±0.6, 43.˙03N×0.˙21W, h0km, mbLg0.9/2, Error ellipse: s-maj=10.2km s-min=3.2km az=174.0, PRXIMO SIN SOLUCIN*

ISC 21 00:09:28.8±1.1, 43.˙00N±0.˙09×0.˙21W±0.˙02, h11km, n14, σ0s54/18, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ETSF	**Etsaut**	**0.27**	**249**	*e*Pg	**Pg**	**00 09 34.6**	**+0.2**
ETSF				*e*Sg	**Sg**	**00 09 38.7**	**+0.5**
	5.7nm,0.2s						
ETSF	**Etsaut**	**0.27**	**249**	*e*Pg	**Pg**	**00 09 34.6**	**+0.2**
ETSF				*e*Sg	**Sg**	**00 09 38.7**	**+0.5**
	2.8nm,0.2s						
EPF	**Esparros**	**0.41**	**85**	*e*Pg	**Pg**	**00 09 36.8**	**0.0**
EPF				*e*Sg	**Sg**	**00 09 42.1**	**-0.1**
	0.7nm,0.2s						
EPF	**Esparros**	**0.41**	**85**	*e*Pg	**Pg**	**00 09 36.8**	**0.0**
EPF				*e*Sg	**Sg**	**00 09 42.1**	**-0.1**
	0.3nm,0.2s						
EPF				Lg	Lg	00 09 42.1	
	0.2nm,0.2s						
SJPF	**Ste Jean**	**0.75**	**279**	*e*P	**Pb**	**00 09 44.5**	**+0.6**
SJPF				*e*Sg	**Sg**	**00 09 52.6**	**-0.5**
	1.0nm,0.3s						
SJPF	**Ste Jean**	**0.75**	**279**	*e*P	**Pb**	**00 09 44.5**	**+0.6**
SJPF				*e*Sg	**Sg**	**00 09 52.6**	**-0.5**
	0.5nm,0.3s						
SJPF				Lg	Lg	00 09 52.6	
	0.2nm,0.3s						
IELO	**Elcoad**	**0.77**	**259**	Pg	**Pg**	**00 09 43.3**	**-0.3**
	0.0nm,0.1s,SNR=7.9						
IELO				Lg	Lg	00 09 54.1	
	0.5nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.77**	**259**	Pg	**Pg**	**00 09 43.3**	**-0.3**
	SNR=7.9						
IELO				Lg	Lg	00 09 54.1	
	0.5nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.81**	**255**	Pg	**Pg**	**00 09 43.3**	**-1.0**
	0.1nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	00 09 56.6	
	0.8nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.81**	**255**	Pg	**Pg**	**00 09 43.3**	**-1.0**
	0.1nm,0.1s,SNR=7.9						
IEPA				Lg	Lg	00 09 56.6	
	0.8nm,0.1s,SNR=7.9						
CSOR	**Sort**	**1.17**	**122**	Pg	**Pb**	**00 09 51.2**	**+0.1**
	0.1nm,0.1s,SNR=7.9						
CSOR				Lg	Lg	00 10 10.0	
	0.1nm,0.1s,SNR=7.9						
CSOR	**Sort**	**1.17**	**122**	Pg	**Pb**	**00 09 51.2**	**+0.1**
	0.1nm,0.1s,SNR=7.9						
CSOR				Lg	Lg	00 10 10.0	
	0.1nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.29**	**189**	Lg	Lg	00 10 12.9	
	1.5nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.29**	**189**	Lg	Lg	00 10 12.9	
	1.5nm,0.1s,SNR=7.9						

*ISK **21** 00:12:47.6, 37.˙77N×29.˙11E, h5km, MD2.8*
*ISCJB **21** 00:12:50.5±0.6, 37.˙92N±0.˙03×29.˙14E±0.˙04, h1km±6km, Error ellipse: s-maj=5.7km s-min=4.3km az=8.6*
*CSEM **21** 00:12:50.5±0.2, 37.˙91N×29.˙17E, h0km±3km, MD2.9, Error ellipse: s-maj=5.1km s-min=3.6km az=89.0*
*DDA **21** 00:12:50.3, 37.˙92N×29.˙17E, h7km, MD2.9*

ISC 21 00:12:48.1±1.5, 37.˙81N±0.˙04×29.˙12E±0.˙03, h3km±12km, n24, σ1s21/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DNZL	**Cakiroluk**	**0.13**	**205**	*i* P	Pg	00 12 55.4	+4.6
DNZL				*i* S	Sg	00 12 59.2	+6.6
DNZL	**Cakiroluk**	**0.13**	**205**	*i* P	Pg	00 12 55.4	+4.6
DNZL				*i* S	Sg	00 12 59.2	+6.6
KHL	**Karahalli**	**0.60**	**32**	*e*PG	**Pb**	**00 13 01.1**	**-0.3**
KHL	**Karahalli**	**0.60**	**32**	*e*Pg	**Pb**	**00 13 01.1**	**-0.3**
KHAL	**Karahalli**	**0.63**	**28**	*e*P	**Pg**	**00 12 58.9**	**-1.4**
KHAL				*e*S	**Sg**	**00 13 08.4**	**-0.1**
KHAL	**Karahalli**	**0.63**	**28**	*e*P	**Pg**	**00 12 58.9**	**-1.4**
KHAL				*e*S	**Sg**	**00 13 08.4**	**-0.1**
GOLH	**Golhisar**	**0.67**	**148**	*e*P	**Pn**	**00 13 04.8**	**+0.2**
GOLH				*e*S	**Sn**	**00 13 15.6**	**-0.1**
GOLH	**Golhisar**	**0.67**	**148**	*e*P	**Pn**	**00 13 04.8**	**+0.2**
GOLH				*e*S	**Sn**	**00 13 15.6**	**-0.1**
KULA	**Kula-Manisa**	**0.79**	**333**	*e*PG	**Pn**	**00 13 05.0**	**-1.2**
KULA	**Kula-Manisa**	**0.79**	**333**	*e*Pg	**Pn**	**00 13 05.0**	**-1.2**
MANT	**Manisa**	**0.81**	**327**	*i* P	**Pn**	**00 13 05.8**	**-0.9**
MANT				*i* S	**Sg**	**00 13 15.2**	**+1.0**
MANT	**Manisa**	**0.81**	**327**	*i* P	**Pn**	**00 13 05.8**	**-0.9**
MANT				*i* S	**Sg**	**00 13 15.2**	**+1.0**
YER	**Yerkesik**	**0.94**	**225**	*e*PG	**Pn**	**00 13 06.2**	**-2.1**
YER	**Yerkesik**	**0.94**	**225**	*e*Pg	**Pn**	**00 13 06.2**	**-2.1**
AYDN	**Tasoluk**	**0.99**	**262**	*i* P	**Pn**	**00 13 10.5**	**+1.5**
AYDN				*i* S	**Sn**	**00 13 23.9**	**+0.4**
AYDN	**Tasoluk**	**0.99**	**262**	*i* P	**Pn**	**00 13 10.5**	**+1.5**
AYDN				*i* S	**Sn**	**00 13 23.9**	**+0.4**
DEMI	**Demirci**	**1.27**	**346**	*i* P	**Pg**	**00 13 13.7**	**+1.2**
DEMI				*i* S	**Sg**	**00 13 28.7**	**-0.3**
DEMI	**Demirci**	**1.27**	**346**	*i* P	**Pg**	**00 13 13.7**	**+1.2**
DEMI				*i* S	**Sg**	**00 13 28.7**	**-0.3**
GDZ	**Gediz**	**1.31**	**13**	*i* P	**Pg**	**00 13 13.7**	**+0.5**
GDZ				*i* S	**Sb**	**00 13 29.3**	**-1.4**
GDZ	**Gediz**	**1.31**	**13**	*i* P	**Pg**	**00 13 13.7**	**+0.5**
GDZ				*i* S	**Sb**	**00 13 29.3**	**-1.4**
SHUT	**Suhut-Afyon**	**1.35**	**56**	*e*PN	**Pg**	**00 13 15.2**	**+1.2**
SHUT				*e*SN	**Sn**	**00 13 35.0**	**+2.5**
SHUT	**Suhut-Afyon**	**1.35**	**56**	*e*Pn	**Pg**	**00 13 15.2**	**+1.2**
SHUT				*e*Sn	**Sn**	**00 13 35.0**	**+2.5**
TVSB	**Tavsanli**	**1.66**	**9**	*e*PN	**Pb**	**00 13 19.4**	**0.0**
TVSB	**Tavsanli**	**1.66**	**9**	*e*Pn	**Pb**	**00 13 19.4**	**0.0**

*NIED **21** 00:12:00, 28.˙90N×130.˙90E, h5km, Mw5.3 Best double couple: M0 1.15000×10^17 NP1:φ=198.00000°, δ=63.00000°, λ=-89.00000°. NP2:φ=15.00000°, δ=27.00000°, λ=-92.00000°.*
*BGS **21** 00:12:37.7±1.8, 25.˙81N×133.˙05E, h20km, mb5.4, MS5.6*
*SZGRF **21** 00:12:48.9, 28.˙69N×132.˙69E, h36km, mb5.9, MS5.3, West of Bonin Islands, Japan*
*BJI **21** 00:12:50.6, 28.˙65N×131.˙14E, h24km, mB5.4/44, mb5.0/58, Ms5.4/72, Ms7 5.4/65*
*ISCJB **21** 00:12:52.9±0.7, 28.˙88N±0.˙02×130.˙88E±0.˙02, h10km±4km, mb5.4/288, MS5.1/198, Error ellipse: s-maj=2.8km s-min=2.2km az=164.3*
*IDC **21** 00:12:52.2±0.4, 28.˙90N×130.˙94E, h0km, mb5.1/30, mb1 5.2/36, mb1mx5.2/38, mbtmp5.2/36, ML4.7/5, MS4.9/50, Ms1 4.9/50, ms1mx4.8/63, Error ellipse: s-maj=12.2km s-min=11.3km az=55.0*
*TEH **21** 00:12:53.0, 28.˙87N×130.˙86E, h5km, ML5.6*
*JMA **21** 00:12:55.9±0.1, 28.˙88N×130.˙89E, h73km±4km, M5.2 JMA Felt I J1.*
*NEIC **21** 00:12:56.0±0.9, 28.˙88N×130.˙86E, h24km±6km, mb5.6/179, MS5.0/115, MW5.5, MW5.3, MW5.3(NIED), Error ellipse: s-maj=3.1km s-min=2.5km az=155.0, Moment Tensor Solution. s45 Moment tensor: Scale 10^17Nm; Mrr=0.00; Mθθ=0.00; Mφφ=0.00; Mrθ=0.00; Mrφ=0.00; Mθφ=0.00; Best double couple: M0 1.20000×10^17 NP1:φ=201.00000°, δ=61.00000°, λ=-125.00000°. NP2:φ=76.00000°, δ=44.00000°, λ=-45.00000°. Principal axes: T 1.3400, Plg9.0000°, Azm315.0000°; N -0.2800, Plg29.0000°, Azm220.0000°; P -1.0600, Plg58.0000°, Azm60.0000°;*
NEIC Recorded [1 JMA] on Akuseki-jima, Amami-oshima, Kikaiga-shima, Nakano-shima, Tanega-shima and Yaku-shima. Also recorded [1 JMA] in Kagoshima, Kyushu.
*MOS **21** 00:12:56.1±1.0, 28.˙93N×130.˙95E, h33km, mb5.7/114, MS5.1/49 Error ellipse: s-maj=6.4km s-min=3.6km az=107.8*
*DJA **21** 00:12:57, 28.˙91N×131.˙10E, h34km, Mw5.4/30*
*NEIC **21** 00:13:11.1±0.0, 29.˙33N×131.˙67E, h10km, Moment Tensor Solution. s134 Moment tensor: Scale 10^17Nm; Mrr=1.66; Mθθ=0.18; Mφφ=1.48; Mrθ=-1.33; Mθφ=0.53; Mrφ=0.22; Best double couple: M0 2.10000×10^17 NP1:φ=48.00000°, δ=57.00000°, λ=-54.00000°. NP2:φ=176.00000°, δ=46.00000°, λ=-130.00000°. Principal axes: T 1.6900, Plg5.0000°, Azm114.0000°; N 0.7100, Plg28.0000°, Azm207.0000°; P -2.4100, Plg60.0000°, Azm13.0000°;*

ISC 21 00:12:56.0±0.3, 28.˙87N±0.˙03×130.˙95E±0.˙03, h24km±1km, h23km:pP-P, n1319, σ1s28/1381, mb5.6/295, MS5.1/197, 214C-291D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**1.03**	**237**	P	**Pn**	**00 13 14.5**	**-0.5**
JZK				*e*S	**Sn**	**00 13 28.7**	**+0.1**
JAM	**Amami Oshima**	**1.27**	**249**	P	**Pn**	**00 13 17.3**	**-1.0**
JAM				*e*S	**Sn**	**00 13 33.3**	**-1.3**
JNN	**Nakanoshima**	**1.35**	**316**	P	**Pn**	**00 13 19.0**	**-0.4**
JNN				*e*S	**Sn**	**00 13 35.2**	**-1.4**
JKC	**Kuchinoerabu**	**1.71**	**338**	P	**Pn**	**00 13 24.2**	**-0.2**
JKC				*e*S	**Sn**	**00 13 44.5**	**-1.1**
JTN	**Tanegashima 3**	**1.77**	**1**	P	**Pn**	**00 13 24.9**	**-0.4**
JTN				*e*S	**Sn**	**00 13 45.6**	**-1.5**
JTK	**Tokunoshima**	**2.07**	**239**	P	**Pn**	**00 13 28.6**	**-0.7**
JTK				*e*S	**Sn**	**00 13 52.8**	**-1.6**
JTSR	**Tashiro 2**	**2.29**	**359**	P	**Pn**	**00 13 32.4**	**+0.1**
JTSR				*e*S	**Sn**	**00 13 58.1**	**-1.6**
JNAR	**Kushima--Naru**	**2.66**	**6**	P	**Pn**	**00 13 37.4**	**0.0**
JNAR				S	**Sn**	**00 14 08.0**	**-0.9**
JSU	**Suzuyama**	**2.66**	**351**	P	**Pn**	**00 13 37.1**	**-0.4**
JSJ	**Shimokoshiki**	**2.99**	**339**	P	**Pn**	**00 13 41.4**	**-0.6**
JSJ				S	**Sn**	**00 14 14.2**	**-3.0**
JTZ	**Takazaki**	**3.02**	**2**	P	**Pn**	**00 13 42.2**	**-0.2**
JTZ				S	**Sn**	**00 14 16.4**	**-1.4**
JOW	**Kunigami**	**3.12**	**230**	*e*Pn	**Pn**	**00 13 42.6**	**-1.2**
JOW				Sn	**Sn**	**00 14 16.8**	**-3.7**
JOW	**Kunigami**	**3.12**	**230**	P	**Pn**	**00 13 42.3**	**-1.5**
JOW				*e*S	**Sn**	**00 14 18.2**	**-2.2**
JOW	**Kunigami**	**3.12**	**230**	Pn	**Pn**	**00 13 42.6**	**-1.2**
	297nm,0.3s,baz=77,slow=11,SNR=250						
JOW				Sn	**Sn**	**00 14 16.8**	**-3.7**
	228nm,0.3s,baz=108,slow=20,SNR=6.5						
JOW				LR	LR	00 14 54.3	
	comp=Z,10μm,20.0s,baz=161,slow=39						
JIH	**Iheya**	**3.21**	**236**	P	**Pn**	**00 13 43.8**	**-1.3**
JTSN	**Tsuno**	**3.40**	**8**	P	**Pn**	**00 13 46.9**	**-0.6**
JKIT	**Kitakata**	**3.76**	**6**	P	**Pn**	**00 13 52.2**	**-0.4**
JAGN	**Aguni-jima**	**4.00**	**236**	P	**Pn**	**00 13 54.4**	**-1.5**
JNU	**Nakatsue**	**4.24**	**359**	*e*Pn	**Pn**	**00 13 59.5**	**+0.4**
JNU				*e*Sn	**Sn**	**00 14 48.1**	**+0.2**
JNU	**Nakatsue**	**4.24**	**359**	Pn	**Pn**	**00 13 59.4**	**+0.2**
	67nm,0.3s,baz=223,slow=9.6,SNR=195						
JNU				Sn	**Sn**	**00 14 43.0**	**-4.8**
	60nm,0.3s,baz=249,slow=18,SNR=5.2						
JKE	**Kume jima 2**	**4.49**	**237**	P	**Pn**	**00 14 00.7**	**-1.8**
JKN2	**Miekihoku**	**7.01**	**39**	P	**Pn**	**00 14 37.4**	**+0.1**
JIE	**Ise**	**7.37**	**40**	P	**Pn**	**00 14 42.5**	**+0.4**
JIJ	**Ishigaki jima**	**7.57**	**235**	P	Pn	00 14 40.7	-4.2
JHJ	**Hachijo jima 2**	**8.68**	**59**	Pn	**Pn**	**00 15 00.4**	**+0.3**
	193nm,0.3s,baz=86,slow=13,SNR=21						
JHJ				Sn	**Sn**	**00 16 36.5**	**-0.8**
	66nm,0.3s,baz=197,slow=20,SNR=4.1						
JHJ				LR	LR	00 17 37.7	
	comp=Z,6μm,19.0s,baz=269,slow=33						
SSE	**Sheshan**	**8.76**	**287**	P	**Pn**	**00 15 02.6**	**+1.4**
SSE				S	Sn	00 16 45.6	+6.5
SSE				pmax	pmax		
	comp=Z,110nm,1.3s						
SSE				pmax	pmax		
	comp=Z,2μm,8.3s						
SSE				LR	LR		
	comp=N,7μm,15.6s						
SSE				LR	LR		
	comp=E,13μm,14.6s						
SSE				LR	LR		
	comp=Z,19μm,14.5s						
KSAR	**Wonju Array Be**	**8.92**	**344**	Pn	**Pn**	**00 15 04.8**	**+1.3**
KSRS	**Korea Array**	**8.93**	**344**	Pn	**Pn**	**00 15 04.8**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=166,slow=14,SNR=31						
INCN	**Inchon**	**9.32**	**338**	*e*Pn	**Pn**	**00 15 11.6**	**+2.7**
INCN				*e*Sn	**Sn**	**00 16 54.3**	**+1.4**
INCN	**Inchon**	**9.32**	**338**	P	**Pn**	**00 15 11.3**	**+2.4**
	SNR=9.3						
JOD2	**Odawara 2**	**9.39**	**45**	P	**Pn**	**00 15 10.9**	**+1.0**
YHNB	**Yeheng**	**9.53**	**246**	*e*Pn	**Pn**	**00 15 10.2**	**-1.6**
MAJO	**Matsushiro**	**9.79**	**37**	*e*P	**Pn**	**00 15 16.4**	**+1.1**
MAJO	**Matsushiro**	**9.79**	**37**	*e*Pn	**Pn**	**00 15 16.4**	**+1.1**
MAT	**Matsushiro**	**9.79**	**37**	P	**Pn**	**00 15 15.8**	**+0.5**
MAT				*e*S	**Sn**	**00 17 00.4**	**-4.0**
MJAR	**Matsushiro Arr**	**9.79**	**37**	Pn	**Pn**	**00 15 16.1**	**+0.9**
MJAR	**Matsushiro Arr**	**9.79**	**37**	Pn	**Pn**	**00 15 16.2**	**+0.9**
	comp=Z,8.3nm,0.3s,baz=209,slow=13,SNR=28						
CBIJ	**Chichi jima**	**10.08**	**97**	Pn	**Pn**	**00 15 19.4**	**0.0**
CBIJ	**Chichi jima**	**10.08**	**97**	Pn	**Pn**	**00 15 19.4**	**0.0**
	comp=Z,258nm,0.3s,baz=292,slow=19,SNR=66						
CBIJ				LR	LR	00 18 53.0	
	comp=Z,5μm,18.8s

CN2	**Changchun**	**15.54**	**345**	*e*P		**Pn**	**00 16 34.0**	**+0.5**
CN2				*es*P		sP	00 16 41.0	-6.3
CN2				*e*S		**Sn**	**00 19 27.3**	**+2.4**
CN2				pmax	pmax			
	comp=Z,200nm,10.0s							
CN2				LR	LR			
	comp=N,4μm,18.0s							
CN2				LR	LR			
	comp=E,7μm,18.0s							
CN2				LR	LR			
	comp=Z,9μm,16.0s							
MDJ	**Mudanjiang**	**15.75**	**356**	P		**Pn**	**00 16 37.0**	**+0.7**
MDJ				S		**Sn**	**00 19 35.3**	**+5.2**
MDJ				SS		S	00 19 52.8	+8.4
MDJ				PcP		**PcP**	**00 21 33.3**	**-2.1**
MDJ				pmax	pmax			
	comp=Z,30nm,1.7s							
MDJ				pmax	pmax			
	comp=Z,830nm,9.7s							
MDJ				LR	LR			
	comp=N,5μm,14.6s							
MDJ				LR	LR			
	comp=E,2μm,15.5s							
MDJ				LR	LR			
	comp=Z,5μm,15.5s							
MDJ	**Mudanjiang**	**15.75**	**356**	*e*Pn		**Pn**	**00 16 37.5**	**+1.2**
	comp=Z,73nm,1.3s							
ERM	**Erimo**	**16.43**	**34**	*e*P		**Pn**	**00 16 45.6**	**+0.6**
BJT	**Baijiatuau**	**16.48**	**316**	*e*Pn		**Pn**	**00 16 46.0**	**+0.4**
	comp=Z,92nm,0.9s							
HKC	**Hong Kong Obse**	**16.48**	**250**	P		**P**	**00 16 48.0**	**-0.3**
BJI	**Beijing**	**16.49**	**316**	P		**Pn**	**00 16 46.1**	**+0.4**
BJI				S		**S**	**00 19 58.8**	**-0.7**
BJI				pmax	pmax			
	comp=Z,55nm,1.4s							
BJI				pmax	pmax			
	comp=Z,2μm,8.9s							
BJI				LR	LR			
	comp=N,12μm,13.4s							
BJI				LR	LR			
	comp=E,15μm,13.8s							
BJI				LR	LR			
	comp=Z,8μm,16.0s							
GZH	**Guangzhou**	**16.84**	**254**	P		**Pn**	**00 16 46.8**	**-3.5**
GZH				S		**Sn**	**00 19 51.4**	**-5.4**
GZH				LR	LR			
	comp=N,13μm,19.2s							
GZH				LR	LR			
	comp=E,6μm,18.4s							
TIY	**Taiyuan**	**17.79**	**304**	*e*P		**P**	**00 17 03.3**	**+0.5**
TIY				S		**S**	**00 20 24.3**	**-2.1**
TIY				pmax	pmax			
	comp=Z,3μm,5.8s							
TIY				LR	LR			
	comp=N,9μm,11.0s							
TIY				LR	LR			
	comp=E,8μm,12.9s							
TIY				LR	LR			
	comp=Z,13μm,12.1s							
ASAJ	**Asahikawa**	**17.83**	**28**	*e*Pn		**Pn**	**00 17 01.5**	**-1.0**
	comp=Z,147nm,1.9s							
ASAJ	**Asahikawa**	**17.83**	**28**	P		**Pn**	**00 17 00.2**	**-2.3**
	comp=Z,0.8nm,0.3s,baz=216,slow=11,SNR=5.6							
ASAJ				LR	LR		00 24 03.7	
	comp=Z,5μm,19.7s,baz=262,slow=38							
ENH	**Enshi**	**18.73**	**280**	*e*Pn		**P**	**00 17 12.5**	**-0.6**
	comp=Z,126nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**19.26**	**34**	*d i*P		**P**	**00 17 17.5**	**-1.2**
YUK				*e*S		**Sn**	**00 20 53.1**	**-1.9**
YUK				pmax	pmax			
	comp=N,74nm,0.1s							
YUK				pmax	pmax			
	comp=Z,146nm,0.1s							
YUK				MLR	MLR			
	comp=Z,6μm,19.0s							
XAN	**Xi'an**	**19.48**	**291**	P		**P**	**00 17 20.3**	**-1.0**
XAN				PP		**PnPn**	**00 17 35.5**	**-0.5**
XAN				S		S	00 20 51.8	-8.3
XAN				pmax	pmax			
	comp=Z,330nm,12.7s							
XAN				LR	LR			
	comp=N,5μm,12.6s							
XAN				LR	LR			
	comp=E,2μm,10.2s							
XAN				LR	LR			
	comp=Z,2μm,11.6s							
HABR	**Khabarovsk**	**19.82**	**8**	*e*P		**P**	**00 17 22.0**	**-2.9**
HABR				*e*S		**S**	**00 21 02.9**	**-4.0**
HABR				pmax	pmax			
	comp=E,85nm,3.2s							
HABR				pmax	pmax			
	comp=N,74nm,1.6s							
HABR				pmax	pmax			
	comp=Z,132nm,1.7s							
HABR				MLR	MLR			
	comp=Z,5μm,20.0s							
HHC	**Hu-ho-hao-te**	**19.85**	**312**	*e*P		**P**	**00 17 24.0**	**-1.4**
HHC				PP		**PnPn**	**00 17 42.5**	**+1.4**
HHC				S		**S**	**00 21 02.5**	**-5.2**
HHC				SS		**SnSn**	**00 21 29.3**	**+5.4**
HHC				PcP		**PcP**	**00 21 42.1**	**-0.3**
HHC				pmax	pmax			
	comp=Z,38nm,1.5s							
HHC				pmax	pmax			
	comp=Z,1μm,6.0s							
HHC				LR	LR			
	comp=N,5μm,11.9s							
HHC				LR	LR			
	comp=E,7μm,13.9s							
HHC				LR	LR			
	comp=Z,9μm,13.9s							
GUMO	**Guam**	**19.96**	**137**	*e*Pn		**Pn**	**00 17 30.6**	**+2.3**
	comp=Z,330nm,1.0s							
GUMO	**Guam**	**19.96**	**137**	P		**Pn**	**00 17 27.9**	**-0.5**
	comp=Z,3.3nm,0.3s,baz=174,slow=19,SNR=4.2							
GUMO				LR	LR		00 24 24.9	
	comp=Z,1μm,20.1s,baz=326,slow=35							
YSS	**Yuzh-Sakhalins**	**20.27**	**24**	*ke*P		**P**	**00 17 29.8**	**+0.1**
YSS				*e**SP		**sP**	**00 17 43.0**	**+3.6**
YSS				*e*			00 17 54.0	
YSS				*e*PPP		PPP	00 18 07.0	
YSS				*e*S		**S**	**00 21 16.0**	**+0.1**
YSS				*e*			00 21 38.0	
YSS				pmax	pmax			
	comp=Z,380nm,1.5s							
YSS				pmax	pmax			
	comp=N,80nm,1.1s							
YSS				pmax	pmax			
	comp=E,90nm,1.0s							
YSS				pmax	pmax			
	comp=N,1μm,5.0s							
YSS				pmax	pmax			
	comp=Z,2μm,5.0s							
YSS				MLR	MLR			
	comp=N,3μm,16.0s							
YSS				MLR	MLR			
	comp=Z,2μm,16.0s							
YSS				MLR	MLR			
	comp=E,1μm,15.0s							
YSS	**Yuzh-Sakhalins**	**20.27**	**24**	*e*P		**P**	**00 17 30.4**	**+0.7**
	comp=E,137nm,1.0s							
YSS				LR	LR			
	comp=Z,1μm,20.0s							
KLR	**Kul'dur**	**20.34**	**2**	*e*P		**P**	**00 17 27.2**	**-3.3**
KLR				*e*S		**S**	**00 21 14.5**	**-2.8**
KLR				pmax	pmax			
	comp=E,40nm,1.6s							
KLR				pmax	pmax			
	comp=Z,230nm,1.6s							
KLR				MLR	MLR			
	comp=E,2μm,12.0s							
KLR				MLR	MLR			
	comp=Z,9μm,12.0s							
BTO	**Baotou**	**20.75**	**310**	*e*P		**P**	**00 17 31.3**	**-3.9**
QIZ	**Qiongzhong**	**21.61**	**248**	P		**P**	**00 17 44.5**	**+0.1**
QIZ				S		**S**	**00 21 44.8**	**+2.0**
QIZ				pmax	pmax			
	comp=Z,120nm,1.0s							
QIZ				LR	LR			
	comp=N,5μm,21.8s							
QIZ				LR	LR			
	comp=E,1μm,20.8s							
QIZ				LR	LR			
	comp=Z,6μm,18.5s							
QIZ	**Qiongzhong**	**21.61**	**248**	*e*P		**P**	**00 17 45.0**	**+0.6**
	comp=Z,90nm,0.9s							
QIZ				LR	LR			
	comp=Z,6μm,19.0s							
GYA	**Guiyang**	**21.64**	**269**	*i*P		**P**	**00 17 43.8**	**-1.1**
GYA				PP		**PnPn**	**00 18 08.8**	**+3.0**
GYA				S		**S**	**00 21 40.4**	**-3.2**
GYA				SS		**SnSn**	**00 22 17.3**	**+9.3**
GYA				pmax	pmax			
	comp=Z,50nm,1.0s							
GYA				pmax	pmax			
	comp=Z,270nm,5.5s							
GYA				LR	LR			
	comp=N,6μm,13.3s							
GYA				LR	LR			
	comp=E,9μm,13.3s							
GYA				LR	LR			
	comp=Z,13μm,14.9s							
HIA	**Hailar**	**22.10**	**340**	*e*P		**P**	**00 17 48.1**	**-1.4**
	comp=Z,28nm,1.0s							
HIA				LR	LR			
	comp=Z,4μm,19.0s							
DAV	**Davao City (W)**	**22.27**	**194**	LR		LR	00 25 48.7	
	comp=Z,3μm,18.2s,baz=17,slow=35							
CD2	**Chengdu**	**23.65**	**282**	P		**P**	**00 18 03.8**	**-1.9**
CD2				pP		**pP**	**00 18 08.0**	**-4.6**
CD2				sP		**sP**	**00 18 10.8**	**-4.8**
CD2				PP		**PnPn**	**00 18 35.8**	**+2.6**
CD2				PcP		**PcP**	**00 21 51.1**	**+1.1**
CD2				S		**S**	**00 22 14.5**	**-4.6**
CD2				SS		**SnSn**	**00 23 01.8**	**+4.7**
CD2				pmax	pmax			
	comp=Z,100nm,1.0s							
CD2				pmax	pmax			
	comp=Z,730nm,4.1s							
CD2				LR	LR			
	comp=N,12μm,11.9s							
CD2				LR	LR			
	comp=E,14μm,12.5s							
CD2				LR	LR			
	comp=Z,13μm,13.3s							
LZH	**Lanzhou**	**23.93**	**294**	*e*P		**P**	**00 18 06.6**	**-1.8**
LZH				pP		**pP**	**00 18 10.3**	**-5.2**
LZH				PcP		**PcP**	**00 21 52.1**	**+1.5**
LZH				*e*S		**S**	**00 22 18.3**	**-5.4**
LZH				SS		**SnSn**	**00 23 08.3**	**+4.3**
LZH				pmax	pmax			
	comp=Z,170nm,1.2s							
LZH				pmax	pmax			
	comp=Z,780nm,4.4s							
LZH				LR	LR			
	comp=N,4μm,12.1s							
LZH				LR	LR			
	comp=E,7μm,13.4s							
LZH				LR	LR			
	comp=Z,8μm,15.6s							
KMI	**Kunming**	**25.39**	**268**	P		**P**	**00 18 21.0**	**-0.9**
KMI				pP		**pP**	**00 18 31.8**	**+2.8**
KMI				PP		**PnPn**	**00 19 01.0**	**+3.8**
KMI				S		**S**	**00 22 45.5**	**-2.0**
KMI				SS		SnSn	00 23 51.1	+11
KMI				pmax	pmax			
	comp=Z,81nm,1.3s							
KMI				pmax	pmax			
	comp=Z,280nm,5.8s							
KMI				LR	LR			
	comp=N,4μm,14.8s							
KMI				LR	LR			
	comp=E,5μm,16.8s							
KMI				LR	LR			
	comp=Z,8μm,14.5s							
MYLDM	**Lahad Datu**	**26.36**	**209**	P		**P**	**00 18 34.5**	**+4.1**
	comp=Z,45nm,1.1s,comp=Z,2μm							
MYLDM	**Lahad Datu**	**26.36**	**209**	P		**P**	**00 18 34.5**	**+4.1**
	comp=Z,45nm,1.1s,comp=Z,2μm							
ULN	**Ulaanbaatar**	**26.48**	**322**	*e*P		**P**	**00 18 31.0**	**-0.5**
	comp=Z,29nm,0.9s							
ULN				*e*PcP		**PcP**	**00 21 56.0**	**-0.1**
ULN				LR	LR			
	comp=Z,4μm,19.0s							
ULN	**Ulaanbaatar**	**26.48**	**322**	P		**P**	**00 18 31.4**	**-0.1**
	SNR=17							
ULN	**Ulaanbaatar**	**26.48**	**322**	P		**P**	**00 18 31.1**	**-0.5**
	comp=Z,37nm,1.6s,comp=Z,540nm							
KKM	**Kota Kinabalu**	**26.65**	**214**	PFAKE			00 18 40.0	+6.8
KKM				LR	LR			
	comp=Z,1μm,19.0s							
SONM	**Songino Array**	**26.82**	**322**	P		**P**	**00 18 33.8**	**-0.7**
SONM	**Songino Array**	**26.82**	**322**	P		**P**	**00 18 33.8**	**-0.7**
	comp=Z,24nm,0.8s,baz=136,slow=9.4,SNR=67							
SONM				LR	LR		00 30 21.9	
	comp=Z,4μm,18.6s,baz=126,slow=39							
GTA	**Gaotai**	**27.71**	**301**	*e*P		**P**	**00 18 41.3**	**-1.3**
GTA				pP		**pP**	**00 18 45.8**	**-3.9**
GTA				sP		**sP**	**00 18 48.6**	**-4.1**
GTA				S		**S**	**00 23 23.5**	**-0.2**
GTA				sS		**sS**	**00 23 31.5**	**-4.0**
GTA				SS		**SnSn**	**00 24 44.5**	**+8.1**
GTA				pmax	pmax			
	comp=Z,230nm,5.9s							
GTA				LR	LR			
	comp=N,6μm,19.2s							
GTA				LR	LR			
	comp=E,9μm,15.4s							
GTA				LR	LR			
	comp=Z,10μm,15.4s							
CLNS	**Chul'man**	**28.28**	**353**	*e*P		**P**	**00 18 47.8**	**+0.4**
CLNS				*e**PP		**pP**	**00 18 54.2**	**-0.3**
CLNS				*e*			00 19 46.1	
CLNS				*e*PPP		PPP	00 19 55.9	
CLNS				*e*SS		SS	00 25 13.0	-19
CLNS				pmax	pmax			
	comp=Z,22nm,1.1s							
CLNS				pmax	pmax			
	comp=N,27nm,1.2s							
CLNS				pmax	pmax			
	comp=E,9.0nm,1.4s							
CLNS				pmax	pmax			
	comp=Z,14nm,1.0s							
CLNS				pmax	pmax			
	comp=N,16nm,1.0s							
CLNS				pmax	pmax			
	comp=E,13nm,1.3s							
CLNS				MLR	MLR			
	comp=N,2μm,14.0s							
CLNS				MLR	MLR			
	comp=Z,2μm,15.0s							
CLNS				MLR	MLR			
	comp=E,1μm,14.0s							
SKR	**Severo-Kuril's**	**28.88**	**34**	*e*P		**P**	**00 18 51.0**	**-1.7**
SKR				pmax	pmax			
	comp=Z,80nm,0.6s							
SKR				MLR	MLR			
	comp=N,3μm,18.0s							
SKR				MLR	MLR			
	comp=Z,3μm,18.0s							
ZAK	**Zakamensk**	**29.97**	**323**	*e*P		**P**	**00 19 01.0**	**-1.6**
ZAK				pmax	pmax			
	comp=Z,8.0nm,1.6s							
TLY	**Talaya**	**30.56**	**326**	*e*P		**P**	**00 19 07.6**	**-0.1**
TLY				*e*PPP		PPP	00 20 21.3	
TLY				*e*SS		SS	00 25 54.5	-24
TLY				pmax	pmax			
	comp=Z,29nm,1.9s							
TLY				MLR	MLR			
	comp=Z,3μm,15.0s							
TLY	**Talaya**	**30.56**	**326**	*e*P		**P**	**00 19 06.8**	**-0.8**
	comp=Z,53nm,1.5s							
TLY				*e*PcP		**PcP**	**00 22 06.6**	**+0.6**
TLY				LR	LR			
	comp=Z,5μm,20.0s							
TLY	**Talaya**	**30.56**	**326**	P		**P**	**00 19 07.5**	**-0.2**
	SNR=21							
IRK	**Irkutsk**	**30.61**	**327**	*e*P		**P**	**00 19 06.7**	**-1.3**
IRK				*e*			00 20 02.3	
IRK				pmax	pmax			
	comp=Z,67nm,1.6s							
CHTO	**Chiang Mai**	**30.86**	**258**	*e*P		**P**	**00 19 11.2**	**+0.6**
CHTO				*e*			00 22 08.0	
CHTO				pmax	pmax			
	comp=Z,35nm,0.7s							
CHTO				MLR	MLR			
	comp=Z,5μm,20.0s							
CHTO	**Chiang Mai**	**30.86**	**258**	*e*P		**P**	**00 19 11.2**	**+0.6**
	comp=Z,35nm,0.7s							
CHTO				*e*PcP		**PcP**	**00 22 08.0**	**+0.7**
CHTO				LR	LR			
	comp=Z,5μm,20.0s							
CHTO	**Chiang Mai**	**30.86**	**258**	P		**P**	**00 19 10.7**	**+0.1**
	comp=Z,56nm,1.1s,comp=Z,637nm							
CHTO	**Chiang Mai**	**30.86**	**258**	P		**P**	**00 19 10.7**	**+0.1**
	comp=Z,56nm,1.1s,comp=Z,637nm							
CMAR	**Chiang Mai Arr**	**31.01**	**258**	P		**P**	**00 19 12.2**	**+0.2**
CMAR				PcP		**PcP**	**00 22 08.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**31.01**	**258**	P		**P**	**00 19 12.2**	**+0.2**
	comp=Z,8.0nm,0.8s,baz=58,slow=7.5,SNR=57							
CMAR				PcP		**PcP**	**00 22 08.7**	**+0.9**
	comp=Z,3.9nm,0.7s,baz=37,slow=1.3,SNR=10							
CMAR				LR	LR		00 32 58.5	
	comp=Z,3μm,18.9s,baz=255,slow=39							
PETK	**Petropavlovsk-**	**31.19**	**32**	P		**P**	**00 19 13.3**	**+0.1**
PETK				pmax	pmax			
	comp=Z,50nm,0.8s							
PETK				MLR	MLR			
	comp=Z,1μm,19.5s							
PETK	**Petropavlovsk-**	**31.19**	**32**	P		**P**	**00 19 13.3**	**+0.1**
PETK	**Petropavlovsk-**	**31.19**	**32**	P		**P**	**00 19 13.3**	**+0.1**
	comp=Z,50nm,0.8s,baz=212,slow=6.8,SNR=68							
PETK				LR	LR		00 31 39.6	
	comp=Z,1μm,19.5s,baz=229,slow=36							
BOD	**Bodaibo**	**31.26**	**343**	*e*P		**P**	**00 19 12.4**	**-1.3**
BOD				pmax	pmax			
	comp=Z,13nm,1.3s							
PET	**Petropavlovsk**	**31.58**	**32**	*e*P		**P**	**00 19 16.7**	**+0.2**
PET				*e*S		**S**	**00 24 21.7**	**-2.1**
PET				pmax	pmax			
	comp=Z,75nm,1.5s							
PET				pmax	pmax			
	comp=Z,400nm,17.7s							
PET				MLR	MLR			
	comp=Z,2μm,15.0s							
PET				MLR	MLR			
	comp=Z,2μm,20.0s							
PET	**Petropavlovsk**	**31.58**	**32**	*e*P		**P**	**00 19 16.8**	**+0.2**
	comp=Z,228nm,1.7s							
PET				LR	LR			
	comp=Z,2μm,20.0s							
FAKI	**Fak Fak**	**31.64**	**178**	P		**P**	**00 19 17.1**	**-0.3**
	comp=Z,70nm,1.1s,comp=Z,1μm							
MOY	**Mondy**	**31.89**	**324**	*e*P		**P**	**00 19 19.6**	**+0.1**
YAK	**Yakutsk**	**33.17**	**359**	*e*P		**P**	**00 19 29.0**	**-1.4**
YAK				*e**PP		**pP**	**00 19 41.3**	**+3.7**
YAK				*e*			00 20 41.6	
YAK				*e*			00 22 11.8	
YAK				*e*S		**S**	**00 24 48.5**	**+0.1**
YAK				*e**SS		**sS**	**00 25 04.4**	**+4.2**
YAK				*e*SS		**SnSn**	**00 26 48.5**	**0.0**
YAK				pmax	pmax			
	comp=Z,44nm,0.8s							
YAK				pmax	pmax			
	comp=N,16nm,1.1s							
YAK				pmax	pmax			
	comp=E,3.0nm,0.8s							
YAK				pmax	pmax			
	comp=Z,21nm,0.8s							
YAK				pmax	pmax			
	comp=E,6.0nm,0.9s							
YAK				pmax	pmax			
	comp=N,4.0nm,0.8s							
YAK				smax	smax			
	comp=N,266nm,2.2s							
YAK				smax	smax			
	comp=E,384nm,2.0s							
YAK				MLR	MLR			
	comp=N,2μm,16.0s							
YAK				MLR	MLR			
	comp=Z,3μm,16.0s							
YAK				MLR	MLR			
	comp=E,1μm,12.0s							
YAK	**Yakutsk**	**33.17**	**359**	*e*P		**P**	**00 19 29.5**	**-0.9**
	comp=E,81nm,0.7s							
YAK				LR	LR			
	comp=Z,2μm,19.0s							
KSM	**Kuching**	**33.62**	**220**	PFAKE			00 19 50.0	+15
KSM				LR	LR			
	comp=Z,585nm,22.0s							
WAKE	**Wake Island**	**33.85**	**98**	PFAKE			00 19 50.0	+13
WAKE				LR	LR			
	comp=Z,4μm,19.0s							
LSA	**Lhasa**	**34.61**	**281**	P		**P**	**00 19 43.3**	**-0.6**
LSA				S		**S**	**00 25 13.6**	**+1.2**
LSA				LR	LR			
	comp=N,3μm,18.3s							
LSA				LR	LR			
	comp=E,3μm,22.5s							
LSA				LR	LR			
	comp=Z,4μm,25.8s							
LSA	**Lhasa**	**34.61**	**281**	*e*P		**P**	**00 19 43.5**	**-0.4**
LSA				pmax	pmax			
	comp=Z,20nm,0.8s							
LSA				MLR	MLR			
	comp=Z,5μm,20.0s							
LSA	**Lhasa**	**34.61**	**281**	*e*P		**P**	**00 19 43.5**	**-0.4**
	comp=Z,20nm,0.8s							
LSA				LR	LR			
	comp=Z,5μm,20.0s							
SHL	**Shillong**	**34.80**	**274**	*e*PKP		**P**	**00 19 45.0**	**-0.2**
SHL				*ex*		x	00 25 10.0	
KAPI	**Kappang**	**35.37**	**200**	LR		LR	00 34 29.9	
	comp=Z,685nm,20.5s,baz=26,slow=37							
SEY	**Seymchan**	**36.81**	**16**	*de*P		**P**	**00 20 01.9**	**+0.2**
KULM	**Kulim**	**37.06**	**236**	*e*P		**P**	**00 20 05.7**	**+1.2**
	comp=Z,32nm,1.0s							
KULM				LR	LR			
	comp=Z,1μm,19.0s							
KULM	**Kulim**	**37.06**	**236**	P		**P**	**00 20 05.9**	**+1.5**
	comp=Z,37nm,1.1s,comp=Z,595nm							
IPM	**Ipoh**	**37.34**	**235**	*e*P		**P**	**00 20 05.4**	**-1.4**
	comp=Z,50nm,1.1s							
IPM	**Ipoh**	**37.34**	**235**	P		**P**	**00 20 08.3**	**+1.5**
	comp=Z,28nm,1.1s,comp=Z,686nm							
WMQ	**Urumqi**	**37.46**	**305**	*e*P		**P**	**00 20 07.8**	**+0.1**
WMQ				pP		**pP**	**00 20 12.0**	**-2.9**
WMQ				sP		**sP**	**00 20 14.9**	**-2.9**
WMQ				PP		**PnPn**	**00 21 35.0**	**+1.0**
WMQ				S		**S**	**00 25 52.0**	**-2.9**
WMQ				SS		**SnSn**	**00 28 29.0**	**-3.9**
WMQ				pmax	pmax			
	comp=Z,14nm,1.3s							
WMQ				pmax	pmax			
	comp=Z,170nm,5.5s							
WMQ				LR	LR			
	comp=N,3μm,15.6s							
WMQ				LR	LR			
	comp=E,2μm,15.4s							
WMQ				LR	LR			
	comp=Z,2μm,19.2s							
TAPN	**Taplejung**	**38.02**	**278**	*e*P		**P**	**00 20 12.2**	**-0.7**
	comp=Z,94nm,1.2s							
TAPN	**Taplejung**	**38.02**	**278**	*e*P		**P**	**00 20 12.2**	**-0.7**
	comp=Z,94nm,1.2s							
ODAN	**Odare**	**38.41**	**278**	*e*P		**P**	**00 20 15.3**	**-0.8**
	comp=Z,117nm,0.7s							
ODAN	**Odare**	**38.41**	**278**	*e*P		**P**	**00 20 15.3**	**-0.8**
	comp=Z,117nm,0.7s							
PPBI	**Pangkal Pinang**	**38.97**	**222**	P		P	00 20 24.3	+3.8
	comp=Z,32nm,0.9s,comp=Z,3μm							
RAMN	**Ramite**	**39.07**	**278**	*e*P		**P**	**00 20 20.8**	**-0.9**
	comp=Z,54nm,0.8s							
RAMN	**Ramite**	**39.07**	**278**	*e*P		**P**	**00 20 20.8**	**-0.9**
	comp=Z,54nm,0.8s							
FX1	**Attu Island--F**	**39.12**	**40**	P		**P**	**00 20 21.1**	**-0.3**
FX1	**Attu Island--F**	**39.12**	**40**	P		**P**	**00 20 21.1**	**-0.3**
	comp=Z,69nm,0.9s,baz=35,slow=12,SNR=5.5							
JIRN	**Jiri**	**39.27**	**279**	*e*P		**P**	**00 20 23.0**	**-0.4**
JIRN	**Jiri**	**39.27**	**279**	*e*P		**P**	**00 20 23.0**	**-0.4**
GUN	**Gumba**	**39.48**	**280**	*e*P		**P**	**00 20 24.8**	**-0.4**
	comp=Z,75nm,0.5s							
GUN	**Gumba**	**39.48**	**280**	*e*P		**P**	**00 20 24.8**	**-0.4**
	comp=Z,75nm,0.5s							
LHMI	**Lhok Sumawe**	**39.87**	**240**	P		P	00 20 34.2	+6.2
	comp=Z,126nm,0.9s,comp=Z,2μm							
PKI	**Pulchoki**	**39.97**	**279**	*e*P		**P**	**00 20 28.3**	**-0.9**
	comp=Z,101nm,0.8s							
PKI	**Pulchoki**	**39.97**	**279**	*e*P		**P**	**00 20 28.3**	**-0.9**
PKI				pmax	pmax			
	comp=Z,101nm,0.8s							
PKI	**Pulchoki**	**39.97**	**279**	*e*P		**P**	**00 20 28.3**	**-0.9**
	comp=Z,101nm,0.8s							
PSI	**Prapat**	**40.01**	**235**	P		**P**	**00 20 31.3**	**+1.9**
	comp=Z,25nm,1.2s,comp=Z,593nm							
PSI	**Prapat**	**40.01**	**235**	LR		LR	00 39 14.1	
	comp=Z,1μm,18.0s,baz=37,slow=40							
KKN	**Kakani**	**40.03**	**280**	*e*P		**P**	**00 20 29.0**	**-0.6**
	comp=Z,97nm,0.8s							

KKN	**Kakani**	**40.03**	**280**	*e*P		**P**	**00 20 29.0**	**-0.6**
KKN					pmax	pmax			
	comp=Z,97nm,0.8s								
KKN	**Kakani**	**40.03**	**280**	*e*P		**P**	**00 20 29.0**	**-0.6**
	comp=Z,97nm,0.8s								
DMN	**Daman**	**40.22**	**280**	*e*P		**P**	**00 20 30.6**	**-0.6**
	comp=Z,97nm,0.9s								
DMN	**Daman**	**40.22**	**280**	*e*P		**P**	**00 20 30.6**	**-0.6**
	comp=Z,97nm,0.9s								
GKN	**Gorkha**	**40.54**	**280**	*e*P		**P**	**00 20 32.9**	**-0.8**
GKN	**Gorkha**	**40.54**	**280**	*e*P		**P**	**00 20 32.9**	**-0.8**
SJI	**Sawahan**	**40.83**	**210**	P		**P**	**00 20 36.1**	**0.0**
	comp=Z,90nm,2.0s,comp=Z,3µm								
MNSI	**Mandailing Nat**	**40.94**	**233**	P		**P**	**00 20 38.8**	**+1.9**
	comp=Z,27nm,1.1s,comp=Z,702nm								
BSI	**Banda Aceh**	**40.97**	**242**	P		**P**	**00 20 37.9**	**+0.7**
	comp=Z,69nm,0.9s,comp=Z,709nm								
PMG	**Port Moresby**	**41.15**	**155**	*e*P		**P**	**00 20 38.2**	**-0.3**
	comp=Z,28nm,1.0s								
PMG					LR	LR			
	comp=Z,1µm,21.0s								
PMG	**Port Moresby**	**41.15**	**155**	P		**P**	**00 20 38.7**	**+0.2**
	comp=Z,33nm,1.2s,comp=Z,726nm								
DANN	**Dangsing**	**41.22**	**281**	*e*P		**P**	**00 20 39.1**	**-0.4**
	comp=Z,137nm,0.8s								
DANN	**Dangsing**	**41.22**	**281**	*e*P		**P**	**00 20 39.1**	**-0.4**
	comp=Z,137nm,0.8s								
PPI	**Padang Panjang**	**41.29**	**230**	P		P	00 20 43.4	+3.6
	comp=Z,23nm,0.8s,comp=Z,743nm								
KOLN	**Koldanda**	**41.48**	**280**	*e*P		**P**	**00 20 40.9**	**-0.7**
	comp=Z,64nm,0.6s								
KOLN	**Koldanda**	**41.48**	**280**	*e*P		**P**	**00 20 40.9**	**-0.7**
	comp=Z,64nm,0.6s								
UGM	**Wanagama**	**41.54**	**211**	*e*P		**P**	**00 20 42.0**	**+0.1**
	comp=Z,324nm,1.5s								
MKAR	**Makanchi Array**	**41.66**	**309**	P		**P**	**00 20 41.0**	**-1.6**
MKAR							00 22 38.9		
MKAR							00 30 49.2		
MKAR					pmax	pmax			
	comp=Z,5.0nm,0.6s								
MKAR					pmax	pmax			
	comp=Z,5.0nm,0.7s								
MKAR					pmax	pmax			
	comp=N,3.0nm,1.1s								
MKAR					MLR	MLR			
	comp=Z,1µm,19.3s								
MKAR	**Makanchi Array**	**41.66**	**309**	*e*P		**P**	**00 20 41.4**	**-1.2**
MKAR					PcP	**PcP**	**00 22 38.9**	**-0.3**
MKAR					ScP	**ScP**	**00 26 27.9**	**+0.1**
MKAR					ScS	**ScS**	**00 30 49.2**	**+4.8**
MKAR	**Makanchi Array**	**41.66**	**309**	P		**P**	**00 20 41.0**	**-1.6**
	comp=Z,5.1nm,0.6s,baz=95,slow=10,SNR=34								
MKAR					PcP	**PcP**	**00 22 38.9**	**-0.3**
	comp=Z,4.6nm,0.7s,baz=86,slow=2.2,SNR=4.4								
MKAR					ScP	**ScP**	**00 26 27.9**	**+0.1**
	comp=Z,2.8nm,1.1s,baz=90,slow=4.5,SNR=4.4								
MKAR					ScS	**ScS**	**00 30 49.2**	**+4.8**
	comp=Z,0.3nm,0.8s,baz=86,slow=7.4,SNR=3.6								
MKAR					LR	LR	00 39 10.4		
	comp=Z,1µm,19.3s,baz=97,slow=38								
ZALV	**Zalesovo Beam**	**41.69**	**320**	P		**P**	**00 20 41.5**	**-1.2**
ZALV							00 22 38.4		
ZALV					pmax	pmax			
	comp=Z,4.0nm,0.3s								
ZALV					pmax	pmax			
	comp=Z,9.0nm,0.8s								
ZALV					MLR	MLR			
	comp=Z,2µm,18.1s								
ZALV	**Zalesovo Beam**	**41.69**	**320**	P		**P**	**00 20 41.5**	**-1.2**
ZALV					PcP	**PcP**	**00 22 38.4**	**-0.6**
ZALV	**Zalesovo Beam**	**41.69**	**320**	P		**P**	**00 20 41.5**	**-1.2**
	comp=Z,4.0nm,0.3s,baz=105,slow=8.6,SNR=31								
ZALV					PcP	**PcP**	**00 22 38.4**	**-0.6**
	comp=Z,8.6nm,0.8s,baz=116,slow=3.4,SNR=6.3								
ZALV					LR	LR	00 39 25.8		
	comp=Z,2µm,18.1s,baz=302,slow=38								
GSI	**Gunungsitoli**	**42.01**	**235**	P		**P**	**00 20 46.7**	**+1.0**
	comp=Z,94nm,1.3s,comp=Z,2µm								
NVS	**Novosibirsk**	**42.85**	**321**	*e*P		**P**	**00 20 50.6**	**-1.5**
NVS					pmax	pmax			
	comp=Z,39nm,1.4s								
NVS					pmax	pmax			
	comp=N,4.0nm,0.8s								
NVS					pmax	pmax			
	comp=E,13nm,0.8s								
COEN	**Coen**	**44.19**	**163**	*e*P		**P**	**00 21 03.5**	**+0.3**
	comp=E,157nm,1.1s								
COEN				*e*PcP		**PcP**	**00 22 49.1**	**+1.3**
BILL	**Bilibino**	**44.41**	**18**	*e*P		**P**	**00 21 04.7**	**+0.2**
BILL				*e*			00 22 48.9		
BILL				*e*SS		SS	00 30 57.3	+0.6
BILL					pmax	pmax			
	comp=Z,33nm,0.7s								
BILL					MLR	MLR			
	comp=Z,2µm,17.0s								
BILL	**Bilibino**	**44.41**	**18**	*e*P		**P**	**00 21 04.2**	**-0.3**
	comp=Z,74nm,1.0s								
BILL				*e*PcP		**PP**	**00 22 48.5**	**+0.4**
BILL					LR	LR			
	comp=Z,2µm,19.0s								
KURK	**Kurchatov**	**44.64**	**314**	*e*P		**P**	**00 21 05.2**	**-1.4**
KURK					pmax	pmax			
	comp=Z,35nm,0.7s								
KURK	**Kurchatov**	**44.64**	**314**	*e*P		**P**	**00 21 05.7**	**-0.9**
	comp=Z,42nm,0.9s								
KURK					LR	LR			
	comp=Z,3µm,20.0s								
KURK	**Kurchatov**	**44.64**	**314**	P		**P**	**00 21 06.2**	**-0.3**
	SNR=14								
KURBB	**Kurchatov Arra**	**44.68**	**314**	P		**P**	**00 21 05.8**	**-1.1**
	comp=Z,23nm,0.6s,baz=98,slow=9.0,SNR=127								
VIS	**Vishakhapatnam**	**44.87**	**266**	*ex*		x	00 20 55.7		
DDI	**Dehra Dun**	**45.67**	**285**	*ex*		x	00 21 09.0		
KSH	**Kashi**	**46.07**	**298**	P		**P**	**00 21 20.9**	**+2.7**
KSH				PP		**PP**	**00 23 10.8**	**+4.4**
KSH				PcS		**PcS**	**00 26 51.5**	**+2.6**
KSH				S		**S**	**00 28 08.1**	**+5.5**
KSH				SS		**SS**	**00 31 25.0**	**-2.5**
KSH					pmax	pmax			
	comp=Z,7.0nm,0.9s								
KSH					pmax	pmax			
	comp=Z,190nm,6.4s								
KSH					LR	LR			
	comp=N,2µm,13.1s								
KSH					LR	LR			
	comp=E,3µm,17.2s								
KSH					LR	LR			
	comp=Z,3µm,15.5s								
TKM2	**Tokmak 2**	**46.20**	**303**	PFAKE			00 21 30.0	+11	
TKM2					LR	LR			
	comp=Z,1µm,20.0s								
ASOR	**Ausora**	**46.26**	**283**	*e*PKP		**P**	**00 21 18.7**	**-1.0**
ASOR					AMb	AMB	00 21 21.2		
	comp=Z,300nm,0.3s								
AGRA	**Agra**	**46.49**	**281**	*e*PKP		**P**	**00 21 19.4**	**-2.0**
AGRA					AMb	AMB	00 21 23.5		
	comp=Z,54nm,0.4s								
NDI	**New Delhi**	**46.75**	**283**	*e*PKP		**P**	**00 21 23.0**	**-0.6**
AYAN	**Aya Nagar**	**46.88**	**283**	*e*PKP		**P**	**00 21 22.5**	**-2.0**
AYAN					AMb	AMB	00 21 27.0		
	comp=Z,35nm,0.9s								
FITZ	**Fitzroy Crossi**	**46.98**	**187**	*e*P		**P**	**00 21 25.1**	**-0.1**
	comp=Z,16nm,0.9s								
FITZ				*e*PcP		**PcP**	**00 22 58.9**	**+1.5**
FITZ	**Fitzroy Crossi**	**46.98**	**187**	*e*P		**P**	**00 21 25.2**	**-0.1**
	comp=Z,23nm,0.9s								
FITZ	**Fitzroy Crossi**	**46.98**	**187**	LR		LR	00 41 20.1		
	comp=Z,294nm,18.9s,baz=20,slow=36								
BHGR	**Bahadurgarh**	**46.99**	**284**	*e*PKP		**P**	**00 21 25.1**	**-0.3**
AAK	**Ala-Archa**	**47.02**	**303**	*e*P		**P**	**00 21 24.9**	**-0.8**
AAK				*e*			00 22 57.7		
AAK					pmax	pmax			
	comp=Z,63nm,1.0s								
AAK					MLR	MLR			
	comp=Z,2µm,20.0s								
AAK	**Ala-Archa**	**47.02**	**303**	*e*P		**P**	**00 21 24.9**	**-0.8**
	comp=Z,63nm,1.0s								
AAK				*e*PcP		**PcP**	**00 22 57.7**	**0.0**	
AAK					LR	LR			
	comp=Z,2µm,20.0s								
HNR	**Honiara**	**47.26**	**139**	LR		LR	00 39 22.0		
	comp=Z,416nm,18.4s,baz=179,slow=34								
KUDL	**Kundal**	**47.50**	**283**	*e*PKP		**P**	**00 21 27.8**	**-1.6**
KUDL					AMb	AMB	00 21 31.8		
	comp=Z,77nm,1.1s								
EKS2	**Erkin-Say**	**47.54**	**303**	*e*P		**P**	**00 21 30.1**	**+0.4**
EKS2					pmax	pmax			
	comp=Z,20nm,1.3s								
EKS2					MLR	MLR			
	comp=Z,2µm,19.0s								
EKS2	**Erkin-Say**	**47.54**	**303**	*e*P		**P**	**00 21 30.1**	**+0.4**
	comp=Z,20nm,1.3s								
EKS2					LR	LR			
	comp=Z,2µm,19.0s								
KHET	**Khetri**	**48.10**	**283**	*e*PKP		**P**	**00 21 33.0**	**-1.1**
KHET					AMb	AMB	00 21 37.6		
	comp=Z,59nm,1.3s								
WRAB	**Tennant Creek**	**48.63**	**176**	*e*P		**P**	**00 21 37.3**	**-0.8**
WRAB					pmax	pmax			
	comp=Z,34nm,1.1s								
WRAB					MLR	MLR			
	comp=Z,659nm,20.0s								
WRAB	**Tennant Creek**	**48.63**	**176**	*e*P		**P**	**00 21 37.3**	**-0.8**
	comp=Z,34nm,1.1s								
WRAB					LR	LR			
	comp=Z,659nm,20.0s								
WRA	**Warramunga Arr**	**48.64**	**176**	P		**P**	**00 21 37.6**	**-0.6**
WRA	**Warramunga Arr**	**48.64**	**176**	P		**P**	**00 21 37.6**	**-0.6**
	comp=Z,17nm,0.8s,baz=354,slow=8.6,SNR=67								
WRA					LR	LR	00 41 12.5		
	comp=Z,538nm,19.3s,baz=10.0,slow=35								
HYB	**Hyderabad**	**49.17**	**269**	*i* P		**P**	**00 21 41.0**	**-1.5**
KKAR	**Karatay Array**	**49.91**	**304**	*e*P		**P**	**00 21 47.3**	**-0.5**
KKAR	**Karatay Array**	**49.91**	**304**	*e*P		**P**	**00 21 47.2**	**-0.5**
BVAR	**Borovoye Array**	**49.97**	**317**	P		**P**	**00 21 47.4**	**-0.7**
BVAR					PcP	**PcP**	**00 23 08.2**	**+0.3**
BVAR	**Borovoye Array**	**49.97**	**317**	P		**P**	**00 21 47.4**	**-0.7**
	comp=Z,33nm,0.7s,baz=96,slow=9.5,SNR=110								
BVAR					PcP	**PcP**	**00 23 08.2**	**+0.3**
	comp=Z,14nm,0.7s,baz=99,slow=3.2,SNR=4.2								
BVAR					LR	LR	00 45 43.6		
	comp=Z,4µm,18.7s,baz=324,slow=40								
BRVK	**Borovoye**	**50.04**	**317**	*e*P		**P**	**00 21 47.1**	**-1.4**
BRVK				*e*			00 23 07.1		
BRVK					pmax	pmax			
	comp=Z,57nm,0.7s								
BRVK					MLR	MLR			
	comp=Z,6µm,19.0s								
BRVK	**Borovoye**	**50.04**	**317**	*e*P		**P**	**00 21 47.1**	**-1.4**
	comp=Z,57nm,0.7s								
BRVK				*e*PcP		**PcP**	**00 23 07.1**	**-1.0**
BRVK					LR	LR			
	comp=Z,6µm,19.0s								
BRVK	**Borovoye**	**50.04**	**317**	P		**P**	**00 21 48.3**	**-0.2**
	SNR=24								
CTA	**Charters Tower**	**50.87**	**161**	*e*P		**P**	**00 21 55.2**	**+0.1**
	comp=Z,9.6nm,0.8s								
CTA	**Charters Tower**	**50.87**	**161**	LR		LR	00 43 17.2		
	comp=Z,600nm,18.4s,baz=344,slow=36								
CTAO	**Charters Tower**	**50.87**	**161**	*e*P		**P**	**00 21 55.0**	**-0.1**
CTAO					pmax	pmax			
	comp=Z,40nm,1.3s								
CTAO					MLR	MLR			
	comp=Z,631nm,20.0s								
CTAO	**Charters Tower**	**50.87**	**161**	*e*P		**P**	**00 21 55.0**	**-0.1**
	comp=Z,40nm,1.3s								
CTAO					LR	LR			
	comp=Z,631nm,20.0s								
MBWA	**Marble Bar**	**50.91**	**194**	*e*P		**P**	**00 21 55.2**	**-0.1**
	comp=Z,143nm,2.2s								
MBWA				*e*PcP		**PcP**	**00 23 11.6**	**-0.1**
MBWA					LR	LR			
	comp=Z,370nm,19.0s								
MBWA	**Marble Bar**	**50.91**	**194**	*e*P		P	00 21 51.6	-3.8
ASAR	**Alice Springs**	**52.31**	**177**	P		**P**	**00 22 05.5**	**-0.4**
ASAR	**Alice Springs**	**52.31**	**177**	P		**P**	**00 22 05.5**	**-0.4**
	comp=Z,10nm,0.9s,baz=1.2,slow=8.4,SNR=86								
POO	**Poona**	**52.87**	**272**	*e*PKP		**P**	**00 22 09.8**	**-0.5**
TRD	**Trivandrum**	**54.51**	**259**	*ex*		x	00 24 23.0		
TRD					AMb	AMB	00 24 24.7		
	comp=Z,52nm,0.9s								
SVE	**Sverdlovsk**	**55.69**	**321**	⇓ *i* P		**P**	**00 22 30.5**	**+0.3**
SVE				*e*S		**S**	**00 30 14.2**	**-0.8**
SVE					pmax	pmax			
	comp=Z,43nm,0.9s								
SVE					MLR	MLR			
	comp=Z,8µm,16.0s								
SVE					MLR	MLR			
	comp=E,6µm,17.0s								
ABKAR	**Akbulak array**	**56.64**	**312**	*e*P		**P**	**00 22 36.5**	**-0.6**
ARU	**Arti**	**56.85**	**321**	*d i* P		**P**	**00 22 39.0**	**+0.5**
ARU							00 23 33.7		
ARU							00 24 45.2		
ARU					S	**S**	**00 30 32.8**	**+2.4**
ARU					SS	**SS**	**00 34 22.6**	**+4.3**
ARU					pmax	pmax			
	comp=Z,49nm,1.2s								
ARU					MLR	MLR			
	comp=Z,4µm,17.0s								
ARU	**Arti**	**56.85**	**321**	*e*P		**P**	**00 22 37.6**	**-0.8**
	comp=Z,29nm,0.8s								
ARU					LR	LR			
	comp=Z,4µm,19.0s								
ARU	**Arti**	**56.85**	**321**	P		**P**	**00 22 38.3**	**-0.2**
	comp=Z,229nm,1.0s,SNR=12								
SVW2	**Sparrevohn**	**57.24**	**34**	*e*P		**P**	**00 22 41.9**	**+0.7**
	comp=Z,18nm,1.0s								
EIDS	**Eidsvold**	**57.30**	**158**	*e*P		**P**	**00 22 41.7**	**-0.2**
	comp=Z,30nm,1.2s								
SOKR	**Solikamsk**	**57.63**	**325**	*d i* P		**P**	**00 22 43.7**	**-0.2**
SOKR					S	**S**	**00 30 44.7**	**+4.2**
SOKR					SS	**SS**	**00 34 36.1**	**+5.7**
SOKR					pmax	pmax			
	comp=Z,70nm,1.1s								
SOKR					MLR	MLR			
	comp=Z,2µm,14.0s								
AKTO	**Aktyubinsk**	**57.73**	**314**	P		**P**	**00 22 45.0**	**+0.1**
AKTO					pmax	pmax			
	comp=Z,18nm,0.9s								
AKTO	**Aktyubinsk**	**57.73**	**314**	P		**P**	**00 22 45.0**	**+0.1**
AKTO	**Aktyubinsk**	**57.73**	**314**	P		**P**	**00 22 45.0**	**+0.1**
	comp=Z,18nm,0.9s,baz=79,slow=11,SNR=29								
SPU	**Mount Spurr**	**58.94**	**33**	*e*P		**P**	**00 22 53.3**	**+0.1**
IMYA	**Miami**	**58.96**	**297**	*e*P		**P**	**00 22 54.0**	**+0.2**
KDAK	**Kodiak Island**	**58.96**	**37**	*e*P		**P**	**00 22 52.9**	**-0.4**
	comp=Z,63nm,0.7s								
KDAK					LR	LR			
	comp=Z,859nm,20.0s								
FORT	**Forrest**	**59.38**	**183**	*e*P		**P**	**00 22 56.5**	**+0.1**
	comp=Z,73nm,1.0s								
FORT	**Forrest**	**59.38**	**183**	*e*P		**P**	**00 22 56.3**	**-0.1**
	comp=Z,48nm,1.0s								
COLD	**Coldfoot**	**59.43**	**26**	*e*P		**P**	**00 22 57.1**	**+0.7**
	comp=Z,238nm,2.2s								
TRF	**Thorofare Moun**	**59.60**	**31**	*e*P		**P**	**00 22 56.8**	**-1.0**
	comp=Z,123nm,2.0s								
IEMG	**Emamgholi**	**59.81**	**299**	*e*P		**P**	**00 23 01.2**	**+1.4**
IKRD	**Kardeh**	**60.08**	**298**	*e*P		**P**	**00 22 58.8**	**-2.9**
IDAH	**Dahanechah**	**60.12**	**293**	*e*P		**P**	**00 23 02.7**	**+0.7**
MCK	**McKinley**	**60.18**	**30**	*e*P		**P**	**00 23 01.5**	**-0.2**
MCK					pmax	pmax			
	comp=Z,52nm,0.8s								
MCK	**McKinley**	**60.18**	**30**	*e*P		**P**	**00 23 01.4**	**-0.2**
	comp=Z,52nm,0.8s								
PMR	**Palmer**	**60.31**	**33**	*e*P		**P**	**00 23 01.4**	**-1.1**
PMR					pmax	pmax			
	comp=Z,36nm,0.9s								
PMR	**Palmer**	**60.31**	**33**	*e*P		**P**	**00 23 01.4**	**-1.1**
	comp=Z,36nm,0.9s								
SEW	**Seward**	**60.32**	**35**	*e*P		**P**	**00 23 02.2**	**-0.4**
	comp=Z,50nm,0.8s								
COLA	**College**	**60.55**	**29**	*e*P		**P**	**00 23 04.4**	**+0.4**
COLA					pmax	pmax			
	comp=Z,15nm,0.7s								
COLA					MLR	MLR			
	comp=Z,672nm,20.0s								
COLA	**College**	**60.55**	**29**	*e*P		**P**	**00 23 04.4**	**+0.4**
	comp=Z,15nm,0.7s								
COLA					LR	LR			
	comp=Z,672nm,20.0s								
SML	**Sawmill**	**60.66**	**33**	*e*P		**P**	**00 23 04.9**	**-0.1**
SML					pmax	pmax			
	comp=Z,10.0nm,0.7s								
SML	**Sawmill**	**60.66**	**33**	*e*P		**P**	**00 23 04.9**	**-0.1**
	comp=Z,9.7nm,0.7s								
IKOO	**Kooshah**	**60.91**	**293**	*e*P		**P**	**00 23 07.8**	**+0.4**
ILAR	**Eielson Array**	**60.97**	**29**	P		**P**	**00 23 06.0**	**-1.0**
ILAR				⇑ *e*			00 52 33.2		
ILAR	**Eielson Array**	**60.97**	**29**	P		**P**	**00 23 06.0**	**-1.0**
	comp=Z,11nm,0.8s,baz=269,slow=5.4,SNR=116								
ILAR					LR	LR	00 51 29.8		
	comp=Z,435nm,18.1s,baz=101,slow=38								
ILAR					PKP2bc		00 52 33.2		
	comp=Z,1.0nm,1.1s,baz=107,slow=1.1,SNR=4.1								
ITEG	**Tejag**	**60.98**	**294**	*e*P		**P**	**00 23 08.6**	**+0.8**
DZM	**Mont Dzumac**	**61.12**	**142**	*e*P		**P**	**00 23 09.4**	**+0.8**
	comp=Z,84nm,1.1s								
DZM				*e*S		**S**	**00 31 26.2**	**-0.5**
	comp=Z,3µm,28.1s								
DZM				*e*LQ		LQ	00 38 42.1		
	comp=Z,2µm,37.1s								
DZM				*e*LR		LR	00 41 13.4		
	comp=Z,2µm,31.9s								
DZM	**Mont Dzumac**	**61.12**	**142**	*e*P		**P**	**00 23 08.9**	**+0.3**
	comp=Z,18nm,0.6s								
STKA	**Stephens Creek**	**61.26**	**170**	P		**P**	**00 23 08.6**	**-0.6**
STKA	**Stephens Creek**	**61.26**	**170**	*e*P		**P**	**00 23 07.9**	**-1.3**
	comp=Z,6.8nm,0.8s								
STKA	**Stephens Creek**	**61.26**	**170**	P		**P**	**00 23 08.6**	**-0.6**
	comp=Z,9.6nm,0.9s,baz=344,slow=9.1,SNR=15								
STKA					LR	LR	00 51 29.0		
	comp=Z,389nm,18.5s,baz=347,slow=38								
KLBR	**Kellerberrin**	**61.43**	**193**	*e*P		**P**	**00 23 09.6**	**-0.8**
	comp=Z,112nm,1.6s								
PAX	**Paxson**	**61.83**	**31**	*e*P		**P**	**00 23 13.1**	**+0.2**
PAX					pmax	pmax			
	comp=Z,30nm,1.0s								
PAX	**Paxson**	**61.83**	**31**	*e*P		**P**	**00 23 13.1**	**+0.2**
	comp=Z,30nm,1.0s								
DIV	**Divide**	**61.97**	**33**	*e*P		**P**	**00 23 14.1**	**+0.2**
	comp=Z,41nm,0.8s								
ARMA	**Armidale**	**62.17**	**160**	*e*P		**P**	**00 23 15.5**	**-0.1**
	comp=Z,48nm,1.4s								
ARMA	**Armidale**	**62.17**	**160**	*e*P		**P**	**00 23 15.9**	**+0.4**
DOT	**Dot Lake**	**62.35**	**30**	*e*P		**P**	**00 23 16.1**	**-0.3**
	comp=Z,45nm,0.8s								
BMRM	**Bremner River**	**62.56**	**33**	*e*P		**P**	**00 23 17.6**	**-0.2**
	comp=Z,44nm,0.8s								
MENT	**Mentasta**	**62.62**	**31**	*e*P		**P**	**00 23 18.5**	**+0.4**
NWAO	**Narrogin (SRO)**	**62.83**	**193**	*e*P		**P**	**00 23 19.4**	**-0.3**
	comp=Z,113nm,1.7s								
NWAO					LR	LR			
	comp=Z,321nm,20.0s								
EGAK	**Eagle**	**63.39**	**29**	*e*P		**P**	**00 23 23.1**	**-0.1**
	comp=Z,19nm,0.8s								
EGAK					LR	LR			
	comp=Z,455nm,20.0s								
IBAF	**Bafgh**	**63.94**	**293**	*e*P		**P**	**00 23 28.6**	**+1.0**
IANJ	**Anjilo**	**64.02**	**298**	*e*P		**P**	**00 23 29.6**	**+1.4**
WBK	**Wadi Bani Khal**	**64.26**	**283**	P		**P**	**00 23 31.2**	**+1.5**
	SNR=11								
ICHK	**Chekchek**	**64.66**	**294**	*e*P		**P**	**00 23 31.3**	**-1.1**
IALA	**Alasht**	**64.68**	**299**	*e*P		**P**	**00 23 32.7**	**+0.1**
IMEH	**Mehriz**	**64.78**	**293**	*e*P		**P**	**00 23 32.5**	**-0.7**
ILAS	**Lasjerd**	**64.79**	**298**	*e*P		**P**	**00 23 34.4**	**+1.2**
IFIR	**Firoozkooh**	**64.86**	**298**	*e*P		**P**	**00 23 35.4**	**+1.7**
SMDO	**Samad**	**64.88**	**284**	P		**P**	**00 23 35.1**	**+1.4**
	SNR=9.6								
MSVF	**Nonsavu**	**64.94**	**130**	*e*P		**P**	**00 23 35.8**	**+1.8**
MSVF					pmax	pmax			
	comp=Z,177nm,1.8s								
MSVF					MLR	MLR			
	comp=Z,854nm,19.0s								
MSVF	**Nonsavu**	**64.94**	**130**	*e*P		**P**	**00 23 35.8**	**+1.8**
	comp=Z,177nm,1.8s								
MSVF					LR	LR			
	comp=Z,854nm,19.0s								
YNG	**Young**	**64.96**	**164**	*e*P		**P**	**00 23 34.0**	**+0.2**
	comp=Z,14nm,1.1s								
JMDO	**Jabal Madar**	**65.09**	**283**	P		**P**	**00 23 36.1**	**+1.0**
	SNR=15								
HOQ	**Hoqain**	**65.31**	**284**	P		**P**	**00 23 37.7**	**+1.3**
	SNR=12								
INK	**Inuvik**	**65.51**	**24**	*e*P		**P**	**00 23 37.2**	**+0.3**
	comp=Z,40nm,0.8s								
INK	**Inuvik**	**65.51**	**24**	LR		LR	00 56 25.2		
	comp=Z,654nm,18.4s,baz=115,slow=40								
ISFB	**Sefidab**	**65.68**	**297**	*e*P		**P**	**00 23 38.5**	**-0.3**
BSY	**Bisya**	**65.72**	**284**	P		**P**	**00 23 40.3**	**+1.2**
	SNR=15								
HATD	**Hatta, Dubai**	**65.84**	**286**	P		**P**	**00 23 41.6**	**+1.7**
	SNR=10								
LVZ	**Lovozero**	**65.91**	**336**	PFAKE			00 23 50.0	+10	
LVZ					LR	LR			
	comp=Z,1µm,19.0s								
KLMR	**Klimovskoe**	**65.91**	**328**	*e*P		**P**	**00 23 39.3**	**-0.4**
KLMR					pmax	pmax			
	comp=Z,155nm,1.4s								
KLMR					pmax	pmax			
	comp=Z,150nm,4.9s								
KLMR					MLR	MLR			
	comp=Z,4µm,16.0s								
ASHO	**Ashiyiah**	**65.96**	**286**	P		**P**	**00 23 42.1**	**+1.4**
	SNR=14								
ARQ	**Araqi**	**66.07**	**284**	P		**P**	**00 23 42.9**	**+1.5**
	SNR=14								
CAN	**Canberra**	**66.08**	**164**	PFAKE			00 23 50.0	+8.9	
CAN					LR	LR			
	comp=Z,714nm,20.0s								
CAN	**Canberra**	**66.08**	**164**	*e*P		**P**	**00 23 40.7**	**-0.3**
	comp=Z,9.3nm,1.0s								
IZEF	**Zefreh**	**66.10**	**296**	*e*P		**P**	**00 23 41.5**	**-0.2**
MAK	**Makhachkala**	**66.44**	**307**	P		**P**	**00 23 43.3**	**-0.1**
MAK				*i*			00 24 15.9		
MAK				*e*PPP		PPP	00 27 46.1		
MAK				*e*S		**S**	**00 32 33.7**	**+1.4**
MAK				*e*SS		**SS**	**00 36 43

comp=Z,163nm,1.5s
MOS pmax pmax
comp=Z,400nm,2.0s
MOS MLR MLR
comp=Z,4µm,17.0s
MOS MLR MLR
comp=N,2µm,16.0s
MOS MLR MLR
comp=E,3µm,16.0s
IBST Bostanabad 68.62 302 *e*P **P 00 23 58.2 +0.6**
ALE Alert 68.65 2 P **P 00 23 57.0 +0.3**
comp=E,298nm,1.0s,SNR=32
JOF Joensuu 68.91 331 *e*P **P 00 23 58.8 +0.2**
JOF pmax pmax
comp=Z,48nm,0.6s
JOF Joensuu 68.91 331 *e*p **P 00 23 58.8 +0.2**
comp=Z,48nm,0.6s
VOR Voronezh 68.93 318 P **P 00 23 58.0 -0.9**
VOR pmax pmax
comp=Z,260nm,1.2s
ITBZ Tabriz 68.99 303 *e*P **P 00 24 00.0 +0.2**
ZEI Tsey 69.01 308 *e*P **P 00 24 00.0 +0.1**
ZEI pmax pmax
comp=Z,93nm,1.4s
VSR Storozhevoye 69.13 318 *e*P **P 00 24 00.7 +0.5**
VSR *e*S **S 00 33 00.4 -3.8**
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,40nm,0.9s
VSR pmax pmax
comp=Z,80nm,0.9s
VSR smax smax
comp=N,110nm,1.6s
VSR smax smax
comp=Z,20nm,1.6s
VSR smax smax
comp=E,30nm,0.8s
VSR MLR MLR
comp=N,1µm,16.0s
VSR MLR MLR
comp=E,2µm,16.0s
VSR MLR MLR
comp=Z,4µm,16.0s
VORD Divnogorie 69.14 317 *e*P **P 00 24 00.7 +0.5**
OBN Obninsk 69.23 322⇓ *e*P **P 00 24 00.1 -0.6**
OBN *e**PP **pP 00 24 09.7 +1.4**
OBN *e* 00 24 21.6
OBN pmax pmax
comp=Z,100nm,1.3s
OBN MLR MLR
comp=Z,3µm,17.0s
OBN Obninsk 69.23 322 *e*P **P 00 24 00.4 -0.3**
comp=Z,179nm,1.6s
OBN LR LR
comp=Z,2µm,20.0s
OBN Obninsk 69.23 322 P **P 00 24 00.5 -0.2**
comp=Z,297nm,0.8s,SNR=5.2
GNI Garni 69.33 305 *e*P **P 00 24 03.1 +1.2**
comp=Z,54nm,1.0s
GNI Garni 69.33 305 P **P 00 24 03.2 +1.3**
comp=Z,17nm,0.7s,baz=36,slow=4.6,SNR=19
GNI LR LR 01 00 04.1
comp=Z,995nm,18.0s,baz=238,slow=41
KBZ Khabaz 69.36 309 P **P 00 24 03.4 +1.6**
KBZ pmax pmax
comp=Z,62nm,0.9s
KBZ Khabaz 69.36 309 P **P 00 24 03.4 +1.6**
KBZ Khabaz 69.36 309 P **P 00 24 03.4 +1.6**
comp=Z,62nm,0.9s,baz=98,slow=2.8,SNR=56
KBZ LR LR 01 00 44.9
comp=Z,952nm,18.3s,baz=66,slow=41
KIV Kislovodsk 69.43 310 *e*P **P 00 24 02.9 +0.6**
KIV *e**PP **pP 00 24 11.2 +1.3**
KIV *e* 00 24 17.6
KIV pmax pmax
comp=Z,209nm,1.2s
KIV MLR MLR
comp=Z,700nm,18.0s
KIV Kislovodsk 69.43 310 *e*P **P 00 24 02.9 +0.6**
comp=Z,234nm,1.3s
KIV LR LR
comp=Z,968nm,20.0s
KIV Kislovodsk 69.43 310 P **P 00 24 03.4 +1.1**
SNR=28
KIV Kislovodsk 69.43 310 P **P 00 24 02.1 -0.2**
comp=Z,674nm,1.2s,SNR=20
AFI Afiamalu 69.77 119 LR LR 00 47 25.4
comp=Z,561nm,21.2s,baz=314,slow=30
WRAK Wrangell Islan 69.97 36 *e*P **P 00 24 05.5 +0.3**
comp=Z,15nm,0.8s
WRAK LR LR
comp=Z,335nm,21.0s
IDHR Dehrash 70.08 299 *e*P **P 00 24 06.6 -0.1**
DYDN Diyadin 70.31 305 *i* P **P 00 24 09.2 +1.2**
DLBC Dease Lake 70.35 33 *e*P **P 00 24 08.4 +0.7**
DLBC Dease Lake 70.35 33 P **P 00 24 08.3 +0.7**
comp=Z,8.2nm,0.8s,baz=292,slow=8.1,SNR=24
DLBC LR LR 00 57 36.2
comp=Z,463nm,19.8s,baz=159,slow=38
TRO Tromso 70.44 340 AMS AMS 01 01 55.4
comp=Z,2µm,17.9s
DAGI Agillar 71.00 307 *i* P **P 00 24 13.9 +1.9**
HAKT HÄKKARI 71.03 303 *i* P **P 00 24 13.7 +1.2**
DDEM Demirkent 71.19 307 *i* P **P 00 24 14.1 +1.0**
MIB Mutribah 71.20 294 *e*P **P 00 24 13.2 -0.1**
MIB AMb AMB 00 24 16.2
comp=Z,53nm,1.0s
GEVA Gevas 71.22 304 *i* P **P 00 24 15.3 +1.8**
KAF Kangasniemi 71.36 331 *e*P **P 00 24 12.3 -1.3**
KAF pmax pmax
comp=Z,29nm,0.8s
KAF Kangasniemi 71.36 331 *e*p **P 00 24 12.3 -1.3**
comp=Z,29nm,0.8s
RDF Al-Radifah 71.37 293 *e*P **P 00 24 14.4 0.0**
RDF AMb AMB 00 24 19.5
comp=Z,34nm,0.5s
HOMI Horasan 71.39 306 *i* P **P 00 24 16.4 +1.8**
NAY Al-Naaiem 71.49 294 *e*P **P 00 24 14.8 -0.3**
NAY AMb AMB 00 24 19.7
comp=Z,25nm,1.2s
SOC Sochi 71.56 310 *e*P **P 00 24 15.3 +0.1**
SOC *e**PP **pP 00 24 23.7 +0.8**
SOC *e**SP **sP 00 24 28.2 +2.5**
SOC *e* 00 27 01.1
SOC *e*PPP PPP 00 28 36.3
SOC *e*S S 00 33 26.2 -6.8
SOC *e**SS **SKiKP 00 33 57.7 +4.7**
SOC pmax pmax
comp=Z,77nm,0.8s
FINES FINESS Array B 71.75 331 P **P 00 24 15.3 -0.8**
FINES FINESS Array B 71.75 331 P **P 00 24 15.3 -0.8**
comp=Z,25nm,0.6s,baz=65,slow=5.9,SNR=107
FINES LR LR 01 00 09.7
comp=Z,1µm,20.1s,baz=240,slow=40
ERZM Erzurum 71.83 306 *i* P **P 00 24 18.5 +1.2**
BHD Baghdad 72.17 299 *ex* P **P 00 24 18.0 -1.0**
BHD *ex* **S 00 33 39.0 -1.2**
BNGL BINGOL 72.36 305 *i* P **P 00 24 22.8 +2.4**
STEI Steigen 72.48 339 *e*P **P 00 24 21.5 +1.3**
RES Resolute Bay 72.50 12 *e*P **P 00 24 20.3 +0.1**
comp=Z,54nm,0.8s
RES Resolute Bay 72.50 12 P **P 00 24 20.4 +0.1**
comp=Z,38nm,0.7s,baz=304,slow=6.6,SNR=212
RES LR LR 01 01 12.5
comp=Z,414nm,19.2s,baz=305,slow=40
ANN Anapa 72.60 312 *e*P **P 00 24 21.4 0.0**
ANN *e*S **S 00 33 42.3 -2.5**
ANN pmax pmax
comp=Z,225nm,1.2s
ANN MLR MLR
comp=N,752nm,19.0s
ANN MLR MLR
comp=E,945nm,19.0s
ANN MLR MLR
comp=Z,1µm,19.0s
BEST Besiri 72.69 304 *i* P **P 00 24 23.6 +1.4**
VSU Vasula 72.82 328 *c i* P **P 00 24 22.6 +0.2**
DAG Danmarks Havn 72.95 353⇓ *i* P **P 00 24 22.4 -0.5**
DAG *i* 00 24 36.6
DAG pmax pmax
comp=Z,13nm,0.9s
DAG Danmarks Havn 72.95 353⇓ *i* P **P 00 24 22.4 -0.5**
comp=Z,129nm,0.9s
DAG *i* 00 24 36.6
KELT Kelkit 73.23 307 *i* P **P 00 24 22.5 -3.0**

MARD Mardin 73.27 304 *i* P **P 00 24 26.8 +1.1**
MOR8 Moi Rana 73.75 338 *e*P **P 00 24 28.1 +0.3**
KEMA Kemaliye 74.12 306 *i* P **P 00 24 32.0 +1.3**
NACGM Naroch 74.45 324 *e* **P 00 24 30.0 -2.1**
SIM Simferopol' 74.69 313 *ce*P **P 00 24 34.4 +0.7**
SIM S **S 00 34 13.4 +5.0**
SIM pmax pmax
comp=Z,63nm,0.7s
AKCD Akcadag 74.93 306 *i* P **P 00 24 37.0 +1.6**
AKASG Malin Array Be 75.09 320 P **P 00 24 35.7 -0.2**
AKASG pmax pmax
comp=Z,55nm,0.7s
AKASG MLR MLR
comp=Z,3µm,18.4s
AKASG Malin Array Be 75.09 320 P **P 00 24 35.7 -0.2**
AKASG Malin Array Be 75.09 320 P **P 00 24 35.7 -0.2**
comp=Z,55nm,0.7s,baz=58,slow=6.3,SNR=106
AKASG LR LR 01 01 06.0
comp=Z,3µm,18.4s,baz=60,slow=39
KIEV Kiev 75.10 320 *e*P **P 00 24 35.1 -0.8**
KIEV pmax pmax
comp=Z,65nm,0.9s
KIEV MLR MLR
comp=Z,2µm,19.0s
KIEV Kiev 75.10 320 *e*P **P 00 24 35.1 -0.8**
comp=Z,64nm,0.9s
KIEV LR LR
comp=Z,2µm,19.0s
YKA Yellowknife Ar 75.11 26 P **P 00 24 35.6 -0.1**
YKA Yellowknife Ar 75.11 26 P **P 00 24 35.6 -0.1**
comp=Z,18nm,0.8s,baz=298,slow=5.7,SNR=312
RAYN Ar Rayn 75.26 289 P **P 00 24 37.5 +0.1**
comp=Z,264nm,1.1s,SNR=25
NSS Namsos 75.56 337 *e*P **P 00 24 36.5 -1.8**
GZT Gaziantep 75.59 305 *i* P **P 00 24 40.0 +0.8**
PINB Pinarbasi 75.85 306 *i* P **P 00 24 40.8 0.0**
CTKT Corum 76.12 309 *i* P **P 00 24 42.7 +0.5**
KUZU Kuzuini 76.19 304 *i* P **P 00 24 43.2 +0.6**
ANDN Andirin 76.36 305 *i* P P 00 24 48.5 +4.9
JMIC Jan Mayen 76.39 347 LR LR 01 04 52.3
comp=Z,239nm,18.3s,baz=56,slow=41
BALT Daday 76.67 310 *i* P **P 00 24 46.2 +0.9**
SUW Suwalki 76.72 325 *e*P **P 00 24 44.9 -0.2**
SUW Suwalki 76.72 325 *e*P **P 00 24 44.9 -0.2**
SUW Suwalki 76.72 325 *e*P **P 00 24 44.9 -0.2**
SUW Suwalki 76.72 325 *e*P **P 00 24 45.2 +0.1**
comp=Z,167nm,0.9s
CDAG Cicekdag 76.85 308 *i* P **P 00 24 46.2 -0.1**
AVNT Avonos 76.89 307 *i* P **P 00 24 47.4 +0.8**
KIS Kishinev 77.06 317 *e*P **P 00 24 46.0 -1.1**
KIS MLR MLR
comp=E,1µm,15.0s
KIS MLR MLR
comp=Z,2µm,15.0s
KIS MLR MLR
comp=Z,2µm,16.0s
KIS Kishinev 77.06 317 *e*P **P 00 24 46.0 -1.1**
KIS *e*LQ LQ 00 52 34.0
comp=Z,3µm,19.0s
KIS LRM MLR 01 01 42.0
comp=Z,2µm,16.0s
BRTR Keskin Array B 77.31 308 P **P 00 24 49.0 +0.1**
BRTR Keskin Array B 77.31 308 P **P 00 24 49.0 +0.1**
comp=Z,36nm,0.9s,baz=101,slow=4.2,SNR=108
BRTR LR LR 01 06 31.2
comp=Z,616nm,18.9s,baz=189,slow=42
HFS Hagfors 77.59 333 LR LR 01 03 10.7
comp=Z,2µm,18.1s,baz=38,slow=39
LEOM Leova 77.65 316⇑ P **P 00 24 51.2 +0.7**
LEOM Leova 77.65 316⇑ *i* P **P 00 24 51.2 +0.7**
TLCR 77.92 315⇑ P **P 00 24 52.9 +0.9**
TLCR 77.92 315⇑ *i* P **P 00 24 52.8 +0.8**
NB2 NORSAR Subarra 78.00 334 P **P 00 24 51.4 -0.8**
baz=49,slow=5.6
NB2 NORSAR Subarra 78.00 334 P **P 00 24 51.4 -0.8**
comp=Z,44nm,0.8s,baz=49,slow=5.6
NOA NORSAR Array B 78.00 334 P **P 00 24 51.3 -1.0**
NOA NORSAR Array B 78.00 334 P **P 00 24 51.3 -1.0**
comp=Z,16nm,0.6s,baz=50,slow=5.5,SNR=43
NOA LR LR 01 03 36.4
comp=Z,1µm,18.4s,baz=20,slow=39
NC602 NORSAR Array S 78.07 334 *e*P **P 00 24 51.8 -0.7**
PGC Sidney 78.28 41 *e*P **P 00 24 54.2 +0.3**
comp=Z,1.2nm,0.9s
CFR Carcaliu 78.35 315⇑ P **P 00 24 54.7 +0.3**
CFR Carcaliu 78.35 315⇑ *i* P **P 00 24 54.7 +0.3**
ASF Jabal al Asfar 78.35 300 P **P 00 24 54.7 -0.1**
ASF Jabal al Asfar 78.35 300 P **P 00 24 54.7 -0.1**
comp=Z,22nm,1.0s,baz=27,slow=2.3,SNR=16
ASF LR LR 01 08 27.2
comp=Z,661nm,18.9s,baz=295,slow=43
GHRR 78.36 316⇓ *i* P **P 00 24 57.2 +2.8**
LVV L'vov 78.43 321 *e*P **P 00 24 54.7 -0.1**
TIRR Tirgusor 78.53 314⇓ P **P 00 24 56.7 +1.3**
TIRR Tirgusor 78.53 314⇓ *i* P **P 00 24 56.7 +1.3**
SUMG Summit 78.56 357 *i* P **P 00 24 56.4 +0.8**
SUMG *i* 00 25 08.1
SUMG pmax pmax
comp=Z,23nm,0.8s
SUMG Summit 78.56 357 *e*P **P 00 24 56.2 +0.6**
comp=Z,1µm,3.0s
SUMG Summit 78.56 357 *i* P **P 00 24 56.4 +0.8**
comp=Z,23nm,0.8s
SUMG *i* 00 25 08.1
TESR 78.59 317⇓ *i* P **P 00 24 56.1 +0.3**
PETR 78.64 316⇑ *i* P **P 00 24 58.9 +3.0**
NLWA Neilton Lookou 78.67 42 *e*P **P 00 24 57.1 +1.0**
comp=Z,214nm,2.3s
VRI Vrincioaia 78.87 316 ⇓ P **P 00 24 58.7 +1.4**
VRI Vrincioaia 78.87 316⇓ *i* P **P 00 24 58.7 +1.4**
BURAR Bucovina Array 78.88 318⇓ *i* P **P 00 24 58.1 +0.6**
PLOR Plostina 78.92 316 ⇓ P **P 00 24 59.1 +1.5**
PLOR Plostina 78.92 316⇓ *i* P **P 00 24 59.1 +1.5**
GRER 78.96 316⇓ *i* P **P 00 25 00.1 +2.3**
SCO Scoresbysund 79.05 351⇓ *i* P **P 00 24 58.4 +0.7**
SCO pmax pmax
comp=Z,20nm,1.0s
SCO Scoresbysund 79.05 351⇓ *i* P **P 00 24 58.4 +0.7**
comp=Z,20nm,1.0s
MMAI Mount Meron Ar 79.09 302 LR LR 01 08 17.1
comp=Z,800nm,19.0s,baz=60,slow=42
BEL Belsk 79.10 324 *e*P **P 00 24 59.4 +1.0**
BEL Belsk 79.10 324 *e*P **P 00 24 59.4 +1.0**
BEL Belsk 79.10 324 *e*P **P 00 24 59.4 +1.0**
PGOR Pogoanele 79.19 315⇑ P **P 00 25 00.9 +1.9**
KWP Kalwaria Pacla 79.26 321 *e*P **P 00 25 00.2 +0.9**
KWP Kalwaria Pacla 79.26 321 *e*P **P 00 25 00.2 +0.9**
KWP Kalwaria Pacla 79.26 321⇑ P **P 00 25 00.5 +1.2**
KWP Kalwaria Pacla 79.26 321 *e*P **P 00 24 59.9 +0.6**
comp=Z,133nm,0.9s
KWP LR LR
comp=Z,2µm,19.0s
KWP Kalwaria Pacla 79.26 321⇑ *i* P **P 00 25 00.5 +1.2**
SEYT Eskypehyr 79.31 309 *i* P **P 00 24 59.9 0.0**
KONO Kongsberg 79.51 334 AMS AMS 01 05 51.0
comp=Z,2µm,18.8s
KONO Kongsberg 79.51 334 *e*P **P 00 24 59.4 -1.1**
KONO pmax pmax
comp=Z,85nm,1.6s
KONO MLR MLR
comp=Z,2µm,20.0s
KONO Kongsberg 79.51 334 *e*P **P 00 24 59.4 -1.1**
comp=Z,85nm,1.6s
KONO LR LR
comp=Z,2µm,20.0s
MLR Muntele Rosu 79.53 316⇑ *i* P **P 00 25 01.6 +0.5**
MSEY Mahe Island 79.61 259 PFAKE 00 25 10.0 +8.1
MSEY LR LR
comp=Z,728nm,19.0s
SECR 79.69 316⇓ *i* P **P 00 25 03.8 +2.0**
CSS Prodhromos 79.72 304 *e*P **P 00 25 02.2 0.0**
comp=Z,51nm,1.0s
CSS LR LR
comp=Z,625nm,20.0s
SULR 79.75 315⇑ *i* P **P 00 25 01.5 -0.6**
BMR Baia Mare 79.85 319 ⇓ P **P 00 25 03.4 +0.8**
BMR Baia Mare 79.85 319⇓ *i* P **P 00 25 03.4 +0.8**
KOLS Kolonicke sedl 79.87 321 *e*P **P 00 25 03.4 +0.7**
KOLS pmax pmax
comp=Z,17nm,0.8s
KOLS Kolonicke sedl 79.87 321 *e*P **P 00 25 03.4 +0.7**
UZH Uzhgorod 80.02 320⇑ *i* P **P 00 25 03.6 +0.1**
UZH *i* 00 25 09.0
UZH *i* 00 25 15.4

UZH *e* 00 30 01.4
UZH *e*S **S 00 35 04.8 -1.3**
UZH *e*PS **PnS 00 36 00.2 +8.2**
UZH MLR MLR
comp=N,800nm,16.0s
UZH MLR MLR
comp=E,2µm,16.0s
UZH MLR MLR
comp=Z,1µm,16.0s
GKP Gorka Klasztor 80.08 326 *e*P **P 00 25 04.3 +0.6**
GKP Gorka Klasztor 80.08 326 *e*P **P 00 25 04.3 +0.6**
GKP Gorka Klasztor 80.08 326 *e*P **P 00 25 04.3 +0.6**
BSD Bornholm Skovb 80.10 328⇓ *i* P **P 00 25 03.7 0.0**
BSD *i* 00 25 15.1
BSD pmax pmax
comp=Z,40nm,0.8s
BSD MLR MLR
comp=Z,2µm,16.0s
BSD Bornholm Skovb 80.10 328⇓ *i* P **P 00 25 03.7 0.0**
comp=Z,40nm,0.8s
BSD *i* pP **pP 00 25 15.1 +3.6**
BSD
comp=Z,2µm,16.0s
VOIR 80.10 317⇓ P **P 00 25 04.6 +0.5**
VOIR 80.10 317⇓ *i* P **P 00 25 04.6 +0.5**
MDB Medias 80.14 317⇓ *i* P **P 00 25 04.1 -0.1**
TRPA Tarpa 80.15 320⇓ *i* P **P 00 25 04.9 +0.7**
TRPA Tarpa 80.15 320 ⇓ P **P 00 25 04.8 +0.6**
LON Longmire 80.21 42 *e*P **P 00 25 04.9 +0.3**
LON pmax pmax
comp=Z,77nm,2.3s
LON Longmire 80.21 42 *e*P **P 00 25 04.9 +0.3**
comp=Z,77nm,2.3s
CRVS Cervenica-Dubn 80.34 321 *e*P **P 00 25 06.4 +1.2**
CRVS pmax pmax
comp=Z,141nm,2.0s
CRVS Cervenica-Dubn 80.34 321 *e*P **P 00 25 06.4 +1.2**
ISP Isparta 80.35 308 PFAKE 00 25 20.0 +14
ISP LR LR
comp=Z,740nm,20.0s
ISP Isparta 80.35 308⇓ *i* P **P 00 25 03.8 -1.8**
OJC Ojcow 80.51 323 *e*P **P 00 25 06.1 0.0**
OJC *e*pP **pP 00 25 15.0 +1.1**
OJC *e*sP **sP 00 25 19.1 +2.4**
OJC *e*S **S 00 35 09.0 -2.3**
OJC L L 01 04 55.1
comp=Z,4µm,17.3s
OJC Ojcow 80.51 323 *e*P **P 00 25 06.8 +0.7**
OJC *e**PP **pP 00 25 15.0 +1.1**
OJC *e**SP **sP 00 25 19.5 +2.8**
OJC *e*S **S 00 35 09.0 -2.3**
OJC MLR MLR
comp=Z,4µm,17.3s
OJC Ojcow 80.51 323 *e*P **P 00 25 06.8 +0.7**
comp=Z,124nm,0.9s
HUMR Humele 80.61 316⇑ *i* P **P 00 25 07.9 +1.1**
KEBM Edson Butte 80.68 46 *e*P **P 00 25 07.4 +0.1**
comp=Z,79nm,1.1s
NIE Niedzica 80.68 322 *e*P **P 00 25 08.0 +0.9**
NIE Niedzica 80.68 322⇓ *e*P **P 00 25 08.3 +1.2**
DRGR 80.77 319 ⇓ P **P 00 25 08.0 +0.3**
DRGR 80.77 319⇓ *i* P **P 00 25 08.0 +0.3**
LOT Lotru 80.86 317⇑ *i* P **P 00 25 09.3 +1.1**
COP Copenhagen 80.86 330⇓ *i* P **P 00 25 08.0 +0.2**
COP *i* 00 25 20.6
COP pmax pmax
comp=Z,23nm,0.8s
COP MLR MLR
comp=Z,1µm,16.0s
COP Copenhagen 80.86 330⇓ *i* P **P 00 25 08.0 +0.2**
comp=Z,23nm,0.8s
COP *i* 00 25 20.6
COP
comp=Z,1µm,16.0s
EIL Elat 80.98 299 LR LR 01 07 39.9
comp=Z,788nm,19.0s,baz=53,slow=41
LLD Lille Linde 81.18 330 *i* P **P 00 25 08.9 -0.6**
LLD *i* 00 25 22.1
LLD pmax pmax
comp=Z,34nm,0.9s
LLD Lille Linde 81.18 330 *i* P **P 00 25 08.9 -0.6**
comp=Z,34nm,0.9s
LLD *i* 00 25 22.1
GZR Gura Zlata 81.48 317 ⇓ P **P 00 25 12.7 +1.2**
GZR Gura Zlata 81.48 317⇓ *i* P **P 00 25 12.7 +1.2**
LIKS Likavka 81.55 322 *e*P **P 00 25 12.8 +1.2**
LIKS pmax pmax
comp=Z,22nm,0.9s
LIKS Likavka 81.55 322 *e*P **P 00 25 12.8 +1.2**
OKC Ostrava-Krasne 81.61 323 *e*P **P 00 25 12.4 +0.5**
OKC *e* 00 25 23.5
OKC MLR MLR
comp=Z,2µm,17.2s
OKC Ostrava-Krasne 81.61 323⇓ *e*P **P 00 25 12.4 +0.5**
OKC *ex* x 00 25 23.5
OKC AMS AMS 01 05 20.0
comp=Z,2µm,17.2s
HUMO Hull Mountain 81.69 46 *e*P **P 00 25 13.5 +0.9**
comp=Z,73nm,1.9s
HAWA Hanford 81.72 41 *e*P **P 00 25 13.1 +0.5**
comp=Z,121nm,2.0s
PSZ Piszkesteto 81.75 321 ⇓ P **P 00 25 13.7 +0.8**
PSZ Piszkesteto 81.75 321 *e*P **P 00 25 13.6 +0.7**
comp=Z,52nm,1.1s
PSZ LR LR
comp=Z,1µm,19.0s
PSZ Piszkesteto 81.75 321⇓ *i* P **P 00 25 13.7 +0.8**
PSZ Piszkesteto 81.75 321 ⇓ P **P 00 25 13.6 +0.7**
MUD Monsted U'grnd 81.77 332 *i* P **P 00 25 11.9 -0.7**
MUD *e* 00 25 21.9
MUD pmax pmax
comp=Z,18nm,0.9s
MUD MLR MLR
comp=Z,2µm,16.0s
MUD Monsted U'grnd 81.77 332 *i* P **P 00 25 11.9 -0.7**
comp=Z,18nm,0.9s
MUD *e* 00 25 21.9
MUD
comp=Z,2µm,16.0s
MORC Moravsky Berou 81.96 323⇑ P **P 00 25 15.0 +1.1**
MORC Moravsky Berou 81.96 323 *e*P **P 00 25 14.5 +0.6**
comp=Z,44nm,0.9s
MORC Moravsky Berou 81.96 323⇑ *i* P **P 00 25 15.0 +1.1**
KSP Ksiaz 81.98 324 *e*P **P 00 25 14.8 +0.9**
KSP Ksiaz 81.98 324 *e*P **P 00 25 14.8 +0.9**
KSP Ksiaz 81.98 324⇓ *e*P **P 00 25 14.8 +0.9**
KSP *e* 00 25 23.0
KSP *e*S **S 00 35 28.0 +1.5**
KSP MLR MLR
comp=Z,6µm,18.0s
MPEP Malo Peshtene 81.99 315 P **P 00 25 15.1 +1.0**
VYHS Vyhne 82.01 322 *e*P **P 00 25 15.1 +1.0**
VYHS pmax pmax
comp=Z,58nm,1.4s
VYHS Vyhne 82.01 322 *e*P **P 00 25 15.1 +1.0**
NEW Newport 82.03 39 *e*P **P 00 25 14.3 0.0**
comp=Z,14nm,0.9s
NEW Newport 82.03 39 ⇓ P **P 00 25 14.3 0.0**
baz=82
BZS Buzias 82.05 318 ⇓ P **P 00 25 15.1 +0.8**
BZS Buzias 82.05 318⇓ *i* P **P 00 25 15.1 +0.8**
KHMM Horse Mountain 82.10 48 *e*P **P 00 25 14.4 -0.5**
comp=Z,186nm,2.2s
KRLC Kraliky 82.19 324⇓ *e*P **P 00 25 15.7 +0.7**
KRLC *e*pP **pP 00 25 23.8 +1.0**
RUE Ruedersdorf 82.24 327 *e*P **P 00 25 16.1 +1.0**
comp=Z,246nm,1.4s
DPC Dobruska-Polom 82.26 324⇓ *i* P **P 00 25 16.4 +1.0**
DPC *e* 00 25 24.4
DPC *e* 00 35 28.6
DPC MLR MLR
comp=Z,3µm,16.8s
DPC Dobruska-Polom 82.26 324 *e*P **P 00 25 16.4 +1.0**
comp=Z,237nm,1.7s
DPC Dobruska-Polom 82.26 324⇓ *i* P **P 00 25 16.4 +1.0**
DPC *e*pP **pP 00 25 24.4 +1.2**
DPC *e*S **S 00 35 28.6 -0.9**
DPC AMS AMS 01 05 30.0
comp=Z,3µm,16.8s
YBH Yreka Blue Hor 82.30 46 LR LR 01 02 19.2
comp=Z,203nm,18.2s,baz=34,slow=36
UPC Upice 82.33 324⇓ *i* P **P 00 25 16.6 +0.9**
UPC *e* 00 25 24.6
UPC Upice 82.33 324⇓ *i* P **P 00 25 16.6 +0.9**

UPC ep P pP 00 25 24.6 +1.1
A12A Yaak River Ran 82.44 38 ⇑P P 00 25 17.3 +0.8
baz=82,SNR=15
BUD Budapest 82.48 321 ⇓P P 00 25 17.1 +0.5
PKS6 Bocsa 82.68 320 ⇓P P 00 25 19.5 +1.9
VTS Vitosha 82.73 315 ⇑P P 00 25 18.9 +0.7
VTS Vitosha 82.73 315 ⇑*i*P P 00 25 18.9 +0.7
VTS Vitosha 82.73 315 P P 00 25 19.0 +0.7
VRAC Vranov 82.74 323 ⇓*i*P P 00 25 19.2 +1.3
VRAC Vranov 82.74 323 LR LR 01 06 23.7
comp=Z,2μm,18.6s,baz=58,slow=39
B12A Libby 82.75 38 ⇑P P 00 25 18.3 +0.2
baz=83
C11A Tepee Creek (N 82.75 39 ⇓P P 00 25 18.6 +0.5
baz=83
KIPM Iron Peak 82.82 48 *e*P P 00 25 19.4 +0.7
PKSG 82.89 321 ⇑P P 00 25 19.7 +1.0
BSEG Bad Segeberg 82.93 329 *e*P P 00 25 18.6 -0.1
comp=Z,130nm,1.2s
BSEG *ep* P 00 25 29.2 +2.7
BSEG Bad Segeberg 82.93 329 *e*P P 00 25 18.6 -0.1
BSEG *e**PP pP 00 25 29.2 +2.7
BSEG pmax pmax
comp=Z,130nm,1.2s
MMB Musomiste 82.94 314 P P 00 25 19.0 -0.2
PVCC Panska Ves 83.05 325 ⇓*i*P P 00 25 20.4 +0.9
PVCC *e* 00 25 28.5
PVCC MLR MLR
comp=Z,4μm,15.1s
PVCC Panska Ves 83.05 325 ⇓*i*P P 00 25 20.4 +0.9
PVCC *ep* P 00 25 28.5 +1.3
PVCC AMS AMS 01 07 00.0
comp=Z,4μm,15.1s
A13A Flathead Natio 83.10 37 ⇑P P 00 25 20.1 +0.2
baz=83,SNR=12
BRG Berggiesshubel 83.15 325 *i* P P 00 25 20.4 +0.4
comp=Z,135nm,1.5s
BRG *i* 00 25 31.9
comp=Z,70nm,1.1s
BRG S S 00 35 36.0 -2.4
BRG SS SS 00 41 02.0 +0.2
BRG *e*PKPPKP P'P'df 00 51 47.5 -3.5
comp=Z,1.2nm,1.5s
BRG
comp=N,2μm,17.0s
BRG
comp=E,2μm,16.3s
BRG
comp=Z,4μm,16.2s
BRG Berggiesshubel 83.15 325 *e*P P 00 25 20.1 +0.1
comp=Z,135nm,1.5s
BRG Berggiesshubel 83.15 325 *i* P P 00 25 20.4 +0.4
BRG *i* 00 25 31.9
BRG S S 00 35 36.0 -2.4
BRG SS SS 00 41 02.0 +0.2
BRG pmax pmax
comp=Z,135nm,1.5s
BRG pmax pmax
comp=Z,1.0nm,1.5s
BRG MLR MLR
comp=N,2μm,17.0s
BRG MLR MLR
comp=E,2μm,16.3s
BRG MLR MLR
comp=Z,4μm,16.2s
PKST T"s 83.16 321 ⇓P P 00 25 20.4 +0.3
C12B Naegeli Ranch, 83.26 39 ⇓P P 00 25 20.9 +0.2
baz=83
WALA Waterton Lakes 83.29 37 *e*P P 00 25 21.0 +0.1
comp=Z,2.2nm,1.6s
TREC Trest 83.33 323 ⇓*i*P P 00 25 21.7 +0.7
TREC MLR MLR
comp=Z,3μm,17.6s
TREC Trest 83.33 323 ⇓*i*P P 00 25 21.7 +0.7
TREC AMS AMS 01 06 30.0
comp=Z,3μm,17.6s
CLL Collm 83.34 326 *e*P P 00 25 20.7 -0.3
comp=Z,265nm,1.6s
CLL Collm 83.34 326 ⇓*i*P P 00 25 21.4 +0.4
CLL *i* *SP sP 00 25 33.3 +1.8
CLL *e*S S 00 35 39.0 -1.3
CLL pmax pmax
comp=Z,265nm,1.6s
CLL Collm 83.34 326 ⇓*i*P P 00 25 21.4 +0.4
comp=Z,265nm,1.6s
CLL *i* pP pP 00 25 30.0 +1.3
CLL *i* sP sP 00 25 33.3 +1.8
CLL *e*S S 00 35 39.0 -1.3
CLL *e*SS SS 00 41 06.0 +1.4
CLL *e* 00 41 48.0
CLL *e* 00 45 42.0
CLL *e*SSSS 00 47 24.0
PRU Pruhonice 83.39 324 ⇓*i*P P 00 25 21.9 +0.7
PRU *e* 00 25 28.7
PRU *e* 00 35 39.8
PRU MLR MLR
comp=Z,3μm,16.8s
PRU Pruhonice 83.39 324 ⇓*i*P P 00 25 21.9 +0.7
PRU *ep* P 00 25 28.7 -0.3
PRU *e*S S 00 35 39.8 -1.1
PRU AMS AMS 01 06 40.0
comp=Z,3μm,16.8s
PRA Prague 83.40 325 ⇓P P 00 25 22.0 +0.7
PRA pP pP 00 25 35.0 +6.0
PRA AMS AMS 01 06 30.0
B13A Whitefish 83.41 38 ⇓P P 00 25 22.1 +0.6
baz=83
PKS9 Tamasi 83.42 320 ⇓P P 00 25 23.1 +1.7
PKSM Moragy 83.43 320 ⇑P P 00 25 22.2 +0.7
PKSM Moragy 83.43 320 ⇑*i*P P 00 25 22.2 +0.7
PKSM Moragy 83.43 320 ⇓P P 00 25 21.8 +0.3
BSMT Bassoo Peak 83.55 38 *e*P P 00 25 22.9 +0.5
A14A Double T Ranch 83.60 37 ⇓P P 00 25 22.8 +0.2
baz=83,SNR=21
BLMT Blacktail Moun 83.68 38 *e*P P 00 25 23.6 +0.5
D12A Red Ives Fores 83.71 39 ⇓P P 00 25 23.1 0.0
baz=84
SOP Sopron 83.72 322 ⇓P P 00 25 23.9 +0.9
MOD Modoc 83.73 45 *e*P P 00 25 23.6 +0.2
comp=Z,21nm,0.8s
C13A Hot Springs 83.77 38 ⇑P P 00 25 23.6 +0.3
baz=84,SNR=16
RHK3 Tenkes 83.84 320 ⇑P P 00 25 24.4 +0.8
BMO Blue Mountains 83.88 42 *e*P P 00 25 24.1 +0.1
BMO pmax pmax
comp=Z,134nm,2.0s
BMO Blue Mountains 83.88 42 *e*P P 00 25 24.1 +0.1
comp=Z,134nm,2.0s
JTMT Jette 83.88 38 *e*P P 00 25 24.4 +0.4
CONA Conrad Observa 83.95 322 ⇓*i*PcP P 00 25 25.4 +1.1
comp=Z,167nm,1.3s,SNR=60
A15A Johnson Ranch, 83.96 36 ⇑P P 00 25 24.1 -0.2
baz=84,SNR=17
YBMT Yellow Bay 83.96 38 *e*P P 00 25 24.5 +0.1
comp=Z,39nm,1.7s
NRDL Niedersach Rie 83.96 328 *e*P P 00 25 24.0 0.0
E12A Beaver Dam Sad 83.97 40 ⇑P P 00 25 24.8 +0.3
baz=84
B14A Marquette Ranc 84.05 37 ⇓P P 00 25 25.3 +0.5
baz=84,SNR=14
C14A Swan Lake 84.16 38 ⇑P P 00 25 25.5 +0.1
baz=84
TANN Tannenbergstha 84.17 326 *e*P P 00 25 25.3 0.0
D13A Huson 84.18 39 ⇑P P 00 25 25.5 +0.1
baz=84
SWMT Swartz Lake 84.18 38 *e*P P 00 25 25.5 0.0
BORG Borgarnes 84.21 348 LR LR 01 02 09.3
comp=Z,607nm,19.7s,baz=148,slow=35
CLZ Clausthal 84.27 328 *e*P P 00 25 26.0 +0.3
comp=Z,212nm,1.1s
CLZ Clausthal 84.27 328 *e*P P 00 25 26.0 +0.3
CLZ pmax pmax
comp=Z,212nm,1.1s
NKC Novy Kostel 84.29 325 ⇓*i*P P 00 25 26.4 +0.5
NKC *e* 00 25 34.6
NKC *e* 00 35 51.8
NKC MLR MLR
comp=Z,4μm,15.9s
NKC Novy Kostel 84.29 325 ⇓*i*P P 00 25 26.4 +0.5
NKC *ep* P 00 25 34.6 +0.9
NKC *e*S S 00 35 51.8 +1.8
NKC AMS AMS 01 07 30.0
comp=Z,4μm,15.9s
BEHE Becsehely 84.33 321 ⇓P P 00 25 26.6 +0.5
OHCM Honcut 84.37 48 *e*P P 00 25 26.2 -0.3

KHC Kasperske Hory 84.42 324 ⇓*i*P P 00 25 26.9 +0.4
KHC *e* 00 25 36.6
KHC *e* 00 35 52.4
KHC MLR MLR
comp=Z,3μm,16.8s
KHC Kasperske Hory 84.42 324 *e*P P 00 25 26.9 +0.4
comp=Z,71nm,1.2s
KHC Kasperske Hory 84.42 324 ⇓*i*P P 00 25 26.9 +0.4
KHC *ep* P 00 25 36.6 +2.3
KHC *e*S S 00 35 52.4 +1.1
KHC AMS AMS 01 07 00.0
comp=Z,3μm,16.8s
SFJD Kangerlussuaq 84.42 1 *e*P P 00 25 25.8 -0.3
comp=Z,84nm,1.4s
SFJD Kangerlussuaq 84.42 1 *i* P P 00 25 25.5 -0.7
comp=Z,19nm,0.8s
SFJD Kangerlussuaq 84.42 1 LR LR 01 07 19.4
comp=Z,744nm,19.0s,baz=347,slow=39
MOX Moxa 84.44 326 *e*P P 00 25 26.6 0.0
comp=Z,109nm,1.3s
MOX Moxa 84.44 326 *e*P P 00 25 26.6 0.0
MOX pmax pmax
comp=Z,109nm,1.3s
B15A Bradely Ranch, 84.46 37 ⇓P P 00 25 27.0 +0.1
baz=84,SNR=11
WVOR Wild Horse Val 84.46 44 *e*P P 00 25 26.9 -0.2
WVOR pmax pmax
comp=Z,26nm,1.1s
WVOR Wild Horse Val 84.46 44 *e*P P 00 25 26.9 -0.2
comp=Z,26nm,1.1s
GEC2 GERESS Array S 84.53 324 *e*P P 00 25 27.0 -0.2
comp=Z,73nm,1.2s
GEC2 GERESS Array S 84.53 324 *e*P P 00 25 27.0 -0.2
GEC2 pmax pmax
comp=Z,73nm,1.2s
GERES GERESS Array B 84.53 324 P P 00 25 27.5 +0.3
GERES PKKPbc **PKKPbc** 00 43 36.6 -1.4
GERES GERESS Array B 84.53 324 P P 00 25 27.5 +0.3
comp=Z,16nm,0.8s,baz=46,slow=4.6,SNR=62
GERES PKKPbc **PKKPbc** 00 43 36.6 -1.4
comp=Z,0.6nm,0.8s,baz=242,slow=2.9,SNR=6.1
GERES LR LR 01 07 39.6
comp=Z,2μm,19.5s,baz=226,slow=39
F12A Elk City 84.53 40 ⇓P P 00 25 27.2 -0.1
baz=84,SNR=31
ARSA Arzberg 84.54 322 *i* PcP P 00 25 27.9 +0.7
comp=Z,101nm,1.6s,SNR=29
A16A West Butte Ran 84.57 36 ⇓P P 00 25 27.5 +0.1
baz=84
SLMT Seeley Lake 84.61 38 *e*P P 00 25 27.7 -0.1
MSO Missoula 84.62 39 *e*P P 00 25 27.2 -0.5
comp=Z,46nm,2.0s
MSO Missoula 84.62 39 ⇓P P 00 25 27.4 -0.4
baz=84,SNR=6.4
KOGS Kog 84.63 321 *i* P P 00 25 27.8 +0.2
KOGS *ep* P 00 25 40.5 +5.1
D14A Greenough 84.70 38 ⇑P P 00 25 27.5 -0.7
baz=84,SNR=7.6
ROTZ Rotzenmuhle 84.71 325 *e*P P 00 25 28.4 +0.4
C15A Salmond Ranch, 84.76 37 ⇓P P 00 25 28.7 +0.2
baz=85,SNR=14
WET Wettzell 84.77 324 *e*P P 00 25 28.5 +0.2
comp=Z,67nm,1.3s
WET Wettzell 84.77 324 *e*P P 00 25 28.5 +0.2
WET pmax pmax
comp=Z,67nm,1.3s
B16A M & M Farms, S 84.84 36 ⇑P P 00 25 28.7 -0.1
baz=85,SNR=12
MOA Molln 84.85 323 ⇑*i*PcP P 00 25 29.1 +0.3
comp=Z,73nm,1.1s,SNR=46
G12A Big Creek, Yel 84.86 41 ⇑P P 00 25 28.6 -0.5
baz=85,SNR=10
CHMT Chamberlain Mo 84.94 38 *e*P P 00 25 28.9 -0.6
A17A Triple J Farms 85.03 36 ⇑P P 00 25 29.6 -0.1
baz=85,SNR=9.5
F13A Darby 85.03 40 ⇓P P 00 25 29.2 -0.7
baz=85,SNR=8.1
GROS Grobnik 85.03 321 *i* P P 00 25 30.0 +0.2
GROS *ep* P 00 25 42.8 +5.2
UBBA Unterbreizbach 85.11 327 *e*P P 00 25 30.5 +0.7
E14A Clinton 85.12 39 ⇓P P 00 25 30.0 -0.3
baz=85,SNR=6.9
FFC Flin Flon 85.14 28 *ce*P P 00 25 29.8 -0.3
FFC Flin Flon 85.14 28 *e*P P 00 25 29.3 -0.7
comp=Z,25nm,0.9s
SOKA Soboth 85.16 322 ⇑*i*PcP P 00 25 30.9 +0.5
comp=Z,153nm,1.2s
IBBN Ibbenburen 85.16 329 *e*P P 00 25 29.8 -0.4
C16A Fuhringer Ranc 85.20 37 ⇓P P 00 25 30.5 -0.1
baz=85,SNR=18
GRF Grafenberg Arr 85.25 326 *e*P P 00 25 31.0 +0.3
comp=Z,247nm,1.3s
GRF *e*L L 01 07 10.2
comp=Z,1μm,21.5s
GRF Grafenberg Arr 85.25 326 *e*P P 00 25 31.0 +0.3
GRF pmax pmax
comp=Z,247nm,1.3s
GRF MLR MLR
comp=Z,1μm,21.5s
GRFO Grafenberg 85.25 326 *e*P P 00 25 30.7 0.0
GRFO pmax pmax
comp=Z,244nm,1.4s
GRFO Grafenberg 85.25 326 *e*P P 00 25 30.7 0.0
comp=Z,244nm,1.4s
D15A Lincoln 85.26 38 ⇓P P 00 25 30.4 -0.6
baz=85
B17A L&G Farms, Che 85.39 36 ⇑P P 00 25 31.3 -0.2
baz=85,SNR=26
H12A Diamond D Ranc 85.47 41 ⇑P P 00 25 32.1 -0.1
baz=85,SNR=31
A18A Metzger Ranch, 85.48 35 ⇑P P 00 25 31.8 -0.1
baz=85,SNR=7.2
TIR Tirane 85.50 315 PFAKE
TIR LR LR
comp=Z,2μm,19.0s
G13A Cobalt 85.50 40 ⇓P P 00 25 31.5 -0.8
baz=85,SNR=7.8
WCN Washoe City 85.51 47 *e*P P 00 25 32.8 +0.4
WCN pmax pmax
comp=Z,207nm,2.3s
WCN Washoe City 85.51 47 *e*P P 00 25 32.8 +0.4
comp=Z,207nm,2.3s
WCN Washoe City 85.51 47 ⇓P P 00 25 32.4 0.0
baz=85
OBKA Obir 85.53 322 ⇑*i*PcP P 00 25 32.5 +0.3
comp=Z,36nm,0.8s,SNR=39
F14A Wisdom 85.55 39 ⇓P P 00 25 32.5 0.0
baz=85,SNR=7.4
E15A Deer Lodge 85.58 38 ⇑P P 00 25 32.5 -0.1
baz=85,SNR=7.9
MFID Camas Ranch 85.58 42 *e*P P 00 25 33.2 +0.6
comp=Z,30nm,1.0s
MFID Camas Ranch 85.58 42 ⇑P P 00 25 32.9 +0.2
baz=85,SNR=19
MCD Coleburn Disti 85.68 337 *e*P P 00 25 31.9 -0.8
MCD Coleburn Disti 85.68 337 P P 00 25 31.9 -0.8
RJOB Jochberg 85.69 323 *e*P P 00 25 33.3 +0.3
MVH1 Achvaich 85.72 338 *e*P P 00 25 32.4 -0.5
MVH1 Achvaich 85.72 338 P P 00 25 32.4 -0.5
BOJS Bojanci 85.75 321 *e*P P 00 25 33.9 +0.7
BOJS *i* pP pP 00 25 46.9 +5.8
I12A Atlanta 85.76 42 ⇑P P 00 25 33.8 +0.1
baz=86,SNR=16
D16A Dana Ranch, Ca 85.79 37 ⇑P P 00 25 33.8 +0.2
baz=86,SNR=16
CMB Columbia Colle 85.80 49 *e*P P 00 25 33.6 -0.1
CMB pmax pmax
comp=Z,24nm,0.9s
CMB Columbia Colle 85.80 49 *e*P P 00 25 33.6 -0.1
comp=Z,24nm,0.9s
H13A Challis 85.81 41 ⇑P P 00 25 33.6 -0.2
baz=86,SNR=35
KBA Koelnbreinsper 85.82 323 *i* PcP P 00 25 33.8 -0.1
comp=Z,42nm,0.8s,SNR=48
LJU Ljubljana 85.82 321 *i* P P 00 25 34.1 +0.5
LJU *i* pP pP 00 25 46.9 +5.4
C17A Wharram Farm, 85.83 37 ⇓P P 00 25 33.4 -0.4
baz=86,SNR=11
WTSB Winterswijk 85.83 329 *e*P P 00 25 33.3 -0.2
comp=Z,164nm,1.7s
WTSB *e*X 00 25 45.6
HRY Holter Researc 85.84 38 *e*P P 00 25 34.3 +0.4
G14A Jackson 85.85 40 ⇑P P 00 25 33.3 -0.8
baz=86,SNR=5.5
B18A Beardsley Farm 85.85 36 ⇓P P 00 25 34.2 +0.4
baz=86,SNR=13

MYKA Terra Mystica 85.94 322 ⇓*i*P P 00 25 33.3 -1.0
comp=Z,44nm,1.0s
BUG Bochum--Univer 85.97 329 *e*P P 00 25 33.7 -0.5
F15A Butte 86.02 39 ⇓P P 00 25 35.1 +0.2
baz=86,SNR=18
A19A Klindworth Far 86.03 35 ⇑P P 00 25 34.6 -0.1
baz=86,SNR=19
E16A East Helena 86.03 38 ⇑P P 00 25 35.3 +0.4
baz=86
LRM Limekiln Ridge 86.05 39 *e*P P 00 25 35.4 +0.3
EGMT Eagleton 86.10 36 *e*P P 00 25 35.2 +0.1
comp=Z,40nm,0.9s
EGMT LR LR
comp=Z,384nm,19.0s
EGMT Eagleton 86.10 36 ⇑P P 00 25 34.9 -0.1
baz=86,SNR=15
MDO Dochfour 86.16 338 *e*P P 00 25 33.6 -1.4
MDO Dochfour 86.16 338 P P 00 25 33.6 -1.4
D17A Six Diamond Ra 86.17 37 ⇑P P 00 25 35.4 -0.1
baz=86,SNR=16
VOY Vojsko 86.18 322 *e*P P 00 25 35.0 -0.5
VOY *ep* P 00 25 46.8 +3.5
FUR Furstenfeldbru 86.21 324 *e*P P 00 25 35.8 +0.3
comp=Z,188nm,1.4s
FUR Furstenfeldbru 86.21 324 *e*P P 00 25 35.8 +0.3
FUR pmax pmax
comp=Z,188nm,1.4s
B19A Brinkman Farms 86.24 35 ⇓P P 00 25 35.8 +0.2
baz=86,SNR=13
TNS Taunus Mts 86.25 327 *e*P P 00 25 35.7 0.0
comp=Z,89nm,1.4s
TNS Taunus Mts 86.25 327 *e*P P 00 25 35.7 0.0
TNS pmax pmax
comp=Z,89nm,1.4s
DLMT Dillon 86.26 39 *e*P P 00 25 36.4 +0.4
comp=Z,420nm,2.5s
I13A Wildhorse Cree 86.28 41 ⇑P P 00 25 36.9 +0.7
baz=86,SNR=39
H14A Leadore 86.28 40 ⇑P P 00 25 35.9 -0.3
baz=86
HLID Hailey 86.32 41 *e*P P 00 25 37.0 +0.6
comp=Z,21nm,0.8s
HLID LR LR
comp=Z,420nm,20.0s
HLID Hailey 86.32 41 ⇑P P 00 25 37.4 +1.0
baz=86,SNR=41
FRB Frobisher Bay 86.41 9 LR LR 01 05 37.8
comp=Z,1μm,20.8s,baz=353,slow=37
KAC Achnashellach 86.43 338 *e*P P 00 25 35.4 -0.9
KAC Achnashellach 86.43 338 P P 00 25 35.4 -0.9
G15A Dillon 86.44 39 ⇑P P 00 25 36.9 0.0
baz=86,SNR=37
MCMT McKenzie Canyo 86.44 40 *e*P P 00 25 37.1 +0.1
comp=Z,2.5nm,0.8s
A20A Cobblestone Ra 86.47 34 ⇑P P 00 25 36.7 -0.1
baz=86,SNR=8.0
ABTA Abfaltersbach 86.47 323 ⇑*i*P P 00 25 36.1 -0.8
comp=Z,59nm,0.9s,SNR=20
BMN Battle Mountai 86.48 45 *e*P P 00 25 38.0 +0.8
BMN pmax pmax
comp=Z,167nm,2.1s
BMN MLR MLR
comp=Z,261nm,20.0s
BMN Battle Mountai 86.48 45 *e*P P 00 25 38.0 +0.8
comp=Z,167nm,2.1s
BMN LR LR
comp=Z,261nm,20.0s
TOD Tromm 86.49 327 *e*P P 00 25 36.2 -0.7
TOD Tromm 86.49 327 *e*P P 00 25 36.2 -0.7
E17A Martinsdale 86.52 38 ⇑P P 00 25 37.8 +0.5
baz=86,SNR=21
F16A Kennard Place, 86.53 38 ⇓P P 00 25 37.6 +0.3
baz=86,SNR=13
J13A Cove Ranch, Pi 86.56 41 ⇑P P 00 25 38.4 +0.9
baz=86,SNR=34
D18A Linhart Farms, 86.61 37 ⇑P P 00 25 38.1 +0.5
baz=86
BOZ Bozeman (W) 86.61 39 *e*P P 00 25 38.2 +0.5
BOZ pmax pmax
comp=Z,93nm,2.1s
BOZ MLR MLR
comp=Z,421nm,19.0s
BOZ Bozeman (W) 86.61 39 *e*P P 00 25 38.1 +0.5
comp=Z,93nm,2.1s
BOZ LR LR
comp=Z,421nm,19.0s
BOZ Bozeman (W) 86.61 39 ⇑P P 00 25 38.3 +0.5
baz=86,SNR=12
C19A Slack Wire Ran 86.65 36 ⇓P P 00 25 38.3 +0.5
baz=86,SNR=15
I14A Mackay 86.65 41 ⇑P P 00 25 39.1 +1.1
baz=86,SNR=55
KPL Plockton 86.67 338 *e*P P 00 25 37.2 -0.4
KPL AMB AMB 00 25 49.8
comp=Z,87nm,1.1s
KPL AMS AMS 01 11 17.4
comp=Z,2μm,17.9s
KPL Plockton 86.67 338 P P 00 25 37.2 -0.4
KPL AMB AMB 00 25 49.8
comp=Z,87nm,1.1s
KPL AMS AMS 01 11 17.4
comp=Z,2μm,17.9s
H15A Lima 86.69 40 ⇓P P 00 25 38.0 -0.1
baz=86,SNR=7.1
B20A Solberg Farm, 86.71 35 ⇑P P 00 25 38.0 0.0
baz=86,SNR=7.9
ESY Stoneypath 86.75 336 *e*P P 00 25 37.2 -0.8
ESY Stoneypath 86.75 336 P P 00 25 37.2 -0.8
G16A Moss Hill, Enn 86.78 39 ⇓P P 00 25 39.1 +0.5
baz=87,SNR=13
MOTA Moosalm 86.83 324 ⇓*i*P P 00 25 36.9 -1.9
comp=Z,15nm,0.7s,SNR=16
STU Stuttgart 86.86 326 *e*P P 00 25 38.3 -0.3
comp=Z,80nm,1.7s
STU Stuttgart 86.86 326 *e*P P 00 25 38.9 +0.2
STU pmax pmax
comp=Z,54nm,1.4s
STU Stuttgart 86.86 326 *e*P P 00 25 38.9 +0.2
comp=Z,54nm,1.4s
A21A Bergtoll Ranch 86.89 34 ⇑P P 00 25 39.0 +0.1
baz=87,SNR=14
ABH Alteburg 86.91 327 *e*P P 00 25 38.9 0.0
NVAR Mina Array Bea 86.94 47 P P 00 25 39.5 0.0
NVAR Mina Array Bea 86.94 47 P P 00 25 39.5 0.0
comp=Z,10nm,0.8s,baz=295,slow=5.7,SNR=73
NVAR LR LR 01 02 08.4
comp=Z,257nm,19.4s,baz=163,slow=34
E18A Harlowton 86.95 37 ⇑P P 00 25 39.9 +0.5
baz=87,SNR=18
F17A Fitzpatrick Pl 86.98 38 ⇑P P 00 25 40.0 +0.5
baz=87,SNR=8.5
J14A Carey 86.98 41 ⇑P P 00 25 40.8 +1.1
baz=87
EBL Broad Law 87.01 336 *e*P P 00 25 38.6 -0.6
EBL Broad Law 87.01 336 P P 00 25 38.6 -0.6
MLAC Mammoth Lakes 87.05 48 ⇓P P 00 25 40.3 +0.2
baz=87
HGN Heimansgroeve 87.05 329 *e*P P 00 25 39.1 -0.4
comp=Z,197nm,2.5s
HGN *e*X 00 25 51.7
HGN Heimansgroeve 87.05 329 *e*S S 00 36 06.0 -11
EAU Auchinoon 87.10 336 *e*P P 00 25 38.6 -1.1
EAU Auchinoon 87.10 336 P P 00 25 38.6 -1.1
D19A Cripps Ranch, 87.11 36 ⇓P P 00 25 40.5 +0.5
baz=87,SNR=14
MEM Membach 87.12 328 P P 00 25 40.0 +0.1
comp=Z,16nm,1.4s
EAB Aberfoyle 87.14 337 *e*P P 00 25 39.1 -0.8
EAB Aberfoyle 87.14 337 P P 00 25 39.1 -0.8
BEBN Eben Emael 87.14 329 P P 00 25 38.5 -1.4
comp=Z,16nm,1.8s
I15A Monteview 87.16 40 ⇑P P 00 25 40.5 +0.1
baz=87
C20A Veseth Ranch, 87.20 35 ⇑P P 00 25 41.0 +0.6
baz=87,SNR=6.3
B21A Ellsworth Farm 87.22 34 ⇓P P 00 25 40.5 0.0
baz=87
FETA Feichten 87.23 324 ⇑*i*PcP P 00 25 39.9 -0.8
comp=Z,13nm,1.1s
QLMT Earthquake Lak 87.23 39 *e*P P 00 25 41.6 +0.7
RUP Ruppelstein 87.26 327 *e*P P 00 25 40.6 -0.1
RUP Ruppelstein 87.26 327 *e*P P 00 25 40.6 -0.1
G17A Pierce Place, 87.30 38 ⇑P P 00 25 41.6 +0.5
baz=87,SNR=6.0
A22A Carney Farms, 87.38 34 ⇓P P 00 25 41.3 0.0
baz=87,SNR=17
MTUM Tungsten Hills 87.38 48 *e*P P 00 25 41.0 -0.6

LANF	Langenberg	87.40	326	eP		P		00 25 40.8	-0.5
LANF	Langenberg	87.40	326	eP		P		00 25 40.8	-0.5
LANF	Langenberg	87.40	326	eP		P		00 25 40.8	-0.5
H16A	Russell Place,	87.42	39	⇑P		P		00 25 42.5	+0.8
	baz=87,SNR=18								
ESK	Eskdalemuir	87.43	336	eP		P		00 25 40.3	-1.0
ESK				AMB		AMB		00 25 46.9	
	comp=Z,54nm,4.2s								
ESK	Eskdalemuir	87.43	336	P		P		00 25 40.3	-1.0
ESK				AMB		AMB		00 25 46.9	
	comp=Z,54nm,4.2s								
ESK	Eskdalemuir	87.43	336	eP		P		00 25 40.9	-0.3
ESK				pmax		pmax			
	comp=Z,20nm,0.8s								
ESK				MLR		MLR			
	comp=Z,1µm,19.0s								
ESK	Eskdalemuir	87.43	336	eP		P		00 25 40.9	-0.3
	comp=Z,20nm,0.8s								
ESK				LR		LR			
	comp=Z,1µm,19.0s								
F18A	Big Timber	87.48	38	⇓P		P		00 25 42.2	+0.3
	baz=87,SNR=18								
DAVA	Damuels	87.50	324	⇑iPcP		P		00 25 41.3	-0.7
	comp=Z,20nm,1.0s								
SPAK	Spaichingen-Ko	87.51	325	eP		P		00 25 41.3	-0.6
ELK	Elko	87.52	44	eP		P		00 25 43.0	+0.7
RCTC	Rector, Farmer	87.53	50	⇑P		P		00 25 42.7	+0.6
	baz=87								
D20A	Manuel Ranch,	87.54	36	⇑P		P		00 25 42.6	+0.5
	baz=87,SNR=18								
J15A	Blackfoot	87.56	41	⇑P		P		00 25 43.4	+1.0
	baz=87,SNR=8.3								
BCLA	Clavier	87.58	329	P		P		00 25 41.6	-0.5
	comp=Z,26nm,1.7s								
BFO	Black Forest	87.58	326	eP		P		00 25 41.5	-0.7
	comp=Z,71nm,2.0s								
BFO	Black Forest	87.58	326	eP		P		00 25 41.0	-1.2
BFO				pmax		pmax			
	comp=Z,28nm,1.2s								
BFO				MLR		MLR			
	comp=Z,2µm,20.0s								
BFO	Black Forest	87.58	326	eP		P		00 25 41.0	-1.2
	comp=Z,28nm,1.2s								
BFO				LR		LR			
	comp=Z,2µm,20.0s								
C21A	Desert Coulee	87.58	35	⇓P		P		00 25 42.3	0.0
	baz=87,SNR=9.1								
GCMT	Greycliff	87.58	38	eP		P		00 25 42.3	-0.2
YMR	Madison River	87.59	39	eP		P		00 25 43.6	+1.0
	comp=Z,26nm,0.9s								
E19A	Rath Farm, Rou	87.61	37	⇑P		P		00 25 42.7	+0.2
	baz=87,SNR=25								
K14A	Jones Ranch, D	87.66	42	⇓P		P		00 25 43.8	+0.9
	baz=88,SNR=8.7								
WLF	Walferdange	87.71	328	P		P		00 25 43.1	+0.3
	comp=Z,80nm,1.8s								
WLF	Walferdange	87.71	328	eP		P		00 25 42.8	0.0
WLF	Walferdange	87.71	328	eP		P		00 25 42.9	+0.1
WLF				pmax		pmax			
	comp=Z,160nm,1.5s								
WLF				MLR		MLR			
	comp=Z,1µm,19.0s								
WLF	Walferdange	87.71	328	eP		P		00 25 42.9	+0.1
	comp=Z,160nm,1.5s								
WLF				LR		LR			
	comp=Z,1µm,19.0s								
FUORN	Ofenpass-Fuorn	87.74	324	eP		P		00 25 43.2	-0.1
	comp=Z,51nm,1.1s								
UCC	Uccle	87.74	329	P		P		00 25 43.6	+0.8
FURI	Furi	87.74	279	eP		P		00 25 46.0	+2.1
	comp=Z,32nm,0.8s								
TIN	Tinemaha	87.77	48	⇓P		P		00 25 43.6	+0.1
	baz=88								
I16A	Newdale	87.80	40	⇓P		P		00 25 44.5	+1.0
	baz=88,SNR=9.7								
YFT	Old Faithful	87.80	39	eP		P		00 25 45.7	+2.1
	comp=Z,45nm,1.1s								
B22A	Reddig Ranch S	87.81	34	⇑P		P		00 25 43.3	0.0
	baz=88								
TPH	Tonopah	87.84	47	PFAKE				00 26 00.0	+16
TPH				LR		LR			
	comp=Z,459nm,20.0s								
VES	Vestal, Richgr	87.89	50	⇓P		P		00 25 43.2	-0.7
	baz=88								
A23A	Redstone	87.90	33	⇓P		P		00 25 43.9	+0.1
	baz=88								
PKM	Peak Mountain	87.93	51	⇑P		P		00 25 44.8	+0.5
	baz=88								
F19A	Roth Farm, Mol	87.93	37	⇑P		P		00 25 44.0	-0.1
	baz=88,SNR=8.8								
E20A	Meyer Farm, Mu	87.93	36	⇑P		P		00 25 44.2	+0.2
	baz=88,SNR=21								
L14A	Malta	87.94	42	⇓P		P		00 25 44.8	+0.7
	baz=88,SNR=9.0								
G18A	Lazy EL Ranch,	87.94	38	⇓P		P		00 25 44.3	+0.1
	baz=88								
K15A	Arbon	87.95	41	⇓P		P		00 25 44.6	+0.4
	baz=88								
LKWY	Lake	87.97	39	eP		P		00 25 46.8	+2.3
LKWY				pmax		pmax			
	comp=Z,29nm,0.9s								
LKWY				MLR		MLR			
	comp=Z,847nm,21.0s								
LKWY	Lake	87.97	39	eP		P		00 25 46.8	+2.3
	comp=Z,29nm,0.9s								
LKWY				LR		LR			
	comp=Z,847nm,21.0s								
SNF	Seneffe	87.98	329	P		P		00 25 43.2	-0.8
	comp=Z,24nm,2.1s								
H17A	Grant Village	87.98	39	⇓P		P		00 25 46.5	+2.0
	baz=88,SNR=26								
GIVF	Givet	88.02	329	⇓iP		P		00 25 43.6	-0.6
	comp=Z,94nm,1.4s								
GIVF	Givet	88.02	329	⇓iP		P		00 25 43.6	-0.6
GIVF				pmax		pmax			
	comp=Z,94nm,1.4s								
GIVF	Givet	88.02	329	⇓iP		P		00 25 43.6	-0.6
	comp=Z,94nm,1.4s								
CDF	Champ du Feu	88.04	326	⇓iP		P		00 25 43.9	-0.6
	comp=Z,59nm,1.0s								
CDF	Champ du Feu	88.04	326	⇓iP		P		00 25 43.9	-0.6
CDF				pmax		pmax			
	comp=Z,59nm,1.0s								
CDF	Champ du Feu	88.04	326	⇓iP		P		00 25 43.9	-0.6
	comp=Z,59nm,1.0s								
LIBD	Limburg	88.06	326	eP		P		00 25 44.0	-0.4
LIBD	Limburg	88.06	326	eP		P		00 25 44.0	-0.4
IMW	Indian Meadow	88.10	40	eP		P		00 25 46.3	+1.2
	comp=Z,22nm,1.0s								
J16A	Bone	88.11	40	⇑P		P		00 25 45.9	+0.8
	baz=88,SNR=14								
FLWY	Flagg Ranch	88.11	39	eP		P		00 25 46.6	+1.5
	comp=Z,35nm,0.9s								
DOU	Dourbes	88.13	329	P		P		00 25 44.4	-0.3
B23A	Brockton	88.19	33	⇓P		P		00 25 45.1	0.0
	baz=88,SNR=15								
CWC	Cottonwood Cre	88.22	49	⇓P		P		00 25 45.6	-0.1
	baz=88								
RRI2	Red Ridge	88.23	40	eP		P		00 25 46.5	+0.8
	comp=Z,162nm,2.3s								
RLMT	Red Lodge	88.23	38	eP		P		00 25 46.4	+0.8
	comp=Z,218nm,2.3s								
RLMT	Red Lodge	88.23	38	⇑P		P		00 25 46.3	+0.7
	baz=88,SNR=14								
ECH	Echery	88.23	326	eP		P		00 25 44.3	-1.0
ECH				MLR		MLR			
	comp=Z,2µm,19.0s								
ECH	Echery	88.23	326	eP		P		00 25 44.3	-1.0
ECH				LR		LR			
	comp=Z,2µm,19.0s								
ECH	Echery	88.23	326	eP		P		00 25 44.9	-0.4
C22A	Vida	88.24	34	⇓P		P		00 25 45.3	-0.1
	baz=88								
SBC	Santa Barbara	88.25	51	⇓P		P		00 25 45.6	0.0
	baz=88								
I17A	Pilgrim Ck.	88.28	39	⇓P		P		00 25 47.4	+1.5
	baz=88,SNR=13								
MOOW	Moose Ponds	88.30	40	eP		P		00 25 47.0	+1.0
	comp=Z,151nm,2.6s								
H18A	Shoshone NF, C	88.30	38	⇓P		P		00 25 46.5	+0.5
	baz=88,SNR=7.8								
TUE	Stuetta	88.31	324	eP		P		00 25 45.5	-0.5
	comp=Z,30nm,1.0s								
TUE				LR		LR			
	comp=Z,3µm,19.0s								
BAIF	Baives	88.33	329	⇓iP		P		00 25 45.1	-0.6
	comp=Z,24nm,0.9s								

BAIF	Baives	88.33	329	⇓iP		P		00 25 45.1	-0.6
BAIF				pmax		pmax			
	comp=Z,24nm,0.9s								
BAIF	Baives	88.33	329	⇓iP		P		00 25 45.1	-0.6
	comp=Z,24nm,0.9s								
A24A	Westby	88.34	33	⇓P		P		00 25 46.1	+0.2
	baz=88,SNR=7.7								
TPAW	Teton Pass	88.35	40	eP		P		00 25 47.3	+1.1
	comp=Z,15nm,0.8s								
HVU	Hansel Valley	88.36	42	eP		P		00 25 47.3	+1.0
HVU				pmax		pmax			
	comp=Z,341nm,2.9s								
HVU	Hansel Valley	88.36	42	eP		P		00 25 47.3	+1.0
	comp=Z,341nm,2.9s								
F20A	Billings	88.38	37	⇓P		P		00 25 46.2	+0.1
	baz=88								
KBI1	Birley Grange	88.39	334	eP		P		00 25 45.0	-0.9
KBI1	Birley Grange	88.39	334	P		P		00 25 45.0	-0.9
K16A	Soda Springs	88.40	41	⇑P		P		00 25 47.3	+0.8
	baz=88,SNR=17								
ISA	Isabella	88.40	50	⇓P		P		00 25 46.0	-0.4
	baz=88								
E21A	Keefer Ranch,	88.45	36	⇑P		P		00 25 47.3	+0.9
	baz=88								
L15A	Malad City	88.45	42	⇓P		P		00 25 47.2	+0.5
	baz=88,SNR=6.8								
LOHW	Long Hollow	88.46	40	eP		P		00 25 47.6	+0.9
	comp=Z,123nm,2.6s								
ARVC	Arvin	88.47	50	⇓P		P		00 25 46.9	+0.3
	baz=88								
REDW	Red Top Meadow	88.48	40	eP		P		00 25 47.7	+0.8
	comp=Z,126nm,2.3s								
MOF	Molkenrain	88.49	326	eP		P		00 25 45.8	-0.8
MOF	Molkenrain	88.49	326	eP		P		00 25 45.8	-0.8
MOF	Molkenrain	88.49	326	eP		P		00 25 45.8	-0.8
D22A	Cohagen	88.50	35	⇓P		P		00 25 46.9	+0.2
	baz=88,SNR=18								
C23A	Lambert	88.55	34	⇑P		P		00 25 47.6	+0.7
	baz=88,SNR=9.8								
BSC	Santa Cruz Isl	88.56	52	⇑P		P		00 25 47.8	+0.6
	baz=88								
J17A	Brown Place, J	88.56	40	⇓P		P		00 25 48.0	+0.8
	baz=88								
DGMT	Dagmar	88.57	33	eP		P		00 25 47.2	+0.3
	comp=Z,42nm,1.0s								
DGMT	Dagmar	88.57	33	⇓P		P		00 25 47.0	+0.1
	baz=88,SNR=8.0								
BBS	Basel-Blauen	88.57	326	eP		P		00 25 45.2	-1.8
BBS	Basel-Blauen	88.57	326	eP		P		00 25 45.2	-1.8
DAC	Darwin (Calif)	88.64	49	PFAKE				00 26 00.0	+12
DAC				LR		LR			
	comp=Z,180nm,19.0s								
HINF	Hinteralfeld	88.66	326	⇓iP		P		00 25 46.1	-1.2
	comp=Z,33nm,0.9s								
HINF	Hinteralfeld	88.66	326	⇓iP		P		00 25 46.1	-1.2
HINF				pmax		pmax			
	comp=Z,33nm,0.9s								
HINF	Hinteralfeld	88.66	326	⇓iP		P		00 25 46.1	-1.2
	comp=Z,33nm,0.9s								
H19A	Powell	88.68	38	⇑P		P		00 25 48.4	+0.7
	baz=88,SNR=8.5								
TIP	Timpagrande	88.69	315	eP		P		00 25 49.3	+1.6
	comp=Z,40nm,1.0s								
TIP				LR		LR			
	comp=Z,983nm,20.0s								
R11A	Troy Canyon, C	88.72	46	⇑P		P		00 25 48.3	+0.2
	baz=89,SNR=9.9								
G20A	Brtger	88.73	37	⇓P		P		00 25 47.5	-0.4
	baz=88,SNR=12								
AQU	L'Aquila	88.75	319	PFAKE				00 26 00.0	+12
AQU				LR		LR			
	comp=Z,3µm,19.0s								
M15A	Larsen Ranch,	88.75	42	⇑P		P		00 25 48.5	+0.4
	baz=89,SNR=8.4								
HAU	Haudompre	88.77	326	⇓iP		P		00 25 46.9	-1.0
	comp=Z,25nm,0.8s								
HAU				eR					
	comp=Z,3µm,17.0s								
HAU	Haudompre	88.77	326	⇓iP		P		00 25 46.9	-1.0
HAU				pmax		pmax			
	comp=Z,25nm,0.8s								
HAU	Haudompre	88.77	326	⇓iP		P		00 25 46.9	-1.0
	comp=Z,25nm,0.8s								
CUC	Castrocucco	88.78	316	eP		P		00 25 49.9	+1.8
	comp=Z,33nm,1.3s								
CUC				LR		LR			
	comp=Z,1µm,19.0s								
THEF	They Montfort	88.79	327	eP		P		00 25 46.7	-1.2
THEF	They Montfort	88.79	327	eP		P		00 25 46.7	-1.2
THEF	They Montfort	88.79	327	eP		P		00 25 46.7	-1.2
MPMC	Manual Prospec	88.83	49	⇓P		P		00 25 48.9	+0.3
	baz=89,SNR=6.9								
OSI	Osito Adit	88.83	51	⇑P		P		00 25 48.5	+0.1
	baz=89								
K17A	Gardner Place,	88.83	41	⇑P		P		00 25 48.9	+0.4
	baz=89								
I18A	Diamond G Ranc	88.85	39	⇑P		P		00 25 49.1	+0.5
	baz=89,SNR=7.4								
BLG	Laguna Peak	88.88	51	⇑P		P		00 25 48.8	+0.1
	baz=89								
ELSH	Elham, Standar	88.89	331	eP		P		00 25 47.4	-0.8
ELSH				AMB		AMB		00 25 49.1	
	comp=Z,47nm,3.7s								
ELSH				AMS		AMS		01 10 57.2	
	comp=Z,2µm,18.0s								
ELSH	Elham, Standar	88.89	331	P		P		00 25 47.4	-0.8
ELSH				AMB		AMB		00 25 49.1	
	comp=Z,47nm,3.7s								
ELSH				AMS		AMS		01 10 57.2	
	comp=Z,2µm,18.0s								
F21A	Absaloka Mine,	88.91	36	⇓P		P		00 25 48.7	+0.1
	baz=89								
D23A	Lindsay	88.97	35	⇓P		P		00 25 49.5	+0.7
	baz=89,SNR=6.4								
L16A	Fish Haven	89.00	41	⇓P		P		00 25 50.2	+0.9
	baz=89								
FURC	Furnace Creek,	89.01	48	⇑P		P		00 25 49.5	+0.4
	baz=89								
LRMC	Laurel Mountai	89.03	49	⇓P		P		00 25 49.5	0.0
	baz=89								
MEZF	Maizieres J'vi	89.05	327	⇓iP		P		00 25 48.8	-0.3
	comp=Z,86nm,1.1s								
MEZF	Maizieres J'vi	89.05	327	⇓iP		P		00 25 48.8	-0.3
	comp=Z,86nm,1.1s								
J18A	Kendall Valley	89.05	40	⇑P		P		00 25 50.0	+0.5
	baz=89,SNR=21								
N15A	Stansbury Isla	89.07	43	⇑P		P		00 25 50.4	+0.9
	baz=89,SNR=15								
I19A	Meeteetse	89.08	39	⇓P		P		00 25 50.3	+0.7
	baz=89,SNR=5.5								
E22A	Miles City	89.09	35	⇓P		P		00 25 49.5	+0.1
	baz=89,SNR=12								
C24A	Savage	89.11	34	⇑P		P		00 25 50.1	+0.6
	baz=89,SNR=5.4								
EDW2	Edwards Air Fo	89.17	50	⇓P		P		00 25 50.2	+0.2
	baz=89								
HWUT	Hardware Ranch	89.18	42	eP		P		00 25 50.9	+0.8
	comp=Z,348nm,2.4s								
HWUT				LR		LR			
	comp=Z,232nm,20.0s								
G21A	Lodge Grass	89.26	37	⇓P		P		00 25 50.1	-0.2
	baz=89								
SFTF	Sexfontaines	89.26	327	⇓iP		P		00 25 49.5	-0.6
	comp=Z,62nm,0.9s								
SFTF	Sexfontaines	89.26	327	⇓iP		P		00 25 49.5	-0.6
	comp=Z,62nm,0.9s								
VLC	Villacollemand	89.28	322	PFAKE				00 26 00.0	+10
VLC				LR		LR			
	comp=Z,3µm,19.0s								
DECC	Green Verdugo	89.31	51	⇓P		P		00 25 49.9	-0.8
	baz=89								
FOEL	Foel Wylfa	89.31	334	eP		P		00 25 49.4	-0.9
FOEL				AMB		AMB		00 25 51.4	
	comp=Z,32nm,2.1s								
FOEL				AMS		AMS		01 13 26.4	
	comp=Z,2µm,12.9s								
FOEL	Foel Wylfa	89.31	334	P		P		00 25 49.4	-0.9
FOEL				AMB		AMB		00 25 51.4	
	comp=Z,32nm,2.1s								
FOEL				AMS		AMS		01 13 26.4	
	comp=Z,2µm,12.9s								
DUG	Dugway	89.32	43	eP		P		00 25 51.5	+0.7
DUG				pmax		pmax			
	comp=Z,187nm,2.3s								
DUG				MLR		MLR			
	comp=Z,213nm,21.0s								
DUG	Dugway	89.32	43	eP		P		00 25 51.5	+0.7
DUG				LR		LR			
	comp=Z,213nm,21.0s								
DUG	Dugway	89.32	43	⇑P		P		00 25 51.5	+0.7
	baz=89,SNR=13								
M16A	Huntsville	89.33	42	⇑P		P		00 25 50.9	+0.1
	baz=89								
H20A	Greybull	89.33	38	⇓P		P		00 25 51.2	+0.5
	baz=89,SNR=7.6								
E23A	Ismay	89.38	35	⇑P		P		00 25 51.5	+0.7
	baz=89,SNR=6.8								
F22A	Rosebud	89.38	36	⇓P		P		00 25 51.2	+0.3
	baz=89								
K18A	Toltan Ranch,	89.40	40	⇓P		P		00 25 51.7	+0.5
	baz=89								
SENIN	Lac Senin/Sane	89.43	325	eP		P		00 25 50.2	-1.0
	comp=Z,46nm,1.9s								
D24A	Glendive	89.44	34	⇑P		P		00 25 51.6	+0.6
	baz=89,SNR=5.3								
O15A	The Old Anders	89.47	43	⇑P		P		00 25 52.1	+0.6
	baz=89								
PPT	Papeete	89.50	110	LR		LR		00 57 48.7	
	comp=Z,414nm,21.7s,baz=340,slow=30								
PPT2	Papeete2	89.51	110	eS		S		00 36 38.1	-3.3
	comp=Z,790nm,26.2s								
PPT2				eSS		SS		00 42 39.8	+2.1
	comp=Z,384nm,26.5s								
PPT2				eLR		LR		00 53 52.0	
	comp=Z,636nm,24.8s								
J19A	Crowheart	89.55	39	⇓P		P		00 25 52.1	+0.3
	baz=89,SNR=11								
BW06	Boulder Array	89.59	40	eP		P		00 25 52.1	0.0
	comp=Z,13nm,0.8s								
BW06				LR		LR			
	comp=Z,452nm,21.0s								
BW06	Boulder Array	89.59	40	⇑P		P		00 25 52.2	+0.1
	baz=89,SNR=13								
PDAR	Pinedale Array	89.59	40	P		P		00 25 51.8	-0.4
PDAR				PKKP		PKKPbc		00 43 25.2	-0.8
PDAR	Pinedale Array	89.59	40	P		P		00 25 51.8	-0.4
	comp=Z,8.1nm,0.8s,baz=299,slow=0.9,SNR=33								
PDAR				PKKP		PKKPbc		00 43 25.2	-0.8
	comp=Z,0.5nm,0.9s,baz=126,slow=7.5,SNR=3.7								
I20A	Worland	89.61	38	⇓P		P		00 25 52.9	+0.9
	baz=89,SNR=8.7								
N16A	Rees Ranch, Co	89.71	42	⇓P		P		00 25 53.2	+0.5
	baz=90								
SHOC	Shoshone	89.72	48	⇑P		P		00 25 52.5	0.0
	baz=90								
GSC	Goldstone	89.72	49	eP		P		00 25 52.1	-0.6
GSC				pmax		pmax			
	comp=Z,14nm,1.3s								
GSC	Goldstone	89.72	49	eP		P		00 25 52.1	-0.6
	comp=Z,14nm,1.3s								
GSC	Goldstone	89.72	49	⇑P		P		00 25 53.0	+0.4
	baz=90								
CIS	Catalina Islan	89.73	52	⇓P		P		00 25 52.8	+0.1
	baz=90								
G22A	Birney	89.74	36	⇑P		P		00 25 52.6	0.0
	baz=90								
H21A	Big Horn, Sher	89.75	37	⇓P		P		00 25 52.5	-0.1
	baz=90								
BFSC	Mount Baldy Ra	89.77	50	⇓P		P		00 25 52.9	0.0
	baz=90								
M17A	Scullys Gap (B	89.79	41	⇑P		P		00 25 53.7	+0.6
	baz=90,SNR=6.2								
E24A	Baker	89.84	35	⇓P		P		00 25 53.1	+0.2
	baz=90								
RRX	Edison Barstow	89.84	50	⇓P		P		00 25 53.5	+0.4
	baz=90								
R13A	O'Grain Ranch,	89.84	46	⇑P		P		00 25 53.4	+0.1
	baz=90								
F23A	Volborg	89.86	36	⇓P		P		00 25 53.4	+0.3
	baz=90								
L18A	Fontenelle, Gr	89.86	41	⇓P		P		00 25 54.1	+0.8
	baz=90,SNR=5.9								
CABF	La Chapelle	89.86	326	eP		P		00 25 52.2	-0.9
	comp=Z,40nm,1.2s								
CABF	La Chapelle	89.86	326	eP		P		00 25 52.2	-0.9
CABF				pmax		pmax			
	comp=Z,40nm,1.2s								
CABF	La Chapelle	89.86	326	eP		P		00 25 52.2	-0.9
	comp=Z,40nm,1.2s								
SCI	San Clemente I	89.88	52	⇑P		P		00 25 53.7	+0.4
	baz=90								
JLU	Jordanelle	89.88	42	eP		P		00 25 53.8	+0.3
	comp=Z,118nm,2.1s								
MCH1	Michaelchurch	89.93	334	eP		P		00 25 51.3	-1.8
MCH1				AMB		AMB		00 26 05.7	
	comp=Z,66nm,3.1s								
MCH1	Michaelchurch	89.93	334	P		P		00 25 51.3	-1.8
MCH1				AMB		AMB		00 26 05.7	
	comp=Z,66nm,3.1s								
N17A	Moffit Pass	90.03	42	⇑P		P		00 25 54.8	+0.6
	baz=90,SNR=6.0								
P15A	Leamington	90.03	44	⇓P		P		00 25 54.6	+0.5
	baz=90,SNR=11								
J20A	Shoshoni	90.03	39	⇑P		P		00 25 54.7	+0.7
	baz=90								
DAU	Daniels Canyon	90.11	42	eP		P		00 25 55.1	+0.4
DAU	Daniels Canyon	90.11	42	eP		P		00 25 55.1	+0.4
H22A	Clearmont	90.13	37	⇓P		P		00 25 54.3	-0.1
	baz=90								
L19A	Farson	90.14	40	⇓P		P		00 25 54.9	+0.3
	baz=90,SNR=7.5								
MPU	Maple Canyon	90.14	43	eP		P		00 25 55.4	+0.7
	comp=Z,248nm,2.4s								
I21A	Big Trails, Te	90.16	38	⇑P		P		00 25 54.8	+0.2
	baz=90,SNR=7.3								
M18A	Lyman	90.17	41	⇑P		P		00 25 55.2	+0.4
	baz=90,SNR=5.2								
DLF	Lyons Farm	90.22	336	eP		P		00 25 54.2	-0.2
G23A	Biddle	90.22	36	⇓P		P		00 25 55.0	+0.2
	baz=90								
TUQ	Turquoise Moun	90.23	49	⇑P		P		00 25 55.3	+0.2
	baz=90								
BBRC	Big Bear Solar	90.25	50	⇑P		P		00 25 55.5	+0.2
	baz=90								
F24A	Ekalaka	90.26	35	⇑P		P		00 25 55.2	+0.3
	baz=90,SNR=6.3								
LPL	La Plagne	90.30	324	eP		P		00 25 54.6	-0.7
	comp=Z,34nm,1.2s								
LPL	La Plagne	90.30	324	eP		P		00 25 54.6	-0.7
LPL				pmax		pmax			
	comp=Z,34nm,1.2s							

BNI **Bardonecchia** 90.64 324 *e*P P 00 25 56.8 0.0
comp=Z,20nm,1.2s
BNI LR LR
comp=Z,2µm,19.0s
H23A **Clabaugh Catti** 90.66 37 ⇑P P 00 25 56.6 -0.3
baz=90
MVU **Marysvale** 90.73 44 *e*P P 00 25 58.4 +0.9
comp=Z,165nm,2.1s
MVU LR LR
comp=Z,233nm,21.0s
MSU **Marysvale** 90.75 44 *e*P P 00 25 58.8 +1.2
MSU **Marysvale** 90.75 44 *e*P P 00 25 58.8 +1.2
L20A **Wamsutter** 90.77 40 ⇑P P 00 25 58.0 +0.4
baz=91,SNR=6.0
GMRC **Granite Mounta** 90.79 49 ⇓P P 00 25 57.6 -0.1
baz=91
SSF **Saint Saulge** 90.80 327 *e*P P 00 25 56.4 -0.9
comp=Z,14nm,0.9s
SSF **Saint Saulge** 90.80 327 *e*P P 00 25 56.4 -0.9
SSF pmax pmax
comp=Z,14nm,0.9s
SSF **Saint Saulge** 90.80 327 *e*P P 00 25 56.4 -0.9
comp=Z,14nm,0.9s
MBDF **Montbardon** 90.82 324 *e*P P 00 25 58.0 +0.3
comp=Z,29nm,1.0s
MBDF **Montbardon** 90.82 324 *e*P P 00 25 58.0 +0.3
MBDF pmax pmax
comp=Z,29nm,1.0s
MBDF **Montbardon** 90.82 324 *e*P P 00 25 58.0 +0.3
comp=Z,29nm,1.0s
TMUT **Trail Mountain** 90.85 43 *e*P P 00 26 00.0 +1.9
comp=Z,200nm,2.6s
J22A **Midwest** 90.86 38 ⇓P P 00 25 57.6 -0.3
baz=91,SNR=14
R15A **Junction** 90.88 45 ⇓P P 00 25 58.3 +0.2
baz=91
SAOF **Saorge** 90.92 323 *e*P P 00 25 52.3 -5.7
O18A **Roosevelt** 90.94 42 ⇑P P 00 25 59.3 +0.9
baz=91,SNR=6.5
PFO **Pinyon Flat Ob** 90.95 50 *e*P P 00 25 58.7 +0.3
comp=Z,158nm,2.3s
PFO LR LR
comp=Z,916nm,20.0s
PFO **Pinyon Flat Ob** 90.95 50 ⇑P P 00 25 58.5 0.0
baz=91
K21A **Alcova** 90.96 39 ⇑P P 00 25 58.6 +0.1
baz=91,SNR=8.9
H24A **Dirks Ranch, A** 90.97 36 ⇓P P 00 25 58.0 -0.3
baz=91,SNR=9.3
ULM **Lac du Bonnet** 90.97 28 P P 00 25 57.9 -0.1
ULM **Lac du Bonnet** 90.97 28 P P 00 25 57.9 -0.1
comp=Z,9.9nm,0.8s,baz=320,slow=5.3,SNR=23
ULM LR LR 01 13 06.6
comp=Z,390nm,18.1s,baz=325,slow=40
HEX **Exmoor** 90.97 333 *e*P P 00 25 57.0 -1.0
HEX **Exmoor** 90.97 333 P P 00 25 57.0 -1.0
LDFC **Landfair** 90.97 49 *e*P P 00 25 57.9 -0.7
comp=Z,154nm,2.5s
P17A **Butcher Ranch,** 91.02 43 ⇓P P 00 25 59.4 +0.7
baz=91,SNR=8.6
N19A **John Jarvie Ra** 91.02 41 ⇓P P 00 25 58.8 +0.1
baz=91,SNR=8.9
BELC **Belle Mtn. Jos** 91.02 50 ⇓P P 00 25 59.1 +0.3
baz=91
I23A **Meade Ranch, G** 91.03 37 ⇓P P 00 25 58.5 -0.2
baz=91
HYF **Humbligny** 91.06 328 ⇓*i*P P 00 25 58.4 -0.1
HYF **Humbligny** 91.06 328 ⇓*i*P P 00 25 58.4 -0.1
SBF **Sospel** 91.07 323 *e*P P 00 25 57.9 -0.8
comp=Z,71nm,1.0s
SBF **Sospel** 91.07 323 *e*P P 00 25 57.9 -0.8
SBF pmax pmax
comp=Z,71nm,1.0s
SBF **Sospel** 91.07 323 *e*P P 00 25 57.9 -0.8
comp=Z,71nm,1.0s
AVF **Avril sur Loir** 91.07 327 ⇓*i*P P 00 25 57.6 -1.0
comp=Z,32nm,1.0s
AVF **Avril sur Loir** 91.07 327 ⇓*i*P P 00 25 57.6 -1.0
AVF pmax pmax
comp=Z,32nm,1.0s
AVF **Avril sur Loir** 91.07 327 ⇓*i*P P 00 25 57.6 -1.0
comp=Z,32nm,1.0s
Q16A **Castle Valley** 91.11 44 ⇓P P 00 25 60.0 +0.8
baz=91,SNR=7.0
PGF **Pioggiola** 91.11 321 *e*P P 00 25 58.2 -0.8
comp=Z,52nm,1.0s
PGF **Pioggiola** 91.11 321 *e*P P 00 25 58.2 -0.8
PGF pmax pmax
comp=Z,53nm,1.0s
PGF **Pioggiola** 91.11 321 *e*P P 00 25 58.2 -0.8
comp=Z,52nm,1.0s
ORIF **Oris-en-Rattie** 91.15 324 *e*P P 00 25 58.3 -0.8
comp=Z,17nm,0.9s
ORIF *e*R
comp=Z,3µm,17.8s
ORIF **Oris-en-Rattie** 91.15 324 *e*P P 00 25 58.3 -0.8
ORIF pmax pmax
comp=Z,17nm,0.9s
ORIF **Oris-en-Rattie** 91.15 324 *e*P P 00 25 58.3 -0.8
comp=Z,17nm,0.9s
MDND **Maddock** 91.16 31 ⇑P P 00 25 59.2 +0.2
baz=91
M20A **Sweetwater, Wa** 91.20 40 ⇑P P 00 26 00.7 +1.1
baz=91,SNR=5.9
P18A **Preston Nutter** 91.21 43 ⇑P P 00 26 00.4 +0.6
baz=91,SNR=26
R16A **Teasdale** 91.32 44 ⇑P P 00 26 01.2 +1.0
baz=91,SNR=8.1
LDF **La Druitiere** 91.34 330 ⇓*i*P P 00 25 58.9 -0.9
comp=Z,37nm,0.8s
LDF **La Druitiere** 91.34 330 ⇓*i*P P 00 25 58.9 -0.9
LDF pmax pmax
comp=Z,37nm,0.8s
LDF **La Druitiere** 91.34 330 ⇓*i*P P 00 25 58.9 -0.9
comp=Z,37nm,0.8s
L21A **Rawlins** 91.34 39 ⇑P P 00 26 00.2 0.0
baz=91,SNR=7.7
K22A **Casper** 91.35 38 ⇑P P 00 25 59.7 -0.5
baz=91
J23A **Dilts Ranch, B** 91.37 37 ⇑P P 00 25 59.8 -0.4
baz=91
FLN **La Foliniere** 91.37 330 *e*P P 00 25 58.9 -1.0
FLN *e*R
comp=Z,2µm,17.0s
FLN **La Foliniere** 91.37 330 *e*P P 00 25 58.9 -1.0
FLN **La Foliniere** 91.37 330 *e*P P 00 25 58.9 -1.0
SRU **San Rafael** 91.38 43 *e*P P 00 26 00.9 +0.5
SRU pmax pmax
comp=Z,21nm,0.8s
SRU **San Rafael** 91.38 43 *e*P P 00 26 00.9 +0.5
comp=Z,21nm,0.8s
SRU **San Rafael** 91.38 43 ⇑P P 00 26 00.7 +0.3
baz=91,SNR=13
MONP **Monument Peak** 91.39 51 ⇑P P 00 26 00.4 -0.2
baz=91
O19A **Miners Draw (B** 91.44 42 ⇓P P 00 26 00.6 -0.1
baz=91,SNR=5.4
BGF **Bois d'Agland** 91.48 327 *e*P P 00 25 59.7 -0.8
BGF **Bois d'Agland** 91.48 327 *e*P P 00 25 59.7 -0.8
BGF **Bois d'Agland** 91.48 327 *e*P P 00 25 59.7 -0.8
NEE2 **Needles Airpor** 91.48 49 ⇓P P 00 26 00.7 0.0
baz=91
IRM **Iron Mountain** 91.50 49 ⇓P P 00 26 01.3 +0.4
baz=91
PLDF **La Plantade** 91.53 326 *e*P P 00 25 59.9 -0.9
PLDF **La Plantade** 91.53 326 *e*P P 00 25 59.9 -0.9
PLDF **La Plantade** 91.53 326 *e*P P 00 25 59.9 -0.9
I24A **Kuemmerle Ranc** 91.54 37 ⇓P P 00 26 00.7 -0.3
baz=91
M21A **Separation Pea** 91.58 40 ⇓P P 00 26 01.5 +0.1
baz=91,SNR=9.9
N20A **Spence Gulch,** 91.59 41 ⇑P P 00 26 02.1 +0.7
baz=91,SNR=12
BC3 **Big Chuckawall** 91.59 50 ⇓P P 00 26 01.6 +0.2
baz=91
S16A **Weppner Ranch,** 91.60 45 ⇓P P 00 26 02.1 +0.7
baz=91
Q18A **Rafter H Ranch** 91.61 43 ⇓P P 00 26 01.6 +0.1
baz=91,SNR=5.8
RWWY **Rawlins** 91.62 40 *e*P P 00 26 01.2 -0.4
comp=Z,152nm,2.3s
RSSD **Black Hills** 91.67 36 *e*P P 00 26 01.5 -0.2
RSSD pmax pmax
comp=Z,168nm,2.3s
RSSD **Black Hills** 91.67 36 *e*P P 00 26 01.5 -0.2
comp=Z,168nm,2.3s
R17A **Hanksville Air** 91.70 44 ⇑P P 00 26 02.2 +0.4
baz=92,SNR=12
AGO **Saint Agoulin** 91.71 327 *e*P P 00 26 00.5 -1.1
AGO **Saint Agoulin** 91.71 327 *e*P P 00 26 00.5 -1.1
DVTC **Desert V Tower** 91.74 51 ⇓P P 00 26 02.5 +0.4
baz=92
W13A **Hualapai Mount** 91.76 48 ⇑P P 00 26 02.6 +0.3
baz=92,SNR=12
JSA **Saint Aubin** 91.77 331 *e*P P 00 26 00.3 -1.4
JSA AMB AMB 00 26 02.9
comp=Z,37nm,2.8s
JSA AMS AMS 01 14 50.6
comp=Z,2µm,13.7s
JSA **Saint Aubin** 91.77 331 P P 00 26 00.3 -1.4
JSA AMB AMB 00 26 02.9
comp=Z,37nm,2.8s
JSA AMS AMS 01 14 50.6
comp=Z,2µm,13.7s
K23A **Bowen Ranch, D** 91.77 38 ⇓P P 00 26 02.2 0.0
baz=92
SWSC **Sam W. Stewart** 91.78 51 ⇓P P 00 26 02.2 0.0
baz=92
VIVF **Saint-Julien-l** 91.80 325 *e*P P 00 26 01.2 -0.9
comp=Z,16nm,0.9s
VIVF **Saint-Julien-l** 91.80 325 *e*P P 00 26 01.2 -0.9
VIVF pmax pmax
comp=Z,16nm,0.9s
VIVF **Saint-Julien-l** 91.80 325 *e*P P 00 26 01.2 -0.9
comp=Z,16nm,0.9s
GRR **Gorron** 91.81 330 ⇓*i*P P 00 26 01.4 -0.6
comp=Z,40nm,0.8s
GRR **Gorron** 91.81 330 ⇓*i*P P 00 26 01.4 -0.6
GRR pmax pmax
comp=Z,40nm,0.8s
GRR **Gorron** 91.81 330 ⇓*i*P P 00 26 01.4 -0.6
comp=Z,40nm,0.8s
L22A **Ellis Ranch, M** 91.82 39 ⇓P P 00 26 02.5 +0.1
baz=92
J24A **Dixon Ranch, L** 91.89 37 ⇓P P 00 26 02.2 -0.4
baz=92
LMR **La Mourre** 91.92 323 *e*P P 00 26 01.6 -1.0
LMR **La Mourre** 91.92 323 *e*P P 00 26 01.6 -1.0
LMR **La Mourre** 91.92 323 *e*P P 00 26 01.6 -1.0
P19A **Cripple Cowboy** 91.95 42 ⇑P P 00 26 03.8 +0.7
baz=92,SNR=19
SMRF **Simiane la Rot** 91.96 324 *e*P P 00 26 02.3 -0.5
comp=Z,39nm,1.1s
SMRF **Simiane la Rot** 91.96 324 *e*P P 00 26 02.3 -0.5
comp=Z,39nm,1.1s
U15A **North Rim** 91.97 46 ⇓P P 00 26 04.1 +0.8
baz=92,SNR=14
TCF **Toulx Ste Croi** 91.98 327 *e*P P 00 26 02.2 -0.6
TCF **Toulx Ste Croi** 91.98 327 *e*P P 00 26 02.2 -0.6
TCF **Toulx Ste Croi** 91.98 327 *e*P P 00 26 02.2 -0.6
O20A **White River Ci** 92.06 41 ⇑P P 00 26 03.8 +0.2
baz=92,SNR=8.0
N21A **Black Mountain** 92.06 40 ⇑P P 00 26 04.0 +0.4
baz=92,SNR=5.9
PDMCI **Parker Dam,Lak** 92.08 49 ⇑P P 00 26 03.6 +0.1
baz=92
WDD **Wield Dalam** 92.11 313 PFAKE 00 26 10.0 +6.4
WDD LR LR
comp=Z,715nm,19.0s
S17A **Black Ridge (B** 92.14 44 ⇑P P 00 26 04.0 +0.1
baz=92,SNR=9.5
M22A **Cedar Creek Ra** 92.15 39 ⇑P P 00 26 03.9 -0.1
baz=92
Y12C **Blythe** 92.16 49 ⇓P P 00 26 04.5 +0.6
baz=92,SNR=6.3
L23A **Garrett** 92.16 38 ⇑P P 00 26 04.1 +0.1
baz=92,SNR=12
R18A **Canyonlands Na** 92.22 43 ⇑P P 00 26 04.2 -0.1
baz=92,SNR=16
K24A **Anderson Ranch** 92.22 38 ⇓P P 00 26 03.8 -0.5
baz=92
Q19A **Hogan Spring (** 92.23 43 ⇓P P 00 26 04.7 +0.5
baz=92,SNR=7.9
GLA **Glamis** 92.37 50 *e*P P 00 26 05.3 +0.3
GLA **Glamis** 92.37 50 *e*P P 00 26 05.3 +0.3
GLA **Glamis** 92.37 50 ⇑P P 00 26 05.6 +0.6
baz=92
P20A **De Beque** 92.39 42 ⇑P P 00 26 05.5 +0.4
baz=92,SNR=5.4
O21A **Pagoda** 92.45 41 ⇑P P 00 26 05.7 +0.3
baz=92
AGMN **Agassiz Nation** 92.47 29 PFAKE 00 26 20.0 +15
AGMN LR LR
comp=Z,622nm,21.0s
TBI **Tubuai** 92.50 115 *e*SS SS 00 43 15.8 -4.9
comp=Z,310nm,26.5s
TBI *e*LR LR 00 55 25.9
comp=Z,870nm,35.0s
T17A **Navajo Res., N** 92.55 45 ⇑P P 00 26 06.0 +0.1
baz=92
M23A **Laramie** 92.59 39 ⇑P P 00 26 06.3 +0.3
baz=92
S18A **Hurst Farm, BI** 92.60 44 ⇓P P 00 26 06.3 0.0
baz=92,SNR=9.1
L24A **Wheatland** 92.63 38 ⇓P P 00 26 06.2 +0.2
baz=92
N22A **Wattenberg Ran** 92.63 40 ⇓P P 00 26 07.2 +0.9
baz=92,SNR=6.3
SGMF **Saint Gilles** 92.65 331 ⇓*i*P P 00 26 05.2 -0.6
comp=Z,148nm,1.5s
SGMF **Saint Gilles** 92.65 331 ⇓*i*P P 00 26 05.2 -0.6
SGMF pmax pmax
comp=Z,148nm,1.5s
SGMF **Saint Gilles** 92.65 331 ⇓*i*P P 00 26 05.2 -0.6
comp=Z,148nm,1.5s
R19A **Curley Farm, L** 92.66 43 ⇑P P 00 26 06.9 +0.5
baz=92,SNR=16
LASF **Ste Croix** 92.77 325 *e*P P 00 26 05.7 -0.8
LASF **Ste Croix** 92.77 325 *e*P P 00 26 05.7 -0.8
Q20A **Ridgley Place,** 92.80 42 ⇓P P 00 26 07.7 +0.8
baz=93,SNR=15
K25A **Mack Ranch, Ha** 92.81 37 ⇓P P 00 26 07.4 +0.5
baz=93
PV04 **Paradox Valley** 92.81 43 *e*P P 00 26 07.2 +0.2
MFF **Saint Martin d** 92.84 329 ⇓*i*P P 00 26 06.4 -0.4
comp=Z,191nm,1.6s
MFF **Saint Martin d** 92.84 329 ⇓*i*P P 00 26 06.4 -0.4
MFF pmax pmax
comp=Z,191nm,1.6s
MFF **Saint Martin d** 92.84 329 ⇓*i*P P 00 26 06.4 -0.4
comp=Z,191nm,1.6s
PHWY **Pilot Hill** 92.85 39 *e*P P 00 26 07.8 +0.5
comp=Z,102nm,2.3s
N23A **Red Feather La** 92.86 39 ⇓P P 00 26 07.8 +0.5
baz=93,SNR=5.9
ROSF **Rostrenen** 92.89 331 ⇓*i*P P 00 26 06.5 -0.4
comp=Z,40nm,0.7s
ROSF **Rostrenen** 92.89 331 ⇓*i*P P 00 26 06.5 -0.4
ROSF pmax pmax
comp=Z,40nm,0.7s
ROSF **Rostrenen** 92.89 331 ⇓*i*P P 00 26 06.5 -0.4
comp=Z,40nm,0.7s
P21A **Newcastle** 92.92 41 ⇓P P 00 26 08.0 +0.4
baz=93
VSL **Villasalto** 92.92 319 PFAKE 00 26 20.0 +13
VSL LR LR
comp=Z,841nm,19.0s
O22A **Kremmling** 93.01 40 ⇑P P 00 26 08.3 +0.2
baz=93,SNR=7.7
RJF **Les Rejaudoux** 93.03 327 ⇓*i*P P 00 26 07.1 -0.6
comp=Z,43nm,1.2s
RJF *e*R
comp=Z,2µm,17.8s
RJF **Les Rejaudoux** 93.03 327 ⇓*i*P P 00 26 07.1 -0.6
RJF pmax pmax
comp=Z,43nm,1.2s
RJF **Les Rejaudoux** 93.03 327 ⇓*i*P P 00 26 07.1 -0.6
comp=Z,43nm,1.2s
T18A **Mexican Hat** 93.03 44 ⇓P P 00 26 07.9 -0.2
baz=93,SNR=15
CAF **Calviac** 93.04 326 ⇓*i*P P 00 26 07.3 -0.5
comp=Z,14nm,0.8s
CAF **Calviac** 93.04 326 ⇓*i*P P 00 26 07.3 -0.5
CAF pmax pmax
comp=Z,14nm,0.8s
CAF **Calviac** 93.04 326 ⇓*i*P P 00 26 07.3 -0.5
comp=Z,14nm,0.8s
Y14A **Wickenburg** 93.05 48 ⇑P P 00 26 08.3 +0.2
baz=93,SNR=12
L25A **Engebretsen Ra** 93.07 38 ⇓P P 00 26 07.9 -0.2
baz=93
M24A **Cheyenne** 93.08 38 ⇑P P 00 26 08.3 +0.1
baz=93
S19A **Harvey Farm, M** 93.09 43 ⇑P P 00 26 08.5 +0.1
baz=93,SNR=9.9
K26A **Motz Farm, Whi** 93.11 37 ⇓P P 00 26 08.3 +0.1
baz=93
WUAZ **Wupatki** 93.12 46 *e*P P 00 26 09.1 +0.6
comp=Z,20nm,1.0s
WUAZ LR LR
comp=Z,187nm,20.0s
WUAZ **Wupatki** 93.12 46 ⇓P P 00 26 09.2 +0.7
baz=93,SNR=14
QUIF **Quistinic** 93.17 331 ⇓*i*P P 00 26 07.4 -0.8
comp=Z,117nm,1.5s
QUIF **Quistinic** 93.17 331 ⇓*i*P P 00 26 07.4 -0.8
QUIF pmax pmax
comp=Z,117nm,1.5s
QUIF **Quistinic** 93.17 331 ⇓*i*P P 00 26 07.4 -0.8
comp=Z,117nm,1.5s
PV01 **Paradox Valley** 93.17 43 *e*P P 00 26 09.3 +0.5
R20A **Redvale** 93.25 43 ⇓P P 00 26 09.7 +0.6
baz=93,SNR=22
113A **Mohawk Valley,** 93.25 50 ⇓P P 00 26 09.4 +0.5
baz=93,SNR=12
P22A **Eagle** 93.27 41 ⇑P P 00 26 09.7 +0.5
baz=93,SNR=11
Q21A **Lamborn Mesa,** 93.30 42 ⇓P P 00 26 10.4 +1.1
baz=93,SNR=7.0
O23A **Lake Granby, G** 93.33 40 ⇑P P 00 26 10.1 +0.6
baz=93
SMCO **Snowmass** 93.42 41 *e*P P 00 26 10.9 +0.8
comp=Z,206nm,2.7s
Z14A **Wintersburg** 93.44 49 ⇑P P 00 26 09.8 0.0
baz=93
N24A **Carr** 93.49 39 ⇓P P 00 26 10.0 -0.2
baz=93
S20A **Disappointment** 93.50 43 ⇑P P 00 26 10.8 +0.5
baz=93,SNR=9.3
M25A **Palm-Egli Farm** 93.52 38 ⇓P P 00 26 10.1 -0.2
baz=93
K27A **Flueckinger Fa** 93.60 36 ⇓P P 00 26 10.6 +0.2
baz=93
R21A **Cimarron** 93.62 42 ⇑P P 00 26 11.7 +0.8
baz=93,SNR=13
L26A **Underwood Farm** 93.63 37 ⇑P P 00 26 11.2 +0.5
baz=93
LFF **La Frestale** 93.67 327 *e*P P 00 26 10.3 -0.3
comp=Z,41nm,1.2s
LFF **La Frestale** 93.67 327 *e*P P 00 26 10.3 -0.3
LFF pmax pmax
comp=Z,41nm,1.2s
LFF **La Frestale** 93.67 327 *e*P P 00 26 10.3 -0.3
comp=Z,41nm,1.2s
Q22A **Crested Butte,** 93.67 41 ⇑P P 00 26 12.2 +1.1
baz=94,SNR=11
ABPO **Ambohimpanom** 93.72 250 *e*P P 00 26 10.7 -0.8
ABPO pmax pmax
comp=Z,11nm,0.9s
ABPO MLR MLR
comp=Z,565nm,20.0s
ABPO **Ambohimpanom** 93.72 250 *e*P P 00 26 10.7 -0.8
comp=Z,11nm,0.9s
ABPO LR LR
comp=Z,565nm,20.0s
T19A **Beclabito** 93.75 44 ⇑P P 00 26 11.9 +0.5
baz=94,SNR=15
X16A **Lo Mia Camp, P** 93.77 47 ⇑P P 00 26 12.6 +1.0
baz=94,SNR=18
ISCO **Idaho Springs** 93.78 40 *e*P P 00 26 12.4 +0.7
ISCO pmax pmax
comp=Z,7.0nm,0.9s
ISCO MLR MLR
comp=Z,336nm,19.0s
ISCO **Idaho Springs** 93.78 40 *e*P P 00 26 12.4 +0.7
comp=Z,7.4nm,0.9s
ISCO LR LR
comp=Z,336nm,19.0s
ISCO **Idaho Springs** 93.78 40 ⇑P P 00 26 11.8 +0.2
baz=94
KMBO **Kilima Mbogo** 93.78 271 *e*P P 00 26 12.7 +0.7
comp=Z,5.4nm,0.9s
KMBO LR LR
comp=Z,521nm,20.0s
MVCO **Mesa Verde** 93.82 44 *e*P P 00 26 11.8 +0.1
comp=Z,139nm,2.4s
MVCO LR LR
comp=Z,425nm,20.0s
MVCO **Mesa Verde** 93.82 44 ⇓P P 00 26 12.6 +0.8
baz=94,SNR=6.0
O24A **Longmont** 93.87 40 ⇑P P 00 26 12.1 +0.2
baz=94
P23A **Jefferson** 93.94 41 ⇑P P 00 26 13.3 +0.9
baz=94
S21A **Coal Bank Pass** 93.95 43 ⇓P P 00 26 13.3 +0.8
baz=94,SNR=11
BRSD **Miller** 93.98 33 ⇓P P 00 26 12.6 +0.5
baz=94
U19A **Dine' College,** 93.98 45 ⇑P P 00 26 13.0 +0.4
baz=94,SNR=5.4
M26A **McRoberts Ranc** 93.99 38 ⇑P P 00 26 12.9 +0.5
baz=94
R22A **Saguache, Gunn** 94.18 42 ⇓P P 00 26 13.8 +0.3
baz=94
U20A **Newcomb** 94.35 44 ⇑P P 00 26 14.9 +0.7
baz=94
P24A **Kohler Place,** 94.38 40 ⇑P P 00 26 14.8 +0.5
baz=94
214A **Organ Pipe Nat** 94.39 50 ⇓P P 00 26 15.0 +0.7
baz=94,SNR=8.3
W18A **Petrified Fore** 94.41 46 ⇓P P 00 26 15.1 +0.6
baz=94
V19A **Window Rock** 94.45 45 ⇑P P 00 26 15.2 +0.4
baz=94
S22A **4UR Ranch, Cre** 94.46 42 ⇓P P 00 26 15.0 +0.2
baz=94
T21A **Navajo Lake** 94.54 43 ⇑P P 00 26 15.6 +0.5
baz=94
EYMN **Ely** 94.56 27 *e*P P 00 26 14.1 -0.6
comp=Z,15nm,0.9s
EYMN LR LR
comp=Z,322nm,19.0s
Q24A **Divide** 94.61 40 ⇑P P 00 26 15.5 0.0
baz=94
X18A **Snowflake** 94.65 46 ⇑P P 00 26 15.6 0.0
baz=94
R23A **Moffat** 94.75 41 ⇑P P 00 26 16.2 +0.1
baz=95
V20A **Brimhall** 94.76 45 ⇑P P 00 26 16.4 +0.3
baz=95
U21A **Nageezi** 94.84 44 ⇓P P 00 26 16.6 +0.1
baz=95
T22A **Edith** 94.91 43 ⇓P P 00 26 17.7 +0.9
baz=95,SNR=8.2
OGNE **Ogallala** 94.95 37 PFAKE 00 26 30.0 +13
OGNE LR LR
comp=Z,533nm,19.0s
W20A **Ramah** 95.18 45 ⇑P P 00 26 18.1 0.0
baz=95,SNR=5.7
SCHQ **Schefferville** 95.24 10 P P 00 26 16.4 -1.2
SCHQ **Schefferville** 95.24 10 P P 00 26 16.4 -1.2
comp=Z,5.8nm,0.7s,baz=353,slow=6.8,SNR=13
SCHQ LR LR 01 12 09.3
comp=Z,959nm,18.5s,baz=164,slow=37
SDCO **Great Sand Dun** 95.24 42 *e*P P 00 26 19.2 +0.8
comp=Z,72nm,2.5s
SDCO LR LR
comp=Z,256nm,22.0s
SDCO **Great Sand Dun** 95.24 42 ⇑P P 00 26 18.2 -0.2
baz=95
EPF **Esparros** 95.28 326 *e*P P 00 26 17.2 -0.9
EPF **Esparros** 95.28 326 *e*P P 00 26 17.2 -0.9
EPF **Esparros** 95.28 326 *e*P P 00 26 17.2 -0.9
U22A **Llaves** 95.36 43 ⇓P P 00 26 19.2 +0.4
baz=95
KEST **Kesra** 95.43 316 LR LR 01 14 43.7
comp=Z,323nm,18.3s,baz=179,slow=39
Y19A **Nutrioso** 95.46 46 ⇑P P 00 26 20.4 +1.0
baz=95,SNR=8.3
S24A **Houchin Ranch,** 95.48 41 ⇓P P 00 26 19.6 +0.1
baz=95
DRV **Dumont d'Urvil** 95.49 176 P P 00 26 07.0 -11
DRV **Dumont d'Urvil** 95.49 176 S SKSac 00 36 30.0 -22
DRV SS SS 00 43 32.0 -30
TUC **Tucson** 95.52 49 *e*P P 00 26 20.2 +0.7
TUC pmax pmax
comp=Z,141nm,2.5s
TUC MLR MLR
comp=Z,531nm,21.0s
TUC **Tucson** 95.52 49 *e*P P 00 26 20.1 +0.7
comp=Z,141nm,2.5s
TUC LR LR

comp=Z,531nm,21.0s
X20A Quemado 95.56 46 ⇓P P 00 26 20.4 +0.6
baz=95
ECSD EROS Data Cent 95.62 33 *e*P P 00 26 19.6 0.0
comp=Z,87nm,2.3s
ECSD LR LR
comp=Z,469nm,19.0s
V22A San Miguel Ran 95.63 44 ⇑P P 00 26 20.1 0.0
baz=95
R25A Fountain Ranch 95.67 41 ⇑P P 00 26 20.3 +0.2
baz=96
U23A El Rito 95.79 43 ⇑P P 00 26 21.7 +0.8
baz=96,SNR=7.6
S25A Robets Cordova 95.92 41 ⇓P P 00 26 21.7 +0.4
baz=96
R26A Arlington 96.04 40 ⇑P P 00 26 22.5 +0.7
baz=96
Y20A Horse Springs, 96.04 46 ⇓P P 00 26 22.8 +0.7
baz=96,SNR=8.8
X21A Alamocita Cree 96.06 45 ⇓P P 00 26 22.8 +0.7
baz=96,SNR=5.6
CASY Casey 96.13 188 PFAKE 00 26 30.0 +8.9
CASY LR LR
comp=Z,729nm,22.0s
V23A Ortiz Mt. (NFS 96.19 43 ⇓P P 00 26 22.8 +0.2
baz=96
R27A Eads 96.41 40 ⇓P P 00 26 24.4 +0.9
baz=96
Y21A Point of Rocks 96.42 46 ⇓P P 00 26 24.6 +0.8
baz=96,SNR=5.2
Z20A Nine Sixteen R 96.42 47 ⇑P P 00 26 24.6 +0.9
baz=96,SNR=12
ANMO Albuquerque 96.55 44 *e*P P 00 26 24.7 +0.4
comp=Z,93nm,2.8s
ANMO Albuquerque 96.55 44 LR LR 01 04 25.2
comp=Z,185nm,21.0s,baz=155,slow=32
W23A Werner Place, 96.60 44 ⇓P P 00 26 24.8 +0.3
baz=96
120A U Bar Ranch, L 96.76 47 ⇑P P 00 26 25.8 +0.6
baz=97
U25A Circle Dot Ran 96.80 42 ⇑P P 00 26 25.3 0.0
baz=97
Z21A St. Cloud Mine 96.88 46 ⇓P P 00 26 26.8 +1.0
baz=97,SNR=6.7
Y22A Socorro 96.91 45 ⇑P P 00 26 25.5 -0.4
baz=97
W24A Lazy 6 Ranch, 97.01 43 ⇑P Pdif 00 26 26.6 +0.1
baz=97
V25A Rancho No Teng 97.06 42 ⇓P Pdif 00 26 26.8 +0.1
baz=97
319A Douglas 97.09 48 ⇓P Pdif 00 26 27.3 +0.5
baz=97
U26A Atchley Ranch, 97.19 42 ⇑P Pdif 00 26 27.4 +0.2
baz=97
220A Playas Peak, P 97.25 48 ⇑P Pdif 00 26 28.0 +0.5
baz=97
T27A Campo 97.31 41 ⇑P Pdif 00 26 27.7 0.0
baz=97
121A Cookes Peak, D 97.32 47 ⇑P Pdif 00 26 28.0 +0.2
baz=97
Z22A Elephant Butte 97.36 46 ⇑P Pdif 00 26 28.4 +0.4
baz=97
Y23A Lovelace Mesa, 97.48 45 ⇓P Pdif 00 26 29.1 +0.5
baz=97
W25A X Bar L Ranch, 97.58 43 ⇑P Pdif 00 26 29.0 +0.1
baz=97
V26A Tequesquite Ra 97.58 42 ⇑P Pdif 00 26 29.2 +0.3
baz=97
Y25A Mesa, Roswell 98.32 44 ⇑P P 00 26 31.2 -1.0
baz=98
W27A Bowe Ranch, En 98.51 42 ⇑P Pdif 00 26 33.5 +0.5
baz=98
Z25A Roswell 98.74 44 ⇑Pdiff P 00 26 34.1 0.0
baz=99
224A Cornudas Mount 99.05 46 ⇓Pdiff Pdif 00 26 35.4 -0.2
baz=99
KSU1 Kansas State U 99.13 36 PFAKE 00 26 50.0 +14
KSU1 LR LR
comp=Z,400nm,19.0s
Z26A Caprock 99.20 44 ⇑Pdiff Pdif 00 26 35.9 -0.1
baz=99
125A Gardner Draw, 99.20 45 ⇓Pdiff Pdif 00 26 35.9 -0.3
baz=99
MBAR Mbarara 99.24 274 PFAKE 00 26 50.0 +13
MBAR LR LR
comp=Z,603nm,20.0s
Y27A Causey 99.27 43 ⇓Pdiff Pdif 00 26 36.0 -0.4
baz=99
324A Moseley Ranch, 99.50 46 ⇓Pdiff Pdif 00 26 37.1 -0.4
baz=99
ESDC Sonseca Array 99.93 326 P Pdif 00 26 37.8 -1.4
ESDC PP PP 00 30 37.3 -6.0
ESDC Sonseca Array 99.93 326 P Pdif 00 26 37.8 -1.4
comp=Z,0.2nm,0.3s,baz=26,slow=3.7,SNR=6.2
ESDC PP PP 00 30 37.3 -6.0
comp=Z,0.8nm,0.8s,baz=23,slow=7.0,SNR=3.2
ESDC LR LR 01 16 52.2
comp=Z,527nm,19.8s,baz=50,slow=38
PAB San Pablo 100.22 326 PFAKE 00 26 50.0 +10
PAB LR LR
comp=Z,1μm,19.0s
425A Indio Mountain 100.26 46 ⇑Pdiff Pdif 00 26 40.8 0.0
baz=100
326A Caldwell Ranch 100.53 45 ⇑Pdiff Pdif 00 26 41.7 -0.4
baz=100
Z29A Hungry Hill Ra 100.57 43 ⇑Pdiff Pdif 00 26 42.4 +0.2
baz=100
426A McDonald Obser 100.94 46 ⇑Pdiff Pdif 00 26 43.5 -0.5
baz=101
MTE Manteigas 101.04 329 PFAKE 00 27 00.0 +16
MTE LR LR
comp=Z,1μm,21.0s
427A Hayter Ranch, 101.21 45 ⇓Pdiff Pdif 00 26 44.8 -0.3
baz=101
526A Mary Lane Ranc 101.32 46 ⇑Pdiff Pdif 00 26 45.7 0.0
baz=101
TXAR Lajitas Array 102.08 47 P Pdif 00 26 48.8 -0.1
TXAR PP PP 00 30 46.5 -14
TXAR Lajitas Array 102.08 47 P Pdif 00 26 48.8 -0.1
comp=Z,1.0nm,0.8s,baz=277,slow=3.5,SNR=11
TXAR PP PP 00 30 46.5 -14
comp=Z,0.4nm,0.9s,baz=334,slow=3.5,SNR=3.6
ABTX Abilene, Hawle 102.24 42 ⇓Pdiff Pdif 00 26 49.8 +0.2
baz=102
AAM Ann Arbor 102.32 26 PFAKE 00 27 00.0 +10
AAM LR LR
comp=Z,536nm,20.0s
JCT Junction City 103.68 43 PFAKE 00 27 10.0 +14
JCT LR LR
comp=Z,379nm,20.0s
ERPA Erie 103.81 23 PFAKE 00 27 10.0 +14
ERPA LR LR
comp=Z,600nm,20.0s
MIAR Mount Ida 104.18 37 PFAKE 00 27 10.0 +12
MIAR LR LR
comp=Z,452nm,19.0s
ACSO Alum Creek Sta 104.36 26 PFAKE 00 27 10.0 +11
ACSO LR LR
comp=Z,413nm,19.0s
BINY Binghamton 105.04 20 PFAKE 00 31 30.0
BINY LR LR
comp=Z,1μm,20.0s
RTC Rabat Centre 105.82 325 PFAKE 00 31 30.0
RTC LR LR
comp=Z,639nm,20.0s
OXF Oxford 106.31 34 PFAKE 00 31 30.0
OXF LR LR
comp=Z,278nm,20.0s
TAM Tamanrasset 106.51 308 PFAKE 00 31 30.0
TAM LR LR
comp=Z,504nm,22.0s
PLAL Pickwick Lake 106.58 33 PFAKE 00 31 30.0
PLAL LR LR
comp=Z,392nm,22.0s
VBMS Vicksburg 107.59 36 PFAKE 00 31 30.0
VBMS LR LR
comp=Z,565nm,21.0s
BLA Blacksburg 107.97 26 PFAKE 00 31 30.0
BLA LR LR
comp=Z,591nm,19.0s
CBN Corbin 108.20 23 PFAKE 00 31 30.0
CBN LR LR
comp=Z,276nm,19.0s
LSZ Lusaka 108.23 262 PFAKE 00 31 30.0
LSZ LR LR
comp=Z,731nm,19.0s
LRAL Lakeview Retre 108.68 33 PFAKE 00 31 30.0
LRAL LR LR
comp=Z,351nm,19.0s
GOGA Godfrey 109.99 30 PFAKE 00 31 40.0
GOGA LR LR
comp=Z,523nm,20.0s
BRAL Brewton 110.31 34 PFAKE 00 31 40.0
BRAL LR LR
comp=Z,288nm,20.0s
CNNC Cliffs of the 110.67 25 PFAKE 00 31 40.0
CNNC LR LR
comp=Z,607nm,22.0s
NHSC New Hope 111.65 28 PFAKE 00 31 40.0
NHSC LR LR
comp=Z,536nm,20.0s
TORD Torodi Ar. Bea 115.60 303 PKP **PKPdf** **00 31 35.9 -1.0**
TORD PKKPbc **PKKPbc** **00 42 10.4 +1.5**
TORD Torodi Ar. Bea 115.60 303 PKP **PKPdf** **00 31 35.9 -1.0**
comp=Z,2.0nm,0.8s,baz=27,slow=2.5,SNR=11
TORD PKKPbc **PKKPbc** **00 42 10.4 +1.5**
comp=Z,1.1nm,0.9s,baz=212,slow=2.4,SNR=7.4
BOSA Boshof 115.94 250 PKP **PKPdf** **00 31 37.3 0.0**
BOSA Boshof 115.94 250 PKP **PKPdf** **00 31 37.3 0.0**
comp=Z,1.5nm,0.8s,baz=135,slow=1.4,SNR=3.1
TEIG Tepich 118.22 42 PFAKE 00 31 50.0 +8.2
TEIG LR LR
comp=Z,270nm,22.0s
TSUM Tsumeb 119.07 263 PFAKE 00 32 00.0 +16
TSUM LR LR
comp=Z,533nm,19.0s
SUR Sutherland 120.77 248 PFAKE 00 32 00.0 +13
SUR LR LR
comp=Z,705nm,19.0s
DBIC Dimbokro 124.70 303 PKP **PKPdf** **00 31 54.0 -0.5**
DBIC Dimbokro 124.70 303 PKP **PKPdf** **00 31 54.0 -0.5**
comp=Z,7.1nm,0.8s,baz=311,slow=1.5,SNR=9.7
LIC Lamto 125.12 302 ⇑*i*PKIKP **PKPdf** **00 31 55.0 -0.3**
comp=Z,25nm,0.8s
LIC *eR*
comp=Z,692nm,18.8s
LIC Lamto 125.12 302 ⇑*i*PKPdf **PKPdf** **00 31 55.0 -0.3**
GRTK Grand Turk 125.56 25 PFAKE 00 32 10.0 +14
GRTK LR LR
comp=Z,598nm,19.0s
MTDJ Mount Denham 125.68 34 PFAKE 00 32 10.0 +14
MTDJ LR LR
comp=Z,363nm,19.0s
NVL N'lazarevskaya 126.49 201 *e*PKIKP PKPdf 00 31 47.1 -9.0
NVL pmax pmax
comp=Z,4.0nm,0.6s
SDDR Presa de Saban 127.80 27 PFAKE 00 32 10.0 +10
SDDR LR LR
comp=Z,613nm,20.0s
JTS JuntasAbangare 127.87 47 PFAKE 00 32 10.0 +9.5
JTS LR LR
comp=Z,265nm,19.0s
SACV Santiago Islan 129.95 327 PFAKE 00 32 20.0 +16
SACV LR LR
comp=Z,473nm,19.0s
SDV Santo Domingo 137.07 32 *e*PKPdf **PKPdf** **00 32 18.0 0.0**
SDV LR LR
comp=Z,133nm,21.0s
OTAV Otavalo 139.65 49 *e*PKPdf **PKPdf** **00 32 22.8 -0.4**
OTAV LR LR
comp=Z,241nm,21.0s
ATAH Atahualpa 144.88 58 PKP **PKPdf** **00 32 32.2 -0.1**
ATAH Atahualpa 144.88 58 PKP **PKPdf** **00 32 32.2 -0.1**
comp=Z,31nm,0.9s,baz=317,slow=4.7,SNR=27
NNA Nana 149.12 63 *e*PKPbc **PKPbc** **00 32 42.1 -1.1**
NNA Nana 149.12 63 PKPbc **PKPbc** **00 32 43.5 +0.3**
comp=Z,25nm,0.8s,baz=325,slow=7.3,SNR=9.0
USHA Ushuaia 150.51 157 PKPbc **PKPbc** **00 32 46.0 +0.8**
USHA Ushuaia 150.51 157 PKPbc **PKPbc** **00 32 46.0 +0.8**
comp=Z,32nm,0.9s,baz=135,slow=2.2,SNR=12
RCBR Riachuelo 153.92 329 PKPbc **PKPbc** **00 32 54.0 -0.2**
RCBR LR LR
comp=Z,447nm,19.0s
RCBR Riachuelo 153.92 329 PKPbc **PKPbc** **00 32 54.0 -0.2**
comp=Z,9.2nm,0.9s,baz=315,slow=1.4,SNR=3.0
SAML Samuel 156.14 37 *e*PKPdf **PKPdf** **00 32 49.0 -0.3**
SAML LR LR
comp=Z,355nm,20.0s
SIV San Ignacio 163.05 43 PKP **PKPdf** **00 32 57.8 +0.6**
SIV PKPab **PKPab** **00 33 45.7 -1.1**
SIV San Ignacio 163.05 43 PKP **PKPdf** **00 32 57.8 +0.6**
comp=Z,4.7nm,0.9s,baz=282,slow=0.7,SNR=17
SIV PKPab **PKPab** **00 33 45.7 -1.1**
comp=Z,4.3nm,0.8s,baz=347,slow=3.8,SNR=4.2
CFAA Coronel Fontan 163.19 104 PKPab **PKPab** **00 33 46.4 -0.8**
CFAA Coronel Fontan 163.19 104 PKPab **PKPab** **00 33 46.4 -0.8**
comp=Z,0.9nm,0.9s,baz=256,slow=4.9,SNR=6.8
TRQA Tornquist 165.86 134 PFAKE 00 33 10.0 +11
TRQA LR LR
comp=Z,392nm,19.0s
BDFB Brasilia 166.80 356 PKP **PKPdf** **00 33 00.6 +0.2**
BDFB PKPab **PKPab** **00 34 02.1 -1.1**
BDFB Brasilia 166.80 356 PKP **PKPdf** **00 33 00.6 +0.2**
comp=Z,3.2nm,0.8s,baz=153,slow=2.3,SNR=5.6
BDFB PKPab **PKPab** **00 34 02.1 -1.1**
comp=Z,5.4nm,0.8s,baz=353,slow=3.0,SNR=4.6
CPUP Villa Florida 172.23 73 PKP **PKPdf** **00 33 03.8 +0.5**
CPUP Villa Florida 172.23 73 PKP **PKPdf** **00 33 03.8 +0.5**
comp=Z,2.0nm,0.7s,baz=245,slow=1.4,SNR=5.4
SPB Sao Paulo 174.54 344 PFAKE 00 33 10.0 +5.8
SPB LR LR
comp=Z,435nm,20.0s

*UPP **21** 00:18:46.1,67.82N×20.19E,h0km,ML0.8,Mining explosion.*
*CSEM **21** 00:18:46.1,67.82N×20.19E,h0km,ML0.8,Mining explosion. After UPP*
*HEL **21** 00:18:51.9±0.9,67.95N×20.36E,h0km,ML1.1,Explosion*
ISC 21 00:18:46.9±0.8,67.81N×20.21E±0.02,h0km,n12,
σ0s97/18,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.16**	**18**	P	**Pg**	**00 18 49.1**	**-0.7**
KUA				S	**Sg**	**00 18 51.2**	**-0.6**
NIKU	**Nikkaluokta**	**0.45**	**278**	P	**Pg**	**00 18 54.6**	**-0.9**
DUNU	**Dundret**	**0.70**	**169**	P	**Pg**	**00 18 59.6**	**-0.7**
LANU	**Lannavaara**	**0.71**	**69**	PG	**Pb**	**00 19 01.7**	**-0.5**
baz=270							
LANU				SG	**Sb**	**00 19 11.1**	**-1.4**
LANU				RG	Rg	00 19 12.1	
LANU	**Lannavaara**	**0.71**	**69**	P	**Pg**	**00 18 59.5**	**-1.0**
MASU	**Masugnsbyn**	**0.77**	**116**	P	**Pg**	**00 19 01.0**	**-0.6**
KIF	**Kilpisjarvi**	**1.22**	**10**	PG	**Pn**	**00 19 12.4**	**+1.3**
KIF				SG	**Sn**	**00 19 28.6**	**+0.2**
KIF				MSG		00 19 28.6	
comp=Z,1.2nm,0.2s							
KIF				RG	Rg	00 19 31.5	
HEF	**Hetta**	**1.43**	**63**	PG	**Pb**	**00 19 15.5**	**+1.2**
HEF				SG	**Sn**	**00 19 33.9**	**+0.5**
HEF				MSG		00 19 33.9	
comp=Z,1.4nm,0.4s							
HEF				RG	Rg	00 19 39.1	
SGF	**Sodankyl**	**2.44**	**96**	SG	**Sg**	**00 20 06.8**	**+1.5**
SGF				MSG		00 20 06.8	
comp=Z,0.6nm,0.2s							
RNF	**Rovaniemi**	**2.56**	**115**	PN	**Pg**	**00 19 34.2**	**-1.6**
baz=306							
RNF				SG	**Sg**	**00 20 08.9**	**-0.1**
RNF				MSG		00 20 08.9	
comp=Z,0.8nm,0.2s							
ARA0	**ARCESS Array S**	**2.60**	**46**	PN	**Pb**	**00 19 33.5**	**-0.8**
baz=228							
ARA0				SG	**Sb**	**00 20 07.4**	**+0.7**
ARA0				MSG		00 20 07.4	
comp=Z,0.5nm,0.2s							
MSF	**Maaselka**	**3.97**	**115**	SG	**Sg**	**00 20 54.8**	**+0.6**
MSF				MSG		00 20 54.8	
comp=Z,0.4nm,0.4s							

*DDA **21** 00:23:46.0,39.12N×29.09E,h14km,MD2.8*
*ISK **21** 00:23:45.6,39.12N×28.98E,h8km,MD2.6*
*ISCJB **21** 00:23:46.1±0.5,39.10N±0.03×29.07E±0.03,h4km±6km, Error ellipse: s-maj=5.6km s-min=4.0km az=158.7*
*CSEM **21** 00:23:46.3±0.2,39.11N×29.05E,h8km,MD2.8,Error ellipse: s-maj=4.0km s-min=3.5km az=149.0*
ISC 21 00:23:46.0±1.1,39.12N±0.03×29.03E±0.02,h5km±11km,
n38,σ0s62/52,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**252**	*i* P	**Pb**	**00 23 52.6**	**-0.5**
DEMI				*i* S	**Sb**	**00 23 56.8**	**-1.0**
DEMI	**Demirci**	**0.25**	**252**	*i* P	**Pb**	**00 23 52.6**	**-0.5**
DEMI				*i* S	**Sb**	**00 23 56.8**	**-1.0**
GDZ	**Gediz**	**0.36**	**95**	*i* P	**Pg**	**00 23 52.9**	**0.0**
GDZ				*i* S	**Sg**	**00 23 57.4**	**-0.3**
GDZ	**Gediz**	**0.36**	**95**	*i* P	**Pg**	**00 23 52.9**	**0.0**
GDZ				*i* S	**Sg**	**00 23 57.4**	**-0.3**
TVSB	**Tavsanli**	**0.47**	**46**	*e*Pg	**Pg**	**00 23 55.0**	**-0.1**
TVSB	**Tavsanli**	**0.47**	**46**	*e*PG	**Pg**	**00 23 55.0**	**-0.1**
DURS	**Dursunbey**	**0.64**	**319**	*i* P	**Pb**	**00 23 60.0**	**+0.3**
DURS				*i* S	**Sb**	**00 24 09.0**	**0.0**
DURS	**Dursunbey**	**0.64**	**319**	*i* P	**Pb**	**00 24 00.0**	**+0.3**
DURS				*i* S	**Sb**	**00 24 09.0**	**0.0**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*PG	**Pg**	**00 23 59.0**	**+0.2**
KULA				*e*SG	**Sg**	**00 24 08.0**	**+0.5**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*Pg	**Pg**	**00 23 59.0**	**+0.2**
KULA				*e*Sg	**Sg**	**00 24 08.0**	**+0.5**
MANT	**Manisa**	**0.73**	**210**	*i* P	**Pg**	**00 24 00.7**	**+0.7**
MANT				*i* S	**Sg**	**00 24 10.0**	**+0.6**
MANT	**Manisa**	**0.73**	**210**	*i* P	**Pg**	**00 24 00.7**	**+0.7**
MANT				*i* S	**Sg**	**00 24 10.0**	**+0.6**
ALT	**Altintas**	**0.85**	**94**	*e*PG	**Pb**	**00 24 03.2**	**0.0**
ALT	**Altintas**	**0.85**	**94**	*e*Pg	**Pb**	**00 24 03.2**	**0.0**
KHL	**Karahalli**	**0.89**	**154**	*e*PG	**Pg**	**00 24 03.2**	**+0.2**
KHL	**Karahalli**	**0.89**	**154**	*e*Pg	**Pg**	**00 24 03.2**	**+0.2**
AKHS	**Akhisar**	**0.97**	**256**	*i* P	**Pn**	**00 24 06.1**	**-0.2**
AKHS				*i* S	**Sn**	**00 24 20.0**	**-0.5**
AKHS	**Akhisar**	**0.97**	**256**	*i* P	**Pn**	**00 24 06.1**	**-0.2**
AKHS				*i* S	**Sn**	**00 24 20.0**	**-0.5**
AKS	**Akhisar**	**0.97**	**256**	*e*PG	**Pg**	**00 24 04.0**	**-0.7**
AKS	**Akhisar**	**0.97**	**256**	*e*Pg	**Pg**	**00 24 04.0**	**-0.7**
BALB	**Balikesir**	**1.03**	**301**	*e*PG	**Pg**	**00 24 04.8**	**-0.9**
BALB	**Balikesir**	**1.03**	**301**	*e*Pg	**Pg**	**00 24 04.8**	**-0.9**
BALY	**Balya**	**1.25**	**300**	*e*P	**Pg**	**00 24 11.5**	**+1.5**
BALY				*e*S	**Sn**	**00 24 28.9**	**+1.5**
BALY	**Balya**	**1.25**	**300**	*e*P	**Pg**	**00 24 11.5**	**+1.5**
BALY				*e*S	**Sn**	**00 24 28.9**	**+1.5**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*PN	**Pg**	**00 24 10.1**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**355**	*e*Pn	**Pg**	**00 24 10.1**	**+0.1**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*PN	**Pb**	**00 24 10.1**	**0.0**
KCTX	**Karacabey (Bur**	**1.25**	**336**	*e*Pn	**Pb**	**00 24 10.1**	**0.0**
GONE	**Gonen-Balikesi**	**1.39**	**312**	*e*PN	**Pn**	**00 24 11.4**	**-0.5**
GONE	**Gonen-Balikesi**	**1.39**	**312**	*e*Pn	**Pn**	**00 24 11.4**	**-0.5**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*PN	**Pb**	**00 24 12.5**	**-0.5**
ADVT	**Abdulvahap**	**1.42**	**23**	*e*Pn	**Pb**	**00 24 12.5**	**-0.5**
ARMT	**Armutlu**	**1.45**	**355**	*e*PN	**Pn**	**00 24 12.5**	**-0.3**
ARMT	**Armutlu**	**1.45**	**355**	*e*Pn	**Pn**	**00 24 12.5**	**-0.3**
YLV	**Yalova**	**1.47**	**10**	*e*PN	**Pb**	**00 24 13.5**	**-0.3**
YLV	**Yalova**	**1.47**	**10**	*e*Pn	**Pb**	**00 24 13.5**	**-0.3**
GULT	**Gulveren**	**1.74**	**41**	*e*PN	**Pn**	**00 24 17.2**	**+0.4**
GULT	**Gulveren**	**1.74**	**41**	*e*Pn	**Pn**	**00 24 17.3**	**+0.4**

*IDC **21** 00:47:31.7±1.6,11.21N×125.44E,h0km,mb3.5/7, mb1 3.6/7,mb1mx3.5/24,mbtmp3.5/7,MS3.8/1,Ms1 3.8/1, ms1mx3.2/21,Error ellipse: s-maj=170.8km s-min=18.0km az=68.0*
*MAN **21** 00:47:32,11.07N×124.76E,h1km,mb4.0,ML2.8,MS2.5*
*ISCJB **21** 00:47:33.0±0.6,11.04N±0.05×124.74E±0.04,h12km±4km, mb3.5/7,MS3.8/1,Error ellipse: s-maj=8.8km s-min=6.4km az=144.6*
ISC 21 00:47:33.0±1.3,10.99N±0.04×124.76E±0.06,h3km±10km,
n13,σ0s73/15,mb3.5/7,2D,Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.16**	**291**	*e*P	**Pg**	**00 47 36.0**	**-0.2**
OCLP				*e*S	**Sg**	**00 47 37.9**	**-0.4**
PLP	**Palo**	**0.27**	**51**	⇓*e*P	Pg	00 47 39.8	+1.5
PLP				*i* S	**Sg**	**00 47 42.4**	**+0.5**
MSLP	**Maasin**	**0.86**	**174**	*e*P	**Pn**	**00 47 51.7**	**-0.2**
MSLP				*e*S	**Sg**	**00 48 00.7**	**+0.1**
LLP	**Lapu-Lapu**	**1.03**	**229**	⇓*e*P	**Pg**	**00 47 52.6**	**-0.2**
LLP				*e*S	**Sg**	**00 48 07.2**	**+1.0**
TBP	**Tagbilaran**	**1.57**	**215**	*e*P	**Pg**	**00 48 03.1**	**+0.1**
WRA	**Warramunga Arr**	**32.15**	**163**	P	**P**	**00 54 00.5**	**-1.5**
0.3nm,0.3s,baz=346,slow=9.0,SNR=3.0							
ASAR	**Alice Springs**	**35.59**	**166**	P	**P**	**00 54 32.2**	**+0.3**
1.0nm,0.7s,baz=347,slow=8.1,SNR=12							
SONM	**Songino Array**	**39.84**	**341**	P	**P**	**00 55 07.6**	**-0.2**
0.2nm,0.4s,baz=160,slow=7.4,SNR=2.7							
HNR	**Honiara**	**40.45**	**119**	LR	LR	01 09 42.1	
comp=Z,112nm,18.5s,baz=330,slow=33							
MKAR	**Makanchi Array**	**50.56**	**323**	P	**P**	**00 56 34.1**	**+1.3**
0.3nm,0.7s,baz=118,slow=7.5,SNR=4.5							
ZALV	**Zalesovo Beam**	**53.29**	**332**	P	**P**	**00 56 53.0**	**0.0**
0.2nm,0.4s,baz=132,slow=8.6,SNR=2.5							
KURBB	**Kurchatov Arra**	**54.64**	**326**	P	**P**	**00 57 03.4**	**+0.4**
0.4nm,0.8s,baz=127,slow=7.7,SNR=4.6							
BVAR	**Borovoye Array**	**60.23**	**326**	P	**P**	**00 57 42.3**	**-0.1**
0.8nm,1.0s,baz=101,slow=6.0,SNR=4.2							

*IGIL **21** 00:51:17.6,36.68N×7.49W,h21km,ML1.5*
*INMG **21** 00:51:17.9±1.2,36.69N×7.49W,h22km±3km,ML1.7,Error ellipse: s-maj=4.5km s-min=2.2km az=45.0*
*CSEM **21** 00:51:17.9±0.2,36.75N×7.41W,h40km,ML1.7,Error ellipse: s-maj=4.6km s-min=2.3km az=20.0*
*MDD **21** 00:51:17.5±0.8,36.65N×7.49W,h39km±15km,mb4.1/7, mbLg2.0/18,Error ellipse: s-maj=9.2km s-min=4.7km az=28.0,PRXIMO*
ISC 21 00:51:15.5±1.5,36.65N±0.06×7.49W±0.03,h29km±12km,
n96,σ0s79/112,1C-4D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBDV	**Barranco-do-Ve**	**0.69**	**329**	*i* Pg	**Pn**	**00 51 30.2**	**+0.8**
PBDV				*e*Sg	**Sn**	**00 51 39.3**	**+0.1**
PBDV				A	A	00 51 40.4	
9.5nm,0.1s							
PBDV	**Barranco-do-Ve**	**0.69**	**329**	⇓P	**Pn**	**00 51 30.2**	**+0.8**
PBDV				S	**Sn**	**00 51 39.3**	**+0.1**
9.5nm,0.1s							
PBDV	**Barranco-do-Ve**	**0.69**	**329**	P	**Pn**	**00 51 30.2**	**+0.8**
PBDV				S	**Sn**	**00 51 39.3**	**+0.1**
9.5nm,0.1s							
PVAQ	**Vaqueiros**	**0.78**	**346**	*i* P	**Pn**	**00 51 31.4**	**+0.8**
PVAQ				*e*S	**Sn**	**00 51 41.0**	**-0.3**
PVAQ				A	A	00 51 42.0	
32nm,0.2s							
PVAQ	**Vaqueiros**	**0.78**	**346**	⇓P	**Pn**	**00 51 31.4**	**+0.8**
PVAQ				S	**Sn**	**00 51 41.0**	**-0.3**
32nm,0.2s							
PVAQ	**Vaqueiros**	**0.78**	**346**	P	**Pn**	**00 51 31.4**	**+0.8**
PVAQ				S	**Sn**	**00 51 41.0**	**-0.3**
32nm,0.2s							
EGRO	**El Granado**	**0.89**	**0**	⇓P	**Pb**	**00 51 33.1**	**+0.7**
2.3nm,0.1s,SNR=18							
EGRO				S	**Sn**	**00 51 44.1**	**+0.2**
32nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**0.89**	**0**	P	**Pb**	**00 51 33.1**	**+0.7**
2.3nm,0.1s,SNR=18							
EGRO				S	**Sn**	**00 51 44.1**	**+0.2**
32nm,0.1s,SNR=7.9							
PCVE	**Castro Verde**	**1.08**	**336**	*e*P	**Pb**	**00 51 35.8**	**+0.2**
PCVE				*e*S	**Sb**	**00 51 49.0**	**-0.3**
PCVE				A	A	00 51 49.5	
7.1nm,0.3s							
PCVE	**Castro Verde**	**1.08**	**336**	P	**Pb**	**00 51 35.8**	**+0.2**
PCVE				S	**Sb**	**00 51 49.0**	**-0.3**
7.1nm,0.3s							
PCVE	**Castro Verde**	**1.08**	**336**	*e*P	**Pb**	**00 51 35.8**	**+0.2**
PCVE				S	**Sb**	**00 51 49.0**	**-0.3**
7.1nm,0.3s							
MORF	**Marmelete**	**1.14**	**306**	*e*P	**Pn**	**00 51 36.1**	**+0.5**
MORF				*e*S	**Sn**	**00 51 49.9**	**-0.4**
MORF				A	A	00 51 56.8	
8.5nm,0.1s							
MORF	**Marmelete**	**1.14**	**306**	P	**Pn**	**00 51 36.1**	**+0.5**
MORF				S	**Sn**	**00 51 49.9**	**-0.4**
8.5nm,0.1s							
MORF	**Marmelete**	**1.14**	**306**	*e*P	**Pn**	**00 51 36.1**	**+0.5**
MORF				S	**Sn**	**00 51 49.9**	**-0.4**
8.5nm,0.1s							
EMIN	**Mina Concepcio**	**1.29**	**30**	⇑P	**Pb**	**00 51 38.6**	**-0.7**
0.6nm,0.1s,SNR=18							
EMIN				S	**Sn**	**00 51 53.5**	**-0.5**
3.4nm,0.1s,SNR=14							

EMIN	**Mina Concepcio**	**1.29**	**30**	P	**Pb**	**00 51 38.6**	**-0.7**
	0.6nm,0.1s,SNR=18							
EMIN				S	**Sn**	**00 51 53.5**	**-0.5**
	3.4nm,0.1s,SNR=14							
MESJ	**Messejana**	**1.33**	**334**	*e*P	**Pb**	**00 51 39.1**	**-0.7**
MESJ				*e*S	**Sn**	**00 51 54.9**	**+0.1**
MESJ				AML	AML	00 51 55.3	
	comp=N,3.6nm,0.1s							
MESJ	**Messejana**	**1.33**	**334**	*e*P	**Pb**	**00 51 39.1**	**-0.7**
MESJ				*e*S	**Sn**	**00 51 54.9**	**+0.1**
MESJ	**Messejana**	**1.33**	**334**	P	**Pb**	**00 51 39.1**	**-0.7**
MESJ				S	**Sn**	**00 51 54.9**	**+0.1**
MESJ	**Messejana**	**1.33**	**334**	*e*P	**Pb**	**00 51 39.1**	**-0.7**
MESJ				*e*S	**Sn**	**00 51 54.9**	**+0.1**
ESPR	**Espera**	**1.33**	**80**	∥P	**Pb**	**00 51 39.4**	**-0.4**
	comp=N,8.0nm,0.1s,SNR=18							
ESPR				S	**Sn**	**00 51 54.0**	**-0.8**
	comp=N,30nm,0.2s,SNR=9.5							
ESPR	**Espera**	**1.33**	**80**	P	**Pb**	**00 51 39.4**	**-0.4**
	comp=N,8.0nm,0.1s,SNR=18							
ESPR				S	**Sn**	**00 51 54.0**	**-0.8**
	comp=N,30nm,0.2s,SNR=9.5							
PTEO	**Sao Teotonio**	**1.34**	**313**	*e*P	**Pb**	**00 51 39.2**	**-0.7**
PTEO				*e*S	**Sn**	**00 51 54.6**	**-0.4**
PTEO				A	A	00 51 55.1	
	comp=N,4.9nm,0.6s							
PTEO	**Sao Teotonio**	**1.34**	**313**	P	**Pb**	**00 51 39.2**	**-0.7**
PTEO				S	**Sn**	**00 51 54.6**	**-0.4**
	comp=N,2.5nm,0.6s							
PTEO	**Sao Teotonio**	**1.34**	**313**	*e*P	**Pb**	**00 51 39.2**	**-0.7**
PTEO				S	**Sn**	**00 51 54.6**	**-0.4**
	comp=N,2.5nm,0.6s							
PBEJ	**Beja**	**1.41**	**348**	*e*P	**Pn**	**00 51 40.2**	**+0.9**
PBEJ				*e*S	**Sn**	**00 51 56.5**	**-0.4**
PBEJ				A	A	00 52 01.8	
	comp=N,2.4nm,0.3s							
PBEJ	**Beja**	**1.41**	**348**	P	**Pn**	**00 51 40.2**	**+0.9**
PBEJ				S	**Sn**	**00 51 56.5**	**-0.4**
	comp=N,1.2nm,0.3s							
PBEJ	**Beja**	**1.41**	**348**	*e*P	**Pn**	**00 51 40.2**	**+0.9**
PBEJ				S	**Sn**	**00 51 56.5**	**-0.4**
	comp=N,1.2nm,0.3s							
PBAR	**Barrancos**	**1.57**	**13**	*e*P	**Pn**	**00 51 42.5**	**+1.1**
PBAR				*e*S	**Sn**	**00 52 00.6**	**-0.1**
PBAR				A	A	00 52 10.1	
	comp=N,4.0nm,0.3s							
PBAR	**Barrancos**	**1.57**	**13**	P	**Pn**	**00 51 42.5**	**+1.1**
PBAR				S	**Sn**	**00 52 00.6**	**-0.1**
	comp=N,4.0nm,0.3s							
PBAR	**Barrancos**	**1.57**	**13**	*e*P	**Pn**	**00 51 42.5**	**+1.1**
PBAR				S	**Sn**	**00 52 00.6**	**-0.1**
	comp=N,4.0nm,0.3s							
PNCL	**Nicolau / Gran**	**1.68**	**331**	*e*Pn	**Pn**	**00 51 43.9**	**+0.9**
PNCL				*e*Sn	**Sn**	**00 52 04.3**	**+0.7**
PNCL				A	A	00 52 17.3	
	comp=N,2.9nm,0.4s							
PNCL	**Nicolau / Gran**	**1.68**	**331**	*e*Pn	**Pn**	**00 51 43.9**	**+0.9**
PNCL				*e*Sn	**Sn**	**00 52 04.3**	**+0.7**
	comp=N,2.9nm,0.4s							
EBAD	**Badajoz**	**2.14**	**10**	P	**Pn**	**00 51 50.0**	**+0.7**
	comp=N,0.3nm,0.1s,SNR=7.9							
EBAD				S	**Sn**	**00 52 13.3**	**-1.5**
	comp=N,1.0nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**2.14**	**10**	P	**Pn**	**00 51 50.0**	**+0.7**
	comp=N,0.3nm,0.1s,SNR=7.9							
EBAD				S	**Sn**	**00 52 13.3**	**-1.5**
	comp=N,1.0nm,0.1s,SNR=7.9							
EMIJ	**Mijas**	**2.19**	**91**	S	Sn	00 52 14.2	-1.8
	comp=N,0.0nm,0.1s,SNR=7.9							
EMIJ	**Mijas**	**2.19**	**91**	S	Sn	00 52 14.2	-1.8
	SNR=7.9							
PESTR	**Estremoz**	**2.22**	**358**	*e*Pn	**Pn**	**00 51 51.2**	**+0.8**
PESTR				*e*Sn	**Sn**	**00 52 16.3**	**-0.5**
PESTR				A	A	00 52 29.3	
	comp=N,2.9nm,0.5s							
PESTR	**Estremoz**	**2.22**	**358**	P	**Pn**	**00 51 51.2**	**+0.8**
PESTR				S	**Sn**	**00 52 16.3**	**-0.5**
	comp=N,2.9nm,0.5s							
PESTR	**Estremoz**	**2.22**	**358**	P	**Pn**	**00 51 51.2**	**+0.8**
PESTR				S	**Sn**	**00 52 16.3**	**-0.5**
	comp=N,2.9nm,0.5s							
PMTG	**Montargil**	**2.49**	**347**	*e*Pn	**Pn**	**00 51 55.2**	**+1.1**
PMTG				*e*Sn	**Sn**	**00 52 24.0**	**+0.5**
PMTG				A	A	00 52 37.3	
	comp=N,2.3nm,0.7s							
PMTG	**Montargil**	**2.49**	**347**	*e*Pn	**Pn**	**00 51 55.2**	**+1.1**
PMTG				*e*Sn	**Sn**	**00 52 24.0**	**+0.5**
	comp=N,2.3nm,0.7s							
PMAFR	**Mafra**	**2.71**	**329**	*e*Pn	**Pn**	**00 51 58.5**	**+1.4**
PMAFR	**Mafra**	**2.71**	**329**	P	**Pn**	**00 51 57.9**	**+0.8**
	comp=N,1.0nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**2.71**	**329**	P	**Pn**	**00 51 57.9**	**+0.8**
	comp=N,1.0nm,0.1s,SNR=7.9							
PMAFR	**Mafra**	**2.71**	**329**	*e*Pn	**Pn**	**00 51 58.5**	**+1.4**
ELUQ	**Luque**	**2.73**	**70**	S	Sn	00 52 28.5	-1.0
	comp=N,2.1nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**2.73**	**70**	S	Sn	00 52 28.5	-1.0
	comp=N,2.1nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**2.77**	**56**	P	**Pn**	**00 51 59.2**	**+1.2**
	comp=N,0.7nm,0.1s,SNR=7.9							
EADA				S	Sn	00 52 29.3	-1.2
	comp=N,0.5nm,0.0s,SNR=7.9							
EADA	**Adamuz**	**2.77**	**56**	P	**Pn**	**00 51 59.2**	**+1.2**
	comp=N,0.7nm,0.1s,SNR=7.9							
EADA				S	Sn	00 52 29.3	-1.2
	comp=N,0.5nm,0.0s,SNR=7.9							
PMRV	**Marv??o**	**2.78**	**2**	*e*Pn	**Pn**	**00 51 58.8**	**+0.7**
PMRV				*e*Sn	Sn	00 52 28.9	-1.8
PMRV				A	A	00 52 46.4	
	comp=N,2.2nm,0.5s							
PMRV	**Marv??o**	**2.78**	**2**	P	**Pn**	**00 51 58.8**	**+0.7**
PMRV				S	Sn	00 52 28.9	-1.8
	comp=N,2.2nm,0.5s							
PMRV	**Marv??o**	**2.78**	**2**	P	**Pn**	**00 51 58.8**	**+0.7**
PMRV				S	Sn	00 52 28.9	-1.8
	comp=N,2.2nm,0.5s							
PTOM	**Tomar**	**3.06**	**346**	*e*Pn	**Pn**	**00 52 02.8**	**+0.9**
PTOM	**Tomar**	**3.06**	**346**	P	**Pn**	**00 52 02.8**	**+0.9**
PTOM	**Tomar**	**3.06**	**346**	P	**Pn**	**00 52 02.8**	**+0.9**
EGUA	**Guajares**	**3.15**	**85**	P	**Pn**	**00 52 04.6**	**+1.3**
	comp=N,1.4nm,0.2s,SNR=7.9							
EGUA				S	Sn	00 52 38.4	-1.6
	comp=N,0.8nm,0.1s,SNR=7.9							
EGUA	**Guajares**	**3.15**	**85**	P	**Pn**	**00 52 04.6**	**+1.3**
	comp=N,1.4nm,0.2s,SNR=7.9							
EGUA				S	Sn	00 52 38.4	-1.6
	comp=N,0.8nm,0.1s,SNR=7.9							
PCBR	**Castelo Branco**	**3.19**	**0**	*e*Pn	**Pn**	**00 52 04.7**	**+1.0**
PCBR				*e*Sn	**Sn**	**00 52 40.0**	**-0.7**
PCBR				A	A	00 52 41.3	
	comp=N,2.5nm,0.3s							
PCBR	**Castelo Branco**	**3.19**	**0**	P	**Pn**	**00 52 04.7**	**+1.0**
PCBR				S	**Sn**	**00 52 40.0**	**-0.7**
	comp=N,1.2nm,0.3s							
PCBR	**Castelo Branco**	**3.19**	**0**	P	**Pn**	**00 52 04.7**	**+1.0**
PCBR				S	**Sn**	**00 52 40.0**	**-0.7**
	comp=N,1.2nm,0.3s							
EBAN	**Banos Encina**	**3.31**	**62**	P	Pn	00 52 05.7	+0.2
	comp=N,5.0nm,0.1s,SNR=18							
EBAN				S	Sn	00 52 42.1	-1.7
	comp=N,1.4nm,0.1s,SNR=7.9							
EBAN	**Banos Encina**	**3.31**	**62**	P	Pn	00 52 05.7	+0.2
	comp=N,5.0nm,0.1s,SNR=18							
EBAN				S	Sn	00 52 42.1	-1.7
	comp=N,1.4nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**3.59**	**18**	P	**Pn**	**00 52 09.9**	**+0.7**
	comp=N,0.6nm,0.1s,SNR=7.9							
EPLA				S	Sn	00 52 48.7	-1.9
	comp=N,1.2nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**3.59**	**18**	P	**Pn**	**00 52 09.9**	**+0.7**
	comp=N,0.6nm,0.1s,SNR=7.9							
EPLA				S	Sn	00 52 48.7	-1.9
	comp=N,1.2nm,0.1s,SNR=7.9							
EQES	**Quesada**	**3.71**	**71**	P	Pn	00 52 11.2	+0.2
	comp=N,0.3nm,0.1s,SNR=7.9							
EQES				S	Sn	00 52 52.7	-1.0
	comp=N,0.4nm,0.1s,SNR=7.9							
EQES	**Quesada**	**3.71**	**71**	P	Pn	00 52 11.2	+0.2
	comp=N,0.3nm,0.1s,SNR=7.9							
EQES				S	Sn	00 52 52.7	-1.0
	comp=N,0.4nm,0.1s,SNR=7.9							
MTE	**Manteigas**	**3.75**	**359**	*e*Sn	Sn	00 52 52.9	-1.7
MTE	**Manteigas**	**3.75**	**359**	S	Sn	00 52 52.9	-1.7
MTE	**Manteigas**	**3.75**	**359**	S	Sn	00 52 52.9	-1.7
EHUE	**Huescar**	**4.08**	**72**	P	Pn	00 52 16.7	+0.7
	comp=N,0.4nm,0.1s,SNR=7.9							
EHUE				S	Sn	00 53 00.9	-1.9
	comp=N,0.1nm,0.1s,SNR=7.9							
EHUE	**Huescar**	**4.08**	**72**	P	Pn	00 52 16.7	+0.7
	comp=N,0.4nm,0.1s,SNR=7.9							
EHUE				S	Sn	00 53 00.9	-1.9
	comp=N,0.1nm,0.1s,SNR=7.9							
PVIS	**Viseu**	**4.08**	**356**	*e*Sn	**Sn**	**00 53 01.7**	**-1.0**
PVIS	**Viseu**	**4.08**	**356**	S	**Sn**	**00 53 01.7**	**-1.0**
PVIS	**Viseu**	**4.08**	**356**	S	**Sn**	**00 53 01.7**	**-1.0**
ESDC	**Sonseca Array**	**4.10**	**42**	P	**Pn**	**00 52 17.2**	**+0.9**
	comp=N,6.6nm,0.1s,baz=223,slow=14,SNR=7.4							
ESDC	**Sonseca Array**	**4.10**	**42**	P	**Pn**	**00 52 17.2**	**+0.9**
	comp=N,6.6nm,0.1s,baz=223,slow=14,SNR=7.4							
EVIA	**Vianos**	**4.43**	**62**	P	Pn	00 52 21.0	+0.2
	comp=N,2.2nm,0.1s,SNR=7.9							
EVIA				S	Sn	00 53 09.6	-1.8
	comp=N,0.6nm,0.1s,SNR=7.9							
EVIA	**Vianos**	**4.43**	**62**	P	Pn	00 52 21.0	+0.2
	comp=N,2.2nm,0.1s,SNR=7.9							
EVIA				S	Sn	00 53 09.6	-1.8
	comp=N,0.6nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**4.53**	**4**	*e*Pn	**Pn**	**00 52 22.8**	**+0.7**
MVO				*e*Sn	Sn	00 53 11.1	-2.7
MVO				A	A	00 53 12.7	
	comp=N,2.5nm,0.6s							
MVO	**Moncorvo**	**4.53**	**4**	P	Pn	00 52 22.6	+0.4
	comp=N,1.0nm,0.1s,SNR=7.9							
MVO				S	Sn	00 53 11.2	-2.7
	comp=N,0.6nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**4.53**	**4**	P	Pn	00 52 22.6	+0.4
	comp=N,1.0nm,0.1s,SNR=7.9							
MVO				S	Sn	00 53 11.2	-2.6
	comp=N,0.6nm,0.1s,SNR=7.9							
POLO	**Lamas de Olo**	**4.73**	**357**	*e*Sn	Sn	00 53 16.3	-2.5
POLO				A	A	00 53 18.1	
	comp=N,1.2nm,0.8s							
POLO	**Lamas de Olo**	**4.73**	**357**	*e*Sn	Sn	00 53 16.3	-2.5
	comp=N,1.2nm,0.8s							
GUD	**Guadarrama**	**4.77**	**32**	P	Pn	00 52 26.2	+0.7
	comp=N,0.2nm,0.1s,SNR=7.9							
GUD				S	Sn	00 53 17.1	-2.8
	comp=N,0.2nm,0.1s,SNR=7.9							
GUD	**Guadarrama**	**4.77**	**32**	P	Pn	00 52 26.2	+0.7
	comp=N,0.2nm,0.1s,SNR=7.9							
GUD				S	Sn	00 53 17.1	-2.8
	comp=N,0.2nm,0.1s,SNR=7.9							
ETOB	**Tobarra**	**5.12**	**65**	P	Pn	00 52 30.5	+0.2
	comp=N,0.8nm,0.1s,SNR=14							
ETOB				S	Sn	00 53 26.2	-2.2
	comp=N,0.8nm,0.1s,SNR=6.1							
ETOB	**Tobarra**	**5.12**	**65**	P	Pn	00 52 30.5	+0.2
	comp=N,0.8nm,0.1s,SNR=14							
ETOB				S	Sn	00 53 26.2	-2.2
	comp=N,0.8nm,0.1s,SNR=6.1							
ELOB	**Lobios**	**5.23**	**355**	P	Pn	00 52 31.6	-0.3
	comp=N,0.4nm,0.1s,SNR=7.9							
ELOB				S	Sn	00 53 27.6	-3.7
	comp=N,0.6nm,0.1s,SNR=5.8							
ELOB	**Lobios**	**5.23**	**355**	P	Pn	00 52 31.6	-0.3
	comp=N,0.4nm,0.1s,SNR=7.9							
ELOB				S	Sn	00 53 27.6	-3.7
	comp=N,0.6nm,0.1s,SNR=5.8							
ECAL	**Calabor**	**5.32**	**6**	S	Sn	00 53 31.0	-2.4
	comp=N,0.5nm,0.1s,SNR=7.9							
ECAL	**Calabor**	**5.32**	**6**	S	Sn	00 53 31.0	-2.4
	comp=N,0.5nm,0.1s,SNR=7.9							
PGAV	**Gavieira, Arco**	**5.35**	**354**	*e*Sn	**Sn**	**00 53 32.5**	**-1.6**
PGAV	**Gavieira, Arco**	**5.35**	**354**	*e*Sn	**Sn**	**00 53 32.5**	**-1.6**
ETOR	**Torete**	**5.95**	**44**	P	**Pn**	**00 52 42.6**	**+0.9**
	comp=N,0.4nm,0.1s,SNR=7.9							
ETOR				S	Sn	00 53 44.8	-4.1
	comp=N,1.7nm,0.1s,SNR=7.9							
ETOR	**Torete**	**5.95**	**44**	P	**Pn**	**00 52 42.6**	**+0.9**
	comp=N,0.4nm,0.1s,SNR=7.9							
ETOR				S	Sn	00 53 44.8	-4.1
	comp=N,1.7nm,0.1s,SNR=7.9							

*MOS **21** 00:52:54.9±1.6,76˚97N×18˚25E,h10km,mb4.4/12,Error ellipse: s-maj=47.4km s-min=6.4km az=94.4*
*IDC **21** 00:52:55.6±0.4,77˚06N×18˚38E,h0km,mb3.9/19, mb1 4.1/21,mb1mx4.0/30,mbtmpb3.9/21,ML3.8/2,Error ellipse: s-maj=15.0km s-min=6.6km az=67.0*
*CSEM **21** 00:52:55.6±0.2,77˚05N×18˚57E,h5km,mb4.6/3,Error ellipse: s-maj=9.8km s-min=4.5km az=61.0*
*NEIC **21** 00:52:56.9±0.4,77˚06N×18˚46E,h10km,mb4.6/3,Error ellipse: s-maj=11.6km s-min=6.3km az=66.0*
*ISCJB **21** 00:52:56.1±1.0,76˚99N±0˚03×18˚25E±0˚2,h16km±8km, mb4.0/28,MS4.1/1,Error ellipse: s-maj=7.7km s-min=4.5km az=153.7*
*NAO **21** 00:52:56.6±1.8,77˚06N×18˚88E,h16km±17km,ML4.1*
*BER **21** 00:52:59.4,77˚07N×18˚91E,h19km,MD2.4,ML3.8, ML4.1(NAO)*

ISC 21 00:52:56.9±1.4,**76˚97N**±0˚03×**18˚25E**±0˚04,**h11**km±9km, **n141**,σ1**88**/172,**mb4.1**/28,**1D,Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.61**	**275**	*e*P	**Pn**	**00 53 10.9**	**-0.6**
HSP				*e*S	**Sn**	**00 53 20.0**	**-1.3**
SPA0	**Spitsbergen Ar**	**1.28**	**342**	Pg	**Pn**	**00 53 19.7**	**-1.0**
	baz=151,slow=22						
SPA0				Lg	Lg	00 53 36.1	
	baz=153,slow=37						
SPA0	**Spitsbergen Ar**	**1.28**	**342**	*e*P	**Pn**	**00 53 20.0**	**-0.7**
SPA0				*e*S	**Sb**	**00 53 36.5**	**-0.8**
SPA0	**Spitsbergen Ar**	**1.28**	**342**	Pg	**Pn**	**00 53 19.7**	**-1.0**
	baz=151,slow=20,SNR=999						
SPA0	**Spitsbergen Ar**	**1.28**	**342**	*e*P	**Pn**	**00 53 20.0**	**-0.7**
	SNR=55						
SPA0				Lg	Lg	00 53 36.1	
	baz=153,slow=34						
SPA0				*e*S	**Sb**	**00 53 36.5**	**-0.8**
	SNR=55						
SPITS	**Spitsbergen Ar**	**1.28**	**342**	Pn	**Pn**	**00 53 19.6**	**-1.1**
SPITS				Sn	**Sb**	**00 53 36.6**	**-0.8**
SPITS	**Spitsbergen Ar**	**1.28**	**342**	Pn	**Pn**	**00 53 19.5**	**-1.1**
	baz=145,slow=19,SNR=4785						
SPITS				Sn	**Sb**	**00 53 36.6**	**-0.8**
	baz=154,slow=41,SNR=35						
SPITS	**Spitsbergen Ar**	**1.28**	**342**	Pn	**Pn**	**00 53 19.5**	**-1.1**
SPITS				Sn	**Sb**	**00 53 36.6**	**-0.8**
HOPEN	**Hopen**	**1.63**	**103**	*e*P	**Pn**	**00 53 23.6**	**-1.8**
HOPEN				*e*S	**Sn**	**00 53 42.5**	**-3.8**
HOPEN				AML	AML	00 53 47.9	
	comp=Z,6μm,0.4s						
HOPEN	**Hopen**	**1.63**	**103**	*e*P	**Pn**	**00 53 23.6**	**-1.8**
	SNR=55						
HOPEN				*e*S	**Sn**	**00 53 42.5**	**-3.8**
	comp=Z,6μm,0.4s,SNR=55						
KBS	**Kingsbay**	**2.37**	**329**	Pn	**Pn**	**00 53 34.8**	**-0.8**
KBS				Pg	**Pb**	**00 53 40.2**	**+0.7**
KBS				Lg	Lg	00 54 09.9	
KBS	**Kingsbay**	**2.37**	**329**	*e*P	**Pn**	**00 53 34.7**	**-0.9**
KBS				Pg	**Pb**	**00 53 40.2**	**+0.7**
KBS				*e*Sg	**Sb**	**00 54 09.5**	**+0.9**
KBS				AML	AML	00 54 13.8	
	comp=Z,4μm,0.3s						
KBS	**Kingsbay**	**2.37**	**329**	*e*P	**Pn**	**00 53 34.8**	**-0.8**
KBS				*e*		00 54 03.7	
KBS	**Kingsbay**	**2.37**	**329**	*e*Pn	**Pn**	**00 53 34.8**	**-0.8**
KBS				*e*Pg	**Pb**	**00 53 39.6**	**+0.1**
KBS				*e*Sn	**Sn**	**00 54 03.7**	**-0.9**
KBS				*e*Sg	**Sb**	**00 54 09.6**	**+0.9**
KBS	**Kingsbay**	**2.37**	**329**	Pn	**Pn**	**00 53 34.8**	**-0.8**
KBS	**Kingsbay**	**2.37**	**329**	*e*Pg	**Pb**	**00 53 39.6**	**+0.1**
KBS				*e*S	**Sn**	**00 54 03.7**	**-0.9**
KBS				Lg	Lg	00 54 09.9	
BJO	**Bjornoya**	**2.49**	**174**	*e*Pg	**Pg**	**00 53 43.2**	**-1.3**
BJO				*e*Sg	**Sg**	**00 54 16.8**	**+0.1**
KEV	**Kevo**	**7.66**	**157**	*e*P	**Pn**	**00 54 47.1**	**-1.2**
KEV				*e*		00 56 08.4	
KEV	**Kevo**	**7.66**	**157**	*e*Pn	**Pn**	**00 54 47.0**	**-1.2**
KEV				*e*Sn	Sn	00 56 08.4	-6.5
KEV	**Kevo**	**7.66**	**157**	*e*P	**Pn**	**00 54 47.2**	**-1.0**
	comp=Z,8.5nm,0.4s						
KEV	**Kevo**	**7.66**	**157**	*e*Pn	**Pn**	**00 54 47.0**	**-1.2**
ARA0	**ARCESS Array S**	**7.75**	**161**	Pn	**Pn**	**00 54 48.6**	**-0.9**
	baz=353,slow=12						
ARA0				Sn	Sn	00 56 09.2	-8.0
	baz=353,slow=22						
ARA0	**ARCESS Array S**	**7.75**	**161**	P	**Pn**	**00 54 48.6**	**-0.9**
	baz=353,slow=12						
ARA0				S	Sn	00 56 09.2	-8.0
	baz=353,slow=22						
ARCES	**ARCESS Array B**	**7.75**	**161**	Pn	**Pn**	**00 54 49.2**	**-0.3**
ARCES				Sn	**Sn**	**00 56 12.8**	**-4.4**
ARCES	**ARCESS Array B**	**7.75**	**161**	Pn	**Pn**	**00 54 49.2**	**-0.3**
	comp=Z,6.2nm,0.3s,baz=357,slow=14,SNR=63						
ARCES				Sn	**Sn**	**00 56 12.8**	**-4.4**
	comp=Z,15nm,0.3s,baz=358,slow=21,SNR=6.5						
ARCES	**ARCESS Array B**	**7.75**	**161**	Pn	**Pn**	**00 54 49.2**	**-0.3**
KTK1	**Kautokeino**	**8.13**	**167**	*e*Pn	**Pn**	**00 54 54.6**	**0.0**
DAG	**Danmarks Havn**	**8.30**	**287**	*i* P	**Pn**	**00 54 57.4**	**+0.5**
DAG				*i* S	**Sn**	**00 56 24.8**	**-5.7**
DAG	**Danmarks Havn**	**8.30**	**287**	*i* P	**Pn**	**00 54 57.4**	**+0.5**
DAG				*i* S	**Sn**	**00 56 24.8**	**-5.7**
LVZ	**Lovozero**	**10.31**	**143**	*e*P	**Pn**	**00 55 22.5**	**-2.0**
LVZ	**Lovozero**	**10.31**	**143**	*e*Pn	**Pn**	**00 55 22.5**	**-2.0**
LVZ				*e*Sn	Sn	00 57 11.5	-8.4
LVZ	**Lovozero**	**10.31**	**143**	*e*Pn	**Pn**	**00 55 22.5**	**-2.0**
FLOS	**Flostrand**	**10.79**	**191**	*e*Pn	**Pn**	**00 55 33.7**	**+2.6**
FLOS				AML	AML	00 57 35.6	
	comp=Z,15nm,0.7s						
STOK	**Stokkvaagen**	**10.81**	**191**	*e*Pn	**Pn**	**00 55 33.6**	**+2.3**
STOK				AML	AML	00 57 43.6	
	comp=Z,13nm,0.6s						
MOR8	**Moi Rana**	**10.92**	**188**	*e*Pn	**Pn**	**00 55 34.2**	**+1.4**
JOF	**Joensuu**	**14.74**	**156**	*e*P	Pn	00 56 18.5	-6.5
JOF				pmax	pmax		
	comp=Z,3.0nm,0.5s						
JOF	**Joensuu**	**14.74**	**156**	*e*p	Pn	00 56 18.5	-6.5
	comp=Z,2.7nm,0.5s						
SUMG	**Summit**	**14.94**	**282**	*e*P	**P**	**00 56 34.0**	**+0.3**
SUMG				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SUMG	**Summit**	**14.94**	**282**	*e*P	**P**	**00 56 34.0**	**+0.3**
	comp=Z,8.1nm,0.8s						
SUMG	**Summit**	**14.94**	**282**	*e*P	**P**	**00 56 34.0**	**+0.3**
	comp=Z,8.1nm,0.8s						
KAF	**Kangasniemi**	**15.17**	**165**	*e*P	**Pn**	**00 56 26.6**	**-4.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KAF	**Kangasniemi**	**15.17**	**165**	*e*p	**Pn**	**00 56 26.6**	**-4.1**
	comp=Z,2.2nm,0.4s						
FIA0	**FINESS Array S**	**15.82**	**166**	Pn	**Pn**	**00 56 35.5**	**-3.6**
	baz=6.0,slow=12						
FIA0				Sn	Sn	00 59 22.6	-12
	baz=356,slow=22						
FIA0	**FINESS Array S**	**15.82**	**166**	P	**Pn**	**00 56 35.5**	**-3.6**
	baz=6.0,slow=12						
FIA0				Sn	Sn	00 59 22.6	-12
	baz=356,slow=22						
FINES	**FINESS Array B**	**15.82**	**166**	Pn	**Pn**	**00 56 36.7**	**-2.5**
FINES				Sn	Sn	00 59 21.0	-13
FINES	**FINESS Array B**	**15.82**	**166**	Pn	**Pn**	**00 56 36.7**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=4.0,slow=12,SNR=15						
FINES				Sn	Sn	00 59 21.0	-13
	comp=Z,0.7nm,0.3s,baz=357,slow=21,SNR=3.5						
FINES	**FINESS Array B**	**15.82**	**166**	Pn	**Pn**	**00 56 36.7**	**-2.5**
NB2	**NORSAR Subarra**	**16.18**	**192**	P	**P**	**00 56 47.3**	**+0.2**
	baz=357,slow=14						
NB2	**NORSAR Subarra**	**16.18**	**192**	Pn	**P**	**00 56 47.3**	**+0.2**
	baz=357,slow=14						
NOA	**NORSAR Array B**	**16.18**	**192**	Pn	**P**	**00 56 45.6**	**-1.5**
NOA	**NORSAR Array B**	**16.18**	**192**	Pn	**P**	**00 56 45.6**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=2.7,slow=13,SNR=5.1						
NOA	**NORSAR Array B**	**16.18**	**192**	Pn	**P**	**00 56 45.6**	**-1.5**
HFS	**Hagfors**	**16.99**	**188**	P	**Pn**	**00 56 52.0**	**-2.1**
	slow=7.9						
HFS	**Hagfors**	**16.99**	**188**	P	**Pn**	**00 56 52.0**	**-2.1**
	slow=7.9						
HFS	**Hagfors**	**16.99**	**188**	Pn	**P**	**00 56 56.0**	**0.0**
HFS				Sn	**Sn**	**00 59 56.8**	**-5.9**
HFS	**Hagfors**	**16.99**	**188**	Pn	**P**	**00 56 56.0**	**0.0**
	comp=Z,0.6nm,0.3s,baz=19,slow=9.2,SNR=17						
HFS				Sn	**Sn**	**00 59 56.8**	**-5.9**
	comp=Z,0.3nm,0.3s,baz=43,slow=16,SNR=3.3						
HFS	**Hagfors**	**16.99**	**188**	Pn	**P**	**00 56 56.0**	**0.0**
KLMR	**Klimovskoe**	**17.68**	**144**	*e*P	**Pn**	**00 56 59.9**	**-2.8**
KLMR				pmax	pmax		
	comp=Z,18nm,1.3s		

KURBB				PcP	PcP	01 02 18.7	-0.8
	comp=Z,0.5nm,0.6s,baz=325,slow=3.4,SNR=4.3						
KBZ	Khabaz	34.88	148	P	P	00 59 50.2	+2.4
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KBZ	Khabaz	34.88	148	P	P	00 59 50.2	+2.4
KBZ	Khabaz	34.88	148	P	P	00 59 50.2	+2.4
	comp=Z,2.1nm,0.8s,baz=326,slow=11,SNR=4.6						
KBZ	Khabaz	34.88	148	P	P	00 59 50.2	+2.4
BOD	Bodaibo	35.85	65	*e*P	P	00 59 54.0	-2.0
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SCHQ	Schefferville	36.33	283	P	P	00 59 59.3	-0.8
SCHQ	Schefferville	36.33	283	P	P	00 59 59.3	-0.8
	comp=Z,4.2nm,0.8s,baz=3.6,slow=8.6,SNR=9.2						
SCHQ	Schefferville	36.33	283	P	P	00 59 59.3	-0.8
YKA	Yellowknife Ar	37.73	326	P	P	01 00 10.8	-1.0
YKA				PcP	PcP	01 02 28.2	-0.2
YKA	Yellowknife Ar	37.73	326	P	P	01 00 10.8	-1.0
	comp=Z,0.5nm,0.9s,baz=10,slow=8.1,SNR=9.4						
YKA				PcP	PcP	01 02 28.2	-0.2
	comp=Z,0.2nm,0.4s,baz=9.2,slow=3.2,SNR=7.1						
YKA	Yellowknife Ar	37.73	326	P	P	01 00 10.9	-1.0
YKA	Yellowknife Ar	37.73	326	PcP	PcP	01 02 28.2	-0.2
ILAR	Eielson Array	38.19	350	P	P	01 00 16.1	+0.3
ILAR				PcP	PcP	01 02 29.3	-0.6
ILAR	Eielson Array	38.19	350	P	P	01 00 16.1	+0.3
	comp=Z,1.6nm,0.8s,baz=359,slow=7.1,SNR=32						
ILAR				PcP	PcP	01 02 29.3	-0.6
	comp=Z,0.8nm,0.5s,baz=336,slow=3.7,SNR=16						
ILAR	Eielson Array	38.19	350	P	P	01 00 16.1	+0.3
ILAR	Eielson Array	38.19	350	PcP	PcP	01 02 29.3	-0.6
ESDC	Sonseca Array	38.61	208	P	P	01 00 22.2	+2.6
ESDC	Sonseca Array	38.61	208	P	P	01 00 22.2	+2.6
	comp=Z,0.4nm,0.6s,baz=0.2,slow=8.0,SNR=3.8						
ESDC	Sonseca Array	38.61	208	P	P	01 00 22.2	+2.6
MKAR	Makanchi Array	39.12	102	P	P	01 00 24.2	+0.4
MKAR						01 02 32.7	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	Makanchi Array	39.12	102	P	P	01 00 24.2	+0.4
MKAR				PcP	PcP	01 02 32.7	-0.4
MKAR	Makanchi Array	39.12	102	P	P	01 00 24.2	+0.4
	comp=Z,1.8nm,0.7s,baz=343,slow=6.8,SNR=13						
MKAR				PcP	PcP	01 02 32.7	-0.4
	comp=Z,0.4nm,0.6s,baz=327,slow=3.6,SNR=5.1						
MKAR	Makanchi Array	39.12	102	P	P	01 00 24.2	+0.4
MKAR	Makanchi Array	39.12	102	PcP	PcP	01 02 32.7	-0.4
SONM	Songino Array	43.56	78	P	P	01 01 01.0	+0.6
SONM	Songino Array	43.56	78	P	P	01 01 01.0	+0.6
	comp=Z,0.6nm,0.7s,baz=334,slow=6.9,SNR=3.5						
SONM	Songino Array	43.56	78	P	P	01 01 01.0	+0.6
MMAI	Mount Meron Ar	44.74	159	P	P	01 01 11.4	+1.5
MMAI	Mount Meron Ar	44.74	159	P	P	01 01 11.4	+1.5
	comp=Z,14nm,0.9s,baz=313,slow=49,SNR=2.6						
MMAI	Mount Meron Ar	44.74	159	P	P	01 01 11.4	+1.5
USRK	Ussuriysk Arra	52.34	56	P	P	01 02 08.0	-0.1
	comp=Z,1.9nm,0.8s,baz=348,slow=8.7,SNR=4.2						
MCMT	McKenzie Canyo	54.68	319	*e*P	P	01 02 25.6	0.0
	comp=Z,1.6nm,0.7s						
MCMT	McKenzie Canyo	54.68	319	*e*P	P	01 02 25.6	0.0
	comp=Z,1.6nm,0.7s						
PDAR	Pinedale Array	56.19	316	P	P	01 02 37.4	+0.9
PDAR	Pinedale Array	56.19	316	P	P	01 02 37.4	+0.9
	comp=Z,0.4nm,0.7s,baz=45,slow=4.3,SNR=4.1						
PDAR	Pinedale Array	56.19	316	P	P	01 02 37.4	+0.9
TORD	Torodi Ar. Bea	64.41	198	P	P	01 03 33.7	+1.0
TORD	Torodi Ar. Bea	64.41	198	P	P	01 03 33.7	+1.0
	comp=Z,0.7nm,0.6s,baz=358,slow=7.0,SNR=15						
TORD	Torodi Ar. Bea	64.41	198	P	P	01 03 33.7	+1.0
TXAR	Lajitas Array	68.29	307	P	P	01 03 57.4	-0.2
TXAR	Lajitas Array	68.29	307	P	P	01 03 57.4	-0.2
	comp=Z,0.4nm,0.5s,baz=39,slow=5.8,SNR=12						
TXAR	Lajitas Array	68.29	307	P	P	01 03 57.4	-0.2
CMAR	Chiang Mai Arr	70.04	95	P	P	01 04 08.5	+0.1
CMAR	Chiang Mai Arr	70.04	95	P	P	01 04 08.5	+0.1
	comp=Z,0.6nm,0.3s,baz=340,slow=7.7,SNR=5.6						
CMAR	Chiang Mai Arr	70.04	95	P	P	01 04 08.5	+0.1
WRA	Warramunga Arr	115.09	69	PKP	PKPdf	01 11 36.3	-1.1
WRA	Warramunga Arr	115.09	69	PKP	PKPdf	01 11 36.3	-1.1
	comp=Z,0.2nm,0.3s,baz=316,slow=2.5,SNR=2.5						
ASAR	Alice Springs	118.61	70	PKP	PKPdf	01 11 43.3	-0.8
ASAR	Alice Springs	118.61	70	PKP	PKPdf	01 11 43.3	-0.8
	comp=Z,0.7nm,0.4s,baz=2.6,slow=1.7,SNR=17						
ASAR	Alice Springs	118.61	70	PKIKP	PKPdf	01 11 43.3	-0.8

ISCJB ***21*** *01:12:48.8±0.8,36.92N±0.06×28.08E±0.04,h11km±6km, Error ellipse: s-maj=9.3km s-min=5.4km az=5.0*
ISK ***21*** *01:12:48.3,36.98N×28.05E,h14km, MD2.7*
DDA ***21*** *01:12:49.1,36.95N×28.14E,h7km,MD3.0*
CSEM ***21*** *01:12:49.1±0.3,36.96N×28.06E,h15km, MD2.7, Error ellipse: s-maj=7.4km s-min=4.3km az=10.0*
ISC 21 01:12:48.3±1.4, 36.99N±0.05×28.03E±0.03, h15km±12km, n28,σ0.67/36, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.25**	**54**	PG	**Pb**	**01 12 54.2**	**-0.4**
YER				SG	**Sb**	**01 12 57.9**	**-0.9**
YER	**Yerkesik**	**0.25**	**54**	*i* Pg	**Pb**	**01 12 54.2**	**-0.4**
YER				*i* Sg	**Sb**	**01 12 57.9**	**-0.9**
TURN	**Turunc**	**0.47**	**103**	*i* P	Pg	01 12 53.5	-4.2
TURN				*i* S	Sg	01 12 56.5	-7.6
TURN	**Turunc**	**0.47**	**103**	*i* P	Pg	01 12 53.5	-4.2
BDRM	**Kayabasi**	**0.47**	**280**	*i* P	**Pn**	**01 13 00.3**	**-0.2**
BDRM				*i* S	**Sn**	**01 13 08.7**	**+0.1**
BDRM	**Kayabasi**	**0.47**	**280**	*i* P	**Pn**	**01 13 00.3**	**-0.2**
BDRM				*i* S	**Sn**	**01 13 08.7**	**+0.1**
BODT	**Bodrum**	**0.58**	**278**	*e*PG	**Pb**	**01 13 00.6**	**+0.5**
BODT	**Bodrum**	**0.58**	**278**	*e*Pg	**Pb**	**01 13 00.6**	**+0.5**
AYDN	**Tasoluk**	**0.69**	**350**	*i* P	**Pn**	**01 13 03.6**	**+0.1**
AYDN				*i* S	**Sn**	**01 13 13.8**	**-0.1**
AYDN	**Tasoluk**	**0.69**	**350**	*i* P	**Pn**	**01 13 03.6**	**+0.1**
AYDN				*i* S	**Sn**	**01 13 13.8**	**-0.1**
FETY	**Fethiye**	**0.92**	**112**	*e*PG	**Pg**	**01 13 05.8**	**-0.3**
FETY	**Fethiye**	**0.92**	**112**	*e*Pg	**Pg**	**01 13 05.8**	**-0.3**
DNZL	**Cakiroluk**	**1.07**	**49**	*i* P	**Pg**	**01 13 09.0**	**-0.1**
DNZL				*i* S	**Sn**	**01 13 24.9**	**+1.2**
DNZL	**Cakiroluk**	**1.07**	**49**	*i* P	**Pg**	**01 13 09.0**	**-0.1**
DNZL				*i* S	**Sn**	**01 13 24.9**	**+1.2**
GOLH	**Golhisar**	**1.25**	**78**	*e*P	**Pg**	**01 13 13.4**	**+1.0**
GOLH				*e*S	**Sn**	**01 13 27.3**	**-0.6**
GOLH	**Golhisar**	**1.25**	**78**	*e*P	**Pg**	**01 13 13.4**	**+1.0**
GOLH				*e*S	**Sn**	**01 13 27.3**	**-0.6**
ELL	**Elmali**	**1.53**	**98**	*e*PN	**Pb**	**01 13 15.7**	**-0.6**
ELL	**Elmali**	**1.53**	**98**	*e*Pn	**Pb**	**01 13 15.7**	**-0.6**
IZM	**Izmir**	**1.54**	**337**	*e*PN	**Pn**	**01 13 15.8**	**+0.6**
IZM	**Izmir**	**1.54**	**337**	*e*Pn	**Pn**	**01 13 15.8**	**+0.6**
BLCB	**Balcova**	**1.60**	**331**	*e*PN	**Pb**	**01 13 16.9**	**-0.6**
BLCB	**Balcova**	**1.60**	**331**	*e*Pn	**Pb**	**01 13 16.9**	**-0.6**
KULA	**Kula-Manisa**	**1.61**	**18**	*e*PN	**Pb**	**01 13 17.3**	**-0.4**
KULA	**Kula-Manisa**	**1.61**	**18**	*e*Pn	**Pb**	**01 13 17.3**	**-0.4**
KHL	**Karahalli**	**1.79**	**41**	*e*PN	**Pn**	**01 13 19.4**	**+0.8**
KHL	**Karahalli**	**1.79**	**41**	*e*Pn	**Pn**	**01 13 19.4**	**+0.8**
BCK	**Bucak**	**2.10**	**76**	*e*PN	**Pn**	**01 13 23.9**	**+1.0**
BCK	**Bucak**	**2.10**	**76**	*e*Pn	**Pn**	**01 13 23.9**	**+1.0**

PRU ***21*** *01:28:58.8,41.20N×20.55E,h0km*
LDG ***21*** *01:28:59.6±0.1,41.40N×20.24E,h2km,Ml3.7/3, Error ellipse: s-maj=3.2km s-min=2.1km az=27.0*
ISCJB ***21*** *01:29:00.3±0.3,41.36N±0.01×20.28E±0.02,h13km±2km, mb3.6/8, Error ellipse: s-maj=2.8km s-min=1.6km az=144.5*
TIR ***21*** *01:29:00.3±3.0,41.39N×20.49E,h28km±24km,ML3.5*
CSEM ***21*** *01:29:00.4±0.1,41.33N×20.30E,h2km, ML3.5, Error ellipse: s-maj=2.8km s-min=1.9km az=55.0*
SKO ***21*** *01:29:00.0,41.33N×20.35E,h11km, M3.3, ML3.8*
THE ***21*** *01:29:01.0,41.37N×20.40E,h0km±1km, ML3.7/9, Error ellipse: s-maj=1.6km s-min=0.7km az=320.0*
PDG ***21*** *01:29:01.1±0.7,41.36N×20.22E,h13km±1km, MD3.8/6, ML3.8/8, Error ellipse: s-maj=0.7km s-min=0.8km az=0.0*
BEO ***21*** *01:29:01.1±0.8,41.35N×20.32E,h5km±3km, ML3.7/1*
IDC ***21*** *01:29:04.6±2.5,41.36N×20.18E,h45km±25km,mb3.3/8, mb1 3.5/13,mb1mx3.4/30,mbtmp3.4/13, ML3.3/5, Error ellipse: s-maj=22.7km s-min=21.1km az=56.0*
ISC 21 01:29:00.8±0.9, 41.35N±0.01×20.32E±0.02, h10km±7km, n273,σ1.36/353, mb3.6/8, 29C-42D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.34**	**270**	*e*Pg	**Pg**	**01 29 07.4**	**-0.2**
TIR				*e*Sg	**Sg**	**01 29 13.0**	**+0.8**
TIR	**Tirane**	**0.34**	**270**	*e*Pg	**Pg**	**01 29 07.4**	**-0.2**
TIR				*e*Sg	**Sg**	**01 29 13.0**	**+0.8**
PHP	**Peshkopia**	**0.35**	**15**	*i* PG	**Pg**	**01 29 07.7**	**0.0**
PHP				*i* SG	**Sb**	**01 29 13.6**	**-1.0**
PHP	**Peshkopia** SNR=12	**0.35**	**15**	*i* Pg	**Pg**	**01 29 07.7**	**0.0**
PHP	SNR=12			*i* Sg	**Sb**	**01 29 13.6**	**-1.0**
PUK	**Puka**	**0.76**	**335**	*i* PG	**Pg**	**01 29 15.2**	**-0.3**
PUK				*i* SG	**Sb**	**01 29 27.4**	**+0.8**
PUK	**Puka** SNR=10.0	**0.76**	**335**	*i* Pg	**Pg**	**01 29 15.2**	**-0.3**
PUK	SNR=10.0			*i* Sg	**Sb**	**01 29 27.4**	**+0.8**
BIA	**Bitola**	**0.82**	**113**	*e*Pg	**Pg**	**01 29 15.4**	**-1.3**
BIA				*e*Sg	**Sg**	**01 29 27.7**	**+0.3**
BIA	**Bitola**	**0.82**	**113**	*e*Pg	**Pg**	**01 29 15.3**	**-1.3**
BIA				*e*Sg	**Sg**	**01 29 27.7**	**+0.3**
FNA	**Florina**	**0.98**	**125**	*i* PG	**Pg**	**01 29 18.6**	**-1.0**
FNA				*i* SG	**Sb**	**01 29 32.8**	**+0.1**
FNA	**Florina**	**0.98**	**125**	*i* P	**Pg**	**01 29 18.7**	**-0.9**
FNA				S	**Sb**	**01 29 33.0**	**+0.3**
FNA	**Florina**	**0.98**	**125**	P	**Pg**	**01 29 18.7**	**-0.9**
FNA				*i* Sg	**Sb**	**01 29 32.8**	**+0.1**
ULC	**Ulcinj** SNR=9.0	**1.01**	**308**	⇓*i* Pg	**Pg**	**01 29 19.0**	**-1.3**
ULC				*e*Sg	**Sb**	**01 29 34.2**	**+0.4**
ULC	**Ulcinj**	**1.01**	**308**	⇓*i* Pg	**Pg**	**01 29 19.0**	**-1.3**
ULC				*e*Sg	**Sb**	**01 29 34.2**	**+0.4**
BCI	**Bajram Curri**	**1.03**	**349**	*i* PG	**Pb**	**01 29 20.8**	**+0.1**
BCI				*i* SG	**Sn**	**01 29 35.7**	**-0.1**
BCI	**Bajram Curri** SNR=9.0	**1.03**	**349**	*i* Pg	**Pb**	**01 29 20.8**	**+0.1**
BCI	SNR=9.0			*i* Sg	**Sn**	**01 29 35.7**	**-0.1**
SKO	**Skopje**	**1.04**	**53**	*e*Pg	**Pg**	**01 29 20.3**	**-0.5**
SKO				*e*Sg	**Sb**	**01 29 34.9**	**+0.3**
SKO				*e*Lg	Lg	01 29 34.9	
SKO	comp=N,3μm,0.4s			*e*Lg	Lg	01 29 35.1	
SKO	comp=E,3μm,0.7s **Skopje**	**1.04**	**53**	*e*Pg	**Pg**	**01 29 19.5**	**-1.3**
SKO				*e*Sg	**Sb**	**01 29 34.5**	**-0.1**
SKO	**Skopje**	**1.04**	**53**	*e*Pg	**Pb**	**01 29 20.8**	**-0.1**
SKO				*e*Sg	**Sb**	**01 29 34.5**	**-0.1**
SKO				*e*Lg	Lg	01 29 35.6	
VLO	comp=E,3μm,0.7s **Vlora**	**1.08**	**216**	*i* PG	**Pn**	**01 29 23.0**	**+1.1**
VLO				*i* SG	**Sn**	**01 29 42.0**	**+5.1**
VLO	**Vlora** SNR=9.0	**1.08**	**216**	*i* Pg	**Pn**	**01 29 23.0**	**+1.1**
NEST	**Nestorio**	**1.08**	**149**	P	**Pg**	**01 29 21.4**	**-0.2**
NEST				S	**Sb**	**01 29 36.8**	**+0.9**
NEST	**Nestorio**	**1.08**	**149**	P	**Pg**	**01 29 21.4**	**-0.2**
NEST				S	**Sb**	**01 29 36.8**	**+0.9**
LSK	**Leskovik**	**1.22**	**170**	*i* PG	**Pg**	**01 29 22.4**	**-1.7**
LSK				*i* SG	**Sg**	**01 29 40.0**	**+0.1**
LSK	**Leskovik** SNR=9.0	**1.22**	**170**	*i* Pg	**Pg**	**01 29 22.4**	**-1.7**
LSK	SNR=9.0			*i* Sg	**Sg**	**01 29 40.0**	**+0.1**
PVY	**Plav**	**1.27**	**348**	⇓*i* Pg	**Pg**	**01 29 24.3**	**-0.9**
PVY				*e*Sg	**Sn**	**01 29 44.5**	**+2.6**
PVY	**Plav**	**1.27**	**348**	⇓*i* Pg	**Pg**	**01 29 24.3**	**-0.9**
PVY				*e*Sg	**Sn**	**01 29 44.5**	**+2.6**
TTG	**Podgorica**	**1.34**	**324**	⇑*i* Pg	**Pn**	**01 29 25.0**	**-0.4**
TTG				*e*Sg	**Sn**	**01 29 45.9**	**+2.6**
PDG	**Podgorica**	**1.34**	**324**	*e*Pg	**Pn**	**01 29 24.8**	**-0.7**
PDG	**Podgorica**	**1.34**	**324**	⇑*i* Pg	**Pn**	**01 29 25.0**	**-0.5**
PDG				*e*Sg	**Sn**	**01 29 45.9**	**+2.5**
BUM	**Brajici-Budva**	**1.43**	**312**	⇓*i* Pg	**Pn**	**01 29 26.1**	**-0.7**
BUM				*e*Sg	**Sg**	**01 29 48.1**	**+1.3**
BUM	**Brajici-Budva**	**1.43**	**312**	⇓*i* Pg	**Pn**	**01 29 26.1**	**-0.7**
BUM				*e*Sg	**Sg**	**01 29 48.1**	**+1.3**
KZN	**Kozani**	**1.51**	**133**	P	**Pn**	**01 29 28.3**	**+0.4**
KZN				S	**Sg**	**01 29 49.4**	**-0.1**
KZN	**Kozani**	**1.51**	**133**	*e*P	**Pn**	**01 29 28.5**	**+0.6**
KZN	**Kozani**	**1.51**	**133**	P	**Pn**	**01 29 28.3**	**+0.4**
KZN				S	**Sg**	**01 29 49.4**	**-0.1**
IVA	**Berane**	**1.55**	**348**	⇓*i* Pg	**Pb**	**01 29 29.8**	**+0.2**
IVA				*e*Sg	**Sg**	**01 29 52.0**	**+1.3**
BEY	**Berane**	**1.55**	**348**	⇓*i* Pg	**Pb**	**01 29 29.8**	**+0.1**
BEY				*e*Sg	**Sg**	**01 29 52.0**	**+1.2**
GRG	**Griva**	**1.62**	**103**	P	**Pn**	**01 29 29.4**	**+0.1**
GRG				S	**Sb**	**01 29 51.4**	**+0.2**
GRG	**Griva**	**1.62**	**103**	P	**Pn**	**01 29 29.4**	**+0.1**
GRG				S	**Sb**	**01 29 51.4**	**+0.2**
KEK	**Kerkira**	**1.68**	**194**	P	**Pn**	**01 29 31.1**	**+0.9**
KEK				S	**Sg**	**01 29 56.0**	**+1.2**
KEK	**Kerkira**	**1.68**	**194**	*e*P	**Pg**	**01 29 32.5**	**-0.5**
KEK	**Kerkira**	**1.68**	**194**	P	**Pn**	**01 29 31.1**	**+0.9**
KEK				S	**Sg**	**01 29 56.0**	**+1.2**
VAY	**Valandovo**	**1.69**	**90**	*e*Pn	**Pn**	**01 29 30.9**	**+0.6**
VAY				*e*Lg	Lg	01 29 55.1	
VAY	comp=N,950nm,0.9s			*e*Lg	Lg	01 29 56.1	
VAY	comp=E,387nm,0.6s **Valandovo**	**1.69**	**90**	*e*Pn	**Pb**	**01 29 31.4**	**-0.5**
VAY				*e*Lg	Lg	01 29 56.6	
MEV	comp=E,387nm,0.6s **Metsovon**	**1.71**	**156**	P	**Pn**	**01 29 31.7**	**+1.0**
MEV	**Metsovon**	**1.71**	**156**	P	**Pn**	**01 29 31.7**	**+1.0**
JAN	**Janina**	**1.74**	**166**	P	**Pn**	**01 29 31.6**	**+0.6**
JAN				S	**Sb**	**01 29 55.9**	**+1.3**
JAN	**Janina**	**1.74**	**166**	*e*P	**Pb**	**01 29 33.4**	**+0.7**
JAN	**Janina**	**1.74**	**166**	P	**Pn**	**01 29 31.6**	**+0.6**
JAN				S	**Sb**	**01 29 55.9**	**+1.3**
HCY	**Herceg Novi**	**1.75**	**309**	⇑*i* Pn	**Pn**	**01 29 31.9**	**+0.8**
HCY				*e*Sn	**Sg**	**01 29 56.4**	**-0.7**
HCY	**Herceg Novi**	**1.75**	**309**	⇑*i* Pn	**Pn**	**01 29 31.9**	**+0.8**
HCY				*e*Sn	**Sg**	**01 29 56.4**	**-0.7**
NKY	**Niksic**	**1.77**	**326**	⇓*i* Pn	**Pn**	**01 29 32.4**	**+1.0**
NKY				*e*Sn	**Sg**	**01 29 56.5**	**-1.0**
NKY	**Niksic**	**1.77**	**326**	⇓*i* Pn	**Pn**	**01 29 32.4**	**+1.0**
NKY				*e*Sn	**Sg**	**01 29 56.5**	**-1.0**
IGT	**Igoumenitsa**	**1.81**	**180**	P	**Pn**	**01 29 33.2**	**+1.2**
IGT				S	**Sg**	**01 29 58.3**	**-0.8**
IGT	**Igoumenitsa**	**1.81**	**180**	P	**Pn**	**01 29 33.2**	**+1.2**
IGT				S	**Sg**	**01 29 58.3**	**-0.8**
BARS	**Barje**	**1.84**	**37**	*e*Pn	**Pb**	**01 29 33.6**	**-0.9**
BARS	**Barje**	**1.84**	**37**	*e*Pn	**Pb**	**01 29 33.6**	**-0.9**
SJES	**Sjenica**	**1.93**	**352**	*e*Pn	**Pb**	**01 29 35.6**	**-0.4**
KNT	**Kendrikon**	**1.95**	**95**	P	**Pn**	**01 29 34.0**	**+0.1**
KNT				S	**Sn**	**01 30 00.0**	**+1.6**
KNT	**Kendrikon**	**1.95**	**95**	P	**Pn**	**01 29 34.0**	**+0.1**
KNT				S	**Sn**	**01 30 00.0**	**+1.6**
SELS	**Selova**	**1.96**	**17**	*e*Pn	**Pn**	**01 29 34.2**	**+0.2**
RGA	**Parga**	**2.03**	**179**	P	**Pn**	**01 29 36.0**	**+1.0**
RGA				S	**Sb**	**01 30 03.2**	**+0.3**
RGA	**Parga**	**2.03**	**179**	P	**Pn**	**01 29 36.0**	**+1.0**
RGA				S	**Sb**	**01 30 03.2**	**+0.3**
LIT	**Litokhoron**	**2.07**	**126**	P	**Pn**	**01 29 35.2**	**-0.3**
LIT	**Litokhoron**	**2.07**	**126**	*e*P	**Pn**	**01 29 35.6**	**+0.1**
LIT	**Litokhoron**	**2.07**	**126**	P	**Pn**	**01 29 35.2**	**-0.3**
PLE	**Pljevlja**	**2.10**	**341**	⇓*i* Pn	**Pb**	**01 29 37.8**	**-1.1**
PLE				*e*Sn	**Sb**	**01 30 05.2**	**+0.2**
PLE	**Pljevlja**	**2.10**	**341**	⇓*i* Pn	**Pb**	**01 29 37.8**	**-1.1**
PLE				*e*Sn	**Sb**	**01 30 05.2**	**+0.2**
THE	**Thessaloniki**	**2.12**	**109**	P	**Pn**	**01 29 36.2**	**0.0**
THE	**Thessaloniki**	**2.12**	**109**	P	**Pn**	**01 29 36.2**	**0.0**
UPM	**Unac-Piva**	**2.13**	**331**	⇓*i* Pn	**Pn**	**01 29 37.5**	**+1.0**
UPM				*e*Sn	**Sn**	**01 30 04.9**	**+1.8**
UPM	**Unac-Piva**	**2.13**	**331**	⇓*i* Pn	**Pn**	**01 29 37.5**	**+1.0**
UPM				*e*Sn	**Sn**	**01 30 04.9**	**+1.8**
THL	**Klokotos Trika**	**2.20**	**144**	P	**Pn**	**01 29 37.5**	**+0.2**
THL	**Klokotos Trika**	**2.20**	**144**	*e*P	**Pn**	**01 29 37.7**	**+0.4**
THL	**Klokotos Trika**	**2.20**	**144**	P	**Pn**	**01 29 37.5**	**+0.2**
IVAS	**Ivanjica**	**2.23**	**357**	*e*Pn	**Pn**	**01 29 38.9**	**+1.1**
IVAS	**Ivanjica**	**2.23**	**357**	*e*Pn	**Pn**	**01 29 38.9**	**+1.1**
HORT	**Hortiatis**	**2.23**	**109**	P	**Pn**	**01 29 37.7**	**-0.1**
HORT	**Hortiatis**	**2.23**	**109**	P	**Pn**	**01 29 37.7**	**-0.1**
SOH	**Sokhos**	**2.35**	**102**	P	**Pn**	**01 29 39.5**	**+0.1**
SOH				S	**Sn**	**01 30 09.3**	**+0.9**
SOH	**Sokhos**	**2.35**	**102**	P	**Pn**	**01 29 39.5**	**+0.1**
SOH				S	**Sn**	**01 30 09.3**	**+0.9**
TAR1	**Taranto**	**2.44**	**251**	*e*Pn	**Pn**	**01 29 39.8**	**-0.8**
STON	**Ston**	**2.47**	**309**	*e*Pn	**Pn**	**01 29 41.3**	**+0.3**
STON					Sn	**Sb**	**01 30 13.8**	**-1.9**
STON	**Ston**	**2.47**	**309**	*e*Pn	**Pn**	**01 29 41.3**	**+0.3**
STON					Sn	**Sb**	**01 30 13.8**	**-1.9**
SRS	**Serrai**	**2.48**	**94**	P	**Pn**	**01 29 41.2**	**+0.1**
SRS	**Serrai**	**2.48**	**94**	P	**Pn**	**01 29 41.2**	**+0.1**
VTS	**Vitosha**	**2.48**	**59**	P	**Pn**	**01 29 42.4**	**+1.1**
VTS	**Vitosha**	**2.48**	**59**	⇓*i*P	**Pn**	**01 29 42.5**	**+1.1**
VTS	**Vitosha**	**2.48**	**59**	*e*Pn	**Pn**	**01 29 42.3**	**+0.9**
VTS	**Vitosha**	**2.48**	**59**	P	**Pn**	**01 29 42.4**	**+1.1**
GRUS	**Gruza**	**2.55**	**6**	*e*Pn	**Pn**	**01 29 43.2**	**+1.0**
GRUS	**Gruza**	**2.55**	**6**	*e*Pn	**Pn**	**01 29 43.2**	**+1.0**
PLG	**Polygyros**	**2.56**	**111**	*e*P	**Pn**	**01 29 42.5**	**+0.2**
LKD2	**Lefkada island**	**2.57**	**174**	P	**Pn**	**01 29 43.5**	**+1.1**
LKD2	**Lefkada island**	**2.57**	**174**	P	**Pn**	**01 29 43.5**	**+1.1**
ZAPS	**Zavoj**	**2.58**	**41**	*e*Pn	**Pn**	**01 29 44.1**	**+1.6**
ZAPS	**Zavoj**	**2.58**	**41**	*e*Pn	**Pn**	**01 29 44.1**	**+1.6**
BAI	**Bari**	**2.61**	**266**	*e*Pn	**Pn**	**01 29 41.9**	**-1.0**
NVR	**Nevrokopi**	**2.67**	**89**	P	**Pn**	**01 29 44.0**	**+0.3**
NVR	**Nevrokopi**	**2.67**	**89**	*e*P	**Pn**	**01 29 44.2**	**+0.5**
NVR	**Nevrokopi**	**2.67**	**89**	P	**Pn**	**01 29 44.0**	**+0.3**
EVR	**Evrytania**	**2.68**	**154**	P	**Pn**	**01 29 45.8**	**+1.8**
EVR	**Evrytania**	**2.68**	**154**	*e*P	**Pb**	**01 29 47.5**	**-1.4**
EVR	**Evrytania**	**2.68**	**154**	P	**Pn**	**01 29 45.8**	**+1.8**
MAKR	**Makrakomi, Fth**	**2.71**	**149**	P	**Pn**	**01 29 45.0**	**+0.6**
MAKR	**Makrakomi, Fth**	**2.71**	**149**	P	**Pn**	**01 29 45.0**	**+0.6**
BOLS	**Boljevac**	**2.75**	**25**	*e*Pn	**Pn**	**01 29 45.9**	**+1.0**
BOLS	**Boljevac**	**2.75**	**25**	*e*Pn	**Pn**	**01 29 45.9**	**+1.0**
DIVS	**Divibare**	**2.76**	**355**	P	**Pn**	**01 29 45.4**	**+0.3**
DIVS	**Divibare**	**2.76**	**355**	*e*Pn	**Pn**	**01 29 45.9**	**+0.8**
DIVS	**Divibare**	**2.76**	**355**	P	**Pn**	**01 29 45.4**	**+0.3**
DIVS	**Divibare**	**2.76**	**355**	*e*Pn	**Pn**	**01 29 45.9**	**+0.8**
SG1	**Sgolgore (BA)**	**2.80**	**261**	*e*Pn	**Pn**	**01 29 44.8**	**-0.8**
TRUS	**Trudelj**	**2.87**	**1**	*e*Pn	**Pn**	**01 29 47.4**	**+0.8**
TRUS	**Trudelj**	**2.87**	**1**	*e*Pn	**Pn**	**01 29 47.4**	**+0.8**
SVIS	**Svilajnac**	**2.99**	**12**	*e*Pn	**Pn**	**01 29 49.8**	**+1.7**
NEO	**Neokhori**	**3.01**	**132**	*e*P	**Pn**	**01 29 50.6**	**+2.1**
CDT	**Castel del Mon**	**3.06**	**266**	*e*Pn	**Pn**	**01 29 48.6**	**-0.6**
EFP	**Efpalio**	**3.16**	**157**	P	**Pn**	**01 29 52.0**	**+1.5**
EFP	**Efpalio**	**3.16**	**157**	*e*P	**Pn**	**01 29 53.5**	**+3.0**
EFP	**Efpalio**	**3.16**	**157**	P	**Pn**	**01 29 52.0**	**+1.5**
VLS	**Valsamata**	**3.17**	**176**	*e*P	**Pn**	**01 29 50.3**	**-0.4**
KAVA	**Kavala**	**3.18**	**95**	P	**Pn**	**01 29 51.0**	**+0.2**
**KAVA

TRPA	Tarpa	6.96	12	⇑*i*P	Pn	01 30 44.9	+2.2
TRPA	Tarpa	6.96	12	⇑*i*P	Pn	01 30 44.9	+2.2
BURAR	Bucovina Array	7.17	28	⇓*i*P	Pn	01 30 44.8	-0.9
BURAR	Bucovina Array	7.17	28	⇓*i*P	Pn	01 30 44.8	-0.9
VYHS	Vyhne	7.22	352	*e*PN	Pn	01 30 48.0	+1.7
VYHS				*e*SN	Sn	01 32 07.9	-0.4
VYHS	Vyhne	7.22	352	*e*Pn	Pn	01 30 48.0	+1.7
VYHS				*e*Sn	Sn	01 32 07.9	-0.4
SMOL	Smolenice	7.45	345	*e*PN	Pn	01 30 49.5	+0.1
SMOL				*e*SN	Sn	01 32 11.8	-2.1
SMOL	Smolenice	7.45	345	*e*Pn	Pn	01 30 49.5	+0.1
CRVS	Cervenica-Dubn	7.59	6	*e*PN	Pn	01 30 54.9	+3.5
CRVS				*e*SN	Sn	01 32 18.1	+0.6
CRVS	Cervenica-Dubn	7.59	6	*e*Pn	Pn	01 30 54.9	+3.5
CRVS				*e*Sn	Sn	01 32 18.1	+0.6
KBA	Koelnbreinsper	7.61	321	⇑*i*Pn	Pn	01 30 52.0	+0.2
KBA				⇑*i*Sn	Sn	01 32 19.4	+1.4
KBA	Koelnbreinsper	7.61	321	Pn	Pn	01 30 52.0	+0.2
KBA				Sn	Sn	01 32 19.4	+1.4
KOLS	Kolonicke sedl	7.71	10	*e*PN	Pn	01 30 55.1	+2.1
KOLS				*e*SN	Sn	01 32 20.5	+0.3
KOLS	Kolonicke sedl	7.71	10	*e*Pn	Pn	01 30 55.1	+2.1
KOLS				*e*Sn	Sn	01 32 20.5	+0.3
ABTA	Abfaltersbach	7.79	316	⇑*i*Pn	Pn	01 30 54.1	-0.1
ABTA				⇓*i*Sn	Sn	01 32 23.7	+1.2
ABTA	Abfaltersbach	7.79	316	Pn	Pn	01 30 54.1	-0.1
ABTA				Sn	Sn	01 32 23.7	+1.2
MOA	Molln	7.80	328	⇓*i*Pn	Pn	01 30 54.9	+0.6
MOA	Molln	7.80	328	Pn	Pn	01 30 54.9	+0.6
NIE	Niedzica	8.07	360	*e*P	Pn	01 31 02.1	+4.1
KWP	Kalwaria Pacla	8.45	11	⇓*i*P	Pn	01 31 05.8	+2.7
KWP	Kalwaria Pacla	8.45	11	⇓*i*P	Pn	01 31 05.8	+2.7
PGF	Pioggiola	8.52	282	*e*Pn	Pn	01 31 04.0	-0.3
PGF				*e*Sn	Sn	01 32 32.7	-7.8
	comp=E,14nm,0.9s						
PGF	Pioggiola	8.52	282	*e*Pn	Pn	01 31 04.0	-0.3
WTTA	Wattenberg	8.58	316	⇓*i*Pn	Pn	01 31 04.2	-0.9
	SNR=7.3						
WTTA				⇑*i*Sn	Sn	01 32 42.4	+0.4
WTTA	Wattenberg	8.58	316	Pn	Pn	01 31 04.2	-0.9
	SNR=7.3						
WTTA				Sn	Sn	01 32 42.4	+0.4
MORC	Moravsky Berou	8.65	348	⇑*i*P	Pn	01 31 07.7	+1.8
MORC	Moravsky Berou	8.65	348	⇑*i*P	Pn	01 31 07.7	+1.8
WATA	Walderalm	8.66	317	⇓*i*Pn	Pn	01 31 05.7	-0.5
	SNR=9.2						
WATA				⇓*i*Sn	Sn	01 32 44.0	+0.1
WATA	Walderalm	8.66	317	Pn	Pn	01 31 05.7	-0.5
	SNR=9.2						
WATA				Sn	Sn	01 32 44.0	+0.1
GERES	GERESS Array B	8.83	330	P	Pn	01 31 09.2	+0.7
	comp=E,0.4nm,0.3s,baz=152,slow=14,SNR=15						
GERES				S	Sn	01 32 53.0	+5.0
	comp=E,0.5nm,0.3s,baz=155,slow=22,SNR=6.6						
MOTA	Moosalm	8.91	315	⇓*i*Pn	Pn	01 31 09.7	+0.1
	SNR=22						
MOTA				⇑*i*Sn	Sn	01 32 50.8	+0.7
MOTA	Moosalm	8.91	315	Pn	Pn	01 31 09.7	+0.1
	SNR=22						
MOTA				Sn	Sn	01 32 50.8	+0.7
KHC	Kasperske Hory	9.12	331	*e*PN	Pn	01 31 13.6	+1.3
KHC				*e*SN	Sn	01 32 57.3	+2.4
KHC				*ex*	x	01 33 11.0	
KHC	Kasperske Hory	9.12	331	Pn	Pn	01 31 13.6	+1.3
KHC				Sn	Sn	01 32 57.3	+2.4
SBF	Sospel	9.83	289	*e*Pn	Pn	01 31 16.7	-5.4
BRTR	Keskin Array B	10.27	95	P	Pn	01 31 29.9	+1.7
	comp=E,0.0nm,0.3s,baz=266,slow=13,SNR=2.4						
LMR	La Mourre	10.42	286	*e*Pn	Pn	01 31 26.1	-4.0
MBDF	Montbardon	10.48	293	*e*Pn	Pn	01 31 27.2	-3.9
LPG	La Plagne	10.70	297	*e*Pn	Pn	01 31 31.3	-3.0
LPL	La Plagne	10.72	297	*e*Pn	Pn	01 31 31.4	-3.1
ORIF	Oris-en-Rattie	11.14	293	*e*P	Pn	01 31 42.0	+1.9
ORIF	Oris-en-Rattie	11.14	293	*e*P	Pn	01 31 42.0	+1.9
CABF	La Chapelle	11.52	302	*e*Pn	Pn	01 31 42.1	-3.2
HINF	Hinteralfeld	11.57	308	*e*Pn	Pn	01 31 41.9	-4.0
CDF	Champ du Feu	11.63	312	*e*Pn	Pn	01 31 43.2	-3.6
CDF				*e*Sn	Sn	01 33 45.4	-11
	comp=E,0.7nm,0.3s						
HAU	Haudompre	11.96	308	*e*Pn	Pn	01 31 47.4	-3.8
LOR	Lormes	13.18	302	*e*Pn	Pn	01 32 05.8	-2.1
LOR				*e*Sn	Sn	01 34 21.9	-13
	comp=E,2.0nm,0.3s						
MMAI	Mount Meron Ar	14.60	120	P	Pn	01 32 28.8	+1.4
	comp=E,0.4nm,0.3s,baz=320,slow=15,SNR=2.3						
HFS	Hagfors	19.25	350	P	P	01 33 23.7	-1.3
	comp=E,0.1nm,0.3s,baz=164,slow=12,SNR=8.4						
FINES	FINESS Array B	20.42	8	P	P	01 33 37.0	-0.7
	comp=E,1.5nm,0.5s,baz=184,slow=9.9,SNR=13						
NOA	NORSAR Array B	20.49	347	P	P	01 33 37.3	-1.2
	comp=E,1.0nm,0.7s,baz=153,slow=9.9,SNR=4.9						
KAF	Kangasniemi	21.10	8	*ep*	P	01 33 45.3	+0.2
	comp=E,1.8nm,0.7s						
JOF	Joensuu	22.57	13	*ep*	P	01 33 57.3	-3.5
	comp=E,1.7nm,0.9s						
ARCES	ARCESS Array B	28.38	4	P	P	01 34 54.8	+0.1
	comp=E,2.8nm,0.9s,baz=184,slow=11,SNR=3.5						
TORD	Torodi Ar. Bea	32.46	215	P	P	01 35 30.4	-0.8
	comp=E,0.9nm,0.9s,baz=22,slow=8.6,SNR=5.4						
ZALV	Zalesovo Beam	43.74	51	P	P	01 37 06.0	0.0
	comp=E,1.1nm,0.5s,baz=275,slow=8.5,SNR=7.2						
MKAR	Makanchi Array	43.84	61	P	P	01 37 05.9	-0.9
	comp=E,0.3nm,0.4s,baz=283,slow=8.1,SNR=7.9						
SONM	Songino Array	58.59	52	P	P	01 38 57.8	+0.1
	comp=E,0.6nm,0.8s,baz=304,slow=8.5,SNR=3.7						
YKA	Yellowknife Ar	70.36	340	P	P	01 40 12.8	-1.4
	comp=E,0.1nm,0.3s,baz=46,slow=6.1,SNR=3.6						

*ISCJB **21** 01:36:15.5±0.4, 37.59N±0.02×30.04E±0.02, h4km±4km, Error ellipse: s-maj=3.7km s-min=3.2km az=177.8*
*ISK **21** 01:36:15.3, 37.57N×30.04E, h8km, MD3.2*
*DDA **21** 01:36:15.2, 37.58N×30.03E, h22km, MD3.4*
*CSEM **21** 01:36:15.6±0.1, 37.60N×30.04E, h2km, MD3.2, Error ellipse: s-maj=2.2km s-min=2.0km az=28.0*
ISC 21 01:36:16.2±1.0, **37.60N**±0.02×**30.04E**±0.02, **h9**km±9km, **n81**, σ1§**00**/108, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	Isparta	0.44	59	*e*PG	Pg	01 36 24.3	-0.6
ISP				*e*SG	Sb	01 36 32.5	-0.6
ISP	Isparta	0.44	59	*e*Pg	Pg	01 36 24.3	-0.6
BCK	Bucak	0.46	107	*e*Pg	Pg	01 36 24.2	-0.9
BCK				*e*SG	Sg	01 36 31.9	+0.9
BCK	Bucak	0.46	107	*e*Pg	Pg	01 36 24.2	-0.9
GOLH	Golhisar	0.52	227	*i*P	Pg	01 36 25.4	-0.9
GOLH				*i*S	Sg	01 36 32.8	-0.4
GOLH	Golhisar	0.52	227	*i*P	Pg	01 36 25.4	-0.9
GOLH				*i*S	Sg	01 36 32.8	-0.4
KORT	Korkueli	0.64	157	*i*P	Pg	01 36 26.9	-1.7
KORT				*i*S	Sb	01 36 38.1	-0.6
KORT	Korkueli	0.64	157	*i*P	Pg	01 36 26.9	-1.7
KORT				*i*S	Sb	01 36 38.1	-0.6
DNZL	Cakiroluk	0.80	277	*i*P	Pg	01 36 30.2	-1.3
DNZL				*i*S	Sb	01 36 42.9	-0.4
DNZL	Cakiroluk	0.80	277	*i*P	Pg	01 36 30.2	-1.3
DNZL				*i*S	Sb	01 36 42.9	-0.4
KHL	Karahalli	0.83	331	*e*PG	Pg	01 36 31.9	-0.4
KHL	Karahalli	0.83	331	*e*Pg	Pg	01 36 31.9	-0.4
ANTB	Antalya	0.85	145	*e*PG	Pg	01 36 31.5	-1.0
ANTB	Antalya	0.85	145	*e*Pg	Pg	01 36 31.5	-1.0
ELL	Elmali	0.85	187	*e*PG	Pg	01 36 31.5	-1.1
ELL	Elmali	0.85	187	*e*Pg	Pg	01 36 31.5	-1.1
KHAL	Karahalli	0.89	331	*i*P	Pg	01 36 32.7	-0.6
KHAL				*i*S	Sb	01 36 46.2	+0.4
KHAL	Karahalli	0.89	331	*i*P	Pg	01 36 32.7	-0.6
KHAL				*i*S	Sb	01 36 46.2	+0.4
SHUT	Suhut-Afyon	1.04	23	*e*PG	Pg	01 36 35.5	-0.7
SHUT	Suhut-Afyon	1.04	23	*e*Pg	Pg	01 36 35.5	-0.7
FETY	Fethiye	1.23	219	*e*PN	Pb	01 36 39.1	-0.4
FETY	Fethiye	1.23	219	*e*Pn	Pb	01 36 39.1	-0.4
BOLV	Bolvadin	1.33	32	*e*P	Pn	01 36 40.2	-0.9
BOLV				*e*S	Sg	01 36 59.6	+0.6
BOLV	Bolvadin	1.33	32	*e*P	Pn	01 36 40.2	-0.9
BOLV				*e*S	Sg	01 36 59.6	+0.6
TURN	Turunc	1.36	238	*i*P	Pg	01 36 46.1	+3.9
TURN				*e*S	Sg	01 37 06.0	+6.2
TURN	Turunc	1.36	238	*i*P	Pg	01 36 46.1	+3.9
AKAS	Kas	1.40	195	*i*P	Pg	01 36 43.0	-0.1
AKAS				*i*S	Sg	01 37 07.0	+5.8
AKAS	Kas	1.40	195	*i*P	Pg	01 36 43.0	-0.1
KULA	Kula-Manisa	1.43	311	*e*PN	Pn	01 36 42.6	+0.3
KULA	Kula-Manisa	1.43	311	*e*Pn	Pn	01 36 42.6	+0.3
ALT	Altintas	1.46	2	*e*PN	Pn	01 36 43.1	+0.3
ALT	Altintas	1.46	2	*e*Pn	Pn	01 36 43.1	+0.3
MANT	Manisa	1.47	308	*i*P	Pn	01 36 42.4	-0.7
MANT				*i*S	Sn	01 37 01.2	-1.5
YER	Yerkesik	1.48	252	*e*PN	Pn	01 36 42.5	-0.4
YER	Yerkesik	1.48	252	*e*Pn	Pn	01 36 42.6	-0.4
GDZ	Gediz	1.56	344	*i*P	Pn	01 36 43.9	-0.3
GDZ				*i*S	Sg	01 37 09.1	+2.9
GDZ	Gediz	1.56	344	*i*P	Pn	01 36 43.9	-0.3
GDZ				*i*S	Sg	01 37 09.1	+2.9
AYDN	Tasoluk	1.72	273	*e*P	Pn	01 36 46.8	+0.5
AYDN				*i*S	Sn	01 37 09.1	+0.7
AYDN	Tasoluk	1.72	273	*e*P	Pn	01 36 46.8	+0.5
AYDN				*i*S	Sn	01 37 09.1	+0.7
DEMI	Demirci	1.78	325	*i*P	Pn	01 36 47.1	-0.1
DEMI				*i*S	Sb	01 37 11.5	0.0
DEMI	Demirci	1.78	325	*i*P	Pn	01 36 47.1	-0.1
DEMI				*i*S	Sb	01 37 11.5	0.0
KONT	Konya--Tatoy	1.87	79	*e*PN	Pn	01 36 48.6	+0.2
KONT	Konya--Tatoy	1.87	79	*e*Pn	Pn	01 36 48.6	+0.2
TVSB	Tavsanli	1.91	346	*e*PN	Pn	01 36 49.6	+0.7
TVSB	Tavsanli	1.91	346	*e*Pn	Pn	01 36 49.7	+0.7
LADK	Ladik-KONYA	1.93	71	*e*PN	Pn	01 36 49.6	+0.3
LADK	Ladik-KONYA	1.93	71	*e*Pn	Pn	01 36 49.7	+0.3
ESKT	Eskisehir	2.02	18	*e*PN	Pn	01 36 50.4	-0.2
ESKT	Eskisehir	2.02	18	*e*Pn	Pn	01 36 50.4	-0.2
SEYT	Eskypehyr	2.02	18	*e*P	Pn	01 36 51.1	+0.5
SEYT				*i*S	Sn	01 37 14.7	-1.4
SEYT	Eskypehyr	2.02	18	*e*P	Pn	01 36 51.1	+0.5
SEYT				*i*S	Sn	01 37 14.7	-1.4
BDRM	Kayabasi	2.14	256	*i*P	Pn	01 36 53.2	+1.2
BDRM				*i*S	Sb	01 37 20.3	-1.4
BDRM	Kayabasi	2.14	256	*i*P	Pn	01 36 53.2	+1.2
BDRM				*i*S	Sb	01 37 20.3	-1.4
AKHS	Akhisar	2.17	307	*i*P	Pn	01 36 52.2	-0.3
AKHS				*e*S	Sb	01 37 21.5	-1.2
AKHS	Akhisar	2.17	307	*i*P	Pn	01 36 52.2	-0.3
AKHS				*e*S	Sb	01 37 21.5	-1.2
AKS	Akhisar	2.17	307	*e*PN	Pn	01 36 53.1	+0.5
AKS	Akhisar	2.17	307	*e*Pn	Pn	01 36 53.1	+0.5
SVRH	Sivrihisar-ESK	2.18	32	*e*PN	Pn	01 36 53.1	+0.3
SVRH	Sivrihisar-ESK	2.18	32	*e*Pn	Pn	01 36 53.1	+0.3
BODT	Bodrum	2.24	257	*e*PN	Pn	01 36 53.9	+0.4
BODT	Bodrum	2.24	257	*e*Pn	Pn	01 36 53.9	+0.4
IZM	Izmir	2.34	291	*e*PN	Pn	01 36 54.9	+0.1
IZM	Izmir	2.34	291	*e*Pn	Pn	01 36 54.9	+0.1
DURS	Dursunbey	2.35	329	*i*P	Pn	01 36 55.1	0.0
DURS				*e*S	Sn	01 37 24.5	+0.4
DURS	Dursunbey	2.35	329	*i*P	Pn	01 36 55.1	0.0
DURS				*e*S	Sn	01 37 24.5	+0.4
BLCB	Balcova	2.50	289	*e*PN	Pn	01 36 57.3	+0.3
BLCB	Balcova	2.50	289	*e*Pn	Pn	01 36 57.3	+0.3
SULT	Sultanhani-AKS	2.81	77	*e*PN	Pn	01 37 01.5	+0.1
SULT	Sultanhani-AKS	2.81	77	*e*Pn	Pn	01 37 01.5	+0.1
BALY	Balya	2.86	319	*e*P	Pn	01 37 02.5	+0.5
BALY	Balya	2.86	319	*e*P	Pn	01 37 02.5	+0.5
AFSR	Af˙ar-Bala (A	3.01	51	*e*PN	Pn	01 37 04.4	+0.3
AFSR	Af˙ar-Bala (A	3.01	51	*e*Pn	Pn	01 37 04.4	+0.3
LFK	Lefkose	3.64	128	*e*PN	Pn	01 37 13.6	+0.8
LFK	Lefkose	3.64	128	*e*Pn	Pn	01 37 13.6	+0.8
MERS	Mersin	3.65	100	*e*PN	Pn	01 37 13.6	+0.7
MERS	Mersin	3.65	100	*e*Pn	Pn	01 37 13.6	+0.7
NIG	Nigde	3.65	81	*e*PN	Pn	01 37 13.6	+0.5
NIG	Nigde	3.65	81	*e*Pn	Pn	01 37 13.6	+0.5
CSS	Prodhromos	3.74	134	*e*PN	Pn	01 37 15.6	+1.6
CSS	Prodhromos	3.74	134	*e*Pn	Pn	01 37 15.6	+1.6

NNC 21 01:39:10.0±1.3, **53.40N**×**87.42E**, **h0**km, **mb3.9, mpv3.6, 5C-7D, Error ellipse: s-maj=9.9km s-min=6.6km az=59.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	6.05	247	⇑Pn	Pn	01 40 40.8	+0.1
	5.7nm,0.7s						
KURK				⇑Sn	Sn	01 41 51.9	+1.2
	2.8nm,0.9s						
KURK				⇑Lg	Lg	01 42 22.5	
	8.6nm,0.7s						
KURBB	Kurchatov Arra	6.15	247	⇓Sn	Sn	01 41 54.3	+1.3
	1.2nm,0.6s						
KURBB				⇓Lg	Lg	01 42 25.5	
	2.3nm,0.6s						
MK31	Makanchi Array	7.39	209	⇓Pn	Pn	01 41 01.8	+2.7
	1.6nm,0.6s,baz=28,slow=13,SNR=76						
MK31				⇓Sn	Sn	01 42 29.9	+6.4
	4.6nm,1.1s						
MK31				⇓Lg	Lg	01 43 02.2	
	6.7nm,0.9s,baz=40,slow=31,SNR=6.8						
VOSK	Vostochnaya	9.92	273	⇓Pn	Pn	01 41 33.6	-0.2
	1.3nm,0.5s						
VOSK				⇓Sn	Sn	01 43 26.8	+1.0
	1.8nm,0.5s						
ZRNK	Zerenda	11.06	275	⇑Pn	Pn	01 41 49.2	-0.2
	2.2nm,1.1s						
ZRNK				⇑Sn	Sn	01 43 54.8	+1.1
	3.6nm,1.2s						

*ISCJB **21** 01:44:51.0±0.5, 44.14N±0.03×10.12E±0.05, h16km±8km, Error ellipse: s-maj=6.0km s-min=4.1km az=145.9*
*ROM **21** 01:44:50.1±0.2, 44.15N×10.13E, h2km, Md2.3/11, Ml2.1/9, Error ellipse: s-maj=2.4km s-min=1.6km az=41.0*
*CSEM **21** 01:44:51.0±0.1, 44.11N×10.09E, h5km, ML2.5/10, Error ellipse: s-maj=4.4km s-min=2.6km az=19.0*
*GEN **21** 01:44:51.2, 44.16N×10.15E, h10km, ML2.0*
*LDG **21** 01:44:53.5±0.1, 44.04N×10.02E, h2km, Ml2.4/8, Error ellipse: s-maj=2.8km s-min=2.4km az=137.0*
ISC 21 01:44:50.8±1.0, **44.11N**±0.03×**10.10E**±0.02, **h9**km±8km, **n58**, σ1§**06**/85, **2C, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLC	Villacollemand	0.21	76	Pg	Pg	01 44 54.5	-0.6
VLC				Sg	Sg	01 44 57.3	-0.7
VLC	Villacollemand	0.21	76	Pg	Pg	01 44 54.5	-0.6
VLC				Sg	Sg	01 44 57.3	-0.7
CRDM	Cardoso	0.29	107	P	Pg	01 44 56.6	+0.1
MAIM	Mastiano	0.34	125	Pg	Pg	01 44 58.1	+0.6
MAIM				Sg	Sg	01 45 03.1	+1.0
	247nm,0.5s						
MAIM	Mastiano	0.34	125	Pg	Pg	01 44 58.1	+0.6
MAIM				Sg	Sg	01 45 03.1	+1.0
	247nm,0.5s						
BDI	Bagni Di Lucca	0.36	97	Pg	Pg	01 44 57.7	-0.2
BDI				Sg	Sg	01 45 02.8	+0.1
	143nm,0.3s						
BDI	Bagni Di Lucca	0.36	97	Pg	Pg	01 44 57.7	-0.2
BDI				Sg	Sg	01 45 02.8	+0.1
	143nm,0.3s						
ERBM	Eremo	0.38	36	⇑*i*Pg	Pg	01 44 57.7	-0.6
ERBM				Sg	Sg	01 45 02.9	-0.5
	468nm,0.8s						
ERBM	Eremo	0.38	36	⇑*i*Pg	Pg	01 44 57.7	-0.6
ERBM				Sg	Sg	01 45 02.9	-0.5
	468nm,0.8s						
GRAM	Graiana	0.38	356	P	Pg	01 44 57.7	-0.6
PII	Pisa	0.49	141	Pg	Pb	01 45 01.3	-0.3
	171nm,0.2s						
PII	Pisa	0.49	141	Pg	Pb	01 45 01.3	-0.3
	171nm,0.2s						
SC2M	Scurtabo	0.50	306	Pg	Pg	01 45 00.9	+0.4
SC2M				Sg	Sg	01 45 08.6	+1.5
	145nm,0.5s						
SC2M	Scurtabo	0.50	306	P	Pg	01 45 00.8	+0.3
SC2M				S	Sg	01 45 07.4	+0.3
SC2M				Sg	Sg	01 45 08.6	+1.5
	145nm,0.5s						
PRMA	PARMA	0.67	13	Pg	Pb	01 45 04.5	-0.2
	113nm,0.5s						
PRMA	PARMA	0.67	13	Pg	Pb	01 45 04.5	-0.2
	113nm,0.5s						
ZCCA	Zocca	0.67	69	Pg	Pb	01 45 04.7	0.0
	89nm,0.8s						
ZCCA	Zocca	0.67	69	Pg	Pb	01 45 04.7	0.0
	89nm,0.8s						
CRMI	Carmignano	0.70	117	Pg	Pb	01 45 05.1	-0.1
CRMI				Sg	Sb	01 45 15.6	+0.5
	73nm,0.3s						
CRMI	Carmignano	0.70	117	Pg	Pb	01 45 05.1	-0.1
CRMI				Sg	Sb	01 45 15.6	+0.5
	73nm,0.3s						
FNVD	Fontana Vidola	0.74	85	Pg	Pg	01 45 04.9	-0.1
	82nm,0.9s						
FNVD	Fontana Vidola	0.74	85	Pg	Pg	01 45 04.9	-0.1
	82nm,0.9s						
CSNT	Castellina Chi	1.07	126	Pg	Pn	01 45 12.1	+0.1
	39nm,0.5s						
CSNT	Castellina Chi	1.07	126	Pg	Pn	01 45 12.1	+0.1
	39nm,0.5s						
PCP	Piancastagn	1.20	292	P	Pn	01 45 12.9	-0.9
ROTM	Rocchetta Tana	1.45	301	P	Pn	01 45 17.3	+0.1
RORO	Rocca Rossa	1.47	271	P	Pn	01 45 16.4	-1.0
IMI	Imperia	1.60	264	P	Pn	01 45 18.8	-0.6
PGF	Pioggiola	1.75	208	*e*Pn	Pn	01 45 21.9	+0.4
PGF				*e*Sn	Sn	01 45 43.6	-0.4
	4.7nm,0.3s						
PGF	Pioggiola	1.75	208	*e*Pn	Pn	01 45 21.9	+0.4
PGF				*e*Sn	Sn	01 45 43.6	-0.4
	2.3nm,0.3s						
SBF	Sospel	1.94	264	*e*Pn	Pn	01 45 23.9	-0.1
SBF				*e*Sn	Sn	01 45 47.1	-1.4
	6.9nm,0.2s						
SBF	Sospel	1.94	264	*e*Pn	Pn	01 45 23.9	-0.1
MBDF	Montbardon	2.46	286	*e*Pn	Pn	01 45 32.9	+1.6
MBDF				*e*Sn	Sn	01 46 00.6	-1.0
	3.2nm,0.4s						
MBDF	Montbardon	2.46	286	*e*Pn	Pn	01 45 32.9	+1.6
LMR	La Mourre	2.72	255	*e*Pn	Pn	01 45 34.8	+0.2
LMR				*e*Sn	Sn	01 46 05.3	-2.3
	1.3nm,0.2s						
LMR	La Mourre	2.72	255	*e*Pn	Pn	01 45 34.8	+0.2
LMR				*e*Sn	Sn	01 46 05.3	-2.3
	0.6nm,0.2s						
LPG	La Plagne	2.76	301	*e*Pn	Pn	01 45 37.5	+2.1
LPG	La Plagne	2.76	301	*e*Pn	Pn	01 45 37.5	+2.1
LPL	La Plagne	2.78	302	*e*P	Pb	01 45 39.6	-1.1
LPL				*e*Sn	Sn	01 46 09.0	-0.5
	3.8nm,0.5s						
LPL	La Plagne	2.78	302	*e*P	Pb	01 45 39.6	-1.1
LPL				*e*Sn	Sn	01 46 09.0	-0.5
	1.9nm,0.5s						
ORIF	Oris-en-Rattie	3.12	286	*e*Pn	Pn	01 45 41.7	+1.4
ORIF	Oris-en-Rattie	3.12	286	*e*Pn	Pn	01 45 41.7	+1.4
SMRF	Simiane la Rot	3.27	269	*e*Pn	Pn	01 45 43.5	+1.3
SMRF	Simiane la Rot	3.27	269	*e*Pn	Pn	01 45 43.5	+1.3
CABF	La Chapelle	3.77	313	*e*Pn	Pn	01 45 49.1	-0.1
CABF	La Chapelle	3.77	313	*e*Pn	Pn	01 45 49.1	-0.1
HINF	Hinteralfeld	4.34	330	*e*Pn	Pn	01 45 58.9	+1.9
HINF	Hinteralfeld	4.34	330	*e*Pn	Pn	01 45 58.9	+1.9
LASF	Ste Croix	4.50	272	*e*Pn	Pn	01 45 59.9	+0.8
LASF	Ste Croix	4.50	272	*e*Pn	Pn	01 45 59.9	+0.8
HAU	Haudompre	4.69	327	*e*Pn	Pn	01 46 03.7	+2.0
HAU				*e*Sn	Sn	01 46 55.5	-0.8
	3.8nm,0.3s						
HAU	Haudompre	4.69	327	*e*Pn	Pn	01 46 03.7	+2.0
HAU				*e*Sn	Sn	01 46 55.5	-0.8
	1.9nm,0.3s						
CDF	Champ du Feu	4.73	337	*e*Pn	Pn	01 46 04.3	+2.0
CDF				*e*Sn	Sn	01 46 57.1	-0.2
	2.1nm,0.4s						
CDF	Champ du Feu	4.73	337	*e*Pn	Pn	01 46 04.3	+2.0
CDF				*e*Sn	Sn	01 46 57.1	-0.2
	1.0nm,0.4s						
LOR	Lormes	5.39	308	*e*Pn	Pn	01 46 12.9	+1.5
LOR				*e*Sn	Sn	01 47 11.8	-1.8
	0.4nm,0.2s						
LOR	Lormes	5.39	308	*e*Pn	Pn	01 46 12.9	+1.5
LOR				*e*Sn	Sn	01 47 11.8	-1.8
	0.2nm,0.2s						
BGF	Bois d'Agland	5.67	298	*e*Pn	Pn	01 46 16.3	+1.1
BGF	Bois d'Agland	5.67	298	*e*Pn	Pn	01 46 16.3	+1.1

*IDC **21** 01:47:21.2±8.6, 36.98N×71.28E, h94km±56km, mb3.1/2, mb1 3.3/8, m

1.5nm,0.6s,baz=83,slow=9.7,SNR=10

*IDC **21** 02:09:50.5±0.8,38°.36N×72°.24E,h0km,mb3.9/11, mb1 4.1/17,mb1mx4.0/31,mbtmp4.0/17,ML3.8/6,MS3.3/6, Ms1 3.3/6,ms1mx3.0/46,Error ellipse: s-maj=16.0km s-min=13.4km az=124.0*
*ISCJB **21** 02:09:52.7±0.4,38°.69N±0°.03×72°.25E±0°.07,h10km, mb3.9/17,MS3.5/4,Error ellipse: s-maj=8.4km s-min=4.7km az=172.6*
*NNC **21** 02:09:54.6±1.1,38°.73N×72°.20E,h0km,mb4.4,mpv4.3, Error ellipse: s-maj=9.9km s-min=5.8km az=28.0*

ISC 21 02:09:54.2±0.6,38°.74N±0°.05×72°.35E±0°.07,h10km,n60, σ1s76/47,mb3.9/17,MS3.4/4,14C-15D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.54**	**16**	P	**Pb**	**02 10 54.5**	**-2.6**
	SNR=68						
KZA	**Kyzart**	**4.00**	**33**	P	**Pb**	**02 11 04.1**	**-0.9**
	SNR=6.8						
EKS2	**Erkin-Say**	**4.06**	**15**	P	**Pb**	**02 11 03.1**	**-2.8**
	SNR=25						
AAK	**Ala-Archa**	**4.22**	**22**	P	**Pb**	**02 11 06.4**	**-2.1**
	SNR=20						
AAK	**Ala-Archa**	**4.22**	**22**	Pn	Pb	02 11 05.0	-3.5
	5.7nm,0.3s,baz=217,slow=11,SNR=50						
AAK				Sn	**Sb**	**02 12 02.1**	**+2.6**
	8.8nm,0.3s,baz=319,slow=18,SNR=8.6						
AAK				LR	LR	02 13 09.0	
	comp=Z,113nm,18.0s,baz=200,slow=43						
KBK	**Karagaybulak**	**4.38**	**26**	P	**Pb**	**02 11 09.7**	**-1.6**
	SNR=17						
KK31	**Karatay Array**	**4.58**	**343**	⇓Pn	Pn	02 11 07.2	+3.7
	23nm,0.5s,baz=156,slow=12,SNR=605						
KK31				⇓Sn	**Sb**	**02 12 05.4**	**-4.3**
	111nm,0.8s,baz=161,slow=24						
KK31				⇓Lg	Lg	02 12 18.2	
	100nm,0.6s						
CHMS	**Chumysh**	**4.63**	**22**	P	Pb	02 11 11.7	-3.7
	SNR=13						
USP	**Ospenovka**	**4.81**	**19**	P	Pb	02 11 13.9	-4.6
	SNR=10						
TKM2	**Tokmak 2**	**4.85**	**30**	⇓Pn	Pn	02 11 10.7	+3.4
	5.7nm,0.4s						
TKM2				⇑Pg	**Pg**	**02 11 24.7**	**-2.3**
	29nm,0.5s						
TKM2				⇓Lg	Lg	02 12 31.5	
	119nm,0.9s						
TKM2	**Tokmak 2**	**4.85**	**30**	P	Pb	02 11 15.7	-3.6
	SNR=6.3						
CEP	**Cherat**	**4.92**	**184**	P	**Pn**	**02 11 08.2**	**-0.1**
CEP				S	**Sb**	**02 12 21.0**	**+1.2**
CHCP	**Chirah Chowk**	**5.13**	**171**	P	**Pn**	**02 11 10.7**	**-0.3**
KNDC	**Almaty**	**5.67**	**37**	⇑Pg	Pg	02 11 40.0	-2.8
	89nm,0.8s						
KNDC				⇓Lg	Lg	02 12 58.5	
	131nm,0.7s						
THW	**Thamme Wali**	**5.95**	**185**	P	**Pn**	**02 11 20.9**	**-1.5**
DDI	**Dehra Dun**	**9.62**	**149**	*ex*	P	02 12 12.5	
MK31	**Makanchi Array**	**10.86**	**39**	⇓Pn	Pn	02 12 35.1	+5.4
	17nm,1.3s,baz=227,slow=13,SNR=7.0						
MK31				⇓Lg	Lg	02 15 38.4	
	11nm,1.2s,baz=93,slow=9.8,SNR=9.2						
MKAR	**Makanchi Array**	**10.86**	**39**	Pn	Pn	02 12 34.5	+4.8
	0.3nm,0.3s,baz=226,slow=11,SNR=26						
MKAR				Lg	Lg	02 15 43.6	
	0.1nm,0.3s,baz=226,slow=24,SNR=3.3						
KURBB	**Kurchatov Arra**	**12.66**	**18**	⇓Pn	**Pn**	**02 12 56.3**	**+2.1**
	0.4nm,0.6s						
KURBB				⇑Lg	Lg	02 16 38.3	
	5.2nm,0.9s						
KURBB	**Kurchatov Arra**	**12.66**	**18**	Pn	**Pn**	**02 12 54.7**	**+0.5**
	0.1nm,0.3s,baz=202,slow=12,SNR=8.0						
KURBB				Lg	Lg	02 16 37.5	
	0.1nm,0.3s,baz=209,slow=32,SNR=5.4						
KURK	**Kurchatov**	**12.77**	**18**	⇑Pn	**Pn**	**02 12 57.7**	**+2.0**
	6.2nm,1.4s						
KURK				⇓Lg	Lg	02 16 41.5	
	27nm,1.4s						
AB31	**Akbulak array**	**13.77**	**324**	Pn	**Pn**	**02 13 09.1**	**-0.2**
	13nm,0.7s,baz=137,slow=11,SNR=180						
AB31				⇑Sn	**Sn**	**02 15 43.3**	**+1.0**
	4.1nm,0.6s,baz=133,slow=24,SNR=5.3						
VOSK	**Vostochnaya**	**14.02**	**357**	⇓Pn	**Pn**	**02 13 14.0**	**+1.3**
	2.7nm,0.8s						
VOSK				⇓Sn	**Sn**	**02 15 49.5**	**+1.3**
	8.1nm,1.1s						
VOSK				⇑Lg	Lg	02 17 19.9	
	32nm,1.4s						
DANN	**Dangsing**	**14.05**	**134**	*eP*	Pn	02 13 06.6	-7.0
	15nm,0.4s						
BVA0	**Borovoye Array**	**14.35**	**355**	⇑Pn	**Pn**	**02 13 18.8**	**+1.5**
	0.8nm,0.7s						
BVA0				⇑Sn	**Sn**	**02 15 58.9**	**+2.5**
	0.8nm,0.8s,baz=162,slow=24,SNR=4.3						
BVA0				⇑Lg	Lg	02 17 31.2	
	2.8nm,1.3s						
BVAR	**Borovoye Array**	**14.35**	**355**	Pn	**Pn**	**02 13 18.4**	**+1.1**
	0.9nm,0.3s,baz=161,slow=12,SNR=22						
BVAR				Sn	**Sn**	**02 15 56.8**	**+0.4**
	0.4nm,0.3s,baz=161,slow=23,SNR=5.4						
BVAR				LR	LR	02 19 27.5	
	comp=Z,59nm,21.5s,baz=156,slow=39						
BRVK	**Borovoye**	**14.39**	**355**	⇑Pn	**Pn**	**02 13 19.3**	**+1.5**
	7.8nm,0.9s						
BRVK				⇓Sn	**Sn**	**02 15 59.5**	**+2.1**
	14nm,1.1s						
BRVK				⇑Lg	Lg	02 17 31.5	
	28nm,1.5s						
ZRNK	**Zerenda**	**14.40**	**352**	⇓Pn	**Pn**	**02 13 19.4**	**+1.5**
	2.8nm,0.5s						
ZRNK				⇓Sn	**Sn**	**02 16 00.8**	**+3.3**
	3.1nm,0.7s						
ZRNK				⇑Lg	Lg	02 17 31.6	
	17nm,1.4s						
KOLN	**Koldanda**	**14.42**	**136**	*eP*	Pn	02 13 11.5	-7.0
	8.1nm,0.4s						
GKN	**Gorkha**	**14.82**	**133**	*eP*	Pn	02 13 15.7	-8.2
	16nm,0.4s						
KKN	**Kakani**	**15.35**	**132**	*eP*	Pn	02 13 23.4	-7.7
DMN	**Daman**	**15.39**	**132**	*eP*	Pn	02 13 23.1	-8.5
AKTO	**Aktyubinsk**	**15.49**	**324**	⇑Pn	**Pn**	**02 13 32.3**	**-0.3**
	3.1nm,1.0s						
AKTO				⇑Sn	**Sn**	**02 16 24.7**	**+0.6**
	1.9nm,1.0s						
AKTO	**Aktyubinsk**	**15.49**	**324**	Pn	**Pn**	**02 13 31.4**	**-1.1**
	0.6nm,0.3s,baz=128,slow=13,SNR=16						
GUN	**Gumba**	**15.62**	**130**	*eP*	Pn	02 13 26.8	-7.9
JIRN	**Jiri**	**15.99**	**130**	*eP*	Pn	02 13 31.8	-7.7
	4.9nm,0.7s						
RAMN	**Ramite**	**16.76**	**130**	*eP*	Pn	02 13 39.6	-10
	16nm,0.5s						
TAPN	**Taplejung**	**17.14**	**127**	*eP*	Pn	02 13 45.2	-9.0
	8.2nm,0.5s						
ZALV	**Zalesovo Beam**	**17.43**	**25**	Pn	**P**	**02 13 58.4**	**-0.2**
	0.6nm,0.3s,baz=221,slow=11,SNR=17						
GNI	**Garni**	**21.34**	**283**	P	**P**	**02 14 40.0**	**-1.5**
	4.1nm,0.7s,baz=7.1,slow=15,SNR=4.8						
KBZ	**Khabaz**	**22.64**	**292**	P	**P**	**02 14 56.0**	**+0.8**
	3.7nm,0.9s,baz=90,slow=9.1,SNR=5.5						
KBZ				LR	LR	02 24 37.3	
	comp=Z,53nm,18.3s,baz=149,slow=39						
SONM	**Songino Array**	**26.22**	**59**	P	**P**	**02 15 30.2**	**+1.0**
	3.0nm,1.2s,baz=255,slow=8.8,SNR=6.4						
BRTR	**Keskin Array B**	**29.85**	**284**	P	P	02 16 04.8	+3.1
	0.6nm,0.6s,baz=84,slow=10,SNR=3.1						
AKASG	**Malin Array Be**	**32.44**	**306**	P	**P**	**02 16 26.6**	**+2.4**
	0.3nm,0.3s,baz=80,slow=8.0,SNR=3.0						
JOF	**Joensuu**	**34.50**	**328**	*ep*	**P**	**02 16 41.5**	**-0.6**
	3.0nm,0.5s						
FINES	**FINESS Array B**	**36.26**	**324**	P	**P**	**02 16 56.7**	**-0.5**
	2.1nm,0.4s,baz=108,slow=8.9,SNR=18						
FINES				LR	LR	02 33 02.2	
	comp=Z,86nm,18.7s,baz=114,slow=38						
KAF	**Kangasniemi**	**36.36**	**325**	*ep*	**P**	**02 17 00.7**	**+2.6**
	1.5nm,0.7s						
KEV	**Kevo**	**39.14**	**337**	*ep*	**P**	**02 17 24.2**	**+2.8**
ARCES	**ARCESS Array B**	**39.51**	**336**	P	**P**	**02 17 24.7**	**+0.2**
	14nm,1.2s,baz=102,slow=7.7,SNR=7.8						
BRG	**Berggiesshubel**	**42.12**	**306**	*e*(P)	P	02 17 51.7	+5.4
	5.9nm,1.3s						
GERES	**GERESS Array B**	**42.55**	**303**	P	**P**	**02 17 50.8**	**+0.8**
	0.2nm,0.4s,baz=87,slow=5.2,SNR=4.4						
KSRS	**Korea Array**	**43.18**	**74**	LR	LR	02 38 13.2	
	comp=Z,30nm,18.3s,baz=110,slow=39						
NB2	**NORSAR Subarra**	**43.27**	**322**	P	**P**	**02 17 54.7**	**-0.8**
	comp=Z,3.9nm,1.1s,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**43.27**	**322**	P	**P**	**02 17 56.3**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=93,slow=7.8,SNR=6.6						
TORD	**Torodi Ar. Bea**	**66.84**	**268**	P	P	02 20 42.1	-4.4
	comp=Z,0.6nm,0.5s,baz=50,slow=5.1,SNR=14						
INK	**Inuvik**	**71.52**	**10**	P	**P**	**02 21 14.7**	**0.0**
	comp=Z,1.8nm,0.6s,baz=350,slow=5.2,SNR=14						
YKA	**Yellowknife Ar**	**78.96**	**3**	P	**P**	**02 21 57.3**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=350,slow=5.8,SNR=18						
SCHQ	**Schefferville**	**80.45**	**337**	LR	LR	03 01 25.9	
	comp=Z,143nm,21.0s,baz=45,slow=38						
WRA	**Warramunga Arr**	**82.29**	**123**	P	**P**	**02 22 13.2**	**-2.8**
	comp=Z,0.6nm,0.5s,baz=324,slow=5.0,SNR=3.8						
ASAR	**Alice Springs**	**84.68**	**126**	P	**P**	**02 22 27.4**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=318,slow=5.2,SNR=3.2						

*ISCJB **21** 02:14:16.9±0.5,34°.39N±0°.09×135°.98E±0°.08, h384km±3km,mb3.6/19,Error ellipse: s-maj=14.6km s-min=9.7km az=167.7*
*JMA **21** 02:14:17.5±0.1,34°.39N×135°.94E,h379km±1km,M3.7*
*IDC **21** 02:14:17.8±1.2,34°.35N×135°.99E,h380km±6km,mb3.4/16, mb1 3.6/22,mb1mx3.5/33,mbtmp3.4/22,Error ellipse: s-maj=24.6km s-min=11.2km az=173.0*

ISC 21 02:14:17.6±0.8,34°.4N±0°.1×135°.98E±0°.07,h379km±5km, n37,σ0s78/44,mb3.7/19,3C,Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKN2	**Miekihoku**	**0.28**	**119**	⇑P	**Pn**	**02 15 04.9**	**+0.1**
JKN2				S	**S**	**02 15 42.0**	**-0.7**
JWY	**Kouya**	**0.36**	**244**	⇑P	**Pn**	**02 15 05.2**	**+0.2**
JWY				S	**S**	**02 15 42.0**	**-1.1**
JEG	**Eigenji**	**0.83**	**24**	P	**Pn**	**02 15 06.3**	**+0.4**
JEG				S	**S**	**02 15 44.2**	**-0.6**
TTO1	**TONANKAI O.B.S**	**1.00**	**138**	P	**Pn**	**02 15 06.8**	**+0.6**
JWT	**Wachi**	**1.02**	**332**	⇑P	**Pn**	**02 15 06.5**	**0.0**
JWT				S	**S**	**02 15 45.1**	**-0.8**
HMMJ	**Hamamatsu 2**	**1.52**	**71**	P	**Pn**	**02 15 09.1**	**+0.4**
JOD2	**Odawara 2**	**2.71**	**70**	P	**Pn**	**02 15 17.5**	**+0.8**
MAT	**Matsushiro**	**2.83**	**39**	P	**Pn**	**02 15 17.6**	**-0.1**
MAT				S	**S**	**02 16 06.1**	**-0.1**
MAT	**Matsushiro**	**2.83**	**39**	P	**Pn**	**02 15 17.6**	**-0.1**
MJAR	**Matsushiro Arr**	**2.83**	**39**	P	**Pn**	**02 15 17.9**	**+0.2**
	6.8nm,0.3s,baz=213,slow=8.9,SNR=54						
MJAR				S	**S**	**02 16 07.0**	**+0.8**
	0.6nm,0.3s,baz=340,slow=22,SNR=3.8						
JHJ	**Hachijo jima 2**	**3.41**	**110**	P	**Pn**	**02 15 23.2**	**+0.4**
	25nm,0.3s,baz=77,slow=21,SNR=5.0						
BSO3	**Boso 3**	**3.76**	**82**	P	**Pn**	**02 15 24.4**	**-1.3**
JYT	**Yasato**	**3.91**	**61**	P	**Pn**	**02 15 25.7**	**-1.7**
JNU	**Nakatsue**	**4.43**	**255**	P	**Pn**	**02 15 32.7**	**0.0**
	1.5nm,0.3s,baz=83,slow=7.7,SNR=12						
KSRS	**Korea Array**	**7.22**	**297**	P	**P**	**02 16 03.9**	**-0.2**
	3.2nm,0.3s,baz=114,slow=13,SNR=65						
USRK	**Ussuriysk Arra**	**10.29**	**344**	P	**Pn**	**02 16 38.5**	**-0.2**
	0.5nm,0.3s,baz=155,slow=11,SNR=12						
ASAJ	**Asahikawa**	**10.99**	**26**	P	**P**	**02 16 46.7**	**+0.1**
	2.4nm,0.3s,baz=222,slow=12,SNR=9.5						
PETK	**Petropavlovsk-**	**24.27**	**33**	P	**P**	**02 19 02.3**	**+0.4**
	2.4nm,0.6s,baz=224,slow=7.4,SNR=5.2						
SONM	**Songino Array**	**25.85**	**310**	P	**P**	**02 19 17.3**	**+1.1**
	2.5nm,0.7s,baz=118,slow=8.4,SNR=18						
ZALV	**Zalesovo Beam**	**40.54**	**315**	P	**P**	**02 21 23.4**	**+2.1**
	0.6nm,0.4s,baz=97,slow=7.4,SNR=3.6						
ZALV				PcP	**PcP**	**02 23 14.3**	**-0.8**
	0.7nm,0.4s,baz=108,slow=4.7,SNR=3.9						
MKAR	**Makanchi Array**	**41.85**	**304**	P	**P**	**02 21 32.4**	**+0.3**
	0.7nm,0.5s,baz=86,slow=10,SNR=11						
MKAR				ScP	**ScP**	**02 26 31.9**	**-1.1**
	0.4nm,0.8s,baz=86,slow=4.7,SNR=4.1						
KURBB	**Kurchatov Arra**	**44.22**	**310**	P	P	02 21 54.7	+4.1
	0.5nm,0.5s,baz=91,slow=8.1,SNR=4.1						
BVAR	**Borovoye Array**	**49.13**	**313**	PcP	**PcP**	**02 23 44.6**	**-0.5**
	0.6nm,0.4s,baz=93,slow=5.3,SNR=4.3						
KDAK	**Kodiak Island**	**52.00**	**40**	P	**P**	**02 22 49.9**	**+0.6**
	10nm,0.5s,baz=281,slow=5.2,SNR=11						
ILAR	**Eielson Array**	**54.08**	**31**	P	**P**	**02 23 04.4**	**+0.2**
	1.2nm,0.5s,baz=269,slow=6.7,SNR=8.1						
INK	**Inuvik**	**58.73**	**26**	P	**P**	**02 23 36.6**	**+0.1**
	2.3nm,0.4s,baz=295,slow=5.9,SNR=18						
ARCES	**ARCESS Array B**	**64.89**	**339**	P	**P**	**02 24 17.0**	**-0.1**
	12nm,1.1s,baz=60,slow=7.7,SNR=9.7						
JOF	**Joensuu**	**66.18**	**331**	*ep*	**P**	**02 24 24.7**	**-0.7**
	1.2nm,0.5s						
YKA	**Yellowknife Ar**	**68.28**	**28**	P	**P**	**02 24 38.5**	**+0.1**
	0.4nm,0.5s,baz=299,slow=6.2,SNR=7.8						
KAF	**Kangasniemi**	**68.59**	**332**	*ep*	**P**	**02 24 38.8**	**-1.5**
	1.4nm,0.6s						
FINES	**FINESS Array B**	**69.05**	**331**	P	**P**	**02 24 42.5**	**-0.6**
	1.4nm,0.6s,baz=57,slow=5.1,SNR=12						
AKASG	**Malin Array Be**	**73.61**	**321**	P	**P**	**02 25 09.5**	**-0.8**
	0.5nm,0.4s,baz=51,slow=6.1,SNR=4.1						
NOA	**NORSAR Array B**	**74.85**	**336**	P	**P**	**02 25 16.5**	**-0.8**
	1.0nm,0.8s,baz=45,slow=5.5,SNR=3.8						
NVAR	**Mina Array Bea**	**80.10**	**50**	P	**P**	**02 25 47.7**	**+0.9**
	1.0nm,0.6s,baz=291,slow=5.3,SNR=8.4						
GERES	**GERESS Array B**	**82.52**	**326**	P	**P**	**02 25 58.6**	**-0.3**
	0.8nm,0.6s,baz=44,slow=5.8,SNR=9.5						
PDAR	**Pinedale Array**	**82.65**	**43**	P	**P**	**02 25 59.9**	**0.0**
	0.6nm,0.7s,baz=354,slow=1.8,SNR=4.8						
TXAR	**Lajitas Array**	**95.22**	**49**	P	**P**	**02 27 00.2**	**+0.8**
	0.3nm,0.5s,baz=278,slow=2.6,SNR=10						

WEL 21 02:15:58.0±0.3,37°.36N×176°.39E,h196km±3km,ML3.7/14, 1C-2D,Error ellipse: s-maj=4.9km s-min=4.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.07**	**148**	⇓P	Pn	02 16 27.7	-0.1
URZ				S	Sn	02 16 50.8	-0.2
MWZ	**Matawai**	**1.33**	**138**	PN	Pn	02 16 30.0	+0.1
MWZ				S	Sn	02 16 54.7	-0.1
MXZ	**Matakaoa Point**	**1.54**	**98**	PN	Pn	02 16 32.1	+0.5
PUZ	**Puketiti**	**1.65**	**116**	PN	Pn	02 16 32.5	-0.2
PUZ				S	Sn	02 16 58.3	-1.4
RAHZ	**Arahi**	**1.65**	**161**	PN	Pn	02 16 32.9	+0.1
RAHZ				S	Sn	02 16 59.5	-0.5
NMHZ	**Naumai**	**1.77**	**169**	PN	Pn	02 16 34.3	+0.3
NMHZ				S	Sn	02 17 01.9	-0.2
BKZ	**Black Stump Fm**	**1.81**	**178**	PN	Pn	02 16 33.6	-0.8
CNGZ	**Carnagh Statio**	**1.83**	**129**	PN	Pn	02 16 34.9	+0.5
KNZ	**Kokohu**	**1.95**	**149**	⇓PN	Pn	02 16 35.1	-0.5
PRGZ	**Paritu Road**	**1.96**	**144**	PN	Pn	02 16 35.5	-0.3
MOVZ	**Moawhango**	**2.11**	**194**	PN	Pn	02 16 36.6	-0.8
BHHZ	**Black Hill Sta**	**2.15**	**187**	PN	Pn	02 16 36.5	-1.3
MHGZ	**Mahia Peninsul**	**2.16**	**147**	PN	Pn	02 16 37.2	-0.6
MHGZ				S	Sn	02 17 06.9	-2.1
CKHZ	**Cape Kidnapper**	**2.36**	**167**	PN	Pn	02 16 39.2	-0.8
CKHZ				S	Sn	02 17 10.1	-3.0
KAHZ	**Kahuranaki**	**2.47**	**171**	PN	Pn	02 16 40.2	-1.0
PXZ	**Pawanui**	**2.70**	**172**	⇑PN	Pn	02 16 42.2	-1.6
WPHZ	**Waipukurau**	**2.71**	**179**	PN	Pn	02 16 42.1	-1.9
TSZ	**Takapari Road**	**2.72**	**187**	PN	Pn	02 16 42.1	-2.0
PRHZ	**Porangahau**	**2.92**	**176**	PN	Pn	02 16 44.2	-2.2
DVHZ	**Dannevirke**	**2.95**	**183**	PN	Pn	02 16 44.3	-2.5
POWZ	**Post Office Ro**	**3.07**	**189**	PN	Pn	02 16 46.5	-1.7
BFZ	**Birch Farm**	**3.32**	**182**	PN	Pn	02 16 48.4	-2.8
MRZ	**Mangatainoka R**	**3.36**	**191**	PN	Pn	02 16 48.7	-3.0
OGWZ	**Otaki Gorge**	**3.59**	**195**	PN	Pn	02 16 51.4	-3.1
KIW	**Kapiti Island**	**3.69**	**198**	PN	Pn	02 16 52.2	-3.5
TMWZ	**Te Maipa**	**3.77**	**186**	PN	Pn	02 16 53.8	-2.9
MTW	**Mount Morrison**	**3.86**	**190**	PN	Pn	02 16 54.5	-3.3
CAW	**Cannon Point**	**3.89**	**195**	PN	Pn	02 16 54.3	-3.8
MSWZ	**Moikau Station**	**4.15**	**192**	PN	Pn	02 16 57.2	-4.3
TCW	**Tory Channel**	**4.19**	**202**	PN	Pn	02 16 58.3	-3.6
PLWZ	**Palliser**	**4.30**	**191**	PN	Pn	02 16 59.2	-4.2
THZ	**Tophouse**	**5.16**	**210**	PN	Pn	02 17 10.1	-4.2
KHZ	**Kahutara**	**5.51**	**203**	PN	Pn	02 17 14.4	-4.3
LTZ	**Lake Taylor**	**6.28**	**209**	PN	Pn	02 17 24.0	-4.7

*ISCJB **21** 02:33:11.1±0.5,11°.16N±0°.08×86°.98W±0°.09,h30km, mb4.2/30,MS4.8/2,Error ellipse: s-maj=16.8km s-min=4.3km az=137.4*
*CASC **21** 02:33:11.5±2.4,11°.27N×86°.93W,h16km±23km,MD4.3, mb4.5(NEIC)*
*IDC **21** 02:33:16.4±2.7,11°.84N×86°.21W,h53km±25km,mb3.6/11, mb1 3.9/11,mb1mx3.6/25,mbtmp3.7/11,MS3.1/1,*
Ms1 3.1/1,ms1mx2.7/35,Error ellipse: s-maj=49.3km s-min=13.8km az=55.0
*NEIC **21** 02:33:17.6±1.4,11°.26N×86°.66W,h82km±16km,mb4.5/18, Error ellipse: s-maj=19.9km s-min=11.6km az=54.0*
*BJI **21** 02:33:17.6,11°.30N×86°.70W,h81km,mB5.3/3,Ms5.4/3, Ms7 5.0/3*

ISC 21 02:33:11.5±0.7,11°.1N±0°.1×87°.2W±0°.1,h30km,n62, σ1s74/64,mb4.2/31,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**2.29**	**109**	*e*Pn	**Pn**	**02 33 48.4**	**+1.1**
JTS	**JuntasAbangare**	**2.29**	**109**	P	**Pn**	**02 33 48.1**	**+0.8**
	26nm,0.3s,baz=315,slow=12,SNR=41						
JTS				S	**Sb**	**02 34 22.6**	**+2.4**
	33nm,0.3s,baz=287,slow=19,SNR=7.9						
CNCH	**Conchagua**	**2.30**	**343**	*e*P	**Pn**	**02 33 47.7**	**+0.1**
CNCH				*e*S	**Sn**	**02 34 16.1**	**+1.0**
BLLM	**Bellamira**	**2.60**	**336**	*e*P	**Pn**	**02 33 52.3**	**+0.7**
VSM	**San Miguel**	**2.60**	**335**	*e*P	**Pn**	**02 33 52.2**	**+0.4**
CGA2	**Cerro Gallo 2**	**2.83**	**111**	*e*P	**Pn**	**02 33 54.8**	**-0.1**
CAHU	**Cacacuatique**	**2.89**	**339**	*e*P	**Pn**	**02 33 56.7**	**+0.9**
CAHU				*e*S	**Sn**	**02 34 30.2**	**+0.7**
LFRS	**El Faro**	**3.16**	**324**	*e*P	**Pn**	**02 33 59.9**	**+0.5**
LFRS				*e*S	**Sn**	**02 34 36.1**	**-0.1**
LAJ	**Bijagual**	**3.21**	**111**	*e*P	Pn	02 33 55.6	-4.4
QCR	**Quepos**	**3.35**	**119**	*e*P	**Pn**	**02 34 02.0**	**+0.1**
BUS	**Buena Vista**	**3.66**	**114**	*e*P	**Pn**	**02 34 06.7**	**+0.2**
ACR	**Cerro Adams**	**4.59**	**121**	*e*P	**Pn**	**02 34 19.5**	**+0.5**
TEIG	**Tepich**	**9.18**	**353**	LR	LR	02 39 20.1	
	comp=Z,136nm,20.6s,baz=268,slow=42						
CMIG	**Matias Romero**	**9.61**	**309**	P	Pn	02 35 31.6	+3.7
	0.6nm,0.3s,baz=124,slow=11,SNR=6.3						
HKT	**Hockley**	**20.46**	**338**	*e*P	Pn	02 37 48.6	-0.4
	17nm,1.3s						
LRAL	**Lakeview Retre**	**21.87**	**0**	*e*P	**P**	**02 38 02.6**	**+0.7**
	81nm,2.4s						
GOGA	**Godfrey**	**22.50**	**8**	*e*P	**P**	**02 38 08.9**	**+0.2**
	32nm,1.5s						
TXAR	**Lajitas Array**	**23.84**	**322**	P	**P**	**02 38 24.1**	**+1.7**
	2.6nm,0.7s,baz=137,slow=9.8,SNR=37						
TXAR				PcP	**PcP**	**02 42 08.0**	**+2.8**
	1.3nm,0.9s,baz=155,slow=4.5,SNR=4.3						
MIAR	**Mount Ida**	**24.10**	**347**	*e*P	**P**	**02 38 23.8**	**-0.8**
	50nm,2.2s						
CPCT	**Cooper Cave**	**24.40**	**5**	*e*P	**P**	**02 38 26.5**	**-0.9**
TKL	**Tuckaleechee C**	**24.68**	**7**	P	**P**	**02 38 25.4**	**-4.4**
	1.5nm,0.7s,baz=186,slow=9.2,SNR=1.8						
WMOK	**Wichita Mounta**	**25.85**	**338**	*e*P	**P**	**02 38 42.1**	**+1.6**
	7.9nm,1.0s						
MNTX	**Cornudas Mount**	**26.57**	**323**	*e*P	**P**	**02 38 49.3**	**+2.3**
	1.2nm,0.8s						
CPRX	**Cap Rock**	**26.72**	**327**	*e*P	**P**	**02 38 51.2**	**+2.6**
	4.4nm,0.8s						
WCI	**Wyandotte Cave**	**27.07**	**1**	*e*P	**P**	**02 38 50.1**	**-1.4**
ANMO	**Albuquerque**	**29.57**	**327**	*e*P	**P**	**02 39 16.4**	**+2.3**
	1.2nm,0.8s						
ANMO	**Albuquerque**	**29.57**	**327**	P	**P**	**02 39 16.0**	**+1.9**
	0.8nm,0.9s,baz=110,slow=12,SNR=3.0						
SAML	**Samuel**	**31.04**	**129**	*e*P	**P**	**02 39 26.2**	**-0.8**
	3.7nm,0.8s						
SDCO	**Great Sand Dun**	**31.26**	**331**	*e*P	**P**	**02 39 30.8**	**+1.7**
	40nm,2.5s						
ERPA	**Erie**	**31.57**	**10**	*e*P	**P**	**02 39 30.4**	**-1.0**
	15nm,0.8s						
ECSD	**EROS Data Cent**	**33.57**	**348**	*e*P	**P**	**02 39 47.2**	**-1.7**
	7.8nm,1.0s						
SRU	**San Rafael**	**34.84**	**327**	*e*P	**P**	**02 40 01.6**	**+1.5**
	2.8nm,0.7s						
MSU	**Marysvale**	**35.31**	**325**	*e*P	**P**	**02 40 07.5**	**+3.2**
PDAR	**Pinedale Array**	**37.13**	**332**	P	**P**	**02 40 19.4**	**-0

COLD			S	Sb	03 00 07.9	+0.9
PRP	**Porcupine Dome**	**2.51 172**	P	Pn	02 59 58.6	+2.5
GLM	**Gilmore Dome**	**3.04 188**	P	Pn	03 00 05.6	+2.2
MDM	**Murphy Dome**	**3.13 195**	P	Pn	03 00 06.4	+1.7
COLA	**College**	**3.19 191**	P	Pn	03 00 07.3	+2.1
CCB	**Clear Creek Bu**	**3.41 190**	P	Pn	03 00 10.3	+2.0
MLY	**Manley**	**3.45 213**	P	Pn	03 00 10.7	+1.7
HDA	**Harding Lake**	**3.61 184**	P	Pn	03 00 13.9	+2.8
EGAK	**Eagle**	**3.85 145**	P	Pn	03 00 18.1	+3.7
DDM	**Donnelly Dome**	**4.23 177**	P	Pn	03 00 22.9	+3.2
MCK	**McKinley**	**4.40 195**	P	Pn	03 00 24.1	+2.0
RND	**Reindeer**	**4.72 194**	P	Pn	03 00 28.6	+2.2
DHY	**Denali Highway**	**4.95 185**	P	Pn	03 00 33.3	+3.5
PAX	**Paxson**	**5.05 175**	P	Pn	03 00 34.4	+3.3

IDC 21 03:08:29.1±2.2, 7°.06S×129°.99E, h0km, mb3.2/1, mb1 3.3/3, mb1mx3.2/17, mbtmp3.1/3, ML3.5/1, Error ellipse: s-maj=137.0km s-min=32.1km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.48**	**162**	Pn	Pn	03 11 41.6	-0.3
	0.2nm,0.3s,baz=345,slow=14,SNR=4.9						
WRA				Sn	Sn	03 14 03.3	-9.3
	0.3nm,0.3s,baz=355,slow=24,SNR=3.1						
ASAR	**Alice Springs**	**16.94**	**168**	Pn	Pn	03 12 27.9	+0.2
	0.2nm,0.3s,baz=348,slow=8.7,SNR=7.7						
ASAR				Sn	Sn	03 15 30.4	-6.3
	0.1nm,0.3s,baz=356,slow=27,SNR=4.0						
MKAR	**Makanchi Array**	**68.27**	**327**	P	P	03 19 31.9	0.0
	0.1nm,0.4s,baz=129,slow=7.4,SNR=2.2						

IDC 21 03:13:48.0±1.6, 13°.74S×170°.74E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.9/18, mbtmp3.7/8, MS3.4/4, Ms1 3.4/4, ms1mx3.1/34, Error ellipse: s-maj=73.3km s-min=22.0km az=143.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.24**	**206**	LR	LR	03 18 52.2	
	comp=Z,148nm,19.7s,baz=17,slow=33						
CTA	**Charters Tower**	**24.24**	**252**	LR	LR	03 27 11.1	
	comp=Z,66nm,19.4s,baz=230,slow=33						
STKA	**Stephens Creek**	**32.21**	**231**	P	P	03 20 17.1	-1.0
	2.1nm,0.9s,baz=49,slow=9.3,SNR=3.5						
WRA	**Warramunga Arr**	**35.33**	**255**	P	P	03 20 45.6	+0.3
	0.5nm,1.1s,baz=87,slow=4.5,SNR=2.6						
ASAR	**Alice Springs**	**36.16**	**249**	P	P	03 20 52.7	+0.2
	3.3nm,0.9s,baz=79,slow=9.2,SNR=31						
JNU	**Nakatsue**	**60.16**	**322**	LR	LR	03 47 37.6	
	comp=Z,31nm,18.6s,baz=260,slow=34						
KSRS	**Korea Array**	**64.89**	**323**	LR	LR	03 50 52.2	
	comp=Z,49nm,19.1s,baz=47,slow=34						
DIB	**Dawson Inlet,**	**82.44**	**31**	T	T	04 58 19.2	
SONM	**Songino Array**	**83.74**	**322**	P	P	03 26 19.9	+0.8
	0.7nm,0.9s,baz=101,slow=4.6,SNR=3.5						
NVAR	**Mina Array Bea**	**84.10**	**48**	P	P	03 26 22.7	+1.4
	0.3nm,0.9s,baz=276,slow=4.4,SNR=2.9						
ILAR	**Eielson Array**	**84.58**	**17**	P	P	03 26 21.9	-1.0
	0.6nm,0.9s,baz=221,slow=4.8,SNR=4.9						
YKA	**Yellowknife Ar**	**85.14**	**327**	P	P	03 27 11.6	-1.3
	0.2nm,0.6s,baz=253,slow=4.3,SNR=2.7						
MKAR	**Makanchi Array**	**98.82**	**316**	P	P	03 27 29.0	-1.0
	0.3nm,0.9s,baz=113,slow=3.7,SNR=2.5						

IDC 21 03:27:29.2±0.8, 3°.86N×126°.67E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/23, mbtmp3.9/8, MS2.8/1, Ms1 2.8/1, ms1mx2.1/32, Error ellipse: s-maj=70.7km s-min=16.0km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**11.20**	**218**	LR	LR	03 34 47.0	
	comp=Z,55nm,21.5s,baz=62,slow=39						
WRA	**Warramunga Arr**	**24.83**	**163**	P	P	03 32 52.8	-0.6
	3.8nm,0.5s,baz=343,slow=10,SNR=17						
ASAR	**Alice Springs**	**28.25**	**166**	P	P	03 33 24.6	+0.3
	0.4nm,0.6s,baz=340,slow=6.6,SNR=8.0						
STKA	**Stephens Creek**	**38.27**	**159**	P	P	03 34 51.5	+0.1
	1.9nm,0.4s,baz=335,slow=6.9,SNR=9.6						
MKAR	**Makanchi Array**	**57.41**	**325**	P	P	03 37 19.5	-0.2
	0.6nm,0.5s,baz=122,slow=8.7,SNR=9.5						
ZALV	**Zalesovo Beam**	**60.44**	**333**	P	P	03 37 39.6	-1.0
	0.3nm,0.4s,baz=119,slow=5.1,SNR=2.8						
KURBB	**Kurchatov Arra**	**61.60**	**327**	P	P	03 37 48.7	+0.2
	1.3nm,0.4s,baz=123,slow=6.5,SNR=7.9						
BVAR	**Borovoye Array**	**67.18**	**327**	P	P	03 38 25.6	+0.6
	1.5nm,1.0s,baz=132,slow=6.0,SNR=4.8						
ILAR	**Eielson Array**	**85.01**	**25**	P	P	03 40 06.5	+0.1
	0.6nm,1.1s,baz=257,slow=7.3,SNR=3.1						

*NNC **21** 03:36:21.3±3.0, 39°.10N×69°.95E, h21km±21km, mb3.9, mpv3.6, Error ellipse: s-maj=23.8km s-min=17.5km az=29.0*

ISC 21 03:36:16.7±3.4, 38°.8N±0°.2×70°.0E±0°.1, h10km, n8, σ1s46/11, 1C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.32**	**5**	Pn	**Pn**	**03 37 24.5**	**+2.0**
	1.6nm,0.4s,baz=180,slow=12,SNR=72						
KK31				⇓Sn	**Sn**	**03 38 13.9**	**+1.1**
	1.3nm,0.3s,baz=191,slow=25,SNR=4.4						
KK31				⇓Lg	Lg	03 38 29.6	
	4.3nm,0.4s,baz=167,slow=28,SNR=7.8						
AML	**Almayashu**	**4.36**	**39**	P	**Pn**	**03 37 24.0**	**+0.5**
	SNR=12						
AAK	**Ala-Archa**	**5.13**	**40**	P	**Pn**	**03 37 34.5**	**+0.6**
	SNR=9.9						
KZA	**Kyzart**	**5.18**	**49**	P	**Pn**	**03 37 35.0**	**+0.3**
	SNR=9.3						
KBK	**Karagaybulak**	**5.39**	**43**	P	**Pn**	**03 37 38.4**	**+1.1**
	SNR=14						
CHMS	**Chumysh**	**5.53**	**39**	P	**Pn**	**03 37 39.5**	**+0.3**
	SNR=7.3						
TKM2	**Tokmak 2**	**5.92**	**44**	⇑Pn	**Pn**	**03 37 44.3**	**-0.3**
	12nm,0.6s						
TKM2				⇓Sn	**Sn**	**03 38 52.0**	**-0.6**
	4.6nm,0.6s						
AB31	**Akbulak array**	**12.69**	**329**	Pn	**Pn**	**03 39 17.4**	**+0.2**
	0.7nm,0.4s,baz=146,slow=11,SNR=28						
AB31				⇓Sn	**Sn**	**03 41 35.5**	**-3.0**
	0.8nm,0.5s,baz=156,slow=23,SNR=5.9						

IDC 21 03:38:06.5±2.4, 3°.92N×126°.32E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, Error ellipse: s-maj=219.5km s-min=25.7km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.99**	**162**	P	P	03 43 32.5	+0.3
	0.4nm,0.4s,baz=342,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**28.40**	**165**	P	P	03 44 02.6	-0.4
	0.1nm,0.5s,baz=336,slow=6.6,SNR=3.2						
MKAR	**Makanchi Array**	**57.17**	**325**	P	P	03 47 55.3	0.0
	0.2nm,0.6s,baz=122,slow=7.0,SNR=3.2						

IDC 21 03:58:16.4±1.3, 3°.87N×126°.77E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/23, mbtmp3.9/6, MS2.8/1, Ms1 2.8/1, ms1mx2.1/42, Error ellipse: s-maj=92.2km s-min=17.6km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.40**	**340**	LR	LR	04 00 57.8	
	comp=Z,129nm,18.6s,baz=233,slow=48						
FITZ	**Fitzroy Crossi**	**21.86**	**183**	P	P	04 03 10.4	-0.4
	1.3nm,0.3s,baz=16,slow=9.7,SNR=11						
WRA	**Warramunga Arr**	**24.80**	**163**	P	P	04 03 40.1	-0.3
	5.8nm,0.7s,baz=343,slow=10,SNR=25						
ASAR	**Alice Springs**	**28.24**	**166**	P	P	04 04 11.6	+0.2
	0.4nm,0.3s,baz=345,slow=7.6,SNR=8.9						
STKA	**Stephens Creek**	**38.24**	**159**	P	P	04 05 38.5	+0.2
	3.7nm,0.7s,baz=334,slow=7.5,SNR=9.2						
MKAR	**Makanchi Array**	**57.47**	**325**	P	P	04 08 07.0	-0.3
	0.6nm,0.4s,baz=124,slow=6.8,SNR=15						
BVAR	**Borovoye Array**	**67.23**	**327**	P	P	04 09 12.8	+0.2
	0.3nm,0.4s,baz=128,slow=9.3,SNR=2.7						

KRSC 21 03:59:08.9±0.3, 54°.84N×163°.98E, h37km±37km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.20**	**72**	*e*P	Pn	03 59 28.6	-0.5
BKI				*e*S	Sn	03 59 42.5	-1.6
MKZ	**Mys Kozlova**	**1.34**	**259**	*e*P	Pn	03 59 32.1	+1.2
MKZ				*e*S	Sn	03 59 48.0	+0.6
KBTR	**Krutoberegovo**	**1.52**	**335**	*e*P	Pn	03 59 32.8	-0.7
KBTR				*e*S	Sn	03 59 50.9	-1.1
KBG	**Krutoberegovo**	**1.59**	**333**	*e*P	Pn	03 59 35.0	+0.5
KBG				*e*S	Sn	03 59 53.8	+0.1
ZLN	**Zelenaya**	**2.16**	**304**	*e*P	Pn	03 59 44.3	+1.9
ZLN				*e*S	Sn	04 00 10.8	+2.8
BZGR	**Bezymyannyi-Gr**	**2.17**	**302**	*e*P	Pn	03 59 44.6	+2.0
BZGR				*e*S	Sn	04 00 10.2	+1.8
CIRR	**Tsirk**	**2.24**	**306**	*e*P	Pn	03 59 45.6	+2.0
CIRR				*e*S	Sn	04 00 13.0	+2.9
LGNR	**Loginova**	**2.25**	**305**	*e*P	Pn	03 59 45.9	+2.0
LGNR				*e*S	Sn	04 00 12.9	+2.3
TUMR	**Tumrok**	**2.25**	**283**	*e*P	Pn	03 59 45.9	+2.2
TUMR				*e*S	Sn	04 00 13.8	+3.5
SMKR	**Semkarok**	**2.25**	**322**	*e*S	Sn	04 00 13.3	+3.1
BZMR	**Bezymyannaya**	**2.27**	**300**	*e*P	Pn	03 59 46.3	+2.3
BZWR	**Bezymyannyi-We**	**2.28**	**301**	*e*P	Pn	03 59 46.3	+2.1
BZWR				*e*S	Sn	04 00 13.5	+2.3
KMNR	**Kamenistaya**	**2.33**	**295**	*e*P	Pn	03 59 46.9	+2.2
KMNR				*e*S	Sn	04 00 15.5	+3.3
BDR	**Baidarnaya**	**2.34**	**319**	*e*P	Pn	03 59 47.0	+2.2
BDR				*e*S	Sn	04 00 15.6	+3.3
KIRR	**Kirishev**	**2.36**	**300**	*e*P	Pn	03 59 47.6	+2.4
KIRR				*e*S	Sn	04 00 16.5	+3.5
KRSR	**Krestovskiy**	**2.38**	**307**	*e*P	Pn	03 59 46.8	+1.3
KRSR				*e*S	Sn	04 00 14.7	+1.2
KLY	**Klyuchi**	**2.40**	**309**	*e*P	Pn	03 59 45.8	+0.3
KLY				*e*S	Sn	04 00 13.2	-0.4
SRKR	**Sorokina**	**2.42**	**320**	*e*P	Pn	03 59 46.9	+1.0
SRKR				*e*S	Sn	04 00 15.1	+0.9
KPT	**Kopyto**	**2.42**	**299**	*e*P	Pn	03 59 48.7	+2.7
KPT				*e*S	Sn	04 00 18.3	+3.8
KOZ	**Kozyrevsk**	**2.64**	**299**	*e*P	Pn	03 59 51.4	+2.5
KOZ				*e*S	Sn	04 00 22.2	+2.6
SRDR	**Sredinnyy**	**2.84**	**303**	*e*P	Pn	03 59 53.9	+2.2
SRDR				*e*S	Sn	04 00 27.3	+2.7
SPN	**Mys Shipunski**	**2.92**	**235**	*e*P	Pn	03 59 53.2	+0.5
SPN				*e*S	Sn	04 00 25.4	-1.0
ESO	**Esso**	**3.20**	**292**	*e*P	Pn	03 59 58.0	+1.4
ESO				*e*S	Sn	04 00 34.1	+0.6
SDLR	**Sedlovina**	**3.39**	**245**	*e*P	Pn	04 00 02.2	+2.9
SDLR				*e*S	Sn	04 00 40.2	+1.9
SMAR	**Somma**	**3.44**	**245**	*e*P	Pn	04 00 02.8	+2.7
SMAR				*e*S	Sn	04 00 41.6	+1.8
KRER	**Koryakskii**	**3.44**	**246**	*e*P	Pn	04 00 03.1	+2.9
KRER				*e*S	Sn	04 00 41.9	+2.0
UGLR	**Uglovaya**	**3.45**	**244**	*e*P	Pn	04 00 03.3	+3.1
UGLR				*e*S	Sn	04 00 43.0	+3.1
AVH	**Avacha**	**3.47**	**245**	*e*P	Pn	04 00 04.0	+3.6
AVH				*e*S	Sn	04 00 43.0	+2.8
KOK	**Koryaka**	**3.51**	**246**	*e*P	Pn	04 00 04.0	+3.0
KOK				*e*S	Sn	04 00 42.9	+1.6
PET	**Petropavlovsk**	**3.64**	**242**	*e*S	Sn	04 00 43.4	-0.7
RUS	**Russkaya**	**4.05**	**236**	*e*P	Pn	04 00 10.1	+1.9
RUS				*e*S	Sn	04 00 53.9	-0.4
MTVR	**Mutnovka**	**4.18**	**238**	*e*P	Pn	04 00 12.4	+2.2
MTVR				*e*S	Sn	04 00 58.9	+1.0
ASAK	**Asacha**	**4.38**	**238**	*e*P	Pn	04 00 15.9	+3.0
ASAK				*e*S	Sn	04 01 04.6	+2.0
APC	**Apacha**	**4.47**	**247**	P	Pn	04 00 15.8	+1.8
APC				S	Sn	04 01 04.7	+0.1

GUC 21 04:00:38.3±0.9, 32°.55S×71°.76W, h24km±13km, MD3.5, ML2.4, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.28**	**87**	*e*P	Pb	04 00 45.0	0.0
PACH				*i* S	Sb	04 00 50.2	+0.6
CHNG	**Los Chungos**	**0.70**	**19**	⇑*i* P	Pb	04 00 51.5	-0.4
CHNG				*i* S	Sb	04 01 00.8	-0.4
CHNG				AML	AML	04 01 01.1	
	comp=E,215nm,0.3s						
ROCH	**El Roble**	**0.76**	**124**	⇓*i* P	Pb	04 00 52.4	-0.9
ROCH				*i* S	Sb	04 01 02.4	-1.0
ROCH				AML	AML	04 01 03.5	
	comp=N,336nm,0.2s						
PEL	**Peldehue**	**1.08**	**123**	*i* P	Pn	04 00 57.5	-0.5
PEL				*i* S	Sb	04 01 11.9	-0.4
PEL				AML	AML	04 01 14.1	
	comp=E,279nm,0.2s						
CLCH	**Cerro Calan**	**1.33**	**130**	⇑*i* P	Pn	04 01 01.6	+0.1
CLCH				*i* S	Sn	04 01 18.4	-0.2
CLCH				AML	AML	04 01 25.4	
	comp=N,83nm,0.8s						
ANTU	**Antumapu**	**1.39**	**137**	*i* S	Sb	04 01 20.6	-0.5
ANTU				AML	AML	04 01 25.6	
	comp=E,164nm,0.6s						
LNV	**Longovilo**	**1.43**	**168**	⇑*i* P	Pn	04 01 02.4	-0.4
FCH	**Farellones**	**1.46**	**122**	⇑*i* P	Pb	04 01 04.5	-0.8
FCH				*i* S	Sb	04 01 23.8	+0.1
FCH				AML	AML	04 01 26.4	
	comp=N,88nm,0.3s						
CHCH	**Chadas Angostu**	**1.66**	**146**	*e*P	Pn	04 01 06.8	+0.8
CHCH				*i* S	Sb	04 01 28.5	-0.5

IDC 21 04:01:49.2±2.5, 3°.81N×126°.58E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/21, mbtmp3.3/3, MS3.8/1, Ms1 3.8/1, ms1mx2.6/23, Error ellipse: s-maj=214.2km s-min=27.1km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.81**	**162**	P	P	04 07 13.2	0.0
	1.1nm,0.6s,baz=342,slow=11,SNR=5.2						
CBIJ	**Chichi jima**	**27.54**	**31**	LR	LR	04 16 12.0	
	comp=Z,235nm,21.4s,baz=240,slow=31						
ASAR	**Alice Springs**	**28.23**	**166**	P	P	04 07 44.1	0.0
	0.2nm,0.5s,baz=340,slow=7.9,SNR=4.0						
MKAR	**Makanchi Array**	**57.40**	**325**	P	P	04 11 39.5	-0.1
	0.1nm,0.4s,baz=112,slow=8.5,SNR=5.3						

IDC 21 04:16:05.8±6.5, 22°.13S×178°.67W, h405km±90km, mb3.2/3, mb1 3.4/4, mb1mx3.1/18, mbtmp3.4/4, Error ellipse: s-maj=172.6km s-min=22.5km az=171.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**17.59**	**91**	P	P	04 19 45.8	-0.1
	3.9nm,0.3s,baz=304,slow=23,SNR=3.4						
CTA	**Charters Tower**	**32.74**	**267**	P	P	04 22 04.4	+1.3
	1.4nm,0.5s,baz=90,slow=6.1,SNR=3.1						
ASAR	**Alice Springs**	**43.56**	**258**	P	P	04 23 31.7	-0.4
	1.3nm,0.7s,baz=95,slow=7.8,SNR=14						
WRA	**Warramunga Arr**	**43.78**	**264**	P	P	04 23 33.0	-0.8
	0.7nm,0.2s,baz=96,slow=8.4,SNR=24						
BRTR	**Keskin Array B**	**147.44**	**310**	PKPbc	PKPbc	04 35 02.9	-0.4
	0.8nm,0.9s,baz=56,slow=3.6,SNR=2.9						

IDC 21 04:26:01.0±2.1, 2°.10N×124°.34E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/21, mbtmp3.1/3, Error ellipse: s-maj=212.4km s-min=28.7km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.00**	**156**	P	P	04 31 17.8	+0.1
	0.5nm,0.5s,baz=335,slow=11,SNR=3.8						
ASAR	**Alice Springs**	**27.25**	**161**	P	P	04 31 47.9	+0.7
	0.2nm,0.6s,baz=349,slow=8.3,SNR=4.2						
MKAR	**Makanchi Array**	**57.57**	**327**	P	P	04 35 51.9	-0.8
	0.2nm,0.8s,baz=124,slow=8.2,SNR=2.3						

*IDC **21** 04:30:21.6±6.0, 40°.32N×142°.51E, h0km, mb4.0/6, mb1 3.9/7, mb1mx3.6/28, mbtmp3.9/7, ML3.4/1, MS3.8/1, Ms1 3.8/1, ms1mx2.2/35, Error ellipse: s-maj=119.8km s-min=49.5km az=140.0*

*ISCJB **21** 04:30:33.3±0.5, 40°.92N±0°.03×142°.03E±0°.06, h63km±4km, mb4.0/11, Error ellipse: s-maj=7.6km s-min=4.7km az=30.8*

*JMA **21** 04:30:33.3±0.1, 40°.90N×142°.13E, h51km±3km, M3.6*

JMA Felt I J1.

*NEIC **21** 04:30:37.0±1.8, 41°.18N×142°.04E, h72km±13km, mb4.1/5, Error ellipse: s-maj=26.8km s-min=15.4km az=166.0*

ISC 21 04:30:34.1±1.0, 40°.91N±0°.04×142°.03E±0°.05, h54km±9km, n32, σ0s73/43, mb4.1/11, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JANG	**Nango**	**0.67**	**216**	⇓P	**Pn**	**04 30 47.3**	**-0.4**
JANG				S	**Sn**	**04 30 57.0**	**-0.5**
JTM	**Tenmabayashi**	**0.74**	**260**	⇓P	**Pn**	**04 30 48.5**	**-0.1**
JTM				S	**Sn**	**04 30 59.4**	**+0.3**
JOT	**Ohata**	**0.88**	**303**	⇓P	**Pn**	**04 30 50.1**	**-0.2**
JOT				*e*S	**Sn**	**04 31 02.2**	**0.0**
JKB	**Kayabe**	**1.23**	**323**	⇓P	**Pn**	**04 30 54.8**	**-0.2**
JKB				*e*S	**Sn**	**04 31 10.4**	**-0.2**
JAH	**Hinai**	**1.28**	**236**	P	**Pn**	**04 30 56.2**	**+0.4**
JAH				S	**Sn**	**04 31 12.9**	**+1.0**
JSR	**Shiriuchi**	**1.36**	**297**	P	**Pn**	**04 30 57.2**	**+0.4**
JSR				*e*S	**Sn**	**04 31 14.9**	**+1.1**
ERM	**Erimo**	**1.39**	**37**	*e*Pn	**Pn**	**04 30 58.2**	**+1.0**
ERM				*e*Sg	**Sn**	**04 31 14.9**	**+0.4**
JEM	**Erimo**	**1.39**	**37**	P	**Pn**	**04 30 57.6**	**+0.4**
JEM				*e*S	**Sn**	**04 31 15.2**	**+0.7**
JNBK	**Urakawa-nobuka**	**1.47**	**21**	P	**Pn**	**04 30 58.2**	**-0.1**
JOM	**Ohasama**	**1.54**	**202**	P	**Pn**	**04 30 59.2**	**-0.1**
JOM				*e*S	**Sn**	**04 31 17.7**	**-0.6**
JIW	**Iwasaki**	**1.57**	**259**	P	**Pn**	**04 31 00.4**	**+0.8**
JNB	**Noboribetsu**	**1.72**	**335**	P	**Pn**	**04 31 01.2**	**-0.5**
JNB				*e*S	**Sn**	**04 31 21.8**	**-0.8**
ASAJ	**Asahikawa**	**3.23**	**7**	Pn	**Pn**	**04 31 21.4**	**-0.9**
ASAJ				Sn	**Sn**	**04 32 00.7**	**+1.2**
ASAJ	**Asahikawa**	**3.23**	**7**	Pn	**Pn**	**04 31 21.4**	**-0.9**
	2.2nm,0.3s,baz=212,slow=15,SNR=8.7						
ASAJ				Sn	**Sn**	**04 32 00.7**	**+1.2**
	2.1nm,0.3s,baz=232,slow=19,SNR=2.4						
ZALV	**Zalesovo Beam**	**39.75**	**309**	P	**P**	**04 38 01.1**	**-0.1**
ZALV	**Zalesovo Beam**	**39.75**	**309**	P	**P**	**04 38 01.1**	**-0.1**
	0.6nm,0.4s,baz=96,slow=8.2,SNR=3.2						
MKAR	**Makanchi Array**	**42.57**	**299**	P	**P**	**04 38 24.0**	**-0.5**
MKAR	**Makanchi Array**	**42.57**	**299**	P	**P**	**04 38 24.0**	**-0.5**
	0.4nm,0.4s,baz=86,slow=9.9,SNR=18						
CHTO	**Chiang Mai**	**42.82**	**252**	*e*P	**P**	**04 38 28.4**	**+1.5**
	2.6nm,0.6s						
KURK	**Kurchatov**	**44.01**	**305**	*e*P	**P**	**04 38 37.7**	**+1.7**
	1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**44.08**	**305**	P	**P**	**04 38 36.0**	**-0.6**
	0.7nm,0.5s,baz=80,slow=9.2,SNR=5.9						
BVAR	**Borovoye Array**	**48.38**	**310**	P	**P**	**04 39 10.2**	**-0.1**
BVAR	**Borovoye Array**	**48.38**	**310**	P	**P**	**04 39 10.2**	**-0.1**
	0.9nm,0.3s,baz=79,slow=9.4,SNR=8.5						
INK	**Inuvik**	**50.74**	**29**	*e*P	**P**	**04 39 27.0**	**-1.0**
	1.9nm,0.9s						
HNR	**Honiara**	**52.75**	**158**	LR	LR	05 00 31.4	
	comp=Z,95nm,18.6s,baz=162,slow=35						
ABKAR	**Akbulak array**	**55.86**	**308**	*e*P	**P**	**04 40 05.2**	**-0.7**
	1.3nm,0.5s						
FINES	**FINESS Array B**	**65.62**	**332**	P	**P**	**04 41 11.4**	**-0.6**
FINES	**FINESS Array B**	**65.62**	**332**	P	**P**	**04 41 11.4**	**-0.6**
	1.9nm,0.6s,baz=45,slow=8.6,SNR=16						
HFS	**Hagfors**	**70.76**	**335**	P	**P**	**04 41 43.6**	**-0.6**
HFS	**Hagfors**	**70.76**	**335**	P	**P**	**04 41 43.6**	**-0.6**
	2.3nm,0.9s,baz=32,slow=5.9,SNR=6.1						
DUG	**Dugway**	**74.48**	**50**	*e*P	**P**	**04 42 06.9**	**0.0**
	1.3nm,0.9s						
CLL	**Collm**	**77.97**	**330**	*e*P	**P**	**04 42 27.0**	**+0.7**

*ISCJB **21** 04:30:46.2±0.3, 38°.35N±0°.02×21°.86E±0°.02, h5km±2km, mb3.4/3, Error ellipse: s-maj=2.6km s-min=2.6km az=19.9*

*THE **21** 04:30:46.3, 38°.34N×21°.85E, h0km±1km, ML3.0/10, Error ellipse: s-maj=1.3km s-min=0.4km az=282.0*

*ATH **21** 04:30:46.6, 38°.34N×21°.88E, h8km±1km, ML2.8*

*CSEM **21** 04:30:46.4±0.1, 38°.34N×21°.87E, h2km, ML3.1, Error ellipse: s-maj=2.6km s-min=2.4km az=44.0*

*IDC **21** 04:30:46.5±2.9, 38°.43N×21°.81E, h2km, mb3.3/4, mb1 3.4/5, mb1mx3.2/28, mbtmp3.4/5, ML2.8/1, Error ellipse: s-maj=57.0km s-min=29.3km az=5.0*

ISC 21 04:30:46.9±0.8, 38°.34N±0°.01×21°.86E±0°.01, h7km±5km, n89, σ0s75/147, mb3.5/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.08**	**226**	P	**Pg**	**04 30 48.4**	**-0.5**
UPR	**University Cam**	**0.08**	**226**	P	**Pg**	**04 30 48.4**	**-0.5**
UPR				S	**Sg**	**04 30 50.5**	**+0.2**
EFP	**Efpalio**	**0.09**	**22**	P	**Pg**	**04 30 48.6**	**-0.5**
EFP				S	**Sg**	**04 30 50.5**	**-0.1**
EFP	**Efpalio**	**0.09**	**22**	*e*PG	**Pg**	**04 30 48.7**	**-0.4**
EFP				*e*SG	**Sg**	**04 30 50.6**	**-0.1**
EFP	**Efpalio**	**0.09**	**22**	P	**Pg**	**04 30 48.6**	**-0.5**
EFP				S	**Sg**	**04 30 50.5**	**-0.1**
LAKA	**Lakka**	**0.14**	**138**	P

VLS	**Valsamata**	**1.01**	**261**	*e*PB	**Pg**	04	31	04.9 **-1.5**
VLS				*e*SB	**Sb**	04	31	21.3 **+0.9**
VLS	**Valsamata**	**1.01**	**261**	*e*Pb	**Pg**	04	31	04.9 **-1.5**
VLS				S	**Sg**	04	31	20.3 **+0.7**
VLS				*e*Sb	**Sb**	04	31	21.3 **+0.9**
LKD2	**Lefkada island**	**1.04**	**296**	P	**Pg**	04	31	05.8 **-1.2**
LKD2				S	**Sg**	04	31	21.0 **+0.5**
LKD2	**Lefkada island**	**1.04**	**296**	*e*PG	**Pg**	04	31	05.8 **-1.2**
LKD2				*e*SB	**Sg**	04	31	21.2 **+0.7**
LKD2	**Lefkada island**	**1.04**	**296**	P	**Pg**	04	31	05.8 **-1.2**
LKD2				S	**Sg**	04	31	21.0 **+0.5**
VLX	**Vlachokerasia**	**1.05**	**157**	P	**Pg**	04	31	05.8 **-1.3**
VLX				S	**Sb**	04	31	21.7 **+0.2**
VLX	**Vlachokerasia**	**1.05**	**157**	*e*PG	**Pg**	04	31	06.0 **-1.1**
VLX	**Vlachokerasia**	**1.05**	**157**	*e*Pg	**Pg**	04	31	06.0 **-1.1**
VLX				S	**Sb**	04	31	21.5 **0.0**
ITM	**Ithomi**	**1.16**	**177**	P	**Pg**	04	31	08.0 **-1.2**
ITM				S	**Sb**	04	31	24.8 **+0.3**
ITM	**Ithomi**	**1.16**	**177**	*e*PB	**Pg**	04	31	08.8 **-0.4**
ITM				*e*SB	**Sb**	04	31	25.1 **+0.6**
ITM	**Ithomi**	**1.16**	**177**	P	**Pg**	04	31	08.0 **-1.2**
ITM	**Ithomi**	**1.16**	**177**	*e*Pb	**Pg**	04	31	08.8 **-0.4**
ITM				S	**Sb**	04	31	24.8 **+0.3**
ITM				*e*Sb	**Sb**	04	31	25.1 **+0.6**
THL	**Klokotos Trika**	**1.23**	**6**	P	**Pg**	04	31	09.3 **-1.2**
THL	**Klokotos Trika**	**1.23**	**6**	*e*PN	**Pg**	04	31	09.2 **-1.2**
THL				*e*SB	**Sg**	04	31	25.9 **-0.5**
THL	**Klokotos Trika**	**1.23**	**6**	P	**Pg**	04	31	09.3 **-1.2**
THL				*e*Sb	**Sg**	04	31	25.9 **-0.5**
DID	**Didima**	**1.37**	**127**	P	**Pn**	04	31	11.8 **-0.7**
DID	**Didima**	**1.37**	**127**	*e*PG	**Pn**	04	31	12.0 **-0.5**
DID				*e*SB	**Sb**	04	31	30.4 **-0.2**
DID	**Didima**	**1.37**	**127**	P	**Pn**	04	31	11.8 **-0.7**
DID				*e*Sb	**Sb**	04	31	30.4 **-0.2**
DID				S	**Sn**	04	31	32.3 **+1.4**
NAIG	**Nisos Aigina**	**1.41**	**114**	*e*PB	**Pb**	04	31	13.6 **+0.1**
NAIG	**Nisos Aigina**	**1.41**	**114**	*e*Pb	**Pb**	04	31	13.6 **+0.1**
NEO	**Neokhori**	**1.44**	**47**	*e*PG	**Pn**	04	31	13.3 **-0.1**
NEO	**Neokhori**	**1.44**	**47**	*e*Pg	**Pn**	04	31	13.3 **-0.1**
PYL	**PYLOS**	**1.45**	**184**	*e*PG	**Pn**	04	31	13.0 **-0.5**
PYL	**PYLOS**	**1.45**	**184**	*e*Pg	**Pn**	04	31	13.0 **-0.5**
ATH	**Athens Observa**	**1.51**	**104**	*e*PB	**Pb**	04	31	15.2 **0.0**
ATH	**Athens Observa**	**1.51**	**104**	*e*Pb	**Pb**	04	31	15.2 **0.0**
MEV	**Metsovon**	**1.52**	**341**	P	**Pn**	04	31	15.3 **+0.6**
MEV	**Metsovon**	**1.52**	**341**	P	**Pn**	04	31	15.3 **+0.6**
JAN	**Janina**	**1.53**	**329**	*e*PB	**Pb**	04	31	16.1 **+0.5**
JAN				*e*SB	**Sg**	04	31	36.6 **+0.4**
JAN	**Janina**	**1.53**	**329**	*e*Pb	**Pb**	04	31	16.1 **+0.5**
JAN				*e*Sb	**Sg**	04	31	36.6 **+0.4**
PTL	**Penteli**	**1.60**	**100**	*e*PB	**Pn**	04	31	16.2 **+0.5**
PTL				*e*SB	**Sb**	04	31	37.3 **0.0**
PTL	**Penteli**	**1.60**	**100**	*e*Pb	**Pn**	04	31	16.2 **+0.5**
PTL				*e*Sb	**Sb**	04	31	37.3 **0.0**
VLI	**Veliai**	**1.83**	**152**	*e*PN	**Pb**	04	31	20.4 **-0.3**
VLI	**Veliai**	**1.83**	**152**	*e*Pn	**Pb**	04	31	20.4 **-0.3**
KZN	**Kozani**	**1.96**	**358**	*e*PN	**Pn**	04	31	22.0 **+1.3**
KZN				*e*SN	**Sg**	04	31	49.3 **-0.7**
KZN	**Kozani**	**1.96**	**358**	*e*Pn	**Pn**	04	31	22.0 **+1.3**
KZN				*e*Sn	**Sg**	04	31	49.3 **-0.7**
KEK	**Kerkira**	**2.11**	**311**	*e*PN	**Pb**	04	31	25.1 **-0.4**
KEK	**Kerkira**	**2.11**	**311**	*e*Pn	**Pb**	04	31	25.1 **-0.4**
PLG	**Polygyros**	**2.37**	**31**	*e*PB	**Pn**	04	31	27.0 **+0.7**
PLG	**Polygyros**	**2.37**	**31**	*e*Pb	**Pn**	04	31	27.0 **+0.7**
BIA	**Bitola**	**2.71**	**351**	*e*Pn	**Pn**	04	31	32.2 **+1.3**
BIA				*e*Sn	**Sb**	04	32	11.3 **+2.2**
BIA	**Bitola**	**2.71**	**351**	*e*Pn	**Pn**	04	31	32.1 **+1.3**
VAY	**Valandovo**	**3.03**	**10**	*e*Pn	**Pn**	04	31	33.6 **-1.6**
VAY	**Valandovo**	**3.03**	**10**	*e*Pn	**Pn**	04	34	0.0 **-1.2**
NVLJ	**Novalja**	**8.13**	**322**	*e*Pn	**Pn**	04	32	44.6 **-0.7**
NVLJ					Sn	Sn	04	34 11.6 -5.8
BRTR	**Keskin Array B**	**9.27**	**78**	Pn	**Pn**	**04**	**33**	**03.5 +2.4**
	0.1nm,0.3s,baz=259,slow=12,SNR=5.4							
ESDC	**Sonseca Array**	**20.10**	**282**	P	**P**	**04**	**35**	**21.3 +0.2**
	0.3nm,0.5s,baz=81,slow=11,SNR=4.9							
HFS	**Hagfors**	**22.42**	**349**	P	**P**	**04**	**35**	**45.5 -0.4**
	1.9nm,1.0s,baz=159,slow=12,SNR=4.6							
FINES	**FINESS Array B**	**23.28**	**5**	P	**P**	**04**	**35**	**54.5 -0.3**
	1.9nm,1.0s,baz=164,slow=12,SNR=2.6							
MKAR	**Makanchi Array**	**44.31**	**59**	P	**P**	**04**	**38**	**57.2 -0.1**
	0.2nm,0.5s,baz=266,slow=8.1,SNR=5.6							

IDC 21 04:33:39.6±0.8, 3°92'N×126°58'E, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.7/23, mbtmp3.7/9, MS2.8/1, Ms1 2.8/1, ms1mx2.0/40, Error ellipse: s-maj=63.3km s-min=16.2km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**11.19**	**218**	LR	LR	04 41 14.4	
	comp=Z,47nm,19.6s,baz=314,slow=41						
FITZ	**Fitzroy Crossi**	**21.90**	**182**	P	P	04 38 34.0	-0.4
	0.8nm,0.3s,baz=3.3,slow=12,SNR=8.9						
WRA	**Warramunga Arr**	**24.91**	**162**	P	P	04 39 04.3	-0.3
	1.5nm,0.5s,baz=343,slow=10,SNR=7.4						
WRA				S	S	04 43 23.8	-5.2
	0.1nm,0.3s,baz=334,slow=20,SNR=3.2						
ASAR	**Alice Springs**	**28.39**	**166**	P	P	04 39 35.6	+0.3
	0.3nm,0.4s,baz=336,slow=7.6,SNR=7.7						
STKA	**Stephens Creek**	**38.36**	**159**	P	P	04 41 02.8	+0.3
	1.8nm,0.7s,baz=340,slow=9.7,SNR=4.7						
MKAR	**Makanchi Array**	**57.32**	**325**	P	P	04 43 29.7	+0.3
	0.5nm,0.4s,baz=119,slow=7.3,SNR=26						
KURBB	**Kurchatov Arra**	**61.50**	**327**	P	P	04 43 57.6	-0.6
	0.9nm,0.6s,baz=126,slow=6.6,SNR=3.4						
BVAR	**Borovoye Array**	**67.08**	**327**	P	P	04 44 35.8	+1.0
	0.3nm,0.5s,baz=140,slow=5.6,SNR=2.3						
ILAR	**Eielson Array**	**85.00**	**25**	P	P	04 46 16.7	0.0
	0.5nm,1.0s,baz=246,slow=5.4,SNR=5.9						
ARCES	**ARCESS Array B**	**90.22**	**340**	P	P	04 46 41.6	-0.3
	16nm,1.2s,baz=46,slow=7.7,SNR=3.3						
FINES	**FINESS Array B**	**91.60**	**332**	P	P	04 46 47.1	-1.2
	0.5nm,0.7s,baz=90,slow=9.7,SNR=2.8						

IDC 21 04:57:10.3±8.0, 22°86N×110°89W, h0km, mb3.0/2, mb1 3.5/5, mb1mx3.5/23, mbtmp3.1/5, ML3.7/2, Error ellipse: s-maj=125.7km s-min=53.9km az=176.0, Off west coast of Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**9.15**	**44**	Pn	Pn	04 59 24.2	+0.4
	0.1nm,0.3s,baz=226,slow=15,SNR=4.2						
NVAR	**Mina Array Bea**	**16.77**	**339**	Pn	P	05 01 08.3	-1.0
	baz=175,slow=13,SNR=2.8						
PDAR	**Pinedale Array**	**19.89**	**3**	P	Pn	05 01 45.3	+0.2
	0.0nm,0.3s,baz=179,slow=11,SNR=6.0						
YKA	**Yellowknife Ar**	**39.70**	**357**	P	P	05 04 43.7	-0.3
	0.2nm,0.9s,baz=182,slow=7.6,SNR=5.2						
ILAR	**Eielson Array**	**48.03**	**340**	P	P	05 05 50.6	-0.4
	0.2nm,0.9s,baz=143,slow=6.6,SNR=3.1						

*IDC **21** 04:58:00.4±1.0, 17°87N×62°23W, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.6/7, Error ellipse: s-maj=36.0km s-min=21.4km az=26.0*
*ISCJB **21** 04:58:07.1±1.2, 18°0N±0°1×62°16W±0°08, h65km±14km, mb3.6/7, Error ellipse: s-maj=21.7km s-min=7.5km az=32.6*
*TRN **21** 04:58:07.0, 17°77N×61°81W, h3km, MD3.6*

ISC 21 04:58:07.7±2.0, 18°0N±0°1×62°1W±0°1, h51km±22km, n23, σ1°23/29, mb3.4/7, 5C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BPA	**Boggy Peak**	**1.01**	**164**	⇑*i*P	**Pn**	**04 58 25.6**	**-0.1**
BPA				*e*S	**Sn**	**04 58 37.1**	**-1.8**
SEG	**Port Louis**	**1.73**	**159**	⇑*i*P	**Pn**	**04 58 35.5**	**+0.2**
LZG	**Guadaloupe-1**	**1.91**	**169**	⇑*e*P	**Pn**	**04 58 38.0**	**+0.2**
DEG	**La Desirade**	**2.00**	**149**	*e*P	**Pn**	**04 58 38.9**	**-0.2**
DEG				*e*S	**Sn**	**04 59 01.4**	**-1.4**
BCG	**Bois Riant Cap**	**2.00**	**165**	*e*P	**Pn**	**04 58 39.4**	**+0.4**
SCG	**Saint Claude**	**2.04**	**167**	*e*P	**Pn**	**04 58 40.0**	**+0.4**
DOG	**Dongo Capester**	**2.05**	**166**	*e*P	**Pn**	**04 58 40.2**	**+0.4**
PHG	**Guadaloupe-2**	**2.06**	**167**	*e*P	**Pn**	**04 58 40.4**	**+0.4**
HMG	**Houelmont**	**2.08**	**168**	⇑*e*P	**Pn**	**04 58 40.7**	**+0.6**
TBG	**Guadaloupe-3**	**2.22**	**168**	⇑*i*P	**Pn**	**04 58 42.6**	**+0.6**
MGG	**Marie-Galante**	**2.24**	**159**	*e*P	**Pn**	**04 58 42.8**	**+0.4**
DVCT	**Vielle Casse P**	**2.50**	**164**	*e*P	**Pn**	**04 58 48.3**	**+2.4**
DVCT				*e*S	**Sn**	**04 59 17.7**	**+2.5**
DWS	**Wesley**	**2.57**	**162**	*e*P	**Pn**	**04 58 49.0**	**+2.1**
DWS				*e*S	**Sn**	**04 59 18.2**	**+2.2**
FDF	**Fort de France**	**3.41**	**164**	*e*P	**Pn**	**04 58 59.5**	**+1.1**
MVM	**Montagne Vaucl**	**3.66**	**161**	*e*P	**Pn**	**04 59 01.9**	**+0.1**
SJG	**San Juan**	**3.81**	**272**	Pn	**Pn**	**04 59 04.3**	**+0.4**
	16nm,0.3s,baz=90,slow=14,SNR=23						
SJG				Sn	**Sn**	**04 59 48.2**	**+0.7**
	19nm,0.3s,baz=90,slow=20,SNR=9.3						
TXAR	**Lajitas Array**	**39.47**	**294**	P	**P**	**05 05 32.6**	**-0.8**
	0.1nm,0.5s,baz=137,slow=6.1,SNR=4.3						
TXAR				PcP	**PcP**	**05 07 41.8**	**+1.2**
	0.2nm,0.5s,baz=119,slow=4.5,SNR=7.0						
CPUP	**Villa Florida**	**44.34**	**174**	P	**P**	**05 06 10.9**	**-2.0**
	0.3nm,0.4s,baz=28,slow=14,SNR=3.2						
PDAR	**Pinedale Array**	**46.98**	**312**	P	**P**	**05 06 32.5**	**-1.6**
	0.2nm,0.5s,baz=108,slow=7.9,SNR=2.1						
DBIC	**Dimbokro**	**56.89**	**94**	P	**P**	**05 07 47.8**	**-0.1**
	3.9nm,0.8s,baz=33,slow=3.5,SNR=6.9						
YKA	**Yellowknife Ar**	**57.21**	**334**	P	**P**	**05 07 50.2**	**+0.9**
	0.2nm,0.4s,baz=104,slow=7.6,SNR=9.6						
TORD	**Torodi Ar. Bea**	**61.43**	**85**	P	**P**	**05 08 20.1**	**+0.8**
	1.0nm,0.6s,baz=287,slow=7.4,SNR=8.7						
GERES	**GERESS Array B**	**67.38**	**44**	P	**P**	**05 08 58.6**	**+0.8**
	0.2nm,0.5s,baz=279,slow=8.8,SNR=3.2						

IDC 21 05:24:45.2±5.8, 2°37S×139°22E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/16, mbtmp3.1/3, ML3.5/1, Error ellipse: s-maj=233.3km s-min=31.7km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.10**	**195**	P	Pn	05 28 56.4	-2.0
	0.2nm,0.3s,baz=16,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**21.79**	**193**	P	P	05 29 39.7	+0.8
	0.2nm,0.4s,baz=16,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**69.83**	**322**	P	P	05 35 58.0	+0.1
	0.5nm,0.9s,baz=107,slow=5.0,SNR=3.6						

MEX 21 05:26:52.4±0.4, 16°14N×95°08W, h9km±5km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.97**	**11**	*e*P	Pg	05 27 08.3	-2.7
CMIG				*i* S	Sg	05 27 20.5	-3.2
VHO	**Vista Hermosa**	**1.84**	**301**	*e*P	Pn	05 27 21.1	-3.3
VHO				*i* S	Sn	05 27 43.2	-4.7
PCIG		**1.84**	**103**	*e*P	Pn	05 27 20.7	-3.5
PCIG				*i* S	Sn	05 27 43.0	-4.6
CCIG	**Comitan**	**2.83**	**87**	*i* P	Pn	05 27 35.4	-2.7
CCIG				*i* S	Sn	05 28 08.7	-3.8
PNIG	**Pinotepa**	**2.94**	**275**	*e*P	Pn	05 27 36.0	-3.3
PNIG				*e*S	Sn	05 28 11.0	-3.7

*ISCJB **21** 05:32:52.1±0.8, 69°09N±0°05×144°4W±0°2, h10km, mb4.1/1, Error ellipse: s-maj=9.6km s-min=5.7km az=44.4*
*NEIC **21** 05:32:53.7, 69.03N×144.67W, h6km, ML2.9(AEIC), After AEIC.*
*IDC **21** 05:32:53.1±1.8, 69°20N×144°58W, h0km, mb4.0/1, mb1 3.6/5, mb1mx3.3/30, mbtmp3.4/5, ML3.1/4, Error ellipse: s-maj=23.6km s-min=20.0km az=157.0*

ISC 21 05:32:53.1±1.0, 69°11N±0°08×144°61W±0°06, h10km, n20, σ1°39/26, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
COLD	**Coldfoot**	**2.82**	**231**	P	**Pn**	**05 33 39.7**	**+1.6**
COLD				S	**Sb**	**05 34 15.9**	**-2.0**
PRP	**Porcupine Dome**	**3.62**	**186**	P	**Pn**	**05 33 50.3**	**+1.0**
INK	**Inuvik**	**4.12**	**96**	Pn	Pn	05 33 57.9	+1.9
INK				Sn	**Sn**	**05 34 46.0**	**+1.8**
INK				Lg	Lg	05 35 02.4	
INK	**Inuvik**	**4.12**	**96**	Pn	Pn	05 33 57.9	+1.9
	0.5nm,0.3s,baz=283,slow=13,SNR=28						
INK				Sn	**Sn**	**05 34 46.0**	**+1.8**
	1.2nm,0.3s,baz=257,slow=14,SNR=5.7						
INK				Lg	Lg	05 35 02.4	
	0.9nm,0.3s,baz=14,slow=23,SNR=4.9						
MDM	**Murphy Dome**	**4.40**	**201**	P	**Pn**	**05 34 00.3**	**+0.4**
MDM				S	**Sn**	**05 34 52.1**	**+1.0**
COLA	**College**	**4.44**	**198**	P	**Pn**	**05 34 00.2**	**-0.1**
COLA				S	**Sn**	**05 34 54.3**	**+2.4**
ILAR	**Eielson Array**	**4.45**	**193**	Pn	**Pn**	**05 34 01.4**	**+0.9**
ILAR				Sn	**Sn**	**05 34 52.4**	**+0.1**
ILAR				Lg	Lg	05 35 09.2	
ILAR	**Eielson Array**	**4.45**	**193**	Pn	**Pn**	**05 34 01.4**	**+0.9**
	1.2nm,0.3s,baz=4.1,slow=13,SNR=82						
ILAR				Sn	**Sn**	**05 34 52.4**	**+0.1**
	1.5nm,0.3s,baz=13,slow=18,SNR=5.6						
ILAR				Lg	Lg	05 35 09.2	
	2.2nm,0.3s,baz=8.4,slow=31,SNR=5.2						
EGAK	**Eagle**	**4.56**	**161**	P	**Pn**	**05 34 02.7**	**+0.7**
EGAK				S	**Sn**	**05 34 55.8**	**+1.0**
CCB	**Clear Creek Bu**	**4.66**	**197**	P	**Pn**	**05 34 03.8**	**+0.5**
MCK	**McKinley**	**5.67**	**200**	P	**Pn**	**05 34 18.0**	**+0.7**
DHY	**Denali Highway**	**6.16**	**192**	P	**Pn**	**05 34 26.2**	**+2.1**
MENT	**Mentasta**	**6.21**	**176**	*e*Pn	**Pn**	**05 34 26.0**	**+1.3**
PPLA	**Purkeypile**	**6.96**	**210**	P	**Pn**	**05 34 36.0**	**+1.0**
YKA	**Yellowknife Ar**	**13.84**	**104**	Pn	**Pn**	**05 36 06.7**	**-2.3**
YKA				Sn	Sn	05 38 31.8	-11
YKA	**Yellowknife Ar**	**13.84**	**104**	Pn	**Pn**	**05 36 06.6**	**-2.3**
	0.1nm,0.3s,baz=309,slow=13,SNR=8.0						
YKA				Sn	Sn	05 38 31.8	-11
	0.1nm,0.3s,baz=314,slow=22,SNR=5.1						
RES	**Resolute Bay**	**15.94**	**48**	Pn	**Pn**	**05 36 36.5**	**-0.5**
RES				Sn	Sn	05 39 20.5	-13
RES	**Resolute Bay**	**15.94**	**48**	Pn	**Pn**	**05 36 36.5**	**-0.5**
	0.1nm,0.3s,baz=264,slow=13,SNR=4.4						
RES				Sn	Sn	05 39 20.5	-13
	0.1nm,0.3s,baz=336,slow=20,SNR=3.9						
FINES	**FINESS Array B**	**49.57**	**6**	P	**P**	**05 41 44.1**	**+0.6**
FINES	**FINESS Array B**	**49.57**	**6**	P	**P**	**05 41 44.1**	**+0.6**
	1.9nm,0.9s,baz=348,slow=8.4,SNR=3.4						

*ISK **21** 05:37:08.0, 41°42N×33°34E, h6km, MD2.8*
*DDA **21** 05:37:08.7, 41°41N×33°45E, h7km, MD2.8*
*ISCJB **21** 05:37:08.8±0.6, 41°40N±0°03×33°36E±0°05, h5km±7km, Error ellipse: s-maj=6.8km s-min=5.1km az=39.7*
*CSEM **21** 05:37:08.9±0.2, 41°41N×33°38E, h5km, MD2.8, Error ellipse: s-maj=3.9km s-min=3.3km az=131.0*

ISC 21 05:37:09.2±0.9, 41°40N±0°04×33°38E±0°03, h11km±9km, n21, σ0°66/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALT	**Daday**	**0.14**	**3**	*i* P	**Pg**	**05 37 13.1**	**+0.6**
BALT				*i* S	**Sg**	**05 37 14.3**	**-0.7**
BALT	**Daday**	**0.14**	**3**	*i* P	**Pg**	**05 37 13.1**	**+0.6**
BALT				*i* S	**Sg**	**05 37 14.3**	**-0.7**
SAFT	**Safranbolu**	**0.54**	**253**	PG	**Pg**	**05 37 19.0**	**-0.7**
SAFT				SG	**Sg**	**05 37 26.1**	**-0.8**
SAFT	**Safranbolu**	**0.54**	**253**	*i* Pg	**Pg**	**05 37 19.0**	**-0.7**
SAFT				*i* Sg	**Sg**	**05 37 26.1**	**-0.8**
TOS	**Tosya**	**0.61**	**126**	PG	**Pg**	**05 37 20.8**	**-0.2**
TOS	**Tosya**	**0.61**	**126**	*i* Pg	**Pg**	**05 37 20.8**	**-0.2**
BZK	**Bozkurt**	**0.73**	**40**	*e*PG	**Pg**	**05 37 22.5**	**-0.8**
BZK				*e*SG	**Sg**	**05 37 33.1**	**+0.2**
BZK	**Bozkurt**	**0.73**	**40**	*e*Pg	**Pg**	**05 37 22.5**	**-0.8**
BZK				*e*Sg	**Sg**	**05 37 33.1**	**+0.2**
CANT	**Cankiri**	**0.81**	**167**	*e*PG	**Pg**	**05 37 24.7**	**-0.1**
CANT				*e*SG	**Sb**	**05 37 36.6**	**+0.3**
ELDT	**Eldivan**	**0.91**	**178**	*i* P	**Pg**	**05 37 26.6**	**-0.1**
ELDT				*i* S	**Sb**	**05 37 39.4**	**+0.2**
ELDT	**Eldivan**	**0.91**	**178**	*i* P	**Pg**	**05 37 26.6**	**-0.1**
ELDT				*i* S	**Sb**	**05 37 39.4**	**+0.2**
CTKT	**Corum**	**1.32**	**125**	*i* P	**Pn**	**05 37 32.8**	**-0.9**
CTKT				*i* S	**Sb**	**05 37 51.4**	**+0.3**
CTKT	**Corum**	**1.32**	**125**	*i* P	**Pn**	**05 37 32.8**	**-0.9**
CTKT				*i* S	**Sb**	**05 37 51.4**	**+0.3**
DIKM	**Dikmen**	**1.44**	**79**	*e*PN	**Pn**	**05 37 35.6**	**+0.5**
DIKM	**Dikmen**	**1.44**	**79**	*e*Pn	**Pn**	**05 37 35.6**	**+0.5**
LOD	**Lodumlu**	**1.58**	**197**	*e*PN	**Pn**	**05 37 37.9**	**+0.7**
LOD	**Lodumlu**	**1.58**	**197**	*e*Pn	**Pn**	**05 37 37.9**	**+0.7**
AFSR	**Af˘ar-Bala (A**	**1.96**	**187**	*e*PN	**Pn**	**05 37 43.5**	**+1.1**
AFSR	**Af˘ar-Bala (A**	**1.96**	**187**	*e*Pn	**Pn**	**05 37 43.6**	**+1.1**
GULT	**Gulveren**	**2.37**	**247**	*e*PN	**Pn**	**05 37 48.7**	**+0.6**
GULT	**Gulveren**	**2.37**	**247**	*e*Pn	**Pn**	**05 37 48.7**	**+0.6**

*ISCJB **21** 05:41:31.5±0.8, 36°26N±0°09×70°9E±0°1, h188km, mb3.5/8, Error ellipse: s-maj=14.3km s-min=11.6km az=34.6*
*IDC **21** 05:41:36.1±3.5, 36°45N×71°13E, h215km±31km, mb3.3/8, mb1 3.3/14, mb1mx3.1/31, mbtmp3.1/14, Error ellipse: s-maj=24.8km s-min=17.6km az=29.0*
*NNC **21** 05:41:37.6±3.3, 36°80N×70°78E, h148km±72km, mb2.8, mpv3.8, Error ellipse: s-maj=31.7km s-min=22.3km az=31.0*

ISC 21 05:41:33.7±1.0, 36°4N±0°1×71°1E±0°1, h188km, n25, σ1°66/26, mb3.4/8, 2C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.04**	**19**	P	**Pn**	**05 43 03.7**	**+2.1**
	SNR=41						
UCH	**Uchtor**	**6.37**	**24**	P		05 44 16.4	
	SNR=6.9						
KZA	**Kyzart**	**6.50**	**29**	P	**Pn**	**05 43 09.5**	**+1.9**
	SNR=5.7						
EKS2	**Erkin-Say**	**6.56**	**18**	P	**Pn**	**05 43 10.7**	**+2.7**
	SNR=7.4						
KK31	**Karatay Array**	**6.67**	**356**	⇓Pn	**Pn**	**05 43 09.4**	**0.0**
	0.7nm,0.4s,baz=179,slow=13,SNR=9.7						
KK31				⇑Sn	**Sn**	**05 44 22.1**	**-3.2**
	4.5nm,0.5s,baz=180,slow=22,SNR=3.5						
AAK	**Ala-Archa**	**6.73**	**22**	P	**Pn**	**05 43 12.9**	**+2.5**
	SNR=7.1						
AAK	**Ala-Archa**	**6.73**	**22**	P	**Pn**	**05 43 12.8**	**+2.4**
	3.3nm,0.3s,baz=180,slow=5.4,SNR=36						
KBK	**Karagaybulak**	**6.89**	**25**	P	**Pn**	**05 43 15.5**	**+3.0**
	SNR=6.6						
TKM2	**Tokmak 2**	**7.35**	**27**	⇑Pn	**Pn**	**05 43 19.5**	**+1.0**
	14nm,0.6s						
TKM2				⇓Sn	**Sn**	**05 44 39.6**	**-2.1**
	16nm,0.8s						
TKM2	**Tokmak 2**	**7.35**	**27**	P	**Pn**	**05 43 21.1**	**+2.5**
	SNR=8.4						
MKAR	**Makanchi Array**	**13.31**	**36**	P	**Pn**	**05 44 35.3**	**0.0**
	0.2nm,0.3s,baz=219,slow=13,SNR=11						
KURBB	**Kurchatov Arra**	**15.16**	**18**	P	**P**	**05 44 59.4**	**+0.5**
	0.1nm,0.3s,baz=206,slow=10,SNR=5.5						
AB31	**Akbulak array**	**15.16**	**331**	⇓Pn	**Pn**	**05 44 59.1**	**+0.9**
	0.7nm,0.7s,baz=141,slow=11,SNR=8.7						
BVAR	**Borovoye Array**	**16.59**	**359**	P	**Pn**	**05 45 15.9**	**+0.5**
	0.1nm,0.3s,baz=172,slow=11,SNR=2.9						
AKTO	**Aktyubinsk**	**16.86**	**330**	⇓Pn	**Pn**	**05 45 18.9**	**+0.2**
	0.6nm,1.0s						
AKTO	**Aktyubinsk**	**16.86**	**330**	P	**P**	**05 45 18.7**	**+1.1**
	0.3nm,0.3s,baz=125,slow=14,SNR=6.0						
ZALV	**Zalesovo Beam**	**19.95**	**24**	P	**P**	**05 45 51.2**	**+0.2**
	0.3nm,0.3s,baz=224,slow=9.4,SNR=6.2						
FINES	**FINESS Array B**	**37.57**	**326**	P	**P**	**05 48 29.7**	**+0.2**
	0.6nm,0.4s,baz=119,slow=10,SNR=6.0						
ARCES	**ARCESS Array B**	**41.22**	**338**	P	**P**	**05 48 59.7**	**+0.1**
	6.0nm,0.9s,baz=98,slow=7.7,SNR=5.4						
NOA	**NORSAR Array B**	**44.46**	**323**	P	**P**	**05 49 25.7**	**-0.1**
	1.0nm,0.8s,baz=96,slow=7.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**65.77**	**269**	P	**P**	**05

0.5nm,0.5s,baz=101,slow=17,SNR=5.3
KK31 ⇑Lg Lg 06 22 03.6
1.4nm,0.7s,baz=100,slow=28,SNR=3.9
KURBB **Kurchatov Arra 8.78 1** Lg Lg 06 23 39.0
0.0nm,0.3s,baz=196,slow=30,SNR=6.2
ZALV **Zalesovo Beam 12.87 18** Pn Pn 06 22 04.5 -2.8
0.1nm,0.3s,baz=207,slow=13,SNR=2.3
SONM **Songino Array 20.75 64** P **P** **06 23 45.3 -0.1**
0.2nm,0.4s,baz=267,slow=8.7,SNR=2.3

IDC 21 06:29:57.9±2.1, 0.37S×132.99E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, ML3.7/2, Error ellipse: s-maj=81.5km s-min=26.3km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.05**	**202**	P	P	06 34 20.6	-1.3
	0.1nm,0.3s,baz=32,slow=12,SNR=3.7						
FITZ				S	Sn	06 37 38.2	-18
	0.1nm,0.3s,baz=24,slow=18,SNR=2.4						
WRA	**Warramunga Arr**	**19.50**	**176**	P	P	06 34 27.4	+0.5
	0.3nm,0.3s,baz=356,slow=11,SNR=12						
WRA				S	Sn	06 37 52.8	-15
	0.1nm,0.3s,baz=356,slow=23,SNR=3.4						
ASAR	**Alice Springs**	**23.18**	**178**	P	P	06 35 07.2	+0.7
	1.4nm,0.4s,baz=356,slow=11,SNR=44						
STKA	**Stephens Creek**	**32.38**	**166**	P	P	06 36 29.0	-0.4
	0.8nm,0.3s,baz=329,slow=5.9,SNR=3.2						
MKAR	**Makanchi Array**	**64.50**	**324**	P	P	06 40 36.6	0.0
	0.4nm,0.6s,baz=119,slow=7.8,SNR=3.6						

*NEIC **21** 07:28:23.8±0.4, 1.31N×127.10E, h35km, mb4.3/9, Error ellipse: s-maj=17.9km s-min=8.2km az=78.0*
*IDC **21** 07:28:27.0±2.1, 1.23N×126.94E, h64km±17km, mb3.9/10, mb1 4.0/12, mb1mx3.9/23, mbtmp3.9/12, MS3.4/3, Ms1 3.4/3, ms1mx2.8/27, Error ellipse: s-maj=32.9km s-min=12.7km az=74.0*
*DJA **21** 07:28:29, 1.28N×126.81E, h18km, MLv4.4/7*
ISC 21 07:28:28.6±1.2, 1.20N±0.06×126.91E±0.08, h77km±9km, n54, σ1§00/63, mb4.3/21, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.62**	**133**	P	**Pn**	**07 28 43.2**	**-0.1**
LBMI	**Labuha**	**1.92**	**162**	P	Pn	07 29 02.9	+3.5
LBMI				S	Sn	07 29 30.4	+7.6
MNI	**Manado**	**2.08**	**277**	P	**Pn**	**07 29 01.9**	**+0.3**
MNI				S	**Sn**	**07 29 27.3**	**+0.5**
KMSI	**Cibinong**	**2.99**	**258**	P	**Pn**	**07 29 14.6**	**+0.7**
KMSI				S	**Sn**	**07 29 51.0**	**+2.3**
NLAI	**Namlea**	**4.41**	**178**	P	Pn	07 29 36.4	+3.2
MRSI	**Marisa**	**5.02**	**262**	P	**Pn**	**07 29 42.9**	**+1.4**
KDI	**Kendari**	**6.68**	**220**	P	**Pn**	**07 30 05.0**	**+0.8**
	19nm,0.7s						
FAKI	**Fak Fak**	**6.72**	**127**	P	Pn	07 30 08.5	+3.7
KAPI	**Kappang**	**9.45**	**229**	ePn	**Pn**	**07 30 41.7**	**-0.2**
KAPI				eSn	**Sn**	**07 32 27.4**	**+0.9**
KAPI	**Kappang**	**9.45**	**229**	P	**Pn**	**07 30 41.6**	**-0.3**
	2.4nm,0.3s,baz=67,slow=7.0,SNR=3.2						
KAPI				S	**Sn**	**07 32 22.4**	**-4.1**
	0.4nm,0.3s,baz=198,slow=20,SNR=3.8						
FITZ	**Fitzroy Crossi**	**19.22**	**184**	*e*P	**P**	**07 32 47.0**	**+0.4**
	3.1nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.22**	**184**	*e*P	**P**	**07 32 46.1**	**-0.5**
	3.8nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.22**	**184**	P	**P**	**07 32 46.2**	**-0.5**
	0.4nm,0.3s,baz=15,slow=9.0,SNR=13						
FITZ				LR	LR	07 40 11.2	
	comp=Z,56nm,18.4s,baz=348,slow=37						
COEN	**Coen**	**22.06**	**134**	*e*P	**P**	**07 33 18.2**	**+0.9**
	12nm,0.6s						
WRAB	**Tennant Creek**	**22.23**	**161**	*e*P	**P**	**07 33 18.3**	**-0.8**
	7.3nm,0.5s						
WRA	**Warramunga Arr**	**22.24**	**161**	P	**P**	**07 33 18.2**	**-1.0**
WRA				S	**S**	**07 37 19.7**	**+0.4**
WRA				ScP	**ScP**	**07 40 44.1**	**+0.3**
WRA	**Warramunga Arr**	**22.24**	**161**	P	**P**	**07 33 18.2**	**-1.0**
	8.3nm,0.5s,baz=340,slow=11,SNR=45						
WRA				S	**S**	**07 37 19.7**	**+0.4**
	0.6nm,0.7s,baz=327,slow=19,SNR=5.7						
WRA				ScP	**ScP**	**07 40 44.1**	**+0.3**
	0.6nm,0.6s,baz=340,slow=3.2,SNR=6.5						
MBWA	**Marble Bar**	**23.30**	**197**	*e*P	**P**	**07 33 28.8**	**-1.2**
	5.1nm,0.9s						
MBWA	**Marble Bar**	**23.30**	**197**	*e*P	**P**	**07 33 28.3**	**-1.7**
ASAR	**Alice Springs**	**25.64**	**165**	P	**P**	**07 33 51.2**	**0.0**
ASAR				PcP	**PcP**	**07 37 20.1**	**-0.1**
ASAR				S	S	07 38 22.5	+8.5
ASAR				ScP	**ScP**	**07 40 54.0**	**+1.0**
ASAR	**Alice Springs**	**25.64**	**165**	P	**P**	**07 33 51.2**	**0.0**
	3.0nm,0.4s,baz=351,slow=14,SNR=38						
ASAR				PcP	**PcP**	**07 37 20.1**	**-0.1**
	0.5nm,0.5s,baz=358,slow=2.0,SNR=4.4						
ASAR				S	S	07 38 22.5	+8.5
	1.6nm,0.8s,baz=348,slow=22,SNR=13						
ASAR				ScP	**ScP**	**07 40 54.0**	**+1.0**
	0.4nm,0.5s,baz=343,slow=2.6,SNR=8.3						
CTA	**Charters Tower**	**28.41**	**139**	ScP	**ScP**	**07 41 03.2**	**+1.8**
CTA	**Charters Tower**	**28.41**	**139**	ScP	**ScP**	**07 41 03.2**	**+1.8**
	2.1nm,0.6s,baz=315,slow=6.2,SNR=4.5						
MEEK	**Meekatharra**	**28.81**	**196**	*e*P	**P**	**07 34 19.9**	**+0.3**
	7.1nm,0.5s						
FORT	**Forrest**	**31.82**	**178**	*e*P	**P**	**07 34 46.1**	**+0.1**
	17nm,0.6s						
FORT	**Forrest**	**31.82**	**178**	*e*P	**P**	**07 34 46.3**	**+0.2**
	16nm,0.5s						
BBOO	**Buckleboo**	**34.91**	**166**	*e*P	**P**	**07 35 12.7**	**-0.3**
	40nm,1.5s						
STKA	**Stephens Creek**	**35.72**	**158**	P	**P**	**07 35 20.1**	**+0.2**
STKA	**Stephens Creek**	**35.72**	**158**	*e*P	**P**	**07 35 19.9**	**0.0**
	2.4nm,0.6s						
STKA	**Stephens Creek**	**35.72**	**158**	P	**P**	**07 35 20.1**	**+0.2**
	2.2nm,0.5s,baz=342,slow=8.7,SNR=12						
STKA				LR	LR	07 51 31.8	
	comp=Z,83nm,19.1s,baz=25,slow=39						
ARMA	**Armidale**	**39.28**	**145**	*e*P	**P**	**07 35 51.2**	**+1.0**
	3.6nm,0.7s						
ULN	**Ulaanbaatar**	**49.57**	**343**	*e*P	**P**	**07 37 12.3**	**+0.4**
	2.3nm,0.7s						
SONM	**Songino Array**	**49.74**	**342**	P	**P**	**07 37 13.5**	**+0.2**
SONM	**Songino Array**	**49.74**	**342**	P	**P**	**07 37 13.5**	**+0.2**
	2.4nm,1.0s,baz=166,slow=8.9,SNR=13						
SONM				LR	LR	08 00 44.4	
	comp=Z,64nm,18.4s,baz=29,slow=39						
PETK	**Petropavlovsk-**	**57.70**	**21**	P	**P**	**07 38 11.4**	**+0.3**
PETK	**Petropavlovsk-**	**57.70**	**21**	P	**P**	**07 38 11.4**	**+0.3**
	4.6nm,0.9s,baz=231,slow=6.5,SNR=3.3						
MKAR	**Makanchi Array**	**59.73**	**326**	P	**P**	**07 38 25.1**	**-0.3**
MKAR	**Makanchi Array**	**59.73**	**326**	P	**P**	**07 38 25.1**	**-0.3**
	4.9nm,0.8s,baz=121,slow=8.6,SNR=24						
ZALV	**Zalesovo Beam**	**62.91**	**334**	P	**P**	**07 38 45.7**	**-1.0**
ZALV	**Zalesovo Beam**	**62.91**	**334**	P	**P**	**07 38 45.7**	**-1.0**
	1.5nm,0.8s,baz=118,slow=5.7,SNR=7.2						
KURK	**Kurchatov**	**63.96**	**328**	*e*P	**P**	**07 38 53.1**	**-0.5**
KKAR	**Karatay Array**	**65.20**	**318**	*e*P	**P**	**07 39 01.6**	**-0.4**
	1.2nm,0.6s						
BVAR	**Borovoye Array**	**69.53**	**327**	P	**P**	**07 39 28.7**	**-0.3**
BVAR	**Borovoye Array**	**69.53**	**327**	P	**P**	**07 39 28.7**	**-0.3**
	1.3nm,0.6s,baz=124,slow=7.9,SNR=8.8						
BRVK	**Borovoye**	**69.60**	**327**	*e*P	**P**	**07 39 30.4**	**+0.9**
	4.1nm,1.0s						
ABKAR	**Akbulak array**	**74.22**	**321**	*e*P	**P**	**07 39 57.5**	**+0.4**
	0.7nm,0.2s						
AKTO	**Aktyubinsk**	**75.75**	**322**	P	**P**	**07 40 06.2**	**+0.2**
AKTO	**Aktyubinsk**	**75.75**	**322**	P	**P**	**07 40 06.2**	**+0.2**
	0.9nm,0.4s,baz=105,slow=8.9,SNR=4.6						
ILAR	**Eielson Array**	**87.30**	**25**	P	**P**	**07 41 04.6**	**-2.0**
ILAR	**Eielson Array**	**87.30**	**25**	P	**P**	**07 41 04.6**	**-2.0**
	0.3nm,0.6s,baz=235,slow=5.3,SNR=6.4						
TXAR	**Lajitas Array**	**122.97**	**54**	PKP	**PKPdf**	**07 47 17.1**	**+0.2**
TXAR	**Lajitas Array**	**122.97**	**54**	PKP	**PKPdf**	**07 47 17.1**	**+0.2**
	0.1nm,0.5s,baz=181,slow=3.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**123.84**	**287**	PKP	**PKPdf**	**07 47 17.9**	**-0.9**
TORD	**Torodi Ar. Bea**	**123.84**	**287**	PKP	**PKPdf**	**07 47 17.9**	**-0.9**
	0.4nm,0.8s,baz=38,slow=3.1,SNR=2.4						

KRSC 21 08:05:23.1±0.5, 53.05N×160.63E, h57km±47km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.37**	**278**	*e*P	Pn	08 05 34.0	+0.5
SPN				*i* S	Sn	08 05 41.3	+0.3
NLC	**Nalytchevo**	**0.78**	**279**	*e*P	Pn	08 05 38.8	+0.6
NLC				*i* S	Sn	08 05 49.8	+0.6
SDLR	**Sedlovina**	**1.08**	**283**	P	Pn	08 05 42.9	+0.7
SDLR				*i* S	Sn	08 05 57.5	+1.2
UGLR	**Uglovaya**	**1.10**	**279**	P	Pn	08 05 43.6	+1.1
UGLR				*i* S	Sn	08 05 58.7	+1.8
SMAR	**Somma**	**1.12**	**282**	*e*P	Pn	08 05 43.4	+0.5
SMAR				*i* S	Sn	08 05 58.2	+0.6
AVH	**Avacha**	**1.16**	**281**	P	Pn	08 05 44.3	+1.1
AVH				*i* S	Sn	08 05 59.8	+1.6
PET	**Petropavlovsk**	**1.19**	**270**	*e*P	Pn	08 05 44.3	+0.7
PET				*i* S	Sn	08 05 59.7	+0.9
KOK	**Koryaka**	**1.23**	**282**	P	Pn	08 05 45.0	+0.9
KOK				*i* S	Sn	08 06 01.0	+1.2
RUS	**Russkaya**	**1.43**	**245**	P	Pn	08 05 47.6	+0.9
RUS				*i* S	Sn	08 06 04.8	+0.4
MTVR	**Mutnovka**	**1.59**	**250**	*e*P	Pn	08 05 50.2	+1.1
MTVR				*i* S	Sn	08 06 10.1	+1.3
MKZ	**Mys Kozlova**	**1.64**	**23**	P	Pn	08 05 49.8	+0.2
MKZ				*i* S	Sn	08 06 08.8	-0.8
ASAK	**Asacha**	**1.79**	**249**	P	Pn	08 05 53.5	+1.8
ASAK				*i* S	Sn	08 06 15.8	+2.3
APC	**Apacha**	**2.10**	**268**	*e*P	Pn	08 05 57.8	+1.9
APC				*i* S	Sn	08 06 23.8	+3.0
TUMR	**Tumrok**	**2.26**	**353**	*e*P	Pn	08 05 59.4	+1.3
TUMR				*i* S	Sn	08 06 25.7	+0.8
KMNR	**Kamenistaya**	**2.72**	**355**	*e*P	Pn	08 06 06.7	+2.2
KMNR				*i* S	Sn	08 06 38.8	+2.5
KBTR	**Krutoberegovo**	**3.41**	**21**	*e*P	Pn	08 06 14.6	+0.9
SMKR	**Semkarok**	**3.57**	**7**	*e*P	Pn	08 06 19.3	+3.2

IDC 21 08:07:07.5±2.0, 3.90N×126.50E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.5/4, Error ellipse: s-maj=189.5km s-min=24.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.92**	**162**	P	P	08 12 32.0	-0.5
	0.7nm,0.6s,baz=342,slow=10,SNR=6.1						
ASAR	**Alice Springs**	**28.34**	**166**	P	P	08 13 03.3	-0.1
	0.2nm,0.7s,baz=338,slow=6.9,SNR=4.4						
STKA	**Stephens Creek**	**38.37**	**159**	P	P	08 14 30.9	+0.3
	1.0nm,0.4s,baz=352,slow=8.6,SNR=5.0						
MKAR	**Makanchi Array**	**57.28**	**325**	P	P	08 16 57.1	0.0
	0.1nm,0.4s,baz=121,slow=8.1,SNR=2.8						

KRSC 21 08:15:32.4±0.3, 52.68N×159.93E, h28km±28km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.42**	**8**	*e*P	Pn	08 15 42.4	-0.2
SPN				*i* S	Sn	08 15 49.1	-0.4
NLC	**Nalytchevo**	**0.61**	**324**	*e*P	Pn	08 15 45.1	0.0
NLC				*i* S	Sn	08 15 54.3	+0.3
PET	**Petropavlovsk**	**0.85**	**294**	P	Pb	08 15 48.5	0.0
PET				*i* S	Sb	08 15 59.6	+0.1
UGLR	**Uglovaya**	**0.85**	**309**	P	Pb	08 15 49.1	+0.3
UGLR				*i* S	Sn	08 16 08.9	+0.5
SDLR	**Sedlovina**	**0.87**	**314**	P	Pb	08 15 49.1	0.0
SDLR				*i* S	Sb	08 16 00.6	+0.1
SMAR	**Somma**	**0.90**	**311**	P	Pb	08 15 49.7	0.0
SMAR				*i* S	Sb	08 16 01.3	-0.2
RUS	**Russkaya**	**0.90**	**255**	P	Pn	08 15 48.9	-0.2
RUS				*i* S	Sb	08 15 59.9	-1.1
AVH	**Avacha**	**0.93**	**310**	P	Pb	08 15 50.2	+0.2
AVH				*i* S	Sn	08 16 03.6	+1.4
KOK	**Koryaka**	**0.99**	**309**	P	Pb	08 15 51.2	+0.1
KOK				*i* S	Sb	08 16 04.4	+0.4
MTVR	**Mutnovka**	**1.08**	**260**	*e*P	Pn	08 15 51.8	-0.1
MTVR				*i* S	Sb	08 16 06.4	-0.2
ASAK	**Asacha**	**1.27**	**257**	P	Pn	08 15 55.0	+0.5
ASAK				*i* S	Sb	08 16 12.4	+0.4
APC	**Apacha**	**1.70**	**279**	*e*P	Pn	08 16 01.5	+1.3
APC				*i* S	Sb	08 16 23.4	-0.5
MIPR	**Malaya Ipel'ka**	**1.98**	**259**	*e*P	Pn	08 16 05.9	+1.8
MKZ	**Mys Kozlova**	**2.16**	**29**	*e*P	Pn	08 16 05.8	-0.7
MKZ				*i* S	Sn	08 16 30.6	-1.8
TUMR	**Tumrok**	**2.61**	**3**	*e*P	Pn	08 16 15.0	+2.1
KMNR	**Kamenistaya**	**3.09**	**3**	*e*P	Pn	08 16 21.8	+2.4
KBTR	**Krutoberegovo**	**3.92**	**24**	*e*P	Pn	08 16 32.4	+1.8
KBTR				*i* S	Sn	08 17 17.4	+1.8

IDC 21 08:29:14.6±1.9, 4.02N×127.00E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/21, mbtmp3.6/4, Error ellipse: s-maj=147.1km s-min=23.7km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.88**	**163**	P	P	08 34 38.8	-0.4
	1.8nm,0.8s,baz=344,slow=11,SNR=12						
ASAR	**Alice Springs**	**28.33**	**167**	P	P	08 35 10.7	+0.3
	0.2nm,0.7s,baz=340,slow=7.4,SNR=3.6						
STKA	**Stephens Creek**	**38.30**	**160**	P	P	08 36 37.0	-0.1
	1.5nm,0.8s,baz=341,slow=9.6,SNR=3.4						
MKAR	**Makanchi Array**	**57.47**	**325**	P	P	08 39 05.5	-0.1
	0.2nm,0.4s,baz=121,slow=7.6,SNR=9.1						

*NNC **21** 08:46:34.8±4.3, 38.04N×71.26E, h0km, mb4.0, mpv4.1, Error ellipse: s-maj=33.5km s-min=29.3km az=10.0*
*IDC **21** 08:46:36.2±7.8, 37.67N×72.01E, h155km±50km, mb3.0/2, mb1 3.2/7, mb1mx3.0/31, mbtmp3. 1/7, Error ellipse: s-maj=67.3km s-min=37.4km az=9.0*
ISC 21 08:46:33.6±1.8, 37.6N±0.1×71.8E±0.1, h130km, n21, σ1§67/26, 1C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.77**	**18**	P	**Pn**	**08 47 44.7**	**+0.8**
	SNR=70						
UCH	**Uchtor**	**5.09**	**24**	P	**Sn**	**08 48 46.3**	**0.0**
	SNR=7.5						
KZA	**Kyzart**	**5.22**	**30**	P	**Pn**	**08 47 50.5**	**+0.5**
	SNR=7.8						
EKS2	**Erkin-Say**	**5.29**	**16**	P	**Pn**	**08 47 51.9**	**+1.2**
	SNR=23						
AAK	**Ala-Archa**	**5.45**	**22**	P	**Pn**	**08 47 53.8**	**+1.0**
	SNR=44						
AAK	**Ala-Archa**	**5.45**	**22**	P	**Pn**	**08 47 54.1**	**+1.2**
	13nm,0.3s,baz=177,slow=6.2,SNR=185						
AAK				S	**Sn**	**08 48 55.1**	**+0.5**
	3.0nm,0.3s,baz=114,slow=24,SNR=15						
KK31	**Karatay Array**	**5.58**	**351**	Pn	**Pn**	**08 47 55.7**	**+1.2**
	23nm,0.3s,baz=169,slow=12,SNR=664						
KK31				⇓Sn	**Sn**	**08 48 58.4**	**+0.9**
	8.1nm,0.3s,baz=149,slow=27,SNR=4.2						
KBK	**Karagaybulak**	**5.62**	**25**	P	**Pn**	**08 47 56.1**	**+1.1**
	SNR=6.8						
CHMS	**Chumysh**	**5.86**	**22**	P	**Pn**	**08 47 59.3**	**+1.1**
	SNR=9.5						
USP	**Ospenovka**	**6.04**	**19**	P	**Pn**	**08 48 02.1**	**+1.5**
	SNR=11						
TKM2	**Tokmak 2**	**6.08**	**28**	⇑Pn	**Pn**	**08 48 02.5**	**+1.2**
	5.3nm,0.6s						
TKM2				⇓Sn	**Sn**	**08 49 13.0**	**+3.3**
	7.7nm,0.8s						
TKM2	**Tokmak 2**	**6.08**	**28**	P	**Pn**	**08 48 01.7**	**+0.5**
	SNR=8.0						
MKAR	**Makanchi Array**	**12.05**	**37**	P	**Pn**	**08 49 20.5**	**-0.5**
	baz=220,slow=14,SNR=3.5						
KURBB	**Kurchatov Arra**	**13.89**	**18**	P	**P**	**08 49 48.8**	**+0.1**
	0.1nm,0.3s,baz=208,slow=10,SNR=8.9						
AB31	**Akbulak array**	**14.45**	**327**	Pn	**Pn**	**08 49 52.3**	**+0.5**
	0.5nm,0.3s,baz=137,slow=14,SNR=28						
AB31				Sn	Sn	08 52 27.7	-3.8
	7.0nm,0.9s,baz=146,slow=23,SNR=9.4						
BVAR	**Borovoye Array**	**15.46**	**357**	P	**Pn**	**08 50 04.9**	**+0.4**
	0.3nm,0.3s,baz=157,slow=12,SNR=6.8						
BVAR				S	**Sn**	**08 52 51.2**	**-4.5**
	0.1nm,0.3s,baz=167,slow=21,SNR=4.2						
AKTO	**Aktyubinsk**	**16.16**	**327**	⇓Pn	**Pn**	**08 50 15.7**	**+2.5**
	0.5nm,0.9s						
AKTO				⇓Sn	**Sn**	**08 53 10.2**	**-2.4**
	0.5nm,0.6s						
AKTO	**Aktyubinsk**	**16.16**	**327**	P	**Pn**	**08 50 14.9**	**+1.8**
	0.2nm,0.3s,baz=148,slow=12,SNR=6.2						
AKTO				S	Sn	08 53 07.9	-4.8
	0.2nm,0.3s,baz=196,slow=23,SNR=8.2						
ZALV	**Zalesovo Beam**	**18.67**	**25**	P	**P**	**08 50 41.0**	**-0.3**
	0.6nm,0.3s,baz=222,slow=9.4,SNR=11						
SONM	**Songino Array**	**27.23**	**57**	P	**P**	**08 52 03.7**	**-1.6**
	0.3nm,0.7s,baz=267,slow=8.6,SNR=4.4						
YKA	**Yellowknife Ar**	**80.12**	**3**	P	**P**	**08 58 27.9**	**-0.8**
	0.3nm,0.6s,baz=350,slow=5.6,SNR=14						

*TIR **21** 08:55:33.2±4.2, 42.54N×18.29E, h0km±999km, ML4.0*
*ISCJB **21** 08:55:36.5±0.4, 43.13N±0.02×18.24E±0.02, h6km±3km, Error ellipse: s-maj=3.4km s-min=2.3km az=17.9*
*IDC **21** 08:55:37.3±4.0, 43.13N×18.30E, h0km, mb1 3.7/5, mb1mx3.4/28, mbtmp3.6/5, ML3.4/5, Error ellipse: s-maj=49.8km s-min=34.8km az=38.0*
*PDG **21** 08:55:37.1±0.4, 43.03N×18.21E, h12km, MD3.2/3, ML3.2/8, Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*
*CSEM **21** 08:55:37.8±0.1, 43.14N×18.30E, h2km, ML3.2/8, Error ellipse: s-maj=3.2km s-min=1.9km az=38.0*
*BEO **21** 08:55:38.1±0.5, 43.13N×18.23E, h8km±3km, ML3.2/9*
*PRU **21** 08:55:38.6, 43.13N×18.34E, h0km*
ISC 21 08:55:37.2±1.1, 43.11N±0.02×18.23E±0.02, h3km±9km, n137, σ1§18/210, 36C-21D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRY	**Bratogost**	**0.31**	**132**	⇑*i*Pg	**Pg**	**08 55 43.0**	**-0.1**
BRY				*e*Sg	**Sg**	**08 55 47.7**	**+0.6**
BRY	**Bratogost**	**0.31**	**132**	⇑*i*Pg	**Pg**	**08 55 43.0**	**-0.1**
BRY				*e*Sg	**Sg**	**08 55 47.7**	**+0.6**
STON	**Ston**	**0.46**	**239**	*i* Pg	**Pg**	**08 55 44.9**	**-1.0**
STON				Sg	**Sg**	**08 55 51.3**	**-0.6**
STON	**Ston**	**0.46**	**239**	*i* Pg	**Pg**	**08 55 44.9**	**-1.0**
STON				Sg	**Sg**	**08 55 51.2**	**-0.6**
UPM	**Unac-Piva**	**0.50**	**79**	⇑*i*Pg	**Pg**	**08 55 47.2**	**+0.4**
UPM				*e*Sg	**Sb**	**08 55 56.2**	**-0.4**
UPM	**Unac-Piva**	**0.50**	**79**	⇑*i*Pg	**Pg**	**08 55 47.2**	**+0.4**
NKY	**Niksic**	**0.63**	**118**	⇑*i*Pg	**Pg**	**08 55 48.8**	**-0.5**
NKY				*e*Sg	**Sg**	**08 55 59.0**	**+1.5**
NKY	**Niksic**	**0.63**	**118**	⇑*i*Pg	**Pg**	**08 55 48.8**	**-0.5**
NKY				*e*Sg	**Sg**	**08 55 59.0**	**+1.5**
HCY	**Herceg Novi**	**0.69**	**164**	⇓*i*Pg	**Pg**	**08 55 48.6**	**-1.8**
HCY				*e*Sg	**Sg**	**08 55 58.3**	**-1.0**
PLE	**Pljevlja**	**0.88**	**75**	⇑*i*Pg	**Pg**	**08 55 54.0**	**0.0**
PLE				*e*Sg	**Sb**	**08 56 08.7**	**+1.5**
PLE	**Pljevlja**	**0.88**	**75**	⇑*i*Pg	**Pg**	**08 55 54.0**	**0.0**
BUM	**Brajici-Budva**	**0.94**	**149**	⇓*i*Pg	**Pg**	**08 55 53.6**	**-1.7**
BUM				*e*Sg	**Sg**	**08 56 07.7**	**+0.2**
PDG	**Podgorica**	**1.01**	**132**	*e*Pg	**Pg**	**08 55 55.2**	**-1.4**
PDG				*e*Sg	**Sg**	**08 56 10.7**	**+1.0**
PDG	**Podgorica**	**1.01**	**132**	*e*Pg	**Pg**	**08 55 55.2**	**-1.4**
PDG				*e*Sg	**Sg**	**08 56 10.7**	**+1.0**
TTG	**Podgorica**	**1.02**	**131**	⇓*i*Pg	**Pg**	**08 55 55.1**	**-1.6**
TTG				*e*Sg	**Sb**	**08 56 11.2**	**0.0**
BEY	**Berane**	**1.24**	**100**	*e*Pg	**Pg**	**08 56 00.3**	**-0.7**
IVA	**Berane**	**1.25**	**100**	*e*Pg	**Pg**	**08 56 00.3**	**-0.8**
IVA				*e*Sg	**Sn**	**08 56 19.8**	**+0.9**
SJES	**Sjenica**	**1.28**	**83**	*e*Pg	**Pg**	**08 56 01.7**	**-0.1**
SJES				*i* Sg	**Sn**	**08 56 19.9**	**0.0**
ULC	**Ulcinj**	**1.37**	**146**	⇓*i*Pg	**Pg**	**08 56 01.1**	**-2.3**
ULC				*e*Sg	**Sb**	**08 56 21.9**	**+0.6**
PVY	**Plav**	**1.37**	**111**	⇑*i*Pg	**Pg**	**08 56 02.6**	**-0.8**
PVY				*e*Sg	**Sn**	**08 56 24.2**	**+2.1**
IVAS	**Ivanjica**	**1.48**	**71**	*e*Pg	**Pn**	**08 56 05.1**	**+0.3**
IVAS	**Ivanjica**	**1.48**	**71**	*e*Pg	**Pn**	**08 56 05.1**	**+0.3**
BCI	**Bajram Curri**	**1.54**	**118**	*i* PG	**Pn**	**08 56 05.1**	**-0.5**
BCI				*i* SG	**Sg**	**08 56 28.8**	**+2.1**
BCI	**Bajram Curri**	**1.54**	**118**	*i* Pg	**Pn**	**08 56 05.1**	**-0.5**
	SNR=93						
BCI				*i* Sg	**Sg**	**08 56 28.8**	**+2.1**
	SNR=93						
DIVS	**Divibare**	**1.62**	**52**	*e*Pn	**Pn**	**08 56 06.8**	**+0.1**
DIVS				*e*Sg	**Sg**	**08 56 28.9**	**-0.2**
DIVS	**Divibare**	**1.62**	**52**	*e*Pn	**Pn**	**08 56 06.8**	**+0.1**
DIVS				*e*Sg	**Sg**	**08 56 28.9**	**-0.2**
PUK	**Puka**	**1.62**	**130**	*i* PG	**Pn**	**08 56 06.8**	**0.0**
PUK				*i* SG	**Sg**	**08 56 30.2**	**+0.8**
PUK	**Puka**	**1.62**	**130**	*i* Pg	**Pn**	**08 56 06.8**	**0.0**
	SNR=93						
PUK				*i* Sg	**Sg**	**08 56 30.2**	**+0.8**
	SNR=93						
TEKS	**Tekeris

BEHE	**Becsehely**	**3.52**	**343**	⇑*e*	**Pn**	**08 56 33.7**	**+1.0**
BEHE	**Becsehely**	**3.52**	**343**	⇑*e*Pn	**Pn**	**08 56 33.7**	**+1.0**
BEHE				*e*Sn	**Sn**	**08 57 15.6**	**+0.8**
PKS6	**Bocsa**	**3.62**	**15**	⇓*e*	**Pn**	**08 56 32.6**	**-1.5**
PKS6				*e*		08 57 17.0	
PKS6	**Bocsa**	**3.62**	**15**	⇓*e*Pn	**Pn**	**08 56 32.6**	**-1.5**
PKS6				*e*Sn	**Sn**	**08 57 17.0**	**-0.3**
VISS	**Visnje**	**3.63**	**319**	*i* Pn	**Pn**	**08 56 35.7**	**+1.4**
VISS	**Visnje**	**3.63**	**319**	*i* Pn	**Pn**	**08 56 35.7**	**+1.4**
VTS	**Vitosha**	**3.70**	**96**	⇓*i*P	**Pn**	**08 56 36.9**	**+1.6**
VTS	**Vitosha**	**3.70**	**96**	⇓*i*P	**Pn**	**08 56 36.9**	**+1.6**
VTS				S	**Sn**	**08 57 20.1**	**+0.6**
PDKS	**Podkum**	**3.75**	**323**	*i* Pn	**Pn**	**08 56 37.2**	**+1.3**
PDKS	**Podkum**	**3.75**	**323**	*i* Pn	**Pn**	**08 56 37.2**	**+1.3**
GROS	**Grobnik**	**3.87**	**331**	*i* Pn	**Pn**	**08 56 38.2**	**+0.5**
GROS	**Grobnik**	**3.87**	**331**	*i* Pn	**Pn**	**08 56 38.2**	**+0.5**
SKDS	**Skadanscina**	**3.88**	**310**	*i* Pn	**Pn**	**08 56 38.1**	**+0.3**
SKDS	comp=Z,6.0nm,0.1s						
SKDS	**Skadanscina**	**3.88**	**310**	*i* Pn	**Pn**	**08 56 38.1**	**+0.3**
	comp=Z,6.0nm,0.1s						
GZR	**Gura Zlata**	**3.98**	**53**	⇑*i*P	**Pn**	**08 56 39.1**	**-0.1**
GZR	**Gura Zlata**	**3.98**	**53**	⇑*i*P	**Pn**	**08 56 39.1**	**-0.1**
GZR				S	**Sn**	**08 57 25.2**	**-1.3**
PKST	**T"s**	**4.15**	**358**	⇓P	**Pn**	**08 56 41.8**	**+0.3**
PKST	**T"s**	**4.15**	**358**	⇓*e*Pn	**Pn**	**08 56 41.8**	**+0.3**
SOKA	**Soboth**	**4.23**	**329**	⇓*i*Pn	**Pn**	**08 56 43.3**	**+0.7**
SOKA				⇑*i*Sn	**Sn**	**08 57 32.3**	**-0.3**
SOKA	**Soboth**	**4.23**	**329**	Pn	**Pn**	**08 56 43.3**	**+0.7**
SOKA				Sn	**Sn**	**08 57 32.3**	**-0.3**
VOY	**Vojsko**	**4.26**	**315**	*e*Pn	**Pn**	**08 56 43.9**	**+0.9**
VOY				*e*Sn	**Sn**	**08 57 33.8**	**+0.5**
VOJS	**Vojsko**	**4.26**	**315**	*i* Pn	**Pn**	**08 56 43.8**	**+0.7**
VOJS	**Vojsko**	**4.26**	**315**	*i* Pn	**Pn**	**08 56 43.8**	**+0.7**
PKSG		**4.29**	**1**	*e*	**Pn**	**08 56 44.0**	**+0.7**
PKSG		**4.29**	**1**	*e*P	**Pn**	**08 56 44.0**	**+0.7**
OBKA	**Obir**	**4.29**	**324**	⇑*i*Pn	**Pn**	**08 56 44.9**	**+1.4**
	SNR=8.3						
OBKA	**Obir**	**4.29**	**324**	Pn	**Pn**	**08 56 44.9**	**+1.4**
	SNR=8.3						
ARSA	**Arzberg**	**4.56**	**336**	⇑*i*Pn	**Pn**	**08 56 47.6**	**+0.5**
	SNR=15						
ARSA				⇑*i*Sn	**Sn**	**08 57 39.9**	**-0.8**
ARSA	**Arzberg**	**4.56**	**336**	*e*Pn	**Pn**	**08 56 47.8**	**+0.7**
ARSA	**Arzberg**	**4.56**	**336**	*e*Pn	**Pn**	**08 56 47.8**	**+0.7**
ARSA				Sn	**Sn**	**08 57 39.9**	**-0.8**
LOT	**Lotru**	**4.61**	**58**	⇑*i*P	**Pn**	**08 56 49.1**	**+1.2**
LOT	**Lotru**	**4.61**	**58**	⇑*i*P	**Pn**	**08 56 49.1**	**+1.2**
LOT				S	**Sn**	**08 57 41.1**	**-0.9**
SOP	**Sopron**	**4.72**	**346**	⇑*e*	**Pn**	**08 56 50.2**	**+0.9**
SOP	**Sopron**	**4.72**	**346**	⇑*e*P	**Pn**	**08 56 50.2**	**+0.9**
DRGR		**4.87**	**39**	⇑*i*P	**Pn**	**08 56 51.8**	**+0.5**
DRGR		**4.87**	**39**	⇑*i*P	**Pn**	**08 56 51.8**	**+0.5**
DRGR				S	**Sn**	**08 57 46.4**	**-1.8**
PSZ	**Piszkesteto**	**4.95**	**13**	⇑*i*P	**Pn**	**08 56 52.8**	**+0.3**
PSZ	**Piszkesteto**	**4.95**	**13**	⇓*e*Pn	**Pn**	**08 56 52.6**	**+0.1**
PSZ				*e*Sn	**Sn**	**08 57 47.3**	**-3.0**
PSZ	**Piszkesteto**	**4.95**	**13**	⇑*i*P	**Pn**	**08 56 52.8**	**+0.3**
PSZ				*e*Sn	**Sn**	**08 57 47.3**	**-3.0**
VYHS	**Vyhne**	**5.40**	**4**	*e*PN	**Pn**	**08 56 59.5**	**+0.9**
VYHS				*e*SN	**Sn**	**08 57 57.1**	**-4.2**
VYHS	**Vyhne**	**5.40**	**4**	*e*Pn	**Pn**	**08 56 59.6**	**+0.9**
VYHS				*e*Sn	**Sn**	**08 57 57.1**	**-4.2**
VOIR		**5.42**	**62**	⇑*i*P	**Pn**	**08 56 59.8**	**+0.8**
VOIR		**5.42**	**62**	⇑*i*P	**Pn**	**08 56 59.8**	**+0.8**
VOIR				S	**Sn**	**08 57 59.6**	**-2.3**
ABTA	**Abfaltersbach**	**5.45**	**314**	⇑*i*Pn	**Pn**	**08 57 00.6**	**+1.2**
	SNR=8.7						
ABTA				⇑*i*Sn	**Sn**	**08 58 03.0**	**+0.4**
ABTA	**Abfaltersbach**	**5.45**	**314**	Pn	**Pn**	**08 57 00.6**	**+1.2**
	SNR=8.7						
ABTA				Sn	**Sn**	**08 58 03.0**	**+0.4**
MOA	**Molln**	**5.50**	**331**	⇓*i*Pn	**Pn**	**08 57 00.8**	**+0.8**
	SNR=6.2						
MOA				⇓*i*Sn	**Sn**	**08 58 03.2**	**-0.5**
MOA	**Molln**	**5.50**	**331**	Pn	**Pn**	**08 57 00.8**	**+0.8**
	SNR=6.2						
MOA				Sn	**Sn**	**08 58 03.2**	**-0.5**
CRVS	**Cervenica-Dubn**	**6.21**	**20**	*e*PN	**Pn**	**08 57 10.9**	**+1.1**
CRVS	**Cervenica-Dubn**	**6.21**	**20**	*e*Pn	**Pn**	**08 57 10.9**	**+1.1**
WTTA	**Wattenberg**	**6.24**	**314**	⇓*i*Pn	**Pn**	**08 57 11.2**	**+0.9**
WTTA				⇑*i*Sn	**Sn**	**08 58 22.0**	**-0.3**
WTTA	**Wattenberg**	**6.24**	**314**	Pn	**Pn**	**08 57 11.2**	**+0.9**
WTTA				Sn	**Sn**	**08 58 22.0**	**-0.3**
GERES	**GERESS Array B**	**6.55**	**333**	Pn	**Pn**	**08 57 15.9**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=157,slow=13,SNR=30						
GERES				Sn	**Sn**	**08 58 29.7**	**0.0**
	comp=Z,1.0nm,0.3s,baz=145,slow=23,SNR=12						
MOTA	**Moosalm**	**6.58**	**313**	⇓*i*Pn	**Pn**	**08 57 16.4**	**+1.5**
MOTA	**Moosalm**	**6.58**	**313**	Pn	**Pn**	**08 57 16.4**	**+1.5**
MORC	**Moravsky Berou**	**6.69**	**356**	S	**Sn**	**08 58 32.8**	**-0.2**
MORC	**Moravsky Berou**	**6.69**	**356**	S	**Sn**	**08 58 32.8**	**-0.2**
KHC	**Kasperske Hory**	**6.83**	**333**	*e*PN	**Pn**	**08 57 19.6**	**+1.3**
KHC				*ex*	x	08 57 32.5	
KHC				*e*SN	**Sn**	**08 58 35.1**	**-1.5**
KHC				*ex*	x	08 59 16.0	
KHC	**Kasperske Hory**	**6.83**	**333**	Pn	**Pn**	**08 57 19.6**	**+1.3**
KHC				Sn	**Sn**	**08 58 35.1**	**-1.5**
DAVOX	**Davos/Dischmat**	**6.97**	**305**	Pn	**Pn**	**08 57 22.5**	**+2.2**
	comp=Z,0.8nm,0.3s,baz=126,slow=17,SNR=6.3						
DAVOX				Sn	**Sn**	**08 58 36.7**	**-3.5**
	comp=Z,0.3nm,0.3s,baz=180,slow=20,SNR=2.1						
HFS	**Hagfors**	**17.27**	**352**	P	**Pn**	**08 59 39.8**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=185,slow=13,SNR=6.3						
NOA	**NORSAR Array B**	**18.45**	**349**	P	**Pn**	**08 59 52.7**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=166,slow=10,SNR=2.5						
FINES	**FINESS Array B**	**18.95**	**12**	P	**Pn**	**09 00 00.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=186,slow=8.1,SNR=5.0						

IDC 21 08:56:48.7±1.4, 3°80N×126°41E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/21, mbtmp3.5/4, Error ellipse: s-maj=154.7km s-min=23.8km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.85**	**162**	P	P	09 02 12.3	-0.9
	1.0nm,0.6s,baz=342,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**28.26**	**165**	P	P	09 02 43.7	-0.2
	0.1nm,0.3s,baz=339,slow=7.8,SNR=3.5						
STKA	**Stephens Creek**	**38.31**	**159**	P	P	09 04 12.1	+0.8
	1.6nm,0.7s,baz=354,slow=10,SNR=2.8						
SONM	**Songino Array**	**47.13**	**342**	P	P	09 05 22.7	-0.2
	0.3nm,0.4s,baz=164,slow=8.4,SNR=3.4						

*NNC **21** 09:04:42.3±2.5, 50°.47N×73°.20E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=36.5km s-min=9.1km az=30.0*
*IDC **21** 09:04:42.4±0.9, 50°.79N×73°.66E, h0km, mb3.4/1, mb1 3.1/6, mb1mx3.0/31, mbtmp3.0/6, ML2.8/5, Error ellipse: s-maj=18.7km s-min=7.5km az=25.0*
ISC 21 09:04:46.4±2.5, 50°.8N±0°.1×73°.65E±0°.07, h27km±19km, n14, σ2°02/21, 8C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VOSK	**Vostochnaya**	**2.55**	**321**	⇑Pn	**Pn**	**09 05 26.5**	**+0.4**
	2.8nm,0.4s						
VOSK				⇓Sn	**Sn**	**09 05 57.0**	**+0.8**
	9.9nm,0.6s						
BVA0	**Borovoye Array**	**3.02**	**319**	⇑Pn	**Pn**	**09 05 33.3**	**+0.9**
	0.2nm,0.3s,baz=129,slow=17,SNR=27						
BVA0				Sn	**Sb**	**09 06 13.1**	**-2.6**
	1.1nm,0.6s,baz=121,slow=28,SNR=12						
BVAR	**Borovoye Array**	**3.02**	**319**	Pn	**Pn**	**09 05 31.3**	**-1.1**
	2.1nm,0.3s,baz=128,slow=15,SNR=29						
BVAR				Sn	**Sn**	**09 06 09.4**	**+1.7**
	3.2nm,0.3s,baz=123,slow=29,SNR=7.8						
BRVK	**Borovoye**	**3.08**	**319**	⇑Pn	**Pn**	**09 05 34.5**	**+1.2**
	3.7nm,0.4s						
BRVK				⇑Sn	**Sn**	**09 06 13.8**	**+4.5**
	11nm,0.4s						
KURBB	**Kurchatov Arra**	**3.11**	**91**	Pn	**Pn**	**09 05 36.6**	**+2.9**
	0.4nm,0.4s						
KURBB				⇓Sn	**Sb**	**09 06 19.0**	**+0.5**
	3.2nm,0.5s						
KURBB	**Kurchatov Arra**	**3.11**	**91**	Pn	**Pn**	**09 05 33.0**	**-0.7**
	0.3nm,0.3s,baz=279,slow=14,SNR=20						
KURBB				Lg	Lg	09 06 18.0	
	0.6nm,0.3s,baz=276,slow=30,SNR=9.5						
KURK	**Kurchatov**	**3.16**	**89**	⇓Pn	**Pn**	**09 05 37.2**	**+2.9**
	2.1nm,0.5s						
KURK				⇑Sn	**Sb**	**09 06 20.7**	**+0.9**
	9.1nm,0.5s						
ZRNK	**Zerenda**	**3.60**	**309**	⇑Pn	**Pn**	**09 05 38.7**	**-1.8**
	1.0nm,0.5s						
ZRNK				⇑Sn	**Sn**	**09 06 23.2**	**+1.1**
	4.2nm,0.5s						
MK31	**Makanchi Array**	**6.97**	**122**	⇑Pn	**Pn**	**09 06 28.3**	**+1.6**
	0.5nm,0.5s,baz=302,slow=13,SNR=5.0						
MK31				⇓Lg	Lg	09 08 22.6	
	1.2nm,0.5s,baz=311,slow=27,SNR=4.3						
MKAR	**Makanchi Array**	**6.97**	**122**	Pn	**Pn**	**09 06 25.3**	**-1.4**
	0.1nm,0.3s,baz=312,slow=11,SNR=4.1						
MKAR				Sn	**Sn**	**09 07 43.1**	**-2.0**
	0.1nm,0.3s,baz=310,slow=24,SNR=2.5						
MKAR				Lg	Lg	09 08 22.2	
	0.4nm,0.3s,baz=310,slow=27,SNR=6.6						
ZALV	**Zalesovo Beam**	**7.54**	**61**	Pn	**Pn**	**09 06 33.3**	**-1.1**
	0.2nm,0.3s,baz=252,slow=14,SNR=5.3						
ZALV				Sn	**Sn**	**09 07 58.5**	**-0.5**
	0.3nm,0.3s,baz=242,slow=25,SNR=4.1						
ZALV				Lg	Lg	09 08 42.7	
	0.1nm,0.3s,baz=253,slow=28,SNR=2.2						
AAK	**Ala-Archa**	**8.18**	**176**	Lg	Lg	09 09 03.8	
	0.2nm,0.3s,baz=234,slow=14,SNR=5.0						
AKTO	**Aktyubinsk**	**9.95**	**274**	Pn	Pn	09 07 04.3	-3.1
	0.2nm,0.3s,baz=84,slow=10,SNR=3.6						
ILAR	**Eielson Array**	**60.57**	**19**	P	**P**	**09 14 52.3**	**-1.6**
	0.2nm,0.5s,baz=321,slow=5.3,SNR=6.2						

IDC 21 09:17:48.2±1.7, 56°.34S×24°.84W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/13, mbtmp4.1/3, MS3.6/2, Ms1 3.5/2, ms1mx3.3/13, Error ellipse: s-maj=73.7km s-min=35.1km az=10.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**38.01**	**308**	P	P	09 25 07.1	-0.6
	0.5nm,0.4s,baz=123,slow=7.1,SNR=5.3						
CPUP				LR	LR	09 38 57.5	
	comp=Z,52nm,19.5s,baz=163,slow=33						
BOSA	**Boshof**	**44.78**	**73**	LR	LR	09 41 14.4	
	comp=Z,95nm,18.2s,baz=73,slow=31						
LPAZ	**La Paz**	**51.63**	**303**	P	P	09 26 56.9	-0.3
	8.5nm,0.7s,baz=207,slow=8.2,SNR=37						
TORD	**Torodi Ar. Bea**	**72.69**	**27**	P	P	09 29 17.7	0.0
	0.4nm,0.7s,baz=207,slow=6.2,SNR=2.4						
YKA	**Yellowknife Ar**	**137.27**	**317**	PKP	PKPdf	09 37 10.7	-1.2
	0.1nm,0.7s,baz=119,slow=1.9,SNR=2.7						
INK	**Inuvik**	**146.87**	**320**	PKPbc	PKPbc	09 37 31.3	+0.6
	0.6nm,0.6s,baz=92,slow=3.4,SNR=6.4						
SONM	**Songino Array**	**149.44**	**85**	PKPbc	PKPbc	09 37 37.3	-1.1
	0.3nm,0.4s,baz=233,slow=1.5,SNR=4.6						
ILAR	**Eielson Array**	**151.29**	**311**	PKPbc	PKPbc	09 37 41.4	-0.7
	0.8nm,0.9s,baz=133,slow=2.0,SNR=6.8						
ILAR				PKPab	PKPab	09 37 50.6	+0.4
	1.1nm,0.9s,baz=126,slow=1.6,SNR=5.5						

*NIED **21** 09:22:00, 36°.20N×141°.00E, h44km, Mw3.6 Best double couple: M0 2.84000×10^14 NP1: ϕs 158.00000°, δ89.00000°, λ -70.00000°. NP2: ϕs 251.00000°, δ20.00000°, λ -177.00000°.*
*ISCJB **21** 09:22:46.7±0.7, 36°.20N±0°.03×140°.96E±0°.07, h45km±9km, mb3.6/3, Error ellipse: s-maj=9.4km s-min=5.2km az=179.9*
*IDC **21** 09:22:48.0±1.2, 35°.49N×140°.32E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/26, mbtmp3.5/4, ML2.8/1, Error ellipse: s-maj=26.1km s-min=15.3km az=50.0*
*JMA **21** 09:22:47.2±0.1, 36°.18N×140°.93E, h43km±1km, M3.5 Broadband fault plane solution: P waves. NP1: ϕs 339.00000°, δ80.00000°, λ 78.00000°. NP2: ϕs 208.00000°, δ15.00000°, λ 138.00000°. Principal axes: T Plg54.0000°, Azm235.0000°; N Plg11.0000°, Azm341.0000°; P Plg34.0000°, Azm79.0000°;*
JMA Felt II J1.
ISC 21 09:22:47.0±1.2, 36°.22N±0°.03×140°.98E±0°.06, h31km±9km, n14, σ0°80/21, mb3.6/3, 2C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.51**	**320**	⇓P	**Pb**	**09 22 58.1**	**+0.5**
JHO				S	**Sb**	**09 23 05.4**	**+0.5**
CHOJ	**Chosi**	**0.53**	**191**	⇓P	**Pb**	**09 22 57.7**	**-0.2**
CHOJ				S	**Sb**	**09 23 04.6**	**-0.7**
JYT	**Yasato**	**0.64**	**271**	P	**Pb**	**09 22 59.5**	**-0.1**
JYT				*e*S	**Sb**	**09 23 07.6**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.89**	**351**	⇑P	**Pn**	**09 23 03.4**	**0.0**
ONAJ				*e*S	**Sb**	**09 23 14.6**	**-0.9**
JFK	**Kawauchi**	**1.15**	**356**	⇑P	**Pn**	**09 23 06.8**	**-0.1**
JFK				*e*S	**Sn**	**09 23 20.8**	**-0.8**
JAG	**Ashikaga**	**1.25**	**280**	⇓P	**Pn**	**09 23 08.3**	**0.0**
JAG				*e*S	**Sn**	**09 23 23.3**	**-0.8**
JFT	**Otama**	**1.39**	**338**	P	**Pn**	**09 23 11.7**	**+1.4**
JFT				*e*S	**Sn**	**09 23 28.9**	**+1.2**
BSO3	**Boso 3**	**1.47**	**195**	P	**Pn**	**09 23 12.4**	**+1.3**
MJAR	**Matsushiro Arr**	**2.26**	**279**	Pn	**Pn**	**09 23 22.8**	**+0.6**
	11nm,0.3s,baz=121,slow=12,SNR=116						
MJAR				Lg	Lg	09 23 50.6	
	7.2nm,0.3s,baz=127,slow=32,SNR=7.5						
MAT	**Matsushiro**	**2.26**	**279**	P	**Pn**	**09 23 23.2**	**+1.0**
MAT				S	**Sn**	**09 23 48.6**	**-0.5**
JHJ	**Hachijo jima 2**	**3.25**	**198**	Pn	Pn	09 23 30.7	-5.1
	5.3nm,0.3s,baz=53,slow=19,SNR=2.4						
JHJ				Sn	**Sn**	**09 24 13.8**	**+0.3**
	14nm,0.3s,baz=277,slow=19,SNR=2.9						
ILAR	**Eielson Array**	**50.37**	**32**	P	P	09 31 53.4	+13
	0.5nm,0.6s,baz=270,slow=6.3,SNR=8.2						
WRA	**Warramunga Arr**	**56.21**	**188**	P	**P**	**09 32 23.5**	**-0.7**
	0.3nm,0.4s,baz=4.4,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**59.94**	**187**	P	**P**	**09 32 50.1**	**-0.1**
	0.3nm,0.9s,baz=12,slow=9.5,SNR=4.2						

IDC 21 09:44:24.7±2.1, 0°.09S×132°.76E, h0km, mb3.7/4, mb1 3.7/6, mb1mx3.6/21, mbtmp3.6/6, ML3.3/2, Error ellipse: s-maj=114.0km s-min=19.3km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.22**	**201**	P	Pn	09 48 52.0	+0.6
	0.1nm,0.3s,baz=14,slow=8.3,SNR=2.5						
WRA	**Warramunga Arr**	**19.79**	**176**	P	P	09 48 56.2	-0.6
	0.1nm,0.3s,baz=352,slow=12,SNR=8.7						
WRA				S	S	09 52 30.5	-10
	0.0nm,0.3s,baz=356,slow=23,SNR=3.1						
ASAR	**Alice Springs**	**23.46**	**177**	P	P	09 49 35.4	-0.7
	0.6nm,0.6s,baz=354,slow=8.6,SNR=18						
MKAR	**Makanchi Array**	**64.14**	**324**	P	P	09 55 01.6	+0.6
	0.6nm,0.6s,baz=121,slow=8.1,SNR=7.8						
ZALV	**Zalesovo Beam**	**66.75**	**331**	P	P	09 55 16.9	-0.9
	0.4nm,0.3s,baz=110,slow=6.3,SNR=2.5						
KURBB	**Kurchatov Arra**	**68.22**	**326**	P	P	09 55 27.5	+0.4
	0.7nm,0.8s,baz=123,slow=6.8,SNR=5.0						

IDC 21 09:46:39.6±1.0, 16°.82S×175°.60W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.7/3, Error ellipse: s-maj=960.6km s-min=178.7km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.50**	**241**	P	P	09 54 28.7	-0.1
	1.6nm,0.8s,baz=73,slow=14,SNR=4.2						
WRA	**Warramunga Arr**	**47.48**	**258**	P	P	09 55 16.5	-0.2
	0.1nm,0.3s,baz=95,slow=7.0,SNR=5.5						
ASAR	**Alice Springs**	**47.67**	**253**	P	P	09 55 18.1	-0.1
	1.0nm,0.5s,baz=87,slow=8.7,SNR=31						

*JMA **21** 09:47:57.3±0.2, 24°.99N×123°.51E, h27km±3km, M3.4*
*ISCJB **21** 09:47:58.0±1.2, 24°.96N±0°.07×123°.53E±0°.05, h19km±11km, mb3.4/8, MS3.3/4, Error ellipse: s-maj=11.5km s-min=7.3km az=175.7*
*IDC **21** 09:48:11.6±3.3, 24°.91N×123°.48E, h130km±34km, mb3.2/9, mb1 3.3/10, mb1mx3.2/26, mbtmp3.2/10, MS3.4/6, Ms1 3.4/6, ms1mx3.1/16, Error ellipse: s-maj=25.7km s-min=14.4km az=68.0*
ISC 21 09:47:58.9±1.1, 24°.88N±0°.06×123°.54E±0°.05, h21km±4km, n19, σ0°80/16, mb3.5/8, MS3.2/4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.57**	**162**	P	**Pb**	**09 48 10.1**	**-0.2**
IRIF				*e*S	**Sb**	**09 48 19.2**	**+1.1**
YOJ	**Yonaguni jima**	**0.64**	**229**	P	**Pb**	**09 48 10.5**	**-0.9**
YOJ				*e*S	**Sb**	**09 48 20.3**	**+0.4**
JIJ	**Ishigaki jima**	**0.75**	**133**	P	**Pb**	**09 48 12.6**	**-0.7**
JIJ				*e*S	**Sb**	**09 48 23.8**	**+0.6**
JKRS	**Kuro-shima**	**0.77**	**146**	P	**Pn**	**09 48 13.4**	**-1.2**
JKRS				*e*S	**Sn**	**09 48 25.6**	**+0.1**
HATJ	**Hateruma jima**	**0.86**	**163**	P	**Pb**	**09 48 15.0**	**-0.1**
HATJ				*e*S	**Sn**	**09 48 27.6**	**0.0**
JTJ	**Tarama**	**1.08**	**102**	P	**Pb**	**09 48 18.0**	**-1.0**
JTJ				*e*S	**Sb**	**09 48 33.1**	**+0.4**
JOW	**Kunigami**	**4.69**	**65**	P	**Pb**	**09 49 20.4**	**0.0**
	1.6nm,0.3s,baz=229,slow=9.3,SNR=3.5						
KSRS	**Korea Array**	**13.08**	**16**	P	P	09 51 16.1	+2.5
	0.1nm,0.3s,baz=204,slow=11,SNR=4.2						
KSRS				LR	LR	09 56 17.0	
	comp=Z,112nm,18.5s,baz=173,slow=37						
DAV	**Davao City (W)**	**17.82**	**173**	LR	LR	09 59 37.9	
	comp=Z,125nm,19.6s,baz=348,slow=38						
USRK	**Ussuriysk Arra**	**20.47**	**18**	P	Pn	09 52 40.3	+2.9
	0.9nm,0.6s,baz=183,slow=14,SNR=4.0						
USRK				LR	LR	10 00 59.5	
	comp=Z,108nm,19.5s,baz=158,slow=38						
CMAR	**Chiang Mai Arr**	**23.71**	**259**	P	P	09 53 12.2	+2.6
	0.6nm,0.4s,baz=51,slow=7.6,SNR=4.5						
ASAJ	**Asahikawa**	**24.69**	**34**	LR	LR	10 02 15.9	
	comp=Z,91nm,21.6s,baz=130,slow=34						
SONM	**Songino Array**	**26.63**	**334**	P	**P**	**09 53 37.2**	**+1.1**
	0.5nm,1.0s,baz=134,slow=11,SNR=4.3						
SONM				LR	LR	10 04 26.2	
	comp=Z,72nm,21.2s,baz=171,slow=37						
MKAR	**Makanchi Array**	**39.36**	**314**	P	P	09 55 27.8	+0.9
	0.6nm,0.8s,baz=107,slow=9.1,SNR=5.5						
ZALV	**Zalesovo Beam**	**40.85**	**326**	P	P	09 55 39.0	-0.1
	0.4nm,0.3s,baz=115,slow=9.9,SNR=3.6						
ZALV				LR	LR	10 13 45.1	
	comp=Z,63nm,21.4s,baz=226,slow=38						
KURBB	**Kurchatov Arra**	**42.98**	**319**	P	P	09 55 57.3	+0.8
	0.5nm,0.7s,baz=109,slow=8.0,SNR=3.5						
WRA	**Warramunga Arr**	**45.78**	**166**	P	**P**	**09 56 20.0**	**+0.8**
	2.4nm,0.7s,baz=348,slow=8.8,SNR=18						
ASAR	**Alice Springs**	**49.30**	**167**	P	P	09 56 48.1	+1.6
	0.4nm,0.5s,baz=349,slow=6.9,SNR=9.6						
YKA	**Yellowknife Ar**	**81.49**	**24**	P	**P**	**10 00 14.1**	**-0.3**
	0.1nm,0.7s,baz=307,slow=4.9,SNR=5.7						

*IDC **21** 09:49:28.3±1.1, 23°.60N×120°.88E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/25, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=43.3km s-min=21.6km az=62.0*
*TAP **21** 09:49:29.5, 23°.67N×120°.85E, h9km, ML4.0, C*
*ISCJB **21** 09:49:30.6±0.2, 23°.66N±0°.01×120°.88E±0°.01, h6km±2km, mb3.5/4, Error ellipse: s-maj=2.4km s-min=1.6km az=29.5*
ISC 21 09:49:29.9±0.8, 23°.65N±0°.01×120°.87E±0°.02, h13km±5km, n68, σ0°66/115, mb3.6/4, 11C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALS	**Alishan**	**0.15**	**203**	⇓*i*P	**Pg**	**09 49 33.8**	**0.0**
	baz=192						
ALS				*e*S	**Sg**	**09 49 36.7**	**+0.2**
	baz=192						
CHN5	**Tsauling**	**0.18**	**254**	⇑*i*P	**Pg**	**09 49 33.9**	**-0.2**
	baz=247						
SMLT	**Sun Moon Lake**	**0.24**	**7**	⇑*i*P	**Pg**	**09 49 34.9**	**-0.1**
	baz=20						
SMLT				*e*S	**Sg**	**09 49 39.1**	**+0.6**
	baz=20						
TYC	**Yuchr**	**0.26**	**358**	P	**Pg**	**09 49 35.1**	**-0.2**
	baz=9.0						
TYC				*e*S	**Sg**	**09 49 39.1**	**+0.2**
	baz=9.0						
WGK	**Gukeng**	**0.28**	**278**	⇑*i*P	**Pb**	**09 49 36.2**	**-0.7**
	baz=274						
WGK				*e

CHN3					*e*S		**Sn**	**09 49 58.8 +1.7**
	baz=233							
HWA	**Hwalien**	**0.75**	**64**	*e*P			**Pb**	**09 49 45.0 +0.2**
HWA	baz=76							
					*e*S		**Sb**	**09 49 55.6 +0.5**
	baz=76							
NSY	**Sanyi**	**0.77**	**353**	*e*P			**Pb**	**09 49 45.6 +0.4**
NSY	baz=354							
					*e*S		**Sn**	**09 49 57.0 -1.1**
	baz=354							
SCLT	**Jiali**	**0.78**	**233**	*e*P			**Pn**	**09 49 45.7 -0.9**
SCLT	baz=230							
					*e*S		**Sn**	**09 49 58.5 +0.4**
	baz=230							
TWD	**Chiawan**	**0.79**	**57**	P			**Pb**	**09 49 45.4 -0.2**
TWD	baz=60							
					*e*S		**Sb**	**09 49 57.3 +1.0**
	baz=60							
TAI1	**Yung-k'ang**	**0.84**	**224**	*e*P			**Pn**	**09 49 47.3 -0.2**
TAI1	baz=222							
					*e*S		**Sn**	**09 50 00.5 +0.8**
	baz=222							
TWG	**Pinlang**	**0.84**	**167**	⇓P			**Pn**	**09 49 47.0 -0.6**
TWG	baz=159							
					*e*S		**Sn**	**09 49 60.0 +0.2**
	baz=159							
NNS	**Nan Shan**	**0.91**	**30**	⇓P			**Pg**	**09 49 46.9 -0.7**
NNS	baz=38							
					*e*S		**Sg**	**09 49 58.7 -0.9**
	baz=38							
TWM1	**Shoushan**	**0.92**	**207**	*e*P			**Pn**	**09 49 49.2 +0.6**
	baz=204							
SSD	**Sandimen**	**0.92**	**194**	*e*P			**Pn**	**09 49 48.0 -0.6**
SSD	baz=185							
					*e*S		**Sn**	**09 50 02.6 +0.8**
	baz=185							
TTN	**Taitung**	**0.93**	**164**	*e*P			**Pb**	**09 49 47.4 -0.5**
	baz=154							
SGLT	**Jiouru**	**0.98**	**201**	*e*P			**Pn**	**09 49 50.1 +0.7**
	baz=199							
NSTT	**Nanjuang**	**0.99**	**7**	P			**Pn**	**09 49 49.3 -0.3**
NSTT	baz=8.0							
					*e*S		**Sn**	**09 50 02.9 -0.5**
	baz=8.0							
ECL	**Taimali**	**1.05**	**176**	*e*P			**Pn**	**09 49 50.3 0.0**
	baz=167							
ENA	**Nanau**	**1.11**	**46**	*e*P			**Pb**	**09 49 50.8 -0.3**
ENA	baz=48							
					*e*S		**Sb**	**09 50 05.6 +0.1**
	baz=48							
NSK	**Sanguang**	**1.12**	**24**	*e*P			**Pb**	**09 49 50.8 -0.4**
NSK	baz=19							
					*e*S		**Sb**	**09 50 06.3 +0.6**
	baz=19							
HSN	**Hsinchu**	**1.15**	**5**	*e*P			**Pn**	**09 49 54.0 +2.2**
	baz=7.0							
ENTT	**Nioudou**	**1.18**	**33**	*e*P			**Pb**	**09 49 51.7 -0.4**
ENTT	baz=40							
					*e*S		**Sb**	**09 50 07.3 0.0**
	baz=40							
PNG	**Penghu**	**1.21**	**266**	*e*P			**Pb**	**09 49 51.1 -1.5**
	baz=265							
EAST	**Anshuo**	**1.26**	**181**	*e*P			**Pg**	**09 49 54.3 +0.1**
EAST	baz=170							
					*e*S		**Sn**	**09 50 11.6 +1.4**
	baz=170							
TWE	**Neicheng**	**1.29**	**34**	*e*P			**Pb**	**09 49 54.0 -0.1**
TWE	baz=36							
					*e*S		**Sg**	**09 50 12.2 +0.5**
	baz=36							
TWC	**Suao**	**1.31**	**43**	P			**Pg**	**09 49 54.5 -0.6**
TWC	baz=45							
					*e*S		**Sg**	**09 50 12.0 -0.2**
	baz=45							
NCU	**National Centr**	**1.35**	**12**	*e*P			**Pg**	**09 49 55.2 -0.6**
NCU	baz=356							
					*e*S		**Sg**	**09 50 13.4 0.0**
	baz=356							
ILA	**Ilan**	**1.37**	**36**	*e*P			**Pg**	**09 49 56.4 +0.1**
	baz=37							
TWP	**Hsiaoliuchiu**	**1.38**	**200**	*e*P			**Pg**	**09 49 56.0 -0.3**
	baz=200							
TAP	**Taipei**	**1.50**	**23**	*e*P			**Pg**	**09 50 00.2 +1.4**
	baz=29							
TAP1	**Taipei**	**1.51**	**23**	*e*P			**Pg**	**09 49 58.6 -0.3**
TAP1	baz=28							
					*e*S		**Sb**	**09 50 16.9 0.0**
	baz=28							
TWS1	**Kuangyinshan**	**1.53**	**19**	*e*P			**Pg**	**09 49 58.4 -1.0**
	baz=2.0							
TWS1					*e*S		**Sg**	**09 50 19.1 -0.2**
	baz=2.0							
HEN	**Hengchun**	**1.64**	**184**	*e*P			**Pg**	**09 50 00.2 -1.2**
	baz=183							
NWF	**Wu-fen Shan**	**1.64**	**30**	*e*P			**Pg**	**09 50 01.2 -0.3**
NWF	baz=30							
					*e*S		**Sg**	**09 50 23.4 +0.6**
	baz=30							
TWB1	**Santiao Chiao**	**1.70**	**37**	*e*P			**Pg**	**09 50 01.8 -0.7**
	baz=50							
TWB1					*e*S		**Sg**	**09 50 24.2 -0.4**
	baz=50							
TWK1	**Hengchun**	**1.70**	**182**	*e*P			**Pg**	**09 50 02.3 -0.2**
	baz=180							
LAY	**Lan-yu**	**1.72**	**158**	*e*P			**Pn**	**09 49 59.2 -0.4**
	baz=158							
TWY	**Chenhua**	**1.75**	**22**	*e*P			**Pg**	**09 50 03.5 -0.1**
	baz=5.0							
KNM	**Kinmen**	**2.35**	**289**	*e*P			**Pn**	**09 50 08.5 +0.2**
	baz=288							
QZH	**Quanzhou**	**2.44**	**302**	⇓*i*Pn			**Pn**	**09 50 08.9 -0.7**
QZH					Sn		**Sb**	**09 50 45.1 +1.3**
QZH					smax		smax	
	comp=N,290nm,0.3s							
QZH					smax		smax	
	comp=E,250nm,0.3s							
QZH					LR		LR	
	comp=N,2μm,7.8s							
QZH					LR		LR	
	comp=E,1μm,9.9s							
QZH					LR		LR	
	comp=Z,2μm,6.4s							
JOW	**Kunigami**	**7.42**	**63**	Pn			**Pn**	**09 51 18.3 +0.3**
	comp=Z,5.4nm,0.3s,baz=238,slow=13,SNR=11							
MKAR	**Makanchi Array**	**38.52**	**317**	P			**P**	**09 56 52.9 +0.8**
	comp=Z,1.1nm,0.7s,baz=112,slow=9.8,SNR=8.1							
ZALV	**Zalesovo Beam**	**40.54**	**328**	P			**P**	**09 57 09.0 +0.3**
	comp=Z,0.9nm,0.4s,baz=118,slow=8.6,SNR=5.4							
WRA	**Warramunga Arr**	**45.27**	**162**	P			**P**	**09 57 46.7 -0.8**
	comp=Z,0.6nm,0.9s,baz=344,slow=8.7,SNR=2.7							
ASAR	**Alice Springs**	**48.71**	**164**	P			**P**	**09 58 14.8 +0.5**
	comp=Z,0.1nm,0.4s,baz=340,slow=6.1,SNR=3.4							

NNC 21 09:58:42.9±2.3, 54°03'N×86°52'E, h0km, mb3.7, mpv3.2, 6C-6D, Error ellipse: s-maj=17.8km s-min=11.9km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.87**	**239**	⇓Pn	Pn	10 00 10.9	-0.1
KURK	3.5nm,0.9s			⇑Sn	Sn	10 01 20.5	+1.6
KURK	3.1nm,1.3s			⇑Lg	Lg	10 01 50.7	
KURBB	7.5nm,0.7s **Kurchatov Arra**	**5.97**	**238**	⇑Pn	Pn	10 00 13.0	+0.6
KURBB	0.4nm,0.3s			⇓Sn	Sn	10 01 23.8	+2.4
KURBB	1.3nm,0.6s			⇓Lg	Lg	10 01 53.6	
MK31	1.8nm,0.7s **Makanchi Array**	**7.73**	**202**	Pn	Pn	10 00 39.3	+2.7
MK31	1.1nm,0.7s,baz=28,slow=14,SNR=15			⇓Sn	Sn	10 02 10.8	+6.0
MK31	1.5nm,0.7s,baz=24,slow=27,SNR=4.2			⇓Lg	Lg	10 02 46.1	
VOSK	8.4nm,1.2s,baz=28,slow=32,SNR=3.7 **Vostochnaya**	**9.38**	**268**	⇑Pn	Pn	10 00 59.4	+0.1
VOSK	1.2nm,0.5s			⇑Sn	Sn	10 02 41.8	-3.6
ZRNK	4.1nm,0.7s **Zerenda**	**10.50**	**271**	⇑Pn	Pn	10 01 15.4	+0.9
ZRNK	1.6nm,0.6s			⇓Sn	Sn	10 03 14.4	+1.7
	2.9nm,0.8s						

*ATH **21** 10:01:51.7, 38°.30'N×20°.98'E, h30km±1km, MD3.2/7*
*ISCJB **21** 10:01:52.5±0.5, 38°.32'N±0°.05×20°.96'E±0°.04, h30km±5km, Error ellipse: s-maj=7.8km s-min=4.9km az=9.0*
*THE **21** 10:01:52.7, 38°.33'N×21°.00'E, h22km±1km, ML2.3/4, Error ellipse: s-maj=1.8km s-min=0.5km az=217.0*
*CSEM **21** 10:01:52.5±0.1, 38°.33'N×20°.99'E, h20km, ML2.3/4, Error ellipse: s-maj=4.1km s-min=2.5km az=176.0*
ISC 21 10:01:52.7±0.9, 38°.32'N±0°.04×21°.00'E±0°.03, h27km±11km, n26, σ0°.56/47, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.26**	**219**	P	**Pb**	**10 01 58.9**	**-0.5**
KFL				S	**Sb**	**10 02 04.0**	**+0.1**
KFL	**Anninata**	**0.26**	**219**	P	**Pb**	**10 01 58.9**	**-0.5**
KFL				S	**Sb**	**10 02 04.0**	**+0.1**
VLS	**Valsamata**	**0.35**	**247**	P	**Pb**	**10 01 59.9**	**-0.7**
VLS				S	**Sb**	**10 02 06.2**	**+0.2**
VLS	**Valsamata**	**0.35**	**247**	*e*PB	**Pb**	**10 01 59.8**	**-0.8**
VLS				*e*SB	**Sb**	**10 02 06.5**	**+0.5**
VLS	**Valsamata**	**0.35**	**247**	*e*Pb	**Pb**	**10 01 59.8**	**-0.8**
VLS				S	**Sb**	**10 02 06.2**	**+0.2**
VLS				*e*Sb	**Sb**	**10 02 06.5**	**+0.5**
RLS	**Riolos of Patr**	**0.45**	**125**	P	**Pb**	**10 02 02.0**	**-0.1**
RLS				S	**Sb**	**10 02 09.1**	**+0.5**
RLS	**Riolos of Patr**	**0.45**	**125**	*e*PB	**Pb**	**10 02 02.1**	**-0.1**
RLS				*e*SB	**Sb**	**10 02 09.1**	**+0.5**
RLS	**Riolos of Patr**	**0.45**	**125**	*e*Pb	**Pb**	**10 02 02.1**	**-0.1**
RLS				S	**Sb**	**10 02 09.1**	**+0.5**
LKD2	**Lefkada island**	**0.54**	**331**	P	**Pb**	**10 02 03.1**	**-0.6**
LKD2				S	**Sb**	**10 02 11.2**	**0.0**
LKD2	**Lefkada island**	**0.54**	**331**	*e*PN	**Pb**	**10 02 03.2**	**-0.5**
LKD2	**Lefkada island**	**0.54**	**331**	*e*Pn	**Pb**	**10 02 03.2**	**-0.5**
LKD2				S	**Sb**	**10 02 11.2**	**0.0**
EFP	**Efpalio**	**0.72**	**81**	P	**Pb**	**10 02 06.0**	**-0.7**
EFP				S	**Sb**	**10 02 16.1**	**-0.2**
EFP	**Efpalio**	**0.72**	**81**	*e*PN	**Pb**	**10 02 06.0**	**-0.7**
EFP				*e*SN	**Sn**	**10 02 17.6**	**+0.2**
EFP	**Efpalio**	**0.72**	**81**	P	**Pb**	**10 02 06.0**	**-0.7**
EFP				S	**Sb**	**10 02 16.1**	**-0.2**
EFP				*e*Sn	**Sn**	**10 02 17.6**	**+0.2**
LAKA	**Lakka**	**0.78**	**95**	P	**Pn**	**10 02 07.6**	**-0.3**
LAKA				S	**Sn**	**10 02 18.9**	**+0.2**
LAKA	**Lakka**	**0.78**	**95**	P	**Pn**	**10 02 07.6**	**-0.3**
LAKA				S	**Sn**	**10 02 18.9**	**+0.2**
TRIZ	**Trizonia**	**0.85**	**86**	P	**Pb**	**10 02 08.1**	**-0.7**
TRIZ				S	**Sn**	**10 02 20.9**	**+0.5**
TRIZ	**Trizonia**	**0.85**	**86**	P	**Pb**	**10 02 08.1**	**-0.7**
TRIZ				S	**Sn**	**10 02 20.9**	**+0.5**
EVR	**Evrytania**	**0.88**	**46**	*e*PN	**Pn**	**10 02 10.2**	**+0.8**
EVR	**Evrytania**	**0.88**	**46**	*e*Pn	**Pn**	**10 02 10.2**	**+0.8**
KALE	**Kalithea**	**0.90**	**85**	P	**Pb**	**10 02 09.1**	**-0.7**
KALE				S	**Sn**	**10 02 22.4**	**+0.5**
KALE	**Kalithea**	**0.90**	**85**	P	**Pb**	**10 02 09.1**	**-0.7**
KALE				S	**Sn**	**10 02 22.4**	**+0.5**
GUR	**Goura**	**1.13**	**109**	*e*PN	**Pb**	**10 02 13.1**	**-0.5**
GUR	**Goura**	**1.13**	**109**	*e*Pn	**Pb**	**10 02 13.1**	**-0.5**
VLX	**Vlachokerasia**	**1.45**	**130**	*e*PN	**Pb**	**10 02 18.0**	**-1.0**
VLX	**Vlachokerasia**	**1.45**	**130**	*e*Pn	**Pb**	**10 02 18.0**	**-1.0**

MEX 21 10:05:43.9±0.9, 17°.19N×100°.38W, h20km±10km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.17**	**144**	*e*P	Pb	10 05 47.4	-1.4
CAIG				*i* S	Sb	10 05 51.7	-0.3
MEIG	**Mezcala**	**1.03**	**44**	*i* P	Pb	10 05 59.4	-3.8
MEIG				*i* S	Sb	10 06 12.6	-3.8
ZIIG	**Zihuatanejo**	**1.12**	**292**	*e*P	Pn	10 06 01.4	-3.0
ZIIG				*i* S	Sb	10 06 15.0	-3.7
PLIG	**Platanillo**	**1.46**	**35**	*i* P	Pn	10 06 06.1	-3.2
PLIG				*i* S	Sn	10 06 24.3	-3.5
YAIG	**Yautepec**	**2.08**	**37**	*i* P	Pn	10 06 14.5	-3.4
YAIG				*i* S	Sn	10 06 40.1	-3.2
PNIG	**Pinotepa**	**2.30**	**110**	*i* P	Pn	10 06 17.6	-3.1
PNIG				*i* S	Sn	10 06 44.4	-4.0
PPM	**Popocatepetl**	**2.50**	**41**	*i* P	Pn	10 06 21.3	-2.8
PPM				*i* S	Sn	10 06 50.2	-4.3

*ISK **21** 10:18:27.7, 37°.04'N×29°.21'E, h7km, MD2.6*
*ISCJB **21** 10:18:28.6±0.5, 37°.00'N±0°.03×29°.18'E±0°.04, h12km±6km, Error ellipse: s-maj=5.9km s-min=4.8km az=5.0*
*DDA **21** 10:18:28.6, 37°.04'N×29°.14'E, h7km, MD2.8*
*CSEM **21** 10:18:28.5±0.2, 37°.01'N×29°.18'E, h12km, MD2.8, Error ellipse: s-maj=4.5km s-min=3.7km az=47.0*
ISC 21 10:18:28.7±1.0, 37°.05N±0°.02×29°.21'E±0°.02, h9km±9km, n27, σ0°.98/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOLH	**Golhisar**	**0.34**	**56**	*i* P	**Pg**	**10 18 36.2**	**+0.7**
GOLH				*i* S	**Sb**	**10 18 43.1**	**+0.4**
GOLH	**Golhisar**	**0.34**	**56**	*i* P	**Pg**	**10 18 36.2**	**+0.7**
GOLH				*i* S	**Sb**	**10 18 43.1**	**+0.4**
FETY	**Fethiye**	**0.42**	**193**	*e*PG	**Pg**	**10 18 36.2**	**-0.7**
FETY				*e*SG	**Sg**	**10 18 42.7**	**+0.2**
FETY	**Fethiye**	**0.42**	**193**	*e*Pg	**Pg**	**10 18 36.2**	**-0.7**
FETY				*e*Sg	**Sg**	**10 18 42.7**	**+0.2**
TURN	**Turunc**	**0.51**	**250**	*i* P	**Pn**	**10 18 42.5**	**+0.3**
TURN				*i* S	**Sn**	**10 18 55.6**	**+4.5**
ELL	**Elmali**	**0.64**	**118**	*e*PG	**Pg**	**10 18 40.3**	**-0.7**
ELL				*e*SG	**Sg**	**10 18 49.7**	**+0.3**
ELL	**Elmali**	**0.64**	**118**	*e*Pg	**Pg**	**10 18 40.3**	**-0.7**
ELL				*e*Sg	**Sg**	**10 18 49.7**	**+0.3**
DNZL	**Cakiroluk**	**0.65**	**349**	*i* P	**Pg**	**10 18 41.0**	**-0.3**
DNZL				*i* S	**Sn**	**10 18 54.2**	**-0.8**
DNZL	**Cakiroluk**	**0.65**	**349**	*i* P	**Pg**	**10 18 41.0**	**-0.3**
DNZL				*i* S	**Sn**	**10 18 54.2**	**-0.8**
YER	**Yerkesik**	**0.74**	**277**	*e*PG	**Pg**	**10 18 42.5**	**-0.5**
YER				*e*SG	**Sg**	**10 18 53.4**	**+0.7**
YER	**Yerkesik**	**0.74**	**277**	*e*Pg	**Pg**	**10 18 42.5**	**-0.5**
YER				*e*Sg	**Sg**	**10 18 53.4**	**+0.7**
AKAS	**Kas**	**0.87**	**158**	*i* P	**Pg**	**10 18 44.5**	**-1.0**
AKAS				*i* S	**Sn**	**10 19 00.9**	**+0.6**
AKAS	**Kas**	**0.87**	**158**	*i* P	**Pg**	**10 18 44.5**	**-1.0**
KORT	**Korkueli**	**0.92**	**93**	*i* P	**Pn**	**10 18 48.0**	**+0.1**
KORT				*i* S	**Sn**	**10 19 02.9**	**+1.5**
KORT	**Korkueli**	**0.92**	**93**	*i* P	**Pn**	**10 18 48.0**	**+0.1**
BCK	**Bucak**	**1.18**	**69**	*e*PN	**Pb**	**10 18 50.6**	**-0.7**
BCK	**Bucak**	**1.18**	**69**	*e*Pn	**Pb**	**10 18 50.6**	**-0.7**
AYDN	**Tasoluk**	**1.22**	**300**	*i* P	**Pb**	**10 18 51.6**	**-0.4**
AYDN				*i* S	**Sg**	**10 19 08.1**	**+0.1**
AYDN	**Tasoluk**	**1.22**	**300**	*i* P	**Pb**	**10 18 51.6**	**-0.4**
AYDN				*i* S	**Sg**	**10 19 08.1**	**+0.1**
KHL	**Karahalli**	**1.30**	**11**	*e*PN	**Pn**	**10 18 52.9**	**-0.2**
KHL	**Karahalli**	**1.30**	**11**	*e*Pn	**Pn**	**10 18 52.9**	**-0.2**
KHAL	**Karahalli**	**1.34**	**10**	*i* P	**Pb**	**10 18 54.2**	**+0.1**
KHAL				*i* S	**Sg**	**10 19 12.4**	**+0.6**
KHAL	**Karahalli**	**1.34**	**10**	*i* P	**Pb**	**10 18 54.2**	**+0.1**
KHAL				*i* S	**Sg**	**10 19 12.4**	**+0.6**
KULA	**Kula-Manisa**	**1.53**	**344**	*e*PN	**Pn**	**10 18 56.2**	**-0.1**
KULA	**Kula-Manisa**	**1.53**	**344**	*e*Pn	**Pn**	**10 18 56.2**	**-0.1**
MANT	**Manisa**	**1.53**	**341**	*i* P	**Pn**	**10 18 56.5**	**0.0**
MANT				*i* S	**Sn**	**10 19 14.8**	**-1.8**
MANT	**Manisa**	**1.53**	**341**	*i* P	**Pn**	**10 18 56.5**	**0.0**
MANT				*i* S	**Sn**	**10 19 14.8**	**-1.8**

*ISCJB **21** 10:19:06.1±0.7, 58°.4S±0°.1×27°.9W±0°.2, h300km, mb4.1/11, Error ellipse: s-maj=18.6km s-min=14.3km az=28.0*
*NEIC **21** 10:19:06.5±1.6, 58°.92S×27°.94W, h312km±15km, mb4.7/4, Error ellipse: s-maj=19.3km s-min=13.4km az=210.0*
*IDC **21** 10:19:10.0±1.6, 58°.43S×28°.00W, h328km±14km, mb3.8/10, mb1 3.9/10, mb1mx3.8/17, mbtmp3.8/10, Error ellipse: s-maj=16.7km s-min=13.5km az=37.0*
ISC 21 10:19:06.5±0.5, 58°.5S±0°.1×28°.0W±0°.1, h300km, n46, σ1°.78/57, mb4.2/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**16.71**	**152**	*e*P	P	10 22 35.8	-6.0
SNAA	18nm,0.8s			*e*ScP	ScP	10 30 09.9	-8.3
SNAA	**Sanae**	**16.71**	**152**	P	Pn	10 23 07.0	+23
	0.5nm,0.3s,baz=310,slow=12,SNR=41						
PMSA	**Palmer Station**	**18.04**	**235**	P	**P**	**10 22 52.4**	**-3.8**
	108nm,1.5s						

EFI	**East Falkland**	**18.41**	**279**	*e*P			**P**	**10 23 02.0 +1.8**
	18nm,0.4s							
TRQA	**Tornquist**	**30.00**	**298**	*e*P			**P**	**10 24 49.1 +1.4**
	6.3nm,0.6s							
QSPA	**South Pole Qui**	**31.74**	**180**	P			**P**	**10 25 05.3 +2.6**
QSPA	**South Pole Qui**	**31.74**	**180**	P			**P**	**10 25 05.3 +2.6**
	8.5nm,0.5s,baz=212,slow=1.8,SNR=97							
CPUP	**Villa Florida**	**38.18**	**315**	P			**P**	**10 25 57.4 -0.2**
CPUP	**Villa Florida**	**38.18**	**315**	P			**P**	**10 25 57.4 -0.2**
	0.6nm,0.4s,baz=139,slow=7.1,SNR=3.3							
CFAA	**Coronel Fontan**	**38.22**	**297**	P			**P**	**10 25 58.0 0.0**
CFAA				PcP			**PcP**	**10 28 05.4 0.0**
CFAA	**Coronel Fontan**	**38.22**	**297**	P			**P**	**10 25 58.0 0.0**
	1.0nm,0.6s,baz=148,slow=7.7,SNR=18							
CFAA				PcP			**PcP**	**10 28 05.4 0.0**
	0.3nm,0.4s,baz=150,slow=4.0,SNR=4.5							
BDFB	**Brasilia**	**45.32**	**332**	P			**P**	**10 26 56.0 +0.8**
BDFB	**Brasilia**	**45.32**	**332**	P			**P**	**10 26 56.0 +0.8**
	3.2nm,0.4s,baz=160,slow=6.5,SNR=7.4							
LBTB	**Lobatse**	**50.15**	**72**	P			**P**	**10 27 33.2 +1.2**
LBTB	**Lobatse**	**50.15**	**72**	P			**P**	**10 27 33.2 +1.2**
	1.4nm,0.6s,baz=245,slow=12,SNR=2.7							
LPAZ	**La Paz**	**51.50**	**308**	P			**P**	**10 27 43.5 +0.9**
LPAZ				PcP			**PcP**	**10 28 52.8 +0.6**
LPAZ	**La Paz**	**51.50**	**308**	P			**P**	**10 27 43.5 +0.9**
	3.4nm,0.3s,baz=113,slow=3.9,SNR=48							
LPAZ				PcP			**PcP**	**10 28 52.8 +0.6**
	1.6nm,0.6s,baz=69,slow=3.4,SNR=5.8							
DBIC	**Dimbokro**	**67.58**	**25**	P			**P**	**10 29 31.1 +0.1**
DBIC	**Dimbokro**	**67.58**	**25**	P			**P**	**10 29 31.1 +0.1**
	2.7nm,0.3s,baz=170,slow=5.8,SNR=11							
TORD	**Torodi Ar. Bea**	**75.41**	**30**	P			**P**	**10 30 18.1 +0.7**
TORD	**Torodi Ar. Bea**	**75.41**	**30**	P			**P**	**10 30 18.1 +0.7**
	6.7nm,0.6s,baz=196,slow=6.3,SNR=58							
TEIG	**Tepich**	**92.77**	**305**	P			**P**	**10 31 44.9 +0.2**
TEIG	**Tepich**	**92.77**	**305**	P			**P**	**10 31 44.9 +0.2**
	8.6nm,0.7s,baz=80,slow=2.0,SNR=4.3							
ASAR	**Alice Springs**	**96.76**	**163**	P			**P**	**10 32 03.0 -0.2**
ASAR				PKKPbc			**PKKPbc**	**10 48 42.2 +1.5**
ASAR	**Alice Springs**	**96.76**	**163**	P			**P**	**10 32 03.0 -0.2**
	0.5nm,0.6s,baz=179,slow=4.1,SNR=15							
ASAR				PKKPbc			**PKKPbc**	**10 48 42.2 +1.5**
	0.1nm,0.3s,baz=19,slow=2.5,SNR=6.7							
WRA	**Warramunga Arr**	**100.48**	**163**	PKKP				10 48 32.2
	0.1nm,0.3s,baz=357,slow=2.8,SNR=14							
POO	**Poona**	**111.77**	**90**	*e*PKP			**Pdif**	**10 33 15.0 +5.2**
NVAR	**Mina Array Bea**	**121.95**	**292**	PKP			**PKPdf**	**10 37 25.6 +1.0**
NVAR	**Mina Array Bea**	**121.95**	**292**	PKP			**PKPdf**	**10 37 25.6 +1.0**
	0.3nm,0.5s,baz=157,slow=2.9,SNR=3.2							
FINES	**FINESS Array B**	**126.75**	**29**	PKP			**PKPdf**	**10 37 32.1 -0.7**
FINES				SKPab		SKPdf	10 40 15.8	-23
FINES	**FINESS Array B**	**126.75**	**29**	PKP			**PKPdf**	**10 37 32.1 -0.7**
	1.0nm,0.5s,baz=151,slow=1.3,SNR=13							
FINES				SKPab		SKPdf	10 40 15.8	-23
	4.4nm,1.1s,baz=195,slow=3.7,SNR=3.4							
ARCES	**ARCESS Array B**	**133.38**	**23**	PKP			**PKPdf**	**10 37 44.7 -0.5**
ARCES				SKPbc			**SKPbc**	**10 40 40.6 -3.9**
ARCES	**ARCESS Array B**	**133.38**	**23**	PKP			**PKPdf**	**10 37 44.7 -0.5**
	6.2nm,1.0s,baz=327,slow=2.0,SNR=5.2							
ARCES				SKPbc			**SKPbc**	**10 40 40.6 -3.9**
	16nm,1.2s,baz=243,slow=4.0,SNR=5.8							
BVAR	**Borovoye Array**	**136.42**	**60**	PKP			**PKPdf**	**10 37 52.3 +1.0**
BVAR				SKPbc			**SKPbc**	**10 40 51.5 -3.1**
BVAR	**Borovoye Array**	**136.42**	**60**	PKP			**PKPdf**	**10 37 52.3 +1.0**
	0.4nm,0.3s,baz=131,slow=4.2,SNR=3.6							
BVAR				SKPbc			**SKPbc**	**10 40 51.5 -3.1**
	0.8nm,0.5s,baz=192,slow=1.6,SNR=5.6							
YKA	**Yellowknife Ar**	**137.69**	**316**	PKP			**PKPdf**	**10 37 52.7 -0.6**
YKA				SKPbc			**SKPbc**	**10 40 54.7 -3.2**
YKA	**Yellowknife Ar**	**137.69**	**316**	PKhKP			PKPpre	10 37 42.8
	0.1nm,0.4s,baz=127,slow=3.2,SNR=4.0							
YKA				PKP			**PKPdf**	**10 37 52.7 -0.6**
	0.4nm,0.4s,baz=134,slow=2.1,SNR=15							
YKA				SKPbc			**SKPbc**	**10 40 54.7 -3.2**
	0.2nm,0.6s,baz=133,slow=3.1,SNR=3.8							
MKAR	**Makanchi Array**	**138.01**	**74**	SKPbc			**SKPbc**	**10 40 56.2 -3.3**
MKAR	**Makanchi Array**	**138.01**	**74**	SKPbc			**SKPbc**	**10 40 56.2 -3.3**
	0.6nm,0.6s,baz=233,slow=3.4,SNR=7.1							
ZALV	**Zalesovo Beam**	**143.78**	**67**	PKP			PKPab	10 38 02.1 -0.4
ZALV	**Zalesovo Beam**	**143.78**	**67**	PKP			PKPab	10 38 02.1 -0.4
	3.3nm,0.3s,baz=233,slow=3.9,SNR=12							
INK	**Inuvik**	**147.40**	**318**	*e*PKPdf			**PKPdf**	**10 38 09.1 -1.2**
INK				*e*PKPbc			**PKPbc**	**10 38 12.8 -0.5**
INK				*e*PKPab			**PKiKP**	**10 38 16.1 +1.0**
SONM	**Songino Array**	**151.19**	**92**	PKPbc			**PKPbc**	**10 38 23.1 -0.3**
SONM	**Songino Array**	**151.19**	**92**	PKPbc			**PKPbc**	**10 38 23.1 -0.3**
	0.7nm,0.4s,baz=217,slow=3.3,SNR=12							
ILAR	**Eielson Array**

CNCH eS Sn 10 34 22.2 -1.1
SNET Serv Nac Est T 0.76 283 eP Pn 10 34 01.6 -1.4
SNET eS Sn 10 34 22.2 -2.0
SNET AML AML 10 34 26.9
comp=Z,4µm,0.2s
BOQS Boqueron 0.82 286⇓ eP Pn 10 34 02.6 -0.9
BOQS eS Sn 10 34 23.4 -1.7
SNJE San Jose 1.16 288 eP Pn 10 34 04.8 -1.1
SBLS San Blas 1.17 286 eP Pn 10 34 04.8 -1.2
RTR El Retiro 1.21 288 eP Pn 10 34 05.4 -0.8
MTO2 Montecristo 2 1.24 315 eP Pn 10 34 05.7 -0.7
MTO2 eS Sn 10 34 29.9 -0.6
RBDL Robledal 1.33 297 eP Pn 10 34 06.4 -0.7
MRL Marmol 1.95 323⇓ eP Pn 10 34 13.9 +0.9
MRL eS Sn 10 34 43.6 +1.3
NBG Las Nubes 2.11 301 eP Pn 10 34 15.9 +1.0
NBG eS Sn 10 34 49.1 +3.6
PCG Pacaya 2.25 293 eP Pn 10 34 17.1 +0.7
PCG eS Sn 10 34 49.9 +1.7
FUG Fuego 3 2.49 292 eP Pn 10 34 19.3 +0.4
TP2 Tecpan 2 2.78 297⇓ eP Pn 10 34 23.7 +1.2
THIG 3.94 291 P Pn 10 34 35.6 -0.6
THIG S Sn 10 35 21.8 -2.0
CCIG Comitan 4.49 308 P Pn 10 34 42.9 -0.6
CCIG S Sn 10 35 38.5 +1.8
JTS JuntasAbangare 4.70 133 P Pn 10 34 46.7 +0.7
JTS S Sn 10 35 37.7 -3.7
JTS JuntasAbangare 4.70 133 P Pn 10 34 46.7 +0.7
comp=Z,48nm,0.3s,baz=315,slow=17,SNR=148
JTS S Sn 10 35 37.7 -3.7
comp=Z,13nm,0.3s,baz=322,slow=12,SNR=5.0
PCIG 5.09 296 P Pn 10 34 50.3 -0.6
PCIG S Sn 10 35 46.2 -4.0
CGA2 Cerro Gallo 2 5.24 131 eP Pn 10 34 55.1 +2.1
TGIG 5.54 306 P Pn 10 34 56.4 -0.5
TGIG S Sn 10 35 59.2 -1.8
QCR Quepos 5.86 134⇑ eP Pn 10 35 02.2 +1.3
BUS Buena Vista 6.06 130 eP Pn 10 35 07.1 +3.1
TEIG Tepich 6.68 2 ePn Pn 10 35 10.9 -0.6
TEIG eSn Sn 10 36 27.8 +0.3
TEIG Tepich 6.68 2 P Pn 10 35 11.0 -0.6
comp=Z,7.8nm,0.3s,baz=172,slow=8,6,SNR=32
ACR Cerro Adams 7.10 132 eP Pn 10 35 18.6 +1.5
CMIG Matias Romero 7.14 301 P Pn 10 35 17.1 -0.5
CMIG S Sn 10 36 29.1 -9.3
CMIG Matias Romero 7.14 301 P Pn 10 35 17.1 -0.5
comp=Z,2.2nm,0.3s,baz=115,slow=7.0,SNR=40
CMIG S Sn 10 36 29.1 -9.3
comp=Z,12nm,0.3s,baz=46,slow=16,SNR=11
VHO Vista Hermosa 8.72 295 P Pn 10 35 34.2 -4.4
PNIG Pinotepa 9.77 288 P Pn 10 35 51.2 -0.7
MTDJ Mount Denham 11.51 65 ePn P 10 36 22.6 +2.2
GTBY Guantanamo Bay 14.29 62 eP Pn 10 36 50.3 +0.9
comp=Z,138nm,1.1s
ROSC El Rosal 16.38 120 P Pn 10 37 16.4 +1.0
ROSC El Rosal 16.38 120 P Pn 10 37 16.4 +1.0
comp=Z,0.5nm,0.3s,baz=82,slow=19,SNR=5.9
SDDR Presa de Saban 17.36 69 ePn Pn 10 37 26.5 -0.2
comp=Z,36nm,0.8s
BRAL Brewton 17.46 4 eP Pn 10 37 28.8 +1.2
comp=Z,182nm,1.3s
HKT Hockley 17.72 339 eP P 10 37 29.7 +0.9
HKT pmax pmax
comp=Z,25nm,1.0s
HKT Hockley 17.72 339 eP P 10 37 29.7 +0.9
comp=Z,25nm,1.0s
SDV Santo Domingo 18.09 103 eP P 10 37 32.8 -0.5
comp=Z,44nm,0.7s
732A Laxson Ranch, 18.54 327 ⇓P P 10 37 37.9 +0.1
baz=19
VBMS Vicksburg 18.71 355 ePn Pn 10 37 41.4 -1.0
comp=Z,399nm,0.7s
532A Rocksprings 19.62 329 ⇓P P 10 37 49.9 +0.3
baz=20
JCT Junction City 19.86 330 ⇑P P 10 37 52.3 +0.1
baz=20,SNR=17
531A Rocksprings 19.98 328 ⇓P P 10 37 53.5 +0.1
baz=20,SNR=12
WHTX Lake Whitney 20.15 337 ⇓P P 10 37 54.7 -0.4
baz=20,SNR=5.7
432A Menard 20.19 331 ⇓P P 10 37 55.6 0.0
baz=20
431A Sonora 20.43 329 ⇓P P 10 37 57.9 -0.3
baz=20,SNR=6.7
628A Black Gap, Mar 20.77 322 ⇑P P 10 38 01.8 0.0
baz=21,SNR=26
430A Baggett Ranch, 20.83 328 ⇓P P 10 38 02.2 -0.2
baz=21,SNR=14
529A Stev Forest Ra 20.85 325 ⇑P P 10 38 02.8 +0.1
baz=21,SNR=8.1
OXF Oxford 20.92 358 eP P 10 38 02.8 -0.5
OXF pmax pmax
comp=Z,48nm,0.5s
OXF Oxford 20.92 358 eP P 10 38 02.8 -0.5
comp=Z,48nm,0.5s
627A Terlingua Ranc 21.04 321 ⇑P P 10 38 04.8 0.0
baz=21,SNR=27
429A Davenport Ranc 21.05 326 ⇑P P 10 38 04.5 -0.4
baz=21,SNR=31
TXAR Lajitas Array 21.13 321 P P 10 38 05.9 +0.3
TXAR ScP ScP 10 45 22.8 +0.2
TXAR Lajitas Array 21.13 321 P P 10 38 05.9 +0.3
comp=Z,20nm,0.6s,baz=137,slow=9.5,SNR=340
TXAR ScP ScP 10 45 22.8 +0.2
comp=Z,0.4nm,0.6s,baz=148,slow=5.3,SNR=7.1
528A Cox Ranch, San 21.20 324 ⇑P P 10 38 06.0 -0.5
baz=21,SNR=7.0
428A Kincaid Ranch, 21.57 325 ⇑P P 10 38 11.1 +0.8
baz=22,SNR=22
626A Big Bend Ranch 21.57 320 ⇑P P 10 38 10.1 -0.2
baz=22,SNR=33
ABTX Abilene, Hawle 21.59 334 ⇑P P 10 38 09.8 -0.6
baz=22
527A Woodward Ranch 21.67 322 ⇑P P 10 38 10.8 -0.6
baz=22,SNR=27
JSC Jenkinsville 21.68 16 eP P 10 38 11.3 0.0
JSC Jenkinsville 21.68 16 eP P 10 38 11.3 0.0
329A Wagon Wheel Ra 21.77 327 ⇓P P 10 38 12.2 -0.2
baz=22,SNR=54
526A Mary Lane Ranc 21.90 321 ⇑P P 10 38 13.3 -0.4
baz=22,SNR=19
427A Hayter Ranch, 22.07 324 ⇓P P 10 38 15.3 0.0
baz=22,SNR=14
229A Bryant Ranch, 22.07 329 ⇑P P 10 38 15.0 -0.3
baz=22,SNR=16
328A Wristen Ranch, 22.14 326 ⇓P P 10 38 15.4 -0.4
baz=22,SNR=82
426A McDonald Obser 22.30 322 ⇓P P 10 38 16.9 -0.7
baz=22,SNR=31
TKL Tuckaleechee C 22.45 10 P P 10 38 18.5 -0.2
TKL Tuckaleechee C 22.45 10 P P 10 38 18.5 -0.2
comp=Z,113nm,0.7s,baz=182,slow=10,SNR=154
KMSC Kings Mountain 22.48 15 ⇑P P 10 38 19.2 +0.3
baz=23,SNR=31
327A Balmorhea Ranc 22.51 325 ⇑P P 10 38 19.4 +0.1
baz=23
WVT Waverly 22.53 1 eP P 10 38 18.4 -0.9
WVT pmax pmax
comp=Z,22nm,0.6s
WVT Waverly 22.53 1 eP P 10 38 18.4 -0.9
comp=Z,22nm,0.6s
228A UT Block 9, Go 22.59 327 ⇑P P 10 38 19.8 -0.3
baz=23,SNR=15
129A Stewart Farms, 22.63 329 ⇑P P 10 38 19.7 -0.7
baz=23
326A Caldwell Ranch 22.74 324 ⇑P P 10 38 21.2 -0.3
baz=23,SNR=54
ATAH Atahualpa 22.82 153 P P 10 38 26.5 +3.8
ATAH Atahualpa 22.82 153 P P 10 38 26.5 +3.8
comp=Z,14nm,0.8s,baz=11,slow=6.1,SNR=10
227A Bennet, Jal 22.88 326 ⇑P P 10 38 22.3 -0.4
baz=23,SNR=12
128A Castleberry Fa 22.93 328 ⇓P P 10 38 22.6 -0.6
baz=23,SNR=10
425A Indio Mountain 22.96 321 ⇓P P 10 38 23.4 -0.1
baz=23,SNR=25
Z29A Hungry Hill Ra 23.06 331 ⇑P P 10 38 23.8 -0.5
baz=23,SNR=41
WMOK Wichita Mounta 23.10 338 eP P 10 38 24.2 -0.3
WMOK pmax pmax
comp=Z,36nm,1.0s
WMOK Wichita Mounta 23.10 338 eP P 10 38 24.2 -0.3
comp=Z,36nm,1.0s
TUL1 Tulsa 23.25 345 ⇓P P 10 38 25.5 -0.4
baz=23,SNR=24

TZTN Tazewell 23.35 10 eP P 10 38 37.4 +11
325A Bean Ranch, Si 23.37 322 ⇑P P 10 38 26.7 -0.5
baz=23,SNR=18
226A Malaga, Loving 23.37 325 ⇓P P 10 38 27.8 +0.7
baz=24,SNR=23
Z28A Tucker Farm, M 23.42 330 ⇓P P 10 38 27.4 -0.2
baz=24,SNR=18
127A Arkansas Junct 23.43 327 ⇓P P 10 38 27.4 -0.3
baz=24,SNR=17
Y29A Porterfield Fa 23.54 332 ⇓P P 10 38 28.5 -0.2
baz=24,SNR=11
324A Moseley Ranch, 23.72 322 ⇑P P 10 38 30.1 -0.4
baz=24,SNR=41
126A Clayton Basin, 23.76 326 ⇓P P 10 38 30.6 -0.1
baz=24,SNR=11
225A Deer Hill, Car 23.81 324 ⇓P P 10 38 31.2 -0.1
baz=24,SNR=27
MNTX Cornudas Mount 23.84 322 eP P 10 38 31.0 -0.3
comp=Z,16nm,0.8s
MNTX epP pP 10 39 10.3 +2.7
MNTX Cornudas Mount 23.84 322 ⇑P P 10 38 31.2 -0.2
baz=24,SNR=25
Y28A McKinney Farm, 23.85 331 ⇑P P 10 38 31.4 -0.1
baz=24,SNR=12
Z27A Tatum 23.86 328 ⇑P P 10 38 31.4 -0.2
baz=24
X29A Tulia 24.04 332 ⇑P P 10 38 33.6 +0.4
baz=24,SNR=5.8
125A Gardner Draw, 24.12 325 ⇓P P 10 38 34.4 +0.3
baz=24,SNR=31
MSTX Muleshoe 24.16 330 ⇓P P 10 38 34.1 -0.2
baz=24,SNR=14
224A Cornudas Mount 24.20 323 ⇑P P 10 38 35.4 +0.7
baz=24,SNR=32
Z26A Caprock 24.22 327 ⇑P P 10 38 34.8 -0.1
baz=24,SNR=10
Y27A Causey 24.28 329 ⇑P P 10 38 35.3 -0.1
baz=24,SNR=36
X28A Dimmitt 24.33 332 ⇑P P 10 38 35.5 -0.4
baz=24,SNR=11
AMTX Amarillo 24.40 333 ⇑P P 10 38 36.5 0.0
baz=24,SNR=7.6
W29A Amraillo 24.59 333 ⇓P P 10 38 38.3 +0.1
baz=25,SNR=5.8
Z25A Roswell 24.62 326 ⇑P P 10 38 39.0 +0.5
baz=25,SNR=42
Y26A Elida 24.65 328 ⇑P P 10 38 39.3 +0.5
baz=25
BLA Blacksburg 24.67 16 eP P 10 38 39.0 +0.2
BLA e*PP pP 10 39 18.8 +2.3
BLA pmax pmax
comp=Z,24nm,0.7s
BLA Blacksburg 24.67 16 eP P 10 38 39.0 +0.2
comp=Z,24nm,0.7s
BLA epP pP 10 39 18.8 +2.3
223A Chaparral, Ant 24.69 321 ⇓P P 10 38 40.1 +0.9
baz=25
X27A F and S Farms, 24.86 330 ⇑P P 10 38 40.9 +0.2
baz=25,SNR=15
W28A Vega 24.95 333 ⇑P P 10 38 41.7 +0.3
baz=25
Z24A Sheeppen Canyo 25.02 325 ⇑P P 10 38 43.8 +1.6
baz=25,SNR=40
123A Bell Site, Whi 25.03 322 ⇑P P 10 38 43.7 +1.4
baz=25,SNR=6.7
Y25A Mesa, Roswell 25.10 327 ⇑P P 10 38 43.9 +1.0
baz=25,SNR=51
X26A CR and CF Fran 25.14 329 ⇓P P 10 38 43.5 +0.3
baz=25,SNR=11
V29A Stinnett 25.17 334 ⇑P P 10 38 44.0 +0.5
baz=25
W27A Bowe Ranch, En 25.18 331 ⇑P P 10 38 44.0 +0.4
baz=25,SNR=43
V28A Channing 25.37 333 ⇓P P 10 38 45.5 +0.3
baz=26,SNR=19
Z23A Rita Site, Whi 25.46 324 ⇑P P 10 38 47.7 +1.5
baz=26,SNR=9.4
Y24A Capitan 25.50 326 ⇑P P 10 38 47.8 +1.2
baz=26,SNR=38
221A Mesquite Ranch 25.53 319 ⇑P P 10 38 48.9 +2.1
baz=26,SNR=7.8
W26A Owens Ranch, T 25.54 330 ⇓P P 10 38 47.4 +0.5
baz=26,SNR=6.7
X25A Clemmons Ranch 25.55 328 ⇑P P 10 38 47.6 +0.7
baz=26,SNR=24
320A Kipp Ranch, An 25.58 317 ⇑P P 10 38 49.0 +1.7
baz=26,SNR=6.3
Y23A Lovelace Mesa, 25.85 325 ⇑P P 10 38 50.8 +1.1
baz=26,SNR=40
121A Cookes Peak, D 25.89 320 ⇑P P 10 38 52.2 +2.1
baz=26,SNR=12
Z22A Elephant Butte 25.89 322 ⇓P P 10 38 50.3 +0.2
baz=26
220A Playas Peak, P 25.95 318 ⇑P P 10 38 52.4 +1.8
baz=26,SNR=16
X24A Lazy VL Ranch, 25.99 327 ⇑P P 10 38 51.6 +0.7
baz=26,SNR=8.0
W25A X Bar L Ranch, 25.99 329 ⇑P P 10 38 51.6 +0.7
baz=26,SNR=37
319A Douglas 26.11 316 ⇑P P 10 38 52.8 +0.8
baz=26
V26A Tequesquite Ra 26.12 331 ⇑P P 10 38 52.4 +0.3
baz=26,SNR=29
BNM Barren Site 26.34 324 eP P 10 38 55.4 +1.3
comp=Z,17nm,1.2s
Z21A St. Cloud Mine 26.35 322 ⇑P P 10 38 55.5 +1.3
baz=26
Y22A Socorro 26.37 324 ⇑P P 10 38 56.4 +2.0
baz=26,SNR=26
120A U Bar Ranch, L 26.43 319 ⇑P P 10 38 57.6 +2.7
baz=26,SNR=6.9
Y22D IRIS PASSCAL I 26.45 324 ⇓P P 10 38 57.3 +2.3
baz=26
W24A Lazy 6 Ranch, 26.47 328 ⇓P P 10 38 56.1 +0.9
baz=27,SNR=32
T28A Walsh 26.48 335 ⇑P P 10 38 54.8 -0.4
baz=27,SNR=5.3
V25A Rancho No Teng 26.56 330 ⇓P P 10 38 56.8 +0.7
baz=27,SNR=59
U26A Atchley Ranch, 26.59 332 ⇑P P 10 38 56.6 +0.3
baz=27,SNR=14
T27A Campo 26.69 334 ⇑P P 10 38 57.2 +0.1
baz=27
Z20A Nine Sixteen R 26.78 320 ⇓P P 10 38 59.5 +1.5
baz=27,SNR=6.7
SFIN Scholer Farm 26.79 2 ⇑P P 10 38 56.3 -1.5
baz=27,SNR=9.4
V24A Rampart Ranch, 26.80 329 ⇑P P 10 38 58.9 +0.7
baz=27,SNR=20
LAZ Ladron 26.81 324 eP P 10 39 00.5 +2.2
comp=Z,7.0nm,1.3s
LAZ epP pP 10 39 41.5 +4.4
X22A Bernardo 26.81 324 ⇑P P 10 38 59.6 +1.3
baz=27
W23A Werner Place, 26.82 327 ⇓P P 10 38 59.8 +1.4
baz=27,SNR=37
ANMO Albuquerque 26.83 326 P P 10 38 58.9 +0.5
ANMO Albuquerque 26.83 326 P P 10 38 58.9 +0.5
comp=Z,7.3nm,0.9s,baz=149,slow=9.3,SNR=27
Y21A Point of Rocks 26.84 323 ⇑P P 10 39 00.3 +1.7
baz=27,SNR=11
U25A Circle Dot Ran 26.91 331 ⇑P P 10 38 59.4 +0.2
baz=27,SNR=11
CBKS Cedar Bluff 27.10 340 ⇑P P 10 39 01.0 +0.4
baz=27
W22A Albuquerque 27.14 325 ⇓P P 10 39 02.7 +1.4
baz=27,SNR=5.5
T26A Comanche Natio 27.16 333 ⇑P P 10 39 01.6 +0.2
baz=27
Y20A Horse Springs, 27.19 322 ⇑P P 10 39 03.1 +1.4
baz=27,SNR=11
X21A Alamocita Cree 27.21 323 ⇓P P 10 39 03.6 +1.7
baz=27,SNR=12
V23A Ortiz Mt. (NFS 27.28 327 ⇓P P 10 39 03.8 +1.3
baz=27,SNR=10
U24A Moreno Valley 27.34 329 ⇑P P 10 39 04.3 +1.2
baz=27,SNR=5.6
S26A Kim 27.48 334 ⇑P P 10 39 04.3 +0.2
baz=28
T25A Trinidad 27.50 332 ⇑P P 10 39 05.4 +1.0
baz=28,SNR=9.2
W21A San Fidel 27.61 324 ⇓P P 10 39 06.4 +0.9
baz=28
X20A Quemado 27.70 323 ⇓P P 10 39 08.2 +1.9
baz=28
U23A El Rito 27.73 328 ⇑P P 10 39 07.8 +1.3
baz=28,SNR=62
T24A Torres, Weston 27.75 331 ⇑P P 10 39 07.8 +1.1
baz=28,SNR=11
Y19A Nutrioso 27.75 321 ⇑P P 10 39 08.3 +1.5
baz=28,SNR=8.4
R27A Eads 27.76 335 ⇓P P 10 39 06.6 0.0
baz=28,SNR=9.2
V22A San Miguel Ran 27.79 327 ⇓P P 10 39 07.8 +0.7
baz=28,SNR=9.6
S25A Robets Cordova 27.94 332 ⇓P P 10 39 09.2 +0.9
baz=28,SNR=9.4
R26A Arlington 28.04 334 ⇓P P 10 39 09.4 +0.3
baz=28,SNR=7.1
W20A Ramah 28.11 323 ⇓P P 10 39 11.1 +1.2
baz=28
V21A Milan 28.11 325 ⇓P P 10 39 11.4 +1.6
baz=28,SNR=5.4
U22A Llaves 28.11 327 ⇓P P 10 39 11.2 +1.3
baz=28,SNR=13
T23A Casias Ranch, 28.20 329 ⇑P P 10 39 11.8 +1.1
baz=28,SNR=7.6
R25A Fountain Ranch 28.27 333 ⇑P P 10 39 11.8 +0.6
baz=28
S24A Houchin Ranch, 28.29 331 ⇓P P 10 39 12.2 +0.8
baz=28,SNR=6.7
KSCO Kaye Shedlock' 28.32 336 ⇑P P 10 39 12.0 +0.4
baz=28,SNR=11
SDCO Great Sand Dun 28.50 331 ⇓P P 10 39 14.5 +1.1
baz=29,SNR=20
X18A Snowflake 28.57 321 ⇑P P 10 39 14.8 +0.9
baz=29
V20A Brimhall 28.57 324 ⇓P P 10 39 14.9 +0.9
baz=29
U21A Nageezi 28.58 326 ⇓P P 10 39 15.1 +1.1
baz=29,SNR=8.5
Q26A Hugo 28.60 335 ⇑P P 10 39 14.6 +0.5
baz=29,SNR=9.8
T22A Edith 28.62 328 ⇑P P 10 39 15.2 +0.8
baz=29,SNR=8.6
S23A Nye Farm, Mont 28.71 330 ⇑P P 10 39 16.7 +1.5
baz=29
R24A Sanders Place, 28.71 332 ⇓P P 10 39 15.9 +0.8
baz=29,SNR=7.8
P27A Ficken Ranch, 28.77 337 ⇑P P 10 39 16.0 +0.4
baz=29,SNR=5.8
214A Organ Pipe Nat 28.88 313 ⇓P P 10 39 17.1 +0.5
baz=29
Q25A Bedland, Calha 28.90 334 ⇑P P 10 39 17.2 +0.4
baz=29,SNR=7.6
T21A Navajo Lake 28.93 327 ⇑P P 10 39 18.1 +1.0
baz=29,SNR=6.4
U20A Newcomb 29.01 325 ⇓P P 10 39 18.9 +1.1
baz=29
R23A Moffat 29.02 331 ⇑P P 10 39 19.0 +1.1
baz=29
BGNE Belgrade 29.05 345 ⇓P P 10 39 17.7 -0.2
baz=29,SNR=5.4
P26A Davis Ranch, A 29.07 336 ⇑P P 10 39 19.0 +0.7
baz=29
S22A 4UR Ranch, Cre 29.15 329 ⇑P P 10 39 20.2 +1.0
baz=29,SNR=20
O27A Beecher Island 29.29 338 ⇑P P 10 39 20.6 +0.6
baz=29,SNR=5.2
Q24A Divide 29.33 333 ⇓P P 10 39 21.2 +0.4
baz=29
U19A Dine' College, 29.34 324 ⇑P P 10 39 21.3 +0.5
baz=29,SNR=6.6
P25A Willow Gulch B 29.37 335 ⇓P P 10 39 21.5 +0.6
baz=30
X16A Lo Mia Camp, P 29.43 319 ⇑P P 10 39 22.7 +1.1
baz=30,SNR=13
R22A Saguache, Gunn 29.49 330 ⇓P P 10 39 23.2 +1.0
baz=30,SNR=6.2
S21A Coal Bank Pass 29.58 328 ⇓P P 10 39 23.6 +0.7
baz=30,SNR=14
Q23A Hartsel 29.59 332 ⇓P P 10 39 23.6 +0.5
baz=30
MVCO Mesa Verde 29.61 326 ⇓P P 10 39 24.1 +0.9
baz=30,SNR=14
T19A Beclabito 29.62 325 ⇓P P 10 39 23.9 +0.7
baz=30,SNR=6.9
O26A Horse Wrangler 29.65 337 ⇑P P 10 39 23.7 +0.4
baz=30
Z14A Wintersburg 29.78 316 ⇓P P 10 39 25.5 +1.1
baz=30
OGNE Ogallala 29.79 339 ⇓P P 10 39 25.3 +0.8
baz=30
N27A Anderson Farm, 29.85 338 ⇓P P 10 39 26.0 +1.0
baz=30
P23A Jefferson 29.98 332 ⇓P P 10 39 27.5 +1.0
baz=30,SNR=6.9
R21A Cimarron 29.99 329 ⇓P P 10 39 27.3 +0.8
baz=30
S20A Disappointment 30.00 327 ⇑P P 10 39 27.5 +0.9
baz=30,SNR=7.8
Q22A Crested Butte, 30.06 330 ⇑P P 10 39 28.0 +0.8
baz=30,SNR=16
WUAZ Wupatki 30.09 321 ⇑P P 10 39 27.9 +0.6
baz=30
Y14A Wickenburg 30.16 317 ⇑P P 10 39 28.6 +0.8
baz=30
ISCO Idaho Springs 30.22 333 ⇑P P 10 39 29.1 +0.6
baz=30,SNR=5.1
O24A Longmont 30.26 334 ⇑P P 10 39 29.7 +1.0
baz=30,SNR=7.1
R20A Redvale 30.28 328 ⇓P P 10 39 30.0 +1.0
baz=30,SNR=11
T18A Mexican Hat 30.32 325 ⇓P P 10 39 29.7 +0.5
baz=30,SNR=7.2
PV01 Paradox Valley 30.34 328 eP P 10 39 30.6 +1.1
comp=Z,381nm,0.7s
S19A Harvey Farm, M 30.35 326 ⇓P P 10 39 30.5 +0.8
baz=30,SNR=22
Q21A Lamborn Mesa, 30.36 330 ⇑P P 10 39 30.5 +0.8
baz=30
M27A Reverse DX Ran 30.43 339 ⇑P P 10 39 31.5 +1.3
baz=30
P22A Eagle 30.57 332 ⇓P P 10 39 32.3 +0.7
baz=31,SNR=9.2
O23A Lake Granby, G 30.69 333 ⇓P P 10 39 33.5 +0.8
baz=31,SNR=8.2
T17A Navajo Res., N 30.75 323 ⇓P P 10 39 34.3 +1.2
baz=31,SNR=6.4
S18A Hurst Farm, Bl 30.78 325 ⇑P P 10 39 34.3 +0.9
baz=31,SNR=18
Q20A Ridgley Place, 30.82 329 ⇑P P 10 39 34.5 +0.8
baz=31
R19A Curley Farm, L 30.82 327 ⇓P P 10 39 34.4 +0.6
baz=31,SNR=16
P21A Newcastle 30.84 331 ⇓P P 10 39 35.1 +1.1
baz=31,SNR=9.4
GLA Glamis 30.91 313 ⇑P P 10 39 34.9 +0.5
baz=31
O22A Kremmling 30.93 332 ⇑P P 10 39 35.3 +0.4
baz=31,SNR=10
M25A Palm-Egli Farm 30.96 337 ⇓P P 10 39 35.9 +1.1
baz=31
Y12C Blythe 31.08 315 ⇑P P 10 39 36.6 +0.7
baz=31
L26A Underwood Farm 31.12 339 ⇓P P 10 39 36.9 +0.6
baz=31
PDMCI Parker Dam,Lak 31.13 316 ⇑P P 10 39 37.5 +1.2
baz=31
S17A Black Ridge (B 31.19 324 ⇑P P 10 39 38.0 +1.1
baz=31
R18A Canyonlands Na 31.22 326 ⇑P P 10 39 37.6 +0.3
baz=31,SNR=11
U15A North Rim 31.25 321 ⇓P P 10 39 38.9 +1.2
baz=31,SNR=5.4
N23A Red Feather La 31.27 334 ⇑P P 10 39 38.4 +0.7
baz=31,SNR=5.9
P20A De Beque 31.28 329 ⇑P P 10 39 38.9 +1.1
baz=31,SNR=15
M24A Cheyenne 31.29 336 ⇓P P 10 39 38.7 +0.9
baz=31,SNR=5.7
Q19A Hogan Spring (31.31 328 ⇑P P 10 39 38.7 +0.8
baz=31,SNR=13
O21A Pagoda 31.40 331 ⇑P P 10 39 40.0 +1.2
baz=32
N22A Wattenberg Ran 31.41 333 ⇑P P 10 39 40.0 +1.0
baz=32,SNR=6.9
K27A Flueckinger Fa 31.43 340 ⇑P P 10 39 39.3 +0.4
baz=32
W13A Hualapai Mount 31.43 318 ⇑P P 10 39 40.2 +1.0
baz=32,SNR=5.6
SWSC Sam W. Stewart 31.54 312 ⇑P P 10 39 39.9 +0.1
baz=32
L25A Engebretsen Ra 31.55 338 ⇓P P 10 39 40.4 +0.4
baz=32
M23A Laramie 31.65 335 ⇓P P 10 39 41.5 +0.5
baz=32

BC3 **Big Chuckawall** 31.67 314 ⇑P P 10 39 42.1 +0.9
baz=32,SNR=5.3
P19A **Cripple Cowboy** 31.68 329 ⇓P P 10 39 41.6 +0.3
baz=32,SNR=7.9
R17A **Hanksville Air** 31.69 326 ⇑P P 10 39 42.4 +1.1
baz=32,SNR=18
O20A **White River Ci** 31.70 330 ⇑P P 10 39 42.7 +1.3
baz=32,SNR=30
S16A **Weppner Ranch,** 31.70 324 ⇓P P 10 39 41.8 +0.3
baz=32
IRM **Iron Mountain** 31.74 315 ⇑P P 10 39 42.3 +0.6
baz=32
SPMN **St. Paul** 31.82 354 ⇓P P 10 39 41.0 -1.2
baz=32,SNR=18
N21A **Black Mountain** 31.85 332 ⇓P P 10 39 44.4 +1.6
baz=32,SNR=18
Q18A **Rafter H Ranch** 31.87 327 ⇓P P 10 39 43.7 +0.8
baz=32,SNR=8.2
MONP **Monument Peak** 31.96 312 ⇓P P 10 39 44.9 +1.0
baz=32
M22A **Cedar Creek Ra** 31.96 334 ⇑P P 10 39 45.1 +1.3
baz=32
R16A **Teasdale** 32.03 325 ⇑P P 10 39 45.7 +1.3
baz=32,SNR=13
SRU **San Rafael** 32.09 327 ⇓P P 10 39 45.8 +0.9
baz=32,SNR=21
L23A **Garrett** 32.18 336 ⇑P P 10 39 46.2 +0.5
baz=32,SNR=7.4
LDFC **Landfair** 32.23 316 *e*P P 10 39 47.7 +1.7
comp=Z,5.3nm,0.5s
BELC **Belle Mtn. Jos** 32.24 314 ⇑P P 10 39 46.9 +0.7
baz=32
O19A **Miners Draw (B** 32.25 330 ⇑P P 10 39 46.8 +0.6
baz=32,SNR=11
N20A **Spence Gulch,** 32.26 331 ⇓P P 10 39 47.4 +1.1
baz=32,SNR=22
Q16A **Castle Valley** 32.30 326 ⇑P P 10 39 47.9 +1.2
baz=32,SNR=13
P18A **Preston Nutter** 32.32 328 ⇑P P 10 39 47.9 +0.9
baz=32,SNR=19
PFO **Pinyon Flat Ob** 32.36 313 ⇑P P 10 39 47.0 -0.2
baz=32
L22A **Ellis Ranch, M** 32.41 335 ⇑P P 10 39 48.9 +1.3
baz=32
R15A **Junction** 32.43 324 ⇓P P 10 39 48.9 +1.1
baz=32
GMRC **Granite Mounta** 32.44 315 ⇓P P 10 39 48.6 +0.8
baz=32
M21A **Separation Pea** 32.46 333 ⇑P P 10 39 49.1 +1.0
baz=33,SNR=9.2
P17A **Butcher Ranch,** 32.47 327 ⇑P P 10 39 49.1 +1.1
baz=33,SNR=16
O18A **Roosevelt** 32.67 329 ⇓P P 10 39 51.0 +1.2
baz=33,SNR=20
K23A **Bowen Ranch, D** 32.69 336 ⇑P P 10 39 50.6 +0.6
baz=33
N19A **John Jarvie Ra** 32.74 330 ⇓P P 10 39 50.9 +0.5
baz=33,SNR=17
M20A **Sweetwater, Wa** 32.74 332 ⇑P P 10 39 51.3 +0.8
baz=33,SNR=8.5
L21A **Rawlins** 32.76 333 ⇓P P 10 39 51.3 +0.7
baz=33,SNR=20
MURC **Murrieta** 32.89 312 ⇓P P 10 39 52.0 +0.3
baz=33
HEC **Hector,Ludlow** 32.92 315 ⇓P P 10 39 53.1 +1.1
baz=33
K22A **Casper** 32.97 335 ⇓P P 10 39 53.0 +0.6
baz=33,SNR=6.7
O17A **Robinson Place** 32.99 328 ⇓P P 10 39 54.1 +1.4
baz=33,SNR=19
P16A **Fountain Green** 33.06 326 ⇑P P 10 39 54.5 +1.2
baz=33,SNR=7.9
M19A **Rock Springs** 33.20 331 ⇓P P 10 39 54.8 +0.3
baz=33
L20A **Wamsutter** 33.22 332 ⇓P P 10 39 55.0 +0.4
baz=33,SNR=11
K21A **Alcova** 33.25 334 ⇑P P 10 39 55.1 +0.2
baz=33,SNR=6.9
I24A **Kuemmerle Ranc** 33.27 338 ⇓P P 10 39 55.7 +0.8
baz=33
P15A **Leamington** 33.37 325 ⇑P P 10 39 56.9 +1.0
baz=34,SNR=9.9
R13A **O'Grain Ranch,** 33.41 322 ⇑P P 10 39 57.7 +1.4
baz=34
GSC **Goldstone** 33.51 315 ⇑P P 10 39 57.9 +0.9
baz=34
M18A **Lyman** 33.58 330 ⇑P P 10 39 57.7 -0.1
baz=34
J22A **Midwest** 33.58 336 ⇑P P 10 39 57.9 +0.2
baz=34,SNR=8.2
SAML **Samuel** 33.59 130 *e*P P 10 39 56.2 -1.7
comp=Z,7.5nm,0.8s
SAML *ep*P pP 10 40 41.0 +3.4
N17A **Moffit Pass** 33.59 329 ⇓P P 10 39 58.8 +0.8
baz=34,SNR=13
K20A **Yellowstone Ra** 33.74 333 ⇑P P 10 39 59.3 +0.2
baz=34,SNR=9.8
L19A **Farson** 33.76 331 ⇑P P 10 39 59.7 +0.3
baz=34,SNR=11
N16A **Rees Ranch, Co** 33.86 328 ⇓P P 10 40 01.4 +1.2
baz=34,SNR=8.6
M17A **Scullys Gap (B** 33.91 329 ⇑P P 10 40 01.2 +0.6
baz=34,SNR=20
J21A **Lysite** 33.92 335 ⇓P P 10 40 01.8 +1.1
baz=34,SNR=17
L18A **Fontenelle, Gr** 33.94 331 ⇑P P 10 40 01.5 +0.6
baz=34,SNR=19
I22A **9 Mile Ranch,** 33.99 336 ⇑P P 10 40 01.7 +0.5
baz=34,SNR=12
H24A **Dirks Ranch, A** 34.02 339 ⇓P P 10 40 01.7 +0.4
baz=34,SNR=22
K19A **Absolon Red Bu** 34.10 333 ⇑P P 10 40 02.5 +0.3
baz=34
DUG **Dugway** 34.10 326 ⇑P P 10 40 03.2 +1.0
baz=34,SNR=8.5
EDW2 **Edwards Air Fo** 34.10 314 ⇑P P 10 40 02.4 +0.2
baz=34
J20A **Shoshoni** 34.19 334 ⇑P P 10 40 03.9 +1.0
baz=34,SNR=10
FURC **Furnace Creek,** 34.19 317 ⇑P P 10 40 03.7 +0.8
baz=34
LRMC **Laurel Mountai** 34.21 315 ⇑P P 10 40 03.7 +0.6
baz=34
I21A **Big Trails, Te** 34.24 335 ⇓P P 10 40 03.8 +0.5
baz=34,SNR=7.8
M16A **Huntsville** 34.27 328 ⇓P P 10 40 04.2 +0.5
baz=34
BW06 **Boulder Array** 34.37 332 ⇑P P 10 40 04.9 +0.3
baz=34,SNR=11
PDAR **Pinedale Array** 34.37 332 P P 10 40 04.5 -0.2
PDAR PcP PcP 10 42 34.7 -1.3
PDAR **Pinedale Array** 34.37 332 P P 10 40 04.5 -0.2
comp=Z,6.2nm,0.8s,baz=129,slow=9.9,SNR=49
PDAR PcP PcP 10 42 34.7 -1.3
comp=Z,0.5nm,0.6s,baz=139,slow=5.6,SNR=3.2
MPMC **Manual Prospec** 34.39 316 ⇓P P 10 40 05.4 +0.6
baz=34,SNR=5.3
G24A **Alzada** 34.48 340 ⇑P P 10 40 06.0 +0.7
baz=35,SNR=11
L17A **Cokeville** 34.48 330 ⇑P P 10 40 05.9 +0.4
baz=35,SNR=36
K18A **Toltan Ranch,** 34.49 331 ⇓P P 10 40 06.8 +1.1
baz=35,SNR=42
R11A **Troy Canyon, C** 34.49 321 ⇑P P 10 40 06.2 +0.5
baz=35
H22A **Clearmont** 34.53 337 ⇓P P 10 40 06.2 +0.4
baz=35
J19A **Crowheart** 34.54 333 ⇑P P 10 40 06.2 +0.2
baz=35,SNR=16
L16A **Fish Haven** 34.69 329 ⇓P P 10 40 07.7 +0.4
baz=35,SNR=33
I20A **Worland** 34.70 335 ⇓P P 10 40 07.9 +0.7
baz=35,SNR=17
G23A **Biddle** 34.70 339 ⇓P P 10 40 07.3 +0.1
baz=35,SNR=9.2
M15A **Larsen Ranch,** 34.80 328 ⇑P P 10 40 09.0 +0.8
baz=35,SNR=20
H21A **Big Horn, Sher** 34.82 337 ⇑P P 10 40 08.2 -0.1
baz=35,SNR=13
J18A **Kendall Valley** 34.93 332 ⇑P P 10 40 09.9 +0.5
baz=35,SNR=61
F24A **Ekalaka** 34.95 340 ⇓P P 10 40 09.5 +0.2
baz=35,SNR=30
K17A **Gardner Place,** 35.00 331 ⇑P P 10 40 10.3 +0.4
baz=35,SNR=26
G22A **Birney** 35.04 338 ⇑P P 10 40 09.9 -0.3
baz=35,SNR=7.4
H20A **Greybull** 35.09 335 ⇑P P 10 40 10.4 -0.1
baz=35,SNR=14
I19A **Meeteetse** 35.13 334 ⇓P P 10 40 12.1 +1.0
baz=35,SNR=14
F23A **Volborg** 35.16 339 ⇑P P 10 40 11.2 +0.1
baz=35,SNR=15
L15A **Malad City** 35.16 328 ⇑P P 10 40 11.9 +0.6
baz=35,SNR=44
I18A **Diamond G Ranc** 35.23 333 ⇓P P 10 40 12.6 +0.7
baz=35,SNR=26
VES **Vestal, Richgr** 35.37 314 ⇓P P 10 40 12.5 -0.4
baz=35
J17A **Brown Place, J** 35.37 332 ⇑P P 10 40 14.1 +1.0
baz=36,SNR=75
K16A **Soda Springs** 35.38 330 ⇓P P 10 40 13.8 +0.6
baz=36,SNR=6.9
G21A **Lodge Grass** 35.39 337 ⇓P P 10 40 12.8 -0.3
baz=36,SNR=12
PKM **Peak Mountain** 35.41 312 ⇓P P 10 40 14.2 +0.7
baz=36
MDND **Maddock** 35.47 347 ⇓P P 10 40 13.5 -0.2
baz=36,SNR=24
F22A **Rosebud** 35.51 338 ⇓P P 10 40 14.0 -0.1
baz=36,SNR=8.8
E24A **Baker** 35.54 341 ⇓P P 10 40 14.9 +0.6
baz=36,SNR=16
L14A **Malta** 35.63 328 ⇓P P 10 40 15.9 +0.7
baz=36,SNR=37
H19A **Powell** 35.64 335 ⇓P P 10 40 15.7 +0.3
baz=36,SNR=10
J16A **Bone** 35.72 331 ⇑P P 10 40 16.8 +0.7
baz=36,SNR=39
K15A **Arbon** 35.73 329 ⇓P P 10 40 16.7 +0.5
baz=36,SNR=28
I17A **Pilgrim Ck.** 35.74 332 ⇑P P 10 40 17.3 +1.0
baz=36,SNR=28
G20A **Bridger** 35.78 336 ⇓P P 10 40 16.4 0.0
baz=36,SNR=14
LPAZ **La Paz** 35.79 145 P P 10 40 18.5 +1.1
LPAZ PcP PcP 10 42 40.8 -0.2
LPAZ ScP ScP 10 46 09.8 +0.7
LPAZ **La Paz** 35.79 145 P P 10 40 18.5 +1.1
comp=Z,1.0nm,0.5s,baz=352,slow=5.2,SNR=6.9
LPAZ PcP PcP 10 42 40.8 -0.2
comp=Z,1.0nm,0.5s,baz=353,slow=5.1,SNR=4.6
LPAZ ScP ScP 10 46 09.8 +0.7
comp=Z,2.8nm,1.1s,baz=7.1,slow=6.2,SNR=6.2
E23A **Ismay** 35.80 340 ⇑P P 10 40 16.6 0.0
baz=36,SNR=16
H18A **Shoshone NF, C** 35.93 334 ⇑P P 10 40 18.2 +0.3
baz=36,SNR=31
K14A **Jones Ranch, D** 35.96 328 ⇑P P 10 40 18.6 +0.5
baz=36,SNR=70
E22A **Miles City** 35.97 339 ⇑P P 10 40 18.2 +0.2
baz=36,SNR=17
D24A **Glendive** 36.04 342 ⇑P P 10 40 19.1 +0.6
baz=36,SNR=16
H17A **Grant Village** 36.11 333 ⇑P P 10 40 20.4 +1.0
baz=36,SNR=6.9
I16A **Newdale** 36.12 331 ⇓P P 10 40 20.1 +0.6
baz=36,SNR=12
RLMT **Red Lodge** 36.12 335 ⇑P P 10 40 19.8 +0.2
baz=36,SNR=19
J15A **Blackfoot** 36.22 330 ⇑P P 10 40 21.2 +1.0
baz=36,SNR=33
F20A **Billings** 36.23 337 ⇑P P 10 40 20.6 +0.3
baz=36,SNR=23
NVAR **Mina Array Bea** 36.25 319 P P 10 40 21.9 +1.2
NVAR pP pP 10 41 00.5 -0.3
NVAR PcP PcP 10 42 41.7 +0.1
NVAR ScP ScP 10 46 09.5 -0.5
NVAR **Mina Array Bea** 36.25 319 P P 10 40 21.9 +1.2
comp=Z,3.5nm,0.7s,baz=130,slow=7.6,SNR=34
NVAR pP pP 10 41 00.5 -0.3
comp=Z,2.2nm,0.9s,baz=137,slow=9.3,SNR=3.4
NVAR PcP PcP 10 42 41.7 +0.1
comp=Z,0.8nm,0.6s,baz=146,slow=2.6,SNR=4.2
NVAR ScP ScP 10 46 09.5 -0.5
comp=Z,0.5nm,0.5s,baz=129,slow=4.4,SNR=5.1
YFT **Old Faithful** 36.27 333 *e*P P 10 40 22.6 +1.9
comp=Z,39nm,1.1s
D23A **Lindsay** 36.37 341 ⇑P P 10 40 22.0 +0.6
baz=36,SNR=16
G18A **Lazy EL Ranch,** 36.41 335 ⇓P P 10 40 22.0 +0.2
baz=36,SNR=28
C24A **Savage** 36.44 342 ⇑P P 10 40 22.5 +0.6
baz=36,SNR=22
E21A **Keefer Ranch,** 36.46 338 ⇓P P 10 40 22.5 +0.4
baz=37
YMR **Madison River** 36.50 333 *e*P P 10 40 23.9 +1.2
comp=Z,50nm,0.9s
F19A **Roth Farm, Mol** 36.59 336 ⇑P P 10 40 23.5 +0.2
baz=37,SNR=23
H16A **Russell Place,** 36.65 332 ⇑P P 10 40 25.0 +1.0
baz=37
D22A **Cohagen** 36.67 340 ⇑P P 10 40 24.6 +0.7
baz=37,SNR=22
I15A **Monteview** 36.69 331 ⇓P P 10 40 25.6 +1.4
baz=37
J14A **Carey** 36.70 329 ⇑P P 10 40 25.5 +1.2
baz=37
E20A **Meyer Farm, Mu** 36.81 337 ⇓P P 10 40 25.9 +0.8
baz=37,SNR=28
GCMT **Greycliff** 36.83 335 *e*P P 10 40 25.6 +0.2
comp=Z,7.2nm,0.4s
G17A **Pierce Place,** 36.91 334 ⇓P P 10 40 28.8 +2.8
baz=37,SNR=30
C23A **Lambert** 36.91 341 ⇑P P 10 40 26.5 +0.5
baz=37,SNR=23
F18A **Big Timber** 36.94 335 ⇑P P 10 40 26.7 +0.4
baz=37,SNR=24
E19A **Rath Farm, Rou** 37.03 337 ⇓P P 10 40 27.3 +0.3
baz=37,SNR=12
J13A **Cove Ranch, Pi** 37.08 328 ⇓P P 10 40 28.1 +0.6
baz=37,SNR=16
C22A **Vida** 37.09 340 ⇑P P 10 40 28.1 +0.7
baz=37,SNR=43
I14A **Mackay** 37.10 330 ⇑P P 10 40 29.1 +1.3
baz=37,SNR=28
ULM **Lac du Bonnet** 37.13 352 P P 10 40 25.8 -1.8
ULM **Lac du Bonnet** 37.13 352 P P 10 40 25.8 -1.8
comp=Z,44nm,0.6s,baz=169,slow=9.0,SNR=106
DGMT **Dagmar** 37.21 343 ⇓P P 10 40 28.8 +0.4
baz=37,SNR=45
H15A **Lima** 37.23 331 ⇑P P 10 40 30.6 +1.8
baz=37,SNR=52
G16A **Moss Hill, Enn** 37.31 332 ⇑P P 10 40 30.8 +1.4
baz=37,SNR=31
D20A **Manuel Ranch,** 37.31 338 ⇑P P 10 40 30.2 +0.9
baz=37
HLID **Hailey** 37.32 328 ⇑P P 10 40 30.2 +0.7
baz=37,SNR=20
F17A **Fitzpatrick Pl** 37.34 334 ⇑P P 10 40 30.7 +1.0
baz=37,SNR=18
I13A **Wildhorse Cree** 37.42 329 ⇑P P 10 40 31.7 +1.2
baz=38,SNR=26
B23A **Brockton** 37.44 342 ⇑P P 10 40 31.2 +0.9
baz=38,SNR=32
MCMT **McKenzie Canyo** 37.48 331 *e*P P 10 40 32.6 +1.6
comp=Z,30nm,0.7s
MCMT *ep*P pP 10 41 15.3 +4.0
BOZ **Bozeman (W)** 37.55 333 *e*P P 10 40 31.9 +0.4
BOZ pmax pmax
comp=Z,13nm,0.8s
BOZ **Bozeman (W)** 37.55 333 *e*P P 10 40 31.9 +0.4
comp=Z,13nm,0.8s
BOZ **Bozeman (W)** 37.55 333 ⇓P P 10 40 32.0 +0.6
baz=38,SNR=29
E18A **Harlowton** 37.56 336 ⇓P P 10 40 32.0 +0.5
baz=38,SNR=12
C21A **Desert Coulee** 37.56 339 ⇓P P 10 40 32.0 +0.6
baz=38,SNR=14
A24A **Westby** 37.57 343 ⇓P P 10 40 31.9 +0.5
baz=38,SNR=20
G15A **Dillon** 37.57 332 ⇑P P 10 40 33.0 +1.3
baz=38,SNR=61
H14A **Leadore** 37.57 330 ⇑P P 10 40 33.3 +1.6
baz=38,SNR=51
B22A **Reddig Ranch S** 37.61 341 ⇓P P 10 40 32.2 +0.4
baz=38,SNR=13
D19A **Cripps Ranch,** 37.65 337 ⇑P P 10 40 32.8 +0.6
baz=38,SNR=31
F16A **Kennard Place,** 37.66 333 ⇑P P 10 40 33.2 +0.9
baz=38,SNR=25
WCN **Washoe City** 37.68 319 ⇑P P 10 40 33.9 +1.3
baz=38
C20A **Veseth Ranch,** 37.79 338 ⇑P P 10 40 33.9 +0.6
baz=38,SNR=16
A23A **Redstone** 37.85 342 ⇓P P 10 40 34.5 +0.8
baz=38,SNR=12
I12A **Atlanta** 37.85 328 ⇑P P 10 40 34.7 +0.6
baz=38
E17A **Martinsdale** 37.86 335 ⇑P P 10 40 34.7 +0.6
baz=38
MFID **Camas Ranch** 37.95 327 ⇓P P 10 40 35.7 +0.9
baz=38
H13A **Challis** 37.96 330 ⇑P P 10 40 35.9 +1.0
baz=38,SNR=49
D18A **Linhart Farms,** 38.03 336 ⇓P P 10 40 36.1 +0.7
baz=38,SNR=16
G14A **Jackson** 38.08 331 ⇓P P 10 40 36.7 +0.7
baz=38,SNR=27
F15A **Butte** 38.09 333 ⇓P P 10 40 36.8 +0.8
baz=38,SNR=24
C19A **Slack Wire Ran** 38.19 337 ⇓P P 10 40 37.3 +0.6
baz=38,SNR=29
A22A **Carney Farms,** 38.20 341 ⇓P P 10 40 37.5 +0.8
baz=38,SNR=21
H12A **Diamond D Ranc** 38.25 329 ⇑P P 10 40 38.2 +0.9
baz=38,SNR=25
E16A **East Helena** 38.27 334 ⇑P P 10 40 38.0 +0.6
baz=38,SNR=28
G13A **Cobalt** 38.34 330 ⇑P P 10 40 38.5 +0.5
baz=38,SNR=19
D17A **Six Diamond Ra** 38.35 335 ⇓P P 10 40 38.6 +0.5
baz=38,SNR=31
B20A **Solberg Farm,** 38.41 339 ⇓P P 10 40 39.1 +0.7
baz=38,SNR=12
F14A **Wisdom** 38.46 332 ⇓P P 10 40 39.7 +0.6
baz=39,SNR=22
A21A **Bergtoll Ranch** 38.52 340 ⇑P P 10 40 40.1 +0.8
baz=39,SNR=16
E15A **Deer Lodge** 38.60 333 ⇑P P 10 40 40.9 +0.7
baz=39,SNR=32
D16A **Dana Ranch, Ca** 38.60 335 ⇑P P 10 40 40.9 +0.7
baz=39,SNR=15
EGMT **Eagleton** 38.69 337 ⇑P P 10 40 41.6 +0.7
baz=39,SNR=17
B19A **Brinkman Farms** 38.75 338 ⇓P P 10 40 41.8 +0.5
baz=39,SNR=6.7
A20A **Cobblestone Ra** 38.75 339 ⇑P P 10 40 42.0 +0.7
baz=39,SNR=42
C17A **Wharram Farm,** 38.77 336 ⇑P P 10 40 42.0 +0.5
baz=39,SNR=27
F13A **Darby** 38.90 331 ⇓P P 10 40 42.9 +0.2
baz=39,SNR=54
G12A **Big Creek, Yel** 38.90 329 ⇓P P 10 40 43.3 +0.5
baz=39,SNR=17
E14A **Clinton** 38.98 332 ⇓P P 10 40 43.9 +0.5
baz=39,SNR=22
B18A **Beardsley Farm** 39.01 337 ⇑P P 10 40 44.1 +0.6
baz=39,SNR=11
D15A **Lincoln** 39.03 334 ⇓P P 10 40 44.3 +0.6
baz=39,SNR=30
A19A **Klindworth Far** 39.08 339 ⇑P P 10 40 44.4 +0.3
baz=39,SNR=13
C16A **Fuhringer Ranc** 39.30 335 ⇑P P 10 40 46.2 +0.3
baz=39,SNR=5.4
E13A **Victor** 39.31 332 ⇑P P 10 40 46.3 +0.3
baz=39,SNR=42
F12A **Elk City** 39.31 330 ⇓P P 10 40 46.6 +0.5
baz=39,SNR=74
B17A **L&G Farms, Che** 39.31 336 ⇓P P 10 40 46.1 +0.1
baz=39
A18A **Metzger Ranch,** 39.47 338 ⇑P P 10 40 47.6 +0.3
baz=40,SNR=18
D14A **Greenough** 39.49 333 ⇑P P 10 40 47.5 -0.1
baz=40,SNR=14
MSO **Missoula** 39.49 332 ⇓P P 10 40 48.0 +0.5
baz=40,SNR=25
C15A **Salmond Ranch,** 39.63 334 ⇑P P 10 40 49.6 +0.9
baz=40,SNR=26
BMO **Blue Mountains** 39.71 328 *e*P P 10 40 48.7 -0.7
comp=Z,2.8nm,0.7s
BMO *es*P sP 10 41 50.2 -1.6
B16A **M & M Farms, S** 39.77 336 ⇑P P 10 40 49.5 -0.3
baz=40,SNR=12
A17A **Triple J Farms** 39.81 337 ⇓P P 10 40 50.3 +0.2
baz=40,SNR=26
D13A **Huson** 39.92 332 ⇑P P 10 40 51.2 +0.2
baz=40,SNR=30
E12A **Beaver Dam Sad** 39.94 331 ⇓P P 10 40 51.1 -0.2
baz=40,SNR=20
B15A **Bradely Ranch,** 40.04 335 ⇓P P 10 40 52.0 0.0
baz=40,SNR=14
C14A **Swan Lake** 40.12 333 ⇑P P 10 40 53.1 +0.4
baz=40
A16A **West Butte Ran** 40.16 336 ⇓P P 10 40 53.1 +0.1
baz=40
D12A **Red Rues Fores** 40.30 331 ⇑P P 10 40 54.2 0.0
baz=40
B14A **Marquette Ranc** 40.37 334 ⇓P P 10 40 54.7 -0.1
baz=40,SNR=5.9
C13A **Hot Springs** 40.41 333 ⇑P P 10 40 55.3 +0.2
baz=40,SNR=12
A15A **Johnson Ranch,** 40.63 335 ⇓P P 10 40 57.1 +0.2
baz=41,SNR=34
C12B **Naegeli Ranch,** 40.84 332 ⇑P P 10 40 58.9 +0.3
baz=41,SNR=5.1
B13A **Whitefish** 40.89 333 ⇑P P 10 40 59.5 +0.5
baz=41,SNR=12
A14A **Double T Ranch** 40.91 335 ⇓P P 10 40 59.8 +0.7
baz=41,SNR=60
WALA **Waterton Lakes** 41.18 335 *e*P P 10 41 01.8 +0.4
comp=Z,0.3nm,0.6s
A13A **Flathead Natio** 41.29 334 ⇓P P 10 41 03.3 +1.0
baz=41
C11A **Tepee Creek (N** 41.30 332 ⇓P P 10 41 02.6 +0.4
baz=41
B12A **Libby** 41.46 333 ⇑P P 10 41 04.1 +0.5
baz=42,SNR=14
A12A **Yaak River Ran** 41.83 333 ⇑P P 10 41 07.2 +0.6
baz=42,SNR=11
NEW **Newport** 42.01 331 ⇓P P 10 41 07.6 -0.4
baz=42,SNR=9.1
FFC **Flin Flon** 42.46 348 *i*P P 10 41 11.2 -0.3
FFC **Flin Flon** 42.46 348 *e*P P 10 41 11.1 -0.4
comp=Z,3nm,0.6s
ASR **Mount Adams--S** 42.84 326 P P 10 41 15.9 +1.0
TBM **Table Mountain** 42.97 328 P P 10 41 16.5 +0.7
NLW **Nelson Butte** 43.43 329 P P 10 41 19.7 +0.1
SCHQ **Schefferville** 44.56 18 P P 10 41 26.6 -1.7
SCHQ pP pP 10 42 09.2 -0.6
SCHQ **Schefferville** 44.56 18 P P 10 41 26.6 -1.7
comp=Z,40nm,0.9s,baz=214,slow=6.5,SNR=73
SCHQ pP pP 10 42 09.2 -0.6
comp=Z,8.5nm,1.0s,baz=233,slow=9.1,SNR=2.1
NLWA **Neilton Lookou** 44.84 326 *e*P P 10 41 30.8 +0.1
comp=Z,5.0nm,0.6s
OSD **Olympics--Snow** 45.01 327 P P 10 41 32.9 +0.7
CFAA **Coronel Fontan** 48.88 157 PcP PcP 10 43 24.4 +0.8
CFAA ScP ScP 10 47 01.8 +1.4
CFAA **Coronel Fontan** 48.88 157 PcP PcP 10 43 24.4 +0.8
comp=Z,0.6nm,1.0s,baz=270,slow=7.9,SNR=4.0
CFAA ScP ScP 10 47 01.8 +1.4
comp=Z,0.7nm,1.0s,baz=334,slow=5.0,SNR=5.2
CPUP **Villa Florida** 49.86 143 P P 10 42 08.6 -0.9
CPUP PcP PcP 10 43 27.6 +0.4
CPUP **Villa Florida** 49.86 143 P P 10 42 08.6 -0.9
comp=Z,1.5nm,0.5s,baz=304,slow=7.7,SNR=8.2
CPUP PcP PcP 10 43 27.6 +0.4
comp=Z,1.9nm,0.5s,baz=295,slow=3.6,SNR=7.7
YKA **Yellowknife Ar** 52.33 345 P P 10 42 26.4 -1.0
YKA pP pP 10 43 10.7 +0.5
YKA **Yellowknife Ar** 52.33 345 P P 10 42 26.4 -1.0
comp=Z,14nm,0.7s,baz=136,slow=8.1,SNR=309
YKA pP pP 10 43 10.7 +0.5
comp=Z,6.9nm,0.9s,baz=142,slow=7.6,SNR=5.3
DLBC **Dease Lake** 54.53 335 *e*P P 10 42 44.0 +0.5
DLBC *ep*P pP 10 43 28.5 +1.8
SFJD **Kangerlussuaq** 58.98 16 *i*P P 10 43 12.6 -2.0
comp=Z,14nm,0.8s
RES **Resolute Bay** 61.27 358 *e*P P 10 43 28.3 -1.8
comp=Z,6.2nm,0.6s
ILAR **Eielson Array** 64.65 336 P P 10 43 51.2 -1.3
ILAR pP pP 10 44 36.5 -0.7
ILAR PP PP 10 46 14.3 -2.8
ILAR **Eielson Array** 64.65 336 P P 10 43 51.2 -1.3
comp=Z,4.5nm,0.7s,baz=163,slow=4.7,SNR=74
ILAR pP pP 10 44 36.5 -0.7
comp=Z,1.1nm,0.8s,baz=166,slow=5.0,SNR=2.5
ILAR PP PP 10 46 14.3 -2.8
comp=Z,0.9nm,0.9s,baz=101,slow=7.6,SNR=4.3
COLA **College** 65.07 336 *e*P P 10 43 54.8 -0.4
COLA pmax pmax
comp=Z,3.0nm,0.8s

COLA	**College**	**65.07**	**336**	*e*P		**P**	**10 43 54.8**	**-0.4**
	comp=Z,2.7nm,0.8s								
SUMG	**Summit**	**65.81**	**15**	*i* P		**P**	**10 43 59.4**	**-0.9**
SUMG				*i*			10 44 47.4		
SUMG					pmax	pmax			
	comp=Z,10.0nm,1.1s								
SUMG	**Summit**	**65.81**	**15**	*e*P		**P**	**10 43 59.5**	**-0.8**
	comp=Z,47nm,1.4s								
SUMG	**Summit**	**65.81**	**15**	*i* P		**P**	**10 43 59.4**	**-0.9**
	comp=Z,10nm,1.1s								
SUMG				*i*			10 44 47.4		
EVOP	**Sao Brissos**	**74.22**	**53**	*e*P		**P**	**10 44 51.2**	**-0.4**
EVOP					pmax	pmax			
	comp=Z,18nm,0.8s								
EVOP	**Sao Brissos**	**74.22**	**53**	*e*P		**P**	**10 44 51.2**	**-0.4**
	comp=Z,18nm,0.8s								
EVO	**Evora**	**74.30**	**53**	*e*P		**P**	**10 44 51.2**	**-0.9**
	comp=Z,18nm,0.8s								
ROSF	**Rostrenen**	**76.86**	**43**	*e*P		**P**	**10 45 05.0**	**-1.4**
ROSF	**Rostrenen**	**76.86**	**43**	*e*P		**P**	**10 45 05.0**	**-1.4**
ROSF	**Rostrenen**	**76.86**	**43**	*e*P		**P**	**10 45 05.0**	**-1.4**
QUIF	**Quistinic**	**76.97**	**43**	*e*P		**P**	**10 45 05.9**	**-1.2**
	comp=Z,6.0nm,0.6s								
QUIF	**Quistinic**	**76.97**	**43**	*e*P		**P**	**10 45 05.9**	**-1.2**
QUIF					pmax	pmax			
	comp=Z,6.0nm,0.6s								
QUIF	**Quistinic**	**76.97**	**43**	*e*P		**P**	**10 45 05.9**	**-1.2**
	comp=Z,6.0nm,0.6s								
ESDC	**Sonseca Array**	**77.32**	**52**	P		**P**	**10 45 08.9**	**-0.3**
ESDC				pP		**pP**	**10 45 55.0**	**-0.4**
ESDC	**Sonseca Array**	**77.32**	**52**	P		**P**	**10 45 08.9**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=285,slow=5.4,SNR=7.6								
ESDC				pP		**pP**	**10 45 55.0**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=234,slow=4.9,SNR=2.6								
SGMF	**Saint Gilles**	**77.34**	**43**	*e*P		**P**	**10 45 07.6**	**-1.5**
	comp=Z,4.0nm,0.6s								
SGMF	**Saint Gilles**	**77.34**	**43**	*e*P		**P**	**10 45 07.6**	**-1.5**
SGMF					pmax	pmax			
	comp=Z,4.0nm,0.6s								
SGMF	**Saint Gilles**	**77.34**	**43**	*e*P		**P**	**10 45 07.6**	**-1.5**
	comp=Z,4.0nm,0.6s								
GRR	**Gorron**	**78.45**	**43**	*e*P		**P**	**10 45 14.0**	**-1.3**
	comp=Z,18nm,0.8s								
GRR	**Gorron**	**78.45**	**43**	*e*P		**P**	**10 45 14.0**	**-1.3**
GRR					pmax	pmax			
	comp=Z,18nm,0.8s								
GRR	**Gorron**	**78.45**	**43**	*e*P		**P**	**10 45 14.0**	**-1.3**
	comp=Z,18nm,0.8s								
FLN	**La Foliniere**	**78.65**	**42**	*e*P		**P**	**10 45 15.0**	**-1.3**
	comp=Z,14nm,0.8s								
FLN	**La Foliniere**	**78.65**	**42**	*e*P		**P**	**10 45 15.0**	**-1.3**
FLN					pmax	pmax			
	comp=Z,14nm,0.8s								
FLN	**La Foliniere**	**78.65**	**42**	*e*P		**P**	**10 45 15.0**	**-1.3**
	comp=Z,14nm,0.8s								
LDF	**La Druitiere**	**78.91**	**43**	*e*P		**P**	**10 45 16.5**	**-1.3**
	comp=Z,7.9nm,0.7s								
LDF	**La Druitiere**	**78.91**	**43**	*e*P		**P**	**10 45 16.5**	**-1.3**
LDF					pmax	pmax			
	comp=Z,8.0nm,0.7s								
LDF	**La Druitiere**	**78.91**	**43**	*e*P		**P**	**10 45 16.5**	**-1.3**
	comp=Z,7.9nm,0.7s								
MFF	**Saint Martin d**	**79.17**	**45**	*e*P		**P**	**10 45 17.9**	**-1.3**
	comp=Z,9.0nm,0.8s								
MFF	**Saint Martin d**	**79.17**	**45**	*e*P		**P**	**10 45 17.9**	**-1.3**
MFF					pmax	pmax			
	comp=Z,9.0nm,0.8s								
MFF	**Saint Martin d**	**79.17**	**45**	*e*P		**P**	**10 45 17.9**	**-1.3**
	comp=Z,9.0nm,0.8s								
ETSF	**Etsaut**	**79.42**	**48**	*e*P		**P**	**10 45 19.2**	**-1.6**
ETSF	**Etsaut**	**79.42**	**48**	*e*P		**P**	**10 45 19.2**	**-1.6**
ETSF	**Etsaut**	**79.42**	**48**	*e*P		**P**	**10 45 19.2**	**-1.6**
EPF	**Esparros**	**80.05**	**48**	*e*P		**P**	**10 45 23.3**	**-0.8**
EPF	**Esparros**	**80.05**	**48**	*e*P		**P**	**10 45 23.3**	**-0.8**
EPF	**Esparros**	**80.05**	**48**	*e*P		**P**	**10 45 23.3**	**-0.8**
TCF	**Toulx Ste Croi**	**80.83**	**45**	*e*P		**P**	**10 45 26.6**	**-1.6**
TCF	**Toulx Ste Croi**	**80.83**	**45**	*e*P		**P**	**10 45 26.6**	**-1.6**
TCF	**Toulx Ste Croi**	**80.83**	**45**	*e*P		**P**	**10 45 26.6**	**-1.6**
BAIF	**Baives**	**81.47**	**41**	*e*P		**P**	**10 45 30.1**	**-1.3**
BAIF	**Baives**	**81.47**	**41**	*e*P		**P**	**10 45 30.1**	**-1.3**
BAIF	**Baives**	**81.47**	**41**	*e*P		**P**	**10 45 30.1**	**-1.3**
AVF	**Avril sur Loir**	**81.52**	**44**	*e*P		**P**	**10 45 30.5**	**-1.2**
AVF	**Avril sur Loir**	**81.52**	**44**	*e*P		**P**	**10 45 30.5**	**-1.2**
AVF	**Avril sur Loir**	**81.52**	**44**	*e*P		**P**	**10 45 30.5**	**-1.2**
SSF	**Saint Saulge**	**81.57**	**44**	*e*P		**P**	**10 45 30.3**	**-1.7**
SSF	**Saint Saulge**	**81.57**	**44**	*e*P		**P**	**10 45 30.3**	**-1.7**
SSF	**Saint Saulge**	**81.57**	**44**	*e*P		**P**	**10 45 30.3**	**-1.7**
LOR	**Lormes**	**81.77**	**43**	*e*P		**P**	**10 45 31.6**	**-1.5**
LOR	**Lormes**	**81.77**	**43**	*e*P		**P**	**10 45 31.6**	**-1.5**
GIVF	**Givet**	**81.85**	**40**	*e*P		**P**	**10 45 32.1**	**-1.3**
GIVF	**Givet**	**81.85**	**40**	*e*P		**P**	**10 45 32.1**	**-1.3**
GIVF	**Givet**	**81.85**	**40**	*e*P		**P**	**10 45 32.1**	**-1.3**
MEZF	**Maizieres J'vi**	**82.32**	**42**	*e*P		**P**	**10 45 34.7**	**-1.1**
	comp=Z,7.4nm,0.4s								
MEZF	**Maizieres J'vi**	**82.32**	**42**	*e*P		**P**	**10 45 34.7**	**-1.1**
	comp=Z,7.4nm,0.4s								
SFTF	**Sexfontaines**	**82.37**	**42**	*e*P		**P**	**10 45 34.8**	**-1.3**
SFTF	**Sexfontaines**	**82.37**	**42**	*e*P		**P**	**10 45 34.8**	**-1.3**
PAGF	**Fort de Pagny**	**82.74**	**42**	*e*P		**P**	**10 45 37.0**	**-1.1**
PAGF	**Fort de Pagny**	**82.74**	**42**	*e*P		**P**	**10 45 37.0**	**-1.1**
VIVF	**Saint-Julien-l**	**82.80**	**46**	*e*P		**P**	**10 45 37.8**	**-0.7**
VIVF	**Saint-Julien-l**	**82.80**	**46**	*e*P		**P**	**10 45 37.8**	**-0.7**
VIVF	**Saint-Julien-l**	**82.80**	**46**	*e*P		**P**	**10 45 37.8**	**-0.7**
NB2	**NORSAR Subarra**	**82.92**	**29**	P		**P**	**10 45 38.3**	**-0.5**
	comp=Z,3.5nm,1.0s,baz=289,slow=5.3								
NOA	**NORSAR Array B**	**82.92**	**29**	P		**P**	**10 45 38.5**	**-0.2**
NOA	**NORSAR Array B**	**82.92**	**29**	P		**P**	**10 45 38.5**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=295,slow=5.3,SNR=4.7								
BILL	**Bilibino**	**83.17**	**339**	*e*P		P	10 45 35.6	-4.3
BILL				*e*			10 48 53.2		
BILL					pmax	pmax			
	comp=Z,5.0nm,1.2s								
HAU	**Haudompre**	**83.27**	**42**	*e*P		**P**	**10 45 39.5**	**-1.3**
HAU	**Haudompre**	**83.27**	**42**	*e*P		**P**	**10 45 39.5**	**-1.3**
HAU	**Haudompre**	**83.27**	**42**	*e*P		**P**	**10 45 39.5**	**-1.3**
CABF	**La Chapelle**	**83.40**	**44**	*e*P		**P**	**10 45 40.5**	**-1.1**
	comp=Z,13nm,0.8s								
CABF	**La Chapelle**	**83.40**	**44**	*e*P		**P**	**10 45 40.5**	**-1.1**
CABF					pmax	pmax			
	comp=Z,13nm,0.8s								
CABF	**La Chapelle**	**83.40**	**44**	*e*P		**P**	**10 45 40.5**	**-1.1**
	comp=Z,13nm,0.8s								
HINF	**Hinteralfeld**	**83.64**	**42**	*e*P		**P**	**10 45 41.2**	**-1.5**
HINF	**Hinteralfeld**	**83.64**	**42**	*e*P		**P**	**10 45 41.2**	**-1.5**
HINF	**Hinteralfeld**	**83.64**	**42**	*e*P		**P**	**10 45 41.2**	**-1.5**
CDF	**Champ du Feu**	**83.78**	**42**	*e*P		**P**	**10 45 42.2**	**-1.3**
	comp=Z,5.4nm,0.8s								
CDF	**Champ du Feu**	**83.78**	**42**	*e*P		**P**	**10 45 42.2**	**-1.3**
CDF					pmax	pmax			
	comp=Z,5.0nm,0.8s								
CDF	**Champ du Feu**	**83.78**	**42**	*e*P		**P**	**10 45 42.2**	**-1.3**
	comp=Z,5.4nm,0.8s								
MBDF	**Montbardon**	**84.29**	**46**	*e*P		**P**	**10 45 45.6**	**-0.6**
MBDF	**Montbardon**	**84.29**	**46**	*e*P		**P**	**10 45 45.6**	**-0.6**
MBDF	**Montbardon**	**84.29**	**46**	*e*P		**P**	**10 45 45.6**	**-0.6**
LMR	**La Mourre**	**84.42**	**47**	*e*P		**P**	**10 45 46.8**	**+0.1**
LMR	**La Mourre**	**84.42**	**47**	*e*P		**P**	**10 45 46.8**	**+0.1**
LMR	**La Mourre**	**84.42**	**47**	*e*P		**P**	**10 45 46.8**	**+0.1**
ARCES	**ARCESS Array B**	**85.50**	**19**	P		**P**	**10 45 50.6**	**-1.0**
ARCES	**ARCESS Array B**	**85.50**	**19**	P		**P**	**10 45 50.6**	**-1.0**
	comp=Z,4.0nm,0.8s,baz=274,slow=4.4,SNR=6.2								
PGF	**Pioggiola**	**86.39**	**47**	*e*P		**P**	**10 45 56.1**	**-0.5**
	comp=Z,34nm,1.1s								
PGF	**Pioggiola**	**86.39**	**47**	*e*P		**P**	**10 45 56.1**	**-0.5**
PGF					pmax	pmax			
	comp=Z,34nm,1.1s								
PGF	**Pioggiola**	**86.39**	**47**	*e*P		**P**	**10 45 56.1**	**-0.5**
	comp=Z,34nm,1.1s								
CLL	**Collm**	**86.60**	**38**	*i* P		**P**	**10 45 56.8**	**-0.5**
CLL					pmax	pmax			
	comp=Z,5.0nm,0.9s								
CLL	**Collm**	**86.60**	**38**	*i* P		**P**	**10 45 56.8**	**-0.5**
	comp=Z,5.0nm,0.9s								
TORD	**Torodi Ar. Bea**	**87.14**	**77**	P		P	10 45 57.0	-3.6
TORD	**Torodi Ar. Bea**	**87.14**	**77**	P		P	10 45 57.0	-3.6
	comp=Z,0.4nm,0.5s,baz=298,slow=5.6,SNR=10								
BRG	**Berggiesshubel**	**87.29**	**38**	*e*(P)		**P**	**10 46 02.0**	**+1.4**
	comp=Z,3.8nm,0.9s								
BRG	**Berggiesshubel**	**87.29**	**38**	*e*P		**P**	**10 46 02.0**	**+1.4**
BRG					pmax	pmax			
	comp=Z,4.0nm,0.9s								
KHC	**Kasperske Hory**	**87.61**	**40**	*e*P		**P**	**10 46 01.5**	**-0.7**
KHC	**Kasperske Hory**	**87.61**	**40**	*e*P		**P**	**10 46 01.5**	**-0.7**
GERES	**GERESS Array B**	**87.77**	**40**	P		**P**	**10 46 02.6**	**-0.4**
GERES	**GERESS Array B**	**87.77**	**40**	P		**P**	**10 46 02.6**	**-0.4**
	comp=Z,1.1nm,0.8s,baz=292,slow=4.2,SNR=8.8								
FINES	**FINESS Array B**	**89.45**	**26**	P		**P**	**10 46 10.7**	**+0.1**
FINES	**FINESS Array B**	**89.45**	**26**	P		**P**	**10 46 10.7**	**+0.1**
	comp=Z,3.1nm,1.0s,baz=318,slow=3.9,SNR=3.3								
ZALV	**Zalesovo Beam**	**112.56**	**4**	PP		PP	10 52 32.4	-5.0
ZALV	**Zalesovo Beam**	**112.56**	**4**	PP		PP	10 52 32.4	-5.0
	comp=Z,3.3nm,0.9s,baz=353,slow=6.6,SNR=12								
SONM	**Songino Array**	**117.50**	**349**	PKP		**PKPdf**	**10 51 57.0**	**-1.9**
SONM				PP		**PP**	**10 53 11.4**	**-0.9**
SONM	**Songino Array**	**117.50**	**349**	PKP		**PKPdf**	**10 51 57.0**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=310,slow=1.4,SNR=5.1								
SONM				PP		**PP**	**10 53 11.4**	**-0.9**
	comp=Z,0.6nm,1.0s,baz=12,slow=4.8,SNR=3.7								
MKAR	**Makanchi Array**	**119.40**	**7**	PKPpre	PKPpre		10 51 59.6		
MKAR	**Makanchi Array**	**119.40**	**7**	PKhKP	PKPpre		10 51 59.6		
	comp=Z,0.2nm,0.3s,baz=311,slow=2.9,SNR=10								
HHC	**Hu-ho-hao-te**	**122.81**	**342**	*e*PKP		**PKPdf**	**10 52 06.0**	**-3.3**
HHC				PP		**PP**	**10 53 50.8**	**+2.1**
HHC				PKS		**PKSdf**	**10 55 41.3**	**-4.7**
HHC				SKS	SKSdf		10 58 54.0	-9.3
HHC				SKKS	SKKSac		11 00 19.6	-10
HHC				AMB	AMB			
	comp=Z,150nm,9.5s								
WMQ	**Urumqi**	**122.84**	**3**	*e*PKP		**PKPdf**	**10 52 13.3**	**+4.1**
CNB	**Canberra Magne**	**123.86**	**236**	*e*P		**PKPdf**	**10 52 12.5**	**+1.2**
	comp=Z,42nm,0.9s								
KSH	**Kashi**	**125.28**	**15**	*e*PKP		**PKPdf**	**10 52 09.8**	**-4.3**
KSH				sPKP			10 53 30.9		
KSH				PKS	PKSdf		10 55 44.9	-5.9
KSH				AMB	AMB			
	comp=Z,80nm,4.4s								
KSH				LR	LR				
	comp=N,91nm,5.4s								
KSH				LR	LR				
	comp=E,110nm,4.1s								
KSH				LR	LR				
	comp=Z,240nm,7.0s								
TOO	**Toolangi**	**126.56**	**233**	*e*P		**PKPdf**	**10 52 17.4**	**+1.1**
	comp=Z,42nm,0.6s								
CTA	**Charters Tower**	**127.39**	**255**	*e*P		**PKPdf**	**10 52 19.2**	**+0.8**
	comp=Z,3.6nm,0.6s								
STKA	**Stephens Creek**	**130.79**	**239**	PKP		**PKPdf**	**10 52 25.4**	**+0.9**
STKA	**Stephens Creek**	**130.79**	**239**	*e*P		**PKPdf**	**10 52 25.2**	**+0.7**
	comp=Z,3.3nm,0.4s								
STKA	**Stephens Creek**	**130.79**	**239**	PKP		**PKPdf**	**10 52 25.4**	**+0.9**
	comp=Z,4.6nm,0.5s,baz=72,slow=3.4,SNR=8.0								
CD2	**Chengdu**	**134.29**	**345**	PKP	PKPdf		10 52 24.8	-6.5
GYA	**Guiyang**	**137.63**	**340**	*e*Pdif		**Pdif**	**10 49 44.8**	**-2.1**
GYA				PKP		**PKPdf**	**10 52 36.3**	**-1.4**
GYA				sPKP			10 53 49.0		
GYA				PP		**PP**	**10 55 27.8**	**+3.2**
GYA				AMB	AMB				
	comp=Z,90nm,7.8s								
WRAB	**Tennant Creek**	**138.59**	**255**	*e*PKIKP		**PKPdf**	**10 52 39.7**	**+0.3**
WRAB	**Tennant Creek**	**138.59**	**255**	*e*PKPdf		**PKPdf**	**10 52 39.6**	**+0.3**
WRA	**Warramunga Arr**	**138.60**	**255**	PKPpre	PKPpre		10 52 29.2		
WRA				PKP		**PKPdf**	**10 52 40.0**	**+0.6**
WRA				pPKP	pPKPdf		10 53 27.5	-1.7
WRA	**Warramunga Arr**	**138.60**	**255**	PKhKP	PKPpre		10 52 29.2		
	comp=Z,0.6nm,0.5s,baz=87,slow=3.6,SNR=15								
WRA				PKP		**PKPdf**	**10 52 40.0**	**+0.6**
	comp=Z,9.2nm,0.5s,baz=87,slow=2.0,SNR=108								
WRA				pPKP	pPKPdf		10 53 27.5	-1.7
	comp=Z,1.2nm,0.7s,baz=90,slow=2.5,SNR=2.7								
ASAR	**Alice Springs**	**138.73**	**250**	PKPpre	PKPpre		10 52 29.6		
ASAR				PKP		**PKPdf**	**10 52 40.1**	**+0.5**
ASAR				SKPbc		**SKPbc**	**10 55 57.2**	**+0.7**
ASAR	**Alice Springs**	**138.73**	**250**	PKhKP	PKPpre		10 52 29.6		
	comp=Z,0.9nm,0.5s,baz=100,slow=3.8,SNR=25								
ASAR				PKP		**PKPdf**	**10 52 40.1**	**+0.5**
	comp=Z,5.0nm,0.6s,baz=93,slow=1.9,SNR=31								
ASAR				SKPbc		**SKPbc**	**10 55 57.2**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=104,slow=3.0,SNR=8.2								
KMI	**Kunming**	**140.07**	**344**	PKP	PKPdf		10 52 37.3	-5.0
FORT	**Forrest**	**142.28**	**237**	*e*P		**PKPdf**	**10 52 46.2**	**+0.4**
	comp=Z,24nm,0.6s								
FITZ	**Fitzroy Crossi**	**146.90**	**258**	*e*PKPdf		**PKPdf**	**10 52 54.7**	**+0.6**
FITZ				PKPbc		**PKPbc**	**10 52 57.0**	**+0.7**
FITZ				*e*PKPbc		**PKPab**	**10 52 57.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**146.90**	**258**	*e*P		**PKPdf**	**10 52 54.0**	**-0.1**
	comp=Z,19nm,0.6s								
FITZ	**Fitzroy Crossi**	**146.90**	**258**	PKPbc		**PKPbc**	**10 52 57.0**	**+0.7**
	comp=Z,10nm,0.6s,baz=159,slow=2.0,SNR=41								
CMAR	**Chiang Mai Arr**	**147.40**	**347**	PKPbc		**PKPdf**	**10 52 55.9**	**+0.9**
CMAR				pPKPbc		**pPKPbc**	**10 53 45.6**	**-1.2**
CMAR	**Chiang Mai Arr**	**147.40**	**347**	PKPbc		**PKPdf**	**10 52 55.9**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=339,slow=3.9,SNR=9.4								
CMAR				pPKPbc		**pPKPbc**	**10 53 45.6**	**-1.2**
	comp=Z,2.0nm,0.8s,baz=336,slow=3.9,SNR=2.4								
KLBR	**Kellerberrin**	**149.96**	**229**	*e*P		**PKPbc**	**10 53 03.7**	**-0.1**
	comp=Z,24nm,1.3s								
KAPI	**Kappang**	**150.93**	**284**	PKPbc		**PKPbc**	**10 53 05.5**	**-1.1**
KAPI	**Kappang**	**150.93**	**284**	PKPbc		**PKPbc**	**10 53 05.5**	**-1.1**
	comp=Z,8.1nm,0.9s,baz=292,slow=5.4,SNR=3.4								

BJI ***21*** *10:50:24.1,5.˚36N×126.˚96E,h114km,mB5.1/20,mb4.7/24*
MOS ***21*** *10:50:28.0±0.9,5.˚84N×126.˚82E,h124km,mb4.5/18, Error ellipse: s-maj=17.7km s-min=6.6km az=113.4*
NEIC ***21*** *10:50:28.8±0.8,5.˚87N×126.˚92E,h116km±7km,mb4.7/18, Error ellipse: s-maj=8.3km s-min=4.3km az=75.0*
MAN ***21*** *10:50:28,5.˚85N×126.˚89E,h103km,mb5.1,ML4.0,MS4.1*
IDC ***21*** *10:50:28.6±1.4,5.˚87N×126.˚92E,h114km±12km,mb4.1/18, mb1 4.3/19,mb1mx4.2/24,mbtmp4.2/19,MS3.7/2, Ms1 3.8/2,ms1mx2.5/41,Error ellipse: s-maj=19.2km s-min=9.4km az=82.0*
ISCJB ***21*** *10:50:28.1±0.5,5.˚85N±0.˚03×126.˚91E±0.˚06,h125km±4km, mb4.6/68,Error ellipse: s-maj=9.4km s-min=3.9km az=165.4*

DJA ***21*** *10:50:30,5.˚74N×127.˚02E,h46km,mb5.0/11*

ISC 21 10:50:28.8±0.4,5.82N±0.04×126.95E±0.06,h114km±2km, h114km:pP-P,n146,σ1937/189,mb4.6/68,3C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.31**	**329**	*e*P		**Pn**	**10 50 51.9**	**-1.8**
MATI				*e*S		Sn	10 51 04.9	-7.7
DAV	**Davao City (W)**	**1.84**	**312**	*e*Pn		**Pn**	**10 50 59.8**	**-0.1**
DAV				S		**Sn**	**10 51 26.3**	**+2.5**
DAV				Sn		Sn	10 51 26.8	+3.0
DAV	**Davao City (W)**	**1.84**	**312**	P		**Pn**	**10 51 00.3**	**+0.3**
DAV	**Davao City (W)**	**1.84**	**312**	P		**Pn**	**10 50 59.9**	**-0.1**
	1μm,0.3s,baz=231,slow=3.0,SNR=55							
DAV				S		**Sn**	**10 51 26.3**	**+2.5**
	437nm,0.3s,baz=285,slow=24,SNR=16							
KCP	**Kidapawan**	**2.19**	**303**	⇓*i*P		Pn	10 51 08.5	+4.0
KCP				*i* S		Sn	10 51 35.2	+3.5
BUTP	**Butuan**	**3.39**	**337**	*e*P		**Pn**	**10 51 20.9**	**+0.8**
CGP	**Cagayan de Oro**	**3.44**	**320**	⇓*i*P		**Pn**	**10 51 20.0**	**-0.8**
CGP				*i* S		**Sn**	**10 52 00.9**	**0.0**
PAGZ	**Pagadian**	**4.07**	**300**	*e*P		**Pn**	**10 51 28.9**	**-0.4**
MSLP	**Maasin**	**4.75**	**334**	*e*P		**Pn**	**10 51 37.3**	**-1.2**
MNI	**Manado**	**4.83**	**206**	P		**Pn**	**10 51 40.9**	**+1.4**
MNI				S		**Sn**	**10 52 35.5**	**+1.0**
TBP	**Tagbilaran**	**4.91**	**322**	*e*P		**Pn**	**10 51 40.5**	**-0.1**
TNTI	**Ternate**	**5.04**	**175**	P		**Pn**	**10 51 43.4**	**+1.1**
LBMI	**Labuha**	**6.44**	**175**	P		**Pn**	**10 52 02.1**	**+0.8**
	172nm,0.9s,3μm							
LBMI				S		**Sn**	**10 53 14.2**	**+0.7**
	172nm,0.9s,3μm							
MRSI	**Marisa**	**7.29**	**223**	P		**Pn**	**10 52 13.7**	**+0.9**
	596nm,0.6s,6μm							
MRSI				S		**Sn**	**10 53 30.3**	**-3.7**
	596nm,0.6s,6μm							
SWI	**Sorong**	**7.92**	**147**	P		**Pn**	**10 52 22.8**	**+1.5**
	64nm,0.5s,2μm							
NLAI	**Namlea**	**9.00**	**179**	P		**Pn**	**10 52 35.2**	**-0.8**
	116nm,0.3s,5μm							
KDI	**Kendari**	**10.63**	**204**	P		**Pn**	**10 52 56.0**	**-2.1**
KAPI	**Kappang**	**12.94**	**214**	*e*Pn		**Pn**	**10 53 27.2**	**-1.4**
KAPI	**Kappang**	**12.94**	**214**	P		**Pn**	**10 53 27.1**	**-1.6**
	0.5nm,0.3s,baz=22,slow=9.6,SNR=7.1							
KSM	**Kuching**	**17.15**	**256**	*e*P		**P**	**10 54 22.1**	**+0.6**
	9.7nm,0.7s							
FITZ	**Fitzroy Crossi**	**23.81**	**183**	P		**P**	**10 55 31.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**23.81**	**183**	*e*P		**P**	**10 55 31.6**	**+0.2**
	83nm,1.4s							
FITZ	**Fitzroy Crossi**	**23.81**	**183**	P		**P**	**10 55 31.5**	**+0.2**
	16nm,0.5s,baz=14,slow=6.9,SNR=50							
COEN	**Coen**	**25.41**	**141**	*e*P		**P**	**10 55 46.5**	**+0.5**
	53nm,0.6s							
CBIJ	**Chichi jima**	**25.66**	**33**	P		**P**	**10 55 46.0**	**-2.1**
CBIJ	**Chichi jima**	**25.66**	**33**	P		**P**	**10 55 46.0**	**-2.1**
	66nm,0.4s,baz=170,slow=24,SNR=7.3							
IPM	**Ipoh**	**25.85**	**268**	*e*P		**P**	**10 55 49.5**	**-0.6**
	5.1nm,0.8s							
WRAB	**Tennant Creek**	**26.61**	**164**	*e*P		**P**	**10 55 56.6**	**-0.2**
WRAB					pmax	pmax		
	comp=Z,13nm,0.4s							
WRAB	**Tennant Creek**	**26.61**	**164**	*e*P		**P**	**10 55 56.6**	**-0.2**
	comp=Z,13nm,0.4s							
WRA	**Warramunga Arr**	**26.62**	**164**	P		**P**	**10 55 56.6**	**-0.2**
WRA					ScP	**ScP**	**11 02 48.1**	**+0.1**
WRA	**Warramunga Arr**	**26.62**	**164**	P		**P**	**10 55 56.6**	**-0.2**
	comp=Z,9.9nm,0.5s,baz=345,slow=10,SNR=48							
WRA					ScP	**ScP**	**11 02 48.1**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=339,slow=3.3,SNR=12							
NJ2	**Nanjing**	**27.17**	**345**	*e*P		**P**	**10 56 03.9**	**+2.3**
NJ2					pmax	pmax		
	comp=Z,10.0nm,0.5s							
JNU	**Nakatsue**	**27.41**	**7**	P		**P**	**10 56 03.3**	**-0.5**
JNU	**Nakatsue**	**27.41**	**7**	P		**P**	**10 56 03.3**	**-0.5**
	comp=Z,3.7nm,0.5s,baz=196,slow=5.3,SNR=11							
MBWA	**Marble Bar**	**27.73**	**195**	*e*P		**P**	**10 56 07.1**	**+0.3**
	comp=Z,38nm,1.6s							
GYA	**Guiyang**	**28.21**	**319**	*e*P		**P**	**10 56 11.0**	**-0.1**
GYA				pP		**pP**	**10 56 38.3**	**+2.2**
GYA				sP		**sP**	10 56 52.8	+3.5
GYA				PP		**PnPn**	**10 57 08.4**	**+2.7**
GYA				S		**S**	**11 00 48.0**	**-0.7**
GYA					pmax	pmax		
	comp=Z,10.0nm,0.8s							
GYA					pmax	pmax		
	comp=Z,90nm,4.9s							
ENH	**Enshi**	**29.35**	**328**	*e*P		**P**	**10 56 20.5**	**-0.6**
	comp=Z,8.2nm,0.7s							
CMAR	**Chiang Mai Arr**	**30.06**	**297**	P		**P**	**10 56 26.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**30.06**	**297**	P		**P**	**10 56 26.6**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=118,slow=7.5,SNR=4.7							
ASAR	**Alice Springs**	**30.09**	**167**	P		**P**	**10 56 27.7**	**0.0**
ASAR				PcP		**PcP**	**10 59 27.4**	**+0.5**
ASAR				ScP		**ScP**	**11 02 59.1**	**+0.3**
ASAR	**Alice Springs**	**30.09**	**167**	P		**P**	**10 56 27.7**	**0.0**
	comp=Z,3.8nm,0.3s,baz=341,slow=7.2,SNR=98							
ASAR				PcP		**PcP**	**10 59 27.4**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=356,slow=1.8,SNR=6.3						

TOO	**Toolangi**	**46.51 160**	⇓ *i*	P	**P**	**10 58 46.8**	**+2.0**	
	comp=Z,40nm,0.6s							
ZAK	**Zakamensk**	**48.64 340**	*e*	P	**P**	**10 59 01.0**	**-0.2**	
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.0s							
TLY	**Talaya**	**49.62 341**	*e*	P	**P**	**10 59 08.4**	**-0.2**	
TLY				pmax	pmax			
	comp=Z,3.0nm,0.8s							
TLY	**Talaya**	**49.62 341**	*e*	P	**P**	**10 59 09.2**	**+0.6**	
	comp=Z,4.1nm,0.6s							
MOY	**Mondy**	**50.51 339**	*e*	P	**P**	**10 59 16.3**	**+0.9**	
WMQ	**Urumqi**	**51.16 324**	*e*	P	**P**	**10 59 20.9**	**+0.6**	
WMQ				pP	**pP**	**10 59 46.0**	**-1.3**	
WMQ				sP	**sP**	**10 59 58.0**	**-2.0**	
WMQ				pmax	pmax			
	comp=Z,7.0nm,0.8s							
WMQ				pmax	pmax			
	comp=Z,170nm,4.2s							
PETK	**Petropavlovsk-**	**53.42 23**		P	**P**	**10 59 36.5**	**-0.3**	
PETK	**Petropavlovsk-**	**53.42 23**		P	**P**	**10 59 36.5**	**-0.3**	
PETK	**Petropavlovsk-**	**53.42 23**		P	**P**	**10 59 36.5**	**-0.3**	
	comp=Z,3.0nm,0.6s,baz=201,slow=2.6,SNR=8.8							
MK31	**Makanchi Array**	**55.98 324**	*e*	P	**P**	**10 59 55.1**	**-0.4**	
MK31				pmax	pmax			
	comp=Z,4.0nm,0.4s							
MKAR	**Makanchi Array**	**55.98 324**		P	**P**	**10 59 55.2**	**-0.2**	
MKAR						11 00 52.3		
MKAR	**Makanchi Array**	**55.98 324**		P	**P**	**10 59 55.2**	**-0.2**	
MKAR				PcP	**PcP**	**11 00 52.2**	**-0.3**	
MKAR				ScP	**ScP**	**11 04 40.4**	**-0.9**	
MKAR	**Makanchi Array**	**55.98 324**		P	**P**	**10 59 55.2**	**-0.2**	
	comp=Z,9.6nm,0.5s,baz=118,slow=7.7,SNR=177							
MKAR				PcP	**PcP**	**11 00 52.2**	**-0.3**	
	comp=Z,1.9nm,0.7s,baz=104,slow=5.1,SNR=4.8							
MKAR				ScP	**ScP**	**11 04 40.4**	**-0.9**	
	comp=Z,0.3nm,0.5s,baz=104,slow=6.1,SNR=5.4							
KSH	**Kashi**	**56.74 314**	*e*	P	**P**	**11 00 02.9**	**+1.8**	
KSH				pP	**pP**	**11 00 30.8**	**+2.3**	
KSH				sP	**sP**	**11 00 42.1**	**+1.0**	
KSH				PcP	**PcP**	**11 00 57.4**	**+1.6**	
KSH				PP	**PP**	**11 02 12.5**	**+4.0**	
KSH				ScP	**ScP**	**11 04 45.0**	**0.0**	
KSH				PcS	**PcS**	**11 04 57.4**	**+0.6**	
KSH				S	**S**	**11 07 46.3**	**+1.0**	
KSH				sS	**sS**	**11 08 32.3**	**-0.2**	
KSH				ScS	**ScS**	**11 09 38.0**	**-1.6**	
KSH				SS	**SS**	**11 11 36.4**	**+1.4**	
KSH				pmax	pmax			
	comp=Z,4.0nm,1.1s							
KSH				pmax	pmax			
	comp=Z,72nm,4.5s							
KSH				LR	LR			
	comp=N,160nm,5.0s							
KSH				LR	LR			
	comp=E,110nm,6.7s							
KSH				LR	LR			
	comp=Z,220nm,5.9s							
TKM2	**Tokmak 2**	**58.34 318**		P	**P**	**11 00 11.8**	**-0.6**	
TKM2	**Tokmak 2**	**58.34 318**		P	**P**	**11 00 11.8**	**-0.6**	
ZALV	**Zalesovo Beam**	**58.84 332**		P	**P**	**11 00 14.3**	**-1.0**	
ZALV	**Zalesovo Beam**	**58.84 332**		P	**P**	**11 00 14.3**	**-1.0**	
ZALV	**Zalesovo Beam**	**58.84 332**		P	**P**	**11 00 14.3**	**-1.0**	
	comp=Z,2.3nm,0.5s,baz=114,slow=7.6,SNR=10							
AAK	**Ala-Archa**	**58.97 317**	*e*	P	**P**	**11 00 15.0**	**-1.7**	
AAK				pmax	pmax			
	comp=Z,6.0nm,1.3s							
AAK	**Ala-Archa**	**58.97 317**		LR	LR	11 25 47.9		
	comp=Z,42nm,18.3s,baz=89,slow=36							
EKS2	**Erkin-Say**	**59.47 317**	*e*	P	**P**	**11 00 19.9**	**-0.2**	
EKS2				pmax	pmax			
	comp=Z,3.0nm,0.7s							
EKS2	**Erkin-Say**	**59.47 317**	*e*	P	**P**	**11 00 19.9**	**-0.2**	
	comp=Z,3.2nm,0.7s							
SEY	**Seymchan**	**59.96 13**	*e*	P	**P**	**11 00 21.8**	**-1.1**	
KURK	**Kurchatov**	**60.11 327**	*c i*	P	**P**	**11 00 23.3**	**-0.8**	
KURK				pmax	pmax			
	comp=Z,52nm,1.2s							
KURK	**Kurchatov**	**60.11 327**	*e*	P	**P**	**11 00 23.9**	**-0.2**	
	comp=Z,31nm,0.6s							
NVS	**Novosibirsk**	**60.12 333**	*e*	P	**P**	**11 00 21.5**	**-2.6**	
NVS			*e*			11 02 39.0		
NVS				pmax	pmax			
	comp=N,4.0nm,1.3s							
NVS				pmax	pmax			
	comp=E,6.0nm,1.3s							
NVS				pmax	pmax			
	comp=Z,11nm,1.3s							
KK31	**Karatay Array**	**61.87 316**	*i*	P	**P**	**11 00 35.4**	**-0.8**	
KK31				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KKAR	**Karatay Array**	**61.87 316**	*e*	P	**P**	**11 00 35.7**	**-0.5**	
KKAR	**Karatay Array**	**61.87 316**	*e*	P	**P**	**11 00 35.7**	**-0.5**	
VOSK	**Vostochnaya**	**65.25 326**		P	**P**	**11 00 57.1**	**-1.1**	
VOSK				pmax	pmax			
	comp=Z,13nm,0.7s							
BVA0	**Borovoye Array**	**65.70 326**	*i*	P	**P**	**11 01 00.5**	**-0.6**	
BVA0				pmax	pmax			
	comp=Z,5.0nm,1.1s							
BRVK	**Borovoye**	**65.77 326**	*e*	P	**P**	**11 01 01.2**	**-0.4**	
BRVK				pmax	pmax			
	comp=Z,26nm,0.9s							
BRVK	**Borovoye**	**65.77 326**	*e*	P	**P**	**11 01 01.2**	**-0.4**	
	comp=Z,26nm,0.9s							
ZRNK	**Zerenda**	**66.44 326**		P	**P**	**11 01 05.2**	**-0.6**	
ZRNK				pmax	pmax			
	comp=Z,22nm,0.6s							
BILL	**Bilibino**	**67.49 15**	*e*	P	**P**	**11 01 12.5**	**+0.3**	
BILL			*e*			11 01 35.1		
BILL			*e*	SS	SS	11 14 22.8	+1.2	
BILL				pmax	pmax			
	comp=Z,1.0nm,0.8s							
AB31	**Akbulak array**	**70.68 320**	*i*	P	**P**	**11 01 31.7**	**-0.6**	
AB31				pmax	pmax			
	comp=Z,3.0nm,0.5s							
ABKAR	**Akbulak array**	**70.68 320**	*e*	P	**P**	**11 01 32.0**	**-0.3**	
	comp=Z,6.8nm,0.7s							
AKTO	**Aktyubinsk**	**72.17 321**		P	**P**	**11 01 40.8**	**-0.4**	
AKTO				pmax	pmax			
	comp=Z,2.0nm,0.8s							
SVE	**Sverdlovsk**	**72.30 328**	⇓ *i*	P	**P**	**11 01 41.3**	**-0.6**	
SVE				pmax	pmax			
	comp=Z,19nm,1.0s							
ARU	**Arti**	**73.30 327**	*d i*	P	**P**	**11 01 46.6**	**-1.1**	
ARU				S	**S**	**11 11 07.3**	**+0.2**	
ARU				SS	**SS**	**11 15 48.1**	**-3.0**	
ARU				pmax	pmax			
	comp=Z,8.0nm,0.6s							
ILAR	**Eielson Array**	**83.13 26**		P	**P**	**11 02 40.4**	**-1.5**	
ILAR	**Eielson Array**	**83.13 26**		P	**P**	**11 02 40.4**	**-1.5**	
	comp=Z,1.1nm,0.5s,baz=242,slow=4.8,SNR=26							
KLMR	**Klimovskoe**	**83.70 331**	*e*	P	**P**	**11 02 43.1**	**-1.7**	
KLMR				pmax	pmax			
	comp=Z,22nm,1.3s							
OBN	**Obninsk**	**85.48 325**	*e*	P	**P**	**11 02 53.4**	**-0.4**	
OBN			*e*	PP	**pP**	**11 03 21.7**	**-1.6**	
OBN				pmax	pmax			
	comp=Z,5.0nm,1.0s							
JOF	**Joensuu**	**87.42 333**	*e*	P	**P**	**11 03 01.5**	**-1.7**	
JOF				pmax	pmax			
	comp=Z,3.0nm,0.6s							
JOF	**Joensuu**	**87.42 333**	*ep*	P	**P**	**11 03 01.5**	**-1.7**	
	comp=Z,3.3nm,0.6s							
ARCES	**ARCESS Array B**	**88.57 340**		P	**P**	**11 03 07.0**	**-1.5**	
ARCES	**ARCESS Array B**	**88.57 340**		P	**P**	**11 03 07.0**	**-1.5**	
	comp=Z,8.2nm,1.0s,baz=78,slow=5.9,SNR=20							
BRTR	**Keskin Array B**	**88.86 310**		P	**P**	**11 03 09.4**	**-1.3**	
BRTR	**Keskin Array B**	**88.86 310**		P	**P**	**11 03 09.4**	**-1.3**	
	comp=Z,0.8nm,0.7s,baz=131,slow=5.2,SNR=3.2							
KAF	**Kangasniemi**	**89.85 332**	*e*	P	**P**	**11 03 12.1**	**-2.5**	
KAF				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KAF	**Kangasniemi**	**89.85 332**	*ep*	P	**P**	**11 03 12.1**	**-2.5**	
	comp=Z,1.8nm,0.6s							
FINES	**FINESS Array B**	**90.10 332**		P	**P**	**11 03 14.2**	**-1.6**	
FINES	**FINESS Array B**	**90.10 332**		P	**P**	**11 03 14.2**	**-1.6**	
	comp=Z,1.4nm,0.5s,baz=61,slow=6.2,SNR=18							
AKASG	**Malin Array Be**	**90.41 321**		P	**P**	**11 03 16.0**	**-1.5**	
AKASG	**Malin Array Be**	**90.41 321**		P	**P**	**11 03 16.0**	**-1.5**	
AKASG	**Malin Array Be**	**90.41 321**		P	**P**	**11 03 16.0**	**-1.5**	
	comp=Z,0.6nm,0.4s,baz=72,slow=4.7,SNR=3.5							
KOLS	**Kolonicke sedl**	**95.19 320**	*e*	P	**P**	**11 03 38.7**	**-0.9**	
KOLS	**Kolonicke sedl**	**95.19 320**	*e*	P	**P**	**11 03 38.7**	**-0.9**	
CRVS	**Cervenica-Dubn**	**95.71 320**	*e*	P	**P**	**11 03 44.1**	**+2.1**	
CRVS	**Cervenica-Dubn**	**95.71 320**	*e*	P	**P**	**11 03 44.1**	**+2.1**	
NOA	**NORSAR Array B**	**97.02 334**		LR	LR	11 51 34.8		
	comp=Z,49nm,18.5s,baz=250,slow=38							
VYHS	**Vyhne**	**97.50 320**	*e*	P	Pdif	11 03 54.5	+4.4	
VYHS	**Vyhne**	**97.50 320**	*e*	P	Pdif	11 03 54.5	+4.4	
TXAR	**Lajitas Array**	**120.14 51**		PKP	**PKPdf**	**11 09 07.7**	**+0.5**	
TXAR	**Lajitas Array**	**120.14 51**		PKP	**PKPdf**	**11 09 07.7**	**+0.5**	
	comp=Z,0.3nm,0.8s,baz=1.4,slow=3.6,SNR=3.3							
TORD	**Torodi Ar. Bea**	**122.45 289**		PKP	**PKPdf**	**11 09 11.8**	**-0.1**	
TORD				pPKP	**pPKPdf**	**11 09 41.9**	**-0.9**	
TORD	**Torodi Ar. Bea**	**122.45 289**		PKP	**PKPdf**	**11 09 11.8**	**-0.1**	
	comp=Z,0.4nm,0.4s,baz=66,slow=1.6,SNR=9.7							
TORD				pPKP	**pPKPdf**	**11 09 41.9**	**-0.9**	
	comp=Z,0.9nm,0.8s,baz=47,slow=2.2,SNR=3.7							
CPUP	**Villa Florida**	**159.20 169**		PKPab	**PKPab**	**11 10 52.8**	**+1.0**	
CPUP	**Villa Florida**	**159.20 169**		PKPab	**PKPab**	**11 10 52.8**	**+1.0**	
	comp=Z,0.6nm,0.4s,baz=173,slow=3.8,SNR=4.2							

*ISCJB **21** 10:53:46.9±0.5, 10.80N±0.03×61.81W±0.04, h64km±8km, Error ellipse: s-maj=7.4km s-min=4.1km az=40.6*
*FUNV **21** 10:53:47.2, 10.87N×61.67W, h29km, MW3.1*
*TRN **21** 10:53:50.1, 11.08N×61.61W, h3km, MD3.3*

ISC 21 10:53:47.0±1.4, 10.79N±0.06×61.80W±0.05, h59km±15km, n20, σ1°22/16, 1C-1D, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.41**	**110**	⇑ *i* P	Pn	10 53 59.6	+1.6
TRN				*e* S	**Sn**	**10 54 05.8**	**-0.1**
GUIV	**Guiria**	**0.44**	**251**	⇓ *i* P	Pn	10 53 59.1	+0.8
GUIV				*e* S	**Sn**	**10 54 06.8**	**+0.3**
TPP	**Pointe-a-Pierr**	**0.58**	**144**	*e* P	Pn	10 54 05.7	+5.9
GUNV	**Guanoco**	**1.29**	**241**	*e* P	Pn	10 54 11.0	+2.1
GUNV				*e* S	Sn	10 54 29.4	+4.3
TOSP	**Speyside**	**1.34**	**68**	*e* P	Pn	10 54 10.5	+1.0
TOSP				*e* S	**Sn**	**10 54 26.7**	**+0.4**
GRW	**Mount Saint Ca**	**1.37**	**6**	*e* P	Pn	10 54 11.0	+1.0
GRW				*e* S	**Sn**	**10 54 25.9**	**-1.3**
CRUV	**Carupano**	**1.42**	**265**	*e* P	Pn	10 54 11.3	+0.8
CRUV				*e* S	**Sn**	**10 54 29.9**	**+1.6**
GRHS	**Sauteurs**	**1.43**	**6**	*e* P	Pn	10 54 11.5	+0.7
GRHS				*e* S	**Sn**	**10 54 29.1**	**+0.5**
GRSS	**Sisters**	**1.51**	**7**	*e* P	Pn	10 54 13.2	+1.4
GRSS				*e* S	**Sn**	**10 54 31.2**	**+0.8**
ORIV	**Oritupano**	**2.33**	**223**	*e* P	Pn	10 54 25.3	+2.3
ORIV				*e* S	**Sn**	**10 54 53.0**	**+2.4**
SVB	**Belmont**	**2.52**	**12**	*e* P	Pn	10 54 28.2	+2.6
SVB				*e* S	**Sn**	**10 54 56.7**	**+1.4**
RIOV	**Rio Grande**	**2.71**	**180**	*e* P	Pn	10 54 28.8	+0.6
PCRV	**Puerto La Cruz**	**2.86**	**258**	*e* P	Pn	10 54 31.2	+1.0
PCRV				*e* S	**Sn**	**10 55 03.0**	**-0.5**
MCLT	**Moule a Chique**	**3.02**	**16**	*e* S	**Sn**	**10 55 08.0**	**+0.6**
GURV	**El Guri**	**3.27**	**203**	*e* P	Pn	10 54 36.8	+0.9
CUPV	**Cœpira**	**3.99**	**260**	*e* P	Pn	10 54 47.9	+2.1
CUPV				*e* S	**Sn**	**10 55 32.1**	**+0.7**
BIRV	**Birongo**	**4.41**	**266**	*e* P	Pn	10 54 53.4	+2.0
BIRV				*e* S	**Sn**	**10 55 40.0**	**-1.5**
MERV	**Las Mercedes**	**4.69**	**251**	*e* P	Pn	10 54 56.9	+1.6
MERV				*e* S	**Sn**	**10 55 47.5**	**-0.9**
LUEV	**Luepa**	**4.93**	**176**	*e* P	**Pn**	**10 54 58.1**	**-0.6**
BAUV	**El Baul**	**6.42**	**254**	*e* P	**Pn**	**10 55 18.9**	**-0.1**

MAN 21 10:53:46, 12.22N×125.14E, h74km, mb4.2, ML3.0, MS2.7, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLP	**Palo**	**1.06**	**189**	⇑ *e* P	Pn	10 54 06.2	+0.7
PLP				*e* S	Sn	10 54 21.9	+1.9
OCLP	**Ormoc**	**1.27**	**204**	*e* P	Pn	10 54 09.5	+1.4
OCLP				*e* S	Sn	10 54 26.6	+1.8
MSLP	**Maasin**	**2.09**	**188**	*e* P	Pn	10 54 21.1	+2.1
MSLP				*e* S	Sn	10 54 29.7	-14

IDC 21 11:08:52.4±6.6, 3.15N×127.13E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/21, mbtmp3.6/3, Error ellipse: s-maj=138.0km s-min=104.0km az=76.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.02**	**163**	P	P	11 14 09.3	+0.1
	2.1nm,0.7s,baz=343,slow=10,SNR=21						
ASAR	**Alice Springs**	**27.46**	**166**	P	P	11 14 40.2	-0.2
	0.3nm,0.8s,baz=340,slow=7.9,SNR=3.6						
STKA	**Stephens Creek**	**37.45**	**160**	P	P	11 16 07.6	-0.1
	0.9nm,0.6s,baz=336,slow=12,SNR=3.8						

*ISCJB **21** 11:13:14.4±1.0, 22.7N±0.1×94.5E±0.2, h100km, mb3.6/3, Error ellipse: s-maj=35.5km s-min=8.0km az=146.9*
*IDC **21** 11:13:18.6±3.9, 22.84N×94.98E, h114km±35km, mb3.3/3, mb1 3.5/4, mb1mx3.0/26, mbtmp3.2/4, Error ellipse: s-maj=91.7km s-min=21.4km az=60.0*

ISC 21 11:13:16.4±1.1, 22.7N±0.2×94.6E±0.3, h100km, n6, σ1°46/7, mb3.9/3, 1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**2.13**	**344**	*e* PKP	Pn	11 13 55.0	+4.3
IMP				*e* S	**Sn**	**11 14 16.0**	**-0.9**
SHL	**Shillong**	**3.74**	**320**	⇓ *i* PN	**Pn**	**11 14 13.5**	**+1.2**
SHL				*e* SN	**Sn**	**11 14 53.5**	**-2.0**
CMAR	**Chiang Mai Arr**	**5.90**	**135**	P	**Pn**	**11 14 41.3**	**0.0**
	0.6nm,0.3s,baz=313,slow=13,SNR=9.2						
MKAR	**Makanchi Array**	**25.98**	**341**	P	**P**	**11 18 40.8**	**+1.1**
	0.4nm,0.4s,baz=149,slow=9.1,SNR=8.0						
WRA	**Warramunga Arr**	**57.49**	**134**	P	**P**	**11 22 54.6**	**-0.9**
	0.7nm,0.6s,baz=323,slow=7.4,SNR=6.1						
ASAR	**Alice Springs**	**59.91**	**138**	P	**P**	**11 23 11.8**	**-0.3**
	0.5nm,0.4s,baz=324,slow=7.2,SNR=5.9						

IDC 21 11:30:15.7±1.2, 3.02N×125.21E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, Error ellipse: s-maj=145.5km s-min=20.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.52**	**159**	P	P	11 35 37.2	+0.2
	1.3nm,0.6s,baz=335,slow=11,SNR=14						
ASAR	**Alice Springs**	**27.84**	**163**	P	P	11 36 07.1	0.0
	0.1nm,0.5s,baz=349,slow=8.5,SNR=3.9						
SONM	**Songino Array**	**47.51**	**343**	P	P	11 38 51.3	-1.5
	0.2nm,0.5s,baz=151,slow=8.2,SNR=2.8						
MKAR	**Makanchi Array**	**57.28**	**326**	P	P	11 40 06.0	+0.8
	0.4nm,0.4s,baz=123,slow=6.9,SNR=14						

*DDA **21** 11:32:54.6, 38.21N×28.78E, h12km, MD2.7*
*ISCJB **21** 11:32:55.2±0.5, 38.19N±0.03×28.78E±0.04, h9km±5km, Error ellipse: s-maj=5.2km s-min=4.3km az=168.5*
*ISK **21** 11:32:55.1, 38.20N×28.76E, h9km, MD2.7*
*CSEM **21** 11:32:55.2±0.1, 38.19N×28.78E, h10km, MD2.7, Error ellipse: s-maj=2.5km s-min=2.3km az=90.0*

ISC 21 11:32:55.3±1.0, 38.20N±0.02×28.77E±0.02, h12km±11km, n28, σ0°47/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULA	**Kula-Manisa**	**0.33**	**345**	*e* PG	**Pg**	**11 33 02.2**	**+0.1**
KULA				*e* SG	**Sg**	**11 33 07.0**	**+0.3**
KULA	**Kula-Manisa**	**0.33**	**345**	*e* Pg	**Pg**	**11 33 02.2**	**+0.1**
KULA				*e* Sg	**Sg**	**11 33 07.0**	**+0.3**
MANT	**Manisa**	**0.34**	**330**	*i* P	**Pg**	**11 33 02.1**	**-0.2**
MANT				*i* S	**Sg**	**11 33 07.0**	**0.0**
MANT	**Manisa**	**0.34**	**330**	*i* P	**Pg**	**11 33 02.1**	**-0.2**
MANT				*i* S	**Sg**	**11 33 07.0**	**0.0**
DNZL	**Cakiroluk**	**0.55**	**157**	*i* P	**Pg**	**11 33 05.6**	**-0.6**
DNZL				*i* S	**Sg**	**11 33 14.2**	**+0.7**
DNZL	**Cakiroluk**	**0.55**	**157**	*i* P	**Pg**	**11 33 05.6**	**-0.6**
DNZL				*i* S	**Sg**	**11 33 14.2**	**+0.7**
KHAL	**Karahalli**	**0.59**	**73**	*i* P	**Pg**	**11 33 06.9**	**0.0**
KHAL				*i* S	**Sg**	**11 33 15.1**	**+0.2**
KHAL	**Karahalli**	**0.59**	**73**	*i* P	**Pg**	**11 33 06.9**	**0.0**
KHAL				*i* S	**Sg**	**11 33 15.1**	**+0.2**
KHL	**Karahalli**	**0.61**	**78**	*e* PG	**Pg**	**11 33 07.4**	**+0.2**
KHL	**Karahalli**	**0.61**	**78**	*e* Pg	**Pg**	**11 33 07.4**	**+0.2**
DEMI	**Demirci**	**0.85**	**357**	*i* P	**Pg**	**11 33 11.6**	**-0.1**
DEMI				*i* S	**Sg**	**11 33 22.2**	**-0.7**
DEMI	**Demirci**	**0.85**	**357**	*i* P	**Pg**	**11 33 11.6**	**-0.1**
DEMI				*i* S	**Sg**	**11 33 22.2**	**-0.7**

AYDN	**Tasoluk**	**0.88 233**	*i*	P	**Pg**	**11 33 11.4**	**-1.1**	
AYDN			*i*	S	**Sb**	**11 33 24.7**	**+0.3**	
AYDN	**Tasoluk**	**0.88 233**	*i*	P	**Pg**	**11 33 11.4**	**-1.1**	
AYDN			*i*	S	**Sb**	**11 33 24.7**	**+0.3**	
AKHS	**Akhisar**	**1.01 313**	*i*	P	**Pb**	**11 33 15.2**	**+0.4**	
AKHS			*i*	S	**Sb**	**11 33 28.7**	**+0.6**	
AKHS	**Akhisar**	**1.01 313**	*i*	P	**Pb**	**11 33 15.2**	**+0.4**	
AKHS			*i*	S	**Sb**	**11 33 28.7**	**+0.6**	
AKS	**Akhisar**	**1.01 313**	*e*	PG	**Pg**	**11 33 14.8**	**-0.2**	
AKS	**Akhisar**	**1.01 313**	*e*	Pg	**Pg**	**11 33 14.8**	**-0.2**	
GDZ	**Gediz**	**1.05 32**	*i*	P	**Pb**	**11 33 14.7**	**-0.9**	
GDZ			*i*	S	**Sg**	**11 33 28.8**	**-0.6**	
GDZ	**Gediz**	**1.05 32**	*i*	P	**Pb**	**11 33 14.7**	**-0.9**	
GDZ			*i*	S	**Sg**	**11 33 28.8**	**-0.6**	
YER	**Yerkesik**	**1.13 200**	*e*	PN	**Pb**	**11 33 17.0**	**+0.2**	
YER	**Yerkesik**	**1.13 200**	*e*	Pn	**Pb**	**11 33 17.0**	**+0.2**	
IZM	**Izmir**	**1.20 280**	*e*	PN	**Pg**	**11 33 18.4**	**-0.1**	
IZM	**Izmir**	**1.20 280**	*e*	Pn	**Pg**	**11 33 18.4**	**-0.1**	
TVSB	**Tavsanli**	**1.36 23**	*e*	PN	**Pb**	**11 33 20.9**	**+0.1**	
TVSB	**Tavsanli**	**1.36 23**	*e*	Pn	**Pb**	**11 33 20.9**	**+0.1**	
BLCB	**Balcova**	**1.37 278**	*e*	PN	**Pb**	**11 33 20.9**	**0.0**	
BLCB	**Balcova**	**1.37 278**	*e*	Pn	**Pb**	**11 33 20.9**	**0.0**	

PRE 21 11:57:22.3±0.5, 26.40S×27.76E, h2km, ML1.8, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERPM	**east rand prop**	**0.43**	**82**	*e* P	Pg	11 57 30.9	0.0
ERPM				*e* S	Sg	11 57 37.7	+1.0
ERPM				AML	AML	11 57 40.5	
	comp=Z,18nm,0.2s						
SLR	**Silverton**	**0.81**	**35**	*e* P	Pg	11 57 37.9	-0.2
SLR				*e* S	Sg	11 57 49.3	+0.4
SLR				AML	AML	11 57 56.4	
	comp=Z,16nm,0.5s						
BFSD	**Buffelsfontein**	**0.99**	**242**	*e* P	Pg	11 57 41.0	-0.5
BFSD				*e* S	Sb	11 57 55.4	-0.7
BFSD				AML	AML	11 57 56.0	
	comp=Z,49nm,0.1s						

*IDC **21** 12:14:46.3±1.6, 23.84N×121.50E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/24, mbtmp3.4/5, Error ellipse: s-maj=146.3km s-min=19.6km az=65.0*

JMA 21 12:14:42.9±0.2, 24.97N×123.50E, h32km±3km, M2.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.67**	**162**	P	Pn	12 14 55.6	-0.5
IRIF				S	Sb	12 15 04.8	-0.4
YOJ	**Yonaguni jima**	**0.67**	**221**	P	Pn	12 14 55.7	-0.5
YOJ				S	Sb	12 15 05.2	-0.2
JIJ	**Ishigaki jima**	**0.84**	**136**	P	Pn	12 14 58.1	-0.4
JIJ				S	Sn	12 15 08.8	-1.0
JKRS	**Kuro-shima**	**0.86**	**147**	P	Pn	12 14 58.8	0.0
JKRS				S	Sb	12 15 10.7	0.0
HATJ	**Hateruma jima**	**0.95**	**163**	P	Pn	12 14 59.9	-0.1
HATJ				S	Sb	12 15 13.0	-0.2
JTJ	**Tarama**	**1.14**	**106**	P	Pb	12 15 03.6	-0.5
JTJ				*e* S	Sb	12 15 18.4	-0.2
SONM	**Songino Array**	**26.53**	**334**	P	P	12 20 28.1	+10
	0.4nm,0.8s,baz=138,slow=8.9,SNR=3.6						
MKAR	**Makanchi Array**	**39.27**	**314**	P	P	12 22 11.8	+3.2
	0.3nm,0.8s,baz=108,slow=9.3,SNR=3.0						
ZALV	**Zalesovo Beam**	**40.76**	**326**	P	P	12 22 29.2	+8.4
	0.4nm,0.5s,baz=93,slow=7.8,SNR=3.1						
WRA	**Warramunga Arr**	**45.87**	**166**	P	P	12 23 05.4	+3.0
	1.0nm,0.8s,baz=347,slow=8.9,SNR=6.3						
ASAR	**Alice Springs**	**49.39**	**167**	P	P	12 23 33.2	+3.5
	0.2nm,0.4s,baz=350,slow=6.9,SNR=7.1						

IDC 21 12:39:10.9±2.3, 30.71N×83.11E, h0km, mb3.2/5, mb1 3.5/7, mb1mx3.3/29, mbtmp3.2/7, ML3.5/2, Error ellipse: s-maj=75.9km s-min=23.7km az=71.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**16.08**	**358**	Pn	Pn	12 42 58.4	+0.1
	0.0nm,0.3s,baz=163,slow=10,SNR=4.3						
CMAR	**Chiang Mai Arr**	**18.84**	**127**	P	Pn	12 43 33.9	+0.9
	0.2nm,0.3s,baz=312,slow=9.6,SNR=3.1						
KURBB	**Kurchatov Arra**	**20.19**	**352**	P	P	12 43 46.7	-0.3
	0.9nm,0.6s,baz=170,slow=10,SNR=6.8			

JMK eS S 12 46 54.7 -6.7
JOW Kunigami 9.77 244 eP **P** **12 45 53.6 +1.5**
JOW Kunigami 9.77 244 P **P** **12 45 53.2 +1.0**
4.1nm,0.3s,baz=316,slow=12,SNR=6.3
JOT Ohata 10.10 13 P **P** **12 45 55.5 0.0**
KSRS Korea Array 10.23 308 P **Pn** **12 45 57.6 +0.3**
0.7nm,0.3s,baz=121,slow=9.9,SNR=14
JOSM Okushiri--Mats 10.57 6 P **P** **12 45 59.1 -1.7**
JKB Kayabe 10.58 12 P **P** **12 46 00.6 -0.3**
ERM Erimo 11.20 20 eP **P** **12 46 07.9 +0.1**
ERM Erimo 11.20 20 eP **P** **12 46 08.9 +1.0**
ASAJ Asahikawa 13.04 15 P **P** **12 46 28.4 +0.3**
3.1nm,0.3s,baz=234,slow=12,SNR=30
ASAJ S **S** **12 48 48.7 -1.0**
0.6nm,0.3s,baz=218,slow=19,SNR=5.4
USRK Ussuriysk Arra 13.50 341 P **P** **12 46 33.3 +0.2**
0.1nm,0.3s,baz=158,slow=12,SNR=3.1
MDJ Mudanjiang 14.64 335 P **P** **12 46 46.3 +0.8**
MDJ S **S** **12 49 21.3 -0.5**
MDJ ScS **ScS** **12 58 08.5 +3.8**
MDJ pmax pmax
comp=Z,210nm,5.7s
CN2 Changchun 15.76 324 eP **Pn** **12 46 59.8 -1.2**
CN2 eS **S** **12 49 42.1 -2.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
YSS Yuzh-Sakhalins 15.79 12⇑*iP* **P** **12 46 59.6 +1.6**
YSS Yuzh-Sakhalins 15.79 12 *eP* **P** **12 46 59.0 +1.0**
comp=Z,37nm,0.5s
TATO Taipei 16.00 250 *eP* **P** **12 47 00.1 -0.5**
comp=Z,43nm,0.8s
YHNB Yeheng 16.24 249 *eP* **P** **12 47 01.6 -1.5**
comp=Z,25nm,0.6s
NJ2 Nanjing 16.35 277 *eP* **P** **12 47 03.5 -0.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
YULB Yu-li 16.95 245 *eP* **P** **12 47 08.8 -1.9**
comp=Z,21nm,0.6s
SSLB Suanglung 17.01 247 *eP* **P** **12 47 10.3 -1.1**
comp=Z,52nm,1.1s
HABR Khabarovsk 17.05 353 eP **P** **12 47 09.5 -2.0**
HABR eS **S** **12 50 08.7 -0.5**
HABR pmax pmax
comp=N,78nm,2.6s
HABR pmax pmax
comp=Z,81nm,2.6s
HABR pmax pmax
comp=E,61nm,2.7s
HABR MLR MLR
comp=Z,34nm,12.0s
TWG Pinlang 17.43 244 *eP* **P** **12 47 14.5 -1.3**
comp=Z,143nm,0.6s
TPUB Ta-pu 17.52 246 *eP* **P** **12 47 15.9 -0.9**
comp=Z,24nm,0.4s
BJT Baijiatuan 19.64 302 *eP* **P** **12 47 36.4 -2.1**
comp=Z,11nm,0.5s
BJI Beijing 19.64 302 P **P** **12 47 37.8 -0.6**
BJI pmax pmax
comp=Z,10.0nm,0.4s
WHN Wuhan 20.34 273 P **P** **12 47 46.0 +0.9**
HIA Hailar 22.43 327 *eP* **P** **12 48 03.9 0.0**
comp=Z,15nm,1.0s
HHC Hu-ho-hao-te 23.24 301 *eP* **P** **12 48 12.5 +1.1**
HHC sP **sP** **12 50 06.1 +2.3**
HHC PcP **PcP** **12 51 48.3 +2.1**
HHC S **S** **12 51 54.3 0.0**
HHC PcS **PcS** **12 55 27.3 +1.5**
HHC pmax pmax
comp=Z,12nm,0.6s
HHC pmax pmax
comp=Z,210nm,4.8s
ENH Enshi 24.53 274 *eP* **P** **12 48 21.6 -1.5**
comp=Z,5.2nm,0.5s
XAN Xi'an 24.59 284 P **P** **12 48 22.3 -1.3**
XAN pmax pmax
comp=Z,4.0nm,0.7s
XAN pmax pmax
comp=Z,28nm,5.3s
PETK Petropavlovsk- 25.81 28 P **P** **12 48 34.8 +0.7**
PETK pmax pmax
comp=Z,2.0nm,0.5s
PETK Petropavlovsk- 25.81 28 P **P** **12 48 34.8 +0.7**
comp=Z,1.7nm,0.5s,baz=210,slow=5.0,SNR=11
GYA Guiyang 27.88 268 *eP* **P** **12 48 53.0 +0.1**
GYA pP PP 12 50 04.6 -1.2
GYA sP **sP** **12 50 50.0 +0.9**
GYA PcP **PcP** **12 51 58.8 +1.6**
GYA S **S** **12 53 05.4 -2.1**
GYA ScP **ScP** **12 55 01.3 +1.0**
GYA PcS **PcS** **12 55 40.1 +0.2**
GYA ScS **ScS** **12 58 52.5 -1.1**
GYA pmax pmax
comp=Z,10.0nm,0.6s
GYA pmax pmax
comp=Z,60nm,4.6s
ULN Ulaanbaatar 28.64 314 *eP* **P** **12 48 59.7 +0.3**
comp=Z,6.4nm,0.8s
ULN *e*PcP **PcP** **12 51 59.3 +0.6**
SONM Songino Array 29.03 313 P **P** **12 49 02.8 0.0**
comp=Z,2.9nm,0.6s,baz=124,slow=8.9,SNR=41
SONM PcP **PcP** **12 51 59.8 +0.1**
comp=Z,1.3nm,0.7s,baz=127,slow=2.1,SNR=10
SONM ScP **ScP** **12 55 03.2 -0.4**
comp=Z,0.8nm,0.6s,baz=128,slow=2.9,SNR=8.6
KMI Kunming 31.65 267 P **P** **12 49 25.8 -0.2**
KMI pmax pmax
comp=Z,16nm,0.9s
ZAK Zakamensk 31.91 316 *eP* **P** **12 49 27.5 -0.2**
ZAK pmax pmax
comp=Z,2.0nm,1.2s
GTA Gaotai 31.94 295 *eP* **P** **12 49 27.5 -0.7**
GTA pP **pP** **12 50 39.1 -1.0**
GTA sP **sP** **12 51 22.6 -2.7**
GTA pmax pmax
comp=Z,5.0nm,0.9s
TLY Talaya 32.23 319 *eP* **P** **12 49 30.1 -0.3**
TLY pmax pmax
comp=Z,3.0nm,0.8s
FX1 Attu Island--F 33.12 40 P **P** **12 49 39.7 +1.8**
comp=Z,12nm,0.5s,baz=188,slow=16,SNR=6.4
CHTO Chiang Mai 37.41 260 *eP* **P** **12 50 13.9 -0.7**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 37.41 260 *eP* **P** **12 50 13.9 -0.7**
comp=Z,8.4nm,0.8s
CMAR Chiang Mai Arr 37.58 259 P **P** **12 50 15.8 -0.2**
comp=Z,3.1nm,0.7s,baz=49,slow=7.5,SNR=26
CMAR PcP **PcP** **12 52 24.4 0.0**
comp=Z,0.5nm,0.4s,baz=26,slow=1.3,SNR=5.1
CMAR ScP **S** **12 55 33.3 -2.9**
comp=Z,0.4nm,0.3s,baz=34,slow=5.0,SNR=4.0
KSM Kuching 39.78 227 *eP* **P** **12 50 34.5 +0.4**
comp=Z,14nm,0.8s
BILL Bilibino 40.05 16⇑*iP* **P** **12 50 35.2 -0.3**
BILL pmax pmax
comp=Z,13nm,1.0s
BILL Bilibino 40.05 16 *eP* **P** **12 50 36.6 +1.1**
comp=Z,12nm,0.8s
LSA Lhasa 40.18 280 *eP* **P** **12 50 38.1 +0.4**
LSA pmax pmax
comp=Z,2.0nm,0.4s
LSA Lhasa 40.18 280 *eP* **P** **12 50 38.1 +0.4**
comp=Z,1.5nm,0.4s
WMQ Urumqi 41.11 302 *eP* **P** **12 50 45.1 +0.5**
WMQ pmax pmax
comp=Z,6.0nm,0.6s
WMQ pmax pmax
comp=Z,110nm,5.4s
PMG Port Moresby 41.65 166 *eP* **P** **12 50 48.4 -0.6**
comp=Z,4.0nm,0.5s
TAPN Taplejung 43.74 278 *eP* **P** **12 51 05.4 -0.6**
comp=Z,13nm,0.5s
TAPN Taplejung 43.74 278 *eP* **P** **12 51 05.4 -0.6**
comp=Z,13nm,0.5s
ZALV Zalesovo Beam 43.78 317 P **P** **12 51 04.7 -0.8**
ZALV 12 52 43.7
ZALV pmax pmax
comp=Z,2.0nm,0.4s
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV pmax pmax
comp=N,2.0nm,0.6s
ZALV Zalesovo Beam 43.78 317 P **P** **12 51 04.7 -0.8**
comp=N,1.7nm,0.3s,baz=100,slow=7.6,SNR=14
ZALV PcP **PcP** **12 52 43.7 -0.5**
comp=N,3.4nm,0.6s,baz=100,slow=3.6,SNR=16
ZALV ScP **ScP** **12 55 57.1 -0.8**
comp=N,1.5nm,0.6s,baz=110,slow=4.2,SNR=7.7
ODAN Odare 44.17 277 *eP* **P** **12 51 08.8 -0.5**
comp=N,38nm,0.4s
RAMN Ramite 44.81 278 *eP* **P** **12 51 13.7 -0.6**
comp=N,40nm,0.6s
RAMN Ramite 44.81 278 *eP* **P** **12 51 13.7 -0.6**
comp=N,40nm,0.6s
MKAR Makanchi Array 44.91 306 P **P** **12 51 14.0 -0.5**
MKAR 12 52 47.8
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR pmax pmax
comp=N,1.0nm,0.5s
MKAR Makanchi Array 44.91 306 *eP* **P** **12 51 14.1 -0.4**
MKAR Makanchi Array 44.91 306 P **P** **12 51 14.0 -0.5**
comp=N,4.7nm,0.8s,baz=89,slow=9.9,SNR=36
MKAR PcP **PcP** **12 52 47.8 -0.4**
comp=N,1.0nm,0.4s,baz=76,slow=3.3,SNR=16
MKAR ScP **ScP** **12 56 01.9 -0.8**
comp=N,0.5nm,0.5s,baz=83,slow=5.5,SNR=4.9
JIRN Jiri 44.93 279 *eP* **P** **12 51 15.4 0.0**
comp=N,16nm,0.6s
JIRN Jiri 44.93 279 *eP* **P** **12 51 15.4 0.0**
comp=N,16nm,0.6s
GUN Gumba 45.12 279 *eP* **P** **12 51 16.6 -0.2**
comp=N,46nm,0.6s
GUN Gumba 45.12 279 *eP* **P** **12 51 16.6 -0.2**
comp=N,46nm,0.6s
PKI Pulchoki 45.62 279 *eP* **P** **12 51 19.9 -0.8**
PKI Pulchoki 45.62 279 *eP* **P** **12 51 19.9 -0.8**
PKI Pulchoki 45.62 279 *eP* **P** **12 51 19.9 -0.8**
KKN Kakani 45.66 279 *eP* **P** **12 51 20.4 -0.4**
comp=N,44nm,0.9s
KKN Kakani 45.66 279 *eP* **P** **12 51 20.4 -0.4**
KKN pmax pmax
comp=Z,44nm,0.9s
KKN Kakani 45.66 279 *eP* **P** **12 51 20.4 -0.4**
comp=Z,44nm,0.9s
DMN Daman 45.86 279 *eP* **P** **12 51 21.7 -0.7**
DMN Daman 45.86 279 *eP* **P** **12 51 21.7 -0.7**
GKN Gorkha 46.13 280 *eP* **P** **12 51 23.8 -0.6**
comp=Z,24nm,0.8s
GKN Gorkha 46.13 280 *eP* **P** **12 51 23.8 -0.6**
comp=Z,24nm,0.8s
DANN Dangsing 46.77 281 *eP* **P** **12 51 29.3 -0.1**
comp=Z,32nm,0.5s
DANN Dangsing 46.77 281 *eP* **P** **12 51 29.3 -0.1**
comp=Z,32nm,0.5s
KOLN Koldanda 47.08 280 *eP* **P** **12 51 31.5 -0.2**
comp=Z,8.3nm,0.3s
KURK Kurchatov 47.32 312*d iP* **P** **12 51 31.8 -1.1**
KURK pmax pmax
comp=Z,8.0nm,1.2s
KURK Kurchatov 47.32 312 *eP* **P** **12 51 32.2 -0.7**
comp=Z,9.9nm,1.0s
KURBB Kurchatov Arra 47.38 312 P **P** **12 51 32.6 -0.8**
comp=Z,2.7nm,0.4s,baz=103,slow=6.2,SNR=27
KURBB PcP **PcP** **12 52 56.3 -0.6**
comp=Z,0.4nm,0.3s,baz=97,slow=3.7,SNR=7.0
TKM2 Tokmak 2 49.97 302 *eP* **P** **12 51 53.0 -0.3**
TKM2 pmax pmax
comp=Z,3.0nm,0.6s
TKM2 Tokmak 2 49.97 302 *eP* **P** **12 51 53.0 -0.3**
comp=Z,2.7nm,0.6s
KSH Kashi 50.28 297 *eP* **P** **12 51 58.3 +2.8**
KSH PcP **PcP** **12 53 09.4 +1.5**
KSH pP **pP** **12 53 16.1 +1.8**
KSH sP **sP** **12 53 56.9 -0.7**
KSH PP PP 12 53 59.5 +4.2
KSH ScP **ScP** **12 56 27.6 +1.9**
KSH PcS **PcS** **12 57 07.8 +2.0**
KSH S **S** **12 58 40.3 +2.6**
KSH ScS **ScS** **13 01 04.9 +0.3**
KSH SS SS 13 02 19.3 +2.5
KSH pmax pmax
comp=Z,7.0nm,0.8s
KSH pmax pmax
comp=Z,85nm,3.2s
KSH LR LR
comp=N,100nm,4.0s
KSH LR LR
comp=E,110nm,6.8s
KSH LR LR
comp=Z,290nm,5.5s
FITZ Fitzroy Crossi 50.80 195 *eP* **P** **12 51 59.0 -0.2**
FITZ Fitzroy Crossi 50.80 195 *eP* **P** **12 51 58.6 -0.6**
comp=Z,6.2nm,0.4s
AAK Ala-Archa 50.82 302⇑*iP* **P** **12 51 57.9 -1.6**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 50.82 302 *eP* **P** **12 51 58.6 -0.9**
comp=Z,182nm,2.3s
AAK Ala-Archa 50.82 302 P **P** **12 51 59.2 -0.3**
comp=Z,3.1nm,0.5s,baz=90,slow=6.1,SNR=15
AAK PcP **PcP** **12 53 09.5 -0.4**
comp=Z,1.4nm,0.8s,baz=124,slow=3.6,SNR=4.6
WRAB Tennant Creek 51.32 184 *eP* **P** **12 52 02.2 -0.9**
WRAB *e* 12 53 12.1
WRAB pmax pmax
comp=Z,6.0nm,0.7s
WRAB Tennant Creek 51.32 184 *eP* **P** **12 52 02.1 -0.9**
comp=Z,5.5nm,0.7s
WRAB *e*PcP **PcP** **12 53 12.1 +0.3**
WRAB *e*ScP ScP 12 56 22.6 -7.5
WRA Warramunga Arr 51.33 184 P **P** **12 52 02.3 -0.9**
comp=Z,3.9nm,0.5s,baz=0.7,slow=7.8,SNR=146
WRA PcP **PcP** **12 53 11.5 -0.3**
comp=Z,4.0nm,0.8s,baz=356,slow=4.0,SNR=14
BVAR Borovoye Array 52.35 315 P **P** **12 52 10.0 -0.3**
BVAR 12 53 14.9
BVAR pmax pmax
comp=Z,6.0nm,0.4s
BVAR pmax pmax
comp=Z,3.0nm,0.4s
BVAR pmax pmax
comp=N,2.0nm,0.6s
BVAR Borovoye Array 52.35 315 P **P** **12 52 10.0 -0.3**
comp=N,5.5nm,0.4s,baz=102,slow=7.0,SNR=32
BVAR PcP **PcP** **12 53 14.9 -0.3**
comp=N,2.7nm,0.4s,baz=100,slow=2.7,SNR=10
BVAR ScP **ScP** **12 56 33.7 -0.6**
comp=N,1.6nm,0.6s,baz=98,slow=4.5,SNR=8.4
BRVK Borovoye 52.41 315 *eP* **P** **12 52 09.4 -1.3**
BRVK pmax pmax
comp=Z,4.0nm,1.1s
KDAK Kodiak Island 53.05 39 P **P** **12 52 15.5 +0.2**
comp=Z,20nm,0.6s,baz=244,slow=5.6,SNR=25
KKAR Karatay Array 53.61 303 *eP* **P** **12 52 19.3 -0.3**
KKAR *e* 12 53 19.7
KKAR Karatay Array 53.61 303 *eP* **P** **12 52 19.3 -0.3**
KKAR *e*PcP **PcP** **12 53 19.7 -0.6**
ASAR Alice Springs 55.05 185 P **P** **12 52 29.4 -0.6**
comp=Z,1.7nm,0.4s,baz=12,slow=9.7,SNR=74
ASAR PcP **PcP** **12 53 26.5 +0.5**
comp=Z,0.5nm,0.5s,baz=2.1,slow=3.8,SNR=4.3
ASAR ScP **ScP** **12 56 46.0 -0.4**
comp=Z,0.3nm,0.8s,baz=3.2,slow=5.5,SNR=3.2
MBWA Marble Bar 55.29 201 *eP* **P** **12 52 30.7 -0.9**
ILAR Eielson Array 55.50 30 P **P** **12 52 33.1 -0.2**
comp=Z,1.7nm,0.7s,baz=266,slow=5.5,SNR=28
BMRM Bremner River 56.91 35 *eP* **P** **12 52 44.0 +1.4**
comp=Z,389nm,2.9s
SVE Sverdlovsk 57.51 320‖*eP* **P** **12 52 46.8 +0.1**
SVE pmax pmax
comp=Z,9.0nm,0.9s
EGAK Eagle 58.05 30 *eP* **P** **12 52 50.7 +0.4**
comp=Z,109nm,2.7s
EGAK *e*PcP **PcP** **12 53 36.7 -0.4**
ARU Arti 58.71 320*d iP* **P** **12 52 54.0 -0.9**
ARU 12 55 06.5
ARU S **S** **13 00 29.3 +1.1**
ARU pmax pmax
comp=Z,4.0nm,0.4s
ARU Arti 58.71 320 *eP* **P** **12 52 54.3 -0.6**
comp=Z,7.3nm,0.5s
ARU *e*PcP **PcP** **12 53 40.2 +0.2**
POO Poona 58.88 274 *ex* x 12 52 16.0
ABKAR Akbulak array 59.44 312 *eP* **P** **12 52 59.5 -0.5**
AKTO Aktyubinsk 60.35 314 P **P** **12 53 05.7 -0.4**
AKTO pmax pmax
comp=Z,2.0nm,0.6s
AKTO Aktyubinsk 60.35 314 P **P** **12 53 05.7 -0.4**
comp=Z,2.2nm,0.6s,baz=76,slow=16,SNR=10
INK Inuvik 60.51 25 *eP* **P** **12 53 07.5 +0.7**
comp=Z,4.0nm,0.6s
INK Inuvik 60.51 25 P **P** **12 53 07.3 +0.5**
comp=Z,4.5nm,0.5s,baz=300,slow=6.5,SNR=54
FORT Forrest 62.72 190 *eP* **P** **12 53 21.0 -0.8**
comp=Z,15nm,0.7s
STKA Stephens Creek 63.18 177 *eP* **P** **12 53 24.4 -0.3**
comp=Z,3.6nm,0.6s
STKA Stephens Creek 63.18 177 P **P** **12 53 24.5 -0.3**
comp=Z,4.2nm,0.6s,baz=348,slow=7.4,SNR=17
MORW Morawa 63.83 201 *eP* **P** **12 53 28.2 -0.9**
comp=Z,12nm,0.4s
DLBC Dease Lake 64.66 36 P **P** **12 53 35.0 +0.8**
comp=Z,2.7nm,0.8s,baz=326,slow=5.5,SNR=7.9
YNG Young 66.22 171 *eP* **P** **12 53 44.9 +0.7**
comp=Z,6.8nm,0.7s
KEV Kevo 67.58 339 *eP* **P** **12 53 51.4 -0.8**
KEV pmax pmax
comp=Z,5.0nm,0.8s
KEV Kevo 67.58 339 *ep* **P** **12 53 51.4 -0.8**
comp=Z,5.4nm,0.8s
ARCES ARCESS Array B 68.14 340 P **P** **12 53 55.9 +0.1**
comp=Z,1.7nm,0.4s,baz=64,slow=8.7,SNR=14
RES Resolute Bay 68.57 13 *eP* **P** **12 53 58.9 +0.7**
comp=Z,74nm,3.0s
RES Resolute Bay 68.57 13 P **P** **12 53 58.5 +0.3**
comp=Z,3.4nm,0.6s,baz=315,slow=6.4,SNR=17
JOF Joensuu 69.49 332 *eP* **P** **12 54 02.5 -1.5**
JOF pmax pmax
comp=Z,6.0nm,0.6s
JOF Joensuu 69.49 332 *ep* **P** **12 54 02.5 -1.5**
comp=Z,5.7nm,0.6s
VRHR Novokhopersk 69.89 318 *eP* **P** **12 54 04.9 -1.8**
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.5s
VRHR pmax pmax
comp=Z,10.0nm,0.5s
YKA Yellowknife Ar 69.93 28 P **P** **12 54 06.9 +0.2**
comp=Z,2.2nm,0.5s,baz=300,slow=6.3,SNR=69
OBN Obninsk 70.83 323 *eP* **P** **12 54 10.1 -2.0**
OBN pmax pmax
comp=Z,6.0nm,0.8s
VSR Storozhevoye 71.23 319 *eP* **P** **12 54 13.8 -0.8**
VSR pmax pmax
comp=N,8.0nm,0.6s
VSR pmax pmax
comp=E,6.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORD Divnogorie 71.27 319 *eP* **P** **12 54 14.4 -0.5**
KAF Kangasniemi 71.89 333 *eP* **P** **12 54 17.2 -1.1**
KAF pmax pmax
comp=Z,4.0nm,0.4s
KAF Kangasniemi 71.89 333 *ep* **P** **12 54 17.2 -1.1**
comp=Z,3.8nm,0.4s
FINES FINESS Array B 72.36 332 P **P** **12 54 20.8 -0.3**
comp=Z,6.2nm,0.4s,baz=69,slow=5.4,SNR=89
KBZ Khabaz 72.37 311 P **P** **12 54 21.7 +0.2**
KBZ pmax pmax
comp=Z,9.0nm,0.8s
KBZ Khabaz 72.37 311 P **P** **12 54 21.7 +0.2**
comp=Z,9.4nm,0.8s,baz=93,slow=5.1,SNR=17
YBH Yreka Blue Hor 75.94 50 P **P** **12 54 43.1 +1.0**
comp=Z,0.7nm,0.4s,baz=272,slow=5.9,SNR=5.7
NEW Newport 76.02 42 *eP* **P** **12 54 43.5 +1.2**
NEW Newport 76.02 42 ⇓P **P** **12 54 42.8 +0.5**
baz=76
C11A Tepee Creek (N 76.73 42 ⇑P **P** **12 54 47.2 +0.8**
baz=77
AKASG Malin Array Be 76.91 322 P **P** **12 54 46.7 -0.4**
AKASG pmax pmax
comp=Z,4.0nm,0.3s
AKASG Malin Array Be 76.91 322 P **P** **12 54 46.7 -0.4**
comp=Z,4.0nm,0.3s,baz=52,slow=5.5,SNR=20
KIEV Kiev 76.92 322 *eP* **P** **12 54 45.9 -1.3**
KIEV Kiev 76.92 322 *eP* **P** **12 54 45.9 -1.3**
A13A Flathead Natio 77.17 40 ⇑P **P** **12 54 49.4 +0.6**
baz=77
B13A Whitefish 77.45 41 ⇓P **P** **12 54 51.1 +0.8**
baz=77
D12A Red Ives Fores 77.67 42 ⇑P **P** **12 54 52.2 +0.6**
baz=78
A14A Double T Ranch 77.69 40 ⇑P **P** **12 54 52.8 +1.1**
baz=78
BMO Blue Mountains 77.72 45 *eP* **P** **12 54 52.8 +0.9**
BMO Blue Mountains 77.72 45 *eP* **P** **12 54 52.8 +0.9**
C13A Hot Springs 77.77 41 ⇓P **P** **12 54 52.9 +0.8**
baz=78,SNR=5.6
E12A Beaver Dam Sad 77.90 43 ⇓P **P** **12 54 53.8 +0.9**
baz=78
HFS Hagfors 77.90 335 P **P** **12 54 52.0 -0.4**
comp=Z,3.1nm,0.6s,baz=59,slow=5.2,SNR=18
A15A Johnson Ranch, 78.06 39 ⇑P **P** **12 54 54.4 +0.7**
baz=78,SNR=7.3
B14A Marquette Ranc 78.12 40 ⇓P **P** **12 54 55.2 +1.2**
baz=78
NB2 NORSAR Subarra 78.13 337 P **P** **12 54 53.1 -0.6**
comp=Z,1.3nm,0.5s,baz=44,slow=5.3
NOA NORSAR Array B 78.13 337 P **P** **12 54 53.5 -0.2**
comp=Z,2.3nm,0.7s,baz=44,slow=5.4,SNR=8.1
D13A Huson 78.16 42 ⇓P **P** **12 54 54.6 +0.4**
baz=78
C14A Swan Lake 78.19 41 ⇑P **P** **12 54 55.0 +0.6**
baz=78
BEKR Beckworth 78.42 50 ⇓P **P** **12 54 56.5 +0.6**
baz=78
F12A Elk City 78.44 43 ⇑P **P** **12 54 56.7 +0.8**
baz=78,SNR=8.1
B15A Bradely Ranch, 78.54 40 ⇑P **P** **12 54 56.7 +0.5**
baz=78,SNR=5.5
SLMT Seeley Lake 78.63 41 *eP* **P** **12 54 57.3 +0.5**
E13A Victor 78.68 42 ⇑P **P** **12 54 58.0 +1.0**
baz=79
A16A West Butte Ran 78.70 39 ⇑P **P** **12 54 57.9 +0.8**
baz=79
D14A Greenough 78.71 41 ⇓P **P** **12 54 57.8 +0.6**
baz=79
G12A Big Creek, Yel 78.75 44 ⇓P **P** **12 54 57.8 +0.3**
baz=79
C15A Salmond Ranch, 78.82 40 ⇓P **P** **12 54 58.5 +0.7**
baz=79
B16A M & M Farms, S 78.95 40 ⇓P **P** **12 54 58.9 +0.5**
baz=79,SNR=5.2
F13A Darby 78.96 43 ⇓P **P** **12 54 58.9 +0.3**
baz=79
A17A Triple J Farms 79.18 39 ⇓P **P** **12 55 00.2 +0.6**
baz=79
C16A Fuhringer Ranc 79.28 40 ⇑P **P** **12 55 00.8 +0.6**
baz=79,SNR=7.0
D15A Lincoln 79.29 41 ⇑P **P** **12 55 01.0 +0.6**
baz=79
H12A Diamond D Ranc 79.35 44 ⇑P **P** **12 55 01.5 +0.8**
baz=79,SNR=6.3
CMB Columbia Colle 79.36 52 *eP* **P** **12 55 01.8 +1.0**
CMB Columbia Colle 79.36 52 *eP* **P** **12 55 01.8 +1.0**
MFID Camas Ranch 79.39 45 ⇑P **P** **12 55 02.0 +1.1**
baz=79
G13A Cobalt 79.41 43 ⇓P **P** **12 55 01.6 +0.5**
baz=79
F14A Wisdom 79.50 42 ⇓P **P** **12 55 02.3 +0.7**
baz=79
B17A L&G Farms, Che 79.51 39 ⇓P **P** **12 55 02.1 +0.7**
baz=79,SNR=12
E15A Deer Lodge 79.57 42 ⇑P **P** **12 55 02.8 +0.9**
baz=79
I12A Atlanta 79.60 45 ⇓P **P** **12 55 03.0 +0.9**
baz=80
A18A Metzger Ranch, 79.65 38 ⇑P **P** **12 55 02.9 +0.8**
baz=80
H13A Challis 79.69 44 ⇓P **P** **12 55 03.2 +0.7**
baz=80,SNR=7.3
D16A Dana Ranch, Ca 79.83 41 ⇑P **P** **12 55 03.9 +0.7**
baz=80
C17A Wharram Farm, 79.92 40 ⇑P **P** **12 55 04.1 +0.5**
baz=80
F15A Butte 79.99 42 ⇑P **P** **12 55 05.0 +0.8**
baz=80,SNR=9.6
B18A Beardsley Farm 80.00 39 ⇓P **P** **12 55 04.7 +0.7**
baz=80,SNR=9.0
E16A East Helena 80.05 41 ⇓P **P** **12 55 05.6 +1.2**
baz=80
I13A Wildhorse Cree 80.14 44 ⇑P **P** **12 55 06.4 +1.3**
baz=80

HLID Hailey 80.16 45 eP P 12 55 06.7 +1.6
HLID Hailey 80.16 45 ⇑P P 12 55 06.4 +1.2
baz=80
H14A Leadore 80.19 43 ⇓P P 12 55 06.0 +0.7
baz=80
DLMT Dillon 80.21 42 eP P 12 55 06.5 +1.3
A19A Klindworth Far 80.22 38 ⇑P P 12 55 05.8 +0.6
baz=80
EGMT Eagleton 80.23 39 eP P 12 55 06.2 +1.0
EGMT Eagleton 80.23 39 ⇑P P 12 55 06.0 +0.7
baz=80,SNR=5.0
D17A Six Diamond Ra 80.24 40 ⇓P P 12 55 06.0 +0.6
baz=80
BRTR Keskin Array B 80.36 311 P P 12 55 06.2 +0.1
comp=Z,3.8nm,0.7s,baz=104,slow=4.5,SNR=17
G15A Dillon 80.38 43 ⇓P P 12 55 07.0 +0.7
baz=80
J13A Cove Ranch, Pi 80.40 45 ⇑P P 12 55 07.6 +1.3
baz=80,SNR=7.5
B19A Brinkman Farms 80.41 38 ⇓P P 12 55 07.2 +1.1
baz=80
F16A Kennard Place, 80.52 42 ⇓P P 12 55 07.8 +0.9
baz=80,SNR=5.0
I14A Mackay 80.53 44 ⇓P P 12 55 08.4 +1.3
baz=80,SNR=18
NVAR Mina Array Bea 80.54 51 P P 12 55 07.7 +0.4
comp=Z,0.9nm,0.6s,baz=291,slow=5.1,SNR=12
E17A Martinsdale 80.55 41 ⇓P P 12 55 08.4 +1.3
baz=80
BOZ Bozeman (W) 80.60 42 ⇑P P 12 55 08.3 +1.0
baz=80
G16A Moss Hill, Enn 80.74 42 ⇓P P 12 55 08.8 +0.7
baz=81
C19A Slack Wire Ran 80.78 39 ⇓P P 12 55 09.2 +1.1
baz=81
J14A Carey 80.84 45 ⇑P P 12 55 10.6 +2.0
baz=81
KWP Kalwaria Pacla 80.92 323 eP P 12 55 09.1 +0.4
KWP Kalwaria Pacla 80.92 323 eP P 12 55 09.1 +0.4
F17A Fitzpatrick Pl 80.99 41 ⇓P P 12 55 10.1 +0.7
baz=81
E18A Harlowton 81.02 40 ⇓P P 12 55 10.6 +1.1
baz=81
I15A Monteview 81.06 44 ⇓P P 12 55 10.9 +1.1
baz=81
A21A Bergtoll Ranch 81.13 37 ⇑P P 12 55 10.5 +0.6
baz=81
D19A Cripps Ranch, 81.22 39 ⇓P P 12 55 11.3 +0.8
baz=81,SNR=5.4
ELK Elko 81.24 47 eP P 12 55 12.4 +1.5
G17A Pierce Place, 81.30 42 ⇑P P 12 55 12.2 +1.2
baz=81
C20A Veseth Ranch, 81.36 39 ⇓P P 12 55 12.2 +1.1
baz=81
H16A Russell Place, 81.37 42 ⇓P P 12 55 12.7 +1.3
baz=81
VES Vestal, Richgr 81.41 53 ⇑P P 12 55 11.7 +0.2
baz=81
J15A Blackfoot 81.44 44 ⇑P P 12 55 13.6 +1.9
baz=81
K14A Jones Ranch, D 81.49 45 ⇑P P 12 55 13.3 +1.3
baz=81
F18A Big Timber 81.52 41 ⇓P P 12 55 13.2 +1.1
baz=81
YMR Madison River 81.55 42 eP P 12 55 14.3 +1.9
A22A Carney Farms, 81.65 37 ⇓P P 12 55 12.9 +0.3
baz=82
D20A Manuel Ranch, 81.67 39 ⇓P P 12 55 13.6 +0.8
baz=82,SNR=6.5
E19A Rath Farm, Rou 81.70 40 ⇑P P 12 55 13.9 +0.9
baz=82,SNR=7.3
I16A Newdale 81.72 43 ⇓P P 12 55 14.9 +1.7
baz=82
MLR Muntele Rosu 81.72 319 P P 12 55 12.8 -0.3
comp=Z,0.4nm,0.4s,baz=345,slow=12,SNR=6.8
L14A Malta 81.74 45 ⇓P P 12 55 14.9 +1.5
baz=82
ISA Isabella 81.92 53 ⇓P P 12 55 14.6 +0.3
baz=82
H17A Grant Village 81.94 42 ⇑P P 12 55 16.9 +2.4
baz=82,SNR=5.7
J16A Bone 82.00 44 ⇓P P 12 55 16.2 +1.5
baz=82
IMW Indian Meadow 82.03 43 eP P 12 55 16.3 +1.4
E20A Meyer Farm, Mu 82.03 40 ⇓P P 12 55 15.7 +1.0
baz=82
B22A Reddig Ranch S 82.05 37 ⇑P P 12 55 14.8 +0.2
baz=82
FLWY Flagg Ranch 82.05 43 eP P 12 55 16.9 +1.9
RRI2 Red Ridge 82.13 44 eP P 12 55 17.3 +1.8
I17A Pilgrim Ck. 82.22 43 ⇑P P 12 55 18.0 +2.1
baz=82
RLMT Red Lodge 82.25 41 ⇓P P 12 55 17.6 +1.6
baz=82
K16A Soda Springs 82.27 44 ⇓P P 12 55 18.2 +2.0
baz=82
L15A Malad City 82.28 45 ⇓P P 12 55 16.6 +0.5
baz=82
H18A Shoshone NF, C 82.29 42 ⇓P P 12 55 17.6 +1.3
baz=82
BLG Laguna Peak 82.36 55 ⇓P P 12 55 17.1 +0.6
baz=82
R11A Troy Canyon, C 82.36 50 ⇓P P 12 55 17.5 +0.9
baz=82
MPMC Manual Prospec 82.38 52 ⇓P P 12 55 17.4 +0.6
baz=82
B23A Brockton 82.46 37 ⇑P P 12 55 17.3 +0.6
baz=82
LRMC Laurel Mountai 82.56 53 ⇓P P 12 55 18.1 +0.5
baz=82
FURC Furnace Creek, 82.57 52 ⇑P P 12 55 18.5 +1.1
baz=82
D22A Cohagen 82.68 38 ⇓P P 12 55 18.7 +0.8
baz=82
H19A Powell 82.68 41 ⇑P P 12 55 19.4 +1.3
baz=82
EDW2 Edwards Air Fo 82.68 54 ⇓P P 12 55 19.4 +1.2
baz=83
C23A Lambert 82.78 37 ⇓P P 12 55 19.5 +1.0
baz=83
I18A Diamond G Ranc 82.79 43 ⇓P P 12 55 20.1 +1.3
baz=83
MMAI Mount Meron Ar 82.81 304 P P 12 55 19.0 +0.1
comp=Z,3.3nm,0.5s,baz=54,slow=4.2,SNR=5.6
J18A Kendall Valley 82.97 43 ⇓P P 12 55 21.2 +1.4
baz=83
HWUT Hardware Ranch 83.01 45 eP P 12 55 21.5 +1.6
I19A Meeteetse 83.06 42 ⇓P P 12 55 21.5 +1.4
baz=83
DUG Dugway 83.07 47 eP P 12 55 21.5 +1.3
DUG Dugway 83.07 47 eP P 12 55 21.5 +1.3
DUG Dugway 83.07 47 ⇓P P 12 55 21.5 +1.3
baz=83
L17A Cokeville 83.13 44 ⇓P P 12 55 21.7 +1.1
baz=83
M16A Huntsville 83.14 45 ⇑P P 12 55 21.6 +1.0
baz=83
D23A Lindsay 83.17 38 ⇑P P 12 55 21.6 +1.1
baz=83
GSC Goldstone 83.26 53 ⇑P P 12 55 22.1 +1.0
baz=83
BFSC Mount Baldy Ra 83.26 54 ⇑P P 12 55 21.9 +0.7
baz=83
K18A Toltan Ranch, 83.30 44 ⇑P P 12 55 22.9 +1.5
baz=83
H20A Greybull 83.35 41 ⇑P P 12 55 22.9 +1.5
baz=83
J19A Crowheart 83.50 43 ⇑P P 12 55 23.3 +1.0
baz=83
R13A O'Grain Ranch, 83.51 49 ⇑P P 12 55 23.5 +1.0
baz=83
BW06 Boulder Array 83.51 43 eP P 12 55 23.2 +0.7
BW06 Boulder Array 83.51 43 ⇓P P 12 55 23.3 +0.8
baz=83
PDAR Pinedale Array 83.51 43 P P 12 55 23.2 +0.8
comp=Z,2.0nm,0.9s,baz=302,slow=1.9,SNR=14
N16A Rees Ranch, Co 83.51 46 ⇓P P 12 55 23.4 +0.9
baz=83
E23A Ismay 83.56 38 ⇓P P 12 55 23.3 +0.9
baz=83
DPC Dobruska-Polom 83.56 327 eP P 12 55 22.6 +0.3
DPC Dobruska-Polom 83.56 327 eP P 12 55 22.6 +0.3
I20A Worland 83.61 42 ⇓P P 12 55 23.7 +1.0
baz=84
M17A Scullys Gap (B 83.63 45 ⇑P P 12 55 23.8 +0.7
baz=84
D24A Glendive 83.67 38 ⇓P P 12 55 23.8 +0.9
baz=84
L18A Fontenelle, Gr 83.74 44 ⇓P P 12 55 24.4 +0.9
baz=84
P15A Leamington 83.77 47 ⇓P P 12 55 24.8 +1.1
baz=84
TUQ Turquoise Moun 83.78 52 ⇑P P 12 55 24.9 +1.0
baz=84
H21A Big Horn, Sher 83.80 41 ⇑P P 12 55 24.6 +0.9
baz=84
G22A Birney 83.84 40 ⇑P P 12 55 24.8 +1.0
baz=84
HEC Hector,Ludlow 83.84 53 ⇑P P 12 55 24.8 +0.7
baz=84
N17A Moffit Pass 83.85 45 ⇓P P 12 55 25.0 +0.8
baz=84
K19A Absolon Red Bu 83.89 43 ⇓P P 12 55 24.4 +0.1
baz=84
DAU Daniels Canyon 83.91 46 eP P 12 55 25.6 +1.0
DAU Daniels Canyon 83.91 46 eP P 12 55 25.6 +1.0
MURC Murrieta 83.93 54 ⇓P P 12 55 25.5 +1.0
baz=84
F23A Volborg 84.00 39 ⇑P P 12 55 25.5 +0.9
baz=84
M18A Lyman 84.02 45 ⇓P P 12 55 26.3 +1.3
baz=84
L19A Farson 84.03 44 ⇓P P 12 55 26.3 +1.2
baz=84
P16A Fountain Green 84.13 47 ⇑P P 12 55 26.9 +1.3
baz=84
VRAC Vranov 84.15 326 P P 12 55 25.0 -0.2
comp=Z,1.0nm,0.5s,baz=48,slow=4.0,SNR=4.1
I21A Big Trails, Te 84.17 41 ⇑P P 12 55 26.3 +0.6
baz=84
K20A Yellowstone Ra 84.28 43 ⇑P P 12 55 27.0 +0.8
baz=84
BRG Berggiesshubel 84.29 328 eP P 12 55 25.5 -0.4
comp=Z,3.8nm,0.7s
BRG Berggiesshubel 84.29 328 eP P 12 55 25.5 -0.4
BRG pmax pmax
comp=Z,4.0nm,0.7s
GMRC Granite Mounta 84.33 53 ⇓P P 12 55 28.0 +1.4
baz=84
G23A Biddle 84.34 39 ⇑P P 12 55 26.8 +0.5
baz=84
O17A Robinson Place 84.35 46 ⇑P P 12 55 28.2 +1.5
baz=84
J21A Lysite 84.37 42 ⇑P P 12 55 28.0 +1.3
baz=84
CLL Collm 84.40 329 ⇓iP P 12 55 25.5 -0.9
CLL pmax pmax
comp=Z,5.0nm,1.2s
CLL Collm 84.40 329 ⇓iP P 12 55 25.5 -0.9
comp=Z,5.0nm,1.2s
F24A Ekalaka 84.43 39 ⇓P P 12 55 27.6 +0.8
baz=84
PFO Pinyon Flat Ob 84.44 54 eP P 12 55 27.6 +0.4
PFO Pinyon Flat Ob 84.44 54 ⇑P P 12 55 27.6 +0.4
baz=84
BELC Belle Mtn. Jos 84.54 53 ⇓P P 12 55 28.5 +0.9
baz=84
I22A 9 Mile Ranch, 84.57 41 ⇓P P 12 55 28.8 +1.2
baz=84
R15A Junction 84.57 48 ⇑P P 12 55 29.2 +1.4
baz=84
L20A Wamsutter 84.69 43 ⇑P P 12 55 30.3 +2.0
baz=85
O18A Roosevelt 84.76 45 ⇓P P 12 55 29.9 +1.3
baz=85
G24A Alzada 84.78 39 ⇓P P 12 55 32.9 +4.3
baz=85
P17A Butcher Ranch, 84.78 46 ⇑P P 12 55 30.1 +1.3
baz=85
MONP Monument Peak 84.87 54 ⇑P P 12 55 30.3 +0.9
baz=85
N19A John Jarvie Ra 84.88 45 ⇑P P 12 55 30.2 +1.0
baz=85
J22A Midwest 84.88 41 ⇓P P 12 55 30.0 +0.9
baz=85
K21A Alcova 84.93 42 ⇓P P 12 55 30.4 +1.0
baz=85
P18A Preston Nutter 85.00 46 ⇓P P 12 55 31.7 +1.7
baz=85
IRM Iron Mountain 85.03 53 ⇑P P 12 55 31.0 +1.1
baz=85
R16A Teasdale 85.03 48 ⇓P P 12 55 31.4 +1.3
baz=85
M20A Sweetwater, Wa 85.10 44 ⇓P P 12 55 31.9 +1.6
baz=85
BC3 Big Chuckawall 85.11 53 ⇑P P 12 55 31.3 +0.9
baz=85
SRU San Rafael 85.14 47 ⇓P P 12 55 31.4 +0.9
baz=85
DVTC Desert V Tower 85.22 55 ⇑P P 12 55 32.2 +1.2
baz=85
SWSC Sam W. Stewart 85.28 54 ⇓P P 12 55 31.7 +0.6
baz=85
W13A Hualapai Mount 85.34 51 ⇑P P 12 55 33.0 +1.4
baz=85
Q18A Rafter H Ranch 85.39 46 ⇓P P 12 55 32.9 +1.2
baz=85
R17A Hanksville Air 85.44 47 ⇑P P 12 55 33.7 +1.7
baz=85
N20A Spence Gulch, 85.46 44 ⇑P P 12 55 33.7 +1.5
baz=85
M21A Separation Pea 85.51 43 ⇑P P 12 55 33.4 +1.0
baz=85
U15A North Rim 85.61 50 ⇓P P 12 55 34.5 +1.4
baz=86
P19A Cripple Cowboy 85.77 45 ⇑P P 12 55 34.8 +1.2
baz=86
GERES GERESS Array B 85.84 327 P P 12 55 32.6 -1.0
comp=Z,0.7nm,0.4s,baz=39,slow=4.9,SNR=9.3
S17A Black Ridge (B 85.85 48 ⇓P P 12 55 34.8 +0.8
baz=86
N21A Black Mountain 85.95 44 ⇑P P 12 55 35.2 +0.6
baz=86
R18A Canyonlands Na 85.97 47 ⇑P P 12 55 35.1 +0.5
baz=86
Q19A Hogan Spring (86.01 46 ⇑P P 12 55 36.3 +1.6
baz=86
L23A Garrett 86.15 42 ⇓P P 12 55 35.8 +0.4
baz=86
P20A De Beque 86.21 45 ⇑P P 12 55 36.7 +1.0
baz=86
S18A Hurst Farm, Bl 86.33 48 ⇑P P 12 55 37.5 +1.0
baz=86
PV10 Paradox Valley 86.50 47 eP P 12 55 38.9 +1.6
PV10 epP pP 12 57 09.9 +3.2
N22A Wattenberg Ran 86.55 43 ⇓P P 12 55 39.0 +1.6
baz=86
M23A Laramie 86.55 42 ⇓P P 12 55 38.5 +1.1
baz=86
Q20A Ridgley Place, 86.61 46 ⇓P P 12 55 39.0 +1.4
baz=86
T18A Mexican Hat 86.74 48 ⇓P P 12 55 38.7 +0.4
baz=87
N23A Red Feather La 86.79 43 ⇑P P 12 55 39.4 +0.8
baz=87
O22A Kremmling 86.90 44 ⇓P P 12 55 40.2 +1.0
baz=87
R20A Redvale 87.03 46 ⇑P P 12 55 41.3 +1.6
baz=87
M24A Cheyenne 87.06 42 ⇓P P 12 55 40.9 +1.2
baz=87
P22A Eagle 87.13 44 ⇓P P 12 55 41.6 +1.4
baz=87
O23A Lake Granby, G 87.24 44 ⇓P P 12 55 42.2 +1.4
baz=87
R21A Cimarron 87.43 46 ⇑P P 12 55 42.7 +1.1
baz=87
Q22A Crested Butte, 87.50 45 ⇑P P 12 55 43.7 +1.7
baz=87
U19A Dine' College, 87.68 48 ⇑P P 12 55 44.2 +1.4
baz=88
ISCO Idaho Springs 87.68 44 ⇑P P 12 55 43.6 +0.8
baz=88
R22A Saguache, Gunn 88.00 45 ⇑P P 12 55 45.2 +0.8
baz=88
R24A Sanders Place, 88.99 45 ⇓P P 12 55 50.8 +1.9
baz=89
FUORN Ofenpass-Fuorn 89.05 327 eP P 12 55 48.8 -0.2
SDCO Great Sand Dun 89.07 45 eP P 12 55 50.4 +1.0
comp=Z,0.7nm,0.7s
SDCO Great Sand Dun 89.07 45 ⇓P P 12 55 50.5 +1.2
baz=89
DAVOX Davos/Dischmat 89.11 327 P P 12 55 48.7 -0.6
baz=350,slow=6.1
U23A El Rito 89.55 47 ⇑P P 12 55 53.1 +1.5
baz=89
Y20A Horse Springs, 89.69 50 ⇓P P 12 55 53.4 +1.1
baz=90
Z20A Nine Sixteen R 90.04 50 ⇑P P 12 55 55.2 +1.4
baz=90
Y21A Point of Rocks 90.08 49 ⇓P P 12 55 55.3 +1.2
baz=90
T25A Trinidad 90.12 45 ⇑P P 12 55 55.3 +1.1
baz=90
Y22A Socorro 90.58 49 ⇓P P 12 55 57.1 +0.8
baz=90
U25A Circle Dot Ran 90.61 46 ⇑P P 12 55 57.9 +1.5
baz=90
W24A Lazy 6 Ranch, 90.76 47 ⇓P P 12 55 58.2 +1.0
baz=91
220A Playas Peak, P 90.83 51 ⇑P P 12 55 58.9 +1.4
baz=91
V25A Rancho No Teng 90.84 46 ⇓P P 12 55 58.8 +1.2
baz=91
121A Cookes Peak, D 90.93 50 ⇓P P 12 55 59.3 +1.3
baz=91
U26A Atchley Ranch, 91.01 45 ⇓P P 12 55 59.7 +1.3
baz=91
Z22A Elephant Butte 91.01 49 ⇑P P 12 55 59.4 +1.1
baz=91
Y23A Lovelace Mesa, 91.17 48 ⇓P P 12 55 59.8 +0.8
baz=91
SSF Saint Saulge 91.69 331 eP P 12 55 59.9 -1.0
LDF La Druitiere 91.89 334 eP P 12 56 00.8 -1.0
AVF Avril sur Loir 91.97 331 eP P 12 56 01.3 -0.9
comp=Z,4.4nm,0.7s
W27A Bowe Ranch, En 92.31 46 ⇓P P 12 56 05.7 +1.5
baz=92
GRR Gorron 92.34 334 eP P 12 56 03.1 -0.8
comp=Z,11nm,0.9s
Z25A Roswell 92.44 48 ⇑P P 12 56 05.9 +1.1
baz=92
TCF Toulx Ste Croi 92.84 331 eP P 12 56 05.5 -0.8
125A Gardner Draw, 92.88 49 ⇑P P 12 56 06.7 -0.2
baz=93
Z27A Tatum 93.37 47 ⇑P P 12 56 10.8 +1.7
baz=93
RJF Les Rejaudoux 93.92 331 eP P 12 56 10.8 -0.4
TXAR Lajitas Array 95.69 51 P P 12 56 21.1 +1.4
comp=Z,0.2nm,0.5s,baz=289,slow=2.8,SNR=8.2
TORD Torodi Ar. Bea 118.96 310 PKP PKPdf 13 01 39.6 -0.9
comp=Z,1.0nm,0.6s,baz=44,slow=1.3,SNR=12
QSPA South Pole Qui 121.31 180 PKP PKPdf 13 01 43.0 -0.4
comp=Z,1.1nm,0.7s,baz=346,slow=2.7,SNR=8.3
DBIC Dimbokro 128.06 310 PKP PKPdf 13 01 57.4 -0.5
comp=Z,1.1nm,0.4s,baz=65,slow=2.7,SNR=4.3

*ISCJB **21** 13:01:04.8±0.8, 44°.16N±0°.06×128°.68W±0°.09, h13km, mb3.5/5, MS3.6/3, Error ellipse: s-maj=10.1km s-min=7.1km az=148.5*

*IDC **21** 13:01:04.1±1.7, 44°.12N×128°.68W, h0km, mb3.5/6, mb1 3.7/9, mb1mx3.6/30, mbtmp3.4/9, ML3.4/3, MS3.4/7, Ms1 3.4/7, ms1mx3.2/32, Error ellipse: s-maj=39.2km s-min=15.0km az=44.0*

*NEIC **21** 13:01:05.9±1.1, 44°.14N×128°.76W, h10km, mb3.9/2, Error ellipse: s-maj=15.9km s-min=9.4km az=58.0*

ISC 21 13:01:06.0±1.1, 44°.10N±0°.08×128°.76W±0°.10, h13km, n37, σ1°.29/37, mb3.8/5, MS3.6/3, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COR	Corvallis	3.94	81	ePn	Pn	13 02 05.2	-1.0
COR				eSn	Sn	13 02 52.4	+0.1
HUMO	Hull Mountain	4.49	107	ePn	Pn	13 02 11.2	-2.5
HUMO				eSn	Sn	13 02 60.0	-5.7
FL2	Flat Top 2	5.00	63	P	Pn	13 02 21.4	+0.7
MTMW	Mount Mitchell	5.02	65	P	Pn	13 02 21.3	+0.2
YBH	Yreka Blue Hor	5.03	116	Pn	Pn	13 02 19.6	-1.7
YBH				Sn	Sn	13 03 18.2	-1.0
YBH	Yreka Blue Hor	5.03	116	Pn	Pn	13 02 19.6	-1.7
	0.2nm,0.3s,baz=329,slow=10,SNR=5.1						
YBH				Sn	Sn	13 03 18.2	-1.0
	0.3nm,0.3s,baz=216,slow=19,SNR=3.9						
YBH				LR	LR	13 04 11.6	
	comp=Z,193nm,18.6s,baz=192,slow=38						
HDW	Hoodsport	5.34	46	P	Pn	13 02 25.2	-0.2
LON	Longmire	5.56	59	ePn	Pn	13 02 27.9	-0.5
	9.2nm,0.6s						
PGC	Sidney	5.85	37	ePn	Pn	13 02 31.1	-1.2
PGC				eSn	Sn	13 03 38.2	-0.9
HAWA	Hanford	6.91	67	ePn	Pn	13 02 47.4	+0.6
BBB	Bella Bella	8.11	3	LR	LR	13 05 30.2	
	comp=Z,143nm,18.9s,baz=54,slow=33						
NVAR	Mina Array Bea	9.69	122	Pn	Pn	13 03 27.6	+2.2
NVAR	Mina Array Bea	9.69	122	Pn	Pn	13 03 27.6	+2.2
	0.1nm,0.3s,baz=301,slow=15,SNR=3.8						
BSMT	Bassoo Peak	10.42	64	ePn	Pn	13 03 37.0	+1.8
ARUT	Antelope Range	12.18	113	ePn	Pn	13 04 13.3	+0.5
PDAR	Pinedale Array	14.02	89	Pn	Pn	13 04 27.4	+3.0
PDAR	Pinedale Array	14.02	89	Pn	Pn	13 04 27.4	+3.0
	0.1nm,0.3s,baz=270,slow=11,SNR=5.0						
DLBC	Dease Lake	14.38	357	LR	LR	13 09 05.0	
	comp=Z,132nm,20.1s,baz=158,slow=34						
PV01	Paradox Valley	16.32	104	ePn	Pn	13 04 55.9	+0.9
ANMO	Albuquerque	19.43	110	P	Pn	13 05 34.9	+1.6
ANMO	Albuquerque	19.43	110	P	Pn	13 05 34.9	+1.6
	0.0nm,0.3s,baz=323,slow=13,SNR=5.1						
ANMO				LR	LR	13 12 21.6	
	comp=Z,59nm,21.6s,baz=145,slow=35						
BNM	Barren Site	19.78	113	eP	Pn	13 05 37.9	+0.2
	3.0nm,1.1s						
YKA	Yellowknife Ar	20.19	19	P	P	13 05 40.0	-0.1
YKA	Yellowknife Ar	20.19	19	P	P	13 05 39.9	-0.1
	0.9nm,0.7s,baz=210,slow=11,SNR=20						
FFC	Flin Flon	20.28	49	eP	P	13 05 41.0	-0.1
	12nm,0.8s						
ULM	Lac du Bonnet	23.05	63	P	P	13 06 10.7	-0.2
ULM	Lac du Bonnet	23.05	63	P	P	13 06 10.7	-0.2
	3.7nm,0.7s,baz=263,slow=8.7,SNR=6.4						
ULM				LR	LR	13 15 25.7	
	comp=Z,122nm,18.5s,baz=342,slow=38						
ILAR	Eielson Array	23.07	340	P	P	13 06 10.6	-0.3
ILAR	Eielson Array	23.07	340	P	P	13 06 10.6	-0.3
	0.3nm,0.7s,baz=147,slow=8.6,SNR=4.1						
TXAR	Lajitas Array	24.80	118	P	P	13 06 27.5	-0.3
TXAR	Lajitas Array	24.80	118	P	P	13 06 27.5	-0.3
	1.0nm,0.9s,baz=310,slow=8.4,SNR=7.9						
RES	Resolute Bay	34.15	15	P	P	13 07 50.1	-0.1
RES	Resolute Bay	34.15	15	P	P	13 07 50.1	-0.1
	1.1nm,0.8s,baz=232,slow=10.0,SNR=5.7						
FRB	Frobisher Bay	38.71	38	LR	LR	13 23 29.1	
	comp=Z,84nm,18.4s,baz=260,slow=35						
SFJD	Kangerlussuaq	45.90	32	LR	LR	13 27 36.4	
	comp=Z,107nm,19.0s,baz=315,slow=35						
SONM	Songino Array	76.40	325	P	P	13 12 55.3	+0.2
SONM	Songino Array	76.40	325	P	P	13 12 55.3	+0.2
	1.3nm,1.0s,baz=54,slow=3.5,SNR=5.8						

IDC 21 13:01:27.4±2.2, 4°.17N×126°.66E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.4/3, Error ellipse: s-maj=156.0km s-min=28.0km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.12	163	P	P	13 06 52.5	-1.8
	1.0nm,0.6s,baz=342,slow=11,SNR=12						
ASAR	Alice Springs	28.56	166	P	P	13 07 27.2	+1.9
	0.2nm,0.4s,baz=354,slow=7.8,SNR=3.2						
MKAR	Makanchi Array	57.16	325	P	P	13 11 16.1	0.0
	0.3nm,0.5s,baz=116,slow=8.7,SNR=3.6						

*MDD **21** 13:08:40.5±3.2, 32°.41N×7°.61W, h0km, mb3.7/4, mbLg2.2/6, Error ellipse: s-maj=49.0km s-min=28.2km az=88.0, PRXIMO*

*INMG **21** 13:08:41.7±1.2, 32°.30N×7°.70W, h31km, ML2.4, Error ellipse: s-maj=14.2km s-min=8.4km az=92.0*

CSEM 21 13:08:43.8±0.6, 32°.65N×7°.53W, h10km, ML2.2, Error ellipse: s-maj=16.8km s-min=10.0km az=88.0, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBDV	Barranco-do-Ve	4.59	356	ePn	Pn	13 09 54.0	+0.6
PBDV				eSn	Sn	13 10 46.9	+0.1
PBDV	Barranco-do-Ve	4.59	356	P	Pn	13 09 54.0	+0.6
PBDV				S	Sn	13 10 46.9	+0.1
PBDV	Barranco-do-Ve	4.59	356	P	Pn	13 09 54.0	+0.6
PBDV				S	Sn	13 10 46.9	+0.1

MORF	**Marmelete**	**4.73**	**349**	*e*Pn	Pn	13 09 54.8	-0.5
MORF				*e*Sn	Sn	13 10 49.1	-1.2
MORF				A	A	13 10 54.5	
	2.7nm,0.5s						
MORF	**Marmelete**	**4.73**	**349**	P	Pn	13 09 54.8	-0.5
MORF				S	Sn	13 10 49.1	-1.2
	2.7nm,0.5s						
MORF	**Marmelete**	**4.73**	**349**	P	Pn	13 09 54.8	-0.5
MORF				S	Sn	13 10 49.1	-1.2
	2.7nm,0.5s						
PVAQ	**Vaqueiros**	**4.74**	**358**	*e*Pn	Pn	13 09 55.0	-0.4
PVAQ				*e*Sn	Sn	13 10 50.4	0.0
PVAQ				A	A	13 10 58.1	
	4.0nm,0.6s						
PVAQ	**Vaqueiros**	**4.74**	**358**	P	Pn	13 09 55.0	-0.4
PVAQ				S	Sn	13 10 50.4	0.0
	4.0nm,0.6s						
PVAQ	**Vaqueiros**	**4.74**	**358**	P	Pn	13 09 55.0	-0.4
PVAQ				S	Sn	13 10 50.4	0.0
	4.0nm,0.6s						
EGRO	**El Granado**	**4.87**	**0**	P	Pn	13 09 57.0	-0.1
	1.2nm,0.2s,SNR=7.9						
EGRO				S	Sn	13 10 53.6	0.0
	1.5nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**4.87**	**0**	P	Pn	13 09 57.0	-0.1
	1.2nm,0.2s,SNR=7.9						
EGRO				S	Sn	13 10 53.6	0.0
	1.5nm,0.4s,SNR=7.9						
PCVE	**Castro Verde**	**4.99**	**355**	*e*Pn	Pn	13 09 58.6	-0.1
PCVE				*e*Sn	Sn	13 10 56.6	+0.2
PCVE				A	A	13 10 59.8	
	3.3nm,0.6s						
PCVE	**Castro Verde**	**4.99**	**355**	P	Pn	13 09 58.6	-0.1
PCVE				S	Sn	13 10 56.6	+0.2
	3.3nm,0.6s						
PCVE	**Castro Verde**	**4.99**	**355**	P	Pn	13 09 58.6	-0.1
PCVE				S	Sn	13 10 56.6	+0.2
	3.3nm,0.6s						
EMIN	**Mina Concepcio**	**5.15**	**8**	P	Pn	13 10 00.7	-0.3
	0.7nm,0.2s,SNR=10.0						
EMIN				S	Sn	13 11 00.1	-0.4
	0.9nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.15**	**8**	P	Pn	13 10 00.7	-0.3
	0.7nm,0.2s,SNR=10.0						
EMIN				S	Sn	13 11 00.1	-0.4
	0.9nm,0.3s,SNR=7.9						
PNCL	**Nicolau / Gran**	**5.51**	**352**	*e*Pn	Pn	13 10 05.6	-0.3
PNCL				*e*Sn	Sn	13 11 09.4	+0.1
PNCL	**Nicolau / Gran**	**5.51**	**352**	*e*Pn	Pn	13 10 05.6	-0.3
PNCL				*e*Sn	Sn	13 11 09.4	+0.1
PBAR	**Barrancos**	**5.53**	**4**	*e*Pn	Pn	13 10 07.3	+1.2
PBAR				*e*Sn	Sn	13 11 10.5	+0.8
PBAR	**Barrancos**	**5.53**	**4**	P	Pn	13 10 07.3	+1.2
PBAR				S	Sn	13 11 10.5	+0.8
PBAR	**Barrancos**	**5.53**	**4**	P	Pn	13 10 07.3	+1.2
PBAR				S	Sn	13 11 10.5	+0.8
EADA	**Adamuz**	**6.01**	**23**	P	Pn	13 10 13.0	+0.2
	0.6nm,0.2s,SNR=7.9						
EADA				S	Sn	13 11 19.8	-1.9
	0.4nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**6.01**	**23**	P	Pn	13 10 13.0	+0.2
	0.6nm,0.2s,SNR=7.9						
EADA				S	Sn	13 11 19.8	-1.9
	0.4nm,0.4s,SNR=7.9						
EBAD	**Badajoz**	**6.11**	**4**	P	Pn	13 10 14.0	-0.1
	0.4nm,0.2s,SNR=7.9						
EBAD				S	Sn	13 11 25.8	+1.8
	1.0nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**6.11**	**4**	P	Pn	13 10 14.0	-0.1
	0.4nm,0.2s,SNR=7.9						
EBAD				S	Sn	13 11 25.8	+1.8
	1.0nm,0.2s,SNR=4.0						

JMA ***21*** *13:12:38.1±0.2,24˚.98N×123˚.50E,h29km±4km,M2.8*
IDC ***21*** *13:12:40.1±2.1,24˚.30N×122˚.27E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.3/24,mbtmp3.4/4,Error ellipse: s-maj=165.5km s-min=21.8km az=64.0*

ISC 21 13:12:38.2±1.9,25˚.0N±0˚.1×123˚.52E±0˚.06,h20km±5km, **n10,σ0s85/13,mb3.4/4,Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.65**	**163**	P		**Pb**		**13 12 50.7**	**-0.2**
IRIF				S		**Sb**		**13 13 00.3**	**+0.8**
YOJ	**Yonaguni jima**	**0.67**	**223**	P		**Pb**		**13 12 51.0**	**-0.3**
YOJ				S		**Sb**		**13 13 00.2**	**-0.1**
JIJ	**Ishigaki jima**	**0.82**	**136**	P		**Pn**		**13 12 53.3**	**-1.3**
JIJ				S		**Sb**		**13 13 04.0**	**-0.4**
JKRS	**Kuro-shima**	**0.84**	**148**	P		**Pn**		**13 12 54.2**	**-0.7**
JKRS				S		**Sn**		**13 13 06.0**	**-0.7**
HATJ	**Hateruma jima**	**0.93**	**164**	P		**Pn**		**13 12 55.7**	**-0.4**
HATJ				S		**Sb**		**13 13 08.4**	**+0.8**
JTJ	**Tarama**	**1.12**	**106**	P		**Pb**		**13 12 58.8**	**-0.1**
JTJ				*e*S		**Sb**		**13 13 13.6**	**+0.6**
SONM	**Songino Array**	**26.55**	**334**	P		P		13 18 21.1	+6.3
	0.4nm,0.9s,baz=132,slow=7.9,SNR=4.0								
MKAR	**Makanchi Array**	**39.29**	**314**	P		P		13 20 07.5	+1.8
	0.4nm,0.8s,baz=106,slow=11,SNR=3.6								
WRA	**Warramunga Arr**	**45.85**	**166**	P		**P**		**13 21 00.5**	**+1.3**
	0.7nm,0.7s,baz=347,slow=8.5,SNR=4.0								
ASAR	**Alice Springs**	**49.37**	**167**	P		P		13 21 29.7	+3.2
	0.5nm,0.7s,baz=349,slow=8.5,SNR=3.3								

IDC 21 13:12:54.3±1.4,3˚.85N×126˚.42E,h0km,mb3.3/4, mb1 3.5/4,mb1mx3.4/21,mbtmp3.3/4,Error ellipse: s-maj=129.3km s-min=21.5km az=69.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.89**	**162**	P		P		13 18 19.4	+0.3
	1.1nm,0.5s,baz=342,slow=11,SNR=18								
ASAR	**Alice Springs**	**28.31**	**165**	P		P		13 18 49.5	-0.4
	0.1nm,0.6s,baz=347,slow=6.7,SNR=4.5								
SONM	**Songino Array**	**47.08**	**342**	P		P		13 21 28.3	+0.3
	0.2nm,0.5s,baz=156,slow=4.8,SNR=2.1								
MKAR	**Makanchi Array**	**57.28**	**325**	P		P		13 22 43.4	-0.5
	0.3nm,0.5s,baz=119,slow=8.7,SNR=4.9								

IDC ***21*** *13:35:31.0±0.4,0˚.35S×132˚.69E,h0km,mb4.8/19, mb1 4.9/22,mb1mx4.8/27,mbtmp4.8/22,ML4.5/4,MS4.5/26, Ms1 4.5/26,ms1mx4.3/45,Error ellipse: s-maj=19.7km s-min=10.2km az=65.0*
BJI ***21*** *13:35:30.6,1˚.11S×133˚.09E,h50km,mB5.4/44,mb5.0/53, Ms4.9/41,Ms7 4.6/40*
MOS ***21*** *13:35:34.3±0.8,0˚.31S×132˚.61E,h33km,mb5.3/29,Error ellipse: s-maj=14.2km s-min=6.2km az=118.1*
DJA ***21*** *13:35:35,0˚.38S×132˚.75E,h10km,Mw5.3/52*
ISCJB ***21*** *13:35:35.4±0.6,0˚.34S±0˚.03×132˚.74E±0˚.03,h44km±5km, mb5.1/102,MS4.5/40,Error ellipse: s-maj=5.1km s-min=4.2km az=135.7*
NEIC ***21*** *13:35:37.2±1.0,0˚.40S×132˚.67E,h45km±9km,mb5.2/33, MW5.5,Error ellipse: s-maj=7.8km s-min=4.3km az=61.0*
NEIC Felt [III] at Sorong.
TEH ***21*** *13:35:38.0,0˚.46S×132˚.63E,h52km,ML5.4*
NEIC ***21*** *13:35:41.9±0.0,0˚.67S×133˚.11E,h28km,Moment Tensor Solution. s147 Moment tensor: Scale 10^17^Nm; Mrr 1.87; Mθθ -1.37; Mφφ -0.51; Mrθ 1.05; Mrφ 0.55; Mθφ -0.48; Best double couple: Mw2.10000×10^17^ NP1:φs115.00000°, δ62.00000°,λ90.00000°. NP2:φs296.00000°,δ28.00000°, λ91.00000°. Principal axes: T 2.2200, Plg73.0000°, Azm24.0000°; N -0.2400, Plg0.0000°, Azm115.0000°; P -1.9800, Plg16.0000°, Azm205.0000°;*

ISC 21 13:35:38.5±0.3,0˚.39S±0˚.03×132˚.74E±0˚.04,h55km±2km, **h55**km:**pP-P,n343,σ1s47/403,mb5.1/102,MS4.5/43, 17C-14D,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.55**	**252**	P		Pn		13 36 00.1	-3.7
SWI				S		**Sn**		**13 36 20.8**	**-2.1**
FAKI	**Fak Fak**	**2.56**	**191**	P		**Pn**		**13 36 17.6**	**-0.1**
FAKI				S		**Sn**		**13 36 48.9**	**+1.2**
BAKI	**Biak**	**3.46**	**103**	P		**Pn**		**13 36 28.3**	**-1.7**
MSAI	**Masohi**	**4.81**	**232**	P		**Pn**		**13 36 48.8**	**+0.3**
MSAI				S		**Sn**		**13 37 47.4**	**+4.5**
BNDI	**Bandanaira**	**4.99**	**215**	P		**Pn**		**13 36 50.5**	**-0.4**
TLE	**Tual**	**5.21**	**180**	P		**Pn**		**13 36 53.6**	**-0.4**
	4µm,1.2s,17nm								

LBMI	**Labuha**	**5.24**	**267**	P		Pn	13 36 51.1	-3.3
	681nm,1.1s,18µm5.7nm							
TNTI	**Ternate**	**5.49**	**282**	P		**Pn**	**13 36 56.1**	**-1.8**
	275nm,1.1s,6µm1.8nm							
AAI	**Ambon**	**5.60**	**234**	P		**Pn**	**13 36 57.9**	**-1.4**
	2µm,0.7s,18µm7.6nm							
SMPI	**Sarmi**	**6.18**	**105**	P		**Pn**	**13 37 07.1**	**-0.1**
	133nm,0.9s,9µm0.8nm							
MNI	**Manado**	**8.11**	**283**	P		**Pn**	**13 37 35.5**	**+1.8**
	238nm,1.0s,0.8nm							
KMSI	**Cibinong**	**8.81**	**276**	P		**Pn**	**13 37 45.5**	**+2.2**
	563nm,1.1s,6µm							
DAV	**Davao City (W)**	**10.29**	**316**	*e*Pn		**Pn**	**13 38 01.2**	**-2.4**
DAV	**Davao City (W)**	**10.29**	**316**	Pn		**Pn**	**13 38 02.7**	**-0.9**
	96nm,0.3s,baz=0.0,slow=2.2,SNR=5.9							
DAV				LR		LR	13 41 58.4	
	comp=Z,2µm,18.5s,baz=140,slow=38							
KDI	**Kendari**	**10.71**	**251**	P		**Pn**	**13 38 08.6**	**-0.8**
	209nm,1.6s,3µm							
MRSI	**Marisa**	**10.83**	**275**	P		**Pn**	**13 38 10.3**	**-0.7**
	103nm,0.8s,1µm							
BBSI	**Bau Bau**	**11.35**	**243**	P		**Pn**	**13 38 18.8**	**+0.8**
	188nm,1.3s,2µm							
CTBH	**Cotabato--PC H**	**11.35**	**312**	*i*P		Pn	13 38 13.5	-4.7
TTSI	**Tana Toraja**	**13.18**	**258**	P		**Pn**	**13 38 40.4**	**-2.7**
	117nm,1.0s,1µm							
MMRI	**Maumere**	**13.29**	**232**	P		**Pn**	**13 38 43.7**	**-0.8**
	250nm,1.3s,2µm							
SPSI	**Sidrap Palu**	**13.44**	**254**	P		**Pn**	**13 38 44.2**	**-2.4**
	155nm,1.1s,2µm							
BKSI	**Bulukumba**	**13.52**	**249**	P		**Pn**	**13 38 47.3**	**-0.4**
	146nm,0.9s,2µm							
KAPI	**Kappang**	**13.76**	**250**	*e*Pn		**Pn**	**13 38 49.2**	**-1.7**
KAPI	**Kappang**	**13.76**	**250**	P		**Pn**	**13 38 50.9**	**0.0**
	SNR=27							
KAPI	**Kappang**	**13.76**	**250**	P		**Pn**	**13 38 51.2**	**+0.2**
	255nm,1.4s,3µm							
KAPI	**Kappang**	**13.76**	**250**	Pn		**Pn**	**13 38 48.6**	**-2.4**
	0.7nm,0.3s,baz=86,slow=15,SNR=8.6							
KAPI				LR		LR	13 44 52.2	
	comp=Z,1µm,18.9s,baz=84,slow=41							
MYLDM	**Lahad Datu**	**15.26**	**291**	P		**Pn**	**13 39 10.7**	**+0.1**
MYLDM	**Lahad Datu**	**15.26**	**291**	P		**Pn**	**13 39 10.2**	**-0.5**
	147nm,1.4s,3µm							
WSI	**Waingapu**	**15.44**	**233**	P		**P**	**13 39 21.1**	**+4.6**
SMKI	**Samarinda**	**15.53**	**270**	P		**P**	**13 39 20.4**	**+2.8**
TSM	**Tawau**	**15.56**	**288**	P		**Pn**	**13 39 13.3**	**-1.3**
SDKM	**Sandakan**	**16.64**	**291**	P		**Pn**	**13 39 28.4**	**+0.1**
KBKI	**Kotabaru**	**16.81**	**260**	P		**Pn**	**13 39 30.2**	**-0.2**
	184nm,1.3s,2µm							
PMG	**Port Moresby**	**16.92**	**122**	*e*P		**Pn**	**13 39 31.8**	**0.0**
PMG	**Port Moresby**	**16.92**	**122**	P		**P**	**13 39 33.7**	**+0.7**
	110nm,1.2s,2µm							
PMG	**Port Moresby**	**16.92**	**122**	Pn		**Pn**	**13 39 31.6**	**-0.1**
	1.1nm,0.3s,baz=291,slow=9.1,SNR=18							
COEN	**Coen**	**16.98**	**143**	*e*Pn		**Pn**	**13 39 30.8**	**-1.8**
	820nm,1.1s							
KKM	**Kota Kinabalu**	**17.69**	**291**	*e*Pn		**Pn**	**13 39 40.6**	**-0.7**
	143nm,1.5s							
KKM	**Kota Kinabalu**	**17.69**	**291**	P		**Pn**	**13 39 41.3**	**-0.1**
KKM	**Kota Kinabalu**	**17.69**	**291**	P		P	13 39 48.0	+6.4
BBKI	**Banjar Baru**	**18.14**	**260**	P		**Pn**	**13 39 47.5**	**+0.7**
	349nm,1.2s,6µm							
GUMO	**Guam**	**18.37**	**40**	LR		LR	13 46 14.8	
	comp=Z,615nm,18.4s,baz=220,slow=35							
TGY	**Tagaytay City**	**18.54**	**321**	P		**Pn**	**13 39 52.5**	**+0.8**
TGY	**Tagaytay City**	**18.54**	**321**	P		**Pn**	**13 39 52.5**	**+0.8**
	42nm,0.3s,baz=147,slow=0.3,SNR=3.7							
KHKI	**Kahang-Khang**	**18.82**	**245**	P		**P**	**13 39 53.9**	**0.0**
	369nm,1.4s,4µm							
FITZ	**Fitzroy Crossi**	**18.94**	**201**	*e*P		**P**	**13 39 51.5**	**-3.7**
	286nm,1.4s							
FITZ				S		S	13 43 12.7	-15
FITZ	**Fitzroy Crossi**	**18.94**	**201**	*e*P		**P**	**13 39 51.4**	**-3.7**
	91nm,0.6s							
FITZ				*e*S		S	13 43 12.4	-15
	165nm,0.5s							
FITZ	**Fitzroy Crossi**	**18.94**	**201**	P		**P**	**13 39 52.2**	**-2.9**
	2.3nm,0.3s,baz=28,slow=12,SNR=34							
FITZ				S		S	13 43 12.7	-15
	2.6nm,0.3s,baz=97,slow=11,SNR=5.6							
FITZ				LR		LR	13 47 41.6	
	comp=Z,2µm,19.9s,baz=23,slow=39							
WRAB	**Tennant Creek**	**19.49**	**175**	*e*P		**P**	**13 40 00.8**	**-0.4**
WRAB				pmax		pmax		
	comp=Z,211nm,0.8s							
WRAB	**Tennant Creek**	**19.49**	**175**	*e*P		**P**	**13 40 00.8**	**-0.4**
	comp=Z,211nm,0.8s							
WRA	**Warramunga Arr**	**19.50**	**175**	P		**P**	**13 39 59.5**	**-1.8**
WRA				S		S	13 43 27.4	-11
WRA	**Warramunga Arr**	**19.50**	**175**	P		**P**	**13 39 59.5**	**-1.8**
	comp=Z,3.7nm,0.3s,baz=352,slow=12,SNR=194							
WRA				S		S	13 43 27.4	-11
	comp=Z,1.7nm,0.3s,baz=0.2,slow=23,SNR=5.2							
NBBI	**Negara**	**19.72**	**246**	P		**P**	**13 40 03.8**	**+0.1**
	comp=Z,425nm,1.4s,comp=Z,7µm							
KMMI	**Kalianget**	**19.86**	**250**	P		**Pn**	**13 40 06.7**	**-0.6**
	comp=Z,112nm,1.3s,comp=Z,3µm							
BYJI	**Banyuwangi**	**19.90**	**247**	P		**P**	**13 40 06.6**	**+0.9**
	comp=Z,866nm,1.3s,comp=Z,15µm							
BTM	**Bintulu**	**19.97**	**280**	P		**Pn**	**13 40 08.2**	**-0.4**
JAGI	**Jajag, Banyuwa**	**20.18**	**246**	P		**P**	**13 40 09.1**	**+0.3**
	comp=Z,281nm,1.1s,comp=Z,4µm							
BLJI	**Banyuglugur**	**20.43**	**249**	P		**P**	**13 40 12.1**	**+0.6**
	comp=Z,162nm,1.4s,comp=Z,3µm							
SBUM	**Sibu**	**20.71**	**278**	P		**P**	**13 40 15.6**	**+1.2**
SBUM	**Sibu**	**20.71**	**278**	P		**P**	**13 40 15.2**	**+0.7**
	comp=Z,85nm,1.3s,comp=Z,2µm							
GMJI	**Gumukmas**	**20.76**	**247**	P		**P**	**13 40 13.8**	**-1.2**
	comp=Z,286nm,1.5s,comp=Z,4µm							
PBKI	**Pangkalan Bun**	**21.18**	**264**	P		**P**	**13 40 19.6**	**0.0**
	comp=Z,573nm,1.3s,comp=Z,5µm							
STKI	**Sintang**	**21.27**	**271**	P		**P**	**13 40 20.3**	**-0.2**
	comp=Z,97nm,1.3s,comp=Z,7µm							
KRKI	**Karangkates**	**21.64**	**249**	P		P	13 40 30.9	+6.4
SJI	**Sawahan**	**22.14**	**250**	P		**P**	**13 40 29.9**	**-0.1**
	comp=Z,116nm,1.2s,comp=Z,2µm							
PWJI	**Pagerwojo**	**22.20**	**249**	P		**P**	**13 40 32.3**	**+1.8**
	comp=Z,100nm,1.7s							
KSM	**Kuching**	**22.50**	**275**	*e*P		**P**	**13 40 32.9**	**-0.9**
	comp=Z,67nm,0.9s							
KSM	**Kuching**	**22.50**	**275**	P		**P**	**13 40 33.2**	**-0.6**
KSM	**Kuching**	**22.50**	**275**	P		**P**	**13 40 33.6**	**-0.2**
	comp=Z,87nm,1.3s,comp=Z,1µm							
PCJI	**Pacitan**	**22.84**	**250**	P		**P**	**13 40 34.8**	**-2.5**
	comp=Z,136nm,1.2s							
ASAR	**Alice Springs**	**23.17**	**177**	P		**P**	**13 40 40.4**	**-0.2**
ASAR				S		**S**	**13 44 50.0**	**+1.9**
ASAR	**Alice Springs**	**23.17**	**177**	P		**P**	**13 40 40.4**	**-0.2**
	comp=Z,98nm,0.5s,baz=21,slow=12,SNR=850							
ASAR				S		**S**	**13 44 50.0**	**+1.9**
	comp=Z,5.6nm,0.7s,baz=332,slow=9.8,SNR=2.9							
SMRI	**Semarang**	**23.20**	**253**	P		**P**	**13 40 41.2**	**+0.2**
	comp=Z,256nm,1.7s							
UGM	**Wanagama**	**23.37**	**251**	*e*P		**P**	**13 40 41.8**	**-0.8**
	comp=Z,930nm,1.4s							
UGM	**Wanagama**	**23.37**	**251**	P		**P**	**13 40 42.4**	**-0.2**
	comp=Z,460nm,1.4s							
YOGI	**Yogyakarta**	**23.56**	**251**	P		**P**	**13 40 44.7**	**+0.4**
	comp=Z,1µm,1.3s,comp=Z,11µm							
CTA	**Charters Tower**	**23.63**	**147**	P		**P**	**13 40 45.6**	**+0.7**
CTA	**Charters Tower**	**23.63**	**147**	*e*P		**P**	**13 40 45.4**	**+0.5**
	comp=Z,48nm,0.9s							
CTA	**Charters Tower**	**23.63**	**147**	P		**P**	**13 40 45.6**	**+0.7**
	comp=Z,68nm,1.0s,baz=329,slow=11,SNR=42							
CTAO	**Charters Tower**	**23.63**	**147**	*e*P		**P**	**13 40 45.2**	**+0.3**
CTAO				pmax		pmax		
	comp=Z,83nm,0.9s							
CTAO	**Charters Tower**	**23.63**	**147**	*e*P		**P**	**13 40 45.2**	**+0.3**
	comp=Z,83nm,0.9s							
BJII	**Banjamegara**	**23.98**	**253**	P		**P**	**13 40 48.1**	**-0.1**
	comp=Z,327nm,2.2s,comp=Z,7µm							
MBWA	**Marble Bar**	**24.24**	**211**	*e*P		**P**	**13 40 50.7**	**+0.3**
	comp=Z,632nm,1.7s							
MBWA	**Marble Bar**	**24.24**	**211**	*e*P		**P**	**13 40 50.6**	**+0.1**
MBWA	**Marble Bar**	**24.24**	**211**	P		**P**	**13 40 51.1**	**+0.6**
	SNR=36							
TGJI	**Tegal**	**24.42**	**254**	P		**P**	**13 40 51.5**	**-0.7**
	comp=Z,130nm,2.1s,comp=Z,2µm							
CISI	**Cisompet, Garu**	**25.85**	**253**	P		**P**	**13 41 03.2**	**-2.1**
	comp=Z,253nm,1.3s,comp=Z,2µm							
LEM	**Lembang**	**25.86**	**255**	P		**P**	**13 41 05.2**	**-0.3**
	comp=Z,81nm,1.1s,comp=Z,2µm							
YULB	**Yu-li**	**26.12**	**336**	*e*P		**P**	**13 41 07.9**	**+0.3**
YULB				*e*pP		**pP**	**13 41 22.0**	**+0.6**
SSLB	**Suanglung**	**26.62**	**335**	*e*P		**P**	**13 41 11.9**	**-0.2**
	comp=Z,71nm,1.3s							

DBJI	**Dramaga**	**26.64**	**256**	P		**P**	**13 41 12.0**	**-0.4**
	comp=Z,71nm,1.4s,comp=Z,6µm							
PPBI	**Pangkal Pinang**	**26.65**	**266**	P		**P**	**13 41 12.7**	**+0.2**
	comp=Z,46nm,1.4s,comp=Z,1µm							
YHNB	**Yeheng**	**27.23**	**337**	*e*P		**P**	**13 41 16.7**	**-0.9**
JOW	**Kunigami**	**27.40**	**351**	*e*P		**P**	**13 41 19.8**	**+0.8**
JOW	**Kunigami**	**27.40**	**351**	P		**P**	**13 41 19.4**	**+0.4**
	comp=Z,23nm,0.8s,baz=156,slow=20,SNR=3.3							
JOW				LR		LR	13 50 23.8	
	comp=Z,1µm,19.1s,baz=167,slow=33							
CGJI	**Cibinong**	**27.68**	**256**	P		**P**	**13 41 19.1**	**-2.6**
	comp=Z,55nm,1.4s,comp=Z,754nm							
HNR	**Honiara**	**28.53**	**109**	*e*P		**P**	**13 41 30.0**	**+0.8**
HNR	**Honiara**	**28.53**	**109**	P		**P**	**13 41 29.4**	**+0.2**
	comp=Z,130nm,0.8s,baz=281,slow=1.5,SNR=9.3							
KASI	**Kota Agung**	**28.65**	**259**	P		**P**	**13 41 30.9**	**+0.5**
	comp=Z,42nm,1.4s							
QZH	**Quanzhou**	**28.67**	**332**	P		**P**	**13 41 31.4**	**+1.1**
QZH				S		**S**	**13 46 12.0**	**-3.4**
QZH				LR		LR		
	comp=N,2µm,12.3s							
QZH				LR		LR		
	comp=E,1µm,9.3s							
QZH				LR		LR		
	comp=Z,2µm,29.0s							
CBIJ	**Chichi jima**	**28.80**	**18**	LR		LR	13 52 53.5	
	comp=Z,607nm,18.3s,baz=306,slow=36							
MYKOM	**Kota Tinggi**	**28.96**	**274**	P		**P**	**13 41 32.8**	**-0.3**
MYKOM	**Kota Tinggi**	**28.96**	**274**	P		**P**	**13 41 33.2**	**+0.1**
	comp=Z,45nm,1.8s							
MEEK	**Meekatharra**	**29.43**	**206**	*e*P		**P**	**13 41 36.5**	**-0.6**
	comp=Z,104nm,0.6s							
QIZ	**Qiongzhong**	**29.62**	**312**	P		**P**	**13 41 38.5**	**-0.4**
QIZ				pP		**pP**	**13 41 51.0**	**-1.8**
QIZ				S		**S**	**13 46 30.5**	**-0.2**
QIZ				pmax		pmax		
	comp=Z,12nm,0.9s							
QIZ				pmax		pmax		
	comp=Z,180nm,7.1s							
QIZ				LR		LR		
	comp=N,660nm,12.9s							
QIZ				LR		LR		
	comp=Z,960nm,23.4s							
KSI	**Kapahiang**	**30.30**	**263**	P		**P**	**13 41 48.0**	**+3.0**
	comp=Z,95nm,1.1s							
EIDS	**Eidsvold**	**30.51**	**146**	*e*P		**P**	**13 41 46.8**	**+0.1**
	comp=Z,31nm,1.2s							
FORT	**Forrest**	**30.55**	**188**	*e*P		**P**	**13 41 47.6**	**+0.7**
	comp=Z,114nm,0.9s							
FORT	**Forrest**	**30.55**	**188**	*e*P		**P**	**13 41 47.5**	**+0.6**
	comp=Z,55nm,0.6s							
FRIM	**Kepong**	**31.31**	**277**	P		**P**	**13 41 54.6**	**+0.8**
IPM	**Ipoh**	**32.05**	**279**	*e*P		**P**	**13 41 59.1**	**-1.3**
IPM				*e*P		**P**	**13 41 59.7**	**-0.7**
IPM	**Ipoh**	**32.05**	**279**	P		**P**	**13 42 00.2**	**-0.2**
PPI	**Padang Panjang**	**32.34**	**270**	P		**P**	**13 42 01.8**	**-1.1**
BBOO	**Buckleboo**	**32.40**	**175**	*e*P		**P**	**13 42 02.8**	**-0.4**
	comp=Z,271nm,0.9s							
STKA	**Stephens Creek**	**32.42**	**166**	P		**P**	**13 42 02.8**	**-0.6**
STKA	**Stephens Creek**	**32.42**	**166**	*e*P		**P**	**13 42 02.7**	**-0.7**
	comp=Z,69nm,0.9s							
STKA	**Stephens Creek**	**32.42**	**166**	P		**P**	**13 42 02.8**	**-0.6**
	comp=Z,74nm,0.8s,baz=339,slow=8.2,SNR=116							
KULM	**Kulim**	**32.54**	**280**	*e*P		**P**	**13 42 03.8**	**-0.9**
	comp=Z,78nm,1.6s							
KULM	**Kulim**	**32.54**	**280**	P		**P**	**13 42 04.5**	**-0.2**
SSE	**Sheshan**	**33.18**	**342**	P		P	13 42 14.9	+4.9
SSE				S		**S**	**13 47 29.3**	**+3.5**
SSE				pmax		pmax		
	comp=Z,26nm,0.7s							
SSE				pmax		pmax		
	comp=Z,260nm,7.9s							
SSE				LR		LR		
	comp=N,310nm,26.9s							
SSE				LR		LR		
	comp=E,790nm,26.9s							
SSE				LR		LR		
	comp=Z,540nm,27.7s							
JNU	**Nakatsue**	**33.38**	**357**	*e*P		**P**	**13 42 10.9**	**-0.9**
	comp=Z,165nm,2.1s							
JNU	**Nakatsue**	**33.38**	**357**	LR		LR	13 54 56.1	
	comp=Z,556nm,19

SNR=11
KMI Kunming 38.54 313 P **P** **13 42 56.8 +0.5**
KMI pP **pP** **13 43 11.9 +1.4**
KMI sP **sP** **13 43 17.4 +0.5**
KMI PP **PnPn** **13 44 30.8 +3.0**
KMI S **S** **13 48 49.8 +1.2**
KMI sS **sS** **13 49 13.8 +1.2**
KMI pmax pmax
comp=Z,16nm,1.2s
KMI pmax pmax
comp=Z,200nm,4.6s
KMI LR LR
comp=N,660nm,18.2s
KMI LR LR
comp=E,520nm,18.2s
KMI LR LR
comp=Z,820nm,17.0s
TOO Toolangi 38.83 164 *e*P **P** **13 42 59.5 +1.2**
comp=Z,131nm,0.8s
DZM Mont Dzumac 39.27 126 *e*P **P** **13 43 03.2 +0.9**
comp=Z,23nm,1.2s
DZM *e*S **S** **13 49 00.1 +0.6**
comp=Z,539nm,35.4s
DZM *e*LR LR 13 53 45.9
comp=Z,1μm,24.1s
DZM Mont Dzumac 39.27 126 P **P** **13 43 00.6 -1.7**
DZM Mont Dzumac 39.27 126 P **P** **13 43 00.6 -1.7**
comp=Z,10nm,1.2s,baz=326,slow=9.1,SNR=4.2
DL2 Dalian 40.41 347 P P 13 43 14.8 +3.4
DL2 S **S** **13 49 20.3 +4.4**
DL2 SS **SnSn** **13 52 23.1 -1.5**
DL2 pmax pmax
comp=Z,40nm,1.8s
DL2 pmax pmax
comp=Z,430nm,7.8s
DL2 LR LR
comp=E,620nm,22.6s
DL2 LR LR
comp=Z,310nm,18.6s
XAN Xi'an 40.90 329 P **P** **13 43 13.4 -2.1**
XAN pP **pP** **13 43 27.6 -2.2**
XAN sP **sP** **13 43 32.1 -4.2**
XAN pmax pmax
comp=Z,3.0nm,0.8s
XAN pmax pmax
comp=Z,65nm,10.6s
CD2 Chengdu 41.55 321 P **P** **13 43 20.6 -0.3**
CD2 pP **pP** **13 43 30.4 -4.9**
CD2 PP **PnPn** **13 45 00.6 -2.4**
CD2 PcP **PcP** **13 45 17.8 +0.2**
CD2 PcS **PcS** **13 49 07.9 -1.2**
CD2 S **S** **13 49 34.8 +1.7**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,350nm,8.6s
CD2 LR LR
comp=N,580nm,17.1s
CD2 LR LR
comp=E,640nm,16.6s
CD2 LR LR
comp=Z,890nm,16.6s
SNY Shenyang 42.83 350 ⇓P **P** **13 43 31.9 +0.8**
SNY S S 13 49 59.4 +7.9
SNY pmax pmax
comp=Z,15nm,1.5s
SNY pmax pmax
comp=Z,610nm,4.7s
SNY LR LR
comp=N,570nm,18.4s
SNY LR LR
comp=E,580nm,14.4s
SNY LR LR
comp=Z,740nm,30.9s
BJT Baijiatuau 42.97 341 *e*P **P** **13 43 31.8 -0.4**
comp=Z,53nm,1.1s
BJI Beijing 42.98 341 P **P** **13 43 32.3 -0.1**
BJI S **S** **13 49 53.8 -0.1**
BJI SS **SS** **13 53 12.0 +4.4**
BJI pmax pmax
comp=Z,31nm,1.1s
BJI pmax pmax
comp=Z,410nm,4.3s
BJI LR LR
comp=N,460nm,16.0s
BJI LR LR
comp=E,800nm,19.8s
BJI LR LR
comp=Z,470nm,21.5s
USRK Ussuriysk Arra 44.40 359 P **P** **13 43 43.7 +0.1**
comp=Z,6.8nm,1.0s,baz=198,slow=7.6,SNR=8.4
CN2 Changchun 44.48 352 *e*P **P** **13 43 44.0 -0.3**
CN2 *e*sP **sP** **13 44 06.6 +1.4**
CN2 *e*S **S** **13 50 16.3 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,700nm,16.0s
CN2 LR LR
comp=E,400nm,16.0s
CN2 LR LR
comp=Z,600nm,17.0s
MDJ Mudanjiang 44.90 357 P **P** **13 43 47.8 +0.1**
MDJ pP **pP** **13 43 58.3 -3.8**
MDJ PP **PcP** **13 45 30.1 +1.6**
MDJ S **S** **13 50 26.1 +4.5**
MDJ sS **sS** **13 50 45.1 -0.9**
MDJ SS **SS** **13 53 47.5 +2.7**
MDJ pmax pmax
comp=Z,22nm,2.0s
MDJ pmax pmax
comp=Z,470nm,7.4s
MDJ LR LR
comp=N,370nm,40.2s
MDJ LR LR
comp=Z,520nm,40.2s
LZH Lanzhou 45.15 326 *e*P **P** **13 43 50.6 +0.5**
LZH pP **pP** **13 44 05.6 +1.0**
LZH sP **sP** **13 44 12.6 +1.6**
LZH PcP PcP 13 45 22.1 -7.7
LZH *e*S **S** **13 50 26.1 +0.1**
LZH sS **sS** **13 50 54.0 +3.6**
LZH SS **SS** **13 53 49.0 -1.0**
LZH pmax pmax
comp=Z,30nm,1.3s
LZH pmax pmax
comp=Z,140nm,5.4s
LZH LR LR
comp=N,1μm,16.0s
LZH LR LR
comp=E,1μm,14.6s
LZH LR LR
comp=Z,1μm,16.5s
ASAJ Asahikawa 45.18 10 LR LR 14 02 08.8
comp=Z,560nm,18.2s,baz=182,slow=35
HHC Hu-ho-hao-te 45.33 337 *e*P **P** **13 43 51.3 -0.1**
HHC pP **pP** **13 44 05.3 -0.5**
HHC sP **sP** **13 44 12.3 +0.1**
HHC PP **PP** **13 45 39.1 +0.8**
HHC S **S** **13 50 29.3 +1.0**
HHC sS **sS** **13 50 51.9 -0.8**
HHC ScS **ScS** **13 53 40.8 -2.5**
HHC pmax pmax
comp=Z,27nm,1.1s
HHC pmax pmax
comp=Z,410nm,6.2s
HHC LR LR
comp=N,350nm,16.7s
HHC LR LR
comp=E,430nm,16.7s
HHC LR LR
comp=Z,430nm,16.6s
SHL Shillong 47.14 306 *e*PKP **P** **13 44 06.0 +0.1**
MSVF Nonsavu 47.76 114 *e*P **P** **13 44 13.2 +2.5**
MSVF Nonsavu 47.76 114 *e*P **P** **13 44 13.2 +2.5**
HABR Khabarovsk 48.71 2 *e*P P 13 44 24.9 +7.5
HABR *e**SS *SS 13 51 32.6
HABR *e* 13 54 04.6
HABR *e*SS SS 13 54 47.5 +0.5
HABR *e*SSS SSS 13 56 02.7
HABR pmax pmax
comp=Z,54nm,1.5s
HABR pmax pmax
comp=E,127nm,3.1s
HABR pmax pmax
comp=N,86nm,3.1s
HABR MLR MLR
comp=Z,201nm,16.0s
KLR Kul'dur 49.43 359 *e*P P 13 44 18.7 -4.2
KLR pmax pmax
comp=Z,70nm,1.8s
LSA Lhasa 49.65 311 *e*P **P** **13 44 24.3 -1.3**
LSA pmax pmax
comp=Z,16nm,0.8s
LSA Lhasa 49.65 311 *e*P **P** **13 44 24.3 -1.3**
comp=Z,16nm,0.8s
GTA Gaotai 49.76 327 *e*P **P** **13 44 25.3 -0.5**
GTA pP **pP** **13 44 40.9 +0.5**
GTA sP **sP** **13 44 48.3 +1.5**
GTA S **S** **13 51 32.5 +1.3**
GTA sS **sS** **13 51 57.3 +1.4**
GTA SS **SS** **13 55 02.9 -1.6**
GTA pmax pmax
comp=Z,9.0nm,1.9s
GTA pmax pmax
comp=Z,280nm,7.8s
GTA LR LR
comp=Z,440nm,18.5s
GTA LR LR
comp=N,410nm,14.0s
GTA LR LR
comp=E,290nm,14.5s
TAPN Taplejung 51.28 306 *e*P **P** **13 44 36.5 -1.1**
TAPN Taplejung 51.28 306 *e*P **P** **13 44 36.5 -1.1**
ODAN Odare 51.33 306 *e*P **P** **13 44 36.9 -1.1**
comp=E,36nm,0.6s
ODAN Odare 51.33 306 *e*P **P** **13 44 36.9 -1.1**
RAMN Ramite 52.01 305 *e*P **P** **13 44 42.3 -0.8**
comp=E,49nm,0.6s
RAMN Ramite 52.01 305 *e*P **P** **13 44 42.3 -0.8**
JIRN Jiri 52.63 306 *e*P **P** **13 44 46.8 -1.0**
comp=E,8.3nm,0.6s
JIRN Jiri 52.63 306 *e*P **P** **13 44 46.8 -1.0**
GUN Gumba 52.99 306 *e*P **P** **13 44 49.4 -1.0**
comp=E,60nm,0.7s
GUN Gumba 52.99 306 *e*P **P** **13 44 49.4 -1.0**
ULN Ulaanbaatar 53.00 339 *e*P **P** **13 44 50.3 +0.4**
ULN Ulaanbaatar 53.00 339 P **P** **13 44 51.0 +1.1**
SNR=10
SONM Songino Array 53.22 338 P **P** **13 44 51.5 +0.1**
SONM Songino Array 53.22 338 P **P** **13 44 51.5 +0.1**
comp=E,4.6nm,0.8s,baz=159,slow=7.8,SNR=34
SONM LR LR 14 07 43.5
comp=E,308nm,19.4s,baz=126,slow=36
PKI Pulchoki 53.23 305 *e*P **P** **13 44 50.7 -1.5**
comp=E,19nm,0.7s
PKI Pulchoki 53.23 305 *e*P **P** **13 44 50.7 -1.5**
PKI Pulchoki 53.23 305 *e*P **P** **13 44 50.7 -1.5**
KKN Kakani 53.42 306 *e*P **P** **13 44 52.2 -1.3**
comp=E,16nm,0.5s
KKN Kakani 53.42 306 *e*P **P** **13 44 52.2 -1.3**
KKN Kakani 53.42 306 *e*P **P** **13 44 52.2 -1.3**
DMN Daman 53.49 305 *e*P **P** **13 44 52.9 -1.1**
comp=E,20nm,0.4s
GKN Gorkha 54.03 306 *e*P **P** **13 44 56.5 -1.3**
comp=E,17nm,0.5s
GKN Gorkha 54.03 306 *e*P **P** **13 44 56.5 -1.3**
KOLN Koldanda 54.79 305 *e*P **P** **13 45 02.6 -0.8**
comp=E,45nm,0.5s
KOLN Koldanda 54.79 305 *e*P **P** **13 45 02.6 -0.8**
DANN Dangsing 54.88 306 *e*P **P** **13 45 03.1 -1.0**
comp=E,43nm,0.5s
DANN Dangsing 54.88 306 *e*P **P** **13 45 03.1 -1.0**
HYB Hyderabad 56.17 291 *i*P **P** **13 45 11.0 -2.3**
PETK Petropavlovsk- 57.23 18 P **P** **13 45 20.8 +0.6**
PETK Petropavlovsk- 57.23 18 P **P** **13 45 20.8 +0.6**
PETK Petropavlovsk- 57.23 18 P **P** **13 45 20.8 +0.6**
comp=E,8.8nm,0.8s,baz=191,slow=6.8,SNR=6.6
PETK LR LR 14 06 43.3
comp=E,234nm,19.4s,baz=196,slow=33
CLNS Chul'man 57.40 355 *e*P **P** **13 45 20.6 -0.7**
CLNS pmax pmax
comp=Z,17nm,0.9s
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=E,5.0nm,1.1s
TLY Talaya 57.40 339 *e*P **P** **13 45 20.3 -1.1**
TLY *e*S S 13 53 04.8 -9.3
TLY *e*PS PS 13 53 37.8
TLY *e*SSS SSS 13 59 18.5
TLY pmax pmax
comp=Z,5.0nm,0.9s
TLY MLR MLR
comp=Z,132nm,14.0s
TLY Talaya 57.40 339 *e*P **P** **13 45 21.9 +0.5**
comp=Z,4.4nm,0.8s
IRK Irkutsk 57.64 340 *e*P **P** **13 45 23.1 +0.1**
IRK *e* 13 46 21.8
IRK pmax pmax
comp=Z,45nm,1.2s
MOY Mondy 58.38 337 *e*P **P** **13 45 29.0 +0.7**
MOY pmax pmax
comp=Z,78nm,3.1s
WMQ Urumqi 59.55 324 ⇑*i*P **P** **13 45 36.9 +0.3**
WMQ pP **pP** **13 45 50.0 -1.6**
WMQ sP **sP** **13 45 56.0 -1.8**
WMQ PcP **PcP** **13 46 25.0 +1.5**
WMQ PP **PP** **13 47 50.0 +1.4**
WMQ S **S** **13 53 41.5 -1.0**
WMQ ScS **ScS** **13 55 19.0 -3.2**
WMQ pmax pmax
comp=Z,35nm,0.8s
WMQ pmax pmax
comp=Z,500nm,5.4s
WMQ LR LR
comp=N,740nm,15.0s
WMQ LR LR
comp=E,630nm,13.9s
WMQ LR LR
comp=Z,840nm,19.8s
BOD Bodaibo 59.93 349 *e*P **P** **13 45 38.8 0.0**
BOD pmax pmax
comp=Z,24nm,1.7s
DDI Dehra Dun 60.23 306 *ex* P **P** **13 45 39.5 -2.0**
POO Poona 60.78 291 *ex* P **P** **13 45 41.0 -4.4**
YAK Yakutsk 62.30 358 *e*P **P** **13 45 54.2 -0.5**
YAK *e**PP pP 13 46 01.7 -8.1
YAK *e* 13 48 11.7
YAK *e*S **S** **13 54 21.1 +4.4**
YAK *e**SS **sS** **13 54 40.4 -1.7**
YAK *e* 13 55 36.8
YAK pmax pmax
comp=Z,30nm,1.1s
YAK pmax pmax
comp=N,23nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.5s
YAK pmax pmax
comp=Z,454nm,6.6s
YAK pmax pmax
comp=N,247nm,5.5s
YAK pmax pmax
comp=E,246nm,5.6s
YAK smax smax
comp=N,300nm,6.1s
YAK smax smax
comp=E,167nm,4.7s
YAK Yakutsk 62.30 358 *e*P **P** **13 45 54.5 -0.2**
comp=E,38nm,0.8s
MK31 Makanchi Array 64.37 324 *i*P **P** **13 46 08.6 -0.2**
MK31 pmax pmax
comp=Z,26nm,0.9s
MKAR Makanchi Array 64.37 324 P **P** **13 46 08.8 0.0**
MKAR Makanchi Array 64.37 324 P **P** **13 46 08.8 0.0**
MKAR P'P' 14 14 51.3
MKAR Makanchi Array 64.37 324 P **P** **13 46 08.8 0.0**
comp=Z,16nm,0.8s,baz=116,slow=8.0,SNR=150
MKAR PKPPKP P'P'df 14 14 51.3 -6.7
comp=Z,1.0nm,1.1s,baz=14,slow=0.6,SNR=4.6
MKAR LR LR 14 15 52.8
comp=Z,326nm,18.9s,baz=20,slow=38
SEY Seymchan 64.86 10 *e*P **P** **13 46 11.6 0.0**
KSH Kashi 65.19 315 P **P** **13 46 15.4 +1.0**
KSH pP **pP** **13 46 31.0 +1.4**
KSH sP **sP** **13 46 38.1 +2.3**
KSH PcP **PcP** **13 46 46.4 -0.2**
KSH PP **PP** **13 48 40.9 +2.5**
KSH ScP 13 50 42.3
KSH PcS 13 50 49.3
KSH S **S** **13 54 53.4 -0.3**
KSH sS **sS** **13 55 19.9 +0.7**
KSH ScS **SKSac** **13 56 01.4 -3.7**
KSH pmax pmax
comp=Z,17nm,1.0s
KSH pmax pmax
comp=Z,140nm,3.2s
KSH LR LR
comp=N,220nm,6.3s
KSH LR LR
comp=E,240nm,5.5s
KSH LR LR
comp=Z,210nm,15.3s
DRV Dumont d'Urvil 66.34 177 S S 13 54 59.0 -7.4
DRV SS SS 13 59 07.0 -17
DRV L L 14 01 00.0
DRV R 14 06 00.0
TKM2 Tokmak 2 66.80 318 *e*P **P** **13 46 24.7 -0.1**
TKM2 pmax pmax
comp=Z,46nm,1.4s
TKM2 Tokmak 2 66.80 318 *e*P **P** **13 46 24.6 -0.1**
comp=Z,46nm,1.4s
ZALV Zalesovo Beam 67.00 332 P **P** **13 46 24.2 -1.4**
ZALV Zalesovo Beam 67.00 332 P **P** **13 46 24.1 -1.4**
ZALV PKKP **PKKPdf** **14 06 35.1 -2.9**
ZALV ⇑*e* 14 14 54.4
ZALV Zalesovo Beam 67.00 332 P **P** **13 46 24.1 -1.4**
comp=Z,6.2nm,0.7s,baz=114,slow=6.1,SNR=34
ZALV PKKP **PKKPdf** **14 06 35.1 -2.9**
comp=Z,0.6nm,0.3s,baz=266,slow=5.5,SNR=6.1
ZALV PKP2bc 14 14 54.4
comp=Z,0.9nm,0.8s,baz=308,slow=4.7,SNR=4.9
ZALV LR LR 14 21 12.3
comp=Z,149nm,18.4s,baz=240,slow=41
AAK Ala-Archa 67.43 317*c* *i*P **P** **13 46 27.6 -1.1**
AAK pmax pmax
comp=Z,18nm,1.2s
AAK Ala-Archa 67.43 317 *e*P **P** **13 46 27.3 -1.5**
comp=Z,201nm,1.7s
AAK Ala-Archa 67.43 317 P **P** **13 46 29.1 +0.4**
comp=Z,2.7nm,0.6s,baz=108,slow=6.8,SNR=8.4
AAK LR LR 14 16 33.1
comp=Z,336nm,20.0s,baz=85,slow=36
CASY Casey 67.62 190 *e*P **P** **13 46 28.9 -0.3**
comp=Z,16nm,1.1s
EKS2 Erkin-Say 67.93 317 *e*P **P** **13 46 30.6 -1.2**
EKS2 pmax pmax
comp=Z,6.0nm,0.5s
EKS2 Erkin-Say 67.93 317 *e*P **P** **13 46 30.6 -1.2**
comp=Z,5.6nm,0.5s
NVS Novosibirsk 68.28 332 ⇑*i*P **P** **13 46 31.3 -2.3**
NVS *e*S **S** **13 55 28.0 -2.1**
NVS pmax pmax
comp=N,20nm,1.5s
NVS pmax pmax
comp=E,22nm,1.5s
NVS pmax pmax
comp=Z,40nm,1.5s
NVS smax smax
comp=N,18nm,2.4s
NVS smax smax
comp=E,24nm,2.5s
KURK Kurchatov 68.44 326*c* *i*P **P** **13 46 34.5 -0.2**
KURK pmax pmax
comp=Z,47nm,1.2s
KURK Kurchatov 68.44 326 *e*P **P** **13 46 34.6 -0.1**
KURK ⇑*e* 14 14 47.1
KURK Kurchatov 68.44 326 P **P** **13 46 35.0 +0.2**
SNR=16
KURBB Kurchatov Arra 68.45 326 P **P** **13 46 34.5 -0.2**
comp=Z,13nm,0.7s,baz=123,slow=5.8,SNR=111
KURBB PKP2bc 14 14 47.1
comp=Z,1.1nm,1.0s,baz=289,slow=2.7,SNR=3.6
KK31 Karatay Array 70.33 317 *i*P **P** **13 46 46.3 -0.3**
KK31 pmax pmax
comp=Z,4.0nm,0.4s
KKAR Karatay Array 70.33 317 *e*P **P** **13 46 46.2 -0.4**
KKAR pmax pmax
comp=Z,7.0nm,0.5s
KKAR Karatay Array 70.33 317 *e*P **P** **13 46 46.1 -0.4**
comp=Z,6.8nm,0.5s
BILL Bilibino 72.10 13 *e*P **P** **13 46 56.6 -0.2**
BILL *e* 13 47 12.8
BILL *e* 13 49 33.0
BILL pmax pmax
comp=Z,2.0nm,1.0s
VOSK Vostochnaya 73.59 326 P **P** **13 47 04.4 -1.5**
VOSK pmax pmax
comp=Z,88nm,2.3s
BVA0 Borovoye Array 74.04 326 *i*P **P** **13 47 06.5 -2.0**
BVAR Borovoye Array 74.04 326 P **P** **13 47 08.1 -0.4**
BVAR Borovoye Array 74.04 326 P **P** **13 47 08.1 -0.4**
BVAR Borovoye Array 74.04 326 P **P** **13 47 08.1 -0.4**
comp=Z,5.2nm,0.6s,baz=125,slow=7.5,SNR=44
BVAR LR LR 14 18 54.4
comp=Z,157nm,19.8s,baz=118,slow=35
BRVK Borovoye 74.11 326*d* *i*P **P** **13 47 08.3 -0.6**
BRVK pmax pmax
comp=Z,28nm,1.2s
BRVK Borovoye 74.11 326 *e*P **P** **13 47 08.5 -0.4**
comp=Z,37nm,1.3s
BRVK Borovoye 74.11 326 P **P** **13 47 09.2 +0.3**
SNR=9.7
ZRNK Zerenda 74.79 326 P **P** **13 47 11.6 -1.2**
ZRNK pmax pmax
comp=Z,123nm,2.8s
IDAH Dahanechah 75.84 304 *e*P **P** **13 47 16.8 -2.9**
IMYA Miami 76.29 308 *e*P **P** **13 47 21.4 -0.7**
ISRO Mashad 76.79 307 *e*P **P** **13 47 23.5 -1.3**
IPAY Payeh 77.19 307 *e*P **P** **13 47 26.5 -0.7**
IAKL Akhelmad 77.41 308 *e*P **P** **13 47 27.0 -1.5**
ARQ Araqi 77.51 294 P **P** **13 47 29.1 +0.2**
SNR=7.0
IKRD Kardeh 77.63 308 *e*P P 13 47 25.6 -4.1
IEMG Emamgholi 77.63 308 *e*P **P** **13 47 29.5 -0.2**
HATD Hatta, Dubai 78.01 295 P **P** **13 47 31.1 -0.7**
SNR=9.2
ISFR Sfrayin 78.08 308 *e*P **P** **13 47 31.4 -0.8**
ABKT Ailbek 78.14 309 P **P** **13 47 33.9 +1.7**
comp=Z,107nm,1.0s,SNR=6.1
PPT Papeete 78.14 108 LR LR 14 18 51.1
comp=Z,394nm,21.4s,baz=277,slow=33
PPT2 Papeete2 78.14 108 *e*S **S** **13 57 25.7 +2.2**
comp=Z,537nm,28.8s
PPT2 *e*SS **SS** **14 02 26.9 +0.5**
comp=Z,142nm,27.8s
PPT2 *e*LQ LQ 14 08 24.4
comp=Z,813nm,34.5s
PPT2 *e*LR LR 14 11 47.4
comp=Z,262nm,22.0s
ISHV Shirvan 78.39 308 *e*P **P** **13 47 32.8 -1.0**
TBI Tubuai 78.65 114 *e*LR LR 14 12 04.4
comp=Z,215nm,25.5s
AB31 Akbulak array 79.12 320 *i*P **P** **13 47 36.6 -0.7**
AB31 pmax pmax
comp=Z,6.0nm,0.7s
ABKAR Akbulak array 79.12 320 *e*P **P** **13 47 35.9 -1.4**
comp=Z,4.0nm,0.5s
ABTO Aybut 80.04 288 P **P** **13 47 42.3 -0.7**
SNR=7.3
AKTO Aktyubinsk 80.60 321 P **P** **13 47 44.1 -1.2**
AKTO pmax pmax
comp=Z,5.0nm,2.0s
AKTO Aktyubinsk 80.60 321 P **P** **13 47 44.8 -0.5**
AKTO Aktyubinsk 80.60 321 P **P** **13 47 44.8 -0.5**
comp=Z,2.1nm,0.4s,baz=94,slow=6.2,SNR=18
SVE Sverdlovsk 80.60 328 ⇓*e*P **P** **13 47 44.6 -0.5**
SVE *e*S **S** **13 57 50.6 +2.7**
SVE pmax pmax
comp=Z,30nm,1.5s
IPAR Pars 81.25 300 *e*P **P** **13 47 47.0 -2.6**
ARU Arti 81.61 327*c* *i*P **P** **13 47 49.6 -0.9**
ARU 13 50 57.9
ARU S **S** **13 58 01.7 +3.3**
ARU pmax pmax
comp=Z,25nm,1.2s
ARU Arti 81.61 327 *e*P **P** **13 47 49.7 -0.9**
comp=Z,16nm,0.9s
MAW Mawson 82.06 201 LR LR 14 20 27.6
comp=Z,940nm,20.9s,baz=91,slow=33
KDAK Kodiak Island 82.19 31 LR LR 14 18 19.3
comp=Z,437nm,21.0s,baz=254,slow=31
COLA College 85.85 25 *e*P **P** **13 48 11.4 -0.6**

COLA					pmax	pmax		
	comp=Z,6.0nm,0.7s							
COLA	**College**	**85.85**	**25**	*eP*	**P**		**13 48 11.3**	**-0.6**
	comp=Z,6.3nm,0.7s							
ILAR	**Eielson Array**	**86.24**	**25**	P	**P**		**13 48 13.0**	**-0.9**
ILAR	**Eielson Array**	**86.24**	**25**	P	**P**		**13 48 13.0**	**-0.9**
	comp=Z,3.9nm,0.7s,baz=259,slow=4.4,SNR=70							
ILAR				LR	LR		14 29 44.4	
	comp=Z,178nm,18.3s,baz=161,slow=38							
QSPA	**South Pole Qui**	**89.54**	**180**	*eP*	**P**		**13 48 29.6**	**-0.2**
	comp=Z,19nm,0.8s							
INK	**Inuvik**	**91.75**	**22**	PKKP	**PKKPbc**		**14 05 59.0**	**-2.4**
	comp=Z,0.8nm,0.8s,baz=56,slow=0.8,SNR=4.6							
KLMR	**Klimovskoe**	**91.91**	**331**	*eP*	P		13 48 48.4	+7.6
KLMR				pmax	pmax			
	comp=Z,34nm,1.6s							
OBN	**Obninsk**	**93.86**	**325**	*eP*	**P**		**13 48 49.4**	**-0.5**
OBN				*e*			13 52 35.8	
OBN				pmax	pmax			
	comp=Z,7.0nm,0.7s							
APA	**Apatity**	**93.92**	**338**	*eP*	P		13 48 57.0	+7.1
SPITS	**Spitsbergen Ar**	**95.63**	**349**	LR	LR		14 35 58.8	
	comp=Z,238nm,18.3s,baz=20,slow=38							
ARCES	**ARCESS Array B**	**96.34**	**340**	P	**P**		**13 49 00.5**	**-0.5**
ARCES	**ARCESS Array B**	**96.34**	**340**	P	**P**		**13 49 00.5**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=104,slow=7.6,SNR=7.8							
ARCES				LR	LR		14 38 48.3	
	comp=Z,188nm,18.6s,baz=231,slow=39							
FINES	**FINESS Array B**	**98.26**	**332**	PKiKP	**PKiKP**		**13 53 41.8**	**-0.3**
FINES	**FINESS Array B**	**98.26**	**332**	PKiKP	**PKiKP**		**13 53 41.8**	**-0.3**
	comp=Z,1.9nm,0.9s,baz=64,slow=6.3,SNR=3.3							
FINES				LR	LR		14 34 22.2	
	comp=Z,255nm,18.8s,baz=295,slow=36							
AKASG	**Malin Array Be**	**98.85**	**321**	LR	LR		14 40 24.6	
	comp=Z,130nm,18.7s,baz=70,slow=39							
YKA	**Yellowknife Ar**	**100.65**	**26**	P	**Pdif**		**13 49 19.9**	**-0.5**
YKA				PKiKP	**PKiKP**		**13 53 46.2**	**-0.1**
YKA				PKKPbc	PKKPbc		14 05 30.7	-6.3
YKA	**Yellowknife Ar**	**100.65**	**26**	P	**Pdif**		**13 49 19.9**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=292,slow=4.5,SNR=11							
YKA				PKiKP	**PKiKP**		**13 53 46.2**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=298,slow=1.8,SNR=7.4							
YKA				PKKPbc	PKKPbc		14 05 30.7	-6.3
	comp=Z,0.3nm,0.8s,baz=108,slow=2.5,SNR=5.0							
NVAR	**Mina Array Bea**	**105.03**	**50**	PP	PP		13 54 02.5	+0.8
NVAR	**Mina Array Bea**	**105.03**	**50**	PP	PP		13 54 02.5	+0.8
	comp=Z,0.5nm,0.8s,baz=293,slow=7.7,SNR=3.7							
BRG	**Berggiesshubel**	**108.08**	**324**	*e*PDIF	**Pdif**		**13 49 54.8**	**+1.1**
	comp=Z,4.3nm,1.2s							
BRG	**Berggiesshubel**	**108.08**	**324**	*eP*	**Pdif**		**13 49 54.8**	**+1.1**
BRG				pmax	pmax			
	comp=Z,4.0nm,1.2s							
CLL	**Collm**	**108.46**	**325**	*eP*	**Pdif**		**13 49 54.0**	**-1.4**
CLL				MLR	MLR			
	comp=Z,200nm,20.8s							
CLL	**Collm**	**108.46**	**325**	*e*PPS	PPS		14 04 54.0	
CLL				*e*SS	SS		14 09 48.0	+10
CLL				*e*SSS	SSS		14 14 12.0	
CLL				Lm	MLR		14 43 00.0	
	comp=Z,200nm,20.8s							
DCID1	**Drake Creek**	**108.91**	**44**	*e*PKPdf			13 54 02.5	
PDAR	**Pinedale Array**	**110.30**	**44**	PKKPbc	PKKPbc		14 05 05.0	-2.3
PDAR				PKKPab	**PKKPab**		**14 05 16.9**	**-0.5**
PDAR	**Pinedale Array**	**110.30**	**44**	PKKPbc	PKKPbc		14 05 05.0	-2.3
	comp=Z,0.4nm,0.5s,baz=116,slow=6.8,SNR=4.5							
PDAR				PKKPab	**PKKPab**		**14 05 16.9**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=126,slow=4.2,SNR=5.3							
J22A	**Midwest**	**112.18**	**43**	⇑P	**PKiKP**		**13 54 08.1**	**-0.4**
	baz=112							
Y20A	**Horse Springs,**	**113.92**	**53**	⇑P	**PKiKP**		**13 54 11.5**	**-0.7**
	baz=114							
X21A	**Alamocita Cree**	**114.23**	**52**	⇓P	PKPdf		13 54 13.0	+0.2
	baz=114							
ULM	**Lac du Bonnet**	**115.44**	**32**	PKP	**PKPdf**		**13 54 13.8**	**-0.6**
ULM	**Lac du Bonnet**	**115.44**	**32**	PKP	**PKPdf**		**13 54 13.8**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=297,slow=2.3,SNR=3.4							
W24A	**Lazy 6 Ranch,**	**115.85**	**51**	⇑P	**PKPdf**		**13 54 16.0**	**+0.1**
	baz=116							
V25A	**Rancho No Teng**	**116.25**	**50**	⇑P	**PKPdf**		**13 54 16.7**	**+0.1**
	baz=116							
T26A	**Comanche Natio**	**116.54**	**48**	⇓P	**PKPdf**		**13 54 17.3**	**+0.2**
	baz=116							
MNTX	**Cornudas Mount**	**116.98**	**54**	⇑P	**PKPdf**		**13 54 18.3**	**+0.5**
	baz=117							
T28A	**Walsh**	**117.66**	**48**	⇓P	**PKPdf**		**13 54 18.8**	**-0.3**
	baz=118							
Y27A	**Causey**	**118.04**	**51**	⇓P	**PKPdf**		**13 54 19.9**	**-0.1**
	baz=118							
Z27A	**Tatum**	**118.19**	**52**	⇑P	**PKPdf**		**13 54 20.2**	**-0.1**
	baz=118							
427A	**Hayter Ranch,**	**118.86**	**55**	⇓P	**PKPdf**		**13 54 21.9**	**+0.3**
	baz=119							
TXAR	**Lajitas Array**	**119.11**	**56**	PKP	**PKPdf**		**13 54 22.3**	**+0.2**
TXAR	**Lajitas Array**	**119.11**	**56**	PKP	**PKPdf**		**13 54 22.3**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=224,slow=5.0,SNR=3.9							
627A	**Terlingua Ranc**	**119.30**	**56**	⇓P	**PKPdf**		**13 54 22.4**	**-0.1**
	baz=119							
Z29A	**Hungry Hill Ra**	**119.40**	**51**	⇓P	**PKPdf**		**13 54 22.8**	**+0.2**
	baz=119							
628A	**Black Gap, Mar**	**119.70**	**56**	⇑P	**PKPdf**		**13 54 23.4**	**+0.2**
	baz=120							
529A	**Stev Forest Ra**	**120.05**	**55**	⇓P	**PKPdf**		**13 54 24.1**	**+0.1**
	baz=120							
429A	**Davenport Ranc**	**120.16**	**54**	⇑P	**PKPdf**		**13 54 23.9**	**-0.2**
	baz=120							
430A	**Baggett Ranch,**	**120.64**	**54**	⇓P	**PKPdf**		**13 54 25.4**	**+0.4**
	baz=121							
531A	**Rocksprings**	**121.41**	**54**	⇑P	**PKPdf**		**13 54 26.9**	**+0.4**
	baz=121							
SCIA	**State Center**	**121.56**	**39**	*e*PKPdf	**PKPdf**		**13 54 26.8**	**+0.4**
JCT	**Junction City**	**121.90**	**54**	*e*PKIKP	**PKPdf**		**13 54 27.7**	**+0.3**
JCT	**Junction City**	**121.90**	**54**	*e*PKPdf	**PKPdf**		**13 54 27.7**	**+0.3**
JCT	**Junction City**	**121.90**	**54**	⇓P	**PKPdf**		**13 54 27.4**	**0.0**
	baz=122							
SCHQ	**Schefferville**	**123.41**	**13**	PKP	**PKPdf**		**13 54 29.5**	**-0.1**
SCHQ	**Schefferville**	**123.41**	**13**	PKP	**PKPdf**		**13 54 29.5**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=315,slow=2.9,SNR=8.0							
TORD	**Torodi Ar. Bea**	**129.88**	**287**	PKP	**PKPdf**		**13 54 43.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**129.88**	**287**	PKP	**PKPdf**		**13 54 43.1**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=92,slow=2.0,SNR=13							
DBIC	**Dimbokro**	**137.24**	**279**	PKP	**PKPdf**		**13 54 58.2**	**+1.4**
DBIC	**Dimbokro**	**137.24**	**279**	PKP	**PKPdf**		**13 54 58.2**	**+1.4**
	comp=Z,5.1nm,1.1s,baz=27,slow=4.6,SNR=4.7							
CFAA	**Coronel Fontan**	**142.48**	**150**	PKPpre	PKPpre		13 55 03.1	
CFAA	**Coronel Fontan**	**142.48**	**150**	PKhKP	PKPpre		13 55 03.1	
	comp=Z,0.5nm,0.6s,baz=211,slow=5.5,SNR=8.7							
ATAH	**Atahualpa**	**148.06**	**104**	PKPbc	**PKPab**		**13 55 21.4**	**-1.1**
ATAH	**Atahualpa**	**148.06**	**104**	PKPbc	**PKPab**		**13 55 21.4**	**-1.1**
	baz=284,slow=8.3							
OTAV	**Otavalo**	**148.81**	**90**	*e*PKPdf	**PKPdf**		**13 55 17.2**	**-0.6**
CPUP	**Villa Florida**	**151.72**	**161**	PKPbc	**PKPbc**		**13 55 28.6**	**+0.9**
CPUP	**Villa Florida**	**151.72**	**161**	PKPbc	**PKPbc**		**13 55 28.6**	**+0.9**
	comp=Z,7.7nm,0.6s,baz=159,slow=1.2,SNR=40							
LPAZ	**La Paz**	**153.57**	**130**	PKP	**PKPdf**		**13 55 26.5**	**+1.3**
LPAZ				PKPbc	**PKiKP**		**13 55 33.9**	**+0.9**
LPAZ				PKPab	**PKPab**		**13 55 45.8**	**+0.4**
LPAZ	**La Paz**	**153.57**	**130**	PKP	**PKPdf**		**13 55 26.5**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=30,slow=2.3,SNR=3.8							
LPAZ				PKPbc	**PKiKP**		**13 55 33.9**	**+0.9**
	comp=Z,3.8nm,0.9s,baz=350,slow=2.1,SNR=11							
LPAZ				PKPab	**PKPab**		**13 55 45.8**	**+0.4**
	comp=Z,4.8nm,0.7s,baz=222,slow=1.8,SNR=8.8							
SIV	**San Ignacio**	**158.77**	**141**	PKPab	**PKPab**		**13 56 08.4**	**+1.5**
SIV	**San Ignacio**	**158.77**	**141**	PKPab	**PKPab**		**13 56 08.4**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=267,slow=7.2,SNR=4.7							

IDC 21 13:40:21.3±5.7, 36°48.8′N×71°23.6′E, h180km±42km, mb2.9/2, mb1 2.8/8, mb1mx2.7/31, mbtmp2.7/8, 1D, Error ellipse: s-maj=69.4km s-min=30.2km az=143.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KK31	**Karatay Array**	**6.64**	**355**	Pn	Pn		13 41 58.7	+2.0
	0.2nm,0.2s,baz=179,slow=12,SNR=9.2							
KK31				⇓Sn	Sn		13 43 06.7	-5.3
	1.1nm,0.3s,baz=181,slow=21,SNR=16							
AAK	**Ala-Archa**	**6.65**	**21**	P	Pn		13 41 58.2	+1.2
	0.6nm,0.3s,baz=182,slow=5.9,SNR=10							
AAK				S	Sn		13 43 10.2	-2.2
	0.5nm,0.3s,baz=313,slow=23,SNR=12							
MKAR	**Makanchi Array**	**13.20**	**35**	P	Pn		13 43 23.3	+1.4
	0.1nm,0.3s,baz=230,slow=11,SNR=6.1							
KURBB	**Kurchatov Arra**	**15.09**	**18**	P	Pn		13 43 44.1	-1.1
	0.1nm,0.3s,baz=206,slow=11,SNR=4.5							

BVAR	**Borovoye Array**	**16.56**	**358**	P	Pn		13 44 04.3	+1.2
	0.1nm,0.3s,baz=157,slow=11,SNR=4.8							
AKTO	**Aktyubinsk**	**16.90**	**330**	P	Pn		13 44 07.7	+0.5
	0.1nm,0.3s,baz=171,slow=13,SNR=2.7							
ZALV	**Zalesovo Beam**	**19.86**	**24**	P	P		13 44 38.1	-0.2
	0.3nm,0.3s,baz=220,slow=11,SNR=6.4							
TORD	**Torodi Ar. Bea**	**65.90**	**269**	P	P		13 50 47.6	-0.5
	0.1nm,0.4s,baz=47,slow=7.5,SNR=2.6							
YKA	**Yellowknife Ar**	**81.26**	**3**	P	P		13 52 16.9	+0.1
	0.2nm,0.4s,baz=351,slow=5.5,SNR=7.0							

*IDC **21** 13:47:59.3±0.6, 0°.27S×132°.79E, h0km, mb4.4/13, mb1 4.5/15, mb1mx4.3/26, mbtmp4.4/15, ML4.4/2, Error ellipse: s-maj=31.5km s-min=11.1km az=76.0*
*BJI **21** 13:48:00.0, 0°.30S×132°.80E, h10km, mB5.1/2, mb4.7/4*
*ISCJB **21** 13:48:02.9±0.4, 0°.28S±0°.04×132°.77E±0°.04, h33km, mb4.5/18, Error ellipse: s-maj=6.0km s-min=5.4km az=175.1*
*DJA **21** 13:48:08, 0°.67S×132°.53E, h10km, mb4.7/14*

ISC 21 13:48:04.7±0.5, 0°.25S±0°.06×132°.73E±0°.05, h33km, n51, σ1§63/53, mb4.5/18, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
SWI	**Sorong**	**1.59**	**248**	P	**Pn**		**13 48 29.6**	**-1.0**
SWI				S	**Sn**		**13 48 49.9**	**-0.2**
FAKI	**Fak Fak**	**2.69**	**190**	P	**Pn**		**13 48 45.1**	**-0.7**
BAKI	**Biak**	**3.50**	**105**	P	**Pn**		**13 48 58.4**	**+1.5**
BAKI				S	**Sn**		**13 49 38.1**	**+0.9**
MSAI	**Masohi**	**4.89**	**231**	P	**Pn**		**13 49 17.5**	**+1.5**
MSAI				S	**Sn**		**13 50 16.4**	**+4.9**
BNDI	**Bandanaira**	**5.10**	**214**	P	**Pn**		**13 49 18.7**	**-0.2**
BNDI				S	**Sn**		**13 50 15.5**	**-1.1**
LBMI	**Labuha**	**5.25**	**266**	P	**Pn**		**13 49 20.3**	**-0.6**
	87nm,1.0s,0.4nm							
TLE	**Tual**	**5.35**	**180**	P	**Pn**		**13 49 22.7**	**+0.3**
	526nm,0.8s,2.1nm							
TLE				S	**Sn**		**13 50 25.2**	**+2.3**
	526nm,0.8s,2.1nm							
AAI	**Ambon**	**5.68**	**233**	P	**Pn**		**13 49 27.6**	**+0.8**
	330nm,0.8s,3μm1.1nm							
KDI	**Kendari**	**10.76**	**250**	P	**Pn**		**13 50 37.8**	**+1.2**
	15nm,1.1s							
TTSI	**Tana Toraja**	**13.20**	**258**	P	Pn		13 51 13.7	+3.6
	16nm,1.4s							
SPSI	**Sidrap Palu**	**13.47**	**254**	P	**Pn**		**13 51 14.4**	**+0.7**
	22nm,0.8s							
BKSI	**Bulukumba**	**13.56**	**248**	P	**Pn**		**13 51 17.1**	**+2.1**
	22nm,0.8s							
KAPI	**Kappang**	**13.80**	**250**	Pn	**Pn**		**13 51 20.4**	**+2.2**
	2.6nm,0.3s,baz=174,slow=10,SNR=5.3							
SMKI	**Samarinda**	**15.53**	**269**	P	**P**		**13 51 48.2**	**+2.8**
PMG	**Port Moresby**	**17.00**	**123**	P	**P**		**13 52 03.7**	**+2.0**
	34nm,1.0s							
PMG	**Port Moresby**	**17.00**	**123**	Pn	**P**		**13 52 01.1**	**-0.7**
	0.4nm,0.3s,baz=272,slow=7.9,SNR=8.6							
BBKI	**Banjar Baru**	**18.16**	**260**	P	P		13 52 19.7	+5.0
	42nm,1.5s							
KHKI	**Kahang-Kahang**	**18.87**	**244**	P	**P**		**13 52 22.0**	**-0.4**
	41nm,1.3s							
FITZ	**Fitzroy Crossi**	**19.06**	**201**	*eP*	P		13 52 19.5	-5.0
	27nm,1.1s							
FITZ				*e*S	Sn		13 55 41.2	-17
FITZ	**Fitzroy Crossi**	**19.06**	**201**	P	**P**		**13 52 21.8**	**-2.6**
	0.3nm,0.3s,baz=26,slow=14,SNR=8.2							
FITZ				S	Sn		13 55 40.7	-17
	0.5nm,0.3s,baz=112,slow=16,SNR=4.5							
WRA	**Warramunga Arr**	**19.63**	**176**	P	**P**		**13 52 29.7**	**-1.0**
	2.4nm,0.3s,baz=355,slow=11,SNR=62							
WRA				S	S		13 56 00.5	-10
	0.8nm,0.3s,baz=2.3,slow=22,SNR=5.6							
BYJI	**Banyuwangi**	**19.95**	**246**	P	**Pn**		**13 52 36.7**	**+0.6**
	116nm,1.3s							
JAGI	**Jajag, Banyuwa**	**20.23**	**246**	P	Pn		13 52 40.9	+1.5
	34nm,1.0s							
SBUM	**Sibu**	**20.68**	**278**	P	Pn		13 52 44.5	-0.2
	15nm,1.0s							
GMJI	**Gumukmas**	**20.81**	**247**	P	Pn		13 52 48.6	+2.5
	43nm,1.2s							
KSM	**Kuching**	**22.49**	**274**	P	**P**		**13 53 04.5**	**+2.8**
	16nm,1.8s							
ASAR	**Alice Springs**	**23.30**	**177**	P	**P**		**13 53 09.0**	**-1.0**
	24nm,0.6s,baz=20,slow=12,SNR=153							
ASAR				S	**S**		**13 57 24.9**	**+4.4**
	2.4nm,0.8s,baz=353,slow=20,SNR=4.0							
CTA	**Charters Tower**	**23.75**	**147**	*eP*	**P**		**13 53 13.2**	**-1.1**
	9.7nm,1.0s							
CTA	**Charters Tower**	**23.75**	**147**	P	**P**		**13 53 13.1**	**-1.2**
	10nm,0.8s,baz=333,slow=14,SNR=5.4							
BJII	**Banjamegara**	**24.01**	**252**	P	**P**		**13 53 19.1**	**+2.2**
MBWA	**Marble Bar**	**24.35**	**211**	*eP*	**P**		**13 53 17.8**	**-2.1**
STKA	**Stephens Creek**	**32.55**	**166**	*eP*	**P**		**13 54 31.3**	**-1.6**
	8.8nm,0.8s							
STKA	**Stephens Creek**	**32.55**	**166**	P	**P**		**13 54 31.8**	**-1.1**
	14nm,0.8s,baz=354,slow=8.3,SNR=22							
KMBL	**Kambalda**	**32.61**	**197**	*eP*	**P**		**13 54 31.5**	**-2.0**
	78nm,0.9s							
MORW	**Morawa**	**32.79**	**208**	*eP*	**P**		**13 54 33.9**	**-1.2**
	27nm,0.6s							
BLDU	**Ballidu**	**33.82**	**205**	*eP*	**P**		**13 54 43.2**	**-0.8**
KLBR	**Kellerberrin**	**34.24**	**203**	*eP*	**P**		**13 54 46.8**	**-0.9**
	12nm,0.7s							
ARMA	**Armidale**	**34.97**	**151**	*eP*	**P**		**13 54 53.2**	**-0.9**
NWAO	**Narrogin (SRO)**	**35.63**	**203**	P	**P**		**13 54 57.5**	**-2.2**
	6.2nm,0.7s,baz=44,slow=4.2,SNR=3.7							
CMAR	**Chiang Mai Arr**	**38.05**	**301**	P	**P**		**13 55 19.9**	**-0.6**
	3.4nm,1.1s,baz=124,slow=7.3,SNR=14							
SONM	**Songino Array**	**53.09**	**338**	P	**P**		**13 57 19.4**	**+0.3**
	0.9nm,0.7s,baz=150,slow=9.0,SNR=8.3							
SONM				PcP	**PcP**		**13 58 27.4**	**+0.1**
	0.5nm,0.7s,baz=159,slow=2.8,SNR=2.4							
WMQ	**Urumqi**	**59.44**	**324**	*eP*	**P**		**13 58 05.5**	**+1.0**
WMQ				pP	**pP**		**13 58 14.8**	**+0.2**
WMQ				pmax	pmax			
	comp=Z,13nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,130nm,4.4s							
MKAR	**Makanchi Array**	**64.25**	**324**	P	**P**		**13 58 37.2**	**+0.5**
	comp=Z,3.5nm,0.7s,baz=116,slow=8.0,SNR=48							
ZALV	**Zalesovo Beam**	**66.88**	**332**	P	**P**		**13 58 53.4**	**-0.2**
	comp=Z,2.4nm,0.9s,baz=111,slow=6.5,SNR=9.7							
KURBB	**Kurchatov Arra**	**68.33**	**326**	P	**P**		**13 59 03.3**	**+0.6**
	comp=Z,5.6nm,0.8s,baz=120,slow=5.8,SNR=50							
BVAR	**Borovoye Array**	**73.93**	**326**	P	**P**		**13 59 36.8**	**+0.2**
	comp=Z,4.5nm,0.9s,baz=125,slow=7.8,SNR=18							
AKTO	**Aktyubinsk**	**80.49**	**321**	P	**P**		**14 00 12.6**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=116,slow=10,SNR=6.6							
ILAR	**Eielson Array**	**86.12**	**25**	P	**P**		**14 00 41.5**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=260,slow=4.3,SNR=18							
INK	**Inuvik**	**91.62**	**22**	P	**P**		**14 01 06.8**	**-1.4**
	comp=Z,1.2nm,1.0s,baz=264,slow=2.1,SNR=2.2							
TORD	**Torodi Ar. Bea**	**129.83**	**287**	PKP	**PKPdf**		**14 07 11.6**	**-0.3**
	comp=Z,0.6nm,0.9s,baz=57,slow=2.1,SNR=4.3							
CPUP	**Villa Florida**	**151.85**	**161**	PKPbc	**PKPbc**		**14 07 56.9**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=175,slow=1.3,SNR=12							

*ISCJB **21** 13:52:28.9±0.4, 55°.58N±0°.02×162°.56E±0°.05, h72km±3km, mb3.8/16, Error ellipse: s-maj=4.7km s-min=3.4km az=16.7*
*MOS **21** 13:52:28.2±0.8, 55°.61N×162°.57E, h69km, mb4.3/10, Error ellipse: s-maj=15.4km s-min=9.3km az=80.7*
*KRSC **21** 13:52:28.5±0.1, 55°.54N×162°.53E, h45km±45km, ML4.4*
*IDC **21** 13:52:38.3±3.9, 55°.96N×160°.50E, h80km±46km, mb3.5/10, mb1 3.7/12, mb1mx3.4/30, mbtmp3.6/12, ML3.5/2, Error ellipse: s-maj=38.7km s-min=18.7km az=152.0*

ISC 21 13:52:29.4±0.8, 55°.58N±0°.03×162°.55E±0°.03, h60km±8km, n68, σ1§24/104, mb4.1/12, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KBTR	**Krutoberegovo**	**0.65**	**13**	PN	**Pn**		**13 52 43.4**	**+0.3**
KBTR				S	**Sn**		**13 52 53.7**	**+0.6**
KBTR	**Krutoberegovo**	**0.65**	**13**	P	**Pn**		**13 52 43.4**	**+0.3**
KBTR				*e*S	**Sn**		**13 52 53.7**	**+0.6**
KBG	**Krutoberegovo**	**0.69**	**7**	PN	**Pn**		**13 52 43.7**	**+0.2**
KBG				S	**Sn**		**13 52 54.9**	**+1.2**
KBG	**Krutoberegovo**	**0.69**	**7**	*e*P	**Pn**		**13 52 43.7**	**+0.2**
KBG				*e*S	**Sn**		**13 52 54.9**	**+1.2**
ZLN	**Zelenaya**	**1.08**	**295**	*e*P	**Pn**		**13 52 48.7**	**+0.1**
ZLN				*e*S	**Sn**		**13 53 03.7**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**1.11**	**290**	*e*P	**Pn**		**13 52 49.0**	**+0.1**
BZGR				*e*S	**Sn**		**13 53 03.9**	**+0.4**
MKZ	**Mys Kozlova**	**1.12**	**205**	PN	**Pn**		**13 52 48.5**	**-0.5**
MKZ				S	**Sn**		**13 53 04.1**	**+0.5**
MKZ	**Mys Kozlova**	**1.12**	**205**	*e*P	**Pn**		**13 52 48.5**	**-0.5**
MKZ				*e*S	**Sn**		**13 53 04.1**	**+0.5**
CIRR	**Tsirk**	**1.15**	**299**	*e*P	**Pn**		**13 52 49.6**	**+0.1**
CIRR				*e*S	**Sn**		**13 53 05.1**	**+0.6**
LGNR	**Loginova**	**1.16**	**297**	*e*P	**Pn**		**13 52 50.1**	**+0.2**
LGNR				*e*S	**Sn**		**13 53 06.2**	**+1.1**
SMKR	**Semkarok**	**1.18**	**329**	*e*P	**Pn**		**13 52 50.2**	**+0.4**
SMKR				*e*S	**Sn**		**13 53 06.7**	**+1.7**
BZMR	**Bezymyannaya**	**1.22**	**288**	*e*P	**Pn**		**13 52 50.4**	**0.0**
BZMR				*e*S	**Sn**		**13 53 05.5**	**-0.6**
BZWR	**Bezymyannyi-We**	**1.22**	**289**	*e*P	**Pn**		**13 52 50.7**	**+0.2**
BZWR				*e*S	**Sn**		**13 53 06.9**	**+0.7**
BDR	**Baidarnaya**	**1.25**	**324**	*e*P	**Pn**		**13 52 51.5**	**+0.8**
BDR				*e*S	**Sn**		**13 53 08.1**	**+1.4**
KRSR	**Krestovskiy**	**1.29**	**301**	*e*P	**Pn**		**13 52 51.0**	**-0.3**
KRSR				*e*S	**Sn**		**13 53 07.2**	**-0.5**
KLY	**Klyuchi**	**1.30**	**306**	PN	**Pn**		**13 52 50.0**	**-1.3**
KLY				S	**Sn**		**13 53 05.5**	**-2.2**
KLY	**Klyuchi**	**1.30**	**306**	*e*P	**Pn**		**13 52 50.0**	**-1.3**
KLY				*e*S	**Sn**		**13 53 05.5**	**-2.2**
KIRR	**Kirishev**	**1.30**	**288**	*e*P	**Pn**		**13 52 51.9**	**+0.3**
KIRR				*e*S	**Sn**		**13 53 09.3**	**+1.2**
KMNR	**Kamenistaya**	**1.32**	**279**	*e*P	**Pn**		**13 52 52.3**	**+0.5**
KMNR				*e*S	**Sn**		**13 53 09.6**	**+1.1**
SRKR	**Sorokina**	**1.33**	**325**	*e*P	**Pn**		**13 52 52.2**	**+0.4**
KPT	**Kopyto**	**1.37**	**288**	*e*P	**Pn**		**13 52 53.1**	**+0.7**
KPT				*e*S	**Sn**		**13 53 11.3**	**+1.6**
TUMR	**Tumrok**	**1.40**	**259**	*e*P	**Pn**		**13 52 53.3**	**+0.5**
TUMR				*e*S	**Sn**		**13 53 11.3**	**+0.9**
KOZR	**Kozyr**	**1.57**	**289**	PN	**Pn**		**13 52 56.3**	**+1.2**
KOZR				S	**Sn**		**13 53 15.8**	**+1.4**
KOZ	**Kozyrevsk**	**1.58**	**289**	*e*P	**Pn**		**13 52 56.3**	**+1.1**
KOZ				*e*S	**Sn**		**13 53 15.8**	**+1.1**
SRDR	**Sredinnyy**	**1.76**	**296**	*e*P	**Pn**		**13 52 58.6**	**+1.0**
SRDR				*e*S	**Sn**		**13 53 20.1**	**+1.2**
BKI	**Bering**	**1.99**	**99**	PN	**Pn**		**13 53 01.8**	**+1.2**
BKI				S	**Sn**		**13 53 25.3**	**+0.9**
BKI	**Bering**	**1.99**	**99**	*e*P	**Pn**		**13 53 01.8**	**+1.2**
BKI				*e*S	**Sn**		**13 53 25.3**	**+0.9**
ESO	**Esso**	**2.20**	**281**	PN	**Pn**		**13 53 04.3**	**+0.7**
ESO				S	**Sn**		**13 53 29.5**	**-0.2**
ESO	**Esso**	**2.20**	**281**	*e*P	**Pn**		**13 53 04.3**	**+0.7**
ESO				*e*S	**Sn**		**13 53 29.5**	**-0.2**
KII	**Karymskiy**	**2.37**	**231**	*e*P	**Pn**

1.4nm,0.3s,baz=349,slow=12,SNR=19
DZM Sn **Sn** **14 01 57.9 -2.1**
baz=131,slow=19,SNR=1.3
PMG Port Moresby 19.04 277 P **Pn** **14 02 15.0 +0.2**
PMG Port Moresby 19.04 277 P **Pn** **14 02 15.0 +0.2**
0.3nm,0.3s,baz=184,slow=8.0,SNR=3.9
EIDS Eidsvold 19.36 226 *eP* **Pn** **14 02 19.5 +0.9**
31nm,0.6s
CTA Charters Tower 20.73 246 P **P** **14 02 33.0 +0.5**
CTA Charters Tower 20.73 246 P **P** **14 02 33.0 +0.5**
6.0nm,0.9s,baz=49,slow=6.2,SNR=3.8
CTA LR LR 14 08 12.1
comp=Z,169nm,18.6s,baz=38,slow=30
RMQ Roma 21.69 227 *eP* **P** **14 02 44.2 +1.4**
23nm,0.9s
COEN Coen 22.59 263 *eP* **P** **14 02 51.0 -1.6**
39nm,0.8s
CMSA Cobar Meteorol 26.95 222 *eP* **P** **14 03 34.5 +1.1**
90nm,0.9s
STKA Stephens Creek 29.91 226 P **P** **14 04 00.6 +0.7**
STKA Stephens Creek 29.91 226 *eP* **P** **14 03 59.7 -0.2**
2.7nm,0.8s
STKA Stephens Creek 29.91 226 P **P** **14 04 00.6 +0.7**
2.6nm,0.7s,baz=9.4,slow=14,SNR=5.0
STKA LR LR 14 13 40.3
comp=Z,230nm,18.7s,baz=15,slow=32
WRA Warramunga Arr 31.59 252 P **P** **14 04 13.4 -1.4**
WRA PcP **PcP** **14 07 07.6 +0.2**
WRA Warramunga Arr 31.59 252 P **P** **14 04 13.4 -1.4**
2.0nm,0.8s,baz=83,slow=9.4,SNR=13
WRA PcP **PcP** **14 07 07.6 +0.2**
0.8nm,0.8s,baz=85,slow=3.0,SNR=6.4
ASAR Alice Springs 32.74 245 P **P** **14 04 23.1 -1.8**
ASAR PcP **PcP** **14 07 10.2 -0.2**
ASAR Alice Springs 32.74 245 P **P** **14 04 23.1 -1.8**
2.2nm,0.7s,baz=69,slow=9.3,SNR=28
ASAR PcP **PcP** **14 07 10.2 -0.2**
1.4nm,0.7s,baz=68,slow=2.5,SNR=12
FITZ Fitzroy Crossi 39.61 257 P **P** **14 05 23.8 +0.1**
FITZ Fitzroy Crossi 39.61 257 P **P** **14 05 23.8 +0.1**
1.2nm,0.6s,baz=128,slow=12,SNR=4.6
FITZ LR LR 14 21 44.9
comp=Z,101nm,19.1s,baz=359,slow=36
MJAR Matsushiro Arr 55.37 333 P **P** **14 07 24.6 -1.4**
MJAR Matsushiro Arr 55.37 333 P **P** **14 07 24.6 -1.4**
3.7nm,0.8s,baz=171,slow=9.5,SNR=9.4
ASAJ Asahikawa 60.20 340 P **P** **14 07 59.3 -0.5**
ASAJ Asahikawa 60.20 340 P **P** **14 07 59.3 -0.5**
4.6nm,0.9s,baz=254,slow=18,SNR=3.1
KSRS Korea Array 61.26 326 P **P** **14 08 08.2 +1.1**
1.6nm,0.7s,baz=132,slow=6.9,SNR=6.1
KSAR Wonju Array Be 61.27 326 P **P** **14 08 08.2 +1.0**
USRK Ussuriysk Arra 64.34 333 P **P** **14 08 27.9 +0.4**
8.9nm,0.9s,baz=153,slow=4.6,SNR=12
CMAR Chiang Mai Arr 73.14 294 P **P** **14 09 24.1 +1.1**
CMAR Chiang Mai Arr 73.14 294 P **P** **14 09 24.1 +1.1**
1.6nm,0.9s,baz=116,slow=4.8,SNR=6.6
QSPA South Pole Qui 77.67 180 *eP* **P** **14 09 46.6 -1.7**
13nm,1.1s
ULN Ulaanbaatar 79.67 324 *eP* **P** **14 09 59.9 +0.3**
3.9nm,0.8s
SONM Songino Array 80.04 324 P **P** **14 10 02.5 +1.0**
SONM Songino Array 80.04 324 P **P** **14 10 02.5 +1.0**
1.5nm,0.7s,baz=146,slow=5.2,SNR=11
ILAR Eielson Array 84.56 18 P **P** **14 10 23.3 -1.4**
ILAR Eielson Array 84.56 18 P **P** **14 10 23.3 -1.4**
0.5nm,0.6s,baz=224,slow=5.8,SNR=10
MKAR Makanchi Array 94.84 317 P **P** **14 11 14.2 +0.3**
MKAR Makanchi Array 94.84 317 P **P** **14 11 14.2 +0.3**
3.1nm,0.6s,baz=89,slow=6.1,SNR=29
ZALV Zalesovo Beam 94.93 324 P **P** **14 11 13.4 -0.7**
ZALV Zalesovo Beam 94.93 324 P **P** **14 11 13.4 -0.7**
2.9nm,0.8s,baz=108,slow=4.8,SNR=16
YKA Yellowknife Ar 95.86 27 P P 14 11 21.6 +3.4
YKA Yellowknife Ar 95.86 27 P P 14 11 21.5 +3.4
0.1nm,0.5s,baz=254,slow=4.8,SNR=3.1
KURK Kurchatov 97.99 320 P Pdif 14 11 27.8 -0.3
KURBB Kurchatov Arra 98.03 320 P Pdif 14 11 27.8 -0.5
0.4nm,0.5s,baz=96,slow=4.6,SNR=5.1
ARCES ARCESS Array B 117.72 345 PKP **PKPdf** **14 16 37.0 -0.6**
ARCES ARCESS Array B 117.72 345 PKP **PKPdf** **14 16 37.0 -0.6**
5.3nm,0.9s,baz=48,slow=3.6,SNR=5.6
FINES FINESS Array B 123.17 338 PKP **PKPdf** **14 16 48.1 -0.2**
FINES FINESS Array B 123.17 338 PKP **PKPdf** **14 16 48.1 -0.2**
4.2nm,1.0s,baz=56,slow=5.2,SNR=4.6
GERES GERESS Array B 137.11 333 PKP **PKPdf** **14 17 16.6 +1.3**
GERES GERESS Array B 137.11 333 PKP **PKPdf** **14 17 16.6 +1.3**
0.7nm,0.8s,baz=116,slow=3.1,SNR=5.0
KEST Kesra 148.78 322 PKPbc **PKPbc** **14 17 40.4 +0.4**
KEST Kesra 148.78 322 PKPbc **PKPbc** **14 17 40.4 +0.4**
3.5nm,0.8s,baz=163,slow=1.1,SNR=9.4
ESDC Sonseca Array 151.45 344 PKPbc **PKPbc** **14 17 47.0 +0.7**
ESDC Sonseca Array 151.45 344 PKPbc **PKPbc** **14 17 47.0 +0.7**
0.6nm,0.3s,baz=22,slow=1.3,SNR=6.1
TORD Torodi Ar. Bea 164.98 275 PKP **PKPdf** **14 17 57.7 +0.6**
TORD PKPab **PKPab** **14 18 55.6 +2.0**
TORD Torodi Ar. Bea 164.98 275 PKP **PKPdf** **14 17 57.7 +0.6**
1.4nm,0.9s,baz=36,slow=1.2,SNR=6.1
TORD PKPab **PKPab** **14 18 55.6 +2.0**
1.1nm,1.0s,baz=64,slow=3.4,SNR=3.9

IDC 21 14:07:11.2±1.8,0.51S×132.19E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.7/21, mbtmp3.7/6, ML3.5/2, Error ellipse: s-maj=98.6km s-min=19.6km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.63**	**200**	P		P	P	14 11 29.8	-0.8
	0.1nm,0.3s,baz=12,slow=14,SNR=2.2								
FITZ				S			Sn	14 14 52.9	-7.0
	0.1nm,0.3s,baz=288,slow=20,SNR=3.1								
WRA	**Warramunga Arr**	**19.43**	**174**	P		Pn	Pn	14 11 40.3	-0.2
	0.3nm,0.3s,baz=353,slow=12,SNR=19								
WRA				S			Sn	14 15 12.0	-7.2
	0.1nm,0.3s,baz=355,slow=23,SNR=5.5								
ASAR	**Alice Springs**	**23.08**	**176**	P		P	P	14 12 19.6	+0.8
	5.0nm,0.7s,baz=356,slow=11,SNR=64								
STKA	**Stephens Creek**	**32.44**	**165**	P		P	P	14 13 42.1	-1.2
	1.2nm,0.8s,baz=0.0,slow=12,SNR=4.3								
MKAR	**Makanchi Array**			P		P	P	14 17 47.9	+0.3
	0.4nm,0.7s,baz=116,slow=8.4,SNR=6.7								
KURBB	**Kurchatov Arra**	**68.24**	**326**	P		P	P	14 18 13.5	-0.3
	0.6nm,0.8s,baz=118,slow=5.3,SNR=5.9								

*ISCJB **21** 14:16:08.8±0.6,30.90N±0.06×103.73E±0.08,h10km, mb3.2/7, Error ellipse: s-maj=10.2km s-min=8.1km az=178.4*
*IDC **21** 14:16:08.9±0.9,30.96N×103.73E,h0km,mb3.4/7, mb1 3.7/8,mb1mx3.5/26,mbtmp3.4/8,ML4.2/1, Error ellipse: s-maj=42.1km s-min=18.5km az=65.0*
*BJI **21** 14:16:08.9,31.05N×103.15E,h9km,ML3.4/10*
ISC 21 14:16:10.7±0.8,30.89N±0.05×103.66E±0.08,h10km,n12, σ1§48/15,mb3.4/7,1D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.08**	**78**	⇓*i*Pg		Pg	Pg	14 16 17.1	+4.0
CD2				Sg		Sg	Sg	14 16 23.8	+8.9
CD2				smax		smax	smax		
	comp=N,6μm,0.7s								
CD2				smax		smax	smax		
	comp=E,4μm,0.7s								
GYA	**Guiyang**	**5.14**	**148**	Pn		Pb	Pn	14 17 33.8	-7.1
GYA				Sn		**Sn**	**Sn**	**14 18 30.0**	**+2.6**
GYA				Sg		**Sg**	**Sg**	**14 18 54.0**	**-1.9**
GYA				smax		smax	smax		
	comp=N,40nm,0.8s								
GYA				smax		smax	smax		
	comp=E,20nm,0.7s								
XAN	**Xi'an**	**5.44**	**53**	Pn		**Pn**	**Pn**	**14 17 33.0**	**+1.1**
XAN				Pg		**Pg**	**Pg**	**14 17 53.3**	**-1.6**
XAN				Sn		**Sn**	**Sn**	**14 18 37.1**	**+2.5**
XAN				Sg		**Sg**	**Sg**	**14 19 04.6**	**-0.8**
XAN				smax		smax	smax		
	comp=N,57nm,0.7s								
XAN				smax		smax	smax		
	comp=E,24nm,0.9s								
CMAR	**Chiang Mai Arr**	**13.10**	**200**	Pn		**Pn**	**Pn**	**14 19 17.6**	**+0.7**
	comp=E,0.4nm,0.3s,baz=345,slow=17,SNR=3.0								
SONM	**Songino Array**	**17.05**	**6**	Pn		**P**	**P**	**14 20 12.6**	**+1.5**
	comp=E,0.1nm,0.3s,baz=182,slow=11,SNR=2.6								
MKAR	**Makanchi Array**	**22.89**	**320**	P		**P**	**P**	**14 21 14.0**	**-0.6**
	comp=E,0.2nm,0.7s,baz=122,slow=11,SNR=3.1								
ZALV	**Zalesovo Beam**	**26.75**	**335**	P		**P**	**P**	**14 21 49.5**	**-0.8**
	comp=E,0.2nm,0.4s,baz=134,slow=10,SNR=3.3								
KURBB	**Kurchatov Arra**	**27.18**	**324**	P		**P**	**P**	**14 21 53.8**	**-0.5**
	comp=E,0.2nm,0.5s,baz=126,slow=9.3,SNR=4.5								
WRA	**Warramunga Arr**	**58.51**	**146**	P		**P**	**P**	**14 26 07.5**	**+0.2**
	comp=E,0.5nm,0.5s,baz=337,slow=7.5,SNR=9.8								
ASAR	**Alice Springs**	**61.51**	**148**	P		**P**	**P**	**14 26 27.2**	**-0.7**
	comp=E,0.2nm,0.7s,baz=340,slow=7.0,SNR=4.6								
ILAR	**Eielson Array**	**70.19**	**25**	P		**P**	**P**	**14 27 22.4**	**-0.9**
	comp=E,0.3nm,0.9s,baz=305,slow=3.2,SNR=3.6								
YKA	**Yellowknife Ar**	**82.00**	**17**	P		**P**	**P**	**14 28 30.4**	**-0.2**
	comp=E,0.4nm,0.7s,baz=326,slow=4.8,SNR=7.9								

*IDC **21** 14:30:31.3±0.7,25.94S×175.95W,h0km,mb4.1/6, mb1 4.4/6,mb1mx4.2/15,mbtmp4.1/6,MS3.6/3,Ms1 3.6/3, ms1mx2.9/35, Error ellipse: s-maj=31.0km s-min=24.1km az=139.0*
*ISCJB **21** 14:30:33.2±0.7,25.84S±0.10×176.0W±0.1,h23km, mb4.3/9,MS3.5/3, Error ellipse: s-maj=18.8km s-min=13.3km az=14.6*
*NEIC **21** 14:30:35.5±3.2,25.89S×175.95W,h28km±21km,mb5.0/3, Error ellipse: s-maj=16.2km s-min=9.7km az=94.0*
ISC 21 14:30:35.1±0.7,25.9S±0.1×175.9W±0.2,h23km,n44, σ0§90/35,mb4.1/9,MS3.6/3,1C,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.79**	**208**	*e*Pn		**Pn**	**Pn**	**14 31 32.1**	**+0.1**
MSVF	**Nonsavu**	**9.87**	**324**	*e*Pn		**Pn**	**Pn**	**14 32 55.2**	**-0.5**
	22nm,0.9s								
AFI	**Afiamalu**	**12.54**	**19**	Pn		Pn	Pn	14 33 27.5	-4.7
AFI				Sn		Sn	Sn	14 35 36.9	-14
AFI	**Afiamalu**	**12.54**	**19**	Pn		Pn	Pn	14 33 27.5	-4.7
	2.7nm,0.3s,baz=51,slow=24,SNR=9.9								
AFI				Sn		Sn	Sn	14 35 36.9	-14
	3.0nm,0.3s,baz=12,slow=20,SNR=4.1								
DZM	**Mont Dzumac**	**16.57**	**280**	*e*LR		LR	LR	14 38 44.5	
	268nm,23.8s								
TBI	**Tubuai**	**24.16**	**90**	*e*LR		LR	LR	14 41 03.7	
	155nm,29.8s								
TBI				*e*T		T	T	14 59 38.2	
	7.4nm,0.3s								
PAE	**Paea**	**25.75**	**77**	*e*T		T	T	15 01 48.6	
	2.6nm,0.3s								
PPT2	**Papeete2**	**25.78**	**77**	*e*LR		LR	LR	14 41 48.2	
	168nm,27.8s								
HNR	**Honiara**	**28.15**	**301**	LR		LR	LR	14 45 55.7	
	comp=Z,182nm,20.6s,baz=129,slow=33								
CTA	**Charters Tower**	**35.22**	**271**	LR		LR	LR	14 50 10.1	
	comp=Z,97nm,18.2s,baz=308,slow=34								
ASAR	**Alice Springs**	**45.40**	**262**	P		**P**	**P**	**14 38 51.1**	**-1.1**
ASAR	**Alice Springs**	**45.40**	**262**	P		**P**	**P**	**14 38 51.1**	**-1.1**
	1.0nm,0.8s,baz=99,slow=6.7,SNR=21								
WRA	**Warramunga Arr**	**45.99**	**267**	P		**P**	**P**	**14 38 56.5**	**-0.4**
WRA	**Warramunga Arr**	**45.99**	**267**	P		**P**	**P**	**14 38 56.5**	**-0.4**
	1.4nm,0.6s,baz=105,slow=7.6,SNR=20								
WRA				LR		LR	LR	14 57 47.1	
	comp=Z,36nm,20.9s,baz=105,slow=36								
QSPA	**South Pole Qui**	**64.20**	**180**	*e*P		**P**	**P**	**14 41 07.3**	**-0.5**
	18nm,1.0s								
QSPA	**South Pole Qui**	**64.20**	**180**	P		**P**	**P**	**14 41 07.4**	**-0.5**
	14nm,0.9s,baz=36,slow=2.2,SNR=38								
MAJO	**Matsushiro**	**75.67**	**323**	*e*P		**P**	**P**	**14 42 17.5**	**-1.0**
	9.2nm,0.4s								
ISA	**Isabella**	**81.80**	**44**	*e*P		**P**	**P**	**14 42 51.2**	**-1.1**
	5.9nm,1.4s								
NVAR	**Mina Array Bea**	**83.67**	**42**	P		**P**	**P**	**14 43 02.5**	**+0.3**
NVAR	**Mina Array Bea**	**83.67**	**42**	P		**P**	**P**	**14 43 02.5**	**+0.3**
	1.9nm,0.8s,baz=224,slow=8.8,SNR=13								
PDAR	**Pinedale Array**	**91.59**	**42**	P		**P**	**P**	**14 43 40.1**	**-0.2**
PDAR	**Pinedale Array**	**91.59**	**42**	P		**P**	**P**	**14 43 40.1**	**-0.2**
	0.6nm,1.0s,baz=148,slow=4.1,SNR=3.0								
ILAR	**Eielson Array**	**93.15**	**12**	P		**P**	**P**	**14 43 46.8**	**+0.1**
ILAR	**Eielson Array**	**93.15**	**12**	P		**P**	**P**	**14 43 46.8**	**+0.1**
	0.6nm,0.9s,baz=226,slow=6.2,SNR=3.6								
CMAR	**Chiang Mai Arr**	**93.69**	**289**	P		**P**	**P**	**14 43 53.1**	**+2.8**
CMAR	**Chiang Mai Arr**	**93.69**	**289**	P		**P**	**P**	**14 43 53.1**	**+2.8**
	0.6nm,0.7s,baz=150,slow=3.0,SNR=5.7								
ZALV	**Zalesovo Beam**	**115.86**	**320**	PKP		**PKPdf**	**PKPdf**	**14 49 15.5**	**+0.1**
ZALV	**Zalesovo Beam**	**115.86**	**320**	PKP		**PKPdf**	**PKPdf**	**14 49 15.5**	**+0.1**
	0.3nm,0.5s,baz=88,slow=4.5,SNR=3.3								
MKAR	**Makanchi Array**	**116.24**	**311**	PKP		**PKPdf**	**PKPdf**	**14 49 15.6**	**-0.9**
MKAR	**Makanchi Array**	**116.24**	**311**	PKP		**PKPdf**	**PKPdf**	**14 49 15.6**	**-0.9**
	0.4nm,0.7s,baz=92,slow=0.6,SNR=5.9								
KURK	**Kurchatov**	**119.21**	**315**	PKP		**PKPdf**	**PKPdf**	**14 49 21.9**	**-0.1**
KURBB	**Kurchatov Arra**	**119.26**	**315**	PKP		**PKPdf**	**PKPdf**	**14 49 21.9**	**-0.2**
	0.3nm,0.6s,baz=88,slow=5.2,SNR=5.2								
BVAR	**Borovoye Array**	**124.39**	**318**	PKP		**PKPdf**	**PKPdf**	**14 49 31.2**	**-0.7**
BVAR	**Borovoye Array**	**124.39**	**318**	PKP		**PKPdf**	**PKPdf**	**14 49 31.2**	**-0.7**
	0.7nm,0.6s,baz=79,slow=7.7,SNR=4.6								
NB2	**NORSAR Subarra**	**144.53**	**354**	PKP		PKPbc	PKPbc	14 50 08.0	+0.2
	comp=Z,1.9nm,0.8s,baz=9.1,slow=3.4								
NOA	**NORSAR Array B**	**144.53**	**354**	PKP		PKPbc	PKPbc	14 50 08.3	+0.5
NOA	**NORSAR Array B**	**144.53**	**354**	PKP		PKPbc	PKPbc	14 50 08.3	+0.5
	comp=Z,3.1nm,0.8s,baz=10.0,slow=2.3,SNR=7.4								
HFS	**Hagfors**	**145.14**	**352**	PKPbc		**PKPdf**	**PKPbc**	**14 50 10.2**	**0.0**
HFS	**Hagfors**	**145.14**	**352**	PKPbc		**PKPdf**	**PKPbc**	**14 50 10.2**	**0.0**
	comp=Z,4.5nm,0.7s,baz=52,slow=2.6,SNR=6.6								
BRTR	**Keskin Array B**	**151.74**	**307**	PKPbc		**PKPbc**	**PKPbc**	**14 50 28.6**	**+0.5**
BRTR	**Keskin Array B**	**151.74**	**307**	PKPbc		**PKPbc**	**PKPbc**	**14 50 28.6**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=38,slow=2.2,SNR=4.0								
CLL	**Collm**	**153.73**	**347**	⇑*i*PKPbc		**PKPbc**	**PKPbc**	**14 50 32.8**	**+0.9**
	comp=Z,4.0nm,0.9s								
TORD	**Torodi Ar. Bea**	**167.12**	**169**	PKP		**PKPdf**	**PKPdf**	**14 50 39.3**	**-0.5**
TORD				PKPab		**PKPab**	**PKPab**	**14 51 43.7**	**0.0**
TORD	**Torodi Ar. Bea**	**167.12**	**169**	PKP		**PKPdf**	**PKPdf**	**14 50 39.3**	**-0.5**
	comp=Z,1.3nm,1.1s,baz=221,slow=1.4,SNR=3.8								
TORD				PKPab		**PKPab**	**PKPab**	**14 51 43.7**	**0.0**
	comp=Z,0.8nm,0.9s,baz=171,slow=5.5,SNR=3.2								

KRSC 21 14:35:52.0±0.7,55.61N×165.70E,h5km±5km, ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**2.52**	**247**	*e*P		Pn	Pn	14 36 33.2	-0.2
MKZ				*i* S		Sn	Sn	14 37 03.9	-0.5
KMNR	**Kamenistaya**	**3.10**	**275**	*e*P		Pn	Pn	14 36 42.9	+1.3
KMNR				*i* S		Sn	Sn	14 37 19.5	+0.4
SDLR	**Sedlovina**	**4.61**	**242**	*e*P		Pn	Pn	14 37 03.6	+1.1
SDLR				*i* S		Sn	Sn	14 37 54.2	-2.3
SMAR	**Somma**	**4.66**	**243**	*e*P		Pn	Pn	14 37 04.6	+1.3
UGLR	**Uglovaya**	**4.68**	**242**	*e*P		Pn	Pn	14 37 04.6	+1.2
AVH	**Avacha**	**4.69**	**243**	*e*P		Pn	Pn	14 37 05.3	+1.8
MTVR	**Mutnovka**	**5.42**	**238**	*e*P		Pn	Pn	14 37 14.7	+1.1
MTVR				*i* S		Sn	Sn	14 38 15.3	-1.2
ASAK	**Asacha**	**5.62**	**238**	*e*P		Pn	Pn	14 37 18.5	+2.2

IDC 21 14:38:55.9±2.1,2.17S×133.84E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.6/19, mbtmp3.8/5, ML3.8/2, Error ellipse: s-maj=89.5km s-min=22.5km az=81.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.68**	**178**	P		P	P	14 43 04.7	-0.1
	0.3nm,0.3s,baz=358,slow=12,SNR=30								
FITZ	**Fitzroy Crossi**	**17.77**	**206**	P		Pn	Pn	14 43 03.4	-1.4
	0.3nm,0.3s,baz=32,slow=11,SNR=8.2								
ASAR	**Alice Springs**	**21.38**	**180**	P		P	P	14 43 45.4	+0.2
	2.0nm,0.6s,baz=6.1,slow=12,SNR=27								
MKAR	**Makanchi Array**	**66.44**	**324**	P		P	P	14 49 47.4	+0.2
	0.3nm,0.4s,baz=116,slow=7.9,SNR=11								
KURBB	**Kurchatov Arra**	**70.53**	**326**	P		P	P	14 50 12.4	-0.2
	0.3nm,0.5s,baz=114,slow=5.2,SNR=2.9								

*ISK **21** 14:41:50.9,39.20N×28.95E,h11km, MD2.5*
*DDA **21** 14:41:51.6,39.11N×29.07E,h7km, MD2.8*
*ISCJB **21** 14:41:52.3±0.6,39.12N±0.03×29.06E±0.04,h22km±11km, Error ellipse: s-maj=5.4km s-min=4.8km az=12.5*
*CSEM **21** 14:41:52.0±0.2,39.12N×29.05E,h18km±2km, MD2.8, Error ellipse: s-maj=4.4km s-min=3.7km az=95.0*
ISC 21 14:41:51.7±1.0,39.12N±0.03×29.03E±0.04,h13km±11km, n22,σ0§53/36,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**252**	*i* P		**Pb**	**Pb**	**14 41 58.6**	**+0.4**
DEMI				*i* S		**Sb**	**Sb**	**14 42 03.0**	**+0.4**
GDZ	**Gediz**	**0.36**	**95**	*i* P		**Pg**	**Pg**	**14 41 59.0**	**+0.1**
GDZ				*i* S		**Sg**	**Sg**	**14 42 03.8**	**0.0**
GDZ	**Gediz**	**0.36**	**95**	*i* P		**Pg**	**Pg**	**14 41 59.0**	**+0.1**
GDZ				*i* S		**Sg**	**Sg**	**14 42 03.8**	**0.0**
TVSB	**Tavsanli**	**0.47**	**46**	*e*PG		**Pg**	**Pg**	**14 42 01.1**	**+0.1**
TVSB				*e*SG		**Sg**	**Sg**	**14 42 07.2**	**-0.2**
TVSB	**Tavsanli**	**0.47**	**46**	*e*Pg		**Pg**	**Pg**	**14 42 01.1**	**+0.1**
TVSB				*e*Sg		**Sg**	**Sg**	**14 42 07.2**	**-0.2**
DURS	**Dursunbey**	**0.64**	**319**	*i* P		**Pb**	**Pb**	**14 42 05.4**	**+0.5**
DURS				*i* S		**Sb**	**Sb**	**14 42 14.9**	**+1.0**
DURS	**Dursunbey**	**0.64**	**319**	*i* P		**Pb**	**Pb**	**14 42 05.4**	**+0.5**
DURS				*i* S		**Sb**	**Sb**	**14 42 14.9**	**+1.0**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*PG		**Pb**	**Pb**	**14 42 05.2**	**0.0**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*Pg		**Pb**	**Pb**	**14 42 05.3**	**0.0**
MANT	**Manisa**	**0.73**	**210**	*i* P		**Pb**	**Pb**	**14 42 06.6**	**+0.2**
MANT				*i* S		**Sg**	**Sg**	**14 42 15.5**	**+0.1**
MANT	**Manisa**	**0.73**	**210**	*i* P		**Pb**	**Pb**	**14 42 06.6**	**+0.2**
MANT				*i* S		**Sg**	**Sg**	**14 42 15.5**	**+0.1**
KHAL	**Karahalli**	**0.83**	**154**	*i* P		**Pg**	**Pg**	**14 42 07.6**	**-0.2**
KHAL				*i* S		**Sg**	**Sg**	**14 42 18.4**	**-0.3**
KHAL	**Karahalli**	**0.83**	**154**	*i* P		**Pg**	**Pg**	**14 42 07.6**	**-0.2**
KHAL				*i* S		**Sg**	**Sg**	**14 42 18.4**	**-0.3**
ALT	**Altintas**	**0.85**	**94**	*e*PG		**Pn**	**Pn**	**14 42 09.0**	**-0.5**
ALT	**Altintas**	**0.85**	**94**	*e*Pg		**Pn**	**Pn**	**14 42 09.0**	**-0.5**
KHL	**Karahalli**	**0.89**	**154**	*e*PG		**Pn**	**Pn**	**14 42 10.2**	**+0.2**
KHL	**Karahalli**	**0.89**	**154**	*e*Pg		**Pn**	**Pn**	**14 42 10.2**	**+0.2**
ULDT	**Uludag**	**1.02**	**5**	*i* P		**Pn**	**Pn**	**14 42 12.0**	**0.0**
ULDT				*i* S		**Sb**	**Sb**	**14 42 24.7**	**-0.2**
ULDT	**Uludag**	**1.02**	**5**	*i* P		**Pn**	**Pn**	**14 42 12.0**	**0.0**
ULDT				*i* S		**Sb**	**Sb**	**14 42 24.7**	**-0.2**
GONE	**Gonen-Balikesi**	**1.39**	**312**	*e*PN		**Pn**	**Pn**	**14 42 15.3**	**-1.5**
GONE	**Gonen-Balikesi**	**1.39**	**312**	*e*Pn		**Pn**	**Pn**	**14 42 15.3**	**-1.5**

*IDC **21** 14:44:59.8±0.8,0.40S×137.65E,h0km,mb3.7/10, mb1 4.0/11,mb1mx3.9/20,mbtmp3.9/11,ML4.6/1, Error ellipse: s-maj=36.7km s-min=15.1km az=78.0*
*DJA **21** 14:45:03.5±1.0,1.1S±18×13.7E±,h181km±6km,M4.2/5, mb3.9/1,MLv4.4/5*
ISC 21 14:45:04.0±0.8,0.9S±0.1×136.57E±0.09,h25km,n17, σ1§15/11,mb4.0/9,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**0.56**	**235**	P		Pn	Pn	14 45 30.4	+14
BAKI				S		Sn	Sn	14 45 49.2	+24
SMPI	**Sarmi**	**2.41**	**118**	P		Pn	Pn	14 45 35.3	-6.6
JAY	**Jayapura**	**4.44**	**112**	P		**Pn**	**Pn**	**14 46 09.2**	**-0.7**
FAKI	**Fak Fak**	**4.77**	**245**	P		**Pn**	**Pn**	**14 46 13.6**	**-0.8**
SWI	**Sorong**	**5.31**	**270**	P		**Pn**	**Pn**	**14 46 20.9**	**-0.9**
WRA	**Warramunga Arr**	**19.08**	**186**	P		Pn	Pn	14 49 31.0	+5.2
	1.8nm,0.3s,baz=12,slow=11,SNR=91								
FITZ	**Fitzroy Crossi**	**20.21**	**211**	P		Pn	Pn	14 49 46.6	+7.3
	2.3nm,0.8s,baz=45,slow=12,SNR=5.1								
CTA	**Charters Tower**	**21.32**	**154**	P		**P**	**P**	**14 49 50.1**	**+0.9**
	3.0nm,0.8s,baz=13,slow=12,SNR=3.9								
ASAR	**Alice Springs**	**22.81**	**186**	P		P	P	14 50 10.4	+5.2
	4.8nm,0.5s,baz=18,slow=11,SNR=64								
STKA	**Stephens Creek**	**31.20**	**172**	P		**P**	**P**	**14 51 22.0**	**+0.6**
	1.2nm,0.6s,baz=340,slow=12,SNR=3.6								
CMAR	**Chiang Mai Arr**	**41.67**	**299**	P		P	P	14 52 56.8	+5.8
	0.7nm,0.6s,baz=115,slow=6.1,SNR=6.5								
SONM	**Songino Array**	**55.16**	**336**	P		**P**	**P**	**14 54 34.2**	**-0.4**
	0.2nm,0.7s,baz=148,slow=8.5,SNR=3.6								
SONM				PcP		**PcP**	**PcP**	**14 55 35.9**	**+0.3**
	0.2nm,0.5s,baz=148,slow=5.2,SNR=2.8								
MKAR	**Makanchi Array**	**67.04**	**323**	P		**P**	**P**	**14 55 57.1**	**+2.0**
	1.2nm,0.5s,baz=104,slow=9.1,SNR=31								
ZALV	**Zalesovo Beam**	**69.28**	**330**	P		**P**	**P**	**14 56 09.2**	**+0.2**
	0

SIV	San Ignacio	18.64	28	P	P	15 05 40.6	-0.8
	comp=E,1.1nm,0.3s,baz=223,slow=9.5,SNR=45						
USHA	Ushuaia	22.04	177	P	P	15 06 17.1	-0.5
USHA	Ushuaia	22.04	177	P	P	15 06 17.1	-0.5
	comp=E,27nm,0.9s,baz=346,slow=11,SNR=11						
SAML	Samuel	24.60	17	eP	P	15 06 40.0	-2.4
	comp=E,5.2nm,0.8s						
BDFB	Brasilia	26.32	55	P	P	15 06 56.8	-1.3
BDFB	Brasilia	26.32	55	P	P	15 06 56.8	-1.3
	comp=E,13nm,0.8s,baz=222,slow=7.9,SNR=19						
QSPA	South Pole Qui	57.41	180	eP	P	15 11 10.0	+0.8
	comp=E,16nm,0.9s						
732A	Laxson Ranch,	67.47	332	⇑P	P	15 12 17.0	+0.7
	baz=68						
631A	Perdido Creek	68.31	332	⇓P	P	15 12 22.2	+0.5
	baz=68						
532A	Rocksprings	68.69	332	⇓P	P	15 12 25.0	+1.0
	baz=69						
JCT	Junction City	68.96	333	⇓P	P	15 12 26.6	+0.9
	baz=69						
531A	Rocksprings	68.97	332	⇑P	P	15 12 26.5	+0.7
	baz=69						
SWET	Sewanee	69.30	346	eP	P	15 12 27.9	+0.2
	comp=E,7.4nm,0.7s						
432A	Menard	69.31	333	⇑P	P	15 12 28.0	+0.2
	baz=70						
628A	Black Gap, Mar	69.34	330	⇓P	P	15 12 29.0	+0.9
	baz=70						
TXAR	Lajitas Array	69.54	329	P	P	15 12 30.3	+0.9
TXAR	Lajitas Array	69.54	329	P	P	15 12 30.3	+0.9
	comp=E,1.1nm,0.6s,baz=157,slow=7.3,SNR=7.3						
529A	Stev Forest Ra	69.61	331	⇑P	P	15 12 30.3	+0.5
	baz=70						
528A	Cox Ranch, San	69.88	330	⇑P	P	15 12 31.6	+0.1
	baz=70						
429A	Davenport Ranc	69.92	331	⇓P	P	15 12 32.1	+0.4
	baz=70						
TZTN	Tazewell	70.15	348	eP	P	15 12 32.1	-0.7
527A	Woodward Ranch	70.22	329	⇓P	P	15 12 34.0	+0.4
	baz=70,SNR=5.2						
526A	Mary Lane Ranc	70.35	329	⇑P	P	15 12 35.3	+0.9
	baz=70						
WVT	Waverly	70.58	345	eP	P	15 12 35.3	-0.1
	comp=E,17nm,0.8s						
329A	Wagon Wheel Ra	70.71	331	⇓P	P	15 12 37.1	+0.6
	baz=71						
427A	Hayter Ranch,	70.74	330	⇓P	P	15 12 36.3	-0.4
	baz=71						
ABTX	Abilene, Hawle	70.81	334	⇓P	P	15 12 37.4	+0.4
	baz=71						
426A	McDonald Obser	70.85	329	⇓P	P	15 12 38.6	+1.1
	baz=71						
328A	Wristen Ranch,	70.95	331	⇑P	P	15 12 38.5	+0.6
	baz=71						
425A	Indio Mountain	71.36	329	⇓P	P	15 12 39.0	-1.5
	baz=72						
326A	Caldwell Ranch	71.39	330	⇓P	P	15 12 39.3	-1.2
	baz=72						
228A	UT Block 9, Go	71.51	331	⇓P	P	15 12 40.5	-0.8
	baz=72						
129A	Stewart Farms,	71.67	332	⇑P	P	15 12 41.1	-1.1
	baz=72						
324A	Moseley Ranch,	72.14	329	⇓P	P	15 12 45.0	-0.2
	baz=72,SNR=6.7						
Z29A	Hungry Hill Ra	72.16	333	⇓P	P	15 12 43.8	-1.3
	baz=72						
MNTX	Cornudas Mount	72.32	329	eP	P	15 12 45.4	-0.7
	comp=E,2.6nm,0.6s						
MNTX	Cornudas Mount	72.32	329	⇓P	P	15 12 45.9	-0.2
	baz=72,SNR=5.8						
126A	Clayton Basin,	72.56	330	⇓P	P	15 12 47.8	+0.3
	baz=73						
Y29A	Porterfield Fa	72.68	333	⇑P	P	15 12 48.9	+0.7
	baz=73						
224A	Cornudas Mount	72.70	329	⇑P	P	15 12 48.7	+0.1
	baz=73,SNR=5.0						
125A	Gardner Draw,	72.83	330	⇑P	P	15 12 49.5	+0.2
	baz=73						
Y28A	McKinney Farm,	72.95	332	⇓P	P	15 12 50.0	+0.1
	baz=73						
Z26A	Caprock	73.08	331	⇓P	P	15 12 51.5	+0.8
	baz=73						
MSTX	Muleshoe	73.21	332	⇓P	P	15 12 52.1	+0.7
	baz=73						
X29A	Tulia	73.21	333	⇓P	P	15 12 51.9	+0.5
	baz=73						
DBIC	Dimbokro	73.25	70	P	P	15 12 51.3	-0.6
DBIC	Dimbokro	73.25	70	P	P	15 12 51.3	-0.6
	comp=E,3.7nm,0.9s,baz=281,slow=5.2,SNR=2.6						
Z25A	Roswell	73.40	330	⇓P	P	15 12 53.2	+0.6
	baz=74						
320A	Kipp Ranch, An	73.43	326	⇓P	P	15 12 53.5	+0.7
	baz=74						
Z24A	Sheeppen Canyo	73.71	330	⇓P	P	15 12 55.4	+0.9
	baz=74						
319A	Douglas	73.82	326	⇓P	P	15 12 55.8	+0.8
	baz=74						
220A	Playas Peak, P	73.91	327	⇑P	P	15 12 56.8	+1.2
	baz=74						
121A	Cookes Peak, D	74.09	328	⇓P	P	15 12 57.6	+0.9
	baz=74						
X26A	CR and CF Fran	74.13	332	⇓P	P	15 12 57.2	+0.4
	baz=74						
W27A	Bowe Ranch, En	74.28	332	⇑P	P	15 12 58.4	+0.7
	baz=74						
Z22A	Elephant Butte	74.34	329	⇑P	P	15 12 59.0	+0.9
	baz=74						
120A	U Bar Ranch, L	74.49	327	⇓P	P	15 13 00.0	+1.1
	baz=75						
Y23A	Lovelace Mesa,	74.52	330	⇑P	P	15 13 00.6	+1.4
	baz=75						
W26A	Owens Ranch, T	74.58	332	⇓P	P	15 12 60.0	+0.6
	baz=75						
Z20A	Nine Sixteen R	74.95	327	⇓P	P	15 13 02.7	+1.1
	baz=75						
W25A	X Bar L Ranch,	74.97	331	⇓P	P	15 13 02.6	+0.9
	baz=75						
Y21A	Point of Rocks	75.29	328	⇑P	P	15 13 04.9	+1.3
	baz=76						
W24A	Lazy 6 Ranch,	75.35	331	⇑P	P	15 13 05.2	+1.3
	baz=76						
Y20A	Horse Springs,	75.52	328	⇑P	P	15 13 06.1	+1.1
	baz=76						
ANMO	Albuquerque	75.57	330	eP	P	15 13 06.7	+1.5
	comp=E,5.0nm,1.3s						
V25A	Rancho No Teng	75.57	332	⇑P	P	15 13 05.8	+0.6
	baz=76						
W23A	Werner Place,	75.62	330	⇑P	P	15 13 07.0	+1.5
	baz=76						
X21A	Alamocita Cree	75.71	329	⇑P	P	15 13 07.9	+1.9
	baz=76						
U26A	Atchley Ranch,	75.71	333	⇑P	P	15 13 06.8	+0.9
	baz=76						
T28A	Walsh	75.73	334	⇑P	P	15 13 06.4	+0.5
	baz=76						
V24A	Rampart Ranch,	75.74	331	⇑P	P	15 13 06.3	+0.2
	baz=76						
T27A	Campo	75.91	334	⇑P	P	15 13 08.5	+1.5
	baz=76						
Y19A	Nutrioso	75.96	327	⇓P	P	15 13 09.4	+1.9
	baz=76						
U25A	Circle Dot Ran	75.98	332	⇑P	P	15 13 08.7	+1.3
	baz=76						
214A	Organ Pipe Nat	76.02	324	⇓P	P	15 13 09.3	+1.7
	baz=76						
W21A	San Fidel	76.22	329	⇑P	P	15 13 10.6	+1.7
	baz=76						
T26A	Comanche Natio	76.34	333	⇑P	P	15 13 11.3	+1.8
	baz=77						
V22A	San Miguel Ran	76.58	330	⇑P	P	15 13 12.8	+1.9
	baz=77						
W20A	Ramah	76.60	328	⇑P	P	15 13 12.6	+1.6
	baz=77						
T25A	Trinidad	76.62	332	⇓P	P	15 13 12.8	+1.8
	baz=77						
U23A	El Rito	76.64	331	⇓P	P	15 13 12.5	+1.3
	baz=77						
S26A	Kim	76.68	333	⇑P	P	15 13 12.9	+1.5
	baz=77						
T24A	Torres, Weston	76.82	332	⇓P	P	15 13 13.9	+1.7
	baz=77						
U22A	Llaves	76.95	330	⇓P	P	15 13 15.0	+2.0
	baz=77						
R27A	Eads	77.02	334	⇓P	P	15 13 13.6	+0.5
	baz=77						
S25A	Robets Cordova	77.08	333	⇑P	P	15 13 14.7	+1.1
	baz=77						
V20A	Brimhall	77.15	329	⇓P	P	15 13 15.2	+1.1
	baz=77						
R26A	Arlington	77.27	334	⇓P	P	15 13 15.8	+1.2
	baz=78						
U21A	Nageezi	77.33	330	⇓P	P	15 13 16.1	+1.0
	baz=78,SNR=5.4						
X16A	Lo Mia Camp, P	77.35	326	⇑P	P	15 13 16.8	+1.6
	baz=78						
S24A	Houchin Ranch,	77.37	332	⇓P	P	15 13 17.0	+1.6
	baz=78						
T22A	Edith	77.52	331	⇓P	P	15 13 17.5	+1.4
	baz=78						
SDCO	Great Sand Dun	77.58	332	eP	P	15 13 17.6	+1.1
	comp=E,41nm,2.6s						
SDCO	Great Sand Dun	77.58	332	⇓P	P	15 13 17.8	+1.3
	baz=78						
Y14A	Wickenburg	77.71	325	⇑P	P	15 13 18.1	+1.0
	baz=78						
T21A	Navajo Lake	77.76	330	⇑P	P	15 13 18.6	+1.2
	baz=78						
R24A	Sanders Place,	77.84	332	⇑P	P	15 13 19.4	+1.5
	baz=78						
P27A	Ficken Ranch,	78.06	335	⇓P	P	15 13 20.1	+1.1
	baz=78						
R23A	Moffat	78.09	332	⇓P	P	15 13 20.5	+1.2
	baz=78						
S22A	4UR Ranch, Cre	78.11	331	⇓P	P	15 13 20.5	+1.0
	baz=78						
WUAZ	Wupatki	78.22	327	⇓P	P	15 13 20.6	+0.6
	baz=78						
T19A	Beclabito	78.26	329	⇑P	P	15 13 21.1	+0.9
	baz=78,SNR=5.6						
Y12C	Blythe	78.31	323	⇓P	P	15 13 21.2	+0.9
	baz=78						
P26A	Davis Ranch, A	78.34	334	⇑P	P	15 13 20.7	+0.2
	baz=79						
MVCO	Mesa Verde	78.35	330	⇓P	P	15 13 20.8	0.0
	baz=78						
S21A	Coal Bank Pass	78.44	330	⇑P	P	15 13 22.5	+1.2
	baz=79						
Q24A	Divide	78.50	333	⇓P	P	15 13 23.0	+1.4
	baz=79						
O27A	Beecher Island	78.59	335	⇓P	P	15 13 23.3	+1.5
	baz=79						
P25A	Willow Gulch B	78.60	334	⇑P	P	15 13 23.7	+1.7
	baz=79						
BC3	Big Chuckawall	78.71	323	⇑P	P	15 13 23.7	+1.1
	baz=79						
S20A	Disappointment	78.82	330	⇑P	P	15 13 24.1	+0.7
	baz=79						
T18A	Mexican Hat	78.89	329	⇑P	P	15 13 24.6	+1.1
	baz=79						
R21A	Cimarron	78.94	331	⇑P	P	15 13 25.4	+1.4
	baz=79						
IRM	Iron Mountain	78.95	323	⇓P	P	15 13 24.8	+0.9
	baz=79						
W13A	Hualapai Mount	79.07	325	⇓P	P	15 13 26.4	+1.7
	baz=79						
S19A	Harvey Farm, M	79.08	329	⇑P	P	15 13 25.6	+0.9
	baz=79,SNR=5.1						
Q22A	Crested Butte,	79.10	332	⇑P	P	15 13 26.3	+1.4
	baz=79						
R20A	Redvale	79.13	330	⇑P	P	15 13 26.4	+1.4
	baz=79						
N27A	Anderson Farm,	79.15	335	⇓P	P	15 13 26.8	+1.9
	baz=79						
BOSA	Boshof	79.16	117	P	P	15 13 25.0	-0.5
BOSA	Boshof	79.16	117	P	P	15 13 25.0	-0.5
	comp=E,6.9nm,1.2s,baz=202,slow=8.7,SNR=4.2						
T17A	Navajo Res., N	79.18	328	⇓P	P	15 13 27.2	+1.9
	baz=79						
PFO	Pinyon Flat Ob	79.18	322	⇓P	P	15 13 26.7	+1.4
	baz=79						
BELC	Belle Mtn. Jos	79.26	323	⇑P	P	15 13 27.0	+1.3
	baz=79						
U15A	North Rim	79.39	327	⇓P	P	15 13 27.8	+1.3
	baz=80						
SMCO	Snowmass	79.39	332	eP	P	15 13 28.4	+1.8
	comp=E,4.7nm,0.8s						
S18A	Hurst Farm, Bl	79.40	329	⇓P	P	15 13 27.7	+1.2
	baz=80,SNR=5.9						
PV10	Paradox Valley	79.56	330	eP	P	15 13 28.4	+1.0
R19A	Curley Farm, L	79.59	330	⇓P	P	15 13 27.6	+0.1
	baz=80						
P22A	Eagle	79.67	332	⇑P	P	15 13 28.7	+0.8
	baz=80						
GMRC	Granite Mounta	79.70	323	⇑P	P	15 13 29.5	+1.5
	baz=80						
S17A	Black Ridge (B	79.71	328	⇑P	P	15 13 29.5	+1.4
	baz=80						
O23A	Lake Granby, G	79.87	333	⇑P	P	15 13 30.5	+1.4
	baz=80						
P21A	Newcastle	79.88	332	⇓P	P	15 13 30.0	+1.0
	baz=80						
R18A	Canyonlands Na	79.94	329	⇓P	P	15 13 30.7	+1.4
	baz=80						
ECSD	EROS Data Cent	79.95	341	eP	P	15 13 29.1	+0.1
O22A	Kremmling	80.07	332	⇑P	P	15 13 31.5	+1.4
	baz=80						
S16A	Weppner Ranch,	80.14	328	⇑P	P	15 13 31.9	+1.5
	baz=80						
BFSC	Mount Baldy Ra	80.30	322	⇓P	P	15 13 32.5	+1.2
	baz=80						
R17A	Hanksville Air	80.32	329	⇑P	P	15 13 32.0	+0.7
	baz=80						
N23A	Red Feather La	80.47	333	⇑P	P	15 13 32.7	+0.5
	baz=81						
M24A	Cheyenne	80.55	334	⇓P	P	15 13 33.4	+0.9
	baz=81						
N22A	Wattenberg Ran	80.59	333	⇓P	P	15 13 33.4	+0.6
	baz=81						
P19A	Cripple Cowboy	80.60	331	⇓P	P	15 13 33.9	+1.0
	baz=81						
Q18A	Rafter H Ranch	80.64	330	⇓P	P	15 13 33.8	+0.9
	baz=81						
GSC	Goldstone	80.69	323	⇑P	P	15 13 34.0	+0.7
	baz=81						
SRU	San Rafael	80.81	329	⇑P	P	15 13 34.9	+0.9
	baz=81						
Q16A	Castle Valley	80.93	329	⇓P	P	15 13 35.8	+1.1
	baz=81						
N21A	Black Mountain	80.97	332	⇓P	P	15 13 36.4	+1.6
	baz=81						
EDW2	Edwards Air Fo	80.97	322	⇓P	P	15 13 35.4	+0.6
	baz=81						
P18A	Preston Nutter	81.12	330	⇓P	P	15 13 36.7	+0.9
	baz=81						
BSC	Santa Cruz Isl	81.16	320	⇑P	P	15 13 37.3	+1.6
	baz=81						
P17A	Butcher Ranch,	81.21	329	⇑P	P	15 13 37.1	+1.0
	baz=81						
O19A	Miners Draw (B	81.22	331	⇓P	P	15 13 37.4	+1.4
	baz=81						
LRMC	Laurel Mountai	81.28	322	⇑P	P	15 13 37.9	+1.4
	baz=81						
R13A	O'Grain Ranch,	81.59	326	⇑P	P	15 13 39.2	+1.0
	baz=82						
MPMC	Manual Prospec	81.63	323	⇑P	P	15 13 39.2	+0.8
	baz=82						
M21A	Separation Pea	81.63	333	⇓P	P	15 13 38.9	+0.6
	baz=82						
N19A	John Jarvie Ra	81.74	331	⇑P	P	15 13 39.8	+1.0
	baz=82						
ISA	Isabella	81.82	322	eP	P	15 13 41.2	+1.9
	comp=E,41nm,2.5s						
ISA	Isabella	81.82	322	⇓P	P	15 13 40.1	+0.8
	baz=82						
L21A	Rawlins	81.94	333	⇑P	P	15 13 41.0	+1.1
	baz=82						
PKM	Peak Mountain	81.94	321	⇑P	P	15 13 40.4	+0.3
	baz=82						
K23A	Bowen Ranch, D	81.97	334	⇓P	P	15 13 41.5	+1.5
	baz=82						
J24A	Dixon Ranch, L	82.12	335	⇓P	P	15 13 42.4	+1.7
	baz=82						
K22A	Casper	82.21	334	⇓P	P	15 13 42.7	+1.5
	baz=82						
TORD	Torodi Ar. Bea	82.27	69	P	P	15 13 42.8	+0.8
TORD				pP	pP	15 14 11.0	+1.9
TORD	Torodi Ar. Bea	82.27	69	P	P	15 13 42.8	+0.8
	comp=E,2.0nm,0.8s,baz=252,slow=4.6,SNR=9.6						
TORD				pP	pP	15 14 11.0	+1.9
	comp=E,1.4nm,0.7s,baz=248,slow=4.6,SNR=5.1						
VES	Vestal, Richgr	82.28	322	⇓P	P	15 13 43.0	+1.4
	baz=82						
K21A	Alcova	82.47	333	⇓P	P	15 13 43.3	+0.7
	baz=83						
N17A	Moffit Pass	82.47	330	⇑P	P	15 13 43.8	+1.1
	baz=83						
R11A	Troy Canyon, C	82.49	326	⇑P	P	15 13 43.7	+0.9
	baz=83						
I24A	Kuemmerle Ranc	82.57	336	⇑P	P	15 13 43.5	+0.5
	baz=83						
RSSD	Black Hills	82.60	336	eP	P	15 13 44.1	+0.8
	comp=E,4.9nm,1.0s						
DUG	Dugway	82.70	328	⇑P	P	15 13 44.9	+1.0
	baz=83						
J22A	Midwest	82.85	334	⇓P	P	15 13 45.3	+0.8
	baz=83						
K20A	Yellowstone Ra	82.90	333	⇓P	P	15 13 44.9	0.0
	baz=83						
L18A	Fontenelle, Gr	82.96	331	⇓P	P	15 13 45.7	+0.6
	baz=83						
K19A	Absolon Red Bu	83.24	332	⇓P	P	15 13 46.9	+0.3
	baz=84						
I22A	9 Mile Ranch,	83.27	334	⇑P	P	15 13 46.9	+0.3
	baz=84						
HWUT	Hardware Ranch	83.33	330	eP	P	15 13 47.8	+0.7
	comp=E,82nm,3.0s						
H24A	Dirks Ranch, A	83.33	336	⇓P	P	15 13 47.5	+0.6
	baz=84						
J20A	Shoshoni	83.40	333	⇓P	P	15 13 48.0	+0.7
	baz=84						
BW06	Boulder Array	83.47	332	⇓P	P	15 13 48.4	+0.6
	baz=84						
PDAR	Pinedale Array	83.47	332	P	P	15 13 48.0	+0.2
PDAR	Pinedale Array	83.47	332	P	P	15 13 48.0	+0.2
	comp=E,1.0nm,0.7s,baz=145,slow=6.0,SNR=9.2						
K18A	Toltan Ranch,	83.56	332	⇑P	P	15 13 49.6	+1.3
	baz=84						
M15A	Larsen Ranch,	83.58	329	⇑P	P	15 13 49.0	+0.7
	baz=84						
L16A	Fish Haven	83.61	330	⇑P	P	15 13 49.3	+0.8
	baz=84						
J19A	Crowheart	83.69	332	⇑P	P	15 13 49.4	+0.5
	baz=84						
G24A	Alzada	83.79	336	⇓P	P	15 13 50.0	+0.8
	baz=84						
NVAR	Mina Array Bea	83.87	324	P	P	15 13 51.4	+1.4
NVAR	Mina Array Bea	83.87	324	P	P	15 13 51.4	+1.4
	comp=E,2.6nm,0.8s,baz=154,slow=6.0,SNR=16						
I20A	Worland	83.92	333	⇓P	P	15 13 50.6	+0.6
	baz=84						
L15A	Malad City	84.00	330	⇑P	P	15 13 50.6	+0.2
	baz=84						
K17A	Gardner Place,	84.01	331	⇓P	P	15 13 50.7	+0.2
	baz=84						
G23A	Biddle	84.01	336	⇑P	P	15 13 50.7	+0.4
	baz=84						
J18A	Kendall Valley	84.03	332	⇓P	P	15 13 50.8	+0.1
	baz=84						
H21A	Big Horn, Sher	84.10	334	⇑P	P	15 13 51.4	+0.5
	baz=84						
ELK	Elko	84.24	327	eP	P	15 13 52.7	+0.9
	comp=E,4.1nm,1.0s						
H20A	Greybull	84.33	334	⇓P	P	15 13 52.5	+0.5
	baz=85						
K16A	Soda Springs	84.35	331	⇑P	P	15 13 52.7	+0.4
	baz=85						
I18A	Diamond G Ranc	84.36	332	⇓P	P	15 13 52.9	+0.5
	baz=85						
L14A	Malta	84.39	329	⇓P	P	15 13 53.0	+0.5
	baz=85						
J17A	Brown Place, J	84.43	332	⇑P	P	15 13 53.1	+0.4
	baz=85						
F23A	Volborg	84.47	336	⇓P	P	15 13 53.3	+0.7
	baz=85						
MDND	Maddock	84.56	341	⇑P	P	15 13 54.0	+1.0
	baz=85						
K15A	Arbon	84.62	330	⇑P	P	15 13 54.6	+1.1
	baz=85						
TPAW	Teton Pass	84.64	331	eP	P	15 13 54.9	+1.1
	comp=E,6.6nm,1.2s						
J16A	Bone	84.72	331	⇓P	P	15 13 54.6	+0.4
	baz=85						
K14A	Jones Ranch, D	84.78	330	⇑P	P	15 13 54.9	+0.6
	baz=85						
I17A	Pilgrim Ck.	84.84	332	⇓P	P	15 13 55.3	+0.6
	baz=85						
H19A	Powell	84.86	333	⇓P	P	15 13 55.0	+0.3
	baz=85						
IMW	Indian Meadow	84.97	332	eP	P	15 13 56.3	+0.8
	comp=E,38nm,2.4s						
G20A	Bridger	85.04	334	⇓P	P	15 13 55.7	+0.1
	baz=85						
H18A	Shoshone NF, C	85.12	333	⇓P	P	15 13 56.5	+0.3
	baz=85,SNR=7.0						
J15A	Blackfoot	85.17	330	⇓P	P	15 13 57.1	+0.8
	baz=85						
I16A	Newdale	85.17	331	⇑P	P	15 13 57.0	+0.7
	baz=85						
RLMT	Red Lodge	85.35	333	⇑P	P	15 13 57.7	+0.5
	baz=86						
J14A	Carey	85.56	330	⇓P	P	15 13 58.8	+0.5
	baz=86						
YMR	Madison River	85.62	332	eP	P	15 13 58.4	-0.2
G18A	Lazy EL Ranch,	85.62	333	⇑P	P	15 13 59.3	+0.8
	baz=86						
D23A	Lindsay	85.67	337	⇑P	P	15 13 59.4	+0.8
	baz=86						
I15A	Monteview	85.68	331	⇓P	P	15 13 59.9	+1.1
	baz=86						
C24A	Savage	85.73	337	⇓P	P	15 13 59.8	+1.0
	baz=86						
H16A	Russell Place,	85.76	332	⇓P	P	15 13 59.8	+0.6
	baz=86						
ULM	Lac du Bonnet	85.81	344	P	P	15 13 58.8	-0.3
ULM	Lac du Bonnet	85.81	344	P	P	15 13 58.8	-0.3
	comp=E,2.1nm,0.7s,baz=197,slow=7.4,SNR=5.1						
F19A	Roth Farm, Mol	85.85	334	⇓P	P	15 13 59.8	+0.3
	baz=86						
J13A	Cove Ranch, Pi	85.90	329	⇑P	P	15 14 01.6	+1.7
	baz=86						
I14A	Mackay	86.03	330	⇑P	P	15 14 01.5	+0.9
	baz=86						
E20A	Meyer Farm, Mu	86.10	335	⇓P	P	15 14 01.5	+0.7
	baz=86						
HLID	Hailey	86.14	329	eP	P	15 14 02.5	+1.4
	comp=E,47nm,2.6s						
HLID	Hailey	86.14	329	⇓P	P	15 14 02.0	+0.9
	baz=86						
F18A	Big Timber	86.18	333	⇑P	P	15 14 01.4	+0.2
	baz=86,SNR=6.4						
C23A	Lambert	86.22	337	⇑P	P	15 14 01.6	+0.4
	baz=86						
I13A	Wildhorse Cree	86.29	330	⇑P	P	15 14 03.1	+1.2
	baz=86						
E19A	Rath Farm, Rou	86.31	334	⇑P	P	15 14 02.1	+0.3
	baz=86,SNR=7.5						
G16A	Moss Hill, Enn	86.42	332	⇓P	P	15 14 02.9	+0.5
	baz=87						
DGMT	Dagmar	86.48	338	⇑P	P	15 14 03.3	+0.8
	baz=87						
MCMT	McKenzie Canyo	86.51	331	eP	P	15 14 04.4	+1.4
F17A	Fitzpatrick Pl	86.54	333	⇓P	P	15 14 03.6	+0.7
	baz=87						
D20A	Manuel Ranch,	86.61	335	⇑P	P	15 14 03.3	+0.1
	baz=87,SNR=5.2						
I12A	Atlanta	86.63	329	⇓P	P	15 14 04.1	+0.6
	baz=87						
MFID	Camas Ranch	86.63	328	⇑P	P	15 14 04.5	+1.0
	baz=87						
G15A	Dillon	86.64	331	⇑P	P	15 14 04.1	+0.6
	baz=87						
BOZ	Bozeman (W)	86.70	332	⇑P	P	15 14 04.2	+0.4
	baz=87						
E18A	Harlowton	86.81	334

B21A	**Ellsworth Farm**	**87.37**	**336**	⇓P		**P**	**15 14 07.6**	**+0.8**
	baz=88							
E16A	**East Helena**	**87.45**	**333**	⇓P		**P**	**15 14 08.0**	**+0.7**
	baz=88							
C19A	**Slack Wire Ran**	**87.48**	**335**	⇓P		**P**	**15 14 07.7**	**+0.3**
	baz=88							
A22A	**Carney Farms,**	**87.49**	**337**	⇑P		**P**	**15 14 08.1**	**+0.7**
	baz=88							
F14A	**Wisdom**	**87.53**	**331**	⇑P		**P**	**15 14 08.8**	**+1.0**
	baz=88							
D17A	**Six Diamond Ra**	**87.59**	**334**	⇓P		**P**	**15 14 08.4**	**+0.4**
	baz=88,SNR=6.7							
E15A	**Deer Lodge**	**87.74**	**332**	⇑P		**P**	**15 14 09.0**	**+0.2**
	baz=88							
G12A	**Big Creek, Yel**	**87.78**	**330**	⇓P		**P**	**15 14 09.5**	**+0.5**
	baz=88							
D16A	**Dana Ranch, Ca**	**87.81**	**333**	⇑P		**P**	**15 14 09.6**	**+0.5**
	baz=88							
F13A	**Darby**	**87.90**	**331**	⇑P		**P**	**15 14 10.0**	**+0.4**
	baz=88							
EGMT	**Eagleton**	**87.98**	**335**	⇑P		**P**	**15 14 09.8**	**0.0**
	baz=88							
C17A	**Wharram Farm,**	**88.02**	**334**	⇑P		**P**	**15 14 10.5**	**+0.5**
	baz=88							
B19A	**Brinkman Farms**	**88.06**	**335**	⇑P		**P**	**15 14 10.7**	**+0.6**
	baz=88							
A20A	**Cobblestone Ra**	**88.06**	**336**	⇓P		**P**	**15 14 10.2**	**+0.1**
	baz=88,SNR=7.4							
E14A	**Clinton**	**88.07**	**332**	⇓P		**P**	**15 14 10.9**	**+0.6**
	baz=88							
D15A	**Lincoln**	**88.20**	**333**	⇓P		**P**	**15 14 11.8**	**+0.9**
	baz=88							
F12A	**Elk City**	**88.26**	**330**	⇓P		**P**	**15 14 12.0**	**+0.8**
	baz=88							
B18A	**Beardsley Farm**	**88.30**	**335**	⇑P		**P**	**15 14 11.2**	**-0.1**
	baz=88,SNR=6.0							
E13A	**Victor**	**88.37**	**331**	⇑P		**P**	**15 14 12.6**	**+0.9**
	baz=89							
A19A	**Klindworth Far**	**88.39**	**336**	⇑P		**P**	**15 14 12.0**	**+0.3**
	baz=89							
D14A	**Greenough**	**88.62**	**332**	⇓P		**P**	**15 14 13.6**	**+0.7**
	baz=89							
A18A	**Metzger Ranch,**	**88.77**	**335**	⇑P		**P**	**15 14 13.8**	**+0.3**
	baz=89							
C15A	**Salmond Ranch,**	**88.83**	**333**	⇑P		**P**	**15 14 14.4**	**+0.5**
	baz=89							
E12A	**Beaver Dam Sad**	**88.92**	**330**	⇓P		**P**	**15 14 14.5**	**+0.2**
	baz=89							
D13A	**Huson**	**89.01**	**331**	⇑P		**P**	**15 14 15.4**	**+0.8**
	baz=89							
B16A	**M & M Farms, S**	**89.02**	**334**	⇑P		**P**	**15 14 14.8**	**+0.1**
	baz=89							
A17A	**Triple J Farms**	**89.09**	**335**	⇓P		**P**	**15 14 15.3**	**+0.3**
	baz=89							
B15A	**Bradely Ranch,**	**89.26**	**333**	⇑P		**P**	**15 14 16.0**	**+0.2**
	baz=90							
D12A	**Red Ives Fores**	**89.34**	**331**	⇑P		**P**	**15 14 16.6**	**+0.4**
	baz=90							
A16A	**West Butte Ran**	**89.42**	**334**	⇑P		**P**	**15 14 17.2**	**+0.6**
	baz=90							
C13A	**Hot Springs**	**89.53**	**332**	⇑P		**P**	**15 14 17.8**	**+0.8**
	baz=90							
A15A	**Johnson Ranch,**	**89.87**	**333**	⇑P		**P**	**15 14 19.1**	**+0.5**
	baz=90							
B13A	**Whitefish**	**90.05**	**332**	⇓P		**P**	**15 14 20.0**	**+0.6**
	baz=90							
A14A	**Double T Ranch**	**90.13**	**333**	⇑P		**P**	**15 14 20.2**	**+0.3**
	baz=90							
C11A	**Tepee Creek (N**	**90.33**	**331**	⇑P		**P**	**15 14 20.6**	**-0.2**
	baz=90							
A13A	**Flathead Natio**	**90.48**	**333**	⇓P		**P**	**15 14 21.9**	**+0.4**
	baz=91							
NEW	**Newport**	**91.03**	**331**	⇓P		**P**	**15 14 23.1**	**-0.8**
	baz=91							
YKA	**Yellowknife Ar**	**101.48**	**341**	P		**Pdif**	**15 15 10.6**	**-0.4**
YKA	**Yellowknife Ar**	**101.48**	**341**	P		**Pdif**	**15 15 10.6**	**-0.4**
	comp=E,0.1nm,0.6s,baz=157,slow=4.9,SNR=4.4							
ASAR	**Alice Springs**	**119.34**	**205**	PKP		**PKPdf**	**15 20 08.2**	**-1.1**
ASAR	**Alice Springs**	**119.34**	**205**	PKP		**PKPdf**	**15 20 08.2**	**-1.1**
	comp=E,0.6nm,0.8s,baz=161,slow=1.9,SNR=4.7							
WRA	**Warramunga Arr**	**122.57**	**207**	PKP		**PKPdf**	**15 20 14.9**	**-0.7**
WRA	**Warramunga Arr**	**122.57**	**207**	PKP		**PKPdf**	**15 20 14.9**	**-0.7**
	comp=E,1.3nm,0.7s,baz=173,slow=1.5,SNR=9.8							
PSI	**Prapat**	**148.41**	**159**	PKPbc		**PKPbc**	**15 21 06.3**	**-0.5**
PSI	**Prapat**	**148.41**	**159**	PKPbc		**PKPbc**	**15 21 06.3**	**-0.5**
	comp=E,7.9nm,0.7s,baz=330,slow=2.7,SNR=9.9							
ZALV	**Zalesovo Beam**	**152.36**	**33**	PKPbc		**PKPbc**	**15 21 15.1**	**+0.2**
ZALV	**Zalesovo Beam**	**152.36**	**33**	PKPbc		**PKPbc**	**15 21 15.1**	**+0.2**
	comp=E,12nm,0.6s,baz=314,slow=3.1,SNR=49							
MKAR	**Makanchi Array**	**154.76**	**48**	PKPbc		**PKPbc**	**15 21 20.1**	**-0.3**
MKAR				PKPab		**PKPab**	**15 21 35.6**	**-0.3**
MKAR	**Makanchi Array**	**154.76**	**48**	PKPbc		**PKPbc**	**15 21 20.1**	**-0.3**
	comp=E,0.8nm,0.7s,baz=274,slow=1.6,SNR=6.5							
MKAR				PKPab		**PKPab**	**15 21 35.6**	**-0.3**
	comp=E,0.5nm,0.5s,baz=270,slow=3.4,SNR=6.7							
MJAR	**Matsushiro Arr**	**156.48**	**287**	PKPab		**PKPab**	**15 21 45.0**	**+1.4**
MJAR	**Matsushiro Arr**	**156.48**	**287**	PKPab		**PKPab**	**15 21 45.0**	**+1.4**
	comp=E,1.7nm,0.9s,baz=148,slow=2.1,SNR=4.2							
CMAR	**Chiang Mai Arr**	**162.63**	**143**	PKP		**PKPdf**	**15 21 21.8**	**-0.1**
CMAR				PKPab		**PKPab**	**15 22 09.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**162.63**	**143**	PKP		**PKPdf**	**15 21 21.8**	**-0.1**
	comp=E,0.6nm,0.8s,baz=254,slow=3.4,SNR=5.1							
CMAR				PKPab		**PKPab**	**15 22 09.9**	**-0.7**
	comp=E,0.4nm,0.6s,baz=216,slow=4.6,SNR=5.6							
SONM	**Songino Array**	**164.77**	**9**	PKPab		**PKPab**	**15 22 20.1**	**+0.7**
SONM	**Songino Array**	**164.77**	**9**	PKPab		**PKPab**	**15 22 20.1**	**+0.7**
	comp=E,0.7nm,1.0s,baz=331,slow=4.2,SNR=4.7							

*IDC **21** 15:01:53.4±0.8, 10°.37N×126°.35E, h0ᵏᵐ, mb3.9/9, mb1 4.0/9, mb1mx3.8/22, mbtmp3.9/9, MS3.3/1, Ms1 3.3/1, ms1mx2.3/45, Error ellipse: s-maj=37.9km s-min=16.6km az=69.0*

*MAN **21** 15:02:05, 10°.41N×125°.72E, h57ᵏᵐ, mb5.0, ML4.0, MS4.1*

ISC 21 15:02:02.8±1.3, **10°.50N**±0°.08×**125°.9E**±0°.1, **h44**ᵏᵐ, **n18, σ2ᵒ51/12, mb3.8/9, 1C-3D, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.04**	**250**	*eP*	**Pn**	**15 02 23.4**	**+2.5**
MSLP				*eS*	**Sn**	**15 02 35.2**	**+0.9**
PLP	**Palo**	**1.08**	**308**	⇓*eP*	**Pn**	**15 02 24.2**	**+2.7**
PLP				*eS*	Sn	15 02 44.7	+9.4
OCLP	**Ormoc**	**1.33**	**294**	*eP*	Pn	15 02 29.6	+4.5
OCLP				*eS*	**Sn**	**15 02 36.8**	**-4.9**
TBP	**Tagbilaran**	**2.11**	**248**	*eP*	Pn	15 02 40.4	+4.7
CGP	**Cagayan de Oro**	**2.33**	**209**	⇓*eP*	**Pn**	**15 02 37.9**	**-0.7**
CGP				*eS*	Sn	15 03 12.4	+6.3
DMPH	**Davao City--Mi**	**3.41**	**186**	⇓*iP*	**Pn**	**15 02 56.4**	**+2.8**
DAV	**Davao City (W)**	**3.42**	**184**	LR	LR	15 04 25.9	
	comp=Z,478nm,19.8s,baz=7.8,slow=45						
CTBH	**Cotabato--PC H**	**3.62**	**206**	⇑*eP*	**Pn**	**15 02 55.3**	**-1.1**
MYKOM	**Kota Tinggi**	**23.50**	**250**	P	**P**	**15 07 10.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**27.20**	**290**	P	**P**	**15 07 44.1**	**+1.5**
	1.7nm,0.7s,baz=102,slow=7.4,SNR=20						
WRA	**Warramunga Arr**	**31.38**	**165**	P	P	15 08 13.4	-6.3
	0.3nm,0.8s,baz=347,slow=7.8,SNR=4.3						
ASAR	**Alice Springs**	**34.86**	**167**	P	P	15 08 44.7	-5.3
	0.3nm,0.5s,baz=352,slow=6.9,SNR=11						
SONM	**Songino Array**	**40.66**	**340**	P	P	15 09 38.1	-0.9
	1.0nm,0.9s,baz=158,slow=9.6,SNR=7.9						
SONM				PcP	**PcP**	**15 11 38.0**	**-2.1**
	0.8nm,0.7s,baz=173,slow=3.3,SNR=5.4						
STKA	**Stephens Creek**	**44.75**	**161**	P	P	15 10 06.6	-5.5
	0.9nm,0.6s,baz=334,slow=11,SNR=3.0						
PETK	**Petropavlovsk-**	**49.60**	**25**	P	P	15 10 45.9	-3.8
	3.1nm,1.0s,baz=188,slow=5.4,SNR=3.1						
MKAR	**Makanchi Array**	**51.59**	**323**	P	**P**	**15 11 03.9**	**-0.9**
	1.5nm,0.6s,baz=118,slow=7.9,SNR=19						
ZALV	**Zalesovo Beam**	**54.23**	**331**	P	P	15 11 22.6	-1.5
	0.5nm,0.4s,baz=138,slow=9.1,SNR=4.0						
FINES	**FINESS Array B**	**85.49**	**332**	P	**P**	**15 14 35.7**	**-0.2**
	4.3nm,1.1s,baz=48,slow=2.8,SNR=4.9						

*ISCJB **21** 15:07:42.9±0.3, 3°.72N±0°.03×126°.83E±0°.06, h33ᵏᵐ, mb4.5/49, MS3.8/10, Error ellipse: s-maj=9.3km s-min=4.7km az=168.2*

*MOS **21** 15:07:42.4±1.0, 3°.60N×126°.63E, h33ᵏᵐ, mb5.0/22, Error ellipse: s-maj=19.3km s-min=7.2km az=115.0*

*BJI **21** 15:07:43.0, 3°.80N×126°.90E, h25ᵏᵐ, mB5.3/12, mb4.6/21, Ms4.5/5, Ms7 4.4/5*

*IDC **21** 15:07:43.4±4.2, 3°.58N×126°.62E, h25ᵏᵐ±27ᵏᵐ, mb4.2/19, mb1 4.2/19, mb1mx4.2/24, mbtmp4.2/19, MS3.8/8,*

Ms1 3.8/8, ms1mx3.4/45, Error ellipse: s-maj=26.3km s-min=11.5km az=82.0

*NEIC **21** 15:07:44.6±0.4, 3°.59N×126°.61E, h35ᵏᵐ, mb4.9/16, Error ellipse: s-maj=12.9km s-min=7.4km az=79.0*

*DJA **21** 15:07:48, 3°.55N×126°.89E, h10ᵏᵐ, mb4.5/8*

ISC 21 15:07:42.0±0.7, **3°.62N**±0°.03×**126°.71E**±0°.07, **h17**ᵏᵐ±4ᵏᵐ, **n123, σ1ᵒ38/123, mb4.6/48, MS3.9/10, 2C-5D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**2.86**	**221**	P	**Pb**	**15 08 31.0**	**-1.6**
MNI				S	**Sb**	**15 09 09.6**	**+2.3**
TNTI	**Ternate**	**2.91**	**167**	P	**Pb**	**15 08 32.1**	**-1.4**
TNTI				S	**Sb**	**15 09 06.2**	**-2.6**
GSPH	**General Santos**	**3.01**	**325**	⇓*eP*	**Pn**	**15 08 31.1**	**+2.1**
MATI	**Mati**	**3.33**	**352**	*eP*	**Pb**	**15 08 38.3**	**-2.4**
MATI				*eS*	Sn	15 08 57.9	-15
DAV	**Davao City (W)**	**3.60**	**342**	Pn	Pn	15 08 40.9	+3.8
DAV				Sn	**Sb**	**15 09 27.3**	**-1.5**
DAV	**Davao City (W)**	**3.60**	**342**	P	**Pb**	**15 08 42.6**	**-2.7**
DAV	**Davao City (W)**	**3.60**	**342**	Pn	Pn	15 08 40.9	+3.8
	47nm,0.3s,baz=206,slow=7.5,SNR=5.7						
DAV				Sn	**Sb**	**15 09 27.3**	**-1.5**
	56nm,0.3s,baz=241,slow=21,SNR=3.9						
DMPH	**Davao City--Mi**	**3.64**	**341**	⇓*iP*	Pb	15 08 42.0	-3.9
DMPH				*iS*	**Sg**	**15 09 42.7**	**+3.8**
KMSI	**Cibinong**	**4.07**	**222**	P	Pb	15 08 50.0	-3.3
LBMI	**Labuha**	**4.31**	**169**	P	Pn	15 08 51.8	+5.0
CTBH	**Cotabato--PC H**	**4.33**	**326**	⇑*eP*	Pn	15 08 51.2	+4.0
BUKP	**Musuan**	**4.53**	**339**	*eP*	Pn	15 08 54.5	+4.5
PAGZ	**Pagadian**	**5.34**	**322**	*eP*	Pn	15 09 05.5	+4.4
MRSI	**Marisa**	**5.70**	**237**	P	Pn	15 09 11.4	+5.5
	126nm,0.7s,1μm0.4nm						
SWI	**Sorong**	**6.37**	**134**	P	**Pn**	**15 09 17.8**	**+2.6**
	108nm,1.3s,1μm0.3nm						
MSAI	**Masohi**	**7.27**	**162**	P	Pn	15 09 33.6	+6.0
	15nm,1.1s,0.1nm						
MYLDM	**Lahad Datu**	**8.33**	**281**	P	Pn	15 09 49.1	+7.0
MYLDM	**Lahad Datu**	**8.33**	**281**	P	Pn	15 09 50.4	+8.3
	66nm,1.1s						
KDI	**Kendari**	**8.56**	**209**	P	Pn	15 09 52.5	+7.2
	22nm,0.8s,577nm						
TSM	**Tawau**	**8.84**	**275**	P	Pn	15 09 44.7	-4.4
TTSI	**Tana Toraja**	**9.55**	**226**	P	Pn	15 10 07.3	+8.4
KSM	**Kuching**	**16.52**	**263**	*ePn*	**Pn**	**15 11 32.0**	**-1.1**
	5.2nm,0.4s						
TWG	**Pinlang**	**19.85**	**345**	*eP*	**P**	**15 12 11.1**	**-1.2**
	199nm,1.5s						
TWG				*ePcP*	**PcP**	**15 16 25.9**	**-3.9**
TPUB	**Ta-pu**	**20.43**	**344**	*eP*	**P**	**15 12 15.7**	**-2.9**
	343nm,2.2s						
YHNB	**Yeheng**	**21.55**	**347**	*eP*	**P**	**15 12 31.6**	**+0.9**
FITZ	**Fitzroy Crossi**	**21.61**	**183**	P	**P**	**15 12 32.3**	**+0.9**
FITZ				*eP*	**pP**	**15 12 33.2**	**-3.1**
FITZ	**Fitzroy Crossi**	**21.61**	**183**	*eP*	**P**	**15 12 32.8**	**+1.4**
	9.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.61**	**183**	P	**P**	**15 12 32.3**	**+0.9**
	5.4nm,0.5s,baz=16,slow=6.2,SNR=15						
JOW	**Kunigami**	**23.13**	**4**	P	**P**	**15 12 47.9**	**+0.4**
JOW	**Kunigami**	**23.13**	**4**	P	**P**	**15 12 47.9**	**+0.4**
	25nm,0.8s,baz=173,slow=5.9,SNR=4.1						
WRAB	**Tennant Creek**	**24.59**	**162**	*eP*	**P**	**15 13 00.7**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,22nm,0.7s						
WRAB	**Tennant Creek**	**24.59**	**162**	*eP*	**P**	**15 13 00.7**	**-0.7**
	comp=Z,22nm,0.7s						
WRA	**Warramunga Arr**	**24.59**	**163**	P	**P**	**15 13 01.2**	**-0.3**
WRA	**Warramunga Arr**	**24.59**	**163**	P	**P**	**15 13 01.2**	**-0.3**
	comp=Z,17nm,0.9s,baz=344,slow=10.0,SNR=80						
MBWA	**Marble Bar**	**25.56**	**195**	*eP*	**P**	**15 13 11.6**	**+1.4**
QIS	**Mount Isa**	**27.16**	**153**	*eP*	**P**	**15 13 24.8**	**0.0**
PSI	**Prapat**	**27.75**	**269**	LR	LR	15 25 19.2	
	comp=Z,165nm,20.8s,baz=266,slow=38						
ASAR	**Alice Springs**	**28.02**	**166**	P	**P**	**15 13 31.7**	**-0.7**
ASAR				PcP	**PcP**	**15 16 47.1**	**-0.2**
ASAR	**Alice Springs**	**28.02**	**166**	P	**P**	**15 13 31.7**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=344,slow=7.4,SNR=25						
ASAR				PcP	**PcP**	**15 16 47.1**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=357,slow=2.1,SNR=4.3						
WHN	**Wuhan**	**29.21**	**338**	P	P	15 13 48.9	+6.0
WHN				*eS*	**S**	**15 18 38.5**	**+3.6**
WHN				LR	LR		
	comp=Z,970nm,23.9s						
JNU	**Nakatsue**	**29.61**	**7**	P	**P**	**15 13 46.2**	**-0.2**
JNU	**Nakatsue**	**29.61**	**7**	P	**P**	**15 13 46.2**	**-0.2**
	comp=Z,16nm,1.0s,baz=206,slow=9.0,SNR=5.0						
JNU				LR	LR	15 25 21.1	
	comp=Z,107nm,20.5s,baz=217,slow=36						
CMAR	**Chiang Mai Arr**	**30.90**	**301**	P	**P**	**15 13 58.0**	**-0.1**
CMAR				ScP	**ScP**	**15 20 35.8**	**-1.3**
CMAR	**Chiang Mai Arr**	**30.90**	**301**	P	**P**	**15 13 58.0**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=115,slow=6.8,SNR=15						
CMAR				ScP	**ScP**	**15 20 35.8**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=132,slow=1.3,SNR=4.3						
CHTO	**Chiang Mai**	**31.06**	**301**	*eP*	**P**	**15 13 59.3**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CHTO	**Chiang Mai**	**31.06**	**301**	*eP*	**P**	**15 13 59.3**	**-0.1**
	comp=Z,5.6nm,1.0s						
MEEK	**Meekatharra**	**31.08**	**194**	*eP*	**P**	**15 14 00.0**	**+0.4**
	comp=Z,37nm,1.1s						
ENH	**Enshi**	**31.11**	**330**	*eP*	**P**	**15 13 59.6**	**-0.1**
	comp=Z,6.3nm,0.7s						
KSAR	**Wonju Array Be**	**33.67**	**2**	P	**P**	**15 14 23.4**	**+1.3**
KSRS	**Korea Array**	**33.69**	**2**	P	**P**	**15 14 23.4**	**+1.2**
	comp=Z,5.3nm,0.8s,baz=179,slow=10,SNR=11						
MJAR	**Matsushiro Arr**	**34.43**	**17**	P	**P**	**15 14 29.3**	**+0.6**
MJAR	**Matsushiro Arr**	**34.43**	**17**	P	**P**	**15 14 29.3**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=189,slow=9.6,SNR=3.9						
MJAR				LR	LR	15 26 33.6	
	comp=Z,167nm,19.3s,baz=200,slow=33						
HNR	**Honiara**	**35.58**	**112**	LR	LR	15 27 46.3	
	comp=Z,95nm,21.9s,baz=269,slow=34						
BJT	**Baijiatuan**	**37.47**	**347**	*eP*	**P**	**15 14 55.3**	**+0.7**
	comp=Z,22nm,0.6s						
STKA	**Stephens Creek**	**38.04**	**159**	P	**P**	**15 14 59.8**	**+0.2**
STKA	**Stephens Creek**	**38.04**	**159**	*eP*	**P**	**15 14 59.5**	**-0.1**
	comp=Z,9.7nm,0.8s						
STKA	**Stephens Creek**	**38.04**	**159**	P	**P**	**15 14 59.8**	**+0.2**
	comp=Z,6.1nm,0.6s,baz=333,slow=10,SNR=16						
LZH	**Lanzhou**	**38.58**	**330**	*eP*	**P**	**15 15 04.5**	**+0.1**
LZH				pP	pP	15 15 15.5	+5.9
LZH				sP	sP	15 15 19.0	+7.3
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
SHL	**Shillong**	**39.92**	**307**	*e*PKP	**P**	**15 15 13.2**	**-2.5**
USRK	**Ussuriysk Arra**	**40.68**	**6**	P	**P**	**15 15 22.6**	**+1.1**
	comp=Z,3.7nm,0.8s,baz=189,slow=8.2,SNR=7.7						
ARMA	**Armidale**	**41.39**	**147**	*eP*	**P**	**15 15 27.9**	**+0.2**
LSA	**Lhasa**	**42.49**	**311**	*eP*	**P**	**15 15 36.5**	**-0.7**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.7s						
LSA	**Lhasa**	**42.49**	**311**	*eP*	**P**	**15 15 36.5**	**-0.7**
	comp=Z,6.0nm,0.7s						
ASAJ	**Asahikawa**	**42.70**	**17**	P	**P**	**15 15 39.6**	**+1.5**
ASAJ	**Asahikawa**	**42.70**	**17**	P	**P**	**15 15 39.6**	**+1.5**
	comp=Z,10nm,0.7s,baz=209,slow=12,SNR=8.6						
GTA	**Gaotai**	**43.18**	**329**	*eP*	**P**	**15 15 42.8**	**+0.6**
GTA				pP	**pP**	**15 15 47.5**	**0.0**
GTA				sP	**sP**	**15 15 50.9**	**+1.3**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ULN	**Ulaanbaatar**	**47.21**	**342**	*eP*	**P**	**15 16 13.8**	**-0.4**
	comp=Z,5.1nm,1.0s						
SONM	**Songino Array**	**47.39**	**341**	P	**P**	**15 16 15.6**	**0.0**
SONM				PcP	**PcP**	**15 17 46.9**	**+0.9**
SONM	**Songino Array**	**47.39**	**341**	P	**P**	**15 16 15.6**	**0.0**
	comp=Z,1.4nm,0.6s,baz=160,slow=8.7,SNR=13						
SONM				PcP	**PcP**	**15 17 46.9**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=157,slow=4.2,SNR=3.4						
SONM				LR	LR	15 36 08.5	
	comp=Z,154nm,20.2s,baz=149,slow=36						
ZAK	**Zakamensk**	**50.62**	**341**	*eP*	**P**	**15 16 42.4**	**+2.2**
ZAK				*e*		15 17 58.6	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
TLY	**Talaya**	**51.62**	**342**	*eP*	P	15 16 56.6	+9.0
TLY				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TLY				MLR	MLR		
	comp=Z,89nm,20.0s						
BOD	**Bodaibo**	**54.97**	**352**	*eP*	**P**	**15 17 13.9**	**+1.9**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.9s						
PETK	**Petropavlovsk-**	**55.54**	**22**	P	**P**	**15 17 16.4**	**+0.1**
PETK	**Petropavlovsk-**	**55.54**	**22**	P	**P**	**15 17 16.4**	**+0.1**
PETK	**Petropavlovsk-**	**55.54**	**22**	P	**P**	**15 17 16.4**	**+0.1**
	comp=Z,7.4nm,0.8s,baz=186,slow=4.6,SNR=19						
MK31	**Makanchi Array**	**57.63**	**325**	*eP*	**P**	**15 17 31.4**	**+0.1**
MK31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**57.63**	**325**	*eP*	**P**	**15 17 31.2**	**-0.1**
MKAR	**Makanchi Array**	**57.63**	**325**	*eP*	**P**	**15 17 31.2**	**-0.1**
MKAR				P	**P**	**15 17 31.9**	**+0.5**
MKAR	**Makanchi Array**	**57.63**	**325**	P	**P**	**15 17 31.9**	**+0.5**
	comp=Z,4.2nm,0.6s,baz=121,slow=8.3,SNR=53						
MKAR				LR	LR	15 44 04.4	
	comp=Z,102nm,18.6s,baz=253,slow=38						
YAK	**Yakutsk**	**58.32**	**2**	*eP*	**P**	**15 17 35.3**	**-0.5**
YAK				pmax	pmax		
	comp=Z,19nm,0.9s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.5s						
YAK	**Yakutsk**	**58.32**	**2**	*eP*	**P**	**15 17 33.2**	**-2.5**
	comp=E,24nm,0.9s						
TKM2	**Tokmak 2**	**59.81**	**319**	*eP*	**P**	**15 17 48.8**	**+2.0**
TKM2				*eS*	**S**	**15 25 59.0**	**+1.2**
TKM2				pmax	pmax		
	comp=Z,48nm,1.8s						
TKM2	**Tokmak 2**	**59.81**	**319**	*eP*	**P**	**15 17 48.8**	**+2.0**
	comp=Z,48nm,1.8s						
TKM2				*eS*	**S**	**15 25 59.0**	**+1.2**
AAK	**Ala-Archa**	**60.42**	**318**	⇑*iP*	**P**	**15 17 50.3**	**-0.7**
AAK				pmax	pmax		
	comp=Z,22nm,1.7s						
AAK	**Ala-Archa**	**60.42**	**318**	*eP*	**P**	**15 17 49.8**	**-1.2**
ZALV	**Zalesovo Beam**	**60.67**	**333**	P	**P**	**15 17 51.2**	**-1.0**
ZALV	**Zalesovo Beam**	**60.67**	**333**	P	**P**	**15 17 51.1**	**-1.0**
ZALV	**Zalesovo Beam**	**60.67**	**333**	P	**P**	**15 17 51.1**	**-1.0**
	comp=Z,16nm,1.1s,baz=86,slow=5.4,SNR=7.7						
FINES	**FINESS Array B**	**91.91**	**332**	P	**P**	**15 20 49.0**	**-0.4**
FINES	**FINESS Array B**	**91.91**	**332**	P	**P**	**15 20 49.0**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=64,slow=6.6,SNR=4.3						
YKA	**Yellowknife Ar**	**99.61**	**24**	P	**Pdif**	**15 21 27.1**	**+2.7**
YKA	**Yellowknife Ar**	**99.61**	**24**	P	**Pdif**	**15 21 27.0**	**+2.7**
	comp=Z,0.2nm,0.7s,baz=293,slow=4.2,SNR=3.0						
TORD	**Torodi Ar. Bea**	**122.93**	**288**	PKP	**PKPdf**	**15 26 38.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**122.93**	**288**	PKP	**PKPdf**	**15 26 38.6**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=50,slow=2.3,SNR=3.0						

*ISCJB **21** 15:21:36.7±0.7, 55°.3N±0°.1×35°.3W±0°.1, h10ᵏᵐ, mb3.9/17, MS3.6/9, Error ellipse: s-maj=21.3km s-min=8.6km az=11.4*

*IDC **21** 15:21:36.9±0.9, 55°.28N×35°.36W, h0ᵏᵐ, mb3.8/14, mb1 4.0/16, mb1mx3.9/34, mbtmp3.9/16, ML3.1/2, MS3.7/13, Ms1 3.7/13, ms1mx3.4/48, Error ellipse: s-maj=28.2km s-min=13.2km az=17.0*

*NEIC **21** 15:21:38.3±0.6, 55°.28N×35°.35W, h10ᵏᵐ, mb4.6/3, Error ellipse: s-maj=19.4km s-min=8.0km az=191.0*

ISC 21 15:21:38.2±0.7, **55°.3N**±0°.2×**35°.37W**±0°.08, **h10**ᵏᵐ, **n46, σ0ᵒ99/41, mb4.0/17, MS3.5/9, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFJD	**Kangerlussuaq**	**13.82**	**334**	LR	LR	15 29 17.3	
	comp=Z,202nm,22.0s,baz=130,slow=33			

RES				LR	LR	15 39 30.7			
	comp=Z,70nm,19.0s,baz=314,slow=36								
ARCES	**ARCESS Array B**	**30.05**	**38**	LR	LR	15 37 05.4			
	comp=Z,158nm,20.7s,baz=236,slow=31								
GERES	**GERESS Array B**	**30.31**	**81**	P	**P**	**15 27 48.9**	**-0.6**		
GERES	**GERESS Array B**	**30.31**	**81**	P	**P**	**15 27 48.9**	**-0.6**		
	0.2nm,0.6s,baz=309,slow=6.4,SNR=3.8								
GERES				LR	LR	15 38 33.4			
	comp=Z,109nm,20.4s,baz=170,slow=34								
MDT	**Midelt**	**31.08**	**123**	LR	LR	15 38 14.9			
	comp=Z,182nm,20.4s,baz=256,slow=32								
ULM	**Lac du Bonnet**	**35.94**	**288**	P	**P**	**15 28 39.1**	**+0.7**		
ULM	**Lac du Bonnet**	**35.94**	**288**	P	**P**	**15 28 39.1**	**+0.7**		
	1.5nm,0.4s,baz=60,slow=7.2,SNR=4.3								
ULM				LR	LR	15 42 06.2			
	comp=Z,270nm,18.1s,baz=75,slow=34								
AKASG	**Malin Array Be**	**37.90**	**69**	P	**P**	**15 28 53.4**	**-1.8**		
AKASG	**Malin Array Be**	**37.90**	**69**	P	**P**	**15 28 53.4**	**-1.8**		
	1.5nm,0.6s,baz=300,slow=8.6,SNR=4.7								
YKA	**Yellowknife Ar**	**39.11**	**314**	P	**P**	**15 29 04.7**	**-0.4**		
YKA				PcP	**PcP**	**15 31 13.5**	**-1.0**		
YKA	**Yellowknife Ar**	**39.11**	**314**	P	**P**	**15 29 04.7**	**-0.4**		
	1.0nm,0.7s,baz=61,slow=9.0,SNR=15								
YKA				PcP	**PcP**	**15 31 13.5**	**-1.0**		
	0.2nm,0.8s,baz=54,slow=3.6,SNR=4.0								
EGMT	**Eagleton**	**44.67**	**293**	*eP*	**P**	**15 29 50.8**	**0.0**		
	5.0nm,0.9s								
RLMT	**Red Lodge**	**46.25**	**290**	*eP*	**P**	**15 30 02.9**	**-0.7**		
	22nm,1.8s								
BRTR	**Keskin Array B**	**47.14**	**79**	P	**P**	**15 30 10.9**	**+0.3**		
BRTR	**Keskin Array B**	**47.14**	**79**	P	**P**	**15 30 10.9**	**+0.3**		
	2.8nm,0.7s,baz=314,slow=5.9,SNR=9.9								
PDAR	**Pinedale Array**	**47.96**	**287**	P	**P**	**15 30 17.6**	**+0.5**		
PDAR	**Pinedale Array**	**47.96**	**287**	P	**P**	**15 30 17.6**	**+0.5**		
	0.6nm,0.8s,baz=82,slow=6.5,SNR=3.2								
ILAR	**Eielson Array**	**49.39**	**328**	P	**P**	**15 30 27.4**	**+0.1**		
ILAR	**Eielson Array**	**49.39**	**328**	P	**P**	**15 30 27.4**	**+0.1**		
	1.1nm,0.7s,baz=41,slow=5.8,SNR=22								
MCK	**McKinley**	**50.76**	**328**	*e*ScS	P	15 30 43.9	+6.0		
TORD	**Torodi Ar. Bea**	**50.93**	**131**	P	**P**	**15 30 39.4**	**-0.2**		
TORD	**Torodi Ar. Bea**	**50.93**	**131**	P	**P**	**15 30 39.4**	**-0.2**		
	2.1nm,0.9s,baz=333,slow=6.0,SNR=10								
ABKAR	**Akbulak array**	**54.21**	**54**	*eP*	**P**	**15 31 02.7**	**-0.8**		
	6.0nm,1.2s								
ZALV	**Zalesovo Beam**	**60.57**	**36**	P	**P**	**15 31 49.6**	**+1.3**		
ZALV	**Zalesovo Beam**	**60.57**	**36**	P	**P**	**15 31 49.6**	**+1.3**		
	0.4nm,0.6s,baz=350,slow=5.9,SNR=3.8								
MKAR	**Makanchi Array**	**65.59**	**42**	P	**P**	**15 32 21.2**	**-0.6**		
MKAR	**Makanchi Array**	**65.59**	**42**	P	**P**	**15 32 21.2**	**-0.6**		
	1.7nm,1.0s,baz=337,slow=5.9,SNR=8.2								
SONM	**Songino Array**	**72.36**	**26**	P	**P**	**15 33 06.2**	**+2.2**		
SONM	**Songino Array**	**72.36**	**26**	P	**P**	**15 33 06.2**	**+2.2**		
	0.5nm,0.9s,baz=343,slow=4.5,SNR=3.6								
WRA	**Warramunga Arr**	**143.88**	**17**	PKP	**PKPdf**	**15 41 12.8**	**-0.8**		
WRA	**Warramunga Arr**	**143.88**	**17**	PKP	**PKPdf**	**15 41 12.8**	**-0.8**		
	0.3nm,1.0s,baz=338,slow=1.9,SNR=3.5								
ASAR	**Alice Springs**	**147.45**	**18**	PKPbc	**PKPbc**	**15 41 21.1**	**-0.9**		
ASAR	**Alice Springs**	**147.45**	**18**	PKPbc	**PKPbc**	**15 41 21.1**	**-0.9**		
	3.5nm,1.0s,baz=347,slow=2.5,SNR=22								

IDC 21 15:25:03.9±2.9, 13°.49N×122°.38E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.2/22, mbtmp3.3/3, MS3.2/2, Ms1 3.2/2, ms1mx2.7/23, Error ellipse: s-maj=277.9km s-min=25.5km az=63.0, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**21.87**	**87**	LR		LR	LR	15 37 07.6	
	comp=Z,46nm,19.9s,baz=93,slow=33								
WRA	**Warramunga Arr**	**35.24**	**160**	P		P	P	15 32 00.1	-0.3
	0.5nm,0.7s,baz=341,slow=8.8,SNR=7.9								
ASAR	**Alice Springs**	**38.61**	**163**	P		P	P	15 32 29.1	0.0
	0.2nm,0.3s,baz=336,slow=7.3,SNR=14								
NWAO	**Narrogin (SRO)**	**46.41**	**186**	LR		LR	LR	15 55 20.4	
	comp=Z,43nm,19.4s,baz=6.4,slow=39								
MKAR	**Makanchi Array**	**47.18**	**323**	P		P	P	15 33 38.2	-0.1
	0.1nm,0.5s,baz=127,slow=6.7,SNR=2.2								

IDC 21 15:30:29.1±1.2, 17°.63N×46°.43W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/24, mbtmp3.6/5, MS3.6/1, Ms1 3.7/1, ms1mx3.1/33, Error ellipse: s-maj=34.8km s-min=29.7km az=35.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**39.91**	**214**	P		P	P	15 38 05.8	-0.2
	1.0nm,0.6s,baz=20,slow=7.7,SNR=4.4								
LPAZ				LR		LR	LR	15 53 11.0	
	comp=Z,85nm,20.4s,baz=44,slow=34								
TORD	**Torodi Ar. Bea**	**46.52**	**88**	P		P	P	15 38 58.7	-0.1
	0.7nm,0.9s,baz=275,slow=6.8,SNR=3.5								
PDAR	**Pinedale Array**	**58.60**	**310**	P		P	P	15 40 28.4	+0.1
	0.7nm,0.9s,baz=104,slow=7.5,SNR=3.3								
YKA	**Yellowknife Ar**	**64.46**	**331**	P		P	P	15 41 06.9	-0.3
	0.2nm,0.6s,baz=103,slow=6.7,SNR=4.5								
ILAR	**Eielson Array**	**78.59**	**335**	P		P	P	15 42 32.6	+0.1
	0.6nm,0.6s,baz=70,slow=4.6,SNR=12								

*ISCJB **21** 15:36:21.9±0.9, 17°.4N±0°.2×46°.4W±0°.2, h12km, mb3.8/7, MS3.9/4, Error ellipse: s-maj=25.1km s-min=20.6km az=175.8*
*IDC **21** 15:36:21.6±1.1, 17°.35N×46°.32W, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.7/25, mbtmp3.7/6, MS4.0/5, Ms1 4.0/5, ms1mx3.5/36, Error ellipse: s-maj=32.4km s-min=28.0km az=144.0*
*NEIC **21** 15:36:22.8±0.9, 17°.38N×46°.40W, h10km, mb4.6/2, Error ellipse: s-maj=27.0km s-min=22.2km az=183.0*
ISC 21 15:36:23.3±0.9, 17°.4N±0°.2×46°.4W±0°.2, h12km, n19, σ1§26/14, mb3.8/7, MS4.0/4, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**18.84**	**275**	LR		LR	LR	15 46 30.1	
	comp=Z,343nm,21.2s,baz=180,slow=32								
RCBR	**Riachuelo**	**25.26**	**155**	LR		LR	LR	15 48 41.6	
	comp=Z,114nm,20.8s,baz=335,slow=29								
ROSC	**El Rosal**	**30.04**	**249**	LR		LR	LR	15 54 05.6	
	comp=Z,155nm,19.9s,baz=116,slow=35								
LPAZ	**La Paz**	**39.71**	**214**	P		P	**P**	**15 43 57.0**	**+0.6**
LPAZ	**La Paz**	**39.71**	**214**	P		P	**P**	**15 43 57.0**	**+0.6**
	1.7nm,0.8s,baz=28,slow=9.7,SNR=6.7								
WCI	**Wyandotte Cave**	**40.56**	**309**	*eP*		**P**	**P**	**15 44 03.3**	**+0.6**
	4.9nm,0.5s								
MDT	**Midelt**	**40.57**	**60**	LR		LR	LR	15 59 13.8	
	comp=Z,474nm,18.1s,baz=187,slow=34								
GLAT	**Glass**	**42.26**	**305**	*eP*		**P**	**P**	**15 44 14.0**	**-2.7**
TORD	**Torodi Ar. Bea**	**46.49**	**88**	P		P	**P**	**15 44 49.3**	**-1.5**
TORD	**Torodi Ar. Bea**	**46.49**	**88**	P		P	**P**	**15 44 49.3**	**-1.5**
	0.5nm,0.8s,baz=287,slow=8.9,SNR=3.3								
BORG	**Borgarnes**	**50.29**	**14**	LR		LR	LR	16 02 25.3	
	comp=Z,277nm,18.3s,baz=144,slow=31								
GERES	**GERESS Array B**	**57.51**	**43**	P		P	**P**	**15 46 13.2**	**+0.6**
GERES	**GERESS Array B**	**57.51**	**43**	P		P	**P**	**15 46 13.2**	**+0.6**
	0.2nm,0.5s,baz=234,slow=8.4,SNR=4.6								
YKA	**Yellowknife Ar**	**64.71**	**332**	P		P	**P**	**15 47 00.6**	**-0.5**
YKA	**Yellowknife Ar**	**64.71**	**332**	P		P	**P**	**15 47 00.5**	**-0.5**
	0.3nm,0.7s,baz=106,slow=6.6,SNR=7.1								
ILAR	**Eielson Array**	**78.85**	**335**	P		P	**P**	**15 48 26.9**	**+0.9**
ILAR	**Eielson Array**	**78.85**	**335**	P		P	**P**	**15 48 26.9**	**+0.9**
	1.3nm,0.7s,baz=74,slow=4.7,SNR=17								
AKTO	**Aktyubinsk**	**85.64**	**38**	P		P	**P**	**15 49 03.0**	**+1.1**
AKTO	**Aktyubinsk**	**85.64**	**38**	P		P	**P**	**15 49 03.0**	**+1.1**
	1.2nm,0.9s,baz=284,slow=8.3,SNR=4.1								

IDC 21 15:38:07.5±2.0, 4°.23N×126°.89E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=151.4km s-min=24.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.11**	**163**	P		P	P	15 43 34.7	+0.4
	0.7nm,0.6s,baz=344,slow=10,SNR=11								
ASAR	**Alice Springs**	**28.56**	**166**	P		P	P	15 44 04.7	-0.6
	0.2nm,0.7s,baz=339,slow=7.1,SNR=5.1								
MKAR	**Makanchi Array**	**57.24**	**325**	P		P	P	15 47 56.8	0.0
	0.3nm,0.5s,baz=117,slow=8.0,SNR=12								

*SZGRF **21** 15:39:37.7, 51°.25N×46°.10W, h10km, mb4.8, MS4.1, North Atlantic Ocean*
*BJI **21** 15:40:34.9, 55°.30N×37°.00W, h10km, mB5.5/17, mb4.9/24, Ms5.2/14, Ms7 4.9/14*
*MOS **21** 15:40:41.0±1.3, 55°.36N×35°.13W, h10km, mb5.0/34, MS4.2/8, Error ellipse: s-maj=7.4km s-min=6.0km az=145.3*
*IDC **21** 15:40:41.4±0.4, 55°.40N×35°.09W, h0km, mb4.3/31, mb1 4.4/34, mb1mx4.4/39, mbtmp4.3/34, ML3.4/3, MS4.2/30, Ms1 4.2/30, ms1mx4.1/34, Error ellipse: s-maj=13.6km s-min=9.6km az=1.0*
*CSEM **21** 15:40:42.8±0.1, 55°.47N×35°.04W, h8km, mb4.8/64, Ms4.1, Mw5.1, Error ellipse: s-maj=8.3km s-min=4.2km az=12.0*
*ISCJB **21** 15:40:42.5±2.6, 55°.52N±0°.04×34°.99W±0°.03, h15km±19km, mb4.6/133, MS4.2/44, Error ellipse: s-maj=7.1km s-min=2.6km az=6.6*
*NEIC **21** 15:40:43.6±0.3, 55°.47N×35°.12W, h10km, mb4.9/30, Error ellipse: s-maj=8.9km s-min=5.1km az=180.0*
ISC 21 15:40:44.5±0.5, 55°.44N±0°.06×35°.10W±0°.04, h18km±1km, h18km:pP-P, n720, σ1§42/698, mb4.7/134, MS4.2/44, 111C-112D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**11.56**	**31**	Pn		Pn	Pn	15 43 33.6	+5.3
BORG	**Borgarnes**	**11.56**	**31**	Pn		Pn	Pn	15 43 33.6	+5.3
	1.5nm,0.3s,baz=198,slow=10,SNR=4.1								
SFJD	**Kangerlussuaq**	**13.74**	**334**	Pn		**Pn**	**Pn**	**15 43 58.2**	**+0.2**
SFJD	**Kangerlussuaq**	**13.74**	**334**	*i* P		**Pn**	**Pn**	**15 43 58.6**	**+0.6**
	13nm,0.8s								
SFJD	**Kangerlussuaq**	**13.74**	**334**	Pn		**Pn**	**Pn**	**15 43 58.2**	**+0.2**
	0.5nm,0.3s,baz=141,slow=13,SNR=3.3								
SFJD	**Kangerlussuaq**	**13.74**	**334**	P		**Pn**	**Pn**	**15 43 58.2**	**+0.2**
SCO	**Scoresbysund**	**16.17**	**16**	*eP*		**P**	**P**	**15 44 33.5**	**0.0**
SCO				pmax		pmax	pmax		
	comp=Z,7.0nm,1.0s								
SCO	**Scoresbysund**	**16.17**	**16**	*i* P		**P**	**P**	**15 44 33.5**	**0.0**
	comp=Z,7.0nm,1.0s								
SCO	**Scoresbysund**	**16.17**	**16**	*eP*		**P**	**P**	**15 44 33.5**	**0.0**
	comp=Z,7.0nm,1.0s								
DLF	**Lyons Farm**	**16.73**	**85**	*eP*		**P**	**P**	**15 44 39.0**	**-0.8**
DLF	**Lyons Farm**	**16.73**	**85**	*eP*		**P**	**P**	**15 44 39.0**	**-0.8**
SUMG	**Summit**	**17.27**	**357**	*eP*		**P**	**Pn**	**15 44 42.8**	**-1.8**
SUMG				pmax		pmax	pmax		
	comp=Z,10.0nm,0.8s								
SUMG	**Summit**	**17.27**	**357**	*e*Pn		**Pn**	**Pn**	**15 44 42.6**	**-2.0**
	comp=Z,483nm,2.3s								
SUMG	**Summit**	**17.27**	**357**	*i* P		**Pn**	**Pn**	**15 44 42.8**	**-1.8**
	comp=Z,9.8nm,0.8s								
SUMG	**Summit**	**17.27**	**357**	*e*Pn		**Pn**	**Pn**	**15 44 42.6**	**-2.0**
	comp=Z,483nm,2.3s								
ESK	**Eskdalemuir**	**18.04**	**77**	*eP*		**P**	**P**	**15 44 54.9**	**+0.6**
ESK	**Eskdalemuir**	**18.04**	**77**	*e*Pn		**P**	**P**	**15 44 54.9**	**+0.6**
ESK	**Eskdalemuir**	**18.04**	**77**	*eP*		**P**	**P**	**15 44 54.9**	**+0.6**
SCHQ	**Schefferville**	**18.08**	**281**	P		**Pn**	**Pn**	**15 44 53.1**	**-1.2**
SCHQ	**Schefferville**	**18.08**	**281**	P		**Pn**	**Pn**	**15 44 53.1**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=80,slow=8.8,SNR=20								
SCHQ	**Schefferville**	**18.08**	**281**	P		**Pn**		**15 44 53.2**	**-1.2**
FRB	**Frobisher Bay**	**18.66**	**310**	P		**P**		**15 45 00.5**	**-0.4**
FRB	**Frobisher Bay**	**18.66**	**310**	P		**P**		**15 45 00.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=89,slow=11,SNR=6.7								
FRB	**Frobisher Bay**	**18.66**	**310**	P		**P**		**15 45 00.5**	**-0.4**
JMIC	**Jan Mayen**	**19.38**	**26**	LR		LR		15 51 01.8	
	comp=Z,227nm,21.9s,baz=25,slow=32								
ROSF	**Rostrenen**	**20.75**	**97**	*eP*		**P**		**15 45 23.0**	**-0.9**
	comp=Z,118nm,1.5s								
ROSF	**Rostrenen**	**20.75**	**97**	*eP*		**P**		**15 45 23.0**	**-0.9**
ROSF	**Rostrenen**	**20.75**	**97**	*eP*		**P**		**15 45 23.0**	**-0.9**
ROSF	**Rostrenen**	**20.75**	**97**	*eP*		**P**		**15 45 23.0**	**-0.9**
	comp=Z,59nm,1.5s								
QUIF	**Quistinic**	**21.03**	**98**	*eP*		**P**		**15 45 27.2**	**+0.3**
	comp=Z,206nm,1.6s								
QUIF	**Quistinic**	**21.03**	**98**	*eP*		**P**		**15 45 27.2**	**+0.3**
QUIF	**Quistinic**	**21.03**	**98**	*eP*		**P**		**15 45 27.2**	**+0.3**
QUIF	**Quistinic**	**21.03**	**98**	*eP*		**P**		**15 45 27.2**	**+0.3**
	comp=Z,103nm,1.6s								
SGMF	**Saint Gilles**	**21.20**	**96**	*eP*		**P**		**15 45 29.0**	**+0.3**
	comp=Z,88nm,1.3s								
SGMF	**Saint Gilles**	**21.20**	**96**	*eP*		**P**		**15 45 29.0**	**+0.3**
SGMF	**Saint Gilles**	**21.20**	**96**	*eP*		**P**		**15 45 29.0**	**+0.3**
SGMF	**Saint Gilles**	**21.20**	**96**	*eP*		**P**		**15 45 29.0**	**+0.3**
	comp=Z,44nm,1.3s								
PGAV	**Gavieira, Arco**	**22.07**	**116**	*eP*		**P**		**15 45 42.9**	**+4.6**
	comp=Z,96nm,1.6s								
GRR	**Gorron**	**22.09**	**94**	*eP*		**P**		**15 45 39.5**	**+1.2**
	comp=Z,113nm,1.2s								
GRR	**Gorron**	**22.09**	**94**	*eP*		**P**		**15 45 39.5**	**+1.2**
GRR	**Gorron**	**22.09**	**94**	*eP*		**P**		**15 45 39.5**	**+1.2**
GRR	**Gorron**	**22.09**	**94**	*eP*		**P**		**15 45 39.5**	**+1.2**
	comp=Z,57nm,1.2s								
FLN	**La Foliniere**	**22.11**	**93**	*eP*		**P**		**15 45 37.9**	**-0.6**
	comp=Z,141nm,1.4s								
FLN				*eR*					
	comp=Z,2μm,21.8s								
FLN	**La Foliniere**	**22.11**	**93**	*eP*		**P**		**15 45 37.9**	**-0.6**
FLN	**La Foliniere**	**22.11**	**93**	*eP*		**P**		**15 45 37.9**	**-0.6**
FLN	**La Foliniere**	**22.11**	**93**	*eP*		**P**		**15 45 37.9**	**-0.6**
	comp=Z,71nm,1.4s								
DAG	**Danmarks Havn**	**22.26**	**10**	*eP*		P		15 45 34.8	-5.0
DAG				pmax		pmax			
	comp=Z,7.0nm,1.1s								
DAG	**Danmarks Havn**	**22.26**	**10**	*i* P		P		15 45 34.8	-5.0
	comp=Z,67nm,1.1s								
PQI	**Presque Isle**	**22.29**	**261**	*eP*		**P**		**15 45 39.9**	**-0.5**
	comp=Z,206nm,1.4s								
PQI	**Presque Isle**	**22.29**	**261**	*eP*		**P**		**15 45 39.9**	**-0.5**
	comp=Z,206nm,1.4s								
LDF	**La Druitiere**	**22.40**	**93**	*eP*		**P**		**15 45 39.2**	**-2.4**
	comp=Z,43nm,1.1s								
LDF	**La Druitiere**	**22.40**	**93**	*eP*		**P**		**15 45 39.2**	**-2.4**
LDF	**La Druitiere**	**22.40**	**93**	*eP*		**P**		**15 45 39.2**	**-2.4**
LDF	**La Druitiere**	**22.40**	**93**	*eP*		**P**		**15 45 39.2**	**-2.4**
	comp=Z,21nm,1.1s								
POLO	**Lamas de Olo**	**22.75**	**117**	*eP*		**P**		**15 45 47.8**	**+2.3**
	comp=Z,20nm,1.6s								
POLO	**Lamas de Olo**	**22.75**	**117**	*eP*		**P**		**15 45 47.8**	**+2.3**
	comp=Z,20nm,1.6s								
PVIS	**Viseu**	**23.19**	**118**	*eP*		**P**		**15 45 50.9**	**+0.9**
	comp=Z,35nm,1.5s								
PVIS	**Viseu**	**23.19**	**118**	*eP*		**P**		**15 45 50.9**	**+0.9**
	comp=Z,35nm,1.5s								
MVO	**Moncorvo**	**23.29**	**116**	*eP*		**P**		**15 45 51.6**	**+0.5**
	comp=Z,29nm,1.4s								
MVO	**Moncorvo**	**23.29**	**116**	*eP*		**P**		**15 45 51.6**	**+0.5**
	comp=Z,29nm,1.4s								
MFF	**Saint Martin d**	**23.47**	**97**	*eP*		**P**		**15 45 51.0**	**-1.7**
	comp=Z,70nm,1.4s								
MFF	**Saint Martin d**	**23.47**	**97**	*eP*		**P**		**15 45 51.0**	**-1.7**
MFF	**Saint Martin d**	**23.47**	**97**	*eP*		**P**		**15 45 51.0**	**-1.7**
MFF	**Saint Martin d**	**23.47**	**97**	*eP*		**P**		**15 45 51.0**	**-1.7**
	comp=Z,35nm,1.4s								
PTOM	**Tomar**	**23.76**	**121**	*eP*		**P**		**15 45 56.5**	**+0.9**
	comp=Z,135nm,1.6s								
PTOM	**Tomar**	**23.76**	**121**	*eP*		**P**		**15 45 56.5**	**+0.9**
	comp=Z,135nm,1.6s								
PMAFR	**Mafra**	**23.86**	**123**	*eP*		**P**		**15 45 59.7**	**+3.2**
	comp=Z,68nm,1.5s								
KONO	**Kongsberg**	**23.99**	**61**	*eP*		**P**		**15 45 58.5**	**+0.9**
KONO	**Kongsberg**	**23.99**	**61**	*eP*		**P**		**15 45 58.5**	**+0.9**
KONO	**Kongsberg**	**23.99**	**61**	*eP*		**P**		**15 45 58.5**	**+0.9**
PCBR	**Castelo Branco**	**24.06**	**119**	*eP*		**P**		**15 45 58.4**	**+0.1**
	comp=Z,94nm,1.5s								
PCBR	**Castelo Branco**	**24.06**	**119**	*eP*		**P**		**15 45 58.4**	**+0.1**
	comp=Z,94nm,1.5s								
BAIF	**Baives**	**24.15**	**86**	*eP*		**P**		**15 45 59.1**	**0.0**
	comp=Z,148nm,1.9s								
BAIF	**Baives**	**24.15**	**86**	*eP*		**P**		**15 45 59.1**	**0.0**
BAIF	**Baives**	**24.15**	**86**	*eP*		**P**		**15 45 59.1**	**0.0**
BAIF	**Baives**	**24.15**	**86**	*eP*		**P**		**15 45 59.1**	**0.0**
	comp=Z,74nm,1.9s								
PMTG	**Montargil**	**24.28**	**121**	*eP*		**P**		**15 46 04.3**	**+3.9**
	comp=Z,47nm,1.9s								
PMRV	**Marv??o**	**24.41**	**119**	*eP*		**P**		**15 46 05.4**	**+3.7**
	comp=Z,41nm,1.6s								
GIVF	**Givet**	**24.48**	**86**	*eP*		**P**		**15 45 59.7**	**-2.4**
GIVF	**Givet**	**24.48**	**86**	*eP*		**P**		**15 45 59.7**	**-2.4**
GIVF	**Givet**	**24.48**	**86**	*eP*		**P**		**15 45 59.7**	**-2.4**
GIVF	**Givet**	**24.48**	**86**	*eP*		**P**		**15 45 59.7**	**-2.4**
NB2	**NORSAR Subarra**	**24.58**	**58**	P		**P**		**15 46 02.0**	**-1.0**
	comp=Z,24nm,1.2s,baz=280,slow=10								
NB2	**NORSAR Subarra**	**24.58**	**58**	P		P		15 46 10.3	+7.3
	comp=Z,2.2nm,0.8s,baz=279,slow=10								
NB2	**NORSAR Subarra**	**24.58**	**58**	P		**P**		**15 46 02.0**	**-1.0**
	comp=Z,24nm,1.2s,baz=280,slow=9.7,SNR=4.7								
NOA	**NORSAR Array B**	**24.58**	**58**	P		**P**		**15 46 02.4**	**-0.6**
NOA	**NORSAR Array B**	**24.58**	**58**	P		**P**		**15 46 02.4**	**-0.6**
	comp=Z,2.6nm,0.8s,baz=281,slow=9.7,SNR=3.8								

NOA	**NORSAR Array B**	**24.58**	**58**	P		**P**		**15 46 02.4**	**-0.6**
PESTR	**Estremoz**	**24.75**	**121**	*eP*		**P**		**15 46 07.4**	**+2.7**
	comp=Z,65nm,1.6s								
PESTR	**Estremoz**	**24.75**	**121**	*eP*		**P**		**15 46 07.4**	**+2.7**
	comp=Z,65nm,1.6s								
EVOP	**Sao Brissos**	**24.75**	**122**	*eP*		**P**		**15 46 02.9**	**-1.8**
EVOP	**Sao Brissos**	**24.75**	**122**	*eP*		**P**		**15 46 02.9**	**-1.8**
EVOP	**Sao Brissos**	**24.75**	**122**	*eP*		**P**		**15 46 02.9**	**-1.8**
	comp=Z,37nm,1.6s								
EVO	**Evora**	**24.80**	**122**	*eP*		**P**		**15 46 02.9**	**-2.3**
	comp=Z,74nm,1.6s								
EVO				*eR*					
	comp=Z,980nm,19.2s								
PNCL	**Nicolau / Gran**	**24.89**	**123**	*eP*		**P**		**15 46 10.6**	**+4.7**
	comp=Z,32nm,1.7s								
LFF	**La Frestale**	**24.96**	**100**	*eP*		**P**		**15 46 05.8**	**-0.7**
LFF	**La Frestale**	**24.96**	**100**	*eP*		**P**		**15 46 05.8**	**-0.7**
LFF	**La Frestale**	**24.96**	**100**	*eP*		**P**		**15 46 05.8**	**-0.7**
LFF	**La Frestale**	**24.96**	**100**	*eP*		**P**		**15 46 05.8**	**-0.7**
TCF	**Toulx Ste Croi**	**24.99**	**96**	*eP*		**P**		**15 46 05.7**	**-1.1**
	comp=Z,66nm,1.3s								
TCF	**Toulx Ste Croi**	**24.99**	**96**	*eP*		**P**		**15 46 05.7**	**-1.1**
TCF	**Toulx Ste Croi**	**24.99**	**96**	*eP*		**P**		**15 46 05.7**	**-1.1**
TCF	**Toulx Ste Croi**	**24.99**	**96**	*eP*		**P**		**15 46 05.7**	**-1.1**
	comp=Z,33nm,1.3s								
SJPF	**Ste Jean**	**25.03**	**105**	*eP*		**P**		**15 46 07.4**	**+0.2**
SJPF	**Ste Jean**	**25.03**	**105**	*eP*		**P**		**15 46 07.4**	**+0.2**
SJPF	**Ste Jean**	**25.03**	**105**	*eP*		**P**		**15 46 07.4**	**+0.2**
SJPF	**Ste Jean**	**25.03**	**105**	*eP*		**P**		**15 46 07.4**	**+0.2**
IBBN	**Ibbenburen**	**25.16**	**79**	*eP*		**P**		**15 46 09.2**	**+0.9**
IBBN	**Ibbenburen**	**25.16**	**79**	*eP*		**P**		**15 46 08.8**	**+0.5**
RJF	**Les Rejaudoux**	**25.18**	**98**	*eP*		**P**		**15 46 07.0**	**-1.5**
	comp=Z,21nm,1.1s								
RJF				*eR*					
	comp=Z,2μm,23.0s								
RJF	**Les Rejaudoux**	**25.18**	**98**	*eP*		**P**		**15 46 07.0**	**-1.5**
RJF	**Les Rejaudoux**	**25.18**	**98**	*eP*		**P**		**15 46 07.0**	**-1.5**
RJF	**Les Rejaudoux**	**25.18**	**98**	*eP*		**P**		**15 46 07.0**	**-1.5**
	comp=Z,10nm,1.1s								
BGF	**Bois d'Agland**	**25.20**	**95**	*eP*		**P**		**15 46 06.2**	**-2.5**
	comp=Z,29nm,1.0s								
BGF	**Bois d'Agland**	**25.20**	**95**	*eP*		**P**		**15 46 06.2**	**-2.5**
BGF	**Bois d'Agland**	**25.20**	**95**	*eP*		**P**		**15 46 06.2**	**-2.5**

comp=Z,18nm,1.6s
LASF Ste Croix 27.25 98 *e*P **P 15 46 26.7 -0.5**
comp=Z,131nm,1.8s
LASF Ste Croix 27.25 98 *e*P **P 15 46 26.7 -0.5**
LASF Ste Croix 27.25 98 *e*P **P 15 46 26.7 -0.5**
comp=Z,65nm,1.8s
BFO Black Forest 27.35 87 *e*P **P 15 46 27.4 -0.8**
comp=Z,13nm,1.1s
BFO Black Forest 27.35 87 *e*P **P 15 46 27.1 -1.1**
comp=Z,13nm,1.1s
BFO Black Forest 27.35 87 *e*P **P 15 46 27.2 -1.0**
BFO pmax pmax
comp=Z,13nm,1.1s
BFO Black Forest 27.35 87 *e*P **P 15 46 28.4 +0.2**
comp=Z,12nm,1.1s
BFO Black Forest 27.35 87 *e*P **P 15 46 28.4 +0.2**
comp=Z,12nm,1.1s
ORIF Oris-en-Rattie 27.88 95 *e*P **P 15 46 32.2 -0.8**
comp=Z,24nm,1.3s
ORIF *e*R
comp=Z,1µm,19.5s
ORIF Oris-en-Rattie 27.88 95 *e*P **P 15 46 32.2 -0.8**
ORIF Oris-en-Rattie 27.88 95 *e*P **P 15 46 32.2 -0.8**
ORIF Oris-en-Rattie 27.88 95 *e*P **P 15 46 32.2 -0.8**
comp=Z,12nm,1.3s
LPL La Plagne 28.01 93 *e*P **P 15 46 33.6 -0.7**
LPL La Plagne 28.01 93 *e*P **P 15 46 33.6 -0.7**
LPL La Plagne 28.01 93 *e*P **P 15 46 33.6 -0.7**
LPL La Plagne 28.01 93 *e*P **P 15 46 33.6 -0.7**
LPG La Plagne 28.03 93 *e*P **P 15 46 33.8 -0.7**
LPG La Plagne 28.03 93 *e*P **P 15 46 33.8 -0.7**
LPG La Plagne 28.03 93 *e*P **P 15 46 33.8 -0.7**
LPG La Plagne 28.03 93 *e*P **P 15 46 33.8 -0.7**
MOX Moxa 28.06 80 *e*P **P 15 46 35.5 +1.0**
comp=Z,61nm,2.1s
MOX Moxa 28.06 80 *e*P **P 15 46 34.8 +0.3**
comp=Z,61nm,2.1s
MOX Moxa 28.06 80 *e*P **P 15 46 34.8 +0.3**
MOX pmax pmax
comp=Z,61nm,2.1s
MOX Moxa 28.06 80 *e*P **P 15 46 34.8 +0.3**
comp=Z,61nm,2.1s
SMRF Simiane la Rot 28.28 97 *e*P **P 15 46 36.7 +0.2**
SMRF Simiane la Rot 28.28 97 *e*P **P 15 46 36.7 +0.2**
SMRF Simiane la Rot 28.28 97 *e*P **P 15 46 36.7 +0.2**
GRA1 Grafenberg Arr 28.30 82 *e*P **P 15 46 35.7 -0.9**
comp=Z,47nm,1.4s
GRF Grafenberg Arr 28.30 82 *e*P **P 15 46 36.4 -0.2**
comp=Z,47nm,1.4s
GRF *e*L L 15 56 25.7
comp=Z,391nm,21.5s
GRF Grafenberg Arr 28.30 82 *e*P **P 15 46 35.7 -0.9**
comp=Z,47nm,1.4s
GRF Grafenberg Arr 28.30 82 *e*P **P 15 46 35.7 -0.9**
GRF pmax pmax
comp=Z,47nm,1.4s
GRFO Grafenberg 28.30 82 *e*P **P 15 46 37.2 +0.6**
GRFO pmax pmax
comp=Z,31nm,1.2s
GRFO Grafenberg 28.30 82 *e*P **P 15 46 37.1 +0.6**
comp=Z,31nm,1.2s
GRFO Grafenberg 28.30 82 *e*P **P 15 46 37.2 +0.6**
comp=Z,31nm,2.0s
CLL Collm 28.53 78 *e*P **P 15 46 39.2 +0.6**
comp=Z,31nm,2.0s
CLL Collm 28.53 78 *e*P **P 15 46 38.5 -0.1**
comp=Z,31nm,2.0s
CLL Collm 28.53 78⇓ *i*P **P 15 46 39.9 +1.3**
CLL *e* 15 46 46.0
CLL pmax pmax
comp=Z,30nm,2.0s
CLL MLR MLR
comp=Z,500nm,21.8s
CLL Collm 28.53 78⇓ *i*P **P 15 46 39.9 +1.3**
comp=Z,30nm,2.0s
CLL *e*(sP) **sP 15 46 46.0 -0.5**
CLL *e*PPPP 15 47 42.0
CLL LmV 15 56 00.0
comp=Z,500nm,21.8s
CLL Collm 28.53 78 *i* P **P 15 46 39.9 +1.3**
comp=Z,30nm,2.0s
TANN Tannenbergstha 28.65 80 *e*P **P 15 46 40.2 +0.5**
comp=Z,24nm,1.4s
TANN Tannenbergstha 28.65 80 *e*P **P 15 46 39.1 -0.6**
SPITS Spitsbergen Ar 28.69 20 LR LR 15 55 29.2
comp=Z,177nm,18.8s,baz=210,slow=31
NKC Novy Kostel 28.73 80 *e*P **P 15 46 40.8 +0.4**
NKC MLR MLR
comp=Z,400nm,15.1s
NKC Novy Kostel 28.73 80 *e*P **P 15 46 40.8 +0.4**
NKC AMS AMS 15 57 40.0
comp=Z,400nm,15.1s
NKC Novy Kostel 28.73 80 *e*P **P 15 46 40.8 +0.4**
comp=Z,400nm,15.1s
TUE Stuetta 28.95 89 *e*P P 15 46 46.3 +3.7
comp=Z,41nm,1.9s
DAVOX Davos/Dischmat 29.07 88 LR LR 15 57 56.4
comp=Z,1µm,18.5s,baz=250,slow=36
LMR La Mourre 29.21 97 *e*P **P 15 46 44.8 +0.1**
comp=Z,105nm,1.6s
LMR La Mourre 29.21 97 *e*P **P 15 46 44.8 +0.1**
LMR La Mourre 29.21 97 *e*P **P 15 46 44.8 +0.1**
comp=Z,52nm,1.6s
BRG Berggiesshubel 29.26 78 *e*P P 15 46 49.2 +4.2
comp=Z,16nm,1.7s
BRG *e* 15 47 39.0
comp=Z,11nm,1.5s
BRG
comp=N,550nm,23.5s
BRG
comp=E,401nm,28.5s
BRG
comp=Z,605nm,18.1s
BRG Berggiesshubel 29.26 78 *e*P P 15 46 49.2 +4.2
BRG *e* 15 47 39.0
BRG pmax pmax
comp=Z,16nm,1.7s
BRG MLR MLR
comp=N,550nm,23.5s
BRG MLR MLR
comp=E,401nm,28.5s
BRG MLR MLR
comp=Z,605nm,18.1s
SBF Sospel 29.40 95 *e*P **P 15 46 46.1 -0.4**
SBF Sospel 29.40 95 *e*P **P 15 46 46.1 -0.4**
SBF Sospel 29.40 95 *e*P **P 15 46 46.1 -0.4**
WET Wettzell 29.51 82 *e*P **P 15 46 46.8 -0.6**
comp=Z,26nm,1.5s
WET Wettzell 29.51 82 *e*P **P 15 46 47.6 +0.2**
WET Wettzell 29.51 82 *e*P **P 15 46 46.8 -0.6**
WET pmax pmax
comp=Z,26nm,1.5s
SADO Sadowa 29.71 268 P **P 15 46 49.5 +0.4**
SADO Sadowa 29.71 268 P **P 15 46 49.5 +0.4**
comp=Z,5.9nm,0.8s,baz=76,slow=8.3,SNR=3.8
SADO Sadowa 29.71 268 P **P 15 46 49.5 +0.4**
RES Resolute Bay 29.74 332 *e*P **P 15 46 48.9 -0.1**
comp=Z,3.7nm,0.8s
RES Resolute Bay 29.74 332 P **P 15 46 49.2 +0.2**
RES Resolute Bay 29.74 332 P **P 15 46 49.2 +0.2**
comp=Z,3.9nm,0.9s,baz=95,slow=9.8,SNR=9.4
RES LR LR 15 58 10.2
comp=Z,299nm,18.6s,baz=115,slow=35
RES Resolute Bay 29.74 332 P **P 15 46 49.2 +0.2**
ARCES ARCESS Array B 29.82 38 P **P 15 46 51.4 +1.5**
ARCES ARCESS Array B 29.82 38 P **P 15 46 51.4 +1.5**
comp=Z,3.9nm,0.9s,baz=224,slow=6.8,SNR=6.0
ARCES ARCESS Array B 29.82 38 P **P 15 46 51.4 +1.5**
KHC Kasperske Hory 29.91 82 *e*P **P 15 46 53.6 +2.7**
KHC Kasperske Hory 29.91 82 *e*P **P 15 46 53.7 +2.7**
comp=Z,14nm,1.4s
KHC Kasperske Hory 29.91 82 *e*P **P 15 46 53.6 +2.7**
KHC Kasperske Hory 29.91 82 *e*P **P 15 46 53.7 +2.8**
comp=Z,14nm,1.4s
PRU Pruhonice 30.02 79 *e*P **P 15 46 53.8 +2.0**
PRU MLR MLR
comp=Z,400nm,20.0s
PRU Pruhonice 30.02 79 *e*P **P 15 46 53.8 +2.0**
PRU AMS AMS 15 58 40.0
comp=Z,400nm,20.0s
GEC2 GERESS Array S 30.13 82 *e*P **P 15 46 52.7 -0.2**
comp=Z,31nm,1.8s
GEC2 GERESS Array S 30.13 82 *e*P **P 15 46 52.7 -0.2**
GEC2 GERESS Array S 30.13 82 *e*P **P 15 46 52.7 -0.2**
GERES GERESS Array B 30.13 82 P **P 15 46 52.7 -0.2**
comp=Z,3.5nm,1.0s,baz=284,slow=7.4,SNR=9.1
GERES LR LR 15 58 03.7
comp=Z,462nm,21.4s,baz=284,slow=35
GERES GERESS Array B 30.13 82 P **P 15 46 52.7 -0.2**
UPC Upice 30.59 78 *e*P **P 15 46 57.9 +1.1**
UPC Upice 30.59 78 *e*P **P 15 46 57.9 +1.1**
DPC Dobruska-Polom 30.84 78 *e*P **P 15 46 58.8 -0.3**
DPC MLR MLR
comp=Z,600nm,17.3s
DPC Dobruska-Polom 30.84 78 *e*P **P 15 46 59.1 0.0**
comp=Z,39nm,1.4s
DPC Dobruska-Polom 30.84 78 *e*P **P 15 46 58.8 -0.3**
DPC AMS AMS 15 58 50.0
comp=Z,600nm,17.3s
DPC Dobruska-Polom 30.84 78 *e*P **P 15 46 59.1 0.0**
comp=Z,39nm,1.4s
TREC Trest 30.90 80 AMS AMS 15 57 50.0
comp=Z,500nm,14.4s
MDT Midelt 31.04 124 P **P 15 47 01.9 +0.8**
MDT Midelt 31.04 124 P **P 15 47 01.9 +0.8**
comp=Z,7.9nm,0.9s,baz=339,slow=9.8
MDT Midelt 31.04 124 P **P 15 47 01.9 +0.8**
PGF Pioggiola 31.12 96 *e*P **P 15 47 01.8 +0.1**
comp=Z,63nm,1.4s
PGF Pioggiola 31.12 96 *e*P **P 15 47 01.8 +0.1**
PGF Pioggiola 31.12 96 *e*P **P 15 47 01.8 +0.1**
KAF Kangasniemi 31.41 52 *e*P **P 15 47 03.0 -0.9**
KAF pmax pmax
comp=Z,6.0nm,0.6s
KAF Kangasniemi 31.41 52 *e*p **P 15 47 03.0 -0.9**
comp=Z,6.0nm,0.6s
FINES FINESS Array B 31.50 54 P **P 15 47 04.0 -0.6**
FINES FINESS Array B 31.50 54 P **P 15 47 04.0 -0.6**
comp=Z,3.2nm,0.8s,baz=317,slow=5.7,SNR=5.1
FINES LR LR 15 58 21.5
comp=Z,166nm,19.9s,baz=35,slow=34
FINES FINESS Array B 31.50 54 P **P 15 47 04.1 -0.6**
VRAC Vranov 31.52 79 LR LR 15 59 00.1
comp=Z,500nm,20.0s,baz=351,slow=35
MORC Moravsky Berou 31.80 78 *e*P **P 15 47 10.7 +3.1**
MORC pmax pmax
comp=Z,20nm,1.5s
MORC Moravsky Berou 31.80 78 *e*P **P 15 47 10.7 +3.1**
comp=Z,20nm,1.5s
MORC Moravsky Berou 31.80 78 *e*P **P 15 47 10.7 +3.1**
comp=Z,20nm,1.5s
OKC Ostrava-Krasne 32.11 77 AMS AMS 15 58 50.0
comp=Z,500nm,18.3s
VSU Vasula 32.81 59 *e*P **P 15 47 15.8 -0.5**
VSU pmax pmax
comp=Z,12nm,1.2s
OJC Ojcow 32.83 76 *e*P P 15 47 19.8 +3.3
OJC pmax pmax
comp=Z,38nm,1.5s
OJC Ojcow 32.83 76 *e*P P 15 47 19.8 +3.3
comp=Z,38nm,1.5s
VYHS Vyhne 33.20 79 *e*P P 15 47 23.4 +3.6
VYHS pmax pmax
comp=Z,7.0nm,1.4s
VYHS Vyhne 33.20 79 *e*P P 15 47 23.4 +3.6
JOF Joensuu 33.39 50 *e*P **P 15 47 20.5 -0.7**
JOF pmax pmax
comp=Z,3.0nm,0.8s
JOF Joensuu 33.39 50 *e*p **P 15 47 20.5 -0.7**
comp=Z,2.8nm,0.8s
PSZ Piszkesteto 34.11 79 *e*P P 15 47 32.8 +5.0
PSZ pmax pmax
comp=Z,22nm,1.5s
PSZ Piszkesteto 34.11 79 *e*P P 15 47 32.8 +5.0
comp=Z,22nm,1.5s
CRVS Cervenica-Dubn 34.44 77 *e*P **P 15 47 33.4 +2.8**
CRVS pmax pmax
comp=Z,14nm,1.4s
CRVS Cervenica-Dubn 34.44 77 *e*P **P 15 47 33.4 +2.8**
KOLS Kolonicke sedl 34.88 76 *e*P **P 15 47 36.6 +2.2**
KOLS pmax pmax
comp=Z,150nm,3.3s
KOLS Kolonicke sedl 34.88 76 *e*P **P 15 47 36.6 +2.2**
UZH Uzhgorod 35.05 77 *e*P **P 15 47 38.2 +2.4**
UZH *e* 15 47 38.4
UZH *e* 15 47 44.0
LVV L'vov 35.37 74 *e*P P 15 47 45.5 +7.0
LVV MLR MLR
comp=N,300nm,17.0s
LVV MLR MLR
comp=E,300nm,17.0s
LVV MLR MLR
comp=Z,300nm,17.0s
KEST Kesra 36.02 104 P **P 15 47 44.7 +0.3**
KEST Kesra 36.02 104 P **P 15 47 44.7 +0.3**
comp=Z,5.8nm,1.0s,baz=335,slow=1.2,SNR=3.7
KEST LR LR 16 00 40.8
comp=Z,123nm,19.6s,baz=300,slow=33
KEST Kesra 36.02 104 P **P 15 47 44.7 +0.3**
ULM Lac du Bonnet 36.04 288 P **P 15 47 43.7 -0.6**
ULM Lac du Bonnet 36.04 288 P **P 15 47 43.7 -0.6**
comp=Z,8.6nm,0.8s,baz=58,slow=9.3,SNR=8.3
ULM LR LR 16 01 04.0
comp=Z,937nm,20.8s,baz=128,slow=34
ULM Lac du Bonnet 36.04 288 P **P 15 47 43.7 -0.6**
KIEV Kiev 37.70 70 *e*P **P 15 47 57.7 -0.7**
KIEV pmax pmax
comp=Z,22nm,1.2s
KIEV Kiev 37.70 70 *e*P **P 15 47 57.7 -0.7**
comp=Z,22nm,1.2s
KIEV Kiev 37.70 70 *e*P **P 15 47 57.7 -0.7**
comp=Z,22nm,1.2s
AKASG Malin Array Be 37.70 70 P **P 15 47 57.2 -1.2**
AKASG Malin Array Be 37.70 70 P **P 15 47 57.2 -1.2**
AKASG Malin Array Be 37.70 70 P **P 15 47 57.2 -1.2**
comp=Z,4.1nm,0.6s,baz=303,slow=8.4,SNR=11
AKASG Malin Array Be 37.70 70 P **P 15 47 57.2 -1.2**
KLMR Klimovskoe 37.77 50 *e*P **P 15 47 58.0 -0.8**
KLMR pmax pmax
comp=Z,81nm,1.3s
TKL Tuckaleechee C 38.43 260 LR LR 16 03 17.0
comp=Z,710nm,19.3s,baz=99,slow=35
YKA Yellowknife Ar 39.11 314 P **P 15 48 09.3 -0.8**
YKA PcP **PcP 15 50 18.4 -1.0**
YKA Yellowknife Ar 39.11 314 P **P 15 48 09.3 -0.8**
comp=Z,2.6nm,0.8s,baz=60,slow=9.2,SNR=30
YKA PcP **PcP 15 50 18.4 -1.0**
comp=Z,0.8nm,0.7s,baz=57,slow=3.7,SNR=5.1
YKA Yellowknife Ar 39.11 314 P **P 15 48 09.3 -0.8**
YKA Yellowknife Ar 39.11 314 PcP **PcP 15 50 18.4 -1.0**
OBN Obninsk 39.15 60 *e*P **P 15 48 09.5 -1.0**
OBN pmax pmax
comp=Z,19nm,1.3s
KIS Kishinev 39.59 75 *e*P **P 15 48 16.0 +1.7**
KIS pmax pmax
comp=Z,100nm,1.6s
KIS MLR MLR
comp=Z,400nm,16.0s
KIS MLR MLR
comp=Z,500nm,18.0s
KIS Kishinev 39.59 75 *e*P **P 15 48 16.0 +1.7**
comp=Z,100nm,1.6s
KIS *e*L L 16 04 24.0
KIS LRM MLR 16 05 36.0
comp=Z,500nm,18.0s
KIS Kishinev 39.59 75 *e*P **P 15 48 16.0 +1.7**
comp=Z,100nm,1.6s
A24A Westby 41.16 291⇑P **P 15 48 27.3 0.0**
baz=41
B23A Brockton 41.96 291⇓P **P 15 48 34.8 +0.9**
baz=42
C24A Savage 42.22 289⇑P **P 15 48 37.1 +1.1**
baz=42
C23A Lambert 42.46 290⇓P **P 15 48 38.6 +0.6**
baz=42
VSR Storozhevoye 42.60 63 *e*P **P 15 48 41.1 +2.1**
VSR pmax pmax
comp=Z,10.0nm,1.2s
VSR pmax pmax
comp=N,3.0nm,0.4s
VSR pmax pmax
comp=E,10.0nm,1.2s
A21A Bergtoll Ranch 42.67 293⇑P **P 15 48 40.2 +0.5**
baz=42
VORD Divnogorie 42.81 64 *e*P **P 15 48 42.3 +1.6**
C22A Vida 42.87 290⇑P **P 15 48 41.9 +0.6**
baz=43
BBTS Babate 43.15 153 LR LR 16 02 17.6
comp=E,269nm,19.0s,baz=307,slow=30
A20A Cobblestone Ra 43.26 293⇓P **P 15 48 44.9 +0.4**
baz=43
D22A Cohagen 43.40 290⇑P **P 15 48 45.8 +0.2**
baz=43
B20A Solberg Farm, 43.58 293⇓P **P 15 48 47.4 +0.4**
baz=43
A19A Klindworth Far 43.66 294⇓P **P 15 48 48.2 +0.5**
baz=43
E22A Miles City 43.71 289⇑P **P 15 48 48.6 +0.4**
baz=44
VRHR Novokhopersk 43.92 62 *e*P **P 15 48 47.2 -2.5**
VRHR *e**PP **pP 15 48 53.7 -1.7**
VRHR pmax pmax
comp=N,9.0nm,0.4s
VRHR pmax pmax
comp=E,5.0nm,0.4s
VRHR pmax pmax
comp=Z,5.0nm,0.4s
C20A Veseth Ranch, 44.02 292⇑P **P 15 48 50.7 +0.2**
baz=44
H24A Dirks Ranch, A 44.03 286⇑P **P 15 48 50.7 -0.1**
baz=44
D20A Manuel Ranch, 44.48 291⇑P **P 15 48 54.2 -0.1**
baz=44
B18A Beardsley Farm 44.53 294⇓P **P 15 48 54.8 +0.1**
baz=44
L27A T5 Ranch, Ells 44.53 282⇑P **P 15 48 55.3 +0.5**
baz=44
C19A Slack Wire Ran 44.56 292⇓P **P 15 48 55.3 +0.4**
baz=44
K26A Motz Farm, Whi 44.60 283⇑P **P 15 48 56.3 +1.0**
baz=44
H23A Clabaugh Cattl 44.61 287⇓P **P 15 48 56.2 +0.8**
baz=44
I24A Kuemmerle Ranc 44.64 285⇑P **P 15 48 56.7 +1.0**
baz=44
G22A Birney 44.67 288⇑P **P 15 48 56.3 +0.4**
baz=44
EGMT Eagleton 44.74 293⇓P **P 15 48 56.8 +0.3**
baz=44,SNR=12
D19A Cripps Ranch, 44.82 292⇓P **P 15 48 57.1 0.0**
baz=45,SNR=8.5
B17A L&G Farms, Che 45.12 294⇓P **P 15 48 59.9 +0.5**
baz=45,SNR=9.7
A16A West Butte Ran 45.13 295⇑P **P 15 48 59.4 -0.1**
baz=45
G21A Lodge Grass 45.16 288⇓P **P 15 49 00.2 +0.4**
baz=45
E19A Rath Farm, Rou 45.22 291⇓P **P 15 49 00.7 +0.5**
baz=45
D18A Linhart Farms, 45.29 292⇓P **P 15 49 01.3 +0.4**
baz=45
F20A Billings 45.30 290⇓P **P 15 49 01.3 +0.4**
baz=45
C17A Wharram Farm, 45.52 293⇓P **P 15 49 02.9 +0.3**
baz=45,SNR=8.2
I22A 9 Mile Ranch, 45.64 287⇑P **P 15 49 04.0 +0.4**
baz=45
ANN Anapa 45.66 72 *e*P **P 15 49 04.2 +0.6**
ANN MLR MLR
comp=E,579nm,18.0s
ANN MLR MLR
comp=Z,568nm,18.0s
F19A Roth Farm, Mol 45.69 290⇑P **P 15 49 04.4 +0.3**
baz=46
G20A Bridger 45.71 289⇑P **P 15 49 04.8 +0.6**
baz=46
E18A Harlowton 45.75 292⇑P **P 15 49 05.4 +0.9**
baz=46
D17A Six Diamond Ra 45.79 293⇓P **P 15 49 05.4 +0.6**
baz=46
C16A Fuhringer Ranc 45.93 294⇑P **P 15 49 06.2 +0.3**
baz=46
J22A Midwest 45.95 286⇑P **P 15 49 06.5 +0.4**
baz=46
B15A Bradely Ranch, 46.02 295⇓P **P 15 49 05.9 -0.7**
baz=46
A14A Double T Ranch 46.05 296⇓P **P 15 49 07.1 +0.3**
baz=46
F18A Big Timber 46.07 291⇑P **P 15 49 06.7 -0.3**
baz=46
H20A Greybull 46.07 288⇑P **P 15 49 07.1 +0.1**
baz=46
I21A Big Trails, Te 46.13 287⇑P **P 15 49 07.3 -0.3**
baz=46
D16A Dana Ranch, Ca 46.32 293⇑P **P 15 49 08.6 -0.4**
baz=46
E17A Martinsdale 46.32 292⇓P **P 15 49 08.6 -0.4**
baz=46
RLMT Red Lodge 46.34 290⇑P **P 15 49 09.9 +0.6**
baz=46
B14A Marquette Ranc 46.36 296⇑P **P 15 49 08.9 -0.4**
baz=46
G18A Lazy EL Ranch, 46.37 290⇓P **P 15 49 10.4 +1.0**
baz=46
K22A Casper 46.48 285⇑P **P 15 49 10.7 +0.4**
baz=46
H19A Powell 46.48 289⇓P **P 15 49 10.7 +0.4**
baz=46
I20A Worland 46.49 288⇓P **P 15 49 11.1 +0.7**
baz=46
J21A Lysite 46.52 287⇑P **P 15 49 10.7 0.0**
baz=46
F17A Fitzpatrick Pl 46.57 291⇑P **P 15 49 10.6 -0.4**
baz=46
A13A Flathead Natio 46.58 297⇑P **P 15 49 11.2 +0.3**
baz=46
E16A East Helena 46.70 293⇑P **P 15 49 12.3 +0.3**
baz=46
D15A Lincoln 46.82 294⇓P **P 15 49 13.2 +0.4**
baz=47,SNR=8.0
H18A Shoshone NF, C 46.85 289⇓P **P 15 49 11.5 -1.8**
baz=47
J20A Shoshoni 46.87 287⇑P **P 15 49 13.7 +0.4**
baz=47
K21A Alcova 46.89 286⇓P **P 15 49 13.3 -0.3**
baz=47
I19A Meeteetse 46.91 288⇑P **P 15 49 13.7 0.0**
baz=47
BRTR Keskin Array B 46.96 80 P **P 15 49 14.9 +0.8**
BRTR Keskin Array B 46.96 80 P **P 15 49 14.9 +0.8**
comp=Z,5.4nm,0.8s,baz=311,slow=6.2,SNR=13
BRTR LR LR 16 10 07.2
comp=Z,187nm,20.0s,baz=294,slow=38
BRTR Keskin Array B 46.96 80 P **P 15 49 14.9 +0.8**
B13A Whitefish 46.96 296⇓P **P 15 49 13.9 0.0**
baz=47
C14A Swan Lake 46.98 295⇓P **P 15 49 13.8 -0.4**
baz=47
F16A Kennard Place, 47.16 292⇓P **P 15 49 16.9 +1.3**
baz=47
BOZ Bozeman (W) 47.26 292 *e*P **P 15 49 17.4 +1.1**
BOZ Bozeman (W) 47.26 292 *e*P **P 15 49 17.4 +1.1**
BOZ Bozeman (W) 47.26 292⇑P **P 15 49 17.2 +0.9**
baz=47,SNR=13
BOZ Bozeman (W) 47.26 292 *e*P **P 15 49 17.4 +1.1**
E15A Deer Lodge 47.28 293⇑P **P 15 49 17.5 +1.0**
baz=47
SWMT Swartz Lake 47.28 295 *e*P **P 15 49 17.3 +0.9**
SWMT Swartz Lake 47.28 295 *e*P **P 15 49 17.3 +0.9**
N23A Red Feather La 47.34 283⇓P **P 15 49 17.5 +0.3**
baz=47
L21A Rawlins 47.41 285⇑P **P 15 49 17.6 0.0**
baz=47
J19A Crowheart 47.45 288⇑P **P 15 49 17.9 0.0**
baz=47
BSMT Bassoo Peak 47.46 296 *e*P **P 15 49 19.1 +1.1**
comp=Z,6.3nm,1.3s
BSMT Bassoo Peak 47.46 296 *e*P **P 15 49 19.1 +1.1**
comp=Z,6.3nm,1.3s
C13A Hot Springs 47.47 296⇑P **P 15 49 18.2 +0.3**
baz=47
K20A Yellowstone Ra 47.47 287⇓P **P 15 49 17.4 -0.6**
baz=47
I18A Diamond G Ranc 47.58 289⇓P **P 15 49 19.9 +0.9**
baz=47
F15A Butte 47.59 292⇑P **P 15 49 19.9 +0.9**
baz=47
K19A Absolon Red Bu 47.63 287⇓P **P 15 49 20.0 +0.7**
baz=47
M21A Separation Pea 47.64 285⇑P **P 15 49 20.2 +0.6**
baz=47
H16A Russell Place, 47.68 291⇑P **P 15 49 20.9 +1.2**
baz=48
E14A Clinton 47.73 294⇓P **P 15 49 21.3 +1.3**
baz=48
R26A Arlington 47.73 279⇓P **P 15 49 21.7 +1.6**
baz=48
D13A Huson 47.79 295⇑P **P 15 49 20.7 +0.3**

baz=48
O23A **Lake Granby, G** 47.80 282 ⇓P P 15 49 21.7 +1.0
baz=48
ISCO **Idaho Springs** 47.91 282 ⇑P P 15 49 23.0 +1.3
baz=48
J18A **Kendall Valley** 48.01 288 ⇑P P 15 49 22.2 -0.2
baz=48,SNR=8.3
G15A **Dillon** 48.03 292 ⇑P P 15 49 23.3 +0.9
baz=48
MOOW **Moose Ponds** 48.04 289 *e*pP pP 15 49 25.5 -2.8
MOOW **Moose Ponds** 48.04 289 *e*pP pP 15 49 25.5 -2.8
BW06 **Boulder Array** 48.06 287 ⇑P P 15 49 23.3 +0.6
baz=48
PDAR **Pinedale Array** 48.06 287 P P 15 49 22.4 -0.3
PDAR **Pinedale Array** 48.06 287 P P 15 49 22.4 -0.3
comp=Z,1.4nm,0.7s,baz=65,slow=7.5,SNR=12
PDAR LR LR 16 08 38.7
comp=Z,721nm,18.4s,baz=39,slow=35
PDAR **Pinedale Array** 48.06 287 P P 15 49 22.5 -0.3
F14A **Wisdom** 48.06 293 ⇓P P 15 49 23.9 +1.2
baz=48
E13A **Victor** 48.08 294 ⇑P P 15 49 23.6 +1.0
baz=48
M20A **Sweetwater, Wa** 48.18 285 ⇑P P 15 49 24.9 +1.3
baz=48
O22A **Kremmling** 48.18 283 ⇓P P 15 49 25.4 +1.6
baz=48
T27A **Campo** 48.19 277 ⇓P P 15 49 25.0 +1.3
baz=48
C11A **Tepee Creek (N** 48.22 297 ⇓P P 15 49 24.0 +0.3
baz=48
D12A **Red Ives Fores** 48.28 295 ⇓P P 15 49 26.1 +2.0
baz=48
TPAW **Teton Pass** 48.33 289 *e*pP P 15 49 25.6 +0.8
TPAW **Teton Pass** 48.33 289 *e*pP P 15 49 25.6 +0.8
I16A **Newdale** 48.36 290 ⇓P P 15 49 27.9 +3.0
baz=48
REDW **Red Top Meadow** 48.36 289 *e*pP pP 15 49 29.3 -1.5
REDW **Red Top Meadow** 48.36 289 *e*pP pP 15 49 29.3 -1.5
NEW **Newport** 48.38 298 *e*pP pP 15 49 29.5 -1.2
NEW **Newport** 48.38 298 ⇓P P 15 49 26.9 +2.0
baz=48
NEW **Newport** 48.38 298 *e*pP pP 15 49 29.5 -1.2
L19A **Farson** 48.40 287 ⇑P P 15 49 26.7 +1.3
baz=48
MCMT **McKenzie Canyo** 48.45 292 *e*P P 15 49 27.4 +1.7
comp=Z,6.1nm,1.6s
MCMT **McKenzie Canyo** 48.45 292 *e*P P 15 49 27.4 +1.7
comp=Z,6.1nm,1.6s
ARU **Arti** 48.47 48 *e*P P 15 49 25.1 -0.2
ARU **Arti** 48.47 48 *e*P P 15 49 25.1 -0.2
ARU **Arti** 48.47 48 *e*P P 15 49 25.1 -0.2
H15A **Lima** 48.48 291 ⇓P P 15 49 27.8 +1.9
baz=48
G14A **Jackson** 48.49 292 ⇓P P 15 49 26.9 +0.9
baz=48
F13A **Darby** 48.58 294 ⇑P P 15 49 27.2 +0.6
baz=48
T26A **Comanche Natio** 48.60 278 ⇓P P 15 49 28.1 +1.2
baz=48
RRI2 **Red Ridge** 48.62 289 *e*pP P 15 49 29.7 +2.6
RRI2 **Red Ridge** 48.62 289 *e*pP P 15 49 29.7 +2.6
O21A **Pagoda** 48.66 284 ⇑P P 15 49 28.4 +1.0
baz=48
N20A **Spence Gulch,** 48.67 285 ⇑P P 15 49 27.3 -0.1
baz=48,SNR=6.2
P22A **Eagle** 48.69 282 ⇑P P 15 49 28.6 +1.0
baz=48
S25A **Robets Cordova** 48.74 279 ⇓P P 15 49 27.8 -0.2
baz=49
E12A **Beaver Dam Sad** 48.81 295 ⇑P P 15 49 27.9 -0.4
baz=49
J16A **Bone** 48.83 289 ⇓P P 15 49 28.9 +0.3
baz=49
H14A **Leadore** 48.86 292 ⇑P P 15 49 29.7 +0.9
baz=49
L18A **Fontenelle, Gr** 48.89 287 ⇑P P 15 49 29.4 +0.3
baz=49
G13A **Cobalt** 49.00 293 ⇓P P 15 49 30.0 +0.3
baz=49,SNR=9.6
KIV **Kislovodsk** 49.05 69 *e*P P 15 49 27.5 -2.6
KIV pmax pmax
comp=Z,7.0nm,0.9s
SVE **Sverdlovsk** 49.07 46 ⇓*e*P P 15 49 29.9 -0.1
SVE pmax pmax
comp=Z,16nm,1.2s
F12A **Elk City** 49.09 294 ⇑P P 15 49 32.1 +1.6
baz=49
T25A **Trinidad** 49.09 278 ⇑P P 15 49 32.5 +1.8
baz=49
N19A **John Jarvie Ra** 49.13 285 ⇓P P 15 49 32.3 +1.4
baz=49
R23A **Moffat** 49.15 280 ⇑P P 15 49 32.6 +1.4
baz=49
AMTX **Amarillo** 49.16 274 *e*P P 15 49 31.9 +0.8
comp=Z,24nm,1.0s
AMTX **Amarillo** 49.16 274 ⇑P P 15 49 32.8 +1.8
baz=49
AMTX **Amarillo** 49.16 274 *e*P P 15 49 31.9 +0.8
comp=Z,24nm,1.0s
J15A **Blackfoot** 49.19 290 ⇑P P 15 49 32.6 +1.4
baz=49
U26A **Atchley Ranch,** 49.24 277 ⇑P P 15 49 33.1 +1.2
baz=49
SDCO **Great Sand Dun** 49.28 280 *e*P P 15 49 33.9 +1.7
comp=Z,4.6nm,1.3s
SDCO **Great Sand Dun** 49.28 280 *e*P P 15 49 33.9 +1.7
comp=Z,4.6nm,1.3s
Q22A **Crested Butte,** 49.28 282 ⇑P P 15 49 32.9 +0.6
baz=49
KBZ **Khabaz** 49.31 69 P P 15 49 31.1 -0.9
KBZ **Khabaz** 49.31 69 P P 15 49 31.1 -0.9
KBZ **Khabaz** 49.31 69 P P 15 49 31.1 -0.9
comp=Z,2.9nm,1.0s,baz=336,slow=12,SNR=2.7
KBZ LR LR 16 12 05.2
comp=Z,177nm,18.3s,baz=317,slow=38
KBZ **Khabaz** 49.31 69 P P 15 49 31.1 -0.9
ILAR **Eielson Array** 49.33 328 P P 15 49 32.0 +0.2
ILAR PcP PcP 15 50 57.4 +3.2
ILAR **Eielson Array** 49.33 328 P P 15 49 32.0 +0.2
comp=Z,3.7nm,0.8s,baz=40,slow=6.2,SNR=19
ILAR PcP PcP 15 50 57.4 +3.2
comp=Z,1.2nm,0.7s,baz=5.0,slow=2.7,SNR=5.3
ILAR LR LR 16 10 12.3
comp=Z,485nm,18.7s,baz=242,slow=36
ILAR **Eielson Array** 49.33 328 P P 15 49 32.0 +0.2
H13A **Challis** 49.37 292 ⇓P P 15 49 33.0 +0.4
baz=49,SNR=9.8
I14A **Mackay** 49.37 291 ⇓P P 15 49 33.0 +0.3
baz=49
O19A **Miners Draw (B** 49.51 285 ⇑P P 15 49 34.6 +0.8
baz=49
COLA **College** 49.54 329 *e*P P 15 49 33.7 +0.3
COLA pmax pmax
comp=Z,13nm,1.0s
COLA **College** 49.54 329 *e*P P 15 49 33.7 +0.3
comp=Z,13nm,1.0s
COLA **College** 49.54 329 *e*P P 15 49 33.7 +0.3
comp=Z,13nm,1.0s
G12A **Big Creek, Yel** 49.55 294 ⇓P P 15 49 34.9 +0.9
baz=49
L16A **Fish Haven** 49.59 288 ⇓P P 15 49 36.1 +1.6
baz=49
U25A **Circle Dot Ran** 49.62 278 ⇑P P 15 49 37.2 +2.5
baz=49
R22A **Saguache, Gunn** 49.64 281 ⇓P P 15 49 37.0 +2.0
baz=50
Q21A **Lamborn Mesa,** 49.67 282 ⇑P P 15 49 37.9 +2.8
baz=50
H12A **Diamond D Ranc** 49.69 293 ⇑P P 15 49 35.7 +0.6
baz=50
I13A **Wildhorse Cree** 49.73 292 ⇓P P 15 49 35.7 +0.2
baz=50,SNR=5.9
J14A **Carey** 49.82 291 ⇓P P 15 49 38.1 +2.0
baz=50
P19A **Cripple Cowboy** 49.89 284 ⇓P P 15 49 37.5 +0.7
baz=50
HWUT **Hardware Ranch** 49.94 288 *e*P P 15 49 37.0 -0.1
comp=Z,7.1nm,0.9s
HWUT **Hardware Ranch** 49.94 288 *e*P P 15 49 37.0 -0.1
comp=Z,7.1nm,0.9s
R21A **Cimarron** 49.99 282 ⇑P P 15 49 40.6 +3.1
baz=50
Q20A **Ridgley Place,** 49.99 283 ⇓P P 15 49 39.3 +1.8
baz=50
N17A **Moffit Pass** 50.00 287 ⇑P P 15 49 38.3 +0.6
baz=50
O18A **Roosevelt** 50.02 285 ⇑P P 15 49 39.8 +2.1
baz=50
S22A **4UR Ranch, Cre** 50.02 281 ⇑P P 15 49 40.9 +3.0
baz=50
L15A **Malad City** 50.11 289 ⇓P P 15 49 39.0 +0.7
baz=50
J13A **Cove Ranch, Pi** 50.12 291 ⇓P P 15 49 40.0 +1.7
baz=50
HLID **Hailey** 50.13 291 *e*P P 15 49 39.4 +0.9
HLID **Hailey** 50.13 291 ⇑P P 15 49 39.4 +0.9
baz=50
HLID **Hailey** 50.13 291 *e*P P 15 49 39.4 +0.9
V25A **Rancho No Teng** 50.13 277 ⇑P P 15 49 39.5 +0.9
baz=50
K14A **Jones Ranch, D** 50.17 290 ⇓P P 15 49 39.4 +0.7
baz=50
Z29A **Hungry Hill Ra** 50.35 273 ⇓P P 15 49 40.3 +0.1
baz=50
I12A **Atlanta** 50.35 292 ⇑P P 15 49 40.8 +0.6
baz=50
N16A **Rees Ranch, Co** 50.37 287 ⇓P P 15 49 42.0 +1.7
baz=50
MSTX **Muleshoe** 50.44 274 ⇓P P 15 49 40.9 +0.1
baz=50
O17A **Robinson Place** 50.47 286 ⇓P P 15 49 42.2 +1.0
baz=50
W25A **X Bar L Ranch,** 50.49 277 ⇓P P 15 49 42.3 +1.0
baz=50
M15A **Larsen Ranch,** 50.52 288 ⇑P P 15 49 41.5 +0.1
baz=50
R20A **Redvale** 50.57 282 ⇓P P 15 49 43.7 +1.8
baz=50
T22A **Edith** 50.58 280 ⇓P P 15 49 43.2 +1.1
baz=50
P18A **Preston Nutter** 50.60 285 ⇓P P 15 49 43.8 +1.6
baz=50
S21A **Coal Bank Pass** 50.62 281 ⇓P P 15 49 43.4 +1.0
baz=50
U23A **El Rito** 50.67 279 ⇑P P 15 49 44.5 +1.8
baz=50
Q18A **Rafter H Ranch** 50.90 284 ⇑P P 15 49 44.8 +0.5
baz=51
TORD **Torodi Ar. Bea** 50.93 131 P P 15 49 43.4 -1.2
TORD **Torodi Ar. Bea** 50.93 131 P P 15 49 43.4 -1.2
comp=Z,8.6nm,0.9s,baz=336,slow=7.8,SNR=23
TORD LR LR 16 10 08.7
comp=Z,226nm,18.9s,baz=330,slow=35
TORD **Torodi Ar. Bea** 50.93 131 P P 15 49 43.3 -1.2
T21A **Navajo Lake** 50.95 281 ⇑P P 15 49 44.6 -0.2
baz=51
MFID **Camas Ranch** 50.98 292 *e*pP P 15 49 46.3 +1.5
MFID **Camas Ranch** 50.98 292 ⇑P P 15 49 45.8 +1.0
baz=51
MFID **Camas Ranch** 50.98 292 *e*pP P 15 49 46.3 +1.5
432A **Menard** 51.02 269 ⇑P P 15 49 45.2 0.0
baz=51
W24A **Lazy 6 Ranch,** 51.03 277 ⇑P P 15 49 46.7 +1.2
baz=51
Z27A **Tatum** 51.17 274 ⇓P P 15 49 47.8 +1.4
baz=51
R18A **Canyonlands Na** 51.28 284 ⇓P P 15 49 48.3 +1.1
baz=51
JCT **Junction City** 51.32 269 ⇑P P 15 49 48.8 +1.3
baz=51
MVCO **Mesa Verde** 51.34 282 ⇑P P 15 49 46.8 -0.9
baz=51
V22A **San Miguel Ran** 51.37 279 ⇓P P 15 49 49.2 +1.1
baz=51
Y25A **Mesa, Roswell** 51.56 276 ⇑P P 15 49 51.0 +1.7
baz=51
DUG **Dugway** 51.60 287 ⇓P P 15 49 50.7 +1.1
baz=51
431A **Sonora** 51.63 270 ⇓P P 15 49 51.4 +1.6
baz=52
Z26A **Caprock** 51.63 275 ⇓P P 15 49 50.9 +1.1
baz=52
532A **Rocksprings** 51.65 269 ⇑P P 15 49 50.9 +1.0
baz=52
R17A **Hanksville Air** 51.70 284 ⇑P P 15 49 51.2 +0.8
baz=52
329A **Wagon Wheel Ra** 51.81 272 ⇓P P 15 49 52.4 +1.2
baz=52
S18A **Hurst Farm, Bl** 51.83 283 ⇑P P 15 49 52.1 +0.7
baz=52,SNR=7.6
T19A **Beclabito** 51.90 282 ⇓P P 15 49 52.7 +0.8
baz=52
Y24A **Capitan** 51.98 276 ⇓P P 15 49 53.5 +0.9
baz=52
531A **Rocksprings** 51.98 269 ⇓P P 15 49 54.1 +1.7
baz=52
Z25A **Roswell** 52.05 275 ⇑P P 15 49 55.0 +2.1
baz=52
T18A **Mexican Hat** 52.16 282 ⇓P P 15 49 54.6 +0.9
baz=52
AKTO **Aktyubinsk** 52.27 54 P P 15 49 54.1 -0.1
AKTO **Aktyubinsk** 52.27 54 P P 15 49 54.1 -0.1
AKTO **Aktyubinsk** 52.27 54 P P 15 49 54.1 -0.1
comp=Z,15nm,1.2s,baz=312,slow=7.0,SNR=19
AKTO **Aktyubinsk** 52.27 54 P P 15 49 54.1 -0.1
S17A **Black Ridge (B** 52.31 284 ⇑P P 15 49 57.1 +2.2
baz=52
Y23A **Lovelace Mesa,** 52.33 277 ⇑P P 15 49 57.0 +1.9
baz=52
V20A **Brimhall** 52.33 280 ⇑P P 15 49 57.3 +2.2
baz=52
Z24A **Sheeppen Canyo** 52.38 276 ⇓P P 15 49 56.4 +1.0
baz=52
U19A **Dine' College,** 52.39 281 ⇓P P 15 49 56.7 +1.1
baz=52
429A **Davenport Ranc** 52.41 271 ⇓P P 15 49 56.5 +0.9
baz=52
MSU **Marysvale** 52.45 285 *e*P P 15 49 58.2 +2.2
MSU pmax pmax
comp=Z,23nm,1.8s
MSU **Marysvale** 52.45 285 *e*P P 15 49 58.2 +2.2
comp=Z,23nm,1.8s
MSU **Marysvale** 52.45 285 *e*P P 15 49 58.2 +2.2
comp=Z,23nm,1.8s
125A **Gardner Draw,** 52.47 275 ⇑P P 15 49 57.2 +1.1
baz=52
BNM **Barren Site** 52.49 277 *e*P P 15 49 58.2 +1.8
comp=Z,4.6nm,1.1s
BNM **Barren Site** 52.49 277 *e*P P 15 49 58.2 +1.8
comp=Z,4.6nm,1.1s
631A **Perdido Creek** 52.57 269 ⇓P P 15 49 58.1 +1.4
baz=52
S16A **Weppner Ranch,** 52.69 284 ⇑P P 15 49 59.5 +1.8
baz=52
T17A **Navajo Res., N** 52.77 283 ⇑P P 15 49 59.2 +0.8
baz=53
GNI **Garni** 52.78 71 *e*P P 15 50 00.0 +1.6
comp=Z,100nm,1.4s
GNI **Gani** 52.78 71 *e*P P 15 50 00.0 +1.6
comp=Z,100nm,1.4s
Y22A **Socorro** 52.84 278 ⇓P P 15 50 01.8 +3.0
baz=53
TEIG **Tepich** 52.90 250 *e*P P 15 50 03.0 +3.8
X21A **Alamocita Cree** 52.93 279 ⇓P P 15 50 01.5 +1.9
baz=53
529A **Stev Forest Ra** 52.97 271 ⇓P P 15 50 01.0 +1.3
baz=53
225A **Deer Hill, Car** 52.97 274 ⇑P P 15 50 00.9 +1.0
baz=53
326A **Caldwell Ranch** 53.08 273 ⇓P P 15 50 02.4 +1.9
baz=53
427A **Hayter Ranch,** 53.10 272 ⇑P P 15 50 01.6 +0.9
baz=53
Z22A **Elephant Butte** 53.34 277 ⇑P P 15 50 03.9 +1.3
baz=53
224A **Cornudas Mount** 53.39 275 ⇓P P 15 50 02.7 -0.3
baz=53
426A **McDonald Obser** 53.59 272 ⇑P P 15 50 04.7 +0.2
baz=53,SNR=9.0
MNTX **Cornudas Mount** 53.59 274 ⇓P P 15 50 04.5 +0.2
baz=53
R13A **O'Grain Ranch,** 53.67 286 ⇑P P 15 50 05.7 +0.7
baz=54
628A **Black Gap, Mar** 53.83 271 ⇑P P 15 50 08.4 +2.3
baz=54
324A **Moseley Ranch,** 53.84 274 ⇑P P 15 50 07.0 +0.8
baz=54
ABKAR **Akbulak array** 53.99 54 *e*P P 15 50 06.9 +0.1
comp=Z,11nm,1.1s
ABKAR **Akbulak array** 53.99 54 *e*P P 15 50 06.9 +0.1
comp=Z,11nm,1.1s
U15A **North Rim** 54.01 284 ⇓P P 15 50 08.2 +0.7
baz=54
627A **Terlingua Ranc** 54.14 271 ⇑P P 15 50 11.3 +2.9
baz=54
DBIC **Dimbokro** 54.27 142 P P 15 50 08.6 -0.7
DBIC **Dimbokro** 54.27 142 P P 15 50 08.6 -0.7
comp=Z,13nm,1.2s,baz=325,slow=4.0,SNR=4.8
DBIC LR LR 16 10 11.6
comp=Z,434nm,20.7s,baz=334,slow=33
DBIC **Dimbokro** 54.27 142 P P 15 50 08.6 -0.7
121A **Cookes Peak, D** 54.34 277 ⇓P P 15 50 12.2 +2.3
baz=54
Z20A **Nine Sixteen R** 54.36 278 ⇓P P 15 50 13.0 +3.0
baz=54
TXAR **Lajitas Array** 54.39 271 P P 15 50 10.4 +0.2
TXAR **Lajitas Array** 54.39 271 P P 15 50 10.4 +0.2
comp=Z,0.3nm,0.5s,baz=39,slow=5.9,SNR=3.4
TXAR LR LR 16 13 00.3
comp=Z,558nm,19.1s,baz=135,slow=36
TXAR **Lajitas Array** 54.39 271 P P 15 50 10.4 +0.2
R11A **Troy Canyon, C** 54.43 288 ⇓P P 15 50 12.9 +2.4
baz=54
626A **Big Bend Ranch** 54.49 272 ⇓P P 15 50 13.8 +2.9
baz=54
LIC **Lamto** 54.63 142 *e*P P 15 50 11.1 -0.8
LIC comp=Z,76nm,1.4s
LIC *e*R
comp=Z,808nm,22.0s
LIC **Lamto** 54.63 142 *e*P P 15 50 11.1 -0.8
X16A **Lo Mia Camp, P** 55.00 281 ⇓P P 15 50 16.6 +1.9
baz=55
220A **Playas Peak, P** 55.22 277 ⇓P P 15 50 18.0 +1.7
baz=55
320A **Kipp Ranch, An** 55.65 277 ⇑P P 15 50 21.4 +2.1
baz=56
BRVK **Borovoye** 55.67 45*d* *i*P P 15 50 18.1 -0.9
BRVK pmax pmax
comp=Z,19nm,1.7s
BRVK **Borovoye** 55.67 45 *e*P P 15 50 19.6 +0.6
comp=Z,16nm,1.3s
BRVK **Borovoye** 55.67 45 *e*P P 15 50 19.6 +0.6
comp=Z,16nm,1.3s
BILL **Bilibino** 55.83 350 *e*P P 15 50 19.9 0.0
BILL pmax pmax
comp=Z,2.0nm,1.0s
NVAR **Mina Array Bea** 55.84 290 P P 15 50 21.4 +0.7
NVAR **Mina Array Bea** 55.84 290 P P 15 50 21.4 +0.7
comp=Z,1.2nm,0.7s,baz=58,slow=6.0,SNR=9.0
NVAR LR LR 16 13 10.5
comp=Z,726nm,21.2s,baz=317,slow=35
NVAR **Mina Array Bea** 55.84 290 P P 15 50 21.4 +0.7
319A **Douglas** 56.04 277 ⇓P P 15 50 25.5 +3.4
baz=56
MPMC **Manual Prospec** 57.13 287 ⇓P P 15 50 32.4 +2.4
baz=57
CWC **Cottonwood Cre** 57.17 288 ⇓P P 15 50 32.3 +2.1
baz=57
Y12C **Blythe** 57.21 283 ⇓P P 15 50 32.7 +2.5
baz=57
GSC **Goldstone** 57.32 286 ⇑P P 15 50 32.0 +0.9
baz=57
HEC **Hector,Ludlow** 57.41 285 ⇓P P 15 50 33.7 +2.0
baz=57
113A **Mohawk Valley,** 57.52 282 ⇑P P 15 50 33.6 +1.2
baz=57
214A **Organ Pipe Nat** 57.60 280 ⇑P P 15 50 34.8 +1.8
baz=57
LRMC **Laurel Mountai** 57.67 287 ⇓P P 15 50 35.1 +1.5
baz=58
BC3 **Big Chuckawall** 57.80 284 ⇑P P 15 50 36.2 +1.6
baz=58
BELC **Belle Mtn. Jos** 57.84 284 ⇓P P 15 50 36.1 +1.2
baz=58
EDW2 **Edwards Air Fo** 58.28 286 ⇓P P 15 50 39.5 +1.6
baz=58
PFO **Pinyon Flat Ob** 58.39 284 *e*P P 15 50 39.5 +0.8
comp=Z,7.4nm,0.8s
PFO **Pinyon Flat Ob** 58.39 284 ⇓P P 15 50 40.3 +1.6
baz=58
PFO **Pinyon Flat Ob** 58.39 284 *e*P P 15 50 39.5 +0.8
comp=Z,7.4nm,0.8s
SWSC **Sam W. Stewart** 58.52 283 ⇑P P 15 50 40.6 +1.1
baz=58
MONP **Monument Peak** 58.91 284 ⇑P P 15 50 43.9 +1.5
baz=59
NVS **Novosibirsk** 59.08 36 ⇑*i*P P 15 50 41.8 -1.2
NVS pmax pmax
comp=N,5.0nm,1.5s
NVS pmax pmax
comp=Z,29nm,1.5s
NVS pmax pmax
comp=E,2.0nm,1.1s
ROSC **El Rosal** 59.40 227 P P 15 50 47.8 +1.6
ROSC **El Rosal** 59.40 227 P P 15 50 47.8 +1.6
comp=E,20nm,0.6s,baz=103,slow=19,SNR=3.4
ROSC LR LR 16 16 23.9
comp=E,13nm,18.3s,baz=219,slow=36
ROSC **El Rosal** 59.40 227 P P 15 50 47.8 +1.6
ZALV **Zalesovo Beam** 60.34 36 P P 15 50 51.6 -0.1
ZALV **Zalesovo Beam** 60.34 36 P P 15 50 51.6 -0.1
ZALV **Zalesovo Beam** 60.34 36 P P 15 50 51.6 -0.1
comp=E,0.8nm,0.6s,baz=332,slow=8.8,SNR=3.4
ZALV LR LR 16 16 39.4
comp=E,123nm,18.6s,baz=334,slow=36
ZALV **Zalesovo Beam** 60.34 36 P P 15 50 51.6 -0.1
KURK **Kurchatov** 60.75 42 ⇑*i*P P 15 50 54.4 -0.2
KURK pmax pmax
comp=Z,10.0nm,1.2s
KURK **Kurchatov** 60.75 42 *e*P P 15 50 54.3 -0.2
comp=Z,15nm,1.2s
KURK **Kurchatov** 60.75 42 *e*P P 15 50 54.3 -0.2
comp=Z,15nm,1.2s
RCBR **Riachuelo** 61.05 181 LR LR 16 10 24.0
comp=Z,144nm,19.6s,baz=345,slow=29
SEY **Seymchan** 61.83 356 *e*P P 15 51 00.7 -0.9
KKAR **Karatay Array** 63.44 52 *e*P P 15 51 12.8 +0.1
KKAR pmax pmax
comp=Z,6.0nm,1.1s
KKAR **Karatay Array** 63.44 52 *e*P P 15 51 12.8 +0.1
comp=Z,6.2nm,1.1s
KKAR **Karatay Array** 63.44 52 *e*P P 15 51 12.8 +0.1
comp=Z,6.2nm,1.1s
EKS2 **Erkin-Say** 65.24 50 *e*P P 15 51 25.2 +0.5
EKS2 pmax pmax
comp=Z,27nm,1.1s
EKS2 **Erkin-Say** 65.24 50 *e*P P 15 51 25.2 +0.5
comp=Z,27nm,1.1s
EKS2 **Erkin-Say** 65.24 50 *e*P P 15 51 25.2 +0.5
comp=Z,27nm,1.1s
OTAV **Otavalo** 65.31 229 *e*P P 15 51 28.0 +2.2
comp=Z,26nm,1.7s
OTAV **Otavalo** 65.31 229 *e*P P 15 51 28.0 +2.2
comp=Z,26nm,1.7s
MKAR **Makanchi Array** 65.36 42 P P 15 51 25.1 -0.2
MKAR **Makanchi Array** 65.36 42 P P 15 51 25.1 -0.2
MKAR **Makanchi Array** 65.36 42 P P 15 51 25.1 -0.2
comp=Z,1.9nm,0.6s,baz=340,slow=4.8,SNR=18
MKAR LR LR 16 20 41.8
comp=Z,86nm,19.0s,baz=308,slow=37
MKAR **Makanchi Array** 65.36 42 P P 15 51 25.1 -0.2
AAK **Ala-Archa** 65.58 50 *e*P P 15 51 26.2 -0.7
AAK pmax pmax
comp=Z,19nm,1.1s
AAK **Ala-Archa** 65.58 50 P P 15 51 28.0 +1.1
AAK **Ala-Archa** 65.58 50 P P 15 51 28.0 +1.1
comp=Z,3.1nm,1.0s,baz=337,slow=4.8,SNR=5.2
AAK **Ala-Archa** 65.58 50 P P 15 51 28.0 +1.1
TKM2 **Tokmak 2** 65.82 49 *e*P P 15 51 30.8 +2.3
TKM2 pmax pmax
comp=Z,34nm,1.5s
TKM2 **Tokmak 2** 65.82 49 *e*P P 15 51 30.8 +2.3
comp=Z,34nm,1.5s
TKM2 **Tokmak 2** 65.82 49 *e*P P 15 51 30.8 +2.3
comp=Z,34nm,1.5s
KSH **Kashi** 68.76 51 P P 15 51 48.9 +1.8
KSH pP **pP** 15 51 53.0 -0.1
KSH sP **sP** 15 51 55.9 +0.6
KSH PcP **PcP** 15 52 12.1 +0.4
KSH PP PP 15 54 23.8 +5.4
KSH sS **sS** 16 01 02.9 +3.5
KSH S S 16 01 04.5 +15
KSH ScS **ScS** 16 01 46.0 -0.2
KSH SS SS 16 05 23.8 +10
KSH pmax pmax
comp=Z,10.0nm,1.2s
KSH LR LR
comp=N,240nm,5.2s
KSH LR LR
comp=E,150nm,9.0s

KSH					LR	LR				
	comp=Z,270nm,8.3s									
ZAK	**Zakamensk**	**68.99**	**27**	*e*P	P	15 51 44.8	-3.5			
ZAK				pmax	pmax					
	comp=Z,2.0nm,1.7s									
WMQ	**Urumqi**	**69.91**	**40**	*e*P	**P**	**15 51 52.3**	**-1.7**			
WMQ				pP	**pP**	**15 51 59.6**	**-0.4**			
WMQ				pmax	pmax					
	comp=Z,9.0nm,1.0s									
WMQ				pmax	pmax					
	comp=Z,180nm,5.3s									
WMQ				LR	LR					
	comp=Z,190nm,21.0s									
PETK	**Petropavlovsk-**	**71.31**	**352**	LR	LR	16 24 51.8				
	comp=Z,141nm,18.6s,baz=24,slow=37									
BDFB	**Brasilia**	**71.64**	**193**	P	**P**	**15 52 04.5**	**-0.3**			
BDFB	**Brasilia**	**71.64**	**193**	P	**P**	**15 52 04.5**	**-0.3**			
	comp=Z,2.5nm,0.6s,baz=171,slow=3.1,SNR=3.6									
BDFB				LR	LR	16 18 16.0				
	comp=Z,103nm,18.4s,baz=43,slow=32									
BDFB	**Brasilia**	**71.64**	**193**	P	**P**	**15 52 04.5**	**-0.3**			
SONM	**Songino Array**	**72.14**	**26**	P	**P**	**15 52 07.0**	**-0.6**			
SONM	**Songino Array**	**72.14**	**26**	P	**P**	**15 52 07.0**	**-0.6**			
	comp=Z,0.5nm,0.8s,baz=340,slow=5.0,SNR=3.0									
SONM				LR	LR	16 22 39.9				
	comp=Z,76nm,20.0s,baz=338,slow=35									
SONM	**Songino Array**	**72.14**	**26**	P	**P**	**15 52 07.0**	**-0.6**			
ULN	**Ulaanbaatar**	**72.27**	**26**	*e*P	**P**	**15 52 09.0**	**+0.6**			
	comp=Z,17nm,1.6s									
ULN	**Ulaanbaatar**	**72.27**	**26**	*e*P	**P**	**15 52 09.0**	**+0.6**			
	comp=Z,17nm,1.6s									
LPAZ	**La Paz**	**76.71**	**213**	P	**P**	**15 52 34.2**	**-0.8**			
LPAZ	**La Paz**	**76.71**	**213**	P	**P**	**15 52 34.2**	**-0.8**			
	comp=Z,2.3nm,0.9s,baz=9.2,slow=6.4,SNR=3.6									
LPAZ	**La Paz**	**76.71**	**213**	P	**P**	**15 52 34.2**	**-0.8**			
GTA	**Gaotai**	**78.00**	**34**	*e*P	**P**	**15 52 43.1**	**+1.5**			
GTA				pP	**pP**	**15 52 47.3**	**-0.3**			
GTA				sP	**sP**	**15 52 50.8**	**+1.0**			
GTA				pmax	pmax					
	comp=Z,4.0nm,1.4s									
MDJ	**Mudanjiang**	**79.48**	**11**	P	P	15 52 43.8	-5.6			
MDJ				PP	**PP**	**15 55 43.8**	**-5.1**			
MDJ				S	S	16 02 43.0	-6.5			
MDJ				ScS	**SKKSac**	**16 03 05.8**	**-0.4**			
MDJ				pmax	pmax					
	comp=Z,220nm,4.6s									
CN2	**Changchun**	**79.77**	**14**	*e*P	P	15 52 46.3	-4.7			
CN2				*es*P	sP	15 52 53.3	-5.9			
CN2				*e*S	**S**	**16 02 47.4**	**-5.1**			
CN2				pmax	pmax					
	comp=Z,10.0nm,0.6s									
CN2				pmax	pmax					
	comp=Z,200nm,3.0s									
HHC	**Hu-ho-hao-te**	**79.97**	**25**	*e*P	P	15 52 48.1	-4.2			
HHC				sP	sP	15 52 54.8	-5.7			
HHC				PP	**PP**	**15 55 53.3**	**+0.1**			
HHC				S	**S**	**16 02 51.9**	**-3.1**			
HHC				SS	**SS**	**16 08 07.1**	**+3.7**			
HHC				pmax	pmax					
	comp=Z,23nm,0.6s									
HHC				pmax	pmax					
	comp=Z,570nm,6.7s									
HHC				LR	LR					
	comp=N,350nm,15.5s									
HHC				LR	LR					
	comp=E,400nm,17.8s									
HHC				LR	LR					
	comp=Z,100nm,15.5s									
USRK	**Ussuriysk Arra**	**80.14**	**9**	LR	LR	16 32 29.7				
	comp=Z,115nm,20.4s,baz=147,slow=39									
BJI	**Beijing**	**81.79**	**22**	P	P	15 52 57.3	-4.5			
BJI				S	**S**	**16 03 11.8**	**-1.9**			
BJI				pmax	pmax					
	comp=Z,6.0nm,0.6s									
BJI				pmax	pmax					
	comp=Z,360nm,4.9s									
BJI				LR	LR					
	comp=N,310nm,36.5s									
BJI				LR	LR					
	comp=E,380nm,35.5s									
LZH	**Lanzhou**	**82.31**	**32**	*e*P	**P**	**15 53 02.1**	**-2.8**			
LZH				pP	**PcP**	**15 53 06.8**	**-3.3**			
LZH				sP	**sP**	**15 53 09.0**	**-4.2**			
LZH				pmax	pmax					
	comp=Z,15nm,1.3s									
CPUP	**Villa Florida**	**83.63**	**200**	P	**P**	**15 53 09.9**	**-1.4**			
CPUP	**Villa Florida**	**83.63**	**200**	P	**P**	**15 53 09.9**	**-1.4**			
	comp=Z,2.0nm,0.7s,baz=103,slow=7.2,SNR=3.4									
CPUP				LR	LR	16 24 56.6				
	comp=Z,103nm,21.7s,baz=176,slow=32									
CPUP	**Villa Florida**	**83.63**	**200**	P	**P**	**15 53 09.9**	**-1.4**			
KSRS	**Korea Array**	**86.34**	**13**	LR	LR	16 37 08.5				
	comp=Z,62nm,18.1s,baz=168,slow=39									
NJ2	**Nanjing**	**90.05**	**22**	*e*P	P	15 53 38.1	-4.7			
NJ2				pmax	pmax					
	comp=Z,10.0nm,0.5s									
KMI	**Kunming**	**92.06**	**38**	P	P	15 53 48.1	-4.5			
KMI				pP	**PcP**	**15 53 54.9**	**+1.5**			
KMI				sP	sP	15 53 58.4	-2.5			
KMI				S	**S**	**16 04 52.3**	**-1.7**			
KMI				SS	**SS**	**16 11 07.1**	**+5.5**			
KMI				pmax	pmax					
	comp=Z,8.0nm,1.2s									
KMI				pmax	pmax					
	comp=Z,140nm,4.7s									
GYA	**Guiyang**	**92.13**	**34**	*e*P	**P**	**15 53 50.0**	**-2.7**			
GYA				PP	**PP**	**15 57 33.4**	**+1.5**			
GYA				SKS	**SKSac**	**16 04 22.0**	**-3.1**			
GYA				S	**S**	**16 04 51.3**	**-3.0**			
GYA				SS	**SS**	**16 11 06.9**	**+4.6**			
GYA				pmax	pmax					
	comp=Z,10.0nm,1.0s									
GYA				pmax	pmax					
	comp=Z,120nm,5.4s									
GYA				LR	LR					
	comp=N,530nm,20.5s									
GYA				LR	LR					
	comp=E,480nm,21.3s									
GYA				LR	LR					
	comp=Z,510nm,20.9s									
CMAR	**Chiang Mai Arr**	**96.75**	**43**	P	**P**	**15 54 14.1**	**+0.2**			
CMAR	**Chiang Mai Arr**	**96.75**	**43**	P	**P**	**15 54 14.1**	**+0.2**			
	comp=Z,0.5nm,0.3s,baz=323,slow=7.2,SNR=5.0									
CMAR	**Chiang Mai Arr**	**96.75**	**43**	P	**P**	**15 54 14.1**	**+0.2**			
BOSA	**Boshof**	**98.26**	**129**	LR	LR	16 35 02.8				
	comp=Z,148nm,19.6s,baz=342,slow=33									
PPT2	**Papeete2**	**118.17**	**280**	*e*LR	LR	16 34 59.4				
	comp=Z,180nm,23.5s									
TBI	**Tubuai**	**122.68**	**276**	*e*LR	LR	16 37 00.6				
	comp=Z,188nm,42.0s									
DZM	**Mont Dzumac**	**143.01**	**326**	*e*LR	LR	16 46 49.6				
	comp=Z,230nm,26.2s									
WRA	**Warramunga Arr**	**143.68**	**17**	PKPpre	PKPpre	16 00 14.0				
WRA				PKP	**PKPdf**	**16 00 17.3**	**-0.7**			
WRA	**Warramunga Arr**	**143.68**	**17**	PKhKP	PKPpre	16 00 14.0				
	comp=Z,0.5nm,0.8s,baz=354,slow=3.3,SNR=5.4									
WRA				PKP	**PKPdf**	**16 00 17.3**	**-0.7**			
	comp=Z,1.4nm,0.8s,baz=345,slow=3.0,SNR=12									
QSPA	**South Pole Qui**	**145.33**	**180**	*e*PKPdf	**PKPab**	**16 00 23.0**	**+3.4**			
QSPA	**South Pole Qui**	**145.33**	**180**	*e*PKIKP	**PKPab**	**16 00 23.0**	**+3.4**			
ASAR	**Alice Springs**	**147.24**	**19**	PKPbc	**PKPbc**	**16 00 25.4**	**-1.0**			
ASAR	**Alice Springs**	**147.24**	**19**	PKPbc	**PKPbc**	**16 00 25.4**	**-1.0**			
	comp=Z,3.8nm,0.5s,baz=350,slow=2.4,SNR=60									
ASAR	**Alice Springs**	**147.24**	**19**	PKPbc	**PKPbc**	**16 00 25.4**	**-1.0**			

THE 21 15:45:08.4, 40.72N×21.51E, *h*2km±13km, ML1.6/3, Error ellipse: s-maj=13.4km s-min=0.4km az=359.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.12**	**305**	P	Pg	15 45 10.8	0.0
FNA				S	Sg	15 45 12.4	-0.1
KZN	**Kozani**	**0.46**	**154**	P	Pg	15 45 17.4	+0.1
KZN				S	Sg	15 45 23.9	+0.6
NEST	**Nestorio**	**0.46**	**229**	P	Pg	15 45 17.0	-0.4
NEST				S	Sg	15 45 24.0	+0.5

*IDC **21** 15:46:10.6±0.5, 55.36N×35.21W, *h*0km, *mb*4.2/25, mb1 4.3/27, mb1mx4.2/36, mbtmp4.2/27, ML2.9/2, Error ellipse: s-maj=14.9km s-min=11.0km az=8.0*
*MOS **21** 15:46:11.0±1.2, 55.42N×35.08W, *h*10km, *mb*4.9/20, Error ellipse: s-maj=9.0km s-min=8.4km az=109.5*

*ISCJB **21** 15:46:11.6±0.1, 55.44N±0.05×34.96W±0.03, *h*10km, mb4.5/78, MS4.3/2, Error ellipse: s-maj=6.8km s-min=2.5km az=5.7*
*CSEM **21** 15:46:12.8±0.1, 55.40N×35.06W, *h*10km, mb4.7/27, Ms3.8, Error ellipse: s-maj=9.6km s-min=5.8km az=9.0*
*NEIC **21** 15:46:12.9±0.3, 55.37N×35.06W, *h*10km, mb4.7/22, Error ellipse: s-maj=9.8km s-min=6.1km az=184.0*
*BJI **21** 15:46:15.2, 56.59N×34.72W, *h*10km, mB5.1/7, mb4.8/13, Ms5.1/4, Ms7 4.8/4*

ISC 21 15:46:13.4±0.5, 55.43N±0.06×35.06W±0.05, *h*14km±2km, *h*14km:pP-P, *n*499, σ1s20/517, *mb*4.5/80, 125C-106D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFJD	**Kangerlussuaq**	**13.75**	**334**	Pn	**Pn**	**15 49 29.5**	**+1.9**
SFJD	**Kangerlussuaq**	**13.75**	**334**	Pn	**Pn**	**15 49 29.5**	**+1.9**
	0.3nm,0.3s,baz=149,slow=12,SNR=2.1						
SFJD	**Kangerlussuaq**	**13.75**	**334**	P	**Pn**	**15 49 29.5**	**+1.9**
SUMG	**Summit**	**17.27**	**357**	*e*P	**Pn**	**15 50 12.9**	**-1.3**
SUMG				pmax	pmax		
	comp=Z,180nm,2.3s						
SUMG	**Summit**	**17.27**	**357**	*e*Pn	**Pn**	**15 50 12.9**	**-1.3**
	comp=Z,180nm,2.3s						
SUMG	**Summit**	**17.27**	**357**	*i* P	**Pn**	**15 50 12.9**	**-1.3**
	comp=Z,8.3nm,1.0s						
SUMG	**Summit**	**17.27**	**357**	*e*Pn	**Pn**	**15 50 12.9**	**-1.3**
	comp=Z,180nm,2.3s						
ESK	**Eskdalemuir**	**18.03**	**77**	*i* P	**P**	**15 50 25.3**	**+1.7**
ESK	**Eskdalemuir**	**18.03**	**77**	*i* P	**P**	**15 50 25.3**	**+1.7**
SCHQ	**Schefferville**	**18.10**	**281**	P	**Pn**	**15 50 24.0**	**-0.1**
SCHQ	**Schefferville**	**18.10**	**281**	P	**Pn**	**15 50 24.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=86,slow=12,SNR=8.9						
SCHQ	**Schefferville**	**18.10**	**281**	P	**Pn**	**15 50 24.0**	**-0.1**
FRB	**Frobisher Bay**	**18.68**	**310**	P	**Pn**	**15 50 31.4**	**+0.4**
FRB	**Frobisher Bay**	**18.68**	**310**	P	**Pn**	**15 50 31.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=118,slow=12,SNR=4.6						
FRB	**Frobisher Bay**	**18.68**	**310**	P	**Pn**	**15 50 31.4**	**+0.4**
ROSF	**Rostrenen**	**20.73**	**97**	*e*P	**P**	**15 50 52.5**	**-0.7**
	comp=Z,36nm,1.2s						
ROSF	**Rostrenen**	**20.73**	**97**	*e*P	**P**	**15 50 52.5**	**-0.7**
ROSF	**Rostrenen**	**20.73**	**97**	*e*P	**P**	**15 50 52.5**	**-0.7**
QUIF	**Quistinic**	**21.02**	**98**	*e*P	**P**	**15 50 57.1**	**+0.8**
	comp=Z,56nm,1.3s						
QUIF	**Quistinic**	**21.02**	**98**	*e*P	**P**	**15 50 57.1**	**+0.8**
QUIF	**Quistinic**	**21.02**	**98**	*e*P	**P**	**15 50 57.1**	**+0.8**
SGMF	**Saint Gilles**	**21.18**	**96**	*e*P	**P**	**15 50 58.4**	**+0.4**
	comp=Z,38nm,1.2s						
SGMF	**Saint Gilles**	**21.18**	**96**	*e*P	**P**	**15 50 58.4**	**+0.4**
SGMF	**Saint Gilles**	**21.18**	**96**	*e*P	**P**	**15 50 58.4**	**+0.4**
PGAV	**Gavieira, Arco**	**22.05**	**116**	*i* P	P	15 51 15.8	+8.2
GRR	**Gorron**	**22.07**	**94**	*e*P	**P**	**15 51 09.5**	**+1.9**
	comp=Z,73nm,1.4s						
GRR	**Gorron**	**22.07**	**94**	*e*P	**P**	**15 51 09.5**	**+1.9**
GRR	**Gorron**	**22.07**	**94**	*e*P	**P**	**15 51 09.5**	**+1.9**
FLN	**La Foliniere**	**22.09**	**93**	*e*P	**P**	**15 51 07.4**	**-0.4**
	comp=Z,65nm,1.4s						
FLN				*e*R			
	comp=Z,526nm,22.8s						
FLN	**La Foliniere**	**22.09**	**93**	*e*P	**P**	**15 51 07.4**	**-0.4**
FLN	**La Foliniere**	**22.09**	**93**	*e*P	**P**	**15 51 07.4**	**-0.4**
LDF	**La Druitiere**	**22.38**	**93**	*e*P	**P**	**15 51 09.2**	**-1.8**
	comp=Z,49nm,1.6s						
LDF	**La Druitiere**	**22.38**	**93**	*e*P	**P**	**15 51 09.2**	**-1.8**
LDF	**La Druitiere**	**22.38**	**93**	*e*P	**P**	**15 51 09.2**	**-1.8**
MFF	**Saint Martin d**	**23.45**	**97**	*e*P	**P**	**15 51 22.4**	**+0.3**
	comp=Z,83nm,1.6s						
MFF	**Saint Martin d**	**23.45**	**97**	*e*P	**P**	**15 51 22.4**	**+0.3**
MFF	**Saint Martin d**	**23.45**	**97**	*e*P	**P**	**15 51 22.4**	**+0.3**
PCBR	**Castelo Branco**	**24.04**	**119**	*e*P	**P**	**15 51 27.6**	**-0.1**
	comp=Z,53nm,1.4s						
PCBR	**Castelo Branco**	**24.04**	**119**	*e*P	**P**	**15 51 27.6**	**-0.1**
	comp=Z,53nm,1.4s						
BAIF	**Baives**	**24.13**	**86**	*e*P	**P**	**15 51 28.8**	**+0.3**
	comp=Z,47nm,1.5s						
BAIF	**Baives**	**24.13**	**86**	*e*P	**P**	**15 51 28.8**	**+0.3**
BAIF	**Baives**	**24.13**	**86**	*e*P	**P**	**15 51 28.8**	**+0.3**
NOA	**NORSAR Array B**	**24.56**	**58**	P	**P**	**15 51 34.1**	**+1.7**
NOA	**NORSAR Array B**	**24.56**	**58**	P	**P**	**15 51 34.1**	**+1.7**
	comp=Z,2.9nm,0.9s,baz=280,slow=9.8,SNR=4.5						
NOA	**NORSAR Array B**	**24.56**	**58**	P	**P**	**15 51 34.2**	**+1.7**
PESTR	**Estremoz**	**24.73**	**121**	*e*P	**P**	**15 51 34.9**	**+0.8**
	comp=Z,30nm,1.6s						
PESTR	**Estremoz**	**24.73**	**121**	*e*P	**P**	**15 51 34.9**	**+0.8**
	comp=Z,30nm,1.6s						
LFF	**La Frestale**	**24.94**	**100**	*e*P	**P**	**15 51 35.9**	**0.0**
	comp=Z,82nm,1.5s						
LFF	**La Frestale**	**24.94**	**100**	*e*P	**P**	**15 51 35.9**	**0.0**
LFF	**La Frestale**	**24.94**	**100**	*e*P	**P**	**15 51 35.9**	**0.0**
TCF	**Toulx Ste Croi**	**24.97**	**96**	*e*P	**P**	**15 51 36.0**	**-0.2**
	comp=Z,43nm,1.5s						
TCF	**Toulx Ste Croi**	**24.97**	**96**	*e*P	**P**	**15 51 36.0**	**-0.2**
TCF	**Toulx Ste Croi**	**24.97**	**96**	*e*P	**P**	**15 51 36.0**	**-0.2**
SJPF	**Ste Jean**	**25.01**	**105**	*e*P	**P**	**15 51 37.2**	**+0.6**
	comp=Z,36nm,1.2s						
SJPF	**Ste Jean**	**25.01**	**105**	*e*P	**P**	**15 51 37.2**	**+0.6**
SJPF	**Ste Jean**	**25.01**	**105**	*e*P	**P**	**15 51 37.2**	**+0.6**
RJF	**Les Rejaudoux**	**25.16**	**98**	*e*P	**P**	**15 51 37.5**	**-0.4**
	comp=Z,46nm,1.5s						
RJF				*e*R			
	comp=Z,574nm,21.5s						
RJF	**Les Rejaudoux**	**25.16**	**98**	*e*P	**P**	**15 51 37.5**	**-0.4**
RJF	**Les Rejaudoux**	**25.16**	**98**	*e*P	**P**	**15 51 37.5**	**-0.4**
BGF	**Bois d'Agland**	**25.18**	**95**	*e*P	**P**	**15 51 36.3**	**-1.8**
	comp=Z,19nm,1.0s						
BGF	**Bois d'Agland**	**25.18**	**95**	*e*P	**P**	**15 51 36.3**	**-1.8**
BGF	**Bois d'Agland**	**25.18**	**95**	*e*P	**P**	**15 51 36.3**	**-1.8**
SSF	**Saint Saulge**	**25.27**	**93**	*e*P	**P**	**15 51 40.0**	**+1.1**
	comp=Z,21nm,1.1s						
SSF	**Saint Saulge**	**25.27**	**93**	*e*P	**P**	**15 51 40.0**	**+1.1**
SSF	**Saint Saulge**	**25.27**	**93**	*e*P	**P**	**15 51 40.0**	**+1.1**
LOR	**Lormes**	**25.36**	**92**	*e*P	**P**	**15 51 38.2**	**-1.5**
	comp=Z,20nm,1.1s						
LOR				*e*R			
	comp=Z,512nm,19.0s						
LOR	**Lormes**	**25.36**	**92**	*e*P	**P**	**15 51 38.2**	**-1.5**
MEZF	**Maizieres J'vi**	**25.38**	**89**	*e*P	**P**	**15 51 39.5**	**-0.3**
MEZF	**Maizieres J'vi**	**25.38**	**89**	*e*P	**P**	**15 51 39.5**	**-0.3**
ETSF	**Etsaut**	**25.52**	**105**	*e*P	**P**	**15 51 41.1**	**-0.2**
ETSF	**Etsaut**	**25.52**	**105**	*e*P	**P**	**15 51 41.1**	**-0.2**
ETSF	**Etsaut**	**25.52**	**105**	*e*P	**P**	**15 51 41.1**	**-0.2**
SFTF	**Sexfontaines**	**25.52**	**90**	*e*P	**P**	**15 51 40.8**	**-0.4**
	comp=Z,33nm,1.2s						
SFTF	**Sexfontaines**	**25.52**	**90**	*e*P	**P**	**15 51 40.8**	**-0.4**
PBAR	**Barrancos**	**25.54**	**121**	*e*P	**P**	**15 51 42.4**	**+1.0**
	comp=Z,31nm,1.5s						
PBAR	**Barrancos**	**25.54**	**121**	*e*P	**P**	**15 51 42.4**	**+1.0**
	comp=Z,31nm,1.5s						
CAF	**Calviac**	**25.69**	**99**	*e*P	**P**	**15 51 42.4**	**-0.4**
CAF	**Calviac**	**25.69**	**99**	*e*P	**P**	**15 51 42.4**	**-0.4**
CAF	**Calviac**	**25.69**	**99**	*e*P	**P**	**15 51 42.4**	**-0.4**
PAB	**San Pablo**	**25.85**	**115**	*e*P	**P**	**15 51 44.2**	**-0.1**
PAB				pmax	pmax		
	comp=Z,11nm,1.2s						
PAB	**San Pablo**	**25.85**	**115**	*e*P	**P**	**15 51 44.1**	**-0.1**
	comp=Z,11nm,1.2s						
PAB	**San Pablo**	**25.85**	**115**	*e*P	**P**	**15 51 44.2**	**-0.1**
	comp=Z,11nm,1.2s						
EPF	**Esparros**	**25.93**	**104**	*e*P	**P**	**15 51 46.5**	**+1.5**
	comp=Z,17nm,1.1s						
EPF	**Esparros**	**25.93**	**104**	*e*P	**P**	**15 51 46.5**	**+1.5**
EPF	**Esparros**	**25.93**	**104**	*e*P	**P**	**15 51 46.5**	**+1.5**
EPF	**Esparros**	**25.93**	**104**	*e*P	**P**	**15 51 46.5**	**+1.5**
	comp=Z,8.4nm,1.1s						
ESDC	**Sonca Array**	**25.95**	**114**	P	**P**	**15 51 44.5**	**-0.7**
ESDC	**Sonseca Array**	**25.95**	**114**	P	**P**	**15 51 44.5**	**-0.7**
	comp=Z,4.2nm,1.0s,baz=318,slow=9.7,SNR=9.5						
ESDC	**Sonseca Array**	**25.95**	**114**	P	**P**	**15 51 44.5**	**-0.7**
CDF	**Champ du Feu**	**26.69**	**87**	*e*P	**P**	**15 51 51.4**	**-0.5**
CDF	**Champ du Feu**	**26.69**	**87**	*e*P	**P**	**15 51 51.4**	**-0.5**
CDF	**Champ du Feu**	**26.69**	**87**	*e*P	**P**	**15 51 51.4**	**-0.5**
CDF	**Champ du Feu**	**26.69**	**87**	*e*P	**P**	**15 51 51.4**	**-0.5**
CLL	**Collm**	**28.51**	**78**	*e*P	**P**	**15 52 07.0**	**-1.0**
CLL				pmax	pmax		
	comp=Z,5.0nm,1.2s						
CLL	**Collm**	**28.51**	**78**	*e*P	**P**	**15 52 07.0**	**-1.0**
	comp=Z,5.0nm,1.2s						
CLL	**Collm**	**28.51**	**78**	*e*P	**P**	**15 52 07.0**	**-1.0**
	comp=Z,5.0nm,1.2s						
NKC	**Novy Kostel**	**28.71**	**80**	*e*P	**P**	**15 52 10.2**	**+0.4**
NKC	**Novy Kostel**	**28.71**	**80**	*e*P	**P**	**15 52 10.2**	**+0.4**
NKC	**Novy Kostel**	**28.71**	**80**	*e*P	**P**	**15 52 10.2**	**+0.4**
RES	**Resolute Bay**	**29.75**	**332**	P	**P**	**15 52 19.4**	**+0.7**
RES	**Resolute Bay**	**29.75**	**332**	P	**P**	**15 52 19.4**	**+0.7**
KHC	**Kasperske Hory**	**29.90**	**82**	*e*P	**P**	**15 52 20.8**	**+0.4**
KHC	**Kasperske Hory**	**29.90**	**82**	*e*P	**P**	**15 52 20.8**	**+0.4**
KHC	**Kasperske Hory**	**29.90**	**82**	*e*P	**P**	**15 52 20.8**	**+0.4**
GERES	**GERESS Array B**	**30.11**	**82**	P	**P**	**15 52 23.6**	**+1.3**
GERES	**GERESS Array B**	**30.11**	**82**	P	**P**	**15 52 23.6**	**+1.3**
	comp=Z,2.6nm,1.1s,baz=295,slow=9.6,SNR=8.1						
GERES	**GERESS Array B**	**30.11**	**82**	P	**P**	**15 52 23.6**	**+1.3**
DPC	**Dobruska-Polom**	**30.82**	**78**	*e*P	**P**	**15 52 27.2**	**-1.3**
DPC				*e*		15 52 32.3	
DPC	**Dobruska-Polom**	**30.82**	**78**	*e*P	**P**	**15 52 29.0**	**+0.5**
	comp=Z,37nm,1.7s						
DPC	**Dobruska-Polom**	**30.82**	**78**	*e*P	**P**	**15 52 27.2**	**-1.3**
DPC				*ep*P	**pP**	**15 52 32.3**	**-0.6**
DPC	**Dobruska-Polom**	**30.82**	**78**	*e*P	**P**	**15 52 29.0**	**+0.5**
	comp=Z,37nm,1.7s						
MDT	**Midelt**	**31.02**	**124**	P	**P**	**15 52 30.2**	**-0.3**
MDT	**Midelt**	**31.02**	**124**	P	**P**	**15 52 30.2**	**-0.3**
	comp=Z,4.6nm,1.0s,baz=315,slow=10.0,SNR=3.2						
MDT	**Midelt**	**31.02**	**124**	P	**P**	**15 52 30.2**	**-0.3**
FINES	**FINESS Array B**	**31.49**	**54**	P	**P**	**15 52 35.5**	**+1.3**
FINES	**FINESS Array B**	**31.49**	**54**	P	**P**	**15 52 35.5**	**+1.3**
	comp=Z,2.8nm,0.8s,baz=297,slow=7.6,SNR=3.4						
FINES	**FINESS Array B**	**31.49**	**54**	P	**P**	**15 52 35.5**	**+1.3**
KEST	**Kesra**	**36.00**	**104**	P	**P**	**15 53 13.2**	**-0.7**
KEST	**Kesra**	**36.00**	**104**	P	**P**	**15 53 13.2**	**-0.7**
	comp=Z,1.6nm,1.1s,baz=11,slow=6.2,SNR=3.6						
KEST	**Kesra**	**36.00**	**104**	P	**P**	**15 53 13.1**	**-0.7**
ULM	**Lac du Bonnet**	**36.06**	**288**	P	**P**	**15 53 13.5**	**-0.6**
ULM	**Lac du Bonnet**	**36.06**	**288**	P	**P**	**15 53 13.5**	**-0.6**
	comp=Z,8.5nm,1.1s,baz=83,slow=13,SNR=6.5						
ULM	**Lac du Bonnet**	**36.06**	**288**	P	**P**	**15 53 13.5**	**-0.6**
FFC	**Flin Flon**	**36.97**	**297**	*e*P	**P**	**15 53 22.4**	**+0.6**
FFC				pmax	pmax		
	comp=Z,166nm,3.0s						
FFC	**Flin Flon**	**36.97**	**297**	*e*P	**P**	**15 53 22.4**	**+0.6**
	comp=Z,166nm,3.0s						
FFC	**Flin Flon**	**36.97**	**297**	*e*P	**P**	**15 53 22.4**	**+0.6**
	comp=Z,166nm,3.0s						
KIEV	**Kiev**	**37.68**	**70**	*e*P	**P**	**15 53 30.9**	**+3.1**
KIEV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIEV	**Kiev**	**37.68**	**70**	*e*P	**P**	**15 53 30.9**	**+3.1**
	comp=Z,9.2nm,1.0s						
KIEV	**Kiev**	**37.68**	**70**	*e*P	**P**	**15 53 30.9**	**+3.1**
	comp=Z,9.2nm,1.0s						
AKASG	**Malin Array Be**	**37.69**	**70**	P	**P**	**15 53 27.0**	**-0.9**
AKASG	**Malin Array Be**	**37.69**	**70**	P	**P**	**15 53 27.0**	**-0.9**
AKASG	**Malin Array Be**	**37.69**	**70**	P	**P**	**15 53 27.0**	**-0.9**
	comp=Z,4.6nm,0.8s,baz=301,slow=8.4,SNR=5.8						
AKASG	**Malin Array Be**	**37.69**	**70**	P	**P**	**15 53 27.0**	**-0.9**
KLMR	**Klimovskoe**	**37.76**	**50**	*e*P	**P**	**15 53 25.5**	**-2.8**
KLMR				pmax	pmax		
	comp=Z,40nm,1.5s						
YKA	**Yellowknife Ar**	**39.13**	**314**	P	**P**	**15 53 37.6**	**-2.2**
YKA				PcP	**PcP**	**15 55 46.8**	**-2.3**
YKA	**Yellowknife Ar**	**39.13**	**314**	P	**P**	**15 53 37.6**	**-2.2**
	comp=Z,3.1nm,0.9s,baz=60,slow=9.0,SNR=26						
YKA				PcP	**PcP**	**15 55 46.7**	**-2.3**
	comp=Z,0.6nm,0.8s,baz=53,slow=3.4,SNR=6.8						
OBN	**Obninsk**	**39.13**	**60**	*e*P	**P**	**15 53 40.4**	**+0.5**
OBN				*e*		15 55 08.3	
OBN				pmax	pmax		
	comp=Z,21nm,1.7s						
KIS	**Kishinev**	**39.58**	**75**	*e*P	P	15 53 40.0	-3.8
KIS	**Kishinev**

baz=46
A14A **Double T Ranch** 46.07 296 ⇑P P 15 54 37.3 +0.7
baz=46,SNR=6.5
F18A **Big Timber** 46.09 291 ⇓P P 15 54 37.8 +1.0
baz=46
H20A **Greybull** 46.09 288 ⇓P P 15 54 37.6 +0.9
baz=46
I21A **Big Trails, Te** 46.15 287 ⇓P P 15 54 38.1 +0.8
baz=46
D16A **Dana Ranch, Ca** 46.34 293 ⇑P P 15 54 39.6 +0.9
baz=46,SNR=6.6
E17A **Martinsdale** 46.34 292 ⇓P P 15 54 39.9 +1.1
baz=46
RLMT **Red Lodge** 46.36 290 ⇑P P 15 54 39.9 +0.9
baz=46,SNR=7.1
B14A **Marquette Ranc** 46.38 296 ⇑P P 15 54 39.2 +0.2
baz=46
G18A **Lazy EL Ranch,** 46.39 290 ⇑P P 15 54 40.2 +1.0
baz=46
C15A **Salmond Ranch,** 46.41 295 ⇓P P 15 54 39.5 +0.3
baz=46
H19A **Powell** 46.50 289 ⇑P P 15 54 40.5 +0.4
baz=46
I20A **Worland** 46.52 288 ⇑P P 15 54 40.1 0.0
baz=46
J21A **Lysite** 46.54 287 ⇓P P 15 54 40.6 +0.2
baz=46
F17A **Fitzpatrick Pl** 46.59 291 ⇑P P 15 54 40.5 -0.3
baz=46
A13A **Flathead Natio** 46.60 297 ⇑P P 15 54 41.0 +0.4
baz=46
E16A **East Helena** 46.72 293 ⇑P P 15 54 42.3 +0.6
baz=47,SNR=5.2
P26A **Davis Ranch, A** 46.82 280 ⇓P P 15 54 43.0 +0.3
baz=47
D15A **Lincoln** 46.84 294 ⇑P P 15 54 43.6 +1.0
baz=47,SNR=7.1
H18A **Shoshone NF, C** 46.87 290 ⇓P P 15 54 43.4 +0.4
baz=47
J20A **Shoshoni** 46.89 287 ⇓P P 15 54 43.5 +0.5
baz=47
K21A **Alcova** 46.91 286 ⇑P P 15 54 43.5 +0.2
baz=47
I19A **Meeteetse** 46.93 288 ⇓P P 15 54 44.1 +0.6
baz=47
BRTR **Keskin Array B** 46.95 80 P P 15 54 43.7 +0.1
BRTR **Keskin Array B** 46.95 80 P P 15 54 43.7 +0.1
comp=Z,2.4nm,0.9s,baz=287,slow=6.0,SNR=4.2
BRTR **Keskin Array B** 46.95 80 P P 15 54 43.7 +0.1
B13A **Whitefish** 46.98 296 ⇑P P 15 54 44.5 +0.8
baz=47
C14A **Swan Lake** 47.00 295 ⇓P P 15 54 44.4 +0.5
baz=47
G17A **Pierce Place,** 47.02 291 ⇑P P 15 54 44.7 +0.6
baz=47
F16A **Kennard Place,** 47.18 292 ⇓P P 15 54 45.7 +0.4
baz=47
BOZ **Bozeman (W)** 47.28 292 ⇓P P 15 54 46.4 +0.3
baz=47,SNR=6.3
SWMT **Swartz Lake** 47.30 295 *eP* P 15 54 45.8 -0.4
comp=Z,5.4nm,1.2s
SWMT **Swartz Lake** 47.30 295 *eP* P 15 54 45.8 -0.4
comp=Z,5.4nm,1.2s
N23A **Red Feather La** 47.36 283 ⇑P P 15 54 47.8 +0.8
baz=47
R27A **Eads** 47.40 278 ⇓P P 15 54 48.4 +1.3
baz=47
L21A **Rawlins** 47.42 285 ⇓P P 15 54 48.7 +1.3
baz=47
J19A **Crowheart** 47.47 288 ⇓P P 15 54 48.2 +0.6
baz=47
C13A **Hot Springs** 47.48 296 ⇑P P 15 54 48.2 +0.6
baz=47
K20A **Yellowstone Ra** 47.49 287 ⇓P P 15 54 48.3 +0.5
baz=47
B12A **Libby** 47.49 297 ⇓P P 15 54 48.6 +1.1
baz=47
H17A **Grant Village** 47.54 290 ⇑P P 15 54 50.5 +2.3
baz=47
I18A **Diamond G Ranc** 47.59 289 ⇑P P 15 54 50.3 +1.6
baz=47
LRM **Limekiln Ridge** 47.59 292 *eP* P 15 54 49.8 +1.1
comp=Z,24nm,1.0s
LRM **Limekiln Ridge** 47.59 292 *eP* P 15 54 49.8 +1.1
comp=Z,24nm,1.0s
F15A **Butte** 47.60 292 ⇑P P 15 54 49.6 +0.9
baz=47
G16A **Moss Hill, Enn** 47.64 291 ⇓P P 15 54 49.7 +0.7
baz=48
K19A **Absolon Red Bu** 47.65 287 ⇑P P 15 54 49.7 +0.6
baz=48
M21A **Separation Pea** 47.66 285 ⇓P P 15 54 49.9 +0.7
baz=48,SNR=6.1
H16A **Russell Place,** 47.70 291 ⇑P P 15 54 50.7 +1.3
baz=48
MSO **Missoula** 47.71 294 ⇑P P 15 54 49.7 +0.3
baz=48
E14A **Clinton** 47.75 294 ⇑P P 15 54 51.0 +1.3
baz=48
D13A **Huson** 47.81 295 ⇑P P 15 54 51.2 +1.1
baz=48
O23A **Lake Granby, G** 47.81 282 ⇓P P 15 54 51.4 +0.8
baz=48
I17A **Pilgrim Ck.** 47.86 289 ⇓P P 15 54 51.8 +1.1
baz=48
C12B **Naegeli Ranch,** 47.93 296 ⇑P P 15 54 51.9 +1.0
baz=48
ISCO **Idaho Springs** 47.93 282 ⇑P P 15 54 52.6 +1.2
baz=48
J18A **Kendall Valley** 48.03 288 ⇑P P 15 54 52.8 +0.7
baz=48
G15A **Dillon** 48.05 292 ⇓P P 15 54 53.5 +1.4
baz=48
BW06 **Boulder Array** 48.08 288 ⇑P P 15 54 52.5 0.0
baz=48
PDAR **Pinedale Array** 48.08 288 P P 15 54 50.2 -2.2
PDAR **Pinedale Array** 48.08 288 P P 15 54 50.2 -2.2
comp=Z,1.9nm,0.9s,baz=60,slow=4.9,SNR=9.5
PDAR **Pinedale Array** 48.08 288 P P 15 54 50.2 -2.2
E13A **Victor** 48.10 294 ⇓P P 15 54 52.9 +0.6
baz=48
M20A **Sweetwater, Wa** 48.20 285 ⇓P P 15 54 54.3 +1.0
baz=48
O22A **Kremmling** 48.20 283 ⇑P P 15 54 54.8 +1.3
baz=48
T27A **Campo** 48.21 277 ⇑P P 15 54 54.2 +0.8
baz=48
S26A **Kim** 48.24 278 ⇓P P 15 54 54.1 +0.5
baz=48
C11A **Tepee Creek (N** 48.24 297 ⇓P P 15 54 54.3 +0.9
baz=48
D12A **Red Ives Fores** 48.30 295 ⇓P P 15 54 54.7 +0.8
baz=48
NEW **Newport** 48.40 298 ⇓P P 15 54 55.2 +0.5
baz=48
L19A **Farson** 48.42 287 ⇑P P 15 54 55.9 +0.8
baz=48
K18A **Toltan Ranch,** 48.43 288 ⇓P P 15 54 55.9 +0.8
baz=48
ARU **Arti** 48.46 48*c iP* P 15 54 54.1 -0.8
ARU 15 56 43.2
ARU S S 16 01 52.3 -2.6
ARU pmax pmax
comp=Z,12nm,1.2s
ARU **Arti** 48.46 48 *eP* P 15 54 54.6 -0.3
comp=Z,9.6nm,1.0s
ARU **Arti** 48.46 48 *eP* P 15 54 54.6 -0.3
comp=Z,9.6nm,1.0s
G14A **Jackson** 48.51 293 ⇓P P 15 54 56.5 +0.7
baz=48
F13A **Darby** 48.60 294 ⇓P P 15 54 57.1 +0.8
baz=48
T26A **Comanche Natio** 48.62 278 ⇑P P 15 54 58.3 +1.7
baz=48
O21A **Pagoda** 48.67 284 ⇓P P 15 54 58.5 +1.4
baz=48
N20A **Spence Gulch,** 48.69 285 ⇓P P 15 54 58.2 +1.1
baz=48
P22A **Eagle** 48.71 282 ⇑P P 15 54 58.6 +1.3
baz=49
R24A **Sanders Place,** 48.73 280 ⇓P P 15 54 58.9 +1.4
baz=49
E12A **Beaver Dam Sad** 48.83 295 ⇑P P 15 54 59.1 +1.0
baz=49
J16A **Bone** 48.85 289 ⇑P P 15 54 59.3 +1.0
baz=49
L18A **Fontenelle, Gr** 48.91 287 ⇑P P 15 54 59.4 +0.5
baz=49

G13A **Cobalt** 49.02 293 ⇑P P 15 55 00.3 +0.8
baz=49,SNR=9.4
KIV **Kislovodsk** 49.03 69 *eP* P 15 55 00.9 +1.3
KIV pmax pmax
comp=Z,7.0nm,1.3s
KIV MLR MLR
comp=Z,100nm,16.0s
SVE **Sverdlovsk** 49.06 46 *eP* P 15 55 00.9 +1.4
SVE pmax pmax
comp=Z,12nm,1.2s
F12A **Elk City** 49.11 294 ⇑P P 15 55 00.9 +0.7
baz=49
T25A **Trinidad** 49.11 278 ⇓P P 15 55 01.7 +1.2
baz=49
P21A **Newcastle** 49.14 283 ⇑P P 15 55 01.2 +0.6
baz=49,SNR=5.3
N19A **John Jarvie Ra** 49.15 285 ⇓P P 15 55 01.6 +1.0
baz=49
R23A **Moffat** 49.17 280 ⇑P P 15 55 02.5 +1.6
baz=49
AMTX **Amarillo** 49.17 274 *eP* P 15 55 02.5 +1.7
AMTX **Amarillo** 49.17 274 ⇑P P 15 55 02.2 +1.4
baz=49
AMTX **Amarillo** 49.17 274 *eP* P 15 55 02.5 +1.7
J15A **Blackfoot** 49.20 290 ⇓P P 15 55 02.8 +1.8
baz=49
U26A **Atchley Ranch,** 49.26 277 ⇑P P 15 55 03.0 +1.4
baz=49
SDCO **Great Sand Dun** 49.30 280 ⇑P P 15 55 03.3 +1.3
baz=49
ILAR **Eielson Array** 49.34 328 P P 15 55 00.6 -1.0
ILAR **Eielson Array** 49.34 328 P P 15 55 00.6 -1.0
comp=Z,4.9nm,1.0s,baz=38,slow=5.7,SNR=28
ILAR **Eielson Array** 49.34 328 P P 15 55 00.6 -1.0
H13A **Challis** 49.38 292 ⇓P P 15 55 02.7 +0.3
baz=49,SNR=6.3
I14A **Mackay** 49.39 291 ⇑P P 15 55 03.6 +1.2
baz=49
T24A **Torres, Weston** 49.52 279 ⇑P P 15 55 04.6 +1.0
baz=49
O19A **Miners Draw (B** 49.53 285 ⇑P P 15 55 04.2 +0.7
baz=49,SNR=6.4
COLA **College** 49.55 329 *eP* P 15 55 03.7 +0.6
COLA pmax pmax
comp=Z,9.0nm,1.0s
COLA **College** 49.55 329 *eP* P 15 55 03.7 +0.6
comp=Z,8.5nm,1.0s
COLA **College** 49.55 329 *eP* P 15 55 03.7 +0.6
comp=Z,8.5nm,1.0s
G12A **Big Creek, Yel** 49.56 294 ⇓P P 15 55 04.6 +0.9
baz=49
M17A **Scullys Gap (B** 49.56 287 ⇓P P 15 55 04.5 +0.7
baz=49
U25A **Circle Dot Ran** 49.63 278 ⇑P P 15 55 06.1 +1.7
baz=50
R22A **Saguache, Gunn** 49.66 281 ⇓P P 15 55 06.0 +1.3
baz=50
ABTX **Abilene, Hawle** 49.66 271 ⇓P P 15 55 06.0 +1.6
baz=50
Q21A **Lamborn Mesa,** 49.69 282 ⇑P P 15 55 06.1 +1.2
baz=50
H12A **Diamond D Ranc** 49.71 293 ⇑P P 15 55 05.9 +1.0
baz=50
I13A **Wildhorse Cree** 49.75 292 ⇑P P 15 55 06.1 +0.9
baz=50,SNR=5.8
W27A **Bowe Ranch, En** 49.83 276 ⇓P P 15 55 08.1 +2.2
baz=50
J14A **Carey** 49.84 291 ⇓P P 15 55 06.7 +0.9
baz=50
Y29A **Porterfield Fa** 49.91 273 ⇑P P 15 55 07.2 +0.7
baz=50
P19A **Cripple Cowboy** 49.91 284 ⇑P P 15 55 06.9 +0.4
baz=50
HWUT **Hardware Ranch** 49.96 288 *eP* P 15 55 07.9 +1.1
comp=Z,5.5nm,1.0s
HWUT **Hardware Ranch** 49.96 288 *eP* P 15 55 07.9 +1.1
comp=Z,5.5nm,1.0s
Q20A **Ridgley Place,** 50.01 283 ⇑P P 15 55 08.2 +1.0
baz=50
N17A **Moffit Pass** 50.02 287 ⇑P P 15 55 07.8 +0.4
baz=50
O18A **Roosevelt** 50.04 285 ⇑P P 15 55 08.6 +1.2
baz=50
S22A **4UR Ranch, Cre** 50.04 281 ⇓P P 15 55 08.2 +0.6
baz=50
L15A **Malad City** 50.13 289 ⇑P P 15 55 08.8 +0.7
baz=50
J13A **Cove Ranch, Pi** 50.13 291 ⇑P P 15 55 08.9 +0.9
baz=50
HLID **Hailey** 50.15 291 *eP* P 15 55 10.1 +1.9
HLID **Hailey** 50.15 291 ⇑P P 15 55 08.8 +0.6
baz=50,SNR=5.1
HLID **Hailey** 50.15 291 *eP* P 15 55 10.1 +1.9
V25A **Rancho No Teng** 50.15 277 ⇓P P 15 55 09.3 +0.9
baz=50
K14A **Jones Ranch, D** 50.19 290 ⇓P P 15 55 10.0 +1.6
baz=50
I12A **Atlanta** 50.37 292 ⇓P P 15 55 11.1 +1.2
baz=50
N16A **Rees Ranch, Co** 50.39 287 ⇓P P 15 55 11.3 +1.2
baz=50
MSTX **Muleshoe** 50.46 274 ⇓P P 15 55 11.1 +0.6
baz=50
W25A **X Bar L Ranch,** 50.51 277 ⇓P P 15 55 12.1 +1.0
baz=50
M15A **Larsen Ranch,** 50.54 288 ⇓P P 15 55 11.6 +0.5
baz=50,SNR=5.4
R20A **Redvale** 50.59 282 ⇑P P 15 55 12.6 +0.9
baz=50
T22A **Edith** 50.60 280 ⇑P P 15 55 13.3 +1.5
baz=50
P18A **Preston Nutter** 50.62 285 ⇓P P 15 55 12.6 +0.7
baz=50
S21A **Coal Bank Pass** 50.64 281 ⇓P P 15 55 12.3 +0.2
baz=50,SNR=6.2
Y27A **Causey** 50.74 275 ⇓P P 15 55 14.0 +1.3
baz=51
BMO **Blue Mountains** 50.78 295 *eP* P 15 55 13.2 +0.3
comp=Z,8.2nm,1.8s
BMO **Blue Mountains** 50.78 295 *eP* P 15 55 13.2 +0.3
comp=Z,8.2nm,1.8s
PV10 **Paradox Valley** 50.83 283 *eP* P 15 55 15.6 +2.1
PV10 **Paradox Valley** 50.83 283 *eP* P 15 55 15.6 +2.1
TORD **Torodi Ar. Bea** 50.91 131 P P 15 55 12.1 -1.9
TORD **Torodi Ar. Bea** 50.91 131 P P 15 55 12.1 -1.9
comp=Z,5.0nm,1.0s,baz=336,slow=7.8,SNR=11
TORD **Torodi Ar. Bea** 50.91 131 P P 15 55 12.1 -1.9
Q18A **Rafter H Ranch** 50.92 284 ⇓P P 15 55 15.3 +1.3
baz=51
R19A **Curley Farm, L** 51.01 283 ⇑P P 15 55 14.9 +0.1
baz=51
U22A **Llaves** 51.03 280 ⇓P P 15 55 16.2 +1.2
baz=51
W24A **Lazy 6 Ranch,** 51.05 277 ⇓P P 15 55 16.0 +0.8
baz=51,SNR=5.3
Z27A **Tatum** 51.19 274 ⇓P P 15 55 16.5 +0.5
baz=51
R18A **Canyonlands Na** 51.30 284 ⇑P P 15 55 17.0 +0.1
baz=51,SNR=6.7
S19A **Harvey Farm, M** 51.33 282 ⇓P P 15 55 18.2 +1.0
baz=51
TRF **Thorofare Moun** 51.33 329 *eP* P 15 55 17.6 +0.8
comp=Z,110nm,2.1s
TRF **Thorofare Moun** 51.33 329 *eP* P 15 55 17.6 +0.8
comp=Z,110nm,2.1s
JCT **Junction City** 51.34 269 *eP* P 15 55 17.9 +0.7
JCT pmax pmax
comp=Z,13nm,1.1s
JCT **Junction City** 51.34 269 *eP* P 15 55 17.9 +0.7
comp=Z,12nm,1.1s
JCT **Junction City** 51.34 269 ⇓P P 15 55 18.1 +0.9
baz=51
JCT **Junction City** 51.34 269 *eP* P 15 55 17.9 +0.7
comp=Z,12nm,1.1s
MVCO **Mesa Verde** 51.35 282 ⇓P P 15 55 18.7 +1.3
baz=51
V22A **San Miguel Ran** 51.39 279 ⇓P P 15 55 18.5 +0.7
baz=51
Y25A **Mesa, Roswell** 51.58 276 ⇓P P 15 55 20.7 +1.6
baz=51
DUG **Dugway** 51.62 287 ⇑P P 15 55 20.1 +0.8
baz=52
Q16A **Castle Valley** 51.62 285 ⇑P P 15 55 20.2 +0.8
baz=52
431A **Sonora** 51.65 270 ⇑P P 15 55 20.9 +1.4
baz=52
Z26A **Caprock** 51.65 275 ⇑P P 15 55 21.4 +1.8
baz=52

532A **Rocksprings** 51.66 269 ⇓P P 15 55 21.5 +1.9
baz=52
R17A **Hanksville Air** 51.72 284 ⇑P P 15 55 21.2 +1.2
baz=52
329A **Wagon Wheel Ra** 51.83 272 ⇑P P 15 55 22.1 +1.3
baz=52
S18A **Hurst Farm, Bl** 51.84 283 ⇓P P 15 55 21.4 +0.3
baz=52,SNR=8.6
T19A **Beclabito** 51.92 282 ⇑P P 15 55 22.9 +1.3
baz=52
Y24A **Capitan** 52.00 276 ⇑P P 15 55 23.0 +0.8
baz=52
531A **Rocksprings** 52.00 269 ⇓P P 15 55 23.3 +1.1
baz=52
Z25A **Roswell** 52.07 275 ⇑P P 15 55 23.7 +1.0
baz=52
126A **Clayton Basin,** 52.14 274 ⇓P P 15 55 24.7 +1.5
baz=52
T18A **Mexican Hat** 52.17 282 ⇓P P 15 55 24.3 +0.9
baz=52
R16A **Teasdale** 52.25 285 ⇑P P 15 55 25.2 +1.1
baz=52
AKTO **Aktyubinsk** 52.26 54 P P 15 55 23.2 -0.6
AKTO **Aktyubinsk** 52.26 54 P P 15 55 23.1 -0.6
AKTO **Aktyubinsk** 52.26 54 P P 15 55 23.1 -0.6
comp=Z,7.6nm,1.0s,baz=296,slow=8.2,SNR=7.1
AKTO **Aktyubinsk** 52.26 54 P P 15 55 23.1 -0.6
S17A **Black Ridge (B** 52.33 284 ⇑P P 15 55 26.2 +1.6
baz=52
Y23A **Lovelace Mesa,** 52.35 277 ⇓P P 15 55 26.3 +1.5
baz=52
V20A **Brimhall** 52.35 280 ⇑P P 15 55 26.5 +1.6
baz=52
328A **Wristen Ranch,** 52.38 272 ⇑P P 15 55 25.5 +0.5
baz=52
Z24A **Sheeppen Canyo** 52.40 276 ⇓P P 15 55 26.8 +1.5
baz=52
U19A **Dine' College,** 52.41 281 ⇑P P 15 55 26.6 +1.3
baz=52
429A **Davenport Ranc** 52.42 271 ⇑P P 15 55 25.7 +0.4
baz=52
125A **Gardner Draw,** 52.49 275 ⇓P P 15 55 26.9 +1.1
baz=52
ELK **Elko** 52.55 289 *eP* P 15 55 28.3 +2.0
ELK **Elko** 52.55 289 *eP* P 15 55 28.3 +2.0
S16A **Weppner Ranch,** 52.71 284 ⇓P P 15 55 29.0 +1.5
baz=52
732A **Laxson Ranch,** 52.76 268 ⇓P P 15 55 28.4 +0.7
baz=53
GNI **Garni** 52.77 71 P P 15 55 29.7 +1.8
GNI **Garni** 52.77 71 P P 15 55 29.7 +1.8
comp=Z,2.6nm,0.4s,baz=342,slow=20,SNR=5.8
GNI **Garni** 52.77 71 P P 15 55 29.7 +1.8
T17A **Navajo Res., N** 52.79 283 ⇑P P 15 55 28.9 +0.8
baz=53
Y22A **Socorro** 52.86 278 ⇑P P 15 55 29.7 +1.1
baz=53
X21A **Alamocita Cree** 52.95 279 ⇑P P 15 55 31.1 +1.8
baz=53
529A **Stev Forest Ra** 52.99 271 ⇑P P 15 55 30.7 +1.2
baz=53
225A **Deer Hill, Car** 52.99 274 ⇑P P 15 55 30.6 +1.0
baz=53
326A **Caldwell Ranch** 53.10 273 ⇓P P 15 55 31.1 +0.8
baz=53
427A **Hayter Ranch,** 53.12 272 ⇑P P 15 55 31.3 +0.9
baz=53
Y21A **Point of Rocks** 53.21 278 ⇑P P 15 55 32.8 +1.5
baz=53
Z22A **Elephant Butte** 53.36 277 ⇓P P 15 55 33.0 +0.7
baz=53
224A **Cornudas Mount** 53.41 275 ⇑P P 15 55 32.8 +0.2
baz=53,SNR=6.6
426A **McDonald Obser** 53.61 273 ⇓P P 15 55 34.0 -0.2
baz=54,SNR=6.4
MNTX **Cornudas Mount** 53.61 274 *eP* P 15 55 34.6 +0.6
comp=Z,4.7nm,1.3s
MNTX **Cornudas Mount** 53.61 274 ⇓P P 15 55 34.2 +0.2
baz=54
MNTX **Cornudas Mount** 53.61 274 *eP* P 15 55 34.6 +0.6
comp=Z,4.7nm,1.3s
628A **Black Gap, Mar** 53.85 271 ⇑P P 15 55 36.8 +1.0
baz=54
ABKAR **Akbulak array** 53.98 54 *eP* P 15 55 37.3 +1.0
ABKAR **Akbulak array** 53.98 54 *eP* P 15 55 37.3 +1.0
U15A **North Rim** 54.03 284 ⇑P P 15 55 37.5 +0.2
baz=54
627A **Terlingua Ranc** 54.16 271 ⇓P P 15 55 38.6 +0.5
baz=54,SNR=6.9
WUAZ **Wupatki** 54.18 282 ⇓P P 15 55 38.8 +0.5
baz=54
R11A **Troy Canyon, C** 54.45 288 ⇓P P 15 55 41.3 +1.1
baz=54
LIC **Lamto** 54.61 142 *eP* P 15 55 41.0 -0.4
comp=Z,30nm,1.1s
LIC **Lamto** 54.61 142 *eP* P 15 55 41.0 -0.4
LIC **Lamto** 54.61 142 *eP* P 15 55 41.0 -0.4
comp=Z,15nm,1.1s
X16A **Lo Mia Camp, P** 55.02 281 ⇑P P 15 55 45.8 +1.4
baz=55
220A **Playas Peak, P** 55.24 277 ⇓P P 15 55 47.5 +1.5
baz=55
BRVK **Borovoye** 55.66 45 *eP* P 15 55 48.4 -0.1
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BRVK **Borovoye** 55.66 45 *eP* P 15 55 49.0 +0.5
comp=Z,7.4nm,1.2s
BRVK **Borovoye** 55.66 45 *eP* P 15 55 49.0 +0.5
comp=Z,7.4nm,1.2s
320A **Kipp Ranch, An** 55.66 277 ⇑P P 15 55 50.3 +1.3
baz=56
BILL **Bilibino** 55.84 350 *eP* P 15 55 48.1 -1.5
BILL *e* 15 56 43.9
BILL pmax pmax
comp=Z,5.0nm,1.4s
NVAR **Mina Array Bea** 55.86 290 P P 15 55 48.9 -1.5
NVAR **Mina Array Bea** 55.86 290 P P 15 55 48.9 -1.5
comp=Z,0.4nm,0.5s,baz=67,slow=8.1,SNR=3.8
NVAR **Mina Array Bea** 55.86 290 P P 15 55 48.9 -1.5
WCN **Washoe City** 56.00 291 ⇓P P 15 55 52.4 +1.1
baz=56
Z14A **Wintersburg** 56.64 282 ⇑P P 15 55 56.8 +1.0
baz=56
GMRC **Granite Mounta** 57.10 285 ⇑P P 15 56 00.0 +0.9
baz=57
MPMC **Manual Prospec** 57.15 287 ⇓P P 15 56 01.1 +1.5
baz=57
Y12C **Blythe** 57.23 283 ⇑P P 15 56 01.7 +1.7
baz=57
GSC **Goldstone** 57.34 286 ⇑P P 15 56 02.4 +1.5
baz=57
214A **Organ Pipe Nat** 57.62 280 ⇑P P 15 56 04.3 +1.6
baz=58
LRMC **Laurel Mountai** 57.69 287 ⇓P P 15 56 04.5 +1.2
baz=58
BC3 **Big Chuckawall** 57.82 284 ⇑P P 15 56 05.9 +1.6
baz=58
BELC **Belle Mtn. Jos** 57.86 284 ⇑P P 15 56 05.9 +1.3
baz=58
GLA **Glamis** 57.92 283 ⇑P P 15 56 06.6 +1.7
baz=58
EDW2 **Edwards Air Fo** 58.30 286 ⇓P P 15 56 09.3 +1.7
baz=58
PFO **Pinyon Flat Ob** 58.41 284 *eP* P 15 56 08.0 -0.4
comp=Z,9.4nm,1.1s
PFO **Pinyon Flat Ob** 58.41 284 ⇓P P 15 56 10.3 +1.9
baz=58
PFO **Pinyon Flat Ob** 58.41 284 *eP* P 15 56 08.0 -0.4
comp=Z,9.4nm,1.1s
MURC **Murrieta** 58.83 285 ⇑P P 15 56 12.6 +1.4
baz=59
MONP **Monument Peak** 58.93 284 ⇓P P 15 56 14.1 +2.0
baz=59
PASC **Pasadena Art C** 58.94 286 *eP* P 15 56 12.6 +0.7
PASC **Pasadena Art C** 58.94 286 *eP* P 15 56 12.6 +0.7
NVS **Novosibirsk** 59.08 36 *eP* P 15 56 10.1 -2.4
NVS pmax pmax
comp=N,3.0nm,1.3s
NVS pmax pmax
comp=Z,10.0nm,1.3s
NVS pmax pmax
comp=E,5.0nm,1.6s
ROSC **El Rosal** 59.41 227 P P 15 56 16.6 +0.8
ROSC **El Rosal** 59.41 227 P P 15 56 16.6 +0.8
comp=E,13nm,0.8s,baz=284,slow=23,SNR=5.6
ROSC **El Rosal** 59.41 227 P P 15 56 16.6 +0.8
ZALV **Zalesovo Beam** 60.34 36 P P 15 56 20.9 -0.4

ZALV	**Zalesovo Beam**	**60.34**	**36**	P		**P**		**15 56 20.9**	**-0.4**
ZALV	**Zalesovo Beam**	**60.34**	**36**	P		**P**		**15 56 20.9**	**-0.4**
	comp=E,0.4nm,0.6s,baz=302,slow=8.3,SNR=2.7								
ZALV	**Zalesovo Beam**	**60.34**	**36**	P		**P**		**15 56 20.9**	**-0.4**
KURK	**Kurchatov**	**60.75**	**42**	*e*P		**P**		**15 56 23.1**	**-1.0**
KURK					pmax	pmax			
	comp=Z,7.0nm,1.2s								
KURK	**Kurchatov**	**60.75**	**42**	*e*P		**P**		**15 56 24.1**	**0.0**
	comp=Z,4.4nm,0.9s								
KURK	**Kurchatov**	**60.75**	**42**	*e*P		**P**		**15 56 24.1**	**0.0**
	comp=Z,4.4nm,0.9s								
EKS2	**Erkin-Say**	**65.23**	**50**	*e*P		**P**		**15 56 56.3**	**+2.1**
EKS2					pmax	pmax			
	comp=Z,12nm,1.0s								
EKS2	**Erkin-Say**	**65.23**	**50**	*e*P		**P**		**15 56 56.3**	**+2.1**
	comp=Z,12nm,1.0s								
EKS2	**Erkin-Say**	**65.23**	**50**	*e*P		**P**		**15 56 56.3**	**+2.1**
	comp=Z,12nm,1.0s								
OTAV	**Otavalo**	**65.31**	**229**	*e*P		**P**		**15 56 56.7**	**+1.3**
	comp=Z,5.5nm,1.1s								
OTAV	**Otavalo**	**65.31**	**229**	*e*P		**P**		**15 56 56.7**	**+1.3**
	comp=Z,5.5nm,1.1s								
MKAR	**Makanchi Array**	**65.35**	**42**	P		**P**		**15 56 53.8**	**-1.0**
MKAR	**Makanchi Array**	**65.35**	**42**	P		**P**		**15 56 53.8**	**-1.0**
MKAR	**Makanchi Array**	**65.35**	**42**	P		**P**		**15 56 53.8**	**-1.0**
	comp=Z,4.3nm,1.0s,baz=342,slow=5.0,SNR=15								
MKAR	**Makanchi Array**	**65.35**	**42**	P		**P**		**15 56 53.8**	**-1.0**
AAK	**Ala-Archa**	**65.56**	**50**	⇓ *i* P		**P**		**15 56 56.4**	**0.0**
AAK					pmax	pmax			
	comp=Z,26nm,1.7s								
AAK	**Ala-Archa**	**65.56**	**50**	*e*P		**P**		**15 56 57.6**	**+1.2**
	comp=Z,57nm,1.5s								
AAK	**Ala-Archa**	**65.56**	**50**	*e*P		**P**		**15 56 57.6**	**+1.2**
	comp=Z,57nm,1.5s								
KSH	**Kashi**	**68.75**	**51**	P		**P**		**15 57 18.1**	**+1.5**
KSH				pP		**pP**		**15 57 22.3**	**+1.0**
KSH				sP		**sP**		**15 57 25.1**	**+2.1**
KSH				PcP		**PcP**		**15 57 43.3**	**+2.0**
KSH				PP		**PP**		**15 59 51.6**	**+3.7**
KSH				ScP				16 01 44.6	
KSH				S		**S**		**16 06 18.1**	**-1.3**
KSH				sS		**sS**		**16 06 26.4**	**-0.7**
KSH				ScS		**SKSac**		**16 07 12.8**	**-2.7**
KSH				pmax	pmax				
	comp=Z,16nm,1.4s								
KSH				pmax	pmax				
	comp=Z,97nm,3.4s								
KSH				LR	LR				
	comp=N,110nm,5.9s								
KSH				LR	LR				
	comp=E,120nm,4.9s								
KSH				LR	LR				
	comp=Z,280nm,7.0s								
BDFB	**Brasilia**	**71.64**	**193**	P		**P**		**15 57 34.1**	**-0.2**
BDFB	**Brasilia**	**71.64**	**193**	P		**P**		**15 57 34.1**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=37,slow=10,SNR=2.5								
BDFB	**Brasilia**	**71.64**	**193**	P		**P**		**15 57 34.1**	**-0.2**
SONM	**Songino Array**	**72.14**	**26**	P		**P**		**15 57 39.2**	**+2.0**
SONM	**Songino Array**	**72.14**	**26**	P		**P**		**15 57 39.2**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=324,slow=7.1,SNR=3.2								
SONM	**Songino Array**	**72.14**	**26**	P		**P**		**15 57 39.2**	**+2.0**
LPAZ	**La Paz**	**76.72**	**213**	P		**P**		**15 58 02.9**	**-1.7**
LPAZ	**La Paz**	**76.72**	**213**	P		**P**		**15 58 02.9**	**-1.7**
	comp=Z,2.9nm,1.1s,baz=356,slow=5.0,SNR=4.2								
LPAZ	**La Paz**	**76.72**	**213**	P		**P**		**15 58 02.9**	**-1.7**
MDJ	**Mudanjiang**	**79.48**	**11**	P		**P**		**15 58 16.9**	**-2.1**
MDJ				pmax	pmax				
	comp=Z,260nm,5.4s								
CN2	**Changchun**	**79.77**	**14**	*e*P		**P**		**15 58 20.1**	**-0.5**
HHC	**Hu-ho-hao-te**	**79.97**	**25**	*e*P		**P**		**15 58 21.5**	**-0.4**
HHC				sP		**sP**		**15 58 27.5**	**-0.8**
HHC				PP		**PP**		**16 01 23.5**	**+0.7**
HHC				S		**S**		**16 08 22.1**	**-3.0**
HHC				sS		**sS**		**16 08 29.6**	**-3.3**
HHC				ScS		**SKKSac**		**16 08 41.5**	**+1.1**
HHC				pmax	pmax				
	comp=Z,8.0nm,0.7s								
HHC				pmax	pmax				
	comp=Z,120nm,5.4s								
HHC				LR	LR				
	comp=N,460nm,16.6s								
HHC				LR	LR				
	comp=E,400nm,17.8s								
HHC				LR	LR				
	comp=Z,110nm,17.8s								
BJI	**Beijing**	**81.79**	**22**	P		**P**		**15 58 30.5**	**-0.9**
BJI				pmax	pmax				
	comp=Z,11nm,0.8s								
LZH	**Lanzhou**	**82.31**	**32**	*e*P		**P**		**15 58 35.0**	**+0.5**
LZH				pP		**pP**		**15 58 39.0**	**-0.2**
LZH				sP		**sP**		**15 58 41.9**	**+1.0**
LZH				pmax	pmax				
	comp=Z,16nm,1.3s								
CPUP	**Villa Florida**	**83.63**	**200**	P		**P**		**15 58 41.5**	**+0.6**
CPUP	**Villa Florida**	**83.63**	**200**	P		**P**		**15 58 41.5**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=350,slow=6.1,SNR=3.6								
CPUP	**Villa Florida**	**83.63**	**200**	P		**P**		**15 58 41.5**	**+0.6**
NJ2	**Nanjing**	**90.05**	**22**	*e*P		**P**		**15 59 11.6**	**-0.8**
NJ2				pmax	pmax				
	comp=Z,20nm,0.8s								
KMI	**Kunming**	**92.06**	**38**	P		**P**		**15 59 22.8**	**+0.6**
KMI				pP		**pP**		**15 59 26.0**	**-1.0**
KMI				sP		**sP**		**15 59 28.0**	**-0.7**
KMI				pmax	pmax				
	comp=Z,4.0nm,0.9s								
GYA	**Guiyang**	**92.12**	**34**	P		**P**		**15 59 21.0**	**-1.3**
GYA				PP		**PP**		**16 03 03.3**	**+1.9**
GYA				SKS		**SKSac**		**16 09 54.5**	**-0.6**
GYA				S		**S**		**16 10 20.8**	**-3.5**
GYA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
GYA				pmax	pmax				
	comp=Z,70nm,5.8s								
CMAR	**Chiang Mai Arr**	**96.74**	**43**	P		**P**		**15 59 45.2**	**+1.8**
CMAR	**Chiang Mai Arr**	**96.74**	**43**	P		**P**		**15 59 45.2**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=329,slow=6.8,SNR=4.3								
CMAR	**Chiang Mai Arr**	**96.74**	**43**	P		**P**		**15 59 45.2**	**+1.8**
WRA	**Warramunga Arr**	**143.68**	**17**	PKP		PKPbc		16 05 45.9	+0.8
WRA	**Warramunga Arr**	**143.68**	**17**	PKP		PKPbc		16 05 45.9	+0.8
	comp=Z,0.6nm,0.8s,baz=342,slow=2.4,SNR=5.9								
WRA	**Warramunga Arr**	**143.68**	**17**	PKIKP		PKPbc		16 05 45.9	+0.8
QSPA	**South Pole Qui**	**145.32**	**180**	PKPbc		**PKPbc**		**16 05 47.0**	**-2.1**
QSPA				*e*PKPdf		**PKPdf**		**16 05 47.7**	**-1.5**
QSPA	**South Pole Qui**	**145.32**	**180**	PKPbc		**PKPbc**		**16 05 47.0**	**-2.1**
	comp=Z,9.0nm,0.9s,baz=180,slow=2.9,SNR=13								
ASAR	**Alice Springs**	**147.24**	**19**	PKPbc		**PKPdf**		**16 05 54.2**	**+0.5**
ASAR	**Alice Springs**	**147.24**	**19**	PKPbc		**PKPdf**		**16 05 54.2**	**+0.5**
	comp=Z,8.7nm,1.1s,baz=347,slow=2.2,SNR=20								
ASAR	**Alice Springs**	**147.24**	**19**	PKPbc		**PKPdf**		**16 05 54.2**	**+0.5**

IDC 21 15:49:55.1±6.1, 7°98S×120°82E, h43km±56km, mb2.8/2, mb1 3.2/4, mb1mx3.1/21, mbtmp3.1/4, ML3.1/2, Error ellipse: s-maj=202.3km s-min=16.6km az=59.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KAPI	**Kappang**	**3.13**	**340**	P		Pn	15 50 42.6	+0.6
	2.0nm,0.3s,baz=181,slow=5.6,SNR=5.9							
KAPI				S		Sn	15 51 18.4	+0.3
	9.5nm,0.3s,baz=43,slow=22,SNR=16							
WRA	**Warramunga Arr**	**24.39**	**164**	P		P	15 56 59.7	0.0
	0.1nm,0.3s,baz=309,slow=12,SNR=12							
ASAR	**Alice Springs**	**20.02**	**143**	P		P	15 54 24.6	+0.1
	0.2nm,0.4s,baz=317,slow=11,SNR=18							
MKAR	**Makanchi Array**	**64.39**	**332**	P		P	16 00 26.8	0.0
	0.2nm,0.6s,baz=149,slow=7.8,SNR=2.7							

IDC 21 15:51:39.5±9.4, 3°58N×127°25E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.4/21, mbtmp3.6/3, Error ellipse: s-maj=232.8km s-min=151.5km az=78.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.39**	**164**	P		P	15 56 59.7	0.0
	0.5nm,0.6s,baz=344,slow=9.8,SNR=8.3							
ASAR	**Alice Springs**	**27.84**	**167**	P		P	15 57 30.6	-0.4
	0.3nm,0.8s,baz=352,slow=9.9,SNR=6.2							
STKA	**Stephens Creek**	**37.81**	**160**	P		P	15 58 58.1	+0.3
	0.7nm,0.6s,baz=315,slow=10.0,SNR=2.8							

IDC 21 15:55:25.9±1.1, 55°39N×35°09W, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/31, mbtmp3.6/8, ML2.5/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/43, Error ellipse: s-maj=41.2km s-min=19.5km az=17.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SCHQ	**Schefferville**	**18.09**	**281**	P		Pn	15 59 37.7	-0.7
	0.2nm,0.3s,baz=78,slow=9.3,SNR=4.6							
SCHQ				LR		LR	16 04 49.6	
	comp=Z,120nm,19.9s,baz=27,slow=31							
DAVOX	**Davos/Dischmat**	**29.07**	**88**	LR		LR	16 11 44.3	
	comp=Z,135nm,18.2s,baz=78,slow=34							
ULM	**Lac du Bonnet**	**36.06**	**288**	LR		LR	16 14 42.3	
	comp=Z,66nm,19.5s,baz=339,slow=32							
YKA	**Yellowknife Ar**	**39.15**	**314**	P		P	16 02 54.3	-0.4
	0.4nm,0.7s,baz=60,slow=9.0,SNR=6.1							
BRTR	**Keskin Array B**	**46.97**	**79**	P		P	16 03 59.1	+0.7
	1.2nm,0.8s,baz=328,slow=5.4,SNR=4.1							
PDAR	**Pinedale Array**	**48.08**	**288**	P		P	16 04 07.5	+0.3
	0.5nm,0.9s,baz=79,slow=7.7,SNR=3.9							
ILAR	**Eielson Array**	**49.37**	**328**	P		P	16 04 16.4	0.0
	0.4nm,0.7s,baz=40,slow=5.8,SNR=11							
TORD	**Torodi Ar. Bea**	**50.89**	**131**	P		P	16 04 28.2	-0.4
	0.6nm,0.9s,baz=333,slow=8.5,SNR=6.0							
NVAR	**Mina Array Bea**	**55.86**	**290**	P		P	16 05 05.4	+0.2
	0.1nm,0.3s,baz=46,slow=6.4,SNR=2.8							
MKAR	**Makanchi Array**	**65.39**	**42**	P		P	16 06 09.6	-0.3
	0.9nm,0.9s,baz=338,slow=3.9,SNR=6.8							
ASAR	**Alice Springs**	**147.28**	**19**	PKPbc		PKPdf	16 15 09.8	+1.1
	1.3nm,0.9s,baz=347,slow=2.5,SNR=13							

IDC 21 16:24:54.4±4.1, 18°69S×173°70W, h164km±38km, mb3.1/3, mb1 3.4/4, mb1mx3.2/19, mbtmp3.2/4, Error ellipse: s-maj=49.5km s-min=24.7km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**5.10**	**21**	P		Pn	16 26 09.6	0.0
	7.6nm,0.3s,baz=51,slow=2.3,SNR=26							
AFI				S		Sn	16 26 58.5	-10
	16nm,0.3s,baz=195,slow=22,SNR=10							
WRA	**Warramunga Arr**	**48.89**	**260**	P		P	16 33 23.3	-0.8
	0.4nm,0.8s,baz=98,slow=7.2,SNR=7.9							
ASAR	**Alice Springs**	**48.90**	**255**	P		P	16 33 24.4	+0.4
	1.6nm,0.8s,baz=98,slow=7.8,SNR=26							
ILAR	**Eielson Array**	**85.71**	**11**	P		P	16 37 14.4	0.0
	0.2nm,0.5s,baz=205,slow=4.3,SNR=5.9							
TORD	**Torodi Ar. Bea**	**172.93**	**141**	PKPab		PKPab	16 46 11.8	-0.4
	0.5nm,0.4s,baz=248,slow=5.7,SNR=8.4							

KRSC 21 16:25:39.7±0.6, 56°08N×162°59E, h17km±17km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KBTR	**Krutoberegovo**	**0.18**	**45**	P		Pb	16 25 45.1	+0.5
KBTR				*i* S		Sb	16 25 48.9	+1.0
SMKR	**Semkarok**	**0.80**	**309**	*e*P		Pb	16 25 54.8	-0.5
SMKR				*i* S		Sb	16 26 05.7	-0.3
BDR	**Baidarnaya**	**0.91**	**303**	*e*P		Pb	16 25 57.1	-0.1
BDR				*i* S		Sn	16 26 10.5	-0.2
SRKR	**Sorokina**	**0.98**	**307**	*e*P		Pb	16 25 58.0	-0.3
SRKR				*i* S		Sn	16 26 12.2	-0.1
ZLN	**Zelenaya**	**1.00**	**267**	*e*P		Pb	16 25 58.8	0.0
ZLN				*i* S		Sg	16 26 12.7	+0.1
CIRR	**Tsirk**	**1.03**	**273**	*e*P		Pb	16 25 59.3	0.0
CIRR				*i* S		Sg	16 26 13.3	-0.3
LGNR	**Loginova**	**1.06**	**271**	P		Pb	16 26 00.0	-0.1
LGNR				*i* S		Sg	16 26 15.2	+0.2
BZGR	**Bezymyannyi-Gr**	**1.07**	**263**	*e*P		Pb	16 25 59.8	-0.2
BZGR				*i* S		Sn	16 26 14.4	-0.3
KLY	**Klyuchi**	**1.11**	**283**	*e*P		Pb	16 25 58.4	-2.0
KLY				*i* S		Sb	16 26 12.5	-2.0
KRSR	**Krestovskiy**	**1.14**	**278**	*e*P		Pn	16 26 00.3	-0.7
KRSR				*i* S		Sb	16 26 15.2	-0.6
BZWR	**Bezymyannyi-We**	**1.18**	**265**	*e*P		Pn	16 26 01.5	-0.2
BZWR				*i* S		Sg	16 26 18.0	-0.4
BZMR	**Bezymyannaya**	**1.19**	**264**	*e*P		Pn	16 26 01.3	-0.4
BZMR				*i* S		Sn	16 26 17.6	0.0
KIRR	**Kirishev**	**1.27**	**265**	*e*P		Pn	16 26 02.8	0.0
KIRR				*i* S		Sn	16 26 20.3	+0.7
KPT	**Kopyto**	**1.33**	**266**	*e*P		Pn	16 26 03.7	0.0
KPT				*i* S		Sb	16 26 21.3	0.0
KMNR	**Kamenistaya**	**1.36**	**257**	*e*P		Pn	16 26 04.4	+0.3
KMNR				*i* S		Sb	16 26 22.6	+0.5
KOZ	**Kozyrevsk**	**1.52**	**270**	*e*P		Pb	16 26 07.2	-0.3
KOZ				*i* S		Sb	16 26 27.7	+1.1
TUMR	**Tumrok**	**1.60**	**241**	*e*P		Pn	16 26 07.9	+0.6
TUMR				*i* S		Sb	16 26 28.7	-0.2
MKZ	**Mys Kozlova**	**1.60**	**198**	*e*P		Pn	16 26 07.2	0.0
MKZ				*i* S		Sn	16 26 27.2	-0.3
SRDR	**Sredinnyy**	**1.62**	**280**	*e*P		Pb	16 26 08.6	-0.7
SRDR				*i* S		Sb	16 26 29.9	+0.4
BKI	**Bering**	**2.11**	**113**	*e*P		Pn	16 26 15.7	+1.6
BKI				*i* S		Sb	16 26 42.1	-1.2
ESO	**Esso**	**2.19**	**268**	P		Pn	16 26 16.6	+1.3
ESO				*i* S		Sn	16 26 43.8	+1.7
PALN	**Palana**	**3.33**	**336**	P		Pb	16 26 36.2	-2.0
SPN	**Mys Shipunski**	**3.34**	**208**	*e*P		Pn	16 26 32.5	+1.4
SPN				*i* S		Sn	16 27 10.3	0.0
SDLR	**Sedlovina**	**3.54**	**219**	*e*P		Pn	16 26 35.0	+1.0
SDLR				*i* S		Sn	16 27 14.7	-0.8
SMAR	**Somma**	**3.58**	**219**	*e*P		Pn	16 26 36.2	+1.5
SMAR				*i* S		Sn	16 27 17.0	+0.3
AVH	**Avacha**	**3.60**	**220**	*e*P		Pn	16 26 36.7	+1.9
AVH				*i* S		Sn	16 27 17.2	+0.3
UGLR	**Uglovaya**	**3.61**	**219**	*e*P		Pn	16 26 37.6	+2.6
UGLR				*i* S		Sn	16 27 19.7	+2.3
KOK	**Koryaka**	**3.62**	**221**	*e*P		Pn	16 26 37.3	+2.3
PET	**Petropavlovsk**	**3.83**	**218**	P		Pn	16 26 39.7	+2.0
PET				*i* S		Sn	16 27 23.4	+1.2
MTVR	**Mutnovka**	**4.43**	**217**	P		Pn	16 26 49.1	+2.8
MTVR				*i* S		Sn	16 27 38.1	+0.5
ASAK	**Asacha**	**4.61**	**219**	*e*P		Pn	16 26 50.0	+1.3

*IDC **21** 16:53:33.2±0.6, 55°.40N×35°.14W, h0km, mb3.9/24, mb1 4.0/26, mb1mx4.0/36, mbtmp3.9/26, ML3.0/2, Error ellipse: s-maj=16.7km s-min=11.2km az=18.0*
*ISCJB **21** 16:53:34.0±0.2, 55°.43N±0°.06×35°.01W±0°.05, h14km, mb4.4/82, MS4.8/2, Error ellipse: s-maj=8.1km s-min=3.7km az=11.0*
*NEIC **21** 16:53:34.9±0.2, 55°.44N×35°.03W, h10km, mb4.7/54, Error ellipse: s-maj=8.7km s-min=3.7km az=190.0*
*CSEM **21** 16:53:34.7±0.1, 55°.48N×35°.03W, h10km, mb4.6/40, Error ellipse: s-maj=10.3km s-min=4.4km az=10.0*
*BJI **21** 16:53:34.5, 56°.34N×35°.44W, h6km, mB5.2/8, mb4.8/13, Ms5.0/6, Ms7 4.8/6*

ISC 21 16:53:35.7±0.4, 55°51N±0°.07×35°03W±0°.05, h14km, n265, σ1°41/262, mb4.5/83, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
SUMG	**Summit**	**17.19**	**357**	*e*Pn		**Pn**	**16 57 35.0**	**-0.4**
	183nm,1.5s							
SUMG	**Summit**	**17.19**	**357**	*i* P		**Pn**	**16 57 35.8**	**+0.4**
SUMG	**Summit**	**17.19**	**357**	*e*Pn		**Pn**	**16 57 35.0**	**-0.4**
	183nm,1.5s							
SCHQ	**Schefferville**	**18.10**	**281**	P		**Pn**	**16 57 46.4**	**0.0**
SCHQ	**Schefferville**	**18.10**	**281**	P		**Pn**	**16 57 46.4**	**0.0**
	0.4nm,0.3s,baz=92,slow=8.9,SNR=9.0							
SCHQ	**Schefferville**	**18.10**	**281**	P		**Pn**	**16 57 46.4**	**0.0**
FRB	**Frobisher Bay**	**18.64**	**310**	P		**Pn**	**16 57 53.7**	**+0.9**
FRB	**Frobisher Bay**	**18.64**	**310**	P		**Pn**	**16 57 53.7**	**+0.9**
	0.1nm,0.3s,baz=91,slow=11,SNR=2.9							
FRB	**Frobisher Bay**	**18.64**	**310**	P		**Pn**	**16 57 53.7**	**+0.9**
BST	**Brest**	**20.30**	**98**	*e*P		Pn	16 58 15.3	+2.5
BST	**Brest**	**20.30**	**98**	*e*P		Pn	16 58 15.3	+2.5
ROSF	**Rostrenen**	**20.72**	**97**	*e*P		**P**	**16 58 15.6**	**+0.2**
	48nm,1.4s							
ROSF	**Rostrenen**	**20.72**	**97**	*e*P		**P**	**16 58 15.6**	**+0.2**
	48nm,1.4s							
ROSF	**Rostrenen**	**20.72**	**97**	*e*P		**P**	**16 58 15.6**	**+0.2**
	48nm,1.4s							
QUIF	**Quistinic**	**21.01**	**98**	*e*P		**P**	**16 58 19.3**	**+0.8**
	135nm,1.6s							
QUIF	**Quistinic**	**21.01**	**98**	*e*P		**P**	**16 58 19.3**	**+0.8**
	135nm,1.6s							
QUIF	**Quistinic**	**21.01**	**98**	*e*P		**P**	**16 58 19.3**	**+0.8**
	135nm,1.6s							

SGMF	**Saint Gilles**	**21.17**	**96**	*e*P		**P**		**16 58 19.1**	**-1.1**
SGMF	**Saint Gilles**	**21.17**	**96**	*e*P		**P**		**16 58 19.1**	**-1.1**
SGMF	**Saint Gilles**	**21.17**	**96**	*e*P		**P**		**16 58 19.1**	**-1.1**
GRR	**Gorron**	**22.06**	**95**	*e*P		**P**		**16 58 31.2**	**+1.4**
GRR	**Gorron**	**22.06**	**95**	*e*P		**P**		**16 58 31.2**	**+1.4**
GRR	**Gorron**	**22.06**	**95**	*e*P		**P**		**16 58 31.2**	**+1.4**
FLN	**La Foliniere**	**22.08**	**93**	*e*P		**P**		**16 58 30.7**	**+0.7**
	48nm,1.3s								
FLN	**La Foliniere**	**22.08**	**93**	*e*P		**P**		**16 58 30.7**	**+0.7**
	48nm,1.3s								
FLN	**La Foliniere**	**22.08**	**93**	*e*P		**P**		**16 58 30.7**	**+0.7**
	48nm,1.3s								
DAG	**Danmarks Havn**	**22.17**	**10**	*i* P		**P**		**16 58 32.5**	**+1.8**
DAG				*i*				16 58 51.6	
DAG				*i* S		Sn		17 03 04.3	+19
DAG									
	comp=Z,2μm,15.0s								
LDF	**La Druitiere**	**22.37**	**93**	*e*P		**P**		**16 58 32.2**	**-0.9**
	comp=Z,50nm,1.5s								
LDF	**La Druitiere**	**22.37**	**93**	*e*P		**P**		**16 58 32.2**	**-0.9**
	comp=Z,50nm,1.5s								
LDF	**La Druitiere**	**22.37**	**93**	*e*P		**P**		**16 58 32.2**	**-0.9**
	comp=Z,25nm,1.5s								
MFF	**Saint Martin d**	**23.45**	**98**	*e*P		**P**		**16 58 42.5**	**-1.8**
MFF	**Saint Martin d**	**23.45**	**98**	*e*P		**P**		**16 58 42.5**	**-1.8**
MFF	**Saint Martin d**	**23.45**	**98**	*e*P		**P**		**16 58 42.5**	**-1.8**
BAIF	**Baives**	**24.11**	**87**	*e*P		**P**		**16 58 50.9**	**+0.3**
	comp=Z,61nm,1.7s								
BAIF	**Baives**	**24.11**	**87**	*e*P		**P**		**16 58 50.9**	**+0.3**
	comp=Z,61nm,1.7s								
BAIF	**Baives**	**24.11**	**87**	*e*P		**P**		**16 58 50.9**	**+0.3**
	comp=Z,30nm,1.7s								
NOA	**NORSAR Array B**	**24.50**	**58**	P		**P**		**16 58 55.4**	**+1.2**
NOA	**NORSAR Array B**	**24.50**	**58**	P		**P**		**16 58 55.4**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=250,slow=8.6,SNR=3.3								
EVOP	**Sao Brissos**	**24.77**	**122**	*e*P		**P**		**16 58 56.5**	**-0.1**
EVOP	**Sao Brissos**	**24.77**	**122**	*e*P		**P**		**16 58 56.5**	**-0.1**
EVO	**Evora**	**24.82**	**122**	*e*P		**P**		**16 58 56.5**	**-0.6**
TCF	**Toulx Ste Croi**	**24.96**	**96**	*e*P		**P**		**16 58 57.1**	**-1.3**
	comp=Z,61nm,1.7s								
TCF	**Toulx Ste Croi**	**24.96**	**96**	*e*P		**P**		**16 58 57.1**	**-1.3**
	comp=Z,61nm,1.7s								
TCF	**Toulx Ste Croi**	**24.96**	**96**	*e*P		**P**		**16 58 57.1**	**-1.3**
	comp=Z,31nm,1.7s								
SJPF	**Ste Jean**	**25.02**	**106**	*e*P		**P**		**16 58 57.9**	**-1.0**
SJPF	**Ste Jean**	**25.02**	**106**	*e*P		**P**		**16 58 57.9**	**-1.0**
SJPF	**Ste Jean**	**25.02**	**106**	*e*P		**P**		**16 58 57.9**	**-1.0**
SSF	**Saint Saulge**	**25.26**	**93**	*e*P		**P**		**16 59 00.3**	**-0.7**
	comp=Z,28nm,1.3s								
SSF	**Saint Saulge**	**25.26**	**93**	*e*P		**P**		**16 59 00.3**	**-0.7**
	comp=Z,28nm,1.3s								
SSF	**Saint Saulge**	**25.26**	**93**	*e*P		**P**		**16 59 00.3**	**-0.7**
	comp=Z,14nm,1.3s								
AVF	**Avril sur Loir**	**25.32**	**94**	*e*P		**P**		**16 59 00.7**	**-0.9**
AVF	**Avril sur Loir**	**25.32**	**94**	*e*P		**P**		**16 59 00.7**	**-0.9**
AVF	**Avril sur Loir**	**25.32**	**94**	*e*P		**P**		**16 59 00.7**	**-0.9**
LOR	**Lormes**	**25.34**	**93**	*e*P		**P**		**16 59 01.3**	**-0.5**
	comp=Z,20nm,1.1s								
LOR	**Lormes**	**25.34**	**93**	*e*P		**P**		**16 59 01.3**	**-0.5**
	comp=Z,20nm,1.1s								
LOR	**Lormes**	**25.34**	**93**	*e*P		**P**		**16 59 01.3**	**-0.5**
	comp=Z,9.9nm,1.1s								
SFTF	**Sexfontaines**	**25.51**	**90**	*e*P		**P**		**16 59 02.0**	**-1.3**
SFTF	**Sexfontaines**	**25.51**	**90**	*e*P		**P**		**16 59 02.0**	**-1.3**
SFTF	**Sexfontaines**	**25.51**	**90**	*e*P		**P**		**16 59 02.0**	**-1.3**
ETSF	**Etsaut**	**25.52**	**105**	*e*P		**P**		**16 59 03.6**	**0.0**
ETSF	**Etsaut**	**25.52**	**105**	*e*P		**P**		**16 59 03.6**	**0.0**
ETSF	**Etsaut**	**25.52**	**105**	*e*P		**P**		**16 59 03.6**	**0.0**
AGO	**Saint Agoulin**	**25.62**	**96**	*e*P		**P**		**16 59 07.7**	**+3.3**
AGO	**Saint Agoulin**	**25.62**	**96**	*e*P		**P**		**16 59 07.7**	**+3.3**
PYM	**Petit Puy Mans**	**25.73**	**96**	*e*P		P		16 59 10.5	+5.1
PYM	**Petit Puy Mans**	**25.73**	**96**	*e*P		P		16 59 10.5	+5.1
HFS	**Hagfors**	**25.86**	**60**	P		**P**		**16 59 07.9**	**+1.4**
HFS	**Hagfors**	**25.86**	**60**	P		**P

FFC	Flin Flon	36.95	297	eP	P	17 00 46.4	+2.5	
FFC	Flin Flon	36.95	297	eP	P	17 00 46.4	+2.5	
BLO	Bloomington	37.56	266	eP	P	17 00 50.5	+1.3	
	comp=Z,43nm,1.6s							
BLO	Bloomington	37.56	266	eP	P	17 00 50.5	+1.3	
	comp=Z,43nm,1.6s							
KIEV	Kiev	37.64	70	P	P	17 00 52.8	+3.1	
AKASG	Malin Array Be	37.64	70	P	P	17 00 49.3	-0.5	
AKASG	Malin Array Be	37.64	70	P	P	17 00 49.3	-0.5	
	comp=Z,1.1nm,0.6s,baz=305,slow=8.6,SNR=5.4							
AKASG	Malin Array Be	37.64	70	P	P	17 00 49.3	-0.5	
NHSC	New Hope	38.39	253	eP	P	17 01 01.6	+5.4	
YKA	Yellowknife Ar	39.08	314	P	P	17 01 01.0	-0.7	
YKA	Yellowknife Ar	39.08	314	P	P	17 01 01.0	-0.7	
	comp=Z,0.9nm,0.7s,baz=62,slow=8.9,SNR=11							
YKA	Yellowknife Ar	39.08	314	P	P	17 01 01.0	-0.7	
SIUC	Southern Illin	40.09	267	P	P	17 01 15.1	+4.6	
	comp=Z,46nm,1.0s							
ECSD	EROS Data Cent	40.29	280	eP	P	17 01 11.6	-0.4	
	comp=Z,2.4nm,0.7s							
ECSD	EROS Data Cent	40.29	280	eP	P	17 01 11.6	-0.4	
	comp=Z,2.4nm,0.7s							
INK	Inuvik	42.92	327	eP	P	17 01 32.0	-1.2	
	comp=Z,12nm,1.4s							
INK	Inuvik	42.92	327	P	P	17 01 33.9	+0.7	
	comp=Z,3.7nm,1.2s,baz=41,slow=11,SNR=4.0							
INK	Inuvik	42.92	327	eP	P	17 01 32.0	-1.2	
	comp=Z,12nm,1.4s							
MIAR	Mount Ida	44.82	267	eP	P	17 01 48.3	-0.6	
	comp=Z,19nm,1.5s							
MIAR	Mount Ida	44.82	267	eP	P	17 01 48.3	-0.6	
	comp=Z,19nm,1.5s							
RLMT	Red Lodge	46.35	290	eP	P	17 02 05.2	+4.0	
	comp=Z,2.9nm,1.0s							
HRY	Holter Researc	46.67	293	eP	P	17 02 06.4	+2.9	
	comp=Z,58nm,1.5s							
BRTR	Keskin Array B	46.91	80	P	P	17 02 06.8	+1.2	
BRTR	Keskin Array B	46.91	80	P	P	17 02 06.8	+1.2	
	comp=Z,4.3nm,0.8s,baz=303,slow=6.2,SNR=14							
BRTR	Keskin Array B	46.91	80	P	P	17 02 06.8	+1.2	
BLMT	Blacktail Moun	47.14	296	eP	P	17 02 10.4	+3.1	
JTMT	Jette	47.27	295	P	P	17 02 07.5	-0.8	
	comp=Z,3.2nm,1.3s							
JTMT	Jette	47.27	295	P	P	17 02 07.4	-0.8	
	comp=Z,3.2nm,1.3s							
SWMT	Swartz Lake	47.28	295	eP	P	17 02 11.0	+2.7	
	comp=Z,7.9nm,1.4s							
BSMT	Bassoo Peak	47.46	296	P	P	17 02 08.7	-1.1	
	comp=Z,21nm,1.4s							
BSMT	Bassoo Peak	47.46	296	P	P	17 02 08.7	-1.1	
	comp=Z,21nm,1.4s							
EGAK	Eagle	47.51	326	eP	P	17 02 10.5	+0.8	
	comp=Z,8.7nm,1.2s							
EGAK	Eagle	47.51	326	eP	P	17 02 10.5	+0.8	
	comp=Z,8.7nm,1.2s							
LRM	Limekiln Ridge	47.58	292	P	P	17 02 14.6	+3.7	
	comp=Z,160nm,1.1s							
FLWY	Flagg Ranch	47.80	290	eP	P	17 02 15.8	+3.2	
ISCO	Idaho Springs	47.93	282	P	P	17 02 17.7	+4.1	
	comp=Z,4.4nm,1.0s							
DLMT	Dillon	47.96	292	eP	P	17 02 17.4	+3.7	
	comp=Z,6.8nm,1.1s							
IMW	Indian Meadow	48.05	289	eP	P	17 02 16.6	+2.0	
	comp=Z,4.8nm,1.5s							
IMW	Indian Meadow	48.05	289	eP	P	17 02 16.6	+2.0	
	comp=Z,4.8nm,1.5s							
LOHW	Long Hollow	48.07	289	P	P	17 02 12.8	-1.7	
	comp=Z,1.9nm,1.1s							
LOHW	Long Hollow	48.07	289	P	P	17 02 12.9	-1.7	
	comp=Z,1.9nm,1.1s							
PDAR	Pinedale Array	48.07	287	P	P	17 02 13.9	-0.7	
PDAR	Pinedale Array	48.07	287	P	P	17 02 13.9	-0.7	
	comp=Z,0.9nm,0.7s,baz=66,slow=8.7,SNR=6.2							
PDAR	Pinedale Array	48.07	287	P	P	17 02 13.9	-0.7	
REDW	Red Top Meadow	48.37	289	eP	P	17 02 16.6	-0.3	
	comp=Z,9.7nm,1.5s							
REDW	Red Top Meadow	48.37	289	eP	P	17 02 16.6	-0.3	
	comp=Z,9.7nm,1.5s							
ARU	Arti	48.39	48	eP	P	17 02 16.4	-0.2	
	comp=Z,8.4nm,1.0s							
ARU	Arti	48.39	48	eP	P	17 02 16.4	-0.2	
	comp=Z,8.4nm,1.0s							
RRI2	Red Ridge	48.63	289	eP	P	17 02 18.4	-0.6	
	comp=Z,1.6nm,0.9s							
RRI2	Red Ridge	48.63	289	eP	P	17 02 18.4	-0.6	
	comp=Z,1.6nm,0.9s							
ILAR	Eielson Array	49.28	328	P	P	17 02 23.8	+0.4	
ILAR	Eielson Array	49.28	328	P	P	17 02 23.8	+0.4	
	comp=Z,0.7nm,0.7s,baz=41,slow=6.2,SNR=12							
ILAR	Eielson Array	49.28	328	P	P	17 02 23.8	+0.4	
HLID	Hailey	50.13	291	eP	P	17 02 32.2	+1.8	
	comp=Z,4.4nm,1.1s							
HLID	Hailey	50.13	291	eP	P	17 02 32.2	+1.8	
	comp=Z,4.4nm,1.1s							
DAU	Daniels Canyon	50.61	286	eP	P	17 02 37.3	+3.1	
	comp=Z,3.6nm,1.2s							
BMO	Blue Mountains	50.76	294	eP	P	17 02 33.7	-1.3	
	comp=Z,1.7nm,1.0s							
BMO	Blue Mountains	50.76	294	eP	P	17 02 33.7	-1.3	
	comp=Z,1.7nm,1.0s							
TORD	Torodi Ar. Bea	50.95	131	P	P	17 02 35.0	-1.6	
TORD	Torodi Ar. Bea	50.95	131	P	P	17 02 35.0	-1.6	
	comp=Z,2.3nm,0.8s,baz=337,slow=7.3,SNR=16							
TORD	Torodi Ar. Bea	50.95	131	P	P	17 02 35.0	-1.6	
MFID	Camas Ranch	50.98	292	eP	P	17 02 36.5	-0.2	
	comp=Z,1.9nm,0.7s							
MFID	Camas Ranch	50.98	292	eP	P	17 02 36.5	-0.2	
	comp=Z,1.9nm,0.7s							
MVCO	Mesa Verde	51.35	281	eP	P	17 02 39.5	-0.2	
	comp=Z,13nm,1.6s							
MVCO	Mesa Verde	51.35	281	eP	P	17 02 39.5	-0.2	
	comp=Z,13nm,1.6s							
JCT	Junction City	51.36	269	P	P	17 02 40.2	+0.6	
JCT	Junction City	51.36	269	P	P	17 02 40.2	+0.6	
TMUT	Trail Mountain	51.37	285	P	P	17 02 44.7	+4.8	
	comp=Z,2.9nm,0.8s							
DUG	Dugway	51.61	287	P	P	17 02 42.7	+1.2	
	comp=Z,9.1nm,1.6s							
DUG	Dugway	51.61	287	P	P	17 02 42.7	+1.2	
	comp=Z,9.1nm,1.6s							
MSU	Marysvale	52.46	285	P	P	17 02 47.4	-0.6	
	comp=Z,8.3nm,1.7s							
MSU	Marysvale	52.46	285	P	P	17 02 47.4	-0.6	
	comp=Z,8.3nm,1.7s							
ELK	Elko	52.53	289	P	P	17 02 49.8	+1.3	
ELK	Elko	52.53	289	P	P	17 02 49.8	+1.3	
GDL2	Guadalupe Moun	52.67	274	eP	P	17 02 49.4	-0.1	
GDL2	Guadalupe Moun	52.67	274	eP	P	17 02 49.4	-0.1	
GNI	Garni	52.73	71	eP	P	17 02 51.4	+1.5	
	comp=Z,51nm,1.6s							
GNI	Garni	52.73	71	eP	P	17 02 51.3	+1.5	
	comp=Z,51nm,1.6s							
ABKAR	Akbulak array	53.91	54	eP	P	17 02 52.5	-5.6	
	comp=Z,21nm,1.6s							
DBIC	Dimbokro	54.31	142	P	P	17 03 00.4	-1.1	
DBIC	Dimbokro	54.31	142	P	P	17 03 00.4	-1.1	
	comp=Z,2.8nm,0.8s,baz=344,slow=2.7,SNR=4.1							
DBIC	Dimbokro	54.31	142	P	P	17 03 00.4	-1.1	
MOD	Modoc	54.39	294	P	P	17 02 57.2	-4.7	
LIC	Lamto	54.67	142	eP	P	17 03 02.6	-1.4	
	comp=Z,13nm,1.0s							
LIC	Lamto	54.67	142	eP	P	17 03 02.6	-1.4	
	comp=Z,13nm,1.0s							
LIC	Lamto	54.67	142	eP	P	17 03 02.6	-1.4	
	comp=Z,13nm,1.0s							
BRVK	Borovoye	55.59	45	eP	P	17 03 09.4	-0.9	
	comp=Z,24nm,1.9s							
BRVK	Borovoye	55.59	45	eP	P	17 03 09.4	-0.9	
	comp=Z,24nm,1.9s							
NVAR	Mina Array Bea	55.84	290	P	P	17 03 12.1	-0.5	
NVAR	Mina Array Bea	55.84	290	P	P	17 03 12.1	-0.5	
	comp=Z,0.5nm,0.6s,baz=60,slow=7.0,SNR=3.8							
NVAR	Mina Array Bea	55.84	290	P	P	17 03 12.1	-0.5	
GSC	Goldstone	57.33	286	eP	P	17 03 23.3	+0.2	
	comp=Z,17nm,2.0s							
GSC	Goldstone	57.33	286	eP	P	17 03 23.3	+0.2	
	comp=Z,17nm,2.0s							
PFO	Pinyon Flat Ob	58.40	284	eP	P	17 03 33.1	+2.4	
	comp=Z,9.0nm,1.1s							
OSI	Osito Adit	58.89	287	eP	P	17 03 37.6	+3.7	
	comp=Z,15nm,1.2s							
ROSC	El Rosal	59.48	227	P	P	17 03 38.3	-0.3	
ROSC	El Rosal	59.48	227	P	P	17 03 38.3	-0.3	
	comp=Z,7.1nm,0.5s,baz=114,slow=18,SNR=3.6							
ROSC	El Rosal	59.48	227	P	P	17 03 38.3	-0.3	
ZALV	Zalesovo Beam	60.26	36	P	P	17 03 43.3	+0.3	
ZALV	Zalesovo Beam	60.26	36	P	P	17 03 43.3	+0.3	
	comp=Z,0.4nm,0.4s,baz=312,slow=5.8,SNR=3.8							
ZALV	Zalesovo Beam	60.26	36	P	P	17 03 43.3	+0.3	
KURK	Kurchatov	60.67	42	eP	P	17 03 44.0	-1.8	
	comp=Z,3.6nm,0.9s							
KURK	Kurchatov	60.67	42	eP	P	17 03 44.0	-1.8	
	comp=Z,3.6nm,0.9s							
KKAR	Karatay Array	63.36	52	P	P	17 04 05.3	+1.2	
	comp=Z,1.4nm,0.8s							
KKAR	Karatay Array	63.36	52	P	P	17 04 05.3	+1.2	
	comp=Z,1.4nm,0.8s							
EKS2	Erkin-Say	65.16	50	eP	P	17 04 17.2	+1.2	
	comp=Z,11nm,1.1s							
EKS2	Erkin-Say	65.16	50	eP	P	17 04 17.2	+1.2	
	comp=Z,11nm,1.1s							
MKAR	Makanchi Array	65.28	42	P	P	17 04 17.0	+0.4	
MKAR	Makanchi Array	65.28	42	P	P	17 04 17.0	+0.4	
	comp=Z,0.8nm,0.6s,baz=325,slow=5.4,SNR=12							
MKAR	Makanchi Array	65.28	42	P	P	17 04 17.0	+0.4	
TKM2	Tokmak 2	65.74	49	eP	P	17 04 21.4	+1.5	
	comp=Z,12nm,1.4s							
TKM2	Tokmak 2	65.74	49	eP	P	17 04 21.4	+1.5	
	comp=Z,12nm,1.4s							
KSH	Kashi	68.68	51	P	P	17 04 40.5	+2.0	
KSH				pP	pP	17 04 44.9	+1.8	
KSH				sP	sP	17 04 47.5	+2.8	
KSH				PP	PP	17 07 12.8	+3.2	
KSH				ScP		17 09 08.3		
KSH				PcS		17 09 09.5		
KSH				S	S	17 13 40.5	-0.5	
KSH				sS	sS	17 13 47.8	-0.7	
KSH				ScS	SKSac	17 14 36.3	-1.0	
KSH				SS	SS	17 18 05.4	+0.8	
KSH				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KSH				pmax	pmax			
	comp=Z,93nm,4.2s							
KSH				LR	LR			
	comp=N,130nm,7.7s							
KSH				LR	LR			
	comp=E,120nm,5.0s							
KSH				LR	LR			
	comp=Z,310nm,7.6s							
WMQ	Urumqi	69.82	40	P	P	17 04 45.1	-0.3	
WMQ				pmax	pmax			
	comp=Z,8.0nm,1.5s							
WMQ				pmax	pmax			
	comp=Z,130nm,3.7s							
BDFB	Brasilia	71.72	193	P	P	17 04 57.2	0.0	
BDFB	Brasilia	71.72	193	P	P	17 04 57.2	0.0	
	comp=Z,1.9nm,0.6s,baz=36,slow=8.7,SNR=3.8							
BDFB	Brasilia	71.72	193	P	P	17 04 57.2	0.0	
SONM	Songino Array	72.05	26	P	P	17 05 00.7	+1.7	
SONM	Songino Array	72.05	26	P	P	17 05 00.7	+1.7	
	comp=Z,0.5nm,0.9s,baz=326,slow=6.6,SNR=3.8							
SONM	Songino Array	72.05	26	P	P	17 05 00.7	+1.7	
ULN	Ulaanbaatar	72.19	26	eP	P	17 05 00.9	+1.1	
ULN	Ulaanbaatar	72.19	26	eP	P	17 05 00.9	+1.1	
MDJ	Mudanjiang	79.39	11	P	P	17 05 39.8	-1.0	
MDJ				pmax	pmax			
	comp=Z,260nm,6.3s							
CN2	Changchun	79.68	14	eP	P	17 05 42.1	-0.3	
HHC	Hu-ho-hao-te	79.88	25	eP	P	17 05 42.5	-1.2	
HHC				sP	sP	17 05 48.5	-1.5	
HHC				PP	PP	17 08 44.8	+0.4	
HHC				S	S	17 15 42.3	-4.2	
HHC				sS	sS	17 15 49.8	-4.3	
HHC				SS	SS	17 20 54.3	-0.1	
HHC				pmax	pmax			
	comp=Z,8.0nm,0.6s							
HHC				pmax	pmax			
	comp=Z,140nm,6.1s							
HHC				LR	LR			
	comp=N,400nm,15.5s							
HHC				LR	LR			
	comp=E,360nm,16.7s							
HHC				LR	LR			
	comp=Z,400nm,17.8s							
BJI	Beijing	81.70	22	P	P	17 05 52.3	-1.0	
BJI				pmax	pmax			
	comp=Z,6.0nm,0.6s							
NJ2	Nanjing	89.96	22	eP	P	17 06 33.8	-0.5	
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
KMI	Kunming	91.98	38	P	P	17 06 43.8	-0.3	
KMI				pP	pP	17 06 48.1	-0.7	
KMI				sP	sP	17 06 49.4	-1.0	
KMI				S	S	17 17 41.9	-3.7	
KMI				SS	SS	17 23 50.4	-2.3	
KMI				pmax	pmax			
	comp=Z,7.0nm,1.1s							
KMI				pmax	pmax			
	comp=Z,71nm,3.3s							
KMI				LR	LR			
	comp=N,210nm,22.1s							
KMI				LR	LR			
	comp=E,200nm,22.1s							
KMI				LR	LR			
	comp=Z,270nm,22.9s							
GYA	Guiyang	92.04	34	eP	P	17 06 44.0	-0.3	
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
WRA	Warramunga Arr	143.59	17	PKP	PKPbc	17 13 08.4	+1.2	
WRA	Warramunga Arr	143.59	17	PKP	PKPbc	17 13 08.4	+1.2	
	comp=Z,0.4nm,0.7s,baz=348,slow=3.1,SNR=8.5							
WRA	Warramunga Arr	143.59	17	PKIKP	PKPbc	17 13 08.4	+1.2	
ASAR	Alice Springs	147.15	19	PKPbc	PKPdf	17 13 16.9	+1.0	
ASAR	Alice Springs	147.15	19	PKPbc	PKPdf	17 13 16.9	+1.0	
	comp=Z,2.0nm,0.6s,baz=344,slow=2.7,SNR=34							
ASAR	Alice Springs	147.15	19	PKPbc	PKPdf	17 13 16.9	+1.0	

SZGRF ***21*** *16:53:24.8, 55˚.09N×41˚.63W, h10km, mb5.2, MS4.9, North Atlantic Ocean*
BJI ***21*** *16:53:51.4, 55˚.50N×35˚.00W, h10km, mB5.4/24, mb4.9/33, Ms5.2/23, Ms7 4.8/25*
MOS ***21*** *16:53:52.6±0.9, 55˚.50N×35˚.10W, h10km, mb5.3/98, MS4.8/26, Error ellipse: s-maj=6.3km s-min=5.1km az=153.8*
IDC ***21*** *16:53:52.4±0.4, 55˚.42N×35˚.12W, h0km, mb4.6/37, mb1 4.7/39, mb1mx4.7/42, mbtmp4.6/39, ML3.8/2, MS5.1/14, Ms1 5.1/14, ms1mx4.9/20, Error ellipse: s-maj=12.8km s-min=8.8km az=5.0*
ISCJB ***21*** *16:53:53.7±0.1, 55˚.52N±0˚.03×35˚.09W±0˚.02, h14km, mb4.9/260, MS4.9/53, Error ellipse: s-maj=4.6km s-min=1.5km az=4.4*
CSEM ***21*** *16:53:54.4±0.2, 55˚.45N×35˚.07W, h10km, mb5.1/155, Error ellipse: s-maj=6.7km s-min=2.8km az=185.0*
BGS ***21*** *16:53:54.2±2.2, 55˚.13N×35˚.18W, h10km, mb4.8, MS4.8*
ISC 21 16:53:55.1±0.3, 55.48N±0.05×35.15W±0.03, h15km±1km, h15km:pP-P, n1157, σ1s27/1209, mb5.0/262, MS5.0/54, 139C-123D, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	11.54	31	Pn	Pn		16 56 36.8	-2.1
	492nm,1.6s							
BORG	Borgarnes	11.54	31	P	Pn		16 56 36.8	-2.1
	492nm,1.6s							
SFJD	Kangerlussuaq	13.69	334	Pn	Pn		16 57 04.7	-3.6
	0.7nm,0.3s,baz=132,slow=15,SNR=4.2							
KPL	Plockton	16.37	71	AMS	AMS		17 01 57.6	
	comp=Z,4μm,25.4s							
KAC	Achnashellach	16.54	71	eP	P		16 57 47.8	-0.9
KAC	Achnashellach	16.54	71	P	P		16 57 47.8	-0.9
KAC	Achnashellach	16.54	71	eP	P		16 57 47.8	-0.9
DLF	Lyons Farm	16.76	86	↑P	P		16 57 51.0	-0.1
SUMG	Summit	17.22	357	eP	Pn		16 57 54.4	-0.6
SUMG				pmax	pmax			
	comp=Z,127nm,1.4s							
SUMG	Summit	17.22	357	ePn	Pn		16 57 54.4	-0.6
	comp=Z,128nm,1.4s							
SUMG	Summit	17.22	357	eP	Pn		16 57 54.4	-0.6
	comp=Z,127nm,1.4s							
PGBU	Glenifferbraes	17.24	76	AMS	AMS		17 02 22.5	
	comp=Z,5μm,24.0s							
EAB	Aberfoyle	17.25	75	eP	P		16 57 56.7	+0.2
EAB	Aberfoyle	17.25	75	P	P		16 57 56.7	+0.2
EAB	Aberfoyle	17.25	75	eP	P		16 57 56.7	+0.2
GAL1	Galloway	17.33	79	AMS	AMS		17 03 08.0	
	comp=Z,5μm,20.5s							

MCD	Coleburn Disti	17.63	70	eP	P	16 58 01.1	+0.4	
MCD	Coleburn Disti	17.63	70	P	P	16 58 01.1	+0.4	
MCD	Coleburn Disti	17.63	70	eP	P	16 58 01.1	+0.4	
GCD	Castle Douglas	17.76	79	eP	P	16 58 03.2	+1.0	
GCD	Castle Douglas	17.76	79	P	P	16 58 03.2	+1.0	
GCD	Castle Douglas	17.76	79	eP	P	16 58 03.2	+1.0	
EDI	Edinburgh	17.94	75	AMS	AMS	17 03 45.4		
	comp=Z,4μm,19.1s							
EDI	Edinburgh	17.94	75	AMS	AMS	17 03 45.4		
	comp=Z,4μm,19.1s							
WLF1	Llynfaes	17.97	84	eP	Pn	16 58 04.0	0.0	
WLF1				AMB	AMB	16 58 08.8		
	comp=Z,136nm,4.2s							
WLF1				AMS	AMS	17 03 07.5		
	comp=Z,4μm,21.3s							
WLF1	Llynfaes	17.97	84	P	Pn	16 58 04.0	0.0	
WLF1				AMB	AMB	16 58 08.8		
	comp=Z,136nm,4.2s							
WLF1				AMS	AMS	17 03 07.5		
	comp=Z,4μm,21.3s							
WLF1	Llynfaes	17.97	84	eP	Pn	16 58 04.0	0.0	
WME	Myndd Eilian	17.99	84	eP	P	16 58 05.1	+0.4	
WME	Myndd Eilian	17.99	84	P	P	16 58 05.1	+0.4	
WME	Myndd Eilian	17.99	84	eP	P	16 58 05.1	+0.4	
SCHQ	Schefferville	18.04	281	P	Pn	16 58 03.7	-1.2	
SCHQ	Schefferville	18.04	281	P	Pn	16 58 03.7	-1.2	
	comp=Z,2.6nm,0.3s,baz=85,slow=9.1,SNR=26							
SCHQ	Schefferville	18.04	281	P	Pn	16 58 03.7	-1.2	
ESK	Eskdalemuir	18.06	77	eP	P	16 58 06.6	+1.1	
ESK				AMB	AMB	16 58 09.5		
	comp=Z,109nm,2.3s							
ESK				AMS	AMS	17 03 21.4		
	comp=Z,5μm,18.3s							
ESK	Eskdalemuir	18.06	77	P	P	16 58 06.6	+1.1	
ESK				AMB	AMB	16 58 09.5		
	comp=Z,109nm,2.3s							
ESK				AMS	AMS	17 03 21.4		
	comp=Z,5μm,18.3s							
ESK	Eskdalemuir	18.06	77	eP	P	16 58 06.7	+1.2	
ESK				pmax	pmax			
	comp=Z,427nm,2.2s							
ESK	Eskdalemuir	18.06	77	ePn	P	16 58 06.7	+1.2	
	comp=Z,427nm,2.2s							
ESK	Eskdalemuir	18.06	77	Pn	P	16 58 07.6	+2.1	
	comp=Z,227nm,1.1s,SNR=5.2							
ESK	Eskdalemuir	18.06	77	eP	P	16 58 06.6	+1.1	
YLL	Llanberis	18.15	85	eP	P	16 58 06.9	+0.5	
YLL	Llanberis	18.15	85	P	P	16 58 06.9	+0.5	
YLL	Llanberis	18.15	85	eP	P	16 58 06.9	+0.5	
ESY	Stoneypath	18.25	75	eP	P	16 58 08.8	+1.2	
ESY	Stoneypath	18.25	75	P	P	16 58 08.8	+1.2	
ESY	Stoneypath	18.25	75	eP	P	16 58 08.8	+1.2	
WPM1	Penmaenmawr	18.26	84	eP	P	16 58 09.2	+1.5	
WPM1	Penmaenmawr	18.26	84	P	P	16 58 09.2	+1.5	
WPM1	Penmaenmawr	18.26	84	eP	P	16 58 09.2	+1.5	
KESW	Keswick, Cumbr	18.30	79	eP	P	16 58 09.9	+1.7	
KESW				AMB	AMB	16 58 13.7		
	comp=Z,164nm,2.0s							
KESW				AMS	AMS	17 03 47.0		
	comp=Z,5μm,16.9s							
KESW	Keswick, Cumbr	18.30	79	P	P	16 58 09.9	+1.7	
KESW				AMB	AMB	16 58 13.7		
	comp=Z,164nm,2.0s							
KESW				AMS	AMS	17 03 47.0		
	comp=Z,5μm,16.9s							
KESW	Keswick, Cumbr	18.30	79	eP	P	16 58 09.9	+1.7	
FRB	Frobisher Bay	18.61	310	P	P	16 58 10.9	-0.5	
FRB	Frobisher Bay	18.61	310	P	P	16 58 10.9	-0.5	
	comp=Z,0.4nm,0.3s,baz=97,slow=12,SNR=13							
FRB	Frobisher Bay	18.61	310	P	P	16 58 10.9	-0.5	
FOEL	Foel Wylfa	18.79	85	eP	Pn	16 58 15.0	+1.0	
FOEL				AMB	AMB	16 58 17.8		
	comp=Z,141nm,4.1s							
FOEL				AMS	AMS	17 03 42.9		
	comp=Z,4μm,20.6s							
FOEL	Foel Wylfa	18.79	85	P	Pn	16 58 15.0	+1.0	
FOEL				AMB	AMB	16 58 17.8		
	comp=Z,141nm,4.1s							
FOEL				AMS	AMS	17 03 42.9		
	comp=Z,4μm,20.6s							
FOEL	Foel Wylfa	18.79	85	eP	Pn	16 58 15.0	+1.0	
HTL	Hartland	18.80	91	eP	Pn	16 58 14.5	+0.3	
HTL				AMB	AMB	16 58 18.4		
	comp=Z,128nm,2.7s							
HTL				AMS	AMS	17 03 55.8		
	comp=Z,6μm,18.5s							
HTL	Hartland	18.80	91	P	Pn	16 58 14.5	+0.3	
HTL				AMB	AMB	16 58 18.4		
	comp=Z,128nm,2.7s							
HTL				AMS	AMS	17 03 55.8		
	comp=Z,6μm,18.5s							
HTL	Hartland	18.80	91	eP	Pn	16 58 14.5	+0.3	
HLM1	Long Mynd	19.10	85	eP	P	16 58 16.0	-0.9	
HLM1				AMB	AMB	16 58 21.9		
	comp=Z,154nm,4.0s							
HLM1	Long Mynd	19.10	85	P	P	16 58 16.0	-0.9	
HLM1				AMB	AMB	16 58 21.9		
	comp=Z,154nm,4.0s							
HLM1	Long Mynd	19.10	85	eP	P	16 58 16.0	-0.9	
HEX	Exmoor	19.16	90	eP	P	16 58 16.8	-0.8	
HEX	Exmoor	19.16	90	P	P	16 58 16.8	-0.8	
HEX	Exmoor	19.16	90	eP	P	16 58 16.8	-0.8	
MCH1	Michaelchurch	19.23	87	eP	Pn	16 58 18.9	-0.5	
MCH1				AMB	AMB	16 58 27.0		
	comp=Z,96nm,3.1s							
MCH1				AMS	AMS	17 04 35.8		
	comp=Z,5μm,15.9s							
MCH1	Michaelchurch	19.23	87	P	Pn	16 58 18.9	-0.5	
MCH1				AMB	AMB	16 58 27.0	

comp=Z,119nm,1.5s
ELSH Elham, Standar 21.93 86 AMS AMS 17 05 31.2
comp=Z,4µm,23.1s
ELSH Elham, Standar 21.93 86 AMS AMS 17 05 31.2
comp=Z,4µm,23.1s
PGAV Gavieira, Arco 22.12 116 *e*P **P 16 58 49.7 -0.1**
comp=Z,65nm,1.5s
PGAV Gavieira, Arco 22.12 116 *e*P **P 16 58 49.7 -0.1**
comp=Z,65nm,1.5s
GRR Gorron 22.12 94 *e*P **P 16 58 51.3 +1.6**
comp=Z,176nm,1.3s
GRR Gorron 22.12 94 *e*P **P 16 58 51.3 +1.6**
GRR pmax pmax
comp=Z,176nm,1.3s
GRR Gorron 22.12 94 *e*P **P 16 58 51.3 +1.6**
comp=Z,176nm,1.3s
GRR Gorron 22.12 94 *e*P **P 16 58 51.3 +1.6**
comp=Z,88nm,1.3s
FLN La Foliniere 22.14 93 *e*P **P 16 58 49.4 -0.5**
comp=Z,249nm,1.5s,baz=305
FLN *e*R
comp=Z,10µm,21.8s
FLN La Foliniere 22.14 93 *e*P **P 16 58 49.4 -0.5**
FLN pmax pmax
comp=Z,249nm,1.5s
FLN La Foliniere 22.14 93 *e*P **P 16 58 49.4 -0.5**
comp=Z,249nm,1.5s
FLN La Foliniere 22.14 93 *e*P **P 16 58 49.4 -0.5**
comp=Z,125nm,1.5s
PQI Presque Isle 22.27 260 P **P 16 58 48.3 -3.0**
comp=Z,204nm,1.2s
LDF La Druitiere 22.43 93 *e*P **P 16 58 51.0 -2.0**
comp=Z,191nm,1.5s
LDF La Druitiere 22.43 93 *e*P **P 16 58 51.0 -2.0**
LDF pmax pmax
comp=Z,191nm,1.5s
LDF La Druitiere 22.43 93 *e*P **P 16 58 51.0 -2.0**
comp=Z,191nm,1.5s
LDF La Druitiere 22.43 93 *e*P **P 16 58 51.0 -2.0**
comp=Z,96nm,1.5s
POLO Lamas de Olo 22.79 117 *e*P **P 16 58 56.1 -0.9**
comp=Z,25nm,1.5s
POLO Lamas de Olo 22.79 117 *e*P **P 16 58 56.1 -0.9**
comp=Z,25nm,1.5s
PVRL Vila Real 22.91 117 *e*P **P 16 58 59.8 +1.7**
comp=Z,58nm,1.5s
PVRL Vila Real 22.91 117 *e*P **P 16 58 59.8 +1.7**
comp=Z,58nm,1.5s
PBRG Braganca 23.02 115 *e*P **P 16 59 01.6 +2.3**
comp=Z,59nm,1.4s
PBRG Braganca 23.02 115 *e*P **P 16 59 01.6 +2.3**
comp=Z,59nm,1.4s
PVIS Viseu 23.23 118 *e*P **P 16 59 01.8 +0.3**
comp=Z,60nm,1.5s
PVIS Viseu 23.23 118 *e*P **P 16 59 01.8 +0.3**
comp=Z,60nm,1.5s
MVO Moncorvo 23.34 116 *e*P **P 16 59 03.5 +0.9**
comp=Z,48nm,1.3s
MVO Moncorvo 23.34 116 *e*P **P 16 59 03.5 +0.9**
comp=Z,48nm,1.3s
MFF Saint Martin d 23.51 97 *e*P **P 16 59 03.7 -0.4**
comp=Z,106nm,1.3s
MFF Saint Martin d 23.51 97 *e*P **P 16 59 03.7 -0.4**
MFF pmax pmax
comp=Z,106nm,1.3s
MFF Saint Martin d 23.51 97 *e*P **P 16 59 03.7 -0.4**
comp=Z,106nm,1.3s
MFF Saint Martin d 23.51 97 *e*P **P 16 59 03.7 -0.4**
comp=Z,53nm,1.3s
PTOM Tomar 23.81 121 *e*P **P 16 59 07.4 +0.3**
comp=Z,213nm,1.4s
PTOM Tomar 23.81 121 *e*P **P 16 59 07.4 +0.3**
comp=Z,213nm,1.4s
UCC Uccle 23.92 85 P **P 16 59 08.4 +0.4**
KONO Kongsberg 24.00 62 P **P 16 59 03.9 -4.8**
KONO Kongsberg 24.00 62 P **P 16 59 03.9 -4.8**
SNF Seneffe 24.01 85 P **P 16 59 08.3 -0.5**
PCBR Castelo Branco 24.10 119 *e*P **P 16 59 09.7 -0.1**
comp=Z,123nm,1.9s
PCBR Castelo Branco 24.10 119 *e*P **P 16 59 09.7 -0.1**
comp=Z,123nm,1.9s
BAIF Baives 24.17 86 *e*P **P 16 59 10.7 +0.3**
comp=Z,181nm,1.6s
BAIF Baives 24.17 86 *e*P **P 16 59 10.7 +0.3**
BAIF pmax pmax
comp=Z,181nm,1.6s
BAIF Baives 24.17 86 *e*P **P 16 59 10.7 +0.3**
comp=Z,181nm,1.6s
BAIF Baives 24.17 86 *e*P **P 16 59 10.7 +0.3**
comp=Z,91nm,1.6s
PMTG Montargil 24.33 121 *e*P **P 16 59 11.7 -0.2**
comp=Z,85nm,1.7s
PMTG Montargil 24.33 121 *e*P **P 16 59 11.7 -0.2**
comp=Z,85nm,1.7s
DOU Dourbes 24.38 86 P **P 16 59 12.4 +0.1**
comp=Z,13nm,1.9s
PMRV Marv??o 24.46 119 *e*P **P 16 59 13.6 +0.4**
comp=Z,69nm,1.8s
PMRV Marv??o 24.46 119 *e*P **P 16 59 13.6 +0.4**
comp=Z,69nm,1.8s
GIVF Givet 24.50 86 *e*P **P 16 59 12.3 -1.1**
GIVF Givet 24.50 86 *e*P **P 16 59 12.3 -1.1**
GIVF Givet 24.50 86 *e*P **P 16 59 12.3 -1.1**
GIVF Givet 24.50 86 *e*P **P 16 59 12.3 -1.1**
MUD Monsted U'grnd 24.50 69 *i* P **P 16 59 13.4 +0.1**
MUD pmax pmax
comp=Z,22nm,1.0s
MUD MLR MLR
comp=Z,2µm,24.0s
MUD Monsted U'grnd 24.50 69 *i* P **P 16 59 13.4 +0.1**
comp=Z,22nm,1.0s
MUD
comp=Z,2µm,24.0s
MUD Monsted U'grnd 24.50 69 *i* P **P 16 59 13.4 +0.1**
comp=Z,2µm,24.0s
NB2 NORSAR Subarra 24.58 58 P **P 16 59 13.4 -0.7**
comp=Z,84nm,1.7s,baz=279,slow=10
NB2 NORSAR Subarra 24.58 58 P **P 16 59 13.4 -0.7**
comp=Z,84nm,1.7s,baz=279,slow=9.6,SNR=9.7
NOA NORSAR Array B 24.58 58 P **P 16 59 14.0 -0.1**
NOA NORSAR Array B 24.58 58 P **P 16 59 14.0 -0.1**
comp=Z,9.6nm,0.9s,baz=279,slow=9.6,SNR=8.8
NOA NORSAR Array B 24.58 58 P **P 16 59 14.0 -0.1**
BCLA Clavier 24.63 85 P **P 16 59 11.6 -3.0**
comp=Z,9.7nm,1.5s
BEBN Eben Emael 24.66 84 P **P 16 59 15.0 +0.1**
MOE Montemor 24.70 122 *e*P **P 16 59 17.4 +2.1**
MOE Montemor 24.70 122 *e*P **P 16 59 17.4 +2.1**
HYF Humbligny 24.71 94 *e*P **P 16 59 14.8 -0.6**
HYF Humbligny 24.71 94 *e*P **P 16 59 14.8 -0.6**
HYF Humbligny 24.71 94 *e*P **P 16 59 14.8 -0.6**
PESTR Estremoz 24.80 121 *e*P **P 16 59 16.1 -0.1**
comp=Z,58nm,1.5s
PESTR Estremoz 24.80 121 *e*P **P 16 59 16.1 -0.1**
comp=Z,58nm,1.5s
EVOP Sao Brissos 24.80 122 *e*P **P 16 59 15.1 -1.1**
EVOP pmax pmax
comp=Z,65nm,1.1s
EVOP Sao Brissos 24.80 122 *e*P **P 16 59 15.1 -1.1**
comp=Z,65nm,1.1s
EVOP Sao Brissos 24.80 122 *e*P **P 16 59 15.1 -1.1**
comp=Z,32nm,1.1s
EVO Evora 24.85 122 *e*P **P 16 59 15.1 -1.6**
comp=Z,65nm,1.1s
EVO *e*R
comp=Z,6µm,19.2s
PNCL Nicolau / Gran 24.93 123 *e*P **P 16 59 17.0 -0.4**
comp=Z,56nm,1.5s
PNCL Nicolau / Gran 24.93 123 *e*P **P 16 59 17.0 -0.4**
comp=Z,56nm,1.5s
MEM Membach 24.94 84 P **P 16 59 15.1 -2.3**
comp=Z,18nm,1.5s
LFF La Frestale 25.00 100 *e*P **P 16 59 17.8 -0.1**
comp=Z,145nm,1.3s
LFF La Frestale 25.00 100 *e*P **P 16 59 17.8 -0.1**
LFF pmax pmax
comp=Z,145nm,1.3s
LFF La Frestale 25.00 100 *e*P **P 16 59 17.8 -0.1**
comp=Z,145nm,1.3s
LFF La Frestale 25.00 100 *e*P **P 16 59 17.8 -0.1**
comp=Z,72nm,1.3s
TCF Toulx Ste Croi 25.02 96 *e*P **P 16 59 17.5 -0.7**
comp=Z,120nm,1.2s
TCF Toulx Ste Croi 25.02 96 *e*P **P 16 59 17.5 -0.7**
TCF pmax pmax
comp=Z,120nm,1.2s
TCF Toulx Ste Croi 25.02 96 *e*P **P 16 59 17.5 -0.7**
comp=Z,120nm,1.2s
TCF Toulx Ste Croi 25.02 96 *e*P **P 16 59 17.5 -0.7**
comp=Z,60nm,1.2s
SJPF Ste Jean 25.07 105 *e*P **P 16 59 19.1 +0.5**
comp=Z,54nm,1.3s
SJPF Ste Jean 25.07 105 *e*P **P 16 59 19.1 +0.5**
SJPF pmax pmax
comp=Z,54nm,1.3s
SJPF Ste Jean 25.07 105 *e*P **P 16 59 19.1 +0.5**
comp=Z,54nm,1.3s
SJPF Ste Jean 25.07 105 *e*P **P 16 59 19.1 +0.5**
comp=Z,27nm,1.3s
IBBN Ibbenburen 25.18 79 *e*P **P 16 59 21.5 +2.0**
RJF Les Rejaudoux 25.21 98 *e*P **P 16 59 19.3 -0.6**
comp=Z,45nm,1.2s
RJF *e*R
comp=Z,9µm,22.0s
RJF Les Rejaudoux 25.21 98 *e*P **P 16 59 19.3 -0.6**
RJF pmax pmax
comp=Z,45nm,1.2s
RJF Les Rejaudoux 25.21 98 *e*P **P 16 59 19.3 -0.6**
comp=Z,45nm,1.2s
RJF Les Rejaudoux 25.21 98 *e*P **P 16 59 19.3 -0.6**
comp=Z,22nm,1.2s
BGF Bois d'Agland 25.23 95 *e*P **P 16 59 18.2 -1.8**
comp=Z,111nm,1.3s
BGF Bois d'Agland 25.23 95 *e*P **P 16 59 18.2 -1.8**
BGF pmax pmax
comp=Z,111nm,1.3s
BGF Bois d'Agland 25.23 95 *e*P **P 16 59 18.2 -1.8**
comp=Z,111nm,1.3s
BGF Bois d'Agland 25.23 95 *e*P **P 16 59 18.2 -1.8**
comp=Z,55nm,1.3s
BUG Bochum-Univer 25.28 81 *e*P **P 16 59 22.3 +1.9**
PTEO Sao Teotonio 25.30 124 *e*P **P 16 59 21.5 +0.8**
comp=Z,112nm,1.4s
PTEO Sao Teotonio 25.30 124 *e*P **P 16 59 21.5 +0.8**
comp=Z,112nm,1.4s
SSF Saint Saulge 25.32 93 *e*P **P 16 59 20.6 -0.2**
comp=Z,95nm,1.1s
SSF Saint Saulge 25.32 93 *e*P **P 16 59 20.6 -0.2**
SSF pmax pmax
comp=Z,95nm,1.1s
SSF Saint Saulge 25.32 93 *e*P **P 16 59 20.6 -0.2**
comp=Z,95nm,1.1s
SSF Saint Saulge 25.32 93 *e*P **P 16 59 20.6 -0.2**
comp=Z,48nm,1.1s
PBEJ Beja 25.32 122 *e*P **P 16 59 21.8 +0.9**
comp=Z,46nm,1.6s
PBEJ Beja 25.32 122 *e*P **P 16 59 21.8 +0.9**
comp=Z,46nm,1.6s
AVF Avril sur Loir 25.38 94 *e*P **P 16 59 20.3 -1.1**
comp=Z,115nm,1.4s
AVF Avril sur Loir 25.38 94 *e*P **P 16 59 20.3 -1.1**
AVF pmax pmax
comp=Z,115nm,1.4s
AVF Avril sur Loir 25.38 94 *e*P **P 16 59 20.3 -1.1**
comp=Z,115nm,1.4s
AVF Avril sur Loir 25.38 94 *e*P **P 16 59 20.3 -1.1**
comp=Z,58nm,1.4s
LOR Lormes 25.41 92 *e*P **P 16 59 21.0 -0.6**
comp=Z,71nm,1.2s
LOR *e*R
comp=Z,6µm,21.5s
LOR Lormes 25.41 92 *e*P **P 16 59 21.0 -0.6**
comp=Z,71nm,1.2s
LOR Lormes 25.41 92 *e*P **P 16 59 21.0 -0.6**
comp=Z,35nm,1.2s
MEZF Maizieres J'vi 25.43 89 *e*P **P 16 59 21.2 -0.6**
comp=Z,178nm,1.5s
MEZF Maizieres J'vi 25.43 89 *e*P **P 16 59 21.2 -0.6**
comp=Z,178nm,1.5s
MEZF Maizieres J'vi 25.43 89 *e*P **P 16 59 21.2 -0.6**
comp=Z,89nm,1.5s
WLF Walferdange 25.47 86 P **P 16 59 21.9 -0.2**
comp=Z,19nm,1.5s
WLF Walferdange 25.47 86 *e*P **P 16 59 24.1 +2.0**
WLF Walferdange 25.47 86 P **P 16 59 19.0 -3.2**
WLF pmax pmax
comp=Z,25nm,1.3s
WLF Walferdange 25.47 86 P **P 16 59 19.0 -3.2**
comp=Z,25nm,1.3s
MORF Marmelete 25.52 124 *e*P **P 16 59 23.2 +0.4**
comp=Z,86nm,1.3s
MORF Marmelete 25.52 124 *e*P **P 16 59 23.2 +0.4**
comp=Z,86nm,1.3s
PCVE Castro Verde 25.55 123 *e*P **P 16 59 23.4 +0.4**
comp=Z,65nm,1.2s
PCVE Castro Verde 25.55 123 *e*P **P 16 59 23.4 +0.4**
comp=Z,65nm,1.2s
SFTF Sexfontaines 25.57 90 *e*P **P 16 59 22.5 -0.6**
comp=Z,185nm,1.4s,baz=278
SFTF Sexfontaines 25.57 90 *e*P **P 16 59 22.5 -0.6**
comp=Z,185nm,1.4s
SFTF Sexfontaines 25.57 90 *e*P **P 16 59 22.5 -0.6**
comp=Z,93nm,1.4s
ETSF Etsaut 25.58 105 *e*P **P 16 59 24.0 +0.7**
comp=Z,97nm,1.3s
ETSF Etsaut 25.58 105 *e*P **P 16 59 24.0 +0.7**
ETSF pmax pmax
comp=Z,97nm,1.3s
ETSF Etsaut 25.58 105 *e*P **P 16 59 24.0 +0.7**
comp=Z,97nm,1.3s
ETSF Etsaut 25.58 105 *e*P **P 16 59 24.0 +0.7**
comp=Z,49nm,1.3s
PBAR Barrancos 25.61 121 *e*P **P 16 59 24.1 +0.6**
comp=Z,86nm,1.2s
CAF Calviac 25.75 99 *e*P **P 16 59 24.6 -0.2**
comp=Z,49nm,1.4s
CAF Calviac 25.75 99 *e*P **P 16 59 24.6 -0.2**
CAF pmax pmax
comp=Z,49nm,1.4s
CAF Calviac 25.75 99 *e*P **P 16 59 24.6 -0.2**
comp=Z,49nm,1.4s
CAF Calviac 25.75 99 *e*P **P 16 59 24.6 -0.2**
comp=Z,24nm,1.4s
PAGF Fort de Pagny 25.78 88 *e*P **P 16 59 22.5 -2.5**
comp=Z,18nm,1.3s
PAGF Fort de Pagny 25.78 88 *e*P **P 16 59 22.5 -2.5**
comp=Z,18nm,1.3s
PAGF Fort de Pagny 25.78 88 *e*P **P 16 59 22.5 -2.5**
comp=Z,9.0nm,1.3s
PAB San Pablo 25.91 115 *e*P **P 16 59 24.5 -1.9**
PAB pmax pmax
comp=Z,23nm,1.1s
PAB San Pablo 25.91 115 *e*P **P 16 59 24.5 -1.9**
comp=Z,23nm,1.1s
PAB San Pablo 25.91 115 *e*P **P 16 59 24.5 -1.9**
comp=Z,23nm,1.1s
PBDV Barranco-do-Ve 25.91 123 *e*P **P 16 59 28.0 +1.7**
comp=Z,105nm,1.6s
HFS Hagfors 25.94 59 P **P 16 59 25.9 -0.4**
HFS Hagfors 25.94 59 P **P 16 59 25.9 -0.4**
comp=Z,20nm,0.9s,baz=298,slow=6.6,SNR=14
HFS Hagfors 25.94 59 P **P 16 59 25.9 -0.4**
EPF Esparros 25.98 104 *e*P **P 16 59 30.1 +3.1**
comp=Z,52nm,1.4s
EPF Esparros 25.98 104 *e*P **P 16 59 30.1 +3.1**
EPF pmax pmax
comp=Z,52nm,1.4s
EPF Esparros 25.98 104 *e*P **P 16 59 30.1 +3.1**
comp=Z,52nm,1.4s
ESDC Sonseca Array 26.02 114 P **P 16 59 25.8 -1.5**
ESDC Sonseca Array 26.02 114 P **P 16 59 25.8 -1.5**
comp=Z,17nm,1.1s,baz=312,slow=8.2,SNR=20
ESDC LR LR 17 07 36.5
comp=Z,4µm,18.9s,baz=320,slow=32
ESDC Sonseca Array 26.02 114 P **P 16 59 25.8 -1.5**
NRDL Niedersach Rie 26.41 77 *e*P **P 16 59 31.2 +0.6**
HAU Haudompre 26.42 89 *e*P **P 16 59 29.4 -1.5**
comp=Z,113nm,1.4s
HAU *e*R
comp=Z,10µm,19.0s
HAU Haudompre 26.42 89 *e*P **P 16 59 29.4 -1.5**
HAU pmax pmax
comp=Z,113nm,1.4s
HAU Haudompre 26.42 89 *e*P **P 16 59 29.4 -1.5**
comp=Z,113nm,1.4s
HAU Haudompre 26.42 89 *e*P **P 16 59 29.4 -1.5**
comp=Z,56nm,1.4s
FRNY Flat Rock 26.50 263 *e*P **P 16 59 33.7 +2.2**
comp=Z,59nm,1.3s
FRNY Flat Rock 26.50 263 *e*P **P 16 59 33.7 +2.2**
comp=Z,59nm,1.3s
TNS Taunus Mts 26.50 83 *e*P **P 16 59 32.4 +0.8**
TNS Taunus Mts 26.50 83 *e*P **P 16 59 32.4 +0.8**
TNS Taunus Mts 26.50 83 *e*P **P 16 59 32.4 +0.8**
CDF Champ du Feu 26.74 87 *e*P **P 16 59 33.6 -0.2**
comp=Z,81nm,1.4s
CDF Champ du Feu 26.74 87 *e*P **P 16 59 33.6 -0.2**
CDF pmax pmax
comp=Z,81nm,1.4s
CDF Champ du Feu 26.74 87 *e*P **P 16 59 33.6 -0.2**
comp=Z,81nm,1.4s
CDF Champ du Feu 26.74 87 *e*P **P 16 59 33.6 -0.2**
comp=Z,40nm,1.4s
MDV Middlebury 26.79 261 *e*P **P 16 59 35.1 +1.1**
MDV Middlebury 26.79 261 *e*P **P 16 59 35.2 +1.1**
HINF Hinteralfeld 26.81 89 *e*P **P 16 59 33.9 -0.5**
comp=Z,98nm,1.4s
HINF Hinteralfeld 26.81 89 *e*P **P 16 59 33.9 -0.5**
HINF pmax pmax
comp=Z,98nm,1.4s
HINF Hinteralfeld 26.81 89 *e*P **P 16 59 33.9 -0.5**
comp=Z,98nm,1.4s
HINF Hinteralfeld 26.81 89 *e*P **P 16 59 33.9 -0.5**
comp=Z,49nm,1.4s
CLZ Clausthal 26.84 79 *e*P **P 16 59 35.5 +0.9**
comp=Z,49nm,1.5s
CLZ Clausthal 26.84 79 *e*P **P 16 59 35.5 +0.9**
CLZ pmax pmax
comp=Z,49nm,1.5s
CLZ Clausthal 26.84 79 *e*P **P 16 59 35.5 +0.9**
comp=Z,49nm,1.5s
CABF La Chapelle 27.04 92 *e*P **P 16 59 36.2 -0.3**
comp=Z,168nm,1.8s
CABF La Chapelle 27.04 92 *e*P **P 16 59 36.2 -0.3**
CABF pmax pmax
comp=Z,168nm,1.8s
CABF La Chapelle 27.04 92 *e*P **P 16 59 36.2 -0.3**
comp=Z,168nm,1.8s
CABF La Chapelle 27.04 92 *e*P **P 16 59 36.2 -0.3**
comp=Z,84nm,1.8s
UBBA Unterbreizbach 27.09 81 *e*P **P 16 59 37.9 +1.2**
MSNY Massena 27.12 264 *e*P **P 16 59 37.9 +0.8**
comp=Z,440nm,1.0s
MSNY Massena 27.12 264 *e*P **P 16 59 37.9 +0.8**
comp=Z,440nm,1.0s
LONY Lake Ozonia 27.19 263 *e*P **P 16 59 41.7 +3.9**
comp=Z,29nm,1.1s
VIVF Saint-Julien-l 27.26 96 *e*P **P 16 59 39.1 +0.6**
VIVF Saint-Julien-l 27.26 96 *e*P **P 16 59 39.1 +0.6**
VIVF Saint-Julien-l 27.26 96 *e*P **P 16 59 39.1 +0.6**
VIVF Saint-Julien-l 27.26 96 *e*P **P 16 59 39.1 +0.6**
LASF Ste Croix 27.28 98 *e*P **P 16 59 38.5 -0.1**
comp=Z,122nm,1.3s
LASF Ste Croix 27.28 98 *e*P **P 16 59 38.5 -0.1**
comp=Z,122nm,1.3s
LASF Ste Croix 27.28 98 *e*P **P 16 59 38.5 -0.1**
comp=Z,61nm,1.3s
BFO Black Forest 27.38 87 *e*P **P 16 59 40.0 +0.5**
comp=Z,50nm,1.5s
BFO Black Forest 27.38 87 *e*P **P 16 59 40.0 +0.5**
BFO pmax pmax
comp=Z,50nm,1.5s
BFO Black Forest 27.38 87 *e*P **P 16 59 39.2 -0.3**
comp=Z,40nm,1.3s
BFO Black Forest 27.38 87 *e*P **P 16 59 39.2 -0.3**
comp=Z,40nm,1.3s
STU Stuttgart 27.64 85 *e*P **P 16 59 42.3 +0.5**
STU Stuttgart 27.64 85 *e*P **P 16 59 43.4 +1.6**
STU Stuttgart 27.64 85 *e*Pn **P 16 59 43.4 +1.6**
STU Stuttgart 27.64 85 *e*P **P 16 59 43.4 +1.6**
SENIN Lac Senin/Sane 27.87 91 *e*P **P 16 59 48.5 +4.4**
comp=Z,27nm,1.4s
ORIF Oris-en-Rattie 27.91 95 *e*P **P 16 59 44.0 -0.3**
comp=Z,45nm,1.3s
ORIF *e*R
comp=Z,8µm,19.5s
ORIF Oris-en-Rattie 27.91 95 *e*P **P 16 59 44.0 -0.3**
ORIF pmax pmax
comp=Z,45nm,1.3s
ORIF Oris-en-Rattie 27.91 95 *e*P **P 16 59 44.0 -0.3**
comp=Z,45nm,1.3s
ORIF Oris-en-Rattie 27.91 95 *e*P **P 16 59 44.0 -0.3**
comp=Z,22nm,1.3s
LPL La Plagne 28.04 93 *e*P **P 16 59 45.5 -0.1**
comp=Z,20nm,1.0s
LPL La Plagne 28.04 93 *e*P **P 16 59 45.5 -0.1**
LPL pmax pmax
comp=Z,20nm,1.0s
LPL La Plagne 28.04 93 *e*P **P 16 59 45.5 -0.1**
comp=Z,20nm,1.0s
LPL La Plagne 28.04 93 *e*P **P 16 59 45.5 -0.1**
comp=Z,10.0nm,1.0s
LPG La Plagne 28.06 93 *e*P **P 16 59 45.7 -0.2**
comp=Z,62nm,1.5s
LPG La Plagne 28.06 93 *e*P **P 16 59 45.7 -0.2**
LPG pmax pmax
comp=Z,62nm,1.5s
LPG La Plagne 28.06 93 *e*P **P 16 59 45.7 -0.2**
comp=Z,62nm,1.5s
LPG La Plagne 28.06 93 *e*P **P 16 59 45.7 -0.2**
comp=Z,31nm,1.5s
MOX Moxa 28.08 80 *e*P **P 16 59 46.4 +0.7**
comp=Z,49nm,1.6s
MOX Moxa 28.08 80 *e*P **P 16 59 46.4 +0.7**
MOX pmax pmax
comp=Z,49nm,1.6s
MOX Moxa 28.08 80 *e*P **P 16 59 46.4 +0.7**
comp=Z,49nm,1.6s
SMRF Simiane la Rot 28.31 97 *e*P **P 16 59 48.6 +0.7**
SMRF Simiane la Rot 28.31 97 *e*P **P 16 59 48.6 +0.7**
SMRF Simiane la Rot 28.31 97 *e*P **P 16 59 48.6 +0.7**
GRA1 Grafenberg Arr 28.32 82 *e*P **P 16 59 49.0 +1.1**
comp=Z,2µm,20.2s
GRF Grafenberg Arr 28.32 82 *e*P **P 16 59 49.0 +1.1**
comp=Z,105nm,1.6s
GRF *e*L L 17 09 55.8
comp=Z,3µm,20.2s
GRF Grafenberg Arr 28.32 82 *e*P **P 16 59 49.0 +1.1**
GRF pmax pmax
comp=Z,105nm,1.6s
GRF MLR MLR
comp=Z,2µm,20.2s
GRFO Grafenberg 28.32 82 *e*P **P 16 59 48.8 +0.9**
GRFO pmax pmax
comp=Z,138nm,1.8s
GRFO Grafenberg 28.32 82 *e*P **P 16 59 48.8 +0.9**
comp=Z,138nm,1.8s
GRFO Grafenberg 28.32 82 *e*P **P 16 59 48.8 +0.9**
comp=Z,138nm,1.8s
MBDF Montbardon 28.53 94 *e*P **P 16 59 49.8 -0.1**
comp=Z,57nm,1.6s
MBDF Montbardon 28.53 94 *e*P **P 16 59 49.8 -0.1**
MBDF pmax pmax
comp=Z,57nm,1.6s
MBDF Montbardon 28.53 94 *e*P **P 16 59 49.8 -0.1**
comp=Z,57nm,1.6s
MBDF Montbardon 28.53 94 *e*P **P 16 59 49.8 -0.1**
comp=Z,29nm,1.6s
CLL Collm 28.55 78 *e*P **P 16 59 50.1 +0.3**
comp=Z,41nm,1.6s
CLL Collm 28.55 78⇑ *i*P **P 16 59 50.1 +0.3**
CLL *i* 16 59 53.7
CLL *e*S **S 17 04 39.0 +2.0**
CLL pmax pmax
comp=Z,17nm,1.3s
CLL MLR MLR
comp=Z,2µm,21.3s
CLL Collm 28.55 78⇑ *i*P **P 16 59 50.1 +0.3**
comp=Z,17nm,1.3s
CLL *i* pP **pP 16 59 53.7 -0.8**
comp=Z,41nm,1.6s
CLL *e*PP **PnPn 17 00 42.0 +2.6**
CLL *e*S **S 17 04 39.0 +2.0**
CLL *e*SS **SnSn 17 05 54.0 -2.1**
CLL LmV 17 10 00.0
comp=Z,2µm,21.3s
CLL LmH 17 10 00.0
comp=N,2µm,18.5s
CLL LmH 17 10 00.0
comp=E,2µm,21.2s
CLL Collm 28.55 78 *i* P **P 16 59 50.1 +0.3**
comp=E,17nm,1.3s
SPITS Spitsbergen Ar 28.66 20 LR LR 17 08 17.1
comp=E,956nm,20.1s,baz=255,slow=30
TANN Tannenbergstha 28.67 80 *e*P **P 16 59 51.6 +0.6**
NKC Novy Kostel 28.75 80 *e*P **P 16 59 52.3 +0.7**
NKC *e* 16 59 56.4
NKC MLR MLR
comp=Z,3µm,15.1s
NKC Novy Kostel 28.75 80 *e*P **P 16 59 52.3 +0.7**

NKC epP pP 16 59 56.4 +0.1
NKC AMS AMS 17 11 30.0
comp=Z,3µm,15.1s
NKC Novy Kostel 28.75 80 *e*P P 16 59 52.3 +0.7
comp=Z,3µm,15.1s
ROTZ Rotzenmuhle 28.84 81 *e*P P 16 59 53.4 +0.9
TUE Stuetta 28.97 89 *e*P P 16 59 55.3 +1.4
comp=Z,50nm,1.5s
TUE Stuetta 28.97 89 *e*P P 16 59 55.3 +1.4
comp=Z,50nm,1.5s
DAVOX Davos/Dischmat 29.10 88 P P 16 59 54.7 -0.3
DAVOX Davos/Dischmat 29.10 88 P P 16 59 54.7 -0.3
comp=Z,5.8nm,0.9s,baz=295,slow=12,SNR=7.0
DAVOX LR LR 17 11 14.5
comp=Z,8µm,18.1s,baz=290,slow=36
DAVOX Davos/Dischmat 29.10 88 P P 16 59 54.7 -0.3
FUR Furstenfeldbru 29.14 85 *e*P P 16 59 56.0 +0.9
comp=Z,42nm,1.2s
FUR Furstenfeldbru 29.14 85 *e*P P 16 59 56.0 +0.9
FUR pmax pmax
comp=Z,42nm,1.2s
FUR Furstenfeldbru 29.14 85 *e*P P 16 59 56.0 +0.9
comp=Z,42nm,1.2s
RETA Reutte 29.21 86⇑*i*P P 16 59 56.0 +0.1
comp=Z,20nm,1.2s
LMR La Mourre 29.24 97 *e*P P 16 59 56.3 +0.2
comp=Z,132nm,1.8s
LMR La Mourre 29.24 97 *e*P P 16 59 56.3 +0.2
LMR pmax pmax
comp=Z,132nm,1.8s
LMR La Mourre 29.24 97 *e*P P 16 59 56.3 +0.2
comp=Z,132nm,1.8s
LMR La Mourre 29.24 97 *e*P P 16 59 56.3 +0.2
comp=Z,66nm,1.8s
BRG Berggiesshubel 29.27 78 *e*P P 16 59 56.6 +0.3
comp=Z,7.5nm,1.2s
BRG PP PnPn 17 00 47.0 -2.3
BRG S S 17 04 46.0 -2.4
BRG
comp=N,3µm,18.5s
BRG
comp=E,2µm,18.6s
BRG
comp=Z,3µm,21.0s
BRG Berggiesshubel 29.27 78 *e*P P 16 59 56.7 +0.4
comp=Z,37nm,1.8s
BRG Berggiesshubel 29.27 78 *e*P P 16 59 56.6 +0.3
BRG 17 00 47.0
BRG S S 17 04 46.0 -2.4
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG MLR MLR
comp=N,3µm,18.5s
BRG MLR MLR
comp=E,2µm,18.6s
BRG MLR MLR
comp=Z,3µm,21.0s
BRG Berggiesshubel 29.27 78 *e*P P 16 59 56.6 +0.3
comp=Z,8.0nm,1.2s
FUORN Ofenpass-Fuorn 29.41 88 *e*P P 17 00 00.2 +2.3
comp=Z,38nm,1.3s
FUORN Ofenpass-Fuorn 29.41 88 *e*P P 17 00 00.2 +2.3
comp=Z,38nm,1.3s
SBF Sospel 29.44 95 *e*P P 16 59 58.1 +0.2
comp=Z,141nm,1.5s
SBF Sospel 29.44 95 *e*P P 16 59 58.1 +0.2
SBF pmax pmax
comp=Z,141nm,1.5s
SBF Sospel 29.44 95 *e*P P 16 59 58.1 +0.2
comp=Z,141nm,1.5s
SBF Sospel 29.44 95 *e*P P 16 59 58.1 +0.2
comp=Z,71nm,1.5s
FETA Feichten 29.45 87⇓*i*pP P 16 59 59.0 +0.9
comp=Z,20nm,1.3s
WET Wettzell 29.53 82 *e*P P 16 59 59.5 +0.9
comp=Z,46nm,1.4s
WET Wettzell 29.53 82 *e*P P 16 59 59.5 +0.9
WET pmax pmax
comp=Z,46nm,1.4s
WET Wettzell 29.53 82 *e*P P 16 59 59.5 +0.9
comp=Z,46nm,1.4s
RES Resolute Bay 29.68 332 *e*P P 16 59 59.3 -0.3
comp=Z,7.9nm,0.8s
RES Resolute Bay 29.68 332 P P 16 59 59.5 -0.1
comp=Z,6.3nm,0.8s,baz=102,slow=8.8,SNR=22
RES Resolute Bay 29.68 332 *e*P P 16 59 59.3 -0.3
comp=Z,8.0nm,0.8s
PVCC Panska Ves 29.79 79 *e*P P 17 00 01.2 +0.3
PVCC *e* 17 00 05.5
PVCC MLR MLR
comp=Z,2µm,16.2s
PVCC Panska Ves 29.79 79 *e*P P 17 00 01.2 +0.3
PVCC *ep*P pP 17 00 05.5 0.0
PVCC AMS AMS 17 12 50.0
comp=Z,2µm,16.2s
PVCC Panska Ves 29.79 79 *e*P P 17 00 01.2 +0.3
comp=Z,2µm,16.2s
ARCES ARCESS Array B 29.80 38 P P 17 00 00.3 -0.4
ARCES ARCESS Array B 29.80 38 P P 17 00 00.3 -0.4
comp=Z,14nm,0.9s,baz=296,slow=12,SNR=6.8
ARCES ARCESS Array B 29.80 38 P P 17 00 00.4 -0.4
KHC Kasperske Hory 29.93 82 *e*P P 17 00 01.3 -0.9
KHC *e* 17 05 05.0
KHC MLR MLR
comp=Z,3µm,22.3s
KHC Kasperske Hory 29.93 82 *e*P P 17 00 00.6 -1.6
comp=Z,22nm,1.3s
KHC Kasperske Hory 29.93 82 *e*P P 17 00 01.3 -0.9
KHC *e*S S 17 05 05.0 +6.1
KHC AMS AMS 17 10 30.0
comp=Z,3µm,22.3s
KHC Kasperske Hory 29.93 82 *e*P P 17 00 01.3 -0.9
comp=Z,3µm,22.3s
PRU Pruhonice 30.04 79 *e*P P 17 00 07.7 +4.6
PRU MLR MLR
comp=Z,2µm,17.3s
PRU Pruhonice 30.04 79 *e*P P 17 00 07.7 +4.6
PRU AMS AMS 17 12 00.0
comp=Z,2µm,17.3s
GEC2 GERESS Array S 30.15 82 *e*P P 17 00 05.1 +0.9
comp=Z,42nm,1.5s
GEC2 GERESS Array S 30.15 82 *e*P P 17 00 05.1 +0.9
GEC2 pmax pmax
comp=Z,42nm,1.5s
GEC2 GERESS Array S 30.15 82 *e*P P 17 00 05.1 +0.9
comp=Z,42nm,1.5s
GERES GERESS Array B 30.15 82 P P 17 00 04.0 -0.2
GERES GERESS Array B 30.15 82 P P 17 00 04.0 -0.2
comp=Z,4.5nm,1.0s,baz=322,slow=6.2,SNR=3.8
GERES GERESS Array B 30.15 82 P P 17 00 04.0 -0.2
KSP Ksiaz 30.60 77 *e*P P 17 00 08.7 +0.7
KSP LMZ LR 17 10 37.0
comp=Z,3µm,23.0s
KSP Ksiaz 30.60 77 *e*P P 17 00 08.7 +0.7
KSP LMZ LR 17 10 37.0
comp=Z,3µm,23.0s
KSP Ksiaz 30.60 77 *e*P P 17 00 08.2 +0.2
KSP MLR MLR
comp=Z,7µm,23.0s
KSP Ksiaz 30.60 77 *e*P P 17 00 08.2 +0.2
UPC Upice 30.61 78 *e*P P 17 00 08.2 +0.1
UPC *e* 17 00 13.0
UPC Upice 30.61 78 *e*P P 17 00 08.2 +0.1
UPC *ep*P pP 17 00 13.0 +0.3
UPC Upice 30.61 78 *e*P P 17 00 08.2 +0.1
DPC Dobruska-Polom 30.86 78 *e*P P 17 00 10.9 +0.6
DPC *e* 17 00 15.3
DPC *e* 17 05 19.1
DPC MLR MLR
comp=Z,3µm,14.6s
DPC Dobruska-Polom 30.86 78 *e*P P 17 00 10.9 +0.6
comp=Z,56nm,1.3s
DPC Dobruska-Polom 30.86 78 *e*P P 17 00 10.9 +0.6
DPC *ep*P pP 17 00 15.3 +0.3
DPC *e*S S 17 05 19.1 +5.8
DPC AMS AMS 17 13 20.0
comp=Z,3µm,14.6s
DPC Dobruska-Polom 30.86 78 *e*P P 17 00 10.9 +0.6
TREC Trest 30.92 80 *e*P P 17 00 12.0 +1.1
TREC MLR MLR
comp=Z,3µm,15.4s
TREC Trest 30.92 80 *e*P P 17 00 12.0 +1.1
TREC AMS AMS 17 12 40.0
comp=Z,3µm,15.4s
TREC Trest 30.92 80 *e*P P 17 00 12.0 +1.1
comp=Z,3µm,15.4s

MDT Midelt 31.09 124 P P 17 00 12.1 -0.5
MDT Midelt 31.09 124 P P 17 00 12.1 -0.5
comp=Z,16nm,1.1s,baz=326,slow=9.7,SNR=8.9
MDT LR LR 17 11 47.4
comp=Z,2µm,18.3s,baz=172,slow=35
MDT Midelt 31.09 124 P P 17 00 12.1 -0.5
PGF Pioggiola 31.15 96 *e*P P 17 00 13.7 +0.6
comp=Z,70nm,1.4s
PGF Pioggiola 31.15 96 *e*P P 17 00 13.7 +0.6
PGF pmax pmax
comp=Z,70nm,1.4s
PGF Pioggiola 31.15 96 *e*P P 17 00 13.7 +0.6
comp=Z,70nm,1.4s
PGF Pioggiola 31.15 96 *e*P P 17 00 13.7 +0.6
comp=Z,35nm,1.4s
KAF Kangasniemi 31.40 52 *e*P P 17 00 13.7 -1.3
KAF pmax pmax
comp=Z,13nm,0.7s
KAF Kangasniemi 31.40 52 *ep* P 17 00 13.7 -1.3
comp=Z,13nm,0.7s
KAF Kangasniemi 31.40 52 *e*P P 17 00 13.7 -1.3
comp=Z,13nm,0.7s
FINES FINESS Array B 31.49 54 P P 17 00 15.8 0.0
FINES FINESS Array B 31.49 54 P P 17 00 15.8 0.0
comp=Z,14nm,0.9s,baz=262,slow=5.8,SNR=11
FINES FINESS Array B 31.49 54 P P 17 00 15.8 0.0
VRAC Vranov 31.54 79 P P 17 00 15.5 -0.8
VRAC Vranov 31.54 79 P P 17 00 15.5 -0.8
comp=Z.1.9nm,0.3s,baz=294,slow=11,SNR=5.8
VRAC Vranov 31.54 79 P P 17 00 15.5 -0.8
MORC Moravsky Berou 31.82 78⇓*i*P P 17 00 19.5 +0.6
MORC Moravsky Berou 31.82 78 *e*P P 17 00 17.6 -1.3
comp=Z,23nm,1.4s
MORC Moravsky Berou 31.82 78⇓*i*P P 17 00 19.5 +0.6
MORC Moravsky Berou 31.82 78⇓*i*P P 17 00 19.5 +0.6
SDMD Soldier's Deli 31.88 257 *e*P P 17 00 20.8 +1.4
SDMD Soldier's Deli 31.88 257 *e*P P 17 00 20.8 +1.4
ARSA Arzberg 32.04 83⇑*i*P P 17 00 21.1 +0.3
comp=Z,12nm,1.0s
SOKA Soboth 32.09 85⇓*i*P P 17 00 19.5 -1.8
comp=Z,19nm,1.3s
OKC Ostrava-Krasne 32.13 77 *e*P P 17 00 21.9 +0.4
OKC *e* 17 00 26.0
OKC MLR MLR
comp=Z,3µm,14.5s
OKC Ostrava-Krasne 32.13 77 *e*P P 17 00 21.9 +0.4
OKC *ep*P pP 17 00 26.0 -0.1
OKC AMS AMS 17 14 20.0
comp=Z,3µm,14.5s
OKC Ostrava-Krasne 32.13 77 *e*P P 17 00 21.9 +0.4
comp=Z,3µm,14.5s
ALLY Alegheny Colle 32.22 264 *e*P P 17 00 19.3 -3.0
comp=Z,22nm,0.9s
SOP Sopron 32.39 82⇑*e* P 17 00 24.9 +1.2
BEL Belsk 32.59 73 *e*P P 17 00 30.5 +5.0
BEL LMZ LR 17 13 02.4
comp=Z,4µm,20.8s
BEL Belsk 32.59 73 *e*P P 17 00 30.5 +5.0
BEL LMZ LR 17 13 02.4
comp=Z,4µm,20.8s
BEL Belsk 32.59 73 *e*P P 17 00 30.5 +5.0
BEL MLR MLR
comp=Z,4µm,20.8s
VSU Vasula 32.81 59*c i*P P 17 00 27.1 -0.2
VSU pmax pmax
comp=Z,31nm,1.3s
VSU Vasula 32.81 59 *i* P P 17 00 27.1 -0.2
comp=Z,31nm,1.3s
OJC Ojcow 32.85 76 *e*P P 17 00 27.1 -0.7
OJC Ojcow 32.85 76 *e*P P 17 00 27.8 0.0
OJC pmax pmax
comp=Z,29nm,1.1s
OJC Ojcow 32.85 76 *e*P P 17 00 27.8 0.0
comp=Z,29nm,1.1s
OJC Ojcow 32.85 76 *e*P P 17 00 27.8 0.0
comp=Z,29nm,1.1s
SUW Suwalki 32.85 68 *e*P P 17 00 27.9 +0.2
SUW LMZ LR 17 10 59.1
comp=Z,1µm,27.1s
SUW Suwalki 32.85 68 *e*P P 17 00 27.9 +0.2
SUW LMZ LR 17 10 59.1
comp=Z,1µm,27.1s
SUW Suwalki 32.85 68 *e*P P 17 00 27.9 +0.2
SUW MLR MLR
comp=Z,1µm,27.1s
SUW Suwalki 32.85 68 *e*P P 17 00 27.4 -0.3
comp=Z,47nm,1.0s
SUW Suwalki 32.85 68 *e*P P 17 00 27.4 -0.3
comp=Z,47nm,1.0s
APA Apatity 32.96 41⇑*e*P P 17 00 29.0 +0.5
APA Apatity 32.96 41 *e*P P 17 00 29.0 +0.5
BEHE Becsehely 33.19 84 *ep*P P 17 00 31.0 +0.2
VYHS Vyhne 33.22 79 *e*P P 17 00 31.7 +0.6
VYHS pmax pmax
comp=Z,12nm,1.4s
VYHS Vyhne 33.22 79 *e*P P 17 00 31.7 +0.6
VYHS Vyhne 33.22 79 *e*P P 17 00 31.7 +0.6
comp=Z,12nm,1.4s
JOF Joensuu 33.38 50 *e*P P 17 00 30.8 -1.4
JOF pmax pmax
comp=Z,4.0nm,0.8s
JOF Joensuu 33.38 50 *ep* P 17 00 30.8 -1.4
comp=Z,4.0nm,0.8s
JOF Joensuu 33.38 50 *e*P P 17 00 30.8 -1.4
comp=Z,4.0nm,0.8s
PKSG 33.58 81⇑*e* P 17 00 34.9 +0.7
BUD Budapest 33.88 81⇑*ep*P P 17 00 38.0 +1.2
PSZ Piszkesteto 34.13 79⇓*i*P P 17 00 39.5 +0.4
PSZ Piszkesteto 34.13 79 *e*P P 17 00 39.7 +0.7
comp=Z,36nm,1.3s
PSZ Piszkesteto 34.13 79⇓*i*P P 17 00 39.5 +0.4
PSZ Piszkesteto 34.13 79⇑*e* P 17 00 40.3 +1.2
PSZ Piszkesteto 34.13 79⇓*i*P P 17 00 39.5 +0.4
NACGM Naroch 34.32 65 *e* P 17 00 38.0 -2.5
RHK3 Tenkes 34.37 83⇑*e* P 17 00 41.1 +0.1
PKSM Moragy 34.40 83⇓*i*P P 17 00 41.2 -0.1
PKSM Moragy 34.40 83⇓*i*P P 17 00 41.2 -0.1
PKSM Moragy 34.40 83⇓*e* P 17 00 41.2 -0.1
PKSM Moragy 34.40 83⇓*e*P P 17 00 41.2 -0.1
CRVS Cervenica-Dubn 34.46 77 *e*P P 17 00 42.6 +0.8
CRVS pmax pmax
comp=Z,33nm,1.4s
CRVS Cervenica-Dubn 34.46 77 *e*P P 17 00 42.6 +0.8
CRVS Cervenica-Dubn 34.46 77 *e*P P 17 00 42.6 +0.8
comp=Z,33nm,1.4s
ACSO Alum Creek Sta 34.77 264 *e*P P 17 00 47.2 +2.7
comp=Z,56nm,1.4s
ACSO Alum Creek Sta 34.77 264 *e*P P 17 00 47.2 +2.7
comp=Z,56nm,1.4s
EYMN Ely 34.85 282 *e*P P 17 00 43.8 -1.4
comp=Z,31nm,1.1s
EYMN Ely 34.85 282 *e*P P 17 00 43.8 -1.4
comp=Z,31nm,1.1s
KOLS Kolonicke sedl 34.90 76 *e*P P 17 00 46.5 +0.9
KOLS pmax pmax
comp=Z,30nm,1.7s
KOLS Kolonicke sedl 34.90 76 *e*P P 17 00 46.5 +0.9
KOLS Kolonicke sedl 34.90 76 *e*P P 17 00 46.5 +0.9
comp=Z,30nm,1.7s
MNK Minsk 35.05 65 *e*P P 17 00 46.0 -0.8
MNK Minsk 35.05 65 *e*P P 17 00 46.0 -0.8
UZH Uzhgorod 35.07 77 *e*P P 17 00 47.0 -0.1
UZH *e*S S 17 06 15.4 -3.3
UZH eSSS SSS 17 08 39.0
UZH MLR MLR
comp=N,1µm,18.0s
UZH MLR MLR
comp=E,950nm,18.0s
UZH MLR MLR
comp=Z,1µm,18.0s
UZH Uzhgorod 35.07 77 *e*P P 17 00 47.0 -0.1
MICGM Minsk 35.07 65 *e* P 17 00 46.0 -1.0
VWCC Virginia Weste 35.15 258 *e*P P 17 00 46.8 -1.1
VWCC Virginia Weste 35.15 258 *e*P P 17 00 46.8 -1.1
LVV L'vov 35.38 74 *e*P P 17 00 53.3 +3.6
LVV *e* 17 00 59.3
LVV *e*S S 17 06 25.1 +1.6
LVV MLR MLR
comp=N,200nm,17.0s
LVV MLR MLR
comp=E,200nm,17.0s
LVV MLR MLR
comp=Z,200nm,17.0s
TRPA Tarpa 35.49 77⇑*i*P P 17 00 51.3 +0.7
TRPA Tarpa 35.49 77⇓*e* P 17 00 51.1 +0.5

TRPA Tarpa 35.49 77⇑*i*P P 17 00 51.3 +0.7
ULM Lac du Bonnet 36.00 288 P P 17 00 54.3 -0.7
ULM PcP PcP 17 03 19.4 -1.8
ULM Lac du Bonnet 36.00 288 P P 17 00 54.3 -0.7
comp=Z,9.8nm,0.8s,baz=65,slow=8.2,SNR=11
ULM PcP PcP 17 03 19.4 -1.8
comp=Z,4.0nm,0.9s,baz=15,slow=4.9,SNR=3.0
ULM LR LR 17 14 22.7
comp=Z,5µm,19.1s,baz=90,slow=34
ULM Lac du Bonnet 36.00 288 P P 17 00 54.3 -0.7
ULM Lac du Bonnet 36.00 288 PcP PcP 17 03 19.4 -1.8
KEST Kesra 36.06 104 P P 17 00 55.3 -0.5
KEST Kesra 36.06 104 P P 17 00 55.3 -0.5
comp=Z,6.1nm,1.0s,baz=345,slow=0.2,SNR=11
KEST Kesra 36.06 104 P P 17 00 55.3 -0.5
DRGR 36.35 79⇓*i*P P 17 00 59.0 +0.9
DRGR 36.35 79⇓*i*P P 17 00 59.0 +0.9
DRGR 36.35 79⇓*i*P P 17 00 59.0 +0.9
BZS Buzias 36.42 81⇑P P 17 00 59.7 +1.0
BZS Buzias 36.42 81⇑*i*P P 17 00 59.7 +1.0
BZS Buzias 36.42 81⇑*i*P P 17 00 59.7 +1.0
FFC Flin Flon 36.91 297 *e*P P 17 01 01.8 -0.9
FFC pmax pmax
comp=Z,25nm,1.2s
FFC Flin Flon 36.91 297 *e*P P 17 01 01.8 -0.9
comp=Z,25nm,1.2s
FFC Flin Flon 36.91 297 *e*P P 17 01 01.8 -0.9
comp=Z,25nm,1.2s
GZR Gura Zlata 37.21 81⇓P P 17 01 05.5 0.0
GZR Gura Zlata 37.21 81⇓*i*P P 17 01 05.5 0.0
GZR Gura Zlata 37.21 81⇓*i*P P 17 01 05.5 0.0
BURAR Bucovina Array 37.26 76⇑*i*P P 17 01 06.5 +0.5
BLO Bloomington 37.49 266 *e*P P 17 01 11.3 +3.4
BLO pmax pmax
comp=Z,65nm,1.3s
BLO Bloomington 37.49 266 *e*P P 17 01 11.3 +3.4
comp=Z,65nm,1.3s
KIEV Kiev 37.71 70 *e*P P 17 01 07.7 -1.8
KIEV pmax pmax
comp=Z,25nm,0.9s
KIEV Kiev 37.71 70 *e*P P 17 01 07.7 -1.8
comp=Z,25nm,0.9s
KIEV Kiev 37.71 70 *e*P P 17 01 07.7 -1.8
comp=Z,25nm,0.9s
AKASG Malin Array Be 37.71 70 P P 17 01 08.6 -1.0
AKASG Malin Array Be 37.71 70 P P 17 01 08.6 -1.0
AKASG Malin Array Be 37.71 70 P P 17 01 08.6 -1.0
comp=Z,13nm,0.8s,baz=303,slow=8.4,SNR=21
AKASG LR LR 17 17 44.7
comp=Z,2µm,18.0s,baz=285,slow=38
AKASG Malin Array Be 37.71 70 P P 17 01 08.6 -1.0
KLMR Klimovskoe 37.76 50 *e*P P 17 01 08.8 -1.0
KLMR pmax pmax
comp=Z,136nm,1.5s
KLMR MLR MLR
comp=Z,952nm,13.0s
KLMR Klimovskoe 37.76 50 *e*P P 17 01 08.8 -1.0
comp=Z,952nm,13.0s
TIP Timpagrande 37.79 93 *e*P P 17 01 10.7 +0.3
comp=Z,37nm,1.3s
TIP Timpagrande 37.79 93 *e*P P 17 01 10.7 +0.3
comp=Z,37nm,1.3s
NHSC New Hope 38.31 253 *e*P P 17 01 16.4 +1.6
comp=Z,150nm,1.2s
NHSC New Hope 38.31 253 *e*P P 17 01 16.4 +1.6
comp=Z,150nm,1.2s
TKL Tuckaleechee C 38.41 260 P P 17 01 16.5 +0.8
TKL Tuckaleechee C 38.41 260 P P 17 01 16.5 +0.8
comp=Z,4.7nm,1.1s,baz=136,slow=2.7,SNR=4.7
TKL Tuckaleechee C 38.41 260 P P 17 01 16.5 +0.8
VOIR 38.46 79⇓P P 17 01 16.0 -0.1
VOIR 38.46 79⇓*i*P P 17 01 16.0 -0.1
VOIR 38.46 79⇓*i*P P 17 01 16.0 -0.1
OLIL Olney 38.69 267 *e*P P 17 01 12.1 -5.8
comp=Z,58nm,1.0s
MLR Muntele Rosu 38.93 79 P P 17 01 20.2 +0.2
MLR Muntele Rosu 38.93 79⇓*i*P P 17 01 20.3 +0.2
MLR Muntele Rosu 38.93 79 P P 17 01 20.2 +0.2
comp=Z,1.0nm,0.8s,baz=162,slow=17,SNR=2.8
MLR Muntele Rosu 38.93 79⇓*i*P P 17 01 20.3 +0.2
CPCT Cooper Cave 38.98 260 *e*P P 17 01 24.0 +3.5
YKA Yellowknife Ar 39.06 314 P P 17 01 19.6 -1.2
YKA PcP PcP 17 03 29.6 -0.7
YKA Yellowknife Ar 39.06 314 P P 17 01 19.6 -1.2
comp=Z,2.8nm,0.7s,baz=60,slow=8.9,SNR=4.7
YKA PcP PcP 17 03 29.6 -0.7
comp=Z,1.6nm,0.8s,baz=53,slow=3.6,SNR=6.8
YKA Yellowknife Ar 39.06 314 P P 17 01 19.6 -1.2
YKA Yellowknife Ar 39.06 314 PcP PcP 17 03 29.6 -0.7
OBN Obninsk 39.15 60⇓*i*P P 17 01 21.3 -1.1
OBN *e* 17 02 52.4
OBN *e* 17 03 32.2
OBN *e*S S 17 07 20.3 -0.2
OBN pmax pmax
comp=Z,60nm,1.2s
OBN Obninsk 39.15 60 *e*P P 17 01 21.3 -0.2
comp=Z,73nm,1.3s
OBN Obninsk 39.15 60 *e*P P 17 01 21.3 -0.2
comp=Z,73nm,1.3s
OBN Obninsk 39.15 60 *e*PcP PcP 17 03 32.2 +1.5
OBN *e*S S 17 07 20.3 -0.2
VTS Vitosha 39.20 84⇓P P 17 01 23.1 +0.7
VTS Vitosha 39.20 84⇓*i*P P 17 01 23.1 +0.7
VTS Vitosha 39.20 84⇓*i*P P 17 01 23.1 +0.7
MDND Maddock 39.38 287⇑P P 17 01 25.5 +1.9
baz=39
KIS Kishinev 39.61 75 *e*P P 17 01 27.0 +1.5
KIS *e* 17 03 02.0
KIS *e*S S 17 07 31.0 +3.4
KIS MLR MLR
comp=Z,2µm,17.0s
KIS MLR MLR
comp=N,2µm,16.0s
KIS MLR MLR
comp=Z,2µm,17.0s
KIS Kishinev 39.61 75 *e*P P 17 01 27.0 +1.5
KIS Kishinev 39.61 75 *e*PP PP 17 03 02.0 +5.7
KIS *e*S S 17 07 31.0 +3.4
KIS *e*LQ LQ 17 14 26.0
KIS LRM MLR 17 18 48.0
comp=Z,2µm,16.0s
KIS Kishinev 39.61 75 *e*P P 17 01 27.0 +1.5
KIS *e*S S 17 07 31.0 +3.4
GOGA Godfrey 39.90 257 *e*P P 17 01 16.7 -11
GOGA Godfrey 39.90 257 *e*P P 17 01 16.7 -11
SWET Sewanee 39.94 261 *e*P P 17 01 33.1 +4.6
comp=Z,14nm,1.0s
SIUC Southern Illin 40.03 267 *e*P P 17 01 28.8 -0.3
comp=Z,40nm,0.9s
SIUC Southern Illin 40.03 267 *e*P P 17 01 28.8 -0.3
comp=Z,40nm,0.9s
ECSD EROS Data Cent 40.23 280 *e*P P 17 01 30.5 -0.3
comp=Z,30nm,1.2s
ECSD EROS Data Cent 40.23 280 *e*P P 17 01 30.5 -0.3
comp=Z,30nm,1.2s
WVT Waverly 40.36 264 *e*P P 17 01 30.0 -1.9
WVT pmax pmax
comp=Z,40nm,1.4s
WVT Waverly 40.36 264 *e*P P 17 01 30.0 -1.9
comp=Z,40nm,1.4s
WVT Waverly 40.36 264 *e*P P 17 01 30.0 -1.9
comp=Z,40nm,1.4s
A24A Westby 41.11 291⇓P P 17 01 40.3 +2.2
baz=41
DGMT Dagmar 41.49 290 P P 17 01 40.1 -1.0
comp=Z,31nm,1.0s
DGMT Dagmar 41.49 290⇑P P 17 01 43.4 +2.3
baz=41
DGMT Dagmar 41.49 290 P P 17 01 40.1 -1.0
comp=Z,31nm,1.0s
A23A Redstone 41.56 291⇑P P 17 01 43.2 +1.5
baz=41
B23A Brockton 41.91 291⇑P P 17 01 47.3 +2.7
baz=42
A22A Carney Farms, 42.09 292⇑P P 17 01 48.1 +2.0
baz=42
LRAL Lakeview Retre 42.14 260 *e*P P 17 01 49.7 +3.1
comp=Z,27nm,1.4s
LRAL Lakeview Retre 42.14 260 *e*P P 17 01 49.7 +3.1
comp=Z,27nm,1.4s
C24A Savage 42.18 289⇑P P 17 01 49.4 +2.6
baz=42
D24A Glendive 42.38 289⇓P P 17 01 51.1 +2.7
baz=42
C23A Lambert 42.42 290⇓P P 17 01 51.3 +2.6

baz=42
OXF Oxford 42.42 264 P P 17 01 47.5 -1.3
OXF pmax pmax
comp=Z,90nm,1.1s
OXF Oxford 42.42 264 P P 17 01 47.5 -1.3
comp=Z,90nm,1.1s
OXF Oxford 42.42 264 P P 17 01 47.5 -1.3
comp=Z,90nm,1.1s
VSR Storozhevoye 42.61 63 eP P 17 01 49.8 -0.3
VSR pmax pmax
comp=N,20nm,1.1s
VSR pmax pmax
comp=E,20nm,1.1s
VSR pmax pmax
comp=Z,20nm,1.1s
VSR MLR MLR
comp=N,1μm,19.0s
VSR MLR MLR
comp=E,2μm,19.0s
VSR MLR MLR
comp=Z,2μm,19.0s
VSR Storozhevoye 42.61 63 eP P 17 01 49.8 -0.3
A21A Bergtoll Ranch 42.62 292 ⇓P P 17 01 51.4 +1.1
baz=42
D23A Lindsay 42.82 289 ⇑P P 17 01 54.4 +2.4
baz=43
VORD Divnogorie 42.82 64 eP P 17 01 51.4 -0.5
VORD Divnogorie 42.82 64 eP P 17 01 51.4 -0.5
C22A Vida 42.83 290 ⇓P P 17 01 53.5 +1.5
baz=43
INK Inuvik 42.91 327 P P 17 01 52.5 +0.1
INK Inuvik 42.91 327 P P 17 01 52.5 +0.1
comp=Z,16nm,1.2s,baz=41,slow=12,SNR=10.0
INK Inuvik 42.91 327 P P 17 01 52.5 +0.1
A20A Cobblestone Ra 43.21 293 ⇓P P 17 01 55.4 +0.2
baz=43
F24A Ekalaka 43.23 287 ⇑P P 17 01 55.2 -0.2
baz=43
KSU1 Kansas State U 43.28 274 eP P 17 01 54.5 -1.3
comp=Z,62nm,1.5s
KSU1 Kansas State U 43.28 274 eP P 17 01 54.5 -1.3
comp=Z,62nm,1.5s
D22A Cohagen 43.35 290 ⇓P P 17 01 58.6 +2.3
baz=43
C21A Desert Coulee 43.42 291 ⇓P P 17 01 58.7 +1.8
baz=43
B20A Solberg Farm, 43.53 292 ⇓P P 17 01 59.8 +2.0
baz=43
G24A Alzada 43.54 287 ⇓P P 17 01 59.5 +1.6
baz=43
A19A Klindworth Far 43.61 293 ⇓P P 17 01 59.6 +1.2
baz=44
E22A Miles City 43.67 289 ⇓P P 17 01 59.7 +0.8
baz=44
SIM Simferopol' 43.78 74 P P 17 02 02.3 +2.6
SIM pmax pmax
comp=Z,100nm,9.7s
SIM MLR MLR
comp=Z,2μm,15.0s
SIM Simferopol' 43.78 74 P P 17 02 02.3 +2.6
comp=Z,2μm,15.0s
F23A Volborg 43.83 288 ⇑P P 17 02 01.4 +1.2
baz=44
UALR University of 43.89 266 eP P 17 02 02.9 +2.2
comp=Z,28nm,1.3s
UALR University of 43.89 266 eP P 17 02 02.9 +2.2
comp=Z,28nm,1.3s
VRHR Novokhopersk 43.93 62 eP P 17 02 00.8 0.0
VRHR pmax pmax
comp=N,3.0nm,0.6s
VRHR pmax pmax
comp=E,3.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR Novokhopersk 43.93 62 eP P 17 02 00.8 0.0
C20A Veseth Ranch, 43.97 292 ⇑P P 17 02 01.8 +0.5
baz=44
H24A Dirks Ranch, A 43.99 286 ⇓P P 17 02 01.8 +0.2
baz=44
B19A Brinkman Farms 44.01 293 ⇑P P 17 02 02.5 +0.9
baz=44
SJG San Juan 44.10 225 P P 17 02 03.2 +0.7
SJG San Juan 44.10 225 P P 17 02 03.2 +0.7
A18A Metzger Ranch, 44.19 294 ⇓P P 17 02 04.9 +1.8
baz=44
E21A Keefer Ranch, 44.21 290 ⇓P P 17 02 04.7 +1.4
baz=44
F22A Rosebud 44.26 288 ⇓P P 17 02 04.8 +1.2
baz=44
B18A Beardsley Farm 44.48 293 ⇑P P 17 02 05.4 +0.1
baz=44
C19A Slack Wire Ran 44.51 292 ⇑P P 17 02 06.4 +0.8
baz=44
I24A Kuemmerle Ranc 44.60 285 ⇓P P 17 02 07.3 +0.9
baz=44
G22A Birney 44.63 288 ⇑P P 17 02 07.8 +1.1
baz=44
EGMT Eagleton 44.70 293 ⇑P P 17 02 08.1 +1.0
baz=45
MIAR Mount Ida 44.76 267 eP P 17 02 06.9 -0.7
MIAR pmax pmax
comp=Z,26nm,0.9s
MIAR Mount Ida 44.76 267 eP P 17 02 06.9 -0.7
comp=Z,26nm,0.9s
MIAR Mount Ida 44.76 267 eP P 17 02 06.9 -0.7
comp=Z,26nm,0.9s
D19A Cripps Ranch, 44.78 292 ⇓P P 17 02 09.4 +1.6
baz=45
E20A Meyer Farm, Mu 44.80 290 ⇓P P 17 02 09.1 +1.1
baz=45
TUL1 Tulsa 45.04 270 ⇓P P 17 02 10.7 +0.8
baz=45
B17A L&G Farms, Che 45.08 294 ⇑P P 17 02 11.0 +0.8
baz=45
G21A Lodge Grass 45.12 288 ⇓P P 17 02 11.7 +1.2
baz=45
E19A Rath Farm, Rou 45.18 291 ⇓P P 17 02 12.1 +1.1
baz=45
D18A Linhart Farms, 45.25 292 ⇑P P 17 02 11.5 -0.1
baz=45
F20A Billings 45.26 290 ⇑P P 17 02 11.9 +0.2
baz=45
B16A M & M Farms, S 45.47 295 ⇓P P 17 02 13.1 -0.1
baz=45
C17A Wharram Farm, 45.48 293 ⇓P P 17 02 13.3 0.0
baz=45
I22A 9 Mile Ranch, 45.60 287 ⇑P P 17 02 14.4 0.0
baz=46
F19A Roth Farm, Mol 45.65 290 ⇓P P 17 02 14.9 +0.2
baz=46
G20A Bridger 45.67 289 ⇑P P 17 02 15.2 +0.2
baz=46
ANN Anapa 45.68 72 eP P 17 02 14.8 0.0
ANN e*PP pP 17 02 17.9 -1.7
ANN e 17 04 06.1
ANN ePPP PPP 17 04 49.9
ANN eS S 17 08 59.0 +2.1
ANN pmax pmax
comp=Z,118nm,1.7s
ANN MLR MLR
comp=E,2μm,18.0s
ANN MLR MLR
comp=Z,3μm,18.0s
ANN Anapa 45.68 72 eP P 17 02 14.8 0.0
comp=Z,118nm,1.7s
E18A Harlowton 45.71 292 ⇑P P 17 02 15.3 +0.1
baz=46
D17A Six Diamond Ra 45.74 293 ⇓P P 17 02 16.3 +0.8
baz=46
SOKR Solikamsk 45.74 45 c iP P 17 02 16.2 +1.1
SOKR pmax pmax
comp=Z,70nm,1.4s
SOKR Solikamsk 45.74 45 i P P 17 02 16.2 +1.1
comp=Z,70nm,1.4s
K23A Bowen Ranch, D 45.88 285 ⇓P P 17 02 17.1 +0.4
baz=46
C16A Fuhringer Ranc 45.88 294 ⇓P P 17 02 18.2 +1.6
baz=46
J22A Midwest 45.91 286 ⇓P P 17 02 16.3 -0.6
baz=46
B15A Bradely Ranch, 45.98 295 ⇓P P 17 02 18.2 +0.8
baz=46
A14A Double T Ranch 46.00 296 ⇑P P 17 02 17.4 -0.1
baz=46
F18A Big Timber 46.03 291 ⇓P P 17 02 18.5 +0.7
baz=46
H20A Greybull 46.03 288 ⇑P P 17 02 18.7 +0.9
baz=46
GCMT Greycliff 46.08 291 eP P 17 02 18.9 +0.7
comp=Z,22nm,1.4s
GCMT Greycliff 46.08 291 eP P 17 02 18.9 +0.7
comp=Z,22nm,1.4s
I21A Big Trails, Te 46.09 287 ⇑P P 17 02 18.0 -0.3
baz=46
WALA Waterton Lakes 46.20 297 eP P 17 02 19.6 +0.5
comp=Z,1.0nm,1.1s
WALA Waterton Lakes 46.20 297 eP P 17 02 19.5 +0.5
comp=Z,1.0nm,1.1s
D16A Dana Ranch, Ca 46.27 293 ⇓P P 17 02 20.4 +0.8
baz=46
E17A Martinsdale 46.27 292 ⇑P P 17 02 20.5 +0.8
baz=46
M24A Cheyenne 46.30 283 ⇓P P 17 02 20.6 +0.6
baz=46
RLMT Red Lodge 46.30 290 eP P 17 02 20.6 +0.6
comp=Z,74nm,1.4s
RLMT ePP PP 17 04 09.9 +1.4
RLMT Red Lodge 46.30 290 ⇑P P 17 02 20.9 +0.9
baz=46
RLMT Red Lodge 46.30 290 eP P 17 02 20.6 +0.6
comp=Z,74nm,1.4s
B14A Marquette Ranc 46.31 296 ⇑P P 17 02 19.8 -0.2
baz=46
C15A Salmond Ranch, 46.34 294 ⇑P P 17 02 20.9 +0.6
baz=46
K22A Casper 46.44 285 ⇓P P 17 02 20.9 -0.2
baz=46
H19A Powell 46.44 289 ⇑P P 17 02 21.4 +0.3
baz=46
F17A Fitzpatrick Pl 46.53 291 ⇑P P 17 02 22.3 +0.6
baz=46
A13A Flathead Natio 46.53 297 ⇑P P 17 02 21.1 -0.5
baz=46
HRY Holter Researc 46.63 293 eP P 17 02 23.7 +1.3
HRY Holter Researc 46.63 293 eP P 17 02 23.7 +1.3
E16A East Helena 46.66 293 ⇓P P 17 02 24.7 +1.9
baz=46
D15A Lincoln 46.77 294 ⇓P P 17 02 24.6 +1.0
baz=47
H18A Shoshone NF, C 46.80 289 ⇑P P 17 02 24.3 +0.3
baz=47
J20A Shoshoni 46.83 287 ⇑P P 17 02 24.3 +0.2
baz=47
I19A Meeteetse 46.87 288 ⇓P P 17 02 24.2 -0.2
baz=47
B13A Whitefish 46.92 296 ⇓P P 17 02 24.8 +0.2
baz=47
C14A Swan Lake 46.94 295 ⇓P P 17 02 25.4 +0.5
baz=47
BRTR Keskin Array B 46.98 80 P P 17 02 25.8 +0.5
BRTR Keskin Array B 46.98 80 P P 17 02 25.8 +0.5
comp=Z,15nm,0.8s,baz=313,slow=5.3,SNR=27
BRTR Keskin Array B 46.98 80 P P 17 02 25.8 +0.5
YBMT Yellow Bay 47.01 295 eP P 17 02 25.5 0.0
comp=Z,14nm,1.1s
YBMT Yellow Bay 47.01 295 eP P 17 02 25.5 0.0
comp=Z,14nm,1.1s
BLMT Blacktail Moun 47.10 296 eP P 17 02 26.6 +0.4
BLMT Blacktail Moun 47.10 296 eP P 17 02 26.6 +0.4
SLMT Seeley Lake 47.15 294 eP P 17 02 26.9 +0.3
SLMT Seeley Lake 47.15 294 eP P 17 02 26.9 +0.3
BOZ Bozeman (W) 47.21 292 eP P 17 02 27.7 +0.6
BOZ pmax pmax
comp=Z,26nm,1.1s
BOZ Bozeman (W) 47.21 292 eP P 17 02 27.7 +0.6
comp=Z,26nm,1.1s
BOZ Bozeman (W) 47.21 292 ⇑P P 17 02 27.7 +0.6
baz=47
BOZ Bozeman (W) 47.21 292 eP P 17 02 27.7 +0.6
comp=Z,26nm,1.1s
JTMT Jette 47.23 295 eP P 17 02 27.2 +0.1
comp=Z,16nm,0.9s
JTMT Jette 47.23 295 eP P 17 02 27.2 +0.1
comp=Z,16nm,0.9s
CHMT Chamberlain Mo 47.24 294 P P 17 02 25.8 -1.5
CHMT Chamberlain Mo 47.24 294 P P 17 02 25.8 -1.5
SWMT Swartz Lake 47.24 295 eP P 17 02 27.8 +0.6
SWMT Swartz Lake 47.24 295 eP P 17 02 27.8 +0.6
E15A Deer Lodge 47.24 293 ⇑P P 17 02 26.6 -0.6
baz=47
D14A Greenough 47.26 294 ⇑P P 17 02 27.3 -0.1
baz=47
LKWY Lake 47.27 290 eP P 17 02 30.0 +2.3
LKWY pmax pmax
comp=Z,18nm,1.3s
LKWY Lake 47.27 290 eP P 17 02 30.0 +2.3
comp=Z,18nm,1.3s
LKWY Lake 47.27 290 eP P 17 02 30.0 +2.3
comp=Z,18nm,1.3s
R27A Eads 47.34 278 ⇑P P 17 02 28.7 +0.6
baz=47
BSMT Bassoo Peak 47.42 296 eP P 17 02 30.7 +2.0
BSMT Bassoo Peak 47.42 296 eP P 17 02 30.7 +2.0
C13A Hot Springs 47.42 296 ⇓P P 17 02 29.0 +0.4
baz=47
K20A Yellowstone Ra 47.43 286 ⇓P P 17 02 29.0 +0.1
baz=47
RWWY Rawlins 47.47 285 P P 17 02 28.7 -0.5
comp=Z,17nm,0.9s
RWWY Rawlins 47.47 285 P P 17 02 28.7 -0.5
comp=Z,17nm,0.9s
EGAK Eagle 47.50 326 eP P 17 02 27.5 -1.4
comp=Z,21nm,1.1s
EGAK Eagle 47.50 326 eP P 17 02 27.5 -1.4
comp=Z,21nm,1.1s
LRM Limekiln Ridge 47.53 292 eP P 17 02 31.4 +1.7
LRM Limekiln Ridge 47.53 292 eP P 17 02 31.4 +1.7
I18A Diamond G Ranc 47.53 289 ⇓P P 17 02 30.9 +1.2
baz=47
F15A Butte 47.54 292 ⇑P P 17 02 30.3 +0.6
baz=47
YFT Old Faithful 47.58 290 eP P 17 02 31.9 +1.8
comp=Z,31nm,1.1s
YFT Old Faithful 47.58 290 eP P 17 02 31.9 +1.8
comp=Z,31nm,1.1s
G16A Moss Hill, Enn 47.58 291 ⇓P P 17 02 31.1 +1.1
baz=47
K19A Absolon Red Bu 47.59 287 ⇑P P 17 02 30.4 +0.3
baz=48
M21A Separation Pea 47.60 285 ⇓P P 17 02 30.2 -0.1
baz=48
H16A Russell Place, 47.63 290 ⇓P P 17 02 30.5 0.0
baz=48
DLBC Dease Lake 47.64 315 eP P 17 02 31.8 +1.7
DLBC Dease Lake 47.64 315 eP P 17 02 31.8 +1.7
QLMT Earthquake Lak 47.65 291 P P 17 02 29.3 -1.2
comp=Z,1.1nm,1.0s
QLMT Earthquake Lak 47.65 291 P P 17 02 29.3 -1.2
comp=Z,1.1nm,1.0s
MSO Missoula 47.65 294 eP P 17 02 33.8 +3.4
MSO Missoula 47.65 294 eP P 17 02 33.8 +3.4
E14A Clinton 47.69 294 ⇑P P 17 02 31.4 +0.6
baz=48
SOC Sochi 47.72 71 eP P 17 02 28.0 -2.8
SOC e 17 04 19.5
SOC eS S 17 09 25.3 -0.8
SOC eSS SS 17 12 55.2 +1.3
SOC MLR MLR
comp=Z,1μm,20.0s
SOC Sochi 47.72 71 eP P 17 02 28.0 -2.8
SOC eS S 17 09 25.3 -0.8
Q25A Bedland, Calha 47.72 280 ⇑P P 17 02 30.6 -0.6
baz=48
D13A Huson 47.74 295 ⇑P P 17 02 31.4 +0.3
baz=48
FLWY Flagg Ranch 47.75 289 eP P 17 02 33.8 +2.4
comp=Z,43nm,1.4s
FLWY Flagg Ranch 47.75 289 eP P 17 02 33.8 +2.4
comp=Z,43nm,1.4s
O23A Lake Granby, G 47.76 282 ⇑P P 17 02 32.1 +0.5
baz=48
L20A Wamsutter 47.87 286 ⇑P P 17 02 33.1 +0.8
baz=48
ISCO Idaho Springs 47.87 282 eP P 17 02 33.9 +1.5
ISCO pmax pmax
comp=Z,120nm,2.3s
ISCO Idaho Springs 47.87 282 eP P 17 02 33.9 +1.5
comp=Z,120nm,2.3s
ISCO Idaho Springs 47.87 282 ⇑P P 17 02 32.2 -0.2
baz=48
ISCO Idaho Springs 47.87 282 eP P 17 02 33.9 +1.5
comp=Z,120nm,2.3s
DLMT Dillon 47.91 292 eP P 17 02 34.4 +1.9
comp=Z,28nm,1.3s
DLMT Dillon 47.91 292 eP P 17 02 34.4 +1.9
comp=Z,28nm,1.3s
J18A Kendall Valley 47.97 288 ⇑P P 17 02 33.1 0.0
baz=48
G15A Dillon 47.99 292 ⇓P P 17 02 33.4 +0.3
baz=48
MOOW Moose Ponds 48.00 289 eP P 17 02 35.2 +1.9
comp=Z,20nm,1.5s
MOOW Moose Ponds 48.00 289 eP P 17 02 35.2 +1.9
comp=Z,20nm,1.5s
IMW Indian Meadow 48.01 289 eP P 17 02 34.6 +1.2
comp=Z,7.1nm,0.9s
IMW Indian Meadow 48.01 289 eP P 17 02 34.6 +1.2
comp=Z,7.1nm,0.9s
LOHW Long Hollow 48.02 289 eP P 17 02 33.8 +0.4
comp=Z,12nm,1.3s
LOHW Long Hollow 48.02 289 eP P 17 02 33.8 +0.4
comp=Z,12nm,1.3s
BW06 Boulder Array 48.02 287 eP P 17 02 33.1 -0.4
comp=Z,20nm,1.3s
BW06 Boulder Array 48.02 287 ⇓P P 17 02 33.1 -0.4
baz=48
BW06 Boulder Array 48.02 287 eP P 17 02 33.1 -0.4
comp=Z,20nm,1.3s
PDAR Pinedale Array 48.02 287 P P 17 02 33.5 0.0
PDAR Pinedale Array 48.02 287 P P 17 02 33.5 0.0
comp=Z,7.7nm,1.0s,baz=64,slow=5.5,SNR=12
PDAR LR LR 17 21 47.9
comp=Z,4μm,18.6s,baz=33,slow=35
PDAR Pinedale Array 48.02 287 P P 17 02 33.5 0.0
M20A Sweetwater, Wa 48.14 285 ⇑P P 17 02 34.2 -0.2
baz=48
O22A Kremmling 48.14 283 ⇑P P 17 02 35.3 +0.8
baz=48
T27A Campo 48.16 277 ⇓P P 17 02 34.2 -0.3
baz=48
S26A Kim 48.19 278 ⇑P P 17 02 34.5 -0.2
baz=48
D12A Red Ives Fores 48.23 295 ⇑P P 17 02 35.8 +0.9
baz=48
J17A Brown Place, J 48.24 289 ⇓P P 17 02 35.5 +0.3
baz=48
TPAW Teton Pass 48.29 289 eP P 17 02 35.6 0.0
comp=Z,22nm,1.3s
TPAW ePP PP 17 04 27.0 -0.8
TPAW Teton Pass 48.29 289 eP P 17 02 35.6 0.0
comp=Z,22nm,1.3s
TPAW Teton Pass 48.29 289 ePP PP 17 04 27.0 -0.8
P23A Jefferson 48.29 282 ⇓P P 17 02 35.2 -0.6
baz=48
I16A Newdale 48.31 290 ⇑P P 17 02 35.9 +0.2
baz=48
REDW Red Top Meadow 48.32 289 eP P 17 02 35.2 -0.6
comp=Z,46nm,1.6s
REDW Red Top Meadow 48.32 289 eP P 17 02 35.2 -0.6
comp=Z,46nm,1.6s
NEW Newport 48.34 298 ⇓P P 17 02 36.2 +0.6
baz=48
K18A Toltan Ranch, 48.37 288 ⇑P P 17 02 36.4 +0.2
baz=48
MCMT McKenzie Canyo 48.40 292 eP P 17 02 37.6 +1.2
comp=Z,11nm,1.4s
MCMT McKenzie Canyo 48.40 292 eP P 17 02 37.6 +1.2
comp=Z,11nm,1.4s
COLD Coldfoot 48.44 332 eP P 17 02 37.1 +1.0
comp=Z,11nm,1.1s
COLD Coldfoot 48.44 332 eP P 17 02 37.1 +1.0
comp=Z,11nm,1.1s
G14A Jackson 48.45 292 ⇑P P 17 02 36.6 -0.1
baz=48
ARU Arti 48.46 48 c iP P 17 02 35.8 -0.6
ARU 17 04 24.6
ARU S S 17 09 40.5 +4.2
ARU pmax pmax
comp=Z,75nm,1.7s
ARU Arti 48.46 48 eP P 17 02 35.6 -0.7
comp=Z,40nm,1.0s
ARU Arti 48.46 48 P P 17 02 36.0 -0.4
comp=Z,209nm,0.9s,SNR=5.0
ARU Arti 48.46 48 i P P 17 02 35.8 -0.6
comp=Z,75nm,1.7s
F13A Darby 48.54 293 ⇑P P 17 02 37.6 +0.2
baz=48
RRI2 Red Ridge 48.58 289 eP P 17 02 35.2 -2.7
comp=Z,12nm,1.1s
RRI2 ePP PP 17 04 33.6 +3.2
N20A Spence Gulch, 48.63 285 ⇑P P 17 02 38.2 0.0
baz=48
E12A Beaver Dam Sad 48.77 295 ⇓P P 17 02 39.5 +0.5
baz=49
L18A Fontenelle, Gr 48.85 287 ⇑P P 17 02 40.0 +0.1
baz=49
G13A Cobalt 48.95 293 ⇓P P 17 02 40.9 +0.4
baz=49
F12A Elk City 49.04 294 ⇓P P 17 02 41.1 -0.1
baz=49
KIV Kislovodsk 49.06 69 c iP P 17 02 40.7 -0.5
KIV e 17 04 02.1
KIV pmax pmax
comp=Z,33nm,1.2s
KIV MLR MLR
comp=Z,900nm,20.0s
KIV Kislovodsk 49.06 69 P P 17 02 40.8 -0.5
KIV Kislovodsk 49.06 69 P P 17 02 40.8 -0.5
T25A Trinidad 49.06 278 ⇑P P 17 02 42.3 +0.8
baz=49
SMCO Snowmass 49.06 282 eP P 17 02 42.8 +1.1
comp=Z,7.3nm,0.9s
SMCO Snowmass 49.06 282 eP P 17 02 42.8 +1.1
comp=Z,7.3nm,0.9s
SVE Sverdlovsk 49.06 46 ⇓i P P 17 02 41.8 +0.8
SVE pmax pmax
comp=Z,23nm,1.1s
SVE Sverdlovsk 49.06 46 i P P 17 02 41.8 +0.8
comp=Z,23nm,1.1s
K16A Soda Springs 49.07 289 ⇓P P 17 02 41.9 +0.3
baz=49
N19A John Jarvie Ra 49.09 285 ⇑P P 17 02 42.4 +0.7
baz=49
O20A White River Ci 49.10 284 ⇑P P 17 02 42.5 +0.7
baz=49
R23A Moffat 49.11 280 ⇑P P 17 02 42.3 +0.3
baz=49
AMTX Amarillo 49.12 274 eP P 17 02 42.1 +0.2
comp=Z,38nm,0.9s
AMTX Amarillo 49.12 274 ⇓P P 17 02 42.4 +0.5
baz=49
AMTX Amarillo 49.12 274 eP P 17 02 42.1 +0.2
comp=Z,38nm,0.9s
J15A Blackfoot 49.14 290 ⇓P P 17 02 42.8 +0.8
baz=49
SDCO Great Sand Dun 49.24 280 eP P 17 02 43.9 +0.9
comp=Z,104nm,3.0s
SDCO Great Sand Dun 49.24 280 ⇑P P 17 02 43.7 +0.7
baz=49
SDCO Great Sand Dun 49.24 280 eP P 17 02 43.9 +0.9
comp=Z,104nm,3.0s
Q22A Crested Butte, 49.24 282 ⇑P P 17 02 43.9 +0.8
baz=49
ILAR Eielson Array 49.27 328 P P 17 02 42.7 +0.2
ILAR PcP PcP 17 04 06.0 +1.0
ILAR Eielson Array 49.27 328 P P 17 02 42.7 +0.2
comp=Z,6.6nm,0.8s,baz=42,slow=6.0,SNR=28
ILAR PcP PcP 17 04 06.0 +1.0
comp=Z,2.6nm,1.0s,baz=34,slow=3.4,SNR=2.9
ILAR LR LR 17 23 11.4
comp=Z,3μm,20.0s,baz=63,slow=36
ILAR Eielson Array 49.27 328 P P 17 02 42.7 +0.2
ILAR Eielson Array 49.27 328 PcP PcP 17 04 06.1 +1.0
H13A Challis 49.32 292 ⇑P P 17 02 44.6 +1.2
baz=49
KBZ Khabaz 49.32 69 P P 17 02 44.6 +1.5
KBZ Khabaz 49.32 69 P P 17 02 44.6 +1.5
KBZ Khabaz 49.32 69 P P 17 02 44.6 +1.5
comp=Z,11nm,1.1s,baz=325,slow=9.5,SNR=6.1
KBZ Khabaz 49.32 69 P P 17 02 44.6 +1.5
I14A Mackay 49.33 291 ⇑P P 17 02 43.5 0.0
baz=49
COLA College 49.49 329 eP P 17 02 43.7 -0.4
COLA pmax pmax
comp=Z,11nm,0.8s
COLA College 49.49 329 eP P 17 02 43.7 -0.4
comp=Z,11nm,0.8s
COLA College 49.49 329 eP P 17 02 43.7 -0.4
comp=Z,11nm,0.8s
G12A Big Creek, Yel 49.50 293 ⇑P P 17 02 44.5 -0.3
baz=49

M17A **Scullys Gap (B** 49.51 287 ⇑P P 17 02 45.4 +0.5
baz=49
L16A **Fish Haven** 49.55 288 ⇑P P 17 02 46.1 +0.9
baz=49
U25A **Circle Dot Ran** 49.58 278 ⇓P P 17 02 46.4 +0.9
baz=50
H12A **Diamond D Ranc** 49.65 293 ⇓P P 17 02 46.2 +0.4
baz=50
I13A **Wildhorse Cree** 49.69 292 ⇓P P 17 02 46.7 +0.5
baz=50
W27A **Bowe Ranch, En** 49.78 275 ⇑P P 17 02 47.2 +0.3
baz=50
Y29A **Porterfield Fa** 49.86 273 ⇑P P 17 02 47.5 0.0
baz=50
HWUT **Hardware Ranch** 49.90 288 *eP* P 17 02 47.6 -0.3
comp=Z,19nm,0.9s
HWUT **Hardware Ranch** 49.90 288 *eP* P 17 02 47.6 -0.3
comp=Z,19nm,0.9s
R21A **Cimarron** 49.95 282 ⇓P P 17 02 48.8 +0.5
baz=50
Q20A **Ridgley Place,** 49.95 283 ⇓P P 17 02 48.4 +0.2
baz=50
N17A **Moffit Pass** 49.96 287 ⇑P P 17 02 48.6 +0.2
baz=50
S22A **4UR Ranch, Cre** 49.98 281 ⇑P P 17 02 49.1 +0.4
baz=50
L15A **Malad City** 50.07 289 ⇑P P 17 02 50.0 +0.9
baz=50
J13A **Cove Ranch, Pi** 50.07 291 ⇓P P 17 02 49.7 +0.7
baz=50
HLID **Hailey** 50.09 291 *eP* P 17 02 49.5 +0.3
comp=Z,26nm,1.3s
HLID **Hailey** 50.09 291 ⇓P P 17 02 49.8 +0.5
baz=50
HLID **Hailey** 50.09 291 *eP* P 17 02 49.5 +0.3
comp=Z,26nm,1.3s
V25A **Rancho No Teng** 50.10 277 ⇑P P 17 02 50.6 +1.1
baz=50
K14A **Jones Ranch, D** 50.12 290 ⇑P P 17 02 50.9 +1.4
baz=50
PAX **Paxson** 50.13 326 *eP* P 17 02 51.4 +2.2
PAX pmax pmax
comp=Z,40nm,1.3s
PAX **Paxson** 50.13 326 *eP* P 17 02 51.4 +2.2
comp=Z,40nm,1.3s
PAX **Paxson** 50.13 326 *eP* P 17 02 51.4 +2.2
comp=Z,40nm,1.3s
I12A **Atlanta** 50.31 292 ⇓P P 17 02 52.0 +1.1
baz=50
N16A **Rees Ranch, Co** 50.33 287 ⇑P P 17 02 51.7 +0.5
baz=50
ONI **Oni** 50.40 70 P P 17 02 53.4 +2.0
ONI S S 17 10 00.9 -3.0
O17A **Robinson Place** 50.43 286 ⇑P P 17 02 52.2 +0.3
baz=50
W25A **X Bar L Ranch,** 50.46 277 ⇑P P 17 02 52.3 +0.2
baz=50
M15A **Larsen Ranch,** 50.48 288 ⇑P P 17 02 53.0 +0.9
baz=50
L14A **Malta** 50.51 289 ⇑P P 17 02 52.3 -0.1
baz=50
ZEI **Tsey** 50.51 70 *eP* P 17 02 43.2 -9.3
ZEI pmax pmax
comp=Z,25nm,1.6s
JLU **Jordanelle** 50.53 287 *eP* P 17 02 54.4 +1.7
comp=Z,9.0nm,1.0s
JLU **Jordanelle** 50.53 287 *eP* P 17 02 54.4 +1.7
comp=Z,9.0nm,1.0s
R20A **Redvale** 50.54 282 ⇑P P 17 02 53.3 +0.5
baz=50
T22A **Edith** 50.55 280 ⇓P P 17 02 54.0 +1.1
baz=50
V24A **Rampart Ranch,** 50.55 278 ⇓P P 17 02 54.0 +1.1
baz=50
P18A **Preston Nutter** 50.56 285 ⇑P P 17 02 52.7 -0.3
baz=50
DAU **Daniels Canyon** 50.56 286 *eP* P 17 02 53.9 +0.9
DAU pmax pmax
comp=Z,20nm,1.3s
DAU **Daniels Canyon** 50.56 286 *eP* P 17 02 53.9 +0.9
comp=Z,20nm,1.3s
DAU **Daniels Canyon** 50.56 286 *eP* P 17 02 53.9 +0.9
comp=Z,20nm,1.3s
X26A **CR and CF Fran** 50.57 276 ⇑P P 17 02 53.3 +0.3
baz=50
S21A **Coal Bank Pass** 50.58 281 ⇑P P 17 02 52.9 -0.3
baz=50
MCK **McKinley** 50.65 328 *eP* P 17 02 53.3 +0.3
MCK pmax pmax
comp=Z,62nm,1.2s
MCK **McKinley** 50.65 328 *eP* P 17 02 53.3 +0.3
comp=Z,62nm,1.2s
MCK **McKinley** 50.65 328 *eP* P 17 02 53.3 +0.3
comp=Z,62nm,1.2s
PV01 **Paradox Valley** 50.68 282 *eP* P 17 02 55.7 +1.8
comp=Z,1µm,1.4s
PV01 **Paradox Valley** 50.68 282 *eP* P 17 02 55.7 +1.8
comp=Z,1µm,1.4s
PV04 **Paradox Valley** 50.68 283 *eP* P 17 02 56.2 +2.4
PV04 **Paradox Valley** 50.68 283 *eP* P 17 02 56.2 +2.4
Z28A **Tucker Farm, M** 50.69 273 ⇑P P 17 02 55.2 +1.4
baz=51
Y27A **Causey** 50.69 274 ⇑P P 17 02 54.6 +0.8
baz=51
BMO **Blue Mountains** 50.72 294 *eP* P 17 02 54.0 +0.1
comp=Z,14nm,1.3s
BMO **Blue Mountains** 50.72 294 *eP* P 17 02 54.0 +0.1
comp=Z,14nm,1.3s
Q18A **Rafter H Ranch** 50.86 284 ⇓P P 17 02 56.2 +1.1
baz=51
MFID **Camas Ranch** 50.94 292 *eP* P 17 02 53.8 -1.8
comp=Z,14nm,1.2s
MFID **Camas Ranch** 50.94 292 *eP* P 17 02 53.8 -1.8
comp=Z,14nm,1.2s
P17A **Butcher Ranch,** 50.94 285 ⇓P P 17 02 56.6 +0.9
baz=51
U22A **Llaves** 50.97 279 ⇓P P 17 02 58.2 +2.1
baz=51
TORD **Torodi Ar. Bea** 50.98 131 P P 17 02 54.1 -1.9
TORD **Torodi Ar. Bea** 50.98 131 P P 17 02 54.1 -1.9
comp=Z,18nm,1.0s,baz=334,slow=6.6,SNR=22
TORD **Torodi Ar. Bea** 50.98 131 P P 17 02 54.1 -1.9
432A **Menard** 50.99 269 ⇓P P 17 02 56.5 +0.4
baz=51
W24A **Lazy 6 Ranch,** 51.00 277 ⇓P P 17 02 58.5 +2.2
baz=51
MPU **Maple Canyon** 51.05 286 *eP* P 17 02 58.5 +2.0
comp=Z,15nm,1.0s
MPU **Maple Canyon** 51.05 286 *eP* P 17 02 58.5 +2.0
comp=Z,15nm,1.0s
X25A **Clemmons Ranch** 51.07 276 ⇓P P 17 02 58.2 +1.4
baz=51
SRU **San Rafael** 51.07 285 *eP* P 17 02 58.9 +2.1
SRU pmax pmax
comp=Z,14nm,1.2s
SRU **San Rafael** 51.07 285 *eP* P 17 02 58.9 +2.1
comp=Z,14nm,1.2s
SRU **San Rafael** 51.07 285 *eP* P 17 02 58.9 +2.1
comp=Z,14nm,1.2s
Z27A **Tatum** 51.14 274 ⇑P P 17 02 56.8 -0.4
baz=51
AKH **Akhalkalaki** 51.24 71 P P 17 02 59.8 +1.9
AKH S S 17 10 24.4 +8.6
R18A **Canyonlands Na** 51.24 284 ⇑P P 17 02 57.9 -0.1
baz=51
TRF **Thorofare Moun** 51.26 329 *eP* P 17 02 57.7 -0.1
comp=Z,99nm,1.5s
TRF **Thorofare Moun** 51.26 329 *eP* P 17 02 57.7 -0.1
comp=Z,99nm,1.5s
JCT **Junction City** 51.30 269 *eP* P 17 02 56.8 -1.5
JCT pmax pmax
comp=Z,27nm,1.0s
JCT **Junction City** 51.30 269 *eP* P 17 02 56.8 -1.5
comp=Z,27nm,1.0s
JCT **Junction City** 51.30 269 ⇑P P 17 02 59.3 +0.9
baz=51
JCT **Junction City** 51.30 269 *eP* P 17 02 56.8 -1.5
comp=Z,27nm,1.0s
MVCO **Mesa Verde** 51.30 281 *eP* P 17 02 58.5 0.0
comp=Z,35nm,1.5s
MVCO **Mesa Verde** 51.30 281 ⇓P P 17 02 58.5 0.0
baz=51
MVCO **Mesa Verde** 51.30 281 *eP* P 17 02 58.5 0.0
comp=Z,35nm,1.5s
BMRM **Bremner River** 51.30 324 *eP* P 17 03 01.1 +3.1
comp=Z,139nm,1.9s
BMRM **Bremner River** 51.30 324 *eP* P 17 03 01.1 +3.1
comp=Z,139nm,1.9s

TMUT **Trail Mountain** 51.32 285 *eP* P 17 02 59.7 +1.0
comp=Z,45nm,1.8s
TMUT **Trail Mountain** 51.32 285 *eP* P 17 02 59.7 +1.0
comp=Z,45nm,1.8s
Y25A **Mesa, Roswell** 51.53 276 ⇑P P 17 03 01.7 +1.5
baz=51
DUG **Dugway** 51.56 287 *eP* P 17 03 01.3 +1.0
DUG pmax pmax
comp=Z,33nm,1.6s
DUG **Dugway** 51.56 287 *eP* P 17 03 01.3 +1.0
comp=Z,33nm,1.6s
DUG **Dugway** 51.56 287 ⇓P P 17 03 01.3 +1.0
baz=51
DUG **Dugway** 51.56 287 *eP* P 17 03 01.3 +1.0
comp=Z,33nm,1.6s
Z26A **Caprock** 51.60 275 ⇓P P 17 03 01.2 +0.5
baz=52
532A **Rocksprings** 51.62 269 ⇑P P 17 03 01.1 +0.4
baz=52
TBLG **Delisi** 51.68 70 *eP* P 17 03 02.6 +1.6
TBLG *eS* S 17 10 30.5 +8.9
TBLG **Delisi** 51.68 70 P P 17 03 02.7 +1.6
TBLG S S 17 10 30.6 +8.9
TBLG **Delisi** 51.68 70 P P 17 03 02.7 +1.6
LON **Longmire** 51.70 299 *eP* P 17 02 59.1 -2.1
LON pmax pmax
comp=Z,11nm,1.2s
LON **Longmire** 51.70 299 *eP* P 17 02 59.1 -2.1
comp=Z,11nm,1.2s
LON **Longmire** 51.70 299 *eP* P 17 02 59.1 -2.1
comp=Z,11nm,1.2s
ANMO **Albuquerque** 51.78 278 *eP* P 17 03 04.4 +2.3
comp=Z,15nm,1.5s
ANMO **Albuquerque** 51.78 278 *eP* P 17 03 04.4 +2.3
comp=Z,15nm,1.5s
S18A **Hurst Farm, Bl** 51.79 283 ⇑P P 17 03 03.5 +1.3
baz=52
SML **Sawmill** 51.90 326 *eP* P 17 03 04.5 +2.1
SML pmax pmax
comp=Z,11nm,1.2s
SML **Sawmill** 51.90 326 *eP* P 17 03 04.5 +2.1
comp=Z,11nm,1.2s
SML **Sawmill** 51.90 326 *eP* P 17 03 04.5 +2.1
comp=Z,11nm,1.2s
Y24A **Capitan** 51.95 276 ⇓P P 17 03 04.4 +1.1
baz=52
531A **Rocksprings** 51.96 269 ⇓P P 17 03 04.0 +0.8
baz=52
Z25A **Roswell** 52.01 275 ⇓P P 17 03 04.1 +0.3
baz=52
T18A **Mexican Hat** 52.12 282 ⇑P P 17 03 04.6 +0.1
baz=52
DGRG **David-gareji** 52.22 70 P P 17 02 57.9 -7.2
DGRG S S 17 10 18.4 -11
S17A **Black Ridge (B** 52.27 283 ⇓P P 17 03 06.9 +1.2
baz=52
NLWA **Neilton Lookou** 52.28 301 *eP* P 17 03 09.0 +3.6
comp=Z,65nm,1.3s
MAK **Makhachkala** 52.28 67 P P 17 03 00.8 -4.7
MAK *e* 17 04 16.8
MAK *e* 17 05 03.5
MAK *ePPP* PPP 17 06 05.0
MAK *eS* S 17 10 27.0 -2.8
MAK *e* 17 12 52.6
MAK pmax pmax
comp=Z,51nm,0.4s
MAK MLR MLR
comp=Z,1µm,20.0s
MAK **Makhachkala** 52.28 67 *ePcP* PcP 17 04 16.8 +0.2
PMR **Palmer** 52.31 326 *eP* P 17 03 06.1 +0.7
PMR pmax pmax
comp=Z,86nm,1.7s
PMR **Palmer** 52.31 326 *eP* P 17 03 06.1 +0.7
comp=Z,86nm,1.7s
PMR **Palmer** 52.31 326 *eP* P 17 03 06.1 +0.7
comp=Z,86nm,1.7s
LPM **Los Pinos Moun** 52.34 278 *eP* P 17 03 08.6 +2.3
comp=Z,6.5nm,1.3s
LPM **Los Pinos Moun** 52.34 278 *eP* P 17 03 08.6 +2.3
comp=Z,6.5nm,1.3s
U19A **Dine' College,** 52.35 281 ⇑P P 17 03 08.0 +1.6
baz=52
429A **Davenport Ranc** 52.38 271 ⇓P P 17 03 07.4 +0.9
baz=52
MSU **Marysvale** 52.41 285 *eP* P 17 03 07.0 +0.2
MSU pmax pmax
comp=Z,10.0nm,1.3s
MSU **Marysvale** 52.41 285 *eP* P 17 03 07.0 +0.2
comp=Z,9.7nm,1.3s
MSU **Marysvale** 52.41 285 *eP* P 17 03 07.0 +0.2
comp=Z,10.0nm,1.3s
125A **Gardner Draw,** 52.44 275 ⇑P P 17 03 08.4 +1.4
baz=52
BNM **Barren Site** 52.46 277 *eP* P 17 03 09.1 +1.9
comp=Z,10nm,1.2s
BNM **Barren Site** 52.46 277 *eP* P 17 03 09.1 +1.9
comp=Z,10nm,1.2s
ELK **Elko** 52.49 289 *eP* P 17 03 08.6 +1.2
ELK **Elko** 52.49 289 *eP* P 17 03 08.6 +1.2
GDL2 **Guadalupe Moun** 52.61 274 *eP* P 17 03 07.9 -0.3
GDL2 **Guadalupe Moun** 52.61 274 *eP* P 17 03 07.9 -0.3
732A **Lasson Ranch,** 52.71 267 ⇑P P 17 03 09.5 +0.7
baz=53
GNI **Garni** 52.80 71 *eP* P 17 03 10.9 +1.3
comp=Z,95nm,1.3s
GNI **Garni** 52.80 71 P P 17 03 12.4 +2.8
SNR=6.7
GNI **Garni** 52.80 71 *i* P P 17 03 09.0 -0.5
comp=Z,90nm,1.7s
Z23A **Rita Site, Whi** 52.88 276 ⇑P P 17 03 10.9 +0.7
baz=53
X21A **Alamocita Cree** 52.90 278 ⇑P P 17 03 11.7 +1.2
baz=53
529A **Stev Forest Ra** 52.94 270 ⇓P P 17 03 10.8 +0.2
baz=53
326A **Caldwell Ranch** 53.05 273 ⇓P P 17 03 11.3 -0.2
baz=53
427A **Hayter Ranch,** 53.07 272 ⇓P P 17 03 12.4 +0.8
baz=53
Z22A **Elephant Butte** 53.30 277 ⇓P P 17 03 13.4 +0.1
baz=53
224A **Cornudas Mount** 53.36 275 ⇓P P 17 03 14.2 +0.5
baz=53
123A **Bell Site, Whi** 53.37 276 ⇑P P 17 03 13.8 +0.1
baz=53
SLKM **Skilak Lake** 53.48 326 *eP* P 17 03 14.5 +0.3
SLKM **Skilak Lake** 53.48 326 *eP* P 17 03 14.5 +0.3
SLKM **Skilak Lake** 53.48 326 *eP* P 17 03 14.5 +0.3
SPU **Mount Spurr** 53.53 328 *eP* P 17 03 15.5 +1.0
SPU **Mount Spurr** 53.53 328 *eP* P 17 03 15.5 +1.0
426A **McDonald Obser** 53.56 272 ⇓P P 17 03 16.2 +0.8
baz=54
MNTX **Cornudas Mount** 53.56 274 ⇓P P 17 03 15.6 +0.5
baz=54
Y20A **Horse Springs,** 53.62 278 ⇑P P 17 03 16.2 +0.4
baz=54
CCUT **Cedar City** 53.75 285 *eP* P 17 03 18.3 +1.6
comp=Z,8.8nm,1.2s
CCUT **Cedar City** 53.75 285 *eP* P 17 03 18.3 +1.6
comp=Z,8.8nm,1.2s
628A **Black Gap, Mar** 53.80 271 ⇑P P 17 03 17.1 +0.2
baz=54
AB31 **Akbulak array** 53.98 54 *i* P P 17 03 18.2 +0.3
AB31 pmax pmax
comp=Z,23nm,1.1s
AB31 **Akbulak array** 53.98 54 *i* P P 17 03 18.2 +0.3
comp=Z,23nm,1.1s
ABKAR **Akbulak array** 53.98 54 *eP* P 17 03 17.9 0.0
comp=Z,12nm,0.9s
ABKAR **Akbulak array** 53.98 54 *eP* P 17 03 17.9 0.0
comp=Z,12nm,0.9s
627A **Terlingua Ranc** 54.11 271 ⇓P P 17 03 19.5 +0.3
baz=54
WUAZ **Wupatki** 54.12 282 *eP* P 17 03 21.0 +1.7
comp=Z,18nm,1.3s
WUAZ **Wupatki** 54.12 282 *eP* P 17 03 21.0 +1.7
comp=Z,18nm,1.3s
ASF **Jabal al Asfar** 54.23 84 P P 17 03 20.1 0.0
ASF **Jabal al Asfar** 54.23 84 P P 17 03 20.1 0.0
comp=Z,18nm,1.1s,baz=75,slow=4.3,SNR=3.1
SDV **Santo Domingo** 54.25 225 P P 17 03 17.5 -3.0
comp=Z,12nm,1.2s
SDV **Santo Domingo** 54.25 225 P P 17 03 17.5 -3.0
comp=Z,12nm,1.2s
DBIC **Dimbokro** 54.33 142 P P 17 03 19.7 -1.1
DBIC **Dimbokro** 54.33 142 P P 17 03 19.7 -1.1
comp=Z,8.3nm,0.7s,baz=335,slow=6.9,SNR=7.9

DBIC LR LR 17 24 09.6
comp=Z,2µm,18.7s,baz=335,slow=34
DBIC **Dimbokro** 54.33 142 P P 17 03 19.7 -1.1
MOD **Modoc** 54.34 294 *eP* P 17 03 21.9 +1.0
comp=Z,18nm,1.1s
MOD **Modoc** 54.34 294 *eP* P 17 03 21.9 +1.0
comp=Z,18nm,1.1s
TXAR **Lajitas Array** 54.36 271 P P 17 03 21.9 +0.8
TXAR **Lajitas Array** 54.36 271 P P 17 03 21.9 +0.8
comp=Z,2.7nm,0.8s,baz=71,slow=5.4,SNR=8.0
TXAR LR LR 17 26 09.4
comp=Z,3µm,18.4s,baz=5.0,slow=36
TXAR **Lajitas Array** 54.36 271 P P 17 03 21.9 +0.8
R11A **Troy Canyon, C** 54.39 287 ⇑P P 17 03 21.6 +0.4
baz=54
LIC **Lamto** 54.68 142 *eP* P 17 03 23.0 -0.3
comp=Z,32nm,1.0s,baz=339
LIC *eR*
comp=Z,4µm,21.8s
LIC **Lamto** 54.68 142 *eP* P 17 03 23.0 -0.3
comp=Z,32nm,1.0s
LIC **Lamto** 54.68 142 *eP* P 17 03 23.0 -0.3
comp=Z,16nm,1.0s
EIL **Elat** 55.00 87 P P 17 03 26.9 +1.3
EIL **Elat** 55.00 87 P P 17 03 26.9 +1.3
comp=Z,10.0nm,0.9s,baz=323,slow=14,SNR=3.7
EIL LR LR 17 30 03.1
comp=Z,324nm,18.3s,baz=300,slow=40
EIL **Elat** 55.00 87 P P 17 03 26.9 +1.3
ZRNK **Zerenda** 55.23 46 P P 17 03 27.0 +0.1
ZRNK pmax pmax
comp=Z,17nm,1.6s
ZRNK **Zerenda** 55.23 46 P P 17 03 27.0 +0.1
comp=Z,17nm,1.6s
BRVK **Borovoye** 55.66 45 *d iP* P 17 03 30.4 +0.4
BRVK pmax pmax
comp=Z,35nm,1.7s
BRVK **Borovoye** 55.66 45 *eP* P 17 03 30.3 +0.3
comp=Z,29nm,1.3s
BRVK **Borovoye** 55.66 45 P P 17 03 30.1 +0.1
comp=Z,82nm,1.1s,SNR=5.3
BRVK **Borovoye** 55.66 45 P P 17 03 30.8 +0.8
SNR=6.6
BRVK **Borovoye** 55.66 45 *eP* P 17 03 30.3 +0.3
comp=Z,29nm,1.3s
BVA0 **Borovoye Array** 55.73 45 *i* P P 17 03 30.9 +0.4
BVA0 pmax pmax
comp=Z,12nm,1.5s
BVA0 **Borovoye Array** 55.73 45 *i* P P 17 03 30.9 +0.4
comp=Z,12nm,1.5s
BILL **Bilibino** 55.78 350 *c iP* P 17 03 30.6 0.0
BILL *e* 17 04 30.4
BILL *e* 17 05 30.6
BILL pmax pmax
comp=Z,28nm,2.5s
BILL MLR MLR
comp=Z,1µm,19.0s
BILL **Bilibino** 55.78 350 *eP* P 17 03 29.7 -1.0
BILL **Bilibino** 55.78 350 *i* P P 17 03 30.6 0.0
comp=Z,28nm,2.5s
BILL **Bilibino** 55.78 350 *ePcP* PcP 17 04 30.4 +0.9
comp=Z,1µm,19.0s
NVAR **Mina Array Bea** 55.80 289 P P 17 03 32.2 +0.8
NVAR **Mina Array Bea** 55.80 289 P P 17 03 32.2 +0.8
comp=Z,1.4nm,0.6s,baz=60,slow=6.3,SNR=7.3
NVAR LR LR 17 26 38.8
comp=Z,3µm,18.6s,baz=317,slow=35
NVAR **Mina Array Bea** 55.80 289 P P 17 03 32.2 +0.8
WCN **Washoe City** 55.94 291 *eP* P 17 03 34.0 +1.6
WCN pmax pmax
comp=Z,116nm,2.6s
WCN **Washoe City** 55.94 291 *eP* P 17 03 34.0 +1.6
comp=Z,116nm,2.6s
WCN **Washoe City** 55.94 291 *eP* P 17 03 34.0 +1.6
comp=Z,116nm,2.6s
TUC **Tucson** 56.16 279 *eP* P 17 03 35.3 +1.3
TUC pmax pmax
comp=Z,7.0nm,1.1s
TUC **Tucson** 56.16 279 *eP* P 17 03 35.3 +1.3
comp=Z,7.3nm,1.1s
TUC **Tucson** 56.16 279 *eP* P 17 03 35.3 +1.3
comp=Z,7.0nm,1.1s
Y14A **Wickenburg** 56.19 282 ⇑P P 17 03 34.3 +0.2
baz=56
KDAK **Kodiak Island** 56.38 325 LR LR 17 27 38.1
comp=Z,2µm,19.5s,baz=58,slow=36
TUQ **Turquoise Moun** 56.70 285 ⇓P P 17 03 38.0 +0.2
baz=57
OHCM **Honcut** 56.82 292 *eP* P 17 03 38.4 -0.1
OHCM **Honcut** 56.82 292 *eP* P 17 03 38.4 -0.1
MPMC **Manual Prospec** 57.09 287 ⇓P P 17 03 41.0 +0.3
baz=57
CMB **Columbia Colle** 57.20 291 *eP* P 17 03 43.0 +1.8
CMB pmax pmax
comp=Z,20nm,1.9s
CMB **Columbia Colle** 57.20 291 *eP* P 17 03 43.0 +1.8
comp=Z,20nm,1.9s
CMB **Columbia Colle** 57.20 291 *eP* P 17 03 43.0 +1.8
comp=Z,20nm,1.9s
GSC **Goldstone** 57.28 286 *eP* P 17 03 42.3 +0.4
GSC pmax pmax
comp=Z,16nm,1.4s
GSC **Goldstone** 57.28 286 *eP* P 17 03 42.3 +0.4
comp=Z,16nm,1.4s
GSC **Goldstone** 57.28 286 *eP* P 17 03 42.3 +0.4
comp=Z,16nm,1.4s
214A **Organ Pipe Nat** 57.56 280 ⇑P P 17 03 44.3 +0.4
baz=57
BHD **Baghdad** 57.62 77 *ex* P 17 03 43.0 -1.1
BHD *ex* S 17 11 42.5 +1.0
LRMC **Laurel Mountai** 57.63 287 ⇑P P 17 03 45.4 +1.0
baz=58
BC3 **Big Chuckawall** 57.76 284 ⇑P P 17 03 45.6 +0.2
baz=58
BELC **Belle Mtn. Jos** 57.80 284 ⇑P P 17 03 46.3 +0.6
baz=58
GLA **Glamis** 57.87 283 *eP* P 17 03 48.1 +2.1
GLA pmax pmax
comp=Z,32nm,1.1s
GLA **Glamis** 57.87 283 *eP* P 17 03 48.1 +2.1
comp=Z,32nm,1.1s
GLA **Glamis** 57.87 283 *eP* P 17 03 48.1 +2.1
comp=Z,32nm,1.1s
ISA **Isabella** 57.92 287 *eP* P 17 03 48.9 +2.5
ISA pmax pmax
comp=Z,11nm,1.3s
ISA **Isabella** 57.92 287 *eP* P 17 03 48.9 +2.5
comp=Z,11nm,1.3s
ISA **Isabella** 57.92 287 *eP* P 17 03 48.9 +2.5
comp=Z,11nm,1.3s
VES **Vestal, Richgr** 58.12 288 ⇑P P 17 03 48.1 +0.4
baz=58
EDW2 **Edwards Air Fo** 58.24 286 ⇑P P 17 03 49.0 +0.3
baz=58
PFO **Pinyon Flat Ob** 58.35 284 *eP* P 17 03 49.8 +0.3
comp=Z,37nm,1.3s
PFO **Pinyon Flat Ob** 58.35 284 ⇑P P 17 03 49.8 +0.3
baz=58
PFO **Pinyon Flat Ob** 58.35 284 *eP* P 17 03 49.8 +0.3
comp=Z,37nm,1.3s
MWC **Mount Wilson** 58.77 286 *eP* P 17 03 54.7 +2.2
MWC pmax pmax
comp=Z,16nm,1.2s
MWC **Mount Wilson** 58.77 286 *eP* P 17 03 54.6 +2.2
comp=Z,16nm,1.2s
MWC **Mount Wilson** 58.77 286 *eP* P 17 03 54.7 +2.2
comp=Z,16nm,1.2s
OSI **Osito Adit** 58.84 287 *eP* P 17 03 55.3 +2.5
comp=Z,36nm,1.4s
OSI **Osito Adit** 58.84 287 *eP* P 17 03 55.3 +2.5
comp=Z,36nm,1.4s
NVS **Novosibirsk** 59.06 36 ⇑*iP* P 17 03 53.5 -0.4
NVS pmax pmax
comp=N,14nm,1.6s
NVS pmax pmax
comp=Z,55nm,1.6s
NVS pmax pmax
comp=E,9.0nm,1.3s
NVS **Novosibirsk** 59.06 36 *i* P P 17 03 53.5 -0.4
BAR **Barrett** 59.17 284 *eP* P 17 03 57.7 +2.6
comp=E,21nm,1.3s
BAR **Barrett** 59.17 284 *eP* P 17 03 57.7 +2.6
comp=E,21nm,1.3s
ROSC **El Rosal** 59.41 227 P P 17 03 57.9 +0.6
ROSC **El Rosal** 59.41 227 P P 17 03 57.9 +0.6
comp=E,11nm,0.5s,baz=94,slow=23,SNR=8.0
ROSC **El Rosal** 59.41 227 P P 17 03 57.9 +0.6

ZALV	**Zalesovo Beam**	**60.33**	**36**	P	**P**	**17 04 02.7**	**0.0**
ZALV	**Zalesovo Beam**	**60.33**	**36**	P	**P**	**17 04 02.6**	**0.0**
ZALV	**Zalesovo Beam**	**60.33**	**36**	P	**P**	**17 04 02.6**	**0.0**
	comp=E,2.3nm,0.7s,baz=325,slow=8.0,SNR=10.0						
ZALV	**Zalesovo Beam**	**60.33**	**36**	P	**P**	**17 04 02.7**	**0.0**
KURK	**Kurchatov**	**60.74**	**42**	*d* /P	**P**	**17 04 05.8**	**+0.2**
KURK				pmax	pmax		
	comp=Z,23nm,1.2s						
KURK	**Kurchatov**	**60.74**	**42**	*e*P	**P**	**17 04 05.7**	**+0.2**
	comp=Z,24nm,1.2s						
KURK				*e*PP	PP	17 06 10.8	-8.1
KURK	**Kurchatov**	**60.74**	**42**	P	**P**	**17 04 06.6**	**+1.1**
	SNR=6.5						
KURK	**Kurchatov**	**60.74**	**42**	P	**P**	**17 04 05.7**	**+0.2**
	comp=Z,83nm,0.9s,SNR=5.7						
KURK	**Kurchatov**	**60.74**	**42**	*e*P	**P**	**17 04 05.7**	**+0.2**
	comp=Z,24nm,1.2s						
RCBR	**Riachuelo**	**61.09**	**181**	*e*P	**P**	**17 04 09.7**	**+1.4**
	comp=Z,31nm,1.3s						
RCBR	**Riachuelo**	**61.09**	**181**	*e*P	**P**	**17 04 09.7**	**+1.4**
	comp=Z,31nm,1.3s						
SEY	**Seymchan**	**61.78**	**356**	‖ *i* P	**P**	**17 04 12.2**	**-0.2**
SEY	**Seymchan**	**61.78**	**356**	*i* P	**P**	**17 04 12.2**	**-0.2**
YAK	**Yakutsk**	**62.23**	**8**	*e*P	**P**	**17 04 14.1**	**-1.3**
YAK				pmax	pmax		
	comp=Z,21nm,1.1s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK	**Yakutsk**	**62.23**	**8**	*e*P	**P**	**17 04 13.9**	**-1.5**
	comp=E,14nm,0.7s						
YAK	**Yakutsk**	**62.23**	**8**	*e*P	**P**	**17 04 14.1**	**-1.3**
	comp=E,9.0nm,1.3s						
KK31	**Karatay Array**	**63.43**	**52**	*i* P	**P**	**17 04 24.1**	**+0.3**
KK31				pmax	pmax		
	comp=Z,16nm,1.2s						
KK31	**Karatay Array**	**63.43**	**52**	*i* P	**P**	**17 04 24.1**	**+0.3**
	comp=Z,16nm,1.2s						
KKAR	**Karatay Array**	**63.43**	**52**	*e*P	**P**	**17 04 24.0**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,13nm,1.1s						
KKAR	**Karatay Array**	**63.43**	**52**	*e*P	**P**	**17 04 24.0**	**+0.2**
	comp=Z,13nm,1.1s						
KKAR	**Karatay Array**	**63.43**	**52**	*e*P	**P**	**17 04 24.0**	**+0.2**
	comp=Z,13nm,1.1s						
BOD	**Bodaibo**	**64.34**	**18**	*e*P	**P**	**17 04 26.9**	**-2.6**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.4s						
BOD	**Bodaibo**	**64.34**	**18**	*e*P	**P**	**17 04 26.9**	**-2.6**
	comp=Z,10.0nm,1.4s						
EKS2	**Erkin-Say**	**65.23**	**50**	*e*P	**P**	**17 04 36.7**	**+1.0**
EKS2				pmax	pmax		
	comp=Z,35nm,1.0s						
EKS2	**Erkin-Say**	**65.23**	**50**	*e*P	**P**	**17 04 36.6**	**+1.0**
	comp=Z,35nm,1.0s						
EKS2	**Erkin-Say**	**65.23**	**50**	*e*P	**P**	**17 04 36.7**	**+1.0**
	comp=Z,35nm,1.0s						
OTAV	**Otavalo**	**65.31**	**229**	*e*P	**P**	**17 04 36.6**	**-0.3**
	comp=Z,68nm,2.0s						
OTAV	**Otavalo**	**65.31**	**229**	*e*P	**P**	**17 04 36.6**	**-0.3**
	comp=Z,68nm,2.0s						
MK31	**Makanchi Array**	**65.35**	**42**	*i* P	**P**	**17 04 36.2**	**-0.1**
MK31				pmax	pmax		
	comp=Z,21nm,1.2s						
MK31	**Makanchi Array**	**65.35**	**42**	*i* P	**P**	**17 04 36.2**	**-0.1**
	comp=Z,21nm,1.2s						
MKAR	**Makanchi Array**	**65.35**	**42**	P	**P**	**17 04 36.1**	**-0.2**
MKAR	**Makanchi Array**	**65.35**	**42**	P	**P**	**17 04 36.1**	**-0.2**
MKAR	**Makanchi Array**	**65.35**	**42**	P	**P**	**17 04 36.1**	**-0.2**
	comp=Z,9.0nm,1.0s,baz=308,slow=5.9,SNR=4.7						
MKAR	**Makanchi Array**	**65.35**	**42**	P	**P**	**17 04 36.1**	**-0.2**
AAK	**Ala-Archa**	**65.57**	**50**	*e*P	**P**	**17 04 38.6**	**+0.7**
AAK				pmax	pmax		
	comp=Z,54nm,1.2s						
AAK	**Ala-Archa**	**65.57**	**50**	*e*P	**P**	**17 04 38.6**	**+0.7**
	comp=Z,120nm,1.3s						
AAK	**Ala-Archa**	**65.57**	**50**	P	**P**	**17 04 40.4**	**+2.4**
	SNR=5.1						
AAK	**Ala-Archa**	**65.57**	**50**	*e*P	**P**	**17 04 38.6**	**+0.7**
	comp=Z,54nm,1.2s						
TKM2	**Tokmak 2**	**65.81**	**49**	*e*P	**P**	**17 04 40.2**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,32nm,1.2s						
TKM2	**Tokmak 2**	**65.81**	**49**	*e*P	**P**	**17 04 40.2**	**+0.6**
	comp=Z,32nm,1.2s						
TKM2	**Tokmak 2**	**65.81**	**49**	*e*P	**P**	**17 04 40.2**	**+0.6**
	comp=Z,32nm,1.2s						
MOY	**Mondy**	**67.19**	**28**	*e*P	**P**	**17 04 48.1**	**0.0**
MOY	**Mondy**	**67.19**	**28**	*e*P	**P**	**17 04 48.1**	**0.0**
IRK	**Irkutsk**	**67.51**	**26**	*e*P	**P**	**17 04 48.1**	**-1.9**
IRK				pmax	pmax		
	comp=Z,23nm,1.5s						
IRK	**Irkutsk**	**67.51**	**26**	*e*P	**P**	**17 04 48.1**	**-1.9**
	comp=Z,23nm,1.5s						
TLY	**Talaya**	**67.87**	**26**	*e*P	**P**	**17 04 51.6**	**-0.7**
TLY				*e*S	SP	17 14 15.8	
TLY				*e*SSS	SSS	17 21 14.7	
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,257nm,18.0s						
TLY	**Talaya**	**67.87**	**26**	*e*P	**P**	**17 04 51.6**	**-0.7**
	comp=Z,3.0nm,0.8s						
SAML	**Samuel**	**68.32**	**210**	*e*P	**P**	**17 04 53.0**	**-2.4**
	comp=Z,15nm,1.3s						
KSH	**Kashi**	**68.75**	**51**	P	**P**	**17 05 00.3**	**+2.2**
KSH				pP	**pP**	**17 05 05.4**	**+2.3**
KSH				sP	**sP**	**17 05 07.0**	**+2.0**
KSH				PcP	**PcP**	**17 05 26.4**	**+3.6**
KSH				PP	**PP**	**17 07 33.8**	**+4.4**
KSH				ScP		17 09 26.8	
KSH				PcS		17 09 29.3	
KSH				S	**S**	**17 14 01.5**	**+0.6**
KSH				sS	**sS**	**17 14 09.5**	**+0.4**
KSH				ScS	**SKSac**	**17 14 56.1**	**-0.8**
KSH				SS	**SS**	**17 18 26.8**	**+2.1**
KSH				pmax	pmax		
	comp=Z,38nm,1.2s						
KSH				LR	LR		
	comp=N,960nm,15.9s						
KSH				LR	LR		
	comp=E,510nm,14.3s						
KSH				LR	LR		
	comp=Z,1μm,20.4s						
ZAK	**Zakamensk**	**68.97**	**27**	*e*P	**P**	**17 04 58.3**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s						
ZAK	**Zakamensk**	**68.97**	**27**	*e*P	**P**	**17 04 58.3**	**-1.0**
	comp=Z,3.0nm,1.6s						
WMQ	**Urumqi**	**69.89**	**40**	P	**P**	**17 05 06.8**	**+1.8**
WMQ				pP	**pP**	**17 05 12.0**	**+2.0**
WMQ				sP	**sP**	**17 05 14.0**	**+2.1**
WMQ				PcP	**PcP**	**17 05 30.0**	**+2.6**
WMQ				PP	**PP**	**17 07 43.0**	**+4.0**
WMQ				S	**S**	**17 14 15.0**	**+1.0**
WMQ				ScS	**SKSac**	**17 15 05.0**	**-0.2**
WMQ				pmax	pmax		
	comp=Z,12nm,1.2s						
WMQ				pmax	pmax		
	comp=Z,230nm,5.5s						
WMQ				LR	LR		
	comp=N,1μm,19.4s						
WMQ				LR	LR		
	comp=E,780nm,14.8s						
WMQ				LR	LR		
	comp=Z,990nm,20.2s						
HATD	**Hatta, Dubai**	**70.63**	**74**	P	**P**	**17 05 10.2**	**+0.5**
	SNR=7.5						
HATD	**Hatta, Dubai**	**70.63**	**74**	P	**P**	**17 05 10.2**	**+0.5**
	SNR=7.5						
BDFB	**Brasilia**	**71.67**	**193**	P	**P**	**17 05 14.9**	**-1.1**
BDFB	**Brasilia**	**71.67**	**193**	P	**P**	**17 05 14.9**	**-1.1**
	comp=Z,7.4nm,0.8s,baz=326,slow=4.7,SNR=8.0						
BDFB	**Brasilia**	**71.67**	**193**	P	**P**	**17 05 14.9**	**-1.1**
SONM	**Songino Array**	**72.11**	**26**	P	**P**	**17 05 18.0**	**-0.5**
SONM	**Songino Array**	**72.11**	**26**	P	**P**	**17 05 18.0**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=334,slow=5.9,SNR=8.7						
SONM	**Songino Array**	**72.11**	**26**	P	**P**	**17 05 18.0**	**-0.5**
ULN	**Ulaanbaatar**	**72.25**	**26**	*e*P	**P**	**17 05 19.1**	**-0.2**
	comp=Z,72nm,2.2s						
ULN	**Ulaanbaatar**	**72.25**	**26**	P	**P**	**17 05 19.2**	**-0.2**
	SNR=5.1						
ULN	**Ulaanbaatar**	**72.25**	**26**	*e*P	**P**	**17 05 19.1**	**-0.2**
	comp=Z,72nm,2.2s						
ABTO	**Aybut**	**75.02**	**81**	P	**P**	**17 05 35.5**	**-0.4**
	SNR=9.3						
ABTO	**Aybut**	**75.02**	**81**	P	**P**	**17 05 35.5**	**-0.4**
	SNR=9.3						
KLR	**Kul'dur**	**75.09**	**9**	*e*P	P	17 05 32.3	-3.5
HABR	**Khabarovsk**	**76.09**	**7**	*e*P	**P**	**17 05 40.4**	**-1.1**
HABR				*e**PP	**pP**	**17 05 43.6**	**-3.0**
HABR				*e*S	**S**	**17 15 25.1**	**+1.0**
HABR				*e*		17 15 55.2	
HABR				*e*SS	**SS**	**17 20 19.6**	**+3.8**
HABR				pmax	pmax		
	comp=Z,36nm,2.1s						
HABR				pmax	pmax		
	comp=N,15nm,1.5s						
HABR				pmax	pmax		
	comp=E,48nm,2.1s						
HABR				MLR	MLR		
	comp=Z,477nm,22.0s						
HABR	**Khabarovsk**	**76.09**	**7**	*e*P	**P**	**17 05 40.4**	**-1.1**
	comp=Z,15nm,1.5s						
HABR				eS	**S**	**17 15 25.1**	**+1.0**
HABR				eScS	**ScS**	**17 15 55.2**	**-0.2**
LPAZ	**La Paz**	**76.74**	**212**	P	**P**	**17 05 46.0**	**-0.2**
LPAZ	**La Paz**	**76.74**	**212**	P	**P**	**17 05 46.0**	**-0.2**
	comp=Z,6.0nm,1.0s,baz=10,slow=10,SNR=10						
LPAZ	**La Paz**	**76.74**	**212**	P	**P**	**17 05 46.0**	**-0.2**
GTA	**Gaotai**	**77.98**	**34**	*e*P	**P**	**17 05 53.0**	**+0.5**
GTA				pP	**pP**	**17 05 57.3**	**-0.3**
GTA				sP	**sP**	**17 06 00.3**	**+0.9**
GTA				S	**S**	**17 15 43.0**	**-2.4**
GTA				sS	**sS**	**17 15 50.8**	**-2.9**
GTA				SS	**SS**	**17 20 44.4**	**-0.8**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.9s						
GTA				pmax	pmax		
	comp=Z,230nm,7.6s						
GTA				LR	LR		
	comp=N,240nm,17.3s						
GTA				LR	LR		
	comp=E,390nm,16.9s						
GTA				LR	LR		
	comp=Z,380nm,17.6s						
MDJ	**Mudanjiang**	**79.44**	**11**	P	**P**	**17 05 57.5**	**-2.8**
MDJ				S	**S**	**17 15 57.4**	**-3.1**
MDJ				SS	**SS**	**17 21 10.8**	**+4.4**
MDJ				pmax	pmax		
	comp=Z,19nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,200nm,4.4s						
MDJ				LR	LR		
	comp=N,68nm,36.1s						
MDJ				LR	LR		
	comp=E,130nm,30.1s						
MDJ				LR	LR		
	comp=Z,180nm,25.6s						
CN2	**Changchun**	**79.73**	**14**	*e*P	**P**	**17 06 01.1**	**-0.8**
HHC	**Hu-ho-hao-te**	**79.94**	**25**	*e*P	**P**	**17 06 02.3**	**-0.9**
HHC				sP	**sP**	**17 06 08.3**	**-1.8**
HHC				PP	**PP**	**17 09 04.6**	**+0.5**
HHC				S	**S**	**17 16 03.3**	**-2.9**
HHC				ScS	**SKKSac**	**17 16 22.3**	**+0.8**
HHC				SS	**SS**	**17 21 13.6**	**-0.7**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,230nm,5.2s						
HHC				LR	LR		
	comp=N,550nm,16.6s						
HHC				LR	LR		
	comp=E,440nm,17.8s						
HHC				LR	LR		
	comp=Z,350nm,20.2s						
USRK	**Ussuriysk Arra**	**80.10**	**9**	P	**P**	**17 06 04.7**	**+0.8**
	comp=Z,4.1nm,1.0s,baz=344,slow=6.2,SNR=5.0						
LZH	**Lanzhou**	**82.29**	**32**	*e*P	**P**	**17 06 15.6**	**-0.3**
LZH				pP	**pP**	**17 06 19.3**	**-1.6**
LZH				sP	**sP**	**17 06 21.3**	**-1.5**
LZH				eS	**S**	**17 16 28.0**	**-2.9**
LZH				sS	**sS**	**17 16 38.4**	**-0.8**
LZH				pmax	pmax		
	comp=Z,24nm,1.0s						
LZH				pmax	pmax		
	comp=Z,200nm,4.6s						
LZH				LR	LR		
	comp=N,340nm,13.5s						
LZH				LR	LR		
	comp=E,240nm,11.6s						
LZH				LR	LR		
	comp=Z,440nm,15.8s						
LSA	**Lhasa**	**83.56**	**45**	*e*P	**P**	**17 06 24.1**	**+1.1**
LSA				pmax	pmax		
	comp=Z,14nm,1.5s						
LSA	**Lhasa**	**83.56**	**45**	*e*P	**P**	**17 06 24.1**	**+1.1**
	comp=Z,14nm,1.5s						
LSA	**Lhasa**	**83.56**	**45**	*e*P	**P**	**17 06 24.1**	**+1.1**
	comp=Z,14nm,1.5s						
CPUP	**Villa Florida**	**83.66**	**200**	P	**P**	**17 06 21.9**	**-0.6**
CPUP	**Villa Florida**	**83.66**	**200**	P	**P**	**17 06 21.9**	**-0.6**
	comp=Z,3.5nm,0.8s,baz=8.2,slow=7.9,SNR=5.6						
CPUP	**Villa Florida**	**83.66**	**200**	P	**P**	**17 06 21.9**	**-0.6**
KSRS	**Korea Array**	**86.31**	**13**	P	**P**	**17 06 36.2**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=1.2,slow=5.0,SNR=4.0						
KSAR	**Wonju Array Be**	**86.31**	**13**	P	**P**	**17 06 36.2**	**+0.2**
KSAR	**Wonju Array Be**	**86.31**	**13**	P	**P**	**17 06 36.3**	**+0.2**
TSUM	**Tsumeb**	**86.73**	**131**	*e*P	**P**	**17 06 36.9**	**-1.4**
	comp=Z,15nm,1.4s						
CD2	**Chengdu**	**87.05**	**34**	P	**P**	**17 06 37.5**	**-2.3**
CD2				pP	**PcP**	**17 06 42.3**	**+0.3**
CD2				sP	**sP**	**17 06 44.5**	**-2.3**
CD2				PP	**PP**	**17 10 02.5**	**+0.1**
CD2				SKS	**SKSac**	**17 17 01.8**	**-4.7**
CD2				S	**SKKSac**	**17 17 13.8**	**-1.4**
CD2				SS	**SS**	**17 22 58.8**	**-1.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,210nm,6.4s						
CD2				LR	LR		
	comp=N,280nm,19.6s						
CD2				LR	LR		
	comp=E,560nm,19.1s						
CD2				LR	LR		
	comp=Z,370nm,20.6s						
NJ2	**Nanjing**	**90.02**	**22**	*e*P	**P**	**17 06 52.3**	**-1.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KMI	**Kunming**	**92.05**	**37**	P	**P**	**17 07 04.4**	**+0.8**
KMI				pP	**pP**	**17 07 09.9**	**+1.2**
KMI				sP	**sP**	**17 07 12.5**	**+1.9**
KMI				PP	**PP**	**17 10 44.8**	**+2.3**
KMI				S	**S**	**17 18 03.5**	**-1.7**
KMI				SS	**SS**	**17 24 15.3**	**+2.6**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.9s						
KMI				pmax	pmax		
	comp=Z,29nm,3.1s						
KMI				LR	LR		
	comp=N,250nm,22.2s						
KMI				LR	LR		
	comp=E,190nm,17.8s						
KMI				LR	LR		
	comp=Z,270nm,23.3s						
GYA	**Guiyang**	**92.11**	**34**	P	**P**	**17 07 03.6**	**-0.2**
GYA				PP	**PP**	**17 10 44.3**	**+1.5**
GYA				SKS	**SKSac**	**17 17 34.8**	**-1.6**
GYA				S	**S**	**17 18 01.9**	**-3.6**
GYA				SS	**SS**	**17 24 12.5**	**-0.8**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,130nm,5.4s						
GYA				LR	LR		
	comp=N,560nm,21.5s						
GYA				LR	LR		
	comp=E,510nm,22.3s						
GYA				LR	LR		
	comp=Z,540nm,21.9s						
CHTO	**Chiang Mai**	**96.41**	**43**	P	**P**	**17 07 20.9**	**-2.6**
CHTO	**Chiang Mai**	**96.41**	**43**	P	**P**	**17 07 20.9**	**-2.6**
CHTO	**Chiang Mai**	**96.41**	**43**	P	**P**	**17 07 20.9**	**-2.6**
CMAR	**Chiang Mai Arr**	**96.73**	**43**	P	**P**	**17 07 25.1**	**+0.2**
CMAR				PP	**PP**	**17 11 21.7**	**+2.7**
CMAR	**Chiang Mai Arr**	**96.73**	**43**	P	**P**	**17 07 25.1**	**+0.2**
	comp=Z,1.8nm,1.0s,baz=327,slow=5.4,SNR=11						
CMAR				PP	**PP**	**17 11 21.7**	**+2.7**
	comp=Z,1.4nm,1.0s,baz=327,slow=7.6,SNR=6.7						
CMAR	**Chiang Mai Arr**	**96.73**	**43**	P	**P**	**17 07 25.1**	**+0.2**
BOSA	**Boshof**	**98.31**	**129**	LR	LR	17 51 14.6	
	comp=Z,804nm,18.6s,baz=340,slow=35						
QIZ	**Qiongzhong**	**100.06**	**33**	P	**Pdif**	**17 07 37.8**	**-2.0**
QIZ				S	**Sdif**	**17 19 10.4**	**-3.7**
QIZ				pmax	pmax		
	comp=Z,17nm,1.8s						
QIZ				LR	LR		
	comp=Z,240nm,31.5s						
CTBH	**Cotabato--PC H**	**115.22**	**23**	∩ *i*P	**SP**	**17 23 12.4**	**-1.1**
PPT2	**Papeete2**	**118.13**	**280**	*e*SP	SP	17 23 38.4	-2.3
	comp=Z,124nm,24.2s						
PPT2				*e*SS	**SS**	**17 30 17.7**	**+6.8**
	comp=Z,557nm,26.0s						
PPT2				*e*LR	LR	17 48 49.0	
	comp=Z,716nm,22.2s						
TBI	**Tubuai**	**122.64**	**276**	*e*LR	LR	17 50 49.9	
	comp=Z,515nm,41.5s						
DZM	**Mont Dzumac**	**142.96**	**325**	*e*LR	LR	18 00 12.0	
	comp=Z,964nm,26.9s						
WRA	**Warramunga Arr**	**143.64**	**17**	PKP	PKPbc	17 13 27.1	+0.6
WRA	**Warramunga Arr**	**143.64**	**17**	PKP	PKPbc	17 13 27.1	+0.6
	comp=Z,2.2nm,0.9s,baz=349,slow=3.7,SNR=9.7						
CTA	**Charters Tower**	**144.65**	**358**	PKP	**PKPdf**	**17 13 30.6**	**-0.3**
CTA	**Charters Tower**	**144.65**	**358**	PKP	**PKPdf**	**17 13 30.6**	**-0.3**
	comp=Z,6.8nm,1.0s,baz=326,slow=4.1,SNR=3.7						
ASAR	**Alice Springs**	**147.21**	**19**	PKPbc	**PKPbc**	**17 13 36.4**	**-1.0**
ASAR	**Alice Springs**	**147.21**	**19**	PKPbc	**PKPbc**	**17 13 36.4**	**-1.0**
	comp=Z,15nm,1.1s,baz=350,slow=2.7,SNR=29						

*CSEM **21** 17:01:30.9±0.1,59°.09N×9°.74E, h2km, ML1.2, Error ellipse: s-maj=3.1km s-min=2.2km az=19.0, Suspected Mining explosion.*
*UPP **21** 17:01:32.7,58°.92N×9°.87E, h0km, ML1.6, Suspected Mining explosion.*

BER 21 17:01:32.9±2.6, 59°.09N×9°.67E, h0km, MD1.7, ML1.2(NAO), Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KONO	**Kongsberg**	**0.56**	**356**	*e*P		Pg	17 01 43.0	-0.7
KONO				*e*S		Sg	17 01 51.4	+0.4
HOMB	**Homborsund**	**1.02**	**217**	*e*P		Pg	17 01 51.0	-1.5
HOMB	**Homborsund**	**1.02**	**217**	*e*P		Pg	17 01 51.0	-1.5
	SNR=90							
SNART	**Snartemo**	**1.49**	**241**	*e*P		Pn	17 01 58.5	-2.3
SNART				*e*S		Sg	17 02 17.8	-2.9
BLS5	**Blasjo**	**1.68**	**283**	*e*P		Pn	17 02 01.7	-1.9
BLS5				*e*S		Sn	17 02 24.8	-1.2
BLS5	**Blasjo**	**1.68**	**283**	*e*P		Pn	17 02 01.7	-1.9
	SNR=50							
BLS5				*e*S		Sn	17 02 24.8	-1.1
	SNR=50							
ODD1	**Odda**	**1.76**	**299**	*e*P		Pn	17 02 03.1	-1.5
ODD1				*e*Sg		Sn	17 02 27.4	-0.3
ODD1	**Odda**	**1.76**	**299**	*e*P		Pn	17 02 03.1	-1.5
	SNR=50							
ODD1				*e*Sg		Sn	17 02 27.4	-0.4
	SNR=90							
NB2	**NORSAR Subarra**	**2.10**	**21**	Pn		Pn	17 02 06.7	-2.7
NB2	**NORSAR Subarra**	**2.10**	**21**	Pn		Pn	17 02 06.7	-2.7
	SNR=50							
BORU	**Boraas**	**2.19**	**130**	P		Pn	17 02 07.7	-2.8
KMY	**Karmoy**	**2.28**	**275**	*e*Pg		Pn	17 02 12.4	+0.6
KMY				*e*S		Sn	17 02 39.8	-0.7
HFS	**Hagfors**	**2.30**	**61**	Pn		Pn	17 02 09.8	-2.2
	baz=248,slow=16							
HFS				Lg		Lg	17 02 44.1	
	baz=248,slow=37							
HFS	**Hagfors**	**2.30**	**61**	Pn		Pn	17 02 09.8	-2.2
	baz=248,slow=14,SNR=50							
HFS				Lg		Lg	17 02 44.1	
	baz=248,slow=29,SNR=51							
RUND	**Rundenannen**	**2.55**	**303**	*e*Sg		Sb	17 02 50.0	-1.5
FABU	**Falkenberg**	**2.65**	**141**	P		Pn	17 02 14.1	-2.7
GNOU	**Gnosjoe**	**2.82**	**128**	P		Pn	17 02 16.9	-2.3

IDC 21 17:09:11.8±1.9, 2°.57N×124°.46E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/21, mbtmp3.3/3, Error ellipse: s-maj=182.4km s-min=27.2km az=64.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.39**	**157**	P	P	17 14 30.2	-1.8
	0.9nm,0.7s,baz=334,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**27.65**	**161**	P	P	17 15 03.4	+1.9
	0.4nm,0.9s,baz=339,slow=7.2,SNR=1.9						
MKAR	**Makanchi Array**	**57.24**	**327**	P	P	17 19 00.6	-0.5
	0.1nm,0.5s,baz=115,slow=7.2,SNR=4.5						

*ATH **21** 17:14:18.8, 37°.11N×20°.73E, h10km±3km, MD3.6/14*
*CSEM **21** 17:14:18.2±0.5, 37°.11N×20°.70E, h2km, ML3.0/7, Error ellipse: s-maj=8.8km s-min=3.9km az=49.0*
*THE **21** 17:14:19.2, 37°.11N×20°.75E, h3km±1km, ML3.0/7, Error ellipse: s-maj=1.7km s-min=0.7km az=232.0*

ISC 21 17:14:18.8±1.7, 37°.11N±0°.04×20°.75E±0°.05, h3km±10km, n50, σ0°.55/81, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.82**	**104**	P		**Pg**	**17 14 34.8**	**+0.2**
PYL				S		**Sb**	**17 14 46.7**	**-0.6**
PYL	**PYLOS**	**0.82**	**104**	*e*PB		**Pg**	**17 14 34.8**	**+0.2**
PYL				*e*SB		**Sb**	**17 14 47.1**	**-0.2**
PYL	**PYLOS**	**0.82**	**104**	P		**Pg**	**17 14 34.8**	**+0.2**
PYL				S		**Sb**	**17 14 46.7**	**-0.6**
PYL				*e*Sb		**Sb**	**17 14 47.1**	**-0.2**
ITM	**Ithomi**	**0.95**	**85**	P		**Pg**	**17 14 36.1**	**-0.8**
ITM				S		**Sb**	**17 14 50.8**	**0.0**
ITM	**Ithomi**	**0.95**	**85**	*e*PG		**Pg**	**17 14 36.2**	**-0.7**
ITM				*e*SB		**Sg**	**17 14 50.3**	**+1.1**
ITM	**Ithomi**	**0.95**	**85**	P		**Pg**	**17 14 36.1**	**-0.8**
ITM				*e*Sb		**Sg**	**17 14 50.3**	**+1.1**
ITM				S		**Sb**	**17 14 50.8**	**0.0**
KFL	**Anninata**	**1.00**	**2**	P		**Pg**	**17 14 37.4**	**-0.6**
KFL				S		**Sb**	**17 14 53.0**	**+0.5**
KFL	**Anninata**	**1.00**	**2**	P		**Pg**	**17 14 37.4**	**-0.6**
KFL				S		**Sb**	**17 14 53.0**	**+0.5**
VLS	**Valsamata**	**1.08**	**353**	P		**Pg**	**17 14 38.7**	**-0.8**
VLS				S		**Sb**	**17 14 55.0**	**+0.4**
VLS	**Valsamata**	**1.08**	**353**	*e*PN		**Pg**	**17 14 39.0**	**-0.5**
VLS				*e*SB		**Sb**	**17 14 54.8**	**+0.2**
VLS	**Valsamata**	**1.08**	**353**	P		**Pg**	**17 14 38.7**	**-0.8**
VLS	**Valsamata**	**1.08**	**353**	*e*Pn		**Pg**	**17 14 39.0**	**-0.5**
VLS				S		**Sb**	**17 14 55.0**	**+0.4**
RLS	**Riolos of Patr**	**1.11**	**31**	P		**Pg**	**17 14 39.5**	**-0.6**

LKD2				S	Sn	17 15 11.2	-0.1	
KALE	**Kalithea**	**1.69**	**40**	P	Pn	17 14 49.4	+0.1	
KALE				S	Sn	17 15 11.8	+0.2	
KALE	**Kalithea**	**1.69**	**40**	P	Pn	17 14 49.4	+0.1	
KALE				S	Sn	17 15 11.8	+0.2	
VLI	**Veliai**	**1.80**	**102**	P	Pn	17 14 51.0	+0.3	
VLI				S	Sn	17 15 14.1	0.0	
VLI	**Veliai**	**1.80**	**102**	*e*PN	Pb	17 14 52.4	0.0	
VLI	**Veliai**	**1.80**	**102**	P	Pn	17 14 51.0	+0.3	
VLI	**Veliai**	**1.80**	**102**	*e*Pn	Pb	17 14 52.4	0.0	
VLI				S	Sn	17 15 14.1	0.0	
LTK	**Loutraki**	**1.99**	**62**	*e*PN	Pb	17 14 54.7	-0.9	
LTK	**Loutraki**	**1.99**	**62**	*e*Pn	Pb	17 14 54.7	-0.9	
EVR	**Evrytania**	**1.99**	**25**	*e*PG	Pb	17 14 56.1	+0.3	
EVR	**Evrytania**	**1.99**	**25**	*e*Pg	Pb	17 14 56.1	+0.3	
KYTH	**Kithira**	**2.02**	**113**	*e*PG	Pb	17 14 55.9	-0.2	
DID	**Didima**	**2.03**	**78**	P	Pn	17 14 53.5	-0.4	
DID	**Didima**	**2.03**	**78**	*e*PN	Pn	17 14 54.4	+0.5	
DID	**Didima**	**2.03**	**78**	P	Pn	17 14 53.5	-0.4	
DID	**Didima**	**2.03**	**78**	*e*Pn	Pn	17 14 54.4	+0.5	
THL	**Klokotos Trika**	**2.65**	**22**	*e*PB	Pn	17 15 03.4	+1.0	
THL	**Klokotos Trika**	**2.65**	**22**	*e*Pb	Pn	17 15 03.4	+1.0	

IDC 21 17:14:29.1±12.0, 20°.91S×65°.79W, h356km±84km, mb3.6/1, mb1 3.2/4, mb1mx3.0/18, mbtmp3.2/4, Error ellipse: s-maj=233.2km s-min=32.5km az=7.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.10**	**334**	P	Pn	17 15 50.6	-0.2
	0.8nm,0.3s,baz=164,slow=10.0,SNR=19						
LPAZ				S	S	17 17 06.0	+9.1
	baz=274,slow=21,SNR=2.5						
SIV	**San Ignacio**	**6.63**	**43**	P	Pn	17 16 07.9	+0.4
	0.8nm,0.3s,baz=239,slow=12,SNR=11						
BDFB	**Brasilia**	**17.67**	**76**	P	P	17 18 12.5	-0.1
	0.4nm,0.3s,baz=239,slow=11,SNR=8.1						
TORD	**Torodi Ar. Bea**	**74.42**	**69**	P	P	17 25 29.3	-0.2
	1.3nm,0.4s,baz=257,slow=6.0,SNR=30						
MKAR	**Makanchi Array**	**143.42**	**38**	PKP	PKPdf	17 33 21.8	+0.2
	1.1nm,0.6s,baz=332,slow=3.1,SNR=15						

*IDC **21** 17:22:54.1±1.0, 51°.27N×160°.37E, h0km, mb3.5/9, mb1 3.7/10, mb1mx3.5/29, mbtmp3.6/10, ML3.7/1, Error ellipse: s-maj=23.2km s-min=21.4km az=137.0*
*MOS **21** 17:22:56.3±1.4, 51°.15N×159°.56E, h7km, mb4.2/2, Error ellipse: s-maj=20.3km s-min=8.5km az=91.4*
*KRSC **21** 17:22:58.6±0.7, 51°.30N×159°.54E, h5km±5km, ML4.3*
ISC 21 17:22:57.9±1.9, 51°.27N±0°.06×159°.51E±0°.06, h6km±10km, n33, σ1°09/45, mb3.5/9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.32**	**332**	PN	Pg	17 23 23.1	-0.1
RUS				S	Sn	17 23 40.7	-0.1
RUS	**Russkaya**	**1.32**	**332**	P	Pg	17 23 23.1	-0.1
RUS				*i* S	Sn	17 23 40.7	-0.1
MTVR	**Mutnovka**	**1.47**	**326**	*e*P	Pb	17 23 25.6	-0.1
MTVR				*i* S	Sg	17 23 45.4	+0.3
ASAK	**Asacha**	**1.50**	**319**	P	Pb	17 23 26.4	+0.2
ASAK				*i* S	Sg	17 23 46.9	+0.9
PET	**Petropavlovsk**	**1.84**	**344**	PN	Pb	17 23 30.8	-1.0
PET				S	Sb	17 23 54.7	-0.4
PET	**Petropavlovsk**	**1.84**	**344**	*e*P	Pb	17 23 30.8	-1.0
PET				*i* S	Sb	17 23 54.7	-0.4
SPN	**Mys Shipunski**	**1.86**	**10**	PN	Pg	17 23 33.2	-0.3
SPN				S	Sg	17 23 57.9	+0.3
SPN	**Mys Shipunski**	**1.86**	**10**	*e*P	Pg	17 23 33.2	-0.3
SPN				*i* S	Sg	17 23 57.9	+0.3
UGLR	**Uglovaya**	**1.99**	**348**	P	Pb	17 23 33.7	-0.8
UGLR				*i* S	Sb	17 23 59.0	-0.6
SDLR	**Sedlovina**	**2.05**	**349**	*e*P	Pb	17 23 34.2	-1.4
SDLR				*i* S	Sb	17 24 00.2	-1.2
AVH	**Avacha**	**2.06**	**347**	*e*P	Pb	17 23 35.0	-0.6
AVH				*i* S	Sb	17 24 01.0	-0.5
PETK	**Petropavlovsk-**	**2.15**	**330**	PN	Pb	17 23 36.4	-0.9
PETK						17 24 06.1	
PETK				pmax	pmax		
	comp=Z,17nm,0.3s						
PETK				smax	smax		
	comp=N,9.0nm,0.3s						
PETK	**Petropavlovsk-**	**2.15**	**330**	Pn	**Pb**	**17 23 36.4**	**-0.9**
	comp=N,17nm,0.3s,baz=135,slow=17,SNR=319						
PETK				Sn	**Sg**	**17 24 06.1**	**-0.9**
	comp=N,9.2nm,0.3s,baz=122,slow=20,SNR=4.5						
APC	**Apacha**	**2.21**	**320**	*e*P	Pb	17 23 37.2	-0.9
APC				*i* S	Sb	17 24 05.5	-0.1
SKR	**Severo-Kuril's**	**2.22**	**256**	*e*PN	Pn	17 23 34.6	-0.6
SKR				*e*S	Sn	17 24 02.6	-0.4
SKR				smax	smax		
	comp=N,500nm,0.5s						
SKR				smax	smax		
	comp=E,230nm,0.5s						
SKR				smax	smax		
	comp=Z,110nm,0.5s						
MKZ	**Mys Kozlova**	**3.56**	**21**	PN	Pn	17 23 54.0	+0.4
MKZ	**Mys Kozlova**	**3.56**	**21**	*e*P	Pn	17 23 54.0	+0.4
MKZ				*i* S	Sn	17 24 34.5	-1.4
TUMR	**Tumrok**	**4.04**	**5**	*e*P	Pn	17 24 04.4	+4.1
KMNR	**Kamenistaya**	**4.52**	**5**	*e*P	Pn	17 24 11.0	+4.1
ESO	**Esso**	**4.69**	**354**	PN	Pn	17 24 11.6	+2.4
ESO	**Esso**	**4.69**	**354**	P	Pn	17 24 11.6	+2.4
KBTR	**Krutoberegovo**	**5.32**	**20**	PN	Pn	17 24 19.8	+2.0
KBTR	**Krutoberegovo**	**5.32**	**20**	P	Pn	17 24 19.8	+2.0
MJAR	**Matsushiro Arr**	**21.16**	**234**	P	P	17 27 46.0	+2.4
	comp=Z,1.0nm,0.7s,baz=16,slow=12,SNR=5.6						
KSRS	**Korea Array**	**26.23**	**251**	P	P	17 28 35.3	+1.9
	comp=Z,1.1nm,0.6s,baz=45,slow=9.3,SNR=3.3						
SONM	**Songino Array**	**34.01**	**286**	P	P	17 29 41.9	-0.4
	comp=Z,0.2nm,0.9s,baz=66,slow=8.6,SNR=3.1						
MKAR	**Makanchi Array**	**48.64**	**297**	P	P	17 31 41.6	-0.7
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**48.64**	**297**	P	P	17 31 41.6	-0.7
	comp=Z,0.6nm,0.5s,baz=64,slow=7.3,SNR=21						
NVAR	**Mina Array Bea**	**56.72**	**69**	P	P	17 32 34.6	-7.9
	comp=Z,1.1nm,0.7s,baz=315,slow=10,SNR=4.2						
CMAR	**Chiang Mai Arr**	**57.46**	**259**	P	P	17 32 49.2	+1.6
	comp=Z,0.4nm,0.8s,baz=29,slow=8.9,SNR=4.3						
HFS	**Hagfors**	**65.58**	**342**	P	P	17 33 41.0	-0.9
	comp=Z,1.5nm,0.7s,baz=10,slow=8.8,SNR=4.0						
WRA	**Warramunga Arr**	**74.27**	**205**	P	P	17 34 34.7	-1.0
	comp=Z,0.2nm,0.6s,baz=18,slow=5.9,SNR=3.5						
GERES	**GERESS Array B**	**76.07**	**338**	P	P	17 34 46.0	0.0
	comp=Z,0.2nm,0.5s,baz=32,slow=5.8,SNR=3.9						

IDC 21 17:30:46.5±1.1, 24°.06S×111°.71W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.9/14, mbtmp3.7/4, MS3.7/2, Ms1 3.8/2, ms1mx3.4/19, Error ellipse: s-maj=43.2km s-min=35.3km az=9.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**3.73**	**145**	Pn	Pn	17 31 34.9	-10
	36nm,0.3s,baz=324,slow=16,SNR=22						
RPN				Sn	Sn	17 32 30.0	0.0
	baz=10,slow=8.4,SNR=3.8						
LPAZ	**La Paz**	**41.50**	**88**	P	P	17 38 35.0	-1.5
	1.4nm,0.9s,baz=275,slow=6.2,SNR=4.9						
LPAZ				LR	LR	17 52 02.8	
	comp=Z,106nm,21.8s,baz=209,slow=31						
CPUP	**Villa Florida**	**48.96**	**105**	LR	LR	17 55 59.8	
	comp=Z,107nm,21.5s,baz=333,slow=31						
NVAR	**Mina Array Bea**	**62.47**	**354**	P	P	17 41 13.3	+1.4
	1.4nm,0.8s,baz=187,slow=9.3,SNR=4.8						
PDAR	**Pinedale Array**	**66.52**	**2**	P	P	17 41 37.1	-1.2
	0.6nm,0.7s,baz=162,slow=7.7,SNR=5.3						
YKA	**Yellowknife Ar**	**86.29**	**359**	P	P	17 43 28.8	-0.9
	0.4nm,0.9s,baz=174,slow=4.3,SNR=6.9						
SONM	**Songino Array**	**141.65**	**318**	PKP	PKPdf	17 50 18.2	-1.8
	0.5nm,0.8s,baz=347,slow=3.3,SNR=3.6						
BRTR	**Keskin Array B**	**146.94**	**53**	PKPbc	PKPab	17 50 32.4	-0.4
	0.8nm,0.7s,baz=297,slow=6.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**147.68**	**342**	PKPbc	PKPbc	17 50 32.9	+0.1
	2.3nm,0.6s,baz=31,slow=3.4,SNR=12						
CMAR	**Chiang Mai Arr**	**150.93**	**265**	PKPbc	PKPbc	17 50 40.4	-1.6
	0.8nm,0.6s,baz=106,slow=1.3,SNR=6.7						
CMAR				PKPab	PKPab	17 50 49.1	-0.2
	0.9nm,0.8s,baz=121,slow=0.7,SNR=6.9						
KBZ	**Khabaz**	**151.40**	**40**	PKPbc	PKPbc	17 50 43.8	+1.5
	3.5nm,0.9s,baz=244,slow=6.8,SNR=4.7						
MKAR	**Makanchi Array**	**154.69**	**337**	PKPbc	PKPbc	17 50 50.1	+0.5
	0.4nm,0.5s,baz=351,slow=0.9,SNR=8.3						
MKAR				PKPab	PKPab	17 51 02.1	-2.1
	0.3nm,0.7s,baz=78,slow=2.1,SNR=3.0						

*PRU **21** 17:38:30.8, 47°.71N×15°.99E, h1km*
*VIE **21** 17:38:30.2±0.2, 47°.66N×15°.96E, h9km±4km, mb2.1/6, ML2.5/6, Error ellipse: s-maj=1.5km s-min=1.2km az=139.0 3 km SSE of Gloggnitz felt 4 ems98 at Gloggnitz / LOWER AUSTRIA*
*CSEM **21** 17:38:30.2±0.1, 47°.71N×15°.97E, h2km, ML3.0/7, Error ellipse: s-maj=3.0km s-min=2.2km az=104.0*
*IPEC **21** 17:38:30.7±0.1, 47°.68N×16°.00E, h14km±1km, ML2.2/3, Error ellipse: s-maj=1.1km s-min=0.7km az=144.0*
ISC 21 17:38:30.3±1.1, 47°.71N±0°.01×15°.95E±0°.02, h1km±10km, n59, σ1°03/103, 7C-2D, Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CONA	**Conrad Observa**	**0.22**	**344**	*e*Pg	**Pg**	**17 38 36.2**	**+1.6**
	12nm,0.1s,SNR=372						
CONA				⇑*i* Sg	**Sg**	**17 38 40.0**	**+2.4**
	171nm,0.3s						
CONA	**Conrad Observa**	**0.22**	**344**	Pg	**Pg**	**17 38 36.2**	**+1.6**
	12nm,0.1s,SNR=372						
SOP	**Sopron**	**0.41**	**94**	⇓*e*Pg	Pg	17 38 38.6	
SOP				*e*Sg	**Sg**	**17 38 44.0**	**+0.6**
SOP	**Sopron**	**0.41**	**94**	*e*Pg	**Pg**	**17 38 38.4**	**+0.3**
	baz=270						
SOP				*e*Sg	**Sg**	**17 38 44.0**	**+0.6**
ARSA	**Arzberg**	**0.55**	**212**	*e*Pg	**Pg**	**17 38 41.0**	**+0.3**
	31nm,0.1s,SNR=164						
ARSA				⇑*i* Sg	**Sg**	**17 38 47.1**	**-0.8**
	85nm,0.1s						
ARSA	**Arzberg**	**0.55**	**212**	Pg	**Pg**	**17 38 41.0**	**+0.3**
	31nm,0.1s,SNR=164						
ARSA				*e*Sg	**Sg**	**17 38 47.8**	**0.0**
	baz=37						
MOA	**Molln**	**1.15**	**277**	⇓*e*Pg	**Pg**	**17 38 52.8**	**-0.1**
	7.8nm,0.1s,SNR=7.5						
MOA				⇑*i* Sg	**Sb**	**17 39 08.4**	**+0.1**
	35nm,0.2s						
MOA	**Molln**	**1.15**	**277**	*e*Pg	**Pb**	**17 38 52.7**	**-0.2**
	baz=98						
MOA				*e*Sg	**Sb**	**17 39 08.1**	**-0.2**
	baz=98						
SOKA	**Soboth**	**1.21**	**212**	⇑*i* Pg	**Pg**	**17 38 52.5**	**-1.0**
	4.9nm,0.2s						
SOKA	**Soboth**	**1.21**	**212**	Pg	**Pg**	**17 38 52.5**	**-1.0**
	4.9nm,0.2s						
PERS	**Pernice**	**1.22**	**208**	*e*Sg	**Sg**	**17 39 07.3**	**-2.1**
PERS	**Pernice**	**1.22**	**208**	*e*Sg	**Sg**	**17 39 07.3**	**-2.1**
SMOL	**Smolenice**	**1.27**	**50**	*e*PN	**Pb**	**17 38 55.0**	**-0.1**
SMOL				*e*SN	**Sb**	**17 39 12.3**	**+0.4**
SMOL	**Smolenice**	**1.27**	**50**	*e*Pn	**Pb**	**17 38 55.0**	**-0.1**
SMOL				*e*Sn	**Sb**	**17 39 12.3**	**+0.4**
KOGS	**Kog**	**1.28**	**171**	*e*Pg	**Pn**	**17 38 55.9**	**+0.6**
KOGS				*i* Sg	**Sb**	**17 39 12.3**	**+0.1**
KOGS							
	comp=Z,21nm,0.2s						
KOGS	**Kog**	**1.28**	**171**	*e*Pg	**Pn**	**17 38 55.9**	**+0.6**
KOGS				*i* Sg	**Sb**	**17 39 12.3**	**+0.1**
	comp=Z,21nm,0.2s						
GROS	**Grobnik**	**1.29**	**194**	*i* Pg	**Pg**	**17 38 53.9**	**-1.1**
GROS							
	comp=Z,2.0nm,0.1s						
GROS	**Grobnik**	**1.29**	**194**	*i* Pg	**Pg**	**17 38 53.9**	**-1.1**
	comp=Z,2.0nm,0.1s						
KRUC	**Moravsky**	**1.38**	**12**	*e*Pg	**Pn**	**17 38 56.3**	**-0.4**
	baz=191						
KRUC				*e*Sg	**Sg**	**17 39 14.5**	**-0.2**
	comp=Z,36nm,0.2s,baz=191						
PKST	**T"'s**	**1.48**	**107**	*e*Pn	**Pn**	**17 38 57.2**	**-0.9**
PKST				*e*Pg	**Pg**	**17 38 58.9**	**+0.2**
PKST				*e*Sg	**Sg**	**17 39 18.0**	**+0.1**
PKST	**T"'s**	**1.48**	**107**	*e*Pn	**Pn**	**17 38 57.2**	**-0.9**
PKST	**T"'s**	**1.48**	**107**	*e*Pg	**Pg**	**17 38 58.9**	**+0.2**
PKST				*e*Sn	**Sg**	**17 39 18.0**	**+0.1**
OBKA	**Obir**	**1.54**	**219**	⇑*e*Pg	**Pn**	**17 38 59.2**	**+0.2**
	comp=Z,9.1nm,0.3s,SNR=17						
OBKA				⇑*i* Sg	**Sn**	**17 39 19.9**	**+0.3**
	comp=Z,9.7nm,0.3s						
OBKA	**Obir**	**1.54**	**219**	Pg	**Pn**	**17 38 59.2**	**+0.2**
	comp=Z,9.1nm,0.3s,SNR=17						
OBKA				Sg	**Sn**	**17 39 19.9**	**+0.3**
	comp=Z,9.7nm,0.3s						
DOBS	**Dobrina**	**1.60**	**192**	*i* Pg	**Pb**	**17 39 00.6**	**0.0**
DOBS				*i* Sg	**Sg**	**17 39 22.4**	**+0.8**
DOBS							
	comp=Z,2.0nm,0.1s						
DOBS	**Dobrina**	**1.60**	**192**	*i* Pg	**Pb**	**17 39 00.6**	**0.0**
DOBS				*i* Sg	**Sg**	**17 39 22.4**	**+0.8**
	comp=Z,2.0nm,0.1s						
TREC	**Trest**	**1.61**	**349**	*e*PN	**Pb**	**17 39 00.7**	**-0.2**
TREC				*e*SG	**Sg**	**17 39 22.1**	**0.0**
TREC	**Trest**	**1.61**	**349**	Pn	**Pb**	**17 39 00.7**	**-0.2**
TREC				Sg	**Sg**	**17 39 22.1**	**0.0**
VRAC	**Vranov**	**1.65**	**15**	*e*Pn	**Pn**	**17 39 00.1**	**-0.4**
VRAC				*e*Sn	**Sn**	**17 39 21.5**	**-0.8**
	comp=Z,14nm,0.2s,baz=194						
PKSG		**1.68**	**100**	*e*Pn	**Pn**	**17 39 00.5**	**-0.3**
PKSG				*e*Pg	**Pb**	**17 39 02.1**	**+0.1**
PKSG				*e*Sn	**Sn**	**17 39 21.8**	**-1.2**
PKSG		**1.68**	**100**	*e*Pn	**Pn**	**17 39 00.5**	**-0.3**
GOLS	**Golise**	**1.72**	**188**	*i* Sg	**Sg**	**17 39 25.9**	**+0.5**
GOLS							
	comp=Z,6.0nm,0.2s						
GOLS	**Golise**	**1.72**	**188**	*i* Sg	**Sg**	**17 39 25.9**	**+0.5**
	comp=Z,6.0nm,0.2s						
MOZS	**Mozjanca**	**1.76**	**217**	*i* Pg	**Pb**	**17 39 02.8**	**-0.5**
MOZS	**Mozjanca**	**1.76**	**217**	*i* Pg	**Pb**	**17 39 02.8**	**-0.5**
PDKS	**Podkum**	**1.78**	**202**	*i* Pg	**Pg**	**17 39 05.2**	**+0.8**
PDKS				*i* Sg	**Sb**	**17 39 26.9**	**+0.4**
PDKS	**Podkum**	**1.78**	**202**	*i* Pg	**Pg**	**17 39 05.2**	**+0.8**
PDKS				*i* Sg	**Sb**	**17 39 26.9**	**+0.4**
LEGS	**Legarje**	**1.82**	**194**	*i* Pg	**Pg**	**17 39 05.7**	**+0.6**
LEGS				*i* Sg	**Sb**	**17 39 28.1**	**+0.5**
LEGS	**Legarje**	**1.82**	**194**	*i* Pg	**Pg**	**17 39 05.7**	**+0.6**
LEGS				*i* Sg	**Sb**	**17 39 28.1**	**+0.5**
VNDS	**Vrh nad Dolski**	**1.83**	**209**	*i* Pg	**Pb**	**17 39 04.4**	**-0.1**
KBA	**Koelnbreinsper**	**1.88**	**251**	⇑*i* Pn	**Pn**	**17 39 02.0**	**-1.8**
KBA	**Koelnbreinsper**	**1.88**	**251**	Pn	**Pn**	**17 39 02.0**	**-1.8**
GORS	**Gorjuse**	**1.94**	**225**	*i* Pg	**Pg**	**17 39 06.8**	**+0.4**
GORS				*i* Sg	**Sg**	**17 39 32.3**	**-0.2**
GORS	**Gorjuse**	**1.94**	**225**	*i* Pg	**Pb**	**17 39 06.8**	**+0.4**
GORS				*i* Sg	**Sg**	**17 39 32.3**	**-0.2**
VYHS	**Vyhne**	**2.08**	**67**	*e*PN	**Pn**	**17 39 04.8**	**-1.6**
VYHS				*e*SN	**Sn**	**17 39 31.6**	**-1.4**
VYHS				*e*SG	**Sg**	**17 39 37.9**	**+0.7**
VYHS	**Vyhne**	**2.08**	**67**	*e*Pn	**Pn**	**17 39 04.8**	**-1.6**
VYHS				*e*Sn	**Sn**	**17 39 31.6**	**-1.4**
VYHS				*e*Sg	**Sg**	**17 39 37.9**	**+0.7**
KHC	**Kasperske Hory**	**2.13**	**313**	*e*PN	**Pb**	**17 39 08.6**	**-1.0**
KHC				*e*PG	**Pg**	**17 39 11.5**	**+0.5**
KHC				*e*SG	**Sg**	**17 39 38.4**	**-0.2**
KHC	**Kasperske Hory**	**2.13**	**313**	Pn	**Pn**	**17 39 08.6**	**-1.0**
MORC	**Moravsky Berou**	**2.32**	**26**	*e*Pn	**Pn**	**17 39 09.5**	**-0.1**
MORC				*e*Sn	**Sn**	**17 39 37.5**	**-1.3**
	comp=Z,8.9nm,0.5s,baz=206						
PRU	**Pruhonice**	**2.46**	**338**	*e*PN	**Pn**	**17 39 13.2**	**+1.7**
PRU				*e*PG	**Pb**	**17 39 16.1**	**+0.8**
PRU				*e*SG	**Sg**	**17 39 47.6**	**-1.7**
PRU	**Pruhonice**	**2.46**	**338**	Pn	**Pn**	**17 39 13.2**	**+1.7**
DPC	**Dobruska-Polom**	**2.65**	**5**	*e*PN	**Pn**	**17 39 15.8**	**+1.6**
DPC				*e*PG	**Pg**	**17 39 19.7**	**-1.4**
DPC				*e*SG	**Sg**	**17 39 54.1**	**-1.3**
DPC	**Dobruska-Polom**	**2.65**	**5**	Pn	**Pn**	**17 39 15.8**	**+1.6**
NVLJ	**Novalja**	**3.24**	**194**	*e*Pn	**Pn**	**17 39 22.6**	**+0.4**
NVLJ				Sn	**Sn**	**17 40 03.5**	**+2.1**
NVLJ	**Novalja**	**3.24**	**194**	*e*Pn	**Pn**	**17 39 22.6**	**+0.4**
NVLJ				Sn	**Sn**	**17 40 03.5**	**+2.1**
NKC	**Novy Kostel**	**3.42**	**319**	*e*SG	**Sg**	**17 40 19.1**	**-1.0**
NKC	**Novy Kostel**	**3.42**	**319**	Sg	**Sg**	**17 40 19.1**	**-1.0**
BRG	**Berggiesshubel**	**3.43**	**338**	SG	**Sg**	**17 40 18.8**	**-1.5**
	comp=Z,6.3nm,0.5s						
CLL	**Collm**	**4.08**	**333**	*e*Pn	**Pn**	**17 39 36.0**	**+2.2**
CLL				*e*Sn	**Sn**	**17 40 23.0**	**+0.9**
CLL				*e*Sg	**Sg**	**17 40 38.0**	**-3.3**
	comp=Z,11nm,0.8s						

IDC 21 17:54:22.9±1.2, 55°.14N×35°.54W, h0km, mb3.5/6, mb1 3.8/7, mb1mx3.5/31, mbtmp3.6/7, ML2.3/1, MS3.6/13, Ms1 3.6/13, ms1mx3.3/51, Error ellipse: s-maj=48.4km s-min=19.2km az=30.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**17.89**	**282**	P	P	17 58 34.2	+0.6
	0.1nm,0.3s,baz=70,slow=16,SNR=6.8						
SCHQ				LR	LR	18 04 20.8	
	comp=Z,103nm,20.8s,baz=55,slow=33						
FRB	**Frobisher Bay**	**18.66**	**311**	LR	LR	18 04 15.3	
	comp=Z,184nm,19.1s,baz=226,slow=32						
ESDC	**Sonseca Array**	**26.08**	**113**	P	P	17 59 58.6	+0.6
	0.1nm,0.2s,baz=311,slow=8.9,SNR=5.9						
DAVOX	**Davos/Dischmat**	**29.34**	**87**	LR	LR	18 10 43.7	
	comp=Z,161nm,20.6s,baz=290,slow=33						
GERES	**GERESS Array B**	**30.43**	**81**	LR	LR	18 12 19.7	
	comp=Z,87nm,20.1s,baz=84,slow=35						
VRAC	**Vranov**	**31.82**	**78**	LR	LR	18 13 01.8	
	comp=Z,83nm,18.9s,baz=333,slow=35						
ULM	**Lac du Bonnet**	**35.89**	**288**	LR	LR	18 15 09.6	
	comp=Z,113nm,18.1s,baz=38,slow=35						
TKL	**Tuckaleechee C**	**38.13**	**260**	LR	LR	18 16 54.6	
	comp=Z,126nm,18.1s,baz=46,slow=36						
YKA	**Yellowknife Ar**	**39.13**	**314**	P	P	18 01 50.9	-0.7
	0.7nm,0.7s,baz=62,slow=9.0,SNR=13						
MLR	**Muntele Rosu**	**39.22**	**78**	LR	LR	18 17 06.2	
	comp=Z,26nm,19.8s,baz=95,slow=35						
INK	**Inuvik**	**43.08**	**327**	LR	LR	18 20 45.4	
	comp=Z,60nm,18.0s,baz=109,slow=37						
BRTR	**Keskin Array B**	**47.27**	**79**	P	P	18 02 57.4	-0.4
	1.5nm,1.0s,baz=322,slow=7.1,SNR=3.3						
DLBC	**Dease Lake**	**47.73**	**315**	LR	LR	18 24 18.7	
	comp=Z,99nm,18.6s,baz=95,slow=38						
PDAR	**Pinedale Array**	**47.91**	**287**	LR	LR	18 21 58.2	
	comp=Z,103nm,19.8s,baz=51,slow=35						
ILAR	**Eielson Array**	**49.45**	**328**	P	P	18 03 14.1	0.0
	0.4nm,0.7s,baz=37,slow=6.3,SNR=7.8						
TORD	**Torodi Ar. Bea**	**50.92**	**131**	P	P	18 03 25.1	-0.7
	1.3nm,0.9s,baz=339,slow=7.4,SNR=5.3						
AKTO	**Aktyubinsk**	**52.65**	**53**	LR	LR	18 26 16.7	
	comp=Z,77nm,18.5s,baz=337,slow=36						
TXAR	**Lajitas Array**	**54.14**	**271**	LR	LR	18 26 28.7	
	comp=Z,78nm,20.1s,baz=0.0,slow=36						
MKAR	**Makanchi Array**	**65.75**	**42**	P	P	18 05 09.7	+0.6
	0.4nm,0.9s,baz=348,slow=5.3,SNR=3.6						
WRA	**Warramunga Arr**	**144.04**	**16**	PKP	PKPdf	18 14 01.7	+1.5
	0.5nm,1.0s,baz=15,slow=3.5,SNR=2.5						
ASAR	**Alice Springs**	**147.60**	**18**	PKPbc	PKPdf	18 14 07.2	+0.9
	0.7nm,0.8s,baz=348,slow=1.6,SNR=6.0						

*ISCJB **21** 18:11:32.8±0.6, 33°.08N±0°.06×92°.02E±0°.10, h14km, mb3.4/5, Error ellipse: s-maj=12.4km s-min=7.4km az=26.8*
*IDC **21** 18:11:32.8±0.9, 33°.02N×92°.02E, h0km, mb3.3/6, mb1 3.5/9, mb1mx3.4/28, mbtmp3.3/9, ML3.4/3, Error ellipse: s-maj=37.2km s-min=18.5km az=55.0*
ISC 21 18:11:34.7±0.8, 33°.10N±0°.09×92°.0E±0°.1, h14km, n19, σ0°91/19, mb3.6/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TAPN	**Taplejung**	**6.84**	**214**	*e*P	**Pn**	**18 13 16.2**	**+1.3**
	5.2nm,0.4s						
JIRN	**Jiri**	**7.40**	**224**	*e*P	**Pn**	**18 13 23.3**	**+0.6**
	2.2nm,0.5s						
GUN	**Gumba**	**7.41**	**227**	*e*P	**Pn**	**18 13 23.6**	**+0.8**
	13nm,0.5s						
RAMN	**Ramite**	**7.73**	**219**	*e*P	**Pn**	**18 13 26.8**	**-0.3**
	18nm,0.4s						
KKN	**Kakani**	**7.87**	**230**	*e*P	**Pn**	**18 13 29.5**	**+0.5**
	9.1nm,0.4s						
PKI	**Pulchoki**	**7.94**	**228**	*e*P	**Pn**	**18 13

SKIA	**Skiathos**	**0.17 125**	P	Pg	18 32 14.5	+0.3
SKIA			S	Sg	18 32 17.1	+0.6
AOS	**Alonnisos**	**0.47 102**	P	Pg	18 32 19.7	-0.2
AOS			S	Sg	18 32 25.9	-0.1
AOS	**Alonnisos**	**0.47 102**	P	Pg	18 32 19.7	-0.2
AOS			S	Sg	18 32 25.9	-0.1
MRKA	**Markates**	**0.61 157**	P	Pg	18 32 22.2	-0.3
MRKA			S	Sg	18 32 31.0	+0.6
MRKA	**Markates**	**0.61 157**	P	Pg	18 32 22.2	-0.3
MRKA			S	Sg	18 32 31.0	+0.6

*THE **21** 18:32:17.0, 38°.35N×22°.07E, h9km±1km, ML1.7/7, Error ellipse: s-maj=1.0km s-min=0.4km az=15.0*
*ATH **21** 18:32:17.2, 38°.33N×22°.07E, h5km±3km, MD3.0/6*
CSEM 21 18:32:16.8±0.1, 38°.35N×22°.08E, h7km, ML1.7/7, Error ellipse: s-maj=3.1km s-min=2.5km az=168.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRIZ	**Trizonia**	**0.02**	**346**	P	Pg	18 32 18.5	+0.4
TRIZ	**Trizonia**	**0.02**	**346**	P	Pg	18 32 18.5	+0.4
KALE	**Kalithea**	**0.07**	**48**	P	Pg	18 32 19.1	+0.4
KALE				S	Sg	18 32 20.9	+0.9
KALE	**Kalithea**	**0.07**	**48**	P	Pg	18 32 19.1	+0.4
KALE				S	Sg	18 32 20.9	+0.9
LAKA	**Lakka**	**0.13**	**216**	P	Pg	18 32 20.1	+0.4
LAKA				S	Sg	18 32 22.4	+0.8
LAKA	**Lakka**	**0.13**	**216**	P	Pg	18 32 20.1	+0.4
LAKA				S	Sg	18 32 22.4	+0.8
EFP	**Efpalio**	**0.16**	**300**	P	Pg	18 32 20.3	+0.2
EFP				S	Sg	18 32 22.5	+0.3
EFP	**Efpalio**	**0.16**	**300**	*e*PG	Pg	18 32 20.3	+0.2
EFP				*e*SG	Sg	18 32 23.0	+0.8
EFP	**Efpalio**	**0.16**	**300**	P	Pg	18 32 20.3	+0.2
EFP				S	Sg	18 32 22.5	+0.3
EFP				*e*Sg	Sg	18 32 23.0	+0.8
UPR	**University Cam**	**0.24**	**254**	P	Pg	18 32 21.6	+0.1
UPR				S	Sg	18 32 25.3	+0.6
UPR	**University Cam**	**0.24**	**254**	P	Pg	18 32 21.6	+0.1
UPR				S	Sg	18 32 25.3	+0.6
DSF	**Desfina**	**0.36**	**80**	P	Pg	18 32 24.0	+0.1
DSF				S	Sg	18 32 29.6	+0.9
DSF	**Desfina**	**0.36**	**80**	P	Pg	18 32 24.0	+0.1
DSF				S	Sg	18 32 29.6	+0.9
GUR	**Goura**	**0.46**	**153**	P	Pg	18 32 25.8	-0.1
GUR				S	Sg	18 32 22.8	+0.8
GUR	**Goura**	**0.46**	**153**	*e*PB	Pg	18 32 25.7	-0.2
GUR				*e*SB	Sg	18 32 32.9	+0.9
GUR	**Goura**	**0.46**	**153**	P	Pg	18 32 25.8	-0.1
GUR				S	Sg	18 32 32.8	+0.8
RLS	**Riolos of Patr**	**0.56**	**239**	P	Pg	18 32 27.9	+0.3
RLS				S	Sg	18 32 35.5	+0.5
RLS	**Riolos of Patr**	**0.56**	**239**	*e*PG	Pg	18 32 27.7	+0.1
RLS				*e*SB	Sb	18 32 36.4	-0.8
RLS	**Riolos of Patr**	**0.56**	**239**	P	Pg	18 32 27.9	+0.3
RLS				S	Sg	18 32 35.5	+0.5
RLS				*e*Sb	Sb	18 32 36.4	-0.8
EVR	**Evrytania**	**0.61**	**340**	P	Pg	18 32 28.5	-0.2
EVR				S	Sg	18 32 37.6	+0.9
EVR	**Evrytania**	**0.61**	**340**	*e*PB	Pg	18 32 28.7	0.0
EVR				*e*SB	Sb	18 32 38.7	-0.1
EVR	**Evrytania**	**0.61**	**340**	*e*Pb	Pg	18 32 28.7	0.0
EVR				S	Sg	18 32 37.6	+0.9
EVR				*e*Sb	Sb	18 32 38.7	-0.1
VLX	**Vlachokerasia**	**1.00**	**166**	*e*PN	Pn	18 32 37.1	-0.4
VLX	**Vlachokerasia**	**1.00**	**166**	*e*Pn	Pn	18 32 37.1	-0.4
DID	**Didima**	**1.24**	**132**	*e*PB	Pg	18 32 40.9	+0.2
DID	**Didima**	**1.24**	**132**	*e*Pb	Pg	18 32 40.9	+0.2

*ISCJB **21** 19:03:00.8±0.2, 43°.74N±0°.01×105°.27W±0°.02, h0km, mb3.6/4, Error ellipse: s-maj=2.3km s-min=2.0km az=177.6*
*IDC **21** 19:03:01.4±1.8, 43°.77N×105°.46W, h0km, mb3.6/4, mb1 3.7/8, mb1mx3.5/30, mbtmp3.5/8, ML3.5/3, Error ellipse: s-maj=53.8km s-min=8.3km az=148.0*
*NEIC **21** 19:03:01.7±0.3, 43°.80N×105°.20W, h0km, ML3.3, Error ellipse: s-maj=3.7km s-min=3.6km az=217.0, Suspected Mining explosion.*
NEIC 55 km [35 miles] SSE of Gillette.
ISC 21 19:03:01.3±0.6, 43°.75N±0°.02×105°.29W±0°.02, h0km, n117, σ1§15/130, mb3.6/4, 33C-23D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I23A	**Meade Ranch, G**	**0.24**	**329**	⇑P	**Pg**	**19 03 07.6**	**+1.7**
	baz=0.2,SNR=263						
J23A	**Dilts Ranch, B**	**0.40**	**209**	P	**Pg**	**19 03 09.9**	**+1.0**
	baz=0.5,SNR=108						
J23A				⇑S	**Sg**	**19 03 13.4**	**-0.5**
	baz=0.5						
I24A	**Kuemmerle Ranc**	**0.49**	**77**	⇓P	**Pg**	**19 03 11.7**	**+1.0**
	baz=0.4,SNR=473						
I24A				⇑S	**Sg**	**19 03 17.6**	**+0.5**
	baz=0.4						
J24A	**Dixon Ranch, L**	**0.62**	**132**	⇑P	**Pg**	**19 03 13.9**	**+0.7**
	baz=0.6						
H23A	**Clabaugh Cattl**	**0.81**	**354**	⇑P	**Pg**	**19 03 17.5**	**+0.6**
	baz=0.8						
H23A				⇓Sb	**Sb**	**19 03 30.7**	**+0.7**
	baz=0.8						
I22A	**9 Mile Ranch,**	**0.88**	**280**	⇑P	**Pg**	**19 03 18.6**	**+0.6**
	baz=0.9,SNR=1000						
I22A				⇓Sb	**Sb**	**19 03 31.7**	**0.0**
	baz=0.9						
J22A	**Midwest**	**0.93**	**249**	⇓P	**Pg**	**19 03 19.0**	**0.0**
	baz=1.0,SNR=78						
RSSD	**Black Hills**	**0.98**	**67**	*e*Pg	**Pg**	**19 03 20.2**	**+0.1**
K23A	**Bowen Ranch, D**	**1.02**	**194**	⇓P	**Pg**	**19 03 21.0**	**+0.1**
	baz=1.1						
K23A				⇑S	**Sg**	**19 03 33.6**	**-0.6**
	baz=1.1						
K24A	**Anderson Ranch**	**1.08**	**161**	⇑P	**Pg**	**19 03 22.0**	**0.0**
	baz=1.1,SNR=87						
H24A	**Dirks Ranch, A**	**1.13**	**28**	⇓P	**Pg**	**19 03 22.7**	**-0.1**
	baz=1.1						
H24A				⇓S	**Sb**	**19 03 38.6**	**-0.4**
	baz=1.1						
H22A	**Clearmont**	**1.14**	**318**	⇑P	**Pg**	**19 03 23.6**	**+0.5**
	baz=1.1,SNR=340						
K22A	**Casper**	**1.42**	**220**	⇑P	**Pn**	**19 03 27.5**	**-1.0**
	baz=1.5,SNR=138						
G23A	**Biddle**	**1.45**	**357**	⇓P	**Pn**	**19 03 28.8**	**-0.1**
	baz=1.4,SNR=532						
I21A	**Big Trails, Te**	**1.45**	**273**	⇓P	**Pn**	**19 03 27.9**	**-1.1**
	baz=1.5,SNR=212						
I21A				⇑S	**Sg**	**19 03 47.7**	**-0.2**
	baz=1.5						
H21A	**Big Horn, Sher**	**1.54**	**305**	Pb	**Pb**	**19 03 30.6**	**-0.1**
	baz=1.6,SNR=204						
K25A	**Mack Ranch, Ha**	**1.54**	**137**	⇑Pg	**Pn**	**19 03 30.7**	**+0.6**
	baz=1.5,SNR=95						
J21A	**Lysite**	**1.62**	**256**	⇓P	**Pn**	**19 03 30.9**	**-0.4**
	baz=1.7,SNR=158						
J21A				⇑S	**Sn**	**19 03 52.7**	**-0.2**
	baz=1.7						
G22A	**Birney**	**1.63**	**334**	Pb	**Pb**	**19 03 32.2**	**-0.1**
	baz=1.6,SNR=354						
L23A	**Garrett**	**1.66**	**191**	Pb	**Pn**	**19 03 32.0**	**+0.1**
	baz=1.7,SNR=796						
G24A	**Alzada**	**1.70**	**21**	⇓Pb	**Pb**	**19 03 33.2**	**-0.2**
	baz=1.6,SNR=122						
L24A	**Wheatland**	**1.73**	**171**	⇑Pb	**Pn**	**19 03 33.1**	**+0.4**
	baz=1.8,SNR=22						
K21A	**Alcova**	**1.82**	**233**	⇑Pb	**Pn**	**19 03 34.7**	**+0.7**
	baz=1.9,SNR=293						
K26A	**Motz Farm, Whi**	**1.86**	**123**	⇑Pb	**Pn**	**19 03 35.6**	**+1.1**
	baz=1.8,SNR=79						
L25A	**Engebretsen Ra**	**1.87**	**148**	⇓Pb	**Pn**	**19 03 35.7**	**+1.1**
	baz=1.9,SNR=146						
L22A	**Ellis Ranch, M**	**1.91**	**206**	⇑Pb	**Pn**	**19 03 36.1**	**+0.8**
	baz=2.0,SNR=40						
F23A	**Volborg**	**1.97**	**358**	⇓P	**Pn**	**19 03 36.9**	**+0.9**
	baz=1.9,SNR=222						
F23A				⇑Sb	**Sg**	**19 04 04.3**	**-0.3**
	baz=1.9						
G21A	**Lodge Grass**	**2.01**	**318**	⇑Pb	**Pn**	**19 03 37.7**	**+1.1**
	baz=2.0,SNR=173						
I20A	**Worland**	**2.06**	**277**	⇓Pb	**Pn**	**19 03 38.5**	**+1.2**
	baz=2.1,SNR=576						
I20A				⇓Sb	**Sb**	**19 04 06.5**	**+0.6**
	baz=2.1						
J20A	**Shoshoni**	**2.07**	**260**	⇑Pg	**Pb**	**19 03 40.2**	**+0.4**
	baz=2.1						
H20A	**Greybull**	**2.09**	**292**	⇑P	**Pn**	**19 03 37.4**	**-0.2**
	baz=2.1,SNR=46						
H20A				⇓Sb	**Sb**	**19 04 06.9**	**+0.3**
	baz=2.1						
F22A	**Rosebud**	**2.14**	**342**	⇑P	**Pn**	**19 03 38.3**	**-0.1**
	baz=2.1						
F22A				⇑Sb	**Sg**	**19 04 09.4**	**-0.7**
	baz=2.1						
F24A	**Ekalaka**	**2.18**	**16**	⇑Pb	**Pb**	**19 03 41.2**	**-0.4**
	baz=2.1						
M23A	**Laramie**	**2.30**	**188**	⇑Pb	**Pn**	**19 03 42.6**	**+1.9**
	baz=2.4						
M23A				⇑Sb	**Sb**	**19 04 13.4**	**+0.5**
	baz=2.4						
M24A	**Cheyenne**	**2.31**	**171**	⇓Pb	**Pn**	**19 03 42.7**	**+2.0**
	baz=2.3						
L21A	**Rawlins**	**2.35**	**221**	⇓Pb	**Pn**	**19 03 43.5**	**+2.2**
	baz=2.4,SNR=119						
L21A				⇓Sb	**Sb**	**19 04 14.4**	**+0.1**
	baz=2.4						
L26A	**Underwood Farm**	**2.36**	**136**	⇑Pb	**Pb**	**19 03 44.0**	**-0.8**
	baz=2.4						
F21A	**Absaloka Mine,**	**2.45**	**328**	⇑P	**Pn**	**19 03 42.2**	**-0.4**
	baz=2.4						
PHWY	**Pilot Hill**	**2.45**	**183**	*e*Pn	**Pn**	**19 03 43.5**	**+0.7**
K27A	**Flueckinger Fa**	**2.46**	**114**	⇑Pb	**Pb**	**19 03 45.8**	**-0.7**
	baz=2.4,SNR=138						
K20A	**Yellowstone Ra**	**2.48**	**245**	⇑Pb	**Pb**	**19 03 46.0**	**-0.8**
	baz=2.6						
M25A	**Palm-Egli Farm**	**2.49**	**158**	⇓Pb	**Pn**	**19 03 45.1**	**+1.9**
	baz=2.5						
RWWY	**Rawlins**	**2.50**	**215**	*e*Pn	**Pn**	**19 03 45.4**	**+2.0**
M22A	**Cedar Creek Ra**	**2.54**	**203**	⇑Pb	**Pn**	**19 03 46.1**	**+2.1**
	baz=2.6						
M22A				⇑Sb	**Sb**	**19 04 20.5**	**+0.9**
	baz=2.6						
G20A	**Bridger**	**2.56**	**306**	⇓P	**Pn**	**19 03 44.2**	**+0.1**
	baz=2.6						
G20A				⇑Sb	**Sg**	**19 04 21.8**	**-1.6**
	baz=2.6						
E22A	**Miles City**	**2.73**	**350**	⇓S	**Sn**	**19 04 21.9**	**+1.8**
	baz=2.7						
J19A	**Crowheart**	**2.78**	**261**	⇓Sb	**Sb**	**19 04 27.4**	**+0.8**
	baz=2.8						
RLMT	**Red Lodge**	**3.16**	**297**	*e*Pn	**Pn**	**19 03 53.3**	**+0.8**
BW06	**Boulder Array**	**3.27**	**254**	*e*Pn	**Pn**	**19 03 55.4**	**+1.4**
PDAR	**Pinedale Array**	**3.27**	**254**	Pn	**Pn**	**19 03 55.6**	**+1.7**
PDAR				Lg	Lg	19 04 39.6	
PDAR	**Pinedale Array**	**3.27**	**254**	Pn	**Pn**	**19 03 55.6**	**+1.7**
	4.5nm,0.3s,baz=71,slow=16,SNR=60						
PDAR				Lg	Lg	19 04 39.6	
	14nm,0.3s,baz=85,slow=18,SNR=5.5						
OGNE	**Ogallala**	**3.70**	**138**	*e*Pn	**Pn**	**19 04 00.8**	**+1.1**
GCMT	**Greycliff**	**3.73**	**305**	*e*Pn	**Pn**	**19 04 01.1**	**+0.9**
LKWY	**Lake**	**3.77**	**284**	*e*Pn	**Pn**	**19 04 02.3**	**+1.4**
LOHW	**Long Hollow**	**3.86**	**270**	*e*Pn	**Pn**	**19 04 03.0**	**+0.9**
FLWY	**Flagg Ranch**	**3.92**	**277**	*e*Pn	**Pn**	**19 04 04.1**	**+1.2**
MOOW	**Moose Ponds**	**3.95**	**272**	*e*Pn	**Pn**	**19 04 05.0**	**+1.7**
ISCO	**Idaho Springs**	**3.96**	**184**	*e*Pn	**Pn**	**19 04 04.5**	**+1.0**
SNOW	**Snow King Moun**	**3.98**	**268**	*e*Pn	**Pn**	**19 04 04.9**	**+1.1**
YNR	**Norris Junctio**	**3.99**	**286**	*e*Pn	**Pn**	**19 04 02.5**	**-1.4**
YFT	**Old Faithful**	**4.06**	**282**	*e*Pn	**Pn**	**19 04 04.2**	**-0.6**
REDW	**Red Top Meadow**	**4.06**	**266**	*e*Pn	**Pn**	**19 04 06.2**	**+1.4**
IMW	**Indian Meadow**	**4.09**	**274**	*e*Pn	**Pn**	**19 04 06.1**	**+0.8**
TPAW	**Teton Pass**	**4.12**	**268**	*e*Pn	**Pn**	**19 04 07.4**	**+1.7**
YMR	**Madison River**	**4.18**	**285**	Pn	**Pn**	**19 04 08.0**	**+1.5**
DCID1	**Drake Creek**	**4.28**	**270**	*e*Pn	**Pn**	**19 04 09.5**	**+1.7**
RRI2	**Red Ridge**	**4.40**	**267**	*e*Pn	**Pn**	**19 04 10.6**	**+1.0**
QLMT	**Earthquake Lak**	**4.54**	**286**	Pn	Pn	19 04 15.3	+3.9
SMCO	**Snowmass**	**4.74**	**196**	*e*Pn	**Pn**	**19 04 15.1**	**+0.7**
DGMT	**Dagmar**	**4.78**	**9**	*e*Pn	**Pn**	**19 04 16.1**	**+1.5**
BOZ	**Bozeman (W)**	**4.90**	**295**	*e*Pn	**Pn**	**19 04 17.7**	**+1.4**
HWUT	**Hardware Ranch**	**5.10**	**247**	*e*Pn	**Pn**	**19 04 21.6**	**+2.5**
	9.0nm,0.6s						
EGMT	**Eagleton**	**5.29**	**325**	*e*Pn	**Pn**	**19 04 21.6**	**0.0**
	22nm,0.4s						
DLMT	**Dillon**	**5.46**	**290**	*e*Pn	**Pn**	**19 04 26.0**	**+1.9**
	7.9nm,0.6s						
HRY	**Holter Researc**	**5.49**	**305**	*e*Pn	**Pn**	**19 04 25.4**	**+1.0**
	15nm,0.3s						
LRM	**Limekiln Ridge**	**5.50**	**295**	*e*Pn	**Pn**	**19 04 26.4**	**+1.7**
	24nm,0.3s						
MCMT	**McKenzie Canyo**	**5.53**	**284**	*e*Pn	Pn	19 04 30.1	+5.0
	2.7nm,0.4s						
DAU	**Daniels Canyon**	**5.55**	**235**	*e*Pn	**Pn**	**19 04 27.3**	**+1.9**
	8.3nm,0.4s						
JLU	**Jordanelle**	**5.55**	**238**	*e*Pn	**Pn**	**19 04 26.1**	**+0.7**
	9.9nm,0.6s						
HVU	**Hansel Valley**	**5.85**	**253**	*e*Pn	**Pn**	**19 04 30.6**	**+1.2**
	7.3nm,0.6s						
SDCO	**Great Sand Dun**	**6.00**	**182**	*e*Pn	**Pn**	**19 04 32.7**	**+1.1**
	3.7nm,0.9s						
PV04	**Paradox Valley**	**6.01**	**208**	*e*Pn	**Pn**	**19 04 32.6**	**+1.0**
MPU	**Maple Canyon**	**6.03**	**234**	*e*Pn	**Pn**	**19 04 29.9**	**-1.9**
	9.5nm,0.7s						
SRU	**San Rafael**	**6.08**	**222**	*e*Pn	**Pn**	**19 04 32.9**	**+0.3**
	16nm,0.4s						
PV01	**Paradox Valley**	**6.13**	**205**	*e*Pn	**Pn**	**19 04 35.2**	**+1.8**
	714nm,0.7s						
ECSD	**EROS Data Cent**	**6.29**	**87**	*e*Pn	**Pn**	**19 04 35.5**	**+0.3**
	10nm,0.4s						
TMUT	**Trail Mountain**	**6.29**	**227**	*e*Pn	**Pn**	**19 04 36.3**	**+0.8**
	12nm,0.5s						
CHMT	**Chamberlain Mo**	**6.44**	**302**	*e*Pn	**Pn**	**19 04 38.6**	**+1.1**
	2.4nm,0.4s						
HLID	**Hailey**	**6.62**	**272**	*e*Pn	**Pn**	**19 04 42.0**	**+2.1**
	1.9nm,0.6s						
SLMT	**Seeley Lake**	**6.74**	**304**	*e*Pn	**Pn**	**19 04 41.9**	**+0.3**
	5.5nm,0.6s						
MVCO	**Mesa Verde**	**6.97**	**202**	*e*Pn	Pn	19 04 48.2	+3.3
	5.3nm,0.5s						
SWMT	**Swartz Lake**	**7.17**	**305**	*e*Pn	**Pn**	**19 04 48.3**	**+0.9**
	2.5nm,0.4s						
YBMT	**Yellow Bay**	**7.35**	**307**	*e*Pn	**Pn**	**19 04 51.2**	**+1.3**
	3.3nm,0.3s						
MSU	**Marysvale**	**7.38**	**227**	*e*Pn	**Pn**	**19 04 51.3**	**+0.9**
	5.1nm,0.6s						
JTMT	**Jette**	**7.45**	**306**	*e*Pn	**Pn**	**19 04 52.1**	**+0.7**
	9.7nm,0.6s						
BSMT	**Bassoo Peak**	**7.80**	**305**	*e*Pn	**Pn**	**19 04 57.1**	**+0.9**
	3.3nm,0.8s						
AGMN	**Agassiz Nation**	**7.98**	**52**	*e*Pn	**Pn**	**19 04 56.3**	**-2.1**
	16nm,0.5s						
KSU1	**Kansas State U**	**8.01**	**123**	*e*Pn	**Pn**	**19 04 59.6**	**+0.8**
	14nm,0.5s						
ARUT	**Antelope Range**	**8.58**	**229**	*e*Pn	**Pn**	**19 05 09.1**	**+2.2**
	2.7nm,0.3s						
CCUT	**Cedar City**	**8.71**	**227**	*e*Pn	**Pn**	**19 05 10.7**	**+1.9**
	1.5nm,0.4s						
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn	**Pn**	**19 05 13.6**	**-0.8**
ULM				Pg		19 05 49.5	
ULM				Lg	Lg	19 07 45.2	
ULM	**Lac du Bonnet**	**9.14**	**41**	Pn	**Pn**	**19 05 13.6**	**-0.8**
	2.1nm,0.3s,baz=231,slow=12,SNR=18						
ULM				Pg		19 05 49.5	
	2.1nm,0.3s,baz=220,slow=13,SNR=6.6						
ULM				Lg	Lg	19 07 45.2	
	1.4nm,0.3s,baz=131,slow=18,SNR=3.3						
AMTX	**Amarillo**	**9.28**	**161**	*e*Pn	**Pn**	**19 05 15.5**	**-1.0**
	11nm,0.7s						
WUAZ	**Wupatki**	**9.46**	**212**	*e*Pn	**Pn**	**19 05 20.3**	**+1.3**
	4.8nm,0.6s						
NVAR	**Mina Array Bea**	**11.16**	**246**	Pn	**Pn**	**19 05 44.4**	**+2.1**
NVAR	**Mina Array Bea**	**11.16**	**246**	Pn	**Pn**	**19 05 44.4**	**+2.1**
	0.1nm,0.3s,baz=54,slow=11,SNR=4.0						
FFC	**Flin Flon**	**11.19**	**10**	*e*Pn	**Pn**	**19 05 40.2**	**-2.2**
	3.2nm,0.6s						
YKA	**Yellowknife Ar**	**19.55**	**347**	P	**P**	**19 07 30.8**	**+0.6**
YKA	**Yellowknife Ar**	**19.55**	**347**	P	**P**	**19 07 30.8**	**+0.6**
	0.1nm,0.3s,baz=152,slow=14,SNR=7.2						
ZALV	**Zalesovo Beam**	**82.29**	**354**	P	**P**	**19 15 23.6**	**-0.7**
ZALV	**Zalesovo Beam**	**82.29**	**354**	P	**P**	**19 15 23.6**	**-0.7**
	0.4nm,0.4s,baz=338,slow=2.2,SNR=3.6						
SONM	**Songino Array**	**84.62**	**339**	P	**P**	**19 15 37.1**	**+0.5**
SONM	**Songino Array**	**84.62**	**339**	P	**P**	**19 15 37.1**	**+0.5**
	0.2nm,0.6s,baz=35,slow=3.6,SNR=3.9						
KURK	**Kurchatov**	**85.85**	**358**	P	**P**	**19 15 42.3**	**-0.2**
KURBB	**Kurchatov Arra**	**85.95**	**358**	P	**P**	**19 15 42.3**	**-0.6**
	0.2nm,0.6s,baz=2.8,slow=4.7,SNR=3.1						
MKAR	**Makanchi Array**	**89.59**	**355**	P	**P**	**19 15 59.3**	**-1.3**
MKAR	**Makanchi Array**	**89.59**	**355**	P	**P**	**19 15 59.3**	**-1.3**
	0.4nm,0.9s,baz=12,slow=4.4,SNR=3.0						

*IDC **21** 19:14:28.6±0.8, 42°.39N×43°.48E, h0km, mb3.4/6, mb1 3.6/10, mb1mx3.4/29, mbtmp3.5/10, ML3.6/1, Error ellipse: s-maj=16.0km s-min=8.9km az=71.0*
*TIF **21** 19:14:28.5, 42°.43N×43°.74E, h13km±2km*
*MOS **21** 19:14:29.4±1.2, 42°.41N×43°.72E, h13km, mb4.2/1, Error ellipse: s-maj=11.1km s-min=5.2km az=82.4*
*CSEM **21** 19:14:30.0±0.1, 42°.47N×43°.67E, h2km, mb4.2, Error ellipse: s-maj=3.1km s-min=2.2km az=118.0*
*ISK **21** 19:14:31.0, 42°.39N×43°.55E, h4km, ML3.4*
*AZER **21** 19:14:31.6, 42°.79N×44°.05E, h0km*
*DDA **21** 19:14:36.0, 42°.33N×43°.21E, h11km, MD3.4*
ISC 21 19:14:28.9±1.1, 42°.42N±0°.01×43°.68E±0°.02, h2km±8km, n102, σ1§21/165, mb3.3/5, 14C-12D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONI	**Oni**	**0.24**	**316**	P	**Pg**	**19 14 34.5**	**+0.9**
ONI				S	**Sg**	**19 14 39.1**	**+2.3**
ZEI	**Tsey**	**0.39**	**24**	⇓*i*PG	**Pg**	**19 14 36.2**	**-0.2**
ZEI				*i* S	**Sg**	**19 14 42.2**	**+0.7**
ZEI	**Tsey**	**0.39**	**24**	*i* Pg	**Pg**	**19 14 36.2**	**-0.2**
ZEI				*i* Sg	**Sg**	**19 14 42.2**	**+0.7**
DIGR	**Digorskoe uzhe**	**0.49**	**351**	⇓*i*PG	**Pg**	**19 14 38.3**	**0.0**
DIGR				*i* S	**Sg**	**19 14 45.5**	**+0.9**
DIGR	**Digorskoe uzhe**	**0.49**	**351**	*i* Pg	**Pg**	**19 14 38.3**	**0.0**
DIGR				*i* Sg	**Sg**	**19 14 45.5**	**+0.9**
GOR	**Gori**	**0.54**	**144**	P	**Pg**	**19 14 39.1**	**-0.1**
GOR				S	**Sg**	**19 14 47.3**	**+1.1**
LACR	**Lac**	**0.61**	**48**	⇓*i*PG	**Pg**	**19 14 39.6**	**-1.0**
LACR				*i* S	**Sg**	**19 14 47.9**	**-0.7**
LACR	**Lac**	**0.61**	**48**	*i* Pg	**Pg**	**19 14 39.6**	**-1.0**
LACR				*i* Sg	**Sg**	**19 14 47.9**	**-0.7**
KORR	**Kora**	**0.73**	**23**	⇑*i*PG	**Pg**	**19 14 42.7**	**-0.2**
KORR				*i* S	**Sg**	**19 14 53.3**	**+1.0**
KORR	**Kora**	**0.73**	**23**	*i* Pg	**Pg**	**19 14 42.7**	**-0.2**
KORR				*i* Sg	**Sg**	**19 14 53.3**	**+1.0**
LSNR	**Lesken**	**0.86**	**7**	⇓*i*PG	**Pg**	**19 14 45.6**	**+0.1**
LSNR				*e*S	**Sb**	**19 14 57.8**	**-0.9**
LSNR	**Lesken**	**0.86**	**7**	*i* Pg	**Pg**	**19 14 45.6**	**+0.1**
LSNR				*e*Sg	**Sb**	**19 14 57.8**	**-0.9**
ARNR	**Ardon**	**0.89**	**30**	⇓*i*PG	**Pg**	**19 14 46.3**	**+0.3**
ARNR				*i* S	**Sb**	**19 14 58.7**	**-0.7**
ARNR	**Ardon**	**0.89**	**30**	*i* Pg	**Pg**	**19 14 46.3**	**+0.3**
ARNR				*i* Sg	**Sb**	**19 14 58.7**	**-0.7**
VLKR	**Vladikavkaz**	**0.97**	**49**	⇑*i*PG	**Pg**	**19 14 47.8**	**+0.3**
VLKR				*i* S	**Sb**	**19 15 01.8**	**+0.1**
VLKR	**Vladikavkaz**	**0.97**	**49**	*i* Pg	**Pg**	**19 14 47.8**	**+0.3**
VLKR				*i* Sg	**Sb**	**19 15 01.8**	**+0.1**
AKH	**Akhalkalaki**	**1.02**	**188**	P	**Pg**	**19 14 48.5**	**+0.1**
AKH				S	**Sb**	**19 15 03.3**	**+0.1**
TBLG	**Delisi**	**1.04**	**131**	*i* PG	**Pg**	**19 14 47.6**	**-1.3**
TBLG				*i* S	**Sg**	**19 15 02.6**	**+0.1**
TBLG	**Delisi**	**1.04**	**131**	P	**Pg**	**19 14 47.6**	**-1.3**
TBLG				S	**Sg**	**19 15 02.6**	**+0.1**
TBLG	**Delisi**	**1.04**	**131**	P	**Pg**	**19 14 47.6**	**-1.3**
TBLG				S	**Sg**	**19 15 02.6**	**+0.1**
KMSR	**Komsomolskaya**	**1.05**	**25**	⇓*i*PG	**Pg**	**19 14 49.8**	**+0.1**
KMSR				*e*S	**Sb**	**19 15 04.3**	**+0.2**
KMSR	**Komsomolskaya**	**1.05**	**25**	*i* Pg	**Pb**	**19 14 49.8**	**-0.1**
KMSR				*e*Sg	**Sb**	**19 15 04.3**	**+0.2**
SNJR	**Sundja**	**1.06**	**52**	*e*PG	**Pg**	**19 14 49.7**	**+0.5**
SNJR				*i* S	**Sb**	**19 15 05.0**	**+0.7**
SNJR	**Sundja**	**1.06**	**52**	*e*Pg	**Pg**	**19 14 49.7**	**+0.5**
SNJR				*i* Sg	**Sb**	**19 15 05.0**	**+0.7**
BTKR	**Batakoyurt**	**1.14**	**33**	⇑*i*PG	**Pn**	**19 14 52.3**	**+0.3**
BTKR				*e*S	**Sn**	**19 15 08.7**	**+0.4**
BTKR	**Batakoyurt**	**1.14**	**33**	*i* Pg	**Pn**	**19 14 52.3**	**+0.3**
KUBR	**Kubataba**	**1.40**	**352**	⇓*i*PG

comp=Z,288nm,3.0s
SOC Sochi 3.13 293 *e*Pg **Pg** 19 15 30.7 +1.7
SOC *e*Sn **Sn** 19 15 55.0 -2.3
SOC *e*Sb **Sg** 19 16 08.0 -1.5
comp=Z,288nm,3.0s
CLDR Caldiran 3.28 177 *e*PN **Pn** 19 15 24.7 +3.2
CLDR Caldiran 3.28 177 *e*Pn **Pn** 19 15 24.7 +3.2
MACK Trabzon 3.28 245 *e*P **Pn** 19 15 22.2 +0.8
MACK *e*S **Sn** 19 15 59.5 -1.5
MACK Trabzon 3.28 245 *e*P **Pn** 19 15 22.2 +0.8
MACK *e*S **Sn** 19 15 59.5 -1.5
BAYT Ayd¨–ntepe-Bay 3.34 234 *e*PN **Pn** 19 15 24.3 +1.9
BAYT Ayd¨–ntepe-Bay 3.34 234 *e*Pn **Pn** 19 15 24.3 +1.9
NAX Nakhchivan 3.52 156 ⇑P **Pb** 19 15 31.7 -0.3
SNR=5.3
NAX Nakhchivan 3.52 156 P **Pb** 19 15 31.7 -0.3
SNR=5.3
IML Ismayilli 3.75 114 ⇑P **Pn** 19 15 29.0 +1.2
SNR=4.6
IML ⇑S **Sn** 19 16 14.7 +2.2
IML Ismayilli 3.75 114 P **Pn** 19 15 29.0 +1.2
SNR=4.6
IML S **Sn** 19 16 14.7 +2.2
PQL Pirkuli 4.03 112 ⇑P **Pn** 19 15 33.4 +1.6
SNR=3.5
PQL Pirkuli 4.03 112 P **Pn** 19 15 33.4 +1.6
SNR=3.5
BRTR Keskin Array B 8.05 254 Pn **Pn** 19 16 26.6 -0.3
comp=Z,0.1nm,0.3s,baz=34,slow=10,SNR=4.6
BRTR Keskin Array B 8.05 254 P **Pn** 19 16 26.7 -0.3
AKTO Aktyubinsk 12.71 46 ⇓Pn **Pn** 19 17 29.4 -1.3
comp=Z,0.7nm,1.1s
AKTO ⇓Sn Sn 19 19 46.9 -5.9
comp=Z,0.7nm,1.1s
AKTO Aktyubinsk 12.71 46 P **Pn** 19 17 28.9 -1.8
AKTO Aktyubinsk 12.71 46 Pn **Pn** 19 17 28.9 -1.8
comp=Z,0.3nm,0.3s,baz=233,slow=15,SNR=6.1
AKTO Aktyubinsk 12.71 46 Pn **Pn** 19 17 29.4 -1.3
comp=Z,0.7nm,1.1s
AKTO Sn Sn 19 19 46.9 -5.9
comp=Z,0.7nm,1.1s
AB31 Akbulak array 13.23 53 ⇑Pn **Pn** 19 17 35.2 -2.5
comp=Z,0.5nm,0.5s,baz=242,slow=12,SNR=15
AB31 ⇑Sn Sn 19 19 54.2 -11
comp=Z,1.1nm,0.8s,baz=236,slow=22,SNR=6.7
AB31 Akbulak array 13.23 53 Pn **Pn** 19 17 35.2 -2.5
comp=Z,0.5nm,0.5s,SNR=15
AB31 Sn Sn 19 19 54.2 -11
comp=Z,1.1nm,0.8s,SNR=6.7
VRAC Vranov 20.01 299 P **P** 19 19 00.4 -2.4
comp=Z,0.9nm,0.3s,baz=75,slow=9.0,SNR=6.2
BVAR Borovoye Array 20.74 50 P **P** 19 19 10.9 +0.2
BVAR Borovoye Array 20.74 50 P **P** 19 19 10.9 +0.2
comp=Z,0.5nm,0.5s,baz=234,slow=9.8,SNR=3.2
BVAR Borovoye Array 20.74 50 P **P** 19 19 10.9 +0.2
FINES FINESS Array B 21.79 337 P **P** 19 19 22.8 +0.9
comp=Z,4.1nm,1.0s,baz=141,slow=16,SNR=3.0
FINES FINESS Array B 21.79 337 P **P** 19 19 22.8 +0.9
KURBB Kurchatov Arra 25.15 59 P **P** 19 19 57.5 +2.2
comp=Z,0.5nm,0.8s,baz=261,slow=9.2,SNR=4.1
KURK Kurchatov 25.22 59 P **P** 19 19 57.5 +1.6
KURK Kurchatov 25.22 59 P **P** 19 19 57.5 +1.6
MKAR Makanchi Array 27.64 68 P **P** 19 20 19.8 +2.0
MKAR Makanchi Array 27.64 68 P **P** 19 20 19.8 +2.0
comp=Z,0.2nm,0.5s,baz=281,slow=7.7,SNR=1.2
MKAR Makanchi Array 27.64 68 P **P** 19 20 19.8 +2.0
ZALV Zalesovo Beam 29.34 53 P **P** 19 20 35.3 +2.4
ZALV Zalesovo Beam 29.34 53 P **P** 19 20 35.3 +2.4
comp=Z,0.2nm,0.4s,baz=265,slow=8.5,SNR=2.5
ZALV Zalesovo Beam 29.34 53 P **P** 19 20 35.3 +2.4
TORD Torodi Ar. Bea 46.52 244 P **P** 19 22 57.1 -0.8
comp=Z,0.8nm,0.8s,baz=39,slow=6.0,SNR=4.6

*NNC **21** 19:24:22.9±2.9, 37°.29N×70°.87E, h155km±74km, mb2.7, mpv3.6, Error ellipse: s-maj=31.6km s-min=17.8km az=29.0*
ISC 21 19:24:17.6±3.8, 36°.9N±0°.2×70°.5E±0°.2, h64km, n10, σ0§99/12, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=21	**5.78**	**25**	P	**Pn**	**19 25 41.6**	**+0.5**
KK31	**Karatay Array** 0.8nm,0.3s,baz=175,slow=15,SNR=33	**6.19**	**0**	Pn	**Pn**	**19 25 48.0**	**+1.6**
KK31	0.7nm,0.3s,baz=207,slow=11,SNR=4.5			⇓Sn Lg	**Sn** Lg	**19 26 56.0** 19 27 32.7	**+0.4**
EKS2	11nm,0.8s,baz=171,slow=27,SNR=10 **Erkin-Say** SNR=5.0	**6.28**	**23**	P	**Pn**	**19 25 49.0**	**+1.2**
KZA	**Kyzart** SNR=6.2	**6.35**	**34**	P	**Pn**	**19 25 48.7**	**-0.2**
AAK	**Ala-Archa** SNR=7.4	**6.50**	**27**	P	**Pn**	**19 25 51.7**	**+0.9**
CHMS	**Chumysh** SNR=9.8	**6.91**	**27**	P	**Pn**	**19 25 56.6**	**+0.4**
USP	**Ospenovka** SNR=5.6	**7.06**	**25**	P	**Pn**	**19 25 58.3**	**0.0**
TKM2	**Tokmak 2** 6.2nm,0.5s	**7.18**	**32**	⇑Pn	**Pn**	**19 25 59.8**	**-0.3**
TKM2	4.8nm,1.2s			⇓Sn	Sn	19 27 14.3	-5.9
TKM2	**Tokmak 2** SNR=8.7	**7.18**	**32**	P	**Pn**	**19 26 00.2**	**+0.1**
AB31	**Akbulak array** 0.1nm,0.2s,baz=157,slow=10,SNR=4.5	**14.52**	**331**	⇓Pn	**Pn**	**19 27 39.3**	**-0.2**
AB31	0.5nm,0.5s,baz=154,slow=23,SNR=4.2			⇑Sn	**Sn**	**19 30 17.3**	**-1.7**

*ISCJB **21** 19:35:14.5±0.9, 51°.50N±0°.04×16°.14E±0°.04, h0km, Error ellipse: s-maj=6.7km s-min=3.3km az=16.4*
*WAR **21** 19:35:15.5, 51°.59N×16°.04E*
*CSEM **21** 19:35:16.5±0.7, 51°.48N×16°.10E, h2km, ML2.8/5, Error ellipse: s-maj=10.5km s-min=4.9km az=16.0*
*PRU **21** 19:35:17.3, 51°.47N×16°.12E, h0km*
ISC 21 19:35:16.8±1.3, 51°.47N±0°.06×16°.09E±0°.03, h0km, n23, σ0§60/44, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.64**	**169**	*e*Pg	**Pg**	**19 35 29.8**	**+0.7**
KSP				*e*Sg	**Sb**	**19 35 39.4**	**-1.0**
KSP	**Ksiaz**	**0.64**	**169**	*e*Pg	**Pg**	**19 35 29.8**	**+0.7**
KSP				*e*Sg	**Sb**	**19 35 39.4**	**-1.0**
KSP	**Ksiaz**	**0.64**	**169**	*e*Pg	**Pg**	**19 35 29.9**	**+0.8**
KSP				*e*Sg	**Sg**	**19 35 38.4**	**+1.0**
UPC	**Upice**	**0.97**	**183**	*e*PG	**Pb**	**19 35 35.9**	**-0.5**
UPC	**Upice**	**0.97**	**183**	Pg	**Pb**	**19 35 35.9**	**-0.5**
DPC	**Dobruska-Polom**	**1.13**	**173**	*e*PG	**Pg**	**19 35 38.5**	**0.0**
DPC	comp=Z,8.9nm,0.3s			*e*SG	**Sg**	**19 35 53.5**	**+0.4**
DPC	**Dobruska-Polom**	**1.13**	**173**	Pg	**Pg**	**19 35 38.5**	**0.0**
DPC	8.9nm,0.3s			Sg	**Sg**	**19 35 53.5**	**+0.4**
PVCC	**Panska Ves**	**1.35**	**226**	*e*PG	**Pg**	**19 35 42.8**	**+0.1**
PVCC	comp=Z,21nm,0.2s			*e*SG	**Sn**	**19 36 01.3**	**-0.2**
PVCC	**Panska Ves**	**1.35**	**226**	Pg	**Pg**	**19 35 42.8**	**+0.1**
PVCC	21nm,0.2s			Sg	**Sn**	**19 36 01.3**	**-0.2**
KRLC	**Kraliky**	**1.46**	**162**	*e*PG	**Pg**	**19 35 44.6**	**-0.3**
KRLC				*e*SG	**Sb**	**19 36 04.1**	**0.0**
KRLC	**Kraliky**	**1.46**	**162**	Pg	**Pg**	**19 35 44.6**	**-0.3**
KRLC				Sg	**Sb**	**19 36 04.1**	**0.0**
BRG	**Berggiesshubel**	**1.48**	**247**	PG	**Pb**	**19 35 45.2**	**0.0**
BRG	14nm,0.3s			SG	**Sn**	**19 36 05.4**	**+0.6**
PRU	**Pruhonice**	**1.78**	**214**	*e*PG	**Pb**	**19 35 50.5**	**+0.2**
PRU	comp=Z,5.8nm,0.3s			*e*SG	**Sg**	**19 36 13.8**	**-0.2**
PRU	**Pruhonice**	**1.78**	**214**	Pg	**Pb**	**19 35 50.5**	**+0.2**
PRU	5.8nm,0.3s			Sg	**Sg**	**19 36 13.8**	**-0.2**
MORC	**Moravsky Berou**	**1.93**	**151**	*e*Pn	**Pn**	**19 35 50.4**	**-0.6**
MORC				*e*Sg	**Sg**	**19 36 18.1**	**-0.7**
CLL	**Collm**	**1.94**	**266**	*e*Pn	**Pn**	**19 35 50.0**	**-1.1**
CLL				*e*Pg	**Pb**	**19 35 53.0**	**-0.1**
CLL				*e*		19 35 56.0	
CLL	comp=Z,9.0nm,0.6s			*e*Sg	**Sg**	**19 36 20.0**	**+0.8**
OKC	**Ostrava-Krasne**	**2.09**	**141**	*e*SG	**Sb**	**19 36 22.4**	**+0.2**
OKC	**Ostrava-Krasne**	**2.09**	**141**	Sg	**Sb**	**19 36 22.4**	**+0.2**
NKC	**Novy Kostel**	**2.62**	**243**	*e*PG	**Pg**	**19 36 06.7**	**-0.4**
NKC	comp=Z,8.1nm,0.3s			*e*SG	**Sg**	**19 36 42.1**	**+1.1**
NKC	**Novy Kostel**	**2.62**	**243**	Pg	**Pg**	**19 36 06.7**	**-0.4**
NKC	comp=Z,8.1nm,0.3s			Sg	**Sg**	**19 36 42.1**	**+1.1**
OJC	**Ojcow**	**2.66**	**117**	*e*Pg	**Pb**	**19 36 06.1**	**+0.7**
OJC				*e*Sg	**Sg**	**19 36 42.0**	**-0.3**
KHC	**Kasperske Hory**	**2.84**	**216**	*e*PN	**Pn**	**19 36 04.0**	**+0.5**
KHC				*e*PG	**Pb**	**19 36 09.6**	**+1.1**
KHC				*e*SN	**Sn**	**19 36 38.0**	**-0.5**
KHC				*e*SG	**Sg**	**19 36 47.4**	**-0.7**
KHC	comp=Z,3.5nm,0.5s **Kasperske Hory**	**2.84**	**216**	Pn	**Pn**	**19 36 04.0**	**+0.5**

IDC 21 19:36:29.5±6.4, 17°.78S×178°.61W, h541km±68km, mb3.1/10, mb1 3.3/10, mb1mx3.2/19, mbtmp3.1/10, Error ellipse: s-maj=30.7km s-min=21.4km az=89.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 1.3nm,0.7s,baz=90,slow=10,SNR=2.8	**38.53**	**241**	P	P	19 43 06.4	+0.5
WRA	**Warramunga Arr** 0.9nm,0.5s,baz=94,slow=7.0,SNR=11	**44.47**	**259**	P	P	19 43 52.5	-0.6
WRA	0.4nm,0.6s,baz=93,slow=3.6,SNR=3.2			PcP	PcP	19 45 24.5	-0.4
ASAR	**Alice Springs** 9.2nm,0.6s,baz=90,slow=7.8,SNR=261	**44.64**	**254**	P	P	19 43 54.0	-0.4
ASAR	0.5nm,0.4s,baz=106,slow=4.2,SNR=4.9			PcP	PcP	19 45 25.1	-0.4
FITZ	**Fitzroy Crossi** 1.0nm,0.7s,baz=45,slow=5.7,SNR=2.7	**52.86**	**260**	P	P	19 44 55.4	+0.1
MJAR	**Matsushiro Arr** 1.0nm,0.5s,baz=164,slow=6.8,SNR=7.1	**67.69**	**323**	P	P	19 46 32.6	-0.5
QSPA	**South Pole Qui** 1.6nm,0.9s,baz=7.6,slow=4.1,SNR=4.7	**72.27**	**180**	P	P	19 46 59.7	-0.3
KSRS	**Korea Array** 0.8nm,0.6s,baz=126,slow=8.2,SNR=3.6	**74.48**	**318**	P	P	19 47 13.0	+0.1
ILAR	**Eielson Array** 0.3nm,0.4s,baz=222,slow=5.0,SNR=11	**85.81**	**13**	P	P	19 48 10.8	-0.5
PDAR	**Pinedale Array** 0.4nm,0.6s,baz=186,slow=2.5,SNR=3.3	**87.39**	**44**	P	P	19 48 19.9	+0.3
SONM	**Songino Array** 0.2nm,0.5s,baz=132,slow=4.1,SNR=3.3	**93.33**	**319**	P	P	19 48 46.9	+0.1
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=206,slow=0.8,SNR=5.8	**108.91**	**314**	PKiKP	PKiKP	19 53 56.1	-1.5
BRTR	**Keskin Array B** 1.0nm,0.5s,baz=97,slow=2.5,SNR=12	**144.56**	**315**	PKP	PKPdf	19 55 04.6	-0.4
GERES	**GERESS Array B** 1.3nm,0.5s,baz=18,slow=2.9,SNR=17	**147.44**	**345**	PKPbc	PKPbc	19 55 12.8	0.0

IDC 21 19:46:00.6±1.6, 31°.08N×84°.22E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.3/29, mbtmp3.4/7, ML2.8/3, Error ellipse: s-maj=80.2km s-min=19.0km az=62.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array** 0.0nm,0.3s,baz=156,slow=11,SNR=2.2	**15.76**	**355**	Pn	Pn	19 49 44.2	+0.4
CMAR	**Chiang Mai Arr** 0.0nm,0.3s,baz=321,slow=12,SNR=9.0	**18.32**	**130**	P	Pn	19 50 16.3	0.0
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=163,slow=9.4,SNR=3.9	**19.98**	**349**	P	P	19 50 34.9	+0.6
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=186,slow=13,SNR=3.1	**22.86**	**1**	P	P	19 51 04.3	-0.9
FINES	**FINESS Array B** 3.3nm,1.1s,baz=106,slow=4.5,SNR=3.1	**48.08**	**327**	P	P	19 54 41.3	-0.3
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=327,slow=6.3,SNR=3.3	**69.92**	**130**	P	P	19 57 13.6	-0.1
ASAR	**Alice Springs** 0.3nm,0.8s,baz=322,slow=5.9,SNR=3.1	**72.31**	**133**	P	P	19 57 28.4	+0.2

IDC 21 20:02:40.4±3.0, 25°.48N×143°.26E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.4/25, mbtmp3.4/6, MS3.5/1, Ms1 3.5/1, ms1mx2.5/17, Error ellipse: s-maj=127.5km s-min=21.8km az=76.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array** 0.1nm,0.5s,baz=128,slow=7.0,SNR=3.4	**36.54**	**317**	P	P	20 09 49.3	+1.4
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=8.5,slow=8.6,SNR=9.2	**45.98**	**192**	P	P	20 11 05.5	0.0
ASAR	**Alice Springs** 0.2nm,0.7s,baz=24,slow=9.2,SNR=3.4	**49.69**	**191**	P	P	20 11 34.2	-0.1
MKAR	**Makanchi Array** 0.1nm,0.6s,baz=79,slow=7.5,SNR=3.3	**52.24**	**311**	P	P	20 11 53.6	+0.2
MKAR	comp=Z,48nm,19.1s,baz=79,slow=35			LR	LR	20 33 30.1	
BVAR	**Borovoye Array** 0.4nm,0.6s,baz=92,slow=6.6,SNR=4.6	**59.88**	**318**	P	P	20 12 46.4	-1.5
FINES	**FINESS Array B** 1.8nm,0.9s,baz=66,slow=3.5,SNR=3.4	**79.81**	**334**	P	P	20 14 49.9	-0.5

*NEIC **21** 20:17:03.4, 13°.64N×93°.16W, h4km, mb4.6/45, MD4.4(MEX), After MEX.*
*MEX **21** 20:17:03.4±0.6, 13.57N×93°.14W, h15km, MD4.4*
*BJI **21** 20:17:04.9, 13°.90N×92°.80W, h28km, mB5.4/2, Ms5.4/2, Ms7 5.2/2*
*ISCJB **21** 20:17:05.3±0.7, 13°.73N±0°.04×92°.96W±0°.03, h38km±5km, mb4.5/64, MS3.9/11, Error ellipse: s-maj=8.0km s-min=3.2km az=33.5*
*IDC **21** 20:17:06.0±0.7, 13°.75N×92°.82W, h36km±4km, mb4.1/17, mb1 4.3/18, mb1mx4.2/24, mbtmp4.1/18, ML4.8/2, MS3.7/13, Ms1 3.7/13, ms1mx3.4/31, Error ellipse: s-maj=22.5km s-min=13.8km az=63.0*
*CASC **21** 20:17:06.6±1.1, 13°.64N×92°.92W, h34km±198km, MD4.0*
ISC 21 20:17:05.6±0.4, 13°.71N±0°.06×93°.01W±0°.05, h36km±3km, h36km:pP-P, n499, σ1§48/526, mb4.6/64, MS4.0/11, 161C-154D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.39**	**31**	*e*P	**Pn**	**20 17 27.3**	**-1.2**
THIG				*i* S	**Sn**	**20 17 46.3**	**+0.7**
THIG		**1.39**	**31**	*e*P	**Pn**	**20 17 27.3**	**-1.2**
THIG				*i* S	**Sn**	**20 17 46.3**	**+0.7**
PCIG		**1.99**	**354**	*e*P	**Pn**	**20 17 34.3**	**-2.5**
PCIG				*i* S	**Sn**	**20 17 59.6**	**-0.9**
PCIG		**1.99**	**354**	*e*P	**Pn**	**20 17 34.5**	**-2.2**
PCIG				*i* S	**Sn**	**20 17 59.6**	**-0.9**
TP2	**Tecpan 2**	**2.20**	**61**	*i* P	**Pn**	**20 17 40.9**	**+0.9**
FUG	**Fuego 3**	**2.23**	**71**	*e*P	**Pn**	**20 17 40.7**	**+0.1**
FG6		**2.23**	**68**	*e*P	**Pn**	**20 17 40.7**	**+0.4**
PCG	**Pacaya**	**2.43**	**73**	*e*P	**Pn**	**20 17 43.6**	**+0.6**
IXG	**Ixpaco**	**2.52**	**79**	*e*P	**Pn**	**20 17 44.4**	**+0.2**
CCIG	**Comitan**	**2.69**	**18**	*e*P	**Pn**	**20 17 48.2**	**+1.7**
CCIG				*i* S	**Sn**	**20 18 20.7**	**+2.7**
CCIG	**Comitan**	**2.69**	**18**	*e*P	**Pn**	**20 17 46.8**	**+0.3**
CCIG				*i* S	**Sn**	**20 18 19.4**	**+1.4**
NBG	**Las Nubes**	**2.73**	**71**	*e*P	Pn	20 17 48.9	+1.8
SCX	**San Cristobal**	**3.03**	**7**	*i* P	**Pn**	**20 17 50.7**	**-0.3**
SCX				*i* S	**Sn**	**20 18 28.7**	**+2.7**
SCX	**San Cristobal**	**3.03**	**7**	*i* P	**Pn**	**20 17 50.7**	**-0.3**
SCX				*i* S	**Sn**	**20 18 28.7**	**+2.7**
TGIG		**3.05**	**358**	*e*P	**Pn**	**20 17 51.0**	**-0.4**
TGIG				*i* S	**Sn**	**20 18 26.8**	**+0.1**
TGIG		**3.05**	**358**	*e*P	**Pn**	**20 17 51.0**	**-0.4**
TGIG				*i* S	**Sn**	**20 18 26.8**	**+0.1**
RBDL	**Robledal**	**3.25**	**83**	*e*P	**Pn**	**20 17 54.8**	**+0.6**
RTR	**El Retiro**	**3.27**	**86**	*e*P	**Pn**	**20 17 55.2**	**+0.6**
RTR				*e*S	**Sn**	**20 18 33.8**	**+1.5**
MRL	**Marmol**	**3.49**	**67**	*e*P	Pn	20 17 58.9	+1.4
BOQS	**Boqueron**	**3.63**	**89**	*e*P	**Pn**	**20 18 00.2**	**+0.8**
CMIG	**Matias Romero**	**3.81**	**332**	*e*P	**Pn**	**20 18 00.1**	**-1.7**
CMIG				Sn	Sn	20 18 41.2	-4.3
CMIG				*i* S		20 18 44.9	
CMIG	**Matias Romero**	**3.81**	**332**	*e*P	**Pn**	**20 18 00.1**	**-1.7**
CMIG				*i* S	**Sn**	**20 18 44.9**	**-0.5**
CMIG	**Matias Romero** 7.7nm,0.3s,baz=153,slow=14,SNR=77	**3.81**	**332**	Pn	**Pn**	**20 18 00.1**	**-1.7**
CMIG	64nm,0.3s,baz=188,slow=24,SNR=13			Sn	Sn	20 18 41.2	-4.3
CMIG	comp=Z,587nm,20.0s,baz=162,slow=37			LR	LR	20 19 28.6	
LFRS	**El Faro**	**3.84**	**91**	*e*P	**Pn**	**20 18 02.6**	**+0.4**
LFRS				*e*S	**Sn**	**20 18 46.0**	**-0.2**
SNVI	**San Vicente**	**4.06**	**91**	*e*P	**Pn**	**20 18 05.7**	**+0.4**
SNVI				*e*S	**Sn**	**20 18 51.9**	**+0.2**
BLLM	**Bellamira**	**4.65**	**93**	*e*P	**Pn**	**20 18 14.3**	**+0.9**
BLLM				*e*S	**Sn**	**20 19 05.8**	**-0.3**
VHO	**Vista Hermosa**	**4.90**	**313**	*e*P	Pn	20 18 15.7	-1.3
VHO				*i* S	**Sn**	**20 19 11.2**	**-1.4**
VHO	**Vista Hermosa**	**4.90**	**313**	*e*P	Pn	20 18 15.7	-1.3
VHO				*i* S	**Sn**	**20 19 11.2**	**-1.4**
CNCH	**Conchagua**	**5.05**	**94**	*e*P	**Pn**	**20 18 19.6**	**+0.6**
CNCH				*e*S	**Sn**	**20 19 15.2**	**-1.0**
PNIG	**Pinotepa**	**5.62**	**299**	*i* P	Pn	20 18 24.6	-2.0
PNIG				*i* S	Sn	20 19 27.5	-2.5
PNIG	**Pinotepa**	**5.62**	**299**	*i* P	Pn	20 18 24.6	-2.0
PNIG				*i* S	Sn	20 19 27.5	-2.5
TEIG	**Tepich**	**7.90**	**34**	*e*Pn	**Pn**	**20 18 56.2**	**-1.8**
TEIG				Sn	**Sn**	**20 20 22.6**	**-3.7**
TEIG				*e*Sn	Sn	20 20 23.0	-3.3
TEIG	**Tepich** 89nm,0.3s,baz=229,slow=1.2,SNR=68	**7.90**	**34**	Pn	**Pn**	**20 18 56.6**	**-1.4**
TEIG	13nm,0.3s,baz=225,slow=24,SNR=8.8			Sn	**Sn**	**20 20 22.5**	**-3.7**
TEIG	comp=Z,565nm,21.7s,baz=256,slow=40			LR	LR	20 22 18.7	
JTS	**JuntasAbangare**	**8.59**	**112**	Pn	**Pn**	**20 19 06.9**	**-0.5**
JTS	**JuntasAbangare** 1.1nm,0.3s,baz=286,slow=14,SNR=3.6	**8.59**	**112**	Pn	Pn	20 19 08.9	+1.5
JTS	comp=Z,59nm,21.2s,baz=19,slow=40			LR	LR	20 22 41.3	
MTDJ	**Mount Denham**	**15.54**	**71**	P	**Pn**	**20 20 38.5**	**-3.7**
732A	**Laxson Ranch,** baz=16	**16.28**	**338**	⇓P	**P**	**20 20 55.4**	**+1.2**
631A	**Perdido Creek** baz=17	**17.12**	**337**	⇓P	**P**	**20 21 05.6**	**+2.0**
532A	**Rocksprings** baz=18	**17.54**	**340**	⇓P	**P**	**20 21 10.5**	**+2.3**
531A	**Rocksprings** baz=18	**17.79**	**338**	⇓P	**P**	**20 21 12.9**	**+1.9**
JCT	**Junction City**	**17.82**	**341**	*e*Pn	**Pn**	**20 21 09.0**	**-1.9**
JCT	**Junction City** baz=18	**17.82**	**341**	⇑P	**P**	**20 21 13.1**	**+1.7**
DWPF	**Disney** 16nm,0.6s	**17.93**	**35**	*e*P	**P**	**20 21 11.6**	**-0.9**
628A	**Black Gap, Mar** baz=18,SNR=8.7	**18.17**	**331**	⇑P	**Pn**	**20 21 17.0**	**+1.9**
432A	**Menard** baz=18	**18.19**	**341**	⇓P	**Pn**	**20 21 16.6**	**+1.2**
431A	**Sonora** baz=18	**18.28**	**339**	⇑P	**Pn**	**20 21 17.5**	**+1.0**
627A	**Terlingua Ranc** baz=18,SNR=12	**18.38**	**330**	⇑P	**Pn**	**20 21 19.4**	**+1.6**
529A	**Stev Forest Ra** baz=18	**18.42**	**334**	⇑P	**Pn**	**20 21 19.1**	**+1.0**
TXAR	**Lajitas Array**	**18.42**	**329**	P	**P**	**20 21 19.2**	**+1.3**
TXAR	**Lajitas Array** 0.2nm,0.3s,baz=159,slow=12,SNR=9.0	**18.42**	**329**	P	**P**	**20 21 19.2**	**+1.3**
430A	**Baggett Ranch,** baz=19	**18.61**	**337**	⇓P	**Pn**	**20 21 21.6**	**+1.1**
528A	**Cox Ranch, San** baz=19,SNR=6.0	**18.70**	**333**	⇓P	**Pn**	**20 21 22.8**	**+1.2**
429A	**Davenport Ranc** baz=19,SNR=12	**18.72**	**335**	⇑P	**Pn**	**20 21 23.1**	**+1.3**
626A	**Big Bend Ranch** baz=19,SNR=16	**18.83**	**329**	⇑P	**Pn**	**20 21 24.3**	**+1.1**
527A	**Woodward Ranch** baz=19,SNR=25	**19.06**	**331**	⇑P	**Pn**	**20 21 27.0**	**+0.9**
428A	**Kincaid Ranch,** baz=19,SNR=6.4	**19.14**	**334**	⇑P	**Pn**	**20 21 27.9**	**+1.0**
526A	**Mary Lane Ranc** baz=19,SNR=16	**19.22**	**330**	⇓P	**Pn**	**20 21 28.9**	**+0.9**
329A	**Wagon Wheel Ra** baz=20	**19.52**	**337**	⇓P	**Pn**	**20 21 31.8**	**+0.4**
427A	**Hayter Ranch,** baz=20	**19.56**	**332**	⇑P	**P**	**20 21 31.3**	**+0.9**
426A	**McDonald Obser** baz=20,SNR=9.5	**19.70**	**331**	⇑P	**P**	**20 21 33.8**	**+1.7**
328A	**Wristen Ranch,** baz=20,SNR=14	**19.76**	**334**	⇑P	**Pn**	**20 21 34.6**	**+0.4**
ABTX	**Abilene, Hawle** baz=20,SNR=6.5	**19.78**	**343**	⇑P	**P**	**20 21 34.0**	**+1.2**
326A	**Caldwell Ranch** baz=20,SNR=16	**20.21**	**332**	⇑P	**P**	**20 21 39.4**	**+1.8**
425A	**Indio Mountain** baz=20,SNR=9.2	**20.26**	**329**	⇓P	**P**	**20 21 39.1**	**+0.9**
228A	**UT Block 9, Go** baz=20,SNR=6.3	**20.31**	**336**	⇑P	**P**	**20 21 39.9**	**+1.2**
129A	**Stewart Farms,** baz=21	**20.50**	**338**	⇑P	**P**	**20 21 41.5**	**+0.8**
128A	**Castleberry Fa** baz=21,SNR=21	**20.72**	**337**	⇓P	**P**	**20 21 44.2**	**+1.2**
325A	**Bean Ranch, Si** baz=21,SNR=6.1	**20.73**	**330**	⇑P	**P**	**20 21 44.2**	**+1.0**
MIAR	**Mount Ida** 23nm,0.8s	**20.75**	**359**	*e*P	**P**	**20 21 41.8**	**-1.5**
226A	**Malaga, Loving** baz=21,SNR=7.4	**20.90**	**333**	⇑P	**P**	**20 21 46.7**	**+1.7**
OXF	**Oxford**	**20.96**	**8**	*e*P	**P**	**20 21 44.5**	**-1.1**
Z29A	**Hungry Hill Ra** baz=21,SNR=9.1	**21.01**	**339**	⇓P	**P**	**20 21 46.8**	**+0.7**
324A	**Moseley Ranch,** baz=21,SNR=28	**21.04**	**329**	⇑P	**P**	**20 21 47.2**	**+0.6**
127A	**Arkansas Junct** baz=21,SNR=12	**21.11**	**335**	⇑P	**P**	**20 21 48.1**	**+0.8**
MNTX	**Cornudas Mount** 11nm,0.8s	**21.20**	**330**	*e*P	**P**	**20 21 47.7**	**-0.4**
MNTX	**Cornudas Mount** baz=21,SNR=27	**21.20**	**330**	⇓P	**P**	**20 21 48.8**	**+0.7**
225A	**Deer Hill, Car** baz=21,SNR=12	**21.27**	**331**	⇑P	**P**	**20 21 50.2**	**+1.1**
Z28A	**Tucker Farm, M** baz=21,SNR=7.2	**21.28**	**338**	⇑P	**P**	**20 21 49.7**	**+0.6**
126A	**Clayton Basin,** baz=21,SNR=16	**21.36**	**334**	⇓P	**P**	**20 21 50.8**	**+0.8**
SDDR	**Presa de Saban** 10nm,0.7s	**21.49**	**73**	P	**P**	**20 21 52.2**	**+0.8**
Y29A	**Porterfield Fa** baz=22,SNR=6.7	**21.55**	**340**	⇓P	**P**	**20 21 53.0**	**+1.1**
224A	**Cornudas Mount** baz=22,SNR=30	**21.57**	**330**	⇑P	**P**	**20 21 53.1**	**+0.8**
Z27A	**Tatum** baz=22,SNR=23	**21.61**	**336**	⇓P	**P**	**20 21 53.5**	**+0.8**
125A	**Gardner Draw,** baz=22,SNR=29	**21.65**	**333**	⇓P	**P**	**20 21 53.9**	**+0.7**
Z26A	**Caprock** baz=22,SNR=30	**21.89**	**335**	⇓P	**P**	**20 21 56.3**	**+0.7**
MSTX	**Muleshoe** baz=22,SNR=7.0	**22.03**	**338**	⇓P	**P**

CPCT Cooper Cave 22.96 18 eP P 20 22 05.2 -1.6
W28A Vega 23.00 340 ⇑P P 20 22 08.1 +0.6
baz=23
220A Playas Peak, P 23.02 324 ⇓P P 20 22 09.2 +1.4
baz=23,SNR=11
Y24A Capitan 23.07 333 ⇑P P 20 22 08.8 +0.6
baz=23
319A Douglas 23.07 322 ⇓P P 20 22 08.7 +0.5
baz=23
121A Cookes Peak, D 23.09 327 ⇓P P 20 22 09.9 +1.4
baz=23,SNR=13
W27A Bowe Ranch, En 23.12 339 ⇑P P 20 22 08.8 +0.2
baz=23,SNR=20
Z22A Elephant Butte 23.24 329 ⇑P P 20 22 11.1 +1.1
baz=23,SNR=9.7
X25A Clemmons Ranch 23.25 335 ⇑P P 20 22 11.2 +1.2
baz=23
Y23A Lovelace Mesa, 23.36 332 ⇓P P 20 22 12.9 +1.8
baz=23,SNR=9.7
V29A Stinnett 23.36 342 ⇓P P 20 22 11.9 +0.9
baz=24
TKL Tuckaleechee C 23.38 19 P P 20 22 10.3 -0.8
TKL Tuckaleechee C 23.38 19 P P 20 22 10.3 -0.8
10nm,0.5s,baz=189,slow=10,SNR=21
TKL LR LR 20 32 24.5
comp=Z,117nm,18.7s,baz=25,slow=39
W26A Owens Ranch, T 23.39 337 ⇓P P 20 22 12.0 +0.6
baz=24
V28A Channing 23.46 341 ⇑P P 20 22 12.5 +0.5
baz=24,SNR=5.8
120A U Bar Ranch, L 23.56 325 ⇑P P 20 22 14.5 +1.4
baz=24
Z21A St. Cloud Mine 23.64 328 ⇑P P 20 22 15.4 +1.6
baz=24
W25A X Bar L Ranch, 23.77 336 ⇓P P 20 22 15.9 +0.8
baz=24,SNR=9.6
Y22A Socorro 23.79 330 ⇓P P 20 22 16.5 +1.3
baz=24
KMSC Kings Mountain 23.80 24 ⇓P P 20 22 14.6 -0.5
baz=24,SNR=14
BNM Barren Site 23.80 331 eP P 20 22 17.1 +1.7
Z20A Nine Sixteen R 23.97 326 ⇑P P 20 22 18.5 +1.6
baz=24,SNR=15
V26A Tequesquite Ra 24.03 338 ⇓P P 20 22 18.8 +1.4
baz=24
SIUC Southern Illin 24.14 7 eP P 20 22 18.2 -0.1
32nm,0.5s
SIUC e 20 22 28.2
W24A Lazy 6 Ranch, 24.15 335 ⇑P P 20 22 19.8 +1.1
baz=24
Y21A Point of Rocks 24.20 329 ⇑P P 20 22 19.7 +0.6
baz=24
X22A Bernardo 24.27 331 ⇑P P 20 22 20.4 +0.6
baz=24
V25A Rancho No Teng 24.38 337 ⇑P P 20 22 22.1 +1.3
baz=24,SNR=17
ANMO Albuquerque 24.39 332 eP P 20 22 21.2 +0.5
ANMO Albuquerque 24.39 332 P P 20 22 21.7 +0.9
1.7nm,0.7s,baz=157,slow=11,SNR=5.2
Y20A Horse Springs, 24.47 328 ⇑P P 20 22 23.2 +1.5
baz=24,SNR=8.9
V24A Rampart Ranch, 24.54 335 ⇑P P 20 22 23.8 +1.6
baz=25
U26A Atchley Ranch, 24.55 339 ⇓P P 20 22 23.7 +1.4
baz=25,SNR=16
X21A Alamocita Cree 24.60 330 ⇓P P 20 22 24.5 +1.7
baz=25,SNR=6.7
TUC Tucson 24.64 322 eP P 20 22 23.3 +0.4
7.0nm,0.9s
T28A Walsh 24.69 342 ⇓P P 20 22 25.1 +1.7
baz=25
U25A Circle Dot Ran 24.80 338 ⇑P P 20 22 26.1 +1.7
baz=25,SNR=8.4
T27A Campo 24.82 341 ⇓P P 20 22 25.7 +1.1
baz=25,SNR=10
V23A Ortiz Mt. (NFS 24.94 334 ⇓P P 20 22 28.0 +2.2
baz=25
X20A Quemado 25.03 329 ⇓P P 20 22 29.0 +2.4
baz=25,SNR=9.6
T26A Comanche Natio 25.21 340 ⇓P P 20 22 29.8 +1.6
baz=25
V22A San Miguel Ran 25.39 333 ⇑P P 20 22 31.3 +1.3
baz=26
U23A El Rito 25.44 335 ⇑P P 20 22 32.2 +1.9
baz=26
S27A Las Animas 25.45 342 ⇑P P 20 22 31.9 +1.7
baz=26,SNR=7.5
T25A Trinidad 25.46 338 ⇑P P 20 22 32.9 +2.4
baz=26,SNR=8.6
W20A Ramah 25.50 329 ⇑P P 20 22 33.3 +2.4
baz=26,SNR=7.1
S26A Kim 25.57 340 ⇓P P 20 22 33.7 +2.2
baz=26
T24A Torres, Weston 25.63 337 ⇓P P 20 22 34.4 +2.2
baz=26,SNR=12
V21A Milan 25.63 332 ⇓P P 20 22 34.3 +2.1
baz=26
214A Organ Pipe Nat 25.66 318 ⇑P P 20 22 33.3 +1.1
baz=26
CBKS Cedar Bluff 25.70 348 ⇑P P 20 22 34.9 +2.4
baz=26
X18A Snowflake 25.78 326 ⇓P P 20 22 35.1 +1.7
baz=26
S25A Robets Cordova 25.93 339 ⇑P P 20 22 36.7 +2.0
baz=26,SNR=13
BLA Blacksburg 25.96 23 eP P 20 22 33.5 -1.4
14nm,0.7s
R27A Eads 25.97 342 eP P 20 22 37.0 +2.0
baz=26,SNR=6.5
V20A Brimhall 26.02 330 ⇑P P 20 22 37.3 +1.7
baz=26
U21A Nageezi 26.16 332 ⇓P P 20 22 39.0 +2.2
baz=26
R26A Arlington 26.18 341 ⇓P P 20 22 39.1 +2.2
baz=26,SNR=5.6
S24A Houchin Ranch, 26.19 338 ⇓P P 20 22 39.6 +2.3
baz=26
R25A Fountain Ranch 26.32 340 ⇑P P 20 22 40.8 +2.6
baz=26
T22A Edith 26.32 334 ⇓P P 20 22 40.6 +2.2
baz=26
SDCO Great Sand Dun 26.39 337 eP P 20 22 40.7 +1.6
7.2nm,1.1s
SDCO Great Sand Dun 26.39 337 ⇑P P 20 22 41.2 +2.2
baz=26,SNR=10
U20A Newcomb 26.51 331 ⇑P P 20 22 42.3 +2.3
baz=27
X16A Lo Mia Camp, P 26.52 324 ⇑P P 20 22 42.2 +2.1
baz=27,SNR=5.6
S23A Nye Farm, Mont 26.55 336 ⇓P P 20 22 43.0 +2.6
baz=27
T21A Navajo Lake 26.57 333 ⇓P P 20 22 42.8 +2.2
baz=27
KSCO Kaye Shedlock' 26.60 343 ⇓P P 20 22 43.3 +2.6
baz=27
R24A Sanders Place, 26.68 338 ⇓P P 20 22 44.1 +2.6
baz=27,SNR=6.5
Z14A Wintersburg 26.68 321 ⇑P P 20 22 43.2 +1.9
baz=27
U19A Dine' College, 26.77 330 ⇓P P 20 22 43.9 +1.4
baz=27
Q26A Hugo 26.78 342 ⇑P P 20 22 44.4 +2.0
baz=27
113A Mohawk Valley, 26.80 319 ⇓P P 20 22 43.9 +1.5
baz=27
R23A Moffat 26.91 337 ⇓P P 20 22 46.2 +2.6
baz=27,SNR=7.8
S22A 4UR Ranch, Cre 26.91 335 ⇑P P 20 22 45.8 +2.1
baz=27
P27A Ficken Ranch, 27.09 344 ⇑P P 20 22 46.9 +1.8
baz=27
Y14A Wickenburg 27.11 321 ⇑P P 20 22 46.5 +1.3
baz=27
T19A Beclabito 27.11 331 ⇑P P 20 22 46.6 +1.2
baz=27
MVCO Mesa Verde 27.18 332 eP P 20 22 46.7 +0.6
8.4nm,1.0s
MVCO Mesa Verde 27.18 332 ⇓P P 20 22 47.6 +1.5
baz=27
S21A Coal Bank Pass 27.24 334 ⇑P P 20 22 48.5 +1.8
baz=27
WUAZ Wupatki 27.29 326 ⇑P P 20 22 48.6 +1.6
baz=27
R22A Saguache, Gunn 27.30 336 ⇓P P 20 22 49.5 +2.2
baz=27
P25A Willow Gulch B 27.52 341 ⇑P P 20 22 51.3 +2.2
baz=28
S20A Disappointment 27.63 333 ⇑P P 20 22 52.3 +2.2
baz=28
GLA Glamis 27.67 318 ⇓P P 20 22 51.9 +1.6
baz=28
T18A Mexican Hat 27.77 330 ⇑P P 20 22 53.2 +2.0
baz=28
Q22A Crested Butte, 27.91 336 ⇓P P 20 22 54.9 +2.3
baz=28
S19A Harvey Farm, M 27.91 332 ⇓P P 20 22 54.9 +2.3
baz=28
Y12C Blythe 27.92 319 ⇑P P 20 22 54.3 +1.9
baz=28
O26A Horse Wrangler 27.93 343 ⇓P P 20 22 55.3 +2.6
baz=28
P23A Jefferson 27.95 338 ⇓P P 20 22 55.6 +2.4
baz=28
PV01 Paradox Valley 27.98 333 eP P 20 22 55.4 +2.2
712nm,1.1s
PDMCI Parker Dam,Lak 28.04 321 ⇓P P 20 22 55.5 +2.0
baz=28
SCIA State Center 28.09 360 P P 20 22 56.9 +3.0
99nm,0.8s
SCIA e 20 23 09.3
T17A Navajo Res., N 28.12 329 ⇓P P 20 22 56.0 +1.6
baz=28
Q21A Lamborn Mesa, 28.15 335 ⇓P P 20 22 57.0 +2.4
baz=28
ISCO Idaho Springs 28.25 339 ⇓P P 20 22 57.4 +1.6
baz=28
S18A Hurst Farm, Bl 28.27 331 ⇓P P 20 22 57.2 +1.3
baz=28
W13A Hualapai Mount 28.43 322 ⇑P P 20 22 58.9 +1.6
baz=28
BC3 Big Chuckawall 28.46 318 ⇓P P 20 22 59.2 +1.8
baz=28,SNR=13
U15A North Rim 28.46 326 ⇓P P 20 22 59.7 +2.1
baz=28,SNR=8.7
IRM Iron Mountain 28.58 319 ⇓P P 20 23 00.1 +1.6
baz=29,SNR=6.2
S17A Black Ridge (B 28.61 330 ⇑P P 20 23 00.3 +1.6
baz=29
MONP Monument Peak 28.64 316 ⇑P P 20 23 00.4 +1.3
baz=29
R18A Canyonlands Na 28.78 332 ⇑P P 20 23 02.1 +1.8
baz=29
O22A Kremmling 28.91 338 ⇑P P 20 23 03.8 +2.2
baz=29
BELC Belle Mtn. Jos 29.03 318 ⇑P P 20 23 04.4 +1.9
baz=29
S16A Weppner Ranch, 29.08 329 ⇑P P 20 23 05.2 +2.2
baz=29
GMRC Granite Mounta 29.30 320 ⇓P P 20 23 06.8 +1.9
baz=29
N22A Wattenberg Ran 29.44 339 ⇓P P 20 23 08.0 +1.8
baz=30
R16A Teasdale 29.45 330 ⇑P P 20 23 08.5 +2.2
baz=30,SNR=5.1
Q18A Rafter H Ranch 29.47 332 ⇓P P 20 23 08.1 +1.8
baz=30
SRU San Rafael 29.65 332 ⇑P P 20 23 09.8 +1.7
baz=30
HEC Hector,Ludlow 29.76 319 ⇑P P 20 23 10.8 +1.9
baz=30
R15A Junction 29.80 328 ⇓P P 20 23 11.5 +2.2
baz=30
Q16A Castle Valley 29.80 331 ⇓P P 20 23 11.5 +2.2
baz=30
L25A Engebretsen Ra 29.89 344 ⇑P P 20 23 12.2 +2.2
baz=30
TUQ Turquoise Moun 29.89 320 ⇑P P 20 23 11.5 +1.4
baz=30
SSPA Standing Stone 29.91 23 eP P 20 23 08.3 -1.8
4.8nm,0.7s
P18A Preston Nutter 29.95 333 ⇓P P 20 23 13.0 +2.3
baz=30
M22A Cedar Creek Ra 30.02 339 ⇑P P 20 23 13.8 +2.5
baz=30
P17A Butcher Ranch, 30.04 332 ⇓P P 20 23 13.6 +2.1
baz=30,SNR=6.5
ECSD EROS Data Cent 30.08 355 eP P 20 23 10.6 -0.9
6.5nm,0.7s
ARUT Antelope Range 30.09 327 eP P 20 23 14.4 +2.6
14nm,1.0s
N20A Spence Gulch, 30.13 337 ⇑P P 20 23 14.7 +2.4
baz=30
L23A Garrett 30.37 341 ⇓P P 20 23 16.7 +2.3
baz=30
O18A Roosevelt 30.37 334 ⇑P P 20 23 16.0 +1.7
baz=30
M21A Separation Pea 30.47 338 ⇓P P 20 23 18.0 +2.7
baz=31,SNR=5.7
O17A Ibson Place 30.63 333 ⇓P P 20 23 18.5 +1.9
baz=31,SNR=6.8
R13A O'Grain Ranch, 30.66 326 ⇓P P 20 23 19.3 +2.3
baz=31,SNR=10.0
M20A Sweetwater, Wa 30.67 337 ⇓P P 20 23 19.3 +2.3
baz=31
L21A Rawlins 30.79 339 ⇓P P 20 23 20.2 +2.1
baz=31
EDW2 Edwards Air Fo 30.87 317 ⇓P P 20 23 19.5 +0.9
baz=31
K23A Bowen Ranch, D 30.92 342 ⇓P P 20 23 21.9 +2.7
baz=31
LRMC Laurel Mountai 31.03 319 ⇓P P 20 23 22.1 +1.9
baz=31
DAU Daniels Canyon 31.04 332 eP P 20 23 21.6 +1.2
5.8nm,0.9s
MPMC Manual Prospec 31.27 320 ⇑P P 20 23 23.8 +1.4
baz=31,SNR=8.0
N17A Moffit Pass 31.28 333 ⇑P P 20 23 24.2 +1.7
baz=31
K21A Alcova 31.34 340 ⇑P P 20 23 24.4 +1.6
baz=31
O15A The Old Anders 31.49 331 ⇑P P 20 23 25.9 +1.7
baz=32
M17A Scullys Gap (B 31.64 334 ⇑P P 20 23 27.3 +1.7
baz=32
I24A Kuemmerle Ranc 31.65 344 ⇑P P 20 23 27.5 +1.9
baz=32
R11A Troy Canyon, C 31.66 325 ⇓P P 20 23 27.5 +1.7
baz=32,SNR=5.3
RSSD Black Hills 31.74 345 eP P 20 23 27.8 +1.4
2.8nm,0.8s
L18A Fontenelle, Gr 31.76 335 ⇓P P 20 23 27.7 +1.1
baz=32
J22A Midwest 31.78 341 ⇓P P 20 23 28.2 +1.4
baz=32
N15A Stansbury Isla 32.00 331 ⇑P P 20 23 29.8 +1.1
baz=32
J21A Lysite 32.04 340 ⇑P P 20 23 30.3 +1.3
baz=32
K19A Absolon Red Bu 32.07 338 ⇓P P 20 23 30.6 +1.2
baz=32
HWUT Hardware Ranch 32.14 333 eP P 20 23 31.2 +1.3
3.6nm,0.9s
I22A 9 Mile Ranch, 32.22 342 ⇓P P 20 23 31.4 +0.8
baz=32
L17A Cokeville 32.25 335 ⇓P P 20 23 31.8 +0.8
baz=32
J20A Shoshoni 32.26 339 ⇓P P 20 23 31.6 +0.7
baz=32
PDAR Pinedale Array 32.29 337 P P 20 23 31.3 0.0
PDAR Pinedale Array 32.29 337 P P 20 23 31.3 0.0
3.0nm,1.0s,baz=142,slow=8.3,SNR=10
BW06 Boulder Array 32.29 337 ⇑P P 20 23 32.4 +1.1
baz=32
K18A Toltan Ranch, 32.36 336 ⇓P P 20 23 33.9 +2.0
baz=32,SNR=8.0
I21A Big Trails, Te 32.40 341 ⇓P P 20 23 33.4 +1.3
baz=32
L16A Fish Haven 32.41 334 ⇑P P 20 23 33.5 +1.2
baz=32,SNR=12
M15A Larsen Ranch, 32.42 332 ⇑P P 20 23 33.6 +1.3
baz=32
H24A Dirks Ranch, A 32.46 345 ⇑P P 20 23 34.0 +1.4
baz=33,SNR=5.3
J19A Crowheart 32.53 338 ⇑P P 20 23 34.4 +1.1
baz=33
I20A Worland 32.80 340 ⇓P P 20 23 37.0 +1.4
baz=33
K17A Gardner Place, 32.81 335 ⇓P P 20 23 36.9 +1.1
baz=33
H22A Clearmont 32.82 342 ⇑P P 20 23 37.2 +1.5
baz=33
L15A Malad City 32.82 333 ⇓P P 20 23 37.0 +1.2
baz=33
J18A Kendall Valley 32.84 337 ⇓P P 20 23 36.9 +0.7
baz=33
H21A Big Horn, Sher 33.05 341 ⇓P P 20 23 39.2 +1.3
baz=33
G23A Biddle 33.10 344 ⇓P P 20 23 39.5 +1.3
baz=33
SADO Sadowa 33.13 18 LR LR 20 36 46.6
comp=Z,129nm,20.5s,baz=95,slow=36
K16A Soda Springs 33.15 335 ⇑P P 20 23 40.1 +1.3
baz=33
I19A Meeteetse 33.18 339 ⇑P P 20 23 40.7 +1.7
baz=33,SNR=12
I18A Diamond G Ranc 33.18 337 ⇑P P 20 23 40.6 +1.5
baz=33
L14A Malta 33.23 332 ⇑P P 20 23 41.1 +1.6
baz=33,SNR=9.4
H20A Greybull 33.23 340 ⇑P P 20 23 40.8 +1.4
baz=33
J17A Brown Place, J 33.24 336 ⇑P P 20 23 41.3 +1.8
baz=33,SNR=15
NVAR Mina Array Bea 33.29 322 P P 20 23 42.5 +2.4
NVAR PcP PcP 20 26 23.2 +1.4
NVAR Mina Array Bea 33.29 322 P P 20 23 42.5 +2.4
8.1nm,0.8s,baz=140,slow=8.5,SNR=47
NVAR PcP PcP 20 26 23.2 +1.4
1.2nm,0.7s,baz=145,slow=4.2,SNR=5.5
REDW Red Top Meadow 33.29 336 eP P 20 23 41.4 +1.3
21nm,1.2s
REDW e 20 23 51.5
SNOW Snow King Moun 33.34 336 P P 20 23 42.0 +1.5
22nm,0.6s
G22A Birney 33.37 343 ⇓P P 20 23 41.9 +1.4
baz=34
LOHW Long Hollow 33.41 337 eP P 20 23 41.8 +0.7
4.5nm,0.7s
K15A Arbon 33.43 333 ⇑P P 20 23 42.6 +1.4
baz=34
TPAW Teton Pass 33.44 336 eP P 20 23 42.7 +1.3
14nm,1.3s
RRI2 Red Ridge 33.47 335 eP P 20 23 42.3 +0.7
4.0nm,0.8s
J16A Bone 33.53 335 ⇓P P 20 23 43.8 +1.7
baz=34
MOOW Moose Ponds 33.58 336 eP P 20 23 43.0 +0.4
4.6nm,1.0s
F23A Volborg 33.59 344 ⇑P P 20 23 44.1 +1.7
baz=34
K14A Jones Ranch, D 33.61 333 ⇑P P 20 23 43.9 +1.2
baz=34
G21A Lodge Grass 33.65 342 ⇑P P 20 23 44.3 +1.4
baz=34
I17A Pilgrim Ck. 33.66 337 ⇓P P 20 23 45.0 +1.8
baz=34,SNR=5.2
H19A Powell 33.73 339 ⇑P P 20 23 45.8 +2.1
baz=34,SNR=8.1
IMW Indian Meadow 33.78 336 eP P 20 23 44.9 +0.6
4.4nm,0.6s
F22A Rosebud 33.87 343 ⇑P P 20 23 46.5 +1.6
baz=34
G20A Bridger 33.96 341 ⇑P P 20 23 46.3 +0.6
baz=34
H18A Shoshone NF, C 33.97 339 ⇓P P 20 23 47.1 +1.2
baz=34,SNR=17
J15A Blackfoot 33.97 334 ⇑P P 20 23 47.0 +1.1
baz=34
I16A Newdale 33.98 336 ⇓P P 20 23 47.1 +1.1
baz=34
H17A Grant Village 34.06 337 ⇑P P 20 23 48.7 +2.0
baz=34
E24A Baker 34.10 346 ⇓P P 20 23 48.6 +1.8
baz=34
LKWY Lake 34.14 338 eP P 20 23 49.8 +2.3
14nm,1.2s
RLMT Red Lodge 34.22 339 ⇑P P 20 23 49.2 +1.1
baz=34
E23A Ismay 34.28 345 ⇓P P 20 23 49.7 +1.3
baz=34
J14A Carey 34.38 333 ⇓P P 20 23 50.6 +1.2
baz=34
E22A Miles City 34.39 344 ⇑P P 20 23 50.5 +1.1
baz=34
F20A Billings 34.45 341 ⇑P P 20 23 50.9 +0.9
baz=35
MDND Maddock 34.47 352 ⇑P P 20 23 50.7 +0.7
baz=35,SNR=9.8
G18A Lazy EL Ranch, 34.49 339 ⇓P P 20 23 51.4 +1.0
baz=35,SNR=7.3
H16A Russell Place, 34.58 337 ⇑P P 20 23 52.4 +1.3
baz=35
D24A Glendive 34.62 346 ⇓P P 20 23 53.1 +1.7
baz=35
J13A Cove Ranch, Pi 34.73 332 ⇑P P 20 23 53.9 +1.5
baz=35,SNR=5.6
F19A Roth Farm, Mol 34.76 340 ⇓P P 20 23 53.4 +0.8
baz=35
I14A Mackay 34.83 334 ⇑P P 20 23 53.8 +0.4
baz=35
D23A Lindsay 34.89 345 ⇓P P 20 23 54.8 +1.2
baz=35
GCMT Greycliff 34.94 340 eP P 20 23 54.4 +0.2
4.9nm,0.8s
HLID Hailey 34.97 332 eP P 20 23 56.0 +1.5
4.2nm,0.8s
HLID Hailey 34.97 332 ⇓P P 20 23 56.2 +1.7
baz=35,SNR=10
C24A Savage 35.04 346 ⇓P P 20 23 56.9 +2.0
baz=35
H15A Lima 35.06 335 ⇓P P 20 23 56.6 +1.3
baz=35
F18A Big Timber 35.06 340 ⇓P P 20 23 56.5 +1.4
baz=35,SNR=5.7
E20A Meyer Farm, Mu 35.08 342 ⇓P P 20 23 56.8 +1.5
baz=35
I13A Wildhorse Cree 35.11 333 ⇓P P 20 23 57.3 +1.4
baz=35
D22A Cohagen 35.11 344 ⇓P P 20 23 57.3 +1.8
baz=35,SNR=16
G16A Moss Hill, Enn 35.23 337 ⇓P P 20 23 59.2 +2.4
baz=35,SNR=7.3
E19A Rath Farm, Rou 35.24 341 ⇓P P 20 23 58.6 +1.8
baz=35
MCMT McKenzie Canyo 35.31 335 eP P 20 23 59.7 +2.2
9.4nm,1.2s
H14A Leadore 35.35 335 ⇑P P 20 24 00.1 +2.3
baz=35,SNR=5.4
F17A Fitzpatrick Pl 35.38 339 ⇓P P 20 24 00.3 +2.3
baz=36,SNR=19
G15A Dillon 35.45 336 ⇑P P 20 24 00.8 +2.1
baz=36,SNR=9.2
C23A Lambert 35.47 346 ⇓P P 20 24 00.4 +1.8
baz=36
I12A Atlanta 35.47 332 ⇑P P 20 24 00.7 +1.8
baz=36,SNR=14
MFID Camas Ranch 35.50 331 ⇓P P 20 24 00.7 +1.6
baz=36
BOZ Bozeman (W) 35.52 337 ⇑P P 20 24 00.8 +1.6
baz=36
C22A Vida 35.59 345 ⇓P P 20 24 01.3 +1.7
baz=36,SNR=9.0
D20A Manuel Ranch, 35.61 342 ⇑P P 20 24 01.1 +1.3
baz=36
F16A Kennard Place, 35.63 337 ⇑P P 20 24 01.9 +1.8
baz=36
DLMT Dillon 35.65 336 eP P 20 24 01.9 +1.5
12nm,1.1s
H13A Challis 35.69 334 ⇑P P 20 24 02.2 +1.6
baz=36,SNR=12
E18A Harlowton 35.70 340 ⇑P P 20 24 02.3 +1.6
baz=36
D19A Cripps Ranch, 35.90 341 ⇓P P 20 24 04.0 +1.6
baz=36
G14A Jackson 35.90 335 ⇑P P 20 24 03.9 +1.3
baz=36
E17A Martinsdale 35.94 339 ⇑P P 20 24 03.9 +1.1
baz=36
H12A Diamond D Ranc 35.94 333 ⇓P P 20 24 04.8 +2.0
baz=36,SNR=14
LRM Limekiln Ridge 35.98 337 eP P 20 24 03.8 +0.6
65nm,1.1s
C21A Desert Coulee 35.98 344 ⇓P P 20 24 04.5 +1.5
baz=36
F15A Butte 36.01 337 ⇓P P 20 24 04.4 +0.9
baz=36
B23A Brockton 36.05 346 ⇑P P 20 24 05.6 +2.1
baz=36
G13A Cobalt 36.10 334 ⇑P P 20 24 05.8 +1.6
baz=36
C20A Veseth Ranch, 36.13 343 ⇑P P 20 24 06.0 +1.7
baz=36
B22A Reddig Ranch S 36.13 345 ⇓P P 20 24 06.1 +1.8
baz=36

D18A	Linhart Farms, baz=36	36.22	341	⇓P		P	20 24 06.4	+1.3
E16A	East Helena baz=36,SNR=8.4	36.29	338	⇑P		P	20 24 07.2	+1.4
F14A	Wisdom baz=36	36.33	336	⇓P		P	20 24 08.3	+2.1
C19A	Slack Wire Ran baz=37	36.46	342	⇓P		P	20 24 09.0	+1.9
D17A	Six Diamond Ra baz=37,SNR=8.0	36.47	340	⇑P		P	20 24 08.8	+1.4
A23A	Redstone baz=37	36.49	347	⇑P		P	20 24 09.6	+2.3
ULM	Lac du Bonnet	36.51	357	P		P	20 24 06.1	-1.3
ULM				pP		pP	20 24 16.5	-1.2
ULM				PcP		PcP	20 26 31.2	+0.6
ULM	Lac du Bonnet 6.8nm,0.6s,baz=179,slow=10,SNR=15	36.51	357	P		P	20 24 06.1	-1.3
ULM				pP		pP	20 24 16.5	-1.2
ULM	9.1nm,0.7s,baz=203,slow=7.6,SNR=10			PcP		PcP	20 26 31.2	+0.6
ULM	1.5nm,0.8s,baz=211,slow=1.7,SNR=3.9			LR		LR	20 42 57.4	
E15A	comp=Z,64nm,18.2s,baz=40,slow=42 Deer Lodge baz=37	36.55	337	⇓P		P	20 24 09.0	+1.0
G12A	Big Creek, Yel baz=37	36.60	333	⇓P		P	20 24 09.5	+1.0
D16A	Dana Ranch, Ca baz=37	36.67	339	⇓P		P	20 24 10.3	+1.3
F13A	Darby baz=37,SNR=5.8	36.70	335	⇓P		P	20 24 10.6	+1.2
A22A	Carney Farms, baz=37	36.76	346	⇓P		P	20 24 11.0	+1.4
C17A	Wharram Farm, baz=37,SNR=9.1	36.92	340	⇑P		P	20 24 12.3	+1.3
EGMT	Eagleton baz=37,SNR=5.7	36.93	341	⇓P		P	20 24 12.6	+1.5
A21A	Bergtoll Ranch baz=37	37.01	345	⇓P		P	20 24 12.9	+1.1
D15A	Lincoln baz=37	37.03	338	⇓P		P	20 24 13.1	+1.0
F12A	Elk City baz=37,SNR=15	37.06	334	⇓P		P	20 24 13.5	+1.1
B19A	Brinkman Farms baz=37,SNR=7.2	37.07	342	⇓P		P	20 24 13.6	+1.3
A20A	Cobblestone Ra baz=37,SNR=5.0	37.17	344	⇑P		P	20 24 14.2	+1.1
E13A	Victor baz=37,SNR=5.6	37.17	336	⇓P		P	20 24 14.2	+0.9
SAML	Samuel	37.19	126	*e*P		P	20 24 10.2	-3.5
B18A	Beardsley Farm baz=37	37.27	341	⇑P		P	20 24 15.4	+1.4
MSO	Missoula baz=38	37.39	336	⇑P		P	20 24 15.7	+0.6
C16A	Fuhringer Ranc baz=38,SNR=7.2	37.40	339	⇑P		P	20 24 16.4	+1.2
D14A	Greenough baz=38	37.43	337	⇑P		P	20 24 15.9	+0.5
A19A	Klindworth Far baz=38,SNR=6.6	37.44	343	⇑P		P	20 24 16.6	+1.2
B17A	L&G Farms, Che baz=38	37.50	340	⇑P		P	20 24 16.9	+0.9
C15A	Salmond Ranch, baz=38	37.68	338	⇑P		P	20 24 19.0	+1.4
E12A	Beaver Dam Sad baz=38,SNR=5.0	37.72	334	⇓P		P	20 24 18.4	+0.5
A18A	Metzger Ranch, baz=38,SNR=5.1	37.76	342	⇓P		P	20 24 19.0	+0.9
D13A	Huson baz=38	37.81	336	⇑P		P	20 24 19.3	+0.6
B16A	M & M Farms, S baz=38	37.91	340	⇑P		P	20 24 20.2	+0.8
SWMT	Swartz Lake 4.8nm,1.0s	37.97	337	*e*P		P	20 24 20.8	+0.8
YBH	Yreka Blue Hor comp=Z,104nm,19.1s,baz=142,slow=41	37.99	323	LR		LR	20 43 19.7	
A17A	Triple J Farms baz=38	38.04	341	⇓P		P	20 24 21.6	+1.1
C14A	Swan Lake baz=38	38.09	337	⇓P		P	20 24 21.8	+0.8
B15A	Bradely Ranch, baz=38	38.12	339	⇓P		P	20 24 22.1	+0.8
D12A	Red Ives Fores baz=38	38.14	335	⇓P		P	20 24 22.2	+0.8
JTMT	Jette 2.1nm,0.7s	38.28	337	*e*P		P	20 24 23.3	+0.7
C13A	Hot Springs baz=38	38.34	336	⇓P		P	20 24 24.0	+1.0
A16A	West Butte Ran baz=38	38.34	340	⇓P		P	20 24 24.1	+1.0
LPAZ	La Paz	38.64	140	P		P	20 24 26.4	-0.1
LPAZ	La Paz 2.0nm,0.7s,baz=332,slow=9.6,SNR=8.0	38.64	140	P		P	20 24 26.4	-0.1
C12B	Naegeli Ranch, baz=39	38.72	336	⇑P		P	20 24 27.1	+0.9
A15A	Johnson Ranch, baz=39	38.74	339	⇑P		P	20 24 27.7	+1.2
B13A	Whitefish baz=39	38.87	337	⇑P		P	20 24 28.6	+1.2
A14A	Double T Ranch baz=39	38.98	339	⇑P		P	20 24 29.7	+1.1
C11A	Tepee Creek (N baz=39	39.14	335	⇑P		P	20 24 30.9	+1.2
A13A	Flathead Natio baz=39	39.31	338	⇓P		P	20 24 32.7	+1.5
NEW	Newport baz=40	39.83	335	⇓P		P	20 24 36.4	+0.9
LVC	Limon Verde	43.14	147	P		P	20 25 04.0	+0.8
SCHQ	Schefferville	45.84	21	P		P	20 25 22.5	-1.5
SCHQ	Schefferville 4.3nm,0.7s,baz=234,slow=8.2,SNR=10	45.84	21	P		P	20 25 22.5	-1.5
SCHQ				LR		LR	20 44 49.4	
LCO	comp=Z,158nm,18.3s,baz=220,slow=36 Las Campanas	47.63	153	P		P	20 25 40.7	+2.0
YKA	Yellowknife Ar	51.09	347	P		P	20 26 04.3	+0.1
YKA				pP		pP	20 26 15.7	+0.7
YKA				PcP		PcP	20 27 19.6	0.0
YKA	Yellowknife Ar 2.7nm,0.5s,baz=150,slow=7.5,SNR=40	51.09	347	P		P	20 26 04.3	+0.1
YKA				pP		pP	20 26 15.6	+0.7
YKA	3.4nm,0.6s,baz=151,slow=7.4,SNR=11			PcP		PcP	20 27 19.6	0.0
CPUP	1.5nm,0.7s,baz=148,slow=4.0,SNR=8.4 Villa Florida	52.80	139	P		P	20 26 15.6	-2.0
CPUP	Villa Florida 0.5nm,0.4s,baz=312,slow=10.0,SNR=3.6	52.80	139	P		P	20 26 15.6	-2.0
BDFB	Brasilia	53.20	122	P		P	20 26 18.8	-2.0
BDFB	Brasilia 2.8nm,0.7s,baz=312,slow=6.3,SNR=3.5	53.20	122	P		P	20 26 18.8	-2.0
SFJD	Kangerlussuaq comp=Z,98nm,18.6s,baz=336,slow=39	60.09	18	LR		LR	20 56 27.4	
INK	Inuvik 13nm,0.9s	60.44	344	*e*P		P	20 27 12.0	+0.8
ILAR	Eielson Array	62.72	337	P		P	20 27 27.1	+0.4
ILAR	Eielson Array 6.8nm,1.1s,baz=175,slow=4.5,SNR=30	62.72	337	P		P	20 27 27.1	+0.4
SUMG	Summit	66.77	15	P		P	20 28 02.9	+9.4
DAG	Danmarks Havn 59nm,0.9s	73.17	13	*i* P		P	20 28 32.4	+0.2
DAG				*i*			20 28 42.1	
EVOP	Sao Brissos 4.2nm,0.7s	77.64	53	*e*P		P	20 28 59.7	+1.1
EVO	Evora 4.2nm,0.7s	77.73	53	*e*P		P	20 28 59.7	+0.6
ESK	Eskdalemuir 27nm,1.3s	78.75	36	*e*P		P	20 29 04.5	+0.1
ESDC	Sonseca Array	80.66	51	P		P	20 29 15.4	+0.3
ESDC	Sonseca Array 1.2nm,0.7s,baz=285,slow=5.6,SNR=11	80.66	51	P		P	20 29 15.4	+0.3
GRR	Gorron 17nm,0.9s	81.30	42	*e*P		P	20 29 18.7	+0.4
GRR	Gorron 17nm,0.9s	81.30	42	*e*P		P	20 29 18.7	+0.4
FLN	La Foliniere	81.48	42	*e*P		P	20 29 19.8	+0.6
FLN	La Foliniere	81.48	42	*e*P		P	20 29 19.8	+0.6
LDF	La Druitiere	81.74	42	*e*P		P	20 29 21.7	+1.1
LDF	La Druitiere	81.74	42	*e*P		P	20 29 21.7	+1.1
SJPF	Ste Jean	82.06	48	*e*P		P	20 29 23.9	+1.5
SJPF	Ste Jean	82.06	48	*e*P		P	20 29 23.9	+1.5
MFF	Saint Martin d	82.12	44	*e*P		P	20 29 22.9	+0.2
MFF	Saint Martin d	82.12	44	*e*P		P	20 29 22.9	+0.2
ETSF	Etsaut 12nm,1.0s	82.58	48	*e*P		P	20 29 26.6	+1.4
ETSF	Etsaut 12nm,1.0s	82.58	48	*e*P		P	20 29 26.6	+1.4
LFF	La Frestale	83.07	46	*e*P		P	20 29 28.2	+0.6
LFF	La Frestale	83.07	46	*e*P		P	20 29 28.2	+0.6
EPF	Esparros 11nm,1.0s	83.19	47	*e*P		P	20 29 29.3	+0.9
EPF	Esparros 11nm,1.0s	83.19	47	*e*P		P	20 29 29.3	+0.9
RJF	Les Rejaudoux	83.53	45	*e*P		P	20 29 30.9	+0.9
RJF	Les Rejaudoux	83.53	45	*e*P		P	20 29 30.9	+0.9
CAF	Calviac	83.99	45	*e*P		P	20 29 33.3	+0.9
CAF	Calviac	83.99	45	*e*P		P	20 29 33.3	+0.9
BGF	Bois d'Agland	84.14	44	*e*P		P	20 29 33.3	+0.1
BGF	Bois d'Agland	84.14	44	*e*P		P	20 29 33.3	+0.1
SSF	Saint Saulge 9.4nm,1.0s	84.46	43	*e*P		P	20 29 34.8	0.0
SSF	Saint Saulge 9.4nm,1.0s	84.46	43	*e*P		P	20 29 34.8	0.0
LOR	Lormes	84.65	43	*e*P		P	20 29 36.2	+0.5
LOR	Lormes	84.65	43	*e*P		P	20 29 36.2	+0.5
NB2	NORSAR Subarra comp=Z,2.2nm,0.7s,baz=290,slow=5.1	84.86	28	P		P	20 29 38.5	+2.0
NOA	NORSAR Array B	84.86	28	P		P	20 29 37.8	+1.2
NOA				pP		pP	20 29 49.1	+1.3
NOA	NORSAR Array B comp=Z,6.3nm,0.9s,baz=291,slow=4.8,SNR=9.2	84.86	28	P		P	20 29 37.8	+1.2
NOA				pP		pP	20 29 49.1	+1.3
NOA	comp=Z,4.7nm,0.9s,baz=291,slow=4.9,SNR=5.7			LR		LR	21 11 34.1	
MEZF	comp=Z,61nm,18.1s,baz=340,slow=39 Maizieres J'vi	85.11	41	*e*P		P	20 29 38.7	+0.7
MEZF	Maizieres J'vi	85.11	41	*e*P		P	20 29 38.7	+0.7
SFTF	Sexfontaines	85.18	42	*e*P		P	20 29 39.2	+0.9
SFTF	Sexfontaines	85.18	42	*e*P		P	20 29 39.2	+0.9
PAGF	Fort de Pagny	85.53	41	*e*P		P	20 29 41.0	+0.9
PAGF	Fort de Pagny	85.53	41	*e*P		P	20 29 41.0	+0.9
HAU	Haudompre comp=Z,8.6nm,0.7s	86.08	42	*e*P		P	20 29 43.7	+0.9
HAU	Haudompre comp=Z,8.6nm,0.7s	86.08	42	*e*P		P	20 29 43.7	+0.9
HINF	Hinteralfeld	86.46	42	*e*P		P	20 29 45.3	+0.6
HINF	Hinteralfeld	86.46	42	*e*P		P	20 29 45.3	+0.6
CDF	Champ du Feu comp=Z,9.5nm,1.1s	86.56	41	*e*P		P	20 29 45.9	+0.6
CDF	Champ du Feu comp=Z,9.5nm,1.1s	86.56	41	*e*P		P	20 29 45.9	+0.6
DBIC	Dimbokro comp=Z,32nm,21.2s,baz=269,slow=32	86.66	84	LR		LR	21 03 12.4	
ARCES	ARCESS Array B	86.72	18	P		P	20 29 44.5	-1.0
ARCES	ARCESS Array B comp=Z,1.8nm,0.5s,baz=298,slow=5.2,SNR=9.2	86.72	18	P		P	20 29 44.5	-1.0
ARCES				LR		LR	21 06 17.2	
LPL	comp=Z,87nm,20.5s,baz=228,slow=34 La Plagne comp=Z,7.1nm,0.9s	87.03	44	*e*P		P	20 29 49.3	+1.5
LPL	La Plagne comp=Z,7.1nm,0.9s	87.03	44	*e*P		P	20 29 49.3	+1.5
GERES	GERESS Array B	90.45	39	P		P	20 30 04.4	+0.6
GERES	GERESS Array B comp=Z,0.7nm,0.9s,baz=305,slow=4.7,SNR=5.5	90.45	39	P		P	20 30 04.4	+0.6
FINES	FINESS Array B	91.17	25	P		P	20 30 07.0	+0.3
FINES	FINESS Array B comp=Z,3.3nm,1.0s,baz=321,slow=2.7,SNR=6.8	91.17	25	P		P	20 30 07.0	+0.3
TORD	Torodi Ar. Bea comp=Z,50nm,19.1s,baz=305,slow=32	91.40	76	LR		LR	21 06 19.8	
KEST	Kesra	91.85	53	P		P	20 30 11.8	+1.3
KEST	Kesra comp=Z,0.4nm,0.5s,baz=272,slow=7.2,SNR=5.5	91.85	53	P		P	20 30 11.8	+1.3
SONM	Songino Array	116.33	346	PKP		PKPdf	20 35 45.6	-0.1
SONM	Songino Array comp=Z,0.3nm,0.7s,baz=90,slow=0.6,SNR=2.6	116.33	346	PKP		PKPdf	20 35 45.6	-0.1
MKAR	Makanchi Array	119.63	4	PKP		PKPdf	20 35 51.0	-0.9
MKAR	Makanchi Array comp=Z,0.2nm,0.7s,baz=299,slow=2.4,SNR=4.0	119.63	4	PKP		PKPdf	20 35 51.0	-0.9
HHC	Hu-ho-hao-te	121.13	338	*e*PKP		PKPdf	20 35 54.0	-1.1
HHC				PP		PP	20 37 27.3	+3.2
HHC				PKS		PKSdf	20 39 29.8	-2.1
HHC				SKS		SKSdf	20 43 01.4	-3.3
HHC				SKKS		SKKSac	20 44 14.0	-8.3
HHC	comp=Z,46nm,6.5s			AMB		AMB		
HHC	comp=N,290nm,16.6s			LR		LR		
HHC	comp=E,380nm,15.5s			LR		LR		
HHC	comp=Z,240nm,15.5s			LR		LR		
WMQ	Urumqi	122.74	359	*e*PKP		PKPdf	20 35 57.0	-1.1
KSH	Kashi	126.06	11	*e*PKP		PKPdf	20 36 04.0	-0.6
KSH				sPKP			20 36 18.0	
KSH				PP		PP	20 38 01.1	+4.1
KSH				PKS		PKSdf	20 39 39.1	-2.3
KSH				SKS		SKSdf	20 43 10.8	-3.3
KSH				SKKS		SKKSac	20 44 48.9	-5.1
KSH				AMB		AMB		
KSH	comp=Z,160nm,4.4s			LR		LR		
KSH	comp=N,72nm,4.3s			LR		LR		
KSH	comp=E,57nm,4.5s			LR		LR		
KSH	comp=Z,250nm,5.8s			PKP		PKPdf	20 36 05.5	-1.0
STKA	Stephens Creek	127.06	240	PKP		PKPdf	20 36 05.5	-1.0
STKA	Stephens Creek comp=Z,1.4nm,0.7s,baz=152,slow=14,SNR=3.6	127.06	240	PKP		PKPdf	20 36 05.5	-1.0
WRA	Warramunga Arr	134.37	255	PKP		PKPdf	20 36 21.0	+0.3
WRA	Warramunga Arr comp=Z,0.9nm,0.7s,baz=57,slow=0.6,SNR=14	134.37	255	PKP		PKPdf	20 36 21.0	+0.3
ASAR	Alice Springs	134.64	250	PKP		PKPdf	20 36 21.1	0.0
ASAR				pPKP		pPKPdf	20 36 32.6	-0.2
ASAR	Alice Springs comp=Z,0.3nm,0.7s,baz=129,slow=1.3,SNR=3.2	134.64	250	PKP		PKPdf	20 36 21.1	0.0
ASAR				pPKP		pPKPdf	20 36 32.6	-0.2
CMAR	comp=Z,1.0nm,0.9s,baz=213,slow=5.7,SNR=6.0 Chiang Mai	145.60	340	*e*PKPdf		PKPdf	20 36 40.8	-0.3
CHTO				*e*			20 36 51.7	
CMAR	Chiang Mai Arr	145.93	339	PKPbc		PKPab	20 36 43.0	+0.3
CMAR				pPKPbc		pPKPbc	20 36 53.9	+0.1
CMAR	Chiang Mai Arr comp=Z,9.5nm,0.9s,baz=345,slow=4.2,SNR=53	145.93	339	PKPbc		PKPab	20 36 43.0	+0.3
CMAR				pPKPbc		pPKPbc	20 36 53.9	+0.1
HYB	comp=Z,8.6nm,1.0s,baz=347,slow=5.0,SNR=9.6 Hyderabad	147.97	15	*i* PKP		PKPdf	20 36 46.0	+0.9

IDC 21 20:37:08.5±2.1, 3°49N×126°22E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/21, mbtmp3.5/4, Error ellipse: s-maj=191.0km s-min=26.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
WRA	Warramunga Arr	24.61	161	P	P	20 42 29.8		-0.9
	1.5nm,0.7s,baz=340,slow=11,SNR=15							
ASAR	Alice Springs	28.01	165	P	P	20 43 02.8		+1.4
	0.2nm,0.5s,baz=346,slow=10,SNR=2.8							
STKA	Stephens Creek	38.09	159	P	P	20 44 28.6		-0.5
	1.8nm,0.8s,baz=348,slow=9.3,SNR=4.3							
MKAR	Makanchi Array	57.47	326	P	P	20 46 59.1		-0.3
	0.1nm,0.5s,baz=133,slow=6.8,SNR=4.0							

IDC 21 20:52:37.9±3.5, 45°.69N×165°.98E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.8/12, mbtmp3.7/4, Error ellipse: s-maj=426.1km s-min=61.4km az=34.0

WEL 21 20:52:40.8±0.3, 46°.31N×165°.64E, h12km, ML4.1/12, Error ellipse: s-maj=2.6km s-min=1.7km az=90.0

ISC 21 20:52:38.7±3.1, 46°.1S±0°.1×165°.71E±0°.07, h7km±19km, n18, σ1s09/22, mb3.7/4, 1C-1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
PYZ	Puysegur Point	0.68	93	P*	Pn	20 52 55.0		+0.3
PYZ				S*	Sn	20 53 04.8		-0.8
WHZ	Wether Hill Ro	1.58	82	PN	Pb	20 53 08.5		+0.3
WHZ				SN	Sg	20 53 30.1		+0.6
APZ	The Paps	1.73	115	PN	Pn	20 53 09.6		+0.4
APZ				SN	Sn	20 53 30.6		-0.8
MLZ	Mavora Lakes	1.90	66	PN	Pb	20 53 13.1		-0.5
MLZ				SN	Sb	20 53 37.2		-0.4
SYZ	Scrubby Hill	2.41	101	⇓PN	Pn	20 53 19.8		+1.3
SYZ				SN	Sn	20 53 48.6		+0.3
WKZ	Wanaka	2.67	62	PN	Pb	20 53 25.4		-1.5
EAZ	Earnscleugh	2.68	72	PN	Pb	20 53 24.9		-2.1
TUZ	Tuapeka	2.74	88	⇑PN	Pn	20 53 24.8		+1.7
LBZ	Lake Benmore	3.61	63	PN	Pn	20 53 36.7		+1.7
ODZ	Otahua Downs	3.63	74	PN	Pn	20 53 36.2		+0.8
FOZ	Fox Glacier	3.82	49	PN	Pn	20 53 41.0		+3.1
RPZ	Rata Peaks	4.50	59	PN	Pn	20 53 48.3		+1.0
WVZ	Waitaha Valley	4.72	51	PN	Pn	20 53 51.4		+1.2
STKA	Stephens Creek	23.41	299	P	P	20 57 47.8		-0.5
	1.5nm,0.8s,baz=124,slow=11,SNR=3.3							
ASAR	Alice Springs	34.03	300	P	P	20 59 23.1		-0.4
	0.7nm,0.6s,baz=132,slow=8.3,SNR=17							
WRA	Warramunga Arr	36.66	305	P	P	20 59 45.3		-0.7
	0.4nm,0.7s,baz=139,slow=8.0,SNR=6.0							
CMAR	Chiang Mai Arr	88.04	299	P	P	21 05 30.8		+1.0
	0.7nm,0.8s,baz=145,slow=2.9,SNR=7.4							
BRTR	Keskin Array B	144.76	277	PKP	PKPab	21 12 14.9		0.0
	1.6nm,0.9s,baz=117,slow=4.3,SNR=5.2							

CSEM 21 20:55:16.4, 36°.74N×26°.69E, h24km, MD3.5, After ATH

ATH 21 20:55:16.4, 36°.74N×26°.69E, h24km±3km, MD3.5/10, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
KARP	Karpathos	1.25	162	*e*PN	Pb	20 55 40.3		+0.9
KARP				*e*SN	Sb	20 55 57.5		+2.4
KARP	Karpathos	1.25	162	*e*Pn	Pb	20 55 40.3		+0.9
KARP				*e*Sn	Sb	20 55 57.5		+2.4
ARG	Arkhangelos	1.27	114	*e*PN	Pb	20 55 40.6		+0.9
ARG				*e*SN	Sb	20 55 58.1		+2.5
ARG	Arkhangelos	1.27	114	*e*Pn	Pb	20 55 40.6		+0.9
ARG				*e*Sn	Sb	20 55 58.1		+2.5
ZKR	Zakros	1.67	193	*e*PN	Pb	20 55 46.1		-0.3
ZKR				*e*SN	Sb	20 56 08.5		+1.5
ZKR	Zakros	1.67	193	*e*Pn	Pb	20 55 46.1		-0.3
ZKR				*e*Sn	Sb	20 56 08.5		+1.5
NPS	Neapolis	1.71	211	*e*PN	Pb	20 55 46.7		-0.6
NPS				*e*SN	Sb	20 56 08.6		+0.2
NPS	Neapolis	1.71	211	*e*Pn	Pb	20 55 46.7		-0.6
NPS				*e*Sn	Sb	20 56 08.6		+0.2
LAST	Lasithi	1.86	212	*e*PB	Pb	20 55 48.6		-1.2
LAST				*e*SN	Sb	20 56 12.2		-0.5
LAST	Lasithi	1.86	212	*e*Pb	Pb	20 55 48.6		-1.2
LAST				*e*Sn	Sb	20 56 12.2		-0.5
KARN	Karanos	2.61	240	*e*PN	Pn	20 55 58.8		+1.6
KARN				*e*SN	Sn	20 56 30.4		+2.2
KARN	Karanos	2.61	240	*e*Pn	Pn	20 55 58.8		+1.6
KARN				*e*Sn	Sn	20 56 30.4		+2.2
DID	Didima	2.86	287	*e*PN	Pn	20 56 03.7		+3.1
DID	Didima	2.86	287	*e*Pn	Pn	20 56 03.7		+3.1
KYTH	Kithira	2.98	262	*e*PN	Pn	20 56 05.0		+2.8
KYTH	Kithira	2.98	262	*e*Pn	Pn	20 56 05.0		+2.8
VLI	Veliai	3.02	271	*e*PN	Pn	20 56 05.4		+2.7
VLI	Veliai	3.02	271	*e*Pn	Pn	20 56 05.4		+2.7
ITM	Ithomi	3.84	278	*e*PN	Pn	20 56 16.5		+2.5
ITM	Ithomi	3.84	278	*e*Pn	Pn	20 56 16.5		+2.5

IDC 21 20:59:06.9±1.7, 4°.20N×127°.03E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, Error ellipse: s-maj=155.1km s-min=20.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
WRA	Warramunga Arr	25.05	164	P	P	21 04 32.0		-1.1
	1.4nm,0.6s,baz=343,slow=11,SNR=17							
ASAR	Alice Springs	28.50	167	P	P	21 05 06.0		+1.8
	0.2nm,0.5s,baz=343,slow=10,SNR=5.9							
STKA	Stephens Creek	38.47	160	P	P	21 06 30.1		-0.7
	1.8nm,0.7s,baz=323,slow=7.9,SNR=4.8							
MKAR	Makanchi Array	57.34	325	P	P	21 08 57.4		+0.5
	0.2nm,0.5s,baz=120,slow=7.2,SNR=4.5							
KURBB	Kurchatov Arra	61.51	327	P	P	21 09 25.1		-0.5
	0.4nm,0.5s,baz=128,slow=5.9,SNR=5.0							

KRSC 21 21:01:10.1±0.2, 55°.18N×162°.30E, h70km±69km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MKZ	Mys Kozlova	0.71	208	P	Pn	21 01 26.6		+1.6
MKZ				*i* S	Sn	21 01 37.7		+1.7
KBTR	Krutoberegovo	1.07	16	*e*P	Pn	21 01 31.2		+1.7
KBTR				*i* S	Sn	21 01 46.2		+2.3
KBG	Krutoberegovo	1.10	12	*e*P	Pn	21 01 31.4		+1.6
KBG				*i* S	Sn	21 01 45.9		+1.4
BZGR	Bezymyannyi-Gr	1.19	311	*e*P	Pn	21 01 33.0		+1.9
BZGR				*i* S	Sn	21 01 49.6		+2.8
ZLN	Zelenaya	1.19	315	*e*P	Pn	21 01 32.9		+1.7
ZLN				*i* S	Sn	21 01 49.8		+2.9
TUMR	Tumrok	1.24	276	*e*P	Pn	21 01 33.3		+1.5
TUMR				*i* S	Sn	21 01 49.3		+1.3
BZMR	Bezymyannaya	1.28	307	*e*P	Pn	21 01 33.8		+1.5
BZMR				*i* S	Sn	21 01 51.1		+2.1
CIRR	Tsirk	1.29	317	*e*P	Pn	21 01 34.3		+1.9
CIRR				*i* S	Sn	21 01 52.3		+3.1
LGNR	Loginova	1.29	315	P	Pn	21 01 34.8		+2.2
LGNR				*i* S	Sn	21 01 52.0		+2.5
BZWR	Bezymyannyi-We	1.29	308	*e*P	Pn	21 01 34.1		+1.6
BZWR				*i* S	Sn	21 01 51.8		+2.5
KMNR	Kamenistaya	1.31	297	P	Pn	21 01 34.5		+1.8
KMNR				*i* S	Sn	21 01 51.8		+2.2
KIRR	Kirishev	1.35	306	*e*P	Pn	21 01 35.1		+1.8
KIRR				*i* S	Sn	21 01 52.9		+2.1
KPT	Kopyto	1.42	305	*e*P	Pn	21 01 35.8		+1.7
KPT				*i* S	Sn	21 01 54.5		+2.4
KRSR	Krestovskiy	1.43	317	*e*P	Pn	21 01 35.7		+1.4
KRSR				*i* S	Sn	21 01 53.7		+1.3
KLY	Klyuchi	1.47	321	*e*P	Pn	21 01 35.5		+0.9
KLY				*i* S	Sn	21 01 54.4		+1.3
SMKR	Semkarok	1.48	342	*e*P	Pn	21 01 36.9		+2.0
SMKR				*i* S	Sn	21 01 56.5		+2.9
BDR	Baidarnaya	1.52	337	*e*P	Pn	21 01 37.8		+2.4
BDR				*i* S	Sn	21 01 58.3		+3.8
SRKR	Sorokina	1.61	337	*e*P	Pn	21 01 38.5		+1.9
SRKR				*i* S	Sn	21 02 00.1		+3.4
KOZ	Kozyrevsk	1.63	304	*e*P	Pn	21 01 39.0		+2.2
KOZ				*i* S	Sn	21 02 00.3		+3.2
SRDR	Sredinnyy	1.85	309	*e*P	Pn	21 01 41.0		+1.

	baz=0.3,SNR=103							
I23A				⇓S		Sg	21 02 24.0	-0.3
	baz=0.3							
I24A	**Kuemmerle Ranc**	**0.52**	**65**	P		Pg	21 02 24.1	+1.0
	baz=0.4,SNR=560							
J24A	**Dixon Ranch, L**	**0.55**	**124**	⇓P		Pb	21 02 25.0	-0.6
	baz=0.6,SNR=128							
J24A				⇓S		Sb	21 02 32.6	-1.5
	baz=0.6							
J22A	**Midwest**	**0.90**	**256**	P		Pg	21 02 30.2	-0.1
	baz=1.0,SNR=219							
I22A	**9 Mile Ranch,**	**0.91**	**287**	P		Pg	21 02 30.2	-0.3
	baz=0.9,SNR=650							
K23A	**Bowen Ranch, D**	**0.92**	**196**	⇑P		Pb	21 02 31.6	-0.3
	baz=1.0,SNR=13							
H23A	**Clabaugh Cattl**	**0.93**	**355**	⇑P		Pg	21 02 30.2	-0.7
	baz=0.9,SNR=30							
K24A	**Anderson Ranch**	**0.98**	**159**	P		Pb	21 02 33.0	+0.1
	baz=1.0,SNR=160							
RSSD	**Black Hills**	**1.02**	**61**	*e*Pg		Pg	21 02 32.8	+0.1
H24A	**Dirks Ranch, A**	**1.23**	**25**	P		Pg	21 02 35.6	-1.0
	baz=1.1,SNR=244							
H24A				⇓S		Sg	21 02 52.1	-0.4
	baz=1.1							
H22A	**Clearmont**	**1.23**	**321**	⇑P		Pg	21 02 35.8	-0.8
	baz=1.2,SNR=106							
K22A	**Casper**	**1.34**	**223**	⇑Pb		Pg	21 02 38.6	-0.2
	baz=1.4							
K22A				⇑Sg		Sn	21 02 58.4	+0.5
	baz=1.4							
K25A	**Mack Ranch, Ha**	**1.46**	**134**	⇓Pg		Pb	21 02 42.1	+1.0
	baz=1.5,SNR=59							
I21A	**Big Trails, Te**	**1.47**	**277**	⇑P		Pn	21 02 39.1	-1.8
	baz=1.5							
L23A	**Garrett**	**1.55**	**192**	⇓Pb		Pg	21 02 42.6	-0.3
	baz=1.6,SNR=375							
G23A	**Biddle**	**1.56**	**357**	⇓Pb		Pn	21 02 41.3	-0.9
	baz=1.5,SNR=182							
J21A	**Lysite**	**1.60**	**260**	Pb		Pn	21 02 42.1	-0.7
	baz=1.7,SNR=102							
H21A	**Big Horn, Sher**	**1.61**	**309**	⇑Pb		Pn	21 02 42.4	-0.4
	baz=1.6,SNR=237							
H21A				⇓Sb		Sn	21 03 03.2	-1.2
	baz=1.6							
L24A	**Wheatland**	**1.61**	**171**	⇑Pb		Pg	21 02 43.9	-0.1
	baz=1.7,SNR=26							
G22A	**Birney**	**1.74**	**336**	⇑Pb		Pn	21 02 44.5	-0.2
	baz=1.7,SNR=174							
K21A	**Alcova**	**1.76**	**236**	⇓Pb		Pn	21 02 45.6	+0.6
	baz=1.8,SNR=21							
K21A				⇑Sb		Sb	21 03 08.9	-0.1
	baz=1.8							
L25A	**Engebretsen Ra**	**1.77**	**146**	⇓Pb		Pg	21 02 47.3	+0.3
	baz=1.8,SNR=60							
G24A	**Alzada**	**1.80**	**20**	⇑Pb		Pn	21 02 45.8	+0.3
	baz=1.7,SNR=31							
G24A				⇑Sb		Sn	21 03 09.4	+0.3
	baz=1.7							
K26A	**Motz Farm, Whi**	**1.80**	**121**	⇑Pb		Pg	21 02 47.1	-0.5
	baz=1.8,SNR=15							
L22A	**Ellis Ranch, M**	**1.82**	**208**	⇑Pb		Pb	21 02 46.9	-0.4
	baz=1.9,SNR=41							
L22A				⇑Sb		Sg	21 03 11.9	+0.4
	baz=1.9							
J20A	**Shoshoni**	**2.06**	**263**	⇓Pg		Pb	21 02 51.1	-0.3
	baz=2.1,SNR=128							
I20A	**Worland**	**2.08**	**280**	⇑Pb		Pn	21 02 50.3	+0.9
	baz=2.1,SNR=81							
I20A				⇓Sb		Sn	21 03 17.6	+1.4
	baz=2.1							
F23A	**Volborg**	**2.08**	**358**	Pb		Pn	21 02 49.4	0.0
	baz=2.0,SNR=156							
F23A				⇑Sb		Sn	21 03 17.4	+1.3
	baz=2.0							
G21A	**Lodge Grass**	**2.10**	**320**	⇓Pb		Pn	21 02 49.9	+0.3
	baz=2.1,SNR=48							
G21A				⇓Sb		Sn	21 03 17.7	+1.2
	baz=2.1							
H20A	**Greybull**	**2.13**	**294**	⇑Pb		Pn	21 02 50.3	+0.2
	baz=2.1							
H20A				⇓Sb		Sn	21 03 18.8	+1.4
	baz=2.1							
M23A	**Laramie**	**2.19**	**189**	⇑Pb		Pb	21 02 53.6	-0.1
	baz=2.3,SNR=97							
M24A	**Cheyenne**	**2.19**	**171**	⇓Pb		Pb	21 02 53.4	-0.4
	baz=2.3,SNR=117							
F22A	**Rosebud**	**2.25**	**342**	⇓P		Pn	21 02 51.2	-0.5
	baz=2.2,SNR=68							
L21A	**Rawlins**	**2.27**	**223**	⇑Pb		Pb	21 02 53.8	-1.3
	baz=2.4							
L26A	**Underwood Farm**	**2.28**	**134**	⇓Pb		Pb	21 02 54.6	-0.5
	baz=2.3							
PHWY	**Pilot Hill**	**2.34**	**183**	*e*Pn		Pb	21 02 54.7	-1.6
PHWY				*e*S		Sg	21 03 28.3	+0.1
M25A	**Palm-Egli Farm**	**2.38**	**157**	⇓Pb		Pb	21 02 56.1	-0.8
	baz=2.4							
RWWY	**Rawlins**	**2.41**	**217**	*e*Pn		Pb	21 02 56.6	-0.9
RWWY				*e*S		Sg	21 03 29.6	-1.0
K27A	**Flueckinger Fa**	**2.42**	**112**	⇓Pb		Pb	21 02 57.2	-0.2
	baz=2.4,SNR=32							
M22A	**Cedar Creek Ra**	**2.44**	**204**	⇓Pb		Pb	21 02 57.2	-0.7
	baz=2.5,SNR=233							
K20A	**Yellowstone Ra**	**2.44**	**247**	⇓Pb		Pb	21 02 57.0	-1.0
	baz=2.5							
K20A				⇓Sb		Sb	21 03 29.0	+0.3
	baz=2.5							
M21A	**Separation Pea**	**2.55**	**218**	Pb		Pb	21 02 58.6	-1.2
	baz=2.6,SNR=68							
K19A	**Absolon Red Bu**	**2.73**	**254**	⇓Pb		Pb	21 03 01.7	-1.2
	baz=2.8							
N22A	**Wattenberg Ran**	**2.96**	**197**	⇑Pb		Pb	21 03 07.0	0.0
	baz=3.1							
M20A	**Sweetwater, Wa**	**3.04**	**226**	⇓Pb		Pb	21 03 08.2	+0.1
	baz=3.1							
RLMT	**Red Lodge**	**3.22**	**299**	*e*Pn		Pn	21 03 05.3	+0.2
RLMT				*e*S		Sb	21 03 53.0	+1.9
PDAR	**Pinedale Array**	**3.25**	**256**	Pn		Pn	21 03 06.7	+1.2
PDAR	**Pinedale Array**	**3.25**	**256**	Pn		Pn	21 03 06.7	+1.2
	4.4nm,0.3s,baz=80,slow=17,SNR=96							
PDAR				Lg		Lg	21 03 49.6	
	10nm,0.3s,baz=70,slow=34,SNR=7.5							
BW06	**Boulder Array**	**3.25**	**256**	*e*Pn		Pn	21 03 06.4	+0.9
BW06				*e*S		Sb	21 03 50.8	-1.1
OGNE	**Ogallala**	**3.61**	**137**	*e*Pn		Pn	21 03 12.2	+1.9
OGNE				*e*S		Sg	21 04 08.1	-1.0
GCMT	**Greycliff**	**3.79**	**306**	*e*Pn		Pn	21 03 13.6	+0.6
GCMT				*e*S		Sb	21 04 09.8	+2.2
LKWY	**Lake**	**3.80**	**286**	*e*Pn		Pn	21 03 15.6	+2.5
ISCO	**Idaho Springs**	**3.84**	**184**	*e*Pn		Pn	21 03 15.8	+2.0
LOHW	**Long Hollow**	**3.86**	**271**	*e*Pn		Pn	21 03 16.0	+2.1
FLWY	**Flagg Ranch**	**3.94**	**278**	*e*Pn		Pn	21 03 15.9	+0.8
MOOW	**Moose Ponds**	**3.96**	**273**	*e*Pn		Pn	21 03 16.8	+1.5
SNOW	**Snow King Moun**	**3.98**	**269**	*e*Pn		Pn	21 03 20.2	+4.5
SNOW				*e*S		Sn	21 04 03.6	+0.5
YNR	**Norris Junctio**	**4.03**	**287**	*e*Pn		Pb	21 03 21.6	-3.4
REDW	**Red Top Meadow**	**4.06**	**268**	*e*Pn		Pn	21 03 18.0	+1.3
REDW				*e*S		Sb	21 04 14.8	-0.5
YFT	**Old Faithful**	**4.09**	**283**	*e*Pn		Pn	21 03 21.2	+4.2
IMW	**Indian Meadow**	**4.11**	**276**	*e*Pn		Pn	21 03 18.8	+1.5
IMW				*e*S		Sb	21 04 18.0	+1.3
TPAW	**Teton Pass**	**4.12**	**270**	*e*Pn		Pn	21 03 19.2	+1.6
TPAW				*e*S		Sb	21 04 13.4	-3.7
YMR	**Madison River**	**4.22**	**286**	*e*Pn		Pn	21 03 22.2	+3.4
DCID1	**Drake Creek**	**4.29**	**271**	*e*Pn		Pn	21 03 21.9	+2.2
RRI2	**Red Ridge**	**4.40**	**268**	*e*Pn		Pn	21 03 22.9	+1.5
RRI2				*e*S		Sn	21 04 15.1	+1.5
QLMT	**Earthquake Lak**	**4.58**	**287**	*e*Pn		Pn	21 03 26.5	+2.7
SMCO	**Snowmass**	**4.63**	**196**	*e*Pn		Pn	21 03 28.2	+3.5
DGMT	**Dagmar**	**4.89**	**9**	*e*Pn		Pn	21 03 29.5	+1.6
HWUT	**Hardware Ranch**	**5.06**	**249**	*e*Pn		Pn	21 03 31.7	+1.3
	8.8nm,0.4s							
EGMT	**Eagleton**	**5.38**	**326**	*e*Pn		Pn	21 03 34.3	-0.4
	12nm,0.4s							
EGMT				*e*S		Sn	21 04 37.3	-0.2
DAU	**Daniels Canyon**	**5.49**	**236**	*e*Pn		Pn	21 03 39.3	+2.8
	7.1nm,0.4s							
DAU				*e*S		Sg	21 05 07.0	-2.5
JLU	**Jordanelle**	**5.50**	**239**	*e*Pn		Pn	21 03 39.1	+2.7
DLMT	**Dillon**	**5.51**	**291**	*e*Pn		Pn	21 03 35.5	-1.0
DLMT				*e*S		Sn	21 04 42.8	+2.2
LRM	**Limekiln Ridge**	**5.55**	**296**	*e*Pn		Pn	21 03 38.7	+1.5
	21nm,0.3s							
LRM				*e*S		Sb	21 05 05.7	+7.4
HRY	**Holter Researc**	**5.56**	**306**	*e*Pn		Pn	21 03 37.2	+0.1
	7.6nm,0.3s							
HRY				*e*S		Sb	21 05 03.1	+4.9
MCMT	**McKenzie Canyo**	**5.57**	**285**	*e*Pn		Pn	21 03 38.3	+0.9
	1.2nm,0.3s							
HVU	**Hansel Valley**	**5.82**	**254**	*e*Pn		Pn	21 03 42.7	+1.8
PV04	**Paradox Valley**	**5.91**	**209**	*e*Pn		Pn	21 03 44.3	+2.2
MPU	**Maple Canyon**	**5.97**	**235**	*e*Pn		Pn	21 03 44.3	+1.5
SRU	**San Rafael**	**6.00**	**223**	*e*Pn		Pn	21 03 43.9	+0.7
	11nm,0.4s							
SRU				*e*S		Sg	21 05 21.4	-4.4
PV01	**Paradox Valley**	**6.04**	**205**	*e*Pn		Pn	21 03 46.5	+2.7
	226nm,0.3s							
PV01				*e*S		Sb	21 05 18.0	+5.9
TMUT	**Trail Mountain**	**6.21**	**228**	*e*Pn		Pn	21 03 48.3	+1.9
	4.6nm,0.4s							
TMUT				*e*S		Sg	21 05 25.3	-7.4
ECSD	**EROS Data Cent**	**6.29**	**86**	*e*Pn		Pn	21 03 47.7	+0.6
	5.3nm,0.3s							
ECSD				*e*S		Sg	21 05 31.5	-3.5
CHMT	**Chamberlain Mo**	**6.51**	**303**	*e*Pn		Pn	21 03 50.5	+0.3
	1.4nm,0.4s							
CHMT				*e*S		Sn	21 05 15.8	+11
DUG	**Dugway**	**6.59**	**241**	*e*Pn		Pn	21 03 52.2	+0.9
	3.3nm,0.4s							
HLID	**Hailey**	**6.63**	**272**	*e*Pn		Pn	21 03 54.7	+2.8
SWMT	**Swartz Lake**	**7.24**	**305**	*e*Pn		Pn	21 04 00.5	+0.3
	1.9nm,0.3s							
ULM	**Lac du Bonnet**	**9.22**	**41**	Pn		Pn	21 04 25.6	-1.6
ULM	**Lac du Bonnet**	**9.22**	**41**	Pn		Pn	21 04 25.6	-1.6
	3.2nm,0.3s,baz=230,slow=10,SNR=15							
ULM				Pg			21 05 05.8	
	1.1nm,0.3s,baz=228,slow=13,SNR=4.5							
ULM				Lg		Lg	21 07 02.9	
	0.3nm,0.3s,baz=311,slow=20,SNR=3.1							
YKA	**Yellowknife Ar**	**19.66**	**347**	P		**P**	**21 06 44.0**	**+0.8**
YKA	**Yellowknife Ar**	**19.66**	**347**	P		**P**	**21 06 44.0**	**+0.8**
	0.1nm,0.3s,baz=158,slow=10.0,SNR=5.9							
ARCES	**ARCESS Array B**	**61.52**	**18**	P		**P**	**21 12 29.7**	**-1.5**
ARCES	**ARCESS Array B**	**61.52**	**18**	P		**P**	**21 12 29.7**	**-1.5**
	4.5nm,1.0s,baz=327,slow=7.6,SNR=4.7							

IDC 21 21:03:28.0±1.4, 3.53S×100.82E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.9/24, mbtmp3.9/12, MS3.5/2, Ms1 3.5/2, ms1mx2.6/39, Error ellipse: s-maj=47.8km s-min=15.9km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**6.56**	**343**	LR		LR	21 08 02.1	
	comp=Z,80nm,21.7s,baz=328,slow=42							
CMAR	**Chiang Mai Arr**	**21.92**	**355**	P		P	21 08 22.4	-0.8
	1.5nm,0.8s,baz=187,slow=7.9,SNR=8.3							
WRA	**Warramunga Arr**	**36.53**	**119**	P		P	21 10 34.4	-1.2
	0.6nm,0.6s,baz=305,slow=9.1,SNR=10							
ASAR	**Alice Springs**	**37.70**	**125**	P		P	21 10 44.6	-1.0
	0.3nm,0.3s,baz=295,slow=8.1,SNR=6.3							
STKA	**Stephens Creek**	**47.53**	**131**	P		P	21 12 06.7	+1.3
	1.4nm,0.9s,baz=303,slow=12,SNR=2.1							
KSRS	**Korea Array**	**47.93**	**29**	P		P	21 12 06.8	-1.4
	3.0nm,1.0s,baz=223,slow=12,SNR=5.3							
SONM	**Songino Array**	**51.38**	**5**	P		P	21 12 35.9	+1.3
	1.7nm,0.6s,baz=188,slow=9.4,SNR=19							
MKAR	**Makanchi Array**	**52.71**	**344**	P		P	21 12 45.0	+0.5
	1.1nm,0.6s,baz=147,slow=8.1,SNR=14							
MJAR	**Matsushiro Arr**	**52.96**	**38**	P		P	21 12 46.2	-0.2
	0.9nm,0.6s,baz=211,slow=7.7,SNR=3.1							
USRK	**Ussuriysk Arra**	**55.13**	**27**	P		P	21 13 03.0	+0.9
	3.0nm,0.5s,baz=217,slow=5.8,SNR=16							
KURBB	**Kurchatov Arra**	**57.24**	**343**	P		P	21 13 16.7	-0.3
	1.2nm,0.8s,baz=163,slow=6.9,SNR=12							
ZALV	**Zalesovo Beam**	**58.81**	**349**	P		P	21 13 26.8	-1.2
	2.5nm,0.9s,baz=160,slow=4.7,SNR=11							
BVAR	**Borovoye Array**	**61.89**	**340**	P		P	21 13 48.6	-0.6
	1.4nm,0.6s,baz=144,slow=9.3,SNR=15							
HFS	**Hagfors**	**91.59**	**330**	LR		LR	22 04 01.3	
	comp=Z,108nm,19.8s,baz=150,slow=40							
TXAR	**Lajitas Array**	**145.38**	**40**	PKPbc		PKPdf	21 23 09.2	+0.4
	1.3nm,0.5s,baz=267,slow=2.3,SNR=8.1							

IDC 21 21:08:33.4±2.2, 5.61S×130.59E, h0km, mb3.6/1, mb1 3.7/4, mb1mx3.4/17, mbtmp3.5/4, ML3.1/2, Error ellipse: s-maj=95.1km s-min=27.6km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.32**	**201**	Pn		Pn	21 11 44.6	+0.7
	0.1nm,0.3s,baz=20,slow=14,SNR=4.3							
FITZ				Sn		Sn	21 13 56.7	-16
	0.1nm,0.3s,baz=37,slow=20,SNR=3.7							
WRA	**Warramunga Arr**	**14.70**	**166**	Pn		Pn	21 12 02.8	-0.1
	0.1nm,0.3s,baz=348,slow=13,SNR=4.5							
WRA				Sn		Sn	21 14 32.8	-14
	0.2nm,0.3s,baz=350,slow=20,SNR=6.4							
ASAR	**Alice Springs**	**18.23**	**170**	P		Pn	21 12 47.5	-0.6
	0.3nm,0.3s,baz=350,slow=10,SNR=20							
MKAR	**Makanchi Array**	**67.40**	**326**	P		P	21 19 30.9	0.0
	0.3nm,0.4s,baz=116,slow=7.5,SNR=9.8							

IDC 21 21:11:22.3±1.4, 4.08N×126.97E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.6/22, mbtmp3.6/7, MS3.2/1, Ms1 3.2/1, ms1mx2.1/39, 1C, Error ellipse: s-maj=191.9km s-min=16.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.13**	**319**	⇑*i*P		Pb	21 12 33.2	-2.8
WRA	**Warramunga Arr**	**24.95**	**163**	P		P	21 16 46.7	-0.9
	2.7nm,0.9s,baz=343,slow=10.4,SNR=9.6							
ASAR	**Alice Springs**	**28.40**	**167**	P		P	21 17 19.3	+0.6
	0.2nm,0.7s,baz=348,slow=12,SNR=3.0							
MJAR	**Matsushiro Arr**	**33.92**	**16**	LR		LR	21 31 21.0	
	comp=Z,37nm,18.5s,baz=55,slow=35							
STKA	**Stephens Creek**	**38.37**	**160**	P		P	21 18 45.6	+0.2
	1.8nm,0.7s,baz=311,slow=12,SNR=3.9							
SONM	**Songino Array**	**47.05**	**341**	P		P	21 19 56.3	+0.5
	0.3nm,0.6s,baz=152,slow=9.5,SNR=2.6							
MKAR	**Makanchi Array**	**57.41**	**325**	P		P	21 21 13.4	+0.6
	0.3nm,0.4s,baz=115,slow=6.8,SNR=10							
ZALV	**Zalesovo Beam**	**60.39**	**333**	P		P	21 21 32.2	-1.0
	0.3nm,0.4s,baz=123,slow=5.3,SNR=3.3							
KURBB	**Kurchatov Arra**	**61.58**	**327**	P		P	21 21 41.1	-0.3
	1.2nm,0.8s,baz=124,slow=6.1,SNR=10							

*IDC **21** 21:23:00.4±1.0, 10.46N×126.58E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/22, mbtmp3.8/8, Error ellipse: s-maj=57.5km s-min=18.7km az=67.0*
*ISCJB **21** 21:23:04.6±0.7, 10.43N±0.06×126.57E±0.06, h44km, mb3.7/8, Error ellipse: s-maj=8.6km s-min=8.6km az=15.9*
*MAN **21** 21:23:04, 10.38N×126.45E, h15km, mb5.1, ML4.0, MS4.1*

ISC 21 21:23:06.4±1.0, 10.44N±0.08×126.5E±0.1, h44km, n15, σ0.92/15, mb3.6/8, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSLP	**Maasin**	**1.65**	**260**	*e*P		**Pn**	**21 23 31.4**	**-1.5**
MSLP				*e*S		Sn	21 23 40.4	-13
PLP	**Palo**	**1.67**	**296**	⇑*e*P		**Pn**	**21 23 31.6**	**-1.6**
PLP				*e*S		**Sn**	**21 23 54.4**	**+1.0**
OCLP	**Ormoc**	**1.96**	**288**	*e*P		Pn	21 23 38.0	+0.7
OCLP				*e*S		Sn	21 23 46.8	-14
LLP	**Lapu-Lapu**	**2.50**	**267**	⇓*e*P		**Pn**	**21 23 44.2**	**-0.5**
LLP				*i* S		**Sn**	**21 24 14.8**	**+0.8**
CGP	**Cagayan de Oro**	**2.66**	**222**	⇑*i*P		**Pn**	**21 23 46.1**	**-0.8**
CGP				*i* S		**Sn**	**21 24 18.3**	**+0.4**
TBP	**Tagbilaran**	**2.71**	**254**	*e*P		Pn	21 23 48.6	+1.1
CTBH	**Cotabato--PC H**	**3.90**	**215**	⇑*i*P		Pn	21 24 06.2	+2.3
CMAR	**Chiang Mai Arr**	**27.83**	**290**	P		**P**	**21 28 52.5**	**+0.5**
	1.1nm,0.7s,baz=101,slow=5.4,SNR=12							
WRA	**Warramunga Arr**	**31.16**	**166**	P		**P**	**21 29 21.2**	**-0.2**
	0.3nm,0.9s,baz=344,slow=9.2,SNR=3.1							
ASAR	**Alice Springs**	**34.66**	**168**	P		**P**	**21 29 52.0**	**0.0**
	0.2nm,0.5s,baz=353,slow=7.3,SNR=3.7							
SONM	**Songino Array**	**40.94**	**339**	P		P	21 30 46.0	+1.1
	0.4nm,0.6s,baz=156,slow=9.5,SNR=4.9							
SONM				PcP		**PcP**	**21 32 46.0**	**+1.4**
	0.6nm,0.8s,baz=160,slow=3.8,SNR=4.2							
MKAR	**Makanchi Array**	**52.03**	**323**	P		**P**	**21 32 11.8**	**+0.1**
	1.2nm,0.7s,baz=122,slow=7.2,SNR=15							
ZALV	**Zalesovo Beam**	**54.59**	**331**	P		**P**	**21 32 29.9**	**-0.4**
	0.2nm,0.3s,baz=123,slow=10,SNR=2.5							
ARCES	**ARCESS Array B**	**84.12**	**340**	P		**P**	**21 35 32.3**	**-0.2**
	6.9nm,1.1s,baz=68,slow=6.8,SNR=4.6							
FINES	**FINESS Array B**	**85.85**	**332**	P		**P**	**21 35 41.4**	**+0.1**
	2.4nm,1.0s,baz=79,slow=3.0,SNR=6.8							

IDC 21 21:42:40.3±11.0, 12.43S×167.14E, h174km±100km, mb3.6/7, mb1 3.8/7, mb1mx3.5/20, mbtmp3.6/7, Error ellipse: s-maj=79.5km s-min=36.2km az=133.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**21.43**	**246**	P		P	21 47 15.8	+0.8
	5.0nm,0.7s,baz=77,slow=12,SNR=6.0							
STKA	**Stephens Creek**	**30.43**	**226**	P		P	21 48 37.2	+0.8
	0.7nm,0.3s,baz=186,slow=2.3,SNR=5.1							
WRA	**Warramunga Arr**	**32.33**	**252**	P		P	21 48 52.4	-0.9
	1.2nm,0.6s,baz=81,slow=9.0,SNR=28							
ASAR	**Alice Springs**	**33.44**	**246**	P		P	21 49 02.2	-0.6
	2.1nm,0.5s,baz=71,slow=9.5,SNR=37							
ASAR				pP		pP	21 49 46.9	+7.5
	0.7nm,0.7s,baz=72,slow=9.6,SNR=6.3							
FITZ	**Fitzroy Crossi**	**40.37**	**257**	P		P	21 50 01.7	+0.3
	0.7nm,0.3s,baz=70,slow=10,SNR=5.6							
ILAR	**Eielson Array**	**84.39**	**18**	P		P	21 54 52.8	+0.1
	2.4nm,0.6s,baz=245,slow=5.2,SNR=49							
YKA	**Yellowknife Ar**	**95.57**	**27**	P		P	21 55 44.3	-1.0
	0.2nm,0.5s,baz=267,slow=5.2,SNR=4.9							
ARCES	**ARCESS Array B**	**118.01**	**346**	PKP		PKPdf	22 01 04.7	-1.1
	3.0nm,0.9s,baz=74,slow=2.1,SNR=7.2							
FINES	**FINESS Array B**	**123.55**	**339**	PKP		PKPdf	22 01 16.9	+0.3
	2.4nm,0.9s,baz=45,slow=2.8,SNR=3.2							
NOA	**NORSAR Array B**	**128.38**	**345**	PKP		PKPdf	22 01 24.4	-1.5
	1.0nm,0.8s,baz=35,slow=1.7,SNR=3.3							
ESDC	**Sonseca Array**	**151.75**	**345**	PKPbc		PKPbc	22 02 14.9	+0.3
	0.3nm,0.7s,baz=32,slow=3.7,SNR=4.8							
ESDC				PKPab		PKPab	22 02 24.6	+0.6
	0.4nm,0.6s,baz=15,slow=3.9,SNR=5.9							

*CSEM **21** 21:45:25.2±0.2, 38.13N×57.54E, h2km, ML3.6, Error ellipse: s-maj=6.5km s-min=3.7km az=74.0*
*TEH **21** 21:45:26.1, 38.15N×57.52E, h1km, ML3.6*
*NNC **21** 21:45:36.8±0.7, 38.84N×58.50E, h0km, mb3.7, Error ellipse: s-maj=5.8km s-min=3.7km az=19.0*

ISC 21 21:45:25.3±1.7, 38.19N±0.06×57.58E±0.05, h6km±14km, n33, σ1.947/45, 8C-5D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ISHV	**Shirvan**	**0.67**	**172**	*e*Pg		**Pg**	**21 45 37.5**	**-0.6**
ISHV				*e*Sg		**Sg**	**21 45 45.6**	**-1.1**
ISHV				*e*			21 45 47.6	
	comp=Z,51μm,0.1s							
ISHV	**Shirvan**	**0.67**	**172**	*e*Pg		**Pg**	**21 45 37.5**	**-0.6**
ISHV				*e*Sg		**Sg**	**21 45 45.6**	**-1.1**
IEMG	**Emamgholi**	**1.15**	**132**	*e*Pg		**Pg**	**21 45 46.9**	**-0.5**
IEMG				*e*Sg		**Sg**	**21 46 02.2**	**-0.1**
IEMG				*e*			21 46 06.0	
	comp=Z,12μm,0.1s							
IEMG	**Emamgholi**	**1.15**	**132**	*e*Pg		**Pg**	**21 45 46.9**	**-0.5**
IEMG				*e*Sg		**Sg**	**21 46 02.2**	**-0.1**
ISFR	**Sfrayin**	**1.19**	**164**	*e*Pg		**Pg**	**21 45 47.0**	**-1.0**
ISFR				*e*Sg		**Sg**	**21 46 02.8**	**-0.6**
ISFR				*e*			21 46 10.9	
	comp=Z,18μm,0.2s							
ISFR	**Sfrayin**	**1.19**	**164**	*e*Pg		**Pg**	**21 45 47.0**	**-1.0**
ISFR				*e*Sg		**Sg**	**21 46 02.8**	**-0.6**
IQHU	**Qucahn**	**1.35**	**146**	*e*Pg		**Pg**	**21 45 50.4**	**-0.8**
IQHU				*e*			21 46 27.5	
	comp=Z,14μm,0.3s							
IQHU

CMAR	Chiang Mai Arr	27.86 290	P		P	21 58 54.0	+0.2
	0.9nm,0.7s,baz=97,slow=6.8,SNR=8.8						
WRA	Warramunga Arr	31.14 166	P		P	21 59 22.6	-0.2
	0.3nm,0.9s,baz=325,slow=11,SNR=2.4						
ASAR	Alice Springs	34.64 168	P		P	21 59 53.2	-0.2
	0.2nm,0.7s,baz=346,slow=6.9,SNR=3.8						
SONM	Songino Array	40.97 339	P		P	22 00 47.4	+0.7
	0.1nm,0.3s,baz=140,slow=6.1,SNR=4.1						
MKAR	Makanchi Array	52.07 323	P		P	22 02 13.1	-0.4
	0.6nm,0.7s,baz=122,slow=7.9,SNR=8.2						
FINES	FINESS Array B	85.88 332	P		P	22 05 43.4	+0.4
	3.3nm,0.9s,baz=85,slow=3.3,SNR=4.4						

IDC 21 22:02:30.5±2.2, 6.30S×129.94E, h0km, mb3.3/1, mb1 3.7/3, mb1mx3.4/17, mbtmp3.5/3, ML3.6/2, MS2.2/1, Ms1 2.2/1, ms1mx1.8/16, Error ellipse: s-maj=142.3km s-min=30.8km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	14.22	163	Pn	Pn	22 05 53.0	-0.3
	0.3nm,0.3s,baz=346,slow=14,SNR=18						
WRA				Sn	Sn	22 08 19.4	-12
	0.6nm,0.3s,baz=332,slow=22,SNR=7.9						
ASAR	Alice Springs	17.68	168	P	Pn	22 06 38.4	0.0
	0.1nm,0.3s,baz=344,slow=11,SNR=14						
ASAR				S	Sn	22 09 42.6	-14
	0.1nm,0.3s,baz=345,slow=25,SNR=5.1						
GUMO	Guam	24.70	37	LR	LR	22 18 21.2	
	comp=Z,5.2nm,18.0s,baz=55,slow=38						
MKAR	Makanchi Array	67.61	327	P	P	22 13 29.2	0.0
	0.3nm,0.9s,baz=115,slow=6.8,SNR=2.4						

KRSC 21 22:11:13.9±1.1, 51.00N×160.14E, h41km±41km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	Russkaya	1.76	325	eP	Pn	22 11 44.6	+2.8
RUS				eS	Sn	22 12 06.9	+4.0
MTVR	Mutnovka	1.92	321	eP	Pn	22 11 47.0	+2.7
MTVR				eS	Sn	22 12 11.3	+4.0
ASAK	Asacha	1.96	316	eP	Pn	22 11 47.5	+2.7
ASAK				eS	Sn	22 12 12.1	+3.8
PET	Petropavlovsk	2.23	336	eS	Sn	22 12 18.6	+4.1
UGLR	Uglovaya	2.36	340	eP	Pn	22 11 54.3	+4.1
SMAR	Somma	2.41	341	eP	Pn	22 11 54.3	+3.2
MIPR	Malaya Ipel'ka	2.46	303	eP	Pn	22 11 54.7	+3.1
KMNR	Kamenistaya	4.76	1	eP	Pn	22 12 27.9	+4.6
KBTR	Krutoberegovo	5.46	16	eP	Pn	22 12 35.2	+2.6

ISCJB 21 22:11:48.4±0.6, 6.77N±0.07×123.81E±0.07, h598km±8km, mb3.7/16, Error ellipse: s-maj=11.9km s-min=9.9km az=141.5

IDC 21 22:11:49.6±0.9, 6.70N×123.72E, h596km±11km, mb3.2/16, mb1 3.3/16, mb1mx3.1/26, mbtmp3.2/16, Error ellipse: s-maj=15.4km s-min=7.4km az=66.0

ISC 21 22:11:49.5±0.8, 6.74N±0.08×123.75E±0.10, h596km±9km, n39, σ1§07/46, mb4.0/25, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	1.84	80	P	P	22 13 02.2	-0.6
	37nm,0.3s,baz=84,slow=8.4,SNR=3.9						
MYLDM	Lahad Datu	5.45	254	P	P	22 13 26.7	+0.9
TSM	Tawau	6.34	248	P	P	22 13 32.6	-0.8
SDKM	Sandakan	6.61	261	P	P	22 13 34.7	-1.2
KKM	Kota Kinabalu	7.52	265	P	P	22 13 43.3	-1.0
TGY	Tagaytay City	7.82	340	P	P	22 13 45.8	-1.3
	37nm,0.3s,baz=257,slow=21,SNR=4.1						
SBUM	Sibu	12.26	250	P	P	22 14 32.2	+1.3
KSM	Kuching	14.39	249	P	P	22 14 52.2	-0.1
MYKOM	Kota Tinggi	20.44	257	P	P	22 15 48.3	+0.7
KGM	Kluang	20.90	258	P	P	22 15 52.2	+0.6
IPM	Ipoh	22.73	266	P	P	22 16 00.7	-7.2
PSI	Prapat	25.04	262	P	P	22 16 28.8	+0.1
	11nm,0.7s,baz=64,slow=5.1,SNR=10						
CMAR	Chiang Mai Arr	28.49	159	P	P	22 16 45.0	+1.0
	4.0nm,0.7s,baz=111,slow=7.0,SNR=39						
WRA	Warramunga Arr	28.49	159	P	P	22 16 58.0	-0.5
	3.6nm,0.7s,baz=332,slow=10,SNR=45						
WRA				PcP	PcP	22 19 51.0	+0.5
	0.3nm,0.4s,baz=337,slow=2.8,SNR=6.4						
WRA				S	S	22 21 02.0	-3.6
	0.6nm,0.8s,baz=335,slow=16,SNR=6.2						
WRA				ScP	ScP	22 22 36.7	+0.7
	2.8nm,0.6s,baz=343,slow=3.2,SNR=33						
ASAR	Alice Springs	31.81	162	P	P	22 17 27.6	+0.6
	1.6nm,0.5s,baz=340,slow=6.8,SNR=44						
ASAR				PcP	PcP	22 19 59.9	+0.5
	0.5nm,0.4s,baz=341,slow=2.5,SNR=8.2						
ASAR				S	S	22 21 55.7	-0.9
	2.3nm,0.8s,baz=350,slow=23,SNR=16						
ASAR				ScP	ScP	22 22 47.5	+0.5
	0.9nm,0.6s,baz=343,slow=2.6,SNR=11						
MJAR	Matsushiro Arr	32.47	22	P	P	22 17 31.6	-0.7
	2.0nm,0.7s,baz=201,slow=10,SNR=6.2						
SHL	Shillong	35.72	305	ePKP	P	22 18 02.5	+2.7
USRK	Ussuriysk Arra	38.01	10	P	P	22 18 17.7	-0.2
	1.3nm,0.7s,baz=201,slow=6.4,SNR=5.6						
TAPN	Taplejung	39.86	305	eP	P	22 18 34.2	+0.7
	12nm,0.4s						
RAMN	Ramite	40.61	304	eP	P	22 18 40.2	+0.8
	13nm,0.5s						
JIRN	Jiri	41.22	305	eP	P	22 18 44.8	+0.4
	2.5nm,0.3s						
GUN	Gumba	41.57	305	eP	P	22 18 47.7	+0.6
	14nm,0.3s						
PKI	Pulchoki	41.83	304	eP	P	22 18 49.1	0.0
	4.8nm,0.3s						
STKA	Stephens Creek	42.01	157	P	P	22 18 50.9	+0.9
	2.6nm,0.6s,baz=322,slow=11,SNR=9.2						
KKN	Kakani	42.01	305	eP	P	22 18 50.7	+0.2
	7.8nm,0.3s						
DMN	Daman	42.09	304	eP	P	22 18 51.3	+0.2
GKN	Gorkha	42.62	305	eP	P	22 18 55.1	0.0
	8.9nm,0.4s						
KOLN	Koldanda	43.39	304	eP	P	22 19 01.8	+0.7
	16nm,0.3s						
DANN	Dangsing	43.47	305	eP	P	22 19 02.2	+0.3
	37nm,0.5s						
DZM	Mont Dzumac	50.69	126	P	P	22 19 57.8	+2.0
	5.5nm,1.1s,baz=199,slow=11,SNR=7.1						
MKAR	Makanchi Array	53.41	325	P	P	22 20 15.4	+0.7
	2.9nm,0.4s,baz=120,slow=7.7,SNR=112						
MKAR				PcP	PcP	22 21 11.3	-0.8
	0.4nm,0.5s,baz=101,slow=4.4,SNR=3.6						
MKAR				ScP	ScP	22 24 12.6	-0.8
	0.8nm,0.8s,baz=122,slow=5.0,SNR=6.5						
PETK	Petropavlovsk-	53.86	25	P	P	22 20 18.9	+1.2
	2.4nm,0.6s,baz=192,slow=5.5,SNR=3.9						
ZALV	Zalesovo Beam	56.58	334	P	P	22 20 36.3	-0.2
	0.4nm,0.3s,baz=140,slow=9.1,SNR=4.4						
BVAR	Borovoye Array	65.20	327	P	P	22 21 20.2	-0.1
	0.4nm,0.4s,baz=28,slow=5.4,SNR=6.6						
AKTO	Aktyubinsk	69.47	321	P	P	22 21 59.5	+0.4
	1.2nm,0.6s,baz=117,slow=10,SNR=4.0						
ILAR	Eielson Array	83.68	26	P	P	22 23 16.2	0.0
	0.3nm,0.5s,baz=228,slow=5.9,SNR=7.9						
BRTR	Keskin Array B	85.83	309	P	P	22 23 26.4	-1.0
	0.8nm,0.8s,baz=140,slow=3.2,SNR=4.1						
FINES	FINESS Array B	87.79	332	P	P	22 23 35.1	-0.8
	0.9nm,0.7s,baz=70,slow=4.6,SNR=4.1						
TORD	Torodi Ar. Bea	119.15	289	PKP	PKPdf	22 29 30.9	-1.8
	0.4nm,1.0s,baz=74,slow=1.8,SNR=4.5						

ISCJB 21 22:25:52.5±0.5, 17.05N±0.07×59.78E±0.04, h10km, mb4.0/20, MS3.5/10, Error ellipse: s-maj=10.4km s-min=5.3km az=0.2

IDC 21 22:25:52.3±0.8, 16.94N×59.87E, h0km, mb4.0/18, mb1 4.1/18, mb1mx4.0/31, mbtmp4.0/18, MS3.6/11, Ms1 3.6/11, ms1mx3.2/47, Error ellipse: s-maj=19.4km s-min=16.1km az=19.0

OMAN 21 22:26:00.6±99.0, 17.23N×59.64E, h34km±11km, Error ellipse: s-maj=119.4km s-min=3.2km az=307.0

ISC 21 22:25:54.2±0.7, 17.05N±0.10×59.84E±0.07, h10km, n45, σ0§93/40, mb4.1/20, MS3.5/10, 3C-1D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RBK	Rabkut	5.41	276	⇑P	Pn	22 27 15.6	+0.6
	SNR=22						
RBK				⇑S	Sn	22 28 16.9	-0.5
WBK	Wadi Bani Khal	5.59	352	⇑P	Pn	22 27 16.9	-0.6
	SNR=23						
ABTO	Aybut	6.26	274	P	Pn	22 27 28.1	+1.3
	SNR=24						
ABTO				⇓S	Sn	22 28 36.5	-2.1
HOQ	Hoqain	6.92	340	P	Pn	22 27 36.7	+0.9
	SNR=17						
ARQ	Araqi	6.99	334	P	Pn	22 27 37.5	+0.8
	SNR=19						
ASHO	Ashiyiah	8.38	336	P	Pn	22 27 56.1	+0.4
	SNR=21						
HATD	Hatta, Dubai	8.47	336	P	Pn	22 27 57.7	+0.6
	SNR=23						
ATD	Arta Tunnel	17.36	254	LR	LR	22 34 56.2	
	comp=Z,217nm,20.6s,baz=352,slow=31						
DDI	Dehra Dun	21.23	48	ex	P	22 30 40.0	-0.5
DANN	Dangsing	24.71	59	eP	P	22 31 16.3	+0.2
	9.8nm,0.8s						
GKN	Gorkha	25.31	60	eP	P	22 31 21.6	+0.2
	23nm,1.0s						
DMN	Daman	25.57	61	eP	P	22 31 24.3	+0.4
	44nm,1.0s						
ASF	Jabal al Asfar	25.65	310	P	P	22 31 25.7	+1.4
	5.0nm,0.9s,baz=116,slow=17,SNR=3.2						
ASF				LR	LR	22 43 09.3	
	comp=Z,70nm,18.9s,baz=188,slow=40						
KKN	Kakani	25.77	61	eP	P	22 31 26.1	+0.4
	19nm,0.9s						
PKI	Pulchoki	25.81	62	eP	P	22 31 26.2	+0.1
EIL	Elat	26.01	303	LR	LR	22 42 27.4	
	comp=Z,64nm,20.2s,baz=81,slow=38						
GUN	Gumba	26.32	61	eP	P	22 31 31.2	+0.5
	53nm,1.0s						
GNI	Garni	26.48	333	LR	LR	22 43 46.1	
	comp=Z,117nm,20.4s,baz=108,slow=40						
JIRN	Jiri	26.50	62	eP	P	22 31 32.4	0.0
	5.1nm,0.7s						
RAMN	Ramite	26.64	64	eP	P	22 31 34.8	+1.2
MMAI	Mount Meron Ar	27.16	310	LR	LR	22 43 54.5	
	comp=Z,120nm,20.8s,baz=130,slow=40						
TAPN	Taplejung	27.70	63	eP	P	22 31 43.3	+0.2
	9.0nm,0.7s						
AAK	Ala-Archa	28.40	23	LR	LR	22 44 45.1	
	comp=Z,98nm,18.4s,baz=26,slow=40						
KBZ	Khabaz	30.22	335	P	P	22 32 05.8	+0.8
	3.3nm,0.9s,baz=312,slow=3.5,SNR=4.2						
BRTR	Keskin Array B	32.06	320	P	P	22 32 23.3	+1.8
	2.8nm,0.8s,baz=146,slow=11,SNR=4.3						
MKAR	Makanchi Array	34.99	27	P	P	22 32 47.2	+0.5
	2.0nm,0.6s,baz=213,slow=9.1,SNR=36						
KURBB	Kurchatov Arra	36.69	20	P	P	22 33 01.9	+0.7
	2.1nm,0.9s,baz=217,slow=8.5,SNR=16						
BVAR	Borovoye Array	36.84	11	P	P	22 33 03.9	+1.4
	0.9nm,0.6s,baz=179,slow=8.3,SNR=5.3						
CMAR	Chiang Mai Arr	37.22	82	P	P	22 33 06.5	+0.4
	1.1nm,0.4s,baz=277,slow=9.8,SNR=11						
AKASG	Malin Array Be	41.55	331	P	P	22 33 40.9	-1.0
	4.5nm,1.2s,baz=129,slow=6.9,SNR=4.7						
ZALV	Zalesovo Beam	41.61	22	P	P	22 33 42.4	0.0
	2.7nm,0.7s,baz=222,slow=8.4,SNR=17						
ZALV				LR	LR	22 52 55.5	
	comp=Z,75nm,18.1s,baz=8.9,slow=39						
SONM	Songino Array	48.81	41	P	P	22 34 40.2	+0.5
	1.3nm,0.6s,baz=240,slow=7.9,SNR=16						
SONM				LR	LR	22 58 31.0	
	comp=Z,70nm,19.1s,baz=196,slow=40						
KHC	Kasperske Hory	49.15	321	eP	P	22 34 42.0	-0.2
KHC				ex	x	22 34 49.5	
JOF	Joensuu	49.92	343	ep	P	22 34 46.5	-1.4
	1.6nm,0.8s						
FINES	FINESS Array B	50.38	340	P	P	22 34 51.5	+0.2
	2.7nm,0.6s,baz=131,slow=8.4,SNR=20						
KAF	Kangasniemi	50.79	340	ep	P	22 34 53.2	-1.3
	1.8nm,0.6s						
LBTB	Lobatse	53.50	219	P	P	22 35 16.0	+0.8
	0.9nm,0.5s,baz=52,slow=12,SNR=4.4						
HFS	Hagfors	54.27	334	P	P	22 35 20.2	0.0
	1.4nm,0.5s,baz=140,slow=9.4,SNR=6.5						
NOA	NORSAR Array B	55.78	334	P	P	22 35 30.9	-0.4
	1.4nm,0.8s,baz=119,slow=7.9,SNR=3.3						
NOA				LR	LR	23 01 37.3	
	comp=Z,49nm,20.4s,baz=275,slow=38						
TORD	Torodi Ar. Bea	56.11	275	P	P	22 35 34.3	0.0
	1.2nm,0.8s,baz=74,slow=6.7,SNR=6.2						
BOSA	Boshof	56.39	217	LR	LR	22 57 15.4	
	comp=Z,56nm,19.3s,baz=155,slow=33						
ESDC	Sonseca Array	59.26	306	P	P	22 35 55.0	-1.1
	0.8nm,0.7s,baz=78,slow=5.5,SNR=7.9						
WRA	Warramunga Arr	81.85	114	P	P	22 38 12.8	-1.5
	0.7nm,0.6s,baz=307,slow=4.2,SNR=14						
ASAR	Alice Springs	82.85	117	P	P	22 38 17.9	-1.6
	0.3nm,0.6s,baz=294,slow=5.3,SNR=6.5						
RES	Resolute Bay	87.07	353	LR	LR	23 22 06.0	
	comp=Z,62nm,18.8s,baz=186,slow=39						

IDC 21 22:37:43.0±2.5, 4.15N×126.91E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, Error ellipse: s-maj=206.2km s-min=27.9km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	25.03	163	P	P	22 43 08.3	-0.7
	0.7nm,0.6s,baz=342,slow=10,SNR=6.8						
ASAR	Alice Springs	28.48	166	P	P	22 43 40.7	+0.6
	0.2nm,0.7s,baz=345,slow=10,SNR=2.7						
MKAR	Makanchi Array	57.32	325	P	P	22 47 32.9	0.0
	0.1nm,0.5s,baz=115,slow=9.1,SNR=4.0						

IDC 21 22:47:25.8±0.6, 2.74S×78.08W, h0km, mb4.3/18, mb1 4.5/21, mb1mx4.5/26, mbtmp4.4/21, ML4.7/3, MS4.2/23, Ms1 4.2/23, ms1mx4.1/36, Error ellipse: s-maj=22.9km s-min=11.7km az=52.0

ISCJB 21 22:47:26.8±0.2, 2.85S±0.02×78.22W±0.03, h9km, mb4.9/138, MS4.3/22, Error ellipse: s-maj=4.6km s-min=3.0km az=169.6

IGQ 21 22:47:26.3, 2.77S×78.14W, h12km±14km, Mb5.2, Ms5.1, Error ellipse: s-maj=4.3km s-min=1.1km az=3.4

MOS 21 22:47:30.0±1.6, 3.08S×78.30W, h33km, mb5.2/51, Error ellipse: s-maj=10.8km s-min=6.2km az=111.5

BJI 21 22:47:31.4, 2.70S×77.80W, h10km, mB5.6/5, Ms7 5.0/1

NEIC 21 22:47:33.5±0.4, 2.70S×78.20W, h35km, mb5.0/116, MD5.5(IGQ), Error ellipse: s-maj=11.5km s-min=7.4km az=46.0

NEIC Felt at Cuenca, Guarumales, Macas and in Morona-Santiago.

ISC 21 22:47:27.8±0.3, 2.82S±0.03×78.15W±0.06, h9km, n761, σ1§33/708, mb5.0/138, MS4.3/22, 192C-198D, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YANT	Yantaza	1.20	211	⇑S	Sb	22 48 05.7	-0.8
YANT	Yantaza	1.20	211	⇑P	Pb	22 47 49.1	-1.8
PAT1	Patacocha	1.34	348	⇓P	Pn	22 47 50.7	-2.4
ARRY	Arrayan	1.34	347	⇓P	Pn	22 47 50.4	-2.7
BMAS	Trigal station	1.35	346	⇓S	Sb	22 48 08.0	-3.1
BMAS	Trigal station	1.35	346	⇓P	Pn	22 47 50.9	-2.3
ULBA	Ulba	1.39	349	⇓P	Pn	22 47 51.6	-2.2
RETU	Refugio	1.39	348	⇓P	Pn	22 47 51.8	-2.1
BIL2	Estacion Bilba	1.40	345	⇓P	Pn	22 47 51.8	-2.0
BBIL	Ulba Tungurahu	1.40	346	⇓S	Sn	22 48 11.7	-1.1
BBIL	Ulba Tungurahu	1.40	346	⇓P	Pn	22 47 51.8	-2.1
IGUA	Igualata	1.41	340	⇓P	Pn	22 47 52.9	-1.3
BRUN	Tungurahua Vol	1.41	349	⇓S	Sn	22 48 10.9	-2.1
BRUN	Tungurahua Vol	1.41	349	⇓P	Pn	22 47 52.0	-2.1
JUI6	Juive	1.42	347	⇓P	Pn	22 47 52.0	-2.2
RUN5	Runtun	1.42	349	P	Pn	22 47 52.0	-2.2
PISA	Pisayambo	1.77	352	⇑P	Pn	22 47 58.2	-0.8
BMOR	Cotopaxi Volca	2.10	352	⇓S	Sb	22 48 32.8	-0.1
BMOR	Cotopaxi Volca	2.10	352	⇓P	Pn	22 48 04.1	+0.4
MOV1	Cotopaxi Vol s	2.11	352	P	Pn	22 48 04.0	+0.1
TAMB	Tambo	2.12	354	⇓P	Pn	22 48 04.2	+0.2
BTAM	Cotopaxi Volca	2.15	353	⇓P	Pn	22 48 04.7	+0.4
COV1	Cotopaxi Volc	2.15	355	⇓P	Pn	22 48 05.2	+0.7
BREF	Cotopaxi Volca	2.15	352	⇓S	Sb	22 48 34.8	+0.2
BREF	Cotopaxi Volca	2.15	352	⇓P	Pn	22 48 05.2	+0.7
BVC2	Cotopaxi Volca	2.16	353	⇓P	Pn	22 48 05.2	+0.6
VC1	Cotopaxi 1	2.18	353	⇓P	Pn	22 48 05.3	+0.5
NAS2	Nasa	2.18	352	P	Pn	22 48 06.0	+1.1
PITA	Cotopaxi Volc	2.26	353	⇓P	Pn	22 48 06.9	+1.0
ANTI	Antisana	2.35	360	⇓P	Pn	22 48 07.3	0.0
JUA2	San Juan 2	2.63	350	P	Pn	22 48 12.8	+1.9
GGP	Refugio Guagua	2.67	350	P	Pn	22 48 12.6	+1.1
TERV	Terraza Guagua	2.67	350	P	Pb	22 48 14.8	-1.4
PINO	Pino	2.68	350	⇓P	Pn	22 48 13.6	+1.8
YANA	Yana	2.72	351	S	Sb	22 48 51.3	+0.7
YANA	Yana	2.72	351	P	Pb	22 48 15.9	-1.0
CHAR	Charly	2.76	10	⇓P	Pn	22 48 12.5	-0.2
LAV4	Lava4-Reventad	2.76	11	⇓P	Pn	22 48 11.6	-1.0
CONE	Cono NE Rev Vo	2.78	11	⇓P	Pn	22 48 12.2	-0.7
CAYR	Refugio Cayamb	2.82	3	⇓P	Pn	22 48 15.0	+1.3
CAYA	Cayambe	2.88	3	⇓P	Pn	22 48 15.3	+0.9
OTAV	Otavalo	3.05	354	ePn	Pn	22 48 17.6	+0.8
OTAV	Otavalo	3.05	354	⇓P	Pn	22 48 17.7	+1.0
OTAV	Otavalo	3.05	354	⇓S	Sb	22 49 03.0	+2.8
CHIS	Cerro-Chispas-	3.12	304	⇑P	Pn	22 48 17.7	+0.4
COTA	Cotacachi	3.14	357	P	Pn	22 48 20.4	+2.5
GOLV	Golondrinas	3.17	342	P	Pn	22 48 19.4	+1.5
JAMA	Jama	3.27	321	P	Pn	22 48 20.4	+1.0
ATAH	Atahualpa	4.29	183	Pn	Pn	22 48 35.5	+1.7
ATAH				Sn	Sn	22 49 26.8	+2.5
ATAH	Atahualpa	4.29	183	Pn	Pn	22 48 35.5	+1.7
	64nm,0.3s,baz=21,slow=8.1,SNR=239						
ATAH				Sn	Sn	22 49 26.8	+2.5
	42nm,0.3s,baz=62,slow=22,SNR=7.5						
ATAH				LR	LR	22 50 22.9	
	comp=Z,4μm,18.4s,baz=10,slow=40						
ROSC	El Rosal	8.53	27	Pn	Pn	22 49 34.3	+2.3
ROSC	El Rosal	8.53	27	Pn	Pn	22 49 34.3	+2.3
	2.0nm,0.3s,baz=108,slow=20,SNR=2.8						
ROSC				Lg	Lg	22 51 55.6	
	32nm,0.3s,baz=79,slow=21,SNR=4.8						
ROSC				LR	LR	22 52 49.9	
	comp=Z,2μm,18.7s,baz=20,slow=38						
NNA	Nana	9.20	172	ePn	Pn	22 49 39.1	-1.8
NNA				eSn	Sn	22 51 23.2	-1.5
NNA	Nana	9.20	172	Pn	Pn	22 49 41.1	+0.3
	18nm,0.3s,baz=336,slow=12,SNR=23						
NNA				Sn	Sn	22 51 23.0	-1.6
	12nm,0.3s,baz=190,slow=22,SNR=4.2						
NNA				LR	LR	22 53 05.2	
	comp=Z,3μm,18.6s,baz=333,slow=37						
SDV	Santo Domingo	13.83	33	ePn	Pn	22 50 45.0	+0.6
SDV				eSn	Sn	22 53 18.9	+0.4
JTS	JuntasAbangare	14.68	333	ePn	Pn	22 50 58.0	+2.0
SAML	Samuel	16.08	113	ePn	Pn	22 51 09.2	-5.2
SAML				eSn	Sn	22 53 58.3	-15
LPAZ	La Paz	16.62	144	Pn	Pn	22 51 20.9	-1.0
LPAZ	La Paz	16.62	144	Pn	Pn	22 51 20.9	-1.0
	0.6nm,0.3s,baz=337,slow=9.8,SNR=13						
MTDJ	Mount Denham	20.92	2	ePn	Pn	22 52 13.6	0.0
SIV	San Ignacio	21.30	129	P	P	22 52 13.4	-1.7
SIV	San Ignacio	21.30	129	P	P	22 52 13.4	-1.7
	13nm,0.9s,baz=322,slow=12,SNR=26						
SIV				Lg	Lg	22 58 44.8	
	16nm,0.8s,baz=230,slow=19,SNR=3.1						
SIV				LR	LR	23 01 22.7	
	comp=Z,1μm,20.6s,slow=39						
LVC	Limon Verde	21.62	156	eP	P	22 52 20.2	+1.5
SJG	San Juan	23.93	29	LR	LR	23 03 04.8	
	comp=Z,1μm,20.3s,baz=270,slow=39						
TEIG	Tepich	24.97	337	eP	P	22 52 51.6	-0.3
TEIG	Tepich	24.97	337	P	P	22 52 50.8	-1.1
	9.2nm,0.8s,baz=166,slow=1.6,SNR=4.3						
CMIG	Matias Romero	25.77	321	P	P	22 52 58.3	-1.0
CMIG	Matias Romero	25.77	321	P	P	22 52 58.3	-1.0
	6.3nm,0.8s,baz=102,slow=7.2,SNR=6.3						
CPUP	Villa Florida	30.75	141	P	P	22 53 42.4	-1.3
CPUP	Villa Florida	30.75	141	P	P	22 53 42.4	-1.3
	0.3nm,0.3s,baz=223,slow=16,SNR=3.1						
CPUP				LR	LR	23 08 41.0	
	comp=Z,512nm,19.2s,baz=304,slow=41						
BDFB	Brasilia	32.29	115	P	P	22 53 57.0	-0.5
BDFB	Brasilia	32.29	115	P	P	22 53 57.0	-0.5
	2.7nm,0.6s,baz=292,slow=15,SNR=5.1						
BDFB				LR	LR	23 06 40.5	
	comp=Z,498nm,19.4s,baz=285,slow=36						
NHSC	New Hope	35.78	357	eP	P	22 54 28.2	+0.8
	35nm,0.9s						
LRAL	Lakeview Retre	36.63	347	eP	P	22 54 32.9	-1.8
	10nm,0.8s						
732A	Laxson Ranch,	37.72	328	⇑P	P	22 54 45.0	+1.0
	baz=38						
KMSC	Kings Mountain	37.88	356	⇑P	P	22 54 46.6	+1.3
	baz=38						
RPN	Rapa Nui	38.40	228	LR	LR	23 06 53.6	
	comp=Z,14μm,21.3s,baz=137,slow=30						
SWET	Sewanee	38.53	350	eP	P	22 54 47.7	-3.1
	16nm,0.9s						
CPCT	Cooper Cave	38.53	352	eP	P	22 54 48.3	-2.5
631A	Perdido Creek	38.59	328	⇑P	P	22 54 52.1	+0.7
	baz=39						
OXF	Oxford	38.62	345	eP	P	22 54 48.4	-3.1
OXF				pmax	pmax		
	comp=Z,19nm,1.0s						
OXF	Oxford	38.62	345	eP	P	22 54 48.4	-

328A Wristen Ranch, 41.32 327 ⇓P P 22 55 14.8 +0.6
baz=41,SNR=6.7
426A McDonald Obser 41.45 325 ⇓P P 22 55 15.5 0.0
baz=42,SNR=8.6
USIN University of 41.53 349 eP P 22 55 16.6 +0.9
comp=Z,32nm,0.6s
WCI Wyandotte Cave 41.53 350 eP P 22 55 16.9 +1.2
WCI pmax pmax
comp=Z,12nm,0.9s
WCI Wyandotte Cave 41.53 350 eP P 22 55 16.9 +1.2
comp=Z,12nm,0.9s
SIUC Southern Illin 41.62 347 eP P 22 55 13.5 -2.8
comp=Z,42nm,0.8s
228A UT Block 9, Go 41.78 328 ⇑P P 22 55 18.9 +1.0
baz=42
129A Stewart Farms, 41.81 329 ⇓P P 22 55 18.8 +0.7
baz=42
326A Caldwell Ranch 41.91 326 ⇑P P 22 55 19.6 +0.6
baz=42,SNR=7.7
TUL1 Tulsa 41.91 338 ⇑P P 22 55 19.9 +1.0
baz=42
425A Indio Mountain 42.09 325 ⇑P P 22 55 20.8 +0.2
baz=42,SNR=9.5
WMOK Wichita Mounta 42.09 334 eP P 22 55 19.1 -1.2
WMOK pmax pmax
comp=Z,23nm,0.9s
WMOK Wichita Mounta 42.09 334 eP P 22 55 19.1 -1.2
comp=Z,23nm,0.9s
RCBR Riachuelo 42.23 96 P P 22 55 21.7 -0.1
RCBR Riachuelo 42.23 96 P P 22 55 21.7 -0.1
comp=Z,7.2nm,1.0s,baz=278,slow=7.1,SNR=3.5
Z29A Hungry Hill Ra 42.23 330 ⇑P P 22 55 21.7 +0.1
baz=42
OLIL Olney 42.36 348 eP P 22 55 19.2 -3.1
comp=Z,35nm,0.8s
BLO Bloomington 42.49 350 eP P 22 55 20.0 -3.5
BLO pmax pmax
comp=Z,22nm,0.6s
BLO Bloomington 42.49 350 eP P 22 55 20.0 -3.5
comp=Z,22nm,0.6s
325A Bean Ranch, Si 42.51 325 ⇑P P 22 55 24.5 +0.4
baz=42,SNR=6.5
127A Arkansas Junct 42.62 328 ⇑P P 22 55 25.5 +0.7
baz=43
MVL Millersville 42.64 2 eP P 22 55 28.3 +3.6
comp=Z,13nm,0.8s
Y29A Porterfield Fa 42.70 331 ⇓P P 22 55 25.7 +0.3
baz=43,SNR=8.3
GDL2 Guadalupe Moun 42.80 327 eP P 22 55 26.5 +0.2
324A Moseley Ranch, 42.86 325 ⇑P P 22 55 27.0 +0.2
baz=43,SNR=13
126A Clayton Basin, 42.95 327 ⇑P P 22 55 27.6 +0.1
baz=43
225A Deer Hill, Car 42.98 326 ⇑P P 22 55 28.3 +0.5
baz=43,SNR=7.8
MNTX Cornudas Mount 42.99 325 eP P 22 55 26.8 -0.9
comp=Z,5.9nm,0.8s
MNTX Cornudas Mount 42.99 325 ⇓P P 22 55 27.6 -0.1
baz=43,SNR=7.4
Y28A McKinney Farm, 43.02 330 ⇑P P 22 55 27.9 -0.1
baz=43,SNR=8.1
Z27A Tatum 43.04 329 ⇑P P 22 55 28.6 +0.4
baz=43
ACSO Alum Creek Sta 43.07 355 eP P 22 55 28.8 +0.6
comp=Z,21nm,0.9s
X29A Tulia 43.18 331 ⇓P P 22 55 29.7 +0.3
baz=43
SSPA Standing Stone 43.25 0 eP P 22 55 28.7 -0.9
comp=Z,20nm,0.9s
125A Gardner Draw, 43.30 327 ⇓P P 22 55 30.3 -0.1
baz=43,SNR=6.8
MSTX Muleshoe 43.33 330 ⇑P P 22 55 30.9 +0.4
baz=43,SNR=9.2
224A Cornudas Mount 43.35 325 ⇓P P 22 55 30.9 +0.1
baz=43,SNR=6.6
Z26A Caprock 43.41 328 ⇑P P 22 55 31.2 0.0
baz=43,SNR=31
Y27A Causey 43.46 329 ⇑P P 22 55 32.0 +0.4
baz=44,SNR=7.2
X28A Dimmitt 43.48 331 ⇑P P 22 55 32.1 +0.3
baz=44
AMTX Amarillo 43.53 332 eP P 22 55 31.8 -0.3
comp=Z,39nm,0.8s
AMTX Amarillo 43.53 332 ⇓P P 22 55 32.6 +0.5
baz=44,SNR=6.5
W29A Amraillo 43.71 332 ⇑P P 22 55 34.2 +0.6
baz=44
SFIN Scholer Farm 43.77 350 ⇓P P 22 55 35.3 +1.6
baz=44
Z25A Roswell 43.81 327 ⇑P P 22 55 34.5 +0.1
baz=44,SNR=9.4
Y26A Elida 43.83 329 ⇑P P 22 55 35.7 +1.1
baz=44
Z24A Sheeppen Canyo 44.20 327 ⇑P P 22 55 37.7 +0.1
baz=44,SNR=10.0
V29A Stinnett 44.26 333 ⇓P P 22 55 39.0 +1.0
baz=44
222A Williams Famil 44.28 324 ⇑P P 22 55 39.0 +0.7
baz=44
Y25A Mesa, Roswell 44.29 328 ⇓P P 22 55 39.1 +0.8
baz=44
X26A CR and CF Fran 44.31 329 ⇓P P 22 55 39.3 +0.9
baz=44
W27A Bowe Ranch, En 44.34 330 ⇓P P 22 55 38.9 +0.2
baz=44,SNR=14
HDIL Hopedale 44.36 348 eP P 22 55 34.8 -3.7
comp=Z,48nm,0.6s
V28A Channing 44.49 332 ⇑P P 22 55 40.8 +1.0
baz=44
320A Kipp Ranch, An 44.60 322 ⇑P P 22 55 40.8 0.0
baz=45,SNR=6.1
Z23A Rita Site, Whi 44.63 326 ⇓P P 22 55 41.7 +0.6
baz=45,SNR=5.7
122A Conniff Cattle 44.66 325 ⇑P P 22 55 42.7 +1.5
baz=45,SNR=5.5
Y24A Capitan 44.69 327 ⇓P P 22 55 42.4 +0.8
baz=45,SNR=9.1
W26A Owens Ranch, T 44.72 330 ⇓P P 22 55 42.8 +1.1
baz=45
ERPA Erie 44.76 358 eP P 22 55 43.1 +1.4
comp=Z,23nm,0.8s
BINY Binghamton 44.85 2 eP P 22 55 45.8 +3.3
comp=Z,21nm,0.8s
121A Cookes Peak, D 44.99 324 ⇓P P 22 55 44.9 +0.9
baz=45,SNR=8.5
220A Playas Peak, P 44.99 323 ⇓P P 22 55 44.5 +0.5
baz=45,SNR=7.7
Y23A Lovelace Mesa, 45.03 327 ⇑P P 22 55 45.1 +0.8
baz=45,SNR=8.7
Z22A Elephant Butte 45.04 325 ⇓P P 22 55 45.4 +1.1
baz=45
KSU1 Kansas State U 45.05 340 eP P 22 55 41.9 -2.2
comp=Z,34nm,0.7s
319A Douglas 45.09 321 ⇑P P 22 55 45.6 +0.9
baz=45,SNR=9.7
W25A X Bar L Ranch, 45.17 329 ⇓P P 22 55 46.1 +0.8
baz=45
X24A Lazy VL Ranch, 45.17 328 ⇑P P 22 55 46.2 +0.7
baz=45
V26A Tequesquite Ra 45.28 330 ⇓P P 22 55 46.8 +0.6
baz=45,SNR=12
120A U Bar Ranch, L 45.51 323 ⇑P P 22 55 48.8 +0.8
baz=46
BNM Barren Site 45.51 326 eP P 22 55 48.6 +0.5
comp=Z,6.2nm,0.8s
Y22A Socorro 45.54 326 ⇓P P 22 55 49.5 +1.2
baz=46
T28A Walsh 45.56 333 ⇓P P 22 55 49.0 +0.6
baz=46,SNR=6.6
X23A Hourglass Bar 45.59 327 ⇑P P 22 55 49.6 +0.8
baz=46
LPM Los Pinos Moun 45.63 326 eP P 22 55 48.8 -0.2
W24A Lazy 6 Ranch, 45.65 328 ⇓P P 22 55 49.6 +0.4
baz=46,SNR=8.1
LENM Lemitar 45.71 326 eP P 22 55 52.7 +3.0
V25A Rancho No Teng 45.73 330 ⇓P P 22 55 50.7 +0.9
baz=46,SNR=13
U26A Atchley Ranch, 45.74 331 ⇓P P 22 55 50.8 +1.0
baz=46,SNR=13
T27A Campo 45.79 332 ⇓P P 22 55 51.8 +1.6
baz=46
Z20A Nine Sixteen R 45.88 324 ⇓P P 22 55 52.2 +1.2
baz=46,SNR=9.7
CBKS Cedar Bluff 45.97 336 eP P 22 55 54.7 +3.2
CBKS pmax pmax
comp=Z,57nm,0.8s
CBKS Cedar Bluff 45.97 336 eP P 22 55 54.7 +3.2
comp=Z,57nm,0.8s
CBKS Cedar Bluff 45.97 336 ⇓P P 22 55 52.9 +1.4
baz=46
V24A Rampart Ranch, 45.98 329 ⇓P P 22 55 52.7 +0.8
baz=46,SNR=9.1
X22A Bernardo 45.98 326 ⇓P P 22 55 53.2 +1.4
baz=46
Y21A Point of Rocks 45.99 325 ⇓P P 22 55 53.1 +1.1
baz=46,SNR=6.4
W23A Werner Place, 46.01 328 ⇓P P 22 55 53.1 +1.1
baz=46
ANMO Albuquerque 46.02 327 eP P 22 55 52.2 +0.2
comp=Z,19nm,0.9s
U25A Circle Dot Ran 46.07 330 ⇓P P 22 55 53.4 +0.9
baz=46,SNR=12
Y20A Horse Springs, 46.32 325 ⇑P P 22 55 55.4 +0.8
baz=46,SNR=9.3
W22A Albuquerque 46.33 327 ⇓P P 22 55 55.4 +0.8
baz=46
X21A Alamocita Cree 46.37 326 ⇑P P 22 55 55.6 +0.6
baz=46,SNR=11
S27A Las Animas 46.38 333 ⇑P P 22 55 55.9 +1.1
baz=46,SNR=16
V23A Ortiz Mt. (NFS 46.47 328 ⇓P P 22 55 56.4 +0.7
baz=46
U24A Moreno Valley 46.51 330 ⇓P P 22 55 56.6 +0.6
baz=46
SCIA State Center 46.57 345 eP P 22 55 54.9 -1.2
comp=Z,74nm,1.1s
S26A Kim 46.59 332 ⇑P P 22 55 57.0 +0.5
baz=47,SNR=10.0
T25A Trinidad 46.65 331 ⇑P P 22 55 57.7 +0.6
baz=47,SNR=12
TUC Tucson 46.67 321 eP P 22 56 00.9 +3.8
TUC pmax pmax
comp=Z,8.0nm,0.8s
TUC Tucson 46.67 321 eP P 22 56 00.9 +3.8
comp=Z,8.4nm,0.8s
W21A San Fidel 46.79 326 ⇑P P 22 55 59.1 +0.9
baz=47
R27A Eads 46.82 333 ⇑P P 22 55 58.7 +0.4
baz=47,SNR=12
X20A Quemado 46.85 325 ⇑P P 22 55 59.8 +1.1
baz=47,SNR=7.6
T24A Torres, Weston 46.92 330 ⇑P P 22 56 00.4 +1.2
baz=47
U23A El Rito 46.92 329 ⇑P P 22 56 00.3 +1.1
baz=47,SNR=8.5
V22A San Miguel Ran 46.98 328 ⇑P P 22 56 01.0 +1.3
baz=47
S25A Robets Cordova 47.08 331 ⇓P P 22 56 01.1 +0.7
baz=47,SNR=14
R26A Arlington 47.13 333 ⇑P P 22 56 01.4 +0.7
baz=47,SNR=20
V21A Milan 47.29 327 ⇓P P 22 56 03.7 +1.6
baz=47
KSCO Kaye Shedlock' 47.34 334 ⇑P P 22 56 03.7 +1.4
baz=47,SNR=5.9
SADO Sadowa 47.39 359 LR LR 23 17 49.6
comp=Z,176nm,18.7s,baz=168,slow=38
R25A Fountain Ranch 47.40 332 ⇓P P 22 56 04.5 +1.7
baz=47
S24A Houchin Ranch, 47.44 331 ⇓P P 22 56 04.8 +1.4
baz=48
BGNE Belgrade 47.64 340 ⇓P P 22 56 06.9 +2.4
baz=48
SDCO Great Sand Dun 47.66 330 eP P 22 56 05.2 +0.2
comp=Z,20nm,0.9s
SDCO Great Sand Dun 47.66 330 ⇑P P 22 56 06.1 +1.1
baz=48,SNR=17
Q26A Hugo 47.67 333 ⇓P P 22 56 06.9 +2.0
baz=48,SNR=7.2
214A Organ Pipe Nat 47.73 319 ⇓P P 22 56 06.3 +0.9
baz=48,SNR=6.8
U21A Nageezi 47.77 328 ⇑P P 22 56 06.5 +0.7
baz=48,SNR=9.9
P27A Ficken Ranch, 47.77 334 ⇓P P 22 56 07.7 +2.0
baz=48
T22A Edith 47.81 329 ⇓P P 22 56 07.6 +1.5
baz=48
R24A Sanders Place, 47.85 331 ⇓P P 22 56 08.1 +1.7
baz=48,SNR=9.0
Q25A Bedland, Calha 47.99 332 ⇓P P 22 56 09.1 +1.6
baz=48
P26A Davis Ranch, A 48.11 334 ⇓P P 22 56 09.8 +1.5
baz=48
T21A Navajo Lake 48.12 328 ⇑P P 22 56 09.9 +1.4
baz=48
U20A Newcomb 48.19 327 ⇓P P 22 56 10.0 +1.0
baz=48
O27A Beaver Island 48.26 335 ⇑P P 22 56 10.7 +1.3
baz=48
S22A 4UR Ranch, Cre 48.33 329 ⇑P P 22 56 11.1 +0.9
baz=48
P25A Willow Gulch B 48.44 333 ⇑P P 22 56 11.7 +0.8
baz=48,SNR=14
Q24A Divide 48.46 332 ⇓P P 22 56 12.3 +1.1
baz=48
X16A Lo Mia Camp, P 48.49 323 ⇓P P 22 56 11.8 +0.3
baz=48,SNR=12
U19A Dine' College, 48.51 326 ⇑P P 22 56 12.4 +0.8
baz=48
R22A Saguache, Gunn 48.66 330 ⇑P P 22 56 13.7 +0.9
baz=49
OGNE Ogallala 48.71 336 eP P 22 56 16.4 +3.6
comp=Z,41nm,0.8s
S21A Coal Bank Pass 48.76 329 ⇑P P 22 56 14.6 +1.0
baz=49
N27A Anderson Farm, 48.80 335 ⇑P P 22 56 15.1 +1.6
baz=49
MVCO Mesa Verde 48.80 328 eP P 22 56 17.2 +3.5
comp=Z,7.0nm,0.8s
MVCO Mesa Verde 48.80 328 ⇑P P 22 56 14.8 +1.1
baz=49
T19A Beclabito 48.80 327 ⇑P P 22 56 15.0 +1.2
baz=49
113A Mohawk Valley, 48.87 319 ⇓P P 22 56 15.2 +1.1
baz=49,SNR=5.5
O25A Wiggins 48.91 334 ⇑P P 22 56 15.1 +0.6
baz=49,SNR=5.5
P23A Jefferson 49.11 332 ⇑P P 22 56 17.4 +1.2
baz=49,SNR=9.0
Y14A Wickenburg 49.14 321 ⇓P P 22 56 16.4 +0.2
baz=49
R21A Cimarron 49.17 329 ⇓P P 22 56 17.5 +0.9
baz=49
S20A Disappointment 49.19 328 ⇑P P 22 56 17.7 +0.9
baz=49
WUAZ Wupatki 49.20 324 eP P 22 56 17.2 +0.4
comp=Z,26nm,0.9s
WUAZ Wupatki 49.20 324 ⇓P P 22 56 17.9 +1.0
baz=49,SNR=13
ECSD EROS Data Cent 49.23 342 eP P 22 56 13.8 -2.9
comp=Z,11nm,0.8s
Q22A Crested Butte, 49.23 330 ⇑P P 22 56 17.8 +0.7
baz=49,SNR=14
ISCO Idaho Springs 49.34 332 eP P 22 56 18.2 +0.3
ISCO pmax pmax
comp=Z,6.0nm,0.8s
ISCO Idaho Springs 49.34 332 eP P 22 56 18.2 +0.3
comp=Z,6.3nm,0.8s
ISCO Idaho Springs 49.34 332 ⇑P P 22 56 18.3 +0.4
baz=49,SNR=11
O24A Longmont 49.34 333 ⇑P P 22 56 18.9 +1.1
baz=49
R20A Redvale 49.46 329 ⇓P P 22 56 20.1 +1.2
baz=50
T18A Mexican Hat 49.49 326 ⇑P P 22 56 20.0 +1.0
baz=50
SMCO Snowmass 49.50 330 eP P 22 56 22.1 +2.8
comp=Z,7.3nm,1.0s
PV01 Paradox Valley 49.52 328 eP P 22 56 19.1 -0.2
S19A Harvey Farm, M 49.53 328 ⇓P P 22 56 20.0 +0.6
baz=50,SNR=5.5
SPMN St. Paul 49.58 346 ⇑P P 22 56 20.6 +1.2
baz=50
P22A Eagle 49.72 331 ⇑P P 22 56 21.3 +0.5
baz=50,SNR=5.2
GLA Glamis 49.74 319 eP P 22 56 24.9 +4.1
GLA pmax pmax
comp=Z,7.0nm,1.0s
GLA Glamis 49.74 319 eP P 22 56 24.9 +4.1
comp=Z,7.1nm,1.0s
GLA Glamis 49.74 319 ⇓P P 22 56 21.7 +0.9
baz=50
O23A Lake Granby, G 49.81 332 ⇓P P 22 56 22.3 +0.8
baz=50,SNR=23
N24A Carr 49.83 333 ⇑P P 22 56 22.8 +1.3
baz=50
PV04 Paradox Valley 49.89 328 eP P 22 56 26.6 +4.5
T17A Navajo Res., N 49.91 326 ⇑P P 22 56 23.5 +1.3
baz=50
M25A Palm-Egli Farm 49.96 335 ⇑P P 22 56 23.3 +0.9
baz=50
S18A Hurst Farm, Bl 49.96 327 ⇓P P 22 56 23.6 +0.9
baz=50
R19A Curley Farm, L 50.00 328 ⇑P P 22 56 23.5 +0.6
baz=50,SNR=10
P21A Newcastle 50.01 330 ⇑P P 22 56 23.7 +0.8
baz=50,SNR=16
L26A Underwood Farm 50.05 336 ⇓P P 22 56 24.2 +1.1
baz=50,SNR=5.6
O22A Kremmling 50.06 332 ⇓P P 22 56 25.4 +2.0
baz=50,SNR=15
K27A Flueckinger Fa 50.27 337 ⇑P P 22 56 26.6 +1.9
baz=50
M24A Cheyenne 50.32 334 ⇓P P 22 56 26.3 +1.1
baz=50,SNR=8.0
DVTC Desert V Tower 50.35 318 ⇑P P 22 56 26.8 +1.3
baz=50
N23A Red Feather La 50.36 333 ⇑P P 22 56 26.2 +0.6
baz=50,SNR=5.7
S17A Black Ridge (B 50.36 326 ⇑P P 22 56 26.9 +1.3
baz=50
U15A North Rim 50.37 324 ⇑P P 22 56 26.4 +0.5
baz=50,SNR=6.9
R18A Canyonlands Na 50.41 328 ⇑P P 22 56 27.0 +1.0
baz=50,SNR=12
W13A Hualapai Mount 50.45 322 ⇑P P 22 56 27.2 +0.9
baz=50,SNR=11
P20A De Beque 50.46 330 ⇓P P 22 56 27.8 +1.4
baz=50
PHWY Pilot Hill 50.47 333 eP P 22 56 30.3 +3.8
comp=Z,18nm,0.8s
Q19A Hogan Spring (50.49 329 ⇓P P 22 56 27.4 +0.9
baz=50,SNR=12
L25A Engebretsen Ra 50.51 335 ⇑P P 22 56 27.4 +0.8
baz=51,SNR=8.2
N22A Wattenberg Ran 50.52 332 ⇓P P 22 56 27.6 +0.7
baz=51,SNR=6.5
BC3 Big Chuckawall 50.53 319 ⇓P P 22 56 27.8 +1.0
baz=50
O21A Pagoda 50.55 331 ⇑P P 22 56 28.2 +1.1
baz=51
IRM Iron Mountain 50.64 320 ⇓P P 22 56 28.5 +0.9
baz=51,SNR=5.4
K26A Motz Farm, Whi 50.65 336 ⇑P P 22 56 29.4 +1.9
baz=51
MONP Monument Peak 50.70 318 ⇑P P 22 56 29.6 +1.3
baz=51,SNR=8.1
M23A Laramie 50.72 333 ⇑P P 22 56 29.6 +1.2
baz=51,SNR=5.8
P19A Cripple Cowboy 50.86 329 ⇑P P 22 56 30.8 +1.4
baz=51
S16A Weppner Ranch, 50.87 326 ⇓P P 22 56 31.3 +1.8
baz=51
R17A Hanksville Air 50.88 327 ⇓P P 22 56 31.2 +1.8
baz=51,SNR=5.5
N21A Black Mountain 50.99 331 ⇓P P 22 56 31.5 +1.0
baz=51,SNR=7.6
Q18A Rafter H Ranch 51.06 328 ⇓P P 22 56 31.7 +0.8
baz=51
M22A Cedar Creek Ra 51.06 333 ⇓P P 22 56 31.9 +0.9
baz=51
BELC Belle Mtn. Jos 51.10 319 ⇓P P 22 56 31.7 +0.5
baz=51
PFO Pinyon Flat Ob 51.16 318 eP P 22 56 35.8 +4.1
comp=Z,13nm,1.1s
PFO Pinyon Flat Ob 51.16 318 ⇑P P 22 56 32.7 +1.1
baz=51
LDFC Landfair 51.20 321 eP P 22 56 36.0 +4.1
comp=Z,14nm,0.9s
R16A Teasdale 51.20 326 ⇑P P 22 56 33.2 +1.1
baz=51
L23A Garrett 51.23 334 ⇓P P 22 56 32.9 +0.8
baz=51,SNR=5.9
SRU San Rafael 51.27 328 eP P 22 56 35.8 +3.3
SRU pmax pmax
comp=Z,12nm,1.0s
SRU San Rafael 51.27 328 eP P 22 56 35.8 +3.3
comp=Z,12nm,1.0s
SRU San Rafael 51.27 328 ⇑P P 22 56 33.5 +1.0
baz=51,SNR=8.4
GMRC Granite Mounta 51.36 320 ⇓P P 22 56 33.9 +0.7
baz=51,SNR=5.4
N20A Spence Gulch, 51.41 331 ⇑P P 22 56 34.2 +0.7
baz=51,SNR=8.0
O19A Miners Draw (B 51.43 330 ⇑P P 22 56 34.7 +1.1
baz=52
Q16A Castle Valley 51.48 327 ⇑P P 22 56 35.2 +1.1
baz=52
L22A Ellis Ranch, M 51.49 333 ⇑P P 22 56 35.5 +1.4
baz=52,SNR=5.8
P18A Preston Nutter 51.51 328 ⇓P P 22 56 35.2 +0.9
baz=52
RWWY Rawlins 51.57 332 eP P 22 56 38.1 +3.4
comp=Z,23nm,0.8s
M21A Separation Pea 51.58 332 ⇑P P 22 56 35.6 +0.8
baz=52,SNR=5.7
MURC Murrieta 51.65 318 ⇑P P 22 56 36.4 +1.2
baz=52
P17A Butcher Ranch, 51.65 328 ⇑P P 22 56 36.0 +0.7
baz=52,SNR=8.9
K23A Bowen Ranch, D 51.71 334 ⇑P P 22 56 37.4 +1.7
baz=52
MSU Marysvale 51.75 326 eP P 22 56 39.0 +2.9
MSU Marysvale 51.75 326 eP P 22 56 39.0 +2.9
CCUT Cedar City 51.76 324 eP P 22 56 40.4 +4.2
comp=Z,4.7nm,0.9s
J24A Dixon Ranch, L 51.77 336 ⇓P P 22 56 37.9 +1.8
baz=52
TMUT Trail Mountain 51.78 327 eP P 22 56 41.6 +5.2
comp=Z,18nm,1.4s
HEC Hector,Ludlow 51.82 320 ⇑P P 22 56 37.4 +0.9
baz=52,SNR=6.1
O18A Roosevelt 51.85 329 ⇓P P 22 56 38.3 +1.6
baz=52
L21A Rawlins 51.86 332 ⇑P P 22 56 37.9 +1.0
baz=52
M20A Sweetwater, Wa 51.88 331 ⇓P P 22 56 38.2 +1.2
baz=52
EYMN Ely 51.89 349 eP P 22 56 38.0 +1.3
comp=Z,10.0nm,0.6s
N19A John Jarvie Ra 51.90 330 ⇓P P 22 56 38.0 +0.8
baz=52,SNR=12
TUQ Turquoise Moun 51.94 321 ⇑P P 22 56 38.3 +0.8
baz=52,SNR=9.1
ARUT Antelope Range 51.97 324 eP P 22 56 39.3 +1.6
ARUT pmax pmax
comp=Z,8.0nm,1.0s
ARUT Antelope Range 51.97 324 eP P 22 56 39.3 +1.6
comp=Z,8.2nm,1.0s
K22A Casper 52.02 334 ⇑P P 22 56 39.2 +1.2
baz=52
RSSD Black Hills 52.17 337 eP P 22 56 38.9 -0.3
RSSD pmax pmax
comp=Z,22nm,0.8s
RSSD Black Hills 52.17 337 eP P 22 56 38.9 -0.3
comp=Z,22nm,0.8s
O17A Robinson Place 52.18 329 ⇑P P 22 56 40.1 +0.9
baz=52,SNR=10
N18A Larsen Ranch, 52.21 330 ⇑P P 22 56 40.4 +0.9
baz=52,SNR=5.9
K21A Alcova 52.33 333 ⇑P P 22 56 42.4 +2.0
baz=52
GSC Goldstone 52.42 320 eP P 22 56 45.2 +4.2
GSC pmax pmax
comp=Z,8.0nm,0.9s
GSC Goldstone 52.42 320 eP P 22 56 45.2 +4.2
comp=Z,8.3nm,0.9s
GSC Goldstone 52.42 320 ⇓P P 22 56 41.9 +0.9
baz=52,SNR=8.5
MPU Maple Canyon 52.52 328 eP P 22 56 46.8 +5.0
comp=Z,7.5nm,1.0s
R13A O'Grain Ranch, 52.54 324 ⇑P P 22 56 43.1 +1.1
baz=53
P15A Leamington 52.55 327 ⇓P P 22 56 42.9 +0.9
baz=53
MWC Mount Wilson 52.59 318 eP P 22 56 46.5 +4.1
MWC pmax pmax
comp=Z,8.0nm,0.7s
MWC Mount Wilson 52.59 318 eP P 22 56 46.5 +4.1
comp=Z,7.5nm,0.7s
DAU Daniels Canyon 52.61 328 eP P 22 56 42.8 +0.2
DAU Daniels Canyon 52.61 328 eP P 22 56 42.8 +0.2
J22A Midwest 52.61 334 ⇓P P 22 56 43.1 +0.7

baz=53,SNR=9.6
M18A **Lyman** 52.75 330 ⇓P P 22 56 45.5 +2.0
baz=53
N17A **Moffit Pass** 52.78 329 ⇓P P 22 56 45.1 +1.3
baz=53
DECC **Green Verdugo** 52.79 318 ⇓P P 22 56 45.0 +1.3
baz=53
JLU **Jordanelle** 52.85 328 eP P 22 56 48.1 +3.9
comp=Z,20nm,1.2s
K20A **Yellowstone Ra** 52.85 332 ⇑P P 22 56 45.1 +0.9
baz=53
H24A **Dirks Ranch, A** 52.90 337 ⇓P P 22 56 46.0 +1.6
baz=53
EDW2 **Edwards Air Fo** 52.94 319 ⇑P P 22 56 45.7 +0.9
baz=53,SNR=10.0
J21A **Lysite** 52.98 333 ⇑P P 22 56 46.7 +1.5
baz=53
N16A **Rees Ranch, Co** 53.05 329 ⇓P P 22 56 46.9 +1.2
baz=53
M17A **Scullys Gap (B** 53.08 330 ⇓P P 22 56 46.6 +0.6
baz=53,SNR=15
LRMC **Laurel Mountai** 53.10 319 ⇓P P 22 56 46.8 +0.8
baz=53,SNR=6.1
L18A **Fontenelle, Gr** 53.10 330 ⇑P P 22 56 47.0 +0.9
baz=53,SNR=10
BLG **Laguna Peak** 53.20 317 ⇑P P 22 56 48.2 +1.5
baz=53
AGMN **Agassiz Nation** 53.20 345 eP P 22 56 43.7 -2.8
comp=Z,16nm,0.6s
J20A **Shoshoni** 53.28 333 ⇑P P 22 56 47.8 +0.6
baz=53,SNR=5.5
DUG **Dugway** 53.28 327 eP P 22 56 46.9 -0.5
DUG pmax pmax
comp=Z,8.0nm,0.7s
DUG **Dugway** 53.28 327 eP P 22 56 46.9 -0.5
comp=Z,8.1nm,0.7s
DUG **Dugway** 53.28 327 ⇑P P 22 56 47.6 +0.3
baz=53,SNR=5.6
I21A **Big Trails, Te** 53.29 334 ⇑P P 22 56 48.4 +1.1
baz=53
MPMC **Manual Prospec** 53.33 320 ⇑P P 22 56 48.4 +0.6
baz=53
G24A **Alzada** 53.33 337 ⇓P P 22 56 48.6 +1.0
baz=53,SNR=5.4
BW06 **Boulder Array** 53.51 331 eP P 22 56 52.0 +2.9
comp=Z,7.0nm,0.9s
BW06 **Boulder Array** 53.51 331 ⇓P P 22 56 50.1 +1.1
baz=54,SNR=8.0
PDAR **Pinedale Array** 53.51 331 P P 22 56 47.5 -1.5
PDAR **Pinedale Array** 53.51 331 P P 22 56 47.5 -1.5
comp=Z,1.5nm,0.6s,baz=148,slow=8.7,SNR=5.6
PDAR LR LR 23 22 28.2
comp=Z,118nm,18.1s,baz=298,slow=39
R11A **Troy Canyon, C** 53.60 324 ⇓P P 22 56 50.5 +0.7
baz=54,SNR=10
G23A **Biddle** 53.61 336 ⇑P P 22 56 51.5 +1.9
baz=54
N15A **Stansbury Isla** 53.62 328 ⇓P P 22 56 51.5 +1.7
baz=54
HWUT **Hardware Ranch** 53.64 329 eP P 22 56 49.5 -0.4
comp=Z,30nm,0.9s
K18A **Toltan Ranch,** 53.64 331 ⇓P P 22 56 50.6 +0.6
baz=54,SNR=9.4
J19A **Crowheart** 53.65 332 ⇑P P 22 56 50.7 +0.6
baz=54,SNR=9.7
ISA **Isabella** 53.72 319 eP P 22 56 50.5 -0.1
ISA pmax pmax
comp=Z,4.0nm,0.8s
ISA **Isabella** 53.72 319 eP P 22 56 50.5 -0.1
comp=Z,4.2nm,0.8s
ISA **Isabella** 53.72 319 ⇓P P 22 56 51.6 +1.0
baz=54,SNR=6.1
I20A **Worland** 53.77 333 ⇓P P 22 56 51.7 +0.9
baz=54,SNR=18
H21A **Big Horn, Sher** 53.83 335 ⇓P P 22 56 52.3 +1.0
baz=54,SNR=6.1
GRAC **Grapevine Rang** 53.83 321 ⇑P P 22 56 52.0 +0.7
baz=54
SBC **Santa Barbara** 53.83 317 ⇑P P 22 56 52.4 +1.1
baz=54
MDND **Maddock** 53.84 342 ⇑P P 22 56 52.6 +1.5
baz=54
L16A **Fish Haven** 53.87 330 ⇑P P 22 56 52.4 +0.7
baz=54,SNR=14
CWC **Cottonwood Cre** 53.93 320 ⇑P P 22 56 53.0 +0.8
baz=54
M15A **Larsen Ranch,** 53.99 328 ⇓P P 22 56 52.6 +0.1
baz=54,SNR=18
G22A **Birney** 53.99 336 ⇓P P 22 56 53.1 +0.7
baz=54,SNR=6.8
F23A **Volborg** 54.05 337 ⇓P P 22 56 52.7 -0.1
baz=54,SNR=5.4
J18A **Kendall Valley** 54.07 332 ⇓P P 22 56 53.0 -0.2
baz=54,SNR=7.5
H20A **Greybull** 54.13 334 ⇑P P 22 56 53.9 +0.4
baz=54,SNR=22
K17A **Gardner Place,** 54.16 331 ⇑P P 22 56 54.6 +0.8
baz=54,SNR=7.0
PKM **Peak Mountain** 54.16 318 ⇑P P 22 56 54.5 +0.5
baz=54
I19A **Meeteetse** 54.22 333 ⇑P P 22 56 54.8 +0.5
baz=54,SNR=8.1
I18A **Diamond G Ranc** 54.34 332 ⇑P P 22 56 55.0 -0.2
baz=54,SNR=14
L15A **Malad City** 54.35 329 ⇓P P 22 56 54.7 -0.4
baz=54,SNR=18
G21A **Lodge Grass** 54.38 335 ⇑P P 22 56 55.3 +0.1
baz=54,SNR=5.7
HVU **Hansel Valley** 54.39 328 eP P 22 56 53.4 -2.1
HVU pmax pmax
comp=Z,5.0nm,0.8s
HVU **Hansel Valley** 54.39 328 eP P 22 56 53.4 -2.1
comp=Z,5.4nm,0.8s
J17A **Brown Place, J** 54.51 331 ⇓P P 22 56 56.7 +0.3
baz=54,SNR=9.4
K16A **Soda Springs** 54.55 330 ⇓P P 22 56 57.6 +0.9
baz=55,SNR=7.9
REDW **Red Top Meadow** 54.58 331 eP P 22 56 56.1 -0.8
comp=Z,8.7nm,0.9s
LOHW **Long Hollow** 54.65 331 eP P 22 56 56.7 -0.7
comp=Z,8.7nm,0.8s
H19A **Powell** 54.71 333 ⇓P P 22 56 58.4 +0.7
baz=55
TPAW **Teton Pass** 54.72 331 eP P 22 57 02.0 +4.0
comp=Z,11nm,0.9s
D24A **Glendive** 54.80 338 ⇑P P 22 56 58.8 +0.6
baz=55
MTUM **Tungsten Hills** 54.80 321 eP P 22 57 03.9 +5.4
RRI2 **Red Ridge** 54.80 331 eP P 22 56 57.6 -0.9
comp=Z,23nm,0.9s
G20A **Bridger** 54.80 334 ⇓P P 22 56 58.2 -0.1
baz=55,SNR=7.7
L14A **Malta** 54.81 328 ⇑P P 22 56 58.7 +0.2
baz=55,SNR=5.5
MOOW **Moose Ponds** 54.82 331 eP P 22 57 02.1 +3.5
comp=Z,6.4nm,0.9s
E22A **Miles City** 54.85 337 ⇑P P 22 56 60.0 +1.4
baz=55
I17A **Pilgrim Ck.** 54.87 332 ⇓P P 22 56 59.5 +0.6
baz=55,SNR=8.2
J16A **Bone** 54.89 331 ⇑P P 22 56 59.3 +0.2
baz=55,SNR=8.7
K15A **Arbon** 54.91 329 ⇑P P 22 57 00.2 +1.0
baz=55
ELK **Elko** 55.00 326 eP P 22 57 02.1 +2.1
ULM **Lac du Bonnet** 55.02 346 P P 22 56 59.1 -0.5
ULM **Lac du Bonnet** 55.02 346 P P 22 56 59.1 -0.5
comp=Z,10nm,0.8s,baz=153,slow=7.3,SNR=17
ULM LR LR 23 23 55.3
comp=Z,244nm,19.5s,baz=125,slow=40
H18A **Shoshone NF, C** 55.02 333 ⇑P P 22 56 59.6 -0.5
baz=55,SNR=8.8
IMW **Indian Meadow** 55.02 331 eP P 22 57 02.8 +2.6
comp=Z,15nm,0.8s
FLWY **Flagg Ranch** 55.05 332 eP P 22 57 04.2 +3.9
comp=Z,21nm,0.8s
K14A **Jones Ranch, D** 55.14 329 ⇑P P 22 57 00.7 -0.1
baz=55,SNR=6.0
D23A **Lindsay** 55.17 338 ⇑P P 22 57 02.1 +1.2
baz=55
C24A **Savage** 55.18 339 ⇑P P 22 57 02.4 +1.5
baz=55
RLMT **Red Lodge** 55.19 334 eP P 22 56 59.6 -1.6
comp=Z,15nm,0.8s
RLMT **Red Lodge** 55.19 334 ⇓P P 22 57 02.1 +0.9
baz=55,SNR=9.8
H17A **Grant Village** 55.23 332 ⇓P P 22 57 02.6 +1.0
baz=55

F20A **Billings** 55.24 335 ⇑P P 22 57 02.9 +1.4
baz=55
I16A **Newdale** 55.27 331 ⇑P P 22 57 02.4 +0.6
baz=55,SNR=7.4
LKWY **Lake** 55.27 332 eP P 22 57 04.7 +2.7
LKWY pmax pmax
comp=Z,17nm,0.8s
LKWY **Lake** 55.27 332 eP P 22 57 04.7 +2.7
comp=Z,17nm,0.8s
NVAR **Mina Array Bea** 55.30 322 P P 22 57 02.0 -0.1
NVAR **Mina Array Bea** 55.30 322 P P 22 57 02.0 -0.1
comp=Z,5.3nm,0.8s,baz=131,slow=7.0,SNR=17
E21A **Keefer Ranch,** 55.38 336 ⇓P P 22 57 03.3 +0.9
baz=55
J15A **Blackfoot** 55.38 330 ⇓P P 22 57 03.4 +0.7
baz=55,SNR=11
YFT **Old Faithful** 55.39 332 eP P 22 57 10.4 +7.6
comp=Z,14nm,0.8s
G18A **Lazy EL Ranch,** 55.47 333 ⇓P P 22 57 03.4 +0.2
baz=56,SNR=11
YNR **Norris Junctio** 55.52 332 eP P 22 57 08.1 +4.5
comp=Z,13nm,0.8s
D22A **Cohagen** 55.52 337 ⇓P P 22 57 03.7 +0.3
baz=56,SNR=5.3
YMR **Madison River** 55.62 332 eP P 22 57 04.3 -0.1
comp=Z,15nm,0.8s
F19A **Roth Farm, Mol** 55.62 334 ⇑P P 22 57 04.1 -0.1
baz=56,SNR=7.7
C23A **Lambert** 55.69 338 ⇑P P 22 57 05.3 +0.7
baz=56
H16A **Russell Place,** 55.78 332 ⇓P P 22 57 06.1 +0.6
baz=56,SNR=12
E20A **Meyer Farm, Mu** 55.79 335 ⇑P P 22 57 05.7 +0.4
baz=56,SNR=9.9
J14A **Carey** 55.88 329 ⇓P P 22 57 06.9 +0.7
baz=56
GCMT **Greycliff** 55.89 334 eP P 22 57 05.5 -0.7
comp=Z,48nm,0.8s
DGMT **Dagmar** 55.89 339 eP P 22 57 09.7 +3.7
comp=Z,17nm,1.1s
C22A **Vida** 55.90 338 ⇑P P 22 57 06.3 +0.2
baz=56,SNR=5.7
QLMT **Earthquake Lak** 55.96 332 eP P 22 57 07.8 +1.0
F18A **Big Timber** 56.00 334 ⇓P P 22 57 06.7 -0.2
baz=56,SNR=27
G17A **Pierce Place,** 56.01 333 ⇑P P 22 57 08.4 +1.3
baz=56,SNR=12
E19A **Rath Farm, Rou** 56.03 335 ⇑P P 22 57 07.4 +0.3
baz=56,SNR=9.8
B23A **Brockton** 56.17 339 ⇓P P 22 57 08.3 +0.3
baz=56
A24A **Westby** 56.21 340 ⇓P P 22 57 08.5 +0.2
baz=56,SNR=5.9
D20A **Manuel Ranch,** 56.26 336 ⇑P P 22 57 08.8 +0.1
baz=56,SNR=5.8
J13A **Cove Ranch, Pi** 56.27 329 ⇓P P 22 57 08.9 0.0
baz=56,SNR=14
I14A **Mackay** 56.28 330 ⇑P P 22 57 09.9 +0.8
baz=56,SNR=14
H15A **Lima** 56.38 331 ⇑P P 22 57 10.5 +0.7
baz=56,SNR=9.7
F17A **Fitzpatrick Pl** 56.42 333 ⇑P P 22 57 10.7 +0.7
baz=56,SNR=6.5
G16A **Moss Hill, Enn** 56.43 332 ⇓P P 22 57 10.4 +0.3
baz=56,SNR=7.7
C21A **Desert Coulee** 56.44 337 ⇑P P 22 57 10.1 +0.2
baz=56,SNR=6.2
HLID **Hailey** 56.51 329 eP P 22 57 14.4 +3.8
comp=Z,10nm,1.0s
HLID **Hailey** 56.51 329 ⇓P P 22 57 11.8 +1.2
baz=56,SNR=9.7
A23A **Redstone** 56.55 339 ⇓P P 22 57 11.5 +0.8
baz=57
E18A **Harlowton** 56.60 334 ⇓P P 22 57 11.8 +0.6
baz=57,SNR=7.9
I13A **Wildhorse Cree** 56.60 329 ⇓P P 22 57 11.8 +0.4
baz=57,SNR=21
D19A **Cripps Ranch,** 56.62 335 ⇑P P 22 57 12.2 +0.8
baz=57,SNR=10
MCMT **McKenzie Canyo** 56.63 331 eP P 22 57 13.0 +1.3
comp=Z,4.5nm,0.9s
BOZ **Bozeman (W)** 56.66 332 eP P 22 57 04.2 -7.5
BOZ pmax pmax
comp=Z,16nm,0.9s
BOZ **Bozeman (W)** 56.66 332 eP P 22 57 04.2 -7.5
comp=Z,16nm,0.9s
BOZ **Bozeman (W)** 56.66 332 ⇓P P 22 57 13.2 +1.4
baz=57,SNR=5.6
C20A **Veseth Ranch,** 56.70 336 ⇑P P 22 57 12.6 +0.8
baz=57
G15A **Dillon** 56.71 331 ⇓P P 22 57 13.0 +0.9
baz=57,SNR=6.1
H14A **Leadore** 56.73 330 ⇑P P 22 57 13.4 +1.1
baz=57,SNR=12
F16A **Kennard Place,** 56.77 333 ⇓P P 22 57 13.3 +0.8
baz=57,SNR=10.0
B21A **Ellsworth Farm** 56.90 337 ⇓P P 22 57 13.7 +0.5
baz=57
DLMT **Dillon** 56.91 332 eP P 22 57 15.3 +1.8
comp=Z,11nm,0.9s
E17A **Martinsdale** 56.93 334 ⇓P P 22 57 14.1 +0.4
baz=57
A22A **Carney Farms,** 56.95 339 ⇑P P 22 57 14.4 +0.8
baz=57,SNR=7.4
D18A **Linhart Farms,** 57.04 335 ⇑P P 22 57 14.6 +0.3
baz=57
I12A **Atlanta** 57.04 329 ⇑P P 22 57 15.0 +0.5
baz=57,SNR=5.9
H13A **Challis** 57.13 330 ⇓P P 22 57 15.7 +0.6
baz=57,SNR=7.0
MFID **Camas Ranch** 57.14 328 eP P 22 57 14.7 -0.4
comp=Z,32nm,0.9s
MFID **Camas Ranch** 57.14 328 ⇑P P 22 57 15.6 +0.5
baz=57,SNR=7.9
C19A **Slack Wire Ran** 57.15 336 ⇓P P 22 57 15.5 +0.5
baz=57,SNR=7.3
LRM **Limekiln Ridge** 57.18 332 eP P 22 57 15.4 -0.1
F15A **Butte** 57.21 332 ⇓P P 22 57 16.0 +0.3
baz=57,SNR=6.1
G14A **Jackson** 57.23 331 ⇓P P 22 57 15.8 -0.1
baz=57,SNR=7.4
B20A **Solberg Farm,** 57.30 337 ⇑P P 22 57 16.5 +0.4
baz=57,SNR=5.3
A21A **Bergtoll Ranch** 57.32 338 ⇑P P 22 57 16.1 -0.2
baz=57,SNR=12
E16A **East Helena** 57.35 333 ⇑P P 22 57 16.2 -0.4
baz=57,SNR=9.4
D17A **Six Diamond Ra** 57.39 334 ⇑P P 22 57 16.3 -0.5
baz=57,SNR=7.9
H12A **Diamond D Ranc** 57.43 330 ⇓P P 22 57 17.3 +0.1
baz=57,SNR=10
G13A **Cobalt** 57.50 330 ⇓P P 22 57 17.8 +0.1
baz=58,SNR=5.1
HRY **Holter Researc** 57.56 333 eP P 22 57 16.7 -1.3
F14A **Wisdom** 57.60 331 ⇓P P 22 57 18.2 -0.3
baz=58,SNR=8.8
A20A **Cobblestone Ra** 57.62 337 ⇑P P 22 57 18.2 -0.1
baz=58
EGMT **Eagleton** 57.67 335 eP P 22 57 17.2 -1.5
comp=Z,27nm,1.2s
EGMT **Eagleton** 57.67 335 ⇑P P 22 57 18.4 -0.3
baz=58,SNR=8.0
D16A **Dana Ranch, Ca** 57.67 334 ⇑P P 22 57 18.8 0.0
baz=58,SNR=8.2
B19A **Brinkman Farms** 57.68 336 ⇓P P 22 57 18.4 -0.3
baz=58
E15A **Deer Lodge** 57.71 332 ⇑P P 22 57 18.6 -0.6
baz=58
C17A **Wharram Farm,** 57.79 334 ⇑P P 22 57 19.3 -0.3
baz=58,SNR=17
OHCM **Honcut** 57.82 321 eP P 22 57 24.6 +4.8
B18A **Beardsley Farm** 57.97 336 ⇓P P 22 57 20.5 -0.2
baz=58,SNR=12
A19A **Klindworth Far** 57.98 337 ⇑P P 22 57 21.7 +0.9
baz=58,SNR=10
F13A **Darby** 58.05 331 ⇑P P 22 57 21.9 +0.4
baz=58,SNR=12
G12A **Big Creek, Yel** 58.07 330 ⇓P P 22 57 21.9 +0.2
baz=58,SNR=7.4
E14A **Clinton** 58.10 332 ⇑P P 22 57 21.8 -0.1
baz=58
D15A **Lincoln** 58.12 333 ⇓P P 22 57 21.3 -0.7
baz=58
SCHQ **Schefferville** 58.21 8 P P 22 57 22.0 -0.3
SCHQ **Schefferville** 58.21 8 P P 22 57 22.0 -0.3
comp=Z,6.0nm,0.8s,baz=202,slow=7.0,SNR=7.3
B17A **L&G Farms, Che** 58.31 335 ⇑P P 22 57 23.2 0.0
baz=58

C16A **Fuhringer Ranc** 58.34 334 ⇑P P 22 57 23.1 -0.3
baz=58,SNR=6.6
CHMT **Chamberlain Mo** 58.36 332 eP P 22 57 28.1 +4.4
A18A **Metzger Ranch,** 58.41 336 ⇑P P 22 57 24.1 +0.3
baz=58,SNR=5.6
E13A **Victor** 58.45 331 ⇑P P 22 57 24.1 -0.2
baz=58,SNR=5.3
F12A **Elk City** 58.48 330 ⇑P P 22 57 24.3 -0.2
baz=58,SNR=14
D14A **Greenough** 58.60 332 ⇓P P 22 57 25.3 -0.1
baz=59
MSO **Missoula** 58.62 332 eP P 22 57 24.2 -1.2
comp=Z,15nm,1.1s
MSO **Missoula** 58.62 332 ⇓P P 22 57 25.4 0.0
baz=59,SNR=9.4
MOD **Modoc** 58.65 324 eP P 22 57 27.8 +1.9
comp=Z,4.5nm,0.7s
C15A **Salmond Ranch,** 58.71 333 ⇓P P 22 57 25.9 -0.2
baz=59,SNR=5.5
SLMT **Seeley Lake** 58.71 333 eP P 22 57 28.1 +1.9
A17A **Triple J Farms** 58.78 335 ⇓P P 22 57 26.1 -0.4
baz=59,SNR=6.0
B16A **M & M Farms, S** 58.80 334 ⇑P P 22 57 26.7 +0.1
baz=59,SNR=5.4
BMO **Blue Mountains** 58.90 328 eP P 22 57 31.2 +3.8
comp=Z,4.6nm,0.9s
D13A **Huson** 59.05 332 ⇓P P 22 57 28.0 -0.4
baz=59,SNR=8.2
B15A **Bradely Ranch,** 59.09 334 ⇑P P 22 57 28.2 -0.5
baz=59,SNR=7.6
E12A **Beaver Dam Sad** 59.10 331 ⇓P P 22 57 29.0 +0.1
baz=59,SNR=12
SWMT **Swartz Lake** 59.14 332 eP P 22 57 29.0 -0.1
A16A **West Butte Ran** 59.16 335 ⇓P P 22 57 28.8 -0.3
baz=59
C14A **Swan Lake** 59.22 333 ⇑P P 22 57 29.7 +0.1
baz=59
YBMT **Yellow Bay** 59.41 333 eP P 22 57 31.5 +0.6
comp=Z,17nm,0.9s
B14A **Marquette Ranc** 59.44 334 ⇓P P 22 57 31.4 +0.2
baz=60,SNR=9.7
JTMT **Jette** 59.45 332 eP P 22 57 30.6 -0.6
D12A **Red Ives Fores** 59.45 331 ⇑P P 22 57 30.5 -0.7
baz=60
C13A **Hot Springs** 59.53 332 ⇑P P 22 57 31.8 +0.1
baz=60,SNR=7.7
A15A **Johnson Ranch,** 59.67 334 ⇓P P 22 57 32.4 -0.2
baz=60,SNR=5.8
BLMT **Blacktail Moun** 59.67 333 eP P 22 57 32.9 +0.1
BSMT **Bassoo Peak** 59.76 332 eP P 22 57 32.9 -0.5
A14A **Double T Ranch** 59.96 334 ⇓P P 22 57 34.5 -0.3
baz=60
YBH **Yreka Blue Hor** 59.98 323 eP P 22 57 34.1 -0.9
comp=Z,5.9nm,0.8s
YBH **Yreka Blue Hor** 59.98 323 LR LR 23 24 31.8
comp=Z,109nm,19.1s,baz=135,slow=37
B13A **Whitefish** 59.99 333 ⇓P P 22 57 34.7 -0.1
baz=60,SNR=7.4
WALA **Waterton Lakes** 60.24 334 eP P 22 57 36.7 +0.1
A13A **Flathead Natio** 60.37 333 ⇓P P 22 57 37.4 -0.1
baz=60
C11A **Tepee Creek (N** 60.44 331 ⇑P P 22 57 37.8 -0.1
baz=60
B12A **Libby** 60.57 332 ⇑P P 22 57 38.4 -0.4
baz=61,SNR=7.5
FFC **Flin Flon** 60.65 344 eP P 22 57 37.0 -2.1
FFC pmax pmax
comp=Z,13nm,1.1s
FFC **Flin Flon** 60.65 344 eP P 22 57 37.0 -2.1
comp=Z,13nm,1.1s
HAWA **Hanford** 61.09 328 eP P 22 57 46.1 +3.8
comp=Z,9.1nm,0.9s
NEW **Newport** 61.15 331 eP P 22 57 41.5 -1.2
comp=Z,19nm,0.8s
NEW **Newport** 61.15 331 ⇓P P 22 57 42.4 -0.4
baz=61,SNR=13
LON **Longmire** 62.52 328 eP P 22 57 57.7 +5.7
LON pmax pmax
comp=Z,10.0nm,1.0s
LON **Longmire** 62.52 328 eP P 22 57 57.7 +5.7
comp=Z,9.5nm,1.0s
BBTS **Babate** 63.43 72 LR LR 23 24 50.6
comp=Z,120nm,18.3s,baz=243,slow=35
NLWA **Neilton Lookou** 64.03 327 eP P 22 58 09.2 +7.2
comp=Z,21nm,1.1s
YKA **Yellowknife Ar** 70.75 343 P P 22 58 41.8 -2.4
YKA **Yellowknife Ar** 70.75 343 P P 22 58 41.7 -2.4
comp=Z,2.3nm,0.6s,baz=142,slow=6.2,SNR=26
PPT **Papeete** 71.45 253 LR LR 23 21 10.3
comp=Z,73nm,21.9s,baz=274,slow=28
SFJD **Kangerlussuaq** 72.35 11 LR LR 23 28 28.6
comp=Z,177nm,19.8s,baz=205,slow=34
LIC **Lamto** 73.56 83 eP P 22 59 03.1 +1.1
LIC eR
comp=Z,276nm,20.0s
LIC **Lamto** 73.56 83 eP P 22 59 03.1 +1.1
DBIC **Dimbokro** 73.77 82 P P 22 59 02.5 -0.8
DBIC **Dimbokro** 73.77 82 P P 22 59 02.5 -0.8
comp=Z,12nm,0.9s,baz=238,slow=7.7,SNR=14
DBIC LR LR 23 27 00.9
comp=Z,193nm,20.8s,baz=247,slow=32
EVOP **Sao Brissos** 76.27 49 eP P 22 59 17.3 +0.1
EVOP **Sao Brissos** 76.27 49 eP P 22 59 17.3 +0.1
EVO **Evora** 76.36 49 eP P 22 59 17.3 -0.4
EVO eR
comp=Z,178nm,20.6s
PESTR **Estremoz** 76.76 49 eP P 22 59 22.0 +2.0
comp=Z,27nm,1.2s
PVIS **Viseu** 77.01 47 eP P 22 59 23.2 +1.8
comp=Z,20nm,1.6s
PVRL **Vila Real** 77.29 47 eP P 22 59 26.0 +3.0
comp=Z,34nm,1.8s
MVO **Moncorvo** 77.76 47 eP P 22 59 28.6 +2.9
comp=Z,19nm,1.3s
RES **Resolute Bay** 78.05 356 eP P 22 59 28.7 +2.2
comp=Z,61nm,2.5s
SUMG **Summit** 79.34 11 *i* P P 22 59 36.6 +2.5
SUMG pmax pmax
comp=Z,13nm,0.9s
SUMG **Summit** 79.34 11 eP P 22 59 35.2 +1.1
comp=Z,16nm,0.9s
SUMG **Summit** 79.34 11 *i* P P 22 59 36.6 +2.5
comp=Z,13nm,0.9s
ESDC **Sonseca Array** 79.69 49 P P 22 59 36.1 -0.2
ESDC **Sonseca Array** 79.69 49 P P 22 59 36.1 -0.2
comp=Z,1.2nm,0.8s,baz=265,slow=6.5,SNR=10
DAWY **Dawson** 80.36 337 eP P 22 59 38.2 -1.2
INK **Inuvik** 80.47 342 eP P 22 59 38.5 -1.2
comp=Z,26nm,0.9s
INK **Inuvik** 80.47 342 P P 22 59 38.5 -1.2
comp=Z,18nm,0.8s,baz=100,slow=4.8,SNR=37
TORD **Torodi Ar. Bea** 80.76 76 P P 22 59 40.1 -2.4
TORD **Torodi Ar. Bea** 80.76 76 P P 22 59 40.1 -2.4
comp=Z,5.5nm,1.0s,baz=278,slow=5.6,SNR=23
TORD LR LR 23 36 17.5
comp=Z,174nm,20.4s,baz=235,slow=36
EGAK **Eagle** 81.37 337 eP P 22 59 43.5 -1.1
comp=Z,20nm,0.8s
QUIF **Quistinic** 82.07 41 eP P 22 59 50.3 +1.6
QUIF **Quistinic** 82.07 41 eP P 22 59 50.3 +1.6
QUIF **Quistinic** 82.07 41 eP P 22 59 50.3 +1.6
ROSF **Rostrenen** 82.10 41 eP P 22 59 50.6 +1.7
comp=Z,30nm,1.1s
ROSF **Rostrenen** 82.10 41 eP P 22 59 50.6 +1.7
ROSF pmax pmax
comp=Z,30nm,1.1s
ROSF **Rostrenen** 82.10 41 eP P 22 59 50.6 +1.7
comp=Z,30nm,1.1s
PAX **Paxson** 82.39 335 eP P 22 59 54.0 +3.8
PAX pmax pmax
comp=Z,84nm,2.2s
PAX **Paxson** 82.39 335 eP P 22 59 54.0 +3.8
comp=Z,84nm,2.2s
SJPF **Ste Jean** 82.40 46 eP P 22 59 52.4 +1.8
comp=Z,28nm,1.1s
SJPF **Ste Jean** 82.40 46 eP P 22 59 52.4 +1.8
SJPF pmax pmax
comp=Z,28nm,1.1s
SJPF **Ste Jean** 82.40 46 eP P 22 59 52.4 +1.8
comp=Z,28nm,1.1s
SGMF **Saint Gilles** 82.55 41 eP P 22 59 53.1 +1.9
comp=Z,27nm,1.1s
SGMF **Saint Gilles** 82.55 41 eP P 22 59 53.1 +1.9
SGMF pmax pmax
comp=Z,27nm,1.1s
SGMF **Saint Gilles** 82.55 41 eP P 22 59 53.1 +1.9
comp=Z,27nm,1.1s

ETSF	**Etsaut**	**82.84**	**46**	*e*P	**P**	**22 59 54.9**	**+1.9**
ETSF	**Etsaut**	**82.84**	**46**	*e*P	**P**	**22 59 54.9**	**+1.9**
ETSF	**Etsaut**	**82.84**	**46**	*e*P	**P**	**22 59 54.9**	**+1.9**
SML	**Sawmill**	**83.23**	**333**	*e*P	P	22 59 58.0	+3.5
SML				pmax	pmax		
	comp=Z,32nm,2.2s						
SML	**Sawmill**	**83.23**	**333**	*e*P	P	22 59 58.0	+3.5
	comp=Z,32nm,2.2s						
EPF	**Esparros**	**83.52**	**46**	*e*P	**P**	**22 59 58.6**	**+2.1**
EPF	**Esparros**	**83.52**	**46**	*e*P	**P**	**22 59 58.6**	**+2.1**
EPF	**Esparros**	**83.52**	**46**	*e*P	**P**	**22 59 58.6**	**+2.1**
ILAR	**Eielson Array**	**83.62**	**336**	P	**P**	**22 59 54.9**	**-1.6**
ILAR	**Eielson Array**	**83.62**	**336**	P	**P**	**22 59 54.9**	**-1.6**
	comp=Z,4.3nm,0.7s,baz=126,slow=4.3,SNR=28						
ILAR				LR	LR	23 40 22.1	
	comp=Z,107nm,20.6s,baz=91,slow=38						
GRR	**Gorron**	**83.68**	**41**	*e*P	**P**	**22 59 58.4**	**+1.3**
	comp=Z,20nm,1.0s						
GRR	**Gorron**	**83.68**	**41**	*e*P	**P**	**22 59 58.4**	**+1.3**
GRR				pmax	pmax		
	comp=Z,20nm,1.0s						
GRR	**Gorron**	**83.68**	**41**	*e*P	**P**	**22 59 58.4**	**+1.3**
	comp=Z,20nm,1.0s						
MFF	**Saint Martin d**	**83.81**	**43**	*e*P	**P**	**22 59 58.4**	**+0.6**
	comp=Z,24nm,1.2s						
MFF	**Saint Martin d**	**83.81**	**43**	*e*P	**P**	**22 59 58.4**	**+0.6**
MFF				pmax	pmax		
	comp=Z,24nm,1.2s						
MFF	**Saint Martin d**	**83.81**	**43**	*e*P	**P**	**22 59 58.4**	**+0.6**
	comp=Z,24nm,1.2s						
FLN	**La Foliniere**	**84.00**	**41**	*e*P	**P**	**23 00 00.7**	**+2.0**
	comp=Z,58nm,1.3s						
FLN				*e*R			
	comp=Z,202nm,22.7s						
FLN	**La Foliniere**	**84.00**	**41**	*e*P	**P**	**23 00 00.7**	**+2.0**
FLN				pmax	pmax		
	comp=Z,58nm,1.3s						
FLN	**La Foliniere**	**84.00**	**41**	*e*P	**P**	**23 00 00.7**	**+2.0**
	comp=Z,58nm,1.3s						
LFF	**La Frestale**	**84.13**	**44**	*e*P	**P**	**23 00 00.8**	**+1.4**
	comp=Z,34nm,1.0s						
LFF	**La Frestale**	**84.13**	**44**	*e*P	**P**	**23 00 00.8**	**+1.4**
LFF				pmax	pmax		
	comp=Z,34nm,1.0s						
LFF	**La Frestale**	**84.13**	**44**	*e*P	**P**	**23 00 00.8**	**+1.4**
	comp=Z,34nm,1.0s						
LDF	**La Druitiere**	**84.20**	**41**	*e*P	**P**	**23 00 01.1**	**+1.4**
	comp=Z,47nm,1.2s						
LDF	**La Druitiere**	**84.20**	**41**	*e*P	**P**	**23 00 01.1**	**+1.4**
LDF				pmax	pmax		
	comp=Z,47nm,1.2s						
LDF	**La Druitiere**	**84.20**	**41**	*e*P	**P**	**23 00 01.1**	**+1.4**
	comp=Z,47nm,1.2s						
RJF	**Les Rejaudoux**	**84.73**	**44**	*e*P	**P**	**23 00 03.7**	**+1.2**
	comp=Z,24nm,1.1s						
RJF				*e*R			
	comp=Z,179nm,22.5s						
RJF	**Les Rejaudoux**	**84.73**	**44**	*e*P	**P**	**23 00 03.7**	**+1.2**
RJF				pmax	pmax		
	comp=Z,24nm,1.1s						
RJF	**Les Rejaudoux**	**84.73**	**44**	*e*P	**P**	**23 00 03.7**	**+1.2**
	comp=Z,24nm,1.1s						
CAF	**Calviac**	**85.05**	**45**	*e*P	**P**	**23 00 06.1**	**+1.9**
	comp=Z,36nm,1.4s						
CAF	**Calviac**	**85.05**	**45**	*e*P	**P**	**23 00 06.1**	**+1.9**
CAF				pmax	pmax		
	comp=Z,36nm,1.4s						
CAF	**Calviac**	**85.05**	**45**	*e*P	**P**	**23 00 06.1**	**+1.9**
	comp=Z,36nm,1.4s						
TCF	**Toulx Ste Croi**	**85.37**	**43**	*e*P	**P**	**23 00 07.2**	**+1.5**
	comp=Z,9.0nm,0.8s						
TCF	**Toulx Ste Croi**	**85.37**	**43**	*e*P	**P**	**23 00 07.2**	**+1.5**
TCF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TCF	**Toulx Ste Croi**	**85.37**	**43**	*e*P	**P**	**23 00 07.2**	**+1.5**
	comp=Z,9.0nm,0.8s						
BGF	**Bois d'Agland**	**85.84**	**43**	*e*P	**P**	**23 00 09.8**	**+1.7**
	comp=Z,23nm,1.1s						
BGF	**Bois d'Agland**	**85.84**	**43**	*e*P	**P**	**23 00 09.8**	**+1.7**
BGF				pmax	pmax		
	comp=Z,23nm,1.1s						
BGF	**Bois d'Agland**	**85.84**	**43**	*e*P	**P**	**23 00 09.8**	**+1.7**
	comp=Z,23nm,1.1s						
DAG	**Danmarks Havn**	**86.03**	**11**	*i* P	**P**	**23 00 10.1**	**+1.8**
DAG				pmax	pmax		
	comp=Z,5.0nm,0.8s						
DAG	**Danmarks Havn**	**86.03**	**11**	*i* P	**P**	**23 00 10.1**	**+1.8**
	comp=Z,53nm,0.8s						
AVF	**Avril sur Loir**	**86.22**	**43**	*e*P	**P**	**23 00 11.4**	**+1.5**
	comp=Z,21nm,1.3s						
AVF	**Avril sur Loir**	**86.22**	**43**	*e*P	**P**	**23 00 11.4**	**+1.5**
AVF				pmax	pmax		
	comp=Z,21nm,1.3s						
AVF	**Avril sur Loir**	**86.22**	**43**	*e*P	**P**	**23 00 11.4**	**+1.5**
	comp=Z,21nm,1.3s						
SSF	**Saint Saulge**	**86.36**	**43**	*e*P	**P**	**23 00 12.0**	**+1.4**
SSF	**Saint Saulge**	**86.36**	**43**	*e*P	**P**	**23 00 12.0**	**+1.4**
SSF	**Saint Saulge**	**86.36**	**43**	*e*P	**P**	**23 00 12.0**	**+1.4**
LOR	**Lormes**	**86.63**	**42**	*e*P	**P**	**23 00 13.3**	**+1.4**
LOR				*e*R			
	comp=Z,146nm,20.5s						
LOR	**Lormes**	**86.63**	**42**	*e*P	**P**	**23 00 13.3**	**+1.4**
BAIF	**Baives**	**87.23**	**40**	*e*P	**P**	**23 00 16.3**	**+1.5**
	comp=Z,7.3nm,0.7s						
BAIF	**Baives**	**87.23**	**40**	*e*P	**P**	**23 00 16.3**	**+1.5**
BAIF				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BAIF	**Baives**	**87.23**	**40**	*e*P	**P**	**23 00 16.3**	**+1.5**
	comp=Z,7.3nm,0.7s						
SFTF	**Sexfontaines**	**87.54**	**42**	*e*P	**P**	**23 00 17.9**	**+1.6**
	comp=Z,37nm,1.4s						
SFTF	**Sexfontaines**	**87.54**	**42**	*e*P	**P**	**23 00 17.9**	**+1.6**
	comp=Z,37nm,1.4s						
MEZF	**Maizieres J'vi**	**87.58**	**41**	*e*P	**P**	**23 00 17.9**	**+1.4**
	comp=Z,19nm,1.1s						
MEZF	**Maizieres J'vi**	**87.58**	**41**	*e*P	**P**	**23 00 17.9**	**+1.4**
	comp=Z,19nm,1.1s						
GIVF	**Givet**	**87.63**	**40**	*e*P	**P**	**23 00 18.6**	**+1.9**
	comp=Z,25nm,0.9s						
GIVF	**Givet**	**87.63**	**40**	*e*P	**P**	**23 00 18.6**	**+1.9**
GIVF				pmax	pmax		
	comp=Z,25nm,0.9s						
GIVF	**Givet**	**87.63**	**40**	*e*P	**P**	**23 00 18.6**	**+1.9**
	comp=Z,25nm,0.9s						
ORIF	**Oris-en-Rattie**	**87.74**	**45**	*e*P	**P**	**23 00 19.2**	**+1.7**
ORIF				*e*R			
	comp=Z,161nm,22.0s						
ORIF	**Oris-en-Rattie**	**87.74**	**45**	*e*P	**P**	**23 00 19.2**	**+1.7**
ORIF	**Oris-en-Rattie**	**87.74**	**45**	*e*P	**P**	**23 00 19.2**	**+1.7**
LMR	**La Mourre**	**88.03**	**47**	*e*P	**P**	**23 00 20.5**	**+1.8**
LMR	**La Mourre**	**88.03**	**47**	*e*P	**P**	**23 00 20.5**	**+1.8**
LMR	**La Mourre**	**88.03**	**47**	*e*P	**P**	**23 00 20.5**	**+1.8**
PAGF	**Fort de Pagny**	**88.03**	**41**	*e*P	**P**	**23 00 20.4**	**+1.7**
PAGF	**Fort de Pagny**	**88.03**	**41**	*e*P	**P**	**23 00 20.4**	**+1.7**
CABF	**La Chapelle**	**88.07**	**43**	*e*P	**P**	**23 00 20.5**	**+1.5**
	comp=Z,25nm,1.3s						
CABF	**La Chapelle**	**88.07**	**43**	*e*P	**P**	**23 00 20.5**	**+1.5**
CABF				pmax	pmax		
	comp=Z,25nm,1.3s						
CABF	**La Chapelle**	**88.07**	**43**	*e*P	**P**	**23 00 20.5**	**+1.5**
	comp=Z,25nm,1.3s						
LPL	**La Plagne**	**88.40**	**44**	*e*P	**P**	**23 00 22.5**	**+1.7**
	comp=Z,7.1nm,0.9s						
LPL	**La Plagne**	**88.40**	**44**	*e*P	**P**	**23 00 22.5**	**+1.7**
LPL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LPL	**La Plagne**	**88.40**	**44**	*e*P	**P**	**23 00 22.5**	**+1.7**
	comp=Z,7.1nm,0.9s						
LPG	**La Plagne**	**88.41**	**44**	*e*P	**P**	**23 00 22.0**	**+1.1**
	comp=Z,12nm,1.2s						
LPG	**La Plagne**	**88.41**	**44**	*e*P	**P**	**23 00 22.0**	**+1.1**
LPG				pmax	pmax		
	comp=Z,12nm,1.2s						
LPG	**La Plagne**	**88.41**	**44**	*e*P	**P**	**23 00 22.0**	**+1.1**
	comp=Z,12nm,1.2s						
WLF	**Walferdange**	**88.44**	**40**	*e*P	**P**	**23 00 22.7**	**+2.1**
WLF				pmax	pmax		
	comp=Z,8.0nm,0.9s						
WLF	**Walferdange**	**88.44**	**40**	*e*P	**P**	**23 00 22.7**	**+2.1**
	comp=Z,8.0nm,0.9s						
CDF	**Champ du Feu**	**89.05**	**42**	*e*P	**P**	**23 00 25.1**	**+1.5**
	comp=Z,9.5nm,1.0s						
CDF	**Champ du Feu**	**89.05**	**42**	*e*P	**P**	**23 00 25.1**	**+1.5**
CDF				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CDF	**Champ du Feu**	**89.05**	**42**	*e*P	**P**	**23 00 25.1**	**+1.5**
	comp=Z,9.5nm,1.0s						
NOA	**NORSAR Array B**	**92.14**	**29**	LR	LR	23 37 26.3	
	comp=Z,140nm,18.9s,baz=0.0,slow=33						
GERES	**GERESS Array B**	**93.33**	**41**	P	**P**	**23 00 41.4**	**-2.1**
GERES	**GERESS Array B**	**93.33**	**41**	P	**P**	**23 00 41.4**	**-2.1**
	comp=Z,0.3nm,0.7s,baz=324,slow=4.8,SNR=2.4						
GERES				LR	LR	23 37 16.5	
	comp=Z,111nm,20.7s,baz=311,slow=32						
VRAC	**Vranov**	**95.22**	**41**	LR	LR	23 41 45.8	
	comp=Z,120nm,21.2s,baz=345,slow=34						
SUR	**Sutherland**	**96.06**	**123**	LR	LR	23 43 05.5	
	comp=Z,179nm,18.3s,baz=85,slow=35						
ARCES	**ARCESS Array B**	**97.39**	**20**	LR	LR	23 41 07.1	
	comp=Z,114nm,18.9s,baz=238,slow=33						
ABKAR	**Akbulak array**	**121.60**	**31**	*e*PKPdf	**PKPdf**	**23 06 25.2**	**+3.1**
ZALV	**Zalesovo Beam**	**127.15**	**13**	PKIKP	**PKPdf**	**23 06 31.2**	**-1.5**
ZALV	**Zalesovo Beam**	**127.15**	**13**	PKP	**PKPdf**	**23 06 31.1**	**-1.5**
ZALV	**Zalesovo Beam**	**127.15**	**13**	PKP	**PKPdf**	**23 06 31.1**	**-1.5**
	comp=Z,4.5nm,1.0s,baz=285,slow=1.0,SNR=7.0						
KURK	**Kurchatov**	**128.40**	**19**	*e*PKIKP	**PKPdf**	**23 06 37.9**	**+2.8**
KURK	**Kurchatov**	**128.40**	**19**	*e*PKPdf	**PKPdf**	**23 06 37.9**	**+2.8**
MJAR	**Matsushiro Arr**	**132.59**	**320**	PKP	**PKPdf**	**23 06 42.5**	**-1.0**
MJAR	**Matsushiro Arr**	**132.59**	**320**	PKP	**PKPdf**	**23 06 42.5**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=94,slow=0.5,SNR=2.9						
MKAR	**Makanchi Array**	**133.01**	**18**	PKIKP	**PKPdf**	**23 06 44.6**	**+0.5**
MKAR	**Makanchi Array**	**133.01**	**18**	PKP	**PKPdf**	**23 06 44.5**	**+0.5**
MKAR	**Makanchi Array**	**133.01**	**18**	PKP	**PKPdf**	**23 06 44.5**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=336,slow=2.0,SNR=14						
ULN	**Ulaanbaatar**	**134.90**	**355**	*e*PKPdf	**PKPdf**	**23 06 51.4**	**+3.6**
SONM	**Songino Array**	**134.99**	**356**	PKP	**PKPdf**	**23 06 48.1**	**+0.2**
SONM	**Songino Array**	**134.99**	**356**	PKP	**PKPdf**	**23 06 48.1**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=338,slow=2.5,SNR=7.7						
KSRS	**Korea Array**	**138.04**	**328**	PKP	**PKPdf**	**23 06 52.5**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=311,slow=2.0,SNR=3.4						
KSAR	**Wonju Array Be**	**138.06**	**328**	PKP	**PKPdf**	**23 06 52.5**	**-1.2**
ASAR	**Alice Springs**	**139.17**	**228**	PKPpre	PKPpre	23 06 47.6	
ASAR				PKP	**PKPdf**	**23 06 55.5**	**-0.7**
ASAR	**Alice Springs**	**139.17**	**228**	PKhKP	PKPpre	23 06 47.6	
	comp=Z,0.6nm,0.8s,baz=121,slow=3.1,SNR=7.2						
ASAR				PKP	**PKPdf**	**23 06 55.5**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=126,slow=3.0,SNR=8.9						
WRA	**Warramunga Arr**	**140.90**	**233**	PKPpre	PKPpre	23 06 50.5	
WRA				PKP	**PKPdf**	**23 06 58.7**	**-0.7**
WRA	**Warramunga Arr**	**140.90**	**233**	PKhKP	PKPpre	23 06 50.5	
	comp=Z,1.0nm,0.8s,baz=114,slow=2.8,SNR=6.1						
WRA				PKP	**PKPdf**	**23 06 58.7**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=117,slow=2.4,SNR=11						
GTA	**Gaotai**	**143.53**	**3**	*e*PKP	**PKPdf**	**23 07 04.8**	**+1.1**
GTA				pPKP	**PKiKP**	**23 07 09.3**	**+2.2**
GTA				sPKP		23 07 12.6	
LZH	**Lanzhou**	**146.85**	**357**	*e*PKPbc	**PKPab**	**23 07 15.1**	**+2.6**
XAN	**Xi'an**	**148.25**	**349**	PKPbc	**PKPab**	**23 07 17.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**148.67**	**228**	*e*PKPdf	**PKPbc**	**23 07 15.1**	**-1.4**
FITZ				PKPbc	**PKPbc**	**23 07 15.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**148.67**	**228**	PKPbc	**PKPbc**	**23 07 15.7**	**-0.9**
	comp=Z,6.1nm,0.9s,baz=196,slow=0.6,SNR=9.3						
DANN	**Dangsing**	**149.31**	**32**	*e*P	**PKPbc**	**23 07 17.2**	**-1.1**
	comp=Z,55nm,0.8s						
DANN	**Dangsing**	**149.31**	**32**	*e*P	**PKPbc**	**23 07 17.2**	**-1.1**
KOLN	**Koldanda**	**149.68**	**33**	*e*P	**PKPbc**	**23 07 17.5**	**-1.6**
	comp=Z,16nm,0.8s						
KOLN	**Koldanda**	**149.68**	**33**	*e*P	**PKPbc**	**23 07 17.5**	**-1.6**
WHN	**Wuhan**	**150.00**	**338**	PKPbc	**PKPab**	**23 07 22.5**	**-2.6**
GKN	**Gorkha**	**150.05**	**32**	*e*P	**PKPbc**	**23 07 18.3**	**-1.7**
	comp=Z,44nm,0.8s						
GKN	**Gorkha**	**150.05**	**32**	*e*P	**PKPbc**	**23 07 18.3**	**-1.7**
KKN	**Kakani**	**150.55**	**31**	*e*P	**PKPbc**	**23 07 19.5**	**-1.7**
	comp=Z,31nm,0.7s						
KKN	**Kakani**	**150.55**	**31**	*e*PKIKP	**PKPbc**	**23 07 19.5**	**-1.7**
KKN	**Kakani**	**150.55**	**31**	*e*P	**PKPbc**	**23 07 19.5**	**-1.7**
DMN	**Daman**	**150.61**	**31**	*e*P	**PKPbc**	**23 07 19.3**	**-2.1**
DMN	**Daman**	**150.61**	**31**	*e*P	**PKPbc**	**23 07 19.3**	**-2.1**
GUN	**Gumba**	**150.76**	**30**	*e*P	**PKPbc**	**23 07 20.0**	**-1.9**
	comp=Z,74nm,1.1s						
GUN	**Gumba**	**150.76**	**30**	*e*P	**PKPbc**	**23 07 20.0**	**-1.9**
PKI	**Pulchoki**	**150.80**	**31**	*e*P	**PKPbc**	**23 07 19.6**	**-2.4**
	comp=Z,40nm,0.9s						
PKI	**Pulchoki**	**150.80**	**31**	*e*PKIKP	**PKPbc**	**23 07 19.6**	**-2.4**
PKI	**Pulchoki**	**150.80**	**31**	*e*P	**PKPbc**	**23 07 19.6**	**-2.4**
JIRN	**Jiri**	**151.12**	**30**	*e*P	**PKPbc**	**23 07 20.3**	**-2.5**
	comp=Z,3.9nm,0.7s						
JIRN	**Jiri**	**151.12**	**30**	*e*P	**PKPbc**	**23 07 20.3**	**-2.5**
LSA	**Lhasa**	**151.40**	**20**	*e*PKIKP	**PKPbc**	**23 07 20.4**	**-3.1**
LSA				*e*		23 07 26.4	
LSA	**Lhasa**	**151.40**	**20**	*e*PKPdf	**PKPbc**	**23 07 20.4**	**-3.1**
LSA				*e*PKPbc	**PKiKP**	**23 07 26.4**	**+2.4**
ENH	**Enshi**	**151.75**	**346**	*e*PKPdf	**PKPbc**	**23 07 20.7**	**-3.0**
ENH				*e*PKPbc	**PKiKP**	**23 07 25.6**	**+1.4**
ENH				*e*PKPab	**PKPab**	**23 07 33.5**	**+1.2**
RAMN	**Ramite**	**151.91**	**30**	*e*P	**PKPbc**	**23 07 21.2**	**-3.3**
	comp=Z,37nm,0.9s						
RAMN	**Ramite**	**151.91**	**30**	*e*P	**PKPbc**	**23 07 21.2**	**-3.3**
TAPN	**Taplejung**	**152.11**	**28**	*e*P	**PKPdf**	**23 07 21.2**	**+2.8**
	comp=Z,20nm,0.8s						
TAPN	**Taplejung**	**152.11**	**28**	*e*P	**PKPdf**	**23 07 21.2**	**+2.8**
ODAN	**Odare**	**152.37**	**29**	*e*P	**PKPdf**	**23 07 21.7**	**+3.0**
	comp=Z,20nm,0.7s						
ODAN	**Odare**	**152.37**	**29**	*e*P	**PKPdf**	**23 07 21.7**	**+3.0**
KMI	**Kunming**	**157.81**	**358**	PKP	PKPab	23 07 45.3	-13
KMI				pPKP	pPKPdf	23 08 03.3	+34
KMI				sPKP		23 08 11.9	
KMI				PP	PP	23 11 46.8	+11
KMI				SS	SS	23 31 23.6	-10
KMI				AMB	AMB		
	comp=Z,120nm,5.2s						
KMI				LR	LR		
	comp=Z,53nm,29.9s						
CMAR	**Chiang Mai Arr**	**164.20**	**10**	PKP	**PKPdf**	**23 07 34.7**	**+1.9**
CMAR				PKPab	**PKPab**	**23 08 26.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**164.20**	**10**	PKP	**PKPdf**	**23 07 34.7**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=324,slow=2.6,SNR=5.1						
CMAR				PKPab	**PKPab**	**23 08 26.5**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=330,slow=5.5,SNR=7.4						

IDC 21 23:01:08.0±2.3, 4°20N×127°51E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.3/3, Error ellipse: s-maj=167.4km s-min=28.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.91**	**165**	P	P	23 06 32.1	-0.8
	0.7nm,0.4s,baz=344,slow=10,SNR=8.5						
ASAR	**Alice Springs**	**28.39**	**168**	P	P	23 07 05.2	+0.9
	0.5nm,0.6s,baz=345,slow=12,SNR=4.3						
MKAR	**Makanchi Array**	**57.62**	**325**	P	P	23 10 60.0	-0.1
	0.5nm,0.9s,baz=114,slow=8.4,SNR=4.0						

*UPP **21** 23:12:55.1, 68°.66N×15°.34E, h0km, ML2.1, Suspected Mining explosion.*
*IDC **21** 23:12:56.3±1.9, 68°.65N×15°.35E, h0km, mb1 3.4/4, mb1mx3.1/28, mbtmp3.3/4, ML2.4/4, Error ellipse: s-maj=24.4km s-min=10.4km az=135.0*
*CSEM **21** 23:12:57.5±0.2, 68°.45N×15°.70E, h1km, ML2.5, Error ellipse: s-maj=5.9km s-min=2.8km az=127.0, Suspected Mining explosion.*
*ISCJB **21** 23:12:59.1±0.5, 68°.24N±0°.03×16°.49E±0°.08, h0km, Error ellipse: s-maj=5.2km s-min=3.2km az=139.2*
*HEL **21** 23:13:01.9±0.2, 68°.45N×15°.89E, h36km±4km, ML2.5, ML2.1(UPP), ML2.3(BER)*
*BER **21** 23:13:01.8±3.7, 68°.40N×15°.80E, h15km±12km, MD2.4, ML2.3, ML2.6(NAO)*
*NAO **21** 23:13:02.9±2.2, 68°.38N×16°.31E, h20km±12km, ML2.6*

ISC 21 23:12:57.7±0.8, 68°.36N±0°.03×15°.97E±0°.03, h0km, n94, σ2s 05/138, Northern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STEI	**Steigen**	**0.51**	**213**	*e*P	**Pb**	**23 13 10.6**	**+1.1**
STEI				*e*S	**Sb**	**23 13 18.9**	**+1.4**
STEI				AML	AML	23 13 21.0	
	comp=Z,110nm,0.2s						
STEI	**Steigen**	**0.51**	**213**	*i* P	**Pb**	**23 13 10.6**	**+1.1**
STEI				*i* S	**Sb**	**23 13 18.9**	**+1.4**
STEI				AML	AML	23 13 21.0	
	comp=Z,110nm,0.2s						
NIKU	**Nikkaluokta**	**1.25**	**112**	*e*P	**Pn**	**23 13 24.8**	**+2.4**
NIKU	**Nikkaluokta**	**1.25**	**112**	P	**Pn**	**23 13 24.8**	**+2.4**
TRO	**Tromso**	**1.67**	**38**	*e*P	**Pn**	**23 13 27.8**	**-0.3**
TRO				*e*Pg	**Pb**	**23 13 29.8**	**+0.6**
TRO				*e*S	**Sg**	**23 13 51.5**	**+0.4**
TRO				AML	AML	23 13 52.3	
	comp=Z,28nm,0.1s						
TRO	**Tromso**	**1.67**	**38**	*e*P	**Pn**	**23 13 27.8**	**-0.3**
TRO				*e*PB	**Pb**	**23 13 29.8**	**+0.6**
TRO				*e*S	**Sg**	**23 13 51.5**	**+0.4**
TRO				AML	AML	23 13 52.3	
	comp=Z,28nm,0.1s						
TRO	**Tromso**	**1.67**	**38**	*e*P	**Pn**	**23 13 27.8**	**-0.3**
	SNR=55						
KUA	**Kurravaara**	**1.68**	**102**	*e*P	**Pg**	**23 13 30.1**	**+0.2**
KUA				*e*S	**Sg**	**23 13 53.9**	**+2.2**
KUA	**Kurravaara**	**1.68**	**102**	P	**Pg**	**23 13 30.6**	**+0.7**
KUA				S	**Sg**	**23 13 53.9**	**+2.2**
KIF	**Kilpisjarvi**	**1.88**	**68**	*e*P	**Pn**	**23 13 32.2**	**+1.2**
KIF				*e*S	**Sn**	**23 13 53.4**	**-2.1**
KIF				MSG		23 13 57.3	
	comp=Z,58nm,0.2s						
KIF	**Kilpisjarvi**	**1.88**	**68**	P	**Pn**	**23 13 32.2**	**+1.2**
KIF				S	**Sn**	**23 13 53.3**	**-2.1**
DUNU	**Dundret**	**2.15**	**123**	*e*P	**Pb**	**23 13 36.5**	**-0.9**
DUNU	**Dundret**	**2.15**	**123**	P	**Pb**	**23 13 36.5**	**-0.9**
LANU	**Lannavaara**	**2.27**	**95**	*e*P	**Pn**	**23 13 37.6**	**+1.3**
LANU				*e*S	**Sn**	**23 14 03.0**	**-2.0**
LANU	**Lannavaara**	**2.27**	**95**	P	**Pn**	**23 13 38.0**	**+1.6**
FLOS	**Flostrand**	**2.27**	**208**	*e*P	**Pn**	**23 13 37.1**	**+0.8**
FLOS				AML	AML	23 14 20.4	
	comp=Z,28nm,0.3s						
FLOS	**Flostrand**	**2.27**	**208**	*e*P	**Pn**	**23 13 37.1**	**+0.8**
FLOS				AML	AML	23 14 20.4	
	comp=Z,28nm,0.3s						
FLOS	**Flostrand**	**2.27**	**208**	P	**Pn**	**23 13 37.1**	**+0.8**
MOR8	**Moi Rana**	**2.28**	**196**	*e*P	**Pn**	**23 13 36.0**	**-0.5**
MOR8				AML	AML	23 14 16.3	
	comp=Z,44nm,0.2s						
MOR8	**Moi Rana**	**2.28**	**196**	*e*P	**Pn**	**23 13 36.0**	**-0.5**
MOR8				AML	AML	23 14 16.3	
	comp=Z,44nm,0.2s						
MOR8	**Moi Rana**	**2.28**	**196**	P	**Pn**	**23 13 36.0**	**-0.5**
STOK	**Stokkvaagen**	**2.33**	**211**	*e*P	**Pn**	**23 13 37.6**	**+0.3**
STOK				*e*S	**Sn**	**23 14 06.2**	**-0.4**
STOK	**Stokkvaagen**	**2.33**	**211**	*e*P	**Pn**	**23 13 37.6**	**+0.3**
STOK				*e*S	**Sn**	**23 14 06.2**	**-0.4**
STOK	**Stokkvaagen**	**2.33**	**211**	P	**Pn**	**23 13 37.5**	**+0.3**
STOK				S	**Sn**	**23 14 06.2**	**-0.4**
MASU	**Masugnsbyn**	**2.45**	**109**	*e*P	**Pn**	**23 13 40.7**	**+1.8**
MASU	**Masugnsbyn**	**2.45**	**109**	P	**Pn**	**23 13 40.7**	**+1.8**
HEF	**Hetta**	**2.85**	**85**	*e*P	**Pn**	**23 13 46.0**	**+1.7**
HEF				*e*Pg	**Pg**	**23 13 53.7**	**+1.5**
HEF				*e*S	**Sn**	**23 14 19.7**	**+0.4**
HEF	**Hetta**	**2.85**	**85**	*e*P	**Pn**	**23 13 45.8**	**+1.5**
HEF				*e*S	**Sn**	**23 14 16.8**	**-2.5**
HEF				MSG		23 14 23.4	
	comp=Z,7.6nm,0.2s						
HEF	**Hetta**	**2.85**	**85**	P	**Pn**	**23 13 45.8**	**+1.5**
HEF				*e*S	**Sn**	**23 14 19.7**	**+0.4**
	SNR=55						
HARU	**Harads**	**2.94**	**136**	*e*P	**Pn**	**23 13 47.5**	**+2.0**
HARU	**Harads**	**2.94**	**136**	P	**Pn**	**23 13 47.5**	**+2.0**
ERTU	**Ertsjaerv**	**3.00**	**124**	*e*P	**Pn**	**23 13 48.1**	**+1.6**
ERTU	**Ertsjaerv**	**3.00**	**124**	P	**Pn**	**23 13 48.1**	**+1.6**
LILU	**Lilltraesk**	**3.45**	**152**	*e*P	**Pn**	**23 13 54.9**	**+2.3**
LILU	**Lilltraesk**	**3.45**	**152**	P	**Pn**	**23 13 54.8**	**+2.3**
SJUU	**Sjulsmark**	**3.62**	**140**	*e*P	**Pn**	**23 13 56.6**	**+1.7**
SJUU	**Sjulsmark**	**3.62**	**140**	P	**Pn**	**23 13 56.6**	**+1.7**
ARA0	**ARCESS Array S**	**3.64**	**67**	Pn	**Pn**	**23 13 55.2**	**0.0**
	baz=253,slow=12						
ARA0				Pg	**Pb**	**23 14 04.4**	**+1.6**
	baz=243,slow=14		

FIA0				Sn	Sn	23 16 25.2	-4.5
	baz=338,slow=28						
FIA0				Lg	Lg	23 17 16.3	
	baz=339,slow=28						
FIA0	**FINESS Array S**	**8.15**	**144**	*eP*	**Pn**	**23 14 58.4**	**+1.3**
FIA0				*eS*	**Sn**	**23 16 25.2**	**-4.5**
FIA0				*e*		23 17 16.3	
FIA0	**FINESS Array S**	**8.15**	**144**	Pn	**Pn**	**23 14 58.3**	**+1.3**
	baz=339,slow=12						
FIA0				Lg	Lg	23 17 16.3	
	baz=339,slow=26,SNR=26						
FINES	**FINESS Array B**	**8.15**	**144**	Pn	**Pn**	**23 14 58.9**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=335,slow=13,SNR=4.0						
FINES				Sn	**Sn**	**23 16 31.3**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=336,slow=23,SNR=6.0						
FINES				Lg	Lg	23 17 17.0	
	comp=Z,0.4nm,0.3s,baz=336,slow=26,SNR=5.1						
HFS	**Hagfors**	**8.32**	**188**	Pn	**Pn**	**23 14 60.0**	**+0.6**
	baz=9.2,slow=11						
HFS				Sn	**Sn**	**23 16 28.3**	**-5.6**
	baz=15,slow=28						
HFS	**Hagfors**	**8.32**	**188**	Pn	**Pn**	**23 14 60.0**	**+0.6**
	baz=9.2,slow=11						
HFS				Sn	**Sn**	**23 16 28.3**	**-5.6**
	baz=15,slow=28						
HFS	**Hagfors**	**8.32**	**188**	*eP*	**Pn**	**23 14 60.0**	**+0.6**
HFS				*eS*	**Sn**	**23 16 28.3**	**-5.6**
HFS	**Hagfors**	**8.32**	**188**	Pn	**Pn**	**23 14 59.1**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=8,7,slow=12,SNR=7.5						
HFS	**Hagfors**	**8.32**	**188**	Pn	**Pn**	**23 15 00.0**	**+0.6**
	baz=9.2,slow=11						

IGQ 21 23:25:21.8, 2.78S×78.26W, h12km±5km, Mb4.0, Ms3.8, 16C-7D, Error ellipse: s-maj=6.2km s-min=1.4km az=3.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YANT	**Yantaza**	**1.19**	**205**	⇑S	Sg	23 26 00.4	-0.1
YANT	**Yantaza**	**1.19**	**205**	⇑P	Pn	23 25 43.8	-0.7
PAT1	**Patacocha**	**1.28**	**352**	⇑S	Sb	23 26 01.6	-1.6
PAT1	**Patacocha**	**1.28**	**352**	⇑P	Pn	23 25 45.4	-0.8
ARRY	**Arrayan**	**1.28**	**351**	⇑P	Pn	23 25 45.3	-0.8
ARRY	**Arrayan**	**1.28**	**351**	⇑S	Sb	23 26 01.4	-1.7
BMAS	**Trigal station**	**1.29**	**350**	⇑S	Sb	23 26 03.1	-0.3
BMAS	**Trigal station**	**1.29**	**350**	⇑P	Pn	23 25 45.7	-0.5
ULBA	**Ulba**	**1.33**	**353**	⇑S	Sn	23 26 04.9	+0.2
ULBA	**Ulba**	**1.33**	**353**	⇑P	Pn	23 25 46.4	-0.3
IGUA	**Igualata**	**1.33**	**343**	⇑S	Sg	23 26 06.7	+0.5
IGUA	**Igualata**	**1.33**	**343**	⇑P	Pb	23 25 47.8	+0.2
BRUN	**Tungurahua Vol**	**1.36**	**353**	⇑S	Sn	23 26 05.4	0.0
BRUN	**Tungurahua Vol**	**1.36**	**353**	⇑P	Pn	23 25 46.7	-0.3
RUNS	**Runtun**	**1.36**	**353**	P	Pg	23 25 49.2	+0.6
PISA	**Pisayambo**	**1.71**	**356**	S	Sg	23 26 17.2	-0.9
PISA	**Pisayambo**	**1.71**	**356**	P	Pb	23 25 53.3	-0.6
BMOR	**Cotopaxi Volca**	**2.04**	**354**	⇑S	Sb	23 26 25.1	-0.5
BMOR	**Cotopaxi Volca**	**2.04**	**354**	⇑P	Pb	23 25 59.2	-0.5
MOV1	**Cotopaxi Vol s**	**2.06**	**355**	P	Pb	23 25 59.6	-0.4
MOV1	**Cotopaxi Vol s**	**2.06**	**355**	S	Sg	23 26 27.8	-1.7
TAMB	**Tambo**	**2.07**	**357**	⇓S	Sg	23 26 28.7	-1.1
TAMB	**Tambo**	**2.07**	**357**	⇓P	Pb	23 26 00.2	0.0
BTAM	**Cotopaxi Volca**	**2.09**	**356**	S	Sb	23 26 27.6	+0.6
BTAM	**Cotopaxi Volca**	**2.09**	**356**	P	Pb	23 25 59.5	-1.0
BREF	**Cotopaxi Volca**	**2.10**	**355**	⇓S	Sg	23 26 29.5	-1.4
BREF	**Cotopaxi Volca**	**2.10**	**355**	⇓P	Pb	23 26 00.5	-0.3
COV1	**Cotopaxi Volc**	**2.10**	**358**	S	Sg	23 26 29.6	-1.4
COV1	**Cotopaxi Volc**	**2.10**	**358**	P	Pb	23 26 01.7	+0.9
BVC2	**Cotopaxi Volca**	**2.11**	**356**	S	Sb	23 26 29.1	+1.5
BVC2	**Cotopaxi Volca**	**2.11**	**356**	P	Pb	23 26 00.6	-0.2
VC1	**Cotopaxi 1**	**2.13**	**356**	S	Sb	23 26 29.7	+1.8
VC1	**Cotopaxi 1**	**2.13**	**356**	P	Pb	23 26 00.9	-0.1
NAS2	**Nasa**	**2.13**	**354**	P	Pb	23 26 00.5	-0.6
PITA	**Cotopaxi Volc**	**2.21**	**355**	S	Sb	23 26 31.1	+0.9
PITA	**Cotopaxi Volc**	**2.21**	**355**	P	Pb	23 26 01.9	-0.5
ANTI	**Antisana**	**2.31**	**2**	⇓P	Pn	23 26 01.7	+1.1
GGP	**Refugio Guagua**	**2.61**	**353**	⇓P	Pb	23 26 09.8	+0.5
PINO	**Pino**	**2.63**	**352**	⇓P	Pb	23 26 09.8	+0.1
CHAR	**Charly**	**2.74**	**12**	P	Pb	23 26 10.5	-0.8
CHAR	**Charly**	**2.74**	**12**	S	Sb	23 26 45.2	0.0
CONE	**Cono NE Rev Vo**	**2.76**	**13**	S	Sb	23 26 45.2	-0.5
CONE	**Cono NE Rev Vo**	**2.76**	**13**	P	Pn	23 26 08.3	+2.0
CAYA	**Cayambe**	**2.84**	**5**	S	Sb	23 26 48.2	-0.3
CAYA	**Cayambe**	**2.84**	**5**	P	Pb	23 26 10.6	-2.7

IDC 21 23:29:04.8±3.3, 8.32S×120.83E, h166km±28km, mb2.6/1, mb1 2.8/4, mb1mx2.7/20, mbtmp2.6/4, Error ellipse: s-maj=103.5km s-min=15.5km az=55.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.46**	**342**	P	Pn	23 29 57.3	-1.3
	1.2nm,0.3s,baz=244,slow=18,SNR=17						
KAPI				S	Sn	23 30 40.9	+0.4
	2.9nm,0.3s,baz=75,slow=18,SNR=10						
WRA	**Warramunga Arr**	**17.45**	**133**	P	Pn	23 32 59.0	+0.7
	0.1nm,0.3s,baz=301,slow=13,SNR=2.6						
WRA				S	S	23 36 06.7	-3.5
	0.1nm,0.3s,baz=302,slow=23,SNR=3.0						
ASAR	**Alice Springs**	**19.74**	**142**	P	P	23 33 23.2	+1.2
	0.2nm,0.3s,baz=314,slow=9.2,SNR=16						
MKAR	**Makanchi Array**	**64.70**	**332**	P	P	23 39 25.1	0.0
	0.1nm,0.7s,baz=134,slow=7.7,SNR=2.9						

IDC 21 23:31:13.0±3.8, 49.40S×124.47E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.8/10, mbtmp3.8/3, MS3.1/1, Ms1 3.0/1, ms1mx2.6/22, Error ellipse: s-maj=111.5km s-min=66.6km az=110.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.71**	**43**	P	P	23 36 05.4	-0.1
	4.7nm,0.7s,baz=202,slow=11,SNR=7.3						
STKA				LR	LR	23 42 58.5	
	comp=Z,48nm,18.1s,baz=207,slow=32						
ASAR	**Alice Springs**	**26.73**	**20**	P	P	23 36 54.7	+0.6
	0.9nm,0.7s,baz=191,slow=9.5,SNR=9.3						
WRA	**Warramunga Arr**	**30.43**	**19**	P	P	23 37 26.7	-0.4
	0.7nm,0.8s,baz=196,slow=11,SNR=3.1						
YKA	**Yellowknife Ar**	**145.74**	**45**	PKPbc	PKPdf	23 50 51.6	-0.4
	0.4nm,0.9s,baz=262,slow=3.0,SNR=6.6						

*IDC **21** 23:33:40.5±0.8, 21.77S×175.74W, h0km, mb3.9/9, mb1 4.2/9, mb1mx4.0/18, mbtmp3.9/9, MS3.8/6, Ms1 3.8/6, ms1mx3.5/22, Error ellipse: s-maj=35.6km s-min=18.5km az=148.0*

*ISCJB **21** 23:33:57.6±0.8, 21.8S±0.2×176.0W±0.2, h154km, mb3.7/9, Error ellipse: s-maj=35.0km s-min=16.3km az=150.9*

ISC 21 23:33:59.3±0.8, 21.8S±0.2×176.0W±0.2, h154km, n17, σ1§43/15, mb3.8/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.78**	**28**	LR	LR	23 38 46.8	
	comp=Z,344nm,20.0s,baz=140,slow=35						
CTA	**Charters Tower**	**35.25**	**266**	P	**P**	**23 40 40.1**	**+0.7**
	2.7nm,0.6s,baz=103,slow=13,SNR=4.8						
CTA				LR	LR	23 51 52.9	
	comp=Z,116nm,20.9s,baz=47,slow=31						
STKA	**Stephens Creek**	**38.96**	**246**	P	**P**	**23 41 10.4**	**-0.1**
	1.0nm,0.6s,baz=100,slow=11,SNR=2.1						
STKA				LR	LR	23 55 20.3	
	comp=Z,125nm,18.8s,baz=29,slow=33						
ASAR	**Alice Springs**	**46.07**	**258**	P	**P**	**23 42 07.5**	**-0.6**
	2.1nm,0.7s,baz=103,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**46.30**	**263**	P	**P**	**23 42 09.0**	**-0.9**
	1.5nm,0.5s,baz=98,slow=8.4,SNR=12						
QSPA	**South Pole Qui**	**68.32**	**180**	P	**P**	**23 44 43.0**	**-0.6**
	2.1nm,0.9s,baz=351,slow=4.3,SNR=9.9						
NVAR	**Mina Array Bea**	**80.67**	**42**	P	**P**	**23 45 56.1**	**+0.8**
	0.7nm,0.6s,baz=224,slow=9.3,SNR=5.8						
TXAR	**Lajitas Array**	**86.17**	**56**	P	**P**	**23 46 23.5**	**0.0**
	0.2nm,0.5s,baz=215,slow=7.7,SNR=3.3						
TXAR				LR	LR	00 15 02.4	
	comp=Z,51nm,21.8s,baz=5.0,slow=29						
PDAR	**Pinedale Array**	**88.60**	**42**	LR	LR	00 19 35.7	
	comp=Z,44nm,19.2s,baz=177,slow=31						
ILAR	**Eielson Array**	**89.13**	**12**	P	**P**	**23 46 35.4**	**-1.3**
	0.7nm,0.9s,baz=220,slow=6.6,SNR=3.8						
ILAR				LR	LR	00 23 05.5	
	comp=Z,75nm,18.1s,baz=122,slow=33						
YKA	**Yellowknife Ar**	**96.88**	**24**	P	**P**	**23 47 11.1**	**-1.2**
	0.5nm,0.7s,baz=241,slow=4.6,SNR=8.9						
MKAR	**Makanchi Array**	**113.43**	**313**	PKiKP	**PKiKP**	**23 52 22.8**	**+3.8**
	0.2nm,0.6s,baz=238,slow=1.8,SNR=4.4						
AKASG	**Malin Array Be**	**145.01**	**332**	PKPbc	**PKPdf**	**23 53 18.9**	**+0.9**
	0.8nm,0.5s,baz=49,slow=4.2,SNR=4.6						
BRTR	**Keskin Array B**	**149.07**	**312**	PKPbc	**PKPab**	**23 53 33.0**	**-1.4**
	0.5nm,0.8s,baz=116,slow=3.4,SNR=3.7						
BRG	**Berggiesshubel**	**149.92**	**347**	*eP*	**PKPbc**	**23 53 32.0**	**+0.9**
	23nm,1.9s						
BRG				*e*		23 53 46.0	
	9.1nm,1.5s						
GERES	**GERESS Array B**	**151.89**	**346**	PKPbc	**PKPbc**	**23 53 36.5**	**+0.6**
	0.5nm,0.9s,baz=20,slow=8.9,SNR=3.4						
ESDC	**Sonseca Array**	**160.89**	**19**	PKPab	**PKPab**	**23 54 24.5**	**0.0**
	0.4nm,0.5s,baz=337,slow=4.2,SNR=5.9						

*CSEM **21** 23:43:23.2±0.5, 30.24N×57.38E, h2km, ML3.5, Error ellipse: s-maj=10.7km s-min=8.6km az=141.0*

TEH 21 23:43:24.6, 30.11N×57.24E, h2km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.43**	**253**	*e*Pg	Pb	23 43 34.7	-0.7
KRBR				*e*Sg	Sb	23 43 44.0	+1.3
IBAF	**Bafgh**	**2.06**	**316**	*e*Pn	Pn	23 44 00.2	-0.3
IBAF				*e*Sg	Sb	23 44 28.4	-0.9
IBAF				*e*		23 44 33.1	
	comp=Z,3μm,0.2s						
IBAF	**Bafgh**	**2.06**	**316**	*e*Pn	Pn	23 44 00.2	-0.3
IBAF				*e*Sg	Sb	23 44 28.4	-0.9
IMEH	**Mehriz**	**2.60**	**300**	*e*		23 44 15.8	
	comp=Z,1μm,0.1s						
IMEH				*e*Pn	Pn	23 44 07.7	-0.3
IMEH				*e*Sg	Sb	23 44 45.8	+0.9
IBND	**Bandar-abas**	**2.72**	**193**	*e*Sg	Sb	23 44 49.2	+1.4
IBND				*e*Pn	Pn	23 44 09.3	0.0
IBND				*e*		23 45 10.8	
	comp=Z,1μm,0.3s						
IKOO	**Kooshah**	**2.76**	**33**	*e*		23 44 51.4	
	comp=Z,4μm,0.2s						
IKOO				*e*Pn	Pn	23 44 07.1	-3.2
ITEG	**Tejag**	**3.07**	**25**	*e*Pn	Pn	23 44 14.1	-0.3
ITEG				*e*		23 45 02.6	
	comp=Z,2μm,0.1s						
ITEG	**Tejag**	**3.07**	**25**	*e*Pn	Pn	23 44 14.1	-0.3
ICHK	**Chekchek**	**3.23**	**312**	*e*Pn	Pn	23 44 16.3	-0.4
ICHK				*e*Sg	Sb	23 45 05.7	+2.7
ICHK				*e*		23 45 11.4	
	comp=Z,670nm,0.3s						
ICHK	**Chekchek**	**3.23**	**312**	*e*Pn	Pn	23 44 16.3	-0.4
ICHK				*e*Sg	Sb	23 45 05.7	+2.7
IDAH	**Dahanechah**	**3.46**	**40**	*e*	Sg	23 45 11.9	-4.3
	comp=Z,718nm,0.2s						
TABS	**Tabas**	**3.53**	**358**	*e*Pn	Pn	23 44 17.1	-3.6
IMON	**Monand**	**3.71**	**33**	*e*Pn	Pn	23 44 24.9	+1.6
IMON				*e*		23 44 32.2	
	comp=Z,1μm,0.1s						
SHRT	**Shahrakht**	**4.38**	**36**	*e*Pn	Pn	23 44 27.4	-4.9
SHRT				*e*Sg	Sb	23 45 31.3	-4.5

*ISCJB **21** 23:46:17.1±0.7, 51.48N±0.03×16.05E±0.04, h0km, Error ellipse: s-maj=5.3km s-min=3.2km az=20.9*

*IPEC **21** 23:46:17.2±0.3, 51.61N×16.16E, h0km, ML2.1/3, Error ellipse: s-maj=1.9km s-min=1.5km az=44.0*

*CSEM **21** 23:46:18.8±0.3, 51.48N×16.03E, h2km, ML3.3/10, Error ellipse: s-maj=5.1km s-min=3.0km az=8.0*

*PRU **21** 23:46:19.7, 51.48N×16.04E, h0km*

*VIE **21** 23:46:21.1±0.5, 51.29N×16.04E, h0km, mb1.9/2, ML2.7/4, Error ellipse: s-maj=3.2km s-min=3.0km az=171.0 71 km WNW of Wroclaw Suspected Mining induced.*

ISC 21 23:46:16.8±0.9, 51.60N±0.03×16.06E±0.03, h0km, n33, σ1§04/64, 1C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.78**	**169**	*e*Pg	**Pg**	**23 46 32.2**	**+0.6**
KSP				*e*Sg	**Sg**	**23 46 41.7**	**+0.1**
KSP	**Ksiaz**	**0.78**	**169**	*e*Pg	**Pg**	**23 46 32.2**	**+0.6**
KSP				*e*Sg	**Sg**	**23 46 41.7**	**+0.1**
KSP	**Ksiaz**	**0.78**	**169**	*e*Pg	**Pg**	**23 46 32.2**	**+0.6**
	baz=354						
KSP				*e*Sg	**Sg**	**23 46 41.7**	**+0.1**
	baz=354						
UPC	**Upice**	**1.10**	**181**	*e*PG	**Pg**	**23 46 38.3**	**+0.5**
UPC	**Upice**	**1.10**	**181**	Pg	**Pg**	**23 46 38.3**	**+0.5**
DPC	**Dobruska-Polom**	**1.27**	**172**	*e*PG	**Pg**	**23 46 41.1**	**0.0**
DPC				*e*SG	**Sg**	**23 46 56.2**	**-1.2**
	comp=Z,32nm,0.3s						
DPC	**Dobruska-Polom**	**1.27**	**172**	*e*Pg	**Pg**	**23 46 41.0**	**0.0**
	baz=355						
DPC				Sg	**Sg**	**23 46 56.2**	**-1.2**
	32nm,0.3s						
PVCC	**Panska Ves**	**1.43**	**222**	*e*Pn	**Pn**	**23 46 44.5**	**+0.6**
	baz=42						
PVCC				Sg	**Sn**	**23 47 03.5**	**+0.1**
	161nm,0.2s						
KRLC	**Kraliky**	**1.60**	**163**	*e*PG	**Pb**	**23 46 47.1**	**-0.1**
KRLC				*e*SG	**Sn**	**23 47 06.2**	**-1.5**
KRLC	**Kraliky**	**1.60**	**163**	Pg	**Pb**	**23 46 47.1**	**-0.1**
KRLC				Sg	**Sn**	**23 47 06.2**	**-1.5**
PRU	**Pruhonice**	**1.88**	**211**	*e*PG	**Pb**	**23 46 52.5**	**+0.5**
PRU				*e*SG	**Sb**	**23 47 16.3**	**+0.3**
	comp=Z,47nm,0.3s						
PRU	**Pruhonice**	**1.88**	**211**	Pg	**Pb**	**23 46 52.5**	**+0.5**
PRU				Sg	**Sb**	**23 47 16.3**	**+0.3**
	47nm,0.3s						
CLL	**Collm**	**1.93**	**262**	*e*Pn	**Pn**	**23 46 51.0**	**+0.1**
CLL				*e*Pg	**Pb**	**23 46 54.0**	**+1.1**
CLL				*i* Sg	**Sg**	**23 47 19.9**	**+1.1**
	comp=Z,28nm,0.6s						
MORC	**Moravsky Berou**	**2.06**	**152**	*e*Pn	**Pn**	**23 46 52.9**	**+0.2**
	baz=335						
MORC				*e*Sg	**Sb**	**23 47 20.8**	**-0.4**
	comp=Z,12nm,0.2s,baz=335						
OKC	**Ostrava-Krasne**	**2.21**	**142**	*e*PG	**Pg**	**23 46 59.3**	**+0.2**
OKC				*e*SG	**Sb**	**23 47 25.6**	**+0.1**
OKC	**Ostrava-Krasne**	**2.21**	**142**	Pg	**Pg**	**23 46 59.3**	**+0.2**
OKC				Sg	**Sb**	**23 47 25.6**	**+0.1**
VRAC	**Vranov**	**2.32**	**171**	*e*Pn	**Pn**	**23 46 56.9**	**+0.6**
	baz=353						
VRAC				*e*Sg	**Sb**	**23 47 29.2**	**+0.5**
	comp=Z,12nm,0.3s,baz=353						
KRUC	**Moravsky**	**2.55**	**175**	*e*Pn	**Pn**	**23 47 00.3**	**+0.9**
	baz=357						
KRUC				*e*Sg	**Sg**	**23 47 37.8**	**-0.9**
	comp=Z,5.3nm,0.2s,baz=357						
NKC	**Novy Kostel**	**2.66**	**240**	*e*PN	**Pn**	**23 47 02.3**	**+1.3**
NKC				*e*PG	**Pg**	**23 47 07.5**	**-0.3**
NKC				*e*SG	**Sg**	**23 47 43.1**	**+0.8**
	comp=Z,33nm,0.3s						
NKC	**Novy Kostel**	**2.66**	**240**	Pn	**Pn**	**23 47 02.3**	**+1.3**
OJC	**Ojcow**	**2.74**	**119**	*e*Pg	**Pg**	**23 47 10.1**	**+0.7**
OJC				*e*Sg	**Sg**	**23 47 45.0**	**+0.2**
OJC	**Ojcow**	**2.74**	**119**	*e*Pg	**Pg**	**23 47 10.5**	**+1.1**
OJC				*e*Sg	**Sg**	**23 47 45.5**	**+0.6**
KHC	**Kasperske Hory**	**2.94**	**214**	*e*PN	**Pn**	**23 47 04.9**	**+0.1**
KHC				*e*PG	**Pb**	**23 47 11.5**	**+1.5**
KHC				*e*SG	**Sg**	**23 47 49.3**	**-1.8**
	comp=Z,7.4nm,0.3s						
KHC	**Kasperske Hory**	**2.94**	**214**	Pn	**Pn**	**23 47 04.9**	**+0.1**
NIE	**Niedzica**	**3.49**	**127**	*e*P	**Pg**	**23 47 24.1**	**+0.5**
NIE				*e*S	**Sg**	**23 48 08.1**	**-0.7**
BSD	**Bornholm Skovb**	**3.58**	**349**	*i* P	**Pn**	**23 47 13.4**	**-0.2**
BSD				*i* S	**Sn**	**23 47 53.3**	**-3.3**
BSD	**Bornholm Skovb**	**3.58**	**349**	*i* P	**Pn**	**23 47 13.4**	**-0.2**
VYHS	**Vyhne**	**3.59**	**149**	*e*PN	**Pn**	**23 47 15.2**	**+1.5**
VYHS				*e*SG	**Sg**	**23 48 11.8**	**-0.3**
VYHS	**Vyhne**	**3.59**	**149**	*e*Pn	**Pn**	**23 47 15.2**	**+1.5**
VYHS				*e*Sg	**Sg**	**23 48 11.8**	**-0.3**
CONA	**Conrad Observa**	**3.68**	**182**	⇓*i*Pn	**Pn**	**23 47 15.9**	**+0.9**
CONA				⇓*i*Sg	**Sg**	**23 48 12.1**	**-2.9**
	comp=Z,6.9nm,0.3s						
CONA	**Conrad Observa**	**3.68**	**182**	Pn	**Pn**	**23 47 15.9**	**+0.9**
CONA				Sg	**Sg**	**23 48 12.1**	**-2.9**
	comp=Z,6.9nm,0.3s						
MOA	**Molln**	**3.93**	**198**	⇓*i*Pn	**Pn**	**23 47 18.6**	**+0.2**
MOA				⇓*i*Sg	**Sg**	**23 48 21.4**	**-1.6**
	comp=Z,8.6nm,0.5s						
MOA	**Molln**	**3.93**	**198**	Pn	**Pn**	**23 47 18.6**	**+0.2**
MOA				Sg	**Sg**	**23 48 21.4**	**-1.6**
	comp=Z,8.6nm,0.5s						

IGQ 22 00:02:45.9, 2.76S×78.39W, h12km±7km, Mb4.1, Ms3.9, 6C-2D, Error ellipse: s-maj=11.2km s-min=1.1km az=2.9, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YANT	**Yantaza**	**1.16**	**199**	⇑P	Pb	00 03 07.0	-1.0
YANT	**Yantaza**	**1.16**	**199**	⇑S	Sg	00 03 23.6	0.0
PAT1	**Patacocha**	**1.24**	**358**	⇑P	Pn	00 03 09.0	-0.8
ARRY	**Arrayan**	**1.24**	**357**	S	Sb	00 03 25.5	-0.6
ARRY	**Arrayan**	**1.24**	**357**	P	Pn	00 03 08.5	-1.2
BMAS	**Trigal station**	**1.25**	**356**	⇑P	Pn	00 03 09.1	-0.6
IGUA	**Igualata**	**1.28**	**349**	⇓P	Pg	00 03 11.1	-0.2
ULBA	**Ulba**	**1.30**	**359**	P	Pb	00 03 10.8	0.0
PISA	**Pisayambo**	**1.69**	**0**	S	Sg	00 03 40.9	-0.5
PISA	**Pisayambo**	**1.69**	**0**	P	Pn	00 03 16.7	+0.8
BMOR	**Cotopaxi Volca**	**2.01**	**358**	⇑P	Pb	00 03 23.3	0.0
MOV1	**Cotopaxi Vol s**	**2.03**	**359**	P	Pb	00 03 22.7	-0.9
MOV1	**Cotopaxi Vol s**	**2.03**	**359**	S	Sg	00 03 51.3	-1.3
TAMB	**Tambo**	**2.05**	**1**	P	Pb	00 03 24.2	+0.4
BTAM	**Cotopaxi Volca**	**2.07**	**360**	S	Sg	00 03 53.2	-0.5
BTAM	**Cotopaxi Volca**	**2.07**	**360**	P	Pb	00 03 24.6	+0.4
BREF	**Cotopaxi Volca**	**2.07**	**359**	P	Pb	00 03 23.8	-0.5
COV1	**Cotopaxi Volc**	**2.08**	**1**	⇑P	Pb	00 03 25.3	+0.8
BVC2	**Cotopaxi Volca**	**2.08**	**359**	S	Sb	00 03 51.6	+0.7
BVC2	**Cotopaxi Volca**	**2.08**	**359**	P	Pb	00 03 24.2	-0.3
NAS2	**Nasa**	**2.10**	**358**	P	Pb	00 03 24.5	-0.2
VC1	**Cotopaxi 1**	**2.10**	**360**	P	Pb	00 03 24.1	-0.6
PITA	**Cotopaxi Volc**	**2.18**	**359**	S	Sb	00 03 54.7	+1.2
PITA	**Cotopaxi Volc**	**2.18**	**359**	P	Pb	00 03 25.2	-0.8
ANTI	**Antisana**	**2.30**	**6**	S	Sb	00 03 55.7	-1.5
ANTI	**Antisana**	**2.30**	**6**	P	Pn	00 03 25.2	+0.7
GGP	**Refugio Guagua**	**2.57**	**355**	⇓P	Pb	00 03 33.3	+0.5
PINO	**Pino**	**2.59**	**355**	P	Pb	00 03 33.1	0.0
CHAR	**Charly**	**2.75**	**15**	P	Pb	00 03 34.1	-1.5
CAYR	**Refugio Cayamb**	**2.78**	**8**	P	Pb	00 03 34.7	-1.7
CAYA	**Cayambe**	**2.84**	**8**	P	Pb	00 03 37.0	-0.3

IDC 22 00:03:45.1±3.7, 16.16S×173.90W, h88km±28km, mb3.5/5, mb1 3.8/6, mb1mx3.5/17, mbtmp3.5/6, MS3.7/2, Ms1 3.7/2, ms1mx2.9/27, Error ellipse: s-maj=138.8km s-min=20.9km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.03**	**43**	P	Pn	00 04 31.4	+0.2
	30nm,0.3s,baz=231,slow=1.4,SNR=19						
AFI				S	Sn	00 05 01.9	-4.8
	258nm,0.3s,baz=30,slow=20,SNR=27						
STKA	**Stephens Creek**	**43.24**	**241**	P	P	00 11 38.1	+0.1
	0.7nm,0.6s,baz=7.7,slow=7.9,SNR=3.1						
WRA	**Warramunga Arr**	**49.20**	**257**	P	P	00 12 24.6	-0.3
	0.6nm,0.5s,baz=93,slow=6.7,SNR=4.1						
ASAR	**Alice Springs**	**49.42**	**253**	P	P	00 12 26.1	-0.4
	2.3nm,0.8s,baz=90,slow=7.7,SNR=20						
FITZ	**Fitzroy Crossi**	**57.58**	**259**	LR	LR	00 36 59.9	
	comp=Z,48nm,19.5s,baz=64,slow=35						
KSRS	**Korea Array**	**76.36**	**316**	LR	LR	00 45 19.2	
	comp=Z,52nm,20.8s,baz=237,slow=33						
PDAR	**Pinedale Array**	**83.15**	**42**	P	P	00 16 01.6	-0.2
	0.5nm,0.7s,baz=222,slow=3.8,SNR=4.8						
ILAR	**Eielson Array**	**83.28**	**11**	P	P	00 16 01.1	-0.5
	0.6nm,0.9s,baz=230,slow=6.2,SNR=4.8						
BRTR	**Keskin Array B**	**146.43**	**320**	PKPbc	PKPab	00 23 17.2	-0.3
	0.8nm,0.8s,baz=88,slow=3.2,SNR=5.2						
GERES	**GERESS Array B**	**146.81**	**351**	PKPbc	PKPdf	00 23 16.2	+0.8
	0.1nm,0.4s,baz=318,slow=2.6,SNR=3.6						

IDC 22 00:06:18.9±3.8, 5.17S×154.35E, h408km±42km, mb3.2/10, mb1 3.4/12, mb1mx3.3/19, mbtmp3.2/12, Error ellipse: s-maj=42.3km s-min=19.5km az=113.0, Bougainville - Solomon Islands region

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

IGQ 22 00:47:07.0, 2°.77S, 78°.26W, h12km, 4km, Mb4.0, Ms3.8, 9C-15D, Error ellipse: s-maj=6.3km s-min=1.2km az=3.3, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YANT	**Yantaza**	**1.19**	**205**	↑P	Pn	00 47 29.0	-0.7
YANT	**Yantaza**	**1.19**	**205**	↑S	Sb	00 47 45.4	+0.2
PAT1	**Patacocha**	**1.27**	**352**	↓S	Sb	00 47 46.8	-1.4
PAT1	**Patacocha**	**1.27**	**352**	↓P	Pn	00 47 30.6	-0.6
ARRY	**Arrayan**	**1.27**	**351**	↑S	Sb	00 47 46.6	-1.4
ARRY	**Arrayan**	**1.27**	**351**	↑P	Pn	00 47 30.2	-0.9
BMAS	**Trigal station**	**1.28**	**350**	↓S	Sb	00 47 48.2	-0.1
BMAS	**Trigal station**	**1.28**	**350**	↓P	Pn	00 47 30.8	-0.4
ULBA	**Ulba**	**1.32**	**354**	↑S	Sn	00 47 49.9	+0.2
ULBA	**Ulba**	**1.32**	**354**	↑P	Pn	00 47 31.5	-0.3
IGUA	**Igualata**	**1.33**	**344**	S	Sg	00 47 52.0	+0.9
IGUA	**Igualata**	**1.33**	**344**	P	Pb	00 47 32.9	+0.3
BBIL	**Ulba Tungurahu**	**1.33**	**350**	↓P	Pn	00 47 31.6	-0.3
BBIL	**Ulba Tungurahu**	**1.33**	**350**	↓S	Sn	00 47 49.9	0.0
BULB	**Ulba Tungurahu**	**1.33**	**354**	↓S	Sg	00 47 52.2	+1.3
BULB	**Ulba Tungurahu**	**1.33**	**354**	↓P	Pg	00 47 33.6	+0.4
BRUN	**Tungurahua Vol**	**1.35**	**354**	↓S	Sn	00 47 50.5	+0.2
BRUN	**Tungurahua Vol**	**1.35**	**354**	↓P	Pn	00 47 31.7	-0.5
JUI6	**Juive**	**1.35**	**351**	S	Sg	00 47 51.3	-0.1
JUI6	**Juive**	**1.35**	**351**	P	Pn	00 47 32.0	-0.1
PISA	**Pisayambo**	**1.71**	**356**	S	Sg	00 48 02.3	-0.8
PISA	**Pisayambo**	**1.71**	**356**	P	Pn	00 47 38.0	+0.8
BMOR	**Cotopaxi Volca**	**2.04**	**354**	↑S	Sb	00 48 11.3	+0.8
BMOR	**Cotopaxi Volca**	**2.04**	**354**	↑P	Pb	00 47 44.4	-0.3
MOV1	**Cotopaxi Vol s**	**2.05**	**355**	P	Pb	00 47 44.4	-0.6
MOV1	**Cotopaxi Vol s**	**2.05**	**355**	S	Sg	00 48 13.1	-1.4
TAMB	**Tambo**	**2.07**	**357**	P	Pb	00 47 44.6	-0.6
BTAM	**Cotopaxi Volca**	**2.09**	**356**	S	Sg	00 48 14.1	-1.3
BTAM	**Cotopaxi Volca**	**2.09**	**356**	P	Pb	00 47 46.3	+0.8
BREF	**Cotopaxi Volca**	**2.10**	**355**	S	Sg	00 48 14.6	-1.2
BREF	**Cotopaxi Volca**	**2.10**	**355**	P	Pb	00 47 45.4	-0.4
COV1	**Cotopaxi Volc**	**2.10**	**358**	↓S	Sg	00 48 14.7	-1.2
COV1	**Cotopaxi Volc**	**2.10**	**358**	↓P	Pg	00 47 47.0	-1.1
BVC2	**Cotopaxi Volca**	**2.10**	**356**	↓P	Pb	00 47 46.4	+0.5
BVC2	**Cotopaxi Volca**	**2.10**	**356**	↓S	Sg	00 48 14.3	-1.7
VC1	**Cotopaxi 1**	**2.12**	**356**	P	Pb	00 47 46.2	+0.1
VC1	**Cotopaxi 1**	**2.12**	**356**	S	Sg	00 48 15.0	-1.4
NAS2	**Nasa**	**2.12**	**354**	P	Pb	00 47 46.2	+0.1
PITA	**Cotopaxi Volc**	**2.20**	**356**	P	Pb	00 47 46.9	-0.6
ANTI	**Antisana**	**2.31**	**2**	P	Pn	00 47 47.1	+1.4
ANTI	**Antisana**	**2.31**	**2**	S	Sb	00 48 17.1	-1.3
GGP	**Refugio Guagua**	**2.60**	**353**	↓P	Pb	00 47 55.1	+0.8
PINO	**Pino**	**2.62**	**352**	↑P	Pb	00 47 54.6	-0.1
CONE	**Cono NE Rev Vo**	**2.75**	**13**	P	Pb	00 47 54.4	-2.2
CAYR	**Refugio Cayamb**	**2.78**	**5**	S	Sb	00 48 31.8	-0.3
CAYR	**Refugio Cayamb**	**2.78**	**5**	P	Pn	00 47 54.7	+2.5
CHIS	**Cerro-Chispas-**	**3.00**	**305**	P	Pn	00 47 57.2	+2.7

*ISK **22** 00:49:57.8, 37°.79N×30°.54E, h13km, MD3.6*
*DDA **22** 00:49:58.0, 37°.79N×30°.64E, h25km, MD3.2*
*ISCJB **22** 00:49:58.4±0.4, 37°.81N±0°.02×30°.54E±0°.03, h9km±3km, Error ellipse: s-maj=3.7km s-min=3.6km az=143.3*
*CSEM **22** 00:49:58.6±0.1, 37°.79N×30°.53E, h10km, MD3.6, Error ellipse: s-maj=2.6km s-min=2.4km az=161.0*

ISC 22 00:49:58.8±0.8, 37°.80N±0°.02×30°.54E±0°.02, h10km±4km, n107, σ0°.82/134, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.02**	**334**	PG	**Pg**	**00 50 00.8**	**-0.1**
ISP				*e*SG	**Sg**	**00 50 02.5**	**+0.2**
ISP	**Isparta**	**0.02**	**334**	*i* Pg	**Pg**	**00 50 00.8**	**-0.1**
ISP				*e*Sg	**Sg**	**00 50 02.5**	**+0.2**
BCK	**Bucak**	**0.34**	**173**	PG	**Pg**	**00 50 04.8**	**-0.9**
BCK				*e*SG	**Sg**	**00 50 10.2**	**0.0**
BCK	**Bucak**	**0.34**	**173**	*i* Pg	**Pg**	**00 50 04.8**	**-0.9**
BCK				*e*Sg	**Sg**	**00 50 10.2**	**0.0**
SHUT	**Suhut-Afyon**	**0.75**	**1**	*e*PG	**Pg**	**00 50 12.5**	**-0.9**
SHUT	**Suhut-Afyon**	**0.75**	**1**	*e*Pg	**Pg**	**00 50 12.5**	**-0.9**
KORT	**Korkueli**	**0.81**	**191**	*i* P	**Pg**	**00 50 14.2**	**-0.3**
KORT				*i* S	**Sg**	**00 50 24.9**	**-0.2**
KORT	**Korkueli**	**0.81**	**191**	*i* P	**Pg**	**00 50 14.2**	**-0.3**
KORT				*i* S	**Sg**	**00 50 24.9**	**-0.2**
ANTB	**Antalya**	**0.90**	**174**	*e*PG	**Pg**	**00 50 15.3**	**-0.9**
ANTB	**Antalya**	**0.90**	**174**	*e*Pg	**Pg**	**00 50 15.3**	**-0.9**
KHL	**Karahalli**	**0.95**	**303**	*e*PG	**Pg**	**00 50 16.6**	**-0.6**
KHL	**Karahalli**	**0.95**	**303**	*e*Pg	**Pg**	**00 50 16.6**	**-0.6**
GOLH	**Golhisar**	**0.96**	**234**	*i* P	**Pg**	**00 50 16.8**	**-0.5**
GOLH				*i* S	**Sn**	**00 50 33.9**	**+1.7**
GOLH	**Golhisar**	**0.96**	**234**	*i* P	**Pg**	**00 50 16.8**	**-0.5**
GOLH				*i* S	**Sn**	**00 50 33.9**	**+1.7**
BOLV	**Bolvadin**	**0.97**	**19**	*i* P	**Pg**	**00 50 16.9**	**-0.7**
BOLV				*i* S	**Sn**	**00 50 32.9**	**+0.3**
BOLV	**Bolvadin**	**0.97**	**19**	*i* P	**Pg**	**00 50 16.9**	**-0.7**
BOLV				*i* S	**Sn**	**00 50 32.9**	**+0.3**
KHAL	**Karahalli**	**1.00**	**305**	*i* P	**Pg**	**00 50 17.7**	**-0.4**
KHAL				*i* S	**Sn**	**00 50 35.0**	**+1.8**
KHAL	**Karahalli**	**1.00**	**305**	*i* P	**Pg**	**00 50 17.7**	**-0.4**
KHAL				*i* S	**Sn**	**00 50 35.0**	**+1.8**
ELL	**Elmali**	**1.16**	**206**	*e*PN	**Pb**	**00 50 20.3**	**-0.8**
ELL	**Elmali**	**1.16**	**206**	*e*Pn	**Pb**	**00 50 20.3**	**-0.8**
DNZL	**Cakiroluk**	**1.19**	**265**	*i* P	**Pb**	**00 50 21.2**	**-0.3**
DNZL				*i* S	**Sb**	**00 50 36.5**	**-0.5**
DNZL	**Cakiroluk**	**1.19**	**265**	*i* P	**Pb**	**00 50 21.2**	**-0.3**
DNZL				*i* S	**Sb**	**00 50 36.5**	**-0.5**
ALT	**Altintas**	**1.30**	**345**	*e*PN	**Pn**	**00 50 22.6**	**-0.5**
ALT	**Altintas**	**1.30**	**345**	*e*Pn	**Pn**	**00 50 22.6**	**-0.5**
KDHN	**Kadinhani**	**1.44**	**60**	*i* P	**Pn**	**00 50 24.2**	**-0.8**
KDHN				*i* S	**Sb**	**00 50 43.6**	**-0.6**
KDHN	**Kadinhani**	**1.44**	**60**	*i* P	**Pn**	**00 50 24.2**	**-0.8**
KDHN				*i* S	**Sb**	**00 50 43.6**	**-0.6**
KONT	**Konya--Tatoy**	**1.45**	**84**	*e*PN	**Pn**	**00 50 24.4**	**-0.8**
KONT	**Konya--Tatoy**	**1.45**	**84**	*e*Pn	**Pn**	**00 50 24.4**	**-0.8**
LADK	**Ladik-KONYA**	**1.50**	**74**	*e*PN	**Pn**	**00 50 24.8**	**-1.1**
LADK	**Ladik-KONYA**	**1.50**	**74**	*e*Pn	**Pn**	**00 50 24.8**	**-1.1**
GDZ	**Gediz**	**1.53**	**328**	*i* P	**Pn**	**00 50 26.1**	**-0.2**
GDZ				*i* S	**Sg**	**00 50 49.5**	**+1.4**
GDZ	**Gediz**	**1.53**	**328**	*i* P	**Pn**	**00 50 26.1**	**-0.2**
GDZ				*i* S	**Sg**	**00 50 49.5**	**+1.4**
KULA	**Kula-Manisa**	**1.64**	**296**	*e*PN	**Pn**	**00 50 27.6**	**-0.2**
KULA	**Kula-Manisa**	**1.64**	**296**	*e*Pn	**Pn**	**00 50 27.6**	**-0.2**
FETY	**Fethiye**	**1.64**	**225**	*e*PN	**Pn**	**00 50 26.9**	**-0.8**
FETY	**Fethiye**	**1.64**	**225**	*e*Pn	**Pn**	**00 50 26.9**	**-0.8**
MANT	**Manisa**	**1.71**	**294**	*i* P	**Pn**	**00 50 28.8**	**0.0**
MANT				*i* S	**Sg**	**00 50 54.0**	**+0.3**
MANT	**Manisa**	**1.71**	**294**	*i* P	**Pn**	**00 50 28.8**	**0.0**
MANT				*i* S	**Sg**	**00 50 54.0**	**+0.3**
AKAS	**Kas**	**1.73**	**206**	*i* P	**Pg**	**00 50 31.8**	**-0.3**
AKAS				*i* S	**Sg**	**00 50 59.1**	**+4.6**
AKAS	**Kas**	**1.73**	**206**	*i* P	**Pg**	**00 50 31.8**	**-0.3**
ESKT	**Eskisehir**	**1.73**	**8**	*e*PN	**Pn**	**00 50 28.6**	**-0.5**
ESKT	**Eskisehir**	**1.73**	**8**	*e*Pn	**Pn**	**00 50 28.6**	**-0.5**
SEYT	**Eskypehyr**	**1.73**	**8**	*i* P	**Pn**	**00 50 29.3**	**+0.2**
SEYT				*i* S	**Sn**	**00 50 51.3**	**-0.1**
SEYT	**Eskypehyr**	**1.73**	**8**	*i* P	**Pn**	**00 50 29.3**	**+0.2**
SEYT				*i* S	**Sn**	**00 50 51.3**	**-0.1**
TURN	**Turunc**	**1.80**	**240**	*i* P	Pg	00 50 36.9	+3.6
SVRH	**Sivrihisar-ESK**	**1.82**	**25**	*e*PN	**Pn**	**00 50 29.7**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.82**	**25**	*e*Pn	**Pn**	**00 50 29.7**	**-0.5**
TVSB	**Tavsanli**	**1.85**	**333**	*e*PN	**Pn**	**00 50 30.1**	**-0.6**
TVSB	**Tavsanli**	**1.85**	**333**	*e*Pn	**Pn**	**00 50 30.1**	**-0.6**
DEMI	**Demirci**	**1.89**	**312**	*i* P	**Pn**	**00 50 31.7**	**+0.5**
DEMI	**Demirci**	**1.89**	**312**	*i* P	**Pn**	**00 50 31.7**	**+0.5**
YER	**Yerkesik**	**1.91**	**250**	*e*PN	**Pn**	**00 50 31.1**	**-0.4**
YER	**Yerkesik**	**1.91**	**250**	*e*Pn	**Pn**	**00 50 31.1**	**-0.4**
BORA	**Eskisehir**	**2.08**	**358**	*i* P	**Pn**	**00 50 34.6**	**+0.8**
BORA	**Eskisehir**	**2.08**	**358**	*i* P	**Pn**	**00 50 34.6**	**+0.8**
AYDN	**Tasoluk**	**2.11**	**267**	*i* P	**Pb**	**00 50 35.7**	**-1.5**
AYDN				*i* S	**Sn**	**00 50 59.3**	**-1.2**
AYDN	**Tasoluk**	**2.11**	**267**	*i* P	**Pb**	**00 50 35.7**	**-1.5**
AYDN				*i* S	**Sn**	**00 50 59.3**	**-1.2**
GAZI	**Gazipasa**	**2.12**	**137**	*i* P	**Pb**	**00 50 37.6**	**+0.4**
GAZI				*i* S	**Sb**	**00 51 03.1**	**-0.4**
GAZI	**Gazipasa**	**2.12**	**137**	*i* P	**Pb**	**00 50 37.6**	**+0.4**
GAZI				*i* S	**Sb**	**00 51 03.1**	**-0.4**
ERMK	**Ermenek**	**2.22**	**121**	*i* P	**Pb**	**00 50 39.7**	**+0.5**
ERMK				*i* S	**Sg**	**00 51 09.8**	**-0.4**
ERMK	**Ermenek**	**2.22**	**121**	*i* P	**Pb**	**00 50 39.7**	**+0.5**
DST	**Dursunbey**	**2.34**	**321**	*e*PN	**Pn**	**00 50 37.3**	**-0.1**
DST	**Dursunbey**	**2.34**	**321**	*e*Pn	**Pn**	**00 50 37.3**	**-0.1**
SULT	**Sultanhani-AKS**	**2.39**	**80**	*e*PN	**Pn**	**00 50 37.9**	**-0.2**
SULT	**Sultanhani-AKS**	**2.39**	**80**	*e*Pn	**Pn**	**00 50 37.9**	**-0.2**
AKHS	**Akhisar**	**2.40**	**298**	*i* P	**Pn**	**00 50 38.6**	**+0.5**
AKHS	**Akhisar**	**2.40**	**298**	*i* P	**Pn**	**00 50 38.6**	**+0.5**
AKS	**Akhisar**	**2.40**	**298**	*e*PN	**Pn**	**00 50 38.0**	**-0.1**
AKS	**Akhisar**	**2.40**	**298**	*e*Pn	**Pn**	**00 50 38.0**	**-0.1**
DURS	**Dursunbey**	**2.42**	**319**	*i* P	**Pn**	**00 50 38.5**	**+0.1**
DURS	**Dursunbey**	**2.42**	**319**	*i* P	**Pn**	**00 50 38.5**	**+0.1**
AFSR	**Af˙ar-Bala (A**	**2.58**	**50**	*e*PN	**Pn**	**00 50 40.3**	**-0.4**
AFSR	**Af˙ar-Bala (A**	**2.58**	**50**	*e*Pn	**Pn**	**00 50 40.3**	**-0.4**
GULT	**Gulveren**	**2.63**	**360**	*e*PN	**Pn**	**00 50 41.2**	**-0.2**
GULT	**Gulveren**	**2.63**	**360**	*e*Pn	**Pn**	**00 50 41.2**	**-0.2**
IZM	**Izmir**	**2.65**	**284**	*e*PN	**Pn**	**00 50 41.1**	**-0.5**
IZM	**Izmir**	**2.65**	**284**	*e*Pn	**Pn**	**00 50 41.1**	**-0.5**
BBAL	**Bala**	**2.67**	**49**	*i* P	**Pn**	**00 50 42.6**	**+0.6**
BBAL	**Bala**	**2.67**	**49**	*i* P	**Pn**	**00 50 42.6**	**+0.6**
ADVT	**Abdulvahap**	**2.70**	**347**	*e*PN	**Pn**	**00 50 41.8**	**-0.5**
ADVT	**Abdulvahap**	**2.70**	**347**	*e*Pn	**Pn**	**00 50 41.8**	**-0.5**
LOD	**Lodumlu**	**2.72**	**39**	*e*PN	**Pn**	**00 50 42.3**	**-0.3**
LOD	**Lodumlu**	**2.72**	**39**	*e*Pn	**Pn**	**00 50 42.3**	**-0.3**
MDUB	**Mudurnu**	**2.72**	**11**	*e*PN	**Pn**	**00 50 42.7**	**+0.1**
MDUB	**Mudurnu**	**2.72**	**11**	*e*Pn	**Pn**	**00 50 42.7**	**+0.1**
BALB	**Balikesir**	**2.77**	**312**	*e*PN	**Pn**	**00 50 43.4**	**+0.1**
BALB	**Balikesir**	**2.77**	**312**	*e*Pn	**Pn**	**00 50 43.4**	**+0.1**
YLV	**Yalova**	**2.91**	**342**	*e*PN	**Pn**	**00 50 45.6**	**+0.4**
YLV	**Yalova**	**2.91**	**342**	*e*Pn	**Pn**	**00 50 45.6**	**+0.4**
BALY	**Balya**	**2.99**	**311**	*i* P	**Pn**	**00 50 47.8**	**+1.5**
BALY	**Balya**	**2.99**	**311**	*i* P	**Pn**	**00 50 47.8**	**+1.5**
GONE	**Gonen-Balikesi**	**3.16**	**316**	*e*PN	**Pn**	**00 50 48.9**	**+0.4**
GONE	**Gonen-Balikesi**	**3.16**	**316**	*e*Pn	**Pn**	**00 50 48.9**	**+0.4**
NIG	**Nigde**	**3.23**	**83**	*e*PN	**Pn**	**00 50 49.9**	**0.0**
NIG	**Nigde**	**3.23**	**83**	*e*Pn	**Pn**	**00 50 49.9**	**0.0**
MERS	**Mersin**	**3.31**	**105**	*e*PN	**Pn**	**00 50 51.1**	**+0.4**
MERS	**Mersin**	**3.31**	**105**	*e*Pn	**Pn**	**00 50 51.1**	**+0.4**
GULE	**Gulek**	**3.41**	**97**	*i* P	**Pn**	**00 50 53.9**	**+1.7**
GULE	**Gulek**	**3.41**	**97**	*i* P	**Pn**	**00 50 53.9**	**+1.7**
CDAG	**Cicekdag**	**3.51**	**58**	*i* P	**Pn**	**00 50 54.3**	**+0.8**
CDAG	**Cicekdag**	**3.51**	**58**	*i* P	**Pn**	**00 50 54.3**	**+0.8**
CORM	**Corum**	**3.98**	**52**	*e*PN	**Pn**	**00 51 00.7**	**+0.7**
CORM	**Corum**	**3.98**	**52**	*e*Pn	**Pn**	**00 51 00.6**	**+0.7**
GELI	**Tayfur-Gelibol**	**4.09**	**311**	*e*PN	**Pn**	**00 51 02.1**	**+0.8**
GELI	**Tayfur-Gelibol**	**4.09**	**311**	*e*Pn	**Pn**	**00 51 02.1**	**+0.8**
KOZT	**Kozan**	**4.21**	**93**	*e*PN	**Pn**	**00 51 04.0**	**+0.9**
KOZT	**Kozan**	**4.21**	**93**	*e*Pn	**Pn**	**00 51 04.0**	**+0.9**

*BGS **22** 01:08:47.9±2.0, 52°.44N×161°.46E, h50km, mb5.0*
*IDC **22** 01:08:53.2±0.4, 54°.56N×162°.11E, h0km, mb4.9/37, mb1 5.0/38, mb1mx5.0/38, mbtmp4.9/38, ML4.5/1, MS4.1/27, Ms1 4.1/27, ms1mx4.0/46, Error ellipse: s-maj=14.3km s-min=9.1km az=158.0*
*KRSC **22** 01:08:55.8±0.1, 54°.37N×162°.67E, h30km±29km, ML5.2*
*BJI **22** 01:08:56.0, 54°.84N×161°.92E, h33km, mB5.0/31, mb4.8/38, Ms4.8/29, Ms7 4.5/30*
*ISCJB **22** 01:08:56.2±0.1, 54°.56N±0°.02×162°.11E±0°.02, h31km, mb5.0/280, MS4.3/45, Error ellipse: s-maj=3.4km s-min=1.7km az=172.5*
*MOS **22** 01:08:56.6±0.9, 54°.57N×162°.07E, h33km, mb5.4/76, MS4.2/26, Error ellipse: s-maj=7.2km s-min=3.7km az=93.9*
*NEIC **22** 01:08:59.8±0.7, 54°.56N×162°.09E, h47km±7km, mb4.9/113, Error ellipse: s-maj=5.3km s-min=2.7km az=168.0*
*SZGRF **22** 01:09:00.6, 55°.39N×161°.36E, h33km, mb5.4, Near east coast of Kamchatka Peninsula, Russia*

ISC 22 01:08:57.2±0.3, 54°.37N±0°.02×162°.19E±0°.02, h33km±1km, h33km:pP-P, n1222, σ1s16/1321, mb5.1/281, MS4.4/46, 289C-209D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.33**	**305**	PN	**Pn**	**01 09 07.8**	**+2.1**
MKZ	**Mys Kozlova**	**0.33**	**305**	P	**Pn**	**01 09 07.8**	**+2.1**
TUMR	**Tumrok**	**1.50**	**309**	*e*P	**Pb**	**01 09 25.3**	**+0.8**
KII	**Karymskiy**	**1.65**	**259**	*e*P	**Pb**	**01 09 27.5**	**+0.5**
KMNR	**Kamenistaya**	**1.79**	**322**	P	**Pb**	**01 09 28.9**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**1.79**	**332**	*e*P	**Pb**	**01 09 28.5**	**-1.0**
BZGR				*i* S	**Sb**	**01 09 52.4**	**+0.7**
SPN	**Mys Shipunski**	**1.81**	**226**	PN	**Pb**	**01 09 28.6**	**-1.1**
SPN				S	**Sb**	**01 09 52.0**	**0.0**
SPN	**Mys Shipunski**	**1.81**	**226**	*e*P	**Pb**	**01 09 28.6**	**-1.1**
SPN				*i* S	**Sb**	**01 09 52.0**	**0.0**
ZLN	**Zelenaya**	**1.83**	**335**	*e*P	**Pb**	**01 09 29.1**	**-1.1**
BZMR	**Bezymyannaya**	**1.85**	**329**	*e*P	**Pb**	**01 09 29.1**	**-1.4**
BZMR				*i* S	**Sb**	**01 09 53.4**	**+0.1**
BZWR	**Bezymyannyi-We**	**1.87**	**329**	*e*P	**Pb**	**01 09 29.8**	**-1.1**
BZWR				*i* S	**Sb**	**01 09 54.7**	**+0.7**
KBTR	**Krutoberegovo**	**1.88**	**11**	PN	**Pn**	**01 09 26.2**	**-0.8**
KBTR				S	**Sn**	**01 09 47.6**	**-1.9**
KBTR	**Krutoberegovo**	**1.88**	**11**	P	**Pn**	**01 09 26.2**	**-0.8**
KBTR				*i* S	**Sn**	**01 09 47.6**	**-1.9**
KIRR	**Kirishev**	**1.91**	**327**	*e*P	**Pb**	**01 09 30.3**	**-1.2**
KIRR				*i* S	**Sb**	**01 09 56.5**	**+1.5**
LGNR	**Loginova**	**1.92**	**334**	P	**Pb**	**01 09 30.3**	**-1.5**
CIRR	**Tsirk**	**1.94**	**335**	*e*P	**Pb**	**01 09 30.3**	**-1.7**
KPT	**Kopyto**	**1.96**	**326**	*e*P	**Pb**	**01 09 31.0**	**-1.1**
KPT				*i* S	**Sb**	**01 09 57.3**	**+0.9**
KRSR	**Krestovskiy**	**2.07**	**334**	*e*P	**Pb**	**01 09 32.1**	**-2.2**
KRSR				*i* S	**Sb**	**01 09 58.8**	**-0.9**
KLY	**Klyuchi**	**2.14**	**336**	PN	**Pn**	**01 09 31.9**	**+1.4**
KLY	**Klyuchi**	**2.14**	**336**	*e*P	**Pn**	**01 09 31.9**	**+1.4**
KLY				*i* S	**Sb**	**01 09 59.2**	**-2.2**
KOZR	**Kozyr**	**2.15**	**323**	PN	**Pb**	**01 09 34.3**	**-1.2**
KOZ	**Kozyrevsk**	**2.15**	**323**	*e*P	**Pb**	**01 09 34.3**	**-1.2**
KOZ				*i* S	**Sb**	**01 10 02.6**	**+0.8**
SDLR	**Sedlovina**	**2.24**	**242**	P	**Pb**	**01 09 36.3**	**-0.8**
SDLR				*i* S	**Sb**	**01 10 05.4**	**+0.9**
SMKR	**Semkarok**	**2.26**	**350**	*e*P	**Pn**	**01 09 33.6**	**+1.3**
BDR	**Baidarnaya**	**2.28**	**346**	*e*P	**Pn**	**01 09 34.9**	**+2.4**
BDR				*i* S	**Sb**	**01 10 02.5**	**-2.9**
SMAR	**Somma**	**2.29**	**243**	P	**Pb**	**01 09 37.0**	**-1.1**
SMAR				*i* S	**Sb**	**01 10 07.0**	**+0.9**
UGLR	**Uglovaya**	**2.31**	**241**	P	**Pb**	**01 09 37.3**	**-1.0**
UGLR				*i* S	**Sb**	**01 10 07.2**	**+0.8**
AVH	**Avacha**	**2.33**	**243**	P	**Pb**	**01 09 37.8**	**-0.7**
AVH				*i* S	**Sb**	**01 10 07.3**	**+0.5**
BKI	**Bering**	**2.34**	**68**	PN	**Pn**	**01 09 31.2**	**-2.1**
BKI	**Bering**	**2.34**	**68**	*e*P	**Pn**	**01 09 31.2**	**-2.1**
BKI				*i* S	**Sn**	**01 09 56.0**	**-4.9**
SRKR	**Sorokina**	**2.37**	**346**	*e*P	**Pn**	**01 09 35.5**	**+1.8**
KOK	**Koryaka**	**2.37**	**244**	P	**Pb**	**01 09 38.3**	**-0.9**
KOK				*i* S	**Sb**	**01 10 08.1**	**+0.1**
SRDR	**Sredinnyy**	**2.41**	**325**	*e*P	**Pb**	**01 09 37.2**	**-2.8**
SRDR				*i* S	**Sb**	**01 10 07.2**	**-2.1**
PET	**Petropavlovsk**	**2.50**	**239**	↓*i*PN	**Pb**	**01 09 39.5**	**-1.8**
PET				*e*S	**Sb**	**01 10 08.8**	**-2.8**
PET				pmax	pmax		
	comp=Z,1μm,0.5s						
PET				smax	smax		
	comp=E,12μm,1.2s						
PET				smax	smax		
	comp=N,10μm,0.8s						
PET				smax	smax		
	comp=E,12μm,0.7s						
PET				smax	smax		
	comp=N,15μm,0.6s						
PET				MLR	MLR		
	comp=Z,5μm,14.0s						
PET	**Petropavlovsk**	**2.50**	**239**	*e*Pn	**Pb**	**01 09 39.2**	**-2.2**
PET	**Petropavlovsk**	**2.50**	**239**	P	**Pb**	**01 09 39.6**	**-1.8**
PET				*i* S	**Sb**	**01 10 10.7**	**-0.9**
INSR	**Institute**	**2.50**	**240**	*e*P	**Pb**	**01 09 39.7**	**-1.7**
INSR				*i* S	**Sb**	**01 10 11.0**	**-0.7**
ESO	**Esso**	**2.54**	**309**	PN	**Pb**	**01 09 39.7**	**-2.4**
ESO	**Esso**	**2.54**	**309**	P	**Pb**	**01 09 39.7**	**-2.4**
ESO				*i* S	**Sb**	**01 10 11.4**	**-1.5**
RUS	**Russkaya**	**2.93**	**230**	PN	Pn	01 09 44.8	+3.4
RUS				S	**Sb**	**01 10 20.9**	**-3.2**
RUS	**Russkaya**	**2.93**	**230**	*e*P	Pn	01 09 44.8	+3.4
RUS				*i* S	**Sb**	**01 10 20.9**	**-3.2**
PETK	**Petropavlovsk-**	**2.95**	**247**	PN	Pb	01 09 46.6	-2.5
PETK						01 10 23.0	
PETK				pmax	pmax		
	comp=Z,148nm,0.3s						
PETK				smax	smax		
	comp=N,136nm,0.3s						
PETK				MLR	MLR		
	comp=Z,2μm,19.9s						
PETK	**Petropavlovsk-**	**2.95**	**247**	Pn	Pb	01 09 46.5	-2.5
PETK				Sn	**Sb**	**01 10 23.0**	**-1.7**
PETK	**Petropavlovsk-**	**2.95**	**247**	Pn	Pb	01 09 46.5	-2.5
	comp=Z,148nm,0.3s,baz=68,slow=19,SNR=1560						
PETK				Sn	**Sb**	**01 10 23.0**	**-1.7**
	comp=Z,136nm,0.3s,baz=77,slow=33,SNR=10						
PETK				LR	LR	01 11 04.3	
	comp=Z,2μm,19.9s,baz=92,slow=44						
MTVR	**Mutnovka**	**3.05**	**233**	*e*P	Pb	01 09 48.0	-2.9
MTVR				*i* S	**Sb**	**01 10 24.6**	**-3.1**
ASAK	**Asacha**	**3.25**	**234**	P	Pn	01 09 50.5	+4.6
ASAK				*i* S	**Sb**	**01 10 29.7**	**-3.6**
APC	**Apacha**	**3.33**	**246**	*e*P	Pb	01 09 51.8	-3.6
APC				*i* S	**Sb**	**01 10 33.7**	**-1.7**
MIPR	**Malaya Ipel'ka**	**3.87**	**239**	*e*P	Pn	01 09 59.9	+5.5
PALN	**Palana**	**4.89**	**346**	*e*P	Pn	01 10 12.5	+4.2
PALN				*i* S	Sn	01 11 09.1	+5.5
SKR	**Severo-Kuril's**	**5.23**	**228**	*e*PN	Pn	01 10 16.5	+3.5
SKR				pmax	pmax		
	comp=Z,160nm,0.4s						
TILK	**Tilichiki**	**6.46**	**18**	*e*P	**Pn**	**01 10 30.2**	**+0.4**
TILK				*i* S	**Sn**	**01 11 38.7**	**-3.5**
FX1	**Attu Island--F**	**6.70**	**98**	Pn	**Pn**	**01 10 30.7**	**-2.4**
FX1				Sn	Sn	01 11 39.6	-8.5
FX1	**Attu Island--F**	**6.70**	**98**	Pn	**Pn**	**01 10 30.7**	**-2.4**
	comp=Z,169nm,0.3s,baz=332,slow=6.2,SNR=210						
FX1				Sn	Sn	01 11 39.6	-8.5
	comp=Z,66nm,0.3s,baz=200,slow=21,SNR=12						
FX1				LR	LR	01 12 51.3	
	comp=Z,1μm,20.5s,baz=230,slow=35						
SMY	**Shemya**	**7.28**	**98**	*e*PN	**Pn**	**01 10 40.5**	**-0.6**
SMY	**Shemya**	**7.28**	**98**	*e*Pn	**Pn**	**01 10 40.5**	**-0.6**
SEY	**Seymchan**	**9.98**	**333**	*e*PN	**Pn**	**01 11 15.4**	**-2.7**
UGL	**Uglegorsk**	**13.53**	**255**	*e*P	**P**	**01 12 17.0**	**+1.7**
UGL				pm

PMR **Palmer** 26.24 54 *e*P **P** 01 14 28.2 -0.6
PMR pmax pmax
comp=Z,16nm,1.1s
PMR **Palmer** 26.24 54 *e*P **P** 01 14 28.2 -0.6
comp=Z,16nm,1.1s
SEW **Seward** 26.29 58 *e*P **P** 01 14 29.1 0.0
comp=Z,32nm,0.9s
SML **Sawmill** 26.59 54 *e*P **P** 01 14 32.1 +0.1
SML pmax pmax
comp=Z,8.0nm,1.0s
SML **Sawmill** 26.59 54 *e*P **P** 01 14 32.1 +0.1
comp=Z,8.0nm,1.0s
COLA **College** 26.62 47 *e*P **P** 01 14 31.9 -0.2
COLA pmax pmax
comp=Z,14nm,1.0s
COLA **College** 26.62 47 *e*P **P** 01 14 31.9 -0.2
comp=Z,14nm,1.0s
BOD **Bodaibo** 26.65 297 *e*P **P** 01 14 30.9 -1.6
BOD *e* 01 14 48.4
BOD pmax pmax
comp=Z,7.0nm,1.5s
ILAR **Eielson Array** 27.03 47 P **P** 01 14 35.2 -0.7
ILAR PcP **PcP** 01 17 55.0 -1.2
ILAR **Eielson Array** 27.03 47 P **P** 01 14 35.2 -0.7
comp=Z,3.8nm,0.8s,baz=266,slow=8.5,SNR=40
ILAR PcP **PcP** 01 17 55.0 -1.2
comp=Z,1.1nm,0.7s,baz=294,slow=3.7,SNR=4.8
ILAR LR LR 01 26 33.1
comp=Z,270nm,18.7s,baz=156,slow=39
PAX **Paxson** 27.79 51 *e*P P 01 14 48.4 +5.6
PAX pmax pmax
comp=Z,120nm,2.6s
PAX **Paxson** 27.79 51 *e*P P 01 14 48.4 +5.6
comp=Z,120nm,2.6s
SNY **Shenyang** 28.30 260 ⇓P **P** 01 14 46.0 -1.4
SNY S S 01 19 39.3 +8.0
SNY pmax pmax
comp=Z,9.0nm,0.6s
SNY pmax pmax
comp=Z,200nm,6.7s
SNY LR LR
comp=N,580nm,15.5s
SNY LR LR
comp=E,730nm,14.9s
SNY LR LR
comp=Z,870nm,15.7s
KSRS **Korea Array** 28.85 248 P **P** 01 14 54.0 +1.7
comp=Z,4.5nm,0.8s,baz=41,slow=8.4,SNR=11
KSRS PcP **PcP** 01 18 03.4 +2.3
comp=Z,0.6nm,0.4s,baz=5.0,slow=2.9,SNR=4.1
KSAR **Wonju Array Be** 28.88 248 P **P** 01 14 54.0 +1.5
KSAR PcP **PcP** 01 18 03.4 +2.2
EGAK **Eagle** 29.48 47 *e*P **P** 01 14 57.0 -0.7
comp=Z,11nm,0.9s
DAWY **Dawson** 30.34 48 *e*P **P** 01 15 05.3 0.0
INK **Inuvik** 32.09 39 *e*P **P** 01 15 21.0 +0.3
comp=Z,5.7nm,0.7s
INK PcP **PcP** 01 18 09.6 +0.5
INK **Inuvik** 32.09 39 P **P** 01 15 21.0 +0.3
comp=Z,4.9nm,0.5s,baz=290,slow=6.4,SNR=45
INK PcP **PcP** 01 18 09.6 +0.5
comp=Z,2.2nm,0.8s,baz=317,slow=3.4,SNR=3.5
BJI **Beijing** 33.74 264 P **P** 01 15 34.3 -1.0
BJI S **S** 01 20 55.0 -1.3
BJI pmax pmax
comp=Z,7.0nm,0.5s
BJI LR LR
comp=N,580nm,18.8s
BJI LR LR
comp=E,760nm,16.2s
BJI LR LR
comp=Z,410nm,18.8s
ULN **Ulaanbaatar** 34.44 282 *e*P **P** 01 15 40.5 -1.0
comp=Z,3.3nm,1.0s
TLY **Talaya** 34.45 290 *e*P **P** 01 15 39.7 -1.7
TLY *e* 01 16 59.6
TLY pmax pmax
comp=Z,3.0nm,0.8s
TLY MLR MLR
comp=Z,520nm,18.0s
SONM **Songino Array** 34.83 283 P **P** 01 15 44.2 -0.7
SONM PcP **PcP** 01 18 18.1 +0.8
SONM **Songino Array** 34.83 283 P **P** 01 15 44.2 -0.7
comp=Z,1.2nm,0.6s,baz=61,slow=7.8,SNR=12
SONM PcP **PcP** 01 18 18.1 +0.8
comp=Z,3.8nm,0.9s,baz=77,slow=1.7,SNR=8.4
SONM LR LR 01 31 31.1
comp=Z,274nm,18.3s,baz=164,slow=39
ZAK **Zakamensk** 35.27 288⇓*e*P **P** 01 15 47.6 -1.0
ZAK pmax pmax
comp=Z,4.0nm,1.1s
HHC **Hu-ho-hao-te** 35.91 269 *e*P P 01 16 03.8 +10
HHC pP pP 01 16 16.1 +12
HHC sP sP 01 16 21.6 +14
HHC PP PP 01 17 26.4 +10
HHC S S 01 21 36.1 +6.1
HHC sS **ScP** **01 21 57.5 -6.4**
HHC SS **SnSn** **01 23 58.8 +4.1**
HHC pmax pmax
comp=Z,66nm,0.6s
HHC pmax pmax
comp=Z,120nm,6.3s
HHC LR LR
comp=N,570nm,14.3s
HHC LR LR
comp=E,500nm,15.7s
HHC LR LR
comp=Z,590nm,16.7s
DLBC **Dease Lake** 36.29 55 *e*P **P** 01 15 59.6 +2.4
DLBC **Dease Lake** 36.29 55 P **P** 01 15 58.8 +1.6
comp=Z,6.4nm,0.8s,baz=291,slow=9.3,SNR=11
NJ2 **Nanjing** 37.84 252 *e*P **P** 01 16 11.6 +1.0
NJ2 pP **pP** 01 16 22.6 +2.3
NJ2 sP **sP** 01 16 26.1 +1.8
NJ2 PP **PnPn** 01 17 41.1 +2.5
NJ2 S **S** **01 21 59.0 -0.4**
NJ2 sS **sS** **01 22 15.5 +0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
NJ2 pmax pmax
comp=Z,80nm,9.0s
NJ2 LR LR
comp=N,450nm,23.8s
NJ2 LR LR
comp=E,590nm,16.0s
NJ2 LR LR
comp=Z,310nm,17.3s
YKW3 **Yellowknife Ar** 41.34 44 *e*P **P** 01 16 39.9 +0.5
comp=Z,0.1nm,0.9s
YKA **Yellowknife Ar** 41.38 44 P **P** 01 16 40.0 +0.4
YKA PcP **PcP** 01 18 37.5 +0.4
YKA **Yellowknife Ar** 41.38 44 P **P** 01 16 40.0 +0.4
comp=Z,1.2nm,0.5s,baz=297,slow=8.2,SNR=19
YKA PcP **PcP** 01 18 37.5 +0.4
comp=Z,1.8nm,0.9s,baz=308,slow=3.3,SNR=7.1
RES **Resolute Bay** 41.67 23 *e*P **P** 01 16 41.5 -0.3
comp=Z,8.1nm,0.9s
RES *e*PcP **PcP** 01 18 37.7 -0.2
RES PcP PP 01 18 37.8 +20
RES **Resolute Bay** 41.67 23 P **P** 01 16 41.9 0.0
comp=Z,6.2nm,0.9s,baz=324,slow=9.2,SNR=26
RES PcP **PcP** 01 18 37.8 -0.1
comp=Z,3.1nm,0.8s,baz=32,slow=1.0,SNR=3.6
ZALV **Zalesovo Beam** 43.14 302 P **P** 01 16 53.4 -0.7
ZALV 01 18 43.3
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV MLR MLR
comp=Z,516nm,18.1s
ZALV **Zalesovo Beam** 43.14 302 P **P** 01 16 53.4 -0.7
ZALV PcP **PcP** 01 18 43.3 +0.2
ZALV **Zalesovo Beam** 43.14 302 P **P** 01 16 53.4 -0.7
comp=Z,3.3nm,0.6s,baz=54,slow=6.8,SNR=22
ZALV PcP **PcP** 01 18 43.3 +0.2
comp=Z,3.3nm,0.8s,baz=8.2,slow=2.7,SNR=5.6
ZALV LR LR 01 36 41.1
comp=Z,516nm,18.1s,baz=168,slow=39
NVS **Novosibirsk** 43.42 304 *e*P **P** 01 16 54.1 -2.2
NVS pmax pmax
comp=Z,27nm,0.9s
NVS pmax pmax
comp=N,6.0nm,0.6s
NVS pmax pmax
comp=E,11nm,0.6s
LZH **Lanzhou** 43.59 270 *e*P **P** 01 16 59.0 +0.8
LZH pP **pP** 01 17 09.5 +1.5
LZH sP **sP** 01 17 14.0 +2.0
LZH pmax pmax
comp=Z,15nm,1.0s
LZH LR LR
comp=N,650nm,15.5s
LZH LR LR
comp=E,290nm,12.6s
LZH LR LR
comp=Z,530nm,14.7s
GTA **Gaotai** 43.70 277 *e*P **P** 01 16 58.8 -0.2
GTA pP **pP** 01 17 07.9 -0.9
GTA sP **sP** 01 17 12.0 -0.8
GTA S **S** 01 23 25.5 -1.2
GTA sS **sS** 01 23 43.5 +0.6
GTA SS SS 01 26 33.6 -8.8
GTA pmax pmax
comp=Z,16nm,0.9s
GTA pmax pmax
comp=Z,160nm,5.9s
GTA LR LR
comp=N,410nm,17.1s
GTA LR LR
comp=E,470nm,16.9s
GTA LR LR
comp=Z,630nm,15.2s
ENH **Enshi** 44.48 259 *e*P **P** 01 17 05.1 -0.1
comp=Z,6.0nm,0.6s
ENH *e*PcP **PP** 01 18 49.2 +0.1
SPA0 **Spitsbergen Ar** 46.08 351 *e*P **P** 01 17 16.9 -0.3
SPITS **Spitsbergen Ar** 46.08 351 LR LR 01 36 57.9
comp=Z,226nm,18.6s,baz=15,slow=37
CD2 **Chengdu** 47.33 265 P **P** 01 17 27.6 0.0
CD2 pP **pP** 01 17 37.5 -0.1
CD2 sP **sP** 01 17 41.4 -0.1
CD2 PP **PP** 01 19 18.0 -0.9
CD2 PcS **PcS** 01 22 53.0 -0.5
CD2 S **S** 01 24 17.3 -1.7
CD2 sS **sS** 01 24 33.8 -1.5
CD2 ScS **ScS** 01 27 16.4 -2.5
CD2 SS SS 01 27 37.8 -8.6
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,110nm,5.8s
CD2 LR LR
comp=N,380nm,14.7s
CD2 LR LR
comp=E,440nm,15.7s
CD2 LR LR
comp=Z,470nm,14.7s
WMQ **Urumqi** 47.72 289 P **P** 01 17 30.1 -0.5
WMQ pP **pP** 01 17 40.0 -0.5
WMQ sP **sP** 01 17 44.0 -0.5
WMQ PcP **PcP** 01 19 00.0 +0.6
WMQ S **S** 01 24 22.0 -2.3
WMQ sS **sS** 01 24 40.0 -0.7
WMQ ScS **ScS** 01 27 19.0 -2.2
WMQ pmax pmax
comp=Z,19nm,0.6s
WMQ pmax pmax
comp=Z,220nm,5.1s
WMQ LR LR
comp=N,940nm,14.8s
WMQ LR LR
comp=E,610nm,13.9s
WMQ LR LR
comp=Z,730nm,19.8s
KURK **Kurchatov** 48.12 302*c i*P **P** 01 17 32.5 -0.9
KURK pmax pmax
comp=Z,87nm,1.2s
KURK **Kurchatov** 48.12 302 *e*P **P** 01 17 32.7 -0.7
comp=Z,56nm,0.5s
KURK *e*PcP **PcP** 01 19 00.3 -0.2
KURK **Kurchatov** 48.12 302 P **P** 01 17 32.2 -1.2
SNR=10
HAWA **Hanford** 48.12 66 *e*P **P** 01 17 34.3 +0.7
comp=Z,4.5nm,0.8s
NEW **Newport** 48.20 62 *e*P **P** 01 17 34.9 +0.8
comp=Z,6.5nm,0.9s
NEW *e*PcP **PcP** 01 19 01.6 +0.6
NEW **Newport** 48.20 62 ⇓P **P** 01 17 34.5 +0.4
baz=48,SNR=7.1
KURBB **Kurchatov Arra** 48.22 302 LR LR 01 39 33.9
comp=Z,458nm,18.5s,baz=50,slow=38
A12A **Yaak River Ran** 48.53 61 ⇑P **P** 01 17 37.5 +0.8
baz=48
MK31 **Makanchi Array** 48.72 296 *i* P **P** 01 17 36.3 -1.9
MK31 pmax pmax
comp=Z,10.0nm,0.6s
MKAR **Makanchi Array** 48.72 296 P **P** 01 17 36.2 -2.0
MKAR 01 19 05.0
MKAR pmax pmax
comp=Z,11nm,0.7s
MKAR MLR MLR
comp=Z,178nm,20.4s
MKAR **Makanchi Array** 48.72 296 P **P** 01 17 36.2 -2.0
MKAR PcP **PcP** 01 19 05.0 +2.1
MKAR **Makanchi Array** 48.72 296 P **P** 01 17 36.2 -2.0
comp=Z,11nm,0.7s,baz=54,slow=6.5,SNR=113
MKAR PcP **PcP** 01 19 05.0 +2.1
comp=Z,1.6nm,0.7s,baz=55,slow=8.3,SNR=2.0
MKAR LR LR 01 39 16.3
comp=Z,178nm,20.4s,baz=36,slow=38
C11A **Tepee Creek (N** 48.91 62 ⇑P **P** 01 17 40.4 +0.7
baz=49
GYA **Guiyang** 48.98 258 P **P** 01 17 42.0 +1.5
GYA pP **pP** 01 17 53.8 +3.3
GYA sP **sP** 01 17 58.5 +4.1
GYA PcP **PcP** 01 19 05.6 +1.4
GYA PP **PP** 01 19 35.0 +1.0
GYA ScP **ScP** 01 22 55.8 -0.6
GYA S **S** 01 24 41.3 -1.3
GYA sS **sS** 01 25 02.9 +3.9
GYA SS **SS** 01 28 07.3 -6.1
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=N,440nm,18.5s
GYA LR LR
comp=E,410nm,19.3s
GYA LR LR
comp=Z,480nm,17.9s
DAG **Danmarks Havn** 49.13 0 *i* P **P** 01 17 40.1 -0.8
DAG pmax pmax
comp=Z,14nm,0.8s
DAG **Danmarks Havn** 49.13 0 *i* P **P** 01 17 40.1 -0.8
comp=Z,138nm,0.8s
A13A **Flathead Natio** 49.16 60 ⇓P **P** 01 17 42.3 +0.7
baz=49
WALA **Waterton Lakes** 49.33 60 *e*P **P** 01 17 43.5 +0.5
comp=Z,0.4nm,0.7s
WALA *e*PcP **PcP** 01 19 05.7 +0.5
YBH **Yreka Blue Hor** 49.43 72 P **P** 01 17 45.3 +1.6
YBH **Yreka Blue Hor** 49.43 72 P **P** 01 17 45.3 +1.6
comp=Z,4.2nm,0.8s,baz=223,slow=4.0,SNR=6.5
B13A **Whitefish** 49.49 61 ⇓P **P** 01 17 44.7 +0.6
baz=49,SNR=11
BSMT **Bassoo Peak** 49.66 61 *e*P **P** 01 17 46.3 +0.7
BLMT **Blacktail Moun** 49.78 61 *e*P **P** 01 17 47.7 +1.2
C13A **Hot Springs** 49.88 61 ⇓P **P** 01 17 47.8 +0.7
baz=50,SNR=14
D12A **Red Ives Fores** 49.89 62 ⇓P **P** 01 17 47.6 +0.4
baz=50
A15A **Johnson Ranch,** 49.98 59 ⇑P **P** 01 17 47.5 -0.4
baz=50
JTMT **Jette** 49.99 61 *e*P **P** 01 17 49.0 +1.0
YBMT **Yellow Bay** 50.05 61 *e*P **P** 01 17 48.9 +0.5
comp=Z,6.5nm,0.7s
B14A **Marquette Ranc** 50.10 60 ⇑P **P** 01 17 49.1 +0.3
baz=50,SNR=5.9
E12A **Beaver Dam Sad** 50.19 63 ⇓P **P** 01 17 50.1 +0.5
baz=50
C14A **Swan Lake** 50.25 61 ⇑P **P** 01 17 50.8 +0.8
baz=50
SWMT **Swartz Lake** 50.29 61 *e*P **P** 01 17 51.0 +0.8
BMO **Blue Mountains** 50.31 66 *e*P **P** 01 17 51.0 +0.7
comp=Z,4.0nm,0.8s
D13A **Huson** 50.33 62 ⇑P **P** 01 17 50.8 +0.3
baz=50
B15A **Bradely Ranch,** 50.49 60 ⇑P **P** 01 17 51.7 -0.1
baz=50,SNR=7.1
A16A **West Butte Ran** 50.56 58 ⇓P **P** 01 17 52.1 -0.2
baz=50
BVA0 **Borovoye Array** 50.57 309 P **P** 01 17 51.2 -0.9
BVA0 pmax pmax
comp=Z,5.0nm,0.6s
BVAR **Borovoye Array** 50.57 309 PcP **PcP** 01 19 09.6 +0.1
BVAR **Borovoye Array** 50.57 309 PcP **PcP** 01 19 09.6 +0.1
comp=Z,2.2nm,0.5s,baz=107,slow=1.5,SNR=3.4
BVAR LR LR 01 41 48.6
comp=Z,380nm,18.6s,baz=245,slow=39
BRVK **Borovoye** 50.60 309*c i*P **P** 01 17 51.3 -1.0
BRVK pmax pmax
comp=Z,29nm,0.6s
BRVK **Borovoye** 50.60 309 *e*P **P** 01 17 51.8 -0.5
BRVK *e*PcP **PcP** 01 19 09.2 -0.3
BRVK **Borovoye** 50.60 309 P **P** 01 17 51.8 -0.5
SNR=5.3
MOD **Modoc** 50.65 70 *e*P **P** 01 17 54.6 +1.5
comp=Z,9.8nm,0.8s
MOD *e*PcP **PcP** 01 19 11.0 +0.8
SLMT **Seeley Lake** 50.73 61 *e*P **P** 01 17 54.5 +0.9
SLMT *e*PcP **PcP** 01 19 10.6 +0.3
MSO **Missoula** 50.77 62 *e*P **P** 01 17 53.8 -0.1
comp=Z,2.2nm,0.7s
MSO *e*PcP **PcP** 01 19 10.3 -0.1
MSO **Missoula** 50.77 62 ⇓P **P** 01 17 54.0 +0.1
baz=50,SNR=5.6
F12A **Elk City** 50.79 64 ⇑P **P** 01 17 54.8 +0.7
baz=51,SNR=9.1
D14A **Greenough** 50.83 61 ⇑P **P** 01 17 54.5 +0.2
baz=51,SNR=10
C15A **Salmond Ranch,** 50.83 60 ⇑P **P** 01 17 55.0 +0.6
baz=51,SNR=15
B16A **M & M Farms, S** 50.86 59 ⇓P **P** 01 17 54.8 +0.3
baz=51
E13A **Victor** 50.90 62 ⇑P **P** 01 17 55.0 +0.2
baz=51
A17A **Triple J Farms** 51.01 58 ⇑P **P** 01 17 55.5 -0.1
baz=51
CHMT **Chamberlain Mo** 51.07 61 *e*P **P** 01 17 56.8 +0.6
G12A **Big Creek, Yel** 51.17 64 ⇑P **P** 01 17 57.3 +0.3
baz=51
FFC **Flin Flon** 51.24 48 *e*P **P** 01 17 56.8 -0.3
FFC *e* 01 19 11.9
FFC pmax pmax
comp=Z,8.0nm,0.8s
FFC **Flin Flon** 51.24 48 *e*P **P** 01 17 56.8 -0.3
comp=Z,7.9nm,0.8s
FFC *e*PcP **PcP** 01 19 11.9 0.0
C16A **Fuhringer Ranc** 51.24 60 ⇓P **P** 01 17 57.7 +0.3
baz=51
ZRNK **Zerenda** 51.25 309 P **P** 01 17 56.2 -1.0
ZRNK pmax pmax
comp=Z,22nm,0.6s
F13A **Darby** 51.26 63 ⇓P **P** 01 17 57.8 +0.3
baz=51
E14A **Clinton** 51.27 62 ⇑P **P** 01 17 58.2 +0.4
baz=51,SNR=10.0
D15A **Lincoln** 51.36 61 ⇓P **P** 01 17 58.5 +0.2
baz=51
E15A **Deer Lodge** 51.71 61 ⇓P **P** 01 18 01.3 +0.3
baz=51,SNR=12
F14A **Wisdom** 51.74 62 ⇓P **P** 01 18 01.6 +0.3
baz=52
G13A **Cobalt** 51.77 64 ⇓P **P** 01 18 01.9 +0.4
baz=52,SNR=6.6
H12A **Diamond D Ranc** 51.81 65 ⇓P **P** 01 18 02.1 +0.3
baz=52
B18A **Beardsley Farm** 51.83 58 ⇑P **P** 01 18 02.2 +0.4
baz=52
C17A **Wharram Farm,** 51.85 59 ⇑P **P** 01 18 01.9 -0.1
baz=52,SNR=9.0
D16A **Dana Ranch, Ca** 51.86 60 ⇑P **P** 01 18 03.3 +1.3
baz=52,SNR=5.6
HRY **Holter Researc** 51.93 61 *e*P **P** 01 18 03.4 +0.9
A19A **Klindworth Far** 51.99 57 ⇑P **P** 01 18 03.2 +0.3
baz=52
KEV **Kevo** 52.00 342 *e*P **P** 01 18 00.9 -1.7
KEV pmax pmax
comp=Z,6.0nm,0.5s
KEV **Kevo** 52.00 342 *e*p **P** 01 18 00.9 -1.7
comp=Z,6.4nm,0.5s
MFID **Camas Ranch** 52.06 66 *e*P **P** 01 18 04.5 +0.9
comp=Z,4.2nm,0.8s
MFID **Camas Ranch** 52.06 66 ⇑P **P** 01 18 04.3 +0.7
baz=52
G14A **Jackson** 52.08 63 ⇓P **P** 01 18 04.1 +0.3
baz=52
EGMT **Eagleton** 52.09 58 *e*P **P** 01 18 04.4 +0.6
comp=Z,7.1nm,0.8s
EGMT **Eagleton** 52.09 58 ⇑P **P** 01 18 04.1 +0.4
baz=52
H13A **Challis** 52.12 64 ⇑P **P** 01 18 04.7 +0.7
baz=52,SNR=15
E16A **East Helena** 52.13 61 ⇑P **P** 01 18 04.6 +0.6
baz=52
F15A **Butte** 52.17 62 ⇑P **P** 01 18 04.9 +0.4
baz=52,SNR=7.0
I12A **Atlanta** 52.17 65 ⇓P **P** 01 18 05.3 +0.8
baz=52
SVE **Sverdlovsk** 52.20 317 *i*P **P** 01 18 03.9 -0.3
SVE *e*S **S** 01 25 28.2 +2.0
SVE *e*SS **SS** 01 28 58.0 -5.1
SVE *e*SSS SSS 01 30 38.7
SVE pmax pmax
comp=Z,20nm,0.6s
SVE MLR MLR
comp=Z,665nm,19.0s
LRM **Limekiln Ridge** 52.21 62 *e*P **P** 01 18 05.7 +0.9
D17A **Six Diamond Ra** 52.21 60 ⇑P **P** 01 18 05.2 +0.5
baz=52
KMI **Kunming** 52.27 261 P **P** 01 18 07.5 +2.1
KMI pP **pP** 01 18 18.5 +3.0
KMI sP **sP** 01 18 23.9 +4.5
KMI S **S** 01 25 26.3 -2.0
KMI sS **sS** 01 25 47.0 +2.2
KMI SS **SS** 01 29 03.3 -2.6
KMI pmax pmax
comp=Z,11nm,0.8s
KMI pmax pmax
comp=Z,170nm,5.0s
KMI LR LR
comp=N,250nm,18.0s
KMI LR LR
comp=E,260nm,19.3s
KMI LR LR
comp=Z,340nm,18.9s
A20A **Cobblestone Ra** 52.42 56 ⇑P **P** 01 18 06.7 +0.6
baz=52
ARCES **ARCESS Array B** 52.46 342 P **P** 01 18 05.3 -0.7
ARCES PcP **PcP** 01 19 16.9 +0.7
ARCES **ARCESS Array B** 52.46 342 P **P** 01 18 05.3 -0.7
comp=Z,18nm,0.7s,baz=40,slow=9.8,SNR=39
ARCES PcP **PcP** 01 19 16.9 +0.7
comp=Z,1.9nm,0.6s,baz=35,slow=4.4,SNR=5.2
ARCES LR LR 01 46 59.0
comp=Z,85nm,18.9s,baz=221,slow=44
ARE0 **ARCESS Array S** 52.46 342 *e*P **P** 01 18 05.1 -0.9
SUMG **Summit** 52.54 8 *e*P **P** 01 18 07.0 -0.1
SUMG **Summit** 52.54 8 *e*P **P** 01 18 07.0 -0.1
SUMG **Summit** 52.54 8 *i* P **P** 01 18 06.9 -0.1
comp=Z,32nm,1.0s
APA **Apatity** 52.55 338⇓*i*P P 01 18 10.0 +3.3
APA MLR MLR
comp=Z,1μm,12.0s
H14A **Leadore** 52.55 64 ⇓P **P** 01 18 07.5 +0.2
baz=52
E17A **Martinsdale** 52.59 60 ⇑P **P** 01 18 08.3 +0.7
baz=52
I13A **Wildhorse Cree** 52.63 65 ⇓P **P** 01 18 08.7 +0.8
baz=52,SNR=18
G15A **Dillon** 52.63 63 ⇓P **P** 01 18 08.3 +0.4
baz=52
C19A **Slack Wire Ran** 52.64 58 ⇓P **P** 01 18 08.3 +0.5
baz=52
F16A **Kennard Place,** 52.66 61 ⇑P **P** 01 18 08.7 +0.7
baz=52
B20A **Solberg Farm,** 52.67 57 ⇓P **P** 01 18 08.4 +0.5
baz=52
MCMT **McKenzie Canyo** 52.68 63 *e*P **P** 01 18 08.7 +0.4
comp=Z,1.4nm,0.7s
HLID **Hailey** 52.71 65 *e*P **P** 01 18 09.4 +0.9
comp=Z,3.0nm,0.8s
HLID *e*PcP **PcP** 01 19 19.2 +1.4
HLID **Hailey** 52.71 65 ⇑P **P** 01 18 09.0 +0.5
baz=52
WCN **Washoe City** 52.73 73 *e*P **P** 01 18 10.6 +1.9
WCN pmax pmax
comp=Z,7.0nm,0.9s

WCN	Washoe City	52.73	73	eP		P	01 18 10.6	+1.9
	comp=Z,7.4nm,0.9s							
WCN	Washoe City	52.73	73	⇓P		P	01 18 10.0	+1.3
	baz=52							
A21A	Bergtoll Ranch	52.83	56	⇑P		P	01 18 09.9	+0.8
	baz=52,SNR=8.4							
H15A	Lima	52.93	63	⇑P		P	01 18 10.9	+0.8
	baz=53							
G16A	Moss Hill, Enn	52.95	62	⇓P		P	01 18 10.7	+0.6
	baz=53							
J13A	Cove Ranch, Pi	52.95	65	⇑P		P	01 18 11.5	+1.2
	baz=53,SNR=5.3							
I14A	Mackay	52.97	64	⇑P		P	01 18 11.6	+1.1
	baz=53,SNR=15							
E18A	Harlowton	53.00	60	⇑P		P	01 18 11.4	+0.9
	baz=53							
QIZ	Qiongzhong	53.06	250	P		P	01 18 09.9	-1.2
QIZ				pP		pP	01 18 19.8	-1.3
QIZ				S		S	01 25 39.3	+0.5
QIZ				pmax		pmax		
	comp=Z,86nm,5.8s							
QIZ				LR		LR		
	comp=Z,160nm,20.9s							
F17A	Fitzpatrick Pl	53.07	61	⇑P		P	01 18 11.6	+0.5
	baz=53							
D19A	Cripps Ranch,	53.11	59	⇓P		P	01 18 12.2	+0.9
	baz=53							
CMB	Columbia Colle	53.26	74	eP		P	01 18 14.2	+1.8
CMB	Columbia Colle	53.26	74	eP		P	01 18 14.2	+1.8
ARU	Arti	53.30	318	d i P		P	01 18 11.5	-0.8
ARU							01 19 19.2	
ARU				S		S	01 25 41.3	+0.1
ARU				SS		SKiKP	01 29 24.3	-1.6
ARU				pmax		pmax		
	comp=Z,43nm,0.7s							
ARU				MLR		MLR		
	comp=Z,569nm,20.0s							
ARU	Arti	53.30	318	eP		P	01 18 11.5	-0.8
	comp=Z,45nm,0.6s							
KTK1	Kautokeino	53.31	343	eP		P	01 17 59.8	-13
A22A	Carney Farms,	53.31	55	⇑P		P	01 18 13.1	+0.4
	baz=53,SNR=8.8							
J14A	Carey	53.35	65	⇓P		P	01 18 14.8	+1.6
	baz=53							
QLMT	Earthquake Lak	53.41	62	eP		P	01 18 15.2	+1.5
TRO	Tromso	53.46	345	eP		P	01 18 11.8	-1.5
D20A	Manuel Ranch,	53.53	58	⇓P		P	01 18 15.7	+1.4
	baz=53							
F18A	Big Timber	53.55	60	⇑P		P	01 18 15.6	+1.1
	baz=53							
H16A	Russell Place,	53.59	62	⇑P		P	01 18 15.8	+0.8
	baz=53,SNR=9.4							
GCMT	Greycliff	53.66	60	eP		P	01 18 16.4	+1.0
	comp=Z,2.8nm,0.8s							
B22A	Reddig Ranch S	53.75	56	⇓P		P	01 18 16.6	+0.7
	baz=54							
YMR	Madison River	53.76	62	eP		P	01 18 17.5	+1.3
	comp=Z,5.7nm,0.8s							
E20A	Meyer Farm, Mu	53.94	59	⇑P		P	01 18 18.0	+0.7
	baz=54							
F19A	Roth Farm, Mol	53.98	60	⇑P		P	01 18 18.6	+0.9
	baz=54							
G18A	Lazy EL Ranch,	54.03	61	⇓P		P	01 18 19.0	+0.9
	baz=54							
I16A	Newdale	54.04	63	⇓P		P	01 18 19.6	+1.4
	baz=54							
K14A	Jones Ranch, D	54.07	65	⇑P		P	01 18 19.9	+1.5
	baz=54,SNR=13							
B23A	Brockton	54.12	55	⇑P		P	01 18 19.1	+0.6
	baz=54,SNR=8.4							
LKWY	Lake	54.13	62	eP		P	01 18 21.3	+2.3
LKWY				pmax		pmax		
	comp=Z,7.0nm,0.8s							
LKWY	Lake	54.13	62	eP		P	01 18 21.3	+2.3
	comp=Z,7.2nm,0.8s							
NVAR	Mina Array Bea	54.15	72	P		P	01 18 20.9	+1.8
NVAR	Mina Array Bea	54.15	72	P		P	01 18 20.9	+1.8
	comp=Z,10nm,0.7s,baz=296,slow=7.3,SNR=73							
H17A	Grant Village	54.15	62	⇓P		P	01 18 20.6	+1.5
	baz=54							
C22A	Vida	54.19	56	⇑P		P	01 18 19.9	+0.8
	baz=54							
ELK	Elko	54.22	68	eP		P	01 18 21.3	+1.7
A24A	Westby	54.27	54	⇓P		P	01 18 20.1	+0.4
	baz=54,SNR=7.7							
FLWY	Flagg Ranch	54.31	62	eP		P	01 18 22.2	+2.0
	comp=Z,15nm,1.2s							
IMW	Indian Meadow	54.31	63	eP		P	01 18 21.5	+1.1
	comp=Z,7.6nm,0.9s							
K15A	Arbon	54.32	65	⇓P		P	01 18 22.2	+2.0
	baz=54,SNR=7.3							
RLMT	Red Lodge	54.32	61	eP		P	01 18 21.8	+1.5
	comp=Z,9.7nm,0.9s							
RLMT	Red Lodge	54.32	61	⇑P		P	01 18 21.6	+1.3
	baz=54,SNR=13							
L14A	Malta	54.39	66	⇓P		P	01 18 22.6	+1.8
	baz=54							
F20A	Billings	54.42	59	⇓P		P	01 18 22.8	+1.9
	baz=54							
H18A	Shoshone NF, C	54.43	61	⇓P		P	01 18 22.3	+1.2
	baz=54							
E21A	Keefer Ranch,	54.44	58	⇑P		P	01 18 22.5	+1.5
	baz=54							
D22A	Cohagen	54.46	57	⇓P		P	01 18 21.9	+0.9
	baz=54,SNR=9.6							
I17A	Pilgrim Ck.	54.48	62	⇑P		P	01 18 22.4	+0.9
	baz=54							
C23A	Lambert	54.49	56	⇓P		P	01 18 21.9	+0.6
	baz=54,SNR=10							
RRI2	Red Ridge	54.49	63	eP		P	01 18 23.0	+1.3
	comp=Z,2.9nm,0.7s							
DGMT	Dagmar	54.50	55	eP		P	01 18 22.5	+1.2
	comp=Z,20nm,1.2s							
DGMT	Dagmar	54.50	55	⇑P		P	01 18 22.4	+1.0
	baz=54							
TPAW	Teton Pass	54.59	63	eP		P	01 18 23.9	+1.5
	comp=Z,4.1nm,0.8s							
LOHW	Long Hollow	54.68	63	eP		P	01 18 24.6	+1.6
	comp=Z,2.4nm,0.7s							
K16A	Soda Springs	54.71	64	⇓P		P	01 18 24.7	+1.5
	baz=54							
MTUM	Tungsten Hills	54.77	73	eP		P	01 18 25.8	+2.2
H19A	Powell	54.78	61	⇑P		P	01 18 24.6	+1.1
	baz=54							
G20A	Bridger	54.79	60	⇓P		P	01 18 24.2	+0.6
	baz=54,SNR=11							
HVU	Hansel Valley	54.82	66	eP		P	01 18 26.2	+2.3
HVU	Hansel Valley	54.82	66	eP		P	01 18 26.2	+2.3
TKM2	Tokmak 2	54.85	296	eP		P	01 18 23.9	-0.2
TKM2				e			01 19 26.2	
TKM2				pmax		pmax		
	comp=Z,28nm,0.6s							
TKM2	Tokmak 2	54.85	296	eP		P	01 18 23.9	-0.2
	comp=Z,28nm,0.6s							
TKM2				ePcP		PcP	01 19 26.2	+0.1
TKM2	Tokmak 2	54.85	296	P		P	01 18 24.1	-0.1
	SNR=18							
L15A	Malad City	54.87	65	⇑P		P	01 18 25.4	+1.1
	baz=55							
F21A	Absaloka Mine,	54.92	59	⇓P		P	01 18 25.5	+1.0
	baz=55							
D23A	Lindsay	54.92	56	⇑P		P	01 18 25.2	+0.8
	baz=55							
I18A	Diamond G Ranc	55.03	62	⇓P		P	01 18 26.5	+1.0
	baz=55							
C24A	Savage	55.05	56	⇓P		P	01 18 25.8	+0.5
	baz=55							
E22A	Miles City	55.07	57	⇑P		P	01 18 26.4	+0.9
	baz=55,SNR=7.7							
TIN	Tinemaha	55.16	73	⇓P		P	01 18 28.0	+1.6
	baz=55							
USP	Ospenovka	55.18	297	P		P	01 18 26.6	+0.3
	SNR=34							
M15A	Larsen Ranch,	55.22	66	⇓P		P	01 18 28.3	+1.6
	baz=55,SNR=5.8							
I19A	Meeteetse	55.22	61	⇑P		P	01 18 27.7	+0.9
	baz=55							
CHMS	Chumysh	55.23	297	P		P	01 18 26.9	+0.1
	SNR=8.9							
J18A	Kendall Valley	55.27	63	⇓P		P	01 18 28.2	+1.0
	baz=55							
G21A	Lodge Grass	55.29	59	⇑P		P	01 18 27.9	+0.7
	baz=55							
E23A	Ismay	55.34	57	⇓P		P	01 18 28.5	+1.0
	baz=55							
L16A	Fish Haven	55.37	65	⇓P		P	01 18 29.2	+1.3
	baz=55							
KBK	Karagaybulak	55.37	296	P		P	01 18 28.1	+0.2
	SNR=26							
F22A	Rosebud	55.38	58	⇑P		P	01 18 28.9	+1.2
	baz=55							
D24A	Glendive	55.39	56	⇓P		P	01 18 28.9	+1.1
	baz=55							
H20A	Greybull	55.41	60	⇓P		P	01 18 29.5	+1.4
	baz=55							
SMMC	Simmler	55.41	76	⇑P		P	01 18 30.3	+2.2
	baz=55							
VES	Vestal, Richgr	55.55	75	⇓P		P	01 18 30.5	+1.5
	baz=55							
HWUT	Hardware Ranch	55.59	65	eP		P	01 18 30.1	+0.6
	comp=Z,5.3nm,0.8s							
LSA	Lhasa	55.59	274	P		P	01 18 29.6	-0.4
LSA	Lhasa	55.59	274	eP		P	01 18 30.1	+0.1
LSA				e			01 19 31.6	
LSA				pmax		pmax		
	comp=Z,13nm,0.8s							
LSA	Lhasa	55.59	274	eP		P	01 18 30.1	+0.1
	comp=Z,13nm,0.8s							
LSA				ePcP		PcP	01 19 31.6	+2.2
KZA	Kyzart	55.62	296	P		P	01 18 29.8	-0.2
	SNR=10							
AAK	Ala-Archa	55.63	297	d i P		P	01 18 28.8	-0.9
AAK				pmax		pmax		
	comp=Z,59nm,0.8s							
AAK	Ala-Archa	55.63	297	eP		P	01 18 29.3	-0.4
	comp=Z,152nm,0.8s							
AAK	Ala-Archa	55.63	297	P		P	01 18 30.1	+0.4
	SNR=8.8							
AAK	Ala-Archa	55.63	297	P		P	01 18 29.9	+0.2
	SNR=26							
K18A	Toltan Ranch,	55.66	63	⇓P		P	01 18 31.2	+1.2
	baz=55,SNR=7.3							
CWC	Cottonwood Cre	55.69	74	⇓P		P	01 18 31.5	+1.3
	baz=56,SNR=12							
R11A	Troy Canyon, C	55.72	71	⇑P		P	01 18 31.8	+1.4
	baz=56,SNR=5.9							
I20A	Worland	55.72	61	⇓P		P	01 18 31.5	+1.2
	baz=56							
J19A	Crowheart	55.73	62	⇑P		P	01 18 31.4	+0.9
	baz=56							
G22A	Birney	55.76	59	⇓P		P	01 18 31.3	+0.8
	baz=56,SNR=6.0							
H21A	Big Horn, Sher	55.80	60	⇑P		P	01 18 31.9	+1.0
	baz=56,SNR=5.8							
PKM	Peak Mountain	55.81	76	⇓P		P	01 18 32.8	+1.6
	baz=56							
BW06	Boulder Array	55.82	63	⇑P		P	01 18 32.5	+1.3
	baz=56,SNR=8.2							
PDAR	Pinedale Array	55.82	63	P		P	01 18 32.2	+1.0
PDAR	Pinedale Array	55.82	63	P		P	01 18 32.2	+1.0
	comp=Z,4.1nm,0.8s,baz=316,slow=2.9,SNR=28							
PDAR				LR		LR	01 43 53.3	
	comp=Z,71nm,18.2s,baz=196,slow=38							
FRB	Frobisher Bay	55.83	25	P		P	01 18 29.4	-1.2
FRB	Frobisher Bay	55.83	25	P		P	01 18 29.4	-1.2
	comp=Z,22nm,0.8s,baz=332,slow=8.2,SNR=55							
F23A	Volborg	55.84	58	⇑P		P	01 18 31.7	+0.6
	baz=56,SNR=10							
DUG	Dugway	55.92	67	eP		P	01 18 33.6	+1.8
DUG	Dugway	55.92	67	eP		P	01 18 33.5	+1.8
DUG	Dugway	55.92	67	⇑P		P	01 18 33.4	+1.6
	baz=56,SNR=13							
EKS2	Erkin-Say	55.98	297	eP		P	01 18 32.2	0.0
EKS2				pmax		pmax		
	comp=Z,41nm,0.7s							
EKS2	Erkin-Say	55.98	297	eP		P	01 18 32.2	0.0
	comp=Z,41nm,0.7s							
EKS2	Erkin-Say	55.98	297	P		P	01 18 32.7	+0.5
	SNR=7.9							
ISA	Isabella	56.02	75	eP		P	01 18 33.6	+1.1
ISA	Isabella	56.02	75	eP		P	01 18 33.6	+1.1
ISA	Isabella	56.02	75	⇑P		P	01 18 33.6	+1.1
	baz=56,SNR=6.1							
O15A	The Old Anders	56.04	67	⇓P		P	01 18 33.8	+1.1
	baz=56							
K19A	Absolon Red Bu	56.15	62	⇑P		P	01 18 34.2	+0.7
	baz=56							
M17A	Scullys Gap (B	56.16	65	⇑P		P	01 18 34.5	+0.9
	baz=56							
H22A	Clearmont	56.17	59	⇑P		P	01 18 34.4	+0.9
	baz=56							
J20A	Shoshoni	56.17	61	⇑P		P	01 18 35.0	+1.5
	baz=56,SNR=15							
L18A	Fontenelle, Gr	56.17	64	⇓P		P	01 18 35.1	+1.5
	baz=56,SNR=5.7							
ARVC	Arvin	56.21	75	⇑P		P	01 18 35.5	+1.7
	baz=56							
F24A	Ekalaka	56.23	57	⇑P		P	01 18 35.0	+1.1
	baz=56,SNR=5.2							
I21A	Big Trails, Te	56.25	61	⇓P		P	01 18 35.0	+0.9
	baz=56							
MPMC	Manual Prospec	56.29	74	⇓P		P	01 18 36.1	+1.5
	baz=56,SNR=8.7							
L19A	Farson	56.40	63	⇑P		P	01 18 36.4	+1.1
	baz=56							
AML	Almayashu	56.40	297	P		P	01 18 36.0	+0.5
	SNR=17							
N17A	Moffit Pass	56.45	65	⇑P		P	01 18 36.7	+1.0
	baz=56							
KLMR	Klimovskoe	56.47	330	eP		P	01 18 34.3	-0.9
KLMR				pmax		pmax		
	comp=Z,45nm,1.1s							
SFJD	Kangerlussuaq	56.47	15	P		P	01 18 34.2	-0.9
SFJD	Kangerlussuaq	56.47	15	i P		P	01 18 34.2	-0.9
	comp=Z,6.9nm,0.8s							
SFJD	Kangerlussuaq	56.47	15	P		P	01 18 34.2	-0.9
	comp=Z,8.8nm,0.5s,baz=340,slow=6.2,SNR=6.2							
J21A	Lysite	56.50	61	⇑P		P	01 18 37.0	+1.0
	baz=56							
K20A	Yellowstone Ra	56.53	62	⇓P		P	01 18 36.9	+0.7
	baz=56							
LRMC	Laurel Mountai	56.60	74	⇑P		P	01 18 38.1	+1.4
	baz=56,SNR=11							
I22A	9 Mile Ranch,	56.60	60	⇑P		P	01 18 37.6	+1.0
	baz=56,SNR=8.0							
G24A	Alzada	56.61	58	⇓P		P	01 18 37.5	+0.8
	baz=56,SNR=5.4							
P15A	Leamington	56.65	67	⇑P		P	01 18 38.2	+1.1
	baz=56							
MPU	Maple Canyon	56.68	66	eP		P	01 18 36.4	-0.9
	comp=Z,5.2nm,0.8s							
EDW2	Edwards Air Fo	56.86	75	⇑P		P	01 18 40.0	+1.5
	baz=57,SNR=7.2							
JOF	Joensuu	56.93	336	eP		P	01 18 37.4	-1.0
JOF				pmax		pmax		
	comp=Z,30nm,0.6s							
JOF	Joensuu	56.93	336	ep		P	01 18 37.4	-1.0
	comp=Z,30nm,0.6s							
J22A	Midwest	56.95	60	⇑P		P	01 18 40.1	+1.0
	baz=57,SNR=14							
H24A	Dirks Ranch, A	56.96	58	⇑P		P	01 18 39.8	+0.7
	baz=57							
L20A	Wamsutter	56.99	63	⇓P		P	01 18 40.7	+1.2
	baz=57,SNR=5.9							
O17A	Robinson Place	57.03	66	⇓P		P	01 18 41.4	+1.6
	baz=57							
N18A	Larsen Ranch,	57.03	64	⇑P		P	01 18 41.1	+1.3
	baz=57							
ULM	Lac du Bonnet	57.04	48	P		P	01 18 39.8	+0.4
ULM	Lac du Bonnet	57.04	48	P		P	01 18 39.8	+0.4
	comp=Z,17nm,0.8s,baz=318,slow=7.1,SNR=36							
ULM				LR		LR	01 42 46.3	
	comp=Z,169nm,21.3s,baz=318,slow=36							
KSH	Kashi	57.06	293	P		P	01 18 43.4	+3.5
KSH				pP		pP	01 18 53.3	+3.3
KSH				sP		sP	01 18 57.4	+3.5
KSH				PcP		PcP	01 19 36.8	+2.2
KSH				PP		PP	01 20 52.0	+5.5
KSH				ScP		ScP	01 23 32.5	+1.1
KSH				PcS		PcS	01 23 36.8	+1.2
KSH				S		S	01 26 35.1	+2.8
KSH				ScS		ScS	01 28 25.5	-1.0
KSH				pmax		pmax		
	comp=Z,21nm,1.0s							
KSH				pmax		pmax		
	comp=Z,210nm,4.4s							
KSH				LR		LR		
	comp=N,160nm,6.4s							
KSH				LR		LR		
	comp=E,220nm,6.6s							
KSH				LR		LR		
	comp=Z,290nm,17.3s							
SHOC	Shoshone	57.09	73	⇓P		P	01 18 41.9	+1.8
	baz=57							
MDND	Maddock	57.10	53	⇓P		P	01 18 40.8	+0.9
	baz=57,SNR=5.6							
K21A	Alcova	57.11	61	⇓P		P	01 18 41.2	+0.9
	baz=57,SNR=7.8							
DECC	Green Verdugo	57.12	76	⇑P		P	01 18 42.1	+1.8
	baz=57							
GSC	Goldstone	57.22	74	eP		P	01 18 42.5	+1.4
GSC				pmax		pmax		
	comp=Z,10.0nm,1.0s							
GSC	Goldstone	57.22	74	eP		P	01 18 42.5	+1.4
	comp=Z,9.7nm,1.0s							
GSC	Goldstone	57.22	74	⇑P		P	01 18 42.5	+1.4
	baz=57,SNR=8.7							
ARUT	Antelope Range	57.30	70	eP		P	01 18 43.5	+1.8
ARUT				pmax		pmax		
	comp=Z,5.0nm,0.9s							
ARUT	Antelope Range	57.30	70	eP		P	01 18 43.5	+1.8
	comp=Z,4.9nm,0.9s							
MOR8	Moi Rana	57.32	345	eP		P	01 18 39.4	-1.9
MOR8				AMB		AMB	01 18 44.1	
	comp=Z,91nm,1.7s							
KK31	Karatay Array	57.35	300	eP		P	01 18 41.2	-0.6
KK31				pmax		pmax		
	comp=Z,23nm,0.5s							
KKAR	Karatay Array	57.35	300	eP		P	01 18 40.8	-0.9
KKAR				pmax		pmax		
	comp=Z,25nm,0.5s							
KKAR	Karatay Array	57.35	300	eP		P	01 18 40.8	-0.9
	comp=Z,25nm,0.5s							
N19A	John Jarvie Ra	57.36	64	⇓P		P	01 18 43.1	+1.1
	baz=57,SNR=5.3							
O18A	Roosevelt	57.37	65	⇓P		P	01 18 44.5	+2.4
	baz=57,SNR=6.6							
J23A	Dilts Ranch, B	57.42	60	⇓P		P	01 18 43.6	+1.1
	baz=57							
TMUT	Trail Mountain	57.42	67	eP		P	01 18 44.1	+1.4
	comp=Z,6.2nm,0.7s							
M20A	Sweetwater, Wa	57.45	63	⇓P		P	01 18 44.3	+1.6
	baz=57							
K22A	Casper	57.47	61	⇓P		P	01 18 44.5	+1.7
	baz=57							
CCUT	Cedar City	57.51	70	eP		P	01 18 44.6	+1.4
	comp=Z,3.9nm,0.8s							
BFSC	Mount Baldy Ra	57.51	75	⇓P		P	01 18 44.9	+1.7
	baz=57							
L21A	Rawlins	57.53	62	⇓P		P	01 18 44.6	+1.3
	baz=57,SNR=7.9							
TUQ	Turquoise Moun	57.62	73	⇑P		P	01 18 45.3	+1.3
	baz=57							
RSSD	Black Hills	57.67	58	eP		P	01 18 44.8	+0.6
RSSD				pmax		pmax		
	comp=Z,18nm,0.8s							
RSSD	Black Hills	57.67	58	eP		P	01 18 44.8	+0.6
	comp=Z,18nm,0.8s							
P18A	Preston Nutter	57.70	66	⇑P		P	01 18 45.6	+1.0
	baz=58							
Q16A	Castle Valley	57.72	67	⇓P		P	01 18 46.3	+1.7
	baz=58,SNR=5.4							
M21A	Separation Pea	57.79	62	⇑P		P	01 18 46.2	+1.0
	baz=58,SNR=11							
O19A	Miners Draw (B	57.81	65	⇓P		P	01 18 46.4	+1.1
	baz=58							
HEC	Hector,Ludlow	57.83	74	⇓P		P	01 18 46.9	+1.5
	baz=58,SNR=5.2							
K23A	Bowen Ranch, D	57.85	60	⇓P		P	01 18 46.3	+0.8
	baz=58							
AKTO	Aktyubinsk	57.87	313	P		P	01 18 44.8	-0.5
AKTO							01 19 37.5	
AKTO				pmax		pmax		
	comp=Z,10.0nm,0.5s							
AKTO	Aktyubinsk	57.87	313	P		P	01 18 44.8	-0.5
AKTO				PcP		PcP	01 19 37.5	0.0
AKTO	Aktyubinsk	57.87	313	P		P	01 18 44.8	-0.5
	comp=Z,9.7nm,0.5s,baz=69,slow=9.1,SNR=37							
AKTO				PcP		PcP	01 19 37.5	0.0
	comp=Z,6.2nm,0.8s,baz=135,slow=1.4,SNR=2.3							
N20A	Spence Gulch,	57.88	64	⇑P		P	01 18 47.3	+1.5
	baz=58,SNR=15							
AB31	Akbulak array	57.91	311	eP		P	01 18 45.1	-0.5
AB31				pmax		pmax		
	comp=Z,12nm,0.5s							
ABKAR	Akbulak array	57.91	311	eP		P	01 18 45.2	-0.3
	comp=Z,12nm,0.5s							
SRU	San Rafael	57.92	67	eP		P	01 18 47.6	+1.5
SRU				pmax		pmax		
	comp=Z,11nm,0.8s							
SRU	San Rafael	57.92	67	eP		P	01 18 47.6	+1.5
	comp=Z,11nm,0.8s							
SRU	San Rafael	57.92	67	⇑P		P	01 18 47.5	+1.5
	baz=58,SNR=14							
J24A	Dixon Ranch, L	57.92	59	⇓P		P	01 18 46.6	+0.7
	baz=58							
L22A	Ellis Ranch, M	57.96	61	⇑P		P	01 18 47.6	+1.3
	baz=58,SNR=7.0							
R16A	Teasdale	58.01	68	⇑P		P	01 18 48.9	+2.2
	baz=58,SNR=6.2							
Q18A	Rafter H Ranch	58.14	66	⇑P		P	01 18 49.0	+1.5
	baz=58							
MURC	Murrieta	58.24	76	⇓P		P	01 18 49.8	+1.6
	baz=58							
GMRC	Granite Mounta	58.25	74	⇑P		P	01 18 49.7	+1.3
	baz=58							
L23A	Garrett	58.28	61	⇓P		P	01 18 49.3	+0.7
	baz=58,SNR=12							
N21A	Black Mountain	58.32	63	⇓P		P	01 18 49.6	+0.7
	baz=58							
R17A	Hanksville Air	58.33	67	⇑P		P	01 18 50.6	+1.8
	baz=58,SNR=6.2							
M22A	Cedar Creek Ra	58.34	62	⇑P		P	01 18 50.1	+1.1
	baz=58,SNR=5.0							
LDFC	Landfair	58.34	73	eP		P	01 18 50.1	+1.2
	comp=Z,17nm,0.9s							
S16A	Weppner Ranch,	58.35	68	⇑P		P	01 18 51.0	+1.9
	baz=58							
P19A	Cripple Cowboy	58.37	65	⇓P		P	01 18 50.3	+1.1
	baz=58,SNR=7.3							
O20A	White River Ci	58.40	64	⇑P		P	01 18 50.8	+1.4
	baz=58							
AGMN	Agassiz Nation	58.48	50	eP		P	01 18 49.7	+0.1
	comp=Z,13nm,0.9s							
BELC	Belle Mtn. Jos	58.63	74	⇓P		P	01 18 52.4	+1.4
	baz=58							
Q19A	Hogan Spring (	58.71	66	⇓P		P	01 18 53.0	+1.5
	baz=58,SNR=14							
M23A	Laramie	58.74	61	⇓P		P	01 18 52.7	+0.9
	baz=58,SNR=7.0							
O21A	Pagoda	58.74	64	⇑P		P	01 18 53.3	+1.4
	baz=58,SNR=7.0							
P20A	De Beque	58.78	65	⇓P		P	01 18 53.1	+1.1
	baz=58							
R18A	Canyonlands Na	58.79	67	⇓P		P	01 18 53.3	+1.2
	baz=59,SNR=8.8							
KAF	Kangasniemi	58.79	338	eP		P	01 18 49.7	-1.8

comp=Z,29nm,0.8s
TAPN Taplejung 59.35 275 *e*P P 01 18 55.2 -1.1
CHTO Chiang Mai 59.37 259 *e*P P 01 18 57.5 +1.4
CHTO pmax pmax
comp=Z,25nm,0.8s
CHTO Chiang Mai 59.37 259 *e*P P 01 18 57.5 +1.4
comp=Z,25nm,0.8s
CHTO Chiang Mai 59.37 259 P P 01 18 58.2 +2.1
SNR=7.4
FINES FINESS Array B 59.44 337 P P 01 18 55.7 -0.3
FINES FINESS Array B 59.44 337 P P 01 18 55.7 -0.3
comp=Z,99nm,0.6s,baz=32,slow=8.7,SNR=632
FINES LR LR 01 45 09.5
comp=Z,202nm,21.8s,baz=329,slow=37
O23A Lake Granby, G 59.56 63 ⇓P P 01 18 59.4 +1.9
baz=59,SNR=8.2
P22A Eagle 59.57 64 ⇓P P 01 18 58.9 +1.4
baz=59
K27A Flueckinger Fa 59.60 58 ⇓P P 01 18 58.6 +1.0
baz=59
M25A Palm-Egli Farm 59.62 60 ⇓P P 01 18 59.2 +1.4
baz=59
Y12C Blythe 59.64 74 ⇑P P 01 18 59.6 +1.8
baz=60
CMAR Chiang Mai Arr 59.66 259 P P 01 19 00.3 +2.2
CMAR Chiang Mai Arr 59.66 259 P P 01 19 00.3 +2.2
comp=Z,19nm,0.7s,baz=26,slow=6.9,SNR=71
CMAR LR LR 01 47 05.5
comp=Z,259nm,19.9s,baz=46,slow=38
S19A Harvey Farm, M 59.66 67 ⇓P P 01 18 59.6 +1.4
baz=59,SNR=16
PV01 Paradox Valley 59.68 66 *e*P P 01 18 59.5 +1.1
comp=Z,367nm,0.8s
Q21A Lamborn Mesa, 59.70 65 ⇑P P 01 18 59.6 +1.2
baz=60
T18A Mexican Hat 59.71 68 ⇓P P 01 18 59.8 +1.3
baz=60
R20A Redvale 59.74 66 ⇓P P 01 19 00.3 +1.5
baz=60
SMCO Snowmass 59.76 64 *e*P P 01 19 00.4 +1.3
comp=Z,7.6nm,0.9s
PUL Pulkovo 59.88 334 *e*P P 01 18 59.4 +0.3
PUL pmax pmax
comp=Z,96nm,1.2s
ODAN Odare 59.90 275 *e*P P 01 18 59.3 -0.7
ODAN Odare 59.90 275 *e*P P 01 18 59.3 -0.7
GUN Gumba 59.99 277 *e*P P 01 19 00.2 -0.6
comp=Z,42nm,0.6s
GUN Gumba 59.99 277 *e*P P 01 19 00.2 -0.6
JIRN Jiri 60.00 276 *e*P P 01 18 59.9 -0.9
comp=Z,5.1nm,0.6s
JIRN Jiri 60.00 276 *e*P P 01 18 59.9 -0.9
L27A T5 Ranch, Ells 60.02 59 ⇑P P 01 19 01.7 +1.3
baz=60
ISCO Idaho Springs 60.02 63 *e*P P 01 19 02.3 +1.6
ISCO pmax pmax
comp=Z,9.0nm,1.1s
ISCO Idaho Springs 60.02 63 *e*P P 01 19 02.3 +1.6
comp=Z,8.6nm,1.1s
ISCO Idaho Springs 60.02 63 ⇑P P 01 19 02.6 +1.8
baz=60,SNR=9.5
S20A Disappointment 60.02 66 ⇓P P 01 19 02.2 +1.4
baz=60,SNR=7.7
Q22A Crested Butte, 60.03 64 ⇓P P 01 19 02.4 +1.6
baz=60,SNR=5.5
R21A Cimarron 60.05 65 ⇑P P 01 19 02.6 +1.7
baz=60,SNR=10
O24A Longmont 60.06 62 ⇑P P 01 19 02.5 +1.6
baz=60
WUAZ Wupatki 60.09 70 *e*P P 01 19 02.6 +1.5
comp=Z,7.1nm,0.9s
WUAZ *e*PcP PcP 01 19 47.9 +1.2
WUAZ Wupatki 60.09 70 ⇓P P 01 19 02.9 +1.8
baz=60
P23A Jefferson 60.21 63 ⇓P P 01 19 03.2 +1.1
baz=60
RAMN Ramite 60.30 276 *e*P P 01 19 01.7 -1.0
comp=Z,38nm,0.5s
RAMN Ramite 60.30 276 *e*P P 01 19 01.7 -1.0
Y14A Wickenburg 60.35 72 ⇓P P 01 19 04.4 +1.7
baz=60
T19A Beclabito 60.40 67 ⇑P P 01 19 05.0 +1.7
baz=60,SNR=9.1
MVCO Mesa Verde 60.40 67 *e*P P 01 19 04.1 +0.8
comp=Z,4.9nm,0.9s
MVCO Mesa Verde 60.40 67 ⇓P P 01 19 04.7 +1.4
baz=60
KKN Kakani 60.43 277 *e*P P 01 19 02.9 -0.7
comp=Z,24nm,0.5s
KKN Kakani 60.43 277 *e*P P 01 19 02.9 -0.7
KKN Kakani 60.43 277 *e*P P 01 19 02.9 -0.7
S21A Coal Bank Pass 60.45 66 ⇑P P 01 19 05.6 +1.9
baz=60,SNR=13
N26A Koester Ranch, 60.49 60 ⇓P P 01 19 05.3 +1.6
baz=60
PKI Pulchoki 60.52 277 *e*P P 01 19 03.6 -0.7
comp=Z,38nm,0.7s
PKI Pulchoki 60.52 277 *e*P P 01 19 03.6 -0.7
PKI Pulchoki 60.52 277 *e*P P 01 19 03.6 -0.7
R22A Saguache, Gunn 60.58 65 ⇑P P 01 19 06.4 +1.8
baz=60
GKN Gorkha 60.64 278 *e*P P 01 19 04.3 -0.7
comp=Z,28nm,0.6s
GKN Gorkha 60.64 278 *e*P P 01 19 04.3 -0.7
DMN Daman 60.67 277 *e*P P 01 19 04.8 -0.5
comp=Z,31nm,0.6s
DMN Daman 60.67 277 *e*P P 01 19 04.8 -0.5
EYMN Ely 60.67 48 *e*P P 01 19 04.5 -0.3
comp=Z,19nm,0.9s
U19A Dine' College, 60.70 68 ⇓P P 01 19 07.2 +1.8
baz=60,SNR=6.6
N27A Anderson Farm, 60.85 60 ⇓P P 01 19 07.4 +1.2
baz=61
X16A Lo Mia Camp, P 60.86 71 ⇑P P 01 19 08.6 +2.2
baz=61,SNR=5.7
O26A Horse Wrangler 60.88 61 ⇓P P 01 19 07.8 +1.4
baz=61
Q24A Divide 60.88 63 ⇓P P 01 19 08.0 +1.4
baz=61
DANN Dangsing 60.89 279 *e*P P 01 19 06.3 -0.5
comp=Z,78nm,0.8s
DANN Dangsing 60.89 279 *e*P P 01 19 06.3 -0.5
S22A 4UR Ranch, Cre 60.90 65 ⇑P P 01 19 08.5 +1.7
baz=61,SNR=12
OGNE Ogallala 61.00 60 ⇓P P 01 19 08.8 +1.6
baz=61
T21A Navajo Lake 61.08 66 ⇓P P 01 19 09.9 +2.0
baz=61
R23A Moffat 61.10 64 ⇑P P 01 19 09.9 +1.8
baz=61
MOS Moscow 61.25 328 *e*P P 01 19 06.8 -1.7
MOS pmax pmax
comp=Z,82nm,1.2s
W18A Petrified Fore 61.28 69 ⇓P P 01 19 11.6 +2.3
baz=61
O27A Beecher Island 61.34 60 ⇑P P 01 19 10.9 +1.4
baz=61
S23A Nye Farm, Mont 61.36 65 ⇓P P 01 19 11.7 +1.8
baz=61
P26A Davis Ranch, A 61.37 61 ⇓P P 01 19 11.2 +1.5
baz=61,SNR=7.5
Q25A Bedland, Calha 61.38 62 ⇓P P 01 19 11.4 +1.5
baz=61,SNR=8.4
T22A Edith 61.40 66 ⇓P P 01 19 11.8 +1.7
baz=61,SNR=6.8
KOLN Koldanda 61.42 278 *e*P P 01 19 09.4 -0.9
comp=Z,44nm,0.6s
KOLN Koldanda 61.42 278 *e*P P 01 19 09.4 -0.9
U21A Nageezi 61.43 67 ⇓P P 01 19 11.7 +1.4
baz=61,SNR=7.0
R24A Sanders Place, 61.44 64 ⇑P P 01 19 12.0 +1.7
baz=61,SNR=5.1
V20A Brimhall 61.47 68 ⇑P P 01 19 12.0 +1.5
baz=61
ECSD EROS Data Cent 61.56 54 *e*P P 01 19 10.6 -0.2
comp=Z,8.2nm,0.8s
SDCO Great Sand Dun 61.60 64 ⇓P P 01 19 13.0 +1.5
baz=61,SNR=7.3
X18A Snowflake 61.60 70 ⇑P P 01 19 13.4 +2.0
baz=61
Q26A Hugo 61.75 62 ⇑P P 01 19 13.5 +1.2
baz=62
P27A Ficken Ranch, 61.76 61 ⇓P P 01 19 13.4 +1.0
baz=62
S24A Houchin Ranch, 61.83 64 ⇑P P 01 19 14.5 +1.5
baz=62,SNR=6.5
T23A Casias Ranch, 61.84 65 ⇑P P 01 19 14.2 +1.0
baz=62
U22A Llaves 61.90 66 ⇓P P 01 19 15.0 +1.5
baz=62
V21A Milan 61.91 67 ⇓P P 01 19 15.0 +1.5
baz=62,SNR=5.2
VSU Vasula 61.92 335 *d i*P P
VSU pmax pmax
comp=Z,51nm,0.8s
214A Organ Pipe Nat 61.93 74 ⇓P P 01 19 15.0 +1.5
baz=62
R25A Fountain Ranch 61.94 63 ⇑P P 01 19 14.7 +1.1
baz=62
W20A Ramah 61.95 68 ⇓P P 01 19 15.1 +1.2
baz=62,SNR=6.9
OBN Obninsk 62.10 328 *k i*P P 01 19 14.0 -0.2
OBN *e*'PP pP 01 19 22.4 -2.0
OBN *e* 01 19 56.7
OBN pmax pmax
comp=Z,131nm,1.7s
OBN MLR MLR
comp=Z,200nm,18.0s
KSCO Kaye Shedlock' 62.15 61 ⇑P P 01 19 15.9 +0.9
baz=62
SPMN St. Paul 62.18 51 ⇑P P 01 19 15.4 +0.5
baz=62
V22A San Miguel Ran 62.22 67 ⇑P P 01 19 17.2 +1.5
baz=62
S25A Rebeis Cordova 62.22 64 ⇓P P 01 19 16.6 +1.1
baz=62,SNR=5.6
R26A Arlington 62.26 62 ⇓P P 01 19 16.9 +1.2
baz=62,SNR=19
U23A El Rito 62.29 66 ⇓P P 01 19 17.7 +1.6
baz=62,SNR=10.0
T24A Torres, Weston 62.34 64 ⇑P P 01 19 18.1 +1.6
baz=62
X20A Quemado 62.39 69 ⇓P P 01 19 18.9 +2.2
baz=62,SNR=5.3
BGNE Belgrade 62.58 57 ⇓P P 01 19 18.8 +1.1
baz=62
R27A Eads 62.60 62 ⇑P P 01 19 18.9 +0.9
baz=62
T25A Trinidad 62.63 64 ⇑P P 01 19 19.5 +1.2
baz=62
NB2 NORSAR Subarra 62.66 345 P P 01 19 17.3 -0.6
baz=20,slow=6.9
NB2 NORSAR Subarra 62.66 345 P P 01 19 17.3 -0.6
comp=Z,26nm,0.6s,baz=20,slow=6.9
NOA NORSAR Array B 62.66 345 P P 01 19 17.3 -0.6
NOA NORSAR Array B 62.66 345 P P 01 19 17.3 -0.6
comp=Z,20nm,0.5s,baz=19,slow=6.8,SNR=96
NOA LR LR 01 49 19.8
comp=Z,77nm,18.3s,baz=340,slow=39
V23A Ortiz Mt. (NFS 62.73 66 ⇓P P 01 19 21.2 +2.2
baz=62,SNR=8.9
S26A Kim 62.76 63 ⇑P P 01 19 20.1 +1.0
baz=62
X21A Alamocita Cree 62.85 68 ⇑P P 01 19 22.1 +2.3
baz=63,SNR=17
NC602 NORSAR Array S 62.89 344 *e*P P 01 19 18.4 -1.0
Y20A Horse Springs, 62.93 69 ⇓P P 01 19 22.4 +2.0
baz=63,SNR=8.2
T26A Comanche Natio 63.03 63 ⇑P P 01 19 21.3 +0.3
baz=63,SNR=6.8
HFS Hagfors 63.11 343 P P 01 19 20.1 -0.7
HFS Hagfors 63.11 343 P P 01 19 20.1 -0.7
comp=Z,20nm,0.4s,baz=55,slow=5.6,SNR=237
ANMO Albuquerque 63.18 67 *e*P P 01 19 23.0 +1.0
comp=Z,6.3nm,1.0s
U25A Circle Dot Ran 63.19 64 ⇓P P 01 19 23.0 +1.0
baz=63,SNR=8.8
W23A Werner Place, 63.19 67 ⇑P P 01 19 23.7 +1.6
baz=63
X22A Bernardo 63.22 68 ⇓P P 01 19 24.2 +1.9
baz=63
V24A Rampart Ranch, 63.24 66 ⇓P P 01 19 23.8 +1.4
baz=63,SNR=5.5
Y21A Point of Rocks 63.24 68 ⇑P P 01 19 24.4 +2.0
baz=63
Z20A Nine Sixteen R 63.41 70 ⇑P P 01 19 25.2 +1.7
baz=63,SNR=6.0
V25A Rancho No Teng 63.50 65 ⇓P P 01 19 24.9 +0.8
baz=63,SNR=6.6
U26A Atchley Ranch, 63.54 64 ⇑P P 01 19 24.8 +0.5
baz=63
W24A Lazy 6 Ranch, 63.55 66 ⇓P P 01 19 26.0 +1.6
baz=63,SNR=5.6
T27A Campo 63.57 63 ⇑P P 01 19 25.2 +0.8
baz=63
HNR Honiara 63.58 182 LR LR 01 42 34.8
comp=Z,150nm,20.8s,baz=318,slow=32
Y22A Socorro 63.67 68 ⇑P P 01 19 27.0 +1.7
baz=64,SNR=6.5
BNM Barren Site 63.70 68 *e*P P 01 19 26.9 +1.5
comp=Z,1.8nm,0.8s
Z21A St. Cloud Mine 63.77 69 ⇓P P 01 19 26.8 +0.8
baz=64
VRHR Novokhopersk 63.79 323 *e*P P 01 19 23.7 -1.8
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,70nm,0.6s
120A U Bar Ranch, L 63.81 70 ⇑P P 01 19 27.4 +1.2
baz=64
T28A Walsh 63.84 62 ⇑P P 01 19 26.6 +0.4
baz=64
SCHQ Schefferville 63.93 29 *e*P P 01 19 25.5 -0.9
comp=Z,32nm,1.5s
SCHQ Schefferville 63.93 29 P P 01 19 25.8 -0.7
comp=Z,8.8nm,0.8s,baz=354,slow=8.4,SNR=15
V26A Tequesquite Ra 63.97 64 ⇓P P 01 19 28.0 +0.8
baz=64,SNR=7.4
ASK Askoy 64.04 348 *e*P P 01 19 26.4 -0.5
W25A X Bar L Ranch, 64.05 65 ⇓P P 01 19 28.6 +0.9
baz=64,SNR=8.1
RUND Rundenannen 64.08 347 *e*P P 01 19 26.4 -0.9
Y23A Lovelace Mesa, 64.17 67 ⇓P P 01 19 30.1 +1.5
baz=64,SNR=11
Z22A Elephant Butte 64.19 69 ⇓P P 01 19 30.3 +1.6
baz=64,SNR=5.2
KONO Kongsberg 64.23 345 *e*P P 01 19 27.7 -0.6
KONO pmax pmax
comp=Z,55nm,1.3s
KONO Kongsberg 64.23 345 *e*P P 01 19 27.7 -0.6
comp=Z,55nm,1.3s
121A Cookes Peak, D 64.29 70 ⇓P P 01 19 31.1 +1.8
baz=64
319A Douglas 64.34 72 ⇓P P 01 19 31.5 +1.9
baz=64,SNR=5.3
220A Playas Peak, P 64.36 71 ⇑P P 01 19 31.1 +1.4
baz=64
ODD1 Odda 64.40 347 *e*P P 01 19 29.4 0.0
IZAR Zarasai 64.46 334 *e*P P 01 19 30.2 +0.3
IZAR AMB AMB 01 19 31.6
comp=Z,36nm,1.2s
IZAR Zarasai 64.46 334 *e*P P 01 19 30.2 +0.3
IZAR AMB AMB 01 19 31.6
comp=Z,36nm,1.2s
Y24A Capitan 64.51 67 ⇓P P 01 19 32.2 +1.4
baz=64,SNR=8.7
W26A Owens Ranch, T 64.52 65 ⇓P P 01 19 31.2 +0.5
baz=64
VSR Storozhevoye 64.54 324 *e*P P 01 19 29.6 -0.8
VSR pmax pmax
comp=N,60nm,0.9s
VSR pmax pmax
comp=E,30nm,0.9s
VSR pmax pmax
comp=Z,70nm,0.9s
BHGR Bahadurgarh 64.55 284 *e*PKP P 01 19 30.3 -0.4
Z23A Rita Site, Whi 64.58 68 ⇓P P 01 19 33.2 +2.0
baz=64
122A Conniff Cattle 64.59 69 ⇑P P 01 19 33.3 +2.1
baz=64
AYAN Aya Nagar 64.59 284 *e*PKP P 01 19 31.2 +0.1
AYAN AMb AMB 01 19 32.6
comp=Z,8.1nm,0.6s
ISAL Salakas 64.66 334 *e*P P 01 19 31.4 +0.4
ISAL AMB AMB 01 19 32.9
comp=Z,33nm,1.1s
ISAL Salakas 64.66 334 *e*P P 01 19 31.4 +0.4
ISAL AMB AMB 01 19 32.9
comp=Z,33nm,1.1s
221A Mesquite Ranch 64.69 70 ⇑P P 01 19 33.7 +1.8
baz=64
VORD Divnogorie 64.71 324 *e*P P 01 19 30.4 -1.1

IDID Didziasalis 64.73 334 *e*P P 01 19 31.9 +0.4
IDID AMB AMB 01 19 33.4
comp=Z,38nm,1.0s
IDID Didziasalis 64.73 334 *e*P P 01 19 31.9 +0.4
IDID AMB AMB 01 19 33.4
comp=Z,38nm,1.0s
SONA Sohna 64.80 284 *e*PKP P 01 19 31.8 -0.6
SONA AMb AMB 01 19 33.3
comp=Z,15nm,0.3s
IIGN Ignalina 64.83 334 *e*P P 01 19 32.6 +0.4
IIGN AMB AMB 01 19 34.0
comp=Z,53nm,0.7s
IIGN Ignalina 64.83 334 *e*P P 01 19 32.6 +0.4
IIGN AMB AMB 01 19 34.0
comp=Z,53nm,0.7s
X26A CR and CF Fran 64.91 65 ⇓P P 01 19 34.4 +1.1
baz=65,SNR=6.3
W27A Bowe Ranch, En 64.91 65 ⇓P P 01 19 34.5 +1.3
baz=65
Y25A Mesa, Roswell 64.91 66 ⇑P P 01 19 34.5 +1.2
baz=65,SNR=16
222A Williams Famil 64.99 69 ⇑P P 01 19 35.1 +1.2
baz=65
Z24A Sheeppen Canyo 65.00 67 ⇑P P 01 19 35.3 +1.3
baz=65
AGRA Agra 65.08 282 *e*PKP P 01 19 33.7 -0.6
X27A F and S Farms, 65.21 65 ⇓P P 01 19 36.2 +1.0
baz=65
W28A Vega 65.21 64 ⇓P P 01 19 36.2 +1.0
baz=65
KUDL Kundal 65.21 284 *e*PKP P 01 19 34.5 -0.6
KUDL AMb AMB 01 19 35.7
comp=Z,23nm,0.1s
Y26A Elida 65.38 66 ⇓P P 01 19 37.5 +1.2
baz=65
Z25A Roswell 65.39 67 ⇓P P 01 19 37.7 +1.3
baz=65
KHET Khetri 65.66 285 *e*PKP P 01 19 37.4 -0.6
KHET AMb AMB 01 19 38.3
comp=Z,7.6nm,0.3s
Y27A Causey 65.76 65 ⇑P P 01 19 39.7 +0.9
baz=66,SNR=8.8
AMTX Amarillo 65.78 64 ⇑P P 01 19 39.5 +0.6
baz=66
Z26A Caprock 65.79 66 ⇓P P 01 19 40.1 +1.1
baz=66,SNR=11
SNART Snartemo 65.84 346 *e*P P 01 19 38.9 +0.1
224A Cornudas Mount 65.87 68 ⇑P P 01 19 40.9 +1.3
baz=66,SNR=13
125A Gardner Draw, 65.90 67 ⇑P P 01 19 40.8 +1.2
baz=66,SNR=8.0
MSTX Muleshoe 65.90 65 ⇑P P 01 19 40.1 +0.4
baz=66,SNR=5.1
X29A Tulia 66.10 64 ⇑P P 01 19 41.5 +0.5
baz=66
Z27A Tatum 66.17 66 ⇓P P 01 19 42.0 +0.6
baz=66
225A Deer Hill, Car 66.23 68 ⇑P P 01 19 43.0 +1.1
baz=66,SNR=8.4
MNTX Cornudas Mount 66.24 69 *e*P P 01 19 42.8 +1.1
comp=Z,7.5nm,0.9s
MNTX *e*pP pP 01 19 52.9 +0.9
MNTX Cornudas Mount 66.24 69 ⇓P P 01 19 43.1 +1.4
baz=66,SNR=11
126A Clayton Basin, 66.25 67 ⇑P P 01 19 42.7 +0.8
baz=66
324A Moseley Ranch, 66.38 69 ⇑P P 01 19 43.8 +1.0
baz=66
GDL2 Guadalupe Moun 66.41 67 *e*P P 01 19 43.7 +0.7
comp=Z,7.0nm,0.9s
GDL2 *e*pP pP 01 19 53.9 +0.7
Y29A Porterfield Fa 66.57 64 ⇓P P 01 19 44.7 +0.8
baz=66
127A Arkansas Junct 66.58 66 ⇑P P 01 19 44.9 +0.9
baz=66
Z28A Tucker Farm, M 66.63 65 ⇑P P 01 19 44.9 +0.6
baz=66
325A Bean Ranch, Si 66.72 68 ⇓P P 01 19 45.9 +0.9
baz=66
SUW Suwalki 66.80 335 *e*P P 01 19 45.0 0.0
SUW Suwalki 66.80 335 *e*P P 01 19 45.0 0.0
SUW Suwalki 66.80 335 *e*P P 01 19 45.0 0.0
SUW Suwalki 66.80 335 *e*P P 01 19 44.5 -0.5
comp=Z,138nm,0.8s
Z29A Hungry Hill Ra 67.01 65 ⇓P P 01 19 47.4 +0.6
baz=67,SNR=7.8
128A Castleberry Fa 67.09 66 ⇑P P 01 19 48.0 +0.8
baz=67,SNR=6.7
425A Indio Mountain 67.16 69 ⇑P P 01 19 49.1 +1.4
baz=67,SNR=8.8
326A Caldwell Ranch 67.30 68 ⇓P P 01 19 49.6 +1.0
baz=67
WMOK Wichita Mounta 67.40 62 *e*P P 01 19 49.0 -0.1
WMOK pmax pmax
comp=Z,20nm,0.9s
WMOK Wichita Mounta 67.40 62 *e*P P 01 19 49.0 -0.1
comp=Z,20nm,0.9s
228A UT Block 9, Go 67.42 66 ⇑P P 01 19 50.4 +1.1
baz=67
HDIL Hopedale 67.44 51 *e*P P 01 19 48.6 -0.7
comp=Z,76nm,1.0s
KSM Kuching 67.56 238 *e*P P 01 19 53.1 +2.9
comp=Z,51nm,1.0s
426A McDonald Obser 67.77 68 ⇓P P 01 19 52.4 +0.6
baz=68,SNR=5.5
MCD Coleburn Disti 67.78 352 *e*P P 01 19 50.8 -0.3
MCD Coleburn Disti 67.78 352 P P 01 19 50.8 -0.3
328A Wristen Ranch, 67.88 67 ⇓P P 01 19 53.1 +0.9
baz=68,SNR=13
229A Bryant Ranch, 67.96 66 ⇑P P 01 19 53.5 +0.8
baz=68
427A Hayter Ranch, 67.97 68 ⇑P P 01 19 53.7 +0.9
baz=68,SNR=6.8
TUL1 Tulsa 68.00 59 ⇑P P 01 19 52.9 +0.1
baz=68
MDO Dochfour 68.01 352 *e*P P 01 19 52.8 +0.2
MDO Dochfour 68.01 352 P P 01 19 52.8 +0.2
AKASG Malin Array Be 68.15 330 P P 01 19 53.0 -0.5
AKASG pmax pmax
comp=Z,42nm,0.6s
AKASG MLR MLR
comp=Z,249nm,19.0s
AKASG Malin Array Be 68.15 330 P P 01 19 53.0 -0.5
AKASG Malin Array Be 68.15 330 P P 01 19 53.0 -0.5
comp=Z,42nm,0.6s,baz=28,slow=6.1,SNR=73
AKASG LR LR 01 53 18.1
comp=Z,249nm,19.0s,baz=315,slow=39
KIEV Kiev 68.16 330 *e*P P 01 19 52.7 -0.9
KIEV pmax pmax
comp=Z,87nm,1.0s
KIEV Kiev 68.16 330 *e*P P 01 19 52.7 -0.9
comp=Z,87nm,1.0s
526A Mary Lane Ranc 68.21 69 ⇑P P 01 19 55.5 +1.1
baz=68,SNR=8.7
329A Wagon Wheel Ra 68.24 66 ⇓P P 01 19 55.3 +0.8
baz=68,SNR=9.0
527A Woodward Ranch 68.40 68 ⇓P P 01 19 56.5 +0.8
baz=68,SNR=7.5
428A Kincaid Ranch, 68.45 67 ⇑P P 01 19 57.0 +1.1
baz=68,SNR=18
AAM Ann Arbor 68.52 47 *e*P P 01 19 56.0 0.0
AAM pmax pmax
comp=Z,15nm,0.3s
AAM Ann Arbor 68.52 47 *e*P P 01 19 56.0 0.0
comp=Z,15nm,0.3s
626A Big Bend Ranch 68.58 69 ⇓P P 01 19 57.6 +1.0
baz=68,SNR=9.3
ABTX Abilene, Hawle 68.59 64 ⇓P P 01 19 57.1 +0.4
baz=68,SNR=8.7
528A Cox Ranch, San 68.84 68 ⇓P P 01 19 59.3 +1.0
baz=69,SNR=8.8
GKP Gorka Klasztor 68.86 338 *e*P P 01 19 58.2 +0.3
GKP Gorka Klasztor 68.86 338 *e*P P 01 19 58.2 +0.3
GKP Gorka Klasztor 68.86 338 *e*P P 01 19 58.2 +0.3
429A Davenport Ranc 68.96 67 ⇓P P 01 19 59.4 +0.4
baz=69
TXAR Lajitas Array 69.00 69 P P 01 20 00.5 +1.2
TXAR Lajitas Array 69.00 69 P P 01 20 00.5 +1.2
comp=Z,9.9nm,0.7s,baz=300,slow=4.5,SNR=88
627A Terlingua Ranc 69.06 69 ⇑P P 01 20 00.6 +0.9
baz=69,SNR=8.9
529A Stev Forest Ra 69.17 67 ⇑P P 01 20 01.1 +0.8
baz=69,SNR=9.1
430A Baggett Ranch, 69.18 66 ⇑P P 01 20 00.9 +0.5
baz=69,SNR=8.9
EAB Aberfoyle 69.25 352 *e*P P 01 20 00.2 -0.1
EAB Aberfoyle 69.25 352 P P 01 20 00.2 -0.1

628A	**Black Gap, Mar**	69.31	68	⇓P		P	01 20 02.0	+0.9
	baz=69,SNR=6.9							
VIS	**Vishakhapatnam**	69.33	272	*ex*		x	01 19 48.5	
KIV	**Kislovodsk**	69.34	318	*c iP*		P	01 20 01.5	+0.3
KIV				*e**PP		pP	01 20 10.0	-1.5
KIV				*e**SP		sP	01 20 13.1	-2.3
KIV				*e*			01 20 26.0	
KIV				pmax	pmax			
	comp=Z,27nm,0.6s							
KIV				MLR	MLR			
	comp=Z,200nm,18.0s							
KIV	**Kislovodsk**	69.34	318	*eP*		P	01 20 01.9	+0.7
	comp=Z,51nm,0.9s							
ESY	**Stoneypath**	69.37	351	*eP*		P	01 20 00.7	-0.4
ESY	**Stoneypath**	69.37	351	P		P	01 20 00.7	-0.4
BEL	**Belsk**	69.38	336	*eP*		P	01 20 02.0	+0.8
BEL	**Belsk**	69.38	336	*eP*		P	01 20 02.0	+0.8
BEL	**Belsk**	69.38	336	*eP*		P	01 20 02.0	+0.8
KULM	**Kulim**	69.39	249	*eP*		P	01 20 03.7	+2.0
	comp=Z,24nm,1.3s							
KBZ	**Khabaz**	69.45	318	P		P	01 20 02.4	+0.7
KBZ				pmax	pmax			
	comp=Z,74nm,0.9s							
KBZ				MLR	MLR			
	comp=Z,306nm,21.3s							
KBZ	**Khabaz**	69.45	318	P		P	01 20 02.4	+0.7
KBZ	**Khabaz**	69.45	318	P		P	01 20 02.4	+0.7
	comp=Z,74nm,0.9s,baz=76,slow=2.7,SNR=101							
KBZ				LR	LR		01 54 11.8	
	comp=Z,306nm,21.3s,baz=20,slow=39							
EAU	**Auchinoon**	69.52	351	*eP*		P	01 20 02.5	+0.6
EAU	**Auchinoon**	69.52	351	P		P	01 20 02.5	+0.6
BSEG	**Bad Segeberg**	69.58	343	*eP*		P	01 20 02.2	-0.1
	comp=Z,36nm,1.1s							
BSEG	**Bad Segeberg**	69.58	343	*eP*		P	01 20 02.2	-0.1
BSEG				pmax	pmax			
	comp=Z,36nm,1.1s							
431A	**Sonora**	69.60	66	⇑P		P	01 20 03.3	+0.4
	baz=69,SNR=9.3							
PGBU	**Glenifferbraes**	69.64	352	*eP*		P	01 20 02.7	0.0
PGBU				AMB	AMB		01 20 05.8	
	comp=Z,148nm,4.0s							
PGBU	**Glenifferbraes**	69.64	352	P		P	01 20 02.7	0.0
PGBU				AMB	AMB		01 20 05.8	
	comp=Z,148nm,4.0s							
SIUC	**Southern Illin**	69.76	53	*eP*		P	01 20 03.1	-0.6
	comp=Z,18nm,0.8s							
MSNY	**Massena**	69.78	39	*eP*		P	01 20 02.3	-1.4
	comp=Z,123nm,0.8s							
ZEI	**Tsey**	69.85	316	*eP*		P	01 20 03.5	-1.0
ZEI				pmax	pmax			
	comp=Z,50nm,1.1s							
IPM	**Ipoh**	69.86	248	*eP*		P	01 20 05.8	+1.1
	comp=Z,111nm,0.9s							
432A	**Menard**	69.88	65	⇑P		P	01 20 05.1	+0.5
	baz=70							
COEN	**Coen**	69.95	200	*eP*		P	01 20 06.5	+1.4
ESK	**Eskdalemuir**	70.02	351	*eP*		P	01 20 04.7	-0.4
ESK				AMB	AMB		01 20 12.4	
	comp=Z,44nm,3.8s							
ESK	**Eskdalemuir**	70.02	351	P		P	01 20 04.7	-0.4
ESK				AMB	AMB		01 20 12.4	
	comp=Z,44nm,3.8s							
ESK	**Eskdalemuir**	70.02	351	*eP*		P	01 20 05.0	-0.1
ESK				pmax	pmax			
	comp=Z,16nm,0.9s							
ESK	**Eskdalemuir**	70.02	351	*eP*		P	01 20 05.0	-0.1
	comp=Z,16nm,0.9s							
531A	**Rocksprings**	70.04	66	⇓P		P	01 20 06.2	+0.5
	baz=70							
ONI	**Oni**	70.18	317	P		P	01 20 07.6	+1.2
MIAR	**Mount Ida**	70.19	58	*eP*		P	01 20 06.2	-0.2
MIAR				pmax	pmax			
	comp=Z,14nm,0.9s							
MIAR	**Mount Ida**	70.19	58	*eP*		P	01 20 06.2	-0.2
	comp=Z,14nm,0.9s							
JCT	**Junction City**	70.19	65	*eP*		P	01 20 06.9	+0.3
JCT				pmax	pmax			
	comp=Z,20nm,0.9s							
JCT	**Junction City**	70.19	65	*eP*		P	01 20 06.9	+0.3
	comp=Z,20nm,0.9s							
JCT	**Junction City**	70.19	65	⇑P		P	01 20 07.0	+0.5
	baz=70							
LONY	**Lake Ozonia**	70.20	39	*eP*		P	01 20 04.3	-2.1
	comp=Z,10nm,0.8s							
RUE	**Ruedersdorf**	70.33	340	*eP*		P	01 20 07.5	+0.5
	comp=Z,66nm,1.0s							
DGRG	**David-gareji**	70.35	315	P		P	01 20 08.2	+0.8
TBLG	**Delisi**	70.38	315	*eP*		P	01 20 07.7	+0.2
TBLG	**Delisi**	70.38	315	P		P	01 20 07.7	+0.2
LVV	**L'vov**	70.40	333	*eP*		P	01 20 07.2	-0.3
532A	**Rocksprings**	70.41	66	⇓P		P	01 20 08.2	+0.2
	baz=70							
GOR	**Gori**	70.42	316	P		P	01 20 08.7	+0.9
ALLY	**Alegheny Colle**	70.53	45	*eP*		P	01 20 07.7	-0.7
	comp=Z,28nm,1.0s							
ANN	**Anapa**	70.61	322	*eP*		P	01 20 08.2	-0.6
ANN				*eS*		S	01 29 17.5	-2.5
ANN				pmax	pmax			
	comp=Z,53nm,1.0s							
631A	**Perdido Creek**	70.61	67	⇑P		P	01 20 09.5	+0.4
	baz=70							
WCI	**Wyandotte Cave**	70.69	51	*eP*		P	01 20 08.5	-1.0
WCI				pmax	pmax			
	comp=Z,11nm,0.8s							
WCI	**Wyandotte Cave**	70.69	51	*eP*		P	01 20 08.5	-1.0
	comp=Z,10nm,0.8s							
KESW	**Keswick, Cumbr**	70.73	351	*eP*		P	01 20 08.3	-1.1
KESW				AMB	AMB		01 20 14.2	
	comp=Z,39nm,1.1s							
KESW	**Keswick, Cumbr**	70.73	351	P		P	01 20 08.3	-1.1
KESW				AMB	AMB		01 20 14.2	
	comp=Z,39nm,1.1s							
SOC	**Sochi**	70.81	320	*eP*		P	01 20 07.9	-2.1
SOC				*e**PP		pP	01 20 17.2	-3.2
SOC				*e*			01 20 33.1	
SOC				*eS*		S	01 29 17.7	-4.6
SOC				pmax	pmax			
	comp=Z,68nm,1.0s							
SOC				MLR	MLR			
	comp=Z,180nm,15.0s							
KWP	**Kalwaria Pacla**	70.92	333	*eP*		P	01 20 11.8	+1.1
KWP	**Kalwaria Pacla**	70.92	333	*eP*		P	01 20 11.8	+1.1
KWP	**Kalwaria Pacla**	70.92	333	⇑P		P	01 20 11.4	+0.7
KWP	**Kalwaria Pacla**	70.92	333	*eP*		P	01 20 11.5	+0.7
	comp=Z,196nm,1.0s							
KWP	**Kalwaria Pacla**	70.92	333	⇑*iP*		P	01 20 11.4	+0.7
NRDL	**Niedersach Rie**	71.00	342	*eP*		P	01 20 10.5	-0.5
OJC	**Ojcow**	71.11	336	*eP*		P	01 20 12.0	+0.2
OJC	**Ojcow**	71.11	336	*eP*		P	01 20 12.3	+0.5
AKH	**Akhalkalaki**	71.16	316	P		P	01 20 13.3	+0.8
GMM	**Mts of Mourne**	71.32	353	*eP*		P	01 20 12.4	-0.5
GMM	**Mts of Mourne**	71.32	353	P		P	01 20 12.4	-0.5
KSP	**Ksiaz**	71.34	338	*eP*		P	01 20 13.6	+0.4
KSP	**Ksiaz**	71.34	338	*eP*		P	01 20 13.6	+0.4
KSP	**Ksiaz**	71.34	338	⇑*eP*		P	01 20 13.5	+0.4
732A	**Laxson Ranch,**	71.48	67	⇑P		P	01 20 15.5	+1.1
	baz=71							
AFI	**Afiamalu**	71.53	153	LR		LR	01 44 54.9	
	comp=Z,113nm,20.7s,baz=40,slow=30							
KIS	**Kishinev**	71.57	328	⇑P		P	01 20 14.8	+0.2
KIS	**Kishinev**	71.57	328	⇑*iP*		P	01 20 14.8	+0.2
KIS	**Kishinev**	71.57	328	*e*UNK			01 20 13.0	
KIS				XM			01 20 14.0	
	comp=Z,100nm,1.2s							
KIS				*e*L		L	01 54 12.0	
CLZ	**Clausthal**	71.58	342	*eP*		P	01 20 14.7	0.0
	comp=Z,40nm,1.1s							
CLZ	**Clausthal**	71.58	342	*eP*		P	01 20 14.7	0.0
CLZ				pmax	pmax			
	comp=Z,40nm,1.1s							
IBBN	**Ibbenburen**	71.58	344	*eP*		P	01 20 14.2	-0.4
CLL	**Collm**	71.59	340	*eP*		P	01 20 13.8	-0.9
	comp=Z,62nm,1.1s							
CLL	**Collm**	71.59	340	⇑*iP*		P	01 20 14.4	-0.3
CLL				pmax	pmax			
	comp=Z,62nm,1.1s							
CLL	**Collm**	71.59	340	⇑*iP*		P	01 20 14.4	-0.3
	comp=Z,16nm,0.7s							
CLL				⇑*i*Pmax			01 20 16.0	
	comp=Z,62nm,1.1s							
ACCN	**Adirondack Com**	71.60	39	*eP*		P	01 20 13.8	-1.1
	comp=Z,16nm,0.8s							
SIM	**Simferopol'**	71.66	324	*eP*		P	01 20 15.0	-0.2
SIM				pmax	pmax			
	comp=Z,38nm,0.8s							
SIM				MLR	MLR			
	comp=Z,270nm,16.5s							
KOLS	**Kolonicke sedl**	71.68	333	*eP*		P	01 20 15.6	+0.3
KOLS				pmax	pmax			
	comp=Z,23nm,0.8s							
KOLS	**Kolonicke sedl**	71.68	333	*eP*		P	01 20 15.6	+0.3
WVT	**Waverly**	71.69	53	*eP*		P	01 20 15.4	-0.1
WVT				pmax	pmax			
	comp=Z,14nm,0.8s							
WVT	**Waverly**	71.69	53	*eP*		P	01 20 15.4	-0.1
	comp=Z,14nm,0.8s							
GNI	**Garni**	71.70	314	*eP*		P	01 20 16.4	+0.7
	comp=Z,75nm,1.2s							
GNI	**Garni**	71.70	314	P		P	01 20 18.0	+2.2
	SNR=6.8							
GNI	**Garni**	71.70	314	P		P	01 20 17.4	+1.7
	comp=Z,21nm,0.8s,baz=331,slow=3.1,SNR=19							
UPC	**Upice**	71.72	338	*i P*		P	01 20 16.1	+0.6
UPC	**Upice**	71.72	338	⇑*iP*		P	01 20 16.1	+0.6
NIE	**Niedzica**	71.73	335	*eP*		P	01 20 16.0	+0.4
NIE	**Niedzica**	71.73	335	⇑*eP*		P	01 20 16.4	+0.8
IAS	**Iasi**	71.78	329	⇑P		P	01 20 15.9	+0.1
IAS	**Iasi**	71.78	329	⇑*iP*		P	01 20 15.9	+0.1
DPC	**Dobruska-Polom**	71.80	338	⇑*iP*		P	01 20 16.8	+0.8
DPC	**Dobruska-Polom**	71.80	338	⇑*iP*		P	01 20 16.8	+0.8
BRG	**Berggiesshubel**	71.81	339	*eP*		P	01 20 16.0	0.0
	comp=Z,32nm,1.3s							
BRG				*e*			01 20 24.2	
	comp=Z,10nm,0.8s							
BRG	**Berggiesshubel**	71.81	339	*eP*		P	01 20 15.3	-0.7
	comp=Z,32nm,1.3s							
BRG	**Berggiesshubel**	71.81	339	*eP*		P	01 20 16.0	0.0
BRG				*e*			01 20 24.2	
BRG				pmax	pmax			
	comp=Z,32nm,1.3s							
OKC	**Ostrava-Krasne**	71.86	336	⇑*iP*		P	01 20 16.9	+0.6
OKC	**Ostrava-Krasne**	71.86	336	⇑*iP*		P	01 20 16.9	+0.6
KBI1	**Birley Grange**	71.90	350	*eP*		P	01 20 16.1	-0.4
KBI1	**Birley Grange**	71.90	350	P		P	01 20 16.1	-0.4
CRVS	**Cervenica-Dubn**	71.92	334	*eP*		P	01 20 17.1	+0.4
CRVS				pmax	pmax			
	comp=Z,13nm,0.9s							
CRVS	**Cervenica-Dubn**	71.92	334	*eP*		P	01 20 17.1	+0.4
DBOC	**Borcka**	71.95	317	*i P*		P	01 20 17.6	+0.5
UZH	**Uzhgorod**	71.95	333	⇑*iP*		P	01 20 17.0	+0.1
UZH				*i*			01 20 30.8	
KRLC	**Kraliky**	71.95	337	⇑*iP*		P	01 20 17.4	+0.5
PVCC	**Panska Ves**	72.01	339	⇑*iP*		P	01 20 17.7	+0.5
PVCC	**Panska Ves**	72.01	339	⇑*iP*		P	01 20 17.7	+0.5
PRAR	**RASCA**	72.02	330	⇓*iP*		P	01 20 18.2	+0.9
MORC	**Moravsky Berou**	72.06	337	⇑P		P	01 20 18.3	+0.7
MORC	**Moravsky Berou**	72.06	337	*eP*		P	01 20 17.8	+0.2
	comp=Z,47nm,0.9s							
MORC	**Moravsky Berou**	72.06	337	⇑*iP*		P	01 20 18.3	+0.7
WTSB	**Winterswijk**	72.07	344	*eP*		P	01 20 17.4	-0.1
	comp=Z,15nm,0.7s							
DAGI	**Agtar**	72.08	317	*i P*		P	01 20 19.0	+1.1
BURAR	**Bucovina Array**	72.08	331	⇑*iP*		P	01 20 17.9	+0.1
LEOM	**Leova**	72.22	328	⇑P		P	01 20 19.0	+0.5
LEOM	**Leova**	72.22	328	⇑*iP*		P	01 20 19.0	+0.5
DDEM	**Demirkent**	72.30	317	*i P*		P	01 20 20.3	+1.1
TRPA	**Tarpa**	72.35	333	⇑*iP*		P	01 20 20.0	+0.8
TRPA	**Tarpa**	72.35	333	⇓P		P	01 20 20.0	+0.8
HYB	**Hyderabad**	72.35	275	*i P*		P	01 20 20.0	+0.2
MOX	**Moxa**	72.49	341	*eP*		P	01 20 19.7	-0.4
	comp=Z,34nm,1.1s							
MOX	**Moxa**	72.49	341	*eP*		P	01 20 19.7	-0.4
MOX				pmax	pmax			
	comp=Z,34nm,1.1s							
BUG	**Bochum--Univer**	72.50	344	*eP*		P	01 20 19.5	-0.6
BMR	**Baia Mare**	72.51	332	⇑P		P	01 20 20.9	+0.7
BMR	**Baia Mare**	72.51	332	⇑*iP*		P	01 20 20.9	+0.7
PLAL	**Pickwick Lake**	72.51	54	*eP*		P	01 20 22.9	+2.5
	comp=Z,25nm,0.9s							
PRU	**Pruhonice**	72.53	339	⇑*iP*		P	01 20 20.7	+0.4
PRU	**Pruhonice**	72.53	339	⇑*iP*		P	01 20 20.7	+0.4
TANN	**Tannenbergstha**	72.55	340	*eP*		P	01 20 20.2	-0.3
UBBA	**Unterbreizbach**	72.63	342	*eP*		P	01 20 21.2	+0.5
TESR		72.66	330	⇑*iP*		P	01 20 21.1	-0.1
VRAC	**Vranov**	72.72	337	P		P	01 20 22.2	+0.8
VRAC	**Vranov**	72.72	337	⇓*iP*		P	01 20 22.0	+0.5
VRAC	**Vranov**	72.72	337	P		P	01 20 22.2	+0.8
	comp=Z,34nm,0.7s,baz=23,slow=5.3,SNR=63							
NKC	**Novy Kostel**	72.72	340	⇑*iP*		P	01 20 21.9	+0.4
NKC				*e*			01 20 28.3	
NKC	**Novy Kostel**	72.72	340	⇑*iP*		P	01 20 21.9	+0.4
NKC				*e*pP		pP	01 20 28.3	-3.6
HLM1	**Long Mynd**	72.76	351	*eP*		P	01 20 20.8	-0.9
HLM1	**Long Mynd**	72.76	351	P		P	01 20 20.8	-0.9
GHRR		72.84	329	⇓*iP*		P	01 20 23.3	+1.1
BHJ	**Bhuj**	72.87	286	*ex*		x	01 21 22.8	
VYHS	**Vyhne**	72.95	335	*eP*		P	01 20 23.5	+0.6
VYHS				pmax	pmax			
	comp=Z,15nm,0.6s							
VYHS	**Vyhne**	72.95	335	*eP*		P	01 20 23.5	+0.6
TREC	**Trest**	72.98	338	⇑*iP*		P	01 20 23.6	+0.6
TREC				*e*			01 20 30.8	
TREC	**Trest**	72.98	338	⇑*iP*		P	01 20 23.6	+0.6
TREC				*e*pP		pP	01 20 30.8	-2.6
TLCR		73.19	328	⇓P		P	01 20 24.5	+0.2
TLCR		73.19	328	⇓*iP*		P	01 20 24.5	+0.2
PETR		73.20	329	⇑*iP*		P	01 20 25.5	+1.2
ROTZ	**Rotzenmuhle**	73.22	340	*eP*		P	01 20 24.5	+0.1
PSZ	**Piszkesteto**	73.23	335	⇓P		P	01 20 25.7	+1.1
PSZ	**Piszkesteto**	73.23	335	*eP*		P	01 20 23.8	-0.8
	comp=Z,26nm,0.9s							
PSZ	**Piszkesteto**	73.23	335	⇓*iP*		P	01 20 25.6	+1.0
PSZ	**Piszkesteto**	73.23	335	⇓P		P	01 20 25.6	+1.0
SMOL	**Smolenice**	73.27	336	*eP*		P	01 20 25.8	+1.1
SMOL	**Smolenice**	73.27	336	*eP*		P	01 20 25.8	+1.1
MCH1	**Michaelchurch**	73.29	351	*eP*		P	01 20 24.0	-0.8
MCH1				AMB	AMB		01 20 25.1	
	comp=Z,59nm,2.0s							
MCH1	**Michaelchurch**	73.29	351	P		P	01 20 24.0	-0.8
MCH1				AMB	AMB		01 20 25.1	
	comp=Z,59nm,2.0s							
ERZM	**Erzurum**	73.29	316	*i P*		P	01 20 27.2	+1.9
SWET	**Sewanee**	73.32	52	*eP*		P	01 20 24.8	-0.5
	comp=Z,32nm,0.8s							
HGN	**Heimansgroeve**	73.37	345	*eP*		P	01 20 25.0	-0.2
	comp=Z,26nm,1.1s							
CFR	**Carcaliu**	73.41	328	⇑P		P	01 20 25.3	-0.3
CFR	**Carcaliu**	73.41	328	⇑*iP*		P	01 20 25.3	-0.3
TNS	**Taunus Mts**	73.48	343	*eP*		P	01 20 25.7	-0.3
	comp=Z,24nm,1.3s							
TNS	**Taunus Mts**	73.48	343	*eP*		P	01 20 25.7	-0.3
TNS				pmax	pmax			
	comp=Z,24nm,1.3s							
GRF	**Grafenberg Arr**	73.48	341	*eP*		P	01 20 26.1	+0.1
	comp=Z,49nm,0.8s							
GRF	**Grafenberg Arr**	73.48	341	*eP*		P	01 20 26.1	+0.1
GRF				pmax	pmax			
	comp=Z,49nm,0.8s							
GRFO	**Grafenberg**	73.48	341	*eP*		P	01 20 26.4	+0.5
GRFO				pmax	pmax			
	comp=Z,36nm,0.7s							
GRFO	**Grafenberg**	73.48	341	*eP*		P	01 20 26.4	+0.5
	comp=Z,36nm,0.7s							
MEM	**Membach**	73.51	344	P		P	01 20 26.1	+0.1
	comp=Z,22nm,0.9s							
DRGR		73.53	332	⇑P		P	01 20 26.5	+0.1
DRGR		73.53	332	⇑*iP*		P	01 20 26.5	+0.1
KHC	**Kasperske Hory**	73.54	339	⇑*iP*		P	01 20 26.9	+0.5
KHC				*e*			01 20 34.5	
KHC	**Kasperske Hory**	73.54	339	*eP*		P	01 20 26.7	+0.3
	comp=Z,38nm,1.1s							
KHC	**Kasperske Hory**	73.54	339	⇑*iP*		P	01 20 26.9	+0.5
KHC				*e*pP		pP	01 20 34.5	-2.2
KHC				*ex*		x	01 20 56.0	
MDB	**Medias**	73.66	331	⇑*iP*		P	01 20 28.4	+1.3
WET	**Wettzell**	73.67	340	*eP*		P	01 20 27.2	+0.1
	comp=Z,35nm,1.0s							
WET	**Wettzell**	73.67	340	*eP*		P	01 20 27.2	+0.1
WET				pmax	pmax			
	comp=Z,35nm,1.0s							
CPCT	**Cooper Cave**	73.78	51	*eP*		P	01 20 27.5	-0.5
GEC2	**GERESS Array S**	73.79	339	*eP*		P	01 20 27.6	-0.3
	comp=Z,23nm,0.9s							
GEC2	**GERESS Array S**	73.79	339	*eP*		P	01 20 27.6	-0.3
GEC2				pmax	pmax			
	comp=Z,23nm,0.9s							
GERES	**GERESS Array B**	73.79	339	P		P	01 20 28.2	+0.3
	comp=Z,16nm,0.7s,baz=34,slow=4.6,SNR=144							
GERES				LR		LR	01 58 43.0	
	comp=Z,160nm,18.1s,baz=130,slow=41							
MLR	**Muntele Rosu**	73.80	330	P		P	01 20 28.8	+0.8
MLR	**Muntele Rosu**	73.80	330	⇓*iP*		P	01 20 29.0	+1.0
MLR	**Muntele Rosu**	73.80	330	P		P	01 20 28.8	+0.8
	comp=Z,6.4nm,0.5s,baz=332,slow=3.1,SNR=120							
BCLA	**Clavier**	73.80	345	P		P	01 20 27.7	-0.1
BUD	**Budapest**	73.85	335	⇓P		P	01 20 29.4	+1.3
SNF	**Seneffe**	73.87	346	P		P	01 20 27.6	-0.5
KELT	**Kelkit**	73.92	318	*i P*		P	01 20 28.0	-0.9
ISR	**Istrita**	73.95	329	⇑P		P	01 20 30.2	+1.3
ISR	**Istrita**	73.95	329	⇑*iP*		P	01 20 30.2	+1.3
TIRR	**Tirgusor**	73.97	327	⇑P		P	01 20 29.2	+0.3
TIRR	**Tirgusor**	73.97	327	⇑*iP*		P	01 20 29.1	+0.2
TOD	**Tromm**	74.01	342	*eP*		P	01 20 29.3	+0.2
TOD	**Tromm**	74.01	342	*eP*		P	01 20 29.3	+0.2
PGOR	**Pogoanele**	74.01	329	⇓*iP*		P	01 20 29.6	+0.5
PKSG		74.09	335	⇓P		P	01 20 30.5	+1.0
VOIR		74.11	330	⇑P		P	01 20 30.7	+0.9
VOIR		74.11	330	⇑*iP*		P	01 20 30.7	+0.9
BLA	**Blacksburg**	74.13	47	*eP*		P	01 20 29.6	-0.4
BLA				pmax	pmax			
	comp=Z,19nm,0.9s							
BLA	**Blacksburg**	74.13	47	*eP*		P	01 20 29.6	-0.4
	comp=Z,19nm,0.9s							
AMRR	**Amara**	74.17	328	⇑P		P	01 20 30.6	+0.6
AMRR	**Amara**	74.17	328	⇑*iP*		P	01 20 30.6	+0.6
SECR		74.17	329	⇓*iP*		P	01 20 30.3	+0.2
CONA	**Conrad Observa**	74.18	337	⇑*iP*		P	01 20 31.0	+0.8
	comp=Z,42nm,1.3s,SNR=15							
GIVF	**Givet**	74.18	345	⇑*iP*		P	01 20 29.7	-0.3
	comp=Z,12nm,0.6s							
GIVF	**Givet**	74.18	345	⇑*iP*		P	01 20 29.7	-0.3
GIVF	**Givet**	74.18	345	⇑*iP*		P	01 20 29.7	-0.3
POO	**Poona**	74.20	280	*e*PKP		P	01 20 30.7	0.0
RUP	**Ruppelstein**	74.22	344	*eP*		P	01 20 30.3	0.0
RUP	**Ruppelstein**	74.22	344	*eP*		P	01 20 30.3	0.0
DOU	**Dourbes**	74.22	345	P		P	01 20 29.9	-0.4
SOP	**Sopron**	74.25	337	⇓P		P	01 20 31.8	+1.3
PKST	**T"'s**	74.30	336	⇑P		P	01 20 31.5	+0.7
HAKT	**HAKKARI**	74.31	313	*i P*		P	01 20 31.7	+0.4
BAIF	**Baives**	74.31	345	⇑*iP*		P	01 20 30.7	-0.1
	comp=Z,17nm,0.7s							
BAIF	**Baives**	74.31	345	⇑*iP*		P	01 20 30.7	-0.1
BAIF	**Baives**	74.31	345	⇑*iP*		P	01 20 30.7	-0.1
WLF	**Walferdange**	74.40	344	P		P	01 20 31.6	+0.3
WLF	**Walferdange**	74.40	344	*eP*		P	01 20 31.3	0.0
WLF	**Walferdange**	74.40	344	*eP*		P	01 20 30.2	-1.1
WLF				pmax	pmax			
	comp=Z,10.0nm,0.9s							
WLF	**Walferdange**	74.40	344	*eP*		P	01 20 30.2	-1.1
	comp=Z,9.6nm,0.9s							
ERBA	**Erbaa**	74.42	320	*i P*		P	01 20 31.8	+0.1
SULR		74.44	329	⇓*iP*		P	01 20 30.7	-0.9
LOT	**Lotru**	74.47	331	⇓*iP*		P	01 20 31.8	-0.1
HAVZ	**Havza**	74.47	321	*i P*		P	01 20 32.7	+0.8
PKS6	**Bocsa**	74.53	334	*eP*		P	01 20 33.9	+1.8
MOA	**Molln**	74.61	338	*i P*		P	01 20 33.1	+0.5
	comp=Z,10nm,0.6s,SNR=28							
LRAL	**Lakeview Retre**	74.61	55	*eP*		P	01 20 31.6	-1.2
	comp=Z,9.9nm,0.8s							
PKS2	**Kecel**	74.72	334	*eP*		P	01 20 34.0	+0.8
STU	**Stuttgart**	74.74	342	*eP*		P	01 20 32.9	-0.4
STU	**Stuttgart**	74.74	342	*eP*		P	01 20 33.3	0.0
STU				pmax	pmax			
	comp=Z,26nm,1.0s							
STU	**Stuttgart**	74.74	342	*eP*		P	01 20 33.3	0.0
	comp=Z,26nm,1.0s							
LANF	**Langenberg**	74.79	343	*eP*		P	01 20 33.7	+0.1
LANF	**Langenberg**	74.79	343	*eP*		P	01 20 33.7	+0.1
LANF	**Langenberg**	74.79	343	*eP*		P	01 20 33.7	+0.1
GZR	**Gura Zlata**	74.80	332	P		P	01 20 33.8	0.0

comp=Z,122nm,21.8s
DZM Mont Dzumac 76.21 176 LR LR 01 49 36.5
comp=Z,135nm,21.0s,baz=238,slow=32
CDAG Cicekdag 76.23 321 *i* P **P 01 20 41.9 -0.3**
BBS Basel-Blauen 76.30 343 *e*P **P 01 20 42.0 -0.3**
BBS Basel-Blauen 76.30 343 *e*P **P 01 20 42.0 -0.3**
LDF La Druitiere 76.33 348 *e*P **P 01 20 41.8 -0.6**
comp=Z,13nm,0.7s
LDF La Druitiere 76.33 348 *e*P **P 01 20 41.8 -0.6**
LDF La Druitiere 76.33 348 *e*P **P 01 20 41.8 -0.6**
BRTR Keskin Array B 76.41 322 P **P 01 20 43.5 +0.2**
BRTR Keskin Array B 76.41 322 P **P 01 20 43.5 +0.2**
comp=Z,24nm,0.8s,baz=53,slow=4.0,SNR=83
BRTR LR LR 01 58 14.4
comp=Z,83nm,18.7s,baz=18,slow=39
VOY Vojsko 76.42 338 *e*P **P 01 20 43.2 +0.1**
VOY *e* 01 20 48.1
VISS Visnje 76.42 337 *i* P **P 01 20 43.0 0.0**
JAVS Javornik 76.51 338 *i* P **P 01 20 43.2 -0.4**
LOMF Lomont 76.53 343 *e*P **P 01 20 43.2 -0.5**
LOMF Lomont 76.53 343 *e*P **P 01 20 43.2 -0.5**
LOMF Lomont 76.53 343 *e*P **P 01 20 43.2 -0.5**
CEY Cerknica 76.57 337 *i* P **P 01 20 44.1 +0.2**
BOJS Bojanci 76.61 337 *i* P **P 01 20 44.3 +0.2**
GRR Gorron 76.62 348⇑*i*P **P 01 20 43.8 -0.3**
comp=Z,31nm,0.7s
GRR Gorron 76.62 348⇑*i*P **P 01 20 43.8 -0.3**
GRR Gorron 76.62 348⇑*i*P **P 01 20 43.8 -0.3**
CNNC Cliffs of the 76.89 47 *e*P **P 01 20 45.4 -0.3**
comp=Z,15nm,0.7s
TUE Stuetta 76.93 341 *e*P **P 01 20 46.5 +0.4**
comp=Z,23nm,0.7s
ROSF Rostrenen 76.94 350 *e*P **P 01 20 45.8 0.0**
comp=Z,31nm,1.1s
ROSF Rostrenen 76.94 350 *e*P **P 01 20 45.8 0.0**
ROSF Rostrenen 76.94 350 *e*P **P 01 20 45.8 0.0**
SGMF Saint Gilles 76.94 350⇑*i*P **P 01 20 45.8 -0.1**
comp=Z,34nm,0.8s
SGMF Saint Gilles 76.94 350⇑*i*P **P 01 20 45.8 -0.1**
SGMF Saint Gilles 76.94 350⇑*i*P **P 01 20 45.8 -0.1**
LOR Lormes 77.09 345 *e*P **P 01 20 46.5 -0.3**
comp=Z,24nm,0.7s,baz=22
LOR *e*R
comp=Z,179nm,18.8s
LOR Lormes 77.09 345 *e*P **P 01 20 46.5 -0.3**
VTS Vitosha 77.25 330⇑*i*P **P 01 20 47.8 -0.1**
VTS Vitosha 77.25 330⇑*i*P **P 01 20 47.8 -0.1**
VTS Vitosha 77.25 330 *e*P **P 01 20 47.4 -0.5**
HYF Humbligny 77.27 346 *e*P **P 01 20 47.9 +0.2**
HYF Humbligny 77.27 346 *e*P **P 01 20 47.9 +0.2**
ANDN Andirin 77.28 319 *i* P P 01 20 52.3 +4.2
QUIF Quistinic 77.34 350⇑*i*P **P 01 20 48.0 -0.1**
comp=Z,22nm,0.9s
QUIF Quistinic 77.34 350⇑*i*P **P 01 20 48.0 -0.1**
QUIF Quistinic 77.34 350⇑*i*P **P 01 20 48.0 -0.1**
SSF Saint Saulge 77.34 345⇑*i*P **P 01 20 48.0 -0.2**
comp=Z,10nm,0.6s
SSF Saint Saulge 77.34 345⇑*i*P **P 01 20 48.0 -0.2**
SSF Saint Saulge 77.34 345⇑*i*P **P 01 20 48.0 -0.2**
CABF La Chapelle 77.37 343 *e*P **P 01 20 48.7 +0.2**
comp=Z,33nm,0.8s
CABF La Chapelle 77.37 343 *e*P **P 01 20 48.7 +0.2**
CABF La Chapelle 77.37 343 *e*P **P 01 20 48.7 +0.2**
NVLJ Novalja 77.58 337 P **P 01 20 48.9 -0.6**
SEYT Eskypehyr 77.59 324 *i* P **P 01 20 49.8 0.0**
AVF Avril sur Loir 77.63 345 *e*P **P 01 20 49.7 0.0**
comp=Z,26nm,0.8s
AVF Avril sur Loir 77.63 345 *e*P **P 01 20 49.7 0.0**
AVF Avril sur Loir 77.63 345 *e*P **P 01 20 49.7 0.0**
KUZU Kuzuini 77.70 318 *i* P **P 01 20 50.6 +0.2**
WRAB Tennant Creek 77.76 207 *e*P **P 01 20 51.6 +0.9**
WRAB pmax pmax
comp=Z,9.0nm,0.9s
WRAB Tennant Creek 77.76 207 *e*P **P 01 20 51.6 +0.9**
comp=Z,9.5nm,0.9s
WRA Warramunga Arr 77.77 207 P **P 01 20 51.8 +1.1**
WRA Warramunga Arr 77.77 207 P **P 01 20 51.8 +1.1**
comp=Z,2.8nm,0.7s,baz=20,slow=6.0,SNR=9.8
WRA LR LR 01 52 32.8
comp=Z,78nm,21.6s,baz=15,slow=34
BGF Bois d'Agland 77.93 346 *e*P **P 01 20 51.4 -0.1**
comp=Z,13nm,0.7s
BGF Bois d'Agland 77.93 346 *e*P **P 01 20 51.4 -0.1**
BGF Bois d'Agland 77.93 346 *e*P **P 01 20 51.4 -0.1**
BANOM Banah 77.98 298 P **P 01 20 52.4 +0.3**
SNR=7.0
MMB Musomiste 78.01 329 *e*P **P 01 20 52.4 +0.4**
RSL Roselend 78.18 343 *e*P **P 01 20 54.7 +1.7**
RSL Roselend 78.18 343 *e*P **P 01 20 54.7 +1.7**
RSL Roselend 78.18 343 *e*P **P 01 20 54.7 +1.7**
TCF Toulx Ste Croi 78.29 346 *e*P **P 01 20 53.4 -0.1**
comp=Z,10nm,0.8s
TCF Toulx Ste Croi 78.29 346 *e*P **P 01 20 53.4 -0.1**
TCF Toulx Ste Croi 78.29 346 *e*P **P 01 20 53.4 -0.1**
MFF Saint Martin d 78.29 348 *e*P **P 01 20 53.5 +0.1**
comp=Z,16nm,0.7s
MFF Saint Martin d 78.29 348 *e*P **P 01 20 53.5 +0.1**
MFF Saint Martin d 78.29 348 *e*P **P 01 20 53.5 +0.1**
DURS Dursunbey 78.32 325 *i* P **P 01 20 53.4 -0.4**
LPL La Plagne 78.33 343⇑*i*P **P 01 20 54.9 +1.0**
comp=Z,46nm,0.8s
LPL La Plagne 78.33 343⇑*i*P **P 01 20 54.9 +1.0**
LPL La Plagne 78.33 343⇑*i*P **P 01 20 54.9 +1.0**
LPG La Plagne 78.34 343⇑*i*P **P 01 20 55.2 +1.1**
comp=Z,63nm,0.8s
LPG La Plagne 78.34 343⇑*i*P **P 01 20 55.2 +1.1**
LPG La Plagne 78.34 343⇑*i*P **P 01 20 55.2 +1.1**
AGO Saint Agoulin 78.39 345 *e*P **P 01 20 54.7 +0.7**
AGO Saint Agoulin 78.39 345 *e*P **P 01 20 54.7 +0.7**
PLDF La Plantade 78.39 345 *e*P **P 01 20 54.6 +0.5**
PLDF La Plantade 78.39 345 *e*P **P 01 20 54.6 +0.5**
PLDF La Plantade 78.39 345 *e*P **P 01 20 54.6 +0.5**
GDZ Gediz 78.44 324 *i* P **P 01 20 53.5 -1.1**
BALY Balya 78.48 326 *i* P **P 01 20 53.7 -0.9**
STON Ston 78.49 334 P **P 01 20 53.6 -0.9**
VAY Valandovo 78.60 330 *e*P **P 01 20 55.0 -0.3**
FITZ Fitzroy Crossi 78.66 215 *e*P **P 01 20 57.0 +1.4**
comp=Z,3.5nm,0.5s
PYM Petit Puy Mans 78.70 345 *e*P **P 01 20 56.4 +0.6**
PYM Petit Puy Mans 78.70 345 *e*P **P 01 20 56.4 +0.6**
PYM Petit Puy Mans 78.70 345 *e*P **P 01 20 56.4 +0.6**
BNI Bardonecchia 78.78 343 *e*P **P 01 20 55.4 -1.0**
BNI pmax pmax
comp=Z,14nm,1.0s
BNI Bardonecchia 78.78 343 *e*P **P 01 20 55.4 -1.0**
comp=Z,14nm,1.0s
VLC Villacollemand 78.94 340 *e*P **P 01 20 57.6 +0.5**
comp=Z,25nm,0.6s
HATD Hatta, Dubai 78.96 297 P **P 01 20 57.1 -0.3**
SNR=13
ORIF Oris-en-Rattie 79.05 343⇑*i*P **P 01 20 58.7 +0.9**
comp=Z,33nm,0.8s
ORIF *e*R
comp=Z,216nm,20.0s
ORIF Oris-en-Rattie 79.05 343⇑*i*P **P 01 20 58.7 +0.9**
ORIF Oris-en-Rattie 79.05 343⇑*i*P **P 01 20 58.7 +0.9**
NAZ Nazwa, Dubai 79.07 298 P **P 01 20 57.4 -0.6**
SNR=8.0
MBDF Montbardon 79.08 342 *e*P **P 01 20 58.7 +0.7**
comp=Z,20nm,0.7s
MBDF Montbardon 79.08 342 *e*P **P 01 20 58.7 +0.7**
MBDF Montbardon 79.08 342 *e*P **P 01 20 58.7 +0.7**
ASHO Ashiyiah 79.11 297 P **P 01 20 58.0 -0.3**
SNR=12
MIB Mutribah 79.21 307 *e*P **P 01 20 58.5 -0.2**
MIB AMb AMB 01 20 59.4
comp=Z,188nm,0.9s
UMR Umm Al-Rimmam 79.24 306 *e*P **P 01 20 58.4 -0.5**
UMR AMb AMB 01 20 59.1
comp=Z,81nm,0.7s
WBK Wadi Bani Khal 79.26 294 P **P 01 21 00.5 +1.3**
SNR=6.6
VIVF Saint-Julien-l 79.31 344⇑*i*P **P 01 20 59.7 +0.6**
comp=Z,27nm,0.8s
VIVF Saint-Julien-l 79.31 344⇑*i*P **P 01 20 59.7 +0.6**
VIVF Saint-Julien-l 79.31 344⇑*i*P **P 01 20 59.7 +0.6**
TIR Tirane 79.34 332 *e*P **P 01 20 59.0 -0.3**
TIR pmax pmax
comp=Z,29nm,0.6s
TIR Tirane 79.34 332 *e*P **P 01 20 59.0 -0.3**
comp=Z,29nm,0.6s
HOQ Hoqain 79.36 296 P **P 01 20 59.8 +0.1**
SNR=14
SMDO Samad 79.39 295 P **P 01 21 00.4 +0.5**
SNR=13
ASUD Al Ashush, Dub 79.54 298 P **P 01 21 00.8 +0.2**
SNR=7.1
CAF Calviac 79.64 346 *e*P **P 01 21 01.7 +0.8**
comp=Z,12nm,0.7s
CAF Calviac 79.64 346 *e*P **P 01 21 01.7 +0.8**
CAF Calviac 79.64 346 *e*P **P 01 21 01.7 +0.8**
AUTN L'Aution 79.67 342 *e*P **P 01 21 02.0 +0.7**
AUTN L'Aution 79.67 342 *e*P **P 01 21 02.0 +0.7**
AUTN L'Aution 79.67 342 *e*P **P 01 21 02.0 +0.7**
TOUF Mont Tournerai 79.69 342 *e*P **P 01 21 01.6 +0.2**
TOUF Mont Tournerai 79.69 342 *e*P **P 01 21 01.6 +0.2**
TOUF Mont Tournerai 79.69 342 *e*P **P 01 21 01.6 +0.2**
NAY Al-Naaiem 79.72 306 *e*P **P 01 21 00.8 -0.7**
NAY AMb AMB 01 21 02.1
comp=Z,72nm,0.8s
SBF Sospel 79.80 342 *e*P **P 01 21 01.8 0.0**
comp=Z,42nm,0.7s
SBF Sospel 79.80 342 *e*P **P 01 21 01.8 0.0**
SBF Sospel 79.80 342 *e*P **P 01 21 01.8 0.0**
LFF La Frestale 79.81 347⇑*i*P **P 01 21 02.3 +0.5**
comp=Z,17nm,0.8s
LFF La Frestale 79.81 347⇑*i*P **P 01 21 02.3 +0.5**
LFF La Frestale 79.81 347⇑*i*P **P 01 21 02.3 +0.5**
MVIF Mont Vial 79.82 342 *e*P **P 01 21 02.1 +0.1**
MVIF Mont Vial 79.82 342 *e*P **P 01 21 02.1 +0.1**
MVIF Mont Vial 79.82 342 *e*P **P 01 21 02.1 +0.1**
QRN Al-Qurain 79.82 306 *e*P **P 01 21 01.9 -0.2**
QRN AMb AMB 01 21 02.9
comp=Z,273nm,0.9s
RDF Al-Radifah 79.84 306 *e*P **P 01 21 02.0 -0.2**
RDF AMb AMB 01 21 03.2
comp=Z,276nm,0.9s
JMDO Jabal Madar 79.92 294 P **P 01 21 02.1 -0.6**
SNR=29
REVF Revere 79.93 342 *e*P **P 01 21 02.6 +0.1**
REVF Revere 79.93 342 *e*P **P 01 21 02.6 +0.1**
REVF Revere 79.93 342 *e*P **P 01 21 02.6 +0.1**
ARQ Araqi 79.97 296 P **P 01 21 03.4 +0.4**
SNR=13
KORT Korkueli 80.01 323 *i* P **P 01 21 01.6 -1.6**
AQU L'Aquila 80.02 337 *e*P **P 01 21 04.1 +1.1**
comp=Z,42nm,0.8s
AQU L'Aquila 80.02 337⇑*i*P **P 01 21 05.5 +2.5**
BSY Bisya 80.10 295 P **P 01 21 03.5 -0.2**
SNR=29
LASF Ste Croix 80.20 344 *e*P **P 01 21 04.9 +1.0**
LASF Ste Croix 80.20 344 *e*P **P 01 21 04.9 +1.0**
AYDN Tasoluk 80.27 325 *i* P **P 01 21 04.2 -0.3**
TRD Trivandrum 80.37 271 *e*PKP **P 01 21 06.1 +0.9**
LMR La Mourre 80.48 342 *e*P **P 01 21 05.8 +0.4**
comp=Z,16nm,0.8s
LMR La Mourre 80.48 342 *e*P **P 01 21 05.8 +0.4**
LMR La Mourre 80.48 342 *e*P **P 01 21 05.8 +0.4**
CSS Prodhromos 80.73 320 *e*P **P 01 21 05.8 -1.1**
comp=Z,44nm,1.0s
PGF Pioggiola 80.77 340⇑*i*P **P 01 21 07.3 +0.2**
comp=Z,44nm,0.7s
PGF Pioggiola 80.77 340⇑*i*P **P 01 21 07.3 +0.2**
PGF Pioggiola 80.77 340⇑*i*P **P 01 21 07.3 +0.2**
PMOR Pomariorio Ree 81.05 132 *e*T T 02 50 46.5
comp=Z,9.7nm,0.2s
ASAR Alice Springs 81.44 206 P **P 01 21 12.4 +1.8**
ASAR Alice Springs 81.44 206 P **P 01 21 12.4 +1.8**
comp=Z,4.5nm,0.8s,baz=16,slow=5.7,SNR=38
MMAI Mount Meron Ar 81.64 317 P **P 01 21 12.8 +0.9**
MMAI Mount Meron Ar 81.64 317 P **P 01 21 12.8 +0.9**
comp=Z,37nm,0.8s,baz=32,slow=4.9,SNR=43
ASF Jabal al Asfar 81.78 316 P **P 01 21 13.3 +0.7**
ASF Jabal al Asfar 81.78 316 P **P 01 21 13.3 +0.7**
comp=Z,39nm,0.9s,baz=260,slow=3.5,SNR=30
ETSF Etsaut 81.99 347 *e*P **P 01 21 14.5 +1.0**
comp=Z,12nm,0.8s
ETSF Etsaut 81.99 347 *e*P **P 01 21 14.5 +1.0**
ETSF Etsaut 81.99 347 *e*P **P 01 21 14.5 +1.0**
PPT2 Papeete2 82.63 134 *e*LR LR 01 47 17.9
comp=Z,130nm,22.0s
MBWA Marble Bar 83.57 219 *e*P **P 01 21 22.6 +0.9**
comp=Z,17nm,1.1s
PGAV Gavieira, Arco 83.69 353 *e*P **P 01 21 23.4 +1.0**
comp=Z,36nm,1.8s
PBRG Braganca 83.73 352 *e*P **P 01 21 23.4 +0.8**
comp=Z,21nm,1.5s
PVRL Lamas de Olo 84.25 352 *e*P **P 01 21 26.1 +0.9**
comp=Z,14nm,1.2s
PVRL Vila Real 84.34 352 *e*P **P 01 21 26.9 +1.3**
comp=Z,58nm,1.3s
MVO Moncorvo 84.39 352 *e*P **P 01 21 26.6 +0.6**
comp=Z,40nm,1.9s
EIL Elat 84.77 316 P **P 01 21 28.2 +0.2**
EIL Elat 84.77 316 P **P 01 21 28.2 +0.2**
comp=Z,10nm,0.6s,baz=356,slow=6.2,SNR=19
PVIS Viseu 84.91 352 *e*P **P 01 21 29.2 +0.7**
comp=Z,44nm,1.6s
MTE Manteigas 85.19 352 *e*P **P 01 21 30.8 +0.8**
comp=Z,21nm,1.0s
ESDC Sonseca Array 85.58 349 P **P 01 21 32.8 +0.8**
ESDC Sonseca Array 85.58 349 P **P 01 21 32.8 +0.8**
comp=Z,18nm,1.0s,baz=3.3,slow=4.8,SNR=69
PCBR Castelo Branco 85.75 352 *e*P **P 01 21 33.4 +0.8**
comp=Z,32nm,1.3s
RBK Rabkut 85.99 295 P **P 01 21 33.5 -0.7**
SNR=5.9
PTOM Tomar 86.04 353 *e*P **P 01 21 35.0 +0.9**
comp=Z,40nm,1.4s
PMRV Marv??o 86.15 352 *e*P **P 01 21 35.7 +1.0**
comp=Z,17nm,1.6s
ABTO Aybut 86.59 295 P **P 01 21 36.7 -0.5**
SNR=16
PESTR Estremoz 86.72 352 *e*P **P 01 21 38.1 +0.6**
comp=Z,21nm,1.3s
EVO Evora 87.09 352 *e*P **P 01 21 39.1 -0.2**
comp=Z,6.8nm,0.7s
EVOP Sao Brissos 87.10 352 *e*P **P 01 21 39.1 -0.2**
EVOP Sao Brissos 87.10 352 *e*P **P 01 21 39.1 -0.2**
KEST Kesra 87.26 338 P **P 01 21 42.0 +1.8**
KEST Kesra 87.26 338 P **P 01 21 42.0 +1.8**
comp=Z,1.3nm,0.5s,baz=297,slow=16,SNR=12
PBEJ Beja 87.58 352 *e*P **P 01 21 42.6 +0.9**
comp=Z,22nm,2.1s
STKA Stephens Creek 87.72 197 P **P 01 21 43.1 +1.1**
STKA Stephens Creek 87.72 197 P **P 01 21 43.1 +1.1**
comp=Z,1.8nm,0.7s,baz=357,slow=7.3,SNR=3.8
STKA LR LR 02 02 02.0
comp=Z,75nm,18.3s,baz=25,slow=36
TBI Tubuai 87.83 137 *e*LR LR 01 49 27.1
comp=Z,163nm,32.2s
PCVE Castro Verde 87.98 352 *e*P **P 01 21 44.3 +0.7**
comp=Z,31nm,2.0s
PVAQ Vaqueiros 88.18 352 *e*P **P 01 21 45.0 +0.5**
comp=Z,27nm,2.2s
TORD Torodi Ar. Bea 110.73 340 PKiKP **PKiKP 01 27 26.0 -0.6**
TORD PP PP 01 27 51.4 -11
TORD Torodi Ar. Bea 110.73 340 PKiKP **PKiKP 01 27 26.0 -0.6**
comp=Z,0.8nm,0.7s,baz=351,slow=3.1,SNR=4.7
TORD PP PP 01 27 51.4 -11
comp=Z,1.1nm,0.8s,baz=13,slow=8.3,SNR=8.0
DBIC Dimbokro 118.22 345 PKP **PKPdf 01 27 41.0 0.0**
DBIC Dimbokro 118.22 345 PKP **PKPdf 01 27 41.0 0.0**
comp=Z,3.9nm,0.8s,baz=40,slow=3.3,SNR=6.8
LIC Lamto 118.69 345 *e*PKIKP **PKPdf 01 27 41.7 -0.2**
comp=Z,14nm,0.9s
LIC Lamto 118.69 345 *e*PKPdf **PKPdf 01 27 41.7 -0.2**
LPAZ La Paz 125.79 66 PKP **PKPdf 01 27 56.6 +0.5**
LPAZ La Paz 125.79 66 PKP **PKPdf 01 27 56.6 +0.5**
comp=Z,1.4nm,0.8s,baz=3.3,slow=6.2,SNR=6.6
LSZ Lusaka 127.20 299 *e*PKPdf **PKPdf 01 27 59.2 +1.0**
BOSA Boshof 139.66 292 PKPpre PKPpre 01 28 16.1
BOSA Boshof 139.66 292 PKhKP PKPpre 01 28 16.1
comp=Z,0.0nm,0.8s,baz=259,slow=8.1,SNR=3.1
QSPA South Pole Qui 144.12 180 *e*PKPdf **PKPab 01 28 25.6 0.0**
QSPA South Pole Qui 144.12 180 PKhKP PKPpre 01 28 25.8
comp=Z,6.4nm,0.8s,baz=22,slow=1.2,SNR=26
SUR Sutherland 144.99 293 PKP **PKPdf 01 28 31.3 +0.6**
SUR Sutherland 144.99 293 PKP **PKPdf 01 28 31.3 +0.6**
comp=Z,9.4nm,1.0s,baz=153,slow=6.8,SNR=4.4
TRQA Tornquist 146.01 80 *e*PKPbc **PKPdf 01 28 32.6 +0.6**

CSEM ***22*** *01:19:22.7, 40.71N×29.03E, h12km, MD2.7, After DDA*
DDA 22 01:19:22.7, 40.71N×29.03E, h12km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUY	**Buyukada**	**0.16**	**25**	*i*	P		Pg	01 19 26.2	-0.1
BUY				*i*	S		Sg	01 19 28.6	-0.3
DURS	**Dursunbey**	**1.19**	**201**	*i*	P		Pg	01 19 45.7	+0.1
DURS				*i*	S		Sn	01 20 01.5	+0.2
DURS	**Dursunbey**	**1.19**	**201**	*i*	P		Pg	01 19 45.7	+0.1
DURS				*i*	S		Sn	01 20 01.5	+0.2
GDZ	**Gediz**	**1.66**	**168**	*i*	P		Pn	01 19 52.3	+0.6
GDZ	**Gediz**	**1.66**	**168**	*i*	P		Pn	01 19 52.3	+0.6
DEMI	**Demirci**	**1.68**	**188**	*i*	P		Pg	01 19 56.5	+1.4
DEMI				*i*	S		Sg	01 20 16.4	-0.6
DEMI	**Demirci**	**1.68**	**188**	*i*	P		Pg	01 19 56.5	+1.4
DEMI				*i*	S		Sg	01 20 16.4	-0.6

JMA 22 01:25:07.3±0.3, 43.83N×147.33E, h29km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.24**	**249**		P		Pn	01 25 29.2	+0.5
NEM2					*e*S		Sn	01 25 44.8	+0.4
JRA	**Rausu**	**1.60**	**275**		P		Pn	01 25 34.4	+0.8
JNK	**Nakash**	**1.91**	**264**		P		Pn	01 25 38.8	+0.9
JNK					*e*S		Sn	01 26 01.9	+1.0
JAK	**Akkeshi**	**2.09**	**247**		P		Pn	01 25 41.1	+0.7
JAK					*e*S		Sn	01 26 06.1	+0.7
JTKR	**Abashiri--Toko**	**2.48**	**274**		P		Pn	01 25 46.7	+1.0
JAR	**Ashorobuto**	**2.64**	**260**		P		Pn	01 25 49.6	+1.6
JAR					*e*S		Sn	01 26 22.4	+3.4
JOB	**Onbets**	**2.71**	**251**		P		Pn	01 25 50.7	+1.8
JMP	**Maruseppu**	**2.87**	**275**		P		Pn	01 25 52.3	+1.1
JCH	**Churui**	**3.14**	**249**		P		Pn	01 25 56.7	+1.9
JCH					*e*S		Sn	01 26 32.8	+1.4
JKK2	**Kamakawa 2**	**3.31**	**272**		P		Pn	01 25 59.2	+2.0
JNBK	**Urakawa-nobuka**	**3.69**	**247**		P		Pn	01 26 04.3	+1.9

KRSC 22 01:51:35.8±1.1, 50.71N×157.82E, h9km±10km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAK	**Asacha**	**1.68**	**2**	*e*	P		Pn	01 52 05.8	+0.4
ASAK				*e*	S		Sb	01 52 27.7	-0.5
MIPR	**Malaya Ipel'ka**	**1.70**	**337**		P		Pn	01 52 05.0	-0.7
RUS	**Russkaya**	**1.78**	**14**	*e*	P		Pn	01 52 07.0	+0.3
RUS				*e*	S		Sn	01 52 29.9	+0.5
MTVR	**Mutnovka**	**1.79**	**7**	*e*	P		Pn	01 52 07.9	+0.8
MTVR				*e*	S		Sb	01 52 31.2	-0.4
APC	**Apacha**	**2.26**	**350**	*e*	P		Pn	01 52 13.4	+0.1
PET	**Petropavlovsk**	**2.37**	**12**	*e*	P		Pn	01 52 16.2	+1.3
PET				*e*	S		Sn	01 52 45.6	+1.5
AVH	**Avacha**	**2.62**	**12**	*e*	P		Pb	01 52 20.8	-2.2
AVH					S		Sb	01 52 53.1	-2.3
SMAR	**Somma**	**2.63**	**13**	*e*	P		Pb	01 52 21.1	-2.2
KOK	**Koryaka**	**2.63**	**11**	*e*	P		Pb	01 52 21.3	-2.0
SDLR	**Sedlovina**	**2.66**	**14**	*e*	P		Pn	01 52 20.2	+1.3
SDLR					S		Sn	01 52 52.0	+0.7
SPN	**Mys Shipunski**	**2.75**	**29**		S		Sn	01 52 55.1	+1.6
MKZ	**Mys Kozlova**	**4.53**	**30**		P		Pn	01 52 45.3	+0.9
KBTR	**Krutoberegovo**	**6.26**	**27**		P		Pn	01 53 10.4	+2.1

IGQ 22 01:52:55.6, 2.78S×78.18W, h12km±4km, Mb4.0, Ms3.8, 8C-13D, Error ellipse: s-maj=5.3km s-min=1.1km az=2.3, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YANT	**Yantaza**	**1.22**	**208**	⇑	S		Sn	01 53 35.3	-0.1
YANT	**Yantaza**	**1.22**	**208**	⇑	P		Pn	01 53 18.6	-0.1
PAT1	**Patacocha**	**1.29**	**348**	⇑	S		Sb	01 53 37.4	-0.1
PAT1	**Patacocha**	**1.29**	**348**	⇑	P		Pn	01 53 19.8	-0.4
ARRY	**Arrayan**	**1.29**	**348**	⇓	S		Pn	01 53 19.4	-0.7
ARRY	**Arrayan**	**1.29**	**348**	⇓	S		Sb	01 53 36.2	-1.2
BMAS	**Trigal station**	**1.30**	**347**	⇓	P		Pn	01 53 19.8	-0.4
BMAS	**Trigal station**	**1.30**	**347**	⇓	S		Sn	01 53 38.1	+0.2
ULBA	**Ulba**	**1.34**	**350**		S		Sn	01 53 38.9	+0.1
ULBA	**Ulba**	**1.34**	**350**		P		Pn	01 53 20.8	+0.1
BBIL	**Ulba Tungurahu**	**1.36**	**347**	⇓	P		Pn	01 53 21.1	+0.2
BBIL	**Ulba Tungurahu**	**1.36**	**347**	⇓	S		Sg	01 53 40.1	0.0
IGUA	**Igualata**	**1.36**	**340**	⇓	P		Pb	01 53 21.9	0.0
BRUN	**Tungurahua Vol**	**1.37**	**350**	⇑	S		Sg	01 53 40.4	-0.2
BRUN	**Tungurahua Vol**	**1.37**	**350**	⇑	P		Pn	01 53 21.3	+0.2
JUI6	**Juive**	**1.38**	**348**		P		Pn	01 53 21.0	-0.1
RUN5	**Runtun**	**1.38**	**350**		P		Pn	01 53 21.3	+0.2
PISA	**Pisayambo**	**1.72**	**353**		S		Sg	01 53 51.8	-0.4
PISA	**Pisayambo**	**1.72**	**353**		P		Pb	01 53 27.2	-0.7
BMOR	**Cotopaxi Volca**	**2.05**	**352**		S		Sg	01 54 01.7	-1.3
BMOR	**Cotopaxi Volca**	**2.05**	**352**		P		Pb	01 53 33.2	-0.5
MOV1	**Cotopaxi Vol s**	**2.07**	**353**		S		Sg	01 54 02.4	-1.2
MOV1	**Cotopaxi Vol s**	**2.07**	**353**		P		Pb	01 53 33.6	-0.4
TAMB	**Tambo**	**2.08**	**355**		P		Pb	01 53 33.0	-1.1
BTAM	**Cotopaxi Volca**	**2.10**	**354**	⇓	S		Sb	01 54 02.1	+1.4
BTAM	**Cotopaxi Volca**	**2.10**	**354**	⇓	P		Pb	01 53 33.5	-0.9
COV1	**Cotopaxi Volc**	**2.11**	**355**		S		Sg	01 54 03.4	-1.6
COV1	**Cotopaxi Volc**	**2.11**	**355**		P		Pb	01 53 34.4	-0.3
BREF	**Cotopaxi Volca**	**2.11**	**353**	⇑	S		Sb	01 54 03.1	+1.6
BREF	**Cotopaxi Volca**	**2.11**	**353**	⇑	P		Pb	01 53 34.4	-0.4
BVC2	**Cotopaxi Volca**	**2.12**	**354**	⇓	P		Pb	01 53 34.0	-0.7
VC1	**Cotopaxi 1**	**2.13**	**354**		P		Pb	01 53 34.8	-0.2
VC1	**Cotopaxi 1**	**2.13**	**354**		S		Sg	01 54 04.4	-1.1
NAS2	**Nasa**	**2.14**	**352**		S		Sg	01 54 04.2	-1.4
NAS2	**Nasa**	**2.14**	**352**		P		Pb	01 53 35.1	+0.1
PITA	**Cotopaxi Volc**	**2.22**	**353**		P		Pb	01 53 36.3	0.0
ANTI	**Antisana**	**2.31**	**0**	⇓	S		Sb	01 54 06.6	-0.6
ANTI	**Antisana**	**2.31**	**0**	⇓	P		Pn	01 53 36.2	+1.8
GGP	**Refugio Guagua**	**2.62**	**351**	⇓	P		Pb	01 53 44.3	+0.9
TERV	**Terraza Guagua**	**2.62**	**351**		P		Pg	01 53 45.2	-1.5
PINO	**Pino**	**2.64**	**351**		P		Pb	01 53 43.4	-0.2
CHAR	**Charly**	**2.72**	**11**		S		Sb	01 54 19.2	+0.6
CHAR	**Charly**	**2.72**	**11**		P		Pb	01 53 43.0	-1.9
CONE	**Cono NE Rev Vo**	**2.74**	**11**		P		Pb	01 53 43.2	-1.9
CAYA	**Cayambe**	**2.84**	**4**		S		Sb	01 54 22.5	+0.3
CAYA	**Cayambe**	**2.84**	**4**		P		Pb	01 53 45.2	-1.7

IGQ ***22*** *01:54:50.4, 2.76S×78.16W, h12km±6km, Mb4.3, Ms4.1, Error ellipse: s-maj=3.5km s-min=0.8km az=2.6*
IDC ***22*** *01:54:50.5±2.4, 2.48S×78.35W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/19, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=114.0km s-min=34.5km az=48.0*
ISCJB ***22*** *01:54:51.5±0.6, 2.89S×0.03×78.19W±0.09, h9km, mb3.5/4, Error ellipse: s-maj=12.5km s-min=4.4km az=4.5*
ISC 22 01:54:48.9±1.1, 2.79S±0.04×78.03W±0.09, h9km, n57, σ1°06/54, mb3.6/4, 14C-12D, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YANT	**Yantaza**	**1.29**	**215**	⇑	S		**Sg**	**01 55 30.2**	**-0.5**
YANT	**Yantaza**	**1.29**	**215**	⇑	P		**Pg**	**01 55 13.6**	**-0.2**
PAT1	**Patacocha**	**1.34**	**342**	⇓	P		**Pb**	**01 55 14.5**	**0.0**
ARRY	**Arrayan**	**1.35**	**341**	⇓	P		**Pb**

VC1	Cotopaxi 1	2.17	350	⇑S	Sg	01 55 59.4	+0.7
VC1	Cotopaxi 1	2.17	350	⇑P	Pg	01 55 29.4	-1.2
NAS2	Nasa	2.18	348	P	Pg	01 55 29.9	-0.8
NAS2	Nasa	2.18	348	S	Sg	01 55 59.7	+0.7
PITA	Cotopaxi Volc	2.25	350	⇑S	Sg	01 56 01.2	-0.3
PITA	Cotopaxi Volc	2.25	350	⇑P	Pg	01 55 30.9	-1.4
ANTI	Antisana	2.33	357	⇓P	Pb	01 55 31.1	-0.4
JUA2	San Juan 2	2.62	347	P	Pg	01 55 38.3	-1.0
GGP	Refugio Guagua	2.66	348	⇓P	Pg	01 55 39.3	-0.7
TERV	Terraza Guagua	2.66	347	P	Pg	01 55 38.8	-1.2
PINO	Pino	2.68	347	P	Pb	01 55 37.5	+0.1
LAV4	Lava4-Reventad	2.71	8	P	Pb	01 55 37.0	-0.8
LAV4	Lava4-Reventad	2.71	8	S	Sg	01 56 13.3	-2.8
CONE	Cono NE Rev Vo	2.73	11	⇓P	Pb	01 55 39.3	+1.1
CAYR	Refugio Cayamb	2.79	0	P	Pb	01 55 39.1	-0.2
CAYR	Refugio Cayamb	2.79	0	S	Sg	01 56 16.1	-2.5
CAYA	Cayambe	2.84	1	⇓P	Pb	01 55 40.0	-0.3
OTAV	Otavalo	3.04	352	⇓P	Pb	01 55 44.0	+0.6
COTA	Cotacachi	3.12	354	P	Pg	01 55 46.6	-2.2
CHIS	Cerro-Chispas-	3.21	303	P	Pb	01 55 43.3	-2.8
ROSC	El Rosal 1.5nm,0.3s,baz=112,slow=22,SNR=4.4	8.45	26	Lg	Lg	01 59 21.2		
LPAZ	La Paz 0.1nm,0.3s,baz=311,slow=9.2,SNR=5.1	16.57	145	P	P	01 58 50.7	+5.8
YKA	Yellowknife Ar 0.2nm,0.5s,baz=141,slow=6.3,SNR=8.8	70.76	343	P	P	02 06 05.6	+0.3
INK	Inuvik 1.5nm,0.9s,baz=107,slow=4.4,SNR=6.0	80.47	342	P	P	02 07 02.5	+1.6
TORD	Torodi Ar. Bea 0.4nm,0.8s,baz=284,slow=6.2,SNR=4.1	80.64	76	P	P	02 07 07.2	+4.3
ILAR	Eielson Array 0.5nm,0.9s,baz=122,slow=3.4,SNR=4.9	83.64	336	P	P	02 07 18.5	+0.8

IDC 22 02:01:54.2±28.0, 20.40S×178.01W, h579km±283km, mb3.2/5, mb1 3.4/5, mb1mx3.1/16, mbtmp3.2/5, Error ellipse: s-maj=191.0km s-min=56.5km az=94.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower 3.2nm,0.5s,baz=98,slow=9.8,SNR=6.2	33.49	264	P	P	02 07 47.1	+0.2
STKA	Stephens Creek 1.3nm,0.8s,baz=94,slow=13,SNR=3.8	37.83	244	P	P	02 08 22.5	-0.1
ASAR	Alice Springs 3.4nm,0.6s,baz=101,slow=6.5,SNR=9.7	44.54	257	P	P	02 09 15.6	-0.1
WRA	Warramunga Arr 2.3nm,0.4s,baz=98,slow=8.5,SNR=23	44.61	262	P	P	02 09 15.9	-0.4
MJAR	Matsushiro Arr 1.2nm,1.0s,baz=154,slow=6.0,SNR=4.4	70.12	324	P	P	02 12 09.2	-0.1
GERES	GERESS Array B 0.2nm,0.7s,baz=298,slow=2.1,SNR=2.3	150.10	344	PKPbc	PKPbc	02 20 40.0	-0.3

ISCJB 22 02:04:20.3±0.4, 26.87N±0.05×126.74E±0.06, h123km±4km, mb4.2/17, Error ellipse: s-maj=11.2km s-min=5.0km az=137.7
IDC 22 02:04:20.7±1.2, 26.93N×126.70E, h108km±11km, mb4.0/17, mb1 4.1/18, mb1mx4.0/26, mbtmp3.9/18, Error ellipse: s-maj=17.3km s-min=11.7km az=69.0
JMA 22 02:04:22.1±0.2, 26.93N×126.73E, h109km±2km, M3.8

ISC 22 02:04:21.8±0.7, 26.84N±0.06×126.78E±0.05, h121km±6km, n35, σ1°17/49, mb4.4/17, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGN	Aguni-jima	0.49	121	P	Pn	02 04 39.5	-0.3
JAGN				*e*S	Sn	02 04 52.6	-0.8
JKE	Kume jima 2	0.52	179	P	Pn	02 04 39.6	-0.4
NAH1	Naha	1.04	128	P	Pn	02 04 44.7	+0.4
NAH1				*e*S	Sn	02 05 01.0	-0.3
JIH	Iheya	1.08	80	P	Pn	02 04 44.7	0.0
JIH				*e*S	Sn	02 05 01.3	-0.8
JJT2	Tamagusuku 2	1.12	129	P	Pn	02 04 45.9	+0.8
JJT2				*e*S	Sn	02 05 03.3	+0.5
JOW	Kunigami	1.34	90	P	Pn	02 04 47.5	0.0
JOW				*e*S	Sn	02 05 07.0	0.0
JOW	Kunigami 451nm,0.3s,baz=284,slow=6.0,SNR=881	1.34	90	P	Pn	02 04 47.5	0.0
JOW				S	Sn	02 05 05.5	-1.6
	799nm,0.3s,baz=15,slow=29,SNR=15						
JTK	Tokunoshima	2.15	64	P	Pn	02 04 57.4	+0.2
JTK				*e*S	Sn	02 05 23.8	-0.5
JOGS	Gusukube	2.41	211	*e*S	Sn	02 05 30.6	+0.3
JAM	Amami Oshima	2.96	57	P	Pn	02 05 06.9	-0.6
JAM				*e*S	Sn	02 05 40.4	-2.4
JZK	Kikaishima	3.19	62	*e*S	Sn	02 05 47.6	-0.8
JIJ	Ishigaki jima	3.43	224	P	Pn	02 05 12.9	-0.9
JIJ				*e*S	Sn	02 05 51.2	-2.8
IRIF	Iriomote-Funau	3.71	228	*e*S	Sn	02 05 59.4	-1.4
JMZ	Minamidaito 2	4.12	103	P	Pn	02 05 21.2	-1.7
JMZ				S	Sn	02 06 06.4	-3.9
JNU	Nakatsue 2.5nm,0.3s,baz=21,slow=7.3,SNR=23	7.20	29	P	Pn	02 06 05.2	+0.8
KSRS	Korea Array 0.4nm,0.3s,baz=180,slow=15,SNR=14	10.62	5	P	Pn	02 06 52.5	+1.9
MJAR	Matsushiro Arr 0.3nm,0.3s,baz=224,slow=11,SNR=5.4	13.71	42	P	P	02 07 36.8	+1.2
USRK	Ussuriysk Arra 0.2nm,0.3s,baz=181,slow=8.3,SNR=5.0	17.83	12	P	Pn	02 08 21.8	-0.2
SONM	Songino Array 6.7nm,0.6s,baz=143,slow=7.1,SNR=54	26.34	328	P	P	02 09 46.2	-0.3
PETK	Petropavlovsk- 11nm,1.1s,baz=243,slow=9.3,SNR=3.4	34.87	33	P	P	02 11 01.4	+0.1
MKAR	Makanchi Array 4.6nm,0.5s,baz=95,slow=11,SNR=138	40.16	312	P	P	02 11 45.1	-0.8
MKAR				PcP	PcP	02 13 48.4	+0.5
	1.2nm,0.6s,baz=79,slow=3.1,SNR=10						
MKAR				ScP	ScP	02 17 28.0	+2.1
	0.8nm,0.7s,baz=97,slow=3.9,SNR=6.4						
ZALV	Zalesovo Beam 5.6nm,0.5s,baz=113,slow=8.9,SNR=43	40.97	323	P	P	02 11 51.4	-1.1
ZALV				PcP	PcP	02 13 50.3	0.0
	0.3nm,0.3s,baz=96,slow=5.3,SNR=2.8						
ZALV				ScP	ScP	02 17 29.2	+0.4
	0.6nm,0.7s,baz=118,slow=5.4,SNR=3.7						
WRA	Warramunga Arr 5.8nm,0.6s,baz=352,slow=8.6,SNR=34	47.08	170	P	P	02 12 42.3	+0.8
ASAR	Alice Springs 3.8nm,0.5s,baz=358,slow=14,SNR=78	50.68	172	P	P	02 13 10.2	+1.1
STKA	Stephens Creek 2.7nm,0.6s,baz=6.6,slow=3.3,SNR=11	60.08	165	P	P	02 14 17.0	+0.8
KDAK	Kodiak Island 6.1nm,0.5s,baz=305,slow=6.5,SNR=8.4	62.80	36	P	P	02 14 34.6	+0.4
ILAR	Eielson Array 0.6nm,0.5s,baz=258,slow=5.3,SNR=27	64.52	28	P	P	02 14 44.5	-0.9
SPITS	Spitsbergen Ar 7.7nm,0.9s,baz=134,slow=16,SNR=3.4	67.96	348	P	P	02 15 07.2	0.0
ARCES	ARCESS Array B 3.7nm,0.9s,baz=64,slow=8.8,SNR=4.4	68.98	338	P	P	02 15 12.7	-0.8
FINES	FINESS Array B 1.5nm,0.6s,baz=61,slow=8.0,SNR=12	71.69	330	P	P	02 15 29.6	-0.6
AKASG	Malin Array Be 0.2nm,0.3s,baz=66,slow=5.3,SNR=2.6	74.22	319	P	P	02 15 44.8	-0.5
BRTR	Keskin Array B 1.3nm,0.8s,baz=72,slow=4.7,SNR=6.0	75.63	307	P	P	02 15 53.7	-0.2
YKA	Yellowknife Ar 2.3nm,0.7s,baz=301,slow=5.5,SNR=50	78.52	25	P	P	02 16 09.5	+0.2
GERES	GERESS Array B 0.5nm,0.7s,baz=44,slow=4.1,SNR=4.0	83.92	322	P	P	02 16 37.3	-1.0
PDAR	Pinedale Array 0.3nm,0.6s,baz=38,slow=1.6,SNR=3.6	93.49	38	P	P	02 17 25.6	+1.3

DDA 22 02:41:39.6, 37.84N×27.56E, h16km, MD3.1
ISK 22 02:41:40.0, 37.90N×27.56E, h5km, MD3.3
CSEM 22 02:41:40.1±0.2, 37.84N×27.58E, h2km, MD3.1, Error ellipse: s-maj=4.4km s-min=2.7km az=65.0

ISC 22 02:41:39.8±1.2, 37.84N±0.02×27.56E±0.03, h0km±12km, n60, σ0°72/82, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AYDN	Tasoluk	0.31	126	*i* P	Pg	02 41 46.4	+0.6
AYDN				*i* S	Sg	02 41 50.6	+0.8
AYDN	Tasoluk	0.31	126	*i* P	Pg	02 41 46.4	+0.6
AYDN				*i* S	Sg	02 41 50.6	+0.8
IZM	Izmir	0.60	337	PG	Pg	02 41 51.6	+0.3
IZM				*e*SG	Sg	02 41 58.6	-0.5
IZM	Izmir	0.60	337	*i* Pg	Pg	02 41 51.6	+0.3
IZM				*e*Sg	Sg	02 41 58.6	-0.5
BLCB	Balcova	0.68	323	*e*PG	Pg	02 41 52.8	0.0
BLCB				*e*SG	Sg	02 42 01.4	-0.2
BLCB	Balcova	0.68	323	*e*Pg	Pg	02 41 52.8	0.0
BLCB				*e*Sg	Sg	02 42 01.4	-0.2
BDRM	Kayabasi	0.78	187	*i* P	Pg	02 41 54.4	-0.4
BDRM				*i* S	Sg	02 42 05.7	+0.8
BDRM	Kayabasi	0.78	187	*i* P	Pg	02 41 54.4	-0.4
BDRM				*i* S	Sg	02 42 05.7	+0.8
YER	Yerkesik	0.91	141	*e*PG	Pg	02 41 58.3	+1.0
YER	Yerkesik	0.91	141	*e*Pg	Pg	02 41 58.3	+1.0
AKHS	Akhisar	1.05	11	*i* P	Pg	02 41 59.8	-0.2
AKHS				*i* S	Sg	02 42 14.4	+0.7
AKHS	Akhisar	1.05	11	*i* P	Pg	02 41 59.8	-0.2
AKHS				*i* S	Sg	02 42 14.4	+0.7
AKS	Akhisar	1.05	11	*e*PG	Pg	02 41 59.1	-0.9
AKS				*e*SG	Sg	02 42 14.6	+1.0
AKS	Akhisar	1.05	11	*e*Pg	Pg	02 41 59.1	-0.9
AKS				*e*Sg	Sg	02 42 14.6	+1.0
KULA	Kula-Manisa	1.10	52	*e*PG	Pg	02 42 00.1	-0.7
KULA	Kula-Manisa	1.10	52	*e*Pg	Pg	02 42 00.1	-0.7
DNZL	Cakiroluk	1.19	97	*i* P	Pg	02 42 02.6	0.0
DNZL				*i* S	Sg	02 42 18.5	+0.5
DNZL	Cakiroluk	1.19	97	*i* P	Pg	02 42 02.6	0.0
DNZL				*i* S	Sg	02 42 18.5	+0.5
TURN	Turunc	1.28	139	*i* P	Pg	02 42 02.3	-2.0
TURN				*i* S	Sg	02 42 19.1	-1.7
TURN	Turunc	1.28	139	*i* P	Pg	02 42 02.3	-2.0
TURN				*i* S	Sg	02 42 19.1	-1.7
DEMI	Demirci	1.50	37	*i* P	Pn	02 42 08.4	+0.3
DEMI				*e*S	Sn	02 42 28.0	-0.4
DEMI	Demirci	1.50	37	*i* P	Pn	02 42 08.4	+0.3
DEMI				*e*S	Sn	02 42 28.0	-0.4
AYVA	Ayvalik	1.61	335	*e*P	Pb	02 42 10.5	+0.1
AYVA				*i* S	Sg	02 42 32.1	+0.5
AYVA	Ayvalik	1.61	335	*e*P	Pb	02 42 10.5	+0.1
AYVA				*i* S	Sg	02 42 32.1	+0.5
KHL	Karahalli	1.62	72	*e*PN	Pn	02 42 09.7	0.0
KHL	Karahalli	1.62	72	*e*Pn	Pn	02 42 09.7	0.0
APE	Apeiranthos	1.79	245	*e*PN	Pb	02 42 13.1	-0.4
APE	Apeiranthos	1.79	245	*e*Pn	Pb	02 42 13.1	-0.4
BALB	Balikesir	1.81	8	*e*PN	Pn	02 42 12.0	-0.2
BALB	Balikesir	1.81	8	*e*Pn	Pn	02 42 12.0	-0.2
BALY	Balya	1.89	1	*i* P	Pn	02 42 11.7	-1.7
BALY				*e*S	Sb	02 42 39.6	+0.1
BALY	Balya	1.89	1	*i* P	Pn	02 42 11.7	-1.7
BALY				*e*S	Sb	02 42 39.6	+0.1
DST	Dursunbey	1.94	25	*e*PN	Pn	02 42 13.9	-0.2
DST	Dursunbey	1.94	25	*e*Pn	Pn	02 42 13.9	-0.2
ELL	Elmali	2.17	120	*e*PN	Pn	02 42 18.4	+1.1
ELL	Elmali	2.17	120	*e*Pn	Pn	02 42 18.4	+1.1
TVSB	Tavsanli	2.19	42	*e*PN	Pn	02 42 17.3	-0.2
TVSB	Tavsanli	2.19	42	*e*Pn	Pn	02 42 17.3	-0.2
EZN	Ezine	2.20	334	*e*PN	Pn	02 42 18.1	+0.5
EZN	Ezine	2.20	334	*e*Pn	Pn	02 42 18.1	+0.5
GONE	Gonen-Balikesi	2.20	3	*e*PN	Pn	02 42 17.8	+0.2
GONE	Gonen-Balikesi	2.20	3	*e*Pn	Pn	02 42 17.8	+0.2
ALT	Altintas	2.34	58	*e*PN	Pn	02 42 19.5	-0.1
ALT	Altintas	2.34	58	*e*Pn	Pn	02 42 19.5	-0.1
SHUT	Suhut-Afyon	2.46	72	*e*PN	Pn	02 42 21.5	+0.2
SHUT	Suhut-Afyon	2.46	72	*e*Pn	Pn	02 42 21.5	+0.2
KCTX	Karacabey (Bur	2.50	14	*e*PN	Pn	02 42 21.7	0.0
KCTX	Karacabey (Bur	2.50	14	*e*Pn	Pn	02 42 21.7	0.0
EDC	Edincik	2.51	5	*e*PN	Pn	02 42 22.1	+0.3
EDC	Edincik	2.51	5	*e*Pn	Pn	02 42 22.2	+0.3
GELI	Tayfur-Gelibol	2.69	342	*e*PN	Pn	02 42 24.9	+0.7
GELI	Tayfur-Gelibol	2.69	342	*e*Pn	Pn	02 42 25.0	+0.7
ARMT	Armutlu	2.90	20	*e*PN	Pn	02 42 27.5	+0.3
ARMT	Armutlu	2.90	20	*e*Pn	Pn	02 42 27.5	+0.3
ERIK	Erikli-Kesan	2.94	344	*e*PN	Pn	02 42 28.4	+0.7
ERIK	Erikli-Kesan	2.94	344	*e*Pn	Pn	02 42 28.4	+0.7
YLV	Yalova	3.06	27	*e*PN	Pn	02 42 30.1	+0.6
YLV	Yalova	3.06	27	*e*Pn	Pn	02 42 30.1	+0.6
GULT	Gulveren	3.46	41	*e*PN	Pn	02 42 35.5	+0.5
GULT	Gulveren	3.46	41	*e*Pn	Pn	02 42 35.5	+0.5

IGQ 22 02:43:08.0, 2.77S×78.18W, h12km±4km, Mb4.0, Ms3.8, 9C-6D, Error ellipse: s-maj=4.6km s-min=1.2km az=2.8, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YANT	Yantaza	1.23	208	⇑S	Sb	02 43 47.2	-0.1
YANT	Yantaza	1.23	208	⇑P	Pn	02 43 31.0	-0.2
PAT1	Patacocha	1.28	348	⇑S	Sb	02 43 48.9	-0.6
PAT1	Patacocha	1.28	348	⇑P	Pn	02 43 32.1	-0.2
ARRY	Arrayan	1.28	348	⇑P	Pn	02 43 31.8	-0.5
ARRY	Arrayan	1.28	348	⇑S	Sb	02 43 48.8	-0.6
BMAS	Trigal station	1.29	347	P	Pn	02 43 32.2	-0.1
ULBA	Ulba	1.33	350	S	Sn	02 43 51.2	+0.3
ULBA	Ulba	1.33	350	P	Pn	02 43 32.9	0.0
IGUA	Igualata	1.35	340	P	Pb	02 43 34.1	+0.1
IGUA	Igualata	1.35	340	S	Sg	02 43 53.7	+0.9
BRUN	Tungurahua Vol	1.36	350	⇑P	Pn	02 43 33.4	+0.1
JUI6	Juive	1.36	348	P	Pn	02 43 33.4	+0.1
RUN5	Runtun	1.36	350	P	Pn	02 43 32.1	-1.2
PISA	Pisayambo	1.71	353	S	Sg	02 44 04.0	-0.2
PISA	Pisayambo	1.71	353	P	Pb	02 43 39.6	-0.5
BMOR	Cotopaxi Volca	2.04	352	⇓P	Pb	02 43 45.6	-0.2
BMOR	Cotopaxi Volca	2.04	352	⇓S	Sb	02 44 13.0	+1.3
MOV1	Cotopaxi Vol s	2.06	353	⇑P	Pb	02 43 46.1	-0.1
MOV1	Cotopaxi Vol s	2.06	353	⇑S	Sg	02 44 14.7	-0.8
TAMB	Tambo	2.07	355	P	Pb	02 43 45.8	-0.5
BTAM	Cotopaxi Volca	2.09	354	⇓S	Sb	02 44 14.7	+1.6
BTAM	Cotopaxi Volca	2.09	354	⇓P	Pb	02 43 45.9	-0.7
COV1	Cotopaxi Volc	2.10	356	P	Pb	02 43 46.9	0.0
COV1	Cotopaxi Volc	2.10	356	S	Sg	02 44 15.3	-1.7
BREF	Cotopaxi Volca	2.10	353	⇓P	Pb	02 43 46.5	-0.4
BVC2	Cotopaxi Volca	2.11	354	P	Pb	02 43 46.2	-0.8
VC1	Cotopaxi 1	2.12	354	P	Pb	02 43 46.8	-0.4
NAS2	Nasa	2.13	352	P	Pb	02 43 47.7	+0.5
PITA	Cotopaxi Volc	2.21	353	S	Sg	02 44 18.9	-1.2
PITA	Cotopaxi Volc	2.21	353	P	Pb	02 43 48.3	-0.2
ANTI	Antisana	2.30	1	⇓P	Pb	02 43 48.5	-1.8
GGP	Refugio Guagua	2.61	351	P	Pb	02 43 56.4	+0.9
PINO	Pino	2.63	351	P	Pb	02 43 56.1	+0.2
CHAR	Charly	2.71	11	P	Pn	02 43 53.9	+1.9
CONE	Cono NE Rev Vo	2.73	11	P	Pb	02 43 56.1	-1.2
CAYR	Refugio Cayamb	2.77	4	S	Sb	02 44 33.6	+0.8
CAYR	Refugio Cayamb	2.77	4	P	Pb	02 43 55.7	-2.6
CAYA	Cayambe	2.83	4	P	Pb	02 43 57.8	-1.4
OTAV	Otavalo	3.00	355	P	Pb	02 44 01.5	-0.5

IDC 22 02:56:50.3±0.8, 4.15N×126.80E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.9/21, mbtmp3.9/10, MS2.9/2, Ms1 2.9/2, ms1mx2.5/36, Error ellipse: s-maj=50.4km s-min=14.7km az=70.0
NEIC 22 02:56:55.4±0.5, 4.12N×126.70E, h35km, mb4.3/7, Error ellipse: s-maj=29.7km s-min=8.6km az=71.0
ISCJB 22 02:56:59.7±1.7, 4.02N±0.10×126.5E±0.2, h92km±15km, mb3.9/17, Error ellipse: s-maj=37.1km s-min=10.2km az=160.0

ISC 22 02:56:58.6±2.6, 4.1N±0.1×126.7E±0.3, h63km±23km, n32, σ1°03/33, mb4.1/17, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W) comp=Z,172nm,20.6s,baz=102,slow=45	3.19	340	LR	LR	02 59 12.2	
BUKP	Musuan	4.12	337	*e*P	Pn	02 58 03.0	+3.9
PAGZ	Pagadian	4.99	319	*e*P	Pn	02 58 11.1	0.0
KAPI	Kappang comp=Z,60nm,18.6s,baz=282,slow=40	11.37	218	LR	LR	03 04 28.0	
FITZ	Fitzroy Crossi	22.05	183	P	P	03 01 48.3	+0.1
FITZ	Fitzroy Crossi 1.4nm,0.4s,baz=23,slow=7.0,SNR=9.3	22.05	183	P	P	03 01 48.3	+0.1
WRAB	Tennant Creek 4.9nm,0.7s	25.01	163	*e*P	P	03 02 16.4	-0.4
WRA	Warramunga Arr	25.01	163	P	P	03 02 16.1	-0.8
WRA	Warramunga Arr 2.3nm,0.5s,baz=343,slow=11,SNR=18	25.01	163	P	P	03 02 16.1	-0.8
MBWA	Marble Bar 7.9nm,0.9s	25.98	195	*e*P	P	03 02 26.1	+0.5
ASAR	Alice Springs	28.44	166	P	P	03 02 47.3	-0.4
ASAR	Alice Springs 0.3nm,0.5s,baz=348,slow=7.4,SNR=7.5	28.44	166	P	P	03 02 47.3	-0.4
CMAR	Chiang Mai Arr	30.67	300	P	P	03 03 08.2	+0.7
CMAR	Chiang Mai Arr 1.1nm,0.5s,baz=118,slow=7.4,SNR=5.0	30.67	300	P	P	03 03 08.2	+0.7
STKA	Stephens Creek	38.45	159	P	P	03 04 14.4	0.0
STKA	Stephens Creek	38.45	159	P	P	03 04 14.4	0.0
	2.6nm,0.7s,baz=311,slow=10,SNR=6.9						
SONM	Songino Array	46.97	341	P	P	03 05 23.3	-0.1
SONM				PcP	PcP	03 06 54.0	-1.0
SONM	Songino Array 0.7nm,0.9s,baz=156,slow=9.6,SNR=5.7	46.97	341	P	P	03 05 23.3	-0.1
SONM				PcP	PcP	03 06 54.0	-1.0
	0.4nm,0.8s,baz=151,slow=3.3,SNR=3.2						
MKAR	Makanchi Array	57.26	325	P	P	03 06 38.9	-0.8
MKAR				PcP	PcP	03 07 33.1	-0.3
MKAR				ScP	ScP	03 11 37.9	+10
MKAR	Makanchi Array 1.4nm,0.6s,baz=117,slow=7.7,SNR=29	57.26	325	P	P	03 06 38.9	-0.8
MKAR				PcP	PcP	03 07 33.1	-0.3
	0.5nm,0.6s,baz=108,slow=4.7,SNR=2.9						
MKAR				ScP	ScP	03 11 37.9	+10
	0.2nm,0.8s,baz=145,slow=3.0,SNR=2.8						
TKM2	Tokmak 2 1.1nm,0.6s	59.47	318	*e*P	P	03 06 54.6	-0.9
ZALV	Zalesovo Beam	60.27	333	P	P	03 06 59.0	-1.4
ZALV	Zalesovo Beam 0.7nm,0.5s,baz=115,slow=6.9,SNR=4.8	60.27	333	P	P	03 06 59.0	-1.4
EKS2	Erkin-Say 6.6nm,1.3s	60.58	318	*e*P	P	03 07 00.7	-2.2
KURK	Kurchatov 3.4nm,0.6s	61.44	327	*e*P	P	03 07 07.6	-0.9
BRVK	Borovoye 3.1nm,0.8s	67.09	327	*e*P	P	03 07 44.0	-1.4
ABKAR	Akbulak array 0.4nm,0.5s	71.87	321	*e*P	P	03 08 14.2	-0.7
ILAR	Eielson Array	84.83	25	P	P	03 09 26.9	+0.8
ILAR	Eielson Array 0.2nm,0.7s,baz=262,slow=5.9,SNR=3.5	84.83	25	P	P	03 09 26.9	+0.8
FINES	FINESS Array B	91.52	332	P	P	03 10 00.3	+2.2
FINES	FINESS Array B 1.3nm,0.9s,baz=49,slow=4.1,SNR=4.8	91.52	332	P	P	03 10 00.3	+2.2
BUR08	Bucovina Ar. S	94.73	318	*e*P	P	03 10 13.6	+0.2

ISCJB 22 03:08:32.3±0.4, 6.67S±0.04×129.33E±0.08, h165km, mb4.0/15, Error ellipse: s-maj=10.7km s-min=6.0km az=0.0
DJA 22 03:08:34, 6.66S×129.51E, h10km, MLv4.9/9
IDC 22 03:08:36.8±2.9, 6.55S×129.48E, h198km±28km, mb3.6/13, mb1 3.8/15, mb1mx3.8/20, mbtmp3.7/15, Error ellipse: s-maj=25.3km s-min=12.4km az=73.0

ISC 22 03:08:33.8±0.6, 6.69S±0.06×129.38E±0.08, h165km, n31, σ1°72/32, mb3.9/15, 3C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	Ambon	3.21	338	P	Pn	03 09 25.4	+1.0
MSAI	Masohi	3.35	352	P	Pn	03 09 27.5	+1.3
TLE	Tual	3.50	73	P	Pn	03 09 29.8	+1.8
NLAI	Namlea	4.11	326	P	Pn	03 09 38.8	+2.8
FAKI	Fak Fak	4.71	37	P	Pn	03 09 42.6	-1.1
SWI	Sorong 48nm,0.7s,3µm1.1nm	6.08	18	P	Pn	03 10 02.2	+0.4
LBMI	Labuha 242nm,0.8s,2µm0.7nm	6.30	343	P	Pn	03 10 07.2	+2.5
BAKI	Biak 193nm,1.0s,3µm	8.65	51	P	Pn	03 10 35.1	-0.7
MRSI	Marisa 91nm,0.9s	10.29	314	P	Pn	03 10 59.7	+2.3
FITZ	Fitzroy Crossi 17nm,0.6s	11.92	198	⇑*i* P	Pn	03 11 18.2	-0.4
FITZ				*e*S	Sn	03 13 22.7	-8.1
FITZ	Fitzroy Crossi 1.2nm,0.3s,baz=28,slow=12,SNR=39	11.92	198	P	Pn	03 11 18.7	+0.1
FITZ				S	Sn	03 13 27.1	-3.6
	6.0nm,0.3s,baz=156,slow=18,SNR=15						
WRA	Warramunga Arr 1.3nm,0.3s,baz=343,slow=12,SNR=56	14.03	160	P	Pn	03 11 44.5	-1.0
WRA				S	Sn	03 14 13.8	-7.6
	6.0nm,0.3s,baz=338,slow=22,SNR=8.5						
ASAR	Alice Springs 9.7nm,0.3s,baz=340,slow=8.9,SNR=268	17.43	166	P	Pn	03 12 28.4	+1.3
ASAR				S	S	03 15 37.6	-1.4
	1.0nm,0.3s,baz=347,slow=25,SNR=4.9						
ASAR				ScP	ScP	03 20 14.1	-4.3
	baz=338,slow=2.3,SNR=4.7						
PMG	Port Moresby 0.6nm,0.3s,baz=286,slow=7.4,SNR=4.2	17.81	100	P	P	03 12 31.3	+1.3
CTA	Charters Tower 7.1nm,0.8s	21.11	131	*e*P	P	03 13 07.1	+1.5
CTA	Charters Tower 11nm,0.9

TUWZ	**Tuamarina**	**2.79**	**201**	PN	Pn	03 18 15.7	-1.5
NNZ	**Nelson**	**2.79**	**211**	PN	Pn	03 18 15.1	-2.1
QRZ	**Quartz Range**	**2.90**	**226**	PN	Pn	03 18 15.6	-2.9
BSWZ	**Blackbirch Sta**	**3.07**	**200**	PN	Pn	03 18 18.9	-1.5
THZ	**Tophouse**	**3.44**	**211**	PN	Pn	03 18 22.2	-2.7
THZ				SN	S	03 19 03.8	-4.3
KHZ	**Kahutara**	**3.81**	**200**	PN	Pn	03 18 27.4	-1.9
DSZ	**Denniston Nort**	**3.94**	**221**	⇓PN	Pn	03 18 27.5	-3.4

*IDC **22** 03:17:28.5±0.8, 39˚.41N×73˚.79E, h0km, mb3.7/13, mb1 3.9/18, mb1mx3.8/32, mbtmp3.7/18, ML3.6/4, Error ellipse: s-maj=16.5km s-min=12.3km az=116.0*

ISC 22 03:17:32.4±0.7, 39˚.62N±0˚.07×74˚.12E±0˚.06, h28km, n35, σ1§52/32, mb3.8/15, 2C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.44**	**94**	Pg	**Pn**	**03 17 56.8**	**0.0**
KSH				Sg	**Sn**	**03 18 14.3**	**-0.5**
KSH	comp=N,350nm,0.6s			smax	smax		
KSH	comp=E,330nm,0.7s			smax	smax		
AML	**Almayashu** SNR=65	**2.53**	**353**	P	**Pb**	**03 18 15.5**	**-1.9**
KZA	**Kyzart** SNR=20	**2.60**	**19**	P	**Pb**	**03 18 19.4**	**+0.8**
UCH	**Uchtor** SNR=23	**2.62**	**6**	P	**Pb**	**03 18 19.1**	**+0.2**
AAK	**Ala-Archa** SNR=68	**3.02**	**5**	P	**Pb**	**03 18 24.0**	**-1.6**
AAK	**Ala-Archa** comp=E,9.2nm,0.3s,baz=166,slow=7.7,SNR=140	**3.02**	**5**	Pn	**Pb**	**03 18 23.9**	**-1.7**
AAK				Sn	**Sb**	**03 19 05.5**	**+3.4**
AAK	comp=E,5.8nm,0.3s,baz=307,slow=19,SNR=9.9			Lg	Lg	03 19 10.2	
EKS2	comp=E,14nm,0.3s,baz=313,slow=19,SNR=9.9 **Erkin-Say** SNR=13	**3.05**	**355**	P	Pb	03 18 23.1	-2.9
ULHL	**Ulahol** SNR=21	**3.08**	**31**	P	**Pb**	**03 18 26.7**	**+0.1**
KBK	**Karagaybulak** SNR=64	**3.10**	**11**	P	**Pb**	**03 18 25.5**	**-1.3**
CHMS	**Chumysh** SNR=24	**3.41**	**8**	P	Pb	03 18 29.0	-3.1
TKM2	**Tokmak 2** SNR=24	**3.48**	**18**	P	**Pb**	**03 18 31.1**	**-2.4**
USP	**Ospenovka** SNR=12	**3.65**	**4**	P	Pb	03 18 31.9	-4.4
KNDC	**Almaty** comp=E,24nm,0.6s	**4.18**	**30**	⇑Pn	Pb	03 18 42.2	-3.1
KNDC	comp=E,158nm,0.7s			⇓Lg	Lg	03 19 48.8	
KK31	**Karatay Array** comp=E,2.4nm,0.3s,baz=131,slow=12,SNR=58	**4.41**	**323**	Pn	**Pn**	**03 18 38.9**	**+1.4**
KK31	comp=E,10nm,0.6s,baz=133,slow=14,SNR=4.1			⇓Pg	**Pb**	**03 18 50.9**	**+1.8**
KK31	comp=E,28nm,0.5s,baz=131,slow=29,SNR=5.3			⇑Lg	Lg	03 19 44.2	
MKAR	**Makanchi Array** baz=214,slow=13,SNR=2.8	**9.32**	**37**	Pn	Pn	03 19 51.4	+6.5
MKAR	comp=E,0.1nm,0.3s,baz=231,slow=28,SNR=6.2			Lg	Lg	03 22 36.0	
KURBB	**Kurchatov Arra** comp=E,0.2nm,0.3s,baz=198,slow=29,SNR=12	**11.43**	**14**	Lg	Lg	03 23 35.5	
BVAR	**Borovoye Array** comp=E,0.3nm,0.3s,baz=159,slow=14,SNR=12	**13.65**	**350**	Pn	**Pn**	**03 20 43.8**	**-0.2**
AKTO	**Aktyubinsk** comp=E,0.2nm,0.3s,baz=129,slow=12,SNR=7.2	**15.66**	**319**	Pn	**Pn**	**03 21 09.5**	**-1.5**
ZALV	**Zalesovo Beam** comp=E,0.3nm,0.3s,baz=207,slow=12,SNR=8.7	**16.07**	**23**	Pn	**P**	**03 21 19.6**	**+0.3**
SONM	**Songino Array** comp=E,0.2nm,0.6s,baz=250,slow=7.5,SNR=2.6	**24.59**	**60**	P	**P**	**03 22 54.1**	**+4.0**
BRTR	**Keskin Array B** comp=E,0.7nm,0.9s,baz=93,slow=7.2,SNR=3.3	**30.97**	**283**	P	**P**	**03 23 47.0**	**-0.3**
JOF	**Joensuu** comp=E,1.7nm,0.8s	**34.50**	**327**	*ep*	**P**	**03 24 17.0**	**-0.7**
FINES	**FINESS Array B** comp=E,1.6nm,0.5s,baz=112,slow=9.4,SNR=20	**36.37**	**323**	P	**P**	**03 24 34.2**	**+0.4**
ARCES	**ARCESS Array B** comp=E,2.2nm,0.6s,baz=102,slow=7.5,SNR=25	**39.27**	**335**	P	**P**	**03 24 59.4**	**+1.2**
GERES	**GERESS Array B** comp=E,0.3nm,0.6s,baz=58,slow=9.3,SNR=4.0	**43.22**	**303**	P	**P**	**03 25 31.3**	**+0.3**
NB2	**NORSAR Subarra** comp=Z,2.8nm,0.8s,baz=89,slow=7.9	**43.44**	**321**	P	**P**	**03 25 32.2**	**-0.3**
NOA	**NORSAR Array B** comp=Z,1.6nm,0.7s,baz=91,slow=7.9,SNR=4.1	**43.44**	**321**	P	**P**	**03 25 32.4**	**-0.1**
DAVOX	**Davos/Dischmat** comp=Z,3.0nm,1.0s,baz=50,slow=7.9	**46.20**	**301**	P	**P**	**03 25 53.7**	**-1.2**
ESDC	**Sonseca Array** comp=Z,0.3nm,0.6s,baz=65,slow=8.3,SNR=4.1	**58.20**	**297**	P	**P**	**03 27 23.4**	**-0.6**
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.6s,baz=48,slow=5.1,SNR=7.7	**68.23**	**269**	P	**P**	**03 28 28.7**	**-2.1**
INK	**Inuvik** comp=Z,0.6nm,0.5s,baz=293,slow=6.1,SNR=5.3	**70.41**	**11**	P	**P**	**03 28 42.5**	**-0.9**
ILAR	**Eielson Array** comp=Z,0.3nm,0.8s,baz=341,slow=3.5,SNR=5.8	**71.09**	**17**	P	**P**	**03 28 48.1**	**+0.5**
YKA	**Yellowknife Ar** comp=Z,0.5nm,0.7s,baz=350,slow=5.9,SNR=14	**77.99**	**4**	P	**P**	**03 29 29.1**	**+1.5**
WRA	**Warramunga Arr** comp=Z,0.4nm,0.4s,baz=328,slow=5.0,SNR=4.0	**81.64**	**124**	P	**P**	**03 29 49.1**	**+1.1**
ASAR	**Alice Springs** comp=Z,0.3nm,0.6s,baz=323,slow=5.0,SNR=5.4	**84.10**	**127**	P	**P**	**03 30 01.9**	**+1.1**

IDC 22 03:23:01.4±1.7, 1˚.51N×127˚.10E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, MS3.4/1, Ms1 3.4/1, ms1mx2.3/24, Error ellipse: s-maj=167.5km s-min=19.7km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.1nm,0.4s,baz=341,slow=11,SNR=30	**22.47**	**162**	P	P	03 28 02.6	+0.1
ASAR	**Alice Springs** 0.4nm,0.4s,baz=344,slow=10,SNR=11	**25.89**	**166**	P	P	03 28 35.0	-0.3
STKA	**Stephens Creek** 0.6nm,0.2s,baz=346,slow=12,SNR=2.9	**35.94**	**159**	P	P	03 30 03.9	+0.1
MJAR	**Matsushiro Arr** comp=Z,65nm,20.4s,baz=20,slow=33	**36.34**	**15**	LR	LR	03 43 01.9	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=120,slow=7.6,SNR=6.2	**59.58**	**326**	P	P	03 33 06.8	-0.3
KURBB	**Kurchatov Arra** 0.4nm,0.5s,baz=126,slow=6.0,SNR=5.4	**63.80**	**328**	P	P	03 33 35.6	+0.2

*NIED **22** 03:40:00, 35˚.60N×136˚.40E, h14km, Mw3.4 Best double couple: M₀1.41000×10¹⁴ NP1:φs329.00000°, δ56.00000°, λ59.00000°. NP2:φs197.00000°, δ45.00000°, λ128.00000°.*

JMA 22 03:40:48.6, 35˚.57N×136˚.40E, h13km, M3.7, 2D Broadband fault plane solution: P waves. NP1: φs345.00000°, δ50.00000°, λ72.00000°. **NP2:** φs191.00000°, δ43.00000°, λ110.00000°. **Principal axes:** T Plg76.0000°, Azm193.0000°; N Plg13.0000°, Azm356.0000°; P Plg4.0000°, Azm87.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGM	**Miyama**	**0.29**	**63**	⇓P	Pg	03 40 54.7	0.0
JGM				*e*S	Sg	03 40 58.8	0.0
JFM	**Mihama**	**0.34**	**263**	⇓P	Pg	03 40 55.6	0.0
JFM				*e*S	Sg	03 41 00.5	+0.3
MAT	**Matsushiro**	**1.76**	**56**	P	Pn	03 41 19.4	+0.6
MAT				S	Sg	03 41 44.3	-0.9

*BJI **22** 03:52:42.4, 3˚.74N×127˚.07E, h17km, mB5.2/38, mb4.9/49, Ms5.0/50, Ms7 4.8/48*

*ISCJB **22** 03:52:44.5±0.2, 3˚.93N±0˚.02×126˚.91E±0˚.03, h32km, mb5.1/133, MS4.6/53, Error ellipse: s-maj=4.3km s-min=2.8km az=175.3*

*IDC **22** 03:52:44.3±1.8, 3˚.82N×126˚.70E, h18km±10km, mb4.7/23, mb1 4.8/23, mb1mx4.8/24, mbtmp4.7/23, MS4.5/27, Ms1 4.5/27, ms1mx4.3/44, Error ellipse: s-maj=18.8km s-min=10.4km az=74.0*

*MOS **22** 03:52:45.0±1.4, 3˚.89N×126˚.68E, h33km, mb5.3/45, MS4.8/8, Error ellipse: s-maj=11.1km s-min=5.5km az=114.7*

*NEIC **22** 03:52:46.6±0.2, 3˚.85N×126˚.73E, h35km, mb5.2/62, Error ellipse: s-maj=6.8km s-min=4.1km az=66.0*

NEIC Felt [II] in the Kepulauan Talaud.

*DJA **22** 03:52:52, 3˚.67N×126˚.90E, h71km, Mw5.0/43*

ISC 22 03:52:46.4±0.3, 3˚.85N±0˚.03×126˚.76E±0˚.04, h32km±1km, h32km: pP-P, n523, σ1§69/565, mb5.1/130, MS4.6/54, 58C-61D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.86**	**321**	⇑*i*P	**Pn**	**03 53 31.0**	**+1.1**
MNI	**Manado**	**3.06**	**219**	P	Pn	03 53 35.6	+2.9
MATI	**Mati**	**3.11**	**351**	*e*P	Pn	03 53 37.0	+3.7
TNTI	**Ternate**	**3.12**	**169**	P	**Pn**	**03 53 34.5**	**+1.0**
DAV	**Davao City (W)**	**3.40**	**340**	Pn	**Pb**	**03 53 44.0**	**-2.0**
DAV				Sn	**Sn**	**03 54 12.2**	**-4.4**
DAV	**Davao City (W)** SNR=35	**3.40**	**340**	P	**Pb**	**03 53 43.7**	**-2.4**
DAV	**Davao City (W)**	**3.40**	**340**	P	**Pb**	**03 53 45.7**	**-0.4**
DAV	**Davao City (W)** 142nm,0.3s,baz=110,slow=5.6,SNR=12	**3.40**	**340**	Pn	**Pb**	**03 53 44.0**	**-2.0**
DAV	175nm,0.3s,baz=246,slow=20,SNR=6.4			Sn	**Sn**	**03 54 12.2**	**-4.4**
DMPH	**Davao City--Mi**	**3.44**	**339**	⇓*i*P	Pb	03 53 42.3	-4.4
DMPH				*e*S	**Sb**	**03 54 32.0**	**+3.9**
KMSI	**Cibinong**	**4.28**	**220**	P	Pn	03 53 54.4	+5.0
BUKP	**Musuan**	**4.34**	**337**	*e*P	**Pn**	**03 53 52.2**	**+1.9**
BUKP				*e*S	**Sb**	**03 54 48.9**	**-5.1**
LBMI	**Labuha**	**4.52**	**171**	P	Pn	03 53 56.2	+3.4
CGP	**Cagayan de Oro**	**5.01**	**336**	⇓*e*P	**Pn**	**03 54 02.0**	**+2.6**
CGP				*e*S	Sb	03 55 06.5	-6.7
PAGZ	**Pagadian**	**5.20**	**320**	*e*P	**Pn**	**03 54 04.3**	**+2.3**
BUTP	**Butuan**	**5.21**	**348**	*e*P	Pb	03 54 10.6	-6.1
IPIL	**Ipil**	**5.71**	**313**	*e*P	**Pn**	**03 54 11.1**	**+2.0**
MRSI	**Marisa** 707nm,0.9s,8μm2.7nm	**5.87**	**235**	P	Pn	03 54 15.4	+4.2
LUWI	**Luwuk** 914nm,0.9s,12μm4.3nm	**6.29**	**219**	P	Pn	03 54 23.6	+6.6
SWI	**Sorong** 384nm,0.9s,3μm1.2nm	**6.50**	**136**	P	**Pn**	**03 54 20.1**	**+0.2**
LLP	**Lapu-Lapu**	**6.99**	**337**	*e*P	Pn	03 54 33.1	+6.4
LLP				*e*S	**Sn**	**03 55 50.3**	**+5.2**
NLAI	**Namlea** 206nm,0.6s,4μm1.4nm	**7.05**	**177**	P	**Pn**	**03 54 28.0**	**+0.5**
MSAI	**Masohi**	**7.47**	**163**	P	Pn	03 54 37.9	+4.6
AAI	**Ambon**	**7.63**	**169**	P	Pn	03 54 42.0	+6.6
MYLDM	**Lahad Datu**	**8.33**	**279**	P	Pn	03 54 52.8	+7.7
MYLDM	**Lahad Datu** 206nm,1.6s,4μm1.2nm	**8.33**	**279**	P	Pn	03 54 52.0	+6.9
FAKI	**Fak Fak**	**8.68**	**141**	P	**Pn**	**03 54 51.3**	**+1.4**
KDI	**Kendari** 131nm,0.8s,2μm0.5nm	**8.79**	**208**	P	**Pn**	**03 54 52.9**	**+1.5**
TSM	**Tawau**	**8.87**	**273**	P	Pn	03 55 00.1	+7.6
SDKM	**Sandakan**	**9.69**	**281**	P	Pn	03 55 11.2	+7.4
TTSI	**Tana Toraja** 179nm,1.9s,3μm	**9.75**	**225**	P	Pn	03 55 08.1	+3.6
SPSI	**Sidrap Palu** 77nm,1.4s,2μm	**10.44**	**222**	P	Pn	03 55 20.5	+6.5
BAKI	**Biak** 344nm,1.2s,4μm	**10.61**	**118**	P	Pn	03 55 19.7	+3.4
KKM	**Kota Kinabalu**	**10.72**	**282**	*e*Pn	Pn	03 55 23.3	+5.3
KKM	**Kota Kinabalu**	**10.72**	**282**	P	Pn	03 55 25.3	+7.3
KKM	**Kota Kinabalu** 81nm,0.8s,2μm	**10.72**	**282**	P	Pn	03 55 25.0	+7.0
TLE	**Tual** 223nm,1.0s,4μm	**11.16**	**148**	P	Pn	03 55 28.0	+4.1
KAPI	**Kappang**	**11.25**	**219**	*e*Pn	**Pn**	**03 55 27.2**	**+2.1**
KAPI	**Kappang** SNR=5.6	**11.25**	**219**	P	Pn	03 55 28.3	+3.2
KAPI	**Kappang** 54nm,1.4s,934nm	**11.25**	**219**	P	Pn	03 55 29.8	+4.7
KAPI	**Kappang** 2.4nm,0.3s,baz=146,slow=17,SNR=7.6	**11.25**	**219**	Pn	Pn	03 55 29.2	+4.2
KAPI	comp=Z,3μm,18.1s,baz=50,slow=42			LR	LR	04 00 36.8	
BKSI	**Bulukumba** 37nm,1.2s,745nm12μm	**11.27**	**216**	P	Pn	03 55 29.6	+4.3
KBKI	**Kotabaru** 95nm,1.4s	**12.75**	**236**	P	P	03 55 50.9	-5.4
MMRI	**Maumere**	**13.20**	**200**	P	P	03 56 08.4	+7.1
SMPI	**Sarmi** 135nm,0.9s,6μm	**13.28**	**116**	P	**Pn**	**03 55 54.9**	**+2.0**
BTM	**Bintulu**	**13.66**	**268**	P	**P**	**03 56 04.0**	**-2.4**
BBKI	**Banjar Baru** 344nm,1.9s,9μm	**13.95**	**239**	P	**P**	**03 56 06.8**	**-2.9**
PLKI	**Palangkaraya**	**14.16**	**245**	P	**P**	**03 56 11.8**	**-0.2**
SBUM	**Sibu**	**14.58**	**265**	P	**P**	**03 56 15.9**	**-0.8**
SBUM	**Sibu** 47nm,1.9s,2μm	**14.58**	**265**	P	**P**	**03 56 14.7**	**-2.0**
JAY	**Jayapura**	**15.31**	**114**	P	**P**	**03 56 24.6**	**-0.3**
STKI	**Sintang** 78nm,1.4s	**15.72**	**256**	P	**P**	**03 56 32.3**	**+2.9**
PBKI	**Pangkalan Bun** 268nm,1.1s	**16.42**	**247**	P	**P**	**03 56 38.4**	**+1.2**
KHKI	**Kahang-Kahang** 237nm,1.4s,3μm21μm	**16.46**	**222**	P	**P**	**03 56 38.5**	**+0.9**
KSM	**Kuching** 65nm,0.7s	**16.60**	**262**	*e*Pn	**P**	**03 56 41.3**	**+2.2**
KSM	**Kuching** 118nm,1.1s,1μm	**16.60**	**262**	P	**P**	**03 56 41.4**	**+2.2**
KSM	**Kuching** 108nm,1.1s,1μm	**16.60**	**262**	P	**P**	**03 56 41.1**	**+2.0**
KMMI	**Kalianget** 108nm,1.1s,1μm	**16.74**	**230**	P	**P**	**03 56 41.7**	**+1.0**
IGBI	**Denpasar** 156nm,1.0s	**17.10**	**223**	P	**P**	**03 56 46.2**	**+1.5**
NBBI	**Negara** 244nm,1.1s,2μm	**17.14**	**225**	P	**P**	**03 56 45.1**	**-0.1**
BYJI	**Banyuwangi** 408nm,1.0s,10μm	**17.23**	**226**	P	**P**	**03 56 48.5**	**+2.5**
BLJI	**Banyuglugur**	**17.47**	**229**	P	P	03 56 55.6	+6.9
JAGI	**Jajag, Banyuwa** 153nm,0.9s,2μm	**17.55**	**226**	P	**P**	**03 56 51.3**	**+1.7**
GMJI	**Gumukmas** 152nm,1.1s,2μm	**17.93**	**228**	P	**P**	**03 56 55.6**	**+1.8**
KRKI	**Karangkates** 270nm,0.8s	**18.60**	**230**	P	Pn	03 57 06.8	+5.1
SJI	**Sawahan** 72nm,0.7s,2μm	**18.87**	**232**	P	**P**	**03 57 03.2**	**-1.1**
PWJI	**Pagerwojo** 61nm,1.1s	**19.02**	**232**	P	**P**	**03 57 05.1**	**-0.7**
PCJI	**Pacitan** 139nm,1.1s,1μm	**19.61**	**232**	P	**Pn**	**03 57 13.8**	**-0.1**
TWG	**Pinlang** 197nm,0.7s	**19.64**	**344**	*e*P	**P**	**03 57 12.7**	**+0.1**
YULB	**Yu-li** 26nm,0.4s	**20.13**	**345**	*e*P	**P**	**03 57 15.0**	**-2.9**
TPUB	**Ta-pu** 10nm,0.8s	**20.22**	**344**	*e*P	**P**	**03 57 16.6**	**-2.2**
BJII	**Banjamegara** 88nm,1.6s,2μm	**20.32**	**237**	P	Pn	03 57 21.4	-0.9
GUMO	**Guam** comp=Z,1μm,21.5s,baz=235,slow=33	**20.33**	**60**	LR	LR	04 03 59.1	
TGJI	**Tegal** 78nm,1.1s,4μm	**20.57**	**239**	P	**P**	**03 57 23.2**	**+0.4**
SSLB	**Suanglung** 139nm,1.2s	**20.59**	**345**	*e*P	**P**	**03 57 21.4**	**-1.6**
YHNB	**Yaheng** 48nm,7s	**21.33**	**346**	*e*P	**P**	**03 57 30.1**	**-0.8**
PPBI	**Pangkal Pinang** 28nm,1.4s	**21.46**	**254**	P	P	03 57 38.8	+6.5
TATO	**Taipei** 38nm,0.8s	**21.60**	**347**	*e*P	**P**	**03 57 33.1**	**-0.7**
FITZ	**Fitzroy Crossi** 50nm,0.8s	**21.84**	**183**	*e*P	**P**	**03 57 34.8**	**-1.6**
FITZ				S	**S**	**04 01 31.2**	**-5.1**
FITZ	**Fitzroy Crossi** 56nm,0.5s	**21.84**	**183**	*e*P	**P**	**03 57 34.5**	**-1.9**
FITZ	**Fitzroy Crossi** 28nm,0.5s,baz=16,slow=9.4,SNR=73	**21.84**	**183**	P	**P**	**03 57 34.9**	**-1.5**
FITZ	22nm,0.9s,baz=164,slow=19,SNR=13			S	**S**	**04 01 31.2**	**-5.1**
LEM	**Lembang** 158nm,0.8s,2μm	**21.85**	**241**	P	**P**	**03 57 38.2**	**+1.4**
CISI	**Cisompet, Garu** 80nm,0.7s	**22.04**	**239**	P	**P**	**03 57 41.8**	**+3.2**
QIZ	**Qiongzhong**	**22.37**	**314**	P	**P**	**03 57 38.5**	**-3.6**
QIZ				S	**S**	**04 01 40.8**	**-5.5**
QIZ	comp=Z,6.0nm,1.7s			pmax	pmax		
QIZ	comp=Z,85nm,5.4s			pmax	pmax		
QIZ	comp=N,950nm,14.3s			LR	LR		
QIZ	comp=Z,2μm,21.7s			LR	LR		
QIZ	**Qiongzhong** comp=Z,48nm,1.3s	**22.37**	**314**	*e*P	**P**	**03 57 46.8**	**+4.6**
QZH	**Quanzhou**	**22.39**	**340**	P	P	03 57 48.3	+6.1
QZH				S	**S**	**04 01 43.0**	**-3.5**
QZH	comp=Z,70nm,1.0s			pmax	pmax		
QZH	comp=N,2μm,18.0s			LR	LR		
QZH	comp=E,1μm,14.2s			LR	LR		
QZH	comp=Z,1μm,20.7s			LR	LR		
JOW	**Kunigami**	**22.89**	**3**	P	**P**	**03 57 52.0**	**+4.4**
JOW	**Kunigami** baz=191,slow=7.0,SNR=4.4	**22.89**	**3**	P	**P**	**03 57 52.0**	**+4.4**
MYKOM	**Kota Tinggi**	**22.97**	**266**	P	**P**	**03 57 50.6**	**+2.1**
GZH	**Guangzhou**	**23.11**	**327**	P	**P**	**03 57 51.6**	**+1.9**
GZH				S	**S**	**04 02 01.0**	**+2.0**
GZH	comp=N,2μm,17.3s			LR	LR		
GZH	comp=E,2μm,19.0s			LR	LR		
GZH	comp=Z,3μm,20.2s			LR	LR		
CGJI	**Cibinong** comp=Z,149nm,0.7s,comp=Z,10μm	**23.46**	**244**	P	**P**	**03 57 52.4**	**-0.9**
KGM	**Kluang**	**23.48**	**266**	P	**P**	**03 57 54.6**	**+1.0**
COEN	**Coen** comp=Z,146nm,0.9s	**24.05**	**138**	*e*P	**P**	**03 57 56.8**	**-2.2**
KASI	**Kota Agung** comp=Z,84nm,1.1s	**24.10**	**247**	P	**P**	**03 58 03.5**	**+4.0**
PMG	**Port Moresby** comp=Z,9.2nm,0.8s	**24.23**	**123**	*e*P	**P**	**03 57 58.0**	**-2.6**
PMG	**Port Moresby**	**24.23**	**123**	P	P	03 58 13.7	+13
PMG	**Port Moresby** comp=Z,14nm,0.9s,baz=292,slow=10,SNR=4.4	**24.23**	**123**	P	**P**	**03 57 58.8**	**-1.8**
LWLI	**Liwa**	**24.32**	**249**	P	P	03 58 07.8	+6.2
RGRI	**Rengat**	**24.76**	**261**	P	**P**	**03 58 07.3**	**+1.8**
WRAB	**Tennant Creek**	**24.79**	**163**	*e*P	**P**	**03 58 04.1**	**-1.6**
WRAB	comp=Z,119nm,0.8s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,119nm,0.8s	**24.79**	**163**	*e*P	**P**	**03 58 04.1**	**-1.6**
WRAB	**Tennant Creek** comp=Z,1μm,0.7s	**24.79**	**163**	P	**P**	**03 58 04.0**	**-1.6**
WRA	**Warramunga Arr**	**24.80**	**163**	P	**P**	**03 58 04.5**	**-1.2**
WRA				S	**S**	**04 02 23.2**	**-3.2**
WRA				ScP	**ScP**	**04 05 18.7**	**0.0**
WRA	**Warramunga Arr** comp=Z,100nm,0.6s,baz=342,slow=11,SNR=217	**24.80**	**163**	P	**P**	**03 58 04.5**	**-1.2**
WRA	comp=Z,16nm,1.1s,baz=344,slow=17,SNR=6.3			S	**S**	**04 02 23.2**	**-3.2**
WRA	comp=Z,4.5nm,0.7s,baz=340,slow=3.1,SNR=5.8			ScP	**ScP**	**04 05 18.7**	**0.0**
FRIM	**Kepong**	**25.09**	**269**	P	**P**	**03 58 08.7**	**+0.2**
IPM	**Ipoh** comp=Z,24nm,0.8s	**25.67**	**272**	*e*P	**P**	**03 58 16.1**	**+2.3**
MBWA	**Marble Bar** comp=Z,119nm,1.4s	**25.79**	**195**	*e*P	**P**	**03 58 14.4**	**-0.3**
MBWA	**Marble Bar** SNR=6.8	**25.79**	**195**	P	**P**	**03 58 15.5**	**+0.8**
KULM	**Kulim** comp=Z,120nm,1.6s	**26.06**	**274**	*e*P	**P**	**03 58 16.9**	**-0.4**
KULM	**Kulim**	**26.06**	**274**	P	P	03 58 25.2	+7.9
PPI	**Padang Panjang**	**26.69**	**261**	P	**P**	**03 58 24.3**	**+1.4**
MNSI	**Mandailing Nat**	**27.32**	**264**	P	P	03 58 37.1	+8.5
CBIJ	**Chichi jima** comp=Z,996nm,18.3s,baz=227,slow=33	**27.42**	**31**	LR	LR	04 07 49.6	
SSE	**Sheshan**	**27.60**	**350**	*e*P	**P**	**03 58 30.3**	**-0.6**
SSE				pP	**pP**	**03 58 41.0**	**+0.8**
SSE				S	**S**	**04 03 08.8**	**-1.7**
SSE				sS	**sS**	**04 03 26.3**	**+0.5**
SSE	comp=Z,11nm,1.0s			pmax	pmax		
SSE	comp=Z,130nm,3.5s			pmax	pmax		
SSE	comp=N,1μm,21.2s			LR	LR		
SSE	comp=E,260nm,21.2s			LR	LR		
SSE	comp=Z,1μm,21.5s			LR	LR		
PSI	**Prapat**	**27.80**	**269**	P	**P**	**03 58 32.0**	**-1.1**
PSI	**Prapat**	**27.80**	**269**	P	**P**	**03 58 33.1**	**0.0**
PSI	**Prapat** comp=Z,14nm,1.0s,baz=70,slow=5.6,SNR=9.1	**27.80**	**269**	P	**P**	**03 58 32.0**	**-1.1**
ASAR	**Alice Springs**	**28.23**	**166**	P	P	**03 58 35.5**	**-1.1**
ASAR				S	**S**	**04 03 21.1**	**+0.5**
ASAR				ScP	**ScP**	**04 05 28.0**	**-0.8**
ASAR	**Alice Springs** comp=Z,8.5nm,0.4s,baz=346,slow=7.9,SNR=120	**28.23**	**166**	P	**P**	**03 58 35.5**	**-1.1**
ASAR	comp=Z,6.8nm,1.0s,baz=350,slow=22,SNR=6.1			S	**S**	**04 03 21.1**	**+0.5**
ASAR	comp=Z,4.7nm,1.1s,baz=355,slow=3.0,SNR=5.5			ScP	**ScP**	**04 05 28.0**	**-0.8**
NJ2	**Nanjing**	**29.02**	**346**	*e*P	P	03 58 47.9	+4.4
NJ2				PP	**PnPn**	**03 59 41.3**	**+5.0**
NJ2				S	**S**	**04 03 34.0**	**+1.2**
NJ2				sS	sS	04 03 50.0	+1.9
NJ2	comp=Z,110nm,0.8s			pmax	pmax		
NJ2	comp=Z,290nm,4.3s			pmax	pmax		
NJ2	comp=N,360nm,25.0s			LR	LR		
NJ2	comp=E,300nm,26.0s			LR	LR		
WHN	**Wuhan**	**29.02**	**338**	P	**P**	**03 58 44.5**	**+1.0**
WHN	comp=N,3μm,16.8s			LR	LR		
WHN	comp=E,5μm,20.8s			LR	LR		
WHN	comp=Z,6μm,21.0s			LR	LR		
GSI	**Gunungsitoli**	**29.26**	**266**	P	**P**	**03 58 46.8**	**+0.9**
JNU	**Nakatsue**	**29.37**	**7**	P	**P**	**03 58 46.9**	**+0.2**
JNU	**Nakatsue** comp=Z,9.9nm,1.0s,baz=304,slow=6.3,SNR=5.6	**29.37**	**7**	P	**P**	**03 58 46.9**	**+0.2**
JNU	comp=Z,563nm,21.7s,baz=181,slow=34			LR	LR	04 09 15.9	
GYA	**Guiyang**	**29.59**	**321**	*e*P	P	03 58 54.8	+6.0
GYA				pP	pP	03 59 02.3	+4.2
GYA				PP	**PnPn**	**03 59 49.0**	**+4.7**
GYA				PcP	**PcP**	**04 01 54.5**	**+1.1**
GYA				S	**S**	**04 03 42.8**	**+0.6**
GYA				sS	sS	04 04 01.0	+3.5
GYA				SS	**SnSn**	**04 05 18.5**	**+6.5**
GYA				ScP	**ScP**	**04 05 33.0**	**-0.1**
GYA				ScS	**ScS**	**04 09 26.3**	**-1.9**
GYA	comp=Z,20nm,0.8s			pmax	pmax		
GYA	comp=Z,140nm,4.9s			pmax	pmax		
GYA	comp=N,730nm,16.9s			LR	LR		
GYA	comp=E,730nm,17.6s			LR	LR		
GYA	comp=Z,1μm,21.1s			LR	LR		
CTA	**Charters Tower** comp=Z,6.7nm,0.8s	**30.55**	**142**	*e*P	**P**	**03 58 59.3**	**+2.1**
CTAO	**Charters Tower**	**30.55**	**142**	*e*P	**P**	**03 58 56.2**	**-1.1**
CTAO	comp=Z,25nm,1.3s			pmax	pmax		
CTAO	**Charters Tower** comp=Z,25nm,1.3s	**30.55**	**142**	*e*P	**P**	**03 58 56.2**	**-1.1**
CMAR	**Chiang Mai Arr**	**30.83**	**300**	P	**P**	**03 59 01.1**	**+1.3**
CMAR				ScP	**ScP**	**04 05 39.2**	**+2.0**
CMAR	**Chiang Mai Arr** comp=Z,17nm,0.9s,baz=112,slow=7.0,SNR=15	**30.83**	**300**	P	**P**	**03

KMI pmax pmax
comp=Z,13nm,0.9s
KMI pmax pmax
comp=Z,170nm,4.0s
KMI LR LR
comp=N,390nm,24.6s
KMI LR LR
comp=E,930nm,24.6s
KMI LR LR
comp=Z,2μm,22.8s
KSAR Wonju Array Be 33.44 2 P P 03 59 23.6 +1.1
KSAR PcP **PcP** **04 02 03.9 +0.6**
KSAR ScP **ScP** **04 05 48.0 +2.3**
KSRS Korea Array 33.46 2 P P 03 59 23.6 +1.0
comp=Z,2.5nm,0.5s,baz=180,slow=9.0,SNR=13
KSRS PcP **PcP** **04 02 03.9 +0.6**
comp=Z,4.1nm,0.8s,baz=171,slow=2.8,SNR=6.1
KSRS ScP **ScP** **04 05 48.0 +2.3**
comp=Z,0.4nm,0.3s,baz=199,slow=3.4,SNR=4.5
KSRS LR LR 04 13 18.5
comp=Z,491nm,21.3s,baz=192,slow=37
MAJO Matsushiro 34.20 17 *e*P **P 03 59 28.4 -0.7**
MAJO pmax pmax
comp=Z,9.0nm,0.8s
MAJO Matsushiro 34.20 17 *e*P **P 03 59 28.4 -0.7**
comp=Z,9.1nm,0.8s
MJAR Matsushiro Arr 34.20 17 P **P 03 59 27.9 -1.1**
MJAR Matsushiro Arr 34.20 17 P **P 03 59 27.9 -1.1**
comp=Z,1.8nm,0.6s,baz=187,slow=9.8,SNR=9.4
MJAR LR LR 04 11 01.1
comp=Z,894nm,21.3s,baz=200,slow=32
XAN Xi'an 34.32 333 P **P 03 59 28.1 -2.1**
XAN pP **pP** **03 59 36.3 -3.2**
XAN sP **sP** **03 59 42.1 -1.3**
XAN PP **PnPn** **04 00 45.8 +0.6**
XAN S **S** **04 04 55.8 +0.2**
XAN pmax pmax
comp=Z,9.0nm,1.0s
XAN pmax pmax
comp=Z,23nm,5.8s
XAN LR LR
comp=N,570nm,19.0s
XAN LR LR
comp=E,410nm,17.8s
XAN LR LR
comp=Z,410nm,19.5s
FORT Forrest 34.46 178 *e*P **P 03 59 30.8 -0.6**
comp=Z,71nm,0.6s
FORT Forrest 34.46 178⇓ *i*P **P 03 59 31.0 -0.4**
comp=Z,63nm,0.6s
CD2 Chengdu 34.56 324 P **P 03 59 32.0 -0.3**
CD2 pP **pP** **03 59 41.8 +0.1**
CD2 sP **sP** **03 59 45.6 0.0**
CD2 PP **PnPn** **04 00 48.8 +0.5**
CD2 PcP **PcP** **04 02 06.5 -0.3**
CD2 S **S** **04 04 57.8 -1.7**
CD2 sS **sS** **04 05 13.8 -1.1**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,110nm,5.0s
CD2 LR LR
comp=N,1μm,19.1s
CD2 LR LR
comp=E,1μm,21.6s
CD2 LR LR
comp=Z,1μm,16.8s
KLBR Kellerberrin 36.28 193 *e*P **P 03 59 46.4 -0.6**
comp=Z,12nm,0.4s
BJT Baijiatuau 37.25 347 *e*P **P 03 59 55.1 -0.1**
comp=Z,80nm,0.9s
BJI Beijing 37.27 347 P **P 03 59 55.0 -0.3**
BJI sP **sP** **04 00 09.9 +1.3**
BJI PP **PnPn** **04 01 24.4 +3.0**
BJI pmax pmax
comp=Z,49nm,0.9s
BJI pmax pmax
comp=Z,140nm,3.5s
BJI LR LR
comp=N,780nm,19.2s
BJI LR LR
comp=E,450nm,19.7s
BJI LR LR
comp=Z,660nm,22.2s
EIDS Eidsvold 37.43 142 *e*P **P 03 59 55.4 -1.6**
comp=Z,57nm,1.1s
BBOO Buckleboo 37.52 167 *e*P **P 03 59 57.1 -0.5**
comp=Z,791nm,1.0s
NWAO Narrogin (SRO) 37.68 193 *e*P **P 03 59 58.7 -0.2**
comp=Z,19nm,0.8s
SNY Shenyang 37.91 356⇓P **P 04 00 03.9 +3.1**
SNY S **S** **04 05 52.9 +2.6**
SNY pmax pmax
comp=Z,26nm,1.1s
SNY pmax pmax
comp=Z,180nm,3.5s
SNY LR LR
comp=N,610nm,19.8s
SNY LR LR
comp=E,810nm,16.9s
SNY LR LR
comp=Z,860nm,22.1s
STKA Stephens Creek 38.24 159 P **P 04 00 03.1 -0.5**
STKA Stephens Creek 38.24 159⇑ *i*P **P 04 00 02.9 -0.7**
comp=Z,44nm,0.8s
STKA Stephens Creek 38.24 159 P **P 04 00 03.1 -0.5**
comp=Z,37nm,0.7s,baz=334,slow=8.4,SNR=127
LZH Lanzhou 38.41 329 *e*P **P 04 00 05.1 -0.2**
LZH pP **pP** **04 00 15.0 +0.3**
LZH sP **sP** **04 00 18.5 0.0**
LZH *e*S **S** **04 05 53.0 -5.4**
LZH pmax pmax
comp=Z,48nm,1.0s
LZH pmax pmax
comp=Z,210nm,7.9s
LZH LR LR
comp=N,590nm,13.7s
LZH LR LR
comp=E,1μm,15.9s
LZH LR LR
comp=Z,2μm,17.9s
HHC Hu-ho-hao-te 39.29 342 *e*P **P 04 00 13.4 +0.9**
HHC pP **pP** **04 00 23.4 +1.5**
HHC sP **sP** **04 00 27.3 +1.5**
HHC PP **PnPn** **04 01 48.8 +2.9**
HHC S **S** **04 06 12.3 +0.9**
HHC sS **sS** **04 06 27.8 +0.8**
HHC SS **SS** **04 08 59.9 -5.8**
HHC ScS **ScS** **04 10 17.3 -1.8**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,120nm,5.2s
HHC LR LR
comp=N,520nm,7.1s
HHC LR LR
comp=E,270nm,8.8s
HHC LR LR
comp=Z,340nm,16.6s
CN2 Changchun 39.80 359 *e*P P 04 00 20.3 +3.8
CN2 *e*S **S** **04 06 23.6 +4.9**
CN2 SS **SS** **04 09 15.1 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,800nm,18.0s
CN2 LR LR
comp=E,600nm,18.0s
CN2 LR LR
comp=Z,900nm,21.0s
SHL Shillong 39.82 306 *e*PKP **P 04 00 16.0 -1.3**
SHL *ex* x 04 06 13.5
USRK Ussuriysk Arra 40.45 6 P **P 04 00 22.0 +0.1**
comp=Z,5.8nm,0.7s,baz=186,slow=6.7,SNR=10
MDJ Mudanjiang 40.67 3 P **P 04 00 25.4 +1.6**
MDJ pP **pP** **04 00 34.3 +1.1**
MDJ sP **sP** **04 00 37.9 +0.8**
MDJ PP **PP** **04 01 59.4 +1.5**
MDJ PcP **PcP** **04 02 23.9 -1.2**
MDJ ScP **ScP** **04 06 11.9 -0.6**
MDJ PcS **PcS** **04 06 15.8 +0.1**
MDJ S **S** **04 06 34.3 +2.6**
MDJ ScS **ScS** **04 10 27.3 +0.4**
MDJ pmax pmax
comp=Z,13nm,1.6s
MDJ pmax pmax
comp=Z,310nm,4.7s
MDJ LR LR
comp=N,450nm,26.6s
MDJ LR LR
comp=E,230nm,32.3s
MDJ LR LR
comp=Z,580nm,30.4s
MDJ Mudanjiang 40.67 3 *e*P **P 04 00 24.5 +0.8**
comp=Z,17nm,0.8s
ARMA Armidale 41.56 147 *e*P **P 04 00 31.2 -0.1**
comp=Z,45nm,0.8s
ARMA Armidale 41.56 147 *e*P **P 04 00 31.1 -0.3**
LSA Lhasa 42.38 311 P **P 04 00 38.8 +0.2**
LSA Lhasa 42.38 311 *e*P **P 04 00 38.3 -0.3**
LSA pmax pmax
comp=Z,24nm,0.6s
LSA Lhasa 42.38 311 *e*P **P 04 00 38.3 -0.3**
comp=Z,24nm,0.6s
ASAJ Asahikawa 42.47 17 LR LR 04 17 53.4
comp=Z,950nm,20.1s,baz=172,slow=36
GTA Gaotai 43.00 329 *e*P **P 04 00 42.0 -1.1**
GTA pP **pP** **04 00 51.6 -1.0**
GTA sP **sP** **04 00 55.9 -0.6**
GTA S **S** **04 07 05.3 -1.4**
GTA SS **SS** **04 10 13.8 -5.7**
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA pmax pmax
comp=Z,150nm,5.2s
GTA LR LR
comp=N,1μm,22.3s
GTA LR LR
comp=E,900nm,19.2s
GTA LR LR
comp=Z,2μm,20.2s
TAPN Taplejung 43.96 306 *e*P **P 04 00 50.6 -0.6**
comp=Z,61nm,0.9s
TAPN Taplejung 43.96 306 *e*P **P 04 00 50.6 -0.6**
comp=Z,61nm,0.9s
ODAN Odare 44.02 305 *e*P **P 04 00 51.3 -0.3**
comp=Z,72nm,0.8s
ODAN Odare 44.02 305 *e*P **P 04 00 51.3 -0.3**
comp=Z,72nm,0.8s
CAN Canberra 44.21 154 *e*P **P 04 00 53.6 +0.9**
comp=Z,28nm,0.9s
RAMN Ramite 44.70 305 *e*P **P 04 00 56.2 -0.9**
comp=Z,33nm,0.6s
RAMN Ramite 44.70 305 *e*P **P 04 00 56.2 -0.9**
comp=Z,33nm,0.6s
TOO Toolangi 44.74 159 *e*P **P 04 00 58.4 +1.4**
comp=Z,108nm,1.2s
HABR Khabarovsk 45.02 8 *e*P **P 04 00 57.1 -1.8**
HABR *e**PP **pP** **04 01 06.5 -2.0**
HABR *e**SP **sP** **04 01 11.0 -1.3**
HABR 04 02 37.1
HABR *e*PPP PPP 04 03 21.7
HABR *e*S **S** **04 07 34.6 -0.8**
HABR *e*SSS SSS 04 11 45.3
HABR pmax pmax
comp=Z,120nm,2.2s
HABR pmax pmax
comp=N,94nm,2.2s
HABR pmax pmax
comp=E,40nm,1.5s
HABR MLR MLR
comp=Z,337nm,20.0s
YSS Yuzh-Sakhalins 45.12 15 *e*P P 04 01 10.0 +10
YSS MLR MLR
comp=Z,900nm,16.0s
JIRN Jiri 45.32 306 *e*P **P 04 01 01.1 -1.0**
comp=Z,20nm,0.8s
JIRN Jiri 45.32 306 *e*P **P 04 01 01.1 -1.0**
comp=Z,20nm,0.8s
KLR Kul'dur 45.41 5 *e*P **P 04 00 59.2 -2.8**
KLR pmax pmax
comp=Z,64nm,1.8s
HIA Hailar 45.64 354 *e*P **P 04 01 04.7 +0.8**
comp=Z,49nm,1.1s
GUN Gumba 45.67 306 *e*P **P 04 01 03.7 -1.2**
comp=Z,85nm,0.8s
GUN Gumba 45.67 306 *e*P **P 04 01 03.7 -1.2**
comp=Z,85nm,0.8s
PKI Pulchoki 45.92 305 *e*P **P 04 01 05.4 -1.4**
PKI Pulchoki 45.92 305 *e*P **P 04 01 05.4 -1.4**
PKI Pulchoki 45.92 305 *e*P **P 04 01 05.4 -1.4**
KKN Kakani 46.11 305 *e*P **P 04 01 06.8 -1.4**
KKN Kakani 46.11 305 *e*P **P 04 01 06.8 -1.4**
KKN Kakani 46.11 305 *e*P **P 04 01 06.8 -1.4**
DMN Daman 46.18 305 *e*P **P 04 01 07.3 -1.5**
comp=Z,19nm,0.6s
DMN Daman 46.18 305 *e*P **P 04 01 07.3 -1.5**
comp=Z,19nm,0.6s
DZM Mont Dzumac 46.59 125 *e*P **P 04 01 15.0 +3.2**
comp=Z,24nm,0.8s
DZM *e*S **S** **04 08 02.4 +3.4**
comp=Z,374nm,29.1s
DZM *e*LR LR 04 14 21.7
comp=Z,356nm,25.6s
DZM Mont Dzumac 46.59 125 *e*P **P 04 01 10.0 -1.8**
comp=Z,12nm,0.8s
GKN Gorkha 46.72 305 *e*P **P 04 01 11.3 -1.6**
comp=Z,14nm,0.5s
GKN Gorkha 46.72 305 *e*P **P 04 01 11.3 -1.6**
comp=Z,14nm,0.5s
ULN Ulaanbaatar 47.01 342 *e*P **P 04 01 14.8 0.0**
comp=Z,26nm,1.0s
ULN Ulaanbaatar 47.01 342 P **P 04 01 15.3 +0.4**
SNR=8.5
SONM Songino Array 47.19 341 P **P 04 01 17.0 +0.7**
SONM ScP ScP 04 06 46.4 +7.2
SONM Songino Array 47.19 341 P **P 04 01 17.0 +0.7**
comp=Z,5.4nm,0.6s,baz=159,slow=8.7,SNR=22
SONM ScP ScP 04 06 46.4 +7.2
comp=Z,0.9nm,0.7s,baz=142,slow=4.0,SNR=4.4
SONM LR LR 04 22 29.6
comp=Z,541nm,18.6s,baz=164,slow=38
KOLN Koldanda 47.47 305 *e*P **P 04 01 17.8 -1.1**
comp=Z,69nm,0.5s
KOLN Koldanda 47.47 305 *e*P **P 04 01 17.8 -1.1**
comp=Z,69nm,0.5s
DANN Dangsing 47.56 305 *e*P **P 04 01 18.2 -1.5**
comp=Z,89nm,0.6s
DANN Dangsing 47.56 305 *e*P **P 04 01 18.2 -1.5**
comp=Z,89nm,0.6s
HYB Hyderabad 49.10 290 *i* P **P 04 01 30.0 -1.3**
ZAK Zakamensk 50.42 341 *e*P P 04 01 44.2 +3.3
ZAK *e* 04 03 00.2
ZAK pmax pmax
comp=Z,5.0nm,1.0s
LATR Latur 51.14 291 *e*PKP **P 04 01 44.4 -2.4**
TLY Talaya 51.42 342 *e*P **P 04 01 47.4 -0.9**
TLY *e*S S 04 08 59.6 -6.4
TLY *e*SS SS 04 12 32.4 -10
TLY *e*SSS SSS 04 14 09.6
TLY pmax pmax
comp=Z,20nm,0.9s
TLY MLR MLR
comp=Z,447nm,19.0s
TLY Talaya 51.42 342 *e*P **P 04 01 47.5 -0.9**
comp=Z,21nm,0.9s
TLY Talaya 51.42 342 P **P 04 01 49.0 +0.6**
SNR=9.5
TLY Talaya 51.42 342 P **P 04 01 48.0 -0.3**
comp=Z,122nm,0.8s,SNR=5.5
IRK Irkutsk 51.72 343 *e*P **P 04 01 50.0 -0.6**
IRK pmax pmax
comp=Z,49nm,0.6s
AGRA Agra 52.02 302 *e*PKP **P 04 01 51.3 -1.8**
AGRA AMb AMB 04 01 53.7
comp=Z,38nm,0.2s
MOY Mondy 52.27 340 *e*P **P 04 01 55.1 +0.3**
MOY pmax pmax
comp=Z,21nm,1.4s
WMQ Urumqi 52.64 325 P **P 04 01 57.3 -0.3**
WMQ pP **pP** **04 02 07.0 -0.3**
WMQ sP **sP** **04 02 11.0 -0.1**
WMQ PcP **PcP** **04 03 07.0 -0.4**
WMQ PP **PP** **04 03 58.0 +1.0**
WMQ S **S** **04 09 20.0 -3.1**
WMQ ScS **ScS** **04 11 43.0 -2.3**
WMQ pmax pmax
comp=Z,19nm,1.0s
WMQ pmax pmax
comp=Z,190nm,5.8s
WMQ LR LR
comp=N,2μm,18.0s
WMQ LR LR
comp=E,930nm,21.4s
WMQ LR LR
comp=Z,2μm,22.7s
CLNS Chul'man 52.85 359 *e*P **P 04 01 57.4 -1.5**
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS pmax pmax
comp=Z,21nm,1.4s
CLNS pmax pmax
comp=N,25nm,1.0s
AYAN Aya Nagar 53.09 303 *e*PKP **P 04 01 59.2 -1.9**
AYAN AMb AMB 04 02 16.3
comp=Z,21nm,1.1s
KUDL Kundal 53.52 302 *e*PKP **P 04 02 02.1 -2.2**
KUDL AMb AMB 04 02 11.0
comp=Z,26nm,1.6s
POO Poona 53.70 290 *e*PKP **P 04 02 03.0 -2.8**
KKR Kurukshetra 53.81 305 *e*PKP **P 04 02 05.8 -0.6**
KKR AMb AMB 04 02 13.3
comp=Z,182nm,0.3s
KHET Khetri 54.08 302 *e*PKP **P 04 02 06.5 -1.9**
KHET AMb AMB 04 02 11.2
comp=Z,25nm,1.1s
BOD Bodaibo 54.75 352 *e*P **P 04 02 12.4 -0.3**
BOD pmax pmax
comp=Z,17nm,1.3s
PETK Petropavlovsk- 55.31 22 P **P 04 02 17.7 +0.8**
PETK Petropavlovsk- 55.31 22 P **P 04 02 17.7 +0.8**
PETK Petropavlovsk- 55.31 22 P **P 04 02 17.7 +0.8**
comp=Z,22nm,0.9s,baz=187,slow=6.9,SNR=11
PETK LR LR 04 23 45.3
comp=Z,248nm,18.9s,baz=217,slow=34
MK31 Makanchi Array 57.47 325 *e*P **P 04 02 31.5 -0.9**
MK31 pmax pmax
comp=Z,23nm,0.9s
MKAR Makanchi Array 57.47 325 P **P 04 02 31.3 -1.1**
MKAR Makanchi Array 57.47 325 P **P 04 02 31.3 -1.1**
MKAR ScP **ScP** **04 07 26.3 +2.7**
MKAR Makanchi Array 57.47 325 P **P 04 02 31.3 -1.1**
comp=Z,6.4nm,0.5s,baz=116,slow=7.7,SNR=81
MKAR ScP **ScP** **04 07 26.3 +2.7**
comp=Z,2.5nm,0.9s,baz=100,slow=3.5,SNR=4.4
MKAR LR LR 04 29 28.0
comp=Z,727nm,18.0s,baz=109,slow=38
KSH Kashi 57.97 315 P **P 04 02 37.3 +1.1**
KSH pP **pP** **04 02 47.0 +0.9**
KSH sP **sP** **04 02 51.3 +1.5**
KSH PcP **PcP** **04 03 28.6 +0.4**
KSH PP **PP** **04 04 48.3 +3.4**
KSH ScP **ScP** **04 07 24.4 -1.8**
KSH PcS **PcS** **04 07 28.6 -1.0**
KSH S **S** **04 10 35.6 +0.9**
KSH sS **sS** **04 10 52.5 +1.6**
KSH ScS **ScS** **04 12 21.6 -2.3**
KSH SS **SS** **04 14 28.6 +2.4**
KSH pmax pmax
comp=Z,4.0nm,0.8s
KSH pmax pmax
comp=Z,130nm,5.0s
KSH LR LR
comp=N,210nm,7.6s
KSH LR LR
comp=E,230nm,5.6s
KSH LR LR
comp=Z,860nm,24.0s
YAK Yakutsk 58.08 2 *e*P **P 04 02 36.1 -0.3**
YAK *e**PP pP 04 02 51.9 +5.7
YAK *e* 04 03 28.8
YAK *e*S **S** **04 10 31.7 -3.3**
YAK *e* 04 12 21.4
YAK pmax pmax
comp=Z,57nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=N,13nm,0.9s
YAK smax smax
comp=N,143nm,8.8s
YAK smax smax
comp=E,121nm,11.2s
YAK Yakutsk 58.08 2 *e*P **P 04 02 36.5 +0.2**
comp=E,66nm,0.7s
TKM2 Tokmak 2 59.67 318 *e*P **P 04 02 48.5 +0.4**
TKM2 pmax pmax
comp=Z,8.0nm,0.8s
TKM2 Tokmak 2 59.67 318 *e*P **P 04 02 48.5 +0.4**
comp=Z,8.0nm,0.8s
AAK Ala-Archa 60.28 318 *e*P **P 04 02 52.8 +0.5**
AAK pmax pmax
comp=Z,76nm,1.1s
AAK Ala-Archa 60.28 318 *e*P **P 04 02 52.8 +0.5**
comp=Z,76nm,1.1s
ZALV Zalesovo Beam 60.49 333 P **P 04 02 51.6 -1.6**
ZALV Zalesovo Beam 60.49 333 P **P 04 02 51.6 -1.6**
ZALV Zalesovo Beam 60.49 333 P **P 04 02 51.6 -1.6**
comp=Z,3.7nm,0.4s,baz=124,slow=6.3,SNR=12
ZALV LR LR 04 30 41.5
comp=Z,539nm,19.7s,baz=124,slow=38
EKS2 Erkin-Say 60.77 318 *e*P **P 04 02 56.4 +0.8**
EKS2 pmax pmax
comp=Z,12nm,0.9s
EKS2 Erkin-Say 60.77 318 *e*P **P 04 02 56.4 +0.8**
comp=Z,12nm,0.9s
KURBB Kurchatov Arra 61.65 327 LR LR 04 31 39.4
comp=Z,172nm,19.2s,baz=95,slow=38
KURK Kurchatov 61.65 327 *c i*P **P 04 02 59.6 -1.6**
KURK pmax pmax
comp=Z,21nm,1.7s
KURK Kurchatov 61.65 327 *e*P **P 04 02 59.5 -1.6**
comp=Z,46nm,0.9s
KURK Kurchatov 61.65 327 P **P 04 03 01.5 +0.4**
SNR=16
KURK Kurchatov 61.65 327 P **P 04 03 00.9 -0.2**
comp=Z,242nm,0.8s,SNR=13
NVS Novosibirsk 61.77 333 *e*P **P 04 02 58.9 -3.0**
NVS *e*S S 04 11 13.6 -9.1
NVS pmax pmax
comp=N,12nm,0.8s
NVS pmax pmax
comp=E,10.0nm,0.8s
NVS pmax pmax
comp=Z,17nm,0.8s
NVS smax smax
comp=N,8.0nm,1.3s
NVS smax smax
comp=E,16nm,1.4s
SEY Seymchan 61.91 13 *d i*P **P 04 03 02.0 -0.6**
URZ Urewera 62.61 137 *e*P **P 04 03 07.2 -0.6**
comp=E,21nm,0.9s
KK31 Karatay Array 63.16 317 P **P 04 03 10.9 -0.5**
KK31 pmax pmax
comp=Z,15nm,1.0s
KKAR Karatay Array 63.16 317 *e*P **P 04 03 09.6 -1.8**
KKAR pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 63.16 317 *e*P **P 04 03 09.6 -1.8**
comp=Z,6.4nm,0.7s
BVAR Borovoye Array 67.23 327 LR LR 04 35 09.4
comp=Z,483nm,21.5s,baz=0.3,slow=38
BRVK Borovoye 67.30 327⇑ *i*P **P 04 03 36.7 -1.4**
BRVK pmax pmax
comp=Z,25nm,1.0s
BRVK Borovoye 67.30 327 *e*P **P 04 03 37.2 -0.8**
comp=Z,32nm,0.9s
BRVK Borovoye 67.30 327 P **P 04 03 38.7 +0.6**
comp=Z,160nm,0.8s,SNR=18
BRVK Borovoye 67.30 327 P **P 04 03 39.2 +1.2**
SNR=13
ASHO Ashiyiah 70.87 295⇓P **P 04 03 59.0 -1.9**
AB31 Akbulak array 72.07 321 P **P 04 04 06.9 -0.6**
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 72.07 321 *e*P **P 04 04 07.0 -0.5**
comp=Z,11nm,0.8s
SVE Sverdlovsk 73.87 328⇓ *e*P P 04 04 22.8 +4.8
SVE *e* 04 07 07.3
SVE pmax pmax
comp=Z,57nm,1.2s
SVE MLR MLR
comp=Z,519nm,21.0s
ARU Arti 74.84 328 *c i*P **P 04 04 22.3 -1.4**
ARU 04 07 07.3
ARU S **S** **04 13 55.9 -2.5**

ARU pmax pmax
comp=Z,8.0nm,0.6s
ARU Arti 74.84 328 *e*P **P** **04 04 22.6 -1.1**
comp=Z,28nm,0.8s
ARU Arti 74.84 328 P **P** **04 04 23.6 -0.1**
comp=Z,164nm,1.2s,SNR=5.8
SOKR Solikamsk 76.61 331⇑ *i*P P 04 04 43.1 +9.4
SOKR pmax pmax
comp=Z,10.0nm,1.1s
SOKR MLR MLR
comp=Z,360nm,22.0s
ABPO Ambohimpanom 81.38 250 *e*P **P** **04 05 00.3 -0.6**
ABPO pmax pmax
comp=Z,7.0nm,0.5s
ABPO Ambohimpanom 81.38 250 *e*P **P** **04 05 00.3 -0.6**
comp=Z,7.1nm,0.5s
GNI Garni 81.42 310 LR LR 04 48 48.1
comp=Z,132nm,19.1s,baz=218,slow=41
ZEI Tsey 82.15 312 *e*P **P** **04 05 04.7 +0.1**
ZEI pmax pmax
comp=Z,13nm,0.9s
KBZ Khabaz 82.91 313 P **P** **04 05 09.8 +1.6**
KBZ Khabaz 82.91 313 P **P** **04 05 09.8 +1.6**
KBZ Khabaz 82.91 313 P **P** **04 05 09.8 +1.6**
comp=Z,4.4nm,0.9s,baz=100,slow=6.1,SNR=4.2
KBZ LR LR 04 48 02.3
comp=Z,362nm,20.9s,baz=77,slow=40
KIV Kislovodsk 83.07 314 *e*P **P** **04 05 08.8 -0.4**
KIV pmax pmax
comp=Z,12nm,0.8s
KIV Kislovodsk 83.07 314 *e*P **P** **04 05 08.8 -0.4**
comp=Z,12nm,0.8s
SLKM Skilak Lake 83.22 30 *e*P **P** **04 05 09.6 0.0**
SLKM Skilak Lake 83.22 30 *e*P **P** **04 05 09.6 0.0**
PMR Palmer 83.83 29 *e*P **P** **04 05 11.8 -0.7**
PMR pmax pmax
comp=Z,26nm,1.0s
PMR Palmer 83.83 29 *e*P **P** **04 05 11.8 -0.7**
comp=Z,26nm,1.0s
MAW Mawson 83.88 200 LR LR 04 40 02.4
comp=Z,280nm,20.4s,baz=244,slow=34
VRHR Novokhopersk 83.96 321 *e*P **P** **04 05 12.8 -0.6**
VRHR *e*S **S** **04 15 31.9 -3.4**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s
VRHR smax smax
comp=E,290nm,2.8s
VRHR smax smax
comp=Z,80nm,2.8s
VRHR smax smax
comp=N,40nm,1.4s
COLA College 84.57 25 *e*P **P** **04 05 17.7 +1.5**
COLA pmax pmax
comp=Z,8.0nm,0.9s
COLA College 84.57 25 *e*P **P** **04 05 17.7 +1.5**
comp=Z,7.7nm,0.9s
ILAR Eielson Array 84.98 25 P **P** **04 05 17.6 -0.7**
ILAR PKKPbc **PKKPbc** **04 23 27.6 -1.0**
ILAR Eielson Array 84.98 25 P **P** **04 05 17.6 -0.7**
comp=Z,1.8nm,0.6s,baz=253,slow=5.8,SNR=28
ILAR PKKPbc **PKKPbc** **04 23 27.6 -1.0**
comp=Z,0.4nm,0.9s,baz=96,slow=2.9,SNR=4.1
ILAR LR LR 04 43 11.1
comp=Z,180nm,20.4s,baz=285,slow=36
PPT Papeete 85.13 108 LR LR 04 36 55.7
baz=332,slow=33
PPT2 Papeete2 85.13 108 *e*S **S** **04 15 50.7 +2.4**
comp=Z,115nm,26.5s
PPT2 *e*LR LR 04 32 16.3
comp=Z,199nm,24.8s
KLMR Klimovskoe 85.31 331 *e*P **P** **04 05 18.9 -1.1**
KLMR pmax pmax
comp=Z,119nm,1.6s
KLMR MLR MLR
comp=Z,900nm,20.0s
VORD Divnogorie 85.43 321 *e*P **P** **04 05 20.0 -0.9**
VORD *e*S S 04 15 41.8 -8.1
VSR Storozhevoye 85.51 321 *e*P **P** **04 05 20.2 -1.1**
VSR *e*S S 04 15 42.0 -8.7
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s
VSR smax smax
comp=N,460nm,3.3s
VSR smax smax
comp=E,370nm,3.3s
VSR smax smax
comp=Z,470nm,3.3s
TBI Tubuai 85.81 114 *e*LR LR 04 32 28.4
comp=Z,218nm,24.2s
MOS Moscow 86.35 325 *e*P **P** **04 05 23.6 -1.7**
MOS pmax pmax
comp=Z,37nm,0.9s
MENT Mentasta 86.38 27 *e*P **P** **04 05 26.0 +0.6**
OBN Obninsk 86.97 325⇑ *e*P **P** **04 05 27.9 -0.5**
OBN *i* 04 05 33.4
OBN *i* 04 05 41.2
OBN *e* 04 16 00.2
OBN pmax pmax
comp=Z,70nm,1.7s
OBN MLR MLR
comp=Z,500nm,22.0s
OBN Obninsk 86.97 325 *e*P **P** **04 05 28.9 +0.5**
comp=Z,90nm,1.4s
JOF Joensuu 89.08 333 *e*P **P** **04 05 36.5 -1.8**
JOF pmax pmax
comp=Z,12nm,0.6s
JOF Joensuu 89.08 333 *e*p **P** **04 05 36.5 -1.8**
comp=Z,12nm,0.6s
KMBO Kilima Mbogo 89.58 269 *e*P **P** **04 05 41.7 -0.3**
comp=Z,22nm,1.4s
KEV Kevo 89.78 340 *e*P **P** **04 05 40.1 -1.3**
KEV pmax pmax
comp=Z,6.0nm,0.9s
KEV Kevo 89.78 340 *e*p **P** **04 05 40.1 -1.3**
comp=Z,6.0nm,0.9s
BRTR Keskin Array B 89.96 310 P **P** **04 05 42.0 -1.1**
BRTR Keskin Array B 89.96 310 P **P** **04 05 42.0 -1.1**
comp=Z,3.1nm,0.8s,baz=112,slow=3.6,SNR=12
BRTR LR LR 04 53 00.6
comp=Z,112nm,19.7s,baz=63,slow=40
INK Inuvik 90.04 21 *e*P **P** **04 05 42.2 -0.4**
comp=Z,8.0nm,1.1s
INK PKKPbc **PKKPdf** **04 23 13.3 +1.7**
INK Inuvik 90.04 21 PKKPbc PKKPbc 04 23 13.3 -3.0
comp=Z,0.7nm,0.4s,baz=53,slow=3.4,SNR=7.0
INK LR LR 04 44 45.5
comp=Z,127nm,20.8s,baz=153,slow=35
ARCES ARCESS Array B 90.34 340 P **P** **04 05 43.2 -0.9**
ARCES ARCESS Array B 90.34 340 P **P** **04 05 43.2 -0.9**
comp=Z,5.1nm,0.7s,baz=69,slow=4.9,SNR=19
ARCES LR LR 04 49 13.9
comp=Z,518nm,18.1s,baz=329,slow=38
SPITS Spitsbergen Ar 90.36 349 LR LR 04 50 59.3
comp=Z,419nm,19.1s,baz=60,slow=39
KAF Kangasniemi 91.50 332 *e*P **P** **04 05 47.2 -2.4**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 91.50 332 *e*p **P** **04 05 47.2 -2.4**
comp=Z,4.4nm,0.5s
FINES FINESS Array B 91.73 332 P **P** **04 05 50.0 -0.6**
FINES FINESS Array B 91.73 332 P **P** **04 05 50.0 -0.6**
comp=Z,1.3nm,0.4s,baz=74,slow=5.8,SNR=14
FINES LR LR 04 50 29.6
comp=Z,489nm,21.3s,baz=309,slow=38
AKASG Malin Array Be 91.81 321 P **P** **04 05 49.7 -1.6**
AKASG Malin Array Be 91.81 321 P **P** **04 05 49.7 -1.6**
AKASG Malin Array Be 91.81 321 P **P** **04 05 49.7 -1.6**
comp=Z,6.6nm,0.9s,baz=71,slow=4.6,SNR=8.6
KIEV Kiev 91.82 321 *e*P **P** **04 05 50.1 -1.2**
KIEV pmax pmax
comp=Z,19nm,1.4s
KIEV Kiev 91.82 321 *e*P **P** **04 05 50.1 -1.2**
comp=Z,20nm,1.4s
IDID Didziasalis 92.55 326 *e*P **P** **04 05 57.2 +2.7**
IDID AMB AMB 04 05 58.1
comp=Z,7.4nm,1.0s
IDID Didziasalis 92.55 326 *e*P **P** **04 05 57.2 +2.7**
IDID AMB AMB 04 05 58.1
comp=Z,7.4nm,1.0s
SYO Syowa Base 92.55 201⇑ *e*P **P** **04 05 53.6 -0.6**
IZAR Zarasai 92.74 326 *e*P **P** **04 05 57.2 +1.8**
IZAR AMB AMB 04 06 01.0
comp=Z,6.3nm,1.2s
IZAR Zarasai 92.74 326 *e*P **P** **04 05 57.2 +1.8**
IZAR AMB AMB 04 06 01.0
comp=Z,6.3nm,1.2s
IIGN Ignalina 92.83 326 *e*P **P** **04 05 57.7 +1.8**
IIGN AMB AMB 04 05 58.4
comp=Z,6.2nm,1.2s
IIGN Ignalina 92.83 326 *e*P **P** **04 05 57.7 +1.8**
IIGN AMB AMB 04 05 58.4
comp=Z,6.2nm,1.2s
ISAL Salakas 92.84 326 *e*P **P** **04 05 57.5 +1.6**
ISAL AMB AMB 04 05 58.2
comp=Z,5.7nm,1.7s
ISAL Salakas 92.84 326 *e*P **P** **04 05 57.5 +1.6**
ISAL AMB AMB 04 05 58.2
comp=Z,5.7nm,1.7s
TLCR 92.88 315 ⇓P P 04 06 03.8 +7.5
TLCR 92.88 315 ⇓*i*P P 04 06 03.8 +7.5
CFR Carcaliu 93.36 316 ⇑P **P** **04 06 00.7 +2.2**
CFR Carcaliu 93.36 316 ⇑*i*P **P** **04 06 00.6 +2.1**
QSPA South Pole Qui 93.76 180 LR LR 04 48 30.9
comp=Z,180nm,21.3s,baz=359,slow=36
GRER 94.13 316 ⇓*i*P P 04 06 06.9 +4.8
TESR 94.17 317 ⇓*i*P **P** **04 06 01.2 -1.0**
MLR Muntele Rosu 94.83 316⇑*i*P **P** **04 06 05.5 0.0**
MLR Muntele Rosu 94.83 316 LR LR 04 55 02.9
comp=Z,167nm,21.1s,baz=335,slow=39
SUW Suwalki 94.84 325 *e*P **P** **04 06 05.4 +0.3**
SUW Suwalki 94.84 325 *e*P **P** **04 06 05.4 +0.3**
SUW Suwalki 94.84 325 *e*P **P** **04 06 05.0 -0.1**
SUW pmax pmax
comp=Z,46nm,1.0s
SUW Suwalki 94.84 325 *e*P **P** **04 06 05.0 -0.1**
comp=Z,46nm,1.0s
BURAR Bucovina Array 94.93 318⇑*i*P **P** **04 06 06.2 +0.4**
VOIR 95.46 316 ⇓P **P** **04 06 07.9 -0.4**
VOIR 95.46 316 ⇓*i*P **P** **04 06 07.9 -0.4**
KWP Kalwaria Pacla 96.13 321 *e*P P 04 06 14.4 +3.2
KWP Kalwaria Pacla 96.13 321 *e*P P 04 06 14.4 +3.2
KWP Kalwaria Pacla 96.13 321 ⇑P **P** **04 06 14.2 +3.0**
KWP Kalwaria Pacla 96.13 321 *e*P **P** **04 06 11.3 +0.2**
comp=Z,14nm,1.1s
KWP Kalwaria Pacla 96.13 321⇑*i*P **P** **04 06 14.2 +3.0**
KOLS Kolonicke sedl 96.57 320 *e*P P 04 06 16.4 +3.2
KOLS Kolonicke sedl 96.57 320 *e*P P 04 06 16.4 +3.2
TRPA Tarpa 96.58 319 ⇓*i*P **P** **04 06 13.0 -0.2**
UZH Uzhgorod 96.62 320⇑*i*P **P** **04 06 12.8 -0.6**
DRGR 96.77 318 ⇑P **P** **04 06 13.9 -0.3**
DRGR 96.77 318⇑*i*P **P** **04 06 13.9 -0.3**
GZR Gura Zlata 97.03 316 ⇑P Pdif 04 06 17.5 +2.0
GZR Gura Zlata 97.03 316⇑*i*P Pdif 04 06 17.5 +2.0
CRVS Cervenica-Dubn 97.09 320 *e*P Pdif 04 06 16.0 +0.4
CRVS pmax pmax
comp=Z,12nm,1.1s
CRVS Cervenica-Dubn 97.09 320 *e*P Pdif 04 06 16.0 +0.4
VTS Vitosha 97.33 314 ⇓P **P** **04 06 14.7 -2.2**
VTS Vitosha 97.33 314 ⇓*i*P **P** **04 06 14.6 -2.3**
RES Resolute Bay 97.69 10 *e*P Pdif 04 06 17.8 +0.2
comp=Z,7.5nm,1.4s
BZS Buzias 97.78 317 ⇑P **P** **04 06 18.3 -0.4**
BZS Buzias 97.78 317⇑*i*P **P** **04 06 18.3 -0.4**
HFS Hagfors 97.92 332 LR LR 04 54 54.4
comp=Z,610nm,18.3s,baz=65,slow=38
NB2 NORSAR Subarra 98.69 334 P **P** **04 06 22.2 -0.3**
baz=68,slow=4.6
NB2 NORSAR Subarra 98.69 334 P **P** **04 06 22.2 -0.3**
comp=Z,7.5nm,1.1s,baz=68,slow=4.6
NOA NORSAR Array B 98.69 334 P **P** **04 06 22.0 -0.5**
NOA NORSAR Array B 98.69 334 P **P** **04 06 22.0 -0.5**
comp=Z,1.7nm,0.8s,baz=67,slow=4.5,SNR=3.2
NOA LR LR 04 55 04.6
comp=Z,439nm,21.0s,baz=50,slow=38
OKC Ostrava-Krasne 98.93 322 *e*P Pdif 04 06 27.5 +3.7
OKC Ostrava-Krasne 98.93 322 *e*PDIFF Pdif 04 06 27.5 +3.7
LSZ Lusaka 99.26 255 *e*P **Pdif** **04 06 25.1 -1.0**
comp=Z,46nm,2.0s
MORC Moravsky Berou 99.32 322 *e*P **Pdif** **04 06 25.3 -0.3**
MORC pmax pmax
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 99.32 322 *e*P **Pdif** **04 06 25.3 -0.3**
comp=Z,2.7nm,0.8s
YKA Yellowknife Ar 99.38 24 P **Pdif** **04 06 25.1 -0.3**
YKA PKiKP **PKiKP** **04 10 56.0 +1.1**
YKA PKKPbc **PKKPbc** **04 22 50.2 -1.1**
YKA Yellowknife Ar 99.38 24 P **Pdif** **04 06 25.1 -0.3**
comp=Z,0.5nm,0.6s,baz=296,slow=4.3,SNR=11
YKA PKiKP **PKiKP** **04 10 56.0 +1.1**
comp=Z,0.3nm,0.6s,baz=297,slow=1.6,SNR=4.9
YKA PKKPbc **PKKPbc** **04 22 50.2 -1.1**
comp=Z,0.3nm,0.9s,baz=108,slow=2.2,SNR=5.0
KSP Ksiaz 99.76 323 *e*P **Pdif** **04 06 28.3 +0.8**
KSP Ksiaz 99.76 323 *e*P **Pdif** **04 06 28.3 +0.8**
DPC Dobruska-Polom 99.90 322 *e*P **Pdif** **04 06 31.2 +3.1**
DPC Dobruska-Polom 99.90 322 *e*PDIFF **Pdif** **04 06 31.2 +3.1**
VRAC Vranov 100.06 321 ⇓*i*P **Pdif** **04 06 28.9 +0.1**
BRG Berggiesshubel 101.15 323 *e*P **Pdif** **04 06 36.9 +3.2**
comp=Z,5.4nm,1.0s
BRG
comp=N,332nm,23.3s
BRG
comp=E,307nm,22.7s
BRG
comp=Z,632nm,23.0s
BRG Berggiesshubel 101.15 323 *e*P **Pdif** **04 06 36.8 +3.2**
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG MLR MLR
comp=N,332nm,23.3s
BRG MLR MLR
comp=E,307nm,22.7s
BRG MLR MLR
comp=Z,632nm,23.0s
CLL Collm 101.55 324 *e*P **Pdif** **04 06 36.0 +0.6**
CLL MLR MLR
comp=Z,400nm,20.6s
CLL Collm 101.55 324 *e*Pdif **Pdif** **04 06 36.0 +0.6**
CLL LmV 04 54 00.0
comp=Z,400nm,20.6s
GERES GERESS Array B 102.00 322 P **Pdif** **04 06 38.5 +0.9**
GERES GERESS Array B 102.00 322 P **Pdif** **04 06 38.5 +0.9**
comp=Z,1.5nm,0.9s,baz=68,slow=6.4,SNR=8.4
NVAR Mina Array Bea 106.81 48 Pdif **Pdif** **04 07 08.0 +8.6**
NVAR PKiKP **PKiKP** **04 11 10.2 +0.8**
NVAR PKKPbc **PKKPab** **04 22 43.5 -0.5**
NVAR Mina Array Bea 106.81 48 Pdiff **Pdif** **04 07 08.0 +8.6**
comp=Z,0.2nm,0.5s,baz=267,slow=4.5,SNR=2.9
NVAR PKiKP **PKiKP** **04 11 10.2 +0.8**
comp=Z,0.6nm,0.8s,baz=291,slow=4.1,SNR=3.4
NVAR PKKPbc **PKKPab** **04 22 43.5 -0.5**
comp=Z,0.8nm,0.7s,baz=120,slow=4.7,SNR=5.4
HLID Hailey 107.69 42 *e*PKP **PKiKP** **04 11 12.4 +1.5**
ELK Elko 108.21 45 *e*PKP **PKiKP** **04 11 13.1 +1.0**
F17A Fitzpatrick Pl 109.11 39 ⇑P **PKiKP** **04 11 14.1 +0.7**
baz=109
C22A Vida 111.06 35 ⇑P **PKiKP** **04 11 17.1 +0.2**
baz=111
D22A Cohagen 111.20 36 ⇑P **PKiKP** **04 11 17.6 +0.4**
baz=111
BW06 Boulder Array 111.25 41 *e*PKP **PKiKP** **04 11 18.4 +0.7**
PDAR Pinedale Array 111.25 41 PKKPbc PKKPbc 04 22 22.7 +7.8
PDAR Pinedale Array 111.25 41 PKKPbc PKKPbc 04 22 22.7 +7.8
comp=Z,2.1nm,0.9s,baz=108,slow=4.8,SNR=9.6
H20A Greybull 111.44 39 ⇑P **PKiKP** **04 11 18.0 +0.2**
baz=111
I20A Worland 111.61 39 ⇓P **PKiKP** **04 11 18.6 +0.4**
baz=112
K19A Absolon Red Bu 111.68 41 ⇑P **PKiKP** **04 11 18.3 -0.2**
baz=112
J20A Shoshoni 111.93 40 ⇓P **PKiKP** **04 11 19.2 +0.3**
baz=112
S16A Weppner Ranch, 111.99 47 ⇑P **PKiKP** **04 11 20.0 +0.8**
baz=112
C24A Savage 112.01 35 ⇓P **PKiKP** **04 11 19.6 +0.8**
baz=112
E23A Ismay 112.06 36 ⇓P **PKiKP** **04 11 19.7 +0.9**
baz=112
R17A Hanksville Air 112.34 46 ⇑P **PKiKP** **04 11 19.9 +0.1**
baz=112
T17A Navajo Res., N 112.86 47 ⇓P **PKiKP** **04 11 20.5 -0.4**
baz=113
J22A Midwest 112.92 39 ⇓P **PKiKP** **04 11 20.3 -0.4**
baz=113
L21A Rawlins 113.05 41 ⇓P **PKiKP** **04 11 21.0 -0.1**
baz=113
X16A Lo Mia Camp, P 113.40 50 ⇓P **PKiKP** **04 11 22.2 +0.2**
baz=113
H24A Dirks Ranch, A 113.43 37 ⇓P **PKiKP** **04 11 21.9 +0.2**
baz=113
N21A Black Mountain 113.52 42 ⇑P **PKiKP** **04 11 21.6 -0.5**
baz=113
RSSD Black Hills 114.08 38 *e*PKIKP PKPdf 04 11 22.6 -0.4
RSSD Black Hills 114.08 38 *e*PKP PKPdf 04 11 22.6 -0.5
N22A Wattenberg Ran 114.22 42 ⇓P PKPdf 04 11 23.7 +0.2
baz=114
MVCO Mesa Verde 114.44 46 ⇓P PKPdf 04 11 24.5 +0.5
baz=114
TUC Tucson 114.70 52 *e*PKIKP PKPdf 04 11 24.9 +0.5
TUC Tucson 114.70 52 *e*PKP PKPdf 04 11 24.9 +0.5
S21A Coal Bank Pass 114.75 45 ⇑P PKPdf 04 11 25.9 +1.3
baz=115
O23A Lake Granby, G 114.86 42 ⇓P PKPdf 04 11 25.8 +1.0
baz=115
U21A Nageezi 115.39 47 ⇓P **PKPdf** **04 11 27.2 +1.3**
baz=115
S22A 4UR Ranch, Cre 115.39 45 ⇑P **PKPdf** **04 11 26.9 +1.0**
baz=115
U22A Llaves 116.00 46 ⇓P **PKPdf** **04 11 28.1 +1.1**
baz=116
Z20A Nine Sixteen R 116.09 50 ⇓P **PKPdf** **04 11 28.4 +1.2**
baz=116
X21A Alamocita Cree 116.15 49 ⇑P **PKPdf** **04 11 28.7 +1.4**
baz=116
319A Douglas 116.24 52 ⇑P **PKPdf** **04 11 28.7 +1.2**
baz=116
SDCO Great Sand Dun 116.33 44 *e*PKPdf **PKPdf** **04 11 28.5 +0.8**
SDCO Great Sand Dun 116.33 44 ⇑P **PKPdf** **04 11 28.0 +0.4**
baz=116
320A Kipp Ranch, An 116.85 52 ⇑P **PKPdf** **04 11 28.7 +0.1**
baz=117
P26A Davis Ranch, A 116.90 42 ⇓P **PKPdf** **04 11 28.9 +0.4**
baz=117
ANMO Albuquerque 116.92 48 *e*PKPdf **PKPdf** **04 11 29.6 +0.8**
R25A Fountain Ranch 116.97 43 ⇑P **PKPdf** **04 11 28.8 +0.1**
baz=117
Y22A Socorro 116.98 49 ⇓P **PKPdf** **04 11 29.2 +0.3**
baz=117
Q26A Hugo 117.11 42 ⇑P **PKPdf** **04 11 29.4 +0.5**
baz=117
Z22A Elephant Butte 117.28 49 ⇑P **PKPdf** **04 11 30.4 +0.9**
baz=117
T25A Trinidad 117.38 45 ⇑P **PKPdf** **04 11 30.0 +0.4**
baz=117
V24A Rampart Ranch, 117.43 46 ⇑P **PKPdf** **04 11 30.9 +1.1**
baz=117
W24A Lazy 6 Ranch, 117.57 47 ⇑P **PKPdf** **04 11 31.3 +1.2**
baz=118
S26A Kim 117.79 44 ⇑P **PKPdf** **04 11 30.5 +0.2**
baz=118
V25A Rancho No Teng 117.85 46 ⇑P **PKPdf** **04 11 31.4 +0.9**
baz=118
R27A Eads 117.92 43 ⇑P **PKPdf** **04 11 31.2 +0.7**
baz=118
T26A Comanche Natio 117.93 44 ⇑P **PKPdf** **04 11 30.3 -0.3**
baz=118
Y24A Capitan 118.13 48 ⇑P **PKPdf** **04 11 31.8 +0.7**
baz=118
W25A X Bar L Ranch, 118.25 46 ⇓P **PKPdf** **04 11 31.6 +0.3**
baz=118
Z24A Sheeppen Canyo 118.45 49 ⇓P **PKPdf** **04 11 32.5 +0.8**
baz=118
ECSD EROS Data Cent 118.67 35 *e*PKPdf **PKPdf** **04 11 31.5 -0.1**
ECSD *e*SKPdf **SKPdf** **04 15 04.3 -0.6**
Y25A Mesa, Roswell 118.68 48 ⇓P **PKPdf** **04 11 31.8 -0.3**
baz=119
MNTX Cornudas Mount 119.15 50 *e*PKPdf **PKPdf** **04 11 33.4 +0.6**
MNTX Cornudas Mount 119.15 50 ⇓P **PKPdf** **04 11 33.7 +0.8**
baz=119
324A Moseley Ranch, 119.18 51 ⇑P **PKPdf** **04 11 33.8 +0.7**
baz=119
BGNE Belgrade 119.18 37 ⇓P **PKPdf** **04 11 32.4 -0.3**
baz=119
125A Gardner Draw, 119.28 49 ⇑P **PKPdf** **04 11 33.8 +0.5**
baz=119
W27A Bowe Ranch, En 119.33 46 ⇓P **PKPdf** **04 11 33.6 +0.3**
baz=119
325A Bean Ranch, Si 119.61 51 ⇑P **PKPdf** **04 11 34.4 +0.4**
baz=120
CBKS Cedar Bluff 119.67 41 *e*PKIKP **PKPdf** **04 11 34.0 +0.3**
CBKS Cedar Bluff 119.67 41 *e*PKPdf **PKPdf** **04 11 34.0 +0.3**
CBKS Cedar Bluff 119.67 41 ⇓P **PKPdf** **04 11 33.9 +0.3**
baz=120
SPMN St. Paul 119.76 31 ⇓P **PKPdf** **04 11 34.1 +0.4**
baz=120
Y27A Causey 119.83 47 ⇑P **PKPdf** **04 11 34.6 +0.4**
baz=120
Z27A Tatum 120.06 48 ⇑P **PKPdf** **04 11 35.2 +0.4**
baz=120
MSTX Muleshoe 120.07 47 ⇓P **PKPdf** **04 11 34.6 -0.1**
baz=120
SCHQ Schefferville 120.44 9 PKP **PKPdf** **04 11 35.0 +0.4**
SCHQ Schefferville 120.44 9 PKP **PKPdf** **04 11 35.0 +0.4**
comp=Z,6.3nm,1.1s,baz=30,slow=3.0,SNR=11
426A McDonald Obser 120.64 51 ⇓P **PKPdf** **04 11 36.1 0.0**
baz=121
526A Mary Lane Ranc 120.86 52 ⇓P **PKPdf** **04 11 37.0 +0.6**
baz=121
128A Castleberry Fa 120.92 48 ⇑P **PKPdf** **04 11 36.7 +0.3**
baz=121
Y29A Porterfield Fa 120.92 47 ⇓P **PKPdf** **04 11 36.9 +0.5**
baz=121
626A Big Bend Ranch 121.04 52 ⇓P **PKPdf** **04 11 37.0 +0.3**
baz=121
427A Hayter Ranch, 121.05 50 ⇓P **PKPdf** **04 11 37.3 +0.7**
baz=121
527A Woodward Ranch 121.19 51 ⇓P **PKPdf** **04 11 37.0 0.0**
baz=121
Z29A Hungry Hill Ra 121.19 47 ⇓P **PKPdf** **04 11 37.1 +0.2**
baz=121
328A Wristen Ranch, 121.26 50 ⇓P **PKPdf** **04 11 37.1 +0.1**
baz=121
129A Stewart Farms, 121.38 48 ⇓P **PKPdf** **04 11 37.8 +0.6**
baz=121
TXAR Lajitas Array 121.50 52 PKP **PKPdf** **04 11 37.4 -0.2**
TXAR PKKP **PKKPdf** **04 22 10.5 -2.6**
TXAR Lajitas Array 121.50 52 PKP **PKPdf** **04 11 37.4 -0.2**
comp=Z,3.0nm,1.0s,baz=270,slow=1.8,SNR=11
TXAR PKKP **PKKPdf** **04 22 10.5 -2.6**
comp=Z,0.3nm,0.8s,baz=115,slow=8.4,SNR=3.9
428A Kincaid Ranch, 121.65 50 ⇓P **PKPdf** **04 11 38.5 +0.7**
baz=122
627A Terlingua Ranc 121.67 52 ⇑P **PKPdf** **04 11 38.5 +0.5**
baz=122
528A Cox Ranch, San 121.83 51 ⇑P **PKPdf** **04 11 39.0 +0.8**
baz=122
628A Black Gap, Mar 122.05 52 ⇓P **PKPdf** **04 11 38.8 +0.2**
baz=122
529A Stev Forest Ra 122.28 51 ⇑P **PKPdf** **04 11 39.5 +0.5**
baz=122
429A Davenport Ranc 122.30 50 ⇑P **PKPdf** **04 11 39.3 +0.3**
baz=122
WMOK Wichita Mounta 122.53 44 *e*PKIKP **PKPdf** **04 11 39.1 -0.2**
WMOK Wichita Mounta 122.53 44 *e*PKPdf **PKPdf** **04 11 39.1 -0.2**
430A Baggett Ranch, 122.73 49 ⇓P **PKPdf** **04 11 40.2 +0.3**
baz=123
TORD Torodi Ar. Bea 122.90 288 PKP **PKPdf** **04 11 40.0 -0.5**
TORD Torodi Ar. Bea 122.90 288 PKP **PKPdf** **04 11 40.0 -0.5**
comp=Z,3.5nm,0.8s,baz=87,slow=1.7,SNR=42
431A Sonora 123.25 49 ⇓P **PKPdf** **04 11 40.8 0.0**
baz=123
531A Rocksprings 123.55 50 ⇓P **PKPdf** **04 11 41.3 -0.1**
baz=124
432A Menard 123.77 49 ⇓P **PKPdf** **04 11 41.8 0.0**
baz=124
631A Perdido Creek 123.88 51 ⇓P **PKPdf** **04 11 42.5 +0.5**
baz=124
TUL1 Tulsa 123.90 41 ⇓P **PKPdf** **04 11 42.2 +0.4**
baz=124
JCT Junction City 123.96 49 *e*PKIKP **PKPdf** **04 11 42.9 +0.7**
JCT Junction City 123.96 49 *e*PKPdf **PKPdf** **04 11 42.9 +0.7**
JCT Junction City 123.96 49 ⇑P **PKPdf** **04 11 42.7 +0.5**
baz=124
532A Rocksprings 124.05 50 ⇑P **PKPdf** **04 11 42.7 +0.3**
baz=124
732A Laxson Ranch, 124.66 51 ⇓P **PKPdf** **04 11 43.8 +0.3**
baz=125
MIAR Mount Ida 126.17 41 *e*PKIKP **PKPdf** **04 11 47.0 +0.8**
MIAR Mount Ida 126.17 41 *e*PKPdf **PKPdf** **04 11 47.0 +0.8**
NATX Nacogdoches 127.04 45 *e*PKPdf **PKPdf** **04 11 48.6 +0.6**

WCI	**Wyandotte Cave**	**128.13**	**33**	*e*PKIKP	**PKPdf**	**04 11 50.3**	**+0.3**
WCI	**Wyandotte Cave**	**128.13**	**33**	*e*PKPdf	**PKPdf**	**04 11 50.3**	**+0.3**
WVT	**Waverly**	**128.74**	**36**	*e*PKIKP	**PKPdf**	**04 11 51.5**	**+0.4**
WVT	**Waverly**	**128.74**	**36**	*e*PKPdf	**PKPdf**	**04 11 51.5**	**+0.4**
DBIC	**Dimbokro**	**130.58**	**282**	PKP	**PKPdf**	**04 11 55.0**	**-0.1**
DBIC				SKPbc	**SKPbc**	**04 15 16.6**	**-0.1**
DBIC	**Dimbokro**	**130.58**	**282**	PKP	**PKPdf**	**04 11 55.0**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=44,slow=3.8,SNR=6.3						
DBIC				SKPbc	**SKPbc**	**04 15 16.6**	**-0.1**
	comp=Z,6.6nm,1.0s,baz=59,slow=6.4,SNR=4.5						
TKL	**Tuckaleechee C**	**131.39**	**33**	PKP	**PKPdf**	**04 11 57.2**	**+1.0**
TKL				SKPbc	**SKPab**	**04 15 19.6**	**+0.1**
TKL	**Tuckaleechee C**	**131.39**	**33**	PKP	**PKPdf**	**04 11 57.2**	**+1.0**
	comp=Z,8.5nm,0.9s,baz=166,slow=3.2,SNR=7.6						
TKL				SKPbc	**SKPab**	**04 15 19.6**	**+0.1**
	comp=Z,3.7nm,0.8s,baz=213,slow=9.2,SNR=4.7						
TRQA	**Tornquist**	**145.03**	**168**	*e*PKPbc	**PKPbc**	**04 12 20.3**	**-0.1**
JTS	**JuntasAbangare**	**145.44**	**66**	*e*PKPbc	**PKPab**	**04 12 23.8**	**+1.2**
JTS	**JuntasAbangare**	**145.44**	**66**	PKPbc	**PKPab**	**04 12 23.0**	**+0.4**
	comp=Z,7.9nm,0.8s,baz=325,slow=6.5,SNR=4.7						
CFAA	**Coronel Fontan**	**149.00**	**155**	PKPbc	**PKPbc**	**04 12 31.1**	**-0.9**
CFAA	**Coronel Fontan**	**149.00**	**155**	PKPbc	**PKPbc**	**04 12 31.1**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=216,slow=2.6,SNR=21						
LCO	**Las Campanas**	**149.99**	**148**	*e*PKPbc	**PKPbc**	**04 12 35.0**	**+0.2**
BCIP	**Isla Barro Col**	**150.51**	**64**	*e*PKPbc	**PKPbc**	**04 12 35.4**	**-0.6**
SDDR	**Presa de Saban**	**151.18**	**37**	*e*PKPdf	**PKPdf**	**04 12 31.7**	**0.0**
OTAV	**Otavalo**	**154.49**	**81**	*e*PKPdf	**PKPdf**	**04 12 37.8**	**+0.6**
ATAH	**Atahualpa**	**154.76**	**99**	PKP	**PKPdf**	**04 12 38.9**	**+1.4**
ATAH	**Atahualpa**	**154.76**	**99**	PKP	**PKPdf**	**04 12 38.9**	**+1.4**
	comp=Z,5.4nm,0.8s,baz=359,slow=3.0,SNR=5.8						
CPUP	**Villa Florida**	**157.31**	**170**	PKP	**PKPdf**	**04 12 40.9**	**+0.9**
CPUP				PKPab	**PKPab**	**04 13 12.1**	**+1.2**
CPUP	**Villa Florida**	**157.31**	**170**	PKP	**PKPdf**	**04 12 40.9**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=107,slow=2.5,SNR=4.5						
CPUP				PKPab	**PKPab**	**04 13 12.1**	**+1.2**
	comp=Z,6.9nm,1.0s,baz=197,slow=4.5,SNR=4.5						
SDV	**Santo Domingo**	**158.54**	**54**	*e*PKPdf	**PKPdf**	**04 12 41.4**	**-0.7**
LPAZ	**La Paz**	**160.85**	**131**	PKP	**PKPdf**	**04 12 45.5**	**+0.3**
LPAZ				PKPab	**PKPab**	**04 13 29.4**	**+2.0**
LPAZ	**La Paz**	**160.85**	**131**	PKP	**PKPdf**	**04 12 45.5**	**+0.3**
	comp=Z,5.6nm,1.1s,baz=14,slow=4.2,SNR=9.9						
LPAZ				PKPab	**PKPab**	**04 13 29.4**	**+2.0**
	comp=Z,4.0nm,1.0s,baz=221,slow=1.4,SNR=5.0						
SIV	**San Ignacio**	**165.69**	**148**	PKP	**PKPdf**	**04 12 49.1**	**+0.1**
SIV				PKPab	**PKPab**	**04 13 48.3**	**+0.4**
SIV	**San Ignacio**	**165.69**	**148**	PKP	**PKPdf**	**04 12 49.1**	**+0.1**
	comp=Z,5.6nm,1.2s,baz=205,slow=1.5,SNR=8.4						
SIV				PKPab	**PKPab**	**04 13 48.3**	**+0.4**
	comp=Z,2.6nm,0.9s,baz=248,slow=5.8,SNR=4.2						
BDFB	**Brasilia**	**167.21**	**203**	PKPab	**PKPab**	**04 13 54.6**	**0.0**
BDFB	**Brasilia**	**167.21**	**203**	PKPab	**PKPab**	**04 13 54.6**	**0.0**
	comp=Z,5.6nm,1.0s,baz=129,slow=2.4,SNR=5.0						
SAML	**Samuel**	**168.90**	**118**	*e*PKPdf	**PKPdf**	**04 12 51.5**	**+0.1**
SAML				*e*PKPab	**PKPab**	**04 14 01.9**	**-0.4**

DDA 22 04:04:33.5, 37.98N×27.64E, h7km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MANT	**Manisa**	**0.89**	**54**	*i* P	Pb	04 04 51.3	-0.2
MANT				*i* S	Sg	04 05 00.1	-2.5
AKHS	**Akhisar**	**0.91**	**9**	*i* P	Pg	04 04 50.7	-0.3
AKHS				*i* S	Sg	04 05 03.4	+0.5

*IDC **22** 04:23:46.1±1.4, 30.54N×140.09E, h0km, mb3.9/6, mb1 3.9/8, mb1mx3.6/26, mbtmp3.9/8, ML3.8/2, Error ellipse: s-maj=66.7km s-min=28.4km az=67.0*

*ISCJB **22** 04:23:51.2±0.9, 30.96N±0.06×141.2E±0.2, h71km, mb3.7/6, Error ellipse: s-maj=22.1km s-min=7.5km az=165.5*

*JMA **22** 04:23:53.1±0.2, 31.36N×141.11E, h0km, M4.2*

ISC 22 04:23:51.5±1.1, 30.85N±0.07×141.1E±0.2, h71km, n18, σ1§94/17, mb3.9/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.51**	**334**	P	**Pn**	**04 24 29.7**	**-0.4**
JHJ2				*e*S	**Sn**	**04 24 57.2**	**-2.5**
JHJ	**Hachijo jima 2**	**2.53**	**334**	Pn	**Pn**	**04 24 29.8**	**-0.6**
	43nm,0.3s,baz=85,slow=22,SNR=18						
JHJ				Sn	**Sn**	**04 24 57.1**	**-3.0**
	85nm,0.3s,baz=78,slow=20,SNR=9.3						
BSO1	**Boso 1**	**3.79**	**358**	P	**Pn**	**04 24 47.0**	**0.0**
CBIJ	**Chichi jima**	**3.85**	**166**	Pn	**Pn**	**04 24 47.9**	**-0.5**
	8.4nm,0.3s,baz=263,slow=18,SNR=3.1						
CBIJ				Sn	**Sn**	**04 25 29.0**	**-3.4**
	10nm,0.3s,baz=287,slow=19,SNR=3.3						
BSO2	**Boso 2**	**3.90**	**356**	*e*S	**Sn**	**04 25 30.4**	**-2.8**
BSO3	**Boso 3**	**3.98**	**353**	P	**Pn**	**04 24 49.9**	**+0.2**
BSO3				*e*S	**Sn**	**04 25 32.5**	**-2.5**
JOD2	**Odawara 2**	**4.72**	**339**	P	**Pn**	**04 25 01.2**	**+1.0**
JRY	**Ryogami san**	**5.48**	**341**	P	Pn	04 25 12.7	+2.2
MJAR	**Matsushiro Arr**	**6.17**	**338**	Pn	Pn	04 25 22.9	+2.9
	2.0nm,0.3s,baz=169,slow=13,SNR=24						
MAT	**Matsushiro**	**6.18**	**338**	P	Pn	04 25 22.6	+2.5
MAT				*e*S	**Sn**	**04 26 29.2**	**-0.1**
JMK	**Ichinoseki**	**8.08**	**1**	P	**Pn**	**04 25 46.7**	**+0.6**
MKAR	**Makanchi Array**	**47.42**	**307**	P	**P**	**04 32 18.4**	**-0.4**
	0.5nm,1.0s,baz=99,slow=8.9,SNR=2.9						
KURBB	**Kurchatov Arra**	**49.80**	**312**	P	**P**	**04 32 36.7**	**-0.2**
	0.3nm,0.3s,baz=98,slow=7.4,SNR=3.3						
ARCES	**ARCESS Array B**	**69.70**	**340**	P	P	04 34 57.7	+4.4
	3.6nm,1.0s,baz=56,slow=5.6,SNR=2.5						
FINES	**FINESS Array B**	**74.18**	**333**	P	P	04 35 23.1	+2.9
	1.3nm,0.5s,baz=57,slow=5.1,SNR=11						
AKASG	**Malin Array Be**	**79.06**	**323**	P	**P**	**04 35 49.8**	**+2.0**
	0.6nm,0.3s,baz=50,slow=5.8,SNR=5.1						
BRTR	**Keskin Array B**	**82.79**	**312**	P	P	04 36 12.0	+3.9
	0.9nm,0.9s,baz=100,slow=4.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**121.40**	**312**	PKP	**PKPdf**	**04 42 39.8**	**+2.4**
	0.4nm,0.9s,baz=57,slow=1.2,SNR=2.8						

IDC 22 04:25:15.3±2.6, 7.15S×128.29E, h0km, mb3.3/1, mb1 3.7/3, mb1mx3.5/16, mbtmp3.5/3, ML3.8/2, Error ellipse: s-maj=302.4km s-min=32.0km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.01**	**156**	Pn	Pn	04 28 34.0	-1.2
	0.6nm,0.3s,baz=333,slow=13,SNR=25						
WRA				Sn	Sn	04 30 55.5	-16
	0.7nm,0.3s,baz=330,slow=22,SNR=8.2						
ASAR	**Alice Springs**	**17.29**	**162**	P	P	04 29 19.2	-0.6
	0.2nm,0.3s,baz=339,slow=9.4,SNR=8.6						
ASAR				S	Sn	04 32 21.0	-10
	0.2nm,0.3s,baz=314,slow=18,SNR=4.9						
MKAR	**Makanchi Array**	**67.43**	**328**	P	P	04 36 12.9	0.0
	0.1nm,0.4s,baz=113,slow=6.8,SNR=5.1						

*IDC **22** 04:27:45.1±0.7, 13.21N×125.92E, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.0/24, mbtmp4.1/13, Error ellipse: s-maj=27.0km s-min=16.5km az=70.0*

*ISCJB **22** 04:27:49.2±0.6, 13.19N±0.06×125.9E±0.1, h40km, mb4.0/13, Error ellipse: s-maj=16.4km s-min=6.9km az=20.6*

ISC 22 04:27:50.9±0.8, 13.20N±0.08×125.9E±0.1, h40km, n15, σ0§74/17, mb4.2/13, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**3.44**	**214⇑**	*e*P	**Pn**	**04 28 41.6**	**-0.4**
LLP				*e*S	**Sn**	**04 29 20.7**	**-0.8**
TBP	**Tagbilaran**	**4.02**	**210**	*e*P	**Pn**	**04 28 51.1**	**+1.1**
TBP				*e*S	**Sn**	**04 29 36.8**	**+1.0**
CMAR	**Chiang Mai Arr**	**26.44**	**285**	P	**P**	**04 33 23.9**	**-0.3**
	2.2nm,0.5s,baz=97,slow=7.8,SNR=9.5						
PSI	**Prapat**	**28.61**	**251**	P	**P**	**04 33 43.0**	**-0.8**
	3.7nm,0.6s,baz=50,slow=6.7,SNR=4.4						
WRA	**Warramunga Arr**	**33.97**	**166**	P	**P**	**04 34 29.5**	**-1.2**
	0.7nm,0.8s,baz=345,slow=9.5,SNR=3.1						
ASAR	**Alice Springs**	**37.47**	**168**	P	**P**	**04 35 01.9**	**+1.1**
	0.7nm,0.4s,baz=348,slow=7.2,SNR=7.0						
SONM	**Songino Array**	**38.17**	**339**	P	**P**	**04 35 06.8**	**+0.2**
	0.9nm,0.9s,baz=142,slow=5.4,SNR=3.0						
STKA	**Stephens Creek**	**47.28**	**162**	P	**P**	**04 36 20.4**	**-0.1**
	3.6nm,0.7s,baz=346,slow=8.6,SNR=10						
MKAR	**Makanchi Array**	**49.51**	**321**	P	**P**	**04 36 38.3**	**+0.8**
	2.3nm,0.8s,baz=115,slow=9.1,SNR=14						
KURBB	**Kurchatov Arra**	**53.48**	**324**	P	**P**	**04 37 07.3**	**+0.2**
	3.9nm,0.8s,baz=121,slow=7.5,SNR=19						
ILAR	**Eielson Array**	**76.98**	**26**	P	**P**	**04 39 39.1**	**-0.1**
	0.4nm,0.6s,baz=251,slow=5.6,SNR=9.4						
ARCES	**ARCESS Array B**	**81.34**	**340**	P	**P**	**04 40 03.3**	**+0.4**
	5.2nm,0.9s,baz=57,slow=5.8,SNR=3.4						
INK	**Inuvik**	**81.71**	**22**	P	**P**	**04 40 05.1**	**+0.3**
	0.8nm,0.3s,baz=270,slow=4.3,SNR=3.6						
FINES	**FINESS Array B**	**83.16**	**332**	P	**P**	**04 40 12.4**	**-0.1**
	4.2nm,1.0s,baz=90,slow=4.6,SNR=4.1						
YKA	**Yellowknife Ar**	**91.24**	**24**	P	**P**	**04 40 51.1**	**-0.6**
	0.2nm,0.7s,baz=296,slow=4.8,SNR=3.8						

IDC 22 04:29:59.8±1.2, 43.61N×133.71E, h444km±13km, mb2.9/6, mb1 2.8/8, mb1mx2.6/28, mbtmp2.7/8, Error ellipse: s-maj=28.7km s-min=15.2km az=59.0, Primorye

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USRK	**Ussuriysk Arra**	**1.37**	**296**	P	P	04 30 56.6	-0.1
	5.5nm,0.3s,baz=109,slow=6.5,SNR=102						
MJAR	**Matsushiro Arr**	**7.86**	**152**	P	P	04 31 54.4	+0.6
	0.2nm,0.3s,baz=352,slow=10,SNR=4.1						
SONM	**Songino Array**	**19.49**	**292**	P	P	04 33 57.1	+0.2
	0.1nm,0.3s,baz=95,slow=9.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**33.21**	**306**	P	P	04 35 57.8	0.0
	0.2nm,0.3s,baz=64,slow=6.7,SNR=2.3						
KURBB	**Kurchatov Arra**	**37.44**	**301**	P	P	04 36 33.0	-0.2
	0.8nm,0.4s,baz=82,slow=9.1,SNR=6.9						
INK	**Inuvik**	**51.32**	**28**	P	P	04 38 20.8	0.0
	0.4nm,0.4s,baz=311,slow=12,SNR=3.6						
FINES	**FINESS Array B**	**60.20**	**328**	P	P	04 39 22.7	-0.2
	2.7nm,1.0s,baz=74,slow=5.9,SNR=5.3						
WRA	**Warramunga Arr**	**63.24**	**179**	P	P	04 39 43.0	-0.4
	0.1nm,0.3s,baz=351,slow=5.3,SNR=5.3						
ASAR	**Alice Springs**	**66.94**	**180**	P	P	04 40 07.2	+0.3
	0.3nm,0.5s,baz=0.7,slow=6.6,SNR=4.9						

*ISCJB **22** 04:36:23.7±0.7, 24.4S±0.2×180.0E±0.1, h505km, mb4.0/11, Error ellipse: s-maj=28.1km s-min=14.1km az=164.2*

*IDC **22** 04:36:23.5±2.9, 24.36S×179.97E, h493km±31km, mb3.5/9, mb1 3.7/9, mb1mx3.5/16, mbtmp3.5/9, Error ellipse: s-maj=20.6km s-min=18.3km az=167.0*

ISC 22 04:36:24.3±0.8, 24.4S±0.2×179.9W±0.1, h505km, n19, σ1§01/20, mb4.0/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.74**	**278**	*e*P	**P**	**04 39 12.7**	**+1.9**
DZM	**Mont Dzumac**	**12.74**	**278**	P	**P**	**04 39 12.5**	**+1.8**
	1.0nm,0.3s,baz=85,slow=16,SNR=24						
CTA	**Charters Tower**	**31.54**	**271**	*e*P	**P**	**04 42 05.0**	**+0.2**
	11nm,0.4s						
STKA	**Stephens Creek**	**34.60**	**249**	*e*P	**P**	**04 42 30.3**	**-0.3**
	2.8nm,0.6s						
STKA	**Stephens Creek**	**34.60**	**249**	P	**P**	**04 42 29.9**	**-0.7**
	2.8nm,0.5s,baz=89,slow=10,SNR=18						
PMG	**Port Moresby**	**34.71**	**290**	P	**P**	**04 42 31.4**	**-0.3**
	11nm,0.7s,baz=110,slow=8.5,SNR=7.1						
ASAR	**Alice Springs**	**42.02**	**261**	P	**P**	**04 43 30.5**	**-0.6**
	2.9nm,0.7s,baz=97,slow=7.3,SNR=36						
WRA	**Warramunga Arr**	**42.44**	**267**	P	**P**	**04 43 33.3**	**-1.2**
	7.9nm,0.5s,baz=104,slow=8.2,SNR=90						
WRA				ScP	**ScP**	**04 48 19.9**	**+1.4**
	2.7nm,0.8s,baz=103,slow=4.1,SNR=11						
FITZ	**Fitzroy Crossi**	**50.85**	**266**	*e*P	**P**	**04 44 37.8**	**-0.4**
	12nm,0.6s						
QSPA	**South Pole Qui**	**65.69**	**180**	P	**P**	**04 46 18.7**	**+0.6**
	3.2nm,0.6s,baz=120,slow=1.3,SNR=22						
NVAR	**Mina Array Bea**	**85.06**	**44**	P	**P**	**04 48 07.2**	**+0.6**
	0.3nm,0.5s,baz=224,slow=7.6,SNR=4.2						
TXAR	**Lajitas Array**	**90.64**	**58**	P	**P**	**04 48 34.0**	**+1.2**
	1.4nm,0.8s,baz=210,slow=5.2,SNR=12						
ILAR	**Eielson Array**	**92.49**	**14**	P	**P**	**04 48 39.4**	**-1.0**
	0.3nm,0.9s,baz=222,slow=5.6,SNR=4.4						
PDAR	**Pinedale Array**	**93.00**	**44**	P	**P**	**04 48 44.0**	**+0.4**
	0.7nm,0.8s,baz=198,slow=2.7,SNR=5.1						
ARCES	**ARCESS Array B**	**132.38**	**348**	PKP	**PKPdf**	**04 54 39.0**	**-1.0**
	1.9nm,0.8s,baz=54,slow=2.3,SNR=3.9						
FINES	**FINESS Array B**	**138.93**	**341**	SKPbc	**SKPbc**	**04 57 38.8**	**-0.7**
	1.2nm,0.5s,baz=56,slow=1.5,SNR=11						
HFS	**Hagfors**	**143.04**	**349**	PKhKP	PKPpre	04 54 56.5	
	2.0nm,0.4s,baz=66,slow=3.7,SNR=22						
BRTR	**Keskin Array B**	**147.92**	**307**	PKPbc	**PKPbc**	**04 55 12.0**	**-0.7**
	0.8nm,0.9s,baz=132,slow=2.6,SNR=2.8						
BRTR				PKPab	**PKPab**	**04 55 16.4**	**-0.7**
	0.6nm,0.6s,baz=90,slow=1.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**168.71**	**188**	PKPab	**PKPab**	**04 56 46.6**	**-0.5**
	0.9nm,0.9s,baz=183,slow=4.2,SNR=6.0						

IDC 22 04:41:39.0±1.5, 4.57N×126.40E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.8/5, Error ellipse: s-maj=151.7km s-min=18.8km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.58**	**162**	P	P	04 47 09.5	-0.6
	4.4nm,0.6s,baz=343,slow=10,SNR=21						
ASAR	**Alice Springs**	**29.01**	**166**	P	P	04 47 40.5	-0.4
	0.3nm,0.5s,baz=342,slow=7.0,SNR=8.3						
STKA	**Stephens Creek**	**39.03**	**159**	P	P	04 49 08.3	+0.7
	4.1nm,0.8s,baz=341,slow=9.6,SNR=11						
MKAR	**Makanchi Array**	**56.68**	**325**	P	P	04 51 22.6	-1.8
	0.1nm,0.3s,baz=117,slow=7.9,SNR=3.5						
KURBB	**Kurchatov Arra**	**60.85**	**327**	P	P	04 51 54.8	+1.5
	0.4nm,0.3s,baz=126,slow=6.0,SNR=3.4						

IDC 22 04:56:05.8±1.1, 3.64N×126.45E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/21, mbtmp3.8/6, MS2.9/1, Ms1 2.9/1, ms1mx2.5/39, Error ellipse: s-maj=90.1km s-min=17.7km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.52**	**346**	LR	LR	04 58 40.0	
	comp=Z,164nm,19.0s,baz=171,slow=44						
FITZ	**Fitzroy Crossi**	**21.62**	**182**	P	P	05 00 58.4	+0.7
	1.4nm,0.5s,baz=12,slow=11,SNR=5.6						
WRA	**Warramunga Arr**	**24.68**	**162**	P	P	05 01 28.5	-0.2
	6.3nm,0.7s,baz=343,slow=11,SNR=49						
ASAR	**Alice Springs**	**28.10**	**165**	P	P	05 01 59.4	-0.2
	0.4nm,0.3s,baz=342,slow=8.5,SNR=20						
STKA	**Stephens Creek**	**38.15**	**159**	P	P	05 03 27.0	0.0
	2.4nm,0.6s,baz=338,slow=8.6,SNR=12						
SONM	**Songino Array**	**47.29**	**342**	P	P	05 04 43.1	+1.8
	0.8nm,1.2s,baz=140,slow=9.1,SNR=2.4						
MKAR	**Makanchi Array**	**57.47**	**325**	P	P	05 05 55.0	-1.8
	0.3nm,0.6s,baz=121,slow=7.2,SNR=9.0						

IDC 22 05:03:54.4±1.3, 36.10N×135.18E, h371km±17km, mb2.9/4, mb1 3.0/6, mb1mx2.7/26, mbtmp2.8/6, Error ellipse: s-maj=38.4km s-min=17.8km az=52.0, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**2.48**	**79**	P	Pn	05 04 51.3	+0.3
MJAR	**Matsushiro Arr**	**2.48**	**79**	P	Pn	05 04 51.5	+0.6
	0.9nm,0.3s,baz=260,slow=9.3,SNR=17						
KSRS	**Korea Array**	**5.98**	**285**	P	Pn	05 05 25.0	-0.7
	0.4nm,0.3s,baz=105,slow=12,SNR=9.2						
SONM	**Songino Array**	**24.26**	**308**	P	P	05 08 40.8	+1.3
	0.3nm,0.6s,baz=120,slow=8.7,SNR=3.2						
MKAR	**Makanchi Array**	**40.37**	**302**	P	P	05 10 57.1	-0.4
	0.4nm,0.5s,baz=89,slow=9.5,SNR=12						
WRA	**Warramunga Arr**	**55.74**	**181**	P	P	05 12 53.9	-0.1
	0.3nm,0.3s,baz=359,slow=7.5,SNR=9.2						
FINES	**FINESS Array B**	**67.23**	**331**	P	P	05 14 08.4	-1.1
	2.1nm,0.9s,baz=39,slow=7.1,SNR=3.3						

*IDC **22** 05:21:43.1±0.9, 39.39N×73.88E, h0km, mb3.6/10, mb1 3.7/14, mb1mx3.6/30, mbtmp3.5/14, ML3.0/4, Error ellipse: s-maj=18.4km s-min=16.7km az=114.0*

*NNC **22** 05:21:51.1±3.1, 39.83N×73.86E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=28.6km s-min=14.4km az=5.0*

ISC 22 05:21:47.0±0.8, 39.52N±0.08×74.23E±0.06, h28km, n30, σ1§61/26, mb3.6/10, 4C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.35**	**89**	Pg	**Pn**	**05 22 08.8**	**-1.3**
KSH				Sg	**Sn**	**05 22 25.4**	**-1.7**
KSH					smax	smax	
	comp=N,280nm,0.5s						
KSH					smax	smax	
	comp=E,320nm,0.6s						
AML	**Almayashu**	**2.64**	**351**	P	**Pb**	**05 22 31.9**	**-2.1**
	SNR=49						
KZA	**Kyzart**	**2.67**	**16**	P	**Pb**	**05 22 33.0**	**-1.4**
	SNR=17						
UCH	**Uchtor**	**2.72**	**4**	P	**Pb**	**05 22 32.9**	**-2.3**
	SNR=11						
AAK	**Ala-Archa**	**3.12**	**4**	P	Pn	05 22 38.3	+3.8
	SNR=30						
AAK	**Ala-Archa**	**3.12**	**4**	Pn	Pn	05 22 38.0	+3.5
	comp=E,6.1nm,0.3s,baz=157,slow=8.1,SNR=43						
AAK				Sn	**Sb**	**05 23 20.7**	**+1.1**
	comp=E,14nm,0.3s,baz=329,slow=17,SNR=20						
ULHL	**Ulaanhol**	**3.12**	**29**	P	**Pb**	**05 22 41.3**	**-0.7**
	SNR=14						
EKS2	**Erkin-Say**	**3.16**	**354**	P	Pn	05 22 38.6	+3.6
	SNR=13						
KBK	**Karagaybulak**	**3.18**	**10**	P	**Pb**	**05 22 40.3**	**-2.7**
	SNR=16						
TKM2	**Tokmak 2**	**3.55**	**16**	⇑Pn	Pb	05 22 45.5	-3.8
	comp=E,13nm,0.6s						
TKM2				⇓Lg	Lg	05 23 35.1	
	comp=E,32nm,0.6s						
TKM2	**Tokmak 2**	**3.55**	**16**	P	Pn	05 22 44.8	+4.3
	SNR=10						
USP	**Ospenovka**	**3.75**	**3**	P	**Pb**	**05 22 52.2**	**-0.3**
	SNR=11						
KNDC	**Almaty**	**4.23**	**28**	⇑Pn	Pb	05 22 56.1	-4.6
	comp=E,27nm,0.7s						
KNDC				⇓Lg	Lg	05 24 00.4	
	comp=E,76nm,0.7s						
KK31	**Karatay Array**	**4.55**	**323**	Pn	**Pn**	**05 22 54.1**	**+0.1**
	comp=E,1.4nm,0.3s,baz=126,slow=13,SNR=90						
KK31				⇑Pg	**Pb**	**05 23 04.0**	**-2.1**
	comp=E,4.0nm,0.3s,baz=149,slow=15,SNR=26						
KK31				⇑Sn	**Sn**	**05 23 46.9**	**+0.9**
	comp=E,15nm,0.5s,baz=144,slow=23,SNR=4.4						
KK31				⇓Lg	Lg	05 24 02.0	
	comp=E,12nm,0.5s,baz=144,slow=23,SNR=4.4						
MKAR	**Makanchi Array**	**9.35**	**36**	Pn	Pn	05 24 05.2	+5.4
	comp=E,0.1nm,0.3s,baz=213,slow=13,SNR=3.7						
MKAR				Lg	Lg	05 26 46.3	
	comp=E,0.1nm,0.3s,baz=227,slow=25,SNR=4.7						
KURBB	**Kurchatov Arra**	**11.51**	**14**	Lg	Lg	05 27 49.2	
	comp=E,0.1nm,0.3s,baz=202,slow=30,SNR=5.3						
BVAR	**Borovoye Array**	**13.77**	**350**	Pn	**Pn**	**05 24 58.7**	**-1.5**
	comp=E,0.2nm,0.3s,baz=161,slow=14,SNR=4.5						
BVAR				Lg	Lg	05 28 56.8	
	comp=E,0.1nm,0.3s,baz=167,slow=27,SNR=5.4						
AB31	**Akbulak array**	**14.09**	**318**	⇓P	**Pn**	**05 25 04.9**	**+0.3**
	comp=E,1.3nm,0.6s,baz=123,slow=13,SNR=14						
AKTO	**Aktyubinsk**	**15.80**	**319**	Pn	**P**	**05 25 28.9**	**-2.0**
	comp=E,0.1nm,0.3s,baz=144,slow=18,SNR=2.8						
ZALV	**Zalesovo Beam**	**16.13**	**23**	Pn	**Pn**	**05 25 32.2**	**+0.7**
	comp=E,0.0nm,0.3s,baz=188,slow=7.3,SNR=2.9						
SONM	**Songino Array**	**24.56**	**60**	P	**P**	**05 27 07.5**	**+3.0**
	comp=E,0.3nm,0.6s,baz=248,slow=8.1,SNR=4.2						
FINES	**FINESS Array B**	**36.51**	**323**	P	**P**	**05 28 49.5**	**-0.1**
	comp=E,1.2nm,0.7s,baz=114,slow=10.0,SNR=12						
ARCES	**ARCESS Array B**	**39.40**	**335**	P	**P**	**05 29 14.2**	**+0.3**
	comp=E,3.7nm,0.9s,baz=99,slow=7.6,SNR=5.5						
GERES	**GERESS Array B**	**43.35**	**303**	P	**P**	**05 29 46.9**	**+0.2**
	comp=E,0.2nm,0.4s,baz=62,slow=8.3,SNR=3.3						
NOA	**NORSAR Array B**	**43.58**	**321**	P	**P**	**05

KURK	**Kurchatov**	**92.59**	**356**	P	**P**	**05 49 18.3**	**+0.3**
BRTR	**Keskin Array B**	**93.97**	**323**	P	**P**	**05 49 25.8**	**+1.0**
BRTR	**Keskin Array B**	**93.97**	**323**	P	**P**	**05 49 25.8**	**+1.0**
	1.3nm,1.0s,baz=88,slow=4.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**94.06**	**284**	P	**P**	**05 49 27.3**	**+1.7**
TORD	**Torodi Ar. Bea**	**94.06**	**284**	P	**P**	**05 49 27.3**	**+1.7**
	0.3nm,0.9s,baz=116,slow=3.4,SNR=2.3						
TORD				LR	LR	06 28 31.0	
	comp=Z,88nm,18.8s,baz=60,slow=33						
DBIC	**Dimbokro**	**94.58**	**275**	LR	LR	06 26 20.5	
	comp=Z,103nm,20.0s,baz=113,slow=32						
AKTO	**Aktyubinsk**	**95.18**	**343**	LR	LR	06 29 28.6	
	comp=Z,68nm,19.2s,baz=328,slow=34						
ZALV	**Zalesovo Beam**	**95.64**	**360**	LR	LR	06 29 55.0	
	comp=Z,76nm,18.3s,baz=202,slow=34						
RES	**Resolute Bay**	**147.29**	**0**	PKPbc	**PKPbc**	**05 55 48.7**	**-0.5**
RES	**Resolute Bay**	**147.29**	**0**	PKPbc	**PKPbc**	**05 55 48.7**	**-0.5**
	1.3nm,0.9s,baz=315,slow=2.9,SNR=5.6						

IDC 22 05:55:23.7±1.3,3°.91N×126°.82E,h0km,mb3.8/7, mb1 4.0/7,mb1mx3.7/22,mbtmp3.8/7,Error ellipse: s-maj=103.8km s-min=17.5km az=69.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.91**	**183**	P	P	06 00 18.9	+0.2
	1.3nm,0.5s,baz=13,slow=9.1,SNR=3.6						
WRA	**Warramunga Arr**	**24.83**	**163**	P	P	06 00 47.4	-0.6
	6.3nm,0.7s,baz=343,slow=9.1,SNR=84						
ASAR	**Alice Springs**	**28.27**	**166**	P	P	06 01 18.9	0.0
	0.7nm,0.3s,baz=342,slow=10,SNR=22						
STKA	**Stephens Creek**	**38.27**	**159**	P	P	06 02 46.2	+0.3
	2.0nm,0.5s,baz=329,slow=7.9,SNR=14						
MKAR	**Makanchi Array**	**57.45**	**325**	P	P	06 05 14.7	+0.1
	0.2nm,0.5s,baz=124,slow=8.6,SNR=4.8						
ZALV	**Zalesovo Beam**	**60.46**	**333**	P	P	06 05 35.4	+0.2
	0.2nm,0.3s,baz=126,slow=7.4,SNR=2.0						
KURBB	**Kurchatov Arra**	**61.63**	**327**	P	P	06 05 42.6	-0.6
	0.3nm,0.4s,baz=129,slow=7.4,SNR=3.0						

*BJI **22** 06:01:45.2,44°.30N×129°.50W,h10km,mB5.4/2,mb4.5/2*
*IDC **22** 06:01:51.5±1.6,44°.15N×128°.73W,h0km,mb3.5/6, mb1 3.8/10,mb1mx3.6/30,mbtmp3.5/10,ML3.3/3,MS3.4/5, Ms1 3.4/5,ms1mx3.1/25,Error ellipse: s-maj=40.0km s-min=15.1km az=43.0*
*ISCJB **22** 06:01:52.6±0.7,44°.27N±0°.04×128°.71W±0°.09,h10km, mb3.9/10,MS3.5/4,Error ellipse: s-maj=9.3km s-min=6.1km az=168.6*
*NEIC **22** 06:01:53.3±0.9,44°.24N×128°.89W,h10km,mb4.3/12, Error ellipse: s-maj=13.2km s-min=7.5km az=70.0*
ISC 22 06:01:53.9±1.1,44°.27N±0°.08×128°.80W±0°.10,h10km,n62, σ1°.28/61,mb4.2/10,MS3.6/4,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**3.53**	**112**	Pn	**Pn**	**06 02 49.9**	**+1.0**
KEBM				eSn	Sn	06 03 23.9	-6.8
KBO	**Bosley Butte**	**3.92**	**120**	ePn	**Pn**	**06 02 56.0**	**+1.7**
COR	**Corvallis**	**3.95**	**84**	Pn	**Pn**	**06 02 53.3**	**-1.2**
COR				eSn	**Sn**	**06 03 38.9**	**-1.9**
HUMO	**Hull Mountain**	**4.57**	**109**	ePn	Pn	06 02 59.3	-3.8
NLWA	**Neilton Lookou**	**4.65**	**46**	Pn	**Pn**	**06 03 03.2**	**-1.0**
YBH	**Yreka Blue Hor**	**5.13**	**118**	Pn	**Pn**	**06 03 10.0**	**-0.9**
YBH				Sn	Sn	06 04 02.9	-7.4
YBH	**Yreka Blue Hor**	**5.13**	**118**	Pn	**Pn**	**06 03 10.0**	**-0.9**
	0.3nm,0.3s,baz=264,slow=8.2,SNR=11						
YBH				Sn	Sn	06 04 02.9	-7.4
	0.1nm,0.3s,baz=94,slow=13,SNR=2.4						
YBH				LR	LR	06 05 08.2	
	comp=Z,165nm,20.2s,baz=70,slow=39						
VFP	**Flag Point**	**5.32**	**76**	P	**Pn**	**06 03 12.3**	**-1.2**
LON	**Longmire**	**5.50**	**61**	ePn	**Pn**	**06 03 15.3**	**-0.6**
PGC	**Sidney**	**5.73**	**38**	ePn	**Pn**	**06 03 17.8**	**-1.1**
PGC				eSn	**Sn**	**06 04 24.1**	**-0.5**
WDC	**Whiskeytown Da**	**5.92**	**126**	ePn	**Pn**	**06 03 21.9**	**+0.3**
MOD	**Modoc**	**6.66**	**108**	ePn	**Pn**	**06 03 34.1**	**+2.3**
HAWA	**Hanford**	**6.87**	**69**	ePn	**Pn**	**06 03 35.1**	**+0.5**
BMO	**Blue Mountains**	**8.23**	**82**	ePn	**Pn**	**06 03 54.7**	**+1.4**
CMB	**Columbia Colle**	**8.89**	**132**	ePn	**Pn**	**06 04 02.1**	**-0.3**
NEW	**Newport**	**9.02**	**60**	ePn	**Pn**	**06 04 03.7**	**-0.4**
NVAR	**Mina Array Bea**	**9.81**	**123**	Pn	**Pn**	**06 04 14.1**	**-1.1**
NVAR	**Mina Array Bea**	**9.81**	**123**	Pn	**Pn**	**06 04 14.1**	**-1.1**
	baz=294,slow=15,SNR=3.7						
HLID	**Hailey**	**10.40**	**89**	ePn	**Pn**	**06 04 25.9**	**+2.7**
MSO	**Missoula**	**10.73**	**71**	ePn	**Pn**	**06 04 28.2**	**+0.6**
SLMT	**Seeley Lake**	**11.10**	**69**	ePn	**Pn**	**06 04 32.8**	**0.0**
MCMT	**McKenzie Canyo**	**11.40**	**82**	ePn	**Pn**	**06 04 37.4**	**+0.5**
	4.0nm,1.3s						
ISA	**Isabella**	**11.68**	**134**	ePn	**Pn**	**06 04 39.8**	**-0.8**
GSC	**Goldstone**	**12.85**	**130**	ePn	**Pn**	**06 04 56.3**	**-0.3**
IMW	**Indian Meadow**	**12.85**	**85**	ePn	**Pn**	**06 04 59.2**	**+2.4**
FLWY	**Flagg Ranch**	**13.00**	**85**	ePn	**Pn**	**06 05 01.4**	**+2.6**
EGMT	**Eagleton**	**13.72**	**67**	ePn	**Pn**	**06 05 10.6**	**+2.2**
MSU	**Marysvale**	**13.73**	**109**	ePn	P	06 05 13.9	-3.7
LDFC	**Landfair**	**13.96**	**126**	ePn	**Pn**	**06 05 09.3**	**-2.5**
PDAR	**Pinedale Array**	**14.04**	**89**	Pn	**Pn**	**06 05 14.5**	**+1.4**
PDAR	**Pinedale Array**	**14.04**	**89**	Pn	**Pn**	**06 05 14.5**	**+1.4**
	0.0nm,0.3s,baz=284,slow=12,SNR=4.5						
WUAZ	**Wupatki**	**15.95**	**117**	ePn	**Pn**	**06 05 37.5**	**-1.1**
	12nm,1.2s						
PV04	**Paradox Valley**	**16.04**	**105**	eP	**P**	**06 05 44.2**	**+1.0**
PV01	**Paradox Valley**	**16.39**	**105**	eP	**P**	**06 05 46.9**	**-0.2**
	1μm,1.1s						
MVCO	**Mesa Verde**	**16.90**	**108**	ePn	**Pn**	**06 05 51.3**	**+0.6**
	150nm,2.8s						
TUC	**Tucson**	**18.46**	**124**	ePn	**P**	**06 06 08.8**	**-1.0**
	61nm,2.9s						
SDCO	**Great Sand Dun**	**18.72**	**102**	ePn	**P**	**06 06 12.6**	**-0.3**
	6.0nm,1.3s						
LAZ	**Ladron**	**19.39**	**113**	eP	**P**	**06 06 20.1**	**+0.1**
	7.8nm,1.6s						
ANMO	**Albuquerque**	**19.52**	**111**	P	**P**	**06 06 21.6**	**+0.1**
ANMO				ePn	**Pn**	**06 06 22.8**	**0.0**
ANMO	**Albuquerque**	**19.52**	**111**	P	**P**	**06 06 21.6**	**+0.1**
	0.1nm,0.3s,baz=315,slow=11,SNR=7.5						
LPM	**Los Pinos Moun**	**19.78**	**113**	eP	**P**	**06 06 24.8**	**+0.4**
BNM	**Barren Site**	**19.88**	**113**	eP	**P**	**06 06 25.3**	**-0.2**
	8.5nm,1.4s						
YKA	**Yellowknife Ar**	**20.03**	**19**	P	**P**	**06 06 26.9**	**+0.2**
YKA	**Yellowknife Ar**	**20.03**	**19**	P	**P**	**06 06 26.9**	**+0.2**
	3.0nm,0.8s,baz=205,slow=10,SNR=22						
FFC	**Flin Flon**	**20.19**	**49**	ePn	**P**	**06 06 28.7**	**+0.2**
	12nm,0.7s						
AMTX	**Amarillo**	**22.82**	**105**	eP	**P**	**06 06 57.3**	**+0.3**
	47nm,2.0s						
ILAR	**Eielson Array**	**22.90**	**340**	P	**P**	**06 06 58.4**	**+0.9**
ILAR	**Eielson Array**	**22.90**	**340**	P	**P**	**06 06 58.4**	**+0.9**
	0.9nm,1.1s,baz=155,slow=7.6,SNR=5.4						
ULM	**Lac du Bonnet**	**23.00**	**63**	P	**P**	**06 06 56.9**	**-1.7**
ULM	**Lac du Bonnet**	**23.00**	**63**	P	**P**	**06 06 56.9**	**-1.7**
	4.4nm,0.8s,baz=267,slow=9.0,SNR=8.3						
ULM				LR	LR	06 16 03.2	
	comp=Z,115nm,20.6s,baz=276,slow=37						
AGMN	**Agassiz Nation**	**23.01**	**68**	eP	**P**	**06 06 58.9**	**+0.1**
	13nm,1.4s						
ECSD	**EROS Data Cent**	**23.08**	**80**	eP	**P**	**06 06 59.6**	**+0.1**
	13nm,0.9s						
INK	**Inuvik**	**24.22**	**356**	P	**P**	**06 07 12.5**	**+2.1**
INK	**Inuvik**	**24.22**	**356**	P	**P**	**06 07 12.5**	**+2.1**
	1.5nm,1.0s,baz=162,slow=9.8,SNR=4.3						
INK				LR	LR	06 16 09.2	
	comp=Z,31nm,19.2s,baz=42,slow=35						
KSU1	**Kansas State U**	**24.49**	**91**	eP	**P**	**06 07 14.7**	**+1.5**
	15nm,0.9s						
TXAR	**Lajitas Array**	**24.91**	**118**	P	**P**	**06 07 15.0**	**-2.1**
TXAR	**Lajitas Array**	**24.91**	**118**	P	**P**	**06 07 15.0**	**-2.1**
	0.4nm,0.8s,baz=294,slow=6.7,SNR=4.2						
WMOK	**Wichita Mounta**	**24.92**	**102**	eP	**P**	**06 07 16.8**	**-0.4**
	12nm,1.2s						
ARCES	**ARCES Array B**	**64.94**	**10**	LR	LR	06 39 47.6	
	comp=Z,92nm,20.8s,baz=240,slow=35						
NNA	**Nana**	**73.17**	**126**	LR	LR	06 42 57.7	
	comp=Z,67nm,19.2s,baz=136,slow=34						
SONM	**Songino Array**	**76.24**	**325**	P	**P**	**06 13 41.5**	**-1.0**
SONM	**Songino Array**	**76.24**	**325**	P	**P**	**06 13 41.6**	**-1.0**
	0.3nm,0.6s,baz=8.2,slow=4.0,SNR=2.8						

IDC 22 06:05:02.4±1.8,15°.20N×145°.94E,h145km±19km,mb3.2/6, mb1 3.4/6,mb1mx3.2/24,mbtmp3.2/6,Error ellipse: s-maj=30.9km s-min=23.6km az=97.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.90**	**213**	P	Pn	06 05 37.7	+1.6
	24nm,0.3s,baz=56,slow=21,SNR=19						
GUMO				S	Sn	06 06 02.0	+0.1
	199nm,0.3s,baz=326,slow=20,SNR=25						
WRA	**Warramunga Arr**	**36.73**	**198**	P	P	06 11 56.0	+0.1
	0.3nm,0.8s,baz=23,slow=9.6,SNR=6.9						
SONM	**Songino Array**	**46.04**	**323**	P	P	06 13 12.0	+0.3
	0.2nm,0.5s,baz=133,slow=6.3,SNR=2.6						
MKAR	**Makanchi Array**	**61.07**	**315**	P	P	06 15 00.9	-0.1
	0.4nm,0.4s,baz=94,slow=7.5,SNR=3.5						
KURBB	**Kurchatov Arra**	**64.08**	**319**	P	P	06 15 20.4	-0.5
	0.7nm,0.5s,baz=101,slow=7.0,SNR=6.4						
ILAR	**Eielson Array**	**66.68**	**25**	P	P	06 15 36.8	-0.5
	0.4nm,0.5s,baz=252,slow=5.9,SNR=16						
YKA	**Yellowknife Ar**	**80.97**	**28**	P	P	06 17 01.0	+0.5
	0.1nm,0.3s,baz=288,slow=5.3,SNR=7.0						

IDC 22 06:10:43.4±0.9,13°.87N×147°.73E,h0km,mb3.5/8, mb1 3.7/9,mb1mx3.6/23,mbtmp3.5/9,ML3.7/1,Error ellipse: s-maj=28.4km s-min=20.3km az=111.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.80**	**265**	Pn	Pn	06 11 28.5	-0.9
	12nm,0.3s,baz=124,slow=3.6,SNR=5.2						
GUMO				Sn	Sn	06 12 00.5	-3.4
	29nm,0.3s,baz=12,slow=23,SNR=6.8						
WRA	**Warramunga Arr**	**36.09**	**202**	P	P	06 17 46.4	-0.8
	0.6nm,0.7s,baz=28,slow=9.4,SNR=5.6						
ASAR	**Alice Springs**	**39.68**	**200**	P	P	06 18 18.0	+0.6
	0.3nm,0.9s,baz=21,slow=8.0,SNR=3.5						
SONM	**Songino Array**	**48.14**	**323**	P	P	06 19 26.2	+0.8
	0.3nm,0.7s,baz=134,slow=10,SNR=3.3						
ZALV	**Zalesovo Beam**	**63.03**	**324**	P	P	06 21 12.1	-0.1
	0.4nm,0.5s,baz=88,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**63.23**	**316**	P	P	06 21 14.2	+0.5
	0.2nm,0.5s,baz=76,slow=7.6,SNR=3.2						
ILAR	**Eielson Array**	**67.13**	**25**	P	P	06 21 37.9	-0.8
	0.2nm,0.4s,baz=255,slow=5.9,SNR=8.2						
YKA	**Yellowknife Ar**	**81.33**	**28**	P	P	06 23 01.9	+0.4
	0.3nm,0.7s,baz=286,slow=5.6,SNR=5.3						
NVAR	**Mina Array Bea**	**84.56**	**52**	P	P	06 23 19.8	+0.6
	0.2nm,0.3s,baz=260,slow=5.0,SNR=2.9						
FINES	**FINESS Array B**	**92.07**	**336**	P	P	06 23 52.4	-1.9
	3.7nm,0.9s,baz=29,slow=3.2,SNR=4.0						

*CSEM **22** 06:18:38.1±0.4,51°.46N×16°.06E,h2km,ML2.8/5,Error ellipse: s-maj=7.2km s-min=3.3km az=178.0*
*PRU **22** 06:18:39.3,51°.44N×16°.06E,h0km*
WAR 22 06:18:37.5,51°.54N×16°.07E,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**168**	ePg	Pg	06 18 50.8	-0.3
KSP				eSg	Sg	06 19 00.1	-0.3
KSP	**Ksiaz**	**0.71**	**168**	ePg	Pg	06 18 50.8	-0.3
KSP				eSg	Sg	06 19 00.1	-0.3
KSP	**Ksiaz**	**0.71**	**168**	ePg	Pg	06 18 50.7	-0.4
KSP				eSg	Sg	06 18 59.8	-0.6
UPC	**Upice**	**1.03**	**182**	ePG	Pg	06 18 56.9	-0.4
UPC	**Upice**	**1.03**	**182**	Pg	Pg	06 18 56.9	-0.4
DPC	**Dobruska-Polom**	**1.20**	**172**	ePG	Pg	06 18 59.4	-1.2
DPC				eSG	Sg	06 19 14.2	-2.0
	comp=Z,9.4nm,0.6s						
DPC	**Dobruska-Polom**	**1.20**	**172**	Pg	Pg	06 18 59.4	-1.2
DPC				Sg	Sg	06 19 14.2	-2.0
	9.4nm,0.6s						
PVCC	**Panska Ves**	**1.39**	**224**	ePG	Pg	06 19 04.0	-0.1
PVCC				eSG	Sb	06 19 22.3	-0.2
	comp=Z,39nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**224**	Pg	Pg	06 19 04.0	-0.1
PVCC				Sg	Sb	06 19 22.3	-0.2
	39nm,0.2s						
BRG	**Berggiesshubel**	**1.49**	**244**	PG	Pb	06 19 05.9	-0.2
BRG				SG	Sn	06 19 25.8	0.0
	12nm,0.4s						
PRU	**Pruhonice**	**1.83**	**213**	ePG	Pb	06 19 12.0	+0.2
PRU				eSG	Sb	06 19 34.7	-0.6
	comp=Z,6.7nm,0.6s						
PRU	**Pruhonice**	**1.83**	**213**	Pg	Pb	06 19 12.0	+0.2
PRU				Sg	Sb	06 19 34.7	-0.6
	6.7nm,0.6s						
CLL	**Collm**	**1.93**	**264**	*i* Pg	Pg	06 19 14.1	-0.5
CLL				eSg	Sg	06 19 40.0	+0.4
	comp=Z,6.0nm,0.5s						
MORC	**Moravsky Berou**	**2.00**	**151**	ePn	Pn	06 19 11.7	-0.9
VRAC	**Vranov**	**2.26**	**171**	ePn	Pn	06 19 15.6	-0.5
NKC	**Novy Kostel**	**2.64**	**242**	ePG	Pg	06 19 28.3	+0.2
NKC				eSG	Sg	06 20 02.1	-0.3
	comp=Z,12nm,0.3s						
NKC	**Novy Kostel**	**2.64**	**242**	Pg	Pg	06 19 28.3	+0.2
NKC				Sg	Sg	06 20 02.1	-0.3
	comp=Z,12nm,0.3s						
OJC	**Ojcow**	**2.71**	**118**	ePg	Pg	06 19 29.1	-0.3
OJC				eSg	Sg	06 20 04.1	-0.4
OJC	**Ojcow**	**2.71**	**118**	ePg	Pg	06 19 29.6	+0.2
OJC				eSg	Sg	06 20 04.7	+0.2
KHC	**Kasperske Hory**	**2.89**	**214**	ePN	Pn	06 19 24.6	-0.2
KHC				ePG	Pb	06 19 31.3	+1.3
KHC				eSG	Sb	06 20 07.9	+2.0
	comp=Z,3.3nm,0.7s						
KHC	**Kasperske Hory**	**2.89**	**214**	Pn	Pn	06 19 24.6	-0.2

*ISCJB **22** 06:31:23.3±0.7,37°.33N±0°.04×72°.00E±0°.09,h130km, mb3.3/2,Error ellipse: s-maj=11.4km s-min=4.6km az=155.6*
*IDC **22** 06:31:25.4±5.7,37°.23N×72°.11E,h168km±41km,mb3.1/2, mb1 3.1/8,mb1mx2.9/31,mbtmp3.0/8,MS3.3/2,Ms1 3.4/2, ms1mx2.7/20,Error ellipse: s-maj=73.8km s-min=31.2km az=147.0*
*NNC **22** 06:31:33.1±3.0,37°.88N×72°.03E,h170km±35km,mb2.5, mpv3.5,Error ellipse: s-maj=33.4km s-min=14.6km az=28.0*
ISC 22 06:31:22.9±0.9,37°.29N±0°.07×71°.9E±0°.1,h130km,n25, σ1°.14/25,2C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.71**	**20**	P	**Pn**	**06 32 48.5**	**+3.0**
	2.2nm,0.3s,baz=170,slow=6.5,SNR=31						
AAK				S	**Sn**	**06 33 49.6**	**-0.4**
	1.1nm,0.3s,baz=343,slow=23,SNR=3.9						
KK31	**Karatay Array**	**5.90**	**350**	P	Pn	06 32 51.6	+3.7
	2.5nm,0.2s,baz=149,slow=9.6,SNR=141						
KK31				⇑S	**Sn**	**06 33 53.3**	**-1.0**
	8.6nm,0.3s,baz=164,slow=21,SNR=21						
TKM2	**Tokmak 2**	**6.31**	**26**	⇑P	**Pn**	**06 32 55.9**	**+2.2**
	3.5nm,0.9s						
TKM2				⇓S	**Sn**	**06 34 03.4**	**-1.2**
	4.9nm,0.7s						
MK31	**Makanchi Array**	**12.25**	**36**	P	P	06 34 16.7	-3.1
	0.1nm,0.3s,baz=206,slow=9.8,SNR=5.5						
MKAR	**Makanchi Array**	**12.25**	**36**	P	**Pn**	**06 34 12.9**	**0.0**
	0.0nm,0.3s,baz=232,slow=15,SNR=2.5						
DANN	**Dangsing**	**13.40**	**128**	eP	**Pn**	**06 34 27.7**	**-0.4**
	7.0nm,0.2s						
KOLN	**Koldanda**	**13.71**	**130**	eP	**Pn**	**06 34 31.6**	**-0.5**
	13nm,0.5s						
KURBB	**Kurchatov Arra**	**14.16**	**18**	P	**P**	**06 34 39.4**	**-1.5**
	0.1nm,0.3s,baz=207,slow=11,SNR=7.6						
GKN	**Gorkha**	**14.19**	**127**	eP	**Pn**	**06 34 37.8**	**-0.4**
	13nm,0.3s						
KKN	**Kakani**	**14.75**	**126**	eP	**Pn**	**06 34 45.0**	**-0.3**
AB31	**Akbulak array**	**14.75**	**328**	⇓P	**P**	**06 34 48.3**	**+0.9**
	1.0nm,0.5s,baz=136,slow=11,SNR=37						
AB31				S	**Sn**	**06 37 27.1**	**-0.9**
	0.7nm,0.4s,baz=152,slow=24,SNR=4.4						
DMN	**Daman**	**14.76**	**127**	eP	**Pn**	**06 34 45.3**	**-0.2**
PKI	**Pulchoki**	**14.98**	**126**	eP	**Pn**	**06 34 49.1**	**+0.8**
	5.6nm,0.3s						
GUN	**Gumba**	**15.06**	**124**	eP	**Pn**	**06 34 49.5**	**+0.2**
	38nm,0.9s						
JIRN	**Jiri**	**15.43**	**124**	eP	**Pn**	**06 34 54.2**	**+0.3**
	4.6nm,0.4s						
BVA0	**Borovoye Array**	**15.77**	**357**	⇓P	**Pn**	**06 34 58.1**	**+0.6**
	0.3nm,0.7s,baz=165,slow=12,SNR=11						
BVAR	**Borovoye Array**	**15.77**	**357**	P	**P**	**06 34 58.3**	**-0.5**
	0.2nm,0.3s,baz=161,slow=11,SNR=14						
RAMN	**Ramite**	**16.18**	**125**	eP	**P**	**06 35 04.6**	**+0.8**

AKTO	**Aktyubinsk**	**16.46**	**327**	P	**P**	**06 35 08.2**	**+1.8**
	0.3nm,0.3s,baz=128,slow=10,SNR=6.4						
TAPN	**Taplejung**	**16.65**	**122**	eP	**P**	**06 35 09.1**	**+0.1**
	5.3nm,0.3s						
ZALV	**Zalesovo Beam**	**18.91**	**24**	P	**P**	**06 35 32.3**	**-0.9**
	0.4nm,0.3s,baz=225,slow=9.0,SNR=8.4						
KSRS	**Korea Array**	**43.98**	**72**	LR	LR	07 00 34.6	
	comp=Z,27nm,19.1s,baz=350,slow=40						
NOA	**NORSAR Array B**	**44.17**	**322**	LR	LR	07 01 38.6	
	comp=Z,46nm,21.1s,baz=0.0,slow=41						
TORD	**Torodi Ar. Bea**	**66.42**	**269**	P	**P**	**06 41 57.9**	**-0.5**
	0.3nm,0.4s,baz=49,slow=6.5,SNR=6.8						
YKA	**Yellowknife Ar**	**80.42**	**3**	P	**P**	**06 43 18.2**	**-1.4**
	0.2nm,0.5s,baz=349,slow=5.6,SNR=6.7						

*ISCJB **22** 06:39:24.6±0.6,24°.29S±0°.04×67°.18W±0°.07,h165km±7km, mb3.6/8,Error ellipse: s-maj=11.0km s-min=6.1km az=175.3*
*IDC **22** 06:39:26.5±1.9,24°.24S×67°.07W,h167km±17km,mb3.6/8, mb1 3.7/12,mb1mx3.7/17,mbtmp3.6/12,MS3.0/1, Ms1 3.0/1,ms1mx2.4/18,Error ellipse: s-maj=20.4km s-min=16.8km az=59.0*
*GUC **22** 06:39:29.1±0.4,24°.29S×67°.73W,h182km±6km,ML4.7*
ISC 22 06:39:25.4±0.8,24°.27S±0°.06×67°.15W±0°.08,h158km±9km, n25,σ1°.31/29,mb3.9/8,2C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.67**	**325**	AML	AML	06 40 28.7	
	comp=N,2μm,0.6s						
PB04	**Plate Boundary**	**2.94**	**312**	eP	Pn	06 40 19.1	+6.9
PB04				*i* S	Sn	06 40 57.4	+8.8
PB04				AML	AML	06 41 03.8	
	comp=E,1μm,0.2s						
PB09	**Plate Boundary**	**3.13**	**322**	⇑*i* P	**Pn**	**06 40 17.6**	**+2.7**
PB09				*i* S	**Sn**	**06 40 54.8**	**+1.6**
PB09				AML	AML	06 40 55.6	
	comp=N,4μm,0.6s						
PB07	**Plate Boundary**	**3.58**	**315**	⇑*i* P	**Pn**	**06 40 21.8**	**+1.2**
PB07				*i* S	**Sn**	**06 41 02.3**	**-1.1**
PB07				AML	AML	06 41 05.7	
	comp=E,2μm,0.7s						
PB01	**Plate Boundary**	**3.87**	**326**	⇓*i* P	**Pn**	**06 40 25.1**	**+0.8**
PB01				*i* S	**Sn**	**06 41 09.5**	**-0.7**
PB01				AML	AML	06 41 12.2	
	comp=N,480nm,0.2s						
CDCH	**Caldera**	**4.33**	**229**	*i* P	**Pn**	**06 40 30.1**	**0.0**
CDCH				*i* S	**Sn**	**06 41 19.0**	**-1.5**
HMBC	**Humberstone**	**4.72**	**327**	eP	**Pn**	**06 40 34.8**	**-0.6**
HMBC				*i* S	**Sn**	**06 41 27.1**	**-2.9**
CFAA	**Coronel Fontan**	**7.37**	**187**	P	**Pn**	**06 41 11.7**	**+1.3**
	comp=N,0.0nm,0.3s,baz=357,slow=13,SNR=15						
CFAA				S	**Sn**	**06 42 30.6**	**-2.3**
	comp=N,0.5nm,0.3s,baz=255,slow=17,SNR=14						
LPAZ	**La Paz**	**8.00**	**353**	P	**Pn**	**06 41 20.9**	**+1.5**
	comp=N,1.1nm,0.3s,baz=166,slow=8.3,SNR=18						
LPAZ				S	**Sn**	**06 42 47.0**	**-2.1**
	comp=N,0.1nm,0.3s,baz=336,slow=14,SNR=3.5						
CPUP	**Villa Florida**	**9.12**	**105**	P	**Pn**	**06 41 34.3**	**+0.7**
	comp=N,1.5nm,0.3s,baz=268,slow=12,SNR=12						
SIV	**San Ignacio**	**10.02**	**36**	P	**Pn**	**06 41 44.3**	**-1.4**
	comp=N,2.0nm,0.3s,baz=224,slow=14,SNR=38						
SIV				S	Sn	06 43 23.2	-14
	baz=251,slow=17,SNR=3.3						
BDFB	**Brasilia**	**19.91**	**68**	P	**P**	**06 43 45.1**	**+0.1**
	comp=N,0.8nm,0.3s,baz=244,slow=10,SNR=21						
BDFB				LR	LR	06 51 50.7	
	comp=N,46nm,18.8s,baz=42,slow=38						
TXAR	**Lajitas Array**	**63.82**	**325**	P	**P**	**06 49 41.0**	**0.0**
	comp=N,0.6nm,0.8s,baz=140,slow=7.9,SNR=5.1						
TORD	**Torodi Ar. Bea**	**76.80**	**69**	P	**P**	**06 50 59.6**	**-0.5**
	comp=N,1.1nm,0.5s,baz=264,slow=6.1,SNR=10						
PDAR	**Pinedale Array**	**77.31**	**329**	P	**P**	**06 51 03.0**	**+0.4**
	comp=N,0.4nm,0.5s,baz=115,slow=8.8,SNR=3.8						
ULM	**Lac du Bonnet**	**78.44**	**342**	P	**P**	**06 51 07.9**	**-0.5**
	comp=N,1.3nm,0.5s,baz=119,slow=4.1,SNR=3.8						
NVAR	**Mina Array Bea**	**78.67**	**321**	P	**P

0.5nm,0.6s,baz=341,slow=10,SNR=5.1
STKA Stephens Creek 38.09 159 P P 07 29 47.2 -1.2
0.4nm,0.4s,baz=346,slow=8.3,SNR=3.1
SONM Songino Array 47.35 342 P P 07 31 03.5 0.0
0.3nm,0.7s,baz=162,slow=9.6,SNR=3.3
MKAR Makanchi Array 57.50 325 P P 07 32 18.5 -0.3
0.2nm,0.3s,baz=121,slow=7.5,SNR=5.6

*IGQ **22** 07:37:40.9,2.80S×78.09W,h12km±4km,Mb4.4,Ms4.2, Error ellipse: s-maj=3.6km s-min=1.1km az=2.4*
*ISCJB **22** 07:37:42.3±0.5,2.89S±0.02×78.13W±0.07,h9km,mb3.2/5, Error ellipse: s-maj=10.2km s-min=3.4km az=1.7*
*IDC **22** 07:37:42.5±1.0,2.76S×77.71W,h0km,mb3.3/5,mb1 3.8/8, mb1mx3.7/21,mbtmp3.6/8,ML4.0/3,MS2.9/1,Ms1 2.9/1, ms1mx2.5/14,Error ellipse: s-maj=35.2km s-min=16.9km az=81.0*
ISC 22 07:37:40.0±0.8,2.83S±0.03×78.00W±0.07,h9km,n60, σ1§34/55,mb3.4/5,12C-22D,Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
YANT	**Yantaza**	**1.28**	**217**	⇑S		**Sn**	**07 38 20.8**	**-0.8**
YANT	**Yantaza**	**1.28**	**217**	⇑P		**Pg**	**07 38 04.4**	**-0.3**
PAT1	**Patacocha**	**1.38**	**341**	⇓P		**Pb**	**07 38 05.5**	**-0.8**
ARRY	**Arrayan**	**1.39**	**341**	⇓P		**Pb**	**07 38 05.3**	**-1.1**
BMAS	**Trigal station**	**1.40**	**340**	⇓S		**Sg**	**07 38 24.3**	**-0.9**
BMAS	**Trigal station**	**1.40**	**340**	⇓P		**Pb**	**07 38 05.7**	**-0.8**
ULBA	**Ulba**	**1.43**	**343**	⇓P		**Pg**	**07 38 06.7**	**-0.8**
RETU	**Refugio**	**1.44**	**342**	⇑P		**Pg**	**07 38 06.8**	**-0.9**
BIL2	**Estacion Bilba**	**1.45**	**340**	⇓P		**Pg**	**07 38 07.6**	**-0.4**
BRUN	**Tungurahua Vol**	**1.46**	**344**	⇓S		**Sg**	**07 38 26.0**	**-0.9**
BRUN	**Tungurahua Vol**	**1.46**	**344**	⇓P		**Pg**	**07 38 06.9**	**-1.1**
RUN5	**Runtun**	**1.47**	**343**	⇑P		**Pg**	**07 38 07.3**	**-0.9**
RUN5	**Runtun**	**1.47**	**343**	⇑S		**Sg**	**07 38 26.0**	**-1.2**
JUI6	**Juive**	**1.47**	**341**	⇑P		**Pb**	**07 38 07.0**	**-0.8**
IGUA	**Igualata**	**1.47**	**334**	⇓S		**Sg**	**07 38 27.7**	**+0.1**
IGUA	**Igualata**	**1.47**	**334**	⇓P		**Pg**	**07 38 07.8**	**-0.6**
PISA	**Pisayambo**	**1.80**	**348**	⇑P		**Pb**	**07 38 13.1**	**-0.3**
PISA	**Pisayambo**	**1.80**	**348**	⇑S		**Sg**	**07 38 36.9**	**-1.0**
BMOR	**Cotopaxi Volca**	**2.13**	**348**	⇓S		**Sg**	**07 38 48.5**	**-0.2**
BMOR	**Cotopaxi Volca**	**2.13**	**348**	⇓P		**Pb**	**07 38 19.0**	**-0.2**
MOV1	**Cotopaxi Vol s**	**2.15**	**348**	⇓P		**Pb**	**07 38 19.2**	**-0.2**
TAMB	**Tambo**	**2.15**	**350**	⇑S		**Sg**	**07 38 49.1**	**-0.2**
TAMB	**Tambo**	**2.15**	**350**	⇑P		**Pb**	**07 38 19.2**	**-0.3**
BTAM	**Cotopaxi Volca**	**2.17**	**349**	⇓S		**Sg**	**07 38 48.9**	**-1.2**
BTAM	**Cotopaxi Volca**	**2.17**	**349**	⇓P		**Pb**	**07 38 19.6**	**-0.3**
COV1	**Cotopaxi Volc**	**2.18**	**351**	S		**Sg**	**07 38 49.9**	**-0.3**
COV1	**Cotopaxi Volc**	**2.18**	**351**	P		**Pb**	**07 38 20.2**	**+0.2**
BREF	**Cotopaxi Volca**	**2.19**	**348**	⇓S		**Sg**	**07 38 49.4**	**-1.1**
BREF	**Cotopaxi Volca**	**2.19**	**348**	⇓P		**Pb**	**07 38 20.1**	**-0.1**
BVC2	**Cotopaxi Volca**	**2.19**	**349**	⇓S		**Sg**	**07 38 48.8**	**-1.9**
BVC2	**Cotopaxi Volca**	**2.19**	**349**	⇓P		**Pb**	**07 38 20.0**	**-0.3**
VC1	**Cotopaxi 1**	**2.21**	**349**	⇓P		**Pb**	**07 38 20.2**	**-0.2**
NAS2	**Nasa**	**2.22**	**348**	S		**Sg**	**07 38 50.9**	**-0.5**
NAS2	**Nasa**	**2.22**	**348**	P		**Pg**	**07 38 20.9**	**-1.7**
ANTI	**Antisana**	**2.37**	**356**	⇓P		**Pb**	**07 38 22.1**	**-1.1**
JUA2	**San Juan 2**	**2.67**	**347**	P		**Pb**	**07 38 28.4**	**+0.2**
GGP	**Refugio Guagua**	**2.70**	**347**	⇑P		**Pg**	**07 38 29.9**	**-2.0**
TERV	**Terraza Guagua**	**2.70**	**347**	P		**Pg**	**07 38 29.8**	**-2.1**
PINO	**Pino**	**2.72**	**347**	P		**Pb**	**07 38 29.4**	**+0.2**
LAV4	**Lava4-Reventad**	**2.74**	**8**	P		**Pn**	**07 38 26.5**	**+2.0**
LAV4	**Lava4-Reventad**	**2.74**	**8**	S		**Sb**	**07 39 03.4**	**+0.2**
CHAR	**Charly**	**2.74**	**7**	S		**Sg**	**07 39 06.1**	**-2.1**
CHAR	**Charly**	**2.74**	**7**	P		**Pb**	**07 38 28.7**	**-0.8**
CONE	**Cono NE Rev Vo**	**2.76**	**47**	⇑P		**Pb**	**07 38 27.1**	**-2.7**
CAYR	**Refugio Cayamb**	**2.82**	**360**	S		**Sb**	**07 39 07.2**	**+1.3**
CAYR	**Refugio Cayamb**	**2.82**	**360**	P		**Pb**	**07 38 29.8**	**-1.3**
CAYA	**Cayambe**	**2.88**	**0**	S		**Sb**	**07 39 08.6**	**+1.1**
CAYA	**Cayambe**	**2.88**	**0**	P		**Pb**	**07 38 30.2**	**-1.7**
OTAV	**Otavalo**	**3.08**	**352**	⇓P		**Pb**	**07 38 34.7**	**-0.6**
COTA	**Cotacachi**	**3.16**	**354**	P		**Pb**	**07 38 34.6**	**-2.1**
CHIS	**Cerro-Chispas-**	**3.25**	**303**	P		**Pn**	**07 38 32.8**	**+1.6**
ATAH	**Atahualpa**	**4.30**	**185**	Pn		Pn	07 38 50.8	+4.8
	23nm,0.3s,baz=14,slow=8.6,SNR=28							
ATAH				Sn		**Sb**	**07 39 43.7**	**-4.5**
	2.6nm,0.3s,baz=124,slow=15,SNR=4.2							
ATAH				LR		LR	07 40 47.3	
	comp=Z,150nm,20.8s,baz=325,slow=42							
ROSC	**El Rosal**	**8.47**	**26**	Pg		Pb	07 40 12.0	+4.9
	0.8nm,0.3s,baz=283,slow=17,SNR=3.4							
ROSC				Lg		Lg	07 42 06.5	
	1.8nm,0.3s,baz=93,slow=22,SNR=4.1							
NNA	**Nana**	**9.17**	**173**	Pn		Pn	07 39 57.4	+4.7
	2.8nm,0.3s,baz=345,slow=15,SNR=7.7							
NNA				Sn		**Sn**	**07 41 37.2**	**+1.1**
	1.0nm,0.3s,baz=325,slow=16,SNR=2.4							
LPAZ	**La Paz**	**16.58**	**147**	Pn		**Pn**	**07 41 35.0**	**+2.2**
	0.1nm,0.3s,baz=325,slow=12,SNR=3.5							
SIV	**San Ignacio**	**21.18**	**129**	P		**P**	**07 42 27.9**	**+1.9**
	1.0nm,0.9s,baz=300,slow=13,SNR=5.3							
TXAR	**Lajitas Array**	**40.34**	**324**	P		P	07 45 23.3	+5.0
	0.1nm,0.4s,baz=146,slow=12,SNR=3.3							
PDAR	**Pinedale Array**	**53.59**	**331**	P		P	07 47 06.0	+4.2
	0.4nm,0.8s,baz=130,slow=4.0,SNR=2.9							
YKA	**Yellowknife Ar**	**70.80**	**343**	P		P	07 49 00.8	+4.2
	0.2nm,0.5s,baz=140,slow=6.2,SNR=8.3							
ILAR	**Eielson Array**	**83.65**	**336**	P		P	07 50 13.0	+4.1
	0.2nm,0.8s,baz=134,slow=5.2,SNR=4.2							

IDC 22 07:40:27.4±0.9,2.90N×75.65E,h0km,mb3.8/9,mb1 3.9/9, mb1mx3.8/25,mbtmp3.8/9,Error ellipse: s-maj=27.8km s-min=21.8km az=63.0,Laccadive Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**27.56**	**54**	P		P	07 46 17.1	+0.7
	1.1nm,0.3s,baz=240,slow=10,SNR=5.9							
MKAR	**Makanchi Array**	**44.10**	**7**	P		P	07 48 37.6	+0.2
	0.1nm,0.5s,baz=165,slow=7.4,SNR=3.0							
KURBB	**Kurchatov Arra**	**47.62**	**2**	P		P	07 49 04.3	-0.8
	0.3nm,0.3s,baz=198,slow=7.8,SNR=2.5							
ZALV	**Zalesovo Beam**	**51.44**	**7**	P		P	07 49 33.3	-0.9
	0.3nm,0.3s,baz=193,slow=5.9,SNR=3.1							
SONM	**Songino Array**	**52.02**	**26**	P		P	07 49 38.7	-0.2
	0.9nm,0.8s,baz=211,slow=7.4,SNR=7.5							
BRTR	**Keskin Array B**	**52.82**	**320**	P		P	07 49 44.3	-0.8
	0.5nm,0.7s,baz=105,slow=9.1,SNR=3.2							
BOSA	**Boshof**	**57.60**	**233**	P		P	07 50 19.7	0.0
	1.5nm,0.8s,baz=49,slow=9.3,SNR=3.4							
WRA	**Warramunga Arr**	**61.88**	**114**	P		P	07 50 49.0	-0.3
	1.9nm,0.6s,baz=295,slow=7.0,SNR=28							
ASAR	**Alice Springs**	**62.50**	**118**	P		P	07 50 52.9	-0.4
	1.2nm,0.7s,baz=289,slow=6.8,SNR=19							
PDAR	**Pinedale Array**	**134.30**	**5**	PKP		PKPdf	07 59 49.1	+1.1
	0.4nm,0.9s,baz=12,slow=4.6,SNR=2.7							
NVAR	**Mina Array Bea**	**136.90**	**16**	PKP		PKPdf	07 59 53.7	+0.7
	0.3nm,0.6s,baz=286,slow=4.6,SNR=2.9							
TXAR	**Lajitas Array**	**147.94**	**359**	PKPbc		PKPbc	08 00 15.6	0.0
	0.7nm,0.7s,baz=54,slow=1.5,SNR=7.5							

*IDC **22** 07:46:32.8±0.7,39.52N×73.96E,h0km,mb3.7/15, mb1 3.9/18,mb1mx3.8/32,mbtmp3.7/18,ML3.4/4,Error ellipse: s-maj=15.1km s-min=11.7km az=107.0*
*NNC **22** 07:46:36.1±3.2,39.64N×73.90E,h6km±13km,mb4.0, mpv3.9,Error ellipse: s-maj=22.3km s-min=13.4km az=5.0*
ISC 22 07:46:36.5±0.7,39.66N±0.07×74.17E±0.06,h28km,n44, σ1§81/42,mb3.5/16,12C-6D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KSH	**Kashi**	**1.40**	**95**	Pg		**Pn**	**07 46 59.1**	**-1.1**
KSH				Sg		**Sn**	**07 47 14.8**	**-3.0**
KSH				smax		smax		
	comp=N,480nm,0.8s							
KSH				smax		smax		
	comp=E,820nm,0.8s							
AML	**Almayashu**	**2.50**	**352**	P		**Pb**	**07 47 19.6**	**-1.3**
	SNR=114							
KZA	**Kyzart**	**2.55**	**18**	P		**Pb**	**07 47 23.4**	**+1.6**
	SNR=92							
UCH	**Uchtor**	**2.58**	**6**	P		**Pb**	**07 47 21.7**	**-0.6**
	SNR=16							
AAK	**Ala-Archa**	**2.98**	**5**	P		**Pb**	**07 47 26.8**	**-2.2**
	SNR=47							
AAK	**Ala-Archa**	**2.98**	**5**	Pn		**Pb**	**07 47 26.8**	**-2.2**
	comp=E,11nm,0.3s,baz=163,slow=8.5,SNR=38							
AAK				Pg		Pn	07 47 29.8	+7.7
	comp=E,19nm,0.3s,baz=172,slow=9.1,SNR=52							
AAK				Sn		Sb	07 48 09.2	+4.1
	comp=E,15nm,0.3s,baz=110,slow=22,SNR=11							
EKS2	**Erkin-Say**	**3.02**	**354**	P		**Pb**	**07 47 28.5**	**-1.0**
	SNR=22							
ULHL	**Ulahol**	**3.02**	**31**	P		**Pb**	**07 47 29.8**	**+0.1**
	SNR=14							
KBK	**Karagaybulak**	**3.05**	**11**	P		**Pb**	**07 47 28.0**	**-2.2**
	SNR=33							
CHMS	**Chumysh**	**3.37**	**7**	P		**Pb**	**07 47 33.6**	**-1.9**
	SNR=7.8							
TKM2	**Tokmak 2**	**3.43**	**18**	⇑Pn		Pb	07 47 33.4	-3.3
	comp=E,16nm,0.5s							
TKM2				⇑Lg		Lg	07 48 26.0	
	comp=E,48nm,0.6s							
TKM2	**Tokmak 2**	**3.43**	**18**	P		**Pb**	**07 47 35.2**	**-1.5**
	SNR=16							
USP	**Ospenovka**	**3.62**	**4**	P		**Pb**	**07 47 36.6**	**-3.0**
	SNR=50							
KNDC	**Almaty**	**4.13**	**30**	⇑Pg		Pb	07 47 54.4	+5.9
	comp=E,58nm,0.8s							
KNDC				⇑Lg		Lg	07 48 52.0	
	comp=E,211nm,1.1s							
KK31	**Karatay Array**	**4.41**	**323**	⇑Pn		**Pn**	**07 47 42.5**	**+1.0**
	comp=E,4.9nm,0.4s,baz=123,slow=12,SNR=87							
KK31				⇑Pg		Pb	07 47 55.9	+2.7
	comp=E,13nm,0.6s,baz=137,slow=16,SNR=5.5							
KK31				⇑Sn		**Sn**	**07 48 34.2**	**+2.3**
	comp=E,7.4nm,0.3s,baz=124,slow=22,SNR=4.6							
KK31				⇑Lg		Lg	07 48 50.6	
	comp=E,20nm,0.3s,baz=139,slow=30,SNR=4.5							
MK31	**Makanchi Array**	**9.27**	**37**	⇑Pn		Pn	07 48 51.5	+3.3
	comp=E,0.6nm,0.5s,baz=169,slow=7.6,SNR=6.8							
MK31				⇑Lg		Lg	07 51 35.0	
	comp=E,2.5nm,0.8s							
MKAR	**Makanchi Array**	**9.27**	**37**	Pn		Pn	07 48 53.4	+5.2
	comp=E,0.1nm,0.3s,baz=219,slow=15,SNR=4.8							
MKAR				Lg		Lg	07 51 34.6	
	comp=E,0.1nm,0.3s,baz=236,slow=25,SNR=3.0							
KURBB	**Kurchatov Arra**	**11.39**	**14**	Lg		Lg	07 52 33.1	
	comp=E,0.1nm,0.3s,baz=206,slow=31,SNR=5.7							
KURK	**Kurchatov**	**11.49**	**14**	⇓Lg		Lg	07 52 43.8	
	comp=E,16nm,1.1s							
VOSK	**Vostochnaya**	**13.25**	**352**	⇑Pn		**Pn**	**07 49 42.2**	**-0.5**
	comp=E,2.7nm,1.1s							
BVA0	**Borovoye Array**	**13.62**	**350**	Pn		**Pn**	**07 49 46.2**	**-1.4**
	comp=E,0.9nm,1.1s,baz=162,slow=19,SNR=6.7							
BVA0				⇓Lg		Lg	07 53 49.5	
	comp=E,1.4nm,1.1s							
BVAR	**Borovoye Array**	**13.62**	**350**	Pn		**Pn**	**07 49 46.4**	**-1.3**
	comp=E,0.3nm,0.3s,baz=160,slow=14,SNR=8.8							
BVAR				Sn		**Sn**	**07 52 17.8**	**-0.1**
	comp=E,0.1nm,0.3s,baz=166,slow=19,SNR=2.4							
BVAR				Lg		Lg	07 53 48.4	
	comp=E,0.1nm,0.3s,baz=170,slow=28,SNR=3.5							
BRVK	**Borovoye**	**13.67**	**350**	⇓Pn		**Pn**	**07 49 47.5**	**-0.8**
	comp=E,4.7nm,0.8s							
BRVK				⇓Lg		Lg	07 53 50.8	
	comp=E,12nm,1.3s							
ZRNK	**Zerenda**	**13.76**	**347**	⇑Pn		**Pn**	**07 49 48.9**	**-0.7**
	comp=E,1.5nm,0.7s							
ZRNK				⇓Lg		Lg	07 53 53.4	
	comp=E,9.7nm,1.4s							
AB31	**Akbulak array**	**13.96**	**318**	Pn		**Pn**	**07 49 50.2**	**-2.0**
	comp=E,1.9nm,0.6s,baz=127,slow=14,SNR=12							
AKTO	**Aktyubinsk**	**15.66**	**319**	⇓Pn		**Pn**	**07 50 14.0**	**-1.1**
	comp=E,0.6nm,1.0s							
AKTO	**Aktyubinsk**	**15.66**	**319**	Pn		**Pn**	**07 50 13.5**	**-1.6**
	comp=E,0.2nm,0.3s,baz=135,slow=9.9,SNR=4.1							
AKTO				Sn		**Sn**	**07 53 01.4**	**-6.3**
	comp=E,0.1nm,0.3s,baz=0.0,slow=20,SNR=2.7							
ZALV	**Zalesovo Beam**	**16.02**	**23**	Pn		**P**	**07 50 24.1**	**+1.3**
	comp=E,0.1nm,0.3s,baz=211,slow=11,SNR=5.0							
SONM	**Songino Array**	**24.53**	**60**	P		**P**	**07 51 57.5**	**+3.9**
	comp=E,0.8nm,0.7s,baz=258,slow=9.1,SNR=7.5							
BRTR	**Keskin Array B**	**31.00**	**283**	P		**P**	**07 52 51.9**	**+0.2**
	comp=E,0.7nm,0.8s,baz=48,slow=8.1,SNR=3.6							
JOF	**Joensuu**	**34.50**	**327**	*ep*		**P**	**07 53 21.6**	**-0.1**
	comp=E,0.2nm,0.4s							
MLR	**Muntele Rosu**	**35.56**	**296**	P		**P**	**07 53 31.3**	**+0.1**
	comp=E,0.3nm,0.8s,baz=118,slow=17,SNR=2.3							
FINES	**FINESS Array B**	**36.37**	**323**	P		**P**	**07 53 38.3**	**+0.5**
	comp=E,1.0nm,0.4s,baz=112,slow=9.6,SNR=17							
ARCES	**ARCESS Array B**	**39.25**	**335**	P		**P**	**07 54 03.3**	**+1.2**
	comp=E,2.8nm,0.8s,baz=105,slow=8.3,SNR=9.7							
HFS	**Hagfors**	**42.21**	**320**	P		**P**	**07 54 26.7**	**+0.1**
	comp=E,2.7nm,0.9s,baz=106,slow=9.7,SNR=6.1							
GERES	**GERESS Array B**	**43.23**	**303**	P		**P**	**07 54 35.7**	**+0.5**
	comp=E,0.2nm,0.5s,baz=55,slow=15,SNR=4.3							
NOA	**NORSAR Array B**	**43.44**	**321**	P		**P**	**07 54 36.7**	**+0.1**
	comp=E,0.6nm,0.6s,baz=91,slow=7.6,SNR=3.0							
TORD	**Torodi Ar. Bea**	**68.28**	**269**	P		**P**	**07 57 33.6**	**-1.5**
	comp=E,7nm,0.5s,baz=49,slow=5.7,SNR=13							
ILAR	**Eielson Array**	**71.04**	**17**	P		**P**	**07 57 51.9**	**+0.5**
	comp=E,0.2nm,0.6s,baz=323,slow=3.4,SNR=5.1							
YKA	**Yellowknife Ar**	**77.95**	**4**	P		**P**	**07 58 32.6**	**+1.1**
	comp=E,0.3nm,0.7s,baz=349,slow=6.0,SNR=7.9							
LBTB	**Lobatse**	**78.69**	**224**	P		**P**	**07 58 36.6**	**+0.4**
	comp=E,1.3nm,0.7s,baz=72,slow=3.2,SNR=3.1							
WRA	**Warramunga Arr**	**81.62**	**124**	P		**P**	**07 58 52.8**	**+0.8**
	comp=E,0.2nm,0.5s,baz=328,slow=5.3,SNR=6.5							
ASAR	**Alice Springs**	**84.08**	**127**	P		**P**	**07 59 05.8**	**+1.1**
	comp=E,0.2nm,0.5s,baz=311,slow=4.6,SNR=6.3							
STKA	**Stephens Creek**	**94.70**	**128**	P		**P**	**07 59 54.5**	**-0.4**
	comp=E,0.5nm,0.3s,baz=311,slow=9.3,SNR=3.6							

*ISCJB **22** 08:08:20.8±0.5,23.82N±0.02×121.96E±0.02,h21km±6km, Error ellipse: s-maj=4.4km s-min=2.5km az=43.3*
*TAP **22** 08:08:20.6,23.87N×121.93E,h16km,ML3.5,C*
*JMA **22** 08:08:20.8±0.3,23.83N×121.86E,h59km,M2.6*
ISC 22 08:08:20.1±1.1,23.85N±0.02×121.93E±0.02,h18km±6km, n48,σ0§61/84,2C-6D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
HWA	**Hwalien**	**0.33**	**293**	P		**Pb**	**08 08 27.6**	**+0.2**
	baz=278							
HWA				*e*S		**Sb**	**08 08 32.0**	**-0.4**
	baz=278							
TEGC	**Jichi Village**	**0.39**	**249**	*e*P		**Pb**	**08 08 29.0**	**+0.6**
	baz=245							
TEGC				*e*S		**Sn**	**08 08 36.3**	**-1.4**
	baz=245							
TWD	**Chiawan**	**0.39**	**307**	⇑*i*P		**Pb**	**08 08 28.5**	**0.0**
	baz=303							
TWD				*i* S		**Sb**	**08 08 34.3**	**+0.2**
	baz=303							
ESF	**Shoufeng Towns**	**0.39**	**273**	*e*P		**Pb**	**08 08 28.7**	**+0.2**
	baz=269							
ESF				*e*S		**Sb**	**08 08 35.0**	**+0.7**
	baz=269							
ESL	**Shilin**	**0.46**	**266**	⇓*i*P		**Pb**	**08 08 29.7**	**0.0**
	baz=261							
ESL				*e*S		**Sb**	**08 08 36.4**	**+0.2**
	baz=261							
ENA	**Nanau**	**0.60**	**343**	P		Pn	08 08 32.8	-1.1
	baz=330							
ENA				*e*S		**Sn**	**08 08 41.8**	**-1.4**
	baz=330							
EHY	**Hungye**	**0.66**	**239**	P		**Pb**	**08 08 33.3**	**+0.2**
	baz=236							
EHY				S		**Sb**	**08 08 42.3**	**+0.5**
	baz=236							
WHF	**Hehuan Shan**	**0.68**	**296**	⇑*i*P		**Pg**	**08 08 33.6**	**-0.1**
	baz=292							
WHF				*e*S		**Sg**	**08 08 43.0**	**+0.2**
	baz=292							
TWC	**Suao**	**0.76**	**354**	P		Pn	08 08 35.5	-0.5
	baz=353							
TWC				S		**Sn**	**08 08 46.9**	**-0.2**
	baz=353							
TWF1	**Yuli**	**0.76**	**230**	⇓*i*P		**Pg**	**08 08 35.1**	**0.0**
	baz=215							
TWF1				*e*S		**Sg**	**08 08 45.7**	**+0.4**
	baz=215							
NNS	**Nan Shan**	**0.78**	**319**	P		**Pg**	**08 08 35.6**	**+0.2**
	baz=308							
NNS				S		**Sb**	**08 08 46.2**	**+0.6**
	baz=308							
TWT	**Tachien**	**0.80**	**300**	P		Pn	08 08 36.4	-0.4
	baz=285							
TWT				S		**Sg**	**08 08 47.3**	**+0.8**
	baz=285							
ENTT	**Nioudou**	**0.86**	**337**	P		Pn	08 08 37.1	-0.3
	baz=334							
ENTT				*e*S		**Sn**	**08 08 48.4**	**-1.0**
	baz=334							
TWE	**Neicheng**	**0.90**	**344**	*e*P		**Pn**	**08 08 37.6**	**-0.3**
	baz=329							
TWE				*e*S		**Sn**	**08 08 50.5**	**0.0**
	baz=329							
CHKT	**Chengkung**	**0.91**	**215**	*e*P		**Pb**	**08 08 36.1**	**-1.3**
	baz=201							
SMLT	**Sun Moon Lake**	**0.95**	**272**	⇓*i*P		**Pg**	**08 08 38.3**	**-0.3**
	baz=277							
SMLT				*e*S		**Sg**	**08 08 51.2**	**+0.1**
	baz=277							
NSK	**Sanguang**	**0.98**	**328**	⇓*e*P		**Pg**	**08 08 38.8**	**-0.4**
	baz=324							
NSK				*e*S		**Sn**	**08 08 51.9**	**-0.6**
	baz=324							
TYC	**Yuchr**	**0.99**	**273**	⇓*i*P		**Pb**	**08 08 38.8**	**+0.1**
	baz=278							
TYC				*e*S		**Sn**	**08 08 52.7**	**+0.1**
	baz=278							
ELDTW	**Lidau**	**1.07**	**232**	*e*P		**Pb**	**08 08 39.2**	**-0.9**
	baz=230							
ALS	**Alishan**	**1.09**	**252**	P		Pn	08 08 41.0	+0.2
	baz=249							
ALS				S		**Sn**	**08 08 55.6**	**+0.1**
	baz=249							
WNT	**Mingjian**	**1.14**	**272**	*e*P		**Pg**	**08 08 42.0**	**-0.3**
	baz=268							
NSTT	**Nanjuang**	**1.15**	**313**	*e*P		**Pg**	**08 08 42.1**	**-0.3**
	baz=308							
NSTT				*e*S		**Sg**	**08 08 57.7**	**+0.1**
	baz=308							
YOJ	**Yonaguni jima**	**1.16**	**58**	P		**Pg**	**08 08 42.1**	**-0.5**
YOJ				*e*S		**Sg**	**08 08 57.8**	**0.0**
TWQ1	**Liyutan**	**1.17**	**295**	*e*P		**Pg**	**08 08 42.9**	**+0.1**
	baz=290							
TWQ1				*e*S		**Sg**	**08 08 58.1**	**0.0**
	baz=290							
CHN5	**Tsauling**	**1.18**	**258**	⇓*i*P		**Pg**	**08 08 42.8**	**-0.1**
	baz=254							
CHN5				*e*S		**Sg**	**08 08 58.9**	**+0.6**
	baz=254							
TCU	**Taichung**	**1.19**	**285**	*e*P		**Pg**	**08 08 43.1**	**0.0**
	baz=280							
TCU				*e*S		**Sg**	**08 08 59.4**	**+0.8**
	baz=280							
NWF	**Wu-fen Shan**	**1.23**	**354**	*e*P		**Pg**	**08 08 43.6**	**-0.2**
	baz=350							
NWF				*e*S		**Sg**	**08 09 00.3**	**+0.4**
	baz=350							
TWG	**Pinlang**	**1.29**	**218**	*e*P		**Pn**	**08 08 42.1**	**-1.2**
	baz=217							
CHN4	**Tsaushan**	**1.32**	**248**	*e*P		**Pb**	**08 08 44.9**	**+0.5**
	baz=235							
CHN4				*e*S		**Sg**	**08 09 02.4**	**-0.6**
	baz=235							
TWS1	**Kuangyinshan**	**1.33**	**339**	*e*P		**Pg**	**08 08 45.0**	**-0.8**
	baz=336							
TWS1				*e*S		**Sg**	**08 09 03.5**	**+0.2**
	baz=336							
WTP	**Ta-pu**	**1.35**	**244**	*e*P		**Pb**	**08 08 45.0**	**0.0**
	baz=241							
WTP				*e*S		**Sg**	**08 09 03.5**	**-0.3**
	baz=241							
CHN2	**Minshiung**	**1.37**	**257**	*e*P		**Pb**	**08 08 45.0**	**-0.2**
	baz=253							
CHN2				*e*S		**Sg**	**08 09 05.0**	**+0.5**
	baz=253							
CHY	**Chiayi**	**1.43**	**256**	*e*P		**Pb**	**08 08 46.0**	**-0.2**
	baz=252							
CHY				*e*S		**Sb**	**08 09 04.7**	**+0.6**
	baz=252							
TWK	**Hsinying**	**1.45**	**247**	*e*P		**Pb**	**08 08 46.7**	**+0.2**
	baz=243							
TWK				*e*S		**Sb**	**08 09 05.5**	**+0.8**
	baz=243							
CHN1	**Nanshi**	**1.45**	**243**	*e*P		**Pb**	**08 08 46.7**	**+0.1**
	baz=240							
CHN1				*e*S		**Sb**	**08 09 06.0**	**+1.2**
	baz=240							
SGST	**Jiashian

Error ellipse: s-maj=9.4km s-min=4.6km az=149.0
*BJI **22** 09:00:50.0, 15°.70S×178°.40W, h438km, mB5.1/14, mb4.6/20*
ISC 22 09:00:50.1±0.5, **15°.67S**±0'.08×**178°.31W**±0'.07, **h439**km±4km, **n658**, σ0**°.93**/652, **mb4.6**/102, **201C-183D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.05**	**239**	*e*Pn	**P**	**09 02 06.1**	**+1.1**
AFI	**Afiamalu**	**6.55**	**75**	*e*Pn	**P**	**09 02 28.4**	**-1.6**
AFI	**Afiamalu**	**6.55**	**75**	P	**P**	**09 02 28.2**	**-1.8**
	7.0nm,0.3s,baz=65,slow=8.0,SNR=15						
DZM	**Mont Dzumac**	**15.77**	**244**	P	**P**	**09 04 09.8**	**0.0**
DZM	**Mont Dzumac**	**15.77**	**244**	P	**P**	**09 04 09.8**	**0.0**
	0.3nm,0.3s,baz=84,slow=21,SNR=5.5						
OUZ	**Omahuta**	**20.78**	**199**	*e*P	**P**	**09 05 01.0**	**+1.9**
	31nm,0.9s						
URZ	**Urewera**	**22.87**	**189**	*e*P	**P**	**09 05 15.2**	**-2.8**
	39nm,0.8s						
SNZO	**South Karori**	**26.26**	**192**	*e*P	**P**	**09 05 46.9**	**-1.3**
	21nm,0.6s						
KHZ	**Kahutara**	**27.57**	**193**	*e*P	**P**	**09 05 56.8**	**-2.9**
	33nm,1.0s						
RPZ	**Rata Peaks**	**29.39**	**196**	*e*P	**P**	**09 06 15.2**	**-0.5**
	73nm,1.4s						
RMQ	**Roma**	**32.48**	**245**	*e*P	**P**	**09 06 44.6**	**+1.9**
	12nm,0.5s						
CTA	**Charters Tower**	**33.97**	**257**	P	**P**	**09 06 55.2**	**-0.4**
CTA	**Charters Tower**	**33.97**	**257**	*e*P	**P**	**09 06 55.0**	**-0.6**
	8.3nm,0.9s						
CTA	**Charters Tower**	**33.97**	**257**	P	**P**	**09 06 55.2**	**-0.4**
	8.0nm,0.7s,baz=82,slow=8.8,SNR=6.9						
CTAO	**Charters Tower**	**33.97**	**257**	*e*P	**P**	**09 06 55.0**	**-0.6**
	6.7nm,0.6s						
PMG	**Port Moresby**	**34.25**	**276**	P	**P**	**09 06 58.4**	**+0.5**
PMG	**Port Moresby**	**34.25**	**276**	P	**P**	**09 06 58.4**	**+0.5**
	17nm,0.8s,baz=81,slow=6.3,SNR=4.2						
CMSA	**Cobar Meteorol**	**36.38**	**238**	*e*P	**P**	**09 07 16.6**	**+1.0**
	32nm,0.6s						
QLP	**Quilpie**	**36.47**	**246**	*e*P	**P**	**09 07 15.5**	**-0.9**
COEN	**Coen**	**37.25**	**267**	*e*P	**P**	**09 07 23.0**	**0.0**
	48nm,0.7s						
COEN	**Coen**	**37.25**	**267**	*e*P	**P**	**09 07 23.3**	**+0.3**
	37nm,0.7s						
STKA	**Stephens Creek**	**39.83**	**239**	P	**P**	**09 07 43.5**	**-0.4**
STKA				PcP	**PcP**	**09 09 39.7**	**0.0**
STKA	**Stephens Creek**	**39.83**	**239**	*e*P	**P**	**09 07 43.3**	**-0.6**
	4.5nm,0.8s						
STKA	**Stephens Creek**	**39.83**	**239**	P	**P**	**09 07 43.5**	**-0.4**
	4.7nm,0.6s,baz=82,slow=9.2,SNR=14						
STKA				PcP	**PcP**	**09 09 39.7**	**0.0**
	2.1nm,0.7s,baz=341,slow=8.2,SNR=3.4						
BBOO	**Buckleboo**	**44.61**	**239**	*e*P	**P**	**09 08 21.0**	**-0.8**
	31nm,0.6s						
WRAB	**Tennant Creek**	**45.17**	**257**	*e*P	**P**	**09 08 24.8**	**-1.5**
	11nm,0.8s						
WRA	**Warramunga Arr**	**45.18**	**257**	P	**P**	**09 08 25.2**	**-1.3**
WRA				PcP	**PcP**	**09 09 58.1**	**+0.2**
WRA				S	**S**	**09 14 34.4**	**+1.2**
WRA	**Warramunga Arr**	**45.18**	**257**	P	**P**	**09 08 25.2**	**-1.3**
	5.2nm,0.5s,baz=95,slow=8.0,SNR=96						
WRA				PcP	**PcP**	**09 09 58.1**	**+0.2**
	2.5nm,0.7s,baz=86,slow=3.7,SNR=9.7						
WRA				S	**S**	**09 14 34.4**	**+1.2**
	1.1nm,1.0s,baz=93,slow=14,SNR=4.7						
ASAR	**Alice Springs**	**45.53**	**252**	P	**P**	**09 08 28.6**	**-0.6**
ASAR				PcP	**PcP**	**09 09 58.8**	**-0.5**
ASAR				ScP	**ScP**	**09 13 12.4**	**+2.8**
ASAR				S	**S**	**09 14 35.8**	**-2.4**
ASAR	**Alice Springs**	**45.53**	**252**	P	**P**	**09 08 28.6**	**-0.6**
	48nm,0.7s,baz=83,slow=8.2,SNR=534						
ASAR				PcP	**PcP**	**09 09 58.8**	**-0.5**
	3.0nm,0.6s,baz=93,slow=3.9,SNR=7.5						
ASAR				ScP	**ScP**	**09 13 12.4**	**+2.8**
	0.6nm,0.8s,baz=115,slow=3.4,SNR=4.2						
ASAR				S	**S**	**09 14 35.8**	**-2.4**
	2.1nm,0.9s,baz=80,slow=16,SNR=11						
FORT	**Forrest**	**51.08**	**243**	*e*P	**P**	**09 09 09.2**	**-1.5**
	26nm,0.6s						
FORT	**Forrest**	**51.08**	**243**	*e*P	**P**	**09 09 09.5**	**-1.2**
	25nm,0.6s						
FITZ	**Fitzroy Crossi**	**53.52**	**259**	*e*P	**P**	**09 09 28.2**	**-0.3**
	2.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**53.52**	**259**	*e*P	**P**	**09 09 28.3**	**-0.2**
	3.5nm,0.4s						
FITZ	**Fitzroy Crossi**	**53.52**	**259**	P	**P**	**09 09 28.4**	**-0.1**
	2.3nm,0.5s,baz=98,slow=9.7,SNR=8.7						
MBWA	**Marble Bar**	**58.74**	**255**	*e*P	**P**	**09 10 04.2**	**-0.6**
	9.7nm,1.0s						
KLBR	**Kellerberrin**	**59.93**	**242**	*e*P	**P**	**09 10 11.5**	**-1.2**
	17nm,0.5s						
NWAO	**Narrogin (SRO)**	**60.37**	**241**	P	**P**	**09 10 17.4**	**+1.8**
NWAO	**Narrogin (SRO)**	**60.37**	**241**	P	**P**	**09 10 17.4**	**+1.8**
	7.6nm,0.5s,baz=108,slow=6.9,SNR=9.0						
MJAR	**Matsushiro Arr**	**66.19**	**323**	P	**P**	**09 10 52.0**	**-1.0**
MJAR	**Matsushiro Arr**	**66.19**	**323**	P	**P**	**09 10 52.0**	**-1.0**
	4.1nm,0.6s,baz=155,slow=6.4,SNR=11						
ASAJ	**Asahikawa**	**69.37**	**331**	P	**P**	**09 11 12.9**	**+0.5**
ASAJ	**Asahikawa**	**69.37**	**331**	P	**P**	**09 11 12.9**	**+0.5**
	7.2nm,0.8s,baz=141,slow=30,SNR=4.4						
PETK	**Petropavlovsk-**	**71.55**	**345**	P	**P**	**09 11 25.2**	**0.0**
PETK	**Petropavlovsk-**	**71.55**	**345**	P	**P**	**09 11 25.2**	**0.0**
	14nm,0.7s,baz=146,slow=9.1,SNR=10						
KSM	**Kuching**	**72.51**	**277**	*e*P	**P**	**09 11 32.3**	**+0.6**
	3.1nm,0.6s						
KSRS	**Korea Array**	**73.11**	**318**	P	**P**	**09 11 35.4**	**+0.8**
	2.8nm,0.8s,baz=140,slow=7.3,SNR=8.1						
KSAR	**Wonju Array Be**	**73.13**	**318**	P	**P**	**09 11 35.4**	**+0.7**
QSPA	**South Pole Qui**	**74.38**	**180**	*e*P	**P**	**09 11 42.1**	**+0.5**
	3.4nm,0.7s						
QSPA	**South Pole Qui**	**74.38**	**180**	P	**P**	**09 11 42.4**	**+0.8**
	4.9nm,0.9s,baz=94,slow=0.7,SNR=18						
BSC	**Santa Cruz Isl**	**74.53**	**47**	⇓P	**P**	**09 11 43.2**	**+0.3**
	baz=75						
SCI	**San Clemente I**	**74.79**	**49**	⇑P	**P**	**09 11 45.2**	**+1.0**
	baz=75						
USRK	**Ussuriysk Arra**	**74.83**	**325**	P	**P**	**09 11 45.6**	**+1.4**
	4.0nm,0.9s,baz=181,slow=9.2,SNR=5.6						
PKM	**Peak Mountain**	**74.87**	**47**	⇑P	**P**	**09 11 46.0**	**+1.0**
	baz=75						
SMMC	**Simmler**	**74.96**	**46**	⇓P	**P**	**09 11 46.5**	**+1.3**
	baz=75						
PTRM	**Twissleman Ran**	**74.99**	**46**	*e*P	**P**	**09 11 46.9**	**+1.4**
CIS	**Catalina Islan**	**75.11**	**48**	⇓P	**P**	**09 11 46.9**	**+0.7**
	baz=75						
KHMM	**Horse Mountain**	**75.61**	**40**	*e*P	**P**	**09 11 50.5**	**+1.5**
	22nm,0.8s						
ARVC	**Arvin**	**75.68**	**47**	⇑P	**P**	**09 11 50.2**	**+0.9**
	baz=76						
MWC	**Mount Wilson**	**75.77**	**48**	*e*P	**P**	**09 11 50.6**	**+0.6**
	10nm,0.6s						
109C	**Camp Elliot, M**	**75.79**	**50**	⇑P	**P**	**09 11 50.8**	**+0.9**
	baz=76						
VES	**Vestal, Richgr**	**75.87**	**46**	⇓P	**P**	**09 11 50.9**	**+0.6**
	baz=76,SNR=5.9						
RCTC	**Rector, Farmer**	**76.01**	**46**	⇑P	**P**	**09 11 51.6**	**+0.6**
	baz=76						
BFSC	**Mount Baldy Ra**	**76.06**	**48**	⇓P	**P**	**09 11 52.1**	**+0.5**
	baz=76,SNR=8.9						
MURC	**Murrieta**	**76.07**	**49**	⇓P	**P**	**09 11 52.4**	**+0.9**
	baz=76						
EDW2	**Edwards Air Fo**	**76.15**	**47**	⇑P	**P**	**09 11 52.8**	**+0.9**
	baz=76,SNR=14						
CMB	**Columbia Colle**	**76.15**	**44**	*e*P	**P**	**09 11 52.6**	**+0.7**
	11nm,0.9s						
ISA	**Isabella**	**76.20**	**46**	*e*P	**P**	**09 11 52.9**	**+0.6**
	22nm,1.4s						
ISA	**Isabella**	**76.20**	**46**	⇑P	**P**	**09 11 53.1**	**+0.8**
	baz=76,SNR=12						
MONP	**Monument Peak**	**76.30**	**50**	⇓P	**P**	**09 11 53.7**	**+0.7**
	baz=76,SNR=13						
DVTC	**Desert V Tower**	**76.42**	**50**	⇓P	**P**	**09 11 54.4**	**+0.9**
	baz=77,SNR=5.1						
MDJ	**Mudanjiang**	**76.42**	**325**	P	**P**	**09 11 54.9**	**+1.7**
MDJ				pmax	pmax		
	comp=Z,140nm,5.1s						
NJ2	**Nanjing**	**76.61**	**309**	*e*P	P	09 11 51.0	-3.4
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
PFO	**Pinyon Flat Ob**	**76.62**	**49**	*e*P	**P**	**09 11 55.4**	**+0.6**
	comp=Z,8.2nm,0.9s						
PFO	**Pinyon Flat Ob**	**76.62**	**49**	⇑P	**P**	**09 11 55.3**	**+0.6**
	baz=77,SNR=5.3						
LRMC	**Laurel Mountai**	**76.66**	**47**	⇓P	**P**	**09 11 55.6**	**+0.7**
	baz=77,SNR=5.9						
SWSC	**Sam W. Stewart**	**76.78**	**50**	⇑P	**P**	**09 11 56.2**	**+0.8**
	baz=77,SNR=6.1						
CWC	**Cottonwood Cre**	**76.88**	**46**	⇑P	**P**	**09 11 57.1**	**+1.1**
	baz=77						
MLAC	**Mammoth Lakes**	**76.97**	**45**	⇓P	**P**	**09 11 58.0**	**+1.3**
	baz=77						
MTUM	**Tungsten Hills**	**77.02**	**45**	*e*P	**P**	**09 11 58.0**	**+1.1**
TIN	**Tinemaha**	**77.09**	**45**	⇓P	**P**	**09 11 58.6**	**+1.4**
	baz=77						
MPMC	**Manual Prospec**	**77.09**	**47**	⇓P	**P**	**09 11 58.2**	**+0.9**
	baz=77,SNR=14						
BELC	**Belle Mtn. Jos**	**77.14**	**49**	⇓P	**P**	**09 11 58.6**	**+1.1**
	baz=77,SNR=14						
GSC	**Goldstone**	**77.20**	**47**	*e*P	**P**	**09 11 58.2**	**+0.4**
	comp=Z,12nm,1.1s						
GSC	**Goldstone**	**77.20**	**47**	⇑P	**P**	**09 11 58.5**	**+0.7**
	baz=77,SNR=10						
WCN	**Washoe City**	**77.25**	**43**	⇓P	**P**	**09 11 59.4**	**+1.3**
	baz=78						
HEC	**Hector,Ludlow**	**77.30**	**48**	⇓P	**P**	**09 11 59.0**	**+0.7**
	baz=78,SNR=15						
BC3	**Big Chuckawall**	**77.37**	**50**	⇓P	**P**	**09 11 59.9**	**+1.1**
	baz=78,SNR=7.6						
GLA	**Glamis**	**77.55**	**50**	⇑P	**P**	**09 12 01.2**	**+1.5**
	baz=78						
GRAC	**Grapevine Rang**	**77.65**	**46**	⇑P	**P**	**09 12 01.4**	**+1.2**
	baz=78,SNR=9.4						
FURC	**Furnace Creek,**	**77.74**	**46**	⇑P	**P**	**09 12 01.6**	**+1.0**
	baz=78,SNR=13						
NVAR	**Mina Array Bea**	**77.75**	**44**	P	**P**	**09 12 01.6**	**+0.7**
NVAR	**Mina Array Bea**	**77.75**	**44**	P	**P**	**09 12 01.6**	**+0.7**
	comp=Z,9.5nm,0.7s,baz=227,slow=8.5,SNR=60						
GMRC	**Granite Mounta**	**77.76**	**48**	⇑P	**P**	**09 12 01.7**	**+0.7**
	baz=78,SNR=9.0						
IRM	**Iron Mountain**	**77.83**	**49**	⇓P	**P**	**09 12 02.2**	**+1.0**
	baz=78,SNR=11						
SHOC	**Shoshone**	**77.86**	**47**	⇓P	**P**	**09 12 01.8**	**+0.4**
	baz=78,SNR=7.8						
TUQ	**Turquoise Moun**	**77.89**	**48**	⇓P	**P**	**09 12 02.6**	**+1.0**
	baz=78,SNR=13						
Y12C	**Blythe**	**78.10**	**50**	⇓P	**P**	**09 12 03.6**	**+1.0**
	baz=78,SNR=7.9						
113A	**Mohawk Valley,**	**78.21**	**51**	⇑P	**P**	**09 12 04.3**	**+1.1**
	baz=78,SNR=8.7						
LDFC	**Landfair**	**78.30**	**48**	*e*P	**P**	**09 12 05.0**	**+1.2**
	comp=Z,40nm,0.9s						
CN2	**Changchun**	**78.32**	**322**	*e*P	**P**	**09 12 04.9**	**+1.3**
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
214A	**Organ Pipe Nat**	**78.56**	**52**	⇑P	**P**	**09 12 06.3**	**+1.1**
	baz=79,SNR=12						
PDMCI	**Parker Dam,Lak**	**78.64**	**49**	⇑P	**P**	**09 12 06.4**	**+0.9**
	baz=79,SNR=5.2						
Z14A	**Wintersburg**	**79.09**	**51**	⇑P	**P**	**09 12 09.1**	**+1.1**
	baz=79,SNR=6.8						
W13A	**Hualapai Mount**	**79.20**	**49**	⇑P	**P**	**09 12 09.4**	**+0.7**
	baz=78,SNR=14						
Y14A	**Wickenburg**	**79.31**	**50**	⇓P	**P**	**09 12 10.1**	**+1.0**
	baz=80,SNR=7.5						
SPU	**Mount Spurr**	**79.41**	**13**	*e*P	**P**	**09 12 08.1**	**-1.0**
R11A	**Troy Canyon, C**	**79.55**	**45**	⇑P	**P**	**09 12 11.0**	**+0.5**
	baz=80						
LON	**Longmire**	**80.17**	**36**	*e*P	**P**	**09 12 13.8**	**+0.4**
	comp=Z,26nm,1.8s						
TUC	**Tucson**	**80.26**	**53**	*e*P	**P**	**09 12 15.8**	**+1.5**
	comp=Z,14nm,1.1s						
PMR	**Palmer**	**80.41**	**14**	*e*P	**P**	**09 12 13.4**	**-0.9**
	comp=Z,5.4nm,0.4s						
R13A	**O'Grain Ranch,**	**80.58**	**46**	⇑P	**P**	**09 12 17.4**	**+1.4**
	baz=81						
X16A	**Lo Mia Camp, P**	**80.68**	**50**	⇓P	**P**	**09 12 17.8**	**+1.2**
	baz=81,SNR=9.6						
CCUT	**Cedar City**	**80.71**	**47**	*e*P	**P**	**09 12 17.7**	**+0.9**
	comp=Z,7.7nm,1.0s						
U15A	**North Rim**	**80.96**	**48**	⇑P	**P**	**09 12 19.3**	**+1.2**
	baz=81,SNR=25						
ELK	**Elko**	**80.96**	**43**	*e*P	**P**	**09 12 18.6**	**+0.6**
BMRM	**Bremner River**	**80.99**	**16**	*e*P	**P**	**09 12 17.4**	**0.0**
	comp=Z,20nm,1.0s						
319A	**Douglas**	**81.03**	**54**	⇑P	**P**	**09 12 20.1**	**+1.7**
	baz=81,SNR=19						
WUAZ	**Wupatki**	**81.22**	**49**	⇑P	**P**	**09 12 20.4**	**+1.1**
	baz=81,SNR=8.9						
HAWA	**Hanford**	**81.26**	**37**	*e*P	**P**	**09 12 19.8**	**+0.7**
	comp=Z,13nm,0.9s						
320A	**Kipp Ranch, An**	**81.60**	**54**	⇓P	**P**	**09 12 23.1**	**+1.7**
	baz=82,SNR=19						
BMO	**Blue Mountains**	**81.75**	**39**	*e*P	**P**	**09 12 22.0**	**+0.2**
	comp=Z,29nm,1.8s						
R15A	**Junction**	**81.78**	**47**	⇓P	**P**	**09 12 23.4**	**+1.2**
	baz=82,SNR=7.9						
TRF	**Thorofare Moun**	**81.81**	**12**	*e*P	**P**	**09 12 20.4**	**-1.3**
	comp=Z,12nm,0.9s						
220A	**Playas Peak, P**	**81.83**	**54**	⇑P	**P**	**09 12 23.9**	**+1.4**
	baz=82,SNR=16						
X18A	**Snowflake**	**81.84**	**51**	⇑P	**P**	**09 12 23.3**	**+0.7**
	baz=82,SNR=5.4						
MFID	**Camas Ranch**	**81.92**	**41**	*e*P	**P**	**09 12 23.6**	**+0.9**
	comp=Z,14nm,1.0s						
MFID	**Camas Ranch**	**81.92**	**41**	⇓P	**P**	**09 12 23.2**	**+0.5**
	baz=82,SNR=9.9						
MSU	**Marysvale**	**81.98**	**46**	*e*P	**P**	**09 12 24.7**	**+1.4**
120A	**U Bar Ranch, L**	**82.01**	**53**	⇓P	**P**	**09 12 24.9**	**+1.4**
	baz=82,SNR=5.4						
S16A	**Weppner Ranch,**	**82.04**	**47**	⇓P	**P**	**09 12 24.3**	**+0.8**
	baz=82,SNR=7.1						
IPM	**Ipoh**	**82.25**	**277**	*e*P	**P**	**09 12 24.9**	**-0.1**
	comp=Z,14nm,0.7s						
Z20A	**Nine Sixteen R**	**82.28**	**53**	⇓P	**P**	**09 12 26.3**	**+1.5**
	baz=82,SNR=14						
T17A	**Navajo Res., N**	**82.28**	**48**	⇑P	**P**	**09 12 26.2**	**+1.4**
	baz=82,SNR=22						
DUG	**Dugway**	**82.32**	**45**	*e*P	**P**	**09 12 25.1**	**+0.2**
	comp=Z,5.9nm,0.7s						
DUG	**Dugway**	**82.32**	**45**	⇑P	**P**	**09 12 25.3**	**+0.5**
	baz=83,SNR=10						
MCK	**McKinley**	**82.34**	**13**	*e*P	**P**	**09 12 23.6**	**-0.7**
	comp=Z,22nm,0.9s						
R16A	**Teasdale**	**82.37**	**47**	⇓P	**P**	**09 12 26.7**	**+1.4**
	baz=83,SNR=5.1						
P15A	**Leamington**	**82.40**	**45**	⇓P	**P**	**09 12 26.2**	**+0.9**
	baz=83						
221A	**Mesquite Ranch**	**82.46**	**54**	⇑P	**P**	**09 12 27.1**	**+1.4**
	baz=83,SNR=6.4						
I12A	**Atlanta**	**82.54**	**41**	⇓P	**P**	**09 12 26.9**	**+0.9**
	baz=83,SNR=24						
S17A	**Black Ridge (B**	**82.56**	**48**	⇓P	**P**	**09 12 26.6**	**+0.5**
	baz=83,SNR=14						
O15A	**The Old Anders**	**82.60**	**45**	⇓P	**P**	**09 12 27.0**	**+0.7**
	baz=83						
121A	**Dookes Peak, D**	**82.66**	**53**	⇑P	**P**	**09 12 28.3**	**+1.5**
	baz=83,SNR=8.5						
Y20A	**Horse Springs,**	**82.77**	**52**	⇓P	**P**	**09 12 28.9**	**+1.6**
	baz=83,SNR=19						
P16A	**Fountain Green**	**82.84**	**46**	⇓P	**P**	**09 12 28.7**	**+1.1**
	baz=83						
N15A	**Stansbury Isla**	**82.84**	**44**	⇑P	**P**	**09 12 28.3**	**+0.9**
	baz=83,SNR=6.1						
Q16A	**Castle Valley**	**82.87**	**46**	⇑P	**P**	**09 12 28.8**	**+1.1**
	baz=83,SNR=9.4						
MENT	**Mentasta**	**82.87**	**15**	*e*P	**P**	**09 12 26.6**	**-0.4**
HLID	**Hailey**	**82.88**	**41**	*e*P	**P**	**09 12 28.5**	**+0.9**
	comp=Z,17nm,0.8s						
HLID	**Hailey**	**82.88**	**41**	⇓P	**P**	**09 12 29.0**	**+1.3**
	baz=83,SNR=33						
L14A	**Malta**	**82.90**	**43**	⇓P	**P**	**09 12 28.7**	**+0.9**
	baz=83,SNR=10						
X20A	**Quemado**	**82.93**	**51**	⇑P	**P**	**09 12 29.5**	**+1.3**
	baz=83,SNR=15						
J13A	**Cove Ranch, Pi**	**82.95**	**41**	⇑P	**P**	**09 12 29.2**	**+1.2**
	baz=83,SNR=26						
R17A	**Hanksville Air**	**82.97**	**47**	⇑P	**P**	**09 12 29.1**	**+0.9**
	baz=83,SNR=14						
T18A	**Mexican Hat**	**83.01**	**48**	⇑P	**P**	**09 12 29.7**	**+1.3**
	baz=83,SNR=46						
TMUT	**Trail Mountain**	**83.01**	**46**	*e*P	**P**	**09 12 29.9**	**+1.3**
	comp=Z,24nm,0.8s						
222A	**Williams Famil**	**83.02**	**54**	⇑P	**P**	**09 12 29.4**	**+0.9**
	baz=83						
MPU	**Maple Canyon**	**83.04**	**45**	*e*P	**P**	**09 12 29.1**	**+0.5**
	comp=Z,8.0nm,0.9s						
Z21A	**St. Cloud Mine**	**83.06**	**53**	⇑P	**P**	**09 12 30.5**	**+1.7**
	baz=83,SNR=12						
HVU	**Hansel Valley**	**83.09**	**43**	*e*P	**P**	**09 12 29.9**	**+1.2**
	comp=Z,14nm,0.7s						
G12A	**Big Creek, Yel**	**83.09**	**39**	⇑P	**P**	**09 12 29.5**	**+0.8**
	baz=83,SNR=30						
H12A	**Diamond D Ranc**	**83.09**	**40**	⇑P	**P**	**09 12 29.1**	**+0.4**
	baz=83,SNR=22						
ENH	**Enshi**	**83.11**	**304**	*e*P	**P**	**09 12 29.8**	**+0.9**
	comp=Z,3.2nm,0.7s						
U19A	**Dine' College,**	**83.14**	**49**	⇑P	**P**	**09 12 30.1**	**+0.9**
	baz=83,SNR=19						
M15A	**Larsen Ranch,**	**83.16**	**44**	⇑P	**P**	**09 12 29.7**	**+0.6**
	baz=83,SNR=17						
S18A	**Hurst Farm, Bl**	**83.16**	**48**	⇑P	**P**	**09 12 29.9**	**+0.5**
	baz=83,SNR=8.2						
W20A	**Ramah**	**83.17**	**51**	⇓P	**P**	**09 12 30.9**	**+1.5**
	baz=83,SNR=22						
K14A	**Jones Ranch, D**	**83.19**	**42**	⇑P	**P**	**09 12 30.1**	**+0.9**
	baz=83,SNR=14						
I13A	**Wildhorse Cree**	**83.24**	**41**	⇓P	**P**	**09 12 30.5**	**+1.0**
	baz=84,SNR=8.8						
J14A	**Carey**	**83.34**	**42**	⇓P	**P**	**09 12 31.1**	**+1.1**
	baz=84,SNR=22						
Y21A	**Point of Rocks**	**83.34**	**52**	⇓P	**P**	**09 12 31.9**	**+1.7**
	baz=84,SNR=16						
DOT	**Dot Lake**	**83.38**	**15**	*e*P	**P**	**09 12 29.2**	**-0.4**
	comp=Z,20nm,0.7s						
SRU	**San Rafael**	**83.41**	**46**	*e*P	**P**	**09 12 31.2**	**+0.8**
	comp=Z,16nm,0.8s						
SRU	**San Rafael**	**83.41**	**46**	⇓P	**P**	**09 12 31.1**	**+0.7**
	baz=84,SNR=19						
P17A	**Butcher Ranch,**	**83.42**	**46**	⇑P	**P**	**09 12 31.4**	**+1.0**
	baz=84						
X21A	**Alamocita Cree**	**83.43**	**52**	⇑P	**P**	**09 12 31.9**	**+1.2**
	baz=84,SNR=6.8						
JLU	**Jordanelle**	**83.44**	**45**	*e*P	**P**	**09 12 31.0**	**+0.4**
	comp=Z,8.2nm,0.9s						
F12A	**Elk City**	**83.45**	**39**	⇓P	**P**	**09 12 30.7**	**+0.3**
	baz=84,SNR=30						
L15A	**Malad City**	**83.45**	**43**	⇑P	**P**	**09 12 31.1**	**+0.6**
	baz=84,SNR=13						
H13A	**Challis**	**83.47**	**40**	⇓P	**P**	**09 12 31.2**	**+0.6**
	baz=84,SNR=14						
V20A	**Brimhall**	**83.47**	**50**	⇓P	**P**	**09 12 31.7**	**+0.8**
	baz=84						
T19A	**Beclabito**	**83.50**	**49**	⇑P	**P**	**09 12 31.6**	**+0.7**
	baz=84,SNR=5.9						
R18A	**Canyonlands Na**	**83.53**	**47**	⇑P	**P**	**09 12 31.6**	**+0.5**
	baz=84,SNR=14						
N16A	**Rees Ranch, Co**	**83.57**	**45**	⇓P	**P**	**09 12 32.0**	**+0.7**
	baz=84,SNR=7.8						
COLA	**College**	**83.58**	**13**	*e*P	**P**	**09 12 29.5**	**-0.8**
	comp=Z,25nm,0.7s						
Z22A	**Elephant Butte**	**83.58**	**53**	⇓P	**P**	**09 12 32.6**	**+1.2**
	baz=84,SNR=9.6						
E12A	**Beaver Dam Sad**	**83.59**	**38**	⇓P	**P**	**09 12 30.8**	**-0.3**
	baz=84,SNR=5.4						
M16A	**Huntsville**	**83.64**	**44**	⇓P	**P**	**09 12 32.2**	**+0.6**
	baz=84						
NEW	**Newport**	**83.65**	**36**	*e*P	**P**	**09 12 30.7**	**-0.5**
	comp=Z,8.9nm,1.1s						
NEW	**Newport**	**83.65**	**36**	⇑P	**P**	**09 12 31.2**	**0.0**
	baz=84,SNR=6.7						
I14A	**Mackay**	**83.67**	**41**	⇑P	**P**	**09 12 32.9**	**+1.2**
	baz=84,SNR=23						
K15A	**Arbon**	**83.67**	**43**	⇑P	**P**	**09 12 32.4**	**+0.7**
	baz=84,SNR=8.6						
U20A	**Newcomb**	**83.67**	**50**	⇓P	**P**	**09 12 32.4**	**+0.6**
	baz=84						
Q18A	**Rafter H Ranch**	**83.68**	**47**	⇓P	**P**	**09 12 32.3**	**+0.6**
	baz=84,SNR=9.2						
ILAR	**Eielson Array**	**83.69**	**13**	P	**P**	**09 12 30.1**	**-1.0**
ILAR	**Eielson Array**	**83.69**	**13**	P	**P**	**09 12 30.1**	**-1.0**
	comp=Z,9.8nm,0.6s,baz=230,slow=5.3,SNR=233						
O17A	**Robinson Place**	**83.74**	**45**	⇑P	**P**	**09 12 33.2**	**+1.0**
	baz=84,SNR=37						
G13A	**Cobalt**	**83.75**	**40**	⇑P	**P**	**09 12 32.4**	**+0.5**
	baz=84,SNR=12						
PSI	**Prapat**	**83.80**	**275**	P	**P**	**09 12 32.2**	**-0.7**
PSI	**Prapat**	**83.80**	**275**	P	**P**	**09 12 32.2**	**-0.7**
	comp=Z,5.6nm,0.8s,baz=138,slow=7.5,SNR=4.5						
S19A	**Harvey Farm, M**	**83.80**	**48**	⇓P	**P**	**09 12 33.2**	**+0.7**
	ba

	baz=85							
D13A	Huson	84.60	38	⇓P		P	09 12 36.1	+0.1
	baz=85,SNR=7.3							
F14A	Wisdom	84.63	40	⇓P		P	09 12 36.7	+0.4
	baz=85							
B12A	Libby	84.63	36	⇓P		P	09 12 36.9	+0.8
	baz=85							
ANMO	Albuquerque	84.63	52	eP		P	09 12 37.4	+0.7
	comp=Z,6.3nm,0.9s							
526A	Mary Lane Ranc	84.64	57	⇓P		P	09 12 37.7	+0.9
	baz=85							
T21A	Navajo Lake	84.65	49	⇓P		P	09 12 37.7	+1.0
	baz=85							
V22A	San Miguel Ran	84.68	51	⇓P		P	09 12 37.7	+0.8
	baz=85							
X23A	Hourglass Bar	84.69	52	⇓P		P	09 12 37.9	+0.9
	baz=85							
P19A	Cripple Cowboy	84.71	47	⇑P		P	09 12 37.8	+0.8
	baz=85							
TXAR	Lajitas Array	84.72	58	P		P	09 12 38.7	+1.6
TXAR	Lajitas Array	84.72	58	P		P	09 12 38.7	+1.6
	comp=Z,3.9nm,0.6s,baz=216,slow=7.5,SNR=62							
S21A	Coal Bank Pass	84.73	49	⇓P		P	09 12 38.3	+1.0
	baz=85,SNR=6.0							
M18A	Lyman	84.74	45	⇓P		P	09 12 37.6	+0.5
	baz=85,SNR=10							
K17A	Gardner Place,	84.76	43	⇓P		P	09 12 37.8	+0.8
	baz=85,SNR=8.5							
RRI2	Red Ridge	84.77	42	eP		P	09 12 38.1	+0.9
	comp=Z,23nm,0.8s							
MSO	Missoula	84.78	38	eP		P	09 12 36.3	-0.6
	comp=Z,5.5nm,1.4s							
MSO	Missoula	84.78	38	⇓P		P	09 12 37.2	+0.3
	baz=85							
BSMT	Bassoo Peak	84.78	37	eP		P	09 12 36.9	-0.1
225A	Deer Hill, Car	84.81	55	⇑P		P	09 12 38.6	+1.1
	baz=85,SNR=6.9							
N18A	Larsen Ranch,	84.81	45	⇑P		P	09 12 38.1	+0.7
	baz=85,SNR=5.0							
C13A	Hot Springs	84.82	37	⇓P		P	09 12 37.2	+0.1
	baz=85,SNR=5.5							
A12A	Yaak River Ran	84.83	36	⇓P		P	09 12 37.9	+0.8
	baz=85							
E14A	Clinton	84.84	39	⇓P		P	09 12 37.8	+0.4
	baz=85,SNR=22							
Z24A	Sheeppen Canyo	84.84	53	⇑P		P	09 12 38.6	+0.9
	baz=85							
G15A	Dillon	84.86	40	⇑P		P	09 12 38.5	+1.0
	baz=85,SNR=22							
DLMT	Dillon	84.89	40	eP		P	09 12 38.3	+0.7
	comp=Z,26nm,1.3s							
O19A	Miners Draw (B	84.89	46	⇓P		P	09 12 38.0	+0.2
	baz=85							
I16A	Newdale	84.90	42	⇓P		P	09 12 39.0	+1.3
	baz=85,SNR=17							
U22A	Llaves	84.90	50	⇓P		P	09 12 38.6	+0.6
	baz=85,SNR=5.5							
426A	McDonald Obser	84.91	56	⇑P		P	09 12 39.2	+1.1
	baz=85,SNR=7.9							
Q20A	Ridgley Place,	84.91	47	⇑P		P	09 12 38.4	+0.5
	baz=85,SNR=5.6							
DAWY	Dawson	84.92	16	eP		P	09 12 37.2	+0.1
DCID1	Drake Creek	84.97	42	eP		P	09 12 39.2	+1.2
	comp=Z,10nm,0.9s							
L18A	Fontenelle, Gr	84.98	44	⇑P		P	09 12 38.8	+0.6
	baz=85							
627A	Terlingua Ranc	84.99	58	⇑P		P	09 12 39.7	+1.3
	baz=85,SNR=12							
Y24A	Capitan	85.02	53	⇑P		P	09 12 39.2	+0.6
	baz=85							
JTMT	Jette	85.02	38	eP		P	09 12 38.0	-0.1
EGAK	Eagle	85.03	15	eP		P	09 12 37.6	-0.1
	comp=Z,11nm,0.9s							
527A	Woodward Ranch	85.06	57	⇑P		P	09 12 39.7	+0.9
	baz=85,SNR=7.1							
P20A	De Beque	85.07	47	⇓P		P	09 12 39.3	+0.6
	baz=85,SNR=7.2							
TPAW	Teton Pass	85.07	42	eP		P	09 12 39.5	+0.8
	comp=Z,15nm,1.3s							
SWMT	Swartz Lake	85.07	38	eP		P	09 12 36.5	-1.9
	comp=Z,3.2nm,0.9s							
REDW	Red Top Meadow	85.08	43	eP		P	09 12 39.2	+0.6
	comp=Z,16nm,1.0s							
N19A	John Jarvie Ra	85.11	45	⇑P		P	09 12 39.3	+0.5
	baz=85							
T22A	Edith	85.12	50	⇑P		P	09 12 39.5	+0.5
	baz=85							
125A	Gardner Draw,	85.14	54	⇑P		P	09 12 39.7	+0.6
	baz=85							
V23A	Ortiz Mt. (NFS	85.15	51	⇓P		P	09 12 40.4	+1.2
	baz=85,SNR=12							
D14A	Greenough	85.16	38	⇑P		P	09 12 38.6	-0.3
	baz=85,SNR=5.6							
J17A	Brown Place, J	85.17	43	⇑P		P	09 12 40.0	+0.9
	baz=85,SNR=18							
F15A	Butte	85.18	40	⇓P		P	09 12 39.7	+0.6
	baz=85							
326A	Caldwell Ranch	85.19	56	⇓P		P	09 12 39.5	+0.2
	baz=85							
SNOW	Snow King Moun	85.19	42	eP		P	09 12 40.2	+1.0
	comp=Z,22nm,1.1s							
LRM	Limekiln Ridge	85.20	40	eP		P	09 12 39.2	0.0
R21A	Cimarron	85.20	48	⇓P		P	09 12 40.3	+0.9
	baz=85,SNR=8.9							
B13A	Whitefish	85.23	37	⇑P		P	09 12 39.1	0.0
	baz=86,SNR=7.7							
CHMT	Chamberlain Mo	85.23	39	eP		P	09 12 39.1	-0.2
SLMT	Seeley Lake	85.24	38	eP		P	09 12 38.5	-0.8
	comp=Z,3.1nm,0.9s							
IMW	Indian Meadow	85.26	42	eP		P	09 12 40.6	+1.0
	comp=Z,14nm,0.8s							
K18A	Toltan Ranch,	85.29	43	⇑P		P	09 12 40.8	+1.1
	baz=86,SNR=20							
G16A	Moss Hill, Enn	85.32	41	⇑P		P	09 12 40.3	+0.6
	baz=86,SNR=8.0							
MOOW	Moose Ponds	85.32	42	eP		P	09 12 40.3	+0.5
	comp=Z,11nm,1.4s							
Z25A	Roswell	85.33	54	⇓P		P	09 12 40.2	+0.2
	baz=86							
C14A	Swan Lake	85.35	38	⇓P		P	09 12 39.4	-0.3
	baz=86,SNR=6.9							
LOHW	Long Hollow	85.35	42	eP		P	09 12 40.6	+0.6
	comp=Z,5.2nm,0.8s							
E15A	Deer Lodge	85.36	39	⇓P		P	09 12 40.2	+0.3
	baz=86,SNR=7.9							
Q21A	Lamborn Mesa,	85.37	48	⇑P		P	09 12 40.7	+0.6
	baz=86							
QLMT	Earthquake Lak	85.37	41	eP		P	09 12 41.7	+1.6
U23A	El Rito	85.37	50	⇓P		P	09 12 41.0	+0.7
	baz=86,SNR=8.6							
M19A	Rock Springs	85.39	45	⇓P		P	09 12 40.6	+0.4
	baz=86,SNR=5.5							
628A	Black Gap, Mar	85.41	58	⇑P		P	09 12 41.7	+1.4
	baz=86,SNR=5.9							
H16A	Russell Place,	85.43	41	⇓P		P	09 12 41.6	+1.3
	baz=86,SNR=36							
O20A	White River Ci	85.44	46	⇑P		P	09 12 40.8	+0.4
	baz=86							
S22A	4UR Ranch, Cre	85.47	49	⇑P		P	09 12 41.7	+0.9
	baz=86							
427A	Hayter Ranch,	85.48	56	⇑P		P	09 12 41.7	+1.0
	baz=86,SNR=7.2							
FLWY	Flagg Ranch	85.50	42	eP		P	09 12 41.8	+1.1
	comp=Z,14nm,0.9s							
I17A	Pilgrim Ck.	85.51	42	⇓P		P	09 12 42.2	+1.5
	baz=86,SNR=10							
L19A	Farson	85.51	44	⇓P		P	09 12 41.5	+0.7
	baz=86,SNR=8.6							
W24A	Lazy 6 Ranch,	85.53	52	⇑P		P	09 12 41.3	+0.3
	baz=86,SNR=9.8							
A13A	Flathead Natio	85.54	36	⇓P		P	09 12 40.9	+0.3
	baz=86							
J18A	Kendall Valley	85.56	43	⇓P		P	09 12 41.9	+0.9
	baz=86,SNR=41							
Y25A	Mesa, Roswell	85.59	53	⇑P		P	09 12 41.8	+0.6
	baz=86							
YMR	Madison River	85.59	41	eP		P	09 12 42.5	+1.4
	comp=Z,57nm,1.6s							
BOZ	Bozeman (W)	85.62	40	eP		P	09 12 42.0	+0.9
	comp=Z,14nm,1.4s							
BOZ	Bozeman (W)	85.62	40	⇑P		P	09 12 41.9	+0.7
	baz=86,SNR=8.9							
126A	Clayton Basin,	85.64	55	⇑P		P	09 12 41.9	+0.4
	baz=86							
BW06	Boulder Array	85.67	43	eP		P	09 12 41.5	0.0
	comp=Z,3.9nm,0.6s							
BW06	Boulder Array	85.67	43	⇑P		P	09 12 41.8	+0.3
	baz=86,SNR=14							
PDAR	Pinedale Array	85.67	43	P		P	09 12 41.5	0.0
PDAR	Pinedale Array	85.67	43	P		P	09 12 41.5	0.0
	comp=Z,6.1nm,0.6s,baz=210,slow=3.2,SNR=68							
F16A	Kennard Place,	85.69	40	⇓P		P	09 12 42.4	+0.9
	baz=86,SNR=15							
R22A	Saguache, Gunn	85.71	49	⇓P		P	09 12 43.1	+1.1
	baz=86,SNR=5.5							
N20A	Spence Gulch,	85.72	46	⇑P		P	09 12 42.4	+0.6
	baz=86							
H17A	Grant Village	85.72	42	⇑P		P	09 12 43.9	+2.0
	baz=86,SNR=9.2							
528A	Cox Ranch, San	85.73	57	⇑P		P	09 12 42.9	+0.9
	baz=86							
D15A	Lincoln	85.73	39	⇑P		P	09 12 42.1	+0.4
	baz=86,SNR=20							
T23A	Casias Ranch,	85.77	50	⇓P		P	09 12 43.0	+0.7
	baz=86							
HHC	Hu-ho-hao-te	85.78	314	eP		P	09 12 40.8	-1.2
HHC				sP		sP	09 15 06.3	0.0
HHC				PP		PP	09 16 08.8	-0.4
HHC				SKS		SKSac	09 22 20.9	-4.3
HHC				sS		sS	09 25 32.4	-1.4
HHC				SS		SS	09 28 26.1	-1.0
HHC				pmax		pmax		
	comp=Z,12nm,0.6s							
HHC				pmax		pmax		
	comp=Z,170nm,6.0s							
V24A	Rampart Ranch,	85.83	51	⇑P		P	09 12 43.0	+0.5
	baz=86,SNR=6.4							
X25A	Clemmons Ranch	85.84	53	⇑P		P	09 12 42.4	-0.1
	baz=86							
Q22A	Crested Butte,	85.86	48	⇓P		P	09 12 43.3	+0.6
	baz=86							
WALA	Waterton Lakes	85.89	36	eP		P	09 12 42.3	-0.1
	comp=Z,0.4nm,1.1s							
Z26A	Caprock	85.90	54	⇓P		P	09 12 43.0	+0.3
	baz=86							
I18A	Diamond G Ranc	85.90	43	⇑P		P	09 12 43.5	+0.8
	baz=86,SNR=7.6							
LKWY	Lake	85.91	42	eP		P	09 12 45.1	+2.4
	comp=Z,10.0nm,0.9s							
B14A	Marquette Ranc	85.92	37	⇓P		P	09 12 42.6	+0.1
	baz=86,SNR=16							
SMCO	Snowmass	85.94	48	eP		P	09 12 43.3	+0.2
	comp=Z,3.2nm,0.9s							
HRY	Holter Researc	85.99	39	eP		P	09 12 43.4	+0.5
E16A	East Helena	86.00	39	⇓P		P	09 12 43.5	+0.5
	baz=86,SNR=12							
428A	Kincaid Ranch,	86.01	57	⇓P		P	09 12 44.1	+0.8
	baz=86							
C15A	Salmond Ranch,	86.03	38	⇑P		P	09 12 43.4	+0.3
	baz=86,SNR=14							
G17A	Pierce Place,	86.03	41	⇓P		P	09 12 44.1	+1.0
	baz=86,SNR=6.3							
M20A	Sweetwater, Wa	86.04	45	⇓P		P	09 12 44.2	+0.8
	baz=86							
A14A	Double T Ranch	86.12	37	⇑P		P	09 12 43.8	+0.4
	baz=86,SNR=17							
328A	Wristen Ranch,	86.14	56	⇓P		P	09 12 44.7	+0.8
	baz=86							
L20A	Wamsutter	86.16	45	⇓P		P	09 12 44.6	+0.7
	baz=86,SNR=6.9							
K19A	Absolon Red Bu	86.16	44	⇑P		P	09 12 44.2	+0.3
	baz=86							
127A	Arkansas Junct	86.17	55	⇑P		P	09 12 44.4	+0.4
	baz=86							
529A	Stev Forest Ra	86.17	57	⇓P		P	09 12 45.0	+1.0
	baz=86							
N21A	Black Mountain	86.20	46	⇓P		P	09 12 45.0	+0.8
	baz=86							
J19A	Crowheart	86.21	43	⇑P		P	09 12 44.4	+0.3
	baz=86,SNR=11							
W25A	X Bar L Ranch,	86.25	52	⇑P		P	09 12 44.5	+0.1
	baz=86,SNR=5.7							
P22A	Eagle	86.26	47	⇑P		P	09 12 44.6	+0.1
	baz=86							
B15A	Bradely Ranch,	86.31	38	⇓P		P	09 12 44.1	-0.3
	baz=87,SNR=13							
D16A	Dana Ranch, Ca	86.31	39	⇑P		P	09 12 45.1	+0.7
	baz=87,SNR=12							
F17A	Fitzpatrick Pl	86.35	40	⇑P		P	09 12 45.5	+0.8
	baz=87,SNR=8.0							
V25A	Rancho No Teng	86.36	51	⇑P		P	09 12 45.0	0.0
	baz=87							
R23A	Moffat	86.37	49	⇓P		P	09 12 45.6	+0.5
	baz=87							
K20A	Yellowstone Ra	86.43	44	⇑P		P	09 12 45.1	-0.1
	baz=87,SNR=10							
H18A	Shoshone NF, C	86.43	42	⇑P		P	09 12 46.1	+0.9
	baz=87							
SDCO	Great Sand Dun	86.44	49	eP		P	09 12 45.9	+0.5
	comp=Z,3.0nm,1.0s							
SDCO	Great Sand Dun	86.44	49	⇑P		P	09 12 45.5	+0.1
	baz=87,SNR=6.2							
E17A	Martinsdale	86.47	40	⇓P		P	09 12 46.1	+0.8
	baz=87							
Z27A	Tatum	86.51	54	⇑P		P	09 12 46.4	+0.8
	baz=87							
A15A	Johnson Ranch,	86.53	37	⇑P		P	09 12 45.6	+0.2
	baz=87,SNR=15							
C16A	Fuhringer Ranc	86.55	38	⇑P		P	09 12 45.8	+0.3
	baz=87,SNR=12							
228A	UT Block 9, Go	86.58	55	⇓P		P	09 12 46.5	+0.5
	baz=87							
I19A	Meeteetse	86.58	43	⇑P		P	09 12 46.6	+0.7
	baz=87,SNR=7.1							
S24A	Houchin Ranch,	86.61	50	⇑P		P	09 12 46.6	+0.3
	baz=87							
429A	Davenport Ranc	86.61	57	⇑P		P	09 12 46.7	+0.6
	baz=87,SNR=5.5							
O22A	Kremmling	86.64	47	⇑P		P	09 12 46.7	+0.4
	baz=87,SNR=6.4							
M21A	Separation Pea	86.65	45	⇑P		P	09 12 46.9	+0.5
	baz=87							
U25A	Circle Dot Ran	86.73	51	⇓P		P	09 12 46.9	+0.1
	baz=87,SNR=5.9							
Y27A	Causey	86.76	54	⇑P		P	09 12 47.5	+0.6
	baz=87							
G18A	Lazy EL Ranch,	86.77	41	⇓P		P	09 12 47.6	+0.9
	baz=87							
L21A	Rawlins	86.80	45	⇑P		P	09 12 47.8	+0.8
	baz=87							
128A	Castleberry Fa	86.84	55	⇑P		P	09 12 47.8	+0.6
	baz=87							
329A	Wagon Wheel Ra	86.84	56	⇑P		P	09 12 47.8	+0.6
	baz=87							
B16A	M & M Farms, S	86.86	38	⇑P		P	09 12 47.0	+0.1
	baz=87,SNR=7.1							
H19A	Powell	86.86	42	⇑P		P	09 12 48.1	+1.0
	baz=87,SNR=12							
RLMT	Red Lodge	86.88	41	eP		P	09 12 48.5	+1.2
	comp=Z,6.3nm,0.8s							
RLMT	Red Lodge	86.88	41	⇑P		P	09 12 48.4	+1.2
	baz=87							
D17A	Six Diamond Ra	86.89	39	⇑P		P	09 12 48.2	+1.0
	baz=87,SNR=16							
J20A	Shoshoni	86.89	43	⇓P		P	09 12 48.1	+0.8
	baz=87,SNR=20							
KMI	Kunming	86.91	297	P		P	09 12 49.5	+1.7
KMI				pmax		pmax		
	comp=Z,15nm,0.7s							
R24A	Sanders Place,	86.91	49	⇑P		P	09 12 47.9	+0.3
	baz=87							
F18A	Big Timber	86.94	41	⇓P		P	09 12 48.6	+1.2
	baz=87							
N22A	Wattenberg Ran	86.95	46	⇑P		P	09 12 48.9	+1.1
	baz=87,SNR=7.3							
V26A	Tequesquite Ra	86.97	52	⇓P		P	09 12 48.2	+0.3
	baz=87							
C17A	Wharram Farm,	87.06	39	⇓P		P	09 12 48.6	+0.7
	baz=87,SNR=23							
X27A	F and S Farms,	87.08	53	⇓P		P	09 12 48.3	-0.1
	baz=87							
MSTX	Muleshoe	87.09	54	⇑P		P	09 12 48.5	+0.2
	baz=87							
M22A	Cedar Creek Ra	87.10	46	⇑P		P	09 12 48.8	+0.4
	baz=87							
E18A	Harlowton	87.10	40	⇑P		P	09 12 49.3	+1.1
	baz=87							
I20A	Worland	87.11	43	⇑P		P	09 12 48.7	+0.4
	baz=87,SNR=8.2							
K21A	Alcova	87.15	44	⇑P		P	09 12 48.9	+0.4
	baz=87,SNR=8.5							
Z28A	Tucker Farm, M	87.15	54	⇑P		P	09 12 49.4	+0.8
	baz=87							
ISCO	Idaho Springs	87.15	47	⇓P		P	09 12 49.4	+0.6
	baz=87							
A16A	West Butte Ran	87.17	37	⇑P		P	09 12 49.2	+0.8
	baz=87							
S25A	Robets Cordova	87.18	50	⇓P		P	09 12 49.2	+0.3
	baz=87,SNR=5.6							
430A	Baggett Ranch,	87.20	57	⇓P		P	09 12 49.5	+0.6
	baz=87							
U26A	Atchley Ranch,	87.23	51	⇑P		P	09 12 49.5	+0.4
	baz=87							
W27A	Bowe Ranch, En	87.26	53	⇑P		P	09 12 49.1	-0.1
	baz=88							
J21A	Lysite	87.31	44	⇑P		P	09 12 50.3	+1.0
	baz=88,SNR=17							
129A	Stewart Farms,	87.33	55	⇑P		P	09 12 49.9	+0.4
	baz=88							
B17A	L&G Farms, Che	87.34	38	⇓P		P	09 12 49.8	+0.6
	baz=88,SNR=9.8							
N23A	Red Feather La	87.35	46	⇑P		P	09 12 50.2	+0.6
	baz=88							
F19A	Roth Farm, Mol	87.40	41	⇓P		P	09 12 49.9	+0.3
	baz=88							
H20A	Greybull	87.42	42	⇑P		P	09 12 50.0	+0.3
	baz=88,SNR=6.0							
D18A	Linhart Farms,	87.45	39	⇑P		P	09 12 51.3	+1.5
	baz=88							
L22A	Ellis Ranch, M	87.46	45	⇑P		P	09 12 51.1	+1.1
	baz=88							
Y28A	McKinney Farm,	87.48	54	⇓P		P	09 12 50.5	+0.3
	baz=88							
R25A	Fountain Ranch	87.48	49	⇑P		P	09 12 50.8	+0.6
	baz=88							
732A	Laxson Ranch,	87.55	59	⇑P		P	09 12 51.7	+1.2
	baz=88							
531A	Rocksprings	87.55	58	⇑P		P	09 12 51.6	+1.1
	baz=88							
G20A	Bridger	87.59	42	⇓P		P	09 12 51.4	+0.9
	baz=88							
I21A	Big Trails, Te	87.61	43	⇓P		P	09 12 51.0	+0.3
	baz=88,SNR=9.2							
K22A	Casper	87.65	45	⇓P		P	09 12 51.4	+0.5
	baz=88							
Z29A	Hungry Hill Ra	87.67	55	⇑P		P	09 12 51.6	+0.5
	baz=88							
A17A	Triple J Farms	87.70	38	⇓P		P	09 12 51.7	+0.9
	baz=88,SNR=13							
M23A	Laramie	87.73	46	⇓P		P	09 12 52.0	+0.6
	baz=88							
E19A	Rath Farm, Rou	87.76	40	⇓P		P	09 12 52.2	+1.0
	baz=88							
EGMT	Eagleton	87.85	39	⇓P		P	09 12 52.4	+0.8
	baz=88							
S26A	Kim	87.88	50	⇓P		P	09 12 52.8	+0.7
	baz=88							
Y29A	Porterfield Fa	87.91	54	⇑P		P	09 12 52.6	+0.4
	baz=88,SNR=5.4							
J22A	Midwest	87.98	44	⇓P		P	09 12 52.8	+0.4
	baz=88,SNR=9.6							
L23A	Garrett	87.99	45	⇓P		P	09 12 53.2	+0.7
	baz=88							
B18A	Beardsley Farm	88.00	38	⇑P		P	09 12 53.0	+0.7
	baz=88							
N24A	Carr	88.06	47	⇓P		P	09 12 53.6	+0.7
	baz=88							
P25A	Willow Gulch B	88.07	48	⇓P		P	09 12 53.6	+0.6
	baz=88,SNR=5.3							
X29A	Tulia	88.09	54	⇓P		P	09 12 53.3	+0.3
	baz=88							
H21A	Big Horn, Sher	88.10	43	⇓P		P	09 12 53.8	+0.9
	baz=88							
R26A	Arlington	88.15	49	⇑P		P	09 12 53.5	+0.3
	baz=88,SNR=5.8							
C19A	Slack Wire Ran	88.15	39	⇓P		P	09 12 53.9	+0.9
	baz=88,SNR=6.3							
I22A	9 Mile Ranch,	88.17	43	⇑P		P	09 12 53.9	+0.6
	baz=88,SNR=6.9							
A18A	Metzger Ranch,	88.19	38	⇓P		P	09 12 53.4	+0.3
	baz=88,SNR=7.7							
E20A	Meyer Farm, Mu	88.19	41	⇓P		P	09 12 53.8	+0.6
	baz=88							
T27A	Campo	88.23	51	⇓P		P	09 12 54.4	+0.7
	baz=88							
AMTX	Amarillo	88.26	53	⇓P		P	09 12 54.1	+0.3
	baz=88							
JCT	Junction City	88.26	58	⇑P		P	09 12 54.3	+0.4
	baz=88							
K23A	Bowen Ranch, D	88.30	45	⇑P		P	09 12 54.7	+0.8
	baz=88							
Q26A	Hugo	88.32	49	⇑P		P	09 12 54.7	+0.6
	baz=88							
CHTO	Chiang Mai	88.33	290	eP		P	09 12 52.7	-1.7
	comp=Z,12nm,0.7s							
M24A	Cheyenne	88.35	46	⇑P		P	09 12 55.3	+1.0
	baz=89							
432A	Menard	88.40	57	⇑P		P	09 12 55.2	+0.7
	baz=89							
D20A	Manuel Ranch,	88.43	40	⇑P		P	09 12 55.3	+1.0
	baz=89,SNR=5.1							
H22A	Clearmont	88.54	43	⇑P		P	09 12 55.7	+0.7
	baz=89							
R27A	Eads	88.62	50	⇓P		P	09 12 56.3	+0.9
	baz=89							
P26A	Davis Ranch, A	88.68	48	⇓P		P	09 12 56.8	+1.0
	baz=89							
C20A	Veseth Ranch,	88.78	39	⇓P		P	09 12 57.3	+1.4
	baz=89							
G22A	Birney	88.83	42	⇓P		P	09 12 56.9	+0.7
	baz=89							
A19A	Klindworth Far	88.85	38	⇓P		P	09 12 57.2	+0.9
	baz=89							
B20A	Solberg Farm,	89.07	39	⇑P		P	09 12 58.1	+0.8
	baz=89							
ABTX	Abilene, Hawle	89.09	56	⇑P		P	09 12 58.2	+0.5
	baz=89,SNR=8.6							
J24A	Dixon Ranch, L	89.17	44	⇓P		P	09 12 58.7	+0.8
	baz=89							
N26A	Koester Ranch,	89.23	47	⇓P		P	09 12 59.5	+1.2
	baz=90							
P27A	Ficken Ranch,	89.23	49	⇑P		P	09 12 59.2	+0.9
	baz=90							
A20A	Cobblestone Ra	89.31	38	⇓P		P	09 12 59.1	+0.7
	baz=90,SNR=5.6							
C21A	Desert Coulee	89.38	40	⇓P		P	09 12 59.6	+0.9
	baz=90,SNR=5.2							
G23A	Biddle	89.41	43	⇓P		P	09 12 59.3	+0.4
	baz=90							
F23A	Volborg	89.60	42	⇓P		P

	comp=Z,15nm,0.7s								
DGMT	**Dagmar**	**91.42**	**40**	⇓	P		**P**	**09 13 09.1**	**+1.0**
	baz=92,SNR=5.7								
ULN	**Ulaanbaatar**	**91.53**	**319**		*e*P		**P**	**09 13 08.5**	**-0.2**
	comp=Z,5.7nm,0.9s								
A24A	**Westby**	**91.71**	**39**	⇑	P		**P**	**09 13 10.3**	**+0.9**
	baz=92								
SONM	**Songino Array**	**91.93**	**319**		P		**P**	**09 13 10.2**	**-0.4**
SONM	**Songino Array**	**91.93**	**319**		P		**P**	**09 13 10.2**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=128,slow=4.0,SNR=14								
YKA	**Yellowknife Ar**	**92.26**	**25**		P		**P**	**09 13 11.2**	**-0.4**
YKA	**Yellowknife Ar**	**92.26**	**25**		P		**P**	**09 13 11.1**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=242,slow=4.5,SNR=54								
BGNE	**Belgrade**	**93.03**	**48**	⇓	P		**P**	**09 13 16.8**	**+1.1**
	baz=93								
ULM	**Lac du Bonnet**	**97.14**	**40**		P		**P**	**09 13 33.1**	**-1.0**
ULM	**Lac du Bonnet**	**97.14**	**40**		P		**P**	**09 13 33.1**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=234,slow=2.4,SNR=3.2								
ZALV	**Zalesovo Beam**	**106.54**	**322**		PKiKP		**PKiKP**	**09 18 22.9**	**-1.0**
ZALV	**Zalesovo Beam**	**106.54**	**322**		PKiKP		**PKiKP**	**09 18 22.9**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=138,slow=1.1,SNR=8.6								
MKAR	**Makanchi Array**	**107.65**	**315**		PKiKP		**PKiKP**	**09 18 25.1**	**-1.2**
MKAR	**Makanchi Array**	**107.65**	**315**		PKiKP		**PKiKP**	**09 18 25.1**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=162,slow=0.7,SNR=28								
KSH	**Kashi**	**111.84**	**307**		*e*PKP		**PKiKP**	**09 18 37.8**	**+3.3**
KSH					PP		PP	09 19 33.5	+7.9
KSH					sPKP			09 21 00.0	
KSH					PKS		**PKSdf**	**09 22 13.8**	**+2.5**
KSH					AMB		AMB		
	comp=Z,120nm,4.6s								
BVAR	**Borovoye Array**	**115.17**	**322**		PKP		**PKPdf**	**09 18 39.3**	**-1.0**
BVAR	**Borovoye Array**	**115.17**	**322**		PKP		**PKPdf**	**09 18 39.3**	**-1.0**
	comp=Z,5.0nm,0.4s,baz=132,slow=1.3,SNR=31								
ARU	**Arti**	**121.04**	**327**		*e*PKPdf		**PKPdf**	**09 18 50.9**	**-0.6**
BDFB	**Brasilia**	**121.89**	**120**		PKP		**PKPdf**	**09 18 54.2**	**-0.3**
BDFB	**Brasilia**	**121.89**	**120**		PKP		**PKPdf**	**09 18 54.2**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=256,slow=9.5,SNR=3.2								
ABKAR	**Akbulak array**	**122.34**	**319**		*e*PKPdf		**PKPdf**	**09 18 53.7**	**-0.5**
AKTO	**Aktyubinsk**	**123.22**	**320**		PKP		**PKPdf**	**09 18 55.4**	**-0.5**
AKTO	**Aktyubinsk**	**123.22**	**320**		PKP		**PKPdf**	**09 18 55.4**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=50,slow=8.3,SNR=7.2								
KEV	**Kevo**	**123.69**	**350**		*e*pkp		**PKPdf**	**09 18 54.5**	**-1.7**
ARCES	**ARCESS Array B**	**124.14**	**350**		PKP		**PKPdf**	**09 18 56.6**	**-0.5**
ARCES	**ARCESS Array B**	**124.14**	**350**		PKP		**PKPdf**	**09 18 56.6**	**-0.5**
	comp=Z,5.2nm,0.5s,baz=48,slow=1.3,SNR=36								
JOF	**Joensuu**	**128.46**	**343**		*e*pkp		**PKPdf**	**09 19 03.9**	**-1.6**
	comp=Z,6.3nm,0.6s								
KAF	**Kangasniemi**	**130.44**	**345**		*e*pkp		**PKPdf**	**09 19 08.4**	**-0.9**
FINES	**FINESS Array B**	**131.07**	**345**		PKP		**PKPdf**	**09 19 10.2**	**-0.2**
FINES	**FINESS Array B**	**131.07**	**345**		PKP		**PKPdf**	**09 19 10.2**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=60,slow=3.5,SNR=14								
NB2	**NORSAR Subarra**	**134.17**	**354**		PKP		**PKPdf**	**09 19 16.1**	**-0.3**
	comp=Z,1.2nm,0.6s,baz=174,slow=2.6								
NOA	**NORSAR Array B**	**134.17**	**354**		PKP		**PKPdf**	**09 19 17.3**	**+0.9**
NOA	**NORSAR Array B**	**134.17**	**354**		PKP		**PKPdf**	**09 19 17.3**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=13,slow=3.9,SNR=4.6								
AKASG	**Malin Array Be**	**138.62**	**334**		PKP		**PKPdf**	**09 19 25.3**	**+0.4**
AKASG	**Malin Array Be**	**138.62**	**334**		PKP		**PKPdf**	**09 19 25.3**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=38,slow=3.7,SNR=4.4								
KWP	**Kalwaria Pacla**	**142.06**	**338**		*e*PKP		**PKPdf**	**09 19 31.0**	**-0.1**
KWP	**Kalwaria Pacla**	**142.06**	**338**		*e*PKP		**PKPdf**	**09 19 31.0**	**-0.1**
BURAR	**Bucovina Array**	**142.68**	**334**	⇑	*i*P		**PKPdf**	**09 19 30.0**	**-2.4**
TLCR		**142.76**	**328**		*i*P		**PKPdf**	**09 19 29.8**	**-2.7**
KOLS	**Kolonicke sedl**	**142.79**	**337**		*e*PKP		**PKPdf**	**09 19 30.0**	**-2.5**
KSU	**Ksiaz**	**142.99**	**345**		*e*PKP			09 19 30.6	
KSP	**Ksiaz**	**142.99**	**345**		*e*PKP			09 19 30.6	
NIE	**Niedzica**	**143.07**	**340**		*e*PKP		PKPbc	09 19 31.0	+0.4
CFR	**Carcaliu**	**143.11**	**328**	⇓	*i*P		PKPbc	09 19 31.9	+1.1
CRVS	**Cervenica-Dubn**	**143.12**	**338**		*e*PKP		PKPbc	09 19 30.6	-0.1
BRTR	**Keskin Array B**	**143.25**	**317**		PKP		PKPbc	09 19 31.9	+0.2
BRTR	**Keskin Array B**	**143.25**	**317**		PKP		PKPbc	09 19 31.9	+0.2
	comp=Z,18nm,0.8s,baz=151,slow=0.9,SNR=64								
CLZ	**Clausthal**	**143.25**	**351**		*e*PKPbc		PKPbc	09 19 31.4	+0.3
CLL	**Collm**	**143.31**	**348**		*e*PKPbc		PKPbc	09 19 31.1	-0.1
CLL	**Collm**	**143.31**	**348**		*i* PKPdf		PKPbc	09 19 31.3	+0.1
	comp=Z,6.0nm,0.6s								
CLL					*e*PKiKP		**PKiKP**	**09 19 37.0**	**+0.3**
	comp=Z,6.0nm,0.8s								
CLL					*e*pPKPdf		pPKPdf	09 21 16.0	-3.4
BMR	**Baia Mare**	**143.35**	**335**	⇓	*i*P		PKPbc	09 19 31.7	+0.2
TRPA	**Tarpa**	**143.35**	**336**	⇑	*i*P		PKPab	09 19 30.8	-0.4
TRPA	**Tarpa**	**143.35**	**336**	⇑	e		PKPab	09 19 31.3	+0.1
UPC	**Upice**	**143.37**	**345**		*e*PKP		PKPbc	09 19 31.7	+0.2
OKC	**Ostrava-Krasne**	**143.39**	**342**		*e*PKP		PKPbc	09 19 31.5	0.0
DPC	**Dobruska-Polom**	**143.44**	**344**		*e*PKPdf		PKPbc	09 19 32.0	+0.3
DPC	**Dobruska-Polom**	**143.44**	**344**		*e*PKP		PKPbc	09 19 31.8	+0.1
TIRR	**Tirgusor**	**143.47**	**327**	⇑	*i*P		PKPab	09 19 31.8	+0.1
BRG	**Berggiesshubel**	**143.52**	**347**		*e*PKP		**PKPdf**	**09 19 33.7**	**0.0**
	comp=Z,6.0nm,0.8s								
KRLC	**Kraliky**	**143.56**	**344**		*e*PKP		PKPbc	09 19 32.5	+0.3
MORC	**Moravsky Berou**	**143.62**	**343**		*e*PKPdf		PKPab	09 19 32.1	-0.1
MORC	**Moravsky Berou**	**143.62**	**343**	⇑	*i*P		PKPbc	09 19 32.4	+0.1
PVCC	**Panska Ves**	**143.70**	**346**		*e*PKP		PKPab	09 19 32.4	0.0
ISR	**Istrita**	**143.70**	**330**	⇓	*i*P		PKPbc	09 19 34.0	+0.4
MLR	**Muntele Rosu**	**143.96**	**331**	⇑	*i*P		PKPab	09 19 33.9	+0.2
MOX	**Moxa**	**144.20**	**349**		*e*PKPbc		PKPbc	09 19 33.8	-0.3
PRU	**Pruhonice**	**144.21**	**346**		*e*PKP		**PKPab**	**09 19 34.3**	**0.0**
TANN	**Tannenbergstha**	**144.26**	**348**		*e*PKPbc		PKPbc	09 19 34.1	-0.3
VRAC	**Vranov**	**144.31**	**343**	⇓	*i*P		PKPbc	09 19 33.9	-0.6
VYHS	**Vyhne**	**144.36**	**340**		*e*PKP		**PKPab**	**09 19 34.9**	**0.0**
DRGR		**144.37**	**335**	⇑	*i*P		PKPbc	09 19 34.6	-0.3
VOIR		**144.41**	**331**	⇑	*i*P		**PKPdf**	**09 19 35.7**	**+0.2**
NKC	**Novy Kostel**	**144.44**	**348**		*e*PKP		PKPbc	09 19 34.9	0.0
PSZ	**Piszkesteto**	**144.50**	**339**		*e*PKPdf		**PKPdf**	**09 19 35.5**	**-0.1**
PSZ	**Piszkesteto**	**144.50**	**339**	⇑	*i*P		**PKPdf**	**09 19 35.5**	**-0.1**
PSZ	**Piszkesteto**	**144.50**	**339**	⇓	e		**PKPdf**	**09 19 35.5**	**-0.1**
TREC	**Trest**	**144.62**	**344**		*e*PKP		PKPbc	09 19 35.6	+0.1
SMOL	**Smolenice**	**144.78**	**342**		*e*PKP		**PKPab**	**09 19 36.6**	**+0.1**
BEBN	**Eben Emael**	**144.81**	**356**		PKP		**PKPab**	**09 19 36.3**	**-0.1**
ROTZ	**Rotzenmuhle**	**144.93**	**348**		*e*PKPbc		**PKPab**	**09 19 36.8**	**-0.2**
MEM	**Membach**	**144.97**	**355**		PKP		**PKPdf**	**09 19 36.3**	**+0.1**
TNS	**Taunus Mts**	**145.10**	**352**		*e*PKPbc		**PKPbc**	**09 19 37.0**	**-0.1**
BUD	**Budapest**	**145.18**	**339**	⇓	e		**PKPab**	**09 19 37.7**	**-0.3**
SNF	**Seneffe**	**145.18**	**357**		PKP		**PKPbc**	**09 19 37.0**	**-0.2**
GRF	**Grafenberg Arr**	**145.19**	**349**		*e*PKPbc		**PKPab**	**09 19 37.7**	**-0.3**
GRFO	**Grafenberg**	**145.19**	**349**		*e*PKPdf		**PKPab**	**09 19 37.8**	**-0.2**
BCLA	**Clavier**	**145.21**	**356**		PKP		**PKPab**	**09 19 37.9**	**-0.2**
KHC	**Kasperske Hory**	**145.24**	**346**		*e*PKPdf		**PKPdf**	**09 19 37.1**	**+0.3**
KHC	**Kasperske Hory**	**145.24**	**346**		*e*PKP		**PKPbc**	**09 19 37.5**	**0.0**
KHC					*ex*		x	09 19 47.0	
WET	**Wettzell**	**145.38**	**347**		*e*PKPbc		**PKPbc**	**09 19 38.0**	**+0.1**
GZR	**Gura Zlata**	**145.46**	**333**	⇓	*i*P		**PKPbc**	**09 19 37.9**	**-0.4**
GEC2	**GERESS Array S**	**145.48**	**346**		*e*PKPbc		**PKPbc**	**09 19 38.0**	**-0.3**
GERES	**GERESS Array B**	**145.48**	**346**		PKPbc		**PKPbc**	**09 19 38.1**	**-0.1**
GERES	**GERESS Array B**	**145.48**	**346**		PKPbc		**PKPbc**	**09 19 38.1**	**-0.1**
	comp=Z,7.3nm,0.7s,baz=21,slow=3.3,SNR=60								
DOU	**Dourbes**	**145.58**	**357**		PKP		**PKPbc**	**09 19 38.1**	**-0.3**
CSS	**Prodhromos**	**145.76**	**310**		*e*PKPbc		**PKPbc**	**09 19 39.2**	**-0.3**
CONA	**Conrad Observa**	**145.77**	**343**	⇑	*i*PKPab		**PKPbc**	**09 19 39.4**	**+0.3**
	comp=Z,18nm,0.8s								
BZS	**Buzias**	**145.77**	**335**	⇑	*i*P		**PKPbc**	**09 19 38.7**	**-0.4**
SOP	**Sopron**	**145.79**	**342**	⇑	e		**PKPbc**	**09 19 39.4**	**+0.3**
WLF	**Walferdange**	**145.90**	**355**		PKP		**PKPbc**	**09 19 39.8**	**+0.5**
WLF	**Walferdange**	**145.90**	**355**		*e*PKPbc		**PKPbc**	**09 19 39.8**	**+0.5**
MOA	**Molln**	**146.27**	**345**		*i* PKPab		**PKPbc**	**09 19 40.5**	**0.0**
	comp=Z,14nm,0.8s,SNR=13								
LANF	**Langenberg**	**146.40**	**353**		PKP		**PKPbc**	**09 19 41.2**	**+0.4**
PKSM	**Moragy**	**146.41**	**339**	⇓	*i*P		**PKPbc**	**09 19 40.4**	**-0.5**
PKSM	**Moragy**	**146.41**	**339**	⇑	e		**PKPbc**	**09 19 40.6**	**-0.3**
STU	**Stuttgart**	**146.42**	**351**		*e*PKPbc		**PKPbc**	**09 19 41.0**	**+0.2**
ARSA	**Arzberg**	**146.48**	**343**	⇑	*i*PKPbc		**PKPbc**	**09 19 40.5**	**-0.6**
	comp=Z,9.0nm,1.0s								
FUR	**Furstenfeldbru**	**146.64**	**348**		*e*PKPbc		**PKPbc**	**09 19 41.7**	**+0.2**
BEHE	**Becsehely**	**146.81**	**341**		*e*		**PKPdf**	**09 19 36.2**	**-3.2**
BFO	**Black Forest**	**146.97**	**352**		*e*PKPbc		**PKPbc**	**09 19 42.4**	**0.0**
BFO	**Black Forest**	**146.97**	**352**		*e*PKPbc		**PKPbc**	**09 19 42.2**	**-0.2**
GROS	**Grobnik**	**147.20**	**342**		*i* PKPbc		**PKPbc**	**09 19 42.8**	**-0.3**
KBA	**Koelnbreinsper**	**147.22**	**345**		*i* PKPbc		**PKPbc**	**09 19 42.5**	**-0.8**
	comp=Z,6.8nm,0.6s,SNR=11								
ECH	**Echery**	**147.23**	**353**		PKP		**PKPbc**	**09 19 43.0**	**-0.1**
THEF	**They Montfort**	**147.34**	**355**		PKP		**PKPbc**	**09 19 43.5**	**+0.1**
WATA	**Walderalm**	**147.38**	**347**	⇑	*i*PKPbc		**PKPbc**	**09 19 43.3**	**-0.3**
	comp=Z,7.7nm,0.7s,SNR=6.7								
WTTA	**Wattenberg**	**147.43**	**347**		*i* PKPbc		**PKPbc**	**09 19 43.6**	**-0.3**
	comp=Z,17nm,0.6s,SNR=15								
VTS	**Vitosha**	**147.43**	**330**	⇑	*i*P		**PKPbc**	**09 19 44.1**	**+0.1**
MOTA	**Moosalm**	**147.46**	**348**	⇑	*i*PKPbc		**PKPbc**	**09 19 43.5**	**-0.4**
	comp=Z,8.0nm,0.7s,SNR=7.4								
DAVA	**Damuels**	**147.75**	**350**	⇑	*i*PKPbc		**PKPbc**	**09 19 44.5**	**-0.2**
	comp=Z,23nm,1.2s								
CRNS	**Crni Vrh**	**147.90**	**343**		*i* PKPbc		**PKPdf**	**09 19 41.0**	**-0.3**
VISS	**Visnje**	**147.99**	**343**		*i* PKPbc		**PKPbc**	**09 19 45.0**	**-0.1**
NVR	**Nevrokopi**	**148.03**	**328**		P		**PKPbc**	**09 19 45.0**	**-0.4**
LOMF	**Lomont**	**148.12**	**353**		PKP		**PKPbc**	**09 19 45.7**	**+0.2**
JAVS	**Javornik**	**148.13**	**344**		*i* PKPbc		**PKPbc**	**09 19 45.0**	**-0.6**
BOJS	**Bojanci**	**148.14**	**342**		*i* PKPbc		**PKPbc**	**09 19 45.7**	**+0.2**
TUE	**Stuetta**	**148.63**	**350**		*e*PKPbc		**PKPbc**	**09 19 46.7**	**-0.3**
AGO	**Saint Agoulin**	**149.68**	**358**		PKP		**PKPbc**	**09 19 49.6**	**+0.3**
FNA	**Florina**	**149.70**	**330**		P		**PKPbc**	**09 19 49.1**	**-0.5**
PLDF	**La Plantade**	**149.75**	**357**		PKP		**PKPbc**	**09 19 50.0**	**+0.5**
PYM	**Petit Puy Mans**	**149.99**	**358**		PKP		**PKPbc**	**09 19 50.5**	**+0.4**
PTL	**Penteli**	**150.34**	**323**		P		**PKPbc**	**09 19 50.3**	**-0.8**
BNI	**Bardonecchia**	**150.41**	**353**		*e*PKPbc		**PKPbc**	**09 19 51.6**	**+0.5**
LBL	**Lubilhac**	**150.50**	**358**		PKP		**PKPbc**	**09 19 52.3**	**+1.0**
THR6	**Thira Island,**	**150.51**	**319**		P		**PKPbc**	**09 19 50.6**	**-0.9**
JAN	**Janina**	**150.82**	**329**		P		**PKPbc**	**09 19 52.3**	**+0.1**
DSF	**Desfina**	**150.85**	**325**		P		**PKPbc**	**09 19 51.3**	**-1.0**
EVR	**Evrytania**	**150.88**	**327**		P		**PKPbc**	**09 19 52.7**	**+0.3**
LTK	**Loutraki**	**150.88**	**324**		P		**PKPbc**	**09 19 51.3**	**-1.1**
DID	**Didima**	**151.08**	**323**		P		**PKPbc**	**09 19 51.5**	**-1.4**
KALE	**Kalithea**	**151.08**	**325**		P		**PKPbc**	**09 19 52.8**	**-0.1**
TRIZ	**Trizonia**	**151.13**	**325**		P		**PKPbc**	**09 19 52.5**	**-0.4**
LAKA	**Lakka**	**151.27**	**325**		P		**PKPbc**	**09 19 53.7**	**+0.4**
GUR	**Goura**	**151.29**	**325**		P		**PKPbc**	**09 19 53.0**	**-0.4**
KEK	**Kerkira**	**151.29**	**330**		P		**PKPbc**	**09 19 53.2**	**0.0**
SAOF	**Saorge**	**151.34**	**351**		PKP		**PKPbc**	**09 19 53.1**	**-0.1**
AUTN	**L'Aution**	**151.34**	**351**		PKP		**PKPbc**	**09 19 53.5**	**0.0**
TOUF	**Mont Tournerai**	**151.35**	**352**		PKP		**PKPbc**	**09 19 53.4**	**-0.1**
MVIF	**Mont Vial**	**151.48**	**352**		PKP		**PKPbc**	**09 19 53.6**	**-0.1**
AQU	**L'Aquila**	**151.56**	**342**		*e*PKPbc		**PKPbc**	**09 19 53.7**	**-0.1**
AQU	**L'Aquila**	**151.56**	**342**	⇑	*i*P		**PKPbc**	**09 19 53.9**	**+0.1**
VLX	**Vlachokerasia**	**151.66**	**324**		P		**PKPbc**	**09 19 54.1**	**-0.2**
SIVA	**Sivas**	**151.70**	**317**		P		**PKPbc**	**09 19 54.8**	**+0.5**
VAM	**Vamos**	**151.86**	**318**		P		**PKPbc**	**09 19 55.2**	**+0.6**
KARN	**Karanos**	**152.04**	**319**		P		**PKPbc**	**09 19 55.0**	**-0.1**
PYL	**PYLOS**	**152.36**	**324**		P		**PKPbc**	**09 19 54.7**	**-1.0**
ESDC	**Sonseca Array**	**155.57**	**11**		PKPab		**PKPab**	**09 20 21.6**	**+0.2**
ESDC	**Sonseca Array**	**155.57**	**11**		PKPab		**PKPab**	**09 20 21.6**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=348,slow=7.0,SNR=4.6								
TORD	**Torodi Ar. Bea**	**177.50**	**180**		PKP		**PKPdf**	**09 20 09.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**177.50**	**180**		PKP		**PKPdf**	**09 20 09.0**	**-1.0**
	comp=Z,2.9nm,0.9s,baz=337,slow=0.8,SNR=15								

*ISCJB **22** 09:20:08.5±0.5, 38°.93N±0°.02×27°.08E±0°.03, h4km±5km, Error ellipse: s-maj=4.5km s-min=3.4km az=149.2*
*ISK **22** 09:20:08.3, 38°.93N×27°.09E, h8km, MD3.2*
*DDA **22** 09:20:08.2, 38°.91N×27°.10E, h26km, MD3.1*
*CSEM **22** 09:20:08.7±0.1, 38°.93N×27°.09E, h5km, MD3.1, Error ellipse: s-maj=3.1km s-min=2.5km az=65.0*

ISC 22 09:20:08.8±1.1, 38°.92N±0°.02×27°.10E±0°.02, h11km±10km, n72, σ0.84/93, Turkey

Code	Station Name	Δ°	AZ°		Phase	ID		Time	Res
						Op	ISC	h m s	ISC
AYVA	**Ayvalik**	**0.50**	**321**		*i* P		**Pg**	**09 20 18.5**	**-0.1**
AYVA					*i* S		**Sg**	**09 20 25.6**	**+0.4**
AYVA	**Ayvalik**	**0.50**	**321**		*i* P		**Pg**	**09 20 18.5**	**-0.1**
AYVA					*i* S		**Sg**	**09 20 25.6**	**+0.4**
BLCB	**Balcova**	**0.54**	**185**		*e*PG		**Pg**	**09 20 19.2**	**0.0**
BLCB					*e*SG		**Sb**	**09 20 27.4**	**-0.6**
BLCB	**Balcova**	**0.54**	**185**		*e*Pg		**Pg**	**09 20 19.3**	**0.0**
BLCB					*e*Sg		**Sb**	**09 20 27.4**	**-0.6**
AKS	**Akhisar**	**0.56**	**94**		*e*PG		**Pb**	**09 20 19.9**	**-0.7**
AKS	**Akhisar**	**0.56**	**94**		*e*Pg		**Pb**	**09 20 19.9**	**-0.7**
AKHS	**Akhisar**	**0.56**	**94**		*i* P		**Pg**	**09 20 19.7**	**0.0**
AKHS					*i* S		**Sb**	**09 20 28.0**	**-0.7**
AKHS	**Akhisar**	**0.56**	**94**		*i* P		**Pg**	**09 20 19.7**	**0.0**
AKHS					*i* S		**Sb**	**09 20 28.0**	**-0.7**
URLA	**Izmir**	**0.69**	**215**		*i* P		**Pg**	**09 20 21.5**	**-0.6**
URLA					*i* S		**Sb**	**09 20 33.0**	**+0.6**
URLA	**Izmir**	**0.69**	**215**		*i* P		**Pg**	**09 20 21.5**	**-0.6**
URLA					*i* S		**Sb**	**09 20 33.0**	**+0.6**
BALY	**Balya**	**0.91**	**26**		*i* P		**Pb**	**09 20 27.0**	**+0.3**
BALY					*i* S		**Sn**	**09 20 41.3**	**+0.4**
BALY	**Balya**	**0.91**	**26**		*i* P		**Pb**	**09 20 27.0**	**+0.3**
BALB	**Balikesir**	**0.94**	**40**		*e*PG		**Pg**	**09 20 26.6**	**-0.2**
BALB	**Balikesir**	**0.94**	**40**		*e*Pg		**Pg**	**09 20 26.7**	**-0.2**
EZN	**Ezine**	**1.08**	**327**		*e*PG		**Pg**	**09 20 29.3**	**-0.4**
EZN	**Ezine**	**1.08**	**327**		*e*Pg		**Pg**	**09 20 29.3**	**-0.4**
GONE	**Gonen-Balikesi**	**1.21**	**22**		*e*PN		**Pb**	**09 20 31.5**	**-0.3**
GONE	**Gonen-Balikesi**	**1.21**	**22**		*e*Pn		**Pb**	**09 20 31.5**	**-0.3**
MANT	**Manisa**	**1.22**	**110**		*i* P		**Pg**	**09 20 32.1**	**-0.2**
MANT					*i* S		**Sb**	**09 20 48.0**	**+0.1**
MANT	**Manisa**	**1.22**	**110**		*i* P		**Pg**	**09 20 32.1**	**-0.2**
MANT					*i* S		**Sb**	**09 20 48.0**	**+0.1**
BOZC	**Bozcaada**	**1.23**	**319**		*i* P		**Pb**	**09 20 24.0**	**-8.1**
BOZC					*i* S		**Sg**	**09 20 47.6**	**-0.7**
DURS	**Dursunbey**	**1.26**	**57**		*i* P		**Pn**	**09 20 31.8**	**-0.8**
DURS					*i* S		**Sn**	**09 20 49.5**	**-0.1**
DURS	**Dursunbey**	**1.26**	**57**		*i* P		**Pn**	**09 20 31.8**	**-0.8**
DURS					*i* S		**Sn**	**09 20 49.5**	**-0.1**
DEMI	**Demirci**	**1.27**	**84**		*i* P		**Pb**	**09 20 32.7**	**0.0**
DEMI					*i* S		**Sn**	**09 20 51.0**	**+1.4**
DEMI	**Demirci**	**1.27**	**84**		*i* P		**Pb**	**09 20 32.7**	**0.0**
DEMI					*i* S		**Sn**	**09 20 51.0**	**+1.4**
KULA	**Kula-Manisa**	**1.29**	**108**		*e*PN		**Pn**	**09 20 32.8**	**-0.1**
KULA	**Kula-Manisa**	**1.29**	**108**		*e*Pn		**Pn**	**09 20 32.8**	**-0.1**
DST	**Dursunbey**	**1.36**	**59**		*e*PN		**Pn**	**09 20 33.8**	**-0.1**
DST	**Dursunbey**	**1.36**	**59**		*e*Pn		**Pn**	**09 20 33.8**	**-0.1**
AYDN	**Tasoluk**	**1.40**	**154**		*i* P		**Pn**	**09 20 33.6**	**-0.8**
AYDN					*i* S		**Sb**	**09 20 53.0**	**+0.1**
AYDN	**Tasoluk**	**1.40**	**154**		*i* P		**Pn**	**09 20 33.6**	**-0.8**
AYDN					*i* S		**Sb**	**09 20 53.0**	**+0.1**
LPK	**Lapseki**	**1.47**	**350**		*e*PN		**Pn**	**09 20 35.6**	**+0.3**
LPK	**Lapseki**	**1.47**	**350**		*e*Pn		**Pn**	**09 20 35.6**	**+0.3**
KRBG	**Karabiga-Canak**	**1.48**	**6**		*e*PN		**Pn**	**09 20 35.8**	**+0.4**
KRBG	**Karabiga-Canak**	**1.48**	**6**		*e*Pn		**Pn**	**09 20 35.8**	**+0.4**
EDC	**Edincik**	**1.54**	**22**		*e*PN		**Pn**	**09 20 36.8**	**+0.5**
EDC	**Edincik**	**1.54**	**22**		*e*Pn		**Pn**	**09 20 36.8**	**+0.5**
GELI	**Tayfur-Gelibol**	**1.55**	**342**		*e*PN		**Pn**	**09 20 36.7**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.55**	**342**		*e*Pn		**Pn**	**09 20 36.7**	**+0.3**
KCTX	**Karacabey (Bur**	**1.66**	**35**		*e*PN		**Pn**	**09 20 38.2**	**+0.3**
KCTX	**Karacabey (Bur**	**1.66**	**35**		*e*Pn		**Pn**	**09 20 38.2**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.77**	**2**		*e*PN		**Pn**	**09 20 39.8**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.77**	**2**		*e*Pn		**Pn**	**09 20 39.8**	**+0.4**
ORLT	**Orhaneli**	**1.79**	**50**		*e*PN		**Pn**	**09 20 40.3**	**+0.6**
ORLT	**Orhaneli**	**1.79**	**50**		*e*Pn		**Pn**	**09 20 40.3**	**+0.6**
ERIK	**Erikli-Kesan**	**1.81**	**346**		*e*PN		**Pn**	**09 20 40.4**	**+0.5**
ERIK	**Erikli-Kesan**	**1.81**	**346**		*e*Pn		**Pn**	**09 20 40.4**	**+0.5**
GDZ	**Gediz**	**1.86**	**84**		*i* P		**Pb**	**09 20 43.4**	**+0.4**
GDZ					*i* S		**Sb**	**09 21 07.0**	**+0.6**
GDZ	**Gediz**	**1.86**	**84**		*i* P		**Pb**	**09 20 43.4**	**+0.4**
GDZ					*i* S		**Sb**	**09 21 07.0**	**+0.6**
BODT	**Bodrum**	**1.86**	**175**		*e*PN		**Pn**	**09 20 41.4**	**+0.7**
BODT	**Bodrum**	**1.86**	**175**		*e*Pn		**Pn**	**09 20 41.4**	**+0.7**
TVSB	**Tavsanli**	**1.91**	**73**		*e*PN		**Pn**	**09 20 42.3**	**+0.9**
TVSB	**Tavsanli**	**1.91**	**73**		*e*Pn		**Pn**	**09 20 42.3**	**+0.9**
KHAL	**Karahalli**	**1.95**	**106**		*i* P		**Pg**	**09 20 46.1**	**-0.2**
KHAL					*i* S		**Sb**	**09 21 08.4**	**-0.5**
ENEZ	**Enez**	**1.95**	**338**		*e*PN		**Pn**	**09 20 42.5**	**+0.6**
ENEZ	**Enez**	**1.95**	**338**		*e*Pn		**Pn**	**09 20 42.5**	**+0.6**
KHL	**Karahalli**	**1.99**	**107**		*e*PN		**Pn**	**09 20 43.5**	**+0.9**
KHL	**Karahalli**	**1.99**	**107**		*e*Pn		**Pn**	**09 20 43.5**	**+0.9**
ULDT	**Uludag**	**1.99**	**52**		*i* P		**Pn**	**09 20 41.8**	**-0.9**
ULDT					*i* S		**Sn**	**09 21 02.6**	**-5.1**
ULDT	**Uludag**	**1.99**	**52**		*i* P		**Pn**	**09 20 41.8**	**-0.9**
YER	**Yerkesik**	**2.01**	**152**		*e*PN		**Pn**	**09 20 43.8**	**+1.0**
YER	**Yerkesik**	**2.01

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.94**	**170**	P	**Pn**	**09 49 57.8**	**+2.0**
MNI	**Manado**	**3.00**	**222**	P	**Pn**	**09 49 58.9**	**+2.3**
DAV	**Davao City (W)**	**3.59**	**339**	Pn	**Pn**	**09 50 06.5**	**+1.8**
DAV				Sn	**Sn**	**09 50 44.7**	**-1.4**
DAV				Lg	Lg	09 50 57.5	
DAV	**Davao City (W)**	**3.59**	**339**	P	**Pb**	**09 50 15.8**	**+1.6**
DAV	**Davao City (W)**	**3.59**	**339**	Pn	**Pn**	**09 50 06.5**	**+1.8**
	39nm,0.3s,baz=283,slow=9.9,SNR=2.1						
DAV				Sn	**Sn**	**09 50 44.7**	**-1.4**
	37nm,0.3s,baz=121,slow=21,SNR=6.4						
DAV				Lg	Lg	09 50 57.4	
	83nm,0.3s,baz=302,slow=21,SNR=3.5						
KMSI	**Cibinong**	**4.22**	**223**	P	Pb	09 50 21.0	-3.9
LBMI	**Labuha**	**4.35**	**171**	P	**Pb**	**09 50 27.5**	**+0.5**
BUKP	**Musuan**	**4.53**	**337**	*e*P	**Pn**	**09 50 19.9**	**+2.3**
BUKP				*e*S	**Sb**	**09 51 23.9**	**-0.5**
PAGZ	**Pagadian**	**5.38**	**320**	*e*P	**Pn**	**09 50 31.0**	**+1.6**
MRSI	**Marisa**	**5.85**	**237**	P	Pn	09 50 39.4	+3.6
	153nm,1.0s,2µm0.6nm						
LUWI	**Luwuk**	**6.22**	**221**	P	Pn	09 50 47.3	+6.4
	320nm,1.6s,4µm1.1nm						
SWI	**Sorong**	**6.31**	**136**	P	**Pn**	**09 50 43.1**	**+1.0**
	92nm,0.9s,0.4nm						
NLAI	**Namlea**	**6.88**	**178**	P	Pn	09 50 55.6	+5.6
	59nm,0.5s,2µm0.4nm						
MYLDM	**Lahad Datu**	**8.46**	**280**	P	**Pn**	**09 51 12.6**	**+1.0**
FAKI	**Fak Fak**	**8.49**	**141**	P	**Pn**	**09 51 13.6**	**+1.4**
	47nm,1.1s						
KDI	**Kendari**	**8.69**	**209**	P	**Pn**	**09 51 15.9**	**+1.0**
	47nm,1.4s,578nm						
TTSI	**Tana Toraja**	**9.70**	**227**	P	Pn	09 51 35.0	+6.3
	52nm,1.0s,896nm						
SPSI	**Sidrap Palu**	**10.39**	**223**	P	Pn	09 51 45.3	+7.2
	38nm,1.0s						
KKM	**Kota Kinabalu**	**10.85**	**283**	*e*Pn	**Pn**	**09 51 46.3**	**+1.7**
KAPI	**Kappang**	**11.18**	**219**	*e*Pn	**Pn**	**09 51 49.1**	**+0.1**
SMPI	**Sarmi**	**13.12**	**115**	P	P	09 52 20.7	-4.6
	40nm,1.4s,5µm						
BBKI	**Banjar Baru**	**13.95**	**240**	P	**P**	**09 52 35.4**	**+0.9**
	57nm,0.9s,5µm						
PLKI	**Palangkaraya**	**14.18**	**246**	P	**P**	**09 52 35.9**	**-1.1**
	202nm,0.5s						
SBUM	**Sibu**	**14.66**	**266**	P	**P**	**09 52 42.0**	**-0.4**
	46nm,1.4s,712nm						
JAY	**Jayapura**	**15.15**	**114**	P	**P**	**09 52 50.0**	**+2.1**
STKI	**Sintang**	**15.78**	**257**	P	**P**	**09 52 58.8**	**+4.0**
	49nm,0.9s						
KHKI	**Kahang-Kahang**	**16.41**	**223**	P	**P**	**09 53 04.0**	**+2.3**
	37nm,1.3s						
KSM	**Kuching**	**16.67**	**263**	*e*Pn	**Pn**	**09 53 02.4**	**-0.2**
	22nm,0.9s						
KSM	**Kuching**	**16.67**	**263**	P	**P**	**09 53 04.0**	**-0.7**
GMJI	**Gumukmas**	**17.89**	**228**	P	**P**	**09 53 21.2**	**+3.0**
	54nm,1.1s						
PCJI	**Pacitan**	**19.59**	**233**	P	**P**	**09 53 37.2**	**+0.3**
	66nm,1.4s						
YULB	**Yu-li**	**20.31**	**345**	*e*P	**P**	**09 53 41.4**	**-3.3**
	7.2nm,0.4s						
TPUB	**Ta-pu**	**20.41**	**343**	*e*P	**P**	**09 53 43.8**	**-1.9**
	211nm,2.0s						
SSLB	**Suanglung**	**20.78**	**345**	*e*P	**P**	**09 53 48.7**	**-1.0**
	22nm,0.6s						
PPBI	**Pangkal Pinang**	**21.50**	**255**	P	P	09 54 03.4	+5.7
YHNB	**Yeheng**	**21.52**	**346**	*e*P	**P**	**09 53 56.2**	**-1.5**
	29nm,1.0s						
FITZ	**Fitzroy Crossi**	**21.68**	**183**	*e*P	**P**	**09 53 58.5**	**-1.0**
	23nm,1.2s						
FITZ	**Fitzroy Crossi**	**21.68**	**183**	*e*P	**P**	**09 53 58.0**	**-1.5**
	10nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.68**	**183**	P	**P**	**09 53 58.9**	**-0.5**
	5.8nm,0.6s,baz=7.3,slow=10,SNR=14						
COEN	**Coen**	**23.86**	**138**	*e*P	**P**	**09 54 19.9**	**-2.1**
	72nm,1.2s						
COEN	**Coen**	**23.86**	**138**	*e*P	**P**	**09 54 19.7**	**-2.3**
	24nm,1.1s						
WRAB	**Tennant Creek**	**24.60**	**163**	*e*P	**P**	**09 54 27.8**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,49nm,0.9s						
WRAB	**Tennant Creek**	**24.60**	**163**	*e*P	**P**	**09 54 27.8**	**-0.9**
	comp=Z,49nm,0.9s						
WRA	**Warramunga Arr**	**24.61**	**163**	P	**P**	**09 54 27.6**	**-1.2**
WRA				ScP	**ScP**	**10 01 44.5**	**+1.7**
WRA	**Warramunga Arr**	**24.61**	**163**	P	**P**	**09 54 27.6**	**-1.2**
	comp=Z,38nm,0.9s,baz=343,slow=10,SNR=100						
WRA				ScP	**ScP**	**10 01 44.5**	**+1.7**
	comp=Z,2.7nm,1.0s,baz=344,slow=3.1,SNR=11						
PSI	**Prapat**	**27.90**	**269**	P	**P**	**09 54 57.4**	**-1.3**
PSI	**Prapat**	**27.90**	**269**	P	**P**	**09 54 57.4**	**-1.3**
	comp=Z,3.1nm,0.7s,baz=139,slow=4.8,SNR=4.4						
ASAR	**Alice Springs**	**28.04**	**166**	P	**P**	**09 54 58.8**	**-1.0**
ASAR				PcP	**PcP**	**09 58 14.5**	**+0.3**
ASAR				ScP	**ScP**	**10 01 55.4**	**+2.6**
ASAR	**Alice Springs**	**28.04**	**166**	P	**P**	**09 54 58.8**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=346,slow=6.9,SNR=16						
ASAR				PcP	**PcP**	**09 58 14.5**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=354,slow=2.1,SNR=6.8						
ASAR				ScP	**ScP**	**10 01 55.4**	**+2.6**
	comp=Z,1.1nm,1.1s,baz=347,slow=3.8,SNR=4.2						
NJ2	**Nanjing**	**29.20**	**346**	*e*P	**P**	**09 55 09.6**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
WHN	**Wuhan**	**29.21**	**337**	P	**P**	**09 55 09.0**	**-1.0**
WHN				S	**S**	**10 00 01.6**	**+1.1**
WHN				LR	LR		
	comp=N,3µm,21.7s						
WHN				LR	LR		
	comp=E,3µm,23.3s						
WHN				LR	LR		
	comp=Z,1µm,18.4s						
GYA	**Guiyang**	**29.78**	**321**	P	**P**	**09 55 17.0**	**+1.7**
GYA				pP	**pP**	**09 55 25.8**	**+1.0**
GYA				PP	**PnPn**	**09 56 15.0**	**+3.3**
GYA				S	**S**	**10 00 10.4**	**+0.5**
GYA				ScP	**ScP**	**10 01 57.9**	**-0.5**
GYA				ScS	**ScS**	**10 05 51.0**	**-2.7**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,530nm,17.9s						
GYA				LR	LR		
	comp=E,430nm,18.6s						
GYA				LR	LR		
	comp=Z,500nm,17.4s						
CMAR	**Chiang Mai Arr**	**31.00**	**300**	P	**P**	**09 55 24.4**	**-1.7**
CMAR				ScP	**ScP**	**10 02 04.8**	**+2.4**
CMAR	**Chiang Mai Arr**	**31.00**	**300**	P	**P**	**09 55 24.4**	**-1.7**
	comp=Z,1.7nm,0.8s,baz=120,slow=6.5,SNR=12						
CMAR				ScP	**ScP**	**10 02 04.8**	**+2.4**
	comp=Z,1.4nm,0.7s,baz=127,slow=2.4,SNR=11						
ENH	**Enshi**	**31.12**	**330**	*e*P	**P**	**09 55 25.6**	**-1.5**
	comp=Z,9.8nm,0.8s						
CHTO	**Chiang Mai**	**31.15**	**301**	*e*P	**P**	**09 55 26.3**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CHTO	**Chiang Mai**	**31.15**	**301**	*e*P	**P**	**09 55 26.3**	**-1.1**
	comp=Z,5.8nm,0.7s						
MEEK	**Meekatharra**	**31.18**	**194**	*e*P	**P**	**09 55 27.6**	**0.0**
	comp=Z,34nm,0.8s						
KMI	**Kunming**	**31.50**	**315**	P	**P**	**09 55 32.8**	**+2.2**
KMI				pP	**pP**	**09 55 42.3**	**+2.1**
KMI				sP	**sP**	**09 55 46.3**	**+2.1**
KMI				PP	**PnPn**	**09 56 38.1**	**+3.8**
KMI				S	**S**	**10 00 39.3**	**+2.3**
KMI				pmax	pmax		
	comp=Z,12nm,1.4s						
KMI				pmax	pmax		
	comp=Z,100nm,5.3s						
KMI				LR	LR		
	comp=N,240nm,24.3s						
KMI				LR	LR		
	comp=E,340nm,23.4s						
KMI				LR	LR		
	comp=Z,430nm,22.4s						
KSAR	**Wonju Array Be**	**33.61**	**1**	P	**P**	**09 55 48.4**	**-0.3**
KSAR				PcP	**PcP**	**09 58 28.7**	**+0.2**
KSRS	**Korea Array**	**33.62**	**2**	P	**P**	**09 55 48.4**	**-0.4**
	comp=Z,2.9nm,1.0s,baz=178,slow=9.7,SNR=5.5						
KSRS				PcP	**PcP**	**09 58 28.7**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=207,slow=4.2,SNR=4.6						
FORT	**Forrest**	**34.29**	**178**	*e*P	**P**	**09 55 54.8**	**+0.1**
	comp=Z,36nm,1.0s						
FORT	**Forrest**	**34.29**	**178**	*e*P	**P**	**09 55 54.6**	**-0.1**
	comp=Z,19nm,0.9s						
XAN	**Xi'an**	**34.51**	**333**	P	**P**	**09 55 55.0**	**-1.6**
XAN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
XAN				pmax	pmax		
	comp=Z,26nm,7.2s						
CD2	**Chengdu**	**34.75**	**324**	P	**P**	**09 55 59.3**	**+0.5**
CD2				pP	**pP**	**09 56 09.0**	**+0.6**
CD2				sP	**sP**	**09 56 12.9**	**+0.5**
CD2				PP	**PP**	**09 57 17.3**	**-0.6**
CD2				PcP	**PcP**	**09 58 32.3**	**+0.2**
CD2				S	**S**	**10 01 26.9**	**-0.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,110nm,5.0s						
CD2				LR	LR		
	comp=N,600nm,19.2s						
CD2				LR	LR		
	comp=E,440nm,14.7s						
CD2				LR	LR		
	comp=Z,570nm,20.1s						
BBOO	**Buckleboo**	**37.33**	**167**	*e*P	**P**	**09 56 19.8**	**-1.0**
	comp=Z,21nm,0.6s						
BJT	**Baijiatuan**	**37.44**	**346**	*e*P	**P**	**09 56 21.9**	**+0.3**
	comp=Z,31nm,0.6s						
BJI	**Beijing**	**37.46**	**346**	P	**P**	**09 56 22.3**	**+0.6**
BJI				pP	**pP**	**09 56 31.3**	**0.0**
BJI				sP	**sP**	**09 56 35.0**	**-0.3**
BJI				PP	**PP**	**09 57 47.8**	**+0.2**
BJI				S	**S**	**10 02 10.5**	**+2.4**
BJI				pmax	pmax		
	comp=Z,50nm,0.9s						
BJI				LR	LR		
	comp=N,250nm,15.1s						
BJI				LR	LR		
	comp=E,610nm,14.5s						
BJI				LR	LR		
	comp=Z,120nm,24.1s						
STKA	**Stephens Creek**	**38.05**	**159**	P	**P**	**09 56 26.2**	**-0.6**
STKA	**Stephens Creek**	**38.05**	**159**	*e*P	**P**	**09 56 25.7**	**-1.1**
	comp=Z,17nm,0.8s						
STKA	**Stephens Creek**	**38.05**	**159**	P	**P**	**09 56 26.2**	**-0.6**
	comp=Z,18nm,0.6s,baz=336,slow=8.2,SNR=70						
LZH	**Lanzhou**	**38.60**	**330**	*e*P	**P**	**09 56 31.0**	**-0.6**
LZH				pP	**pP**	**09 56 41.5**	**+0.2**
LZH				sP	**sP**	**09 56 45.8**	**+0.5**
LZH				*e*S	**S**	**10 02 25.3**	**-0.7**
LZH				sS	**sS**	**10 02 39.5**	**-2.4**
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				pmax	pmax		
	comp=Z,200nm,6.4s						
LZH				LR	LR		
	comp=N,930nm,15.4s						
LZH				LR	LR		
	comp=E,1µm,16.8s						
LZH				LR	LR		
	comp=Z,2µm,16.9s						
CMSA	**Cobar Meteorol**	**39.36**	**154**	*e*P	**P**	**09 56 37.5**	**-0.3**
	comp=Z,12nm,0.9s						
HHC	**Hu-ho-hao-te**	**39.48**	**342**	*e*P	**P**	**09 56 41.0**	**+2.2**
HHC				pP	**pP**	**09 56 51.6**	**+3.1**
HHC				PP	**PnPn**	**09 58 17.3**	**+4.4**
HHC				S	**S**	**10 02 41.3**	**+2.4**
HHC				ScS	**ScS**	**10 06 43.9**	**-1.0**
HHC				pmax	pmax		
	comp=Z,20nm,0.7s						
HHC				pmax	pmax		
	comp=Z,180nm,6.5s						
HHC				LR	LR		
	comp=N,770nm,14.3s						
HHC				LR	LR		
	comp=E,540nm,17.8s						
HHC				LR	LR		
	comp=Z,140nm,19.0s						
CN2	**Changchun**	**39.97**	**358**	*e*P	**P**	**09 56 44.4**	**+1.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.2s						
SHL	**Shillong**	**40.00**	**306**	*e*PKP	**P**	**09 56 41.5**	**-2.0**
USRK	**Ussuriysk Arra**	**40.60**	**6**	P	**P**	**09 56 47.6**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=181,slow=5.3,SNR=6.5						
USRK				LR	LR	10 13 12.9	
	comp=Z,215nm,20.5s,baz=293,slow=36						
MDJ	**Mudanjiang**	**40.83**	**3**	P	**P**	**09 56 49.9**	**0.0**
MDJ				pP	**pP**	**09 56 58.1**	**-1.5**
MDJ				sP	**sP**	**09 57 02.6**	**-1.0**
MDJ				PP	**PP**	**09 58 22.9**	**-1.5**
MDJ				PcP	**PcP**	**09 58 52.3**	**+1.9**
MDJ				PcS	**PcS**	**10 02 43.9**	**+2.8**
MDJ				S	**S**	**10 02 58.6**	**-0.2**
MDJ				ScS	**ScS**	**10 06 51.4**	**-1.1**
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,78nm,3.7s						
MDJ				LR	LR		
	comp=N,160nm,29.1s						
MDJ				LR	LR		
	comp=E,160nm,19.4s						
MDJ				LR	LR		
	comp=Z,170nm,25.2s						
ARMA	**Armidale**	**41.37**	**147**	*e*P	**P**	**09 56 54.0**	**-0.5**
	comp=Z,6.4nm,0.9s						
ARMA	**Armidale**	**41.37**	**147**	*e*P	**P**	**09 56 52.9**	**-1.7**
LSA	**Lhasa**	**42.56**	**311**	P	**P**	**09 57 04.3**	**-0.5**
LSA	**Lhasa**	**42.56**	**311**	*e*P	**P**	**09 57 04.8**	**0.0**
LSA				pmax	pmax		
	comp=Z,11nm,0.6s						
LSA	**Lhasa**	**42.56**	**311**	*e*P	**P**	**09 57 04.8**	**0.0**
	comp=Z,11nm,0.6s						
ASAJ	**Asahikawa**	**42.60**	**17**	P	**P**	**09 57 05.2**	**+0.9**
ASAJ	**Asahikawa**	**42.60**	**17**	P	**P**	**09 57 05.2**	**+0.9**
	comp=Z,6.2nm,0.8s,baz=222,slow=12,SNR=3.8						
ASAJ				LR	LR	10 14 21.7	
	comp=Z,587nm,20.0s,baz=183,slow=36						
GTA	**Gaotai**	**43.20**	**329**	*e*P	**P**	**09 57 08.5**	**-0.9**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
KLR	**Kul'dur**	**45.57**	**4**	*e*P	**P**	**09 57 27.0**	**-1.1**
KLR				pmax	pmax		
	comp=Z,50nm,1.8s						
DZM	**Mont Dzumac**	**46.41**	**125**	*e*S	**S**	**10 04 21.2**	**0.0**
	comp=Z,141nm,28.1s						
DZM				*e*LR	LR	10 10 51.9	
	comp=Z,250nm,26.2s						
DZM	**Mont Dzumac**	**46.41**	**125**	*e*P	**P**	**09 57 34.8**	**-0.5**
	comp=Z,15nm,1.1s						
ULN	**Ulaanbaatar**	**47.20**	**342**	*e*P	**P**	**09 57 40.4**	**-0.7**
	comp=Z,7.6nm,1.0s						
SONM	**Songino Array**	**47.38**	**341**	P	**P**	**09 57 42.3**	**-0.1**
SONM				PcP	**PcP**	**09 59 13.3**	**+0.5**
SONM	**Songino Array**	**47.38**	**341**	P	**P**	**09 57 42.3**	**-0.1**
	comp=Z,2.8nm,0.6s,baz=153,slow=8.1,SNR=17						
SONM				PcP	**PcP**	**09 59 13.3**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=154,slow=4.1,SNR=10						
SONM				LR	LR	10 20 44.1	
	comp=Z,225nm,18.9s,baz=162,slow=40						
ZAK	**Zakamensk**	**50.60**	**341**	*e*P	**P**	**09 58 06.4**	**-0.7**
ZAK				*e*		09 59 24.6	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TLY	**Talaya**	**51.61**	**342**	*e*P	**P**	**09 58 14.0**	**-0.5**
TLY				*e*		09 59 33.1	
TLY				*e*S	**S**	**10 05 35.2**	**+2.0**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,136nm,22.0s						
TLY	**Talaya**	**51.61**	**342**	*e*P	**P**	**09 58 14.4**	**-0.1**
	comp=Z,4.1nm,0.6s						
MOY	**Mondy**	**52.46**	**340**	*e*P	**P**	**09 58 21.5**	**+0.5**
WMQ	**Urumqi**	**52.83**	**325**	*e*P	**P**	**09 58 23.8**	**0.0**
WMQ				pP	**pP**	**09 58 34.0**	**+0.2**
WMQ				sP	**sP**	**09 58 38.0**	**+0.3**
WMQ				PcP	**PcP**	**09 59 33.0**	**+0.1**
WMQ				*e*S	**S**	**10 05 47.0**	**-3.4**
WMQ				ScS	**ScS**	**10 08 08.0**	**-3.3**
WMQ				pmax	pmax		
	comp=Z,9.0nm,1.0s						
WMQ				pmax	pmax		
	comp=Z,190nm,4.6s						
WMQ				LR	LR		
	comp=N,790nm,21.8s						
WMQ				LR	LR		
	comp=E,460nm,16.2s						
WMQ				LR	LR		
	comp=Z,540nm,21.6s						
BOD	**Bodaibo**	**54.92**	**352**	*e*P	**P**	**09 58 37.0**	**-1.7**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.7s						
PETK	**Petropavlovsk-**	**55.42**	**22**	P	**P**	**09 58 42.5**	**+0.1**
PETK	**Petropavlovsk-**	**55.42**	**22**	P	**P**	**09 58 42.5**	**+0.1**
PETK	**Petropavlovsk-**	**55.42**	**22**	P	**P**	**09 58 42.5**	**+0.1**
	comp=Z,3.1nm,0.7s,baz=194,slow=6.4,SNR=3.8						
MKAR	**Makanchi Array**	**57.66**	**325**	*e*P	**P**	**09 58 57.8**	**-0.7**
MKAR						09 59 53.1	
MKAR	**Makanchi Array**	**57.66**	**325**	*e*P	**P**	**09 58 57.8**	**-0.7**
MKAR				PcP	**PcP**	**09 59 53.0**	**+1.7**
MKAR				ScP	**ScP**	**10 03 54.0**	**+4.9**
MKAR	**Makanchi Array**	**57.66**	**325**	P	**P**	**09 58 57.9**	**-0.7**
	comp=Z,3.4nm,0.5s,baz=120,slow=7.9,SNR=44						
MKAR				PcP	**PcP**	**09 59 53.0**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=117,slow=6.3,SNR=1.8						
MKAR				ScP	**ScP**	**10 03 54.0**	**+4.9**
	comp=Z,0.7nm,0.8s,baz=111,slow=5.3,SNR=5.4						
MKAR				LR	LR	10 25 34.2	
	comp=Z,315nm,18.7s,baz=104,slow=38						
KSH	**Kashi**	**58.16**	**315**	P	**P**	**09 59 02.8**	**+0.5**
KSH				pP	**pP**	**09 59 12.8**	**+0.4**
KSH				sP	**sP**	**09 59 16.9**	**+0.6**
KSH				PcP	**PcP**	**09 59 52.3**	**-1.4**
KSH				PP	**PP**	**10 01 14.0**	**+2.6**
KSH				PcS	**PcS**	**10 03 52.3**	**-2.9**
KSH				S	**S**	**10 07 00.3**	**-1.5**
KSH				sS	**sS**	**10 07 17.3**	**-1.1**
KSH				SS	**SS**	**10 10 54.8**	**+1.0**
KSH				pmax	pmax		
	comp=Z,21nm,1.5s						
KSH				pmax	pmax		
	comp=Z,130nm,4.4s						
KSH				LR	LR		
	comp=N,220nm,6.5s						
KSH				LR	LR		
	comp=E,180nm,9.6s						
KSH				LR	LR		
	comp=Z,210nm,9.2s						
YAK	**Yakutsk**	**58.25**	**2**	*e*P	**P**	**09 59 00.5**	**-1.8**
YAK				pmax	pmax		
	comp=N,10.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,39nm,0.9s						
YAK	**Yakutsk**	**58.25**	**2**	*e*P	**P**	**09 59 00.9**	**-1.4**
	comp=Z,41nm,0.8s						
KZA	**Kyzart**	**59.73**	**318**	P	**P**	**09 59 14.0**	**+0.5**
	SNR=7.4						
TKM2	**Tokmak 2**	**59.86**	**319**	*e*P	**P**	**09 59 14.1**	**0.0**
TKM2				pmax	pmax		
	comp=Z,21nm,1.6s						
TKM2	**Tokmak 2**	**59.86**	**319**	*e*P	**P**	**09 59 14.1**	**0.0**
	comp=Z,21nm,1.6s						
TKM2	**Tokmak 2**	**59.86**	**319**	P	**P**	**09 59 14.1**	**0.0**
	SNR=6.0						
AAK	**Ala-Archa**	**60.47**	**318**	*de*P	**P**	**09 59 19.1**	**+0.8**
AAK				pmax	pmax		
	comp=Z,22nm,1.7s						
AAK	**Ala-Archa**	**60.47**	**318**	*e*P	**P**	**09 59 18.0**	**-0.3**
	comp=Z,76nm,1.5s						
ZALV	**Zalesovo Beam**	**60.68**	**333**	P	**P**	**09 59 17.5**	**-1.8**
ZALV	**Zalesovo Beam**	**60.68**	**333**	P	**P**	**09 59 17.5**	**-1.8**
ZALV	**Zalesovo Beam**	**60.68**	**333**	P	**P**	**09 59 17.5**	**-1.8**
	comp=Z,1.7nm,0.5s,baz=132,slow=6.5,SNR=8.3						
USP	**Ospenovka**	**60.73**	**318**	P	**P**	**09 59 19.8**	**-0.1**
	SNR=6.6						
AML	**Almayashu**	**60.80**	**317**	P	**P**	**09 59 21.1**	**+0.3**
	SNR=12						
EKS2	**Erkin-Say**	**60.96**	**318**	*e*P	**P**	**09 59 21.3**	**-0.3**
EKS2				pmax	pmax		
	comp=Z,16nm,1.4s						
EKS2	**Erkin-Say**	**60.96**	**318**	*e*P	**P**	**09 59 21.3**	**-0.3**
	comp=Z,16nm,1.4s						
EKS2	**Erkin-Say**	**60.96**	**318**	P	**P**	**09 59 21.1**	**-0.5**
	SNR=6.1						
KURK	**Kurchatov**	**61.84**	**327**	*de*P	**P**	**09 59 25.9**	**-1.3**
KURK				pmax	pmax		
	comp=Z,14nm,1.2s						
KURK	**Kurchatov**	**61.84**	**327**	*e*P	**P**	**09 59 25.1**	**-2.1**
	comp=Z,16nm,0.8s						
NVS	**Novosibirsk**	**61.96**	**333**	*e*P	P	09 59 24.3	-3.6
NVS				pmax	pmax		
	comp=Z,8.0nm,1.1s						
NVS				pmax	pmax		
	comp=N,1.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.6s						
SEY	**Seymchan**	**62.05**	**13**	*d i*P	**P**	**09 59 29.0**	**+0.7**
KKAR	**Karatay Array**	**63.34**	**317**	*e*P	**P**	**09 59 36.9**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KKAR	**Karatay Array**	**63.34**	**317**	*e*P	**P**	**09 59 36.9**	**-0.6**
	comp=Z,7.9nm,1.0s						
BRVK	**Borovoye**	**67.49**	**327**	*e*P	**P**	**10 00 02.9**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,17nm,1.1s						
BRVK	**Borovoye**	**67.49**	**327**	*e*P	**P**	**10 00 02.9**	**-1.1**
	comp=Z,16nm,1.1s						
ABKAR	**Akbulak array**	**72.26**	**321**	*e*P	**P**	**10 00 32.3**	**-1.1**
	comp=Z,3.6nm,0.7s						
SVE	**Sverdlovsk**	**74.06**	**328**	*ij*eP	**P**	**10 00 43.4**	**-0.5**
SVE				pmax	pmax		
	comp=Z,21nm,1.4s						
ARU	**Arti**	**75.04**	**328**	*d i*P	**P**	**10 00 49.3**	**-0.3**
ARU						10 03 36.1	
ARU				S	**S**	**10 10 24.6**	**-0.6**
ARU				pmax	pmax		
	comp=Z,13nm,1.2s						
ARU	**Arti**	**75.04**	**328**	*e*P	**P**	**10 00 49.1**	**-0.5**
	comp=Z,10nm,1.0s						
KBZ	**Khabaz**	**83.10**	**313**	LR	LR	10 46 11.0	
	comp=Z,128nm,18.1s,baz=252,slow=41						
TRF	**Thorofare Moun**	**83.52**	**27**	*e*P	**P**	**10 01 34.8**	**-1.2**
	comp=Z,139nm,2.6s						
COLD	**Coldfoot**	**83.88**	**23**	*e*P	**P**	**10 01 38.4**	**+0.9**
	comp=Z,11nm,1.0s						
PMR	**Palmer**	**83.92**	**29**	*e*P	**P**	**10 01 36.8**	**-1.0**
PMR				pmax	pmax		
	comp=Z,17nm,1.1s						
PMR	**Palmer**	**83.92**	**29**	*e*P	**P**	**10 01 36.8**	**-1.0**
	comp=Z,17nm,1.1s						
MCK	**McKinley**	**84.15**	**26**	*e*P	**P**	**10 01 38.8**	**-0.2**
MCK				pmax	pmax		
	comp=Z,29nm,1.3s						
MCK	**McKinley**	**84.15**	**26**	*e*P	**P**	**10 01 38.8**	**-0.2**
	comp=Z,29nm,1.3s						
VRHR	**Novokhopersk**	**84.15**	**321**	*e*P	**P**	**10 01 37.9**	**-1.3**
VRHR				pmax	pmax		
	comp=N,10.0nm,0.8s						
VRHR

OBN					MLR	MLR			
	comp=Z,100nm,16.0s								
JOF	**Joensuu**	**89.27**	**333**	*eP*	**P**		**10 02 02.3**	**-1.6**	
JOF					pmax	pmax			
	comp=Z,4.0nm,0.7s								
JOF	**Joensuu**	**89.27**	**333**	*ep*	**P**		**10 02 02.3**	**-1.6**	
	comp=Z,4.3nm,0.7s								
KMBO	**Kilima Mbogo**	**89.67**	**269**	*eP*	**P**		**10 02 07.5**	**+0.3**	
	comp=Z,11nm,1.4s								
KEV	**Kevo**	**89.97**	**340**	*eP*	P		10 02 11.8	+4.8	
KEV					pmax	pmax			
	comp=Z,7.0nm,0.8s								
KEV	**Kevo**	**89.97**	**340**	*ep*	P		10 02 11.8	+4.8	
	comp=Z,7.1nm,0.8s								
BRTR	**Keskin Array B**	**90.14**	**310**	P	**P**		**10 02 07.0**	**-1.8**	
BRTR	**Keskin Array B**	**90.14**	**310**	P	**P**		**10 02 07.0**	**-1.8**	
	comp=Z,1.7nm,0.8s,baz=122,slow=5.0,SNR=7.1								
BRTR					LR	LR	10 50 22.7		
	comp=Z,50nm,18.4s,baz=235,slow=41								
INK	**Inuvik**	**90.16**	**22**	*eP*	**P**		**10 02 08.0**	**+0.1**	
	comp=Z,6.6nm,1.4s								
INK	**Inuvik**	**90.16**	**22**	P	**P**		**10 02 06.1**	**-1.8**	
	comp=Z,1.1nm,0.5s,baz=275,slow=5.6,SNR=9.4								
ARCES	**ARCESS Array B**	**90.53**	**340**	P	**P**		**10 02 08.1**	**-1.6**	
ARCES	**ARCESS Array B**	**90.53**	**340**	P	**P**		**10 02 08.1**	**-1.6**	
	comp=Z,6.5nm,0.9s,baz=76,slow=5.1,SNR=8.2								
KAF	**Kangasniemi**	**91.69**	**332**	*eP*	**P**		**10 02 13.0**	**-2.2**	
KAF					pmax	pmax			
	comp=Z,3.0nm,0.7s								
KAF	**Kangasniemi**	**91.69**	**332**	*ep*	**P**		**10 02 13.0**	**-2.2**	
	comp=Z,2.9nm,0.7s								
FINES	**FINESS Array B**	**91.93**	**332**	P	**P**		**10 02 15.7**	**-0.6**	
FINES	**FINESS Array B**	**91.93**	**332**	P	**P**		**10 02 15.7**	**-0.6**	
	comp=Z,1.5nm,0.6s,baz=56,slow=4.8,SNR=9.1								
AKASG	**Malin Array Be**	**92.00**	**321**	P	**P**		**10 02 14.9**	**-2.0**	
AKASG	**Malin Array Be**	**92.00**	**321**	P	**P**		**10 02 14.9**	**-2.0**	
AKASG	**Malin Array Be**	**92.00**	**321**	P	**P**		**10 02 14.9**	**-2.0**	
	comp=Z,3.1nm,0.8s,baz=70,slow=4.3,SNR=7.5								
KOLS	**Kolonicke sedl**	**96.75**	**320**	*eP*	**P**		**10 02 40.0**	**+1.2**	
KOLS					pmax	pmax			
	comp=Z,64nm,2.6s								
KOLS	**Kolonicke sedl**	**96.75**	**320**	*eP*	**P**		**10 02 40.0**	**+1.2**	
UZH	**Uzhgorod**	**96.81**	**320**	*eP*	**P**		**10 02 36.4**	**-2.6**	
UZH				*e*			10 02 44.6		
CRVS	**Cervenica-Dubn**	**97.28**	**320**	*eP*		Pdif	10 02 42.9	+1.7	
CRVS					pmax	pmax			
	comp=Z,8.0nm,1.2s								
CRVS	**Cervenica-Dubn**	**97.28**	**320**	*eP*		Pdif	10 02 42.9	+1.7	
NOA	**NORSAR Array B**	**98.88**	**334**	P	**P**		**10 02 46.9**	**-1.2**	
NOA	**NORSAR Array B**	**98.88**	**334**	P	**P**		**10 02 46.9**	**-1.2**	
	comp=Z,1.1nm,0.7s,baz=66,slow=4.6,SNR=3.5								
VYHS	**Vyhne**	**99.07**	**320**	*eP*		**Pdif**	**10 02 50.1**	**+0.9**	
VYHS	**Vyhne**	**99.07**	**320**	PDIF		**Pdif**	**10 02 50.1**	**+0.9**	
YKA	**Yellowknife Ar**	**99.49**	**24**	P		**Pdif**	**10 02 51.5**	**+0.8**	
YKA	**Yellowknife Ar**	**99.49**	**24**	P		**Pdif**	**10 02 51.4**	**+0.8**	
	comp=Z,0.2nm,0.7s,baz=297,slow=4.3,SNR=3.9								
TXAR	**Lajitas Array**	**121.53**	**52**	PKP		**PKPdf**	**10 08 02.9**	**+0.5**	
TXAR	**Lajitas Array**	**121.53**	**52**	PKP		**PKPdf**	**10 08 02.9**	**+0.5**	
	comp=Z,0.4nm,0.7s,baz=300,slow=2.5,SNR=4.5								
TORD	**Torodi Ar. Bea**	**123.05**	**288**	PKP		**PKPdf**	**10 08 04.8**	**-0.8**	
TORD	**Torodi Ar. Bea**	**123.05**	**288**	PKP		**PKPdf**	**10 08 04.8**	**-0.8**	
	comp=Z,0.9nm,0.7s,baz=57,slow=2.2,SNR=7.6								
JCT	**Junction City**	**123.99**	**49**	*e*PKIKP		**PKPdf**	**10 08 07.7**	**+0.7**	
JCT	**Junction City**	**123.99**	**49**	*e*PKPdf		**PKPdf**	**10 08 07.7**	**+0.7**	
JTS	**JuntasAbangare**	**145.42**	**66**	PKPbc		**PKPab**	**10 08 48.1**	**+0.9**	
JTS	**JuntasAbangare**	**145.42**	**66**	PKPbc		**PKPab**	**10 08 48.1**	**+0.9**	
	comp=Z,10nm,0.9s,baz=298,slow=3.7,SNR=4.3								
LPAZ	**La Paz**	**160.67**	**131**	PKPab		**PKPab**	**10 09 53.0**	**+1.5**	
LPAZ	**La Paz**	**160.67**	**131**	PKPab		**PKPab**	**10 09 53.0**	**+1.5**	
	comp=Z,1.2nm,0.9s,baz=347,slow=6.2,SNR=3.7								

ISCJB ***22*** *09:55:04.8±0.4, 39.45N±0.03×28.19E±0.04, h0km, Error ellipse: s-maj=4.3km s-min=3.5km az=140.2*
ISK ***22*** *09:55:04.7, 39.45N×28.19E, h8km, MD2.8*
DDA ***22*** *09:55:05.1, 39.47N×28.16E, h7km, MD2.8*
CSEM ***22*** *09:55:05.0±0.2, 39.46N×28.18E, h1km, MD2.8, Error ellipse: s-maj=4.1km s-min=3.2km az=50.0*

ISC 22 09:55:05.1±0.9, 39.46N±0.02×28.18E±0.03, h0km, n28, σ0s78/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.27**	**58**	*i* P		**Pg**	**09 55 10.9**	**+0.6**
DURS	**Dursunbey**	**0.27**	**58**	*i* P		**Pg**	**09 55 10.9**	**+0.6**
BALB	**Balikesir**	**0.29**	**309**	*e*PG		**Sg**	**09 55 10.9**	**+0.2**
BALB				*e*SG		**Sg**	**09 55 16.3**	**+1.8**
BALB	**Balikesir**	**0.29**	**309**	*e*Pg		**Pg**	**09 55 10.9**	**+0.2**
BALB				*e*Sg		**Sg**	**09 55 16.3**	**+1.8**
BALY	**Balya**	**0.51**	**303**	*i* P		**Pg**	**09 55 14.0**	**-1.0**
BALY				*i* S		**Sg**	**09 55 22.7**	**+1.1**
BALY	**Balya**	**0.51**	**303**	*i* P		**Pg**	**09 55 14.0**	**-1.0**
BALY				*i* S		**Sg**	**09 55 22.7**	**+1.1**
DEMI	**Demirci**	**0.59**	**135**	*i* P		**Pg**	**09 55 16.9**	**+0.4**
DEMI	**Demirci**	**0.59**	**135**	*i* P		**Pg**	**09 55 16.9**	**+0.4**
AKHS	**Akhisar**	**0.64**	**206**	*i* P		**Pg**	**09 55 16.8**	**-0.6**
AKHS				*i* S		**Sg**	**09 55 27.2**	**+1.4**
AKHS	**Akhisar**	**0.64**	**206**	*i* P		**Pg**	**09 55 16.8**	**-0.6**
AKHS				*i* S		**Sg**	**09 55 27.2**	**+1.4**
GONE	**Gonen-Balikesi**	**0.70**	**327**	*e*PG		**Pg**	**09 55 18.5**	**0.0**
GONE	**Gonen-Balikesi**	**0.70**	**327**	*e*Pg		**Pg**	**09 55 18.5**	**0.0**
KCTX	**Karacabey (Bur**	**0.82**	**10**	*e*PG		**Pg**	**09 55 20.7**	**-0.1**
KCTX	**Karacabey (Bur**	**0.82**	**10**	*e*Pg		**Pg**	**09 55 20.7**	**-0.1**
TVSB	**Tavsanli**	**1.00**	**90**	*e*PG		**Pg**	**09 55 24.2**	**0.0**
TVSB	**Tavsanli**	**1.00**	**90**	*e*Pg		**Pg**	**09 55 24.2**	**0.0**
ULDT	**Uludag**	**1.01**	**47**	*i* P		**Pg**	**09 55 23.9**	**-0.5**
ULDT				*i* S		**Sb**	**09 55 39.4**	**-0.1**
ULDT	**Uludag**	**1.01**	**47**	*i* P		**Pg**	**09 55 23.9**	**-0.5**
ULDT				*i* S		**Sb**	**09 55 39.4**	**-0.1**
MANT	**Manisa**	**1.01**	**163**	*i* P		**Pg**	**09 55 25.2**	**+0.7**
MANT				*i* S		**Sg**	**09 55 37.6**	**0.0**
MANT	**Manisa**	**1.01**	**163**	*i* P		**Pg**	**09 55 25.2**	**+0.7**
MANT				*i* S		**Sg**	**09 55 37.6**	**0.0**
KULA	**Kula-Manisa**	**1.02**	**158**	*e*PG		**Pg**	**09 55 24.3**	**-0.3**
KULA	**Kula-Manisa**	**1.02**	**158**	*e*Pg		**Pg**	**09 55 24.3**	**-0.3**
GDZ	**Gediz**	**1.08**	**110**	*i* P		**Pg**	**09 55 25.3**	**-0.5**
GDZ				*i* S		**Sb**	**09 55 41.6**	**+0.2**
GDZ	**Gediz**	**1.08**	**110**	*i* P		**Pg**	**09 55 25.3**	**-0.5**
GDZ				*i* S		**Sb**	**09 55 41.6**	**+0.2**
CAVI	**Cavuskoy**	**1.48**	**59**	*e*PN		**Pn**	**09 55 31.7**	**-1.4**
CAVI	**Cavuskoy**	**1.48**	**59**	*e*Pn		**Pn**	**09 55 31.7**	**-1.4**
ALT	**Altintas**	**1.56**	**104**	*e*PN		**Pn**	**09 55 33.9**	**-0.2**
ALT	**Altintas**	**1.56**	**104**	*e*Pn		**Pn**	**09 55 33.9**	**-0.2**

ISCJB ***22*** *10:10:28.1±0.4, 38.17N±0.06×134.17E±0.06, h407km, mb3.4/10, Error ellipse: s-maj=8.4km s-min=5.6km az=34.7*
JMA ***22*** *10:10:28.7±0.4, 37.93N×134.28E, h437km±3km, M3.6*
IDC ***22*** *10:10:29.4±1.0, 38.04N×134.20E, h421km±12km, mb3.1/10, mb1 3.3/14, mb1mx3.1/28, mbtmp3.1/14, Error ellipse: s-maj=19.7km s-min=11.9km az=73.0*

ISC 22 10:10:28.7±0.8, 38.11N±0.08×134.28E±0.07, h407km, n22, σ1s51/23, mb3.5/10, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JSZ	**Suzu**	**2.53**	**104**	P		**P**	**10 11 31.5**	**+2.7**
JWT	**Wachi**	**2.96**	**162**	P		**P**	**10 11 33.9**	**+1.7**
JWT				S		**S**	**10 12 24.9**	**+1.3**
MAT	**Matsushiro**	**3.50**	**115**	P		**P**	**10 11 38.7**	**+2.1**
MAT				*e*S		**S**	**10 12 32.9**	**+1.1**
MJAR	**Matsushiro Arr**	**3.50**	**115**	P		P	10 11 39.4	+2.7
	5.1nm,0.3s,baz=293,slow=11,SNR=100							
JNY	**Yasuok**	**3.98**	**133**	P		**P**	**10 11 42.7**	**+1.7**
JOD2	**Odawara 2**	**4.79**	**125**	P		**P**	**10 11 50.4**	**+1.5**
JOD2				*e*S		**S**	**10 12 54.3**	**0.0**
KSRS	**Korea Array**	**5.08**	**265**	P		**P**	**10 11 52.7**	**+1.1**
	0.1nm,0.3s,baz=91,slow=9.3,SNR=3.2							
JNU	**Nakatsue**	**5.70**	**210**	P		**P**	**10 11 58.3**	**0.0**
	1.3nm,0.3s,baz=13,slow=6.2,SNR=12							
BSO4	**Boso 4**	**5.78**	**121**	P		**P**	**10 12 00.0**	**+1.1**
BSO4				S		**S**	**10 13 11.7**	**-1.2**
USRK	**Ussuriysk Arra**	**6.32**	**345**	P		**P**	**10 12 07.3**	**+2.7**
	3.1nm,0.3s,baz=166,slow=10,SNR=79							
BSO1	**Boso 1**	**6.41**	**121**	P		**P**	**10 12 05.4**	**+0.2**
BSO1				S		**S**	**10 13 23.1**	**-1.4**
ASAJ	**Asahikawa**	**8.68**	**44**	P		**P**	**10 12 32.4**	**+1.0**
	4.2nm,0.3s,baz=241,slow=9.2,SNR=38							
ASAJ				S		**S**	**10 14 09.9**	**-2.1**
	1.3nm,0.3s,baz=180,slow=20,SNR=12							
SONM	**Songino Array**	**22.49**	**305**	P		**P**	**10 14 54.9**	**-0.5**
	1.1nm,0.5s,baz=106,slow=9.0,SNR=9.8							
CMAR	**Chiang Mai Arr**	**36.47**	**247**	P		P	10 16 56.6	-0.7
	0.8nm,0.3s,baz=41,slow=7.5,SNR=4.2							
ZALV	**Zalesovo Beam**	**36.99**	**312**	P		P	10 16 59.6	-1.6
	0.3nm,0.3s,baz=90,slow=7.6,SNR=3.7							
ZALV				PcP		**PcP**	**10 19 10.7**	**-1.3**
	0.3nm,0.3s,baz=72,slow=4.7,SNR=3.6							
MKAR	**Makanchi Array**	**38.71**	**300**	P		P	10 17 14.7	-0.9
	0.4nm,0.5s,baz=84,slow=8.6,SNR=7.7							
WRA	**Warramunga Arr**	**57.74**	**180**	P		**P**	**10 19 37.7**	**-1.3**
	0.4nm,0.4s,baz=355,slow=7.6,SNR=17							
ARCES	**ARCESS Array B**	**60.92**	**338**	P		**P**	**10 20 00.1**	**+0.3**
	5.9nm,1.0s,baz=66,slow=8.7,SNR=5.3							
ASAR	**Alice Springs**	**61.45**	**180**	P		**P**	**10 20 03.2**	**-0.8**
	0.3nm,0.7s,baz=359,slow=6.7,SNR=6.7							
FINES	**FINESS Array B**	**65.13**	**330**	P		P	10 20 27.0	-0.3
	4.6nm,1.0s,baz=61,slow=6.5,SNR=7.8							
FINES				PcP		**PcP**	**10 20 55.2**	**-0.9**
	1.3nm,0.9s,baz=58,slow=4.7,SNR=3.8							
AKASG	**Malin Array Be**	**69.88**	**319**	P		P	10 20 56.0	-0.8
	1.1nm,0.6s,baz=49,slow=6.7,SNR=5.0							
NOA	**NORSAR Array B**	**70.89**	**334**	P		P	10 21 02.2	-0.5
	0.8nm,0.6s,baz=35,slow=4.6,SNR=4.9							

IDC 22 10:10:59.7±1.2, 46.59N×155.88E, h0km, mb3.4/5, mb1 3.7/6, mb1mx3.4/25, mbtmp3.5/6, ML2.9/1, Error ellipse: s-maj=35.6km s-min=27.5km az=123.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.63**	**10**	Pn		Pn	10 12 37.5	-0.8
	0.2nm,0.3s,baz=190,slow=15,SNR=3.4							
MKAR	**Makanchi Array**	**48.70**	**299**	P		P	10 19 45.7	+0.1
	0.2nm,0.6s,baz=58,slow=8.3,SNR=2.4							
YKA	**Yellowknife Ar**	**49.90**	**37**	P		P	10 19 54.2	-0.3
	0.1nm,0.7s,baz=298,slow=6.9,SNR=2.9							
FINES	**FINESS Array B**	**64.98**	**336**	P		P	10 21 40.8	0.0
	2.4nm,1.0s,baz=38,slow=5.3,SNR=4.2							
ASAR	**Alice Springs**	**72.70**	**201**	P		P	10 22 29.1	-0.3
	0.3nm,0.6s,baz=16,slow=6.1,SNR=5.7							
TXAR	**Lajitas Array**	**75.89**	**62**	P		P	10 22 48.8	+0.5
	0.3nm,0.6s,baz=287,slow=4.2,SNR=4.6							

IDC 22 10:18:55.0±12.0, 1.07S×133.72E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/18, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=184.6km s-min=113.7km az=159.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.76**	**178**	P		Pn	10 23 16.6	+0.4
	0.1nm,0.3s,baz=357,slow=11,SNR=11							
ASAR	**Alice Springs**	**22.46**	**180**	P		P	10 23 56.0	+0.1
	0.4nm,0.4s,baz=358,slow=12,SNR=13							
STKA	**Stephens Creek**	**31.53**	**167**	P		P	10 25 18.3	-0.7
	1.0nm,0.7s,baz=342,slow=9.6,SNR=3.0							

ISCJB ***22*** *10:33:43.4±0.8, 48.93N±0.02×158.08E±0.02, h6km±4km, mb5.1/283, MS4.4/46, Error ellipse: s-maj=3.6km s-min=2.2km az=177.7*
IDC ***22*** *10:33:43.7±0.4, 48.89N×158.08E, h0km, mb4.9/29, mb1 5.0/34, mb1mx5.0/34, mbtmp4.9/34, ML4.7/4, MS4.1/25, Ms1 4.1/25, ms1mx3.9/51, Error ellipse: s-maj=13.7km s-min=8.7km az=150.0*
DJA ***22*** *10:33:44, 49.29N×158.83E, h10km, mb5.2/9*
SKHL ***22*** *10:33:46.1±1.8, 48.80N×158.26E, h56km±24km, mb6.0/4, mbh5.7/2, Ms4.7/1, msh5.3/3*
SKHL Felt (II) at Severo-Kurilsk.
BJI ***22*** *10:33:46.5, 48.94N×157.56E, h12km, mB5.2/34, mb4.9/45, Ms4.8/43, Ms7 4.6/41*
NEIC ***22*** *10:33:46.0±1.7, 48.90N×158.05E, h13km±10km, mb5.3/151, Error ellipse: s-maj=4.5km s-min=2.3km az=163.0*
KRSC ***22*** *10:33:48.6±1.0, 49.31N×158.74E, h5km±5km, ML5.4*
MOS ***22*** *10:33:48.4±0.9, 48.98N×158.06E, h39km, mb5.3/106, MS4.5/20, Error ellipse: s-maj=6.7km s-min=3.7km az=96.2*
MOS Felt (II) at Severo-Kuril'sk.
SZGRF ***22*** *10:33:54.1, 50.08N×156.89E, h33km, mb4.9, Kuril Islands, Russia*

ISC 22 10:33:46.7±0.4, 48.95N±0.04×158.06E±0.03, h18km±1km, h18km:pP-P, n1206, σ1s08/1307, mb5.2/289, MS4.4/47, 240C-241D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.14**	**325**	*i*PN		**Pn**	**10 34 21.9**	**+0.5**
SKR				*i* S		**Sn**	**10 34 47.5**	**0.0**
SKR				pmax	pmax			
	comp=N,4μm,0.5s							
SKR				pmax	pmax			
	comp=E,3μm,0.5s							
SKR				pmax	pmax			
	comp=Z,9μm,0.5s							
SKR				pmax	pmax			
	comp=Z,13μm,2.0s							
SKR				pmax	pmax			
	comp=N,8μm,3.0s							
SKR				pmax	pmax			
	comp=E,7μm,3.0s							
SKR				smax	smax			
	comp=N,11μm,0.5s							
SKR				smax	smax			
	comp=E,9μm,0.5s							
SKR				smax	smax			
	comp=N,18μm,1.5s							
SKR				smax	smax			
	comp=E,32μm,1.5s							
SKR				MLR	MLR			
	comp=N,16μm,12.0s							
SKR				MLR	MLR			
	comp=E,15μm,12.0s							
SKR				MLR	MLR			
	comp=Z,13μm,12.0s							
SKR	**Severo-Kuril's**	**2.14**	**325**	⇑*i*P		**Pn**	**10 34 21.9**	**+0.5**
SKR				⇑*i*P		**Pn**	**10 34 21.9**	**+0.5**
SKR				⇑*i*P		**Pn**	**10 34 21.9**	**+0.5**
SKR				AMB	AMB		10 34 22.5	
	comp=Z,13μm,2.0s							
SKR				AMB	AMB		10 34 22.5	
	comp=Z,8μm,3.0s							
SKR				AMB	AMB		10 34 22.5	
	comp=Z,6μm,3.0s							
SKR				AMB	AMB		10 34 22.5	
	comp=Z,8μm,3.0s							
SKR				AMB	AMB		10 34 22.5	
	comp=Z,7μm,3.0s							
SKR				AMB	AMB		10 34 22.5	
	comp=Z,4μm,0.5s							
SKR				AMB	AMB		10 34 22.5	
	comp=Z,3μm,0.5s							
SKR				AMB	AMB		10 34 22.5	
	comp=Z,9μm,0.5s							
SKR				*e*S		**Sn**	**10 34 47.5**	**0.0**
SKR				*i* S		**Sn**	**10 34 47.5**	**0.0**
SKR				A	A		10 34 51.5	
	comp=Z,11μm,0.5s							
SKR				A	A		10 34 51.5	
	comp=Z,9μm,0.5s							
SKR				A	A		10 34 51.5	
	comp=Z,5μm,0.5s							
SKR				A	A		10 34 55.0	
	comp=Z,20μm,1.5s							
SKR				A	A		10 34 55.0	
	comp=Z,35μm,1.5s							
SKR				A	A		10 34 55.0	
	comp=Z,18μm,1.5s							
SKR				A	A		10 34 55.0	
	comp=Z,32μm,1.5s							
SKR				AMS	AMS		10 35 40.0	
	comp=Z,13μm,12.0s							
SKR				AMS	AMS		10 35 40.0	
	comp=Z,17μm,12.0s							
SKR				AMS	AMS		10 35 40.0	
	comp=Z,16μm,12.0s							
SKR				AMS	AMS		10 35 40.0	
	comp=Z,13μm,12.0s							
SKR				AMS	AMS		10 35 40.0	
	comp=Z,16μm,12.0s							
SKR				AMS	AMS		10 35 40.0	
	comp=Z,15μm,12.0s							
MIPR	**Malaya Ipel'ka**	**3.43**	**347**	P		**Pn**	**10 34 40.6**	**+1.4**
MIPR				*i* S		**Sn**	**10 35 18.9**	**-0.4**
ASAK	**Asacha**	**3.44**	**358**	*i* P		**Pn**	**10 34 39.6**	**+0.2**
ASAK				*i* S		**Sn**	**10 35 16.6**	**-3.0**
RUS	**Russkaya**	**3.50**	**5**	PN		**Pn**	**10 34 39.6**	**-0.5**
RUS	**Russkaya**	**3.50**	**5**	*i* P		**Pn**	**10 34 39.6**	**-0.5**
RUS				*i* S		**Sn**	**10 35 17.5**	**-3.5**
MTVR	**Mutnovka**	**3.53**	**1**	*i* P		**Pn**	**10 34 41.0**	**+0.2**
MTVR				*i* S		**Sn**	**10 35 19.1**	**-3.1**
APC	**Apacha**	**4.02**	**352**	*i* P		**Pn**	**10 34 48.1**	**+0.8**
APC				*i* S		**Sn**	**10 35 32.2**	**-1.6**
PET	**Petropavlovsk**	**4.09**	**5**	⇑*i*PN		**Pn**	**10 34 48.7**	**+0.4**
PET				pmax	pmax			
	comp=Z,2μm,0.5s							
PET	**Petropavlovsk**	**4.09**	**5**	*e*Pn		**Pn**	**10 34 48.3**	**0.0**
PET				*e*Sn		**Sn**	**10 35 34.2**	**-1.4**
PET	**Petropavlovsk**	**4.09**	**5**	*i* P		**Pn**	**10 34 48.3**	**0.0**
PET				*i* S		**Sn**	**10 35 31.5**	**-4.2**
INSR	**Institute**	**4.13**	**5**	*i* P		**Pn**	**10 34 49.6**	**+0.8**
INSR				*i* S		**Sn**	**10 35 34.0**	**-2.7**
PETK	**Petropavlovsk-**	**4.17**	**357**	PN		**Pn**	**10 34 50.1**	**+0.8**
PETK							10 35 41.9	
PETK				pmax	pmax			
	comp=Z,194nm,0.3s							
PETK				smax	smax			
	comp=N,44nm,0.3s							
PETK	**Petropavlovsk-**	**4.17**	**357**	Pn		**Pn**	**10 34 50.1**	**+0.8**
PETK				Sn		**Sn**	**10 35 41.9**	**+4.4**
PETK	**Petropavlovsk-**	**4.17**	**357**	Pn		**Pn**	**10 34 50.1**	**+0.8**
	comp=N,194nm,0.3s,baz=153,slow=16,SNR=870							
PETK				Sn		**Sn**	**10 35 41.9**	**+4.4**
	comp=N,44nm,0.3s,baz=159,slow=28,SNR=4.3							
UGLR	**Uglovaya**	**4.29**	**6**	*i* P		**Pn**	**10 34 51.3**	**+0.2**
UGLR				*e*S		**Sn**	**10 35 37.2**	**-3.5**
SPN	**Mys Shipunski**	**4.33**	**16**	PN		**Pn**	**10 34 51.3**	**-0.3**
SPN	**Mys Shipunski**	**4.33**	**16**	*i* P		**Pn**	**10 34 51.3**	**-0.3**
SPN				*i* S		**Sn**	**10 35 37.5**	**-4.1**
AVH	**Avacha**	**4.34**	**5**	*e*P		**Pn**	**10 34 52.3**	**+0.5**
AVH				*i* S		**Sn**	**10 35 37.6**	**-4.3**
SMAR	**Somma**	**4.34**	**6**	*e*P		**Pn**	**10 34 52.0**	**+0.1**
SMAR				*e*S		**Sn**	**10 35 39.1**	**-3.0**
KOK	**Koryaka**	**4.36**	**5**	*i* P		**Pn**	**10 34 53.0**	**+0.9**
KOK				*i* S		**Sn**	**10 35 39.7**	**-2.7**
SDLR	**Sedlovina**	**4.36**	**7**	*i* P		**Pn**	**10 34 51.6**	**-0.5**
SDLR				*i* S		**Sn**	**10 35 38.4**	**-4.1**
KII	**Karymskiy**	**5.16**	**9**	*i* P		**Pn**	**10 35 04.1**	**+1.0**
KII				*i* S		**Sn**	**10 35 58.1**	**-4.1**
MKZ	**Mys Kozlova**	**6.05**	**21**	PN		**Pn**	**10 35 14.3**	**-0.9**
MKZ	**Mys Kozlova**	**6.05**	**21**	*i* P		**Pn**	**10 35 14.3**	**-0.9**
MKZ				*i* S		Sn	10 36 17.5	-6.5
TUMR	**Tumrok**	**6.47**	**11**	*i* P		**Pn**	**10 35 22.3**	**+1.3**
TUMR				*i* S		**Sn**	**10 36 31.1**	**-3.3**
KMNR	**Kamenistaya**	**6.94**	**10**	*e*P		**Pn**	**10 35 29.0**	**+1.5**
KMNR				*i* S		**Sn**	**10 36 41.5**	**-4.5**
ESO	**Esso**	**6.99**	**3**	PN		**Pn**	**10 35 29.4**	**+1.2**
ESO	**Esso**	**6.99**	**3**	*e*P		**Pn**	**10 35 29.4**	**+1.2**
KPT	**Kopyto**	**7.15**	**10**	*i* P		**Pn**	**10 35 31.6**	**+1.3**
BZMR	**Bezymyannaya**	**7.15**	**11**	*e*P		**Pn**	**10 35 32.0**	**+1.6**
BZWR	**Bezymyannyi-We**	**7.18**	**11**	*i* P		**Pn**	**10 35 32.5**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**7.18**	**12**	*i* P		**Pn**	**10 35 32.5**	**+1.7**
BZGR				*i* S		**Sn**	**10 36 48.0**	**-3.9**
KOZ	**Kozyrevsk**	**7.20**	**8**	*e*P		**Pn**	**10 35 32.2**	**+1.2**
KOZR	**Kozyr**	**7.21**	**8**	PN		**Pn**	**10 35 32.2**	**+1.1**
ZLN	**Zelenaya**	**7.27**	**12**	*i* P		**Pn**	**10 35 33.5**	**+1.5**
ZLN				*e*S		**Sn**	**10 36 50.3**	**-3.8**
LGNR	**Loginova**	**7.32**	**12**	*i* P		**Pn**	**10 35 34.7**	**+1.9**
LGNR				*i* S		**Sn**	**10 36 51.5**	**-4.0**
CIRR	**Tsirk**	**7.36**	**12**	*i* P		**Pn**	**10 35 34.8**	**+1.5**
CIRR				*e*S		**Sn**	**10 36 50.9**	**-5.4**
KRSR	**Krestovskiy**	**7.43**	**11**	*i* P		**Pn**	**10 35 35.1**	**+0.8**
SRDR	**Sredinnyy**	**7.44**	**7**	*e*P		**Pn**	**10 35 35.2**	**+0.8**
KLY	**Klyuchi**	**7.54**	**11**	PN		**Pn**	**10 35 37.0**	**+1.4**
KLY	**Klyuchi**	**7.54**	**11**	*i* P		**Pn**	**10 35 37.0**	**+1.4**
KLY				*i* S		**Sn**	**10 36 55.5**	**-5.0**
KBTR	**Krutoberegovo**	**7.82**	**20**	PN		**Pn**	**10 35 39.1**	**-0.4**
KBTR	**Krutoberegovo**	**7.82**	**20**	*e*P		**Pn**	**10 35 39.1**	**-0.4

comp=Z,30nm,1.0s
YSS AMB AMB 10 36 24.0
comp=Z,1µm,6.0s
YSS *e*S **Sn** **10 38 12.3 0.0**
YSS *e*LQ LQ 10 41 12.0
YSS AMS AMS 10 42 14.0
comp=Z,2µm,14.0s
UGL Uglegorsk 10.51 277 *e*PN Pn 10 36 20.0 +3.7
UGL pmax pmax
comp=Z,74nm,0.7s
UGL MLR MLR
comp=E,2µm,14.0s
UGL MLR MLR
comp=N,500nm,12.0s
UGL Uglegorsk 10.51 277 *e*P Pn 10 36 20.0 +3.7
UGL AMB AMB 10 36 24.0
comp=N,74nm,0.7s
UGL *e*L L 10 39 06.0
OKH Okha 10.53 302 *e*PN **Pn** **10 36 16.9 +0.3**
OKH Okha 10.53 302 *e*P **Pn** **10 36 16.9 +0.3**
ASAJ Asahikawa 11.69 251 *e*Pn **Pn** **10 36 32.5 0.0**
ASAJ Asahikawa 11.69 251 Pn **Pn** **10 36 32.3 -0.2**
comp=N,4.7nm,0.3s,baz=74,slow=12,SNR=18
ASAJ LR LR 10 41 48.4
comp=N,601nm,18.1s,baz=141,slow=42
NKL Nikolayevsk 11.71 298 *e*P **Pn** **10 36 32.0 -0.7**
NKL AMB AMB 10 36 33.4
comp=N,17nm,1.1s
NKL AMB AMB 10 36 33.4
comp=N,28nm,1.1s
NKL AMB AMB 10 36 33.4
comp=N,50nm,1.1s
NKL AMB AMB 10 36 40.0
comp=N,600nm,6.0s
NKL AMB AMB 10 36 40.0
comp=N,900nm,6.0s
NKL AMB AMB 10 36 40.0
comp=N,600nm,5.0s
NKL *e*S Sn 10 38 36.0 -6.8
NKL A A 10 38 40.0
comp=N,500nm,6.0s
NKL *e*L L 10 39 34.0
TILK Tilichiki 12.41 19 P **Pn** **10 36 42.5 +0.2**
ERM Erimo 12.54 242 *e*PN **Pn** **10 36 41.6 -2.5**
ERM Erimo 12.54 242 *e*Pn **Pn** **10 36 41.5 -2.5**
SEY Seymchan 14.36 349 *ce*P **Pn** **10 37 10.5 +1.7**
TEY Ternei 15.14 263 *e*P **Pn** **10 37 21.0 +1.5**
HABR Khabarovsk 15.19 277 *de*P **Pn** **10 37 19.8 -0.3**
HABR *e* 10 40 08.1
HABR pmax pmax
comp=E,45nm,1.7s
HABR pmax pmax
comp=N,19nm,1.7s
HABR pmax pmax
comp=Z,24nm,1.1s
HABR MLR MLR
comp=Z,842nm,17.0s
KLR Kul'dur 17.21 281 *e*P **Pn** **10 37 44.8 -1.2**
KLR *e* 10 40 55.5
KLR pmax pmax
comp=E,64nm,1.2s
KLR pmax pmax
comp=Z,80nm,1.2s
KLR MLR MLR
comp=E,1µm,13.0s
KLR MLR MLR
comp=Z,4µm,13.0s
USRK Ussuriysk Arra 18.49 265 P **P** **10 38 00.0 -1.6**
comp=Z,0.9nm,0.3s,baz=66,slow=11,SNR=22
USRK LR LR 10 46 22.9
comp=Z,228nm,18.4s,baz=280,slow=41
MJAR Matsushiro Arr 19.07 237 P **P** **10 38 07.0 -1.1**
MJAR PcP **PcP** **10 42 31.7 -0.5**
MJAR Matsushiro Arr 19.07 237 P **P** **10 38 07.0 -1.1**
comp=Z,0.8nm,0.3s,baz=32,slow=8.9,SNR=27
MJAR PcP **PcP** **10 42 31.7 -0.5**
comp=Z,0.1nm,0.3s,baz=107,slow=1.3,SNR=6.5
MAJO Matsushiro 19.07 237 *e*P **P** **10 38 06.9 -1.1**
MAJO pmax pmax
comp=Z,93nm,1.3s
MAJO Matsushiro 19.07 237 *e*P **P** **10 38 06.9 -1.1**
comp=Z,93nm,1.3s
MAT Matsushiro 19.07 237 P **P** **10 38 06.3 -1.8**
MAT *e*S **S** **10 41 47.2 +3.5**
ZEA Zeya 19.74 296 *e*P **P** **10 38 11.9 -3.3**
ZEA AMB AMB 10 38 16.7
comp=Z,37nm,1.4s
ZEA AMB AMB 10 38 16.7
comp=Z,85nm,1.6s
MDJ Mudanjiang 19.91 268 P **P** **10 38 15.1 -2.1**
MDJ pP **Pn** **10 38 18.0 -0.8**
MDJ S **S** **10 42 00.3 -0.1**
MDJ PcP **PcP** **10 42 33.1 -0.4**
MDJ ScP **ScP** **10 46 08.3 -0.3**
MDJ PcS **PcS** **10 46 11.8 +1.0**
MDJ ScS **ScS** **10 49 52.3 +1.4**
MDJ pmax pmax
comp=Z,25nm,1.3s
MDJ pmax pmax
comp=Z,200nm,4.7s
MDJ LR LR
comp=N,470nm,15.2s
MDJ LR LR
comp=E,860nm,15.2s
MDJ LR LR
comp=Z,1µm,12.4s
YAK Yakutsk 20.51 320 *c i*P **P** **10 38 21.3 -2.2**
YAK *e*S **S** **10 42 05.1 -6.9**
YAK pmax pmax
comp=Z,121nm,0.9s
YAK pmax pmax
comp=N,26nm,1.3s
YAK pmax pmax
comp=E,59nm,1.4s
YAK smax smax
comp=N,326nm,1.9s
YAK smax smax
comp=E,220nm,1.5s
YAK MLR MLR
comp=N,839nm,15.0s
YAK MLR MLR
comp=E,435nm,12.0s
YAK MLR MLR
comp=Z,883nm,14.0s
YAK Yakutsk 20.51 320 *e*P **P** **10 38 21.8 -1.7**
comp=Z,148nm,0.8s
CLNS Chul'man 21.33 304 *e*P **P** **10 38 34.4 +1.9**
CLNS *e* 10 38 53.8
CLNS *e*S **S** **10 42 28.2 -0.2**
CLNS *e* 10 42 36.0
CLNS *e*SS **SnSn** **10 42 47.9 -3.0**
CLNS pmax pmax
comp=Z,44nm,1.0s
CLNS pmax pmax
comp=E,34nm,1.2s
CLNS pmax pmax
comp=N,27nm,1.3s
CLNS pmax pmax
comp=Z,25nm,1.0s
CLNS pmax pmax
comp=N,21nm,0.9s
CLNS pmax pmax
comp=E,22nm,1.1s
CLNS smax smax
comp=E,30nm,1.5s
CLNS smax smax
comp=N,37nm,1.3s
CLNS MLR MLR
comp=Z,562nm,14.0s
CLNS MLR MLR
comp=E,532nm,14.0s
CLNS MLR MLR
comp=N,372nm,12.0s
CN2 Changchun 22.97 269 *e*P **P** **10 38 49.4 -0.6**
CN2 *e*S **S** **10 42 52.8 -6.5**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,800nm,15.0s
CN2 LR LR
comp=E,700nm,15.0s
CN2 LR LR
comp=Z,800nm,13.0s
KSRS Korea Array 24.63 253 P **P** **10 39 06.8 +0.9**
comp=Z,13nm,0.8s,baz=47,slow=9.8,SNR=18
KSRS PcP **PcP** **10 42 43.1 +0.1**
comp=Z,2.7nm,1.0s,baz=349,slow=1.3,SNR=4.9
KSRS LR LR 10 49 53.7
comp=Z,398nm,18.0s,baz=151,slow=39
KSAR Wonju Array Be 24.66 254 P **P** **10 39 06.8 +0.5**
KSAR PcP **PcP** **10 42 43.1 0.0**
SNY Shenyang 25.08 267 ⇑P **P** **10 39 10.8 +0.9**
SNY S **S** **10 43 32.8 -0.6**
SNY pmax pmax
comp=Z,28nm,0.8s
SNY pmax pmax
comp=Z,330nm,4.7s
SNY LR LR
comp=N,470nm,10.4s
SNY LR LR
comp=E,790nm,13.7s
SNY LR LR
comp=Z,500nm,13.9s
INCN Inchon 25.43 255 *e*P **P** **10 39 14.9 +1.7**
comp=Z,65nm,1.1s
JNU Nakatsue 25.70 242 *e*P **P** **10 39 15.5 -0.3**
comp=Z,9.2nm,0.8s
JNU Nakatsue 25.70 242 P **P** **10 39 15.2 -0.6**
comp=Z,27nm,1.0s,baz=30,slow=8.5,SNR=6.2
JNU LR LR 10 51 38.0
comp=Z,210nm,18.2s,baz=336,slow=42
BOD Bodaibo 27.28 306 *e*P **P** **10 39 28.4 -1.3**
BOD pmax pmax
comp=Z,8.0nm,1.7s
SVW2 Sparrevohn 28.56 47 *e*P **P** **10 39 42.5 +1.3**
comp=Z,9.7nm,0.9s
KDAK Kodiak Island 30.12 54 *e*P **P** **10 39 54.2 -0.8**
comp=Z,91nm,1.4s
KDAK PcP **PcP** **10 42 55.4 -0.5**
KDAK Kodiak Island 30.12 54 P **P** **10 39 53.2 -1.7**
comp=Z,227nm,0.9s,SNR=6.3
KDAK Kodiak Island 30.12 54 P **P** **10 39 54.0 -0.9**
comp=Z,28nm,0.9s,baz=275,slow=5.2,SNR=12
KDAK PcP **PcP** **10 42 55.4 -0.5**
comp=Z,9.3nm,0.9s,baz=207,slow=2.3,SNR=3.5
SPU Mount Spurr 30.28 47 *e*P **P** **10 39 57.0 +0.6**
BJI Beijing 30.84 269 P **P** **10 40 01.3 -0.2**
BJI S **S** **10 45 05.9 +1.8**
BJI pmax pmax
comp=Z,16nm,1.4s
BJI pmax pmax
comp=Z,340nm,7.4s
BJI LR LR
comp=N,250nm,14.0s
BJI LR LR
comp=E,620nm,10.7s
BJI LR LR
comp=Z,170nm,15.6s
SLKM Skilak Lake 31.18 49 *e*P **P** **10 40 03.8 -0.6**
SLKM Skilak Lake 31.18 49 *e*P **P** **10 40 03.8 -0.6**
COLD Coldfoot 31.62 36 *e*P **P** **10 40 09.0 +0.9**
comp=Z,17nm,1.2s
PMR Palmer 31.68 46 *e*P **P** **10 40 09.2 +0.5**
PMR pmax pmax
comp=Z,29nm,1.1s
PMR Palmer 31.68 46 *e*P **P** **10 40 09.2 +0.5**
comp=Z,29nm,1.1s
MCK McKinley 31.80 42 *e*P **P** **10 40 10.1 +0.4**
MCK pmax pmax
comp=Z,43nm,1.0s
MCK McKinley 31.80 42 *e*P **P** **10 40 10.1 +0.4**
comp=Z,43nm,1.0s
SML Sawmill 32.06 46 *e*P **P** **10 40 12.4 +0.3**
SML pmax pmax
comp=Z,25nm,0.8s
SML Sawmill 32.06 46 *e*P **P** **10 40 12.4 +0.3**
comp=Z,24nm,0.8s
COLA College 32.32 40 *e*P **P** **10 40 14.7 +0.5**
COLA pmax pmax
comp=Z,26nm,0.9s
COLA College 32.32 40 *e*P **P** **10 40 14.7 +0.5**
comp=Z,26nm,0.9s
ILAR Eielson Array 32.73 41 P **P** **10 40 17.9 0.0**
ILAR PcP **PcP** **10 43 01.0 -1.8**
ILAR Eielson Array 32.73 41 P **P** **10 40 17.9 0.0**
comp=Z,6.0nm,0.7s,baz=255,slow=7.9,SNR=42
ILAR PcP **PcP** **10 43 01.0 -1.8**
comp=Z,1.7nm,0.9s,baz=279,slow=3.7,SNR=5.3
DIV Divide 33.32 47 *e*P **P** **10 40 23.6 +0.4**
comp=Z,43nm,0.9s
ULN Ulaanbaatar 33.36 288 *e*P **P** **10 40 23.3 -0.5**
comp=Z,6.6nm,1.0s
ULN *e*PcP **PcP** **10 43 05.4 +0.3**
ULN Ulaanbaatar 33.36 288 P **P** **10 40 23.8 +0.1**
comp=Z,6.5nm,1.5s
PAX Paxson 33.36 44 *e*P **P** **10 40 24.1 +0.6**
PAX pmax pmax
comp=Z,18nm,1.0s
PAX Paxson 33.36 44 *e*P **P** **10 40 24.1 +0.6**
comp=Z,18nm,1.0s
HHC Hu-ho-hao-te 33.47 274 *e*P **P** **10 40 25.8 +1.1**
HHC pP **pP** **10 40 30.1 -0.1**
HHC sP **sP** **10 40 32.8 +0.3**
HHC PP **PnPn** **10 41 36.8 +1.1**
HHC S **S** **10 45 45.6 +0.2**
HHC sS **sS** **10 45 51.4 -3.1**
HHC ScS **ScS** **10 50 49.0 -0.9**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,170nm,4.5s
HHC LR LR
comp=N,6µm,30.9s
HHC LR LR
comp=E,2µm,28.6s
HHC LR LR
comp=Z,1µm,26.2s
SONM Songino Array 33.78 288 P **P** **10 40 27.4 0.0**
SONM PcP **PcP** **10 43 06.2 0.0**
SONM Songino Array 33.78 288 P **P** **10 40 27.4 0.0**
comp=Z,2.2nm,0.8s,baz=65,slow=9.9,SNR=14
SONM PcP **PcP** **10 43 06.2 0.0**
comp=Z,4.8nm,0.9s,baz=79,slow=2.7,SNR=12
SONM LR LR 10 55 01.9
comp=Z,359nm,18.3s,baz=76,slow=38
NJ2 Nanjing 33.81 255 *e*P **P** **10 40 27.3 -0.3**
NJ2 pP **pP** **10 40 34.4 +1.3**
NJ2 sP **sP** **10 40 37.3 +1.9**
NJ2 PP **PnPn** **10 41 39.8 -0.3**
NJ2 S **S** **10 45 50.5 -0.1**
NJ2 sS **sS** **10 45 58.0 -1.7**
NJ2 pmax pmax
comp=Z,20nm,1.2s
NJ2 pmax pmax
comp=Z,320nm,5.6s
NJ2 LR LR
comp=N,1µm,16.8s
NJ2 LR LR
comp=E,2µm,16.0s
NJ2 LR LR
comp=Z,690nm,17.8s
BMRM Bremner River 33.90 47 *e*P **P** **10 40 28.9 +0.7**
comp=Z,32nm,1.0s
DOT Dot Lake 33.97 43 *e*P **P** **10 40 28.4 -0.4**
comp=Z,12nm,0.8s
MENT Mentasta 34.16 44 *e*P **P** **10 40 30.8 +0.4**
TLY Talaya 34.18 296 *e*P **P** **10 40 30.1 -0.6**
TLY *e* 10 45 52.2
TLY pmax pmax
comp=Z,16nm,1.1s
TLY MLR MLR
comp=Z,383nm,14.0s
TLY Talaya 34.18 296 *e*P **P** **10 40 31.9 +1.2**
comp=Z,20nm,1.1s
ZAK Zakamensk 34.81 294 *e*P **P** **10 40 36.6 +0.4**
ZAK *e* 10 43 08.0
ZAK pmax pmax
comp=Z,16nm,1.1s
EGAK Eagle 35.18 40 *e*P **P** **10 40 38.7 -0.4**
comp=Z,24nm,0.9s
MOY Mondy 35.75 297 *e*P **P** **10 40 45.2 +0.9**
MOY pmax pmax
comp=Z,42nm,2.6s
DAWY Dawson 36.00 42 *e*P **P** **10 40 46.4 +0.1**
WHN Wuhan 37.69 257 P **P** **10 41 00.0 -0.9**
INK Inuvik 37.98 34 *e*P **P** **10 41 03.9 +1.0**
comp=Z,28nm,0.9s
SKAG Skagway 38.73 49 *e*P **P** **10 41 09.9 +0.6**
comp=Z,55nm,1.0s
LZH Lanzhou 41.13 273 *e*P **P** **10 41 31.0 +1.2**
LZH pP **pP** **10 41 35.5 +0.1**
LZH sP **sP** **10 41 37.0 -0.6**
LZH S **S** **10 47 43.3 +1.3**
LZH sS **sS** **10 47 50.3 -0.9**
LZH SS **SS** **10 50 41.0 -3.6**
LZH pmax pmax
comp=Z,71nm,1.1s
LZH pmax pmax
comp=Z,280nm,6.5s
LZH LR LR
comp=N,690nm,15.5s
LZH LR LR
comp=E,370nm,14.8s
LZH LR LR
comp=Z,730nm,16.5s
WRAK Wrangell Islan 41.16 52 *e*P **P** **10 41 31.2 +1.7**
comp=Z,34nm,1.0s
DLBC Dease Lake 41.65 49 *e*P **P** **10 41 35.3 +1.6**
GTA Gaotai 41.90 279 *e*P **P** **10 41 37.1 +1.1**
GTA pP **pP** **10 41 41.3 -0.3**
GTA sP **sP** **10 41 44.8 +0.9**
GTA PcP **PcP** **10 43 31.9 +0.5**
GTA S **S** **10 47 54.1 +0.7**
GTA sS **sS** **10 48 01.8 -0.8**
GTA SS SS 10 50 52.8 -6.9
GTA pmax pmax
comp=Z,11nm,1.4s
GTA pmax pmax
comp=Z,250nm,6.2s
GTA LR LR
comp=N,430nm,13.1s
GTA LR LR
comp=E,460nm,15.0s
GTA LR LR
comp=Z,410nm,15.7s
ZALV Zalesovo Beam 44.03 305 P **P** **10 41 52.9 -0.1**
ZALV 10 43 38.1
ZALV pmax pmax
comp=Z,3.0nm,0.4s
ZALV pmax pmax
comp=Z,4.0nm,1.0s
ZALV MLR MLR
comp=Z,182nm,18.0s
ZALV Zalesovo Beam 44.03 305 P **P** **10 41 52.9 -0.1**
ZALV PcP **PcP** **10 43 38.1 0.0**
ZALV Zalesovo Beam 44.03 305 P **P** **10 41 52.9 -0.1**
comp=Z,3.4nm,0.4s,baz=61,slow=7.3,SNR=26
ZALV PcP **PcP** **10 43 38.1 0.0**
comp=Z,4.3nm,1.0s,baz=66,slow=3.9,SNR=4.4
ZALV LR LR 11 00 36.4
comp=Z,182nm,18.0s,baz=157,slow=37
CD2 Chengdu 44.36 267 P **P** **10 41 54.6 -1.3**
CD2 pP **pP** **10 42 00.6 -0.9**
CD2 sP **sP** **10 42 03.5 -0.2**
CD2 PP **PP** **10 43 39.3 0.0**
CD2 PcS **PcS** **10 47 31.3 -1.8**
CD2 S **S** **10 48 27.0 -2.3**
CD2 sS **sS** **10 48 36.9 -1.7**
CD2 SS SS 10 51 37.1 -11
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,190nm,6.3s
CD2 LR LR
comp=N,440nm,10.4s
CD2 LR LR
comp=E,530nm,13.3s
CD2 LR LR
comp=Z,610nm,14.7s
NVS Novosibirsk 44.50 307 ⇓*i*P **P** **10 41 55.7 -0.9**
NVS *e* 10 43 35.7
NVS *e*S **S** **10 48 26.5 -4.2**
NVS pmax pmax
comp=E,36nm,1.6s
NVS pmax pmax
comp=Z,63nm,1.6s
NVS pmax pmax
comp=N,16nm,1.5s
NVS smax smax
comp=N,10.0nm,2.0s
NVS smax smax
comp=E,21nm,2.2s
GYA Guiyang 45.41 260 P **P** **10 42 03.8 -0.6**
GYA PcP **PcP** **10 43 45.9 +2.4**
GYA PP **PP** **10 43 52.0 +1.4**
GYA ScP **ScP** **10 47 37.4 +2.3**
GYA S **S** **10 48 46.3 +1.4**
GYA SS **ScS** **10 52 01.4 +1.1**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,140nm,4.9s
GYA LR LR
comp=N,560nm,17.6s
GYA LR LR
comp=E,490nm,18.6s
GYA LR LR
comp=Z,520nm,18.4s
YKA Yellowknife Ar 47.14 39 P **P** **10 42 17.8 +0.4**
YKA PcP **PcP** **10 43 48.8 0.0**
YKA Yellowknife Ar 47.14 39 P **P** **10 42 17.7 +0.4**
comp=Z,4.9nm,0.8s,baz=293,slow=7.3,SNR=62
YKA PcP **PcP** **10 43 48.7 0.0**
comp=Z,2.1nm,0.8s,baz=294,slow=3.5,SNR=9.3
ALE Alert 47.19 7 P **P** **10 42 18.3 +0.7**
comp=Z,73nm,0.8s,SNR=7.0
WMQ Urumqi 47.22 292 P **P** **10 42 19.3 +1.0**
WMQ pP **pP** **10 42 25.8 +1.8**
WMQ sP **sP** **10 42 28.8 +2.6**
WMQ PcP **PcP** **10 43 51.0 +1.5**
WMQ S **S** **10 49 11.6 +1.3**
WMQ sS **sS** **10 49 23.0 +3.4**
WMQ ScS **ScS** **10 52 09.0 -2.4**
WMQ pmax pmax
comp=Z,27nm,0.9s
WMQ pmax pmax
comp=Z,260nm,4.1s
WMQ LR LR
comp=N,1µm,18.1s
WMQ LR LR
comp=E,790nm,12.7s
WMQ LR LR
comp=Z,630nm,24.4s
RES Resolute Bay 47.65 20 *e*P **P** **10 42 22.4 +1.2**
comp=Z,20nm,1.1s
MK31 Makanchi Array 48.87 298 *i*P **P** **10 42 31.5 +0.5**
MK31 pmax pmax
comp=Z,67nm,1.2s
MKAR Makanchi Array 48.87 298 P **P** **10 42 31.5 +0.4**
MKAR pmax pmax
comp=Z,25nm,0.9s
MKAR MLR MLR
comp=Z,273nm,18.4s
MKAR Makanchi Array 48.87 298 *e*P **P** **10 42 31.5 +0.4**
MKAR Makanchi Array 48.87 298 P **P** **10 42 31.4 +0.4**
comp=Z,25nm,0.9s,baz=63,slow=8.3,SNR=169
MKAR LR LR 11 06 05.6
comp=Z,273nm,18.4s,baz=45,slow=40
KMI Kunming 48.89 262 P **P** **10 42 33.1 +1.5**
KMI pP **pP** **10 42 35.9 -1.4**
KMI PP **PP** **10 44 24.3 -0.6**
KMI S **S** **10 49 37.1 +2.5**
KMI SS **SS** **10 53 00.9 -4.2**
KMI pmax pmax
comp=Z,13nm,1.2s
KMI LR LR
comp=N,230nm,15.9s
KMI LR LR
comp=E,280nm,15.9s
KMI LR LR
comp=Z,240nm,17.0s
KURK Kurchatov 48.91 304 *de*P **P** **10 42 31.5 +0.3**
KURK pmax pmax
comp=Z,78nm,1.0s
KURK Kurchatov 48.91 304 *e*P **P** **10 42 30.9 -0.3**
comp=Z,53nm,0.8s
KURK Kurchatov 48.91 304 P **P** **10 42 32.0 +0.8**
SNR=23
KURK Kurchatov 48.91 304 P **P** **10 42 31.4 +0.3**
comp=Z,399nm,1.0s,SNR=55
KURBB Kurchatov Arra 49.00 304 P **P** **10 42 32.2 +0.3**
comp=Z,48nm,0.8s,baz=63,slow=7.9,SNR=199
NLWA Neilton Lookou 49.89 60 *e*P **P** **10 42 40.1 +1.3**
comp=Z,32nm,0.9s
GSPH General Santos 51.08 224 ⇑*i*P **P** **10 42 50.1 +1.9**

LON **Longmire** 51.41 60 *e*P P 10 42 50.8 +0.4
LON pmax pmax
comp=Z,7.0nm,1.0s
LON **Longmire** 51.41 60 *e*P P 10 42 50.8 +0.4
comp=Z,7.5nm,1.0s
TBM **Table Mountain** 51.87 59 P P 10 42 54.3 +0.5
BVA0 **Borovoye Array** 52.01 310 P P 10 42 54.0 -0.6
BVA0 pmax pmax
comp=Z,4.0nm,0.9s
BRVK **Borovoye** 52.05 310 *d i*P P 10 42 55.1 +0.2
BRVK pmax pmax
comp=Z,51nm,1.2s
BRVK **Borovoye** 52.05 310 *e*P P 10 42 54.9 0.0
comp=Z,29nm,0.8s
BRVK **Borovoye** 52.05 310 P P 10 42 55.2 +0.3
comp=Z,239nm,0.7s,SNR=17
BRVK **Borovoye** 52.05 310 P P 10 42 55.8 +1.0
SNR=13
VLL **Laurance Lake** 52.22 61 P P 10 42 57.3 +0.9
FRIS **Frissel Point** 52.69 63 P P 10 43 01.1 +1.1
OD2 **Odessa Site #2** 52.80 58 P P 10 43 00.2 -0.5
HAWA **Hanford** 52.91 59 *e*P P 10 43 01.7 +0.2
comp=Z,26nm,1.1s
NEW **Newport** 53.18 56 *e*P P 10 43 03.5 0.0
comp=Z,154nm,2.7s
NEW **Newport** 53.18 56 ⇓P P 10 43 03.5 0.0
baz=53,SNR=9.9
LSA **Lhasa** 53.44 275 P P 10 43 07.6 +1.5
A12A **Yaak River Ran** 53.60 55 ⇓P P 10 43 06.5 0.0
baz=53
YBH **Yreka Blue Hor** 53.78 66 *e*P P 10 43 09.4 +1.4
comp=Z,25nm,1.2s
B12A **Libby** 53.90 55 ⇓P P 10 43 08.8 0.0
baz=54
C11A **Tepee Creek (N** 53.91 56 ⇓P P 10 43 08.8 0.0
baz=54
A13A **Flathead Natio** 54.26 54 ⇑P P 10 43 11.9 +0.5
baz=54
C12B **Naegeli Ranch,** 54.41 56 ⇑P P 10 43 13.0 +0.5
baz=54
SOKR **Solikamsk** 54.43 322 ⇑*i*P P 10 43 12.8 +0.6
SOKR pmax pmax
comp=Z,10.0nm,1.1s
SVE **Sverdlovsk** 54.45 318 ⇓*i*P P 10 43 13.6 +1.1
SVE *e* 10 45 20.4
SVE *e*S S 10 51 00.4 +10
SVE pmax pmax
comp=Z,37nm,1.4s
WALA **Waterton Lakes** 54.46 54 *e*P P 10 43 12.9 0.0
comp=Z,1.3nm,1.4s
DAG **Danmarks Havn** 54.53 359 *i*P P 10 43 13.0 +0.2
DAG pmax pmax
comp=Z,11nm,1.1s
DAG **Danmarks Havn** 54.53 359 *i*P P 10 43 13.0 +0.2
comp=Z,112nm,1.1s
DAG *i* 10 43 19.0
B13A **Whitefish** 54.56 55 ⇓P P 10 43 13.8 +0.3
baz=54,SNR=30
WDC **Whiskeytown Da** 54.58 67 *e*P P 10 43 15.0 +1.3
WDC pmax pmax
comp=Z,27nm,1.4s
WDC **Whiskeytown Da** 54.58 67 *e*P P 10 43 14.9 +1.3
comp=Z,27nm,1.4s
BSMT **Bassoo Peak** 54.70 56 *e*P P 10 43 15.2 +0.5
A14A **Double T Ranch** 54.77 54 ⇓P P 10 43 15.1 -0.1
baz=55,SNR=8.3
BLMT **Blacktail Moun** 54.83 55 *e*P P 10 43 16.6 +0.9
D12A **Red Ives Fores** 54.86 57 ⇓P P 10 43 15.7 -0.1
baz=55
IMP **Imphal** 54.90 268 *e*PKP P 10 43 13.0 -3.3
C13A **Hot Springs** 54.92 56 ⇑P P 10 43 16.4 +0.3
baz=55,SNR=11
TKM2 **Tokmak 2** 54.98 297 P P 10 43 15.8 -1.1
TKM2 pmax pmax
comp=Z,20nm,1.0s
TKM2 **Tokmak 2** 54.98 297 *e*P P 10 43 17.8 +1.0
comp=Z,19nm,1.0s
TKM2 **Tokmak 2** 54.98 297 P P 10 43 17.9 +1.0
SNR=14
ULHL **Ulahol** 55.01 296 P P 10 43 18.1 +1.0
SNR=8.9
JTMT **Jette** 55.03 55 *e*P P 10 43 17.4 +0.4
BMO **Blue Mountains** 55.08 60 *e*P P 10 43 17.9 +0.5
comp=Z,25nm,1.4s
YBMT **Yellow Bay** 55.11 55 *e*P P 10 43 18.0 +0.4
comp=Z,24nm,1.4s
MOD **Modoc** 55.12 64 *e*P P 10 43 18.9 +1.1
comp=Z,44nm,1.1s
E12A **Beaver Dam Sad** 55.12 57 ⇑P P 10 43 17.7 -0.1
baz=55,SNR=26
A15A **Johnson Ranch,** 55.13 53 ⇑P P 10 43 17.2 -0.5
baz=55,SNR=12
B14A **Marquette Ranc** 55.21 54 ⇑P P 10 43 18.4 0.0
baz=55,SNR=11
C14A **Swan Lake** 55.31 55 ⇑P P 10 43 19.4 +0.3
baz=55
D13A **Huson** 55.33 56 ⇓P P 10 43 19.0 -0.1
baz=55,SNR=12
SWMT **Swartz Lake** 55.33 55 *e*P P 10 43 19.2 +0.1
USP **Ospenovka** 55.42 298 P P 10 43 20.9 +1.2
SNR=17
CHMS **Chumysh** 55.43 298 P P 10 43 20.7 +0.8
SNR=8.4
KBK **Karagaybulak** 55.52 297 P P 10 43 21.9 +1.1
SNR=10.0
ARU **Arti** 55.61 318 *c i*P P 10 43 21.8 +0.9
ARU 10 45 23.1
ARU S S 10 51 06.6 +1.1
ARU pmax pmax
comp=Z,45nm,1.2s
ARU MLR MLR
comp=Z,548nm,15.0s
ARU **Arti** 55.61 318 *e*P P 10 43 21.0 +0.1
comp=Z,24nm,0.7s
ARU **Arti** 55.61 318 P P 10 43 21.7 +0.9
comp=Z,265nm,0.5s,SNR=8.3
FRU **Bishkek** 55.61 298 *e*P P 10 43 23.0 +1.8
FRU pmax pmax
comp=Z,76nm,1.8s
B15A **Bradely Ranch,** 55.62 54 ⇓P P 10 43 21.2 0.0
baz=55,SNR=13
F12A **Elk City** 55.69 58 ⇓P P 10 43 22.0 +0.2
baz=56,SNR=22
KZA **Kyzart** 55.70 297 P P 10 43 23.7 +1.4
SNR=7.5
SHL **Shillong** 55.72 271 *e*x x 10 43 21.5
A16A **West Butte Ran** 55.75 53 ⇑P P 10 43 21.9 -0.3
baz=56
SLMT **Seeley Lake** 55.77 55 *e*P P 10 43 22.5 +0.1
MSO **Missoula** 55.77 56 *e*P P 10 43 22.5 +0.1
comp=Z,20nm,1.2s
MSO **Missoula** 55.77 56 ⇑P P 10 43 22.4 +0.1
baz=56,SNR=25
AAK **Ala-Archa** 55.80 298 *e*P P 10 43 23.4 +0.7
AAK pmax pmax
comp=Z,157nm,1.1s
AAK **Ala-Archa** 55.80 298 *e*P P 10 43 23.4 +0.7
comp=Z,157nm,1.1s
AAK **Ala-Archa** 55.80 298 P P 10 43 23.2 +0.5
comp=Z,152nm,1.3s,SNR=18
AAK **Ala-Archa** 55.80 298 P P 10 43 23.5 +0.8
SNR=16
CHTO **Chiang Mai** 55.84 259 *e*P P 10 43 23.6 +0.6
CHTO pmax pmax
comp=Z,31nm,1.0s
CHTO **Chiang Mai** 55.84 259 *e*P P 10 43 23.6 +0.6
comp=Z,30nm,1.0s
CHTO **Chiang Mai** 55.84 259 P P 10 43 22.6 -0.4
comp=Z,39nm,1.2s,comp=Z,482nm
D14A **Greenough** 55.86 56 ⇑P P 10 43 23.0 +0.1
baz=56,SNR=24
E13A **Victor** 55.87 57 ⇑P P 10 43 23.2 +0.1
baz=56,SNR=16
C15A **Salmond Ranch,** 55.92 55 ⇑P P 10 43 23.9 +0.4
baz=56,SNR=42
OHCM **Honcut** 55.98 67 *e*P P 10 43 24.0 +0.2
G12A **Big Creek, Yel** 56.04 58 ⇓P P 10 43 24.5 +0.1
baz=56,SNR=21
CMAR **Chiang Mai Arr** 56.09 259 P P 10 43 24.8 0.0
CMAR PcP PcP 10 44 22.6 -0.2
CMAR **Chiang Mai Arr** 56.09 259 P P 10 43 24.8 0.0
comp=Z,13nm,0.9s,baz=29,slow=7.4,SNR=52
CMAR PcP PcP 10 44 22.6 -0.2
comp=Z,1.2nm,0.4s,baz=25,slow=4.3,SNR=4.0
CHMT **Chamberlain Mo** 56.10 56 *e*P P 10 43 24.7 -0.1
F13A **Darby** 56.19 57 ⇓P P 10 43 25.2 -0.2
baz=56,SNR=14

EKS2 **Erkin-Say** 56.21 298 *e*P P 10 43 26.6 +1.1
EKS2 pmax pmax
comp=Z,31nm,1.1s
EKS2 **Erkin-Say** 56.21 298 *e*P P 10 43 26.6 +1.1
comp=Z,31nm,1.1s
EKS2 **Erkin-Say** 56.21 298 P P 10 43 26.7 +1.1
SNR=18
A17A **Triple J Farms** 56.22 52 ⇑P P 10 43 25.2 -0.3
baz=56,SNR=16
E14A **Clinton** 56.27 56 ⇓P P 10 43 25.9 -0.1
baz=56,SNR=28
KEV **Kevo** 56.34 342 *e*P P 10 43 26.5 +0.6
KEV pmax pmax
comp=Z,9.0nm,0.6s
KEV **Kevo** 56.34 342 *e*p P 10 43 26.5 +0.6
comp=Z,8.9nm,0.6s
C16A **Fuhringer Ranc** 56.37 54 ⇑P P 10 43 26.6 0.0
baz=56,SNR=16
D15A **Lincoln** 56.41 55 ⇓P P 10 43 27.2 +0.1
baz=56
B17A **L&G Farms, Che** 56.57 53 ⇑P P 10 43 28.1 +0.1
baz=56
AML **Almayashu** 56.58 298 P P 10 43 29.9 +1.3
SNR=12
APA **Apatity** 56.59 338 ⇑*i*P P 10 43 29.2 +1.5
APA MLR MLR
comp=Z,1ωm,21.0s
H12A **Diamond D Ranc** 56.66 59 ⇓P P 10 43 28.7 -0.1
baz=56,SNR=9.3
G13A **Cobalt** 56.67 58 ⇓P P 10 43 28.9 +0.1
baz=56,SNR=43
A18A **Metzger Ranch,** 56.68 52 ⇓P P 10 43 28.4 -0.4
baz=56,SNR=9.1
F14A **Wisdom** 56.71 57 ⇑P P 10 43 29.3 +0.1
baz=56,SNR=12
E15A **Deer Lodge** 56.73 56 ⇑P P 10 43 29.3 0.0
baz=56,SNR=19
MFID **Camas Ranch** 56.80 60 *e*P P 10 43 30.4 +0.6
comp=Z,18nm,1.0s
MFID **Camas Ranch** 56.80 60 ⇓P P 10 43 30.1 +0.4
baz=57,SNR=10
ARCES **ARCESS Array B** 56.83 342 P P 10 43 29.7 +0.3
ARCES **ARCESS Array B** 56.83 342 P P 10 43 29.7 +0.3
comp=Z,13nm,0.7s,baz=44,slow=7.7,SNR=31
ARCES LR LR 11 13 00.0
comp=Z,336nm,18.6s,baz=34,slow=41
KSH **Kashi** 56.85 294 P P 10 43 35.3 +5.1
KSH pP pP 10 43 39.4 +3.5
KSH sP sP 10 43 42.3 +4.2
KSH PcP **PcP** 10 44 28.5 +2.8
KSH PP PP 10 45 42.5 +6.2
KSH ScP **ScP** 10 48 26.9 +2.8
KSH PcS **PcS** 10 48 28.5 +1.9
KSH S **S** 10 51 28.3 +5.5
KSH sS sS 10 51 35.5 +3.3
KSH ScS **ScS** 10 53 19.9 +1.3
KSH pmax pmax
comp=Z,86nm,2.1s
KSH LR LR
comp=N,420nm,12.2s
KSH LR LR
comp=E,340nm,11.5s
KSH LR LR
comp=Z,450nm,14.5s
FFC **Flin Flon** 56.88 43 *c e*P P 10 43 30.7 +0.7
FFC **Flin Flon** 56.88 43 *e*P P 10 43 29.6 -0.4
comp=Z,18nm,1.0s
FFC **Flin Flon** 56.88 43 P P 10 43 30.3 +0.3
comp=Z,90nm,1.0s,SNR=6.9
D16A **Dana Ranch, Ca** 56.95 55 ⇑P P 10 43 30.9 +0.2
baz=57,SNR=21
I12A **Atlanta** 56.96 60 ⇑P P 10 43 31.4 +0.4
baz=57,SNR=25
H13A **Challis** 56.98 58 ⇓P P 10 43 31.0 -0.1
baz=57,SNR=26
HRY **Holter Researc** 56.99 55 *e*P P 10 43 31.9 +0.8
C17A **Wharram Farm,** 56.99 54 ⇓P P 10 43 30.9 -0.1
baz=57,SNR=31
G14A **Jackson** 57.01 57 ⇓P P 10 43 30.9 -0.4
baz=57,SNR=6.2
B18A **Beardsley Farm** 57.04 53 ⇓P P 10 43 31.2 -0.1
baz=57,SNR=14
WCN **Washoe City** 57.05 66 *e*P P 10 43 32.8 +1.2
WCN pmax pmax
comp=Z,19nm,1.2s
WCN **Washoe City** 57.05 66 *e*P P 10 43 32.8 +1.2
comp=Z,19nm,1.2s
WCN **Washoe City** 57.05 66 ⇓P P 10 43 32.2 +0.6
baz=57,SNR=5.5
F15A **Butte** 57.17 56 ⇓P P 10 43 32.3 -0.2
baz=57,SNR=9.8
E16A **East Helena** 57.19 55 ⇓P P 10 43 32.1 -0.3
baz=57,SNR=10.0
LRM **Limekiln Ridge** 57.20 56 *e*P P 10 43 33.4 +0.6
A19A **Klindworth Far** 57.25 52 ⇑P P 10 43 32.8 0.0
baz=57,SNR=13
TAPN **Taplejung** 57.26 275 *e*P P 10 43 34.2 +0.8
TAPN **Taplejung** 57.26 275 *e*P P 10 43 34.2 +0.8
EGMT **Eagleton** 57.28 53 *e*P P 10 43 33.3 +0.3
comp=Z,41nm,1.3s
EGMT **Eagleton** 57.28 53 ⇑P P 10 43 33.4 +0.3
baz=57,SNR=13
D17A **Six Diamond Ra** 57.33 54 ⇑P P 10 43 33.5 0.0
baz=57,SNR=19
DLMT **Dillon** 57.41 57 *e*P P 10 43 34.6 +0.5
comp=Z,36nm,1.7s
B19A **Brinkman Farms** 57.44 52 ⇑P P 10 43 34.5 +0.4
baz=57,SNR=9.3
H14A **Leadore** 57.45 58 ⇓P P 10 43 34.5 +0.1
baz=57,SNR=13
CMB **Columbia Colle** 57.46 68 *e*P P 10 43 35.5 +1.0
CMB pmax pmax
comp=Z,16nm,1.3s
CMB **Columbia Colle** 57.46 68 *e*P P 10 43 35.5 +1.0
comp=Z,16nm,1.3s
I13A **Wildhorse Cree** 57.47 59 ⇑P P 10 43 34.9 +0.3
baz=57,SNR=36
HLID **Hailey** 57.52 59 *e*P P 10 43 35.5 +0.6
comp=Z,28nm,1.2s
HLID **Hailey** 57.52 59 ⇑P P 10 43 35.8 +0.9
baz=57,SNR=28
G15A **Dillon** 57.59 57 ⇑P P 10 43 35.8 +0.4
baz=57,SNR=14
MCMT **McKenzie Canyo** 57.60 57 *e*P P 10 43 35.9 +0.4
comp=Z,6.3nm,1.0s
E17A **Martinsdale** 57.67 55 ⇓P P 10 43 37.1 +1.1
baz=58,SNR=19
F16A **Kennard Place,** 57.68 56 ⇑P P 10 43 36.8 +0.8
baz=58,SNR=23
A20A **Cobblestone Ra** 57.70 51 ⇑P P 10 43 36.6 +0.6
baz=58,SNR=18
J13A **Cove Ranch, Pi** 57.76 59 ⇓P P 10 43 37.6 +1.1
baz=58,SNR=36
BOZ **Bozeman (W)** 57.76 56 *e*P P 10 43 37.3 +0.7
BOZ pmax pmax
comp=Z,58nm,1.5s
BOZ **Bozeman (W)** 57.76 56 *e*P P 10 43 37.3 +0.7
comp=Z,58nm,1.5s
BOZ **Bozeman (W)** 57.76 56 ⇑P P 10 43 37.7 +1.1
baz=58,SNR=24
D18A **Linhart Farms,** 57.78 54 ⇑P P 10 43 37.4 +0.8
baz=58,SNR=6.6
KK31 **Karatay Array** 57.81 300 P P 10 43 36.4 -0.4
KK31 pmax pmax
comp=Z,11nm,0.8s
KKAR **Karatay Array** 57.81 300 *e*P P 10 43 37.3 +0.5
KKAR pmax pmax
comp=Z,9.0nm,0.7s
KKAR **Karatay Array** 57.81 300 *e*P P 10 43 37.3 +0.5
comp=Z,9.3nm,0.7s
I14A **Mackay** 57.83 59 ⇑P P 10 43 38.1 +1.0
baz=58,SNR=68
C19A **Slack Wire Ran** 57.84 53 ⇑P P 10 43 37.4 +0.5
baz=58,SNR=20
H15A **Lima** 57.85 58 ⇑P P 10 43 37.6 +0.4
baz=58,SNR=13
B20A **Solberg Farm,** 57.93 52 ⇑P P 10 43 37.9 +0.4
baz=58
G16A **Moss Hill, Enn** 57.93 57 ⇑P P 10 43 38.5 +0.8
baz=58,SNR=22
JIRN **Jiri** 58.05 277 *e*P P 10 43 40.1 +1.0
JIRN **Jiri** 58.05 277 *e*P P 10 43 40.1 +1.0
GUN **Gumba** 58.08 277 *e*P P 10 43 40.1 +0.8
comp=Z,23nm,0.5s
GUN **Gumba** 58.08 277 *e*P P 10 43 40.1 +0.8
E18A **Harlowton** 58.11 54 ⇑P P 10 43 39.9 +0.9
baz=58,SNR=13

F17A **Fitzpatrick Pl** 58.13 55 ⇑P P 10 43 40.0 +0.9
baz=58,SNR=17
A21A **Bergtoll Ranch** 58.14 51 ⇑P P 10 43 39.5 +0.5
baz=58,SNR=19
J14A **Carey** 58.17 59 ⇓P P 10 43 40.9 +1.4
baz=58
SUMG **Summit** 58.22 6 *i*P P 10 43 40.6 +1.0
SUMG pmax pmax
comp=Z,38nm,1.0s
SUMG **Summit** 58.22 6 *e*P P 10 43 40.6 +1.0
comp=Z,51nm,1.0s
SUMG **Summit** 58.22 6 *i*P P 10 43 40.6 +1.0
comp=Z,38nm,1.0s
RAMN **Ramite** 58.26 276 *e*P P 10 43 40.9 +0.5
comp=Z,80nm,1.0s
RAMN **Ramite** 58.26 276 *e*P P 10 43 40.9 +0.5
D19A **Cripps Ranch,** 58.28 53 ⇓P P 10 43 41.0 +0.8
baz=58,SNR=14
I15A **Monteview** 58.33 58 ⇑P P 10 43 41.2 +0.7
baz=58
QLMT **Earthquake Lak** 58.39 57 *e*P P 10 43 41.9 +0.9
C20A **Veseth Ranch,** 58.40 52 ⇑P P 10 43 41.5 +0.6
baz=58,SNR=19
B21A **Ellsworth Farm** 58.45 51 ⇓P P 10 43 41.5 +0.3
baz=58
G17A **Pierce Place,** 58.45 56 ⇑P P 10 43 42.7 +1.3
baz=58,SNR=18
NVAR **Mina Array Bea** 58.48 66 P P 10 43 42.3 +0.5
NVAR PcP PcP 10 44 32.3 +0.1
NVAR **Mina Array Bea** 58.48 66 P P 10 43 42.3 +0.5
comp=Z,8.0nm,0.9s,baz=290,slow=7.6,SNR=36
NVAR PcP PcP 10 44 32.3 +0.1
comp=Z,4.4nm,0.9s,baz=288,slow=6.2,SNR=4.3
KKN **Kakani** 58.55 277 *e*P P 10 43 43.6 +1.2
comp=Z,116nm,1.2s
KKN **Kakani** 58.55 277 *e*P P 10 43 43.6 +1.2
KKN **Kakani** 58.55 277 *e*P P 10 43 43.6 +1.2
H16A **Russell Place,** 58.57 57 ⇑P P 10 43 43.2 +1.0
baz=58,SNR=71
PKI **Pulchoki** 58.62 277 *e*P P 10 43 43.9 +0.9
comp=Z,112nm,1.4s
PKI **Pulchoki** 58.62 277 *e*P P 10 43 43.9 +0.9
PKI **Pulchoki** 58.62 277 *e*P P 10 43 43.9 +0.9
F18A **Big Timber** 58.64 55 ⇓P P 10 43 43.5 +0.8
baz=58,SNR=29
A22A **Carney Farms,** 58.65 50 ⇓P P 10 43 43.1 +0.5
baz=58,SNR=14
MLAC **Mammoth Lakes** 58.67 67 ⇓P P 10 43 44.3 +1.2
baz=58
D20A **Manuel Ranch,** 58.72 53 ⇑P P 10 43 44.1 +1.0
baz=58
GCMT **Greycliff** 58.74 55 *e*P P 10 43 44.4 +1.1
comp=Z,25nm,1.2s
J15A **Blackfoot** 58.74 59 ⇓P P 10 43 45.0 +1.6
baz=58,SNR=17
YMR **Madison River** 58.75 57 *e*P P 10 43 44.5 +0.9
comp=Z,67nm,1.3s
E19A **Rath Farm, Rou** 58.78 54 ⇓P P 10 43 44.4 +0.8
baz=58,SNR=12
DMN **Daman** 58.79 277 *e*P P 10 43 45.4 +1.3
comp=Z,219nm,1.4s
DMN **Daman** 58.79 277 *e*P P 10 43 45.4 +1.3
C21A **Desert Coulee** 58.80 52 ⇑P P 10 43 44.5 +0.9
baz=59
ELK **Elko** 58.82 62 *e*P P 10 43 45.0 +0.8
GKN **Gorkha** 58.83 278 *e*P P 10 43 45.3 +1.0
comp=Z,160nm,1.4s
GKN **Gorkha** 58.83 278 *e*P P 10 43 45.3 +1.0
K14A **Jones Ranch, D** 58.86 60 ⇓P P 10 43 45.6 +1.3
baz=59,SNR=18
YNR **Norris Junctio** 58.87 56 *e*P P 10 43 46.0 +1.6
comp=Z,48nm,1.3s
YFT **Old Faithful** 58.96 57 *e*P P 10 43 47.5 +2.4
comp=Z,33nm,1.0s
I16A **Newdale** 58.96 58 ⇑P P 10 43 46.1 +1.1
baz=59,SNR=15
MTUM **Tungsten Hills** 59.01 67 *e*P P 10 43 46.4 +0.9
B22A **Reddig Ranch S** 59.06 51 ⇑P P 10 43 46.2 +0.7
baz=59
F19A **Roth Farm, Mol** 59.09 54 ⇓P P 10 43 46.7 +0.9
baz=59,SNR=21
G18A **Lazy EL Ranch,** 59.10 55 ⇓P P 10 43 46.5 +0.6
baz=59,SNR=12
E20A **Meyer Farm, Mu** 59.10 53 ⇑P P 10 43 46.7 +0.9
baz=59,SNR=9.1
LKWY **Lake** 59.12 56 *e*P P 10 43 48.3 +2.1
LKWY pmax pmax
comp=Z,71nm,1.6s
LKWY **Lake** 59.12 56 *e*P P 10 43 48.3 +2.1
comp=Z,71nm,1.6s
H17A **Grant Village** 59.13 57 ⇓P P 10 43 48.7 +2.4
baz=59,SNR=29
K15A **Arbon** 59.14 59 ⇑P P 10 43 47.9 +1.7
baz=59,SNR=16
L14A **Malta** 59.15 60 ⇓P P 10 43 47.4 +1.1
baz=59,SNR=27
DANN **Dangsing** 59.17 279 *e*P P 10 43 48.1 +1.3
comp=Z,51nm,0.8s
DANN **Dangsing** 59.17 279 *e*P P 10 43 48.1 +1.3
A23A **Redstone** 59.20 50 ⇑P P 10 43 47.4 +1.0
baz=59
IMW **Indian Meadow** 59.25 57 *e*P P 10 43 48.4 +1.3
comp=Z,34nm,1.3s
FLWY **Flagg Ranch** 59.27 57 *e*P P 10 43 48.8 +1.6
comp=Z,29nm,1.0s
RCTC **Rector, Farmer** 59.27 69 ⇓P P 10 43 48.0 +1.0
baz=59
J16A **Bone** 59.28 58 ⇓P P 10 43 48.3 +1.1
baz=59,SNR=24
DCID1 **Drake Creek** 59.31 58 *e*P P 10 43 49.2 +1.8
comp=Z,30nm,1.2s
RLMT **Red Lodge** 59.38 55 *e*P P 10 43 48.8 +0.9
comp=Z,45nm,1.1s
RLMT **Red Lodge** 59.38 55 ⇑P P 10 43 49.1 +1.2
baz=59,SNR=21
RRI2 **Red Ridge** 59.40 58 *e*P P 10 43 49.8 +1.7
comp=Z,29nm,0.9s
TIN **Tinemaha** 59.41 67 ⇑P P 10 43 49.3 +1.2
baz=59
I17A **Pilgrim Ck.** 59.44 57 ⇑P P 10 43 49.9 +1.6
baz=59,SNR=17
H18A **Shoshone NF, C** 59.45 56 ⇓P P 10 43 49.4 +0.9
baz=59,SNR=14
MOOW **Moose Ponds** 59.46 57 *e*P P 10 43 49.6 +1.1
comp=Z,19nm,1.2s
B23A **Brockton** 59.46 50 ⇓P P 10 43 48.7 +0.5
baz=59,SNR=12
C22A **Vida** 59.47 51 ⇓P P 10 43 48.9 +0.6
baz=59,SNR=15
TPAW **Teton Pass** 59.51 58 *e*P P 10 43 50.1 +1.2
comp=Z,32nm,1.0s
AB31 **Akbulak array** 59.53 311 *i*P P 10 43 49.1 +0.5
AB31 pmax pmax
comp=Z,18nm,0.6s
ABKAR **Akbulak array** 59.53 311 *e*P P 10 43 49.1 +0.5
comp=Z,12nm,0.5s
F20A **Billings** 59.55 54 ⇑P P 10 43 50.1 +1.2
baz=59,SNR=23
K16A **Soda Springs** 59.58 59 ⇓P P 10 43 50.7 +1.4
baz=59,SNR=20
HVU **Hansel Valley** 59.58 60 *e*P P 10 43 50.2 +0.9
HVU pmax pmax
comp=Z,15nm,1.1s
HVU **Hansel Valley** 59.58 60 *e*P P 10 43 50.2 +0.9
comp=Z,115nm,1.1s
LOHW **Long Hollow** 59.62 57 *e*P P 10 43 50.9 +1.3
comp=Z,34nm,1.2s
E21A **Keefer Ranch,** 59.64 53 ⇑P P 10 43 50.7 +1.3
baz=59,SNR=5.9
SNOW **Snow King Moun** 59.64 58 *e*P P 10 43 51.0 +1.3
comp=Z,39nm,1.1s
REDW **Red Top Meadow** 59.65 58 *e*P P 10 43 51.0 +1.2
comp=Z,48nm,1.2s
A24A **Westby** 59.66 49 ⇑P P 10 43 50.1 +0.5
baz=59,SNR=8.9
L15A **Malad City** 59.66 60 ⇑P P 10 43 50.5 +0.7
baz=60,SNR=8.8
KOLN **Koldanda** 59.66 278 *e*P P 10 43 51.1 +1.0
comp=Z,48nm,1.0s
KOLN **Koldanda** 59.66 278 *e*P P 10 43 51.1 +1.0
VES **Vestal, Richgr** 59.67 69 ⇓P P 10 43 49.9 +0.2
baz=60,SNR=8.2
AKTO **Aktyubinsk** 59.69 313 P P 10 43 49.7 0.0
AKTO pmax pmax
comp=Z,3.0nm,0.6s
D22A **Cohagen** 59.71 52 ⇑P P 10 43 51.1 +1.1
baz=60,SNR=26

J17A **Brown Place, J** 59.72 58 ⇑P P 10 43 52.0 +1.7
baz=60,SNR=34
C23A **Lambert** 59.79 51 ⇑P P 10 43 51.6 +1.1
baz=60,SNR=16
H19A **Powell** 59.83 56 ⇑P P 10 43 52.1 +1.2
baz=60,SNR=17
PKM **Peak Mountain** 59.83 70 ⇑P P 10 43 52.1 +1.0
baz=60
DGMT **Dagmar** 59.86 50 eP P 10 43 51.5 +0.5
comp=Z,46nm,1.0s
DGMT **Dagmar** 59.86 50 ⇓P P 10 43 51.4 +0.5
baz=60,SNR=12
G20A **Bridger** 59.89 55 ⇓P P 10 43 51.6 +0.3
baz=60,SNR=20
KLMR **Klimovskoe** 59.90 330 eP P 10 43 50.5 -0.4
KLMR pmax pmax
comp=Z,74nm,1.3s
KLMR MLR MLR
comp=Z,745nm,17.0s
CWC **Cottonwood Cre** 59.90 68 ⇓P P 10 43 52.1 +0.5
baz=60,SNR=5.3
GRAC **Grapevine Rang** 59.97 67 ⇓P P 10 43 52.9 +1.1
baz=60,SNR=9.8
M15A **Larsen Ranch,** 59.97 60 ⇓P P 10 43 53.0 +1.1
baz=60,SNR=34
I18A **Diamond G Ranc** 60.00 57 ⇑P P 10 43 53.8 +1.5
baz=60,SNR=19
K17A **Gardner Place,** 60.00 58 ⇑P P 10 43 52.9 +0.6
baz=60
F21A **Absaloka Mine,** 60.08 54 ⇑P P 10 43 53.4 +0.9
baz=60
R11A **Troy Canyon, C** 60.16 65 ⇑P P 10 43 54.1 +0.7
baz=60,SNR=24
ISA **Isabella** 60.16 69 eP P 10 43 52.6 -0.7
ISA pmax pmax
comp=Z,17nm,1.4s
ISA **Isabella** 60.16 69 eP P 10 43 52.5 -0.7
comp=Z,17nm,1.4s
ISA **Isabella** 60.16 69 ⇓P P 10 43 53.1 -0.2
baz=60,SNR=6.0
L16A **Fish Haven** 60.19 59 ⇓P P 10 43 54.7 +1.1
baz=60,SNR=16
D23A **Lindsay** 60.20 51 ⇑P P 10 43 54.3 +1.0
baz=60,SNR=12
J18A **Kendall Valley** 60.21 57 ⇑P P 10 43 54.6 +0.9
baz=60,SNR=17
I19A **Meeteetse** 60.23 56 ⇑P P 10 43 54.8 +1.0
baz=60,SNR=12
E22A **Miles City** 60.29 52 ⇓P P 10 43 55.0 +1.0
baz=60,SNR=18
ARVC **Arvin** 60.30 70 ⇓P P 10 43 54.1 0.0
baz=60,SNR=5.6
N15A **Stansbury Isla** 60.30 61 ⇓P P 10 43 55.1 +0.9
baz=60,SNR=6.2
C24A **Savage** 60.36 51 ⇓P P 10 43 55.2 +0.8
baz=60,SNR=11
HWUT **Hardware Ranch** 60.38 60 eP P 10 43 55.5 +0.7
comp=Z,29nm,1.4s
G21A **Lodge Grass** 60.42 54 ⇑P P 10 43 55.3 +0.3
baz=60,SNR=6.1
L17A **Cokeville** 60.45 59 ⇓P P 10 43 56.3 +1.0
baz=60,SNR=16
H20A **Greybull** 60.48 55 ⇓P P 10 43 55.8 +0.5
baz=60,SNR=5.1
MPMC **Manual Prospec** 60.51 68 ⇓P P 10 43 56.3 +0.5
baz=60,SNR=12
M16A **Huntsville** 60.54 60 ⇓P P 10 43 56.8 +0.9
baz=60
BSC **Santa Cruz Isl** 60.54 71 ⇓P P 10 43 56.8 +1.0
baz=60
F22A **Rosebud** 60.56 53 ⇑P P 10 43 56.8 +1.0
baz=60,SNR=12
K18A **Toltan Ranch,** 60.57 58 ⇑P P 10 43 57.5 +1.3
baz=60,SNR=26
DUG **Dugway** 60.59 62 eP P 10 43 56.8 +0.6
DUG pmax pmax
comp=Z,37nm,1.1s
DUG **Dugway** 60.59 62 eP P 10 43 56.8 +0.6
comp=Z,37nm,1.1s
DUG **Dugway** 60.59 62 ⇑P P 10 43 57.3 +1.1
baz=60,SNR=29
E23A **Ismay** 60.59 52 ⇑P P 10 43 57.4 +1.4
baz=60,SNR=20
SBUM **Sibu** 60.61 235 P P 10 43 58.1 +1.7
comp=Z,19nm,0.9s
FURC **Furnace Creek,** 60.62 67 ⇓P P 10 43 57.3 +1.0
baz=60,SNR=19
D24A **Glendive** 60.69 51 ⇓P P 10 43 58.0 +1.4
baz=60,SNR=34
J19A **Crowheart** 60.71 57 ⇓P P 10 43 58.1 +1.1
baz=60,SNR=24
O15A **The Old Anders** 60.73 61 ⇓P P 10 43 58.0 +0.8
baz=60,SNR=5.7
BW06 **Boulder Array** 60.75 57 eP P 10 43 57.7 +0.3
comp=Z,32nm,1.1s
BW06 **Boulder Array** 60.75 57 ⇑P P 10 43 58.2 +0.8
baz=61,SNR=40
PDAR **Pinedale Array** 60.75 57 P P 10 43 57.8 +0.3
PDAR **Pinedale Array** 60.75 57 P P 10 43 57.8 +0.3
comp=Z,20nm,0.9s,baz=301,slow=2.6,SNR=100
PDAR LR LR 11 09 53.9
comp=Z,84nm,19.4s,baz=130,slow=36
I20A **Worland** 60.76 56 ⇑P P 10 43 58.3 +0.9
baz=61,SNR=14
LRMC **Laurel Mountai** 60.77 69 ⇓P P 10 43 57.7 +0.3
baz=61,SNR=5.3
JOF **Joensuu** 60.78 335 eP P 10 43 57.0 +0.1
JOF pmax pmax
comp=Z,6.0nm,0.7s
JOF **Joensuu** 60.78 335 ep P 10 43 57.0 +0.1
comp=Z,5.6nm,0.7s
H21A **Big Horn, Sher** 60.91 55 ⇑P P 10 43 59.2 +0.9
baz=61,SNR=26
G22A **Birney** 60.91 54 ⇑P P 10 43 59.0 +0.7
baz=61,SNR=9.3
N16A **Rees Ranch, Co** 60.93 60 ⇓P P 10 43 59.5 +0.9
baz=61
EDW2 **Edwards Air Fo** 60.98 69 ⇓P P 10 43 59.5 +0.7
baz=61,SNR=27
M17A **Scullys Gap (B** 60.98 59 ⇑P P 10 43 59.2 +0.2
baz=61,SNR=16
L18A **Fontenelle, Gr** 61.04 58 ⇑P P 10 44 00.1 +0.7
baz=61,SNR=15
F23A **Volborg** 61.05 53 ⇑P P 10 43 59.7 +0.5
baz=61
E24A **Baker** 61.06 51 ⇑P P 10 43 59.7 +0.5
baz=61
JLU **Jordanelle** 61.11 60 eP P 10 44 00.5 +0.7
comp=Z,20nm,1.2s
K19A **Absolon Red Bu** 61.11 57 ⇓P P 10 44 00.1 +0.4
baz=61
J20A **Shoshoni** 61.18 56 ⇑P P 10 44 01.1 +0.9
baz=61,SNR=12
DECC **Green Verdugo** 61.18 70 ⇑P P 10 44 00.9 +0.7
baz=61
R13A **O'Grain Ranch,** 61.23 64 ⇑P P 10 44 01.4 +0.7
baz=61,SNR=8.8
N17A **Moffit Pass** 61.23 60 ⇑P P 10 44 01.4 +0.7
baz=61,SNR=19
H22A **Clearmont** 61.30 54 ⇓P P 10 44 01.9 +0.9
baz=61
L19A **Farson** 61.30 58 ⇓P P 10 44 01.5 +0.4
baz=61
P15A **Leamington** 61.31 62 ⇓P P 10 44 02.1 +1.0
baz=61,SNR=22
I21A **Big Trails, Te** 61.31 55 ⇑P P 10 44 01.8 +0.8
baz=61,SNR=22
PASC **Pasadena Art C** 61.32 70 eP P 10 44 01.5 +0.4
comp=Z,16nm,1.0s
DAU **Daniels Canyon** 61.34 60 eP P 10 44 02.7 +1.2
DAU **Daniels Canyon** 61.34 60 eP P 10 44 02.7 +1.2
SHOC **Shoshone** 61.35 67 ⇑P P 10 44 01.9 +0.6
baz=61,SNR=12
M18A **Lyman** 61.35 59 ⇓P P 10 44 01.9 +0.5
baz=61,SNR=9.2
MWC **Mount Wilson** 61.37 70 eP P 10 44 01.9 +0.3
MWC pmax pmax
comp=Z,24nm,1.0s
MWC **Mount Wilson** 61.37 70 eP P 10 44 01.9 +0.3
comp=Z,24nm,1.0s
MPU **Maple Canyon** 61.39 61 eP P 10 44 02.8 +1.1
comp=Z,29nm,1.2s
G23A **Biddle** 61.40 53 ⇓P P 10 44 02.3 +0.7
baz=61,SNR=18
GSC **Goldstone** 61.42 68 eP P 10 44 02.4 +0.5
GSC pmax pmax
comp=Z,28nm,1.5s
GSC **Goldstone** 61.42 68 eP P 10 44 02.4 +0.5
comp=Z,28nm,1.5s
GSC **Goldstone** 61.42 68 ⇓P P 10 44 02.4 +0.5
baz=61,SNR=12
F24A **Ekalaka** 61.47 52 ⇓P P 10 44 02.9 +0.8
baz=61,SNR=18
K20A **Yellowstone Ra** 61.50 57 ⇑P P 10 44 02.3 -0.1
baz=61,SNR=11
J21A **Lysite** 61.53 56 ⇑P P 10 44 03.4 +0.7
baz=61,SNR=15
BFSC **Mount Baldy Ra** 61.60 70 ⇑P P 10 44 03.5 +0.4
baz=61,SNR=9.7
P16A **Fountain Green** 61.64 61 ⇑P P 10 44 04.3 +0.9
baz=62,SNR=7.0
I22A **9 Mile Ranch,** 61.69 55 ⇑P P 10 44 04.8 +1.2
baz=62,SNR=14
CIS **Catalina Islan** 61.70 71 ⇑P P 10 44 04.2 +0.5
baz=62
O17A **Robinson Place** 61.78 60 ⇑P P 10 44 05.1 +0.8
baz=62,SNR=12
ARUT **Antelope Range** 61.80 64 eP P 10 44 05.1 +0.6
ARUT pmax pmax
comp=Z,17nm,1.0s
ARUT **Antelope Range** 61.80 64 eP P 10 44 05.1 +0.6
comp=Z,17nm,1.0s
M19A **Rock Springs** 61.81 58 ⇑P P 10 44 05.2 +0.6
baz=62
G24A **Alzada** 61.83 52 ⇑P P 10 44 04.9 +0.5
baz=62,SNR=7.4
N18A **Larsen Ranch,** 61.87 59 ⇓P P 10 44 05.3 +0.4
baz=62,SNR=14
TUQ **Turquoise Moun** 61.87 67 ⇑P P 10 44 05.4 +0.5
baz=62,SNR=6.4
L20A **Wamsutter** 61.93 57 ⇓P P 10 44 05.7 +0.4
baz=62,SNR=10.0
CCUT **Cedar City** 62.01 64 eP P 10 44 06.7 +0.7
comp=Z,16nm,1.0s
J22A **Midwest** 62.02 55 ⇑P P 10 44 06.6 +0.8
baz=62,SNR=24
HEC **Hector,Ludlow** 62.03 68 ⇑P P 10 44 06.5 +0.5
baz=62,SNR=22
BBRC **Big Bear Solar** 62.05 69 ⇑P P 10 44 06.5 +0.2
baz=62
MSU **Marysvale** 62.07 63 eP P 10 44 07.3 +0.9
MSU **Marysvale** 62.07 63 eP P 10 44 07.2 +0.9
TMUT **Trail Mountain** 62.11 61 eP P 10 44 07.2 +0.5
comp=Z,24nm,1.1s
K21A **Alcova** 62.12 56 ⇓P P 10 44 06.9 +0.4
baz=62,SNR=23
H24A **Dirks Ranch, A** 62.15 53 ⇑P P 10 44 07.0 +0.3
baz=62,SNR=17
O18A **Roosevelt** 62.15 60 ⇓P P 10 44 08.0 +1.2
baz=62,SNR=13
N19A **John Jarvie Ra** 62.21 59 ⇑P P 10 44 07.3 +0.2
baz=62,SNR=9.6
R15A **Junction** 62.21 63 ⇓P P 10 44 07.9 +0.7
baz=62
P17A **Butcher Ranch,** 62.26 61 ⇑P P 10 44 08.3 +0.7
baz=62
MURC **Murrieta** 62.31 70 ⇑P P 10 44 08.2 +0.4
baz=62,SNR=9.5
SPSI **Sidrap Palu** 62.32 224 P P 10 44 07.0 -0.9
comp=Z,33nm,1.2s
M20A **Sweetwater, Wa** 62.36 58 ⇑P P 10 44 09.0 +0.7
baz=62,SNR=11
Q16A **Castle Valley** 62.38 62 ⇑P P 10 44 09.1 +0.7
baz=62,SNR=17
P18A **Preston Nutter** 62.44 61 ⇓P P 10 44 09.3 +0.4
baz=62,SNR=9.5
KSM **Kuching** 62.47 237 eP P 10 44 10.2 +1.3
comp=Z,15nm,0.9s
KSM **Kuching** 62.47 237 P P 10 44 11.2 +2.3
comp=Z,20nm,1.4s
GMRC **Grand Mounta** 62.47 68 ⇓P P 10 44 09.4 +0.5
baz=62,SNR=16
L21A **Rawlins** 62.50 57 ⇑P P 10 44 09.4 +0.2
baz=62,SNR=20
K22A **Casper** 62.50 56 ⇑P P 10 44 09.5 +0.4
baz=62,SNR=9.8
J23A **Dilts Ranch, B** 62.52 55 ⇓P P 10 44 09.7 +0.6
baz=62
MDND **Maddock** 62.55 48 ⇑P P 10 44 10.1 +0.9
baz=62,SNR=9.9
LDFC **Lafair** 62.61 67 eP P 10 44 09.8 0.0
comp=Z,35nm,0.9s
R16A **Teasdale** 62.62 62 ⇑P P 10 44 11.6 +1.5
baz=62,SNR=30
SRU **San Rafael** 62.63 61 eP P 10 44 10.5 +0.5
SRU pmax pmax
comp=Z,30nm,0.9s
SRU **San Rafael** 62.63 61 eP P 10 44 10.5 +0.5
comp=Z,30nm,0.9s
SRU **San Rafael** 62.63 61 ⇓P P 10 44 10.7 +0.7
baz=62,SNR=29
O19A **Miners Draw (B** 62.63 59 ⇓P P 10 44 10.5 +0.4
baz=62,SNR=20
ULM **Lac du Bonnet** 62.65 44 P P 10 44 09.6 -0.1
ULM **Lac du Bonnet** 62.65 44 P P 10 44 09.6 -0.1
comp=Z,9.2nm,0.9s,baz=319,slow=7.1,SNR=15
I24A **Kuemmerle Ranc** 62.71 54 ⇑P P 10 44 10.7 +0.3
baz=62
M21A **Separation Pea** 62.74 57 ⇓P P 10 44 11.3 +0.4
baz=62,SNR=12
N20A **Spence Gulch,** 62.76 58 ⇑P P 10 44 12.0 +1.1
baz=63,SNR=19
PFO **Pinyon Flat Ob** 62.77 69 eP P 10 44 10.8 -0.2
comp=Z,25nm,1.5s
PFO **Pinyon Flat Ob** 62.77 69 ⇓P P 10 44 11.6 +0.6
baz=63
RWWY **Rawlins** 62.77 57 eP P 10 44 11.4 +0.4
comp=Z,20nm,0.8s
BELC **Belle Mtn. Jos** 62.79 69 ⇑P P 10 44 10.8 -0.3
baz=63,SNR=10
KAF **Kangasniemi** 62.79 337 eP P 10 44 09.7 -0.7
KAF pmax pmax
comp=Z,10.0nm,0.7s
KAF **Kangasniemi** 62.79 337 ep P 10 44 09.7 -0.7
comp=Z,9.7nm,0.7s
RSSD **Black Hills** 62.84 53 eP P 10 44 10.9 -0.5
RSSD pmax pmax
comp=Z,39nm,0.9s
RSSD **Black Hills** 62.84 53 eP P 10 44 10.9 -0.5
comp=Z,39nm,0.9s
109C **Camp Elliot, M** 62.85 70 ⇑P P 10 44 11.8 +0.5
baz=63
Q18A **Rafter H Ranch** 62.86 61 ⇓P P 10 44 11.9 +0.4
baz=63,SNR=9.5
K23A **Bowen Ranch, D** 62.92 55 ⇓P P 10 44 12.1 +0.2
baz=63
S16A **Weppner Ranch,** 62.94 63 ⇑P P 10 44 13.3 +1.2
baz=63,SNR=23
L22A **Ellis Ranch, M** 62.97 56 ⇑P P 10 44 13.5 +1.2
baz=63,SNR=8.1
R17A **Hanksville Air** 62.98 62 ⇓P P 10 44 12.9 +0.5
baz=63,SNR=21
STKI **Sintang** 63.00 235 P P 10 44 09.9 -2.6
comp=Z,82nm,0.6s,comp=Z,14μm
J24A **Dixon Ranch, L** 63.05 54 ⇓P P 10 44 13.1 +0.5
baz=63
P19A **Cripple Cowboy** 63.16 60 ⇓P P 10 44 14.3 +0.6
baz=63,SNR=22
IRM **Iron Mountain** 63.20 68 ⇓P P 10 44 14.4 +0.6
baz=63,SNR=22
N21A **Black Mountain** 63.23 58 ⇑P P 10 44 14.5 +0.5
baz=63,SNR=11
O20A **White River Ci** 63.24 59 ⇑P P 10 44 14.5 +0.4
baz=63,SNR=9.1
KAPI **Kappang** 63.26 224 P P 10 44 19.7 +5.6
BAR **Barrett** 63.26 70 eP P 10 44 14.3 +0.2
comp=Z,9.2nm,1.0s
MONP **Monument Peak** 63.27 70 ⇓P P 10 44 14.4 -0.1
baz=63,SNR=6.5
M22A **Cedar Creek Ra** 63.30 57 ⇑P P 10 44 15.0 +0.4
baz=63,SNR=24
L23A **Garrett** 63.31 56 ⇑P P 10 44 14.7 +0.1
baz=63,SNR=12
W13A **Hualapai Mount** 63.34 66 ⇓P P 10 44 15.1 +0.2
baz=63,SNR=11
BC3 **Big Chuckawall** 63.35 69 ⇑P P 10 44 15.1 +0.3
baz=63,SNR=12
U15A **North Rim** 63.40 64 ⇑P P 10 44 16.0 +0.8
baz=63,SNR=22
FINES **FINESS Array B** 63.41 336 P P 10 44 14.9 +0.4
FINES **FINESS Array B** 63.41 336 P P 10 44 14.9 +0.4
comp=Z,15nm,0.8s,baz=29,slow=6.1,SNR=40
FINES LR LR 11 14 13.0
comp=Z,243nm,19.9s,baz=355,slow=38
KBKI **Kotabaru** 63.45 228 P P 10 44 15.8 +0.3
comp=Z,37nm,1.3s,comp=Z,2μm
Q19A **Hogan Spring (** 63.46 61 ⇑P P 10 44 15.9 +0.4
baz=63,SNR=36
S17A **Black Ridge (B** 63.46 63 ⇑P P 10 44 16.3 +0.8
baz=63,SNR=30
R18A **Canyonlands Na** 63.48 61 ⇓P P 10 44 15.8 +0.1
baz=63,SNR=27
PUL **Pulkovo** 63.61 333 ceP P 10 44 17.9 +2.0
PUL pmax pmax
comp=Z,76nm,0.9s
O21A **Pagoda** 63.62 58 ⇓P P 10 44 17.4 +0.7
baz=63,SNR=13
SWSC **Sam W. Stewart** 63.63 69 ⇑P P 10 44 16.8 +0.3
baz=64
DVTC **Desert V Tower** 63.63 70 ⇓P P 10 44 16.8 +0.2
baz=64,SNR=5.1
PDMCI **Parker Dam,Lak** 63.72 67 ⇓P P 10 44 17.6 +0.5
baz=64,SNR=7.4
M23A **Laramie** 63.74 56 ⇑P P 10 44 18.0 +0.6
baz=64,SNR=11
L24A **Wheatland** 63.78 55 ⇓P P 10 44 18.1 +0.6
baz=64
N22A **Wattenberg Ran** 63.79 57 ⇓P P 10 44 18.9 +1.0
baz=64,SNR=20
Y12C **Blythe** 63.86 68 ⇑P P 10 44 18.6 +0.6
baz=64,SNR=11
T17A **Navajo Res., N** 63.89 63 ⇓P P 10 44 18.3 -0.2
baz=64,SNR=8.7
S18A **Hurst Farm, Bl** 63.89 62 ⇑P P 10 44 18.6 +0.1
baz=64,SNR=27
R19A **Curley Farm, L** 63.91 61 ⇑P P 10 44 19.0 +0.4
baz=64,SNR=20
K25A **Mack Ranch, Ha** 63.96 54 ⇑P P 10 44 19.3 +0.6
baz=64
PV10 **Paradox Valley** 63.98 61 eP P 10 44 19.9 +0.8
comp=Z,729nm,0.9s
COEN **Coen** 64.01 196 eP P 10 44 18.9 -0.1
comp=Z,149nm,1.4s
N23A **Red Feather La** 64.01 57 ⇓P P 10 44 19.7 +0.4
baz=64,SNR=15
Q20A **Ridgley Place,** 64.01 60 ⇓P P 10 44 19.5 +0.3
baz=64,SNR=15
AGMN **Agassiz Nation** 64.03 46 eP P 10 44 18.9 0.0
comp=Z,25nm,1.1s
PV04 **Paradox Valley** 64.05 61 eP P 10 44 19.9 +0.5
P21A **Newcastle** 64.11 59 ⇓P P 10 44 20.6 +0.8
baz=64,SNR=25
GLA **Glamis** 64.15 69 eP P 10 44 20.7 +0.7
GLA pmax pmax
comp=Z,24nm,1.1s
GLA **Glamis** 64.15 69 eP P 10 44 20.6 +0.7
comp=Z,24nm,1.1s
GLA **Glamis** 64.15 69 ⇓P P 10 44 20.5 +0.5
baz=64,SNR=16
O22A **Kremmling** 64.18 58 ⇓P P 10 44 20.8 +0.4
baz=64,SNR=6.0
M24A **Cheyenne** 64.23 56 ⇑P P 10 44 21.5 +0.9
baz=64,SNR=6.7
BBKI **Banjar Baru** 64.25 229 P P 10 44 18.1 -2.6
comp=Z,131nm,1.2s
K26A **Motz Farm, Whi** 64.27 54 ⇑P P 10 44 21.0 +0.2
baz=64,SNR=6.4
T18A **Mexican Hat** 64.34 62 ⇓P P 10 44 21.4 +0.1
baz=64,SNR=18
S19A **Harvey Farm, M** 64.35 61 ⇑P P 10 44 22.0 +0.5
baz=64,SNR=30
PV01 **Paradox Valley** 64.42 61 eP P 10 44 22.0 +0.1
comp=Z,1μm,1.0s
P22A **Eagle** 64.45 59 ⇓P P 10 44 22.8 +0.7
baz=64,SNR=29
MOS **Moscow** 64.45 327 eP P 10 44 19.4 -2.1
R20A **Redvale** 64.49 61 ⇓P P 10 44 22.9 +0.5
baz=64,SNR=13
O23A **Lake Granby, G** 64.50 58 ⇓P P 10 44 23.5 +1.0
baz=64,SNR=24
Q21A **Lamborn Mesa,** 64.51 60 ⇑P P 10 44 23.4 +0.9
baz=64,SNR=18
WUAZ **Wupatki** 64.56 65 eP P 10 44 23.4 +0.5
comp=Z,33nm,1.3s
WUAZ **Wupatki** 64.56 65 ⇑P P 10 44 23.8 +1.0
baz=64,SNR=11
SMCO **Snowmass** 64.61 59 eP P 10 44 23.7 +0.4
comp=Z,23nm,0.9s
N24A **Carr** 64.64 56 ⇓P P 10 44 24.1 +0.8
baz=64
Y14A **Wickenburg** 64.66 67 ⇑P P 10 44 24.0 +0.7
baz=64,SNR=16
M25A **Palm-Egli Farm** 64.68 55 ⇓P P 10 44 24.3 +0.8
baz=64
S20A **Disappointment** 64.74 61 ⇓P P 10 44 24.5 +0.4
baz=65,SNR=20
K27A **Flueckinger Fa** 64.77 53 ⇑P P 10 44 24.1 +0.1
baz=65,SNR=9.9
R21A **Lamarr** 64.84 60 ⇑P P 10 44 25.8 +1.1
baz=65,SNR=29
Q22A **Crested Butte,** 64.86 59 ⇑P P 10 44 25.8 +0.9
baz=65,SNR=26
ISCO **Idaho Springs** 64.95 58 eP P 10 44 26.3 +0.9
ISCO pmax pmax
comp=Z,31nm,0.9s
ISCO **Idaho Springs** 64.95 58 eP P 10 44 26.3 +0.9
comp=Z,30nm,0.9s
ISCO **Idaho Springs** 64.95 58 ⇓P P 10 44 26.7 +1.3
baz=65,SNR=38
113A **Mohawk Valley,** 64.99 68 ⇑P P 10 44 25.5 +0.1
baz=65,SNR=8.9
O24A **Longmont** 65.02 57 ⇑P P 10 44 27.1 +1.3
baz=65,SNR=5.3
T19A **Beclabito** 65.05 62 ⇑P P 10 44 26.6 +0.6
baz=65,SNR=9.8
Z14A **Wintersburg** 65.09 67 ⇓P P 10 44 26.6 +0.5
baz=65
N25A **Grover** 65.09 56 ⇑P P 10 44 27.0 +0.8
baz=65
MVCO **Mesa Verde** 65.09 61 eP P 10 44 26.6 +0.2
comp=Z,24nm,1.0s
MVCO **Mesa Verde** 65.09 61 ⇑P P 10 44 27.1 +0.8
baz=65,SNR=14
P23A **Jefferson** 65.11 58 ⇓P P 10 44 27.8 +1.2
baz=65,SNR=5.9
M26A **McRoberts Ranc** 65.15 55 ⇓P P 10 44 27.7 +1.2
baz=65
L27A **T5 Ranch, Ells** 65.16 54 ⇑P P 10 44 27.4 +0.9
baz=65
S21A **Coal Bank Pass** 65.19 61 ⇓P P 10 44 28.1 +1.1
baz=65,SNR=28
X16A **Lo Mia Camp, P** 65.27 66 ⇓P P 10 44 28.6 +1.2
baz=65,SNR=24
U19A **Dine' College,** 65.31 63 ⇓P P 10 44 28.3 +0.6
baz=65,SNR=18
OBN **Obninsk** 65.31 327 ⇑i/e P 10 44 27.6 +0.5
OBN 10 44 38.9
OBN 10 44 57.0
OBN pmax pmax
comp=Z,52nm,1.6s
OBN MLR MLR
comp=Z,200nm,14.0s
OBN **Obninsk** 65.31 327 eP P 10 44 27.5 +0.4
comp=Z,109nm,1.5s
R22A **Saguache, Gunn** 65.39 60 ⇓P P 10 44 29.9 +1.5
baz=65,SNR=28
Q23A **Hartsel** 65.44 59 ⇓P P 10 44 29.6 +0.9
baz=65
M27A **Reverse DX Ran** 65.51 54 ⇑P P 10 44 29.3 +0.5
baz=65
P24A **Kohler Place,** 65.54 58 ⇓P P 10 44 30.3 +1.2
baz=65,SNR=7.3
N26A **Koester Ranch,** 65.55 55 ⇓P P 10 44 30.1 +1.0
baz=65
O25A **Wiggins** 65.56 57 ⇓P P 10 44 29.9 +0.7
baz=65,SNR=5.4
U20A **Newcomb** 65.65 62 ⇓P P 10 44 30.6 +0.8
baz=66
S22A **4UR Ranch, Cre** 65.68 60 ⇑P P 10 44 31.4 +1.2
baz=66,SNR=28
Q24A **Divide** 65.78 58 ⇑P P 10 44 31.4 +0.5
baz=66,SNR=5.5
T21A **Navajo Lake** 65.80 61 ⇑P P 10 44 31.7 +0.8
baz=66,SNR=6.4
W18A **Petrified Fore** 65.81 64 ⇑P P 10 44 31.7 +0.8
baz=66,SNR=6.0
O26A **Horse Wrangler** 65.91 56 ⇓P P 10 44 31.9 +0.5
baz=66,SNR=5.3
N27A **Anderson Farm,** 65.94 55 ⇓P P 10 44 32.6 +1.0
baz=66,SNR=18
R23A **Moffat** 65.94 59 ⇓P P 10 44 33.0 +1.1
baz=66,SNR=14
P25A **Willow Gulch B** 65.95 57 ⇑P P 10 44 32.8 +1.1
baz=66,SNR=7.2

V20A	Brimhall	66.08	63	⇓P		P		10 44 33.2	+0.5
	baz=66,SNR=6.1								
X18A	Snowflake	66.08	65	⇑P		P		10 44 33.8	+1.0
	baz=66,SNR=13								
OGNE	Ogallala	66.11	55	*eP*		P		10 44 33.0	+0.4
	comp=Z,186nm,1.3s								
OGNE	Ogallala	66.11	55	⇓P		P		10 44 33.3	+0.6
	baz=66,SNR=8.1								
U21A	Nageezi	66.12	62	⇑P		P		10 44 33.5	+0.6
	baz=66,SNR=11								
214A	Organ Pipe Nat	66.14	68	⇓P		P		10 44 33.4	+0.5
	baz=66,SNR=9.9								
T22A	Edith	66.15	61	⇑P		P		10 44 34.2	+1.0
	baz=66,SNR=18								
S23A	Nye Farm, Mont	66.18	60	⇓P		P		10 44 34.6	+1.2
	baz=66,SNR=13								
EYMN	Ely	66.31	43	*eP*		P		10 44 33.4	-0.4
	comp=Z,29nm,1.3s								
R24A	Sanders Place,	66.32	59	⇓P		P		10 44 35.1	+0.9
	baz=66,SNR=9.0								
Q25A	Bedland, Calha	66.32	58	⇓P		P		10 44 34.8	+0.5
	baz=66,SNR=18								
P26A	Davis Ranch, A	66.37	57	⇑P		P		10 44 34.9	+0.5
	baz=66,SNR=13								
O27A	Beecher Island	66.40	56	⇓P		P		10 44 35.2	+0.6
	baz=66,SNR=29								
SDCO	Great Sand Dun	66.44	59	*eP*		P		10 44 35.5	+0.5
	comp=Z,10nm,1.0s								
SDCO	Great Sand Dun	66.44	59	⇓P		P		10 44 35.6	+0.6
	baz=66,SNR=14								
VRHR	Novokhopersk	66.51	322	*eP*		P		10 44 33.8	-1.1
VRHR					pmax	pmax			
	comp=N,5.0nm,0.7s								
VRHR					pmax	pmax			
	comp=E,20nm,0.7s								
VRHR					pmax	pmax			
	comp=Z,20nm,0.7s								
W20A	Ramah	66.53	63	⇓P		P		10 44 36.2	+0.6
	baz=66,SNR=15								
V21A	Milan	66.56	62	⇑P		P		10 44 36.0	+0.2
	baz=66								
U22A	Llaves	66.62	61	⇓P		P		10 44 36.7	+0.6
	baz=66,SNR=12								
T23A	Casias Ranch,	66.63	60	⇓P		P		10 44 36.8	+0.5
	baz=66,SNR=8.1								
S24A	Houchin Ranch,	66.67	59	⇓P		P		10 44 37.3	+0.7
	baz=66,SNR=13								
Q26A	Hugo	66.72	57	⇓P		P		10 44 37.2	+0.5
	baz=66,SNR=17								
P27A	Ficken Ranch,	66.79	56	⇑P		P		10 44 37.4	+0.3
	baz=67,SNR=14								
R25A	Fountain Ranch	66.84	58	⇓P		P		10 44 38.1	+0.6
	baz=67,SNR=15								
V22A	San Miguel Ran	66.91	62	⇓P		P		10 44 38.6	+0.6
	baz=67,SNR=9.7								
X20A	Quemado	66.94	64	⇑P		P		10 44 39.2	+1.0
	baz=67,SNR=17								
ECSD	EROS Data Cent	66.94	49	*eP*		P		10 44 37.4	-0.5
	comp=Z,69nm,1.6s								
U23A	El Rito	67.03	61	⇑P		P		10 44 39.7	+0.9
	baz=67,SNR=49								
W21A	San Fidel	67.03	63	⇓P		P		10 44 39.4	+0.6
	baz=67								
S25A	Robets Cordova	67.10	59	⇓P		P		10 44 39.4	+0.2
	baz=67,SNR=5.0								
TUC	Tucson	67.12	67	*eP*		P		10 44 39.0	-0.3
TUC					pmax	pmax			
	comp=Z,10.0nm,1.0s								
TUC	Tucson	67.12	67	*eP*		P		10 44 39.0	-0.3
	comp=Z,9.5nm,1.0s								
NB2	NORSAR Subarra	67.15	343	P		P		10 44 39.2	+0.3
	baz=24,slow=6.5								
NB2	NORSAR Subarra	67.15	343	P		P		10 44 39.2	+0.3
	comp=Z,30nm,0.8s,baz=24,slow=6.5								
NOA	NORSAR Array B	67.15	343	P		P		10 44 39.5	+0.6
NOA	NORSAR Array B	67.15	343	P		P		10 44 39.5	+0.6
	comp=Z,20nm,0.8s,baz=22,slow=6.4,SNR=35								
NOA					LR	LR		11 20 11.5	
	comp=Z,194nm,18.3s,baz=10.0,slow=42								
KSCO	Kaye Shedlock'	67.15	57	⇓P		P		10 44 39.8	+0.4
	baz=67,SNR=5.5								
T24A	Torres, Weston	67.16	59	⇓P		P		10 44 40.5	+0.8
	baz=67,SNR=6.7								
R26A	Arlington	67.20	58	⇓P		P		10 44 40.2	+0.5
	baz=67,SNR=24								
VSR	Storozhevoye	67.40	323	*eP*		P		10 44 40.6	0.0
VSR					pmax	pmax			
	comp=N,10.0nm,1.0s								
VSR					pmax	pmax			
	comp=Z,20nm,1.0s								
VSR					pmax	pmax			
	comp=E,5.0nm,0.5s								
X21A	Alamocita Cree	67.42	63	⇓P		P		10 44 42.7	+1.3
	baz=67,SNR=33								
V23A	Ortiz Mt. (NFS	67.45	61	⇓P		P		10 44 42.9	+1.4
	baz=67,SNR=17								
Y20A	Horse Springs,	67.45	64	⇓P		P		10 44 42.9	+1.3
	baz=67,SNR=18								
T25A	Trinidad	67.48	59	⇑P		P		10 44 42.3	+0.7
	baz=67,SNR=21								
HFS	Hagfors	67.49	342	LR		LR		11 18 07.8	
	comp=E,183nm,19.4s,baz=170,slow=39								
U24A	Moreno Valley	67.50	60	⇓P		P		10 44 42.8	+1.0
	baz=67,SNR=9.5								
W22A	Albuquerque	67.52	62	⇓P		P		10 44 43.4	+1.5
	baz=67								
VORD	Divnogorie	67.54	323	*eP*		P		10 44 40.8	-0.7
R27A	Eads	67.57	57	⇑P		P		10 44 42.0	-0.1
	baz=67,SNR=11								
S26A	Kim	67.67	58	⇓P		P		10 44 42.6	-0.1
	baz=68,SNR=6.8								
SPMN	St. Paul	67.71	46	⇑P		P		10 44 42.6	0.0
	baz=68,SNR=7.7								
Y21A	Point of Rocks	67.80	63	⇓P		P		10 44 44.9	+1.2
	baz=68,SNR=9.9								
BGNE	Belgrade	67.83	52	⇓P		P		10 44 43.4	-0.2
	baz=68,SNR=6.6								
LAZ	Ladron	67.83	63	*eP*		P		10 44 44.7	+0.8
	comp=E,14nm,1.2s								
X22A	Bernardo	67.84	63	⇑P		P		10 44 45.1	+1.3
	baz=68,SNR=14								
ANMO	Albuquerque	67.84	62	*eP*		P		10 44 43.8	-0.2
	comp=E,12nm,1.1s								
W23A	Werner Place,	67.88	62	⇓P		P		10 44 44.9	+0.7
	baz=68,SNR=9.2								
Z20A	Nine Sixteen R	67.88	65	⇓P		P		10 44 44.7	+0.6
	baz=68,SNR=9.7								
T26A	Comanche Natio	67.91	59	⇓P		P		10 44 44.3	0.0
	baz=68,SNR=17								
V24A	Rampart Ranch,	67.99	61	⇑P		P		10 44 45.7	+0.8
	baz=68,SNR=16								
U25A	Circle Dot Ran	68.00	60	⇓P		P		10 44 45.5	+0.6
	baz=68,SNR=41								
PSI	Prapat	68.02	248	P		P		10 44 45.0	-0.1
PSI	Prapat	68.02	248	P		P		10 44 45.0	-0.1
	comp=E,5.7nm,0.9s,baz=48,slow=9.5,SNR=6.1								
LENM	Lemitar	68.10	63	*eP*		P		10 44 46.4	+0.9
KHKI	Kahang-Kahang	68.12	226	P		P		10 44 43.5	-2.0
	comp=E,47nm,1.1s								
IZAR	Zarasai	68.17	333	*eP*		P		10 44 46.2	+0.8
IZAR					AMB	AMB		10 44 47.1	
	comp=Z,11nm,1.1s								
IZAR	Zarasai	68.17	333	*eP*		P		10 44 46.2	+0.8
IZAR					AMB	AMB		10 44 47.1	
	comp=Z,11nm,1.1s								
Y22D	IRIS PASSCAL I	68.19	63	⇓P		P		10 44 46.9	+0.8
	baz=68								
LPM	Los Pinos Moun	68.19	63	*eP*		P		10 44 47.0	+0.9
120A	U Bar Ranch, L	68.25	65	⇓P		P		10 44 47.3	+0.8
	baz=68,SNR=20								
X23A	Hourglass Bar	68.26	62	⇓P		P		10 44 47.2	+0.6
	baz=68								
Y22A	Socorro	68.26	63	⇑P		P		10 44 47.6	+1.0
	baz=68,SNR=17								
W24A	Lazy 6 Ranch,	68.27	61	⇑P		P		10 44 47.8	+1.2
	baz=68,SNR=20								
V25A	Rancho No Teng	68.28	60	⇓P		P		10 44 47.3	+0.6
	baz=68,SNR=11								
Z21A	St. Cloud Mine	68.29	64	⇓P		P		10 44 48.2	+1.4
	baz=68,SNR=14								
BNM	Barren Site	68.31	63	*eP*		P		10 44 47.2	+0.2
	comp=Z,12nm,1.3s								
ISAL	Salakas	68.36	333	*eP*		P		10 44 47.4	+0.8
ISAL					AMB	AMB		10 44 48.4	
	comp=Z,17nm,1.2s								
ISAL	Salakas	68.36	333	*eP*		P		10 44 47.4	+0.8
ISAL					AMB	AMB		10 44 48.4	
	comp=Z,17nm,1.2s								
U26A	Atchley Ranch,	68.38	59	⇓P		P		10 44 47.6	+0.3
	baz=68,SNR=14								
T27A	Campo	68.48	58	⇓P		P		10 44 48.0	+0.2
	baz=68								
IIGN	Ignalina	68.52	333	*eP*		P		10 44 48.4	+0.9
IIGN					AMB	AMB		10 44 49.4	
	comp=Z,24nm,1.2s								
IIGN	Ignalina	68.52	333	*eP*		P		10 44 48.4	+0.9
IIGN					AMB	AMB		10 44 49.4	
	comp=Z,24nm,1.2s								
319A	Douglas	68.69	67	⇓P		P		10 44 50.1	+0.9
	baz=68,SNR=21								
X24A	Lazy VL Ranch,	68.71	62	⇓P		P		10 44 50.3	+0.9
	baz=68,SNR=7.5								
MICGM	Minsk	68.73	331	*e*		P		10 44 49.0	+0.1
NACGM	Naroch	68.73	332	*e*		P		10 44 46.0	-2.9
MNK	Minsk	68.74	331	*eP*		P		10 44 49.0	0.0
Z22A	Elephant Butte	68.75	64	⇓P		P		10 44 50.4	+0.8
	baz=69,SNR=13								
121A	Cookes Peak, D	68.77	65	⇓P		P		10 44 50.2	+0.5
	baz=69,SNR=8.9								
220A	Playas Peak, P	68.77	66	⇑P		P		10 44 50.5	+0.8
	baz=69,SNR=13								
T28A	Walsh	68.78	58	⇓P		P		10 44 49.6	-0.1
	baz=69								
V26A	Tequesquite Ra	68.78	60	⇓P		P		10 44 49.4	-0.3
	baz=69,SNR=8.3								
Y23A	Lovelace Mesa,	68.80	63	⇑P		P		10 44 50.7	+0.8
	baz=69,SNR=21								
W25A	X Bar L Ranch,	68.81	61	⇓P		P		10 44 50.6	+0.7
	baz=69,SNR=23								
CBKS	Cedar Bluff	68.87	55	*eP*		P		10 44 49.8	-0.3
CBKS					pmax	pmax			
	comp=Z,39nm,0.8s								
CBKS	Cedar Bluff	68.87	55	*eP*		P		10 44 49.8	-0.3
	comp=Z,39nm,0.8s								
CBKS	Cedar Bluff	68.87	55	⇑P		P		10 44 50.1	0.0
	baz=69								
122A	Coniff Cattle	69.12	64	⇑P		P		10 44 53.0	+1.1
	baz=69,SNR=11								
221A	Mesquite Ranch	69.14	65	⇓P		P		10 44 53.0	+1.0
	baz=69,SNR=7.8								
Y24A	Capitan	69.17	62	⇓P		P		10 44 52.7	+0.5
	baz=69,SNR=21								
320A	Kipp Ranch, An	69.17	66	⇓P		P		10 44 53.1	+0.9
	baz=69,SNR=6.6								
X25A	Clemmons Ranch	69.19	61	⇑P		P		10 44 53.3	+1.1
	baz=69,SNR=11								
W26A	Owens Ranch, T	69.30	60	⇓P		P		10 44 53.6	+0.7
	baz=69,SNR=7.7								
222A	Williams Famil	69.48	65	⇑P		P		10 44 55.0	+0.9
	baz=69,SNR=12								
123A	Bell Site, Whi	69.60	64	⇑P		P		10 44 55.7	+0.9
	baz=69								
Y25A	Mesa, Roswell	69.60	62	⇓P		P		10 44 55.3	+0.5
	baz=69,SNR=28								
Z24A	Sheppen Canyo	69.63	63	⇑P		P		10 44 55.8	+0.6
	baz=69,SNR=18								
X26A	CR and CF Fran	69.66	61	⇑P		P		10 44 55.9	+0.7
	baz=70,SNR=14								
V28A	Channing	69.70	59	⇓P		P		10 44 55.3	0.0
	baz=70								
W27A	Bowe Ranch, En	69.72	60	⇓P		P		10 44 56.2	+0.7
	baz=70,SNR=9.1								
SCHQ	Schefferville	69.93	26	P		P		10 44 56.4	+0.1
SCHQ	Schefferville	69.93	26	P		P		10 44 56.4	+0.1
	comp=Z,111nm,0.9s,baz=327,slow=5.5,SNR=11								
SCIA	State Center	69.98	49	*eP*		P		10 44 57.0	+0.2
	comp=Z,76nm,0.9s								
X27A	F and S Farms,	70.00	60	⇓P		P		10 44 57.7	+0.5
	baz=70,SNR=5.8								
Z25A	Roswell	70.05	62	⇓P		P		10 44 57.9	+0.4
	baz=70,SNR=14								
W28A	Vega	70.07	59	⇑P		P		10 44 58.2	+0.6
	baz=70								
MAK	Makhachkala	70.08	313	P		P		10 44 55.6	-1.8
MAK				*eS*		S		10 54 04.5	-2.6
Y26A	Elida	70.10	61	⇑P		P		10 44 58.5	+0.6
	baz=70								
HYB	Hyderabad	70.22	274	*i* P		P		10 44 58.0	-0.7
KSU1	Kansas State U	70.32	53	*eP*		P		10 44 57.5	-1.5
	comp=Z,16nm,0.6s								
224A	Cornudas Mount	70.44	64	⇓P		P		10 45 00.5	+0.5
	baz=70,SNR=17								
Z26A	Caprock	70.48	62	⇑P		P		10 45 00.7	+0.5
	baz=70,SNR=21								
Y27A	Causey	70.51	61	⇑P		P		10 45 00.7	+0.4
	baz=70								
125A	Gardner Draw,	70.53	63	⇑P		P		10 45 01.0	+0.5
	baz=70,SNR=20								
SUW	Suwalki	70.58	334	*eP*		P		10 45 00.5	+0.3
SUW	Suwalki	70.58	334	*eP*		P		10 45 00.5	+0.3
SUW	Suwalki	70.58	334	*eP*		P		10 45 00.4	+0.1
SUW					pmax	pmax			
	comp=Z,30nm,0.8s								
SUW	Suwalki	70.58	334	*eP*		P		10 45 00.4	+0.1
	comp=Z,30nm,0.8s								
X28A	Dimmitt	70.61	60	⇑P		P		10 45 01.0	+0.1
	baz=70,SNR=5.7								
AMTX	Amarillo	70.64	59	*eP*		P		10 45 01.6	+0.5
	comp=Z,26nm,1.0s								
AMTX	Amarillo	70.64	59	⇑P		P		10 45 01.6	+0.5
	baz=70,SNR=8.1								
MSTX	Muleshoe	70.67	60	⇓P		P		10 45 01.6	+0.2
	baz=70,SNR=14								
MNTX	Cornudas Mount	70.79	64	*eP*		P		10 45 02.0	0.0
	comp=Z,16nm,1.1s								
MNTX	Cornudas Mount	70.79	64	⇓P		P		10 45 02.5	+0.5
	baz=71,SNR=27								
225A	Deer Hill, Car	70.83	63	⇑P		P		10 45 02.8	+0.4
	baz=71,SNR=14								
Z27A	Tatum	70.89	61	⇑P		P		10 45 02.8	+0.1
	baz=71,SNR=34								
126A	Clayton Basin,	70.91	62	⇑P		P		10 45 02.8	0.0
	baz=71,SNR=6.2								
324A	Moseley Ranch,	70.92	64	⇓P		P		10 45 03.0	+0.1
	baz=71,SNR=8.4								
X29A	Tulia	70.94	59	⇑P		P		10 45 03.3	+0.4
	baz=71,SNR=17								
Y28A	McKinney Farm,	71.02	60	⇑P		P		10 45 03.3	-0.1
	baz=71,SNR=6.0								
GDL2	Guadalupe Moun	71.03	63	*eP*		P		10 45 03.8	+0.2
	comp=Z,36nm,1.0s								
CLNB	Carlsbad	71.27	62	*eP*		P		10 45 04.9	-0.1
	comp=Z,0.8nm,0.4s								
325A	Bean Ranch, Si	71.27	64	⇑P		P		10 45 05.2	+0.1
	baz=71,SNR=12								
127A	Arkansas Junct	71.27	62	⇑P		P		10 45 04.8	-0.2
	baz=71								
Y29A	Porterfield Fa	71.38	60	⇑P		P		10 45 05.7	0.0
	baz=71,SNR=5.8								
Z28A	Tucker Farm, M	71.39	61	⇑P		P		10 45 05.3	-0.3
	baz=71,SNR=6.0								
AKASG	Malin Array Be	71.49	329	P		P		10 45 05.7	-0.1
AKASG					pmax	pmax			
	comp=Z,5.0nm,0.4s								
AKASG					MLR	MLR			
	comp=Z,157nm,18.6s								
AKASG	Malin Array Be	71.49	329	P		P		10 45 05.7	-0.1
AKASG	Malin Array Be	71.49	329	P		P		10 45 05.7	-0.1
	comp=Z,5.1nm,0.4s,baz=32,slow=6.3,SNR=31								
AKASG					LR	LR		11 21 18.0	
	comp=Z,157nm,18.6s,baz=30,slow=40								
KIEV	Kiev	71.50	329	*eP*		P		10 45 05.5	-0.4
KIEV					pmax	pmax			
	comp=Z,28nm,1.0s								
KIEV	Kiev	71.50	329	*eP*		P		10 45 05.5	-0.4
	comp=Z,28nm,1.0s								
KIV	Kislovodsk	71.57	317	P		P		10 45 08.0	+1.4
KIV				*e*				10 45 20.3	
KIV					pmax	pmax			
	comp=Z,22nm,1.0s								
KIV	Kislovodsk	71.57	317	*eP*		P		10 45 08.0	+1.4
	comp=Z,18nm,0.9s								
KBZ	Khabaz	71.65	316	P		P		10 45 08.1	+1.2
KBZ					pmax	pmax			
	comp=Z,23nm,0.9s								
KBZ	Khabaz	71.65	316	P		P		10 45 08.1	+1.2
KBZ	Khabaz	71.65	316	P		P		10 45 08.1	+1.2
	comp=Z,23nm,0.9s,baz=38,slow=1.1,SNR=20								
KBZ					LR	LR		11 23 34.1	
	comp=Z,95nm,18.3s,baz=40,slow=42								
425A	Indio Mountain	71.68	64	⇓P		P		10 45 08.1	+0.5
	baz=72,SNR=14								
GLMI	Grayling	71.76	42	*eP*		P		10 45 07.4	-0.3
	comp=Z,93nm,1.3s								
WRAB	Tennant Creek	71.76	203	*eP*		P		10 45 07.1	-0.7
WRAB					pmax	pmax			
	comp=Z,52nm,0.9s								
WRAB	Tennant Creek	71.76	203	*eP*		P		10 45 07.1	-0.7
	comp=Z,52nm,0.9s								
WRAB	Tennant Creek	71.76	203	P		P		10 45 07.0	-0.7
	comp=Z,354nm,0.9s,SNR=22								
WRA	Warramunga Arr	71.77	203	P		P		10 45 07.1	-0.7
WRA	Warramunga Arr	71.77	203	P		P		10 45 07.1	-0.7
	comp=Z,39nm,0.8s,baz=21,slow=6.4,SNR=168								
227A	Bennet, Jal	71.79	62	⇑P		P		10 45 08.6	+0.5
	baz=72								
Z29A	Hungry Hill Ra	71.80	60	⇓P		P		10 45 08.6	+0.4
	baz=72,SNR=15								
128A	Castleberry Fa	71.82	61	⇓P		P		10 45 08.4	+0.2
	baz=72,SNR=11								
326A	Caldwell Ranch	71.89	63	⇑P		P		10 45 09.1	+0.3
	baz=72,SNR=20								
ZEI	Tsey	71.93	315	*eP*		P		10 45 08.1	-0.9
ZEI					pmax	pmax			
	comp=Z,21nm,1.1s								
228A	UT Block 9, Go	72.12	62	⇓P		P		10 45 10.3	+0.2
	baz=72,SNR=7.7								
426A	McDonald Obser	72.33	64	⇑P		P		10 45 11.5	-0.1
	baz=72,SNR=14								
WMOK	Wichita Mounta	72.36	57	*eP*		P		10 45 11.1	-0.3
WMOK					pmax	pmax			
	comp=Z,26nm,0.9s								
WMOK	Wichita Mounta	72.36	57	*eP*		P		10 45 11.1	-0.3
	comp=Z,26nm,0.9s								
POO	Poona	72.50	278	*ex*		x		10 45 12.0	
328A	Wristen Ranch,	72.53	62	⇓P		P		10 45 12.9	+0.4
	baz=72,SNR=34								
427A	Hayter Ranch,	72.57	63	⇓P		P		10 45 12.9	+0.1
	baz=72,SNR=8.6								
229A	Bryant Ranch,	72.68	61	⇑P		P		10 45 13.8	+0.3
	baz=72,SNR=11								
FITZ	Fitzroy Crossi	72.72	212	*eP*		P		10 45 13.5	+0.1
	comp=Z,48nm,1.1s								
FITZ	Fitzroy Crossi	72.72	212	*eP*		P		10 45 13.7	+0.2
	comp=Z,50nm,0.8s								
FITZ	Fitzroy Crossi	72.72	212	P		P		10 45 13.7	+0.2
	comp=Z,43nm,1.0s,baz=15,slow=5.7,SNR=44								
526A	Mary Lane Ranc	72.74	64	⇑P		P		10 45 14.1	+0.2
	baz=73								
HDIL	Hopedale	72.92	47	*eP*		P		10 45 14.7	0.0
	comp=Z,58nm,0.8s								
329A	Wagon Wheel Ra	72.94	62	⇑P		P		10 45 15.2	+0.2
	baz=73,SNR=22								
527A	Woodward Ranch	72.96	64	⇑P		P		10 45 15.4	+0.2
	baz=73,SNR=12								
428A	Kincaid Ranch,	73.08	63	⇑P		P		10 45 16.6	+0.7
	baz=73,SNR=21								
626A	Big Bend Ranch	73.08	64	⇑P		P		10 45 16.1	+0.2
	baz=73,SNR=14								
TUL1	Tulsa	73.13	55	⇓P		P		10 45 15.6	-0.3
	baz=73,SNR=7.3								
BEL	Belsk	73.18	334	*eP*		P		10 45 17.6	+1.7
BEL	Belsk	73.18	334	*eP*		P		10 45 17.6	+1.7
BEL	Belsk	73.18	334	*eP*		P		10 45 17.6	+1.7
ANN	Anapa	73.20	320	*eP*		P		10 45 20.6	+4.5
ANN					pmax	pmax			
	comp=Z,70nm,1.9s								
528A	Cox Ranch, San	73.44	63	⇓P		P		10 45 18.5	+0.6
	baz=73,SNR=17								
ABTX	Abilene, Hawle	73.44	59	⇑P		P		10 45 18.1	+0.2
	baz=73,SNR=18								
TXAR	Lajitas Array	73.52	64	P		P		10 45 18.6	+0.1
TXAR	Lajitas Array	73.52	64	P		P		10 45 18.6	+0.1
	comp=Z,22nm,0.8s,baz=298,slow=4.3,SNR=246								
GNI	Garni	73.56	313	*eP*		P		10 45 20.5	+1.9
	comp=Z,23nm,0.9s								
627A	Terlingua Ranc	73.60	64	⇑P		P		10 45 19.0	+0.1
	baz=73,SNR=26								
429A	Davenport Ranc	73.62	62	⇓P		P		10 45 18.9	-0.1
	baz=73,SNR=12								
529A	Stev Forest Ra	73.80	63	⇑P		P		10 45 20.4	+0.4
	baz=74,SNR=21								
628A	Black Gap, Mar	73.87	64	⇓P		P		10 45 20.7	+0.3
	baz=74,SNR=9.8								
430A	Baggett Ranch,	73.88	62	⇓P		P		10 45 20.5	0.0
	baz=74,SNR=23								
LVV	L'vov	73.97	331	*eP*		P		10 45 20.6	0.0
SFIN	Scholer Farm	74.12	46	⇑P		P		10 45 21.0	-0.6
	baz=74								
AAM	Ann Arbor	74.19	43	*eP*		P		10 45 21.8	-0.2
AAM					pmax	pmax			
	comp=Z,10.0nm,0.6s								
AAM	Ann Arbor	74.19	43	*eP*		P		10 45 21.8	-0.2
	comp=Z,9.6nm,0.6s								
431A	Sonora	74.32	61	⇑P		P		10 45 23.2	+0.1
	baz=74,SNR=25								
SIM	Simferopol'	74.45	322	*eP*		P		10 45 24.0	+0.5
SIM				*eS*		SKSac		10 55 42.0	+12
SIM					pmax	pmax			
	comp=Z,19nm,1.1s								
SIM					MLR	MLR			
	comp=Z,280nm,17.0s								
KWP	Kalwaria Pacla	74.55	332	*eP*		P		10 45 25.3	+1.3
KWP	Kalwaria Pacla	74.55

OKC Ostrava-Krasne 75.73 335⇓ eP P 10 45 31.4 +0.6
USIN University of 75.73 48 eP P 10 45 30.8 -0.2
comp=Z,38nm,0.8s
CLL Collm 75.75 338 eP P 10 45 31.1 +0.3
comp=Z,13nm,0.8s
CLL Collm 75.75 338⇓ iP P 10 45 31.1 +0.3
CLL i 10 45 42.2
CLL pmax pmax
comp=Z,31nm,1.1s
CLL Collm 75.75 338⇓ iP P 10 45 31.1 +0.3
comp=Z,31nm,1.1s
CLL iP pP 10 45 34.5 -2.3
CLL iS pS 10 45 37.1 -1.8
CLL i (PcP) PcP 10 45 42.2 -1.3
CLL iS PcP 10 45 49.5
DPC Dobruska-Polom 75.77 336⇓ iP P 10 45 31.7 +0.6
DPC e 10 45 43.5
DPC MLR MLR
comp=Z,300nm,9.5s
DPC Dobruska-Polom 75.77 336 eP P 10 45 31.8 +0.6
comp=Z,47nm,1.4s
DPC Dobruska-Polom 75.77 336⇓ iP P 10 45 31.7 +0.6
DPC ePCP PcP 10 45 43.5 -0.2
DPC AMS AMS 11 25 00.0
comp=Z,300nm,9.5s
UALR University of 75.82 53 eP P 10 45 31.3 -0.3
comp=Z,172nm,2.8s
CLZ Clausthal 75.87 340 eP P 10 45 32.7 +1.1
comp=Z,22nm,1.0s
CLZ Clausthal 75.87 340 eP P 10 45 32.7 +1.1
CLZ pmax pmax
comp=Z,22nm,1.0s
BRG Berggiesshubel 75.91 337 eP P 10 45 32.5 +0.7
comp=Z,22nm,1.4s
BRG e 10 45 52.0
comp=Z,23nm,1.5s
BRG
comp=N,347nm,16.6s
BRG
comp=E,378nm,18.2s
BRG
comp=Z,757nm,17.9s
BRG Berggiesshubel 75.91 337 eP P 10 45 32.1 +0.3
BRG Berggiesshubel 75.91 337 eP P 10 45 32.5 +0.7
BRG e 10 45 52.0
BRG pmax pmax
comp=Z,22nm,1.4s
BRG MLR MLR
comp=N,347nm,16.6s
BRG MLR MLR
comp=E,378nm,18.2s
BRG MLR MLR
comp=Z,757nm,17.9s
TRPA Tarpa 75.92 331⇑ iP P 10 45 32.5 +0.6
TRPA Tarpa 75.92 331 ⇓P P 10 45 32.7 +0.8
ERPA Erie 75.94 41 eP P 10 45 32.3 +0.2
comp=Z,32nm,0.9s
MORC Moravsky Berou 75.95 335 eP P 10 45 32.9 +0.8
MORC pmax pmax
comp=Z,24nm,1.1s
MORC Moravsky Berou 75.95 335 eP P 10 45 32.9 +0.8
comp=Z,24nm,1.1s
MORC Moravsky Berou 75.95 335⇓ iP P 10 45 33.2 +1.1
TESR 75.95 328⇓ iP P 10 45 32.6 +0.5
IBBN Ibbenburen 76.00 342 eP P 10 45 33.2 +1.0
PVCC Panska Ves 76.07 337 eP P 10 45 33.6 +0.9
PVCC MLR MLR
comp=Z,900nm,16.5s
PVCC Panska Ves 76.07 337⇓ eP P 10 45 33.6 +0.9
PVCC AMS AMS 11 25 00.0
comp=Z,900nm,16.5s
732A Laxson Ranch, 76.14 62 ⇑P P 10 45 34.4 +0.9
baz=76
ACSO Alum Creek Sta 76.15 44 eP P 10 45 32.4 -1.0
comp=Z,12nm,1.1s
WCI Wyandotte Cave 76.19 47 eP P 10 45 33.5 -0.2
WCI pmax pmax
comp=Z,49nm,0.9s
WCI Wyandotte Cave 76.19 47 eP P 10 45 33.5 -0.2
comp=Z,49nm,0.9s
QLP Quilpie 76.20 193 eP P 10 45 33.3 -0.3
ALLY Alegheny Colle 76.26 41 eP P 10 45 34.1 +0.1
comp=Z,71nm,1.3s
WTSB Winterswijk 76.51 342 eP P 10 45 36.1 +0.9
comp=Z,20nm,0.7s
CFR Carcaliu 76.56 326⇑ iP P 10 45 36.1 +0.5
PRU Pruhonice 76.57 337⇓ iP P 10 45 36.2 +0.6
PRU e 10 45 46.8
PRU MLR MLR
comp=Z,600nm,17.6s
PRU Pruhonice 76.57 337⇓ iP P 10 45 36.2 +0.6
PRU epP pP 10 45 39.8 -1.7
PRU ePCP PcP 10 45 46.8 -0.3
PRU AMS AMS 11 25 10.0
comp=Z,600nm,17.6s
VRAC Vranov 76.64 335⇓ iP P 10 45 37.2 +1.2
VRAC Vranov 76.64 335 LR LR 11 24 25.6
comp=Z,346nm,18.9s,baz=17,slow=40
MOX Moxa 76.69 339 eP P 10 45 36.9 +0.6
comp=Z,8.0nm,0.8s
MOX Moxa 76.69 339 eP P 10 45 36.9 +0.6
MOX pmax pmax
comp=Z,8.0nm,0.8s
TANN Tannenbergstha 76.70 338 eP P 10 45 37.0 +0.6
VYHS Vyhne 76.73 333 eP P 10 45 37.1 +0.5
VYHS pmax pmax
comp=Z,10.0nm,1.2s
VYHS Vyhne 76.73 333 eP P 10 45 37.1 +0.5
NATX Nacogdoches 76.87 57 eP P 10 45 38.4 +0.8
comp=Z,105nm,1.2s
UBBA Unterbreizbach 76.91 340 eP P 10 45 38.7 +1.4
BUG Bochum--Univer 76.92 342 eP P 10 45 38.0 +0.5
PSZ Piszkesteto 76.93 333 eP P 10 45 39.1 +1.3
PSZ pmax pmax
comp=Z,17nm,1.1s
PSZ Piszkesteto 76.93 333 eP P 10 45 39.1 +1.3
comp=Z,17nm,1.1s
PSZ Piszkesteto 76.93 333⇑ iP P 10 45 38.3 +0.5
PSZ Piszkesteto 76.93 333 ⇓P P 10 45 38.7 +0.9
DRGR 77.04 330 P P 10 45 39.1 +0.7
DRGR 77.04 330⇓ iP P 10 45 39.1 +0.7
TIRR Tirgusor 77.07 326⇑ iP P 10 45 38.9 +0.4
MLR Muntele Rosu 77.08 328 LR LR 11 19 32.3
comp=Z,74nm,20.2s,baz=235,slow=36
WVT Waverly 77.09 49 eP P 10 45 38.4 -0.3
WVT pmax pmax
comp=Z,7.0nm,0.8s
WVT Waverly 77.09 49 eP P 10 45 38.4 -0.3
comp=Z,6.9nm,0.8s
SMOL Smolenice 77.12 334 eP P 10 45 40.4 +1.7
SMOL Smolenice 77.12 334 eP P 10 45 40.4 +1.7
ISR Istrita 77.19 327⇓ iP P 10 45 40.2 +1.0
DLF Lyons Farm 77.29 351 eP P 10 45 37.0 -2.5
ROTZ Rotzenmuhle 77.36 338 eP P 10 45 41.2 +1.1
VOIR 77.44 328 P P 10 45 41.5 +0.9
VOIR 77.44 328⇓ iP P 10 45 41.6 +0.9
OXF Oxford 77.55 51 eP P 10 45 39.9 -1.5
OXF pmax pmax
comp=Z,56nm,1.0s
OXF Oxford 77.55 51 eP P 10 45 39.9 -1.5
comp=Z,56nm,1.0s
BUD Budapest 77.58 333 ⇓P P 10 45 42.3 +1.0
KHC Kasperske Hory 77.61 337⇓ iP P 10 45 42.3 +0.8
KHC e 10 45 46.8
KHC MLR MLR
comp=Z,800nm,12.9s
KHC Kasperske Hory 77.61 337 eP P 10 45 42.6 +1.1
comp=Z,30nm,1.1s
KHC Kasperske Hory 77.61 337⇓ iP P 10 45 42.3 +0.8
KHC epP pP 10 45 46.8 -0.6
KHC AMS AMS 11 25 50.0
comp=Z,800nm,12.9s
GRF Grafenberg Arr 77.67 339 eP P 10 45 42.9 +1.1
comp=Z,16nm,0.8s
GRF Grafenberg Arr 77.67 339 eP P 10 45 42.9 +1.1
GRF pmax pmax
comp=Z,16nm,0.8s
GRFO Grafenberg 77.67 339 eP P 10 45 43.3 +1.5
GRFO pmax pmax
comp=Z,26nm,0.9s
GRFO Grafenberg 77.67 339 eP P 10 45 43.2 +1.5
comp=Z,26nm,0.9s
MBWA Marble Bar 77.71 216 eP P 10 45 42.1 -0.1
comp=Z,30nm,1.0s
MBWA Marble Bar 77.71 216 eP P 10 45 41.8 -0.4

WET Wettzell 77.77 337 eP P 10 45 43.5 +1.1
comp=Z,11nm,0.9s
WET Wettzell 77.77 337 eP P 10 45 43.5 +1.1
WET pmax pmax
comp=Z,11nm,0.9s
TNS Taunus Mts 77.81 341 eP P 10 45 43.2 +0.6
comp=Z,9.0nm,0.9s
TNS Taunus Mts 77.81 341 eP P 10 45 43.2 +0.6
TNS pmax pmax
comp=Z,9.0nm,0.9s
HGN Heimansgroeve 77.83 342 eP P 10 45 43.1 +0.5
comp=Z,30nm,0.9s
GEC2 GERESS Array S 77.84 337 eP P 10 45 43.4 +0.6
comp=Z,4.0nm,0.8s
GEC2 GERESS Array S 77.84 337 eP P 10 45 43.4 +0.6
GEC2 pmax pmax
comp=Z,4.0nm,0.8s
GERES GERESS Array B 77.84 337 P P 10 45 43.1 +0.3
GERES GERESS Array B 77.84 337 P P 10 45 43.1 +0.3
comp=Z,2.6nm,0.7s,baz=23,slow=4.4,SNR=13
GERES LR LR 11 21 48.5
comp=Z,210nm,18.1s,baz=126,slow=37
BEBN Eben Emael 77.85 342 P P 10 45 43.4 +0.7
comp=Z,8.6nm,1.0s
PLAL Pickwick Lake 77.87 50 eP P 10 45 45.8 +2.7
comp=Z,36nm,1.4s
MEM Membach 77.96 342 P P 10 45 44.5 +1.1
comp=Z,26nm,1.4s
SSPA Standing Stone 78.06 40 eP P 10 45 44.0 -0.1
comp=Z,12nm,1.0s
CONA Conrad Observa 78.10 335 i pP P 10 45 45.6 +1.3
comp=Z,22nm,1.5s,SNR=11
BANOM Banah 78.11 296 P P 10 45 45.6 +1.0
SNR=6.1
SOP Sopron 78.12 335 ⇓P P 10 45 45.8 +1.5
BCLA Clavier 78.28 343 P P 10 45 45.8 +0.7
comp=Z,19nm,2.3s
SNF Seneffe 78.39 343 P P 10 45 46.4 +0.7
BZS Buzias 78.44 330 P P 10 45 46.3 +0.2
BZS Buzias 78.44 330⇓ iP P 10 45 46.2 +0.2
MOA Molln 78.60 336⇑ iP P 10 45 47.5 +0.5
comp=Z,8.4nm,1.0s
GIVF Givet 78.68 343 eP P 10 45 47.2 -0.1
comp=Z,33nm,1.0s
GIVF Givet 78.68 343 eP P 10 45 47.2 -0.1
GIVF Givet 78.68 343 eP P 10 45 47.2 -0.1
DOU Dourbes 78.73 343 P P 10 45 48.0 +0.5
SWET Sewanee 78.75 49 eP P 10 45 47.1 -1.0
comp=Z,24nm,0.9s
ARSA Arzberg 78.81 335⇑ iP P 10 45 49.0 +0.9
comp=Z,16nm,1.3s
WLF Walferdange 78.83 342 P P 10 45 50.6 +2.4
BAIF Baives 78.84 343 eP P 10 45 48.4 +0.2
comp=Z,17nm,0.9s
BAIF Baives 78.84 343 eP P 10 45 48.4 +0.2
BAIF Baives 78.84 343 eP P 10 45 48.4 +0.2
PKSM Moragy 78.84 333 ⇓P P 10 45 48.2 -0.1
BRTR Keskin Array B 78.97 320 P P 10 45 49.0 -0.3
BRTR Keskin Array B 78.97 320 P P 10 45 49.0 -0.3
comp=Z,8.5nm,1.0s,baz=64,slow=3.4,SNR=17
BRTR LR LR 11 27 36.1
comp=Z,48nm,18.6s,baz=219,slow=41
HATD Hatta, Dubai 79.03 295 P P 10 45 50.0 +0.3
SNR=8.2
BEHE Becsehely 79.16 334 ⇑P P 10 45 51.5 +1.4
ASHO Ashiyiah 79.18 295 P P 10 45 50.9 +0.3
SNR=8.9
ARMA Armidale 79.22 186 eP P 10 45 50.8 +0.3
comp=Z,35nm,1.4s
ARMA Armidale 79.22 186 eP P 10 45 51.2 +0.7
HOQ Hoqain 79.26 293 P P 10 45 51.6 +0.7
SNR=5.5
CPCT Cooper Cave 79.26 48 eP P 10 45 50.2 -0.6
SOKA Soboth 79.47 335⇑ iP P 10 45 52.2 +0.3
comp=Z,31nm,1.6s
GROS Grobnik 79.54 335 i P P 10 45 52.6 +0.4
KBA Koelnbreinsper 79.56 336 i pP P 10 45 53.9 +1.4
comp=Z,43nm,1.0s,SNR=27
ELN Prospectdale 79.60 44 eP P 10 45 52.5 -0.2
BFO Black Forest 79.62 340 eP P 10 45 53.3 +0.7
comp=Z,4.0nm,0.8s
BFO Black Forest 79.62 340 eP P 10 45 52.7 +0.1
BFO pmax pmax
comp=Z,18nm,1.4s
BFO Black Forest 79.62 340 eP P 10 45 52.7 +0.1
comp=Z,18nm,1.4s
JMDO Jabal Madar 79.68 292 P P 10 45 54.4 +1.0
SNR=9.2
SPAK Spaichingen-Ko 79.73 340 eP P 10 45 53.7 +0.5
BLA Blacksburg 79.77 44 eP P 10 45 53.3 -0.3
BLA pmax pmax
comp=Z,12nm,0.9s
BLA Blacksburg 79.77 44 eP P 10 45 53.3 -0.3
comp=Z,12nm,0.9s
CDF Champ du Feu 79.78 341 eP P 10 45 53.4 -0.1
comp=Z,39nm,1.2s
CDF Champ du Feu 79.78 341 eP P 10 45 53.4 -0.1
CDF Champ du Feu 79.78 341 eP P 10 45 53.4 -0.1
WTTA Wattenberg 79.83 337⇑ iP P 10 45 54.9 +1.0
comp=Z,43nm,1.4s,SNR=13
RETA Reutte 79.84 338⇑ i pP P 10 45 55.0 +1.2
comp=Z,17nm,1.1s
MOTA Moosalm 79.89 338⇑ i pP P 10 45 55.0 +0.9
comp=Z,17nm,0.9s,SNR=15
ARQ Araqi 79.92 294 P P 10 45 55.5 +0.9
SNR=7.7
LRAL Lakeview Retre 79.95 51 eP P 10 45 53.8 -0.7
comp=Z,4.5nm,0.8s
BSY Bisya 79.95 293 P P 10 45 55.4 +0.6
SNR=7.2
PAGF Fort de Pagny 79.97 342 eP P 10 45 54.8 +0.4
comp=Z,23nm,1.2s
PAGF Fort de Pagny 79.97 342 eP P 10 45 54.8 +0.4
ECH Echery 79.99 341 eP P 10 45 55.1 +0.5
ECH Echery 79.99 341 eP P 10 45 55.1 +0.5
ECH Echery 79.99 341 eP P 10 45 55.1 +0.5
ABTA Abfaltersbach 80.08 337⇑ iP P 10 45 55.3 +0.1
comp=Z,18nm,1.0s,SNR=7.2
FELD Feldberg im Sc 80.12 340 eP P 10 45 55.6 +0.2
MEZF Maizieres J'vi 80.16 342 eP P 10 45 55.8 +0.4
comp=Z,34nm,0.9s
MEZF Maizieres J'vi 80.16 342 eP P 10 45 55.8 +0.4
THEF They Montfort 80.23 341 eP P 10 45 55.3 -0.5
THEF They Montfort 80.23 341 eP P 10 45 55.3 -0.5
THEF They Montfort 80.23 341 eP P 10 45 55.3 -0.5
DAVA Damuels 80.24 339⇓ i pP P 10 45 57.3 +1.2
comp=Z,21nm,0.9s
MIB Mutribah 80.26 304 eP P 10 45 55.9 -0.4
MIB AMb AMB 10 45 57.4
comp=Z,79nm,1.0s
FETA Feichten 80.28 338⇑ iP P 10 45 56.9 +0.6
comp=Z,17nm,1.3s,SNR=7.7
VISS Visnje 80.32 335 i P P 10 45 56.7 +0.3
MOF Molkenrain 80.34 341 eP P 10 45 57.0 +0.5
MOF Molkenrain 80.34 341 eP P 10 45 57.0 +0.5
MOF Molkenrain 80.34 341 eP P 10 45 57.0 +0.5
HAU Haudompre 80.36 341 eP P 10 45 56.4 -0.2
comp=Z,38nm,1.2s
HAU eR
comp=Z,253nm,17.5s
HAU Haudompre 80.36 341 eP P 10 45 56.4 -0.2
HAU Haudompre 80.36 341 eP P 10 45 56.4 -0.2
VOJS Vojsko 80.38 336 eP P 10 45 52.4 -4.4
HINF Hinteralfeld 80.43 341 eP P 10 45 56.6 -0.4
HINF Hinteralfeld 80.43 341 eP P 10 45 56.6 -0.4
HINF Hinteralfeld 80.43 341 eP P 10 45 56.6 -0.4
SFTF Sexfontaines 80.44 342 eP P 10 45 57.1 +0.1
comp=Z,93nm,1.3s
SFTF Sexfontaines 80.44 342 eP P 10 45 57.1 +0.1
JAVS Javornik 80.46 335 i P P 10 45 57.1 -0.2
VTS Vitosha 80.57 328⇑ iP P 10 45 57.8 -0.2
DAVOX Davos/Dischmat 80.71 338 LR LR 11 27 53.0
comp=Z,253nm,18.1s,baz=26,slow=40
NAY Al-Naaiem 80.74 304 eP P 10 45 58.3 -0.6
NAY AMb AMB 10 46 03.4
comp=Z,37nm,2.0s
QRN Al-Qurain 80.77 303 eP P 10 45 59.2 +0.1
RDF Al-Radifah 80.83 304 eP P 10 45 59.2 -0.2
RDF AMb AMB 10 46 00.8
comp=Z,130nm,1.1s
LOMF Lomont 80.88 341 eP P 10 46 00.3 +0.9
LOMF Lomont 80.88 341 eP P 10 46 00.3 +0.9
LOMF Lomont 80.88 341 eP P 10 46 00.3 +0.9
FLN La Foliniere 80.91 346 eP P 10 45 59.5 0.0
comp=Z,81nm,1.0s

FLN eR
comp=Z,131nm,22.2s
FLN La Foliniere 80.91 346 eP P 10 45 59.5 0.0
FLN La Foliniere 80.91 346 eP P 10 45 59.5 0.0
LDF La Druitiere 81.02 346 eP P 10 46 00.0 0.0
comp=Z,53nm,1.0s
LDF La Druitiere 81.02 346 eP P 10 46 00.0 0.0
LDF La Druitiere 81.02 346 eP P 10 46 00.0 0.0
KMSC Kings Mountain 81.03 46 ⇓P P 10 46 00.2 -0.2
baz=81
TUE Stuetta 81.13 339 eP P 10 46 01.7 +0.8
comp=Z,19nm,0.9s
GRR Gorron 81.34 346 eP P 10 46 02.0 +0.3
comp=Z,137nm,1.0s
GRR Gorron 81.34 346 eP P 10 46 02.0 +0.3
GRR Gorron 81.34 346 eP P 10 46 02.0 +0.3
LOR Lormes 81.58 343 eP P 10 46 03.0 -0.1
comp=Z,47nm,1.2s
LOR eR
comp=Z,209nm,17.0s
LOR Lormes 81.58 343 eP P 10 46 03.0 -0.1
SGMF Saint Gilles 81.73 347 eP P 10 46 04.1 +0.3
comp=Z,78nm,0.9s
SGMF Saint Gilles 81.73 347 eP P 10 46 04.1 +0.3
SGMF Saint Gilles 81.73 347 eP P 10 46 04.1 +0.3
CABF La Chapelle 81.74 341 eP P 10 46 04.2 +0.2
CABF La Chapelle 81.74 341 eP P 10 46 04.2 +0.2
CABF La Chapelle 81.74 341 eP P 10 46 04.2 +0.2
ROSF Rostrenen 81.75 348 eP P 10 46 04.3 +0.4
comp=Z,101nm,1.0s
ROSF Rostrenen 81.75 348 eP P 10 46 04.3 +0.4
ROSF Rostrenen 81.75 348 eP P 10 46 04.3 +0.4
STKA Stephens Creek 81.80 194 P P 10 46 03.7 -0.5
STKA Stephens Creek 81.80 194 eP P 10 46 03.3 -0.8
comp=Z,3.8nm,1.0s
STKA Stephens Creek 81.80 194 P P 10 46 03.7 -0.5
comp=Z,3.1nm,0.8s,baz=9.8,slow=5.1,SNR=7.2
HYF Humbligny 81.81 343 eP P 10 46 04.7 +0.4
HYF Humbligny 81.81 343 eP P 10 46 04.7 +0.4
SSF Saint Saulge 81.84 343 eP P 10 46 04.4 0.0
comp=Z,15nm,0.8s
SSF Saint Saulge 81.84 343 eP P 10 46 04.4 0.0
SSF Saint Saulge 81.84 343 eP P 10 46 04.4 0.0
AVF Avril sur Loir 82.13 343 eP P 10 46 06.1 +0.1
comp=Z,89nm,1.2s
AVF Avril sur Loir 82.13 343 eP P 10 46 06.1 +0.1
AVF Avril sur Loir 82.13 343 eP P 10 46 06.1 +0.1
QUIF Quistinic 82.15 347 eP P 10 46 06.3 +0.3
comp=Z,52nm,1.1s
QUIF Quistinic 82.15 347 eP P 10 46 06.3 +0.3
QUIF Quistinic 82.15 347 eP P 10 46 06.3 +0.3
BGF Bois d'Agland 82.45 343 eP P 10 46 08.0 +0.3
comp=Z,30nm,1.0s
BGF Bois d'Agland 82.45 343 eP P 10 46 08.0 +0.3
BGF Bois d'Agland 82.45 343 eP P 10 46 08.0 +0.3
LPL La Plagne 82.64 340 eP P 10 46 09.6 +0.7
comp=Z,26nm,0.9s
LPL La Plagne 82.64 340 eP P 10 46 09.6 +0.7
LPL La Plagne 82.64 340 eP P 10 46 09.6 +0.7
LPG La Plagne 82.65 340 eP P 10 46 09.8 +0.7
comp=Z,41nm,0.9s
LPG La Plagne 82.65 340 eP P 10 46 09.8 +0.7
LPG La Plagne 82.65 340 eP P 10 46 09.8 +0.7
TCF Toulx Ste Croi 82.83 343 eP P 10 46 10.0 +0.3
comp=Z,56nm,1.0s
TCF Toulx Ste Croi 82.83 343 eP P 10 46 10.0 +0.3
TCF Toulx Ste Croi 82.83 343 eP P 10 46 10.0 +0.3
PLDF La Plantade 82.87 342 eP P 10 46 11.1 +1.2
PLDF La Plantade 82.87 342 eP P 10 46 11.1 +1.2
PLDF La Plantade 82.87 342 eP P 10 46 11.1 +1.2
AGO Saint Agoulin 82.88 343 eP P 10 46 11.1 +1.2
AGO Saint Agoulin 82.88 343 eP P 10 46 11.1 +1.2
MFF Saint Martin d 82.95 345 eP P 10 46 10.7 +0.5
comp=Z,92nm,1.1s
MFF Saint Martin d 82.95 345 eP P 10 46 10.7 +0.5
MFF Saint Martin d 82.95 345 eP P 10 46 10.7 +0.5
BNI Bardonecchia 83.09 340 eP P 10 46 12.3 +1.1
BNI pmax pmax
comp=Z,27nm,1.1s
BNI Bardonecchia 83.09 340 eP P 10 46 12.3 +1.1
comp=Z,27nm,1.1s
PYM Petit Puy Mans 83.20 343 eP P 10 46 12.7 +1.1
PYM Petit Puy Mans 83.20 343 eP P 10 46 12.7 +1.1
PYM Petit Puy Mans 83.20 343 eP P 10 46 12.7 +1.1
MBDF Montbardon 83.38 340 eP P 10 46 12.9 +0.2
comp=Z,61nm,1.3s
MBDF Montbardon 83.38 340 eP P 10 46 12.9 +0.2
MBDF Montbardon 83.38 340 eP P 10 46 12.9 +0.2
ORIF Oris-en-Rattie 83.40 340 eP P 10 46 13.4 +0.7
comp=Z,61nm,1.1s
ORIF eR
comp=Z,195nm,18.8s
ORIF Oris-en-Rattie 83.40 340 eP P 10 46 13.4 +0.7
ORIF Oris-en-Rattie 83.40 340 eP P 10 46 13.4 +0.7
VIVF Saint-Julien-l 83.72 341 eP P 10 46 14.7 +0.4
comp=Z,59nm,1.0s
VIVF Saint-Julien-l 83.72 341 eP P 10 46 14.7 +0.4
VIVF Saint-Julien-l 83.72 341 eP P 10 46 14.7 +0.4
ASF Jabal al Asfar 83.73 313 LR LR 11 27 26.2
comp=Z,54nm,18.9s,baz=271,slow=38
BBOO Buckleboo 83.73 199 eP P 10 46 13.6 -0.6
comp=Z,62nm,1.1s
MMAI Mount Meron Ar 83.74 315 LR LR 11 31 20.9
comp=Z,56nm,18.1s,baz=15,slow=41
FORT Forrest 83.78 206 eP P 10 46 14.1 -0.3
comp=Z,51nm,0.8s
FORT Forrest 83.78 206 eP P 10 46 14.1 -0.3
comp=Z,35nm,0.7s
SAOF Saorge 83.90 339 eP P 10 46 15.1 -0.1
SAOF Saorge 83.90 339 eP P 10 46 15.1 -0.1
SAOF Saorge 83.90 339 eP P 10 46 15.1 -0.1
RJF Les Rejaudoux 83.91 344 eP P 10 46 15.5 +0.3
comp=Z,61nm,1.2s
RJF eR
comp=Z,329nm,17.0s
RJF Les Rejaudoux 83.91 344 eP P 10 46 15.5 +0.3
RJF Les Rejaudoux 83.91 344 eP P 10 46 15.5 +0.3
AUTN L'Aution 83.92 339 eP P 10 46 15.9 +0.3
AUTN L'Aution 83.92 339 eP P 10 46 15.9 +0.3
AUTN L'Aution 83.92 339 eP P 10 46 15.9 +0.3
TOUF Mont Tournerai 83.94 339 eP P 10 46 16.0 +0.4
TOUF Mont Tournerai 83.94 339 eP P 10 46 16.0 +0.4
TOUF Mont Tournerai 83.94 339 eP P 10 46 16.0 +0.4
SBF Sospel 84.04 339 eP P 10 46 15.6 -0.4
comp=Z,108nm,1.1s
SBF Sospel 84.04 339 eP P 10 46 15.6 -0.4
SBF Sospel 84.04 339 eP P 10 46 15.6 -0.4
MVIF Mont Vial 84.08 339 eP P 10 46 16.8 +0.5
MVIF Mont Vial 84.08 339 eP P 10 46 16.8 +0.5
MVIF Mont Vial 84.08 339 eP P 10 46 16.8 +0.5
CAF Calviac 84.17 343 eP P 10 46 17.3 +0.7
comp=Z,63nm,1.1s
CAF Calviac 84.17 343 eP P 10 46 17.3 +0.7
CAF Calviac 84.17 343 eP P 10 46 17.3 +0.7
REVF Revere 84.17 339 eP P 10 46 17.1 +0.5
REVF Revere 84.17 339 eP P 10 46 17.1 +0.5
REVF Revere 84.17 339 eP P 10 46 17.1 +0.5
SMRF Simiane la Rot 84.36 340 eP P 10 46 18.2 +0.6
comp=Z,54nm,1.2s
SMRF Simiane la Rot 84.36 340 eP P 10 46 18.2 +0.6
LFF La Frestale 84.41 344 eP P 10 46 18.2 +0.5
comp=Z,46nm,0.9s
LFF La Frestale 84.41 344 eP P 10 46 18.2 +0.5
LFF La Frestale 84.41 344 eP P 10 46 18.2 +0.5
LMR La Mourre 84.76 340 eP P 10 46 19.5 0.0
comp=Z,122nm,1.3s
LMR La Mourre 84.76 340 eP P 10 46 19.5 0.0
LMR La Mourre 84.76 340 eP P 10 46 19.5 0.0
PGF Pioggiola 84.90 338 eP P 10 46 20.1 -0.3
comp=Z,26nm,0.8s
PGF Pioggiola 84.90 338 eP P 10 46 20.1 -0.3
PGF Pioggiola 84.90 338 eP P 10 46 20.1 -0.3
EPF Esparros 86.33 344 eP P 10 46 28.2 +0.8
comp=Z,12nm,0.8s
EPF Esparros 86.33 344 eP P 10 46 28.2 +0.8
EPF Esparros 86.33 344 eP P 10 46 28.2 +0.8
ETSF Etsaut 86.62 344 eP P 10 46 29.4 +0.5
comp=Z,28nm,1.1s
ETSF Etsaut 86.62 344 eP P 10 46 29.4 +0.5
ETSF Etsaut 86.62 344 eP P 10 46 29.4 +0.5
EIL Elat 86.73 313 LR LR 11 26 24.9
comp=Z,83nm,19.5s,baz=54,slow=36
ESDC Sonseca Array 90.33 346 P P 10 46 46.6 0.0
ESDC Sonseca Array 90.33 346 P P 10 46 46.6 0.0

comp=Z,16nm,1.1s,baz=7.3,slow=4.3,SNR=40
ESDC LR LR 11 34 33.9
comp=Z,132nm,19.3s,baz=295,slow=40
KEST Kesra 91.21 335 P **P** **10 46 50.8 +0.1**
KEST Kesra 91.21 335 P **P** **10 46 50.8 +0.1**
comp=Z,1.9nm,1.0s,baz=260,slow=5.4,SNR=4.7
KEST LR LR 11 34 11.4
comp=Z,50nm,19.1s,baz=176,slow=40
MDT Midelt 97.14 345 LR LR 11 42 22.2
comp=Z,111nm,18.1s,baz=63,slow=42
TORD Torodi Ar. Bea 114.73 335 PKP PKPdf 10 52 25.0 -1.2
TORD PP PP 10 53 17.0 -5.9
TORD PKKPbc **PKKPbc** **11 03 00.8 -1.0**
TORD Torodi Ar. Bea 114.73 335 PKP PKPdf 10 52 25.0 -1.2
comp=Z,0.4nm,0.7s,baz=29,slow=2.5,SNR=2.9
TORD PP PP 10 53 17.0 -5.9
comp=Z,1.9nm,1.1s,baz=12,slow=6.6,SNR=3.4
TORD PKKPbc **PKKPbc** **11 03 00.8 -1.0**
comp=Z,0.3nm,0.6s,baz=202,slow=2.4,SNR=2.5
DBIC Dimbokro 122.62 340 PKP **PKPdf** **10 52 40.0 -1.4**
DBIC Dimbokro 122.62 340 PKP **PKPdf** **10 52 40.0 -1.4**
comp=Z,2.3nm,0.7s,baz=168,slow=2.7,SNR=4.1
LIC Lamto 123.09 340 *e*PKIKP **PKPdf** **10 52 41.4 -1.0**
comp=Z,3.4nm,0.5s
LIC *e*R
comp=Z,104nm,22.9s
LIC Lamto 123.09 340 *e*PKPdf **PKPdf** **10 52 41.4 -1.0**
LPAZ La Paz 130.38 65 PKP **PKPdf** **10 52 56.6 -0.2**
LPAZ La Paz 130.38 65 PKP **PKPdf** **10 52 56.6 -0.2**
comp=Z,3.7nm,0.9s,baz=24,slow=1.9,SNR=9.0
BOSA Boshof 138.77 282 PKP **PKPdf** **10 53 12.7 +1.0**
BOSA Boshof 138.77 282 PKP **PKPdf** **10 53 12.7 +1.0**
comp=Z,2.5nm,0.8s,baz=157,slow=3.9,SNR=3.5
BDFB Brasilia 140.53 42 PKP **PKPdf** **10 53 14.9 -0.3**
BDFB Brasilia 140.53 42 PKP **PKPdf** **10 53 14.9 -0.3**
comp=Z,2.9nm,0.8s,baz=243,slow=2.3,SNR=4.1
CPUP Villa Florida 144.49 63 PKP **PKPab** **10 53 19.6 -0.4**
CPUP Villa Florida 144.49 63 PKP **PKPab** **10 53 19.6 -0.4**
comp=Z,14nm,0.7s,baz=299,slow=3.3,SNR=45
SYO Syowa Base 144.56 213 *e*X **PKPdf** **10 53 16.8 -3.7**
SYO Syowa Base 144.56 213 *e*pPKPdf pPKPdf 10 53 26.0 -0.7
TRQA Tornquist 149.32 84 *e*PKPbc **PKPbc** **10 53 32.2 -1.7**
NVL N'lazarevskaya 153.01 204 *e*PKIKP **PKPdf** **10 53 31.4 -2.7**
NVL pmax pmax
comp=Z,17nm,0.9s

*BJI **22** 10:42:31.9,5.°11N×125.°61E,h67km,mB5.1/10,mb4.7/18, Ms4.7/9,Ms7 4.5/9*
*IDC **22** 10:42:36.2±0.7,5.°71N×124.°85E,h35km±5km,mb4.0/19, mb1 4.1/19,mb1mx4.1/24,mbtmp4.0/19,MS3.6/6, Ms1 3.6/6,ms1mx3.2/38,Error ellipse: s-maj=15.9km s-min=9.8km az=87.0*
*MAN **22** 10:42:36,5.49N×124.°84E,h33km,mb5.3,ML4.3,MS4.5*
MAN INTENSITY III - KIAMBA SARANGANI; INTENSITY II - GENERAL SANTOS CITY.
*DJA **22** 10:42:40,5.67N×125.°10E,h10km,mb5.2/17*
*NEIC **22** 10:42:41.1±0.8,5.74N×124.°96E,h83km±7km,mb4.6/16, Error ellipse: s-maj=7.6km s-min=5.0km az=69.0*
NEIC Felt [III PIVS] at Kiamba and [II PIVS] at General Santos.
ISC 22 10:42:35.7±0.6,**5.°56N**±0.°03×**124.°83E**±0.°05,**h33**km±2km, **h33**km:**pP-P,n111,**σ1§**90**/121,**mb4.5**/48,**MS3.9**/10,**2C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**1.66**	**24**	*i*P		**Pb**		**10 43 05.7**	**-0.1**
DMPH				*e*S		**Sb**		**10 43 29.9**	**+3.5**
DAV	**Davao City (W)**	**1.68**	**26**	*e*Pn		**Pb**		**10 43 06.0**	**-0.1**
DAV				*e*Sn		**Sb**		**10 43 27.6**	**+0.7**
DAV	**Davao City (W)**	**1.68**	**26**	P		**Pb**		**10 43 06.2**	**+0.2**
SNR=43									
DAV	**Davao City (W)**	**1.68**	**26**	P		**Pn**		**10 43 05.4**	**+2.6**
DAV	**Davao City (W)**	**1.68**	**26**	Pg		**Pb**		**10 43 06.2**	**+0.2**
714nm,0.3s,baz=270,slow=20,SNR=58									
DAV				Lg		Lg		10 43 27.6	
583nm,0.3s,baz=128,slow=19,SNR=18									
MATI	**Mati**	**1.98**	**46**	*e*P		**Pn**		**10 43 08.6**	**+1.7**
PAGZ	**Pagadian**	**2.69**	**328**	*e*P		**Pn**		**10 43 19.0**	**+2.3**
PAGZ				*e*S		**Sn**		**10 43 51.5**	**+3.4**
ZMPH	**Zamboanga City**	**3.08**	**297**	*i*P		**Pn**		**10 43 24.7**	**+2.7**
ZMPH				*i*S		**Sn**		**10 43 58.3**	**+0.6**
IPIL	**Ipil**	**3.15**	**315**	*e*P		**Pn**		**10 43 26.0**	**+2.9**
IPIL				*e*S		**Sn**		**10 44 00.4**	**+0.9**
MNI	**Manado**	**4.09**	**180**	P		Pb		10 43 42.9	-4.2
MNI				S		**Sn**		**10 44 26.3**	**+3.6**
KMSI	**Cibinong**	**5.02**	**190**	P		**Pb**		**10 44 01.4**	**-1.6**
TNTI	**Ternate**	**5.39**	**152**	P		Pn		10 44 00.1	+6.2
648nm,0.8s,7µm2.2nm									
MRSI	**Marisa**	**5.81**	**210**	P		Pn		10 44 04.9	+5.2
416nm,0.7s,21µm7.1nm									
MRSI				S		**Sn**		**10 45 04.2**	**-1.0**
416nm,0.7s,21µm7.1nm									
MYLDM	**Lahad Datu**	**6.31**	**267**	P		Pn		10 44 13.8	+7.3
48nm,0.8s,2µm0.9nm									
CUYO	**Cuyo Island**	**6.47**	**325**	*e*P		Pn		10 44 12.4	+3.7
LBMI	**Labuha**	**6.71**	**156**	P		Pn		10 44 17.9	+5.9
156nm,0.8s,3µm0.7nm									
LUWI	**Luwuk**	**6.87**	**197**	P		Pb		10 44 24.0	-10
163nm,0.6s,6µm2.0nm									
LUWI				S		Sb		10 45 43.5	-13
163nm,0.6s,6µm2.0nm									
KKM	**Kota Kinabalu**	**8.58**	**274**	*e*Pn		Pn		10 44 44.0	+6.2
KKM	**Kota Kinabalu**	**8.58**	**274**	P		Pn		10 44 44.4	+6.6
16nm,1.4s									
NLAI	**Namlea**	**9.03**	**165**	P		Pn		10 44 49.6	+5.7
295nm,0.8s,3µm									
SWI	**Sorong**	**9.05**	**135**	P		Pn		10 44 49.0	+4.8
61nm,0.7s,2µm									
AAI	**Ambon**	**9.78**	**160**	P		Pn		10 44 58.6	+4.4
159nm,0.6s,2µm									
FAKI	**Fak Fak**	**11.22**	**138**	P		Pn		10 45 19.0	+5.1
KSM	**Kuching**	**15.04**	**255**	*e*P		P		10 46 16.6	+5.6
29nm,1.0s									
YULB	**Yu-li**	**18.05**	**349**	*e*P		**Pn**		**10 46 43.6**	**-0.6**
9.9nm,0.7s									
SSLB	**Suanglung**	**18.50**	**349**	*e*P		**P**		**10 46 48.1**	**-1.2**
MTN	**Manton Dam**	**19.33**	**161**	*e*P		**Pn**		**10 47 00.7**	**+1.1**
GUMO	**Guam**	**21.30**	**67**	LR		LR		10 54 54.4	
comp=Z,138nm,18.5s,baz=78,slow=35									
FITZ	**Fitzroy Crossi**	**23.52**	**178**	*e*P		**P**		**10 47 45.5**	**+2.4**
4.6nm,0.6s									
FITZ	**Fitzroy Crossi**	**23.52**	**178**	*e*P		**P**		**10 47 45.3**	**+2.2**
9.1nm,0.6s									
FITZ	**Fitzroy Crossi**	**23.52**	**178**	P		**P**		**10 47 45.5**	**+2.4**
3.9nm,0.5s,baz=0.6,slow=8.2,SNR=12									
KULM	**Kulim**	**24.07**	**271**	*e*P		**P**		**10 47 51.1**	**+2.8**
99nm,1.8s									
PSI	**Prapat**	**25.98**	**265**	P		**P**		**10 48 07.3**	**+1.5**
PSI	**Prapat**	**25.98**	**265**	P		**P**		**10 48 07.3**	**+1.5**
5.8nm,0.8s,baz=67,slow=8.6,SNR=5.3									
PSI				LR		LR		10 57 58.1	
comp=Z,101nm,21.2s,baz=46,slow=35									
COEN	**Coen**	**26.60**	**137**	*e*P		**P**		**10 48 12.5**	**+1.2**
48nm,0.6s									
COEN	**Coen**	**26.60**	**137**	*e*P		**P**		**10 48 12.1**	**+0.8**
28nm,0.4s									
WHN	**Wuhan**	**26.74**	**340**	P		**P**		**10 48 14.0**	**+1.7**
WHN				LR		LR			
comp=N,690nm,13.8s									
WHN				LR		LR			
comp=E,700nm,16.2s									
WHN				LR		LR			
comp=Z,750nm,12.7s									
PMG	**Port Moresby**	**26.77**	**124**	P		**P**		**10 48 13.7**	**+0.9**
PMG	**Port Moresby**	**26.77**	**124**	P		**P**		**10 48 13.7**	**+0.9**
comp=Z,7.8nm,0.7s,baz=288,slow=6.4,SNR=3.6									
WRAB	**Tennant Creek**	**27.01**	**160**	*e*P		**P**		**10 48 16.4**	**+1.5**
comp=Z,3.1nm,0.5s									
WRA	**Warramunga Arr**	**27.01**	**160**	P		**P**		**10 48 16.4**	**+1.5**
WRA				PcP		**PcP**		**10 51 34.9**	**-1.2**
WRA	**Warramunga Arr**	**27.01**	**160**	P		**P**		**10 48 16.4**	**+1.5**
comp=Z,2.0nm,0.4s,baz=337,slow=10,SNR=23									
WRA				PcP		**PcP**		**10 51 34.9**	**-1.2**
comp=Z,0.5nm,0.6s,baz=336,slow=2.1,SNR=3.4									
GYA	**Guiyang**	**27.07**	**322**	P		**P**		**10 48 17.8**	**+2.3**
GYA				pmax		pmax			
comp=Z,10.0nm,0.8s									
JNU	**Nakatsue**	**28.00**	**11**	LR		LR		11 00 29.2	
comp=Z,67nm,18.9s,baz=273,slow=38									
CMAR	**Chiang Mai Arr**	**28.32**	**299**	P		**P**		**10 48 27.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**28.32**	**299**	P		**P**		**10 48 27.7**	**+0.9**
comp=Z,1.4nm,0.4s,baz=119,slow=7.2,SNR=10									
CMAR				LR		LR		10 59 17.6	
comp=Z,60nm,18.9s,baz=279,slow=35									
CHTO	**Chiang Mai**	**28.46**	**300**	*e*P		**P**		**10 48 29.8**	**+1.8**
comp=Z,2.1nm,0.8s									
KMI	**Kunming**	**28.75**	**315**	P		P		10 48 34.3	+3.6
KMI				pmax		pmax			
comp=Z,13nm,1.5s									
ASAR	**Alice Springs**	**30.37**	**163**	P		**P**		**10 48 46.8**	**+2.0**
ASAR				PcP		**PcP**		**10 51 43.8**	**-0.6**
ASAR	**Alice Springs**	**30.37**	**163**	P		**P**		**10 48 46.8**	**+2.0**
comp=Z,0.7nm,0.5s,baz=339,slow=7.0,SNR=19									
ASAR				PcP		**PcP**		**10 51 43.8**	**-0.6**
comp=Z,1.1nm,0.4s,baz=342,slow=2.4,SNR=6.4									
KSAR	**Wonju Array Be**	**31.86**	**5**	P		**P**		**10 48 57.6**	**-0.2**
KSRS	**Korea Array**	**31.87**	**5**	P		**P**		**10 48 57.6**	**-0.3**
comp=Z,1.6nm,0.8s,baz=184,slow=9.4,SNR=5.1									
XAN	**Xi'an**	**31.95**	**335**	P		**P**		**10 48 59.3**	**+0.6**
XAN				pP		pP		10 49 15.6	+7.3
XAN				pmax		pmax			
comp=Z,16nm,0.9s									
XAN				pmax		pmax			
comp=Z,41nm,6.6s									
MJAR	**Matsushiro Arr**	**33.19**	**20**	P		**P**		**10 49 08.5**	**-0.9**
MJAR				pP		**pP**		**10 49 17.0**	**-2.1**
MJAR	**Matsushiro Arr**	**33.19**	**20**	P		**P**		**10 49 08.5**	**-0.9**
comp=Z,1.1nm,0.6s,baz=200,slow=9.5,SNR=4.2									
MJAR				pP		**pP**		**10 49 17.0**	**-2.1**
comp=Z,1.9nm,0.8s,baz=198,slow=9.5,SNR=4.8									
BJT	**Baijiatuau**	**35.18**	**348**	*e*P		**P**		**10 49 26.2**	**-0.4**
comp=Z,15nm,0.6s									
BJI	**Beijing**	**35.20**	**348**	P		**P**		**10 49 26.3**	**-0.5**
BJI				pmax		pmax			
comp=Z,30nm,0.8s									
LZH	**Lanzhou**	**35.98**	**330**	*e*P		**P**		**10 49 36.4**	**+2.6**
LZH				pP		pP		10 49 55.0	+11
LZH				sP		sP		10 50 02.5	+15
LZH				pmax		pmax			
comp=Z,35nm,1.0s									
LZH				pmax		pmax			
comp=Z,230nm,5.1s									
LZH				LR		LR			
comp=N,380nm,10.6s									
LZH				LR		LR			
comp=E,780nm,17.5s									
LZH				LR		LR			
comp=Z,560nm,15.5s									
FORT	**Forrest**	**36.26**	**175**	*e*P		**P**		**10 49 38.0**	**+2.0**
comp=Z,11nm,0.7s									
HHC	**Hu-ho-hao-te**	**37.09**	**343**	*e*P		**P**		**10 49 44.4**	**+1.2**
HHC				pP		pP		10 50 00.6	+7.7
HHC				sP		sP		10 50 11.8	+15
HHC				PP		**PnPn**		**10 51 13.1**	**+4.5**
HHC				S		**S**		**10 55 25.3**	**-2.0**
HHC				sS		**ScP**		**10 55 55.0**	**+7.0**
HHC				ScS		**ScS**		**10 59 50.4**	**-5.2**
HHC				pmax		pmax			
comp=Z,19nm,0.6s									
HHC				LR		LR			
comp=N,350nm,10.0s									
HHC				LR		LR			
comp=E,200nm,10.8s									
HHC				LR		LR			
comp=Z,140nm,9.9s									
SHL	**Shillong**	**37.27**	**306**	*e*PKP		**P**		**10 49 46.0**	**+1.0**
CN2	**Changchun**	**38.09**	**1**	*e*P		**P**		**10 49 53.1**	**+1.7**
CN2				pmax		pmax			
comp=Z,10.0nm,1.0s									
USRK	**Ussuriysk Arra**	**39.00**	**8**	P		**P**		**10 49 58.0**	**-1.0**
comp=Z,1.1nm,0.7s,baz=192,slow=9.1,SNR=3.8									
USRK				sP		**sP**		**10 50 12.5**	**-0.3**
comp=Z,2.8nm,0.7s,baz=189,slow=11,SNR=4.9									
BBOO	**Buckleboo**	**39.62**	**165**	*e*P		**P**		**10 50 06.3**	**+2.0**
comp=Z,149nm,0.9s									
BBOO	**Buckleboo**	**39.62**	**165**	*e*P		**P**		**10 50 06.5**	**+2.1**
comp=Z,30nm,0.4s									
STKA	**Stephens Creek**	**40.51**	**158**	P		**P**		**10 50 13.0**	**+1.2**
STKA				PcP		**PcP**		**10 52 13.3**	**-0.7**
STKA	**Stephens Creek**	**40.51**	**158**	*e*P		**P**		**10 50 13.9**	**+2.1**
comp=Z,4.6nm,0.9s									
STKA	**Stephens Creek**	**40.51**	**158**	P		**P**		**10 50 13.0**	**+1.2**
comp=Z,2.6nm,0.7s,baz=328,slow=6.8,SNR=6.8									
STKA				PcP		**PcP**		**10 52 13.3**	**-0.7**
comp=Z,1.6nm,0.4s,baz=359,slow=5.4,SNR=3.0									
GTA	**Gaotai**	**40.57**	**330**	*e*P		**P**		**10 50 13.1**	**+0.8**
GTA				pmax		pmax			
comp=Z,4.0nm,1.0s									
ULN	**Ulaanbaatar**	**44.82**	**343**	*e*P		**P**		**10 50 46.5**	**-0.2**
comp=Z,5.4nm,0.9s									
SONM	**Songino Array**	**44.98**	**342**	P		**P**		**10 50 47.4**	**-0.6**
SONM	**Songino Array**	**44.98**	**342**	P		**P**		**10 50 47.4**	**-0.6**
comp=Z,3.0nm,0.7s,baz=156,slow=8.3,SNR=19									
SONM				LR		LR		11 10 22.8	
comp=Z,124nm,18.3s,baz=205,slow=37									
WMQ	**Urumqi**	**50.15**	**325**	*e*P		**P**		**10 51 29.3**	**+1.2**
WMQ				pmax		pmax			
comp=Z,5.0nm,0.6s									
PETK	**Petropavlovsk-**	**54.50**	**24**	P		**P**		**10 51 59.4**	**-0.8**
PETK	**Petropavlovsk-**	**54.50**	**24**	P		**P**		**10 51 59.4**	**-0.8**
comp=Z,6.9nm,1.0s,baz=205,slow=4.5,SNR=3.5									
MKAR	**Makanchi Array**	**54.98**	**325**	*e*P		**P**		**10 52 03.9**	**0.0**
MKAR				PcP		**PcP**		**10 53 03.4**	**-1.9**
MKAR	**Makanchi Array**	**54.98**	**325**	P		**P**		**10 52 03.8**	**0.0**
comp=Z,2.2nm,0.5s,baz=116,slow=7.2,SNR=51									
MKAR				PcP		**PcP**		**10 53 03.4**	**-1.9**
comp=Z,1.7nm,0.7s,baz=116,slow=4.8,SNR=5.0									
KSH	**Kashi**	**55.42**	**315**	*e*P		**P**		**10 52 10.1**	**+2.9**
KSH				pP		pP		10 52 28.6	+11
KSH				sP		sP		10 52 38.3	+17
KSH				PcP		**PcP**		**10 53 08.8**	**+1.5**
KSH				PP		PP		10 54 17.1	+5.8
KSH				ScP		**ScP**		**10 56 59.3**	**-4.6**
KSH				PcS		**PcS**		**10 57 07.5**	**0.0**
KSH				S		**S**		**10 59 48.1**	**-1.9**
KSH				sS		sS		11 00 20.3	+14
KSH				ScS		**ScS**		**11 01 48.1**	**-6.2**
KSH				pmax		pmax			
comp=Z,130nm,5.1s									
KSH				LR		LR			
comp=N,180nm,6.1s									
KSH				LR		LR			
comp=E,140nm,7.6s									
KSH				LR		LR			
comp=Z,340nm,14.4s									
YAK	**Yakutsk**	**56.47**	**3**	*e*P		**P**		**10 52 12.8**	**-1.3**
comp=Z,19nm,0.8s									
TKM2	**Tokmak 2**	**57.13**	**319**	*e*P		**P**		**10 52 20.3**	**+0.9**
comp=Z,1.2nm,0.5s									
AAK	**Ala-Archa**	**57.74**	**318**	*e*P		**P**		**10 52 24.3**	**+0.5**
comp=Z,6.8nm,0.7s									
AAK	**Ala-Archa**	**57.74**	**318**	P		**P**		**10 52 24.1**	**+0.3**
comp=Z,1.4nm,0.8s,baz=132,slow=7.9,SNR=4.4									
ZALV	**Zalesovo Beam**	**58.11**	**333**	P		**P**		**10 52 24.5**	**-1.4**
ZALV	**Zalesovo Beam**	**58.11**	**333**	P		**P**		**10 52 24.5**	**-1.4**
comp=Z,1.1nm,0.3s,baz=121,slow=7.1,SNR=12									
KURBB	**Kurchatov Arra**	**59.19**	**328**	P		**P**		**10 52 33.1**	**-0.4**
comp=Z,7.6nm,0.9s,baz=125,slow=5.8,SNR=59									
KURK	**Kurchatov**	**59.19**	**328**	*e*P		**P**		**10 52 32.8**	**-0.6**
comp=Z,9.6nm,0.8s									
KKAR	**Karatay Array**	**60.61**	**317**	*e*P		**P**		**10 52 43.5**	**+0.1**
BVAR	**Borovoye Array**	**64.76**	**327**	P		**P**		**10 53 10.1**	**-0.8**
BVAR	**Borovoye Array**	**64.76**	**327**	P		**P**		**10 53 10.1**	**-0.8**
comp=Z,4.3nm,0.8s,baz=114,slow=6.5,SNR=13									
BVAR				LR		LR		11 25 34.3	
comp=Z,82nm,18.4s,baz=39,slow=40									
BRVK	**Borovoye**	**64.83**	**327**	*e*P		**P**		**10 53 11.3**	**0.0**
comp=Z,7.2nm,0.9s									
ABKAR	**Akbulak array**	**69.54**	**321**	*e*P		**P**		**10 53 40.8**	**-0.5**
comp=Z,3.7nm,0.7s									
KBD	**Kabd**	**76.08**	**299**	*e*P		**P**		**10 54 20.2**	**-0.3**
KBD				AMb		AMB		10 54 28.2	
comp=Z,50nm,1.8s									
MIB	**Mutribah**	**76.41**	**299**	*e*P		**P**		**10 54 21.8**	**-0.5**
MIB				AMb		AMB		10 54 22.9	
comp=Z,25nm,0.8s									
NAY	**Al-Naaiem**	**76.48**	**299**	*e*P		**P**		**10 54 21.8**	**-1.0**
NAY				AMb		AMB		10 54 24.0	
comp=Z,14nm,0.9s									
MCK	**McKinley**	**83.38**	**27**	*e*P		**P**		**10 54 57.8**	**-1.7**
comp=Z,186nm,2.8s									
ILAR	**Eielson Array**	**84.28**	**26**	P		**P**		**10 55 02.1**	**-1.9**
ILAR				pP		**pP**		**10 55 15.9**	**+1.4**
ILAR	**Eielson Array**	**84.28**	**26**	P		**P**		**10 55 02.1**	**-1.9**
comp=Z,1.8nm,0.9s,baz=248,slow=5.6,SNR=13									
ILAR				pP		**pP**		**10 55 15.9**	**+1.4**
comp=Z,1.8nm,0.7s,baz=276,slow=4.5,SNR=9.9									
ARCES	**ARCESS Array B**	**88.09**	**340**	P		P		10 55 19.6	-3.0
ARCES	**ARCESS Array B**	**88.09**	**340**	P		P		10 55 19.6	-3.0
comp=Z,6.1nm,1.0s,baz=70,slow=5.2,SNR=4.9									
AKASG	**Malin Array Be**	**89.28**	**321**	P		**P**		**10 55 26.1**	**-2.5**
AKASG	**Malin Array Be**	**89.28**	**321**	P		**P**		**10 55 26.1**	**-2.5**
comp=Z,0.3nm,0.3s,baz=69,slow=5.1,SNR=4.3									
FINES	**FINESS Array B**	**89.33**	**332**	P		P		10 55 26.0	-2.6
FINES	**FINESS Array B**	**89.33**	**332**	P		P		10 55 26.0	-2.6
comp=Z,1.5nm,0.7s,baz=73,slow=4.7,SNR=6.6									
YKA	**Yellowknife Ar**	**98.62**	**24**	P		**P**		**10 56 09.2**	**-2.0**
YKA				pP		**pP**		**10 56 21.3**	**-0.5**
YKA	**Yellowknife Ar**	**98.62**	**24**	P		**P**		**10 56 09.2**	**-2.0**
comp=Z,0.2nm,0.8s,baz=298,slow=5.1,SNR=5.6									
YKA				pP		**pP**		**10 56 21.3**	**-0.5**
comp=Z,0.3nm,0.8s,baz=308,slow=4.7,SNR=4.4									
TORD	**Torodi Ar. Bea**	**120.54**	**289**	PKP		**PKPdf**		**11 01 24.1**	**-0.9**
TORD	**Torodi Ar. Bea**	**120.54**	**289**	PKP		**PKPdf**		**11 01 24.1**	**-0.9**
comp=Z,0.1nm,0.3s,baz=65,slow=1.2,SNR=2.9									
TXAR	**Lajitas Array**	**121.94**	**50**	PKP		**PKPdf**		**11 01 26.4**	**-1.2**
TXAR	**Lajitas Array**	**121.94**	**50**	PKP		**PKPdf**		**11 01 26.4**	**-1.2**
comp=Z,0.2nm,0.6s,baz=270,slow=1.8,SNR=3.3									
CPUP	**Villa Florida**	**159.24**	**175**	PKPab		**PKPab**		**11 03 08.8**	**+0.4**
CPUP	**Villa Florida**	**159.24**	**175**	PKPab		**PKPab**		**11 03 08.8**	**+0.4**
comp=Z,0.3nm,0.3s,baz=84,slow=15,SNR=3.2									

IDC 22 11:03:53.5±1.3,**4.°16N×126.°93E,h0**km,**mb3.5**/7, **mb1 3.6**/7,**mb1mx3.5**/23,**mbtmp3.5**/7,**Error ellipse: s-maj=96.8km s-min=16.7km az=69.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.16**	**183**	P		P	P	11 08 51.0	-0.1
1.0nm,0.6s,baz=7.1,slow=8.1,SNR=3.3									
WRA	**Warramunga Arr**	**25.03**	**163**	P		P	P	11 09 19.2	-0.3
1.8nm,0.6s,baz=343,slow=11,SNR=22									
ASAR	**Alice Springs**	**28.48**	**167**	P		P	P	11 09 50.4	-0.2
0.1nm,0.5s,baz=346,slow=7.2,SNR=4.7									
STKA	**Stephens Creek**	**38.46**	**160**	P		P	P	11 11 17.6	+0.4
1.0nm,0.3s,baz=328,slow=8.8,SNR=3.2									
MKAR	**Makanchi Array**	**57.32**	**325**	P		P	P	11 13 43.5	+0.2
0.2nm,0.4s,baz=122,slow=7.3,SNR=5.7									
KURBB	**Kurchatov Arra**	**61.49**	**327**	P		P	P	11 14 12.0	0.0
0.2nm,0.5s,baz=117,slow=6.9,SNR=4.9									
BVAR	**Borovoye Array**	**67.07**	**327**	P		P	P	11 14 48.4	-0.2
0.2nm,0.4s,baz=101,slow=7.5,SNR=2.3									

IDC 22 11:07:11.5±1.6,**4.°21N×126.°99E,h0**km,**mb3.5**/5, **mb1 3.7**/5,**mb1mx3.4**/21,**mbtmp3.5**/5,**Error ellipse: s-maj=150.3km s-min=20.6km az=65.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.07**	**163**	P		P	P	11 12 37.6	-0.3
2.0nm,0.7s,baz=344,slow=11,SNR=16									
ASAR	**Alice Springs**	**28.52**	**167**	P		P	P	11 13 08.8	-0.2
0.2nm,0.6s,baz=346,slow=8.4,SNR=4.8									
STKA	**Stephens Creek**	**38.49**	**160**	P		P	P	11 14 35.7	+0.2
0.6nm,0.3s,baz=325,slow=12,SNR=2.7									
MKAR	**Makanchi Array**	**57.31**	**325**	P		P	P	11 17 00.8	-0.4
0.2nm,0.6s,baz=114,slow=6.7,SNR=4.2									
KURBB	**Kurchatov Arra**	**61.47**	**327**	P		P	P	11 17 30.2	+0.3
0.2nm,0.5s,baz=123,slow=6.8,SNR=4.1									

*ISK **22** 11:08:03.3,39.°41N×28.°13E,h13km,MD2.8*
*ISCJB **22** 11:08:04.2±0.4,39.°44N±0.°03×28.°16E±0.°04,h6km±6km, Error ellipse: s-maj=4.8km s-min=4.5km az=33.9*
*CSEM **22** 11:08:04.2±0.1,39.°45N×28.°16E,h12km,MD2.8, Error ellipse: s-maj=3.6km s-min=2.9km az=59.0*
ISC 22 11:08:03.9±1.1,**39.°43N**±0.°03×**28.°14E**±0.°02,**h10**km±9km, **n32**,σ0§**36**/46,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.29**	**316**	*e*PG		**Pg**		**11 08 09.8**	**0.0**
BALB				*e*SG		**Sb**		**11 08 15.3**	**-0.8**
BALB	**Balikesir**	**0.29**	**316**	*e*Pg		**Pg**		**11 08 09.8**	**0.0**
BALB				*e*Sg		**Sb**		**11 08 15.3**	**-0.8**
DURS	**Dursunbey**	**0

WRA	Warramunga Arr	24.99	164	P	P	11 19 23.5	-0.7
	7.5nm,0.8s,baz=344,slow=11,SNR=53						
ASAR	Alice Springs	28.44	167	P	P	11 19 55.1	-0.2
ASAR	Alice Springs	28.44	167	P	P	11 19 55.1	-0.2
	0.4nm,0.6s,baz=342,slow=6.1,SNR=9.7						
CMAR	Chiang Mai Arr	30.93	300	P	P	11 20 17.3	-0.1
CMAR	Chiang Mai Arr	30.93	300	P	P	11 20 17.3	-0.1
	0.4nm,0.4s,baz=104,slow=6.6,SNR=3.5						
STKA	Stephens Creek	38.41	160	P	P	11 21 22.1	+0.2
STKA	Stephens Creek	38.41	160	P	P	11 21 22.1	+0.2
	2.7nm,0.7s,baz=334,slow=10,SNR=6.7						
SONM	Songino Array	47.00	341	P	P	11 22 31.8	+0.3
SONM	Songino Array	47.00	341	P	P	11 22 31.8	+0.3
	0.2nm,0.6s,baz=150,slow=6.0,SNR=3.0						
MKAR	Makanchi Array	57.39	325	P	P	11 23 48.4	-0.2
MKAR	Makanchi Array	57.39	325	P	P	11 23 48.4	-0.2
	0.6nm,0.5s,baz=121,slow=8.0,SNR=18						
KURBB	Kurchatov Arra	61.55	327	P	P	11 24 16.7	-0.5
	0.8nm,0.5s,baz=123,slow=8.0,SNR=11						
KURK	Kurchatov	61.55	327	*e*P	P	11 24 16.8	-0.4
	2.4nm,0.8s						
BVAR	Borovoye Array	67.14	327	P	P	11 24 53.9	+0.2
BVAR	Borovoye Array	67.14	327	P	P	11 24 53.9	+0.2
	0.5nm,0.5s,baz=122,slow=5.2,SNR=3.9						
BRVK	Borovoye	67.21	327	*e*P	P	11 24 53.8	-0.4
	1.2nm,0.5s						
TORD	Torodi Ar. Bea	123.08	289	PKP	PKPdf	11 32 57.7	+0.2
TORD	Torodi Ar. Bea	123.08	289	PKP	PKPdf	11 32 57.7	+0.2
	0.4nm,0.7s,baz=64,slow=1.9,SNR=3.0						

ROM ***22*** *11:21:26.2±0.1, 42°.04N×13°.22E, h8km±1km, Ml3.2/49, Error ellipse: s-maj=1.1km s-min=1.0km az=35.0*
LDG ***22*** *11:21:26.5±0.1, 42°.01N×13°.22E, h2km, Ml3.1/5, Error ellipse: s-maj=4.2km s-min=2.8km az=34.0*
ISCJB ***22*** *11:21:26.1±0.2, 42°.06N±0°.02×13°.18E±0°.02, h4km±2km, mb3.4/4, Error ellipse: s-maj=2.7km s-min=2.5km az=38.6*
CSEM ***22*** *11:21:26.3±0.1, 42°.04N×13°.19E, h2km, ML3.8/7, Ms3.3, Error ellipse: s-maj=2.8km s-min=2.3km az=46.0*
IDC ***22*** *11:21:27.5±1.1, 42°.09N×13°.15E, h0km, mb3.4/5, mb1 3.7/10, mb1mx3.6/30, mbtmp3.5/10, ML3.3/5, Error ellipse: s-maj=20.5km s-min=14.0km az=97.0*
VIE ***22*** *11:21:29.2±0.6, 42°.12N×13°.31E, h10km, mb3.1/9, ML3.1/8, Ms3.3/1, Error ellipse: s-maj=8.2km s-min=4.1km az=112.0*

ISC 22 11:21:27.1±0.8, 42°.03N±0°.01×13°.20E±0°.01, h11km±5km, n188, σ1s49/216, mb3.4/4, 15C-22D, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTQR	Pietraquaria	0.15	94	⇓*i*Pg		Pg		11 21 29.9	-0.8
PTQR	Pietraquaria	0.15	94	⇓*i*Pg		Pg		11 21 29.9	-0.8
CERT	Cerreto	0.18	242	Pg		Pg		11 21 31.1	0.0
CERT				Sg		Sg		11 21 34.5	+0.6
	21μm,0.4s								
CERT	Cerreto	0.18	242	Pg		Pg		11 21 31.1	0.0
CERT				Sg		Sg		11 21 34.5	+0.6
	21μm,0.4s								
FIAM	Fiamignano	0.24	346	⇑*i*Pg		Pg		11 21 31.8	-0.4
FIAM				Sg		Sg		11 21 35.9	+0.2
	14μm,1.2s								
FIAM	Fiamignano	0.24	346	⇑*i*Pg		Pg		11 21 31.8	-0.4
FIAM				Sg		Sg		11 21 35.9	+0.2
	14μm,1.2s								
GUAR	Guarcino	0.25	160	⇓*i*Pg		Pb		11 21 32.1	-1.6
GUAR				Sg		Sb		11 21 37.8	-0.3
	13μm,0.5s								
GUAR	Guarcino	0.25	160	⇓*i*Pg		Pb		11 21 32.1	-1.6
GUAR				Sg		Sb		11 21 37.8	-0.3
	13μm,0.5s								
MTCE	Montecelio	0.34	268	⇑*i*Pg		Pg		11 21 33.8	-0.1
MTCE				Sg		Sb		11 21 39.6	-0.9
	6μm,0.9s								
MTCE	Montecelio	0.34	268	⇑*i*Pg		Pg		11 21 33.8	-0.1
MTCE				Sg		Sb		11 21 39.6	-0.9
	6μm,0.9s								
AQU	L'Aquila	0.35	25	⇑*i*Pg		Pg		11 21 33.6	-0.6
AQU				Sg		Sb		11 21 39.5	-1.6
	5μm,0.6s								
AQU	L'Aquila	0.35	25	⇓*i*P		Pg		11 21 33.6	-0.6
AQU				S		Sb		11 21 39.3	-1.8
AQU	L'Aquila	0.35	25	⇑*i*Pg		Pg		11 21 33.6	-0.6
AQU				Sg		Sb		11 21 39.5	-1.6
	5μm,0.6s								
VVLD	Villa Vallelon	0.36	117	Pg		Pg		11 21 33.5	-0.7
VVLD				Sg		Sb		11 21 40.2	-0.9
	5μm,0.4s								
VVLD	Villa Vallelon	0.36	117	Pg		Pg		11 21 33.5	-0.7
VVLD				Sg		Sb		11 21 40.2	-0.9
	5μm,0.4s								
FAGN	Fagnano	0.37	51	Pg		Pb		11 21 33.9	-1.8
FAGN				Sg		Sb		11 21 39.9	-1.6
	12μm,0.5s								
FAGN	Fagnano	0.37	51	Pg		Pb		11 21 33.9	-1.8
FAGN				Sg		Sb		11 21 39.9	-1.6
	12μm,0.5s								
RMP	Rome, Mte Porz	0.43	239	Pg		Pb		11 21 35.6	-1.1
RMP				Sg		Sb		11 21 42.8	-0.3
	4μm,0.5s								
RMP	Rome, Mte Porz	0.43	239	Pg		Pb		11 21 35.6	-1.1
RMP				Sg		Sb		11 21 42.8	-0.3
	4μm,0.5s								
RDP	Rocca di Papa	0.45	233	Pg		Pb		11 21 36.2	-0.9
RDP				Sg		Sb		11 21 44.1	+0.3
	5μm,0.5s								
RDP	Rocca di Papa	0.45	233	Pg		Pb		11 21 36.2	-0.9
RDP				Sg		Sb		11 21 44.1	+0.3
	5μm,0.5s								
GIUL	Giuliano Di Ro	0.48	175	⇓*i*Pg		Pg		11 21 35.9	-0.5
	1μm,0.5s								
GIUL	Giuliano Di Ro	0.48	175	⇓*i*Pg		Pg		11 21 35.9	-0.5
	1μm,0.5s								
MA9	Marino	0.48	237	Pg		Pb		11 21 36.7	-0.8
	3μm,0.5s								
MA9	Marino	0.48	237	Pg		Pb		11 21 36.7	-0.8
	3μm,0.5s								
POFI	Posta Fibreno	0.50	129	⇓*i*Pg		Pg		11 21 35.9	-0.9
POFI				Sg		Sb		11 21 45.0	-0.1
	2μm,0.5s								
POFI	Posta Fibreno	0.50	129	⇓*i*Pg		Pg		11 21 35.9	-0.9
POFI				Sg		Sb		11 21 45.0	-0.1
	2μm,0.5s								
LAV9	Lanuvio	0.51	226	Pg		Pb		11 21 37.4	-0.7
LAV9	Lanuvio	0.51	226	Pg		Pb		11 21 37.4	-0.7
MNS	Montasola	0.52	313	Pg		Pg		11 21 36.5	-0.8
MNS	Montasola	0.52	313	Pg		Pg		11 21 36.5	-0.8
CAMP	Campotosto	0.53	17	Pg		Pg		11 21 36.6	-0.8
	313nm,0.5s								
CAMP	Campotosto	0.53	17	Pg		Pg		11 21 36.6	-0.8
	313nm,0.5s								
INTR	Introdacqua	0.53	92	Pg		Pg		11 21 36.6	-0.8
	2μm,0.7s								
INTR	Introdacqua	0.53	92	Pg		Pg		11 21 36.6	-0.8
	2μm,0.7s								
ROM9	Roma	0.55	248	Pg		Pb		11 21 38.0	-0.7
	7μm,0.3s								
ROM9	Roma	0.55	248	Pg		Pb		11 21 38.0	-0.7
	7μm,0.3s								
SDI	San Donato	0.56	125	⇓*i*Pg		Pg		11 21 36.9	-1.1
SDI	San Donato	0.56	125	⇓*i*Pg		Pg		11 21 36.9	-1.1
LNSS	Leonessa	0.58	349	Pg		Pg		11 21 37.5	-0.9
	3μm,0.6s								
LNSS	Leonessa	0.58	349	Pg		Pg		11 21 37.5	-0.9
	3μm,0.6s								
VCEL	Villa Celiera	0.60	53	Pg		Pb		11 21 38.4	-1.2
	2μm,0.6s								
VCEL	Villa Celiera	0.60	53	Pg		Pb		11 21 38.4	-1.2
	2μm,0.6s								
TERO	Teramo	0.66	27	Pg		Pg		11 21 38.5	-1.5
	1μm,0.4s								
TERO	Teramo	0.66	27	Pg		Pg		11 21 38.5	-1.5
	1μm,0.4s								
LPEL	Lama dei Pelig	0.73	89	Pg		Pg		11 21 39.9	-1.4
	1μm,0.6s								
LPEL	Lama dei Pelig	0.73	89	Pg		Pg		11 21 39.9	-1.4
	1μm,0.6s								
CERA	Filignano	0.75	125	⇓*i*Pg		Pg		11 21 40.2	-1.4
	2μm,0.5s								
CERA	Filignano	0.75	125	⇓*i*Pg		Pg		11 21 40.2	-1.4
	2μm,0.5s								
RNI2	Rionero Sannit	0.79	115	Pg		Pg		11 21 41.3	-1.0
RNI2	Rionero Sannit	0.79	115	Pg		Pg		11 21 41.3	-1.0
NRCA	Norcia	0.80	356	Pg		Pg		11 21 41.2	-1.4
NRCA	Norcia	0.80	356	Pg		Pg		11 21 41.2	-1.4
MIDA	Miranda	0.88	116	⇓*i*Pg		Pg		11 21 42.4	-1.7
	658nm,0.6s								
MIDA	Miranda	0.88	116	⇓*i*Pg		Pg		11 21 42.4	-1.7
	658nm,0.6s								
RFI	Roccamonfina	0.94	141	Pg		Pb		11 21 44.7	-0.7
	44nm,0.4s								
RFI	Roccamonfina	0.94	141	Pg		Pb		11 21 44.7	-0.7
	44nm,0.4s								
OFFI	Offida	0.97	22	Pg		Pn		11 21 45.3	-1.3
	3μm,0.7s								
OFFI	Offida	0.97	22	Pg		Pn		11 21 45.3	-1.3
	3μm,0.7s								
VAGA	Valle Agricola	0.99	128	Pg		Pg		11 21 44.5	-1.7
	571nm,0.8s								
VAGA	Valle Agricola	0.99	128	Pg		Pg		11 21 44.5	-1.7
	571nm,0.8s								
CESI	CESI - Serrava	0.99	348	Pg		Pg		11 21 45.1	-1.2
	284nm,0.5s								
CESI	CESI - Serrava	0.99	348	Pg		Pg		11 21 45.1	-1.2
	284nm,0.5s								
FDMO	Fiordimonte	1.01	355	Pg		Pg		11 21 44.7	-1.8
	449nm,0.5s								
FDMO	Fiordimonte	1.01	355	Pg		Pg		11 21 44.7	-1.8
	449nm,0.5s								
MODR	Mondragone	1.02	150	⇓*i*Pg		Pg		11 21 44.7	-2.1
	118nm,0.6s								
MODR	Mondragone	1.02	150	⇓*i*Pg		Pg		11 21 44.7	-2.1
	118nm,0.8s								
TRIV	Trivento	1.04	104	Pg		Pg		11 21 45.7	-1.5
	623nm,0.8s								
TRIV	Trivento	1.04	104	Pg		Pg		11 21 45.7	-1.5
	623nm,0.8s								
SGG	Gregorio Mates	1.10	126	Pg		Pg		11 21 46.7	-1.5
	406nm,0.6s								
SGG	Gregorio Mates	1.10	126	Pg		Pg		11 21 46.7	-1.5
	406nm,0.6s								
BSSO	Busso	1.15	115	Pg		Pg		11 21 47.5	-1.8
	635nm,1.1s								
BSSO	Busso	1.15	115	Pg		Pg		11 21 47.5	-1.8
	635nm,1.1s								
LATE	Laterza	1.18	300	Pg		Pg		11 21 49.3	-0.6
	36nm,0.6s								
LATE	Laterza	1.18	300	Pg		Pg		11 21 49.3	-0.6
	36nm,0.6s								
MGAB	Montegabbione	1.19	318	Pg		Pb		11 21 48.6	-1.0
	483nm,0.6s								
MGAB	Montegabbione	1.19	318	Pg		Pb		11 21 48.6	-1.0
	483nm,0.6s								
VENT	Ventotene	1.25	172	Pg		Pn		11 21 49.1	-1.3
	593nm,1.1s								
VENT	Ventotene	1.25	172	Pg		Pn		11 21 49.1	-1.3
	593nm,1.1s								
SACS	San Casciano d	1.25	311	Pg		Pn		11 21 50.0	-0.6
	1μm,2.1s								
MURB	Monte Urbino	1.32	338	Pg		Pn		11 21 50.8	-0.8
	677nm,0.4s								
MURB	Monte Urbino	1.32	338	Pg		Pn		11 21 50.8	-0.8
	677nm,0.4s								
CING	Cingoli	1.34	360	Pg		Pb		11 21 51.4	-0.8
	556nm,1.0s								
CING	Cingoli	1.34	360	Pg		Pb		11 21 51.4	-0.8
	556nm,1.0s								
ARVD	Arcevia	1.48	353	Pg		Pb		11 21 53.5	-1.0
	255nm,0.6s								
ARVD	Arcevia	1.48	353	Pg		Pb		11 21 53.5	-1.0
	255nm,0.6s								
ARCI	Arcidosso	1.51	303	Pg		Pb		11 21 54.4	-0.8
	62nm,0.8s								
ARCI	Arcidosso	1.51	303	Pg		Pb		11 21 54.4	-0.8
	62nm,0.8s								
AOI	Ancona	1.54	11	Pg		Pg		11 21 55.9	-0.8
	196nm,0.6s								
AOI	Ancona	1.54	11	Pg		Pg		11 21 55.9	-0.8
	196nm,0.6s								
MAON	Monte Argentar	1.58	285	Pg		Pn		11 21 54.2	-0.8
	74nm,0.5s								
MAON	Monte Argentar	1.58	285	Pg		Pn		11 21 54.2	-0.8
	74nm,0.5s								
FSSB	Fossombrone	1.69	350	Pg		Pg		11 21 57.9	-1.5
	331nm,0.4s								
FSSB	Fossombrone	1.69	350	Pg		Pg		11 21 57.9	-1.5
	331nm,0.4s								
PARC	Parchiule	1.76	337	Pg		Pb		11 21 58.5	-0.9
	333nm,1.2s								
PARC	Parchiule	1.76	337	Pg		Pb		11 21 58.5	-0.9
	333nm,1.2s								
CASP	Castiglione de	1.89	294	Pg		Pn		11 21 58.6	-0.6
	75nm,1.0s								
CASP	Castiglione de	1.89	294	Pg		Pn		11 21 58.6	-0.6
	75nm,1.0s								
SGRT	San Giovanni R	1.92	97	Pg		Pb		11 22 01.5	-0.7
	172nm,0.8s								
SGRT	San Giovanni R	1.92	97	Pg		Pb		11 22 01.5	-0.7
	172nm,0.8s								
ASQU	Asqua	2.04	330	Pg		Pn		11 22 00.8	-0.6
	180nm,1.4s								
ASQU	Asqua	2.04	330	Pg		Pn		11 22 00.8	-0.6
	180nm,1.4s								
MS1	Monte Sant'Ang	2.08	98	*e*Pn		Pg		11 22 05.0	-1.9
SFI	Santa Sofia	2.12	333	Pg		Pb		11 22 03.5	-1.9
	203nm,1.6s								
SFI	Santa Sofia	2.12	333	Pg		Pb		11 22 03.5	-1.9
	203nm,1.6s								
NVLJ	Novalja	2.81	25	*e*Pn		Pn		11 22 12.5	+0.7
NVLJ				Sn		Sn		11 22 47.5	+1.8
NVLJ	Novalja	2.81	25	*e*Pn		Pn		11 22 12.5	+0.7
NVLJ				Sn		Sn		11 22 47.4	+1.8
SG1	Sgolgore (BA)	2.88	113	*e*Pn		Pb		11 22 15.2	-3.2
BAI	Bari	2.91	107	*e*Pn		Pn		11 22 15.0	+1.7
PGF	Pioggiola	3.16	281	*e*Pn		Pn		11 22 16.6	-0.1
PGF				*e*Sn		Sn		11 22 52.0	-2.4
	16nm,0.6s								
PGF	Pioggiola	3.16	281	*e*Pn		Pn		11 22 16.6	-0.1
PGF				*e*Sn		Sn		11 22 52.0	-2.4
	7.8nm,0.6s								
DGI	Dorgali Grotta	3.21	239	Pg		Pn		11 22 17.0	-0.3
	22nm,0.9s								
DGI	Dorgali Grotta	3.21	239	Pg		Pn		11 22 17.0	-0.3
	22nm,0.9s								
TAR1	Taranto	3.43	115	*e*Pn		Pn		11 22 16.4	-4.0
STON	Ston	3.44	74	*e*Pn		Pn		11 22 21.4	+1.0
STON				Sn		Sn		11 23 00.4	-0.7
STON	Ston	3.44	74	*e*Pn		Pn		11 22 21.4	+1.0
STON				Sn		Sn		11 23 00.4	-0.7
SKDS	Skadanscina	3.56	9	*i* Pn		Pn		11 22 22.6	+0.4
SKDS				*i* Sn		Sn		11 23 06.5	+2.2
SKDS	Skadanscina	3.56	9	Pn		Pn		11 22 22.6	+0.4
SKDS				*i* Sn		Sn		11 23 06.5	+2.2
BOJS	Bojanci	3.77	23	*i* Pn		Pn		11 22 27.6	+2.4
BOJS				*i* Sn		Sb		11 23 15.5	-3.9
BOJS	Bojanci	3.77	23	*i* Pn		Pn		11 22 27.6	+2.4
BOJS				*i* Sn		Sb		11 23 15.5	-3.9
VSL	Villasalto	3.85	230	Pg		Pn		11 22 26.8	+0.6
	10.0nm,0.5s								
VSL	Villasalto	3.85	230	Pg		Pn		11 22 26.8	+0.6
	10.0nm,0.5s								
JAVS	Javornik	3.91	9	*i* Pn		Pn		11 22 28.3	+1.2
JAVS				*i* Sn		Sn		11 23 16.1	+3.1
JAVS	Javornik	3.91	9	*i* Pn		Pn		11 22 28.3	+1.2
JAVS				*i* Sn		Sn		11 23 16.1	+3.1
CGRP	Cima Grappa	3.98	346	Pg		Pn		11 22 28.9	+0.8
	39nm,0.6s								
CGRP	Cima Grappa	3.98	346	Pg		Pn		11 22 28.9	+0.8
	39nm,0.6s								
VOY	Vojsko	4.03	7	*e*Pn		Pn		11 22 30.3	+1.6
VOY				*e*				11 22 50.4	
VOY				*e*Sn		Sn		11 23 18.7	+2.8
VOY	Vojsko	4.03	7	*e*Pn		Pn		11 22 30.3	+1.6
VOY				*e*Sn		Sn		11 23 18.7	+2.8
LJU	Ljubljana	4.12	13	*i* Pn		Pn		11 22 32.9	+3.0
LJU				*i* Sn		Sn		11 23 20.1	+2.0
LJU	Ljubljana	4.12	13	*i* Pn		Pn		11 22 32.9	+3.0
LJU				*i* Sn		Sn		11 23 20.1	+2.0
GCIS	Gornji Cirnik	4.21	24	*i* Pn		Pn		11 22 35.1	+3.9
GCIS	Gornji Cirnik	4.21	24	*i* Pn		Pn		11 22 35.1	+3.9
VINO	Villanova	4.22	1	Pg		Pn		11 22 31.8	+0.5
	36nm,0.7s								
VINO	Villanova	4.22	1	Pg		Pn		11 22 31.8	+0.5
	36nm,0.7s								
GORS	Gorjuse	4.32	7	*i* Pn		Pn		11 22 33.4	+0.6
GORS				*i* Sn		Sn		11 23 24.6	+1.5
GORS	Gorjuse	4.32	7	*i* Pn		Pn		11 22 33.4	+0.6
GORS				*i* Sn		Sn		11 23 24.6	+1.5
GOLS	Golise	4.34	23	*i* Pn		Pn		11 22 35.2	+2.2
GOLS				*i* Sn		Sn		11 23 26.4	+2.8
GOLS	Golise	4.34	23	*i* Pn		Pn		11 22 35.2	+2.2
GOLS				*i* Sn		Sn		11 23 26.4	+2.8
OBKA	Obir	4.58	12	⇓*i*Pn		Pn		11 22 37.7	+1.4
OBKA				⇑*i*Sn		Sn		11 23 29.9	+0.4
OBKA	Obir	4.58	12	Pn		Pn		11 22 37.7	+1.4
OBKA				Sn		Sn		11 23 29.9	+0.4
MYKA	Terra Mystica	4.61	4	⇑*i*Pn		Pn		11 22 38.2	+1.5
MYKA	Terra Mystica	4.61	4	Pn		Pn		11 22 38.2	+1.5
SBF	Sospel	4.61	295	*e*Pn		Pn		11 22 36.2	-0.5
SBF				*e*Sn		Sn		11 23 26.0	-4.2
	30nm,0.9s								
SBF	Sospel	4.61	295	*e*Pn		Pn		11 22 36.2	-0.5
SBF				*e*Sn		Sn		11 23 26.0	-4.2
	15nm,0.9s								
ABTA	Abfaltersbach	4.74	354	⇑*i*Pn		Pn		11 22 39.8	+1.3
	SNR=7.4								
ABTA				⇑*i*Sn		Sn		11 23 35.4	+2.0
ABTA	Abfaltersbach	4.74	354	Pn		Pn		11 22 39.8	+1.3
	SNR=7.4								
ABTA				Sn		Sn		11 23 35.4	+2.0
SOKA	Soboth	4.83	15	⇑*i*Pn		Pn		11 22 40.6	+0.9
SOKA	Soboth	4.83	15	Pn		Pn		11 22 40.6	+0.9
KBA	Koelnbreinsper	5.05	1	⇓*i*Pn		Pn		11 22 44.0	+1.2
KBA	Koelnbreinsper	5.05	1	Pn		Pn		11 22 44.0	+1.2
LMR	La Mourre	5.10	287	*e*Pn		Pn		11 22 42.5	-0.8
LMR	La Mourre	5.10	287	*e*Pn		Pn		11 22 42.5	-0.8
DAVOX	Davos/Dischmat	5.31	335	Pn		Pn		11 22 48.7	+2.3
	1.8nm,0.3s,baz=151,slow=17,SNR=20								
DAVOX				Sn		Sn		11 23 50.3	+2.7
	0.2nm,0.3s,baz=121,slow=19,SNR=2.6								
MBDF	Montbardon	5.40	302	*e*Pn		Pn		11 22 48.1	+0.5
MBDF	Montbardon	5.40	302	*e*Pn		Pn		11 22 48.1	+0.5
LPG	La Plagne	5.81	309	*e*P		Pn		11 22 56.5	+3.1
LPG				*e*Sn		Sn		11 23 55.4	-4.7
	5.6nm,0.6s								
LPG	La Plagne	5.81	309	*e*P		Pn		11 22 56.5	+3.1
MOA	Molln	5.87	7	⇑*i*Pn		Pn		11 22 55.5	+1.6
MOA	Molln	5.87	7	Pn		Pn		11 22 55.5	+1.6
SMRF	Simiane la Rot	5.92	292	*e*Pn		Pn		11 22 54.2	-0.4
SMRF	Simiane la Rot	5.92	292	*e*Pn		Pn		11 22 54.2	-0.4
ORIF	Oris-en-Rattie	6.05	301	*e*P		Pn		11 23 00.6	+4.1
VIVF	Saint-Julien-l	6.81	297	*e*Pn		Pn		11 23 07.2	+0.3
VIVF	Saint-Julien-l	6.81	297	*e*Pn		Pn		11 23 07.2	+0.3
GERES	GERESS Array B	6.82	3	Pn		Pn		11 23 08.7	+1.6
	0.4nm,0.3s,baz=173,slow=12,SNR=10.0								
GERES				Sn		Sn		11 24 23.7	-1.0
	0.5nm,0.3s,baz=176,slow=24,SNR=3.6								
CABF	La Chapelle	6.85	314	*e*Pn		Pn		11 23 06.4	-1.1
CABF	La Chapelle	6.85	314	*e*P		Pn		11 23 10.7	+3.2
CABF	La Chapelle	6.85	314	*e*Pn		Pn		11 23 06.4	-1.1
CABF	La Chapelle	6.85	314	*e*P		Pn		11 23 10.7	+3.2
KEST	Kesra	6.97	207	Pn		Pn		11 23 13.0	+3.8
	0.3nm,0.3s,baz=302,slow=8.1,SNR=7.3								
BZS	Buzias	7.06	57	⇑*i*P		Pn		11 23 14.5	+4.2
HINF	Hinteralfeld	7.33	324	*e*Sn		Sn		11 24 31.4	-5.7
	2.2nm,0.4s								
VTS	Vitosha	7.44	82	⇓*i*P		Pn		11 23 18.8	+3.1
CDF	Champ du Feu	7.62	329	*e*Pn		Pn		11 23 17.1	-1.0
CDF	Champ du Feu	7.62	329	*e*Pn		Pn		11 23 17.1	-1.0
HAU	Haudompre	7.69	323	*e*Pn		Pn		11 23 17.8	-1.1
HAU				*e*Sn		Sn		11 24 40.1	-5.9
	2.2nm,0.3s								
HAU	Haudompre	7.69	323	*e*Pn		Pn		11 23 17.8	-1.1
GZR	Gura Zlata	7.71	61	⇑*i*P		Pn		11 23 22.2	+3.0
DRGR		8.30	52	⇑*i*P		Pn		11 23 30.9	+3.5
VOIR		9.23	64	⇓*i*P		Pn		11 23 45.0	+4.9
MLR	Muntele Rosu	9.85	65	⇓*i*Pn		Pn		11 23 52.2	+3.6
MLR	Muntele Rosu	9.85	65	Pn		Pn		11 23 51.4	+2.8
	0.0nm,0.3s,baz=291,slow=23,SNR=6.6								
NOA	NORSAR Array B	19.07	357	P		Pn		11 25 51.0	+1.0
	0.1nm,0.3s,baz=176,slow=11,SNR=2.9								
FINES	FINESS Array B	20.93	17	P		Pn		11 26 11.2	-0.8
	4.4nm,1.1s,baz=212,slow=9.9,SNR=4.6								
TORD	Torodi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.17**	**5**	*e*PG	**Pg**	**11 46 10.5**	**+0.2**
YER				*e*SG	**Sg**	**11 46 13.7**	**+1.2**
YER	**Yerkesik**	**0.17**	**5**	*e*Pg	**Pg**	**11 46 10.5**	**+0.2**
YER				*e*Sg	**Sg**	**11 46 13.7**	**+1.2**
TURN	**Turunc**	**0.29**	**109**	*i* P	**Pg**	**11 46 10.9**	**-1.6**
TURN				*i* S	**Sg**	**11 46 14.2**	**-2.0**
TURN	**Turunc**	**0.29**	**109**	*i* P	**Pg**	**11 46 10.9**	**-1.6**
TURN				*i* S	**Sg**	**11 46 14.2**	**-2.0**
BDRM	**Kayabasi**	**0.67**	**279**	*i* P	**Pg**	**11 46 19.9**	**+0.1**
BDRM				*i* S	**Sg**	**11 46 28.6**	**+0.2**
BDRM	**Kayabasi**	**0.67**	**279**	*i* P	**Pg**	**11 46 19.9**	**+0.1**
BDRM				*i* S	**Sg**	**11 46 28.6**	**+0.2**
FETY	**Fethiye**	**0.73**	**117**	*e*PG	**Pg**	**11 46 21.6**	**+0.5**
FETY				*e*SG	**Sb**	**11 46 31.8**	**-1.4**
FETY	**Fethiye**	**0.73**	**117**	*e*Pg	**Pg**	**11 46 21.6**	**+0.5**
FETY				*e*Sg	**Sb**	**11 46 31.8**	**-1.4**
AYDN	**Tasoluk**	**0.76**	**336**	*i* P	**Pg**	**11 46 21.5**	**0.0**
AYDN				*i* S	**Sg**	**11 46 31.5**	**+0.1**
AYDN	**Tasoluk**	**0.76**	**336**	*i* P	**Pg**	**11 46 21.5**	**0.0**
AYDN				*i* S	**Sg**	**11 46 31.5**	**+0.1**
BODT	**Bodrum**	**0.77**	**277**	*e*PG	**Pb**	**11 46 22.8**	**-0.5**
BODT	**Bodrum**	**0.77**	**277**	*e*Pg	**Pb**	**11 46 22.8**	**-0.5**
DNZL	**Cakiroluk**	**0.95**	**41**	*i* P	**Pg**	**11 46 25.3**	**0.0**
DNZL				*i* S	**Sn**	**11 46 42.0**	**-0.1**
DNZL	**Cakiroluk**	**0.95**	**41**	*i* P	**Pg**	**11 46 25.3**	**0.0**
DNZL				*i* S	**Sn**	**11 46 42.0**	**-0.1**
GOLH	**Golhisar**	**1.07**	**75**	*i* P	**Pn**	**11 46 30.5**	**+1.2**
GOLH	**Golhisar**	**1.07**	**75**	*i* P	**Pn**	**11 46 30.5**	**+1.2**
AKAS	**Kas**	**1.30**	**124**	*i* P	**Pg**	**11 46 32.9**	**+0.9**
AKAS				*i* S	**Sg**	**11 46 53.3**	**+4.5**
AKAS	**Kas**	**1.30**	**124**	*i* P	**Pg**	**11 46 32.9**	**+0.9**
AKAS				*i* S	**Sg**	**11 46 53.3**	**+4.5**
ELL	**Elmali**	**1.33**	**99**	*e*PN	**Pn**	**11 46 32.1**	**-0.8**
ELL	**Elmali**	**1.33**	**99**	*e*Pn	**Pn**	**11 46 32.1**	**-0.8**

IDC 22 11:56:37.4±1.9, 4.°16N×126.°96E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=148.6km s-min=24.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.03**	**163**	P	P	12 02 02.9	-0.4
	2.0nm,0.8s,baz=344,slow=11,SNR=16						
ASAR	**Alice Springs**	**28.48**	**167**	P	P	12 02 34.4	-0.1
	0.5nm,1.1s,baz=340,slow=9.2,SNR=4.3						
STKA	**Stephens Creek**	**38.45**	**160**	P	P	12 04 01.4	+0.3
	1.3nm,0.7s,baz=342,slow=13,SNR=3.7						
MKAR	**Makanchi Array**	**57.34**	**325**	P	P	12 06 27.3	0.0
	0.3nm,0.7s,baz=124,slow=8.9,SNR=3.7						

ISCJB 22 11:56:55.1±0.6, 24.°86N±0.°04×122.°40E±0.°02, h1km±5km, Error ellipse: s-maj=6.7km s-min=3.2km az=4.2
TAP 22 11:56:55.2, 24.°91N×122.°38E, h17km, ML3.0, C
JMA 22 11:56:55.8±0.3, 24.°73N×122.°38E, h0km
ISC 22 11:56:55.2±1.1, 24.°86N±0.°04×122.°39E±0.°02, h13km±10km, n28, σ0°49/44, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.39**	**292**	P	**Pg**	**11 57 03.3**	**+0.2**
	baz=285						
TWB1				*e*S	**Sg**	**11 57 08.8**	**+0.4**
	baz=285						
TWC	**Suao**	**0.55**	**243**	P	**Pb**	**11 57 06.4**	**-0.3**
	baz=237						
TWC				S	**Sb**	**11 57 13.9**	**-0.6**
	baz=237						
NWF	**Wu-fen Shan**	**0.59**	**291**	*i* P	**Pb**	**11 57 07.3**	**-0.1**
	baz=286						
NWF				S	**Sb**	**11 57 15.8**	**0.0**
	baz=286						
TWE	**Neicheng**	**0.67**	**258**	P	**Pb**	**11 57 08.6**	**-0.2**
	baz=244						
TWE				*e*S	**Sb**	**11 57 17.9**	**-0.1**
	baz=244						
YOJ	**Yonaguni jima**	**0.69**	**125**	P	**Pg**	**11 57 08.4**	**-0.3**
YOJ				*e*S	**Sg**	**11 57 17.3**	**-0.6**
ENA	**Nanau**	**0.73**	**234**	*e*P	**Pb**	**11 57 09.7**	**-0.1**
	baz=230						
ENA				*e*S	**Sb**	**11 57 20.2**	**+0.4**
	baz=230						
ENTT	**Nioudou**	**0.78**	**254**	P	**Pb**	**11 57 10.7**	**+0.1**
	baz=249						
ENTT				*e*S	**Sb**	**11 57 21.6**	**+0.5**
	baz=249						
TWY	**Chenhua**	**0.82**	**300**	*e*P	**Pg**	**11 57 10.7**	**-0.5**
	baz=284						
TWY				*e*S	**Sb**	**11 57 22.4**	**0.0**
	baz=284						
TWS1	**Kuangyinshan**	**0.91**	**285**	*e*P	**Pn**	**11 57 13.8**	**+0.1**
	baz=282						
NSK	**Sanguang**	**0.96**	**259**	P	**Pg**	**11 57 13.6**	**-0.2**
	baz=270						
NSK				*e*S	**Sb**	**11 57 26.7**	**+0.5**
	baz=270						
NNS	**Nan Shan**	**1.02**	**246**	P	**Pg**	**11 57 14.9**	**0.0**
	baz=242						
NNS				*e*S	**Sb**	**11 57 28.5**	**+0.4**
	baz=242						
TWD	**Chiawan**	**1.06**	**223**	*e*P	**Pn**	**11 57 16.0**	**+0.2**
	baz=228						
TWD				*e*S	**Sn**	**11 57 30.2**	**-0.3**
	baz=228						
WHF	**Hehuan Shan**	**1.25**	**235**	P	**Pg**	**11 57 19.3**	**-0.1**
	baz=232						
WHF				*e*S	**Sg**	**11 57 35.7**	**0.0**
	baz=232						
TWT	**Tachien**	**1.26**	**241**	*e*P	**Pg**	**11 57 19.3**	**-0.2**
	baz=229						
TWT				*e*S	**Sg**	**11 57 37.2**	**+1.2**
	baz=229						
ESF	**Shoufeng Towns**	**1.27**	**219**	*e*P	**Pb**	**11 57 19.2**	**+0.1**
	baz=199						
NSTT	**Nanjuang**	**1.28**	**260**	*e*P	**Pn**	**11 57 18.0**	**-0.8**
	baz=257						
IRIF	**Iriomote-Funau**	**1.33**	**113**	P	**Pn**	**11 57 19.8**	**+0.4**
ESL	**Shilin**	**1.36**	**220**	*e*P	**Pb**	**11 57 20.7**	**+0.1**
	baz=200						
HATJ	**Hateruma jima**	**1.52**	**122**	P	**Pb**	**11 57 23.5**	**+0.2**
HATJ				*e*S	**Sb**	**11 57 43.1**	**+0.7**
TWQ1	**Liyutan**	**1.56**	**251**	*e*P	**Pb**	**11 57 23.7**	**-0.2**
	baz=263						
JKRS	**Kuro-shima**	**1.60**	**113**	P	**Pg**	**11 57 25.7**	**-0.3**
JIJ	**Ishigaki jima**	**1.67**	**107**	P	**Pb**	**11 57 26.3**	**+0.4**
JIJ				*e*S	**Sg**	**11 57 48.5**	**-0.6**
SMLT	**Sun Moon Lake**	**1.67**	**235**	*e*P	**Pb**	**11 57 26.4**	**+0.5**
	baz=219						
TYC	**Yuchr**	**1.69**	**236**	*e*P	**Pb**	**11 57 26.1**	**-0.1**
	baz=234						
TWF1	**Yuli**	**1.81**	**214**	*e*P	**Pb**	**11 57 27.6**	**-0.5**
	baz=212						
ALS	**Alishan**	**1.98**	**227**	*e*P	**Pn**	**11 57 29.8**	**+1.2**
	baz=209						
CHN5	**Tsauling**	**2.01**	**231**	*e*P	**Pb**	**11 57 31.3**	**-0.4**
	baz=230						
CHN5				*e*S	**Sb**	**11 57 55.9**	**-0.6**
	baz=230						
CHN1	**Nanshi**	**2.39**	**226**	*e*P	**Pb**	**11 57 36.9**	**-1.1**
	baz=225						

KNET 22 12:15:20.0±0.8, 41.°72N×74.°79E, h0km, ml2.2, Error ellipse: s-maj=5.7km s-min=1.7km az=169.0
NNC 22 12:15:21.2±2.5, 41.°79N×74.°74E, h0km, mb2.6, mpv2.5, Error ellipse: s-maj=23.0km s-min=12.0km az=148.0
ISC 22 12:15:20.5±2.3, 41.°7N±0.°1×74.°85E±0.°05, h8km±13km, n11, σ0°57/16, 7C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**0.48**	**38**	⇑P	**Pg**	**12 15 29.6**	**-0.3**
	8.6nm,0.1s,SNR=57						
KZA				⇑S	**Sg**	**12 15 36.9**	**+0.6**
	164nm,0.2s						
UCH	**Uchtor**	**0.58**	**335**	⇓P	**Pg**	**12 15 31.9**	**0.0**
	34nm,0.2s,SNR=27						
KBK	**Karagaybulak**	**0.96**	**4**	⇓P	**Pg**	**12 15 38.7**	**-0.2**
	19nm,0.1s,SNR=54						
KBK				⇓S	**Sb**	**12 15 52.7**	**+0.3**
	120nm,0.2s						
AML	**Almayashu**	**0.96**	**297**	⇑P	**Pg**	**12 15 38.4**	**-0.7**
	14nm,0.2s,SNR=69						
AML				⇑S	**Sg**	**12 15 51.4**	**-0.2**
	56nm,0.2s						
AAK	**Ala-Archa**	**0.97**	**344**	⇓P	**Pg**	**12 15 38.9**	**-0.2**
	8.1nm,0.2s,SNR=21						
AAK				⇓S	**Sb**	**12 15 52.8**	**+0.1**
	24nm,0.2s						
CHMS	**Chumysh**	**1.30**	**357**	⇓P	**Pn**	**12 15 44.8**	**-0.3**
	9.3nm,0.1s,SNR=15						
TKM2	**Tokmak 2**	**1.34**	**24**	⇓P	**Pn**	**12 15 45.0**	**-0.7**
	2.0nm,0.3s						
TKM2				⇓S	**Sb**	**12 16 03.4**	**0.0**
	18nm,0.5s						
TKM2	**Tokmak 2**	**1.34**	**24**	⇑P	**Pn**	**12 15 45.3**	**-0.5**
	3.8nm,0.1s,SNR=8.1						
USP	**Ospenovka**	**1.58**	**351**	⇑P	**Pb**	**12 15 50.0**	**-0.1**
	18nm,0.2s,SNR=8.7						
KNDC	**Almaty**	**2.18**	**45**	⇓Sn	**Sb**	**12 16 28.0**	**+0.5**
	41nm,0.3s						
KK31	**Karatay Array**	**3.50**	**295**	Pg	**Pb**	**12 16 24.1**	**+1.2**
	0.4nm,0.3s,baz=115,slow=15,SNR=15						
KK31				⇑Lg	Lg	12 17 09.9	
	4.0nm,0.5s,baz=111,slow=27,SNR=10						

BJI 22 12:15:44.5, 1.°02S×133.°59E, h35km, mB5.1/18, mb4.7/30, Ms4.8/16, Ms7 4.4/16
IDC 22 12:15:44.1±0.5, 0.°51S×133.°00E, h0km, mb4.9/12, mb1 5.0/14, mb1mx4.7/22, mbtmp4.9/14, ML5.3/2, MS4.0/15, Ms1 4.0/15, ms1mx3.7/42, Error ellipse: s-maj=22.3km s-min=13.1km az=69.0
MOS 22 12:15:47.5±0.9, 0.°55S×132.°92E, h33km, mb4.9/27, Error ellipse: s-maj=15.6km s-min=7.6km az=120.6
ISCJB 22 12:15:48.1±0.7, 0.°55S±0.°03×133.°13E±0.°03, h37km±6km, mb4.9/64, MS4.2/19, Error ellipse: s-maj=5.8km s-min=4.4km az=31.9
NEIC 22 12:15:49.6±0.3, 0.°53S×133.°09E, h35km, mb5.0/25, Error ellipse: s-maj=10.6km s-min=6.3km az=53.0
NEIC Felt [II] at Sorong.
DJA 22 12:15:50, 0.°81S×133.°10E, h10km, mb5.2/45
ISC 22 12:15:49.3±0.9, 0.°56S±0.°04×133.°03E±0.°04, h32km±6km, n249, σ1°47/215, mb4.9/63, MS4.0/20, 22C-15D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.80**	**260**	P	**Pn**	**12 16 16.7**	**-1.4**
SWI				S	**Sb**	**12 16 42.0**	**-1.8**
FAKI	**Fak Fak**	**2.48**	**198**	P	**Pn**	**12 16 27.2**	**-0.2**
FAKI				S	**Sb**	**12 16 59.9**	**-3.3**
BAKI	**Biak**	**3.14**	**102**	P	**Pn**	**12 16 35.6**	**-0.9**
BAKI				S	**Sn**	**12 17 16.8**	**+3.9**
MSAI	**Masohi**	**4.95**	**236**	P	Pn	12 17 03.7	+2.2
MSAI				S	**Sn**	**12 18 01.2**	**+3.5**
BNDI	**Bandanaira**	**5.03**	**218**	P	**Pn**	**12 17 03.8**	**+1.3**
BNDI				S	**Sn**	**12 18 01.8**	**+2.2**
TLE	**Tual**	**5.06**	**183**	P	**Pn**	**12 17 03.5**	**+0.6**
TLE				S	**Sn**	**12 18 01.6**	**+1.3**
LBMI	**Labuha**	**5.53**	**269**	P	**Pn**	**12 17 09.9**	**+0.4**
	571nm,0.9s,5μm2.2nm						
LBMI				S	**Sn**	**12 18 14.2**	**+2.1**
	571nm,0.9s,5μm2.2nm						
AAI	**Ambon**	**5.75**	**237**	P	Pn	12 17 14.2	+1.8
	4μm,0.7s,34μm14nm						
AAI				S	**Sn**	**12 18 18.7**	**+1.3**
	4μm,0.7s,34μm14nm						
TNTI	**Ternate**	**5.82**	**283**	P	Pn	12 17 14.5	+1.1
	330nm,1.0s,4μm1.3nm						
SMPI	**Sarmi**	**5.85**	**104**	P	**Pn**	**12 17 13.7**	**-0.1**
JAY	**Jayapura**	**7.91**	**104**	P	Pn	12 17 47.1	+4.9
	45nm,0.8s,0.2nm						
MNI	**Manado**	**8.43**	**284**	P	Pn	12 17 52.4	+3.1
	226nm,0.8s						
KMSI	**Cibinong**	**9.12**	**277**	P	Pn	12 18 01.7	+2.9
	448nm,1.0s,4μm						
LUWI	**Luwuk**	**10.27**	**267**	P	**Pn**	**12 18 14.2**	**-0.3**
	252nm,0.8s,2μm						
DAV	**Davao City (W)**	**10.62**	**316**	P	Pn	12 18 22.1	+2.8
	170nm,0.7s						
DAV	**Davao City (W)**	**10.62**	**316**	LR	LR	12 22 49.7	
	comp=Z,1μm,18.5s,baz=153,slow=40						
KDI	**Kendari**	**10.94**	**252**	P	Pn	12 18 25.9	+2.2
	95nm,1.0s,997nm98μm						
MRSI	**Marisa**	**11.14**	**275**	P	Pn	12 18 29.3	+2.9
	80nm,1.0s,828nm						
BBSI	**Bau Bau**	**11.54**	**245**	P	Pn	12 18 33.9	+2.0
	213nm,0.8s,2μm						
MMRI	**Maumere**	**13.42**	**233**	P	Pn	12 18 59.2	+1.6
	122nm,1.2s,1μm						
TTSI	**Tana Toraja**	**13.44**	**259**	P	Pn	12 19 00.3	+2.4
	71nm,1.1s,681nm						
SPSI	**Sidrap Palu**	**13.68**	**255**	P	Pn	12 19 03.4	+2.3
	106nm,0.6s,1μm						
BKSI	**Bulukumba**	**13.73**	**250**	P	Pn	12 19 04.0	+2.1
	110nm,1.2s,1μm						
KAPI	**Kappang**	**13.98**	**251**	*e*Pn	Pn	12 19 08.2	+2.9
KAPI	**Kappang**	**13.98**	**251**	Pn	P	12 19 08.9	-4.0
	626nm,0.7s,SNR=21						
KAPI	**Kappang**	**13.98**	**251**	P	**Pn**	**12 19 05.3**	**0.0**
	116nm,0.8s,1μm						
KAPI	**Kappang**	**13.98**	**251**	Pn	P	12 19 09.3	-3.6
	8.1nm,0.3s,baz=118,slow=6.0,SNR=33						
KAPI				LR	LR	12 24 50.3	
	comp=Z,364nm,18.3s,baz=86,slow=39						
WSI	**Waingapu**	**15.57**	**234**	P	**P**	**12 19 28.7**	**-1.9**
	438nm,0.6s,3μm						
MYLDM	**Lahad Datu**	**15.59**	**292**	P	**P**	**12 19 30.3**	**-0.5**
MYLDM	**Lahad Datu**	**15.59**	**292**	P	**P**	**12 19 30.3**	**-0.5**
	86nm,1.6s,2μm						
SMKI	**Samarinda**	**15.82**	**270**	P	**P**	**12 19 36.2**	**+2.8**
TSM	**Tawau**	**15.90**	**288**	P	**P**	**12 19 33.3**	**-0.8**
PMG	**Port Moresby**	**16.58**	**122**	*e*P	**P**	**12 19 41.6**	**-0.2**
	117nm,1.2s						
PMG	**Port Moresby**	**16.58**	**122**	P	**P**	**12 19 41.6**	**-0.2**
	89nm,1.2s,1μm						
PMG	**Port Moresby**	**16.58**	**122**	Pn	**P**	**12 19 41.5**	**-0.2**
	2.5nm,0.3s,baz=318,slow=6.6,SNR=16						
COEN	**Coen**	**16.67**	**143**	*e*Pn	**Pn**	**12 19 38.4**	**-2.3**
	276nm,1.0s						
SDKM	**Sandakan**	**16.97**	**291**	P	**P**	**12 19 48.8**	**+2.7**
KBKI	**Kotabaru**	**17.07**	**261**	P	**P**	**12 19 47.5**	**+0.3**
	43nm,2.1s,1μm						
KKM	**Kota Kinabalu**	**18.02**	**292**	*e*P	P	12 20 01.4	+3.6
	51nm,1.1s						
KKM	**Kota Kinabalu**	**18.02**	**292**	P	**P**	**12 20 00.9**	**+3.0**
KKM	**Kota Kinabalu**	**18.02**	**292**	P	**P**	**12 20 01.1**	**+3.2**
	45nm,1.2s,763nm						
GUMO	**Guam**	**18.30**	**39**	LR	LR	12 25 55.4	
	comp=Z,205nm,18.6s,baz=185,slow=33						
BBKI	**Banjar Baru**	**18.41**	**261**	P	**Pn**	**12 20 04.5**	**+2.3**
	104nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.89**	**202**	*e*P	**P**	**12 20 02.8**	**-4.4**
	35nm,0.6s						
FITZ				S	Sn	12 23 25.2	-13
FITZ				*e*S	S	12 23 27.6	-13
FITZ	**Fitzroy Crossi**	**18.89**	**202**	*e*P	**P**	**12 20 04.9**	**-2.3**
	54nm,0.3s						
FITZ				*e*S	Sn	12 23 21.2	-17
FITZ	**Fitzroy Crossi**	**18.89**	**202**	P	**P**	**12 20 05.1**	**-2.1**
	8.2nm,0.3s,baz=33,slow=11,SNR=85						
FITZ				S	Sn	12 23 25.2	-13
	5.1nm,0.3s,baz=207,slow=20,SNR=4.6						
KHKI	**Kahang-Kahang**	**19.01**	**245**	P	**Pn**	**12 20 09.3**	**-0.2**
	214nm,1.2s,2μm						
PLKI	**Palangkaraya**	**19.15**	**265**	P	**Pn**	**12 20 12.3**	**+1.1**
	126nm,1.0s						
WRAB	**Tennant Creek**	**19.30**	**176**	*e*P	**P**	**12 20 11.4**	**-0.3**
WRAB				*e*S	Sn	12 23 36.9	-12
WRAB				pmax	pmax		
	comp=Z,85nm,0.6s						
WRAB	**Tennant Creek**	**19.30**	**176**	*e*P	**P**	**12 20 11.4**	**-0.3**
	comp=Z,85nm,0.6s						
WRAB				*e*S	Sn	12 23 36.9	-12
WRAB	**Tennant Creek**	**19.30**	**176**	P	**P**	**12 20 11.2**	**-0.5**
	comp=Z,826nm,0.5s						
WRA	**Warramunga Arr**	**19.31**	**176**	P	**P**	**12 20 11.5**	**-0.3**
WRA				S	Sn	12 23 36.6	-12
WRA	**Warramunga Arr**	**19.31**	**176**	P	**P**	**12 20 11.5**	**-0.3**
	comp=Z,9.5nm,0.3s,baz=357,slow=11,SNR=94						
WRA				S	Sn	12 23 36.6	-12
	comp=Z,4.4nm,0.3s,baz=357,slow=22,SNR=7.8						
KMMI	**Kalianget**	**20.08**	**251**	P	Pn	12 20 23.1	+0.9
	comp=Z,119nm,1.5s						
BYJI	**Banyuwangi**	**20.11**	**247**	P	Pn	12 20 22.8	+0.3
	comp=Z,422nm,1.0s,comp=Z,8μm						
BTM	**Bintulu**	**20.29**	**281**	P	Pn	12 20 24.8	+0.1
JAGI	**Jajag, Banyuwa**	**20.39**	**247**	P	Pn	12 20 24.7	-1.1
	comp=Z,92nm,1.0s,comp=Z,1μm						
BLJI	**Banyuglugur**	**20.65**	**249**	P	Pn	12 20 28.4	-0.5
	comp=Z,149nm,1.2s,comp=Z,4μm						
GMJI	**Gumukmas**	**20.97**	**248**	P	Pn	12 20 31.9	-0.7
	comp=Z,142nm,1.1s,comp=Z,2μm						
SBUM	**Sibu**	**21.02**	**278**	P	**P**	**12 20 34.9**	**+4.4**
SBUM	**Sibu**	**21.02**	**278**	P	**P**	**12 20 34.1**	**+3.6**
	comp=Z,71nm,1.9s,comp=Z,1μm						
PBKI	**Pangkalan Bun**	**21.46**	**264**	P	P	12 20 43.9	+8.7
STKI	**Sintang**	**21.57**	**272**	P	**P**	**12 20 38.7**	**+2.3**
	comp=Z,72nm,0.9s						
KRKI	**Karangkates**	**21.85**	**249**	P	P	12 20 47.4	+8.0
SJI	**Sawahan**	**22.36**	**251**	P	**P**	**12 20 46.0**	**+1.0**
	comp=Z,68nm,1.9s						
PWJI	**Pagerwojo**	**22.42**	**250**	P	P	12 20 53.2	+7.7
KSM	**Kuching**	**22.81**	**275**	*e*P	**P**	**12 20 50.6**	**+0.9**
	comp=Z,55nm,1.1s						
KSM	**Kuching**	**22.81**	**275**	P	**P**	**12 20 51.2**	**+1.5**
KSM	**Kuching**	**22.81**	**275**	P	**P**	**12 20 52.2**	**+2.5**
	comp=Z,58nm,0.9s,comp=Z,656nm						
ASAR	**Alice Springs**	**22.99**	**178**	P	**P**	**12 20 51.5**	**0.0**
ASAR				S	**S**	**12 24 59.1**	**-0.8**
ASAR	**Alice Springs**	**22.99**	**178**	P	**P**	**12 20 51.5**	**0.0**
	comp=Z,169nm,0.9s,baz=357,slow=6.8,SNR=718						
ASAR				S	**S**	**12 24 59.1**	**-0.8**
	comp=Z,6.3nm,0.9s,baz=2.8,slow=26,SNR=3.8						
CTA	**Charters Tower**	**23.33**	**147**	P	**P**	**12 20 55.8**	**+0.9**
CTA	**Charters Tower**	**23.33**	**147**	*e*P	**P**	**12 20 55.2**	**+0.3**
	comp=Z,46nm,0.9s						
CTA				*e*S	**S**	**12 25 04.5**	**-1.1**
CTA	**Charters Tower**	**23.33**	**147**	P	**P**	**12 20 55.8**	**+0.9**
	comp=Z,53nm,0.8s,baz=327,slow=11,SNR=40						
CTA				LR	LR	12 31 08.6	
	comp=Z,1μm,19.0s,baz=324,slow=40						
CTAO	**Charters Tower**	**23.33**	**147**	*e*P	**P**	**12 20 55.2**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,87nm,1.0s						
CTAO	**Charters Tower**	**23.33**	**147**	*e*P	**P**	**12 20 55.2**	**+0.3**
	comp=Z,87nm,1.0s						
SMRI	**Semarang**	**23.44**	**253**	P	**P**	**12 20 58.6**	**+2.6**
	comp=Z,150nm,1.5s						
BJII	**Banjamegara**	**24.21**	**253**	P	**P**	**12 21 06.3**	**+2.9**
	comp=Z,150nm,1.6s,comp=Z,2μm						
MBWA	**Marble Bar**	**24.25**	**212**	*e*P	**P**	**12 21 04.3**	**+0.8**
	comp=Z,222nm,1.1s						
CISI	**Cisompet, Garu**	**26.08**	**254**	P	**P**	**12 21 21.6**	**+1.2**
	comp=Z,155nm,1.0s						
LEM	**Lembang**	**26.11**	**256**	P	**P**	**12 21 23.1**	**+2.4**
	comp=Z,66nm,1.9s						
SSLB	**Suanglung**	**26.89**	**335**	*e*P	P	12 21 31.5	+3.9
	comp=Z,30nm,1.1s						
PPBI	**Pangkal Pinang**	**26.94**	**266**	P	P	12 21 36.2	+8.2
HNR	**Honiara**	**28.20**	**109**	P	**P**	**12 21 39.2**	**-0.1**
HNR	**Honiara**	**28.20**	**109**	P	**P**	**12 21 39.2**	**-0.1**
	comp=Z,28nm,0.4s,baz=213,slow=7.8,SNR=4.5						
QZH	**Quanzhou**	**28.95**	**332**	P	P	12 21 52.0	+6.1
QZH				S	S	12 26 42.6	+7.9
QZH				LR	LR		
	comp=Z,600nm,16.1s						
KGM	**Kluang**	**29.82**	**275**	P	**P**	**12 21 55.9**	**+2.1**
QIZ	**Qiongzhong**	**29.95**	**312**	P	**P**	**12 21 52.3**	**-2.6**
QIZ				S	**S**	**12 26 48.5**	**-2.2**
QIZ				pmax	pmax		
	comp=Z,60nm,5.1s						
QIZ				LR	LR		
	comp=Z,340nm,28.0s						
EIDS	**Eidsvold**	**30.20**	**146**	*e*P	**P**	**12 21 57.3**	**+0.3**
	comp=Z,21nm,0.9s						
FORT	**Forrest**	**30.43**	**188**	*e*P	**P**	**12 21 59.6**	**+0.8**
	comp=Z,98nm,0.6s						
FORT	**Forrest**	**30.43**	**188**	*e*P	**P**	**12 21 58.7**	**-0.2**
	comp=Z,25nm,0.6s						
FRIM	**Kepong**	**31.62**	**277**	P	**P**	**12 22 11.8**	**+2.1**
STKA	**Stephens Creek**	**32.19**	**166**	P	**P**	**12 22 13.7**	**-0.7**
STKA	**Stephens Creek**	**32.19**	**166**	⇑*i*P	**P**	**12 22 13.6**	**-0.8**
	comp=Z,38nm,0.9s						
STKA	**Stephens Creek**	**32.19**	**166**	P	**P**	**12 22 13.7**	**-0.7**
	comp=Z,40nm,0.7s,baz=340,slow=8.5,SNR=140						
BBOO	**Buckleboo**	**32.21**	**175**	*e*P	**P**	**12 22 14.4**	**-0.1**
	comp=Z,473nm,0.8s						
IPM	**Ipoh**	**32.37**	**279**	*e*P	**P**	**12 22 16.0**	**-0.3**
IPM	**Ipoh**	**32.37**	**279**	P	P	12 22 18.7	+2.4
IPM	**Ipoh**	**32.37**	**279**	P	P	12 22 21.8	+5.5
	comp=Z,25nm,1.1s						
KULM	**Kulim**	**32.86**	**281**	P	P	12 22 23.1	+2.5
JNU	**Nakatsue**	**33.56**	**357**	LR	LR	12 35 55.8	
	comp=Z,135nm,18.9s,baz=151,slow=36						
KLBR	**Kellerberrin**	**34.09**	**204**	*e*P	**P**	**12 22 30.6**	**-0.4**
	comp=Z,64nm,1.2s						
JHJ	**Hachijo jima 2**	**34.09**	**10**	LR	LR	12 34 21.6	
	comp=Z,238nm,20.6s,baz=53,slow=33						
PSI	**Prapat**	**34.26**	**276**	P	**P**	**12 22 31.2**	**-1.7**
PSI	**Prapat**	**34.26**	**276**	P	**P**	**12 22 33.7**	**+0.8**
	comp=Z,33nm,1.1s						
PSI	**Prapat**	**34.26**	**276**	P	**P**	**12 22 31.2**	**-1.7**
	comp=Z,5.0nm,0.6s,baz=90,slow=9.7,SNR=6.8						
ARMA	**Armidale**	**34.56**	**151**	*e*P	**P**	**12 22 35.8**	**+

BJI pmax pmax
comp=Z,19nm,0.7s
BJI LR LR
comp=N,310nm,20.3s
BJI LR LR
comp=E,310nm,21.7s
BJI LR LR
comp=Z,85nm,29.2s
CN2 Changchun 44.68 352 *e*P P 12 24 02.9 +3.8
CN2 pmax pmax
comp=Z,10.0nm,0.5s
LZH Lanzhou 45.46 326 *e*P P 12 24 11.0 +5.3
LZH pP pP 12 24 21.5 +6.3
LZH sP sP 12 24 25.0 +5.9
LZH pmax pmax
comp=Z,55nm,1.5s
LZH pmax pmax
comp=Z,270nm,4.6s
HHC Hu-ho-hao-te 45.60 337 *e*P P 12 24 09.6 +2.9
HHC pP pP 12 24 18.8 +2.6
HHC sP sP 12 24 23.1 +3.0
HHC PP **PP** **12 25 57.0 +3.2**
HHC S S 12 30 55.8 +8.6
HHC sS sS 12 31 07.4 +4.4
HHC ScS **ScS** **12 34 00.4 -0.4**
HHC SS **SS** **12 34 08.3 -3.4**
HHC LR LR
comp=N,88nm,12.3s
HHC LR LR
comp=E,240nm,9.3s
HHC LR LR
comp=Z,230nm,9.4s
MSVF Nonsavu 47.42 114 *e*P **P** **12 24 22.5 +1.3**
MSVF pmax pmax
comp=Z,22nm,0.9s
MSVF Nonsavu 47.42 114 *e*P **P** **12 24 22.5 +1.3**
comp=Z,22nm,0.9s
KLR Kul'dur 49.60 359 *e*P P 12 24 46.2 +8.8
LSA Lhasa 49.99 311 P **P** **12 24 41.3 0.0**
GTA Gaotai 50.06 326 *e*P P 12 24 44.4 +3.1
GTA pP pP 12 24 53.6 +2.7
GTA sP sP 12 24 58.1 +3.4
GTA pmax pmax
comp=Z,3.0nm,1.2s
TAPN Taplejung 51.61 306 *e*P **P** **12 24 52.7 -0.7**
comp=Z,33nm,1.1s
TAPN Taplejung 51.61 306 *e*P **P** **12 24 52.7 -0.7**
RAMN Ramite 52.35 305 *e*P **P** **12 24 58.5 -0.3**
comp=Z,24nm,0.7s
RAMN Ramite 52.35 305 *e*P **P** **12 24 58.5 -0.3**
ULN Ulaanbaatar 53.26 338 *e*P **P** **12 25 05.5 +0.4**
comp=Z,7.6nm,0.9s
ULN Ulaanbaatar 53.26 338 P P 12 25 09.3 +4.2
GUN Gumba 53.32 306 *e*P **P** **12 25 04.9 -1.2**
comp=Z,29nm,0.7s
GUN Gumba 53.32 306 *e*P **P** **12 25 04.9 -1.2**
SONM Songino Array 53.48 338 P **P** **12 25 07.0 +0.3**
SONM Songino Array 53.48 338 P **P** **12 25 07.0 +0.3**
comp=Z,1.2nm,0.7s,baz=156,slow=8.0,SNR=13
GKN Gorkha 54.37 306 *e*P **P** **12 25 12.6 -1.0**
comp=Z,27nm,1.0s
GKN Gorkha 54.37 306 *e*P **P** **12 25 12.6 -1.0**
KOLN Koldanda 55.13 305 *e*P **P** **12 25 18.6 -0.5**
comp=Z,38nm,0.8s
KOLN Koldanda 55.13 305 *e*P **P** **12 25 18.6 -0.5**
URZ Urewera 55.15 138 *e*P **P** **12 25 18.4 -0.4**
comp=Z,11nm,0.6s
DANN Dangsing 55.22 306 *e*P **P** **12 25 19.1 -0.8**
comp=Z,60nm,0.9s
DANN Dangsing 55.22 306 *e*P **P** **12 25 19.1 -0.8**
HYB Hyderabad 56.51 291 *i* P P 12 25 33.0 +4.0
ZAK Zakamensk 56.74 338 *e*P P 12 25 24.0 -6.1
ZAK pmax pmax
comp=Z,4.0nm,1.3s
PETK Petropavlovsk- 57.30 17 P **P** **12 25 33.3 -0.6**
PETK pmax pmax
comp=Z,14nm,1.0s
PETK Petropavlovsk- 57.30 17 P **P** **12 25 33.3 -0.6**
PETK Petropavlovsk- 57.30 17 P **P** **12 25 33.3 -0.6**
comp=Z,14nm,1.0s,baz=224,slow=6.2,SNR=5.3
TLY Talaya 57.66 339 *e*P P 12 25 40.3 +3.8
TLY *e*PPP PPP 12 29 02.8
TLY *e*S S 12 33 26.6 -6.2
TLY *e* 12 35 16.7
TLY *e*SSS SSS 12 39 35.0
TLY pmax pmax
comp=Z,3.0nm,0.9s
MOY Mondy 58.64 337 *e*P P 12 25 55.6 +12
WMQ Urumqi 59.86 323 *e*P **P** **12 25 52.6 +0.6**
WMQ pP **pP** **12 26 02.3 +0.5**
WMQ sP sP 12 26 06.0 +0.4
WMQ *e*S **S** **12 34 01.0 -0.8**
WMQ ScS **ScS** **12 35 37.0 -3.3**
WMQ pmax pmax
comp=Z,16nm,0.6s
WMQ pmax pmax
comp=Z,240nm,6.7s
WMQ LR LR
comp=N,570nm,25.2s
WMQ LR LR
comp=E,390nm,25.2s
WMQ LR LR
comp=Z,280nm,26.6s
BOD Bodaibo 60.15 348 *e*P **P** **12 25 53.0 -0.6**
BOD pmax pmax
comp=Z,10.0nm,1.2s
MK31 Makanchi Array 64.67 324 *i* P **P** **12 26 23.9 -0.3**
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 64.67 324 P **P** **12 26 24.3 +0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR MLR MLR
comp=Z,61nm,18.6s
MKAR Makanchi Array 64.67 324 P **P** **12 26 24.3 +0.2**
MKAR Makanchi Array 64.67 324 P **P** **12 26 24.3 +0.2**
comp=Z,2.4nm,0.6s,baz=114,slow=7.8,SNR=40
MKAR LR LR 12 55 28.5
comp=Z,61nm,18.6s,baz=26,slow=37
SEY Seymchan 64.97 10 *de*P **P** **12 26 26.1 +0.4**
KSH Kashi 65.51 314 P P 12 26 37.8 +7.9
KSH pP pP 12 26 47.8 +8.0
KSH sP sP 12 26 51.9 +8.3
KSH PcP PcP 12 27 08.5 +7.0
KSH PP PP 12 29 04.8 +10
KSH ScP 12 31 08.3
KSH PcS 12 31 12.3
KSH S S 12 35 20.9 +7.9
KSH sS SKSac 12 35 37.8 -46
KSH ScS **ScS** **12 36 28.0 +4.5**
KSH SS SS 12 39 36.5 +9.3
KSH pmax pmax
comp=Z,15nm,1.1s
KSH pmax pmax
comp=Z,37nm,2.2s
KSH LR LR
comp=N,200nm,5.6s
KSH LR LR
comp=E,150nm,6.3s
KSH LR LR
comp=Z,210nm,6.6s
TKM2 Tokmak 2 67.12 318 *e*P **P** **12 26 39.9 -0.3**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s
TKM2 Tokmak 2 67.12 318 *e*P **P** **12 26 39.9 -0.3**
comp=Z,5.0nm,0.8s
ZALV Zalesovo Beam 67.29 331 P **P** **12 26 40.0 -0.8**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 67.29 331 P **P** **12 26 40.0 -0.8**
ZALV Zalesovo Beam 67.29 331 P **P** **12 26 40.0 -0.8**
comp=Z,2.4nm,0.6s,baz=122,slow=6.6,SNR=14
AAK Ala-Archa 67.75 317 *e*P **P** **12 26 44.5 +0.3**
AAK pmax pmax
comp=Z,7.0nm,1.7s
AAK Ala-Archa 67.75 317 *e*P P 12 26 50.0 +5.9
comp=Z,102nm,2.0s
NVS Novosibirsk 68.56 332 *e*P P 12 26 45.0 -3.7
NVS pmax pmax
comp=N,3.0nm,1.0s
NVS pmax pmax
comp=E,3.0nm,1.0s
NVS pmax pmax
comp=Z,6.0nm,1.0s
KURK Kurchatov 68.75 326 *ce*P **P** **12 26 49.8 -0.2**
KURK pmax pmax
comp=Z,8.0nm,0.7s
KURK Kurchatov 68.75 326 *e*P **P** **12 26 49.5 -0.5**
comp=Z,8.2nm,0.8s
KURK Kurchatov 68.75 326 P P 12 26 49.0 -1.0
comp=Z,71nm,0.7s,SNR=9.4
KK31 Karatay Array 70.65 316 P P 12 27 08.1 +6.2
KK31 pmax pmax
comp=Z,1.0nm,0.5s
KKAR Karatay Array 70.65 316 *e*P **P** **12 27 01.8 -0.1**
KKAR pmax pmax
comp=Z,5.0nm,0.8s
KKAR Karatay Array 70.65 316 *e*P **P** **12 27 01.8 -0.1**
comp=Z,5.0nm,0.8s
BVA0 Borovoye Array 74.34 326 *i* P **P** **12 27 23.3 -0.4**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s
BRVK Borovoye 74.42 326 *ce*P **P** **12 27 23.8 -0.3**
BRVK pmax pmax
comp=Z,15nm,0.7s
BRVK Borovoye 74.42 326 *e*P **P** **12 27 23.6 -0.5**
comp=Z,14nm,0.6s
BRVK Borovoye 74.42 326 P **P** **12 27 23.2 -0.9**
comp=Z,147nm,0.6s,SNR=13
AB31 Akbulak array 79.44 320 *i* P **P** **12 27 51.6 -0.9**
AB31 pmax pmax
comp=Z,6.0nm,0.6s
ABKAR Akbulak array 79.44 320 *e*P **P** **12 27 51.6 -0.9**
comp=Z,5.6nm,0.6s
SVE Sverdlovsk 80.90 328⇑ *e*P **P** **12 27 59.7 -0.5**
SVE pmax pmax
comp=Z,16nm,1.1s
AKTO Aktyubinsk 80.92 321 P **P** **12 27 58.9 -1.5**
AKTO pmax pmax
comp=Z,2.0nm,1.4s
ARU Arti 81.91 327 *d i*P **P** **12 28 04.5 -1.0**
ARU 12 31 07.4
ARU S **S** **12 38 16.5 -0.5**
ARU SS SS 12 43 30.3 -5.6
ARU pmax pmax
comp=Z,6.0nm,0.7s
ARU Arti 81.91 327 *e*P **P** **12 28 04.2 -1.3**
comp=Z,10.0nm,0.9s
MAW Mawson 82.01 201 LR LR 13 00 19.0
comp=Z,256nm,20.0s,baz=324,slow=33
KDAK Kodiak Island 82.18 31 P **P** **12 28 06.9 0.0**
KDAK Kodiak Island 82.18 31 P **P** **12 28 06.9 0.0**
comp=Z,8.3nm,0.9s,baz=264,slow=0.9,SNR=4.4
COLA College 85.88 25 *e*P **P** **12 28 24.8 -0.8**
COLA pmax pmax
comp=Z,5.0nm,0.9s
COLA College 85.88 25 *e*P **P** **12 28 24.8 -0.8**
comp=Z,5.2nm,0.9s
ILAR Eielson Array 86.27 25 P **P** **12 28 26.0 -1.6**
ILAR Eielson Array 86.27 25 P **P** **12 28 26.0 -1.6**
comp=Z,2.6nm,0.7s,baz=251,slow=5.0,SNR=44
ILAR LR LR 13 08 50.9
comp=Z,80nm,19.2s,baz=316,slow=37
GNI Garni 89.05 310 LR LR 13 11 24.9
comp=Z,49nm,18.1s,baz=278,slow=38
QSPA South Pole Qui 89.38 180 *e*P **P** **12 28 42.6 0.0**
comp=Z,15nm,1.0s
QSPA South Pole Qui 89.38 180 LR LR 13 10 24.5
comp=Z,198nm,19.4s,baz=272,slow=37
ARCES ARCESS Array B 96.60 340 P **P** **12 29 14.2 -1.4**
ARCES ARCESS Array B 96.60 340 P **P** **12 29 14.2 -1.4**
comp=Z,2.6nm,0.8s,baz=74,slow=11,SNR=7.0
BRTR Keskin Array B 97.59 310 LR LR 13 18 51.6
comp=Z,27nm,19.7s,baz=247,slow=39
FINES FINESS Array B 98.55 332 LR LR 13 21 43.7
comp=Z,105nm,18.2s,baz=179,slow=40
YKA Yellowknife Ar 100.67 26 P **Pdif** **12 29 32.9 -1.1**
YKA Yellowknife Ar 100.67 26 P **Pdif** **12 29 32.9 -1.1**
comp=Z,0.3nm,0.6s,baz=292,slow=4.5,SNR=11
CRVS Cervenica-Dubn 104.47 321 *e*P **Pdif** **12 29 56.0 +4.7**
CRVS Cervenica-Dubn 104.47 321 PDIF **Pdif** **12 29 56.0 +4.7**
NVAR Mina Array Bea 104.91 50 Pdif **Pdif** **12 29 54.1 +0.4**
NVAR Mina Array Bea 104.91 50 Pdiff **Pdif** **12 29 54.1 +0.4**
comp=Z,0.4nm,0.5s,baz=297,slow=6.5,SNR=4.2
S22A 4UR Ranch, Cre 113.82 49 ⇓P **PKiKP** **12 34 26.0 +0.4**
baz=114
X21A Alamocita Cree 114.10 52 ⇑P PKPdf 12 34 26.0 -0.3
baz=114
U23A El Rito 114.76 50 ⇑P PKPdf 12 34 27.5 0.0
baz=115
SDCO Great Sand Dun 114.81 48 ⇑P PKPdf 12 34 26.8 -0.8
baz=115
Y22A Socorro 114.90 53 ⇑P PKPdf 12 34 27.9 +0.2
baz=115
Z22A Elephant Butte 115.10 53 ⇑P **PKPdf** **12 34 28.3 +0.2**
baz=115
R25A Fountain Ranch 115.57 47 ⇓P **PKPdf** **12 34 28.7 -0.1**
baz=115
V24A Rampart Ranch, 115.66 50 ⇑P **PKPdf** **12 34 29.4 +0.2**
baz=116
T25A Trinidad 115.84 48 ⇓P **PKPdf** **12 34 29.2 -0.3**
baz=116
Z24A Sheeppen Canyo 116.36 53 ⇑P **PKPdf** **12 34 30.0 -0.5**
baz=116
S26A Kim 116.36 48 ⇑P **PKPdf** **12 34 30.2 -0.1**
baz=116
T26A Comanche Natio 116.43 48 ⇑P **PKPdf** **12 34 30.3 -0.2**
baz=116
W25A X Bar L Ranch, 116.46 50 ⇑P **PKPdf** **12 34 29.9 -0.7**
baz=116
Y25A Mesa, Roswell 116.70 52 ⇓P **PKPdf** **12 34 30.4 -0.7**
baz=117
MNTX Cornudas Mount 116.84 54 ⇓P **PKPdf** **12 34 30.9 -0.3**
baz=117
T28A Walsh 117.55 48 ⇑P **PKPdf** **12 34 32.3 -0.3**
baz=117
Y27A Causey 117.91 51 ⇑P **PKPdf** **12 34 33.1 -0.4**
baz=118
Z27A Tatum 118.06 52 ⇑P **PKPdf** **12 34 33.0 -0.7**
baz=118
MSTX Muleshoe 118.19 51 ⇑P **PKPdf** **12 34 33.3 -0.7**
baz=118
526A Mary Lane Ranc 118.39 56 ⇑P **PKPdf** **12 34 34.1 -0.4**
baz=118
527A Woodward Ranch 118.75 56 ⇓P **PKPdf** **12 34 34.4 -0.8**
baz=119
TXAR Lajitas Array 118.95 57 PKP **PKPdf** **12 34 35.5 0.0**
TXAR Lajitas Array 118.95 57 PKP **PKPdf** **12 34 35.5 0.0**
comp=Z,0.6nm,0.8s,baz=162,slow=2.1,SNR=6.0
328A Wristen Ranch, 119.02 54 ⇑P **PKPdf** **12 34 35.3 -0.3**
baz=119
627A Terlingua Ranc 119.15 56 ⇓P **PKPdf** **12 34 35.7 -0.2**
baz=119
428A Kincaid Ranch, 119.33 55 ⇓P **PKPdf** **12 34 36.0 -0.2**
baz=119
329A Wagon Wheel Ra 119.66 54 ⇓P **PKPdf** **12 34 36.1 -0.6**
baz=120
529A Stev Forest Ra 119.91 55 ⇓P **PKPdf** **12 34 37.1 -0.2**
baz=120
430A Baggett Ranch, 120.49 54 ⇓P **PKPdf** **12 34 38.1 -0.3**
baz=120
531A Rocksprings 121.26 55 ⇓P **PKPdf** **12 34 39.4 -0.5**
baz=121
JCT Junction City 121.76 54 *e*PKIKP **PKPdf** **12 34 40.7 -0.1**
JCT Junction City 121.76 54 *e*PKPdf **PKPdf** **12 34 40.7 -0.1**
JCT Junction City 121.76 54 ⇓P **PKPdf** **12 34 40.5 -0.3**
baz=122
TUL1 Tulsa 122.69 47 ⇑P **PKPdf** **12 34 42.0 -0.4**
baz=122
WHTX Lake Whitney 123.07 51 ⇑P **PKPdf** **12 34 42.9 -0.3**
baz=123
TORD Torodi Ar. Bea 130.21 287 PKP **PKPdf** **12 34 55.4 -1.9**
TORD Torodi Ar. Bea 130.21 287 PKP **PKPdf** **12 34 55.4 -1.9**
comp=Z,1.1nm,0.7s,baz=71,slow=1.4,SNR=6.7
OTAV Otavalo 148.51 90 *e*PKPbc **PKPbc** **12 35 35.3 +0.7**
CPUP Villa Florida 151.46 160 PKPbc **PKPbc** **12 35 41.3 +0.5**
CPUP Villa Florida 151.46 160 PKPbc **PKPbc** **12 35 41.3 +0.5**
comp=Z,10nm,0.7s,baz=175,slow=1.3,SNR=46
LPAZ La Paz 153.24 130 PKP **PKPdf** **12 35 39.0 +0.6**
LPAZ PKPbc **PKiKP** **12 35 46.7 +0.7**
LPAZ La Paz 153.24 130 PKP **PKPdf** **12 35 39.0 +0.6**
comp=Z,1.5nm,0.8s,baz=260,slow=3.0,SNR=5.5
LPAZ PKPbc **PKiKP** **12 35 46.7 +0.7**
comp=Z,3.1nm,0.6s,baz=142,slow=1.0,SNR=12
SDV Santo Domingo 155.02 70 *e*PKPbc PKPdf 12 35 48.1 +7.7
SDV *e*PKPab **PKPab** **12 36 05.4 +0.6**

*IDC **22** 12:33:35.6±0.7, 21°.56S×175°.71W, h0km, mb4.0/12, mb1 4.3/13, mb1mx4.2/20, mbtmp4.0/13, ML1.9/1, MS3.7/1, Ms1 3.6/1, ms1mx2.6/33, Error ellipse: s-maj=31.0km s-min=16.9km az=146.0*

*ISCJB **22** 12:33:39.7±0.7, 21°.6S±0°.2×175°.8W±0°.1, h35km, mb4.1/14, MS3.6/1, Error ellipse: s-maj=29.5km s-min=13.6km az=150.4*

*NEIC **22** 12:33:41.1±0.5, 21°.61S×175°.73W, h35km, mb4.8/5, Error ellipse: s-maj=24.3km s-min=10.8km az=152.0*

ISC 22 12:33:41.2±0.7, 21°.6S±0°.2×175°.8W±0°.2, h35km, n39, σ0s.88/34, mb4.1/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.99**	**302**	*e*Pn	Pn	12 35 32.2	+11
AFI	**Afiamalu**	**8.54**	**27**	*e*Pn	Pn	12 35 37.8	-4.7
AFI				Sn	Sn	12 35 37.8	-4.7
AFI	**Afiamalu**	**8.54**	**27**	Pn	Pn	12 35 37.8	-4.7
	0.8nm,0.3s,baz=67,slow=8.9,SNR=3.3						
AFI				Sn	Sn	12 37 09.3	-8.4
	2.2nm,0.3s,baz=357,slow=21,SNR=2.8						
RAR	**Rarotonga**	**14.89**	**91**	T	T	12 51 44.3	
	48nm,0.3s,baz=223,slow=22,SNR=4.3						
CTA	**Charters Tower**	**35.48**	**265**	P	**P**	**12 40 35.7**	**+1.0**
CTA	**Charters Tower**	**35.48**	**265**	P	**P**	**12 40 35.7**	**+1.0**
	3.6nm,0.6s,baz=99,slow=12,SNR=6.2						
CTAO	**Charters Tower**	**35.48**	**265**	*e*P	**P**	**12 40 36.5**	**+1.8**
	8.6nm,0.8s						
STKA	**Stephens Creek**	**39.22**	**246**	P	**P**	**12 41 05.6**	**-0.6**
STKA	**Stephens Creek**	**39.22**	**246**	P	**P**	**12 41 05.6**	**-0.6**
	2.6nm,0.9s,baz=84,slow=8.3,SNR=5.6						
STKA				LR	LR	12 55 06.7	
	comp=Z,98nm,19.5s,baz=23,slow=33						
ASAR	**Alice Springs**	**46.31**	**257**	P	**P**	**12 42 04.0**	**+0.1**
ASAR	**Alice Springs**	**46.31**	**257**	P	**P**	**12 42 04.0**	**+0.1**
	1.9nm,0.7s,baz=101,slow=7.7,SNR=27						
WRAB	**Tennant Creek**	**46.52**	**263**	*e*P	**P**	**12 42 05.1**	**-0.4**
	2.1nm,0.7s						
WRA	**Warramunga Arr**	**46.53**	**263**	P	**P**	**12 42 04.4**	**-1.2**
WRA	**Warramunga Arr**	**46.53**	**263**	P	**P**	**12 42 04.4**	**-1.2**
	0.8nm,0.5s,baz=90,slow=8.4,SNR=8.8						
FITZ	**Fitzroy Crossi**	**54.96**	**263**	*e*P	**P**	**12 43 09.6**	**+0.5**
	22nm,1.7s						
FITZ	**Fitzroy Crossi**	**54.96**	**263**	P	**P**	**12 43 09.7**	**+0.5**
	1.7nm,0.7s,baz=152,slow=8.7,SNR=4.4						
QSPA	**South Pole Qui**	**68.47**	**180**	*e*P	**P**	**12 44 39.8**	**+0.1**
	8.1nm,1.0s						
QSPA	**South Pole Qui**	**68.47**	**180**	P	**P**	**12 44 39.6**	**0.0**
	6.4nm,1.0s,baz=99,slow=1.6,SNR=10						
MJAR	**Matsushiro Arr**	**72.34**	**323**	P	**P**	**12 45 03.1**	**-0.4**
MJAR	**Matsushiro Arr**	**72.34**	**323**	P	**P**	**12 45 03.1**	**-0.4**
	0.5nm,0.6s,baz=169,slow=5.9,SNR=2.4						
NVAR	**Mina Array Bea**	**80.41**	**42**	P	**P**	**12 45 49.5**	**0.0**
NVAR	**Mina Array Bea**	**80.41**	**42**	P	**P**	**12 45 49.5**	**0.0**
	2.4nm,0.8s,baz=234,slow=10,SNR=3.8						
TXAR	**Lajitas Array**	**85.90**	**56**	P	**P**	**12 46 18.4**	**+0.5**
TXAR	**Lajitas Array**	**85.90**	**56**	P	**P**	**12 46 18.4**	**+0.5**
	0.5nm,0.8s,baz=219,slow=9.4,SNR=5.4						
TRF	**Thorofare Moun**	**87.11**	**11**	*e*P	**P**	**12 46 22.6**	**-0.5**
	10nm,0.8s						
PDAR	**Pinedale Array**	**88.35**	**42**	P	**P**	**12 46 28.7**	**-1.0**
PDAR	**Pinedale Array**	**88.35**	**42**	P	**P**	**12 46 28.7**	**-1.0**
	0.2nm,0.7s,baz=157,slow=4.8,SNR=2.4						
ILAR	**Eielson Array**	**88.94**	**12**	P	**P**	**12 46 31.8**	**+0.2**
ILAR	**Eielson Array**	**88.94**	**12**	P	**P**	**12 46 31.8**	**+0.2**
	0.8nm,1.0s,baz=223,slow=5.4,SNR=5.8						
YKA	**Yellowknife Ar**	**96.65**	**24**	P	**P**	**12 47 07.8**	**+0.6**
YKA	**Yellowknife Ar**	**96.65**	**24**	P	**P**	**12 47 07.8**	**+0.6**
	0.4nm,0.8s,baz=242,slow=4.3,SNR=8.4						
AKASG	**Malin Array Be**	**144.98**	**332**	PKP	**PKPdf**	**12 53 14.1**	**-0.4**
AKASG	**Malin Array Be**	**144.98**	**332**	PKP	**PKPdf**	**12 53 14.1**	**-0.4**
	0.2nm,0.3s,baz=40,slow=4.4,SNR=3.1						
BRTR	**Keskin Array B**	**149.13**	**312**	PKPbc	**PKPbc**	**12 53 26.3**	**+0.1**
BRTR	**Keskin Array B**	**149.13**	**312**	PKPbc	**PKPbc**	**12 53 26.3**	**+0.1**
	0.7nm,0.9s,baz=111,slow=3.2,SNR=3.4						
CLL	**Collm**	**149.57**	**349**	*e*(pPKPbc)	pPKPbc	12 53 34.0	-4.1
BRG	**Berggiesshubel**	**149.81**	**348**	*e*P	**PKPdf**	**12 53 24.7**	**+2.2**
	2.6nm,0.7s						
BRG				*e*		12 53 34.1	
	7.7nm,0.9s						
GERES	**GERESS Array B**	**151.79**	**347**	PKPbc	**PKPbc**	**12 53 30.6**	**-1.6**
GERES	**GERESS Array B**	**151.79**	**347**	PKPbc	**PKPbc**	**12 53 30.6**	**-1.6**
	0.9nm,0.8s,baz=132,slow=2.0,SNR=4.6						

IDC 22 12:33:58.5±2.1, 21°.68N×143°.20E, h294km±17km, mb3.2/9, mb1 3.3/10, mb1mx3.1/26, mbtmp3.2/10, Error ellipse: s-maj=26.1km s-min=17.5km az=89.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.47**	**351**	P	Pn	12 35 22.4	+1.1
	11nm,0.3s,baz=162,slow=20,SNR=4.3						
CBIJ				S	S	12 36 27.7	-0.2
	6.2nm,0.3s,baz=123,slow=24,SNR=5.2						
KSRS	**Korea Array**	**20.54**	**323**	P	P	12 38 15.7	+0.5
	1.2nm,0.6s,baz=144,slow=8.7,SNR=5.4						
KAPI	**Kappang**	**35.09**	**224**	ScP	ScP	12 46 07.1	+0.7
	8.7nm,0.9s,baz=232,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**42.26**	**192**	P	P	12 41 23.5	-0.2
	0.4nm,0.5s,baz=18,slow=9.1,SNR=8.6						
ZALV	**Zalesovo Beam**	**54.23**	**322**	P	P	12 42 54.3	0.0
	0.3nm,0.3s,baz=115,slow=6.3,SNR=4.3						
MKAR	**Makanchi Array**	**54.72**	**313**	P	P	12 42 58.0	+0.1
	0.3nm,0.4s,baz=88,slow=8.8,SNR=7.9						
KURBB	**Kurchatov Arra**	**57.55**	**317**	P	P	12 43 17.4	-0.2
	1.0nm,0.5s,baz=96,slow=8.1						
ILAR	**Eielson Array**	**62.05**	**27**	P	P	12 43 47.7	-0.3
	0.4nm,0.8s,baz=263,slow=5.2,SNR=6.3						
YKA	**Yellowknife Ar**	**76.47**	**28**	P	P	12 45 16.4	+0.5
	0.3nm,0.4s,baz=291,slow=5.6,SNR=7.0						
ARCES	**ARCESS Array B**	**78.95**	**342**	P	P	12 45 29.5	+0.1
	3.2nm,0.8s,baz=72,slow=7.5,SNR=5.8						
FINES	**FINESS Array B**	**83.20**	**334**	P	P	12 45 50.5	-1.3
	3.8nm,0.9s,baz=359,slow=0.6,SNR=8.1						

*IDC **22** 13:02:33.0±0.7, 1°.33N×127°.22E, h0km, mb4.1/11, mb1 4.2/13, mb1mx4.0/23, mbtmp4.1/13, ML4.1/2, MS3.0/3, Ms1 3.0/3, ms1mx2.4/36, Error ellipse: s-maj=36.3km s-min=11.3km az=71.0*

*DJA **22** 13:02:44, 1°.29N×126°.84E, h10km, MLv4.5/6*

ISC 22 13:02:33.9±0.6, 1°.24N±0°.08×127°.28E±0°.05, h10km, n26, σ2s.21/25, mb4.2/11, MS2.7/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.47**	**170**	P	Pg	13 02 58.6	+15
TNTI				S	Sg	13 03 08.6	+19
LBMI	**Labuha**	**1.88**	**173**	P	Pg	13 03 15.7	+5.7
LBMI				S	Sg	13 03 44.4	+10
MNI	**Manado**	**2.45**	**275**	P	**Pb**	**13 03 16.2**	**-2.0**
MNI				S	**Sn**	**13 03 43.3**	**-0.8**
KMSI	**Cibinong**	**3.37**	**259**	P	Pb	13 03 29.9	-3.9
KMSI				S	**Sn**	**13 04 05.2**	**-1.5**
SWI	**Sorong**	**4.49**	**118**	P	**Pg**	**13 03 58.7**	**-1.4**
SWI				S	**Sg**	**13 04 56.4**	**-1.9**
LUWI	**Luwuk**	**5.05**	**243**	P	Pb	13 03 57.2	-5.3
LUWI				S	**Sn**	**13 04 49.4**	**+1.2**
MRSI	**Marisa**	**5.40**	**262**	P	Pn	13 03 59.0	+4.4
MRSI				S	**Sn**	**13 04 55.3**	**-1.5**
FAKI	**Fak Fak**	**6.46**	**130**	P	**Pb**	**13 04 24.7**	**-1.8**
	40nm,1.1s						
KDI	**Kendari**	**6.96**	**222**	P	Pn	13 04 22.8	+6.8
	22nm,0.9s						
MYLDM	**Lahad Datu**	**9.60**	**294**	P	Pn	13 04 57.2	+4.9
KAPI	**Kappang**	**9.76**	**230**	Pn	**Pn**	**13 04 56.6**	**+2.1**
	2.1nm,0.3s,baz=153,slow=2.3,SNR=4.2						
KAPI				Sn	**Sn**	**13 06 38.9**	**-5.4**
	3.6nm,0.3s,baz=204,slow=19,SNR=4.4						
FITZ	**Fitzroy Crossi**	**19.29**	**185**	P	**Pn**	**13 07 00.8**	**+0.7**
	0.4nm,0.3s,baz=30,slow=7.3,SNR=10						
WRA	**Warramunga Arr**	**22.16**	**162**	P	**P**	**13 07 32.2**	**+2.0**
	9.1nm,0.6s,baz=336,slow=11,SNR=47						
ASAR	**Alice Springs**	**25.58**	**166**	P	**P**	**13 08 03.3**	**-0.1**
	0.9nm,0.5s,baz=344,slow=7.6,SNR=30						
ASAR				PcP	**PcP**	**13 11 35.2**	**+0.5**
	0.4nm,0.5s,baz=343,slow=1.8,SNR=5.1						
ASAR				S	**S**	**13 12 38.0**	**+6.4**
	0.9nm,0.7s,baz=348,slow=20,SNR=5.8						
CTA	**Charters Tower**	**28.20**	**140**	LR	LR	13 20 39.4	
	comp=Z,22nm,20.1s,baz=310,slow=38						
CMAR	**Chiang Mai Arr**	**32.65**	**303**	P	**P**	**13 09 05.0**	**-1.5**
	0.4nm,0.3s,baz=126,slow=7.2,SNR=5.1						
STKA	**Stephens Creek**	**35.62**	**159**	P	**P**	**13 09 31.9**	**-0.1**
	2.8nm,0.7s,baz=330,slow=9.6,SNR=9.9						
KSRS	**Korea Array**	**36.04**	**1**	LR	LR	13 24 35.7	

comp=Z,12nm,19.8s,baz=180,slow=37
SONM Songino Array 49.82 342 P **P** 13 11 28.4 **+1.2**
2.1nm,0.8s,baz=155,slow=9.1,SNR=14
SONM LR LR 13 31 40.2
comp=Z,44nm,20.8s,baz=202,slow=35
MKAR Makanchi Array 59.91 326 P **P** 13 12 41.0 **+0.8**
2.3nm,0.7s,baz=121,slow=8.4,SNR=19
ZALV Zalesovo Beam 63.04 333 P **P** 13 13 00.7 **-0.5**
1.2nm,0.8s,baz=124,slow=7.4,SNR=6.8
KURBB Kurchatov Arra 64.12 328 P **P** 13 13 08.8 **+0.4**
6.2nm,0.8s,baz=127,slow=6.0,SNR=24
BVAR Borovoye Array 69.70 327 P **P** 13 13 43.0 **-0.9**
2.4nm,1.0s,baz=94,slow=6.2,SNR=8.3
AKTO Aktyubinsk 75.94 322 P **P** 13 14 20.4 **-0.7**
1.1nm,0.6s,baz=115,slow=6.5,SNR=5.3
ILAR Eielson Array 87.10 25 P **P** 13 15 20.2 **+0.4**
0.2nm,0.9s,baz=238,slow=4.9,SNR=5.1
TXAR Lajitas Array 122.65 54 PKP **PKPdf** 13 21 32.4 **+1.6**
0.2nm,0.6s,baz=181,slow=3.6,SNR=3.4

IDC 22 13:03:00.6±3.7, 27.52S×67.23W, h129km±28km, mb3.8/4, mb1 3.6/5, mb1mx3.4/16, mbtmp3.6/5, MS3.0/2, Ms1 3.1/2, ms1mx2.5/24, Error ellipse: s-maj=54.3km s-min=19.0km az=128.0, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**4.17**	**192**	P	Pn	13 04 03.8	+1.2
	0.5nm,0.3s,baz=5.3,slow=14,SNR=51						
CFAA				S	Sn	13 04 50.3	-0.4
	0.8nm,0.3s,baz=7.6,slow=15,SNR=4.6						
CPUP	**Villa Florida**	**8.91**	**85**	P	Pn	13 05 06.7	+0.3
	0.3nm,0.3s,baz=245,slow=18,SNR=2.4						
LPAZ	**La Paz**	**11.21**	**356**	LR	LR	13 09 50.5	
	comp=Z,31nm,18.6s,baz=352,slow=37						
USHA	**Ushuaia**	**27.30**	**182**	LR	LR	13 20 44.7	
	comp=Z,88nm,19.7s,baz=220,slow=39						
QSPA	**South Pole Qui**	**62.70**	**180**	P	P	13 13 12.4	+0.8
	1.0nm,0.5s,baz=57,slow=22,SNR=9.2						
TORD	**Torodi Ar. Bea**	**78.04**	**68**	P	P	13 14 45.2	-0.1
	0.5nm,0.6s,baz=271,slow=5.9,SNR=7.4						
BOSA	**Boshof**	**79.33**	**117**	P	P	13 14 52.1	-0.4
	3.3nm,0.9s,baz=247,slow=11,SNR=3.4						
KEST	**Kesra**	**95.71**	**53**	P	P	13 16 10.0	-2.0
	0.8nm,0.6s,baz=270,slow=2.0,SNR=2.4						
ASAR	**Alice Springs**	**125.18**	**204**	PKP	PKPdf	13 21 45.5	-1.1
	0.2nm,0.4s,baz=136,slow=1.7,SNR=7.7						
WRA	**Warramunga Arr**	**128.40**	**206**	PKP	PKPdf	13 21 51.9	-0.9
	0.6nm,0.9s,baz=154,slow=2.0,SNR=7.8						
AAK	**Ala-Archa**	**145.56**	**54**	PKPbc	PKPab	13 22 25.5	+0.9
	1.6nm,0.5s,baz=152,slow=8.1,SNR=5.2						
ZALV	**Zalesovo Beam**	**146.56**	**30**	PKPbc	PKPdf	13 22 25.6	+0.8
	1.7nm,0.4s,baz=307,slow=4.3,SNR=13						
MKAR	**Makanchi Array**	**149.30**	**43**	PKPbc	PKPbc	13 22 34.0	-0.1
	0.7nm,0.6s,baz=301,slow=2.3,SNR=3.9						

IDC 22 13:13:02.5±2.3, 5.54N×126.54E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/20, mbtmp3.3/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/19, Error ellipse: s-maj=169.2km s-min=27.3km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**21.24**	**4**	LR	LR	13 24 07.2	
	comp=Z,34nm,20.9s,baz=111,slow=31						
WRA	**Warramunga Ar**	**26.46**	**163**	P	P	13 18 41.6	+0.2
	0.2nm,0.4s,baz=343,slow=10,SNR=6.1						
ASAR	**Alice Springs**	**29.91**	**166**	P	P	13 19 12.1	-0.2
	0.1nm,0.5s,baz=344,slow=7.6,SNR=3.9						
MKAR	**Makanchi Array**	**55.97**	**325**	P	P	13 22 42.7	-0.1
	0.4nm,0.4s,baz=116,slow=7.4,SNR=4.8						

*IDC **22** 13:23:48.3±0.9, 36.25N×74.24E, h80km±6km, mb3.6/11, mb1 3.7/16, mb1mx3.6/30, mbtmp3.6/16, MS3.1/4, Ms1 3.1/4, ms1mx2.7/50, Error ellipse: s-maj=20.1km s-min=14.1km az=39.0*

*NNC **22** 13:23:58.3±4.5, 37.01N×73.88E, h103km±48km, mb3.4, mpv3.8, Error ellipse: s-maj=34.5km s-min=26.5km az=3.0*

ISC 22 13:23:48.7±0.6, 36.29N±0.05×74.39E±0.09, h100km, n63, σ1s99/52, mb3.8/11, 8C-2D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHCP	**Chirah Chowk**	**2.78**	**200**	P	Pn	13 24 33.8	+2.2
CEP	**Cherat**	**3.19**	**220**	⇓P	Pn	13 24 38.3	+1.1
THN	**Thein Dam**	**4.00**	**164**	*e*PKP	**Pn**	**13 24 49.7**	**+1.8**
THN				*e*S	**Sn**	**13 25 30.6**	**-3.1**
THW	**Thamme Wali**	**4.11**	**213**	P	Pn	13 24 51.2	+1.7
DHRM	**DHARAMSHALA**	**4.33**	**158**	*e*PKP	**Pn**	**13 24 55.0**	**+2.4**
PONG	**Pong**	**4.51**	**163**	*ex*	P	13 25 10.5	
SARP	**Sargodha**	**4.58**	**199**	P	**Pn**	**13 24 57.1**	**+1.3**
BHK	**Bhakra**	**5.14**	**160**	*e*PKP	Pn	13 25 06.0	+2.6
BHK				*ex*	x	13 26 01.0	
SDNR	**Sundarnagar**	**5.24**	**155**	*e*PKP	**Pn**	**13 25 06.6**	**+1.9**
SDNR				*e*S	**Sn**	**13 26 01.0**	**-2.8**
SMLA	**Simla**	**5.64**	**155**	*i* P	**Pn**	**13 25 11.6**	**+1.4**
SMLA				*i* S	**Sn**	**13 26 10.7**	**-2.9**
KZA	**Kyzart**	**5.82**	**6**	P	**Pn**	**13 25 12.9**	**0.0**
	SNR=28						
AML	**Almayashu**	**5.86**	**355**	P	**Pn**	**13 25 12.7**	**-0.7**
	SNR=10						
AAK	**Ala-Archa**	**6.34**	**1**	P	**Pn**	**13 25 19.1**	**-0.6**
	0.6nm,0.3s,baz=166,slow=13,SNR=5.8						
AAK				S	**Sn**	**13 26 25.6**	**-5.1**
	1.3nm,0.3s,baz=112,slow=14,SNR=3.8						
AAK				LR	LR	13 27 59.0	
	comp=Z,82nm,18.4s,baz=225,slow=39						
KBK	**Karagaybulak**	**6.38**	**4**	P	**Pn**	**13 25 22.0**	**+1.8**
	SNR=10						
EKS2	**Erkin-Say**	**6.38**	**356**	P	**Pn**	**13 25 20.1**	**-0.2**
	SNR=6.6						
TKM2	**Tokmak 2**	**6.69**	**8**	⇑P	**Pn**	**13 25 25.3**	**+0.8**
	2.0nm,0.4s						
TKM2				⇑S	Sn	13 26 33.1	-6.2
	40nm,0.7s						
TKM2	**Tokmak 2**	**6.69**	**8**	P	**Pn**	**13 25 25.1**	**+0.6**
	SNR=8.1						
DDI	**Dehra Dun**	**6.69**	**152**	*e*PKP	**Pn**	**13 25 24.5**	**0.0**
DDI				*ex*	x	13 26 40.0	
CHMS	**Chumysh**	**6.71**	**2**	P	**Pn**	**13 25 24.6**	**0.0**
	SNR=5.7						
KK31	**Karatay Array**	**7.43**	**337**	⇑P	**Pn**	**13 25 32.7**	**-1.7**
	7.3nm,0.6s,baz=155,slow=12,SNR=84						
KK31				S	Sn	13 26 48.7	-8.4
	21nm,0.3s,baz=5.7,slow=5.9,SNR=22						
NDI	**New Delhi**	**7.95**	**162**	*e*PKP	**Pn**	**13 25 44.0**	**+2.5**
NDI				*e*S	Sn	13 27 02.5	-7.3
KHET	**Khetri**	**8.28**	**171**	*e*PKP	**Pn**	**13 25 45.1**	**-0.9**
KHET				*e*S	Sn	13 27 10.0	-7.9
KHET				AML	AML	13 27 15.2	
	comp=N,65nm,0.2s						
KHET				AML	AML	13 27 15.8	
	comp=E,118nm,0.3s						
KUDL	**Kundal**	**8.31**	**167**	*e*PKP	**Pn**	**13 25 46.0**	**-0.4**
KUDL				*e*S	Sn	13 27 11.3	-7.3
KUDL				AML	AML	13 27 16.5	
	comp=N,61nm,0.1s						
KUDL				AML	AML	13 27 17.1	
	comp=E,87nm,0.6s						
PTH	**Pithoragarh**	**8.31**	**142**	*ex*	Sn	13 27 10.1	-8.8
AGRA	**Agra**	**9.52**	**161**	*e*PKP	**Pn**	**13 26 02.4**	**-0.5**
AGRA				*e*S	Sn	13 27 40.9	-7.1
DANN	**Dangsing**	**11.19**	**132**	*e*P	Pn	13 26 22.7	-3.2
	comp=E,36nm,0.3s						
DANN				*e*S	Sn	13 28 20.0	-9.4
KOLN	**Koldanda**	**11.53**	**135**	*e*P	**Pn**	**13 26 27.9**	**-2.5**
	comp=E,14nm,0.2s						
GKN	**Gorkha**	**11.98**	**131**	*e*P	Pn	13 26 32.6	-3.6
	comp=E,23nm,0.3s						
MKAR	**Makanchi Array**	**12.04**	**27**	P	**Pn**	**13 26 36.9**	**0.0**
	comp=E,0.2nm,0.3s,baz=198,slow=15,SNR=11						
MKAR				S	**Sn**	**13 28 47.8**	**-1.3**
	comp=E,0.2nm,0.3s,baz=194,slow=20,SNR=3.7						
KKN	**Kakani**	**12.53**	**129**	*e*P	Pn	13 26 40.1	-3.5
	comp=E,28nm,0.4s						
KKN				*e*S	Sn	13 28 52.5	-9.1
DMN	**Daman**	**12.55**	**131**	*e*P	Pn	13 26 40.5	-3.4
	comp=E,23nm,0.4s						
PKI	**Pulchoki**	**12.76**	**130**	*e*P	Pn	13 26 43.6	-3.2
GUN	**Gumba**	**12.82**	**127**	*e*P	Pn	13 26 43.6	-4.0
	comp=E,17nm,0.3s						
JIRN	**Jiri**	**13.19**	**127**	*e*P	Pn	13 26 49.1	-3.4
	comp=E,16nm,0.4s						
BHPL	**Bhopal**	**13.27**	**168**	*ex*	P	13 26 50.8	-8.4
RAMN	**Ramite**	**13.95**	**128**	*e*P	Pn	13 26 58.8	-3.4
	comp=E,19nm,0.3s						
TAPN	**Taplejung**	**14.40**	**124**	*e*P	Pn	13 27 03.9	-4.1
	comp=E,12nm,0.3s						
ODAN	**Odare**	**14.52**	**127**	*e*P	Pn	13 27 06.1	-3.4
	comp=E,42nm,0.5s						
KURBB	**Kurchatov Arra**	**14.64**	**10**	⇑P	**P**	**13 27 14.5**	**+0.3**
	comp=E,12nm,0.8s						
KURBB	**Kurchatov Arra**	**14.64**	**10**	P	**Pn**	**13 27 08.0**	**-2.6**
KURBB	comp=E,0.1nm,0.3s,baz=201,slow=12,SNR=7.9			LR	LR	13 33 10.9	
	comp=E,52nm,19.7s,baz=345,slow=38						
KURK	**Kurchatov**	**14.74**	**11**	⇑P	**P**	**13 27 15.4**	**0.0**
	comp=E,15nm,1.2s						
VOSK	**Vostochnaya**	**16.61**	**353**	⇓P	**Pn**	**13 27 32.5**	**-2.9**
	comp=E,9.8nm,1.6s						
AB31	**Akbulak array**	**16.71**	**325**	P	**Pn**	**13 27 33.2**	**-3.3**
	comp=E,1.8nm,0.6s,baz=131,slow=13,SNR=35						
AB31				S	Sn	13 30 29.2	-13
	comp=E,0.8nm,0.4s,baz=163,slow=20,SNR=8.1						
BVA0	**Borovoye Array**	**16.97**	**352**	⇑P	**P**	**13 27 41.7**	**+1.6**
	comp=E,1.1nm,0.8s,baz=162,slow=10,SNR=36						
BVAR	**Borovoye Array**	**16.97**	**352**	P	**P**	**13 27 41.8**	**+1.7**
	comp=E,1.1nm,0.3s,baz=163,slow=10,SNR=43						
ZRNK	**Zerenda**	**17.09**	**349**	⇑P	**P**	**13 27 41.9**	**+0.5**
	comp=E,15nm,1.8s						
AKTO	**Aktyubinsk**	**18.43**	**325**	⇑P	**Pn**	**13 27 55.8**	**-1.6**
	comp=E,0.8nm,0.7s						
AKTO	**Aktyubinsk**	**18.43**	**325**	P	**Pn**	**13 27 56.6**	**-0.7**
	comp=E,0.4nm,0.3s,baz=123,slow=9.1,SNR=23						
ZALV	**Zalesovo Beam**	**19.09**	**19**	P	**Pn**	**13 28 04.6**	**-0.5**
	comp=E,1.3nm,0.3s,baz=204,slow=11,SNR=28						
ZALV				LR	LR	13 34 51.1	
	comp=E,41nm,18.7s,baz=63,slow=35						
HYB	**Hyderabad**	**19.16**	**168**	*e*P	**Pn**	**13 28 06.5**	**+0.3**
HYB				*e*S	S	13 31 26.0	-10
SONM	**Songino Array**	**26.23**	**54**	P	**P**	**13 29 16.7**	**+2.4**
	comp=E,2.8nm,0.8s,baz=250,slow=9.1,SNR=16						
CMAR	**Chiang Mai Arr**	**27.99**	**123**	P	**P**	**13 29 32.5**	**+2.2**
	comp=E,0.8nm,0.7s,baz=304,slow=10,SNR=6.3						
CMAR				sP	**sP**	**13 29 59.5**	**-4.6**
	comp=E,2.3nm,0.9s,baz=309,slow=11,SNR=5.1						
FINES	**FINESS Array B**	**39.20**	**325**	P	**P**	**13 31 07.8**	**+1.2**
	comp=E,4.6nm,0.9s,baz=103,slow=8.6,SNR=7.5						
ARCES	**ARCESS Array B**	**42.40**	**337**	P	**P**	**13 31 35.0**	**+2.1**
	comp=E,1.9nm,0.8s,baz=111,slow=9.8,SNR=8.2						
VRAC	**Vranov**	**43.34**	**306**	LR	LR	13 51 53.1	
	comp=E,77nm,19.1s,baz=187,slow=39						
HFS	**Hagfors**	**44.92**	**322**	P	**P**	**13 31 54.6**	**+1.4**
	comp=E,2.9nm,0.9s,baz=98,slow=9.1,SNR=6.8						
NOA	**NORSAR Array B**	**46.20**	**323**	P	**P**	**13 32 04.7**	**+1.5**
	comp=E,1.1nm,0.7s,baz=93,slow=7.6,SNR=2.8						
MJAR	**Matsushiro Arr**	**50.47**	**70**	P	**P**	**13 32 39.0**	**+2.5**
	comp=E,2.3nm,0.6s,baz=266,slow=9.6,SNR=9.2						
TORD	**Torodi Ar. Bea**	**68.45**	**271**	P	**P**	**13 34 40.5**	**+0.1**
	comp=E,0.8nm,0.5s,baz=47,slow=5.5,SNR=18						
TORD				sP	**sP**	**13 35 14.5**	**-1.9**
	comp=E,0.7nm,0.7s,baz=45,slow=5.3,SNR=3.4						
ILAR	**Eielson Array**	**74.21**	**17**	P	**P**	**13 35 15.6**	**+1.4**
	comp=E,0.2nm,0.7s,baz=315,slow=3.1,SNR=5.0						
ILAR				pP	**pP**	**13 35 37.5**	**-2.1**
	comp=E,0.8nm,1.0s,baz=313,slow=5.3,SNR=4.4						
WRA	**Warramunga Arr**	**79.58**	**124**	P	P	13 35 48.5	+3.5
	comp=E,0.2nm,0.7s,baz=323,slow=5.4,SNR=7.6						
YKA	**Yellowknife Ar**	**81.29**	**4**	P	**P**	**13 35 56.0**	**+2.5**
	comp=E,0.5nm,0.7s,baz=347,slow=5.4,SNR=13						
YKA				pP	**pP**	**13 36 17.9**	**-1.5**
	comp=E,0.7nm,0.6s,baz=347,slow=5.4,SNR=8.1						
ASAR	**Alice Springs**	**81.92**	**127**	sP	sP	13 36 28.6	-5.4
	comp=E,0.3nm,0.7s,baz=315,slow=4.8,SNR=2.9						

IDC 22 13:24:10.6±5.1, 22.14S×170.71E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.9/16, mbtmp3.9/5, ML2.9/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/29, Error ellipse: s-maj=148.3km s-min=69.6km az=153.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.95**	**270**	Pn	Pn	13 25 11.9	-0.8
	0.8nm,0.3s,baz=61,slow=21,SNR=12						
DZM				Sn	Sn	13 25 53.2	-6.6
	2.9nm,0.3s,baz=110,slow=23,SNR=7.5						
DZM				LR	LR	13 25 54.8	
	comp=Z,108nm,19.9s,baz=98,slow=26						
STKA	**Stephens Creek**	**27.61**	**243**	LR	LR	13 39 00.5	
	comp=Z,66nm,19.6s,baz=23,slow=32						
ASAR	**Alice Springs**	**33.88**	**260**	P	P	13 30 55.9	+0.6
	2.5nm,0.7s,baz=88,slow=9.3,SNR=57						
WRA	**Warramunga Arr**	**33.96**	**267**	P	P	13 30 55.7	-0.3
	0.3nm,0.7s,baz=103,slow=8.6,SNR=5.8						
FITZ	**Fitzroy Crossi**	**42.39**	**267**	P	P	13 32 07.0	-0.1
	2.7nm,0.9s,baz=93,slow=8.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**80.94**	**294**	P	P	13 36 27.1	-0.2
	0.6nm,0.7s,baz=114,slow=4.0,SNR=4.2						

WEL 22 13:42:06.3±0.4, 45.13S×166.63E, h12km, ML4.0/12, 1C-1D, Error ellipse: s-maj=3.4km s-min=2.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.51**	**133**	P*	Pg	13 42 16.6	+0.3
DCZ				S*	Sg	13 42 22.9	-0.2
DCZ				S*	Sg	13 42 22.9	-0.2
MSZ	**Milford Sound**	**1.03**	**64**	P*	Pb	13 42 24.4	-1.6
PYZ	**Puysegur Point**	**1.04**	**178**	P*	Pb	13 42 25.2	-1.1
MLZ	**Mavora Lakes**	**1.11**	**102**	⇓P*	Pb	13 42 25.6	-2.0
WHZ	**Wether Hill Ro**	**1.20**	**130**	P*	Pn	13 42 27.6	-1.4
WKZ	**Wanaka**	**1.72**	**81**	PN	Pn	13 42 36.2	+0.1
JCZ	**Jackson Bay**	**1.85**	**56**	PN	Pb	13 42 39.2	-1.1
EAZ	**Earnscleugh**	**1.90**	**94**	PN	Pn	13 42 38.7	+0.2
EAZ				SN	Sn	13 43 01.2	-1.1
APZ	**The Paps**	**1.95**	**151**	⇑PN	Pn	13 42 40.0	+0.7
SYZ	**Scrubby Hill**	**2.25**	**130**	PN	Pn	13 42 43.0	-0.3
TUZ	**Tuapeka**	**2.27**	**112**	PN	Pn	13 42 43.0	-0.6
LBZ	**Lake Benmore**	**2.64**	**75**	PN	Pn	13 42 47.7	-1.1
FOZ	**Fox Glacier**	**2.70**	**56**	*e*PN	Pn	13 42 48.0	-1.4
ODZ	**Otahua Downs**	**2.85**	**90**	PN	Pn	13 42 50.8	-0.8
RPZ	**Rata Peaks**	**3.47**	**68**	PN	Pn	13 42 58.4	-1.8
WVZ	**Waitaha Valley**	**3.60**	**57**	PN	Pn	13 42 58.0	-3.9

*CSEM **22** 13:45:06.8±0.1, 41.93N×42.69E, h2km, MD3.4, Error ellipse: s-maj=3.7km s-min=2.5km az=126.0*

*TIF **22** 13:45:06.0, 41.97N×42.66E, h21km±2km*

*NSSP **22** 13:45:07.1, 41.92N×42.78E, h12km, Ms2.8*

*MOS **22** 13:45:07.3±0.5, 41.86N×42.70E, h15km, mb4.2/1, Error ellipse: s-maj=16.3km s-min=7.7km az=72.5*

*ISK **22** 13:45:07.5, 41.89N×42.60E, h14km, MD3.5*

*DDA **22** 13:45:11.4, 41.88N×42.46E, h15km, MD3.4*

ISC 22 13:45:06.5±1.1, 41.93N±0.02×42.70E±0.02, h3km±10km, n76, σ0s69/125, 14C-10D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.79**	**131**	P	**Pg**	**13 45 22.1**	**+0.4**
AKH				S	**Sb**	**13 45 33.4**	**-0.7**
ONI	**Oni**	**0.87**	**40**	P	**Pg**	**13 45 23.1**	**-0.1**
ONI				S	**Sg**	**13 45 34.8**	**+0.4**
BCA	**Borcka**	**0.94**	**240**	*e*PG	**Pg**	**13 45 24.1**	**-0.4**
BCA				*e*SG	**Sg**	**13 45 36.9**	**+0.2**
BCA	**Borcka**	**0.94**	**240**	*e*Pg	**Pg**	**13 45 24.1**	**-0.4**
BCA				*e*Sg	**Sg**	**13 45 36.9**	**+0.2**
ARTV	**Artvin**	**0.94**	**218**	*i* P	**Pg**	**13 45 24.6**	**0.0**
ARTV				*i* S	**Sg**	**13 45 37.1**	**+0.3**
ARTV	**Artvin**	**0.94**	**218**	*i* P	**Pg**	**13 45 24.6**	**0.0**
ARTV				*i* S	**Sg**	**13 45 37.1**	**+0.3**
DBOC	**Borcka**	**0.97**	**233**	*i* P	**Pg**	**13 45 25.1**	**0.0**
DBOC				*i* S	**Sg**	**13 45 37.7**	**+0.1**
DBOC	**Borcka**	**0.97**	**233**	*i* P	**Pg**	**13 45 25.1**	**0.0**
DBOC				*i* S	**Sg**	**13 45 37.7**	**+0.1**
DAGI	**Agillar**	**1.03**	**215**	*i* P	**Pg**	**13 45 26.3**	**0.0**
DAGI				*i* S	**Sg**	**13 45 39.9**	**+0.2**
GOR	**Gori**	**1.05**	**86**	P	**Pg**	**13 45 26.5**	**-0.3**
GOR				S	**Sg**	**13 45 40.6**	**+0.2**
DIGR	**Digorskoe uzhe**	**1.17**	**34**	⇓*i*PG	**Pg**	**13 45 28.3**	**-0.7**
DIGR				*i* S	**Sg**	**13 45 44.2**	**0.0**
DIGR	**Digorskoe uzhe**	**1.17**	**34**	*i* Pg	**Pg**	**13 45 28.3**	**-0.7**
DIGR				*i* Sg	**Sg**	**13 45 44.2**	**0.0**
ZEI	**Tsey**	**1.23**	**46**	⇓*i*PG	**Pg**	**13 45 29.8**	**-0.2**
ZEI				*i* S	**Sb**	**13 45 46.7**	**-0.1**
ZEI	**Tsey**	**1.23**	**46**	*i* Pg	**Pg**	**13 45 29.8**	**-0.2**
ZEI				*i* Sg	**Sb**	**13 45 46.7**	**-0.1**
TCHZ	**Tchakhmakh**	**1.27**	**143**	⇑*i*P	**Pn**	**13 45 31.2**	**-0.2**
TCHZ				⇓*i*S	**Sn**	**13 45 48.9**	**-0.2**
TCHZ	**Tchakhmakh**	**1.27**	**143**	⇑P	**Pn**	**13 45 31.2**	**-0.2**
TCHZ				S	**Sn**	**13 45 48.9**	**-0.2**
KARS	**Kars**	**1.33**	**167**	*e*PN	**Pb**	**13 45 32.2**	**0.0**
KARS				*e*SN	**Sn**	**13 45 50.1**	**-0.3**
KARS	**Kars**	**1.33**	**167**	*e*Pn	**Pb**	**13 45 32.2**	**0.0**
KARS				*e*Sn	**Sn**	**13 45 50.1**	**-0.3**
KAMZ	**Kamo**	**1.45**	**139**	⇓*i*P	**Pb**	**13 45 34.2**	**0.0**
KAMZ				⇑*i*S	**Sg**	**13 45 54.0**	**+0.9**
KAMZ	**Kamo**	**1.45**	**139**	⇓P	**Pb**	**13 45 34.2**	**0.0**
KAMZ				S	**Sg**	**13 45 54.0**	**+0.9**
LACR	**Lac**	**1.49**	**52**	⇑*i*PG	Pn	13 45 34.2	-0.1
LACR				*i* S	**Sg**	**13 45 54.4**	**+0.1**
LACR	**Lac**	**1.49**	**52**	*i* Pg	Pn	13 45 34.2	-0.1
LACR				*i* Sg	**Sg**	**13 45 54.4**	**+0.1**
TBLG	**Delisi**	**1.54**	**97**	PG	**Pn**	**13 45 34.8**	**-0.1**
TBLG				*i* S	**Sb**	**13 45 55.1**	**-0.4**
TBLG	**Delisi**	**1.54**	**97**	P	**Pn**	**13 45 34.8**	**-0.1**
TBLG				S	**Sb**	**13 45 55.1**	**-0.4**
TBLG	**Delisi**	**1.54**	**97**	P	**Pn**	**13 45 34.8**	**-0.1**
TBLG				S	**Sb**	**13 45 55.1**	**-0.4**
KORR	**Kora**	**1.54**	**41**	*e*PG	**Pb**	**13 45 35.7**	**0.0**
KORR				*e*S	**Sg**	**13 45 56.3**	**+0.3**
KORR	**Kora**	**1.54**	**41**	*e*Pg	**Pb**	**13 45 35.7**	**0.0**
KORR				*e*Sg	**Sg**	**13 45 56.3**	**+0.3**
PZAR	**Pazar-Rize**	**1.54**	**242**	*e*PN	**Pn**	**13 45 34.6**	**-0.3**
PZAR	**Pazar-Rize**	**1.54**	**242**	*e*Pn	**Pn**	**13 45 34.6**	**-0.3**
STE	**Stepanavan**	**1.56**	**126**	P	**Pb**	**13 45 36.0**	**-0.1**
STE				S	**Sb**	**13 45 56.5**	**+0.2**
STEZ	**Stepenevan**	**1.58**	**125**	*e*P	**Pb**	**13 45 36.0**	**-0.4**
STEZ				*e*S	**Sn**	**13 45 56.5**	**0.0**
DOMR	**Dombai**	**1.58**	**330**	⇑*e*PN	**Pb**	**13 45 36.2**	**-0.3**
DOMR				*i* S	**Sg**	**13 45 58.3**	**+1.0**
DOMR	**Dombai**	**1.58**	**330**	*e*Pn	**Pb**	**13 45 36.2**	**-0.3**
DOMR				*i* Sg	**Sg**	**13 45 58.3**	**+1.0**
LSNR	**Lesken**	**1.58**	**31**	⇓*i*PN	**Pg**	**13 45 36.6**	**-0.2**
LSNR				*e*S	**Sg**	**13 45 57.4**	**+0.1**
LSNR	**Lesken**	**1.58**	**31**	*i* Pn	**Pg**	**13 45 36.6**	**-0.2**
LSNR				*e*Sg	**Sg**	**13 45 57.4**	**+0.1**
HARI	**Harich**	**1.64**	**143**	⇑*i*P	**Pb**	**13 45 37.2**	**-0.3**
HARI				⇓*i*S	**Sb**	**13 45 59.0**	**+0.3**
HARI	**Harich**	**1.64**	**143**	⇑P	**Pb**	**13 45 37.2**	**-0.3**
HARI				S	**Sb**	**13 45 59.0**	**+0.3**
HNAZ	**Hnaberd**	**1.69**	**139**	⇑*i*P	**Pb**	**13 45 38.2**	**-0.2**
HNAZ				⇑*i*S	**Sb**	**13 46 00.8**	**+0.7**
HNAZ	**Hnaberd**	**1.69**	**139**	⇑P	**Pb**	**13 45 38.2**	**-0.2**
HNAZ				S	**Sb**	**13 46 00.8**	**+0.7**
ARNR	**Ardon**	**1.72**	**42**	*e*PN	**Pb**	**13 45 38.5**	**-0.3**
ARNR				*e*S	**Sg**	**13 46 01.5**	**-0.3**
ARNR	**Ardon**	**1.72**	**42**	*e*Pn	**Pb**	**13 45 38.5**	**-0.3**
ARNR				*e*Sg	**Sg**	**13 46 01.5**	**-0.3**
SHAR	**Shatzhatmas**	**1.82**	**359**	⇑*e*PN	**Pb**	**13 45 40.1**	**-0.5**
SHAR				*e*S	**Sg**	**13 46 06.3**	**+1.4**
SHAR	**Shatzhatmas**	**1.82**	**359**	*e*Pn	**Pb**	**13 45 40.1**	**-0.5**
SHAR				*e*Sg	**Sg**	**13 46 06.3**	**+1.4**
VLKR	**Vladikavkaz**	**1.84**	**52**	*e*PN	**Pb**	**13 45 39.9**	**-1.0**
VLKR	**Vladikavkaz**	**1.84**	**52**	*e*Pn	**Pb**	**13 45 39.9**	**-1.0**
KUBR	**Kubataba**	**1.94**	**15**	⇑*e*PN	**Pb**	**13 45 42.9**	**+0.3**
KUBR				*e*S	**Sg**	**13 46 10.7**	**+1.7**
KUBR	**Kubataba**	**1.94**	**15**	*e*Pn	**Pb**	**13 45 42.9**	**+0.3**
KUBR				*e*Sg	**Sg**	**13 46 10.7**	**+1

h25ᵏᵐ:pP-P,n570,σ1§54/638,mb5.0/152,MS4.2/36,
87C-94D,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**1.54**	**284**	P	**Pn**	**13 50 40.9**	**-0.5**
JOGS				*e*S	**Sn**	**13 50 59.3**	**-1.3**
JMJ	**Miyako jima 2**	**1.66**	**285**	P	**Pn**	**13 50 42.4**	**-0.6**
JMJ				*e*S	**Sn**	**13 51 02.2**	**-1.2**
JJT2	**Tamagusuku 2**	**1.85**	**20**	P	**Pn**	**13 50 44.3**	**-1.3**
JJT2				*e*S	**Sn**	**13 51 06.5**	**-1.6**
NAH1	**Naha**	**1.89**	**18**	P	**Pn**	**13 50 44.9**	**-1.3**
NAH1				*e*S	**Sn**	**13 51 06.9**	**-2.3**
JKE	**Kume jima 2**	**1.94**	**353**	P	**Pn**	**13 50 45.9**	**-1.0**
JKE				*e*S	**Sn**	**13 51 08.4**	**-2.0**
JTJ	**Tarama**	**2.16**	**277**	P	**Pn**	**13 50 49.0**	**-0.8**
JTJ				*e*S	**Sn**	**13 51 13.8**	**-2.0**
JAGN	**Aguni-jima**	**2.19**	**4**	P	**Pn**	**13 50 49.6**	**-0.7**
JIJ	**Ishigaki jima**	**2.66**	**270**	P	**Pn**	**13 50 55.6**	**-1.1**
JIJ				S	**Sn**	**13 51 24.3**	**-3.8**
JOW	**Kunigami**	**2.67**	**24**	*e*P	**Pn**	**13 50 55.1**	**-1.8**
JOW				Sn	**Sn**	**13 51 24.1**	**-4.3**
JOW	**Kunigami**	**2.67**	**24**	P	**Pn**	**13 50 55.3**	**-1.6**
JOW				*e*S	**Sn**	**13 51 25.5**	**-2.9**
JOW	**Kunigami**	**2.67**	**24**	Pn	**Pn**	**13 50 55.4**	**-1.6**
	217nm,0.3s,baz=180,slow=14,SNR=218						
JOW				Sn	**Sn**	**13 51 24.1**	**-4.3**
	138nm,0.3s,baz=87,slow=27,SNR=11						
JIH	**Iheya**	**2.75**	**17**	P	**Pn**	**13 50 57.1**	**-1.0**
JIH				S	**Sn**	**13 51 27.6**	**-3.0**
JKRS	**Kuro-shima**	**2.78**	**267**	P	**Pn**	**13 50 57.7**	**-0.8**
JKRS				*e*S	**Sn**	**13 51 28.3**	**-2.9**
HATJ	**Hateruma jima**	**2.98**	**264**	P	**Pn**	**13 50 59.8**	**-1.5**
HATJ				*e*S	**Sn**	**13 51 32.8**	**-3.4**
IRIF	**Iriomote-Funau**	**3.03**	**270**	P	**Pn**	**13 51 00.7**	**-1.2**
YOJ	**Yonaguni jima**	**3.69**	**272**	P	**Pn**	**13 51 09.8**	**-1.1**
YOJ				*e*S	**Sn**	**13 51 50.1**	**-3.4**
JTK	**Tokunoshima**	**3.78**	**26**	P	**Pn**	**13 51 11.2**	**-1.0**
JTK				*e*S	Sn	13 51 49.8	-6.1
JMZ	**Minamidaito 2**	**4.04**	**69**	P	Pn	13 51 11.8	-3.9
JAM	**Amami Oshima**	**4.61**	**29**	P	**Pn**	**13 51 22.1**	**-1.5**
JAM				*e*S	Sn	13 52 10.1	-6.2
JZK	**Kikaishima**	**4.70**	**33**	P	**Pn**	**13 51 23.8**	**-1.0**
JZK				*e*S	**Sn**	**13 52 16.0**	**-2.6**
NACB	**Ninganchiao**	**4.99**	**269**	*e*P	**Pn**	**13 51 26.2**	**-2.6**
	240nm,0.5s						
TATO	**Taipei**	**5.10**	**278**	*e*P	**Pn**	**13 51 30.1**	**-0.2**
	153nm,0.6s						
YHNB	**Yeheng**	**5.18**	**274**	*e*P	**Pn**	**13 51 31.2**	**-0.3**
	231nm,0.8s						
YULB	**Yu-li**	**5.36**	**260**	*e*P	Pn	13 51 30.6	-3.4
	568nm,0.8s						
SSLB	**Suanglung**	**5.61**	**265**	*e*P	**Pn**	**13 51 34.8**	**-2.5**
	99nm,0.4s						
TWG	**Pinlang**	**5.71**	**255**	*e*P	Pn	13 51 33.8	-4.9
	716nm,0.5s						
JNN	**Nakanoshima**	**5.98**	**24**	P	**Pn**	**13 51 41.3**	**-1.1**
JNN				*e*S	**Sn**	**13 52 48.7**	**-1.4**
TPUB	**Ta-pu**	**5.98**	**261**	*e*P	**Pn**	**13 51 41.0**	**-1.5**
	322nm,0.8s						
QZH	**Quanzhou**	**7.72**	**276**	P	Pn	13 51 59.3	-7.0
QZH				S	Sn	13 53 25.5	-7.4
QZH				LR	LR		
	comp=N,5μm,19.6s						
QZH				LR	LR		
	comp=E,3μm,10.7s						
QZH				LR	LR		
	comp=Z,4μm,11.8s						
SSE	**Sheshan**	**8.46**	**323**	*e*P	**Pn**	**13 52 16.1**	**-0.3**
SSE				pmax	pmax		
	comp=Z,29nm,0.7s						
SSE				pmax	pmax		
	comp=Z,200nm,6.5s						
SSE				LR	LR		
	comp=N,1μm,23.7s						
SSE				LR	LR		
	comp=E,630nm,23.7s						
SSE				LR	LR		
	comp=Z,980nm,23.3s						
PALP	**Palanan**	**8.48**	**212**	⇓*i*P	Pn	13 52 12.9	-3.9
PALP	**Palanan**	**8.48**	**212**	*e*P	Pn	13 52 13.1	-3.8
CAUP	**Cauayan**	**8.88**	**214**	*e*P	**Pn**	**13 52 21.3**	**-1.0**
CAUP				*e*S	Sn	13 53 54.2	-7.4
ABRA	**Dolores**	**8.95**	**223**	*e*P	**Pn**	**13 52 21.5**	**-1.7**
JNU	**Nakatsue**	**9.32**	**20**	*e*P	**Pn**	**13 52 27.6**	**-0.7**
	comp=Z,140nm,0.8s						
JNU	**Nakatsue**	**9.32**	**20**	Pn	**Pn**	**13 52 27.6**	**-0.7**
	comp=Z,33nm,0.3s,baz=205,slow=2.1,SNR=271						
JNU				LR	LR	13 56 45.8	
	comp=Z,751nm,18.9s,baz=7.8,slow=42						
BALP	**Baler**	**10.03**	**212**	*e*P	**Pn**	**13 52 35.2**	**-2.9**
WHN	**Wuhan**	**12.83**	**301**	⇓P	**Pn**	**13 53 16.5**	**+0.2**
WHN				LR	LR		
	comp=N,2μm,13.2s						
WHN				LR	LR		
	comp=E,3μm,11.6s						
WHN				LR	LR		
	comp=Z,4μm,13.0s						
KSAR	**Wonju Array Be**	**13.03**	**3**	Pn	**Pn**	**13 53 18.8**	**-0.2**
KSRS	**Korea Array**	**13.04**	**3**	Pn	**Pn**	**13 53 18.8**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=184,slow=13,SNR=22						
KSRS				LR	LR	13 58 55.6	
	comp=Z,396nm,18.4s,baz=190,slow=40						
INCN	**Inchon**	**13.05**	**359**	*e*P	**Pn**	**13 53 19.9**	**+0.6**
	comp=Z,35nm,0.8s						
CBIJ	**Chichi jima**	**13.90**	**76**	LR	LR	13 58 20.5	
	comp=Z,396nm,19.6s,baz=153,slow=35						
DL2	**Dalian**	**15.18**	**344**	P	**Pn**	**13 53 49.4**	**+1.2**
DL2				*e*S	**Sn**	**13 56 42.3**	**+6.7**
DL2				pmax	pmax		
	comp=Z,50nm,1.5s						
DL2				pmax	pmax		
	comp=Z,380nm,6.9s						
DL2				LR	LR		
	comp=N,710nm,11.4s						
DL2				LR	LR		
	comp=E,520nm,11.4s						
DL2				LR	LR		
	comp=Z,730nm,11.2s						
MAJO	**Matsushiro**	**15.45**	**36**	*e*P	**P**	**13 53 54.2**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,33nm,0.9s						
MAJO	**Matsushiro**	**15.45**	**36**	*e*P	**P**	**13 53 54.1**	**-1.9**
	comp=Z,33nm,0.9s						
MAT	**Matsushiro**	**15.45**	**36**	P	**Pn**	**13 53 51.1**	**-0.7**
MAT				S	**S**	**13 56 56.0**	**-1.6**
MJAR	**Matsushiro Arr**	**15.45**	**36**	Pn	**Pn**	**13 53 51.9**	**+0.1**
MJAR	**Matsushiro Arr**	**15.45**	**36**	Pn	**Pn**	**13 53 51.9**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=231,slow=12,SNR=9.3						
BUKP	**Musuan**	**16.53**	**187**	*i*P	**P**	**13 54 07.5**	**-0.7**
ENH	**Enshi**	**16.66**	**294**	*e*P	**P**	**13 54 08.8**	**-0.8**
	comp=Z,47nm,1.1s						
QIZ	**Qiongzhong**	**16.86**	**255**	P	**P**	**13 54 12.3**	**+0.5**
QIZ				pP	**pP**	**13 54 15.5**	**-3.3**
QIZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
QIZ				LR	LR		
	comp=N,360nm,13.0s						
QIZ				LR	LR		
	comp=E,130nm,9.1s						
QIZ				LR	LR		
	comp=Z,410nm,17.1s						
SNY	**Shenyang**	**17.62**	**351**	⇑P	**Pn**	**13 54 19.4**	**+0.1**
SNY				pmax	pmax		
	comp=Z,35nm,1.0s						
SNY				pmax	pmax		
	comp=Z,260nm,3.5s						
SNY				LR	LR		
	comp=N,1μm,14.1s						
SNY				LR	LR		
	comp=E,490nm,7.6s						
SNY				LR	LR		
	comp=Z,1μm,15.2s						
BJT	**Baijiatuan**	**18.07**	**332**	*e*P	**Pn**	**13 54 24.9**	**0.0**
	comp=Z,100nm,0.9s						
BJI	**Beijing**	**18.09**	**332**	P	**Pn**	**13 54 24.9**	**-0.1**
BJI				S	**S**	**13 57 49.0**	**-2.3**
BJI				pmax	pmax		
	comp=Z,58nm,1.1s						
BJI				LR	LR		
	comp=N,280nm,16.7s						
BJI				LR	LR		
	comp=E,850nm,16.1s						
BJI				LR	LR		
	comp=Z,570nm,25.6s						
XAN	**Xi'an**	**18.49**	**305**	P	**P**	**13 54 29.8**	**0.0**
XAN				pP	**pP**	**13 54 33.3**	**-3.5**
XAN				sP	**sP**	**13 54 37.0**	**-3.1**
XAN				PP	**PnPn**	**13 54 45.1**	**+3.1**
XAN				S	**Sn**	**13 57 50.3**	**-5.8**
XAN				SS	**SnSn**	**13 58 16.4**	**+6.4**
XAN				pmax	pmax		
	comp=Z,13nm,0.8s						
XAN				pmax	pmax		
	comp=Z,97nm,9.2s						
XAN				LR	LR		
	comp=N,220nm,13.7s						
XAN				LR	LR		
	comp=E,410nm,14.2s						
XAN				LR	LR		
	comp=Z,520nm,13.7s						
GYA	**Guiyang**	**18.53**	**281**	P	**Pn**	**13 54 30.8**	**+0.1**
GYA				PP	**PnPn**	**13 54 47.0**	**+4.4**
GYA				S	**Sn**	**13 57 54.3**	**-2.9**
GYA				SS	**SnSn**	**13 58 19.3**	**+8.2**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,140nm,4.7s						
GYA				LR	LR		
	comp=N,7μm,14.6s						
GYA				LR	LR		
	comp=E,5μm,15.6s						
GYA				LR	LR		
	comp=Z,9μm,13.4s						
CN2	**Changchun**	**19.40**	**356**	*e*P	**P**	**13 54 39.8**	**+0.1**
CN2				*ep*P	**Pn**	**13 54 43.4**	**+2.5**
CN2				*es*P	**sP**	**13 54 46.8**	**-3.2**
CN2				*e*S	**Sn**	**13 58 18.8**	**+1.0**
CN2				pmax	pmax		
	comp=Z,40nm,1.1s						
CN2				LR	LR		
	comp=N,700nm,12.0s						
CN2				LR	LR		
	comp=E,900nm,12.0s						
CN2				LR	LR		
	comp=Z,800nm,12.0s						
USRK	**Ussuriysk Arra**	**20.17**	**10**	P	**P**	**13 54 47.9**	**-0.1**
	comp=Z,6.3nm,0.6s,baz=192,slow=9.5,SNR=18						
USRK				LR	LR	14 02 50.2	
	comp=Z,378nm,20.3s,baz=183,slow=38						
MDJ	**Mudanjiang**	**20.28**	**5**	P	**P**	**13 54 49.8**	**+0.6**
MDJ				pP	Pn	13 54 53.0	+1.7
MDJ				sP	**sP**	**13 54 55.8**	**-3.7**
MDJ				S	Sn	13 58 39.9	+1.0
MDJ				PcP	**PcP**	**13 59 00.9**	**-1.3**
MDJ				ScP	**ScP**	**14 02 36.8**	**-0.2**
MDJ				PcS	**PcS**	**14 02 41.4**	**+1.7**
MDJ				ScS	**ScS**	**14 06 21.8**	**+2.1**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,260nm,6.8s						
MDJ				LR	LR		
	comp=N,350nm,38.8s						
MDJ				LR	LR		
	comp=E,430nm,23.2s						
MDJ				LR	LR		
	comp=Z,490nm,36.2s						
MDJ	**Mudanjiang**	**20.28**	**5**	*e*P	**P**	**13 54 47.7**	**-1.5**
	comp=Z,20nm,1.0s						
MYLDM	**Lahad Datu**	**20.80**	**205**	P	Pn	13 54 56.7	-0.9
MYLDM	**Lahad Datu**	**20.80**	**205**	P	Pn	13 54 57.3	-0.3
	comp=Z,87nm,1.2s,comp=Z,1μm						
HHC	**Hu-ho-hao-te**	**20.91**	**325**	*e*P	**P**	**13 54 56.8**	**+0.6**
HHC				pP	Pn	13 55 00.8	+2.0
HHC				sP	**sP**	**13 55 03.8**	**-2.7**
HHC				PP	**PnPn**	**13 55 19.3**	**+4.2**
HHC				S	**S**	**13 58 50.3**	**+2.2**
HHC				SS	**SnSn**	**13 59 15.3**	**+5.9**
HHC				pmax	pmax		
	comp=Z,59nm,1.4s						
HHC				pmax	pmax		
	comp=Z,2μm,4.5s						
HHC				LR	LR		
	comp=N,710nm,8.4s						
HHC				LR	LR		
	comp=E,600nm,7.1s						
HHC				LR	LR		
	comp=Z,860nm,8.2s						
SDKM	**Sandakan**	**20.91**	**209**	P	**P**	**13 54 56.5**	**+0.1**
KKM	**Kota Kinabalu**	**21.01**	**211**	*e*P	**P**	**13 54 57.6**	**+0.2**
	comp=Z,82nm,1.1s						
KKM	**Kota Kinabalu**	**21.01**	**211**	P	**P**	**13 54 56.7**	**-0.7**
KKM	**Kota Kinabalu**	**21.01**	**211**	P	**P**	**13 54 58.2**	**+0.8**
	comp=Z,76nm,1.1s,comp=Z,825nm						
BTO	**Baotou**	**21.56**	**323**	*e*P	**P**	**13 55 01.9**	**-1.3**
CD2	**Chengdu**	**21.61**	**293**	P	**P**	**13 55 03.9**	**+0.1**
CD2				pP	**pP**	**13 55 13.0**	**+2.2**
CD2				sP	**sP**	**13 55 17.1**	**+3.0**
CD2				PP	**PnPn**	**13 55 28.5**	**+3.8**
CD2				S	**S**	**13 58 55.3**	**-6.8**
CD2				sS	Sn	13 59 09.9	-1.4
CD2				pmax	pmax		
	comp=Z,120nm,0.8s						
CD2				pmax	pmax		
	comp=Z,340nm,5.0s						
CD2				LR	LR		
	comp=N,840nm,12.9s						
CD2				LR	LR		
	comp=E,1μm,8.3s						
CD2				LR	LR		
	comp=Z,1μm,12.7s						
TSM	**Tawau**	**21.86**	**205**	P	**P**	**13 55 05.7**	**-0.7**
KMI	**Kunming**	**22.09**	**277**	P	**P**	**13 55 10.8**	**+1.7**
KMI				pP	**pP**	**13 55 19.8**	**+3.6**
KMI				sP	**sP**	**13 55 24.1**	**+4.6**
KMI				PP	**PnPn**	**13 55 37.9**	**+6.5**
KMI				S	**S**	**13 59 09.5**	**-2.1**
KMI				sS	**sS**	**13 59 22.3**	**-0.7**
KMI				SS	SnSn	13 59 50.8	+12
KMI				pmax	pmax		
	comp=Z,24nm,1.2s						
KMI				pmax	pmax		
	comp=Z,260nm,5.6s						
KMI				LR	LR		
	comp=N,350nm,10.1s						
KMI				LR	LR		
	comp=E,570nm,12.1s						
KMI				LR	LR		
	comp=Z,640nm,11.2s						
LZH	**Lanzhou**	**23.13**	**306**	*e*P	**P**	**13 55 20.3**	**+0.3**
LZH				pP	**pP**	**13 55 26.4**	**-0.7**
LZH				sP	**sP**	**13 55 28.9**	**-1.5**
LZH				S	**S**	**13 59 27.3**	**-2.7**
LZH				sS	sS	13 59 34.5	-8.0
LZH				SS	**SnSn**	**14 00 12.0**	**+8.1**
LZH				pmax	pmax		
	comp=Z,75nm,1.1s						
LZH				pmax	pmax		
	comp=Z,150nm,4.0s						
LZH				LR	LR		
	comp=N,740nm,11.2s						
LZH				LR	LR		
	comp=E,2μm,14.6s						
LZH				LR	LR		
	comp=Z,2μm,15.6s						
ASAJ	**Asahikawa**	**23.42**	**29**	*e*P	**P**	**13 55 23.6**	**+1.0**
	comp=Z,38nm,1.3s						
ASAJ	**Asahikawa**	**23.42**	**29**	P	**P**	**13 55 22.9**	**+0.3**
	comp=Z,30nm,0.7s,baz=258,slow=13,SNR=11						
ASAJ				LR	LR	14 04 42.8	
	comp=Z,278nm,21.3s,baz=336,slow=37						
TNTI	**Ternate**	**23.48**	**179**	P	**P**	**13 55 22.7**	**-0.7**
	comp=Z,159nm,0.9s,comp=Z,2μm						
MRSI	**Marisa**	**24.29**	**193**	P	**P**	**13 55 30.7**	**-0.3**
	comp=Z,64nm,1.5s,comp=Z,948nm						
HABR	**Khabarovsk**	**24.85**	**13**	*ce*P	**P**	**13 55 36.4**	**+0.6**
HABR				*e**PP	**pP**	**13 55 45.7**	**+2.3**
HABR				*e*		13 56 10.3	
HABR				*e*		13 59 10.4	
HABR				pmax	pmax		
	comp=Z,41nm,1.5s						
HABR	**Khabarovsk**	**24.85**	**13**	*ce*P	**P**	**13 55 36.4**	**+0.6**
HABR				*e**PP	**pP**	**13 55 45.7**	**+2.3**
HABR				*e**SP	**sP**	**13 55 50.3**	**+3.8**
HABR				*e*		13 56 10.3	
HABR				*e*PPP	PPP	13 56 18.5	
HABR				*e*		13 59 10.4	
HABR				*e*S	**S**	**13 59 59.1**	**+2.0**
HABR				*e**SS	sS	14 00 15.6	+6.1
HABR				*e*SS	**SnSn**	**14 00 50.4**	**+4.9**
HABR				*e*		14 06 35.1	
HABR				pmax	pmax		
	comp=Z,41nm,1.5s						
HABR				MLR	MLR		
	comp=Z,353nm,21.0s						
LBMI	**Labuha**	**24.89**	**179**	P	**P**	**13 55 35.3**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**24.91**	**34**	P	**P**	**13 55 36.5**	**+0.1**
YUK				*e*S	**S**	**14 00 00.6**	**+2.5**
YUK				MLR	MLR		
	comp=Z,289nm,19.0s						
BTM	**Bintulu**	**25.01**	**215**	P	**P**	**13 55 38.2**	**+0.6**
KLR	**Kul'dur**	**25.06**	**7**	*e*P	**P**	**13 55 33.2**	**-4.5**
KLR				pmax	pmax		
	comp=Z,110nm,1.6s						
KLR				MLR	MLR		
	comp=Z,1μm,13.0s						
LUWI	**Luwuk**	**25.62**	**190**	P	**P**	**13 55 44.6**	**+1.5**
	comp=Z,77nm,1.1s,comp=Z,658nm						
YSS	**Yuzh-Sakhalins**	**25.78**	**25**	⇑*i*P	**P**	**13 55 48.0**	**+3.8**
YSS				pmax	pmax		
	comp=N,90nm,1.0s						
YSS				pmax	pmax		
	comp=E,110nm,1.0s						
YSS				pmax	pmax		
	comp=Z,220nm,1.0s						
YSS				MLR	MLR		
	comp=Z,600nm,14.0s						
YSS	**Yuzh-Sakhalins**	**25.78**	**25**	*e*P	**P**	**13 55 44.5**	**+0.3**
	comp=Z,204nm,0.9s						
SBUM	**Sibu**	**26.10**	**216**	P	**P**	**13 55 47.4**	**-0.1**
SBUM	**Sibu**	**26.10**	**216**	P	**P**	**13 55 47.8**	**+0.3**
	comp=Z,61nm,0.8s,comp=Z,573nm						
SMKI	**Samarinda**	**26.48**	**203**	P	**P**	**13 55 53.1**	**+2.3**
CHTO	**Chiang Mai**	**26.69**	**263**	*e*P	**P**	**13 55 52.6**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CHTO	**Chiang Mai**	**26.69**	**263**	*e*P	**P**	**13 55 52.6**	**-0.3**
	comp=Z,10nm,0.8s						
CHTO	**Chiang Mai**	**26.69**	**263**	P	**P**	**13 55 53.1**	**+0.2**
	comp=Z,20nm,1.3s						
CMAR	**Chiang Mai Arr**	**26.80**	**263**	P	**P**	**13 55 54.7**	**+0.9**
CMAR				PcP	**PcP**	**13 59 16.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**26.80**	**263**	P	**P**	**13 55 54.7**	**+0.9**
	comp=Z,7.2nm,0.9s,baz=63,slow=8.1,SNR=45						
CMAR				PcP	**PcP**	**13 59 16.9**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=59,slow=1.1,SNR=11						
CMAR				LR	LR	14 07 50.3	
	comp=Z,318nm,19.8s,baz=95,slow=39						
GTA	**Gaotai**	**27.41**	**310**	*e*P	**P**	**13 55 59.3**	**0.0**
GTA				pP	**pP**	**13 56 03.8**	**-3.1**
GTA				sP	**sP**	**13 56 07.0**	**-3.0**
GTA				S	**S**	**14 00 39.9**	**+1.7**
GTA				sS	**sS**	**14 00 48.3**	**-2.4**
GTA				SS	SnSn	14 02 00.3	+12
GTA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GTA				pmax	pmax		
	comp=Z,180nm,6.4s						
GTA				LR	LR		
	comp=N,730nm,17.8s						
GTA				LR	LR		
	comp=E,600nm,15.9s						
GTA				LR	LR		
	comp=Z,380nm,19.7s						
FAKI	**Fak Fak**	**27.62**	**169**	P	**P**	**13 56 03.9**	**+2.8**
KSM	**Kuching**	**27.96**	**218**	*e*P	**P**	**13 56 03.2**	**-0.9**
	comp=Z,31nm,1.0s						
KSM	**Kuching**	**27.96**	**218**	P	**P**	**13 56 04.2**	**0.0**
KSM	**Kuching**	**27.96**	**218**	P	**P**	**13 56 04.7**	**+0.5**
	comp=Z,34nm,1.3s,comp=Z,434nm						
ULN	**Ulaanbaatar**	**28.29**	**331**	*e*P	**P**	**13 56 05.5**	**-1.6**
	comp=Z,55nm,1.1s						
ULN	**Ulaanbaatar**	**28.29**	**331**	P	**P**	**13 56 08.5**	**+1.4**
	comp=Z,48nm,1.2s						
STKI	**Sintang**	**28.51**	**214**	P	**P**	**13 56 09.3**	**+0.2**
KDI	**Kendari**	**28.51**	**189**	P	P	13 56 14.4	+5.3
SONM	**Songino Array**	**28.56**	**330**	P	**P**	**13 56 10.1**	**+0.7**
SONM				PcP	**PcP**	**13 59 20.2**	**-0.2**
SONM	**Songino Array**	**28.56**	**330**	P	**P**	**13 56 10.1**	**+0.7**
	comp=Z,16nm,0.4s,baz=150,slow=9.5,SNR=35						
SONM				PcP	**PcP**	**13 59 20.2**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=165,slow=4.2,SNR=5.6						
SONM				LR	LR	14 09 26.6	
	comp=Z,740nm,18.1s,baz=22,slow=40						
KAPI	**Kappang**	**30.08**	**195**	LR	LR	14 07 06.1	
	comp=Z,260nm,21.4s,baz=196,slow=34						
BBKI	**Banjar Baru**	**30.13**	**205**	P	**P**	**13 56 23.1**	**-0.4**
	comp=Z,135nm,0.9s,comp=Z,1μm						
KULM	**Kulim**	**31.70**	**237**	*e*P	**P**	**13 56 37.6**	**+0.2**
	comp=Z,43nm,1.4s						
KULM	**Kulim**	**31.70**	**237**	P	**P**	**13 56 37.7**	**+0.3**
KULM	**Kulim**	**31.70**	**237**	P	**P**	**13 56 38.9**	**+1.6**
	comp=Z,31nm,1.3s						
MYKOM	**Kota Tinggi**	**31.75**	**228**	P	**P**	**13 56 37.9**	**+0.2**
MYKOM	**Kota Tinggi**	**31.75**	**228**	P	**P**	**13 56 39.4**	**+1.6**
	comp=Z,34nm,1.3s						
ZAK	**Zakamensk**	**31.82**	**331**	*e*P	**P**	**13 56 36.5**	**-1.7**
ZAK				*e*		14 03 38.8	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SHL	**Shillong**	**31.85**	**280**	⇓*i*P	**P**	**13 56 39.5**	**+0.7**
IPM	**Ipoh**	**31.93**	**236**	*e*P	**P**	**13 56 39.0**	**-0.4**
	comp=Z,55nm,0.9s						
IPM	**Ipoh**	**31.93**	**236**	P	**P**	**13 56 39.6**	**+0.2**
IPM	**Ipoh**	**31.93**	**236**	P	**P**	**13 56 40.0**	**+0.6**
	comp=Z,93nm,0.9s,comp=Z,758nm						
KGM	**Kluang**	**31.95**	**229**	P	**P**	**13 56 39.8**	**+0.3**
FRIM	**Kepong**	**32.31**	**233**	P	**P**	**13 56 43.0**	**+0.3**
LSA	**Lhasa**	**32.33**	**287**	P	**P**	**13 56 45.0**	**+1.7**
LSA	**Lhasa**	**32.33**	**287**	*e*P	**P**	**13 56 44.3**	**+1.0**
LSA				pmax	pmax		
	comp=Z,13nm,0.8s						
LSA	**Lhasa**	**32.33**	**287**	*e*P	**P**	**13 56 44.3**	**+1.0**
	comp=Z,13nm,0.8s						
TLY	**Talaya**	**32.61**	**333**	*e*P	**P**	**13 56 44.1**	**-0.9**
TLY				*e*		13 58 12.7	
TLY				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,306nm,20.0s						
TLY	**Talaya**	**32.61**	**333**	*e*P	**P**	**13 56 44.8**	**-0.3**
	comp=Z,11nm,1.0s						
MMRI	**Maumere**	**33.16**	**189**	P	**P**	**13 56 49.1**	**-1.0**
MOY	**Mondy**	**33.75**	**330**	*e*P	**P**	**13 56 54.5**	**-0.6**
MOY				pmax	pmax		
	comp=Z,28nm,1.5s						
PSI	**Prapat**	**34.61**	**236**	P	**P**	**13 57 03.2**	**+0.3**
PSI	**Prapat**	**34.61**	**236**	P	**P**	**13 57 03.1**	**+0.2**
	comp=Z,58nm,1.3s,comp=Z,586nm						
PSI	**Prapat**	**34.61**	**236**	P	**P**	**13 57 03.2**	**+0.3**
	comp=Z,36nm,0.9s,baz=24,slow=3.8,SNR=33						
PSI				LR	LR	14 10 39.5	
	comp=Z,110nm,18.4s,baz=45,slow=35						
BKNI	**Bangkinang**	**34.74**	**230**	P	**P**	**13 57 04.9**	**+1.0**
	comp=Z,98nm,1.2s,comp=Z,984nm						
JAGI	**Jajag, Banyuwa**	**35.01**	**203**	P	**P**	**13 57 05.2**	**-0.9**
SJI	**Sawahan**	**35.24**	**207**	P	**P**	**13 57 08.7**	**+0.4**
	comp=Z,68nm,1.2s						
TAPN	**Taplejung**	**35.42**	**283**	⇓*i*P	**P**	**13 57 11.4**	**+1.3**
	comp=Z,139nm,0.7s						
TAPN	**Taplejung**	**35.42**	**283**	⇓*i*P	**P**	**13 57 11.4**	**+1.3**
MNSI	**Mandailing Nat**	**35.46**	**233**	P	**P**	**13

DBJI Dramaga 36.58 215 P **P** 13 57 20.4 +0.7
comp=Z,88nm,1.4s
GSI Gunungsitoli 36.60 236 P **P** 13 57 19.3 -0.6
KSI Kapahiang 36.65 224 P P 13 57 31.8 +11
JIRN Jiri 36.75 284⇓*iP* **P** 13 57 22.5 +1.0
comp=Z,25nm,0.8s
JIRN Jiri 36.75 284⇓*iP* **P** 13 57 22.5 +1.0
PETK Petropavlovsk- 36.81 31 P P 13 57 26.1 +4.8
PETK Petropavlovsk- 36.81 31 P P 13 57 26.1 +4.8
PETK Petropavlovsk- 36.81 31 P P 13 57 26.1 +4.8
comp=Z,8.0nm,0.7s,baz=200,slow=4.7,SNR=11
PETK LR LR 14 12 04.4
comp=Z,150nm,20.8s,baz=208,slow=36
GUN Gumba 37.00 285⇓*iP* **P** 13 57 24.6 +1.0
comp=Z,139nm,0.8s
GUN Gumba 37.00 285⇓*iP* **P** 13 57 24.6 +1.0
CGJI Cibinong 37.20 217 P **P** 13 57 26.1 +1.2
comp=Z,30nm,1.3s,comp=Z,760nm
SISI Saibi 37.28 231 P **P** 13 57 25.9 +0.2
comp=Z,70nm,1.3s,comp=Z,8um
PKI Pulchoki 37.45 284⇓*iP* **P** 13 57 28.0 +0.6
comp=Z,93nm,1.0s
PKI Pulchoki 37.45 284⇓*iP* **P** 13 57 28.0 +0.6
PKI Pulchoki 37.45 284⇓*iP* **P** 13 57 28.0 +0.6
WMQ Urumqi 37.47 311 *eP* **P** 13 57 25.9 -1.2
WMQ pP **pP** 13 57 31.0 -3.8
WMQ sP **sP** 13 57 33.5 -4.4
WMQ PP **PnPn** 13 58 54.0 +0.4
WMQ *e*S **S** 14 03 14.0 -0.3
WMQ SS **SnSn** 14 05 48.0 -4.6
WMQ pmax pmax
comp=Z,18nm,1.2s
WMQ pmax pmax
comp=Z,170nm,7.0s
WMQ LR LR
comp=N,780nm,15.1s
WMQ LR LR
comp=E,630nm,10.3s
WMQ LR LR
comp=Z,520nm,22.8s
KKN Kakani 37.54 284⇓*iP* **P** 13 57 28.8 +0.7
comp=Z,90nm,0.9s
KKN Kakani 37.54 284⇓*iP* **P** 13 57 28.8 +0.7
KKN Kakani 37.54 284⇓*iP* **P** 13 57 28.8 +0.7
YAK Yakutsk 37.66 2 *eP* **P** 13 57 27.0 -1.3
YAK pmax pmax
comp=Z,70nm,1.0s
YAK Yakutsk 37.66 2 *eP* **P** 13 57 27.0 -1.3
comp=Z,70nm,1.0s
DMN Daman 37.71 284⇓*iP* **P** 13 57 30.2 +0.7
comp=Z,95nm,1.0s
DMN Daman 37.71 284⇓*iP* **P** 13 57 30.2 +0.7
GKN Gorkha 38.09 285⇓*iP* **P** 13 57 33.3 +0.7
comp=Z,86nm,0.9s
GKN Gorkha 38.09 285⇓*iP* **P** 13 57 33.3 +0.7
DANN Dangsing 38.84 285⇓*iP* **P** 13 57 40.0 +0.9
comp=Z,127nm,0.8s
DANN Dangsing 38.84 285⇓*iP* **P** 13 57 40.0 +0.9
PMG Port Moresby 38.91 147 *eP* **P** 13 57 38.5 -0.7
comp=Z,19nm,0.8s
PMG Port Moresby 38.91 147 P **P** 13 57 39.0 -0.3
comp=Z,39nm,1.5s
PMG Port Moresby 38.91 147 P **P** 13 57 38.6 -0.7
comp=Z,16nm,0.7s,baz=358,slow=8.8,SNR=12
KOLN Koldanda 39.03 285⇓*iP* **P** 13 57 41.4 +0.8
comp=Z,64nm,0.8s
KOLN Koldanda 39.03 285⇓*iP* **P** 13 57 41.4 +0.8
COEN Coen 41.24 156 *eP* **P** 13 57 58.1 -0.6
comp=Z,330nm,0.8s
COEN *e* 13 58 10.1
MK31 Makanchi Array 41.99 314 *eP* **P** 13 58 04.5 -0.1
MK31 pmax pmax
comp=Z,7.0nm,0.5s
MKAR Makanchi Array 41.99 314 P **P** 13 58 04.6 0.0
MKAR Makanchi Array 41.99 314 P **P** 13 58 04.6 0.0
MKAR Makanchi Array 41.99 314 P **P** 13 58 04.6 0.0
comp=Z,7.5nm,0.5s,baz=99,slow=9.5,SNR=158
MKAR LR LR 14 15 18.4
comp=Z,180nm,20.9s,baz=104,slow=36
SEY Seymchan 42.08 17*ce*P **P** 13 58 06.1 +1.1
FITZ Fitzroy Crossi 42.26 182 *eP* **P** 13 58 05.4 -1.5
comp=Z,32nm,0.8s
FITZ *e* 13 58 17.0
FITZ Fitzroy Crossi 42.26 182⇓*iP* **P** 13 58 05.3 -1.6
comp=Z,55nm,0.7s
FITZ *ep*P **pP** 13 58 17.0 +2.3
FITZ Fitzroy Crossi 42.26 182 P **P** 13 58 05.5 -1.5
comp=Z,32nm,0.7s,baz=11,slow=7.7,SNR=79
FITZ LR LR 14 15 50.3
comp=Z,72nm,18.8s,baz=7.8,slow=36
ZALV Zalesovo Beam 43.09 324 P **P** 13 58 12.4 -0.9
ZALV Zalesovo Beam 43.09 324 P **P** 13 58 12.4 -0.9
ZALV Zalesovo Beam 43.09 324 P **P** 13 58 12.4 -0.9
comp=Z,5.1nm,0.5s,baz=116,slow=8.0,SNR=38
ZALV LR LR 14 17 21.2
comp=Z,318nm,19.7s,baz=82,slow=38
DDI Dehra Dun 43.65 289 *ex* **P** 13 58 18.4 +0.1
NVS Novosibirsk 44.31 325 *eP* **P** 13 58 20.6 -2.5
NVS *e* 14 00 05.2
NVS *e*S **S** 14 04 51.9 -3.6
NVS pmax pmax
comp=Z,27nm,2.3s
NVS pmax pmax
comp=N,5.0nm,2.0s
NVS pmax pmax
comp=E,10.0nm,2.0s
NVS smax smax
comp=N,4.0nm,1.4s
NVS smax smax
comp=E,17nm,2.0s
WRAB Tennant Creek 44.63 170 *eP* **P** 13 58 25.0 -1.1
WRAB *e* 13 58 36.9
WRAB pmax pmax
comp=Z,105nm,1.0s
WRAB Tennant Creek 44.63 170 *eP* **P** 13 58 25.0 -1.1
comp=Z,105nm,1.0s
WRAB *e* 13 58 36.9
WRAB Tennant Creek 44.63 170 P **P** 13 58 25.0 -1.1
comp=Z,546nm,0.9s,SNR=57
WRA Warramunga Arr 44.64 170 P **P** 13 58 24.8 -1.4
WRA Warramunga Arr 44.64 170 P **P** 13 58 24.8 -1.4
comp=Z,61nm,0.7s,baz=352,slow=8.6,SNR=303
WRA LR LR 14 15 59.4
comp=Z,163nm,20.3s,baz=350,slow=35
KSH Kashi 45.30 302 P P 13 58 35.4 +3.9
KSH pP pP 13 58 39.9 +0.6
KSH sP sP 13 58 42.4 0.0
KSH PcP **PP** 14 00 14.4 -3.2
KSH PP PcP 14 00 23.0 +12
KSH ScP **ScP** 14 04 04.8 +2.7
KSH PcS **PcS** 14 04 07.3 +2.3
KSH S S 14 05 17.3 +6.6
KSH sS sS 14 05 24.3 +0.8
KSH ScS **ScS** 14 08 28.8 +2.0
KSH SS **SS** 14 08 32.6 -1.2
KSH pmax pmax
comp=Z,4.0nm,0.6s
KSH pmax pmax
comp=Z,140nm,5.0s
KSH LR LR
comp=N,160nm,6.5s
KSH LR LR
comp=E,600nm,15.6s
KSH LR LR
comp=Z,510nm,14.2s
ULHL Ulahol 45.34 306 P **P** 13 58 33.8 +1.9
SNR=13
KURK Kurchatov 45.44 318*ce*P **P** 13 58 31.8 -0.5
KURK pmax pmax
comp=Z,31nm,1.2s
KURK Kurchatov 45.44 318 *eP* **P** 13 58 31.7 -0.5
comp=Z,35nm,1.3s
KURBB Kurchatov Arra 45.47 318 P **P** 13 58 32.4 -0.1
comp=Z,5.8nm,0.5s,baz=107,slow=8.3,SNR=30
HYB Hyderabad 45.66 271 *i* P **P** 13 58 34.0 -0.4
MBWA Marble Bar 45.84 190 *eP* **P** 13 58 33.2 -2.4
comp=Z,13nm,0.7s
TKM2 Tokmak 2 45.89 307 *eP* **P** 13 58 37.4 +1.2
TKM2 pmax pmax
comp=Z,16nm,0.6s
TKM2 Tokmak 2 45.89 307 *eP* **P** 13 58 37.4 +1.2
comp=Z,16nm,0.6s
TKM2 Tokmak 2 45.89 307 P **P** 13 58 37.6 +1.4
SNR=33
KZA Kyzart 46.06 306 P **P** 13 58 40.3 +2.6
SNR=18
KBK Karagaybulak 46.34 306 P **P** 13 58 41.7 +2.0
SNR=15
CHMS Chumysh 46.52 307 P **P** 13 58 42.6 +1.7
SNR=10
FRU Bishkek 46.60 307 *eP* **P** 13 58 44.0 +2.4
AAK Ala-Archa 46.67 306*ce*P **P** 13 58 44.4 +2.1
AAK pmax pmax
comp=Z,26nm,1.7s
AAK Ala-Archa 46.67 306 *eP* **P** 13 58 43.5 +1.3
comp=Z,32nm,0.9s
AAK Ala-Archa 46.67 306 P **P** 13 58 43.5 +1.3
comp=Z,3.3nm,0.8s,baz=60,slow=5.5,SNR=9.5
EKS2 Erkin-Say 47.20 306 *eP* **P** 13 58 47.2 +0.9
EKS2 pmax pmax
comp=Z,7.0nm,0.9s
EKS2 Erkin-Say 47.20 306 *eP* **P** 13 58 47.2 +0.9
comp=Z,6.9nm,0.9s
EKS2 Erkin-Say 47.20 306 P **P** 13 58 48.0 +1.7
SNR=10.0
AML Almayashu 47.22 306 P **P** 13 58 48.6 +1.8
SNR=16
CTA Charters Tower 48.01 155 *eP* **P** 13 58 51.8 -0.8
comp=Z,11nm,0.6s
CTA *ep*P **pP** 13 59 04.6 +4.1
CTA Charters Tower 48.01 155 LR LR 14 20 09.8
comp=Z,132nm,18.4s,baz=334,slow=38
CTAO Charters Tower 48.01 155 *eP* **P** 13 58 51.8 -0.8
CTAO *e* 13 59 04.5
CTAO pmax pmax
comp=Z,18nm,0.9s
CTAO Charters Tower 48.01 155 *eP* **P** 13 58 51.8 -0.8
comp=Z,18nm,0.9s
CTAO *e* 13 59 04.5
ASAR Alice Springs 48.23 172 P **P** 13 58 53.6 -0.7
ASAR PcP **PcP** 14 00 20.4 -0.8
ASAR Alice Springs 48.23 172 P **P** 13 58 53.6 -0.7
comp=Z,17nm,0.7s,baz=355,slow=13,SNR=303
ASAR PcP **PcP** 14 00 20.4 -0.8
comp=Z,4.6nm,0.8s,baz=357,slow=3.6,SNR=4.7
POO Poona 49.62 274 *ex* x 13 59 04.0
KK31 Karatay Array 49.62 307 P **P** 13 59 06.9 +2.0
KK31 pmax pmax
comp=Z,1.0nm,0.3s
KKAR Karatay Array 49.62 307 P **P** 13 59 06.3 +1.4
KKAR pmax pmax
comp=Z,3.0nm,0.5s
KKAR Karatay Array 49.62 307 P **P** 13 59 06.3 +1.4
comp=Z,2.8nm,0.5s
VOSK Vostochnaya 50.54 319 P **P** 13 59 12.3 +0.6
VOSK pmax pmax
comp=Z,19nm,1.5s
BVA0 Borovoye Array 50.95 319 *i* P **P** 13 59 15.1 +0.3
BVA0 pmax pmax
comp=Z,4.0nm,1.3s
BVAR Borovoye Array 50.95 319 P P 13 59 15.3 +0.5
BVAR 14 00 30.7
BVAR Borovoye Array 50.95 319 P P 13 59 15.3 +0.5
BVAR PcP **PcP** 14 00 30.7 -0.1
BVAR Borovoye Array 50.95 319 P **P** 13 59 15.3 +0.5
comp=Z,5.1nm,0.6s,baz=99,slow=9.2,SNR=22
BVAR PcP **PcP** 14 00 30.7 -0.1
comp=Z,3.2nm,0.8s,baz=101,slow=2.9,SNR=2.9
BRVK Borovoye 51.02 319*ce*P **P** 13 59 15.8 +0.5
BRVK pmax pmax
comp=Z,55nm,1.7s
BRVK Borovoye 51.02 319 *eP* **P** 13 59 14.0 -1.2
comp=Z,28nm,1.0s
EIDS Eidsvold 54.66 153 *eP* **P** 13 59 41.3 -1.2
comp=Z,25nm,1.2s
EIDS *e* 13 59 53.2
FORT Forrest 54.87 179 *eP* **P** 13 59 43.1 -0.7
comp=Z,44nm,0.4s
KLBR Kellerberrin 56.38 190 *eP* **P** 13 59 53.6 -1.0
comp=Z,52nm,0.8s
KLBR *ep*P **pP** 14 00 05.9 +3.3
SVE Sverdlovsk 57.07 323⇓*iP* **P** 14 00 01.2 +1.9
SVE pmax pmax
comp=Z,53nm,1.4s
SVE MLR MLR
comp=Z,788nm,19.0s
AB31 Akbulak array 57.14 314 P **P** 14 00 00.9 +0.9
AB31 pmax pmax
comp=Z,9.0nm,0.6s
ABKAR Akbulak array 57.14 314 *eP* **P** 14 00 00.5 +0.6
comp=Z,7.5nm,0.6s
ABKAR *e* 14 00 11.5
BBOO Buckleboo 57.53 171 *eP* **P** 14 00 01.6 -1.2
comp=Z,1μm,1.4s
BBOO *e* 14 00 14.3
STKA Stephens Creek 57.66 165 P **P** 14 00 02.8 -0.9
STKA Stephens Creek 57.66 165⇓*iP* **P** 14 00 02.6 -1.1
comp=Z,23nm,0.9s
STKA *ep*P **pP** 14 00 14.9 +3.2
STKA Stephens Creek 57.66 165 P **P** 14 00 02.8 -0.9
comp=Z,22nm,0.8s,baz=343,slow=6.8,SNR=67
STKA LR LR 14 22 48.5
comp=Z,153nm,20.4s,baz=23,slow=34
NWAO Narrogin (SRO) 57.77 190 P **P** 14 00 03.2 -1.3
NWAO Narrogin (SRO) 57.77 190 P **P** 14 00 03.2 -1.3
comp=Z,12nm,0.7s,baz=19,slow=9.5,SNR=5.8
NWAO LR LR 14 26 10.2
comp=Z,82nm,18.2s,baz=185,slow=37
ARU Arti 58.18 323*di*P **P** 14 00 08.7 +1.5
ARU 14 02 13.4
ARU S **S** 14 08 09.3 +2.2
ARU SS **SS** 14 11 58.1 -0.4
ARU pmax pmax
comp=Z,33nm,1.2s
ARU MLR MLR
comp=Z,519nm,21.0s
ARU Arti 58.18 323 *eP* **P** 14 00 07.4 +0.2
comp=Z,20nm,0.9s
ARU *e* 14 00 18.8
AKTO Aktyubinsk 58.38 315 P **P** 14 00 09.1 +0.4
AKTO pmax pmax
comp=Z,2.0nm,1.5s
AKTO Aktyubinsk 58.38 315 P **P** 14 00 09.7 +1.0
AKTO Aktyubinsk 58.38 315 P **P** 14 00 09.7 +1.0
comp=Z,3.9nm,0.7s,baz=81,slow=12,SNR=12
ABKT Ailbek 59.30 301 P **P** 14 00 16.0 +0.6
comp=Z,174nm,0.7s,SNR=11
SOKR Solikamsk 59.32 326⇑*iP* P 14 00 18.5 +3.5
SOKR pmax pmax
comp=Z,20nm,1.1s
SOKR MLR MLR
comp=Z,450nm,22.0s
ARMA Armidale 59.38 155 *eP* **P** 14 00 15.4 -0.5
comp=Z,11nm,1.1s
ARMA Armidale 59.38 155 *eP* **P** 14 00 14.6 -1.3
DZM Mont Dzumac 59.99 137 P **P** 14 00 19.9 -0.4
DZM Mont Dzumac 59.99 137 P **P** 14 00 19.9 -0.4
comp=Z,6.5nm,0.6s,baz=46,slow=13,SNR=11
TOO Toolangi 64.03 164 *eP* **P** 14 00 47.1 +0.1
comp=Z,60nm,0.7s
TOO *ep*P **pP** 14 00 59.2 +4.1
COLA College 66.13 28 P **P** 14 00 59.4 -0.9
COLA pmax pmax
comp=Z,8.0nm,0.6s
COLA College 66.13 28 P **P** 14 00 59.4 -0.9
comp=Z,7.7nm,0.6s
ILAR Eielson Array 66.55 28 P **P** 14 01 02.0 -1.0
ILAR Eielson Array 66.55 28 P **P** 14 01 02.0 -1.0
comp=Z,1.0nm,0.7s,baz=260,slow=4.6,SNR=16
KLMR Klimovskoe 67.83 328 *eP* **P** 14 01 10.3 -0.9
KLMR pmax pmax
comp=Z,70nm,1.5s
KLMR MLR MLR
comp=Z,826nm,16.0s
MENT Mentasta 68.23 30 *eP* **P** 14 01 14.1 +0.3
MENT *e* 14 01 24.3
VRHR Novokhopersk 68.62 318 *eP* **P** 14 01 15.6 -0.7
VRHR *e**SP **sP** 14 01 28.9 +1.4
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=Z,30nm,0.8s
VRHR pmax pmax
comp=E,8.0nm,0.4s
EGAK Eagle 68.97 27 *eP* **P** 14 01 18.1 -0.1
comp=E,10nm,0.9s
EGAK *e* 14 01 27.6
ZEI Tsey 69.03 308 *eP* **P** 14 01 19.4 0.0
ZEI pmax pmax
comp=Z,23nm,1.0s
GNI Garni 69.07 306 *eP* **P** 14 01 21.0 +1.4
comp=Z,30nm,1.1s
KBZ Khabaz 69.50 310 P **P** 14 01 23.2 +1.3
KBZ Khabaz 69.50 310 P **P** 14 01 23.2 +1.3
KBZ Khabaz 69.50 310 P **P** 14 01 23.2 +1.3
comp=Z,15nm,1.0s,baz=149,slow=6.8,SNR=9.9
KIV Kislovodsk 69.59 310⇓*iP* **P** 14 01 23.3 +0.6
KIV *i* 14 01 37.0
KIV pmax pmax
comp=Z,44nm,1.2s
KIV MLR MLR
comp=Z,100nm,17.0s
KIV Kislovodsk 69.59 310 *eP* **P** 14 01 23.2 +0.6
comp=Z,26nm,0.8s
MIB Mutribah 69.84 294 *eP* **P** 14 01 23.7 -0.6
MIB AMb AMB 14 01 29.4
comp=Z,29nm,1.2s
MOS Moscow 69.89 323 *eP* P 14 01 17.9 -6.2
MOS *e* 14 01 35.5
MOS MLR MLR
comp=Z,900nm,18.0s
RDF Al-Radifah 69.93 293 *eP* **P** 14 01 24.5 -0.3
RDF AMb AMB 14 01 29.3
comp=Z,54nm,1.8s
VORD Divnogorie 70.08 318 *eP* **P** 14 01 25.0 -0.4
VORD *e**SP **sP** 14 01 37.6 +1.0
NAY Al-Naaiem 70.09 294 *eP* **P** 14 01 25.3 -0.6
NAY AMb AMB 14 01 33.1
comp=Z,21nm,1.1s
VSR Storozhevoye 70.10 318 *eP* **P** 14 01 25.6 +0.1
VSR *e**SP **sP** 14 01 38.1 +1.4
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,40nm,1.3s
VSR pmax pmax
comp=Z,40nm,1.3s
SPITS Spitsbergen Ar 70.40 348 P **P** 14 01 28.1 +1.2
SPITS Spitsbergen Ar 70.40 348 P **P** 14 01 28.1 +1.2
comp=Z,8.3nm,0.9s,baz=11,slow=1.0,SNR=5.7
OBN Obninsk 70.63 322⇑*eP* **P** 14 01 28.9 +0.3
OBN *e* 14 01 42.2
OBN *e* 14 01 57.0
OBN pmax pmax
comp=Z,18nm,1.1s
OBN MLR MLR
comp=Z,200nm,17.0s
KEV Kevo 70.75 339 *eP* **P** 14 01 28.6 -0.5
KEV pmax pmax
comp=Z,10.0nm,1.0s
KEV Kevo 70.75 339 *ep* **P** 14 01 28.6 -0.5
comp=Z,10nm,1.0s
INK Inuvik 70.99 23 *eP* **P** 14 01 28.6 -2.0
comp=Z,21nm,0.9s
INK *e* 14 01 40.1
INK Inuvik 70.99 23 P **P** 14 01 28.5 -2.0
comp=Z,5.2nm,0.8s,baz=284,slow=4.6,SNR=12
JOF Joensuu 71.13 331 *eP* **P** 14 01 31.6 +0.1
JOF pmax pmax
comp=Z,5.0nm,0.6s
JOF Joensuu 71.13 331 *ep* **P** 14 01 31.6 +0.1
comp=Z,4.6nm,0.6s
BHD Baghdad 71.24 299 *ex* x 14 01 34.5
BHD *ex* x 14 10 54.5
ARCES ARCESS Array B 71.32 339 P **P** 14 01 32.6 0.0
ARCES ARCESS Array B 71.32 339 P **P** 14 01 32.6 0.0
comp=Z,12nm,0.9s,baz=70,slow=6.2,SNR=9.7
ANN Anapa 72.98 312 *eP* **P** 14 01 44.6 +1.6
ANN pmax pmax
comp=Z,63nm,1.3s
KAF Kangasniemi 73.59 331 *eP* **P** 14 01 45.7 -0.5
KAF pmax pmax
comp=Z,5.0nm,0.8s
KAF Kangasniemi 73.59 331 *ep* **P** 14 01 45.7 -0.5
comp=Z,4.6nm,0.8s
FINES FINESS Array B 73.93 331 P **P** 14 01 48.6 +0.4
FINES FINESS Array B 73.93 331 P **P** 14 01 48.6 +0.4
comp=Z,6.6nm,0.6s,baz=67,slow=6.3,SNR=19
SIM Simferopol' 75.17 313 *eP* **P** 14 01 57.0 +1.2
SIM pmax pmax
comp=Z,21nm,1.2s
SIM MLR MLR
comp=Z,155nm,15.9s
DLBC Dease Lake 75.99 32 P **P** 14 02 00.4 +0.1
DLBC Dease Lake 75.99 32 P **P** 14 02 00.4 +0.1
comp=Z,4.2nm,1.0s,baz=178,slow=12,SNR=4.0
NACGM Naroch 76.03 324 *e* **P** 14 02 01.0 +0.5
AKASG Malin Array Be 76.23 320 P **P** 14 02 01.7 0.0
AKASG Malin Array Be 76.23 320 P **P** 14 02 01.7 0.0
AKASG Malin Array Be 76.23 320 P **P** 14 02 01.7 0.0
comp=Z,7.2nm,0.9s,baz=58,slow=5.4,SNR=13
KIEV Kiev 76.24 320 *eP* **P** 14 02 01.1 -0.7
KIEV *e* 14 02 14.1
KIEV pmax pmax
comp=Z,21nm,1.2s
KIEV Kiev 76.24 320 *eP* **P** 14 02 01.1 -0.7
comp=Z,21nm,1.2s
KIEV *e* 14 02 14.1
KOZT Kozan 76.51 305 *e*PG 14 03 57.7
BRTR Keskin Array B 77.32 308 P **P** 14 02 08.8 +0.5
BRTR Keskin Array B 77.32 308 P **P** 14 02 08.8 +0.5
comp=Z,7.2nm,1.0s,baz=98,slow=6.1,SNR=20
RES Resolute Bay 77.54 10 *eP* **P** 14 02 07.8 -0.9
comp=Z,20nm,0.8s
RES *e* 14 02 16.6
SUW Suwalki 78.31 324 *eP* **P** 14 02 13.8 +0.5
SUW Suwalki 78.31 324 *eP* **P** 14 02 13.8 +0.5
SUW Suwalki 78.31 324 *eP* **P** 14 02 13.6 +0.3
SUW pmax pmax
comp=Z,26nm,0.8s
SUW Suwalki 78.31 324 *eP* **P** 14 02 13.6 +0.3
comp=Z,26nm,0.8s
TIRR Tirgusor 79.13 314⇓*iP* **P** 14 02 19.5 +1.5
TESR 79.44 316⇑*iP* **P** 14 02 20.2 +0.5
LVV L'vov 79.64 320 *eP* **P** 14 02 23.6 +2.9
BURAR Bucovina Array 79.87 318⇑*iP* **P** 14 02 23.0 +0.9
MLR Muntele Rosu 80.31 316 P **P** 14 02 25.1 +0.5
MLR Muntele Rosu 80.31 316⇑*iP* **P** 14 02 25.5 +0.9
MLR Muntele Rosu 80.31 316 P **P** 14 02 25.1 +0.5
comp=Z,1.3nm,0.8s,baz=69,slow=3.2,SNR=8.8
NB2 NORSAR Subarra 80.48 334 P **P** 14 02 24.8 -0.3
comp=Z,4.8nm,0.8s,baz=55,slow=5.3
NOA NORSAR Array B 80.48 334 P P 14 02 25.0 -0.1
NOA NORSAR Array B 80.48 334 P P 14 02 25.0 -0.1
comp=Z,11nm,0.9s,baz=56,slow=5.3,SNR=13
KWP Kalwaria Pacla 80.50 320 *eP* **P** 14 02 26.3 +0.9
KWP Kalwaria Pacla 80.50 320 *eP* **P** 14 02 26.3 +0.9
KWP Kalwaria Pacla 80.50 320 *eP* **P** 14 02 26.1 +0.7
KWP pmax pmax
comp=Z,19nm,0.7s
KWP Kalwaria Pacla 80.50 320 *eP* **P** 14 02 26.1 +0.7
comp=Z,19nm,0.7s
KWP Kalwaria Pacla 80.50 320⇓*iP* **P** 14 02 26.6 +1.2
YKA Yellowknife Ar 80.63 24 P **P** 14 02 25.8 +0.1
YKA PKKPbc **PKKPbc** 14 21 03.5 -3.4
YKA Yellowknife Ar 80.63 24 P **P** 14 02 25.8 +0.1
comp=Z,4.3nm,0.9s,baz=299,slow=5.2,SNR=52
YKA PKKPbc **PKKPbc** 14 21 03.5 -3.4
comp=Z,0.5nm,0.7s,baz=124,slow=2.7,SNR=12
VOIR 80.90 316⇑*iP* **P** 14 02 28.8 +1.1
KOLS Kolonicke sedl 81.06 320 *eP* **P** 14 02 29.0 +0.6
KOLS Kolonicke sedl 81.06 320 *eP* **P** 14 02 29.0 +0.6
UZH Uzhgorod 81.19 320 *eP* **P** 14 02 27.6 -1.4
UZH *e* 14 02 36.6
TRPA Tarpa 81.27 319⇓*iP* **P** 14 02 30.5 +1.0
HUMR Humele 81.34 315⇑*iP* **P** 14 02 30.2 +0.3
CRVS Cervenica-Dubn 81.55 320 *eP* **P** 14 02 32.1 +1.1
CRVS Cervenica-Dubn 81.55 320 *eP* **P** 14 02 32.1 +1.1
DRGR 81.77 318⇑*iP* **P** 14 02 32.9 +0.6
OJC Ojcow 81.89 322 *eP* **P** 14 02 33.0 +0.3
OJC Ojcow 81.89 322 *eP* **P** 14 02 33.4 +0.6
GZR Gura Zlata 82.36 316⇑*iP* **P** 14 02 36.0 +0.6
SUMG Summit 82.78 356 *eP* **P** 14 02 38.5 +1.0
SUMG pmax pmax
comp=Z,9.0nm,0.7s
SUMG Summit 82.78 356 *eP* **P** 14 02 38.5 +1.0
comp=Z,9.0nm,0.7s
SUMG Summit 82.78 356 *i* P **P** 14 02 38.6 +1.1
comp=Z,5.4nm,1.1s
SUMG *i* 14 02 45.4
VYHS Vyhne 83.28 320 *eP* **P** 14 02 41.1 +1.1
VYHS pmax pmax
comp=Z,9.0nm,1.0s
VYHS Vyhne 83.28 320 *eP* **P** 14 02 41.1 +1.1
VTS Vitosha 83.35 314⇓*iP* **P** 14 02 40.7 0.0

MORC	**Moravsky Berou**	**83.38**	**322**	*e*P	**P**	**14 02 40.8**	**+0.2**
MORC	comp=Z,7.0nm,1.1s			pmax	pmax		
MORC	**Moravsky Berou**	**83.38**	**322**	*e*P	**P**	**14 02 40.8**	**+0.2**
	comp=Z,7.1nm,1.1s						
MORC	**Moravsky Berou**	**83.38**	**322**	⇑*i*P	**P**	**14 02 41.3**	**+0.7**
KSP	**Ksiaz**	**83.53**	**323**	*e*P	**P**	**14 02 42.4**	**+1.1**
KSP	**Ksiaz**	**83.53**	**323**	*e*P	**P**	**14 02 42.4**	**+1.1**
KSP	**Ksiaz**	**83.53**	**323**	*e*P	**P**	**14 02 41.8**	**+0.5**
DPC	**Dobruska-Polom**	**83.77**	**323**	*e*P	**P**	**14 02 44.7**	**+2.2**
DPC				*e*		14 02 56.6	
DPC	**Dobruska-Polom**	**83.77**	**323**	*e*P	**P**	**14 02 44.7**	**+2.2**
DPC				*ex*	x	14 02 56.6	
UPC	**Upice**	**83.85**	**323**	*e*P	**P**	**14 02 44.9**	**+2.0**
UPC	**Upice**	**83.85**	**323**	*e*P	**P**	**14 02 44.9**	**+2.0**
SMOL	**Smolenice**	**84.08**	**321**	*e*P	**P**	**14 02 45.8**	**+1.7**
SMOL	**Smolenice**	**84.08**	**321**	*e*P	**P**	**14 02 45.8**	**+1.7**
VRAC	**Vranov**	**84.15**	**322**	⇑*i*P	**P**	**14 02 43.8**	**-0.7**
PKSM	**Moragy**	**84.52**	**319**	⇑*i*P	**P**	**14 02 45.5**	**-0.9**
PVCC	**Panska Ves**	**84.63**	**324**	*e*P	**P**	**14 02 48.1**	**+1.2**
PVCC	**Panska Ves**	**84.63**	**324**	*e*P	**P**	**14 02 48.1**	**+1.2**
BRG	**Berggiesshubel**	**84.78**	**324**	*e*P	**P**	**14 02 48.3**	**+0.7**
BRG	comp=Z,20nm,1.4s						
	comp=N,559nm,15.4s						
BRG							
	comp=E,485nm,17.9s						
BRG							
	comp=Z,334nm,20.4s						
BRG	**Berggiesshubel**	**84.78**	**324**	*e*P	**P**	**14 02 48.4**	**+0.8**
	comp=Z,18nm,1.2s						
BRG	**Berggiesshubel**	**84.78**	**324**	*e*P	**P**	**14 02 48.3**	**+0.7**
BRG				pmax	pmax		
	comp=Z,20nm,1.4s						
BRG				MLR	MLR		
	comp=N,559nm,15.4s						
BRG				MLR	MLR		
	comp=E,485nm,17.9s						
BRG				MLR	MLR		
	comp=Z,334nm,20.4s						
BSEG	**Bad Segeberg**	**84.91**	**328**	*e*P	**P**	**14 02 49.3**	**+1.1**
	comp=Z,43nm,1.3s						
BSEG	**Bad Segeberg**	**84.91**	**328**	*e*P	**P**	**14 02 49.4**	**+1.2**
BSEG				pmax	pmax		
	comp=Z,43nm,1.3s						
PRU	**Pruhonice**	**84.93**	**323**	*e*P	**P**	**14 02 49.3**	**+0.9**
PRU	**Pruhonice**	**84.93**	**323**	*e*P	**P**	**14 02 49.3**	**+0.9**
CLL	**Collm**	**85.04**	**325**	*e*P	**P**	**14 02 49.1**	**+0.2**
	comp=Z,21nm,1.0s						
CLL	**Collm**	**85.04**	**325**	*e*P	**P**	**14 02 49.0**	**+0.1**
CLL				pmax	pmax		
	comp=Z,21nm,1.0s						
CLL				MLR	MLR		
	comp=Z,400nm,19.7s						
CLL	**Collm**	**85.04**	**325**	*e*P	**P**	**14 02 49.0**	**+0.1**
	comp=Z,21nm,1.0s						
CLL				Lm	MLR	14 43 00.0	
	comp=Z,400nm,19.7s						
CONA	**Conrad Observa**	**85.28**	**321**	⇑*i*PcP	**P**	**14 02 51.7**	**+1.4**
	comp=Z,20nm,1.2s						
TANN	**Tannenbergstha**	**85.82**	**324**	*e*P	**P**	**14 02 53.4**	**+0.5**
ARSA	**Arzberg**	**85.83**	**321**	⇓*i*PcP	**P**	**14 02 53.4**	**+0.4**
	comp=Z,7.7nm,1.4s						
KHC	**Kasperske Hory**	**85.92**	**323**	*e*P	**P**	**14 02 52.8**	**-0.6**
KHC				pmax	pmax		
	comp=Z,11nm,1.3s						
KHC	**Kasperske Hory**	**85.92**	**323**	*e*P	**P**	**14 02 52.8**	**-0.6**
	comp=Z,11nm,1.3s						
KHC	**Kasperske Hory**	**85.92**	**323**	*e*P	**P**	**14 02 54.3**	**+0.9**
GEC2	**GERESS Array S**	**86.01**	**323**	*e*P	**P**	**14 02 54.5**	**+0.6**
	comp=Z,14nm,1.2s						
GEC2	**GERESS Array S**	**86.01**	**323**	*e*P	**P**	**14 02 54.5**	**+0.6**
GEC2				pmax	pmax		
	comp=Z,14nm,1.2s						
GERES	**GERESS Array B**	**86.01**	**323**	P	**P**	**14 02 54.6**	**+0.6**
GERES	**GERESS Array B**	**86.01**	**323**	P	**P**	**14 02 54.6**	**+0.6**
	comp=Z,5.2nm,0.8s,baz=51,slow=4.3,SNR=24						
CLZ	**Clausthal**	**86.09**	**326**	*e*P	**P**	**14 02 55.2**	**+1.0**
	comp=Z,24nm,1.1s						
CLZ	**Clausthal**	**86.09**	**326**	*e*P	**P**	**14 02 55.2**	**+1.0**
CLZ				pmax	pmax		
	comp=Z,24nm,1.1s						
MOX	**Moxa**	**86.14**	**325**	*e*P	**P**	**14 02 54.8**	**+0.4**
	comp=Z,13nm,1.2s						
MOX	**Moxa**	**86.14**	**325**	*e*P	**P**	**14 02 54.8**	**+0.4**
MOX				pmax	pmax		
	comp=Z,13nm,1.2s						
MOA	**Molln**	**86.23**	**322**	⇓*i*PcP	**P**	**14 02 55.3**	**+0.3**
	comp=Z,8.5nm,0.9s						
GROS	**Grobnik**	**86.26**	**320**	*i*P	**P**	**14 02 55.3**	**+0.1**
WET	**Wettzell**	**86.30**	**323**	*e*P	**P**	**14 02 56.2**	**+0.9**
	comp=Z,16nm,1.6s						
WET	**Wettzell**	**86.30**	**323**	*e*P	**P**	**14 02 56.2**	**+0.9**
WET				pmax	pmax		
	comp=Z,16nm,1.6s						
ROTZ	**Rotzenmuhle**	**86.32**	**324**	*e*P	**P**	**14 02 56.6**	**+1.3**
SOKA	**Soboth**	**86.42**	**320**	⇑*i*P	**P**	**14 02 55.5**	**-0.5**
	comp=Z,12nm,1.5s						
GRF	**Grafenberg Arr**	**86.89**	**324**	*e*P	**P**	**14 02 59.0**	**+0.9**
	comp=Z,30nm,1.4s						
GRF				*e*L	L	14 56 22.9	
	comp=Z,212nm,21.3s						
GRF	**Grafenberg Arr**	**86.89**	**324**	*e*P	**P**	**14 02 59.0**	**+0.9**
GRF				pmax	pmax		
	comp=Z,30nm,1.4s						
BOJS	**Bojanci**	**86.91**	**319**	*i*P	**P**	**14 02 59.4**	**+1.1**
JAVS	**Javornik**	**87.41**	**320**	*i*P	**P**	**14 03 01.2**	**+0.4**
NEW	**Newport**	**87.70**	**37**	*e*P	**P**	**14 03 02.4**	**+0.3**
	comp=Z,4.3nm,0.9s						
NEW	**Newport**	**87.70**	**37**	⇑P	**P**	**14 03 02.5**	**+0.4**
	baz=88						
YBH	**Yreka Blue Hor**	**87.92**	**45**	P	**P**	**14 03 04.0**	**+0.7**
YBH	**Yreka Blue Hor**	**87.92**	**45**	P	**P**	**14 03 04.0**	**+0.7**
	comp=Z,3.2nm,0.9s,baz=234,slow=18,SNR=3.6						
WTTA	**Wattenberg**	**88.04**	**322**	⇓*i*PcP	**P**	**14 03 04.1**	**+0.2**
	comp=Z,18nm,1.5s						
A12A	**Yaak River Ran**	**88.11**	**36**	⇑P	**P**	**14 03 04.6**	**+0.5**
	baz=88						
B12A	**Libby**	**88.41**	**36**	⇑P	**P**	**14 03 06.3**	**+0.8**
	baz=88						
C11A	**Tepee Creek (N**	**88.42**	**37**	⇑P	**P**	**14 03 06.2**	**+0.6**
	baz=88						
A13A	**Flathead Natio**	**88.76**	**35**	⇑P	**P**	**14 03 07.4**	**+0.2**
	baz=89						
C12B	**Naegeli Ranch,**	**88.92**	**37**	⇓P	**P**	**14 03 08.3**	**+0.4**
	baz=89						
DAVA	**Damuels**	**89.00**	**323**	⇑*i*PcP	**P**	**14 03 09.2**	**+0.7**
	comp=Z,12nm,1.4s						
B13A	**Whitefish**	**89.07**	**36**	⇑P	**P**	**14 03 08.9**	**+0.3**
	baz=89						
BSMT	**Bassoo Peak**	**89.21**	**36**	*e*P	**P**	**14 03 10.6**	**+1.1**
	comp=Z,10.0nm,1.6s						
A14A	**Double T Ranch**	**89.26**	**35**	⇑P	**P**	**14 03 10.5**	**+0.9**
	baz=89						
DAVOX	**Davos/Dischmat**	**89.30**	**322**	P	**P**	**14 03 10.3**	**+0.4**
DAVOX	**Davos/Dischmat**	**89.30**	**322**	P	**P**	**14 03 10.3**	**+0.4**
	comp=Z,3.5nm,0.6s,baz=121,slow=6.3,SNR=7.4						
D12A	**Red Ives Fores**	**89.37**	**37**	⇓P	**P**	**14 03 10.4**	**+0.3**
	baz=89						
C13A	**Hot Springs**	**89.43**	**36**	⇓P	**P**	**14 03 10.7**	**+0.4**
	baz=89						
A15A	**Johnson Ranch,**	**89.62**	**35**	⇑P	**P**	**14 03 11.8**	**+0.6**
	baz=89						
E12A	**Beaver Dam Sad**	**89.63**	**38**	⇑P	**P**	**14 03 11.9**	**+0.5**
	baz=89						
B14A	**Marquette Ranc**	**89.71**	**35**	⇑P	**P**	**14 03 12.6**	**+0.9**
	baz=90						
CDF	**Champ du Feu**	**89.74**	**325**	*e*P	**P**	**14 03 11.6**	**-0.2**
CDF	**Champ du Feu**	**89.74**	**325**	*e*P	**P**	**14 03 11.6**	**-0.2**
CDF	**Champ du Feu**	**89.74**	**325**	*e*P	**P**	**14 03 11.6**	**-0.2**
TUE	**Stuetta**	**89.78**	**322**	P	**P**	**14 03 12.0**	**-0.2**
	comp=Z,9.5nm,1.0s						
C14A	**Swan Lake**	**89.82**	**36**	⇓P	**P**	**14 03 13.0**	**+0.8**
	baz=90						
SWMT	**Swartz Lake**	**89.84**	**36**	*e*P	**P**	**14 03 12.8**	**+0.5**
	comp=Z,4.0nm,1.1s						
B15A	**Bradely Ranch,**	**90.12**	**35**	⇑P	**P**	**14 03 13.9**	**+0.3**
	baz=90,SNR=5.2						
F12A	**Elk City**	**90.19**	**38**	⇓P	**P**	**14 03 14.1**	**+0.1**
	baz=90,SNR=6.4						
A16A	**West Butte Ran**	**90.22**	**34**	⇓P	**P**	**14 03 14.5**	**+0.4**
	baz=90						
SLMT	**Seeley Lake**	**90.28**	**36**	*e*P	**P**	**14 03 14.9**	**+0.5**
	comp=Z,5.5nm,0.6s						
D14A	**Greenough**	**90.37**	**37**	⇓P	**P**	**14 03 15.3**	**+0.5**
	baz=90						
E13A	**Victor**	**90.38**	**37**	⇑P	**P**	**14 03 15.4**	**+0.5**
	baz=90						
C15A	**Salmond Ranch,**	**90.42**	**36**	⇑P	**P**	**14 03 15.6**	**+0.5**
	baz=90,SNR=7.6						
B16A	**M & M Farms, S**	**90.50**	**35**	⇓P	**P**	**14 03 15.9**	**+0.6**
	baz=90						
G12A	**Big Creek, Yel**	**90.52**	**39**	⇑P	**P**	**14 03 15.8**	**+0.2**
	baz=90						
CHMT	**Chamberlain Mo**	**90.61**	**37**	*e*P	**P**	**14 03 15.6**	**-0.4**
	comp=Z,7.8nm,1.6s						
A17A	**Triple J Farms**	**90.68**	**34**	⇓P	**P**	**14 03 16.4**	**+0.2**
	baz=90,SNR=7.1						
FFC	**Flin Flon**	**90.70**	**26**	*ce*P	**P**	**14 03 16.4**	**+0.4**
FFC	**Flin Flon**	**90.70**	**26**	*e*P	**P**	**14 03 16.0**	**0.0**
	comp=Z,17nm,1.2s						
FFC	**Flin Flon**	**90.70**	**26**	P	**P**	**14 03 16.4**	**+0.4**
	comp=Z,52nm,1.0s,SNR=5.6						
E14A	**Clinton**	**90.78**	**37**	⇓P	**P**	**14 03 17.1**	**+0.3**
	baz=91						
C16A	**Fuhringer Ranc**	**90.86**	**35**	⇑P	**P**	**14 03 16.9**	**-0.2**
	baz=91,SNR=7.5						
D15A	**Lincoln**	**90.92**	**36**	⇓P	**P**	**14 03 18.3**	**+0.8**
	baz=91						
B17A	**L&G Farms, Che**	**91.05**	**34**	⇑P	**P**	**14 03 18.1**	**+0.2**
	baz=91,SNR=14						
A18A	**Metzger Ranch,**	**91.13**	**34**	⇑P	**P**	**14 03 18.8**	**+0.6**
	baz=91,SNR=6.8						
H12A	**Diamond D Ranc**	**91.14**	**39**	⇓P	**P**	**14 03 19.0**	**+0.5**
	baz=91,SNR=8.5						
G13A	**Cobalt**	**91.17**	**38**	⇑P	**P**	**14 03 18.7**	**+0.1**
	baz=91						
F14A	**Wisdom**	**91.22**	**37**	⇑P	**P**	**14 03 19.6**	**+0.8**
	baz=91,SNR=7.9						
MFID	**Camas Ranch**	**91.24**	**40**	⇑P	**P**	**14 03 19.1**	**+0.2**
	baz=91						
E15A	**Deer Lodge**	**91.24**	**37**	⇑P	**P**	**14 03 19.4**	**+0.5**
	baz=91						
I12A	**Atlanta**	**91.42**	**40**	⇓P	**P**	**14 03 20.1**	**+0.3**
	baz=91						
D16A	**Dana Ranch, Ca**	**91.45**	**36**	⇓P	**P**	**14 03 20.1**	**+0.2**
	baz=91,SNR=9.2						
H13A	**Challis**	**91.47**	**39**	⇓P	**P**	**14 03 20.2**	**+0.2**
	baz=91,SNR=6.6						
C17A	**Wharram Farm,**	**91.49**	**35**	⇓P	**P**	**14 03 20.4**	**+0.4**
	baz=91						
HRY	**Holter Researc**	**91.50**	**36**	*e*P	**P**	**14 03 21.0**	**+1.0**
	comp=Z,7.3nm,0.6s						
B18A	**Beardsley Farm**	**91.50**	**34**	⇑P	**P**	**14 03 20.1**	**+0.1**
	baz=91						
A19A	**Klindworth Far**	**91.68**	**33**	⇑P	**P**	**14 03 21.4**	**+0.6**
	baz=92						
F15A	**Butte**	**91.68**	**37**	⇑P	**P**	**14 03 21.8**	**+0.7**
	baz=92						
E16A	**East Helena**	**91.69**	**36**	⇓P	**P**	**14 03 21.5**	**+0.5**
	baz=92,SNR=6.3						
LRM	**Limekiln Ridge**	**91.72**	**37**	*e*P	**P**	**14 03 21.8**	**+0.5**
	comp=Z,53nm,1.0s						
EGMT	**Eagleton**	**91.76**	**34**	*e*P	**P**	**14 03 21.4**	**+0.2**
	comp=Z,14nm,1.1s						
EGMT	**Eagleton**	**91.76**	**34**	⇓P	**P**	**14 03 21.8**	**+0.7**
	baz=92,SNR=6.3						
LPL	**La Plagne**	**91.81**	**323**	*e*P	**P**	**14 03 22.1**	**+0.5**
	comp=Z,17nm,0.9s						
LPL	**La Plagne**	**91.81**	**323**	*e*P	**P**	**14 03 22.1**	**+0.5**
LPL				pmax	pmax		
	comp=Z,17nm,0.9s						
LPL	**La Plagne**	**91.81**	**323**	*e*P	**P**	**14 03 22.1**	**+0.5**
	comp=Z,17nm,0.9s						
LPG	**La Plagne**	**91.81**	**323**	*e*P	**P**	**14 03 22.3**	**+0.6**
	comp=Z,25nm,1.0s						
LPG	**La Plagne**	**91.81**	**323**	*e*P	**P**	**14 03 22.3**	**+0.6**
LPG				pmax	pmax		
	comp=Z,25nm,1.0s						
LPG	**La Plagne**	**91.81**	**323**	*e*P	**P**	**14 03 22.3**	**+0.6**
	comp=Z,25nm,1.0s						
D17A	**Six Diamond Ra**	**91.83**	**35**	⇑P	**P**	**14 03 22.1**	**+0.5**
	baz=92,SNR=7.5						
B19A	**Brinkman Farms**	**91.89**	**34**	⇓P	**P**	**14 03 22.4**	**+0.7**
	baz=92						
DLMT	**Dillon**	**91.92**	**37**	*e*P	**P**	**14 03 22.4**	**+0.3**
	comp=Z,8.5nm,0.9s						
I13A	**Wildhorse Cree**	**91.94**	**39**	⇓P	**P**	**14 03 23.5**	**+1.2**
	baz=92,SNR=12						
H14A	**Leadore**	**91.94**	**38**	⇓P	**P**	**14 03 22.8**	**+0.5**
	baz=92						
HLID	**Hailey**	**91.98**	**40**	⇑P	**P**	**14 03 23.2**	**+0.8**
	baz=92,SNR=5.4						
G15A	**Dillon**	**92.10**	**38**	⇑P	**P**	**14 03 23.6**	**+0.6**
	baz=92,SNR=14						
A20A	**Cobblestone Ra**	**92.11**	**33**	⇑P	**P**	**14 03 23.1**	**+0.3**
	baz=92						
E17A	**Martinsdale**	**92.18**	**36**	⇑P	**P**	**14 03 23.9**	**+0.6**
	baz=92,SNR=10						
F16A	**Kennard Place,**	**92.19**	**37**	⇓P	**P**	**14 03 24.0**	**+0.7**
	baz=92						
J13A	**Cove Ranch, Pi**	**92.22**	**40**	⇓P	**P**	**14 03 24.5**	**+1.0**
	baz=92,SNR=6.1						
MBDF	**Montbardon**	**92.27**	**322**	*e*P	**P**	**14 03 22.7**	**-1.0**
	comp=Z,13nm,1.0s						
MBDF	**Montbardon**	**92.27**	**322**	*e*P	**P**	**14 03 22.7**	**-1.0**
MBDF				pmax	pmax		
	comp=Z,13nm,1.0s						
MBDF	**Montbardon**	**92.27**	**322**	*e*P	**P**	**14 03 22.7**	**-1.0**
	comp=Z,13nm,1.0s						
BOZ	**Bozeman (W)**	**92.28**	**37**	*e*P	**P**	**14 03 24.4**	**+0.7**
BOZ				*e*		14 03 36.8	
BOZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
BOZ	**Bozeman (W)**	**92.28**	**37**	*e*P	**P**	**14 03 24.4**	**+0.7**
	comp=Z,3.2nm,1.1s						
BOZ				*e*		14 03 36.8	
BOZ	**Bozeman (W)**	**92.28**	**37**	⇓P	**P**	**14 03 24.1**	**+0.4**
	baz=92						
C19A	**Slack Wire Ran**	**92.31**	**34**	⇑P	**P**	**14 03 24.5**	**+0.8**
	baz=92,SNR=6.3						
I14A	**Mackay**	**92.31**	**39**	⇓P	**P**	**14 03 25.1**	**+1.1**
	baz=92,SNR=11						
H15A	**Lima**	**92.35**	**38**	⇑P	**P**	**14 03 24.9**	**+0.7**
	baz=92						
B20A	**Solberg Farm,**	**92.36**	**33**	⇑P	**P**	**14 03 24.2**	**+0.3**
	baz=92						
G16A	**Mons Hill, Enn**	**92.44**	**37**	⇑P	**P**	**14 03 24.8**	**+0.3**
	baz=92						
A21A	**Bergtoll Ranch**	**92.53**	**32**	⇑P	**P**	**14 03 25.1**	**+0.5**
	baz=92						
NVAR	**Mina Array Bea**	**92.54**	**46**	P	**P**	**14 03 26.2**	**+1.0**
NVAR	**Mina Array Bea**	**92.54**	**46**	P	**P**	**14 03 26.2**	**+1.0**
	comp=Z,3.3nm,0.9s,baz=274,slow=5.1,SNR=15						
E18A	**Harlowton**	**92.61**	**35**	⇓P	**P**	**14 03 25.7**	**+0.4**
	baz=92,SNR=7.8						
F17A	**Fitzpatrick Pl**	**92.64**	**36**	⇑P	**P**	**14 03 26.1**	**+0.7**
	baz=92						
J14A	**Carey**	**92.64**	**40**	⇑P	**P**	**14 03 26.2**	**+0.8**
	baz=92						
ORIF	**Oris-en-Rattie**	**92.65**	**323**	*e*P	**P**	**14 03 25.8**	**+0.4**
	comp=Z,11nm,0.9s						
ORIF	**Oris-en-Rattie**	**92.65**	**323**	*e*P	**P**	**14 03 25.8**	**+0.4**
ORIF				pmax	pmax		
	comp=Z,11nm,0.9s						
ORIF	**Oris-en-Rattie**	**92.65**	**323**	*e*P	**P**	**14 03 25.8**	**+0.4**
	comp=Z,11nm,0.9s						
D19A	**Cripps Ranch,**	**92.77**	**34**	⇓P	**P**	**14 03 26.0**	**+0.1**
	baz=92,SNR=6.1						
C20A	**Veseth Ranch,**	**92.85**	**34**	⇑P	**P**	**14 03 26.1**	**-0.1**
	baz=93,SNR=6.2						
G17A	**Pierce Place,**	**92.97**	**37**	⇑P	**P**	**14 03 27.8**	**+0.9**
	baz=93						
A22A	**Carney Farms,**	**93.02**	**32**	⇓P	**P**	**14 03 27.5**	**+0.6**
	baz=93						
H16A	**Russell Place,**	**93.08**	**37**	⇑P	**P**	**14 03 28.6**	**+1.1**
	baz=93						
F18A	**Big Timber**	**93.15**	**36**	⇓P	**P**	**14 03 28.1**	**+0.5**
	baz=93						
J15A	**Blackfoot**	**93.22**	**39**	⇓P	**P**	**14 03 28.6**	**+0.5**
	baz=93						
E19A	**Rath Farm, Rou**	**93.28**	**35**	⇑P	**P**	**14 03 28.8**	**+0.6**
	baz=93						
K14A	**Jones Ranch, D**	**93.32**	**40**	⇑P	**P**	**14 03 29.6**	**+1.0**
	baz=93						
I16A	**Newdale**	**93.47**	**38**	⇓P	**P**	**14 03 30.0**	**+0.7**
	baz=93						
L14A	**Malta**	**93.59**	**40**	⇓P	**P**	**14 03 30.1**	**+0.2**
	baz=93						
IMW	**Indian Meadow**	**93.76**	**38**	*e*P	**P**	**14 03 32.2**	**+1.4**
	comp=Z,7.9nm,1.5s						
J16A	**Bone**	**93.77**	**39**	⇓P	**P**	**14 03 31.4**	**+0.7**
	baz=94						
FLWY	**Flagg Ranch**	**93.78**	**38**	*e*P	**P**	**14 03 31.6**	**+0.9**
	comp=Z,6.1nm,0.8s						
RLMT	**Red Lodge**	**93.89**	**36**	⇓P	**P**	**14 03 32.2**	**+0.9**
	baz=94						
I17A	**Pilgrim Ck.**	**93.95**	**38**	⇑P	**P**	**14 03 32.7**	**+1.1**
	baz=94						
GRAC	**Grapevine Rang**	**93.96**	**46**	⇑P	**P**	**14 03 32.5**	**+1.0**
	baz=94						
ISA	**Isabella**	**93.97**	**48**	⇓P	**P**	**14 03 31.8**	**+0.2**
	baz=94						
A24A	**Westby**	**93.97**	**31**	⇓P	**P**	**14 03 32.5**	**+1.2**
	baz=94						
K16A	**Soda Springs**	**94.06**	**39**	⇑P	**P**	**14 03 32.2**	**+0.2**
	baz=94						
L15A	**Malad City**	**94.11**	**40**	⇑P	**P**	**14 03 32.6**	**+0.3**
	baz=94						
D22A	**Cohagen**	**94.15**	**33**	⇑P	**P**	**14 03 32.7**	**+0.5**
	baz=94						
C23A	**Lambert**	**94.19**	**32**	⇑P	**P**	**14 03 33.0**	**+0.7**
	baz=94						
H19A	**Powell**	**94.34**	**36**	⇑P	**P**	**14 03 33.5**	**+0.2**
	baz=94						
R11A	**Troy Canyon, C**	**94.34**	**44**	⇓P	**P**	**14 03 33.6**	**+0.2**
	baz=94						
MPMC	**Manual Prospec**	**94.41**	**47**	⇓P	**P**	**14 03 34.3**	**+0.5**
	baz=94						
M15A	**Larsen Ranch,**	**94.41**	**41**	⇑P	**P**	**14 03 34.2**	**+0.6**
	baz=94						
FURC	**Furnace Creek,**	**94.59**	**47**	⇓P	**P**	**14 03 35.5**	**+1.2**
	baz=94						
LRMC	**Laurel Mountai**	**94.60**	**48**	⇑P	**P**	**14 03 35.2**	**+0.6**
	baz=94						
D23A	**Lindsay**	**94.61**	**33**	⇓P	**P**	**14 03 35.3**	**+1.0**
	baz=94						
L16A	**Fish Haven**	**94.66**	**40**	⇓P	**P**	**14 03 35.2**	**+0.4**
	baz=94						
J18A	**Kendall Valley**	**94.71**	**38**	⇓P	**P**	**14 03 35.3**	**+0.2**
	baz=94						
EDW2	**Edwards Air Fo**	**94.73**	**48**	⇑P	**P**	**14 03 35.5**	**+0.4**
	baz=94						
L17A	**Cokeville**	**94.93**	**39**	⇑P	**P**	**14 03 36.5**	**+0.4**
	baz=95						
DUG	**Dugway**	**94.97**	**42**	⇓P	**P**	**14 03 36.5**	**+0.3**
	baz=95						
J19A	**Crowheart**	**95.22**	**38**	⇓P	**P**	**14 03 37.9**	**+0.5**
	baz=95						
PDAR	**Pinedale Array**	**95.26**	**38**	P	**P**	**14 03 36.9**	**-0.7**
PDAR	**Pinedale Array**	**95.26**	**38**	P	**P**	**14 03 36.9**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=285,slow=1.5,SNR=6.8						
GSC	**Goldstone**	**95.30**	**48**	⇑P	**P**	**14 03 38.0**	**+0.2**
	baz=95						
SHOC	**Shoshone**	**95.30**	**47**	⇓P	**P**	**14 03 38.0**	**+0.3**
	baz=95						
BFSC	**Mount Baldy Ra**	**95.31**	**49**	⇑P	**P**	**14 03 38.1**	**+0.2**
	baz=95						
M17A	**Scullys Gap (B**	**95.45**	**40**	⇓P	**P**	**14 03 38.9**	**+0.5**
	baz=95						
L18A	**Fontenelle, Gr**	**95.53**	**39**	⇓P	**P**	**14 03 39.4**	**+0.6**
	baz=95						
L19A	**Farson**	**95.80**	**39**	⇑P	**P**	**14 03 40.6**	**+0.6**
	baz=96						
HEC	**Hector,Ludlow**	**95.88**	**48**	⇑P	**P**	**14 03 40.7**	**+0.3**
	baz=96						
J21A	**Lysite**	**96.05**	**37**	⇑P	**P**	**14 03 41.6**	**+0.5**
	baz=96						
I22A	**9 Mile Ranch,**	**96.20**	**36**	⇑P	**P**	**14 03 42.3**	**+0.6**
	baz=96						
O17A	**Robinson Place**	**96.21**	**41**	⇓P	**P**	**14 03 42.4**	**+0.4**
	baz=96						
GMRC	**Granite Mounta**	**96.36**	**47**	⇓P	**P**	**14 03 42.9**	**+0.2**
	baz=96						
PFO	**Pinyon Flat Ob**	**96.50**	**49**	⇓P	**P**	**14 03 43.4**	**+0.1**
	baz=96						
J22A	**Midwest**	**96.53**	**36**	⇓P	**P**	**14 03 43.5**	**+0.3**
	baz=96						
ULM	**Lac du Bonnet**	**96.53**	**26**	P	**P**	**14 03 43.4**	**+0.5**
ULM	**Lac du Bonnet**	**96.53**	**26**	P	**P**	**14 03 43.4**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=42,slow=6.4,SNR=3.6						
P18A	**Preston Nutter**	**96.86**	**41**	⇑P	**P**	**14 03 45.5**	**+0.4**
	baz=97						
MONP	**Monument Peak**	**96.93**	**49**	⇑P	**P**	**14 03 46.0**	**+0.6**
	baz=97						
BC3	**Big Chuckawall**	**97.15**	**48**	⇓P	Pdif	14 03 46.6	+0.3
	baz=97						
Q22A	**Crested Butte,**	**99.33**	**40**	⇓Pdiff	**Pdif**	**14 03 56.3**	**+0.2**
	baz=99						
X16A	**Lo Mia Camp, P**	**99.37**	**46**	⇑Pdiff	**Pdif**	**14 03 56.3**	**+0.1**
	baz=99						
T19A	**Beclabito**	**99.39**	**42**	⇓Pdiff	**Pdif**	**14 03 56.2**	**-0.1**
	baz=99						
SDCO	**Great Sand Dun**	**100.90**	**40**	⇑Pdiff	**Pdif**	**14 04 02.8**	**-0.4**
	baz=101						
Q26A	**Hugo**	**101.23**	**38**	⇓Pdiff	**Pdif**	**14 04 03.5**	**-0.9**
	baz=101						
TORD	**Torodi Ar. Bea**	**114.91**	**299**	PKP	PKPdf

ESL	**Shilin**	**1.16**	**253**	*eP*	**Pn**	**14 08 39.2**	**-0.6**
	baz=241							
ESL				*eS*	**Sn**	**14 08 53.6**	**-0.8**
	baz=241							
NNS	**Nan Shan**	**1.19**	**284**	*eP*	**Pn**	**14 08 40.3**	**0.0**
	baz=281							
NNS				*eS*	**Sn**	**14 08 55.1**	**-0.3**
	baz=281							
NWF	**Wu-fen Shan**	**1.20**	**319**	*eP*	**Pn**	**14 08 40.1**	**-0.3**
	baz=319							
JKRS	**Kuro-shima**	**1.25**	**86**	P	**Pn**	**14 08 41.5**	**+0.5**
JKRS				*eS*	**Sn**	**14 08 57.6**	**+0.9**
NSK	**Sanguang**	**1.28**	**294**	*eP*	**Pn**	**14 08 42.0**	**+0.5**
	baz=282							
NSK				*eS*	**Sn**	**14 08 57.6**	**+0.2**
	baz=282							
TWT	**Tachien**	**1.34**	**274**	*eP*	**Pn**	**14 08 43.0**	**+0.6**
	baz=271							
TWT				*eS*	**Sn**	**14 08 58.7**	**-0.5**
	baz=271							
EHY	**Hungye**	**1.37**	**242**	*eP*	**Pn**	**14 08 42.4**	**-0.4**
	baz=249							
EHY				*eS*	**Sn**	**14 08 59.0**	**-0.7**
	baz=249							
JIJ	**Ishigaki jima**	**1.39**	**81**	P	**Pn**	**14 08 42.3**	**-0.6**
JIJ				*eS*	**Sn**	**14 08 59.0**	**-1.0**
TWF1	**Yuli**	**1.47**	**237**	P	**Pn**	**14 08 44.2**	**+0.1**
	baz=246							
TWF1				*eS*	**Sn**	**14 09 01.8**	**-0.3**
	baz=246							
CHKT	**Chengkung**	**1.58**	**228**	*eP*	**Pn**	**14 08 45.0**	**-0.5**
	baz=225							
CHKT				*eS*	**Sn**	**14 09 03.0**	**-1.7**
	baz=225							
SMLT	**Sun Moon Lake**	**1.62**	**261**	*eP*	**Pn**	**14 08 45.9**	**-0.2**
	baz=258							
TYC	**Yuchr**	**1.65**	**261**	*eP*	**Pn**	**14 08 46.9**	**+0.4**
	baz=252							
TYC				*eS*	**Sn**	**14 09 05.3**	**-1.2**
	baz=252							
ELDTW	**Lidau**	**1.78**	**237**	*eP*	**Pn**	**14 08 47.9**	**-0.5**
	baz=235							
ELDTW				*eS*	**Sn**	**14 09 08.1**	**-1.7**
	baz=235							
ALS	**Alishan**	**1.80**	**249**	*eP*	**Pn**	**14 08 49.4**	**+0.6**
	baz=247							
ALS				*eS*	**Sn**	**14 09 10.3**	**-0.4**
	baz=247							
CHN5	**Tsauling**	**1.88**	**253**	*eP*	**Pn**	**14 08 50.3**	**+0.5**
	baz=251							
CHN5				*eS*	**Sn**	**14 09 13.3**	**+0.9**
	baz=251							
JTJ	**Tarama**	**1.94**	**75**	P	**Pn**	**14 08 50.5**	**0.0**
JTJ				*eS*	**Sn**	**14 09 13.6**	**0.0**
TWG	**Pinlang**	**1.96**	**228**	*eP*	**Pn**	**14 08 50.2**	**-0.7**
	baz=234							
WTP	**Ta-pu**	**2.07**	**244**	*eP*	**Pn**	**14 08 53.2**	**+0.9**
	baz=242							
CHN1	**Nanshi**	**2.17**	**244**	*eP*	**Pn**	**14 08 55.2**	**+1.5**
	baz=242							
CHN1				*eS*	**Sn**	**14 09 20.7**	**+1.4**
	baz=242							
SGST	**Jiashian**	**2.17**	**241**	*eP*	**Pn**	**14 08 55.6**	**+1.9**
	baz=238							
SGST				*eS*	**Sn**	**14 09 21.6**	**+2.1**
	baz=238							
SSD	**Sandimen**	**2.32**	**233**	*eP*	**Pn**	**14 08 57.3**	**+1.5**
	baz=228							
SSD				*eS*	**Sn**	**14 09 22.4**	**-0.7**
	baz=228							
EAST	**Anshuo**	**2.42**	**223**	*eP*	**Pn**	**14 08 57.4**	**+0.3**
	baz=229							

MEX 22 14:09:46.3±1.0, 16°.69N×93°.69W, h139km±9km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
TGIG		**0.55**	**80**	*eP*		Pn	14 10 06.2	-0.6
TGIG				*i*	S	Sn	14 10 19.6	-2.7
PCIG		**1.07**	**155**	*i*	P	Pn	14 10 09.1	-1.7
PCIG				*i*	S	Sn	14 10 27.3	-2.0
CMIG	**Matias Romero**	**1.21**	**290**	*eP*		Pn	14 10 10.9	-1.2
CMIG				*i*	S	Sn	14 10 30.2	-1.5
CCIG	**Comitan**	**1.54**	**105**	*i*	P	Pn	14 10 14.6	-1.2
CCIG				*i*	S	Sn	14 10 35.8	-2.5
THIG		**2.24**	**142**	*i*	P	Pn	14 10 22.2	-1.5
THIG				*i*	S	Sn	14 10 51.0	-1.4
VHO	**Vista Hermosa**	**2.94**	**278**	*i*	P	Pn	14 10 30.7	-2.1
VHO				*i*	S	Sn	14 11 06.4	-2.1
PNIG	**Pinotepa**	**4.27**	**267**	*i*	P	Pn	14 10 46.6	-3.2
PNIG				*i*	S	Sn	14 11 36.5	-2.7

NIED **22** *14:24:00.4±1.7, 41°.70N×144°.20E, h23km, Mw5.4 Best double couple: M0 1.64000×10^17 NP1:φs 190.00000°, δ 88.00000°, λ 56.00000°. NP2:φs 96.00000°, δ 34.00000°, λ 176.00000°.*
IDC **22** *14:24:06.2±0.4, 41°.75N×144°.12E, h0km, mb4.9/25, mb1 5.0/31, mb1mx5.0/32, mbtmp4.9/31, ML4.4/6, MS4.8/25, Ms1 4.8/25, ms1mx4.6/40, Error ellipse: s-maj=14.2km s-min=11.1km az=107.0*
DJA **22** *14:24:08, 41°.98N×144°.26E, h10km, mb5.2/12*
MOS **22** *14:24:09.9±0.8, 41°.72N×144°.05E, h33km, mb5.6/117, MS5.2/61, Error ellipse: s-maj=6.3km s-min=3.9km az=104.4*
ISCJB **22** *14:24:09.3±0.6, 41°.75N±0°.02×144°.01E±0°.02, h27km±4km, mb5.2/327, MS5.1/178, Error ellipse: s-maj=3.2km s-min=2.0km az=153.7*
JMA **22** *14:24:09.9±0.2, 41°.71N×144°.22E, h34km±3km, M5.4*
JMA Felt II J1.
BJI **22** *14:24:11.4, 41°.79N×143°.72E, h33km, mB5.5/42, mb5.3/62, Ms5.4/65, Ms7 5.1/65*
NEIC **22** *14:24:11.7±1.2, 41°.75N×144°.02E, h33km±8km, mb5.3/167, MS5.0/120, MW5.4, MW5.4(NIED), Error ellipse: s-maj=4.0km s-min=2.7km az=159.0, Moment Tensor Solution. s34 Moment tensor: Scale 10^17 Nm; Mrr 0.80; Mθθ -0.20; Mφφ -0.60; Mrθ 0.13; Mθφ -0.43; Mφr 1.06; Best double couple: M0 1.40000×10^17 NP1:φs 13.00000°, δ 72.00000°, λ 76.00000°. NP2:φs 231.00000°, δ 23.00000°, λ 126.00000°. Principal axes: T 1.3800, Plg60.0000°, Azm262.0000°; N -0.0400, Plg13.0000°, Azm17.0000°; P -1.3400, Plg25.0000°, Azm113.0000°;*
NEIC Recorded [2 JMA] in southern Hokkaido. Also recorded [1 JMA] in Aomori, Honshu.
BGS **22** *14:24:16.4±1.9, 42°.26N×142°.33E, h33km, mb5.2*
SZGRF **22** *14:24:16.8, 42°.41N×144°.92E, h33km, mb5.4, MS5.5, Hokkaido, Japan, region*

ISC 22 14:24:11.6±0.4, 41°.78N±0°.03×144°.09E±0°.03, h35km±1km, h35km:pP-P, n1313, σ1s01/1314, mb5.3/327, MS5.1/178, 407C-175D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
ERM	**Erimo**	**0.74**	**289**	*d*	*i* P	**Pb**	**14 24 26.1**	**0.0**
ERM	**Erimo**	**0.74**	**289**	*e*	P	**Pb**	**14 24 26.2**	**+0.1**
JEM	**Erimo**	**0.74**	**289**	⇑	P	**Pb**	**14 24 26.1**	**0.0**
JCH	**Churui**	**0.99**	**327**	⇑	P	**Pn**	**14 24 29.2**	**+0.1**
JCH					eS	**Sb**	**14 24 46.1**	**+2.8**
JNBK	**Urakawa-nobuka**	**1.12**	**297**	⇑	P	**Pn**	**14 24 31.7**	**+1.0**
JOB	**Onbets**	**1.14**	**350**	⇑	P	**Pn**	**14 24 31.0**	**-0.1**
JAK	**Akkeshi**	**1.30**	**20**	⇑	P	**Pn**	**14 24 32.4**	**-0.8**
JAK					eS	**Sn**	**14 24 49.9**	**+0.6**
JAR	**Ashorobuto**	**1.54**	**351**	⇑	P	**Pn**	**14 24 36.0**	**-0.5**
JAR					eS	**Sn**	**14 24 56.5**	**+1.2**
JBT2	**Biratori 2**	**1.62**	**309**	⇑	P	**Pn**	**14 24 37.3**	**-0.5**
JTKR	**Abashiri--Toko**	**2.19**	**357**	⇑	P	**Pn**	**14 24 45.6**	**0.0**
JKK2	**Kamakawa 2**	**2.31**	**335**	⇑	P	**Pn**	**14 24 47.3**	**0.0**
JOT	**Ohata**	**2.32**	**261**	⇑	P	**Pn**	**14 24 47.7**	**+0.4**
JOT					S	**Sn**	**14 25 16.3**	**+1.8**
JNB	**Noboribetsu**	**2.37**	**288**	⇑	P	**Pn**	**14 24 48.6**	**+0.6**
JANG	**Nango**	**2.40**	**235**	⇑	P	**Pn**	**14 24 47.1**	**-1.3**
JTM	**Tenmabayashi**	**2.48**	**247**	⇑	P	**Pn**	**14 24 49.6**	**0.0**
JTH	**Tanohata**	**2.50**	**223**	⇑	P	**Pn**	**14 24 47.6**	**-2.1**
ASAJ	**Asahikawa**	**2.58**	**335**	*eP*		**Pn**	**14 24 51.5**	**+0.6**
ASAJ					Sn	**Sb**	**14 25 26.2**	**-2.3**
ASAJ	**Asahikawa**	**2.58**	**335**	⇑	P	**Pn**	**14 24 51.4**	**+0.6**
ASAJ	**Asahikawa**	**2.58**	**335**	Pn		**Pn**	**14 24 51.5**	**+0.6**
	50nm,0.3s,baz=196,slow=12,SNR=429							
ASAJ					Sn	**Sb**	**14 25 26.2**	**-2.3**
	283nm,0.3s,baz=63,slow=27,SNR=6.5							
ASAJ					LR	LR	14 25 38.1	
	comp=Z,8μm,21.1s,baz=172,slow=35							
YUK	**Yuzh-Kuril'sk**	**2.60**	**29**	*i*	P	**Pn**	**14 24 50.7**	**-0.5**
YUK				*i*	S	**Sn**	**14 25 19.3**	**-2.3**
YUK					pmax	pmax		
	comp=N,793nm,0.4s							
YUK					pmax	pmax		
	comp=E,336nm,0.4s							
YUK					pmax	pmax		
	comp=Z,2μm,0.5s							
YUK					smax	smax		
	comp=E,5μm,0.4s							
YUK					smax	smax		
	comp=N,16μm,0.5s							
YUK					MLR	MLR		
	comp=Z,18μm,13.0s							
YUK					MLR	MLR		
	comp=N,6μm,13.0s							
YUK					MLR	MLR		
	comp=E,19μm,13.0s							
JKZ	**Kuzumaki**	**2.76**	**230**	⇑	P	**Pn**	**14 24 52.1**	**-1.3**
MIYJ	**Miyakonagasawa**	**2.80**	**219**	⇑	P	**Pn**	**14 24 52.0**	**-1.9**
JSI2	**Shiura 2**	**2.86**	**257**	⇑	P	**Pn**	**14 24 55.4**	**+0.7**
JAH	**Hinai**	**3.06**	**240**	⇑	P	**Pn**	**14 24 57.2**	**-0.3**
JOM	**Ohasama**	**3.14**	**224**	⇑	P	**Pn**	**14 24 57.5**	**-1.1**
OFUJ	**Ofunato**	**3.27**	**215**	⇑	P	**Pn**	**14 24 58.7**	**-1.7**
JIW	**Iwasaki**	**3.30**	**250**	⇑	P	**Pn**	**14 25 00.8**	**0.0**
JRG	**Rokugo**	**3.55**	**229**	⇑	P	**Pn**	**14 25 03.3**	**-0.9**
JMK	**Ichinoseki**	**3.58**	**219**	⇑	P	**Pn**	**14 25 03.1**	**-1.5**
JIO	**Ouri**	**3.93**	**213**	⇑	P	**Pn**	**14 25 07.3**	**-2.1**
JYK	**Kaneyama**	**4.04**	**226**	⇑	P	**Pn**	**14 25 09.9**	**-1.0**
JOU	**Okura**	**4.30**	**219**	⇑	P	**Pn**	**14 25 13.1**	**-1.5**
KUR	**Kuril'sk**	**4.41**	**37**	⇓	*i* P	**Pn**	**14 25 15.5**	**-0.5**
KUR					*e*S	**Sn**	**14 26 04.0**	**-2.1**
KUR					pmax	pmax		
	comp=N,170nm,0.5s							
KUR					pmax	pmax		
	comp=E,340nm,0.5s							
KUR					pmax	pmax		
	comp=Z,820nm,0.5s							
KUR					pmax	pmax		
	comp=Z,5μm,2.0s							
KUR					smax	smax		
	comp=E,4μm,1.0s							
KUR					smax	smax		
	comp=N,950nm,0.5s							
KUR					smax	smax		
	comp=N,47μm,2.4s							
KUR					smax	smax		
	comp=E,13μm,3.0s							
JYS	**Shirataka**	**4.71**	**222**	⇑	P	**Pn**	**14 25 19.3**	**-0.9**
YSS	**Yuzh-Sakhalins**	**5.26**	**350**	*eP*		**Pn**	**14 25 28.9**	**+1.2**
YSS					*e*S	**Sn**	**14 26 26.0**	**-1.1**
YSS					MLR	MLR		
	comp=Z,16μm,13.0s							
YSS					MLR	MLR		
	comp=N,14μm,14.0s							
YSS	**Yuzh-Sakhalins**	**5.26**	**350**	*eP*		**Pn**	**14 25 27.5**	**-0.3**
	comp=N,320nm,0.9s							
JFY	**Yanaizu**	**5.53**	**219**	P		**Pn**	**14 25 30.6**	**-0.8**
MJAR	**Matsushiro Arr**	**6.94**	**223**	Pn		**Pn**	**14 25 50.2**	**-0.6**
MJAR				Sn		**Sn**	**14 27 10.8**	**+2.2**
MJAR	**Matsushiro Arr**	**6.94**	**223**	Pn		**Pn**	**14 25 50.2**	**-0.6**
	comp=N,10nm,0.3s,baz=28,slow=14,SNR=159							
MJAR				Sn		**Sn**	**14 27 10.8**	**+2.2**
	comp=N,1.7nm,0.3s,baz=310,slow=20,SNR=6.4							
MAJO	**Matsushiro**	**6.94**	**223**	*eP*		**Pn**	**14 25 50.2**	**-0.7**
MAJO					pmax	pmax		
	comp=Z,150nm,0.7s							
MAJO	**Matsushiro**	**6.94**	**223**	*eP*		**Pn**	**14 25 50.1**	**-0.7**
	comp=Z,150nm,0.7s							
MAT	**Matsushiro**	**6.94**	**223**	P		**Pn**	**14 25 50.0**	**-0.9**
MAT				*e*S		**Sn**	**14 27 11.6**	**+3.0**
UGL	**Uglegorsk**	**7.44**	**350**	*eP*		**Pn**	**14 25 59.0**	**+1.5**
UGL				*e*S		Sn	14 27 32.0	+11
UGL					pmax	pmax		
	comp=Z,46nm,0.7s							
UGL					smax	smax		
	comp=N,2μm,0.6s							
UGL					smax	smax		
	comp=E,1μm,6.0s							
UGL					MLR	MLR		
	comp=E,11μm,16.0s							
UGL					MLR	MLR		
	comp=N,5μm,14.0s							
VLA	**Vladivostok**	**9.12**	**283**	⇓	*i* P	**Pn**	**14 26 23.3**	**+2.7**
VLA					*i* S	**Sn**	**14 28 06.8**	**+4.8**
USRK	**Ussuriysk Arra**	**9.19**	**289**	Pn		**Pn**	**14 26 23.5**	**+1.9**
	comp=N,2.5nm,0.3s,baz=90,slow=14,SNR=51							
USRK					LR	LR	14 30 08.5	
	comp=N,14μm,19.4s,baz=76,slow=39							
HABR	**Khabarovsk**	**9.25**	**319**	*de*	P	**Pn**	**14 26 20.3**	**-2.1**
HABR					*e*		14 28 03.1	
HABR					pmax	pmax		
	comp=N,145nm,3.1s							
HABR					pmax	pmax		
	comp=E,146nm,1.7s							
HABR					pmax	pmax		
	comp=Z,95nm,1.7s							
HABR					MLR	MLR		
	comp=Z,6μm,18.0s							
JHJ	**Hachijo jima 2**	**9.30**	**203**	Pn		Pn	14 26 19.9	-3.3
	comp=Z,29nm,0.3s,baz=205,slow=19,SNR=14							
JHJ				Sn		Sn	14 27 57.5	-8.9
	comp=Z,71nm,0.3s,baz=260,slow=23,SNR=8.1							
MDJ	**Mudanjiang**	**10.96**	**290**	P		**Pn**	**14 26 45.3**	**-0.5**
MDJ				S		**Sn**	**14 28 45.3**	**-1.8**
MDJ				PcP		**PcP**	**14 32 42.5**	**-0.6**
MDJ				ScP		**ScP**	**14 36 12.6**	**-0.2**
MDJ				PcS		**PcS**	**14 36 17.8**	**+1.1**
MDJ				ScS		**ScS**	**14 39 50.5**	**+2.6**
MDJ				pmax	pmax			
	comp=Z,60nm,2.0s							
MDJ				pmax	pmax			
	comp=Z,890nm,7.9s							
MDJ				LR	LR			
	comp=N,5μm,14.9s							
MDJ				LR	LR			
	comp=E,7μm,21.1s							
MDJ				LR	LR			
	comp=Z,12μm,19.3s							
MDJ	**Mudanjiang**	**10.96**	**290**	*eP*		**Pn**	**14 26 46.7**	**+0.8**
	comp=Z,69nm,0.9s							
KLR	**Kul'dur**	**11.41**	**315**	*eP*		**Pn**	**14 26 50.2**	**-1.8**
KLR					pmax	pmax		
	comp=E,90nm,1.4s							
KLR					pmax	pmax		
	comp=Z,130μm,1.4s							
KLR					MLR	MLR		
	comp=Z,30μm,12.5s							
OKH	**Okha**	**11.80**	**357**	*eP*		**Pn**	**14 27 00.0**	**+2.7**
OKH					pmax	pmax		
	comp=Z,2μm,6.0s							
SKR	**Severo-Kuril's**	**12.18**	**39**	*eP*		**Pn**	**14 27 04.7**	**+2.3**
SKR					pmax	pmax		
	comp=E,50nm,0.5s							
SKR					pmax	pmax		
	comp=Z,80nm,0.5s							
SKR					MLR	MLR		
	comp=N,14μm,20.0s							
SKR					MLR	MLR		
	comp=E,9μm,20.0s							
SKR					MLR	MLR		
	comp=Z,12μm,20.0s							
KSRS	**Korea Array**	**13.19**	**256**	Pn		**Pn**	**14 27 16.8**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=69,slow=13,SNR=38							
KSRS				Sn		Sn	14 29 48.0	+6.3
	comp=Z,0.6nm,0.3s,baz=68,slow=24,SNR=4.1							
KSRS				LR		LR	14 32 30.2	
	comp=Z,6μm,18.0s,baz=71,slow=38							
KSAR	**Wonju Array Be**	**13.22**	**256**	Pn		**Pn**	**14 27 16.8**	**-0.1**
KSAR				Sn		**Sn**	**14 29 48.0**	**+5.5**
JNU	**Nakatsue**	**13.58**	**235**	Pn		**Pn**	**14 27 19.5**	**-2.3**
JNU	**Nakatsue**	**13.58**	**235**	Pn		**Pn**	**14 27 19.5**	**-2.3**
	comp=Z,0.9nm,0.3s,baz=37,slow=9.1,SNR=8.8							
CN2	**Changchun**	**13.84**	**285**	*eP*		**Pn**	**14 27 23.8**	**-1.4**
CN2				*epP*		**P**	**14 27 31.3**	**-1.8**
CN2				*es*P			14 27 35.8	
CN2				*eS*		**Sn**	**14 29 56.3**	**-1.3**
CN2				pmax	pmax			
	comp=Z,50nm,0.9s							
CN2				pmax	pmax			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=N,4μm,16.0s							
CN2				LR	LR			
	comp=E,16μm,16.0s							
CN2				LR	LR			
	comp=Z,18μm,15.0s							
PETK	**Petropavlovsk-**	**14.57**	**34**	P		**Pn**	**14 27 32.2**	**-2.9**
PETK				pmax	pmax			
	comp=Z,2.0nm,0.3s							
PETK				MLR	MLR			
	comp=Z,2μm,19.6s							
PETK	**Petropavlovsk-**	**14.57**	**34**	Pn		**Pn**	**14 27 32.2**	**-2.9**
PETK	**Petropavlovsk-**	**14.57**	**34**	Pn		**Pn**	**14 27 32.2**	**-2.9**
	comp=Z,1.8nm,0.3s,baz=190,slow=9.6,SNR=23							
PETK				LR		LR	14 33 21.0	
	comp=Z,2μm,19.6s,baz=204,slow=38							
CBIJ	**Chichi jima**	**14.73**	**187**	Sn		Sn	14 30 08.0	-11
CBIJ	**Chichi jima**	**14.73**	**187**	Sn		Sn	14 30 08.0	-11
	comp=Z,28nm,0.3s,baz=307,slow=20,SNR=7.0							
CBIJ				LR		LR	14 32 58.6	
	comp=Z,992nm,19.1s,baz=162,slow=36							
SNY	**Shenyang**	**15.30**	**277**	⇑	P	**Pn**	**14 27 43.9**	**-1.0**
SNY					S	**Sn**	**14 30 28.8**	**-4.3**
SNY					pmax	pmax		
	comp=Z,94nm,0.9s							
SNY					pmax	pmax		
	comp=Z,490nm,3.5s							
SNY					LR	LR		
	comp=N,3μm,12.4s							
SNY					LR	LR		
	comp=E,8μm,16.5s							
SNY					LR	LR		
	comp=Z,10μm,15.7s							
DL2	**Dalian**	**17.36**	**268**	P		**Pn**	**14 28 09.3**	**-1.7**
DL2				S		**Sn**	**14 31 21.3**	**-1.7**
DL2				pmax	pmax			
	comp=Z,60nm,0.7s							
DL2				pmax	pmax			
	comp=Z,420nm,4.9s							
DL2				LR	LR			
	comp=N,2μm,13.2s							
DL2				LR	LR			
	comp=E,1μm,15.0s							
DL2				LR	LR			
	comp=Z,2μm,15.2s							
HIA	**Hailar**	**18.58**	**302**	*eP*		**P**	**14 28 23.1**	**-2.4**
	comp=Z,175nm,0.8s							
CLNS	**Chul'man**	**19.48**	**327**	*eP*		**P**	**14 28 33.6**	**-1.8**
CLNS				*eS*		**Sn**	**14 32 14.4**	**+0.2**
CLNS					pmax	pmax		
	comp=Z,54nm,0.6s							
CLNS					pmax	pmax		
	comp=N,42nm,0.8s							
CLNS					pmax	pmax		
	comp=E,25nm,0.7s							
CLNS					smax	smax		
	comp=N,121nm,10.3s							
CLNS					smax	smax		
	comp=E,564nm,14.3s							
CLNS					MLR	MLR		
	comp=Z,5.0nm,15.0s							
CLNS					MLR	MLR		
	comp=Z,5μm,16.0s							
CLNS					MLR	MLR		
	comp=N,4μm,15.0s							
JOW	**Kunigami**	**19.77**	**226**	LR		LR	14 37 03.3	
	comp=N,2μm,20.2s,baz=288,slow=39							
BJI	**Beijing**	**21.14**	**275**	P		**P**	**14 28 50.8**	**-2.6**
BJI				pmax	pmax			
	comp=Z,100nm,0.8s							
BJI				pmax	pmax			
	comp=Z,490nm,3.8s							
BJI				LR	LR			
	comp=N,3μm,14.2s							
BJI				LR	LR			
	comp=E,14μm,15.1s							
BJI				LR	LR			
	comp=Z,6μm,17.4s							
BJT	**Baijiatuau**	**21.15**	**275**	*eP*		**P**	**14 28 51.3**	**-2.2**
	comp=Z,52nm,0.6s							
BJT				LR	LR			
	comp=Z,6μm,19.0s							
SSE	**Sheshan**	**21.23**	**247**	*eP*		**P**	**14 28 53.4**	**-1.0**
SSE				pP		**pP**	**14 29 02.5**	**-1.1**
SSE				S		**S**	**14 32 45.0**	**-3.4**
SSE				pmax	pmax			
	comp=Z,31nm,0.7s							
SSE				pmax	pmax			
	comp=Z,240nm,3.5s							
SSE				LR	LR			
	comp=N,4μm,16.7s							
SSE				LR	LR			
	comp=E,3μm,16.6s							
SSE				LR	LR			
	comp=Z,3μm,16.2s							
TIA	**Tai'an**	**21.64**	**264**	P		**P**	**14 28 54.4**	**-4.4**
TIA				LR	LR			
	comp=N,3μm,16.1s							
TIA				LR	LR			
	comp=E,3μm,16.1s							
TIA				LR	LR			
	comp=Z,4μm,16.1s							
SEY	**Seymchan**	**21.75**	**10**	*c*	*i* P	**P**	**14 28 57.1**	**-2.6**
YAK	**Yakutsk**	**22.04**	**342**	*c*	*i* P	P	14 28 58.1	-4.8
YAK					*e*S	S	14 32 54.7	-9.1
YAK					*e*		14 33 03.0	
YAK					*e*		14 40 17.0	
YAK					pmax	pmax		
	comp=Z,134nm,0.8s							
YAK					pmax	pmax		
	comp=E,14nm,0.9s							
YAK					pmax	pmax		
	comp=N,32nm,0.9s							
YAK					pmax	pmax		
	comp=Z,120nm,0.7s							
YAK					smax	smax		
	comp=N,1μm,2.0s							
YAK					smax	smax		
	comp=E,567nm,1.7s							
YAK					MLR	MLR		
	comp=E,4μm,16.0s							
YAK					MLR	MLR		
	comp=N,2μm,13.0s							
YAK					MLR	MLR		
	comp=Z,4μm,14.0s							
YAK	**Yakutsk**	**22.04**	**342**	*eP*		P	14 28 58.0	-4.8
	comp=Z,176nm,0.7s							
NJ2	**Nanjing**	**22.32**	**252**	*eP*		**P**	**14 29 05.1**	**-1.1**
NJ2				pP		pP	14 29 09.1	-6.3
NJ2				PP		**PnPn**	**14 29 31.6**	**+2.2**
NJ2				S		S	14 33 01.0	-8.5
NJ2				pmax	pmax			
	comp=Z,70nm,0.9s							
NJ2				pmax	pmax			
	comp=Z,610nm,8.7s							
NJ2				LR	LR			
	comp=N,6μm,16.9s							
NJ2				LR	LR			
	comp=E,7μm,16.2s							
NJ2				LR	LR			
	comp=Z,10μm,15.7s							
HHC	**Hu-ho-hao-te**	**24.38**	**279**	*eP*		**P**	**14 29 26.6**	**+0.1**
HHC				pP		**pP**	**14 29 36.5**	**0.0**
HHC				sP		**sP**	**14 29 40.3**	**-0.4**
HHC				PP		**PnPn**	**14 30 02.3**	**+4.8**
HHC				S		**S**	**14 33 41.0**	**-2.8**
HHC				SS		**SnSn**	**14 34 33.9**	**+5.3**
HHC				pmax	pmax			
	comp=Z,21nm,0.8s							
HHC				pmax	pmax			
	comp=Z,750nm,8.5s							
HHC				LR	LR			
	comp=N,2μm,8.0s							
HHC				LR	LR			
	comp=E,4μm,9.6s							
HHC				LR	LR			
	comp=Z,5μm,9.4s							
BOD	**Bodaibo**	**24.90**	**320**	⇑	*i* P	**P**	**14 29 27.7**	**-3.2**
BOD				pmax	pmax			
	comp=Z,39nm,1.4s							
YHNB	**Yeheng**	**25.42**	**235**	*eP*		**P**	**14 29 34.9**	**-1.2**
	comp=Z,184nm,1.5s							
BTO	**Baotou**	**25.57**	**279**	*eP*		**P**	**14 29 35.4**	**-2.0**
SSLB	**Suanglung**	**26.33**	**234**	*eP*		**P**	**14 29 42.8**	**-1

WHN pmax pmax
comp=Z,1μm,4.7s
WHN LR LR
comp=Z,17μm,16.1s
ULN Ulaanbaatar 26.78 296 *e*P **P 14 29 47.6 -0.7**
ULN LR LR
comp=Z,262nm,1.4s
ULN Ulaanbaatar 26.78 296 P **P 14 29 48.7 +0.4**
comp=Z,5μm,20.0s
SNR=52
ULN Ulaanbaatar 26.78 296 P **P 14 29 48.3 0.0**
comp=Z,126nm,1.5s,comp=Z,2μm
TPUB Ta-pu 26.89 234 *e*P **P 14 29 48.5 -0.8**
comp=Z,34nm,1.0s
QZH Quanzhou 26.97 240⇑ *i*P **P 14 29 50.8 +0.8**
QZH S **S 14 34 24.0 -1.0**
QZH pmax pmax
comp=Z,1μm,5.0s
QZH LR LR
comp=N,8μm,15.9s
QZH LR LR
comp=E,5μm,16.8s
QZH LR LR
comp=Z,6μm,18.1s
TWG Pinlang 26.99 233 *e*P **P 14 29 49.8 -0.4**
SONM Songino Array 27.22 296 P **P 14 29 52.2 0.0**
SONM Songino Array 27.22 296 P **P 14 29 52.2 0.0**
comp=Z,41nm,1.0s,baz=87,slow=6.6,SNR=117
SONM LR LR 14 41 42.1
comp=Z,5μm,19.4s,baz=89,slow=39
GUMO Guam 28.09 178 LR LR 14 40 29.1
comp=Z,899nm,18.8s,baz=350,slow=35
XAN Xi'an 28.65 266 P **P 14 30 05.0 0.0**
XAN pP **pP 14 30 14.1 -0.9**
XAN sP **sP 14 30 17.3 -1.9**
XAN PP **PnPn 14 31 00.4 +4.5**
XAN S **S 14 34 57.1 +5.6**
XAN pmax pmax
comp=Z,8.0nm,0.8s
XAN LR LR
comp=N,1μm,15.2s
XAN LR LR
comp=E,700nm,16.8s
XAN LR LR
comp=Z,1μm,14.9s
IRK Irkutsk 28.75 305 *e*P **P 14 30 05.5 -0.2**
IRK *e* 14 34 56.6
IRK pmax pmax
comp=Z,178nm,1.8s
TLY Talaya 29.10 304*c i*P **P 14 30 09.1 +0.3**
TLY *e*S S 14 35 05.9 +7.8
TLY pmax pmax
comp=Z,71nm,0.8s
TLY MLR MLR
comp=Z,4μm,19.0s
TLY Talaya 29.10 304 *e*P **P 14 30 08.9 +0.1**
comp=Z,79nm,0.8s
TLY LR LR
comp=Z,5μm,19.0s
TLY Talaya 29.10 304 P **P 14 30 08.9 +0.1**
SNR=34
TLY Talaya 29.10 304 P **P 14 30 09.6 +0.8**
comp=Z,623nm,0.7s,SNR=38
ZAK Zakamensk 29.27 301 *e*P **P 14 30 10.2 -0.2**
ZAK pmax pmax
comp=Z,31nm,1.2s
ENH Enshi 30.06 259 *e*P **P 14 30 16.5 -1.0**
comp=Z,56nm,0.8s
ENH LR LR
comp=Z,5μm,19.0s
MOY Mondy 30.75 304 *e*P **P 14 30 23.8 +0.3**
MOY pmax pmax
comp=Z,156nm,2.8s
LZH Lanzhou 31.61 273⇑P **P 14 30 32.4 +1.1**
LZH pP **pP 14 30 44.0 +2.7**
LZH S **S 14 35 35.3 -2.7**
LZH sS **sS 14 35 55.5 +1.0**
LZH SS **SnSn 14 37 24.0 -1.1**
LZH pmax pmax
comp=Z,67nm,1.0s
LZH pmax pmax
comp=Z,350nm,4.0s
LZH LR LR
comp=N,5μm,14.6s
LZH LR LR
comp=E,5μm,14.6s
LZH LR LR
comp=Z,6μm,15.2s
GTA Gaotai 33.43 281 P **P 14 30 47.8 +0.6**
GTA pP **pP 14 30 57.3 +0.1**
GTA sP **sP 14 31 01.8 +0.4**
GTA PcS **PcS 14 37 14.3 +0.6**
GTA pmax pmax
comp=Z,42nm,1.0s
GTA pmax pmax
comp=Z,470nm,5.7s
GTA LR LR
comp=N,860nm,14.0s
GTA LR LR
comp=E,6μm,16.4s
GTA LR LR
comp=Z,3μm,15.9s
CD2 Chengdu 33.97 265 P **P 14 30 51.6 -0.2**
CD2 pP **pP 14 31 01.3 -0.6**
CD2 sP **sP 14 31 05.3 -0.8**
CD2 PP **PnPn 14 32 05.3 -0.1**
CD2 PcP **PcP 14 33 30.3 +0.9**
CD2 S **S 14 36 12.5 -2.1**
CD2 sS **sS 14 36 28.5 -2.7**
CD2 SS **SnSn 14 38 19.6 -2.9**
CD2 pmax pmax
comp=Z,90nm,0.6s
CD2 pmax pmax
comp=Z,370nm,5.7s
CD2 LR LR
comp=N,4μm,14.2s
CD2 LR LR
comp=E,3μm,14.7s
CD2 LR LR
comp=Z,4μm,14.3s
GYA Guiyang 34.25 255 P **P 14 30 53.3 -1.1**
GYA pP **pP 14 31 05.4 +1.0**
GYA PP **PnPn 14 32 10.0 +1.0**
GYA PcP **PcP 14 33 31.6 +1.2**
GYA S **S 14 36 17.4 -1.7**
GYA sS **sS 14 36 35.0 -0.7**
GYA ScP **ScP 14 37 11.3 -1.3**
GYA SS **SnSn 14 38 25.9 -3.5**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,140nm,4.8s
GYA LR LR
comp=N,560nm,18.6s
GYA LR LR
comp=E,520nm,19.6s
GYA LR LR
comp=Z,550nm,18.4s
QIZ Qiongzhong 36.87 243 P **P 14 31 17.3 +0.5**
QIZ pP **pP 14 31 25.0 -1.9**
QIZ S **S 14 36 56.9 -2.2**
QIZ sS **sS 14 37 14.0 -1.8**
QIZ pmax pmax
comp=Z,24nm,1.7s
QIZ pmax pmax
comp=Z,270nm,5.9s
QIZ LR LR
comp=N,2μm,19.3s
QIZ LR LR
comp=E,1μm,23.5s
QIZ LR LR
comp=Z,2μm,17.3s
QIZ Qiongzhong 36.87 243 PFAKE 14 31 30.0 +13
QIZ LR LR
comp=Z,2μm,21.0s
KMI Kunming 37.89 257 P **P 14 31 26.1 +0.5**
KMI pP **pP 14 31 36.5 +0.7**
KMI sP **sP 14 31 40.8 +0.9**
KMI PP **PnPn 14 32 56.8 +2.9**
KMI S **S 14 37 14.6 -0.4**
KMI sS **sS 14 37 32.4 +0.7**
KMI pmax pmax
comp=Z,54nm,1.4s
KMI pmax pmax
comp=Z,520nm,4.0s
KMI LR LR
comp=N,3μm,15.9s
KMI LR LR
comp=E,2μm,21.9s
KMI LR LR
comp=Z,4μm,16.6s
DAV Davao City (W) 38.27 211 PFAKE 14 31 40.0 +11
DAV LR LR
comp=Z,2μm,19.0s
ZALV Zalesovo Beam 40.42 308 P **P 14 31 46.1 -0.1**
ZALV pmax pmax
comp=Z,44nm,0.5s
ZALV MLR MLR
comp=Z,2μm,18.8s
ZALV Zalesovo Beam 40.42 308 P **P 14 31 46.1 -0.1**
ZALV Zalesovo Beam 40.42 308 P **P 14 31 46.1 -0.1**
comp=Z,44nm,0.5s,baz=88,slow=7.7,SNR=178
ZALV LR LR 14 49 52.2
comp=Z,2μm,18.8s,baz=76,slow=38
WMQ Urumqi 40.75 293⇑ *i*P **P 14 31 49.4 +0.3**
WMQ pP **pP 14 32 00.0 +0.7**
WMQ sP **sP 14 32 05.0 +1.5**
WMQ PP **PnPn 14 33 27.0 -0.4**
WMQ S **S 14 37 56.0 -1.3**
WMQ sS **sS 14 38 14.0 -0.1**
WMQ SS **SS 14 40 52.0 -6.5**
WMQ pmax pmax
comp=Z,65nm,0.8s
WMQ pmax pmax
comp=Z,420nm,4.2s
WMQ LR LR
comp=N,6μm,14.6s
WMQ LR LR
comp=E,7μm,16.7s
WMQ LR LR
comp=Z,5μm,18.2s
NVS Novosibirsk 41.22 310⇑ *i*P **P 14 31 51.5 -1.3**
NVS pmax pmax
comp=N,7.0nm,1.2s
NVS pmax pmax
comp=E,26nm,1.2s
NVS pmax pmax
comp=Z,41nm,1.2s
RSO Redoubt South 41.94 41 P **P 14 32 00.1 +1.3**
comp=Z,108nm,0.8s
KDAK Kodiak Island 42.24 45 *e*P **P 14 32 00.1 -0.9**
comp=Z,37nm,0.8s
KDAK LR LR
comp=Z,2μm,22.0s
KDAK Kodiak Island 42.24 45 P **P 14 32 00.1 -0.9**
comp=Z,179nm,0.6s,SNR=6.5
MYLDM Lahad Datu 43.00 219 P **P 14 32 09.8 +2.2**
comp=Z,50nm,1.2s,comp=Z,1μm
SDKM Sandakan 43.23 221 P **P 14 32 10.2 +0.6**
KKM Kota Kinabalu 43.37 223 PFAKE 14 32 20.0 +9.2
KKM LR LR
comp=Z,1μm,20.0s
KKM Kota Kinabalu 43.37 223 P **P 14 32 12.3 +1.5**
comp=Z,20nm,1.8s
BAKI Biak 43.38 192 P **P 14 32 11.7 +1.0**
comp=Z,49nm,1.1s
MK31 Makanchi Array 43.52 298 *i* P **P 14 32 11.3 -0.4**
MK31 pmax pmax
comp=Z,169nm,1.3s
MKAR Makanchi Array 43.52 298 P **P 14 32 11.6 0.0**
MKAR pmax pmax
comp=Z,27nm,0.8s
MKAR MLR MLR
comp=Z,2μm,19.1s
MKAR Makanchi Array 43.52 298 P **P 14 32 11.6 0.0**
MKAR Makanchi Array 43.52 298 P **P 14 32 11.6 0.0**
comp=Z,27nm,0.8s,baz=80,slow=9.4,SNR=268
MKAR LR LR 14 51 35.8
comp=Z,2μm,19.1s,baz=310,slow=38
TNTI Ternate 43.52 205 P **P 14 32 12.8 +0.9**
comp=Z,54nm,1.1s
PMR Palmer 43.62 40 *e*P **P 14 32 12.3 +0.2**
PMR pmax pmax
comp=Z,49nm,1.3s
PMR Palmer 43.62 40 *e*P **P 14 32 12.3 +0.2**
comp=Z,49nm,1.3s
MNI Manado 43.74 208 P **P 14 32 12.7 -0.9**
comp=Z,65nm,1.2s
SMPI Sarmi 43.84 188 P **P 14 32 15.7 +1.3**
comp=Z,82nm,1.3s,comp=Z,2μm
COLA College 43.98 35 *e*P **P 14 32 15.6 +0.6**
COLA pmax pmax
comp=Z,41nm,0.9s
COLA MLR MLR
comp=Z,1μm,19.0s
COLA College 43.98 35 *e*P **P 14 32 15.6 +0.6**
comp=Z,41nm,0.9s
COLA LR LR
comp=Z,1μm,19.0s
LSA Lhasa 44.00 272 P **P 14 32 17.8 +1.6**
LSA Lhasa 44.00 272 *e*P **P 14 32 17.4 +1.2**
LSA pmax pmax
comp=Z,55nm,0.8s
LSA MLR MLR
comp=Z,2μm,20.0s
LSA Lhasa 44.00 272 *e*P **P 14 32 17.4 +1.2**
comp=Z,55nm,0.8s
LSA LR LR
comp=Z,2μm,20.0s
SWI Sorong 44.01 199 P **P 14 32 16.2 +0.5**
comp=Z,22nm,1.2s
TSM Tawau 44.07 219 P **P 14 32 17.7 +1.4**
JAY Jayapura 44.19 185 P **P 14 32 19.0 +1.7**
comp=Z,28nm,1.1s
ILAR Eielson Array 44.40 35 P **P 14 32 18.5 +0.1**
ILAR Eielson Array 44.40 35 P **P 14 32 18.5 +0.1**
comp=Z,8.2nm,0.7s,baz=264,slow=5.8,SNR=82
ILAR LR LR 14 52 31.5
comp=Z,809nm,19.3s,baz=78,slow=38
CHTO Chiang Mai 44.56 253 *e*P **P 14 32 20.8 +0.6**
CHTO pmax pmax
comp=Z,28nm,0.8s
CHTO MLR MLR
comp=Z,2μm,19.0s
CHTO Chiang Mai 44.56 253 *e*P **P 14 32 20.8 +0.6**
comp=Z,28nm,0.8s
CHTO LR LR
comp=Z,2μm,19.0s
CHTO Chiang Mai 44.56 253 P **P 14 32 21.1 +0.8**
SNR=17
CHTO Chiang Mai 44.56 253 P **P 14 32 20.9 +0.6**
comp=Z,51nm,0.9s,comp=Z,730nm
IMP Imphal 44.58 264 *ex* x 14 32 17.0
KURK Kurchatov 44.78 305*ce*P **P 14 32 21.4 -0.2**
KURK pmax pmax
comp=Z,131nm,2.0s
KURK Kurchatov 44.78 305 *e*P **P 14 32 21.4 -0.2**
comp=Z,59nm,0.5s
KURK LR LR
comp=Z,1μm,20.0s
KURK Kurchatov 44.78 305 P **P 14 32 21.8 +0.1**
SNR=24
KURK Kurchatov 44.78 305 P **P 14 32 21.7 +0.1**
comp=Z,726nm,0.5s,SNR=82
CMAR Chiang Mai Arr 44.80 253 P **P 14 32 22.9 +0.7**
CMAR Chiang Mai Arr 44.80 253 P **P 14 32 22.9 +0.7**
comp=Z,12nm,0.8s,baz=43,slow=7.7,SNR=90
CMAR LR LR 14 52 36.4
comp=Z,1μm,18.0s,baz=56,slow=38
SHL Shillong 45.66 266⇑ *e*PKP **P 14 32 29.2 0.0**
MRSI Marisa 45.72 212 P **P 14 32 29.9 +0.5**
comp=Z,100nm,1.4s,comp=Z,1μm
FAKI Fak Fak 45.77 197 P **P 14 32 28.8 -1.0**
comp=Z,41nm,1.5s
MENT Masta 45.98 37 *e*P **P 14 32 32.3 +1.3**
LUWI Luwuk 46.79 210 P **P 14 32 36.2 -1.6**
comp=Z,39nm,1.0s,comp=Z,641nm
EGAK Eagle 46.84 35 *e*P **P 14 32 37.4 -0.3**
comp=Z,78nm,1.3s
EGAK LR LR
comp=Z,850nm,20.0s
AGT Agartala 47.09 265 *e*PKP **P 14 32 42.0 +1.8**
AGT *ex* x 14 33 35.0
DAWY Dawson 47.72 35 *e*P **P 14 32 44.9 +0.3**
TAPN Taplejung 47.80 271⇑ *i*P **P 14 32 47.0 +1.0**
comp=Z,137nm,0.7s
TAPN Taplejung 47.80 271⇑ *i*P **P 14 32 47.0 +1.0**
comp=Z,137nm,0.7s
ODAN Odare 48.31 271⇑ *i*P **P 14 32 50.7 +0.8**
comp=Z,568nm,1.6s
ODAN Odare 48.31 271⇑ *i*P **P 14 32 50.7 +0.8**
comp=Z,568nm,1.6s
SBUM Sibu 48.49 225 P **P 14 32 51.9 +0.9**
SBUM Sibu 48.49 225 P **P 14 32 50.5 -0.5**
comp=Z,12nm,1.5s
SMKI Samarinda 48.55 217 P **P 14 32 53.7 +2.2**
comp=Z,46nm,1.4s,comp=Z,2μm
JIRN Jiri 48.77 272⇑ *i*P **P 14 32 54.4 +0.8**
comp=Z,22nm,0.7s
JIRN Jiri 48.77 272⇑ *i*P **P 14 32 54.4 +0.8**
comp=Z,22nm,0.7s
VOSK Vostochnaya 48.77 309 P **P 14 32 52.6 -0.3**
VOSK pmax pmax
comp=Z,64nm,1.3s
RAMN Ramite 48.85 271⇑ *i*P **P 14 32 54.7 +0.6**
comp=Z,244nm,0.7s
RAMN Ramite 48.85 271⇑ *i*P **P 14 32 54.7 +0.6**
comp=Z,244nm,0.7s
GUN Gumba 48.87 273⇑ *i*P **P 14 32 55.0 +0.7**
comp=Z,554nm,0.6s
GUN Gumba 48.87 273⇑ *i*P **P 14 32 55.0 +0.7**
comp=Z,554nm,0.6s
BVA0 Borovoye Array 49.02 310 *i* P **P 14 32 55.1 +0.4**
BVA0 pmax pmax
comp=Z,6.0nm,0.8s
BRVK Borovoye 49.07 310*ce*P **P 14 32 55.3 +0.2**
BRVK pmax pmax
comp=Z,59nm,1.2s
BRVK Borovoye 49.07 310 *e*P **P 14 32 54.7 -0.4**
comp=Z,50nm,1.0s
BRVK LR LR
comp=Z,3μm,19.0s
BRVK Borovoye 49.07 310 P **P 14 32 55.6 +0.5**
comp=Z,260nm,0.6s,SNR=35
BRVK Borovoye 49.07 310 P **P 14 32 55.7 +0.6**
SNR=26
ULHL Ulahol 49.16 295 P **P 14 32 56.4 +0.2**
SNR=8.8
INK Inuvik 49.23 29 *e*P **P 14 32 56.3 +0.2**
comp=Z,32nm,0.6s
TKM2 Tokmak 2 49.32 296 P **P 14 32 57.7 +0.2**
TKM2 pmax pmax
comp=Z,67nm,0.8s
TKM2 Tokmak 2 49.32 296 *e*P **P 14 32 57.9 +0.5**
comp=Z,64nm,0.8s
TKM2 LR LR
comp=Z,3μm,20.0s
TKM2 Tokmak 2 49.32 296 P **P 14 32 58.2 +0.7**
SNR=105
KKN Kakani 49.38 273⇑ *i*P **P 14 32 58.8 +0.7**
comp=Z,228nm,0.7s
KKN Kakani 49.38 273⇑ *i*P **P 14 32 58.8 +0.7**
KKN pmax pmax
comp=Z,228nm,0.7s
KKN Kakani 49.38 273⇑ *i*P **P 14 32 58.8 +0.7**
comp=Z,228nm,0.7s
PKI Pulchoki 49.40 273⇑ *i*P **P 14 32 58.7 +0.3**
comp=Z,75nm,0.7s
PKI Pulchoki 49.40 273⇑ *i*P **P 14 32 58.7 +0.3**
PKI pmax pmax
comp=Z,75nm,0.7s
PKI Pulchoki 49.40 273⇑ *i*P **P 14 32 58.7 +0.3**
comp=Z,75nm,0.7s
KDI Kendari 49.54 209 P **P 14 33 00.2 +1.1**
comp=Z,28nm,1.4s
DMN Daman 49.61 273⇑ *i*P **P 14 33 00.5 +0.6**
comp=Z,148nm,0.7s
DMN Daman 49.61 273⇑ *i*P **P 14 33 00.5 +0.6**
comp=Z,148nm,0.7s
GKN Gorkha 49.75 274⇑ *i*P **P 14 33 01.2 +0.4**
comp=Z,80nm,0.6s
GKN Gorkha 49.75 274⇑ *i*P **P 14 33 01.2 +0.4**
comp=Z,80nm,0.6s
CHMS Chumysh 49.86 296 P **P 14 33 01.5 +0.1**
SNR=9.4
KBK Karagaybulak 49.87 296 P **P 14 33 02.1 +0.5**
SNR=56
KZA Kyzart 49.90 295 P **P 14 33 03.1 +1.1**
SNR=26
USP Ospenovka 49.92 297 P **P 14 33 01.9 +0.1**
SNR=28
FRU Bishkek 50.02 296⇑ *i*P **P 14 33 02.4 -0.1**
FRU pmax pmax
comp=Z,188nm,2.2s
AAK Ala-Archa 50.18 296*ce*P **P 14 33 03.9 0.0**
AAK pmax pmax
comp=Z,26nm,0.9s
AAK Ala-Archa 50.18 296 *e*P **P 14 33 03.7 -0.2**
comp=Z,43nm,0.6s
AAK LR LR
comp=Z,4μm,20.0s
AAK Ala-Archa 50.18 296 P **P 14 33 04.0 0.0**
comp=Z,110nm,0.7s,SNR=21
AAK Ala-Archa 50.18 296 P **P 14 33 04.4 +0.4**
SNR=9.9
AAK Ala-Archa 50.18 296 P **P 14 33 04.1 +0.1**
SNR=20
DANN Dangsing 50.22 275⇑ *i*P **P 14 33 05.5 +1.0**
comp=Z,614nm,0.7s
DANN Dangsing 50.22 275⇑ *i*P **P 14 33 05.5 +1.0**
comp=Z,614nm,0.7s
KSM Kuching 50.33 226 *e*P **P 14 33 04.3 -0.8**
comp=Z,58nm,1.3s
KSM LR LR
comp=Z,635nm,22.0s
KSM Kuching 50.33 226 P **P 14 33 07.0 +1.9**
KSM Kuching 50.33 226 P **P 14 33 06.6 +1.5**
comp=Z,36nm,1.4s,comp=Z,621nm
KSH Kashi 50.48 291 P P 14 33 10.1 +3.9
KSH pP pP 14 33 20.0 +3.4
KSH sP sP 14 33 22.9 +2.2
KSH PcP **PcP 14 34 27.0 +3.1**
KSH PP **PP 14 35 05.9 +4.0**
KSH ScP **ScP 14 38 18.8 +1.6**
KSH PcS **PcS 14 38 22.9 +1.6**
KSH S **S 14 40 20.3 +2.6**
KSH ScS **ScS 14 42 55.1 +0.6**
KSH pmax pmax
comp=Z,93nm,2.0s
KSH pmax pmax
comp=Z,310nm,3.5s
KSH LR LR
comp=N,3μm,20.1s
KSH LR LR
comp=E,2μm,18.5s
KSH LR LR
comp=Z,5μm,18.4s
KOLN Koldanda 50.65 274⇑ *i*P **P 14 33 08.4 +0.7**
comp=Z,124nm,0.7s
KOLN Koldanda 50.65 274⇑ *i*P **P 14 33 08.4 +0.7**
comp=Z,124nm,0.7s
EKS2 Erkin-Say 50.65 296 *e*P **P 14 33 07.2 -0.2**
EKS2 pmax pmax
comp=Z,22nm,0.7s
EKS2 MLR MLR
comp=Z,4μm,19.0s
EKS2 Erkin-Say 50.65 296 *e*P **P 14 33 07.2 -0.2**
comp=Z,22nm,0.7s
EKS2 LR LR
comp=Z,4μm,19.0s
EKS2 Erkin-Say 50.65 296 P **P 14 33 07.6 +0.2**
SNR=34
STKI Sintang 50.89 224 P **P 14 33 10.6 +1.3**
comp=Z,26nm,1.4s
AML Almayashu 50.93 296 P **P 14 33 10.5 +0.7**
SNR=30
PMG Port Moresby 51.01 176 PFAKE 14 33 20.0 +10
PMG LR LR
comp=Z,440nm,20.0s
KAPI Kappang 51.59 212 LR LR 14 53 58.2
comp=Z,202nm,20.7s,baz=162,slow=35
BBKI Banjar Baru 52.30 218 P **P 14 33 19.5 -0.3**
comp=Z,45nm,1.4s
KK31 Karatay Array 52.64 298 *i* P **P 14 33 21.7 -0.5**
KK31 pmax pmax
comp=Z,33nm,0.6s
KKAR Karatay Array 52.64 298 *e*P **P 14 33 21.9 -0.2**
KKAR pmax pmax
comp=Z,32nm,0.6s
KKAR Karatay Array 52.64 298 *e*P **P 14 33 21.9 -0.2**
comp=Z,32nm,0.6s
HNR Honiara 53.00 160 PFAKE 14 33 40.0 +15
HNR LR LR
comp=Z,947nm,21.0s
KULM Kulim 53.02 239 *e*P **P 14 33 26.1 +0.9**
comp=Z,53nm,1.4s
KULM LR LR
comp=Z,860nm,20.0s
KULM Kulim 53.02 239 P **P 14 33 26.6 +1.4**

KULM	**Kulim**	53.02	239		P		**P**	14 33 26.3	+1.1
	comp=Z,37nm,1.3s,comp=Z,822nm									
SVE	**Sverdlovsk**	53.03	317	*d*	*i*P		**P**	14 33 25.2	+0.4
SVE					*e*S		S	14 41 13.0	+21
SVE					pmax		pmax			
	comp=Z,100nm,0.8s									
SVE					MLR		MLR			
	comp=Z,2µm,14.0s									
PBKI	**Pangkalan Bun**	53.16	222		P		**P**	14 33 26.7	+0.5
	comp=Z,45nm,1.0s									
DDI	**Dehra Dun**	53.41	280	*ex*			x	14 33 27.5		
SMLA	**Simla**	53.64	282	*i*	P		**P**	14 33 30.2	+0.6
DLBC	**Dease Lake**	53.65	41	*e*	P		**P**	14 33 30.9	+1.5
MYKOM	**Kota Tinggi**	53.75	233		P		**P**	14 33 30.9	+0.3
	comp=Z,27nm,1.6s,comp=Z,549nm									
SOKR	**Solikamsk**	53.89	321	*d*	*i*P		**P**	14 33 31.3	+0.3
SOKR					pmax		pmax			
	comp=Z,60nm,0.9s									
SOKR					MLR		MLR			
	comp=Z,2µm,17.0s									
MMRI	**Maumere**	54.03	207		P		**P**	14 33 32.3	-0.2	
	comp=Z,80nm,1.4s,comp=Z,1µm									
THN	**Thein Dam**	54.03	284	*e*	PKP		**P**	14 33 31.7	-0.7	
BHK	**Bhakra**	54.04	282	*e*	PKP		**P**	14 33 33.0	+0.4	
ARU	**Arti**	54.25	317	*c*	*i*P		**P**	14 33 33.6	-0.1	
ARU								14 34 37.6		
ARU								14 35 31.5		
ARU					S		**S**	14 41 09.8	+1.4	
ARU					SS		**SS**	14 44 49.3	-0.7	
ARU					pmax		pmax			
	comp=Z,149nm,1.7s									
ARU					MLR		MLR			
	comp=Z,3µm,17.0s									
ARU	**Arti**	54.25	317	*e*	P		**P**	14 33 33.4	-0.2	
	comp=Z,63nm,0.8s									
ARU					LR		LR			
	comp=Z,3µm,19.0s									
ARU	**Arti**	54.25	317		P		**P**	14 33 33.0	-0.7	
	comp=Z,502nm,0.8s,SNR=29									
KKR	**Kurukshetra**	54.51	281	*e*	PKP		**P**	14 33 35.3	-0.6	
NDI	**New Delhi**	54.90	279	*e*	PKP		**P**	14 33 38.0	-0.8	
AYAN	**Aya Nagar**	55.07	279	*e*	PKP		**P**	14 33 39.9	-0.2	
AYAN					AMb		AMB	14 33 43.0		
	comp=Z,72nm,1.5s									
BHGR	**Bahadurgarh**	55.10	279	*e*	PKP		**P**	14 33 40.6	+0.4	
AGRA	**Agra**	55.15	277	*e*	PKP		**P**	14 33 40.6	0.0	
AGRA					AMb		AMB	14 33 43.8		
	comp=Z,69nm,0.1s									
ALE	**Alert**	55.25	4		P		**P**	14 33 40.0	-0.6	
	comp=Z,108nm,1.4s,SNR=11									
COEN	**Coen**	55.46	181	*e*	P		**P**	14 33 43.1	+0.3	
	comp=Z,120nm,1.0s									
PPBI	**Pangkal Pinang**	55.63	228		P		**P**	14 33 45.5	+1.3	
	comp=Z,31nm,1.3s									
KUDL	**Kundal**	55.73	279	*e*	PKP		**P**	14 33 44.8	0.0	
KUDL					AMb		AMB	14 33 47.8		
	comp=Z,86nm,1.8s									
PSI	**Prapat**	56.02	239		P		**P**	14 33 47.2	+0.1	
	comp=Z,27nm,1.3s,comp=Z,533nm									
PSI	**Prapat**	56.02	239		LR		LR	15 00 47.8		
	comp=Z,1µm,18.1s,baz=126,slow=39									
KHET	**Khetri**	56.27	279	*e*	PKP		**P**	14 33 48.8	+0.1	
KHET					AMb		AMB	14 33 51.0		
	comp=Z,69nm,1.2s									
SPA0	**Spitsbergen Ar**	56.28	349	*e*	P		**P**	14 33 48.4	+0.4	
KHKI	**Kahang-Kahang**	56.32	215		P		**P**	14 33 48.5	-0.5	
	comp=Z,64nm,1.6s,comp=Z,929nm									
KBS	**Kingsbay**	56.34	350	*e*	P		**P**	14 33 51.1	+2.6	
KBS					AMS		AMS	15 00 43.0		
	comp=Z,560nm,13.2s									
KBS	**Kingsbay**	56.34	350		PFAKE			14 34 00.0	+12	
KBS					LR		LR			
	comp=Z,626nm,19.0s									
RGRI	**Rengat**	56.36	233		P		**P**	14 33 51.6	+2.2	
	comp=Z,156nm,0.5s									
AB31	**Akbulak array**	56.54	309	*i*	P		**P**	14 33 50.6	+0.3	
AB31					pmax		pmax			
	comp=Z,18nm,0.4s									
ABKAR	**Akbulak array**	56.54	309	*e*	P		**P**	14 33 50.4	+0.2	
	comp=Z,29nm,0.6s									
BKNI	**Bangkinang**	56.61	235		P		**P**	14 33 52.1	+0.9	
	comp=Z,115nm,1.1s,comp=Z,1µm									
BYJI	**Banyuwangi**	56.72	216		P		**P**	14 33 52.6	+0.7	
	comp=Z,59nm,1.1s									
AKTO	**Aktyubinsk**	57.11	311		P		**P**	14 33 53.9	-0.4	
AKTO					pmax		pmax			
	comp=Z,3.0nm,0.8s									
SJI	**Sawahan**	57.48	219		P		**P**	14 33 57.2	-0.2	
	comp=Z,45nm,1.8s									
RES	**Resolute Bay**	57.49	16	*e*	P		**P**	14 33 56.1	-0.4	
	comp=Z,54nm,0.8s									
KRKI	**Karangkates**	57.53	218		P		**P**	14 33 56.9	-0.7	
	comp=Z,138nm,0.5s,comp=Z,19µm									
PPI	**Padang Panjang**	57.62	235		P		**P**	14 33 58.2	-0.1	
	comp=Z,14nm,0.7s									
PWJI	**Pagerwojo**	57.71	219		P		**P**	14 33 58.1	-0.8	
	comp=Z,54nm,1.4s									
TGJI	**Tegal**	58.01	222		P		**P**	14 34 02.0	+1.0	
	comp=Z,55nm,1.4s,comp=Z,3µm									
AJM	**Ajmer**	58.02	278	*ex*			x	14 33 59.0		
GSI	**Gunungsitoli**	58.02	239		P		**P**	14 34 01.1	-0.1	
	comp=Z,63nm,1.5s,comp=Z,2µm									
BJII	**Banjamegara**	58.12	221		P		**P**	14 34 01.7	-0.2	
	comp=Z,30nm,1.7s									
LVZ	**Lovozero**	58.65	335		PFAKE			14 34 20.0	+15	
LVZ					LR		LR			
	comp=Z,1µm,19.0s									
LVZ	**Lovozero**	58.65	335		P		**P**	14 34 04.4	-0.5	
	comp=Z,262nm,1.7s,SNR=5.9									
YKA	**Yellowknife Ar**	58.68	32		P		**P**	14 34 05.0	-0.2	
YKA	**Yellowknife Ar**	58.68	32		P		**P**	14 34 04.9	-0.2	
	comp=Z,3.3nm,0.7s,baz=304,slow=6.4,SNR=47									
LEM	**Lembang**	58.74	224		P		**P**	14 34 06.4	+0.1	
	comp=Z,55nm,1.5s									
BLSI	**Bandar Lampung**	58.78	227		P		**P**	14 34 05.6	-0.8	
	comp=Z,63nm,0.4s									
APA	**Apatity**	59.23	335	⇑	*i*P		**P**	14 34 08.2	-0.7	
APA					MLR		MLR			
	comp=Z,2µm,11.0s									
KEV	**Kevo**	59.75	339	*e*	P		**P**	14 34 11.5	-0.9	
KEV					pmax		pmax			
	comp=Z,18nm,0.6s									
KEV	**Kevo**	59.75	339		PFAKE			14 34 30.0	+18	
KEV					LR		LR			
	comp=Z,2µm,21.0s									
KEV	**Kevo**	59.75	339	*ep*			P	14 34 11.5	-0.9	
	comp=Z,18nm,0.6s									
ARCES	**ARCESS Array B**	60.30	339		P		**P**	14 34 15.8	-0.4	
ARCES	**ARCESS Array B**	60.30	339		P		**P**	14 34 15.8	-0.4	
	comp=Z,6.2nm,0.5s,baz=55,slow=6.7,SNR=51									
ARCES					LR		LR	15 05 22.5		
	comp=Z,1µm,18.1s,baz=280,slow=41									
ARE0	**ARCESS Array S**	60.30	339	*e*	P		**P**	14 34 16.1	-0.1	
HYB	**Hyderabad**	60.45	267	*i*	P		**P**	14 34 17.0	-1.0	
KLMR	**Klimovskoe**	60.88	327	*e*	P		**P**	14 34 18.3	-1.9	
KLMR					pmax		pmax			
	comp=Z,53nm,0.9s									
KLMR					MLR		MLR			
	comp=Z,3µm,18.0s									
DAG	**Danmarks Havn**	61.22	356	*i*	P		**P**	14 34 21.5	-0.8	
DAG					pmax		pmax			
	comp=Z,11nm,0.9s									
DAG	**Danmarks Havn**	61.22	356	*i*	P		**P**	14 34 21.5	-0.8	
	comp=Z,109nm,0.9s									
LATR	**Latur**	61.33	270	*e*	PKP		**P**	14 34 24.0	+0.1	
CTA	**Charters Tower**	61.59	178		LR		LR	14 58 17.1		
	comp=Z,333nm,20.2s,baz=356,slow=33									
CTAO	**Charters Tower**	61.59	178		PFAKE			14 34 40.0	+15	
CTAO					LR		LR			
	comp=Z,383nm,21.0s									
TRO	**Tromso**	61.90	341	*e*	P		**P**	14 34 27.4	+0.4	
TRO					AMS		AMS	15 07 30.9		
	comp=Z,1µm,12.5s									
FITZ	**Fitzroy Crossi**	61.98	200	*e*	P		**P**	14 34 27.6	-0.4	
	comp=Z,49nm,1.5s									
FITZ	**Fitzroy Crossi**	61.98	200	*e*	P		**P**	14 34 27.4	-0.7	
	comp=Z,20nm,0.9s									
FITZ	**Fitzroy Crossi**	61.98	200		P		**P**	14 34 27.7	-0.4	
	comp=Z,12nm,0.9s,baz=17,slow=6.5,SNR=10									
FITZ					LR		LR	15 00 30.8		
	comp=Z,267nm,19.6s,baz=283,slow=35									
NLWA	**Neilton Lookou**	62.03	50		PFAKE			14 34 40.0	+12	
NLWA					LR		LR			
	comp=Z,653nm,20.0s									
WRAB	**Tennant Creek**	62.06	190	*e*	P		**P**	14 34 26.9	-1.7	
WRAB					pmax		pmax			
	comp=Z,18nm,0.9s									
WRAB					MLR		MLR			
	comp=Z,489nm,20.0s									
WRAB	**Tennant Creek**	62.06	190	*e*	P		**P**	14 34 26.9	-1.7	
	comp=Z,18nm,0.9s									
WRAB					LR		LR			
	comp=Z,489nm,20.0s									
WRAB	**Tennant Creek**	62.06	190		P		**P**	14 34 27.7	-0.9	
	comp=Z,87nm,1.1s,SNR=6.6									
WRA	**Warramunga Arr**	62.07	190		P		**P**	14 34 27.3	-1.4	
WRA	**Warramunga Arr**	62.07	190		P		**P**	14 34 27.3	-1.4	
	comp=Z,11nm,0.9s,baz=10.0,slow=7.2,SNR=22									
JOF	**Joensuu**	62.77	332		*e*P		**P**	14 34 31.3	-1.6	
JOF					pmax		pmax			
	comp=Z,26nm,0.6s									
JOF	**Joensuu**	62.77	332		*e*p		**P**	14 34 31.3	-1.6	
	comp=Z,26nm,0.6s									
POO	**Poona**	63.28	271	⇑	*i*x		x	14 34 35.0		
	comp=Z,60nm,1.0s									
ABKT	**Ailbek**	63.39	298		P		**P**	14 34 37.7	+0.1	
	comp=Z,190nm,0.7s,SNR=15									
LON	**Longmire**	63.56	50	*e*	P		**P**	14 34 39.7	+1.1	
LON					pmax		pmax			
	comp=Z,38nm,1.7s									
LON	**Longmire**	63.56	50	*e*	P		**P**	14 34 39.7	+1.1	
	comp=Z,38nm,1.7s									
KAD	**Karad**	63.79	270	*e*	PKP		**P**	14 34 40.1	-0.3	
MOS	**Moscow**	64.69	323	*e*	P		**P**	14 34 43.4	-2.3	
MOS					pmax		pmax			
	comp=Z,123nm,1.3s									
MOS					MLR		MLR			
	comp=Z,2µm,17.0s									
KAF	**Kangasniemi**	65.05	333	*e*	P		**P**	14 34 46.0	-1.9	
KAF					pmax		pmax			
	comp=Z,21nm,0.7s									
KAF	**Kangasniemi**	65.05	333	*e*	p		**P**	14 34 46.0	-1.9	
	comp=Z,21nm,0.7s									
HAWA	**Hanford**	65.06	49		PFAKE			14 35 00.0	+12	
HAWA					LR		LR			
	comp=Z,455nm,20.0s									
NEW	**Newport**	65.32	47	*e*	P		**P**	14 34 51.4	+1.4	
	comp=Z,17nm,1.0s									
NEW					LR		LR			
	comp=Z,749nm,20.0s									
NEW	**Newport**	65.32	47	⇑	P		**P**	14 34 51.2	+1.1	
	baz=65									
OBN	**Obninsk**	65.55	323	α	*i*P		**P**	14 34 50.9	-0.4	
OBN					*e**PP		**pP**	14 35 01.7	-0.2	
OBN					*e*SP		**sP**	14 35 05.4	-0.6	
OBN					*e*			14 35 22.4		
OBN					*e*S		**S**	14 43 34.5	+0.8	
OBN					pmax		pmax			
	comp=Z,42nm,1.1s									
OBN					MLR		MLR			
	comp=Z,2µm,17.0s									
OBN	**Obninsk**	65.55	323		*e*P		**P**	14 34 50.8	-0.4	
	comp=Z,33nm,0.8s									
OBN					LR		LR			
	comp=Z,2µm,20.0s									
VRHR	**Novokhopersk**	65.58	317		*e*P		P	14 34 47.8	-3.8	
VRHR					pmax		pmax			
	comp=N,10.0nm,0.6s									
VRHR					pmax		pmax			
	comp=Z,30nm,0.6s									
VRHR					pmax		pmax			
	comp=E,6.0nm,0.4s									
VRHR					MLR		MLR			
	comp=N,910nm,17.0s									
VRHR					MLR		MLR			
	comp=E,1µm,17.0s									
VRHR					MLR		MLR			
	comp=Z,3µm,17.0s									
FINES	**FINESS Array B**	65.59	332		P		**P**	14 34 51.1	-0.3	
FINES	**FINESS Array B**	65.59	332		P		**P**	14 34 51.1	-0.3	
	comp=Z,49nm,0.6s,baz=48,slow=7.9,SNR=257									
FINES					LR		LR	15 06 48.0		
	comp=Z,3µm,18.6s,baz=220,slow=39									
A12A	**Yaak River Ran**	65.72	45	⇑	P		**P**	14 34 53.7	+1.1	
	baz=66									
ASAR	**Alice Springs**	65.79	190		P		**P**	14 34 52.5	-0.7	
ASAR	**Alice Springs**	65.79	190		P		**P**	14 34 52.5	-0.7	
	comp=Z,5.2nm,0.9s,baz=360,slow=4.8,SNR=23									
YBH	**Yreka Blue Hor**	65.86	55	*e*	P		**P**	14 34 55.2	+1.5	
	comp=Z,16nm,1.1s									
STOK	**Stokkvaagen**	65.86	341	*e*	P		**P**	14 34 56.2	+3.1	
SUMG	**Summit**	65.93	1	*e*	P		**P**	14 34 54.4	+0.4	
SUMG					pmax		pmax			
	comp=Z,63nm,0.6s									
SUMG	**Summit**	65.93	1	*e*	P		**P**	14 34 54.4	+0.4	
	comp=Z,63nm,0.6s									
SUMG	**Summit**	65.93	1	*i*	P		**P**	14 34 54.5	+0.4	
	comp=Z,56nm,0.7s									
C11A	**Tepee Creek (N**	66.04	47	⇓	P		**P**	14 34 55.7	+1.0	
	baz=66									
A13A	**Flathead Natio**	66.38	45	⇓	P		**P**	14 34 57.9	+1.0	
	baz=66									
MBWA	**Marble Bar**	66.56	205		PFAKE			14 35 10.0	+12	
MBWA					LR		LR			
	comp=Z,349nm,19.0s									
WALA	**Waterton Lakes**	66.57	45	*e*	P		**P**	14 34 58.9	+0.8	
	comp=Z,0.4nm,0.9s									
WDC	**Whiskeytown Da**	66.63	56	*e*	P		**P**	14 34 59.2	+0.7	
WDC					pmax		pmax			
	comp=Z,23nm,1.1s									
WDC	**Whiskeytown Da**	66.63	56	*e*	P		**P**	14 34 59.2	+0.7	
	comp=Z,23nm,1.1s									
B13A	**Whitefish**	66.69	45	⇑	P		**P**	14 34 59.5	+0.7	
	baz=66,SNR=12									
VSR	**Storozhevoye**	66.74	319	*e*	P		**P**	14 34 58.9	-0.1	
VSR					pmax		pmax			
	comp=N,5.0nm,0.6s									
VSR					pmax		pmax			
	comp=E,8.0nm,0.6s									
VSR					pmax		pmax			
	comp=Z,30nm,0.6s									
VSR					MLR		MLR			
	comp=N,1µm,16.0s									
VSR					MLR		MLR			
	comp=E,990nm,16.0s									
VSR					MLR		MLR			
	comp=Z,2µm,16.0s									
DZM	**Mont Dzumac**	66.82	157	*e*	P		**P**	14 35 02.5	+2.7	
	comp=Z,36nm,1.4s									
DZM					*e*S		**S**	14 43 48.8	-1.1	
	comp=Z,421nm,26.1s									
DZM					*e*LQ		LQ	14 52 02.4		
	comp=Z,2µm,27.9s									
DZM					*e*LR		LR	14 55 11.5		
	comp=Z,875nm,22.0s									
DZM	**Mont Dzumac**	66.82	157		P		**P**	14 35 01.0	+1.2	
DZM	**Mont Dzumac**	66.82	157		P		**P**	14 35 01.0	+1.2	
	comp=Z,9.5nm,1.1s,baz=324,slow=21,SNR=3.3									
BSMT	**Bassoo Peak**	66.83	46	*e*	P		**P**	14 35 01.6	+1.7	
	comp=Z,7.8nm,0.9s									
VORD	**Divnogorie**	66.83	318	*e*	P		**P**	14 34 58.9	-0.7	
A14A	**Double T Ranch**	66.88	44	⇑	P		**P**	14 35 00.6	+0.5	
	baz=67									
D12A	**Red Ives Fores**	67.00	47	⇑	P		**P**	14 35 01.4	+0.5	
	baz=67									
MSVF	**Nonsavu**	67.03	145		PFAKE			14 35 10.0	+8.8	
MSVF					LR		LR			
	comp=Z,1µm,19.0s									
C13A	**Hot Springs**	67.05	46	⇑	P		**P**	14 35 01.7	+0.6	
	baz=67									
JTMT	**Jette**	67.17	46	*e*	P		**P**	14 35 03.1	+1.1	
	comp=Z,10nm,0.9s									
MAK	**Makhachkala**	67.19	308	*e*	P		**P**	14 35 00.9	-1.0	
MAK					*e*			14 35 30.3		
MAK					*e*			14 37 27.5		
MAK					*e*S		**S**	14 43 52.1	-1.8	
MAK					*e*			14 44 59.7		
MAK					pmax		pmax			
	comp=Z,630nm,1.8s									
MOD	**Modoc**	67.22	54	*e*	P		**P**	14 35 04.1	+1.7	
	comp=Z,12nm,1.0s									
A15A	**Johnson Ranch,**	67.23	44	⇓	P		**P**	14 35 02.6	+0.2	
	baz=67									
BMO	**Blue Mountains**	67.23	50	*e*	P		**P**	14 35 02.9	+0.5	
BMO					pmax		pmax			
	comp=Z,6.0nm,0.9s									
BMO					MLR		MLR			
	comp=Z,464nm,20.0s									
BMO	**Blue Mountains**	67.23	50	*e*	P		**P**	14 35 02.9	+0.5	
	comp=Z,5.7nm,0.9s									
BMO					LR		LR			
	comp=Z,464nm,20.0s									
E12A	**Beaver Dam Sad**	67.27	48	⇓	P		**P**	14 35 03.3	+0.6	
	baz=67									
B14A	**Marquette Ranc**	67.33	45	⇑	P		**P**	14 35 03.1	+0.1	
	baz=67,SNR=8.7									
C14A	**Swan Lake**	67.44	46	⇑	P		**P**	14 35 04.2	+0.5	
	baz=67									
SWMT	**Swartz Lake**	67.46	46	*e*	P		**P**	14 35 04.7	+0.8	
	comp=Z,22nm,1.0s									
D13A	**Huson**	67.47	46	⇓	P		**P**	14 35 04.1	+0.3	
	baz=67									
SCO	**Scoresbysund**	67.59	355	*e*	P		**P**	14 35 04.6	+0.5	
SCO					pmax		pmax			
	comp=Z,10.0nm,1.0s									
SCO	**Scoresbysund**	67.59	355	*i*	P		**P**	14 35 04.6	+0.5	
	comp=Z,10nm,1.0s									
B15A	**Bradely Ranch,**	67.73	45	⇓	P		**P**	14 35 06.0	+0.5	
	baz=68,SNR=7.2									
A16A	**West Butte Ran**	67.84	44	⇓	P		**P**	14 35 06.6	+0.4	
	baz=68									
F12A	**Elk City**	67.84	48	⇓	P		**P**	14 35 06.7	+0.4	
	baz=68									
SLMT	**Seeley Lake**	67.90	46	*e*	P		**P**	14 35 07.2	+0.6	
	comp=Z,34nm,1.1s									
WVOR	**Wild Horse Val**	67.91	52	*e*	P		**P**	14 35 06.9	+0.2	
WVOR					pmax		pmax			
	comp=Z,11nm,1.0s									
WVOR	**Wild Horse Val**	67.91	52	*e*	P		**P**	14 35 06.9	+0.2	
	comp=Z,11nm,1.0s									
MSO	**Missoula**	67.91	46	*e*	P		**P**	14 35 08.4	+1.7	
	comp=Z,9.9nm,1.0s									
MSO					LR		LR			
	comp=Z,274nm,20.0s									
MSO	**Missoula**	67.91	46	⇑	P		**P**	14 35 07.0	+0.4	
	baz=68									
D14A	**Greenough**	67.99	46	⇓	P		**P**	14 35 07.3	+0.1	
	baz=68									
E13A	**Victor**	68.01	47	⇑	P		**P**	14 35 07.9	+0.6	
	baz=68									
C15A	**Salmond Ranch,**	68.04	45	⇓	P		**P**	14 35 08.1	+0.6	
	baz=68,SNR=18									
B16A	**M & M Farms, S**	68.12	44	⇑	P		**P**	14 35 08.0	+0.1	
	baz=68,SNR=18									
G12A	**Big Creek, Yel**	68.19	49	⇑	P		**P**	14 35 08.7	+0.2	
	baz=68									
CHMT	**Chamberlain Mo**	68.23	46	*e*	P		**P**	14 35 09.9	+1.2	
	comp=Z,2.5nm,0.7s									
A17A	**Triple J Farms**	68.30	43	⇑	P		**P**	14 35 09.2	+0.1	
	baz=68,SNR=9.9									
F13A	**Darby**	68.33	48	⇑	P		**P**	14 35 09.7	+0.4	
	baz=68									
E14A	**Clinton**	68.41	47	⇑	P		**P**	14 35 10.0	+0.2	
	baz=68									
C16A	**Fuhringer Ranc**	68.48	45	⇓	P		**P**	14 35 10.5	+0.4	
	baz=68,SNR=20									
D15A	**Lincoln**	68.54	46	⇓	P		**P**	14 35 11.0	+0.3	
	baz=68									
FFC	**Flin Flon**	68.61	35	*ce*	P		**P**	14 35 11.3	+0.5	
FFC	**Flin Flon**	68.61	35	*e*	P		**P**	14 35 10.3	-0.4	
	comp=Z,15nm,0.8s									
FFC					LR		LR			
	comp=Z,919nm,22.0s									
FFC	**Flin Flon**	68.61	35		P		**P**	14 35 11.8	+1.0	
	comp=Z,114nm,0.8s,SNR=5.7									
B17A	**L&G Farms, Che**	68.66	44	⇓	P		**P**	14 35 11.7	+0.4	
	baz=68									
A18A	**Metzger Ranch,**	68.75	43	⇓	P		**P**	14 35 12.1	+0.3	
	baz=68									
H12A	**Diamond D Ranc**	68.81	49	⇑	P		**P**	14 35 11.6	-0.8	
	baz=69,SNR=10									
G13A	**Cobalt**	68.82	48	⇑	P		**P**	14 35 12.8	+0.3	
	baz=69									
F14A	**Wisdom**	68.85	47	⇑	P		**P**	14 35 12.5	-0.1	
	baz=69									
E15A	**Deer Lodge**	68.86	46	⇓	P		**P**	14 35 12.7	+0.1	
	baz=69,SNR=8.5									
MFID	**Camas Ranch**	68.95	50	*e*	P		**P**	14 35 15.7	+2.5	
	comp=Z,9.1nm,1.0s									
MFID	**Camas Ranch**	68.95	50	⇓	P		**P**	14 35 13.5	+0.3	
	baz=69									
D16A	**Dana Ranch, Ca**	69.07	45	⇑	P		**P**	14 35 14.1	+0.2	
	baz=69,SNR=5.6									
C17A	**Wharram Farm,**	69.10	44	⇑	P		**P**	14 35 14.0	0.0	
	baz=69									
WCN	**Washoe City**	69.11	56	*e*	P		**P**	14 35 15.2	+0.8	
WCN					pmax		pmax			
	comp=Z,12nm,1.0s									
WCN	**Washoe City**	69.11	56	*e*	P		**P**	14 35 15.2	+0.8	
	comp=Z,12nm,1.0s									
WCN	**Washoe City**	69.11	56	⇓	P		**P**	14 35 15.4	+1.1	
	baz=69									
I12A	**Atlanta**	69.11	50	⇑	P		**P**	14 35 15.0	+0.7	
	baz=69,SNR=10.0									
HRY	**Holter Researc**	69.12	46	*e*	P		**P**	14 35 15.4	+1.2	
	comp=Z,14nm,0.7s									
B18A	**Beardsley Farm**	69.12	43	⇑	P		**P**	14 35 14.6	+0.5	
	baz=69									
H13A	**Challis**	69.14	49	⇓	P		**P**

comp=Z,531nm,20.0s
HLID Hailey 69.67 49 ⇑P P 14 35 18.1 +0.3
baz=70
ISAL Salakas 69.69 328 eP P 14 35 17.4 +0.1
ISAL AMB AMB 14 35 18.5
comp=Z,12nm,1.2s
ISAL Salakas 69.69 328 eP P 14 35 17.4 +0.1
ISAL AMB AMB 14 35 18.5
comp=Z,12nm,1.2s
MICGM Minsk 69.73 326⇓ eP P 14 35 16.0 -1.6
G15A Dillon 69.74 47 ⇓P P 14 35 18.8 +0.6
baz=70,SNR=21
MNK Minsk 69.75 326⇓ eP P 14 35 16.0 -1.8
MNK pmax pmax
comp=Z,110nm,0.8s
MNK MLR MLR
comp=Z,9μm,18.0s
MNK MLR MLR
comp=N,5μm,14.0s
A20A Cobblestone Ra 69.75 42 ⇑P P 14 35 18.1 +0.1
baz=70
MCMT McKenzie Canyo 69.75 48 P P 14 35 19.7 +1.4
comp=N,2.6nm,1.0s
ONI Oni 69.78 309 P P 14 35 19.7 +1.4
E17A Martinsdale 69.80 45 ⇑P P 14 35 18.7 +0.2
baz=70
IIGN Ignalina 69.81 327 eP P 14 35 18.2 +0.1
IIGN AMB AMB 14 35 19.2
comp=Z,18nm,1.5s
IIGN Ignalina 69.81 327 eP P 14 35 18.2 +0.1
IIGN AMB AMB 14 35 19.2
comp=Z,18nm,1.5s
F16A Kennard Place, 69.81 46 ⇑P P 14 35 18.7 +0.2
baz=70
D18A Linhart Farms, 69.88 44 ⇓P P 14 35 19.2 +0.3
baz=70
BOZ Bozeman (W) 69.90 46 eP P 14 35 19.0 -0.1
BOZ pmax pmax
comp=Z,11nm,0.6s
BOZ MLR MLR
comp=Z,389nm,22.0s
BOZ Bozeman (W) 69.90 46 eP P 14 35 19.0 -0.1
comp=Z,11nm,0.6s
BOZ LR LR
comp=Z,389nm,22.0s
BOZ Bozeman (W) 69.90 46 ⇓P P 14 35 20.1 +1.0
baz=70,SNR=36
NAGCM Naroch 69.90 327 e P 14 35 16.0 -2.7
J13A Cove Ranch, Pi 69.91 49 ⇑P P 14 35 19.5 +0.4
baz=70,SNR=6.8
C19A Slack Wire Ran 69.92 43 ⇑P P 14 35 20.0 +0.9
baz=70
I14A Mackay 69.98 49 ⇓P P 14 35 20.1 +0.4
baz=70
B20A Solberg Farm, 69.99 42 ⇓P P 14 35 19.7 +0.2
baz=70
H15A Lima 70.00 48 ⇑P P 14 35 20.2 +0.4
baz=70
G16A Moss Hill, Enn 70.07 47 ⇑P P 14 35 20.3 +0.2
baz=70
A21A Bergtoll Ranch 70.17 41 ⇑P P 14 35 20.9 +0.4
baz=70,SNR=7.6
E18A Harlowton 70.23 45 ⇑P P 14 35 21.6 +0.5
baz=70
F17A Fitzpatrick Pl 70.26 46 ⇓P P 14 35 21.8 +0.5
baz=70
J14A Carey 70.33 49 ⇓P P 14 35 23.3 +1.6
baz=70,SNR=8.4
D19A Cripps Ranch, 70.38 44 ⇓P P 14 35 22.6 +0.7
baz=70
C20A Veseth Ranch, 70.47 43 ⇑P P 14 35 23.1 +0.6
baz=70
AKH Akhalkalaki 70.49 308 P P 14 35 18.9 -3.9
B21A Ellsworth Farm 70.50 42 ⇓P P 14 35 23.2 +0.6
baz=70
QLMT Earthquake Lak 70.53 47 P P 14 35 23.9 +0.9
comp=Z,1.1nm,0.8s
GNI Garni 70.54 307 eP P 14 35 24.6 +1.5
GNI Garni 70.54 307 eP P 14 35 24.2 +1.1
comp=Z,38nm,0.9s
GNI LR LR
comp=Z,808nm,19.0s
NVAR Mina Array Bea 70.54 56 P P 14 35 24.4 +1.1
NVAR Mina Array Bea 70.54 56 P P 14 35 24.4 +1.1
comp=Z,4.4nm,0.7s,baz=291,slow=6.2,SNR=18
NVAR LR LR 15 04 26.5
comp=Z,259nm,20.7s,baz=48,slow=34
G17A Pierce Place, 70.59 46 ⇑P P 14 35 24.1 +0.8
baz=70
NB2 NORSAR Subarra 70.60 338 P P 14 35 22.4 -0.6
baz=35,slow=6.5
NB2 NORSAR Subarra 70.60 338 P P 14 35 22.4 -0.6
comp=Z,29nm,0.9s,baz=35,slow=6.5
NOA NORSAR Array B 70.60 338 P P 14 35 22.3 -0.7
NOA NORSAR Array B 70.60 338 P P 14 35 22.3 -0.7
comp=Z,14nm,0.7s,baz=36,slow=6.1,SNR=9.3
A22A Carney Farms, 70.67 41 ⇑P P 14 35 23.7 +0.1
baz=70,SNR=11
MLAC Mammoth Lakes 70.70 57 ⇑P P 14 35 24.3 0.0
baz=70
H16A Russell Place, 70.71 47 ⇓P P 14 35 24.1 0.0
baz=70
NC602 NORSAR Array S 70.75 337 eP P 14 35 28.9 +5.0
F18A Big Timber 70.76 45 ⇓P P 14 35 24.8 +0.4
baz=71,SNR=6.0
D20A Manuel Ranch, 70.81 44 ⇑P P 14 35 24.9 +0.4
baz=71
GCMT Greycliff 70.86 45 eP P 14 35 25.4 +0.5
comp=Z,8.6nm,0.8s
YMR Madison River 70.89 47 eP P 14 35 27.4 +2.2
comp=Z,29nm,1.2s
E19A Rath Farm, Rou 70.89 44 ⇑P P 14 35 25.6 +0.6
baz=71
J15A Blackfoot 70.89 49 ⇑P P 14 35 25.9 +0.7
baz=71
SFJD Kangerlussuaq 70.97 6 eP P 14 35 24.9 -0.2
comp=Z,37nm,1.3s
SFJD LR LR
comp=Z,1μm,20.0s
SFJD Kangerlussuaq 70.97 6 i P P 14 35 26.2 +1.2
comp=Z,9.1nm,1.3s
K14A Jones Ranch, D 71.01 50 ⇑P P 14 35 26.5 +0.6
baz=71
YNR Norris Junctio 71.01 47 P P 14 35 26.5 +0.5
comp=Z,25nm,1.2s
YFT Old Faithful 71.10 47 eP P 14 35 30.0 +3.4
comp=Z,22nm,1.0s
I16A Newdale 71.11 48 ⇑P P 14 35 27.9 +1.4
baz=71,SNR=8.1
E20A Meyer Farm, Mu 71.20 44 ⇓P P 14 35 28.1 +1.2
baz=71
F19A Roth Farm, Mol 71.20 45 ⇑P P 14 35 27.8 +0.8
baz=71
G18A Lazy EL Ranch, 71.22 46 ⇑P P 14 35 28.6 +1.4
baz=71
LKWY Lake 71.26 47 eP P 14 35 27.6 0.0
LKWY pmax pmax
comp=Z,14nm,1.0s
LKWY MLR MLR
comp=Z,707nm,22.0s
LKWY Lake 71.26 47 eP P 14 35 27.6 0.0
comp=Z,14nm,1.0s
LKWY LR LR
comp=Z,707nm,22.0s
SOC Sochi 71.27 312 c iP P 14 35 27.3 0.0
SOC eS S 14 44 43.2 +1.0
SOC eSSS SSS 14 52 27.5
SOC pmax pmax
comp=Z,29nm,0.6s
H17A Grant Village 71.28 47 ⇓P P 14 35 28.9 +1.3
baz=71
IMW Indian Meadow 71.40 47 eP P 14 35 29.7 +1.3
comp=Z,14nm,0.8s
FLWY Flagg Ranch 71.41 47 eP P 14 35 30.0 +1.6
comp=Z,28nm,1.3s
J16A Bone 71.43 48 ⇓P P 14 35 28.4 -0.1
baz=71
DCID1 Drake Creek 71.46 48 P P 14 35 30.4 +1.7
comp=Z,34nm,1.0s
B23A Brockton 71.48 41 ⇑P P 14 35 28.7 +0.2
baz=71
RLMT Red Lodge 71.51 46 eP P 14 35 28.7 -0.3
comp=Z,6.0nm,0.8s
RLMT LR LR
comp=Z,603nm,21.0s
RLMT Red Lodge 71.51 46 ⇓P P 14 35 29.4 +0.4
baz=71

RRI2 Red Ridge 71.55 48 eP P 14 35 31.8 +2.5
comp=Z,110nm,1.6s
I17A Pilgrim Ck. 71.58 47 ⇑P P 14 35 30.5 +1.1
baz=71
H18A Shoshone NF, C 71.59 46 ⇑P P 14 35 30.2 +0.7
baz=71
MOOW Moose Ponds 71.60 47 eP P 14 35 30.8 +1.2
comp=Z,12nm,1.1s
VES Vestal, Richgr 71.66 58 ⇓P P 14 35 29.9 +0.2
baz=72
F20A Billings 71.66 45 ⇑P P 14 35 30.2 +0.4
baz=72
TPAW Teton Pass 71.66 48 eP P 14 35 30.9 +1.0
comp=Z,27nm,1.3s
CLDR Caldiran 71.67 306 eP P 14 35 29.9 -0.1
K16A Soda Springs 71.73 49 ⇑P P 14 35 31.2 +0.9
baz=72
ANN Anapa 71.73 314 eP P 14 35 29.4 -0.6
ANN pmax pmax
comp=Z,73nm,1.5s
ANN MLR MLR
comp=N,644nm,15.0s
ANN MLR MLR
comp=E,675nm,15.0s
ANN MLR MLR
comp=Z,884nm,15.0s
LOHW Long Hollow 71.77 48 eP P 14 35 31.4 +0.9
comp=Z,34nm,1.7s
D22A Cohagen 71.77 43 ⇑P P 14 35 30.9 +0.6
baz=72
PKM Peak Mountain 71.77 59 ⇑P P 14 35 31.7 +1.0
baz=72
SNOW Snow King Moun 71.78 48 eP P 14 35 33.1 +2.4
comp=Z,11nm,0.8s
WBK Wadi Bani Khal 71.79 284 P P 14 35 32.2 +1.5
SNR=7.8
REDW Red Top Meadow 71.80 48 P P 14 35 30.8 0.0
comp=Z,22nm,1.2s
AKASG Malin Array Be 71.80 323 P P 14 35 30.2 -0.2
AKASG pmax pmax
comp=Z,21nm,0.5s
AKASG Malin Array Be 71.80 323 P P 14 35 30.1 -0.2
AKASG Malin Array Be 71.80 323 P P 14 35 30.1 -0.2
comp=Z,21nm,0.5s,baz=42,slow=6.0,SNR=131
L15A Malad City 71.81 50 ⇑P P 14 35 31.2 +0.5
baz=72
KIEV Kiev 71.82 323 eP P 14 35 30.1 -0.3
KIEV pmax pmax
comp=Z,31nm,0.7s
KIEV MLR MLR
comp=Z,2μm,19.0s
KIEV Kiev 71.82 323 eP P 14 35 30.1 -0.3
comp=Z,31nm,0.7s
KIEV LR LR
comp=Z,2μm,19.0s
C23A Lambert 71.83 42 ⇑P P 14 35 31.1 +0.5
baz=72
DGMT Dagmar 71.86 41 eP P 14 35 30.3 -0.5
comp=Z,16nm,0.7s
DGMT LR LR
comp=Z,1μm,22.0s
DGMT Dagmar 71.86 41 ⇑P P 14 35 31.3 +0.5
baz=72
J17A Brown Place, J 71.87 48 ⇓P P 14 35 31.9 +0.7
baz=72
CWC Cottonwood Cre 71.92 57 ⇑P P 14 35 32.1 +0.6
baz=72
AGRB Hanur-Agry 71.95 307 eP P 14 35 31.5 -0.2
H19A Powell 71.96 46 ⇓P P 14 35 32.0 +0.4
baz=72
SUW Suwalki 72.00 328 eP P 14 35 31.6 +0.2
SUW Suwalki 72.00 328 eP P 14 35 31.6 +0.2
SUW Suwalki 72.00 328 eP P 14 35 31.6 +0.2
G20A Bridger 72.01 45 ⇓P P 14 35 32.1 +0.3
baz=72
GRAC Grapevine Rang 72.01 56 ⇑P P 14 35 33.0 +1.1
baz=72,SNR=7.0
M15A Larsen Ranch, 72.12 50 ⇓P P 14 35 33.4 +0.8
baz=72,SNR=8.3
I18A Diamond G Ranc 72.14 47 ⇓P P 14 35 33.3 +0.4
baz=72
ISA Isabella 72.15 58 P P 14 35 31.0 -1.8
ISA pmax pmax
comp=Z,8.0nm,1.0s
ISA Isabella 72.15 58 P P 14 35 31.0 -1.8
comp=Z,7.7nm,1.0s
ISA Isabella 72.15 58 ⇑P P 14 35 33.4 +0.6
baz=72
SMDO Samad 72.18 285 P P 14 35 34.3 +1.2
SNR=6.4
KONO Kongsberg 72.20 338 PFAKE 14 35 40.0 +7.4
KONO LR LR
comp=Z,2μm,19.0s
D23A Lindsay 72.25 42 ⇑P P 14 35 33.6 +0.4
baz=72
R11A Troy Canyon, C 72.26 54 ⇑P P 14 35 34.3 +0.8
baz=72,SNR=9.3
ARVC Arvin 72.26 59 ⇓P P 14 35 34.7 +1.3
baz=72
VANB Van 72.33 306 eP P 14 35 33.1 -0.8
L16A Fish Haven 72.34 49 ⇑P P 14 35 34.9 +0.9
baz=72
J18A Kendall Valley 72.35 48 ⇓P P 14 35 34.8 +0.7
baz=72
E22A Miles City 72.37 43 ⇑P P 14 35 34.5 +0.6
baz=72
I19A Meeteetse 72.37 46 ⇓P P 14 35 35.0 +0.8
baz=72
HOQ Hoqain 72.39 286 P P 14 35 34.9 +0.6
SNR=6.2
C24A Savage 72.39 41 ⇑P P 14 35 34.8 +0.8
baz=72
HATD Hatta, Dubai 72.46 288 P P 14 35 35.4 +0.7
SNR=9.8
MPMC Manual Prospec 72.53 57 ⇓P P 14 35 35.5 +0.3
baz=72,SNR=6.6
HWUT Hardware Ranch 72.53 50 eP P 14 35 36.5 +1.3
comp=Z,76nm,1.9s
HWUT LR LR
comp=Z,594nm,21.0s
JMDO Jabal Madar 72.56 285 P P 14 35 36.2 +0.8
SNR=8.4
ASHO Ashiyiah 72.60 288 P P 14 35 36.3 +0.7
SNR=6
L17A Pokeville 72.61 49 ⇑P P 14 35 36.7 +1.1
baz=72
H20A Greybull 72.61 46 ⇑P P 14 35 37.0 +1.6
baz=72
F22A Rosebud 72.66 44 ⇑P P 14 35 36.2 +0.6
baz=72
FURC Furnace Creek, 72.66 57 ⇓P P 14 35 36.4 +0.7
baz=72,SNR=8.1
M16A Huntsville 72.69 50 ⇓P P 14 35 37.1 +1.0
baz=72
NAZ Nazwa, Dubai 72.69 288 P P 14 35 36.2 +0.1
SNR=5.4
EZM Erzurum 72.70 308 eP P 14 35 37.8 +1.6
K18A Toltan Ranch, 72.72 48 ⇓P P 14 35 37.2 +1.0
baz=72
D24A Glendive 72.73 42 ⇑P P 14 35 37.2 +1.2
baz=72
DUG Dugway 72.73 51 eP P 14 35 37.0 +0.8
DUG pmax pmax
comp=Z,26nm,1.1s
DUG MLR MLR
comp=Z,494nm,21.0s
DUG Dugway 72.73 51 eP P 14 35 37.0 +0.8
comp=Z,26nm,1.1s
DUG LR LR
comp=Z,494nm,21.0s
DUG Dugway 72.73 51 ⇓P P 14 35 36.5 +0.3
baz=72,SNR=14
LRMC Laurel Mountai 72.77 58 ⇑P P 14 35 37.5 +0.9
baz=73
J19A Crowheart 72.85 47 ⇓P P 14 35 38.1 +1.1
baz=73
O15A The Old Anders 72.87 51 ⇓P P 14 35 38.2 +1.1
baz=73
BW06 Boulder Array 72.90 48 PFAKE 14 35 50.0 +13
BW06 LR LR
comp=Z,558nm,22.0s
BW06 Boulder Array 72.90 48 ⇓P P 14 35 37.9 +0.6
baz=73
PDAR Pinedale Array 72.90 48 P P 14 35 37.5 +0.1
PDAR Pinedale Array 72.90 48 P P 14 35 37.5 +0.1
comp=Z,3.3nm,0.6s,baz=276,slow=0.8,SNR=25
EDW2 Edwards Air Fo 72.95 58 ⇓P P 14 35 37.7 +0.1
baz=73,SNR=7.6

BSY Bisya 72.99 285 P P 14 35 38.8 +0.9
SNR=12
G22A Birney 73.02 44 ⇑P P 14 35 38.4 +0.5
baz=73
H21A Big Horn, Sher 73.02 45 ⇑P P 14 35 38.1 +0.1
baz=73
CUKT Cukurca 73.06 305 eP P 14 35 38.0 -0.3
N16A Rees Ranch, Co 73.08 50 ⇑P P 14 35 39.0 +0.6
baz=73
BAYT Ayd¨–ntepe-Bay 73.10 309 eP P 14 35 38.0 -0.5
ARQ Araqi 73.11 286 P P 14 35 39.7 +1.2
SNR=7.6
E24A Baker 73.12 42 ⇓P P 14 35 38.7 +0.3
baz=73
M17A Scullys Gap (B 73.13 49 ⇓P P 14 35 39.7 +1.0
baz=73
F23A Volborg 73.13 43 ⇓P P 14 35 39.0 +0.6
baz=73
L18A Fontenelle, Gr 73.19 49 ⇑P P 14 35 39.5 +0.5
baz=73
JLU Jordanelle 73.25 50 eP P 14 35 40.6 +1.1
comp=Z,19nm,1.3s
J20A Shoshoni 73.32 46 ⇑P P 14 35 39.9 +0.2
baz=73,SNR=9.8
STKA Stephens Creek 73.33 182 P P 14 35 39.9 +0.4
STKA Stephens Creek 73.33 182 eP P 14 35 39.7 +0.3
comp=Z,3.0nm,0.9s
STKA Stephens Creek 73.33 182 P P 14 35 39.9 +0.4
comp=Z,4.6nm,1.1s,baz=297,slow=6.1,SNR=4.4
R13A O'Grain Ranch, 73.34 54 ⇓P P 14 35 40.5 +0.5
baz=73
N17A Moffit Pass 73.39 50 ⇑P P 14 35 40.9 +0.5
baz=73,SNR=14
SHOC Shoshone 73.39 57 ⇑P P 14 35 40.8 +0.8
baz=73
SIM Simferopol' 73.39 316 c iP P 14 35 40.0 +0.1
SIM pmax pmax
comp=Z,26nm,0.6s
SIM MLR MLR
comp=Z,1μm,16.0s
GUMT Gumushane 73.44 310 eP P 14 35 41.7 +1.3
GSC Goldstone 73.44 57 eP P 14 35 41.1 +0.6
GSC pmax pmax
comp=Z,11nm,1.1s
GSC Goldstone 73.44 57 eP P 14 35 41.1 +0.6
comp=Z,11nm,1.1s
GSC Goldstone 73.44 57 ⇑P P 14 35 41.3 +0.8
baz=73
I21A Big Trails, Te 73.44 46 ⇓P P 14 35 41.0 +0.6
baz=73,SNR=13
P15A Leamington 73.45 52 ⇑P P 14 35 41.0 +0.5
baz=73,SNR=6.8
L19A Farson 73.45 48 ⇓P P 14 35 40.7 +0.1
baz=73
DAU Daniels Canyon 73.49 50 eP P 14 35 42.4 +1.4
DAU pmax pmax
comp=Z,17nm,1.1s
DAU Daniels Canyon 73.49 50 eP P 14 35 42.4 +1.4
comp=Z,17nm,1.1s
G23A Biddle 73.50 44 ⇑P P 14 35 41.1 +0.4
baz=73
MPU Maple Canyon 73.53 51 eP P 14 35 42.8 +1.7
comp=Z,25nm,1.0s
F24A Ekalaka 73.54 43 ⇓P P 14 35 41.0 +0.2
baz=73
BFSC Mount Baldy Ra 73.57 59 ⇓P P 14 35 41.9 +0.5
baz=73,SNR=7.2
CIS Catalina Islan 73.62 60 ⇓P P 14 35 41.7 +0.2
baz=74
K20A Yellowstone Ra 73.64 47 ⇑P P 14 35 42.2 +0.5
baz=73
J21A Lysite 73.67 46 ⇑P P 14 35 42.0 +0.2
baz=74
BNGB Bing¶ll 73.69 308 eP P 14 35 36.1 -5.9
I22A 9 Mile Ranch, 73.81 45 ⇓P P 14 35 43.0 +0.4
baz=74
TUQ Turquoise Moun 73.91 57 ⇑P P 14 35 44.3 +1.0
baz=74
ARUT Antelope Range 73.92 54 eP P 14 35 44.3 +1.0
ARUT pmax pmax
comp=Z,19nm,1.0s
ARUT Antelope Range 73.92 54 eP P 14 35 44.3 +1.0
comp=Z,19nm,1.0s
O17A Robinson Place 73.93 50 ⇑P P 14 35 44.3 +0.9
baz=74,SNR=5.5
N18A Larsen Ranch, 74.02 49 ⇓P P 14 35 44.5 +0.5
baz=74
HEC Hector,Ludlow 74.04 58 ⇓P P 14 35 44.4 +0.4
baz=74
L20A Wamsutter 74.08 48 ⇑P P 14 35 44.7 +0.5
baz=74
CCUT Cedar City 74.12 54 eP P 14 35 45.2 +0.6
comp=Z,13nm,1.0s
J22A Midwest 74.14 46 ⇓P P 14 35 44.3 -0.2
baz=74
MSU Marysvale 74.20 52 eP P 14 35 45.9 +0.9
MSU pmax pmax
comp=Z,10.0nm,1.0s
MSU Marysvale 74.20 52 eP P 14 35 45.9 +0.9
comp=Z,10nm,1.0s
BSD Bornholm Skovb 74.23 332 i P P 14 35 44.5 -0.1
BSD pmax pmax
comp=Z,35nm,0.8s
BSD MLR MLR
comp=Z,2μm,18.0s
BSD Bornholm Skovb 74.23 332 i P P 14 35 44.5 -0.1
comp=Z,35nm,0.8s
BSD
comp=Z,2μm,18.0s
H24A Dirks Ranch, A 74.24 44 ⇑P P 14 35 45.2 +0.2
baz=74
TMUT Trail Mountain 74.25 51 eP P 14 35 46.8 +1.4
comp=Z,26nm,1.1s
K21A Alcova 74.25 47 ⇓P P 14 35 46.0 +0.7
baz=74
MURC Murrieta 74.27 59 ⇑P P 14 35 46.4 +1.1
baz=74
O18A Roosevelt 74.30 50 ⇓P P 14 35 46.5 +0.9
baz=74,SNR=8.4
R15A Junction 74.33 53 ⇓P P 14 35 46.8 +0.9
baz=74
P17A Butcher Ranch, 74.41 51 ⇓P P 14 35 47.2 +1.1
baz=74,SNR=8.4
ULM Lac du Bonnet 74.42 35 P P 14 35 45.4 -0.4
ULM Lac du Bonnet 74.42 35 P P 14 35 45.4 -0.4
comp=Z,1.8nm,0.5s,baz=304,slow=6.7,SNR=6.3
ULM LR LR 15 13 21.9
comp=Z,508nm,19.6s,baz=323,slow=40
GMRC Granite Mounta 74.49 57 ⇓P P 14 35 47.6 +0.9
baz=74
MDND Maddock 74.49 39 ⇓P P 14 35 47.3 +0.9
baz=74
M20A Sweetwater, Wa 74.51 48 ⇑P P 14 35 47.3 +0.4
baz=74
PTK Pertek 74.52 308 eP P 14 35 45.4 -1.4
Q16A Castle Valley 74.52 52 ⇑P P 14 35 48.1 +1.2
baz=74,SNR=8.3
BEL Belsk 74.59 327 eP P 14 35 47.8 +1.1
BEL Belsk 74.59 327 eP P 14 35 47.8 +1.1
BEL Belsk 74.59 327 eP P 14 35 47.8 +1.1
BBOO Buckleboo 74.59 187 eP P 14 35 46.5 -0.3
comp=Z,216nm,1.0s
P18A Preston Nutter 74.59 50 ⇓P P 14 35 48.2 +0.8
baz=74,SNR=7.6
KIS Kishinev 74.61 320 eP P 14 35 46.0 -1.0
KIS eS S 14 45 17.0 -3.0
KIS MLR MLR
comp=Z,2μm,15.0s
KIS MLR MLR
comp=N,2μm,14.0s
KIS MLR MLR
comp=E,1μm,14.0s
KIS Kishinev 74.61 320 eP P 14 35 46.0 -1.0
KIS eS S 14 45 17.0 -3.0
KIS eLQ LQ 15 03 39.0
KIS eLR LR 15 05 00.0
comp=E,2μm,15.0s
K22A Casper 74.64 46 ⇑P P 14 35 48.1 +0.6
baz=74
L21A Rawlins 74.64 47 ⇓P P 14 35 48.0 +0.4
baz=74
LDFC Landfair 74.64 57 P P 14 35 48.0 +0.4
comp=E,38nm,1.2s
RSDY Resadiye-TOKAT 74.71 311 eP P 14 35 47.9 +0.2
PFO Pinyon Flat Ob 74.74 59 eP P 14 35 48.2 +0.1
comp=E,12nm,0.9s
PFO LR LR

comp=Z,1µm,20.0s
PFO Pinyon Flat Ob 74.74 59 ⇑P P 14 35 48.9 +0.8
baz=75
LVV L'vov 74.75 324 eP P 14 35 48.0 +0.3
LVV MLR MLR
comp=N,900nm,16.0s
LVV MLR MLR
comp=E,1µm,16.0s
LVV MLR MLR
comp=Z,1µm,16.0s
R16A Teasdale 74.76 52 ⇓P P 14 35 49.8 +1.5
baz=75,SNR=15
SRU San Rafael 74.77 51 eP P 14 35 49.2 +0.9
SRU pmax pmax
comp=Z,33nm,0.9s
SRU San Rafael 74.77 51 eP P 14 35 49.2 +0.9
comp=Z,33nm,0.9s
SRU San Rafael 74.77 51 ⇓P P 14 35 48.8 +0.4
baz=75,SNR=31
BELC Belle Mtn. Jos 74.78 58 ⇑P P 14 35 48.4 0.0
baz=75,SNR=5.4
O19A Miners Draw (B 74.79 49 ⇑P P 14 35 48.8 +0.4
baz=75
109C Camp Elliot, M 74.79 60 ⇑P P 14 35 49.4 +1.1
baz=75
I24A Kuemmerle Ranc 74.82 44 ⇑P P 14 35 48.5 +0.1
baz=75
GKP Gorka Klasztor 74.86 330 eP P 14 35 48.7 +0.5
GKP Gorka Klasztor 74.86 330 eP P 14 35 48.7 +0.5
GKP Gorka Klasztor 74.86 330 eP P 14 35 48.7 +0.5
M21A Separation Pea 74.89 47 ⇑P P 14 35 49.4 +0.4
baz=75
N20A Spence Gulch, 74.91 48 ⇓P P 14 35 50.3 +1.2
baz=75,SNR=9.1
RWWY Rawlins 74.92 47 P P 14 35 52.0 +2.7
comp=Z,15nm,0.8s
RSSD Black Hills 74.94 44 eP P 14 35 49.7 +0.5
RSSD pmax pmax
comp=Z,8.0nm,0.8s
RSSD Black Hills 74.94 44 eP P 14 35 49.7 +0.5
comp=Z,7.5nm,0.8s
KVT Kavak 74.97 312 eP P 14 35 49.4 +0.2
Q18A Rafter H Ranch 75.01 51 ⇑P P 14 35 50.2 +0.6
baz=75
S16A Weppner Ranch, 75.06 53 ⇑P P 14 35 51.1 +1.1
baz=75,SNR=8.4
R17A Hanksville Air 75.12 52 ⇓P P 14 35 51.0 +0.8
baz=75,SNR=11
BHD Baghdad 75.12 301 ex x 14 35 48.5
BHD ex x 14 45 20.0
IRM Iron Mountain 75.21 57 ⇓P P 14 35 51.5 +0.8
baz=75,SNR=7.3
P19A Cripple Cowboy 75.31 50 ⇓P P 14 35 52.3 +0.8
baz=75,SNR=10
UMR Umm Al-Rimmam 75.32 296 eP P 14 35 51.0 -0.3
BC3 Big Chuckawall 75.35 58 ⇓P P 14 35 52.2 +0.5
baz=75,SNR=6.5
N21A Black Mountain 75.38 48 ⇑P P 14 35 52.1 +0.3
baz=75
W13A Hualapai Mount 75.39 56 ⇓P P 14 35 52.6 +0.6
baz=75
MIB Mutribah 75.42 297 eP P 14 35 51.4 -0.6
MIB AMb AMB 14 35 52.3
comp=Z,56nm,0.8s
L23A Garrett 75.45 46 ⇓P P 14 35 52.7 +0.5
baz=75
M22A Cedar Creek Ra 75.45 47 ⇓P P 14 35 52.9 +0.6
baz=75
KWP Kalwaria Pacla 75.46 325 eP P 14 35 52.8 +0.9
KWP Kalwaria Pacla 75.46 325 eP P 14 35 52.8 +0.9
KWP Kalwaria Pacla 75.46 325 eP P 14 35 52.1 +0.2
KWP pmax pmax
comp=Z,61nm,0.9s
KWP MLR MLR
comp=Z,4µm,19.0s
KWP Kalwaria Pacla 75.46 325 eP P 14 35 52.0 +0.2
comp=Z,61nm,0.9s
KWP LR LR
comp=Z,4µm,19.0s
KWP Kalwaria Pacla 75.46 325 ⇑iP P 14 35 52.8 +0.9
MALT Malatya 75.47 309 eP P 14 35 56.1 +3.9
U15A North Rim 75.50 54 ⇓P P 14 35 53.5 +0.9
baz=75,SNR=14
DVTC Desert V Tower 75.58 59 ⇑P P 14 35 53.6 +0.6
baz=75
S17A Black Ridge (B 75.59 52 ⇓P P 14 35 53.8 +0.8
baz=75,SNR=17
SWSC Sam W. Stewart 75.59 59 ⇑P P 14 35 53.7 +0.8
baz=75
Q19A Hogan Spring (75.61 50 ⇑P P 14 35 53.8 +0.7
baz=75,SNR=7.7
R18A Canyonlands Na 75.62 51 ⇑P P 14 35 53.5 +0.3
baz=75,SNR=8.8
QRN Al-Qurain 75.70 296 eP P 14 35 53.0 -0.6
QRN AMb AMB 14 35 55.9
comp=Z,66nm,0.7s
PDMCI Parker Dam,Lak 75.76 57 ⇓P P 14 35 54.8 +1.0
baz=76
URFA Urfa 75.82 308 eP P 14 35 55.0 +0.8
NAY Al-Naaiem 75.83 297 eP P 14 35 53.6 -0.7
NAY AMb AMB 14 35 56.1
comp=Z,35nm,1.4s
BURAR Bucovina Array 75.85 322 ⇑iP P 14 35 54.6 +0.3
Y12C Blythe 75.88 57 ⇑P P 14 35 55.3 +0.8
baz=76
AGMN Agassiz Nation 75.88 37 P P 14 35 53.5 -0.8
comp=Z,20nm,1.0s
AGMN LR LR
comp=Z,992nm,20.0s
M23A Laramie 75.88 47 ⇓P P 14 35 55.2 +0.5
baz=76
TLCR 75.91 319 ⇑iP P 14 35 54.8 +0.3
N22A Wattenberg Ran 75.94 48 ⇓P P 14 35 55.1 0.0
baz=76
TESR 76.00 321 iP P 14 35 55.4 +0.4
T17A Navajo Res., N 76.01 53 ⇓P P 14 35 55.6 +0.1
baz=76
S18A Hurst Farm, BI 76.03 52 ⇓P P 14 35 56.1 +0.5
baz=76,SNR=14
R19A Curley Farm, L 76.06 51 ⇑P P 14 35 56.4 +0.6
baz=76
GLA Glamis 76.14 58 eP P 14 35 56.4 +0.3
GLA pmax pmax
comp=Z,15nm,0.9s
GLA Glamis 76.14 58 eP P 14 35 56.4 +0.3
comp=Z,15nm,0.9s
GLA Glamis 76.14 58 ⇓P P 14 35 57.2 +1.1
baz=76
N23A Red Feather La 76.16 47 ⇑P P 14 35 56.6 +0.2
baz=76
Q20A Ridgley Place, 76.16 50 ⇓P P 14 35 56.6 +0.3
baz=76,SNR=7.1
KOLS Kolonicke sedl 76.18 325 eP P 14 35 56.5 +0.5
KOLS pmax pmax
comp=Z,13nm,1.1s
KOLS Kolonicke sedl 76.18 325 eP P 14 35 56.5 +0.5
PV04 Paradox Valley 76.19 51 eP P 14 35 57.3 +0.8
OJC Ojcow 76.23 327 iP P 14 35 56.1 -0.2
OJC Ojcow 76.23 327 ⇑iP P 14 35 56.9 +0.7
CFR Carcaliu 76.25 319 ⇑iP P 14 35 56.6 +0.2
P21A Newcastle 76.26 49 ⇓P P 14 35 57.6 +0.7
baz=76,SNR=10
PETR 76.29 320 ⇓iP P 14 35 57.9 +1.3
O22A Kremmling 76.33 48 ⇓P P 14 35 57.1 -0.3
baz=76
YOZ Yozgat 76.35 311 eP P 14 35 55.9 -1.4
M24A Cheyenne 76.37 46 ⇑P P 14 35 57.9 +0.5
baz=76
UZH Uzhgorod 76.40 325 ⇓iP P 14 35 57.0 -0.2
UZH e 14 36 04.6
T18A Mexican Hat 76.47 52 ⇑P P 14 35 58.8 +0.8
baz=76,SNR=12
S19A Harvey Farm, M 76.50 51 ⇑P P 14 35 59.1 +0.9
baz=76,SNR=15
CRVS Cervenica-Dubn 76.55 325 eP P 14 35 58.5 +0.4
CRVS pmax pmax
comp=Z,15nm,1.1s
CRVS Cervenica-Dubn 76.55 325 eP P 14 35 58.5 +0.4
PV01 Paradox Valley 76.56 51 eP P 14 35 59.5 +0.8
comp=Z,655nm,0.8s
BMR Baia Mare 76.59 323 ⇑iP P 14 35 59.2 +0.9
BNN Bunyan 76.59 310 eP P 14 35 58.3 -0.3
P22A Eagle 76.60 49 ⇓P P 14 35 59.4 +0.6
baz=76
TIRR Tirgusor 76.63 318 ⇑iP P 14 35 59.0 +0.4
R20A Redvale 76.64 51 ⇑P P 14 35 59.4 +0.4
baz=76
NIE Niedzica 76.64 326 iP P 14 35 59.1 +0.5
NIE Niedzica 76.64 326 ⇑iP P 14 35 59.6 +1.0
O23A Lake Granby, G 76.64 48 ⇑P P 14 35 59.3 +0.2
baz=76
WUAZ Wupatki 76.66 54 eP P 14 35 58.8 -0.3
comp=Z,31nm,1.0s
WUAZ Wupatki 76.66 54 ⇑P P 14 36 00.0 +0.9
baz=76,SNR=9.3
TRPA Tarpa 76.67 324 ⇑iP P 14 35 59.6 +0.9
TRPA Tarpa 76.67 324 ⇑e P 14 35 59.6 +0.9
Y14A Wickenburg 76.70 56 ⇓P P 14 36 00.3 +1.1
baz=76,SNR=5.5
BSEG Bad Segeberg 76.74 334 eP P 14 35 59.5 +0.5
comp=Z,63nm,0.8s
BSEG Bad Segeberg 76.74 334 eP P 14 35 59.5 +0.5
BSEG pmax pmax
comp=Z,63nm,0.8s
SMCO Snowmass 76.76 49 eP P 14 36 01.7 +1.7
comp=Z,15nm,1.1s
S20A Disappointment 76.89 51 ⇓P P 14 36 01.3 +0.8
baz=77,SNR=8.9
KMRS Kahramanmaras 76.90 309 eP P 14 35 59.5 -0.8
GAZ Gaziantep 76.95 308 eP P 14 36 00.9 +0.3
R21A Cimarron 76.99 50 ⇑P P 14 36 01.9 +0.8
baz=77,SNR=9.0
113A Mohawk Valley, 77.00 58 ⇓P P 14 36 01.9 +1.1
baz=77
PGOR Pogoanele 77.01 320 ⇓iP P 14 36 01.7 +1.0
Q22A Crested Butte, 77.02 49 ⇑P P 14 36 01.9 +0.6
baz=77,SNR=8.4
ISR Istrita 77.07 320 ⇑iP P 14 36 02.0 +0.9
MLR Muntele Rosu 77.08 320 ⇓iP P 14 36 01.2 -0.1
ISCO Idaho Springs 77.10 48 eP P 14 36 02.1 +0.4
ISCO pmax pmax
comp=Z,15nm,1.2s
ISCO MLR MLR
comp=Z,680nm,21.0s
ISCO Idaho Springs 77.10 48 eP P 14 36 02.1 +0.4
comp=Z,15nm,1.2s
ISCO LR LR
comp=Z,680nm,21.0s
ISCO Idaho Springs 77.10 48 ⇑P P 14 36 02.3 +0.6
baz=77
KSP Ksiaz 77.13 329 eP P 14 36 02.1 +0.7
KSP Ksiaz 77.13 329 eP P 14 36 02.1 +0.7
KSP Ksiaz 77.13 329 ⇑eP P 14 36 02.0 +0.7
KSP e 14 46 07.0
KSP MLR MLR
comp=Z,3µm,20.9s
O24A Longmont 77.17 47 ⇓P P 14 36 02.8 +0.9
baz=77
T19A Beclabito 77.18 52 ⇓P P 14 36 03.0 +0.9
baz=77,SNR=7.3
OKC Ostrava-Krasne 77.20 327 ⇑iP P 14 36 02.4 +0.7
OKC MLR MLR
comp=Z,2µm,16.5s
OKC Ostrava-Krasne 77.20 327 ⇑iP P 14 36 02.4 +0.7
OKC AMS AMS 15 14 20.0
comp=Z,2µm,16.5s
MVCO Mesa Verde 77.23 51 eP P 14 36 02.9 +0.5
comp=Z,20nm,1.0s
MVCO LR LR
comp=Z,455nm,20.0s
MVCO Mesa Verde 77.23 51 ⇓P P 14 36 03.0 +0.6
baz=77,SNR=6.1
BRTR Keskin Array B 77.23 312 P P 14 36 02.8 +0.5
BRTR Keskin Array B 77.23 312 P P 14 36 02.8 +0.5
comp=Z,7.8nm,0.7s,baz=82,slow=3.7,SNR=33
BRTR LR LR 15 15 02.5
comp=Z,599nm,19.7s,baz=211,slow=40
P23A Jefferson 77.27 48 ⇓P P 14 36 02.4 -0.3
baz=77
M26A McRoberts Ranc 77.27 45 ⇓P P 14 36 03.3 +0.9
baz=77
S21A Coal Bank Pass 77.33 51 ⇑P P 14 36 03.8 +0.7
baz=77,SNR=12
X16A Lo Mia Camp, P 77.35 55 ⇑P P 14 36 04.2 +1.1
baz=77,SNR=13
U19A Dine' College, 77.44 52 ⇑P P 14 36 04.7 +1.1
baz=77,SNR=14
MORC Moravsky Berou 77.49 328 eP P 14 36 02.4 -1.0
MORC pmax pmax
comp=Z,26nm,0.9s
MORC Moravsky Berou 77.49 328 eP P 14 36 02.4 -1.0
comp=Z,26nm,0.9s
MORC Moravsky Berou 77.49 328 ⇑iP P 14 36 04.3 +0.9
UPC Upice 77.51 329 ⇑iP P 14 36 04.2 +0.8
UPC Upice 77.51 329 ⇑iP P 14 36 04.2 +0.8
DPC Dobruska-Polom 77.51 329 ⇑iP P 14 36 04.5 +1.0
DPC MLR MLR
comp=Z,1µm,17.9s
DPC Dobruska-Polom 77.51 329 ⇑iP P 14 36 04.5 +1.0
DPC AMS AMS 15 14 00.0
comp=Z,1µm,17.9s
KOZT Kozan 77.54 309 eP P 14 36 04.3 +0.5
VOIR 77.54 321 ⇑iP P 14 36 04.5 +0.7
DRGR 77.60 323 ⇑iP P 14 36 04.5 +0.4
P24A Kohler Place, 77.69 48 ⇑P P 14 36 05.7 +0.8
baz=78
U20A Newcomb 77.79 52 ⇓P P 14 36 06.5 +1.1
baz=78
KAC Achnashellach 77.81 344 eP P 14 36 05.3 +0.4
KAC Achnashellach 77.81 344 P P 14 36 05.3 +0.4
S22A 4UR Ranch, Cre 77.83 50 ⇑P P 14 36 06.5 +0.6
baz=78,SNR=9.5
VYHS Vyhne 77.97 326 eP P 14 36 06.8 +0.8
VYHS pmax pmax
comp=Z,66nm,2.3s
VYHS Vyhne 77.97 326 eP P 14 36 06.8 +0.8
PSZ Piszkesteto 77.97 325 eP P 14 36 06.6 +0.4
PSZ pmax pmax
comp=Z,288nm,2.3s
PSZ MLR MLR
comp=Z,3µm,19.0s
PSZ Piszkesteto 77.97 325 eP P 14 36 06.6 +0.4
comp=Z,288nm,2.3s
PSZ LR LR
comp=Z,3µm,19.0s
PSZ Piszkesteto 77.97 325 ⇑iP P 14 36 06.9 +0.7
PSZ Piszkesteto 77.97 325 ⇑e P 14 36 07.1 +0.9
CLL Collm 77.98 331 eP P 14 36 06.0 0.0
comp=Z,54nm,0.8s
CLL Collm 77.98 331 ⇑iP P 14 36 06.0 0.0
CLL eS S 14 46 05.0 +8.1
CLL pmax pmax
comp=Z,54nm,0.8s
CLL MLR MLR
comp=Z,3µm,20.4s
CLL Collm 77.98 331 ⇑iP P 14 36 06.0 0.0
comp=Z,54nm,0.8s
CLL eS S 14 46 05.0 +8.1
CLL eScS **ScS 14 46 24.0 +1.3**
CLL e 14 52 06.0
CLL Lm MLR 15 13 00.0
comp=Z,3µm,20.4s
BRG Berggiesshubel 78.00 330 eP P 14 36 06.3 +0.2
comp=Z,23nm,1.1s
BRG
comp=N,1µm,15.8s
BRG
comp=E,4µm,17.8s
BRG
comp=Z,2µm,15.8s
BRG Berggiesshubel 78.00 330 eP P 14 36 06.4 +0.3
BRG Berggiesshubel 78.00 330 eP P 14 36 06.3 +0.2
BRG pmax pmax
comp=Z,23nm,1.1s
BRG MLR MLR
comp=E,4µm,17.8s
BRG MLR MLR
comp=N,1µm,15.8s
BRG MLR MLR
comp=Z,2µm,15.8s
NRDL Niedersach Rie 78.01 333 eP P 14 36 06.4 +0.3
KPL Plockton 78.03 344 eP P 14 36 06.3 +0.2
KPL AMB AMB 14 36 09.4
comp=Z,126nm,4.2s
KPL Plockton 78.03 344 P P 14 36 06.3 +0.2
KPL AMB AMB 14 36 09.4
comp=Z,126nm,4.2s
PVCC Panska Ves 78.04 330 ⇑iP P 14 36 07.2 +0.8
PVCC MLR MLR
comp=Z,2µm,15.8s
PVCC Panska Ves 78.04 330 ⇑iP P 14 36 07.2 +0.8
PVCC AMS AMS 15 15 00.0
comp=Z,2µm,15.8s
EYMN Ely 78.04 35 eP P 14 36 05.4 -1.0
comp=Z,38nm,1.4s
EYMN LR LR
comp=Z,779nm,19.0s
N27A Anderson Farm, 78.06 45 ⇓P P 14 36 07.5 +0.6
baz=78
R23A Moffat 78.09 49 ⇓P P 14 36 08.3 +1.0
baz=78,SNR=12
P25A Willow Gulch B 78.09 47 ⇓P P 14 36 08.0 +0.8
baz=78
LOT Lotru 78.13 322 ⇑iP P 14 36 07.3 +0.2
214A Organ Pipe Nat 78.14 58 ⇑P P 14 36 08.6 +1.2
baz=78
X18A Snowflake 78.19 54 ⇑P P 14 36 08.7 +1.0
baz=78
V20A Brimhall 78.21 52 ⇓P P 14 36 08.8 +0.9
baz=78
OGNE Ogallala 78.23 45 PFAKE 14 36 20.0 +12
OGNE LR LR
comp=Z,521nm,21.0s
VRAC Vranov 78.24 328 ⇓iP P 14 36 08.4 +0.9
U21A Nageezi 78.26 51 ⇓P P 14 36 09.0 +0.9
baz=78,SNR=6.2
T22A Edith 78.29 51 ⇑P P 14 36 08.9 +0.6
baz=78,SNR=8.3
NWAO Narrogin (SRO) 78.34 203 P P 14 36 08.1 +0.1
NWAO Narrogin (SRO) 78.34 203 P P 14 36 08.1 +0.1
comp=Z,30nm,1.2s,baz=57,slow=2.2,SNR=3.0
KRTS Karatas 78.43 309 eP P 14 36 10.0 +1.2
PRA Prague 78.46 330 ⇑P P 14 36 09.0 +0.3
CLZ Clausthal 78.47 333 eP P 14 36 09.3 +0.5
comp=Z,46nm,0.7s
CLZ Clausthal 78.47 333 eP P 14 36 09.3 +0.5
CLZ pmax pmax
comp=Z,46nm,0.7s
R24A Sanders Place, 78.47 49 ⇑P P 14 36 10.1 +0.8
baz=78
Q25A Bedland, Calha 78.47 48 ⇓P P 14 36 09.9 +0.7
baz=78
RBK Rabkut 78.47 283 P P 14 36 08.9 -0.5
SNR=5.2
PRU Pruhonice 78.49 329 ⇑iP P 14 36 09.6 +0.7
PRU MLR MLR
comp=Z,2µm,17.1s
PRU Pruhonice 78.49 329 ⇑iP P 14 36 09.6 +0.7
PRU AMS AMS 15 15 00.0
comp=Z,2µm,17.1s
P26A Davis Ranch, A 78.51 47 ⇑P P 14 36 10.7 +1.4
baz=78
SMOL Smolenice 78.53 327 eP P 14 36 10.4 +1.3
SMOL Smolenice 78.53 327 eP P 14 36 10.4 +1.3
SDCO Great Sand Dun 78.59 49 eP P 14 36 11.1 +1.0
comp=Z,8.5nm,1.2s
SDCO LR LR
comp=Z,452nm,19.0s
SDCO Great Sand Dun 78.59 49 ⇑P P 14 36 11.0 +1.0
baz=78,SNR=6.2
GZR Gura Zlata 78.63 322 ⇓iP P 14 36 10.4 +0.6
W20A Ramah 78.65 53 ⇓P P 14 36 11.4 +1.0
baz=78,SNR=8.2
BUD Budapest 78.68 326 ⇑ePP P 14 36 10.7 +0.8
TREC Trest 78.68 329 ⇑iP P 14 36 10.8 +0.8
TREC MLR MLR
comp=Z,2µm,17.7s
TREC Trest 78.68 329 ⇑iP P 14 36 10.8 +0.8
TREC AMS AMS 15 15 00.0
comp=Z,2µm,17.7s
V21A Milan 78.70 52 ⇓P P 14 36 12.1 +1.5
baz=78
T23A Casias Ranch, 78.78 50 ⇑P P 14 36 11.2 +0.1
baz=79
EAB Aberfoyle 78.81 343 eP P 14 36 10.7 +0.2
EAB Aberfoyle 78.81 343 P P 14 36 10.7 +0.2
S24A Houchin Ranch, 78.82 49 ⇑P P 14 36 12.4 +1.1
baz=79
Q26A Hugo 78.87 47 ⇑P P 14 36 11.9 +0.5
baz=79
TANN Tannenbergstha 78.92 331 eP P 14 36 11.5 +0.2
EAU Auchinoon 78.92 342 eP P 14 36 10.7 -0.4
EAU Auchinoon 78.92 342 P P 14 36 10.7 -0.4
ECSD EROS Data Cent 78.93 40 eP P 14 36 10.7 -0.8
comp=Z,17nm,0.9s
ECSD LR LR
comp=Z,764nm,20.0s
IBBN Ibbenburen 78.95 334 eP P 14 36 11.5 +0.2
BZS Buzias 78.99 323 ⇑iP P 14 36 12.0 +0.3
R25A Fountain Ranch 78.99 48 ⇑P P 14 36 12.2 +0.1
baz=79
PKSG 79.02 326 ⇑e P 14 36 12.4 +0.6
MOX Moxa 79.03 331 eP P 14 36 12.1 +0.2
comp=Z,49nm,1.5s
MOX eL L 15 14 42.8
comp=Z,2µm,19.2s
MOX Moxa 79.03 331 eP P 14 36 12.1 +0.2
MOX pmax pmax
comp=Z,49nm,1.5s
MOX MLR MLR
comp=Z,2µm,19.2s
V22A San Miguel Ran 79.05 51 ⇑P P 14 36 12.6 +0.1
baz=79
X20A Quemado 79.05 53 ⇑P P 14 36 13.9 +1.4
baz=79,SNR=11
TUC Tucson 79.17 56 eP P 14 36 13.7 +0.6
TUC pmax pmax
comp=Z,12nm,1.0s
TUC Tucson 79.17 56 eP P 14 36 13.7 +0.6
comp=Z,12nm,1.0s
U23A El Rito 79.18 51 ⇓P P 14 36 14.4 +1.2
baz=79,SNR=20
PGBU Glenifferbraes 79.19 343 eP P 14 36 13.2 +0.6
PGBU AMB AMB 14 36 15.4
comp=Z,138nm,2.5s
PGBU Glenifferbraes 79.19 343 P P 14 36 13.2 +0.6
PGBU AMB AMB 14 36 15.4
comp=Z,138nm,2.5s
ABTO Aybut 79.23 284 P P 14 36 13.5 0.0
SNR=8.4
S25A Robets Cordova 79.25 49 ⇓P P 14 36 14.1 +0.6
baz=79
PKST T``s 79.27 326 ⇑e P 14 36 13.6 +0.3
T24A Torres, Weston 79.31 50 ⇓P P 14 36 14.6 +0.6
baz=79
ESK Eskdalemuir 79.35 342 eP P 14 36 13.2 -0.2
ESK AMB AMB 14 36 20.6
comp=Z,66nm,2.5s
ESK Eskdalemuir 79.35 342 P P 14 36 13.2 -0.2
ESK AMB AMB 14 36 20.6
comp=Z,66nm,2.5s
ESK Eskdalemuir 79.35 342 PFAKE 14 36 30.0 +17
ESK LR LR
comp=Z,1µm,19.0s
ESK Eskdalemuir 79.35 342 P P 14 36 13.2 -0.2
comp=Z,129nm,0.6s,SNR=6.5
R26A Arlington 79.35 48 ⇓P P 14 36 14.6 +0.7
baz=79,SNR=9.1
ECK Cauldkaine Hil 79.45 342 eP P 14 36 14.3 +0.2
ECK Cauldkaine Hil 79.45 342 P P 14 36 14.3 +0.2
UBBA Unterbreizbach 79.45 332 eP P 14 36 14.8 +0.8
ROTZ Rotzenmuhle 79.54 331 eP P 14 36 15.5 +0.8
WTSB Winterswijk 79.55 335 eP P 14 36 14.7 +0.1
comp=Z,38nm,0.7s
X21A Alamocita Cree 79.55 53 ⇑P P 14 36 16.6 +1.4
baz=79,SNR=15
SOP Sopron 79.55 327 ⇑e P 14 36 15.9 +1.2
KHC Kasperske Hory 79.55 329 ⇑iP P 14 36 15.4 +0.6
KHC MLR MLR
comp=Z,3µm,16.4s
KHC Kasperske Hory 79.55 329 eP P 14 36 15.2 +0.4
comp=Z,28nm,0.7s
KHC Kasperske Hory 79.55 329 ⇑iP P 14 36 15.4 +0.6
KHC ex x 14 36 49.5
KHC AMS AMS 15 15 30.0
comp=Z,3µm,16.4s
Y20A Horse Springs, 79.56 54 ⇓P P 14 36 16.4 +1.0
baz=79,SNR=8.7
SPMN St. Paul 79.58 37 ⇓P P 14 36 15.3 +0.4
baz=79
V23A Ortiz Mt. (NFS 79.59 51 ⇑P P 14 36 16.2 +0.7
baz=79,SNR=6.6
T25A Trinidad 79.63 49 ⇓P P 14 36 16.7 +1.1
baz=79,SNR=9.0
CONA Conrad Observa 79.63 328 iP P 14 36 16.3 +1.0
comp=Z,20nm,1.0s,SNR=15
PKS9 Tamasi 79.70 325 ⇓e P 14 36 15.9 +0.4
R27A Eads 79.72 47 ⇓P P 14 36 16.1 +0.2

baz=80
GEC2 GERESS Array S 79.74 329 *e*P P 14 36 16.1 +0.2
comp=Z,18nm,1.1s
GEC2 GERESS Array S 79.74 329 *e*P P 14 36 16.1 +0.2
GEC2 pmax pmax
comp=Z,18nm,1.1s
GERES GERESS Array B 79.74 329 P P 14 36 16.1 +0.2
GERES GERESS Array B 79.74 329 P P 14 36 16.1 +0.2
comp=Z,7.3nm,0.8s,baz=34,slow=5.6,SNR=51
GERES LR LR 15 15 58.6
comp=Z,1µm,18.2s,baz=201,slow=39
WET Wettzell 79.81 330 *e*P P 14 36 16.8 +0.7
comp=Z,36nm,1.0s
WET Wettzell 79.81 330 *e*P P 14 36 16.8 +0.7
WET pmax pmax
comp=Z,36nm,1.0s
S26A Kim 79.82 48 ⇑P P 14 36 17.4 +0.9
baz=80
PKSM Moragy 79.84 325 ⇑e P 14 36 16.2 -0.1
BUG Bochum--Univer 79.84 334 *e*P P 14 36 16.2 0.0
BGNE Belgrade 79.90 43 ⇓P P 14 36 17.5 +0.7
baz=80
Y21A Point of Rocks 79.91 53 ⇓P P 14 36 18.6 +1.4
baz=80,SNR=6.4
GRF Grafenberg Arr 79.96 331 *e*P P 14 36 17.7 +0.8
comp=Z,64nm,0.9s
GRF *e*L L 15 15 21.0
comp=Z,2µm,20.1s
GRF Grafenberg Arr 79.96 331 *e*P P 14 36 17.7 +0.8
GRF pmax pmax
comp=Z,64nm,0.9s
GRF MLR MLR
comp=Z,2µm,20.1s
GRFO Grafenberg 79.96 331 *e*P P 14 36 17.6 +0.6
GRFO pmax pmax
comp=Z,16nm,0.6s
GRFO Grafenberg 79.96 331 *e*P P 14 36 17.6 +0.6
comp=Z,16nm,0.6s
X22A Bernardo 79.97 53 ⇑P P 14 36 18.4 +0.9
baz=80
Z20A Nine Sixteen R 79.98 54 ⇓P P 14 36 19.0 +1.5
baz=80,SNR=11
ANMO Albuquerque 79.98 52 *e*P P 14 36 18.2 +0.7
comp=Z,20nm,1.0s
ANMO LR LR
comp=Z,522nm,21.0s
KESW Keswick, Cumbr 79.99 341 *e*P P 14 36 17.0 +0.1
KESW AMB AMB 14 36 30.7
comp=Z,85nm,3.5s
KESW Keswick, Cumbr 79.99 341 P P 14 36 17.0 +0.1
KESW AMB AMB 14 36 30.7
comp=Z,85nm,3.5s
W23A Werner Place, 80.02 52 ⇑P P 14 36 19.0 +1.2
baz=80,SNR=5.9
T26A Comanche Natio 80.07 49 ⇑P P 14 36 18.7 +0.7
baz=80,SNR=11
V24A Rampart Ranch, 80.13 51 ⇓P P 14 36 19.1 +0.7
baz=80,SNR=10
U25A Circle Dot Ran 80.15 50 ⇑P P 14 36 19.1 +0.6
baz=80
SCHQ Schefferville 80.20 18 P P 14 36 17.7 -0.4
SCHQ Schefferville 80.20 18 P P 14 36 17.7 -0.4
comp=Z,2.4nm,0.5s,baz=336,slow=7.9,SNR=11
SCHQ LR LR 15 12 24.0
comp=Z,622nm,21.1s,baz=217,slow=36
RHK3 Tenkes 80.26 325 ⇑e P 14 36 18.5 -0.1
ISP Isparta 80.30 313 PFAKE 14 36 30.0 +11
ISP LR LR
comp=Z,823nm,20.0s
ARSA Arzberg 80.31 327 *i*P P 14 36 19.6 +0.6
comp=Z,16nm,1.2s,SNR=11
LPM Los Pinos Moun 80.33 52 P P 14 36 19.1 -0.3
comp=Z,6.5nm,1.0s
MOA Molln 80.33 328 ⇑*i*P P 14 36 19.4 +0.4
comp=Z,14nm,0.8s
120A U Bar Ranch, L 80.34 55 ⇑P P 14 36 20.5 +1.0
baz=80
Y22A Socorro 80.39 53 ⇓P P 14 36 20.3 +0.6
baz=80
Z21A St. Cloud Mine 80.40 54 ⇑P P 14 36 20.8 +0.9
baz=80,SNR=17
W24A Lazy 6 Ranch, 80.42 51 ⇑P P 14 36 21.0 +1.1
baz=80,SNR=12
BEHE Becsehely 80.43 326 ⇑e P 14 36 20.1 +0.6
V25A Rancho No Teng 80.43 50 ⇑P P 14 36 21.1 +1.1
baz=80
BNM Barren Site 80.44 53 *e*P P 14 36 21.1 +1.0
comp=Z,13nm,1.0s
TNS Taunus Mts 80.49 333 *e*P P 14 36 20.0 +0.2
comp=Z,20nm,0.9s
TNS Taunus Mts 80.49 333 *e*P P 14 36 20.0 +0.2
TNS pmax pmax
comp=Z,20nm,0.9s
U26A Atchley Ranch, 80.53 49 ⇑P P 14 36 21.2 +0.7
baz=80
VTS Vitosha 80.56 320 ⇑*i*P P 14 36 21.1 +0.6
RAYN Ar Rayn 80.74 293 P P 14 36 21.9 +0.3
comp=Z,141nm,0.7s,SNR=11
319A Douglas 80.75 56 ⇓P P 14 36 22.6 +0.9
baz=81,SNR=6.4
KBI1 Birley Grange 80.81 340 *e*P P 14 36 21.6 +0.2
KBI1 Birley Grange 80.81 340 P P 14 36 21.6 +0.2
220A Playas Peak, P 80.85 55 ⇓P P 14 36 23.0 +0.8
baz=81,SNR=8.8
HGN Heimansgroeve 80.86 335 *e*P P 14 36 21.7 0.0
comp=Z,33nm,0.8s
Z22A Elephant Butte 80.86 53 ⇓P P 14 36 22.9 +0.6
baz=81,SNR=9.0
121A Cookes Peak, D 80.87 54 ⇑P P 14 36 22.8 +0.5
baz=81
TOD Tromm 80.89 332 *e*P P 14 36 22.1 +0.1
TOD Tromm 80.89 332 *e*P P 14 36 22.1 +0.1
DIVS Divibare 80.90 323 P P 14 36 22.2 0.0
BEBN Eben Emael 80.91 335 P P 14 36 22.2 +0.2
comp=Z,16nm,1.2s
T28A Walsh 80.93 48 ⇓P P 14 36 22.9 +0.4
baz=81
Y23A Lovelace Mesa, 80.93 52 ⇓P P 14 36 23.2 +0.5
baz=81,SNR=11
V26A Tequesquite Ra 80.94 50 ⇓P P 14 36 23.4 +0.8
baz=81
GROS Grobnik 80.96 327 *i*P P 14 36 22.5 +0.1
W25A X Bar L Ranch, 80.96 51 ⇓P P 14 36 23.5 +0.8
baz=81,SNR=9.9
GMM Mts of Mourne 80.97 343 *e*P P 14 36 22.2 0.0
GMM Mts of Mourne 80.97 343 P P 14 36 22.2 0.0
MEM Membach 80.97 334 P P 14 36 22.4 +0.1
SOKA Soboth 80.97 327 ⇑*i*P P 14 36 23.0 +0.4
comp=Z,40nm,1.0s
CBKS Cedar Bluff 80.99 45 PFAKE 14 36 30.0 +7.3
CBKS LR LR
comp=Z,601nm,19.0s
CBKS Cedar Bluff 80.99 45 ⇓P P 14 36 23.3 +0.6
baz=81
ABH Alteburg 81.09 333 *e*P P 14 36 23.1 +0.1
FUR Furstenfeldbru 81.21 330 *e*P P 14 36 24.2 +0.5
comp=Z,64nm,1.0s
FUR Furstenfeldbru 81.21 330 *e*P P 14 36 24.2 +0.5
FUR pmax pmax
comp=Z,64nm,1.0s
Z23A Rita Site, Whi 81.30 53 ⇑P P 14 36 25.5 +1.0
baz=81
Y24A Capitan 81.30 52 ⇓P P 14 36 26.0 +1.4
baz=81
OBKA Obir 81.31 327 ⇑*i*P P 14 36 24.6 +0.3
comp=Z,18nm,0.8s,SNR=18
KBA Koelnbreinsper 81.32 328 *i*P P 14 36 25.0 +0.5
comp=Z,38nm,1.4s,SNR=12
X25A Clemmons Ranch 81.33 51 ⇑P P 14 36 25.8 +1.0
baz=81
BCLA Clavier 81.36 335 P P 14 36 24.2 -0.2
RUP Ruppelstein 81.40 333 *e*P P 14 36 24.7 0.0
RUP Ruppelstein 81.40 333 *e*P P 14 36 24.7 0.0
STU Stuttgart 81.46 332 *e*P P 14 36 25.1 +0.1
comp=Z,41nm,0.9s
STU Stuttgart 81.46 332 *e*P P 14 36 25.0 +0.1
STU pmax pmax
comp=Z,29nm,0.8s
STU Stuttgart 81.46 332 *e*P P 14 36 25.0 +0.1
comp=Z,29nm,0.8s
FOEL Foel Wylfa 81.56 341 *e*P P 14 36 26.1 +0.6
FOEL AMB AMB 14 36 37.7
comp=Z,52nm,1.4s
FOEL Foel Wylfa 81.56 341 P P 14 36 26.1 +0.6
FOEL AMB AMB 14 36 37.7
comp=Z,52nm,1.4s
MYKA Terra Mystica 81.57 328 ⇑*i*P P 14 36 25.6 -0.1
comp=Z,14nm,0.7s
SNF Seneffe 81.60 335 P P 14 36 25.8 +0.2
WLF Walferdange 81.74 334 P P 14 36 26.5 +0.1
WLF Walferdange 81.74 334 *e*P P 14 36 26.8 +0.4
WLF Walferdange 81.74 334 *e*P P 14 36 25.7 -0.7
WLF pmax pmax
comp=Z,55nm,1.5s
WLF MLR MLR
comp=Z,2µm,19.0s
WLF Walferdange 81.74 334 *e*P P 14 36 25.7 -0.7
comp=Z,55nm,1.5s
WLF LR LR
comp=Z,2µm,19.0s
Y25A Mesa, Roswell 81.74 52 ⇓P P 14 36 28.2 +1.3
baz=82
VISS Visnje 81.76 327 *i*P P 14 36 26.5 -0.1
Z24A Sheeppen Canyo 81.76 52 ⇑P P 14 36 28.4 +1.2
baz=82
LANF Langenberg 81.77 333 *e*P P 14 36 26.8 +0.2
LANF Langenberg 81.77 333 *e*P P 14 36 26.8 +0.2
LANF Langenberg 81.77 333 *e*P P 14 36 26.8 +0.2
GIVF Givet 81.79 335 ⇑*i*P P 14 36 26.5 -0.1
comp=Z,37nm,0.9s
GIVF Givet 81.79 335 ⇑*i*P P 14 36 26.5 -0.1
GIVF pmax pmax
comp=Z,37nm,0.9s
GIVF Givet 81.79 335 ⇑*i*P P 14 36 26.5 -0.1
comp=Z,37nm,0.9s
WATA Walderalm 81.79 330 ⇑*i*P P 14 36 27.4 +0.5
comp=Z,15nm,0.6s,SNR=14
X26A CR and CF Fran 81.81 51 ⇓P P 14 36 28.3 +1.0
baz=82
WTTA Wattenberg 81.83 329 *i*P P 14 36 27.5 +0.4
comp=Z,30nm,0.9s,SNR=13
BOJS Bojanci 81.83 326 *i*P P 14 36 27.2 +0.2
DOU Dourbes 81.86 335 P P 14 36 26.9 -0.1
W27A Bowe Ranch, En 81.87 50 ⇑P P 14 36 28.7 +1.2
baz=82
SCIA State Center 81.94 39 PFAKE 14 36 40.0 +12
SCIA LR LR
comp=Z,712nm,21.0s
MOTA Moosalm 81.96 330 *i*P P 14 36 28.3 +0.4
comp=Z,44nm,0.8s,SNR=36
RETA Reutte 81.97 330 *i*P P 14 36 28.2 +0.4
comp=Z,32nm,0.9s,SNR=22
JAVS Javornik 82.00 327 *i*P P 14 36 27.3 -0.7
BAIF Baives 82.02 335 ⇑*i*P P 14 36 27.8 0.0
comp=Z,26nm,0.9s
BAIF Baives 82.02 335 ⇑*i*P P 14 36 27.8 0.0
BAIF pmax pmax
comp=Z,26nm,0.9s
BAIF Baives 82.02 335 ⇑*i*P P 14 36 27.8 0.0
comp=Z,26nm,0.9s
BFO Black Forest 82.14 332 *e*P P 14 36 28.7 +0.1
comp=Z,26nm,1.1s
BFO Black Forest 82.14 332 *e*P P 14 36 28.6 0.0
BFO pmax pmax
comp=Z,50nm,1.4s
BFO MLR MLR
comp=Z,960nm,19.0s
BFO Black Forest 82.14 332 *e*P P 14 36 28.6 0.0
comp=Z,50nm,1.4s
BFO LR LR
comp=Z,960nm,19.0s
BFO Black Forest 82.14 332 P P 14 36 28.4 -0.2
comp=Z,123nm,0.8s,SNR=8.5
SPAK Spaichingen-Ko 82.17 332 *e*P P 14 36 29.3 +0.5
Z25A Roswell 82.18 52 ⇓P P 14 36 30.5 +1.3
baz=82
MCH1 Michaelchurch 82.33 340 *e*P P 14 36 28.9 -0.5
MCH1 AMB AMB 14 36 31.7
comp=Z,90nm,2.4s
MCH1 Michaelchurch 82.33 340 P P 14 36 28.9 -0.5
MCH1 AMB AMB 14 36 31.7
comp=Z,90nm,2.4s
FETA Feichten 82.37 330 *i*P P 14 36 30.5 +0.5
comp=Z,21nm,0.9s,SNR=17
KSU1 Kansas State U 82.41 43 *e*P P 14 36 29.4 -0.7
comp=Z,17nm,0.7s
KSU1 LR LR
comp=Z,1µm,21.0s
CDF Champ du Feu 82.44 333 ⇑*i*P P 14 36 30.3 +0.1
comp=Z,47nm,1.0s
CDF Champ du Feu 82.44 333 ⇑*i*P P 14 36 30.3 +0.1
CDF pmax pmax
comp=Z,47nm,1.0s
CDF Champ du Feu 82.44 333 ⇑*i*P P 14 36 30.3 +0.1
comp=Z,47nm,1.0s
DAVA Damuels 82.47 331 ⇑*i*P P 14 36 30.9 +0.4
comp=Z,31nm,0.9s,SNR=12
224A Cornudas Mount 82.55 53 ⇑P P 14 36 32.3 +1.1
baz=82
Z26A Caprock 82.62 52 ⇓P P 14 36 32.2 +0.7
baz=82,SNR=11
FELD Feldberg im Sc 82.64 332 *e*P P 14 36 31.3 -0.1
ECH Echery 82.64 333 *e*P P 14 36 31.5 +0.3
ECH Echery 82.64 333 *e*P P 14 36 31.5 +0.3
ECH Echery 82.64 333 *e*P P 14 36 31.5 +0.3
125A Gardner Draw, 82.66 52 ⇑P P 14 36 32.8 +1.1
baz=82,SNR=6.9
Y27A Causey 82.66 51 ⇑P P 14 36 32.7 +1.1
baz=82
ARG Arkhangelos 82.78 313 P P 14 36 32.6 +0.5
AMTX Amarillo 82.79 49 P P 14 36 32.4 +0.1
comp=Z,25nm,0.9s
AMTX LR LR
comp=Z,389nm,19.0s
AMTX Amarillo 82.79 49 ⇑P P 14 36 33.3 +1.1
baz=83
LIT Litokhoron 82.81 319 P P 14 36 32.3 +0.1
MSTX Muleshoe 82.82 50 ⇑P P 14 36 33.6 +1.1
baz=83
PAGF Fort de Pagny 82.84 334 ⇑*i*P P 14 36 32.7 +0.5
comp=Z,17nm,0.8s
PAGF Fort de Pagny 82.84 334 ⇑*i*P P 14 36 32.7 +0.5
comp=Z,17nm,0.8s
MNTX Cornudas Mount 82.90 54 *e*P P 14 36 33.1 +0.2
comp=Z,8.1nm,1.2s
MNTX LR LR
comp=Z,478nm,22.0s
MNTX Cornudas Mount 82.90 54 ⇑P P 14 36 33.6 +0.8
baz=83,SNR=9.8
225A Deer Hill, Car 82.95 53 ⇓P P 14 36 33.7 +0.4
baz=83
MOF Molkenrain 82.97 332 *e*P P 14 36 33.1 +0.1
MOF Molkenrain 82.97 332 *e*P P 14 36 33.1 +0.1
MOF Molkenrain 82.97 332 *e*P P 14 36 33.1 +0.1
KZN Kozani 83.00 319 P P 14 36 33.3 0.0
324A Moseley Ranch, 83.02 54 ⇑P P 14 36 34.9 +1.2
baz=83
THEF They Montfort 83.03 333 *e*P P 14 36 33.4 +0.2
THEF They Montfort 83.03 333 *e*P P 14 36 33.4 +0.2
THEF They Montfort 83.03 333 *e*P P 14 36 33.4 +0.2
Z27A Tatum 83.04 51 ⇑P P 14 36 34.5 +0.8
baz=83
126A Clayton Basin, 83.04 52 ⇓P P 14 36 34.9 +1.2
baz=83
HINF Hinteralfeld 83.09 333 ⇑*i*P P 14 36 33.3 -0.3
comp=Z,20nm,0.8s
HINF Hinteralfeld 83.09 333 ⇑*i*P P 14 36 33.3 -0.3
HINF pmax pmax
comp=Z,20nm,0.8s
HINF Hinteralfeld 83.09 333 ⇑*i*P P 14 36 33.3 -0.3
comp=Z,20nm,0.8s
X29A Tulia 83.09 49 ⇑P P 14 36 34.9 +1.1
baz=83
TIR Tirane 83.10 321 PFAKE 14 36 50.0 +16
TIR LR LR
comp=Z,1µm,21.0s
HAU Haudompre 83.10 333 ⇑*i*P P 14 36 33.5 -0.1
comp=Z,21nm,0.9s
HAU *e*R
comp=Z,2µm,21.5s
HAU Haudompre 83.10 333 ⇑*i*P P 14 36 33.5 -0.1
HAU pmax pmax
comp=Z,21nm,0.9s
HAU Haudompre 83.10 333 ⇑*i*P P 14 36 33.5 -0.1
comp=Z,21nm,0.9s
MEZF Maizieres J'vi 83.11 334 ⇑*i*P P 14 36 33.9 +0.3
comp=Z,31nm,0.8s
MEZF Maizieres J'vi 83.11 334 ⇑*i*P P 14 36 33.9 +0.3
comp=Z,31nm,0.8s
GDL2 Guadalupe Moun 83.16 53 *e*P P 14 36 35.1 +0.9
comp=Z,23nm,0.5s
BBS Basel-Blauen 83.17 332 *e*P P 14 36 34.1 +0.1
BBS Basel-Blauen 83.17 332 *e*P P 14 36 34.1 +0.1
Y28A McKinney Farm, 83.17 50 ⇓P P 14 36 35.1 +0.8
baz=83
NEST Nestorio 83.27 320 P P 14 36 34.7 0.0
TUE Stuetta 83.35 330 *e*P P 14 36 35.2 +0.1
comp=Z,25nm,0.9s
TUE LR LR
comp=Z,2µm,19.0s
SFTF Sexfontaines 83.37 334 ⇑*i*P P 14 36 35.1 +0.2
comp=Z,58nm,1.0s
SFTF Sexfontaines 83.37 334 ⇑*i*P P 14 36 35.1 +0.2
comp=Z,58nm,1.0s
325A Bean Ranch, Si 83.38 54 ⇑P P 14 36 36.5 +0.9
baz=83
HEX Exmoor 83.39 340 *e*P P 14 36 35.4 +0.5
HEX Exmoor 83.39 340 P P 14 36 35.4 +0.5
GLMI Grayling 83.39 33 PFAKE 14 36 50.0 +15
GLMI LR LR
comp=Z,1µm,21.0s
LOMF Lomont 83.50 332 *e*P P 14 36 35.7 0.0
LOMF Lomont 83.50 332 *e*P P 14 36 35.7 0.0
LOMF Lomont 83.50 332 *e*P P 14 36 35.7 0.0
Y29A Porterfield Fa 83.53 50 ⇓P P 14 36 37.4 +1.2
baz=83
Z28A Tucker Farm, M 83.54 51 ⇑P P 14 36 37.3 +1.1
baz=83
LKR Lokris 83.66 318 P P 14 36 36.0 -0.6
425A Indio Mountain 83.79 54 ⇑P P 14 36 38.2 +0.6
baz=84
KARP Karpathos 83.80 313 P P 14 36 37.7 +0.3
ATH Athens Observa 83.81 317 P P 14 36 36.7 -0.7
JAN Janina 83.95 320 P P 14 36 38.7 +0.6
Z29A Hungry Hill Ra 83.95 50 ⇑P P 14 36 39.1 +0.8
baz=84,SNR=14
128A Castleberry Fa 83.96 51 ⇑P P 14 36 39.3 +1.0
baz=84,SNR=11
326A Caldwell Ranch 84.02 53 ⇑P P 14 36 39.4 +0.8
baz=84,SNR=10
LTK Loutraki 84.16 317 P P 14 36 35.0 -4.2
228A UT Block 9, Go 84.26 52 ⇑P P 14 36 40.3 +0.4
baz=84
IGT Igoumenitsa 84.30 320 P P 14 36 39.8 0.0
129A Stewart Farms, 84.31 51 ⇓P P 14 36 40.6 +0.5
baz=84
TAU Tasmania Unive 84.36 178 PFAKE 14 36 50.0 +10
TAU LR LR
comp=Z,475nm,19.0s
EFP Efpalio 84.38 318 P P 14 36 40.7 +0.4
CABF La Chapelle 84.40 332 ⇑*i*P P 14 36 40.5 +0.2
comp=Z,25nm,1.1s
CABF La Chapelle 84.40 332 ⇑*i*P P 14 36 40.5 +0.2
CABF pmax pmax
comp=Z,25nm,1.1s
CABF La Chapelle 84.40 332 ⇑*i*P P 14 36 40.5 +0.2
comp=Z,25nm,1.1s
DID Didima 84.41 317 P P 14 36 38.3 -2.2
KEK Kerkira 84.41 320 P P 14 36 40.5 +0.1
OG01 Vacheresse 84.43 332 *e*P P 14 36 41.0 +0.5
OG01 Vacheresse 84.43 332 *e*P P 14 36 41.0 +0.5
426A McDonald Obser 84.45 53 ⇓P P 14 36 41.3 +0.2
baz=84
LAKA Lakka 84.49 318 P P 14 36 40.6 -0.3
WMOK Wichita Mounta 84.51 47 *e*P P 14 36 41.5 +0.5
WMOK pmax pmax
comp=Z,16nm,1.0s
WMOK Wichita Mounta 84.51 47 *e*P P 14 36 41.5 +0.5
comp=Z,16nm,1.0s
GUR Goura 84.54 318 P P 14 36 40.2 -1.0
LOR Lormes 84.58 334 ⇑*i*P P 14 36 41.1 0.0
comp=Z,58nm,0.9s,baz=35
LOR *e*R
comp=Z,2µm,19.8s
LOR Lormes 84.58 334 ⇑*i*P P 14 36 41.1 0.0
comp=Z,58nm,0.9s
FLN La Foliniere 84.58 337 ⇑*i*P P 14 36 41.1 0.0
comp=Z,24nm,0.8s,baz=30
FLN *e*R
comp=Z,2µm,19.2s
FLN La Foliniere 84.58 337 ⇑*i*P P 14 36 41.1 0.0
FLN pmax pmax
comp=Z,24nm,0.8s
FLN La Foliniere 84.58 337 ⇑*i*P P 14 36 41.1 0.0
comp=Z,24nm,0.8s
LDF La Druitiere 84.63 337 ⇑*i*P P 14 36 41.2 -0.1
comp=Z,28nm,0.8s
LDF La Druitiere 84.63 337 ⇑*i*P P 14 36 41.2 -0.1
LDF pmax pmax
comp=Z,28nm,0.8s
LDF La Druitiere 84.63 337 ⇑*i*P P 14 36 41.2 -0.1
comp=Z,28nm,0.8s
328A Wristen Ranch, 84.66 52 ⇓P P 14 36 42.6 +0.6
baz=84,SNR=7.3
427A Hayter Ranch, 84.69 53 ⇑P P 14 36 43.0 +0.9
baz=84,SNR=6.5
229A Bryant Ranch, 84.83 51 ⇓P P 14 36 43.5 +0.7
baz=85
HDIL Hopedale 84.84 38 *e*P P 14 36 42.3 -0.2
comp=Z,20nm,0.8s
526A Mary Lane Ranc 84.85 54 ⇓P P 14 36 44.2 +1.2
baz=85,SNR=7.3
SSF Saint Saulge 84.87 334 ⇑*i*P P 14 36 42.7 +0.1
comp=Z,33nm,0.9s
SSF Saint Saulge 84.87 334 ⇑*i*P P 14 36 42.7 +0.1
SSF pmax pmax
comp=Z,33nm,0.9s
SSF Saint Saulge 84.87 334 ⇑*i*P P 14 36 42.7 +0.1
comp=Z,33nm,0.9s
VLC Villacollemand 84.90 329 PFAKE 14 36 50.0 +7.2
VLC LR LR
comp=Z,2µm,19.0s
HYF Humbligny 84.97 335 ⇑*i*P P 14 36 43.6 +0.5
HYF Humbligny 84.97 335 ⇑*i*P P 14 36 43.6 +0.5
RSL Roselend 85.00 332 *e*P P 14 36 44.6 +1.1
RSL Roselend 85.00 332 *e*P P 14 36 44.6 +1.1
RSL Roselend 85.00 332 *e*P P 14 36 44.6 +1.1
PPT2 Papeete2 85.01 119 *e*S S 14 47 10.2 -0.2
comp=Z,259nm,25.5s
PPT2 *e*LR LR 15 03 27.0
comp=Z,1µm,24.5s
GRR Gorron 85.03 337 ⇑*i*P P 14 36 43.6 +0.3
comp=Z,29nm,0.6s
GRR Gorron 85.03 337 ⇑*i*P P 14 36 43.6 +0.3
GRR pmax pmax
comp=Z,29nm,0.6s
GRR Gorron 85.03 337 ⇑*i*P P 14 36 43.6 +0.3
comp=Z,29nm,0.6s
OG35 Corcelles 85.07 332 *e*P P 14 36 44.3 +0.6
527A Woodward Ranch 85.08 54 ⇑P P 14 36 44.4 +0.3
baz=85,SNR=5.3
329A Wagon Wheel Ra 85.08 52 ⇑P P 14 36 45.1 +1.1
baz=85,SNR=6.9
LPL La Plagne 85.11 331 ⇑*i*P P 14 36 44.7 +0.6
comp=Z,62nm,0.9s
LPL La Plagne 85.11 331 ⇑*i*P P 14 36 44.7 +0.6
LPL pmax pmax
comp=Z,62nm,0.9s
LPL La Plagne 85.11 331 ⇑*i*P P 14 36 44.7 +0.6
comp=Z,62nm,0.9s
LPG La Plagne 85.12 331 ⇑*i*P P 14 36 44.9 +0.6
comp=Z,61nm,0.8s
LPG La Plagne 85.12 331 ⇑*i*P P 14 36 44.9 +0.6
LPG pmax pmax
comp=Z,61nm,0.8s
LPG La Plagne 85.12 331 ⇑*i*P P 14 36 44.9 +0.6
comp=Z,61nm,0.8s
AVF Avril sur Loir 85.16 334 ⇑*i*P P 14 36 44.3 +0.3
comp=Z,57nm,0.7s
AVF Avril sur Loir 85.16 334 ⇑*i*P P 14 36 44.3 +0.3
AVF pmax pmax
comp=Z,57nm,0.7s
AVF Avril sur Loir 85.16 334 ⇑*i*P P 14 36 44.3 +0.3
comp=Z,57nm,0.7s
AQU L'Aquila 85.18 326 PFAKE 14 37 00.0 +16
AQU LR LR
comp=Z,2µm,20.0s
626A Big Bend Ranch 85.18 54 ⇓P P 14 36 46.1 +1.5
baz=85,SNR=10.0
428A Kincaid Ranch, 85.21 53 ⇓P P 14 36 46.6 +1.8
baz=85,SNR=7.9
TUL1 Tulsa 85.24 45 ⇑P P 14 36 45.4 +0.7
baz=85
ITM Ithomi 85.33 317 P P 14 36 44.6 -0.5
BGF Bois d'Agland 85.53 334 ⇑*i*P P 14 36 46.7 +0.8
comp=Z,53nm,1.1s
BGF Bois d'Agland 85.53 334 ⇑*i*P P 14 36 46.7 +0.8
BGF pmax pmax
comp=Z,53nm,1.1s

BGF	**Bois d'Agland**	**85.53**	**334**	⇑*iP*	**P**	**14 36 46.7**	**+0.8**
	comp=Z,53nm,1.1s						
BNI	**Bardonecchia**	**85.53**	**331**	*eP*	**P**	**14 36 46.4**	**+0.3**
BNI				pmax	pmax		
	comp=Z,15nm,0.8s						
BNI				MLR	MLR		
	comp=Z,2μm,19.0s						
BNI	**Bardonecchia**	**85.53**	**331**	*eP*	**P**	**14 36 46.4**	**+0.3**
	comp=Z,14nm,0.8s						
BNI				LR	LR		
	comp=Z,2μm,19.0s						
528A	**Cox Ranch, San**	**85.56**	**53**	⇑*P*	**P**	**14 36 47.7**	**+1.2**
	baz=85						
ABTX	**Abilene, Hawle**	**85.59**	**49**	⇓*P*	**P**	**14 36 47.7**	**+1.2**
	baz=85,SNR=6.7						
TXAR	**Lajitas Array**	**85.62**	**54**	*P*	**P**	**14 36 47.4**	**+0.6**
TXAR	**Lajitas Array**	**85.62**	**54**	*P*	**P**	**14 36 47.4**	**+0.6**
	comp=Z,5.0nm,0.7s,baz=295,slow=3.7,SNR=40						
SGMF	**Saint Gilles**	**85.63**	**338**	⇑*iP*	**P**	**14 36 46.8**	**+0.5**
	comp=Z,83nm,1.1s						
SGMF	**Saint Gilles**	**85.63**	**338**	⇑*iP*	**P**	**14 36 46.8**	**+0.5**
SGMF				pmax	pmax		
	comp=Z,83nm,1.1s						
SGMF	**Saint Gilles**	**85.63**	**338**	⇑*iP*	**P**	**14 36 46.8**	**+0.5**
	comp=Z,83nm,1.1s						
627A	**Terlingua Ranc**	**85.71**	**54**	⇑*P*	**P**	**14 36 48.3**	**+1.1**
	baz=86						
ROSF	**Rostrenen**	**85.75**	**339**	⇑*iP*	**P**	**14 36 47.5**	**+0.6**
	comp=Z,88nm,1.0s						
ROSF	**Rostrenen**	**85.75**	**339**	⇑*iP*	**P**	**14 36 47.5**	**+0.6**
ROSF				pmax	pmax		
	comp=Z,88nm,1.0s						
ROSF	**Rostrenen**	**85.75**	**339**	⇑*iP*	**P**	**14 36 47.5**	**+0.6**
	comp=Z,88nm,1.0s						
429A	**Davenport Ranc**	**85.75**	**52**	⇑*P*	**P**	**14 36 48.8**	**+1.4**
	baz=86						
MBDF	**Montbardon**	**85.78**	**331**	⇑*iP*	**P**	**14 36 47.3**	**-0.1**
	comp=Z,40nm,0.9s						
MBDF	**Montbardon**	**85.78**	**331**	⇑*iP*	**P**	**14 36 47.3**	**-0.1**
MBDF				pmax	pmax		
	comp=Z,40nm,0.9s						
MBDF	**Montbardon**	**85.78**	**331**	⇑*iP*	**P**	**14 36 47.3**	**-0.1**
	comp=Z,40nm,0.9s						
PLDF	**La Plantade**	**85.80**	**334**	*eP*	**P**	**14 36 47.9**	**+0.6**
PLDF	**La Plantade**	**85.80**	**334**	*eP*	**P**	**14 36 47.9**	**+0.6**
PLDF	**La Plantade**	**85.80**	**334**	*eP*	**P**	**14 36 47.9**	**+0.6**
AAM	**Ann Arbor**	**85.87**	**33**	PFAKE		14 37 00.0	+12
AAM				LR	LR		
	comp=Z,546nm,20.0s						
AGO	**Saint Agoulin**	**85.88**	**334**	*eP*	**P**	**14 36 48.2**	**+0.5**
AGO	**Saint Agoulin**	**85.88**	**334**	*eP*	**P**	**14 36 48.2**	**+0.5**
529A	**Stev Forest Ra**	**85.92**	**53**	⇓*P*	**P**	**14 36 49.5**	**+1.3**
	baz=86,SNR=9.1						
ORIF	**Oris-en-Rattie**	**85.94**	**332**	⇑*iP*	**P**	**14 36 48.6**	**+0.5**
	comp=Z,46nm,0.8s						
ORIF				*eR*			
	comp=Z,1μm,22.2s						
ORIF	**Oris-en-Rattie**	**85.94**	**332**	⇑*iP*	**P**	**14 36 48.6**	**+0.5**
ORIF				pmax	pmax		
	comp=Z,46nm,0.8s						
ORIF	**Oris-en-Rattie**	**85.94**	**332**	⇑*iP*	**P**	**14 36 48.6**	**+0.5**
	comp=Z,46nm,0.8s						
TCF	**Toulx Ste Croi**	**85.97**	**335**	⇑*iP*	**P**	**14 36 48.7**	**+0.6**
TCF	**Toulx Ste Croi**	**85.97**	**335**	⇑*iP*	**P**	**14 36 48.7**	**+0.6**
TCF	**Toulx Ste Croi**	**85.97**	**335**	⇑*iP*	**P**	**14 36 48.7**	**+0.6**
628A	**Black Gap, Mar**	**85.98**	**54**	⇓*P*	**P**	**14 36 49.3**	**+0.8**
	baz=86						
430A	**Baggett Ranch,**	**86.02**	**52**	⇑*P*	**P**	**14 36 49.5**	**+0.7**
	baz=86						
CUC	**Castrocucco**	**86.04**	**323**	PFAKE		14 37 00.0	+11
CUC				LR	LR		
	comp=Z,599nm,21.0s						
SSB	**Saint Sauveur**	**86.09**	**333**	*eP*	**P**	**14 36 49.2**	**+0.5**
SSB	**Saint Sauveur**	**86.09**	**333**	*eP*	**P**	**14 36 49.2**	**+0.5**
SSB	**Saint Sauveur**	**86.09**	**333**	*eP*	**P**	**14 36 49.2**	**+0.5**
QUIF	**Quistinic**	**86.10**	**339**	⇑*iP*	**P**	**14 36 49.1**	**+0.4**
	comp=Z,18nm,0.8s						
QUIF	**Quistinic**	**86.10**	**339**	⇑*iP*	**P**	**14 36 49.1**	**+0.4**
QUIF				pmax	pmax		
	comp=Z,18nm,0.8s						
QUIF	**Quistinic**	**86.10**	**339**	⇑*iP*	**P**	**14 36 49.1**	**+0.4**
	comp=Z,18nm,0.8s						
SAOF	**Saorge**	**86.13**	**330**	*eP*	**P**	**14 36 48.6**	**-0.4**
SAOF	**Saorge**	**86.13**	**330**	*eP*	**P**	**14 36 48.6**	**-0.4**
SAOF	**Saorge**	**86.13**	**330**	*eP*	**P**	**14 36 48.6**	**-0.4**
AUTN	**L'Aution**	**86.17**	**330**	*eP*	**P**	**14 36 49.3**	**-0.1**
AUTN	**L'Aution**	**86.17**	**330**	*eP*	**P**	**14 36 49.3**	**-0.1**
AUTN	**L'Aution**	**86.17**	**330**	*eP*	**P**	**14 36 49.3**	**-0.1**
PYM	**Petit Puy Mans**	**86.19**	**334**	*eP*	**P**	**14 36 49.5**	**+0.2**
PYM	**Petit Puy Mans**	**86.19**	**334**	*eP*	**P**	**14 36 49.5**	**+0.2**
PYM	**Petit Puy Mans**	**86.19**	**334**	*eP*	**P**	**14 36 49.5**	**+0.2**
TOUF	**Mont Tournerai**	**86.22**	**330**	*eP*	**P**	**14 36 49.2**	**-0.4**
TOUF	**Mont Tournerai**	**86.22**	**330**	*eP*	**P**	**14 36 49.2**	**-0.4**
TOUF	**Mont Tournerai**	**86.22**	**330**	*eP*	**P**	**14 36 49.2**	**-0.4**
SBF	**Sospel**	**86.28**	**330**	⇑*iP*	**P**	**14 36 49.3**	**-0.4**
	comp=Z,64nm,0.9s						
SBF	**Sospel**	**86.28**	**330**	⇑*iP*	**P**	**14 36 49.3**	**-0.4**
SBF				pmax	pmax		
	comp=Z,64nm,0.9s						
SBF	**Sospel**	**86.28**	**330**	⇑*iP*	**P**	**14 36 49.3**	**-0.4**
	comp=Z,64nm,0.9s						
MVIF	**Mont Vial**	**86.36**	**330**	*eP*	**P**	**14 36 50.1**	**-0.1**
MVIF	**Mont Vial**	**86.36**	**330**	*eP*	**P**	**14 36 50.1**	**-0.1**
MVIF	**Mont Vial**	**86.36**	**330**	*eP*	**P**	**14 36 50.1**	**-0.1**
REVF	**Revere**	**86.41**	**330**	*eP*	**P**	**14 36 50.1**	**-0.3**
REVF	**Revere**	**86.41**	**330**	*eP*	**P**	**14 36 50.1**	**-0.3**
REVF	**Revere**	**86.41**	**330**	*eP*	**P**	**14 36 50.1**	**-0.3**
VIVF	**Saint-Julien-l**	**86.41**	**332**	⇑*iP*	**P**	**14 36 50.9**	**+0.6**
	comp=Z,63nm,0.9s						
VIVF	**Saint-Julien-l**	**86.41**	**332**	⇑*iP*	**P**	**14 36 50.9**	**+0.6**
VIVF				pmax	pmax		
	comp=Z,63nm,0.9s						
VIVF	**Saint-Julien-l**	**86.41**	**332**	⇑*iP*	**P**	**14 36 50.9**	**+0.6**
	comp=Z,63nm,0.9s						
MFF	**Saint Martin d**	**86.43**	**336**	⇑*iP*	**P**	**14 36 51.0**	**+0.7**
	comp=Z,89nm,1.0s						
MFF	**Saint Martin d**	**86.43**	**336**	⇑*iP*	**P**	**14 36 51.0**	**+0.7**
MFF				pmax	pmax		
	comp=Z,89nm,1.0s						
MFF	**Saint Martin d**	**86.43**	**336**	⇑*iP*	**P**	**14 36 51.0**	**+0.7**
	comp=Z,89nm,1.0s						
431A	**Sonora**	**86.47**	**51**	⇑*P*	**P**	**14 36 52.1**	**+1.2**
	baz=86						
LBL	**Lubilhac**	**86.57**	**333**	*eP*	**P**	**14 36 51.5**	**+0.3**
LBL	**Lubilhac**	**86.57**	**333**	*eP*	**P**	**14 36 51.5**	**+0.3**
LBL	**Lubilhac**	**86.57**	**333**	*eP*	**P**	**14 36 51.5**	**+0.3**
CALN	**Calern**	**86.58**	**330**	*eP*	**P**	**14 36 51.3**	**0.0**
CALN	**Calern**	**86.58**	**330**	*eP*	**P**	**14 36 51.3**	**0.0**
CALN	**Calern**	**86.58**	**330**	*eP*	**P**	**14 36 51.3**	**0.0**
432A	**Menard**	**86.80**	**51**	⇑*P*	**P**	**14 36 53.7**	**+1.2**
	baz=87						
PGF	**Pioggiola**	**86.80**	**328**	⇑*iP*	**P**	**14 36 52.5**	**+0.1**
PGF	**Pioggiola**	**86.80**	**328**	⇑*iP*	**P**	**14 36 52.5**	**+0.1**
PGF	**Pioggiola**	**86.80**	**328**	⇑*iP*	**P**	**14 36 52.5**	**+0.1**
SMRF	**Simiane la Rot**	**86.86**	**331**	⇑*iP*	**P**	**14 36 53.3**	**+0.7**
SMRF	**Simiane la Rot**	**86.86**	**331**	⇑*iP*	**P**	**14 36 53.3**	**+0.7**
531A	**Rocksprings**	**86.88**	**52**	⇓*P*	**P**	**14 36 54.2**	**+1.2**
	baz=87						
RJF	**Les Rejaudoux**	**87.07**	**335**	⇑*iP*	**P**	**14 36 54.2**	**+0.7**
	comp=Z,84nm,1.2s						
RJF				*eR*			
	comp=Z,2μm,21.0s						
RJF	**Les Rejaudoux**	**87.07**	**335**	⇑*iP*	**P**	**14 36 54.2**	**+0.7**
RJF				pmax	pmax		
	comp=Z,84nm,1.2s						
RJF	**Les Rejaudoux**	**87.07**	**335**	⇑*iP*	**P**	**14 36 54.2**	**+0.7**
	comp=Z,84nm,1.2s						
LMR	**La Mourre**	**87.08**	**330**	⇑*iP*	**P**	**14 36 53.6**	**+0.1**
LMR	**La Mourre**	**87.08**	**330**	⇑*iP*	**P**	**14 36 53.6**	**+0.1**
LMR	**La Mourre**	**87.08**	**330**	⇑*iP*	**P**	**14 36 53.6**	**+0.1**
JCT	**Junction City**	**87.08**	**51**	*eP*	**P**	**14 36 54.5**	**+0.6**
JCT				pmax	pmax		
	comp=Z,19nm,1.1s						
JCT				MLR	MLR		
	comp=Z,435nm,20.0s						
JCT	**Junction City**	**87.08**	**51**	*eP*	**P**	**14 36 54.5**	**+0.6**
	comp=Z,19nm,1.1s						
JCT				LR	LR		
	comp=Z,435nm,20.0s						
JCT	**Junction City**	**87.08**	**51**	⇓*P*	**P**	**14 36 55.0**	**+1.1**
	baz=87						
SIUC	**Southern Illin**	**87.14**	**40**	*eP*	**P**	**14 36 53.8**	**-0.2**
	comp=Z,67nm,1.0s						
SNZO	**South Karori**	**87.22**	**157**	PFAKE		14 37 10.0	+16
SNZO				LR	LR		
	comp=Z,807nm,20.0s						
CAF	**Calvic**	**87.23**	**334**	⇑*iP*	**P**	**14 36 55.5**	**+1.2**
	comp=Z,110nm,1.0s						
CAF	**Calvic**	**87.23**	**334**	⇑*iP*	**P**	**14 36 55.5**	**+1.2**
CAF				pmax	pmax		
	comp=Z,110nm,1.0s						
CAF	**Calvic**	**87.23**	**334**	⇑*iP*	**P**	**14 36 55.5**	**+1.2**
	comp=Z,110nm,1.0s						
LONY	**Lake Ozonia**	**87.27**	**27**	PFAKE		14 37 10.0	+16
LONY				LR	LR		
	comp=Z,879nm,22.0s						
532A	**Rocksprings**	**87.28**	**51**	⇑*P*	**P**	**14 36 56.1**	**+1.2**
	baz=87						
WHTX	**Lake Whitney**	**87.30**	**48**	⇓*P*	**P**	**14 36 55.8**	**+1.0**
	baz=87						
LASF	**Ste Croix**	**87.38**	**333**	⇑*iP*	**P**	**14 36 56.0**	**+1.0**
	comp=Z,76nm,1.3s						
LASF	**Ste Croix**	**87.38**	**333**	⇑*iP*	**P**	**14 36 56.0**	**+1.0**
	comp=Z,76nm,1.3s						
631A	**Perdido Creek**	**87.42**	**52**	⇑*P*	**P**	**14 36 56.8**	**+1.3**
	baz=87						
MIAR	**Mount Ida**	**87.45**	**44**	*eP*	**P**	**14 36 55.6**	**+0.1**
MIAR				pmax	pmax		
	comp=Z,30nm,0.9s						
MIAR				MLR	MLR		
	comp=Z,839nm,21.0s						
MIAR	**Mount Ida**	**87.45**	**44**	*eP*	**P**	**14 36 55.6**	**+0.1**
	comp=Z,30nm,0.9s						
MIAR				LR	LR		
	comp=Z,839nm,21.0s						
ERPA	**Erie**	**87.49**	**31**	PFAKE		14 37 10.0	+14
ERPA				LR	LR		
	comp=Z,647nm,21.0s						
LFF	**La Frestale**	**87.64**	**335**	⇑*iP*	**P**	**14 36 57.3**	**+1.0**
	comp=Z,73nm,1.0s						
LFF	**La Frestale**	**87.64**	**335**	⇑*iP*	**P**	**14 36 57.3**	**+1.0**
LFF				pmax	pmax		
	comp=Z,73nm,1.0s						
LFF	**La Frestale**	**87.64**	**335**	⇑*iP*	**P**	**14 36 57.3**	**+1.0**
	comp=Z,73nm,1.0s						
ALLY	**Alegheny Colle**	**87.83**	**32**	*eP*	**P**	**14 36 57.0**	**-0.2**
	comp=Z,16nm,0.9s						
ACSO	**Alum Creek Sta**	**87.88**	**34**	*eP*	**P**	**14 36 57.6**	**+0.2**
	comp=Z,7.6nm,0.7s						
ACSO				LR	LR		
	comp=Z,653nm,21.0s						
WCI	**Wyandotte Cave**	**88.08**	**37**	*P*	**P**	**14 36 58.3**	**-0.2**
WCI				pmax	pmax		
	comp=Z,16nm,0.9s						
WCI	**Wyandotte Cave**	**88.08**	**37**	*P*	**P**	**14 36 58.3**	**-0.2**
	comp=Z,16nm,0.9s						
HBAR	**Harrisburg**	**88.15**	**42**	*eP*	**P**	**14 36 58.4**	**-0.5**
LBNH	**Lisbon**	**88.47**	**25**	PFAKE		14 37 10.0	+10
LBNH				LR	LR		
	comp=Z,805nm,21.0s						
BINY	**Binghamton**	**88.91**	**29**	PFAKE		14 37 10.0	+7.6
BINY				LR	LR		
	comp=Z,620nm,20.0s						
NATX	**Nacogdoches**	**89.02**	**47**	PFAKE		14 37 10.0	+7.0
NATX				LR	LR		
	comp=Z,625nm,21.0s						
VSL	**Villasalto**	**89.24**	**327**	PFAKE		14 37 20.0	+16
VSL				LR	LR		
	comp=Z,556nm,19.0s						
TBI	**Tubuai**	**89.25**	**123**	*e*LR	LR	15 05 27.6	
	comp=Z,832nm,22.5s						
EPF	**Esparros**	**89.48**	**334**	⇑*iP*	**P**	**14 37 05.2**	**+0.1**
	comp=Z,17nm,0.9s						
EPF	**Esparros**	**89.48**	**334**	⇑*iP*	**P**	**14 37 05.2**	**+0.1**
EPF				pmax	pmax		
	comp=Z,17nm,0.9s						
EPF	**Esparros**	**89.48**	**334**	⇑*iP*	**P**	**14 37 05.2**	**+0.1**
	comp=Z,17nm,0.9s						
OXF	**Oxford**	**89.60**	**42**	*P*	**P**	**14 37 05.4**	**-0.3**
OXF				pmax	pmax		
	comp=Z,49nm,1.1s						
OXF				MLR	MLR		
	comp=Z,446nm,19.0s						
OXF	**Oxford**	**89.60**	**42**	*P*	**P**	**14 37 05.4**	**-0.3**
	comp=Z,49nm,1.1s						
OXF				LR	LR		
	comp=Z,446nm,19.0s						
PLAL	**Pickwick Lake**	**89.88**	**40**	PFAKE		14 37 20.0	+13
PLAL				LR	LR		
	comp=Z,734nm,20.0s						
ETSF	**Etsaut**	**89.89**	**335**	⇑*iP*	**P**	**14 37 07.2**	**+0.2**
	comp=Z,18nm,0.6s						
ETSF	**Etsaut**	**89.89**	**335**	⇑*iP*	**P**	**14 37 07.2**	**+0.2**
ETSF				pmax	pmax		
	comp=Z,18nm,0.6s						
ETSF	**Etsaut**	**89.89**	**335**	⇑*iP*	**P**	**14 37 07.2**	**+0.2**
	comp=Z,18nm,0.6s						
SJPF	**Ste Jean**	**89.91**	**335**	*eP*	**P**	**14 37 07.8**	**+0.8**
SJPF	**Ste Jean**	**89.91**	**335**	*eP*	**P**	**14 37 07.8**	**+0.8**
SJPF	**Ste Jean**	**89.91**	**335**	*eP*	**P**	**14 37 07.8**	**+0.8**
WDD	**Wield Dalam**	**89.99**	**321**	PFAKE		14 37 20.0	+13
WDD				LR	LR		
	comp=Z,589nm,19.0s						
VBMS	**Vicksburg**	**90.86**	**44**	PFAKE		14 37 20.0	+8.4
VBMS				LR	LR		
	comp=Z,761nm,20.0s						
BLA	**Blacksburg**	**91.50**	**34**	PFAKE		14 37 30.0	+15
BLA				LR	LR		
	comp=Z,514nm,19.0s						
CBN	**Corbin**	**91.88**	**31**	PFAKE		14 37 30.0	+14
CBN				LR	LR		
	comp=Z,562nm,19.0s						
LRAL	**Lakeview Retre**	**91.98**	**41**	PFAKE		14 37 30.0	+13
LRAL				LR	LR		
	comp=Z,509nm,20.0s						
MSEY	**Mahe Island**	**92.04**	**266**	PFAKE		14 37 30.0	+13
MSEY				LR	LR		
	comp=Z,549nm,21.0s						
KEST	**Kesra**	**92.43**	**325**	LR	LR	15 24 05.4	
	comp=Z,823nm,20.1s,baz=164,slow=39						
PBRG	**Braganca**	**92.72**	**339**	*eP*	**P**	**14 37 19.9**	**-0.2**
	comp=Z,23nm,1.6s						
PGAV	**Gavieira, Arco**	**92.98**	**340**	*eP*	**P**	**14 37 21.2**	**-0.2**
PGAV				*e*LR	LR	15 14 35.5	
	comp=Z,784nm,20.0s						
GOGA	**Godfrey**	**93.35**	**38**	PFAKE		14 37 30.0	+6.9
GOGA				LR	LR		
	comp=Z,725nm,19.0s						
MVO	**Moncorvo**	**93.40**	**339**	*eP*	**P**	**14 37 23.0**	**-0.3**
	comp=Z,17nm,1.0s						
MVO				*e*LR	LR	15 15 52.1	
	comp=Z,1μm,20.0s						
POLO	**Lamas de Olo**	**93.41**	**339**	*eP*	**P**	**14 37 23.2**	**-0.1**
	comp=Z,14nm,1.7s						
PVRL	**Vila Real**	**93.48**	**339**	*eP*	**P**	**14 37 23.5**	**-0.1**
	comp=Z,36nm,1.7s						
BRAL	**Brewton**	**93.59**	**42**	PFAKE		14 37 40.0	+16
BRAL				LR	LR		
	comp=Z,587nm,20.0s						
ESDC	**Sonseca Array**	**93.89**	**336**	*P*	**P**	**14 37 25.9**	**+0.4**
ESDC				PP	PP	**14 41 10.7**	**+0.3**
ESDC	**Sonseca Array**	**93.89**	**336**	*P*	**P**	**14 37 25.9**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=13,slow=4.4,SNR=12						
ESDC				PP	PP	**14 41 10.7**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=29,slow=8.2,SNR=4.1						
ESDC				LR	LR	15 25 50.0	
	comp=Z,1μm,18.5s,baz=35,slow=39						
PAB	**San Pablo**	**94.12**	**336**	PFAKE		14 37 40.0	+13
PAB				LR	LR		
	comp=Z,1μm,19.0s						
CNNC	**Cliffs of the**	**94.23**	**33**	PFAKE		14 37 40.0	+13
CNNC				LR	LR		
	comp=Z,658nm,20.0s						
MTE	**Manteigas**	**94.25**	**339**	*e*LR	LR	15 16 27.8	
	comp=Z,1μm,20.0s						
MTE	**Manteigas**	**94.25**	**339**	PFAKE		14 37 40.0	+13
MTE				LR	LR		
	comp=Z,2μm,21.0s						
NHSC	**New Hope**	**95.09**	**36**	PFAKE		14 37 40.0	+9.0
NHSC				LR	LR		
	comp=Z,832nm,20.0s						
PMRV	**Marv??o**	**95.11**	**338**	*e*LR	LR	15 16 33.5	
	comp=Z,771nm,18.0s						
PVAQ	**Vaqueiros**	**97.09**	**338**	*e*LR	LR	15 14 42.6	
	comp=Z,2μm,20.0s						
RKT	**Rikitea**	**98.67**	**113**	*e*SP	SP	14 50 37.7	-1.8
	comp=Z,215nm,31.0s						
RKT				*e*SS	**SS**	**14 56 00.0**	**-0.8**
	comp=Z,232nm,26.8s						
RKT				*e*LR	LR	15 09 55.2	
	comp=Z,659nm,22.0s						
RTC	**Rabat Centre**	**100.02**	**336**	PFAKE		14 38 00.0	+6.8
RTC				LR	LR		
	comp=Z,926nm,22.0s						
BBSR	**BB Station**	**101.60**	**25**	PFAKE		14 38 10.0	+10
BBSR				LR	LR		
	comp=Z,482nm,19.0s						
KMBO	**Kilima Mbogo**	**103.27**	**281**	PFAKE		14 38 20.0	+12
KMBO				LR	LR		
	comp=Z,549nm,19.0s						
ABPO	**Ambohimpanom**	**107.43**	**260**	PFAKE		14 42 50.0	
ABPO				LR	LR		
	comp=Z,269nm,19.0s						
MBAR	**Mbarara**	**107.66**	**286**	PFAKE		14 42 50.0	
MBAR				LR	LR		
	comp=Z,670nm,20.0s						
GTBY	**Guantanamo Bay**	**108.69**	**39**	PFAKE		14 42 50.0	
GTBY				LR	LR		
	comp=Z,698nm,20.0s						
SDDR	**Presa de Saban**	**111.25**	**36**	PFAKE		14 42 50.0	
SDDR				LR	LR		
	comp=Z,573nm,19.0s						
SJG	**San Juan**	**114.17**	**32**	PFAKE		14 43 00.0	+12
SJG				LR	LR		
	comp=Z,617nm,22.0s						
TORD	**Torodi Ar. Bea**	**115.29**	**319**	PKP	**PKPdf**	**14 42 49.2**	**-0.7**
TORD	**Torodi Ar. Bea**	**115.29**	**319**	PKP	**PKPdf**	**14 42 49.2**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=332,slow=1.6,SNR=4.3						
LSZ	**Lusaka**	**119.28**	**276**	PFAKE		14 43 10.0	+12
LSZ				LR	LR		
	comp=Z,888nm,19.0s						
SDV	**Santo Domingo**	**120.37**	**41**	PFAKE		14 43 10.0	+10
SDV				LR	LR		
	comp=Z,125nm,22.0s						
SACV	**Santiago Islan**	**122.41**	**346**	PFAKE		14 43 20.0	+16
SACV				LR	LR		
	comp=Z,331nm,20.0s						
OTAV	**Otavalo**	**123.25**	**54**	PFAKE		14 43 20.0	+14
OTAV				LR	LR		
	comp=Z,222nm,20.0s						
DBIC	**Dimbokro**	**124.05**	**322**	PKP	**PKPdf**	**14 43 06.1**	**-0.6**
DBIC	**Dimbokro**	**124.05**	**322**	PKP	**PKPdf**	**14 43 06.1**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=24,slow=2.5,SNR=3.6						
QSPA	**South Pole Qui**	**131.51**	**180**	PFAKE		14 43 30.0	+11
QSPA				LR	LR		
	comp=Z,296nm,20.0s						
NNA	**Nana**	**133.62**	**62**	PFAKE		14 43 40.0	+15
NNA				LR	LR		
	comp=Z,443nm,21.0s						
SAML	**Samuel**	**139.41**	**44**	PFAKE		14 43 50.0	+14
SAML				LR	LR		
	comp=Z,333nm,21.0s						
LPAZ	**La Paz**	**142.44**	**57**	PKP	**PKPdf**	**14 43 41.8**	**+0.1**
LPAZ	**La Paz**	**142.44**	**57**	PKP	**PKPdf**	**14 43 41.8**	**+0.1**
	comp=Z,2.6nm,1.0s,baz=11,slow=3.3,SNR=5.0						
RCBR	**Riachuelo**	**144.20**	**360**	PFAKE		14 44 00.0	+16
RCBR				LR	LR		
	comp=Z,463nm,21.0s						
LCO	**Las Campanas**	**149.12**	**77**	PFAKE		14 44 00.0	-1.0
LCO				LR	LR		
	comp=Z,893nm,22.0s						
BDFB	**Brasilia**	**151.94**	**25**	PKPbc	**PKPbc**	**14 44 03.0**	**-0.4**
BDFB	**Brasilia**	**151.94**	**25**	PKPbc	**PKPbc**	**14 44 03.0**	**-0.4**
	comp=Z,1.9nm,0.5s,baz=108,slow=3.6,SNR=4.2						

IDC 22 14:28:16.4±5.5, 4°.51S×153°.06E, h87km±45km, mb3.3/6, mb1 3.4/7, mb1mx3.3/18, mbtmp3.3/7, Error ellipse: s-maj=54.7km s-min=26.9km az=117.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.62**	**230**	P	Pn	14 30 05.1	+0.3
	0.3nm,0.3s,baz=35,slow=12,SNR=2.5						
PMG				S	Sn	14 31 30.2	+0.7
	0.7nm,0.3s,baz=95,slow=5.5,SNR=3.8						
WRA	**Warramunga Arr**	**23.83**	**228**	P	P	14 33 22.1	+0.2
	2.0nm,0.5s,baz=53,slow=9.7,SNR=41						
ASAR	**Alice Springs**	**26.54**	**222**	P	P	14 33 46.6	+0.2
	0.2nm,0.4s,baz=57,slow=9.3,SNR=14						
STKA	**Stephens Creek**	**29.28**	**200**	P	P	14 34 10.1	-0.5
	0.4nm,0.6s,baz=0.8,slow=14,SNR=3.2						
FITZ	**Fitzroy Crossi**	**30.03**	**241**	P	P	14 34 17.0	-0.4
	0.5nm,0.3s,baz=45,slow=4.6,SNR=8.0						
MKAR	**Makanchi Array**	**80.28**	**319**	P	P	14 40 17.8	-0.1
	0.2nm,0.6s,baz=98,slow=6.4,SNR=2.7						
ILAR	**Eielson Array**	**81.79**	**22**	P	P	14 40 25.5	0.0
	0.2nm,0.9s,baz=258,slow=4.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**150.46**	**289**	PKPbc	PKPbc	14 47 59.0	-0.1
	2.4nm,0.5s,baz=74,slow=2.1,SNR=21						

*IDC **22** 14:38:13.5±1.1, 3°.62N×127°.07E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/21, mbtmp3.8/7, Error ellipse: s-maj=105.0km s-min=16.8km az=72.0*
*ISCJB **22** 14:38:17.9±0.8, 3°.68N±0°.06×127°.18E±0°.08, h48km, mb3.8/7, Error ellipse: s-maj=11.4km s-min=9.0km az=2.5*
*DJA **22** 14:38:20.9±1.7, 3°N±21°×12°7E±°, h160km±32km, M3.9/3, mb4.0/3, MLv3.8/2*
ISC 22 14:38:19.8±0.9, 3°.64N±0°.08×127°.19E±0°.09, h48km, n12, σ1°33/14, mb3.7/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.85**	**176

s-maj=350.6km s-min=51.4km az=9.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**31.10**	**60**	P	P	15 10 57.3	0.0
	0.5nm,0.3s,baz=228,slow=14,SNR=2.7						
TXAR	**Lajitas Array**	**64.51**	**352**	P	P	15 15 15.1	0.0
	0.5nm,0.8s,baz=170,slow=7.6,SNR=5.0						
NVAR	**Mina Array Bea**	**76.05**	**342**	P	P	15 16 25.9	+0.1
	0.2nm,0.4s,baz=158,slow=5.7,SNR=4.3						
PDAR	**Pinedale Array**	**78.50**	**350**	P	P	15 16 39.5	0.0
	0.6nm,0.6s,baz=159,slow=7.4,SNR=5.4						

IDC 22 15:06:26.1±6.8, 3°.06N×127°.28E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/20, mbtmp3.5/3, Error ellipse: s-maj=141.3km s-min=107.4km az=76.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.88**	**163**	P	P	15 11 40.5	-1.1
	1.1nm,0.6s,baz=343,slow=11,SNR=14						
ASAR	**Alice Springs**	**27.33**	**167**	P	P	15 12 14.3	+1.4
	0.2nm,0.3s,baz=341,slow=11,SNR=11						
STKA	**Stephens Creek**	**37.31**	**160**	P	P	15 13 39.4	-0.7
	0.7nm,0.6s,baz=333,slow=11,SNR=3.7						

ISK ***22*** *15:07:47.4, 40°.07N×38°.77E, h10km, MD2.8*
ISCJB ***22*** *15:07:48.2±0.5, 40°.07N±0°.03×38°.78E±0°.04, h14km±6km, Error ellipse: s-maj=5.8km s-min=4.9km az=13.0*
DDA ***22*** *15:07:48.6, 40°.01N×38°.78E, h7km, MD2.7, ML3.0*
CSEM ***22*** *15:07:48.2±0.2, 40°.05N×38°.79E, h15km, ML3.0, Error ellipse: s-maj=4.5km s-min=4.1km az=125.0*

ISC 22 15:07:48.2±1.1, 40°.05N±0°.03×38°.79E±0°.02, h13km±12km, n24, σ0°60/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELT	**Kelkit**	**0.37**	**75**	*i* P	**Pb**	**15 07 56.5**	**-0.3**
KELT				*i* S	**Sb**	**15 08 02.3**	**-0.3**
KELT	**Kelkit**	**0.37**	**75**	*i* P	**Pb**	**15 07 56.5**	**-0.3**
KELT				*i* S	**Sb**	**15 08 02.3**	**-0.3**
SUSE	**Susehri**	**0.47**	**289**	*i* P	**Pb**	**15 07 58.3**	**-0.2**
SUSE				*i* S	**Sb**	**15 08 05.5**	**+0.1**
SUSE	**Susehri**	**0.47**	**289**	*i* P	**Pb**	**15 07 58.3**	**-0.2**
SUSE				*i* S	**Sb**	**15 08 05.5**	**+0.1**
EZC	**Erzincan**	**0.53**	**124**	*e*PG	**Pg**	**15 07 58.0**	**-0.6**
EZC				*e*SG	**Sb**	**15 08 07.2**	**+0.2**
EZC	**Erzincan**	**0.53**	**124**	*e*Pg	**Pg**	**15 07 58.0**	**-0.6**
EZC				*e*Sg	**Sb**	**15 08 07.3**	**+0.2**
ILIC	**ilic-Erzincan**	**0.62**	**196**	*e*PG	**Pg**	**15 08 00.2**	**-0.1**
ILIC	**ilic-Erzincan**	**0.62**	**196**	*e*Pg	**Pg**	**15 08 00.2**	**-0.1**
GUMT	**Gumushane**	**0.67**	**52**	*e*PG	**Pg**	**15 08 01.0**	**-0.2**
GUMT				*e*SG	**Sb**	**15 08 10.8**	**-0.3**
GUMT	**Gumushane**	**0.67**	**52**	*e*Pg	**Pg**	**15 08 01.0**	**-0.2**
GUMT				*e*Sg	**Sb**	**15 08 10.8**	**-0.3**
KEMA	**Kemaliye**	**0.81**	**196**	*i* P	**Pg**	**15 08 03.0**	**-0.9**
KEMA				*i* S	**Sb**	**15 08 15.0**	**-0.2**
KEMA	**Kemaliye**	**0.81**	**196**	*i* P	**Pg**	**15 08 03.0**	**-0.9**
KEMA				*i* S	**Sb**	**15 08 15.0**	**-0.2**
ESPY	**Espiye-Giresun**	**0.86**	**357**	*e*PG	**Pg**	**15 08 04.7**	**-0.2**
ESPY				*e*SG	**Sg**	**15 08 16.1**	**-0.1**
ESPY	**Espiye-Giresun**	**0.86**	**357**	*e*Pg	**Pg**	**15 08 04.7**	**-0.2**
ESPY				*e*Sg	**Sg**	**15 08 16.1**	**-0.1**
BAYT	**Ayd¯–ntepe-Bay**	**1.09**	**71**	*e*PN	**Pb**	**15 08 08.2**	**-0.9**
BAYT	**Ayd¯–ntepe-Bay**	**1.09**	**71**	*e*Pn	**Pb**	**15 08 08.2**	**-0.9**
RSDY	**Resadiye-TOKAT**	**1.17**	**288**	*e*PN	**Pb**	**15 08 10.4**	**+0.2**
RSDY	**Resadiye-TOKAT**	**1.17**	**288**	*e*Pn	**Pb**	**15 08 10.4**	**+0.2**
PTK	**Pertek**	**1.25**	**158**	*e*PN	**Pn**	**15 08 11.7**	**+0.1**
PTK	**Pertek**	**1.25**	**158**	*e*Pn	**Pn**	**15 08 11.7**	**+0.1**
KOPT	**Kop Dagi**	**1.31**	**91**	*i* P	**Pg**	**15 08 13.7**	**+0.2**
KOPT				*i* S	**Sg**	**15 08 33.2**	**+2.5**
KOPT	**Kop Dagi**	**1.31**	**91**	*i* P	**Pg**	**15 08 13.7**	**+0.2**
MALT	**Malatya**	**1.76**	**189**	*e*PN	**Pn**	**15 08 18.8**	**+0.3**
MALT	**Malatya**	**1.76**	**189**	*e*Pn	**Pn**	**15 08 18.8**	**+0.3**

IDC 22 15:11:47.9±0.9, 9°.32S×158°.93E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.7/16, mbtmp3.6/6, Error ellipse: s-maj=28.6km s-min=16.0km az=174.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.01**	**96**	Pn	Pn	15 12 10.2	+0.9
	282nm,0.3s,baz=229,slow=4.7,SNR=114						
HNR				Sn	Sn	15 12 23.3	-1.0
	403nm,0.3s,baz=294,slow=20,SNR=13						
WRA	**Warramunga Arr**	**25.99**	**243**	P	P	15 17 22.3	-0.4
	1.3nm,0.9s,baz=70,slow=9.2,SNR=8.7						
STKA	**Stephens Creek**	**27.61**	**213**	P	P	15 17 37.4	+0.3
	4.0nm,1.2s,baz=53,slow=7.7,SNR=5.6						
ASAR	**Alice Springs**	**27.84**	**236**	P	P	15 17 39.2	-0.1
	1.1nm,0.8s,baz=70,slow=11,SNR=8.4						
SONM	**Songino Array**	**73.41**	**326**	P	P	15 23 22.8	+0.7
	0.8nm,0.8s,baz=138,slow=5.9,SNR=5.6						
ILAR	**Eielson Array**	**84.14**	**20**	P	P	15 24 19.9	-0.7
	0.1nm,0.5s,baz=258,slow=5.1,SNR=5.6						
MKAR	**Makanchi Array**	**87.72**	**318**	P	P	15 24 38.5	-0.3
	0.3nm,0.7s,baz=107,slow=5.0,SNR=2.3						

IDC 22 15:16:34.8±2.5, 0°.56S×131°.31E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=119.2km s-min=24.3km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.30**	**197**	P	P	15 20 50.6	0.0
	0.1nm,0.3s,baz=17,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**19.49**	**171**	P	P	15 21 03.1	-0.5
	0.1nm,0.3s,baz=354,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**23.11**	**174**	P	P	15 21 42.3	-0.3
	1.3nm,0.7s,baz=354,slow=8.0,SNR=19						
MKAR	**Makanchi Array**	**63.67**	**325**	P	P	15 27 08.3	+0.2
	0.3nm,1.0s,baz=128,slow=7.5,SNR=2.4						

IDC 22 15:27:45.3±0.7, 3°.64N×126°.78E, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.1/22, mbtmp4.1/14, Error ellipse: s-maj=45.1km s-min=14.4km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**4.55**	**338**	*e*P	Pb	15 29 03.5	-2.6
FITZ	**Fitzroy Crossi**	**21.63**	**183**	P	P	15 32 37.7	+0.4
	1.3nm,0.8s,baz=14,slow=12,SNR=2.1						
WRA	**Warramunga Arr**	**24.58**	**163**	P	P	15 33 07.4	+0.1
	8.3nm,0.8s,baz=342,slow=10,SNR=58						
ASAR	**Alice Springs**	**28.01**	**166**	P	P	15 33 37.9	-0.4
	0.5nm,0.8s,baz=344,slow=7.1,SNR=5.7						
CMAR	**Chiang Mai Arr**	**30.96**	**301**	P	P	15 34 04.7	+0.1
	1.3nm,0.8s,baz=110,slow=7.1,SNR=11						
STKA	**Stephens Creek**	**38.02**	**159**	P	P	15 35 05.7	+0.2
	4.1nm,0.8s,baz=349,slow=7.6,SNR=12						
ASAJ	**Asahikawa**	**42.66**	**17**	P	P	15 35 43.5	-0.2
	4.7nm,0.8s,baz=225,slow=5.7,SNR=2.0						
SONM	**Songino Array**	**47.40**	**341**	P	P	15 36 22.3	+0.7
	1.0nm,0.6s,baz=160,slow=6.9,SNR=9.4						
MKAR	**Makanchi Array**	**57.66**	**325**	P	P	15 37 38.1	+0.5
	1.1nm,0.5s,baz=119,slow=7.4,SNR=23						
ZALV	**Zalesovo Beam**	**60.69**	**333**	P	P	15 37 58.3	-0.1
	0.9nm,0.6s,baz=131,slow=8.1,SNR=5.5						
BRTR	**Keskin Array B**	**90.12**	**310**	P	P	15 40 46.9	-1.0
	0.8nm,0.7s,baz=114,slow=7.1,SNR=4.3						
ARCES	**ARCESS Array B**	**90.55**	**340**	P	P	15 40 48.4	-0.6
	1.9nm,0.7s,baz=80,slow=6.7,SNR=5.5						
FINES	**FINESS Array B**	**91.94**	**332**	P	P	15 40 55.2	-0.4
	8.6nm,1.1s,baz=107,slow=2.0,SNR=3.4						
AKASG	**Malin Array Be**	**92.00**	**321**	P	P	15 40 55.7	-0.4
	1.1nm,0.5s,baz=85,slow=4.7,SNR=4.6						
NOA	**NORSAR Array B**	**98.89**	**334**	P	P	15 41 26.8	-0.6
	1.9nm,1.0s,baz=98,slow=6.1,SNR=2.9						
TORD	**Torodi Ar. Bea**	**123.00**	**288**	PKP	PKPdf	15 46 44.2	-0.6
	0.3nm,0.7s,baz=76,slow=1.3,SNR=3.2						

IDC 22 15:28:56.5±0.9, 3°.76N×126°.99E, h0km, mb4.2/12, mb1 4.3/12, mb1mx4.1/21, mbtmp4.2/12, MS3.1/2, Ms1 3.1/2, ms1mx2.5/31, Error ellipse: s-maj=60.3km s-min=14.8km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.58**	**337**	LR	LR	15 30 51.9	
	comp=Z,205nm,18.2s,baz=46,slow=32						
FITZ	**Fitzroy Crossi**	**21.76**	**183**	P	P	15 33 50.6	+0.7
	1.8nm,0.7s,baz=3.3,slow=11,SNR=2.4						
JOW	**Kunigami**	**22.98**	**3**	LR	LR	15 42 30.8	
	comp=Z,59nm,18.9s,baz=7.8,slow=35						
WRA	**Warramunga Arr**	**24.63**	**163**	P	P	15 34 18.1	-0.9
	9.8nm,0.8s,baz=342,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.08**	**166**	P	P	15 34 51.2	+1.2
	0.7nm,0.9s,baz=344,slow=11,SNR=2.6						
CMAR	**Chiang Mai Arr**	**31.08**	**300**	P	P	15 35 17.1	+0.4
	1.4nm,0.7s,baz=114,slow=7.4,SNR=8.6						
STKA	**Stephens Creek**	**38.06**	**160**	P	P	15 36 16.4	-0.5
	3.3nm,0.8s,baz=331,slow=6.0,SNR=6.1						
SONM	**Songino Array**	**47.36**	**341**	P	P	15 37 33.6	+1.2
	1.3nm,0.6s,baz=156,slow=8.0,SNR=8.4						
SONM				PcP	PcP	15 39 04.3	+1.0
	1.2nm,0.9s,baz=145,slow=4.2,SNR=5.8						
MKAR	**Makanchi Array**	**57.68**	**325**	P	P	15 38 49.1	+0.2
	1.7nm,0.6s,baz=119,slow=8.0,SNR=9.2						
ZALV	**Zalesovo Beam**	**60.68**	**333**	P	P	15 39 09.3	-0.2
	0.8nm,0.6s,baz=126,slow=8.1,SNR=4.3						
BRTR	**Keskin Array B**	**90.20**	**310**	P	P	15 41 57.6	-1.9
	1.0nm,0.8s,baz=97,slow=5.3,SNR=4.3						
ARCES	**ARCESS Array B**	**90.51**	**340**	P	P	15 41 59.0	-1.1
	5.5nm,0.8s,baz=86,slow=4.0,SNR=5.8						
FINES	**FINESS Array B**	**91.93**	**332**	P	P	15 42 06.4	-0.3
	3.2nm,1.0s,baz=37,slow=9.8,SNR=3.9						
AKASG	**Malin Array Be**	**92.03**	**321**	P	P	15 42 06.5	-0.9
	1.2nm,0.6s,baz=67,slow=5.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**123.16**	**288**	PKP	PKPdf	15 47 56.1	-0.2
	0.6nm,0.8s,baz=94,slow=2.4,SNR=3.7						

MEX 22 15:29:06.2±0.8, 16°.09N×96°.02W, h6km±10km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.19**	**325**	*e*P	Pg	15 29 26.5	-2.9
VHO				*i* S	Sg	15 29 40.9	-4.2
CMIG	**Matias Romero**	**1.47**	**47**	*i* P	Pn	15 29 29.3	-4.1
CMIG				*i* S	Sn	15 29 48.3	-4.7
PNIG	**Pinotepa**	**2.05**	**279**	*e*P	Pn	15 29 37.7	-3.6
PNIG				*i* S	Sn	15 30 02.6	-4.6
PCIG		**2.72**	**98**	*i* S	Sn	15 30 20.2	-3.6
TGIG		**2.86**	**76**	*i* P	Pn	15 29 51.5	-1.1
TGIG				*i* S	Sn	15 30 23.6	-3.8
CCIG	**Comitan**	**3.73**	**87**	*i* S	Sn	15 30 46.2	-3.0

ISCJB ***22*** *15:33:11.4±0.7, 37°.57N±0°.06×35°.48E±0°.06, h9km±10km, Error ellipse: s-maj=10.9km s-min=7.4km az=169.4*
ISK ***22*** *15:33:11.5, 37°.57N×35°.51E, h14km, MD2.7*
DDA ***22*** *15:33:11.7, 37°.48N×35°.61E, h5km, MD2.8*
CSEM ***22*** *15:33:11.7±0.1, 37°.58N×35°.49E, h12km, MD2.7, Error ellipse: s-maj=2.7km s-min=2.4km az=15.0*

ISC 22 15:33:12.2±1.0, 37°.53N±0°.04×35°.50E±0°.03, h16km±9km, n20, σ0°82/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.26**	**100**	PG	**Pg**	**15 33 17.7**	**-0.2**
KOZT				*e*SG	**Sg**	**15 33 21.6**	**-0.2**
KOZT	**Kozan**	**0.26**	**100**	*i* Pg	**Pg**	**15 33 17.7**	**-0.2**
KOZT				*i* Sg	**Sg**	**15 33 21.6**	**-0.2**
CEYT	**Ceyhan**	**0.55**	**159**	*e*PG	**Pb**	**15 33 23.8**	**+0.3**
CEYT	**Ceyhan**	**0.55**	**159**	*e*Pg	**Pb**	**15 33 23.8**	**+0.3**
GULE	**Gulek**	**0.63**	**248**	*i* P	**Pg**	**15 33 24.4**	**-0.2**
GULE				*i* S	**Sn**	**15 33 36.6**	**+0.1**
GULE	**Gulek**	**0.63**	**248**	*i* P	**Pg**	**15 33 24.4**	**-0.2**
GULE				*i* S	**Sn**	**15 33 36.6**	**+0.1**
NIG	**Nigde**	**0.92**	**310**	*e*PG	**Pg**	**15 33 29.1**	**-1.0**
NIG	**Nigde**	**0.92**	**310**	*e*Pg	**Pg**	**15 33 29.1**	**-1.0**
KRTS	**Karatas**	**0.96**	**186**	*e*PG	**Pb**	**15 33 31.2**	**+0.7**
KRTS	**Karatas**	**0.96**	**186**	*e*Pg	**Pb**	**15 33 31.2**	**+0.7**
MERS	**Mersin**	**1.02**	**230**	*e*PG	**Pg**	**15 33 31.5**	**-0.6**
MERS	**Mersin**	**1.02**	**230**	*e*Pg	**Pg**	**15 33 31.5**	**-0.6**
KMRS	**Kahramanmaras**	**1.11**	**91**	*e*PN	**Pg**	**15 33 33.2**	**-0.5**
KMRS	**Kahramanmaras**	**1.11**	**91**	*e*Pn	**Pg**	**15 33 33.2**	**-0.5**
BNN	**Bunyan**	**1.35**	**11**	*e*PN	**Pn**	**15 33 35.9**	**-0.7**
BNN	**Bunyan**	**1.35**	**11**	*e*Pn	**Pn**	**15 33 35.9**	**-0.7**
PINB	**Pinarbasi**	**1.35**	**31**	*i* P	**Pg**	**15 33 35.7**	**-1.0**
PINB				*i* S	**Sg**	**15 33 57.8**	**+1.9**
PINB	**Pinarbasi**	**1.35**	**31**	*i* P	**Pn**	**15 33 35.7**	**-1.0**
PINB				*i* S	**Sg**	**15 33 57.8**	**+1.9**
SULT	**Sultanhani-AKS**	**1.71**	**294**	*e*PN	**Pn**	**15 33 41.4**	**-0.1**
SULT	**Sultanhani-AKS**	**1.71**	**294**	*e*Pn	**Pn**	**15 33 41.4**	**-0.1**

WEL 22 15:37:18.8±0.5, 37°.88S×176°.32E, h154km±4km, ML3.7/14, 6C-1D, Error ellipse: s-maj=4.6km s-min=4.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.73**	**122**	⇓Pn	Pn	15 37 42.1	+0.2
URZ				SN	Sn	15 37 59.3	-0.2
MWZ	**Matawai**	**1.06**	**116**	⇑Pn	Pn	15 37 44.6	+0.1
RAHZ	**Arahi**	**1.20**	**150**	PN	Pn	15 37 46.3	+0.5
NMHZ	**Naumai**	**1.28**	**163**	PN	Pn	15 37 47.2	+0.6
BKZ	**Black Stump Fm**	**1.29**	**174**	⇑PN	Pn	15 37 46.5	-0.2
BKZ				SN	Sn	15 38 06.8	-1.3
PUZ	**Puketiti**	**1.54**	**98**	PN	Pn	15 37 48.6	-0.5
KNZ	**Kokohu**	**1.56**	**137**	PN	Pn	15 37 49.1	-0.1
MCHZ	**McNeill Hill**	**1.59**	**169**	PN	Pn	15 37 49.9	+0.3
MOVZ	**Moawhango**	**1.59**	**196**	PN	Pn	15 37 49.2	-0.5
PKVZ	**Pokaka**	**1.60**	**208**	PN	Pn	15 37 49.9	+0.1
CNGZ	**Carnagh Statio**	**1.61**	**113**	PN	Pn	15 37 50.3	+0.5
MXZ	**Matakaoa Point**	**1.61**	**79**	PN	Pn	15 37 49.7	0.0
PRGZ	**Paritu Road**	**1.61**	**131**	PN	Pn	15 37 49.7	-0.2
BHHZ	**Black Hill Sta**	**1.62**	**187**	⇑PN	Pn	15 37 49.6	-0.5
MHGZ	**Mahia Peninsul**	**1.78**	**136**	PN	Pn	15 37 51.5	-0.1
CKHZ	**Cape Kidnapper**	**1.88**	**162**	PN	Pn	15 37 52.4	-0.3
CKHZ				SN	Sn	15 38 17.1	-1.7
KAHZ	**Kahuranaki**	**1.96**	**167**	⇑PN	Pn	15 37 53.4	-0.4
PNHZ	**Pukenui**	**2.04**	**183**	PN	Pn	15 37 53.6	-1.0
WAZ	**Wanganui**	**2.15**	**209**	PN	Pn	15 37 55.4	-0.4
WPHZ	**Waipukurau**	**2.19**	**178**	PN	Pn	15 37 55.2	-1.2
PXZ	**Pawanui**	**2.19**	**169**	⇑PN	Pn	15 37 55.4	-1.0
TSZ	**Takapari Road**	**2.20**	**187**	⇑PN	Pn	15 37 55.2	-1.3
PRHZ	**Porangahau**	**2.40**	**174**	PN	Pn	15 37 57.5	-1.4
DVHZ	**Dannevirke**	**2.42**	**183**	PN	Pn	15 37 57.5	-1.7
POWZ	**Post Office Ro**	**2.55**	**190**	PN	Pn	15 37 59.0	-1.7
BFZ	**Birch Farm**	**2.80**	**181**	PN	Pn	15 38 01.6	-2.2
MRZ	**Mangatainoka R**	**2.84**	**191**	PN	Pn	15 38 02.1	-2.2
OGWZ	**Otaki Gorge**	**3.07**	**197**	PN	Pn	15 38 04.7	-2.4
HOWZ	**Holdsworth Sta**	**3.08**	**191**	PN	Pn	15 38 04.6	-2.7
KIW	**Kapiti Island**	**3.17**	**200**	PN	Pn	15 38 05.7	-2.8
TMWZ	**Te Maipa**	**3.24**	**186**	PN	Pn	15 38 06.6	-2.9
CAW	**Cannon Point**	**3.37**	**196**	PN	Pn	15 38 08.0	-3.0
WEL	**Wellington**	**3.61**	**199**	PN	Pn	15 38 10.8	-3.2
MSWZ	**Moikau Station**	**3.63**	**193**	PN	Pn	15 38 10.8	-3.5
SNZO	**South Karori**	**3.65**	**199**	PN	Pn	15 38 11.1	-3.4
TCW	**Tory Channel**	**3.69**	**205**	PN	Pn	15 38 11.7	-3.3
PLWZ	**Palliser**	**3.78**	**192**	PN	Pn	15 38 12.5	-3.8
TUWZ	**Tuamarina**	**3.99**	**207**	PN	Pn	15 38 15.7	-3.3
NNZ	**Nelson**	**4.04**	**213**	PN	Pn	15 38 16.1	-3.5
NNZ				SN	Sn	15 39 02.7	-4.2
THZ	**Tophouse**	**4.69**	**213**	PN	Pn	15 38 25.0	-3.2
THZ				SN	Sn	15 39 17.1	-5.3
KHZ	**Kahutara**	**5.01**	**204**	PN	Pn	15 38 28.3	-4.0
KHZ				SN	Sn	15 39 24.1	-5.6
LTZ	**Lake Taylor**	**5.79**	**211**	*e*Pn	Pn	15 38 38.8	-4.0
MQZ	**McQueen's Vall**	**6.45**	**204**	PN	Pn	15 38 45.4	-6.1
MQZ				SN	Sn	15 39 53.4	-11

IDC 22 15:39:07.6±2.1, 3°.10N×126°.43E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/19, mbtmp3.2/4, Error ellipse: s-maj=182.8km s-min=26.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.18**	**162**	P	P	15 44 25.8	-0.1
	0.2nm,0.4s,baz=342,slow=11,SNR=5.6						
ASAR	**Alice Springs**	**27.58**	**165**	P	P	15 44 56.8	+0.1
	0.2nm,0.8s,baz=350,slow=8.1,SNR=6.1						
STKA	**Stephens Creek**	**37.65**	**159**	P	P	15 46 25.1	+0.5
	1.3nm,0.9s,baz=346,slow=12,SNR=2.4						
MKAR	**Makanchi Array**	**57.90**	**326**	P	P	15 49 00.7	-0.8
	0.1nm,0.5s,baz=126,slow=7.3,SNR=3.2						

IDC 22 15:51:05.4±2.2, 3°.43N×126°.24E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/20, mbtmp3.3/3, Error ellipse: s-maj=198.0km s-min=25.9km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.55**	**161**	P	P	15 56 26.0	-1.1
	1.3nm,0.8s,baz=340,slow=9.0,SNR=7.3						
ASAR	**Alice Springs**	**27.95**	**165**	P	P	15 56 58.5	+0.7
	0.1nm,0.6s,baz=346,slow=12,SNR=2.7						
MKAR	**Makanchi Array**	**57.52**	**326**	P	P	16 00 57.0	+0.3
	0.3nm,0.5s,baz=118,slow=7.4,SNR=9.0						

IDC 22 15:51:52.3±1.1, 13°.09N×144°.18E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, MS3.8/1, Ms1 3.8/1, ms1mx3.0/16, Error ellipse: s-maj=34.0km s-min=15.5km az=131.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.84**	**53**	Pn	Pn	15 52 11.8	+0.4
	157nm,0.3s,baz=233,slow=5.1,SNR=44						
GUMO				Sn	Sn	15 52 24.3	-0.1
	290nm,0.3s,baz=271,slow=15,SNR=17						
CBIJ	**Chichi jima**	**14.06**	**353**	LR	LR	15 59 19.2	
	comp=Z,430nm,21.4s,baz=260,slow=32						
WRA	**Warramunga Arr**	**34.22**	**197**	P	P	15 58 39.5	-0.4
	0.2nm,0.6s,baz=20,slow=9.5,SNR=4.2						
ASAR	**Alice Springs**	**37.88**	**195**	P	P	15 59 11.4	+0.1
	0.4nm,0.7s,baz=19,slow=12,SNR=9.8						
SONM	**Songino Array**	**46.76**	**325**	P	P	16 00 23.3	-0.2
	0.6nm,0.8s,baz=124,slow=8.3,SNR=2.7						

NIED ***22*** *15:53:00, 41°.70N×144°.20E, h23km, Mw4.1 Best double couple: M₀1.50000×10¹⁵ NP1:φ₀187.00000°, δ84.00000°, λ48.00000°. NP2:φ₀91.00000°, δ43.00000°, λ172.00000°.*
IDC ***22*** *15:53:47.1±0.8, 41°.64N×144°.20E, h0km, mb3.7/12, mb1 3.9/14, mb1mx3.8/25, mbtmp3.7/14, ML3.4/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/41, Error ellipse: s-maj=22.1km s-min=17.4km az=91.0*
ISCJB ***22*** *15:53:49.0±0.6, 41°.61N±0°.05×144°.32E±0°.10, h27km, mb3.7/13, Error ellipse: s-maj=10.6km s-min=6.6km az=6.0*
JMA ***22*** *15:53:51.5±0.2, 41°.72N×144°.24E, h29km±3km, M3.9*

ISC 22 15:53:51.5±0.8, 41°.74N±0°.06×144°.20E±0°.08, h27km, n22, σ0°88/24, mb3.8/13, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.82**	**290**	P	**Pn**	**15 54 08.0**	**+0.7**
JCH	**Churui**	**1.07**	**325**	P	**Pb**	**15 54 11.0**	**-0.4**
JNBK	**Urakawa-nobuka**	**1.20**	**297**	P	**Pb**	**15 54 13.7**	**+0.1**
JAK	**Akkeshi**	**1.31**	**16**	P	**Pn**	**15 54 13.8**	**-0.2**
JAK				*e*S	**Sn**	**15 54 30.9**	**+0.4**
JAR	**Ashorobuto**	**1.58**	**349**	P	**Pn**	**15 54 17.8**	**0.0**
JAR				*e*S	**Sn**	**15 54 37.5**	**+0.1**
ASAJ	**Asahikawa**	**2.65**	**334**	Pn	**Pn**	**15 54 33.2**	**+0.8**
	4.3nm,0.3s,baz=171,slow=10,SNR=42						
ASAJ				Sn	**Sb**	**15 55 08.2**	**-2.0**
	12nm,0.3s,baz=132,slow=18,SNR=5.4						
ASAJ				LR	LR	15 56 07.9	
	comp=Z,337nm,18.6s,baz=46,slow=51						
MJAR	**Matsushiro Arr**	**6.97**	**224**	Pn	**Pn**	**15 55 31.4**	**-0.5**
	0.9nm,0.3s,baz=27,slow=14,SNR=23						
USRK	**Ussuriysk Arra**	**9.27**	**289**	Pn	**Pn**	**15 56 05.2**	**+1.8**
	0.2nm,0.3s,baz=97,slow=16,SNR=4.3						
KSRS	**Korea Array**	**13.26**	**256**	LR	LR	16 01 31.8	
	comp=Z,64nm,20.8s,baz=320,slow=35						
SONM	**Songino Array**	**27.31**	**296**	P	**P**	**15 59 33.4**	**-0.6**
	1.8nm,0.7s,baz=88,slow=8.0,SNR=13						
ZALV	**Zalesovo Beam**	**40.51**	**308**	P	**P**	**16 01 28.2**	**+0.3**
	1.4nm,0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.94**	**322**	*iP*	**Pb**	**16 17 21.4**	**-2.5**
MNI	**Manado**	**3.00**	**220**	P	**Pn**	**16 17 19.8**	**+2.0**
MNI				S	**Sn**	**16 17 55.2**	**+2.2**
TNTI	**Ternate**	**3.03**	**169**	P	**Pn**	**16 17 19.5**	**+1.4**
TNTI				S	**Sn**	**16 17 54.0**	**+0.5**
MATI	**Mati**	**3.21**	**351**	*e*P	**Pb**	**16 17 26.9**	**-1.4**
MATI				*e*S	**Sb**	**16 18 09.7**	**+2.7**
DAV	**Davao City (W)**	**3.50**	**340**	P	**Pn**	**16 17 22.3**	**-2.3**
DAV	**Davao City (W)**	**3.50**	**340**	Pn	Pb	16 17 29.0	-4.2
	19nm,0.3s,baz=114,slow=10.0,SNR=4.4						
DMPH	**Davao City--Mi**	**3.53**	**339**	*e*P	**Pb**	**16 17 32.1**	**-1.8**
DMPH				*e*S	**Sb**	**16 18 17.6**	**+1.3**
KMSI	**Cibinong**	**4.22**	**221**	P	Pn	16 17 37.8	+3.3
LBMI	**Labuha**	**4.43**	**171**	P	**Pn**	**16 17 39.6**	**+2.2**
LBMI				S	**Sn**	**16 18 29.6**	**+1.5**
BUKP	**Musuan**	**4.43**	**337**	*e*P	Pn	16 17 41.8	+4.3
PAGZ	**Pagadian**	**5.28**	**320**	*e*P	Pn	16 17 52.8	+3.7
BUTP	**Butuan**	**5.30**	**348**	*e*P	Pb	16 17 58.6	-5.4
IPIL	**Ipil**	**5.79**	**314**	*e*P	Pn	16 18 00.3	+4.2
IPIL				*e*S	**Sn**	**16 19 02.6**	**+0.9**
MRSI	**Marisa**	**5.83**	**236**	P	**Pn**	**16 17 59.0**	**+2.3**
	270nm,0.8s,3μm0.9nm						
LUWI	**Luwuk**	**6.23**	**220**	P	Pn	16 18 05.6	+3.5
	296nm,0.8s,4μm1.6nm						
SWI	**Sorong**	**6.42**	**136**	P	**Pn**	**16 18 07.1**	**+2.3**
	88nm,1.0s,1μm0.3nm						
SWI				S	**Sn**	**16 19 18.8**	**+1.6**
	88nm,1.0s,1μm0.3nm						
AAI	**Ambon**	**7.53**	**169**	P	**Pn**	**16 18 22.1**	**+2.0**
	59nm,0.8s						
MYLDM	**Lahad Datu**	**8.37**	**280**	P	Pn	16 18 35.9	+4.4
MYLDM	**Lahad Datu**	**8.37**	**280**	P	Pn	16 18 36.2	+4.6
	98nm,1.0s						
FAKI	**Fak Fak**	**8.60**	**140**	P	**Pn**	**16 18 37.5**	**+2.7**
	49nm,0.9s,855nm						
KDI	**Kendari**	**8.72**	**208**	P	**Pn**	**16 18 36.9**	**+0.5**
	31nm,0.9s						
TSM	**Tawau**	**8.90**	**274**	P	Pn	16 18 41.4	+2.6
TTSI	**Tana Toraja**	**9.70**	**226**	P	**Pn**	**16 18 52.7**	**+2.9**
	50nm,1.0s						
BBSI	**Bau Bau**	**10.10**	**205**	P	**Pn**	**16 18 57.7**	**+2.4**
	79nm,1.1s						
SPSI	**Sidrap Palu**	**10.39**	**222**	P	**Pn**	**16 19 02.0**	**+2.7**
	32nm,1.1s						
BAKI	**Biak**	**10.54**	**118**	P	Pn	16 19 06.4	+5.0
	60nm,1.2s						
KKM	**Kota Kinabalu**	**10.76**	**283**	*e*P	Pn	16 19 08.5	+4.0
	41nm,1.1s						
KKM	**Kota Kinabalu**	**10.76**	**283**	P	Pn	16 19 09.2	+4.6
KKM	**Kota Kinabalu**	**10.76**	**283**	P	Pn	16 19 09.1	+4.6
	27nm,1.1s						
KAPI	**Kappang**	**11.19**	**219**	*e*P	**Pn**	**16 19 11.2**	**+0.9**
KAPI	**Kappang**	**11.19**	**219**	P	**Pn**	**16 19 10.2**	**-0.1**
	16nm,1.1s						
KAPI	**Kappang**	**11.19**	**219**	Pn	**Pn**	**16 19 07.8**	**-2.4**
	0.3nm,0.3s,baz=95,slow=19,SNR=1.8						
MMRI	**Maumere**	**13.12**	**200**	P	**P**	**16 19 47.9**	**+1.4**
BBKI	**Banjar Baru**	**13.92**	**239**	P	**P**	**16 19 53.8**	**-1.6**
SBUM	**Sibu**	**14.59**	**265**	P	**P**	**16 20 01.0**	**-1.9**
SBUM	**Sibu**	**14.59**	**265**	P	**P**	**16 20 01.3**	**-1.6**
	31nm,1.1s						
WSI	**Waingapu**	**14.82**	**206**	P	**Pn**	**16 20 02.3**	**+2.4**
	121nm,0.7s,2μm						
KHKI	**Kahang-Kahang**	**16.41**	**223**	P	**P**	**16 20 26.6**	**+3.6**
KSM	**Kuching**	**16.61**	**263**	*e*P	**P**	**16 20 26.7**	**+1.4**
	26nm,0.8s						
KSM	**Kuching**	**16.61**	**263**	P	**P**	**16 20 27.7**	**+2.4**
	35nm,0.9s						
BYJI	**Banyuwangi**	**17.17**	**226**	P	P	16 20 39.1	+7.5
BLJI	**Banyuglugur**	**17.42**	**229**	P	P	16 20 40.9	+6.6
JAGI	**Jajag, Banyuwa**	**17.50**	**226**	P	**P**	**16 20 37.7**	**+2.5**
	52nm,1.1s						
SJI	**Sawahan**	**18.83**	**233**	P	**Pn**	**16 20 53.5**	**+2.9**
	29nm,1.8s						
TPUB	**Ta-pu**	**20.31**	**344**	*e*P	**P**	**16 21 04.8**	**-1.3**
	31nm,0.9s						
SSLB	**Suanglung**	**20.69**	**345**	*e*P	**P**	**16 21 09.8**	**-0.3**
	7.3nm,0.5s						
PPBI	**Pangkal Pinang**	**21.45**	**254**	P	P	16 21 23.4	+5.0
	14nm,0.9s,14μm						
FITZ	**Fitzroy Crossi**	**21.75**	**183**	*e*P	**P**	**16 21 19.2**	**-2.3**
FITZ	**Fitzroy Crossi**	**21.75**	**183**	*e*P	**P**	**16 21 19.3**	**-2.3**
	29nm,0.9s						
FITZ	**Fitzroy Crossi**	**21.75**	**183**	P	**P**	**16 21 18.3**	**-3.2**
	21nm,0.9s,baz=19,slow=9.2,SNR=26						
QIZ	**Qiongzhong**	**22.45**	**314**	P	**P**	**16 21 27.4**	**-1.7**
QIZ				pP	pP	16 21 41.6	+5.0
QIZ				S	**S**	**16 25 32.0**	**-2.2**
QIZ				pmax	pmax		
	comp=Z,17nm,1.7s						
QIZ				LR	LR		
	comp=Z,220nm,16.8s						
QZH	**Quanzhou**	**22.48**	**340**	*e*P	**P**	**16 21 28.3**	**-1.1**
QZH				S	**S**	**16 25 31.0**	**-3.6**
QZH				LR	LR		
	comp=Z,740nm,22.9s						
MYKOM	**Kota Tinggi**	**22.98**	**266**	P	**P**	**16 21 36.4**	**+1.7**
	comp=Z,36nm,1.1s						
CGJI	**Cibinong**	**23.43**	**244**	P	**P**	**16 21 37.9**	**-1.3**
	comp=Z,68nm,0.9s						
KASI	**Kota Agung**	**24.09**	**248**	P	**P**	**16 21 48.7**	**+3.2**
	comp=Z,41nm,0.9s						
LWLI	**Liwa**	**24.31**	**249**	P	**P**	**16 21 48.4**	**+0.7**
	comp=Z,58nm,0.8s,comp=Z,2μm						
WRAB	**Tennant Creek**	**24.69**	**163**	*e*P	**P**	**16 21 49.3**	**-1.7**
	comp=Z,95nm,0.9s						
WRA	**Warramunga Arr**	**24.70**	**163**	P	**P**	**16 21 49.5**	**-1.6**
WRA				S	**S**	**16 26 10.6**	**-0.7**
WRA	**Warramunga Arr**	**24.70**	**163**	P	**P**	**16 21 49.5**	**-1.6**
	comp=Z,68nm,0.8s,baz=334,slow=11,SNR=183						
WRA				S	**S**	**16 26 10.6**	**-0.7**
	comp=Z,3.8nm,0.8s,baz=342,slow=16,SNR=7.5						
MBWA	**Marble Bar**	**25.71**	**195**	*e*P	**P**	**16 21 59.7**	**-0.4**
	comp=Z,19nm,0.9s						
MNSI	**Mandailing Nat**	**27.33**	**264**	P	P	16 22 20.0	+5.1
CBIJ	**Chichi jima**	**27.49**	**31**	LR	LR	16 31 35.5	
	comp=Z,247nm,18.9s,baz=130,slow=33						
PSI	**Prapat**	**27.82**	**269**	P	**P**	**16 22 17.9**	**-1.6**
PSI	**Prapat**	**27.82**	**269**	P	**P**	**16 22 17.9**	**-1.6**
	comp=Z,7.4nm,0.8s,baz=104,slow=4.5,SNR=9.8						
ASAR	**Alice Springs**	**28.13**	**166**	P	**P**	**16 22 20.6**	**-1.4**
ASAR				PcP	**PcP**	**16 25 35.9**	**0.0**
ASAR				S	**S**	**16 27 07.0**	**+1.4**
ASAR	**Alice Springs**	**28.13**	**166**	P	**P**	**16 22 20.6**	**-1.4**
	comp=Z,1.6nm,0.3s,baz=344,slow=8.6,SNR=47						
ASAR				PcP	**PcP**	**16 25 35.9**	**0.0**
	comp=Z,1.3nm,0.5s,baz=353,slow=2.0,SNR=5.5						
ASAR				S	**S**	**16 27 07.0**	**+1.4**
	comp=Z,0.6nm,0.9s,baz=348,slow=20,SNR=2.9						
GSI	**Gunungsitoli**	**29.27**	**266**	P	**P**	**16 22 30.5**	**-1.7**
JNU	**Nakatsue**	**29.46**	**7**	LR	LR	16 32 58.8	
	comp=Z,108nm,19.0s,baz=65,slow=34						
GYA	**Guiyang**	**29.67**	**321**	*e*P	**P**	**16 22 37.8**	**+2.0**
GYA				pP	**pP**	**16 22 45.3**	**+1.4**
GYA				PP	**PnPn**	**16 23 34.9**	**+3.5**
GYA				S	**S**	**16 27 32.1**	**+2.0**
GYA				sS	**sS**	**16 27 43.3**	**-0.2**
GYA				ScP	**ScP**	**16 29 20.0**	**-0.1**
GYA				ScS	**ScS**	**16 33 12.3**	**-3.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA				pmax	pmax		
	comp=Z,80nm,4.7s						
GYA				LR	LR		
	comp=N,360nm,16.6s						
GYA				LR	LR		
	comp=E,220nm,17.6s						
GYA				LR	LR		
	comp=Z,350nm,15.4s						
CTA	**Charters Tower**	**30.46**	**142**	P	**P**	**16 22 43.4**	**+0.7**
CTA	**Charters Tower**	**30.46**	**142**	P	**P**	**16 22 43.4**	**+0.7**
	comp=Z,4.2nm,1.0s,baz=337,slow=13,SNR=2.3						
CMAR	**Chiang Mai Arr**	**30.89**	**300**	P	**P**	**16 22 46.5**	**-0.1**
CMAR	**Chiang Mai Arr**	**30.89**	**300**	P	**P**	**16 22 46.5**	**-0.1**
	comp=Z,2.9nm,0.8s,baz=112,slow=6.6,SNR=26						
CMAR				LR	LR	16 37 06.5	
	comp=Z,74nm,19.7s,baz=110,slow=40						
ENH	**Enshi**	**31.02**	**330**	*e*P	**P**	**16 22 46.6**	**-0.9**
	comp=Z,3.9nm,0.6s						
CHTO	**Chiang Mai**	**31.05**	**301**	*e*P	**P**	**16 22 47.5**	**-0.4**
	comp=Z,5.2nm,0.8s						
KMI	**Kunming**	**31.39**	**315**	P	P	16 22 54.5	+3.4
KMI				pP	pP	16 23 02.3	+3.1
KMI				sP	sP	16 23 04.8	+2.2
KMI				S	**S**	**16 28 00.8**	**+3.6**
KMI				sS	sS	16 28 13.3	+2.6
KMI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,84nm,4.4s						
KMI				LR	LR		
	comp=N,110nm,13.6s						
KMI				LR	LR		
	comp=E,170nm,14.2s						
KMI				LR	LR		
	comp=Z,130nm,19.4s						
KSAR	**Wonju Array Be**	**33.54**	**2**	P	**P**	**16 23 10.4**	**+1.0**
KSRS	**Korea Array**	**33.55**	**2**	P	**P**	**16 23 10.4**	**+0.9**
	comp=Z,1.3nm,0.4s,baz=180,slow=10,SNR=8.9						
MJAR	**Matsushiro Arr**	**34.28**	**16**	LR	LR	16 35 10.0	
	comp=Z,54nm,20.6s,baz=180,slow=33						
FORT	**Forrest**	**34.37**	**178**	*e*P	**P**	**16 23 15.8**	**-0.9**
	comp=Z,34nm,0.8s						
BJT	**Baijiatuao**	**37.35**	**347**	*e*P	**P**	**16 23 43.6**	**+1.5**
	comp=Z,29nm,0.8s						
BJI	**Beijing**	**37.37**	**347**	P	**P**	**16 23 43.8**	**+1.5**
BJI				pmax	pmax		
	comp=Z,41nm,0.9s						
BJI				LR	LR		
	comp=Z,51nm,23.6s						
BBOO	**Buckleboo**	**37.42**	**167**	*e*P	**P**	**16 23 42.3**	**-0.6**
	comp=Z,198nm,1.1s						
NWAO	**Narrogin (SRO)**	**37.59**	**193**	P	**P**	**16 23 42.0**	**-2.4**
NWAO	**Narrogin (SRO)**	**37.59**	**193**	P	**P**	**16 23 42.0**	**-2.4**
	comp=Z,20nm,1.1s,baz=346,slow=16,SNR=7.1						
STKA	**Stephens Creek**	**38.14**	**159**	P	**P**	**16 23 48.6**	**-0.4**
STKA	**Stephens Creek**	**38.14**	**159**	*e*P	**P**	**16 23 48.3**	**-0.7**
	comp=Z,16nm,0.8s						
STKA	**Stephens Creek**	**38.14**	**159**	P	**P**	**16 23 48.6**	**-0.4**
	comp=Z,15nm,0.6s,baz=334,slow=8.1,SNR=51						
LZH	**Lanzhou**	**38.50**	**330**	*e*P	**P**	**16 23 52.5**	**+0.3**
LZH				pP	**pP**	**16 23 59.3**	**-1.1**
LZH				sP	**sP**	**16 24 03.0**	**-0.8**
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,130nm,4.1s						
LZH				LR	LR		
	comp=N,160nm,8.2s						
LZH				LR	LR		
	comp=E,460nm,9.2s						
LZH				LR	LR		
	comp=Z,180nm,7.1s						
HHC	**Hu-ho-hao-te**	**39.38**	**342**	*e*P	**P**	**16 24 01.0**	**+1.6**
HHC				pP	**pP**	**16 24 08.4**	**+0.7**
HHC				sP	**sP**	**16 24 11.8**	**+0.7**
HHC				PP	**PnPn**	**16 25 36.4**	**+3.4**
HHC				S	**S**	**16 30 02.8**	**+3.4**
HHC				SS	**SS**	**16 32 45.3**	**-8.7**
HHC				ScS	**ScS**	**16 34 05.3**	**-1.1**
HHC				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC				pmax	pmax		
	comp=Z,140nm,5.2s						
HHC				LR	LR		
	comp=N,220nm,4.9s						
HHC				LR	LR		
	comp=E,210nm,6.7s						
HHC				LR	LR		
	comp=Z,140nm,7.4s						
CN2	**Changchun**	**39.89**	**359**	*e*P	**P**	**16 24 04.1**	**+0.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SHL	**Shillong**	**39.89**	**306**	*e*PKP	**P**	**16 24 03.0**	**-1.0**
USRK	**Ussuriysk Arra**	**40.54**	**6**	P	**P**	**16 24 09.7**	**+0.9**
	comp=Z,2.7nm,0.7s,baz=187,slow=8.4,SNR=5.6						
MDJ	**Mudanjiang**	**40.76**	**3**	P	**P**	**16 24 10.3**	**-0.4**
MDJ				pP	**pP**	**16 24 16.3**	**-2.7**
MDJ				PP	**PP**	**16 25 43.6**	**-1.4**
MDJ				PcP	**PcP**	**16 26 10.4**	**-1.3**
MDJ				ScP	**ScP**	**16 29 59.6**	**0.0**
MDJ				PcS	**PcS**	**16 30 01.0**	**-1.3**
MDJ				S	**S**	**16 30 21.5**	**+1.8**
MDJ				SS	**SS**	**16 33 22.3**	**+1.1**
MDJ				ScS	**ScS**	**16 34 15.0**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,15nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,260nm,5.2s						
MDJ				LR	LR		
	comp=Z,83nm,27.8s						
MDJ	**Mudanjiang**	**40.76**	**3**	*e*P	**P**	**16 24 13.0**	**+2.3**
	comp=Z,13nm,0.9s						
ARMA	**Armidale**	**41.47**	**147**	*e*P	**P**	**16 24 16.9**	**+0.1**
LSA	**Lhasa**	**42.45**	**311**	P	**P**	**16 24 24.3**	**-1.1**
LSA	**Lhasa**	**42.45**	**311**	*e*P	**P**	**16 24 25.2**	**-0.1**
	comp=Z,5.2nm,0.6s						
ASAJ	**Asahikawa**	**42.55**	**17**	P	**P**	**16 24 27.0**	**+1.7**
ASAJ	**Asahikawa**	**42.55**	**17**	P	**P**	**16 24 27.0**	**+1.7**
	comp=Z,20nm,1.2s,baz=211,slow=12,SNR=4.5						
ASAJ				LR	LR	16 42 47.8	
	comp=Z,58nm,20.0s,baz=176,slow=37						
GTA	**Gaotai**	**43.09**	**329**	*e*P	**P**	**16 24 31.1**	**+1.1**
GTA				pP	**pP**	**16 24 37.6**	**-0.7**
GTA				sP	**sP**	**16 24 40.8**	**-0.9**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TAPN	**Taplejung**	**44.03**	**306**	*e*P	**P**	**16 24 37.2**	**-0.8**
	comp=Z,7.6nm,0.5s						
TAPN	**Taplejung**	**44.03**	**306**	*e*P	**P**	**16 24 37.2**	**-0.8**
ODAN	**Odare**	**44.09**	**305**	*e*P	**P**	**16 24 37.5**	**-0.8**
	comp=Z,12nm,0.5s						
ODAN	**Odare**	**44.09**	**305**	*e*P	**P**	**16 24 37.5**	**-0.8**
RAMN	**Ramite**	**44.77**	**305**	*e*P	**P**	**16 24 43.0**	**-0.8**
	comp=Z,7.7nm,0.5s						
RAMN	**Ramite**	**44.77**	**305**	*e*P	**P**	**16 24 43.0**	**-0.8**
JIRN	**Jiri**	**45.39**	**306**	*e*P	**P**	**16 24 47.7**	**-1.2**
JIRN	**Jiri**	**45.39**	**306**	*e*P	**P**	**16 24 47.7**	**-1.2**
GUN	**Gumba**	**45.74**	**306**	*e*P	**P**	**16 24 50.8**	**-0.9**
	comp=Z,18nm,0.7s						
GUN	**Gumba**	**45.74**	**306**	*e*P	**P**	**16 24 50.8**	**-0.9**
KKN	**Kakani**	**46.18**	**306**	*e*P	**P**	**16 24 54.0**	**-0.9**
	comp=Z,4.0nm,0.4s						
GKN	**Gorkha**	**46.79**	**306**	*e*P	**P**	**16 24 58.5**	**-1.1**
	comp=Z,5.1nm,0.4s						
ULN	**Ulaanbaatar**	**47.10**	**342**	*e*P	**P**	**16 25 01.9**	**+0.1**
	comp=Z,3.2nm,0.8s						
SONM	**Songino Array**	**47.28**	**341**	P	**P**	**16 25 03.2**	**0.0**
SONM				PcP	**PcP**	**16 26 33.3**	**-0.7**
SONM	**Songino Array**	**47.28**	**341**	P	**P**	**16 25 03.2**	**0.0**
	comp=Z,2.7nm,0.7s,baz=165,slow=6.2,SNR=22						
SONM				PcP	**PcP**	**16 26 33.3**	**-0.7**
	comp=Z,1.9nm,0.9s,baz=159,slow=3.9,SNR=6.0						
SONM				LR	LR	16 45 01.0	
	comp=Z,98nm,20.4s,baz=273,slow=36						
KOLN	**Koldanda**	**47.54**	**305**	*e*P	**P**	**16 25 04.7**	**-0.9**
	comp=Z,8.4nm,0.4s						
DANN	**Dangsing**	**47.63**	**306**	*e*P	**P**	**16 25 05.3**	**-1.1**
	comp=Z,19nm,0.5s						
DANN	**Dangsing**	**47.63**	**306**	*e*P	**P**	**16 25 05.3**	**-1.1**
HYB	**Hyderabad**	**49.15**	**290**	*i*P	**P**	**16 25 17.0**	**-0.9**
WMQ	**Urumqi**	**52.73**	**325**	*e*P	**P**	**16 25 44.9**	**+0.4**
WMQ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PETK	**Petropavlovsk-**	**55.38**	**22**	P	**P**	**16 26 04.0**	**+0.3**
PETK	**Petropavlovsk-**	**55.38**	**22**	P	**P**	**16 26 04.0**	**+0.3**
	comp=Z,6.6nm,0.9s,baz=201,slow=7.8,SNR=3.7						
PETK				LR	LR	16 50 02.9	
	comp=Z,8.9nm,19.7s,baz=112,slow=36						
MKAR	**Makanchi Array**	**57.56**	**325**	P	**P**	**16 26 18.6**	**-0.7**
MKAR				ScP	**ScP**	**16 31 14.3**	**+3.6**
MKAR	**Makanchi Array**	**57.56**	**325**	P	**P**	**16 26 18.6**	**-0.7**
	comp=Z,2.3nm,0.6s,baz=118,slow=7.1,SNR=52						
MKAR				ScP	**ScP**	**16 31 14.3**	**+3.6**
	comp=Z,0.7nm,0.8s,baz=116,slow=5.5,SNR=5.2						
MKAR				LR	LR	16 52 48.7	
	comp=Z,90nm,19.8s,baz=257,slow=38						
KSH	**Kashi**	**58.05**	**315**	P	**P**	**16 26 23.8**	**+0.8**
KSH				pP	**pP**	**16 26 30.8**	**-0.8**
KSH				sP	**sP**	**16 26 35.0**	**+0.1**
KSH				PcP	**PcP**	**16 27 13.9**	**-0.8**
KSH				PP	**PP**	**16 28 35.0**	**+3.2**
KSH				ScP	**ScP**	**16 31 11.1**	**-2.1**
KSH				PcS	**PcS**	**16 31 13.9**	**-2.3**
KSH				S	**S**	**16 34 23.8**	**+1.4**
KSH				ScS	**ScS**	**16 36 08.3**	**-2.8**
KSH				SS	**SS**	**16 38 16.8**	**+2.8**
KSH				pmax	pmax		
	comp=Z,7.0nm,1.1s						
KSH				pmax	pmax		
	comp=Z,170nm,6.8s						
KSH				LR	LR		
	comp=N,85nm,4.4s						
KSH				LR	LR		
	comp=E,88nm,4.8s						
KSH				LR	LR		
	comp=Z,280nm,5.4s						
KZA	**Kyzart**	**59.62**	**318**	P	**P**	**16 26 35.5**	**+1.3**
	SNR=5.3						
TKM2	**Tokmak 2**	**59.75**	**319**	P	**P**	**16 26 35.6**	**+0.7**
	SNR=8.6						
AAK	**Ala-Archa**	**60.36**	**318**	LR	LR	16 52 17.4	
	comp=Z,79nm,20.6s,baz=252,slow=36						
ZALV	**Zalesovo Beam**	**60.58**	**333**	LR	LR	16 54 48.9	
	comp=Z,64nm,18.1s,baz=149,slow=38						
USP	**Ospenovka**	**60.63**	**318**	P	**P**	**16 26 41.3**	**+0.6**
	SNR=11						
AML	**Almayashu**	**60.70**	**317**	P	**P**	**16 26 42.5**	**+0.9**
	SNR=14						
EKS2	**Erkin-Say**	**60.86**	**318**	P	**P**	**16 26 43.4**	**+1.1**
	SNR=6.7						
KURK	**Kurchatov**	**61.74**	**327**	*e*P	**P**	**16 26 46.9**	**-1.0**
	comp=Z,1.1nm,0.7s						
KKAR	**Karatay Array**	**63.24**	**317**	*e*P	**P**	**16 26 57.2**	**-0.9**
	comp=Z,6.3nm,0.8s						
BRVK	**Borovoye**	**67.39**	**327**	*e*P	**P**	**16 27 23.9**	**-1.0**
	comp=Z,21nm,1.0s						
ABKAR	**Akbulak array**	**72.16**	**321**	*e*P	**P**	**16 27 53.2**	**-1.0**
	comp=Z,3.7nm,0.7s						
KBZ	**Khabaz**	**82.99**	**313**	LR	LR	17 13 51.1	
	comp=Z,75nm,18.7s,baz=276,slow=42						
ILAR	**Eielson Array**	**85.06**	**25**	P	**P**	**16 29 05.4**	**+0.4**
ILAR	**Eielson Array**	**85.06**	**25**	P	**P**	**16 29 05.4**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=242,slow=5.0,SNR=8.9						
KMBO	**Kilima Mbogo**	**89.60**	**269**	*e*P	**P**	**16 29 28.0**	**-0.3**
	comp=Z,5.2nm,1.2s						
BRTR	**Keskin Array B**	**90.04**	**310**	P	**P**	**16 29 28.3**	**-1.4**
BRTR	**Keskin Array B**	**90.04**	**310**	P	**P**	**16 29 28.3**	**-1.4**
	comp=Z,2.7nm,0.9s,baz=98,slow=4.8,SNR=11						
ARCES	**ARCESS Array B**	**90.44**	**340**	P	**P**	**16 29 30.0**	**-0.8**
ARCES	**ARCESS Array B**	**90.44**	**340**	P	**P**	**16 29 30.0**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=79,slow=5.7,SNR=18						
FINES	**FINESS Array B**	**91.83**	**332**	P	**P**	**16 29 36.6**	**-0.7**
FINES	**FINESS Array B**	**91.83**	**332**	P	**P**	**16 29 36.6**	**-0.7**
	comp=Z,5.0nm,1.1s,baz=45,slow=4.2,SNR=6.8						
AKASG	**Malin Array Be**	**91.90**	**321**	P	**P**	**16 29 37.8**	**-0.1**
AKASG	**Malin Array Be**	**91.90**	**321**	P	**P**	**16 29 37.8**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=77,slow=4.4,SNR=5.1						
NOA	**NORSAR Array B**	**98.78**	**334**	LR	LR	17 21 19.3	
	comp=Z,101nm,18.3s,baz=50,slow=39						
PDAR	**Pinedale Array**	**111.30**	**41**	PKKPbc	PKKPbc	16 46 08.1	+7.1
PDAR	**Pinedale Array**	**111.30**	**41**	PKKPbc	PKKPbc	16 46 08.1	+7.1
	comp=Z,0.8nm,0.9s,baz=116,slow=6.8,SNR=6.0						
TXAR	**Lajitas Array**	**121.54**	**52**	PKP	**PKPdf**	**16 35 24.0**	**+0.1**
TXAR	**Lajitas Array**	**121.54**	**52**	PKP	**PKPdf**	**16 35 24.0**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=11,slow=2.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**122.95**	**288**	PKP	**PKPdf**	**16 35 24.9**	**-1.9**
TORD	**Torodi Ar. Bea**	**122.95**	**288**	PKP	**PKPdf**	**16 35 24.9**	**-1.9**
	comp=Z,0.8nm,0.8s,baz=76,slow=3.1,SNR=5.2						
CPUP	**Villa Florida**	**157.22**	**170**	PKP	**PKPdf**	**16 36 26.6**	**+0.5**
CPUP				PKPab	**PKPab**	**16 36 57.1**	**+0.4**
CPUP	**Villa Florida**	**157.22**	**170**	PKP	**PKPdf**	**16 36 26.6**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=244,slow=20,SNR=3.0						
CPUP				PKPab	**PKPab**	**16 36 57.1**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=109,slow=3.8,SNR=4.1						

IDC ***22*** *16:39:27.4±1.8,0.°48S×98.°06E,h0km,mb3.8/7,mb1 3.8/9, mb1mx3.6/25,mbtmp3.7/9,ML3.7/2,Error ellipse: s-maj=60.8km s-min=18.6km az=61.0*
DJA ***22*** *16:39:31.1±1.5,1°S×9°×9°8E±°,h26km±29km,M4.0/8, MLv4.0/8*

ISC 22 16:39:31.4±1.0,0.°47S±0.°07×98.°10E±0.°07,h27km,n18, σ0=92/20,mb3.9/7,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**1.31**	**131**	P	**Pb**	**16 39 55.1**	**-0.2**
GSI	**Gunungsitoli**	**1.83**	**343**	P	**Pn**	**16 40 00.3**	**-0.9**
MNSI	**Mandailing Nat**	**1.94**	**50**	P	**Pn**	**16 40 03.4**	**+0.8**
MNSI				S	**Sb**	**16 40 30.5**	**+0.6**
SBSI	**Sibolga**	**2.15**	**22**	P	**Pb**	**16 40 10.4**	**+0.6**
PPI	**Padang Panjang**	**2.30**	**90**	P	**Pn**	**16 40 08.2**	**+0.6**
PPI				S	**Sb**	**16 40 39.5**	**-0.7**
BKNI	**Bangkinang**	**3.04**	**75**	P	Pb	16 40 21.2	-3.7
BKNI				S	**Sb**	**16 41 00.4**	**-1.3**
PSI	**Prapat**	**3.35**	**14**	P	**Pn**	**16 40 20.4**	**-1.8**
PSI	**Prapat**	**3.35**	**14**	Pn	**Pn**	**16 40 20.2**	**-1.9**
	3.6

ARTV				*i* S		**Sn**	17 05 47.0	+0.1	
ARTV	**Artvin**	**1.75**	**223**	*i* P		**Pn**	17 05 23.9	-0.2	
ARTV				*i* S		**Sn**	17 05 47.0	+0.1	
DBOC	**Borcka**	**1.79**	**231**	*i* P		**Pn**	17 05 24.3	0.0	
DBOC				*i* S		**Sn**	17 05 47.6	+0.2	
DBOC	**Borcka**	**1.79**	**231**	*i* P		**Pn**	17 05 24.3	0.0	
DBOC				*i* S		**Sn**	17 05 47.6	+0.2	
DAGI	**Agillar**	**1.84**	**221**	*i* P		**Pn**	17 05 25.9	+0.7	
DAGI				*i* S		**Sn**	17 05 49.7	+0.8	

IDC 22 17:17:38.6±5.2, 2°.86S×139°.40E, h0km, mb3.0/2, mb1 3.4/3, mb1mx3.2/15, mbtmp3.2/3, ML3.4/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/13, Error ellipse: s-maj=206.0km s-min=29.0km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.69**	**196**	P	Pn	17 21 45.8	-0.8
	0.1nm,0.3s,baz=17,slow=12,SNR=16						
CTA	**Charters Tower**	**18.39**	**159**	LR	LR	17 27 51.9	
	comp=Z,42nm,18.9s,baz=224,slow=33						
ASAR	**Alice Springs**	**21.36**	**194**	P	P	17 22 28.0	+0.2
	0.4nm,0.6s,baz=20,slow=11,SNR=20						
MKAR	**Makanchi Array**	**70.33**	**322**	P	P	17 28 54.3	+0.1
	0.1nm,0.6s,baz=109,slow=8.1,SNR=3.1						

IDC 22 17:36:12.7±2.4, 8°.63S×74°.23W, h182km±30km, mb3.2/5, mb1 3.4/8, mb1mx3.2/20, mbtmp3.2/8, Error ellipse: s-maj=34.6km s-min=13.5km az=56.0, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.22**	**217**	P	Pn	17 37 18.3	+1.6
	3.8nm,0.3s,baz=20,slow=7.8,SNR=8.0						
NNA				S	Sn	17 38 06.3	-0.6
	12nm,0.3s,baz=164,slow=22,SNR=8.8						
ATAH	**Atahualpa**	**4.39**	**289**	P	Pn	17 37 19.2	-0.1
	8.2nm,0.3s,baz=64,slow=5.0,SNR=33						
ATAH				S	Sn	17 38 11.4	-0.2
	24nm,0.3s,baz=328,slow=14,SNR=20						
SIV	**San Ignacio**	**14.79**	**121**	P	P	17 39 34.9	+0.5
	0.1nm,0.3s,baz=292,slow=9.5,SNR=5.0						
SIV				S	Sn	17 42 10.2	-8.2
	0.1nm,0.3s,baz=299,slow=21,SNR=4.2						
CPUP	**Villa Florida**	**23.82**	**140**	P	P	17 41 09.9	+0.9
	0.2nm,0.3s,baz=302,slow=13,SNR=2.9						
TXAR	**Lajitas Array**	**47.21**	**324**	P	P	17 44 27.7	+0.2
	0.2nm,0.4s,baz=130,slow=9.5,SNR=4.9						
PDAR	**Pinedale Array**	**60.45**	**331**	P	P	17 46 04.2	+0.8
	0.2nm,0.4s,baz=124,slow=6.0,SNR=3.5						
DBIC	**Dimbokro**	**70.80**	**80**	P	P	17 47 09.2	-0.8
	4.6nm,1.1s,baz=258,slow=9.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**78.43**	**75**	P	P	17 47 53.4	-0.4
	0.6nm,0.6s,baz=278,slow=5.0,SNR=4.6						

NNC 22 17:39:03.9±13.0, 41°.03N×77°.35E, h2km±62km, mb3.5, mpv3.1, 2C-4D, Error ellipse: s-maj=76.1km s-min=36.0km az=132.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.84**	**215**	Pn	Pn	17 39 30.0	-6.6
KSH				Sn	Sn	17 39 59.4	-1.1
KSH				smax	smax		
	comp=N,130nm,0.5s						
KSH				smax	smax		
	comp=E,180nm,0.5s						
KNDC	**Almaty**	**2.21**	**353**	⇓Pn	Pn	17 39 42.3	+0.8
	comp=E,14nm,0.6s						
KNDC				⇓Lg	Lg	17 40 12.4	
	comp=E,65nm,0.6s						
TKM2	**Tokmak 2**	**2.30**	**326**	⇓Pn	Pn	17 39 42.3	-0.7
	comp=E,6.2nm,0.7s						
TKM2				⇓Lg	Lg	17 40 18.8	
	comp=E,17nm,0.6s						
KK31	**Karatay Array**	**5.49**	**294**	⇑Pg	Pb	17 40 44.4	+3.9
	comp=E,0.9nm,0.4s,baz=112,slow=16,SNR=11						
KK31				⇑Lg	Lg	17 41 56.8	
	comp=E,1.9nm,0.5s,baz=116,slow=28,SNR=7.0						

BJI ***22*** *17:45:17.3, 3°.26N×126°.69E, h34km, mB5.8/46, mb5.6/66, Ms5.8/77, Ms7 5.7/72*

MOS ***22*** *17:45:21.1±1.1, 3°.73N×126°.53E, h33km, mb6.2/61, MS5.6/65, Error ellipse: s-maj=8.5km s-min=4.4km az=115.2*

NEIC ***22*** *17:45:22.4±0.1, 3°.68N×126°.56E, h32km, mb5.9/91, ME6.0, MS5.7/147, MW6.0, MW5.8, Error ellipse: s-maj=5.3km s-min=3.7km az=69.0 Broadband fault plane solution: P waves. NP1:φs345.00000°, δ50.00000°, λ55.00000°. NP2:φs212.00000°, δ51.00000°, λ124.00000°. Principal axes: T Plg64.0000°, Azm188.0000°; N Plg0.0000°, Azm0.0000°; P Plg1.0000°, Azm279.0000°; Moment Tensor Solution. s59 Moment tensor: Scale 10¹⁷ Nm; Mrr5.91; Mθθ1.77; Mφφ-7.68; Mrθ-2.07; Mθφ0.24; Mrφ1.02; Best double couple: M₀7.30000×10¹⁷ NP1:φs200.00000°, δ45.00000°, λ122.00000°. NP2:φs338.00000°, δ53.00000°, λ62.00000°. Principal axes: T 6.8200, Plg67.0000°, Azm188.0000°; N 0.9500, Plg21.0000°, Azm355.0000°; P -7.7700, Plg4.0000°, Azm87.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [V] at Melonguanne.

IDC ***22*** *17:45:22.1±1.6, 3°.71N×126°.56E, h30km±10km, mb5.5/36, mb1 5.5/37, mb1mx5.5/37, mbtmp5.5/37, ML4.8/1, MS5.5/27, Ms1 5.6/27, ms1mx5.4/37 Error ellipse: s-maj=12.5km s-min=8.0km az=77.0*

TEH ***22*** *17:45:23.0, 3°.70N×126°.59E, h38km, ML5.8*

ISCJB ***22*** *17:45:24.6±0.3, 3°.67N±0°.01×126°.66E±0°.02, h68km±2km, mb5.8/207, Error ellipse: s-maj=3.4km s-min=2.4km az=168.5*

DJA ***22*** *17:45:27, 3°.61N×126°.72E, h72km, Mw5.9/89*

NEIC ***22*** *17:45:39.5±0.0, 3°.75N×126°.89E, h28km, Moment Tensor Solution. s174 Moment tensor: Scale 10¹⁸Nm; Mrr0.93; Mθθ0.17; Mφφ-1.10; Mrθ-0.22; Mθφ0.03; Mφr0.40; Best double couple: M₀1.10000×10¹⁸ NP1:φs346.00000°, δ57.00000°, λ75.00000°. NP2:φs193.00000°, δ36.00000°, λ112.00000°. Principal axes: T 1.0500, Plg73.0000°, Azm216.0000°; N 0.1300, Plg12.0000°, Azm354.0000°; P -1.1800, Plg10.0000°, Azm86.0000°;*

ISC 22 17:45:23.1±0.2, 3°.69N±0°.02×126°.60E±0°.03, h40km±1km, h40km:pP-P, n1425, σ1°25/2344, mb5.9/204, MS5.7/225, 698C-663D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**2.84**	**218**	P	Pn	17 46 09.6	+3.6
MNI				S	Sn	17 46 46.3	+7.2
GSPH	**General Santos**	**2.89**	**325**	⇑*i*P	Pn	17 46 12.4	+5.6
TNTI	**Ternate**	**3.00**	**165**	P	**Pn**	**17 46 09.2**	**+1.0**
MATI	**Mati**	**3.25**	**354**	*e*P	**Pn**	**17 46 13.3**	**+1.6**
DAV	**Davao City (W)**	**3.51**	**343**	*e*P	Pn	17 46 17.8	+2.6
DAV				Sn	Sn	17 47 04.1	+8.7
DAV	**Davao City (W)**	**3.51**	**343**	P	Pn	17 46 18.6	+3.5
	SNR=99						
DAV	**Davao City (W)**	**3.51**	**343**	P	Pn	17 46 20.5	+5.3
DAV	**Davao City (W)**	**3.51**	**343**	Pn	Pn	17 46 17.7	+2.6
	135nm,0.3s,baz=138,slow=2.4,SNR=23						
DAV				Sn	Sn	17 47 04.1	+8.7
	394nm,0.3s,baz=85,slow=18,SNR=8.0						
DAV				LR	LR	17 48 07.4	
	comp=Z,164μm,18.1s,baz=145,slow=48						
DMPH	**Davao City--Mi**	**3.54**	**342**	⇑*e*P	Pn	17 46 19.3	+3.7
DMPH				*e*S	Sn	17 47 06.2	+10
KMSI	**Cibinong**	**4.05**	**220**	P	Pn	17 46 26.7	+4.0
LBMI	**Labuha**	**4.39**	**168**	P	**Pn**	**17 46 29.0**	**+1.6**
BUKP	**Musuan**	**4.43**	**340**	*e*P	Pn	17 46 31.0	+3.0
CGP	**Cagayan de Oro**	**5.10**	**338**	⇓*e*P	Pn	17 46 42.9	+5.9
CGP				*e*S	Sn	17 47 51.4	+17
PAGZ	**Pagadian**	**5.22**	**322**	*e*P	Pn	17 46 42.1	+3.3
BUTP	**Butuan**	**5.33**	**350**	*e*P	Pn	17 46 44.2	+4.0
BUTP				*e*S	Sn	17 48 05.9	+25
ZMPH	**Zamboanga City**	**5.56**	**306**	⇓*i*P	Pn	17 46 45.7	+2.3
ZMPH				*i* S	**Sn**	**17 47 49.7**	**+3.6**
MRSI	**Marisa**	**5.65**	**236**	P	Pn	17 46 48.9	+4.3
	6μm,0.8s,64μm171μm29nm						
MRSI				S	**Sn**	**17 47 52.5**	**+4.3**
	6μm,0.8s,64μm171μm29nm						
IPIL	**Ipil**	**5.71**	**316**	*e*P	Pn	17 46 48.5	+3.0
IPIL				*e*S	**Sn**	**17 47 52.8**	**+3.0**
IPIL	**Ipil**	**5.71**	**316**	⇑*i*P	Pn	17 46 48.8	+3.3
SWI	**Sorong**	**6.49**	**134**	P	**Pn**	**17 46 57.2**	**+1.0**
	2μm,0.8s,49μm247μm11nm						
TBP	**Tagbilaran**	**6.55**	**336**	*e*P	Pn	17 47 02.4	+5.4
MSLP	**Maasin**	**6.63**	**345**	*e*P	Pn	17 47 01.6	+3.5
LLP	**Lapu-Lapu**	**7.08**	**338**	*e*P	Pn	17 47 07.4	+3.1
LLP				*e*S	Sn	17 48 47.0	+23
MSAI	**Masohi**	**7.37**	**162**	P	Pn	17 47 11.1	+2.9
	361nm,1.1s,5μm1.5nm						
AAI	**Ambon**	**7.50**	**168**	P	**Pn**	**17 47 11.2**	**+1.2**
	1μm,1.0s,13μm3.8nm						
OCLP	**Ormoc**	**7.57**	**345**	*e*P	Pn	17 47 14.9	+3.9
GUIM	**Jordan**	**7.96**	**330**	*e*P	Pn	17 47 20.9	+4.6
MYLDM	**Lahad Datu**	**8.21**	**281**	P	Pn	17 47 26.8	+7.0
MYLDM	**Lahad Datu**	**8.21**	**281**	P	Pn	17 47 26.3	+6.5
	1μm,1.4s,35μm376μm6.1nm						
KDI	**Kendari**	**8.58**	**208**	P	**Pn**	**17 47 25.7**	**+0.9**
	1μm,1.3s,17μm						
KDI				S	**Sn**	**17 49 03.3**	**+2.9**
	1μm,1.3s,17μm						
FAKI	**Fak Fak**	**8.66**	**139**	P	**Pn**	**17 47 27.8**	**+1.9**
	785nm,1.0s,9μm120μm						
RCP	**Roxas**	**8.70**	**334**	⇓*e*P	Pn	17 47 31.1	+4.6
RCP				*e*S	Sn	17 49 11.0	+7.6
TSM	**Tawau**	**8.73**	**274**	P	Pn	17 47 30.0	+3.1
BNDI	**Bandanaira**	**8.80**	**158**	P	Pn	17 47 37.5	+10
CNP	**Catarman**	**8.97**	**348**	*e*P	Pn	17 47 35.5	+5.3
CUYO	**Cuyo Island**	**9.01**	**322**	*e*P	Pn	17 47 35.7	+4.9
TTSI	**Tana Toraja**	**9.53**	**225**	P	Pn	17 47 42.2	+4.4
	1μm,1.6s,21μm73μm						
SDKM	**Sandakan**	**9.57**	**282**	P	Pn	17 47 42.6	+4.1
BBSI	**Bau Bau**	**9.97**	**204**	P	Pn	17 47 47.4	+3.5
	768nm,1.0s,15μm						
BATP	**Bataraza**	**10.11**	**301**	*e*P	Pn	17 47 52.2	+6.4
SPSI	**Sidrap Palu**	**10.22**	**222**	P	Pn	17 47 51.4	+4.1
	494nm,1.4s,9μm78μm						
KDM	**Kudat**	**10.24**	**289**	P	Pn	17 47 54.1	+6.5
SMKI	**Samarinda**	**10.25**	**247**	P	Pn	17 47 53.2	+5.5
	904nm,1.4s,10μm						
ENPP	**El Nido**	**10.31**	**317**	*e*P	Pn	17 47 51.9	+3.3
KKM	**Kota Kinabalu**	**10.61**	**283**	*e*P	Pn	17 47 57.4	+4.6
	137nm,0.5s						
KKM	**Kota Kinabalu**	**10.61**	**283**	P	Pn	17 47 58.6	+5.8
KKM	**Kota Kinabalu**	**10.61**	**283**	P	Pn	17 47 59.3	+6.5
	496nm,1.4s,12μm135μm						
BAKI	**Biak**	**10.67**	**117**	P	Pn	17 47 57.9	+4.4
	2μm,1.4s,18μm128μm						
BOAC	**Boac**	**10.78**	**334**	*e*P	Pn	17 48 05.0	+10
KAPI	**Kappang**	**11.03**	**218**	*e*P	**Pn**	**17 47 59.6**	**+1.2**
	499nm,1.0s						
KAPI					Sn	17 50 08.6	+8.1
KAPI	**Kappang**	**11.03**	**218**	P	Pn	17 48 02.5	+4.1
	SNR=62						
KAPI	**Kappang**	**11.03**	**218**	Pn	Pn	17 48 02.5	+4.1
	2μm,1.5s,SNR=32						
KAPI	**Kappang**	**11.03**	**218**	P	Pn	17 48 02.3	+3.9
	331nm,1.2s,7μm49μm						
KAPI	**Kappang**	**11.03**	**218**	Pn	**Pn**	**17 47 59.4**	**+1.1**
	6.2nm,0.3s,baz=9.7,slow=5.7,SNR=29						
KAPI					Sn	17 50 08.6	+8.1
	1.7nm,0.3s,baz=15,slow=12,SNR=1.8						
KAPI					LR	LR	17 52 55.9
	comp=Z,58μm,19.1s,baz=54,slow=41						
BKSI	**Bulukumba**	**11.05**	**216**	P	Pn	17 48 02.9	+4.2
	368nm,1.4s,5μm42μm						
TLE	**Tual**	**11.11**	**146**	P	Pn	17 48 03.5	+4.0
	2μm,1.4s,33μm76μm						
TGY	**Tagaytay City**	**11.76**	**332**	Pn	Pn	17 48 14.8	+6.4
TGY	**Tagaytay City**	**11.76**	**332**	Pn	Pn	17 48 14.8	+6.4
	7.5nm,0.3s,baz=266,slow=6.4,SNR=9.7						
TGY					LR	LR	17 53 18.3
	comp=Z,300nm,19.9s,baz=150,slow=41						
LUBP	**Lubang**	**11.79**	**328**	*e*P	Pn	17 48 12.2	+3.4
KBKI	**Kotabaru**	**12.53**	**236**	P	P	17 48 24.1	-5.7
	431nm,1.5s,9μm49μm						
BALP	**Baler**	**12.95**	**338**	*e*P	P	17 48 30.3	-4.2
MMRI	**Maumere**	**13.00**	**200**	P	Pn	17 48 29.0	+3.7
	1μm,1.2s,16μm						
SMPI	**Sarmi**	**13.35**	**115**	P	**Pn**	**17 48 32.1**	**+1.9**
	433nm,1.7s,10μm						
BTM	**Bintulu**	**13.50**	**268**	P	**P**	**17 48 38.4**	**-2.3**
SCZP	**Santa Cruz**	**13.69**	**332**	*e*P	Pn	17 48 37.9	+3.1
BBKI	**Banjar Baru**	**13.73**	**239**	P	**P**	**17 48 40.9**	**-2.3**
	1μm,1.7s,39μm						
PALP	**Palanan**	**13.91**	**343**	*e*P	**P**	**17 48 44.8**	**-0.3**
PALP	**Palanan**	**13.91**	**343**	⇓*i*P	**P**	**17 48 45.6**	**+0.5**
CAUP	**Cauayan**	**13.98**	**341**	*e*P	**Pn**	**17 48 40.4**	**+1.6**
BOLP	**Bolinao**	**14.22**	**333**	*e*P	**P**	**17 48 48.8**	**+0.2**
SBUM	**Sibu**	**14.41**	**266**	P	**P**	**17 48 50.4**	**-0.4**
SBUM	**Sibu**	**14.41**	**266**	P	**P**	**17 48 50.1**	**-0.7**
	736nm,2.3s,20μm65μm						
WSI	**Wasingapu**	**14.68**	**205**	P	**Pn**	**17 48 50.2**	**+2.0**
	3μm,0.9s,39μm						
ABRA	**Dolores**	**15.02**	**338**	*e*P	**P**	**17 48 55.6**	**-2.0**
JAY	**Jayapura**	**15.38**	**113**	P	**P**	**17 49 02.0**	**+0.3**
	989nm,0.8s,8μm						
STKI	**Sintang**	**15.54**	**257**	P	**P**	**17 49 04.8**	**+1.5**
	1μm,1.9s,19μm40μm						
PIP	**Pasuquin**	**15.68**	**339**	⇑*e*P	**P**	**17 49 04.9**	**+0.1**
PBKI	**Pangkalan Bun**	**16.22**	**247**	P	**P**	**17 49 12.8**	**+1.9**
	1μm,1.1s,16μm39μm						
KHKI	**Kahang-Kahang**	**16.24**	**222**	P	**P**	**17 49 11.2**	**+0.2**
	733nm,1.0s,9μm45μm						
KSM	**Kuching**	**16.42**	**263**	*e*P	**P**	**17 49 11.8**	**-1.4**
	416nm,0.9s						
KSM	**Kuching**	**16.42**	**263**	P	**P**	**17 49 15.6**	**+2.5**
KSM	**Kuching**	**16.42**	**263**	P	**P**	**17 49 16.5**	**+3.4**
	573nm,0.9s,9μm62μm						
KMMI	**Kalianget**	**16.52**	**230**	P	**P**	**17 49 15.8**	**+1.6**
	478nm,1.1s,11μm						
DNP	**Denpasar**	**16.73**	**223**	P	**P**	**17 49 18.8**	**+2.3**
	2μm,2.9s,43μm79μm						
IGBI	**Denpasar**	**16.88**	**223**	P	**P**	**17 49 20.4**	**+2.2**
	430nm,1.1s,25μm						
NBBI	**Negara**	**16.92**	**225**	P	**P**	**17 49 19.0**	**+0.4**
	990nm,1.1s,18μm						
BLJI	**Banyuglugur**	**17.25**	**229**	P	**P**	**17 49 23.6**	**+1.4**
	1μm,0.8s,9μm						
JAGI	**Jajag, Banyuwa**	**17.32**	**226**	P	**P**	**17 49 24.6**	**+1.5**
	975nm,1.0s,16μm44μm						
GMJI	**Gumas**	**17.70**	**228**	P	**P**	**17 49 29.2**	**+1.9**
	864nm,1.2s,8μm44μm						
MMPI	**Merauke**	**18.30**	**131**	P	**Pn**	**17 49 34.2**	**+0.2**
	2μm,0.8s,28μm						
KRKI	**Karangkates**	**18.38**	**230**	P	**Pn**	**17 49 35.8**	**+0.8**
	1μm,1.2s,19μm						
SJI	**Sawahan**	**18.65**	**232**	P	**Pn**	**17 49 37.9**	**-0.5**
	709nm,1.3s,10μm						
PWJI	**Pagerwojo**	**18.80**	**232**	P	**P**	**17 49 38.8**	**-0.5**
	456nm,1.2s,6μm						
SMRI	**Semarang**	**19.34**	**237**	P	**Pn**	**17 49 46.4**	**-0.3**
	562nm,1.9s,11μm						
PCJI	**Pacitan**	**19.39**	**232**	P	**Pn**	**17 49 48.1**	**+0.8**
	905nm,1.1s,8μm						
UGM	**Wanagama**	**19.75**	**234**	P	**Pn**	**17 49 50.6**	**-1.0**
	534nm,1.3s,7μm						
TWG	**Pinlang**	**19.76**	**345**	*e*P	**P**	**17 49 47.3**	**-2.5**
	816nm,0.8s						
YOGI	**Yogyakarta**	**19.88**	**235**	P	**Pn**	**17 49 53.6**	**+0.5**
	1μm,1.5s,16μm34μm						
TPI	**Tanjungpandan**	**19.99**	**252**	P	**Pn**	**17 49 57.4**	**+3.0**
	268nm,1.6s,5μm						
BJII	**Banjamegara**	**20.10**	**237**	P	**P**	**17 49 54.4**	**+0.7**
	670nm,1.8s,12μm						
YULB	**Yu-li**	**20.25**	**346**	*e*P	**P**	**17 49 52.4**	**-2.8**
	255nm,0.9s						
TPUB	**Ta-pu**	**20.33**	**344**	*e*P	**P**	**17 49 54.8**	**-1.3**
	315nm,0.6s						
GUMO	**Guam**	**20.54**	**60**	*e*P	**P**	**17 49 57.4**	**-1.0**
GUMO	**Guam**	**20.54**	**60**	P	**P**	**17 49 57.4**	**-1.0**
	206nm,0.8s,baz=217,slow=10,SNR=3.1						
GUMO					LR	LR	17 56 35.6
	comp=Z,18μm,20.9s,baz=229,slow=33						
SSLB	**Suanglung**	**20.71**	**345**	*e*P	**P**	**17 49 57.5**	**-2.7**
	273nm,0.8s						
CLJI	**Cilicap**	**20.89**	**237**	P	Pn	17 50 04.4	-0.5
	260nm,1.2s,6μm						
NACB	**Ninganchiao**	**20.93**	**347**	*e*P	**P**	**17 50 01.5**	**-0.9**
	127nm,0.8s						
PPBI	**Pangkal Pinang**	**21.27**	**254**	P	**P**	**17 50 08.5**	**+2.3**
	296nm,1.1s,6μm						
YHNB	**Yeheng**	**21.46**	**347**	*e*P	**P**	**17 50 06.1**	**-2.1**
	272nm,0.8s						
YHNB				LR	LR		
	comp=Z,24μm,20.0s						
LEM	**Lembang**	**21.64**	**241**	P	**P**	**17 50 11.9**	**+1.5**
	comp=Z,482nm,1.1s,comp=Z,10μmcomp=Z,52μm						
FITZ	**Fitzroy Crossi**	**21.68**	**182**	*e*P	**P**	**17 50 09.1**	**-1.5**
	comp=Z,8.5nm,0.4s						
FITZ				S	**S**	**17 54 02.8**	**-5.7**
FITZ	**Fitzroy Crossi**	**21.68**	**182**	⇑*i*P	**P**	**17 50 09.0**	**-1.5**
	comp=Z,760nm,0.6s						
FITZ				*e*S	**S**	**17 54 03.8**	**-4.7**
FITZ	**Fitzroy Crossi**	**21.68**	**182**	P	**P**	**17 50 09.1**	**-1.5**
	comp=Z,306nm,0.9s,baz=20,slow=8.8,SNR=236						
FITZ				S	**S**	**17 54 02.8**	**-5.7**
	comp=Z,56nm,0.8s,baz=181,slow=22,SNR=3.8						
TATO	**Taipei**	**21.73**	**347**	*e*P	**P**	**17 50 09.7**	**-1.3**
	comp=Z,87nm,0.6s						
TATO				LR	LR		
	comp=Z,19μm,19.0s						
CISI	**Cisompet, Garu**	**21.82**	**239**	P	**P**	**17 50 12.6**	**+0.4**
	comp=Z,526nm,1.2s,comp=Z,7μmcomp=Z,37μm						
HKC	**Hong Kong Obse**	**22.08**	**328**	P	**P**	**17 50 16.0**	**+1.2**
HKC				S	**S**	**17 54 18.0**	**+1.9**
TNG	**Tangerang**	**22.20**	**244**	P	**P**	**17 50 18.3**	**+2.0**
	comp=Z,1μm,1.2s,comp=Z,22μmcomp=Z,43μm						
TNG	**Tangerang**	**22.20**	**244**	P	P	17 50 26.2	+10
DBJI	**Dramaga**	**22.28**	**243**	P	**P**	**17 50 17.5**	**+0.4**
	comp=Z,550nm,1.8s,comp=Z,13μm						
QIZ	**Qiongzhong**	**22.37**	**314**	P	**P**	**17 50 17.1**	**-1.0**
QIZ				pP	**pP**	**17 50 26.5**	**-1.7**
QIZ				sP	**sP**	**17 50 34.5**	**+1.3**
QIZ				S	**S**	**17 54 15.8**	**-5.8**
QIZ				pmax	pmax		
	comp=Z,1μm,7.4s						
QIZ				LR	LR		
	comp=N,10μm,15.1s						
QIZ				LR	LR		
	comp=E,3μm,16.6s						
QIZ				LR	LR		
	comp=Z,19μm,19.7s						
QIZ	**Qiongzhong**	**22.37**	**314**	*e*P	**P**	**17 50 18.0**	**0.0**
	comp=Z,212nm,1.2s						
QIZ				LR	LR		
	comp=Z,20μm,19.0s						
QZH	**Quanzhou**	**22.49**	**341**	⇑*i*P	**P**	**17 50 20.3**	**+1.1**
QZH				S	**S**	**17 54 20.4**	**-3.2**
QZH				pmax	pmax		
	comp=Z,350nm,0.6s						
QZH				pmax	pmax		
	comp=Z,4μm,7.8s						
QZH				LR	LR		
	comp=N,49μm,20.6s						
QZH				LR	LR		
	comp=E,14μm,16.7s						
QZH				LR	LR		
	comp=Z,65μm,22.7s						
SBJI	**Serang**	**22.65**	**245**	P	**P**	**17 50 23.0**	**+2.0**
	comp=Z,949nm,1.6s,comp=Z,16μm						
SKJI	**Sukabumi**	**22.65**	**242**	P	**P**	**17 50 21.8**	**+0.7**
	comp=Z,669nm,1.0s,comp=Z,15μm						
PMBI	**Palembang**	**22.79**	**254**	P	**P**	**17 50 25.6**	**+3.1**
	comp=Z,1μm,1.1s,comp=Z,11μmcomp=Z,46μm						
MYKOM	**Kota Tinggi**	**22.80**	**266**	P	**P**	**17 50 25.2**	**+2.6**
MYKOM	**Kota Tinggi**	**22.80**	**266**	P	**P**	**17 50 24.4**	**+1.7**
	comp=Z,432nm,0.9s,comp=Z,7μm						
JOW	**Kunigami**	**23.07**	**4**	*e*P	**P**	**17 50 27.2**	**+2.0**
	comp=Z,94nm,0.8s						
JOW				S	**S**	**17 54 32.8**	**-0.7**
JOW	**Kunigami**	**23.07**	**4**	P	**P**	**17 50 26.8**	**+1.5**
	comp=Z,142nm,1.0s,baz=178,slow=10.0,SNR=13						
JOW				S	**S**	**17 54 32.8**	**-0.7**
	comp=Z,20nm,1.0s,baz=128,slow=19,SNR=1.5						
BLSI	**Bandar Lampung**	**23.15**	**247**	P	**P**	**17 50 29.6**	**+3.3**
	comp=Z,850nm,1.1s						
GZH	**Guangzhou**	**23.16**	**328**	P	**P**	**17 50 29.1**	**+2.9**
GZH				S	**S**	**17 54 37.3**	**+2.3**
GZH				LR	LR		
	comp=N,24μm,19.1s						
GZH				LR	LR		
	comp=E,13μm,20.8s						
GZH				LR	LR		
	comp=Z,26μm,19.0s						
CGJI	**Cibinong**	**23.25**	**244**	P	**P**	**17 50 25.8**	**-1.4**
	comp=Z,1μm,1.1s,comp=Z,10μmcomp=Z,27μm						
KGM	**Kluang**	**23.31**	**267**	P	**P**	**17 50 29.9**	**+2.1**
KASI	**Kota Agung**	**23.90**	**248**	P	**P**	**17 50 33.2**	**-0.2**
	comp=Z,707nm,1.3s,comp=Z,7μm						
COEN	**Coen**	**24.04**	**137**	*e*P	P	17 50 29.3	-5.4
	comp=Z,719nm,0.6s						
LWLI	**Liwa**	**24.12**	**249**	P	**P**	**17 50 35.3**	**-0.3**
	comp=Z,926nm,0.9s,comp=Z,8μm						
PMG	**Port Moresby**	**24.27**	**123**	*e*P	**P**	**17 50 32.8**	**-4.0**
	comp=Z,136nm,1.0s						
PMG				S	**S**	**17 54 51.2**	**-1.9**
PMG	**Port Moresby**	**24.27**	**123**	P	**P**	**17 50 33.2**	**-3.6**
	comp=Z,129nm,0.9s,comp=Z,3μmcomp=Z,11μm						
PMG	**Port Moresby**	**24.27**	**123**	P	**P**	**17 50 33.3**	**-3.5**
	comp=Z,88nm,0.9s,baz=296,slow=7.1,SNR=15						
PMG				S	**S**	**17 54 51.2**	**-1.9**
	comp=Z,8.2nm,0.8s,baz=258,slow=14,SNR=1.4						
PMG				LR	LR	18 00 55.0	
	comp

PSI ScP **ScP** **17 58 02.2 +0.1**
comp=Z,30nm,1.1s,baz=207,slow=3.6,SNR=4.9
SSE Sheshan 27.73 350 P **P** **17 51 09.8 +1.9**
SSE pP **pP** **17 51 20.6 +1.7**
SSE sP **sP** **17 51 24.9 +1.2**
SSE S **S** **17 55 49.0 +1.3**
SSE sS **sS** **17 56 07.9 +1.8**
SSE pmax pmax
comp=Z,56nm,0.9s
SSE pmax pmax
comp=Z,630nm,6.0s
SSE LR LR
comp=N,7μm,22.5s
SSE LR LR
comp=E,4μm,22.5s
SSE LR LR
comp=Z,8μm,22.2s
SISI Saibi 27.95 260 P **P** **17 51 09.2 -0.8**
comp=Z,206nm,0.7s,comp=Z,4μm
TSI Tuntungan 27.98 271 P **P** **17 51 11.5 +1.1**
comp=Z,229nm,1.3s,comp=Z,7μm
ASAR Alice Springs 28.11 166 P **P** **17 51 10.2 -1.1**
ASAR PcP **PcP** **17 54 26.3 +1.1**
ASAR S S 17 56 08.8 +15
ASAR *e* 18 23 33.9
ASAR Alice Springs 28.11 166 P **P** **17 51 10.2 -1.1**
comp=Z,37nm,0.5s,baz=349,slow=7.2,SNR=481
ASAR PcP **PcP** **17 54 26.3 +1.1**
comp=Z,52nm,0.7s,baz=339,slow=1.7,SNR=7.5
ASAR S S 17 56 08.8 +15
comp=Z,53nm,1.1s,baz=349,slow=18,SNR=6.7
ASAR P3KPbc 18 23 33.9
comp=Z,1.4nm,0.9s,baz=154,slow=4.4,SNR=9.7
GSI Gunungsitoli 29.09 266 P **P** **17 51 19.9 -0.4**
comp=Z,318nm,0.8s,comp=Z,4μm
WHN Wuhan 29.11 338 ⇓P **P** **17 51 20.3 +0.1**
WHN S S 17 56 02.3 -7.1
WHN pmax pmax
comp=Z,230nm,1.0s
WHN pmax pmax
comp=Z,2μm,9.0s
WHN LR LR
comp=N,70μm,29.0s
WHN LR LR
comp=E,27μm,16.7s
WHN LR LR
comp=Z,80μm,24.3s
NJ2 Nanjing 29.14 346 *e*P **P** **17 51 22.3 +1.9**
NJ2 pP **pP** **17 51 32.4 +1.0**
NJ2 sP **sP** **17 51 35.6 -0.6**
NJ2 PP **PnPn** **17 52 16.8 +2.6**
NJ2 S **S** **17 56 10.5 +0.7**
NJ2 sS **sS** **17 56 27.0 -1.2**
NJ2 pmax pmax
comp=Z,90nm,1.0s
NJ2 pmax pmax
comp=Z,330nm,10.0s
NJ2 LR LR
comp=N,3μm,24.8s
NJ2 LR LR
comp=E,4μm,21.1s
NJ2 LR LR
comp=Z,3μm,25.9s
TPTI 29.37 270 P **P** **17 51 23.0 +0.3**
comp=Z,60nm,0.7s,comp=Z,3μm
JNU Nakatsue 29.55 7 *e*P **P** **17 51 23.7 -0.4**
comp=Z,102nm,1.1s
JNU Nakatsue 29.55 7 P **P** **17 51 24.6 +0.5**
comp=Z,166nm,1.0s,baz=170,slow=5.1,SNR=33
JNU LR LR 18 03 16.0
comp=Z,3μm,21.3s,baz=179,slow=36
LHMI Lhok Sumawe 29.60 274 P **P** **17 51 26.0 +1.2**
comp=Z,233nm,0.7s,comp=Z,5μmcomp=Z,25μm
GYA Guiyang 29.62 322 P **P** **17 51 27.0 +2.1**
GYA pP **pP** **17 51 36.8 +0.8**
GYA PP **PnPn** **17 52 24.3 +3.4**
GYA PcP **PcP** **17 54 30.0 +0.9**
GYA S **S** **17 56 20.5 +2.7**
GYA sS **sS** **17 56 37.8 +1.6**
GYA SS **SnSn** **17 57 53.3 +4.4**
GYA ScP **ScP** **17 58 09.4 +1.4**
GYA ScS **ScS** **18 02 01.8 -1.3**
GYA pmax pmax
comp=Z,50nm,0.8s
GYA pmax pmax
comp=Z,320nm,4.7s
GYA LR LR
comp=N,10μm,18.6s
GYA LR LR
comp=E,9μm,19.6s
GYA LR LR
comp=Z,12μm,18.4s
CTA Charters Tower 30.51 141 P **P** **17 51 32.4 -0.3**
CTA ScP **ScP** **17 58 13.8 +3.0**
CTA Charters Tower 30.51 141 *e*P **P** **17 51 31.5 -1.3**
comp=Z,37nm,0.9s
CTA *e*S **S** **17 56 27.6 -4.2**
CTA Charters Tower 30.51 141 P **P** **17 51 32.4 -0.3**
comp=Z,40nm,0.9s,baz=319,slow=9.9,SNR=16
CTA ScP **ScP** **17 58 13.8 +3.0**
comp=Z,21nm,0.9s,baz=40,slow=7.9,SNR=3.1
CTAO Charters Tower 30.51 141 *e*P **P** **17 51 32.0 -0.8**
CTAO pmax pmax
comp=Z,65nm,0.8s
CTAO MLR MLR
comp=Z,7μm,20.0s
CTAO Charters Tower 30.51 141 *e*P **P** **17 51 32.0 -0.8**
comp=Z,65nm,0.8s
CTAO LR LR
comp=Z,7μm,20.0s
CMAR Chiang Mai Arr 30.78 301 P **P** **17 51 35.6 +0.5**
CMAR PcP **PcP** **17 54 34.2 +2.2**
CMAR ScP **ScP** **17 58 14.1 +2.3**
CMAR PKiKP **PKiKP** **18 02 01.2 -1.8**
CMAR *e* 18 23 26.1
CMAR Chiang Mai Arr 30.78 301 P **P** **17 51 35.6 +0.5**
comp=Z,44nm,0.8s,baz=118,slow=7.3,SNR=198
CMAR PcP **PcP** **17 54 34.2 +2.2**
comp=Z,12nm,0.9s,baz=91,slow=3.7,SNR=3.5
CMAR ScP **ScP** **17 58 14.1 +2.3**
comp=Z,17nm,1.1s,baz=144,slow=2.0,SNR=8.2
CMAR PKiKP **PKiKP** **18 02 01.2 -1.8**
comp=Z,2.6nm,0.9s,baz=209,slow=1.7,SNR=5.4
CMAR LR LR 18 05 37.6
comp=Z,10μm,18.7s,baz=270,slow=40
CMAR P3KPbc 18 23 26.1
comp=Z,1.3nm,1.0s,baz=289,slow=5.6,SNR=8.3
CHTO Chiang Mai 30.93 301 *e*P **P** **17 51 36.3 -0.2**
CHTO pmax pmax
comp=Z,91nm,0.9s
CHTO MLR MLR
comp=Z,8μm,20.0s
CHTO Chiang Mai 30.93 301 *e*P **P** **17 51 36.3 -0.2**
comp=Z,91nm,0.9s
CHTO LR LR
comp=Z,8μm,20.0s
CHTO Chiang Mai 30.93 301 P **P** **17 51 37.2 +0.8**
SNR=47
CHTO Chiang Mai 30.93 301 P **P** **17 51 37.4 +0.9**
comp=Z,130nm,0.9s,comp=Z,2μmcomp=Z,8μm
ENH Enshi 31.00 330 *e*P **P** **17 51 36.4 -0.5**
comp=Z,203nm,1.1s
ENH LR LR
comp=Z,22μm,22.0s
BSI Banda Aceh 31.25 274 P **P** **17 51 38.8 -0.6**
comp=Z,88nm,0.9s,comp=Z,3μmcomp=Z,27μm
KMI Kunming 31.32 315 P **P** **17 51 42.4 +2.3**
KMI pP **pP** **17 51 53.1 +2.0**
KMI sP **sP** **17 51 56.9 +1.0**
KMI PP **PnPn** **17 52 46.1 +2.7**
KMI S S 17 56 38.8 -5.9
KMI pmax pmax
comp=Z,36nm,1.3s
KMI pmax pmax
comp=Z,400nm,5.7s
KMI LR LR
comp=N,4μm,20.6s
KMI LR LR
comp=E,9μm,20.6s
KMI LR LR
comp=Z,12μm,25.2s
JHJ Hachijo jima 2 31.77 21 LR LR 18 03 17.2
comp=Z,10μm,21.2s,baz=243,slow=34
COCO West Island 33.53 241 PFAKE 17 52 10.0 +11
COCO LR LR
comp=Z,7μm,21.0s
KSAR Wonju Array Be 33.61 2 P **P** **17 52 00.6 +0.9**
KSAR PcP **PcP** **17 54 41.5 +2.0**
KSAR ScP **ScP** **17 58 23.0 +2.0**
KSRS Korea Array 33.62 2 P **P** **17 52 00.6 +0.8**
comp=Z,78nm,0.9s,baz=180,slow=9.2,SNR=90
KSRS PcP **PcP** **17 54 41.5 +2.0**
comp=Z,30nm,1.0s,baz=180,slow=3.8,SNR=8.4
KSRS ScP **ScP** **17 58 23.0 +1.9**
comp=Z,6.9nm,1.0s,baz=193,slow=3.0,SNR=5.3
INCN Inchon 33.63 0 *e*P **P** **17 52 00.8 +0.9**
comp=Z,60nm,0.6s
INCN LR LR
comp=Z,8μm,22.0s
FORT Forrest 34.31 178 *e*P **P** **17 52 05.2 -0.6**
comp=Z,1μm,0.8s
FORT Forrest 34.31 178⇑*i*P **P** **17 52 05.5 -0.3**
comp=Z,1μm,0.9s
XAN Xi'an 34.39 333 P **P** **17 52 05.6 -1.0**
XAN sP **sP** **17 52 18.9 -3.6**
XAN pmax pmax
comp=Z,39nm,0.8s
XAN LR LR
comp=N,7μm,20.8s
XAN LR LR
comp=E,4μm,20.8s
XAN LR LR
comp=Z,6μm,21.0s
MAJO Matsushiro 34.40 17 *e*P **P** **17 52 04.7 -1.9**
MAJO pmax pmax
comp=Z,40nm,0.7s
MAJO MLR MLR
comp=Z,9μm,22.0s
MAJO Matsushiro 34.40 17 *e*P **P** **17 52 04.7 -1.9**
comp=Z,40nm,0.7s
MAJO LR LR
comp=Z,9μm,22.0s
MAT Matsushiro 34.40 17 P P 17 52 03.3 -3.3
MAT S S 17 57 38.0 +6.1
MJAR Matsushiro Arr 34.40 17 P **P** **17 52 04.7 -1.9**
MJAR PcP **PcP** **17 54 43.5 +1.8**
MJAR Matsushiro Arr 34.40 17 P **P** **17 52 04.7 -1.9**
comp=Z,25nm,1.2s,baz=203,slow=9.8,SNR=21
MJAR PcP **PcP** **17 54 43.5 +1.8**
comp=Z,21nm,0.9s,baz=198,slow=4.5,SNR=5.5
MJAR LR LR 18 03 50.1
comp=Z,6μm,21.9s,baz=200,slow=32
CD2 Chengdu 34.60 324 ⇑P **P** **17 52 08.6 +0.1**
CD2 pP **pP** **17 52 18.3 -1.3**
CD2 sP **sP** **17 52 22.3 -2.1**
CD2 PP **PnPn** **17 53 25.8 +1.0**
CD2 PcP **PcP** **17 54 42.8 +0.3**
CD2 S **S** **17 57 35.0 -0.2**
CD2 PcS **PcS** **17 58 28.0 -1.1**
CD2 SS **SnSn** **17 59 48.0 -1.6**
CD2 pmax pmax
comp=Z,70nm,0.9s
CD2 pmax pmax
comp=Z,1μm,7.8s
CD2 LR LR
comp=N,11μm,22.5s
CD2 LR LR
comp=E,14μm,24.5s
CD2 LR LR
comp=Z,14μm,24.5s
DL2 Dalian 35.34 353 P **P** **17 52 15.5 +0.8**
DL2 S **S** **17 57 47.8 +1.5**
DL2 pmax pmax
comp=Z,300nm,1.0s
DL2 pmax pmax
comp=Z,310nm,6.5s
DL2 LR LR
comp=N,4μm,20.1s
DL2 LR LR
comp=E,2μm,17.5s
DL2 LR LR
comp=Z,5μm,21.1s
HNR Honiara 35.70 112 *e*P **P** **17 52 15.9 -2.1**
comp=Z,166nm,1.0s
HNR Honiara 35.70 112 LR LR 18 05 43.8
comp=Z,8μm,20.3s,baz=283,slow=34
KLBR Kelleberrin 36.09 193⇑*i*P **P** **17 52 21.2 +0.1**
comp=Z,428nm,1.0s
KLBR *e*PCP **PcP** **17 54 47.4 +0.7**
TIY Taiyuan 36.26 341 *e*P **P** **17 52 22.9 +0.2**
TIY S **S** **17 58 03.8 +3.2**
TIY LR LR
comp=Z,13μm,25.3s
BJT Baijiatuau 37.38 347 *e*P **P** **17 52 33.1 +1.1**
comp=Z,784nm,0.9s
BJT LR LR
comp=Z,5μm,20.0s
BBOO Buckleboo 37.39 167 *e*P **P** **17 52 31.6 -0.7**
comp=Z,3μm,0.8s
BJI Beijing 37.39 347 P **P** **17 52 33.0 +0.8**
BJI S S 17 58 11.0 -6.6
BJI pmax pmax
comp=Z,1μm,3.9s
BJI LR LR
comp=N,2μm,22.8s
BJI LR LR
comp=E,6μm,22.8s
BJI LR LR
comp=Z,4μm,25.1s
EIDS Eidsvold 37.40 142 *e*P **P** **17 52 31.2 -1.2**
comp=Z,274nm,0.8s
NWAO Narrogin (SRO) 37.49 193 *e*P **P** **17 52 33.4 +0.4**
comp=Z,356nm,1.3s
NWAO LR LR
comp=Z,4μm,22.0s
NWAO Narrogin (SRO) 37.49 193 P **P** **17 52 34.6 +1.6**
SNR=6.6
IMP Imphal 37.79 307 *e*PKP **P** **17 52 33.0 -2.9**
IMP *ex* x 17 58 35.0
SNY Shenyang 38.07 356⇑P **P** **17 52 38.9 +1.1**
SNY S **S** **17 58 24.6 -3.1**
SNY pmax pmax
comp=Z,140nm,1.0s
SNY pmax pmax
comp=Z,1μm,3.5s
SNY LR LR
comp=N,3μm,26.4s
SNY LR LR
comp=E,6μm,17.2s
SNY LR LR
comp=Z,7μm,27.0s
STKA Stephens Creek 38.14 159 P **P** **17 52 37.9 -0.7**
STKA PcP **PcP** **17 54 53.2 +0.3**
STKA Stephens Creek 38.14 159⇑*i*P **P** **17 52 37.8 -0.8**
comp=Z,655nm,0.9s
STKA *e*PCP **PcP** **17 54 53.2 +0.3**
STKA *e*S **S** **17 58 26.4 -2.7**
STKA Stephens Creek 38.14 159 P **P** **17 52 37.9 -0.7**
comp=Z,579nm,0.7s,baz=333,slow=8.2,SNR=759
STKA PcP **PcP** **17 54 53.2 +0.3**
comp=Z,84nm,0.7s,baz=304,slow=0.7,SNR=3.0
STKA LR LR 18 10 28.6
comp=Z,4μm,19.1s,baz=92,slow=40
LZH Lanzhou 38.47 330 ⇓P **P** **17 52 42.6 +1.1**
LZH pP **pP** **17 52 51.8 -1.0**
LZH sP **sP** **17 52 57.0 -0.5**
LZH S **S** **17 58 34.0 -0.4**
LZH pmax pmax
comp=Z,180nm,1.0s
LZH pmax pmax
comp=Z,490nm,4.2s
LZH LR LR
comp=N,12μm,15.8s
LZH LR LR
comp=E,11μm,16.3s
LZH LR LR
comp=Z,22μm,16.6s
HHC Hu-ho-hao-te 39.39 342 *e*P **P** **17 52 49.9 +0.8**
HHC pP **pP** **17 52 59.8 -0.6**
HHC sP **sP** **17 53 03.0 -2.2**
HHC PP **PnPn** **17 54 25.1 +2.0**
HHC S **S** **17 58 47.8 -0.3**
HHC sS **sS** **17 59 06.5 -0.3**
HHC SS **SS** **18 01 39.3 -4.0**
HHC pmax pmax
comp=Z,46nm,0.8s
HHC pmax pmax
comp=Z,1μm,7.4s
HHC LR LR
comp=N,7μm,11.4s
HHC LR LR
comp=E,6μm,13.9s
HHC LR LR
comp=Z,8μm,14.7s
VLA Vladivostok 39.54 6*b i*P **P** **17 52 51.0 +0.8**
VLA *e* 17 54 21.4
VLA *i* S **S** **17 58 52.5 +2.5**
VLA pmax pmax
comp=Z,130nm,1.2s
AGT Agartala 39.57 304 *e*PKP **P** **17 52 50.0 -0.7**
AGT *ex* x 17 53 43.0
BTO Baotou 39.67 340 *e*P **P** **17 52 51.3 -0.2**
SHL Shillong 39.80 307⇑*i*P **P** **17 52 53.0 +0.2**
SHL *ex* x 17 58 46.5
CN2 Changchun 39.95 359 *e*P **P** **17 52 54.3 +0.7**
CN2 *e*pP **pP** **17 53 04.0 -0.9**
CN2 *e*sP **sP** **17 53 08.1 -1.5**
CN2 *e*S S 17 59 02.8 +6.6
CN2 SS **SS** **18 01 53.1 -1.1**
CN2 pmax pmax
comp=Z,40nm,1.0s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,3μm,20.0s
CN2 LR LR
comp=E,4μm,20.0s
CN2 LR LR
comp=Z,2μm,20.0s
USRK Ussuriysk Arra 40.62 6 P **P** **17 52 59.5 +0.4**
comp=Z,88nm,0.9s,baz=190,slow=7.2,SNR=66
USRK PKP2ab 18 26 40.3
comp=Z,2.1nm,0.8s,baz=270,slow=3.8,SNR=4.3
MDJ Mudanjiang 40.84 3 P **P** **17 53 01.8 +0.9**
MDJ pP **pP** **17 53 10.9 -1.3**
MDJ sP **sP** **17 53 14.8 -2.2**
MDJ PcP **PcP** **17 55 00.0 -1.3**
MDJ ScP **ScP** **17 58 48.0 +0.1**
MDJ PcS **PcS** **17 58 51.8 -0.2**
MDJ S **S** **17 59 11.6 +2.2**
MDJ ScS **ScS** **18 03 03.4 +0.7**
MDJ pmax pmax
comp=Z,280nm,1.0s
MDJ pmax pmax
comp=Z,1μm,6.9s
MDJ LR LR
comp=N,6μm,24.9s
MDJ LR LR
comp=E,2μm,22.6s
MDJ LR LR
comp=Z,7μm,27.1s
MDJ Mudanjiang 40.84 3 *e*P **P** **17 53 01.7 +0.8**
comp=Z,255nm,0.9s
MDJ LR LR
comp=Z,4μm,19.0s
ERM Erimo 40.93 19 *e*P **P** **17 53 03.6 +1.9**
ERM Erimo 40.93 19 PFAKE 17 53 10.0 +8.3
ERM LR LR
comp=Z,7μm,21.0s
ARMA Armidale 41.51 147 *e*P **P** **17 53 06.7 0.0**
comp=Z,238nm,0.8s
ARMA Armidale 41.51 147⇑*i*P **P** **17 53 06.6 -0.1**
CAL Calcutta 41.52 300 *e*PKP **P** **17 53 05.3 -1.5**
CAL *ex* x 17 58 54.8
WAKE Wake Island 42.05 65 PFAKE 17 53 20.0 +8.8
WAKE LR LR
comp=Z,6μm,21.0s
LSA Lhasa 42.37 312 P P 17 53 16.9 +2.7
LSA S **S** **17 59 30.3 -3.1**
LSA pmax pmax
comp=Z,110nm,1.2s
LSA LR LR
comp=N,3μm,20.9s
LSA LR LR
comp=E,2μm,22.4s
LSA LR LR
comp=Z,6μm,21.6s
LSA Lhasa 42.37 312 *e*P **P** **17 53 14.8 +0.6**
LSA pmax pmax
comp=Z,110nm,0.6s
LSA MLR MLR
comp=Z,8μm,22.0s
LSA Lhasa 42.37 312 *e*P **P** **17 53 14.8 +0.6**
comp=Z,110nm,0.6s
LSA LR LR
comp=Z,8μm,22.0s
ASAJ Asahikawa 42.66 17 *e*P **P** **17 53 17.1 +1.2**
comp=Z,88nm,1.1s
ASAJ Asahikawa 42.66 17 LR LR 18 11 06.9
comp=Z,7μm,20.7s,baz=215,slow=36
GTA Gaotai 43.06 329 *e*P **P** **17 53 19.3 0.0**
GTA pP **pP** **17 53 28.5 -2.2**
GTA sP **sP** **17 53 32.3 -3.1**
GTA PcP **PcP** **17 55 10.9 +2.0**
GTA S **S** **17 59 39.3 -3.4**
GTA ScS **ScS** **18 03 16.3 -0.6**
GTA pmax pmax
comp=Z,19nm,1.0s
GTA pmax pmax
comp=Z,270nm,5.7s
GTA LR LR
comp=N,7μm,23.7s
GTA LR LR
comp=E,16μm,21.6s
GTA LR LR
comp=Z,22μm,21.6s
YUK Yuzh-Kuril'sk 43.63 20*d i*P **P** **17 53 22.6 -1.0**
YUK *i* 17 55 03.3
YUK *i* PPP PPP 17 55 38.1
YUK *i* S **S** **17 59 48.2 -2.3**
YUK *i* SS **SS** **18 03 03.9 -2.8**
YUK pmax pmax
comp=Z,791nm,1.2s
YUK pmax pmax
comp=N,338nm,1.2s
YUK pmax pmax
comp=E,350nm,1.2s
YUK pmax pmax
comp=Z,471nm,5.1s
YUK MLR MLR
comp=N,442nm,20.0s
YUK MLR MLR
comp=E,384nm,20.0s
YUK MLR MLR
comp=Z,3μm,20.0s
RIV Riverview 43.93 150 *e*P **P** **17 53 25.0 -1.2**
TAPN Taplejung 43.94 306 *e*P **P** **17 53 26.7 -0.1**
comp=Z,246nm,0.8s
TAPN Taplejung 43.94 306 *e*P **P** **17 53 26.7 -0.1**
ODAN Odare 43.99 306 *e*P **P** **17 53 26.8 -0.3**
comp=Z,199nm,0.7s
ODAN Odare 43.99 306 *e*P **P** **17 53 26.8 -0.3**
CAN Canberra 44.13 153 *e*P **P** **17 53 28.5 +0.6**
comp=Z,91nm,0.6s
TOO Toolangi 44.65 159 *e*P **P** **17 53 32.7 +0.7**
comp=Z,1μm,1.8s
TOO *e*PCP **PP** **17 55 15.6 -1.2**
RAMN Ramite 44.67 305 *e*P **P** **17 53 32.6 0.0**
comp=Z,274nm,0.9s
RAMN Ramite 44.67 305 *e*P **P** **17 53 32.6 0.0**
HABR Khabarovsk 45.20 8*c i*P **P** **17 53 37.1 +1.0**
HABR *e**SP **sP** **17 53 48.9 -3.3**
HABR 17 55 14.9
HABR *e* 17 55 21.0
HABR *e*PPP PPP 17 56 00.5
HABR *e*S **S** **18 00 15.1 +2.0**
HABR *e**SS **sS** **18 00 30.3 -1.8**
HABR *e* 18 03 28.9
HABR *e*SSS SSS 18 04 25.5
HABR pmax pmax
comp=Z,244nm,1.2s
HABR pmax pmax
comp=N,71nm,1.0s
HABR pmax pmax
comp=E,100nm,1.5s
HABR pmax pmax
comp=Z,1μm,4.3s
HABR MLR MLR
comp=Z,5μm,18.0s
HABR MLR MLR
comp=N,3μm,18.0s
HABR MLR MLR
comp=E,3μm,18.0s
JIRN Jiri 45.29 306 *e*P **P** **17 53 37.6 -0.1**
comp=E,29nm,0.5s
JIRN Jiri 45.29 306 *e*P **P** **17 53 37.6 -0.1**

YSS	**Yuzh-Sakhalins**	**45.31**	**16**	⇓*i*P		**P**	**17 53 38.5**	**+1.5**	
YSS				*e*			17 53 46.0		
YSS				*e*			17 55 15.0		
YSS				*e*S		**S**	**18 00 16.0**	**+1.2**	
YSS				*e*SS		**ScS**	**18 03 28.0**	**-2.4**	
YSS				pmax	pmax				
	comp=N,120nm,1.0s								
YSS				pmax	pmax				
	comp=E,90nm,1.0s								
YSS				pmax	pmax				
	comp=Z,240nm,1.0s								
YSS				MLR	MLR				
	comp=N,4μm,18.0s								
YSS				MLR	MLR				
	comp=E,2μm,18.0s								
YSS				MLR	MLR				
	comp=Z,4μm,18.0s								
YSS	**Yuzh-Sakhalins**	**45.31**	**16**	*e*P		**P**	**17 53 37.4**	**+0.4**	
	comp=Z,331nm,1.2s								
YSS				LR	LR				
	comp=Z,3μm,22.0s								
KLR	**Kul'dur**	**45.59**	**5**	*e*P		P	17 53 35.0	-4.2	
KLR				*e*S		**S**	**18 00 14.0**	**-4.7**	
KLR				pmax	pmax				
	comp=E,48nm,1.4s								
KLR				pmax	pmax				
	comp=Z,330nm,1.4s								
KLR				MLR	MLR				
	comp=Z,4μm,14.0s								
GUN	**Gumba**	**45.64**	**306**	*e*P		**P**	**17 53 40.1**	**-0.3**	
	comp=Z,325nm,0.8s								
GUN	**Gumba**	**45.64**	**306**	*e*P		**P**	**17 53 40.1**	**-0.3**	
HIA	**Hailar**	**45.78**	**354**	*e*P		**P**	**17 53 41.5**	**+0.7**	
	comp=Z,401nm,1.3s								
HIA				LR	LR				
	comp=E,8μm,20.0s								
PKI	**Pulchoki**	**45.89**	**305**	*e*P		**P**	**17 53 41.6**	**-0.7**	
	comp=Z,91nm,0.9s								
PKI	**Pulchoki**	**45.89**	**305**	*e*P		**P**	**17 53 41.6**	**-0.7**	
PKI	**Pulchoki**	**45.89**	**305**	*e*P		**P**	**17 53 41.6**	**-0.7**	
KKN	**Kakani**	**46.08**	**306**	*e*P		**P**	**17 53 43.3**	**-0.4**	
	comp=Z,126nm,0.8s								
KKN	**Kakani**	**46.08**	**306**	*e*P		**P**	**17 53 43.3**	**-0.4**	
KKN	**Kakani**	**46.08**	**306**	*e*P		**P**	**17 53 43.3**	**-0.4**	
DMN	**Daman**	**46.15**	**305**	*e*P		**P**	**17 53 43.9**	**-0.4**	
	comp=Z,140nm,0.8s								
DMN	**Daman**	**46.15**	**305**	*e*P		**P**	**17 53 43.9**	**-0.4**	
TARA	**Tarawa**	**46.33**	**92**	PFAKE			17 54 00.0	+14	
TARA				LR	LR				
	comp=Z,797nm,22.0s								
NOUC	**Port Laguerre**	**46.52**	**125**	*e*P		**P**	**17 53 46.4**	**-0.6**	
DZM	**Mont Dzumac**	**46.62**	**125**	*e*P		**P**	**17 53 49.1**	**+1.3**	
	comp=Z,661nm,0.9s								
DZM				*e*S		**S**	**18 00 35.9**	**+1.4**	
	comp=Z,6μm,30.4s								
DZM				*e*LR	LR		18 07 05.0		
	comp=Z,8μm,26.4s								
DZM	**Mont Dzumac**	**46.62**	**125**	*e*P		**P**	**17 53 46.8**	**-1.0**	
DZM	**Mont Dzumac**	**46.62**	**125**	P		**P**	**17 53 47.4**	**-0.5**	
DZM	**Mont Dzumac**	**46.62**	**125**	P		**P**	**17 53 47.4**	**-0.5**	
	comp=Z,270nm,0.7s,baz=302,slow=5.9,SNR=202								
GKN	**Gorkha**	**46.69**	**306**	*e*P		**P**	**17 53 47.8**	**-0.6**	
	comp=Z,132nm,0.9s								
GKN	**Gorkha**	**46.69**	**306**	*e*P		**P**	**17 53 47.8**	**-0.6**	
MDRS	**Chennai**	**46.72**	**284**	*ex*		x	17 54 15.2		
MDRS				*ex*		x	18 01 45.2		
ULN	**Ulaanbaatar**	**47.12**	**342**	*e*P		**P**	**17 53 51.5**	**+0.1**	
	comp=Z,92nm,1.0s								
ULN				LR	LR				
	comp=Z,7μm,21.0s								
ULN	**Ulaanbaatar**	**47.12**	**342**	P		**P**	**17 53 52.1**	**+0.7**	
	SNR=46								
ULN	**Ulaanbaatar**	**47.12**	**342**	P		**P**	**17 53 51.4**	**0.0**	
SONM	**Songino Array**	**47.29**	**342**	P		**P**	**17 53 53.6**	**+0.8**	
SONM				PcP		**PcP**	**17 55 25.0**	**+1.6**	
SONM				P'P'			18 25 14.3		
SONM	**Songino Array**	**47.29**	**342**	P		**P**	**17 53 53.6**	**+0.8**	
	comp=Z,36nm,0.7s,baz=158,slow=7.5,SNR=108								
SONM				PcP		**PcP**	**17 55 25.0**	**+1.6**	
	comp=Z,41nm,0.9s,baz=149,slow=3.4,SNR=5.8								
SONM				LR	LR		18 15 11.1		
	comp=Z,4μm,21.6s,baz=155,slow=38								
SONM				PKPPKP		**P'P'df**	**18 25 14.3**	**+4.6**	
	comp=Z,1.9nm,1.0s,baz=314,slow=1.6,SNR=5.4								
KOLN	**Koldanda**	**47.44**	**305**	*e*P		**P**	**17 53 54.2**	**-0.2**	
	comp=Z,337nm,0.8s								
KOLN	**Koldanda**	**47.44**	**305**	*e*P		**P**	**17 53 54.2**	**-0.2**	
DANN	**Dangsing**	**47.53**	**306**	*e*P		**P**	**17 53 54.7**	**-0.5**	
	comp=Z,282nm,0.5s								
DANN	**Dangsing**	**47.53**	**306**	*e*P		**P**	**17 53 54.7**	**-0.5**	
ALBI	**Allahabad**	**48.07**	**301**	*e*PKP		**P**	**17 53 56.5**	**-2.5**	
HYB	**Hyderabad**	**49.01**	**290**	*i* P		**P**	**17 54 05.5**	**-0.9**	
	comp=Z,100nm,0.5s								
HYB				*e*S		**S**	**18 01 06.0**	**-2.5**	
NGP	**Nagpur**	**49.33**	**295**	*e*PKP		**P**	**17 54 07.7**	**-1.1**	
CIT	**Chita**	**49.38**	**349**	*e*P		**P**	**17 54 10.2**	**+1.5**	
CIT				*e*			17 54 20.8		
CIT				*e*			17 54 27.7		
CIT				*e*			18 01 12.1		
CIT				pmax	pmax				
	comp=Z,419nm,1.4s								
TAU	**Tasmania Unive**	**50.03**	**160**	*e*P		**P**	**17 54 14.3**	**+0.6**	
TAU				pmax	pmax				
	comp=Z,150nm,0.9s								
TAU				MLR	MLR				
	comp=Z,4μm,19.0s								
TAU	**Tasmania Unive**	**50.03**	**160**	*e*P		**P**	**17 54 14.3**	**+0.6**	
	comp=Z,150nm,0.9s								
TAU				LR	LR				
	comp=Z,4μm,19.0s								
TAU	**Tasmania Unive**	**50.03**	**160**	P		**P**	**17 54 14.5**	**+0.8**	
	comp=Z,957nm,1.0s,SNR=9.9								
ZAK	**Zakamensk**	**50.52**	**341**	⇑*i*P		**P**	**17 54 17.6**	**+0.2**	
ZAK				*e*			17 55 36.0		
ZAK				*e*			18 04 01.7		
ZAK				pmax	pmax				
	comp=Z,20nm,1.1s								
PTH	**Pithoragarh**	**50.86**	**306**	*e*PKP		**P**	**17 54 19.1**	**-1.4**	
PTH				*ex*		x	17 59 35.1		
LATR	**Latur**	**51.05**	**291**	*e*PKP		**P**	**17 54 22.1**	**+0.3**	
TLY	**Talaya**	**51.52**	**342**	*e*P		**P**	**17 54 23.4**	**-1.5**	
TLY				*e*S		**S**	**18 01 40.9**	**-1.6**	
TLY				*e*PS		SPn	18 01 48.1	-1.9	
TLY				*e*			18 04 11.4		
TLY				pmax	pmax				
	comp=Z,57nm,1.1s								
TLY				MLR	MLR				
	comp=Z,4μm,21.0s								
TLY	**Talaya**	**51.52**	**342**	*e*P		**P**	**17 54 25.5**	**+0.7**	
	comp=Z,70nm,1.0s								
TLY				LR	LR				
	comp=Z,5μm,22.0s								
TLY	**Talaya**	**51.52**	**342**	P		**P**	**17 54 25.9**	**+1.0**	
	SNR=25								
TLY	**Talaya**	**51.52**	**342**	P		**P**	**17 54 26.2**	**+1.3**	
	comp=Z,300nm,0.7s,SNR=22								
IRK	**Irkutsk**	**51.83**	**343**	⇓*i*P		**P**	**17 54 28.0**	**+0.9**	
IRK				*e*			18 04 15.6		
IRK				pmax	pmax				
	comp=Z,141nm,1.6s								
MOY	**Mondy**	**52.37**	**340**	*e*P		**P**	**17 54 32.2**	**+0.9**	
MOY				pmax	pmax				
	comp=Z,85nm,2.6s								
WMQ	**Urumqi**	**52.68**	**325**	P		**P**	**17 54 33.6**	**-0.1**	
WMQ				pP		**pP**	**17 54 44.0**	**-1.3**	
WMQ				sP		**sP**	**17 54 48.0**	**-2.0**	
WMQ				PcP		**PcP**	**17 55 41.0**	**-2.2**	
WMQ				PP		**PP**	**17 56 37.0**	**+3.8**	
WMQ				S		**S**	**18 01 57.0**	**-1.7**	
WMQ				ScS		**ScS**	**18 04 19.0**	**-1.4**	
WMQ				pmax	pmax				
	comp=Z,74nm,1.2s								
WMQ				pmax	pmax				
	comp=Z,420nm,7.0s								
WMQ				LR	LR				
	comp=N,15μm,19.6s								
WMQ				LR	LR				
	comp=E,8μm,21.8s								
WMQ				LR	LR				
	comp=Z,12μm,22.4s								
DDI	**Dehra Dun**	**52.89**	**306**	*e*PKP		**P**	**17 54 33.5**	**-1.9**	
DDI				*ex*		x	18 02 09.5		
CLNS	**Chul'man**	**53.01**	**359**	*e*P		**P**	**17 54 36.0**	**+0.2**	
CLNS				*e**PP		**pP**	**17 54 47.9**	**+0.5**	
CLNS				*e*			17 55 43.5		
CLNS				*e*			17 56 36.5		
CLNS				*e*PPP		PPP	17 57 45.2		
CLNS				*e*S		**S**	**18 02 03.4**	**+0.7**	
CLNS				*e*SS		**SS**	**18 05 42.3**	**0.0**	
CLNS				*e*SSS		SSS	18 07 30.4		
CLNS				pmax	pmax				
	comp=Z,29nm,1.2s								
CLNS				pmax	pmax				
	comp=N,15nm,0.7s								
CLNS				pmax	pmax				
	comp=E,18nm,1.2s								
CLNS				pmax	pmax				
	comp=E,12nm,1.0s								
CLNS				pmax	pmax				
	comp=N,39nm,1.2s								
CLNS				pmax	pmax				
	comp=Z,18nm,1.0s								
CLNS				smax	smax				
	comp=N,572nm,11.4s								
CLNS				smax	smax				
	comp=E,796nm,12.1s								
CLNS				MLR	MLR				
	comp=E,1μm,14.0s								
CLNS				MLR	MLR				
	comp=Z,5μm,20.0s								
CLNS				MLR	MLR				
	comp=N,3μm,20.0s								
KAD	**Karad**	**53.10**	**289**	*e*PKP		**P**	**17 54 35.9**	**-1.3**	
POO	**Poona**	**53.61**	**290**	⇓*i*P		**P**	**17 54 39.0**	**-1.9**	
	comp=N,300nm,1.0s								
POO				*e*PCP		**PcP**	**17 55 45.5**	**-1.6**	
POO				*i* S		**S**	**18 02 12.0**	**0.0**	
POO				*e*SS		**SS**	**18 05 52.0**	**-1.1**	
SMLA	**Simla**	**53.88**	**306**	*i* P		**P**	**17 54 42.0**	**-0.6**	
SDNR	**Sundarnagar**	**54.17**	**307**	*e*PKP		**P**	**17 54 46.0**	**+1.2**	
AJM	**Ajmer**	**54.58**	**300**	*ex*		**P**	**17 54 45.0**	**-2.9**	
BHK	**Bhakra**	**54.59**	**306**	*e*PKP		**P**	**17 54 49.0**	**+1.2**	
BOD	**Bodaibo**	**54.88**	**352**	⇑*i*P		**P**	**17 54 50.0**	**+0.6**	
BOD				pmax	pmax				
	comp=Z,107nm,1.3s								
MSVF	**Nonsavu**	**55.01**	**115**	*e*P		**P**	**17 54 52.3**	**+1.2**	
MSVF				pmax	pmax				
	comp=Z,385nm,1.0s								
MSVF				MLR	MLR				
	comp=Z,5μm,20.0s								
MSVF	**Nonsavu**	**55.01**	**115**	*e*P		**P**	**17 54 52.3**	**+1.2**	
	comp=Z,385nm,1.0s								
MSVF				LR	LR				
	comp=Z,5μm,20.0s								
MSVF	**Nonsavu**	**55.01**	**115**	P		**P**	**17 54 52.3**	**+1.2**	
	comp=Z,2μm,1.1s,SNR=44								
DGAR	**Diego Garcia**	**55.15**	**258**	PFAKE			17 55 00.0	+7.9	
DGAR				LR	LR				
	comp=Z,5μm,21.0s								
THN	**Thein Dam**	**55.49**	**307**	*e*PKP		**P**	**17 54 52.2**	**-2.0**	
PETK	**Petropavlovsk-**	**55.51**	**22**	P		**P**	**17 54 54.8**	**+0.7**	
PETK	**Petropavlovsk-**	**55.51**	**22**	P		**P**	**17 54 54.8**	**+0.7**	
PETK	**Petropavlovsk-**	**55.51**	**22**	P		**P**	**17 54 54.8**	**+0.7**	
	comp=Z,196nm,1.0s,baz=200,slow=5.1,SNR=50								
PETK				LR	LR		18 19 10.9		
	comp=Z,3μm,20.1s,baz=217,slow=36								
PET	**Petropavlovsk**	**55.81**	**23**	*e*P		**P**	**17 54 57.1**	**+1.0**	
PET				*e*S		**S**	**18 02 45.6**	**+5.2**	
PET				pmax	pmax				
	comp=Z,252nm,1.1s								
PET				MLR	MLR				
	comp=Z,5μm,12.0s								
PET				MLR	MLR				
	comp=Z,4μm,14.0s								
PET	**Petropavlovsk**	**55.81**	**23**	*e*P		**P**	**17 54 57.2**	**+1.0**	
	comp=Z,229nm,1.1s								
PET				LR	LR				
	comp=Z,4μm,19.0s								
MK31	**Makanchi Array**	**57.51**	**325**	*e*P		**P**	**17 55 08.2**	**-0.3**	
MK31				pmax	pmax				
	comp=Z,41nm,0.5s								
MKAR	**Makanchi Array**	**57.51**	**325**	P		**P**	**17 55 08.0**	**-0.4**	
MKAR							17 56 02.8		
MKAR				S		**S**	**18 03 02.0**	**-1.3**	
MKAR	**Makanchi Array**	**57.51**	**325**	P		**P**	**17 55 08.0**	**-0.4**	
MKAR				PcP		**PcP**	**17 56 02.8**	**+1.1**	
MKAR				ScP		**ScP**	**18 00 00.1**	**+1.4**	
MKAR				S		**S**	**18 03 02.0**	**-1.3**	
MKAR				P'P'			18 24 36.4		
MKAR	**Makanchi Array**	**57.51**	**325**	P		**P**	**17 55 08.0**	**-0.4**	
	comp=Z,31nm,0.5s,baz=122,slow=7.8,SNR=161								
MKAR				PcP		**PcP**	**17 56 02.8**	**+1.1**	
	comp=Z,48nm,0.8s,baz=120,slow=7.3,SNR=4.5								
MKAR				ScP		**ScP**	**18 00 00.1**	**+1.4**	
	comp=Z,3.8nm,0.7s,baz=106,slow=4.7,SNR=3.3								
MKAR				S		**S**	**18 03 02.0**	**-1.3**	
	comp=Z,3.7nm,0.9s,baz=119,slow=10,SNR=4.1								
MKAR				LR	LR		18 21 49.8		
	comp=Z,11μm,19.7s,baz=260,slow=38								
MKAR				PKPPKP		P'P'df	18 24 36.4	-19	
	comp=Z,0.6nm,0.8s,baz=291,slow=3.8,SNR=3.8								
KSH	**Kashi**	**57.98**	**315**	⇑*i*P		**P**	**17 55 13.3**	**+1.3**	
KSH				pP		**pP**	**17 55 23.1**	**-0.6**	
KSH				sP		**sP**	**17 55 27.3**	**-1.1**	
KSH				PcP		**PcP**	**17 56 04.6**	**+0.8**	
KSH				PP		**PP**	**17 57 24.4**	**+3.6**	
KSH				ScP		**ScP**	**18 00 00.5**	**-0.5**	
KSH				PcS		**PcS**	**18 00 04.6**	**-0.7**	
KSH				S		**S**	**18 03 09.9**	**+0.1**	
KSH				sS		**sS**	**18 03 28.6**	**-0.7**	
KSH				ScS		**ScS**	**18 04 56.8**	**-1.9**	
KSH				SS		**SS**	**18 07 04.6**	**+3.1**	
KSH				pmax	pmax				
	comp=Z,120nm,1.2s								
KSH				LR	LR				
	comp=N,3μm,15.3s								
KSH				LR	LR				
	comp=E,3μm,17.2s								
KSH				LR	LR				
	comp=Z,6μm,23.0s								
YAK	**Yakutsk**	**58.25**	**2**	*c i*P		**P**	**17 55 13.6**	**+0.4**	
YAK				*e*			17 56 05.1		
YAK				*e*			17 57 23.7		
YAK				*e*S		**S**	**18 03 09.1**	**-3.1**	
YAK				*e**SS		**sS**	**18 03 32.1**	**+0.4**	
YAK				*e*			18 04 56.9		
YAK				pmax	pmax				
	comp=Z,197nm,0.9s								
YAK				pmax	pmax				
	comp=N,77nm,1.0s								
YAK				pmax	pmax				
	comp=E,36nm,1.1s								
YAK				pmax	pmax				
	comp=Z,64nm,1.1s								
YAK				pmax	pmax				
	comp=N,22nm,0.9s								
YAK				smax	smax				
	comp=N,2μm,4.6s								
YAK				smax	smax				
	comp=E,732nm,3.3s								
YAK	**Yakutsk**	**58.25**	**2**	*e*P		**P**	**17 55 13.2**	**0.0**	
	comp=E,306nm,0.8s								
YAK				LR	LR				
	comp=Z,4μm,19.0s								
OUZ	**Omahuta**	**58.63**	**135**	*e*P		**P**	**17 55 17.4**	**+1.0**	
	comp=Z,217nm,1.4s								
ULHL	**Ulahol**	**58.96**	**318**	P		**P**	**17 55 19.6**	**+0.7**	
	SNR=15								
KZA	**Kyzart**	**59.56**	**318**	P		**P**	**17 55 24.4**	**+1.1**	
	SNR=88								
TKM2	**Tokmak 2**	**59.69**	**319**	*i* P		**P**	**17 55 24.4**	**+0.5**	
TKM2	**Tokmak 2**	**59.69**	**319**	PFAKE			17 55 40.0	+16	
TKM2				LR	LR				
	comp=Z,7μm,22.0s								
TKM2	**Tokmak 2**	**59.69**	**319**	P		**P**	**17 55 24.4**	**+0.5**	
	SNR=134								
KBK	**Karagaybulak**	**60.01**	**318**	P		**P**	**17 55 27.0**	**+0.9**	
	SNR=52								
UCH	**Uchtor**	**60.12**	**317**	P		P	17 55 29.8	+2.7	
	SNR=26								
CHMS	**Chumysh**	**60.28**	**318**	P		**P**	**17 55 27.9**	**+0.2**	
	SNR=48								
AAK	**Ala-Archa**	**60.30**	**318**	*ce*P		**P**	**17 55 27.4**	**-0.7**	
AAK				pmax	pmax				
	comp=Z,228nm,1.7s								
AAK	**Ala-Archa**	**60.30**	**318**	*e*P		**P**	**17 55 27.6**	**-0.5**	
	comp=Z,264nm,1.0s								
AAK				P'P'			18 24 33.1		
AAK	**Ala-Archa**	**60.30**	**318**	P		**P**	**17 55 28.0**	**-0.1**	
	comp=Z,279nm,1.2s,SNR=40								
AAK	**Ala-Archa**	**60.30**	**318**	P		P	**17 55 28.6**	**+0.6**	
	SNR=32								
AAK	**Ala-Archa**	**60.30**	**318**	P		**P**	**17 55 28.8**	**+0.7**	
	SNR=49								
AAK	**Ala-Archa**	**60.30**	**318**	PKPPKP			18 24 33.1		
	comp=Z,2.0nm,1.0s,baz=118,slow=5.1,SNR=4.1								
AAK				LR	LR		18 25 38.6		
	comp=Z,6μm,21.5s,baz=92,slow=40								
FRU	**Bishkek**	**60.30**	**318**	*e*P		**P**	**17 55 27.0**	**-0.9**	
FRU				*i*			17 55 45.6		
FRU				pmax	pmax				
	comp=Z,83nm,1.8s								
USP	**Ospenovka**	**60.56**	**319**	P		**P**	**17 55 30.1**	**+0.4**	
	SNR=163								
ZALV	**Zalesovo Beam**	**60.56**	**333**	P		**P**	**17 55 28.9**	**-0.5**	
ZALV				S		**S**	**18 03 38.7**	**-3.7**	
ZALV	**Zalesovo Beam**	**60.56**	**333**	P		**P**	**17 55 28.9**	**-0.5**	
ZALV				S		**S**	**18 03 38.7**	**-3.7**	
ZALV				P'P'			18 24 49.5		
ZALV			⇑	*e*			18 24 59.2		
ZALV	**Zalesovo Beam**	**60.56**	**333**	P		**P**	**17 55 28.9**	**-0.5**	
	comp=Z,24nm,0.6s,baz=118,slow=5.9,SNR=108								
ZALV				S		**S**	**18 03 38.7**	**-3.7**	
	comp=Z,15nm,1.1s,baz=120,slow=8.8,SNR=8.1								
ZALV				LR	LR		18 23 28.6		
	comp=Z,4μm,20.2s,baz=134,slow=38								
ZALV				PKPPKP		**P'P'df**	**18 24 49.5**	**-1.2**	
	comp=Z,2.3nm,0.8s,baz=336,slow=3.3,SNR=8.2								
ZALV				PKP2bc			18 24 59.2		
	comp=Z,14nm,0.9s,baz=285,slow=2.6,SNR=18								
AML	**Almayashu**	**60.63**	**317**	P		**P**	**17 55 31.4**	**+0.8**	
	SNR=204								
EKS2	**Erkin-Say**	**60.79**	**318**	*e*P		**P**	**17 55 31.9**	**+0.5**	
EKS2				pmax	pmax				
	comp=Z,115nm,0.9s								
EKS2				MLR	MLR				
	comp=Z,7μm,22.0s								
EKS2	**Erkin-Say**	**60.79**	**318**	*e*P		**P**	**17 55 31.9**	**+0.5**	
	comp=Z,115nm,0.9s								
EKS2				LR	LR				
	comp=Z,7μm,22.0s								
EKS2	**Erkin-Say**	**60.79**	**318**	P		**P**	**17 55 32.3**	**+0.9**	
	SNR=87								
FOZ	**Fox Glacier**	**60.93**	**145**	PN		**P**	**17 55 33.1**	**+1.1**	
QRZ	**Quartz Range**	**60.98**	**141**	*e*PN		**P**	**17 55 33.4**	**+0.9**	
KURBB	**Kurchatov Arra**	**61.70**	**327**	S		S	18 03 51.9	-5.1	
	comp=Z,2.1nm,1.1s,baz=275,slow=32,SNR=3.3								
KURBB				LR	LR		18 23 44.3		
	comp=Z,4μm,21.5s,baz=105,slow=37								
KURBB				PKPPKP		P'P'df	18 24 38.8	-10	
	comp=Z,3.3nm,0.9s,baz=275,slow=3.7,SNR=12								
KURK	**Kurchatov**	**61.70**	**328**	*ce*P		**P**	**17 55 36.8**	**-0.4**	
KURK				pmax	pmax				
	comp=Z,321nm,1.2s								
KURK	**Kurchatov**	**61.70**	**328**	*e*P		**P**	**17 55 36.3**	**-0.9**	
	comp=Z,150nm,0.6s								
KURK				S		S	18 03 51.9	-5.2	
KURK				P'P'			18 24 38.8		
KURK	**Kurchatov**	**61.70**	**328**	P		**P**	**17 55 37.0**	**-0.2**	
	SNR=85								
KURK	**Kurchatov**	**61.70**	**328**	P		**P**	**17 55 37.6**	**+0.4**	
	comp=Z,2μm,0.6s								
LBZ	**Lake Benmore**	**61.73**	**146**	*e*PN		**P**	**17 55 37.6**	**+0.2**	
THZ	**Tophouse**	**61.75**	**142**	PN		**P**	**17 55 37.9**	**+0.1**	
RPZ	**Rata Peaks**	**61.80**	**145**	*e*P		**P**	**17 55 37.9**	**-0.1**	
	comp=Z,374nm,0.9s								
RPZ	**Rata Peaks**	**61.80**	**145**	*e*PN		**P**	**17 55 37.7**	**-0.4**	
NVS	**Novosibirsk**	**61.85**	**333**	⇑*i*P		**P**	**17 55 35.8**	**-2.3**	
NVS				*i* S		S	18 03 52.0	-6.7	
NVS				pmax	pmax				
	comp=Z,115nm,1.1s								
NVS				pmax	pmax				
	comp=N,49nm,1.3s								
NVS				pmax	pmax				
	comp=E,45nm,1.3s								
NVS				pmax	pmax				
	comp=Z,30nm,1.3s								
NVS				pmax	pmax				
	comp=Z,8.0nm,0.7s								
NVS				smax	smax				
	comp=N,17nm,1.4s								
NVS				smax	smax				
	comp=E,37nm,1.4s								
SEY	**Seymchan**	**62.10**	**13**	*ce*P		**P**	**17 55 41.2**	**+1.6**	
FX1	**Attu Island--F**	**62.18**	**30**	LR		LR	18 18 32.7		
	comp=E,4μm,21.8s,baz=259,slow=32								
ODZ	**Otahua Downs**	**62.39**	**146**	*e*P		**P**	**17 55 41.7**	**-0.2**	
	comp=E,398nm,1.0s								
RAO	**Raoul Island**	**62.41**	**126**	PFAKE			17 56 00.0	+18	
RAO				LR	LR				
	comp=Z,4μm,22.0s								
KHZ	**Kahutara**	**62.51**	**142**	*e*P		**P**	**17 55 42.2**	**-0.5**	
	comp=Z,195nm,0.9s								
URZ	**Urewera**	**62.60**	**137**	*e*P		**P**	**17 55 43.3**	**-0.1**	
	comp=Z,101nm,0.9s								
SNZO	**South Karori**	**62.62**	**141**	*e*P		**P**	**17 55 41.7**	**-1.7**	
	comp=Z,258nm,1.3s								
SNZO				LR	LR				
	comp=Z,8μm,19.0s								
KK31	**Karatay Array**	**63.17**	**317**	*i* P		**P**	**17 55 47.3**	**+0.1**	
KK31				pmax	pmax				
	comp=Z,125nm,1.0s								
KKAR	**Karatay Array**	**63.17**	**317**	*e*P		**P**	**17 55 47.0**	**-0.2**	
KKAR				pmax	pmax				
	comp=Z,107nm,0.9s								
KKAR	**Karatay Array**	**63.17**	**317**	*e*P		**P**	**17 55 47.0**	**-0.2**	
	comp=Z,107nm,0.9s								
PUZ	**Puketiti**	**63.30**	**136**	PN		**P**	**17 55 47.6**	**-0.5**	
AFI	**Afiamalu**	**63.56**	**107**	*e*P		**P**	**17 55 50.9**	**+0.6**	
	comp=Z,270nm,1.0s								
AFI	**Afiamalu**	**63.56**	**107**	LR		LR	18 20 32.4		
	comp=Z,4μm,21.4s,baz=275,slow=33								
MCQ	**Macquarie Isla**	**63.91**	**160**	*e*P		**P**	**17 55 53.7**	**+2.0**	
MCQ	**Macquarie Isla**	**63.91**	**160**	*e*P		**P**	**17 55 53.7**	**+2.0**	
	comp=Z,38μm,0.9s								
MCQ	**Macquarie Isla**	**63.91**	**160**	*e*P		**P**	**17 55 52.8**	**+1.1**	
	comp=Z,24μm,1.0s								
BVA0	**Borovoye Array**	**67.28**	**327**	P		**P**	**17 56 13.0**	**-0.6**	
BVA0				pmax	pmax				
	comp=Z,35nm,1.1s								
**BVA

ASHO Ashiyiah 70.79 295 P **P** 17 56 35.0 -1.1
SNR=12
ABKT Ailbek 70.82 309 P **P** 17 56 36.2 +0.3
comp=Z,264nm,1.0s,SNR=20
DRV Dumont d'Urvil 70.85 174 PP PP 17 59 12.0 -0.8
DRV S **S** 18 05 52.0 +4.6
DRV SS SS 18 09 59.0 -22
DRV L L 18 14 00.0
DRV R 18 19 00.0
NAZ Nazwa, Dubai 71.18 295 P **P** 17 56 38.0 -0.3
SNR=6.5
ASUD Al Ashush, Dub 71.45 295 P **P** 17 56 40.4 +0.4
SNR=11
MSEY Mahe Island 71.54 264 PFAKE 17 56 50.0 +9.2
MSEY LR LR
comp=Z,5µm,21.0s
MRIV Mauritius Mete 71.82 247 *e*P **P** 17 56 42.2 -0.1
IBAF Bafgh 71.93 302 *e*P **P** 17 56 41.8 -1.2
AB31 Akbulak array 72.10 321 *i* P **P** 17 56 43.0 -0.4
AB31 pmax pmax
comp=Z,117nm,0.9s
ABKAR Akbulak array 72.10 321 *e*P **P** 17 56 42.4 -1.0
comp=Z,96nm,0.8s
RBK Rabkut 72.11 287 P **P** 17 56 44.0 -0.2
SNR=9.2
IMEH Mehriz 72.72 302 *e*P **P** 17 56 47.0 -0.8
ABTO Aybut 72.98 287 P **P** 17 56 48.5 -0.8
SNR=22
AKTO Aktyubinsk 73.61 322 P **P** 17 56 51.8 -0.5
AKTO S **SKiKP** 18 06 17.2 -2.2
AKTO Aktyubinsk 73.61 322 P **P** 17 56 51.8 -0.5
AKTO S **SKiKP** 18 06 17.1 -2.2
AKTO Aktyubinsk 73.61 322 P **P** 17 56 51.8 -0.5
comp=Z,83nm,1.0s,baz=104,slow=6.3,SNR=142
AKTO S **SKiKP** 18 06 17.1 -2.2
comp=Z,0.8nm,0.6s,baz=205,slow=19,SNR=3.5
IANJ Anjilo 73.78 306 *e*P **P** 17 56 53.1 -0.8
SVE Sverdlovsk 73.93 328*d* *i*P **P** 17 56 53.8 -0.2
SVE *e*S **SKiKP** 18 06 18.6 -1.1
SVE pmax pmax
comp=Z,194nm,1.0s
SVE MLR MLR
comp=Z,4µm,20.0s
IGLO Ghaloghah 73.98 307 *e*P **P** 17 56 54.4 -0.6
AKUT Akutan 74.02 34 *e*P **P** 17 56 55.1 +0.5
comp=Z,667nm,1.2s
IKIA Kiasar 74.06 306 *e*P **P** 17 56 54.9 -0.6
ISHM Shahmirzad 74.32 306 *e*P **P** 17 56 57.0 -0.2
IFIR Firoozkooh 74.74 306 *e*P **P** 17 56 59.9 +0.3
IALA Alasht 74.74 306 *e*P **P** 17 56 58.3 -1.3
IZEF Zefreh 74.80 303 *e*P **P** 17 56 58.4 -1.6
ARU Arti 74.90 328*c* *i*P **P** 17 56 58.6 -1.1
ARU 17 59 42.7
ARU PPP PPP 18 01 30.4
ARU S **S** 18 06 31.3 -2.7
ARU SSS SSS 18 14 42.0
ARU pmax pmax
comp=Z,195nm,1.2s
ARU MLR MLR
comp=Z,4µm,23.0s
ARU Arti 74.90 328 *e*P **P** 17 56 58.6 -1.1
comp=Z,127nm,0.8s
ARU LR LR
comp=Z,4µm,22.0s
ARU Arti 74.90 328 P **P** 17 56 59.1 -0.6
comp=Z,922nm,0.9s,SNR=44
IGAR Gharneh 75.00 302 *e*P **P** 17 57 00.4 -0.7
KIP Kipapa 75.06 69*ce*P **P** 17 57 03.0 +1.7
KIP pmax pmax
comp=Z,181nm,1.7s
KIP Kipapa 75.06 69 PFAKE 17 57 10.0 +8.7
KIP LR LR
comp=Z,5µm,20.0s
HON Honolulu 75.07 69 *e*P **P** 17 57 03.4 +2.0
HON Honolulu 75.07 69 *e*P **P** 17 57 03.4 +2.0
IPRN Peran 75.14 306 *e*P **P** 17 57 01.1 -0.6
IKLH Kolahrood 75.47 303 *e*P **P** 17 57 03.2 -0.6
XMAS Kiritimati 75.86 89 PFAKE 17 57 20.0 +14
XMAS LR LR
comp=Z,7µm,21.0s
IPIR Pirpir 75.99 303 *e*P **P** 17 57 07.0 +0.2
IR3 Iran Long-Peri 76.12 305 *e*P **P** 17 57 06.5 -0.8
SOKR Solikamsk 76.68 331*d* *i*P **P** 17 57 10.0 +0.3
SOKR S S 18 06 47.6 -5.8
SOKR pmax pmax
comp=Z,70nm,1.2s
SOKR MLR MLR
comp=Z,6µm,23.0s
IRAZ Razeghan 77.01 305 *e*P **P** 17 57 12.2 -0.2
MUKL Al Mukalla 77.05 284 *e*P **P** 17 57 12.2 -0.6
SDPT Sand Point 77.30 34 *e*P **P** 17 57 13.0 -0.3
comp=Z,258nm,0.9s
PUH Pauahi 77.64 71 P **P** 17 57 16.4 +0.3
STCH Steam Cracks 77.72 71 *e*P **P** 17 57 18.9 +2.3
QRN Al-Qurain 78.31 298 *e*P **P** 17 57 19.1 -0.5
QRN AMb AMB 17 57 21.6
comp=Z,191nm,0.7s
UMR Umm Al-Rimmam 78.52 299 *e*P **P** 17 57 20.3 -0.4
UMR AMb AMB 17 57 22.4
comp=Z,188nm,0.9s
KBD Kabd 78.53 299 *e*P **P** 17 57 19.8 -1.0
KBD AMb AMB 17 57 21.9
comp=Z,101nm,1.3s
RDF Al-Radifah 78.64 299 *e*P **P** 17 57 21.0 -0.4
RDF AMb AMB 17 57 22.4
comp=Z,173nm,1.2s
MIB Mutribah 78.86 300 *e*P **P** 17 57 22.2 -0.4
MIB AMb AMB 17 57 24.7
comp=Z,242nm,0.6s
NAY Al-Naaiem 78.92 299 *e*P **P** 17 57 21.9 -1.0
NAY AMb AMB 17 57 24.4
comp=Z,103nm,1.0s
MAK Makhachkala 79.51 313 *e*P **P** 17 57 25.3 -0.5
MAK *e* 17 57 32.5
MAK *e* 18 00 21.4
MAK *e*PPP PPP 18 02 22.9
MAK *e*S **S** **18 07 23.4 -1.2**
MAK *e* 18 07 49.2
MAK pmax pmax
comp=Z,621nm,1.8s
IDHR Dehrash 79.86 304 *e*P **P** 17 57 26.7 -1.5
RAYN Ar Rayn 80.38 293 P **P** 17 57 30.0 -1.0
comp=Z,513nm,1.1s,SNR=41
DGRG David-gareji 80.99 311 P **P** 17 57 35.8 +1.8
OPO Ambohidratompo 81.16 251 P **P** 17 57 34.1 -1.3
OPO Ambohidratompo 81.16 251 P **P** 17 57 34.1 -1.3
comp=Z,57nm,0.8s,baz=75,slow=4.5,SNR=73
ABPO Ambohimpanom 81.18 250 *e*P **P** 17 57 35.4 -0.1
ABPO pmax pmax
comp=Z,80nm,0.8s
ABPO MLR MLR
comp=Z,2µm,20.0s
ABPO Ambohimpanom 81.18 250 *e*P **P** 17 57 35.4 -0.1
comp=Z,80nm,0.8s
ABPO LR LR
comp=Z,2µm,20.0s
ABPO Ambohimpanom 81.18 250 P **P** 17 57 36.3 +0.8
comp=Z,171nm,0.7s,SNR=6.9
GNI Garni 81.41 310 *e*P **P** 17 57 36.4 +0.1
comp=Z,196nm,1.5s
GNI LR LR
comp=Z,2µm,21.0s
GNI Garni 81.41 310 P **P** 17 57 35.6 -0.8
comp=Z,2.6nm,0.5s,baz=324,slow=22,SNR=6.5
TBLG Delisi 81.48 311 *e*P **P** 17 57 37.6 +1.1
TBLG Delisi 81.48 311 P **P** 17 57 37.6 +1.1
BHD Baghdad 81.48 303 *i* x **P** 17 57 35.3 -1.3
BHD *i* x x 18 07 41.3
BHD *i* x x 18 07 51.5
BHD *i* x x 18 08 12.3
TRBA At Turbah 81.86 283 *e*P **P** 17 57 40.0 +0.8
KDAK Kodiak Island 81.99 32 *e*P **P** 17 57 39.1 +0.3
comp=Z,142nm,1.0s
KDAK LR LR
comp=Z,2µm,20.0s
KDAK Kodiak Island 81.99 32 P **P** 17 57 40.0 +1.3
comp=Z,703nm,1.2s,SNR=18
HAKT HAKKARI 82.13 307 *i* P **P** 17 57 39.9 -0.4
ZEI Tsey 82.15 312 *e*P **P** 17 57 40.3 0.0
ZEI pmax pmax
comp=Z,54nm,1.0s
RSO Redoubt South 82.19 30 *e*P **P** 17 57 41.4 +1.4
comp=Z,277nm,0.9s
AKH Akhalkalaki 82.40 311 P **P** 17 57 43.9 +2.4

ONI Oni 82.47 312 P **P** 17 57 42.9 +1.2
GEVA Gevas 82.66 308 *i* P **P** 17 57 43.5 +0.6
KBZ Khabaz 82.91 313 P **P** 17 57 44.4 +0.5
KBZ Khabaz 82.91 313 P **P** 17 57 44.4 +0.5
KBZ Khabaz 82.91 313 P **P** 17 57 44.4 +0.5
comp=Z,13nm,0.8s,baz=120,slow=7.1,SNR=16
KBZ LR LR 18 39 41.1
comp=Z,3µm,21.3s,baz=73,slow=39
KIV Kislovodsk 83.07 314 P **P** 17 57 46.0 +1.1
KIV *i* 17 58 03.3
KIV *e* 18 08 01.4
KIV PS **PnS** **18 09 00.0 +3.4**
KIV pmax pmax
comp=Z,24nm,0.7s
KIV MLR MLR
comp=Z,3µm,23.0s
KIV Kislovodsk 83.07 314 *e*P **P** 17 57 45.0 +0.2
comp=Z,24nm,0.8s
KIV LR LR
comp=Z,3µm,22.0s
KIV Kislovodsk 83.07 314 P **P** 17 57 46.6 +1.7
comp=Z,197nm,0.7s,SNR=5.5
SIRN S˘˘rnak 83.16 307 *i* P **P** 17 57 45.3 -0.1
TATV Tatvan 83.28 308 *i* P **P** 17 57 46.9 +0.7
SLKM Skilak Lake 83.44 30 *e*P **P** 17 57 46.2 -0.1
SLKM Skilak Lake 83.44 30 *e*P **P** 17 57 46.1 -0.1
ARTV Artvin 83.58 311 *i* P **P** 17 57 48.9 +1.2
HOMI Horasan 83.58 310 *i* P **P** 17 57 49.2 +1.4
DAGI Agillar 83.58 311 *i* P **P** 17 57 48.8 +1.2
MAW Mawson 83.67 200 P **P** 17 57 49.1 +1.8
MAW Mawson 83.67 200 *e*P **P** 17 57 48.5 +1.3
comp=Z,80nm,1.0s
MAW Mawson 83.67 200 P **P** 17 57 49.1 +1.8
comp=Z,145nm,1.1s,baz=48,slow=5.0,SNR=10.0
VRHR Novokhopersk 83.99 321 *e*P **P** 17 57 48.2 -1.0
VRHR *e*S **S** 18 08 06.1 -4.3
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,60nm,0.7s
VRHR pmax pmax
comp=Z,110nm,0.7s
VRHR smax smax
comp=E,350nm,1.8s
VRHR smax smax
comp=Z,30nm,1.3s
VRHR smax smax
comp=N,280nm,1.8s
VRHR MLR MLR
comp=N,670nm,23.0s
VRHR MLR MLR
comp=E,2µm,23.0s
VRHR MLR MLR
comp=Z,2µm,23.0s
ERZM Erzurum 83.99 310 *i* P **P** 17 57 50.5 +0.6
PMR Palmer 84.04 29 *e*P **P** 17 57 49.2 -0.1
PMR pmax pmax
comp=Z,272nm,1.1s
PMR Palmer 84.04 29 *e*P **P** 17 57 49.2 -0.1
comp=Z,272nm,1.1s
BEST Besiri 84.07 308 *i* P **P** 17 57 52.1 +2.0
BNGL BINGOL 84.16 309 *i* P **P** 17 57 51.6 +0.9
SBA Scott Base 84.31 172 *e*P **P** 17 57 52.2 +1.9
SBA MLR MLR
comp=Z,2µm,20.0s
SBA Scott Base 84.31 172 *e*P **P** 17 57 52.2 +1.9
SBA LR LR
comp=Z,2µm,20.0s
SML Sawmill 84.43 28 *e*P **P** 17 57 51.7 +0.3
SML pmax pmax
comp=Z,80nm,1.0s
SML Sawmill 84.43 28 *e*P **P** 17 57 51.7 +0.3
comp=Z,80nm,1.0s
MARD Mardin 84.46 307 *i* P **P** 17 57 52.2 +0.1
KOPT Kop Dagi 84.66 310 *i* P **P** 17 57 54.1 +0.8
COLA College 84.78 25 *e*P **P** 17 57 52.9 -0.1
COLA pmax pmax
comp=Z,31nm,0.9s
COLA MLR MLR
comp=Z,2µm,22.0s
COLA College 84.78 25 *e*P **P** 17 57 52.9 -0.1
comp=Z,31nm,0.9s
COLA LR LR
comp=Z,2µm,22.0s
DIYA Diyarbakir 84.97 308 *i* P **P** 17 57 54.7 0.0
ILAR Eielson Array 85.19 25 P **P** 17 57 54.0 -1.1
ILAR PKKPbc **PKKPbc** **18 16 01.8 -1.9**
ILAR P'P' 18 23 54.1
ILAR Eielson Array 85.19 25 P **P** 17 57 54.0 -1.1
comp=Z,26nm,1.1s,baz=268,slow=3.2,SNR=60
ILAR PKKPbc **PKKPbc** **18 16 01.8 -1.9**
comp=Z,3.3nm,0.9s,baz=48,slow=1.7,SNR=6.8
ILAR PKPPKP P'P'df 18 23 54.1 -14
comp=Z,0.8nm,1.0s,baz=170,slow=1.0,SNR=3.0
SOC Sochi 85.22 313*c* *i*P **P** 17 57 54.5 -1.1
SOC *e*'SP **sP** **17 58 08.8 -3.6**
SOC *e* 18 01 07.8
SOC *e*PPP PPP 18 03 07.9
SOC *e*S **SKSac** **18 08 15.4 -2.2**
SOC *e*SS **SS** **18 13 58.0 +0.4**
SOC pmax pmax
comp=Z,64nm,0.8s
SOC MLR MLR
comp=Z,5µm,21.0s
PPT2 Papeete2 85.23 108 *e*S **S** **18 08 25.4 +1.2**
comp=Z,6µm,29.5s
PPT2 *e*SS **SS** **18 13 57.9 -1.3**
comp=Z,2µm,30.8s
PPT2 *e*LQ LQ 18 21 19.3
comp=Z,8µm,41.2s
PPT2 *e*LR LR 18 24 57.7
comp=Z,4µm,25.0s
KLMR Klimovskoe 85.38 331*c* *i*P **P** 17 57 55.8 -0.2
KLMR S **S** **18 08 20.8 -3.1**
KLMR pmax pmax
comp=Z,682nm,1.5s
KLMR pmax pmax
comp=Z,736nm,6.8s
KLMR MLR MLR
comp=Z,6µm,23.0s
VORD Divnogorie 85.46 321 *e*P **P** 17 57 56.0 -0.6
VOR Voronezh 85.51 321 ⇓ *i*P **P** 17 57 56.0 -0.9
VOR pmax pmax
comp=Z,500nm,1.2s
VSR Storozhevoye 85.54 321 *e*P **P** 17 57 56.2 -0.8
VSR *e*S S 18 08 18.8 -7.1
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,180nm,1.1s
VSR pmax pmax
comp=Z,220nm,1.1s
VSR smax smax
comp=E,400nm,2.9s
VSR smax smax
comp=Z,130nm,2.9s
VSR smax smax
comp=N,60nm,1.5s
KELT Kelkit 85.61 310 *i* P **P** 17 57 59.8 +1.8
ELZG Elazig 85.86 308 *i* P **P** 17 58 00.3 +1.1
TBI Tubuai 85.89 114 *e*PP PP 18 01 13.2 -6.3
TBI comp=N,305nm,27.8s *e*S **S** **18 08 30.6 +0.2**
TBI comp=N,1µm,28.5s *e*SS **SS** **18 14 06.3 -2.3**
TBI comp=N,1µm,41.0s *e*LQ LQ 18 21 35.0
TBI comp=N,3µm,38.2s *e*LR LR 18 25 13.1
TBI comp=N,7µm,26.0s
KEMA Kemaliye 86.22 309 *i* P **P** 17 58 01.7 +0.9
MOS Moscow 86.40 325 *e*P **P** 17 57 58.9 -2.3
MOS *e*S **SKSac** **18 08 21.3 -3.1**
MOS *i* 18 08 34.0
MOS pmax pmax
comp=Z,331nm,1.1s
MOS pmax pmax
comp=Z,600nm,1.6s
MOS smax smax
comp=E,2µm,4.8s
MOS MLR MLR
comp=E,3µm,19.0s
MOS MLR MLR
comp=Z,4µm,19.0s
SUSE Susehri 86.42 310 *i* P **P** 17 58 02.4 +0.5

ATAB Bozova 86.43 307 *i* P **P** 17 58 02.4 +0.5
MENT Mentasta 86.59 27 *e*P **P** 17 58 03.0 +0.9
AKCD Akcadag 86.70 308 *i* P **P** 17 58 04.2 +0.9
ANN Anapa 86.83 315*c* *i*P **P** 17 58 02.7 -0.9
ANN *e*S **SKSac** **18 08 25.9 -1.7**
ANN pmax pmax
comp=Z,343nm,1.2s
OBN Obninsk 87.02 325*ce*P **P** 17 58 03.6 -0.6
OBN *i* 17 58 10.8
OBN *e* 17 58 16.4
OBN PPP PPP 18 03 34.0
OBN *e* 18 08 28.6
OBN *e* 18 08 35.1
OBN *i* PS **PnS** **18 09 38.3 -5.5**
OBN *e*SS SS 18 14 29.2 +5.9
OBN pmax pmax
comp=Z,300nm,1.2s
OBN MLR MLR
comp=Z,5µm,20.0s
OBN Obninsk 87.02 325 *e*P **P** 17 58 03.3 -0.9
comp=Z,146nm,0.8s
OBN LR LR
comp=Z,5µm,20.0s
OBN Obninsk 87.02 325 P **P** 17 58 04.7 +0.5
comp=Z,1µm,1.0s,SNR=8.6
LVZ Lovozero 87.34 338 *e*P **P** 17 58 05.6 0.0
LVZ pmax pmax
comp=Z,41nm,1.0s
LVZ Lovozero 87.34 338 *e*P **P** 17 58 05.4 -0.2
comp=Z,54nm,1.0s
LVZ LR LR
comp=Z,8µm,20.0s
FURI Furi 87.39 279 *i* P **P** 17 58 09.4 +2.1
FURI S S 18 08 39.0 -7.0
KUZU Kuzuini 87.44 307 *i* P **P** 17 58 07.2 +0.4
ERBA Erbaa 87.50 310 *i* P **P** 17 58 06.7 -0.3
EGAK Eagle 87.65 25 *e*P **P** 17 58 07.9 +0.8
comp=Z,21nm,1.0s
EGAK LR LR
comp=Z,2µm,20.0s
TOKA Tokat 87.73 310 *i* P **P** 17 58 08.1 0.0
ASF Jabal al Asfar 87.81 302 P **P** 17 58 09.6 +0.8
ASF Jabal al Asfar 87.81 302 P **P** 17 58 09.6 +0.8
comp=Z,77nm,0.9s,baz=338,slow=1.6,SNR=82
APA Apatity 87.84 337 ⇓ *i*P **P** 17 58 08.0 +0.1
APA *i*S **S** **18 08 44.0 -3.5**
APA *i*PS **PS** **18 10 00.0 +5.1**
APA MLR MLR
comp=Z,10µm,19.0s
PINB Pinarbasi 87.87 308 *i* P **P** 17 58 09.3 +0.2
ANDN Andirin 87.98 307 *i* P P 17 58 13.5 +4.0
COBT Iskenderun 88.11 306 *i* P **P** 17 58 10.9 +0.7
YAYL Yayladag 88.25 306 *i* P **P** 17 58 10.2 -0.6
HAVZ Havza 88.27 311 *i* P **P** 17 58 11.1 +0.5
DAWY Dawson 88.47 26 *e*P **P** 17 58 11.3 +0.2
PNL Peninsula 88.87 30 *e*P **P** 17 58 14.9 +1.8
comp=Z,118nm,1.6s
CTKT Corum 89.00 310 *i* P **P** 17 58 14.3 +0.1
MMAI Mount Meron Ar 89.02 303 P **P** 17 58 15.6 +1.2
MMAI Mount Meron Ar 89.02 303 P **P** 17 58 15.6 +1.2
comp=Z,74nm,1.0s,baz=76,slow=7.1,SNR=22
AVNT Avonos 89.08 309 *i* P **P** 17 58 14.4 -0.3
HOPEN Hopen 89.14 347 *e*SKS **SKSac** **18 08 41.3 +1.0**
HOPEN AMS AMS 18 43 33.8
comp=Z,6µm,21.4s
JOF Joensuu 89.15 333 *e*P **P** 17 58 13.2 -1.0
JOF pmax pmax
comp=Z,37nm,0.5s
JOF Joensuu 89.15 333 *ep* **P** 17 58 13.2 -1.0
comp=Z,37nm,0.5s
SIM Simferopol' 89.18 315*c* *i*P **P** 17 58 14.0 -0.8
SIM *e* 18 08 41.0
SIM *e*S **S** **18 09 01.0 -0.2**
SIM pmax pmax
comp=Z,62nm,0.8s
GULE Gulek 89.24 307 *i* P **P** 17 58 16.5 +1.0
CDAG Cicekdag 89.39 309 *i* P **P** 17 58 15.4 -0.6
KMBO Kilima Mbogo 89.42 269 *e*P **P** 17 58 17.6 +0.7
comp=Z,111nm,1.0s
KMBO LR LR
comp=Z,2µm,21.0s
KMBO Kilima Mbogo 89.42 269 P **P** 17 58 18.2 +1.3
SNR=46
EIL Elat 89.63 300 P **P** 17 58 17.6 +0.3
EIL Elat 89.63 300 P **P** 17 58 17.6 +0.3
comp=Z,81nm,0.9s,baz=37,slow=2.4,SNR=41
KEV Kevo 89.88 340 *e*P **P** 17 58 15.7 -1.8
KEV pmax pmax
comp=Z,2.0nm,0.4s
KEV Kevo 89.88 340 PFAKE 17 58 30.0 +12
KEV LR LR
comp=Z,5µm,22.0s
KEV Kevo 89.88 340 *ep* **P** 17 58 15.7 -1.8
comp=Z,2.4nm,0.4s
BRTR Keskin Array B 89.95 310 P **P** 17 58 17.4 -1.3
BRTR PKKPbc **PKKPbc** **18 15 49.8 -1.6**
BRTR Keskin Array B 89.95 310 P **P** 17 58 17.4 -1.3
comp=Z,50nm,0.9s,baz=117,slow=4.5,SNR=138
BRTR PKKPbc **PKKPbc** **18 15 49.8 -1.6**
comp=Z,2.3nm,1.0s,baz=222,slow=1.7,SNR=5.7
BRTR LR LR 18 46 27.4
comp=Z,805nm,21.8s,baz=225,slow=41
BALT Daday 89.99 311 *i* P **P** 17 58 19.3 +0.4
PUL Pulkovo 90.01 330*ce*P **P** 17 58 18.9 +0.6
PUL pmax pmax
comp=Z,109nm,1.0s
ELDT Eldivan 90.05 310 *i* P **P** 17 58 19.5 +0.3
INK Inuvik 90.25 21 *e*P **P** 17 58 19.0 -0.2
comp=Z,101nm,1.2s
INK PKKPbc **PKKPbc** **18 15 49.2 -2.2**
INK Inuvik 90.25 21 PKKPbc PKKPbc 18 15 49.2 -2.2
comp=Z,13nm,0.9s,baz=97,slow=4.2,SNR=22
BBAL Bala 90.36 309 *i* P **P** 17 58 19.9 -0.7
ARCES ARCESS Array B 90.44 340 P **P** 17 58 20.0 -0.2
ARCES PKKP **PKKPdf** **18 15 48.4 +1.8**
ARCES ARCESS Array B 90.44 340 P **P** 17 58 20.0 -0.2
comp=Z,72nm,1.0s,baz=82,slow=6.3,SNR=109
ARCES PKKP **PKKPdf** **18 15 48.4 +1.8**
comp=Z,1.1nm,0.5s,baz=259,slow=2.5,SNR=7.6
ARCES LR LR 18 44 44.3
comp=Z,4µm,20.2s,baz=76,slow=39
ARE0 ARCESS Array S 90.44 340 *e*P **P** 17 58 18.7 -1.4
ARE0 *e*SKS **SKSac** **18 08 48.8 +0.6**
SPA0 Spitsbergen Ar 90.49 349 *e*P **P** 17 58 20.2 -0.1
SPA0 *e*SKS **SKSac** **18 08 48.5 +0.3**
ERMK Ermenek 90.78 307 *i* P **P** 17 58 22.9 +0.2
KBS Kingsbay 91.02 350 *e*P P 17 58 27.0 +4.3
KBS Kingsbay 91.02 350 PFAKE 17 58 30.0 +7.3
KBS LR LR
comp=Z,4µm,21.0s
GAZI Gazipasa 91.30 306 *i* P **P** 17 58 24.2 -0.7
KTK1 Kautokeino 91.34 339 *e*P P 17 58 11.5 -13
KTK1 AMS AMS 18 40 28.7
comp=Z,6µm,25.7s
KAF Kangasniemi 91.57 332 *e*P **P** 17 58 24.4 -1.1
KAF pmax pmax
comp=Z,25nm,0.8s
KAF Kangasniemi 91.57 332 *ep* **P** 17 58 24.4 -1.1
comp=Z,25nm,0.8s
FINES FINESS Array B 91.81 332 P **P** 17 58 26.0 -0.6
FINES FINESS Array B 91.81 332 P **P** 17 58 26.0 -0.6
comp=Z,7.2nm,0.5s,baz=58,slow=4.9,SNR=28
FINES LR LR 18 45 23.1
comp=Z,3µm,20.4s,baz=82,slow=39
AKASG Malin Array Be 91.84 321 P **P** 17 58 25.6 -1.4
AKASG 18 15 44.9
AKASG Malin Array Be 91.84 321 P **P** 17 58 25.6 -1.4
AKASG PKKPbc **PKKPdf** **18 15 44.9 +1.2**
AKASG Malin Array Be 91.84 321 P **P** 17 58 25.6 -1.4
comp=Z,41nm,0.8s,baz=71,slow=4.6,SNR=94
AKASG PKKPbc **PKKPdf** **18 15 44.9 +1.2**
comp=Z,0.1nm,0.3s,baz=288,slow=2.1,SNR=4.9
AKASG LR LR 18 45 30.3
comp=Z,3µm,20.9s,baz=75,slow=39
KIEV Kiev 91.85 321 *e*P **P** 17 58 25.8 -1.3
KIEV pmax pmax
comp=Z,57nm,1.0s
KIEV MLR MLR
comp=Z,3µm,20.0s
KIEV Kiev 91.85 321 *e*P **P** 17 58 25.8 -1.3
comp=Z,57nm,1.0s
KIEV LR LR
comp=Z,3µm,20.0s
HENT Hendek 91.92 311 *i* P **P** 17 58 27.4 -0.4

MICGM **Minsk** 92.08 325⇓ *e*P **P** 17 58 27.0 -1.1
SEYT **Eskypehyr** 92.11 310 *i* P **P** 17 58 28.1 -0.6
BOLV **Bolvadin** 92.12 309 *i* P **P** 17 58 28.0 -0.8
SYO **Syowa Base** 92.34 201⇑ *e*P **P** 17 58 28.0 -0.9
SYO **Syowa Base** 92.34 201 ⇓ *i*PcP **PcP** 17 58 29.4 -0.2
SYO **Syowa Base** 92.34 201 ⇓ *i*pP pP 17 58 38.6 -2.6
BORA **Eskisehir** 92.37 310 *i* P **P** 17 58 28.1 -1.8
ISP **Isparta** 92.56 308 *e*P **P** 17 58 30.0 -0.8
ISP pmax pmax
comp=Z,45nm,1.1s
ISP MLR MLR
comp=Z,2μm,21.0s
ISP **Isparta** 92.56 308 *e*P **P** 17 58 30.0 -0.8
comp=Z,45nm,1.1s
ISP LR LR
comp=Z,2μm,21.0s
ISP **Isparta** 92.56 308 ⇓ *i*P **P** 17 58 29.1 -1.7
IDID **Didziasalis** 92.59 326 *e*P **P** 17 58 31.1 +0.7
IDID AMB AMB 17 58 32.1
comp=Z,17nm,1.0s
IDID **Didziasalis** 92.59 326 *e*P **P** 17 58 31.1 +0.7
IDID AMB AMB 17 58 32.1
comp=Z,17nm,1.0s
KIS **Kishinev** 92.63 317 *e*P **P** 17 58 30.0 -0.8
KIS *e* 17 58 42.0
KIS *e* 18 08 58.0
KIS *e*S **S** 18 09 28.0 -4.5
KIS *e*PS **PS** 18 10 40.0 -8.8
KIS pmax pmax
comp=Z,110nm,1.2s
KIS MLR MLR
comp=N,2μm,22.0s
KIS MLR MLR
comp=Z,5μm,22.0s
KIS MLR MLR
comp=Z,5μm,24.0s
KIS **Kishinev** 92.63 317 *e*P **P** 17 58 30.0 -0.8
comp=Z,100nm,1.2s
KIS *e*SKS **SKSac** 18 08 58.0 -3.4
KIS *e*S **S** 18 09 28.0 -4.5
KIS **Kishinev** 92.63 317 *e*PS PS 18 10 40.0 -8.8
KIS *e*SS SS 18 16 08.0 +23
KIS *e*SSS SSS 18 23 28.0
KIS *e*LQ LQ 18 34 36.0
KIS LRM MLR 18 43 18.0
comp=Z,2μm,22.0s
NACGM **Naroch** 92.64 325 *e* P 17 58 27.0 -3.6
TRO **Tromso** 92.64 340 *e*P **P** 17 58 30.4 +0.1
TRO *e*SKS **SKSac** 18 08 58.9 -1.7
TRO AMS AMS 18 42 59.3
comp=Z,5μm,23.9s
KORT **Korkueli** 92.79 307 *i* P **P** 17 58 30.6 -1.3
IZAR **Zarasai** 92.79 326 *e*P **P** 17 58 31.9 +0.6
IZAR AMB AMB 17 58 32.9
comp=Z,18nm,1.0s
IZAR **Zarasai** 92.79 326 *e*P **P** 17 58 31.9 +0.6
IZAR AMB AMB 17 58 32.9
comp=Z,18nm,1.0s
IIGN **Ignalina** 92.88 326 *e*P **P** 17 58 32.5 +0.7
IIGN AMB AMB 17 58 34.4
comp=Z,16nm,1.1s
IIGN **Ignalina** 92.88 326 *e*P **P** 17 58 32.5 +0.7
IIGN AMB AMB 17 58 34.4
comp=Z,16nm,1.1s
TLCR 92.89 315 ⇓ *i*P **P** 17 58 32.0 0.0
ISAL **Salakas** 92.89 326 *e*P **P** 17 58 32.5 +0.7
ISAL AMB AMB 17 58 33.4
comp=Z,14nm,1.0s
ISAL **Salakas** 92.89 326 *e*P **P** 17 58 32.5 +0.7
ISAL AMB AMB 17 58 33.4
comp=Z,14nm,1.0s
WRAK **Wrangell Islan** 93.05 33 *e*P **P** 17 58 33.2 +0.7
comp=Z,97nm,0.9s
WRAK LR LR
comp=Z,2μm,21.0s
LEOM **Leova** 93.09 317 ⇓ *i*P **P** 17 58 33.2 +0.3
TIRR **Tirgusor** 93.28 315 *e*P **P** 17 58 33.6 -0.2
TIRR pmax pmax
comp=Z,37nm,0.9s
TIRR **Tirgusor** 93.28 315 *e*P **P** 17 58 33.6 -0.2
comp=Z,37nm,0.9s
TIRR **Tirgusor** 93.28 315 ⇑ *i*P **P** 17 58 33.3 -0.5
KHAL **Karahalli** 93.30 309 *i* P **P** 17 58 33.3 -0.9
ULDT **Uludag** 93.34 310 *i* P **P** 17 58 33.9 -0.6
CFR **Carcaliu** 93.36 316 ⇓ *i*P **P** 17 58 34.0 -0.2
QSPA **South Pole Qui** 93.60 180 *e*P **P** 17 58 35.1 +0.2
comp=Z,88nm,1.2s
QSPA PKKPbc **PKKPdf** 18 15 41.8 -0.2
QSPA SKKPbc SKKPbc 18 19 27.5 +6.4
QSPA **South Pole Qui** 93.60 180 P **P** 17 58 34.6 -0.3
comp=Z,48nm,1.0s,baz=330,slow=2.8,SNR=54
QSPA PKKPbc **PKKPdf** 18 15 41.8 -0.2
comp=Z,8.3nm,1.1s,baz=146,slow=1.6,SNR=6.5
QSPA SKKPbc SKKPbc 18 19 27.5 +6.4
comp=Z,1.8nm,1.0s,baz=220,slow=2.8,SNR=3.2
DNZL **Cakiroluk** 93.73 308 *i* P **P** 17 58 35.0 -1.3
ALE **Alert** 93.79 1 P **P** 17 58 36.0 +0.6
comp=Z,53nm,1.1s,SNR=7.9
DLBC **Dease Lake** 93.84 31 *e*P **P** 17 58 37.1 +0.9
PETR 93.91 316 ⇑ *i*P **P** 17 58 38.2 +1.5
DURS **Dursunbey** 93.92 310 *i* P **P** 17 58 32.1 -4.9
MANT **Manisa** 94.01 309 *i* P **P** 17 58 37.5 -0.1
TESR 94.18 317 ⇓ *i*P **P** 17 58 37.5 -0.4
ISR **Istrita** 94.49 316 ⇓ *i*P **P** 17 58 39.6 +0.1
SULR 94.76 315 ⇑ *i*P **P** 17 58 39.5 -1.1
MLR **Muntele Rosu** 94.84 316 P **P** 17 58 40.5 -0.6
MLR **Muntele Rosu** 94.84 316 ⇑ *i*P **P** 17 58 40.7 -0.5
MLR **Muntele Rosu** 94.84 316 P **P** 17 58 40.5 -0.6
comp=Z,15nm,0.9s,baz=8.9,slow=2.7,SNR=67
SUW **Suwalki** 94.88 325 *e*P **P** 17 58 41.0 +0.1
SUW LMZ LR 18 43 26.2
comp=Z,5μm,20.3s
SUW **Suwalki** 94.88 325 *e*P **P** 17 58 41.0 +0.1
SUW LMZ LR 18 43 26.2
comp=Z,5μm,20.3s
SUW **Suwalki** 94.88 325 *e*P **P** 17 58 40.6 -0.3
SUW pmax pmax
comp=Z,213nm,1.0s
SUW **Suwalki** 94.88 325 *e*P **P** 17 58 40.6 -0.3
comp=Z,213nm,1.0s
BURAR **Bucovina Array** 94.94 318 ⇑ *i*P **P** 17 58 41.4 -0.2
LVV **L'vov** 95.28 321 *c i*P **P** 17 58 42.0 -0.9
LVV *e* 18 09 11.0
LVV *e*S **S** 18 09 54.0 -1.7
LVV MLR MLR
comp=Z,2μm,21.0s
VOIR 95.47 316 ⇑ *i*P **P** 17 58 43.6 -0.4
HUMR **Humele** 95.69 315 ⇓ *i*P **P** 17 58 43.9 -1.0
MBAR **Mbarara** 95.89 270 PFAKE 17 59 00.0 +13
MBAR LR LR
comp=Z,857nm,22.0s
BMR **Baia Mare** 96.07 319 ⇑ *i*P **P** 17 58 47.5 +0.9
KWP **Kalwaria Pacla** 96.16 321 *e*P **P** 17 58 46.9 0.0
KWP LMZ LR 18 46 59.3
comp=Z,3μm,23.3s
KWP **Kalwaria Pacla** 96.16 321 *e*P **P** 17 58 46.9 0.0
KWP LMZ LR 18 46 59.3
comp=Z,3μm,23.3s
KWP **Kalwaria Pacla** 96.16 321 *e*P **P** 17 58 46.5 -0.4
KWP pmax pmax
comp=Z,93nm,1.0s
KWP MLR MLR
comp=Z,3μm,20.0s
KWP **Kalwaria Pacla** 96.16 321 *e*P **P** 17 58 46.5 -0.4
comp=Z,93nm,1.0s
KWP LR LR
comp=Z,3μm,20.0s
KWP **Kalwaria Pacla** 96.16 321 ⇑ *i*P **P** 17 58 46.8 -0.1
KOLS **Kolonicke sedl** 96.59 320 *e*P **P** 17 58 49.1 +0.2
KOLS pmax pmax
comp=Z,47nm,1.4s
KOLS **Kolonicke sedl** 96.59 320 *e*P **P** 17 58 49.1 +0.2
TRPA **Tarpa** 96.60 319 ⇑ *i*P **P** 17 58 49.2 +0.3
TRPA **Tarpa** 96.60 319 ⇓ *i*P **P** 17 58 49.4 +0.5
UZH **Uzhgorod** 96.65 320 ⇑ *i*P **P** 17 58 49.8 +0.7
UZH *e* 17 58 58.0
UZH *e**PP **pP** 17 59 04.0 +2.5
UZH *e* 18 02 49.4
UZH *e* 18 09 19.6
UZH *e*S **S** 18 10 03.4 -4.1
UZH *e* 18 11 31.4
UZH *e*SS **SS** 18 16 41.8 -0.3
DRGR 96.78 318 ⇑ *i*P **P** 17 58 49.7 -0.2
BEL **Belsk** 96.81 323 *e*P **P** 17 58 50.2 +0.5
BEL LMZ LR 18 45 25.8
comp=Z,4μm,20.3s
BEL **Belsk** 96.81 323 *e*P **P** 17 58 50.2 +0.5
BEL LMZ LR 18 45 25.8
comp=Z,4μm,20.3s
BEL **Belsk** 96.81 323 *e*P **P** 17 58 50.3 +0.5
BEL MLR MLR
comp=Z,4μm,20.3s
GZR **Gura Zlata** 97.04 316 ⇑ *i*P **P** 17 58 51.1 0.0
CRVS **Cervenica-Dubn** 97.12 320 *e*P Pdif 17 58 52.0 +0.6
CRVS pmax pmax
comp=Z,79nm,1.0s
CRVS **Cervenica-Dubn** 97.12 320 *e*P Pdif 17 58 52.0 +0.6
DAG **Danmarks Havn** 97.27 352 *i* P **P** 17 58 51.2 -0.2
DAG pmax pmax
comp=Z,53nm,1.0s
DAG **Danmarks Havn** 97.27 352 *i* P **P** 17 58 51.2 -0.2
comp=Z,527nm,1.0s
VTS **Vitosha** 97.33 314 ⇑ *i*P **P** 17 58 51.7 -0.9
BZS **Buzias** 97.79 317 ⇑ *i*P **P** 17 58 53.3 -1.1
OJC **Ojcow** 97.83 322 *e*P Pdif 17 58 55.0 +0.5
OJC *e*SKKSac **SKSac** 18 09 28.1 -1.0
OJC L L 18 50 03.0
comp=Z,4μm,21.2s
OJC **Ojcow** 97.83 322 *e*P Pdif 17 58 55.1 +0.6
OJC *e* 18 09 28.8
OJC MLR MLR
comp=Z,4μm,21.2s
RES **Resolute Bay** 97.87 10 *e*P Pdif 17 58 54.3 +0.2
comp=Z,37nm,1.0s
RES PKKPbc PKKPbc 18 15 25.6 -5.8
RES **Resolute Bay** 97.87 10 PKKPbc PKKPbc 18 15 25.6 -5.8
comp=Z,4.4nm,1.0s,baz=136,slow=5.1,SNR=6.6
HFS **Hagfors** 97.99 332 P **P** 17 58 53.2 -1.8
HFS PKKPbc **PKKPbc** 18 15 28.2 -2.6
HFS **Hagfors** 97.99 332 P **P** 17 58 53.2 -1.8
comp=Z,20nm,0.9s,baz=99,slow=3.4,SNR=15
HFS PKKPbc **PKKPbc** 18 15 28.2 -2.6
comp=Z,6.4nm,1.0s,baz=186,slow=4.2,SNR=9.0
PSZ **Piszkesteto** 98.38 319 *e*P **P** 17 58 57.0 -0.1
PSZ pmax pmax
comp=Z,57nm,1.4s
PSZ MLR MLR
comp=Z,3μm,21.0s
PSZ **Piszkesteto** 98.38 319 *e*P **P** 17 58 57.0 -0.1
comp=Z,57nm,1.4s
PSZ LR LR
comp=Z,3μm,21.0s
PSZ **Piszkesteto** 98.38 319 ⇑ *i*P **P** 17 58 57.0 -0.1
PSZ **Piszkesteto** 98.38 319 ⇓ *e*Pdiff Pdif 17 58 57.4 +0.3
GKP **Gorka Klasztor** 98.49 325 *e*P Pdif 17 58 58.6 +1.3
GKP LMZ LR 18 45 58.2
comp=Z,6μm,20.1s
GKP **Gorka Klasztor** 98.49 325 *e*P Pdif 17 58 58.6 +1.3
GKP LMZ LR 18 45 58.2
comp=Z,6μm,20.1s
GKP **Gorka Klasztor** 98.49 325 *e*P Pdif 17 58 58.6 +1.3
GKP MLR MLR
comp=Z,6μm,20.1s
LIKS **Likavka** 98.58 321 *e*P Pdif 17 58 59.0 +1.1
LIKS pmax pmax
comp=Z,26nm,0.9s
LIKS **Likavka** 98.58 321 PDIF Pdif 17 58 59.0 +1.1
NB2 **NORSAR Subarra** 98.76 334 P **P** 17 58 57.5 -0.9
baz=66,slow=4.8
NB2 **NORSAR Subarra** 98.76 334 P **P** 17 58 57.5 -0.9
comp=Z,29nm,0.8s,baz=66,slow=4.8
NOA **NORSAR Array B** 98.76 334 P **P** 17 58 57.1 -1.4
NOA PKKPbc **PKKPbc** 18 15 27.4 -1.3
NOA **NORSAR Array B** 98.76 334 P **P** 17 58 57.1 -1.4
comp=Z,26nm,0.8s,baz=68,slow=4.6,SNR=49
NOA PKKPbc **PKKPbc** 18 15 27.4 -1.3
comp=Z,3.1nm,0.9s,baz=71,slow=2.9,SNR=6.0
NOA LR LR 18 48 49.2
comp=Z,5μm,20.6s,baz=60,slow=39
VYHS **Vyhne** 98.90 320 *e*P **P** 17 58 59.4 +0.1
VYHS pmax pmax
comp=Z,12nm,1.4s
VYHS **Vyhne** 98.90 320 PDIF **P** 17 58 59.4 +0.1
PKS6 **Bocsa** 98.93 318 *e*Pdiff Pdif 17 59 00.7 +1.2
OKC **Ostrava-Krasne** 98.96 322 ⇓ *i*P Pdif 17 59 00.2 +0.7
OKC *e* 17 59 16.0
OKC MLR MLR
comp=Z,2μm,17.2s
OKC **Ostrava-Krasne** 98.96 322 ⇓ *i*PDIFF Pdif 17 59 00.2 +0.7
OKC *ex* x 17 59 16.0
OKC AMS AMS 18 56 40.0
comp=Z,2μm,17.2s
BUD **Budapest** 99.06 319 ⇓ *e*Pdiff **Pdif** 17 59 00.8 +0.8
LSZ **Lusaka** 99.07 255 *e*P **Pdif** 17 59 00.2 -0.7
comp=Z,40nm,0.8s
LSZ LR LR
comp=Z,5μm,22.0s
LSZ **Lusaka** 99.07 255 P **Pdif** 17 59 01.1 +0.2
SNR=7.4
BSD **Bornholm Skovb** 99.18 327 *e*P **Pdif** 17 59 03.2 +2.9
BSD pmax pmax
comp=Z,34nm,0.9s
BSD **Bornholm Skovb** 99.18 327 *i* P **Pdif** 17 59 03.2 +2.9
comp=Z,34nm,0.9s
RKT **Rikitea** 99.18 113 *e*SP SP 18 11 54.7 -1.6
comp=Z,825nm,28.5s
RKT *e*LQ LQ 18 27 06.6
comp=Z,2μm,35.2s
RKT *e*LR LR 18 31 30.0
comp=Z,3μm,24.0s
PKS2 **Kecel** 99.19 318 ⇓ *e*Pdiff **Pdif** 17 59 01.2 +0.6
MORC **Moravsky Berou** 99.36 322 *e*P **Pdif** 17 59 01.3 0.0
MORC pmax pmax
comp=Z,23nm,1.1s
MORC **Moravsky Berou** 99.36 322 *e*P **Pdif** 17 59 01.3 0.0
comp=Z,23nm,1.1s
MORC **Moravsky Berou** 99.36 322 ⇑ *i*P **Pdif** 17 59 01.6 +0.2
PKSG 99.50 319 ⇓ *e*Pdiff **Pdif** 17 59 02.2 +0.2
YKA **Yellowknife Ar** 99.59 24 P **Pdif** 17 59 01.9 -0.1
YKA PKiKP **PKiKP** 18 03 31.6 +0.7
YKA PKKPbc **PKKPbc** 18 15 22.3 -4.1
YKA **Yellowknife Ar** 99.59 24 P **Pdif** 17 59 01.9 -0.1
comp=Z,5.2nm,0.9s,baz=294,slow=4.8,SNR=60
YKA PKiKP **PKiKP** 18 03 31.5 +0.7
comp=Z,1.6nm,0.8s,baz=280,slow=1.5,SNR=6.9
YKA PKKPbc **PKKPbc** 18 15 22.3 -4.1
comp=Z,2.9nm,0.8s,baz=116,slow=2.3,SNR=17
PKSM **Moragy** 99.65 318 ⇑ *i*P **Pdif** 17 59 02.5 -0.2
PKSM **Moragy** 99.65 318 ⇓ *e*Pdiff **Pdif** 17 59 03.1 +0.4
PKST **T``s** 99.77 319 ⇓ *e*Pdiff **Pdif** 17 59 03.3 +0.1
PKS9 **Tamasi** 99.79 318 ⇓ *e*Pdiff **Pdif** 17 59 03.6 +0.3
KSP **Ksiaz** 99.80 323 *e*P **Pdif** 17 59 03.6 +0.3
KSP LMZ LR 18 45 58.2
comp=Z,4μm,23.6s
KSP **Ksiaz** 99.80 323 *e*P **Pdif** 17 59 03.6 +0.3
KSP LMZ LR 18 45 58.2
comp=Z,4μm,23.6s
KSP **Ksiaz** 99.80 323 ⇑ *e*P **Pdif** 17 59 03.3 +0.1
KSP *e* 18 09 39.0
KSP *e*S **S** 18 10 34.0 -0.2
KSP *e*SP **SP** 18 11 58.0 -3.3
KSP MLR MLR
comp=Z,7μm,23.6s
DPC **Dobruska-Polom** 99.93 322 ⇓ *i*P **Pdif** 17 59 04.8 +0.9
DPC *e* 17 59 21.1
DPC MLR MLR
comp=Z,3μm,21.8s
DPC **Dobruska-Polom** 99.93 322 ⇓ *i*PDIFF **Pdif** 17 59 04.8 +0.9
DPC *ex* x 17 59 21.1
DPC AMS AMS 18 47 20.0
comp=Z,3μm,21.8s
RHK3 **Tenkes** 100.00 318 ⇓ *e*Pdiff **Pdif** 17 59 04.1 -0.2
TIR **Tirane** 100.04 313 PFAKE 17 59 20.0 +15
TIR LR LR
comp=Z,3μm,22.0s
UPC **Upice** 100.07 323 ⇓ *i*P **Pdif** 17 59 05.3 +0.8
UPC **Upice** 100.07 323 ⇓ *i*PDIFF **Pdif** 17 59 05.3 +0.8
UPC *ex* x 17 59 22.1
KONO **Kongsberg** 100.08 333 PFAKE 17 59 20.0 +16
KONO LR LR
comp=Z,4μm,21.0s
VRAC **Vranov** 100.09 321 P **Pdif** 17 59 04.6 0.0
VRAC **Vranov** 100.09 321 ⇓ *i*P **Pdif** 17 59 05.5 +0.9
VRAC **Vranov** 100.09 321 P **Pdif** 17 59 04.6 0.0
comp=Z,20nm,1.0s,baz=81,slow=4.9,SNR=18
NLWA **Neilton Lookou** 100.36 41 PFAKE 17 59 20.0 +14
NLWA LR LR
comp=Z,3μm,21.0s
SOP **Sopron** 100.60 320 ⇓ *e*Pdiff **Pdif** 17 59 07.3 +0.4
RUE **Ruedersdorf** 100.73 325 *e*Pdif **Pdif** 17 59 07.9 +0.6
TREC **Trest** 100.78 322 ⇓ *i*P **Pdif** 17 59 08.6 +0.9
TREC MLR MLR
comp=Z,3μm,17.9s
TREC **Trest** 100.78 322 ⇓ *i*PDIFF **Pdif** 17 59 08.6 +0.9
TREC AMS AMS 18 50 40.0
comp=Z,3μm,17.9s
BEHE **Becsehely** 100.82 319 ⇓ *e*Pdiff **Pdif** 17 59 08.9 +1.0
PVCC **Panska Ves** 100.94 323 ⇓ *i*P **Pdif** 17 59 09.4 +1.1
PVCC MLR MLR
comp=Z,4μm,22.0s
PVCC **Panska Ves** 100.94 323 ⇓ *i*PDIFF **Pdif** 17 59 09.4 +1.1
PVCC *ex* x 17 59 26.3
PVCC AMS AMS 18 47 40.0
comp=Z,4μm,22.0s
PRU **Pruhonice** 101.13 322 ⇓ *i*P **Pdif** 17 59 10.0 +0.8
PRU MLR MLR
comp=Z,3μm,22.2s
PRU **Pruhonice** 101.13 322 ⇓ *i*PDIFF **Pdif** 17 59 10.0 +0.8
PRU AMS AMS 18 46 40.0
comp=Z,3μm,22.2s
PRA **Prague** 101.17 323 ⇓ PDIFF **Pdif** 17 59 10.0 +0.7
BRG **Berggiesshubel** 101.19 323 *e*PDIF **Pdif** 17 59 09.7 +0.3
comp=Z,31nm,1.1s
BRG PP PP 18 03 08.1 -10
comp=Z,7.8nm,1.2s
BRG SKS 18 09 45.0
BRG SDIF **Sdif** 18 10 46.0 +0.2
BRG SS SS 18 17 28.0 -18
BRG
comp=N,3μm,19.8s
BRG
comp=E,3μm,21.0s
BRG
comp=Z,4μm,21.2s
BRG **Berggiesshubel** 101.19 323 *e*P **Pdif** 17 59 09.5 +0.1
comp=Z,29nm,1.1s
BRG **Berggiesshubel** 101.19 323 *e*P **Pdif** 17 59 09.7 +0.3
BRG 18 09 45.0
BRG S **Sdif** 18 10 46.0 +0.2
BRG pmax pmax
comp=Z,31nm,1.2s
BRG pmax pmax
comp=Z,8.0nm,1.3s
BRG MLR MLR
comp=N,3μm,19.8s
BRG MLR MLR
comp=E,3μm,21.0s
BRG MLR MLR
comp=Z,4μm,21.2s
ARSA **Arzberg** 101.40 320 **Pdif** 17 59 10.4 -0.1
comp=Z,9.1nm,0.8s
CLL **Collm** 101.59 324 *i* P **Pdif** 17 59 10.8 -0.4
CLL *e* 18 09 53.0
CLL pmax pmax
comp=Z,15nm,1.1s
CLL MLR MLR
comp=Z,4μm,22.0s
CLL **Collm** 101.59 324 *i* Pdif **Pdif** 17 59 10.8 -0.4
comp=Z,15nm,1.1s
CLL *e*sPdif sPdif 17 59 25.0 -3.1
CLL *e*PP PP 18 03 27.0 +5.7
CLL *e*SKSac **SKSac** 18 09 53.0 +5.5
CLL *e*Sdif **Sdif** 18 10 48.0 -1.1
CLL *e*SP **SP** 18 12 18.0 -2.5
CLL *e*PPS PPS 18 13 24.0
CLL *e*SS SS 18 18 06.0 +15
CLL *e* 18 22 48.0
CLL *e* 18 26 24.0
CLL LmV 18 51 00.0
comp=Z,4μm,22.0s
GROS **Grobnik** 101.66 319 *i* Pdiff **Pdif** 17 59 12.0 +0.2
GROS *i* 17 59 20.0
BOSA **Boshof** 101.72 242 P **Pdif** 17 59 11.9 -0.5
BOSA **Boshof** 101.72 242 P **Pdif** 17 59 11.9 -0.5
comp=Z,4.9nm,0.8s,baz=97,slow=9.6,SNR=7.2
KHC **Kasperske Hory** 102.01 322 ⇓ *i*P **Pdif** 17 59 13.9 +0.7
KHC MLR MLR
comp=Z,2μm,23.8s
KHC **Kasperske Hory** 102.01 322 *e*Pdif **Pdif** 17 59 13.9 +0.7
comp=Z,11nm,1.1s
KHC **Kasperske Hory** 102.01 322 ⇓ *i*PDIFF **Pdif** 17 59 13.9 +0.7
KHC *ex* x 17 59 30.2
KHC AMS AMS 18 50 00.0
comp=Z,2μm,23.8s
MOA **Molln** 102.02 320 ⇑ *i*Pdiff **Pdif** 17 59 13.4 +0.2
comp=Z,28nm,1.1s,SNR=16
GEC2 **GERESS Array S** 102.03 322 *e*P **Pdif** 17 59 13.3 -0.1
comp=Z,22nm,1.2s
GEC2 **GERESS Array S** 102.03 322 *e*P **Pdif** 17 59 13.3 -0.1
GEC2 pmax pmax
comp=Z,22nm,1.2s
GERES **GERESS Array B** 102.03 322 P **Pdif** 17 59 13.5 +0.2
GERES PP PP 18 03 18.7 -6.1
GERES PKKPbc **PKKPbc** 18 15 18.4 -0.6
GERES **GERESS Array B** 102.03 322 P **Pdif** 17 59 13.5 +0.2
comp=Z,9.0nm,0.9s,baz=72,slow=4.3,SNR=38
GERES PP PP 18 03 18.7 -6.1
comp=Z,1.5nm,0.7s,baz=69,slow=8.5,SNR=3.8
GERES PKKPbc **PKKPbc** 18 15 18.4 -0.6
comp=Z,2.2nm,0.9s,baz=224,slow=3.7,SNR=8.3
BSEG **Bad Segeberg** 102.11 327 *e*P **Pdif** 17 59 14.0 +0.6
comp=Z,30nm,1.0s
BSEG **Bad Segeberg** 102.11 327 *e*P **Pdif** 17 59 14.0 +0.6
BSEG pmax pmax
comp=Z,30nm,1.0s
BOJS **Bojanci** 102.12 318 *i* Pdiff **Pdif** 17 59 15.0 +1.3
TANN **Tannenbergstha** 102.24 323 *e*P **Pdif** 17 59 14.2 0.0
OBKA **Obir** 102.27 319 ⇑ *i*Pdiff **Pdif** 17 59 15.2 +0.7
comp=Z,16nm,1.1s
VISS **Visnje** 102.31 318 *i* Pdiff **Pdif** 17 59 15.4 +0.9
VISS *i* PP **PP** 18 03 28.4 +1.5
WET **Wettzell** 102.44 322 *e*P **Pdif** 17 59 15.3 +0.2
comp=Z,18nm,1.4s
WET **Wettzell** 102.44 322 *e*P **Pdif** 17 59 15.3 +0.2
WET pmax pmax
comp=Z,18nm,1.4s
CEY **Cerknica** 102.60 318 *i* Pdiff **Pdif** 17 59 16.5 +0.6
ROTZ **Rotzenmuhle** 102.62 323 *e*P **Pdif** 17 59 16.4 +0.5
MOX **Moxa** 102.65 324 *e*P **Pdif** 17 59 16.0 0.0
comp=Z,13nm,1.2s
MOX *e*L L 18 48 23.3
comp=Z,3μm,21.7s
MOX **Moxa** 102.65 324 *e*P **Pdif** 17 59 16.0 0.0
MOX pmax pmax
comp=Z,13nm,1.2s
MOX MLR MLR
comp=Z,3μm,21.7s
JAVS **Javornik** 102.79 319 *i* Pdiff **Pdif** 17 59 17.2 +0.4
JAVS *i* PP **PP** 18 03 25.8 -4.8
NRDL **Niedersach Rie** 102.80 326 *e*P **Pdif** 17 59 16.9 +0.5
VOY **Vojsko** 102.86 319 *e*Pdiff **Pdif** 17 59 17.6 +0.5
VOY *e* 17 59 25.0
CLZ **Clausthal** 102.91 325 *e*P **Pdif** 17 59 17.7 +0.6
comp=Z,22nm,1.3s
CLZ **Clausthal** 102.91 325 *e*P **Pdif** 17 59 17.7 +0.6
CLZ pmax pmax
comp=Z,22nm,1.3s
SCO **Scoresbysund** 103.06 350 *i* P PKKPbc 18 15 35.7 +19
comp=Z,6.6nm,1.0s
GRF **Grafenberg Arr** 103.25 323 *e*P **Pdif** 17 59 19.0 +0.4
comp=Z,22nm,1.4s
GRF *e*L L 18 49 52.9
comp=Z,4μm,21.0s
GRF **Grafenberg Arr** 103.25 323 *e*P **Pdif** 17 59 19.0 +0.4
GRF pmax pmax
comp=Z,22nm,1.4s
GRF MLR MLR
comp=Z,4μm,21.0s
SUMG **Summit** 103.27 355 *i* P **Pdif** 17 59 19.0 +0.3
SUMG pmax pmax
comp=Z,8.0nm,1.0s
SUMG **Summit** 103.27 355 *e*Pdif **Pdif** 17 59 19.4 +0.7
comp=Z,12nm,1.0s
SUMG **Summit** 103.27 355 *i* P **Pdif** 17 59 19.0 +0.3
comp=Z,7.5nm,1.0s
SUMG **Summit** 103.27 355 *i* P **PKKPbc** 18 15 14.7 -1.8
comp=Z,14nm,1.0s
CUC **Castrocucco** 103.36 312 PFAKE 17 59 30.0 +11
CUC LR LR
comp=Z,2μm,21.0s
HAWA **Hanford** 103.49 41 PFAKE 17 59 30.0 +10
HAWA LR LR
comp=Z,3μm,21.0s
UBBA **Unterbreizbach** 103.53 324 *e*P **Pdif** 17 59 20.7 +1.0

FUR	**Furstenfeldbru**	**103.78**	**321**	*e*P		**Pdif**	**17 59 21.1**	**0.0**
	comp=Z,19nm,1.0s							
FUR	**Furstenfeldbru**	**103.78**	**321**	*e*P		**Pdif**	**17 59 21.1**	**0.0**
FUR				pmax		pmax		
	comp=Z,19nm,1.0s							
WTTA	**Wattenberg**	**103.89**	**321**	⇓*i*Pdiff		**Pdif**	**17 59 22.1**	**+0.3**
	comp=Z,25nm,1.1s							
MOTA	**Moosalm**	**104.20**	**321**	⇑*i*Pdiff		**Pdif**	**17 59 22.7**	**-0.4**
	comp=Z,13nm,0.9s							
NEW	**Newport**	**104.34**	**38**	*e*Pdif		**Pdif**	**17 59 24.7**	**+1.2**
NEW				LR		LR		
	comp=Z,2μm,22.0s							
NEW	**Newport**	**104.34**	**38**	⇓P		**PKiKP**	**18 03 38.7**	**-1.3**
	baz=104							
AQU	**L'Aquila**	**104.39**	**315**	PFAKE			17 59 40.0	+16
AQU				LR		LR		
	comp=Z,3μm,22.0s							
FETA	**Feichten**	**104.55**	**321**	⇑*i*Pdiff		**Pdif**	**17 59 24.4**	**-0.3**
	comp=Z,13nm,1.0s,SNR=8.1							
TNS	**Taunus Mts**	**104.68**	**324**	*e*P		**Pdif**	**17 59 25.8**	**+0.7**
	comp=Z,10.0nm,1.2s							
TNS	**Taunus Mts**	**104.68**	**324**	*e*P		**Pdif**	**17 59 25.8**	**+0.7**
TNS				pmax		pmax		
	comp=Z,10.0nm,1.2s							
STU	**Stuttgart**	**104.83**	**323**	*e*P		**Pdif**	**17 59 25.8**	**+0.1**
A12A	**Yaak River Ran**	**104.97**	**37**	⇓P		**PKiKP**	**18 03 41.2**	**+0.1**
	baz=105							
A12A				⇑P		**PKKPab**	**18 15 26.8**	**-0.8**
	baz=105							
A12A				⇑P		**PKKPab**	**18 15 26.8**	**-0.8**
	baz=105							
A12A				⇑P		**PKKPab**	**18 15 26.8**	**-0.8**
	baz=105							
C11A	**Tepee Creek (N**	**105.04**	**38**	⇑P		**PKiKP**	**18 03 41.4**	**+0.1**
	baz=105							
C11A				⇓P		**PKKPab**	**18 15 26.9**	**-0.4**
	baz=105							
C11A				⇓P		**PKKPab**	**18 15 26.9**	**-0.4**
	baz=105							
C11A				⇓P		**PKKPab**	**18 15 26.9**	**-0.4**
	baz=105							
DAVOX	**Davos/Dischmat**	**105.18**	**321**	Pdif		**Pdif**	**17 59 26.5**	**-1.1**
DAVOX				PP		PKiKP	18 03 28.8	-13
DAVOX				PKKPab		**PKKPab**	**18 15 25.8**	**-1.0**
DAVOX	**Davos/Dischmat**	**105.18**	**321**	Pdiff		**Pdif**	**17 59 26.5**	**-1.1**
	comp=Z,5.5nm,0.8s,baz=164,slow=5.5,SNR=7.3							
DAVOX				PP		PKiKP	18 03 28.8	-13
	comp=Z,1.4nm,0.6s,baz=19,slow=7.6,SNR=3.1							
DAVOX				PKKPab		**PKKPab**	**18 15 25.8**	**-1.0**
	comp=Z,3.9nm,0.8s,baz=320,slow=16,SNR=5.1							
B12A	**Libby**	**105.19**	**38**	⇑P		**PKKPab**	**18 15 26.7**	**+0.1**
	baz=105							
SUR	**Sutherland**	**105.30**	**238**	PFAKE			18 03 50.0	
SUR				LR		LR		
	comp=Z,2μm,20.0s							
BMO	**Blue Mountains**	**105.50**	**42**	PFAKE			18 03 50.0	
BMO				LR		LR		
	comp=Z,2μm,22.0s							
WDD	**Wield Dalam**	**105.51**	**309**	PFAKE			18 03 50.0	
WDD				LR		LR		
	comp=Z,859nm,19.0s							
BFO	**Black Forest**	**105.53**	**322**	*e*P		**Pdif**	**17 59 28.9**	**+0.1**
BFO				pmax		pmax		
	comp=Z,8.0nm,1.4s							
BFO				MLR		MLR		
	comp=Z,3μm,20.0s							
BFO	**Black Forest**	**105.53**	**322**	*e*Pdif		**Pdif**	**17 59 28.9**	**+0.1**
	comp=Z,7.9nm,1.4s							
BFO				LR		LR		
	comp=Z,3μm,20.0s							
C12B	**Naegeli Ranch,**	**105.57**	**38**	⇑P		**PKKPab**	**18 15 24.9**	**0.0**
	baz=106							
TUE	**Stuetta**	**105.64**	**320**	PFAKE			18 03 50.0	
TUE				LR		LR		
	comp=Z,4μm,20.0s							
WCN	**Washoe City**	**105.67**	**48**	⇓P		**PKiKP**	**18 03 44.0**	**+1.1**
	baz=106							
WCN				⇓P		**PKKPab**	**18 15 25.8**	**+1.2**
	baz=106							
WCN				⇓P		**PKKPab**	**18 15 25.8**	**+1.2**
	baz=106							
WCN				⇓P		**PKKPab**	**18 15 25.8**	**+1.2**
	baz=106							
A13A	**Flathead Natio**	**105.71**	**37**	⇑P		**PKiKP**	**18 03 43.4**	**+0.8**
	baz=106							
A13A				⇓P		**PKKPab**	**18 15 24.8**	**+0.4**
	baz=106							
A13A				⇓P		**PKKPab**	**18 15 24.8**	**+0.4**
	baz=106							
A13A				⇓P		**PKKPab**	**18 15 24.8**	**+0.4**
	baz=106							
VLC	**Villacollemand**	**105.84**	**318**	PFAKE			18 03 50.0	
VLC				LR		LR		
	comp=Z,3μm,22.0s							
D12A	**Red Ives Fores**	**105.91**	**39**	⇑P		**PKiKP**	**18 03 43.9**	**+0.9**
	baz=106							
D12A				⇓P		**PKKPab**	**18 15 23.4**	**-0.1**
	baz=106							
D12A				⇓P		**PKKPab**	**18 15 23.4**	**-0.1**
	baz=106							
D12A				⇓P		**PKKPab**	**18 15 23.4**	**-0.1**
	baz=106							
B13A	**Whitefish**	**105.92**	**37**	⇓P		**PKKPab**	**18 15 23.2**	**-0.2**
	baz=106							
BSMT	**Bassoo Peak**	**105.94**	**38**	*e*Pdif		**Pdif**	**17 59 32.4**	**+1.5**
	comp=Z,7.9nm,1.2s							
E12A	**Beaver Dam Sad**	**106.03**	**40**	⇓P		**PKKPab**	**18 15 23.1**	**+0.1**
	baz=106							
CDF	**Champ du Feu**	**106.14**	**323**	*e*P		**Pdif**	**17 59 32.1**	**+0.5**
	comp=Z,23nm,1.2s							
CDF	**Champ du Feu**	**106.14**	**323**	*e*P		**Pdif**	**17 59 32.1**	**+0.5**
CDF				pmax		pmax		
	comp=Z,23nm,1.2s							
CDF	**Champ du Feu**	**106.14**	**323**	*e*P		**Pdif**	**17 59 32.1**	**+0.5**
	comp=Z,23nm,1.2s							
C13A	**Hot Springs**	**106.14**	**38**	⇑P		**PKKPab**	**18 15 22.6**	**+0.2**
	baz=106							
WLF	**Walferdange**	**106.26**	**324**	PFAKE			18 04 00.0	
WLF				LR		LR		
	comp=Z,4μm,22.0s							
A14A	**Double T Ranch**	**106.29**	**36**	⇑P		**PKKPab**	**18 15 20.2**	**-1.6**
	baz=106,SNR=6.0							
D13A	**Huson**	**106.45**	**39**	⇓P		**PKiKP**	**18 03 44.7**	**+0.8**
	baz=106							
D13A				⇑P		**PKKPab**	**18 15 20.5**	**-0.5**
	baz=106							
D13A				⇑P		**PKKPab**	**18 15 20.5**	**-0.5**
	baz=106							
D13A				⇑P		**PKKPab**	**18 15 20.5**	**-0.5**
	baz=106							
F12A	**Elk City**	**106.49**	**40**	⇓P		**PKiKP**	**18 03 45.1**	**+0.9**
	baz=106							
F12A				⇑P		**PKKPab**	**18 15 20.8**	**-0.1**
	baz=106							
F12A				⇑P		**PKKPab**	**18 15 20.8**	**-0.1**
	baz=106							
F12A				⇑P		**PKKPab**	**18 15 20.8**	**-0.1**
	baz=106							
C14A	**Swan Lake**	**106.61**	**38**	⇓P		**PKiKP**	**18 03 44.9**	**+0.6**
	baz=106							
C14A				⇑P		**PKKPab**	**18 15 20.5**	**+0.1**
	baz=106							
C14A				⇑P		**PKKPab**	**18 15 20.5**	**+0.1**
	baz=106							
C14A				⇑P		**PKKPab**	**18 15 20.5**	**+0.1**
	baz=106							
HINF	**Hinteralfeld**	**106.65**	**322**	*e*P		**Pdif**	**17 59 33.6**	**-0.2**
HINF	**Hinteralfeld**	**106.65**	**322**	*e*P		**Pdif**	**17 59 33.6**	**-0.2**
HINF	**Hinteralfeld**	**106.65**	**322**	*e*P		**Pdif**	**17 59 33.6**	**-0.2**
A15A	**Johnson Ranch,**	**106.69**	**36**	⇓P		**PKKPab**	**18 15 19.1**	**-0.9**
	baz=107,SNR=5.9							
G12A	**Big Creek, Yel**	**106.69**	**41**	⇓P		**PKKPab**	**18 15 19.7**	**-0.4**
	baz=107							
GIVF	**Givet**	**106.83**	**325**	*e*P		**Pdif**	**17 59 35.8**	**+1.3**
GIVF	**Givet**	**106.83**	**325**	*e*P		**Pdif**	**17 59 35.8**	**+1.3**
GIVF	**Givet**	**106.83**	**325**	*e*P		**Pdif**	**17 59 35.8**	**+1.3**
MSO	**Missoula**	**106.89**	**39**	PFAKE			18 04 00.0	
MSO				LR		LR		
	comp=Z,2μm,22.0s							
MSO	**Missoula**	**106.89**	**39**	⇑P		**PKiKP**	**18 03 45.3**	**+0.5**
	baz=107							
MSO				⇑P		**PKKPab**	**18 15 19.6**	**+0.5**
	baz=107							
MSO				⇑P		**PKKPab**	**18 15 19.6**	**+0.5**
	baz=107							
MSO				⇑P		**PKKPab**	**18 15 19.6**	**+0.5**
	baz=107							
E13A	**Victor**	**106.89**	**39**	⇑P		**PKiKP**	**18 03 45.5**	**+0.7**
	baz=107							
SLMT	**Seeley Lake**	**106.99**	**38**	*e*PKiKP		**PKiKP**	**18 03 45.7**	**+0.7**
PAGF	**Fort de Pagny**	**107.00**	**323**	*e*P		**Pdif**	**17 59 35.0**	**-0.4**
PAGF	**Fort de Pagny**	**107.00**	**323**	*e*P		**Pdif**	**17 59 35.0**	**-0.4**
MFID	**Camas Ranch**	**107.02**	**42**	Pdif		**Pdif**	**17 59 36.8**	**+1.1**
	comp=Z,6.2nm,1.0s							
MFID	**Camas Ranch**	**107.02**	**42**	⇑P		**PKiKP**	**18 03 46.6**	**+1.4**
	baz=107							
NVAR	**Mina Array Bea**	**107.03**	**48**	Pdif		**Pdif**	**17 59 35.1**	**-0.8**
NVAR				PKiKP		**PKiKP**	**18 03 47.1**	**+1.6**
NVAR				PKKPab		**PKKPab**	**18 15 19.3**	**+0.7**
NVAR	**Mina Array Bea**	**107.03**	**48**	Pdiff		**Pdif**	**17 59 35.1**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=272,slow=7.3,SNR=6.6							
NVAR				PKiKP		**PKiKP**	**18 03 47.1**	**+1.6**
	comp=Z,1.7nm,0.8s,baz=248,slow=2.1,SNR=6.1							
NVAR				PKKPab		**PKKPab**	**18 15 19.3**	**+0.7**
	comp=Z,9.0nm,0.8s,baz=134,slow=3.9,SNR=17							
D14A	**Greenough**	**107.05**	**38**	⇓P		**PKiKP**	**18 03 45.8**	**+0.7**
	baz=107							
D14A				⇑P		**PKKPab**	**18 15 18.2**	**-0.3**
	baz=107,SNR=6.5							
D14A				⇑P		**PKKPab**	**18 15 18.2**	**-0.3**
	baz=107,SNR=6.5							
D14A				⇑P		**PKKPab**	**18 15 18.2**	**-0.3**
	baz=107,SNR=6.5							
F13A	**Darby**	**107.07**	**40**	⇑P		**PKKPab**	**18 15 18.4**	**0.0**
	baz=107,SNR=7.1							
B15A	**Bradely Ranch,**	**107.09**	**37**	⇑P		**PKiKP**	**18 03 45.9**	**+0.8**
	baz=107							
B15A				⇑P		**PKKPdf**	**18 15 17.0**	**+0.9**
	baz=107							
B15A				⇑P		**PKKPdf**	**18 15 17.0**	**+0.9**
	baz=107							
B15A				⇑P		**PKKPdf**	**18 15 17.0**	**+0.9**
	baz=107							
BAIF	**Baives**	**107.20**	**325**	*e*P		**Pdif**	**17 59 37.3**	**+1.1**
	comp=Z,15nm,1.0s							
BAIF	**Baives**	**107.20**	**325**	*e*P		**Pdif**	**17 59 37.3**	**+1.1**
BAIF				pmax		pmax		
	comp=Z,15nm,1.0s							
BAIF	**Baives**	**107.20**	**325**	*e*P		**Pdif**	**17 59 37.3**	**+1.1**
	comp=Z,15nm,1.0s							
H12A	**Diamond D Ranc**	**107.23**	**41**	⇓P		**PKKPab**	**18 15 17.6**	**-0.1**
	baz=107,SNR=5.7							
C15A	**Salmond Ranch,**	**107.30**	**37**	⇓P		**PKiKP**	**18 03 46.2**	**+0.6**
	baz=107							
C15A				⇓P		**PKKPab**	**18 15 16.7**	**-0.6**
	baz=107,SNR=8.3							
C15A				⇓P		**PKKPab**	**18 15 16.7**	**-0.6**
	baz=107,SNR=8.3							
C15A				⇓P		**PKKPab**	**18 15 16.7**	**-0.6**
	baz=107,SNR=8.3							
E14A	**Clinton**	**107.34**	**39**	⇓P		**PKiKP**	**18 03 46.4**	**+0.6**
	baz=107							
E14A				⇑P		**PKKPab**	**18 15 17.3**	**+0.1**
	baz=107							
E14A				⇑P		**PKKPab**	**18 15 17.3**	**+0.1**
	baz=107							
E14A				⇑P		**PKKPab**	**18 15 17.3**	**+0.1**
	baz=107							
I12A	**Atlanta**	**107.34**	**42**	⇓P		**PKiKP**	**18 03 47.1**	**+1.3**
	baz=107							
I12A				⇓P		**PKKPab**	**18 15 17.3**	**+0.1**
	baz=107,SNR=6.4							
I12A				⇓P		**PKKPab**	**18 15 17.3**	**+0.1**
	baz=107,SNR=6.4							
I12A				⇓P		**PKKPab**	**18 15 17.3**	**+0.1**
	baz=107,SNR=6.4							
BSC	**Santa Cruz Isl**	**107.37**	**53**	⇓P		**PKiKP**	**18 03 47.0**	**+1.0**
	baz=107							
A16A	**West Butte Ran**	**107.37**	**36**	⇑P		**PKiKP**	**18 03 46.7**	**+1.0**
	baz=107							
A16A				⇑P		**PKKPab**	**18 15 17.2**	**+0.2**
	baz=107							
A16A				⇑P		**PKKPab**	**18 15 17.2**	**+0.2**
	baz=107							
A16A				⇑P		**PKKPab**	**18 15 17.2**	**+0.2**
	baz=107							
G13A	**Cobalt**	**107.42**	**40**	⇓P		**PKKPab**	**18 15 17.0**	**+0.2**
	baz=107,SNR=8.0							
B16A	**M & M Farms, S**	**107.55**	**36**	⇑P		**PKKPab**	**18 15 15.4**	**-0.7**
	baz=108							
SFTF	**Sexfontaines**	**107.57**	**323**	*e*P		**Pdif**	**17 59 38.3**	**+0.4**
SFTF	**Sexfontaines**	**107.57**	**323**	*e*P		**Pdif**	**17 59 38.3**	**+0.4**
H13A	**Challis**	**107.62**	**41**	⇑P		**PKiKP**	**18 03 47.4**	**+1.1**
	baz=108							
H13A				⇑P		**PKKPab**	**18 15 16.4**	**+0.5**
	baz=108							
H13A				⇑P		**PKKPab**	**18 15 16.4**	**+0.5**
	baz=108							
H13A				⇑P		**PKKPab**	**18 15 16.4**	**+0.5**
	baz=108							
ARVC	**Arvin**	**107.67**	**51**	⇑P		**PKKPab**	**18 15 17.3**	**+1.8**
	baz=108							
F14A	**Wisdom**	**107.67**	**39**	⇓P		**PKiKP**	**18 03 47.0**	**+0.6**
	baz=108							
F14A				⇓P		**PKKPab**	**18 15 16.4**	**+0.7**
	baz=108,SNR=6.4							
F14A				⇓P		**PKKPab**	**18 15 16.4**	**+0.7**
	baz=108,SNR=6.4							
F14A				⇓P		**PKKPab**	**18 15 16.4**	**+0.7**
	baz=108,SNR=6.4							
D15A	**Lincoln**	**107.67**	**38**	⇓P		**PKiKP**	**18 03 47.1**	**+0.8**
	baz=108							
D15A				⇓P		**PKKPab**	**18 15 15.9**	**+0.2**
	baz=108							
D15A				⇓P		**PKKPab**	**18 15 15.9**	**+0.2**
	baz=108							
D15A				⇓P		**PKKPab**	**18 15 15.9**	**+0.2**
	baz=108							
LPG	**La Plagne**	**107.69**	**320**	*e*P		**Pdif**	**17 59 39.5**	**+0.6**
	comp=Z,12nm,0.8s							
LPG	**La Plagne**	**107.69**	**320**	*e*P		**Pdif**	**17 59 39.5**	**+0.6**
LPG				pmax		pmax		
	comp=Z,12nm,0.8s							
LPG	**La Plagne**	**107.69**	**320**	*e*P		**Pdif**	**17 59 39.5**	**+0.6**
	comp=Z,12nm,0.8s							
LPL	**La Plagne**	**107.69**	**320**	*e*P		**Pdif**	**17 59 39.3**	**+0.5**
	comp=Z,20nm,1.1s							
LPL	**La Plagne**	**107.69**	**320**	*e*P		**Pdif**	**17 59 39.3**	**+0.5**
LPL				pmax		pmax		
	comp=Z,21nm,1.1s							
LPL	**La Plagne**	**107.69**	**320**	*e*P		**Pdif**	**17 59 39.3**	**+0.5**
	comp=Z,20nm,1.1s							
ISA	**Isabella**	**107.78**	**51**	⇑P		**PKiKP**	**18 03 47.1**	**+0.4**
	baz=108							
C16A	**Fuhringer Ranc**	**107.81**	**37**	⇑P		**PKiKP**	**18 03 47.2**	**+0.7**
	baz=108							
C16A				⇓P		**PKKPdf**	**18 15 14.8**	**0.0**
	baz=108,SNR=9.4							
C16A				⇓P		**PKKPdf**	**18 15 14.8**	**0.0**
	baz=108,SNR=9.4							
C16A				⇓P		**PKKPdf**	**18 15 14.8**	**0.0**
	baz=108,SNR=9.4							
CWC	**Cottonwood Cre**	**107.84**	**50**	⇑P		**PKiKP**	**18 03 47.7**	**+0.8**
	baz=108							
G14A	**Jackson**	**107.85**	**40**	⇑P		**PKKPab**	**18 15 15.0**	**0.0**
	baz=108							
E15A	**Deer Lodge**	**107.87**	**39**	⇑P		**PKiKP**	**18 03 47.6**	**+0.9**
	baz=108							
E15A				⇑P		**PKKPab**	**18 15 14.9**	**+0.1**
	baz=108							
E15A				⇑P		**PKKPab**	**18 15 14.9**	**+0.1**
	baz=108							
E15A				⇑P		**PKKPab**	**18 15 14.9**	**+0.1**
	baz=108							
A17A	**Triple J Farms**	**107.90**	**36**	⇓P		**PKiKP**	**18 03 47.9**	**+1.3**
	baz=108							
A17A				⇑P		**PKKPab**	**18 15 14.4**	**-0.2**
	baz=108							
A17A				⇑P		**PKKPab**	**18 15 14.4**	**-0.2**
	baz=108							
A17A				⇑P		**PKKPab**	**18 15 14.4**	**-0.2**
	baz=108							
HLID	**Hailey**	**107.92**	**42**	*e*PKiKP		**PKiKP**	**18 03 49.4**	**+2.5**
HLID				LR		LR		
	comp=Z,2μm,22.0s							
HLID	**Hailey**	**107.92**	**42**	⇓P		**PKiKP**	**18 03 48.0**	**+1.0**
	baz=108							
HLID				⇓P		**PKKPab**	**18 15 14.6**	**-0.1**
	baz=108,SNR=6.7							
HLID				⇓P		**PKKPab**	**18 15 14.6**	**-0.1**
	baz=108,SNR=6.7							
HLID				⇓P		**PKKPab**	**18 15 14.6**	**-0.1**
	baz=108,SNR=6.7							
BNI	**Bardonecchia**	**107.92**	**320**	PFAKE			18 04 00.0	
BNI				LR		LR		
	comp=Z,3μm,22.0s							
I13A	**Wildhorse Cree**	**107.97**	**42**	⇑P		**PKiKP**	**18 03 48.1**	**+1.0**
	baz=108							
I13A				⇓P		**PKKPdf**	**18 15 15.2**	**+0.6**
	baz=108,SNR=7.6							
I13A				⇓P		**PKKPdf**	**18 15 15.2**	**+0.6**
	baz=108,SNR=7.6							
I13A				⇓P		**PKKPdf**	**18 15 15.2**	**+0.6**
	baz=108,SNR=7.6							
J13A	**Cove Ranch, Pi**	**108.14**	**42**	⇑P		**PKiKP**	**18 03 48.9**	**+1.6**
	baz=108							
J13A				⇑P		**PKKPab**	**18 15 13.8**	**+0.2**
	baz=108,SNR=16							
J13A				⇑P		**PKKPab**	**18 15 13.8**	**+0.2**
	baz=108,SNR=16							
J13A				⇑P		**PKKPab**	**18 15 13.8**	**+0.2**
	baz=108,SNR=16							
B17A	**L&G Farms, Che**	**108.15**	**36**	⇓P		**PKKPab**	**18 15 13.3**	**-0.1**
	baz=108,SNR=7.9							
H14A	**Leadore**	**108.17**	**41**	⇑P		**PKiKP**	**18 03 48.1**	**+0.7**
	baz=108							
H14A				⇑P		**PKKPdf**	**18 15 13.9**	**-0.3**
	baz=108							
H14A				⇑P		**PKKPdf**	**18 15 13.9**	**-0.3**
	baz=108							
H14A				⇑P		**PKKPdf**	**18 15 13.9**	**-0.3**
	baz=108							
GRAC	**Grapevine Rang**	**108.20**	**49**	⇑P		**PKiKP**	**18 03 48.6**	**+1.2**
	baz=108							
GRAC				⇑P		**PKKPdf**	**18 15 14.2**	**+0.4**
	baz=108							
GRAC				⇑P		**PKKPdf**	**18 15 14.2**	**+0.4**
	baz=108							
GRAC				⇑P		**PKKPdf**	**18 15 14.2**	**+0.4**
	baz=108							
F15A	**Butte**	**108.22**	**39**	⇑P		**PKiKP**	**18 03 48.9**	**+1.4**
	baz=108							
F15A				⇓P		**PKKPab**	**18 15 13.1**	**-0.2**
	baz=108							
F15A				⇓P		**PKKPab**	**18 15 13.1**	**-0.2**
	baz=108							
F15A				⇓P		**PKKPab**	**18 15 13.1**	**-0.2**
	baz=108							
ESK	**Eskdalemuir**	**108.22**	**332**	PFAKE			18 04 00.0	
ESK				LR		LR		
	comp=Z,4μm,20.0s							
VSL	**Villasalto**	**108.22**	**314**	PFAKE			18 04 00.0	
VSL				LR		LR		
	comp=Z,911nm,21.0s							
D16A	**Dana Ranch, Ca**	**108.28**	**38**	⇑P		**PKiKP**	**18 03 48.2**	**+0.8**
	baz=108							
D16A				⇓P		**PKKPab**	**18 15 12.8**	**-0.2**
	baz=108,SNR=6.4							
D16A				⇓P		**PKKPab**	**18 15 12.8**	**-0.2**
	baz=108,SNR=6.4							
D16A				⇓P		**PKKPab**	**18 15 12.8**	**-0.2**
	baz=108,SNR=6.4							
EDW2	**Edwards Air Fo**	**108.40**	**52**	⇓P		**PKiKP**	**18 03 49.2**	**+1.2**
	baz=108							
I14A	**Mackay**	**108.41**	**41**	⇑P		**PKKPab**	**18 15 12.9**	**+0.4**
	baz=108,SNR=8.2							
A18A	**Metzger Ranch,**	**108.41**	**35**	⇓P		**PKKPab**	**18 15 11.4**	**-0.9**
	baz=108							
MPMC	**Manual Prospec**	**108.41**	**50**	⇓P		**PKiKP**	**18 03 49.2**	**+1.1**
	baz=108							
E16A	**East Helena**	**108.42**	**38**	⇓P		**PKiKP**	**18 03 48.5**	**+0.8**
	baz=108							
E16A				⇑P		**PKKPab**	**18 15 12.1**	**-0.2**
	baz=108							
E16A				⇑P		**PKKPab**	**18 15 12.1**	**-0.2**
	baz=108							
E16A				⇑P		**PKKPab**	**18 15 12.1**	**-0.2**
	baz=108							
LRMC	**Laurel Mountai**	**108.44**	**51**	⇑P		**PKiKP**	**18 03 49.1**	**+1.0**
	baz=108							
C17A	**Wharram Farm,**	**108.47**	**37**	⇑P		**PKiKP**	**18 03 49.1**	**+1.4**
	baz=108							
C17A				⇑P		**PKKPab**	**18 15 11.8**	**-0.3**
	baz=108							
C17A				⇑P		**PKKPab**	**18 15 11.8**	**-0.3**
	baz=108							
C17A				⇑P		**PKKPab**	**18 15 11.8**	**-0.3**
	baz=108							
ORIF	**Oris-en-Rattie**	**108.49**	**320**	*e*P		**Pdif**	**17 59 42.4**	**+0.2**
	comp=Z,41nm,1.4s							
ORIF	**Oris-en-Rattie**	**108.49**	**320**	*e*P		**Pdif**	**17 59 42.4**	**+0.2**
ORIF				pmax		pmax		
	comp=Z,41nm,1.4s							
ORIF	**Oris-en-Rattie**	**108.49**	**320**	*e*P		**Pdif**	**17 59 42.4**	**+0.2**
	comp=Z,41nm,1.4s							
G15A	**Dillon**	**108.51**	**40**	⇑P		**PKKPab**	**18 15 11.8**	**-0.2**
	baz=108							
CIS	**Catalina Islan**	**108.52**	**53**	⇑P		**PKiKP**	**18 03 49.0**	**+0.9**
	baz=108							
J14A	**Carey**	**108.61**	**42**	⇑P		**PKiKP**	**18 03 48.6**	**+0.4**
	baz=108							
J14A				⇑P		**PKKPab**	**18 15 12.3**	**+0.8**
	baz=108							
J14A				⇑P		**PKKPab**	**18 15 12.3**	**+0.8**
	baz=108							
J14A				⇑P		**PKKPab**	**18 15 12.3**	**+0.8**
	baz=108							
H15A	**Lima**	**108.64**	**40**	⇑P		**PKiKP**	**18 03 49.1**	**+0.8**
	baz=109							
H15A				⇓P		**PKKPab**	**18 15 11.2**	**-0.3**
	baz=109,SNR=6.3							
H15A				⇓P		**PKKPab**	**18 15 11.2**	**-0.3**
	baz=109,SNR=6.3							
H15A				⇓P		**PKKPab**	**18 15 11.2**	**-0.3**
	baz=109,SNR=6.3							
B18A	**Beardsley Farm**	**108.70**	**36**	⇑P		**PKiKP**	**18 03 49.3**	**+1.2**
	baz=109							
B18A				⇑P		**PKKPab**	**18 15 10.1**	**-0.9**
	baz=109							
B18A				⇑P		**PKKPab**	**18 15 10.1**	**-0.9**
	baz=109							
B18A				⇑P		**PKKPab**	**18 15 10.1**	**-0.9**
	baz=109							
LOR	**Lormes**	**108.71**	**323**	*e*P		**Pdif**	**17 59 44.0**	**+1.0**
LOR	**Lormes**	**108.71**	**323**	*e*P		**Pdif**	**17 59 44.0**	**+1.0**
D17A	**Six Diamond Ra**	**108.74**	**37**	⇓P		**PKiKP**	**18 03 49.0**	**+0.7**
	baz=109		

baz=109
EGMT ⇓P PKKPab 18 15 09.8 -0.4
baz=109
EGMT ⇓P PKKPab 18 15 09.8 -0.4
baz=109
EGMT ⇓P PKKPab 18 15 09.8 -0.4
baz=109
G16A Moss Hill, Enn 108.92 40 ⇑P **PKiKP 18 03 50.3 +1.6**
baz=109
G16A ⇓P **PKKPab 18 15 09.7 -0.5**
baz=109
G16A ⇓P **PKKPab 18 15 09.7 -0.5**
baz=109
G16A ⇓P **PKKPab 18 15 09.7 -0.5**
baz=109
E17A Martinsdale 108.96 38 ⇑P **PKiKP 18 03 50.5 +1.7**
baz=109
E17A ⇓P **PKKPab 18 15 09.7 -0.4**
baz=109
E17A ⇓P **PKKPab 18 15 09.7 -0.4**
baz=109
E17A ⇓P **PKKPab 18 15 09.7 -0.4**
baz=109
I15A Monteview 109.01 41 ⇓P **PKKPab 18 15 09.9 +0.2**
baz=109
A19A Klindworth Far 109.04 35 ⇓P **PKKPab 18 15 08.5 -1.1**
baz=109
R11A Troy Canyon, C 109.06 47 ⇑P **PKiKP 18 03 51.0 +1.8**
baz=109
R11A ⇑P **PKKPab 18 15 10.6 +1.1**
baz=109
R11A ⇑P **PKKPab 18 15 10.6 +1.1**
baz=109
R11A ⇑P **PKKPab 18 15 10.6 +1.1**
baz=109
B19A Brinkman Farms 109.16 36 ⇓P **PKiKP 18 03 51.1 +2.2**
baz=109
K14A Jones Ranch, D 109.16 43 ⇑P **PKKPab 18 15 08.8 -0.3**
baz=109,SNR=9.6
TSUM Tsumeb 109.16 251 PFAKE 18 04 00.0
TSUM LR LR
comp=Z,3μm,20.0s
GSC Goldstone 109.18 51 ⇑P **PKiKP 18 03 51.0 +1.6**
baz=109
D18A Linhart Farms, 109.26 37 ⇓P **PKiKP 18 03 50.8 +1.6**
baz=109
D18A ⇑P **PKKPab 18 15 07.7 -0.8**
baz=109
D18A ⇑P **PKKPab 18 15 07.7 -0.8**
baz=109
D18A ⇑P **PKKPab 18 15 07.7 -0.8**
baz=109
J15A Blackfoot 109.30 41 ⇓P **PKiKP 18 03 51.5 +2.1**
baz=109
J15A ⇑P **PKKPab 18 15 08.4 -0.1**
baz=109,SNR=6.8
J15A ⇑P **PKKPab 18 15 08.4 -0.1**
baz=109,SNR=6.8
J15A ⇑P **PKKPab 18 15 08.4 -0.1**
baz=109,SNR=6.8
L14A Malta 109.32 43 ⇑P **PKKPab 18 15 08.0 -0.4**
baz=109
FFC Flin Flon 109.32 27 P **Pdif 17 59 45.5 0.0**
FFC MLR MLR
comp=Z,2μm,22.0s
FFC Flin Flon 109.32 27 Pdif **Pdif 17 59 45.5 0.0**
FFC LR LR
comp=Z,2μm,22.0s
F17A Fitzpatrick Pl 109.33 38 ⇑P **PKiKP 18 03 50.0 +0.5**
baz=109,SNR=8.2
F17A ⇑P **PKKPab 18 15 08.2 -0.1**
baz=109
F17A ⇑P **PKKPab 18 15 08.2 -0.1**
baz=109
F17A ⇑P **PKKPab 18 15 08.2 -0.1**
baz=109
SHOC Shoshone 109.39 50 ⇓P **PKiKP 18 03 51.3 +1.6**
baz=109
SHOC ⇓P **PKKPab 18 15 09.2 +1.4**
baz=109
SHOC ⇓P **PKKPab 18 15 09.2 +1.4**
baz=109
SHOC ⇓P **PKKPab 18 15 09.2 +1.4**
baz=109
C19A Slack Wire Ran 109.45 36 ⇓P **PKiKP 18 03 51.5 +2.0**
baz=109
C19A ⇓P **PKKPab 18 15 07.4 -0.3**
baz=109,SNR=7.2
C19A ⇓P **PKKPab 18 15 07.4 -0.3**
baz=109,SNR=7.2
C19A ⇓P **PKKPab 18 15 07.4 -0.3**
baz=109,SNR=7.2
SFJD Kangerlussuaq 109.45 359 PFAKE 18 04 00.0
SFJD LR LR
comp=Z,2μm,19.0s
E18A Harlowton 109.49 38 ⇓P **PKiKP 18 03 51.2 +1.5**
baz=109
E18A ⇓P **PKKPab 18 15 07.0 -0.6**
baz=109
E18A ⇓P **PKKPab 18 15 07.0 -0.6**
baz=109
E18A ⇓P **PKKPab 18 15 07.0 -0.6**
baz=109
H16A Russell Place, 109.50 40 ⇑P **PKKPab 18 15 07.0 -0.6**
baz=109
A20A Cobblestone Ra 109.53 35 ⇓P **PKiKP 18 03 51.3 +1.7**
baz=109
A20A ⇓P **PKKPab 18 15 05.6 -1.7**
baz=109
A20A ⇓P **PKKPab 18 15 05.6 -1.7**
baz=109
A20A ⇓P **PKKPab 18 15 05.6 -1.7**
baz=109
K15A Arbon 109.53 42 ⇓P **PKiKP 18 03 51.1 +1.2**
baz=110
K15A ⇓P **PKKPab 18 15 06.9 -0.5**
baz=110,SNR=5.3
K15A ⇓P **PKKPab 18 15 06.9 -0.5**
baz=110,SNR=5.3
K15A ⇓P **PKKPab 18 15 06.9 -0.5**
baz=110,SNR=5.3
G17A Pierce Place, 109.55 39 ⇓P **PKKPab 18 15 07.0 -0.3**
baz=110
KEST Kesra 109.55 310 PP PP 18 04 21.3 +0.5
KEST PKKPbc **PKKPbc 18 14 55.1 -0.5**
KEST PKKP **PKKPdf 18 15 09.5 -1.8**
KEST Kesra 109.55 310 PP PP 18 04 21.3 +0.5
comp=Z,4.0nm,0.9s,baz=316,slow=4.6,SNR=7.0
KEST PKKPbc **PKKPbc 18 14 55.1 -0.5**
comp=Z,1.4nm,0.8s,baz=154,slow=6.2,SNR=4.2
KEST PKKP **PKKPdf 18 15 09.5 -1.8**
comp=Z,2.8nm,0.9s,baz=203,slow=4.1,SNR=4.8
B20A Solberg Farm, 109.70 35 ⇑P **PKiKP 18 03 51.5 +1.5**
baz=110
HEC Hector,Ludlow 109.71 51 ⇓P **PKKPab 18 15 07.5 +1.0**
baz=110
I16A Newdale 109.71 41 ⇑P **PKiKP 18 03 51.7 +1.4**
baz=110
I16A ⇑P **PKKPab 18 15 06.9 +0.3**
baz=110,SNR=6.4
I16A ⇑P **PKKPab 18 15 06.9 +0.3**
baz=110,SNR=6.4
I16A ⇑P **PKKPab 18 15 06.9 +0.3**
baz=110,SNR=6.4
HVU Hansel Valley 109.74 43 *e*PKiKP **PKiKP 18 03 52.3 +1.9**
TUQ Turquoise Moun 109.82 50 ⇑P **PKKPab 18 15 07.1 +1.0**
baz=110
D19A Cripps Ranch, 109.82 37 ⇓P **PKiKP 18 03 51.6 +1.4**
baz=110
D19A ⇑P **PKKPab 18 15 05.9 -0.1**
baz=110,SNR=13
D19A ⇑P **PKKPab 18 15 05.9 -0.1**
baz=110,SNR=13
D19A ⇑P **PKKPab 18 15 05.9 -0.1**
baz=110,SNR=13
J16A Bone 109.89 41 ⇑P **PKiKP 18 03 51.9 +1.2**
baz=110
J16A ⇓P **PKKPab 18 15 05.3 -0.6**
baz=110,SNR=6.3
J16A ⇓P **PKKPab 18 15 05.3 -0.6**
baz=110,SNR=6.3
J16A ⇓P **PKKPab 18 15 05.3 -0.6**
baz=110,SNR=6.3
L15A Malad City 109.91 43 ⇓P **PKiKP 18 03 51.3 +0.6**
baz=110
L15A ⇑P **PKKPab 18 15 05.3 -0.4**
baz=110,SNR=5.0
L15A ⇑P **PKKPab 18 15 05.3 -0.4**
baz=110,SNR=5.0
F18A Big Timber 109.92 38 ⇑P **PKiKP 18 03 51.1 +0.5**
baz=110,SNR=7.7
F18A ⇓P **PKKPab 18 15 05.3 -0.4**
baz=110,SNR=7.0
F18A ⇓P **PKKPab 18 15 05.3 -0.4**
baz=110,SNR=7.0
F18A ⇓P **PKKPab 18 15 05.3 -0.4**
baz=110,SNR=7.0
GCMT Greycliff 110.00 38 *e*PKiKP **PKiKP 18 03 51.4 +0.7**
PFO Pinyon Flat Ob 110.01 52 *e*PKiKP **PKiKP 18 03 52.7 +1.6**
PFO LR LR
comp=Z,3μm,21.0s
PFO Pinyon Flat Ob 110.01 52 ⇓P **PKiKP 18 03 51.9 +0.8**
baz=110
A21A Bergtoll Ranch 110.04 34 ⇓P **PKiKP 18 03 51.5 +0.9**
baz=110
C20A Veseth Ranch, 110.07 36 ⇑P **PKiKP 18 03 52.2 +1.5**
baz=110
C20A ⇓P **PKKPab 18 15 03.9 -1.0**
baz=110
C20A ⇓P **PKKPab 18 15 03.9 -1.0**
baz=110
C20A ⇓P **PKKPab 18 15 03.9 -1.0**
baz=110
H17A Grant Village 110.07 40 ⇓P **PKKPab 18 15 05.3 +0.2**
baz=110
M15A Larsen Ranch, 110.09 43 ⇑P **PKKPab 18 15 04.6 -0.3**
baz=110
K16A Soda Springs 110.10 42 ⇑P **PKiKP 18 03 52.4 +1.3**
baz=110
K16A ⇑P **PKKPab 18 15 04.7 -0.3**
baz=110,SNR=11
K16A ⇑P **PKKPab 18 15 04.7 -0.3**
baz=110,SNR=11
K16A ⇑P **PKKPab 18 15 04.7 -0.3**
baz=110,SNR=11
LKWY Lake 110.11 40 PFAKE 18 04 00.0
LKWY LR LR
comp=Z,3μm,20.0s
E19A Rath Farm, Rou 110.22 37 ⇓P **PKiKP 18 03 52.2 +1.2**
baz=110
E19A ⇑P **PKKPab 18 15 03.4 -0.8**
baz=110,SNR=8.0
E19A ⇑P **PKKPab 18 15 03.4 -0.8**
baz=110,SNR=8.0
E19A ⇑P **PKKPab 18 15 03.4 -0.8**
baz=110,SNR=8.0
BELC Belle Mtn. Jos 110.24 52 ⇑P **PKiKP 18 03 52.5 +1.0**
baz=110
BELC ⇓P **PKKPab 18 15 05.0 +0.8**
baz=110
BELC ⇓P **PKKPab 18 15 05.0 +0.8**
baz=110
BELC ⇓P **PKKPab 18 15 05.0 +0.8**
baz=110
GMRC Granite Mounta 110.24 51 ⇑P **PKiKP 18 03 53.5 +2.0**
baz=110
GMRC ⇑P **PKKPab 18 15 05.3 +1.1**
baz=110
GMRC ⇑P **PKKPab 18 15 05.3 +1.1**
baz=110
GMRC ⇑P **PKKPab 18 15 05.3 +1.1**
baz=110
MONP Monument Peak 110.26 53 ⇓P **PKiKP 18 03 53.2 +1.5**
baz=110
B21A Ellsworth Farm 110.28 35 ⇑P **PKiKP 18 03 52.5 +1.4**
baz=110
N15A Stansbury Isla 110.28 44 ⇑P **PKiKP 18 03 53.1 +1.8**
baz=110
N15A ⇑P **PKKPab 18 15 04.6 +0.6**
baz=110
N15A ⇑P **PKKPab 18 15 04.6 +0.6**
baz=110
N15A ⇑P **PKKPab 18 15 04.6 +0.6**
baz=110
I17A Pilgrim Ck. 110.28 40 ⇓P **PKKPab 18 15 04.5 +0.3**
baz=110,SNR=13
G18A Lazy EL Ranch, 110.29 39 ⇑P **PKKPab 18 15 02.6 -1.5**
baz=110,SNR=5.1
D20A Manuel Ranch, 110.30 37 ⇑P **PKKPab 18 15 03.5 -0.3**
baz=110,SNR=9.8
R13A O'Grain Ranch, 110.31 47 ⇑P **PKKPab 18 15 05.1 +1.1**
baz=110
REDW Red Top Meadow 110.35 41 *e*PKiKP **PKiKP 18 03 52.5 +0.9**
DUG Dugway 110.36 45 *e*PKiKP **PKiKP 18 03 53.8 +2.2**
DUG MLR MLR
comp=Z,2μm,21.0s
DUG Dugway 110.36 45 *e*PKiKP **PKiKP 18 03 53.8 +2.2**
DUG LR LR
comp=Z,2μm,21.0s
DUG Dugway 110.36 45 ⇓P **PKiKP 18 03 53.2 +1.6**
baz=110
DUG ⇓P **PKKPab 18 15 04.6 +0.8**
baz=110
DUG ⇓P **PKKPab 18 15 04.6 +0.8**
baz=110
DUG ⇓P **PKKPab 18 15 04.6 +0.8**
baz=110
SNOW Snow King Moun 110.37 41 *e*PKiKP **PKiKP 18 03 53.8 +2.1**
LOHW Long Hollow 110.40 41 *e*PKiKP **PKiKP 18 03 53.5 +1.9**
F19A Roth Farm, Mol 110.42 38 ⇑P **PKiKP 18 03 53.5 +2.0**
baz=110
F19A ⇓P **PKKPab 18 15 03.4 0.0**
baz=110,SNR=9.7
F19A ⇓P **PKKPab 18 15 03.4 0.0**
baz=110,SNR=9.7
F19A ⇓P **PKKPab 18 15 03.4 0.0**
baz=110,SNR=9.7
J17A Brown Place, J 110.44 41 ⇑P **PKKPab 18 15 03.6 +0.1**
baz=110,SNR=7.8
H18A Shoshone NF, C 110.52 39 ⇑P **PKiKP 18 03 53.5 +1.6**
baz=110
H18A ⇓P **PKKPab 18 15 02.8 -0.4**
baz=110
H18A ⇓P **PKKPab 18 15 02.8 -0.4**
baz=110
H18A ⇓P **PKKPab 18 15 02.8 -0.4**
baz=110
C21A Desert Coulee 110.54 35 ⇓P **PKiKP 18 03 52.7 +1.2**
baz=110
C21A ⇑P **PKKPab 18 15 02.0 -0.8**
baz=110
C21A ⇑P **PKKPab 18 15 02.0 -0.8**
baz=110
C21A ⇑P **PKKPab 18 15 02.0 -0.8**
baz=110
L16A Fish Haven 110.55 42 ⇓P **PKiKP 18 03 53.3 +1.3**
baz=110
L16A ⇓P **PKKPab 18 15 02.2 -0.8**
baz=110,SNR=6.8
L16A ⇓P **PKKPab 18 15 02.2 -0.8**
baz=110,SNR=6.8
L16A ⇓P **PKKPab 18 15 02.2 -0.8**
baz=110,SNR=6.8
O15A The Old Anders 110.56 44 ⇑P **PKiKP 18 03 53.2 +1.2**
baz=110
O15A ⇑P **PKKPab 18 15 02.5 -0.4**
baz=110
O15A ⇑P **PKKPab 18 15 02.5 -0.4**
baz=110
O15A ⇑P **PKKPab 18 15 02.5 -0.4**
baz=110
RLMT Red Lodge 110.56 39 PFAKE 18 04 00.0
RLMT LR LR
comp=Z,2μm,21.0s
RLMT Red Lodge 110.56 39 ⇓P **PKiKP 18 03 52.8 +0.9**
baz=110
RLMT ⇓P **PKKPab 18 15 02.6 -0.3**
baz=110,SNR=8.9
RLMT ⇓P **PKKPab 18 15 02.6 -0.3**
baz=110,SNR=8.9
RLMT ⇓P **PKKPab 18 15 02.6 -0.3**
baz=110,SNR=8.9
RLMT ⇓P **PKKPab 18 15 02.6 -0.3**
baz=110,SNR=8.9
RLMT ⇓P **PKKPab 18 15 02.6 -0.3**
baz=110,SNR=8.9
K17A Gardner Place, 110.58 42 ⇓P **PKKPab 18 15 02.3 -0.5**
baz=110,SNR=6.1
E20A Meyer Farm, Mu 110.60 37 ⇓P **PKKPab 18 15 02.5 -0.1**
baz=110,SNR=12
A22A Carney Farms, 110.60 34 ⇑P **PKiKP 18 03 53.3 +1.7**
baz=110
HWUT Hardware Ranch 110.64 43 PFAKE 18 04 00.0
HWUT LR LR
comp=Z,2μm,22.0s
M16A Huntsville 110.72 43 ⇑P **PKKPab 18 15 02.2 0.0**
baz=111
SWSC Sam W. Stewart 110.75 53 ⇓P **PKiKP 18 03 54.3 +2.0**
baz=111
BC3 Big Chuckawall 110.78 52 ⇑P **PKiKP 18 03 54.4 +1.9**
baz=111
IRM Iron Mountain 110.85 51 ⇓P **PKiKP 18 03 54.4 +1.9**
baz=111
IRM ⇓P **PKKPab 18 15 02.8 +1.4**
baz=111
IRM ⇓P **PKKPab 18 15 02.8 +1.4**
baz=111
IRM ⇓P **PKKPab 18 15 02.8 +1.4**
baz=111
I18A Diamond G Ranc 110.87 40 ⇑P **PKiKP 18 03 54.2 +1.7**
baz=111
I18A ⇓P **PKKPab 18 15 01.3 -0.3**
baz=111
I18A ⇓P **PKKPab 18 15 01.3 -0.3**
baz=111
I18A ⇓P **PKKPab 18 15 01.3 -0.3**
baz=111
L17A Cokeville 110.89 42 ⇓P **PKKPab 18 15 00.9 -0.6**
baz=111,SNR=6.4
B22A Reddig Ranch S 110.92 35 ⇑P **PKKPab 18 15 00.2 -0.9**
baz=111
F20A Billings 110.93 38 ⇓P **PKiKP 18 03 54.0 +1.5**
baz=111
F20A ⇑P **PKKPab 18 15 00.2 -0.9**
baz=111
F20A ⇑P **PKKPab 18 15 00.2 -0.9**
baz=111
F20A ⇑P **PKKPab 18 15 00.2 -0.9**
baz=111
H19A Powell 110.95 39 ⇓P **PKiKP 18 03 54.1 +1.6**
baz=111
H19A ⇓P **PKKPab 18 15 01.0 -0.1**
baz=111
H19A ⇓P **PKKPab 18 15 01.0 -0.1**
baz=111
H19A ⇓P **PKKPab 18 15 01.0 -0.1**
baz=111
J18A Kendall Valley 110.96 41 ⇓P **PKiKP 18 03 54.2 +1.4**
baz=111
J18A ⇓P **PKKPab 18 15 01.0 -0.1**
baz=111
J18A ⇓P **PKKPab 18 15 01.0 -0.1**
baz=111
J18A ⇓P **PKKPab 18 15 01.0 -0.1**
baz=111
P15A Leamington 110.98 45 ⇑P **PKKPab 18 15 01.7 +0.7**
baz=111,SNR=8.4
N16A Rees Ranch, Co 111.03 44 ⇓P **PKKPab 18 15 00.9 0.0**
baz=111,SNR=6.3
G20A Bridger 111.17 38 ⇑P **PKiKP 18 03 53.9 +1.0**
baz=111,SNR=8.9
A23A Redstone 111.19 34 ⇑P **PKiKP 18 03 54.6 +1.8**
baz=111
E21A Keefer Ranch, 111.21 37 ⇓P **PKiKP 18 03 54.6 +1.7**
baz=111
E21A ⇑P **PKKPab 18 14 59.6 -0.2**
baz=111,SNR=6.1
E21A ⇑P **PKKPab 18 14 59.6 -0.2**
baz=111,SNR=6.1
E21A ⇑P **PKKPab 18 14 59.6 -0.2**
baz=111,SNR=6.1
K18A Toltan Ranch, 111.21 41 ⇓P **PKiKP 18 03 55.3 +2.0**
baz=111
K18A ⇓P **PKKPab 18 15 00.3 +0.2**
baz=111,SNR=15
K18A ⇓P **PKKPab 18 15 00.3 +0.2**
baz=111,SNR=15
K18A ⇓P **PKKPab 18 15 00.3 +0.2**
baz=111,SNR=15
I19A Meeteetse 111.25 40 ⇑P **PKiKP 18 03 54.7 +1.5**
baz=111
I19A ⇑P **PKKPab 18 15 00.1 +0.2**
baz=111
I19A ⇑P **PKKPab 18 15 00.1 +0.2**
baz=111
I19A ⇑P **PKKPab 18 15 00.1 +0.2**
baz=111
C22A Vida 111.28 35 ⇓P **PKiKP 18 03 54.2 +1.3**
baz=111
M17A Scullys Gap (B 111.30 43 ⇑P **PKiKP 18 03 54.4 +1.0**
baz=111
M17A ⇑P **PKKPab 18 14 59.1 -0.5**
baz=111,SNR=8.7
M17A ⇑P **PKKPab 18 14 59.1 -0.5**
baz=111,SNR=8.7
M17A ⇑P **PKKPab 18 14 59.1 -0.5**
baz=111,SNR=8.7
B23A Brockton 111.40 34 ⇓P **PKiKP 18 03 54.7 +1.6**
baz=111
B23A ⇑P **PKKPab 18 14 58.6 -0.4**
baz=111
B23A ⇑P **PKKPab 18 14 58.6 -0.4**
baz=111
B23A ⇑P **PKKPab 18 14 58.6 -0.4**
baz=111
P16A Fountain Green 111.40 45 ⇑P **PKiKP 18 03 55.1 +1.5**
baz=111
P16A ⇑P **PKKPab 18 14 59.0 -0.2**
baz=111
P16A ⇑P **PKKPab 18 14 59.0 -0.2**
baz=111
P16A ⇑P **PKKPab 18 14 59.0 -0.2**
baz=111
N17A Moffit Pass 111.42 43 ⇓P **PKiKP 18 03 55.0 +1.3**
baz=111
N17A ⇑P **PKKPab 18 14 58.7 -0.5**
baz=111,SNR=9.3
N17A ⇑P **PKKPab 18 14 58.7 -0.5**
baz=111,SNR=9.3
N17A ⇑P **PKKPab 18 14 58.7 -0.5**
baz=111,SNR=9.3
D22A Cohagen 111.42 36 ⇑P **PKiKP 18 03 55.1 +1.9**
baz=111
D22A ⇓P **PKKPab 18 14 58.9 0.0**
baz=111
D22A ⇓P **PKKPab 18 14 58.9 0.0**
baz=111
D22A ⇓P **PKKPab 18 14 58.9 0.0**
baz=111
BW06 Boulder Array 111.47 41 PFAKE 18 04 10.0
BW06 LR LR
comp=Z,4μm,22.0s
BW06 Boulder Array 111.47 41 ⇓P **PKiKP 18 03 55.4 +1.6**
baz=111
BW06 ⇑P **PKKPab 18 14 58.3 -0.7**
baz=111,SNR=7.1
BW06 ⇑P **PKKPab 18 14 58.3 -0.7**
baz=111,SNR=7.1
BW06 ⇑P **PKKPab 18 14 58.3 -0.7**
baz=111,SNR=7.1
BW06 ⇑P **PKKPab 18 14 58.3 -0.7**
baz=111,SNR=7.1
BW06 ⇑P **PKKPab 18 14 58.3 -0.7**
baz=111,SNR=7.1
BW06 ⇑P **PKKPab 18 14 58.3 -0.7**
baz=111,SNR=7.1
PDAR Pinedale Array 111.47 41 Pdif **Pdif 18 00 00.1 +4.4**
PDAR PKiKP **PKiKP 18 03 54.8 +1.0**
PDAR PKKPbc **PKKPbc 18 14 48.2 -1.5**
PDAR PKKPab **PKKPab 18 14 58.5 -0.4**
PDAR Pinedale Array 111.47 41 Pdiff **Pdif 18 00 00.1 +4.4**
comp=Z,1.1nm,1.1s,baz=270,slow=4.4,SNR=4.2
PDAR PKiKP **PKiKP 18 03 54.8 +1.0**
comp=Z,2.5nm,0.9s,baz=241,slow=1.5,SNR=8.9
PDAR PKKPbc **PKKPbc 18 14 48.2 -1.5**
comp=Z,6.3nm,0.9s,baz=122,slow=4.8,SNR=19
PDAR PKKPab **PKKPab 18 14 58.5 -0.4**
comp=Z,17nm,0.8s,baz=123,slow=6.3,SNR=30
W13A Hualapai Mount 111.50 50 ⇑P **PKiKP 18 03 55.4 +1.4**
baz=112
W13A ⇓P **PKKPab 18 14 59.9 +1.1**
baz=112
W13A ⇓P **PKKPab 18 14 59.9 +1.1**
baz=112
W13A ⇓P **PKKPab 18 14 59.9 +1.1**
baz=112
R15A Junction 111.53 46 ⇓P **PKKPab 18 14 59.9 +1.3**
baz=112,SNR=6.7
L18A Fontenelle, Gr 111.53 42 ⇓P **PKiKP 18 03 55.5 +1.7**
baz=112

L18A				⇑P	PKKPab	18 14 58.6	0.0
	baz=112,SNR=7.9								
L18A				⇑P	PKKPab	18 14 58.6	0.0
	baz=112,SNR=7.9								
L18A				⇑P	PKKPab	18 14 58.6	0.0
	baz=112,SNR=7.9								
J19A	**Crowheart**	**111.57**	**40**	⇓P	**PKiKP**	18 03 55.2	+1.4
	baz=112								
J19A				⇑P	PKKPab	18 14 57.7	-0.7
	baz=112,SNR=7.0								
J19A				⇑P	PKKPab	18 14 57.7	-0.7
	baz=112,SNR=7.0								
J19A				⇑P	PKKPab	18 14 57.7	-0.7
	baz=112,SNR=7.0								
PDMCI	**Parker Dam,Lak**	**111.59**	**51**	⇑P	PKKPab	18 14 58.8	+0.7
	baz=112								
C23A	**Lambert**	**111.65**	**35**	⇓P	**PKiKP**	18 03 55.2	+1.5
	baz=112								
C23A				⇑P	PKKPab	18 14 57.6	-0.2
	baz=112								
C23A				⇑P	PKKPab	18 14 57.6	-0.2
	baz=112								
C23A				⇑P	PKKPab	18 14 57.6	-0.2
	baz=112								
H20A	**Greybull**	**111.66**	**39**	⇑P	**PKiKP**	18 03 54.7	+0.9
	baz=112,SNR=6.0								
H20A				⇑P	PKKPab	18 14 57.6	-0.3
	baz=112								
H20A				⇑P	PKKPab	18 14 57.6	-0.3
	baz=112								
H20A				⇑P	PKKPab	18 14 57.6	-0.3
	baz=112								
A24A	**Westby**	**111.70**	**33**	⇑P	**PKiKP**	18 03 55.0	+1.3
	baz=112								
M18A	**Lyman**	**111.73**	**43**	⇓P	**PKiKP**	18 03 55.2	+1.0
	baz=112								
M18A				⇓P	PKKPab	18 14 57.8	+0.1
	baz=112,SNR=6.6								
M18A				⇓P	PKKPab	18 14 57.8	+0.1
	baz=112,SNR=6.6								
M18A				⇓P	PKKPab	18 14 57.8	+0.1
	baz=112,SNR=6.6								
G21A	**Lodge Grass**	**111.79**	**38**	⇑P	**PKiKP**	18 03 55.3	+1.3
	baz=112								
G21A				⇑P	PKKPab	18 14 56.9	-0.4
	baz=112								
G21A				⇑P	PKKPab	18 14 56.9	-0.4
	baz=112								
G21A				⇑P	PKKPab	18 14 56.9	-0.4
	baz=112								
O17A	**Robinson Place**	**111.80**	**44**	⇓P	**PKiKP**	18 03 55.9	+1.5
	baz=112								
O17A				⇓P	PKKPab	18 14 57.9	+0.5
	baz=112,SNR=5.3								
O17A				⇓P	PKKPab	18 14 57.9	+0.5
	baz=112,SNR=5.3								
O17A				⇓P	PKKPab	18 14 57.9	+0.5
	baz=112,SNR=5.3								
I20A	**Worland**	**111.84**	**39**	⇓P	**PKiKP**	18 03 54.8	+0.6
	baz=112,SNR=6.6								
I20A				⇓P	PKKPab	18 14 56.6	-0.5
	baz=112								
I20A				⇓P	PKKPab	18 14 56.6	-0.5
	baz=112								
I20A				⇓P	PKKPab	18 14 56.6	-0.5
	baz=112								
DGMT	**Dagmar**	**111.84**	**34**	PFAKE		18 04 10.0			
DGMT				LR	LR				
	comp=Z,1μm,21.0s								
L19A	**Farson**	**111.90**	**42**	⇑P	**PKKPab**	18 14 56.7	-0.3
	baz=112								
K19A	**Absolon Red Bu**	**111.91**	**41**	⇓P	**PKiKP**	18 03 55.1	+0.6
	baz=112,SNR=12								
K19A				⇑P	PKKPab	18 14 56.3	-0.7
	baz=112								
K19A				⇑P	PKKPab	18 14 56.3	-0.7
	baz=112								
K19A				⇑P	PKKPab	18 14 56.3	-0.7
	baz=112								
E22A	**Miles City**	**111.93**	**36**	⇓P	**PKKPab**	18 14 55.7	-0.9
	baz=112								
D23A	**Lindsay**	**111.97**	**35**	⇑P	**PKiKP**	18 03 55.9	+1.6
	baz=112								
D23A				⇓P	PKKPab	18 14 55.3	-1.2
	baz=112								
D23A				⇓P	PKKPab	18 14 55.3	-1.2
	baz=112								
D23A				⇓P	PKKPab	18 14 55.3	-1.2
	baz=112								
Q16A	**Castle Valley**	**112.03**	**45**	⇓P	**PKKPab**	18 14 56.6	+0.2
	baz=112								
R16A	**Teasdale**	**112.07**	**46**	⇓P	**PKKPab**	18 14 56.9	+0.6
	baz=112,SNR=7.0								
F22A	**Rosebud**	**112.09**	**37**	⇓P	**PKKPab**	18 14 55.3	-0.7
	baz=112,SNR=7.5								
P17A	**Butcher Ranch,**	**112.11**	**45**	⇑P	**PKiKP**	18 03 55.9	+0.9
	baz=112								
P17A				⇓P	PKKPab	18 14 56.2	+0.2
	baz=112,SNR=9.8								
P17A				⇓P	PKKPab	18 14 56.2	+0.2
	baz=112,SNR=9.8								
P17A				⇓P	PKKPab	18 14 56.2	+0.2
	baz=112,SNR=9.8								
J20A	**Shoshoni**	**112.15**	**40**	⇑P	**PKiKP**	18 03 55.4	+0.5
	baz=112,SNR=8.3								
J20A				⇓P	PKKPab	18 14 56.2	+0.4
	baz=112,SNR=5.9								
J20A				⇓P	PKKPab	18 14 56.2	+0.4
	baz=112,SNR=5.9								
J20A				⇓P	PKKPab	18 14 56.2	+0.4
	baz=112,SNR=5.9								
H21A	**Big Horn, Sher**	**112.19**	**38**	⇑P	**PKiKP**	18 03 55.6	+0.7
	baz=112								
N18A	**Larsen Ranch,**	**112.19**	**43**	⇓P	**PKKPab**	18 14 55.6	0.0
	baz=112,SNR=6.5								
U15A	**North Rim**	**112.21**	**48**	⇑P	**PKiKP**	18 03 56.8	+1.4
	baz=112								
U15A				⇑P	PKKPab	18 14 57.1	+1.4
	baz=112								
U15A				⇑P	PKKPab	18 14 57.1	+1.4
	baz=112								
U15A				⇑P	PKKPab	18 14 57.1	+1.4
	baz=112								
S16A	**Weppner Ranch,**	**112.21**	**47**	⇑P	**PKiKP**	18 03 56.3	+1.1
	baz=112								
S16A				⇓P	PKKPab	18 14 56.3	+0.7
	baz=112,SNR=6.1								
S16A				⇓P	PKKPab	18 14 56.3	+0.7
	baz=112,SNR=6.1								
S16A				⇓P	PKKPab	18 14 56.3	+0.7
	baz=112,SNR=6.1								
C24A	**Savage**	**112.23**	**35**	⇑P	**PKiKP**	18 03 55.9	+1.1
	baz=112								
E23A	**Ismay**	**112.28**	**36**	⇓P	**PKiKP**	18 03 56.6	+1.7
	baz=112								
O18A	**Roosevelt**	**112.28**	**44**	⇑P	**PKiKP**	18 03 56.7	+1.4
	baz=112								
O18A				⇓P	PKKPab	18 14 55.6	+0.3
	baz=112,SNR=7.7								
O18A				⇓P	PKKPab	18 14 55.6	+0.3
	baz=112,SNR=7.7								
O18A				⇓P	PKKPab	18 14 55.6	+0.3
	baz=112,SNR=7.7								
M19A	**Rock Springs**	**112.31**	**42**	⇑P	**PKiKP**	18 03 56.3	+1.0
	baz=112								
M19A				⇑P	PKKPab	18 14 55.2	0.0
	baz=112								
M19A				⇑P	PKKPab	18 14 55.2	0.0
	baz=112								
M19A				⇑P	PKKPab	18 14 55.2	0.0
	baz=112								
K20A	**Yellowstone Ra**	**112.31**	**41**	⇑P	**PKiKP**	18 03 56.3	+1.1
	baz=112								
K20A				⇓P	PKKPab	18 14 54.3	-0.8
	baz=112,SNR=8.4								
K20A				⇓P	PKKPab	18 14 54.3	-0.8
	baz=112,SNR=8.4								
K20A				⇓P	PKKPab	18 14 54.3	-0.8
	baz=112,SNR=8.4								
G22A	**Birney**	**112.35**	**38**	⇓P	**PKiKP**	18 03 56.6	+1.5
	baz=112								
G22A				⇑P	PKKPab	18 14 54.3	-0.5
	baz=112								
G22A				⇑P	PKKPab	18 14 54.3	-0.5
	baz=112								
G22A				⇑P	PKKPab	18 14 54.3	-0.5
	baz=112								
P18A	**Preston Nutter**	**112.39**	**44**	⇑P	**PKKPab**	18 14 55.6	+0.6
	baz=112,SNR=5.5								
113A	**Mohawk Valley,**	**112.41**	**52**	⇓P	**PKiKP**	18 03 56.7	+1.3
	baz=112								
113A				⇑P	PKKPab	18 14 55.1	+0.7
	baz=112								
113A				⇑P	PKKPab	18 14 55.1	+0.7
	baz=112								
113A				⇑P	PKKPab	18 14 55.1	+0.7
	baz=112								
SRU	**San Rafael**	**112.41**	**45**	⇑P	**PKKPab**	18 14 55.1	+0.4
	baz=112,SNR=6.5								
I21A	**Big Trails, Te**	**112.43**	**39**	⇓P	**PKiKP**	18 03 55.8	+0.4
	baz=112,SNR=5.7								
I21A				⇓P	PKKPab	18 14 54.3	-0.2
	baz=112,SNR=7.1								
I21A				⇓P	PKKPab	18 14 54.3	-0.2
	baz=112,SNR=7.1								
I21A				⇓P	PKKPab	18 14 54.3	-0.2
	baz=112,SNR=7.1								
J21A	**Lysite**	**112.56**	**40**	⇓P	**PKiKP**	18 03 57.3	+1.6
	baz=112								
J21A				⇑P	PKKPab	18 14 53.9	-0.1
	baz=112,SNR=8.7								
J21A				⇑P	PKKPab	18 14 53.9	-0.1
	baz=112,SNR=8.7								
J21A				⇑P	PKKPab	18 14 53.9	-0.1
	baz=112,SNR=8.7								
N19A	**John Jarvie Ra**	**112.57**	**43**	⇑P	**PKiKP**	18 03 57.0	+1.2
	baz=112								
N19A				⇓P	PKKPab	18 14 53.3	-0.6
	baz=112,SNR=8.3								
N19A				⇓P	PKKPab	18 14 53.3	-0.6
	baz=112,SNR=8.3								
N19A				⇓P	PKKPab	18 14 53.3	-0.6
	baz=112,SNR=8.3								
R17A	**Hanksville Air**	**112.57**	**46**	⇑P	**PKiKP**	18 03 57.4	+1.6
	baz=112								
R17A				⇑P	PKKPab	18 14 54.5	+0.6
	baz=112								
R17A				⇑P	PKKPab	18 14 54.5	+0.6
	baz=112								
R17A				⇑P	PKKPab	18 14 54.5	+0.6
	baz=112								
Y14A	**Wickenburg**	**112.59**	**51**	⇑P	**PKiKP**	18 03 57.8	+1.9
	baz=113								
Y14A				⇓P	PKKPab	18 14 54.1	+0.4
	baz=113								
Y14A				⇓P	PKKPab	18 14 54.1	+0.4
	baz=113								
Y14A				⇓P	PKKPab	18 14 54.1	+0.4
	baz=113								
L20A	**Wamsutter**	**112.62**	**41**	⇑P	**PKiKP**	18 03 56.3	+0.4
	baz=112,SNR=5.8								
L20A				⇓P	PKKPab	18 14 54.3	+0.5
	baz=112								
L20A				⇓P	PKKPab	18 14 54.3	+0.5
	baz=112								
L20A				⇓P	PKKPab	18 14 54.3	+0.5
	baz=112								
F23A	**Volborg**	**112.63**	**37**	⇑P	**PKiKP**	18 03 57.2	+1.6
	baz=112								
F23A				⇑P	PKKPab	18 14 52.8	-0.8
	baz=112								
F23A				⇑P	PKKPab	18 14 52.8	-0.8
	baz=112								
F23A				⇑P	PKKPab	18 14 52.8	-0.8
	baz=112								
Q18A	**Rafter H Ranch**	**112.69**	**45**	⇓P	**PKiKP**	18 03 57.8	+1.8
	baz=113								
Q18A				⇑P	PKKPab	18 14 53.7	+0.3
	baz=113,SNR=10								
Q18A				⇑P	PKKPab	18 14 53.7	+0.3
	baz=113,SNR=10								
Q18A				⇑P	PKKPab	18 14 53.7	+0.3
	baz=113,SNR=10								
E24A	**Baker**	**112.83**	**36**	⇑P	**PKKPab**	18 14 52.2	-0.5
	baz=113								
S17A	**Black Ridge (B**	**112.83**	**47**	⇑P	**PKiKP**	18 03 58.2	+1.9
	baz=113								
S17A				⇑P	PKKPab	18 14 53.6	+0.8
	baz=113								
S17A				⇑P	PKKPab	18 14 53.6	+0.8
	baz=113								
S17A				⇑P	PKKPab	18 14 53.6	+0.8
	baz=113								
Z14A	**Wintersburg**	**112.85**	**52**	⇑P	**PKiKP**	18 03 57.7	+1.4
	baz=113								
Z14A				⇓P	PKKPab	18 14 53.1	+0.6
	baz=113								
Z14A				⇓P	PKKPab	18 14 53.1	+0.6
	baz=113								
Z14A				⇓P	PKKPab	18 14 53.1	+0.6
	baz=113								
O19A	**Miners Draw (B**	**112.87**	**43**	⇑P	**PKiKP**	18 03 57.8	+1.4
	baz=113								
O19A				⇑P	PKKPab	18 14 52.1	-0.5
	baz=113,SNR=8.1								
O19A				⇑P	PKKPab	18 14 52.1	-0.5
	baz=113,SNR=8.1								
O19A				⇑P	PKKPab	18 14 52.1	-0.5
	baz=113,SNR=8.1								
I22A	**9 Mile Ranch,**	**112.90**	**39**	⇓P	**PKiKP**	18 03 57.6	+1.3
	baz=113								
G23A	**Biddle**	**112.91**	**37**	⇓P	**PKiKP**	18 03 57.6	+1.4
	baz=113								
G23A				⇓P	PKKPab	18 14 52.3	0.0
	baz=113,SNR=8.3								
G23A				⇓P	PKKPab	18 14 52.3	0.0
	baz=113,SNR=8.3								
G23A				⇓P	PKKPab	18 14 52.3	0.0
	baz=113,SNR=8.3								
M20A	**Sweetwater, Wa**	**112.96**	**42**	⇑P	**PKiKP**	18 03 57.7	+1.1
	baz=113								
M20A				⇓P	PKKPab	18 14 51.8	-0.5
	baz=113,SNR=6.1								
M20A				⇓P	PKKPab	18 14 51.8	-0.5
	baz=113,SNR=6.1								
M20A				⇓P	PKKPab	18 14 51.8	-0.5
	baz=113,SNR=6.1								
K21A	**Alcova**	**113.03**	**40**	⇓P	**PKiKP**	18 03 57.0	+0.3
	baz=113,SNR=9.6								
K21A				⇑P	PKKPab	18 14 51.8	-0.2
	baz=113,SNR=7.1								
K21A				⇑P	PKKPab	18 14 51.8	-0.2
	baz=113,SNR=7.1								
K21A				⇑P	PKKPab	18 14 51.8	-0.2
	baz=113,SNR=7.1								
T17A	**Navajo Res., N**	**113.08**	**47**	⇑P	**PKiKP**	18 03 58.7	+1.8
	baz=113								
T17A				⇓P	PKKPab	18 14 52.6	+0.9
	baz=113,SNR=9.9								
T17A				⇓P	PKKPab	18 14 52.6	+0.9
	baz=113,SNR=9.9								
T17A				⇓P	PKKPab	18 14 52.6	+0.9
	baz=113,SNR=9.9								
F24A	**Ekalaka**	**113.13**	**36**	⇑P	**PKKPab**	18 14 50.8	-0.6
	baz=113								
J22A	**Midwest**	**113.14**	**39**	⇑P	**PKiKP**	18 03 57.2	+0.4
	baz=113,SNR=17								
R18A	**Canyonlands Na**	**113.16**	**45**	⇓P	**PKiKP**	18 03 58.5	+1.5
	baz=113								
R18A				⇓P	PKKPab	18 14 52.2	+0.9
	baz=113,SNR=6.6								
R18A				⇓P	PKKPab	18 14 52.2	+0.9
	baz=113,SNR=6.6								
R18A				⇓P	PKKPab	18 14 52.2	+0.9
	baz=113,SNR=6.6								
N20A	**Spence Gulch,**	**113.21**	**42**	⇓P	**PKiKP**	18 03 58.8	+1.7
	baz=113								
N20A				⇑P	PKKPab	18 14 51.0	-0.2
	baz=113,SNR=11								
N20A				⇑P	PKKPab	18 14 51.0	-0.2
	baz=113,SNR=11								
N20A				⇑P	PKKPab	18 14 51.0	-0.2
	baz=113,SNR=11								
WUAZ	**Wupatki**	**113.25**	**49**	PFAKE		18 04 10.0			
WUAZ				LR	LR				
	comp=Z,2μm,20.0s								
WUAZ	**Wupatki**	**113.25**	**49**	⇓P	**PKiKP**	18 03 59.2	+1.9
	baz=113								
WUAZ				⇑P	PKKPab	18 14 52.2	+1.3
	baz=113								
WUAZ				⇑P	PKKPab	18 14 52.2	+1.3
	baz=113								
WUAZ				⇑P	PKKPab	18 14 52.2	+1.3
	baz=113								
P19A	**Cripple Cowboy**	**113.26**	**44**	⇑P	**PKKPab**	18 14 51.4	+0.5
	baz=113,SNR=5.6								
L21A	**Rawlins**	**113.28**	**41**	⇓P	**PKiKP**	18 03 57.6	+0.4
	baz=113,SNR=10								
L21A				⇓P	PKKPab	18 14 50.7	-0.2
	baz=113,SNR=8.7								
L21A				⇓P	PKKPab	18 14 50.7	-0.2
	baz=113,SNR=8.7								
L21A				⇓P	PKKPab	18 14 50.7	-0.2
	baz=113,SNR=8.7								
Q19A	**Hogan Spring (**	**113.36**	**45**	⇑P	**PKiKP**	18 03 58.9	+1.6
	baz=113								
Q19A				⇓P	PKKPab	18 14 52.5	+2.1
	baz=113								
Q19A				⇓P	PKKPab	18 14 52.5	+2.1
	baz=113								
Q19A				⇓P	PKKPab	18 14 52.5	+2.1
	baz=113								
S18A	**Hurst Farm, Bl**	**113.39**	**46**	⇓P	**PKiKP**	18 03 58.7	+1.1
	baz=113								
S18A				⇑P	PKKPab	18 14 50.9	+0.4
	baz=113,SNR=7.5								
S18A				⇑P	PKKPab	18 14 50.9	+0.4
	baz=113,SNR=7.5								
S18A				⇑P	PKKPab	18 14 50.9	+0.4
	baz=113,SNR=7.5								
G24A	**Alzada**	**113.42**	**37**	⇓P	**PKKPab**	18 14 49.9	-0.2
	baz=113								
M21A	**Separation Pea**	**113.45**	**41**	⇑P	**PKiKP**	18 03 58.0	+0.5
	baz=113,SNR=18								
M21A				⇓P	PKKPab	18 14 50.2	0.0
	baz=113,SNR=8.5								
M21A				⇓P	PKKPab	18 14 50.2	0.0
	baz=113,SNR=8.5								
M21A				⇓P	PKKPab	18 14 50.2	0.0
	baz=113,SNR=8.5								
214A	**Organ Pipe Nat**	**113.45**	**53**	⇓P	**PKiKP**	18 03 58.8	+1.3
	baz=113								
K22A	**Casper**	**113.49**	**40**	⇓P	**PKiKP**	18 03 58.6	+1.1
	baz=113								
K22A				⇓P	PKKPab	18 14 49.7	-0.2
	baz=113								
K22A				⇓P	PKKPab	18 14 49.7	-0.2
	baz=113								
K22A				⇓P	PKKPab	18 14 49.7	-0.2
	baz=113								
RWWY	**Rawlins**	**113.51**	**41**	ePKiKP	**PKiKP**	18 03 56.8	-0.9
O20A	**White River Ci**	**113.55**	**43**	⇑P	**PKiKP**	18 03 59.6	+1.9
	baz=114								
O20A				⇑P	PKKPab	18 14 50.5	+0.8
	baz=114								
O20A				⇑P	PKKPab	18 14 50.5	+0.8
	baz=114								
O20A				⇑P	PKKPab	18 14 50.5	+0.8
	baz=114								
X16A	**Lo Mia Camp, P**	**113.62**	**50**	⇓P	**PKiKP**	18 03 59.6	+1.6
	baz=114								
X16A				⇑P	PKKPab	18 14 51.1	+1.8
	baz=114								
X16A				⇑P	PKKPab	18 14 51.1	+1.8
	baz=114								
X16A				⇑P	PKKPab	18 14 51.1	+1.8
	baz=114								
H24A	**Dirks Ranch, A**	**113.65**	**37**	⇓P	**PKiKP**	18 03 58.8	+1.1
	baz=114								
H24A				⇓P	PKKPab	18 14 48.5	-0.6
	baz=114								
H24A				⇓P	PKKPab	18 14 48.5	-0.6
	baz=114								
H24A				⇓P	PKKPab	18 14 48.5	-0.6
	baz=114								
R19A	**Curley Farm, L**	**113.65**	**45**	⇑P	**PKKPab**	18 14 49.2	0.0
	baz=114,SNR=6.9								
T18A	**Mexican Hat**	**113.70**	**47**	⇑P	**PKiKP**	18 03 59.8	+1.8
	baz=114								
T18A				⇓P	PKKPab	18 14 49.5	+0.6
	baz=114,SNR=7.3								
T18A				⇓P	PKKPab	18 14 49.5	+0.6
	baz=114,SNR=7.3								
T18A				⇓P	PKKPab	18 14 49.5	+0.6
	baz=114,SNR=7.3								
P20A	**De Beque**	**113.73**	**44**	⇑P	**PKiKP**	18 03 59.6	+1.5
	baz=114								
P20A				⇓P	PKKPab	18 14 49.5	+0.7
	baz=114,SNR=5.2								
P20A				⇓P	PKKPab	18 14 49.5	+0.7
	baz=114,SNR=5.2								
P20A				⇓P	PKKPab	18 14 49.5	+0.7
	baz=114,SNR=5.2								
N21A	**Black Mountain**	**113.75**	**42**	⇑P	**PKiKP**	18 03 58.8	+0.7
	baz=114,SNR=9.0								
N21A				⇑P	PKKPab	18 14 49.4	+0.6
	baz=114								
N21A				⇑P	PKKPab	18 14 49.4	+0.6
	baz=114								
N21A				⇑P	PKKPab	18 14 49.4	+0.6
	baz=114								
L22A	**Ellis Ranch, M**	**113.85**	**41**	⇑P	**PKiKP**	18 04 00.0	+1.8
	baz=114								
L22A				⇓P	PKKPab	18 14 49.0	+0.7
	baz=114								
L22A				⇓P	PKKPab	18 14 49.0	+0.7
	baz=114								
L22A				⇓P	PKKPab	18 14 49.0	+0.7
	baz=114								
S19A	**Harvey Farm, M**	**113.98**	**46**	⇑P	**PKiKP**	18 04 00.2	+1.5
	baz=114								
S19A				⇑P	PKKPab	18 14 48.0	+0.2
	baz=114,SNR=10.0								
S19A				⇑P	PKKPab	18 14 48.0	+0.2
	baz=114,SNR=10.0								
S19A				⇑P	PKKPab	18 14 48.0	+0.2
	baz=114,SNR=10.0								
K23A	**Bowen Ranch, D**	**114.02**	**40**	⇓P	PKPdf	18 04 00.1	+1.6
	baz=114								
K23A				⇓P	PKKPab	18 14 47.6	+0.1
	baz=114								
K23A				⇓P	PKKPab	18 14 47.6	+0.1
	baz=114								
K23A				⇓P	PKKPab	18 14 47.6	+0.1
	baz=114								
O21A	**Pagoda**	**114.03**	**43**	⇓P	PKPdf	18 04 00.3	+1.6
	baz=114								
O21A				⇓P	PKKPab	18 14 48.1	+0.5
	baz=114								
O21A				⇓P	PKKPab	18 14 48.1	+0.5
	baz=114								
O21A				⇓P	PKKPab	18 14 48.1	+0.5
	baz=114								
Q20A	**Ridgley Place,**	**114.04**	**44**	⇑P	PKPdf	18 04 00.3	+1.6
	baz=114								
Q20A				⇓P	PKKPab	18 14 47.6	+0.2
	baz=114,SNR=6.5								
Q20A				⇓P	PKKPab	18 14 47.6	+0.2
	baz=114,SNR=6.5								
Q20A				⇓P	PKKPab	18 14 47.6	+0.2
	baz=114,SNR=6.5								
M22A	**Cedar Creek Ra**	**114.05**	**41**	⇑P	PKPdf	18 04 00.3	+1.6
	baz=114								
M22A				⇓P	PKKPab	18 14 48.9	+1.4
	baz=114								
M22A				⇓P	PKKPab	18 14 48.9	+1.4
	baz=114								
M22A				⇓P	PKKPab	18 14 48.9	+1.4
	baz=114								
I24A	**Kuemmerle Ranc**	**114.07**	**38**	⇑P	PKPdf	18 03 59.7	+1.2
	baz=114								
PV01	**Paradox Valley**	**114.21**	**45**	ePKiKP	**PKiKP**	18 04 01.2	+2.1
L23A	**Garrett**	**114.29**	**40**	⇑P	PKPdf	18 03 59.9	+0.8
	baz=114								
L23A				⇑P	PKKPab	18 14 47.0	+0.6
	baz=114								
L23A				⇑P	PKKPab	18 14 47.0	+0.6
	baz=114								
L23A				⇑P	PKKPab	18 14 47.0	+0.6
	baz=114								
RSSD	**Black Hills**	**114.30**	**38**	ePKiKP	PKPdf	18 03 59.6	+0.5
RSSD	**Black Hills**	**114.30**	**38**	ePKiKP	PKPdf	18 03 59.6	+0.5
R20A	**Redvale**	**114.32**	**45**	⇑P	PKPdf	18 04 01.3	+2.1
	baz=114								
R20A				⇑P	PKKPab	18 14 46.9	+0.6
	baz=114,SNR=13								
R20

P21A	baz=114,SNR=9.7			⇑P		PKKPab	18 14 47.5	+1.4
P21A	baz=114,SNR=9.7			⇑P		PKKPab	18 14 47.5	+1.4
P21A	baz=114,SNR=9.7			⇑P		PKKPab	18 14 47.5	+1.4
N22A	**Wattenberg Ran** baz=114,SNR=8.1	**114.44**	**42**	⇓P		PKPdf	18 04 00.5	+1.0
N22A	baz=114			⇓P		PKKPab	18 14 46.5	+0.7
N22A	baz=114			⇓P		PKKPab	18 14 46.5	+0.7
N22A	baz=114			⇓P		PKKPab	18 14 46.5	+0.7
T19A	**Beclabito** baz=114,SNR=8.9	**114.45**	**47**	⇑P		PKKPab	18 14 45.8	+0.1
S20A	**Disappointment** baz=114	**114.50**	**45**	⇓P		PKPdf	18 04 01.4	+1.7
S20A	baz=114,SNR=5.1			⇓P		PKKPab	18 14 46.3	+0.8
S20A	baz=114,SNR=5.1			⇓P		PKKPab	18 14 46.3	+0.8
S20A	baz=114,SNR=5.1			⇓P		PKKPab	18 14 46.3	+0.8
K24A	**Anderson Ranch** baz=114	**114.55**	**39**	⇑P		PKPdf	18 04 00.7	+1.2
K24A	baz=114			⇓P		PKKPab	18 14 45.6	+0.4
K24A	baz=114			⇓P		PKKPab	18 14 45.6	+0.4
K24A	baz=114			⇓P		PKKPab	18 14 45.6	+0.4
M23A	**Laramie** baz=114	**114.59**	**41**	⇓P		PKPdf	18 04 01.3	+1.6
M23A	baz=114,SNR=6.0			⇑P		PKKPab	18 14 45.2	+0.1
M23A	baz=114,SNR=6.0			⇑P		PKKPab	18 14 45.2	+0.1
M23A	baz=114,SNR=6.0			⇑P		PKKPab	18 14 45.2	+0.1
Q21A	**Lamborn Mesa,** baz=114	**114.60**	**44**	⇓P		PKKPab	18 14 45.7	+0.7
W18A	**Petrified Fore** baz=115	**114.64**	**49**	⇑P		PKPdf	18 04 01.8	+1.9
W18A	baz=115			⇑P		PKKPab	18 14 45.5	+0.7
W18A	baz=115			⇑P		PKKPab	18 14 45.5	+0.7
W18A	baz=115			⇑P		PKKPab	18 14 45.5	+0.7
MVCO MVCO	**Mesa Verde** comp=Z,3µm,22.0s	**114.67**	**46**	*e*PKPdf LR		PKPdf LR	18 04 02.2	+2.2
MVCO	**Mesa Verde** baz=115,SNR=7.9	**114.67**	**46**	⇑P		PKKPab	18 14 45.6	+0.8
O22A	**Kremmling** baz=115	**114.68**	**42**	⇑P		PKPdf	18 04 01.5	+1.5
O22A	baz=115,SNR=11			⇑P		PKKPab	18 14 44.9	+0.1
O22A	baz=115,SNR=11			⇑P		PKKPab	18 14 44.9	+0.1
O22A	baz=115,SNR=11			⇑P		PKKPab	18 14 44.9	+0.1
MDND	**Maddock** baz=115	**114.70**	**32**	⇓P		PKPdf	18 04 00.9	+1.4
X18A	**Snowflake** baz=115	**114.71**	**49**	⇓P		PKPdf	18 04 01.6	+1.5
X18A	baz=115,SNR=7.7			⇓P		PKKPab	18 14 45.9	+1.4
X18A	baz=115,SNR=7.7			⇓P		PKKPab	18 14 45.9	+1.4
X18A	baz=115,SNR=7.7			⇓P		PKKPab	18 14 45.9	+1.4
N23A	**Red Feather La** baz=115	**114.73**	**41**	⇓P		PKPdf	18 04 01.6	+1.5
N23A	baz=115,SNR=7.3			⇓P		PKKPab	18 14 45.1	+0.6
N23A	baz=115,SNR=7.3			⇓P		PKKPab	18 14 45.1	+0.6
N23A	baz=115,SNR=7.3			⇓P		PKKPab	18 14 45.1	+0.6
P22A	**Eagle** baz=115	**114.81**	**43**	⇓P		PKPdf	18 04 02.0	+1.8
P22A	baz=115,SNR=15			⇑P		PKKPab	18 14 44.5	+0.3
P22A	baz=115,SNR=15			⇑P		PKKPab	18 14 44.5	+0.3
P22A	baz=115,SNR=15			⇑P		PKKPab	18 14 44.5	+0.3
L24A	**Wheatland** baz=115	**114.82**	**40**	⇓P		PKPdf	18 04 02.0	+2.0
L24A	baz=115			⇓P		PKKPab	18 14 44.4	+0.4
L24A	baz=115			⇓P		PKKPab	18 14 44.4	+0.4
L24A	baz=115			⇓P		PKKPab	18 14 44.4	+0.4
R21A	**Cimarron** baz=115	**114.83**	**45**	⇑P		PKPdf	18 04 01.9	+1.6
R21A	baz=115			⇑P		PKKPab	18 14 45.2	+1.1
R21A	baz=115			⇑P		PKKPab	18 14 45.2	+1.1
R21A	baz=115			⇑P		PKKPab	18 14 45.2	+1.1
SMCO	**Snowmass**	**114.86**	**44**	PKPdf		PKPdf	18 04 01.3	+0.8
TUC TUC	**Tucson** comp=Z,2µm,21.0s	**114.93**	**52**	*e*PKIKP MLR		PKPdf MLR	18 04 02.5	+2.1
TUC TUC	**Tucson** comp=Z,2µm,21.0s	**114.93**	**52**	*e*PKiKP LR		PKPdf LR	18 04 02.5	+2.0
S21A	**Coal Bank Pass** baz=115	**114.97**	**45**	⇓P		PKPdf	18 04 02.6	+1.9
S21A	baz=115,SNR=15			⇑P		PKKPab	18 14 44.2	+0.7
S21A	baz=115,SNR=15			⇑P		PKKPab	18 14 44.2	+0.7
S21A	baz=115,SNR=15			⇑P		PKKPab	18 14 44.2	+0.7
U20A	**Newcomb** baz=115,SNR=6.3	**115.01**	**47**	⇓P		PKKPab	18 14 43.9	+0.7
Q22A	**Crested Butte,** baz=115,SNR=9.0	**115.05**	**44**	⇑P		PKPdf	18 04 01.7	+0.9
Q22A	baz=115,SNR=7.8			⇑P		PKKPab	18 14 43.7	+0.6
Q22A	baz=115,SNR=7.8			⇑P		PKKPab	18 14 43.7	+0.6
Q22A	baz=115,SNR=7.8			⇑P		PKKPab	18 14 43.7	+0.6
ULM	**Lac du Bonnet**	**115.06**	**29**	PKP		PKPdf	18 04 00.3	+0.3
ULM				PKKPbc		PKKPbc	18 14 35.8	-1.9
ULM ULM	**Lac du Bonnet** comp=Z,5.9nm,0.8s,baz=298,slow=2.2,SNR=12	**115.06**	**29**	PKP PKKPbc		PKPdf PKKPbc	18 04 00.3	+0.3 -1.9
O23A	**Lake Granby, G** baz=115,SNR=16	**115.08**	**42**	⇓P		PKPdf	18 04 01.9	+1.1
O23A	baz=115,SNR=5.6			⇓P		PKKPab	18 14 43.3	+0.3
O23A	baz=115,SNR=5.6			⇓P		PKKPab	18 14 43.3	+0.3
O23A	baz=115,SNR=5.6			⇓P		PKKPab	18 14 43.3	+0.3
K25A	**Mack Ranch, Ha** baz=115	**115.20**	**39**	⇓P		PKPdf	18 04 01.8	+1.1
V20A	**Brimhall** baz=115	**115.30**	**47**	⇓P		PKKPab	18 14 43.0	+1.1
L25A	**Engebretsen Ra** baz=115	**115.38**	**39**	⇓P		PKPdf	18 04 02.2	+1.1
R22A	**Saguache, Gunn** baz=115,SNR=14	**115.45**	**44**	⇓P		PKKPab	18 14 43.2	+1.8
T21A	**Navajo Lake** baz=115	**115.45**	**46**	⇓P		PKPdf	18 04 04.0	+2.5
T21A	baz=115			⇓P		PKKPab	18 14 41.7	+0.4
T21A	baz=115			⇓P		PKKPab	18 14 41.7	+0.4
T21A	baz=115			⇓P		PKKPab	18 14 41.7	+0.4
N24A	**Carr** baz=115	**115.46**	**41**	⇓P		PKPdf	18 04 03.2	+1.9
N24A	baz=115			⇓P		PKKPab	18 14 42.2	+1.1
N24A	baz=115			⇓P		PKKPab	18 14 42.2	+1.1
N24A	baz=115			⇓P		PKKPab	18 14 42.2	+1.1
ISCO ISCO	**Idaho Springs** comp=Z,2µm,19.0s	**115.48**	**42**	PKIKP MLR		PKPdf MLR	18 04 01.6	0.0
ISCO ISCO	**Idaho Springs** comp=Z,2µm,19.0s	**115.48**	**42**	PKPdf LR		PKPdf LR	18 04 01.6	0.0
ISCO	**Idaho Springs** baz=115,SNR=7.2	**115.48**	**42**	⇓P		PKPdf	18 04 02.5	+0.9
ISCO	baz=115,SNR=8.6			⇑P		PKKPab	18 14 42.6	+1.3
ISCO	baz=115,SNR=8.6			⇑P		PKKPab	18 14 42.6	+1.3
ISCO	baz=115,SNR=8.6			⇑P		PKKPab	18 14 42.6	+1.3
P23A	**Jefferson** baz=116,SNR=5.4	**115.54**	**43**	⇑P		PKPdf	18 04 03.0	+1.3
P23A	baz=116,SNR=8.1			⇑P		PKKPab	18 14 41.6	+0.6
P23A	baz=116,SNR=8.1			⇑P		PKKPab	18 14 41.6	+0.6
P23A	baz=116,SNR=8.1			⇑P		PKKPab	18 14 41.6	+0.6
W20A	**Ramah** baz=116	**115.56**	**48**	⇓P		PKPdf	18 04 03.7	+1.9
W20A	baz=116			⇑P		PKKPab	18 14 41.9	+1.0
W20A	baz=116			⇑P		PKKPab	18 14 41.9	+1.0
W20A	baz=116			⇑P		PKKPab	18 14 41.9	+1.0
K26A	**Motz Farm, Whi** baz=116	**115.58**	**39**	⇓P		PKPdf	18 04 02.8	+1.4
K26A	baz=116			⇑P		PKKPab	18 14 40.6	+0.1
K26A	baz=116			⇑P		PKKPab	18 14 40.6	+0.1
K26A	baz=116			⇑P		PKKPab	18 14 40.6	+0.1
U21A	**Nageezi** baz=116	**115.61**	**47**	⇑P		PKPdf	18 04 04.3	+2.5
U21A	baz=116,SNR=16			⇓P		PKKPab	18 14 41.6	+1.0
U21A	baz=116,SNR=16			⇓P		PKKPab	18 14 41.6	+1.0
U21A	baz=116,SNR=16			⇓P		PKKPab	18 14 41.6	+1.0
S22A	**4UR Ranch, Cre** baz=116,SNR=5.3	**115.62**	**45**	⇑P		PKPdf	18 04 02.9	+1.0
S22A	baz=116			⇓P		PKKPab	18 14 41.9	+1.3
S22A	baz=116			⇓P		PKKPab	18 14 41.9	+1.3
S22A	baz=116			⇓P		PKKPab	18 14 41.9	+1.3
O24A	**Longmont** baz=116	**115.69**	**42**	⇓P		PKPdf	18 04 03.9	+2.2
O24A	baz=116			⇓P		PKKPab	18 14 40.6	+0.4
O24A	baz=116			⇓P		PKKPab	18 14 40.6	+0.4
O24A	baz=116			⇓P		PKKPab	18 14 40.6	+0.4
M25A	**Palm-Egli Farm** baz=116	**115.69**	**40**	⇑P		PKKPab	18 14 41.0	+0.8
Q23A	**Hartsel** baz=116	**115.77**	**43**	⇓P		PKPdf	18 04 04.1	+1.9
Q23A	baz=116			⇑P		PKKPab	18 14 40.9	+0.9
Q23A	baz=116			⇑P		PKKPab	18 14 40.9	+0.9
Q23A	baz=116			⇑P		PKKPab	18 14 40.9	+0.9
X20A	**Quemado** baz=116	**115.80**	**49**	⇓P		PKPdf	18 04 04.3	+2.1
X20A	baz=116,SNR=6.4			⇑P		PKKPab	18 14 40.3	+0.6
X20A	baz=116,SNR=6.4			⇑P		PKKPab	18 14 40.3	+0.6
X20A	baz=116,SNR=6.4			⇑P		PKKPab	18 14 40.3	+0.6
T22A	**Edith** baz=116	**115.90**	**46**	⇑P		PKPdf	18 04 04.2	+1.8
T22A	baz=116,SNR=14			⇑P		PKKPab	18 14 40.9	+1.6
T22A	baz=116,SNR=14			⇑P		PKKPab	18 14 40.9	+1.6
T22A	baz=116,SNR=14			⇑P		PKKPab	18 14 40.9	+1.6
V21A	**Milan** baz=116	**115.90**	**47**	⇑P		PKKPab	18 14 40.3	+1.0
L26A	**Underwood Farm** baz=116	**116.00**	**39**	⇓P		PKPdf	18 04 03.4	+1.1
L26A	baz=116			⇑P		PKKPab	18 14 39.3	+0.6
L26A	baz=116			⇑P		PKKPab	18 14 39.3	+0.6
L26A	baz=116			⇑P		PKKPab	18 14 39.3	+0.6
P24A	**Kohler Place,** baz=116	**116.10**	**42**	⇓P		PKPdf	18 04 04.8	+2.2
R23A	**Moffat** baz=116	**116.11**	**44**	⇑P		PKPdf	18 04 04.4	+1.6
R23A	baz=116,SNR=8.7			⇓P		PKKPab	18 14 39.6	+1.2
R23A	baz=116,SNR=8.7			⇓P		PKKPab	18 14 39.6	+1.2
R23A	baz=116,SNR=8.7			⇓P		PKKPab	18 14 39.6	+1.2
Y20A	**Horse Springs,** baz=116	**116.15**	**49**	⇑P		PKPdf	18 04 05.2	+2.3
Y20A	baz=116,SNR=14			⇑P		PKKPab	18 14 39.7	+1.5
Y20A	baz=116,SNR=14			⇑P		PKKPab	18 14 39.7	+1.5
Y20A	baz=116,SNR=14			⇑P		PKKPab	18 14 39.7	+1.5
K27A	**Flueckinger Fa** baz=116	**116.17**	**38**	⇑P		PKPdf	18 04 03.7	+1.2
K27A	baz=116			⇑P		PKKPab	18 14 37.9	-0.1
K27A	baz=116			⇑P		PKKPab	18 14 37.9	-0.1
K27A	baz=116			⇑P		PKKPab	18 14 37.9	-0.1
W21A	**San Fidel** baz=116	**116.19**	**48**	⇓P		PKPdf	18 04 05.2	+2.2
Q24A	**Divide** baz=116	**116.21**	**43**	⇑P		PKPdf	18 04 05.2	+2.2
Q24A	baz=116			⇑P		PKKPab	18 14 39.1	+1.0
Q24A	baz=116			⇑P		PKKPab	18 14 39.1	+1.0
Q24A	baz=116			⇑P		PKKPab	18 14 39.1	+1.0
U22A	**Llaves** baz=116	**116.22**	**46**	⇓P		PKPdf	18 04 05.2	+2.2
U22A	baz=116			⇓P		PKKPab	18 14 39.5	+1.6
U22A	baz=116			⇓P		PKKPab	18 14 39.5	+1.6
U22A	baz=116			⇓P		PKKPab	18 14 39.5	+1.6
Z20A	**Nine Sixteen R** baz=116	**116.31**	**50**	⇑P		PKPdf	18 04 05.4	+2.2
Z20A	baz=116,SNR=9.2			⇓P		PKKPab	18 14 38.9	+1.5
Z20A	baz=116,SNR=9.2			⇓P		PKKPab	18 14 38.9	+1.5
Z20A	baz=116,SNR=9.2			⇓P		PKKPab	18 14 38.9	+1.5
O25A	**Wiggins** baz=116	**116.33**	**41**	⇑P		PKPdf	18 04 04.9	+1.9
AGMN AGMN	**Agassiz Nation** comp=Z,2µm,21.0s	**116.36**	**30**	PFAKE LR		LR	18 04 10.0	+7.4
X21A	**Alamocita Cree** baz=116	**116.38**	**49**	⇓P		PKPdf	18 04 05.3	+1.9
X21A	baz=116,SNR=11			⇓P		PKKPab	18 14 38.8	+1.6
X21A	baz=116,SNR=11			⇓P		PKKPab	18 14 38.8	+1.6
X21A	baz=116,SNR=11			⇓P		PKKPab	18 14 38.8	+1.6
V22A	**San Miguel Ran** baz=116	**116.39**	**47**	⇓P		PKPdf	18 04 05.4	+2.1
V22A	baz=116			⇑P		PKKPab	18 14 38.8	+1.6
V22A	baz=116			⇑P		PKKPab	18 14 38.8	+1.6
V22A	baz=116			⇑P		PKKPab	18 14 38.8	+1.6
319A	**Douglas** baz=116	**116.46**	**52**	⇑P		PKPdf	18 04 05.3	+1.9
319A	baz=116			⇓P		PKKPab	18 14 37.9	+1.3
319A	baz=116			⇓P		PKKPab	18 14 37.9	+1.3
319A	baz=116			⇓P		PKKPab	18 14 37.9	+1.3
T23A	**Casias Ranch,** baz=116	**116.50**	**45**	⇓P		PKPdf	18 04 05.4	+1.8
T23A	baz=116			⇑P		PKKPab	18 14 37.8	+1.1
T23A	baz=116			⇑P		PKKPab	18 14 37.8	+1.1
T23A	baz=116			⇑P		PKKPab	18 14 37.8	+1.1
120A	**U Bar Ranch, L** baz=116	**116.51**	**51**	⇓P		PKPdf	18 04 04.9	+1.4
120A	baz=116,SNR=5.1			⇑P		PKKPab	18 14 38.0	+1.4
120A	baz=116,SNR=5.1			⇑P		PKKPab	18 14 38.0	+1.4
120A	baz=116,SNR=5.1			⇑P		PKKPab	18 14 38.0	+1.4
N26A	**Koester Ranch,** baz=116	**116.55**	**40**	⇓P		PKPdf	18 04 04.9	+1.6
N26A	baz=116			⇑P		PKKPab	18 14 37.0	+0.7
N26A	baz=116			⇑P		PKKPab	18 14 37.0	+0.7
N26A	baz=116			⇑P		PKKPab	18 14 37.0	+0.7
SDCO SDCO	**Great Sand Dun** comp=Z,3µm,22.0s	**116.55**	**44**	*e*PKPdf LR		PKPdf LR	18 04 05.3	+1.6
SDCO	**Great Sand Dun** baz=116,SNR=11	**116.55**	**44**	⇑P		PKPdf	18 04 04.5	+0.8
SDCO	baz=116,SNR=14			⇓P		PKKPab	18 14 37.9	+1.4
SDCO	baz=116,SNR=14			⇓P		PKKPab	18 14 37.9	+1.4
SDCO	baz=116,SNR=14			⇓P		PKKPab	18 14 37.9	+1.4
SDCO	baz=116,SNR=14			⇓P		PKKPab	18 14 37.9	+1.4
SDCO	baz=116,SNR=14			⇓P		PKKPab	18 14 37.9	+1.4
SDCO	baz=116,SNR=14			⇓P		PKKPab	18 14 37.9	+1.4
R24A	**Sanders Place,** baz=116	**116.59**	**44**	⇓P		PKPdf	18 04 04.7	+1.0
R24A	baz=116			⇓P		PKKPab	18 14 37.1	+0.8
R24A	baz=116			⇓P		PKKPab	18 14 37.1	+0.8
R24A	baz=116			⇓P		PKKPab	18 14 37.1	+0.8
P25A	**Willow Gulch B** baz=116,SNR=20	**116.60**	**42**	⇑P		PKPdf	18 04 03.5	0.0
P25A	baz=116,SNR=8.4			⇑P		PKKPab	18 14 37.2	+1.0
P25A	baz=116,SNR=8.4			⇑P		PKKPab	18 14 37.2	+1.0
P25A	baz=116,SNR=8.4			⇑P		PKKPab	18 14 37.2	+1.0
Y21A	**Point of Rocks** baz=117	**116.64**	**49**	⇑P		PKPdf	18 04 04.5	+0.7
Y21A	baz=117,SNR=15			⇑P		PKKPab	18 14 37.8	+1.7
Y21A	baz=117,SNR=15			⇑P		PKKPab	18 14 37.8	+1.7
Y21A	baz=117,SNR=15			⇑P		PKKPab	18 14 37.8	+1.7
M27A	**Reverse DX Ran** baz=117	**116.71**	**39**	⇓P		PKPdf	18 04 05.0	+1.4
U23A	**El Rito** baz=117,SNR=8.5	**116.72**	**46**	⇓P		PKPdf	18 04 04.8	+0.8
U23A	baz=117			⇑P		PKKPab	18 14 37.1	+1.4
U23A	baz=117			⇑P		PKKPab	18 14 37.1	+1.4
U23A	baz=117			⇑P		PKKPab	18 14 37.1	+1.4
O26A	**Horse Wrangler** baz=117	**116.79**	**41**	⇑P		PKKPab	18 14 35.7	+0.4
S24A	**Houchin Ranch,** baz=117	**116.80**	**44**	⇓P		PKPdf	18 04 05.4	+1.3
S24A	baz=117,SNR=7.8			⇓P		PKKPab	18 14 36.8	+1.4
S24A	baz=117,SNR=7.8			⇓P		PKKPab	18 14 36.8	+1.4
S24A	baz=117,SNR=7.8			⇓P		PKKPab	18 14 36.8	+1.4
Q25A	**Bedland, Calha** baz=117	**116.84**	**43**	⇓P		PKPdf	18 04 05.6	+1.5
Q25A	baz=117			⇑P		PKKPab	18 14 36.2	+1.1
Q25A	baz=117			⇑P		PKKPab	18 14 36.2	+1.1
Q25A	baz=117			⇑P		PKKPab	18 14 36.2	+1.1
220A	**Playas Peak, P** baz=117	**116.85**	**51**	⇓P		PKPdf	18 04 06.3	+2.1
220A	baz=117,SNR=6.2			⇓P		PKKPab	18 14 36.0	+0.9
220A	baz=117,SNR=6.2			⇓P		PKKPab	18 14 36.0	+0.9
220A	baz=117,SNR=6.2			⇓P		PKKPab	18 14 36.0	+0.9
X22A	**Bernardo** baz=117	**116.93**	**48**	⇓P		PKPdf	18 04 06.6	+2.2
X22A	baz=117,SNR=7.2			⇑P		PKKPab	18 14 36.1	+1.4
X22A	baz=117,SNR=7.2			⇑P		PKKPab	18 14 36.1	+1.4
X22A	baz=117,SNR=7.2			⇑P		PKKPab	18 14 36.1	+1.4
Z21A	**St. Cloud Mine** baz=117	**116.94**	**50**	⇑P		PKPdf	18 04 06.2	+1.8
Z21A	baz=117			⇓P		PKKPab	18 14 36.6	+1.9
Z21A	baz=117			⇓P		PKKPab	18 14 36.6	+1.9
Z21A	baz=117			⇓P		PKKPab	18 14 36.6	+1.9
V23A	**Ortiz Mt. (NFS** baz=117,SNR=6.5	**116.99**	**47**	⇑P		PKPdf	18 04 05.6	+1.1
V23A	baz=117			⇑P		PKKPab	18 14 36.5	+2.0
V23A	baz=117			⇑P		PKKPab	18 14 36.5	+2.0
V23A	baz=117			⇑P		PKKPab	18 14 36.5	+2.0
N27A	**Anderson Farm,** baz=117	**117.00**	**40**	⇓P		PKPdf	18 04 05.5	+1.3
N27A	baz=117			⇑P		PKKPab	18 14 35.3	+1.0
N27A	baz=117			⇑P		PKKPab	18 14 35.3	+1.0
N27A	baz=117			⇑P		PKKPab	18 14 35.3	+1.0
320A	**Kipp Ranch, An** baz=117	**117.07**	**52**	⇓P		PKPdf	18 04 06.4	+1.7
320A	baz=117			⇑P		PKKPab	18 14 35.9	+1.8
320A	baz=117			⇑P		PKKPab	18 14 35.9	+1.8
320A	baz=117			⇑P		PKKPab	18 14 35.9	+1.8
LENM	**Lemitar**	**117.10**	**49**	*e*PKPdf		PKPdf	18 04 06.8	+2.1
P26A	**Davis Ranch, A** baz=117,SNR=23	**117.12**	**42**	⇓P		PKPdf	18 04 05.0	+0.5
P26A	baz=117			⇓P		PKKPab	18 14 35.0	+1.1
P26A	baz=117			⇓P		PKKPab	18 14 35.0	+1.1
P26A	baz=117			⇓P		PKKPab	18 14 35.0	+1.1
ANMO ANMO	**Albuquerque**	**117.14**	**48**	*e*PKPdf PKKPbc		PKPdf PKKPbc	18 04 06.5	+1.8 +0.2
ANMO	comp=Z,2µm,21.0s			LR		LR	18 14 30.4	
ANMO	**Albuquerque** comp=Z,6.5nm,1.1s,baz=118,slow=7.5,SNR=5.7	**117.14**	**48**	PKKPbc		PKKPbc	18 14 30.4	+0.2
121A	**Cookes Peak, D**	**117.17**	**51**	⇓P		PKPdf	18 04 06.3	+1.4

121A baz=117 ⇓P PKKPab 18 14 35.5 +1.8
121A baz=117 ⇓P PKKPab 18 14 35.5 +1.8
121A baz=117 ⇓P PKKPab 18 14 35.5 +1.8
baz=117
T24A Torres, Weston 117.18 45 ⇑P **PKPdf 18 04 05.3 +0.4**
baz=117,SNR=7.0
T24A ⇑P PKKPab 18 14 34.9 +1.2
baz=117,SNR=7.1
T24A ⇑P PKKPab 18 14 34.9 +1.2
baz=117,SNR=7.1
T24A ⇑P PKKPab 18 14 34.9 +1.2
baz=117,SNR=7.1
Y22D IRIS PASSCAL I 117.18 49 ⇓P **PKKPab 18 14 35.6 +2.0**
baz=117
R25A Fountain Ranch 117.20 43 ⇓P **PKPdf 18 04 05.3 +0.6**
baz=117,SNR=6.8
R25A ⇓P PKKPab 18 14 34.5 +1.0
baz=117,SNR=9.4
R25A ⇓P PKKPab 18 14 34.5 +1.0
baz=117,SNR=9.4
R25A ⇓P PKKPab 18 14 34.5 +1.0
baz=117,SNR=9.4
Y22A Socorro 117.21 49 ⇓P **PKPdf 18 04 06.6 +1.7**
baz=117
Y22A ⇓P PKKPab 18 14 34.9 +1.4
baz=117,SNR=9.0
Y22A ⇓P PKKPab 18 14 34.9 +1.4
baz=117,SNR=9.0
Y22A ⇓P PKKPab 18 14 34.9 +1.4
baz=117,SNR=9.0
OGNE Ogallala 117.25 40 PFAKE 18 04 20.0 +15
OGNE LR LR
comp=Z,2µm,22.0s
OGNE Ogallala 117.25 40 ⇑P **PKPdf 18 04 06.0 +1.4**
baz=117
OGNE ⇓P PKKPab 18 14 33.9 +0.8
baz=117
OGNE ⇓P PKKPab 18 14 33.9 +0.8
baz=117
OGNE ⇓P PKKPab 18 14 33.9 +0.8
baz=117
W23A Werner Place, 117.27 47 ⇑P **PKPdf 18 04 05.4 +0.3**
baz=117,SNR=5.6
W23A ⇓P PKKPab 18 14 34.6 +1.4
baz=117,SNR=13
W23A ⇓P PKKPab 18 14 34.6 +1.4
baz=117,SNR=13
W23A ⇓P PKKPab 18 14 34.6 +1.4
baz=117,SNR=13
LPM Los Pinos Moun 117.29 48 *e*PKPdf **PKPdf 18 04 06.5 +1.4**
Q26A Hugo 117.33 42 ⇓P **PKPdf 18 04 05.7 +0.7**
baz=117,SNR=5.8
Q26A ⇑P PKKPab 18 14 34.2 +1.2
baz=117
Q26A ⇑P PKKPab 18 14 34.2 +1.2
baz=117
Q26A ⇑P PKKPab 18 14 34.2 +1.2
baz=117
S25A Robets Cordova 117.33 44 ⇑P **PKPdf 18 04 06.3 +1.3**
baz=117
S25A ⇑P PKKPab 18 14 34.0 +1.0
baz=117,SNR=19
S25A ⇑P PKKPab 18 14 34.0 +1.0
baz=117,SNR=19
S25A ⇑P PKKPab 18 14 34.0 +1.0
baz=117,SNR=19
U24A Moreno Valley 117.33 46 ⇑P **PKKPab 18 14 34.7 +1.6**
baz=117
O27A Beecher Island 117.36 41 ⇑P **PKPdf 18 04 06.9 +1.9**
BNM Barren Site 117.37 48 *e*PKPdf **PKPdf 18 04 06.8 +1.5**
221A Mesquite Ranch 117.39 51 ⇑P **PKPdf 18 04 07.0 +1.7**
baz=117
221A ⇑P PKKPab 18 14 34.8 +2.2
baz=117
221A ⇑P PKKPab 18 14 34.8 +2.2
baz=117
221A ⇑P PKKPab 18 14 34.8 +2.2
baz=117
ESDC Sonseca Array 117.40 319 PKP **PKPdf 18 04 06.1 +1.2**
ESDC PP PP 18 05 21.8 +5.6
ESDC PKKPab **PKKPbc 18 14 30.6 +1.5**
ESDC Sonseca Array 117.40 319 PKP **PKPdf 18 04 06.1 +1.2**
comp=Z,1.2nm,0.7s,baz=8.0,slow=2.5,SNR=8.2
ESDC PP PP 18 05 21.8 +5.6
comp=Z,4.4nm,1.0s,baz=54,slow=7.3,SNR=10
ESDC PKKPab **PKKPbc 18 14 30.6 +1.5**
comp=Z,2.5nm,0.8s,baz=245,slow=3.6,SNR=10
Z22A Elephant Butte 117.50 49 ⇑P **PKPdf 18 04 06.8 +1.4**
baz=117
Z22A ⇓P PKKPab 18 14 33.7 +1.5
baz=117,SNR=20
Z22A ⇓P PKKPab 18 14 33.7 +1.5
baz=117,SNR=20
Z22A ⇓P PKKPab 18 14 33.7 +1.5
baz=117,SNR=20
X23A Hourglass Bar 117.50 48 ⇓P **PKPdf 18 04 07.4 +1.9**
baz=117
X23A ⇑P PKKPab 18 14 34.0 +1.7
baz=117
X23A ⇑P PKKPab 18 14 34.0 +1.7
baz=117
X23A ⇑P PKKPab 18 14 34.0 +1.7
baz=117
T25A Trinidad 117.60 44 ⇓P **PKPdf 18 04 06.5 +0.9**
baz=118,SNR=10
T25A ⇑P PKKPab 18 14 33.0 +1.2
baz=118,SNR=5.8
T25A ⇑P PKKPab 18 14 33.0 +1.2
baz=118,SNR=5.8
T25A ⇑P PKKPab 18 14 33.0 +1.2
baz=118,SNR=5.8
P27A Ficken Ranch, 117.63 41 ⇑P **PKPdf 18 04 06.0 +0.5**
baz=118,SNR=5.5
V24A Rampart Ranch, 117.66 46 ⇑P **PKPdf 18 04 07.0 +1.2**
baz=118,SNR=19
V24A ⇓P PKKPab 18 14 33.1 +1.5
baz=118,SNR=5.1
V24A ⇓P PKKPab 18 14 33.1 +1.5
baz=118,SNR=5.1
V24A ⇓P PKKPab 18 14 33.1 +1.5
baz=118,SNR=5.1
R26A Arlington 117.69 43 ⇓P **PKPdf 18 04 06.6 +1.0**
baz=118,SNR=11
R26A ⇓P PKKPab 18 14 31.6 +0.3
baz=118,SNR=8.4
R26A ⇓P PKKPab 18 14 31.6 +0.3
baz=118,SNR=8.4
R26A ⇓P PKKPab 18 14 31.6 +0.3
baz=118,SNR=8.4
122A Conniff Cattle 117.70 50 ⇓P **PKPdf 18 04 08.0 +2.1**
baz=118
PAB San Pablo 117.72 319 PFAKE 18 04 20.0 +14
PAB LR LR
comp=Z,2µm,22.0s
W24A Lazy 6 Ranch, 117.79 47 ⇓P **PKPdf 18 04 07.1 +1.1**
baz=118,SNR=18
W24A ⇑P PKKPab 18 14 32.1 +1.1
baz=118,SNR=22
W24A ⇑P PKKPab 18 14 32.1 +1.1
baz=118,SNR=22
W24A ⇑P PKKPab 18 14 32.1 +1.1
baz=118,SNR=22
222A Williams Famil 117.88 51 ⇑P **PKPdf 18 04 07.7 +1.5**
baz=118
222A ⇑P PKKPab 18 14 32.3 +1.8
baz=118
222A ⇑P PKKPab 18 14 32.3 +1.8
baz=118
222A ⇑P PKKPab 18 14 32.3 +1.8
baz=118
KSCO Kaye Shedlock' 117.88 42 ⇑P **PKPdf 18 04 07.5 +1.5**
baz=118
KSCO ⇑P PKKPab 18 14 31.8 +1.3
baz=118
KSCO ⇑P PKKPab 18 14 31.8 +1.3
baz=118
KSCO ⇑P PKKPab 18 14 31.8 +1.3
baz=118
Y23A Lovelace Mesa, 117.89 48 ⇓P **PKPdf 18 04 07.3 +1.1**
baz=118
Y23A ⇑P PKKPab 18 14 31.8 +1.3
baz=118,SNR=15
Y23A ⇑P PKKPab 18 14 31.8 +1.3
baz=118,SNR=15
U25A Circle Dot Ran 117.96 45 ⇓P **PKPdf 18 04 07.2 +0.9**
baz=118,SNR=12
U25A ⇑P PKKPab 18 14 31.5 +1.3
baz=118
U25A ⇑P PKKPab 18 14 31.5 +1.3
baz=118
U25A ⇑P PKKPab 18 14 31.5 +1.3
baz=118
S26A Kim 118.02 44 ⇑P **PKPdf 18 04 06.9 +0.6**
baz=118,SNR=11
S26A ⇓P PKKPab 18 14 30.9 +1.0
baz=118,SNR=6.3
S26A ⇓P PKKPab 18 14 30.9 +1.0
baz=118,SNR=6.3
S26A ⇓P PKKPab 18 14 30.9 +1.0
baz=118,SNR=6.3
Z23A Rita Site, Whi 118.05 49 ⇑P **PKPdf 18 04 08.0 +1.5**
baz=118
Z23A ⇓P PKKPab 18 14 31.0 +1.3
baz=118,SNR=9.2
Z23A ⇓P PKKPab 18 14 31.0 +1.3
baz=118,SNR=9.2
Z23A ⇓P PKKPab 18 14 31.0 +1.3
baz=118,SNR=9.2
X24A Lazy VL Ranch, 118.07 48 ⇓P **PKPdf 18 04 08.3 +1.7**
baz=118
V25A Rancho No Teng 118.07 46 ⇓P **PKPdf 18 04 08.6 +2.1**
baz=118
V25A ⇑P PKKPab 18 14 31.0 +1.3
baz=118
V25A ⇑P PKKPab 18 14 31.0 +1.3
baz=118
V25A ⇑P PKKPab 18 14 31.0 +1.3
baz=118
R27A Eads 118.14 43 ⇓P **PKPdf 18 04 07.4 +0.9**
baz=118,SNR=7.8
R27A ⇓P PKKPab 18 14 28.0 -1.3
baz=118
R27A ⇓P PKKPab 18 14 28.0 -1.3
baz=118
R27A ⇓P PKKPab 18 14 28.0 -1.3
baz=118
T26A Comanche Natio 118.15 44 ⇑P **PKPdf 18 04 07.3 +0.6**
baz=118,SNR=28
T26A ⇓P PKKPab 18 14 30.5 +1.1
baz=118
T26A ⇓P PKKPab 18 14 30.5 +1.1
baz=118
T26A ⇓P PKKPab 18 14 30.5 +1.1
baz=118
Y24A Capitan 118.35 48 ⇓P **PKPdf 18 04 07.9 +0.8**
baz=118,SNR=15
Y24A ⇓P PKKPab 18 14 27.7 -0.8
baz=118,SNR=19
Y24A ⇓P PKKPab 18 14 27.7 -0.8
baz=118,SNR=19
Y24A ⇓P PKKPab 18 14 27.7 -0.8
baz=118,SNR=19
U26A Atchley Ranch, 118.43 45 ⇓P **PKPdf 18 04 07.9 +0.7**
baz=118,SNR=14
U26A ⇑P PKKPab 18 14 27.5 -0.6
baz=118,SNR=6.5
U26A ⇑P PKKPab 18 14 27.5 -0.6
baz=118,SNR=6.5
U26A ⇑P PKKPab 18 14 27.5 -0.6
baz=118,SNR=6.5
W25A X Bar L Ranch, 118.48 46 ⇓P **PKPdf 18 04 08.2 +0.9**
baz=118,SNR=9.3
W25A ⇓P PKKPab 18 14 26.6 -1.3
baz=118
W25A ⇓P PKKPab 18 14 26.6 -1.3
baz=118
W25A ⇓P PKKPab 18 14 26.6 -1.3
baz=118
MVO Moncorvo 118.55 322 *e*PKPdf **PKPdf 18 04 08.3 +1.2**
MVO *i* P PKKPdf 18 15 02.5 +8.1
MVO *e*LQ LQ 18 40 13.1
MVO *e*LR LR 18 50 11.4
comp=Z,2µm,20.0s
PMSA Palmer Station 118.56 175 *e*PKPdf PKPdf 18 03 59.2 -7.0
PMSA LR LR
comp=Z,2µm,22.0s
X25A Clemmons Ranch 118.65 47 ⇑P **PKPdf 18 04 08.6 +1.0**
baz=119
X25A ⇑P PKKPab 18 14 26.4 -0.7
baz=119
X25A ⇑P PKKPab 18 14 26.4 -0.7
baz=119
X25A ⇑P PKKPab 18 14 26.4 -0.7
baz=119
Z24A Sheeppen Canyo 118.67 49 ⇑P **PKPdf 18 04 08.3 +0.5**
baz=119,SNR=21
Z24A ⇓P PKKPab 18 14 27.1 0.0
baz=119,SNR=7.1
Z24A ⇓P PKKPab 18 14 27.1 0.0
baz=119,SNR=7.1
Z24A ⇓P PKKPab 18 14 27.1 0.0
baz=119,SNR=7.1
V26A Tequesquite Ra 118.69 46 ⇓P **PKPdf 18 04 08.3 +0.7**
baz=119,SNR=8.5
V26A ⇓P PKKPab 18 14 26.4 -0.5
baz=119,SNR=5.7
V26A ⇓P PKKPab 18 14 26.4 -0.5
baz=119,SNR=5.7
V26A ⇓P PKKPab 18 14 26.4 -0.5
baz=119,SNR=5.7
EYMN Ely 118.73 28 PFAKE 18 04 20.0 +13
EYMN LR LR
comp=Z,2µm,22.0s
T27A Campo 118.81 44 ⇑P **PKPdf 18 04 08.8 +0.9**
baz=119,SNR=6.0
T27A ⇑P PKKPab 18 14 25.7 -0.7
baz=119
T27A ⇑P PKKPab 18 14 25.7 -0.7
baz=119
T27A ⇑P PKKPab 18 14 25.7 -0.7
baz=119
PGAV Gavieira, Arco 118.85 323 *e*PKPdf **PKPdf 18 04 09.1 +1.4**
PGAV *i* P PKKPdf 18 15 05.6 +12
PGAV *e*LQ LQ 18 46 40.1
PGAV *e*LR LR 18 47 31.1
comp=Z,3µm,20.0s
ECSD EROS Data Cent 118.89 35 *e*PKPdf **PKPdf 18 04 07.6 0.0**
ECSD LR LR
comp=Z,2µm,22.0s
POLO Lamas de Olo 118.90 322 *e*PKPdf **PKPdf 18 04 08.2 +0.4**
Y25A Mesa, Roswell 118.91 48 ⇓P **PKPdf 18 04 09.0 +0.9**
baz=119,SNR=29
Y25A ⇓P PKKPab 18 14 25.2 -0.7
baz=119,SNR=12
Y25A ⇓P PKKPab 18 14 25.2 -0.7
baz=119,SNR=12
Y25A ⇓P PKKPab 18 14 25.2 -0.7
baz=119,SNR=12
PVRL Vila Real 118.91 322 *e*PKPdf **PKPdf 18 04 09.4 +1.6**
W26A Owens Ranch, T 119.04 46 ⇑P **PKPdf 18 04 09.4 +1.0**
baz=119,SNR=6.7
W26A ⇑P PKKPab 18 14 24.6 -0.8
baz=119
W26A ⇑P PKKPab 18 14 24.6 -0.8
baz=119
W26A ⇑P PKKPab 18 14 24.6 -0.8
baz=119
224A Cornudas Mount 119.10 50 ⇑P **PKPdf 18 04 09.1 +0.6**
baz=119,SNR=8.7
224A ⇓P PKKPab 18 14 24.6 -0.6
baz=119,SNR=7.8
224A ⇓P PKKPab 18 14 24.6 -0.6
baz=119,SNR=7.8
224A ⇓P PKKPab 18 14 24.6 -0.6
baz=119,SNR=7.8
Z25A Roswell 119.18 49 ⇑P **PKPdf 18 04 09.5 +0.9**
baz=119,SNR=12
Z25A ⇑P PKKPab 18 14 24.4 -0.4
baz=119,SNR=11
Z25A ⇑P PKKPab 18 14 24.4 -0.4
baz=119,SNR=11
Z25A ⇑P PKKPab 18 14 24.4 -0.4
baz=119,SNR=11
T28A Walsh 119.20 43 ⇑P **PKPdf 18 04 08.8 +0.2**
baz=119,SNR=20
T28A ⇓P PKKPab 18 14 23.7 -1.0
baz=119
T28A ⇓P PKKPab 18 14 23.7 -1.0
baz=119
T28A ⇓P PKKPab 18 14 23.7 -1.0
baz=119
X26A CR and CF Fran 119.26 47 ⇓P **PKPdf 18 04 09.2 +0.4**
baz=119,SNR=10
X26A ⇑P PKKPab 18 14 24.2 -0.2
baz=119,SNR=6.3
X26A ⇑P PKKPab 18 14 24.2 -0.2
baz=119,SNR=6.3
X26A ⇑P PKKPab 18 14 24.2 -0.2
baz=119,SNR=6.3
MTE Manteigas 119.31 321 *e*PKPdf **PKPdf 18 04 10.3 +1.7**
MTE *e*LR LR 18 50 12.0
comp=Z,2µm,20.0s
MTE Manteigas 119.31 321 *e*PKPdf **PKPdf 18 04 10.0 +1.4**
MTE LR LR
comp=Z,2µm,20.0s
MNTX Cornudas Mount 119.37 50 *e*PKPdf **PKPdf 18 04 09.9 +1.0**
MNTX Cornudas Mount 119.37 50 ⇓P **PKPdf 18 04 09.9 +1.0**
baz=119,SNR=38
MNTX ⇑P PKKPab 18 14 23.3 -0.5
baz=119,SNR=18
MNTX ⇑P PKKPab 18 14 23.3 -0.5
baz=119,SNR=18
MNTX ⇑P PKKPab 18 14 23.3 -0.5
baz=119,SNR=18
MNTX ⇑P PKKPab 18 14 23.3 -0.5
baz=119,SNR=18
MNTX ⇑P PKKPab 18 14 23.3 -0.5
baz=119,SNR=18
324A Moseley Ranch, 119.40 51 ⇑P **PKPdf 18 04 09.8 +0.7**
baz=119,SNR=29
324A ⇓P PKKPab 18 14 23.0 -0.9
baz=119,SNR=13
324A ⇓P PKKPab 18 14 23.0 -0.9
baz=119,SNR=13
324A ⇓P PKKPab 18 14 23.0 -0.9
baz=119,SNR=13
BGNE Belgrade 119.40 37 ⇑P **PKPdf 18 04 09.2 +0.5**
baz=119
BGNE ⇓P PKKPbc 18 14 21.7 -0.3
baz=119
BGNE ⇓P PKKPbc 18 14 21.7 -0.3
baz=119
BGNE ⇓P PKKPbc 18 14 21.7 -0.3
baz=119
125A Gardner Draw, 119.50 49 ⇓P **PKPdf 18 04 10.1 +0.9**
baz=119,SNR=11
125A ⇓P PKKPab 18 14 23.3 -0.1
baz=119,SNR=6.3
125A ⇓P PKKPab 18 14 23.3 -0.1
baz=119,SNR=6.3
125A ⇓P PKKPab 18 14 23.3 -0.1
baz=119,SNR=6.3
Y26A Elida 119.55 47 ⇑P **PKPdf 18 04 10.1 +0.7**
baz=120
Y26A ⇑P PKKPab 18 14 22.3 -0.9
baz=120
Y26A ⇑P PKKPab 18 14 22.3 -0.9
baz=120
Y26A ⇑P PKKPab 18 14 22.3 -0.9
baz=120
W27A Bowe Ranch, En 119.56 46 ⇓P **PKPdf 18 04 10.2 +0.9**
baz=120,SNR=6.6
W27A ⇓P PKKPab 18 14 22.3 -0.8
baz=120
W27A ⇓P PKKPab 18 14 22.3 -0.8
baz=120
W27A ⇓P PKKPab 18 14 22.3 -0.8
baz=120
PCBR Castelo Branco 119.58 321 *e*PKPdf **PKPdf 18 04 10.1 +1.1**
225A Deer Hill, Car 119.62 50 ⇓P **PKPdf 18 04 10.5 +0.9**
baz=120,SNR=8.4
225A ⇑P PKKPab 18 14 22.3 -0.7
baz=120
225A ⇑P PKKPab 18 14 22.3 -0.7
baz=120
225A ⇑P PKKPab 18 14 22.3 -0.7
baz=120
Z26A Caprock 119.73 48 ⇑P **PKPdf 18 04 10.7 +1.0**
baz=120
Z26A ⇓P PKKPab 18 14 21.5 -0.9
baz=120,SNR=6.3
Z26A ⇓P PKKPab 18 14 21.5 -0.9
baz=120,SNR=6.3
Z26A ⇓P PKKPab 18 14 21.5 -0.9
baz=120,SNR=6.3
X27A F and S Farms, 119.73 46 ⇓P **PKPdf 18 04 10.7 +1.0**
baz=120
X27A ⇑P PKKPab 18 14 21.7 -0.7
baz=120
X27A ⇑P PKKPab 18 14 21.7 -0.7
baz=120
X27A ⇑P PKKPab 18 14 21.7 -0.7
baz=120
PMRV Marv??o 119.76 320 *e*PKPdf **PKPdf 18 04 10.8 +1.4**
PMRV *i* P **SP 18 15 11.4 -5.6**
PMRV *e*LQ LQ 18 34 44.6
V28A Channing 119.82 45 ⇓P **PKPdf 18 04 10.7 +0.9**
baz=120
325A Bean Ranch, Si 119.83 51 ⇑P **PKPdf 18 04 10.5 +0.5**
baz=120,SNR=14
325A ⇑P PKKPab 18 14 21.2 -0.8
baz=120,SNR=13
325A ⇑P PKKPab 18 14 21.2 -0.8
baz=120,SNR=13
325A ⇑P PKKPab 18 14 21.2 -0.8
baz=120,SNR=13
CBKS Cedar Bluff 119.89 41 PFAKE 18 04 20.0 +10
CBKS LR LR
comp=Z,3µm,21.0s
CBKS Cedar Bluff 119.89 41 ⇓P **PKPdf 18 04 10.3 +0.6**
baz=120
CBKS ⇓P PKKPab 18 14 20.8 -0.7
baz=120
CBKS ⇓P PKKPab 18 14 20.8 -0.7
baz=120
CBKS ⇓P PKKPab 18 14 20.8 -0.7
baz=120
CBKS ⇓P PKKPab 18 14 20.8 -0.7
baz=120
CBKS ⇓P PKKPab 18 14 20.8 -0.7
baz=120
CBKS ⇓P PKKPab 18 14 20.8 -0.7
baz=120
GDL2 Guadalupe Moun 119.93 49 *e*PKPdf **PKPdf 18 04 11.2 +1.1**
SPMN St. Paul 119.98 31 ⇑P **PKPdf 18 04 10.9 +1.3**
baz=120
SPMN ⇑P PKKPbc 18 14 18.6 -1.3
baz=120
SPMN ⇑P PKKPbc 18 14 18.6 -1.3
baz=120
SPMN ⇑P PKKPbc 18 14 18.6 -1.3
baz=120
126A Clayton Basin, 119.99 49 ⇓P **PKPdf 18 04 10.6 +0.4**
baz=120,SNR=7.4
126A ⇓P PKKPab 18 14 21.1 -0.1
baz=120,SNR=16
126A ⇓P PKKPab 18 14 21.1 -0.1
baz=120,SNR=16
126A ⇓P PKKPab 18 14 21.1 -0.1
baz=120,SNR=16
Y27A Causey 120.05 47 ⇑P **PKPdf 18 04 10.7 +0.4**
baz=120,SNR=17
Y27A ⇓P PKKPab 18 14 21.0 +0.1
baz=120,SNR=12
Y27A ⇓P PKKPab 18 14 21.0 +0.1
baz=120,SNR=12
Y27A ⇓P PKKPab 18 14 21.0 +0.1
baz=120,SNR=12
425A Indio Mountain 120.07 51 ⇑P **PKPdf 18 04 11.0 +0.5**
baz=120,SNR=26
425A ⇑P PKKPab 18 14 20.2 -0.7
baz=120,SNR=6.6
425A ⇑P PKKPab 18 14 20.2 -0.7
baz=120,SNR=6.6
425A ⇑P PKKPab 18 14 20.2 -0.7
baz=120,SNR=6.6
W28A Vega 120.07 45 ⇓P **PKPdf 18 04 11.7 +1.4**
baz=120
PESTR Estremoz 120.20 320 *e*PKPdf **PKPdf 18 04 10.9 +0.6**
PBAR Barrancos 120.23 319 *e*PKPdf **PKPdf 18 04 11.9 +1.6**
V29A Stinnett 120.25 44 ⇓P **PKPdf 18 04 12.0 +1.5**
baz=120
Z27A Tatum 120.28 48 ⇓P **PKPdf 18 04 12.1 +1.4**
baz=120
Z27A ⇑P PKKPbc 18 14 19.0 +0.4
baz=120

Z27A ⇑P PKKPbc 18 14 19.0 +0.4
baz=120
Z27A ⇑P PKKPbc 18 14 19.0 +0.4
baz=120
MSTX Muleshoe 120.30 47 ⇑P **PKPdf 18 04 11.3 +0.5**
baz=120,SNR=15
MSTX ⇓P PKKPab 18 14 19.5 -0.4
baz=120,SNR=15
MSTX ⇓P PKKPab 18 14 19.5 -0.4
baz=120,SNR=15
MSTX ⇓P PKKPab 18 14 19.5 -0.4
baz=120,SNR=15
PTOM Tomar 120.30 321 *e*PKPdf **PKPdf 18 04 12.1 +1.7**
X28A Dimmitt 120.44 46 ⇑P **PKPdf 18 04 12.5 +1.5**
baz=120
127A Arkansas Junct 120.47 49 ⇑P **PKPdf 18 04 11.7 +0.6**
baz=120,SNR=7.6
127A ⇓P PKKPab 18 14 19.1 -0.1
baz=120,SNR=6.7
127A ⇓P PKKPab 18 14 19.1 -0.1
baz=120,SNR=6.7
127A ⇓P PKKPab 18 14 19.1 -0.1
baz=120,SNR=6.7
PMTG Montargil 120.50 320 *e*PKPdf **PKPdf 18 04 11.8 +1.0**
W29A Amraillo 120.54 45 ⇓P **PKPdf 18 04 12.1 +0.9**
baz=120
326A Caldwell Ranch 120.61 50 ⇓P **PKPdf 18 04 12.5 +1.1**
baz=121,SNR=11
326A ⇑P PKKPab 18 14 19.1 +0.6
baz=121
326A ⇑P PKKPab 18 14 19.1 +0.6
baz=121
326A ⇑P PKKPab 18 14 19.1 +0.6
baz=121
SCHQ Schefferville 120.62 9 PKP **PKPdf 18 04 10.6 -0.1**
SCHQ PKKPab **PKKPbc 18 14 14.6 -3.3**
SCHQ Schefferville 120.62 9 PKP **PKPdf 18 04 10.6 -0.1**
comp=Z,15nm,1.0s,baz=2.7,slow=2.9,SNR=12
SCHQ PKKPab **PKKPbc 18 14 14.6 -3.3**
comp=Z,4.7nm,0.9s,baz=173,slow=6.4,SNR=4.4
AMTX Amarillo 120.63 45 PFAKE 18 04 20.0 +8.6
AMTX LR LR
comp=Z,3μm,21.0s
EVO Evora 120.67 320 *e*PKIKP **PKPdf 18 04 12.8 +1.6**
comp=Z,34nm,1.0s
Y28A McKinney Farm, 120.71 47 ⇑P **PKPdf 18 04 12.3 +0.8**
baz=121,SNR=8.3
Y28A ⇓P PKKPab 18 14 18.4 +0.3
baz=121,SNR=7.8
Y28A ⇓P PKKPab 18 14 18.4 +0.3
baz=121,SNR=7.8
Y28A ⇓P PKKPab 18 14 18.4 +0.3
baz=121,SNR=7.8
EVOP Sao Brissos 120.74 320 *e*PKIKP **PKPdf 18 04 12.8 +1.5**
EVOP Sao Brissos 120.74 320 *e*PKPdf **PKPdf 18 04 12.8 +1.5**
227A Bennet, Jal 120.83 49 ⇑P PKiKP 18 14 17.4
baz=121,SNR=5.2
X29A Tulia 120.84 46 ⇓P **PKPdf 18 04 12.4 +0.7**
baz=121,SNR=10
X29A ⇑P PKKPbc 18 14 16.8 +0.3
baz=121,SNR=7.1
X29A ⇑P PKKPbc 18 14 16.8 +0.3
baz=121,SNR=7.1
X29A ⇑P PKKPbc 18 14 16.8 +0.3
baz=121,SNR=7.1
PBEJ Beja 120.85 319 *e*PKPdf **PKPdf 18 04 12.2 +0.6**
426A McDonald Obser 120.86 51 ⇓P **PKPdf 18 04 12.6 +0.6**
baz=121,SNR=11
426A ⇑P PKKPab 18 14 17.9 +0.3
baz=121,SNR=16
426A ⇑P PKKPab 18 14 17.9 +0.3
baz=121,SNR=16
426A ⇑P PKKPab 18 14 17.9 +0.3
baz=121,SNR=16
Z28A Tucker Farm, M 120.90 47 ⇑P **PKPdf 18 04 12.7 +0.8**
baz=121
Z28A ⇑P PKKPab 18 14 16.9 -0.3
baz=121,SNR=14
Z28A ⇑P PKKPab 18 14 16.9 -0.3
baz=121,SNR=14
Z28A ⇑P PKKPab 18 14 16.9 -0.3
baz=121,SNR=14
526A Mary Lane Ranc 121.08 52 ⇓P **PKPdf 18 04 13.0 +0.6**
baz=121,SNR=27
526A ⇓P PKKPbc 18 14 16.0 +0.4
baz=121,SNR=12
526A ⇓P PKKPbc 18 14 16.0 +0.4
baz=121,SNR=12
526A ⇓P PKKPbc 18 14 16.0 +0.4
baz=121,SNR=12
PVAQ Vaqueiros 121.10 318 *e*PKPdf **PKPdf 18 04 13.8 +1.8**
PVAQ *e*LR LR 18 47 55.1
comp=Z,2μm,18.0s
128A Castleberry Fa 121.15 48 ⇓P **PKPdf 18 04 12.8 +0.4**
baz=121,SNR=8.6
128A ⇓P PKKPab 18 14 17.0 +0.8
baz=121,SNR=24
128A ⇓P PKKPab 18 14 17.0 +0.8
baz=121,SNR=24
128A ⇓P PKKPab 18 14 17.0 +0.8
baz=121,SNR=24
Y29A Porterfield Fa 121.15 47 ⇓P **PKPdf 18 04 12.9 +0.5**
baz=121,SNR=25
Y29A ⇑P PKKPab 18 14 15.8 -0.4
baz=121,SNR=9.0
Y29A ⇑P PKKPab 18 14 15.8 -0.4
baz=121,SNR=9.0
Y29A ⇑P PKKPab 18 14 15.8 -0.4
baz=121,SNR=9.0
COWI Conover 121.18 28 PFAKE 18 04 20.0 +8.0
COWI LR LR
comp=Z,1μm,20.0s
PCVE Castro Verde 121.19 319 *e*PKPdf **PKPdf 18 04 13.9 +1.7**
MESJ Messejana 121.19 319 *e*P **PKPdf 18 04 12.7 +0.4**
MESJ AMS AMS 19 03 58.8
comp=Z,2μm,24.0s
MESJ Messejana 121.19 319 *e*PKIKP **PKPdf 18 04 12.6 +0.4**
PNCL Nicolau / Gran 121.24 319 *e*PKPdf **PKPdf 18 04 13.6 +1.3**
626A Big Bend Ranch 121.26 52 ⇓P **PKPdf 18 04 13.5 +0.8**
baz=121,SNR=10
626A ⇑P PKKPab 18 14 15.6 -0.1
baz=121,SNR=12
626A ⇑P PKKPab 18 14 15.6 -0.1
baz=121,SNR=12
626A ⇑P PKKPab 18 14 15.6 -0.1
baz=121,SNR=12
427A Hayter Ranch, 121.27 50 ⇓P **PKPdf 18 04 13.5 +0.8**
baz=121,SNR=28
427A ⇓P PKKPab 18 14 15.5 -0.2
baz=121,SNR=6.1
427A ⇓P PKKPab 18 14 15.5 -0.2
baz=121,SNR=6.1
427A ⇓P PKKPab 18 14 15.5 -0.2
baz=121,SNR=6.1
LIS Lisbon 121.29 320 *e*P **PKPdf 18 04 12.8 +0.4**
LIS AMS AMS 19 05 25.6
comp=Z,2μm,16.8s
LIS Lisbon 121.29 320 *e*PKIKP **PKPdf 18 04 12.7 +0.4**
228A UT Block 9, Go 121.30 49 ⇑P **PKPdf 18 04 13.3 +0.6**
baz=121,SNR=5.8
228A ⇑P PKKPab 18 14 15.4 0.0
baz=121,SNR=6.3
228A ⇑P PKKPab 18 14 15.4 0.0
baz=121,SNR=6.3
228A ⇑P PKKPab 18 14 15.4 0.0
baz=121,SNR=6.3
PBDV Barranco-do-Ve 121.33 318 *e*PKPdf **PKPdf 18 04 15.1 +2.6**
527A Woodward Ranch 121.41 51 ⇓P **PKPdf 18 04 13.8 +0.7**
baz=121
527A ⇑P PKKPab 18 14 15.9 +0.8
baz=121
527A ⇑P PKKPab 18 14 15.9 +0.8
baz=121
527A ⇑P PKKPab 18 14 15.9 +0.8
baz=121
Z29A Hungry Hill Ra 121.42 47 ⇓P **PKPdf 18 04 13.3 +0.4**
baz=121,SNR=20
Z29A ⇑P PKKPab 18 14 14.8 -0.2
baz=121,SNR=9.5
Z29A ⇑P PKKPab 18 14 14.8 -0.2
baz=121,SNR=9.5
Z29A ⇑P PKKPab 18 14 14.8 -0.2
baz=121,SNR=9.5
328A Wristen Ranch, 121.48 50 ⇑P **PKPdf 18 04 13.9 +0.9**
baz=121,SNR=27
328A ⇓P PKKPab 18 14 14.4 -0.3
baz=121,SNR=13
328A ⇓P PKKPab 18 14 14.4 -0.3
baz=121,SNR=13
129A Stewart Farms, 121.60 48 ⇑P **PKPdf 18 04 13.6 +0.4**
baz=122,SNR=14
129A ⇑P PKKPbc 18 14 13.7 +0.1
baz=122,SNR=13
129A ⇑P PKKPbc 18 14 13.7 +0.1
baz=122,SNR=13
129A ⇑P PKKPbc 18 14 13.7 +0.1
baz=122,SNR=13
PTEO Sao Teotonio 121.69 319 *e*PKPdf **PKPdf 18 04 15.1 +2.0**
KSU1 Kansas State U 121.72 39 *e*PKPdf **PKPdf 18 04 13.6 +0.4**
KSU1 LR LR
comp=Z,2μm,21.0s
TXAR Lajitas Array 121.72 52 PKP **PKPdf 18 04 14.2 +0.6**
TXAR PKKPab **PKKPbc 18 14 15.3 +1.7**
TXAR Lajitas Array 121.72 52 PKP **PKPdf 18 04 14.2 +0.6**
comp=Z,10nm,0.9s,baz=244,slow=1.2,SNR=58
TXAR PKKPab **PKKPbc 18 14 15.3 +1.7**
comp=Z,3.2nm,0.9s,baz=143,slow=5.1,SNR=14
MORF Marmelete 121.77 319 *e*PKPdf **PKPdf 18 04 15.2 +1.8**
MORF Marmelete 121.77 319 *e*PKIKP **PKPdf 18 04 13.9 +0.5**
428A Kincaid Ranch, 121.87 50 ⇑P **PKPdf 18 04 15.2 +1.3**
baz=122,SNR=25
428A ⇑P PKKPab 18 14 13.3 +0.3
baz=122,SNR=24
428A ⇑P PKKPab 18 14 13.3 +0.3
baz=122,SNR=24
428A ⇑P PKKPab 18 14 13.3 +0.3
baz=122,SNR=24
627A Terlingua Ranc 121.89 52 ⇑P **PKPdf 18 04 14.5 +0.5**
baz=122,SNR=40
627A ⇓P PKKPab 18 14 13.4 +0.4
baz=122
627A ⇓P PKKPab 18 14 13.4 +0.4
baz=122
627A ⇓P PKKPab 18 14 13.4 +0.4
baz=122
229A Bryant Ranch, 121.96 49 ⇑P **PKPdf 18 04 14.6 +0.6**
baz=122,SNR=5.5
229A ⇑P PKKPab 18 14 13.0 +0.4
baz=122,SNR=12
229A ⇑P PKKPab 18 14 13.0 +0.4
baz=122,SNR=12
229A ⇑P PKKPab 18 14 13.0 +0.4
baz=122,SNR=12
SCIA State Center 121.98 34 PKPdf **PKPdf 18 04 14.3 +0.7**
SCIA LR LR
comp=Z,1μm,22.0s
528A Cox Ranch, San 122.05 51 ⇑P **PKPdf 18 04 15.5 +1.3**
baz=122
528A ⇓P PKKPab 18 14 12.8 +0.5
baz=122
528A ⇓P PKKPab 18 14 12.8 +0.5
baz=122
528A ⇓P PKKPab 18 14 12.8 +0.5
baz=122
329A Wagon Wheel Ra 122.06 49 ⇑P **PKPdf 18 04 14.9 +0.7**
baz=122,SNR=13
329A ⇓P PKKPab 18 14 12.6 +0.3
baz=122,SNR=6.4
329A ⇓P PKKPab 18 14 12.6 +0.3
baz=122,SNR=6.4
329A ⇓P PKKPab 18 14 12.6 +0.3
baz=122,SNR=6.4
628A Black Gap, Mar 122.27 52 ⇓P **PKPdf 18 04 15.9 +1.3**
baz=122
628A ⇑P PKKPab 18 14 11.9 +0.6
baz=122
628A ⇑P PKKPab 18 14 11.9 +0.6
baz=122
628A ⇑P PKKPab 18 14 11.9 +0.6
baz=122
RTC Rabat Centre 122.33 314 PFAKE 18 04 30.0 +16
RTC LR LR
comp=Z,2μm,21.0s
529A Stev Forest Ra 122.50 51 ⇓P **PKPdf 18 04 15.8 +0.7**
baz=122,SNR=57
529A ⇑P PKKPab 18 14 10.9 +0.6
baz=122
529A ⇑P PKKPab 18 14 10.9 +0.6
baz=122
529A ⇑P PKKPab 18 14 10.9 +0.6
baz=122
429A Davenport Ranc 122.52 50 ⇓P **PKPdf 18 04 15.5 +0.5**
baz=122,SNR=42
429A ⇓P PKKPab 18 14 10.5 +0.3
baz=122
429A ⇓P PKKPab 18 14 10.5 +0.3
baz=122
429A ⇓P PKKPab 18 14 10.5 +0.3
baz=122
WMOK Wichita Mounta 122.75 44 *e*PKIKP **PKPdf 18 04 14.8 -0.5**
WMOK MLR MLR
comp=Z,3μm,22.0s
WMOK Wichita Mounta 122.75 44 *e*PKPdf **PKPdf 18 04 14.8 -0.5**
WMOK LR LR
comp=Z,3μm,22.0s
TORD Torodi Ar. Bea 122.81 288 PKP **PKPdf 18 04 15.7 -0.2**
TORD PP **PP 18 05 55.0 +0.7**
TORD PKKPab **PKKPbc 18 14 09.9 +1.0**
TORD Torodi Ar. Bea 122.81 288 PKP **PKPdf 18 04 15.7 -0.2**
comp=Z,22nm,0.9s,baz=44,slow=1.6,SNR=82
TORD PP **PP 18 05 55.0 +0.7**
comp=Z,4.2nm,0.8s,baz=56,slow=6.0,SNR=3.6
TORD PKKPab **PKKPbc 18 14 09.9 +1.0**
comp=Z,2.8nm,0.8s,baz=256,slow=3.4,SNR=9.8
430A Baggett Ranch, 122.95 49 ⇓P **PKPdf 18 04 16.6 +0.7**
baz=123,SNR=31
430A ⇑P PKKPab 18 14 08.8 +0.4
baz=123
430A ⇑P PKKPab 18 14 08.8 +0.4
baz=123
430A ⇑P PKKPab 18 14 08.8 +0.4
baz=123
ABTX Abilene, Hawle 123.24 47 ⇓P **PKPdf 18 04 17.6 +1.3**
baz=123
ABTX ⇓P PKKPbc 18 14 08.8 +1.6
baz=123
ABTX ⇓P PKKPbc 18 14 08.8 +1.6
baz=123
ABTX ⇓P PKKPbc 18 14 08.8 +1.6
baz=123
431A Sonora 123.47 49 ⇓P **PKPdf 18 04 18.1 +1.2**
baz=123
431A ⇑P PKKPab 18 14 05.6 -0.6
baz=123,SNR=6.8
431A ⇑P PKKPab 18 14 05.6 -0.6
baz=123,SNR=6.8
431A ⇑P PKKPab 18 14 05.6 -0.6
baz=123,SNR=6.8
531A Rocksprings 123.77 50 ⇓P **PKPdf 18 04 18.9 +1.5**
baz=124
531A ⇑P PKKPbc 18 14 05.6 +0.5
baz=124
531A ⇑P PKKPbc 18 14 05.6 +0.5
baz=124
531A ⇑P PKKPbc 18 14 05.6 +0.5
baz=124
432A Menard 123.99 49 ⇓P **PKPdf 18 04 19.0 +1.1**
baz=124
432A ⇓P PKKPbc 18 14 04.4 +0.2
baz=124
432A ⇓P PKKPbc 18 14 04.4 +0.2
baz=124
432A ⇓P PKKPbc 18 14 04.4 +0.2
baz=124
631A Perdido Creek 124.10 51 ⇓P **PKPdf 18 04 19.5 +1.5**
baz=124
TUL1 Tulsa 124.12 41 ⇓P **PKPdf 18 04 19.3 +1.4**
baz=124
TUL1 ⇑P PKKPbc 18 14 03.7 -0.1
baz=124
TUL1 ⇑P PKKPbc 18 14 03.7 -0.1
baz=124
TUL1 ⇑P PKKPbc 18 14 03.7 -0.1
baz=124
JCT Junction City 124.18 49 *e*PKIKP **PKPdf 18 04 18.8 +0.6**
JCT MLR MLR
comp=Z,2μm,21.0s
JCT Junction City 124.18 49 *e*PKPdf **PKPdf 18 04 18.8 +0.6**
JCT LR LR
comp=Z,2μm,21.0s
JCT Junction City 124.18 49 ⇑P **PKPdf 18 04 19.7 +1.5**
baz=124
JCT ⇓P PKKPbc 18 14 04.1 +0.7
baz=124
JCT ⇓P PKKPbc 18 14 04.1 +0.7
baz=124
JCT ⇓P PKKPbc 18 14 04.1 +0.7
baz=124
GLMI Grayling 124.22 26 PFAKE 18 04 30.0 +12
GLMI LR LR
comp=Z,2μm,22.0s
532A Rocksprings 124.27 50 ⇓P **PKPdf 18 04 19.5 +1.1**
baz=124
732A Laxson Ranch, 124.89 51 ⇓P **PKPdf 18 04 20.7 +1.1**
baz=125
HDIL Hopedale 125.07 33 *e*PKPdf **PKPdf 18 04 20.1 +0.5**
HDIL LR LR
comp=Z,1μm,20.0s
WHTX Lake Whitney 125.15 46 ⇓P **PKPdf 18 04 21.7 +1.8**
baz=125
WHTX ⇓P PKKPbc 18 14 00.3 +0.7
baz=125
WHTX ⇓P PKKPbc 18 14 00.3 +0.7
baz=125
WHTX ⇓P PKKPbc 18 14 00.3 +0.7
baz=125
MIAR Mount Ida 126.39 41 *e*PKIKP **PKPdf 18 04 22.6 +0.3**
MIAR MLR MLR
comp=Z,3μm,22.0s
MIAR Mount Ida 126.39 41 *e*PKPdf **PKPdf 18 04 22.6 +0.3**
MIAR LR LR
comp=Z,3μm,22.0s
AAM Ann Arbor 126.63 28 PFAKE 18 04 30.0 +7.5
AAM LR LR
comp=Z,2μm,22.0s
UALR University of 127.06 40 *e*PKPdf **PKPdf 18 04 24.1 +0.6**
KVTX Kingsville 127.06 51 PFAKE 18 04 40.0 +16
KVTX LR LR
comp=Z,2μm,22.0s
SIUC Southern Illin 127.07 36 *e*PKPdf **PKPdf 18 04 24.6 +1.1**
NATX Nacogdoches 127.27 45 PFAKE 18 04 40.0 +16
NATX LR LR
comp=Z,2μm,21.0s
HKT Hockley 127.41 47 *e*PKIKP **PKPdf 18 04 26.2 +2.0**
HKT Hockley 127.41 47 *e*PKPdf **PKPdf 18 04 26.2 +2.0**
PARMO Parma 127.46 37 *e*PKPdf **PKPdf 18 04 25.2 +1.0**
USHA Ushuaia 127.57 169 PKP **PKPdf 18 04 25.7 +1.9**
USHA Ushuaia 127.57 169 PKP **PKPdf 18 04 25.7 +1.9**
comp=Z,22nm,0.8s,baz=192,slow=1.3,SNR=8.5
GNAR Gosnell 127.76 38 *e*PKPdf **PKPdf 18 04 25.6 +0.8**
GLAT Glass 128.00 37 *e*PKPdf **PKPdf 18 04 26.5 +1.2**
PQI Presque Isle 128.21 13 PKPdf **PKPdf 18 04 26.4 +1.0**
LONY Lake Ozonia 128.30 19 PFAKE 18 04 40.0 +14
LONY LR LR
comp=Z,3μm,22.0s
ERPA Erie 128.41 25 PFAKE 18 04 40.0 +14
ERPA LR LR
comp=Z,2μm,22.0s
FRNY Flat Rock 128.42 18 *e*PKPdf **PKPdf 18 04 26.5 +0.7**
ACSO Alum Creek Sta 128.55 29 *e*PKPdf **PKPdf 18 04 26.9 +0.6**
ACSO LR LR
comp=Z,1μm,21.0s
WVT Waverly 128.96 36 *e*PKIKP **PKPdf 18 04 27.6 +0.5**
WVT Waverly 128.96 36 *e*PKPdf **PKPdf 18 04 27.6 +0.5**
OXF Oxford 129.09 39 *e*PKIKP **PKPdf 18 04 28.3 +0.9**
OXF MLR MLR
comp=Z,2μm,22.0s
OXF Oxford 129.09 39 *e*PKPdf **PKPdf 18 04 28.3 +0.9**
OXF LR LR
comp=Z,2μm,22.0s
LBNH Lisbon 129.47 17 PFAKE 18 04 40.0 +12
LBNH LR LR
comp=Z,2μm,22.0s
PLAL Pickwick Lake 129.60 37 PKPdf **PKPdf 18 04 31.1 +2.7**
PLAL LR LR
comp=Z,2μm,22.0s
TRIS Tristan da Cun 129.80 223 PFAKE 18 04 40.0 +11
TRIS LR LR
comp=Z,1μm,19.0s
VBMS Vicksburg 129.83 42 PFAKE 18 04 40.0 +11
VBMS LR LR
comp=Z,3μm,22.0s
BINY Binghamton 129.93 22 *e*PKPdf **PKPdf 18 04 29.4 +0.6**
BINY LR LR
comp=Z,2μm,22.0s
DBIC Dimbokro 130.46 282 PKP **PKPdf 18 04 31.4 +0.9**
DBIC SKPab **SKPab 18 07 50.1 -0.9**
DBIC Dimbokro 130.46 282 PKP **PKPdf 18 04 31.4 +0.9**
comp=Z,25nm,1.0s,baz=62,slow=1.9,SNR=17
DBIC SKPab **SKPab 18 07 50.1 -0.9**
comp=Z,14nm,0.9s,baz=51,slow=4.5,SNR=6.6
SWET Sewanee 130.71 36 PKPdf **PKPdf 18 04 30.8 +0.3**
LIC Lamto 130.71 281 *e*PKIKP **PKPdf 18 04 28.9 -2.1**
comp=Z,13nm,0.9s
LIC Lamto 130.71 281 *e*PKPdf **PKPdf 18 04 28.9 -2.1**
CMLA Cha da Macela 131.31 330 PFAKE 18 04 40.0 +8.4
CMLA LR LR
comp=Z,2μm,19.0s
CPCT Cooper Cave 131.34 34 PKPdf **PKPdf 18 04 32.4 +0.7**
LRAL Lakeview Retre 131.57 38 *e*PKPdf **PKPdf 18 04 33.5 +1.4**
LRAL LR LR
comp=Z,2μm,22.0s
SHEL Horse Pasture 131.62 252 PFAKE 18 04 40.0 +7.3
SHEL LR LR
comp=Z,3μm,21.0s
EFI East Falkland 132.02 176 PFAKE 18 04 40.0 +7.6
EFI LR LR
comp=Z,2μm,21.0s
BLA Blacksburg 132.16 29 PFAKE 18 04 50.0 +17
BLA LR LR
comp=Z,2μm,21.0s
CBN Corbin 132.76 26 PFAKE 18 04 50.0 +16
CBN LR LR
comp=Z,2μm,20.0s
BRAL Brewton 132.88 40 *e*PKPdf **PKPdf 18 04 37.5 +2.8**
BRAL LR LR
comp=Z,2μm,22.0s
GOGA Godfrey 133.42 35 *e*PKIKP **PKPdf 18 04 35.4 -0.3**
GOGA MLR MLR
comp=Z,1μm,22.0s
GOGA Godfrey 133.42 35 *e*PKPdf **PKPdf 18 04 35.4 -0.3**
GOGA LR LR
comp=Z,1μm,22.0s
CMIG Matias Romero 134.13 62 PKP **PKPdf 18 04 39.0 +1.6**
CMIG Matias Romero 134.13 62 PKP **PKPdf 18 04 39.0 +1.6**
baz=327,slow=3.0
CNNC Cliffs of the 134.96 29 PFAKE 18 04 50.0 +12
CNNC LR LR
comp=Z,2μm,19.0s
NHSC New Hope 135.48 33 PFAKE 18 04 50.0 +11
NHSC LR LR
comp=Z,2μm,21.0s
TEIG Tepich 138.32 54 PFAKE 18 05 00.0 +15
TEIG LR LR
comp=Z,1μm,22.0s
BBSR BB Station 142.56 16 PFAKE 18 05 00.0 +7.6
BBSR LR LR
comp=Z,2μm,20.0s
TRQA Tornquist 144.91 168 *e*PKP PKPbc 18 04 56.0 +0.4
TRQA LR LR
comp=Z,2μm,22.0s
SACV Santiago Islan 145.15 303 PFAKE 18 05 10.0 +13
SACV LR LR
comp=Z,2μm,22.0s
JTS JuntasAbangare 145.64 66 PKPbc **PKPab 18 04 59.6 +0.6**
JTS JuntasAbangare 145.64 66 PKPbc **PKPab 18 04 59.6 +0.6**
comp=Z,129nm,0.9s,baz=305,slow=2.9,SNR=29
IHA Instituto Hidr 146.19 152 *i* P **PKPab 18 05 00.4 -0.1**
CLCH Cerro Calan 146.39 154 *i* P **PKPdf 18 04 59.7 +0.5**
ROCH El Roble 146.53 153 *i* P **PKPab 18 05 02.0 -0.1**
PEL Peldehue 146.54 153 *i* P **PKPdf 18 04 56.1 -3.3**
FCH Farellones 146.56 154 *i* P **PKPbc 18 05 00.9 -0.3**
MTDJ Mount Denham 147.75 47 PKPdf **PKPdf 18 05 01.3 -0.6**
MTDJ LR LR
comp=Z,1μm,22.0s
GTBY Guantanamo Bay 148.28 41 *e*PKPbc **PKPbc 18 05 07.6 +1.6**
GTBY LR LR
comp=Z,2μm,21.0s
LPA La Plata 148.66 173 *ce*PKP **PKPbc 18 05 06.0 -0.5**
LPA La Plata 148.66 173 PKP **PKPab 18 05 09.0 -1.0**
CFAA Coronel Fontan 148.92 155 PKPbc **PKPdf 18 05 04.8 +1.4**
CFAA Coronel Fontan 148.92 155 PKPbc **PKPdf 18 05 04.8 +1.4**
comp=Z,19nm,0.8s,baz=233,slow=1.8,SNR=57
GRTK Grand Turk 149.52 34 *e*PKPbc **PKPbc 18 05 10.8 +1.8**
GRTK LR LR
comp=Z,2μm,20.0s
LCO Las Campanas 149.93 149 *e*PKPdf **PKPdf 18 05 06.6 +1.2**
LCO *e*PKPbc **PKiKP 18 05 11.8 +0.6**

LCO					LR	LR			
	comp=Z,1μm,20.0s								
BCIP	**Isla Barro Col**	**150.72**	**64**	*e*PKPbc	**PKPbc**	**18 05 12.9**	**+0.8**		
BCIP					LR	LR			
	comp=Z,2μm,21.0s								
SDDR	**Presa de Saban**	**151.40**	**37**	*e*PKPdf	**PKPdf**	**18 05 08.2**	**+0.6**		
SDDR				*e*PKPbc	**PKiKP**	**18 05 14.8**	**+0.6**		
SDDR					LR	LR			
	comp=Z,2μm,22.0s								
LRS	**Lares**	**154.45**	**31**	PKPdf	**PKPdf**	**18 05 12.8**	**+0.8**		
OTAV	**Otavalo**	**154.66**	**82**	*e*PKPdf	**PKPdf**	**18 05 14.0**	**+1.0**		
OTAV					LR	LR			
	comp=Z,1μm,21.0s								
CELP	**Cerrillos**	**154.77**	**31**	*e*PKPdf	**PKPdf**	**18 05 13.4**	**+1.0**		
ATAH	**Atahualpa**	**154.89**	**99**	PKP	**PKPdf**	**18 05 15.3**	**+2.0**		
ATAH				PKPab	**PKPab**	**18 05 36.9**	**-0.4**		
ATAH	**Atahualpa**	**154.89**	**99**	PKP	**PKPdf**	**18 05 15.3**	**+2.0**		
	comp=Z,21nm,0.9s,baz=242,slow=2.0,SNR=9.8								
ATAH					PKPab	**PKPab**	**18 05 36.9**	**-0.4**	
	comp=Z,66nm,0.9s,baz=128,slow=7.0,SNR=4.5								
SJG	**San Juan**	**154.95**	**30**	PKPab	**PKPab**	**18 05 36.9**	**+0.2**		
SJG					LR	LR			
	comp=Z,2μm,22.0s								
SJG	**San Juan**	**154.95**	**30**	PKPab	**PKPab**	**18 05 36.8**	**+0.2**		
	comp=Z,43nm,1.1s,baz=92,slow=2.2,SNR=3.8								
NNA	**Nana**	**155.38**	**111**	*e*PKPdf	**PKPdf**	**18 05 14.6**	**+1.2**		
NNA					PKP	PKP	18 05 15.6		
NNA					LR	LR			
	comp=Z,2μm,20.0s								
NNA	**Nana**	**155.38**	**111**	PKP	**PKPdf**	**18 05 15.6**	**+2.2**		
	comp=Z,18nm,0.9s,baz=281,slow=5.6,SNR=8.8								
LVC	**Limon Verde**	**155.92**	**143**	PKPdf	**PKPdf**	**18 05 15.6**	**+1.3**		
CPUP	**Villa Florida**	**157.18**	**171**	PKP	**PKPdf**	**18 05 15.9**	**+0.5**		
CPUP				PKPab	**PKPab**	**18 05 45.8**	**-0.2**		
CPUP	**Villa Florida**	**157.18**	**171**	PKP	**PKPdf**	**18 05 15.9**	**+0.5**		
	comp=Z,17nm,0.9s,baz=66,slow=0.7,SNR=27								
CPUP					PKPab	**PKPab**	**18 05 45.8**	**-0.2**	
	comp=Z,65nm,0.9s,baz=162,slow=4.1,SNR=16								
ANWB	**Willy Bob**	**157.22**	**21**	PFAKE			18 05 30.0	+14	
ANWB					LR	LR			
	comp=Z,2μm,21.0s								
ROSC	**El Rosal**	**157.43**	**68**	PKP	**PKPdf**	**18 05 17.7**	**+1.1**		
ROSC	**El Rosal**	**157.43**	**68**	PKP	**PKPdf**	**18 05 17.7**	**+1.1**		
	comp=Z,6.1nm,0.5s,baz=87,slow=19,SNR=4.9								
SDV	**Santo Domingo**	**158.75**	**54**	*e*PKPdf	**PKPdf**	**18 05 18.0**	**0.0**		
SDV					LR	LR			
	comp=Z,685nm,22.0s								
LPAZ	**La Paz**	**160.86**	**132**	PKP	**PKPdf**	**18 05 21.9**	**+1.1**		
LPAZ				PKPab	**PKPab**	**18 06 01.8**	**-1.3**		
LPAZ	**La Paz**	**160.86**	**132**	PKP	**PKPdf**	**18 05 21.9**	**+1.1**		
	comp=Z,29nm,1.0s,baz=13,slow=0.7,SNR=59								
LPAZ					PKPab	**PKPab**	**18 06 01.8**	**-1.3**	
	comp=Z,16nm,0.8s,baz=23,slow=5.7,SNR=5.2								
BBGH	**Gun Hill**	**162.19**	**20**	PFAKE			18 05 30.0	+8.6	
BBGH					LR	LR			
	comp=Z,5μm,22.0s								
GRGR	**Grenville**	**162.27**	**27**	PFAKE			18 05 30.0	+8.5	
GRGR					LR	LR			
	comp=Z,2μm,20.0s								
RCBR	**Riachuelo**	**162.44**	**262**	PKP	**PKPdf**	**18 05 22.3**	**+0.5**		
RCBR				PKPab	**PKPab**	**18 06 09.6**	**0.0**		
RCBR					LR	LR			
	comp=Z,2μm,21.0s								
RCBR	**Riachuelo**	**162.44**	**262**	PKP	**PKPdf**	**18 05 22.3**	**+0.5**		
	comp=Z,19nm,1.0s,baz=93,slow=1.0,SNR=6.4								
RCBR					PKPab	**PKPab**	**18 06 09.6**	**0.0**	
	comp=Z,118nm,0.9s,baz=88,slow=4.6,SNR=30								
SIV	**San Ignacio**	**165.64**	**149**	PKP	**PKPdf**	**18 05 24.9**	**+0.3**		
SIV				PKPab	**PKPab**	**18 06 24.2**	**+1.0**		
SIV	**San Ignacio**	**165.64**	**149**	PKP	**PKPdf**	**18 05 24.9**	**+0.3**		
	comp=Z,21nm,1.0s,baz=197,slow=1.6,SNR=38								
SIV					PKPab	**PKPab**	**18 06 24.2**	**+1.0**	
	comp=Z,27nm,0.9s,baz=212,slow=4.8,SNR=9.7								
BDFB	**Brasilia**	**167.00**	**204**	PKP	**PKPdf**	**18 05 25.6**	**-0.2**		
BDFB				PKPab	**PKPab**	**18 06 30.9**	**+1.6**		
BDFB	**Brasilia**	**167.00**	**204**	PKP	**PKPdf**	**18 05 25.6**	**-0.2**		
	comp=Z,14nm,1.0s,baz=126,slow=0.7,SNR=14								
BDFB					PKPab	**PKPab**	**18 06 30.9**	**+1.6**	
	comp=Z,35nm,1.0s,baz=158,slow=2.7,SNR=12								
SAML	**Samuel**	**168.96**	**119**	*e*PKPdf	**PKPdf**	**18 05 27.1**	**0.0**		
SAML					LR	LR			
	comp=Z,2μm,21.0s								

IPEC ***22*** *17:54:09.9±0.2, 49°.82N×18°.55E, h0km, ML1.0/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
PRU ***22*** *17:54:10.7, 49°.84N×18°.50E, h0km*
CSEM 22 17:54:09.3±0.3, 49°.78N×18°.55E, h1km, ML1.9/4, Error ellipse: s-maj=8.5km s-min=3.9km az=163.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.27**	**283**	*e*PG		Pg	17 54 15.5	+1.0
OKC				*e*SG		Sg	17 54 18.8	+0.9
	comp=Z,21nm,0.5s							
OKC	**Ostrava-Krasne**	**0.27**	**283**	Pg		Pg	17 54 15.5	+1.0
OKC				Sg		Sg	17 54 18.8	+0.9
	21nm,0.5s							
MORC	**Moravsky Berou**	**0.65**	**270**	*e*Pg		Pg	17 54 22.7	+0.8
	baz=86							
MORC				*e*Sg		Sg	17 54 30.3	-0.2
	3.1nm,0.2s,baz=86							
OJC	**Ojcow**	**0.92**	**61**	*e*Pg		Pn	17 54 27.0	0.0
	baz=244							
VRAC	**Vranov**	**1.36**	**250**	*e*Pg		Pn	17 54 35.5	-0.1
	baz=67							
VRAC				*e*Sg		Sg	17 54 53.0	-0.1
	2.8nm,0.2s,baz=67							
DPC	**Dobruska-Polom**	**1.54**	**293**	*e*PG		Pn	17 54 38.0	-0.2
DPC				*e*SG		Sn	17 54 58.3	-0.7
	comp=Z,2.8nm,0.5s							
DPC	**Dobruska-Polom**	**1.54**	**293**	Pg		Pn	17 54 38.0	-0.2
DPC				*e*Sg		Sn	17 54 57.8	-1.2
	baz=109							
KRUC	**Moravsky**	**1.58**	**244**	*e*Pg		Pn	17 54 38.8	+0.2
	baz=61							
KRUC				*e*Sg		Sg	17 55 00.1	0.0
	1.5nm,0.2s,baz=61							

IDC 22 17:55:50.0±1.7, 3°.88N×127°.08E, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.8/21, mbtmp4.1/5, Error ellipse: s-maj=176.1km s-min=19.2km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.72**	**163**	P		P	18 01 12.2	-1.0
	3.2nm,0.7s,baz=344,slow=9.6,SNR=9.9							
ASAR	**Alice Springs**	**28.17**	**167**	P		P	18 01 43.9	-0.5
	0.9nm,0.7s,baz=340,slow=8.1,SNR=2.8							
STKA	**Stephens Creek**	**38.15**	**160**	P		P	18 03 12.4	+1.3
	11nm,1.2s,baz=4.1,slow=7.4,SNR=3.9							
MKAR	**Makanchi Array**	**57.63**	**325**	P		P	18 05 42.1	+0.1
	1.0nm,0.7s,baz=121,slow=8.1,SNR=6.1							
KURBB	**Kurchatov Arra**	**61.80**	**327**	P		P	18 06 10.5	-0.2
	1.2nm,0.6s,baz=132,slow=6.2,SNR=9.6							

TIF ***22*** *18:03:00.7, 41°.97N×42°.66E, h17km±5km*
CSEM ***22*** *18:03:01.5±0.2, 41°.94N×42°.66E, h2km, MD3.2, Error ellipse: s-maj=8.5km s-min=3.1km az=134.0*
ISK ***22*** *18:03:02.4, 41°.94N×42°.57E, h17km, MD3.5*
MOS ***22*** *18:03:04.5±0.9, 41°.93N×42°.82E, h21km, mb4.2/1, Error ellipse: s-maj=27.0km s-min=9.2km az=60.2*
DDA ***22*** *18:03:08.4, 41°.83N×42°.20E, h12km, MD3.2*
ISC 22 18:03:01.7±1.0, 41°.95N±0°.02×42°.67E±0°.02, h9km±10km, n63, σ0°87/97, 5C-2D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.82**	**131**	P		**Pg**	**18 03 17.1**	**-0.5**
AKH				S		**Sg**	**18 03 28.2**	**-0.1**
ONI	**Oni**	**0.87**	**42**	P		**Pg**	**18 03 18.0**	**-0.4**
ONI				S		**Sg**	**18 03 29.7**	**-0.1**
BCA	**Borcka**	**0.93**	**237**	*e*PG		**Pg**	**18 03 18.9**	**-0.7**
BCA				*e*SG		**Sb**	**18 03 32.2**	**-0.2**
BCA	**Borcka**	**0.93**	**237**	*e*Pg		**Pg**	**18 03 18.9**	**-0.7**
BCA				*e*Sg		**Sb**	**18 03 32.3**	**-0.2**
ARTV	**Artvin**	**0.94**	**216**	*i* P		**Pg**	**18 03 19.6**	**-0.3**
ARTV				*i* S		**Sg**	**18 03 32.2**	**0.0**
ARTV	**Artvin**	**0.94**	**216**	*i* P		**Pg**	**18 03 19.6**	**-0.3**
ARTV				*i* S		**Sg**	**18 03 32.2**	**0.0**
DBOC	**Borcka**	**0.96**	**231**	*i* P		**Pg**	**18 03 20.1**	**-0.1**
DBOC				*i* S		**Sg**	**18 03 33.0**	**+0.3**
DBOC	**Borcka**	**0.96**	**231**	*i* P		**Pg**	**18 03 20.1**	**-0.1**
DBOC				*i* S		**Sg**	**18 03 33.0**	**+0.3**
GOR	**Gori**	**1.08**	**88**	P		**Pg**	**18 03 21.4**	**-1.0**
GOR				S		**Sg**	**18 03 35.5**	**-1.0**
DIGR	**Digorskoe uzhe**	**1.17**	**35**	*i*PG		**Pb**	**18 03 23.2**	**-1.0**
DIGR				*i* S		**Sb**	**18 03 39.4**	**-0.1**
DIGR	**Digorskoe uzhe**	**1.17**	**35**	*i* Pg		**Pb**	**18 03 23.2**	**-1.0**
DIGR				*i* Sg		**Sb**	**18 03 39.4**	**-0.1**
ZEI	**Tsey**	**1.23**	**48**	*i*PG		**Pn**	**18 03 24.7**	**-0.6**
ZEI				*i* S		**Sb**	**18 03 41.6**	**+0.3**
ZEI	**Tsey**	**1.23**	**48**	*i* Pg		**Pn**	**18 03 24.7**	**-0.6**
ZEI				*i* Sg		**Sb**	**18 03 41.6**	**+0.3**
KARS	**Kars**	**1.36**	**167**	*e*PN		**Pb**	**18 03 27.6**	**+0.2**
KARS				*e*SN		**Sn**	**18 03 45.4**	**+0.2**
KARS	**Kars**	**1.36**	**167**	*e*Pn		**Pb**	**18 03 27.6**	**+0.2**
KARS				*e*Sn		**Sn**	**18 03 45.4**	**+0.2**
LACR	**Lac**	**1.49**	**54**	*i*PG		**Pn**	**18 03 29.0**	**+0.2**
LACR				*i* S		**Sb**	**18 03 49.2**	**+0.4**
LACR	**Lac**	**1.49**	**54**	*i* Pg		**Pn**	**18 03 29.0**	**+0.2**
LACR				*i* Sg		**Sb**	**18 03 49.2**	**+0.4**
PZAR	**Pazar-Rize**	**1.53**	**240**	*e*PN		**Pn**	**18 03 28.7**	**-0.6**
PZAR	**Pazar-Rize**	**1.53**	**240**	*e*Pn		**Pn**	**18 03 28.7**	**-0.6**
KORR	**Kora**	**1.54**	**42**	*i*PG		**Pb**	**18 03 30.6**	**+0.2**
KORR				*e*S		**Sg**	**18 03 51.4**	**+0.2**
KORR	**Kora**	**1.54**	**42**	*i* Pg		**Pb**	**18 03 30.6**	**+0.2**
KORR				*e*Sg		**Sg**	**18 03 51.4**	**+0.2**
TBLG	**Delisi**	**1.56**	**97**	PG		**Pn**	**18 03 29.6**	**-0.1**
TBLG				S		**Sb**	**18 03 51.6**	**+0.8**
TBLG	**Delisi**	**1.56**	**97**	P		**Pn**	**18 03 29.6**	**-0.1**
TBLG				S		**Sb**	**18 03 51.6**	**+0.8**
TBLG	**Delisi**	**1.56**	**97**	P		**Pn**	**18 03 29.6**	**-0.1**
TBLG				S		**Sb**	**18 03 51.6**	**+0.8**
LSNR	**Lesken**	**1.57**	**32**	*i*PG		**Pb**	**18 03 31.1**	**+0.1**
LSNR				*e*S		**Sg**	**18 03 52.5**	**+0.2**
LSNR	**Lesken**	**1.57**	**32**	*i* Pg		**Pb**	**18 03 31.1**	**+0.1**
LSNR				*e*Sg		**Sg**	**18 03 52.5**	**+0.2**
ARNR	**Ardon**	**1.72**	**43**	*e*PN		**Pb**	**18 03 33.8**	**+0.3**
ARNR				*e*S		**Sg**	**18 03 56.8**	**-0.2**
ARNR	**Ardon**	**1.72**	**43**	*e*Pn		**Pb**	**18 03 33.8**	**+0.3**
ARNR				*e*Sg		**Sg**	**18 03 56.8**	**-0.2**
VLKR	**Vladikavkaz**	**1.85**	**53**	*e*PN		**Pb**	**18 03 35.5**	**-0.2**
VLKR				*e*S		**Sb**	**18 04 00.1**	**+1.1**
VLKR	**Vladikavkaz**	**1.85**	**53**	*e*Pn		**Pb**	**18 03 35.5**	**-0.2**
VLKR				*e*Sg		**Sb**	**18 04 00.1**	**+1.1**
BTKR	**Batakoyurt**	**1.98**	**44**	*e*PN		**Pb**	**18 03 37.7**	**-0.3**
BTKR	**Batakoyurt**	**1.98**	**44**	*e*Pn		**Pb**	**18 03 37.7**	**-0.3**
HOMI	**Horasan**	**1.99**	**197**	*i* P		**Pn**	**18 03 38.5**	**+0.2**
HOMI				*i* S		**Sg**	**18 04 06.3**	**+0.7**
KIV	**Kislovodsk**	**2.00**	**0**	*i* PN		**Pb**	**18 03 38.8**	**+0.4**
KIV				*e*			18 03 42.5	
KIV				*i*			18 03 45.2	
KIV					pmax	pmax		
	comp=Z,15nm,0.6s							
KIV	**Kislovodsk**	**2.00**	**0**	*i* Pn		**Pb**	**18 03 38.8**	**+0.4**
	comp=Z,15nm,0.6s							
KIV	**Kislovodsk**	**2.00**	**0**	*e*Pb		**Pg**	**18 03 42.5**	**+2.3**
DGRG	**David-gareji**	**2.09**	**103**	P		**Pb**	**18 03 39.1**	**-0.7**
DGRG				S		**Sg**	**18 04 07.9**	**-0.9**
ERZM	**Erzurum**	**2.27**	**206**	*i* P		**Pb**	**18 03 42.6**	**-0.4**
ERZM				*i* S		**Sg**	**18 04 16.2**	**+1.6**
ERZM	**Erzurum**	**2.27**	**206**	P		**Pb**	**18 03 42.6**	**-0.4**
EZM	**Erzurum**	**2.27**	**206**	*e*PN		**Pn**	**18 03 39.4**	**-0.2**
AGRB	**Hanur-Agry**	**2.38**	**174**	*e*PN		**Pn**	**18 03 42.6**	**+1.5**
AGRB	**Hanur-Agry**	**2.38**	**174**	*e*Pn		**Pn**	**18 03 42.7**	**+1.5**
GNI	**Garni**	**2.39**	**138**	*e*PN		**Pn**	**18 03 42.9**	**+1.7**
GNI	**Garni**	**2.39**	**138**	*e*Pn		**Pn**	**18 03 42.9**	**+1.7**
MACK	**Trabzon**	**2.40**	**246**	*i* P		**Pn**	**18 03 42.1**	**+0.9**
MACK				*i* S		**Sn**	**18 04 07.2**	**-3.5**
MACK	**Trabzon**	**2.40**	**246**	*i* P		**Pn**	**18 03 42.1**	**+0.9**
BAYT	**Ayd¨–ntepe-Bay**	**2.46**	**232**	*e*PN		**Pn**	**18 03 42.3**	**+0.1**
BAYT	**Ayd¨–ntepe-Bay**	**2.46**	**232**	*e*Pn		**Pn**	**18 03 42.3**	**+0.1**
KOPT	**Kop Dagi**	**2.53**	**221**	*i* P		**Pb**	**18 03 46.5**	**-1.0**
KOPT				*i* S		**Sb**	**18 04 18.5**	**-0.4**
GUMT	**Gumushane**	**2.83**	**239**	*e*PN		**Pn**	**18 03 47.0**	**-0.2**
GUMT	**Gumushane**	**2.83**	**239**	*e*Pn		**Pn**	**18 03 47.0**	**-0.2**
VRTB	**Varto-Mus**	**2.94**	**199**	*e*PN		**Pn**	**18 03 49.1**	**+0.4**
VRTB	**Varto-Mus**	**2.94**	**199**	*e*Pn		**Pn**	**18 03 49.1**	**+0.4**
ESPV	**Espiye-Giresun**	**3.13**	**252**	*e*PN		**Pn**	**18 03 50.6**	**-0.7**
ESPV	**Espiye-Giresun**	**3.13**	**252**	*e*Pn		**Pn**	**18 03 50.6**	**-0.7**
KELT	**Kelkit**	**3.14**	**236**	*i* P		**Pn**	**18 03 53.8**	**+2.2**
KELT				*i* S		**Sb**	**18 04 39.0**	**+2.6**
KELT	**Kelkit**	**3.14**	**236**	*i* P		**Pn**	**18 03 53.8**	**+2.2**
BNGB	**Bing¨ll**	**3.32**	**208**	*e*PN		**Pn**	**18 03 54.7**	**+0.7**
EZC	**Erzincan**	**3.34**	**230**	*e*PN		**Pn**	**18 03 54.9**	**+0.7**
EZC	**Erzincan**	**3.34**	**230**	*e*Pn		**Pn**	**18 03 54.9**	**+0.7**
BINT	**Bingol**	**3.49**	**209**	*e*Pn		**Pn**	**18 03 54.7**	**-1.6**
PTK	**Pertek**	**3.95**	**220**	*e*PN		**Pn**	**18 04 03.0**	**+0.3**
PTK	**Pertek**	**3.95**	**220**	*e*Pn		**Pn**	**18 04 03.0**	**+0.3**

IDC 22 18:04:24.3±1.4, 3°.66N×126°.69E, h0km, mb3.5/6, mb1 3.5/6, mb1mx3.4/23, mbtmp3.5/6, Error ellipse: s-maj=141.1km s-min=19.6km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.63**	**163**	P		P	18 09 46.3	-0.3
	0.5nm,0.4s,baz=345,slow=10.0,SNR=12							
ASAR	**Alice Springs**	**28.05**	**166**	P		P	18 10 18.4	+0.8
	0.3nm,1.0s,baz=345,slow=11,SNR=3.2							
SONM	**Songino Array**	**47.35**	**341**	P		P	18 13 01.6	+1.4
	0.2nm,0.6s,baz=158,slow=6.3,SNR=2.5							
MKAR	**Makanchi Array**	**57.59**	**325**	P		P	18 14 15.4	-0.7
	0.3nm,0.5s,baz=119,slow=7.1,SNR=12							
KURBB	**Kurchatov Arra**	**61.78**	**327**	P		P	18 14 43.5	-1.2
	0.5nm,0.5s,baz=128,slow=6.0,SNR=8.1							
BVAR	**Borovoye Array**	**67.36**	**327**	P		P	18 15 21.8	+0.5
	0.7nm,0.8s,baz=130,slow=4.5,SNR=3.6							

IDC ***22*** *18:06:52.0±1.0, 3°.36N×125°.99E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/22, mbtmp3.9/8, Error ellipse: s-maj=92.7km s-min=14.9km az=69.0*
ISCJB ***22*** *18:06:56.7±0.6, 3°.70N±0°.05×126°.78E±0°.06, h53km, mb3.8/8, Error ellipse: s-maj=9.1km s-min=7.0km az=155.3*
DJA ***22*** *18:06:59.3±1.0, 4°.1N±10°×12°.7E±°, h141km±21km, M4.4/3, mb4.5/2, MLv4.4/3*
ISC 22 18:06:58.5±0.8, 3°.68N±0°.06×126°.74E±0°.08, h53km, n15, σ1°31/17, mb3.9/8, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MNI	**Manado**	**2.92**	**221**	P		**Pn**	**18 07 42.9**	**+0.3**
MNI				S		Sn	18 08 24.1	+7.6
TNTI	**Ternate**	**2.95**	**168**	P		**Pn**	**18 07 43.4**	**+0.4**
TNTI				S		**Sn**	**18 08 19.9**	**+2.6**
MATI	**Mati**	**3.28**	**352**	*e*P		Pn	18 07 51.1	+3.6
MATI				*e*S		Sn	18 08 32.0	+6.7
KMSI	**Cibinong**	**4.14**	**222**	P		**Pn**	**18 07 59.4**	**+0.1**
KMSI				S		**Sn**	**18 08 47.9**	**+1.5**
BUKP	**Musuan**	**4.50**	**338**	*e*P		**Pn**	**18 08 05.9**	**+1.7**
MRSI	**Marisa**	**5.76**	**237**	P		**Pn**	**18 08 22.1**	**+0.6**
	58nm,1.1s							
SWI	**Sorong**	**6.38**	**135**	P		**Pn**	**18 08 31.7**	**+1.7**
SWI				S		**Sn**	**18 09 42.0**	**+0.4**
FITZ	**Fitzroy Crossi**	**21.67**	**183**	P		**P**	**18 11 42.7**	**-2.2**
	1.7nm,0.5s,baz=360,slow=8.3,SNR=7.7							
WRA	**Warramunga Arr**	**24.63**	**163**	P		**P**	**18 12 13.2**	**-1.1**
	5.3nm,0.7s,baz=334,slow=11,SNR=32							
ASAR	**Alice Springs**	**28.06**	**166**	P		**P**	**18 12 44.3**	**-0.9**
	0.5nm,0.4s,baz=342,slow=7.6,SNR=23							
STKA	**Stephens Creek**	**38.08**	**159**	P		**P**	**18 14 11.7**	**-0.5**
	1.4nm,0.4s,baz=348,slow=8.5,SNR=8.3							
SONM	**Songino Array**	**47.35**	**341**	P		**P**	**18 15 27.1**	**-0.2**
	0.2nm,0.5s,baz=171,slow=6.5,SNR=3.9							
MKAR	**Makanchi Array**	**57.60**	**325**	P		**P**	**18 16 42.2**	**-0.9**
	0.5nm,0.4s,baz=117,slow=7.5,SNR=12							
KURBB	**Kurchatov Arra**	**61.79**	**327**	P		**P**	**18 17 12.1**	**+0.3**
	1.0nm,0.5s,baz=125,slow=5.9,SNR=11							
AKTO	**Aktyubinsk**	**73.71**	**322**	P		**P**	**18 18 27.4**	**+0.6**
	0.4nm,0.3s,baz=101,slow=5.2,SNR=3.7							

IDC ***22*** *18:12:39.0±1.0, 3°.10N×125°.46E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.7/21, mbtmp3.7/7, MS4.0/1, Ms1 4.0/1, ms1mx2.6/48, Error ellipse: s-maj=139.8km s-min=16.2km az=66.0*

ISCJB ***22*** *18:12:42.8±0.7, 3°.83N±0°.05×126°.86E±0°.06, h48km, mb3.8/7, Error ellipse: s-maj=9.3km s-min=6.6km az=156.1*
DJA ***22*** *18:12:46.5±4.1, 4°.1N±14°×12°.7E±°, h26km±64km, M4.3/5, mb4.6/2, MLv4.2/5*
ISC 22 18:12:44.8±0.9, 3°.79N±0°.08×126°.80E±0°.08, h48km, n15, σ1°18/17, mb3.8/7, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MNI	**Manado**	**3.04**	**220**	P		**Pn**	**18 13 30.4**	**-0.1**
MNI				S		**Sn**	**18 14 06.4**	**+0.6**
TNTI	**Ternate**	**3.05**	**169**	P		**Pn**	**18 13 30.5**	**-0.1**
TNTI				S		**Sn**	**18 14 06.1**	**+0.3**
DAV	**Davao City (W)**	**3.48**	**340**	LR		LR	18 15 25.3	
	comp=Z,2μm,19.1s,baz=98,slow=42							
KMSI	**Cibinong**	**4.26**	**222**	P		Pn	18 13 49.6	+2.4
LBMI	**Labuha**	**4.45**	**171**	P		**Pn**	**18 13 50.5**	**+0.6**
LBMI				S		**Sn**	**18 14 42.8**	**+2.4**
MRSI	**Marisa**	**5.87**	**236**	P		**Pn**	**18 14 09.8**	**+0.5**
	57nm,0.5s,0.3nm							
SWI	**Sorong**	**6.42**	**136**	P		**Pn**	**18 14 17.9**	**+1.1**
SWI				S		**Sn**	**18 15 29.4**	**+0.6**
MSAI	**Masohi**	**7.40**	**163**	P		Pn	18 14 35.3	+5.0
WRA	**Warramunga Arr**	**24.72**	**163**	P		**P**	**18 18 00.1**	**-1.8**
	0.9nm,0.5s,baz=335,slow=11,SNR=18							
ASAR	**Alice Springs**	**28.15**	**166**	P		**P**	**18 18 32.4**	**-0.4**
	0.4nm,0.4s,baz=338,slow=8.3,SNR=10							
ASAR				PcP		**PcP**	**18 21 46.6**	**+0.6**
	0.2nm,0.4s,baz=359,slow=2.3,SNR=4.1							
STKA	**Stephens Creek**	**38.16**	**159**	P		**P**	**18 19 57.3**	**-2.4**
	1.2nm,0.6s,baz=341,slow=11,SNR=6.3							
SONM	**Songino Array**	**47.27**	**341**	P		**P**	**18 21 14.5**	**+1.0**
	0.4nm,0.5s,baz=158,slow=8.3,SNR=4.7							
MKAR	**Makanchi Array**	**57.55**	**325**	P		**P**	**18 22 29.1**	**-0.5**
	0.5nm,0.4s,baz=116,slow=7.4,SNR=14							
KURBB	**Kurchatov Arra**	**61.73**	**327**	P		**P**	**18 22 58.5**	**+0.2**
	1.1nm,0.5s,baz=131,slow=6.0,SNR=8.1							
BVAR	**Borovoye Array**	**67.31**	**327**	P		**P**	**18 23 35.4**	**+0.8**
	0.6nm,0.6s,baz=116,slow=3.4,SNR=4.8							

IDC ***22*** *18:26:42.6±2.7, 0°.61S×128°.42E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/18, mbtmp3.5/3, Error ellipse: s-maj=223.1km s-min=26.2km az=68.0*
DJA ***22*** *18:26:46.9±0.4, 1°.S±2°×12°.7E±°, h10km, M3.7/4, mb4.3/1, MLv3.4/4*
ISCJB ***22*** *18:26:48.3±0.8, 1°.01S±0°.06×127°.35E±0°.06, h31km, mb3.5/2, Error ellipse: s-maj=9.6km s-min=8.0km az=146.8*
ISC 22 18:26:47.2±0.8, 1°.04S±0°.05×127°.42E±0°.06, h31km, n12, σ1°79/13, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LBMI	**Labuha**	**0.41**	**11**	P		**Pn**	**18 26 56.2**	**-0.8**
LBMI				S		**Sn**	**18 27 03.6**	**0.0**
TNTI	**Ternate**	**1.80**	**358**	P		**Pb**	**18 27 18.5**	**-1.1**
AAI	**Ambon**	**2.74**	**164**	P		**Pb**	**18 27 33.5**	**-2.0**
MSAI	**Masohi**	**2.74**	**147**	S		**Sb**	**18 28 11.3**	**+2.6**
MNI	**Manado**	**3.57**	**314**	S		**Sn**	**18 28 22.4**	**+0.7**
KMSI	**Cibinong**	**3.80**	**295**	S		**Sn**	**18 28 29.2**	**+1.9**
SWI	**Sorong**	**3.84**	**87**	P		**Pb**	**18 27 52.5

WRA	**Warramunga Arr**	**88.14**	**111**	P		**P**	**19 08 22.7**	**-1.5**
	comp=N,0.2nm,0.8s,baz=303,slow=3.9,SNR=3.8							
ASAR	**Alice Springs**	**88.69**	**115**	P		**P**	**19 08 26.9**	**+0.1**
	comp=N,0.4nm,0.9s,baz=303,slow=4.2,SNR=3.5							

ISCJB ***22*** *18:58:05.8±0.7, 84°.93N±0°.06×1°.0E±°, h10km, mb3.5/8, Error ellipse: s-maj=14.9km s-min=6.5km az=158.1*
CSEM ***22*** *18:58:07.8±0.5, 85°.05N×9°.23E, h10km, ML2.6, Error ellipse: s-maj=23.9km s-min=12.5km az=61.0*
IDC ***22*** *18:58:07.2±0.8, 85°.25N×9°.89E, h0km, mb3.4/7, mb1 3.8/9, mb1mx3.5/28, mbtmp3.6/9, ML3.9/2, Error ellipse: s-maj=34.5km s-min=16.0km az=64.0*
NAO ***22*** *18:58:08.9±5.8, 84°.50N×1°.96W, ML3.6*
NEIC ***22*** *18:58:08.4±0.7, 85°.11N×8°.96E, h10km, mb4.6/1, Error ellipse: s-maj=16.3km s-min=10.7km az=62.0*

ISC 22 18:58:08.1±0.7, 85°.00N±0°.06×9°.77E±0°.10, h10km, n53, σ1§62/57, mb3.6/8, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBS	**Kingsbay**	**6.12**	**176**	Pn		**Pn**	**18 59 39.0**	**+0.7**
KBS				Sn		**Sn**	**19 00 46.7**	**-1.6**
KBS	**Kingsbay**	**6.12**	**176**	*e*P		**Pn**	**18 59 39.6**	**+1.2**
KBS				Sn		**Sn**	**19 00 46.7**	**-1.6**
KBS				AML		AML	19 00 54.0	
	comp=Z,11nm,0.4s							
KBS	**Kingsbay**	**6.12**	**176**	*e*Pn		**Pn**	**18 59 40.3**	**+1.9**
	comp=Z,27nm,0.4s							
KBS				*e*Sn		**Sn**	**19 00 47.0**	**-1.3**
KBS	**Kingsbay**	**6.12**	**176**	Pn		**Pn**	**18 59 39.0**	**+0.7**
KBS	**Kingsbay**	**6.12**	**176**	*e*P		**Pn**	**18 59 39.6**	**+1.2**
	SNR=49							
KBS				*e*Sn		**Sn**	**19 00 47.0**	**-1.3**
SPA0	**Spitsbergen Ar**	**6.93**	**169**	Pn		**Pn**	**18 59 49.6**	**+0.3**
	slow=11							
SPA0				Sn		**Sn**	**19 01 06.0**	**-2.1**
	baz=339,slow=22							
SPA0	**Spitsbergen Ar**	**6.93**	**169**	Pn		**Pn**	**18 59 49.6**	**+0.3**
	slow=11							
SPA0				Sn		**Sn**	**19 01 06.0**	**-2.1**
	baz=339,slow=22							
SPA0	**Spitsbergen Ar**	**6.93**	**169**	Pn		**Pn**	**18 59 49.7**	**+0.3**
	SNR=50							
SPITS	**Spitsbergen Ar**	**6.93**	**169**	Pn		**Pn**	**18 59 50.0**	**+0.6**
SPITS				Sn		**Sn**	**19 01 05.8**	**-2.3**
SPITS	**Spitsbergen Ar**	**6.93**	**169**	Pn		**Pn**	**18 59 50.0**	**+0.6**
	baz=19,slow=11,SNR=211							
SPITS				Sn		**Sn**	**19 01 05.8**	**-2.3**
	baz=64,slow=15,SNR=1.8							
SPITS	**Spitsbergen Ar**	**6.93**	**169**	Pn		**Pn**	**18 59 50.0**	**+0.6**
HOPEN	**Hopen**	**8.82**	**156**	*e*P		**Pn**	**19 00 14.2**	**-1.1**
HOPEN	**Hopen**	**8.82**	**156**	*e*P		**Pn**	**19 00 14.2**	**-1.1**
	SNR=47							
DAG	**Danmarks Havn**	**9.20**	**223**	*i* P		Pn	19 00 26.3	+5.8
	comp=Z,19nm,0.9s							
SUMG	**Summit**	**14.65**	**243**	*e*Pn		**Pn**	**19 01 35.8**	**+0.4**
	comp=Z,22nm,1.3s							
SUMG	**Summit**	**14.65**	**243**	*i* P		**Pn**	**19 01 36.2**	**+0.8**
	comp=Z,6.3nm,0.9s							
SUMG	**Summit**	**14.65**	**243**	*e*Pn		**Pn**	**19 01 35.8**	**+0.4**
	comp=Z,22nm,1.3s							
ARA0	**ARCESS Array S**	**15.81**	**160**	Pn		**Pn**	**19 01 49.0**	**-1.3**
	baz=349,slow=14							
ARA0	**ARCESS Array S**	**15.81**	**160**	P		**Pn**	**19 01 49.0**	**-1.3**
	baz=349,slow=14							
ARCES	**ARCESS Array B**	**15.81**	**160**	Pn		**Pn**	**19 01 48.8**	**-1.5**
ARCES	**ARCESS Array B**	**15.81**	**160**	Pn		**Pn**	**19 01 48.8**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=357,slow=13,SNR=26							
ARCES				Sn		Sn	19 04 35.3	-10
	comp=Z,0.1nm,0.3s,baz=10,slow=20,SNR=3.0							
ARCES	**ARCESS Array B**	**15.81**	**160**	Pn		**Pn**	**19 01 48.8**	**-1.5**
RES	**Resolute Bay**	**17.36**	**301**	*e*Pn		**Pn**	**19 02 09.5**	**-0.4**
RES	**Resolute Bay**	**17.36**	**301**	*e*Pn		**Pn**	**19 02 09.5**	**-0.4**
BORG	**Borgarnes**	**21.24**	**218**	*e*P		**P**	**19 02 52.9**	**-0.7**
	comp=Z,34nm,1.4s							
BORG	**Borgarnes**	**21.24**	**218**	*e*P		**P**	**19 02 52.9**	**-0.7**
	comp=Z,34nm,1.4s							
FIA0	**FINESS Array S**	**23.93**	**161**	P		**P**	**19 03 24.6**	**+3.0**
	baz=355,slow=11							
FIA0	**FINESS Array S**	**23.93**	**161**	P		**P**	**19 03 24.6**	**+3.0**
	baz=355,slow=11							
FIA0	**FINESS Array S**	**23.93**	**161**	P		**P**	**19 03 24.6**	**+3.0**
	SNR=47							
FINES	**FINESS Array B**	**23.93**	**161**	P		**P**	**19 03 24.8**	**+3.2**
FINES	**FINESS Array B**	**23.93**	**161**	P		**P**	**19 03 24.8**	**+3.2**
	comp=Z,2.5nm,0.8s,baz=335,slow=8.4,SNR=5.3							
FINES	**FINESS Array B**	**23.93**	**161**	P		**P**	**19 03 24.8**	**+3.2**
ILAR	**Eielson Array**	**30.06**	**340**	P		**P**	**19 04 17.1**	**+0.3**
ILAR	**Eielson Array**	**30.06**	**340**	P		**P**	**19 04 17.1**	**+0.3**
	comp=Z,1.0nm,1.2s,baz=198,slow=5.7,SNR=3.8							
ILAR	**Eielson Array**	**30.06**	**340**	P		**P**	**19 04 17.0**	**+0.3**
YKA	**Yellowknife Ar**	**30.76**	**311**	P		**P**	**19 04 21.8**	**-1.1**
YKA	**Yellowknife Ar**	**30.76**	**311**	P		**P**	**19 04 21.8**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=12,slow=6.8,SNR=5.1							
YKA	**Yellowknife Ar**	**30.76**	**311**	P		**P**	**19 04 21.8**	**-1.1**
AKASG	**Malin Array Be**	**34.78**	**158**	P		P	19 05 01.3	+3.2
AKASG	**Malin Array Be**	**34.78**	**158**	P		P	19 05 01.3	+3.2
	comp=Z,0.6nm,0.5s,baz=349,slow=8.6,SNR=3.1							
AKASG	**Malin Array Be**	**34.78**	**158**	P		P	19 05 01.3	+3.2
SONM	**Songino Array**	**43.17**	**78**	P		**P**	**19 06 08.3**	**-0.2**
SONM	**Songino Array**	**43.17**	**78**	P		**P**	**19 06 08.3**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=338,slow=12,SNR=4.1							
SONM	**Songino Array**	**43.17**	**78**	P		**P**	**19 06 08.3**	**-0.2**
PDAR	**Pinedale Array**	**50.03**	**303**	P		**P**	**19 07 01.4**	**-1.0**
PDAR	**Pinedale Array**	**50.03**	**303**	P		**P**	**19 07 01.4**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=317,slow=45,SNR=2.8							
PDAR	**Pinedale Array**	**50.03**	**303**	P		**P**	**19 07 01.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**71.96**	**188**	P		**P**	**19 09 33.9**	**+2.6**
TORD	**Torodi Ar. Bea**	**71.96**	**188**	P		**P**	**19 09 33.9**	**+2.6**
	comp=Z,0.7nm,1.0s,baz=3.7,slow=6.4,SNR=2.7							
TORD	**Torodi Ar. Bea**	**71.96**	**188**	P		**P**	**19 09 33.9**	**+2.6**
ASAR	**Alice Springs**	**116.28**	**58**	PKP		**PKPdf**	**19 16 49.7**	**-1.1**
ASAR	**Alice Springs**	**116.28**	**58**	PKP		**PKPdf**	**19 16 49.7**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=11,slow=2.5,SNR=3.3							
ASAR	**Alice Springs**	**116.28**	**58**	PKIKP		**PKPdf**	**19 16 49.7**	**-1.1**

DDA ***22*** *19:05:43.7, 39°.13N×29°.07E, h13km, MD3.0*
ISCJB ***22*** *19:05:44.1±0.4, 39°.09N±0°.02×29°.08E±0°.03, h8km±4km, Error ellipse: s-maj=3.9km s-min=3.5km az=6.8*
ISK ***22*** *19:05:44.0, 39°.11N×29°.11E, h7km, MD2.7*
CSEM ***22*** *19:05:44.1±0.1, 39°.11N×29°.08E, h8km, MD3.0, Error ellipse: s-maj=1.6km s-min=1.5km az=155.0*

ISC 22 19:05:44.4±1.0, 39°.11N±0°.02×29°.08E±0°.02, h7km±11km, n45, σ0§41/65, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DEMI	**Demirci**	**0.29**	**256**	*i* P		**Pg**	**19 05 50.3**	**+0.1**
DEMI				*i* S		**Sg**	**19 05 54.3**	**+0.2**
DEMI	**Demirci**	**0.29**	**256**	*i* P		**Pg**	**19 05 50.3**	**+0.1**
DEMI				*i* S		**Sg**	**19 05 54.3**	**+0.2**
GDZ	**Gediz**	**0.31**	**94**	*i* P		**Pg**	**19 05 50.5**	**0.0**
GDZ				*i* S		**Sg**	**19 05 55.0**	**+0.3**
GDZ	**Gediz**	**0.31**	**94**	*i* P		**Pg**	**19 05 50.5**	**0.0**
GDZ				*i* S		**Sg**	**19 05 55.0**	**+0.3**
TVSB	**Tavsanli**	**0.45**	**41**	PG		**Pg**	**19 05 52.7**	**-0.4**
TVSB	**Tavsanli**	**0.45**	**41**	*i* Pg		**Pg**	**19 05 52.7**	**-0.4**
DURS	**Dursunbey**	**0.68**	**316**	*i* P		**Pg**	**19 05 57.0**	**-0.4**
DURS				*i* S		**Sb**	**19 06 08.2**	**0.0**
DURS	**Dursunbey**	**0.68**	**316**	*i* P		**Pg**	**19 05 57.0**	**-0.4**
DURS				*i* S		**Sb**	**19 06 08.2**	**0.0**
KULA	**Kula-Manisa**	**0.68**	**209**	*e*PG		**Pg**	**19 05 57.3**	**-0.2**
KULA	**Kula-Manisa**	**0.68**	**209**	*e*Pg		**Pg**	**19 05 57.3**	**-0.2**
MANT	**Manisa**	**0.74**	**214**	*i* P		**Pg**	**19 05 58.5**	**-0.2**
MANT				*i* S		**Sg**	**19 06 08.0**	**-0.5**
MANT	**Manisa**	**0.74**	**214**	*i* P		**Pg**	**19 05 58.5**	**-0.2**
MANT				*i* S		**Sg**	**19 06 08.0**	**-0.5**
ALT	**Altintas**	**0.80**	**94**	*e*PG		**Pg**	**19 05 59.7**	**-0.1**
ALT	**Altintas**	**0.80**	**94**	*e*Pg		**Pg**	**19 05 59.7**	**-0.1**
KHAL	**Karahalli**	**0.81**	**157**	*i* P		**Pg**	**19 05 59.9**	**0.0**
KHAL				*i* S		**Sg**	**19 06 09.7**	**-0.7**
KHAL	**Karahalli**	**0.81**	**157**	*i* P		**Pg**	**19 05 59.9**	**0.0**
KHAL				*i* S		**Sg**	**19 06 09.7**	**-0.7**
KHL	**Karahalli**	**0.86**	**156**	*e*PG		**Pg**	**19 06 00.8**	**-0.1**
KHL				*e*SG		**Sg**	**19 06 13.2**	**+1.1**
KHL	**Karahalli**	**0.86**	**156**	*e*Pg		**Pg**	**19 06 00.8**	**-0.1**
KHL				*e*Sg		**Sg**	**19 06 13.2**	**+1.1**
ORLT	**Orhaneli**	**0.94**	**351**	*e*PG		**Pg**	**19 06 02.7**	**+0.2**
ORLT	**Orhaneli**	**0.94**	**351**	*e*Pg		**Pg**	**19 06 02.7**	**+0.2**
AKHS	**Akhisar**	**1.02**	**257**	*i* P		**Pg**	**19 06 03.6**	**-0.3**
AKHS				*i* S		**Sg**	**19 06 16.6**	**-0.5**
AKHS	**Akhisar**	**1.02**	**257**	*i* P		**Pg**	**19 06 03.6**	**-0.3**
AKHS				*i* S		**Sg**	**19 06 16.6**	**-0.5**
AKS	**Akhisar**	**1.02**	**257**	*e*PG		**Pg**	**19 06 04.4**	**+0.5**
AKS	**Akhisar**	**1.02**	**257**	*e*Pg		**Pg**	**19 06 04.4**	**+0.5**
ULDT	**Uludag**	**1.03**	**2**	*i* P		**Pg**	**19 06 03.6**	**-0.5**
ULDT				*i* S		**Sg**	**19 06 17.2**	**-0.3**
ULDT	**Uludag**	**1.03**	**2**	*i* P		**Pg**	**19 06 03.6**	**-0.5**
ULDT				*i* S		**Sg**	**19 06 17.2**	**-0.3**
BALB	**Balikesir**	**1.07**	**300**	*e*PN		**Pg**	**19 06 05.4**	**+0.5**
BALB	**Balikesir**	**1.07**	**300**	*e*Pn		**Pg**	**19 06 05.4**	**+0.5**
CAVI	**Cavuskoy**	**1.23**	**28**	*e*PN		**Pn**	**19 06 07.9**	**-0.1**
CAVI	**Cavuskoy**	**1.23**	**28**	*e*Pn		**Pn**	**19 06 07.9**	**-0.1**
SHUT	**Suhut-Afyon**	**1.28**	**116**	*e*PN		**Pn**	**19 06 08.4**	**-0.3**
SHUT	**Suhut-Afyon**	**1.28**	**116**	*e*Pn		**Pn**	**19 06 08.4**	**-0.3**
KCTX	**Karacabey (Bur**	**1.28**	**334**	*e*PN		**Pb**	**19 06 09.1**	**+0.3**
BALY	**Balya**	**1.29**	**299**	*i* P		**Pn**	**19 06 08.2**	**-0.7**
BALY				*i* S		**Sb**	**19 06 25.6**	**-0.2**
BALY	**Balya**	**1.29**	**299**	*i* P		**Pn**	**19 06 08.2**	**-0.7**
BALY				*i* S		**Sb**	**19 06 25.7**	**-0.2**
BORA	**Eskisehir**	**1.31**	**54**	*i* P		**Pn**	**19 06 08.6**	**-0.5**
BORA				*i* S		**Sb**	**19 06 26.5**	**+0.2**
BORA	**Eskisehir**	**1.31**	**54**	*i* P		**Pn**	**19 06 08.6**	**-0.5**
BORA				*i* S		**Sb**	**19 06 26.5**	**+0.2**
ADVT	**Abdulvahap**	**1.41**	**21**	*e*PN		**Pn**	**19 06 10.6**	**+0.2**
GONE	**Gonen-Balikesi**	**1.43**	**311**	*e*PN		**Pn**	**19 06 11.2**	**+0.5**
ESKT	**Eskisehir**	**1.43**	**73**	*e*PN		**Pn**	**19 06 10.6**	**-0.2**
ESKT	**Eskisehir**	**1.43**	**73**	*e*Pn		**Pn**	**19 06 10.6**	**-0.2**
ARMT	**Armutlu**	**1.46**	**353**	*e*PN		**Pn**	**19 06 11.5**	**+0.4**
EDC	**Edincik**	**1.55**	**323**	*e*PN		**Pn**	**19 06 12.9**	**+0.5**
GULT	**Gulveren**	**1.72**	**39**	*e*PN		**Pn**	**19 06 14.9**	**+0.2**
GULT	**Gulveren**	**1.72**	**39**	*e*Pn		**Pn**	**19 06 14.9**	**+0.2**

IDC 22 19:13:34.2±1.5, 24°.20S×66°.99W, h168km±15km, mb3.1/4, mb1 3.4/8, mb1mx3.3/17, mbtmp3.2/8, Error ellipse: s-maj=20.4km s-min=13.6km az=89.0, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CFAA	**Coronel Fontan**	**7.46**	**188**	P		Pn	19 15 21.9	+1.5
	0.1nm,0.3s,baz=360,slow=13,SNR=18							
CFAA				S		Sn	19 16 42.0	-2.2
	0.1nm,0.3s,baz=126,slow=19,SNR=4.5							
LPAZ	**La Paz**	**7.95**	**352**	P		Pn	19 15 28.7	+1.0
	0.7nm,0.3s,baz=168,slow=8.2,SNR=23							
LPAZ				S		Sn	19 16 54.8	-2.5
	0.1nm,0.3s,baz=294,slow=20,SNR=2.6							
CPUP	**Villa Florida**	**9.00**	**106**	P		Pn	19 15 42.0	+1.3
	0.3nm,0.3s,baz=269,slow=11,SNR=3.7							
SIV	**San Ignacio**	**9.88**	**35**	P		Pn	19 15 51.9	-0.5
	0.9nm,0.3s,baz=254,slow=12,SNR=11							
BDFB	**Brasilia**	**19.75**	**68**	P		P	19 17 51.5	0.0
	0.4nm,0.3s,baz=221,slow=9.1,SNR=8.0							
TXAR	**Lajitas Array**	**63.85**	**324**	P		P	19 23 49.4	+0.4
	0.2nm,0.8s,baz=123,slow=6.6,SNR=3.3							
TORD	**Torodi Ar. Bea**	**76.63**	**69**	P		P	19 25 06.1	-0.7
	0.3nm,0.4s,baz=268,slow=5.6,SNR=5.0							
PDAR	**Pinedale Array**	**77.33**	**329**	P		P	19 25 10.7	+0.3
	0.2nm,0.5s,baz=133,slow=8.7,SNR=2.6							
YKA	**Yellowknife Ar**	**94.32**	**340**	P		P	19 26 33.2	-0.8
	0.3nm,0.5s,baz=136,slow=4.5,SNR=7.0							
ASAR	**Alice Springs**	**128.28**	**205**	PKP		PKPdf	19 32 20.6	-0.8
	0.2nm,0.5s,baz=131,slow=2.2,SNR=4.9							
WRA	**Warramunga Arr**	**131.45**	**207**	PKP		PKPdf	19 32 27.2	-0.2
	0.2nm,0.4s,baz=158,slow=1.8,SNR=8.4							
ZALV	**Zalesovo Beam**	**143.57**	**28**	PKP		PKPbc	19 32 46.2	-0.2
	0.7nm,0.6s,baz=312,slow=3.8,SNR=5.2							
MKAR	**Makanchi Array**	**146.67**	**40**	PKPbc		PKPbc	19 32 56.0	-0.1
	0.7nm,0.5s,baz=314,slow=2.7,SNR=13							

ISCJB ***22*** *19:30:25.7±0.4, 39°.11N±0°.02×29°.07E±0°.03, h3km±4km, Error ellipse: s-maj=3.9km s-min=3.3km az=9.7*
ISK ***22*** *19:30:25.0, 39°.13N×29°.07E, h2km, MD3.0*
DDA ***22*** *19:30:25.8, 39°.09N×29°.08E, h9km, MD3.1*
CSEM ***22*** *19:30:26.0±0.1, 39°.11N×29°.07E, h5km, MD3.1, Error ellipse: s-maj=1.5km s-min=1.5km az=43.0*

ISC 22 19:30:26.2±1.0, 39°.12N±0°.02×29°.08E±0°.02, h7km±9km, n68, σ0§46/88, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DEMI	**Demirci**	**0.29**	**255**	*i* P		**Pg**	**19 30 32.2**	**+0.3**
DEMI				*i* S		**Sg**	**19 30 36.2**	**+0.4**
DEMI	**Demirci**	**0.29**	**255**	*i* P		**Pg**	**19 30 32.2**	**+0.3**
DEMI				*i* S		**Sg**	**19 30 36.2**	**+0.4**
GDZ	**Gediz**	**0.32**	**96**	*i* P		**Pg**	**19 30 32.4**	**0.0**
GDZ				*i* S		**Sg**	**19 30 36.9**	**+0.2**
GDZ	**Gediz**	**0.32**	**96**	*i* P		**Pg**	**19 30 32.4**	**0.0**
GDZ				*i* S		**Sg**	**19 30 36.9**	**+0.2**
TVSB	**Tavsanli**	**0.45**	**42**	PG		**Pg**	**19 30 34.4**	**-0.4**
TVSB	**Tavsanli**	**0.45**	**42**	*i* Pg		**Pg**	**19 30 34.4**	**-0.4**
DST	**Dursunbey**	**0.60**	**324**	*e*PG		**Pg**	**19 30 37.2**	**-0.5**
DST				*e*SG		**Sg**	**19 30 45.6**	**0.0**
DST	**Dursunbey**	**0.60**	**324**	*e*Pg		**Pg**	**19 30 37.2**	**-0.5**
DST				*e*Sg		**Sg**	**19 30 45.6**	**0.0**
DURS	**Dursunbey**	**0.67**	**316**	*i* P		**Pg**	**19 30 38.9**	**-0.2**
DURS				*i* S		**Sb**	**19 30 50.9**	**+1.1**
DURS	**Dursunbey**	**0.67**	**316**	*i* P		**Pg**	**19 30 38.9**	**-0.2**
KULA	**Kula-Manisa**	**0.69**	**208**	*e*PG		**Pg**	**19 30 39.0**	**-0.3**
KULA	**Kula-Manisa**	**0.69**	**208**	*e*Pg		**Pg**	**19 30 39.1**	**-0.3**
MANT	**Manisa**	**0.75**	**213**	*i* P		**Pg**	**19 30 40.3**	**-0.3**
MANT				*i* S		**Sg**	**19 30 49.8**	**-0.5**
MANT	**Manisa**	**0.75**	**213**	*i* P		**Pg**	**19 30 40.3**	**-0.3**
MANT				*i* S		**Sg**	**19 30 49.8**	**-0.5**
ALT	**Altintas**	**0.81**	**94**	*e*PG		**Pg**	**19 30 41.5**	**-0.2**
ALT				*e*SG		**Sb**	**19 30 53.9**	**+0.2**
ALT	**Altintas**	**0.81**	**94**	*e*Pg		**Pg**	**19 30 41.5**	**-0.2**
ALT				*e*Sg		**Sb**	**19 30 53.9**	**+0.2**
KHAL	**Karahalli**	**0.82**	**156**	*i* P		**Pg**	**19 30 41.8**	**-0.1**
KHAL				*i* S		**Sg**	**19 30 51.9**	**-0.6**
KHAL	**Karahalli**	**0.82**	**156**	*i* P		**Pg**	**19 30 41.8**	**-0.1**
KHAL				*i* S		**Sg**	**19 30 51.9**	**-0.6**
KHL	**Karahalli**	**0.87**	**156**	*e*PG		**Pg**	**19 30 42.7**	**-0.2**
KHL	**Karahalli**	**0.87**	**156**	*e*Pg		**Pg**	**19 30 42.7**	**-0.2**
ORLT	**Orhaneli**	**0.94**	**352**	*e*PG		**Pg**	**19 30 43.6**	**-0.5**
ORLT	**Orhaneli**	**0.94**	**352**	*e*Pg		**Pg**	**19 30 43.6**	**-0.5**
AKHS	**Akhisar**	**1.01**	**257**	*i* P		**Pg**	**19 30 45.7**	**+0.1**
AKHS				*i* S		**Sg**	**19 30 58.3**	**-0.4**
AKHS	**Akhisar**	**1.01**	**257**	*i* P		**Pg**	**19 30 45.7**	**+0.1**
AKHS				*i* S		**Sg**	**19 30 58.3**	**-0.4**
AKS	**Akhisar**	**1.01**	**257**	*e*PG		**Pg**	**19 30 45.5**	**-0.1**
AKS	**Akhisar**	**1.01**	**257**	*e*Pg		**Pg**	**19 30 45.5**	**-0.1**
BALB	**Balikesir**	**1.06**	**300**	*e*PG		**Pg**	**19 30 46.1**	**-0.4**
BALB	**Balikesir**	**1.06**	**300**	*e*Pg		**Pg**	**19 30 46.1**	**-0.4**
CAVI	**Cavuskoy**	**1.23**	**28**	*e*PN		**Pb**	**19 30 49.4**	**-0.4**
CAVI				*e*SN		**Sn**	**19 31 06.7**	**0.0**
CAVI	**Cavuskoy**	**1.23**	**28**	*e*Pn		**Pb**	**19 30 49.4**	**-0.4**
CAVI				*e*Sn		**Sn**	**19 31 06.7**	**0.0**
MDNY	**Mudanya-Bursa**	**1.26**	**353**	*e*PN		**Pn**	**19 30 49.5**	**-0.6**
MDNY	**Mudanya-Bursa**	**1.26**	**353**	*e*Pn		**Pn**	**19 30 49.5**	**-0.6**
KCTX	**Karacabey (Bur**	**1.27**	**334**	*e*PN		**Pn**	**19 30 49.9**	**-0.5**
KCTX	**Karacabey (Bur**	**1.27**	**334**	*e*Pn		**Pn**	**19 30 49.9**	**-0.5**
SHUT	**Suhut-Afyon**	**1.28**	**116**	*e*PN		**Pn**	**19 30 50.5**	**-0.1**
SHUT	**Suhut-Afyon**	**1.28**	**116**	*e*Pn		**Pn**	**19 30 50.5**	**-0.1**
BALY	**Balya**	**1.29**	**299**	*i* P		**Pn**	**19 30 50.5**	**-0.1**
BALY				*i* S		**Sb**	**19 31 07.4**	**-0.1**
BALY	**Balya**	**1.29**	**299**	*i* P		**Pn**	**19 30 50.5**	**-0.1**
BALY				*i* S		**Sb**	**19 31 07.4**	**-0.1**
GONE	**Gonen-Balikesi**	**1.42**	**311**	*e*PN		**Pn**	**19 30 52.5**	**+0.2**
GONE	**Gonen-Balikesi**	**1.42**	**311**	*e*Pn		**Pn**	**19 30 52.5**	**+0.2**
DNZL	**Cakiroluk**	**1.43**	**181**	*i* P		**Pn**	**19 30 51.8**	**-0.9**
DNZL				*i* S		**Sg**	**19 31 14.1**	**+2.0**
DNZL	**Cakiroluk**	**1.43**	**181**	*i* P		**Pn**	**19 30 51.8**	**-0.9**
ESKT	**Eskisehir**	**1.43**	**73**	*e*PN		**Pb**	**19 30 53.1**	**-0.2**
ESKT	**Eskisehir**	**1.43**	**73**	*e*Pn		**Pb**	**19 30 53.1**	**-0.2**
ARMT	**Armutlu**	**1.45**	**354**	*e*PN		**Pn**	**19 30 53.1**	**+0.2**
ARMT	**Armutlu**	**1.45**	**354**	*e*Pn		**Pn**	**19 30 53.1**	**+0.2**
YLV	**Yalova**	**1.46**	**9**	*e*PN		**Pb**	**19 30 53.9**	**+0.2**
YLV	**Yalova**	**1.46**	**9**	*e*Pn		**Pb**	**19 30 53.9**	**+0.2**
GPA	**Golpazari**	**1.51**	**39**	*e*PN		**Pn**	**19 30 53.9**	**+0.3**
GPA	**Golpazari**	**1.51**	**39**	*e*Pn		**Pn**	**19 30 53.9**	**+0.3**
BNT	**Bandirma**	**1.52**	**325**	*e*PN		**Pn**	**19 30 54.1**	**+0.3**
BNT	**Bandirma**	**1.52**	**325**	*e*Pn		**Pn**	**19 30 54.1**	**+0.3**
EDC	**Edincik**	**1.54**	**323**	*e*PN		**Pn**	**19 30 54.2**	**+0.2**
EDC	**Edincik**	**1.54**	**323**	*e*Pn		**Pn**	**19 30 54.2**	**+0.2**
GULT	**Gulveren**	**1.72**	**40**	*e*PN		**Pn**	**19 30 57.0**	**+0.4**
GULT	**Gulveren**	**1.72**	**40**	*e*Pn		**Pn**	**19 30 57.0**	**+0.4**
BLCB	**Balcova**	**1.75**	**246**	*e*PN		**Pn**	**19 30 57.4**	**+0.5**
BLCB	**Balcova**	**1.75**	**246**	*e*Pn		**Pn**	**19 30 57.4**	**+0.5**
HRT	**Hereke**	**1.76**	**15**	*e*PN		**Pn**	**19 30 57.4**	**+0.3**
HRT	**Hereke**	**1.76**	**15**	*e*Pn		**Pn**	**19 30 57.4**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.93**	**79**	*e*PN		**Pn**	**19 31 00.2**	**+0.7**
SVRH	**Sivrihisar-ESK**	**1.93**	**79**	*e*Pn		**Pn**	**19 31 00.2**	**+0.7**
BGKT	**Bogazkoy**	**2.07**	**354**	*e*PN		**Pn**	**19 31 01.8**	**+0.5**
BGKT	**Bogazkoy**	**2.07**	**354**	*e*Pn		**Pn**	**19 31 01.8**	**+0.5**
CTKS	**Kestanelik-??a**	**2.16**	**349**	*e*PN		**Pn**	**19 31 03.1**	**+0.6**
CTKS	**Kestanelik-??a**	**2.16**	**349**	*e*Pn		**Pn**	**19 31 03.1**	**+0.6**
SLVT	**Silivri**	**2.21**	**343**	*e*PN		**Pn**	**19 31 03.7**	**+0.5**
SLVT	**Silivri**	**2.21**	**343**	*e*Pn		**Pn**	**19 31 03.7**	**+0.5**

IDC ***22*** *19:40:18.3±0.8, 3°.77N×126°.77E, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.9/24, mbtmp4.0/12, MS2.9/1, Ms1 2.9/1, ms1mx2.2/3, 29 stations: s-maj=63.3km s-min=13.6km az=68.0*
ISCJB ***22*** *19:40:21.8±0.6, 3°.91N±0°.05×126°.9E±0°.1, h36km, mb4.0/12, Error ellipse: s-maj=14.7km s-min=6.8km az=165.0*
DJA ***22*** *19:40:28, 3°.49N×126°.82E, h10km, MLv4.5/6*

ISC 22 19:40:24.0±0.7, 3°.85N±0°.08×126°.9E±0°.1, h36km, n22, σ1§18/21, mb4.0/12, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**3.10**	**171**	P		**Pn**	**19 41 10.9**	**+0.6**
TNTI				S		**Sn**	**19 41 46.5**	**+0.4**
MATI	**Mati**	**3.13**	**349**	*e*P		Pn	19 41 20.0

JHO	**Hitachi**	**11.54**	**359**	P	Pn	20	13	45.9 -4.1
JHO				S	Sn	20	15	49.7 -7.3

IDC 22 20:14:11.5±0.9, 23°28S×175°95W, h0km, mb4.0/10, mb1 4.1/10, mb1mx4.0/20, mbtmp4.0/10, Error ellipse: s-maj=34.5km s-min=22.4km az=161.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.29**	**271**	Pn	P	20 18 08.0	+2.9
	0.1nm,0.3s,baz=102,slow=19,SNR=2.0						
CTA	**Charters Tower**	**35.20**	**268**	P	P	20 21 07.1	-0.6
	5.8nm,0.8s,baz=96,slow=11,SNR=8.2						
PMG	**Port Moresby**	**37.86**	**285**	P	P	20 21 29.4	-1.0
	3.2nm,0.7s,baz=120,slow=7.7,SNR=2.2						
STKA	**Stephens Creek**	**38.39**	**248**	P	P	20 21 34.6	-0.1
	0.5nm,0.4s,baz=102,slow=14,SNR=3.7						
ASAR	**Alice Springs**	**45.80**	**259**	P	P	20 22 36.1	+0.7
	1.8nm,0.9s,baz=91,slow=8.5,SNR=10.0						
WRA	**Warramunga Arr**	**46.16**	**264**	P	P	20 22 37.7	-0.5
	0.5nm,0.3s,baz=96,slow=8.4,SNR=20						
FITZ	**Fitzroy Crossi**	**54.58**	**264**	P	P	20 23 41.3	-0.7
	1.6nm,0.6s,baz=143,slow=3.6,SNR=5.0						
QSPA	**South Pole Qui**	**66.80**	**180**	P	P	20 25 04.7	-0.2
	2.5nm,0.9s,baz=236,slow=2.3,SNR=6.5						
TXAR	**Lajitas Array**	**86.98**	**56**	P	P	20 26 58.0	-1.0
	0.8nm,0.9s,baz=201,slow=6.7,SNR=5.7						
ILAR	**Eielson Array**	**90.61**	**12**	P	P	20 27 15.8	+0.6
	0.4nm,0.9s,baz=231,slow=5.7,SNR=3.4						
CMAR	**Chiang Mai Arr**	**92.82**	**289**	P	P	20 27 28.4	+1.8
	0.4nm,0.4s,baz=142,slow=3.4,SNR=3.4						
AKASG	**Malin Array Be**	**146.36**	**331**	PKPbc	PKPdf	20 33 51.4	-1.4
	3.5nm,0.8s,baz=39,slow=4.2,SNR=7.7						
BRTR	**Keskin Array B**	**150.09**	**310**	PKPbc	PKPbc	20 34 04.8	+0.2
	0.7nm,0.8s,baz=149,slow=6.2,SNR=3.5						
MMAI	**Mount Meron Ar**	**150.79**	**296**	PKPbc	PKPbc	20 34 07.7	+1.3
	4.9nm,1.0s,baz=46,slow=8.9,SNR=4.6						

IDC 22 20:15:02.4±2.2, 3°80N×127°06E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, MS2.9/1, Ms1 2.9/1, ms1mx2.0/30, Error ellipse: s-maj=192.4km s-min=24.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.56**	**336**	LR	LR	20 17 41.7	
	comp=Z,151nm,18.6s,baz=121,slow=45						
WRA	**Warramunga Arr**	**24.66**	**163**	P	P	20 20 24.8	-0.3
	0.7nm,0.5s,baz=343,slow=9.7,SNR=13						
ASAR	**Alice Springs**	**28.11**	**167**	P	P	20 20 56.2	0.0
	0.1nm,0.2s,baz=344,slow=11,SNR=3.8						
STKA	**Stephens Creek**	**38.08**	**160**	P	P	20 22 23.4	+0.3
	0.9nm,0.4s,baz=331,slow=13,SNR=3.0						
MKAR	**Makanchi Array**	**57.68**	**325**	P	P	20 24 54.7	-0.1
	0.2nm,0.6s,baz=118,slow=8.2,SNR=3.6						

MAN 22 20:21:56, 9°66N×126°40E, h6km, mb4.7, ML3.6, MS3.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.03**	**228**	*e*P	Pg	20 22 16.1	+0.2
BUTP				*e*S	Sn	20 22 32.6	+0.7
MSLP	**Maasin**	**1.59**	**287**	*e*P	Pn	20 22 25.2	+0.4
MSLP				*e*S	Sg	20 22 46.9	-0.4
CGP	**Cagayan de Oro**	**2.07**	**235**	*e*P	Pb	20 22 33.1	-0.9
CGP				*e*S	Sn	20 22 58.2	+0.7
BESP	**Borongan**	**2.15**	**334**	*e*P	Pb	20 22 33.9	-1.4
BUKP	**Musuan**	**2.21**	**217**	*e*P	Pb	20 22 37.0	+0.5
OCLP	**Ormoc**	**2.24**	**308**	*e*P	Pb	20 22 35.3	-1.6
TBP	**Tagbilaran**	**2.51**	**271**	*e*P	Pb	20 22 39.8	-1.7
TBP				*e*S	Sn	20 23 10.2	+1.9

ISK 22 20:23:02.8, 38°61N×40°87E, h5km, MD2.8
DDA 22 20:23:02.6, 38°60N×40°80E, h7km, MD3.0
ISCJB 22 20:23:03.1±0.6, 38°58N±0°03×40°87E±0°04, h9km±7km, Error ellipse: s-maj=6.0km s-min=4.4km az=160.1
CSEM 22 20:23:03.0±0.2, 38°57N×40°86E, h8km, MD2.8, Error ellipse: s-maj=5.1km s-min=3.9km az=151.0

ISC 22 20:23:02.7±1.1, 38°58N±0°03×40°83E±0°03, h9km±12km, n20, σ0°51/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.40**	**318**	*e*Pg	Pb	**20 23 11.3**	**-0.7**
BINT				*e*Sg	Sb	**20 23 18.0**	**-0.2**
BNGB	**Bing¯¶l**	**0.42**	**344**	*e*PG	Pg	**20 23 11.3**	**+0.3**
BNGB				*e*SG	Sb	**20 23 18.0**	**-1.1**
BNGL	**BINGOL**	**0.45**	**34**	*i* P	Pb	**20 23 12.3**	**-0.6**
BNGL				*i* S	Sg	**20 23 17.9**	**+0.5**
BTMT	**Batman**	**0.65**	**127**	*e*PG	Pg	**20 23 14.9**	**-0.4**
BTMT	**Batman**	**0.65**	**127**	*e*Pg	Pg	**20 23 14.9**	**-0.4**
VRTB	**Varto-Mus**	**0.76**	**40**	*e*PG	Pg	**20 23 17.4**	**0.0**
VRTB				*e*SG	Sg	**20 23 26.9**	**-0.3**
VRTB	**Varto-Mus**	**0.76**	**40**	*e*Pg	Pg	**20 23 17.4**	**0.0**
VRTB				*e*Sg	Sg	**20 23 26.9**	**-0.3**
BEST	**Besiri**	**0.77**	**153**	*i* P	Pb	**20 23 12.4**	**+0.1**
BEST				*i* S	Sb	**20 23 29.3**	**+0.4**
DIYA	**Diyarbakir**	**0.86**	**220**	*i* P	Pg	**20 23 19.6**	**+0.3**
DIYA				*i* S	Sb	**20 23 31.8**	**+0.3**
DIYA	**Diyarbakir**	**0.86**	**220**	*i* P	Pg	**20 23 19.6**	**+0.3**
DIYA				*i* S	Sb	**20 23 31.8**	**+0.3**
PTK	**Pertek**	**1.17**	**286**	*e*PN	Pg	**20 23 25.4**	**+0.3**
PTK	**Pertek**	**1.17**	**286**	*e*Pn	Pg	**20 23 25.4**	**+0.3**
MARD	**Mardin**	**1.27**	**182**	*i* P	Pn	**20 23 25.9**	**-0.7**
MARD				*i* S	Sb	**20 23 43.1**	**-0.1**
EZM	**Erzurum**	**1.39**	**17**	*e*PN	Pb	**20 23 29.1**	**+0.2**
ELZG	**Elazig**	**1.45**	**267**	*i* P	Pn	**20 23 29.4**	**+0.2**
ELZG				*i* S	Sg	**20 23 49.5**	**+0.2**
ELZG	**Elazig**	**1.45**	**267**	*i* P	Pn	**20 23 29.4**	**+0.2**
ELZG				*i* S	Sg	**20 23 49.5**	**+0.2**
MALT	**Malatya**	**1.90**	**263**	*e*PN	Pb	**20 23 37.0**	**-0.6**
MALT	**Malatya**	**1.90**	**263**	*e*Pn	Pb	**20 23 37.0**	**-0.6**
AGRB	**Hanur-Agry**	**1.96**	**59**	*e*PN	Pn	**20 23 37.2**	**+1.0**
AGRB	**Hanur-Agry**	**1.96**	**59**	*e*Pn	Pn	**20 23 37.2**	**+1.0**

ISK 22 20:25:32.8, 41°12N×34°48E, h7km, MD3.3
DDA 22 20:25:32.6, 41°09N×34°48E, h11km, MD3.4
CSEM 22 20:25:33.2±0.1, 41°11N×34°47E, h2km, MD3.3, Error ellipse: s-maj=2.0km s-min=1.8km az=114.0

ISC 22 20:25:33.5±1.1, 41°11N±0°02×34°48E±0°02, h3km±11km, n44, σ0°45/64, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOS	**Tosya**	**0.35**	**258**	*e*PG	Pg	**20 25 40.0**	**-0.1**
TOS	**Tosya**	**0.35**	**258**	*e*Pg	Pg	**20 25 40.1**	**-0.1**
BYBT	**Boyabat**	**0.42**	**31**	*e*PG	Pg	**20 25 41.3**	**-0.2**
BYBT				*e*SG	Sg	**20 25 47.1**	**+0.1**
BYBT	**Boyabat**	**0.42**	**31**	*e*Pg	Pg	**20 25 41.3**	**-0.2**
BYBT				*e*Sg	Sg	**20 25 47.1**	**+0.1**
BOYT	**Boyabat**	**0.45**	**46**	*i* P	Pg	**20 25 41.6**	**-0.5**
BOYT				*i* S	Sg	**20 25 47.8**	**-0.1**
BOYT	**Boyabat**	**0.45**	**46**	*i* P	Pg	**20 25 41.6**	**-0.5**
BOYT				*i* S	Sg	**20 25 47.8**	**-0.1**
CTKT	**Corum**	**0.54**	**154**	*i* P	Pg	**20 25 43.8**	**-0.1**
CTKT				*i* S	Sg	**20 25 51.0**	**+0.1**
CTKT	**Corum**	**0.54**	**154**	*i* P	Pg	**20 25 43.8**	**-0.1**
CTKT				*i* S	Sg	**20 25 51.0**	**+0.1**
KAST	**KASTAMONU**	**0.56**	**313**	*i* P	Pg	**20 25 44.3**	**+0.1**
KAST				*i* S	Sg	**20 25 52.1**	**+0.6**
KAST	**KASTAMONU**	**0.56**	**313**	*i* P	Pg	**20 25 44.3**	**+0.1**
KAST				*i* S	Sg	**20 25 52.1**	**+0.6**
DIKM	**Dikmen**	**0.80**	**47**	*e*PG	Pg	**20 25 48.4**	**-0.4**
DIKM	**Dikmen**	**0.80**	**47**	*e*Pg	Pg	**20 25 48.4**	**-0.4**
BZK	**Bozkurt**	**0.92**	**338**	*e*PG	Pg	**20 25 51.6**	**+0.5**
BZK	**Bozkurt**	**0.92**	**338**	*e*Pg	Pg	**20 25 51.6**	**+0.5**
BALT	**Daday**	**0.92**	**298**	*i* P	Pg	**20 25 51.0**	**-0.2**
BALT				*i* S	Sg	**20 26 03.1**	**0.0**
BALT	**Daday**	**0.92**	**298**	*i* P	Pg	**20 25 51.0**	**-0.2**
BALT				*i* S	Sg	**20 26 03.1**	**0.0**
CORM	**Corum**	**0.94**	**173**	*e*PG	Pg	**20 25 51.1**	**-0.4**
CORM	**Corum**	**0.94**	**173**	*e*Pg	Pg	**20 25 51.1**	**-0.4**
HAVZ	**Havza**	**0.94**	**92**	*i* P	Pg	**20 25 51.2**	**-0.3**
HAVZ				*i* S	Sg	**20 26 04.4**	**+0.7**
HAVZ	**Havza**	**0.94**	**92**	*i* P	Pg	**20 25 51.2**	**-0.3**
HAVZ				*i* S	Sg	**20 26 04.4**	**+0.7**
ELDT	**Eldivan**	**1.01**	**232**	*i* P	Pg	**20 25 52.3**	**-0.5**
ELDT				*i* S	Sg	**20 26 05.9**	**0.0**
ELDT	**Eldivan**	**1.01**	**232**	*i* P	Pg	**20 25 52.3**	**-0.5**
ELDT				*i* S	Sg	**20 26 05.9**	**0.0**
SAFT	**Safranbolu**	**1.36**	**276**	*e*PN	Pn	**20 25 58.1**	**-1.2**
SAFT	**Safranbolu**	**1.36**	**276**	*e*Pn	Pn	**20 25 58.1**	**-1.2**
CDAG	**Cicekdag**	**1.49**	**183**	*i* P	Pn	**20 26 00.6**	**-0.6**
CDAG				*i* S	Sn	**20 26 20.6**	**-0.6**
CDAG	**Cicekdag**	**1.49**	**183**	*i* P	Pn	**20 26 00.6**	**-0.6**
CDAG				*i* S	Sn	**20 26 20.6**	**-0.6**
YOZ	**Yozgat**	**1.60**	**156**	*e*PN	Pn	**20 26 02.6**	**-0.3**
YOZ	**Yozgat**	**1.60**	**156**	*e*Pn	Pn	**20 26 02.6**	**-0.3**
LOD	**Lodumlu**	**1.79**	**227**	*e*PN	Pn	**20 26 05.2**	**-0.1**
LOD	**Lodumlu**	**1.79**	**227**	*e*Pn	Pn	**20 26 05.2**	**-0.1**
BBAL	**Bala**	**1.88**	**214**	*i* P	Pn	**20 26 06.2**	**-0.4**
BBAL				*i* S	Sn	**20 26 31.1**	**+0.3**
BBAL	**Bala**	**1.88**	**214**	*i* P	Pn	**20 26 06.2**	**-0.4**
BBAL				*i* S	Sn	**20 26 31.1**	**+0.3**
AFSR	**Af˘ar-Bala (A**	**1.98**	**213**	*e*PN	Pn	**20 26 07.7**	**-0.3**
AFSR	**Af˘ar-Bala (A**	**1.98**	**213**	*e*Pn	Pn	**20 26 07.7**	**-0.3**
AVNT	**Avonos**	**2.35**	**173**	*i* P	Pn	**20 26 13.6**	**+0.5**
AVNT				*i* S	Sb	**20 26 46.2**	**+0.3**
AVNT	**Avonos**	**2.35**	**173**	*i* P	Pn	**20 26 13.6**	**+0.5**
AVNT				*i* S	Sb	**20 26 46.2**	**+0.3**
BNN	**Bunyan**	**2.49**	**155**	*e*PN	Pn	**20 26 15.2**	**+0.2**
BNN	**Bunyan**	**2.49**	**155**	*e*Pn	Pn	**20 26 15.2**	**+0.2**
MDUB	**Mudurnu**	**2.57**	**257**	*e*PN	Pn	**20 26 16.2**	**+0.2**
MDUB	**Mudurnu**	**2.57**	**257**	*e*Pn	Pn	**20 26 16.3**	**+0.2**
SULT	**Sultanhani-AKS**	**3.00**	**195**	*e*PN	Pn	**20 26 22.6**	**+0.6**
SULT	**Sultanhani-AKS**	**3.00**	**195**	*e*Pn	Pn	**20 26 22.6**	**+0.6**
KONT	**Konya--Tatoy**	**3.56**	**208**	*e*PN	Pn	**20 26 30.4**	**+0.8**
KONT	**Konya--Tatoy**	**3.56**	**208**	*e*Pn	Pn	**20 26 30.4**	**+0.8**

IDC 22 20:27:09.0±2.0, 3°95N×127°08E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=166.4km s-min=24.5km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.79**	**164**	P	P	20 32 31.7	-1.1
	0.7nm,0.5s,baz=343,slow=10,SNR=9.7						
ASAR	**Alice Springs**	**28.25**	**167**	P	P	20 33 05.3	+1.3
	0.1nm,0.4s,baz=343,slow=9.5,SNR=4.5						
STKA	**Stephens Creek**	**38.21**	**160**	P	P	20 34 30.6	-0.1
	1.4nm,0.8s,baz=326,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**57.58**	**325**	P	P	20 37 00.5	-0.1
	0.1nm,0.4s,baz=116,slow=6.6,SNR=3.4						

IDC 22 20:33:47.8±2.4, 3°97N×126°25E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/20, mbtmp3.2/3, MS3.5/1, Ms1 3.5/1, ms1mx2.5/22, Error ellipse: s-maj=212.4km s-min=27.4km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**20.72**	**61**	LR	LR	20 45 57.5	
	comp=Z,132nm,21.9s,baz=87,slow=35						
WRA	**Warramunga Arr**	**25.06**	**162**	P	P	20 39 13.1	-1.0
	0.3nm,0.7s,baz=340,slow=11,SNR=4.7						
ASAR	**Alice Springs**	**28.46**	**165**	P	P	20 39 45.5	+0.6
	0.2nm,0.6s,baz=349,slow=13,SNR=2.8						
MKAR	**Makanchi Array**	**57.09**	**325**	P	P	20 43 36.1	+0.1
	0.1nm,0.4s,baz=120,slow=8.2,SNR=4.8						

BJI 22 20:49:42.7, 52°70N×178°80W, h220km, mB4.8/12, mb4.4/22
IDC 22 20:49:44.6±0.6, 52°52N×178°93W, h220km±5km, mb4.1/34, mb1 4.2/37, mb1mx4.2/43, mbtmp4.1/37, Error ellipse: s-maj=11.4km s-min=5.7km az=165.0
ISCJB 22 20:49:45.3±0.2, 52°66N±0°05×178°89W±0°03, h241km, mb4.4/122, Error ellipse: s-maj=6.5km s-min=2.7km az=175.7
NEIC 22 20:49:47.0±0.2, 52°64N×178°89W, mb4.5/90, Error ellipse: s-maj=6.8km s-min=3.2km az=172.0

ISC 22 20:49:45.0±0.3, 52°51N±0°08×178°91W±0°03, h227km, h227km:pP-P, n626, σ0°94/675, mb4.5/122, 215C-180D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOWE	**Korovin West**	**2.85**	**91**	P	Pn	**20 50 33.8**	**-0.6**
KOKL	**Mount Kliuchef**	**2.89**	**92**	P	Pn	**20 50 34.4**	**-0.5**
KOKL				S	S	20 51 12.0	-1.8
KOFP	**Korovin Flat P**	**2.96**	**93**	P	Pn	**20 50 35.0**	**-0.5**
KOFP				S	S	20 51 14.5	-0.7
KOSE	**Korovin Southe**	**2.98**	**91**	P	Pn	**20 50 35.6**	**-0.2**
SMY	**Shemya**	**4.27**	**276**	P	Pn	**20 50 50.8**	**-0.1**
SMY				S	S	20 51 41.8	-1.1
FX1	**Attu Island--F**	**4.84**	**278**	P	Pn	**20 50 57.5**	**-0.5**
FX1	**Attu Island--F**	**4.84**	**278**	P	Pn	**20 50 57.5**	**-0.5**
	66nm,0.3s,baz=82,slow=4.0,SNR=80						
FX1				S	S	20 51 52.3	-3.3
	227nm,0.3s,baz=252,slow=22,SNR=35						
NIKO	**Nikolski**	**6.12**	**82**	*e*Pn	Pn	20 51 13.0	-1.1
OKFG	**Magazine Ridge**	**6.71**	**78**	P	Pn	20 51 22.9	+1.4
OKFG				S	S	20 52 10.7	-1.8
MSOM	**Makushin Julie**	**7.31**	**75**	P	Pn	20 51 30.1	+0.9
AKRB	**Akutan Reef Bi**	**7.86**	**73**	P	Pn	20 51 37.9	+1.7
FALS	**False Pass**	**9.49**	**70**	P	Pn	20 51 56.9	-0.1
DRIA	**Deer Island**	**10.16**	**69**	P	Pn	20 52 04.8	-0.9
SDPT	**Sand Point**	**11.23**	**68**	*e*Pn	Pn	20 52 17.7	-1.5
PETK	**Petropavlovsk-**	**14.15**	**282**	P	Pn	20 52 55.7	+0.2
PETK	**Petropavlovsk-**	**14.15**	**282**	P	Pn	20 52 55.7	+0.2
	1.7nm,0.3s,baz=95,slow=14,SNR=14						
TNA	**Tin City**	**14.22**	**19**	*e*Pn	Pn	20 52 55.2	-1.0
	36nm,1.1s						
KDAK	**Kodiak Island**	**15.89**	**60**	P	P	20 53 13.8	-1.9
KDAK				*e*Pn	Pn	20 53 13.9	-2.5
KDAK				S	S	20 56 02.0	-8.7
KDAK	**Kodiak Island**	**15.89**	**60**	P	P	20 53 13.8	-1.9
	23nm,0.3s,baz=277,slow=5.4,SNR=121						
KDAK				S	S	20 56 02.0	-8.7
	0.6nm,0.3s,baz=343,slow=19,SNR=5.0						
SPU	**Mount Spurr**	**16.95**	**49**	*e*Pn	Pn	20 53 29.2	+0.2
SLKM	**Skilak Lake**	**17.61**	**52**	*e*P	P	20 53 34.7	+0.2
SEW	**Seward**	**17.90**	**53**	*e*P	P	20 53 36.3	-1.2
	30nm,0.6s						
TRF	**Thorofare Moun**	**18.53**	**43**	*e*P	P	20 53 44.9	+0.4
	61nm,0.9s						
SML	**Sawmill**	**18.84**	**48**	*e*Pn	P	20 53 45.4	-2.4
	15nm,0.6s						
MCK	**McKinley**	**19.19**	**43**	*e*P	P	20 53 49.8	-1.8
	43nm,0.8s						
DIV	**Divide**	**19.88**	**51**	*e*Pn	P	20 53 57.5	-1.4
	62nm,0.6s						
COLA	**College**	**20.07**	**40**	*e*P	P	20 54 00.3	-0.5
	23nm,0.8s						
COLD	**Coldfoot**	**20.32**	**33**	*e*P	P	20 54 04.9	+1.3
	29nm,0.8s						
BMRM	**Bremner River**	**20.41**	**52**	*e*P	P	20 54 04.0	-0.6
	86nm,0.8s						
ILAR	**Eielson Array**	**20.41**	**41**	P	P	20 54 02.8	-1.8
ILAR				ScP	ScP	21 01 18.6	-2.2
ILAR	**Eielson Array**	**20.41**	**41**	P	P	20 54 02.8	-1.8
	4.6nm,0.5s,baz=241,slow=8.9,SNR=79						
ILAR				ScP	ScP	21 01 18.6	-2.2
	0.9nm,0.6s,baz=282,slow=3.6,SNR=10						
PAX	**Paxson**	**20.43**	**46**	*e*P	P	20 54 04.9	0.0
	24nm,0.6s						
MENT	**Mentasta**	**21.20**	**47**	*e*P	P	20 54 11.6	-1.3
DOT	**Dot Lake**	**21.23**	**45**	*e*P	P	20 54 12.3	-0.8
	20nm,1.0s						
EGAK	**Eagle**	**22.75**	**43**	*e*P	P	20 54 28.0	+0.7
	113nm,0.6s						
DAWY	**Dawson**	**23.34**	**45**	*e*P	P	20 54 33.3	+0.6
DAWY				*e*pP	pP	20 55 14.8	+1.5
INK	**Inuvik**	**26.57**	**36**	*e*P	P	20 55 02.7	+1.0
	34nm,1.0s						
INK				pP	pP	20 55 44.3	-2.3
INK				ScP	ScP	21 01 36.1	-1.1
INK	**Inuvik**	**26.57**	**36**	P	P	20 55 02.8	+1.1
	8.3nm,0.4s,baz=260,slow=7.7,SNR=40						
INK				pP	pP	20 55 44.3	-2.3
	7.6nm,0.9s,baz=261,slow=14,SNR=2.2						
INK				ScP	ScP	21 01 36.1	-1.1
	1.7nm,0.9s,baz=227,slow=4.1,SNR=6.0						
ASAJ	**Asahikawa**	**26.67**	**267**	P	P	20 55 03.6	+0.8
ASAJ	**Asahikawa**	**26.67**	**267**	P	P	20 55 03.6	+0.8
	12nm,0.4s,baz=192,slow=11,SNR=7.2						

DLBC	**Dease Lake**	**27.80**	**58**	P	P	**20**	**55**	**13.8 +0.9**
DLBC	**Dease Lake**	**27.80**	**58**	P	P	**20**	**55**	**13.8 +0.9**
	3.5nm,0.6s,baz=293,slow=11,SNR=6.6							
USRK	**Ussuriysk Arra**	**33.10**	**275**	P	P	**20**	**55**	**58.6 -0.7**
	1.3nm,0.5s,baz=52,slow=9.3,SNR=5.6							
MJAR	**Matsushiro Arr**	**33.91**	**259**	P	P	**20**	**56**	**06.2 -0.3**
MJAR	**Matsushiro Arr**	**33.91**	**259**	P	P	**20**	**56**	**06.2 -0.3**
	6.1nm,0.6s,baz=44,slow=6.2,SNR=33							
YKA	**Yellowknife Ar**	**34.51**	**48**	P		**20**	**56**	**11.9 +0.7**
YKA				pP	pP	**20**	**56**	**54.5 -2.8**
YKA				ScP	ScP	**21**	**02**	**02.1 -1.5**
YKA	**Yellowknife Ar**	**34.51**	**48**	P	P	**20**	**56**	**11.9 +0.7**
	11nm,0.8s,baz=281,slow=8.0,SNR=172							
YKA				pP	pP	**20**	**56**	**54.4 -2.8**
	4.0nm,1.0s,baz=282,slow=8.9,SNR=2.6							
YKA				ScP	ScP	**21**	**02**	**02.1 -1.5**
	1.8nm,0.8s,baz=292,slow=3.2,SNR=22							
LON	**Longmire**	**36.59**	**76**	*e*P	P	**20**	**56**	**30.0 +0.8**
	6.3nm,0.6s							
CN2	**Changchun**	**37.28**	**279**	*e*P	P	**20**	**56**	**36.9 +1.9**
CN2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
HAWA	**Hanford**	**38.12**	**75**	*e*P	P	**20**	**56**	**40.7 -1.2**
	comp=Z,8.5nm,0.6s							
CBIJ	**Chichi jima**	**38.50**	**244**	P	P	**20**	**56**	**46.4 +1.0**
CBIJ	**Chichi jima**	**38.50**	**244**	P	P	**20**	**56**	**46.4 +1.0**
	comp=Z,92nm,0.9s,baz=280,slow=22,SNR=4.5							
NEW	**Newport**	**38.56**	**71**	*e*P	P	**20**	**56**	**45.5 -0.2**
	comp=Z,13nm,0.7s							
NEW	**Newport**	**38.56**	**71**	⇓P	P	**20**	**56**	**45.4 -0.2**
	baz=38,SNR=21							
KHMM	**Horse Mountain**	**38.68**	**85**	*e*P	P	**20**	**56**	**46.7 -0.2**
	comp=Z,22nm,0.6s							
RES	**Resolute Bay**	**38.74**	**25**	*e*P	P	**20**	**56**	**46.8 +0.1**
	comp=Z,6.9nm,0.8s							
RES				*e*pP	pP	**20**	**57**	**38.7 +5.1**
YBH	**Yreka Blue Hor**	**38.80**	**83**	*e*P	P	**20**	**56**	**47.2 -0.6**
	comp=Z,16nm,0.9s							
YBH				*e*pP	pP	**20**	**57**	**40.4 +5.7**
YBH	**Yreka Blue Hor**	**38.80**	**83**	P	P	**20**	**56**	**49.4 +1.6**
	comp=Z,15nm,0.8s,baz=332,slow=3.7,SNR=26							
A12A	**Yaak River Ran**	**39.07**	**69**	⇑P	P	**20**	**56**	**49.9 +0.1**
	baz=39							
C11A	**Tepee Creek (N**	**39.28**	**71**	⇓P	P	**20**	**56**	**51.1 -0.5**
	baz=39							
B12A	**Libby**	**39.34**	**70**	⇑P	P	**20**	**56**	**52.0 0.0**
	baz=39,SNR=5.3							
KSRS	**Korea Array**	**39.57**	**269**	*e*P	P	**20**	**56**	**55.2 +1.2**
	comp=Z,7.4nm,0.8s,baz=57,slow=8.0,SNR=13							
WDC	**Whiskeytown Da**	**39.58**	**84**	*e*P	P	**20**	**56**	**54.5 +0.4**
	comp=Z,13nm,0.8s							
KSAR	**Wonju Array Be**	**39.60**	**269**	P	P	**20**	**56**	**55.2 +1.0**
A13A	**Flathead Natio**	**39.77**	**68**	⇑P	P	**20**	**56**	**55.5 -0.2**
	baz=40							
C12B	**Naegeli Ranch,**	**39.80**	**71**	⇓P	P	**20**	**56**	**55.6 -0.2**
	baz=40,SNR=12							
WALA	**Waterton Lakes**	**39.99**	**68**	*e*P	P	**20**	**56**	**56.6 -1.0**
	comp=Z,0.8nm,1.2s							
B13A	**Whitefish**	**40.03**	**69**	⇓P	P	**20**	**56**	**57.4 -0.4**
	baz=40,SNR=11							
BSMT	**Bassoo Peak**	**40.12**	**70**	*e*P	P	**20**	**56**	**58.1 -0.5**
	comp=Z,19nm,0.7s							
MOD	**Modoc**	**40.15**	**81**	*e*P	P	**20**	**56**	**59.1 +0.2**
	comp=Z,7.7nm,0.6s							
MOD				*e*pP	pP	**20**	**57**	**50.0 +3.8**
D12A	**Red Ives Fores**	**40.21**	**71**	⇓P	P	**20**	**56**	**58.5 -0.8**
	baz=40,SNR=6.5							
BMO	**Blue Mountains**	**40.26**	**76**	*e*P	P	**20**	**56**	**58.3 -1.4**
	comp=Z,8.0nm,0.7s							
BLMT	**Blacktail Moun**	**40.28**	**70**	*e*P	P	**20**	**56**	**59.9 -0.1**
A14A	**Double T Ranch**	**40.32**	**68**	⇓P	P	**20**	**56**	**59.8 -0.4**
	baz=40,SNR=32							
C13A	**Hot Springs**	**40.33**	**70**	⇓P	P	**20**	**57**	**00.0 -0.2**
	baz=40,SNR=10							
E12A	**Beaver Dam Sad**	**40.43**	**72**	⇑P	P	**20**	**57**	**00.5 -0.6**
	baz=40,SNR=12							
JTMT	**Jette**	**40.46**	**70**	*e*P	P	**20**	**57**	**01.0 -0.4**
YBMT	**Yellow Bay**	**40

B18A	Beardsley Farm baz=42,SNR=10	42.68	67	⇓P		P	20 57 18.6	-0.6
HLID	Hailey comp=Z,12nm,0.9s	42.71	75	eP		P	20 57 19.8	+0.1
HLID	Hailey baz=42,SNR=17	42.71	75	⇑P		P	20 57 19.7	0.0
H14A	Leadore baz=42,SNR=32	42.71	73	⇓P		P	20 57 19.3	-0.4
DLMT	Dillon comp=Z,47nm,2.5s	42.74	72	eP		P	20 57 19.6	-0.3
D17A	Six Diamond Ra baz=43,SNR=5.8	42.84	69	⇑P		P	20 57 20.2	-0.4
EGMT	Eagleton comp=Z,16nm,0.8s	42.89	67	eP		P	20 57 20.4	-0.6
EGMT	Eagleton baz=43,SNR=16	42.89	67	⇑P		P	20 57 20.3	-0.6
BMN	Battle Mountai comp=Z,12nm,0.5s	42.90	81	eP		P	20 57 22.1	+0.9
BMN				epP		pP	20 58 12.5	+3.5
MCMT	McKenzie Canyo comp=Z,9.2nm,0.7s	42.90	73	eP		P	20 57 20.6	-0.7
G15A	Dillon baz=43,SNR=14	42.91	72	⇓P		P	20 57 20.6	-0.7
J13A	Cove Ranch, Pi baz=43,SNR=34	42.94	75	⇓P		P	20 57 21.4	-0.1
A19A	Klindworth Far baz=43,SNR=14	42.97	66	⇓P		P	20 57 20.9	-0.7
I14A	Mackay baz=43,SNR=22	43.06	74	⇑P		P	20 57 22.6	+0.1
F16A	Kennard Place, baz=43,SNR=13	43.06	71	⇑P		P	20 57 21.8	-0.6
B19A	Brinkman Farms baz=43,SNR=10	43.11	66	⇓P		P	20 57 22.1	-0.6
E17A	Martinsdale baz=43	43.12	70	⇓P		P	20 57 23.0	0.0
H15A	Lima baz=43,SNR=8.0	43.14	73	⇓P		P	20 57 22.6	-0.5
BOZ	Bozeman (W) comp=Z,19nm,0.6s	43.14	71	eP		P	20 57 22.8	-0.3
BOZ	Bozeman (W) baz=43,SNR=8.9	43.14	71	⇑P		P	20 57 22.7	-0.3
G16A	Moss Hill, Enn baz=43,SNR=25	43.27	72	⇓P		P	20 57 23.6	-0.6
D18A	Linhart Farms, baz=43	43.32	68	⇓P		P	20 57 24.7	+0.3
J14A	Carey baz=43,SNR=9.7	43.38	75	⇑P		P	20 57 25.1	+0.1
C19A	Slack Wire Ran baz=43,SNR=33	43.45	67	⇑P		P	20 57 25.3	-0.1
A20A	Cobblestone Ra baz=43,SNR=14	43.45	65	⇑P		P	20 57 24.8	-0.6
NVAR	Mina Array Bea	43.49	84	P		P	20 57 27.1	+1.1
NVAR				ScP		ScP	21 02 38.4	-0.5
NVAR	Mina Array Bea comp=Z,24nm,0.7s,baz=296,slow=7.7,SNR=126	43.49	84	P		P	20 57 27.1	+1.1
NVAR				ScP		ScP	21 02 38.4	-0.5
FFC	comp=Z,1.5nm,0.6s,baz=287,slow=4.1,SNR=7.6 Flin Flon comp=Z,8.2nm,0.5s	43.54	55	eP		P	20 57 25.6	-0.3
F17A	Fitzpatrick Pl baz=43,SNR=12	43.55	70	⇓P		P	20 57 26.0	-0.4
I15A	Monteview baz=43	43.59	74	⇑P		P	20 57 26.7	0.0
E18A	Harlowton baz=43,SNR=25	43.61	69	⇑P		P	20 57 26.9	+0.1
B20A	Solberg Farm, baz=43	43.63	66	⇑P		P	20 57 26.8	-0.1
QLMT	Earthquake Lak	43.72	72	eP		P	20 57 27.5	-0.3
G17A	Pierce Place, baz=44	43.84	71	⇑P		P	20 57 28.8	+0.2
D19A	Cripps Ranch, baz=44,SNR=11	43.86	68	⇓P		P	20 57 28.4	-0.3
ELK	Elko	43.90	79	eP		P	20 57 29.9	+0.6
H16A	Russell Place, baz=44,SNR=32	43.90	72	⇑P		P	20 57 28.9	-0.3
A21A	Bergtoll Ranch baz=44,SNR=14	43.94	65	⇑P		P	20 57 28.8	-0.4
J15A	Blackfoot baz=44,SNR=11	43.97	74	⇑P		P	20 57 30.2	+0.4
MTUM	Tungsten Hills	44.01	85	eP		P	20 57 31.6	+1.5
K14A	Jones Ranch, D baz=44	44.04	76	⇑P		P	20 57 30.5	+0.2
C20A	Veseth Ranch, baz=44,SNR=15	44.05	67	⇑P		P	20 57 29.8	-0.3
YMR	Madison River comp=Z,24nm,0.9s	44.09	72	eP		P	20 57 29.1	-1.6
YMR				epP		pP	20 58 22.2	+3.5
F18A	Big Timber baz=44,SNR=7.3	44.09	70	⇑P		P	20 57 30.4	-0.3
B21A	Ellsworth Farm baz=44	44.20	65	⇓P		P	20 57 30.9	-0.4
YNR	Norris Junctio comp=Z,16nm,0.9s	44.22	72	eP		P	20 57 31.8	-0.1
I16A	Newdale baz=44,SNR=8.6	44.24	73	⇑P		P	20 57 32.0	+0.1
RCTC	Rector, Farmer baz=44	44.28	87	⇓P		P	20 57 33.3	+1.3
YFT	Old Faithful comp=Z,26nm,0.7s	44.29	72	eP		P	20 57 32.7	+0.4
L14A	Malta baz=44,SNR=11	44.31	76	⇓P		P	20 57 32.8	+0.4
E19A	Rath Farm, Rou baz=44	44.31	69	⇑P		P	20 57 31.7	-0.6
D20A	Manuel Ranch, baz=44,SNR=6.2	44.32	67	⇓P		P	20 57 32.2	-0.2
K15A	Arbon baz=44,SNR=14	44.34	75	⇑P		P	20 57 33.4	+0.8
TIN	Tinemaha baz=44,SNR=11	44.41	85	⇓P		P	20 57 34.7	+1.4
H17A	Grant Village baz=44,SNR=26	44.47	72	⇓P		P	20 57 34.9	+1.1
LKWY	Lake comp=Z,13nm,0.8s	44.47	72	eP		P	20 57 34.9	+1.0
C21A	Desert Coulee baz=44,SNR=15	44.49	66	⇓P		P	20 57 33.4	-0.2
A22A	Carney Farms, baz=44,SNR=19	44.49	64	⇓P		P	20 57 33.2	-0.5
G18A	Lazy EL Ranch, baz=44	44.52	70	⇓P		P	20 57 33.4	-0.6
J16A	Bone baz=44,SNR=15	44.53	74	⇓P		P	20 57 34.4	+0.3
IMW	Indian Meadow comp=Z,7.9nm,0.8s	44.55	73	eP		P	20 57 34.7	+0.2
IMW				epP		pP	20 58 26.4	+3.8
F19A	Roth Farm, Mol baz=44,SNR=7.1	44.56	69	⇑P		P	20 57 33.9	-0.4
FLWY	Flagg Ranch comp=Z,22nm,0.6s	44.58	72	eP		P	20 57 35.0	+0.4
RRI2	Red Ridge comp=Z,12nm,0.6s	44.65	74	eP		P	20 57 35.0	-0.2
E20A	Meyer Farm, Mu baz=44,SNR=5.7	44.66	68	⇑P		P	20 57 34.7	-0.3
VES	Vestal, Richgr baz=44,SNR=18	44.68	87	⇓P		P	20 57 35.9	+0.6
HVU	Hansel Valley comp=Z,14nm,0.6s	44.74	76	eP		P	20 57 35.5	-0.3
HVU				epP		pP	20 58 28.2	+4.2
I17A	Pilgrim Ck. baz=44,SNR=8.4	44.75	73	⇓P		P	20 57 36.2	+0.2
MOOW	Moose Ponds comp=Z,3.3nm,0.8s	44.75	73	eP		P	20 57 35.5	-0.5
TPAW	Teton Pass comp=Z,5.8nm,0.6s	44.78	73	eP		P	20 57 36.8	+0.5
RLMT	Red Lodge comp=Z,17nm,0.8s	44.80	70	eP		P	20 57 36.3	-0.1
RLMT	Red Lodge baz=45,SNR=24	44.80	70	⇓P		P	20 57 36.2	-0.1
K16A	Soda Springs baz=45,SNR=18	44.80	74	⇓P		P	20 57 37.2	+0.9
L15A	Malad City baz=45,SNR=8.9	44.83	76	⇓P		P	20 57 36.6	+0.1
H18A	Shoshone NF, C baz=45,SNR=9.8	44.83	71	⇑P		P	20 57 36.2	-0.4
B22A	Reddig Ranch S baz=45,SNR=6.5	44.84	65	⇓P		P	20 57 35.8	-0.5
PKM	Peak Mountain baz=45	44.86	89	⇓P		P	20 57 38.3	+1.4
CWC	Cottonwood Cre baz=45	44.90	86	⇑P		P	20 57 38.4	+1.2
LOHW	Long Hollow comp=Z,5.5nm,0.7s	44.91	73	eP		P	20 57 37.2	0.0
LOHW				epP		pP	20 58 28.9	+3.4
REDW	Red Top Meadow comp=Z,22nm,1.7s	44.92	73	eP		P	20 57 37.7	+0.4
GRAC	Grapevine Rang baz=45,SNR=14	44.97	85	⇓P		P	20 57 38.6	+1.0
J17A	Brown Place, J baz=45	45.00	73	⇑P		P	20 57 38.3	+0.4
F20A	Billings baz=45,SNR=5.8	45.05	69	⇑P		P	20 57 37.9	-0.3
A23A	Redstone baz=45	45.08	63	⇓P		P	20 57 37.9	-0.3
M15A	Larsen Ranch, baz=45,SNR=11	45.12	76	⇑P		P	20 57 38.9	+0.1
ISA	Isabella comp=Z,22nm,1.3s	45.17	87	eP		P	20 57 39.6	+0.4
ISA				epP		pP	20 58 26.2	-1.2
ISA	Isabella baz=45,SNR=13	45.17	87	⇑P		P	20 57 39.5	+0.3
R11A	Troy Canyon, C baz=45,SNR=39	45.19	82	⇓P		P	20 57 39.9	+0.5
C22A	Vida baz=45,SNR=5.1	45.21	65	⇓P		P	20 57 38.6	-0.7
H19A	Powell baz=45,SNR=15	45.23	71	⇑P		P	20 57 39.8	+0.2
E21A	Keefer Ranch, baz=45	45.23	67	⇓P		P	20 57 39.8	+0.3
K17A	Gardner Place, baz=45	45.25	74	⇓P		P	20 57 39.7	-0.2
B23A	Brockton baz=45,SNR=9.0	45.30	64	⇓P		P	20 57 39.3	-0.7
ARVC	Arvin baz=45	45.31	88	⇑P		P	20 57 41.0	+0.8
I18A	Diamond G Ranc baz=45,SNR=9.2	45.32	72	⇑P		P	20 57 40.5	0.0
G20A	Bridger baz=45,SNR=26	45.35	70	⇑P		P	20 57 39.9	-0.6
D22A	Cohagen baz=45,SNR=21	45.38	66	⇑P		P	20 57 40.7	0.0
L16A	Fish Haven baz=45,SNR=26	45.39	75	⇑P		P	20 57 41.2	+0.2
N15A	Stansbury Isla baz=45,SNR=9.2	45.43	77	⇑P		P	20 57 41.5	+0.2
J18A	Kendall Valley baz=45,SNR=10	45.50	73	⇑P		P	20 57 41.8	-0.1
MPMC	Manual Prospec baz=45,SNR=22	45.51	86	⇑P		P	20 57 42.8	+0.8
HWUT	Hardware Ranch comp=Z,6.6nm,0.7s	45.56	76	eP		P	20 57 42.8	+0.5
C23A	Lambert baz=45,SNR=21	45.57	65	⇓P		P	20 57 42.0	-0.1
BSC	Santa Cruz Isl baz=45	45.58	90	⇑P		P	20 57 43.4	+1.1
A24A	Westby baz=45,SNR=25	45.58	63	⇑P		P	20 57 41.6	-0.6
I19A	Meeteetse baz=45	45.60	71	⇑P		P	20 57 42.4	-0.3
F21A	Absaloka Mine, baz=45	45.62	68	⇑P		P	20 57 42.2	-0.4
FURC	Furnace Creek, baz=46,SNR=26	45.62	85	⇑P		P	20 57 43.7	+1.1
L17A	Cokeville baz=46,SNR=7.4	45.67	75	⇓P		P	20 57 43.2	0.0
DUG	Dugway comp=Z,19nm,0.8s	45.69	78	eP		P	20 57 43.8	+0.5
DUG	Dugway baz=46,SNR=30	45.69	78	⇓P		P	20 57 43.8	+0.5
M16A	Huntsville baz=46	45.70	76	⇑P		P	20 57 43.9	+0.5
ULN	Ulaanbaatar comp=Z,2.3nm,0.6s	45.71	295	eP		P	20 57 42.7	-0.6
ULN				epP		pP	20 58 35.6	+3.9
OSI	Osito Adit comp=Z,27nm,1.1s	45.72	88	eP		P	20 57 44.2	+0.8
OSI	Osito Adit baz=46	45.72	88	⇑P		P	20 57 44.7	+1.2
DGMT	Dagmar comp=Z,14nm,0.8s	45.73	64	eP		P	20 57 42.7	-0.6
DGMT	Dagmar baz=46	45.73	64	⇑P		P	20 57 42.7	-0.6
LRMC	Laurel Mountai baz=46,SNR=5.5	45.77	87	⇑P		P	20 57 44.3	+0.4
K18A	Toltan Ranch, baz=46,SNR=14	45.83	74	⇓P		P	20 57 44.6	+0.1
BLG	Laguna Peak baz=46	45.85	89	⇓P		P	20 57 45.3	+0.8
H20A	Greybull baz=46	45.91	70	⇓P		P	20 57 44.5	-0.3
D23A	Lindsay baz=46,SNR=5.5	45.91	66	⇓P		P	20 57 44.7	-0.1
G21A	Lodge Grass baz=46	45.92	69	⇓P		P	20 57 44.1	-0.9
EDW2	Edwards Air Fo baz=46,SNR=13	45.99	87	⇓P		P	20 57 46.1	+0.6
J19A	Crowheart baz=46,SNR=12	46.03	72	⇓P		P	20 57 45.9	0.0
BW06	Boulder Array comp=Z,21nm,0.6s	46.03	73	eP		P	20 57 45.9	-0.2
BW06	Boulder Array baz=46,SNR=34	46.03	73	⇑P		P	20 57 45.7	-0.4
PDAR	Pinedale Array	46.03	73	P		P	20 57 45.8	-0.3
PDAR				pP		pP	20 58 31.6	-2.9
PDAR				ScP		ScP	21 02 47.5	-2.0
PDAR	Pinedale Array comp=Z,24nm,0.7s,baz=307,slow=3.5,SNR=196	46.03	73	P		P	20 57 45.8	-0.3
PDAR				pP		pP	20 58 31.6	-2.9
	comp=Z,2.2nm,0.9s,baz=284,slow=4.4,SNR=1.7							
PDAR				ScP		ScP	21 02 47.5	-2.0
	comp=Z,1.3nm,0.9s,baz=349,slow=0.8,SNR=5.2							
N16A	Rees Ranch, Co baz=46	46.08	76	⇓P		P	20 57 46.8	+0.4
SONM	Songino Array	46.09	296	P		P	20 57 46.3	+0.1
SONM				pP		pP	20 58 33.7	-1.0
SONM				PcP		PcP	20 59 18.3	-0.1
SONM				ScP		ScP	21 02 48.2	-1.2
SONM	Songino Array comp=Z,1.8nm,0.6s,baz=61,slow=6.1,SNR=38	46.09	296	P		P	20 57 46.3	+0.1
SONM				pP		pP	20 58 33.7	-1.0
	comp=Z,0.9nm,0.7s,baz=60,slow=7.2,SNR=3.3							
SONM				PcP		PcP	20 59 18.3	-0.1
	comp=Z,0.9nm,0.7s,baz=69,slow=1.7,SNR=3.9							
SONM				ScP		ScP	21 02 48.2	-1.2
	comp=Z,2.6nm,0.8s,baz=45,slow=2.6,SNR=14							
C24A	Savage baz=46,SNR=8.8	46.14	65	⇑P		P	20 57 46.5	-0.1
I20A	Worland baz=46,SNR=9.5	46.15	71	⇑P		P	20 57 46.7	-0.1
M17A	Scullys Gap (B baz=46,SNR=14	46.17	75	⇑P		P	20 57 46.7	-0.5
JLU	Jordanelle comp=Z,11nm,0.8s	46.25	77	eP		P	20 57 48.0	+0.2
E23A	Ismay baz=46	46.25	67	⇓P		P	20 57 47.4	-0.1
L18A	Fontenelle, Gr baz=46,SNR=16	46.27	74	⇑P		P	20 57 47.6	-0.3
R13A	O'Grain Ranch, baz=46,SNR=11	46.27	81	⇑P		P	20 57 48.4	+0.5
SHOC	Shoshone baz=46	46.35	85	⇑P		P	20 57 49.2	+0.9
H21A	Big Horn, Sher baz=46,SNR=8.5	46.37	70	⇑P		P	20 57 48.0	-0.5
MWC	Mount Wilson comp=Z,54nm,1.4s	46.39	88	eP		P	20 57 49.6	+0.7
P15A	Leamington baz=46,SNR=9.8	46.40	78	⇑P		P	20 57 49.1	+0.2
N17A	Moffit Pass baz=46,SNR=6.3	46.40	76	⇑P		P	20 57 49.0	0.0
K19A	Absolon Red Bu baz=46,SNR=29	46.41	73	⇑P		P	20 57 48.2	-0.8
GSC	Goldstone comp=Z,47nm,0.8s	46.43	86	eP		P	20 57 50.0	+0.9
GSC	Goldstone baz=46,SNR=46	46.43	86	⇑P		P	20 57 49.7	+0.6
D24A	Glendive baz=46,SNR=5.5	46.44	65	⇑P		P	20 57 49.0	+0.1
G22A	Birney baz=46	46.45	69	⇓P		P	20 57 48.4	-0.7
O16A	Springville baz=46	46.47	77	⇓P		P	20 57 49.6	+0.3
DAU	Daniels Canyon	46.48	77	eP		P	20 57 50.6	+0.9
MPU	Maple Canyon comp=Z,9.2nm,0.6s	46.51	78	eP		P	20 57 50.4	+0.6
J20A	Shoshoni baz=46,SNR=12	46.54	72	⇓P		P	20 57 49.8	-0.1
M18A	Lyman baz=46,SNR=8.6	46.56	75	⇓P		P	20 57 49.6	-0.5
L19A	Farson baz=46,SNR=8.3	46.56	74	⇓P		P	20 57 49.2	-0.9
BFSC	Mount Baldy Ra baz=46	46.62	88	⇑P		P	20 57 51.6	+1.0
F23A	Volborg baz=46,SNR=12	46.65	67	⇑P		P	20 57 50.1	-0.5
I21A	Big Trails, Te baz=46,SNR=13	46.72	71	⇑P		P	20 57 50.4	-0.8
CIS	Catalina Islan baz=47	46.73	89	⇑P		P	20 57 51.7	+0.4
E24A	Baker baz=46	46.77	66	⇓P		P	20 57 51.6	+0.1
H22A	Clearmont baz=47,SNR=5.4	46.79	69	⇑P		P	20 57 51.1	-0.6
ARUT	Antelope Range comp=Z,4.8nm,0.7s	46.84	81	eP		P	20 57 53.0	+0.7
TUQ	Turquoise Moun baz=47,SNR=22	46.88	85	⇑P		P	20 57 53.1	+0.6
J21A	Lysite baz=47	46.91	71	⇓P		P	20 57 52.2	-0.6
G23A	Biddle baz=47,SNR=5.4	46.97	68	⇑P		P	20 57 52.2	-0.9
HEC	Hector,Ludlow baz=47,SNR=18	47.03	86	⇓P		P	20 57 54.2	+0.5
CCUT	Cedar City comp=Z,8.1nm,0.8s	47.04	81	eP		P	20 57 54.7	+0.8
M19A	Rock Springs baz=47	47.05	74	⇑P		P	20 57 53.8	-0.1
BBRC	Big Bear Solar baz=47	47.05	87	⇓P		P	20 57 54.9	+0.8
N18A	Larsen Ranch, baz=47	47.07	75	⇓P		P	20 57 53.8	-0.2
F24A	Ekalaka baz=47	47.12	67	⇑P		P	20 57 54.1	-0.1
MVU	Marysvale comp=Z,11nm,1.0s	47.12	80	eP		P	20 57 55.4	+0.8
I22A	9 Mile Ranch, baz=47,SNR=13	47.13	70	⇑P		P	20 57 54.2	-0.2
MSU	Marysvale	47.14	79	eP		P	20 57 55.5	+0.9
L20A	Wamsutter baz=47	47.21	73	⇑P		P	20 57 55.1	0.0
TMUT	Trail Mountain comp=Z,35nm,0.7s	47.22	78	eP		P	20 57 56.2	+0.9
R15A	Junction baz=47	47.27	80	⇓P		P	20 57 56.5	+0.8
O18A	Roosevelt baz=47,SNR=6.0	47.32	76	⇑P		P	20 57 56.4	+0.5
HHC	Hu-ho-hao-te	47.32	285	eP		P	20 57 56.3	+0.4
HHC				pP		pP	20 58 41.3	-3.3
HHC				PP		PP	20 59 49.5	+0.6
HHC				S		S	21 04 32.6	+0.9
HHC				ScS		ScS	21 07 24.6	-0.6
HHC	comp=Z,14nm,0.6s			pmax		pmax		
HHC	comp=Z,150nm,6.7s			pmax		pmax		
HHC	comp=N,140nm,8.6s			LR		LR		
HHC	comp=E,130nm,8.8s			LR		LR		
HHC	comp=Z,130nm,9.2s			LR		LR		
MURC	Murrieta baz=47	47.33	88	⇓P		P	20 57 56.8	+0.8
P17A	Butcher Ranch, baz=47,SNR=7.0	47.38	78	⇓P		P	20 57 56.7	+0.2
N19A	John Jarvie Ra baz=47,SNR=8.7	47.41	75	⇓P		P	20 57 56.1	-0.6
J22A	Midwest baz=47,SNR=19	47.43	71	⇓P		P	20 57 56.4	-0.4
G24A	Alzada baz=47	47.45	67	⇑P		P	20 57 55.9	-0.8
K21A	Alcova baz=47,SNR=8.3	47.46	72	⇓P		P	20 57 56.1	-0.9
GMRC	Granite Mounta baz=47,SNR=27	47.48	86	⇑P		P	20 57 57.8	+0.6
Q16A	Castle Valley baz=47	47.48	78	⇓P		P	20 57 57.8	+0.5
P18A	Preston Nutter baz=47,SNR=13	47.58	77	⇑P		P	20 57 58.4	+0.3
LDFC	Landfair comp=Z,42nm,0.8s	47.61	85	eP		P	20 57 58.6	+0.4
M20A	Sweetwater, Wa baz=47,SNR=5.6	47.62	74	⇑P		P	20 57 58.1	-0.2
R16A	Teasdale baz=48,SNR=21	47.70	79	⇓P		P	20 57 59.9	+0.9
H24A	Dirks Ranch, A baz=48,SNR=7.5	47.72	68	⇑P		P	20 57 57.6	-1.2
SRU	San Rafael comp=Z,22nm,0.6s	47.74	78	eP		P	20 57 59.9	+0.7
SRU	San Rafael baz=48,SNR=27	47.74	78	⇓P		P	20 57 59.4	+0.2
PFO	Pinyon Flat Ob comp=Z,2nm,1.2s	47.78	88	eP		P	20 57 59.8	+0.3
PFO	Pinyon Flat Ob baz=48,SNR=8.1	47.78	88	⇑P		P	20 57 59.8	+0.3
BELC	Belle Mtn. Jos baz=48,SNR=20	47.80	87	⇑P		P	20 57 59.7	0.0
L21A	Rawlins baz=48,SNR=14	47.81	73	⇓P		P	20 57 59.1	-0.6
O19A	Miners Draw (B baz=48,SNR=27	47.82	76	⇓P		P	20 57 59.7	-0.1
K22A	Casper baz=48,SNR=5.7	47.87	71	⇓P		P	20 57 59.3	-0.9
109C	Camp Elliot, M baz=48	47.88	89	⇑P		P	20 58 00.5	+0.5
Q18A	Rafter H Ranch baz=48,SNR=14	47.98	77	⇓P		P	20 58 01.0	0.0
N20A	Spence Gulch, baz=48,SNR=11	47.99	74	⇑P		P	20 58 01.0	-0.1
S16A	Weppner Ranch, baz=48,SNR=10	48.00	80	⇑P		P	20 58 02.0	+0.8
M21A	Separation Pea baz=48,SNR=9.1	48.03	73	⇑P		P	20 58 00.7	-0.8
R17A	Hanksville Air baz=48,SNR=12	48.08	79	⇑P		P	20 58 01.8	+0.1
IRM	Iron Mountain baz=48,SNR=26	48.20	86	⇓P		P	20 58 03.2	+0.6
BAR	Barrett comp=Z,15nm,0.9s	48.28	89	eP		P	20 58 03.9	+0.7
MONP	Monument Peak baz=48,SNR=8.2	48.29	88	⇓P		P	20 58 04.1	+0.6
L22A	Ellis Ranch, M baz=48	48.31	72	⇑P		P	20 58 03.1	-0.5
K23A	Bowen Ranch, D baz=48	48.33	71	⇑P		P	20 58 03.2	-0.4
P19A	Cripple Cowboy baz=48,SNR=28	48.33	76	⇓P		P	20 58 03.6	-0.1
W13A	Hualapai Mount baz=48,SNR=24	48.34	84	⇑P		P	20 58 04.2	+0.3
BC3	Big Chuckawall baz=48,SNR=12	48.36	87	⇑P		P	20 58 04.0	+0.1
RSSD	Black Hills	48.39	68	eP		P	20 58 00.1	-4.1
U15A	North Rim baz=48,SNR=26	48.42	82	⇑P		P	20 58 05.4	+0.8
O20A	White River Ci baz=48,SNR=7.3	48.45	75	⇑P		P	20 58 04.3	-0.3
N21A	Black Mountain baz=48,SNR=9.7	48.48	74	⇓P		P	20 58 04.3	-0.5
J24A	Dixon Ranch, L baz=48	48.52	70	⇓P		P	20 58 04.5	-0.6
S17A	Black Ridge (B baz=48,SNR=34	48.53	79	⇓P		P	20 58 05.5	+0.3
R18A	Canyonlands Na baz=48,SNR=15	48.59	78	⇓P		P	20 58 05.0	-0.7
MDND	Maddock baz=48,SNR=8.6	48.59	62	⇑P		P	20 58 05.1	-0.3
Q19A	Hogan Spring (baz=48,SNR=17	48.60	77	⇑P		P	20 58 05.2	-0.5
M22A	Cedar Creek Ra baz=48,SNR=6.2	48.61	73	⇑P		P	20 58 05.3	-0.6
L23A	Garrett baz=48,SNR=16	48.68	72	⇑P		P	20 58 05.7	-0.7
NJ2	Nanjing	48.72	271	eP		P	20 58 06.3	-0.2
NJ2	comp=Z,10.0nm,1.0s			pmax		pmax		
PDMCI	Parker Dam,Lak baz=49,SNR=17	48.73	85	⇑P		P	20 58 06.7	+0.2
P20A	De Beque baz=49,SNR=5.6	48.76	76	⇓P		P	20 58 06.5	-0.5
O21A	Pagoda baz=49	48.85	75	⇓P		P	20 58 07.5	-0.2
Y12C	Blythe baz=49,SNR=18	48.86	86	⇑P		P	20 58 08.1	+0.5
T17A	Navajo Res., N baz=49,SNR=11	48.95	80	⇓P		P	20 58 08.1	-0.4
S18A	Hurst Farm, Bl baz=49,SNR=33	48.98	79	⇓P		P	20 58 08.5	-0.2
R19A	Curley Farm, L baz=49,SNR=8.3	49.03	78	⇑P		P	20 58 08.7	-0.3
N22A	Wattenberg Ran baz=49,SNR=6.6	49.07	73	⇑P		P	20 58 09.2	-0.3
M23A	Laramie baz=49	49.08	72	⇑P		P	20 58 08.9	-0.5
ULM	Lac du Bonnet	49.12	57	P		P	20 58 08.7	-0.6
ULM	Lac du Bonnet comp=Z,8.5nm,0.6s,baz=307,slow=7.2,SNR=22	49.12	57	P		P	20 58 08.7	-0.6
GLA	Glamis	49.16	87	eP		P	20 58 10.7	+0.8

GLA **Glamis** 49.16 87 ⇑P P 20 58 10.3 +0.4
baz=49,SNR=9.6
Q20A **Ridgley Place,** 49.17 76 ⇓P P 20 58 09.4 -0.7
baz=49,SNR=5.6
L24A **Wheatland** 49.17 71 ⇑P P 20 58 09.8 -0.2
baz=49
PV04 **Paradox Valley** 49.17 77 *eP* P 20 58 10.2 0.0
SPITS **Spitsbergen Ar** 49.24 356 P P 20 58 11.0 +1.1
SPITS **Spitsbergen Ar** 49.24 356 P P 20 58 11.0 +1.1
comp=Z,7.9nm,0.5s,baz=46,slow=7.1,SNR=44
P21A **Newcastle** 49.31 75 ⇑P P 20 58 11.0 -0.2
baz=49,SNR=7.0
N23A **Red Feather La** 49.31 73 ⇓P P 20 58 11.0 -0.3
baz=49
T18A **Mexican Hat** 49.41 79 ⇓P P 20 58 11.5 -0.4
baz=49,SNR=22
K25A **Mack Ranch, Ha** 49.43 70 ⇑P P 20 58 11.6 -0.3
baz=49
O22A **Kremmling** 49.43 74 ⇓P P 20 58 11.8 -0.4
baz=49
S19A **Harvey Farm, M** 49.46 78 ⇓P P 20 58 12.1 -0.2
baz=49,SNR=27
PV01 **Paradox Valley** 49.54 77 *eP* P 20 58 12.6 -0.4
comp=Z,1µm,0.8s
WUAZ **Wupatki** 49.59 82 *eP* P 20 58 13.8 +0.6
comp=Z,24nm,1.0s
WUAZ **Wupatki** 49.59 82 ⇑P P 20 58 14.0 +0.7
baz=49,SNR=15
M24A **Cheyenne** 49.60 72 ⇓P P 20 58 13.3 0.0
baz=49
R20A **Redvale** 49.62 77 ⇓P P 20 58 13.2 -0.4
baz=49
L25A **Engebretsen Ra** 49.66 70 ⇓P P 20 58 13.4 -0.2
baz=49
Y14A **Wickenburg** 49.66 85 ⇓P P 20 58 14.0 +0.4
baz=50,SNR=6.8
P22A **Eagle** 49.67 75 ⇓P P 20 58 13.6 -0.3
baz=50
Q21A **Lamborn Mesa,** 49.68 76 ⇓P P 20 58 14.0 +0.1
baz=50
O23A **Lake Granby, G** 49.77 74 ⇓P P 20 58 15.0 +0.3
baz=50,SNR=19
SMCO **Snowmass** 49.81 75 *eP* P 20 58 14.6 -0.6
comp=Z,4.6nm,0.6s
S20A **Disappointment** 49.87 78 ⇑P P 20 58 15.2 -0.2
baz=50,SNR=24
N24A **Carr** 49.98 72 ⇓P P 20 58 16.3 +0.2
baz=50
R21A **Cimarron** 50.00 76 ⇑P P 20 58 16.4 +0.1
baz=50,SNR=8.6
113A **Mohawk Valley,** 50.00 86 ⇑P P 20 58 16.3 +0.2
baz=50,SNR=5.1
Q22A **Crested Butte,** 50.05 76 ⇓P P 20 58 16.7 -0.2
baz=50,SNR=7.9
M25A **Palm-Egli Farm** 50.07 71 ⇓P P 20 58 17.0 +0.2
baz=50
Z14A **Wintersburg** 50.09 85 ⇓P P 20 58 17.1 +0.3
baz=50
T19A **Beclabito** 50.13 79 ⇑P P 20 58 17.3 0.0
baz=50,SNR=34
MVCO **Mesa Verde** 50.19 78 *eP* P 20 58 16.2 -1.6
comp=Z,15nm,1.3s
MVCO **Mesa Verde** 50.19 78 ⇑P P 20 58 17.7 -0.2
baz=50,SNR=6.2
ISCO **Idaho Springs** 50.21 74 *eP* P 20 58 19.1 +1.0
comp=Z,4.8nm,0.7s
ISCO **Idaho Springs** 50.21 74 ⇑P P 20 58 18.0 0.0
baz=50,SNR=6.0
X16A **Lo Mia Camp, P** 50.29 83 ⇓P P 20 58 19.4 +0.9
baz=50,SNR=26
K27A **Flueckinger Fa** 50.30 69 ⇓P P 20 58 17.8 -0.7
baz=50
S21A **Coal Bank Pass** 50.31 77 ⇓P P 20 58 19.2 +0.3
baz=50,SNR=12
O24A **Longmont** 50.32 73 ⇑P P 20 58 19.2 +0.6
baz=50
P23A **Jefferson** 50.35 74 ⇑P P 20 58 19.5 +0.3
baz=50
U19A **Dine' College,** 50.38 80 ⇑P P 20 58 19.4 +0.2
baz=50,SNR=7.1
R22A **Saguache, Gunn** 50.56 76 ⇓P P 20 58 21.2 +0.5
baz=50,SNR=5.5
Q23A **Hartsel** 50.66 75 ⇑P P 20 58 22.1 +0.6
baz=50
S22A **4UR Ranch, Cre** 50.83 77 ⇓P P 20 58 23.2 +0.5
baz=51,SNR=10.0
W18A **Petrified Fore** 50.84 81 ⇓P P 20 58 23.5 +0.9
baz=51
T21A **Navajo Lake** 50.91 78 ⇑P P 20 58 23.9 +0.6
baz=51
N26A **Koester Ranch,** 50.94 71 ⇑P P 20 58 22.9 -0.3
baz=51
Q24A **Divide** 51.03 74 ⇑P P 20 58 24.1 0.0
baz=51
BRSD **Miller** 51.05 65 ⇓P P 20 58 23.9 +0.1
baz=51
X18A **Snowflake** 51.11 82 ⇓P P 20 58 25.5 +0.8
baz=51,SNR=11
R23A **Moffat** 51.13 76 ⇑P P 20 58 25.2 +0.3
baz=51,SNR=5.3
214A **Organ Pipe Nat** 51.14 86 ⇑P P 20 58 25.2 +0.4
baz=51,SNR=12
V20A **Brimhall** 51.15 80 ⇓P P 20 58 25.3 +0.4
baz=51
U21A **Nageezi** 51.22 78 ⇑P P 20 58 25.8 +0.4
baz=51,SNR=13
P25A **Willow Gulch B** 51.24 73 ⇓P P 20 58 26.2 +0.7
baz=51
O26A **Horse Wrangler** 51.27 72 ⇑P P 20 58 26.2 +0.5
baz=51
T22A **Edith** 51.27 77 ⇑P P 20 58 26.4 +0.5
baz=51,SNR=10
N27A **Anderson Farm,** 51.35 71 ⇓P P 20 58 26.8 +0.5
baz=51
S23A **Nye Farm, Mont** 51.35 76 ⇑P P 20 58 27.2 +0.7
baz=51
R24A **Sanders Place,** 51.53 75 ⇑P P 20 58 27.9 +0.2
baz=51,SNR=5.1
OGNE **Ogallala** 51.55 70 ⇑P P 20 58 27.8 +0.1
baz=51
W20A **Ramah** 51.58 80 ⇓P P 20 58 28.5 +0.3
baz=51,SNR=5.8
Q25A **Bedland, Calha** 51.59 74 ⇓P P 20 58 27.5 -0.7
baz=51
SDCO **Great Sand Dun** 51.62 76 *eP* P 20 58 28.8 +0.3
comp=Z,6.9nm,0.9s
SDCO **Great Sand Dun** 51.62 76 ⇓P P 20 58 28.8 +0.3
baz=51,SNR=12
V21A **Milan** 51.64 79 ⇑P P 20 58 28.9 +0.2
baz=52
P26A **Davis Ranch, A** 51.69 73 ⇓P P 20 58 29.2 +0.3
baz=52,SNR=5.9
U22A **Llaves** 51.73 78 ⇓P P 20 58 29.6 +0.4
baz=52,SNR=12
T23A **Casias Ranch,** 51.77 77 ⇑P P 20 58 30.1 +0.5
baz=52
O27A **Beecher Island** 51.78 71 ⇑P P 20 58 29.7 +0.2
baz=52
S24A **Houchin Ranch,** 51.86 76 ⇑P P 20 58 30.8 +0.4
baz=52,SNR=6.3
X20A **Quemado** 51.98 81 ⇓P P 20 58 31.7 +0.5
baz=52
V22A **San Miguel Ran** 52.01 78 ⇓P P 20 58 31.7 +0.4
baz=52
Q26A **Hugo** 52.01 73 ⇓P P 20 58 31.4 +0.2
baz=52,SNR=5.8
R25A **Fountain Ranch** 52.07 75 ⇑P P 20 58 32.1 +0.4
baz=52
TUC **Tucson** 52.13 85 *eP* P 20 58 31.7 -0.4
comp=Z,12nm,0.8s
P27A **Ficken Ranch,** 52.14 72 ⇑P P 20 58 32.2 +0.1
baz=52
U23A **El Rito** 52.16 78 ⇑P P 20 58 33.0 +0.6
baz=52,SNR=13
SUMG **Summit** 52.21 14 *eP* P 20 58 31.4 -1.1
comp=Z,15nm,1.0s
SUMG **Summit** 52.21 14 *i* P P 20 58 33.4 +0.9
comp=Z,9.1nm,0.9s
S25A **Robets Cordova** 52.31 75 ⇑P P 20 58 33.6 +0.1
baz=52,SNR=6.4
T24A **Torres, Weston** 52.34 76 ⇓P P 20 58 34.4 +0.6
baz=52,SNR=11
R26A **Arlington** 52.46 74 ⇑P P 20 58 34.6 +0.1
baz=52,SNR=5.6
KSCO **Kaye Shedlock'** 52.47 73 ⇑P P 20 58 34.8 +0.3
baz=52,SNR=6.3
X21A **Alamocita Cree** 52.48 80 ⇓P P 20 58 36.0 +1.1
baz=52
Y20A **Horse Springs,** 52.49 81 ⇓P P 20 58 35.9 +1.0
baz=52,SNR=10
V23A **Ortiz Mt. (NFS** 52.56 78 ⇑P P 20 58 36.3 +0.9
baz=52,SNR=12
W22A **Albuquerque** 52.60 79 ⇓P P 20 58 36.7 +1.0
baz=52
T25A **Trindad** 52.67 76 ⇑P P 20 58 36.5 +0.4
baz=52,SNR=14
ECSD **EROS Data Cent** 52.80 64 *eP* P 20 58 31.6 -5.1
EYMN **Ely** 52.81 57 *eP* P 20 58 35.2 -1.5
comp=Z,18nm,0.9s
Y21A **Point of Rocks** 52.84 81 ⇑P P 20 58 38.2 +0.7
baz=53
R27A **Eads** 52.85 73 ⇑P P 20 58 37.6 +0.3
baz=53,SNR=12
S26A **Kim** 52.90 74 ⇑P P 20 58 37.5 -0.2
baz=53,SNR=8.0
X22A **Bernardo** 52.90 80 ⇑P P 20 58 38.9 +1.1
baz=53,SNR=5.7
Z20A **Nine Sixteen R** 52.91 82 ⇓P P 20 58 38.6 +0.7
baz=53,SNR=14
ANMO **Albuquerque** 52.93 79 *eP* P 20 58 38.4 +0.4
comp=Z,4.8nm,1.1s
W23A **Werner Place,** 52.97 79 ⇑P P 20 58 39.0 +0.6
baz=53
V24A **Rampart Ranch,** 53.11 77 ⇓P P 20 58 40.1 +0.7
baz=53,SNR=9.7
T26A **Comanche Natio** 53.13 75 ⇑P P 20 58 39.1 -0.4
baz=53,SNR=7.3
LENM **Lemitar** 53.16 80 *eP* P 20 58 40.5 +0.8
U25A **Circle Dot Ran** 53.17 76 ⇑P P 20 58 39.9 +0.1
baz=53,SNR=15
S27A **Las Animas** 53.20 74 ⇓P P 20 58 39.8 -0.1
baz=53,SNR=9.5
ZALV **Zalesovo Beam** 53.20 313 PcP PcP 20 59 44.5 +0.3
ZALV **Zalesovo Beam** 53.20 313 PcP PcP 20 59 44.5 +0.3
comp=Z,1.4nm,0.6s,baz=35,slow=4.5,SNR=8.6
120A **U Bar Ranch, L** 53.27 83 ⇓P P 20 58 41.3 +0.8
baz=53,SNR=14
Y22A **Socorro** 53.32 80 ⇑P P 20 58 41.7 +0.8
baz=53,SNR=7.6
Z21A **St. Cloud Mine** 53.33 81 ⇓P P 20 58 41.7 +0.7
baz=53
X23A **Hourglass Bar** 53.34 79 ⇑P P 20 58 41.5 +0.4
baz=53,SNR=6.4
BNM **Barren Site** 53.38 80 *eP* P 20 58 42.1 +0.7
comp=Z,1.7nm,0.5s
BNM *epP* pP 20 59 35.1 +3.8
W24A **Lazy 6 Ranch,** 53.38 78 ⇓P P 20 58 41.9 +0.5
baz=53,SNR=9.1
SSLB **Suanglung** 53.40 262 *eP* P 20 58 39.8 -1.6
comp=Z,18nm,0.9s
V25A **Rancho No Teng** 53.43 77 ⇑P P 20 58 42.1 +0.4
baz=53
BGNE **Belgrade** 53.46 68 ⇑P P 20 58 41.3 -0.3
baz=53
U26A **Atchley Ranch,** 53.57 76 ⇓P P 20 58 42.8 +0.1
baz=53,SNR=13
319A **Douglas** 53.70 84 ⇑P P 20 58 44.0 +0.4
baz=54,SNR=12
T27A **Campo** 53.72 74 ⇑P P 20 58 43.7 0.0
baz=54
220A **Playas Peak, P** 53.78 83 ⇓P P 20 58 44.8 +0.5
baz=54,SNR=24
Z22A **Elephant Butte** 53.79 81 ⇑P P 20 58 45.0 +0.7
baz=54,SNR=6.9
121A **Cookes Peak, D** 53.80 82 ⇓P P 20 58 44.9 +0.6
baz=54,SNR=7.4
X24A **Lazy VL Ranch,** 53.81 79 ⇑P P 20 58 44.9 +0.5
baz=54
Y23A **Lovelace Mesa,** 53.87 80 ⇑P P 20 58 45.6 +0.7
baz=54,SNR=13
SPMN **St. Paul** 53.89 61 ⇓P P 20 58 44.1 -0.6
baz=54
W25A **X Bar L Ranch,** 53.94 77 ⇑P P 20 58 45.7 +0.3
baz=54,SNR=10
V26A **Tequesquite Ra** 53.95 76 ⇑P P 20 58 45.3 0.0
baz=54,SNR=8.9
T28A **Walsh** 54.04 74 ⇓P P 20 58 45.8 -0.2
baz=54,SNR=19
TWG **Pinlang** 54.05 261 *eP* P 20 58 44.5 -1.6
122A **Conniff Cattle** 54.16 81 ⇑P P 20 58 47.8 +0.9
baz=54,SNR=6.5
221A **Mesquite Ranch** 54.16 83 ⇓P P 20 58 47.8 +0.8
baz=54
320A **Kipp Ranch, An** 54.18 84 ⇑P P 20 58 48.0 +0.9
baz=54
Z23A **Rita Site, Whi** 54.23 80 ⇑P P 20 58 48.0 +0.6
baz=54
Y24A **Capitan** 54.25 79 ⇓P P 20 58 48.1 +0.4
baz=54,SNR=27
CBKS **Cedar Bluff** 54.28 71 ⇑P P 20 58 47.6 -0.1
baz=54
X25A **Clemmons Ranch** 54.30 78 ⇑P P 20 58 48.4 +0.5
baz=54
W26A **Owens Ranch, T** 54.45 77 ⇓P P 20 58 49.5 +0.5
baz=54
Y25A **Mesa, Roswell** 54.70 79 ⇑P P 20 58 50.9 +0.1
baz=54,SNR=11
Z24A **Sheeppen Canyo** 54.70 80 ⇓P P 20 58 51.2 +0.3
baz=54,SNR=7.2
X26A **CR and CF Fran** 54.79 77 ⇓P P 20 58 51.3 -0.1
baz=55,SNR=6.2
W27A **Bowe Ranch, En** 54.88 77 ⇓P P 20 58 52.1 +0.1
baz=55
V28A **Channing** 54.91 75 ⇓P P 20 58 51.8 -0.4
baz=55,SNR=5.7
LZH **Lanzhou** 55.01 285 *eP* P 20 58 54.0 +1.0
LZH pP pP 20 59 42.5 -0.7
LZH sP sP 21 00 04.0 -4.2
LZH pmax pmax
comp=Z,25nm,1.0s
LZH pmax pmax
comp=Z,210nm,6.5s
GTA **Gaotai** 55.09 291 *eP* P 20 58 53.9 +0.4
GTA pmax pmax
comp=Z,4.0nm,1.0s
Z25A **Roswell** 55.13 79 ⇑P P 20 58 54.1 +0.3
baz=55
X27A **F and S Farms,** 55.15 77 ⇑P P 20 58 54.2 +0.2
baz=55
Y26A **Elida** 55.22 78 ⇓P P 20 58 54.7 +0.2
baz=55
224A **Cornudas Mount** 55.48 81 ⇑P P 20 58 56.7 +0.3
baz=55,SNR=10
Z26A **Caprock** 55.57 79 ⇑P P 20 58 57.0 0.0
baz=55,SNR=6.9
125A **Gardner Draw,** 55.59 80 ⇑P P 20 58 57.4 +0.2
baz=55,SNR=8.2
Y27A **Causey** 55.64 78 ⇓P P 20 58 57.5 0.0
baz=55,SNR=8.6
ENH **Enshi** 55.68 276 *eP* P 20 58 54.2 -3.4
X28A **Dimmitt** 55.77 76 ⇑P P 20 58 58.6 +0.2
baz=56
MSTX **Muleshoe** 55.81 77 ⇑P P 20 58 58.7 0.0
baz=56
AMTX **Amarillo** 55.83 76 ⇑P P 20 58 59.1 +0.4
baz=56
225A **Deer Hill, Car** 55.88 80 ⇑P P 20 58 59.6 +0.3
baz=56,SNR=6.6
KSU1 **Kansas State U** 55.88 69 *eP* P 20 58 58.0 -1.0
comp=Z,18nm,0.7s
324A **Moseley Ranch,** 55.95 81 ⇑P P 20 58 59.9 +0.1
baz=56,SNR=6.5
126A **Clayton Basin,** 55.99 79 ⇑P P 20 58 59.6 -0.3
baz=56
Z27A **Tatum** 56.00 78 ⇓P P 20 58 59.7 -0.4
baz=56
GDL2 **Guadalupe Moun** 56.09 80 *eP* P 20 59 01.2 +0.5
X29A **Tulia** 56.12 76 ⇑P P 20 59 00.7 -0.1
baz=56
Y28A **McKinney Farm,** 56.16 77 ⇑P P 20 59 01.1 -0.1
baz=56
325A **Bean Ranch, Si** 56.31 81 ⇑P P 20 59 02.5 +0.2
baz=56,SNR=13
Z28A **Tucker Farm, M** 56.52 78 ⇓P P 20 59 03.6 -0.1
baz=56
Y29A **Porterfield Fa** 56.54 77 ⇓P P 20 59 03.8 0.0
baz=56,SNR=11
425A **Indio Mountain** 56.72 82 ⇓P P 20 59 05.6 +0.5
baz=56,SNR=13
128A **Castleberry Fa** 56.92 78 ⇓P P 20 59 06.2 -0.3
baz=57,SNR=6.8
Z29A **Hungry Hill Ra** 56.94 77 ⇑P P 20 59 06.4 -0.2
baz=57,SNR=8.5
326A **Caldwell Ranch** 56.95 80 ⇑P P 20 59 07.0 +0.3
baz=57
ARCES **ARCESS Array B** 56.96 350 P P 20 59 06.8 +0.7
ARCES **ARCESS Array B** 56.96 350 P P 20 59 06.8 +0.7
comp=Z,2.9nm,0.8s,baz=15,slow=7.8,SNR=25
228A **UT Block 9, Go** 57.22 79 ⇑P P 20 59 08.1 -0.5
baz=57
129A **Stewart Farms,** 57.29 78 ⇑P P 20 59 08.9 -0.1
baz=57
426A **McDonald Obser** 57.38 81 ⇑P P 20 59 09.6 -0.3
baz=57,SNR=9.2
328A **Wristen Ranch,** 57.61 79 ⇑P P 20 59 11.0 -0.3
baz=57,SNR=9.2
427A **Hayter Ranch,** 57.63 80 ⇓P P 20 59 11.3 -0.2
baz=57
526A **Mary Lane Ranc** 57.77 82 ⇑P P 20 59 12.7 +0.1
baz=58,SNR=11
527A **Woodward Ranch** 58.00 81 ⇓P P 20 59 14.1 0.0
baz=58
329A **Wagon Wheel Ra** 58.03 79 ⇓P P 20 59 14.0 -0.2
baz=58,SNR=5.7
626A **Big Bend Ranch** 58.11 82 ⇑P P 20 59 14.9 +0.1
baz=58,SNR=17
428A **Kincaid Ranch,** 58.15 80 ⇑P P 20 59 15.3 +0.2
baz=58,SNR=11
KURK **Kurchatov** 58.19 313 *eP* P 20 59 14.4 -0.5
comp=Z,2.1nm,0.8s
KURK ScP ScP 21 03 39.9 -1.6
KURBB **Kurchatov Arra** 58.30 313 P P 20 59 15.7 0.0
comp=Z,2.4nm,0.6s,baz=42,slow=6.6,SNR=43
KURBB ScP ScP 21 03 39.9 -2.1
comp=Z,0.8nm,0.7s,baz=38,slow=4.3,SNR=5.9
528A **Cox Ranch, San** 58.49 80 ⇓P P 20 59 17.6 +0.2
baz=58
TXAR **Lajitas Array** 58.55 82 P P 20 59 18.1 +0.2
TXAR ScP ScP 21 03 42.6 -1.0
TXAR **Lajitas Array** 58.55 82 P P 20 59 18.1 +0.2
comp=Z,8.2nm,0.7s,baz=303,slow=5.8,SNR=92
TXAR ScP ScP 21 03 42.6 -1.0
comp=Z,0.6nm,0.6s,baz=298,slow=2.6,SNR=5.2
TUL1 **Tulsa** 58.55 71 ⇓P P 20 59 17.6 -0.1
baz=58
ABTX **Abilene, Hawle** 58.62 76 ⇑P P 20 59 18.1 -0.1
baz=58,SNR=5.4
627A **Terlingua Ranc** 58.63 81 ⇑P P 20 59 18.4 0.0
baz=58,SNR=12
WMQ **Urumqi** 58.67 302 *eP* P 20 59 20.0 +1.5
429A **Davenport Ranc** 58.70 79 ⇓P P 20 59 18.5 -0.3
baz=58
529A **Stev Forest Ra** 58.86 80 ⇑P P 20 59 19.9 0.0
baz=59
628A **Black Gap, Mar** 58.91 81 ⇓P P 20 59 20.3 0.0
baz=59
HDIL **Hopedale** 58.95 63 *eP* P 20 59 19.8 -0.6
comp=Z,21nm,0.7s
430A **Baggett Ranch,** 58.97 79 ⇑P P 20 59 20.3 -0.4
baz=59,SNR=9.6
SCHQ **Schefferville** 59.16 39 P P 20 59 21.9 +0.4
SCHQ **Schefferville** 59.16 39 P P 20 59 21.9 +0.4
comp=Z,8.2nm,0.6s,baz=322,slow=6.8,SNR=51
MKAR **Makanchi Array** 59.28 308 P P 20 59 21.6 -0.9
MKAR **Makanchi Array** 59.28 308 P P 20 59 21.6 -0.9
comp=Z,0.4nm,0.4s,baz=51,slow=6.3,SNR=14
431A **Sonora** 59.42 78 ⇑P P 20 59 23.4 -0.4
baz=59,SNR=9.1
432A **Menard** 59.77 78 ⇓P P 20 59 25.9 -0.3
baz=60
531A **Rocksprings** 59.83 79 ⇓P P 20 59 26.3 -0.3
baz=60
BVAR **Borovoye Array** 59.98 319 P P 20 59 27.7 +0.6
BVAR **Borovoye Array** 59.98 319 P P 20 59 27.7 +0.6
comp=Z,7.9nm,0.5s,baz=53,slow=6.4,SNR=75
JCT **Junction City** 60.05 78 ⇓P P 20 59 27.9 -0.2
baz=60
GYA **Guiyang** 60.14 275 *eP* P 20 59 30.0 +1.2
GYA pmax pmax
comp=Z,10.0nm,1.0s
532A **Rocksprings** 60.24 78 ⇓P P 20 59 29.1 -0.3
baz=60
SFIN **Scholer Farm** 60.26 62 ⇑P P 20 59 29.0 -0.2
baz=60
WHTX **Lake Whitney** 60.36 75 ⇓P P 20 59 30.0 -0.1
baz=60
MIAR **Mount Ida** 60.80 70 *eP* P 20 59 32.5 -0.5
comp=Z,18nm,0.8s
OLIL **Olney** 60.89 64 *eP* P 20 59 32.2 -1.3
732A **Laxson Ranch,** 61.22 80 ⇑P P 20 59 35.9 +0.1
baz=61
WCI **Wyandotte Cave** 62.24 63 *eP* P 20 59 42.2 -0.3
comp=Z,13nm,1.0s
ERPA **Erie** 62.72 56 *eP* P 20 59 44.7 -0.9
comp=Z,21nm,0.8s
ALLY **Alegheny Colle** 62.98 56 *eP* P 20 59 47.7 +0.3
comp=Z,31nm,0.9s
OXF **Oxford** 63.20 68 *eP* P 20 59 48.1 -0.8
comp=Z,56nm,1.0s
LONY **Lake Ozonia** 63.51 51 *eP* P 20 59 49.2 -1.5
KMI **Kunming** 63.51 277 P P 20 59 50.6 -0.7
KMI pmax pmax
comp=Z,18nm,0.9s
PLAL **Pickwick Lake** 63.61 66 *eP* P 20 59 54.1 +2.5
comp=Z,13nm,0.9s
QIZ **Qiongzhong** 63.74 267 P P 20 59 58.0 +5.4
SWET **Sewanee** 64.63 65 *eP* P 20 59 56.7 -1.6
FINES **FINESS Array B** 64.66 347 P P 20 59 57.7 -0.2
FINES **FINESS Array B** 64.66 347 P P 20 59 57.7 -0.2
comp=Z,4.9nm,1.0s,baz=346,slow=6.5,SNR=5.9
SSPA **Standing Stone** 64.88 56 *eP* P 20 59 58.8 -0.8
comp=Z,18nm,0.9s
LBNH **Lisbon** 65.04 49 *eP* P 21 00 00.3 -0.4
NOA **NORSAR Array B** 66.51 355 P P 21 00 10.4 +0.5
NOA **NORSAR Array B** 66.51 355 P P 21 00 10.4 +0.5
comp=Z,0.3nm,0.5s,baz=339,slow=4.7,SNR=3.3
AKTO **Aktyubinsk** 66.72 324 P P 21 00 12.2 +1.0
AKTO **Aktyubinsk** 66.72 324 P P 21 00 12.2 +1.0
comp=Z,13nm,0.8s,baz=51,slow=8.6,SNR=6.9
WES **Weston** 66.75 50 *eP* P 21 00 11.4 -0.1
LSA **Lhasa** 67.00 289 *eP* P 21 00 14.8 +0.8
comp=Z,1.7nm,0.4s
KMSC **Kings Mountain** 67.20 62 ⇑P P 21 00 14.2 -0.4
baz=57
KSH **Kashi** 67.77 306 *eP* P 21 00 21.6 +3.4
KSH PcP PcP 21 00 46.8 +3.6
KSH pP pP 21 01 10.1 -0.5
KSH ScP 21 04 28.6
KSH PcS 21 04 49.6
KSH pmax pmax
comp=Z,3.0nm,0.6s
KSH pmax pmax
comp=Z,120nm,6.1s
KSH LR LR
comp=N,86nm,9.8s
KSH LR LR
comp=E,100nm,6.0s
KSH LR LR
comp=Z,250nm,6.5s
JSC **Jenkinsville** 67.89 62 *eP* P 21 00 18.5 -0.3
LHS **Liberty Hill** 67.98 62 *eP* P 21 00 23.6 +4.1
CMAR **Chiang Mai Arr** 70.83 275 P P 21 00 37.4 +0.3
CMAR pP pP 21 01 29.1 -0.8
CMAR **Chiang Mai Arr** 70.83 275 P P 21 00 37.4 +0.3
comp=Z,5.2nm,0.7s,baz=28,slow=7.2,SNR=47
CMAR pP pP 21 01 29.1 -0.8
comp=Z,1.3nm,0.9s,baz=33,slow=6.8,SNR=3.1
AKASG **Malin Array Be** 74.45 342 P P 21 00 58.5 +0.7
AKASG **Malin Array Be** 74.45 342 P P 21 00 58.5 +0.7
comp=Z,0.6nm,0.4s,baz=20,slow=6.1,SNR=2.6
KAPI **Kappang** 77.10 244 P P 21 01 12.9 -0.4
KAPI **Kappang** 77.10 244 P P 21 01 12.9 -0.4
comp=Z,6.5nm,0.5s,baz=18,slow=2.2,SNR=4.5
MTN **Manton Dam** 77.96 230 *eP* P 21 01 18.4 +0.5
CTA **Charters Tower** 78.39 213 P P 21 01 20.2 -0.1
CTA **Charters Tower** 78.39 213 P P 21 01 20.2 -0.1
comp=Z,4.1nm,0.7s,baz=3,slow=6.1,SNR=5.0
WRA **Warramunga Arr** 82.79 224 P P 21 01 43.6 0.0
WRA **Warramunga Arr** 82.79 224 P P 21 01 43.6 0.0
comp=Z,6.5nm,0.8s,baz=37,slow=6.3,SNR=28
PSI **Prapat** 83.02 265 P P 21 01 45.1 +0.1
PSI **Prapat** 83.02 265 P P 21 01 45.1 +0.1
comp=Z,17nm,0.7s,baz=32,slow=2.6,SNR=20
BRTR **Keskin Array B** 83.88 335 P P 21 01 49.6 +0.4
BRTR **Keskin Array B** 83.88 335 P P 21 01 49.6 +0.4
comp=Z,1.4nm,0.9s,baz=30,slow=4.0,SNR=4.0
FITZ **Fitzroy Crossi** 85.11 232 P P 21 01 56.0 +0.7
FITZ **Fitzroy Crossi** 85.11 232 *eP* P 21 01 55.6 +0.3
comp=Z,8.3nm,0.6s
FITZ **Fitzroy Crossi** 85.11 232 P P 21 01 56.0 +0.7
comp=Z,4.8nm,0.5s,baz=30,slow=3.9,SNR=11

```
ASAR Alice Springs      86.28 222  P          P      21 02 01.8 +0.8
ASAR Alice Springs      86.28 222  P          P      21 02 01.8 +0.8
     comp=Z,11nm,0.8s,baz=27,slow=4.8,SNR=63
ARMA Armidale           86.51 205  eP         P      21 02 03.9 +1.9
YNG  Young              91.04 207  eP         P      21 02 24.3 +1.2
     comp=Z,2.9nm,0.6s
TORD Torodi Ar. Bea    114.61 359  PKKPbc PKKPbc     21 18 43.0 +8.4
     comp=Z,1.2nm,0.6s,baz=184,slow=3.6,SNR=17
CPUP Villa Florida     129.52  82  PKP        PKPdf  21 08 25.6 -0.7
CPUP                               SKPbc SKPab    21 11 24.4 -1.8
CPUP Villa Florida     129.52  82  PKP        PKPdf  21 08 25.6 -0.7
     comp=Z,0.9nm,0.7s,baz=18,slow=10,SNR=2.9
CPUP                               SKPbc SKPab    21 11 24.4 -1.8
     comp=Z,1.7nm,0.7s,baz=319,slow=6.5,SNR=4.9
QSPA South Pole Qui    142.27 180  PKhKP PKPpre   21 08 44.7
     comp=Z,2.8nm,0.8s,baz=301,slow=0.9,SNR=8.2
QSPA                               SKPbc SKPbc    21 12 03.4 -1.1
     comp=Z,3.7nm,0.8s,baz=228,slow=0.1,SNR=12
LBTB Lobatse           146.87 316  PKPbc PKPbc    21 09 00.7 +0.3
LBTB Lobatse           146.87 316  PKPbc PKPbc    21 09 00.7 +0.3
     comp=Z,5.5nm,0.6s,baz=242,slow=0.9,SNR=18
BOSA Boshof            150.15 314  PKPbc PKPbc    21 09 07.0 -1.7
BOSA Boshof            150.15 314  PKPbc PKPbc    21 09 07.0 -1.7
     comp=Z,2.5nm,0.6s,baz=302,slow=11,SNR=9.2
```

OMAN ***22*** *20:53:45.6±99.0, 29°.44N×55°.33E, h126km±24km, Error ellipse: s-maj=230.7km s-min=8.4km az=354.0*
KISR ***22*** *20:53:58.9±0.6, 27°.61N×55°.15E, h15km±999km, ML4.3*
IDC ***22*** *20:53:58.3±0.5, 28°.08N×55°.51E, h0km, mb4.2/29, mb1 4.3/33,mb1mx4.3/38, mbtmp4.2/33, ML4.2/4, MS3.3/3, Ms1 3.3/3, ms1mx2.8/44, Error ellipse: s-maj=13.6km s-min=11.3km az=176.0*
TEH ***22*** *20:53:59.2, 27°.98N×55°.22E, h8km, ML4.2*
CSEM ***22*** *20:54:00.6±0.1, 28°.14N×55°.41E, h10km, mb4.6/19, Error ellipse: s-maj=5.6km s-min=4.1km az=38.0*
THR ***22*** *20:54:01.3±0.8, 28°.07N×55°.52E, h14km±10km, ML4.2*
NEIC ***22*** *20:54:01.6±3.0, 28°.09N×55°.47E, h22km±21km, mb4.5/9, Error ellipse: s-maj=8.6km s-min=6.3km az=161.0*
BJI ***22*** *20:54:02.1, 28°.10N×55°.40E, h45km, mB5.0/3, mb4.3/5, Ms4.0/1, Ms7 4.1/1*

ISC 22 20:54:00.3±0.8, 27°.98N±0°.03×55°.33E±0°.03, h15km±5km, n332, σ1°15/290, mb4.4/53, 15C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBND	**Bandar-abas**	**1.20**	**116**	*e*Pg	**Pg**	**20 54 24.4**	**+0.9**
IBND				*e*Sg	**Sn**	**20 54 42.7**	**+4.1**
IBND				*e*		20 54 54.8	
	comp=Z,88μm,0.4s						
IBND	**Bandar-abas**	**1.20**	**116**	*e*Pg	**Pg**	**20 54 24.4**	**+0.9**
IBND				*e*Sg	**Sn**	**20 54 42.7**	**+4.1**
GHIR	**Ghir-Karzin**	**2.09**	**279**	*e*Pn	**Pg**	**20 54 39.9**	**-0.5**
GHIR				AML	AML	20 55 25.1	
	comp=E,2μm,0.7s						
GHIR				AML	AML	20 55 36.9	
	comp=N,2μm,0.6s						
GHIR	**Ghir-Karzin**	**2.09**	**279**	*e*Pn	**Pg**	**20 54 39.9**	**-0.5**
BANOM	**Banah**	**2.22**	**157**	P	**Pb**	**20 54 40.1**	**-0.2**
	SNR=41						
BANOM	**Banah**	**2.22**	**157**	P	**Pb**	**20 54 40.1**	**-0.2**
	SNR=41						
KRBR	**Kerman**	**2.36**	**32**	*e*PN5		20 54 40.0	
KRBR				*e*Sg	**Sn**	**20 55 10.3**	**+2.6**
KRBR				AML	AML	20 55 13.6	
	comp=E,986nm,0.5s						
KRBR				AML	AML	20 55 23.4	
	comp=N,2μm,0.6s						
SHI	**Shiraz**	**2.97**	**305**	*e*Pn	Pb	20 54 49.1	-4.0
SHI				*e*		20 55 57.8	
	comp=Z,7μm,0.3s						
SHI	**Shiraz**	**2.97**	**305**	*e*Pn	Pb	20 54 49.1	-4.0
NAZ	**Nazwa, Dubai**	**2.99**	**174**	⇓P	**Pb**	**20 54 51.4**	**-2.0**
	SNR=20						
NAZ	**Nazwa, Dubai**	**2.99**	**174**	P	**Pb**	**20 54 51.4**	**-2.0**
	SNR=20						
HATD	**Hatta, Dubai**	**3.22**	**167**	⇑P	Pb	20 54 54.6	-2.7
	SNR=20						
HATD	**Hatta, Dubai**	**3.22**	**167**	P	Pb	20 54 54.6	-2.7
	SNR=20						
FAQ	**Al Faqa, Dubai**	**3.23**	**176**	P	**Pb**	**20 54 55.5**	**-1.9**
ASUD	**Al Ashush, Dub**	**3.34**	**180**	P	**Pb**	**20 54 58.2**	**-1.1**
	SNR=48						
ASUD	**Al Ashush, Dub**	**3.34**	**180**	P	**Pb**	**20 54 57.9**	**-1.4**
	SNR=48						
ASHO	**Ashiyiah**	**3.35**	**168**	P	Pb	20 54 56.6	-2.8
	SNR=20						
ASHO	**Ashiyiah**	**3.35**	**168**	P	Pb	20 54 56.6	-2.8
	SNR=20						
IMEH	**Mehriz**	**3.46**	**350⇑**	*e*Pn	Pn	20 54 56.7	+2.8
IMEH				*e*		20 55 06.0	
	comp=Z,4μm,0.3s						
IMEH	**Mehriz**	**3.46**	**350⇑**	*e*Pn	Pn	20 54 56.7	+2.8
IBAF	**Bafgh**	**3.61**	**3**	*e*Pn	**Pn**	**20 54 57.5**	**+1.7**
IBAF				*e*		20 55 10.0	
	comp=Z,5μm,0.2s						
IBAF	**Bafgh**	**3.61**	**3**	*e*Pn	**Pn**	**20 54 57.5**	**+1.7**
ICHK	**Chekchek**	**4.33**	**350**	*e*Pn	Pn	20 55 08.3	+2.5
ICHK				*e*		20 56 24.8	
	comp=Z,3μm,0.3s						
ICHK	**Chekchek**	**4.33**	**350**	*e*Pn	Pn	20 55 08.3	+2.5
HOQ	**Hoqain**	**4.73**	**157**	⇑P	**Pn**	**20 55 13.6**	**+2.4**
	SNR=6.5						
HOQ	**Hoqain**	**4.73**	**157**	P	**Pn**	**20 55 13.6**	**+2.4**
	SNR=6.5						
ARQ	**Araqi**	**4.75**	**167**	P	Pn	20 55 17.0	+5.6
	SNR=7.7						
ARQ	**Araqi**	**4.75**	**167**	P	Pn	20 55 17.0	+5.6
	SNR=7.7						
IGAR	**Gharneh**	**5.25**	**328**	*e*Pn	**Pn**	**20 55 20.3**	**+1.8**
IGAR				*e*		20 56 24.2	
	comp=Z,2μm,0.4s						
NASN	**Na'in**	**5.27**	**336**	*e*Pn	Pn	20 55 22.0	+3.1
NASN				Sn	**Sn**	**20 56 21.3**	**+1.7**
NASN	**Na'in**	**5.27**	**336**	*e*Pn	Pn	20 55 22.0	+3.1
IKOO	**Kooshah**	**5.46**	**35**	*e*Pn	**Pn**	**20 55 22.7**	**+1.3**
IKOO				*e*		20 57 16.5	
	comp=Z,1μm,0.4s						
IKOO	**Kooshah**	**5.46**	**35**	*e*Pn	**Pn**	**20 55 22.7**	**+1.3**
BSY	**Bisya**	**5.48**	**162**	P	Pn	20 55 26.0	+4.5
	SNR=14						
SMDO	**Samad**	**5.48**	**153**	⇑P	Pn	20 55 25.0	+3.4
	SNR=11						
SMDO	**Samad**	**5.48**	**153**	P	Pn	20 55 25.0	+3.4
	SNR=11						
BSYO	**Bisya**	**5.50**	**161**	P	Pn	20 55 26.0	+4.2
	SNR=14						
IZEF	**Zefreh**	**5.54**	**333**	*e*Pn	Pn	20 55 24.6	+2.0
IZEF				*e*		20 55 58.6	
	comp=Z,990nm,0.3s						
IZEF	**Zefreh**	**5.54**	**333**	*e*Pn	Pn	20 55 24.6	+2.0
ITEG	**Tejag**	**5.72**	**30**	*e*Pn	Pn	20 55 28.3	+3.3
ITEG				*e*		20 57 13.9	
	comp=Z,1μm,0.5s						
ITEG	**Tejag**	**5.72**	**30**	*e*Pn	Pn	20 55 28.3	+3.3
TABS	**Tabas**	**5.86**	**15**	*e*Pn	**Pn**	**20 55 28.1**	**+1.3**
TABS	**Tabas**	**5.86**	**15**	*e*Pn	**Pn**	**20 55 28.1**	**+1.3**
IPIR	**Pirpir**	**6.06**	**322**	*e*Pn	Pn	20 55 31.6	+1.9
IPIR				*e*		20 56 43.2	
	comp=Z,910nm,0.2s						
IPIR	**Pirpir**	**6.06**	**322**	*e*Pn	Pn	20 55 31.6	+1.9
JMDO	**Jabal Madar**	**6.12**	**155**	P	Pn	20 55 33.6	+3.2
	SNR=18						
JMDO	**Jabal Madar**	**6.12**	**155**	P	Pn	20 55 33.6	+3.2
	SNR=18						
IDAH	**Dahanechah**	**6.16**	**38**	*e*Pn	Pn	20 55 34.9	+3.9
IDAH				*e*		20 56 26.3	
	comp=Z,436nm,0.3s						
IDAH	**Dahanechah**	**6.16**	**38**	*e*Pn	Pn	20 55 34.9	+3.9
IKLH	**Kolahrood**	**6.22**	**330**	*e*Pn	**Pn**	**20 55 33.5**	**+1.6**
IKLH				*e*		20 57 04.5	
	comp=Z,523nm,0.3s						
IKLH	**Kolahrood**	**6.22**	**330**	*e*Pn	**Pn**	**20 55 33.5**	**+1.6**
WBK	**Wadi Bani Khal**	**6.28**	**148**	P	**Pn**	**20 55 34.8**	**+2.3**
	SNR=8.9						
WBK	**Wadi Bani Khal**	**6.28**	**148**	P	**Pn**	**20 55 34.8**	**+2.3**
	SNR=8.9						
IMON	**Monand**	**6.40**	**35**	*e*Pn	Pn	20 55 37.8	+3.4
IMON				*e*		20 56 22.2	
	comp=E,2μm,0.2s						
IMON	**Monand**	**6.40**	**35**	*e*Pn	Pn	20 55 37.8	+3.4
QRN	**Al-Qurain**	**6.57**	**278**	*e*P	Pn	20 55 38.8	+2.3
QRN				*e*S	**Sn**	**20 56 53.4**	**+2.3**
QRN				AML	AML	20 56 54.7	
	comp=Z,86nm,0.3s						
KBD	**Kabd**	**6.82**	**282**	*e*P	Pn	20 55 42.5	+2.7
KBD				AML	AML	20 56 58.1	
	comp=Z,28nm,0.4s						
KBD	**Kabd**	**6.82**	**282**	*e*P	Pn	20 55 42.5	+2.7
UMR	**Umm Al-Rimmam**	**6.86**	**285**	*e*P	Pn	20 55 43.6	+3.2
UMR	**Umm Al-Rimmam**	**6.86**	**285**	*e*P	Pn	20 55 43.6	+3.2
ISFB	**Sefidab**	**6.88**	**338**	*e*Pn	**Pn**	**20 55 42.9**	**+2.1**
ISFB				*e*		20 56 18.7	
	comp=Z,409nm,0.4s						
ISFB	**Sefidab**	**6.88**	**338**	*e*Pn	**Pn**	**20 55 42.9**	**+2.1**
RDF	**Al-Radifah**	**6.91**	**280**	*e*P	Pn	20 55 43.2	+2.1
RDF				AML	AML	20 57 03.8	
	comp=Z,65nm,0.5s						
RDF	**Al-Radifah**	**6.91**	**280**	*e*P	Pn	20 55 43.2	+2.1
NAY	**Al-Naaiem**	**7.22**	**282**	*e*P	Pn	20 55 48.3	+3.0
NAY				AML	AML	20 57 11.3	
	comp=Z,46nm,0.5s						
NAY	**Al-Naaiem**	**7.22**	**282**	*e*P	Pn	20 55 48.3	+3.0
MIB	**Mutribah**	**7.23**	**286**	*e*P	Pn	20 55 48.5	+3.0
MIB				AML	AML	20 57 06.6	
	comp=Z,44nm,0.6s						
MIB	**Mutribah**	**7.23**	**286**	*e*P	Pn	20 55 48.5	+3.0
DAMV	**Damavand**	**8.14**	**340**	*e*Pn	Pn	20 56 01.6	+3.3
DAMV	**Damavand**	**8.14**	**340**	*e*Pn	Pn	20 56 01.6	+3.3
IRAZ	**Razeghan**	**8.71**	**330**	*e*Pn	**Pn**	**20 56 07.8**	**+1.8**
IRAZ				*e*		20 58 07.2	
	comp=Z,267nm,0.3s						
IRAZ	**Razeghan**	**8.71**	**330**	*e*Pn	**Pn**	**20 56 07.8**	**+1.8**
IKOM	**Komasi**	**9.11**	**315**	*e*Pn	**Pn**	**20 56 12.7**	**+1.3**
IKOM				*e*		20 58 06.5	
	comp=Z,1μm,0.4s						
IKOM	**Komasi**	**9.11**	**315**	*e*Pn	**Pn**	**20 56 12.7**	**+1.3**
IGHG	**Ghaleghazi**	**9.81**	**312**	*e*Pn	**Pn**	**20 56 22.6**	**+1.5**
IGHG				*e*		20 58 25.0	
	comp=Z,1μm,0.3s						
IGHG	**Ghaleghazi**	**9.81**	**312**	*e*Pn	**Pn**	**20 56 22.6**	**+1.5**
IDHR	**Dehrash**	**10.16**	**313**	*e*Pn	**Pn**	**20 56 27.0**	**+1.1**
IDHR				*e*		20 56 39.1	
	comp=Z,852nm,0.1s						
IDHR	**Dehrash**	**10.16**	**313**	*e*Pn	**Pn**	**20 56 27.0**	**+1.1**
ABTO	**Aybut**	**10.74**	**190**	P	**Pn**	**20 56 35.5**	**+1.8**
	SNR=15						
ABTO	**Aybut**	**10.74**	**190**	P	**Pn**	**20 56 35.5**	**+1.8**
	SNR=15						
GNI	**Garni**	**14.96**	**327**	*e*Pn	**Pn**	**20 57 30.7**	**-0.7**
	comp=Z,41nm,1.1s						
GNI				Pn	P	20 57 39.6	+2.6
GNI	**Garni**	**14.96**	**327**	Pn	P	20 57 39.6	+2.6
	comp=Z,1.6nm,0.3s,baz=332,slow=2.4,SNR=20						
GNI				LR	LR	21 04 14.4	
	comp=Z,139nm,20.6s,baz=264,slow=41						
GNI	**Garni**	**14.96**	**327**	*e*Pn	**Pn**	**20 57 30.7**	**-0.7**
	comp=Z,41nm,1.1s						
DGRG	**David-gareji**	**15.72**	**331**	P	**P**	**20 57 48.8**	**+3.6**
ASF	**Jabal al Asfar**	**16.49**	**289**	Pn	**Pn**	**20 57 50.5**	**-0.7**
ASF	**Jabal al Asfar**	**16.49**	**289**	Pn	**Pn**	**20 57 50.5**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=330,slow=13,SNR=8.9						
ONI	**Oni**	**17.48**	**330**	P	P	20 58 08.8	+4.0
MMAI	**Mount Meron Ar**	**17.88**	**291**	P	**P**	**20 58 09.2**	**-0.1**
MMAI	**Mount Meron Ar**	**17.88**	**291**	P	**P**	**20 58 09.2**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=103,slow=17,SNR=8.6						
MMAI	**Mount Meron Ar**	**17.88**	**291**	P	**P**	**20 58 09.1**	**-0.1**
EIL	**Elat**	**17.93**	**280**	P	**P**	**20 58 11.6**	**+1.8**
EIL	**Elat**	**17.93**	**280**	P	**P**	**20 58 11.6**	**+1.8**
	comp=Z,0.6nm,0.3s,baz=94,slow=4.1,SNR=7.9						
EIL	**Elat**	**17.93**	**280**	P	**P**	**20 58 11.6**	**+1.8**
KBZ	**Khabaz**	**18.63**	**331**	P	**Pn**	**20 58 19.0**	**+1.4**
KBZ	**Khabaz**	**18.63**	**331**	P	**Pn**	**20 58 19.0**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=131,slow=16,SNR=9.8						
KBZ	**Khabaz**	**18.63**	**331**	P	**Pn**	**20 58 19.0**	**+1.4**
KIV	**Kislovodsk**	**18.91**	**331**	*e*P	**Pn**	**20 58 20.3**	**-0.8**
	comp=Z,13nm,0.6s						
KIV	**Kislovodsk**	**18.91**	**331**	*e*P	**Pn**	**20 58 20.3**	**-0.8**
	comp=Z,13nm,0.6s						
KKAR	**Karatay Array**	**19.46**	**35**	*e*P	**P**	**20 58 26.9**	**+0.5**
	comp=Z,4.3nm,0.8s						
KKAR	**Karatay Array**	**19.46**	**35**	*e*P	**P**	**20 58 26.9**	**+0.5**
	comp=Z,4.3nm,0.8s						
ATD	**Arta Tunnel**	**20.11**	**218**	P	Pn	20 58 37.0	+1.3
ATD	**Arta Tunnel**	**20.11**	**218**	P	Pn	20 58 37.0	+1.3
	comp=Z,4.3nm,0.4s,baz=24,slow=18,SNR=2.8						
ATD				LR	LR	21 07 40.1	
	comp=Z,96nm,19.1s,baz=321,slow=40						
ATD	**Arta Tunnel**	**20.11**	**218**	P	Pn	20 58 37.0	+1.3
EKS2	**Erkin-Say**	**20.94**	**41**	*e*P	**P**	**20 58 41.6**	**-1.1**
	comp=Z,12nm,0.8s						
EKS2	**Erkin-Say**	**20.94**	**41**	*e*P	**P**	**20 58 41.6**	**-1.1**
	comp=Z,12nm,0.8s						
AAK	**Ala-Archa**	**21.34**	**42**	*e*P	**P**	**20 58 45.0**	**-2.1**
	comp=Z,34nm,0.9s						
AAK				P	**P**	**20 58 47.0**	**-0.1**
AAK	**Ala-Archa**	**21.34**	**42**	P	**P**	**20 58 47.0**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=240,slow=6.9,SNR=14						
AAK	**Ala-Archa**	**21.34**	**42**	P	**P**	**20 58 47.0**	**-0.1**
BRTR	**Keskin Array B**	**21.43**	**309**	P	**P**	**20 58 49.9**	**+1.9**
BRTR	**Keskin Array B**	**21.43**	**309**	P	**P**	**20 58 49.9**	**+1.9**
	comp=Z,7.3nm,0.5s,baz=130,slow=14,SNR=67						
BRTR	**Keskin Array B**	**21.43**	**309**	P	**P**	**20 58 49.9**	**+1.9**
ABKAR	**Akbulak array**	**21.54**	**8**	*e*P	**P**	**20 58 48.6**	**-0.3**
	comp=Z,7.0nm,0.6s						
ABKAR	**Akbulak array**	**21.54**	**8**	*e*P	**P**	**20 58 48.7**	**-0.3**
	comp=Z,7.0nm,0.6s						
AKTO	**Aktyubinsk**	**22.52**	**4**	P	**P**	**20 58 58.8**	**-0.6**
AKTO	**Aktyubinsk**	**22.52**	**4**	P	**P**	**20 58 58.8**	**-0.6**
	comp=Z,7.1nm,0.7s,baz=165,slow=13,SNR=12						
AKTO				LR	LR	21 10 01.7	
	comp=Z,58nm,18.5s,baz=182,slow=43						
AKTO	**Aktyubinsk**	**22.52**	**4**	P	**P**	**20 58 58.8**	**-0.6**
KOLN	**Koldanda**	**24.98**	**84**	*e*P	**P**	**20 59 23.8**	**+0.1**
	comp=Z,6.8nm,0.6s						
KOLN	**Koldanda**	**24.98**	**84**	*e*P	**P**	**20 59 23.8**	**+0.1**
KOLN	**Koldanda**	**24.98**	**84**	*e*P	**P**	**20 59 23.8**	**+0.1**
DANN	**Dangsing**	**25.05**	**82**	*e*P	**P**	**20 59 25.0**	**+0.5**
	comp=Z,62nm,1.0s						
DANN	**Dangsing**	**25.05**	**82**	*e*P	**P**	**20 59 25.0**	**+0.5**
DANN	**Dangsing**	**25.05**	**82**	*e*P	**P**	**20 59 25.0**	**+0.5**
GKN	**Gorkha**	**25.86**	**83**	*e*P	**P**	**20 59 31.5**	**-0.2**
	comp=Z,11nm,0.8s						
GKN	**Gorkha**	**25.86**	**83**	*e*P	**P**	**20 59 31.5**	**-0.2**
GKN	**Gorkha**	**25.86**	**83**	*e*P	**P**	**20 59 31.5**	**-0.2**
DMN	**Daman**	**26.32**	**84**	*e*P	**P**	**20 59 35.8**	**-0.2**
	comp=Z,21nm,1.1s						
DMN	**Daman**	**26.32**	**84**	*e*P	**P**	**20 59 35.8**	**-0.2**
DMN	**Daman**	**26.32**	**84**	*e*P	**P**	**20 59 35.8**	**-0.2**
KKN	**Kakani**	**26.45**	**83**	*e*P	**P**	**20 59 37.0**	**-0.1**
	comp=Z,14nm,0.8s						
KKN	**Kakani**	**26.45**	**83**	*e*P	**P**	**20 59 37.0**	**-0.1**
KKN	**Kakani**	**26.45**	**83**	*e*P	**P**	**20 59 37.0**	**-0.1**
PKI	**Pulchoki**	**26.59**	**84**	*e*P	**P**	**20 59 38.2**	**-0.3**
	comp=Z,12nm,0.7s						
PKI	**Pulchoki**	**26.59**	**84**	*e*P	**P**	**20 59 38.2**	**-0.3**
PKI	**Pulchoki**	**26.59**	**84**	*e*P	**P**	**20 59 38.2**	**-0.3**
GUN	**Gumba**	**26.96**	**83**	*e*P	**P**	**20 59 41.8**	**0.0**
	comp=Z,33nm,0.9s						
GUN	**Gumba**	**26.96**	**83**	*e*P	**P**	**20 59 41.8**	**0.0**
GUN	**Gumba**	**26.96**	**83**	*e*P	**P**	**20 59 41.8**	**0.0**
JIRN	**Jiri**	**27.27**	**83**	*e*P	**P**	**20 59 44.2**	**-0.4**
	comp=Z,2.0nm,0.6s						
JIRN	**Jiri**	**27.27**	**83**	*e*P	**P**	**20 59 44.2**	**-0.4**
JIRN	**Jiri**	**27.27**	**83**	*e*P	**P**	**20 59 44.2**	**-0.4**
BVAR	**Borovoye Array**	**27.40**	**20**	P	**P**	**20 59 42.7**	**-2.4**
BVAR				PcP	**PcP**	**21 03 04.1**	**+0.3**
BVAR	**Borovoye Array**	**27.40**	**20**	P	**P**	**20 59 42.7**	**-2.4**
	comp=Z,1.4nm,0.5s,baz=212,slow=5.1,SNR=5.7						
BVAR				PcP	**PcP**	**21 03 04.1**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=201,slow=2.7,SNR=6.6						
BVAR	**Borovoye Array**	**27.40**	**20**	P	**P**	**20 59 42.7**	**-2.4**
BVAR	**Borovoye Array**	**27.40**	**20**	PcP	**PcP**	**21 03 04.1**	**+0.3**
RAMN	**Ramite**	**27.73**	**85**	*e*P	**P**	**20 59 48.1**	**-0.6**
	comp=Z,9.5nm,0.8s						
RAMN	**Ramite**	**27.73**	**85**	*e*P	**P**	**20 59 48.1**	**-0.6**
RAMN	**Ramite**	**27.73**	**85**	*e*P	**P**	**20 59 48.1**	**-0.6**
MKAR	**Makanchi Array**	**28.27**	**41**	P	**P**	**20 59 52.6**	**-0.5**
MKAR	**Makanchi Array**	**28.27**	**41**	P	**P**	**20 59 52.6**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=235,slow=10,SNR=11						
MKAR	**Makanchi Array**	**28.27**	**41**	P	**P**	**20 59 52.6**	**-0.5**
KURBB	**Kurchatov Arra**	**28.65**	**32**	P	**P**	**20 59 55.9**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=231,slow=8.2,SNR=8.4						
KURBB				PcP	**PcP**	**21 03 04.8**	**-2.0**
	comp=Z,0.4nm,0.6s,baz=228,slow=2.8,SNR=4.1						
KURK	**Kurchatov**	**28.76**	**32**	P	**P**	**20 59 55.9**	**-1.4**
KURK				PcP	**PcP**	**21 03 04.8**	**-2.3**
KURK	**Kurchatov**	**28.76**	**32**	P	**P**	**20 59 55.9**	**-1.4**
PLOR	**Plostina**	**28.82**	**316⇑**	*i*P	**P**	**20 59 59.6**	**+1.6**
PLOR	**Plostina**	**28.82**	**316⇑**	*i*P	**P**	**20 59 59.6**	**+1.6**
MLR	**Muntele Rosu**	**29.09**	**315**	P	**P**	**21 00 01.7**	**+1.2**
MLR	**Muntele Rosu**	**29.09**	**315⇑**	*i*P	P	21 00 04.1	+3.6
MLR	**Muntele Rosu**	**29.09**	**315**	P	**P**	**21 00 01.7**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=119,slow=2.7,SNR=6.9						
MLR	**Muntele Rosu**	**29.09**	**315**	P	**P**	**21 00 01.7**	**+1.2**
TESR		**29.14**	**317⇑**	*i*P	**P**	**21 00 01.6**	**+0.9**
TESR		**29.14**	**317⇑**	*i*P	**P**	**21 00 01.6**	**+0.9**
VOIR		**29.64**	**314⇑**	*i*P	**P**	**21 00 07.0**	**+1.8**
VOIR		**29.64**	**314⇑**	*i*P	**P**	**21 00 07.0**	**+1.8**
AKASG	**Malin Array Be**	**30.09**	**326**	P	**P**	**21 00 09.2**	**+0.1**
AKASG	**Malin Array Be**	**30.09**	**326**	P	**P**	**21 00 09.2**	**+0.1**
	comp=Z,2.6nm,0.5s,baz=134,slow=8.5,SNR=18						
AKASG	**Malin Array Be**	**30.09**	**326**	P	**P**	**21 00 09.2**	**+0.1**
KIEV	**Kiev**	**30.09**	**326**	*e*P	**P**	**21 00 09.0**	**-0.1**
	comp=Z,10nm,0.8s						
KIEV	**Kiev**	**30.09**	**326**	*e*P	**P**	**21 00 09.0**	**-0.1**
	comp=Z,10nm,0.8s						
BURAR	**Bucovina Array**	**30.54**	**318⇓**	*i*P	**P**	**21 00 14.1**	**+0.9**
BURAR	**Bucovina Array**	**30.54**	**318⇓**	*i*P	**P**	**21 00 14.1**	**+0.9**
DRGR		**31.69**	**315⇓**	*i*P	**P**	**21 00 24.6**	**+1.3**
DRGR		**31.69**	**315⇓**	*i*P	**P**	**21 00 24.6**	**+1.3**
ZALV	**Zalesovo Beam**	**33.75**	**32**	P	**P**	**21 00 40.4**	**-0.8**
ZALV	**Zalesovo Beam**	**33.75**	**32**	P	**P**	**21 00 40.4**	**-0.8**
	comp=Z,2.7nm,0.5s,baz=242,slow=9.3,SNR=21						
ZALV	**Zalesovo Beam**	**33.75**	**32**	P	**P**	**21 00 40.4**	**-0.8**
NACGM	**Naroch**	**33.93**	**330**	*e*	P	21 00 48.0	+5.3
IIGN	**Ignalina**	**34.47**	**331**	*e*P	**P**	**21 00 48.5**	**+1.1**
IIGN	**Ignalina**	**34.47**	**331**	*e*P	**P**	**21 00 48.5**	**+1.1**
ISAL	**Salakas**	**34.66**	**331**	*e*P	**P**	**21 00 47.8**	**-1.1**
ISAL	**Salakas**	**34.66**	**331**	*e*P	**P**	**21 00 47.8**	**-1.1**
IZAR	**Zarasai**	**34.72**	**331**	*e*P	P	21 00 46.5	-3.0
IZAR	**Zarasai**	**34.72**	**331**	*e*P	P	21 00 46.5	-3.0
VRAC	**Vranov**	**36.45**	**316**	*e*P	**P**	**21 01 05.1**	**+0.6**
GERES	**GERESS Array B**	**38.09**	**315**	P	**P**	**21 01 18.9**	**+0.4**
GERES	**GERESS Array B**	**38.09**	**315**	P	**P**	**21 01 18.9**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=117,slow=7.3,SNR=10						
GERES	**GERESS Array B**	**38.09**	**315**	P	**P**	**21 01 18.9**	**+0.4**
KHC	**Kasperske Hory**	**38.25**	**315**	*e*P	**P**	**21 01 19.6**	**-0.3**
	comp=Z,6.0nm,0.8s						
KHC	**Kasperske Hory**	**38.25**	**315**	*e*P	**P**	**21 01 20.0**	**+0.2**
KHC				*e*pP	**pP**	**21 01 26.0**	**+1.5**
KHC				*ex*	x	21 01 46.5	
KHC	**Kasperske Hory**	**38.25**	**315**	P	**P**	**21 01 20.0**	**+0.2**
JOF	**Joensuu**	**38.31**	**343**	*e*p	**P**	**21 01 20.4**	**+0.4**
	comp=Z,5.1nm,0.8s						
JOF	**Joensuu**	**38.31**	**343**	*e*P	**P**	**21 01 20.4**	**+0.4**
	comp=Z,5.1nm,0.8s						
GTA	**Gaotai**	**38.38**	**61**	*e*P	**P**	**21 01 21.8**	**+0.6**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
FINES	**FINESS Array B**	**38.73**	**338**	P	**P**	**21 01 24.1**	**+0.5**
FINES	**FINESS Array B**	**38.73**	**338**	P	**P**	**21 01 24.1**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=136,slow=8.3,SNR=14						
FINES	**FINESS Array B**	**38.73**	**338**	P	**P**	**21 01 24.1**	**+0.5**
KAF	**Kangasniemi**	**39.15**	**339**	*e*p	**P**	**21 01 28.9**	**+1.8**
KAF	**Kangasniemi**	**39.15**	**339**	*e*P	**P**	**21 01

comp=Z,26nm,1.3s
FLN La Foliniere 47.25 312 eP P 21 02 32.6 -0.2
comp=Z,26nm,1.1s
FLN La Foliniere 47.25 312 eP P 21 02 32.6 -0.2
FLN La Foliniere 47.25 312 eP P 21 02 32.6 -0.2
comp=Z,13nm,1.1s
SJPF Ste Jean 47.56 304 eP P 21 02 35.0 -0.3
SJPF Ste Jean 47.56 304 eP P 21 02 35.0 -0.3
SJPF Ste Jean 47.56 304 eP P 21 02 35.0 -0.3
ESDC Sonseca Array 49.81 300 P P 21 02 53.5 +0.8
ESDC Sonseca Array 49.81 300 P P 21 02 53.5 +0.8
comp=Z,1.3nm,0.6s,baz=65,slow=7.9,SNR=14
ESDC Sonseca Array 49.81 300 P P 21 02 53.5 +0.8
TORD Torodi Ar. Bea 51.95 265 P P 21 03 10.2 +1.2
TORD Torodi Ar. Bea 51.95 265 P P 21 03 10.2 +1.2
comp=Z,14nm,0.7s,baz=64,slow=7.8,SNR=99
TORD Torodi Ar. Bea 51.95 265 P P 21 03 10.2 +1.2
MVO Moncorvo 51.99 302 eP P 21 03 07.2 -1.9
PBAR Barrancos 52.37 298 eP P 21 03 12.6 +0.7
PVRL Vila Real 52.49 302 eP P 21 03 14.3 +1.5
PESTR Estremoz 52.70 299 eP P 21 03 14.9 +0.5
PBEJ Beja 53.04 298 eP P 21 03 18.0 +1.1
EVO Evora 53.07 299 iP P 21 03 18.5 +1.4
comp=Z,8.0nm,0.8s
EVOP Sao Brissos 53.16 299 iP P 21 03 18.5 +0.8
EVOP Sao Brissos 53.16 299 iP P 21 03 18.5 +0.8
comp=Z,4.0nm,0.8s
PTOM Tomar 53.22 300 eP P 21 03 19.8 +1.6
comp=Z,23nm,0.9s
SPITS Spitsbergen Ar 53.24 351 P P 21 03 16.9 -0.9
SPITS Spitsbergen Ar 53.24 351 P P 21 03 16.9 -0.9
comp=Z,3.2nm,0.5s,baz=124,slow=10,SNR=14
SPITS Spitsbergen Ar 53.24 351 P P 21 03 16.9 -0.9
SPB4 Spitsbergen A 53.24 351 eP P 21 03 16.8 -1.0
SPB4 Spitsbergen Ar 53.24 351 eP P 21 03 16.8 -1.0
KSAR Wonju Array Be 60.43 61 P P 21 04 07.8 -1.6
KSAR Wonju Array Be 60.43 61 P P 21 04 07.8 -1.6
KSRS Korea Array 60.46 61 P P 21 04 07.8 -1.7
comp=Z,3.6nm,0.8s,baz=279,slow=6.6,SNR=7.5
DBIC Dimbokro 60.61 262 P P 21 04 12.3 +1.3
DBIC Dimbokro 60.61 262 P P 21 04 12.3 +1.3
comp=Z,3.1nm,0.5s,baz=42,slow=5.9,SNR=11
DBIC Dimbokro 60.61 262 P P 21 04 12.3 +1.3
LIC Lamto 60.97 261 eP P 21 04 14.4 +1.0
comp=Z,27nm,0.9s
LIC Lamto 60.97 261 eP P 21 04 14.4 +1.0
LIC Lamto 60.97 261 eP P 21 04 14.4 +1.0
comp=Z,14nm,0.9s
USRK Ussuriysk Arra 61.91 52 P P 21 04 17.4 -1.9
comp=Z,0.7nm,0.7s,baz=259,slow=2.0,SNR=2.9
BOSA Boshof 63.22 210 P P 21 04 30.4 +2.2
BOSA Boshof 63.22 210 P P 21 04 30.4 +2.2
comp=Z,4.3nm,0.6s,baz=5.8,slow=4.9,SNR=20
BOSA Boshof 63.22 210 P P 21 04 30.5 +2.2
FITZ Fitzroy Crossi 82.00 115 P P 21 06 20.3 +0.2
FITZ Fitzroy Crossi 82.00 115 P P 21 06 20.3 +0.2
comp=Z,2.3nm,0.7s,baz=273,slow=3.0,SNR=6.0
FITZ Fitzroy Crossi 82.00 115 P P 21 06 20.3 +0.2
SCHQ Schefferville 83.78 330 P P 21 06 28.6 -0.3
SCHQ Schefferville 83.78 330 P P 21 06 28.6 -0.3
comp=Z,2.4nm,0.8s,baz=57,slow=13,SNR=3.9
SCHQ Schefferville 83.78 330 P P 21 06 28.6 -0.3
ILAR Eielson Array 85.94 9 P P 21 06 39.0 -0.6
ILAR Eielson Array 85.94 9 P P 21 06 39.0 -0.6
comp=Z,1.3nm,0.6s,baz=319,slow=4.3,SNR=27
ILAR Eielson Array 85.94 9 P P 21 06 39.0 -0.6
MCK McKinley 86.61 11 eP P 21 06 41.1 -1.8
comp=Z,4.4nm,0.8s
MCK McKinley 86.61 11 eP P 21 06 41.1 -1.8
comp=Z,4.4nm,0.8s
EGAK Eagle 86.66 7 eP P 21 06 42.4 -0.7
comp=Z,8.0nm,1.0s
EGAK Eagle 86.66 7 eP P 21 06 42.4 -0.7
comp=Z,8.0nm,1.0s
YKA Yellowknife Ar 89.48 355 P P 21 06 56.3 -0.3
YKA Yellowknife Ar 89.48 355 P P 21 06 56.3 -0.3
comp=Z,1.1nm,0.7s,baz=6.9,slow=4.9,SNR=29
YKA Yellowknife Ar 89.48 355 P P 21 06 56.3 -0.3
WRA Warramunga Arr 89.98 113 P P 21 06 59.4 -0.2
WRA Warramunga Arr 89.98 113 P P 21 06 59.4 -0.2
comp=Z,1.3nm,0.8s,baz=306,slow=4.1,SNR=10
WRA Warramunga Arr 89.98 113 P P 21 06 59.4 -0.2
ASAR Alice Springs 91.47 116 P P 21 07 06.6 +0.1
ASAR Alice Springs 91.47 116 P P 21 07 06.6 +0.1
comp=Z,0.9nm,0.8s,baz=311,slow=4.3,SNR=6.4
ASAR Alice Springs 91.47 116 P P 21 07 06.6 +0.1

IDC 22 20:55:02.1±3.3, 5°62'S×147°77'E, h151km±45km, mb3.4/5, mb1 3.5/7, mb1mx3.3/17, mbtmp3.4/7, MS3.8/2, Ms1 3.8/2, ms1mx3.1/19, Error ellipse: s-maj=85.4km s-min=25.8km az=113.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.81	189	P	Pn	20 56 01.7	+1.7
	1.7nm,0.3s,baz=36,slow=8.7,SNR=4.7						
PMG				S	Sn	20 56 44.6	-0.3
	12nm,0.3s,baz=214,slow=20,SNR=19						
WRA	Warramunga Arr	19.32	221	P	P	20 59 16.0	+0.2
	0.6nm,0.3s,baz=48,slow=12,SNR=46						
ASAR	Alice Springs	22.36	215	P	P	20 59 48.8	+0.8
	1.0nm,0.5s,baz=43,slow=8.3,SNR=15						
FITZ	Fitzroy Crossi	24.91	238	P	P	21 00 11.1	-0.3
	5.2nm,0.5s,baz=60,slow=8.1,SNR=19						
JOW	Kunigami	37.38	331	LR	LR	21 16 08.4	
	comp=Z,169nm,20.0s,baz=174,slow=34						
KSRS	Korea Array	46.68	338	LR	LR	21 20 34.3	
	comp=Z,81nm,20.0s,baz=6.4,slow=33						
SONM	Songino Array	64.45	330	P	P	21 05 23.2	+0.7
	0.3nm,0.4s,baz=137,slow=5.1,SNR=5.1						
MKAR	Makanchi Array	77.69	320	P	P	21 06 42.0	-0.2
	0.1nm,0.3s,baz=93,slow=8.0,SNR=4.1						
ZALV	Zalesovo Beam	79.10	328	P	P	21 06 48.7	-1.0
	0.8nm,0.5s,baz=115,slow=6.3,SNR=5.1						
TORD	Torodi Ar. Bea	145.73	285	PKPbc	PKPdf	21 14 23.7	-0.1
	0.6nm,0.5s,baz=78,slow=2.9,SNR=15						

IDC 22 20:55:03.8±1.1, 3°.46N×126°.55E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/22, mbtmp3.8/8, Error ellipse: s-maj=108.3km s-min=14.9km az=70.0
NEIC 22 20:55:08.8±0.5, 3°.46N×126°.59E, h35km, mb4.5/4, Error ellipse: s-maj=28.4km s-min=9.1km az=73.0
ISC 22 20:55:10.7±0.8, 3°.5N±0°.1×126°.6E±0°.3, h53km, n21, σ0s80/21, mb4.0/12, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	21.45	183	P	P	20 59 53.3	-1.3
FITZ	Fitzroy Crossi	21.45	183	P	P	20 59 53.3	-1.3
	0.5nm,0.4s,baz=14,slow=8.3,SNR=2.9						
COEN	Coen	23.85	137	eP	P	21 00 20.0	+0.7
	71nm,1.4s						
WRAB	Tennant Creek	24.45	162	eP	P	21 00 24.1	-0.6
	1.4nm,0.3s						
WRA	Warramunga Arr	24.46	162	P	P	21 00 23.9	-0.9
WRA	Warramunga Arr	24.46	162	P	P	21 00 23.9	-0.9
	1.8nm,0.7s,baz=342,slow=10,SNR=7.1						
ASAR	Alice Springs	27.88	166	P	P	21 00 56.9	+1.2
ASAR	Alice Springs	27.88	166	P	P	21 00 56.9	+1.2
	0.3nm,0.4s,baz=348,slow=13,SNR=4.1						
STKA	Stephens Creek	37.91	159	P	P	21 02 23.0	0.0
STKA	Stephens Creek	37.91	159	eP	P	21 02 22.6	-0.4
	4.3nm,0.7s						
STKA	Stephens Creek	37.91	159	P	P	21 02 23.0	0.0
	4.4nm,0.6s,baz=341,slow=4.4,SNR=17						
SONM	Songino Array	47.52	342	P	P	21 03 40.7	0.0
SONM	Songino Array	47.52	342	P	P	21 03 40.7	0.0
	0.2nm,0.5s,baz=163,slow=7.4,SNR=5.1						
MKAR	Makanchi Array	57.72	325	P	P	21 04 56.6	+0.6
MKAR	Makanchi Array	57.72	325	P	P	21 04 56.6	+0.6
	0.6nm,0.4s,baz=120,slow=7.3,SNR=14						
ZALV	Zalesovo Beam	60.78	333	P	P	21 05 17.0	-0.1
ZALV	Zalesovo Beam	60.78	333	P	P	21 05 17.0	-0.1
	0.3nm,0.3s,baz=116,slow=6.6,SNR=2.5						
KURBB	Kurchatov Array	61.91	327	P	P	21 05 24.6	-0.1
	1.7nm,0.6s,baz=129,slow=6.5,SNR=21						
KURK	Kurchatov	61.91	328	P	P	21 05 24.6	-0.1
SDPT	Sand Point	77.47	34	eP	P	21 06 59.3	-1.1
	17nm,0.8s						
BMRM	Bremner River	86.40	29	eP	P	21 07 48.1	+0.8
	0.5nm,0.4s						

IDC 22 21:08:57.8±1.9, 11°.76N×95°.40E, h0km, mb3.5/5, mb1 3.5/6, mb1mx3.3/27, mbtmp3.3/6, ML2.9/1, Error ellipse: s-maj=67.1km s-min=24.6km az=58.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	7.49	27	Pn	Pn	21 10 48.6	+0.1
	0.1nm,0.3s,baz=214,slow=14,SNR=2.5						
MKAR	Makanchi Array	36.64	345	P	P	21 16 06.7	+0.6
	0.4nm,0.6s,baz=166,slow=9.0,SNR=6.4						
KURBB	Kurchatov Array	41.15	344	P	P	21 16 43.9	+0.1
	0.8nm,1.1s,baz=153,slow=8.2,SNR=5.3						
ZALV	Zalesovo Beam	42.92	351	P	P	21 16 58.0	-0.2
	0.4nm,0.5s,baz=175,slow=8.7,SNR=3.5						
BVAR	Borovoye Array	45.78	339	P	P	21 17 20.0	-1.2
	0.3nm,0.6s,baz=165,slow=6.0,SNR=2.8						
WRA	Warramunga Arr	49.61	129	P	P	21 17 51.4	0.0
	0.5nm,1.0s,baz=308,slow=8.7,SNR=3.8						

BJI 22 21:27:38.2, 2°.92N×127°.01E, h54km, mB5.1/12, mb4.6/21, Ms4.8/8, Ms7 4.5/9
IDC 22 21:27:38.6±0.7, 3°.69N×126°.70E, h0km, mb4.1/12, mb1 4.2/12, mb1mx4.1/21, mbtmp4.1/12, MS3.1/1, Ms1 3.1/1, ms1mx2.2/24, Error ellipse: s-maj=41.1km s-min=13.8km az=73.0
ISCJB 22 21:27:46.1±1.1, 3°.64N±0°.06×126°.69E±0°.08, h76km±9km, mb4.5/33, Error ellipse: s-maj=14.1km s-min=8.8km az=161.5
NEIC 22 21:27:47.0±1.2, 3°.67N×126°.72E, h70km±11km, mb4.6/14, Error ellipse: s-maj=13.1km s-min=6.6km az=73.0
ISC 22 21:27:46.0±0.6, 3°.61N±0°.07×126°.81E±0°.10, h59km±3km, n71, σ1s20/95, mb4.5/33, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	General Santos	3.08	323	iP	Pn	21 28 33.4	+1.0
MATI	Mati	3.35	351	eP	Pn	21 28 36.6	+0.6
DAV	Davao City (W)	3.64	340	Pn	Pn	21 28 41.3	+1.3
DAV				Sn	Sn	21 29 30.5	+8.7
DAV	Davao City (W)	3.64	340	Pn	Pn	21 28 41.3	+1.3
	38nm,0.3s,baz=172,slow=19,SNR=3.1						
DAV				Sn	Sn	21 29 30.5	+8.7
	27nm,0.3s,baz=249,slow=23,SNR=3.8						
BUKP	Musuan	4.58	338	eP	Pn	21 28 52.9	0.0
KKM	Kota Kinabalu	10.83	283	ePn	Pn	21 30 17.3	-1.2
KAPI	Kappang	11.10	219	LR	LR	21 35 05.1	
	comp=Z,98nm,19.1s,baz=236,slow=40						
YULB	Yu-li	20.37	345	eP	P	21 32 14.8	-3.1
	85nm,2.0s						
TPUB	Ta-pu	20.46	344	eP	P	21 32 17.4	-1.5
	23nm,0.9s						
YHNB	Yeheng	21.58	346	eP	P	21 32 29.6	-1.3
	127nm,1.9s						
FITZ	Fitzroy Crossi	21.61	183	eP	P	21 32 31.9	+0.7
	9.6nm,1.3s						
FITZ	Fitzroy Crossi	21.61	183	P	P	21 32 31.9	+0.7
	1.5nm,0.8s,baz=9.7,slow=7.0,SNR=5.0						
WRAB	Tennant Creek	24.55	163	eP	P	21 33 01.4	+1.0
	8.6nm,1.1s						
WRA	Warramunga Arr	24.55	163	P	P	21 33 01.1	+0.7
WRA	Warramunga Arr	24.55	163	P	P	21 33 01.1	+0.7
	4.0nm,0.8s,baz=334,slow=11,SNR=30						
ASAR	Alice Springs	27.98	166	P	P	21 33 32.7	+1.3
ASAR	Alice Springs	27.98	166	P	P	21 33 32.7	+1.3
	0.3nm,0.5s,baz=348,slow=7.4,SNR=5.8						
GYA	Guiyang	29.81	322	P	P	21 33 49.8	+2.1
GYA				pP	pP	21 34 03.3	+0.9
GYA				sP	sP	21 34 10.6	+1.2
GYA				PP	PnPn	21 34 47.5	+1.7
GYA				S	S	21 38 40.9	+0.5
GYA				sS	sS	21 39 04.3	-1.1
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,460nm,15.6s						
GYA				LR	LR		
	comp=E,420nm,16.6s						
GYA				LR	LR		
	comp=Z,450nm,17.4s						
CMAR	Chiang Mai Arr	31.00	301	P	P	21 33 58.0	-0.1
CMAR	Chiang Mai Arr	31.00	301	P	P	21 33 58.0	-0.1
	comp=Z,2.0nm,0.8s,baz=113,slow=6.9,SNR=16						
CHTO	Chiang Mai	31.15	301	eP	P	21 33 58.8	-0.7
	comp=Z,3.9nm,0.9s						
KMI	Kunming	31.52	315	P	P	21 34 03.3	+0.4
KMI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
KSAR	Wonju Array Be	33.68	2	P	P	21 34 22.3	+0.9
KSRS	Korea Array	33.69	2	P	P	21 34 22.3	+0.9
	comp=Z,3.2nm,0.7s,baz=181,slow=10.0,SNR=6.9						
BJT	Baijiatuan	37.50	347	eP	P	21 34 53.7	-0.3
	comp=Z,15nm,0.6s						
BJI	Beijing	37.52	347	P	P	21 34 54.0	-0.2
BJI				pmax	pmax		
	comp=Z,24nm,0.9s						
STKA	Stephens Creek	37.99	159	P	P	21 34 59.1	+0.7
STKA	Stephens Creek	37.99	159	P	P	21 34 59.1	+0.7
	comp=Z,2.4nm,0.6s,baz=343,slow=6.4,SNR=9.5						
LZH	Lanzhou	38.64	330	eP	P	21 35 04.0	0.0
LZH				pP	pP	21 35 18.0	-1.1
LZH				sP	sP	21 35 24.5	-1.5
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
CN2	Changchun	40.04	358	eP	P	21 35 18.1	+2.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	Ussuriysk Arra	40.68	6	P	P	21 35 19.7	-0.8
	comp=Z,1.9nm,0.7s,baz=189,slow=7.9,SNR=6.3						
MDJ	Mudanjiang	40.91	3	P	P	21 35 23.3	+0.8
MDJ				pP	pP	21 35 36.6	-1.0
MDJ				sP	sP	21 35 42.5	-2.0
MDJ				S	S	21 41 32.5	+2.7
MDJ				SS	SS	21 44 33.4	-0.1
MDJ				pmax	pmax		
	comp=Z,11nm,1.9s						
LSA	Lhasa	42.57	311	eP	P	21 35 36.3	-0.6
	comp=Z,3.0nm,0.8s						
TAPN	Taplejung	44.15	306	eP	P	21 35 48.4	-1.0
	comp=Z,5.7nm,0.6s						
TAPN	Taplejung	44.15	306	eP	P	21 35 48.4	-1.0
ODAN	Odare	44.20	306	eP	P	21 35 48.6	-1.2
	comp=Z,4.6nm,0.5s						
ODAN	Odare	44.20	306	eP	P	21 35 48.6	-1.2
RAMN	Ramite	44.88	305	eP	P	21 35 54.4	-0.8
RAMN	Ramite	44.88	305	eP	P	21 35 54.4	-0.8
JIRN	Jiri	45.50	306	eP	P	21 35 59.4	-0.9
JIRN	Jiri	45.50	306	eP	P	21 35 59.4	-0.9
GUN	Gumba	45.85	306	eP	P	21 36 01.9	-1.2
	comp=Z,5.3nm,0.4s						
KKN	Kakani	46.29	306	eP	P	21 36 05.0	-1.3
	comp=Z,4.7nm,0.7s						
KKN	Kakani	46.29	306	eP	P	21 36 05.0	-1.3
GKN	Gorkha	46.90	306	eP	P	21 36 09.4	-1.6
GKN	Gorkha	46.90	306	eP	P	21 36 09.4	-1.6
ULN	Ulaanbaatar	47.25	342	eP	P	21 36 12.4	-1.1
	comp=Z,1.0nm,0.5s						
SONM	Songino Array	47.43	341	P	P	21 36 14.9	+0.1
SONM				PcP	PcP	21 37 45.3	+0.8
SONM	Songino Array	47.43	341	P	P	21 36 14.9	+0.1
	comp=Z,1.2nm,0.7s,baz=157,slow=7.6,SNR=10						
SONM				PcP	PcP	21 37 45.3	+0.8
	comp=Z,0.8nm,0.9s,baz=151,slow=3.3,SNR=4.1						
KOLN	Koldanda	47.65	305	eP	P	21 36 15.9	-1.1
	comp=Z,10nm,0.4s						
DANN	Dangsing	47.74	306	eP	P	21 36 16.6	-1.2
	comp=Z,8.4nm,0.4s						
WMQ	Urumqi	52.86	325	eP	P	21 36 56.3	+0.4
DGAR	Diego Garcia	55.33	258	eP	P	21 37 12.3	-2.0
	comp=Z,518nm,1.8s						
PET	Petropavlovsk	55.80	23	eP	P	21 37 17.0	0.0
	comp=Z,430nm,2.4s						
MKAR	Makanchi Array	57.69	325	eP	P	21 37 29.9	-0.7
MKAR				PcP	PcP	21 38 23.6	+0.6
MKAR	Makanchi Array	57.69	325	P	P	21 37 29.8	-0.8
	comp=Z,2.0nm,0.5s,baz=117,slow=7.0,SNR=45						
MKAR				PcP	PcP	21 38 23.6	+0.6
	comp=Z,0.8nm,0.6s,baz=120,slow=4.3,SNR=4.5						
KSH	Kashi	58.18	315	eP	P	21 37 35.3	+1.0
KSH				pP	pP	21 37 51.9	+1.8
KSH				sP	sP	21 37 58.9	+2.0
KSH				PcP	PcP	21 38 26.8	+1.6
KSH				PP	PP	21 39 46.5	+2.8
KSH				ScP	ScP	21 42 19.8	-0.7
KSH				PcS	PcS	21 42 26.8	0.0
KSH				S	S	21 45 32.3	+0.6
KSH				sS	sS	21 45 58.9	+0.4
KSH				ScS	ScS	21 47 16.8	-2.2
KSH				SS	SS	21 49 25.4	+1.2
KSH				pmax	pmax		
	comp=Z,4.0nm,1.4s						
KSH				pmax	pmax		
	comp=Z,130nm,4.9s						
KSH				LR	LR		
	comp=N,120nm,6.2s						
KSH				LR	LR		
	comp=E,120nm,5.5s						
KSH				LR	LR		
	comp=Z,230nm,5.4s						
AAK	Ala-Archa	60.49	318	eP	P	21 37 48.8	-1.4
	comp=Z,4.6nm,0.8s						
ZALV	Zalesovo Beam	60.73	333	P	P	21 37 50.0	-1.3
ZALV	Zalesovo Beam	60.73	333	P	P	21 37 50.0	-1.3
	comp=Z,0.7nm,0.5s,baz=118,slow=6.3,SNR=4.8						
EKS2	Erkin-Say	60.99	318	eP	P	21 37 54.0	+0.5
	comp=Z,4.0nm,0.8s						
KURK	Kurchatov	61.88	328	eP	P	21 37 59.0	-0.2
	comp=Z,9.7nm,0.8s						
KKAR	Karatay Array	63.37	317	eP	P	21 38 09.5	+0.1
BRVK	Borovoye	67.53	327	eP	P	21 38 35.7	-0.3
	comp=Z,8.1nm,0.9s						
ABKAR	Akbulak array	72.29	321	eP	P	21 39 04.9	-0.4
KIP	Kipapa	74.89	69	eP	P	21 39 19.6	-1.5
	comp=Z,328nm,1.9s						
ARU	Arti	75.07	328	eP	P	21 39 20.5	-1.0
	comp=Z,60nm,2.6s						
BRTR	Keskin Array B	90.15	310	P	P	21 40 39.5	-0.8
BRTR	Keskin Array B	90.15	310	P	P	21 40 39.5	-0.8
	comp=Z,1.3nm,0.9s,baz=111,slow=6.8,SNR=6.5						
ARCES	ARCESS Array B	90.58	340	P	P	21 40 41.2	-0.3
ARCES	ARCESS Array B	90.58	340	P	P	21 40 41.2	-0.3
	comp=Z,2.7nm,0.8s,baz=79,slow=5.6,SNR=8.1						

IDC 22 21:43:23.1±1.3, 4°.09N×126°.80E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.7/7, MS3.0/1, Ms1 3.0/1, ms1mx2.6/21, Error ellipse: s-maj=95.3km s-min=16.6km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	Kappang	11.46	218	LR	LR	21 50 52.6	
	comp=Z,73nm,18.6s,baz=161,slow=39						
FITZ	Fitzroy Crossi	22.08	183	P	P	21 48 20.0	0.0
	0.4nm,0.4s,baz=337,slow=15,SNR=2.6						
WRA	Warramunga Arr	25.01	163	P	P	21 48 48.5	-0.4
	5.0nm,0.8s,baz=343,slow=11,SNR=20						
ASAR	Alice Springs	28.45	166	P	P	21 49 20.3	+0.4
	0.2nm,0.3s,baz=339,slow=10.0,SNR=3.9						
STKA	Stephens Creek	38.44	160	P	P	21 50 46.6	-0.1
	1.1nm,0.5s,baz=352,slow=9.7,SNR=5.7						
MKAR	Makanchi Array	57.30	325	P	P	21 53 12.9	+0.1
	0.3nm,0.5s,baz=115,slow=7.5,SNR=3.0						
KURBB	Kurchatov Array	61.47	327	P	P	21 53 40.5	-1.1
	0.7nm,0.7s,baz=130,slow=6.4,SNR=5.8						
BVAR	Borovoye Array	67.05	327	P	P	21 54 19.5	+1.3
	0.8nm,0.9s,baz=96,slow=4.5,SNR=3.7						

ISK 22 21:52:07.4, 36°.43N×28°.32E, h5km, MD2.5
DDA 22 21:52:11.6, 36°.54N×28°.36E, h7km, MD3.0
CSEM 22 21:52:07.7±0.8, 36°.36N×28°.29E, h2km, MD3.0, Error ellipse: s-maj=15.7km s-min=6.7km az=17.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TURN	Turunc	0.57	26	iP	Pg	21 52 15.7	-3.0
TURN				iS	Sg	21 52 20.4	-5.7
FETY	Fethiye	0.70	67	ePG	Pg	21 52 20.5	-0.7
FETY				eSG	Sg	21 52 29.4	-0.8
FETY	Fethiye	0.70	67	ePg	Pg	21 52 20.5	-0.7
FETY				eSg	Sg	21 52 29.4	-0.9
YER	Yerkesik	0.77	360	ePG	Pg	21 52 21.8	-0.8
YER				eSG	Sg	21 52 31.6	-1.2
YER	Yerkesik	0.77	360	ePg	Pg	21 52 21.8	-0.9
YER				eSg	Sg	21 52 31.6	-1.2
BDRM	Kayabasi	0.98	316	iP	Pn	21 52 28.9	+0.4
BDRM				iS	Sn	21 52 43.2	+0.3
BODT	Bodrum	1.05	312	ePG	Pg	21 52 27.6	-0.3
BODT				eSG	Sg	21 52 41.8	+0.2
BODT	Bodrum	1.05	312	ePg	Pg	21 52 27.6	-0.3
BODT				eSg	Sg	21 52 41.8	+0.2
AYDN	Tasoluk	1.34	346	iP	Pg	21 52 33.4	-0.1
AYDN				iS	Sn	21 52 53.8	+1.8
AYDN	Tasoluk	1.34	346	iP	Pg	21 52 33.4	-0.1
GOLH	Golhisar	1.35	49	iP	Pb	21 52 34.4	+0.6
GOLH	Golhisar	1.35	49	iP	Pb	21 52 34.4	+0.6
ELL	Elmali	1.36	73	ePN	Pn	21 52 33.3	-0.6
ELL	Elmali	1.36	73	ePn	Pn	21 52 33.3	-0.6
DNZL	Cakiroluk	1.46	24	iP	Pb	21 52 35.9	+0.1
DNZL				iS	Sb	21 52 54.3	-0.8
DNZL	Cakiroluk	1.46	24	iP	Pb	21 52 35.9	0.0
DNZL				iS	Sb	21 52 54.3	-0.8

IDC 22 21:56:46.7±2.3, 0°.24N×97°.87E, h0km, mb3.5/3, mb1 3.5/4, mb1mx3.3/23, mbtmp3.4/4, ML2.7/1, Error ellipse: s-maj=70.5km s-min=28.0km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	Prapat	2.75	23	Pn	Pn	21 57 31.6	-0.7
	1.2nm,0.3s,baz=162,slow=19,SNR=6.6						
WRA	Warramunga Arr	40.97	121	P	P	22 04 31.5	-0.2
	0.4nm,0.7s,baz=304,slow=8.9,SNR=3.3						
MKAR	Makanchi Array	48.33	346	P	P	22 05 30.4	+0.4
	0.4nm,0.7s,baz=152,slow=7.3,SNR=5.1						
ZALV	Zalesovo Beam	54.60	351	P	P	22 06 16.1	-0.8
	0.8nm,0.6s,baz=162,slow=7.1,SNR=4.8						

THE 22 22:08:51.9, 41°.67N×24°.28E, h1km±2km, ML2.2/5, Error ellipse: s-maj=2.7km s-min=0.7km az=318.0
CSEM 22 22:08:51.5±0.2, 41°.70N×24°.25E, h2km, ML2.2/5, Error ellipse: s-maj=4.1km s-min=3.3km az=65.0
BEO 22 22:08:53.2±1.1, 41°.80N×24°.30E, h0km, ML2.5/4
ISC 22 22:08:51.4±1.2, 41°.70N±0°.02×24°.25E±0°.02, h0km±12km, n27, σ0s86/47, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NVR	Nevrokopi	0.46	220	P	Pg	22 09 00.3	+0.2
NVR				S	Sg	22 09 06.5	+0.4
N

ALN			S	**Sn**	**22 09 41.1**	**-0.5**
ALN	**Alexandroupoli**	**1.57 120**	P	**Pn**	**22 09 20.1**	**-0.4**
ALN			S	**Sn**	**22 09 41.1**	**-0.5**
BARS	**Barje**	**2.12 302**	*e*Pn	**Pb**	**22 09 30.0**	**-0.8**
BARS			*e*Sg	**Sg**	**22 09 59.4**	**-0.2**
BARS	**Barje**	**2.12 302**	*e*Pn	**Pb**	**22 09 30.0**	**-0.8**
BARS			*e*Sg	**Sg**	**22 09 59.4**	**-0.2**
SELS	**Selova**	**2.77 304**	*e*Sn	**Sn**	**22 10 13.0**	**+1.8**
GRUS	**Gruza**	**3.40 311**	*e*Sg	**Sg**	**22 10 41.0**	**+0.4**
GRUS	**Gruza**	**3.40 311**	*e*Sg	**Sg**	**22 10 41.0**	**+0.4**
DIVS	**Divibare**	**3.94 309**	*e*Sg	**Sg**	**22 10 56.8**	**-1.2**
DIVS	**Divibare**	**3.94 309**	*e*Sg	**Sg**	**22 10 56.8**	**-1.2**
BZS	**Buzias**	**4.36 335**	*e*Pn	**Pn**	**22 09 59.4**	**+0.6**
BZS			*e*Sg	**Sg**	**22 11 09.3**	**-2.0**
BZS	**Buzias**	**4.36 335**	*e*Pn	**Pn**	**22 09 59.4**	**+0.6**
BZS			*e*Sg	**Sg**	**22 11 09.3**	**-2.0**

*IDC **22** 22:15:08.4±2.8,27.86N×55.70E,h0km,mb3.5/4,*
mb1 3.6/4,mb1mx3.3/26,mbtmp3.5/4,Error ellipse:
s-maj=77.8km s-min=30.6km az=154.0
*KISR **22** 22:15:11.7±0.8,29.11N×55.08E,h34km±828km,ML3.2*
*ISCJB **22** 22:15:12.9±1.5,27.9N±0.1×55.26E±0.08,h26km,mb3.5/4,*
Error ellipse: s-maj=19.6km s-min=7.1km az=158.5
*CSEM **22** 22:15:15.6±1.4,28.08N×55.18E,h10km,ML3.2,Error*
ellipse: s-maj=38.2km s-min=18.8km az=152.0

ISC 22 22:15:13.6±1.6,**28.0N**±0.1×**55.42E**±0.09,**h26**km,**n13,**
σ1§**44/20,mb3.4/4,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRBR	**Kerman**	**2.29**	**30**	*e*Sg	**Sb**	**22 16 22.5**	**-0.1**
NASN	**Na'in**	**5.29**	**335**	*e*Pn	**Pn**	**22 16 33.3**	**+2.1**
QRN	**Al-Qurain**	**6.65**	**278**	*e*P	**Pn**	**22 16 51.0**	**+1.4**
QRN				*e*S	**Sn**	**22 18 05.7**	**+1.1**
RDF	**Al-Radifah**	**6.99**	**279**	*e*P	**Pn**	**22 16 55.0**	**+0.7**
RDF				*e*S	**Sn**	**22 18 13.4**	**+0.4**
RDF				AML	AML	22 18 15.4	
	comp=Z,6.5nm,0.6s						
RDF	**Al-Radifah**	**6.99**	**279**	*e*P	**Pn**	**22 16 55.0**	**+0.7**
RDF				*e*S	**Sn**	**22 18 13.4**	**+0.4**
	comp=Z,6.5nm,0.6s						
NAY	**Al-Naaiem**	**7.29**	**282**	*e*P	**Pn**	**22 16 59.2**	**+0.7**
NAY				*e*S	**Sn**	**22 18 18.8**	**-1.7**
NAY				AML	AML	22 18 20.8	
	comp=Z,3.4nm,0.5s						
NAY	**Al-Naaiem**	**7.29**	**282**	*e*P	**Pn**	**22 16 59.2**	**+0.7**
NAY				*e*S	**Sn**	**22 18 18.8**	**-1.7**
MIB	**Mutribah**	**7.31**	**286**	*e*P	**Pn**	**22 16 58.1**	**-0.6**
MIB				*e*S	**Sn**	**22 18 18.1**	**-2.7**
MIB				AML	AML	22 18 22.8	
	comp=Z,6.4nm,0.5s						
MIB	**Mutribah**	**7.31**	**286**	*e*P	**Pn**	**22 16 58.1**	**-0.6**
MIB				*e*S	**Sn**	**22 18 18.1**	**-2.7**
	comp=Z,6.4nm,0.5s						
BRTR	**Keskin Array B**	**21.48**	**309**	P	**P**	**22 20 01.8**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=132,slow=13,SNR=6.3						
ZALV	**Zalesovo Beam**	**33.69**	**32**	P	**P**	**22 21 50.4**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=244,slow=9.2,SNR=2.5						
TORD	**Torodi Ar. Bea**	**52.03**	**265**	P	**P**	**22 24 21.7**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=63,slow=8.4,SNR=9.0						
ILAR	**Eielson Array**	**85.91**	**9**	P	**P**	**22 27 50.9**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=326,slow=4.7,SNR=3.3						

IDC 22 22:17:38.1±0.7,**4.01N×126.86E,h0km,mb4.0/11,**
mb1 4.2/11,mb1mx4.0/21,mbtmp4.0/11,Error ellipse:
s-maj=39.9km s-min=14.6km az=72.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.01**	**183**	P	P	22 22 34.2	0.0
	2.3nm,0.5s,baz=359,slow=8.5,SNR=8.4						
WRA	**Warramunga Arr**	**24.92**	**163**	P	P	22 23 02.5	-0.6
	8.1nm,0.7s,baz=344,slow=11,SNR=50						
ASAR	**Alice Springs**	**28.36**	**166**	P	P	22 23 34.1	0.0
	0.6nm,0.6s,baz=339,slow=6.4,SNR=12						
CMAR	**Chiang Mai Arr**	**30.84**	**300**	P	P	22 23 57.6	+1.4
	1.1nm,0.5s,baz=110,slow=7.2,SNR=6.4						
STKA	**Stephens Creek**	**38.35**	**160**	P	P	22 25 01.2	+0.2
	2.6nm,0.6s,baz=349,slow=8.0,SNR=11						
SONM	**Songino Array**	**47.07**	**341**	P	P	22 26 11.5	-0.4
	0.3nm,0.6s,baz=155,slow=7.5,SNR=3.4						
PETK	**Petropavlovsk-**	**55.12**	**22**	P	P	22 27 13.7	+1.5
	2.9nm,0.9s,baz=211,slow=8.2,SNR=3.1						
MKAR	**Makanchi Array**	**57.40**	**325**	P	P	22 27 26.9	-1.6
	0.6nm,0.4s,baz=119,slow=8.3,SNR=17						
MKAR				PcP	PcP	22 28 24.9	+2.4
	0.5nm,0.6s,baz=125,slow=3.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**60.39**	**333**	P	P	22 27 47.7	-1.5
	0.2nm,0.4s,baz=118,slow=5.9,SNR=2.6						
ILAR	**Eielson Array**	**84.80**	**25**	P	P	22 30 13.3	-0.9
	0.3nm,0.7s,baz=260,slow=4.5,SNR=4.6						
FINES	**FINESS Array B**	**91.64**	**332**	P	P	22 30 48.0	+0.9
	4.8nm,1.0s,baz=46,slow=6.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**122.95**	**288**	PKP	PKPdf	22 36 36.7	-0.8
	0.6nm,0.8s,baz=58,slow=2.1,SNR=4.1						

*IDC **22** 22:22:35.9±8.1,24.33N×125.03E,h0km,mb3.5/4,*
mb1 3.6/4,mb1mx3.4/22,mbtmp3.5/4,Error ellipse:
s-maj=210.3km s-min=54.6km az=13.0
*JMA **22** 22:22:37.2±0.3,23.87N×124.99E,h23km±5km,M3.0*
ISC 22 22:22:36.8±2.1,**23.9N**±0.1×**124.96E**±0.07,**h18**km±6km,
n12,σ0§**55/17,mb3.4/4,Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTJ	**Tarama**	**0.73**	**341**	P	**Pn**	**22 22 52.3**	**0.0**
JTJ				S	**Sn**	**22 23 03.0**	**0.0**
JIJ	**Ishigaki jima**	**0.86**	**299**	P	**Pg**	**22 22 53.8**	**+0.2**
JIJ				S	**Sn**	**22 23 06.3**	**+0.3**
JOGS	**Gusukube**	**0.91**	**26**	P	**Pg**	**22 22 54.8**	**+0.2**
JOGS				S	**Sn**	**22 23 08.3**	**+0.9**
JKRS	**Kuro-shima**	**0.92**	**289**	P	**Pn**	**22 22 55.4**	**+0.6**
JMJ	**Miyako jima 2**	**0.92**	**19**	P	**Pn**	**22 22 55.1**	**+0.3**
JMJ				S	**Sn**	**22 23 07.9**	**+0.3**
HATJ	**Hateruma jima**	**1.06**	**276**	P	**Pn**	**22 22 57.1**	**+0.3**
HATJ				*e*S	**Sg**	**22 23 11.3**	**-0.1**
IRIF	**Iriomote-Funau**	**1.19**	**289**	P	**Pb**	**22 22 59.1**	**+0.2**
YOJ	**Yonaguni jima**	**1.85**	**287**	P	**Pn**	**22 23 08.1**	**+0.4**
SONM	**Songino Array**	**28.05**	**333**	P	**P**	**22 28 26.3**	**-0.9**
	0.3nm,0.7s,baz=145,slow=9.0,SNR=3.4						
MKAR	**Makanchi Array**	**40.94**	**315**	P	**P**	**22 30 18.4**	**+0.1**
	0.6nm,0.6s,baz=101,slow=9.8,SNR=6.6						
ZALV	**Zalesovo Beam**	**42.36**	**326**	P	**P**	**22 30 28.6**	**-1.1**
	0.8nm,0.6s,baz=116,slow=9.0,SNR=5.4						
YKA	**Yellowknife Ar**	**81.82**	**24**	P	**P**	**22 34 54.7**	**+0.2**
	0.1nm,0.6s,baz=299,slow=5.0,SNR=4.3						

MAN 22 22:24:29,10.15N×126.20E,h18km**,mb4.0,ML2.8,MS2.5,**
Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.30**	**206**	*e*P	Pn	22 24 52.2	-0.1
MSLP	**Maasin**	**1.32**	**269**	*e*P	Pn	22 24 52.2	-0.4
MSLP				*e*S	Sg	22 25 11.1	-0.7
BESP	**Borongan**	**1.62**	**333**	*e*P	Pn	22 24 57.4	+0.7
BUKP	**Musuan**	**2.52**	**207**	*e*P	Pn	22 25 10.8	+1.7

IDC 22 22:26:39.2±21.0,**36.41S×96.83W,h0**km**,mb3.6/3,**
mb1 4.1/3,mb1mx3.8/14,mbtmp3.6/3,MS3.2/1,Ms1 3.3/1,
ms1mx3.0/16,Error ellipse: s-maj=645.8km
s-min=309.0km az=128.0,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**34.98**	**85**	LR	LR	22 44 45.1	
	comp=Z,38nm,18.2s,baz=20,slow=31						
TXAR	**Lajitas Array**	**65.72**	**353**	P	P	22 37 25.6	0.0
	0.5nm,0.8s,baz=179,slow=9.7,SNR=5.0						
NVAR	**Mina Array Bea**	**77.07**	**343**	P	P	22 38 34.5	+0.2
	0.6nm,0.6s,baz=168,slow=9.2,SNR=2.8						
PDAR	**Pinedale Array**	**79.66**	**351**	P	P	22 38 48.4	-0.2
	0.5nm,0.7s,baz=160,slow=5.6,SNR=5.7						

*ATH **22** 22:32:14.0,38.00N×20.46E,h16km±1km,MD2.9/7*
*ISCJB **22** 22:32:15.2±1.2,38.06N±0.09×20.48E±0.06,h19km±5km,*
Error ellipse: s-maj=15.8km s-min=6.6km az=21.4

*CSEM **22** 22:32:15.9±0.5,38.07N×20.54E,h14km±1km,ML2.3/4,*
Error ellipse: s-maj=12.3km s-min=5.5km az=27.0
*THE **22** 22:32:18.2,38.18N×20.68E,h13km,ML2.3/4,Error*
ellipse: s-maj=1.6km s-min=0.4km az=208.0

ISC 22 22:32:14.0±1.8,**38.02N**±0.07×**20.44E**±0.06,**h14**km±8km,
n34,σ1§**06/57,Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLS	**Valsamata**	**0.19**	**37**	P	**Pb**	**22 32 20.8**	**+1.4**
VLS				S	**Sb**	**22 32 22.9**	**-0.1**
VLS	**Valsamata**	**0.19**	**37**	P	**Pb**	**22 32 20.8**	**+1.4**
VLS				S	**Sb**	**22 32 22.9**	**-0.1**
KFL	**Anninata**	**0.29**	**72**	P	**Pb**	**22 32 21.3**	**+0.3**
KFL				S	**Sg**	**22 32 23.5**	**-0.6**
KFL	**Anninata**	**0.29**	**72**	P	**Pb**	**22 32 21.3**	**+0.3**
KFL				S	**Sg**	**22 32 23.5**	**-0.6**
LKD2	**Lefkada island**	**0.78**	**13**	P	**Pg**	**22 32 29.7**	**+0.4**
LKD2	**Lefkada island**	**0.78**	**13**	P	**Pg**	**22 32 29.7**	**+0.4**
RLS	**Riolos of Patr**	**0.81**	**87**	P	**Pg**	**22 32 29.9**	**+0.1**
RLS				S	**Sg**	**22 32 39.8**	**-0.6**
RLS	**Riolos of Patr**	**0.81**	**87**	*e*PN	**Pg**	**22 32 29.6**	**-0.2**
RLS				*e*SN	**Sb**	**22 32 40.5**	**-0.2**
RLS	**Riolos of Patr**	**0.81**	**87**	*e*PN	**Pg**	**22 32 29.6**	**-0.2**
RLS	**Riolos of Patr**	**0.81**	**87**	P	**Pg**	**22 32 29.9**	**+0.1**
RLS				S	**Sg**	**22 32 39.8**	**-0.6**
RLS				*e*SN	**Sb**	**22 32 40.5**	**-0.2**
EFP	**Efpalio**	**1.22**	**70**	P	**Pb**	**22 32 36.7**	**-0.2**
EFP				S	**Sb**	**22 32 51.2**	**-1.3**
EFP	**Efpalio**	**1.22**	**70**	*e*PN	**Pb**	**22 32 36.6**	**-0.3**
EFP				*e*SN	**Sn**	**22 32 53.8**	**+0.8**
EFP	**Efpalio**	**1.22**	**70**	P	**Pb**	**22 32 36.7**	**-0.2**
EFP				S	**Sb**	**22 32 51.2**	**-1.3**
EFP				*e*Sn	**Sn**	**22 32 53.8**	**+0.8**
LAKA	**Lakka**	**1.23**	**79**	P	**Pn**	**22 32 37.1**	**+0.2**
LAKA				S	**Sb**	**22 32 52.2**	**-0.7**
LAKA	**Lakka**	**1.23**	**79**	P	**Pn**	**22 32 37.1**	**+0.2**
LAKA				S	**Sb**	**22 32 52.2**	**-0.7**
KALE	**Kalithea**	**1.39**	**74**	P	**Pn**	**22 32 39.4**	**+0.4**
KALE				S	**Sb**	**22 32 55.4**	**-2.0**
KALE	**Kalithea**	**1.39**	**74**	P	**Pn**	**22 32 39.4**	**+0.4**
KALE				S	**Sb**	**22 32 55.4**	**-2.0**
EVR	**Evrytania**	**1.40**	**50**	*e*PN	**Pb**	**22 32 40.4**	**+0.4**
EVR	**Evrytania**	**1.40**	**50**	*e*Pn	**Pb**	**22 32 40.4**	**+0.4**
GUR	**Goura**	**1.50**	**93**	P	**Pn**	**22 32 41.8**	**+1.1**
GUR				S	**Sn**	**22 32 59.9**	**-0.3**
GUR	**Goura**	**1.50**	**93**	*e*PN	**Pb**	**22 32 42.0**	**+0.2**
GUR				*e*SN	**Sg**	**22 33 02.5**	**0.0**
GUR	**Goura**	**1.50**	**93**	*e*Pn	**Pb**	**22 32 42.0**	**+0.2**
GUR				S	**Sn**	**22 32 59.9**	**-0.3**
GUR				*e*Sn	**Sg**	**22 33 02.5**	**0.0**
VLX	**Vlachokerasia**	**1.67**	**112**	*e*PN	**Pn**	**22 32 44.4**	**+1.4**
VLX	**Vlachokerasia**	**1.67**	**112**	*e*Pn	**Pn**	**22 32 44.4**	**+1.4**
DSF	**Desfina**	**1.69**	**76**	P	**Pn**	**22 32 44.2**	**+1.0**
DSF	**Desfina**	**1.69**	**76**	P	**Pn**	**22 32 44.2**	**+1.0**
THL	**Klokotos Trika**	**1.97**	**38**	*e*PN	**Pb**	**22 32 49.0**	**-0.7**
THL	**Klokotos Trika**	**1.97**	**38**	*e*Pn	**Pb**	**22 32 49.0**	**-0.7**
LKR	**Lokris**	**2.11**	**72**	*e*PN	**Pn**	**22 32 50.8**	**+1.9**
LKR	**Lokris**	**2.11**	**72**	*e*Pn	**Pn**	**22 32 50.8**	**+1.9**
STON	**Ston**	**5.28**	**338**	*i* Pn	**Pn**	**22 33 33.3**	**+0.9**
STON					Sn	**22 34 30.7**	**-2.2**
STON	**Ston**	**5.28**	**338**	P	**Pn**	**22 33 33.3**	**+0.9**
STON					Sn	**22 34 30.7**	**-2.2**
NVLJ	**Novalja**	**7.76**	**329**	*e*Pn	**Pn**	**22 34 08.7**	**+2.1**
NVLJ					Sn	**22 35 32.6**	**-1.6**
NVLJ	**Novalja**	**7.76**	**329**	*e*Pn	**Pn**	**22 34 08.6**	**+2.1**

*IDC **22** 22:37:28.6±6.1,31.90S×179.08E,h0km,mb3.6/2,*
mb1 3.9/2,mb1mx3.7/14,mbtmp3.6/2,Error ellipse:
s-maj=236.6km s-min=61.9km az=158.0

ISC 22 22:37:37.6±2.3,**33.1S**±0.2×**178.6E**±0.2,**h100**km,**n64,**
σ1§**48/29,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.50**	**183**	PN	**Pn**	**22 38 45.5**	**+2.0**
MXZ				SN	Sn	22 39 27.8	-6.8
PUZ	**Puketiti**	**5.01**	**183**	PN	**Pn**	**22 38 51.4**	**+1.0**
PUZ				SN	Sn	22 39 37.9	-9.2
OPRZ	**Ohinepanea**	**5.05**	**198**	PN	Pn	22 38 56.0	+5.1
URZ	**Urewera**	**5.32**	**192**	PN	**Pn**	**22 38 56.3**	**+1.6**
MWZ	**Matawai**	**5.33**	**189**	PN	**Pn**	**22 38 56.1**	**+1.3**
MWZ				SN	Sn	22 39 48.0	-7.0
CNGZ	**Carnagh Statio**	**5.42**	**183**	PN	**Pn**	**22 38 56.7**	**+0.7**
PRRZ	**Plateau Road**	**5.71**	**197**	PN	Pn	22 39 04.3	+4.4
ALRZ	**Allen Road**	**5.78**	**197**	*e*PN	Pn	22 39 04.4	+3.6
PRGZ	**Paritu Road**	**5.88**	**185**	*e*PN	**Pn**	**22 39 02.7**	**+0.5**
RAHZ	**Arahi**	**5.97**	**191**	PN	**Pn**	**22 39 03.8**	**+0.4**
KNZ	**Kokohu**	**5.99**	**187**	PN	**Pn**	**22 39 02.6**	**-1.1**
MHGZ	**Mahia Peninsul**	**6.11**	**185**	*e*PN	**Pn**	**22 39 05.2**	**-0.1**
NMHZ	**Naumai**	**6.19**	**193**	*e*PN	**Pn**	**22 39 07.0**	**+0.5**
BKZ	**Black Stump Fm**	**6.32**	**195**	*e*PN	**Pn**	**22 39 09.3**	**+1.1**
MCHZ	**McNeill Hill**	**6.55**	**193**	*e*PN	**Pn**	**22 39 10.3**	**+1.1**
NGZ	**Ngauruhoe**	**6.56**	**201**	*e*PN	**Pn**	**22 39 13.3**	**+1.8**
TUVZ	**Tukino**	**6.63**	**200**	PN	**Pn**	**22 39 13.9**	**+1.4**
FWVZ	**Far West T-bar**	**6.64**	**201**	PN	**Pn**	**22 39 14.0**	**+1.2**
TRVZ	**Turoa**	**6.69**	**200**	PN	**Pn**	**22 39 15.1**	**+1.7**
CKHZ	**Cape Kidnapper**	**6.70**	**190**	*e*PN	**Pn**	**22 39 13.4**	**+0.1**
BHHZ	**Black Hill Sta**	**6.72**	**197**	*e*PN	**Pn**	**22 39 13.8**	**0.0**
MOVZ	**Moawhango**	**6.73**	**199**	*e*PN	**Pn**	**22 39 14.1**	**+0.3**
MTVZ	**Mangateitei**	**6.79**	**201**	*e*PN	**Pn**	**22 39 16.7**	**+2.1**
KAHZ	**Kahuranaki**	**6.86**	**191**	*e*PN	**Pn**	**22 39 13.6**	**-2.0**
PXZ	**Pawanui**	**7.09**	**191**	*e*PN	Pn	22 39 15.9	-2.8
PNHZ	**Pukenui**	**7.10**	**195**	*e*PN	**Pn**	**22 39 16.7**	**-2.1**
WPHZ	**Waipukurau**	**7.20**	**193**	*e*PN	**Pn**	**22 39 17.9**	**-2.2**
TSZ	**Takapari Road**	**7.29**	**196**	*e*PN	**Pn**	**22 39 19.2**	**-2.2**
DVHZ	**Dannevirke**	**7.48**	**194**	*e*PN	Pn	22 39 20.8	-3.1
ANWZ	**Angora Road**	**7.57**	**192**	PN	Pn	22 39 21.9	-3.3
POWZ	**Post Office Ro**	**7.65**	**196**	PN	**Pn**	**22 39 24.7**	**-1.6**
PRWZ	**Peri Road**	**7.76**	**195**	PN	**Pn**	**22 39 26.1**	**-1.5**
BFZ	**Birch Farm**	**7.83**	**193**	PN	Pn	22 39 24.9	-3.8
MRZ	**Mangatainoka R**	**7.95**	**197**	PN	Pn	22 39 26.9	-3.5
TIWZ	**Tintock**	**8.00**	**195**	PN	**Pn**	**22 39 28.6**	**-2.3**
HOWZ	**Holdsworth Sta**	**8.19**	**196**	*e*PN	Pn	22 39 30.0	-3.7
OGWZ	**Otaki Gorge**	**8.20**	**198**	*e*PN	Pn	22 39 30.2	-3.6
TMWZ	**Te Maipa**	**8.31**	**194**	PN	Pn	22 39 30.8	-4.4
KIW	**Kapiti Island**	**8.32**	**199**	PN	Pn	22 39 32.1	-3.2
MTW	**Mount Morrison**	**8.45**	**196**	PN	Pn	22 39 32.8	-4.3
CAW	**Cannon Point**	**8.50**	**198**	PN	Pn	22 39 33.7	-4.2
DUWZ	**D'Urville Isla**	**8.57**	**204**	PN	Pn	22 39 36.5	-2.3
TRWZ	**Traveller**	**8.63**	**195**	PN	Pn	22 39 34.8	-4.8
PAWZ	**Paruwai Farm**	**8.67**	**196**	*e*PN	Pn	22 39 35.9	-4.3
MSWZ	**Moikau Station**	**8.75**	**197**	*e*PN	Pn	22 39 36.4	-4.8
SNZO	**South Karori**	**8.79**	**199**	PN	Pn	22 39 37.3	-4.4
TCW	**Tory Channel**	**8.83**	**202**	*e*PN	Pn	22 39 38.3	-4.0
BHW	**Baring Head**	**8.84**	**198**	PN	Pn	22 39 37.7	-4.6
PLWZ	**Palliser**	**8.89**	**196**	*e*PN	Pn	22 39 38.9	-4.3
TUWZ	**Tuamarina**	**9.13**	**202**	*e*PN	Pn	22 39 40.2	-4.2
QRZ	**Quartz Range**	**9.13**	**210**	*e*PN	**Pn**	**22 39 45.7**	**-0.7**
NNZ	**Nelson**	**9.13**	**205**	*e*PN	Pn	22 39 42.9	-3.4
BSWZ	**Blackbirch Sta**	**9.41**	**202**	*e*PN	Pn	22 39 45.7	-4.4
THZ	**Tophouse**	**9.78**	**206**	*e*PN	Pn	22 39 51.4	-3.8
DSZ	**Denniston Nort**	**10.20**	**210**	*e*PN	Pn	22 39 57.7	-3.2
MQZ	**McQueen's Vall**	**11.59**	**202**	PN	Pn	22 40 12.5	-7.2
WVZ	**Waitaha Valley**	**11.74**	**209**	*e*PN	Pn	22 40 17.1	-4.5
RPZ	**Rata Peaks**	**12.15**	**207**	*e*PN	Pn	22 40 21.6	-5.6
FOZ	**Fox Glacier**	**12.58**	**211**	*e*PN	Pn	22 40 26.4	-6.4
LBZ	**Lake Benmore**	**13.05**	**208**	PN	Pn	22 40 33.4	-5.7
ODZ	**Otahua Downs**	**13.45**	**205**	*e*PN	Pn	22 40 38.5	-5.7
ASAR	**Alice Springs**	**40.14**	**272**	P	P	22 45 10.0	+6.1
	0.7nm,0.7s,baz=110,slow=7.7,SNR=8.6						
WRA	**Warramunga Arr**	**41.38**	**277**	P	P	22 45 19.1	+5.0
	0.6nm,0.6s,baz=115,slow=8.0,SNR=8.1						
FINES	**FINESS Array B**	**146.51**	**336**	PKPbc	**PKPab**	**22 57 07.5**	**-0.2**
	1.5nm,0.8s,baz=24,slow=3.8,SNR=3.7						

SKHL 22 22:39:27.4±1.1,**52.75N×142.65E,h10**km**,mb4.4/3,1C-1D,**
Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKH	**Okha**	**0.82**	**12**	⇓*i*Pg	Pn	22 39 45.0	0.0
OKH				AMB	AMB	22 39 50.0	
	500nm,0.1s						
OKH				⇑*i*Sg	Sn	22 39 56.5	-0.6
OKH				A	A	22 39 58.8	
	2μm,0.3s						
OKH				A	A	22 39 58.8	
	2μm,0.3s						
NKL	**Nikolayevsk**	**1.26**	**289**	*i* Pg	Pg	22 39 52.0	+0.5
NKL				AMB	AMB	22 39 53.0	
	10.0nm,0.3s						
NKL				AMB	AMB	22 39 53.0	
	60nm,0.3s						
NKL				AMB	AMB	22 39 53.0	
	70nm,0.3s						
NKL				*e*Sg	Sn	22 40 10.0	+2.1
NKL				A	A	22 40 13.0	
	400nm,0.3s						
TYV	**Tymovskoe**	**1.89**	**180**	*e*Pg	Pg	22 40 04.8	+1.2
TYV				AMB	AMB	22 40 05.0	
	4.0nm,0.6s						
TYV				AMB	AMB	22 40 05.0	
	8.0nm,0.6s						
TYV				*e*Sg	Sg	22 40 30.0	+1.9
TYV				A	A	22 40 38.0	
	19nm,0.6s						
GRNR	**Gornyy**	**4.35**	**245**	*e*Pg	Pg	22 40 54.5	+3.8
GRNR				*e*Sg	Sg	22 41 54.0	+7.0
GRNR				A	A	22 42 06.0	
	21nm,0.6s						
GRNR				A	A	22 42 06.0	
	17nm,0.6s						
EKMR	**Ekimchan**	**5.88**	**277**	*e*Pg	Pg	22 41 23.0	+3.0
EKMR				AMB	AMB	22 41 23.5	
	3.0nm,0.4s						
EKMR				*e*Sg	Sg	22 42 44.4	+8.3
EKMR				A	A	22 42 48.8	
	8.0nm,0.6s						
EKMR				A	A	22 42 48.8	
	10.0nm,0.6s						
KLR	**Kul'dur**	**7.73**	**247**	*e*Sg	Sg	22 43 43.0	+7.7

*ISK **22** 23:01:39.7,39.13N×29.04E,h12km,MD2.5*
*ISCJB **22** 23:01:40.2±0.5,39.11N±0.03×29.03E±0.03,h5km±7km,*
Error ellipse: s-maj=4.8km s-min=3.8km az=159.3
*DDA **22** 23:01:40.2,39.13N×29.02E,h7km,MD2.9*
*CSEM **22** 23:01:40.3±0.1,39.12N×29.03E,h10km,MD2.9,Error*
ellipse: s-maj=3.3km s-min=2.9km az=164.0

ISC 22 23:01:40.1±0.9,**39.12N**±0.03×**29.03E**±0.02,**h16**km±7km,
n26,σ0§**32/42,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**253**	*i* P	**Pg**	**23 01 45.9**	**+0.1**
DEMI				*i* S	**Sg**	**23 01 49.2**	**-0.4**
DEMI	**Demirci**	**0.25**	**253**	*i* P	**Pg**	**23 01 45.9**	**+0.1**
DEMI				*i* S	**Sg**	**23 01 49.2**	**-0.4**
GDZ	**Gediz**	**0.35**	**95**	*i* P	**Pg**	**23 01 47.7**	**+0.2**
GDZ				*i* S	**Sg**	**23 01 52.8**	**+0.3**
GDZ	**Gediz**	**0.35**	**95**	*i* P	**Pg**	**23 01 47.7**	**+0.2**
GDZ				*i* S	**Sg**	**23 01 52.8**	**+0.3**
TVSB	**Tavsanli**	**0.47**	**45**	*e*PG	**Pg**	**23 01 49.3**	**-0.3**
TVSB				*e*SG	**Sg**	**23 01 55.9**	**-0.1**
TVSB	**Tavsanli**	**0.47**	**45**	*e*Pg	**Pg**	**23 01 49.3**	**-0.3**
TVSB				*e*Sg	**Sg**	**23 01 55.9**	**-0.1**
DST	**Dursunbey**	**0.58**	**327**	*e*PG	**Pg**	**23 01 51.6**	**0.0**
DST				*e*SG	**Sb**	**23 01 59.7**	**-0.3**
DST	**Dursunbey**	**0.58**	**327**	*e*Pg	**Pg**	**23 01 51.6**	**0.0**
DST				*e*Sg	**Sb**	**23 01 59.7**	**-0.3**
KULA	**Kula-Manisa**	**0.67**	**206**	*e*PG	**Pg**	**23 01 53.3**	**0.0**
KULA	**Kula-Manisa**	**0.67**	**206**	*e*Pg	**Pg**	**23 01 53.3**	**0.0**
MANT	**Manisa**	**0.73**	**211**	*i* P	**Pg**	**23 01 54.4**	**0.0**
MANT				*i* S	**Sg**	**23 02 03.6**	**-0.5**
MANT	**Manisa**	**0.73**	**211**	*i* P	**Pg**	**23 01 54.4**	**0.0**
MANT				*i

IGT	Igoumenitsa	0.16	209	P	Pg	23 12 37.2	+0.1		
IGT				S	Sb	23 12 40.9	-0.1		
JAN	Janina	0.32	93	P	Pg	23 12 39.4	-0.4		
JAN				S	Sg	23 12 44.5	+0.1		
JAN	Janina	0.32	93	*e*PG	Pg	23 12 39.5	-0.4		
JAN				*e*SG	Sg	23 12 44.2	-0.2		
JAN	Janina	0.32	93	*e*Pg	Pg	23 12 39.5	-0.4		
JAN				*e*Sg	Sg	23 12 44.2	-0.2		
JAN				S	Sg	23 12 44.5	+0.1		
RGA	Parga	0.36	190	P	Pg	23 12 40.8	+0.4		
RGA				S	Sb	23 12 46.7	0.0		
RGA	Parga	0.36	190	P	Pg	23 12 40.8	+0.4		
RGA				S	Sb	23 12 46.7	0.0		
KEK	Kerkira	0.49	275	P	Pg	23 12 43.1	+0.3		
KEK				S	Sg	23 12 50.1	+0.7		
KEK	Kerkira	0.49	275	*e*PB	Pg	23 12 43.2	+0.4		
KEK				*e*SB	Sb	23 12 51.6	+1.1		
KEK	Kerkira	0.49	275	P	Pg	23 12 43.1	+0.3		
KEK				S	Sg	23 12 50.1	+0.7		
KEK				*e*Sb	Sb	23 12 51.6	+1.1		
MEV	Metsovon	0.62	79	P	Pg	23 12 44.9	-0.6		
MEV				S	Sg	23 12 54.5	+0.7		
MEV	Metsovon	0.62	79	P	Pg	23 12 44.9	-0.6		
MEV				S	Sg	23 12 54.5	+0.7		
TPE	Tepelena	0.70	333	*i* PG	Pb	23 12 47.6	+0.5		
TPE				*i* SG	Sn	23 12 58.6	-0.6		
TPE	Tepelena SNR=90	0.70	333	*i* Pg	Pb	23 12 47.6	+0.5		
TPE				*i* Sg	Sn	23 12 58.6	-0.6		
	SNR=90								
NEST	Nestorio	0.88	32	P	Pg	23 12 49.2	-1.0		
NEST				S	Sg	23 13 01.6	-0.2		
NEST	Nestorio	0.88	32	P	Pg	23 12 49.2	-1.0		
NEST				S	Sg	23 13 01.6	-0.2		
LKD2	Lefkada island	0.90	169	P	Pb	23 12 50.6	+0.1		
LKD2				S	Sn	23 13 04.4	+0.2		
LKD2	Lefkada island	0.90	169	*e*PB	Pb	23 12 50.8	+0.3		
LKD2	Lefkada island	0.90	169	P	Pb	23 12 50.6	+0.1		
LKD2				S	Sn	23 13 04.4	+0.2		
VLO	Vlora	1.07	318	*i* PG	Pn	23 12 55.6	+1.9		
VLO				*i* SG	Sn	23 13 13.6	+5.3		
VLO	Vlora SNR=90	1.07	318	*i* Pg	Pn	23 12 55.6	+1.9		
KZN	Kozani	1.21	58	P	Pn	23 12 55.5	-0.2		
KZN				S	Sg	23 13 13.7	+1.5		
KZN	Kozani	1.21	58	*e*PB	Pn	23 12 55.7	0.0		
KZN	Kozani	1.21	58	*e*Pb	Pn	23 12 55.7	0.0		
KZN				S	Sg	23 13 13.7	+1.5		
THL	Klokotos Trika	1.23	95	P	Pn	23 12 56.4	+0.6		
THL				S	Sn	23 13 12.9	+0.7		
THL	Klokotos Trika	1.23	95	*e*PN	Pn	23 12 55.6	-0.2		
THL	Klokotos Trika	1.23	95	P	Pn	23 12 56.4	+0.6		
THL				S	Sn	23 13 12.9	+0.7		
EVR	Evrytania	1.31	125	P	Pg	23 12 58.6	+0.2		
EVR				S	Sg	23 13 17.9	+2.5		
EVR	Evrytania	1.31	125	*e*PB	Pb	23 12 58.2	+0.7		
EVR				*e*SB	Sg	23 13 15.7	+0.3		
EVR	Evrytania	1.31	125	*e*Pb	Pb	23 12 58.2	+0.7		
EVR	Evrytania	1.31	125	P	Pg	23 12 58.6	+0.2		
EVR				*e*Sb	Sg	23 13 15.7	+0.3		
EVR				S	Sg	23 13 17.9	+2.5		
FNA	Florina	1.32	33	P	Pn	23 12 56.9	-0.4		
FNA				S	Sg	23 13 16.3	+0.4		
FNA	Florina	1.32	33	P	Pn	23 12 56.9	-0.4		
FNA				S	Sg	23 13 16.3	+0.4		
MAKR	Makrakomi, Fth	1.47	116	P	Pb	23 13 00.9	+0.6		
MAKR				S	Sg	23 13 22.4	+1.7		
MAKR	Makrakomi, Fth	1.47	116	P	Pb	23 13 00.9	+0.6		
MAKR				S	Sg	23 13 22.4	+1.7		
VLS	Valsamata	1.50	175	*e*PB	Pg	23 13 01.9	-0.1		
VLS	Valsamata	1.50	175	*e*Pb	Pg	23 13 01.9	-0.1		
KFL	Anninata	1.58	170	P	Pn	23 13 01.9	+1.1		
KFL	Anninata	1.58	170	P	Pn	23 13 01.9	+1.1		
LIT	Litokhoron	1.64	74	P	Pn	23 13 02.5	+0.9		
LIT				S	Sg	23 13 25.7	-0.3		
LIT	Litokhoron	1.64	74	*e*PB	Pb	23 13 04.0	+0.8		
LIT	Litokhoron	1.64	74	P	Pn	23 13 02.5	+0.9		
LIT	Litokhoron	1.64	74	*e*Pb	Pb	23 13 04.0	+0.8		
LIT				S	Sg	23 13 25.7	-0.3		
EFP	Efpalio	1.69	137	*e*PB	Pb	23 13 03.8	-0.2		
EFP	Efpalio	1.69	137	*e*Pb	Pb	23 13 03.8	-0.2		
TIR	Tirane	1.73	346	*i* PG	Pb	23 13 04.9	+0.3		
TIR				*i* SG	Sg	23 13 31.5	+2.7		
TIR	Tirane	1.73	346	*e*Pg	Pb	23 13 04.8	+0.2		
TIR				*e*Sg	Sg	23 13 32.3	+3.5		
TIR	Tirane SNR=90	1.73	346	*i* Pg	Pb	23 13 04.9	+0.3		
TIR				*i* Sg	Sg	23 13 31.5	+2.7		
	SNR=90								
RLS	Riolos of Patr	1.80	153	*e*PG	Pb	23 13 06.6	+0.7		
GRG	Griva	1.98	49	P	Pn	23 13 07.9	+1.7		
GRG				S	Sb	23 13 34.0	+0.6		
GRG	Griva	1.98	49	P	Pn	23 13 07.9	+1.7		
GRG				S	Sb	23 13 34.0	+0.6		
PHP	Peshkopia	2.01	0	*i* PG	Pb	23 13 09.2	-0.3		
PHP				*i* SG	Sg	23 13 37.3	-0.5		
PHP	Peshkopia SNR=90	2.01	0	*i* Pg	Pb	23 13 09.2	-0.3		
NEO	Neokhori	2.19	99	*e*PN	Pb	23 13 11.6	-1.0		
NEO	Neokhori	2.19	99	*e*Pn	Pb	23 13 11.6	-1.0		
LKR	Lokris	2.24	116	*e*PN	Pb	23 13 12.2	-1.2		
GUR	Goura	2.29	139	*e*PN	Pb	23 13 13.4	-0.8		
KNT	Kendrikon	2.40	51	P	Pn	23 13 13.5	+1.5		
KNT	Kendrikon	2.40	51	P	Pn	23 13 13.5	+1.5		
PUK	Puka	2.40	350	*i* PG	Pn	23 13 13.6	+1.5		
PLG	Polygyros	2.42	72	*e*PN	Pn	23 13 14.2	+1.9		
PLG	Polygyros	2.42	72	*e*Pn	Pn	23 13 14.2	+1.9		
SKO	Skopje	2.42	18	*e*Pn	Pb	23 13 16.0	-0.5		
SKO				*e*Sn	Sb	23 13 46.3	+0.1		
SKO	Skopje	2.42	18	*e*Pn	Pb	23 13 16.0	-0.5		
ULC	Ulcinj	2.46	339	⇓*i* PN	Pn	23 13 14.6	+1.8		
ULC				*e*Sn	Sn	23 13 44.6	+1.9		
ULC	Ulcinj	2.46	339	⇓*i* PN	Pn	23 13 14.6	+1.8		
ULC				*e*Sn	Sn	23 13 44.6	+1.9		
SOH	Sokhos	2.51	62	P	Pn	23 13 15.6	+2.0		
SOH	Sokhos	2.51	62	P	Pn	23 13 15.6	+2.0		
TAR1	Taranto	2.56	290	*e*Pn	Pn	23 13 14.8	+0.7		
TAR1				*e*Sn	Sn	23 13 45.5	+0.4		
BCI	Bajram Curri	2.71	354	*i* PG	Pn	23 13 18.6	+2.4		
BCI				*i* SG	Sb	23 13 56.6	+2.3		
VLX	Vlachokerasia	2.76	146	*e*PN	Pn	23 13 19.4	+2.4		
BUM	Brajici-Budva	2.87	337	*e*Pn	Pn	23 13 20.1	+1.6		
BUM				*e*Sn	Sn	23 13 54.4	+1.5		
BUM	Brajici-Budva	2.87	337	*e*Pn	Pn	23 13 20.1	+1.6		
BUM				*e*Sn	Sn	23 13 54.4	+1.5		
TTG	Podgorica	2.89	343	⇑*i* Pn	Pn	23 13 20.4	+1.7		
TTG				*e*Sn	Sn	23 13 55.5	+2.2		
PDG	Podgorica	2.90	342	*e*Pn	Pn	23 13 20.2	+1.4		
PDG	Podgorica	2.90	342	*e*Pn	Pn	23 13 20.2	+1.4		
PDG				*e*Sn	Sn	23 13 55.5	+2.2		
PVY	Plav	2.94	353	⇑*i* Pn	Pn	23 13 22.0	+2.5		
PVY				*e*Sn	Sn	23 13 57.2	+2.5		
PVY	Plav	2.94	353	⇑*i* Pn	Pn	23 13 22.0	+2.5		
PVY				*e*Sn	Sn	23 13 57.2	+2.5		
BAI	Bari	3.07	299	*e*Pn	Pn	23 13 21.7	+0.6		
BAI				*e*Sn	Sn	23 13 58.0	+0.4		
ATH	Athens Observa	3.08	122	*e*PN	Pn	23 13 24.0	+2.7		
SG1	Sgolgore (BA)	3.10	293	*e*Pn	Pn	23 13 23.1	+1.5		
SG1				*e*Sn	Sn	23 13 58.2	-0.2		
NVR	Nevrokopi	3.11	56	*e*PN	Pn	23 13 23.6	+1.9		
NVR	Nevrokopi	3.11	56	*e*Pn	Pn	23 13 23.6	+1.9		
PTL	Penteli	3.13	120	*e*PN	Pn	23 13 24.0	+1.9		
HCY	Herceg Novi	3.13	333	⇓*i* PN	Pn	23 13 22.8	+0.7		
HCY				*e*Sn	Sn	23 14 00.5	+1.2		
HCY	Herceg Novi	3.13	333	⇓*i* PN	Pn	23 13 22.8	+0.7		
HCY				*e*Sn	Sn	23 14 00.5	+1.2		
IVA	Berane	3.22	353	*e*Pn	Pn	23 13 25.8	+2.5		
IVA				*e*Sn	Sn	23 14 03.9	+2.4		
BEY	Berane	3.22	353	*e*Pn	Pn	23 13 25.8	+2.4		
BEY				*e*Sn	Sn	23 14 03.9	+2.3		
BARS	Barje	3.31	18	⇑*i* PN	Pn	23 13 26.2	+1.7		
BARS				*e*Sn	Sn	23 14 07.2	+3.6		
BARS	Barje	3.31	18	⇑*i* Pn	Pn	23 13 26.2	+1.7		
BARS				*e*Sn	Sn	23 14 07.2	+3.6		
NKY	Niksic	3.32	341	⇑*i* PN	Pn	23 13 25.4	+0.7		
NKY				*e*Sn	Sn	23 14 05.1	+1.1		
NKY	Niksic	3.32	341	⇑*i* Pn	Pn	23 13 25.4	+0.7		
NKY				*e*Sn	Sn	23 14 05.1	+1.1		
CDT	Castel del Mon	3.47	295	*e*Pn	Pn	23 13 29.6	+2.8		
CDT				*e*Sn	Sn	23 14 07.2	-0.5		
BRY	Bratogost	3.53	337	⇓*i* Pn	Pn	23 13 28.4	+0.8		
BRY				*e*Sn	Sn	23 14 10.4	+1.2		
BRY	Bratogost	3.53	337	⇓*i* Pn	Pn	23 13 28.4	+0.8		
BRY				*e*Sn	Sn	23 14 10.4	+1.2		
VLI	Veliai	3.55	145	*e*PN	Pn	23 13 30.1	+2.3		
SELS	Selova	3.58	8	*e*Pn	Pn	23 13 27.5	-0.7		
VTS	Vitosha	3.59	35	⇑*i* P	Pn	23 13 31.6	+3.1		
VTS	Vitosha	3.59	35	*e*Pn	Pn	23 13 31.2	+2.7		
VTS	Vitosha	3.59	35	*e*Pn	Pn	23 13 31.2	+2.7		
VTS	Vitosha	3.59	35	⇑*i* P	Pn	23 13 31.6	+3.1		
UPM	Unac-Piva	3.71	342	⇓*i* Pn	Pn	23 13 31.8	+1.7		
UPM				*e*Sn	Sn	23 14 15.9	+2.2		
UPM	Unac-Piva	3.71	342	⇓*i* Pn	Pn	23 13 31.8	+1.7		
UPM				*e*Sn	Sn	23 14 15.9	+2.2		
PLE	Pljevlja	3.74	348	*e*Pn	Pn	23 13 33.0	+2.5		
PLE				*e*Sn	Sn	23 14 16.6	+2.3		
PLE	Pljevlja	3.74	348	*e*Pn	Pn	23 13 33.0	+2.5		
PLE				*e*Sn	Sn	23 14 16.6	+2.3		
STON	Ston	3.80	328	*i* Pn	Pn	23 13 31.1	-0.2		
STON				Sn	Sn	23 14 14.6	-1.1		
STON	Ston	3.80	328	*i* Pn	Pn	23 13 31.0	-0.2		
STON				Sn	Sn	23 14 14.5	-1.1		
IVAS	Ivanjica	3.91	357	*e*Pn	Pn	23 13 32.4	-0.3		
IVAS	Ivanjica	3.91	357	*e*Pn	Pn	23 13 32.4	-0.3		
GRUS	Gruza	4.22	3	⇑*i* Pn	Pn	23 13 38.1	+1.1		
GRUS	Gruza	4.22	3	⇑*i* Pn	Pn	23 13 38.1	+1.1		
BOLS	Boljevac	4.31	15	*e*Pn	Pn	23 13 37.9	-0.3		
BOLS	Boljevac	4.31	15	*e*Pn	Pn	23 13 37.9	-0.3		
DIVS	Divibare	4.43	356	*i* Pn	Pn	23 13 40.5	+0.5		
DIVS				*e*Sn	Sn	23 14 31.1	-0.3		
DIVS	Divibare	4.43	356	*i* Pn	Pn	23 13 40.5	+0.5		
DIVS				*e*Sn	Sn	23 14 31.1	-0.3		
ALN	Alexandroupoli	4.46	72	*e*PN	Pn	23 13 43.1	+2.8		
ALN	Alexandroupoli	4.46	72	*e*Pn	Pn	23 13 43.1	+2.8		
TRUS	Trudelj	4.55	360	*e*Pn	Pn	23 13 41.4	-0.1		
TRUS	Trudelj	4.55	360	*e*Pn	Pn	23 13 41.4	-0.1		
CHOS	Chios island	4.56	105	*e*PN	Pn	23 13 45.2	+3.4		
CHOS	Chios island	4.56	105	*e*Pn	Pn	23 13 45.2	+3.4		
SVIS	Svilajnac	4.63	7	*e*Pn	Pn	23 13 43.9	+1.4		
FGSL	Fruska Gora	5.50	355	*e*Pn	Pn	23 13 54.6	0.0		
FRGS	Fruska Gora	5.50	355	*e*Pn	Pn	23 13 54.6	0.0		
BLY	Banja Luka	5.62	336	*e*Pn	Pn	23 13 56.6	+0.4		
BLY	Banja Luka	5.62	336	*e*Pn	Pn	23 13 56.6	+0.4		
AQU	L'Aquila	5.95	299	⇓*i* P	Pb	23 14 12.9	-3.8		
GZR	Gura Zlata	5.97	16	⇓*i* P	Pn	23 14 02.8	+1.7		
GZR	Gura Zlata	5.97	16	⇓*i* P	Pn	23 14 02.8	+1.7		
BZS	Buzias	6.00	8	⇓*i* P	Pn	23 14 02.1	+0.6		
BZS	Buzias	6.00	8	*e*Pn	Pn	23 14 02.1	+0.6		
BZS	Buzias	6.00	8	⇓*i* P	Pn	23 14 02.1	+0.6		
NVLJ	Novalja	6.40	322	*e*Pn	Pn	23 14 07.0	+0.1		
NVLJ				Sn	Sn	23 15 16.2	-3.5		
NVLJ	Novalja	6.40	322	*e*Pn	Pn	23 14 07.0	+0.1		
PKSM	Moragy	6.67	349	⇑*i* P	Pn	23 14 11.5	+0.9		
PKSM	Moragy	6.67	349	*e*Pn	Pn	23 14 11.2	+0.6		
PKSM	Moragy	6.67	349	*e*Pn	Pn	23 14 11.2	+0.6		
PKSM	Moragy	6.67	349	⇑*i* P	Pn	23 14 11.5	+0.9		
VOIR		6.69	29	⇑*i* P	Pn	23 14 14.0	+3.0		
VOIR		6.69	29	⇑*i* P	Pn	23 14 14.0	+3.0		
BOJS	Bojanci	6.97	328	*i* Pn	Pn	23 14 15.0	+0.3		
BOJS				*i* Sn	Sn	23 15 30.9	-2.7		
BOJS	Bojanci	6.97	328	*i* Pn	Pn	23 14 15.0	+0.3		
ISR	Istrita	7.08	38	⇑*i* P	Pn	23 14 20.1	+3.9		
ISR	Istrita	7.08	38	⇑*i* P	Pn	23 14 20.1	+3.9		
MLR	Muntele Rosu	7.09	33	⇑*i* P	Pn	23 14 19.3	+2.7		
MLR	Muntele Rosu	7.09	33	P	Pn	23 14 22.2	+5.6		
MLR				S	Sn	23 15 44.8	+7.8		
	0.0nm,0.3s,baz=166,slow=17,SNR=2.1								
MLR	Muntele Rosu	7.09	33	⇑*i* P	Pn	23 14 19.3	+2.7		
VISS	Visnje	7.38	328	*i* Pn	Pn	23 14 20.6	+0.2		
VISS				*i* Sn	Sn	23 15 40.3	-3.5		
VISS	Visnje	7.38	328	*i* Pn	Pn	23 14 20.6	+0.2		
SKDS	Skadanscina	7.54	323	*i* Pn	Pn	23 14 22.0	-0.6		
SKDS				*i* Sn	Sn	23 15 44.6	-3.1		
SKDS	Skadanscina	7.54	323	*i* Pn	Pn	23 14 22.0	-0.6		
VNDS	Vrh nad Dolski	7.68	329	*i* Pn	Pn	23 14 24.5	0.0		
GROS	Grobnik	7.68	334	*i* Pn	Pn	23 14 23.7	-0.9		
GROS				*i* Sn	Sn	23 15 42.6	-8.8		
GROS	Grobnik	7.68	334	*i* Pn	Pn	23 14 23.7	-0.9		
PLOR	Plostina	7.68	34	⇑*i* P	Pn	23 14 28.2	+3.6		
PLOR	Plostina	7.68	34	⇑*i* P	Pn	23 14 28.2	+3.6		
VRI	Vrincioaia	7.73	35	⇓*i* P	Pn	23 14 28.6	+3.4		
VRI	Vrincioaia	7.73	35	⇓*i* P	Pn	23 14 28.6	+3.4		
JAVS	Javornik	7.78	325	*i* Pn	Pn	23 14 25.9	-0.1		
JAVS				*i* Sn	Sn	23 15 50.3	-3.5		
VOY	Vojsko	7.96	325	*e*Pn	Pn	23 14 28.5	0.0		
VOY				*e*Sn	Sn	23 15 54.2	-4.1		
VOY	Vojsko	7.96	325	*e*Pn	Pn	23 14 28.5	0.0		
BRTR	Keskin Array B	10.18	85	P	Pn	23 15 03.3	+4.4		
	0.1nm,0.3s,baz=275,slow=11,SNR=3.6								
GERES	GERESS Array B	10.36	334	P	Pn	23 15 00.8	-0.5		
	0.2nm,0.3s,baz=154,slow=14,SNR=9.6								
GERES				S	Sn	23 16 56.4	-0.7		
	0.2nm,0.3s,baz=160,slow=24,SNR=4.0								
DAVOX	Davos/Dischmat	10.47	316	P	Pn	23 15 04.9	+2.0		
	0.1nm,0.3s,baz=166,slow=17,SNR=3.0								
DAVOX				S	Sn	23 16 56.9	-3.1		
HFS	Hagfors	20.92	351	P	P	23 17 13.8	-1.1		
	2.8nm,0.8s,baz=156,slow=11,SNR=7.7								
FINES	FINESS Array B	22.07	7	P	P	23 17 26.3	-1.1		
	3.8nm,0.9s,baz=184,slow=10,SNR=8.9								
NOA	NORSAR Array B	22.14	348	P	P	23 17 27.5	-0.7		
	2.3nm,0.8s,baz=160,slow=9.6,SNR=4.4								
KAF	Kangasniemi	22.75	7	*ep*	P	23 17 32.0	-2.6		
JOF	Joensuu	24.18	12	*ep*	P	23 17 47.1	-1.6		
ARCES	ARCESS Array B	30.05	4	P	P	23 18 39.7	-1.6		
	1.4nm,0.9s,baz=184,slow=10,SNR=3.3								
TORD	Torodi Ar. Bea	31.16	217	P	P	23 18 53.0	+1.4		
	1.4nm,0.8s,baz=32,slow=9.0,SNR=9.2								
MKAR	Makanchi Array	44.59	60	P	P	23 20 44.0	-0.7		
	1.2nm,0.7s,baz=281,slow=7.1,SNR=8.9								
ZALV	Zalesovo Beam	44.76	49	P	P	23 20 44.9	-0.9		
	0.8nm,0.4s,baz=280,slow=9.7,SNR=6.7								

IDC 22 23:15:00.5±1.7,3°96N×126°93E,h0km,mb3.7/5,
mb1 3.8/5,mb1mx3.5/21,mbtmp3.7/5,Error ellipse:
s-maj=95.5km s-min=23.0km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.96	183	P	P		23 19 55.9	-0.2
	1.0nm,0.7s,baz=7.5,slow=10.0,SNR=2.8							
WRA	Warramunga Arr	24.84	163	P	P		23 20 24.8	0.0
	3.1nm,0.6s,baz=343,slow=11,SNR=18							
ASAR	Alice Springs	28.29	166	P	P		23 20 55.6	-0.3
	0.1nm,0.3s,baz=347,slow=7.6,SNR=2.7							
STKA	Stephens Creek	38.27	160	P	P		23 22 23.0	+0.3
	1.5nm,0.4s,baz=352,slow=8.2,SNR=5.1							
MKAR	Makanchi Array	57.48	325	P	P		23 24 51.4	-0.1
	0.3nm,0.6s,baz=113,slow=8.8,SNR=3.8							

NIED ***22*** *23:22:00,45°.10N×150°.40E,h5km,Mw4.2 Best double couple: M₀2.42000×10¹⁵ NP1:φ₀78.00000°,δ47.00000°, λ-87.00000°. NP2:φ₀253.00000°,δ43.00000°, λ-93.00000°.*

ISCJB ***22*** *23:22:42.6±0.4,45°.90N±0°.04×150°.52E±0°.03, h112km±4km,mb4.6/145,Error ellipse: s-maj=6.1km s-min=3.0km az=170.5*

IDC ***22*** *23:22:43.8±0.6,45°.93N×150°.46E,h112km±5km,mb4.0/27, mb1 4.2/31,mb1mx4.2/33,mbtmp4.0/31,MS3.5/1, Ms1 3.5/1,ms1mx2.4/38,Error ellipse: s-maj=13.2km s-min=9.7km az=148.0*

MOS ***22*** *23:22:43.6±0.9,45°.91N×150°.47E,h121km,mb4.5/80, Error ellipse: s-maj=7.4km s-min=5.2km az=93.5*

SKHL ***22*** *23:22:44.9±0.4,45°.85N×150°.50E,h117km±13km,mb5.1/7, msh6.4/1*

NEIC ***22*** *23:22:45.2±0.6,45°.96N×150°.45E,h121km±5km,mb4.7/77, Error ellipse: s-maj=6.8km s-min=3.4km az=162.0*

BJI ***22*** *23:22:45.1,46°.62N×150°.81E,h141km,mB5.0/6,mb4.7/9*

JMA ***22*** *23:22:47.4±0.6,45°.15N×150°.45E,h130km,M4.6*

SZGRF ***22*** *23:22:47.6,46°.41N×150°.38E,h33km,mb4.8,Kuril Islands, Russia*

ISC 22 23:22:44.1±0.5,45°.86N±0°.06×150°.45E±0°.05,h116km±4km,
h116km:pP-P,n732,σ0:89/760,mb4.6/146,163C-186D,
Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.92	252	⇓*i* PN	Pn		23 23 18.0	+1.6
KUR				*i* S	Sn		23 23 43.0	+2.0
KUR				pmax	pmax			
	comp=Z,670nm,0.6s							
KUR				pmax	pmax			
	comp=N,160nm,0.5s							
KUR				pmax	pmax			
	comp=E,130nm,0.5s							
KUR				smax	smax			
	comp=N,22μm,1.0s							
KUR				smax	smax			
	comp=E,41μm,1.0s							
KUR				smax	smax			
	comp=E,6μm,0.5s							
KUR	Kuril'sk	1.92	252	⇓*i* P	Pn		23 23 18.0	+1.6
KUR				AMB	AMB		23 23 18.3	
	comp=E,160nm,0.5s							
KUR				AMB	AMB		23 23 18.3	
	comp=E,130nm,0.5s							
KUR				AMB	AMB		23 23 18.3	
	comp=E,670nm,0.6s							
KUR				*i* S	Sn		23 23 43.0	+2.0
KUR				A	A		23 23 44.4	
	comp=E,25μm,0.8s							
KUR				A	A		23 23 44.4	
	comp=E,15μm,1.0s							
KUR				A	A		23 23 45.0	
	comp=E,22μm,0.8s							
KUR				A	A		23 23 45.0	
	comp=E,40μm,0.8s							
KUR				A	A		23 23 45.5	
	comp=E,6μm,0.5s							
KUR				A	A		23 23 45.5	
	comp=E,7μm,0.5s							
YUK	Yuzh-Kuril'sk	3.74	242	*d i* PN	Pn		23 23 41.3	+1.3
YUK				*i* S	Sn		23 24 23.8	+0.5
YUK				pmax	pmax			
	comp=N,68nm,0.2s							
YUK				pmax	pmax			
	comp=Z,328nm,0.2s							
YUK				pmax	pmax			
	comp=E,100nm,0.1s							
YUK				smax	smax			
	comp=E,2μm,0.5s							
YUK				smax	smax			
	comp=N,900nm,0.2s							
YUK	Yuzh-Kuril'sk	3.74	242	⇓*i* P	Pn		23 23 41.3	+1.3
YUK				AMB	AMB		23 23 42.1	
	comp=N,70nm,0.2s							
YUK				AMB	AMB		23 23 42.1	
	comp=N,100nm,0.2s							
YUK				AMB	AMB		23 23 42.1	
	comp=N,330nm,0.2s							
YUK				*i* S	Sn		23 24 23.8	+0.5
YUK				A	A		23 24 28.8	
	comp=N,900nm,0.5s							
YUK				A	A		23 24 28.8	
	comp=N,2μm,0.5s							
NEM2	Nemuro 2	4.19	235	P	Pn		23 23 45.3	-0.8
NEM2				*e*S	Sn		23 24 30.3	-3.8
JRA	Rausu	4.25	245	P	Pn		23 23 48.3	+1.5
JNK	Nakash	4.68	243	P	Pn		23 23 53.6	+1.0
JTKR	Abashiri--Toko	5.02	250	P	Pn		23 23 58.9	+1.7
JAK	Akkeshi	5.02	237	P	Pn		23 23 56.6	-0.6
JAK				*e*S	Sn		23 24 50.6	-3.5
JMP	Maruseppu	5.37	252	P	Pn		23 24 03.5	+1.6
JAR	Ashorobuto	5.42	244	P	Pn		23 24 03.9	+1.3
YSS	Yuzh-Sakhalins	5.43	284	⇓*e*PN	Pn		23 24 06.5	+3.7
YSS				pmax	pmax			
	comp=E,270nm,0.9s							
YSS				pmax	pmax			
	comp=Z,160nm,0.9s							
YSS	Yuzh-Sakhalins	5.43	284	*e*Pn	P

comp=Z,183nm,20.2s,baz=82,slow=36
SEY Seymchan 17.14 3 *ce* P **P 23 26 35.1 -0.9**
KSRS Korea Array 18.77 251 P **Pn 23 26 55.3 -0.6**
comp=Z,0.8nm,0.3s,baz=55,slow=11,SNR=18
KSAR Wonju Array Be 18.80 251 P **P 23 26 55.2 +0.8**
YAK Yakutsk 20.14 331 *e*P **P 23 27 08.5 -0.1**
YAK *e* 23 30 42.5
YAK pmax pmax
comp=Z,13nm,0.9s
YAK Yakutsk 20.14 331 *e*Pn **P 23 27 09.1 +0.4**
comp=Z,23nm,0.6s
BJI Beijing 25.62 269 P **P 23 28 05.8 +3.2**
BJI pmax pmax
comp=Z,26nm,0.7s
BJT Baijiatuau 25.64 269 *e*P **P 23 28 03.0 +0.3**
comp=Z,14nm,0.4s
AKUT Akutan 28.92 57 *e*P **P 23 28 33.0 +1.1**
comp=Z,148nm,0.6s
ULN Ulaanbaatar 29.45 290 *e*P P 23 28 33.5 -3.5
comp=Z,0.7nm,0.4s
SONM Songino Array 29.89 290 P **P 23 28 42.6 +1.9**
SONM PcP **PcP 23 31 40.7 +0.1**
SONM Songino Array 29.89 290 P **P 23 28 42.6 +1.9**
comp=Z,0.5nm,0.6s,baz=77,slow=7.8,SNR=6.7
SONM PcP **PcP 23 31 40.7 +0.1**
comp=Z,0.7nm,0.6s,baz=107,slow=2.5,SNR=6.3
NACB Ninganchiao 31.76 237 *e*P P 23 28 51.3 -5.9
SPU Mount Spurr 36.13 44 *e*P **P 23 29 34.8 +0.2**
TRF Thorofare Moun 36.91 40 *e*P **P 23 29 41.1 -0.4**
comp=Z,124nm,2.8s
COLD Coldfoot 37.10 34 *e*P **P 23 29 42.9 +0.2**
comp=Z,10nm,0.6s
GTA Gaotai 37.28 279 *e*P **P 23 29 46.8 +2.0**
GTA pmax pmax
comp=Z,9.0nm,1.0s
PMR Palmer 37.51 43 *e*P **P 23 29 46.8 +0.5**
PMR pmax pmax
comp=Z,7.0nm,0.9s
PMR Palmer 37.51 43 *e*P **P 23 29 46.8 +0.5**
comp=Z,6.9nm,0.9s
MCK McKinley 37.52 40 *e*P **P 23 29 46.3 0.0**
MCK pmax pmax
comp=Z,9.0nm,1.0s
MCK McKinley 37.52 40 *e*P **P 23 29 46.2 0.0**
comp=Z,9.3nm,1.0s
SML Sawmill 37.88 43 *e*P **P 23 29 49.6 +0.2**
SML pmax pmax
comp=Z,8.0nm,0.8s
SML Sawmill 37.88 43 *e*P **P 23 29 49.6 +0.2**
comp=Z,7.6nm,0.8s
COLA College 37.97 38 *e*P **P 23 29 50.5 +0.4**
COLA pmax pmax
comp=Z,13nm,1.0s
COLA College 37.97 38 *e*P **P 23 29 50.5 +0.4**
comp=Z,13nm,1.0s
ILAR Eielson Array 38.39 38 P **P 23 29 53.1 -0.5**
ILAR PcP **PcP 23 32 03.0 -1.5**
ILAR Eielson Array 38.39 38 P **P 23 29 53.1 -0.5**
comp=Z,4.5nm,0.8s,baz=262,slow=6.5,SNR=40
ILAR PcP **PcP 23 32 03.0 -1.5**
comp=Z,0.4nm,0.6s,baz=284,slow=3.5,SNR=4.8
DOT Dot Lake 39.69 39 *e*P **P 23 30 03.9 -0.6**
comp=Z,99nm,3.0s
BMRM Bremner River 39.75 44 *e*P **P 23 30 05.7 +0.6**
comp=Z,15nm,1.0s
ZALV Zalesovo Beam 41.63 306 P **P 23 30 20.6 +0.1**
ZALV 23 32 15.8
ZALV pmax pmax
comp=Z,4.0nm,0.7s
ZALV Zalesovo Beam 41.63 306 P **P 23 30 20.6 +0.1**
ZALV PcP **PcP 23 32 15.8 +0.7**
ZALV Zalesovo Beam 41.63 306 P **P 23 30 20.6 +0.1**
comp=Z,0.4nm,0.4s,baz=86,slow=7.3,SNR=3.1
ZALV PcP **PcP 23 32 15.8 +0.7**
comp=Z,3.5nm,0.7s,baz=69,slow=3.0,SNR=20
INK Inuvik 43.38 32 *e*P **P 23 30 35.0 +0.6**
comp=Z,12nm,0.9s
MK31 Makanchi Array 45.70 297 *ce*P **P 23 30 52.7 -0.6**
MK31 pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 45.70 297 P **P 23 30 53.1 -0.2**
MKAR 23 32 29.8
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 45.70 297 *e*P **P 23 30 53.0 -0.2**
MKAR PcP **PcP 23 32 29.8 +0.6**
MKAR Makanchi Array 45.70 297 P **P 23 30 53.1 -0.2**
comp=Z,0.7nm,0.5s,baz=72,slow=7.7,SNR=19
MKAR PcP **PcP 23 32 29.8 +0.6**
comp=Z,2.1nm,0.6s,baz=62,slow=3.6,SNR=12
KURK Kurchatov 46.31 303 *ce*P **P 23 30 56.9 -1.0**
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK Kurchatov 46.31 303 *e*P **P 23 30 57.3 -0.6**
comp=Z,2.4nm,0.5s
KIP Kipapa 48.34 102 *e*P **P 23 31 15.0 +1.1**
KIP pmax pmax
comp=Z,43nm,1.2s
LSA Lhasa 48.47 272 *e*P **P 23 31 12.9 -2.6**
LSA pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 48.47 272 *e*P **P 23 31 12.9 -2.6**
comp=Z,4.5nm,0.6s
BRVK Borovoye 50.03 309 *e*P **P 23 31 24.2 -2.2**
BRVK pmax pmax
comp=Z,8.0nm,1.5s
BRVK Borovoye 50.03 309 *e*P **P 23 31 24.2 -2.2**
comp=Z,7.9nm,1.5s
CHTO Chiang Mai 50.11 255 *e*P P 23 31 23.3 -4.2
CHTO Chiang Mai 50.11 255 *e*P P 23 31 23.3 -4.2
CMAR Chiang Mai Arr 50.36 255 P **P 23 31 30.4 +1.0**
CMAR Chiang Mai Arr 50.36 255 P **P 23 31 30.3 +1.0**
comp=Z,1.1nm,0.3s,baz=51,slow=7.5,SNR=6.4
ZRNK Zerenda 50.77 309 *i*P P 23 31 28.1 -3.9
ZRNK pmax pmax
comp=Z,1.0nm,0.8s
TKM2 Tokmak 2 51.72 295 *i*P **P 23 31 42.3 +2.8**
TKM2 pmax pmax
comp=Z,3.0nm,1.0s
TKM2 Tokmak 2 51.72 295 *e*P **P 23 31 37.8 -1.8**
comp=Z,0.8nm,0.4s
RES Resolute Bay 52.25 18 *e*P **P 23 31 42.1 -0.6**
comp=Z,11nm,0.8s
TAPN Taplejung 52.30 272 *e*P **P 23 31 45.7 +1.6**
comp=Z,6.3nm,0.5s
TAPN Taplejung 52.30 272 *e*P **P 23 31 45.7 +1.6**
comp=Z,6.3nm,0.5s
AAK Ala-Archa 52.56 296 *e*P **P 23 31 46.7 +1.0**
AAK Ala-Archa 52.56 296 *e*P **P 23 31 45.0 -0.7**
comp=Z,12nm,1.1s
YKA Yellowknife Ar 52.73 36 P **P 23 31 46.5 +0.2**
YKA pP **pP 23 32 14.4 +0.6**
YKA PcP **PcP 23 32 54.3 -0.1**
YKA Yellowknife Ar 52.73 36 P **P 23 31 46.5 +0.2**
comp=Z,5.1nm,0.7s,baz=297,slow=6.9,SNR=95
YKA pP **pP 23 32 14.4 +0.6**
comp=Z,0.7nm,0.6s,baz=300,slow=7.2,SNR=2.3
YKA PcP **PcP 23 32 54.3 -0.1**
comp=Z,0.7nm,0.6s,baz=301,slow=3.7,SNR=6.3
ODAN Odare 52.82 272 *e*P **P 23 31 48.8 +0.9**
comp=Z,3.7nm,0.4s
ODAN Odare 52.82 272 *e*P **P 23 31 48.8 +0.9**
comp=Z,3.7nm,0.4s
EKS2 Erkin-Say 53.00 296 *e*P **P 23 31 48.0 -0.9**
EKS2 pmax pmax
comp=Z,1.0nm,0.5s
EKS2 Erkin-Say 53.00 296 *e*P **P 23 31 48.0 -0.9**
comp=Z,1.3nm,0.5s
JIRN Jiri 53.17 273 *e*P **P 23 31 52.3 +1.7**
JIRN Jiri 53.17 273 *e*P **P 23 31 52.3 +1.7**
SVE Sverdlovsk 53.22 317 *e*P **P 23 31 49.6 -0.4**
SVE pmax pmax
comp=Z,8.0nm,0.8s
GUN Gumba 53.23 274 *e*P **P 23 31 52.4 +1.4**
comp=Z,9.5nm,0.4s
GUN Gumba 53.23 274 *e*P **P 23 31 52.4 +1.4**
comp=Z,9.5nm,0.4s
RAMN Ramite 53.32 272 *e*P **P 23 31 52.9 +1.4**
comp=Z,17nm,0.4s
RAMN Ramite 53.32 272 *e*P **P 23 31 52.9 +1.4**
comp=Z,17nm,0.4s
KKN Kakani 53.72 274 *e*P **P 23 31 56.3 +1.9**
comp=Z,10nm,0.5s
KKN Kakani 53.72 274 *e*P **P 23 31 56.3 +1.9**
KKN pmax pmax
comp=Z,10.0nm,0.5s
KKN Kakani 53.72 274 *e*P **P 23 31 56.3 +1.9**
comp=Z,10nm,0.5s
PKI Pulchoki 53.77 274 *e*P **P 23 31 56.0 +1.1**
PKI Pulchoki 53.77 274 *e*P **P 23 31 56.0 +1.1**
PKI Pulchoki 53.77 274 *e*P **P 23 31 56.0 +1.1**
DMN Daman 53.95 274 *e*P **P 23 31 57.7 +1.5**
DMN Daman 53.95 274 *e*P **P 23 31 57.7 +1.5**
GKN Gorkha 54.04 275 *e*P **P 23 31 58.3 +1.6**
comp=Z,8.4nm,0.4s
GKN Gorkha 54.04 275 *e*P **P 23 31 58.3 +1.6**
comp=Z,8.4nm,0.4s
ARU Arti 54.41 317 *d*i P **P 23 31 57.2 -1.5**
ARU 23 33 58.4
ARU S **S 23 39 26.3 -1.5**
ARU SS **SS 23 43 06.8 -4.2**
ARU pmax pmax
comp=Z,23nm,2.5s
ARU Arti 54.41 317 *e*P **P 23 31 57.5 -1.2**
comp=Z,6.7nm,0.8s
DANN Dangsing 54.44 276 *e*P **P 23 32 01.6 +1.9**
comp=Z,20nm,0.6s
DANN Dangsing 54.44 276 *e*P **P 23 32 01.6 +1.9**
comp=Z,20nm,0.6s
KOLN Koldanda 54.90 275 *e*P **P 23 32 04.7 +1.7**
comp=Z,8.8nm,0.5s
KOLN Koldanda 54.90 275 *e*P **P 23 32 04.7 +1.7**
comp=Z,8.8nm,0.5s
KEV Kevo 57.55 340 *e*P **P 23 32 18.3 -2.6**
KEV pmax pmax
comp=Z,3.0nm,0.8s
KEV Kevo 57.55 340 *e*p **P 23 32 18.3 -2.6**
comp=Z,3.2nm,0.8s
AB31 Akbulak array 57.56 309 *ce*P **P 23 32 21.0 -0.3**
AB31 pmax pmax
comp=Z,2.0nm,0.3s
ABKAR Akbulak array 57.56 309 *e*P **P 23 32 21.1 -0.2**
AKTO Aktyubinsk 57.93 311 P **P 23 32 24.2 +0.3**
AKTO pmax pmax
comp=Z,1.0nm,0.5s
AKTO Aktyubinsk 57.93 311 P **P 23 32 24.2 +0.3**
AKTO Aktyubinsk 57.93 311 P **P 23 32 24.2 +0.3**
comp=Z,1.2nm,0.5s,baz=36,slow=8.0,SNR=3.8
ARCES ARCESS Array B 58.07 340 P **P 23 32 23.3 -1.2**
ARCES PcP **PcP 23 33 14.7 -0.4**
ARCES ARCESS Array B 58.07 340 P **P 23 32 23.3 -1.2**
comp=Z,5.0nm,1.0s,baz=33,slow=9.3,SNR=8.8
ARCES PcP **PcP 23 33 14.7 -0.4**
comp=Z,2.1nm,0.7s,baz=60,slow=7.2,SNR=4.1
NEW Newport 59.17 51 *e*P **P 23 32 32.4 -0.1**
comp=Z,53nm,2.5s
NEW Newport 59.17 51 ⇓P **P 23 32 31.3 -1.3**
baz=59
C11A Tepee Creek (N 59.89 51 ⇑P **P 23 32 37.5 -0.1**
baz=60
A13A Flathead Natio 60.23 49 ⇑P **P 23 32 39.5 -0.4**
baz=60
B13A Whitefish 60.54 50 ⇑P **P 23 32 41.6 -0.3**
baz=60,SNR=5.3
A14A Double T Ranch 60.73 49 ⇑P **P 23 32 43.1 -0.2**
baz=60
D12A Red Ives Fores 60.85 51 ⇑P **P 23 32 43.8 -0.4**
baz=61
C13A Hot Springs 60.90 50 ⇓P **P 23 32 44.0 -0.3**
baz=61
A15A Johnson Ranch, 61.09 48 ⇓P **P 23 32 45.0 -0.7**
baz=61
BMO Blue Mountains 61.09 54 *e*P **P 23 32 45.6 -0.2**
BMO pmax pmax
comp=Z,8.0nm,1.4s
BMO Blue Mountains 61.09 54 *e*P **P 23 32 45.6 -0.2**
comp=Z,8.0nm,1.4s
E12A Beaver Dam Sad 61.12 52 ⇓P **P 23 32 46.0 0.0**
baz=61,SNR=10
MOD Modoc 61.13 58 *e*P **P 23 32 46.9 +0.8**
comp=Z,7.7nm,0.7s
B14A Marquette Ranc 61.18 49 ⇓P **P 23 32 45.9 -0.4**
baz=61
C14A Swan Lake 61.29 50 ⇓P **P 23 32 46.5 -0.5**
baz=61
JOF Joensuu 61.30 333 *e*P **P 23 32 44.3 -2.4**
JOF pmax pmax
comp=Z,2.0nm,0.3s
JOF Joensuu 61.30 333 *e*p **P 23 32 44.3 -2.4**
comp=Z,2.1nm,0.3s
D13A Huson 61.32 51 ⇓P **P 23 32 47.0 -0.2**
baz=61
B15A Bradely Ranch, 61.58 49 ⇓P **P 23 32 48.9 -0.2**
baz=61
F12A Elk City 61.70 52 ⇑P **P 23 32 50.3 +0.5**
baz=61,SNR=5.9
SUMG Summit 61.70 3 *i*P **P 23 32 49.8 0.0**
SUMG pmax pmax
comp=Z,31nm,0.9s
SUMG Summit 61.70 3 *e*P **P 23 32 49.8 0.0**
comp=Z,42nm,0.9s
SUMG Summit 61.70 3 *i*P **P 23 32 49.8 0.0**
comp=Z,31nm,0.9s
SLMT Seeley Lake 61.75 50 *e*P **P 23 32 50.6 +0.4**
MSO Missoula 61.76 51 ⇑P **P 23 32 50.2 0.0**
baz=62,SNR=5.6
D14A Greenough 61.84 50 ⇑P **P 23 32 50.7 0.0**
baz=62,SNR=9.6
E13A Victor 61.86 51 ⇑P **P 23 32 50.7 -0.2**
baz=62
C15A Salmond Ranch, 61.89 49 ⇓P **P 23 32 51.4 +0.3**
baz=62,SNR=10.0
G12A Big Creek, Yel 62.04 53 ⇓P **P 23 32 51.9 -0.3**
baz=62
A17A Triple J Farms 62.16 47 ⇑P **P 23 32 52.6 -0.3**
baz=62
F13A Darby 62.19 52 ⇑P **P 23 32 52.6 -0.5**
baz=62
E14A Clinton 62.26 51 ⇓P **P 23 32 53.4 -0.2**
baz=62,SNR=5.2
C16A Fuhringer Ranc 62.33 49 ⇓P **P 23 32 53.9 -0.2**
baz=62,SNR=9.3
D15A Lincoln 62.39 50 ⇓P **P 23 32 54.2 -0.3**
baz=62
B17A L&G Farms, Che 62.52 48 ⇑P **P 23 32 55.1 -0.1**
baz=62
FFC Flin Flon 62.59 39 *ce*P **P 23 32 55.9 +0.4**
FFC Flin Flon 62.59 39 *e*P **P 23 32 54.8 -0.7**
comp=Z,7.8nm,1.0s
A18A Metzger Ranch, 62.62 47 ⇑P **P 23 32 55.6 -0.2**
baz=62
H12A Diamond D Ranc 62.66 53 ⇑P **P 23 32 56.2 -0.2**
baz=62
G13A Cobalt 62.67 53 ⇓P **P 23 32 56.1 -0.3**
baz=62,SNR=7.4
F14A Wisdom 62.70 51 ⇑P **P 23 32 56.3 -0.3**
baz=62
E15A Deer Lodge 62.71 51 ⇑P **P 23 32 56.5 -0.2**
baz=62,SNR=5.0
MFID Camas Ranch 62.82 55 ⇓P **P 23 32 57.0 -0.3**
baz=62
D16A Dana Ranch, Ca 62.92 50 ⇑P **P 23 32 57.8 -0.2**
baz=63
C17A Wharram Farm, 62.95 49 ⇑P **P 23 32 57.8 -0.4**
baz=63,SNR=7.7
I12A Atlanta 62.98 54 ⇑P **P 23 32 58.4 0.0**
baz=63,SNR=7.9
B18A Beardsley Farm 62.98 48 ⇑P **P 23 32 58.1 -0.2**
baz=63
H13A Challis 62.99 53 ⇓P **P 23 32 58.2 -0.3**
baz=63,SNR=8.2
G14A Jackson 63.01 52 ⇑P **P 23 32 58.7 0.0**
baz=63
WCN Washoe City 63.05 61 ⇑P **P 23 32 59.2 +0.2**
baz=63
F15A Butte 63.16 51 ⇓P **P 23 32 59.6 -0.1**
baz=63,SNR=5.1
E16A East Helena 63.16 50 ⇓P **P 23 33 00.3 +0.7**
baz=63
A19A Klindworth Far 63.17 47 ⇑P **P 23 32 59.4 -0.1**
baz=63
LRM Limekiln Ridge 63.19 51 *e*P **P 23 33 00.5 +0.5**
EGMT Eagleton 63.23 48 *e*P **P 23 33 00.3 +0.3**
comp=Z,53nm,2.0s
EGMT Eagleton 63.23 48 ⇓P **P 23 33 00.4 +0.5**
baz=63
D17A Six Diamond Ra 63.30 49 ⇑P **P 23 33 00.8 +0.3**
baz=63
B19A Brinkman Farms 63.37 47 ⇑P **P 23 33 01.1 +0.3**
baz=63
H14A Leadore 63.45 53 ⇑P **P 23 33 01.6 0.0**
baz=63
KAF Kangasniemi 63.45 334 *e*P **P 23 32 58.5 -2.6**
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 63.45 334 *ep* **P 23 32 58.5 -2.6**
comp=Z,1.9nm,0.6s
I13A Wildhorse Cree 63.47 54 ⇑P **P 23 33 02.5 +0.7**
baz=63
HLID Hailey 63.53 54 *e*P **P 23 33 02.5 +0.4**
comp=Z,4.1nm,1.1s
HLID Hailey 63.53 54 ⇑P **P 23 33 02.2 +0.1**
baz=63,SNR=5.9
G15A Dillon 63.59 52 ⇑P **P 23 33 02.4 -0.1**
baz=63,SNR=6.1
A20A Cobblestone Ra 63.62 46 ⇓P **P 23 33 02.9 +0.5**
baz=63
E17A Martinsdale 63.65 50 ⇑P **P 23 33 03.1 +0.3**
baz=63
F16A Kennard Place, 63.66 51 ⇓P **P 23 33 03.3 +0.4**
baz=63
D18A Linhart Farms, 63.73 49 ⇓P **P 23 33 03.9 +0.6**
baz=63
BOZ Bozeman (W) 63.75 51 *e*P **P 23 33 04.1 +0.6**
BOZ pmax pmax
comp=Z,4.0nm,0.8s
BOZ Bozeman (W) 63.75 51 *e*P **P 23 33 04.1 +0.6**
comp=Z,3.7nm,0.8s
BOZ Bozeman (W) 63.75 51 ⇓P **P 23 33 03.9 +0.4**
baz=63,SNR=7.2
J13A Cove Ranch, Pi 63.77 54 ⇑P **P 23 33 04.1 +0.5**
baz=64,SNR=5.3
C19A Slack Wire Ran 63.78 48 ⇑P **P 23 33 03.9 +0.4**
baz=64,SNR=6.4
SCO Scoresbysund 63.84 357 *i*P **P 23 33 03.7 +0.3**
SCO pmax pmax
comp=Z,7.0nm,0.8s
SCO Scoresbysund 63.84 357 *i*P **P 23 33 03.7 +0.3**
comp=Z,7.0nm,0.8s
I14A Mackay 63.84 53 ⇓P **P 23 33 04.7 +0.6**
baz=64,SNR=10
H15A Lima 63.85 52 ⇑P **P 23 33 04.6 +0.4**
baz=64
G16A Moss Hill, Enn 63.92 51 ⇓P **P 23 33 04.8 +0.2**
baz=64,SNR=10
FINES FINESS Array B 64.04 334 P **P 23 33 03.6 -1.3**
FINES FINESS Array B 64.04 334 P **P 23 33 03.6 -1.3**
comp=Z,5.0nm,0.5s,baz=31,slow=8.7,SNR=42
A21A Bergtoll Ranch 64.05 46 ⇓P **P 23 33 05.5 +0.3**
baz=64
E18A Harlowton 64.08 49 ⇑P **P 23 33 05.8 +0.2**
baz=64
F17A Fitzpatrick Pl 64.11 50 ⇓P **P 23 33 06.2 +0.3**
baz=64
J14A Carey 64.18 54 ⇑P **P 23 33 07.3 +0.9**
baz=64
D19A Cripps Ranch, 64.24 48 ⇓P **P 23 33 07.1 +0.5**
baz=64
C20A Veseth Ranch, 64.33 47 ⇓P **P 23 33 07.7 +0.5**
baz=64
G17A Pierce Place, 64.44 51 ⇑P **P 23 33 08.3 +0.3**
baz=64
NVAR Mina Array Bea 64.48 60 P **P 23 33 08.8 +0.3**
NVAR Mina Array Bea 64.48 60 P **P 23 33 08.8 +0.3**
comp=Z,5.4nm,0.6s,baz=295,slow=7.0,SNR=19
A22A Carney Farms, 64.55 45 ⇓P **P 23 33 08.5 0.0**
baz=64,SNR=5.3
H16A Russell Place, 64.56 51 ⇓P **P 23 33 09.3 +0.4**
baz=64,SNR=5.2
F18A Big Timber 64.61 50 ⇓P **P 23 33 09.6 +0.5**
baz=64
D20A Manuel Ranch, 64.67 48 ⇓P **P 23 33 09.8 +0.4**
baz=64
E19A Rath Farm, Rou 64.74 49 ⇓P **P 23 33 10.6 +0.8**
baz=64
J15A Blackfoot 64.74 53 ⇑P **P 23 33 10.8 +0.7**
baz=64,SNR=5.0
K14A Jones Ranch, D 64.87 54 ⇓P **P 23 33 11.1 +0.3**
baz=65
I16A Newdale 64.96 52 ⇓P **P 23 33 11.8 +0.3**
baz=65
F19A Roth Farm, Mol 65.06 49 ⇓P **P 23 33 12.4 +0.5**
baz=65,SNR=6.9
LKWY Lake 65.11 51 *e*P **P 23 33 14.6 +2.1**
LKWY pmax pmax
comp=Z,4.0nm,0.8s
LKWY Lake 65.11 51 *e*P **P 23 33 14.6 +2.1**
comp=Z,3.9nm,0.8s
H17A Grant Village 65.13 51 ⇑P **P 23 33 14.1 +1.4**
baz=65,SNR=5.6
K15A Arbon 65.15 54 ⇓P **P 23 33 13.7 +1.0**
baz=65
L14A Malta 65.17 55 ⇓P **P 23 33 13.7 +0.9**
baz=65,SNR=7.7
J16A Bone 65.28 53 ⇑P **P 23 33 14.4 +0.8**
baz=65,SNR=8.0
B23A Brockton 65.36 45 ⇓P **P 23 33 14.3 +0.5**
baz=65
RLMT Red Lodge 65.36 50 ⇑P **P 23 33 14.5 +0.5**
baz=65
C22A Vida 65.39 46 ⇑P **P 23 33 14.5 +0.5**
baz=65
RRI2 Red Ridge 65.40 53 *e*P **P 23 33 15.4 +1.0**
comp=Z,13nm,0.8s
I17A Pilgrim Ck. 65.44 52 ⇓P **P 23 33 15.2 +0.6**
baz=65,SNR=5.3
H18A Shoshone NF, C 65.44 51 ⇓P **P 23 33 14.9 +0.3**
baz=65
MOOW Moose Ponds 65.45 52 *e*P **P 23 33 15.5 +0.8**
comp=Z,6.9nm,1.3s
K16A Soda Springs 65.58 53 ⇑P **P 23 33 16.7 +1.2**
baz=65
LOHW Long Hollow 65.62 52 *e*P **P 23 33 16.5 +0.7**
comp=Z,77nm,2.9s
VES Vestal, Richgr 65.64 63 ⇑P **P 23 33 15.8 +0.1**
baz=65
L15A Malad City 65.67 54 ⇑P **P 23 33 16.3 +0.3**
baz=65
J17A Brown Place, J 65.72 52 ⇓P **P 23 33 17.1 +0.7**
baz=65,SNR=6.9
DGMT Dagmar 65.74 45 ⇑P **P 23 33 16.0 -0.2**
baz=65
H19A Powell 65.81 50 ⇑P **P 23 33 16.2 -0.7**
baz=66
G20A Bridger 65.86 49 ⇑P **P 23 33 16.9 -0.3**
baz=66
GRAC Grapevine Rang 65.96 61 ⇑P **P 23 33 18.3 +0.5**
baz=66,SNR=6.6
M15A Larsen Ranch, 65.99 55 ⇓P **P 23 33 18.3 +0.3**
baz=66,SNR=12
I18A Diamond G Ranc 65.99 51 ⇓P **P 23 33 18.9 +0.7**
baz=66,SNR=5.3
F21A Absaloka Mine, 66.03 48 ⇓P **P 23 33 18.3 +0.1**
baz=66
D23A Lindsay 66.11 46 ⇑P **P 23 33 18.9 +0.3**
baz=66
ISA Isabella 66.14 63 ⇓P **P 23 33 18.2 -0.8**
baz=66
R11A Troy Canyon, C 66.17 59 ⇓P **P 23 33 18.8 -0.5**
baz=66,SNR=8.4
L16A Fish Haven 66.20 54 ⇑P **P 23 33 19.7 +0.2**
baz=66
J18A Kendall Valley 66.20 52 ⇑P **P 23 33 19.7 +0.1**
baz=66
I19A Meeteetse 66.22 51 ⇑P **P 23 33 19.9 +0.3**
baz=66
E22A Miles City 66.23 47 ⇑P **P 23 33 19.8 +0.4**
baz=66
ARVC Arvin 66.26 64 ⇓P **P 23 33 20.3 +0.5**
baz=66
C24A Savage 66.27 46 ⇓P **P 23 33 19.9 +0.3**
baz=66
N15A Stansbury Isla 66.32 55 ⇑P **P 23 33 20.5 +0.3**
baz=66,SNR=5.0
HWUT Hardware Ranch 66.39 54 *e*P **P 23 33 21.1 +0.4**
comp=Z,4.7nm,0.6s
L17A Cokeville 66.46 53 ⇓P **P 23 33 21.7 +0.6**
baz=66
MPMC Manual Prospec 66.49 62 ⇑P **P 23 33 21.6 +0.1**
baz=66,SNR=7.7
K18A Toltan Ranch, 66.57 52 ⇑P **P 23 33 22.5 +0.6**
baz=66
D24A Glendive 66.60 46 ⇓P **P 23 33 22.0 +0.3**
baz=66
DUG Dugway 66.60 56 *e*P **P 23 33 22.4 +0.4**
DUG pmax pmax
comp=Z,7.0nm,1.0s
DUG Dugway 66.60 56 *e*P **P 23 33 22.4 +0.4**
comp=Z,6.7nm,1.0s

DUG **Dugway** 66.60 56 ⇑P P 23 33 22.3 +0.4
baz=66,SNR=7.1
FURC **Furnace Creek,** 66.61 61 ⇓P P 23 33 22.2 +0.3
baz=66,SNR=6.4
J19A **Crowheart** 66.70 51 ⇓P P 23 33 22.9 +0.3
baz=66,SNR=7.0
I20A **Worland** 66.75 50 ⇑P P 23 33 23.2 +0.4
baz=66
O15A **The Old Anders** 66.75 56 ⇓P P 23 33 23.2 +0.3
baz=66
BW06 **Boulder Array** 66.75 52 ⇑P P 23 33 22.8 -0.2
baz=66,SNR=9.3
PDAR **Pinedale Array** 66.75 52 P P 23 33 22.9 -0.2
PDAR pP PcP 23 33 50.9 -0.2
PDAR **Pinedale Array** 66.75 52 P P 23 33 22.9 -0.2
comp=Z,5.0nm,0.6s,baz=279,slow=1.7,SNR=44
PDAR pP PcP 23 33 50.9 -0.2
comp=Z,0.9nm,0.7s,baz=270,slow=2.7,SNR=2.6
EDW2 **Edwards Air Fo** 66.95 63 ⇑P P 23 33 24.5 +0.3
baz=67,SNR=7.9
M17A **Scullys Gap (B** 66.99 54 ⇓P P 23 33 24.2 -0.3
baz=67
L18A **Fontenelle, Gr** 67.05 53 ⇑P P 23 33 24.8 -0.1
baz=67
K19A **Absolon Red Bu** 67.11 52 ⇑P P 23 33 25.0 -0.2
baz=67
WRA **Warramunga Arr** 67.11 196 P P 23 33 24.9 -0.2
WRA pP PcP 23 33 51.7 -0.6
WRA **Warramunga Arr** 67.11 196 P P 23 33 24.9 -0.2
comp=Z,0.4nm,0.7s,baz=16,slow=6.9,SNR=10.0
WRA pP PcP 23 33 51.7 -0.6
comp=Z,2.1nm,0.8s,baz=14,slow=6.4,SNR=10.0
J20A **Shoshoni** 67.17 51 ⇓P P 23 33 25.8 +0.2
baz=67,SNR=6.0
R13A **O'Grain Ranch,** 67.24 58 ⇓P P 23 33 26.3 +0.2
baz=67
N17A **Moffit Pass** 67.25 54 ⇑P P 23 33 26.2 0.0
baz=67,SNR=7.9
P15A **Leamington** 67.32 56 ⇓P P 23 33 27.0 +0.4
baz=67
SHOC **Shoshone** 67.34 61 ⇓P P 23 33 27.2 +0.6
baz=67
O16A **Springville** 67.35 55 ⇓P P 23 33 26.8 0.0
baz=67
MPU **Maple Canyon** 67.40 55 eP P 23 33 27.7 +0.6
comp=Z,5.3nm,0.6s
GSC **Goldstone** 67.41 62 eP P 23 33 27.3 +0.2
GSC pmax pmax
comp=Z,4.0nm,0.7s
GSC **Goldstone** 67.41 62 eP P 23 33 27.3 +0.2
comp=Z,3.9nm,0.7s
GSC **Goldstone** 67.41 62 ⇓P P 23 33 26.9 -0.2
baz=67
K20A **Yellowstone Ra** 67.49 52 ⇓P P 23 33 27.2 -0.4
baz=67,SNR=5.4
RRX **Edison Barstow** 67.56 63 ⇓P P 23 33 27.7 -0.3
baz=67
BFSC **Mount Baldy Ra** 67.57 64 ⇑P P 23 33 28.2 0.0
baz=67
CIS **Catalina Islan** 67.65 65 ⇓P P 23 33 28.5 -0.1
baz=67
TUQ **Turquoise Moun** 67.86 62 ⇓P P 23 33 29.9 -0.2
baz=68,SNR=13
N18A **Larsen Ranch,** 67.88 54 ⇓P P 23 33 30.2 +0.1
baz=68
L20A **Wamsutter** 67.93 52 ⇓P P 23 33 30.4 -0.1
baz=68
HEC **Hector,Ludlow** 68.01 62 ⇓P P 23 33 31.2 +0.3
baz=68
CCUT **Cedar City** 68.02 58 eP P 23 33 31.5 +0.4
comp=Z,5.8nm,1.3s
K21A **Alcova** 68.11 51 ⇓P P 23 33 31.0 -0.5
baz=68,SNR=5.6
O18A **Roosevelt** 68.17 54 ⇓P P 23 33 32.8 +0.9
baz=68
N19A **John Jarvie Ra** 68.21 53 ⇓P P 23 33 32.3 +0.1
baz=68
R15A **Junction** 68.22 57 ⇓P P 23 33 32.5 +0.2
baz=68
MURC **Murrieta** 68.28 64 ⇑P P 23 33 32.4 -0.1
baz=68
P17A **Butcher Ranch,** 68.28 55 ⇑P P 23 33 32.5 -0.1
baz=68
M20A **Sweetwater, Wa** 68.36 52 ⇑P P 23 33 33.5 +0.3
baz=68
ULM **Lac du Bonnet** 68.39 39 P P 23 33 31.9 -0.9
ULM **Lac du Bonnet** 68.39 39 P P 23 33 31.9 -0.9
comp=Z,1.3nm,0.6s,baz=342,slow=4.9,SNR=3.9
MDND **Maddock** 68.40 43 ⇑P P 23 33 33.0 0.0
baz=68
Q16A **Castle Valley** 68.40 56 ⇑P P 23 33 33.5 +0.1
baz=68
NB2 **NORSAR Subarra** 68.45 340 P P 23 33 31.9 -1.2
comp=Z,3.3nm,0.5s,baz=28,slow=6.5
NOA **NORSAR Array B** 68.45 340 P P 23 33 32.2 -0.9
NOA **NORSAR Array B** 68.45 340 P P 23 33 32.2 -0.9
comp=Z,3.8nm,0.5s,baz=28,slow=6.5,SNR=28
GMRC **Granite Mounta** 68.46 62 ⇓P P 23 33 34.0 +0.2
baz=68
P18A **Preston Nutter** 68.46 55 ⇑P P 23 33 34.4 +0.5
baz=68
LDFC **Landfair** 68.60 61 eP P 23 33 35.0 +0.4
comp=Z,19nm,0.9s
HFS **Hagfors** 68.62 338 P P 23 33 33.0 -1.1
HFS **Hagfors** 68.62 338 P P 23 33 33.0 -1.1
comp=Z,5.8nm,0.6s,baz=46,slow=4.3,SNR=29
R16A **Teasdale** 68.64 57 ⇓P P 23 33 35.7 +0.7
baz=68,SNR=6.0
SRU **San Rafael** 68.64 56 eP P 23 33 35.3 +0.4
SRU pmax pmax
comp=Z,11nm,0.9s
SRU **San Rafael** 68.64 56 eP P 23 33 35.3 +0.4
comp=Z,10nm,0.9s
SRU **San Rafael** 68.64 56 ⇓P P 23 33 34.9 0.0
baz=68,SNR=9.7
O19A **Miners Draw (B** 68.64 54 ⇑P P 23 33 34.9 0.0
baz=68
M21A **Separation Pea** 68.74 52 ⇑P P 23 33 35.4 -0.1
baz=68
BELC **Belle Mtn. Jos** 68.76 63 ⇑P P 23 33 35.7 0.0
baz=68
N20A **Spence Gulch,** 68.77 53 ⇑P P 23 33 35.8 +0.2
baz=68,SNR=7.4
Q18A **Rafter H Ranch** 68.88 55 ⇑P P 23 33 36.6 +0.4
baz=69
S16A **Weppner Ranch,** 68.95 57 ⇓P P 23 33 37.3 +0.4
baz=69
L22A **Ellis Ranch, M** 68.96 51 ⇓P P 23 33 37.0 +0.2
baz=69
R17A **Hanksville Air** 69.00 56 ⇑P P 23 33 37.2 +0.1
baz=69,SNR=8.6
P19A **Cripple Cowboy** 69.17 54 ⇑P P 23 33 38.2 0.0
baz=69,SNR=5.5
IRM **Iron Mountain** 69.18 62 ⇓P P 23 33 38.4 +0.3
baz=69,SNR=6.5
N21A **Black Mountain** 69.23 53 ⇑P P 23 33 38.2 -0.3
baz=69
MONP **Monument Peak** 69.23 64 ⇑P P 23 33 38.9 +0.2
baz=69
O20A **White River Ci** 69.25 54 ⇓P P 23 33 38.5 -0.2
baz=69
BC3 **Big Chuckawall** 69.33 63 ⇓P P 23 33 39.2 0.0
baz=69
W13A **Hualapai Mount** 69.33 61 ⇓P P 23 33 39.1 -0.1
baz=69
U15A **North Rim** 69.41 59 ⇓P P 23 33 40.5 +0.7
baz=69,SNR=6.0
Q19A **Hogan Spring (** 69.47 55 ⇓P P 23 33 40.0 +0.1
baz=69,SNR=9.6
S17A **Black Ridge (B** 69.47 57 ⇓P P 23 33 39.9 -0.1
baz=69,SNR=20
R18A **Canyonlands Na** 69.50 56 ⇑P P 23 33 39.8 -0.3
baz=69,SNR=6.0
P20A **De Beque** 69.60 54 ⇑P P 23 33 40.5 -0.2
baz=69
O21A **Pagoda** 69.63 53 ⇑P P 23 33 40.8 -0.2
baz=69
PDMCI **Parker Dam,Lak** 69.71 61 ⇑P P 23 33 41.8 +0.5
baz=70
N22A **Wattenberg Ran** 69.79 52 ⇓P P 23 33 42.5 +0.5
baz=70
Y12C **Blythe** 69.84 62 ⇑P P 23 33 42.6 +0.4
baz=70
T17A **Navajo Res., N** 69.91 57 ⇓P P 23 33 42.2 -0.6
baz=70
S18A **Hurst Farm, Bl** 69.91 56 ⇓P P 23 33 42.6 -0.2
baz=70,SNR=12
R19A **Curley Farm, L** 69.93 56 ⇓P P 23 33 43.2 +0.4
baz=70
N23A **Red Feather La** 70.01 52 ⇓P P 23 33 43.8 +0.5
baz=70
Q20A **Ridgley Place,** 70.03 54 ⇓P P 23 33 43.3 -0.1
baz=70
PV04 **Paradox Valley** 70.06 55 eP P 23 33 44.0 +0.4
KIV **Kislovodsk** 70.07 313 P P 23 33 45.0 +1.5
KIV 23 34 05.0
KIV e 23 34 23.7
KIV pmax pmax
comp=Z,7.0nm,1.0s
P21A **Newcastle** 70.11 54 ⇓P P 23 33 43.9 -0.1
baz=70,SNR=6.8
GLA **Glamis** 70.12 63 ⇑P P 23 33 44.4 +0.5
baz=70
KBZ **Khabaz** 70.13 313 P P 23 33 44.1 +0.4
KBZ pmax pmax
comp=Z,9.0nm,0.8s
KBZ **Khabaz** 70.13 313 P P 23 33 44.1 +0.4
KBZ **Khabaz** 70.13 313 P P 23 33 44.1 +0.4
comp=Z,9.0nm,0.8s,baz=62,slow=3.8,SNR=16
O22A **Kremmling** 70.18 53 ⇓P P 23 33 44.6 +0.1
baz=70
T18A **Mexican Hat** 70.36 57 ⇓P P 23 33 44.9 -0.5
baz=70,SNR=5.8
S19A **Harvey Farm, M** 70.37 56 ⇑P P 23 33 45.6 0.0
baz=70,SNR=14
DGRG **David-gareji** 70.42 310 P P 23 33 47.1 +1.5
P22A **Eagle** 70.45 53 ⇓P P 23 33 46.5 +0.4
baz=70
O23A **Lake Granby, G** 70.49 52 ⇑P P 23 33 47.0 +0.6
baz=70,SNR=7.7
R20A **Redvale** 70.50 55 ⇑P P 23 33 46.5 +0.1
baz=70
TBLG **Delisi** 70.57 310 eP P 23 33 48.0 +1.6
TBLG **Delisi** 70.57 310 P P 23 33 48.0 +1.6
ONI **Oni** 70.64 312 P P 23 33 48.7 +1.8
Y14A **Wickenburg** 70.65 61 ⇓P P 23 33 47.6 +0.5
baz=70
S20A **Disappointment** 70.76 55 ⇑P P 23 33 48.2 +0.2
baz=70
ASAR **Alice Springs** 70.81 196 P P 23 33 49.1 +1.1
ASAR pP pP 23 34 15.8 -1.1
ASAR **Alice Springs** 70.81 196 P P 23 33 49.1 +1.1
comp=Z,0.7nm,0.7s,baz=8.6,slow=7.0,SNR=6.4
ASAR pP pP 23 34 15.8 -1.1
comp=Z,1.7nm,0.9s,baz=12,slow=6.1,SNR=6.5
R21A **Cimarron** 70.85 54 ⇓P P 23 33 48.8 +0.3
baz=71,SNR=6.6
Q22A **Crested Butte,** 70.87 54 ⇑P P 23 33 48.9 +0.2
baz=71
ISCO **Idaho Springs** 70.95 52 eP P 23 33 49.8 +0.7
ISCO pmax pmax
comp=Z,4.0nm,0.8s
ISCO **Idaho Springs** 70.95 52 eP P 23 33 49.8 +0.7
comp=Z,4.2nm,0.8s
ISCO **Idaho Springs** 70.95 52 ⇓P P 23 33 49.2 +0.1
baz=71,SNR=5.8
113A **Mohawk Valley,** 70.97 62 ⇑P P 23 33 49.6 +0.6
baz=71
O24A **Longmont** 71.02 52 ⇑P P 23 33 49.9 +0.5
baz=71
T19A **Beclabito** 71.06 57 ⇑P P 23 33 49.8 +0.1
baz=71
Z14A **Wintersburg** 71.08 62 ⇓P P 23 33 50.1 +0.4
baz=71
MVCO **Mesa Verde** 71.11 56 eP P 23 33 50.4 +0.4
comp=Z,6.6nm,0.7s
MVCO **Mesa Verde** 71.11 56 ⇓P P 23 33 49.8 -0.3
baz=71,SNR=5.8
P23A **Jefferson** 71.12 53 ⇓P P 23 33 50.4 +0.2
baz=71
S21A **Coal Bank Pass** 71.20 55 ⇓P P 23 33 51.3 +0.6
baz=71,SNR=5.6
AKASG **Malin Array Be** 71.23 325 P P 23 33 49.4 -0.9
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG **Malin Array Be** 71.23 325 P P 23 33 49.4 -0.9
AKASG **Malin Array Be** 71.23 325 P P 23 33 49.4 -0.9
comp=Z,3.1nm,0.4s,baz=37,slow=6.3,SNR=17
KIEV **Kiev** 71.25 325 eP P 23 33 49.5 -0.8
KIEV pmax pmax
comp=Z,5.0nm,0.6s
KIEV **Kiev** 71.25 325 eP P 23 33 49.5 -0.8
comp=Z,4.8nm,0.6s
X16A **Lo Mia Camp, P** 71.28 60 ⇓P P 23 33 51.6 +0.5
baz=71,SNR=8.2
U19A **Dine' College,** 71.32 57 ⇑P P 23 33 51.8 +0.4
baz=71,SNR=5.9
R22A **Saguache, Gunn** 71.40 54 ⇑P P 23 33 52.3 +0.4
baz=71,SNR=5.1
N26A **Koester Ranch,** 71.53 50 ⇓P P 23 33 52.8 +0.4
baz=71
GNI **Garni** 71.67 309 P P 23 33 52.9 -0.4
GNI **Garni** 71.67 309 P P 23 33 52.9 -0.4
comp=Z,4.3nm,0.6s,baz=265,slow=4.0,SNR=7.5
S22A **4UR Ranch, Cre** 71.69 55 ⇓P P 23 33 53.9 +0.3
baz=71,SNR=6.5
T21A **Navajo Lake** 71.81 56 ⇓P P 23 33 54.7 +0.4
baz=72
N27A **Anderson Farm,** 71.91 50 ⇓P P 23 33 54.8 +0.2
baz=72
P25A **Willow Gulch B** 71.94 52 ⇑P P 23 33 55.2 +0.2
baz=72
R23A **Moffat** 71.95 54 ⇑P P 23 33 55.9 +0.8
baz=72
OGNE **Ogallala** 72.08 49 ⇓P P 23 33 55.6 -0.1
baz=72,SNR=5.4
X18A **Snowflake** 72.09 59 ⇓P P 23 33 56.6 +0.6
baz=72
V20A **Brimhall** 72.10 57 ⇓P P 23 33 56.3 +0.3
baz=72
214A **Organ Pipe Nat** 72.12 63 ⇓P P 23 33 56.2 +0.3
baz=72
U21A **Nageezi** 72.13 56 ⇓P P 23 33 56.7 +0.5
baz=72
T22A **Edith** 72.16 55 ⇑P P 23 33 56.6 +0.2
baz=72,SNR=6.8
S23A **Nye Farm, Mont** 72.19 54 ⇓P P 23 33 57.2 +0.7
baz=72
Q25A **Bedland, Calha** 72.32 52 ⇑P P 23 33 57.6 +0.3
baz=72
R24A **Sanders Place,** 72.33 53 ⇓P P 23 33 57.8 +0.5
baz=72
P26A **Davis Ranch, A** 72.36 51 ⇓P P 23 33 58.0 +0.6
baz=72
SDCO **Great Sand Dun** 72.45 54 ⇑P P 23 33 57.9 -0.2
baz=72
W20A **Ramah** 72.54 57 ⇑P P 23 33 59.1 +0.4
baz=72
V21A **Milan** 72.58 56 ⇑P P 23 33 59.4 +0.5
baz=72
U22A **Llaves** 72.63 56 ⇑P P 23 33 59.8 +0.6
baz=72
T23A **Casias Ranch,** 72.64 55 ⇓P P 23 33 59.6 +0.3
baz=72
S24A **Houchin Ranch,** 72.68 54 ⇓P P 23 34 00.0 +0.5
baz=72
ECSD **EROS Data Cent** 72.82 44 eP P 23 33 59.5 -0.4
comp=Z,9.2nm,0.9s
R25A **Fountain Ranch** 72.84 53 ⇑P P 23 33 59.7 -0.6
baz=72
V22A **San Miguel Ran** 72.92 56 ⇑P P 23 34 01.7 +0.8
baz=73
X20A **Quemado** 72.95 58 ⇓P P 23 34 01.8 +0.7
baz=73
U23A **El Rito** 73.05 55 ⇓P P 23 34 01.8 +0.1
baz=73,SNR=7.9
S25A **Robets Cordova** 73.10 53 ⇓P P 23 34 02.3 +0.4
baz=73
TUC **Tucson** 73.12 61 eP P 23 34 02.0 +0.1
TUC pmax pmax
comp=Z,3.0nm,0.9s
TUC **Tucson** 73.12 61 eP P 23 34 02.0 +0.1
comp=Z,3.2nm,0.9s
T24A **Torres, Weston** 73.17 54 ⇓P P 23 34 03.3 +0.9
baz=73
R26A **Arlington** 73.20 52 ⇑P P 23 34 02.3 -0.1
baz=73
X21A **Alamocita Cree** 73.44 58 ⇑P P 23 34 04.5 +0.5
baz=73
V23A **Ortiz Mt. (NFS** 73.46 56 ⇓P P 23 34 04.5 +0.4
baz=73
Y20A **Horse Springs,** 73.46 58 ⇑P P 23 34 04.6 +0.4
baz=73
T25A **Trinidad** 73.49 54 ⇓P P 23 34 04.2 0.0
baz=73
SPMN **St. Paul** 73.51 41 ⇓P P 23 34 03.7 -0.2
baz=73
R27A **Eads** 73.57 52 ⇑P P 23 34 04.2 -0.3
baz=73
S26A **Kim** 73.67 53 ⇑P P 23 34 04.6 -0.5
baz=73
X22A **Bernardo** 73.85 57 ⇓P P 23 34 07.2 +0.9
baz=74
ANMO **Albuquerque** 73.86 56 eP P 23 34 06.7 +0.3
comp=Z,3.4nm,0.8s
Z20A **Nine Sixteen R** 73.89 59 ⇓P P 23 34 07.5 +0.9
baz=74
T26A **Comanche Natio** 73.92 53 ⇓P P 23 34 06.2 -0.5
baz=74,SNR=6.0
V24A **Rampart Ranch,** 74.00 55 ⇓P P 23 34 07.6 +0.4
baz=74
U25A **Circle Dot Ran** 74.01 54 ⇓P P 23 34 07.4 +0.2
baz=74
120A **U Bar Ranch, L** 74.26 59 ⇓P P 23 34 09.3 +0.6
baz=74,SNR=5.7
Y22A **Socorro** 74.28 57 ⇓P P 23 34 09.3 +0.5
baz=74
W24A **Lazy 6 Ranch,** 74.29 56 ⇓P P 23 34 09.4 +0.6
baz=74,SNR=5.1
V25A **Rancho No Teng** 74.30 55 ⇑P P 23 34 09.3 +0.4
baz=74
Z21A **St. Cloud Mine** 74.30 58 ⇓P P 23 34 09.3 +0.4
baz=74,SNR=6.0
U26A **Atchley Ranch,** 74.39 54 ⇓P P 23 34 09.3 -0.1
baz=74
KWP **Kalwaria Pacla** 74.61 328 eP P 23 34 11.0 +0.7
KWP **Kalwaria Pacla** 74.61 328 eP P 23 34 11.0 +0.7
KWP **Kalwaria Pacla** 74.61 328 eP P 23 34 11.0 +0.7
KWP **Kalwaria Pacla** 74.61 328 ⇓iP P 23 34 10.9 +0.7
319A **Douglas** 74.69 61 ⇑P P 23 34 11.5 +0.4
baz=74,SNR=5.4
X24A **Lazy VL Ranch,** 74.73 56 ⇓P P 23 34 11.9 +0.4
baz=74,SNR=7.3
Z22A **Elephant Butte** 74.76 58 ⇓P P 23 34 11.7 +0.2
baz=74
220A **Playas Peak, P** 74.78 60 ⇓P P 23 34 12.5 +0.9
baz=74
121A **Cookes Peak, D** 74.78 59 ⇓P P 23 34 12.3 +0.6
baz=74
T28A **Walsh** 74.78 52 ⇓P P 23 34 11.5 0.0
baz=74
V26A **Tequesquite Ra** 74.80 54 ⇑P P 23 34 11.8 +0.1
baz=74
Y23A **Lovelace Mesa,** 74.82 57 ⇑P P 23 34 11.8 -0.1
baz=74,SNR=5.4
SCHQ **Schefferville** 74.82 21 P P 23 34 11.1 -0.2
SCHQ **Schefferville** 74.82 21 P P 23 34 11.1 -0.2
comp=Z,3.7nm,0.5s,baz=313,slow=7.6,SNR=22
W25A **X Bar L Ranch,** 74.83 55 ⇑P P 23 34 11.7 -0.2
baz=74,SNR=5.3
LEOM **Leova** 74.95 323 ⇓iP P 23 34 12.6 +0.4
PRAR **RASCA** 75.08 324 ⇓iP P 23 34 13.6 +0.6
122A **Conniff Cattle** 75.13 58 ⇓P P 23 34 14.8 +1.1
baz=75
320A **Kipp Ranch, An** 75.17 60 ⇓P P 23 34 14.8 +0.9
baz=75
OJC **Ojcow** 75.18 330 eP P 23 34 13.1 -0.4
OJC **Ojcow** 75.18 330 eP P 23 34 13.8 +0.4
OJC **Ojcow** 75.18 330 eP P 23 34 13.9 +0.4
comp=Z,98nm,2.4s
Y24A **Capitan** 75.18 57 ⇑P P 23 34 14.0 0.0
baz=75,SNR=5.1
Z23A **Rita Site, Whi** 75.19 57 ⇓P P 23 34 14.8 +0.8
baz=75
X25A **Clemmons Ranch** 75.20 56 ⇑P P 23 34 15.0 +0.9
baz=75
BURAR **Bucovina Array** 75.29 325 ⇑iP P 23 34 14.2 -0.1
W26A **Owens Ranch, T** 75.31 55 ⇓P P 23 34 15.1 +0.4
baz=75
KOLS **Kolonicke sedl** 75.35 328 eP P 23 34 15.0 +0.5
KOLS pmax pmax
comp=Z,10.0nm,1.3s
KOLS **Kolonicke sedl** 75.35 328 eP P 23 34 15.0 +0.5
222A **Williams Famil** 75.49 59 ⇓P P 23 34 16.2 +0.5
baz=75
TESR 75.59 324 ⇓iP P 23 34 15.9 0.0
Y25A **Mesa, Roswell** 75.62 56 ⇓P P 23 34 16.4 -0.1
baz=75
Z24A **Sheeppen Canyo** 75.65 57 ⇓P P 23 34 16.9 +0.2
baz=75
NIE **Niedzica** 75.67 329 eP P 23 34 17.0 +0.7
NIE **Niedzica** 75.67 329 eP P 23 34 17.1 +0.7
X26A **CR and CF Fran** 75.68 55 ⇑P P 23 34 17.0 +0.3
baz=75
CRVS **Cervenica-Dubn** 75.68 328 eP P 23 34 16.8 +0.5
CRVS pmax pmax
comp=Z,2.0nm,0.9s
CRVS **Cervenica-Dubn** 75.68 328 eP P 23 34 16.8 +0.5
TLCR 75.73 322 ⇑iP P 23 34 17.0 +0.4
W27A **Bowe Ranch, En** 75.73 54 ⇓P P 23 34 18.2 +1.1
baz=75
KSP **Ksiaz** 75.84 332 eP P 23 34 17.2 0.0
KSP **Ksiaz** 75.84 332 eP P 23 34 17.2 0.0
TRPA **Tarpa** 75.91 327 ⇑iP P 23 34 18.3 +0.7
PETR 75.98 323 ⇑iP P 23 34 19.8 +1.7
X27A **F and S Farms,** 76.01 55 ⇓P P 23 34 19.1 +0.4
baz=76
CFR **Carcaliu** 76.03 322 ⇓iP P 23 34 18.4 +0.1
Z25A **Roswell** 76.06 57 ⇓P P 23 34 19.0 +0.1
baz=76
OKC **Ostrava-Krasne** 76.08 330 eP P 23 34 19.8 +1.2
OKC **Ostrava-Krasne** 76.08 330 eP P 23 34 19.8 +1.2
Y26A **Elida** 76.12 56 ⇓P P 23 34 19.3 0.0
baz=76
DPC **Dobruska-Polom** 76.26 332 eP P 23 34 20.0 +0.3
DPC **Dobruska-Polom** 76.26 332 eP P 23 34 20.2 +0.6
comp=Z,150nm,2.9s
DPC **Dobruska-Polom** 76.26 332 eP P 23 34 20.0 +0.3
MORC **Moravsky Berou** 76.34 331 eP P 23 34 20.3 +0.1
MORC pmax pmax
comp=Z,7.0nm,0.9s
MORC **Moravsky Berou** 76.34 331 eP P 23 34 20.3 +0.1
comp=Z,7.4nm,0.9s
MORC **Moravsky Berou** 76.34 331 ⇑iP P 23 34 20.2 +0.1
KRLC **Kraliky** 76.34 331 eP P 23 34 20.8 +0.7
224A **Cornudas Mount** 76.45 58 ⇑P P 23 34 21.9 +0.7
baz=76
CLL **Collm** 76.48 334 eP P 23 34 20.4 -0.4
comp=Z,15nm,1.1s
CLL **Collm** 76.48 334 iP P 23 34 20.0 -0.8
CLL pmax pmax
comp=Z,15nm,1.1s
CLL **Collm** 76.48 334 iP P 23 34 20.0 -0.8
comp=Z,15nm,1.1s
W29A **Amraillo** 76.49 53 ⇓P P 23 34 22.0 +0.7
baz=76
Z26A **Caprock** 76.50 56 ⇓P P 23 34 21.2 -0.2
baz=76,SNR=8.2
Y27A **Causey** 76.53 55 ⇓P P 23 34 21.9 +0.3
baz=76
125A **Gardner Draw,** 76.54 57 ⇑P P 23 34 21.9 +0.2
baz=76
BRG **Berggiesshubel** 76.57 333 eP P 23 34 21.4 +0.1
comp=Z,2.9nm,0.9s
BRG **Berggiesshubel** 76.57 333 eP P 23 34 21.5 +0.1
BRG pmax pmax
comp=Z,3.0nm,0.9s
AMTX **Amarillo** 76.64 54 ⇓P P 23 34 22.7 +0.6
baz=76
MSTX **Muleshoe** 76.69 55 ⇓P P 23 34 22.8 +0.3
baz=76
MLR **Muntele Rosu** 76.70 323 ⇑iP P 23 34 23.2 +0.8
ISR **Istrita** 76.75 323 ⇓iP P 23 34 23.1 +0.6
CLZ **Clausthal** 76.79 336 eP P 23 34 22.9 +0.3
comp=Z,26nm,1.6s
CLZ **Clausthal** 76.79 336 eP P 23 34 22.9 +0.3
CLZ pmax pmax
comp=Z,26nm,1.6s
225A **Deer Hill, Car** 76.84 57 ⇑P P 23 34 23.6 +0.2
baz=77
Z27A **Tatum** 76.91 56 ⇓P P 23 34 23.4 -0.3
baz=77,SNR=9.9
126A **Clayton Basin,** 76.92 57 ⇓P P 23 34 23.7 -0.1
baz=77
324A **Moseley Ranch,** 76.93 58 ⇓P P 23 34 23.3 -0.6
baz=77
DRGR 76.95 326 ⇓iP P 23 34 24.0 +0.4
X29A **Tulia** 76.95 54 ⇑P P 23 34 23.4 -0.6
baz=77
VYHS **Vyhne** 76.97 329 eP P 23 34 24.1 +0.4
VYHS pmax pmax

	comp=Z,3.0nm,0.6s								
VYHS	Vyhne	76.97	329	*e*P		P	23 34 24.1	+0.4	
GDL2	Guadalupe Moun	77.05	57	*e*P		P	23 34 24.9	+0.4	
VRAC	Vranov	77.06	331	P		P	23 34 23.9	-0.2	
VRAC	Vranov	77.06	331	⇑*i*P		P	23 34 24.6	+0.5	
VRAC	Vranov	77.06	331	P		P	23 34 23.9	-0.2	
	comp=Z,6.8nm,0.6s,baz=23,slow=6.7,SNR=7.7								
IBBN	Ibbenburen	77.09	338	*e*P		P	23 34 24.9	+0.7	
VOIR		77.12	324	⇑*i*P		P	23 34 25.6	+1.0	
PRU	Pruhonice	77.15	333	*e*P		P	23 34 24.9	+0.3	
PRU	Pruhonice	77.15	333	*e*P		P	23 34 24.9	+0.3	
Z28A	Tucker Farm, M	77.40	55	⇓P		P	23 34 26.4	0.0	
	baz=77								
SMOL	Smolenice	77.45	330	*e*P		P	23 34 27.5	+1.2	
SMOL	Smolenice	77.45	330	*e*P		P	23 34 27.5	+1.2	
UMR	Umm Al-Rimmam	77.48	299	*e*P		P	23 34 27.3	+0.5	
UMR				AMb		AMB	23 34 28.4		
	comp=Z,23nm,0.7s								
MOX	Moxa	77.48	335	*e*P		P	23 34 26.6	+0.1	
	comp=Z,4.0nm,0.7s								
MOX	Moxa	77.48	335	*e*P		P	23 34 26.6	+0.1	
MOX				pmax		pmax			
	comp=Z,4.0nm,0.7s								
MIB	Mutribah	77.53	300	*e*P		P	23 34 27.7	+0.6	
MIB				AMb		AMB	23 34 28.7		
	comp=Z,21nm,0.6s								
425A	Indio Mountain	77.69	58	⇓P		P	23 34 28.8	+0.6	
	baz=77								
BRTR	Keskin Array B	77.75	315	P		P	23 34 29.1	+0.8	
BRTR	Keskin Array B	77.75	315	P		P	23 34 29.1	+0.8	
	comp=Z,3.0nm,0.8s,baz=57,slow=4.9,SNR=14								
Z29A	Hungry Hill Ra	77.81	55	⇓P		P	23 34 28.7	0.0	
	baz=78,SNR=5.1								
128A	Castleberry Fa	77.83	56	⇑P		P	23 34 28.6	-0.2	
	baz=78,SNR=6.8								
326A	Caldwell Ranch	77.91	57	⇑P		P	23 34 29.6	+0.3	
	baz=78								
QRN	Al-Qurain	77.93	299	*e*P		P	23 34 30.1	+0.8	
NAY	Al-Naaiem	77.98	300	*e*P		P	23 34 29.8	+0.2	
NAY				AMb		AMB	23 34 31.5		
	comp=Z,9.2nm,0.9s								
BUG	Bochum--Univer	78.01	337	*e*P		P	23 34 29.5	+0.2	
	comp=Z,10.0nm,1.2s								
RDF	Al-Radifah	78.03	299	*e*P		P	23 34 30.5	+0.6	
RDF				AMb		AMB	23 34 36.2		
	comp=Z,36nm,1.5s								
GZR	Gura Zlata	78.07	325	⇓*i*P		P	23 34 29.9	0.0	
ROTZ	Rotzenmuhle	78.08	334	*e*P		P	23 34 30.6	+0.8	
228A	UT Block 9, Go	78.14	56	⇓P		P	23 34 30.8	+0.3	
	baz=78								
129A	Stewart Farms,	78.18	55	⇑P		P	23 34 30.8	0.0	
	baz=78								
KHC	Kasperske Hory	78.21	333	*e*P		P	23 34 31.0	+0.5	
KHC				pmax		pmax			
	comp=Z,10.0nm,0.8s								
KHC	Kasperske Hory	78.21	333	*e*P		P	23 34 31.0	+0.5	
	comp=Z,9.9nm,0.8s								
KHC	Kasperske Hory	78.21	333	*e*P		P	23 34 31.1	+0.5	
KHC				*ex*		x	23 34 34.5		
BZS	Buzias	78.34	326	⇑*i*P		P	23 34 31.1	-0.2	
426A	McDonald Obser	78.35	58	⇑P		P	23 34 31.4	-0.5	
	baz=78								
GEC2	GERESS Array S	78.42	332	*e*P		P	23 34 32.0	+0.2	
	comp=Z,5.0nm,0.8s								
GEC2	GERESS Array S	78.42	332	*e*P		P	23 34 32.0	+0.2	
GEC2				pmax		pmax			
	comp=Z,5.0nm,0.8s								
GERES	GERESS Array B	78.42	332	P		P	23 34 31.5	-0.2	
GERES	GERESS Array B	78.42	332	P		P	23 34 31.5	-0.2	
	comp=Z,3.1nm,0.6s,baz=34,slow=5.5,SNR=34								
WET	Wettzell	78.42	333	*e*P		P	23 34 32.3	+0.6	
	comp=Z,10.0nm,1.0s								
WET	Wettzell	78.42	333	*e*P		P	23 34 32.3	+0.6	
WET				pmax		pmax			
	comp=Z,10.0nm,1.0s								
GRF	Grafenberg Arr	78.45	334	*e*P		P	23 34 32.4	+0.6	
	comp=Z,11nm,0.7s								
GRF	Grafenberg Arr	78.45	334	*e*P		P	23 34 32.4	+0.6	
GRF				pmax		pmax			
	comp=Z,11nm,0.7s								
CONA	Conrad Observa	78.49	331	⇑*i*P		P	23 34 32.6	+0.3	
	comp=Z,7.4nm,0.6s								
328A	Wristen Ranch,	78.55	57	⇓P		P	23 34 32.5	-0.3	
	baz=78,SNR=5.8								
427A	Hayter Ranch,	78.59	57	⇑P		P	23 34 33.0	-0.1	
	baz=78								
229A	Bryant Ranch,	78.70	56	⇑P		P	23 34 33.9	+0.3	
	baz=78								
526A	Mary Lane Ranc	78.75	58	⇓P		P	23 34 34.1	+0.1	
	baz=78								
TNS	Taunus Mts	78.78	336	*e*P		P	23 34 34.1	+0.4	
	comp=Z,6.0nm,0.7s								
TNS	Taunus Mts	78.78	336	*e*P		P	23 34 34.1	+0.4	
TNS				pmax		pmax			
	comp=Z,6.0nm,0.7s								
329A	Wagon Wheel Ra	78.95	56	⇓P		P	23 34 34.8	-0.2	
	baz=79								
527A	Woodward Ranch	78.97	58	⇓P		P	23 34 35.2	0.0	
	baz=79								
BEBN	Eben Emael	79.01	338	P		P	23 34 35.3	+0.5	
626A	Big Bend Ranch	79.09	59	⇑P		P	23 34 36.2	+0.3	
	baz=79								
428A	Kincaid Ranch,	79.10	57	⇑P		P	23 34 36.2	+0.4	
	baz=79								
MEM	Membach	79.10	338	P		P	23 34 35.6	+0.3	
	comp=Z,6.5nm,1.1s								
528A	Cox Ranch, San	79.45	58	⇑P		P	23 34 37.8	0.0	
	baz=79								
BCLA	Clavier	79.45	338	P		P	23 34 37.6	+0.4	
TXAR	Lajitas Array	79.53	59	P		P	23 34 38.2	0.0	
TXAR				pP		pP	23 35 08.1	+0.4	
TXAR	Lajitas Array	79.53	59	P		P	23 34 38.2	0.0	
	comp=Z,3.2nm,0.5s,baz=299,slow=4.2,SNR=61								
TXAR				pP		pP	23 35 08.1	+0.4	
	comp=Z,1.5nm,0.6s,baz=302,slow=4.0,SNR=6.1								
627A	Terlingua Ranc	79.61	58	⇑P		P	23 34 38.6	-0.1	
	baz=79								
429A	Davenport Ranc	79.64	57	⇑P		P	23 34 38.7	-0.1	
	baz=79								
529A	Stev Forest Ra	79.81	57	⇓P		P	23 34 39.9	+0.2	
	baz=80								
SOKA	Soboth	79.86	331	⇑*i*P		P	23 34 39.9	+0.2	
	comp=Z,11nm,1.1s								
STU	Stuttgart	79.87	335	*e*P		P	23 34 39.7	+0.1	
628A	Black Gap, Mar	79.88	58	⇑P		P	23 34 39.8	-0.3	
	baz=80								
430A	Baggett Ranch,	79.90	56	⇑P		P	23 34 39.7	-0.4	
	baz=80								
BAIF	Baives	80.07	339	*e*P		P	23 34 40.6	0.0	
	comp=Z,4.8nm,0.7s								
BAIF	Baives	80.07	339	*e*P		P	23 34 40.6	0.0	
BAIF				pmax		pmax			
	comp=Z,5.0nm,0.7s								
BAIF	Baives	80.07	339	*e*P		P	23 34 40.6	0.0	
	comp=Z,4.8nm,0.7s								
KBA	Koelnbreinsper	80.08	332	⇑*i*P		P	23 34 41.0	+0.1	
	comp=Z,11nm,0.7s								
VTS	Vitosha	80.21	323	⇑*i*P		P	23 34 42.2	+0.5	
431A	Sonora	80.34	56	⇑P		P	23 34 42.2	-0.3	
	baz=80								
WTTA	Wattenberg	80.47	333	⇑*i*P		P	23 34 43.6	+0.6	
	comp=Z,16nm,0.9s								
BFO	Black Forest	80.52	335	*e*P		P	23 34 43.5	+0.4	
	comp=Z,6.0nm,0.9s								
BFO	Black Forest	80.52	335	*e*P		P	23 34 43.5	+0.4	
BFO				pmax		pmax			
	comp=Z,6.0nm,0.9s								
RETA	Reutte	80.54	334	⇓*i*P		P	23 34 43.0	-0.3	
	comp=Z,4.3nm,0.8s								
MOTA	Moosalm	80.56	333	⇑*i*P		P	23 34 43.9	+0.4	
	comp=Z,11nm,0.9s								
432A	Menard	80.67	55	⇑P		P	23 34 44.1	-0.1	
	baz=80								
CDF	Champ du Feu	80.75	336	*e*P		P	23 34 44.5	+0.1	
	comp=Z,11nm,0.8s								
CDF	Champ du Feu	80.75	336	*e*P		P	23 34 44.5	+0.1	
CDF				pmax		pmax			
	comp=Z,11nm,0.8s								
CDF	Champ du Feu	80.75	336	*e*P		P	23 34 44.5	+0.1	
	comp=Z,11nm,0.8s								
531A	Rocksprings	80.76	56	⇓P		P	23 34 44.7	0.0	
	baz=80								
JCT	Junction City	80.95	55	⇑P		P	23 34 45.7	-0.1	
	baz=81								
PAGF	Fort de Pagny	81.05	337	*e*P		P	23 34 46.4	+0.5	
	comp=Z,8.8nm,0.8s								
PAGF	Fort de Pagny	81.05	337	*e*P		P	23 34 46.4	+0.5	
	comp=Z,8.8nm,0.8s								
WHTX	Lake Whitney	81.15	53	⇓P		P	23 34 46.7	0.0	
	baz=81								
532A	Rocksprings	81.16	56	⇑P		P	23 34 46.7	-0.2	
	baz=81								
MEZF	Maizieres J'vi	81.28	338	*e*P		P	23 34 47.5	+0.4	
	comp=Z,26nm,0.9s								
MEZF	Maizieres J'vi	81.28	338	*e*P		P	23 34 47.5	+0.4	
	comp=Z,26nm,0.9s								
631A	Perdido Creek	81.30	57	⇑P		P	23 34 47.6	0.0	
	baz=81								
HAU	Haudompre	81.38	337	*e*P		P	23 34 47.6	-0.1	
	comp=Z,4.2nm,0.6s								
HAU	Haudompre	81.38	337	*e*P		P	23 34 47.6	-0.1	
HAU				pmax		pmax			
	comp=Z,4.0nm,0.6s								
HAU	Haudompre	81.38	337	*e*P		P	23 34 47.6	-0.1	
	comp=Z,4.2nm,0.6s								
HINF	Hinteralfeld	81.41	336	*e*P		P	23 34 48.3	+0.5	
	comp=Z,7.5nm,0.8s								
HINF	Hinteralfeld	81.41	336	*e*P		P	23 34 48.3	+0.5	
HINF				pmax		pmax			
	comp=Z,8.0nm,0.8s								
HINF	Hinteralfeld	81.41	336	*e*P		P	23 34 48.3	+0.5	
	comp=Z,7.5nm,0.8s								
DAVOX	Davos/Dischmat	81.45	334	P		P	23 34 48.5	+0.2	
DAVOX	Davos/Dischmat	81.45	334	P		P	23 34 48.5	+0.2	
	comp=Z,3.5nm,0.7s,baz=359,slow=4.6,SNR=9.2								
SFTF	Sexfontaines	81.55	337	*e*P		P	23 34 48.7	+0.1	
SFTF	Sexfontaines	81.55	337	*e*P		P	23 34 48.7	+0.1	
PARMO	Parma	81.60	45	*e*P		P	23 34 49.6	+0.6	
TUE	Stuetta	81.89	334	*e*P		P	23 34 51.3	+0.7	
732A	Laxson Ranch,	82.16	57	⇑P		P	23 34 52.1	+0.1	
	baz=82								
FLN	La Foliniere	82.40	341	*e*P		P	23 34 53.0	0.0	
	comp=Z,8.9nm,0.6s								
FLN	La Foliniere	82.40	341	*e*P		P	23 34 53.0	0.0	
FLN				pmax		pmax			
	comp=Z,9.0nm,0.6s								
FLN	La Foliniere	82.40	341	*e*P		P	23 34 53.0	0.0	
	comp=Z,8.9nm,0.6s								
LDF	La Druitiere	82.48	341	*e*P		P	23 34 53.3	-0.1	
	comp=Z,5.1nm,0.4s								
LDF	La Druitiere	82.48	341	*e*P		P	23 34 53.3	-0.1	
LDF				pmax		pmax			
	comp=Z,5.0nm,0.4s								
LDF	La Druitiere	82.48	341	*e*P		P	23 34 53.3	-0.1	
	comp=Z,5.1nm,0.4s								
CABF	La Chapelle	82.72	336	*e*P		P	23 34 54.9	+0.1	
	comp=Z,7.7nm,0.7s								
CABF	La Chapelle	82.72	336	*e*P		P	23 34 54.9	+0.1	
CABF				pmax		pmax			
	comp=Z,8.0nm,0.7s								
CABF	La Chapelle	82.72	336	*e*P		P	23 34 54.9	+0.1	
	comp=Z,7.7nm,0.7s								
LOR	Lormes	82.73	338	⇑*i*P		P	23 34 54.7	0.0	
	comp=Z,9.2nm,0.6s								
LOR	Lormes	82.73	338	⇑*i*P		P	23 34 54.7	0.0	
	comp=Z,9.2nm,0.6s								
GRR	Gorron	82.84	341	*e*P		P	23 34 55.4	+0.2	
	comp=Z,13nm,0.6s								
GRR	Gorron	82.84	341	*e*P		P	23 34 55.4	+0.2	
GRR				pmax		pmax			
	comp=Z,13nm,0.6s								
GRR	Gorron	82.84	341	*e*P		P	23 34 55.4	+0.2	
	comp=Z,13nm,0.6s								
SSF	Saint Saulge	83.01	338	*e*P		P	23 34 56.3	+0.1	
	comp=Z,2.2nm,0.6s								
SSF	Saint Saulge	83.01	338	*e*P		P	23 34 56.3	+0.1	
SSF				pmax		pmax			
	comp=Z,4.0nm,0.6s								
SSF	Saint Saulge	83.01	338	*e*P		P	23 34 56.3	+0.1	
	comp=Z,4.2nm,0.6s								
AVF	Avril sur Loir	83.30	338	*e*P		P	23 34 57.9	+0.3	
	comp=Z,3.9nm,0.4s								
AVF	Avril sur Loir	83.30	338	*e*P		P	23 34 57.9	+0.3	
AVF				pmax		pmax			
	comp=Z,4.0nm,0.4s								
AVF	Avril sur Loir	83.30	338	*e*P		P	23 34 57.9	+0.3	
	comp=Z,3.9nm,0.4s								
SGMF	Saint Gilles	83.34	342	*e*P		P	23 34 58.0	+0.2	
	comp=Z,19nm,0.6s								
SGMF	Saint Gilles	83.34	342	*e*P		P	23 34 58.0	+0.2	
SGMF				pmax		pmax			
	comp=Z,19nm,0.6s								
SGMF	Saint Gilles	83.34	342	*e*P		P	23 34 58.0	+0.2	
	comp=Z,19nm,0.6s								
ROSF	Rostrenen	83.41	343	*e*P		P	23 34 58.4	+0.2	
	comp=Z,9.2nm,0.5s								
ROSF	Rostrenen	83.41	343	*e*P		P	23 34 58.4	+0.2	
ROSF				pmax		pmax			
	comp=Z,9.0nm,0.5s								
ROSF	Rostrenen	83.41	343	*e*P		P	23 34 58.4	+0.2	
	comp=Z,9.2nm,0.5s								
LPL	La Plagne	83.53	335	*e*P		P	23 34 59.7	+0.5	
	comp=Z,11nm,0.8s								
LPL	La Plagne	83.53	335	*e*P		P	23 34 59.7	+0.5	
LPL				pmax		pmax			
	comp=Z,11nm,0.8s								
LPL	La Plagne	83.53	335	*e*P		P	23 34 59.7	+0.5	
	comp=Z,11nm,0.8s								
LPG	La Plagne	83.55	335	*e*P		P	23 34 59.9	+0.6	
	comp=Z,9.8nm,0.7s								
LPG	La Plagne	83.55	335	*e*P		P	23 34 59.9	+0.6	
LPG				pmax		pmax			
	comp=Z,10.0nm,0.7s								
LPG	La Plagne	83.55	335	*e*P		P	23 34 59.9	+0.6	
	comp=Z,9.8nm,0.7s								
BGF	Bois d'Agland	83.65	338	*e*P		P	23 34 59.8	+0.3	
	comp=Z,4.2nm,0.5s								
BGF	Bois d'Agland	83.65	338	*e*P		P	23 34 59.8	+0.3	
BGF				pmax		pmax			
	comp=Z,4.0nm,0.5s								
BGF	Bois d'Agland	83.65	338	*e*P		P	23 34 59.8	+0.3	
	comp=Z,4.2nm,0.5s								
PLAL	Pickwick Lake	83.76	45	*e*P		P	23 35 03.0	+2.8	
QUIF	Quistinic	83.79	343	*e*P		P	23 35 00.6	+0.5	
QUIF	Quistinic	83.79	343	*e*P		P	23 35 00.6	+0.5	
QUIF	Quistinic	83.79	343	*e*P		P	23 35 00.6	+0.5	
NWAO	Narrogin (SRO)	83.99	208	P		P	23 35 02.1	+1.0	
NWAO	Narrogin (SRO)	83.99	208	P		P	23 35 02.1	+1.0	
	comp=Z,5.3nm,0.7s,baz=22,slow=9.3,SNR=2.4								
TCF	Toulx Ste Croi	84.07	338	*e*P		P	23 35 02.3	+0.7	
	comp=Z,8.6nm,0.9s								
TCF	Toulx Ste Croi	84.07	338	*e*P		P	23 35 02.3	+0.7	
TCF				pmax		pmax			
	comp=Z,9.0nm,0.9s								
TCF	Toulx Ste Croi	84.07	338	*e*P		P	23 35 02.3	+0.7	
	comp=Z,8.6nm,0.9s								
MBDF	Montbardon	84.24	335	*e*P		P	23 35 02.7	0.0	
	comp=Z,9.6nm,0.7s								
MBDF	Montbardon	84.24	335	*e*P		P	23 35 02.7	0.0	
MBDF				pmax		pmax			
	comp=Z,10.0nm,0.7s								
MBDF	Montbardon	84.24	335	*e*P		P	23 35 02.7	0.0	
	comp=Z,9.6nm,0.7s								
ORIF	Oris-en-Rattie	84.33	336	*e*P		P	23 35 03.7	+0.7	
	comp=Z,7.5nm,0.6s								
ORIF	Oris-en-Rattie	84.33	336	*e*P		P	23 35 03.7	+0.7	
ORIF				pmax		pmax			
	comp=Z,8.0nm,0.6s								
ORIF	Oris-en-Rattie	84.33	336	*e*P		P	23 35 03.7	+0.7	
	comp=Z,7.5nm,0.6s								
MFF	Saint Martin d	84.35	340	*e*P		P	23 35 02.9	-0.1	
	comp=Z,8.2nm,0.6s								
MFF	Saint Martin d	84.35	340	*e*P		P	23 35 02.9	-0.1	
MFF				pmax		pmax			
	comp=Z,8.0nm,0.6s								
MFF	Saint Martin d	84.35	340	*e*P		P	23 35 02.9	-0.1	
	comp=Z,8.2nm,0.6s								
VIVF	Saint-Julien-l	84.73	336	*e*P		P	23 35 05.6	+0.6	
	comp=Z,9.8nm,0.7s								
VIVF	Saint-Julien-l	84.73	336	*e*P		P	23 35 05.6	+0.6	
VIVF				pmax		pmax			
	comp=Z,10.0nm,0.7s								
VIVF	Saint-Julien-l	84.73	336	*e*P		P	23 35 05.6	+0.6	
	comp=Z,9.8nm,0.7s								
RJF	Les Rejaudoux	85.16	339	*e*P		P	23 35 07.0	-0.1	
RJF	Les Rejaudoux	85.16	339	*e*P		P	23 35 07.0	-0.1	
RJF	Les Rejaudoux	85.16	339	*e*P		P	23 35 07.0	-0.1	
CAF	Calviac	85.37	338	*e*P		P	23 35 09.2	+1.0	
	comp=Z,7.6nm,0.6s								
CAF	Calviac	85.37	338	*e*P		P	23 35 09.2	+1.0	
CAF				pmax		pmax			
	comp=Z,8.0nm,0.6s								
CAF	Calviac	85.37	338	*e*P		P	23 35 09.2	+1.0	
	comp=Z,7.6nm,0.6s								
LMR	La Mourre	85.59	334	*e*P		P	23 35 09.5	+0.3	
	comp=Z,24nm,1.0s								
LMR	La Mourre	85.59	334	*e*P		P	23 35 09.5	+0.3	
LMR				pmax		pmax			
	comp=Z,24nm,1.0s								
LMR	La Mourre	85.59	334	*e*P		P	23 35 09.5	+0.3	
	comp=Z,24nm,1.0s								
LFF	La Frestale	85.70	339	*e*P		P	23 35 10.6	+0.9	
	comp=Z,13nm,0.7s								
LFF	La Frestale	85.70	339	*e*P		P	23 35 10.6	+0.9	
LFF				pmax		pmax			
	comp=Z,13nm,0.7s								
LFF	La Frestale	85.70	339	*e*P		P	23 35 10.6	+0.9	
	comp=Z,13nm,0.7s								
KMSC	Kings Mountain	86.81	40	⇓P		P	23 35 15.5	+0.1	
	baz=86								
EPF	Esparros	87.58	339	*e*P		P	23 35 19.9	+0.9	
EPF	Esparros	87.58	339	*e*P		P	23 35 19.9	+0.9	
EPF	Esparros	87.58	339	*e*P		P	23 35 19.9	+0.9	
ETSF	Etsaut	87.94	339	*e*P		P	23 35 20.4	-0.3	
	comp=Z,5.2nm,0.5s								
ETSF	Etsaut	87.94	339	*e*P		P	23 35 20.4	-0.3	
ETSF				pmax		pmax			
	comp=Z,5.0nm,0.5s								
ETSF	Etsaut	87.94	339	*e*P		P	23 35 20.4	-0.3	
	comp=Z,5.2nm,0.5s								
ESDC	Sonseca Array	91.81	341	P		P	23 35 37.6	-1.2	
ESDC	Sonseca Array	91.81	341	P		P	23 35 37.6	-1.2	
	comp=Z,0.3nm,0.5s,baz=6.0,slow=4.2,SNR=5.1								
TORD	Torodi Ar. Bea	114.85	326	PKP	PKPdf		23 41 10.8	-0.5	
TORD	Torodi Ar. Bea	114.85	326	PKP	PKPdf		23 41 10.8	-0.5	
	comp=Z,0.5nm,0.4s,baz=21,slow=1.9,SNR=27								
DBIC	Dimbokro	123.24	330	PKP	PKPdf		23 41 26.8	-0.7	
DBIC	Dimbokro	123.24	330	PKP	PKPdf		23 41 26.8	-0.7	
	comp=Z,1.9nm,0.6s,baz=5.8,slow=2.4,SNR=6.0								
QSPA	South Pole Qui	135.60	180	PKP	PKPdf		23 41 50.0	+0.6	
QSPA	South Pole Qui	135.60	180	PKP	PKPdf		23 41 49.9	+0.6	
	comp=Z,1.6nm,1.1s,baz=27,slow=4.5,SNR=4.7								
BDFB	Brasilia	146.12	33	PKPbc	PKPbc		23 42 10.8	-0.2	
BDFB	Brasilia	146.12	33	PKPbc	PKPbc		23 42 10.8	-0.2	
	comp=Z,6.1nm,0.5s,baz=303,slow=1.8,SNR=17								
CPUP	Villa Florida	150.50	58	PKPbc	PKPbc		23 42 21.7	-0.4	
CPUP	Villa Florida	150.50	58	PKPbc	PKPbc		23 42 21.7	-0.4	
	comp=Z,3.2nm,0.7s,baz=311,slow=3.7,SNR=10								

IDC 22 23:23:41.2±2.6,1.67S×133.45E,h0km,mb3.3/2, mb1 3.6/3,mb1mx3.4/17,mbtmp3.4/3,ML3.4/1,Error ellipse: s-maj=126.1km s-min=27.1km az=76.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.19	177	P	Pn	23 27 55.3	-0.1
	0.1nm,0.3s,baz=356,slow=12,SNR=13						
ASAR	Alice Springs	21.88	179	P	P	23 28 36.1	+0.1
	0.6nm,0.7s,baz=5.3,slow=10,SNR=6.3						
MKAR	Makanchi Array	65.81	324	P	P	23 34 28.4	-0.1
	0.3nm,0.6s,baz=109,slow=8.0,SNR=3.3						

ISCJB ***22*** *23:28:03.1±0.3,37.65S±0.03×176.53E±0.06,h251km, mb4.6/13, Error ellipse: s-maj=6.1km s-min=4.7km az=169.6*

NEIC ***22*** *23:28:03.9,37.43S×176.56E,h235km,mb4.3/3, After WEL.*

WEL ***22*** *23:28:04.1±0.4,37.45S×176.58E,h234km±3km,ML5.0/22, Error ellipse: s-maj=2.2km s-min=2.2km az=90.0*

IDC ***22*** *23:28:13.3±4.8,37.29S×176.44E,h323km±43km,mb4.2/6, mb1 4.2/7,mb1mx3.9/16,mbtmp4.1/7,Error ellipse: s-maj=33.0km s-min=15.8km az=67.0*

ISC 22 23:28:04.5±0.5,37.57S±0.06×176.55E±0.06,h251km, n231,σ1§75/229,mb4.5/13,5C-19D,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	Ohinepanea	0.28	180	⇑PN	Pn	23 28 34.5	-2.5
OPRZ	Ohinepanea	0.28	180	Pn	Pn	23 28 34.3	-2.7
TGRZ	Tauranga	0.28	235	⇓PN	Pn	23 28 34.7	-2.3
TGRZ				SN	S	23 28 58.3	-4.2
TGRZ	Tauranga	0.28	235	Pn	Pn	23 28 34.6	-2.3
MYRZ	Mayor Island	0.38	319	⇓PN	Pn	23 28 34.7	-2.6
MARZ	Manawahe	0.43	167	⇓PN	Pn	23 28 35.3	-2.0
MARZ	Manawahe	0.43	167	Pn	Pn	23 28 35.3	-2.0
KARZ	Kaharoa	0.51	208	PN	Pn	23 28 35.5	-2.1
KARZ	Kaharoa	0.51	208	Pn	Pn	23 28 35.8	-1.8
OMRZ	Omania	0.56	195	⇓PN	Pn	23 28 35.8	-1.9
OMRZ	Omania	0.56	195	Pn	Pn	23 28 35.8	-1.9
EDRZ	Edgecumbe	0.56	165	PN	Pn	23 28 35.4	-2.3
EDRZ	Edgecumbe	0.56

TRVZ	Turoa	1.90	204	*e*PN	Pn	23	28	45.1 -1.3
TRVZ	Turoa	1.90	204	Pn	Pn	23	28	45.2 -1.2
MHGZ	**Mahia Peninsul**	1.91	146	PN	Pn	23	28	45.5 -0.6
MHGZ				SN	S	23	29	16.2 -2.9
MHGZ	**Mahia Peninsul**	1.91	146	Pn	Pn	23	28	45.5 -0.6
WNVZ	**Wahianoa**	1.91	203	PN	Pn	23	28	45.0 -1.3
WNVZ	Wahianoa	1.91	203	Pn	Pn	23	28	45.1 -1.3
MOVZ	**Moawhango**	1.94	199	PN	Pn	23	28	44.8 -1.8
MOVZ	Moawhango	1.94	199	Pn	Pn	23	28	45.0 -1.6
BHHZ	**Black Hill Sta**	1.95	191	PN	Pn	23	28	45.2 -1.4
BHHZ	Black Hill Sta	1.95	191	Pn	Pn	23	28	45.2 -1.4
PKVZ	**Pokaka**	1.96	209	PN	Pn	23	28	45.6 -1.2
PKVZ	Pokaka	1.96	209	Pn	Pn	23	28	45.6 -1.2
MTVZ	**Mangateitei**	2.00	205	PN	Pn	23	28	46.1 -1.0
MTVZ	Mangateitei	2.00	205	Pn	Pn	23	28	46.1 -1.0
VRZ	**Vera Road**	2.10	222	PN	Pn	23	28	47.5 -0.4
VRZ	Vera Road	2.10	222	Pn	Pn	23	28	47.5 -0.4
CKHZ	**Cape Kidnapper**	2.13	169	PN	Pn	23	28	47.6 -0.5
CKHZ	Cape Kidnapper	2.13	169	Pn	Pn	23	28	47.6 -0.5
KAHZ	**Kahuranaki**	2.24	174	PN	Pn	23	28	48.7 -0.6
KAHZ	Kahuranaki	2.24	174	Pn	Pn	23	28	48.7 -0.6
PNHZ	**Pukenui**	2.36	187	PN	Pn	23	28	49.2 -1.2
PNHZ	Pukenui	2.36	187	Pn	Pn	23	28	49.2 -1.2
WCZ	**Waipu Caves**	2.41	312	⇑PN	Pn	23	28	48.5 -2.4
WCZ	Waipu Caves	2.41	312	Pn	Pn	23	28	47.9 -3.0
RAEZ	**Rainy Point**	2.41	224	Pn	Pn	23	28	51.6 +0.7
PXZ	**Pawanui**	2.47	174	PN	Pn	23	28	50.6 -0.8
PXZ	Pawanui	2.47	174	Pn	Pn	23	28	50.7 -0.7
WPHZ	**Waipukurau**	2.49	182	PN	Pn	23	28	50.7 -1.0
WPHZ	Waipukurau	2.49	182	Pn	Pn	23	28	50.7 -1.0
WAZ	**Wanganui**	2.50	209	PN	Pn	23	28	50.7 -1.2
WAZ	Wanganui	2.50	209	Pn	Pn	23	28	50.8 -1.1
TSZ	**Takapari Road**	2.53	190	PN	Pn	23	28	50.8 -1.3
TSZ	Takapari Road	2.53	190	Pn	Pn	23	28	50.8 -1.3
NEZ	**North Egmont**	2.57	228	Pn	Pn	23	28	53.0 +0.5
PKE	**Pukeiti**	2.59	230	PN	Pn	23	28	52.9 +0.2
PKE	Pukeiti	2.59	230	Pn	Pn	23	28	52.9 +0.2
DFE	**Dawson Falls**	2.60	227	Pn	Pn	23	28	52.9 0.0
PRHZ	**Porangahau**	2.69	179	PN	Pn	23	28	52.7 -1.1
PRHZ	Porangahau	2.69	179	Pn	Pn	23	28	52.8 -1.0
NRZ	**Ngariki Road**	2.71	229	*e*Pn	Pn	23	28	54.0 +0.1
DVHZ	**Dannevirke**	2.74	186	PN	Pn	23	28	52.8 -1.4
DVHZ	Dannevirke	2.74	186	Pn	Pn	23	28	52.8 -1.4
POWZ	**Post Office Ro**	2.88	192	PN	Pn	23	28	54.4 -1.4
POWZ	Post Office Ro	2.88	192	Pn	Pn	23	28	54.4 -1.4
BFZ	**Birch Farm**	3.12	184	Pn	Pn	23	28	57.0 -1.2
MRZ	**Mangatainoka R**	3.18	193	⇑PN	Pn	23	28	57.1 -1.8
MRZ	Mangatainoka R	3.18	193	Pn	Pn	23	28	57.1 -1.8
TIWZ	**Tintock**	3.24	189	PN	Pn	23	28	58.1 -1.5
TIWZ	Tintock	3.24	189	Pn	Pn	23	28	58.1 -1.5
OUZ	**Omahuta**	3.34	314	⇑PN	Pn	23	28	58.4 -2.4
OUZ	Omahuta	3.34	314	Pn	Pn	23	28	58.4 -2.4
OGWZ	**Otaki Gorge**	3.42	198	PN	Pn	23	28	59.8 -1.7
OGWZ	Otaki Gorge	3.42	198	Pn	Pn	23	28	59.8 -1.7
HOWZ	**Holdsworth Sta**	3.42	193	PN	Pn	23	28	59.5 -2.1
HOWZ	Holdsworth Sta	3.42	193	Pn	Pn	23	28	59.7 -2.0
KIW	**Kapiti Island**	3.53	201	⇓PN	Pn	23	29	00.8 -2.1
KIW	Kapiti Island	3.53	201	Pn	Pn	23	29	00.8 -2.1
TMWZ	**Te Maipa**	3.57	188	PN	Pn	23	29	01.5 -1.8
TMWZ	Te Maipa	3.57	188	Pn	Pn	23	29	01.6 -1.8
MTW	**Mount Morrison**	3.67	192	Pn	Pn	23	29	02.3 -2.2
DUWZ	**D'Urville Isla**	3.82	212	PN	Pn	23	29	03.5 -2.7
DUWZ	D'Urville Isla	3.82	212	Pn	Pn	23	29	03.8 -2.4
TRWZ	**Traveller**	3.88	190	PN	Pn	23	29	04.9 -1.9
TRWZ	Traveller	3.88	190	Pn	Pn	23	29	05.0 -1.9
PAWZ	**Paruwai Farm**	3.91	193	PN	Pn	23	29	05.0 -2.2
PAWZ	Paruwai Farm	3.91	193	Pn	Pn	23	29	05.0 -2.2
WEL	**Wellington**	3.96	200	Pn	Pn	23	29	05.8 -1.9
MSWZ	**Moikau Station**	3.97	194	⇓PN	Pn	23	29	05.6 -2.3
MSWZ	Moikau Station	3.97	194	Pn	Pn	23	29	05.6 -2.3
SNZO	**South Karori**	4.00	200	PN	Pn	23	29	06.0 -2.2
SNZO	South Karori	4.00	200	Pn	Pn	23	29	06.0 -2.2
TCW	**Tory Channel**	4.04	205	PN	Pn	23	29	06.5 -2.3
BHW	**Baring Head**	4.05	198	PN	Pn	23	29	06.4 -2.4
BHW	Baring Head	4.05	198	Pn	Pn	23	29	06.4 -2.4
PLWZ	**Palliser**	4.12	194	PN	Pn	23	29	07.3 -2.4
PLWZ	Palliser	4.12	194	Pn	Pn	23	29	07.3 -2.4
TUWZ	**Tuamarina**	4.35	207	PN	Pn	23	29	10.2 -2.2
TUWZ	Tuamarina	4.35	207	Pn	Pn	23	29	10.2 -2.2
NNZ	**Nelson**	4.39	213	PN	Pn	23	29	10.3 -2.6
NNZ	Nelson	4.39	213	Pn	Pn	23	29	10.5 -2.4
QRZ	**Quartz Range**	4.51	223	PN	Pn	23	29	11.4 -3.0
QRZ	Quartz Range	4.51	223	Pn	Pn	23	29	11.3 -3.0
CMWZ	**Cape Campbell**	4.55	203	PN	Pn	23	29	13.2 -1.5
BSWZ	**Blackbirch Sta**	4.63	206	PN	Pn	23	29	13.6 -2.1
BSWZ	Blackbirch Sta	4.63	206	Pn	Pn	23	29	13.8 -2.1
THZ	**Tophouse**	5.05	213	PN	Pn	23	29	17.7 -3.2
THZ	Tophouse	5.05	213	Pn	Pn	23	29	18.0 -2.9
KHZ	**Kahutara**	5.37	205	PN	Pn	23	29	22.4 -2.3
KHZ	Kahutara	5.37	205	Pn	Pn	23	29	22.5 -2.2
DSZ	**Denniston Nort**	5.55	220	Pn	Pn	23	29	23.7 -3.4
LTZ	**Lake Taylor**	6.15	211	*e*PN	Pn	23	29	31.1 -3.4
LTZ	Lake Taylor	6.15	211	Pn	Pn	23	29	31.9 -2.6
CRLZ	**Canterbury Las**	6.70	205	Pn	Pn	23	29	38.8 -2.6
MQZ	**McQueen's Vall**	6.81	205	PN	Pn	23	29	39.4 -3.2
MQZ	McQueen's Vall	6.81	205	Pn	Pn	23	29	39.6 -3.0
WVZ	**Waitaha Valley**	7.07	217	PN	Pn	23	29	42.8 -3.1
WVZ	Waitaha Valley	7.07	217	Pn	Pn	23	29	42.9 -3.0
RPZ	**Rata Peaks**	7.43	213	*e*PN	Pn	23	29	47.1 -3.4
RPZ	Rata Peaks	7.43	213	Pn	Pn	23	29	47.5 -2.9
FOZ	**Fox Glacier**	7.94	219	*e*PN	Pn	23	29	51.5 -5.5
FOZ	Fox Glacier	7.94	219	Pn	Pn	23	29	53.0 -4.0
LBZ	**Lake Benmore**	8.34	213	*e*PN	Pn	23	29	58.4 -3.6
LBZ	Lake Benmore	8.34	213	Pn	Pn	23	29	58.5 -3.5
ODZ	**Otahua Downs**	8.69	209	*e*PN	Pn	23	30	04.4 -2.0
ODZ	Otahua Downs	8.69	209	Pn	Pn	23	30	04.5 -1.9
JCZ	**Jackson Bay**	8.78	220	Pn	Pn	23	30	04.6 -3.1
WKZ	**Wanaka**	9.21	216	Pn	Pn	23	30	09.9 -3.1
EAZ	**Earnscleugh**	9.39	213	*e*PN	Pn	23	30	11.7 -3.5
EAZ	Earnscleugh	9.39	213	Pn	Pn	23	30	12.6 -2.6
TUZ	**Tuapeka**	9.84	209	*e*PN	Pn	23	30	19.2 -1.7
TUZ	Tuapeka	9.84	209	Pn	Pn	23	30	19.8 -1.1
WHZ	**Wether Hill Ro**	10.51	215	*e*PN	Pn	23	30	26.5 -2.8
WHZ	Wether Hill Ro	10.51	215	Pn	Pn	23	30	27.2 -2.1
DZM	**Mont Dzumac**	17.74	328	P	P	23	31	55.6 +1.1
DZM	**Mont Dzumac**	17.74	328	P	P	23	31	55.6 +1.1
	0.8nm,0.3s,baz=168,slow=14,SNR=9.7							
CMSA	**Cobar Meteorol**	26.05	274	*e*P	P	23	33	17.2 +2.2
	43nm,0.4s							
STKA	**Stephens Creek**	29.18	271	*e*P	P	23	33	45.0 +2.3
	6.4nm,0.6s							
STKA	**Stephens Creek**	29.18	271	P	P	23	33	45.1 +2.3
	7.5nm,0.6s,baz=101,slow=9.7,SNR=25							
CTA	**Charters Tower**	31.56	295	*e*P	P	23	34	05.4 +1.6
	5.7nm,0.5s							
BBOO	**Buckleboo**	33.25	266	*e*P	P	23	34	19.5 +1.2
	23nm,0.4s							
COEN	**Coen**	37.84	299	*e*P	P	23	34	58.5 +1.0
	58nm,0.7s							
PMG	**Port Moresby**	38.59	309	P	P	23	35	04.7 +1.1
	3.2nm,0.4s,baz=112,slow=4.9,SNR=6.0							
ASAR	**Alice Springs**	38.90	278	P	P	23	35	07.1 +0.8
ASAR	**Alice Springs**	38.90	278	P	P	23	35	07.1 +0.8
	9.1nm,0.5s,baz=121,slow=8.2,SNR=140							
WRAB	**Tennant Creek**	40.58	284	*e*P	P	23	35	20.2 +0.2
	7.7nm,0.6s							
WRA	**Warramunga Arr**	40.58	284	P	P	23	35	20.6 +0.6
WRA	**Warramunga Arr**	40.58	284	P	P	23	35	20.6 +0.6
	11nm,0.4s,baz=123,slow=8.5,SNR=264							
FITZ	**Fitzroy Crossi**	48.40	279	*e*P	P	23	36	22.2 +0.6
	3.2nm,0.6s							
FITZ	**Fitzroy Crossi**	48.40	279	*e*P	P	23	36	22.6 +1.0
	12nm,0.6s							
MEEK	**Meekatharra**	49.59	265	*e*P	P	23	36	30.4 -0.2
	62nm,0.6s							
QSPA	**South Pole Qui**	52.55	180	*e*P	P	23	36	56.4 +4.2
	19nm,0.9s							
QSPA	**South Pole Qui**	52.55	180	P	P	23	36	56.5 +4.3
	12nm,0.6s,baz=36,slow=1.4,SNR=76							
CMAR	**Chiang Mai Arr**	91.68	292	P	P	23	40	44.9 +1.3
CMAR	**Chiang Mai Arr**	91.68	292	P	P	23	40	44.9 +1.3
	1.2nm,0.3s,baz=154,slow=3.2,SNR=11							
MKAR	**Makanchi Array**	118.80	309	PKP	PKPdf	23	46	21.7 -0.7
MKAR	**Makanchi Array**	118.80	309	PKP	PKPdf	23	46	21.7 -0.7
	0.6nm,0.8s,baz=118,slow=2.5,SNR=4.9							
ZALV	**Zalesovo Beam**	120.26	317	PKP	PKPdf	23	46	24.2 -0.7
ZALV	**Zalesovo Beam**	120.26	317	PKP	PKPdf	23	46	24.2 -0.7
	0.2nm,0.3s,baz=132,slow=2.1,SNR=3.1							
ARCES	**ARCESS Array B**	144.38	343	PKP	PKPab	23	47	08.4 -0.1
ARCES	**ARCESS Array B**	144.38	343	PKP	PKPab	23	47	08.4 -0.1
	2.5nm,0.8s,baz=44,slow=3.6,SNR=13							

KBZ	**Khabaz**	144.67	295	PKP	PKPdf	23	47	11.0 +0.2
KBZ	**Khabaz**	144.67	295	PKP	PKPdf	23	47	11.0 +0.2
	3.4nm,1.0s,baz=104,slow=3.9,SNR=4.1							
DBIC	**Dimbokro**	149.21	177	PKPbc	PKPbc	23	47	24.5 +0.7
DBIC				PKPab	PKPab	23	47	30.2 +1.2
DBIC	**Dimbokro**	149.21	177	PKPbc	PKPbc	23	47	24.5 +0.7
	1.0nm,0.5s,baz=196,slow=3.3,SNR=3.6							
DBIC				PKPab	PKPab	23	47	30.2 +1.2
	1.7nm,0.5s,baz=158,slow=5.3,SNR=8.0							
FINES	**FINESS Array B**	149.85	332	PKPbc	PKPbc	23	47	23.6 -0.3
FINES				PKPab	PKPab	23	47	29.3 -1.1
FINES	**FINESS Array B**	149.85	332	PKPbc	PKPbc	23	47	23.6 -0.3
	2.4nm,0.9s,baz=67,slow=3.6,SNR=6.3							
FINES				PKPab	PKPab	23	47	29.3 -1.1
	2.9nm,0.8s,baz=40,slow=4.5,SNR=8.1							
BRTR	**Keskin Array B**	151.09	286	PKPbc	PKPbc	23	47	27.9 +0.1
BRTR				PKPab	PKPab	23	47	36.2 -0.3
BRTR	**Keskin Array B**	151.09	286	PKPbc	PKPbc	23	47	27.9 +0.1
	0.6nm,0.6s,baz=102,slow=3.4,SNR=3.4							
BRTR				PKPab	PKPab	23	47	36.2 -0.3
	0.8nm,0.7s,baz=121,slow=5.6,SNR=5.1							
TORD	**Torodi Ar. Bea**	155.25	192	PKPbc	PKPdf	23	47	39.7 +11
TORD				PKPab	PKPab	23	47	55.1 +0.8
TORD	**Torodi Ar. Bea**	155.25	192	PKPbc	PKPdf	23	47	39.7 +11
	0.3nm,0.5s,baz=162,slow=2.7,SNR=9.6							
TORD				PKPab	PKPab	23	47	55.1 +0.8
	0.7nm,0.5s,baz=162,slow=4.0,SNR=14							

IDC 22 23:40:13.0±1.6, 3°41N×126°19E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/19, mbtmp3.1/3, Error ellipse: s-maj=154.1km s-min=27.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	24.55	161	P		P		23 45 35.0	+0.3
	0.9nm,0.9s,baz=341,slow=11,SNR=5.4								
SONM	**Songino Array**	47.43	342	P		P		23 48 49.5	0.0
	0.2nm,0.7s,baz=165,slow=6.0,SNR=2.3								
MKAR	**Makanchi Array**	57.51	326	P		P		23 50 03.8	-0.4
	0.2nm,0.7s,baz=120,slow=6.6,SNR=5.1								

IDC 22 23:47:55.0±2.1, 3°97N×127°15E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=164.6km s-min=26.2km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	24.79	164	P		P		23 53 17.8	-1.1
	1.0nm,0.4s,baz=344,slow=10,SNR=12								
ASAR	**Alice Springs**	28.25	167	P		P		23 53 50.6	+0.6
	0.2nm,0.7s,baz=347,slow=10,SNR=3.0								
STKA	**Stephens Creek**	38.21	160	P		P		23 55 17.4	+0.8
	2.4nm,1.0s,baz=348,slow=9.3,SNR=2.6								
MKAR	**Makanchi Array**	57.60	325	P		P		23 57 46.8	-0.1
	0.2nm,0.5s,baz=122,slow=7.7,SNR=4.9								

IDC 22 23:48:09.0±1.9, 3°88N×127°04E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/20, mbtmp4.0/4, Error ellipse: s-maj=152.5km s-min=23.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	24.74	163	P		P		23 53 31.9	-0.4
	3.9nm,0.5s,baz=344,slow=10.0,SNR=19								
ASAR	**Alice Springs**	28.18	167	P		P		23 54 02.9	-0.6
	0.4nm,0.3s,baz=342,slow=9.6,SNR=8.4								
STKA	**Stephens Creek**	38.16	160	P		P		23 55 31.1	+0.8
	1.2nm,0.4s,baz=341,slow=8.6,SNR=6.9								
MKAR	**Makanchi Array**	57.61	325	P		P		23 58 00.8	-0.1
	0.6nm,0.5s,baz=121,slow=8.0,SNR=9.5								

*ISCJB **23** 00:00:13.0±0.4, 38°.53N±0°.01×23°.45E±0°.02, h11km±3km, Error ellipse: s-maj=2.7km s-min=2.3km az=157.6*
*ATH **23** 00:00:12.7, 38°.56N×23°.43E, h20km±2km, MD2.9/8, ML2.7*
*CSEM **23** 00:00:13.1±0.1, 38°.53N×23°.43E, h10km, ML2.7/4, Error ellipse: s-maj=2.3km s-min=1.9km az=64.0*
*THE **23** 00:00:13.2, 38°.53N×23°.42E, h5km±1km, ML2.7/4, Error ellipse: s-maj=1.3km s-min=0.7km az=69.0*

ISC 23 00:00:13.3±0.8, 38°.53N±0°.01×23°.43E±0°.01, h13km±6km, n101, σ0°.82/175, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	0.21	36	P		P	Pg	00 00 17.8	-0.3
MRKA				S		Sg		00 00 21.6	+0.3
MRKA	**Markates**	0.21	36	P		P	Pg	00 00 17.8	-0.3
MRKA				S		Sg		00 00 21.6	+0.3
ERET	**Eretria**	0.31	107	P		P	Pg	00 00 19.3	-0.5
ERET				S		Sg		00 00 24.6	+0.5
ERET	**Eretria**	0.31	107	P		P	Pg	00 00 19.3	-0.5
ERET				S		Sg		00 00 24.6	+0.5
LKR	**Lokris**	0.35	290	P		P	Pg	00 00 19.9	-0.6
LKR				S		Sg		00 00 25.3	0.0
LKR	**Lokris**	0.35	290	*e*PB		Pg		00 00 19.9	-0.6
LKR				*e*SB		Sg		00 00 25.9	+0.6
LKR	**Lokris**	0.35	290	P		P	Pg	00 00 19.9	-0.6
LKR				S		Sg		00 00 25.3	0.0
LKR				*e*Sb		Sg		00 00 25.9	+0.6
ATAL	**Atalanti**	0.35	297	P		P	Pg	00 00 20.1	-0.4
ATAL				S		Sg		00 00 25.6	+0.2
ATAL	**Atalanti**	0.35	297	P		P	Pg	00 00 20.1	-0.4
ATAL				S		Sg		00 00 25.6	+0.2
PTL	**Penteli**	0.59	144	P		P	Pg	00 00 24.5	-0.5
PTL				S		Sg		00 00 32.4	-0.4
PTL	**Penteli**	0.59	144	*e*PB		Pg		00 00 24.5	-0.5
PTL				*e*SN		Sg		00 00 32.9	+0.1
PTL	**Penteli**	0.59	144	P		P	Pg	00 00 24.5	-0.5
PTL				S		Sg		00 00 32.4	-0.4
PTL				*e*Sn		Sg		00 00 32.9	+0.1
ATH	**Athens Observa**	0.60	158	P		P	Pg	00 00 24.8	-0.3
ATH				S		Sg		00 00 33.1	0.0
ATH	**Athens Observa**	0.60	158	*e*PN		Pg		00 00 24.8	-0.3
ATH				*e*SN		Sg		00 00 33.5	+0.4
ATH	**Athens Observa**	0.60	158	P		P	Pg	00 00 24.8	-0.3
ATH				S		Sg		00 00 33.1	0.0
ATH				*e*Sn		Sg		00 00 33.5	+0.4
ATHU	**Athens Univers**	0.63	153	P		Pn		00 00 31.4	+3.4
ATHU				S		Sn		00 00 39.6	+1.6
SKIA	**Skiathos**	0.63	3	P		P	Pg	00 00 25.8	+0.1
SKIA				S		Sb		00 00 35.6	+0.5
SKIA	**Skiathos**	0.63	3	P		P	Pg	00 00 25.8	+0.1
SKIA				S		Sb		00 00 35.6	+0.5
AXAR	**Agios Charalam**	0.64	292	P		P	Pg	00 00 25.0	-0.9
AXAR				S		Sb		00 00 35.5	+0.1
AXAR	**Agios Charalam**	0.64	292	P		P	Pg	00 00 25.0	-0.9
AXAR				S		Sb		00 00 35.5	+0.1
DSF	**Desfina**	0.72	261	P		P	Pg	00 00 26.1	-1.2
DSF				S		Sb		00 00 37.2	-0.3
DSF	**Desfina**	0.72	261	P		P	Pg	00 00 26.1	-1.2
DSF				S		Sb		00 00 37.2	-0.3
AOS	**Alonnisos**	0.73	29	P		P	Pg	00 00 27.0	-0.5
AOS				S		Sb		00 00 37.7	-0.1
AOS	**Alonnisos**	0.73	29	P		P	Pg	00 00 27.0	-0.5
AOS				S		Sb		00 00 37.7	-0.1
NAIG	**Nisos Aigina**	0.77	176	*e*PB		Pg		00 00 27.7	-0.6
NAIG	**Nisos Aigina**	0.77	176	*e*Pb		Pg		00 00 27.7	-0.6
NEO	**Neokhori**	0.79	349	P		P	Pg	00 00 28.0	-0.7
NEO				S		Sg		00 00 38.9	-0.1
NEO	**Neokhori**	0.79	349	*e*PN		Pg		00 00 27.5	-1.2
NEO	**Neokhori**	0.79	349	*e*Pn		Pg		00 00 27.5	-1.2
NEO	**Neokhori**	0.79	349	P		P	Pg	00 00 28.0	-0.7
NEO				S		Sg		00 00 38.9	-0.1
XOR	**Xorichti**	0.85	348	P		P	Pg	00 00 28.9	-1.0
XOR				S		Sg		00 00 40.4	-0.6
XOR	**Xorichti**	0.85	348	P		P	Pg	00 00 28.9	-1.0
XOR				S		Sg		00 00 40.4	-0.6
MRMA	**Marmari**	0.89	122	P		Pb		00 00 30.5	-0.1
MRMA				S		Sg		00 00 42.0	-0.1
MRMA	**Marmari**	0.89	122	P		Pb		00 00 30.5	-0.1
MRMA				S		Sg		00 00 42.0	-0.1
KALE	**Kalithea**	1.02	262	P		Pg		00 00 31.6	-1.4
KALE				S		Sb		00 00 47.3	+1.1
KALE	**Kalithea**	1.02	262	P		Pg		00 00 31.6	-1.4
KALE				S		Sb		00 00 47.3	+1.1
DID	**Didima**	1.03	188	P		Pg		00 00 32.2	-1.1
DID				S		Sb		00 00 47.3	+0.7
DID	**Didima**	1.03	188	P		Pg		00 00 32.2	-1.1
DID				S		Sb		00 00 47.3	+0.7
GUR	**Goura**	1.04	235	P		Pg		00 00 32.5	-0.9
GUR				S		Sg		00 00 46.5	-0.5
GUR	**Goura**	1.04	235	*e*PN		Pg		00 00 33.3	-0.1
GUR				*e*SN		Sb		00 00 47.5	+0.6
GUR	**Goura**	1.04	235	P		Pg		00 00 32.5	-0.9
GUR	**Goura**	1.04	235	*e*Pn		Pg		00 00 33.3	-0.1
GUR				S		Sg		00 00 46.5	-0.5
GUR				*e*Sn		Sb		00 00 47.5	+0.6
DIDY	**Didyma**	1.07	189	P		Pg		00 00 32.2	-1.7
DIDY				S		Sb		00 00 48.0	+0.4
DIDY	**Didyma**	1.07	189	P		Pg		00 00 32.2	-1.7
DIDY				S		Sb		00 00 48.0	+0.4
TRIZ	**Trizonia**	1.07	262	P		Pg		00 00 32.3	-1.8
TRIZ				S		Sg		00 00 46.9	-1.2
TRIZ	**Trizonia**	1.07	262	P		Pg		00 00 32.3	-1.8
TRIZ				S		Sg		00 00 46.9	-1.2
MAKR	**Makrakomi, Fth**	1.12	296	P		Pg		00 00 34.4	-0.5
MAKR				S		Sn		00 00 50.7	+0.6
MAKR	**Makrakomi, Fth**	1.12	296	P		Pg		00 00 34.4	-0.5
MAKR				S		Sn		00 00 50.7	+0.6
EFP	**Efpalio**	1.20	265	P		Pg		00 00 34.5	-1.9
EFP				S		Sn		00 00 52.5	+0.6
EFP	**Efpalio**	1.20	265	*e*PN		Pg		00 00 35.3	-1.1
EFP				*e*SN		Sn		00 00 52.5	+0.6
EFP	**Efpalio**	1.20	265	P		Pg		00 00 34.5	-1.9
EFP	**Efpalio**	1.20	265	*e*Pn		Pg		00 00 35.3	-1.1
EFP				S		Sn		00 00 52.5	+0.6
EVR	**Evrytania**	1.32	287	P		Pn		00 00 38.0	+0.4
EVR				S		Sn		00 00 56.9	+1.7
EVR	**Evrytania**	1.32	287	*e*PN		Pn		00 00 38.1	+0.4
EVR	**Evrytania**	1.32	287	P		Pn		00 00 38.0	+0.4
EVR				S		Sn		00 00 56.9	+1.7
PAIG	**Paliouri**	1.41	8	P		Pn		00 00 38.3	-0.4
PAIG	**Paliouri**	1.41	8	P		Pn		00 00 38.3	-0.4
VLX	**Vlachokerasia**	1.43

KHAL	Karahalli	1.58	70	*i* P		Pb	00 00 47.0	-0.5
KHL	Karahalli	1.59	72	*e*PN		Pb	00 00 47.1	-0.5
KHL	Karahalli	1.59	72	*e*Pn		Pb	00 00 47.1	-0.5
FETY	Fethiye	1.70	135	*e*PN		Pb	00 00 49.0	-0.4
FETY	Fethiye	1.70	135	*e*Pn		Pb	00 00 49.0	-0.4
BALB	Balikesir	1.80	7	*e*PN		Pb	00 00 50.2	-0.8
BALB	Balikesir	1.80	7	*e*Pn		Pb	00 00 50.2	-0.8
DST	Dursunbey	1.92	24	*e*PN		Pn	00 00 51.8	+1.0
DST	Dursunbey	1.92	24	*e*Pn		Pn	00 00 51.8	+1.0
ELL	Elmali	2.15	120	*e*PN		Pn	00 00 55.3	+1.3
ELL	Elmali	2.15	120	*e*Pn		Pn	00 00 55.3	+1.3
TVSB	Tavsanli	2.16	42	*e*PN		Pn	00 00 55.3	+1.1
TVSB	Tavsanli	2.16	42	*e*Pn		Pn	00 00 55.3	+1.1
GONE	Gonen-Balikesi	2.19	2	*e*PN		Pn	00 00 55.8	+1.3
GONE	Gonen-Balikesi	2.19	2	*e*Pn		Pn	00 00 55.8	+1.3
ALT	Altintas	2.31	58	*e*PN		Pn	00 00 57.4	+1.2
ALT	Altintas	2.31	58	*e*Pn		Pn	00 00 57.4	+1.2
SHUT	Suhut-Afyon	2.43	72	*e*PN		Pn	00 00 59.1	+1.2
SHUT	Suhut-Afyon	2.43	72	*e*Pn		Pn	00 00 59.1	+1.2

SZGRF ***23*** *00:04:15.0, 58˚.43N× 157˚.68W, h33km, mb4.9, Alaska Peninsula, United States*

MOS ***23*** *00:04:24.6±0.8, 59˚.16N× 153˚.99W, h91km, mb4.9/82, Error ellipse: s-maj=8.5km s-min=4.0km az=88.0*

ISCJB ***23*** *00:04:25.4±0.2, 59˚.18N±0˚.01× 153˚.95W±0˚.02, h96km±1km, mb4.9/237, Error ellipse: s-maj=2.4km s-min=2.0km az=24.3*

BJI ***23*** *00:04:26.6, 59˚.66N× 154˚.24W, h95km, mB5.2/22, mb5.1/39*

IDC ***23*** *00:04:27.1±0.5, 59˚.23N× 153˚.91W, h96km±3km, mb4.4/31, mb1 4.6/36, mb1mx4.5/38, mbtmp4.4/36, MS3.7/26, Ms1 3.7/26, ms1mx3.5/45, Error ellipse: s-maj=10.0km s-min=7.4km az=8.0*

NEIC ***23*** *00:04:27.2, 58˚.92N× 153˚.63W, h88km, mb5.0/133, MW5.0(USGS), After AEIC.*

NEIC Felt at Homer and Kodiak.

BGS ***23*** *00:04:33.0±1.8, 60˚.04N× 152˚.60W, h88km, mb4.8*

ISC 23 00:04:26.4±0.2, 59˚.03N±0˚.02× 153˚.79W±0˚.02, h94km±1km, h93km:pP-P, n1059, σ1939/1159, mb4.9/237, 209C-202D, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOPK	Fourpeaked Vol	0.32	149	P	Pn	00 04 39.5	-0.8
AUW	Augustine West	0.38	25	P	Pn	00 04 41.3	+0.6
AUNW	Augustine NWes	0.39	24	P	Pn	00 04 41.3	+0.6
AUE	Augustine Isla	0.39	33	P	Pn	00 04 41.4	+0.7
AUL	Augustine Lava	0.40	27	P	Pn	00 04 41.3	+0.6
AUL				S	Sn	00 04 53.3	+1.7
KAPH	Katmai Pasha	0.52	214	P	Pn	00 04 41.5	-0.2
OPT	Oil Point	0.69	24	P	Pn	00 04 43.9	+0.8
KARR	Katmai Rainbow	0.72	222	P	Pn	00 04 43.2	-0.2
KAKN	Katmai Knife C	0.99	223	P	Pn	00 04 45.8	-0.5
KAKN				S	Sn	00 05 01.4	+0.1
KCE	Katmai Mt Cerb	1.07	223	P	Pn	00 04 47.2	0.0
ILW	Iliamna West	1.09	17	P	Pn	00 04 48.1	+0.7
KABU	Katmai Buttres	1.09	226	P	Pn	00 04 47.2	-0.2
KABU				S	Sn	00 05 03.2	0.0
KABR	Katmai Barrier	1.09	215	P	Pn	00 04 46.9	-0.6
INE	Iliamna NE	1.10	19	P	Pn	00 04 48.2	+0.7
ACHA	Angle Creek He	1.15	225	P	Pn	00 04 47.9	-0.2
ANCK	Angle Creek	1.22	228	P	Pn	00 04 48.8	-0.1
CAHL	Cahill	1.26	220	P	Pn	00 04 49.2	-0.2
KDAK	Kodiak Island	1.40	153	P	Pn	00 04 49.5	-1.5
KDAK				S	Sn	00 05 06.9	-2.8
KDAK	Kodiak Island 2μm,0.3s,baz=359,slow=6.1,SNR=5334	1.40	153	P	Pn	00 04 49.5	-1.5
KDAK				S	Sn	00 05 07.1	-2.5
KDAK	2μm,0.3s,baz=234,slow=23,SNR=35			LR	LR	00 05 25.5	
	comp=Z,7μm,19.3s,baz=305,slow=36						
RSO	Redoubt South	1.53	20	*e*Pn	Pn	00 04 53.6	+0.7
RDN	Redoubt North	1.58	19	P	Pn	00 04 54.2	+0.9
NCT	North Crescent	1.60	15	P	Pn	00 04 54.5	+0.9
BRLK	Bradley Lake	1.66	62	P	Pn	00 04 53.5	-0.8
BRLK				S	Sn	00 05 14.4	-1.0
DFR	Drift River	1.66	19	P	Pn	00 04 55.2	+0.8
BKG	Blockade Glaci	2.19	20	P	Pn	00 05 02.2	+1.0
SVW2	Sparrevohn	2.26	337	*e*Pn	Pn	00 05 02.7	+0.7
CKL	Chakachamna La	2.29	18	P	Pn	00 05 03.6	+1.0
SPU	Mount Spurr	2.33	21	P	Pn	00 05 03.7	+0.7
SLKM	Skilak Lake	2.33	49	P	Pn	00 05 02.7	-0.4
SLKM	Skilak Lake	2.33	49	P	Pn	00 05 02.7	-0.4
CKN	Chakachatna No	2.34	19	P	Pn	00 05 04.3	+1.1
BGX	Barrier Glacie	2.35	17	P	Pn	00 05 04.5	+1.2
CP2	Crater Peak Tw	2.37	18	P	Pn	00 04 48.8	+1.1
CRP	Crater Peak	2.39	19	P	Pn	00 05 04.9	+1.0
CRP				S	Sn	00 05 35.4	+2.7
SPCG	Spurr Capps Gl	2.44	20	P	Pn	00 05 05.3	+0.8
SEW	Seward	2.46	62	P	Pn	00 05 03.4	-1.2
SEW				S	Sn	00 05 31.0	-3.0
STLK	Strandline Lak	2.66	21	P	Pn	00 05 08.2	+0.8
SUA	Susitna One	2.88	31	P	Pn	00 05 10.8	+0.5
SUA				S	Sn	00 05 45.6	+1.5
RC01	Rabbit Creek A	2.90	43	P	Pn	00 05 10.1	-0.4
RC01				S	Sn	00 05 42.8	-1.7
ANNE	Aniakchak Nort	3.11	229	P	Pn	00 05 13.1	-0.4
ANNW	Aniakchak Nort	3.14	231	P	Pn	00 05 13.4	-0.4
SKT	Skwentna	3.16	20	P	Pn	00 05 14.5	+0.4
ANPK	Aniakchak Peak	3.19	228	P	Pn	00 05 14.4	-0.1
AZAC	Aniakchak	3.19	230	P	Pn	00 05 14.6	+0.1
PMR	Palmer	3.46	40	P	Pn	00 05 17.3	-0.7
PMR	Palmer	3.46	40	P	Pn	00 05 17.3	-0.7
MID	Middleton Isla	3.85	81	P	Pn	00 05 21.0	-2.3
MID	Middleton Isla	3.85	81	P	Pn	00 05 21.0	-2.3
SML	Sawmill	3.88	42	P	Pn	00 05 23.1	-0.7
SML	Sawmill	3.88	42	P	Pn	00 05 23.1	-0.7
PPLA	Purkeypile	3.96	11	P	Pn	00 05 26.4	+1.5
VNHG	Veniaminof 1	4.04	228	P	Pn	00 05 26.9	+1.0
VNSG	Veniaminof 6	4.08	227	P	Pn	00 05 27.2	+0.8
VNFG	Veniaminof 2	4.14	231	P	Pn	00 05 27.5	+0.1
SCM	Sheep Creek Mo	4.26	46	P	Pn	00 05 28.3	-0.7
SCM	Sheep Creek Mo	4.26	46	P	Pn	00 05 28.2	-0.7
VLZ	Valdez	4.29	57	P	Pn	00 05 28.1	-1.1
EYAK	Cordova Ski Ar	4.34	66	P	Pn	00 05 28.6	-1.3
EYAK				S	Sn	00 06 13.2	-6.0
DIV	Divide	4.53	59	P	Pn	00 05 31.7	-0.9
DIV				S	Sn	00 06 20.8	-3.3
TRF	Thorofare Moun	4.75	19	P	Pn	00 05 35.0	-0.6
GOAT	Goat Mountain	4.83	67	P	Pn	00 05 36.6	-1.1
GOAT				S	Sn	00 06 26.9	-4.5
RND	Reindeer	5.00	26	P	Pn	00 05 38.7	-0.2
RND	Reindeer	5.00	26	P	Pn	00 05 38.7	-0.2
BMRM	Bremner River	5.00	63	P	Pn	00 05 37.3	-1.6
BMRM				S	Sn	00 06 31.5	-4.0
DHY	Denali Highway	5.12	35	P	Pn	00 05 40.1	-0.5
DHY				S	Sn	00 06 36.2	-2.2
NICHA	Nichawak Mount	5.13	72	P	Pn	00 05 40.0	-0.6
SDPT	Sand Point	5.18	227	*e*Pn	Pn	00 05 43.8	+2.5
MCK	McKinley	5.26	24	P	Pn	00 05 42.7	+0.2
MCK	McKinley	5.26	24	P	Pn	00 05 42.7	+0.2
BERG	Berg Lake	5.29	71	P	Pn	00 05 41.9	-0.9
HARP	HAARP	5.42	48	P	Pn	00 05 44.2	-0.4
GRIN	Grindle Hills	5.46	72	P	Pn	00 05 44.5	-0.6
KHIT	Khitrov Hills	5.52	71	P	Pn	00 05 44.8	-1.1
VRDI	Verde Repeater	5.62	62	P	Pn	00 05 46.4	-1.1
PAX	Paxson	5.66	42	P	Pn	00 05 47.3	-0.6
PAX	Paxson	5.66	42	P	Pn	00 05 47.2	-0.6
PS4A	Pavlof South-4	5.73	233	P	Pn	00 05 50.1	+1.2
KULT	Kultieth River	5.75	73	P	Pn	00 05 48.5	-0.6
BARK	Barkley Ridge	5.88	72	P	Pn	00 05 50.5	-0.4
GCSA	Galena City Sc	5.92	347	P	Pn	00 05 52.4	+1.1
ISLE	Juniper Island	5.99	70	P	Pn	00 05 51.4	-1.1
NEA	Nenana	6.00	20	P	Pn	00 05 52.0	-0.4
DTNA	Dutton South F	6.03	234	P	Pn	00 05 54.7	+1.7
KIAG	Kiagna River	6.04	67	P	Pn	00 05 52.0	-1.2
DT1	Dutton Round H	6.07	233	P	Pn	00 05 54.1	+0.6
BAGL	Bagley Icefiel	6.09	71	P	Pn	00 05 53.6	-0.1
DDM	Donnelly Dome	6.10	35	P	Pn	00 05 54.9	+1.0
MESA	MESA	6.12	74	P	Pn	00 05 53.8	-0.5
DRIA	Deer Island	6.17	232	P	Pn	00 05 55.1	+0.4
MLY	Manley	6.19	12	P	Pn	00 05 55.1	+0.1
MENT	Mentasta	6.27	47	*e*Pn	Pn	00 05 56.2	+0.1
MENT				*e*Sn	Sn	00 07 01.6	-4.7
CCB	Clear Creek Bu	6.31	24	P	Pn	00 05 55.5	-1.0
BARN	Barnard Glacie	6.41	66	P	Pn	00 05 57.2	-1.0
BARN				S	Sn	00 07 05.1	-4.8
RKAV	Rock Avalanche	6.43	73	P	Pn	00 05 58.6	+0.1
COLA	College	6.50	23	P	Pn	00 05 58.7	-0.4
COLA	College	6.50	23	P	Pn	00 05 58.8	-0.4
MDM	Murphy Dome	6.50	21	P	Pn	00 05 58.5	-0.8
CHX	Chaix Hills	6.53	75	P	Pn	00 05 59.7	0.0
TABL	Table Mountain	6.55	72	P	Pn	00 05 59.8	-0.3
DOT	Dot Lake	6.58	41	P	Pn	00 05 59.8	-0.6
ILAR	Eielson Array	6.62	27	P	Pn	00 06 00.1	-0.8
ILAR				S	Sn	00 07 10.5	-4.2
ILAR				ScP	ScP	00 16 08.0	-0.8
ILAR	Eielson Array 9.6nm,0.3s,baz=213,slow=13,SNR=528	6.62	27	P	Pn	00 06 00.1	-0.8
ILAR				S	Sn	00 07 10.5	-4.2
	41nm,0.3s,baz=211,slow=16,SNR=9.4						
ILAR				ScP	ScP	00 16 08.0	-0.8
	0.0nm,0.3s,baz=278,slow=2.6,SNR=8.7						
GLM	Gilmore Dome	6.69	24	P	Pn	00 06 01.5	-0.4
SAMH	Samovar Hills	6.70	75	P	Pn	00 05 58.5	-3.6
EGAK	Eagle	8.28	41	*e*Pn	Pn	00 06 22.5	-0.9
COLD	Coldfoot	8.39	10	*e*Pn	Pn	00 06 24.7	-0.1
DAWY	Dawson	8.52	48	*e*Pn	Pn	00 06 27.1	+0.4
DAWY				*e*Sn	Sn	00 08 01.4	+0.4
SKAG	Skagway	9.46	79	*e*Pn	Pn	00 06 39.2	-0.3
SIT	Sitka	9.98	93	*e*P	Pn	00 06 44.3	-2.3
SIT				pmax	pmax		
	comp=Z,53nm,0.6s						
SIT	Sitka	9.98	93	*e*Pn	Pn	00 06 44.3	-2.3
	comp=Z,53nm,0.6s						
SIT				*e*Sn	Sn	00 08 29.2	-7.3
CRAG	Craig	11.73	99	*e*Pn	Pn	00 07 06.7	-3.6
	comp=Z,32nm,0.6s						
CRAG				*e*Sn	Sn	00 09 14.1	-5.0
WRAK	Wrangell Islan	11.74	94	*e*Pn	Pn	00 07 09.7	-0.7
	comp=Z,95nm,0.8s						
WRAK				*e*Sn	Sn	00 09 17.6	-1.7
DLBC	Dease Lake	12.34	83	*e*Pn	Pn	00 07 18.9	+0.5
DLBC				S	Sn	00 09 30.6	-3.4
DLBC				*e*Sn	Sn	00 09 32.5	-1.5
DLBC	Dease Lake comp=Z,5.6nm,0.3s,baz=279,slow=12,SNR=49	12.34	83	P	Pn	00 07 19.1	+0.5
DLBC				S	Sn	00 09 30.6	-3.4
	comp=Z,4.1nm,0.3s,baz=120,slow=22,SNR=5.8						
INK	Inuvik	12.86	35	*e*Pn	Pn	00 07 24.5	-0.7
INK				S	Sn	00 09 44.4	-1.9
INK	Inuvik comp=Z,0.9nm,0.3s,baz=233,slow=16,SNR=40	12.86	35	P	Pn	00 07 23.7	-1.5
INK				S	Sn	00 09 44.4	-1.9
	comp=Z,0.7nm,0.3s,baz=288,slow=19,SNR=4.3						
INK				LR	LR	00 12 45.0	
	comp=Z,301nm,21.2s,baz=224,slow=39						
YKA	Yellowknife Ar	19.23	63	P	P	00 08 43.0	+0.2
YKA				sP	sP	00 09 13.1	+0.6
YKA				PcP	PcP	00 13 01.6	+0.1
YKA				ScP	ScP	00 16 28.1	-0.4
YKA				*e*		00 43 05.5	
YKA	Yellowknife Ar comp=Z,0.8nm,0.3s,baz=276,slow=9.9,SNR=257	19.23	63	P	P	00 08 42.9	+0.2
YKA				sP	sP	00 09 13.1	+0.6
	comp=Z,0.6nm,0.3s,baz=276,slow=10,SNR=5.3						
YKA				PcP	PcP	00 13 01.6	+0.1
	comp=Z,0.2nm,0.3s,baz=282,slow=1.4,SNR=7.6						
YKA				ScP	ScP	00 16 28.1	-0.4
	comp=Z,0.1nm,0.3s,baz=288,slow=2.1,SNR=12						
YKA				P3KPbc		00 43 05.5	
	comp=Z,0.0nm,0.3s,baz=91,slow=5.1,SNR=5.1						
FX1	Attu Island--F	19.35	266	P	P	00 08 44.7	+0.6
FX1	Attu Island--F comp=Z,19nm,0.3s,baz=212,slow=12,SNR=8.7	19.35	266	P	P	00 08 44.7	+0.6
PGC	Sidney comp=Z,2.2nm,0.9s	20.51	107	*e*P	Pn	00 08 58.6	-1.0
OSD	Olympics--Snow	20.95	109	P	Pn	00 09 04.1	-1.0
NLWA	Neilton Lookou comp=Z,49nm,1.0s	21.16	110	*e*P	P	00 09 06.1	+2.4
CMW	Cultus Mountai	21.32	106	P	P	00 09 07.9	+2.4
NLW	Nelson Butte	22.44	104	P	P	00 09 19.2	+1.8
LON	Longmire	22.62	109	*e*P	P	00 09 21.6	+2.4
LON				*e**PP	pP	00 09 41.7	+4.0
LON				pmax	pmax		
	comp=Z,50nm,1.7s						
LON	Longmire comp=Z,50nm,1.7s	22.62	109	*e*P	P	00 09 21.6	+2.4
LON				*e*pP	pP	00 09 41.7	+4.0
SAW	Saint Andrews	23.16	104	P	P	00 09 26.1	+1.6
GBB	Gable Butte	23.79	106	P	P	00 09 31.9	+1.7
NEW	Newport comp=Z,22nm,0.9s	23.94	101	*e*P	P	00 09 33.0	+1.4
NEW				*e*ScP	ScP	00 16 41.1	+0.4
NEW	Newport baz=24,SNR=24	23.94	101	↓P	P	00 09 32.9	+1.4
A12A	Yaak River Ran baz=24,SNR=17	24.26	98	↑P	P	00 09 35.7	+1.2
KEBM	Edson Butte comp=Z,120nm,1.2s	24.32	119	*e*P	P	00 09 39.5	+4.5
B12A	Libby baz=24,SNR=12	24.59	99	↓P	P	00 09 39.0	+1.5
VIPM	Ingram Point	24.81	111	P	P	00 09 41.3	+1.7
VIPM	Ingram Point	24.81	111	P	P	00 09 41.3	+1.7
A13A	Flathead Natio baz=25	24.90	96	↓P	P	00 09 41.3	+1.0
WALA	Waterton Lakes comp=Z,0.3nm,0.6s	25.08	96	*e*P	P	00 09 43.1	+1.1
C12B	Naegeli Ranch, baz=25,SNR=8.2	25.14	100	↑P	P	00 09 43.6	+1.1
HUMO	Hull Mountain comp=Z,25nm,0.9s	25.16	117	*e*P	P	00 09 45.2	+2.6
B13A	Whitefish baz=25,SNR=12	25.23	98	↑P	P	00 09 44.1	+0.9
A14A	Double T Ranch baz=25,SNR=10	25.39	95	↓P	P	00 09 45.6	+0.9
BSMT	Bassoo Peak	25.40	99	*e*P	P	00 09 46.4	+1.4
BSMT				*e*ScP	ScP	00 16 44.7	-0.2
KRMB	Red Mountain comp=Z,327nm,2.7s	25.58	120	*e*P	P	00 09 49.3	+2.7
C13A	Hot Springs baz=25,SNR=18	25.62	99	↑P	P	00 09 47.9	+1.1
D12A	Red Ives Fores baz=25	25.64	101	↓P	P	00 09 47.9	+0.9
JTMT	Jette	25.73	98	*e*P	P	00 09 49.4	+1.6
JTMT				*e*ScP	ScP	00 16 45.8	-0.1
A15A	Johnson Ranch, baz=26,SNR=6.9	25.74	95	↑P	P	00 09 48.3	+0.5
SEY	Seymchan	25.75	302	*e*P	P	00 09 47.0	-0.7
YBMT	Yellow Bay comp=Z,6.7nm,1.0s	25.79	98	*e*P	P	00 09 48.9	+0.5
B14A	Marquette Ranc baz=26,SNR=5.5	25.85	96	↑P	P	00 09 49.7	+0.8
YBH	Yreka Blue Hor comp=Z,24nm,1.2s	25.96	118	*e*P	P	00 09 50.4	+0.5
YBH				pP	pP	00 10 12.9	+2.1
YBH	Yreka Blue Hor comp=Z,9.6nm,0.8s,baz=354,slow=1.6,SNR=19	25.96	118	P	P	00 09 52.0	+2.1
YBH				pP	pP	00 10 12.9	+2.1
	comp=Z,11nm,0.9s,baz=212,slow=8.3,SNR=5.3						
YBH				LR	LR	00 18 41.4	
	comp=Z,70nm,19.4s,baz=309,slow=33						
SWMT	Swartz Lake	26.03	99	*e*P	P	00 09 52.0	+1.5
D13A	Huson baz=26,SNR=5.4	26.07	100	↑P	P	00 09 51.6	+0.7
KHMM	Horse Mountain	26.18	121	*e*pP	pP	00 10 17.0	+4.0
BMO	Blue Mountains comp=Z,20nm,1.3s	26.18	107	*e*P	P	00 09 53.3	+1.3
B15A	Bradely Ranch, baz=26,SNR=14	26.24	96	↑P	P	00 09 52.9	+0.5
RES	Resolute Bay comp=Z,26nm,1.3s	26.34	31	*e*P	P	00 09 53.0	0.0
RES	Resolute Bay comp=Z,7.2nm,0.9s,baz=250,slow=11,SNR=25	26.34	31	P	P	00 09 53.0	0.0
SLMT	Seeley Lake	26.46	99	*e*P	P	00 09 55.6	+1.2
SLMT				*e*ScP	ScP	00 16 47.4	-0.6
MSO	Missoula comp=Z,8.8nm,1.1s	26.51	100	*e*P	P	00 09 55.9	+1.0
MSO	Missoula baz=26	26.51	100	↑P	P	00 09 55.4	+0.6
D14A	Greenough baz=26,SNR=23	26.56	99	↓P	P	00 09 56.2	+0.8
C15A	Salmond Ranch, baz=26	26.57	97	↓P	P	00 09 56.2	+0.8
F12A	Elk City baz=26,SNR=11	26.57	103	↓P	P	00 09 56.4	+0.9
B16A	M & M Farms, S baz=26,SNR=5.1	26.62	95	↓P	P	00 09 55.9	+0.1
E13A	Victor baz=26	26.64	101	↓P	P	00 09 56.7	+0.6
PET	Petropavlovsk	26.76	278	*e*P	P	00 09 57.6	+0.7
PET				pmax	pmax		
	comp=Z,125nm,1.4s						
PET	Petropavlovsk comp=Z,125nm,1.4s	26.76	278	*e*P	P	00 09 57.6	+0.7
CHMT	Chamberlain Mo	26.80	99	*e*P	P	00 09 58.6	+1.0
A17A	Triple J Farms baz=27	26.81	93	↓P	P	00 09 58.1	+0.6
MOD	Modoc comp=Z,19nm,1.1s	26.94	115	*e*P	P	00 10 01.1	+2.2
WDC	Whiskeytown Da	26.95	119	*e*P	P	00 09 59.5	+0.7
WDC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
WDC	Whiskeytown Da comp=Z,10nm,0.9s	26.95	119	*e*P	P	00 09 59.5	+0.7
G12A	Big Creek, Yel baz=27	26.98	104	↑P	P	00 09 59.8	+0.7
C16A	Fuhringer Ranc baz=27,SNR=6.4	26.99	96	↑P	P	00 09 59.6	+0.4
E14A	Clinton baz=27,SNR=6.4	27.01	100	↑P	P	00 10 00.4	+0.9
F13A	Darby baz=27,SNR=17	27.02	102	↓P	P	00 10 00.4	+0.9
D15A	Lincoln baz=27,SNR=8.6	27.09	98	↓P	P	00 10 00.9	+0.7
B17A	L&G Farms, Che baz=27,SNR=10	27.16	94	↑P	P	00 10 01.3	+0.7
PETK	Petropavlovsk-	27.20	279	P	P	00 10 00.7	-0.2
PETK						00 13 17.6	
PETK	Petropavlovsk-	27.20	279	P	P	00 10 00.7	-0.2
PETK				PcP	PcP	00 13 17.6	-0.9
PETK				ScP	ScP	00 16 48.9	-1.0
PETK	Petropavlovsk- comp=Z,4.8nm,0.4s,baz=69,slow=13,SNR=20	27.20	279	P	P	00 10 00.7	-0.2
PETK				PcP	PcP	00 13 17.6	-0.9
	comp=Z,11nm,1.0s,baz=116,slow=12,SNR=5.0						
PETK				ScP	ScP	00 16 48.9	-1.0
	comp=Z,13nm,1.1s,baz=79,slow=7.7,SNR=5.5						
PETK				LR	LR	00 19 35.7	
	comp=Z,93nm,20.6s,baz=68,slow=34						
A18A	Metzger Ranch, baz=27	27.26	92	↓P	P	00 10 02.5	+1.0
E15A	Deer Lodge baz=27,SNR=6.4	27.44	99	↓P	P	00 10 04.0	+0.7
F14A	Wisdom baz=27,SNR=9.0	27.49	101	↑P	P	00 10 05.1	+1.4
G13A	Cobalt baz=27,SNR=20	27.55	103	↓P	P	00 10 05.7	+1.5
D16A	Dana Ranch, Ca baz=27,SNR=9.8	27.60	97	↓P	P	00 10 05.4	+0.8
C17A	Wharram Farm, baz=27	27.61	95	↑P	P	00 10 05.5	+0.8
H12A	Diamond D Ranc baz=27,SNR=6.1	27.62	104	↓P	P	00 10 05.9	+1.0
B18A	Beardsley Farm baz=27,SNR=5.0	27.63	93	↑P	P	00 10 05.6	+0.8
HRY	Holter Researc	27.66	98	*e*P	P	00 10 06.5	+1.3
HRY				*e*ScP	ScP	00 16 54.6	+3.0
A19A	Klindworth Far baz=28	27.83	91	↑P	P	00 10 07.7	+1.1
G14A	Jackson baz=28,SNR=11	27.84	102	↓P	P	00 10 07.8	+0.9
E16A	East Helena baz=28,SNR=25	27.86	98	↑P	P	00 10 08.4	+1.4
EGMT	Eagleton comp=Z,16nm,1.0s	27.88	94	*e*P	P	00 10 07.9	+0.9
EGMT	Eagleton baz=28,SNR=6.1	27.88	94	↑P	P	00 10 07.6	+0.5
H13A	Challis baz=28,SNR=20	27.91	104	↓P	P	00 10 08.8	+1.3
F15A	Butte baz=28,SNR=7.0	27.91	100	↓P	P	00 10 08.6	+1.0
LRM	Limekiln Ridge	27.95	100	*e*P	P	00 10 09.4	+1.5
D17A	Six Diamond Ra baz=28,SNR=7.1	27.96	96	↓P	P	00 10 08.5	+0.7
MFID	Camas Ranch comp=Z,11nm,1.1s	27.96	107	*e*P	P	00 10 09.4	+1.6
MFID	Camas Ranch baz=28,SNR=5.5	27.96	107	↓P	P	00 10 09.0	+1.1
B19A	Brinkman Farms baz=28	28.02	92	↓P	P	00 10 09.6	+1.4
I12A	Atlanta baz=28,SNR=9.5	28.03	106	↓P	P	00 10 09.7	+1.1
FFC	Flin Flon	28.04	76	*i* P	P	00 10 10.5	+2.2
DLMT	Dillon comp=Z,8.2nm,1.0s	28.19	101	*e*P	P	00 10 11.4	+1.5
DLMT				*e*ScP	ScP	00 16 54.3	+1.0
A20A	Cobblestone Ra baz=28	28.28	91	↑P	P	00 10 12.0	+1.4
H14A	Leadore baz=28,SNR=13	28.32	103	↓P	P	00 10 12.3	+1.1
E17A	Martinsdale baz=28	28.33	97	↓P	P	00 10 12.6	+1.3
G15A	Dillon baz=28,SNR=13	28.38	101	↑P	P	00 10 12.8	+1.1
D18A	Linhart Farms, baz=28	28.39	95	↑P	P	00 10 13.3	+1.7
F16A	Kennard Place, baz=28	28.40	99	↓P	P	00 10 13.4	+1.7
C19A	Slack Wire Ran baz=28,SNR=9.5	28.43	93	↓P	P	00 10 13.2	+1.3
I13A	Wildhorse Cree baz=28,SNR=7.7	28.45	104	↓P	P	00 10 13.6	+1.3
BOZ	Bozeman (W)	28.49	99	*e*P	P	00 10 14.4	+1.8
BOZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOZ	Bozeman (W) comp=Z,3.6nm,0.8s	28.49	99	*e

CMB					*e*				00 16 59.1
CMB					pmax		pmax		
	comp=Z,40nm,1.8s								
CMB	**Columbia Colle**	**30.00**	**120**		*e*P		**P**		**00 10 27.6 +1.8**
	comp=Z,40nm,1.8s								
CMB					*e*ScP		**ScP**		**00 16 59.1 +0.2**
C22A	**Vida**	**30.05**	**91**	⇓	P		**P**		**00 10 27.5 +1.2**
	baz=30								
FLWY	**Flagg Ranch**	**30.05**	**101**		*e*P		**P**		**00 10 29.4 +2.9**
	comp=Z,43nm,0.8s								
RLMT	**Red Lodge**	**30.06**	**98**		*e*P		**P**		**00 10 28.9 +2.3**
	comp=Z,10nm,0.8s								
RLMT	**Red Lodge**	**30.06**	**98**	⇑	P		**P**		**00 10 28.6 +2.0**
	baz=30,SNR=11								
IMW	**Indian Meadow**	**30.06**	**101**		*e*P		**P**		**00 10 28.8 +2.1**
	comp=Z,28nm,0.8s								
K15A	**Arbon**	**30.14**	**104**	⇓	P		**P**		**00 10 29.2 +2.0**
	baz=30,SNR=6.4								
DCID1	**Drake Creek**	**30.16**	**102**		*e*P		**P**		**00 10 30.3 +2.9**
	comp=Z,18nm,1.0s								
H18A	**Shoshone NF, C**	**30.16**	**99**	⇓	P		**P**		**00 10 29.0 +1.5**
	baz=30,SNR=8.8								
F20A	**Billings**	**30.17**	**96**	⇑	P		**P**		**00 10 29.1 +1.7**
	baz=30								
J16A	**Bone**	**30.17**	**103**	⇑	P		**P**		**00 10 29.3 +1.7**
	baz=30,SNR=9.1								
I17A	**Pilgrim Ck.**	**30.23**	**101**	⇑	P		**P**		**00 10 30.4 +2.2**
	baz=30,SNR=9.5								
L14A	**Malta**	**30.26**	**106**	⇓	P		**P**		**00 10 30.0 +1.7**
	baz=30								
RRI2	**Red Ridge**	**30.26**	**102**		*e*P		**P**		**00 10 30.6 +2.1**
	comp=Z,68nm,2.3s								
MOOW	**Moose Ponds**	**30.27**	**101**		*e*P		**P**		**00 10 30.1 +1.7**
	comp=Z,70nm,2.3s								
A24A	**Westby**	**30.28**	**87**	⇑	P		**P**		**00 10 29.9 +1.6**
	baz=30								
D22A	**Cohagen**	**30.29**	**92**	⇑	P		**P**		**00 10 30.3 +1.9**
	baz=30,SNR=5.1								
TPAW	**Teton Pass**	**30.35**	**102**		*e*P		**P**		**00 10 31.6 +2.4**
	comp=Z,15nm,0.8s								
C23A	**Lambert**	**30.38**	**90**	⇓	P		**P**		**00 10 30.6 +1.5**
	baz=30								
LOHW	**Long Hollow**	**30.44**	**101**		*e*P		**P**		**00 10 31.7 +1.8**
	comp=Z,18nm,0.8s								
SNOW	**Snow King Moun**	**30.47**	**101**		*e*P		**P**		**00 10 32.8 +2.6**
	comp=Z,19nm,0.8s								
K16A	**Soda Springs**	**30.50**	**103**	⇑	P		**P**		**00 10 31.9 +1.5**
	baz=30								
H19A	**Powell**	**30.52**	**98**	⇓	P		**P**		**00 10 32.7 +2.2**
	baz=30,SNR=7.0								
G20A	**Bridger**	**30.53**	**97**	⇓	P		**P**		**00 10 32.0 +1.4**
	baz=30,SNR=6.1								
J17A	**Brown Place, J**	**30.56**	**102**	⇑	P		**P**		**00 10 32.8 +1.8**
	baz=30,SNR=13								
NVAR	**Mina Array Bea**	**30.62**	**116**		P		**P**		**00 10 33.5 +1.9**
NVAR					pP		**pP**		**00 10 55.5 +2.7**
NVAR					PcP		**PcP**		**00 13 27.8 +0.2**
NVAR					pPcP				00 13 53.8
NVAR					ScP		**ScP**		**00 17 01.9 +0.6**
NVAR	**Mina Array Bea**	**30.62**	**116**		P		**P**		**00 10 33.5 +1.9**
	comp=Z,9.4nm,0.9s,baz=304,slow=8.6,SNR=28								
NVAR					pP		**pP**		**00 10 55.5 +2.7**
	comp=Z,7.5nm,0.9s,baz=299,slow=8.3,SNR=6.3								
NVAR					PcP		**PcP**		**00 13 27.8 +0.2**
	comp=Z,2.3nm,0.8s,baz=299,slow=1.4,SNR=5.7								
NVAR					pPcP				00 13 53.8
	comp=Z,2.0nm,0.8s,baz=250,slow=1.0,SNR=4.5								
NVAR					ScP		**ScP**		**00 17 01.9 +0.6**
	comp=Z,3.3nm,0.8s,baz=300,slow=2.8,SNR=11								
HVU	**Hansel Valley**	**30.68**	**106**		*e*P		**P**		**00 10 34.8 +2.8**
HVU					pmax		pmax		
	comp=Z,15nm,1.2s								
HVU	**Hansel Valley**	**30.68**	**106**		*e*P		**P**		**00 10 34.8 +2.8**
	comp=Z,15nm,1.2s								
L15A	**Malad City**	**30.71**	**105**	⇑	P		**P**		**00 10 34.2 +1.9**
	baz=30,SNR=9.1								
I18A	**Diamond G Ranc**	**30.77**	**100**	⇑	P		**P**		**00 10 35.0 +2.1**
	baz=31,SNR=9.4								
D23A	**Lindsay**	**30.77**	**91**	⇓	P		**P**		**00 10 34.4 +1.7**
	baz=31								
E22A	**Miles City**	**30.88**	**93**	⇓	P		**P**		**00 10 35.1 +1.6**
	baz=31								
C24A	**Savage**	**30.95**	**90**	⇑	P		**P**		**00 10 36.2 +2.1**
	baz=31								
I19A	**Meeteetse**	**30.95**	**99**	⇑	P		**P**		**00 10 36.7 +2.2**
	baz=31,SNR=5.8								
J18A	**Kendall Valley**	**31.02**	**101**	⇓	P		**P**		**00 10 36.7 +1.6**
	baz=31,SNR=30								
G21A	**Lodge Grass**	**31.05**	**96**	⇑	P		**P**		**00 10 36.5 +1.4**
	baz=31								
M15A	**Larsen Ranch,**	**31.08**	**106**	⇑	P		**P**		**00 10 37.1 +1.6**
	baz=31,SNR=8.2								
H20A	**Greybull**	**31.15**	**97**	⇓	P		**P**		**00 10 37.2 +1.1**
	baz=31,SNR=5.1								
F22A	**Rosebud**	**31.16**	**94**	⇑	P		**P**		**00 10 37.4 +1.3**
	baz=31								
L16A	**Fish Haven**	**31.18**	**104**	⇑	P		**P**		**00 10 38.1 +1.7**
	baz=31,SNR=14								
D24A	**Glendive**	**31.27**	**90**	⇓	P		**P**		**00 10 38.9 +1.9**
	baz=31								
MTUM	**Tungsten Hills**	**31.38**	**118**		*e*P		**P**		**00 10 40.7 +2.5**
MTUM					*ep*P		**pP**		**00 11 02.9 +3.5**
MTUM					*e*ScP		**ScP**		**00 17 04.4 +0.6**
HWUT	**Hardware Ranch**	**31.42**	**105**		*e*P		**P**		**00 10 40.8 +2.3**
	comp=Z,23nm,1.0s								
K18A	**Toltan Ranch,**	**31.43**	**102**	⇓	P		**P**		**00 10 40.3 +1.7**
	baz=31,SNR=7.4								
I20A	**Worland**	**31.46**	**98**	⇓	P		**P**		**00 10 40.4 +1.6**
	baz=31,SNR=6.3								
J19A	**Crowheart**	**31.47**	**100**	⇑	P		**P**		**00 10 40.5 +1.5**
	baz=31,SNR=10.0								
N15A	**Stansbury Isla**	**31.48**	**107**	⇑	P		**P**		**00 10 40.6 +1.6**
	baz=31								
BW06	**Boulder Array**	**31.58**	**101**		*e*P		**P**		**00 10 41.5 +1.5**
	comp=Z,7.7nm,0.8s								
BW06	**Boulder Array**	**31.58**	**101**	⇓	P		**P**		**00 10 41.1 +1.2**
	baz=31,SNR=14								
PDAR	**Pinedale Array**	**31.58**	**101**		P		**P**		**00 10 41.5 +1.5**
PDAR					pP		**pP**		**00 11 03.4 +2.2**
PDAR					PcP		**PcP**		**00 13 29.2 -0.9**
PDAR					pPcP				00 13 57.2
PDAR	**Pinedale Array**	**31.58**	**101**		P		**P**		**00 10 41.5 +1.5**
	comp=Z,7.7nm,0.7s,baz=312,slow=4.9,SNR=55								
PDAR					pP		**pP**		**00 11 03.4 +2.2**
	comp=Z,4.2nm,0.8s,baz=327,slow=4.6,SNR=4.6								
PDAR					PcP		**PcP**		**00 13 29.2 -0.9**
	comp=Z,1.1nm,0.9s,baz=311,slow=3.5,SNR=3.0								
PDAR					pPcP				00 13 57.2
	comp=Z,1.5nm,0.9s,baz=101,slow=1.1,SNR=3.8								
PDAR					LR		LR		00 22 40.1
	comp=Z,77nm,20.1s,baz=336,slow=34								
M16A	**Huntsville**	**31.60**	**105**	⇑	P		**P**		**00 10 41.7 +1.6**
	baz=31,SNR=9.9								
F23A	**Volborg**	**31.64**	**93**	⇑	P		**P**		**00 10 41.8 +1.5**
	baz=31								
TIN	**Tinemaha**	**31.78**	**118**	⇑	P		**P**		**00 10 43.6 +2.0**
	baz=32								
DUG	**Dugway**	**31.86**	**108**		*e*P		**P**		**00 10 44.2 +1.8**
DUG					pmax		pmax		
	comp=Z,8.0nm,1.0s								
DUG	**Dugway**	**31.86**	**108**		*e*P		**P**		**00 10 44.2 +1.8**
	comp=Z,8.1nm,1.0s								
DUG	**Dugway**	**31.86**	**108**	⇓	P		**P**		**00 10 43.7 +1.3**
	baz=32,SNR=7.3								
K19A	**Absolon Red Bu**	**31.90**	**100**	⇓	P		**P**		**00 10 43.6 +0.9**
	baz=32,SNR=15								
J20A	**Shoshoni**	**31.91**	**99**	⇓	P		**P**		**00 10 44.6 +1.9**
	baz=32,SNR=24								
H22A	**Clearmont**	**31.92**	**96**	⇓	P		**P**		**00 10 44.6 +1.7**
	baz=32								
RCTC	**Rector, Farmer**	**31.93**	**120**	⇓	P		**P**		**00 10 45.2 +2.4**
	baz=32,SNR=6.4								
L18A	**Fontenelle, Gr**	**31.95**	**103**	⇓	P		**P**		**00 10 44.9 +1.7**
	baz=32								
R11A	**Troy Canyon, C**	**31.96**	**113**	⇓	P		**P**		**00 10 44.4 +1.1**
	baz=32,SNR=24								
M17A	**Scullys Gap (B**	**31.97**	**104**	⇑	P		**P**		**00 10 44.9 +1.6**
	baz=32								
O15A	**The Old Anders**	**31.97**	**107**	⇓	P		**P**		**00 10 45.0 +1.7**
	baz=32								
I21A	**Big Trails, Te**	**31.98**	**98**	⇑	P		**P**		**00 10 44.2 +0.7**
	baz=32,SNR=10.0								
G23A	**Biddle**	**32.00**	**94**	⇑	P		**P**		**00 10 45.2 +1.8**
	baz=32								
N16A	**Rees Ranch, Co**	**32.02**	**106**	⇓	P		**P**		**00 10 45.7 +1.8**
	baz=32								
F24A	**Ekalaka**	**32.05**	**92**	⇓	P		**P**		**00 10 45.8 +1.9**
	baz=32								
L19A	**Farson**	**32.16**	**102**	⇑	P		**P**		**00 10 46.2 +1.2**
	baz=32								
GRAC	**Grapevine Rang**	**32.22**	**117**	⇓	P		**P**		**00 10 47.4 +2.1**
	baz=32,SNR=14								
JLU	**Jordanelle**	**32.23**	**106**		*e*P		**P**		**00 10 47.6 +1.9**
	comp=Z,15nm,1.3s								
JLU					*ep*P		**pP**		**00 11 10.1 +3.1**
JLU					*e*ScP		**ScP**		**00 17 05.6 -1.1**
J21A	**Lysite**	**32.24**	**98**	⇓	P		**P**		**00 10 47.1 +1.4**
	baz=32,SNR=9.9								
K20A	**Yellowstone Ra**	**32.27**	**100**	⇑	P		**P**		**00 10 46.7 +0.7**
	baz=32,SNR=11								
N17A	**Moffit Pass**	**32.28**	**105**	⇓	P		**P**		**00 10 47.9 +1.7**
	baz=32								
M18A	**Lyman**	**32.30**	**103**	⇓	P		**P**		**00 10 47.7 +1.4**
	baz=32								
I22A	**9 Mile Ranch,**	**32.34**	**97**	⇓	P		**P**		**00 10 48.3 +1.8**
	baz=32,SNR=11								
CWC	**Cottonwood Cre**	**32.35**	**118**	⇓	P		**P**		**00 10 48.5 +1.8**
	baz=32								
VES	**Vestal, Richgr**	**32.39**	**120**	⇓	P		**P**		**00 10 48.0 +1.2**
	baz=32,SNR=6.2								
SMMC	**Simmler**	**32.43**	**122**	⇑	P		**P**		**00 10 49.2 +1.9**
	baz=32,SNR=5.0								
J22A	**Midwest**	**32.69**	**97**	⇑	P		**P**		**00 10 50.7 +1.2**
	baz=32,SNR=6.9								
M19A	**Rock Springs**	**32.70**	**102**	⇑	P		**P**		**00 10 50.7 +0.9**
	baz=32,SNR=8.5								
H24A	**Dirks Ranch, A**	**32.74**	**94**	⇑	P		**P**		**00 10 51.2 +1.2**
	baz=32								
L20A	**Wamsutter**	**32.75**	**101**	⇓	P		**P**		**00 10 50.9 +0.7**
	baz=32,SNR=7.4								
ISA	**Isabella**	**32.81**	**120**		*e*P		**P**		**00 10 52.1 +1.4**
ISA					pmax		pmax		
	comp=Z,15nm,1.0s								
ISA	**Isabella**	**32.81**	**120**		*e*P		**P**		**00 10 52.1 +1.4**
	comp=Z,15nm,1.0s								
ISA	**Isabella**	**32.81**	**120**	⇓	P		**P**		**00 10 51.8 +1.2**
	baz=33,SNR=13								
N18A	**Larsen Ranch,**	**32.84**	**104**	⇓	P		**P**		**00 10 52.0 +1.1**
	baz=33,SNR=13								
K21A	**Alcova**	**32.85**	**99**	⇓	P		**P**		**00 10 51.9 +0.9**
	baz=33,SNR=9.9								
PKM	**Peak Mountain**	**32.86**	**122**	⇓	P		**P**		**00 10 53.1 +1.9**
	baz=33,SNR=18								
R13A	**O'Grain Ranch,**	**32.87**	**112**	⇓	P		**P**		**00 10 52.8 +1.5**
	baz=33,SNR=6.7								
P16A	**Fountain Green**	**32.88**	**107**	⇓	P		**P**		**00 10 52.8 +1.5**
	baz=33								
FURC	**Furnace Creek,**	**32.88**	**117**	⇓	P		**P**		**00 10 52.7 +1.6**
	baz=33,SNR=6.4								
O17A	**Robinson Place**	**32.89**	**106**	⇑	P		**P**		**00 10 53.2 +1.7**
	baz=33								
MPMC	**Manual Prospec**	**32.93**	**118**	⇑	P		**P**		**00 10 53.5 +1.7**
	baz=33,SNR=17								
N19A	**John Jarvie Ra**	**33.15**	**103**	⇓	P		**P**		**00 10 54.7 +1.1**
	baz=33,SNR=12								
O18A	**Roosevelt**	**33.20**	**105**	⇑	P		**P**		**00 10 56.0 +1.9**
	baz=33,SNR=5.1								
M20A	**Sweetwater, Wa**	**33.20**	**101**	⇑	P		**P**		**00 10 55.6 +1.5**
	baz=33,SNR=13								
K22A	**Casper**	**33.21**	**98**	⇓	P		**P**		**00 10 55.4 +1.3**
	baz=33								
MDND	**Maddock**	**33.23**	**85**	⇓	P		**P**		**00 10 55.7 +1.6**
	baz=33								
L21A	**Rawlins**	**33.27**	**100**	⇑	P		**P**		**00 10 55.7 +0.9**
	baz=33,SNR=10.0								
SBC	**Santa Barbara**	**33.29**	**122**	⇑	P		**P**		**00 10 56.6 +1.9**
	baz=33								
I24A	**Kuemmerle Ranc**	**33.32**	**95**	⇑	P		**P**		**00 10 56.6 +1.6**
	baz=33								
LRMC	**Laurel Mountai**	**33.32**	**119**	⇑	P		**P**		**00 10 56.5 +1.4**
	baz=33,SNR=6.9								
TMUT	**Trail Mountain**	**33.34**	**107**		*e*P		**P**		**00 10 57.6 +2.1**
	comp=Z,12nm,0.8s								
P17A	**Butcher Ranch,**	**33.44**	**107**	⇑	P		**P**		**00 10 57.9 +1.7**
	baz=33								
RSSD	**Black Hills**	**33.44**	**94**		*e*P		**P**		**00 10 58.1 +1.9**
RSSD					pmax		pmax		
	comp=Z,76nm,1.9s								
RSSD	**Black Hills**	**33.44**	**94**		*e*P		**P**		**00 10 58.1 +1.9**
	comp=Z,76nm,1.9s								
MVU	**Marysvale**	**33.47**	**109**		*e*P		**P**		**00 10 58.4 +1.9**
	comp=Z,11nm,0.8s								
MVU					*e*ScP		**ScP**		**00 17 12.0 +1.0**
MSU	**Marysvale**	**33.48**	**109**		*e*P		**P**		**00 10 59.1 +2.5**
MSU					*e**PP		**pP**		**00 11 21.9 +3.9**
MSU	**Marysvale**	**33.48**	**109**		*e*P		**P**		**00 10 59.1 +2.5**
MSU					*ep*P		**pP**		**00 11 21.9 +3.9**
MSU					*e*ScP		**ScP**		**00 17 11.0 0.0**
M21A	**Separation Pea**	**33.54**	**100**	⇓	P		**P**		**00 10 58.1 +1.0**
	baz=33,SNR=25								
RWWY	**Rawlins**	**33.55**	**100**		*e*P		**P**		**00 10 58.5 +1.3**
	comp=Z,34nm,0.9s								
RWWY					*ep*P		**pP**		**00 11 21.4 +2.8**
P18A	**Preston Nutter**	**33.57**	**106**	⇓	P		**P**		**00 10 59.1 +1.6**
	baz=33,SNR=10								
K23A	**Bowen Ranch, D**	**33.59**	**97**	⇑	P		**P**		**00 10 59.0 +1.5**
	baz=33								
SHOC	**Shoshone**	**33.62**	**117**	⇑	P		**P**		**00 10 59.2 +1.7**
	baz=33,SNR=7.0								
O19A	**Miners Draw (B**	**33.62**	**104**	⇑	P		**P**		**00 10 59.3 +1.6**
	baz=33								
ULM	**Lac du Bonnet**	**33.63**	**79**		P		**P**		**00 10 58.9 +1.3**
ULM					pP		**pP**		**00 11 20.1 +1.2**
ULM					PcP		**PcP**		**00 13 34.7 -0.7**
ULM					ScP		**ScP**		**00 17 10.2 -0.9**
ULM	**Lac du Bonnet**	**33.63**	**79**		P		**P**		**00 10 58.9 +1.3**
	comp=Z,3.3nm,0.6s,baz=306,slow=9.8,SNR=7.1								
ULM					pP		**pP**		**00 11 20.1 +1.2**
	comp=Z,7.2nm,0.8s,baz=299,slow=10,SNR=5.9								
ULM					PcP		**PcP**		**00 13 34.7 -0.7**
	comp=Z,4.2nm,0.9s,baz=344,slow=2.9,SNR=4.5								
ULM					ScP		**ScP**		**00 17 10.2 -0.9**
	comp=Z,2.1nm,0.8s,baz=333,slow=3.9,SNR=3.4								
ULM					LR		LR		00 23 32.0
	comp=Z,134nm,20.8s,baz=300,slow=34								
N20A	**Spence Gulch,**	**33.65**	**102**	⇓	P		**P**		**00 10 59.8 +1.7**
	baz=33,SNR=15								
R15A	**Junction**	**33.66**	**110**	⇓	P		**P**		**00 10 59.9 +1.8**
	baz=34								
EDW2	**Edwards Air Fo**	**33.69**	**120**	⇓	P		**P**		**00 10 59.1 +0.9**
	baz=34,SNR=5.6								
L22A	**Ellis Ranch, M**	**33.70**	**99**	⇓	P		**P**		**00 11 00.3 +1.8**
	baz=34,SNR=10								
BSC	**Santa Cruz Isl**	**33.71**	**123**	⇑	P		**P**		**00 10 59.6 +1.2**
	baz=34,SNR=5.3								
SRU	**San Rafael**	**33.83**	**107**		*e*P		**P**		**00 11 01.9 +2.4**
SRU					pmax		pmax		
	comp=Z,34nm,0.6s								
SRU	**San Rafael**	**33.83**	**107**		*e*P		**P**		**00 11 01.9 +2.4**
	comp=Z,34nm,0.6s								
SRU					*e*ScP		**ScP**		**00 17 08.5 -3.6**
SRU	**San Rafael**	**33.83**	**107**	⇑	P		**P**		**00 11 01.3 +1.7**
	baz=34,SNR=36								
BLG	**Laguna Peak**	**33.86**	**122**	⇓	P		**P**		**00 11 00.7 +1.1**
	baz=34								
GSC	**Goldstone**	**33.87**	**118**		*e*P		**P**		**00 11 01.4 +1.6**
GSC					pmax		pmax		
	comp=Z,30nm,1.3s								
GSC	**Goldstone**	**33.87**	**118**		*e*P		**P**		**00 11 01.4 +1.6**
	comp=Z,30nm,1.3s								
GSC					*e*ScP		**ScP**		**00 17 12.8 +0.5**
GSC	**Goldstone**	**33.87**	**118**	⇑	P		**P**		**00 11 01.3 +1.4**
	baz=34,SNR=14								
R16A	**Teasdale**	**34.00**	**109**	⇓	P		**P**		**00 11 03.1 +2.0**
	baz=34,SNR=8.8								
L23A	**Garrett**	**34.02**	**98**	⇑	P		**P**		**00 11 02.5 +1.2**
	baz=34,SNR=22								
Q18A	**Rafter H Ranch**	**34.03**	**106**	⇑	P		**P**		**00 11 02.4 +1.2**
	baz=34,SNR=5.8								
DECC	**Green Verdugo**	**34.06**	**121**	⇓	P		**P**		**00 11 03.2 +1.7**
	baz=34								
M22A	**Cedar Creek Ra**	**34.08**	**100**	⇑	P		**P**		**00 11 02.7 +0.9**
	baz=34,SNR=6.2								
N21A	**Black Mountain**	**34.08**	**102**	⇑	P		**P**		**00 11 03.1 +1.3**
	baz=34,SNR=22								
TUQ	**Turquoise Moun**	**34.16**	**117**	⇓	P		**P**		**00 11 04.0 +1.6**
	baz=34,SNR=11								
O20A	**White River Ci**	**34.19**	**103**	⇓	P		**P**		**00 11 04.0 +1.3**
	baz=34,SNR=8.4								
PASC	**Pasadena Art C**	**34.19**	**121**		*ep*P		pP		00 11 27.3 +3.4
P19A	**Cripple Cowboy**	**34.20**	**104**	⇑	P		**P**		**00 11 04.3 +1.5**
	baz=34,SNR=18								
MWC	**Mount Wilson**	**34.21**	**121**		*e*P		**P**		**00 11 04.6 +1.7**
MWC					*e**PP		**pP**		**00 11 27.6 +3.3**
MWC					pmax		pmax		
	comp=Z,43nm,1.2s								
MWC	**Mount Wilson**	**34.21**	**121**		*e*P		**P**		**00 11 04.6 +1.7**
	comp=Z,44nm,1.2s								
MWC					*ep*P		**pP**		**00 11 27.6 +3.3**
R17A	**Hanksville Air**	**34.27**	**108**	⇑	P		**P**		**00 11 04.7 +1.4**
	baz=34,SNR=13								
BFSC	**Mount Baldy Ra**	**34.37**	**120**	⇑	P		**P**		**00 11 05.8 +1.6**
	baz=34,SNR=15								
S16A	**Wepgner Ranch,**	**34.38**	**109**	⇓	P		**P**		**00 11 06.4 +2.0**
	baz=34,SNR=12								
L24A	**Wheatland**	**34.46**	**98**	⇓	P		**P**		**00 11 06.6 +1.7**
	baz=34								
M23A	**Laramie**	**34.48**	**99**	⇑	P		**P**		**00 11 06.9 +1.7**
	baz=34								
HEC	**Hector,Ludlow**	**34.48**	**118**	⇓	P		**P**		**00 11 06.4 +1.3**
	baz=34,SNR=7.3								
Q19A	**Hogan Spring (**	**34.57**	**106**	⇓	P		**P**		**00 11 07.0 +1.0**
	baz=34,SNR=14								
N22A	**Wattenberg Ran**	**34.59**	**101**	⇑	P		**P**		**00 11 07.6 +1.3**
	baz=34,SNR=8.9								
P20A	**De Beque**	**34.59**	**104**	⇑	P		**P**		**00 11 07.2 +1.0**
	baz=34,SNR=6.0								
R18A	**Canyonlands Na**	**34.70**	**107**	⇓	P		**P**		**00 11 07.8 +0.8**
	baz=34,SNR=18								
CIS	**Catalina Islan**	**34.74**	**122**	⇓	P		**P**		**00 11 08.6 +1.3**
	baz=35								
N23A	**Red Feather La**	**34.78**	**100**	⇓	P		**P**		**00 11 09.1 +1.2**
	baz=35,SNR=5.4								
GMRC	**Granite Mounta**	**34.83**	**117**	⇑	P		**P**		**00 11 09.5 +1.3**
	baz=35,SNR=8.0								
LDFC	**Landfair**	**34.84**	**116**		*e*P		**P**		**00 11 09.8 +1.5**
	comp=Z,40nm,1.1s								
LDFC					*e*ScP		**ScP**		**00 17 16.1 +0.4**
S17A	**Black Ridge (B**	**34.84**	**109**	⇑	P		**P**		**00 11 09.9 +1.7**
	baz=35,SNR=30								
M24A	**Cheyenne**	**34.94**	**98**	⇑	P		**P**		**00 11 10.1 +1.0**
	baz=35								
O22A	**Kremmling**	**35.02**	**101**	⇑	P		**P**		**00 11 11.2 +1.1**
	baz=35								
SCI	**San Clemente I**	**35.04**	**122**	⇑	P		**P**		**00 11 11.6 +1.7**
	baz=35								
P21A	**Newcastle**	**35.05**	**103**	⇑	P		**P**		**00 11 11.6 +1.5**
	baz=35,SNR=13								
Q20A	**Ridgley Place,**	**35.06**	**105**	⇓	P		**P**		**00 11 10.7 +0.5**
	baz=35,SNR=9.6								
U15A	**North Rim**	**35.07**	**112**	⇑	P		**P**		**00 11 12.0 +1.6**
	baz=35,SNR=9.1								
R19A	**Curley Farm, L**	**35.09**	**106**	⇑	P		**P**		**00 11 11.5 +1.0**
	baz=35,SNR=9.8								
MURC	**Murrieta**	**35.11**	**120**	⇓	P		**P**		**00 11 12.4 +1.9**
	baz=35								
PV04	**Paradox Valley**	**35.18**	**106**		*e*P		**P**		**00 11 12.9 +1.7**
S18A	**Hurst Farm, Bl**	**35.19**	**108**	⇑	P		**P**		**00 11 12.3 +0.9**
	baz=35,SNR=8.4								
O23A	**Lake Granby, G**	**35.31**	**101**	⇑	P		**P**		**00 11 14.0 +1.6**
	baz=35,SNR=27								
NEE2	**Needles Airpor**	**35.32**	**116**	⇓	P		**P**		**00 11 14.0 +1.7**
	baz=35								
BELC	**Belle Mtn. Jos**	**35.32**	**118**	⇓	P		**P**		**00 11 13.5 +1.1**
	baz=35,SNR=12								
T17A	**Navajo Res., N**	**35.34**	**109**	⇑	P		**P**		**00 11 13.3 +0.7**
	baz=35,SNR=12								
P22A	**Eagle**	**35.34**	**102**	⇑	P		**P**		**00 11 13.8 +1.1**
	baz=35,SNR=19								
M25A	**Palm-Egli Farm**	**35.35**	**97**	⇑	P		**P**		**00 11 14.4 +1.8**
	baz=35								
K27A	**Flueckinger Fa**	**35.37**	**94**	⇓	P		**P**		**00 11 13.8 +1.1**
	baz=35								
N24A	**Carr**	**35.38**	**99**	⇓	P		**P**		**00 11 14.0 +1.1**
	baz=35					

baz=36
DVTC Desert V Tower 36.40 120 ⇓P P 00 11 22.7 +1.1
baz=36,SNR=7.1
N27A Anderson Farm, 36.59 97 ⇓P P 00 11 24.7 +1.6
baz=36
O26A Horse Wrangler 36.61 98 ⇑P P 00 11 25.2 +1.8
baz=36
Q24A Divide 36.63 101 ⇓P P 00 11 25.2 +1.4
baz=36,SNR=7.7
GLA Glamis 36.65 118 ⇑P P 00 11 25.4 +1.7
baz=36
U19A Dine' College, 36.68 108 ⇑P P 00 11 24.9 +0.8
baz=36,SNR=12
P25A Willow Gulch B 36.72 100 ⇓P P 00 11 26.2 +1.8
baz=36,SNR=5.9
S22A 4UR Ranch, Cre 36.72 104 ⇓P P 00 11 26.1 +1.6
baz=36,SNR=7.3
Y14A Wickenburg 36.76 115 ⇑P P 00 11 25.8 +1.3
baz=37,SNR=6.3
R23A Moffat 36.88 103 ⇑P P 00 11 27.7 +1.8
baz=37,SNR=15
U20A Newcomb 36.95 108 ⇑P P 00 11 28.1 +1.8
baz=37
T21A Navajo Lake 36.96 106 ⇓P P 00 11 28.3 +1.9
baz=37
P26A Davis Ranch, A 37.10 99 ⇑P P 00 11 29.4 +1.8
baz=37
X16A Lo Mia Camp, P 37.10 113 ⇑P P 00 11 29.4 +1.8
baz=37,SNR=6.9
Q25A Bedland, Calha 37.13 100 ⇓P P 00 11 29.4 +1.5
baz=37,SNR=6.6
S23A Nye Farm, Mont 37.17 104 ⇑P P 00 11 30.3 +2.1
baz=37
R24A Sanders Place, 37.22 102 ⇑P P 00 11 30.4 +1.8
baz=37,SNR=7.4
T22A Edith 37.25 105 ⇓P P 00 11 31.0 +2.0
baz=37,SNR=19
Z14A Wintersburg 37.26 115 ⇓P P 00 11 30.6 +1.9
baz=37
EYMN Ely 37.32 79 eP P 00 11 30.1 +1.0
comp=Z,23nm,0.8s
U21A Nageezi 37.34 107 ⇓P P 00 11 31.2 +1.6
baz=37,SNR=19
W18A Petrified Fore 37.36 110 ⇑P P 00 11 31.5 +1.7
baz=37
113A Mohawk Valley, 37.37 117 ⇓P P 00 11 30.8 +1.1
baz=37,SNR=5.7
SDCO Great Sand Dun 37.39 103 eP P 00 11 32.3 +2.1
comp=Z,18nm,0.8s
SDCO Great Sand Dun 37.39 103 ⇑P P 00 11 31.9 +1.8
baz=37,SNR=25
V20A Brimhall 37.44 108 ⇓P P 00 11 31.7 +1.2
baz=37,SNR=9.7
Q26A Hugo 37.49 100 ⇑P P 00 11 32.4 +1.6
baz=37,SNR=5.2
S24A Houchin Ranch, 37.62 103 ⇑P P 00 11 34.0 +1.9
baz=37,SNR=17
T23A Casias Ranch, 37.67 104 ⇑P P 00 11 34.5 +2.0
baz=38
R25A Fountain Ranch 37.70 101 ⇑P P 00 11 34.4 +1.9
baz=38,SNR=24
X18A Snowflake 37.73 111 ⇓P P 00 11 34.6 +1.7
baz=38,SNR=9.4
U22A Llaves 37.78 106 ⇑P P 00 11 35.1 +1.8
baz=38,SNR=9.9
V21A Milan 37.84 107 ⇑P P 00 11 35.4 +1.5
baz=38,SNR=11
KSCO Kaye Shedlock' 37.88 99 ⇓P P 00 11 35.6 +1.4
baz=38
W20A Ramah 37.95 109 ⇓P P 00 11 36.3 +1.4
baz=38,SNR=32
S25A Robets Cordova 37.99 102 ⇑P P 00 11 36.7 +1.6
baz=38,SNR=11
R26A Arlington 38.00 100 ⇓P P 00 11 37.0 +1.8
baz=38
V22A San Miguel Ran 38.11 106 ⇑P P 00 11 37.9 +1.7
baz=38,SNR=28
T24A Torres, Weston 38.13 103 ⇓P P 00 11 38.6 +2.1
baz=38,SNR=19
U23A El Rito 38.14 105 ⇑P P 00 11 38.3 +1.9
baz=38,SNR=37
FRB Frobisher Bay 38.22 46 P P 00 11 37.0 +0.6
FRB pP **pP 00 11 57.5 -0.6**
FRB ScP **S 00 17 27.0 +4.4**
FRB Frobisher Bay 38.22 46 P P 00 11 37.0 +0.6
comp=Z,70nm,0.9s,baz=307,slow=9.1,SNR=160
FRB pP **pP 00 11 57.5 -0.6**
comp=Z,11nm,0.8s,baz=308,slow=12,SNR=2.0
FRB ScP **S 00 17 27.0 +4.4**
comp=Z,1.6nm,0.5s,baz=304,slow=3.6,SNR=5.5
R27A Eads 38.35 100 ⇑P P 00 11 39.4 +1.4
baz=38,SNR=5.6
W21A San Fidel 38.38 108 ⇑P P 00 11 39.9 +1.5
baz=38
T25A Trinidad 38.41 102 ⇑P P 00 11 40.2 +1.6
baz=38,SNR=8.7
BGNE Belgrade 38.41 92 ⇑P P 00 11 40.2 +1.8
baz=38
X20A Quemado 38.42 109 ⇑P P 00 11 40.4 +1.6
baz=38
SPMN St. Paul 38.48 83 ⇓P P 00 11 40.4 +1.5
baz=38,SNR=5.8
214A Organ Pipe Nat 38.49 116 ⇑P P 00 11 40.5 +1.4
baz=38,SNR=7.5
S26A Kim 38.51 101 ⇓P P 00 11 40.9 +1.5
baz=38,SNR=19
U24A Moreno Valley 38.54 104 ⇓P P 00 11 41.9 +2.0
baz=38
YSS Yuzh-Sakhalins 38.57 281⇑ eP P 00 11 40.0 +0.4
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 38.57 281 eP P 00 11 39.8 +0.2
comp=Z,42nm,0.9s
V23A Ortiz Mt. (NFS 38.61 106 ⇓P P 00 11 42.5 +2.2
baz=38,SNR=12
S27A Las Animas 38.76 100 ⇑P P 00 11 42.9 +1.5
baz=38
T26A Comanche Natio 38.79 102 ⇓P P 00 11 42.9 +1.0
baz=39,SNR=22
W22A Albuquerque 38.80 107 ⇑P P 00 11 43.7 +1.7
baz=39
X21A Alamocita Cree 38.85 109 ⇓P P 00 11 44.4 +2.0
baz=39,SNR=37
U25A Circle Dot Ran 38.98 103 ⇓P P 00 11 45.2 +1.7
baz=39,SNR=33
Y20A Horse Springs, 38.99 110 ⇑P P 00 11 45.4 +1.8
baz=39,SNR=8.6
V24A Rampart Ranch, 39.08 105 ⇑P P 00 11 46.2 +1.9
baz=39,SNR=14
W23A Werner Place, 39.09 106 ⇑P P 00 11 46.0 +1.7
baz=39,SNR=9.3
ANMO Albuquerque 39.10 107 eP P 00 11 46.0 +1.6
comp=Z,4.4nm,0.6s
ANMO PcP **PcP 00 13 53.1 +0.8**
ANMO pPcP 00 14 20.6
ANMO ScP **ScP 00 17 31.9 +0.2**
ANMO eScP **S 00 17 32.5 -4.6**
ANMO Albuquerque 39.10 107 P P 00 11 45.9 +1.4
comp=Z,4.5nm,0.5s,baz=332,slow=9.8,SNR=10.0
ANMO PcP **PcP 00 13 53.1 +0.8**
comp=Z,0.7nm,0.6s,baz=309,slow=3.5,SNR=3.7
ANMO pPcP 00 14 20.6
comp=Z,5.6nm,0.9s,baz=295,slow=2.0,SNR=8.4
ANMO ScP **ScP 00 17 31.9 +0.2**
comp=Z,8.3nm,1.0s,baz=304,slow=3.6,SNR=15
ANMO LR LR 00 26 40.5
comp=Z,89nm,18.7s,baz=324,slow=34
TUC Tucson 39.15 114 epP pP 00 12 07.9 +1.5
TUC eScP **ScP 00 17 32.4 +0.5**
X22A Bernardo 39.18 108 ⇓P P 00 11 47.3 +2.2
baz=39,SNR=5.1
Y21A Point of Rocks 39.26 109 ⇓P P 00 11 47.8 +2.0
baz=39
U26A Atchley Ranch, 39.32 103 ⇑P P 00 11 48.0 +1.8
baz=39,SNR=23
T27A Campo 39.32 101 ⇓P P 00 11 47.7 +1.6
baz=39,SNR=8.6
W24A Lazy 6 Ranch, 39.42 105 ⇑P P 00 11 48.7 +1.7
baz=39,SNR=13
LENM Lemitar 39.47 108 eP P 00 11 49.7 +2.2
LPM Los Pinos Moun 39.52 108 eP P 00 11 49.8 +1.9
X23A Hourglass Bar 39.53 107 ⇓P P 00 11 49.5 +1.4
baz=39,SNR=15
Z20A Nine Sixteen R 39.54 111 ⇓P P 00 11 49.9 +1.9
baz=39,SNR=11
Y22D IRIS PASSCAL I 39.57 108 ⇑P P 00 11 50.4 +2.1
baz=39
T28A Walsh 39.59 100 ⇓P P 00 11 50.3 +2.0
baz=39
BNM Barren Site 39.66 108 eP P 00 11 49.5 +0.4
comp=Z,3.7nm,0.6s
BNM e 00 12 11.6
Y22A Socorro 39.66 108 ⇓P P 00 11 50.6 +1.5
baz=40,SNR=14
V26A Tequesquite Ra 39.77 103 ⇑P P 00 11 51.5 +1.6
baz=40,SNR=41
Z21A St. Cloud Mine 39.82 110 ⇑P P 00 11 52.2 +1.8
baz=40,SNR=5.7
W25A X Bar L Ranch, 39.88 104 ⇑P P 00 11 52.6 +1.8
baz=40,SNR=12
120A U Bar Ranch, L 39.98 111 ⇓P P 00 11 53.7 +2.0
baz=40
Y23A Lovelace Mesa, 40.12 107 ⇑P P 00 11 54.5 +1.7
baz=40,SNR=13
Z22A Elephant Butte 40.21 109 ⇓P P 00 11 55.4 +1.8
baz=40,SNR=21
X25A Clemmons Ranch 40.33 105 ⇓P P 00 11 56.5 +1.9
baz=40,SNR=12
W26A Owens Ranch, T 40.33 104 ⇑P P 00 11 56.1 +1.5
baz=40,SNR=10
121A Cookes Peak, D 40.40 110 ⇑P P 00 11 56.8 +1.6
baz=40,SNR=13
Y24A Capitan 40.43 107 ⇓P P 00 11 57.0 +1.6
baz=40,SNR=21
220A Playas Peak, P 40.56 112 ⇑P P 00 11 57.9 +1.5
baz=40,SNR=11
Z23A Rita Site, Whi 40.57 108 ⇓P P 00 11 58.5 +2.0
baz=40
V28A Channing 40.59 102 ⇓P P 00 11 57.6 +0.9
baz=40,SNR=5.1
319A Douglas 40.63 113 ⇓P P 00 11 59.0 +2.0
baz=40
122A Conniff Cattle 40.65 109 ⇓P P 00 11 59.3 +2.1
baz=40
W27A Bowe Ranch, En 40.71 103 ⇑P P 00 11 58.3 +0.7
baz=40,SNR=6.6
CLNS Chul'man 40.72 304 eP P 00 11 56.5 -0.9
CLNS ePPP PPP 00 14 00.9
CLNS eS **S 00 18 03.3 +2.9**
CLNS pmax pmax
comp=Z,59nm,1.0s
CLNS pmax pmax
comp=N,27nm,1.0s
CLNS pmax pmax
comp=E,41nm,1.0s
CLNS pmax pmax
comp=Z,8.0nm,0.9s
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS pmax pmax
comp=N,6.0nm,1.0s
CLNS smax smax
comp=E,134nm,14.6s
CLNS smax smax
comp=N,344nm,13.8s
CLNS MLR MLR
comp=N,277nm,14.0s
CLNS MLR MLR
comp=Z,75nm,14.0s
CLNS MLR MLR
comp=E,356nm,16.0s
X26A CR and CF Fran 40.74 104 ⇓P P 00 11 59.3 +1.4
baz=40,SNR=5.0
Y25A Mesa, Roswell 40.80 106 ⇑P P 00 11 60.0 +1.6
baz=41,SNR=43
V29A Stinnett 40.85 101 ⇓P P 00 12 00.3 +1.6
baz=41
Z24A Sheeppen Canyo 40.94 107 ⇑P P 00 12 01.2 +1.5
baz=41
X27A F and S Farms, 41.02 104 ⇓P P 00 12 01.5 +1.3
baz=41,SNR=6.9
320A Kipp Ranch, An 41.02 112 ⇓P P 00 12 01.9 +1.7
baz=41,SNR=6.6
Y26A Elida 41.23 105 ⇓P P 00 12 03.1 +1.2
baz=41
Z25A Roswell 41.30 106 ⇑P P 00 12 03.8 +1.3
baz=41,SNR=13
W29A Amraillo 41.38 102 ⇓P P 00 12 04.6 +1.6
baz=41
HABR Khabarovsk 41.41 288 eP P 00 12 01.6 -1.4
HABR e*PP pP 00 12 22.1 -2.9
HABR *SP sP 00 12 33.3 -2.4
HABR 00 13 57.2
HABR ePPP PPP 00 14 09.7
HABR eS **S 00 18 09.9 -0.8**
HABR e*SS sS 00 18 46.3 -2.1
HABR eSS **SS 00 21 17.4 -0.3**
HABR eSSS SSS 00 21 51.0
HABR e 00 21 55.5
HABR pmax pmax
comp=N,65nm,2.3s
HABR pmax pmax
comp=E,63nm,1.4s
HABR pmax pmax
comp=Z,125nm,1.4s
HABR MLR MLR
comp=Z,74nm,18.0s
SUMG Summit 41.45 24 i P P 00 12 03.1 -0.5
SUMG pmax pmax
comp=Z,18nm,1.1s
SUMG Summit 41.45 24 eP P 00 12 03.2 -0.4
comp=Z,43nm,1.2s
SUMG Summit 41.45 24 i P P 00 12 03.1 -0.5
comp=Z,18nm,1.1s
223A Chaparral, Ant 41.49 109 ⇓P P 00 12 05.6 +1.5
baz=41
DAG Danmarks Havn 41.54 14 i P P 00 12 02.2 -1.6
DAG pmax pmax
comp=Z,13nm,0.8s
DAG Danmarks Havn 41.54 14 i P P 00 12 02.2 -1.6
comp=Z,126nm,0.8s
AMTX Amarillo 41.55 102 eP P 00 12 06.3 +1.8
comp=Z,22nm,0.7s
AMTX epP **pP 00 12 29.7 +3.3**
AMTX Amarillo 41.55 102 ⇓P P 00 12 06.3 +1.8
baz=41
X28A Dimmitt 41.57 103 ⇑P P 00 12 06.2 +1.4
baz=41
Y27A Causey 41.59 104 ⇓P P 00 12 06.2 +1.3
baz=41,SNR=34
Z26A Caprock 41.67 106 ⇓P P 00 12 06.5 +1.0
baz=42,SNR=13
MSTX Muleshoe 41.72 104 ⇓P P 00 12 07.2 +1.3
baz=42,SNR=21
ERM Erimo 41.81 275 eP P 00 12 07.7 +1.3
ERM pmax pmax
comp=Z,136nm,1.4s
ERM Erimo 41.81 275 eP P 00 12 07.7 +1.3
comp=Z,136nm,1.4s
125A Gardner Draw, 41.83 107 ⇓P P 00 12 08.5 +1.7
baz=42,SNR=30
224A Cornudas Mount 41.88 108 ⇓P P 00 12 08.5 +1.3
baz=42,SNR=14
X29A Tulia 41.88 102 ⇑P P 00 12 08.8 +1.6
baz=42
Z27A Tatum 42.02 105 ⇑P P 00 12 09.3 +0.9
baz=42
Y28A McKinney Farm, 42.03 103 ⇓P P 00 12 09.1 +0.7
baz=42,SNR=10
126A Clayton Basin, 42.16 106 ⇑P P 00 12 10.5 +1.0
baz=42
225A Deer Hill, Car 42.19 108 ⇓P P 00 12 11.2 +1.4
baz=42,SNR=6.0
SFJD Kangerlussuaq 42.21 35 eP P 00 12 09.9 +0.5
SFJD Kangerlussuaq 42.21 35 i P P 00 12 09.8 +0.5
comp=Z,36nm,0.8s
SFJD Kangerlussuaq 42.21 35 P P 00 12 09.6 +0.3
comp=Z,46nm,0.7s,baz=322,slow=8.8,SNR=21
GDL2 Guadalupe Moun 42.35 107 eP P 00 12 12.6 +1.6
GDL2 eScP **ScP 00 17 45.4 +0.9**
Y29A Porterfield Fa 42.36 103 ⇓P P 00 12 12.1 +1.0
baz=42,SNR=23
324A Moseley Ranch, 42.41 109 ⇑P P 00 12 12.8 +1.2
baz=42,SNR=13
Z28A Tucker Farm, M 42.46 104 ⇑P P 00 12 12.8 +0.9
baz=42
127A Arkansas Junct 42.46 106 ⇓P P 00 12 13.2 +1.3
baz=42
KLR Kul'dur 42.51 291 ⇓i P P 00 12 08.4 -3.6
KLR pmax pmax
comp=E,80nm,1.6s
KLR pmax pmax
comp=Z,200nm,1.6s
325A Bean Ranch, Si 42.72 108 ⇓P P 00 12 15.4 +1.3
baz=42,SNR=23
Z29A Hungry Hill Ra 42.82 103 ⇑P P 00 12 15.6 +0.8
baz=43,SNR=10
SPITS Spitsbergen Ar 42.91 3 P P 00 12 13.9 -1.0
SPITS PcP **PcP 00 14 03.3 -0.5**
SPITS Spitsbergen Ar 42.91 3 P P 00 12 13.9 -1.0
comp=Z,2.4nm,0.4s,baz=357,slow=7.8
SPITS PcP **PcP 00 14 03.3 -0.5**
comp=Z,7.4nm,0.5s,baz=352,slow=5.9,SNR=9.9
SPITS LR LR 00 28 51.2
comp=Z,72nm,19.8s,baz=160,slow=34
128A Castleberry Fa 42.94 105 ⇓P P 00 12 16.7 +0.9
baz=43,SNR=18
WMOK Wichita Mounta 43.13 99 eP P 00 12 18.0 +0.7
WMOK e 00 12 40.0
WMOK pmax pmax
comp=Z,16nm,1.0s
WMOK Wichita Mounta 43.13 99 eP P 00 12 18.0 +0.7
comp=Z,16nm,1.0s
WMOK e 00 12 40.0
425A Indio Mountain 43.19 109 ⇑P P 00 12 19.8 +1.9
baz=43,SNR=32
129A Stewart Farms, 43.24 104 ⇓P P 00 12 19.5 +1.3
baz=43
326A Caldwell Ranch 43.25 107 ⇑P P 00 12 19.7 +1.3
baz=43,SNR=7.3
228A UT Block 9, Go 43.29 105 ⇑P P 00 12 19.5 +0.9
baz=43,SNR=9.7
426A McDonald Obser 43.76 108 ⇓P P 00 12 23.7 +1.1
baz=44,SNR=19
328A Wristen Ranch, 43.78 106 ⇓P P 00 12 23.9 +1.4
baz=44,SNR=7.9
229A Bryant Ranch, 43.80 105 ⇓P P 00 12 23.6 +0.9
baz=44
427A Hayter Ranch, 43.92 107 ⇑P P 00 12 24.7 +1.0
baz=44,SNR=11
329A Wagon Wheel Ra 44.11 105 ⇑P P 00 12 26.0 +0.9
baz=44,SNR=21
526A Mary Lane Ranc 44.23 109 ⇓P P 00 12 27.6 +1.4
baz=44,SNR=18
ABTX Abilene, Hawle 44.37 102 ⇑P P 00 12 27.8 +0.6
baz=44,SNR=8.4
428A Kincaid Ranch, 44.38 107 ⇑P P 00 12 28.9 +1.6
baz=44,SNR=62
SCHQ Schefferville 44.44 56 P P 00 12 27.3 -0.1
SCHQ ScP **ScP 00 17 51.8 -0.7**
SCHQ Schefferville 44.44 56 P P 00 12 27.3 -0.1
comp=Z,8.1nm,0.5s,baz=313,slow=8.0,SNR=61
SCHQ ScP **ScP 00 17 51.8 -0.7**
comp=Z,3.4nm,1.1s,baz=306,slow=9.4,SNR=2.7
SCHQ LR LR 00 33 57.6
comp=Z,67nm,19.2s,baz=79,slow=40
BOD Bodaibo 44.57 310 ⇓i P P 00 12 27.1 -1.3
BOD pmax pmax
comp=Z,9.0nm,0.8s
626A Big Bend Ranch 44.62 109 ⇓P P 00 12 30.5 +1.2
baz=44,SNR=8.6
429A Davenport Ranc 44.85 106 ⇑P P 00 12 31.8 +0.7
baz=45,SNR=19
SFIN Scholer Farm 44.88 84 ⇓P P 00 12 32.0 +0.9
baz=45
TXAR Lajitas Array 45.03 109 P P 00 12 33.8 +1.2
TXAR ScP **ScP 00 17 55.6 +0.1**
TXAR Lajitas Array 45.03 109 P P 00 12 33.8 +1.2
comp=Z,10nm,0.8s,baz=326,slow=6.2,SNR=106
TXAR ScP **ScP 00 17 55.6 +0.1**
comp=Z,1.9nm,0.9s,baz=291,slow=3.5,SNR=9.2
TXAR LR LR 00 30 18.1
comp=Z,60nm,21.9s,baz=220,slow=34
430A Baggett Ranch, 45.05 105 ⇓P P 00 12 33.5 +0.9
baz=45,SNR=22
627A Terlingua Ranc 45.07 108 ⇓P P 00 12 34.1 +1.2
baz=45,SNR=33
529A Stev Forest Ra 45.10 107 ⇑P P 00 12 34.1 +1.1
baz=45,SNR=12
431A Sonora 45.45 105 ⇓P P 00 12 36.7 +1.0
baz=45,SNR=23
OLIL Olney 45.58 86 eP P 00 12 36.6 -0.1
comp=Z,13nm,0.8s
SADO Sadowa 45.71 74 P P 00 12 37.8 +0.2
SADO Sadowa 45.71 74 P P 00 12 37.8 +0.2
comp=Z,6.8nm,0.7s,baz=312,slow=4.4,SNR=5.0
531A Rocksprings 45.90 105 ⇑P P 00 12 39.9 +0.6
baz=46,SNR=27
USRK Ussuriysk Arra 45.91 285 P P 00 12 37.9 -1.2
comp=Z,6.2nm,0.8s,baz=51,slow=7.2,SNR=12
USRK PcP **PcP 00 14 14.6 0.0**
comp=Z,3.3nm,0.9s,baz=2.9,slow=3.8,SNR=5.2
USRK LR LR 00 33 28.0
comp=Z,57nm,19.6s,baz=4.0,slow=38
WHTX Lake Whitney 45.98 100 ⇓P P 00 12 40.6 +0.8
baz=46,SNR=6.6
JCT Junction City 46.01 104 eP P 00 12 41.2 +1.0
JCT pmax pmax
comp=Z,135nm,0.8s
JCT Junction City 46.01 104 eP P 00 12 41.2 +1.0
comp=Z,135nm,0.8s
JCT Junction City 46.01 104 ⇓P P 00 12 41.2 +1.0
baz=46,SNR=71
SCO Scoresbysund 46.35 20 i P P 00 12 41.7 -0.6
SCO pmax pmax
comp=Z,7.0nm,0.8s
SCO Scoresbysund 46.35 20 i P P 00 12 41.7 -0.6
comp=Z,7.0nm,0.8s
MDJ Mudanjiang 46.80 288 P P 00 12 45.9 -0.2
MDJ pP **pP 00 13 05.3 -3.2**
MDJ sP **sP 00 13 14.8 -4.3**
MDJ ScP **ScP 00 18 04.9 +2.5**
MDJ PcS **PcS 00 18 13.8 +1.2**
MDJ S S 00 19 28.8 -0.2
MDJ sS sS 00 20 02.5 -4.8
MDJ ScS **ScS 00 22 33.0 +2.2**
MDJ pmax pmax
comp=Z,19nm,1.1s
MDJ pmax pmax
comp=Z,70nm,3.6s
MDJ Mudanjiang 46.80 288 eP P 00 12 45.8 -0.4
comp=Z,44nm,1.5s
ALLY Alegheny Colle 47.48 77 eP P 00 12 52.4 +0.9
comp=Z,64nm,1.2s
ALLY epP **pP 00 13 16.5 +2.6**
HIA Hailar 48.12 299 P P 00 12 56.0 -0.4
comp=Z,41nm,0.9s
OXF Oxford 48.13 91 eP P 00 12 57.5 +0.9
OXF pmax pmax
comp=Z,65nm,1.0s
OXF Oxford 48.13 91 eP P 00 12 57.5 +0.9
comp=Z,65nm,1.0s
MAJO Matsushiro 48.44 274 eP P 00 12 59.3 +0.4
MAJO pmax pmax
comp=Z,26nm,1.0s
MAJO Matsushiro 48.44 274 eP P 00 12 59.3 +0.4
comp=Z,26nm,1.0s
MAT Matsushiro 48.44 274 P P 00 12 58.6 -0.3
MJAR Matsushiro Arr 48.44 274 P P 00 12 59.1 +0.1
MJAR PcP **PcP 00 14 22.8 -0.9**
MJAR ScP **ScP 00 18 09.7 +0.2**
MJAR Matsushiro Arr 48.44 274 P P 00 12 59.1 +0.1
comp=Z,9.1nm,0.9s,baz=13,slow=6.9,SNR=11
MJAR PcP **PcP 00 14 22.8 -0.9**
comp=Z,2.3nm,0.5s,baz=48,slow=3.6,SNR=4.0
MJAR ScP **ScP 00 18 09.7 +0.2**
comp=Z,2.6nm,0.8s,baz=323,slow=1.5,SNR=4.8
HKT Hockley 48.45 101 eP P 00 13 00.8 +1.9
HKT e*PP **pP 00 13 25.3 +3.9**
HKT pmax pmax
comp=Z,76nm,1.8s
HKT Hockley 48.45 101 eP P 00 13 00.8 +1.9
comp=Z,76nm,1.8s
HKT epP **pP 00 13 25.3 +3.9**
PLAL Pickwick Lake 48.46 90 eP P 00 13 02.8 +3.7
comp=Z,49nm,0.9s
BINY Binghamton 49.16 74 eP P 00 13 05.2 +0.8
comp=Z,74nm,1.1s
BINY epP **pP 00 13 28.4 +1.5**
CN2 Changchun 49.43 290 eP P 00 13 05.8 -0.5
CN2 epP **pP 00 13 29.1 +0.2**
CN2 eS **S 00 20 04.0 -2.0**
CN2 pmax pmax
comp=Z,90nm,0.9s
TKL Tuckaleechee C 50.16 85 pP pP 00 13 35.7 +1.1
TKL Tuckaleechee C 50.16 85 pP pP 00 13 35.7 +1.1
comp=Z,5.8nm,0.7s,baz=328,slow=4.1,SNR=3.9
TKL LR LR 00 35 08.2
comp=Z,80nm,18.9s,baz=94,slow=37
BORG Borgarnes 51.44 24 P P 00 13 19.9 -1.2
BORG Borgarnes 51.44 24 P P 00 13 19.9 -1.2

comp=Z,25nm,0.9s,baz=110,slow=1.3,SNR=3.1
KEV Kevo 51.51 360 *e*P P 00 13 19.5 -2.1
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 51.51 360 *e*p P 00 13 19.5 -2.1
comp=Z,0.8nm,0.3s
ARCES ARCESS Array B 51.73 0 P P 00 13 21.5 -1.8
ARCES PcP **PcP** **00 14 35.0 -0.3**
ARCES ARCESS Array B 51.73 0 P P 00 13 21.5 -1.8
comp=Z,3.3nm,0.6s,baz=16,slow=5.4,SNR=18
ARCES PcP **PcP** **00 14 35.0 -0.3**
comp=Z,9.6nm,0.8s,baz=353,slow=4.9,SNR=10.0
ARCES LR LR 00 38 47.6
comp=Z,84nm,20.6s,baz=134,slow=40
SNY Shenyang 51.81 289 ⇓P **P** **00 13 25.0 +0.7**
SNY pmax pmax
comp=Z,45nm,1.2s
KSRS Korea Array 53.00 283 P **P** **00 13 33.5 +0.4**
comp=Z,29nm,1.1s,baz=38,slow=6.7,SNR=24
KSRS PcP **PcP** **00 14 40.8 +0.3**
comp=Z,2.7nm,0.7s,baz=46,slow=5.7,SNR=2.6
KSRS LR LR 00 35 28.5
comp=Z,47nm,18.9s,baz=180,slow=35
KSAR Wonju Array Be 53.03 283 P **P** **00 13 33.5 +0.1**
KSAR PcP **PcP** **00 14 40.8 +0.2**
TLY Talaya 53.15 311 *e*P P 00 13 32.9 -1.2
TLY pmax pmax
comp=Z,17nm,1.1s
TLY MLR MLR
comp=Z,99nm,19.0s
TLY Talaya 53.15 311 *e*P **P** **00 13 33.6 -0.5**
comp=Z,20nm,1.1s
MOY Mondy 54.19 312 *e*P **P** **00 13 42.0 +0.2**
ZAK Zakamensk 54.31 310 ⇓*i*P **P** **00 13 42.0 -0.6**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
ULN Ulaanbaatar 54.74 305 *e*P **P** **00 13 45.7 -0.1**
comp=Z,26nm,1.1s
ULN *e*PP **PP** **00 15 50.9 +2.0**
JNU Nakatsue 54.88 277 LR LR 00 36 14.3
comp=Z,53nm,21.0s,baz=91,slow=35
SONM Songino Array 55.04 306 P **P** **00 13 48.1 +0.1**
SONM pP **pP** **00 14 12.1 +1.2**
SONM PcP **PcP** **00 14 48.4 0.0**
SONM ScP **ScP** **00 18 38.2 +0.2**
SONM Songino Array 55.04 306 P **P** **00 13 48.1 +0.1**
comp=Z,31nm,1.0s,baz=45,slow=5.3,SNR=147
SONM pP **pP** **00 14 12.1 +1.2**
comp=Z,5.3nm,0.8s,baz=43,slow=6.5,SNR=2.8
SONM PcP **PcP** **00 14 48.4 0.0**
comp=Z,6.1nm,0.9s,baz=57,slow=2.9,SNR=4.5
SONM ScP **ScP** **00 18 38.2 +0.2**
comp=Z,1.3nm,0.9s,baz=39,slow=3.1,SNR=4.9
SONM LR LR 00 38 43.2
comp=Z,100nm,20.6s,baz=76,slow=38
BJI Beijing 56.76 293 P **P** **00 13 59.6 -0.5**
BJI LR LR
comp=Z,56nm,28.1s
BJT Baijiatuau 56.78 293 *e*P **P** **00 14 00.4 +0.1**
comp=Z,37nm,0.9s
NVS Novosibirsk 57.63 325 ⇑*i*P P 00 14 02.6 -3.5
NVS *e* 00 14 27.5
NVS pmax pmax
comp=N,16nm,1.1s
NVS pmax pmax
comp=E,36nm,1.1s
NVS pmax pmax
comp=Z,63nm,1.1s
ZALV Zalesovo Beam 57.92 323 P **P** **00 14 07.5 -0.6**
ZALV *PP **pP** **00 14 31.7 +0.5**
ZALV 00 14 58.1
ZALV Zalesovo Beam 57.92 323 P **P** **00 14 07.5 -0.6**
ZALV pP **pP** **00 14 31.7 +0.5**
ZALV PcP **PcP** **00 14 58.1 -1.2**
ZALV ScP **ScP** **00 18 49.3 -1.1**
ZALV Zalesovo Beam 57.92 323 P **P** **00 14 07.5 -0.6**
comp=Z,3.8nm,0.3s,baz=30,slow=6.9,SNR=67
ZALV pP **pP** **00 14 31.7 +0.5**
comp=Z,7.8nm,0.7s,baz=27,slow=7.3,SNR=7.6
ZALV PcP **PcP** **00 14 58.1 -1.2**
comp=Z,2.8nm,0.7s,baz=27,slow=5.4,SNR=2.7
ZALV ScP **ScP** **00 18 49.3 -1.1**
comp=Z,0.7nm,0.7s,baz=27,slow=4.8,SNR=3.7
ZALV LR LR 00 40 01.2
comp=Z,73nm,18.4s,baz=67,slow=37
HHC Hu-ho-hao-te 58.27 297 *e*P **P** **00 14 11.6 +0.7**
HHC pP **pP** **00 14 34.3 +0.2**
HHC sP **sP** **00 14 46.1 +1.6**
HHC PcP **PcP** **00 15 01.5 +0.4**
HHC PP **PP** **00 16 21.3 +0.9**
HHC ScP **ScP** **00 18 52.3 -0.1**
HHC S S 00 22 02.6 -3.0
HHC sS **sS** **00 22 43.0 -2.2**
HHC ScS **ScS** **00 23 47.3 -4.1**
HHC SS **SS** **00 25 55.8 -2.3**
HHC pmax pmax
comp=Z,46nm,1.1s
HHC pmax pmax
comp=Z,150nm,9.5s
HHC LR LR
comp=N,140nm,13.1s
HHC LR LR
comp=E,200nm,14.3s
HHC LR LR
comp=Z,120nm,15.5s
JOF Joensuu 58.32 357 *e*P P 00 14 09.3 -1.4
JOF pmax pmax
comp=Z,4.0nm,0.7s
JOF Joensuu 58.32 357 *e*p P 00 14 09.3 -1.4
comp=Z,3.8nm,0.7s
KAF Kangasniemi 59.19 360 *e*P P 00 14 15.1 -1.7
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 59.19 360 *e*p P 00 14 15.1 -1.7
comp=Z,2.4nm,0.5s
NB2 NORSAR Subarra 59.70 8 P **P** **00 14 19.7 -0.7**
comp=Z,7.6nm,0.9s,baz=351,slow=7.4
NOA NORSAR Array B 59.70 8 P **P** **00 14 19.4 -1.0**
NOA PcP **PcP** **00 15 05.7 -0.7**
NOA NORSAR Array B 59.70 8 P **P** **00 14 19.4 -1.0**
comp=Z,4.7nm,0.8s,baz=352,slow=6.9,SNR=11
NOA PcP **PcP** **00 15 05.7 -0.7**
comp=Z,3.8nm,0.8s,baz=347,slow=3.2,SNR=5.5
NOA LR LR 00 39 32.8
comp=Z,96nm,19.3s,baz=140,slow=35
FINES FINESS Array B 59.86 0 P P 00 14 19.7 -1.7
FINES FINESS Array B 59.86 0 P P 00 14 19.7 -1.7
comp=Z,5.4nm,0.7s,baz=3.6,slow=8.3,SNR=28
KPL Plockton 61.25 19 *e*P **P** **00 14 30.1 -0.8**
KPL Plockton 61.25 19 P **P** **00 14 30.1 -0.8**
JOW Kunigami 61.26 275 *e*P **P** **00 14 31.5 +0.1**
comp=Z,37nm,1.0s
SVE Sverdlovsk 61.28 339 ⇑*e*P P 00 14 29.8 -1.4
SVE pmax pmax
comp=Z,15nm,1.6s
MCD Coleburn Disti 61.41 18 *e*P **P** **00 14 31.0 -1.0**
MCD Coleburn Disti 61.41 18 P **P** **00 14 31.0 -1.0**
NJ2 Nanjing 61.82 286 *e*P **P** **00 14 34.8 -0.3**
NJ2 pmax pmax
comp=Z,20nm,0.9s
ARU Arti 62.03 340 *d*iP **P** **00 14 35.3 -0.9**
ARU *PP **pP** **00 14 58.6 -1.0**
ARU 00 15 11.2
ARU 00 16 50.0
ARU S **S** **00 22 53.5 +0.5**
ARU SS **SS** **00 26 55.5 -0.4**
ARU pmax pmax
comp=Z,16nm,1.7s
ARU Arti 62.03 340 *e*P P 00 14 34.2 -1.9
comp=Z,60nm,2.3s
EAB Aberfoyle 62.57 19 *e*P **P** **00 14 39.0 -0.8**
EAB Aberfoyle 62.57 19 P **P** **00 14 39.0 -0.8**
KURK Kurchatov 62.60 325 *e*P P 00 14 38.3 -1.8
KURK pmax pmax
comp=Z,16nm,1.1s
KURK Kurchatov 62.60 325 *e*P P 00 14 38.3 -1.8
comp=Z,16nm,1.1s
BRVK Borovoye 62.73 332 *e*P P 00 14 39.7 -1.2
BRVK pmax pmax
comp=Z,23nm,1.3s
BRVK Borovoye 62.73 332 *e*P P 00 14 39.7 -1.2
comp=Z,22nm,1.3s
EAU Auchinoon 63.04 18 *e*P **P** **00 14 42.1 -0.8**
EAU Auchinoon 63.04 18 P **P** **00 14 42.1 -0.8**
ESY Stoneypath 63.11 18 *e*P **P** **00 14 43.1 -0.2**
ESY Stoneypath 63.11 18 P **P** **00 14 43.1 -0.2**
EBL Broad Law 63.18 18 *e*P **P** **00 14 43.8 0.0**
EBL Broad Law 63.18 18 P **P** **00 14 43.8 0.0**
ESK Eskdalemuir 63.59 18 *e*P **P** **00 14 45.6 -0.9**
ESK AMB AMB 00 14 48.4
comp=Z,96nm,3.7s
ESK Eskdalemuir 63.59 18 P **P** **00 14 45.6 -0.9**
ESK AMB AMB 00 14 48.4
comp=Z,96nm,3.7s
KESW Keswick, Cumbr 64.31 18 *e*P **P** **00 14 50.5 -0.8**
KESW AMB AMB 00 14 59.9
comp=Z,83nm,3.5s
KESW Keswick, Cumbr 64.31 18 P **P** **00 14 50.5 -0.8**
KESW AMB AMB 00 14 59.9
comp=Z,83nm,3.5s
GTA Gaotai 64.65 305 *e*P **P** **00 14 53.3 -0.6**
GTA pP **pP** **00 15 17.6 +0.1**
GTA sP **sP** **00 15 28.4 +0.6**
GTA S S 00 23 21.3 -5.1
GTA sS **sS** **00 24 02.8 -3.9**
GTA SS SS 00 27 31.3 -6.6
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA pmax pmax
comp=Z,260nm,6.2s
GTA LR LR
comp=N,130nm,10.7s
GTA LR LR
comp=E,140nm,9.3s
GTA LR LR
comp=Z,71nm,9.3s
MK31 Makanchi Array 64.94 321 *i*P P 00 14 54.0 -1.5
MKAR Makanchi Array 64.94 321 *e*P P 00 14 53.8 -1.8
MKAR 00 17 14.6
MKAR Makanchi Array 64.94 321 *e*P P 00 14 53.8 -1.8
MKAR PP PP 00 17 14.6 -4.3
MKAR Makanchi Array 64.94 321 P P 00 14 53.7 -1.8
comp=Z,6.0nm,0.9s,baz=38,slow=4.9,SNR=39
MKAR PP PP 00 17 14.6 -4.3
comp=Z,3.2nm,0.8s,baz=46,slow=6.8,SNR=7.1
WME Myndd Eilian 65.25 20 *e*P **P** **00 14 57.1 -0.3**
WME Myndd Eilian 65.25 20 P **P** **00 14 57.1 -0.3**
YRC Rhoscolyn 65.34 20 *e*P **P** **00 14 58.0 +0.1**
YRC Rhoscolyn 65.34 20 P **P** **00 14 58.0 +0.1**
LZH Lanzhou 65.66 300 *e*P **P** **00 15 01.0 +0.5**
LZH pP **pP** **00 15 25.5 +1.4**
LZH sP **sP** **00 15 35.1 +0.7**
LZH pmax pmax
comp=Z,28nm,1.0s
LZH pmax pmax
comp=Z,150nm,7.5s
WMQ Urumqi 65.68 316 P **P** **00 15 00.9 +0.5**
WMQ pP **pP** **00 15 23.5 -0.5**
WMQ sP **sP** **00 15 30.3 -4.0**
WMQ PP **PP** **00 17 27.0 +1.6**
WMQ *e*S S 00 23 36.0 -2.7
WMQ pmax pmax
comp=Z,12nm,1.2s
WMQ pmax pmax
comp=Z,160nm,4.0s
WMQ LR LR
comp=N,280nm,26.7s
WMQ LR LR
comp=E,460nm,20.8s
WMQ LR LR
comp=Z,450nm,28.4s
OBN Obninsk 65.90 354 *e*P **P** **00 15 00.5 -1.0**
OBN *e*PP **pP** **00 15 23.9 -1.2**
OBN *e* 00 15 30.6
OBN pmax pmax
comp=Z,11nm,1.0s
OBN MLR MLR
comp=Z,100nm,12.0s
FOEL Foel Wylfa 65.92 19 *e*P **P** **00 15 01.2 -0.5**
FOEL AMB AMB 00 15 05.2
comp=Z,102nm,4.6s
FOEL Foel Wylfa 65.92 19 P **P** **00 15 01.2 -0.5**
FOEL AMB AMB 00 15 05.2
comp=Z,102nm,4.6s
HLM1 Long Mynd 66.34 19 *e*P **P** **00 15 03.7 -0.7**
HLM1 AMB AMB 00 15 05.0
comp=Z,86nm,3.1s
HLM1 Long Mynd 66.34 19 P **P** **00 15 03.7 -0.7**
HLM1 AMB AMB 00 15 05.0
comp=Z,86nm,3.1s
MCH1 Michaelchurch 66.82 19 *e*P **P** **00 15 06.8 -0.6**
MCH1 AMB AMB 00 15 07.8
comp=Z,31nm,1.1s
MCH1 Michaelchurch 66.82 19 P **P** **00 15 06.8 -0.6**
MCH1 AMB AMB 00 15 07.8
comp=Z,31nm,1.1s
SSLB Suanglung 67.52 279 *e*P **P** **00 15 11.3 -0.9**
comp=Z,24nm,1.0s
HEX Exmoor 67.58 20 *e*P **P** **00 15 11.8 -0.4**
HEX Exmoor 67.58 20 P **P** **00 15 11.8 -0.4**
WOL Wolverton 67.77 18 *e*P **P** **00 15 13.6 +0.1**
WOL AMB AMB 00 15 14.8
comp=Z,56nm,2.5s
WOL Wolverton 67.77 18 P **P** **00 15 13.6 +0.1**
WOL AMB AMB 00 15 14.8
comp=Z,56nm,2.5s
AKTO Aktyubinsk 67.86 339 P P 00 15 11.1 -2.9
AKTO pmax pmax
comp=Z,1.0nm,1.1s
IBBN Ibbenburen 68.01 12 *e*P **P** **00 15 16.0 +1.1**
NRDL Niedersach Rie 68.07 11 *e*P **P** **00 15 15.6 +0.4**
AB31 Akbulak array 68.61 337 *i*P P 00 15 17.2 -1.5
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 68.61 337 *e*P P 00 15 17.2 -1.5
CLZ Clausthal 68.74 10 *e*P **P** **00 15 19.2 -0.4**
comp=Z,48nm,1.8s
CLZ Clausthal 68.74 10 *e*P **P** **00 15 19.2 -0.4**
CLZ pmax pmax
comp=Z,48nm,1.8s
BUG Bochum--Univer 68.81 13 *e*P **P** **00 15 19.6 -0.3**
comp=Z,25nm,1.0s
HGN Heimansgroeve 69.32 14 *e*P P 00 15 18.5 -4.6
comp=Z,85nm,2.4s
SNF Seneffe 69.36 15 P **P** **00 15 23.3 0.0**
BEL Belsk 69.40 4 *e*P P 00 15 16.8 -6.8
BEL Belsk 69.40 4 *e*P P 00 15 16.8 -6.8
BEL Belsk 69.40 4 *e*P P 00 15 16.8 -6.8
MEM Membach 69.48 14 P **P** **00 15 23.9 -0.2**
CLL Collm 69.50 9 *e*P P 00 15 22.3 -1.9
comp=Z,6.0nm,1.0s
CLL Collm 69.50 9 *e*P **P** **00 15 23.0 -1.2**
CLL *e*PP **PcP** **00 15 45.0 -1.8**
CLL Collm 69.50 9 *e*P **P** **00 15 23.0 -1.2**
CLL *e*pP **PcP** **00 15 45.0 -1.8**
VRHR Novokhopersk 69.52 350 *e*P P 00 15 21.7 -2.6
VRHR pmax pmax
comp=N,2.0nm,0.5s
VRHR pmax pmax
comp=E,4.0nm,0.5s
VRHR pmax pmax
comp=Z,5.0nm,0.5s
BCLA Clavier 69.58 14 P P 00 15 23.2 -1.5
comp=Z,9.1nm,1.4s
VSR Storozhevoye 69.61 351 *e*P P 00 15 23.2 -1.6
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,1.0nm,0.6s
VSR pmax pmax
comp=Z,7.0nm,0.6s
UBBA Unterbreizbach 69.72 11 *e*P **P** **00 15 25.5 +0.1**
BAIF Baives 69.80 15 *e*P **P** **00 15 25.5 -0.5**
comp=Z,28nm,0.9s
BAIF Baives 69.80 15 *e*P **P** **00 15 25.5 -0.5**
BAIF pmax pmax
comp=Z,28nm,0.9s
BAIF Baives 69.80 15 *e*P **P** **00 15 25.5 -0.5**
comp=Z,28nm,0.9s
DOU Dourbes 69.81 15 P **P** **00 15 26.1 0.0**
comp=Z,6.3nm,1.4s
GIVF Givet 69.83 14 *e*P **P** **00 15 25.6 -0.7**
comp=Z,30nm,0.8s
GIVF Givet 69.83 14 *e*P **P** **00 15 25.6 -0.7**
GIVF pmax pmax
comp=Z,30nm,0.8s
GIVF Givet 69.83 14 *e*P **P** **00 15 25.6 -0.7**
comp=Z,30nm,0.8s
VORD Divnogorie 69.85 351 *e*P P 00 15 24.2 -2.1
BRG Berggiesshubel 70.00 8 *e*P **P** **00 15 26.6 -0.7**
comp=Z,7.2nm,1.0s
BRG Berggiesshubel 70.00 8 *e*P **P** **00 15 26.6 -0.7**
comp=Z,11nm,1.3s
BRG Berggiesshubel 70.00 8 *e*P **P** **00 15 26.6 -0.7**
BRG pmax pmax
comp=Z,7.0nm,1.0s
MOX Moxa 70.04 10 *e*P **P** **00 15 27.3 -0.2**
comp=Z,12nm,0.9s
MOX Moxa 70.04 10 *e*P **P** **00 15 27.3 -0.2**
MOX pmax pmax
comp=Z,12nm,0.9s
TNS Taunus Mts 70.14 12 *e*P **P** **00 15 27.9 -0.4**
comp=Z,8.0nm,0.8s
TNS Taunus Mts 70.14 12 *e*P **P** **00 15 27.9 -0.4**
TNS pmax pmax
comp=Z,8.0nm,0.8s
KSP Ksiaz 70.19 7 *e*P **P** **00 15 28.1 -0.3**
KSP Ksiaz 70.19 7 *e*P **P** **00 15 28.1 -0.3**
KSP Ksiaz 70.19 7 *e*P **P** **00 15 27.8 -0.6**
ROSF Rostrenen 70.30 20 *e*P **P** **00 15 28.4 -0.7**
comp=Z,11nm,0.7s
ROSF Rostrenen 70.30 20 *e*P **P** **00 15 28.4 -0.7**
ROSF pmax pmax
comp=Z,11nm,0.7s
ROSF Rostrenen 70.30 20 *e*P **P** **00 15 28.4 -0.7**
comp=Z,11nm,0.7s
TANN Tannenbergstha 70.34 9 *e*P P 00 15 27.9 -1.5
FLN La Foliniere 70.36 18 *e*P **P** **00 15 28.5 -1.0**
comp=Z,23nm,0.8s
FLN *e*R
comp=Z,161nm,21.7s
FLN La Foliniere 70.36 18 *e*P **P** **00 15 28.5 -1.0**
FLN pmax pmax
comp=Z,23nm,0.8s
FLN La Foliniere 70.36 18 *e*P **P** **00 15 28.5 -1.0**
comp=Z,23nm,0.8s
PVCC Panska Ves 70.39 8 *e*P **P** **00 15 28.8 -0.9**
PVCC Panska Ves 70.39 8 *e*P **P** **00 15 28.8 -0.9**
WLF Walferdange 70.43 14 P **P** **00 15 30.5 +0.5**
comp=Z,14nm,1.4s
WLF Walferdange 70.43 14 *e*P **P** **00 15 30.3 +0.4**
SGMF Saint Gilles 70.50 20 *e*P **P** **00 15 29.7 -0.7**
comp=Z,19nm,0.6s
SGMF Saint Gilles 70.50 20 *e*P **P** **00 15 29.7 -0.7**
SGMF pmax pmax
comp=Z,19nm,0.6s
SGMF Saint Gilles 70.50 20 *e*P **P** **00 15 29.7 -0.7**
comp=Z,19nm,0.6s
UPC Upice 70.50 7 *e*P **P** **00 15 30.0 -0.4**
UPC Upice 70.50 7 *e*P **P** **00 15 30.0 -0.4**
TKM2 Tokmak 2 70.52 324 *e*P **P** **00 15 30.2 -0.7**
TKM2 pmax pmax
comp=Z,16nm,1.4s
TKM2 Tokmak 2 70.52 324 *e*P **P** **00 15 30.2 -0.7**
comp=Z,16nm,1.4s
TKM2 Tokmak 2 70.52 324 P **P** **00 15 30.5 -0.3**
SNR=9.9
LDF La Druitiere 70.59 18 *e*P **P** **00 15 29.8 -1.1**
comp=Z,22nm,0.8s
LDF La Druitiere 70.59 18 *e*P **P** **00 15 29.8 -1.1**
LDF pmax pmax
comp=Z,22nm,0.8s
LDF La Druitiere 70.59 18 *e*P **P** **00 15 29.8 -1.1**
comp=Z,22nm,0.8s
AKASG Malin Array Be 70.60 358 P P 00 15 29.1 -1.9
AKASG Malin Array Be 70.60 358 P P 00 15 29.1 -1.9
AKASG Malin Array Be 70.60 358 P P 00 15 29.0 -1.9
comp=Z,3.9nm,0.6s,baz=3.6,slow=6.3,SNR=15
AKASG LR LR 00 45 20.9
comp=Z,140nm,18.9s,baz=305,slow=35
KIEV Kiev 70.61 358 *e*P P 00 15 28.8 -2.1
KIEV pmax pmax
comp=Z,12nm,1.1s
KIEV Kiev 70.61 358 *e*P P 00 15 28.8 -2.1
comp=Z,12nm,1.1s
GRR Gorron 70.67 19 *e*P **P** **00 15 30.5 -0.9**
comp=Z,17nm,0.7s
GRR Gorron 70.67 19 *e*P **P** **00 15 30.5 -0.9**
GRR pmax pmax
comp=Z,17nm,0.7s
GRR Gorron 70.67 19 *e*P **P** **00 15 30.5 -0.9**
comp=Z,17nm,0.7s
DPC Dobruska-Polom 70.68 7 *e*P **P** **00 15 31.1 -0.4**
DPC *e* 00 15 57.9
DPC Dobruska-Polom 70.68 7 *e*P **P** **00 15 30.9 -0.6**
comp=Z,17nm,0.8s
DPC Dobruska-Polom 70.68 7 *e*P **P** **00 15 31.1 -0.4**
DPC *epP* **pP** **00 15 57.9 +2.5**
CHMS Chumysh 70.71 324 P **P** **00 15 31.6 -0.2**
SNR=5.5
QUIF Quistinic 70.72 20 *e*P **P** **00 15 31.0 -0.7**
comp=Z,16nm,0.8s
QUIF Quistinic 70.72 20 *e*P **P** **00 15 31.0 -0.7**
QUIF pmax pmax
comp=Z,16nm,0.8s
QUIF Quistinic 70.72 20 *e*P **P** **00 15 31.0 -0.7**
comp=Z,16nm,0.8s
FRU Bishkek 70.90 324 *e*P **P** **00 15 32.4 -0.5**
FRU pmax pmax
comp=Z,34nm,1.8s
PRU Pruhonice 70.92 8 *e*P **P** **00 15 32.4 -0.5**
PRU Pruhonice 70.92 8 *e*P **P** **00 15 32.4 -0.5**
GRF Grafenberg Arr 70.95 10 *e*P **P** **00 15 32.8 -0.3**
comp=Z,10.0nm,0.8s
GRF Grafenberg Arr 70.95 10 *e*P **P** **00 15 32.8 -0.3**
GRF pmax pmax
comp=Z,10.0nm,0.8s
KBK Karagaybulak 70.96 324 P **P** **00 15 33.3 -0.2**
SNR=9.6
ROTZ Rotzenmuhle 70.96 10 *e*P **P** **00 15 32.7 -0.5**
comp=Z,13nm,1.4s
OJC Ojcow 70.98 4 *e*P P 00 15 31.1 -2.2
OJC Ojcow 70.98 4 *e*P P 00 15 31.8 -1.5
AAK Ala-Archa 71.12 324 *e*P **P** **00 15 34.4 0.0**
AAK pmax pmax
comp=Z,76nm,1.4s
AAK Ala-Archa 71.12 324 *e*P **P** **00 15 34.4 0.0**
comp=Z,76nm,1.4s
AAK Ala-Archa 71.12 324 P **P** **00 15 33.7 -0.7**
SNR=5.2
AAK Ala-Archa 71.12 324 LR LR 00 48 26.0
comp=Z,95nm,19.6s,baz=26,slow=37
OKC Ostrava-Krasne 71.29 6 *e*P **P** **00 15 34.5 -0.6**
OKC Ostrava-Krasne 71.29 6 *e*P **P** **00 15 34.5 -0.6**
EKS2 Erkin-Say 71.31 325 P **P** **00 15 34.8 -0.7**
SNR=11
MORC Moravsky Berou 71.32 6 *e*P **P** **00 15 34.7 -0.7**
MORC pmax pmax
comp=Z,39nm,2.0s
MORC Moravsky Berou 71.32 6 *e*P **P** **00 15 34.7 -0.7**
comp=Z,39nm,2.0s
MORC Moravsky Berou 71.32 6 ⇑*i*P P 00 15 34.0 -1.4
MEZF Maizieres J'vi 71.43 15 *e*P **P** **00 15 35.7 -0.3**
comp=Z,20nm,0.9s
MEZF Maizieres J'vi 71.43 15 *e*P **P** **00 15 35.7 -0.3**
comp=Z,20nm,0.9s
PAGF Fort de Pagny 71.47 14 ⇑*i*P **P** **00 15 36.0 -0.2**
comp=Z,8.2nm,0.7s
PAGF Fort de Pagny 71.47 14 ⇑*i*P **P** **00 15 36.0 -0.2**
comp=Z,8.2nm,0.7s
WET Wettzell 71.64 9 *e*P **P** **00 15 36.9 -0.4**
comp=Z,20nm,1.6s
WET Wettzell 71.64 9 *e*P **P** **00 15 36.9 -0.4**
WET pmax pmax
comp=Z,20nm,1.6s
TREC Trest 71.68 7 *e*P **P** **00 15 36.9 -0.6**
TREC Trest 71.68 7 *e*P **P** **00 15 36.9 -0.6**
KHC Kasperske Hory 71.70 9 *e*P **P** **00 15 37.6 -0.1**
KHC *e* 00 15 55.1
KHC Kasperske Hory 71.70 9 *e*P **P** **00 15 37.5 -0.1**
comp=Z,51nm,1.9s
KHC Kasperske Hory 71.70 9 *e*P **P** **00 15 37.6 -0.1**
KHC *e*PCP **PcP** **00 15 55.1 -1.2**
KHC *ex* x 00 16 24.5
SFTF Sexfontaines 71.72 15 *e*P **P** **00 15 36.9 -0.9**
SFTF Sexfontaines 71.72 15 *e*P **P** **00 15 36.9 -0.9**
VRAC Vranov 71.74 7 ⇓*i*P P 00 15 35.7 -2.1
CDF Champ du Feu 71.80 13 *e*P **P** **00 15 37.7 -0.6**
comp=Z,24nm,1.1s
CDF Champ du Feu 71.80 13 *e*P **P** **00 15 37.7 -0.6**
CDF pmax pmax
comp=Z,24nm,1.1s
CDF Champ du Feu 71.80 13 *e*P **P** **00 15 37.7 -0.6**
comp=Z,24nm,1.1s
AML Almayashu 71.82 325 P **P** **00 15 38.5 -0.4**
SNR=6.9

KKAR Karatay Array 71.84 327 *eP* P 00 15 37.4 -1.2
KKAR Karatay Array 71.84 327 *eP* P 00 15 37.4 -1.2
GEC2 GERESS Array S 72.00 9 *eP* **P 00 15 38.9 -0.6**
comp=Z,6.0nm,0.9s
GEC2 GERESS Array S 72.00 9 *eP* **P 00 15 38.9 -0.6**
GEC2 pmax pmax
comp=Z,6.0nm,0.9s
GERES GERESS Array B 72.00 9 P **P 00 15 38.8 -0.8**
GERES GERESS Array B 72.00 9 P **P 00 15 38.8 -0.8**
comp=Z,2.2nm,0.6s,baz=355,slow=4.9,SNR=17
GERES LR LR 00 49 46.4
comp=Z,76nm,18.6s,baz=330,slow=38
BFO Black Forest 72.00 12 *eP* **P 00 15 38.7 -0.8**
comp=Z,8.0nm,0.9s
BFO Black Forest 72.00 12 *eP* **P 00 15 38.9 -0.6**
BFO pmax pmax
comp=Z,27nm,1.7s
BFO Black Forest 72.00 12 *eP* **P 00 15 38.9 -0.6**
comp=Z,27nm,1.7s
HAU Haudompre 72.09 14 *eP* **P 00 15 39.3 -0.7**
comp=Z,18nm,0.6s
HAU *eR*
comp=Z,156nm,19.8s
HAU Haudompre 72.09 14 *eP* **P 00 15 39.3 -0.7**
HAU pmax pmax
comp=Z,18nm,0.6s
HAU Haudompre 72.09 14 *eP* **P 00 15 39.3 -0.7**
comp=Z,18nm,0.6s
HYF Humbligny 72.31 17 *eP* **P 00 15 40.9 -0.4**
HYF Humbligny 72.31 17 *eP* **P 00 15 40.9 -0.4**
HINF Hinteralfeld 72.33 14 *eP* **P 00 15 40.7 -0.8**
comp=Z,15nm,0.8s
HINF Hinteralfeld 72.33 14 *eP* **P 00 15 40.7 -0.8**
HINF pmax pmax
comp=Z,15nm,0.8s
HINF Hinteralfeld 72.33 14 *eP* **P 00 15 40.7 -0.8**
comp=Z,15nm,0.8s
KOLS Kolonicke sedl 72.35 3 *eP* **P 00 15 41.1 -0.4**
KOLS Kolonicke sedl 72.35 3 *eP* **P 00 15 41.1 -0.4**
CRVS Cervenica-Dubn 72.36 3 *eP* **P 00 15 40.7 -0.9**
CRVS pmax pmax
comp=Z,9.0nm,1.6s
CRVS Cervenica-Dubn 72.36 3 *eP* **P 00 15 40.7 -0.9**
GYA Guiyang 72.40 292 *eP* **P 00 15 42.8 +0.5**
GYA pmax pmax
comp=Z,10.0nm,1.0s
LOR Lormes 72.48 16 *eP* **P 00 15 41.7 -0.6**
comp=Z,36nm,0.8s
LOR *eR*
comp=Z,88nm,17.9s
LOR Lormes 72.48 16 *eP* **P 00 15 41.7 -0.6**
comp=Z,36nm,0.8s
MFF Saint Martin d 72.52 19 *eP* **P 00 15 41.9 -0.6**
comp=Z,55nm,0.8s
MFF Saint Martin d 72.52 19 *eP* **P 00 15 41.9 -0.6**
MFF pmax pmax
comp=Z,55nm,0.8s
MFF Saint Martin d 72.52 19 *eP* **P 00 15 41.9 -0.6**
comp=Z,55nm,0.8s
SSF Saint Saulge 72.63 16 *eP* **P 00 15 42.7 -0.5**
comp=Z,48nm,0.8s
SSF Saint Saulge 72.63 16 *eP* **P 00 15 42.7 -0.5**
SSF pmax pmax
comp=Z,48nm,0.8s
SSF Saint Saulge 72.63 16 *eP* **P 00 15 42.7 -0.5**
comp=Z,48nm,0.8s
UZH Uzhgorod 72.65 3 *eP* **P 00 15 42.4 -0.9**
UZH *e* 00 15 58.0
UZH *e* 00 16 13.4
VYHS Vyhne 72.67 5 *eP* **P 00 15 42.4 -1.0**
VYHS pmax pmax
comp=Z,7.0nm,1.3s
VYHS Vyhne 72.67 5 *eP* **P 00 15 42.4 -1.0**
AVF Avril sur Loir 72.88 16⇑ *iP* **P 00 15 43.8 -0.8**
comp=Z,42nm,0.7s
AVF Avril sur Loir 72.88 16⇑ *iP* **P 00 15 43.8 -0.8**
AVF pmax pmax
comp=Z,42nm,0.7s
AVF Avril sur Loir 72.88 16⇑ *iP* **P 00 15 43.8 -0.8**
comp=Z,42nm,0.7s
BGF Bois d'Agland 73.03 17 *eP* **P 00 15 44.8 -0.8**
comp=Z,38nm,0.6s
BGF Bois d'Agland 73.03 17 *eP* **P 00 15 44.8 -0.8**
BGF pmax pmax
comp=Z,38nm,0.6s
BGF Bois d'Agland 73.03 17 *eP* **P 00 15 44.8 -0.8**
comp=Z,38nm,0.6s
CONA Conrad Observa 73.06 7⇓ *iP* **P 00 15 45.5 -0.4**
comp=Z,15nm,1.5s
TRPA Tarpa 73.16 3⇓ *iP* P 00 15 44.8 -1.4
TCF Toulx Ste Croi 73.20 17 *eP* **P 00 15 45.7 -0.9**
comp=Z,35nm,0.9s
TCF Toulx Ste Croi 73.20 17 *eP* **P 00 15 45.7 -0.9**
TCF pmax pmax
comp=Z,35nm,0.9s
TCF Toulx Ste Croi 73.20 17 *eP* **P 00 15 45.7 -0.9**
comp=Z,35nm,0.9s
PSZ Piszkesteto 73.29 4 *eP* **P 00 15 47.0 -0.1**
PSZ pmax pmax
comp=Z,7.0nm,0.9s
PSZ Piszkesteto 73.29 4 *eP* **P 00 15 47.0 -0.1**
comp=Z,6.7nm,0.9s
PSZ Piszkesteto 73.29 4⇑ *iP* **P 00 15 46.5 -0.6**
WTTA Wattenberg 73.39 10⇑ *iP* **P 00 15 47.7 -0.2**
comp=Z,18nm,1.3s
CABF La Chapelle 73.42 14⇑ *iP* **P 00 15 47.6 -0.4**
comp=Z,14nm,0.6s
CABF La Chapelle 73.42 14⇑ *iP* **P 00 15 47.6 -0.4**
CABF pmax pmax
comp=Z,14nm,0.6s
CABF La Chapelle 73.42 14⇑ *iP* **P 00 15 47.6 -0.4**
comp=Z,14nm,0.6s
KSH Kashi 73.50 322 P **P 00 15 51.3 +2.7**
KSH PcP **PcP 00 16 07.5 +3.3**
KSH pP **pP 00 16 16.1 +3.5**
KSH sP sP 00 16 27.3 +4.5
KSH PP PP 00 18 38.5 +5.6
KSH S **SKiKP 00 25 11.8 +2.6**
KSH SKS **SKSac 00 25 44.3 -2.0**
KSH ScS **SKKSac 00 25 48.4 +1.9**
KSH sS **sS 00 25 55.4 +3.7**
KSH SS **SS 00 29 58.3 +4.5**
KSH pmax pmax
comp=Z,16nm,1.0s
KSH pmax pmax
comp=Z,100nm,4.8s
KSH LR LR
comp=N,120nm,9.9s
KSH LR LR
comp=E,180nm,7.5s
KSH LR LR
comp=Z,170nm,8.1s
BUR08 Bucovina Ar. S 73.69 1 *eP* **P 00 15 48.6 -0.9**
BURAR Bucovina Array 73.71 1⇑ *iP* P 00 15 47.4 -2.3
ARSA Arzberg 73.72 8⇑ *iP* **P 00 15 49.2 -0.4**
comp=Z,7.1nm,1.4s
KBA Koelnbreinsper 73.72 9⇑ *iP* **P 00 15 49.0 -0.8**
comp=Z,25nm,1.4s
FUORN Ofenpass-Fuorn 73.90 11 *eP* **P 00 15 50.7 -0.3**
comp=Z,7.3nm,0.9s
TUE Stuetta 73.95 12 *eP* **P 00 15 51.4 +0.2**
comp=Z,6.7nm,0.6s
RJF Les Rejaudoux 74.05 18 *eP* **P 00 15 50.4 -1.2**
RJF *eR*
comp=Z,199nm,21.5s
RJF Les Rejaudoux 74.05 18 *eP* **P 00 15 50.4 -1.2**
RJF Les Rejaudoux 74.05 18 *eP* **P 00 15 50.4 -1.2**
SOKA Soboth 74.25 8⇑ *iP* **P 00 15 52.9 +0.1**
comp=Z,111nm,1.3s
LFF La Frestale 74.28 19 *eP* **P 00 15 52.4 -0.5**
comp=Z,55nm,0.7s
LFF La Frestale 74.28 19 *eP* **P 00 15 52.4 -0.5**
LFF pmax pmax
comp=Z,55nm,0.7s
LFF La Frestale 74.28 19 *eP* **P 00 15 52.4 -0.5**
comp=Z,55nm,0.7s
OBKA Obir 74.39 8⇑ *iP* **P 00 15 53.1 -0.5**
comp=Z,25nm,0.8s
DRGR 74.50 2⇑ *iP* P 00 15 51.9 -2.3
CAF Calviac 74.50 18 *eP* **P 00 15 53.7 -0.5**
comp=Z,48nm,1.1s
CAF Calviac 74.50 18 *eP* **P 00 15 53.7 -0.5**
CAF pmax pmax
comp=Z,48nm,1.1s
CAF Calviac 74.50 18 *eP* **P 00 15 53.7 -0.5**
comp=Z,48nm,1.1s

LPL La Plagne 74.58 14 *eP* **P 00 15 55.1 +0.2**
comp=Z,6.8nm,0.6s
LPL La Plagne 74.58 14 *eP* **P 00 15 55.1 +0.2**
LPL pmax pmax
comp=Z,7.0nm,0.6s
LPL La Plagne 74.58 14 *eP* **P 00 15 55.1 +0.2**
comp=Z,6.8nm,0.6s
LPG La Plagne 74.60 14 *eP* **P 00 15 55.4 +0.3**
comp=Z,16nm,0.9s
LPG La Plagne 74.60 14 *eP* **P 00 15 55.4 +0.3**
LPG pmax pmax
comp=Z,17nm,0.9s
LPG La Plagne 74.60 14 *eP* **P 00 15 55.4 +0.3**
comp=Z,16nm,0.9s
VIVF Saint-Julien-l 74.96 16 *eP* **P 00 15 56.4 -0.5**
comp=Z,22nm,0.7s
VIVF Saint-Julien-l 74.96 16 *eP* **P 00 15 56.4 -0.5**
VIVF pmax pmax
comp=Z,22nm,0.7s
VIVF Saint-Julien-l 74.96 16 *eP* **P 00 15 56.4 -0.5**
comp=Z,22nm,0.7s
BNI Bardonecchia 75.03 14 *eP* **P 00 15 58.3 +0.9**
BNI pmax pmax
comp=Z,26nm,1.4s
BNI Bardonecchia 75.03 14 *eP* **P 00 15 58.3 +0.9**
comp=Z,26nm,1.4s
ORIF Oris-en-Rattie 75.06 15 *eP* **P 00 15 57.2 -0.3**
comp=Z,5.7nm,0.5s
ORIF *eR*
comp=Z,126nm,19.2s
ORIF Oris-en-Rattie 75.06 15 *eP* **P 00 15 57.2 -0.3**
ORIF pmax pmax
comp=Z,6.0nm,0.5s
ORIF Oris-en-Rattie 75.06 15 *eP* **P 00 15 57.2 -0.3**
comp=Z,5.7nm,0.5s
MBDF Montbardon 75.36 14 *eP* **P 00 15 59.7 +0.4**
comp=Z,27nm,1.0s
MBDF Montbardon 75.36 14 *eP* **P 00 15 59.7 +0.4**
MBDF pmax pmax
comp=Z,27nm,1.0s
MBDF Montbardon 75.36 14 *eP* **P 00 15 59.7 +0.4**
comp=Z,27nm,1.0s
PGAV Gavieira, Arco 75.39 26 *eP* **P 00 15 59.6 +0.2**
comp=Z,50nm,1.4s
VRI Vrincioaia 75.47 360⇑ *iP* **P 00 15 58.8 -0.9**
PLOR Plostina 75.48 360⇑ *iP* **P 00 15 58.8 -1.0**
BZS Buzias 75.65 3⇓ *iP* **P 00 15 59.7 -1.0**
PCAB Cabril 75.69 26 *eP* **P 00 16 01.6 +0.5**
comp=Z,42nm,1.1s
SJPF Ste Jean 75.71 20 *eP* **P 00 16 00.3 -0.9**
SJPF Ste Jean 75.71 20 *eP* **P 00 16 00.3 -0.9**
SJPF Ste Jean 75.71 20 *eP* **P 00 16 00.3 -0.9**
MLR Muntele Rosu 75.84 0⇑ *iP* P 00 15 58.9 -3.1
PBRG Braganca 75.88 25 *eP* **P 00 16 02.4 +0.2**
comp=Z,26nm,1.7s
VOIR 75.89 1⇓ *iP* P 00 15 59.5 -2.7
GZR Gura Zlata 75.90 2⇓ *iP* P 00 16 00.2 -2.1
SMRF Simiane la Rot 75.95 15 *eP* **P 00 16 02.8 +0.3**
comp=Z,37nm,0.9s
SMRF Simiane la Rot 75.95 15 *eP* **P 00 16 02.8 +0.3**
comp=Z,37nm,0.9s
ETSF Etsaut 76.04 20 *eP* **P 00 16 03.0 -0.1**
comp=Z,67nm,0.9s
ETSF Etsaut 76.04 20 *eP* **P 00 16 03.0 -0.1**
ETSF pmax pmax
comp=Z,67nm,0.9s
ETSF Etsaut 76.04 20 *eP* **P 00 16 03.0 -0.1**
comp=Z,67nm,0.9s
POLO Lamas de Olo 76.06 26 *eP* **P 00 16 03.4 +0.1**
comp=Z,24nm,1.1s
EPF Esparros 76.07 19 *eP* **P 00 16 01.9 -1.4**
comp=Z,21nm,0.9s
EPF Esparros 76.07 19 *eP* **P 00 16 01.9 -1.4**
EPF pmax pmax
comp=Z,21nm,0.9s
EPF Esparros 76.07 19 *eP* **P 00 16 01.9 -1.4**
comp=Z,21nm,0.9s
PTO Porto 76.10 26 *eP* **P 00 16 04.1 +0.8**
comp=Z,68nm,1.1s
CFR Carcaliu 76.14 359⇓ *iP* P 00 16 02.0 -1.5
PVRL Vila Real 76.17 26 *eP* **P 00 16 04.0 +0.2**
comp=Z,49nm,0.8s
SBF Sospel 76.30 14 *eP* **P 00 16 04.0 -0.6**
comp=Z,46nm,0.8s
SBF Sospel 76.30 14 *eP* **P 00 16 04.0 -0.6**
SBF pmax pmax
comp=Z,46nm,0.8s
SBF Sospel 76.30 14 *eP* **P 00 16 04.0 -0.6**
comp=Z,46nm,0.8s
PPT Papeete 76.40 176 LR LR 00 44 05.1
comp=Z,255nm,18.7s,baz=15,slow=31
MVO Moncorvo 76.43 25 *eP* **P 00 16 05.4 +0.1**
comp=Z,67nm,1.1s
KIV Kislovodsk 76.48 348 *eP* **P 00 16 04.8 -0.8**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV Kislovodsk 76.48 348 *eP* **P 00 16 04.8 -0.8**
comp=Z,12nm,1.0s
LSA Lhasa 76.63 306 P **P 00 16 07.0 -0.1**
LSA Lhasa 76.63 306 *eP* **P 00 16 07.2 +0.1**
LSA pmax pmax
comp=Z,8.0nm,0.7s
LSA Lhasa 76.63 306 *eP* **P 00 16 07.2 +0.1**
comp=Z,8.2nm,0.7s
KBZ Khabaz 76.68 348 P **P 00 16 06.1 -0.5**
KBZ Khabaz 76.68 348 P **P 00 16 06.1 -0.5**
KBZ Khabaz 76.68 348 P **P 00 16 06.1 -0.5**
comp=Z,5.1nm,0.8s,baz=292,slow=5.4,SNR=8.4
KBZ LR LR 00 53 14.9
comp=Z,47nm,18.0s,baz=82,slow=38
TIRR Tirgusor 76.86 358⇓ *iP* P 00 16 04.5 -3.1
MTE Manteigas 77.04 26 *eP* **P 00 16 08.9 +0.1**
comp=Z,89nm,1.0s
MTE Manteigas 77.04 26 *eP* **P 00 16 08.9 +0.1**
comp=Z,58nm,0.8s
ZEI Tsey 77.51 347 *eP* P 00 16 08.8 -2.8
ZEI pmax pmax
comp=Z,14nm,1.5s
PTOM Tomar 77.59 27 *eP* **P 00 16 11.6 -0.2**
comp=Z,50nm,1.5s
PCBR Castelo Branco 77.59 26 *eP* **P 00 16 12.0 +0.2**
comp=Z,49nm,1.2s
PGF Pioggiola 77.78 13 *eP* **P 00 16 12.2 -0.7**
comp=Z,49nm,0.9s
PGF Pioggiola 77.78 13 *eP* **P 00 16 12.2 -0.7**
PGF pmax pmax
comp=Z,49nm,0.9s
PGF Pioggiola 77.78 13 *eP* **P 00 16 12.2 -0.7**
comp=Z,49nm,0.9s
PMRV Marv??o 78.00 26 *eP* **P 00 16 14.0 -0.1**
comp=Z,36nm,1.6s
PMAFR Mafra 78.02 28 *eP* **P 00 16 14.3 +0.1**
comp=Z,169nm,0.9s
PMTG Montargil 78.16 27 *eP* **P 00 16 14.4 -0.5**
comp=Z,47nm,1.2s
LIS Lisbon 78.27 28 *eP* **P 00 16 16.3 +0.7**
LIS AMS AMS 01 21 56.8
comp=E,685nm,19.4s
LIS Lisbon 78.27 28 *eP* **P 00 16 16.2 +0.7**
PESTR Estremoz 78.50 26 *eP* **P 00 16 16.2 -0.6**
comp=E,48nm,1.4s
ESDC Sonseca Array 78.51 23 P **P 00 16 16.9 0.0**
ESDC Sonseca Array 78.51 23 P **P 00 16 16.9 0.0**
comp=E,22nm,0.8s,baz=343,slow=5.2,SNR=121
ESDC LR LR 00 49 10.7
comp=E,53nm,20.4s,baz=290,slow=34
PAB San Pablo 78.55 24 *eP* **P 00 16 17.5 +0.3**
PAB pmax pmax
comp=Z,28nm,1.2s
PAB San Pablo 78.55 24 *eP* **P 00 16 17.5 +0.3**
comp=Z,28nm,1.2s
MOE Memor 78.65 27 *eP* **P 00 16 18.5 +0.9**
EVOP Sao Brissos 78.70 27⇑ *iP* **P 00 16 17.8 -0.1**
EVOP pmax pmax
comp=Z,110nm,1.3s
EVOP Sao Brissos 78.70 27⇑ *iP* **P 00 16 17.8 -0.1**
comp=Z,110nm,1.3s
VTS Vitosha 78.71 2⇑ *iP* P 00 16 16.3 -1.8
EVO Evora 78.72 27⇑ *iP* **P 00 16 17.8 -0.2**
comp=Z,110nm,1.2s
EVO *eR*
comp=Z,96nm,19.8s
PNCL Nicolau / Gran 79.00 27 *eP* **P 00 16 19.4 -0.1**
comp=Z,88nm,1.2s
PBEJ Beja 79.23 27 *eP* **P 00 16 21.1 +0.2**
comp=Z,30nm,1.5s

PBAR Barrancos 79.28 26 *eP* **P 00 16 21.3 +0.2**
comp=Z,83nm,1.4s
MESJ Messejana 79.33 27 *eP* **P 00 16 21.6 +0.3**
MESJ AMS AMS 00 41 32.6
comp=N,80nm,19.3s
MESJ Messejana 79.33 27 *eP* **P 00 16 21.6 +0.3**
PTEO Sao Teotonio 79.49 28 *eP* **P 00 16 22.4 +0.2**
comp=N,52nm,1.6s
PCVE Castro Verde 79.57 27 *eP* **P 00 16 22.5 -0.2**
comp=N,31nm,2.0s
MORF Marmelete 79.73 28 *eP* **P 00 16 24.2 +0.5**
comp=N,71nm,1.3s
MORF Marmelete 79.73 28 *eP* **P 00 16 24.1 +0.4**
PVAQ Vaqueiros 79.86 27 *eP* **P 00 16 24.1 -0.2**
comp=N,59nm,1.5s
PBDV Barranco-do-Ve 79.97 27 *eP* **P 00 16 25.4 +0.5**
comp=N,93nm,1.7s
TAPN Taplejung 80.12 307 *eP* **P 00 16 25.4 -0.8**
comp=N,26nm,0.8s
TAPN Taplejung 80.12 307 *eP* **P 00 16 25.4 -0.8**
comp=N,26nm,0.8s
GUN Gumba 80.36 309 *eP* **P 00 16 26.8 -0.8**
GUN Gumba 80.36 309 *eP* **P 00 16 26.8 -0.8**
JIRN Jiri 80.46 309 *eP* **P 00 16 27.7 -0.4**
comp=N,11nm,0.5s
JIRN Jiri 80.46 309 *eP* **P 00 16 27.7 -0.4**
comp=N,11nm,0.5s
ODAN Odare 80.68 308 *eP* **P 00 16 28.3 -0.8**
ODAN Odare 80.68 308 *eP* **P 00 16 28.3 -0.8**
KKN Kakani 80.71 310 *eP* **P 00 16 28.5 -0.7**
KKN Kakani 80.71 310 *eP* **P 00 16 28.5 -0.7**
KKN Kakani 80.71 310 *eP* **P 00 16 28.5 -0.7**
GKN Gorkha 80.78 310 *eP* **P 00 16 28.8 -0.7**
GKN Gorkha 80.78 310 *eP* **P 00 16 28.8 -0.7**
DANN Dangsing 80.81 311 *eP* **P 00 16 29.4 -0.5**
comp=N,69nm,0.8s
DANN Dangsing 80.81 311 *eP* **P 00 16 29.4 -0.5**
comp=N,69nm,0.8s
PKI Pulchoki 80.85 309 *eP* **P 00 16 29.1 -1.0**
PKI Pulchoki 80.85 309 *eP* **P 00 16 29.1 -1.0**
PKI Pulchoki 80.85 309 *eP* **P 00 16 29.1 -1.0**
RAMN Ramite 80.92 308 *eP* **P 00 16 29.6 -0.8**
comp=N,51nm,1.0s
RAMN Ramite 80.92 308 *eP* **P 00 16 29.6 -0.8**
comp=N,51nm,1.0s
DMN Daman 80.94 310 *eP* **P 00 16 30.0 -0.5**
DMN Daman 80.94 310 *eP* **P 00 16 30.0 -0.5**
KOLN Koldanda 81.39 311 *eP* **P 00 16 32.2 -0.6**
comp=N,11nm,0.7s
KOLN Koldanda 81.39 311 *eP* **P 00 16 32.2 -0.6**
comp=N,11nm,0.7s
BR131 Keskin Array S 81.41 354 *eP* P 00 16 31.3 -1.3
comp=N,9.7nm,1.2s
BRTR Keskin Array B 81.41 354 P **P 00 16 31.6 -1.0**
BRTR Keskin Array B 81.41 354 P **P 00 16 31.6 -1.0**
comp=N,7.0nm,1.1s,baz=344,slow=2.7,SNR=17
BRTR LR LR 00 54 21.9
comp=N,47nm,19.7s,baz=179,slow=37
CMAR Chiang Mai Arr 82.90 294 P **P 00 16 39.5 -1.1**
CMAR Chiang Mai Arr 82.90 294 P **P 00 16 39.5 -1.1**
comp=N,4.9nm,0.9s,baz=21,slow=5.8,SNR=17
CMAR LR LR 00 57 37.2
comp=N,35nm,18.8s,baz=60,slow=38
PMG Port Moresby 82.91 239 *eP* **P 00 16 39.9 -0.6**
comp=N,28nm,1.1s
KEST Kesra 84.55 14 *eP* **P 00 16 48.7 -0.2**
KEST Kesra 84.55 14 P **P 00 16 48.8 -0.2**
comp=N,12nm,0.9s,baz=315,slow=2.3,SNR=18
KKM Kota Kinabalu 84.86 273 *eP* **P 00 16 50.6 -0.1**
comp=N,33nm,1.0s
ASF Jabal al Asfar 88.71 351 LR LR 00 59 21.2
comp=N,28nm,21.6s,baz=241,slow=37
KSM Kuching 91.80 276 *eP* **P 00 17 23.2 -0.4**
KAPI Kappang 92.44 264 *eP* **P 00 17 25.1 -1.4**
RAYN Ar Rayn 96.22 342 P **P 00 17 43.0 -0.9**
comp=N,47nm,1.1s,SNR=5.3
WRA Warramunga Arr 97.98 245 P **P 00 17 50.1 -1.5**
WRA Warramunga Arr 97.98 245 P **P 00 17 50.1 -1.5**
comp=N,1.7nm,1.0s,baz=37,slow=5.4,SNR=8.1
ASAR Alice Springs 101.39 243 P **Pdif 00 18 07.5 +0.7**
ASAR Alice Springs 101.39 243 P **Pdif 00 18 07.5 +0.7**
comp=N,0.6nm,0.7s,baz=22,slow=5.3,SNR=4.1
LPAZ La Paz 101.59 102 PKiKP **PKiKP 00 22 33.2 +1.4**
LPAZ La Paz 101.59 102 PKiKP **PKiKP 00 22 33.2 +1.4**
comp=N,1.3nm,0.6s,baz=210,slow=5.2,SNR=4.0
TORD Torodi Ar. Bea 105.36 25 PKiKP **PKiKP 00 22 39.3 +1.2**
TORD PP **PP 00 22 45.9 -0.4**
TORD PKKPbc PKKPbc 00 34 05.9 +5.3
TORD Torodi Ar. Bea 105.36 25 PKiKP **PKiKP 00 22 39.3 +1.2**
comp=N,0.8nm,1.0s,baz=348,slow=4.6,SNR=3.5
TORD PP **PP 00 22 45.9 -0.4**
comp=N,0.4nm,0.7s,baz=338,slow=6.3,SNR=4.2
TORD PKKPbc PKKPbc 00 34 05.9 +5.3
comp=N,0.2nm,0.3s,baz=159,slow=2.2,SNR=13
QSPA South Pole Qui 148.82 180 PKPbc **PKPbc 00 24 01.0 -0.4**
QSPA pPKPbc **pPKPbc 00 24 26.9 -0.2**
QSPA South Pole Qui 148.82 180 PKPbc **PKPbc 00 24 01.0 -0.4**
comp=N,6.8nm,0.7s,baz=62,slow=0.5,SNR=7.3
QSPA pPKPbc **pPKPbc 00 24 26.9 -0.2**
comp=N,14nm,1.0s,baz=190,slow=1.2,SNR=5.5
BOSA Boshof 149.59 2 PKPbc **PKPdf 00 24 03.8 +3.9**
BOSA Boshof 149.59 2 PKPbc **PKPdf 00 24 03.8 +3.9**
comp=N,24nm,0.7s,baz=12,slow=3.0,SNR=37

IDC 23 00:15:08.2±6.3, 21°.43S×177°.07W, h128km±48km, mb3.7/3, mb1 3.9/4, mb1mx3.5/17, mbtmp3.8/4, Error ellipse: s-maj=138.9km s-min=30.3km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.02**	**35**	P	Pn	00 17 15.5	0.0
	1.3nm,0.3s,baz=236,slow=15,SNR=3.3						
AFI				S	Sn	00 18 49.2	-6.3
	1.4nm,0.3s,baz=217,slow=20,SNR=2.7						
STKA	**Stephens Creek**	**38.18**	**245**	P	P	00 22 14.8	-0.7
	1.7nm,0.8s,baz=93,slow=8.7,SNR=5.5						
ASAR	**Alice Springs**	**45.16**	**257**	P	P	00 23 12.8	+0.3
	1.6nm,0.7s,baz=92,slow=8.5,SNR=15						
ASAR				PcP	PcP	00 24 49.8	-1.0
	0.2nm,0.5s,baz=98,slow=3.8,SNR=4.2						
WRA	**Warramunga Arr**	**45.34**	**263**	P	P	00 23 13.8	-0.1
	0.3nm,0.3s,baz=96,slow=8.4,SNR=17						
BRTR	**Keskin Array B**	**148.10**	**312**	PKPbc	PKPbc	00 34 38.9	-0.4
	0.6nm,0.6s,baz=109,slow=3.6,SNR=7.4						

*IDC **23** 00:18:06.2±1.5, 34°.44S×71°.75W, h0km, mb3.7/2, mb1 3.8/3, mb1mx3.7/14, mbtmp3.6/3, Error ellipse: s-maj=51.6km s-min=34.3km az=155.0*
*GUC **23** 00:18:13.4±0.9, 33°.91S×71°.71W, h44km±2km, MD3.9, ML3.7*

ISC 23 00:18:12.2±1.4, 33°.94S±0°.04×71°.76W±0°.05, h30km±10km, n25, σ1s 00/35, 8C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.29**	**93⇑**	*iP*	**Pn**	**00 18 21.2**	**+0.8**
LCCH	**Las Cruces**	**0.49**	**19⇑**	*iP*	**Pn**	**00 18 23.8**	**+0.5**
TACH	**Talagante**	**0.74**	**68⇓**	*iP*	**Pn**	**00 18 27.0**	**+0.3**
IHA	**Instituto Hidr**	**0.92**	**6⇑**	*iP*	**Pn**	**00 18 30.1**	**+1.0**
IHA				*i* S	**Sn**	**00 18 42.4**	**+1.1**
CHCH	**Chadas Angostu**	**0.92**	**90⇑**	*iP*	**Pn**	**00 18 30.3**	**+1.1**
CACH	**El Canelo**	**0.98**	**101⇓**	*iP*	**Pn**	**00 18 31.5**	**+1.4**
ANTU	**Antumapu**	**1.01**	**69⇓**	*iP*	**Pb**	**00 18 31.3**	**+0.2**
ANTU				*i* S	**Sn**	**00 18 44.5**	**+0.9**
ANTU				AML	AML	00 18 46.1	
	comp=E,5μm,0.4s						
SAN	**Santiago**	**1.04**	**62⇓**	*iP*	**Pb**	**00 18 31.7**	**+0.1**
SAN				*i* S	**Sn**	**00 18 45.2**	**+0.9**
SAN				AML	AML	00 18 47.7	
	comp=N,3μm,0.4s						
PCH	**Pirque**	**1.08**	**73⇑**	*iP*	**Pb**	**00 18 32.8**	**+0.3**
PCH				*i* S	**Sn**	**00 18 46.6**	**+1.0**
FSR	**Penalolen**	**1.12**	**66⇓**	*iP*	**Pb**	**00 18 33.6**	**+0.5**
FSR				*i* S	**Sn**	**00 18 48.0**	**+1.4**
FSR				AML	AML	00 18 51.3	
	comp=N,687nm,0.7s						
ROCH	**El Roble**	**1.15**	**33⇑**	*iP*	**Pb**	**00 18 33.5**	**-0.2**
ROCH				AML	AML	00 18 56.0	
	comp=E,3μm,0.6s						
CLCH	**Cerro Calan**	**1.16**	**62⇑**	*iP*	**Pb**	**00 18 33.7**	**+0.1**
CLCH				*i* S	**Sn**	**00 18 49.0**	**+1.7**
CLCH				AML	AML	00 18 57.3	

comp=N,3µm,0.5s
CLCH AML AML 00 18 57.9
comp=N,4µm,0.5s
PEL Peldehue 1.20 49⇓*i*P Pb 00 18 34.6 +0.2
PEL *i* S **Sb 00 18 50.1 +0.7**
PEL AML AML 00 18 54.7
comp=N,5µm,0.4s
SJCH San Jose de Ma 1.21 76⇓*i*P Pb 00 18 33.6 -0.9
SJCH *e*S **Sb 00 18 49.1 -0.7**
SJCH AML AML 00 18 51.4
comp=E,5µm,0.3s
FCH Farellones 1.37 64⇑*i*P Pb 00 18 36.5 -0.9
FCH *i* S **Sb 00 18 54.3 -0.4**
FCH AML AML 00 18 55.7
comp=N,3µm,0.3s
TALC Talca 1.46 176 *e*P Pb 00 18 38.4 -0.3
TALC *i* S **Sb 00 18 57.2 +0.3**
TALC AML AML 00 19 01.9
comp=E,6µm,0.3s
CHNG Los Chungos 2.06 6⇓*i*P Pn 00 18 45.9 +1.1
CHNG *i* S **Sn 00 19 10.1 +0.5**
CHNG AML AML 00 19 20.9
comp=N,292nm,0.3s
COCH Cobquecura 2.34 201 AML AML 00 19 29.0
comp=E,193nm,0.4s
CFAA Coronel Fontan 3.77 53 Pn Pn 00 19 11.7 +3.3
baz=218,slow=13
CFAA Sn **Sb 00 20 00.9 -2.5**
comp=E,2.0nm,0.3s,baz=353,slow=22,SNR=4.8
SIV San Ignacio 20.30 31 P **P 00 22 45.2 -0.6**
comp=E,0.6nm,0.8s,baz=225,slow=16,SNR=4.4
TXAR Lajitas Array 69.80 331 P **P 00 29 20.9 +1.1**
comp=E,0.3nm,0.5s,baz=154,slow=8.9,SNR=11
TORD Torodi Ar. Bea 83.97 70 P **P 00 30 38.2 -1.7**
comp=E,1.0nm,1.2s,baz=248,slow=5.2,SNR=4.0
WRA Warramunga Arr 120.93 209 PKP **PKPdf 00 37 01.5 -0.8**
comp=E,0.4nm,1.1s,baz=154,slow=1.9,SNR=3.4
ZALV Zalesovo Beam 154.05 32 PKPbc **PKPbc 00 38 08.7 +0.3**
comp=E,0.1nm,0.3s,baz=336,slow=3.2,SNR=4.6
MKAR Makanchi Array 156.55 49 PKPab **PKPab 00 38 32.1 -0.8**
comp=E,0.2nm,0.6s,baz=288,slow=5.6,SNR=3.5

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*IDC **23** 00:19:44.8±1.7,37°20S×95°90W,h0km,mb4.4/10, mb1 4.6/10,mb1mx4.5/17,mbtmp4.4/10,MS3.6/7, Ms1 3.7/7,ms1mx3.5/22,Error ellipse: s-maj=50.8km s-min=22.2km az=14.0*
*NEIC **23** 00:19:48.8±0.6,36°84S×95°69W,h10km,mb4.8/27,Error ellipse: s-maj=18.6km s-min=7.7km az=30.0*
*BJI **23** 00:19:49.0,36°70S×95°50W,h10km,mB5.0/6,Ms5.2/4, Ms7 5.0/4*
*ISCJB **23** 00:19:50.6±1.1,36°2S±0°2×95°5W±0°1,h10km,mb4.6/37, MS3.8/8,Error ellipse: s-maj=29.8km s-min=12.2km az=18.0*
ISC 23 00:19:49.2±0.6,36°7S±0°1×95°6W±0°1,h10km,n325, σ0s79/329,mb4.7/36,MS3.7/8,132C-115D,West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**23.19**	**85**	P	**P**	**00 24 57.0**	**+0.8**
CFAA	**Coronel Fontan** 0.6nm,0.7s,baz=246,slow=11,SNR=4.5	**23.19**	**85**	P	**P**	**00 24 57.0**	**+0.8**
CFAA	comp=Z,40nm,18.7s,baz=207,slow=31			LR	LR	00 31 58.9	
TRQA	**Tornquist** 22nm,1.5s	**26.68**	**103**	*e*P	**P**	**00 25 28.2**	**-0.3**
NNA	**Nana** comp=Z,156nm,18.4s,baz=131,slow=30	**29.86**	**39**	LR	LR	00 35 05.3	
EFI	**East Falkland** 151nm,1.4s	**30.41**	**131**	*e*P	**P**	**00 26 01.2**	**-0.2**
LPAZ	**La Paz**	**31.74**	**57**	P	**P**	**00 26 15.5**	**+1.3**
LPAZ	**La Paz** 4.6nm,0.9s,baz=205,slow=6.8,SNR=9.6	**31.74**	**57**	P	**P**	**00 26 15.5**	**+1.3**
LPAZ	comp=Z,98nm,20.0s,baz=232,slow=31			LR	LR	00 36 10.3	
ATAH	**Atahualpa** comp=Z,49nm,21.3s,baz=276,slow=28	**33.38**	**32**	LR	LR	00 35 42.5	
CPUP	**Villa Florida** comp=Z,130nm,18.7s,baz=50,slow=33	**34.05**	**83**	LR	LR	00 38 30.4	
RKT	**Rikitea** 318nm,29.0s	**36.45**	**281**	*e*LR	LR	00 36 39.0	
SIV	**San Ignacio**	**36.92**	**65**	P	**P**	**00 26 59.0**	**+0.5**
SIV	**San Ignacio** 1.7nm,0.9s,baz=248,slow=11,SNR=6.5	**36.92**	**65**	P	**P**	**00 26 59.0**	**+0.5**
OTAV	**Otavalo** 7.3nm,1.0s	**40.07**	**27**	*e*P	**P**	**00 27 25.6**	**+0.1**
ROSC	**El Rosal** 1.6nm,0.4s,baz=247,slow=7.7,SNR=3.8	**45.90**	**30**	P	**P**	**00 28 13.2**	**+0.7**
BDFB	**Brasilia** 6.6nm,0.6s	**47.04**	**76**	*e*P	**P**	**00 28 21.3**	**0.0**
BDFB	**Brasilia** 3.2nm,0.8s,baz=249,slow=6.8,SNR=6.2	**47.04**	**76**	P	**P**	**00 28 20.8**	**-0.5**
BDFB	comp=Z,155nm,18.1s,baz=41,slow=34			LR	LR	00 46 48.3	
TBI	**Tubuai** 189nm,30.0s	**47.91**	**270**	*e*LR	LR	00 42 01.8	
PPT2	**Papeete2** 186nm,23.5s,baz=114	**50.97**	**277**	*e*LR	LR	00 43 23.8	
TXAR	**Lajitas Array**	**66.14**	**352**	P	**P**	**00 30 37.1**	**+0.3**
TXAR	**Lajitas Array** 4.4nm,0.9s,baz=174,slow=10,SNR=32	**66.14**	**352**	P	**P**	**00 30 37.1**	**+0.3**
627A	**Terlingua Ranc** baz=67,SNR=8.2	**66.23**	**353**	⇑P	**P**	**00 30 37.5**	**+0.1**
626A	**Big Bend Ranch** baz=67,SNR=5.4	**66.41**	**352**	⇓P	**P**	**00 30 38.8**	**+0.3**
531A	**Rocksprings** baz=67,SNR=18	**66.69**	**355**	⇑P	**P**	**00 30 40.7**	**+0.5**
529A	**Stev Forest Ra** baz=67	**66.78**	**354**	⇑P	**P**	**00 30 41.2**	**+0.3**
526A	**Mary Lane Ranc** baz=67,SNR=7.1	**66.90**	**352**	⇓P	**P**	**00 30 42.0**	**+0.3**
JCT	**Junction City** 23nm,1.1s	**66.96**	**356**	*e*P	**P**	**00 30 42.3**	**+0.3**
JCT	**Junction City** baz=67,SNR=7.7	**66.96**	**356**	⇓P	**P**	**00 30 41.8**	**-0.1**
431A	**Sonora** baz=68,SNR=7.3	**67.21**	**355**	⇑P	**P**	**00 30 43.5**	**0.0**
429A	**Davenport Ranc** baz=68,SNR=8.8	**67.25**	**354**	⇓P	**P**	**00 30 43.5**	**-0.3**
430A	**Baggett Ranch,** baz=68,SNR=5.3	**67.36**	**355**	⇓P	**P**	**00 30 44.4**	**-0.1**
428A	**Kincaid Ranch,** baz=68	**67.42**	**353**	⇑P	**P**	**00 30 45.0**	**0.0**
426A	**McDonald Obser** baz=68,SNR=6.9	**67.50**	**352**	⇓P	**P**	**00 30 45.4**	**-0.1**
427A	**Hayter Ranch,** baz=68,SNR=10	**67.61**	**353**	⇑P	**P**	**00 30 46.3**	**+0.2**
425A	**Indio Mountain** baz=68,SNR=5.5	**67.72**	**351**	⇓P	**P**	**00 30 46.4**	**-0.5**
328A	**Wristen Ranch,** baz=68,SNR=11	**68.08**	**353**	⇓P	**P**	**00 30 48.7**	**-0.3**
329A	**Wagon Wheel Ra** baz=69	**68.11**	**354**	⇑P	**P**	**00 30 49.0**	**-0.3**
326A	**Caldwell Ranch** baz=69	**68.13**	**352**	⇑P	**P**	**00 30 49.0**	**-0.4**
325A	**Bean Ranch, Si** baz=69,SNR=5.3	**68.30**	**351**	⇑P	**P**	**00 30 49.5**	**-1.1**
WHTX	**Lake Whitney** baz=69,SNR=6.4	**68.38**	**358**	⇑P	**P**	**00 30 50.1**	**-0.7**
324A	**Moseley Ranch,** baz=69,SNR=5.7	**68.43**	**351**	⇓P	**P**	**00 30 50.2**	**-1.2**
229A	**Bryant Ranch,** baz=69	**68.57**	**354**	⇑P	**P**	**00 30 51.7**	**-0.4**
227A	**Bennet, Jal** baz=69	**68.75**	**353**	⇑P	**P**	**00 30 53.1**	**-0.2**
320A	**Kipp Ranch, An** baz=69,SNR=7.5	**68.77**	**348**	⇓P	**P**	**00 30 53.6**	**+0.1**
228A	**UT Block 9, Go** baz=69	**68.79**	**354**	⇑P	**P**	**00 30 53.3**	**-0.3**
319A	**Douglas** baz=69,SNR=5.6	**68.94**	**347**	⇑P	**P**	**00 30 54.6**	**+0.1**
225A	**Deer Hill, Car** baz=70	**69.01**	**352**	⇓P	**P**	**00 30 54.4**	**-0.6**
224A	**Cornudas Mount** baz=70,SNR=8.9	**69.06**	**351**	⇑P	**P**	**00 30 54.4**	**-0.9**
ABTX	**Abilene, Hawle** baz=70	**69.09**	**356**	⇓P	**P**	**00 30 54.9**	**-0.4**
129A	**Stewart Farms,** baz=70	**69.24**	**354**	⇑P	**P**	**00 30 55.9**	**-0.4**
128A	**Castleberry Fa** baz=70,SNR=9.6	**69.28**	**354**	⇑P	**P**	**00 30 56.2**	**-0.4**
222A	**Williams Famil** baz=70	**69.30**	**350**	⇑P	**P**	**00 30 56.5**	**-0.3**
220A	**Playas Peak, P** baz=70,SNR=10	**69.33**	**348**	⇓P	**P**	**00 30 56.8**	**-0.1**
SYO	**Syowa Base**	**69.52**	**164**	⇑*es*P	sP	00 31 00.0	-2.0
125A	**Gardner Draw,** baz=70,SNR=5.9	**69.53**	**352**	⇓P	**P**	**00 30 57.2**	**-0.9**
121A	**Cookes Peak, D** baz=70	**69.83**	**349**	⇑P	**P**	**00 30 59.8**	**-0.2**
Z28A	**Tucker Farm, M** baz=70	**69.93**	**354**	⇑P	**P**	**00 31 00.3**	**-0.3**
120A	**U Bar Ranch, L** baz=70,SNR=7.0	**69.97**	**348**	⇓P	**P**	**00 31 01.0**	**+0.1**
Z27A	**Tatum** baz=70	**70.03**	**353**	⇑P	**P**	**00 31 00.9**	**-0.3**
Z26A	**Caprock** baz=70	**70.07**	**353**	⇓P	**P**	**00 31 00.9**	**-0.6**
Z25A	**Roswell** baz=71	**70.16**	**352**	⇓P	**P**	**00 31 01.6**	**-0.4**
214A	**Organ Pipe Nat** baz=71	**70.19**	**345**	⇑P	**P**	**00 31 02.0**	**-0.1**
Z24A	**Sheeppen Canyo** baz=71	**70.28**	**351**	⇓P	**P**	**00 31 02.5**	**-0.4**
Z22A	**Elephant Butte** baz=71	**70.42**	**350**	⇓P	**P**	**00 31 03.3**	**-0.3**
Y29A	**Porterfield Fa** baz=71	**70.44**	**355**	⇓P	**P**	**00 31 03.4**	**-0.3**
Z20A	**Nine Sixteen R** baz=71	**70.52**	**348**	⇓P	**P**	**00 31 04.1**	**-0.1**
Y28A	**McKinney Farm,** baz=71,SNR=5.5	**70.54**	**354**	⇑P	**P**	**00 31 03.8**	**-0.5**
Z21A	**St. Cloud Mine** baz=71	**70.57**	**349**	⇑P	**P**	**00 31 04.3**	**-0.3**
Y27A	**Causey** baz=71,SNR=14	**70.59**	**353**	⇑P	**P**	**00 31 04.1**	**-0.5**
MSTX	**Muleshoe** baz=71,SNR=11	**70.64**	**354**	⇓P	**P**	**00 31 04.5**	**-0.4**
Y25A	**Mesa, Roswell** baz=71	**70.79**	**352**	⇑P	**P**	**00 31 05.4**	**-0.4**
Y24A	**Capitan** baz=71,SNR=13	**70.88**	**351**	⇓P	**P**	**00 31 06.4**	**0.0**
Y23A	**Lovelace Mesa,** baz=71,SNR=6.3	**70.96**	**351**	⇑P	**P**	**00 31 07.1**	**+0.2**
Y22A	**Socorro** baz=72	**71.09**	**350**	⇓P	**P**	**00 31 07.6**	**-0.1**
Y21A	**Point of Rocks** baz=72,SNR=6.2	**71.26**	**349**	⇑P	**P**	**00 31 09.1**	**+0.2**
Y20A	**Horse Springs,** baz=72	**71.27**	**349**	⇑P	**P**	**00 31 08.9**	**0.0**
X26A	**CR and CF Fran** baz=72,SNR=8.5	**71.31**	**353**	⇑P	**P**	**00 31 08.8**	**-0.2**
X27A	**F and S Farms,** baz=72	**71.34**	**353**	⇓P	**P**	**00 31 09.1**	**-0.1**
LPM	**Los Pinos Moun**	**71.41**	**350**	*e*P	**P**	**00 31 10.9**	**+1.2**
AMTX	**Amarillo** 21nm,0.9s	**71.46**	**355**	*e*P	**P**	**00 31 10.2**	**+0.3**
AMTX	**Amarillo** baz=72	**71.46**	**355**	⇓P	**P**	**00 31 10.0**	**+0.1**
Z14A	**Wintersburg** baz=72	**71.57**	**345**	⇓P	**P**	**00 31 10.8**	**+0.3**
X23A	**Hourglass Bar** baz=72	**71.62**	**351**	⇑P	**P**	**00 31 11.0**	**+0.1**
DVTC	**Desert V Tower** baz=72	**71.63**	**342**	⇑P	**P**	**00 31 11.2**	**+0.3**
X22A	**Bernardo** baz=72	**71.65**	**350**	⇑P	**P**	**00 31 11.1**	**0.0**
X21A	**Alamocita Cree** baz=72,SNR=6.9	**71.70**	**349**	⇑P	**P**	**00 31 11.7**	**+0.2**
W27A	**Bowe Ranch, En** baz=72	**71.75**	**354**	⇓P	**P**	**00 31 11.4**	**-0.2**
W26A	**Owens Ranch, T** baz=72	**71.84**	**353**	⇓P	**P**	**00 31 12.1**	**-0.1**
MONP	**Monument Peak** baz=72	**71.93**	**342**	⇑P	**P**	**00 31 13.0**	**+0.1**
ANMO	**Albuquerque** 7.5nm,1.2s	**72.02**	**351**	*e*P	**P**	**00 31 13.2**	**-0.1**
ANMO	**Albuquerque** 2.6nm,0.9s,baz=174,slow=6.5,SNR=8.6	**72.02**	**351**	P	**P**	**00 31 13.7**	**+0.3**
W25A	**X Bar L Ranch,** baz=72	**72.04**	**352**	⇑P	**P**	**00 31 13.3**	**-0.1**
X18A	**Snowflake** baz=73	**72.13**	**348**	⇓P	**P**	**00 31 14.2**	**+0.2**
W24A	**Lazy 6 Ranch,** baz=73,SNR=6.0	**72.14**	**352**	⇑P	**P**	**00 31 14.1**	**0.0**
Y14A	**Wickenburg** baz=73,SNR=8.6	**72.14**	**345**	⇑P	**P**	**00 31 13.8**	**-0.1**
TUL1	**Tulsa** baz=73	**72.26**	**360**	⇓P	**P**	**00 31 14.3**	**-0.2**
X16A	**Lo Mia Camp, P** baz=73,SNR=7.2	**72.29**	**346**	⇑P	**P**	**00 31 15.2**	**+0.2**
Y12C	**Blythe** baz=73	**72.29**	**344**	⇓P	**P**	**00 31 15.1**	**+0.4**
BC3	**Big Chuckawall** baz=73	**72.42**	**343**	⇑P	**P**	**00 31 15.9**	**+0.2**
V29A	**Stinnett** baz=73	**72.43**	**355**	⇓P	**P**	**00 31 15.5**	**-0.2**
W20A	**Ramah** baz=73,SNR=6.8	**72.48**	**349**	⇑P	**P**	**00 31 16.3**	**+0.1**
V26A	**Tequesquite Ra** baz=73	**72.55**	**353**	⇓P	**P**	**00 31 16.3**	**-0.1**
PFO	**Pinyon Flat Ob** baz=73	**72.62**	**342**	⇓P	**P**	**00 31 17.1**	**+0.2**
KMSC	**Kings Mountain** baz=73	**72.72**	**12**	⇑P	**P**	**00 31 16.8**	**-0.5**
PDMCI	**Parker Dam,Lak** baz=73	**72.73**	**344**	⇓P	**P**	**00 31 17.8**	**+0.4**
MURC	**Murrieta** baz=73	**72.80**	**341**	⇑P	**P**	**00 31 17.9**	**+0.1**
IRM	**Iron Mountain** baz=73	**72.83**	**343**	⇓P	**P**	**00 31 18.1**	**+0.1**
TKL	**Tuckaleechee C**	**72.85**	**10**	P	**P**	**00 31 17.0**	**-1.0**
TKL	**Tuckaleechee C** 5.1nm,1.0s,baz=155,slow=8.7,SNR=2.8	**72.85**	**10**	P	**P**	**00 31 17.0**	**-1.0**
BELC	**Belle Mtn. Jos** baz=73	**72.88**	**342**	⇑P	**P**	**00 31 18.5**	**+0.1**
V22A	**San Miguel Ran** baz=74	**73.02**	**350**	⇑P	**P**	**00 31 19.2**	**-0.1**
V20A	**Brimhall** baz=74	**73.13**	**349**	⇑P	**P**	**00 31 19.8**	**-0.2**
U26A	**Atchley Ranch,** baz=74,SNR=5.6	**73.14**	**353**	⇑P	**P**	**00 31 19.4**	**-0.6**
U25A	**Circle Dot Ran** baz=74	**73.21**	**353**	⇑P	**P**	**00 31 20.2**	**-0.2**
U23A	**El Rito** baz=74,SNR=5.7	**73.34**	**351**	⇑P	**P**	**00 31 21.7**	**+0.5**
WUAZ	**Wupatki** baz=74	**73.35**	**347**	⇓P	**P**	**00 31 21.1**	**-0.1**
W13A	**Hualapai Mount** baz=74	**73.45**	**344**	⇓P	**P**	**00 31 21.9**	**0.0**
U22A	**Llaves** baz=74	**73.47**	**351**	⇑P	**P**	**00 31 21.9**	**-0.1**
BFSC	**Mount Baldy Ra** baz=74	**73.52**	**341**	⇑P	**P**	**00 31 22.4**	**+0.2**
GMRC	**Granite Mounta** baz=74	**73.54**	**343**	⇑P	**P**	**00 31 22.6**	**+0.2**
U21A	**Nageezi** baz=74	**73.63**	**350**	⇓P	**P**	**00 31 22.9**	**0.0**
LDFC	**Landfair** 21nm,0.9s	**73.70**	**343**	*e*P	**P**	**00 31 24.4**	**+1.2**
U20A	**Newcomb** baz=74	**73.71**	**349**	⇑P	**P**	**00 31 23.3**	**0.0**
T28A	**Wash** baz=74	**73.72**	**355**	⇑P	**P**	**00 31 23.3**	**+0.1**
U19A	**Dine' College,** baz=74	**73.73**	**349**	⇓P	**P**	**00 31 23.4**	**-0.1**
BLG	**Laguna Peak** baz=74	**73.78**	**340**	⇑P	**P**	**00 31 23.8**	**+0.2**
BSC	**Santa Cruz Isl** baz=74	**73.83**	**339**	⇓P	**P**	**00 31 24.1**	**+0.2**
T26A	**Comanche Natio** baz=74,SNR=7.5	**73.89**	**353**	⇑P	**P**	**00 31 24.2**	**-0.2**
T25A	**Trinidad** baz=74	**73.94**	**353**	⇑P	**P**	**00 31 24.5**	**-0.2**
T24A	**Torres, Weston** baz=74,SNR=5.8	**73.94**	**352**	⇓P	**P**	**00 31 25.3**	**+0.5**
T22A	**Edith** baz=75	**74.11**	**351**	⇓P	**P**	**00 31 25.5**	**-0.2**
T21A	**Navajo Lake** baz=75	**74.17**	**350**	⇓P	**P**	**00 31 25.8**	**-0.2**
T19A	**Beclabito** baz=75	**74.23**	**349**	⇑P	**P**	**00 31 26.1**	**-0.3**
TUQ	**Turquoise Moun** baz=75,SNR=6.0	**74.23**	**343**	⇓P	**P**	**00 31 26.3**	**0.0**
S26A	**Kim** baz=75,SNR=8.2	**74.33**	**354**	⇓P	**P**	**00 31 26.8**	**0.0**
S27A	**Las Animas** baz=75	**74.34**	**354**	⇑P	**P**	**00 31 26.9**	**0.0**
U15A	**North Rim** baz=75	**74.41**	**346**	⇓P	**P**	**00 31 27.3**	**-0.2**
S25A	**Robets Cordova** baz=75,SNR=6.8	**74.46**	**353**	⇓P	**P**	**00 31 27.8**	**+0.1**
S24A	**Houchin Ranch,** baz=75,SNR=8.7	**74.52**	**352**	⇑P	**P**	**00 31 28.4**	**+0.2**
MVCO	**Mesa Verde** 8.6nm,0.9s	**74.52**	**349**	*e*P	**P**	**00 31 28.3**	**+0.2**
MVCO	**Mesa Verde** baz=75,SNR=6.2	**74.52**	**349**	⇓P	**P**	**00 31 28.1**	**-0.1**
SDCO	**Great Sand Dun** baz=75	**74.66**	**352**	⇓P	**P**	**00 31 28.7**	**-0.3**
T18A	**Mexican Hat** baz=75,SNR=6.4	**74.66**	**348**	⇑P	**P**	**00 31 29.0**	**+0.2**
T17A	**Navajo Res., N** baz=75,SNR=5.6	**74.69**	**347**	⇓P	**P**	**00 31 29.4**	**+0.4**
LRMC	**Laurel Mountai** baz=75,SNR=8.5	**74.71**	**341**	⇓P	**P**	**00 31 30.1**	**+1.0**
PKM	**Peak Mountain** baz=75	**74.73**	**340**	⇓P	**P**	**00 31 29.6**	**+0.3**
S22A	**4UR Ranch, Cre** baz=75,SNR=7.2	**74.82**	**351**	⇑P	**P**	**00 31 30.0**	**+0.2**
S21A	**Coal Bank Pass** baz=75,SNR=6.8	**74.86**	**350**	⇓P	**P**	**00 31 30.4**	**+0.2**
R25A	**Fountain Ranch** baz=75	**74.92**	**353**	⇓P	**P**	**00 31 30.6**	**+0.3**
R27A	**Eads** baz=75	**74.93**	**354**	⇑P	**P**	**00 31 30.8**	**+0.5**
R26A	**Arlington** baz=76	**75.00**	**354**	⇑P	**P**	**00 31 31.0**	**+0.3**
ISA	**Isabella** 20nm,0.9s	**75.08**	**341**	*e*P	**P**	**00 31 30.8**	**-0.5**
ISA	**Isabella** baz=76,SNR=6.5	**75.08**	**341**	⇓P	**P**	**00 31 31.2**	**0.0**
R24A	**Sanders Place,** baz=76	**75.09**	**352**	⇓P	**P**	**00 31 31.6**	**+0.2**
S20A	**Disappointment** baz=76	**75.11**	**350**	⇓P	**P**	**00 31 31.7**	**+0.2**
R23A	**Moffat** baz=76	**75.13**	**352**	⇑P	**P**	**00 31 31.8**	**+0.1**
S19A	**Harvey Farm, M** baz=76,SNR=5.8	**75.14**	**349**	⇓P	**P**	**00 31 31.4**	**-0.2**
S18A	**Hurst Farm, Bl** baz=76,SNR=14	**75.22**	**348**	⇓P	**P**	**00 31 32.6**	**+0.4**
S17A	**Black Ridge (B** baz=76,SNR=6.5	**75.31**	**348**	⇑P	**P**	**00 31 32.5**	**0.0**
R20A	**Redvale** baz=76	**75.46**	**350**	⇑P	**P**	**00 31 33.8**	**+0.3**
R21A	**Cimarron** baz=76	**75.53**	**350**	⇑P	**P**	**00 31 34.0**	**+0.1**
Q25A	**Bedland, Calha** baz=76	**75.68**	**353**	⇑P	**P**	**00 31 34.7**	**-0.1**
R19A	**Curry Farm, L** baz=76	**75.70**	**349**	⇓P	**P**	**00 31 34.9**	**+0.1**
CCUT	**Cedar City** 9.1nm,1.0s	**75.70**	**346**	*e*P	**P**	**00 31 35.8**	**+0.9**
PV04	**Paradox Valley**	**75.74**	**349**	*e*P	**P**	**00 31 35.4**	**+0.4**
R18A	**Canyonlands Na** baz=76	**75.89**	**348**	⇑P	**P**	**00 31 36.0**	**+0.1**
RCTC	**Rector, Farmer** baz=76	**75.90**	**341**	⇑P	**P**	**00 31 36.2**	**+0.4**
Q22A	**Crested Butte,** baz=76	**75.93**	**351**	⇑P	**P**	**00 31 36.1**	**-0.1**
R17A	**Hanksville Air** baz=76	**76.06**	**348**	⇓P	**P**	**00 31 36.5**	**-0.3**
Q20A	**Ridgley Place,** baz=77	**76.20**	**350**	⇑P	**P**	**00 31 37.3**	**-0.4**
SMCO	**Snowmass** 8.4nm,1.0s	**76.25**	**351**	*e*P	**P**	**00 31 38.8**	**+0.6**
P23A	**Jefferson** baz=77	**76.30**	**352**	⇓P	**P**	**00 31 38.2**	**-0.2**
Q19A	**Hogan Spring (** baz=77	**76.35**	**349**	⇑P	**P**	**00 31 39.0**	**+0.6**
Q18A	**Rafter H Ranch** baz=77	**76.63**	**348**	⇑P	**P**	**00 31 40.4**	**+0.4**
P22A	**Eagle** baz=77	**76.63**	**351**	⇑P	**P**	**00 31 40.1**	**0.0**
P21A	**Newcastle** baz=77	**76.65**	**351**	⇓P	**P**	**00 31 40.2**	**0.0**
ISCO	**Idaho Springs** baz=77	**76.70**	**352**	⇑P	**P**	**00 31 40.0**	**-0.6**
SRU	**San Rafael** baz=77	**76.70**	**348**	⇑P	**P**	**00 31 40.4**	**-0.1**
R11A	**Troy Canyon, C** baz=77,SNR=5.2	**76.94**	**344**	⇑P	**P**	**00 31 41.9**	**+0.1**
O23A	**Lake Granby, G** baz=78,SNR=5.5	**77.14**	**352**	⇓P	**P**	**00 31 43.5**	**+0.4**
P18A	**Preston Nutter** baz=78	**77.16**	**348**	⇓P	**P**	**00 31 43.2**	**0.0**
O22A	**Kremmling** baz=78	**77.16**	**351**	⇓P	**P**	**00 31 43.0**	**-0.2**
O20A	**White River Ci** baz=78	**77.36**	**350**	⇑P	**P**	**00 31 44.2**	**0.0**
P15A	**Leamington** baz=78	**77.45**	**347**	⇓P	**P**	**00 31 44.7**	**0.0**
OGNE	**Ogallala** baz=78	**77.51**	**355**	⇑P	**P**	**00 31 44.9**	**0.0**
O19A	**Miners Draw (B** baz=78	**77.64**	**349**	⇑P	**P**	**00 31 45.0**	**-0.8**
NVAR	**Mina Array Bea**	**77.66**	**342**	P	**P**	**00 31 46.3**	**+0.4**
NVAR	**Mina Array Bea** 5.2nm,0.9s,baz=176,slow=7.4,SNR=18	**77.66**	**342**	P	**P**	**00 31 46.3**	**+0.4**
N22A	**Wattenberg Ran** baz=78	**77.78**	**352**	⇑P	**P**	**00 31 46.8**	**+0.1**
O17A	**Robinson Place** baz=78	**77.79**	**348**	⇓P	**P**	**00 31 46.3**	**-0.4**
N23A	**Red Feather La** baz=78	**77.82**	**352**	⇑P	**P**	**00 31 46.9**	**+0.1**
N20A	**Spence Gulch,** baz=78	**78.05**	**350**	⇑P	**P**	**00 31 48.0**	**0.0**
DAU	**Daniels Canyon**	**78.09**	**348**	*e*P	**P**	**00 31 48.9**	**+0.5**
DUG	**Dugway** 110nm,2.9s	**78.16**	**347**	*e*P	**P**	**00 31 48.7**	**+0.2**
DUG	**Dugway** baz=79	**78.16**	**347**	⇓P	**P**	**00 31 48.5**	**-0.1**
O15A	**The Old Anders** baz=79	**78.17**	**347**	⇑P	**P**	**00 31 48.8**	**+0.1**
N19A	**John Jarvie Ra** baz=79,SNR=5.2	**78.23**	**350**	⇓P	**P**	**00 31 48.6**	**-0.4**
N17A	**Moffit Pass** baz=79	**78.54**	**348**	⇓P	**P**	**00 31 50.6**	**-0.3**
N15A	**Stansbury Isla** baz=79	**78.78**	**347**	⇑P	**P**	**00 31 51.9**	**-0.1**
L24A	**Wheatland** baz=79	**78.85**	**353**	⇑P	**P**	**00 31 52.4**	**0.0**
M18A	**Lyman** baz=79	**78.89**	**349**	⇓P	**P**	**00 31 52.3**	**-0.4**
L22A	**Ellis Ranch, M** baz=80	**79.00**	**352**	⇓P	**P**	**00 31 53.4**	**+0.2**
L23A	**Garrett** baz=80	**79.00**	**352**	⇑P	**P**	**00 31 53.2**	**-0.1**
ELK	**Elko** 67nm,2.6s	**79.16**	**345**	*e*P	**P**	**00 31 54.4**	**+0.2**
L20A	**Wamsutter** baz=80	**79.21**	**350**	⇓P	**P**	**00 31 54.4**	**0.0**
M15A	**Larsen Ranch,** baz=80,SNR=5.7	**79.32**	**347**	⇑P	**P**	**00 31 54.0**	**-0.9**
K22A	**Casper** baz=80	**79.62**	**352**	⇑P	**P**	**00 31 56.2**	**-0.4**
L16A	**Fish Haven** baz=80,SNR=8.0	**79.68**	**348**	⇓P	**P**	**00 31 56.1**	**-0.9**
K21A	**Alcova** baz=80	**79.69**	**351**	⇓P	**P**	**00 31 57.0**	**0.0**
K20A	**Yellowstone Ra** baz=80	**79.85**	**350**	⇑P	**P**	**00 31 57.9**	**0.0**
L14A	**Malta** baz=80	**80.02**	**347**	⇑P	**P**	**00 31 58.6**	**-0.1**
ECSD	**EROS Data Cent**	**80.08**	**359**	*e*P	**P**	**00 31 58.5**	**-0.3**
K19A	**Absolon Red Bu** baz=81	**80.08**	**350**	⇓P	**P**	**00 31 58.9**	**-0.2**
BW06	**Boulder Array** 7.9nm,1.0s	**80.12**	**350**	*e*P	**P**	**00 31 58.9**	**-0.5**
BW06	**Boulder Array** baz=81,SNR=9.7	**80.12**	**350**	⇓P	**P**	**00 31 58.7**	**-0.7**
PDAR	**Pinedale Array**	**80.12**	**350**	P	**P**	**00 31 58.8**	**-0.7**
PDAR	**Pinedale Array** 4.9nm,0.9s,baz=165,slow=6.0,SNR=33	**80.12**	**350**	P	**P**	**00 31 58.8**	**-0.7**
J21A	**Lysite** baz=81	**80.41**	**351**	⇑P	**P**	**00 32 01.1**	**+0.2**
J20A	**Shoshoni** baz=81	**80.50**	**351**	⇑P	**P**	**00 32 02.0**	**+0.7**
K14A	**Jones Ranch, D** baz=81	**80.50**	**347**	⇑P	**P**	**00 32 01.2**	**-0.1**
K16A	**Soda Springs** baz=81,SNR=5.2	**80.50**	**348**	⇓P	**P**	**00 32 01.2**	**-0.2**
J19A	**Crowheart** baz=81	**80.54**	**350**	⇑P	**P**	**00 32 01.4**	**-0.2**
RSSD	**Black Hills**	**80.83**	**354**	*e*P	**P**	**00 32 03.5**	**+0.4**
I21A	**Big Trails, Te** baz=81,SNR=5.7	**80.85**	**351**	⇓P	**P**	**00 32 02.8**	**-0.4**
J17A	**Brown Place, J** baz=81	**80.88**	**349**	⇓P	**P**	**00 32 03.2**	**-0.2**
REDW	**Red Top Meadow**	**80.90**	**349**	*e*P	**P**	**00 32 03.4**	**-0.1**

93nm,2.8s
J16A **Bone** 80.94 348 ⇑P P 00 32 03.7 0.0
baz=81
RRI2 **Red Ridge** 80.96 348 *e*P P 00 32 03.8 -0.1
5.6nm,1.1s
TPAW **Teton Pass** 81.04 349 *e*P P 00 32 04.4 +0.1
9.6nm,1.0s
I18A **Diamond G Ranc** 81.08 350 ⇑P P 00 32 04.2 -0.3
baz=82,SNR=5.2
I20A **Worland** 81.09 351 ⇑P P 00 32 04.4 -0.1
baz=82,SNR=7.9
LOHW **Long Hollow** 81.11 349 *e*P P 00 32 04.4 -0.2
68nm,2.8s
J15A **Blackfoot** 81.20 348 ⇑P P 00 32 04.9 -0.1
baz=82,SNR=6.3
MOOW **Moose Ponds** 81.26 349 *e*P P 00 32 05.1 -0.4
19nm,2.1s
I19A **Meeteetse** 81.29 350 ⇓P P 00 32 05.6 0.0
baz=82
I17A **Pilgrim Ck.** 81.40 349 ⇑P P 00 32 06.8 +0.6
baz=82
MOD **Modoc** 81.44 342 *e*P P 00 32 06.5 +0.1
5.6nm,1.0s
IMW **Indian Meadow** 81.44 349 *e*P P 00 32 06.5 0.0
4.8nm,1.0s
H24A **Dirks Ranch, A** 81.49 354 ⇑P P 00 32 05.9 -0.6
baz=82,SNR=5.7
I16A **Newdale** 81.50 348 ⇑P P 00 32 06.9 +0.3
baz=82
J13A **Cove Ranch, Pi** 81.51 346 ⇓P P 00 32 07.0 +0.3
baz=82
FLWY **Flagg Ranch** 81.58 349 *e*P P 00 32 07.5 +0.3
8.2nm,0.8s
SPMN **St. Paul** 81.61 2 ⇓P P 00 32 06.5 -0.5
baz=82
HLID **Hailey** 81.71 346 *e*P P 00 32 08.2 +0.4
7.2nm,0.9s
HLID **Hailey** 81.71 346 ⇑P P 00 32 07.7 -0.1
baz=82,SNR=13
I14A **Mackay** 81.89 347 ⇑P P 00 32 08.9 +0.1
baz=82,SNR=9.5
H19A **Powell** 81.91 350 ⇓P P 00 32 08.8 +0.1
baz=82
I13A **Wildhorse Cree** 82.00 347 ⇓P P 00 32 09.6 +0.2
baz=82
LKWY **Lake** 82.01 349 *e*P P 00 32 11.1 +1.7
4.5nm,1.1s
H18A **Shoshone NF, C** 82.01 350 ⇓P P 00 32 09.6 +0.1
baz=82
I12A **Atlanta** 82.08 346 ⇓P P 00 32 10.2 +0.5
baz=82
H16A **Russell Place,** 82.27 349 ⇓P P 00 32 10.7 0.0
baz=83
G20A **Bridger** 82.35 351 ⇓P P 00 32 11.5 +0.5
baz=83
RLMT **Red Lodge** 82.39 350 *e*P P 00 32 11.5 +0.2
8.1nm,1.1s
RLMT **Red Lodge** 82.39 350 ⇓P P 00 32 11.5 +0.2
baz=83
G18A **Lazy EL Ranch,** 82.62 350 ⇑P P 00 32 12.5 0.0
baz=83
H13A **Challis** 82.65 347 ⇑P P 00 32 12.9 +0.3
baz=83
F22A **Rosebud** 82.68 353 ⇑P P 00 32 12.8 +0.1
baz=83
F19A **Roth Farm, Mol** 83.07 351 ⇑P P 00 32 15.0 +0.3
baz=84
DZM **Mont Dzumac** 83.14 248 *e*LR LR 00 58 30.7
92nm,22.6s
G13A **Cobalt** 83.16 347 ⇓P P 00 32 15.1 -0.1
baz=84
G14A **Jackson** 83.16 347 ⇑P P 00 32 15.8 +0.4
baz=84
F18A **Big Timber** 83.22 350 ⇑P P 00 32 15.8 +0.3
baz=84
F17A **Fitzpatrick Pl** 83.36 349 ⇓P P 00 32 16.7 +0.5
baz=84
F15A **Butte** 83.58 348 ⇑P P 00 32 17.7 +0.2
baz=84
E20A **Meyer Farm, Mu** 83.61 351 ⇓P P 00 32 18.2 +0.7
baz=84
E19A **Rath Farm, Rou** 83.65 351 ⇑P P 00 32 17.7 +0.1
baz=84
F14A **Wisdom** 83.70 348 ⇑P P 00 32 18.3 +0.2
baz=84,SNR=7.5
D24A **Glendive** 83.82 354 ⇓P P 00 32 19.6 +1.1
baz=84
F13A **Darby** 83.85 347 ⇓P P 00 32 18.6 -0.1
baz=84
E18A **Harlowton** 83.90 350 ⇑P P 00 32 19.9 +0.9
baz=84
E17A **Martinsdale** 83.93 349 ⇑P P 00 32 19.6 +0.4
baz=84
D23A **Lindsay** 83.96 353 ⇓P P 00 32 19.7 +0.5
baz=84
F12A **Elk City** 83.99 346 ⇓P P 00 32 19.3 -0.2
baz=84,SNR=5.1
D22A **Cohagen** 84.03 353 ⇑P P 00 32 19.7 +0.1
baz=84,SNR=6.1
E16A **East Helena** 84.03 349 ⇓P P 00 32 20.3 +0.1
baz=85,SNR=5.3
E15A **Deer Lodge** 84.17 348 ⇑P P 00 32 21.1 +0.7
baz=85
D20A **Manuel Ranch,** 84.19 351 ⇑P P 00 32 21.1 +0.7
baz=85
C24A **Savage** 84.24 354 ⇑P P 00 32 21.3 +0.7
baz=85
E14A **Clinton** 84.31 348 ⇓P P 00 32 21.2 0.0
baz=85
D19A **Cripps Ranch,** 84.35 351 ⇓P P 00 32 21.3 +0.1
baz=85
C23A **Lambert** 84.58 354 ⇑P P 00 32 22.6 +0.3
baz=85
D17A **Six Diamond Ra** 84.58 350 ⇓P P 00 32 22.8 +0.3
baz=85,SNR=7.3
C22A **Vida** 84.59 353 ⇓P P 00 32 22.7 +0.3
baz=85
D16A **Dana Ranch, Ca** 84.59 349 ⇓P P 00 32 23.2 +0.7
baz=85
D15A **Lincoln** 84.75 348 ⇑P P 00 32 24.0 +0.7
baz=85
C20A **Veseth Ranch,** 84.78 352 ⇑P P 00 32 23.7 +0.3
baz=85
MSO **Missoula** 84.78 347 ⇓P P 00 32 23.6 +0.1
baz=85
C19A **Slack Wire Ran** 84.93 351 ⇓P P 00 32 24.8 +0.7
baz=85
D14A **Greenough** 84.95 348 ⇓P P 00 32 24.4 0.0
baz=85
C17A **Wharram Farm,** 85.06 350 ⇑P P 00 32 25.3 +0.5
baz=86
SLMT **Seeley Lake** 85.11 348 *e*P P 00 32 25.6 +0.4
D13A **Huson** 85.13 347 ⇑P P 00 32 25.1 -0.1
baz=86
EGMT **Eagleton** 85.31 351 ⇓P P 00 32 26.1 +0.1
baz=86
C15A **Salmond Ranch,** 85.48 349 ⇑P P 00 32 27.2 +0.2
baz=86
HAWA **Hanford** 85.48 344 *e*P P 00 32 27.8 +0.9
8.5nm,1.3s
B20A **Solberg Farm,** 85.50 352 ⇓P P 00 32 26.7 -0.2
baz=86,SNR=5.8
B17A **L&G Farms, Che** 85.71 350 ⇑P P 00 32 28.3 +0.3
baz=86
C13A **Hot Springs** 85.72 347 ⇓P P 00 32 28.6 +0.5
baz=86
A22A **Carney Farms,** 85.83 353 ⇓P P 00 32 28.6 0.0
baz=86
A20A **Cobblestone Ra** 85.92 352 ⇑P P 00 32 29.5 +0.5
baz=86
A21A **Bergtoll Ranch** 85.92 353 ⇑P P 00 32 28.9 -0.2
baz=86
B16A **M & M Farms, S** 85.96 349 ⇓P P 00 32 29.1 -0.1
baz=86
A19A **Klindworth Far** 86.07 351 ⇑P P 00 32 29.6 -0.1
baz=86,SNR=5.0
ULM **Lac du Bonnet** 86.59 360 P P 00 32 30.4 -1.8
ULM **Lac du Bonnet** 86.59 360 P P 00 32 30.4 -1.8
3.5nm,0.9s,baz=214,slow=3.4,SNR=6.2
A13A **Flathead Natio** 86.90 348 ⇓P P 00 32 34.2 +0.3
baz=87
SUR **Sutherland** 89.16 131 LR LR 01 05 15.0
comp=Z,77nm,19.4s,baz=15,slow=31
YKA **Yellowknife Ar** 100.05 351 P Pdif 00 33 32.7 -1.3
YKA PKKPbc PKKPbc 00 49 47.4 -6.9
YKA **Yellowknife Ar** 100.05 351 P Pdif 00 33 32.7 -1.3
0.1nm,0.7s,baz=161,slow=3.9,SNR=4.1
YKA PKKPbc PKKPbc 00 49 47.3 -6.9
0.1nm,0.6s,baz=307,slow=4.9,SNR=4.4
MDJ **Mudanjiang** 145.18 297 PKPbc PKPdf 00 39 26.4 -0.3
KBZ **Khabaz** 147.82 64 PKPbc PKPbc 00 39 32.5 -1.5
KBZ **Khabaz** 147.82 64 PKPbc PKPbc 00 39 32.5 -1.5
1.6nm,0.8s,baz=176,slow=2.1,SNR=3.9
ABKAR **Akbulak array** 158.28 47 *e*PKPab PKPab 00 40 20.0 -0.4
HHC **Hu-ho-hao-te** 158.45 289 *e*PKP PKPdf 00 39 48.1 +1.3
HHC PP PP 00 44 06.3 +3.9
HHC SKS **SKSdf** 00 46 51.8 -0.7
HHC SKKS **SKKSac** 00 50 52.6 +1.5
HHC SS **SS** 01 04 06.8 +2.7
HHC AMB AMB
comp=Z,11nm,4.8s
HHC LR LR
comp=N,140nm,16.7s
HHC LR LR
comp=E,140nm,20.2s
HHC LR LR
comp=Z,140nm,17.0s
GYA **Guiyang** 158.48 248 *e*PKP PKPdf 00 39 47.0 -0.3
GYA PKS PKSdf 00 43 18.8 -2.3
GYA PP PP 00 44 05.0 +2.5
GYA AMB AMB
comp=Z,10.0nm,7.9s
SONM **Songino Array** 160.35 311 PKPab PKPab 00 40 29.0 -0.7
SONM **Songino Array** 160.35 311 PKPab PKPab 00 40 29.0 -0.7
comp=Z,0.7nm,1.0s,baz=55,slow=3.4,SNR=3.8
ZALV **Zalesovo Beam** 162.77 359 PKP PKPdf 00 39 46.6 -4.3
ZALV PKPab PKPab 00 40 38.4 -1.3
ZALV **Zalesovo Beam** 162.77 359 PKP PKPdf 00 39 46.6 -4.3
comp=Z,0.4nm,0.5s,baz=7.7,slow=1.0,SNR=5.0
ZALV PKPab PKPab 00 40 38.4 -1.3
comp=Z,1.8nm,0.8s,baz=359,slow=5.9,SNR=7.0
LZH **Lanzhou** 164.31 274 *e*PKP PKPdf 00 39 46.5 -6.7
LZH pPKP pPKPdf 00 39 54.0 -2.6
LZH sPKP 00 39 57.5
KURK **Kurchatov** 165.41 15 *e*PKPab PKPab 00 40 49.6 -1.8
MKAR **Makanchi Array** 169.81 8 PKP PKPdf 00 39 52.0 -4.7
MKAR PKPab PKPab 00 41 09.6 -1.5
MKAR *e*PKPab PKPab 00 41 10.3 -0.7
MKAR **Makanchi Array** 169.81 8 PKP PKPdf 00 39 52.0 -4.7
comp=Z,0.3nm,0.9s,baz=17,slow=1.5,SNR=3.6
MKAR PKPab PKPab 00 41 09.6 -1.5
comp=Z,0.8nm,1.0s,baz=35,slow=4.4,SNR=5.1
WMQ **Urumqi** 172.47 341 *e*PKP PKPdf 00 39 58.5 +0.3
KSH **Kashi** 172.81 65 *e*PKP PKPdf 00 40 00.6 +2.0
KSH PKS PKSdf 00 43 32.5 +1.6
KSH PP PP 00 45 20.0 +3.2
KSH SKS **SKSdf** 00 47 01.8 -0.1
KSH SKKS **SKKSac** 00 52 06.0 +2.8
KSH SS **SS** 01 06 29.9 -0.4
KSH AMB AMB
comp=Z,210nm,4.9s
KSH LR LR
comp=N,69nm,5.8s
KSH LR LR
comp=E,61nm,4.1s
KSH LR LR
comp=Z,240nm,6.6s

*IDC **23** 00:46:30.8±1.0, 42°.52N×85°.88E, h0km, mb3.6/8, mb1 3.6/14, mb1mx3.5/33, mbtmp3.5/14, ML3.2/6, Error ellipse: s-maj=24.0km s-min=14.5km az=52.0*
*ISCJB **23** 00:46:33.4±0.7, 42°.73N±0°.06×85°.97E±0°.09, h22km, mb3.7/8, Error ellipse: s-maj=10.2km s-min=7.7km az=135.6*
*BJI **23** 00:46:33.3, 42°.57N×85°.88E, h8km, ML3.4/10*
*NNC **23** 00:46:34.6±5.7, 42°.92N×86°.12E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=47.0km s-min=31.7km az=109.0*

ISC 23 00:46:35.6±0.8, 42°.74N±0°.08×85°.98E±0°.06, h22km, n21, σ1s81/26, mb3.7/8, 2C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**1.66**	**49**	Pg	**Pb**	**00 47 05.9**	**+0.4**
WMQ				Sg	**Sb**	**00 47 28.8**	**+2.8**
WMQ				*s*max	*s*max		
	comp=N,370nm,0.4s						
WMQ				*s*max	*s*max		
	comp=E,340nm,0.5s						
MK31	**Makanchi Array**	**4.83**	**328**	⇓Pn	**Pn**	**00 47 48.9**	**+1.9**
	comp=E,1.2nm,0.3s,baz=145,slow=14,SNR=264						
MK31				Sn	**Sn**	**00 48 44.1**	**+1.8**
	comp=E,6.1nm,0.5s,baz=140,slow=18,SNR=4.2						
MK31				⇑Lg	Lg	00 49 03.6	
	comp=E,17nm,0.5s,baz=141,slow=29,SNR=9.8						
MKAR	**Makanchi Array**	**4.83**	**328**	Pn	**Pn**	**00 47 48.7**	**+1.7**
	comp=E,2.1nm,0.3s,baz=148,slow=14,SNR=137						
MKAR				Sn	**Sn**	**00 48 39.5**	**-2.8**
	comp=E,3.0nm,0.3s,baz=137,slow=18,SNR=7.2						
MKAR				Lg	Lg	00 49 05.5	
	comp=E,13nm,0.3s,baz=141,slow=29,SNR=11						
TKM2	**Tokmak 2**	**7.63**	**275**	⇓Pn	**Pn**	**00 48 26.8**	**+1.2**
	comp=E,1.3nm,0.5s						
TKM2				⇓Lg	Lg	00 50 38.9	
	comp=E,9.2nm,0.7s						
KSH	**Kashi**	**8.21**	**250**	P	Pn	00 48 38.8	+5.4
KSH				*e*S	**Sn**	**00 50 10.3**	**+4.8**
KSH				*s*max	*s*max		
	comp=N,111nm,0.9s						
KSH				*s*max	*s*max		
	comp=E,18nm,1.2s						
AAK	**Ala-Archa**	**8.46**	**273**	Pn	**Pn**	**00 48 36.6**	**-0.3**
	comp=E,0.3nm,0.3s,baz=90,slow=19,SNR=5.3						
KURBB	**Kurchatov Arra**	**9.40**	**330**	Pn	**Pn**	**00 48 49.6**	**+0.1**
	comp=E,0.1nm,0.3s,baz=149,slow=12,SNR=9.7						
KURBB				Sn	**Sn**	**00 50 36.4**	**+1.9**
	comp=E,0.1nm,0.3s,baz=236,slow=22,SNR=5.0						
KURBB				Lg	Lg	00 51 28.8	
	comp=E,0.2nm,0.3s,baz=137,slow=36,SNR=5.3						
KURK	**Kurchatov**	**9.44**	**330**	⇑Lg	Lg	00 51 30.4	
	comp=E,20nm,0.9s						
ZALV	**Zalesovo Beam**	**11.25**	**356**	Pn	**Pn**	**00 49 14.7**	**-0.1**
	comp=E,0.2nm,0.3s,baz=182,slow=13,SNR=5.3						
ZALV				Sn	**Sn**	**00 51 18.2**	**-1.6**
	comp=E,0.5nm,0.3s,baz=165,slow=26,SNR=6.0						
ZALV				Lg	Lg	00 52 32.9	
	baz=179,slow=24,SNR=2.8						
BVAR	**Borovoye Array**	**14.64**	**320**	Pn	**Pn**	**00 49 59.4**	**-1.8**
	comp=E,0.1nm,0.3s,baz=125,slow=13,SNR=3.1						
BVAR				Sn	**Sn**	**00 52 44.0**	**+1.4**
	comp=E,0.1nm,0.3s,baz=118,slow=21,SNR=2.5						
BVAR				Lg	Lg	00 54 20.0	
	comp=E,0.1nm,0.3s,baz=118,slow=26,SNR=2.8						
SONM	**Songino Array**	**15.24**	**63**	Pn	**Pn**	**00 50 10.6**	**+1.2**
	comp=E,0.1nm,0.3s,baz=250,slow=12,SNR=2.0						
AKTO	**Aktyubinsk**	**20.61**	**302**	P	**P**	**00 51 12.9**	**-0.2**
	comp=E,1.1nm,0.7s,baz=112,slow=16,SNR=4.1						
JOF	**Joensuu**	**37.23**	**322**	*e*p	**P**	**00 53 45.1**	**+0.1**
	comp=E,1.0nm,0.3s						
KAF	**Kangasniemi**	**39.49**	**320**	*e*p	**P**	**00 54 04.5**	**+0.4**
FINES	**FINESS Array B**	**39.60**	**319**	P	**P**	**00 54 04.0**	**-0.9**
	comp=E,2.7nm,1.0s,baz=86,slow=9.8,SNR=7.3						
ARCES	**ARCESS Array B**	**40.48**	**332**	P	**P**	**00 54 12.4**	**+0.3**
	comp=E,3.9nm,0.9s,baz=78,slow=5.3,SNR=5.8						
NOA	**NORSAR Array B**	**46.77**	**320**	P	**P**	**00 55 01.6**	**-1.3**
	comp=E,0.8nm,0.7s,baz=78,slow=7.6,SNR=3.9						
ILAR	**Eielson Array**	**65.15**	**22**	P	**P**	**00 57 14.1**	**-0.2**
	comp=E,0.3nm,0.9s,baz=331,slow=6.6,SNR=2.8						
YKA	**Yellowknife Ar**	**73.82**	**10**	P	**P**	**00 58 07.6**	**-0.2**
	comp=E,0.4nm,0.8s,baz=338,slow=5.9,SNR=6.7						
WRA	**Warramunga Arr**	**76.63**	**134**	P	**P**	**00 58 23.7**	**-0.8**
	comp=E,0.3nm,0.9s,baz=330,slow=5.2,SNR=3.3						
TORD	**Torodi Ar. Bea**	**77.04**	**276**	P	**P**	**00 58 24.2**	**-2.9**
	comp=E,0.4nm,0.9s,baz=35,slow=6.9,SNR=3.1						

MEX 23 00:47:25.8±0.5, 16°.37N×98°.48W, h8km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.34**	**86**	*e*P	Pg	00 47 31.9	-0.6
PNIG				*i* S	Sg	00 47 37.4	+0.3
ACX	**Acapulco**	**1.41**	**291**	*i* P	Pn	00 47 49.2	-2.7
ACX				*i* S	Sb	00 48 06.7	-4.0
VHO	**Vista Hermosa**	**1.81**	**67**	*i* P	Pn	00 47 54.1	-3.6
VHO				*i* S	Sn	00 48 16.2	-4.9
CAIG	**El Cayaco**	**1.84**	**292**	*i* P	Pn	00 47 54.3	-3.4
CAIG				*i* S	Sn	00 48 16.7	-4.6
MEIG	**Mezcala**	**1.89**	**325**	*i* P	Pn	00 47 55.1	-3.5
MEIG				*i* S	Sn	00 48 18.7	-4.1
PLIG	**Platanillo**	**2.23**	**334**	*i* P	Pn	00 48 00.7	-2.7
PLIG				*i* S	Sn	00 48 27.4	-3.9
YAIG	**Yautepec**	**2.54**	**347**	*e*P	Pn	00 48 03.7	-4.0
YAIG				*i* S	Sn	00 48 33.9	-5.1
PPM	**Popocatepetl**	**2.69**	**357**	*i* P	Pn	00 48 07.7	-2.4
ZIIG	**Zihuatanejo**	**3.11**	**294**	*i* P	Pn	00 48 05.3	-10

IDC 23 01:02:57.5±1.1, 55°.85S×28°.07W, h0km, mb4.2/2, mb1 4.2/2, mb1mx3.8/14, mbtmp4.2/2, Error ellipse: s-maj=76.8km s-min=31.7km az=101.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**17.35**	**160**	*e*Pn	P	01 07 03.4	+1.2
VNA2	**Neumayer--Watz**	**17.57**	**157**	*e*Pn	P	01 07 06.0	+1.4
baz=311,slow=11							
SNAA	**Sanae**	**19.13**	**156**	*e*Pn	P	01 07 15.3	-6.5
QSPA	**South Pole Qui**	**34.40**	**180**	P	P	01 09 47.1	+0.9
2.0nm,0.5s,baz=311,slow=0.8,SNR=6.5							
TORD	**Torodi Ar. Bea**	**73.13**	**30**	P	P	01 14 30.6	+1.0
1.6nm,0.6s,baz=200,slow=6.7,SNR=29							
YKA	**Yellowknife Ar**	**135.69**	**318**	PKP	PKPdf	01 22 17.1	-1.1
0.2nm,0.6s,baz=124,slow=2.2,SNR=4.0							
ILAR	**Eielson Array**	**149.61**	**312**	PKPbc	PKPbc	01 22 46.8	-0.6
0.9nm,0.7s,baz=128,slow=2.0,SNR=17							
SONM	**Songino Array**	**151.21**	**87**	PKPbc	PKPbc	01 22 50.0	-1.8
1.1nm,0.5s,baz=224,slow=4.0,SNR=16							

*ISCJB **23** 01:21:24.6±0.9, 10°.84N±0°.05×62°.14W±0°.04, h102km±7km, Error ellipse: s-maj=9.0km s-min=6.2km az=170.6*
*FUNV **23** 01:21:26.5, 10°.89N×62°.11W, h94km, MW3.4*
*TRN **23** 01:21:29.3, 11°.13N×61°.83W, h80km, MD3.1*

ISC 23 01:21:23.6±1.6, 10°.96N±0°.05×62°.12W±0°.04, h109km±11km, n14, σ1s64/23, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.32**	**198**	⇑*i* P	**Pn**	**01 21 39.7**	**+0.4**
GUIV				*e*S	**Sn**	**01 21 49.8**	**-1.3**
TRN	**Trinidad (W)**	**0.77**	**113**	*e*P	**Pn**	**01 21 44.5**	**+2.1**
TRN				*e*S	**Sn**	**01 21 56.2**	**-0.4**
GUNV	**Guanoco**	**1.13**	**226**	*e*P	**Pn**	**01 21 47.7**	**+1.7**
GUNV				*e*S	**Sn**	**01 22 03.1**	**0.0**
CRUV	**Carupano**	**1.13**	**256**	*e*P	**Pn**	**01 21 46.6**	**+0.6**
CRUV				*e*S	**Sn**	**01 22 02.2**	**-0.8**
TBH	**Brigand Hill**	**1.14**	**114**	*e*P	**Pn**	**01 21 48.1**	**+2.0**
TBH				*e*S	**Sn**	**01 22 01.5**	**-1.7**
GRW	**Mount Saint Ca**	**1.28**	**21**	*e*P	**Pn**	**01 21 49.0**	**+1.2**
GRW				*e*S	**Sn**	**01 22 03.2**	**-3.0**
TPR	**Prospect**	**1.34**	**80**	*e*P	**Pn**	**01 21 49.8**	**+1.4**
ORIV	**Oritupano**	**2.26**	**214**	*e*S	**Sn**	**01 22 26.0**	**-1.7**
PCRV	**Puerto La Cruz**	**2.59**	**253**	*e*P	**Pn**	**01 22 06.0**	**+1.8**
RIOV	**Rio Grande**	**2.88**	**174**	*e*P	**Pn**	**01 22 10.0**	**+1.9**
RIOV				*e*S	**Sn**	**01 22 40.9**	**-1.4**
GURV	**El Guri**	**3.31**	**197**	*e*P	**Pn**	**01 22 14.8**	**+1.0**
GURV				*e*S	**Sn**	**01 22 50.2**	**-2.4**
CUPV	**Cœpira**	**3.71**	**256**	*e*P	**Pn**	**01 22 20.6**	**+1.4**
CUPV				*e*S	**Sn**	**01 23 01.6**	**-0.6**
LUEV	**Luepa**	**5.12**	**173**	*e*P	**Pn**	**01 22 37.9**	**-0.4**
BAUV	**El Baul**	**6.17**	**252**	*e*P	**Pn**	**01 22 53.0**	**+0.8**
BAUV				*e*S	Sn	01 23 56.8	-4.6

*ISCJB **23** 01:25:21.9±1.5, 34°.20N±0°.05×36°.48E±0°.10, h5km±7km, Error ellipse: s-maj=14.4km s-min=5.9km az=22.2*
*GRAL **23** 01:25:22.6±0.3, 34°.24N×36°.49E, h1km±6km, MD2.9*
*CSEM **23** 01:25:22.3±0.2, 34°.19N×36°.46E, h2km, ML2.9, Error ellipse: s-maj=5.2km s-min=2.3km az=124.0*
*DDA **23** 01:25:26.5, 35°.04N×35°.11E, h11km, MD3.4*

ISC 23 01:25:22.6±1.5, 34°.20N±0°.05×36°.44E±0°.08, h3km±8km, n14, σ0s49/26, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FKH	**Fakeheh**	**0.05**	**332**	*e*P	**Pg**	**01 25 23.9**	**0.0**
FKH				*e*S	**Sg**	**01 25 24.9**	**+0.1**
FKH	**Fakeheh**	**0.05**	**332**	*e*P	**Pg**	**01 25 23.9**	**0.0**
FKH				*e*S	**Sg**	**01 25 24.9**	**+0.1**
HWQ	**Hawqa**	**0.42**	**281**	*e*P	**Pg**	**01 25 30.8**	**+0.1**
HWQ				*e*S	**Sg**	**01 25 36.8**	**+0.7**
HWQ	**Hawqa**	**0.42**	**281**	*e*P	**Pg**	**01 25 30.8**	**+0.1**
HWQ				*e*S	**Sg**	**01 25 36.8**	**+0.7**
BHL	**Bhannes**	**0.72**	**246**	*e*P	**Pg**	**01 25 36.5**	**+0.2**
BHL	**Bhannes**	**0.72**	**246**	*e*P	**Pg**	**01 25 36.5**	**+0.2**
RCY	**Rachaya**	**0.86**	**216**	*e*P	**Pg**	**01 25 39.3**	**+0.1**
RCY				*e*S	**Sg**	**01 25 51.4**	**-0.8**
YAYL	**Yayladag**	**1.85**	**352**	*i* P	**Pn**	**01 25 54.7**	**-0.7**
YAYL				*i* S	**Sn**	**01 26 19.0**	**-0.4**
YAYL	**Yayladag**	**1.85**	**352**	*i* P	**Pn**	**01 25 54.7**	**-0.7**
YAYL				*i* S	**Sn**	**01 26 19.0**	**-0.4**
KUZU	**Kuzuini**	**2.62**	**11**	*i* P	**Pn**	**01 26 05.9**	**0.0**
KUZU				*i* S	**Sn**	**01 26 38.7**	**+0.5**
KUZU	**Kuzuini**	**2.62**	**11**	*i* P	**Pn**	**01 26 05.9**	**0.0**
KUZU				*i* S	**Sn**	**01 26 38.7**	**+0.5**
GZT	**Gaziantep**	**3.28**	**16**	*i* P	**Pn**	**01 26 14.7**	**-0.3**
GZT				*i* S	**Sn**	**01 26 53.9**	**-0.7**
AKCD	**Akcadag**	**4.26**	**16**	*i* P	**Pn**	**01 26 28.8**	**+0.2**
AKCD				*i* S	**Sn**	**01 27 19.6**	**+0.8**
AKCD	**Akcadag**	**4.26**	**16**	*i* P	**Pn**	**01 26 28.7**	**+0.2**
AKCD				*i* S	**Sn**	**01 27 19.6**	**+0.8**

*ISCJB **23** 01:34:19.8±0.4, 3°.91N±0°.03×126°.80E±0°.04, h45km, mb4.2/22, MS3.7/12, Error ellipse: s-maj=6.1km s-min=4.7km az=179.8*
*IDC **23** 01:34:19.2±4.3, 3°.84N×126°.32E, h27km±29km, mb3.9/17, mb1 4.1/17, mb1mx4.0/23, mbtmp3.9/17, MS3.7/14, Ms1 3.7/14, ms1mx3.5/37, Error ellipse: s-maj=33.2km s-min=13.3km az=72.0*
*NEIC **23** 01:34:20.1±0.4, 3°.84N×126°.34E, h35km, mb4.6/5, Error ellipse: s-maj=20.4km s-min=8.1km az=78.0*
*DJA **23** 01:34:23.8±0.6, 4°.N±4°×12°.7E±°, h45km±7km, M4.6/19, mB5.2/8, mb4.4/19, MLv4.7/7, Mw(mB)4.6/8*

ISC 23 01:34:21.1±0.5, 3°.94N±0°.06×126°.72E±0°.06, h45km, n71, σ1s64/65, mb4.2/21, MS3.6/12, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.77**	**321**	⇑*e*P	Pn	01 35 07.0	+3.8
MNI	**Manado**	**3.11**	**217**	P	**Pn**	**01 35 08.3**	**+0.6**
MNI				S	**Sn**	**01 35 47.7**	**+4.1**
TNTI	**Ternate**	**3.21**	**168**	P	**Pn**	**01 35 10.4**	**+1.3**
TNTI				S	**Sn**	**01 35 45.2**	**-0.9**
DAV	**Davao City (W)**	**3.31**	**340**	Pn	Pn	01 35 18.4	+7.9
	46nm,0.3s,baz=245,slow=17,SNR=2.4						
DAV				Sn	Sn	01 35 58.4	+10
	79nm,0.3s,baz=251,slow=19,SNR=6.4						
DAV				LR	LR	01 36 50.5	
	comp=Z,483nm,19.8s,baz=136,slow=46						
CTBH	**Cotabato--PC H**	**4.09**	**323**	⇑*e*P	Pn	01 35 26.7	+5.5
KMSI	**Cibinong**	**4.32**	**219**	P	**Pn**	**01 35 24.5**	**+0.2**
KMSI				S	**Sn**	**01 36 14.3**	**+0.9**
MRSI	**Marisa**	**5.88**	**234**	P	**Pn**	**01 35 45.9**	**+0.1**
	88nm,1.0s,1μm0.5nm						
MRSI				S	**Sn**	**01 36 50.6**	**-1.4**
	88nm,1.0s,1μm0.5nm						
LUWI	**Luwuk**	**6.33**	**219**	P	**Pn**	**01 35 54.0**	**+2.1**
	222nm,1.3s,3μm0.7nm						
LUWI				S	**Sn**	**01 37 06.7**	**+3.8**
	222nm,1.3s,3μm0.7nm						
SWI	**Sorong**	**6.58**	**136**	P	**Pn**	**01 35 54.2**	**-1.2**
	31nm,0.9s,1μm0.1nm						
SWI				S	**Sn**	**01 37 10.4**	**+1.2**
	31nm,0.9s,1μm0.1nm						
NLAI	**Namlea**	**7.14**	**177**	P	**Pn**	**01 36 02.6**	**-0.4**
	24nm,0.8s,871nm0.2nm						
KDI	**Kendari**	**8.85**	**208**	P	**Pn**	**01 36 26.9**	**+0.4**
	20nm,1.0s,464nm						
TTSI	**Tana Toraja**	**9.78**	**225**	P	**Pn**	**01 36 41.6**	**+2.3**
	38nm,1.3s,1μm						
SPSI	**Sidrap Palu**	**10.48**	**222**	P	**Pn**	**01 36 46.4**	**-2.5**
	12nm,1.1s						
KKM	**Kota Kinabalu**	**10.67**	**282**	P	Pn	01 36 55.5	+3.9
	18nm,2.0s						
KAPI	**Kappang**	**11.29**	**218**	LR	LR	01 41 47.9	
	comp=Z,570nm,19.5s,baz=61,slow=41						
KBKI	**Kotabaru**	**12.76**	**236**	P	P	01 37 25.3	-4.8
BBKI	**Banjar Baru**	**13.96**	**238**	P	**P**	**01 37 40.3**	**-3.2**
	60nm,1.7s,4μm						
SBUM	**Sibu**	**14.55**	**265**	P	**P**	**01 37 48.1**	**-1.9**

	26nm,1.6s							
KHKI	**Kahang-Kahang**	**16.50**	**222**	P		**Pn**	**01 38 08.3**	**-1.2**
	17nm,1.0s							
KSM	**Kuching**	**16.57**	**262**	P		**P**	**01 38 11.6**	**-0.9**
	17nm,1.6s							
GUMO	**Guam**	**20.32**	**61**	LR		LR	01 45 45.7	
	comp=Z,118nm,18.2s,baz=283,slow=33							
FITZ	**Fitzroy Crossi**	**21.92**	**183**	*eP*		**P**	**01 39 10.0**	**-0.8**
	5.8nm,0.7s							
FITZ	**Fitzroy Crossi**	**21.92**	**183**	P		**P**	**01 39 10.2**	**-0.7**
	2.2nm,0.5s,baz=18,slow=9.4,SNR=9.9							
JOW	**Kunigami**	**22.82**	**4**	LR		LR	01 46 46.5	
	comp=Z,206nm,21.9s,baz=292,slow=33							
WRAB	**Tennant Creek**	**24.88**	**163**	*eP*		**P**	**01 39 39.8**	**0.0**
	9.1nm,0.6s							
WRA	**Warramunga Arr**	**24.88**	**163**	P		**P**	**01 39 39.0**	**-0.9**
WRA	**Warramunga Arr**	**24.88**	**163**	P		**P**	**01 39 39.0**	**-0.9**
	3.6nm,0.5s,baz=341,slow=10,SNR=39							
IPM	**Ipoh**	**25.63**	**272**	P		**P**	**01 39 47.9**	**+1.1**
	12nm,1.4s							
MBWA	**Marble Bar**	**25.86**	**195**	*eP*		**P**	**01 39 47.8**	**-0.9**
	9.5nm,0.9s							
BKNI	**Bangkinang**	**25.91**	**263**	P		**P**	**01 39 53.2**	**+3.9**
	48nm,0.6s,2μm							
MNSI	**Mandailing Nat**	**27.29**	**264**	P		P	01 40 08.2	+6.4
PSI	**Prapat**	**27.77**	**269**	LR		LR	01 52 04.4	
	comp=Z,141nm,19.5s,baz=134,slow=39							
ASAR	**Alice Springs**	**28.31**	**166**	P		**P**	**01 40 11.1**	**+0.3**
ASAR	**Alice Springs**	**28.31**	**166**	P		**P**	**01 40 11.1**	**+0.3**
	0.7nm,0.6s,baz=339,slow=6.8,SNR=14							
JNU	**Nakatsue**	**29.30**	**7**	LR		LR	01 51 01.2	
	comp=Z,89nm,18.6s,baz=99,slow=34							
CMAR	**Chiang Mai Arr**	**30.76**	**300**	P		**P**	**01 40 31.6**	**-0.9**
CMAR	**Chiang Mai Arr**	**30.76**	**300**	P		**P**	**01 40 31.6**	**-0.9**
	1.7nm,0.3s,baz=122,slow=8.2,SNR=7.0							
KSAR	**Wonju Array Be**	**33.36**	**2**	P		**P**	**01 40 57.5**	**+2.3**
KSRS	**Korea Array**	**33.38**	**2**	P		**P**	**01 40 57.5**	**+2.2**
	2.3nm,0.7s,baz=180,slow=8.3,SNR=4.5							
KSRS				LR		LR	01 52 42.8	
	comp=Z,107nm,20.8s,baz=182,slow=33							
MJAR	**Matsushiro Ar**	**34.13**	**17**	LR		LR	01 52 51.0	
	comp=Z,107nm,18.9s,baz=190,slow=32							
HNR	**Honiara**	**35.68**	**112**	LR		LR	01 55 08.2	
	comp=Z,120nm,18.7s,baz=310,slow=35							
STKA	**Stephens Creek**	**38.32**	**159**	P		**P**	**01 41 38.6**	**+0.9**
	1.8nm,0.4s,baz=344,slow=11,SNR=17							
ULN	**Ulaanbaatar**	**46.92**	**342**	P		P	01 42 51.0	+3.6
SONM	**Songino Array**	**47.10**	**341**	P		**P**	**01 42 48.4**	**-0.4**
SONM				PcP		**PcP**	**01 44 21.1**	**+1.0**
SONM	**Songino Array**	**47.10**	**341**	P		**P**	**01 42 48.4**	**-0.4**
	0.7nm,0.5s,baz=156,slow=9.8,SNR=7.4							
SONM				PcP		**PcP**	**01 44 21.1**	**+1.0**
	0.7nm,0.7s,baz=145,slow=5.3,SNR=3.8							
PETK	**Petropavlovsk-**	**55.24**	**22**	P		**P**	**01 43 51.8**	**+2.1**
PETK	**Petropavlovsk-**	**55.24**	**22**	P		**P**	**01 43 51.8**	**+2.1**
	2.6nm,0.7s,baz=190,slow=5.9,SNR=3.2							
PETK				LR		LR	02 03 14.5	
	comp=Z,89nm,22.0s,baz=241,slow=31							
MKAR	**Makanchi Array**	**57.38**	**325**	P		**P**	**01 44 04.0**	**-1.1**
MKAR				ScP		**ScP**	**01 48 57.1**	**+2.1**
MKAR	**Makanchi Array**	**57.38**	**325**	P		**P**	**01 44 04.0**	**-1.1**
	0.6nm,0.4s,baz=114,slow=7.1,SNR=12							
MKAR				ScP		**ScP**	**01 48 57.1**	**+2.1**
	0.4nm,0.8s,baz=122,slow=5.4,SNR=4.2							
MKAR				LR		LR	02 10 52.6	
	comp=Z,60nm,21.7s,baz=234,slow=38							
ZALV	**Zalesovo Beam**	**60.40**	**333**	P		**P**	**01 44 23.9**	**-1.9**
ZALV	**Zalesovo Beam**	**60.40**	**333**	P		**P**	**01 44 23.9**	**-1.9**
	0.4nm,0.4s,baz=139,slow=7.3,SNR=2.7							
ZALV				LR		LR	02 10 10.7	
	comp=Z,38nm,20.6s,baz=156,slow=36							
KURK	**Kurchatov**	**61.56**	**327**	*eP*		**P**	**01 44 32.8**	**-1.0**
	5.7nm,0.7s							
AKTO	**Aktyubinsk**	**73.49**	**322**	P		**P**	**01 45 48.6**	**-0.5**
AKTO	**Aktyubinsk**	**73.49**	**322**	P		**P**	**01 45 48.6**	**-0.5**
	2.5nm,0.8s,baz=106,slow=6.9,SNR=7.1							
ILAR	**Eielson Array**	**84.92**	**25**	P		**P**	**01 46 52.7**	**+1.5**
ILAR	**Eielson Array**	**84.92**	**25**	P		**P**	**01 46 52.7**	**+1.5**
	0.4nm,0.6s,baz=250,slow=5.3,SNR=8.3							
PPT	**Papeete**	**85.19**	**108**	LR		LR	02 20 42.2	
	comp=Z,252nm,19.1s,baz=333,slow=32							
JOF	**Joensuu**	**88.99**	**333**	*ep*		**P**	**01 47 09.9**	**-1.1**
BRTR	**Keskin Array B**	**89.88**	**310**	P		**P**	**01 47 14.1**	**-1.8**
BRTR	**Keskin Array B**	**89.88**	**310**	P		**P**	**01 47 14.1**	**-1.8**
	0.7nm,0.9s,baz=90,slow=7.2,SNR=3.5							
ARCES	**ARCESS Array B**	**90.25**	**340**	P		**P**	**01 47 16.0**	**-0.8**
ARCES	**ARCESS Array B**	**90.25**	**340**	P		**P**	**01 47 16.0**	**-0.8**
	2.8nm,1.0s,baz=73,slow=5.3,SNR=6.0							
FINES	**FINESS Array B**	**91.65**	**332**	P		**P**	**01 47 22.8**	**-0.5**
FINES	**FINESS Array B**	**91.65**	**332**	P		**P**	**01 47 22.8**	**-0.5**
	1.8nm,0.9s,baz=86,slow=8.5,SNR=2.7							
AKASG	**Malin Array Be**	**91.73**	**321**	P		**P**	**01 47 21.9**	**-2.1**
AKASG	**Malin Array Be**	**91.73**	**321**	P		**P**	**01 47 21.9**	**-2.1**
	0.4nm,0.3s,baz=68,slow=4.3,SNR=4.8							
NOA	**NORSAR Array B**	**98.60**	**334**	LR		LR	02 40 30.2	
	comp=Z,60nm,18.8s,baz=0.0,slow=40							
YKA	**Yellowknife Ar**	**99.32**	**24**	P		**Pdif**	**01 48 00.2**	**+1.9**
YKA	**Yellowknife Ar**	**99.32**	**24**	P		**Pdif**	**01 48 00.2**	**+1.9**
	0.1nm,0.5s,baz=292,slow=3.3,SNR=3.7							
TORD	**Torodi Ar. Bea**	**122.85**	**288**	PKP		**PKPdf**	**01 53 12.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**122.85**	**288**	PKP		**PKPdf**	**01 53 12.8**	**-0.6**
	0.6nm,0.8s,baz=79,slow=2.5,SNR=3.6							

DDA 23 01:34:48.7, 37.49N×27.62E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time	Res
				Op	ISC	h m s	ISC
AYDN	**Tasoluk**	**0.27**	**50**	*i* P	Pg	01 34 54.4	+0.3
AYDN				*i* S	Sg	01 34 58.0	+0.2
BDRM	**Kayabasi**	**0.45**	**198**	*i* P	Pg	01 34 57.0	-0.3
BDRM				*i* S	Sg	01 35 02.5	-0.7
BODT	**Bodrum**	**0.49**	**210**	*e*PG	Pg	01 34 56.6	-1.7
BODT				*e*SG	Sg	01 35 04.8	+0.1
YER	**Yerkesik**	**0.64**	**124**	*e*PG	Pg	01 35 00.3	-0.8

*ISCJB **23** 01:39:56.1±0.5, 37.87N±0.04×72.91E±0.08, h127km, mb3.6/5, Error ellipse: s-maj=9.1km s-min=4.6km az=162.1*
*IDC **23** 01:39:57.4±5.2, 37.92N×72.92E, h129km±47km, mb3.3/5, mb1 3.4/9, mb1mx3.1/31, mbtmp3.3/9, Error ellipse: s-maj=48.9km s-min=40.6km az=115.0*
*NNC **23** 01:40:01.6±9.0, 38.55N×72.82E, h0km, mb3.8, mpv3.7, Error ellipse: s-maj=77.0km s-min=47.6km az=168.0*
ISC 23 01:39:57.6±0.7, 37.99N±0.05×72.96E±0.08, h127km, n41, σ1s84/43, mb3.5/5, 4C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.18**	**8**	P	**Pn**	**01 41 02.0**	**+2.0**
	SNR=133						
CEP	**Cherat**	**4.24**	**192**	P	**Pn**	**01 41 03.0**	**+2.4**
CEP				S	**Sn**	**01 41 51.0**	**+1.5**
CHCP	**Chirah Chowk**	**4.33**	**177**	P	Pn	01 41 05.5	+3.8
UCH	**Uchtor**	**4.40**	**15**	P	**Sn**	**01 41 54.2**	**+0.5**
	SNR=9.1						
KZA	**Kyzart**	**4.45**	**23**	P	**Pn**	**01 41 05.2**	**+1.7**
	SNR=23						
EKS2	**Erkin-Say**	**4.71**	**7**	P	**Pn**	**01 41 09.2**	**+2.4**
	SNR=27						
AAK	**Ala-Archa**	**4.79**	**14**	P	**Pn**	**01 41 10.8**	**+2.9**
	SNR=28						
AAK	**Ala-Archa**	**4.79**	**14**	P	**Pn**	**01 41 10.7**	**+2.9**
	5.0nm,0.3s,baz=162,slow=6.4,SNR=69						
AAK				S	**Sn**	**01 42 04.0**	**+1.4**
	2.7nm,0.3s,baz=101,slow=23,SNR=13						
KBK	**Karagaybulak**	**4.91**	**17**	P	**Pn**	**01 41 11.8**	**+2.3**
	SNR=12						
ULHL	**Ulahol**	**4.94**	**30**	P	**Pn**	**01 41 12.0**	**+2.0**
	SNR=15						
CHMS	**Chumysh**	**5.19**	**15**	P	**Pn**	**01 41 16.0**	**+2.9**
	SNR=17						
THW	**Thamme Wali**	**5.28**	**191**	P	**Pn**	**01 41 15.9**	**+1.5**
TKM2	**Tokmak 2**	**5.32**	**21**	⇑Pn	**Pn**	**01 41 17.1**	**+2.0**
	5.6nm,0.7s						
TKM2				⇑Sn	**Sn**	**01 42 13.6**	**-1.8**
	4.2nm,0.5s						
TKM2	**Tokmak 2**	**5.32**	**21**	P	**Pn**	**01 41 17.2**	**+2.1**
	SNR=15						
USP	**Ospenovka**	**5.40**	**12**	P	**Pn**	**01 41 17.9**	**+1.9**
	SNR=22						
KK31	**Karatay Array**	**5.44**	**341**	Pn	**Pn**	**01 41 17.7**	**+1.3**
	3.7nm,0.2s,baz=152,slow=12,SNR=114						
KK31				⇓Sn	**Sn**	**01 42 14.7**	**-3.2**
	41nm,0.3s,baz=156,slow=22,SNR=4.6						

DDI	**Dehra Dun**	**8.73**	**150**	*ex*		S	01 43 30.5	
MKAR	**Makanchi Array**	**11.18**	**35**	P		**Pn**	**01 42 34.0**	**+0.4**
	0.1nm,0.3s,baz=213,slow=8.7,SNR=10.0							
DANN	**Dangsing**	**13.19**	**134**	*eP*		**Pn**	**01 42 58.1**	**-2.2**
	28nm,0.4s							
DANN	**Dangsing**	**13.19**	**134**	*eP*		**Pn**	**01 42 58.1**	**-2.2**
	28nm,0.4s							
KOLN	**Koldanda**	**13.54**	**136**	*eP*		**Pn**	**01 43 02.8**	**-2.0**
	21nm,0.6s							
KOLN	**Koldanda**	**13.54**	**136**	*eP*		**Pn**	**01 43 02.8**	**-2.0**
GKN	**Gorkha**	**13.96**	**132**	*eP*		**Pn**	**01 43 08.3**	**-1.7**
	15nm,0.3s							
GKN	**Gorkha**	**13.96**	**132**	*eP*		**Pn**	**01 43 08.3**	**-1.7**
KKN	**Kakani**	**14.50**	**131**	*eP*		**Pn**	**01 43 15.3**	**-1.6**
	7.7nm,0.4s							
DMN	**Daman**	**14.53**	**132**	*eP*		**Pn**	**01 43 15.5**	**-1.9**
	12nm,0.3s							
AB31	**Akbulak array**	**14.66**	**324**	⇑P		**Pn**	**01 43 17.7**	**-0.9**
	1.3nm,0.5s,baz=148,slow=12,SNR=49							
PKI	**Pulchoki**	**14.73**	**131**	*eP*		**Pn**	**01 43 18.8**	**-1.2**
	21nm,0.6s							
GUN	**Gumba**	**14.77**	**129**	*eP*		**Pn**	**01 43 18.4**	**-2.1**
	15nm,0.4s							
JIRN	**Jiri**	**15.14**	**129**	*eP*		**Pn**	**01 43 23.8**	**-1.4**
	4.6nm,0.3s							
RAMN	**Ramite**	**15.91**	**130**	*eP*		**Pn**	**01 43 32.5**	**-2.1**
	22nm,0.5s							
TAPN	**Taplejung**	**16.31**	**126**	*eP*		**Pn**	**01 43 38.1**	**-1.5**
	17nm,0.5s							
AKTO	**Aktyubinsk**	**16.38**	**324**	⇑P		**P**	**01 43 40.7**	**+0.3**
	0.2nm,0.5s							
AKTO	**Aktyubinsk**	**16.38**	**324**	P		**Pn**	**01 43 38.9**	**-1.1**
	0.3nm,0.3s,baz=114,slow=8.9,SNR=3.6							
ZALV	**Zalesovo Beam**	**17.93**	**23**	P		**P**	**01 43 57.9**	**+0.5**
	0.8nm,0.3s,baz=213,slow=11,SNR=20							
FINES	**FINESS Array B**	**37.15**	**324**	P		**P**	**01 46 55.8**	**+0.2**
	1.4nm,0.8s,baz=116,slow=9.4,SNR=8.7							
HFS	**Hagfors**	**42.88**	**321**	P		**P**	**01 47 43.2**	**+0.2**
	0.9nm,0.4s,baz=90,slow=8.9,SNR=8.0							
NB2	**NORSAR Subarra**	**44.15**	**322**	P		**P**	**01 47 53.1**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=92,slow=7.9							
NOA	**NORSAR Array B**	**44.15**	**322**	P		**P**	**01 47 53.1**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=110,slow=7.6,SNR=3.3							
ESDC	**Sonseca Array**	**58.15**	**298**	P		**P**	**01 49 37.7**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=65,slow=7.3,SNR=3.9							
TORD	**Torodi Ar. Bea**	**67.31**	**269**	P		**P**	**01 50 37.8**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=51,slow=5.9,SNR=9.7							

IDC 23 01:44:51.5±0.9, 3.46N×126.55E, h0km, mb3.7/9, mb1 3.8/9, mb1mx3.7/23, mbtmp3.7/9, Error ellipse: s-maj=75.0km s-min=15.6km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.45**	**182**	P	P	01 49 43.4	+1.9
	0.5nm,0.5s,baz=14,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**24.48**	**162**	P	P	01 50 12.0	-0.6
	1.9nm,0.8s,baz=339,slow=11,SNR=16						
ASAR	**Alice Springs**	**27.90**	**165**	P	P	01 50 44.0	+0.6
	0.1nm,0.4s,baz=341,slow=11,SNR=2.6						
KSRS	**Korea Array**	**33.85**	**2**	P	P	01 51 36.6	+0.9
	0.9nm,0.4s,baz=179,slow=9.7,SNR=3.3						
STKA	**Stephens Creek**	**37.94**	**159**	P	P	01 52 10.2	-0.8
	0.9nm,0.4s,baz=336,slow=10.0,SNR=6.8						
SONM	**Songino Array**	**47.49**	**342**	P	P	01 53 28.8	+0.3
	0.5nm,0.6s,baz=159,slow=8.4,SNR=5.0						
MKAR	**Makanchi Array**	**57.67**	**325**	P	P	01 54 43.6	-0.2
	0.5nm,0.5s,baz=116,slow=7.4,SNR=18						
ZALV	**Zalesovo Beam**	**60.75**	**333**	P	P	01 55 04.1	-0.8
	0.3nm,0.5s,baz=127,slow=8.6,SNR=2.8						
AKTO	**Aktyubinsk**	**73.76**	**322**	P	P	01 56 27.5	-0.1
	1.1nm,0.8s,baz=88,slow=5.6,SNR=4.9						
TORD	**Torodi Ar. Bea**	**122.83**	**288**	PKP	PKPdf	02 03 50.2	-0.5
	0.4nm,0.8s,baz=71,slow=2.1,SNR=3.5						

TRN 23 01:49:38.4, 13.86N×60.43W, h17km, MD3.2, M3.5(FDF), Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time	Res
				Op	ISC	h m s	ISC
MCLT	**Moule a Chique**	**0.52**	**254**	*eP*	Pn	01 49 53.1	+2.0
MCLT				*eS*	Sn	01 50 00.3	+0.7
SLB	**Belfond**	**0.59**	**267**	*eP*	Pn	01 49 53.9	+1.6
SLB				*eS*	Sn	01 50 03.3	+1.7
MVM	**Montagne Vaucl**	**0.83**	**327**	*eP*	Pn	01 49 55.6	+0.2
MVM				*eS*	Sn	01 50 06.8	-0.6
SVV	**Soufriere Volc**	**0.93**	**235**	*eP*	Pn	01 49 59.6	+2.8
SVV				*eS*	Sn	01 50 11.7	+1.8
SVB	**Belmont**	**0.99**	**234**	*eP*	Pg	01 49 58.6	+0.9
SVB				*eS*	Sn	01 50 13.2	+2.0
FDF	**Fort de France**	**1.12**	**321**	*eP*	Pn	01 49 59.6	+0.2
FDF				*eS*	Sg	01 50 15.8	+0.9

IDC 23 01:54:23.3±1.2, 3.23N×126.23E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/21, mbtmp3.5/6, MS3.1/1, Ms1 3.1/1, ms1mx2.6/23, Error ellipse: s-maj=159.4km s-min=19.9km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.37**	**161**	P	P	01 59 41.8	-1.5
	0.9nm,0.7s,baz=342,slow=10,SNR=6.5						
WRA				LR	LR	02 10 01.2	
	comp=Z,41nm,20.0s,baz=10.0,slow=38						
STKA	**Stephens Creek**	**37.85**	**158**	P	P	02 01 43.7	+1.7
	1.4nm,0.7s,baz=323,slow=6.6,SNR=3.1						
SONM	**Songino Array**	**47.61**	**342**	P	P	02 03 00.8	-0.4
	0.2nm,0.6s,baz=146,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**57.68**	**326**	P	P	02 04 15.0	-0.7
	0.4nm,0.5s,baz=123,slow=8.6,SNR=17						
ZALV	**Zalesovo Beam**	**60.80**	**333**	P	P	02 04 37.6	+0.5
	0.2nm,0.4s,baz=141,slow=9.3,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.89**	**328**	P	P	02 04 44.7	+0.2
	0.4nm,0.5s,baz=133,slow=6.6,SNR=3.7						

*ISCJB **23** 02:07:43.9±1.1, 2.7S±0.1×99.5E±0.1, h32km, mb3.8/8, Error ellipse: s-maj=21.6km s-min=7.1km az=136.2*
*IDC **23** 02:07:46.3±1.6, 2.59S×99.64E, h27km±4km, mb3.6/8, mb1 3.8/8, mb1mx3.6/23, mbtmp3.7/8, Error ellipse: s-maj=60.1km s-min=14.2km az=57.0*
*DJA **23** 02:07:46.2±1.3, 3°S±11°×10°E±1°1, h41km±77km, M3.9/6, MLv3.9/6*
ISC 23 02:07:46.0±1.1, 2.7S±0.1×99.6E±0.1, h32km, n15, σ0s90/22, mb4.0/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**1.40**	**340**	P	**Pn**	**02 08 08.3**	**-0.9**
KRJI	**Kerinci**	**1.98**	**74**	P	**Pn**	**02 08 17.4**	**+0.1**
PPI	**Padang Panjang**	**2.33**	**21**	P	**Pn**	**02 08 20.9**	**-1.2**
MNSI	**Mandailing Nat**	**3.42**	**0**	P	**Pn**	**02 08 39.2**	**+2.1**
MNAI	**Manna**	**3.79**	**117**	P	**Pn**	**02 08 42.0**	**-0.2**
MNAI				S	**Sn**	**02 09 25.6**	**-0.1**
LHSI	**Lahat**	**4.12**	**107**	P	**Pn**	**02 08 46.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**20.98**	**358**	P	**P**	**02 12 25.9**	**-0.8**
	1.2nm,0.5s,baz=188,slow=10,SNR=5.2						
WRA	**Warramunga Arr**	**38.05**	**119**	P	**P**	**02 15 02.3**	**+0.5**
	1.1nm,0.4s,baz=306,slow=9.1,SNR=18						
WRA				pP	**pP**	**02 15 11.1**	**-0.1**
	0.8nm,0.5s,baz=305,slow=9.0,SNR=5.2						
ASAR	**Alice Springs**	**39.23**	**125**	P	**P**	**02 15 11.2**	**-0.6**
	0.9nm,0.7s,baz=304,slow=8.5,SNR=9.2						
ASAR				pP	**pP**	**02 15 21.2**	**+0.1**
	0.5nm,0.6s,baz=299,slow=7.7,SNR=3.3						
SONM	**Songino Array**	**50.63**	**6**	P	**P**	**02 16 42.7**	**+0.6**
	0.8nm,0.5s,baz=188,slow=10.0,SNR=8.8						
SONM				pP	**pP**	**02 16 50.7**	**-1.0**
	0.7nm,0.6s,baz=188,slow=9.3,SNR=4.7						
MKAR	**Makanchi Array**	**51.54**	**345**	P	**P**	**02 16 49.7**	**+0.9**
	0.9nm,0.7s,baz=152,slow=8.4,SNR=11						
MKAR				pP	**pP**	**02 16 58.0**	**-0.5**
	0.6nm,0.6s,baz=158,slow=8.4,SNR=6.1						
USRK	**Ussuriysk Arra**	**54.94**	**28**	P	**P**	**02 17 14.3**	**+0.5**
	1.7nm,0.6s,baz=216,slow=4.8,SNR=9.4						
USRK				pP	**pP**	**02 17 22.6**	**-0.9**
	2.1nm,0.7s,baz=240,slow=4.0,SNR=6.1						
KURBB	**Kurchatov Arra**	**56.05**	**344**	P	**P**	**02 17 22.5**	**+0.8**
	0.4nm,0.7s,baz=146,slow=5.6,SNR=3.8						
ZALV	**Zalesovo Beam**	**57.72**	**350**	P	**P**	**02 17 33.6**	**+0.1**
	1.3nm,0.7s,baz=183,slow=8.6,SNR=8.9						
ZALV				pP	**pP**	**02 17 42.0**	**-1.3**
	0.9nm,0.7s,baz=180,slow=5.6,SNR=3.4						

TXAR	**Lajitas Array**	**145.48**	**37**	PKPbc		**PKPab**	**02 27 23.1**	**+1.2**
	1.4nm,0.6s,baz=234,slow=1.2,SNR=26							
TXAR				pPKPbc		pPKPbc	02 27 30.4	-1.8
	1.2nm,0.6s,baz=292,slow=0.7,SNR=12							

*IDC **23** 02:20:14.8±1.2, 23.50S×171.01E, h0km, mb4.0/8, mb1 4.2/9, mb1mx4.0/19, mbtmp4.0/9, ML4.4/1, MS3.4/4, Ms1 3.4/4, ms1mx3.0/31, Error ellipse: s-maj=36.8km s-min=23.7km az=7.0*
*ISCJB **23** 02:20:18.3±0.7, 23.6S±0.1×170.90E±0.07, h30km, mb3.9/8, MS3.5/3, Error ellipse: s-maj=20.8km s-min=8.5km az=10.8*
ISC 23 02:20:19.7±0.8, 23.5S±0.2×170.93E±0.08, h30km, n24, σ0s97/24, mb4.0/8, MS3.4/3, 2C-5D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.37**	**288**	*eP*	**Pn**	**02 21 24.1**	**-0.1**
DZM				*eS*	**Sn**	**02 22 11.5**	**-2.7**
DZM	**Mont Dzumac**	**4.37**	**288**	Pn	**Pn**	**02 21 24.2**	**0.0**
	20nm,0.3s,baz=137,slow=12,SNR=307						
DZM				Sn	**Sn**	**02 22 15.4**	**+1.3**
	25nm,0.3s,baz=134,slow=23,SNR=12						
DZM				LR	LR	02 22 38.3	
	comp=Z,159nm,20.8s,baz=37,slow=32						
NOUC	**Port Laguerre**	**4.49**	**287**	*eP*	**Pn**	**02 21 25.5**	**-0.2**
NOUC				*eS*	**Sn**	**02 22 18.1**	**+1.3**
AFI	**Afiamalu**	**18.94**	**63**	P	**Pn**	**02 24 40.4**	**+1.1**
	1.0nm,0.3s,baz=70,slow=18,SNR=3.8						
CTA	**Charters Tower**	**23.15**	**274**	P	**P**	**02 25 25.1**	**+1.4**
	2.2nm,0.6s,baz=101,slow=12,SNR=2.5						
STKA	**Stephens Creek**	**27.22**	**246**	P	**P**	**02 26 01.3**	**+0.3**
	0.7nm,0.3s,baz=113,slow=13,SNR=3.6						
STKA				LR	LR	02 36 14.1	
	comp=Z,49nm,18.7s,baz=204,slow=35						
ASAR	**Alice Springs**	**33.87**	**262**	P	**P**	**02 27 00.1**	**+0.1**
	1.4nm,0.6s,baz=84,slow=8.3,SNR=16						
WRA	**Warramunga Arr**	**34.12**	**269**	P	**P**	**02 27 01.2**	**-0.9**
	0.5nm,0.4s,baz=97,slow=8.4,SNR=16						
FITZ	**Fitzroy Crossi**	**42.54**	**268**	P	**P**	**02 28 12.7**	**-0.2**
	3.6nm,0.9s,baz=152,slow=11,SNR=6.5						
FITZ				LR	LR	02 46 46.0	
	comp=Z,50nm,18.3s,baz=208,slow=37						
QSPA	**South Pole Qui**	**66.58**	**180**	P	**P**	**02 31 06.8**	**0.0**
	1.7nm,0.8s,baz=204,slow=7.2,SNR=5.8						
ASAJ	**Asahikawa**	**72.12**	**339**	LR	LR	02 57 27.1	
	comp=Z,100nm,20.9s,baz=179,slow=31						
CMAR	**Chiang Mai Arr**	**81.68**	**294**	P	**P**	**02 32 36.9**	**+1.3**
	1.1nm,0.6s,baz=155,slow=4.8,SNR=5.9						
NVAR	**Mina Array Bea**	**90.45**	**48**	P	**P**	**02 33 18.1**	**-0.7**
	0.3nm,0.5s,baz=245,slow=6.0,SNR=3.7						
MLR	**Muntele Rosu**	**144.16**	**316**	*i*P	PKPbc	02 39 51.0	+0.2
VOIR		**144.75**	**317**	*i*P	PKPbc	02 39 52.4	-0.2
TRPA	**Tarpa**	**144.90**	**322**	*i*P	**PKPdf**	**02 39 52.8**	**-0.8**
CRVS	**Cervenica-Dubn**	**145.05**	**324**	*e*	**PKPdf**	**02 39 54.0**	**+0.1**
HUMR	**Humele**	**145.19**	**315**	*i*P	**PKPdf**	**02 39 53.8**	**-0.5**
DRGR		**145.51**	**320**	*i*P	**PKPab**	**02 39 54.8**	**-0.4**
GZR	**Gura Zlata**	**146.18**	**318**	*i*P	**PKPbc**	**02 39 56.3**	**-0.8**
VYHS	**Vyhne**	**146.69**	**325**	*e*	**PKPbc**	**02 39 57.8**	**-0.6**
PKSM	**Moragy**	**148.17**	**322**	*i*P	**PKPbc**	**02 40 02.2**	**-0.3**
KHC	**Kasperske Hory**	**148.81**	**331**	*eP*	**PKPbc**	**02 40 03.5**	**-0.7**
GERES	**GERESS Array B**	**148.96**	**330**	PKPbc	**PKPbc**	**02 40 04.0**	**-0.6**
	1.2nm,0.8s,baz=27,slow=1.5,SNR=11						

IDC 23 02:24:23.1±0.7, 4.09N×126.59E, h0km, mb3.8/12, mb1 3.9/12, mb1mx3.8/25, mbtmp3.8/12, Error ellipse: s-maj=51.7km s-min=14.2km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W

DEMI	**Demirci**	**0.27**	**254**	*i* P	**Pg**	02	41	15.9	**0.0**
DEMI				*i* S	**Sg**	02	41	19.7	**+0.1**
DEMI	**Demirci**	**0.27**	**254**	*i* P	**Pg**	02	41	15.9	**0.0**
DEMI				*i* S	**Sg**	02	41	19.7	**+0.1**
GDZ	**Gediz**	**0.34**	**95**	*i* P	**Pg**	02	41	17.1	**+0.1**
GDZ				*i* S	**Sg**	02	41	21.9	**+0.3**
GDZ	**Gediz**	**0.34**	**95**	*i* P	**Pg**	02	41	17.1	**+0.1**
GDZ				*i* S	**Sg**	02	41	21.9	**+0.3**
TVSB	**Tavsanli**	**0.46**	**44**	PG	**Pg**	02	41	19.2	**-0.1**
TVSB				*e*SG	**Sg**	02	41	25.0	**-0.4**
TVSB	**Tavsanli**	**0.46**	**44**	*i* Pg	**Pg**	02	41	19.2	**-0.1**
TVSB				*e*Sg	**Sg**	02	41	25.0	**-0.4**
DURS	**Dursunbey**	**0.66**	**317**	*i* P	**Pb**	02	41	24.0	**+0.3**
DURS				*i* S	**Sn**	02	41	35.0	**-0.8**
DURS	**Dursunbey**	**0.66**	**317**	*i* P	**Pb**	02	41	24.0	**+0.3**
KULA	**Kula-Manisa**	**0.68**	**207**	*e*PG	**Pg**	02	41	23.0	**-0.3**
KULA				*e*SG	**Sg**	02	41	32.2	**0.0**
KULA	**Kula-Manisa**	**0.68**	**207**	*e*Pg	**Pg**	02	41	23.0	**-0.3**
KULA				*e*Sg	**Sg**	02	41	32.2	**0.0**
MANT	**Manisa**	**0.73**	**212**	*i* P	**Pg**	02	41	24.3	**-0.2**
MANT				*i* S	**Sg**	02	41	33.5	**-0.6**
MANT	**Manisa**	**0.73**	**212**	*i* P	**Pg**	02	41	24.3	**-0.2**
MANT				*i* S	**Sg**	02	41	33.5	**-0.6**
KHAL	**Karahalli**	**0.82**	**155**	*i* P	**Pb**	02	41	26.7	**+0.2**
KHAL				*i* S	**Sg**	02	41	36.3	**-0.5**
KHAL	**Karahalli**	**0.82**	**155**	*i* P	**Pb**	02	41	26.7	**+0.2**
KHAL				*i* S	**Sg**	02	41	36.3	**-0.5**
ALT	**Altintas**	**0.83**	**94**	*e*PG	**Pb**	02	41	26.3	**-0.2**
ALT	**Altintas**	**0.83**	**94**	*e*Pg	**Pb**	02	41	26.3	**-0.2**
KHL	**Karahalli**	**0.87**	**155**	*e*PG	**Pg**	02	41	26.9	**-0.2**
KHL	**Karahalli**	**0.87**	**155**	*e*Pg	**Pg**	02	41	26.9	**-0.2**
AKHS	**Akhisar**	**0.99**	**257**	*i* P	**Pb**	02	41	29.6	**+0.3**
AKHS				*i* S	**Sb**	02	41	42.5	**+0.2**
AKHS	**Akhisar**	**0.99**	**257**	*i* P	**Pb**	02	41	29.6	**+0.3**
AKHS				*i* S	**Sb**	02	41	42.5	**+0.2**
BALB	**Balikesir**	**1.05**	**300**	*e*PG	**Pb**	02	41	29.7	**-0.5**
BALB	**Balikesir**	**1.05**	**300**	*e*Pg	**Pb**	02	41	29.7	**-0.5**
CAVI	**Cavuskoy**	**1.24**	**29**	*e*PN	**Pn**	02	41	33.4	**0.0**
CAVI	**Cavuskoy**	**1.24**	**29**	*e*Pn	**Pn**	02	41	33.4	**0.0**
KCTX	**Karacabey (Bur**	**1.27**	**335**	*e*PN	**Pn**	02	41	33.8	**+0.1**
KCTX	**Karacabey (Bur**	**1.27**	**335**	*e*Pn	**Pn**	02	41	33.8	**+0.1**
BALY	**Balya**	**1.27**	**300**	*i* P	**Pg**	02	41	34.7	**+0.1**
BALY				*i* S	**Sn**	02	41	51.3	**+0.5**
BALY	**Balya**	**1.27**	**300**	*i* P	**Pg**	02	41	34.7	**+0.1**
BALY				*i* S	**Sn**	02	41	51.3	**+0.5**
SHUT	**Suhut-Afyon**	**1.30**	**115**	*e*PN	**Pn**	02	41	34.4	**+0.2**
SHUT	**Suhut-Afyon**	**1.30**	**115**	*e*Pn	**Pn**	02	41	34.4	**+0.2**
BORA	**Eskisehir**	**1.33**	**54**	*i* P	**Pg**	02	41	35.5	**-0.2**
BORA				*i* S	**Sn**	02	41	52.5	**+0.3**
BORA	**Eskisehir**	**1.33**	**54**	*i* P	**Pg**	02	41	35.5	**-0.2**
BORA				*i* S	**Sn**	02	41	52.5	**+0.3**
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*PN	**Pn**	02	41	35.5	**-0.1**
GONE	**Gonen-Balikesi**	**1.41**	**312**	*e*Pn	**Pn**	02	41	35.5	**-0.1**
ESKT	**Eskisehir**	**1.45**	**73**	*e*PN	**Pn**	02	41	36.5	**+0.2**
ESKT	**Eskisehir**	**1.45**	**73**	*e*Pn	**Pn**	02	41	36.5	**+0.2**
ARMT	**Armutlu**	**1.45**	**354**	*e*PN	**Pn**	02	41	36.2	**-0.1**
ARMT	**Armutlu**	**1.45**	**354**	*e*Pn	**Pn**	02	41	36.2	**-0.1**
GULT	**Gulveren**	**1.73**	**40**	*e*PN	**Pn**	02	41	40.4	**+0.2**
GULT	**Gulveren**	**1.73**	**40**	*e*Pn	**Pn**	02	41	40.4	**+0.2**

IDC 23 02:44:42.5±1.6, 3°31'N×126°25'E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/20, mbtmp3.2/3, Error ellipse: s-maj=151.4km s-min=27.3km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.44**	**161**	P	P	02 50 03.3	**+0.1**
	0.7nm,0.7s,baz=343,slow=10,SNR=6.9						
SONM	**Songino Array**	**47.54**	**342**	P	P	02 53 20.5	**+0.6**
	0.2nm,0.5s,baz=150,slow=6.0,SNR=2.4						
MKAR	**Makanchi Array**	**57.62**	**326**	P	P	02 54 33.4	**-1.1**
	0.1nm,0.4s,baz=122,slow=8.0,SNR=4.2						

IDC 23 02:47:36.0±1.7, 3°80'N×126°86'E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/22, mbtmp3.7/5, Error ellipse: s-maj=101.1km s-min=23.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.80**	**183**	P	P	02 52 29.5	**-0.3**
	0.6nm,0.4s,baz=0.0,slow=13,SNR=2.5						
WRA	**Warramunga Arr**	**24.71**	**163**	P	P	02 52 58.2	**-1.0**
	2.3nm,0.7s,baz=343,slow=11,SNR=13						
ASAR	**Alice Springs**	**28.15**	**166**	P	P	02 53 31.2	**+0.9**
	0.2nm,0.3s,baz=346,slow=9.5,SNR=4.4						
STKA	**Stephens Creek**	**38.15**	**159**	P	P	02 54 57.9	**+0.6**
	0.8nm,0.4s,baz=329,slow=12,SNR=2.8						
MKAR	**Makanchi Array**	**57.57**	**325**	P	P	02 57 27.5	**-0.1**
	0.1nm,0.3s,baz=125,slow=8.4,SNR=7.5						

IDC 23 02:53:03.5±1.7, 3°72'N×126°82'E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/22, mbtmp3.3/4, Error ellipse: s-maj=165.1km s-min=28.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.64**	**163**	P	P	02 58 26.1	**+0.1**
	0.2nm,0.5s,baz=342,slow=11,SNR=3.8						
SONM	**Songino Array**	**47.34**	**341**	P	P	03 01 38.9	**-0.4**
	0.2nm,0.8s,baz=145,slow=5.3,SNR=2.2						
MKAR	**Makanchi Array**	**57.62**	**325**	P	P	03 02 54.7	**-0.8**
	0.1nm,0.4s,baz=120,slow=7.7,SNR=5.8						
KURBB	**Kurchatov Arra**	**61.80**	**327**	P	P	03 03 25.2	**+1.0**
	0.3nm,0.4s,baz=117,slow=6.2,SNR=4.1						

*DJA **23** 02:54:44.2±0.8, 1°S±9''×13°9E±°, h10km, M4.6/3, MLv4.6/3*
*IDC **23** 02:54:44.3±1.3, 1°.91S×139°.11E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.9/20, mbtmp3.9/9, ML4.3/1, MS3.7/5, Ms1 3.6/5, ms1mx3.0/32, Error ellipse: s-maj=54.5km s-min=13.8km az=92.0*
*ISCJB **23** 02:54:47.6±1.0, 1°.99S±0°.08×138°.78E±0°.07, h32km±7km, mb3.8/7, MS3.7/4, Error ellipse: s-maj=14.2km s-min=9.8km az=34.6*

ISC 23 02:54:48.6±1.1, 2°0S±0°.1×138°.77E±0°.08, h29km±8km, n16, σ2s22/14, mb4.0/7, MS3.6/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.07**	**306**	P	**Pb**	**02 54 53.4**	**-0.3**
JAY	**Jayapura**	**1.99**	**104**	P	**Pn**	02 55 18.2	**-2.1**
BAKI	**Biak**	**2.79**	**287**	P	**Pn**	02 55 30.0	**-1.2**
BAKI				S	**Sn**	02 56 03.5	**-0.4**
WRA	**Warramunga Arr**	**18.32**	**193**	P	**Pn**	02 59 01.3	**+0.6**
	1.1nm,0.3s,baz=15,slow=12,SNR=25						
WRA				S	Sn	03 02 17.3	-7.3
	0.1nm,0.3s,baz=12,slow=21,SNR=3.2						
CTA	**Charters Tower**	**19.38**	**159**	P	**Pn**	**02 59 14.9**	**+1.5**
	0.7nm,0.3s,baz=338,slow=10,SNR=7.6						
CTA				LR	LR	03 07 14.0	
	comp=Z,70nm,19.4s,baz=12,slow=39						
FITZ	**Fitzroy Crossi**	**20.52**	**218**	P	Pn	02 59 27.5	+0.5
	3.2nm,0.6s,baz=30,slow=14,SNR=8.6						
FITZ				S	**S**	**03 03 07.8**	**-5.0**
	5.3nm,0.8s,baz=141,slow=7.9,SNR=8.1						
ASAR	**Alice Springs**	**22.02**	**192**	P	**P**	**02 59 42.5**	**+1.8**
	3.8nm,0.7s,baz=21,slow=12,SNR=30						
ASAR				S	Sn	03 03 49.5	-4.1
	1.1nm,1.0s,baz=15,slow=25,SNR=3.5						
STKA	**Stephens Creek**	**29.81**	**175**	P	**P**	**03 00 54.3**	**+1.3**
	2.5nm,0.9s,baz=341,slow=9.5,SNR=3.8						
STKA				LR	LR	03 14 29.7	
	comp=Z,104nm,18.6s,baz=30,slow=40						
JOW	**Kunigami**	**30.43**	**341**	LR	LR	03 11 18.9	
	comp=Z,185nm,21.6s,baz=286,slow=33						
NWAO	**Narrogin (SRO)**	**36.78**	**211**	LR	LR	03 16 15.6	
	comp=Z,80nm,19.3s,baz=188,slow=35						
MKAR	**Makanchi Array**	**69.29**	**322**	P	**P**	**03 05 53.4**	**+0.2**
	0.6nm,0.7s,baz=96,slow=8.6,SNR=8.8						
ZALV	**Zalesovo Beam**	**71.38**	**330**	P	**P**	**03 06 08.3**	**+2.6**
	0.8nm,0.6s,baz=112,slow=6.4,SNR=4.4						
KURBB	**Kurchatov Arra**	**73.21**	**325**	P	**P**	**03 06 17.9**	**+1.2**
	0.7nm,0.7s,baz=112,slow=6.0,SNR=6.1						
BVAR	**Borovoye Array**	**78.79**	**325**	P	**P**	**03 06 49.2**	**+0.6**
	1.3nm,0.7s,baz=125,slow=9.8,SNR=7.0						
ILAR	**Eielson Array**	**85.20**	**24**	P	**P**	**03 07 20.6**	**-1.3**
	0.2nm,0.6s,baz=261,slow=5.1,SNR=3.2						
YBH	**Yreka Blue Hor**	**97.71**	**48**	LR	LR	03 47 57.1	
	comp=Z,85nm,18.5s,baz=297,slow=33						

IDC 23 02:57:38.0±1.6, 12°78N×125°11E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/24, mbtmp3.8/7, MS3.1/1, Ms1 3.1/1, ms1mx2.0/39, 1C, Error ellipse: s-maj=186.2km s-min=18.0km az=68.0, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.61**	**185**	*e*P	Pg	02 58 11.3	+2.4
PLP				*i* S	Sg	02 58 34.0	+4.1
TGY	**Tagaytay City**	**4.27**	**288**	Pn	Pb	02 58 49.3	-4.8
	30nm,0.3s,baz=149,slow=11,SNR=3.4						
GUMO	**Guam**	**19.25**	**85**	LR	LR	03 08 23.2	
	comp=Z,58nm,21.4s,baz=117,slow=34						
WRA	**Warramunga Arr**	**33.76**	**164**	P	P	03 04 21.3	-0.4
	0.6nm,0.5s,baz=346,slow=9.1,SNR=3.0						
ASAR	**Alice Springs**	**37.23**	**167**	P	P	03 04 51.9	+0.3
	0.8nm,0.4s,baz=342,slow=6.6,SNR=6.9						
SONM	**Songino Array**	**38.28**	**340**	P	P	03 05 00.5	+0.2
	0.3nm,0.8s,baz=168,slow=7.4,SNR=3.9						
STKA	**Stephens Creek**	**47.13**	**161**	P	P	03 06 11.7	-0.5
	1.6nm,0.9s,baz=311,slow=9.3,SNR=3.3						
ZALV	**Zalesovo Beam**	**51.89**	**331**	P	P	03 06 47.9	-0.3
	0.8nm,0.7s,baz=118,slow=8.6,SNR=4.9						
KURBB	**Kurchatov Arra**	**53.38**	**325**	P	P	03 06 58.9	-0.4
	1.0nm,0.6s,baz=123,slow=7.1,SNR=8.1						
BVAR	**Borovoye Array**	**58.97**	**325**	P	P	03 07 39.5	+0.3
	0.7nm,0.5s,baz=134,slow=6.2,SNR=3.5						

*ISCJB **23** 03:01:42.1±0.6, 6°.93N±0°.07×104°.40W±0°.07, h10km, mb4.5/53, MS3.6/9, Error ellipse: s-maj=12.9km s-min=7.4km az=41.8*
*IDC **23** 03:01:42.9±0.9, 7°.18N×104°.41W, h0km, mb4.2/14, mb1 4.4/14, mb1mx4.3/20, mbtmp4.2/14, MS3.6/9, Ms1 3.6/9, ms1mx3.4/29, Error ellipse: s-maj=36.0km s-min=15.7km az=57.0*
*BJI **23** 03:01:44.0, 7°.10N×104°.30W, h10km, mB5.5/2, Ms5.3/2, Ms7 5.1/2*
*NEIC **23** 03:01:44.6±0.5, 7°.08N×104°.37W, h10km, mb4.6/40, Error ellipse: s-maj=13.8km s-min=6.2km az=52.0*

ISC 23 03:01:44.0±0.7, 7°.0N±0°.1×104°.5W±0°.1, h10km, n386, σ0s94/398, mb4.6/53, MS3.5/9, 144C-155D, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**13.70**	**42**	LR	LR	03 09 04.1	
	comp=Z,350nm,21.3s,baz=185,slow=33						
TEIG	**Tepich**	**20.45**	**48**	P	**P**	**03 06 22.6**	**+0.6**
TEIG	**Tepich**	**20.45**	**48**	P	**P**	**03 06 22.5**	**+0.6**
	16nm,1.0s,baz=280,slow=12,SNR=3.7						
TEIG				LR	LR	03 13 15.9	
	comp=Z,168nm,18.8s,baz=276,slow=34						
TXAR	**Lajitas Array**	**22.21**	**2**	P	**P**	**03 06 39.9**	**-1.0**
TXAR	**Lajitas Array**	**22.21**	**2**	P	**P**	**03 06 39.9**	**-1.0**
	2.3nm,0.8s,baz=180,slow=9.8,SNR=21						
TXAR				LR	LR	03 14 35.0	
	comp=Z,202nm,18.9s,baz=40,slow=35						
627A	**Terlingua Ranc**	**22.34**	**2**	⇓P	**P**	**03 06 42.8**	**+0.5**
	baz=22,SNR=8.2						
628A	**Black Gap, Mar**	**22.40**	**4**	⇓P	**P**	**03 06 44.3**	**+1.4**
	baz=22						
626A	**Big Bend Ranch**	**22.42**	**1**	⇓P	**P**	**03 06 43.8**	**+0.7**
	baz=22,SNR=15						
526A	**Mary Lane Ranc**	**22.93**	**1**	⇑P	**P**	**03 06 49.3**	**+0.8**
	baz=23						
527A	**Woodward Ranch**	**23.02**	**2**	⇑P	**P**	**03 06 50.6**	**+1.0**
	baz=23						
528A	**Cox Ranch, San**	**23.08**	**4**	⇓P	**P**	**03 06 51.2**	**+1.2**
	baz=23						
529A	**Stev Forest Ra**	**23.08**	**5**	⇑P	**P**	**03 06 51.1**	**+1.1**
	baz=23,SNR=5.9						
531A	**Rocksprings**	**23.32**	**9**	⇓P	**P**	**03 06 53.0**	**+0.6**
	baz=23,SNR=11						
426A	**McDonald Obser**	**23.53**	**1**	⇓P	**P**	**03 06 55.3**	**+0.5**
	baz=24						
429A	**Davenport Ranc**	**23.61**	**6**	⇓P	**P**	**03 06 56.8**	**+1.4**
	baz=24						
428A	**Kincaid Ranch,**	**23.64**	**4**	⇓P	**P**	**03 06 56.6**	**+0.9**
	baz=24						
425A	**Indio Mountain**	**23.65**	**359**	⇑P	**P**	**03 06 56.0**	**+0.1**
	baz=24,SNR=6.1						
427A	**Hayter Ranch,**	**23.73**	**2**	⇑P	**P**	**03 06 56.1**	**-0.5**
	baz=24,SNR=6.1						
JCT	**Junction City**	**23.74**	**10**	*e*P	**P**	**03 06 56.9**	**+0.3**
	25nm,1.1s						
JCT	**Junction City**	**23.74**	**10**	⇓P	**P**	**03 06 56.8**	**+0.1**
	baz=24,SNR=8.4						
431A	**Sonora**	**23.82**	**8**	⇑P	**P**	**03 06 58.0**	**+0.6**
	baz=24,SNR=21						
430A	**Baggett Ranch,**	**23.84**	**7**	⇑P	**P**	**03 06 58.5**	**+1.0**
	baz=24,SNR=14						
326A	**Caldwell Ranch**	**24.18**	**1**	⇑P	**P**	**03 07 01.4**	**+0.6**
	baz=24						
HKT	**Hockley**	**24.21**	**18**	*e*P	**P**	**03 07 01.2**	**+0.3**
	37nm,1.5s						
325A	**Bean Ranch, Si**	**24.23**	**359**	⇑P	**P**	**03 07 01.2**	**-0.2**
	baz=24,SNR=6.4						
328A	**Wristen Ranch,**	**24.29**	**3**	⇑P	**P**	**03 07 02.1**	**+0.3**
	baz=24,SNR=6.4						
324A	**Moseley Ranch,**	**24.32**	**358**	⇑P	**P**	**03 07 02.5**	**+0.3**
	baz=24,SNR=13						
329A	**Wagon Wheel Ra**	**24.45**	**5**	⇓P	**P**	**03 07 03.6**	**+0.3**
	baz=24						
320A	**Kipp Ranch, An**	**24.49**	**352**	⇓P	**P**	**03 07 04.1**	**+0.4**
	baz=25,SNR=6.0						
MNTX	**Cornudas Mount**	**24.57**	**358**	*e*P	**P**	**03 07 04.0**	**-0.3**
	20nm,1.2s						
MNTX	**Cornudas Mount**	**24.57**	**358**	⇓P	**P**	**03 07 04.2**	**-0.1**
	baz=25,SNR=30						
319A	**Douglas**	**24.65**	**350**	⇓P	**P**	**03 07 05.6**	**+0.5**
	baz=25,SNR=12						
229A	**Bryant Ranch,**	**24.95**	**5**	⇑P	**P**	**03 07 08.5**	**+0.8**
	baz=25						
224A	**Cornudas Mount**	**24.95**	**358**	⇑P	**P**	**03 07 07.7**	**-0.2**
	baz=25,SNR=7.2						
225A	**Deer Hill, Car**	**24.97**	**359**	⇓P	**P**	**03 07 08.2**	**+0.1**
	baz=25,SNR=6.3						
228A	**UT Block 9, Go**	**25.03**	**4**	⇓P	**P**	**03 07 09.2**	**+0.7**
	baz=25						
220A	**Playas Peak, P**	**25.05**	**352**	⇑P	**P**	**03 07 09.5**	**+0.7**
	baz=25,SNR=18						
GDL2	**Guadalupe Moun**	**25.06**	**0**	*e*P	**P**	**03 07 09.2**	**+0.4**
	21nm,1.1s						
221A	**Mesquite Ranch**	**25.06**	**353**	⇓P	**P**	**03 07 09.5**	**+0.7**
	baz=25						
222A	**Williams Famil**	**25.08**	**355**	⇓P	**P**	**03 07 10.0**	**+1.0**
	baz=25,SNR=5.8						
CLNB	**Carlsbad**	**25.12**	**1**	*e*P	**P**	**03 07 10.1**	**+0.7**
	0.7nm,0.5s						
126A	**Clayton Basin,**	**25.50**	**1**	⇓P	**P**	**03 07 12.8**	**0.0**
	baz=26						
125A	**Gardner Draw,**	**25.51**	**360**	⇓P	**P**	**03 07 13.0**	**0.0**
	baz=26						
128A	**Castleberry Fa**	**25.54**	**4**	⇑P	**P**	**03 07 14.1**	**+1.0**
	baz=26						
123A	**Bell Site, Whi**	**25.54**	**356**	⇑P	**P**	**03 07 13.6**	**+0.3**
	baz=26						
127A	**Arkansas Junct**	**25.55**	**2**	⇑P	**P**	**03 07 13.5**	**+0.2**
	baz=26						
121A	**Cookes Peak, D**	**25.58**	**353**	⇓P	**P**	**03 07 14.5**	**+0.9**
	baz=26,SNR=16						
129A	**Stewart Farms,**	**25.60**	**5**	⇓P	**P**	**03 07 14.8**	**+1.2**
	baz=26						
122A	**Conniff Cattle**	**25.66**	**355**	⇓P	**P**	**03 07 15.2**	**+0.9**
	baz=26						
WHTX	**Lake Whitney**	**25.69**	**14**	⇑P	**P**	**03 07 14.2**	**-0.2**
	baz=26						
120A	**U Bar Ranch, L**	**25.70**	**352**	⇑P	**P**	**03 07 15.3**	**+0.7**
	baz=26,SNR=8.3						
TUC	**Tucson**	**25.85**	**348**	*e*P	**P**	**03 07 15.8**	**-0.1**
	15nm,1.1s						
ABTX	**Abilene, Hawle**	**25.87**	**9**	⇓P	**P**	**03 07 15.6**	**-0.5**
	baz=26,SNR=6.8						
214A	**Organ Pipe Nat**	**26.01**	**344**	⇑P	**P**	**03 07 18.0**	**+0.6**
	baz=26						
Z26A	**Caprock**	**26.13**	**1**	⇑P	**P**	**03 07 18.4**	**-0.1**
	baz=26						
Z25A	**Roswell**	**26.13**	**359**	⇑P	**P**	**03 07 19.2**	**+0.6**
	baz=26						
Z23A	**Rita Site, Whi**	**26.17**	**357**	⇑P	**P**	**03 07 19.8**	**+1.0**
	baz=26						
Z27A	**Tatum**	**26.19**	**2**	⇓P	**P**	**03 07 19.8**	**+0.7**
	baz=26						
Z28A	**Tucker Farm, M**	**26.21**	**4**	⇑P	**P**	**03 07 20.2**	**+0.9**
	baz=26						
Z29A	**Hungry Hill Ra**	**26.24**	**5**	⇓P	**P**	**03 07 21.0**	**+1.5**
	baz=26						
Z20A	**Nine Sixteen R**	**26.25**	**352**	⇑P	**P**	**03 07 20.2**	**+0.6**
	baz=26,SNR=11						
Z21A	**St. Cloud Mine**	**26.33**	**354**	⇑P	**P**	**03 07 21.6**	**+1.2**
	baz=26						
Y27A	**Causey**	**26.76**	**2**	⇓P	**P**	**03 07 24.6**	**+0.3**
	baz=27						
Y25A	**Mesa, Roswell**	**26.77**	**360**	⇓P	**P**	**03 07 24.6**	**+0.3**
	baz=27						
Y24A	**Capitan**	**26.79**	**358**	⇑P	**P**	**03 07 25.4**	**+0.9**
	baz=27						
Y23A	**Lovelace Mesa,**	**26.82**	**357**	⇓P	**P**	**03 07 25.9**	**+1.0**
	baz=27						
Y29A	**Porterfield Fa**	**26.83**	**5**	⇓P	**P**	**03 07 26.2**	**+1.3**
	baz=27						
Y28A	**McKinney Farm,**	**26.84**	**4**	⇑P	**P**	**03 07 26.1**	**+1.2**
	baz=27						
MSTX	**Muleshoe**	**26.86**	**3**	⇑P	**P**	**03 07 25.5**	**+0.3**
	baz=27						
Y22A	**Socorro**	**26.89**	**355**	⇑P	**P**	**03 07 26.4**	**+0.9**
	baz=27						
Y20A	**Horse Springs,**	**27.00**	**353**	⇓P	**P**	**03 07 27.7**	**+1.2**
	baz=27						
Y21A	**Point of Rocks**	**27.02**	**354**	⇑P	**P**	**03 07 27.4**	**+0.7**
	baz=27,SNR=7.4						
113A	**Mohawk Valley,**	**27.05**	**343**	⇑P	**P**	**03 07 27.3**	**+0.6**
	baz=27						
LAZ	**Ladron**	**27.36**	**355**	*e*P	**P**	**03 07 29.8**	**0.0**
	5.3nm,1.3s						
Z14A	**Wintersburg**	**27.37**	**344**	⇑P	**P**	**03 07 30.7**	**+1.1**
	baz=28						
X29A	**Tulia**	**27.41**	**5**	⇑P	**P**	**03 07 30.5**	**+0.4**
	baz=28						
X28A	**Dimmitt**	**27.45**	**4**	⇓P	**P**	**03 07 31.5**	**+1.1**
	baz=28						
X21A	**Alamocita Cree**	**27.47**	**354**	⇓P	**P**	**03 07 32.0**	**+1.3**
	baz=28						
GLA	**Glamis**	**27.64**	**341**	⇓P	**P**	**03 07 33.2**	**+1.2**
	baz=28						
X20A	**Quemado**	**27.64**	**353**	⇑P	**P**	**03 07 33.0**	**+0.7**
	baz=28,SNR=5.7						
X18A	**Snowflake**	**27.84**	**350**	⇓P	**P**	**03 07 35.4**	**+1.4**
	baz=28						
ANMO	**Albuquerque**	**27.86**	**356**	P	**P**	**03 07 31.5**	**-2.6**
ANMO	**Albuquerque**	**27.86**	**356**	P	**P**	**03 07 31.5**	**-2.6**
	0.3nm,0.2s,baz=193,slow=14,SNR=2.4						
X16A	**Lo Mia Camp, P**	**28.02**	**348**	⇑P	**P**	**03 07 37.0**	**+1.4**
	baz=28,SNR=6.5						
MONP	**Monument Peak**	**28.04**	**338**	⇑P	**P**	**03 07 37.0**	**+1.2**
	baz=28						
W25A	**X Bar L Ranch,**	**28.07**	**360**	⇑P	**P**	**03 07 37.5**	**+1.5**
	baz=28						
W21A	**San Fidel**	**28.12**	**354**	⇑P	**P**	**03 07 37.9**	**+1.4**
	baz=28						
W20A	**Ramah**	**28.22**	**353**	⇑P	**P**	**03 07 38.9**	**+1.4**
	baz=28						
BC3	**Big Chuckawall**	**28.40**	**340**	⇑P	**P**	**03 07 39.6**	**+0.7**
	baz=28						
V24A	**Rampart Ranch,**	**28.58**	**359**	⇓P	**P**	**03 07 41.4**	**+0.7**
	baz=29						
PDMCI	**Parker Dam,Lak**	**28.59**	**343**	⇑P	**P**	**03 07 41.6**	**+1.2**
	baz=29						
V26A	**Tequesquite Ra**	**28.65**	**1**	⇑P	**P**	**03 07 41.4**	**+0.3**
	baz=29						
V25A	**Rancho No Teng**	**28.68**	**360**	⇓P	**P**	**03 07 41.8**	**+0.3**
	baz=29						
PFO	**Pinyon Flat Ob**	**28.70**	**339**	*e*P	**P**	**03 07 42.5**	**+0.8**
	8.5nm,1.1s						
PFO	**Pinyon Flat Ob**	**28.70**	**339**	⇑P	**P**	**03 07 42.4**	**+0.8**
	baz=29						
IRM	**Iron Mountain**	**28.76**	**341**	⇓P	**P**	**03 07 43.3**	**+1.3**
	baz=29						
V22A	**San Miguel Ran**	**28.85**	**356**	⇑P	**P**	**03 07 44.0**	**+1.0**
	baz=29						
V20A	**Brimhall**	**28.88**	**353**	⇑P	**P**	**03 07 44.4**	**+1.1**
	baz=29						
BELC	**Belle Mtn. Jos**	**28.90**	**340**	⇑P	**P**	**03 07 44.7**	**+1.3**
	baz=29						
**W

R26A **Arlington** 31.16 2 ⇓P P 03 08 03.9 +0.6
baz=31
R27A **Eads** 31.16 3 ⇑P P 03 08 03.8 +0.4
baz=31
PV01 **Paradox Valley** 31.20 354 *e*P P 03 08 04.1 +0.2
GTBY **Guantanamo Bay** 31.21 63 *e*P P 03 08 03.2 -0.6
15nm,0.9s
R20A **Redvale** 31.23 354 ⇓P P 03 08 04.6 +0.5
baz=31,SNR=5.1
S16A **Weppner Ranch,** 31.25 349 ⇓P P 03 08 04.9 +0.7
baz=31
MPMC **Manual Prospec** 31.27 339 ⇑P P 03 08 05.5 +1.0
baz=31
ISA **Isabella** 31.28 338 ⇑P P 03 08 05.4 +1.1
baz=31
R21A **Cimarron** 31.34 355 ⇓P P 03 08 05.5 +0.4
baz=31,SNR=5.5
R19A **Curley Farm, L** 31.44 353 ⇓P P 03 08 06.3 +0.5
baz=32,SNR=8.5
PV04 **Paradox Valley** 31.49 353 *e*P P 03 08 07.0 +0.7
R18A **Canyonlands Na** 31.61 352 ⇓P P 03 08 08.1 +0.7
baz=32,SNR=20
VES **Vestal, Richgr** 31.67 337 ⇑P P 03 08 08.8 +1.1
baz=32
Q25A **Bedland, Calha** 31.75 0 ⇓P P 03 08 09.2 +0.5
baz=32
R17A **Hanksville Air** 31.77 351 ⇓P P 03 08 09.1 +0.4
baz=32,SNR=8.6
R16A **Teasdale** 31.77 349 ⇓P P 03 08 09.9 +1.0
baz=32
Q26A **Hugo** 31.77 1 ⇓P P 03 08 09.2 +0.4
baz=32
Q22A **Crested Butte,** 31.78 356 ⇑P P 03 08 09.6 +0.6
baz=32,SNR=6.5
Q21A **Lamborn Mesa,** 31.80 355 ⇑P P 03 08 10.2 +1.1
baz=32
R15A **Junction** 31.85 348 ⇑P P 03 08 10.9 +1.3
baz=32
KSCO **Kaye Shedlock'** 31.89 3 ⇑P P 03 08 10.8 +1.0
baz=32
CBKS **Cedar Bluff** 31.94 7 ⇓P P 03 08 10.7 +0.6
baz=32
Q20A **Ridgley Place,** 31.98 354 ⇓P P 03 08 11.1 +0.4
baz=32,SNR=5.3
Q19A **Hogan Spring (** 32.09 353 ⇓P P 03 08 11.9 +0.4
baz=32,SNR=6.7
R13A **O'Grain Ranch,** 32.20 346 ⇓P P 03 08 14.3 +1.7
baz=32
P23A **Jefferson** 32.24 358 ⇑P P 03 08 14.3 +1.3
baz=32
Q16A **Castle Valley** 32.33 350 ⇑P P 03 08 14.9 +1.1
baz=32
Q18A **Rafter H Ranch** 32.35 352 ⇑P P 03 08 15.1 +1.3
baz=32
SRU **San Rafael** 32.42 351 *e*P P 03 08 14.9 +0.4
6.3nm,1.1s
SRU **San Rafael** 32.42 351 ⇓P P 03 08 15.0 +0.6
baz=32,SNR=5.8
P21A **Newcastle** 32.48 356 ⇑P P 03 08 16.0 +0.9
baz=33
P22A **Eagle** 32.50 357 ⇓P P 03 08 15.9 +0.7
baz=33
ISCO **Idaho Springs** 32.66 358 ⇓P P 03 08 17.4 +0.7
baz=33
TMUT **Trail Mountain** 32.71 350 *e*P P 03 08 18.2 +1.0
6.6nm,0.6s
R11A **Troy Canyon, C** 32.78 344 ⇓P P 03 08 19.3 +1.6
baz=33
P17A **Butcher Ranch,** 32.80 351 ⇓P P 03 08 18.3 +0.5
baz=33,SNR=6.0
P18A **Preston Nutter** 32.88 352 ⇑P P 03 08 19.7 +1.0
baz=33
O22A **Kremmling** 33.05 357 ⇑P P 03 08 20.6 +0.5
baz=33,SNR=6.2
O20A **White River Ci** 33.15 355 ⇓P P 03 08 21.7 +0.8
baz=33,SNR=7.0
P15A **Leamington** 33.17 349 ⇓P P 03 08 22.4 +1.4
baz=33
O18A **Roosevelt** 33.48 352 ⇓P P 03 08 24.9 +1.2
baz=34
MPU **Maple Canyon** 33.48 350 *e*P P 03 08 25.4 +1.6
20nm,1.1s
O17A **Robinson Place** 33.51 351 ⇑P P 03 08 25.3 +1.3
baz=34
SDV **Santo Domingo** 33.54 85 *e*P P 03 08 25.0 +0.4
5.2nm,0.8s
N22A **Wattenberg Ran** 33.69 357 ⇓P P 03 08 26.6 +1.0
baz=34
NVAR **Mina Array Bea** 33.69 340 P P 03 08 26.5 +0.8
NVAR PcP PcP 03 11 06.7 +1.2
NVAR **Mina Array Bea** 33.69 340 P P 03 08 26.5 +0.8
0.8nm,0.8s,baz=165,slow=7.2,SNR=5.9
NVAR PcP PcP 03 11 06.7 +1.2
0.4nm,0.7s,baz=114,slow=4.0,SNR=3.6
NVAR LR LR 03 20 41.4
comp=Z,54nm,20.7s,baz=355,slow=34
N21A **Black Mountain** 33.71 356 ⇑P P 03 08 26.8 +1.0
baz=34
N23A **Red Feather La** 33.76 358 ⇓P P 03 08 27.1 +0.8
baz=34
N20A **Spence Gulch,** 33.84 355 ⇓P P 03 08 27.9 +0.9
baz=34
DUG **Dugway** 33.87 348 *e*P P 03 08 28.3 +1.1
13nm,1.3s
DUG **Dugway** 33.87 348 ⇑P P 03 08 28.5 +1.4
baz=34,SNR=14
O15A **The Old Anders** 33.89 349 ⇓P P 03 08 28.9 +1.6
baz=34
N19A **John Jarvie Ra** 33.99 354 ⇓P P 03 08 29.0 +0.8
baz=34
JLU **Jordanelle** 34.02 350 *e*P P 03 08 29.7 +1.2
11nm,1.2s
N18A **Larsen Ranch,** 34.13 353 ⇓P P 03 08 30.0 +0.6
baz=34,SNR=5.7
PHWY **Pilot Hill** 34.15 359 *e*P P 03 08 30.2 +0.5
9.7nm,1.2s
N17A **Moffit Pass** 34.26 351 ⇓P P 03 08 31.5 +0.9
baz=34
N16A **Rees Ranch, Co** 34.30 351 ⇑P P 03 08 32.4 +1.5
baz=34
M24A **Cheyenne** 34.31 360 ⇑P P 03 08 31.8 +0.9
baz=34
M23A **Laramie** 34.32 358 ⇑P P 03 08 31.7 +0.6
baz=34,SNR=7.1
N15A **Stansbury Isla** 34.49 349 ⇑P P 03 08 33.2 +0.8
baz=35,SNR=7.0
M21A **Separation Pea** 34.54 356 ⇑P P 03 08 34.0 +1.0
baz=35
BGNE **Belgrade** 34.70 8 ⇑P P 03 08 35.1 +1.0
baz=35
M16A **Huntsville** 34.75 350 ⇓P P 03 08 35.9 +1.1
baz=35
M17A **Scullys Gap (B** 34.75 352 ⇑P P 03 08 35.5 +0.6
baz=35,SNR=6.0
OLIL **Olney** 34.86 23 *e*P P 03 08 35.6 +0.1
45nm,1.4s
ELK **Elko** 34.94 346 *e*P P 03 08 37.4 +0.9
4.6nm,1.1s
L23A **Garrett** 34.97 358 ⇑P P 03 08 37.4 +0.7
baz=35
HWUT **Hardware Ranch** 35.02 351 *e*P P 03 08 38.0 +0.9
9.3nm,1.3s
M15A **Larsen Ranch,** 35.03 350 ⇑P P 03 08 38.0 +0.9
baz=35,SNR=17
L18A **Fontenelle, Gr** 35.11 353 ⇓P P 03 08 38.5 +0.6
baz=35
KMSC **Kings Mountain** 35.14 34 ⇑P P 03 08 37.7 -0.3
baz=35
L19A **Farson** 35.21 354 ⇑P P 03 08 39.3 +0.6
baz=35
L16A **Fish Haven** 35.40 351 ⇓P P 03 08 41.0 +0.6
baz=36
L17A **Cokeville** 35.40 352 ⇑P P 03 08 41.4 +1.0
baz=36
L15A **Malad City** 35.55 350 ⇓P P 03 08 42.4 +0.8
baz=36,SNR=8.6
K21A **Alcova** 35.56 356 ⇓P P 03 08 42.1 +0.4
baz=36
K27A **Flueckinger Fa** 35.59 3 ⇑P P 03 08 43.1 +1.2
baz=36
K23A **Bowen Ranch, D** 35.61 359 ⇑P P 03 08 42.8 +0.7
baz=36
K20A **Yellowstone Ra** 35.66 355 ⇑P P 03 08 43.2 +0.6
baz=36
L14A **Malta** 35.73 349 ⇓P P 03 08 44.0 +0.8
baz=36,SNR=8.5
K18A **Toltan Ranch,** 35.82 353 ⇑P P 03 08 44.8 +0.8
baz=36

K19A **Absolon Red Bu** 35.87 354 ⇓P P 03 08 44.9 +0.5
baz=36,SNR=7.3
BW06 **Boulder Array** 35.89 354 *e*P P 03 08 44.5 -0.1
13nm,1.3s
BW06 **Boulder Array** 35.89 354 ⇓P P 03 08 45.0 +0.4
baz=36,SNR=11
PDAR **Pinedale Array** 35.89 354 P P 03 08 44.6 0.0
PDAR PcP PcP 03 11 11.0 -0.8
PDAR **Pinedale Array** 35.89 354 P P 03 08 44.6 0.0
6.1nm,1.1s,baz=166,slow=7.6,SNR=26
PDAR PcP PcP 03 11 11.0 -0.8
0.5nm,0.4s,baz=162,slow=3.6,SNR=12
HDIL **Hopedale** 36.04 20 *e*P P 03 08 45.2 -0.4
30nm,0.9s
K14A **Jones Ranch, D** 36.21 349 ⇓P P 03 08 47.8 +0.6
baz=36,SNR=7.3
K16A **Soda Springs** 36.22 351 ⇓P P 03 08 47.9 +0.5
baz=36
K15A **Arbon** 36.23 350 ⇑P P 03 08 48.0 +0.6
baz=36
J21A **Lysite** 36.28 356 ⇓P P 03 08 48.8 +0.9
baz=36
J22A **Midwest** 36.29 358 ⇓P P 03 08 48.8 +0.8
baz=36
J19A **Crowheart** 36.33 354 ⇑P P 03 08 49.3 +1.0
baz=36
J20A **Shoshoni** 36.33 356 ⇓P P 03 08 49.3 +1.0
baz=36
J18A **Kendall Valley** 36.38 353 ⇑P P 03 08 49.3 +0.4
baz=36
J17A **Brown Place, J** 36.62 352 ⇑P P 03 08 51.5 +0.7
baz=37
J16A **Bone** 36.66 351 ⇑P P 03 08 51.8 +0.6
baz=37
SFIN **Scholer Farm** 36.67 22 ⇑P P 03 08 51.4 +0.4
baz=37
I21A **Big Trails, Te** 36.73 357 ⇑P P 03 08 52.1 +0.4
baz=37
I22A **9 Mile Ranch,** 36.77 358 ⇑P P 03 08 52.8 +0.7
baz=37
I18A **Diamond G Ranc** 36.84 354 ⇓P P 03 08 53.3 +0.6
baz=37
J15A **Blackfoot** 36.91 350 ⇑P P 03 08 53.8 +0.6
baz=37
I20A **Worland** 36.93 356 ⇓P P 03 08 54.0 +0.7
baz=37,SNR=8.1
J14A **Carey** 37.03 349 ⇓P P 03 08 55.0 +0.7
baz=37
I19A **Meeteetse** 37.09 355 ⇓P P 03 08 55.5 +0.7
baz=37
I17A **Pilgrim Ck.** 37.15 353 ⇓P P 03 08 56.2 +0.8
baz=37
I16A **Newdale** 37.23 352 ⇑P P 03 08 56.9 +0.9
baz=37
J13A **Cove Ranch, Pi** 37.23 348 ⇑P P 03 08 56.9 +1.0
baz=37,SNR=7.8
FLWY **Flagg Ranch** 37.32 353 *e*P P 03 08 57.1 +0.3
22nm,1.5s
HLID **Hailey** 37.44 348 *e*P P 03 08 58.5 +0.7
8.9nm,1.3s
HLID *e*PcP PcP 03 11 17.6 +1.2
HLID **Hailey** 37.44 348 ⇓P P 03 08 58.6 +0.9
baz=38,SNR=10
H22A **Clearmont** 37.47 358 ⇑P P 03 08 58.4 +0.5
baz=38
H24A **Dirks Ranch, A** 37.58 360 ⇓P P 03 08 58.8 0.0
baz=38
I14A **Mackay** 37.60 349 ⇑P P 03 08 59.8 +0.6
baz=38,SNR=5.7
MFID **Camas Ranch** 37.61 346 *e*P P 03 08 59.9 +0.8
2.6nm,0.3s
MFID *e*PcP PcP 03 11 17.9 +1.1
MFID **Camas Ranch** 37.61 346 ⇑P P 03 09 00.1 +1.0
baz=38
H19A **Powell** 37.72 355 ⇓P P 03 08 59.9 -0.1
baz=38,SNR=5.9
I13A **Wildhorse Cree** 37.72 349 ⇑P P 03 09 00.9 +0.7
baz=38,SNR=11
LKWY **Lake** 37.76 353 *e*P P 03 09 07.0 +6.4
8.6nm,1.4s
H18A **Shoshone NF, C** 37.79 354 ⇑P P 03 09 01.2 +0.4
baz=38
I12A **Atlanta** 37.81 347 ⇓P P 03 09 01.4 +0.5
baz=38,SNR=6.6
H16A **Russell Place,** 38.01 352 ⇓P P 03 09 03.3 +0.8
baz=38,SNR=5.8
H15A **Lima** 38.13 351 ⇑P P 03 09 04.5 +0.8
baz=38
QLMT **Earthquake Lak** 38.16 352 *e*P P 03 09 05.0 +1.2
QLMT *e*PcP PcP 03 11 20.2 +1.6
RLMT **Red Lodge** 38.19 354 ⇓P P 03 09 04.3 +0.2
baz=38
G20A **Bridger** 38.20 356 ⇑P P 03 09 04.1 0.0
baz=38
H14A **Leadore** 38.25 350 ⇓P P 03 09 05.5 +0.9
baz=38,SNR=8.7
H13A **Challis** 38.37 349 ⇑P P 03 09 06.6 +1.1
baz=38,SNR=12
MCMT **McKenzie Canyo** 38.37 350 *e*P P 03 09 06.7 +1.0
3.6nm,1.1s
MCMT *e*PcP PcP 03 11 20.4 +1.1
G18A **Lazy EL Ranch,** 38.41 354 ⇓P P 03 09 06.5 +0.6
baz=38
H12A **Diamond D Ranc** 38.47 348 ⇓P P 03 09 07.2 +0.7
baz=39,SNR=10
G17A **Pierce Place,** 38.55 353 ⇓P P 03 09 08.5 +1.4
baz=39
F23A **Volborg** 38.57 359 ⇓P P 03 09 07.0 -0.1
baz=39
G16A **Moss Hill, Enn** 38.60 352 ⇑P P 03 09 08.6 +1.1
baz=39
G15A **Dillon** 38.64 351 ⇑P P 03 09 08.7 +0.9
baz=39,SNR=8.9
F24A **Ekalaka** 38.68 0 ⇓P P 03 09 08.1 0.0
baz=39
F20A **Billings** 38.77 356 ⇓P P 03 09 08.7 -0.1
baz=39,SNR=5.5
G13A **Cobalt** 38.87 349 ⇑P P 03 09 10.6 +0.8
baz=39,SNR=28
G14A **Jackson** 38.88 350 ⇑P P 03 09 10.5 +0.6
baz=39
F19A **Roth Farm, Mol** 38.88 355 ⇑P P 03 09 09.7 -0.2
baz=39,SNR=5.3
GCMT **Greycliff** 38.89 354 *e*P P 03 09 10.3 +0.4
7.6nm,1.3s
F18A **Big Timber** 39.01 354 ⇓P P 03 09 11.2 +0.3
baz=39,SNR=9.2
F17A **Fitzpatrick Pl** 39.11 353 ⇓P P 03 09 12.4 +0.6
baz=39,SNR=7.0
F16A **Kennard Place,** 39.12 352 ⇓P P 03 09 12.4 +0.6
baz=39
G12A **Big Creek, Yel** 39.12 348 ⇓P P 03 09 12.1 +0.2
baz=39
LRM **Limekiln Ridge** 39.27 351 *e*P P 03 09 13.9 +0.6
66nm,1.1s
LRM *e*PcP PcP 03 11 22.7 +0.6
F15A **Butte** 39.30 351 ⇓P P 03 09 14.4 +1.0
baz=39
SPMN **St. Paul** 39.38 13 ⇓P P 03 09 13.2 -0.6
baz=39
F14A **Wisdom** 39.41 350 ⇑P P 03 09 15.5 +1.2
baz=40
E21A **Keefer Ranch,** 39.44 357 ⇑P P 03 09 14.1 -0.3
baz=40
E20A **Meyer Farm, Mu** 39.47 356 ⇓P P 03 09 14.7 +0.1
baz=40,SNR=8.5
E19A **Rath Farm, Rou** 39.48 355 ⇑P P 03 09 14.9 +0.1
baz=40,SNR=10.0
F13A **Darby** 39.56 349 ⇓P P 03 09 15.9 +0.4
baz=40,SNR=6.4
E18A **Harlowton** 39.68 354 ⇓P P 03 09 16.8 +0.3
baz=40
E17A **Martinsdale** 39.68 353 ⇑P P 03 09 16.2 -0.4
baz=40
F12A **Elk City** 39.71 348 ⇑P P 03 09 16.8 0.0
baz=40,SNR=10
E15A **Deer Lodge** 39.89 351 ⇓P P 03 09 18.1 -0.2
baz=40,SNR=5.7
D24A **Glendive** 39.95 0 ⇑P P 03 09 19.2 +0.5
baz=40
D22A **Cohagen** 40.01 358 ⇓P P 03 09 19.1 0.0
baz=40
E14A **Clinton** 40.02 350 ⇑P P 03 09 19.3 -0.1
baz=40,SNR=10
D20A **Manuel Ranch,** 40.05 356 ⇓P P 03 09 19.3 -0.2
baz=40
E13A **Victor** 40.16 350 ⇓P P 03 09 20.0 -0.5
baz=40,SNR=8.6

D19A **Cripps Ranch,** 40.18 355 ⇓P P 03 09 20.4 -0.2
baz=40,SNR=10
D16A **Dana Ranch, Ca** 40.33 352 ⇓P P 03 09 22.4 +0.6
baz=40
D17A **Six Diamond Ra** 40.34 353 ⇑P P 03 09 21.7 -0.4
baz=40,SNR=14
C24A **Savage** 40.37 0 ⇓P P 03 09 22.0 -0.1
baz=40
E12A **Beaver Dam Sad** 40.41 348 ⇑P P 03 09 22.1 -0.4
baz=40
D15A **Lincoln** 40.48 351 ⇑P P 03 09 23.3 +0.2
baz=41
MSO **Missoula** 40.50 350 ⇓P P 03 09 23.2 0.0
baz=41
C22A **Vida** 40.60 359 ⇑P P 03 09 23.9 -0.1
baz=41
C23A **Lambert** 40.64 359 ⇓P P 03 09 24.0 -0.4
baz=41,SNR=9.3
C20A **Veseth Ranch,** 40.66 356 ⇓P P 03 09 24.8 +0.2
baz=41
D14A **Greenough** 40.67 350 ⇑P P 03 09 24.3 -0.4
baz=41,SNR=5.2
C21A **Desert Coulee** 40.73 357 ⇓P P 03 09 24.4 -0.7
baz=41
C19A **Slack Wire Ran** 40.76 355 ⇑P P 03 09 25.0 -0.4
baz=41
C17A **Wharram Farm,** 40.83 353 ⇓P P 03 09 25.4 -0.5
baz=41,SNR=13
D13A **Huson** 40.84 350 ⇓P P 03 09 25.7 -0.3
baz=41
EGMT **Eagleton** 41.11 355 *e*P P 03 09 28.1 -0.1
18nm,1.3s
EGMT **Eagleton** 41.11 355 ⇓P P 03 09 28.0 -0.3
baz=41,SNR=5.9
C16A **Fuhringer Ranc** 41.11 353 ⇓P P 03 09 27.7 -0.6
baz=41
SWMT **Swartz Lake** 41.16 350 *e*P P 03 09 28.6 -0.2
SWMT *e*PcP PcP 03 11 28.9 +0.9
HAWA **Hanford** 41.33 344 *e*P P 03 09 30.8 +0.9
14nm,1.0s
C14A **Swan Lake** 41.37 351 ⇓P P 03 09 30.9 +0.5
baz=42
B20A **Solberg Farm,** 41.39 356 ⇑P P 03 09 30.0 -0.5
baz=42,SNR=7.1
JTMT **Jette** 41.44 350 *e*PcP PcP 03 11 29.4 +0.5
4.3nm,1.1s
B19A **Brinkman Farms** 41.47 355 ⇓P P 03 09 31.0 -0.1
baz=42
B18A **Beardsley Farm** 41.48 355 ⇑P P 03 09 31.9 +0.6
baz=42
B17A **L&G Farms, Che** 41.48 354 ⇑P P 03 09 30.8 -0.5
baz=42,SNR=8.1
B15A **Bradely Ranch,** 41.72 352 ⇑P P 03 09 33.8 +0.5
baz=42
A24A **Westby** 41.76 0 ⇓P P 03 09 33.7 +0.2
baz=42
AGMN **Agassiz Nation** 41.78 9 *e*P P 03 09 32.8 -0.8
25nm,1.1s
AGMN *e*PcP PcP 03 11 28.8 -1.0
A20A **Cobblestone Ra** 41.82 357 ⇑P P 03 09 34.1 +0.1
baz=42
A22A **Carney Farms,** 41.85 359 ⇓P P 03 09 33.8 -0.4
baz=42,SNR=6.1
B14A **Marquette Ranc** 41.88 351 ⇓P P 03 09 34.8 +0.2
baz=42
A21A **Bergtoll Ranch** 41.88 358 ⇓P P 03 09 34.2 -0.3
baz=42
C11A **Tepee Creek (N** 41.91 348 ⇓P P 03 09 34.5 -0.3
baz=42,SNR=6.7
A19A **Klindworth Far** 41.92 356 ⇑P P 03 09 34.7 -0.2
baz=42
A18A **Metzger Ranch,** 42.01 355 ⇓P P 03 09 35.7 +0.1
baz=42
B13A **Whitefish** 42.08 350 ⇓P P 03 09 36.3 +0.1
baz=42,SNR=8.1
A17A **Triple J Farms** 42.12 354 ⇑P P 03 09 36.6 +0.1
baz=42
EYMN **Ely** 42.25 13 *e*P P 03 09 36.5 -1.1
13nm,1.1s
RKT **Rikitea** 42.28 224 *e*LR LR 03 21 22.0
173nm,25.2s
RKT *e*T T 03 54 43.8
2.3nm,0.3s
LON **Longmire** 42.30 342 *e*P P 03 09 38.6 +0.6
7.8nm,1.0s
B12A **Libby** 42.38 349 ⇑P P 03 09 38.6 +0.1
baz=42
A15A **Johnson Ranch,** 42.40 352 ⇓P P 03 09 38.5 -0.3
baz=42,SNR=12
NEW **Newport** 42.49 347 *e*P P 03 09 39.7 +0.2
6.6nm,0.9s
NEW **Newport** 42.49 347 ⇑P P 03 09 39.3 -0.2
baz=43,SNR=7.6
A14A **Double T Ranch** 42.49 351 ⇓P P 03 09 39.8 +0.2
baz=43,SNR=8.5
A13A **Flathead Natio** 42.61 350 ⇓P P 03 09 40.6 +0.1
baz=43,SNR=7.6
LPAZ **La Paz** 42.76 123 P P 03 09 44.3 +1.5
LPAZ **La Paz** 42.76 123 P P 03 09 44.3 +1.5
5.0nm,1.2s,baz=282,slow=5.9,SNR=5.5
LPAZ LR LR 03 25 04.5
comp=Z,67nm,20.9s,baz=309,slow=33
A12A **Yaak River Ran** 42.83 349 ⇓P P 03 09 42.5 +0.2
baz=43
ULM **Lac du Bonnet** 43.68 8 P P 03 09 47.8 -1.3
ULM PcP PcP 03 11 35.5 -0.6
ULM **Lac du Bonnet** 43.68 8 P P 03 09 47.8 -1.3
6.8nm,1.1s,baz=200,slow=8.5,SNR=7.1
ULM PcP PcP 03 11 35.5 -0.6
1.9nm,0.9s,baz=217,slow=5.1,SNR=3.3
ULM LR LR 03 30 21.1
comp=Z,50nm,18.0s,baz=262,slow=40
SAML **Samuel** 44.08 110 *e*P P 03 09 52.0 -0.8
28nm,1.6s
FFC **Flin Flon** 47.61 2 *e*P P 03 10 18.7 -1.4
8.0nm,1.3s
SIV **San Ignacio** 48.65 118 P P 03 10 28.8 +0.1
SIV **San Ignacio** 48.65 118 P P 03 10 28.8 +0.1
4.5nm,1.2s,baz=277,slow=9.0,SNR=6.2
PPT **Papeete** 50.83 241 LR LR 03 27 20.6
comp=Z,153nm,20.1s,baz=0.0,slow=30
PPT2 **Papeete2** 50.84 241 *e*LR LR 03 25 06.4
233nm,24.8s
YKA **Yellowknife Ar** 55.87 354 P P 03 11 20.2 -1.4
YKA PcP PcP 03 12 20.0 -0.3
YKA **Yellowknife Ar** 55.87 354 P P 03 11 20.2 -1.4
3.0nm,1.1s,baz=164,slow=7.3,SNR=25
YKA PcP PcP 03 12 20.0 -0.3
1.8nm,0.9s,baz=160,slow=3.6,SNR=17
SCHQ **Schefferville** 56.37 25 P P 03 11 24.2 -1.1
SCHQ **Schefferville** 56.37 25 P P 03 11 24.2 -1.1
9.6nm,1.0s,baz=218,slow=5.5,SNR=6.5
CPUP **Villa Florida** 56.45 128 P P 03 11 27.9 +1.5
CPUP **Villa Florida** 56.45 128 P P 03 11 27.9 +1.5
0.2nm,0.3s,baz=249,slow=14,SNR=3.5
BDFB **Brasilia** 60.25 112 P P 03 11 53.1 -0.2
BDFB **Brasilia** 60.25 112 P P 03 11 53.1 -0.2
3.4nm,1.0s,baz=288,slow=15,SNR=3.7
ILAR **Eielson Array** 64.94 341 P P 03 12 22.6 -1.1
ILAR **Eielson Array** 64.94 341 P P 03 12 22.6 -1.1
5.5nm,1.0s,baz=154,slow=5.0,SNR=43
SUMG **Summit** 76.27 16 *i* P P 03 13 32.1 -1.0
6.1nm,1.0s
PETK **Petropavlovsk-** 89.14 323 P P 03 14 39.4 -0.4
PETK **Petropavlovsk-** 89.14 323 P P 03 14 39.4 -0.4
9.9nm,1.1s,baz=98,slow=18,SNR=3.6
HHC **Hu-ho-hao-te** 122.00 328 *e*PKP PKPdf 03 20 40.1 +0.7
HHC PP PP 03 22 17.5 +4.8
HHC SKS SKSdf 03 27 51.5 -0.4
HHC SKKS SKKSac 03 29 08.8 -4.5
HHC SS SS 03 38 50.0 -0.6
HHC AMB AMB
comp=Z,100nm,8.3s
HHC LR LR
comp=N,120nm,15.5s
HHC LR LR
comp=E,200nm,19.0s
HHC LR LR
comp=Z,190nm,15.5s
MKAR **Makanchi Array** 126.09 354 PKP PKPdf 03 20 46.1 -0.8
MKAR **Makanchi Array** 126.09 354 PKP PKPdf 03 20 46.1 -0.8
comp=Z,0.9nm,0.9s,baz=23,slow=6.6,SNR=5.2
WMQ **Urumqi** 128.22 349 *e*PKP PKPdf 03 20 50.0 -1.2
LZH **Lanzhou** 129.55 330 *e*PKP PKPdf 03 20 50.0 -4.1
LZH sPKP 03 20 59.0
KSH **Kashi** 133.70 360 *e*PKP PKPdf 03 21 01.1 -0.7
KSH PP PP 03 23 34.9 +5.9

KSH			PKS	**PKSdf**	**03 24 36.3**	**-2.0**
KSH			SKS	**SKSdf**	**03 28 11.0**	**-2.5**
KSH			SKKS	**SKKSac**	**03 30 25.3**	**-1.3**
KSH			SS	**SS**	**03 41 19.6**	**+4.9**
KSH			AMB	AMB		
	comp=Z,140nm,5.2s					
KSH			LR	LR		
	comp=N,92nm,8.6s					
KSH			LR	LR		
	comp=E,75nm,4.5s					
KSH			LR	LR		
	comp=Z,220nm,6.6s					
CMAR	**Chiang Mai Arr**	**145.74 318**	PKPbc	**PKPdf**	**03 21 25.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**145.74 318**	PKPbc	**PKPdf**	**03 21 25.1**	**+1.1**
	comp=Z,11nm,1.1s,baz=21,slow=2.9,SNR=29					

IDC 23 03:11:00.8±2.1, 14°.90S×176°.48W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.8/18, mbtmp4.1/4, ML2.3/1, Error ellipse: s-maj=177.1km s-min=30.8km az=165.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.66**	**78**	Pn	Pn	03 12 12.5	0.0
	8.0nm,0.3s,baz=277,slow=8.1,SNR=9.0						
AFI				Sn	Sn	03 12 56.6	-11
	3.7nm,0.3s,baz=87,slow=19,SNR=2.5						
STKA	**Stephens Creek**	**41.74**	**239**	P	P	03 18 51.8	-0.1
	2.3nm,1.0s,baz=122,slow=13,SNR=2.8						
WRA	**Warramunga Arr**	**47.07**	**257**	P	P	03 19 34.4	-0.3
	0.4nm,0.5s,baz=89,slow=7.8,SNR=5.7						
ASAR	**Alice Springs**	**47.45**	**251**	P	P	03 19 37.6	0.0
	5.4nm,0.6s,baz=85,slow=8.4,SNR=58						

*ISK **23** 03:19:07.5, 38°.76N×43°.46E, h14km, MD2.9*
*DDA **23** 03:19:07.1, 38°.68N×43°.53E, h7km, MD3.2*
*CSEM **23** 03:19:07.6±0.2, 38°.73N×43°.48E, h20km, MD2.9, Error ellipse: s-maj=7.1km s-min=4.4km az=112.0*
*ISCJB **23** 03:19:08.2±0.5, 38°.72N±0°.03×43°.51E±0°.06, h20km±8km, Error ellipse: s-maj=7.9km s-min=4.5km az=27.7*

ISC 23 03:19:07.3±1.2, 38°.73N±0°.02×43°.51E±0°.03, h18km±5km, n27, σ0s68/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.17**	**214**	*e*PG	**Pg**	**03 19 12.0**	**+0.1**
VANB	**Van**	**0.17**	**214**	*e*Pg	**Pg**	**03 19 12.0**	**+0.1**
VANT	**Van**	**0.36**	**211**	*e*PG	**Pb**	**03 19 15.4**	**0.0**
VANT				*e*SG	**Sb**	**03 19 21.3**	**+0.4**
VANT	**Van**	**0.36**	**211**	*e*Pg	**Pb**	**03 19 15.4**	**0.0**
VANT				*e*Sg	**Sb**	**03 19 21.3**	**+0.4**
CLDR	**Caldiran**	**0.52**	**38**	*e*PG	**Pb**	**03 19 18.1**	**0.0**
CLDR				*e*SG	**Sb**	**03 19 26.1**	**+0.8**
CLDR	**Caldiran**	**0.52**	**38**	*e*Pg	**Pb**	**03 19 18.1**	**0.0**
CLDR				*e*Sg	**Sb**	**03 19 26.2**	**+0.8**
GEVA	**Gevas**	**0.55**	**220**	*i* P	**Pg**	**03 19 18.1**	**-0.3**
GEVA				*i* S	**Sb**	**03 19 27.1**	**+1.1**
GEVA	**Gevas**	**0.55**	**220**	*i* P	**Pg**	**03 19 18.1**	**-0.3**
GEVA				*i* S	**Sb**	**03 19 27.1**	**+1.1**
DYDN	**Diyadin**	**0.82**	**10**	*i* P	**Pn**	**03 19 23.8**	**-0.5**
DYDN				*i* S	**Sn**	**03 19 36.9**	**+0.8**
DYDN	**Diyadin**	**0.82**	**10**	*i* P	**Pn**	**03 19 23.8**	**-0.5**
DYDN				*i* S	**Sn**	**03 19 36.9**	**+0.8**
AGRB	**Hanur-Agry**	**0.93**	**335**	*e*PG	**Pg**	**03 19 25.1**	**-0.4**
AGRB	**Hanur-Agry**	**0.93**	**335**	*e*Pg	**Pg**	**03 19 25.1**	**-0.4**
TATV	**Tatvan**	**1.00**	**257**	*i* P	**Pb**	**03 19 25.9**	**-0.3**
TATV				*i* S	**Sn**	**03 19 40.0**	**-0.3**
TATV	**Tatvan**	**1.00**	**257**	*i* P	**Pb**	**03 19 25.9**	**-0.3**
TATV				*i* S	**Sn**	**03 19 40.0**	**-0.3**
HAKT	**HAKKARI**	**1.18**	**172**	*i* P	**Pn**	**03 19 28.0**	**-1.2**
HAKT				*i* S	**Sn**	**03 19 44.9**	**-0.1**
HAKT	**HAKKARI**	**1.18**	**172**	*i* P	**Pn**	**03 19 28.0**	**-1.2**
HAKT				*i* S	**Sn**	**03 19 44.9**	**-0.1**
CUKT	**Cukurca**	**1.48**	**177**	*e*PN	**Pb**	**03 19 34.8**	**+0.3**
CUKT	**Cukurca**	**1.48**	**177**	*e*Pn	**Pb**	**03 19 34.8**	**+0.3**
VRTB	**Varto-Mus**	**1.66**	**286**	*e*PN	**Pb**	**03 19 36.5**	**-0.9**
VRTB	**Varto-Mus**	**1.66**	**286**	*e*Pn	**Pb**	**03 19 36.5**	**-0.9**
BTMT	**Batman**	**1.67**	**252**	*e*PN	**Pg**	**03 19 38.9**	**-0.6**
GNI	**Garni**	**1.71**	**34**	*e*PN	**Pb**	**03 19 37.5**	**-0.8**
GNI	**Garni**	**1.71**	**34**	*e*Pn	**Pb**	**03 19 37.5**	**-0.8**
ERZM	**Erzurum**	**2.03**	**306**	*i* P	**Pg**	**03 19 46.3**	**-0.2**
ERZM				*i* S	**Sg**	**03 20 14.0**	**+1.1**
EZM	**Erzurum**	**2.04**	**306**	*e*PN	**Pn**	**03 19 41.0**	**+0.1**
BNGB	**Bing¶ll**	**2.22**	**278**	*e*PN	**Pn**	**03 19 44.4**	**+1.0**
BINT	**Bingol**	**2.36**	**274**	*e*Pn	**Pn**	**03 19 44.4**	**-0.9**

*ISCJB **23** 03:30:11.2±0.6, 37°.00N±0°.03×36°.11E±0°.04, h3km±9km, Error ellipse: s-maj=5.4km s-min=5.2km az=11.8*
*ISK **23** 03:30:11.0, 37°.02N×36°.09E, h6km, MD2.4*
*CSEM **23** 03:30:11.6±0.1, 37°.01N×36°.10E, h2km, MD2.4, Error ellipse: s-maj=3.1km s-min=3.0km az=146.0*
*DDA **23** 03:30:13.7, 36°.91N×36°.27E, h7km, MD2.9*

ISC 23 03:30:11.7±1.1, 37°.00N±0°.03×36°.10E±0°.03, h3km±12km, n17, σ0s52/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEYT	**Ceyhan**	**0.28**	**272**	*e*PG	**Pg**	**03 30 16.7**	**-0.4**
CEYT				*e*SG	**Sg**	**03 30 20.9**	**+0.2**
CEYT	**Ceyhan**	**0.28**	**272**	*e*Pg	**Pg**	**03 30 16.7**	**-0.4**
CEYT				*e*Sg	**Sg**	**03 30 21.0**	**+0.2**
KOZT	**Kozan**	**0.53**	**336**	*e*PG	**Pg**	**03 30 21.2**	**-0.6**
KOZT				*e*SG	**Sg**	**03 30 29.3**	**+0.6**
KOZT	**Kozan**	**0.53**	**336**	*e*Pg	**Pg**	**03 30 21.3**	**-0.6**
KOZT				*e*Sg	**Sg**	**03 30 29.3**	**+0.6**
ANDN	**Andirin**	**0.61**	**19**	*i* P	**Pn**	**03 30 28.5**	**+1.0**
ANDN				*i* S	**Sn**	**03 30 37.5**	**-0.4**
KMRS	**Kahramanmaras**	**0.81**	**52**	*e*PG	**Pg**	**03 30 27.1**	**-0.3**
KMRS				*e*SG	**Sg**	**03 30 38.2**	**+0.2**
KMRS	**Kahramanmaras**	**0.81**	**52**	*e*Pg	**Pg**	**03 30 27.1**	**-0.3**
KMRS				*e*Sg	**Sg**	**03 30 38.2**	**+0.2**
KUZU	**Kuzuini**	**0.82**	**106**	*i* P	**Pg**	**03 30 26.7**	**-0.7**
KUZU				*i* S	**Sg**	**03 30 38.3**	**+0.3**
KUZU	**Kuzuini**	**0.82**	**106**	*i* P	**Pg**	**03 30 26.7**	**-0.7**
KUZU				*i* S	**Sg**	**03 30 38.3**	**+0.3**
HTY	**Hatay**	**0.88**	**178**	*e*PG	**Pb**	**03 30 29.4**	**-0.2**
HTY	**Hatay**	**0.88**	**178**	*e*Pg	**Pb**	**03 30 29.4**	**-0.2**
GAZ	**Gaziantep**	**0.91**	**79**	*e*PG	**Pg**	**03 30 29.1**	**-0.1**
GAZ	**Gaziantep**	**0.91**	**79**	*e*Pg	**Pg**	**03 30 29.1**	**-0.1**
YAYL	**Yayladag**	**0.96**	**180**	*i* P	**Pg**	**03 30 29.8**	**-0.4**
YAYL				*i* S	**Sg**	**03 30 43.6**	**+0.9**
YAYL	**Yayladag**	**0.96**	**180**	*i* P	**Pg**	**03 30 29.8**	**-0.4**
YAYL				*i* S	**Sg**	**03 30 43.6**	**+0.9**
AKCD	**Akcadag**	**1.94**	**48**	*i* P	**Pn**	**03 30 46.0**	**+0.2**
AKCD				*i* S	**Sn**	**03 31 10.4**	**-0.4**
AKCD	**Akcadag**	**1.94**	**48**	*i* P	**Pn**	**03 30 46.0**	**+0.2**
AKCD				*i* S	**Sn**	**03 31 10.4**	**-0.4**

IDC 23 03:31:10.2±2.2, 1°.42N×127°.16E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.5/3, Error ellipse: s-maj=189.3km s-min=24.5km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.37**	**162**	P	P	03 36 09.9	-0.3
	1.0nm,0.5s,baz=341,slow=11,SNR=9.6						
ASAR	**Alice Springs**	**25.79**	**166**	P	P	03 36 43.3	+0.2
	0.6nm,0.7s,baz=344,slow=11,SNR=5.4						
MKAR	**Makanchi Array**	**59.69**	**326**	P	P	03 41 16.5	0.0
	0.3nm,0.4s,baz=123,slow=7.7,SNR=9.2						

IDC 23 03:35:24.1±2.4, 22°.82S×148°.36E, h0km, mb1 3.6/4, mb1mx3.4/14, mbtmp3.4/4, ML3.1/3, Error ellipse: s-maj=31.6km s-min=18.8km az=75.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**3.35**	**324**	Pn	Pn	03 36 16.1	-1.7
	1.5nm,0.3s,baz=137,slow=15,SNR=13						
CTA				Pg	Pb	03 36 25.0	+0.5
	5.1nm,0.3s,baz=142,slow=17,SNR=28						
CTA				Sn	Sn	03 37 00.4	+2.0
	2.3nm,0.3s,baz=96,slow=18,SNR=5.2						
CTA				Lg	Lg	03 37 11.1	
	4.2nm,0.3s,baz=235,slow=20,SNR=8.4						
STKA	**Stephens Creek**	**10.83**	**212**	Pn	Pn	03 37 59.4	-1.1
	0.1nm,0.3s,baz=29,slow=13,SNR=2.4						
STKA				Lg	Lg	03 41 07.7	
	0.1nm,0.3s,baz=127,slow=20,SNR=2.2						
ASAR	**Alice Springs**	**13.31**	**264**	Pn	Pn	03 38 35.9	+1.3
	0.0nm,0.3s,baz=94,slow=14,SNR=5.5						
ASAR				Lg	Lg	03 42 28.6	
	0.1nm,0.3s,baz=82,slow=27,SNR=4.9						
WRA	**Warramunga Arr**	**13.37**	**280**	Pn	Pn	03 38 33.5	-1.8
	0.1nm,0.3s,baz=101,slow=14,SNR=4.7						
WRA				Lg	Lg	03 42 30.3	
	0.1nm,0.3s,baz=111,slow=30,SNR=5.5						
TORD	**Torodi Ar. Bea**	**146.93**	**259**	PKPbc	PKPbc	03 55 09.4	-0.1
	1.5nm,0.9s,baz=95,slow=2.8,SNR=8.6						

IDC 23 03:38:08.2±1.2, 3°.69N×127°.03E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.7/23, mbtmp3.7/7, MS3.4/1, Ms1 3.4/1, ms1mx2.3/33, Error ellipse: s-maj=92.0km s-min=16.7km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.69**	**184**	P	P	03 43 00.3	-0.5
	1.5nm,0.7s,baz=0.4,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**24.56**	**163**	P	P	03 43 29.7	-0.2
	4.6nm,0.8s,baz=343,slow=10.0,SNR=9.2						
ASAR	**Alice Springs**	**28.00**	**166**	P	P	03 44 00.5	-0.5
	0.3nm,0.6s,baz=357,slow=7.7,SNR=2.7						
CTA	**Charters Tower**	**30.25**	**142**	LR	LR	03 55 52.8	
	comp=Z,68nm,18.9s,baz=50,slow=35						
STKA	**Stephens Creek**	**37.98**	**160**	P	P	03 45 29.1	+1.2
	1.9nm,0.6s,baz=340,slow=8.5,SNR=5.2						
SONM	**Songino Array**	**47.43**	**341**	P	P	03 46 44.9	+0.2
	0.3nm,0.7s,baz=152,slow=6.5,SNR=2.5						
MKAR	**Makanchi Array**	**57.76**	**325**	P	P	03 48 00.2	-0.9
	0.4nm,0.5s,baz=119,slow=8.7,SNR=5.5						
KURBB	**Kurchatov Arra**	**61.94**	**327**	P	P	03 48 29.8	+0.1
	0.7nm,0.4s,baz=133,slow=6.6,SNR=5.5						

IDC 23 03:40:55.4±1.9, 3°.59N×126°.73E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.5/22, mbtmp3.7/4, MS3.4/1, Ms1 3.4/1, ms1mx2.3/35, Error ellipse: s-maj=207.4km s-min=24.4km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.56**	**163**	P	P	03 46 16.5	-0.7
	1.7nm,0.7s,baz=343,slow=10,SNR=5.8						
JNU	**Nakatsue**	**29.63**	**7**	LR	LR	03 59 18.2	
	comp=Z,67nm,19.4s,baz=111,slow=37						
STKA	**Stephens Creek**	**38.01**	**159**	P	P	03 48 16.0	+0.6
	0.6nm,0.3s,baz=324,slow=8.7,SNR=3.6						
MKAR	**Makanchi Array**	**57.66**	**325**	P	P	03 50 48.1	+0.3
	0.2nm,0.5s,baz=117,slow=8.5,SNR=3.3						
KURBB	**Kurchatov Arra**	**61.85**	**327**	P	P	03 51 15.9	-0.5
	0.3nm,0.5s,baz=128,slow=6.0,SNR=3.3						

IDC 23 03:46:51.9±0.7, 25°.59N×142°.76E, h0km, mb3.9/14, mb1 4.1/14, mb1mx3.9/27, mbtmp3.9/14, Error ellipse: s-maj=25.9km s-min=17.6km az=97.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.58**	**341**	Pn	Pg	03 47 24.2	+1.9
	52nm,0.3s,baz=294,slow=19,SNR=85						
CBIJ				Sn	Sg	03 47 47.4	+4.6
	167nm,0.3s,baz=292,slow=23,SNR=18						
WRA	**Warramunga Arr**	**45.99**	**191**	P	P	03 55 17.1	-0.1
	1.6nm,0.6s,baz=8.6,slow=8.5,SNR=16						
FITZ	**Fitzroy Crossi**	**46.52**	**203**	P	P	03 55 21.3	+0.1
	1.7nm,0.6s,baz=29,slow=13,SNR=4.8						
ASAR	**Alice Springs**	**49.71**	**191**	P	P	03 55 45.5	-0.4
	0.4nm,0.6s,baz=16,slow=13,SNR=4.2						
MKAR	**Makanchi Array**	**51.83**	**311**	P	P	03 56 01.1	-0.7
	0.6nm,0.8s,baz=87,slow=9.4,SNR=6.5						
KURBB	**Kurchatov Arra**	**54.46**	**315**	P	P	03 56 19.6	-1.4
	0.8nm,0.5s,baz=92,slow=8.0,SNR=4.3						
ILAR	**Eielson Array**	**58.79**	**28**	P	P	03 56 51.9	+0.3
	0.6nm,0.7s,baz=264,slow=8.1,SNR=6.6						
BVAR	**Borovoye Array**	**59.50**	**318**	P	P	03 56 57.3	+0.5
	1.7nm,0.5s,baz=94,slow=6.4,SNR=9.2						
YKA	**Yellowknife Ar**	**73.22**	**28**	P	P	03 58 24.7	+0.3
	0.4nm,0.6s,baz=289,slow=5.9,SNR=9.0						
JOF	**Joensuu**	**76.65**	**334**	*ep*	P	03 58 44.8	+0.5
KBZ	**Khabaz**	**79.41**	**313**	P	P	03 58 59.2	-0.7
	2.1nm,1.0s,baz=76,slow=7.0,SNR=3.2						
FINES	**FINESS Array B**	**79.52**	**334**	P	P	03 59 00.7	+0.4
	1.3nm,0.5s,baz=62,slow=5.0,SNR=12						
NVAR	**Mina Array Bea**	**81.04**	**52**	P	P	03 59 08.7	-0.5
	0.4nm,0.7s,baz=300,slow=6.4,SNR=3.0						
AKASG	**Malin Array Be**	**84.13**	**324**	P	P	03 59 26.7	+1.9
	3.4nm,1.1s,baz=49,slow=5.5,SNR=2.8						
PDAR	**Pinedale Array**	**84.92**	**45**	P	P	03 59 28.8	-0.5
	0.5nm,0.9s,baz=316,slow=7.5,SNR=3.1						
NOA	**NORSAR Array B**	**85.19**	**339**	P	P	03 59 29.9	-0.1
	0.8nm,0.7s,baz=33,slow=5.3,SNR=3.0						

*IDC **23** 03:48:34.8±5.4, 39°.08N×110°.25E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/26, mbtmp3.4/4, ML2.9/1, MS4.2/2, Ms1 4.2/2, ms1mx2.8/31, Error ellipse: s-maj=113.5km s-min=24.9km az=86.0*

ISC 23 03:48:36.1±3.0, 39°.1N±0°.1×110°.3E±0°.4, h10km, n10, σ0s70/6, mb3.4/3, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTO	**Baotou**	**1.51**	**353**	*e*P	**Pn**	**03 49 03.4**	**0.0**
BJI	**Beijing**	**4.65**	**77**	P	Pb	03 50 01.8	+4.0
BJI				pmax	pmax		
	comp=Z,19nm,0.6s						
LZH	**Lanzhou**	**5.93**	**241**	*e*P	Pg	03 50 28.0	-1.7
LZH				pP	pP	03 50 31.0	
LZH				sP	sP	03 50 34.0	
LZH				pmax	pmax		
	comp=Z,20nm,1.5s						
GTA	**Gaotai**	**8.13**	**275**	*e*P	Pg	03 51 04.9	-6.8
GTA				pP	pP	03 51 08.9	
GTA				sP	sP	03 51 12.1	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SONM	**Songino Array**	**9.17**	**343**	Pn	**Pn**	**03 50 49.4**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=163,slow=13,SNR=9.1						
SONM				Sn	**Sn**	**03 52 31.1**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=159,slow=22,SNR=3.8						
SONM				Lg	Lg	03 53 25.7	
	comp=Z,0.1nm,0.3s,baz=159,slow=29,SNR=4.4						
MKAR	**Makanchi Array**	**21.80**	**300**	P	**P**	**03 53 28.4**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=103,slow=12,SNR=6.7						
CMAR	**Chiang Mai Arr**	**22.81**	**209**	P	**P**	**03 53 38.8**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=15,slow=9.4,SNR=6.3						
KURBB	**Kurchatov Arra**	**25.08**	**308**	P	**P**	**03 54 00.7**	**+0.1**
	comp=Z,0.2nm,0.2s,baz=109,slow=8.9,SNR=3.5						
FITZ	**Fitzroy Crossi**	**58.69**	**163**	LR	LR	04 22 33.2	
	comp=Z,172nm,19.0s,baz=227,slow=35						
WRA	**Warramunga Arr**	**62.91**	**154**	LR	LR	04 26 24.3	
	comp=Z,207nm,18.4s,baz=150,slow=36						

*ISCJB **23** 03:49:11.8±0.7, 41°.7S±0°.1×88°.4W±0°.1, h10km, mb4.3/15, MS4.5/15, Error ellipse: s-maj=17.4km s-min=15.5km az=179.7*
*IDC **23** 03:49:11.8±1.2, 41°.66S×88°.39W, h0km, mb4.3/9, mb1 4.5/9, mb1mx4.3/17, mbtmp4.3/9, MS4.4/17, Ms1 4.4/17, ms1mx4.2/27, Error ellipse: s-maj=37.6km s-min=25.7km az=8.0*
*NEIC **23** 03:49:13.1±0.5, 41°.65S×88°.47W, h10km, mb4.6/8, Error ellipse: s-maj=14.3km s-min=11.6km az=4.0*

ISC 23 03:49:13.2±0.8, 41°.7S±0°.1×88°.4W±0°.1, h10km, n53, σ0s83/38, mb4.3/15, MS4.4/15, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USHA	**Ushuaia**	**18.63**	**142**	LR	LR	03 59 32.0	
	comp=Z,2um,19.9s,baz=286,slow=33						
CFAA	**Coronel Fontan**	**19.02**	**65**	LR	LR	03 59 23.8	
	comp=Z,169nm,21.0s,baz=229,slow=32						
LCO	**Las Campanas**	**19.15**	**54**	*e*P	**Pn**	**03 53 37.9**	**+0.1**
TRQA	**Tornquist**	**20.58**	**89**	*e*Pn	Pn	03 53 54.7	+0.3
	35nm,1.3s						
LVC	**Limon Verde**	**25.07**	**47**	*e*P	**P**	**03 54 38.1**	**-0.1**
	0.3nm,0.6s						
CPUP	**Villa Florida**	**29.77**	**69**	P	**P**	**03 55 19.5**	**-0.5**
	1.1nm,0.7s,baz=241,slow=13,SNR=4.1						
CPUP				LR	LR	04 06 28.0	
	comp=Z,846nm,18.2s,baz=224,slow=35						
LPAZ	**La Paz**	**30.74**	**41**	P	**P**	**03 55 29.1**	**-0.2**
LPAZ	**La Paz**	**30.74**	**41**	P	**P**	**03 55 29.1**	**-0.2**
	2.8nm,0.8s,baz=209,slow=10,SNR=7.2						
LPAZ				LR	LR	04 05 10.2	
	comp=Z,849nm,18.4s,baz=250,slow=31						
NNA	**Nana**	**31.26**	**22**	LR	LR	04 04 37.4	
	comp=Z,516nm,20.3s,baz=195,slow=30						
ATAH	**Atahualpa**	**35.53**	**17**	P	**P**	**03 56 11.7**	**+0.9**
ATAH	**Atahualpa**	**35.53**	**17**	P	**P**	**03 56 11.7**	**+0.9**
	6.6nm,0.8s,baz=180,slow=6.1,SNR=5.4						
ATAH				LR	LR	04 07 29.4	
	comp=Z,1um,18.0s,baz=205,slow=31						
SAML	**Samuel**	**39.47**	**41**	*e*P	P	03 56 39.2	-4.7
	20nm,1.7s						
RKT	**Rikitea**	**42.87**	**281**	*e*LQ	LQ	04 06 55.6	
	1um,34.0s						
RKT				*e*LR	LR	04 08 55.6	
	679nm,27.5s,baz=126						
BDFB	**Brasilia**	**43.35**	**65**	P	**P**	**03 57 15.8**	**0.0**
BDFB	**Brasilia**	**43.35**	**65**	P	**P**	**03 57 15.8**	**0.0**
	6.0nm,1.0s,baz=214,slow=7.3,SNR=5.9						
BDFB					LR	04 14 34.6	
	comp=Z,630nm,20.3s,baz=38,slow=35						
ROSC	**El Rosal**	**48.06**	**19**	LR	LR	04 15 27.3	
	comp=Z,327nm,19.2s,baz=10,slow=33						
QSPA	**South Pole Qui**	**48.56**	**180**	*e*P	**P**	**03 57 56.6**	**+0.2**
	7.3nm,1.1s						
JTS	**JuntasAbangare**	**51.80**	**4**	LR	LR	04 14 51.8	
	comp=Z,387nm,20.3s,baz=188,slow=30						
PPT	**Papeete**	**57.08**	**275**	LR	LR	04 16 00.9	
	comp=Z,274nm,20.4s,baz=177,slow=28						
RCBR	**Riachuelo**	**58.64**	**68**	LR	LR	04 24 13.1	
	comp=Z,401nm,18.1s,baz=214,slow=36						
TEIG	**Tepich**	**61.59**	**0**	LR	LR	04 20 09.0	
	comp=Z,165nm,21.9s,baz=203,slow=30						
SJG	**San Juan**	**62.95**	**24**	LR	LR	04 25 43.1	
	comp=Z,300nm,19.1s,baz=270,slow=35						
MAW	**Mawson**	**68.90**	**169**	LR	LR	04 31 03.4	
	comp=Z,283nm,18.6s,baz=273,slow=36						
TXAR	**Lajitas Array**	**72.05**	**346**	P	**P**	**04 00 36.6**	**-0.7**
TXAR	**Lajitas Array**	**72.05**	**346**	P	**P**	**04 00 36.6**	**-0.7**
	1.5nm,0.7s,baz=168,slow=6.9,SNR=12						
AFI	**Afiamalu**	**75.98**	**264**	LR	LR	04 24 35.6	
	comp=Z,208nm,20.0s,baz=29,slow=28						
ANMO	**Albuquerque**	**78.03**	**345**	*e*P	**P**	**04 01 11.1**	**-0.8**
	2.8nm,0.8s						
ANMO	**Albuquerque**	**78.03**	**345**	P	**P**	**04 01 11.5**	**-0.4**
	2.2nm,0.8s,baz=179,slow=5.3,SNR=12						
PFO	**Pinyon Flat Ob**	**79.23**	**336**	*e*PcP	**PcP**	**04 01 24.6**	**-2.1**
	3.0nm,0.9s						
NVAR	**Mina Array Bea**	**84.25**	**337**	P	**P**	**04 01 45.0**	**0.0**
NVAR	**Mina Array Bea**	**84.25**	**337**	P	**P**	**04 01 45.0**	**0.0**
	1.7nm,0.8s,baz=173,slow=5.8,SNR=10						
DUG	**Dugway**	**84.45**	**341**	*e*P	**P**	**04 01 44.5**	**-1.4**
	6.3nm,1.1s						
ECSD	**EROS Data Cent**	**85.34**	**354**	*e*P	**P**	**04 01 51.1**	**+1.1**
	12nm,1.1s						
PDAR	**Pinedale Array**	**86.19**	**345**	P	**P**	**04 01 55.8**	**+1.2**
PDAR	**Pinedale Array**	**86.19**	**345**	P	**P**	**04 01 55.8**	**+1.2**
	1.0nm,0.7s,baz=140,slow=5.6,SNR=9.1						
BOSA	**Boshof**	**87.07**	**126**	P	**P**	**04 01 59.0**	**-0.4**
BOSA	**Boshof**	**87.07**	**126**	P	**P**	**04 01 59.0**	**-0.4**
	2.7nm,1.0s,baz=233,slow=10,SNR=2.9						
BOSA				LR	LR	04 33 18.3	
	comp=Z,202nm,20.3s,baz=184,slow=30						
FLWY	**Flagg Ranch**	**87.69**	**344**	*e*P	**P**	**04 02 01.2**	**-0.6**
	7.8nm,1.1s						
STKA	**Stephens Creek**	**93.53**	**221**	LR	LR	04 38 13.4	
	comp=Z,268nm,18.1s,baz=290,slow=31						
KBZ	**Khabaz**	**144.57**	**70**	PKP	**PKPdf**	**04 08 50.7**	**+1.3**
KBZ	**Khabaz**	**144.57**	**70**	PKP	**PKPdf**	**04 08 50.7**	**+1.3**
	2.3nm,0.9s,baz=249,slow=6.5,SNR=3.7						
USRK	**Ussuriysk Arra**	**150.51**	**289**	PKPbc	**PKPbc**	**04 09 05.1**	**+0.5**
	2.3nm,0.8s,baz=180,slow=3.5,SNR=4.8						
BVAR	**Borovoye Array**	**161.77**	**44**	PKPab	**PKPab**	**04 10 00.1**	**+0.8**
BVAR	**Borovoye Array**	**161.77**	**44**	PKPab	**PKPab**	**04 10 00.1**	**+0.8**
	0.7nm,0.8s,baz=2.9,slow=5.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**166.91**	**18**	PKPab	**PKPab**	**04 10 21.2**	**-0.5**
ZALV	**Zalesovo Beam**	**166.91**	**18**	PKPab	**PKPab**	**04 10 21.2**	**-0.5**
	0.4nm,0.4s,baz=336,slow=6.5,SNR=3.7						
KURK	**Kurchatov**	**167.27**	**40**	PKPab	**PKPab**	**04 10 23.9**	**+0.4**
KURBB	**Kurchatov Arra**	**167.29**

*MOS **23** 04:06:09.4±1.1,3.˙93N×126.˙69E,h33km,mb5.2/29, Error ellipse: s-maj=15.0km s-min=6.6km az=116.0*
*NEIC **23** 04:06:11.3±0.3,3.˙99N×126.˙70E,h35km,mb4.9/31, Error ellipse: s-maj=8.4km s-min=5.2km az=68.0*
NEIC Felt [III] at Melonguanne and [II] at Lirung.
*DJA **23** 04:06:18,3.˙68N×126.˙80E,h66km,mb4.8/36*
ISC 23 04:06:11.3±0.3,**3.˙99N**±0.˙03×**126.˙76E**±0.˙05,**h33**km±1km, **h33**km:**pP-P,n254,**σ1s**78**/313,**mb4.9**/92,**MS4.2**/32, **12C-12D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
GSPH	**General Santos**	**2.75**	**319**	⇑*e*P		**Pn**	**04 06 53.6**	**+0.3**
MNI	**Manado**	**3.17**	**217**	P		**Pn**	**04 06 58.9**	**-0.1**
TNTI	**Ternate**	**3.26**	**169**	P		**Pn**	**04 06 59.5**	**-0.6**
DAV	**Davao City (W)**	**3.27**	**339**	*e*Pn		**Pn**	**04 06 57.9**	**-2.5**
DAV				Sn		Sb	04 07 59.5	+11
DAV	**Davao City (W)**	**3.27**	**339**	P		**Pb**	**04 07 08.9**	**+0.1**
DAV	**Davao City (W)**	**3.27**	**339**	Pn		**Pb**	**04 07 06.5**	**-2.2**
	64nm,0.3s,baz=225,slow=1.4,SNR=4.1							
DAV				Sn		Sb	04 07 59.5	+11
	81nm,0.3s,baz=72,slow=20,SNR=3.8							
DAV				LR		LR	04 08 15.9	
	comp=Z,1μm,21.4s,baz=78,slow=39							
DMPH	**Davao City--Mi**	**3.31**	**338**	⇑*e*P		Pn	04 07 04.5	+3.7
KCP	**Kidapawan**	**3.43**	**331**	⇓*e*P		**Pn**	**04 07 00.3**	**-2.2**
CTBH	**Cotabato--PC H**	**4.07**	**322**	⇑*e*P		Pn	04 07 03.5	-7.7
KMSI	**Cibinong**	**4.38**	**219**	P		**Pn**	**04 07 17.9**	**+2.3**
LBMI	**Labuha**	**4.66**	**171**	P		**Pb**	**04 07 32.8**	**+0.5**
MRSI	**Marisa**	**5.95**	**234**	P		**Pn**	**04 07 36.1**	**-1.0**
	329nm,0.9s,4μm1.6nm							
LUWI	**Luwuk**	**6.39**	**219**	P		Pn	04 07 46.4	+3.2
	606nm,1.1s,6μm2.1nm							
SWI	**Sorong**	**6.59**	**137**	P		**Pn**	**04 07 46.0**	**0.0**
	93nm,1.4s,1μm0.3nm							
LLP	**Lapu-Lapu**	**6.87**	**336**	*e*P		**Pn**	**04 07 51.6**	**+1.9**
NLAI	**Namlea**	**7.19**	**177**	P		**Pn**	**04 07 52.0**	**-2.2**
	67nm,0.8s,955nm0.3nm							
MSAI	**Masohi**	**7.61**	**163**	P		**Pn**	**04 08 01.5**	**+1.6**
	17nm,1.5s,892nm0.1nm							
FAKI	**Fak Fak**	**8.79**	**141**	P		**Pn**	**04 08 14.3**	**-1.9**
	50nm,0.9s							
KDI	**Kendari**	**8.91**	**208**	P		**Pn**	**04 08 17.7**	**-0.2**
	69nm,1.4s,704nm							
TTSI	**Tana Toraja**	**9.85**	**225**	P		**Pn**	**04 08 32.0**	**+1.3**
	113nm,1.4s,1μm							
SPSI	**Sidrap Palu**	**10.55**	**222**	P		**Pn**	**04 08 42.7**	**+2.4**
	40nm,1.0s,579nm							
KKM	**Kota Kinabalu**	**10.70**	**281**	*e*Pn		**Pn**	**04 08 42.2**	**-0.2**
KKM	**Kota Kinabalu**	**10.70**	**281**	P		**Pn**	**04 08 41.1**	**-1.3**
KAPI	**Kappang**	**11.36**	**218**	*e*Pn		**Pn**	**04 08 51.5**	**+0.1**
	39nm,1.1s							
KAPI	**Kappang**	**11.36**	**218**	P		**Pn**	**04 08 50.7**	**-0.7**
	30nm,1.7s,547nm							
KAPI	**Kappang**	**11.36**	**218**	Pn		**Pn**	**04 08 52.4**	**+1.1**
	0.7nm,0.3s,baz=358,slow=16,SNR=7.5							
KAPI				LR		LR	04 13 43.7	
	comp=Z,2μm,18.4s,baz=217,slow=41							
BKSI	**Bulukumba**	**11.38**	**216**	P		**Pn**	**04 08 52.9**	**+1.2**
	23nm,1.1s							
KBKI	**Kotabaru**	**12.82**	**236**	P		Pn	04 09 15.7	+4.3
	41nm,1.6s,4μm							
MMRI	**Maumere**	**13.33**	**200**	P		P	04 09 34.1	+6.6
BBKI	**Banjar Baru**	**14.02**	**238**	P		**P**	**04 09 32.7**	**-2.6**
	193nm,1.4s,4μm							
SBUM	**Sibu**	**14.60**	**264**	P		**P**	**04 09 39.1**	**-2.5**
	60nm,1.6s,863nm							
JAY	**Jayapura**	**15.36**	**115**	P		**P**	**04 09 50.3**	**+0.1**
	48nm,1.0s							
STKI	**Sintang**	**15.76**	**256**	P		**P**	**04 09 57.5**	**+2.9**
	54nm,1.0s							
PBKI	**Pangkalan Bun**	**16.48**	**246**	P		**P**	**04 10 04.1**	**+1.5**
	167nm,1.1s							
KHKI	**Kahang-Kahang**	**16.56**	**222**	P		**P**	**04 10 03.1**	**-0.4**
	41nm,1.3s							
KSM	**Kuching**	**16.62**	**262**	*e*Pn		**P**	**04 10 04.0**	**-0.1**
	116nm,1.2s							
KSM	**Kuching**	**16.62**	**262**	P		**P**	**04 10 04.5**	**+0.4**
	86nm,1.2s,779nm							
KMMI	**Kalianget**	**16.83**	**229**	P		**P**	**04 10 07.6**	**+1.1**
	32nm,0.9s							
NBBI	**Negara**	**17.24**	**225**	P		**P**	**04 10 11.0**	**0.0**
	83nm,1.6s,1μm							
MTN	**Manton Dam**	**17.28**	**165**	*e*P		**Pn**	**04 10 06.2**	**-4.0**
JAGI	**Jajag, Banyuwa**	**17.64**	**225**	P		**P**	**04 10 16.2**	**+0.7**
	46nm,1.2s,807nm							
GMJI	**Gumukmas**	**18.02**	**227**	P		**P**	**04 10 21.5**	**+1.9**
	42nm,1.0s							
SJI	**Sawahan**	**18.96**	**232**	P		**P**	**04 10 29.4**	**-0.6**
	50nm,1.0s							
YULB	**Yu-li**	**20.00**	**345**	*e*P		**P**	**04 10 40.3**	**-0.9**
	70nm,1.8s							
TPUB	**Ta-pu**	**20.09**	**343**	*e*P		**P**	**04 10 41.4**	**-0.8**
	28nm,0.8s							
GUMO	**Guam**	**20.26**	**61**	LR		LR	04 17 12.3	
	comp=Z,827nm,18.2s,baz=240,slow=32							
SSLB	**Suanglung**	**20.46**	**345**	*e*P		**P**	**04 10 45.8**	**-0.5**
	31nm,0.7s							
TGJI	**Tegal**	**20.65**	**239**	P		Pn	04 10 49.7	-1.1
	37nm,1.2s							
YHNB	**Yeheng**	**21.20**	**346**	*e*P		**P**	**04 10 53.5**	**-0.8**
	32nm,0.7s							
TATO	**Taipei**	**21.47**	**347**	*e*P		**P**	**04 10 53.6**	**-3.5**
LEM	**Lembang**	**21.92**	**241**	P		**P**	**04 11 03.3**	**+1.0**
	51nm,1.5s							
FITZ	**Fitzroy Crossi**	**21.98**	**183**	*e*P		**P**	**04 11 00.9**	**-1.7**
	42nm,1.3s							
FITZ	**Fitzroy Crossi**	**21.98**	**183**	*e*P		**P**	**04 11 00.1**	**-2.5**
	35nm,1.2s							
FITZ				*e*S		**S**	**04 14 59.1**	**-4.5**
FITZ	**Fitzroy Crossi**	**21.98**	**183**	P		**P**	**04 10 59.7**	**-3.0**
	16nm,1.0s,baz=11,slow=10,SNR=12							
QZH	**Quanzhou**	**22.26**	**340**	⇑*i*P		P	04 11 10.8	+5.2
QZH				S		**S**	**04 15 12.0**	**+3.2**
QZH				LR		LR		
	comp=Z,2μm,18.3s							
QIZ	**Qiongzhong**	**22.28**	**313**	P		**P**	**04 11 05.9**	**0.0**
QIZ				sP		**sP**	**04 11 19.1**	**+0.2**
QIZ				S		**S**	**04 15 10.8**	**+1.5**
QIZ				pmax		pmax		
	comp=Z,13nm,1.0s							
QIZ				pmax		pmax		
	comp=Z,42nm,2.7s							
QIZ				LR		LR		
	comp=N,670nm,15.8s							
QIZ				LR		LR		
	comp=E,230nm,15.6s							
QIZ				LR		LR		
	comp=Z,1μm,16.7s							
CGJI	**Cibinong**	**23.52**	**243**	P		**P**	**04 11 19.0**	**+0.3**
	comp=Z,60nm,1.2s							
COEN	**Coen**	**24.15**	**138**	*e*P		**P**	**04 11 23.2**	**-1.4**
	comp=Z,112nm,1.1s							
WRAB	**Tennant Creek**	**24.92**	**163**	*e*P		**P**	**04 11 30.1**	**-1.5**
WRAB				pmax		pmax		
	comp=Z,117nm,1.0s							
WRAB	**Tennant Creek**	**24.92**	**163**	*e*P		**P**	**04 11 30.1**	**-1.5**
	comp=Z,117nm,1.0s							
WRA	**Warramunga Arr**	**24.93**	**163**	P		**P**	**04 11 29.7**	**-1.9**
WRA				S		**S**	**04 15 57.1**	**+4.0**
WRA	**Warramunga Arr**	**24.93**	**163**	P		**P**	**04 11 29.7**	**-1.9**
	comp=Z,72nm,0.9s,baz=343,slow=11,SNR=60							
WRA				S		**S**	**04 15 57.1**	**+4.0**
	comp=Z,3.2nm,1.1s,baz=346,slow=17,SNR=4.9							
IPM	**Ipoh**	**25.67**	**272**	*e*P		**P**	**04 11 40.2**	**+1.8**
	comp=Z,28nm,1.0s							
IPM	**Ipoh**	**25.67**	**272**	P		**P**	**04 11 40.4**	**+1.9**
	comp=Z,33nm,1.4s							
MBWA	**Marble Bar**	**25.93**	**195**	*e*P		**P**	**04 11 40.5**	**-0.2**
	comp=Z,60nm,1.1s							
CBIJ	**Chichi jima**	**27.30**	**31**	LR		LR	04 20 19.5	
	comp=Z,555nm,21.7s,baz=243,slow=31							
MNSI	**Mandailing Nat**	**27.34**	**264**	P		P	04 11 58.8	+5.3
	comp=Z,35nm,0.8s,comp=Z,12μm							
PSI	**Prapat**	**27.81**	**268**	P		**P**	**04 11 56.1**	**-1.8**
PSI	**Prapat**	**27.81**	**268**	P		**P**	**04 11 58.6**	**+0.7**
	comp=Z,16nm,1.1s							
PSI	**Prapat**	**27.81**	**268**	P		**P**	**04 11 56.1**	**-1.8**
	comp=Z,12nm,1.0s,baz=29,slow=3.3,SNR=5.5							
ASAR	**Alice Springs**	**28.36**	**166**	P		**P**	**04 12 01.1**	**-1.5**
ASAR	**Alice Springs**	**28.36**	**166**	P		**P**	**04 12 01.1**	**-1.5**
	comp=Z,1.4nm,0.6s,baz=348,slow=6.9,SNR=13							
NJ2	**Nanjing**	**28.88**	**346**	*e*P		**P**	**04 12 06.9**	**-0.2**
NJ2				pmax		pmax		
	comp=Z,20nm,0.8s							
WHN	**Wuhan**	**28.89**	**337**	⇑P		**P**	**04 12 06.3**	**-0.9**
JNU	**Nakatsue**	**29.23**	**7**	LR		LR	04 22 56.4	
	comp=Z,281nm,18.2s,baz=8.7,slow=34							
GSI	**Gunungsitoli**	**29.27**	**266**	P		**P**	**04 12 08.8**	**-2.0**
	comp=Z,37nm,1.2s							
GYA	**Guiyang**	**29.48**	**321**	P		**P**	**04 12 13.8**	**+1.1**
GYA				pP		**pP**	**04 12 23.8**	**+1.6**
GYA				PP		**PnPn**	**04 13 11.0**	**+3.4**
GYA				PcP		**PcP**	**04 15 17.9**	**+0.1**
GYA				S		**S**	**04 17 06.0**	**+0.8**
GYA				sS		**sS**	**04 17 22.3**	**+1.3**
GYA				SS		**SnSn**	**04 18 40.5**	**+6.3**
GYA				ScP		**ScP**	**04 18 55.6**	**-1.8**
GYA				ScS		**ScS**	**04 22 49.0**	**-3.3**
GYA				pmax		pmax		
	comp=Z,20nm,1.0s							
GYA				pmax		pmax		
	comp=Z,130nm,4.7s							
GYA				LR		LR		
	comp=N,560nm,15.9s							
GYA				LR		LR		
	comp=E,480nm,16.4s							
GYA				LR		LR		
	comp=Z,550nm,17.0s							
CTA	**Charters Tower**	**30.65**	**142**	P		**P**	**04 12 24.6**	**+1.7**
CTA	**Charters Tower**	**30.65**	**142**	P		**P**	**04 12 24.6**	**+1.7**
	comp=Z,11nm,1.0s,baz=324,slow=13,SNR=4.9							
CMAR	**Chiang Mai Arr**	**30.77**	**300**	P		**P**	**04 12 23.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**30.77**	**300**	P		**P**	**04 12 23.4**	**-0.6**
	comp=Z,5.7nm,0.7s,baz=113,slow=6.8,SNR=17							
ENH	**Enshi**	**30.82**	**330**	*e*P		**P**	**04 12 23.0**	**-1.3**
	comp=Z,60nm,1.5s							
CHTO	**Chiang Mai**	**30.91**	**301**	*e*P		**P**	**04 12 25.4**	**+0.1**
CHTO				pmax		pmax		
	comp=Z,8.0nm,0.8s							
CHTO	**Chiang Mai**	**30.91**	**301**	*e*P		**P**	**04 12 25.4**	**+0.1**
	comp=Z,8.1nm,0.8s							
CHTO	**Chiang Mai**	**30.91**	**301**	P		**P**	**04 12 24.6**	**-0.7**
	comp=Z,14nm,0.9s							
KSAR	**Wonju Array Be**	**33.31**	**2**	P		**P**	**04 12 46.1**	**+0.1**
KSRS	**Korea Array**	**33.32**	**2**	P		**P**	**04 12 46.1**	**0.0**
	comp=Z,4.2nm,0.7s,baz=183,slow=10.0,SNR=9.0							
KSRS				LR		LR	04 25 51.4	
	comp=Z,246nm,19.2s,baz=179,slow=36							
MJAR	**Matsushiro Arr**	**34.06**	**17**	LR		LR	04 24 38.0	
	comp=Z,480nm,20.5s,baz=195,slow=32							
XAN	**Xi'an**	**34.20**	**333**	P		**P**	**04 12 51.5**	**-2.4**
XAN				pP		**pP**	**04 12 59.3**	**-4.2**
XAN				PP		**PnPn**	**04 14 08.3**	**-0.2**
XAN				pmax		pmax		
	comp=Z,7.0nm,1.1s							
XAN				pmax		pmax		
	comp=Z,31nm,6.6s							
XAN				LR		LR		
	comp=N,340nm,21.2s							
XAN				LR		LR		
	comp=E,42nm,16.0s							
XAN				LR		LR		
	comp=Z,170nm,21.2s							
CD2	**Chengdu**	**34.45**	**324**	P		**P**	**04 12 56.4**	**+0.3**
CD2				pP		**pP**	**04 13 06.1**	**+0.3**
CD2				sP		**sP**	**04 13 10.0**	**+0.2**
CD2				PP		**PP**	**04 14 13.3**	**-1.3**
CD2				PcP		**PcP**	**04 15 30.9**	**-0.3**
CD2				S		**S**	**04 18 22.3**	**-0.2**
CD2				sS		**sS**	**04 18 38.3**	**0.0**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
CD2				pmax		pmax		
	comp=Z,120nm,4.5s							
CD2				LR		LR		
	comp=N,800nm,17.6s							
CD2				LR		LR		
	comp=E,740nm,17.6s							
CD2				LR		LR		
	comp=Z,900nm,19.1s							
DL2	**Dalian**	**35.06**	**353**	P		**P**	**04 13 03.9**	**+2.7**
DL2				*e*S		**S**	**04 18 37.3**	**+5.8**
DL2				pmax		pmax		
	comp=Z,40nm,0.8s							
DL2				LR		LR		
	comp=N,240nm,18.6s							
DL2				LR		LR		
	comp=E,170nm,18.8s							
DL2				LR		LR		
	comp=Z,210nm,24.4s							
KLBR	**Kellerberrin**	**36.41**	**193**	*e*P		**P**	**04 13 12.9**	**0.0**
	comp=Z,37nm,1.0s							
BJT	**Baijiatuan**	**37.12**	**346**	*e*P		**P**	**04 13 18.7**	**-0.2**
	comp=Z,31nm,0.8s							
BJI	**Beijing**	**37.14**	**346**	P		**P**	**04 13 16.1**	**-2.9**
BJI				PP		**PP**	**04 14 43.3**	**-0.8**
BJI				S		**S**	**04 19 03.5**	**+0.2**
BJI				SS		**SS**	**04 21 47.6**	**+0.8**
BJI				pmax		pmax		
	comp=Z,9.0nm,0.6s							
BJI				LR		LR		
	comp=N,220nm,17.3s							
BJI				LR		LR		
	comp=E,350nm,17.3s							
BJI				LR		LR		
	comp=Z,160nm,21.9s							
EIDS	**Eidsvold**	**37.54**	**142**	*e*P		**P**	**04 13 21.9**	**-0.7**
	comp=Z,20nm,1.1s							
BBOO	**Buckleboo**	**37.65**	**167**	*e*P		**P**	**04 13 22.9**	**-0.5**
SNY	**Shenyang**	**37.78**	**356**	⇓P		**P**	**04 13 27.1**	**+2.8**
SNY				S		S	04 19 22.0	+9.1
SNY				pmax		pmax		
	comp=Z,29nm,0.5s							
SNY				pmax		pmax		
	comp=Z,410nm,3.5s							
SNY				LR		LR		
	comp=N,460nm,20.0s							
SNY				LR		LR		
	comp=E,390nm,13.9s							
SNY				LR		LR		
	comp=Z,600nm,16.0s							
NWAO	**Narrogin (SRO)**	**37.81**	**193**	*e*P		**P**	**04 13 25.3**	**+0.5**
LZH	**Lanzhou**	**38.29**	**329**	*e*P		**P**	**04 13 27.5**	**-1.5**
LZH				pP		**pP**	**04 13 36.8**	**-1.9**
LZH				sP		**sP**	**04 13 40.0**	**-2.7**
LZH				*e*S		**S**	**04 19 19.0**	**-2.3**
LZH				pmax		pmax		
	comp=Z,17nm,1.0s							
LZH				pmax		pmax		
	comp=Z,190nm,4.0s							
LZH				LR		LR		
	comp=N,1μm,19.0s							
LZH				LR		LR		
	comp=E,590nm,15.8s							
LZH				LR		LR		
	comp=Z,870nm,16.2s							
STKA	**Stephens Creek**	**38.36**	**159**	P		**P**	**04 13 28.4**	**-1.0**
STKA	**Stephens Creek**	**38.36**	**159**	*e*P		**P**	**04 13 28.5**	**-1.0**
	comp=Z,21nm,0.9s							
STKA	**Stephens Creek**	**38.36**	**159**	P		**P**	**04 13 28.4**	**-1.0**
	comp=Z,22nm,0.8s,baz=334,slow=9.4,SNR=16							
HHC	**Hu-ho-hao-te**	**39.16**	**342**	*e*P		**P**	**04 13 35.6**	**-0.6**
HHC				sP		**sP**	**04 13 50.3**	**+0.5**
HHC				PP		**PnPn**	**04 15 11.3**	**+2.2**
HHC				PcP		**PcP**	**04 15 44.5**	**-0.8**
HHC				ScP		**ScP**	**04 19 30.5**	**-1.0**
HHC				S		**S**	**04 19 35.3**	**+1.2**
HHC				sS		**sS**	**04 19 51.9**	**+1.8**
HHC				SS		**SS**	**04 22 22.9**	**-4.9**
HHC				ScS		**ScS**	**04 23 40.3**	**-2.7**
HHC				pmax		pmax		
	comp=Z,22nm,1.3s							
HHC				pmax		pmax		
	comp=Z,180nm,11.9s							
HHC				LR		LR		
	comp=N,320nm,20.2s							
HHC				LR		LR		
	comp=E,260nm,19.0s							
HHC				LR		LR		
	comp=Z,450nm,17.8s							
CN2	**Changchun**	**39.66**	**359**	*e*P		**P**	**04 13 40.8**	**+0.7**
CN2				*es*P		**sP**	**04 13 57.5**	**+3.7**
CN2				*e*S		**S**	**04 19 45.4**	**+4.1**
CN2				pmax		pmax		
	comp=Z,10.0nm,1.2s							
CN2				pmax		pmax		
	comp=Z,200nm,4.0s							
CN2				LR		LR		
	comp=N,400nm,16.0s							
CN2				LR		LR		
	comp=E,200nm,16.0s							
CN2				LR		LR		
	comp=Z,200nm,17.0s							
SHL	**Shillong**	**39.74**	**306**	*e*PKP		**P**	**04 13 41.0**	**-0.4**
USRK	**Ussuriysk Arra**	**40.31**	**6**	P		**P**	**04 13 46.6**	**+1.2**
	comp=Z,4.9nm,0.7s,baz=185,slow=5.8,SNR=7.6							
USRK				PcP		**PcP**	**04 15 48.9**	**+0.2**
	comp=Z,2.0nm,0.6s,baz=204,slow=5.8,SNR=4.7							
USRK				LR		LR	04 29 50.9	
	comp=Z,206nm,22.0s,baz=169,slow=35							
MDJ	**Mudanjiang**	**40.53**	**3**	P		**P**	**04 13 45.8**	**-1.6**
MDJ				pP		**pP**	**04 13 54.5**	**-2.6**
MDJ				sP		**sP**	**04 13 58.5**	**-2.6**
MDJ				ScP		**ScP**	**04 19 34.9**	**-1.7**
MDJ				PcS		**PcS**	**04 19 38.6**	**-1.3**
MDJ				S		**S**	**04 19 53.1**	**-1.3**
MDJ				pmax		pmax		
	comp=Z,4.0nm,2.3s							
MDJ				pmax		pmax		
	comp=Z,62nm,3.8s							
MDJ				LR		LR		
	comp=N,120nm,37.0s							
MDJ				LR		LR		
	comp=E,100nm,25.9s							
MDJ				LR		LR		
	comp=Z,280nm,31.6s							
MDJ	**Mudanjiang**	**40.53**	**3**	*e*P		**P**	**04 13 48.6**	**+1.2**
	comp=Z,12nm,0.9s							
ARMA	**Armidale**	**41.67**	**147**	*e*P		**P**	**04 13 57.2**	**+0.1**
	comp=Z,50nm,1.3s							
ARMA	**Armidale**	**41.67**	**147**	*e*P		**P**	**04 13 58.3**	**+1.2**
LSA	**Lhasa**	**42.29**	**311**	*e*P		**P**	**04 14 03.3**	**+0.7**
LSA				pmax		pmax		
	comp=Z,6.0nm,0.6s							
LSA	**Lhasa**	**42.29**	**311**	*e*P		**P**	**04 14 03.3**	**+0.7**
	comp=Z,5.9nm,0.6s							
ASAJ	**Asahikawa**	**42.33**	**17**	P		**P**	**04 14 03.4**	**+1.3**
ASAJ	**Asahikawa**	**42.33**	**17**	P		**P**	**04 14 03.4**	**+1.3**
	comp=Z,3.1nm,0.3s,baz=162,slow=6.4,SNR=4.0							
GTA	**Gaotai**	**42.89**	**329**	*e*P		**P**	**04 14 06.9**	**0.0**
GTA				pP		**pP**	**04 14 16.3**	**-0.4**
GTA				sP		**sP**	**04 14 20.0**	**-0.7**
GTA				S		**S**	**04 20 30.4**	**+0.7**
GTA				sS		**sS**	**04 20 45.4**	**-0.4**
GTA				SS		**SS**	**04 23 35.4**	**-6.5**
GTA				pmax		pmax		
	comp=Z,5.0nm,0.8s							
GTA				pmax		pmax		
	comp=Z,84nm,4.8s							
GTA				LR		LR		
	comp=N,370nm,19.5s							
GTA				LR		LR		
	comp=E,390nm,17.3s							
GTA				LR		LR		
	comp=Z,730nm,16.6s							
TAPN	**Taplejung**	**43.88**	**306**	*e*P		**P**	**04 14 14.7**	**-0.7**
	comp=Z,24nm,0.8s							
TAPN	**Taplejung**	**43.88**	**306**	*e*P		**P**	**04 14 14.7**	**-0.7**
	comp=Z,24nm,0.8s							
ODAN	**Odare**	**43.94**	**305**	*e*P		**P**	**04 14 15.1**	**-0.6**
	comp=Z,39nm,0.7s							
ODAN	**Odare**	**43.94**	**305**	*e*P		**P**	**04 14 15.1**	**-0.6**
	comp=Z,39nm,0.7s							
RAMN	**Ramite**	**44.62**	**305**	*e*P		**P**	**04 14 20.2**	**-1.0**
	comp=Z,25nm,0.8s							
RAMN	**Ramite**	**44.62**	**305**	*e*P		**P**	**04 14 20.2**	**-1.0**
	comp=Z,25nm,0.8s							
TOO	**Toolangi**	**44.87**	**159**	*e*P		**P**	**04 14 25.2**	**+2.5**
	comp=Z,84nm,1.1s							
HABR	**Khabarovsk**	**44.88**	**8**	*e*P		**P**	**04 14 20.1**	**-2.5**
HABR				*e**PP		**pP**	**04 14 29.9**	**-2.5**
HABR				*e**SP		**sP**	**04 14 34.2**	**-2.1**
HABR				*e*			04 16 05.3	
HABR				*e*PPP		PPP	04 16 44.1	
HABR				*e*S		**S**	**04 20 56.2**	**-1.9**
HABR				*e**SS		**sS**	**04 21 13.8**	**-0.5**
HABR				*e*SS		**SS**	**04 24 19.8**	**-0.5**
HABR				*e*SSS		SSS	04 25 04.9	
HABR				pmax		pmax		
	comp=E,29nm,1.3s							
HABR				pmax		pmax		
	comp=N,60nm,3.0s							
HABR				pmax		pmax		
	comp=Z,78nm,2.3s							
HABR				MLR		MLR		
	comp=Z,300nm,19.0s							
YSS	**Yuzh-Sakhalins**	**44.98**	**15**	⇑*e*P		pP	04 14 35.2	+2.0
JIRN	**Jiri**	**45.24**	**306**	*e*P		**P**	**04 14 24.9**	**-1.4**
	comp=Z,7.0nm,0.7s							
JIRN	**Jiri**	**45.24**	**306**	*e*P		**P**	**04 14 24.9**	**-1.4**
	comp=Z,7.0nm,0.7s							
KLR	**Kul'dur**	**45.27**	**5**	*e*P		P	04 14 21.2	-4.5
HIA	**Hailar**	**45.51**	**354**	*e*P		**P**	**04 14 29.9**	**+2.3**
	comp=Z,34nm,1.0s							
GUN	**Gumba**	**45.59**	**306**	*e*P		**P**	**04 14 27.0**	**-2.0**
	comp=Z,40nm,0.7s							
GUN	**Gumba**	**45.59**	**306**	*e*P		**P**	**04 14 27.0**	**-2.0**
	comp=Z,40nm,0.7s							
PKI	**Pulchoki**	**45.84**	**305**	*e*P		**P**	**04 14 29.9**	**-1.1**
PKI	**Pulchoki**	**45.84**	**305**	*e*P		**P**	**04 14 29.9**	**-1.1**
PKI	**Pulchoki**	**45.84**	**305**	*e*P		**P**	**04 14 29.9**	**-1.1**
KKN	**Kakani**	**46.03**	**305**	*e*P		**P**	**04 14 30.5**	**-1.9**
KKN	**Kakani**	**46.03**	**305**	*e*P		**P**	**04 14 30.5**	**-1.9**
KKN	**Kakani**	**46.03**	**305**	*e*P		**P**	**04 14 30.5**	**-1.9**
DMN	**Daman**	**46.10**	**305**	*e*P		**P**	**04 14 32.1**	**-0.9**
	comp=Z,23nm,0.8s							
DMN	**Daman**	**46.10**	**305**	*e*P		**P**	**04 14 32.1**	**-0.9**
	comp=Z,23nm,0.8s							
GKN	**Gorkha**	**46.64**	**305**	*e*P		**P**	**04 14 35.3**	**-1.7**
GKN	**Gorkha**	**46.64**	**305**	*e*P		**P**	**04 14 35.3**	**-1.7**
DZM	**Mont Dzumac**	**46.66**	**125**	*e*P		**P**	**04 14 37.8**	**+0.6**
	comp=Z,23nm,1.2s							
DZM	**Mont Dzumac**	**46.66**	**125**	P		**P**	**04 14 37.8**	**+0.6**
	comp=Z,13nm,1.0s,baz=15,slow=6.9,SNR=7.3							
ULN	**Ulaanbaatar**	**46.88**	**342**	*e*P		**P**	**04 14 38.0**	**-0.6**
	comp=Z,22nm,1.3s							
ULN	**Ulaanbaatar**	**46.88**	**342**	P		**P**	**04 14 38.8**	**+0.2**
SONM	**

CLNS ePPP PPP 04 18 30.9
CLNS eS **S** **04 22 53.0 +4.7**
CLNS pmax pmax
comp=Z,14nm,1.0s
CLNS pmax pmax
comp=N,24nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS pmax pmax
comp=Z,2.0nm,1.2s
CLNS pmax pmax
comp=N,5.0nm,1.1s
CLNS pmax pmax
comp=E,8.0nm,1.1s
CLNS smax smax
comp=N,182nm,18.4s
CLNS smax smax
comp=E,233nm,13.8s
CLNS MLR MLR
comp=Z,94nm,17.0s
CLNS MLR MLR
comp=N,88nm,15.0s
CLNS MLR MLR
comp=E,391nm,18.0s
POO Poona 53.65 290 ePKP P 04 15 26.0 -4.2
BOD Bodaibo 54.61 352 eP **P** **04 15 36.5 0.0**
BOD pmax pmax
comp=Z,25nm,1.8s
PETK Petropavlovsk- 55.18 22 P **P** **04 15 41.4 +0.7**
PETK Petropavlovsk- 55.18 22 P **P** **04 15 41.4 +0.7**
PETK Petropavlovsk- 55.18 22 P **P** **04 15 41.4 +0.7**
comp=Z,6.6nm,0.8s,baz=192,slow=4.9,SNR=8.6
PETK LR LR 04 36 39.8
comp=Z,112nm,20.7s,baz=76,slow=33
MKAR Makanchi Array 57.36 325 P **P** **04 15 54.5 -1.9**
MKAR 04 16 51.0
MKAR Makanchi Array 57.36 325 P **P** **04 15 54.5 -1.9**
MKAR PcP **PcP** **04 16 51.0 +0.9**
MKAR ScP **ScP** **04 20 48.9 +1.1**
MKAR Makanchi Array 57.36 325 P **P** **04 15 54.5 -1.9**
comp=Z,5.1nm,0.6s,baz=120,slow=7.6,SNR=17
MKAR PcP **PcP** **04 16 51.0 +0.9**
comp=Z,4.1nm,0.8s,baz=112,slow=3.8,SNR=4.9
MKAR ScP **ScP** **04 20 48.9 +1.1**
comp=Z,0.6nm,0.8s,baz=126,slow=5.4,SNR=3.9
MKAR LR LR 04 43 38.2
comp=Z,382nm,18.6s,baz=242,slow=39
KSH Kashi 57.88 315 P **P** **04 16 01.0 +0.7**
KSH pP **pP** **04 16 10.9 +0.5**
KSH sP **sP** **04 16 15.0 +0.7**
KSH PcP **PcP** **04 16 51.8 -0.7**
KSH PP **PP** **04 18 12.3 +3.5**
KSH ScP **ScP** **04 20 47.5 -2.9**
KSH PcS **PcS** **04 20 51.8 -2.1**
KSH S **S** **04 23 59.4 +1.3**
KSH sS **sS** **04 24 16.3 +1.6**
KSH ScS **ScS** **04 25 44.4 -3.4**
KSH SS **SS** **04 27 51.8 +2.4**
KSH pmax pmax
comp=Z,26nm,1.8s
KSH pmax pmax
comp=Z,94nm,4.3s
KSH LR LR
comp=N,120nm,6.8s
KSH LR LR
comp=E,140nm,5.8s
KSH LR LR
comp=Z,270nm,6.1s
YAK Yakutsk 57.95 2 eP **P** **04 16 01.0 +0.8**
YAK e 04 16 52.2
YAK e 04 18 09.7
YAK ePPP PPP 04 19 31.5
YAK eS **S** **04 23 53.7 -4.2**
YAK e 04 25 45.2
YAK eSS **SS** **04 27 45.2 -4.1**
YAK pmax pmax
comp=Z,39nm,0.9s
YAK pmax pmax
comp=N,22nm,1.2s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,74nm,3.9s
YAK pmax pmax
comp=N,23nm,2.0s
YAK pmax pmax
comp=E,113nm,3.2s
YAK smax smax
comp=N,51nm,3.5s
YAK smax smax
comp=E,106nm,3.5s
YAK Yakutsk 57.95 2 eP **P** **04 16 00.2 +0.1**
comp=E,56nm,0.8s
AAK Ala-Archa 60.18 318c iP **P** **04 16 16.1 -0.2**
AAK pmax pmax
comp=Z,17nm,1.7s
AAK Ala-Archa 60.18 318 P **P** **04 16 16.0 -0.2**
comp=Z,51nm,1.5s
AAK PcP **PcP** **04 17 03.2 +1.6**
AAK Ala-Archa 60.18 318 P **P** **04 16 15.5 -0.8**
comp=Z,1.2nm,0.5s,baz=58,slow=4.9,SNR=4.6
AAK PcP **PcP** **04 17 03.2 +1.6**
comp=Z,4.3nm,1.0s,baz=101,slow=3.3,SNR=5.1
ZALV Zalesovo Beam 60.37 333 LR LR 04 44 32.2
comp=Z,208nm,18.4s,baz=247,slow=38
KURK Kurchatov 61.54 327deP **P** **04 16 24.2 -0.9**
KURK pmax pmax
comp=Z,12nm,0.7s
KURK Kurchatov 61.54 327 eP **P** **04 16 24.3 -0.8**
comp=Z,18nm,1.1s
NVS Novosibirsk 61.65 333 eP P 04 16 21.7 -4.1
NVS pmax pmax
comp=N,4.0nm,0.8s
NVS pmax pmax
comp=E,3.0nm,0.8s
NVS pmax pmax
comp=Z,9.0nm,0.8s
SEY Seymchan 61.77 13deP **P** **04 16 27.1 +0.7**
KKAR Karatay Array 63.06 317 eP **P** **04 16 34.5 -1.0**
KKAR pmax pmax
comp=Z,3.0nm,0.8s
KKAR Karatay Array 63.06 317 eP **P** **04 16 34.5 -1.0**
comp=Z,2.7nm,0.8s
BVAR Borovoye Array 67.12 327 P **P** **04 17 01.4 -0.2**
BVAR Borovoye Array 67.12 327 P **P** **04 17 01.4 -0.2**
BVAR Borovoye Array 67.12 327 P **P** **04 17 01.4 -0.2**
comp=Z,9.2nm,1.0s,baz=116,slow=6.6,SNR=13
BRVK Borovoye 67.19 327ceP **P** **04 17 02.3 +0.2**
BRVK pmax pmax
comp=Z,13nm,1.0s
BRVK Borovoye 67.19 327 eP **P** **04 17 01.6 -0.5**
comp=Z,12nm,0.9s
ABKAR Akbulak array 71.97 321 eP **P** **04 17 30.9 -0.8**
comp=Z,7.5nm,0.9s
SVE Sverdlovsk 73.75 328⇓eP **P** **04 17 44.3 +2.2**
SVE pmax pmax
comp=Z,20nm,1.0s
ARU Arti 74.73 328d iP **P** **04 17 48.9 +1.1**
ARU 04 20 33.6
ARU S **S** **04 27 25.6 +3.8**
ARU SS **SS** **04 32 11.5 +1.8**
ARU pmax pmax
comp=Z,20nm,1.2s
ARU Arti 74.73 328 eP **P** **04 17 48.6 +0.9**
comp=Z,14nm,1.0s
ZEI Tsey 82.06 312 eP **P** **04 18 28.9 0.0**
ZEI pmax pmax
comp=Z,10.0nm,1.3s
KIV Kislovodsk 82.98 314 eP P 04 18 29.2 -4.3
KIV pmax pmax
comp=Z,6.0nm,1.1s
SLKM Skilak Lake 83.10 30 eP **P** **04 18 33.3 -0.4**
SLKM Skilak Lake 83.10 30 eP **P** **04 18 33.3 -0.4**
PMR Palmer 83.70 29 eP **P** **04 18 36.1 -0.5**
PMR pmax pmax
comp=Z,32nm,1.4s
PMR Palmer 83.70 29 eP **P** **04 18 36.1 -0.5**
comp=Z,32nm,1.4s
VRHR Novokhopersk 83.86 321 eP **P** **04 18 37.4 -0.3**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,9.0nm,0.8s
ILAR Eielson Array 84.86 25 P **P** **04 18 42.5 0.0**
comp=Z,2.1nm,0.8s,baz=248,slow=5.5,SNR=14
ILAR LR LR 04 54 32.4
comp=Z,112nm,21.8s,baz=295,slow=34
VORD Divnogorie 85.33 321 eP **P** **04 18 43.7 -1.4**
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.6s
VORD pmax pmax
comp=Z,9.0nm,0.6s
VSR Storozhevoye 85.40 321 eP **P** **04 18 44.3 -1.2**
VSR pmax pmax
comp=N,6.0nm,0.8s
VSR pmax pmax
comp=E,6.0nm,0.8s
VSR pmax pmax
comp=Z,8.0nm,0.8s
MOS Moscow 86.24 325 eP **P** **04 18 47.5 -2.0**
MOS e 04 18 53.6
MOS pmax pmax
comp=Z,43nm,1.2s
OBN Obninsk 86.86 325⇑eP **P** **04 18 52.2 -0.4**
OBN e 04 22 12.4
OBN eS S 04 29 16.0 -12
OBN pmax pmax
comp=Z,46nm,1.8s
OBN MLR MLR
comp=Z,200nm,15.0s
JOF Joensuu 88.96 333 eP **P** **04 19 01.6 -0.8**
JOF pmax pmax
comp=Z,13nm,0.8s
JOF Joensuu 88.96 333 ep **P** **04 19 01.6 -0.8**
comp=Z,13nm,0.8s
KMBO Kilima Mbogo 89.58 269 eP **P** **04 19 06.6 -0.1**
comp=Z,2.9nm,1.0s
BRTR Keskin Array B 89.88 310 P **P** **04 19 07.0 -0.5**
BRTR Keskin Array B 89.88 310 P **P** **04 19 07.0 -0.5**
comp=Z,2.3nm,0.8s,baz=111,slow=5.7,SNR=10
ARCES ARCESS Array B 90.21 340 P **P** **04 19 08.4 +0.2**
ARCES ARCESS Array B 90.21 340 P **P** **04 19 08.4 +0.2**
comp=Z,4.2nm,0.7s,baz=42,slow=7.3,SNR=10
ARCES LR LR 05 02 13.8
comp=Z,185nm,21.7s,baz=181,slow=37
FINES FINESS Array B 91.62 332 P **P** **04 19 13.8 -1.1**
FINES FINESS Array B 91.62 332 P **P** **04 19 13.8 -1.1**
comp=Z,10.0nm,1.0s,baz=76,slow=5.9,SNR=8.9
FINES LR LR 05 05 20.9
comp=Z,236nm,18.5s,baz=307,slow=39
AKASG Malin Array Be 91.71 321 P **P** **04 19 15.5 0.0**
AKASG Malin Array Be 91.71 321 P **P** **04 19 15.5 0.0**
AKASG Malin Array Be 91.71 321 P **P** **04 19 15.5 0.0**
comp=Z,5.1nm,0.9s,baz=68,slow=5.3,SNR=9.1
AKASG LR LR 05 03 22.2
comp=Z,150nm,20.1s,baz=0.0,slow=38
SYO Syowa Base 92.68 201⇓eP **P** **04 19 20.0 +0.5**
SYO Syowa Base 92.68 201⇓epP pP 04 19 29.8 -0.3
DLBC Dease Lake 93.50 31 LR LR 04 55 32.4
comp=Z,246nm,22.0s,baz=146,slow=32
QSPA South Pole Qui 93.90 180 eP **P** **04 19 24.7 -0.7**
comp=Z,6.9nm,1.0s
TESR 94.07 317⇑iP **P** **04 19 24.4 -2.1**
VRI Vrincioaia 94.12 316⇓iP **P** **04 19 26.4 -0.4**
SUW Suwalki 94.73 325 eP **P** **04 19 29.8 +0.4**
SUW pmax pmax
comp=Z,32nm,0.9s
SUW Suwalki 94.73 325 eP **P** **04 19 29.8 +0.4**
comp=Z,32nm,0.9s
MLR Muntele Rosu 94.73 316⇑iP **P** **04 19 28.4 -1.4**
BURAR Bucovina Array 94.83 318⇓iP **P** **04 19 29.3 -0.8**
KOLS Kolonicke sedl 96.46 320 eP **P** **04 19 39.8 +2.4**
KOLS pmax pmax
comp=Z,11nm,1.5s
KOLS Kolonicke sedl 96.46 320 eP **P** **04 19 39.8 +2.4**
UZH Uzhgorod 96.52 320 eP **P** **04 19 36.4 -1.2**
DRGR 96.67 318⇓iP **P** **04 19 40.4 +1.9**
CRVS Cervenica-Dubn 96.99 320 eP **P** **04 19 41.1 +1.3**
CRVS pmax pmax
comp=Z,14nm,1.2s
CRVS Cervenica-Dubn 96.99 320 eP **P** **04 19 41.1 +1.3**
BZS Buzias 97.68 317⇓iP Pdif 04 19 43.8 +0.8
NB2 NORSAR Subarra 98.57 334 P Pdif 04 19 46.8 +0.1
comp=Z,1.6nm,0.8s,baz=65,slow=4.6
NOA NORSAR Array B 98.57 334 P **P** **04 19 46.0 -0.7**
NOA NORSAR Array B 98.57 334 P **P** **04 19 46.0 -0.7**
comp=Z,2.8nm,0.8s,baz=66,slow=4.6,SNR=6.8
VYHS Vyhne 98.78 320 eP Pdif 04 19 49.0 +1.1
VYHS Vyhne 98.78 320 PDIF Pdif 04 19 49.0 +1.1
MORC Moravsky Berou 99.22 322⇑iP **Pdif** **04 19 51.6 +1.7**
YKA Yellowknife Ar 99.25 24 P **Pdif** **04 19 49.2 -0.4**
YKA Yellowknife Ar 99.25 24 P **Pdif** **04 19 49.2 -0.4**
comp=Z,0.4nm,0.7s,baz=300,slow=4.1,SNR=7.7
BRG Berggiesshubel 101.05 323 eP **Pdif** **04 19 59.2 +1.3**
comp=Z,6.8nm,1.1s
BRG Berggiesshubel 101.05 323 eP **Pdif** **04 19 59.2 +1.3**
BRG pmax pmax
comp=Z,7.0nm,1.1s
GERES GERESS Array B 101.90 322 P **Pdif** **04 20 02.3 +0.5**
GERES GERESS Array B 101.90 322 P **Pdif** **04 20 02.3 +0.5**
comp=Z,1.2nm,0.8s,baz=89,slow=6.0,SNR=6.9
PDAR Pinedale Array 111.14 41 PKKPab PKKPab 04 35 48.2 -1.3
PDAR Pinedale Array 111.14 41 PKKPab PKKPab 04 35 48.2 -1.3
comp=Z,1.0nm,0.9s,baz=110,slow=4.9,SNR=6.0
SCHQ Schefferville 120.31 9 PKP **PKPdf** **04 25 01.6 +2.5**
SCHQ Schefferville 120.31 9 PKP **PKPdf** **04 25 01.6 +2.5**
comp=Z,1.3nm,0.8s,baz=315,slow=2.9,SNR=4.0
TXAR Lajitas Array 121.42 52 PKP **PKPdf** **04 25 04.6 +2.4**
TXAR PKKPbc **PKKPab** **04 35 08.7 +4.6**
TXAR Lajitas Array 121.42 52 PKP **PKPdf** **04 25 04.6 +2.4**
comp=Z,1.2nm,1.0s,baz=348,slow=2.2,SNR=7.5
TXAR PKKPbc **PKKPab** **04 35 08.7 +4.6**
comp=Z,0.2nm,0.7s,baz=116,slow=2.9,SNR=3.6
TORD Torodi Ar. Bea 122.86 288 PKP **PKPdf** **04 25 05.2 0.0**
TORD Torodi Ar. Bea 122.86 288 PKP **PKPdf** **04 25 05.2 0.0**
comp=Z,1.2nm,0.8s,baz=57,slow=1.6,SNR=8.9
JTS JuntasAbangare 145.38 66 ePKPbc **PKPab** **04 25 48.2 +1.1**
CPUP Villa Florida 157.44 170 PKPab **PKPab** **04 26 38.2 +2.0**
CPUP Villa Florida 157.44 170 PKPab **PKPab** **04 26 38.2 +2.0**
comp=Z,4.8nm,0.9s,baz=160,slow=3.7,SNR=6.7
LPAZ La Paz 160.94 131 PKPab **PKPab** **04 26 56.1 +3.6**
LPAZ La Paz 160.94 131 PKPab **PKPab** **04 26 56.1 +3.6**
comp=Z,2.4nm,1.1s,baz=207,slow=7.2,SNR=4.0

IDC 23 04:27:28.3±1.2, 6°91S×128°51E, h0km, mb3.8/4, mb1 4.0/7, mb1mx3.9/18, mbtmp3.9/7, ML3.8/3, Error ellipse: s-maj=61.9km s-min=23.6km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.47**	**194**	Pn	Pn	04 30 14.9	+1.3
	0.4nm,0.3s,baz=23,slow=13,SNR=12						
FITZ				Sn	Sn	04 32 10.5	-12
	baz=115,slow=19						
WRA	**Warramunga Arr**	**14.14**	**157**	Pn	Pn	04 30 48.9	-1.2
	0.4nm,0.3s,baz=329,slow=13,SNR=8.6						
WRA				Sn	Sn	04 33 13.7	-14
	0.5nm,0.3s,baz=334,slow=23,SNR=6.5						
ASAR	**Alice Springs**	**17.45**	**163**	P	Pn	04 31 33.2	-0.2
	0.4nm,0.3s,baz=334,slow=11,SNR=22						
ASAR				S	Sn	04 34 33.5	-15
	baz=338,slow=17,SNR=4.6						
SONM	**Songino Array**	**57.90**	**343**	P	P	04 37 23.4	+1.1
	0.4nm,0.9s,baz=161,slow=9.2,SNR=3.4						
PETK	**Petropavlovsk-**	**64.71**	**19**	P	P	04 38 08.3	+0.2
	2.4nm,0.7s,baz=202,slow=7.4,SNR=5.6						
MKAR	**Makanchi Array**	**67.34**	**327**	P	P	04 38 25.1	-0.2
	0.4nm,0.5s,baz=130,slow=8.1,SNR=4.8						
ZALV	**Zalesovo Beam**	**70.85**	**334**	P	P	04 38 45.2	-1.7
	0.3nm,0.4s,baz=142,slow=5.6,SNR=3.2						

IDC 23 04:34:50.7±1.5, 6°97S×128°76E, h0km, mb3.9/3, mb1 3.9/6, mb1mx3.8/18, mbtmp3.8/6, ML3.9/3, Error ellipse: s-maj=84.6km s-min=24.0km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.48**	**195**	Pn	Pn	04 37 35.6	-0.4
	1.0nm,0.3s,baz=25,slow=12,SNR=26						
FITZ				Sn	Sn	04 39 29.3	-16
	3.1nm,0.3s,baz=72,slow=20,SNR=9.6						
WRA	**Warramunga Arr**	**13.99**	**158**	Pn	Pn	04 38 10.1	-0.3
	0.6nm,0.3s,baz=342,slow=13,SNR=9.5						
WRA				Sn	Sn	04 40 30.6	-16
	1.9nm,0.3s,baz=336,slow=21,SNR=10						
ASAR	**Alice Springs**	**17.32**	**164**	P	P	04 38 55.0	-0.7
	0.2nm,0.3s,baz=341,slow=11,SNR=6.9						
ASAR				S	Sn	04 41 53.4	-14
	0.6nm,0.3s,baz=318,slow=17,SNR=7.4						
SONM	**Songino Array**	**58.03**	**342**	P	P	04 44 47.1	+1.5
	0.7nm,0.6s,baz=163,slow=7.4,SNR=6.0						
MKAR	**Makanchi Array**	**67.53**	**327**	P	P	04 45 48.7	-0.2
	0.6nm,0.3s,baz=121,slow=7.8,SNR=16						
ZALV	**Zalesovo Beam**	**71.02**	**334**	P	P	04 46 09.0	-1.3
	0.6nm,0.5s,baz=123,slow=5.3,SNR=4.7						

IDC 23 04:50:26.5±1.2, 3°81N×126°87E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/23, mbtmp3.9/7, Error ellipse: s-maj=109.9km s-min=17.7km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.81**	**183**	P	P	04 55 20.9	+0.5
	0.9nm,0.6s,baz=18,slow=10,SNR=6.2						
WRA	**Warramunga Arr**	**24.72**	**163**	P	P	04 55 49.4	-0.4
	0.9nm,0.3s,baz=342,slow=10,SNR=6.7						
ASAR	**Alice Springs**	**28.16**	**166**	P	P	04 56 20.8	0.0
	0.3nm,0.3s,baz=340,slow=9.7,SNR=7.9						
STKA	**Stephens Creek**	**38.16**	**160**	P	P	04 57 47.8	0.0
	1.5nm,0.6s,baz=327,slow=10,SNR=4.5						
SONM	**Songino Array**	**47.26**	**341**	P	P	04 59 02.8	+1.1
	0.3nm,0.5s,baz=158,slow=6.7,SNR=3.2						
MKAR	**Makanchi Array**	**57.57**	**325**	P	P	05 00 17.7	-0.4
	0.7nm,0.3s,baz=119,slow=7.1,SNR=24						
ARCES	**ARCESS Array B**	**90.42**	**340**	P	P	05 03 29.0	-0.7
	4.4nm,1.1s,baz=74,slow=6.8,SNR=4.1						

IDC 23 04:51:08.4±1.1, 3°71N×126°43E, h0km, mb4.3/8, mb1 4.4/8, mb1mx4.1/23, mbtmp4.3/8, MS3.6/6, Ms1 3.6/6, ms1mx3.0/40, Error ellipse: s-maj=76.5km s-min=16.5km az=73.0

NEIC 23 04:51:13.1±0.8, 3°79N×126°79E, h35km, mb4.6/2, Error ellipse: s-maj=45.3km s-min=11.4km az=77.0

DJA 23 04:51:30.5±1.0, 2°N±12°×12°7E±°, h30km, M4.3/7, mb4.4/5, mB5.1/2, MLv4.3/7, Mw(mB)4.5/2

ISC 23 04:51:10.0±0.7, 3°66N±0°04×126°2E±0°1, h10km, n39, σ1s19/25, mb4.4/9, MS3.5/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**2.61**	**212**	P	**Pg**	**04 52 01.5**	**+1.4**
TNTI	**Ternate**	**3.09**	**158**	P	Pn	04 51 49.1	-10
DAV	**Davao City (W)**	**3.45**	**349**	Pn	**Pg**	**04 52 17.2**	**+1.1**
	36nm,0.3s,baz=270,slow=20,SNR=1.8						
DAV				Sn	**Sg**	**04 52 58.8**	**-2.0**
	70nm,0.3s,baz=99,slow=13,SNR=4.8						
DAV				LR	LR	04 53 41.3	
	comp=Z,526nm,18.4s,baz=183,slow=44						
KMSI	**Cibinong**	**3.81**	**216**	P	**Pg**	**04 52 22.4**	**-0.6**
MRSI	**Marisa**	**5.33**	**234**	P	Pb	04 52 40.1	-3.2
LUWI	**Luwuk**	**5.82**	**217**	P	Pn	04 52 41.6	+5.2
SWI	**Sorong**	**6.74**	**132**	P	**Pn**	**04 52 48.5**	**-0.6**
	110nm,1.1s,2µm0.3nm						
NLAI	**Namlea**	**6.91**	**173**	P	Pn	04 52 43.4	-8.1
KDI	**Kendari**	**8.39**	**206**	P	**Pn**	**04 53 09.6**	**-2.1**
	21nm,0.8s,0.1nm						
FAKI	**Fak Fak**	**8.88**	**137**	P	Pn	04 53 13.1	-5.4
	40nm,1.0s,0.1nm						
TTSI	**Tana Toraja**	**9.25**	**224**	P	Pn	04 53 31.0	+7.5
	23nm,1.1s,958nm						
SPSI	**Sidrap Palu**	**9.96**	**221**	P	Pn	04 53 38.9	+5.6
BLJI	**Banyuglugur**	**16.95**	**228**	P	P	04 55 17.8	+8.3
JAGI	**Jajag, Banyuwa**	**17.04**	**225**	P	P	04 55 17.0	+6.5
GMJI	**Gumukmas**	**17.42**	**227**	P	P	04 55 21.0	+6.4
FITZ	**Fitzroy Crossi**	**21.64**	**182**	eP	**P**	**04 56 01.3**	**+0.7**
	5.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.64**	**182**	eP	**P**	**04 56 01.3**	**+0.7**
	13nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.64**	**182**	P	**P**	**04 56 01.5**	**+0.9**
	6.9nm,0.9s,baz=15,slow=12,SNR=15						
WRAB	**Tennant Creek**	**24.77**	**162**	eP	**P**	**04 56 30.8**	**-1.4**
	50nm,1.0s						
WRA	**Warramunga Arr**	**24.77**	**162**	P	**P**	**04 56 31.3**	**-0.9**
WRA	**Warramunga Arr**	**24.77**	**162**	P	**P**	**04 56 31.3**	**-0.9**
	36nm,1.0s,baz=344,slow=9.8,SNR=47						
MBWA	**Marble Bar**	**25.48**	**194**	eP	**P**	**04 56 41.7**	**+3.1**
ASAR	**Alice Springs**	**28.18**	**165**	P	**P**	**04 57 02.9**	**0.0**
ASAR	**Alice Springs**	**28.18**	**165**	P	**P**	**04 57 02.9**	**0.0**
	0.8nm,0.3s,baz=347,slow=7.6,SNR=13						
KSRS	**Korea Array**	**33.66**	**2**	LR	LR	05 10 53.4	
	comp=Z,23nm,18.1s,baz=190,slow=35						
MJAR	**Matsushiro Ar**	**34.53**	**17**	LR	LR	05 10 07.3	
	comp=Z,78nm,21.3s,baz=160,slow=33						
HNR	**Honiara**	**36.03**	**111**	LR	LR	05 11 03.1	
	comp=Z,80nm,19.1s,baz=69,slow=33						
NWAO	**Narrogin (SRO)**	**37.38**	**193**	eP	**P**	**04 58 24.1**	**+1.0**
NWAO	**Narrogin (SRO)**	**37.38**	**193**	P	**P**	**04 58 23.2**	**+0.2**
	3.5nm,0.5s,baz=18,slow=5.9,SNR=4.6						
STKA	**Stephens Creek**	**38.25**	**159**	eP	**P**	**04 58 29.9**	**-0.6**
	6.4nm,0.9s						
STKA	**Stephens Creek**	**38.25**	**159**	P	**P**	**04 58 30.3**	**-0.1**
	3.9nm,0.4s,baz=333,slow=9.2,SNR=9.8						
SONM	**Songino Array**	**47.20**	**342**	P	**P**	**04 59 42.5**	**-0.7**
SONM	**Songino Array**	**47.20**	**342**	P	**P**	**04 59 42.5**	**-0.7**
	0.3nm,0.4s,baz=148,slow=7.5,SNR=3.9						
MKAR	**Makanchi Array**	**57.33**	**326**	P	**P**	**05 00 58.8**	**+0.4**
MKAR	**Makanchi Array**	**57.33**	**326**	P	**P**	**05 00 58.8**	**+0.4**
	1.1nm,0.5s,baz=121,slow=7.9,SNR=14						
AAK	**Ala-Archa**	**60.07**	**318**	LR	LR	05 29 16.4	
	comp=Z,129nm,21.6s,baz=75,slow=38						
ARCES	**ARCESS Array B**	**90.34**	**340**	P	**P**	**05 04 11.8**	**+0.7**
ARCES	**ARCESS Array B**	**90.34**	**340**	P	**P**	**05 04 11.8**	**+0.7**
	1.6nm,0.8s,baz=64,slow=6.1,SNR=5.4						
NOA	**NORSAR Array B**	**98.62**	**334**	LR	LR	05 54 11.5	
	comp=Z,56nm,18.3s,baz=0.0,slow=38						

NEIC 23 04:51:14.8, 55°01N×156°51W, h61km, ML3.4(AEIC), After AEIC.

IDC 23 04:51:14.2±4.8, 55°49N×156°84W, h0km, mb4.0/3, mb1 3.9/5, mb1mx3.5/26, mbtmp3.9/5, ML3.4/2, MS3.6/1, Ms1 3.5/1, ms1mx2.2/51, Error ellipse: s-maj=110.5km s-min=28.6km az=161.0

ISC 23 04:51:11.7±3.8, 55°1N±0°1×156°46W±0°06, h7km±24km, n25, σ1s74/29, mb3.9/4, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNSG	**Veniaminof 6**	**1.81**	**306**	P	**Pb**	**04 51 45.3**	**+0.1**
VNSG				S	**Sb**	**04 52 08.3**	**+0.2**
VNHG	**Veniaminof 1**	**1.91**	**308**	P	**Pb**	**04 51 46.8**	**0.0**
ANPK	**Aniakchak Peak**	**1.99**	**333**	P	**Pn**	**04 51 47.2**	**+1.4**
AZAC	**Aniakchak**	**2.06**	**332**	P	**Pb**	**04 51 48.6**	**-0.9**
SDPT	**Sand Point**	**2.32**	**278**	P	**Pb**	**04 51 50.9**	**-2.8**
SDPT				S	**Sb**	**04 52 19.1**	**-3.4**
PS4A	**Pavlof South-4**	**3.10**	**277**	P	**Pn**	**04 52 01.9**	**+0.9**
MGLS	**Mageik Landsli**	**3.13**	**13**	P	**Pn**	**04 52 03.5**	**+2.0**
KABR	**Katmai Barrier**	**3.16**	**15**	P	**Pn**	**04 52 03.3**	**+1.5**
DTNA	**Dutton South F**	**3.33**	**273**	P	**Pn**	**04 52 05.2**	**+1.1**
DTNA				S	**Sn**	**04 52 43.5**	**-0.3**
DT1	**Dutton Round H**	**3.34**	**273**	P	**Pn**	**04 52 05.3**	**+1.0**
KDAK	**Kodiak Island**	**3.45**	**37**	Pn	**Pn**	**04 52 06.1**	**+0.3**
KDAK				Sn	**Sn**	**04 52 43.0**	**-3.9**
KDAK	**Kodiak Island**	**3.45**	**37**	Pn	**Pn**	**04 52 06.1**	**+0.3**
	1.1nm,0.3s,baz=191,slow=12,SNR=18						
KDAK				Sn	**Sn**	**04 52 43.0**	**-3.9**
	2.3nm,0.3s,baz=305,slow=10,SNR=4.5						
ILAR	**Eielson Array**	**10.81**	**22**	Pn	**Pn**	**04 53 46.6**	**-0.1**
ILAR	**Eielson Array**	**10.81**	**22**	Pn	**Pn**	**04 53 46.6**	**-0.1**
	0.2nm,0.3s,baz=210,slow=13,SNR=10						
INK	**Inuvik**	**16.98**	**30**	Pn	**P**	**04 55 11.0**	**-0.2**
INK	**Inuvik**	**16.98**	**30**	Pn	**P**	**04 55 11.0**	**-0.2**
	0.2nm,0.3s,baz=225,slow=9.7,SNR=7.2						
YKA	**Yellowknife Ar**	**22.55**	**54**	P	**P**	**04 56 14.3**	**+2.3**
YKA	**Yellowknife Ar**	**22.55**	**54**	P	**P**	**04 56 14.3**	**+2.3**
	0.1nm,0.4s,baz=276,slow=11,SNR=3.8						
TXAR	**Lajitas Array**	**45.38**	**102**	LR	LR	05 16 50.5	
	comp=Z,60nm,19.2s,baz=0.0,slow=34						
ARCES	**ARCESS Array B**	**55.67**	**359**	P	**P**	**05 00 48.0**	**+0.1**
ARCES	**ARCESS Array B**	**55.67**	**359**	P	**P**	**05 00 48.0**	**+0.1**
	1.6nm,0.8s,baz=0.8,slow=6.3,SNR=4.5						
SONM	**Songino Array**	**56.19**	**306**	P	**P**	**05 00 52.7**	**+0.8**
SONM	**Songino Array**	**56.19**	**306**	P	**P**	**05 00 52.7**	**+0.8**
	0.5nm,0.8s,baz=49,slow=7.4,SNR=4.0						
FINES	**FINESS Array B**	**63.79**	**359**	P	**P**	**05 01 44.7**	**+1.0**

FINES FINESS Array B 63.79 359 P **P 05 01 44.7 +1.0**
3.0nm,1.0s,baz=349,slow=2.8,SNR=4.3

IDC 23 04:56:42.5±1.4, 3.73N×126.67E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/21, mbtmp3.6/6, Error ellipse: s-maj=229.5km s-min=19.0km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.70**	**163**	P	P	05 02 04.7	-0.9
	1.8nm,0.7s,baz=342,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**28.13**	**166**	P	P	05 02 37.6	+1.1
	0.2nm,0.3s,baz=346,slow=12,SNR=3.0						
STKA	**Stephens Creek**	**38.15**	**159**	P	P	05 04 03.6	-0.2
	3.1nm,1.1s,baz=350,slow=6.1,SNR=3.0						
SONM	**Songino Array**	**47.28**	**341**	P	P	05 05 17.0	-0.8
	0.2nm,0.3s,baz=157,slow=7.7,SNR=5.3						
MKAR	**Makanchi Array**	**57.52**	**325**	P	P	05 06 32.6	-1.2
	0.2nm,0.5s,baz=128,slow=6.4,SNR=4.0						
ZALV	**Zalesovo Beam**	**60.56**	**333**	P	P	05 06 56.0	+1.3
	0.2nm,0.4s,baz=98,slow=7.4,SNR=2.3						

IDC 23 05:04:01.7±1.2, 3.62N×126.61E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/22, mbtmp3.6/7, Error ellipse: s-maj=119.9km s-min=16.8km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.61**	**183**	P	P	05 08 53.9	+0.5
	1.0nm,0.7s,baz=0.0,slow=10,SNR=2.7						
WRA	**Warramunga Arr**	**24.62**	**162**	P	P	05 09 23.0	-0.9
	2.3nm,0.6s,baz=343,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.04**	**166**	P	P	05 09 55.0	+0.1
	0.2nm,0.3s,baz=343,slow=11,SNR=4.5						
STKA	**Stephens Creek**	**38.07**	**159**	P	P	05 11 22.7	+0.5
	2.7nm,1.0s,baz=339,slow=14,SNR=3.4						
SONM	**Songino Array**	**47.36**	**342**	P	P	05 12 37.2	-0.4
	0.2nm,0.6s,baz=148,slow=8.9,SNR=2.5						
MKAR	**Makanchi Array**	**57.58**	**325**	P	P	05 13 52.4	-1.0
	0.5nm,0.6s,baz=126,slow=6.7,SNR=10						
ZALV	**Zalesovo Beam**	**60.63**	**333**	P	P	05 14 15.4	+1.1
	0.2nm,0.3s,baz=143,slow=7.5,SNR=3.2						

*ISK **23** 05:12:12.0, 39.07N×29.05E, h2km, MD2.8*
*DDA **23** 05:12:12.7, 39.09N×29.02E, h7km, MD3.0*
*ISCJB **23** 05:12:13.0±0.6, 39.07N±0.03×29.03E±0.03, h6km±6km, Error ellipse: s-maj=5.7km s-min=3.9km az=180.0*
*CSEM **23** 05:12:13.1±0.1, 39.09N×29.03E, h5km, MD3.0, Error ellipse: s-maj=1.9km s-min=1.7km az=6.0*

ISC 23 05:12:13.2±0.9, 39.08N±0.03×29.03E±0.02, h11km±8km, n24, σ0.934/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.24**	**260**	*i* P	**Pg**	**05 12 18.3**	**0.0**
DEMI				*i* S	**Sg**	**05 12 21.9**	**+0.2**
DEMI	**Demirci**	**0.24**	**260**	*i* P	**Pg**	**05 12 18.3**	**0.0**
DEMI				*i* S	**Sg**	**05 12 21.9**	**+0.2**
GDZ	**Gediz**	**0.35**	**89**	*i* P	**Pg**	**05 12 20.1**	**-0.2**
GDZ				*i* S	**Sg**	**05 12 25.0**	**-0.1**
GDZ	**Gediz**	**0.35**	**89**	*i* P	**Pg**	**05 12 20.1**	**-0.2**
GDZ				*i* S	**Sg**	**05 12 25.0**	**-0.1**
DURS	**Dursunbey**	**0.67**	**321**	*i* P	**Pg**	**05 12 26.3**	**+0.1**
DURS	**Dursunbey**	**0.67**	**321**	*i* P	**Pg**	**05 12 26.3**	**+0.1**
MANT	**Manisa**	**0.70**	**212**	*i* P	**Pg**	**05 12 26.9**	**+0.2**
MANT				*i* S	**Sg**	**05 12 35.8**	**-0.1**
MANT	**Manisa**	**0.70**	**212**	*i* P	**Pg**	**05 12 26.9**	**+0.2**
MANT				*i* S	**Sg**	**05 12 35.8**	**-0.1**
KHAL	**Karahalli**	**0.80**	**153**	*i* P	**Pg**	**05 12 29.2**	**+0.5**
KHAL				*i* S	**Sg**	**05 12 39.5**	**+0.3**
KHAL	**Karahalli**	**0.80**	**153**	*i* P	**Pg**	**05 12 29.2**	**+0.5**
KHAL				*i* S	**Sg**	**05 12 39.5**	**+0.3**
KHL	**Karahalli**	**0.85**	**153**	*e*PG	**Pg**	**05 12 29.4**	**-0.3**
KHL				*e*SG	**Sg**	**05 12 41.2**	**+0.4**
KHL	**Karahalli**	**0.85**	**153**	*e*Pg	**Pg**	**05 12 29.4**	**-0.3**
KHL				*e*Sg	**Sg**	**05 12 41.2**	**+0.4**
AKHS	**Akhisar**	**0.97**	**258**	*i* P	**Pg**	**05 12 32.0**	**+0.2**
AKHS				*i* S	**Sg**	**05 12 43.8**	**-0.6**
AKHS	**Akhisar**	**0.97**	**258**	*i* P	**Pg**	**05 12 32.0**	**+0.2**
AKHS				*i* S	**Sg**	**05 12 43.8**	**-0.6**
AKS	**Akhisar**	**0.97**	**258**	*e*PG	**Pg**	**05 12 31.7**	**-0.1**
AKS	**Akhisar**	**0.97**	**258**	*e*Pg	**Pg**	**05 12 31.7**	**-0.1**
BALY	**Balya**	**1.27**	**301**	*i* P	**Pb**	**05 12 37.3**	**+0.1**
BALY				*i* S	**Sn**	**05 12 54.0**	**0.0**
BALY	**Balya**	**1.27**	**301**	*i* P	**Pb**	**05 12 37.3**	**+0.1**
BALY				*i* S	**Sn**	**05 12 54.0**	**0.0**
BORA	**Eskisehir**	**1.36**	**54**	*i* P	**Pn**	**05 12 38.3**	**+0.1**
BORA				*i* S	**Sb**	**05 12 55.9**	**-0.3**
BORA	**Eskisehir**	**1.36**	**54**	*i* P	**Pn**	**05 12 38.3**	**+0.1**
BORA				*i* S	**Sb**	**05 12 55.9**	**-0.3**
ESKT	**Eskisehir**	**1.48**	**72**	*e*PN	**Pn**	**05 12 40.0**	**+0.1**
ESKT	**Eskisehir**	**1.48**	**72**	*e*Pn	**Pn**	**05 12 40.0**	**+0.1**
YLV	**Yalova**	**1.50**	**10**	*e*PN	**Pb**	**05 12 40.8**	**-0.4**
YLV				*e*SN	**Sg**	**05 13 02.5**	**+0.9**
YLV	**Yalova**	**1.50**	**10**	*e*Pn	**Pb**	**05 12 40.8**	**-0.4**
YLV				*e*Sn	**Sg**	**05 13 02.5**	**+0.9**

IDC 23 05:15:51.4±1.2, 3.71N×126.93E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/23, mbtmp3.8/7, Error ellipse: s-maj=96.4km s-min=16.6km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.71**	**183**	P	P	05 20 45.2	+0.8
	0.8nm,0.6s,baz=4.7,slow=11,SNR=4.0						
WRA	**Warramunga Arr**	**24.61**	**163**	P	P	05 21 12.8	-0.8
	1.6nm,0.5s,baz=342,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**28.05**	**166**	P	P	05 21 46.4	+1.7
	0.3nm,0.4s,baz=338,slow=7.0,SNR=4.2						
STKA	**Stephens Creek**	**38.04**	**160**	P	P	05 23 10.5	-1.2
	1.6nm,0.7s,baz=4.6,slow=8.0,SNR=4.9						
SONM	**Songino Array**	**47.38**	**341**	P	P	05 24 28.8	+1.3
	0.5nm,0.6s,baz=151,slow=8.3,SNR=4.7						
MKAR	**Makanchi Array**	**57.69**	**325**	P	P	05 25 43.4	-0.5
	0.8nm,0.5s,baz=120,slow=7.5,SNR=23						
KURBB	**Kurchatov Arra**	**61.86**	**327**	P	P	05 26 11.8	-0.7
	1.0nm,0.4s,baz=128,slow=6.0,SNR=6.7						

*IDC **23** 05:17:15.1±1.9, 46.47S×165.32E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.9/13, mbtmp3.9/3, Error ellipse: s-maj=169.2km s-min=44.9km az=29.0*
*ISCJB **23** 05:17:16.9±1.3, 46.13S±0.08×165.56E±0.07, h20km±9km, mb3.8/3, Error ellipse: s-maj=13.6km s-min=7.7km az=6.0*
*WEL **23** 05:17:17.9±0.8, 46.19S×165.66E, h5km, ML4.1/10, Error ellipse: s-maj=7.4km s-min=5.6km az=90.0*

ISC 23 05:17:17.5±3.8, 46.19S±0.08×165.62E±0.06, h14km±24km, n24, σ1.905/30, mb3.7/3, 1C-1D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.74**	**88**	P*	**Pb**	**05 17 32.3**	**+0.3**
PYZ				S*	**Sb**	**05 17 42.7**	**+0.7**
DCZ	**Deep Cove**	**1.29**	**57**	P*	**Pn**	**05 17 39.5**	**-1.4**
DCZ				S*	**Sb**	**05 17 55.3**	**-2.4**
WHZ	**Wether Hill Ro**	**1.65**	**80**	PN	**Pn**	**05 17 46.1**	**+0.2**
WHZ				SN	**Sn**	**05 18 07.3**	**+0.4**
APZ	**The Paps**	**1.76**	**112**	⇑PN	**Pn**	**05 17 47.3**	**-0.2**
MLZ	**Mavora Lakes**	**1.98**	**66**	PN	**Pn**	**05 17 50.9**	**+0.4**
MLZ				SN	**Sn**	**05 18 15.9**	**+0.8**
SYZ	**Scrubby Hill**	**2.46**	**99**	PN	**Pn**	**05 17 57.5**	**+0.5**
SYZ				SN	**Sn**	**05 18 25.9**	**-0.9**
WKZ	**Wanaka**	**2.75**	**61**	PN	**Pn**	**05 18 03.4**	**+2.3**
EAZ	**Earnscleugh**	**2.76**	**71**	PN	**Pn**	**05 18 02.6**	**+1.5**
EAZ				SN	**Sn**	**05 18 34.8**	**+0.7**
TUZ	**Tuapeka**	**2.80**	**87**	⇓PN	**Pn**	**05 18 02.3**	**+0.5**
TUZ				SN	**Sn**	**05 18 34.7**	**-0.6**
JCZ	**Jackson Bay**	**3.07**	**47**	PN	**Pn**	**05 18 06.7**	**+1.1**
LBZ	**Lake Benmore**	**3.69**	**62**	PN	**Pn**	**05 18 14.0**	**0.0**
ODZ	**Otahua Downs**	**3.71**	**74**	PN	**Pn**	**05 18 13.7**	**-0.5**
FOZ	**Fox Glacier**	**3.91**	**49**	PN	**Pn**	**05 18 18.6**	**+1.7**
RPZ	**Rata Peaks**	**4.58**	**59**	PN	**Pn**	**05 18 25.9**	**-0.4**
WVZ	**Waitaha Valley**	**4.80**	**51**	PN	**Pn**	**05 18 29.5**	**+0.3**
LTZ	**Lake Taylor**	**5.85**	**57**	PN	**Pn**	**05 18 43.0**	**-0.7**
DSZ	**Denniston Nort**	**6.30**	**47**	PN	**Pn**	**05 18 49.5**	**-0.4**
THZ	**Tophouse**	**6.87**	**52**	PN	**Pn**	**05 18 58.5**	**+0.8**
ASAR	**Alice Springs**	**34.01**	**300**	P	**P**	**05 24 00.2**	**-0.6**
	0.6nm,0.6s,baz=138,slow=8.5,SNR=9.9						
WRA	**Warramunga Arr**	**36.64**	**305**	P	**P**	**05 24 22.3**	**-1.1**
	0.6nm,0.7s,baz=140,slow=8.0,SNR=4.8						
CMAR	**Chiang Mai Arr**	**88.01**	**299**	P	**P**	**05 30 08.3**	**+1.1**
	0.6nm,0.3s,baz=165,slow=3.7,SNR=5.5						
YKA	**Yellowknife Ar**	**125.44**	**34**	PKP	**PKPdf**	**05 36 17.0**	**+0.4**
	0.1nm,0.6s,baz=246,slow=1.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**144.37**	**208**	PKP	**PKPab**	**05 36 50.8**	**-0.5**
	0.3nm,0.5s,baz=180,slow=1.6,SNR=4.2						
BRTR	**Keskin Array B**	**144.71**	**277**	PKP	PKPbc	05 36 52.4	0.0
	1.0nm,0.8s,baz=125,slow=2.9,SNR=6.9						

IDC 23 05:29:57.5±2.9, 44.61N×100.96E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.4/28, mbtmp3.5/6, ML3.5/3, Error ellipse: s-maj=61.2km s-min=17.5km az=163.0, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**4.96**	**48**	Pn	Pn	05 31 14.0	+0.6
	3.8nm,0.3s,baz=229,slow=13,SNR=93						
SONM				Pg	Pb	05 31 28.8	+3.3
	11nm,0.3s,baz=226,slow=18,SNR=55						
SONM				Lg	Lg	05 32 33.8	
	8.1nm,0.3s,baz=226,slow=30,SNR=6.5						
MKAR	**Makanchi Array**	**13.23**	**286**	Pn	Pn	05 33 05.6	-0.9
	0.0nm,0.3s,baz=74,slow=16,SNR=3.3						
MKAR				Lg	Lg	05 36 55.6	
	0.1nm,0.3s,baz=87,slow=35,SNR=3.9						
ZALV	**Zalesovo Beam**	**14.05**	**317**	Lg	Lg	05 37 18.7	
	0.1nm,0.3s,baz=131,slow=26,SNR=3.0						
KURBB	**Kurchatov Arra**	**16.24**	**300**	Pn	P	05 33 49.5	-0.6
	0.1nm,0.3s,baz=103,slow=13,SNR=16						
KURBB				Lg	Lg	05 38 38.4	
	0.0nm,0.3s,baz=110,slow=32,SNR=4.4						
AAK	**Ala-Archa**	**19.23**	**273**	P	Pn	05 34 24.2	-0.1
	0.4nm,0.3s,baz=99,slow=8.7,SNR=6.9						
BVAR	**Borovoye Array**	**21.68**	**304**	P	P	05 34 49.9	+0.3
	3.3nm,0.6s,baz=105,slow=11,SNR=3.6						
ILAR	**Eielson Array**	**58.87**	**28**	P	P	05 39 58.0	+0.4
	0.2nm,0.7s,baz=292,slow=5.7,SNR=3.5						
YKA	**Yellowknife Ar**	**69.50**	**17**	P	P	05 41 06.7	-0.6
	0.1nm,0.6s,baz=328,slow=5.5,SNR=3.8						

*ISCJB **23** 05:47:41.9±0.3, 43.05N±0.02×13.66E±0.03, h29km±2km, Error ellipse: s-maj=4.1km s-min=2.9km az=148.3*
*ROM **23** 05:47:42.5±0.1, 42.98N×13.61E, h22km±2km, Md2.7/34, Ml2.6/29, Error ellipse: s-maj=3.2km s-min=1.4km az=42.0*
*CSEM **23** 05:47:42.1±0.1, 43.01N×13.65E, h20km, ML3.2/11, Error ellipse: s-maj=3.2km s-min=2.2km az=62.0*
*LDG **23** 05:47:43.7±0.2, 43.02N×13.59E, h10km, Ml2.9/4, Error ellipse: s-maj=7.2km s-min=3.4km az=59.0*

ISC 23 05:47:42.1±0.8, 43.01N±0.02×13.64E±0.02, h25km±5km, n104, σ0.991/143, 5C-9D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFFI	**Offida**	**0.08**	**155**	*i*Pg	**Pb**	**05 47 46.4**	**-0.2**
OFFI				Sg	**Sb**	**05 47 50.2**	**+0.6**
	15μm,0.5s						
OFFI	**Offida**	**0.08**	**155**	⇑*i*Pg	**Pb**	**05 47 46.4**	**-0.2**
OFFI				Sg	**Sb**	**05 47 50.2**	**+0.6**
	15μm,0.5s						
GUMA	**Gualdo di Mace**	**0.23**	**76**	⇓*i*Pg	**Pb**	**05 47 48.0**	**-0.1**
GUMA				Sg	**Sb**	**05 47 52.9**	**+0.7**
	3μm,0.2s						
GUMA	**Gualdo di Mace**	**0.23**	**76**	⇓*i*Pg	**Pb**	**05 47 48.0**	**-0.1**
GUMA				Sg	**Sb**	**05 47 52.9**	**+0.7**
	3μm,0.2s						
TRTR	**Tortoreto Alta**	**0.29**	**135**	⇓*i*Pg	**Pb**	**05 47 48.9**	**0.0**
TRTR				Sg	**Sb**	**05 47 55.1**	**+1.6**
	1μm,0.5s						
TRTR	**Tortoreto Alta**	**0.29**	**135**	⇓*i*Pg	**Pb**	**05 47 48.9**	**0.0**
TRTR				Sg	**Sb**	**05 47 55.1**	**+1.6**
	1μm,0.5s						
TERO	**Teramo**	**0.39**	**184**	Pg	**Pb**	**05 47 49.3**	**-1.2**
TERO				Sg	**Sb**	**05 47 55.4**	**-0.8**
	257nm,0.2s						
TERO	**Teramo**	**0.39**	**184**	Pg	**Pb**	**05 47 49.3**	**-1.2**
TERO				Sg	**Sb**	**05 47 55.4**	**-0.8**
	257nm,0.2s						
FDMO	**Fiordimonte**	**0.40**	**274**	⇓*i*Pg	**Pb**	**05 47 50.2**	**-0.5**
FDMO				Sg	**Sb**	**05 47 57.0**	**+0.4**
	309nm,0.2s						
FDMO	**Fiordimonte**	**0.40**	**274**	⇓*i*Pg	**Pb**	**05 47 50.2**	**-0.5**
FDMO				Sg	**Sb**	**05 47 57.0**	**+0.4**
	309nm,0.2s						
NRCA	**Norcia**	**0.42**	**246**	Pg	**Pb**	**05 47 50.3**	**-0.8**
NRCA				Sg	**Sb**	**05 47 57.4**	**+0.2**
	592nm,0.1s						
NRCA	**Norcia**	**0.42**	**246**	Pg	**Pb**	**05 47 50.3**	**-0.8**
NRCA				Sg	**Sb**	**05 47 57.4**	**+0.2**
	592nm,0.1s						
CING	**Cingoli**	**0.49**	**319**	Pg	**Pb**	**05 47 52.0**	**-0.1**
CING				Sg	**Sn**	**05 48 00.7**	**-0.6**
	231nm,0.4s						
CING	**Cingoli**	**0.49**	**319**	Pg	**Pb**	**05 47 52.0**	**-0.1**
CING				Sg	**Sn**	**05 48 00.7**	**-0.6**
	231nm,0.4s						
CAMP	**Campotosto**	**0.50**	**200**	Pg	**Pb**	**05 47 51.5**	**-0.9**
	34nm,0.7s						
CAMP	**Campotosto**	**0.50**	**200**	Pg	**Pb**	**05 47 51.5**	**-0.9**
	34nm,0.7s						
CESI	**CESI - Serrava**	**0.54**	**270**	⇓*i*Pg	**Pb**	**05 47 52.5**	**-0.5**
CESI				Sg	**Sb**	**05 48 01.2**	**+0.8**
	102nm,0.5s						
CESI	**CESI - Serrava**	**0.54**	**270**	⇓*i*Pg	**Pb**	**05 47 52.5**	**-0.5**
CESI				Sg	**Sb**	**05 48 01.2**	**+0.8**
	102nm,0.5s						
AOI	**Ancona**	**0.54**	**357**	Pg	**Pb**	**05 47 53.1**	**+0.1**
AOI				Sg	**Sn**	**05 48 03.7**	**+1.1**
	232nm,0.4s						
AOI	**Ancona**	**0.54**	**357**	Pg	**Pb**	**05 47 53.1**	**+0.1**
SNTG	**Esanatoglia**	**0.57**	**296**	Pg	**Pb**	**05 47 53.1**	**-0.3**
SNTG				Sg	**Sn**	**05 48 02.5**	**-0.7**
	137nm,0.2s						
SNTG	**Esanatoglia**	**0.57**	**296**	Pg	**Pb**	**05 47 53.1**	**-0.3**
SNTG				Sg	**Sn**	**05 48 02.5**	**-0.7**
	137nm,0.2s						
LNSS	**Leonessa**	**0.60**	**227**	Pg	**Pb**	**05 47 53.4**	**-0.6**
	700nm,0.2s						
LNSS	**Leonessa**	**0.60**	**227**	Pg	**Pb**	**05 47 53.4**	**-0.6**
	700nm,0.2s						
VCEL	**Villa Celiera**	**0.63**	**166**	Pg	**Pb**	**05 47 54.1**	**-0.5**
VCEL				Sg	**Sn**	**05 48 04.7**	**-0.2**
	240nm,0.3s						
VCEL	**Villa Celiera**	**0.63**	**166**	Pg	**Pb**	**05 47 54.1**	**-0.5**
VCEL				Sg	**Sn**	**05 48 04.7**	**-0.2**
	240nm,0.3s						
AQU	**L'Aquila**	**0.68**	**195**	Pg	**Pb**	**05 47 55.7**	**+0.4**
	161nm,0.6s						
AQU	**L'Aquila**	**0.68**	**195**	Pg	**Pb**	**05 47 55.7**	**+0.4**
	161nm,0.6s						
ARVD	**Arcevia**	**0.70**	**314**	Pg	**Pb**	**05 47 55.7**	**-0.1**
ARVD				Sg	**Sn**	**05 48 07.9**	**+1.3**
	103nm,0.3s						
ARVD	**Arcevia**	**0.70**	**314**	Pg	**Pb**	**05 47 55.7**	**-0.1**
ARVD				Sg	**Sn**	**05 48 07.9**	**+1.3**
	103nm,0.3s						
FAGN	**Fagnano**	**0.74**	**183**	Pg	**Pn**	**05 47 58.4**	**+1.3**
	304nm,0.3s						
FAGN	**Fagnano**	**0.74**	**183**	Pg	**Pn**	**05 47 58.4**	**+1.3**
	304nm,0.3s						
FIAM	**Fiamignano**	**0.83**	**208**	Pg	**Pb**	**05 47 58.4**	**+0.4**
	127nm,0.7s						
FIAM	**Fiamignano**	**0.83**	**208**	Pg	**Pb**	**05 47 58.4**	**+0.4**
	127nm,0.7s						
MURB	**Monte Urbino**	**0.85**	**288**	Pg	**Pb**	**05 47 58.2**	**-0.1**
	409nm,0.3s						
MURB	**Monte Urbino**	**0.85**	**288**	Pg	**Pb**	**05 47 58.2**	**-0.1**
	409nm,0.3s						
FSSB	**Fossombrone**	**0.93**	**318**	Pg	**Pn**	**05 48 00.1**	**+0.5**
	361nm,0.3s						
FSSB	**Fossombrone**	**0.93**	**318**	Pg	**Pn**	**05 48 00.1**	**+0.5**
	361nm,0.3s						
CAFR	**Castel Frentan**	**0.94**	**146**	Pg	**Pn**	**05 48 00.6**	**+0.9**
CAFR	**Castel Frentan**	**0.94**	**146**	Pg	**Pn**	**05 48 00.6**	**+0.9**
MNS	**Montasola**	**0.94**	**229**	Pg	**Pb**	**05 47 59.5**	**-0.3**
	129nm,0.4s						
MNS	**Montasola**	**0.94**	**229**	Pg	**Pb**	**05 47 59.5**	**-0.3**
	129nm,0.4s						
PIEI	**Pieia**	**0.96**	**304**	Pg	**Pb**	**05 47 59.9**	**-0.2**
	96nm,0.3s						
PIEI	**Pieia**	**0.96**	**304**	Pg	**Pb**	**05 47 59.9**	**-0.2**
	96nm,0.3s						
INTR	**Introdacqua**	**1.02**	**169**	Pg	**Pn**	**05 48 00.7**	**-0.2**
	168nm,0.3s						
INTR	**Introdacqua**	**1.02**	**169**	Pg	**Pn**	**05 48 00.7**	**-0.2**
	168nm,0.3s						
PESA	**Pesaro**	**1.10**	**328**	Pg	**Pb**	**05 48 03.7**	**+1.3**
	176nm,0.6s						
PESA	**Pesaro**	**1.10**	**328**	Pg	**Pb**	**05 48 03.7**	**+1.3**
	176nm,0.6s						
VVLD	**Villa Vallelon**	**1.14**	**181**	Pg	**Pb**	**05 48 03.9**	**+0.8**
	151nm,0.7s						
VVLD	**Villa Vallelon**	**1.14**	**181**	Pg	**Pb**	**05 48 03.9**	**+0.8**
	151nm,0.7s						
CERT	**Cerreto**	**1.17**	**205**	Pg	**Pb**	**05 48 04.3**	**+0.7**
	170nm,0.4s						
CERT	**Cerreto**	**1.17**	**205**	Pg	**Pb**	**05 48 04.3**	**+0.7**
	170nm,0.4s						
PARC	**Parchiule**	**1.20**	**303**	Pg	**Pb**	**05 48 04.6**	**+0.4**
	82nm,0.6s						
PARC	**Parchiule**	**1.20**	**303**	Pg	**Pb**	**05 48 04.6**	**+0.4**
	82nm,0.6s						
CAFI	**Castiglion Fio**	**1.26**	**285**	Pg	**Pb**	**05 48 06.1**	**+0.9**
	62nm,1.0s						
CAFI	**Castiglion Fio**	**1.26**	**285**	Pg	**Pb**	**05 48 06.1**	**+0.9**
	62nm,1.0s						
SACS	**San Casciano d**	**1.28**	**263**	Pg	**Pb**	**05 48 06.0**	**+0.5**
SACS	**San Casciano d**	**1.28**	**263**	Pg	**Pb**	**05 48 06.0**	**+0.5**
FRES	**Fresagrandinar**	**1.29**	**143**	Pg	**Pn**	**05 48 05.4**	**+0.9**
FRES	**Fresagrandinar**	**1.29**	**143**	Pg	**Pn**	**05 48 05.4**	**+0.9**
POFI	**Posta Fibreno**	**1.29**	**178**	Pg	**Pb**	**05 48 06.0**	**+0.2**
POFI	**Posta Fibreno**	**1.29**	**178**	Pg	**Pb**	**05 48 06.0**	**+0.2**
SDI	**San Donato**	**1.31**	**174**	Pg	**Pn**	**05 48 05.4**	**+0.6**
	26nm,0.4s						
SDI	**San Donato**	**1.31**	**174**	Pg	**Pn**	**05 48 05.4**	**+0.6**
	26nm,0.4s						
LATE	**Laterza**	**1.41**	**254**	Pg	**Pb**	**05 48 07.7**	**0.0**
	12nm,1.4s						
LATE	**Laterza**	**1.41**	**254**	Pg	**Pb**	**05 48 07.7**	**0.0**
	12nm,1.4s						
MIDA	**Miranda**	**1.44**	**161**	Pg	**Pn**	**05 48 07.3**	**+0.6**
	70nm,0.8s						
MIDA	**Miranda**	**1.44**	**161**	Pg	**Pn**	**05 48 07.3**	**+0.6**
	70nm,0.8s						
ASQU	**Asqua**	**1.56**	**301**	Pg	**Pb**	**05 48 11.2**	**+0.9**
	38nm,0.7s						
ASQU	**Asqua**	**1.56**	**301**	Pg	**Pb**	**05 48 11.2**	**+0.9**
	38nm,0.7s						
NVLJ	**Novalja**	**1.79**	**29**	*e*Pn	**Pn**	**05 48 11.8**	**+0.3**
NVLJ				*e*Sg	**Sn**	**05 48 33.2**	**-0.2**
NVLJ	**Novalja**	**1.79**	**29**	*e*Pn	**Pn**	**05 48 11.7**	**+0.3**
NVLJ				*e*Sg	**Sn**	**05 48 33.1**	**-0.2**
STON	**Ston**	**2.99**	**91**	*i* Pn	**Pn**	**05 48 27.6**	**-0.2**
STON				Sn	**Sn**	**05 49 01.6**	**-1.2**
STON	**Ston**	**2.99**	**91**	*i* Pn	**Pn**	**05 48 27.6**	**-0.2**
STON				Sn	**Sn**	**05 49 01.6**	**-1.2**
CGRP	**Cima Grappa**	**3.16**	**336**	⇓*e*Pn	**Pn**	**05 48 31.5**	**+1.1**
CGRP				*e*Sn	**Sn**	**05 49 05.7**	**-1.7**
CGRP	**Cima Grappa**	**3.16**	**336**	*e*Pn	**Pn**	**05 48 31.5**	**+1.1**
CGRP				*e*Sn	**Sn**	**05 49 05.6**	**-1.7**
VINO	**Villanova**	**3.26**	**356**	*e*Pn	**Pn**	**05 48 32.1**	**+0.5**
VINO				*e*Sn	**Sn**	**05 49 08.5**	**-1.1**
VINO	**Villanova**	**3.26**	**356**	*e*Pn	**Pn**	**05 48 32.1**	**+0.5**
VINO				*e*Sn	**Sn**	**05 49 08.5**	**-1.1**
CIMO	**Cimolais**	**3.41**	**346**	⇑*e*Pn	**Pn**	**05 48 34.2**	**+0.5**
CIMO				*e*Sn	**Sn**	**05 49 11.5**	**-1.8**
CIMO	**Cimolais**	**3.41**	**346**	*e*Pn	**Pn**	**05 48 34.2**	**+0.5**
CIMO				*e*Sn	**Sn**	**05 49 11.5**	**-1.8**
PGF	**Pioggiola**	**3.44**	**264**	*e*Pn	**Pn**	**05 48 36.2**	**+1.9**
PGF	**Pioggiola**	**3.44**	**264**	*e*Pn	**Pn**	**05 48 36.2**	**+1.9**
RNI	**Roncone**	**3.66**	**325**	*e*Pn	**Pn**	**05 48 38.4**	**+1.1**
RNI	**Roncone**	**3.66**	**325**	*e*Pn	**Pn**	**05 48 38.4**	**+1.1**
KOSI	**Kohlern**	**3.81**	**336**	⇑*e*Pn	**Pn**	**05 48 40.6**	**+1.3**
KOSI				*e*Sn	**Sn**	**05 49 20.8**	**-2.6**
ABSI	**Aberstueckl**	**4.07**	**337**	⇑*e*Pn	**Pn**	**05 48 44.1**	**+1.2**
ABSI				*e*Sn	**Sn**	**05 49 28.5**	**-1.3**
SBF	**Sospel**	**4.60**	**283**	*e*Pn	**Pn**	**05 48 51.4**	**+1.3**
SBF	**Sospel**	**4.60**	**283**	*e*Pn	**Pn**	**05 48 51.

744nm,0.3s,baz=181,slow=8.6,SNR=1324
BKNI Bangkinang 2.50 94 P **Pn** **05 57 12.2 +2.0**
TSI Tuntungan 2.97 0 P **Pn** **05 57 19.2 +2.5**
TPTI 3.06 333 P **Pn** **05 57 18.4 +0.6**
RGRI Rengat 3.88 103 P Pn 05 57 33.2 +4.0
KRJI Kerinci 3.89 132 P Pn 05 57 33.0 +3.6
FRIM Kepong 4.10 49 P Pn 05 57 35.1 +2.9
FRIM Kepong 4.10 49 P **Pn** **05 57 34.3 +2.1**
IPM Ipoh 4.66 32 *e*Pn Pn 05 57 42.5 +2.6
IPM Ipoh 4.66 32 P Pn 05 57 43.3 +3.5
IPM Ipoh 4.66 32 P Pn 05 57 42.7 +2.8
LHMI Lhok Sumawe 4.95 341 P **Pn** **05 57 46.0 +2.1**
KGM Kluang 5.00 73 P Pn 05 57 47.0 +2.4
KULM Kulim 5.19 24 *e*Pn **Pn** **05 57 49.3 +2.1**
KULM Kulim 5.19 24 P **Pn** **05 57 49.7 +2.5**
KULM Kulim 5.19 24 P **Pn** **05 57 49.3 +2.1**
2µm,0.8s,15µm37µm7.9nm
MYKOM Kota Tinggi 5.45 76 P Pn 05 57 53.2 +2.5
MYKOM Kota Tinggi 5.45 76 P **Pn** **05 57 52.6 +1.8**
561nm,0.9s,11µm31µm5.3nm
KSI Kapahiang 5.78 136 P Pn 05 58 00.1 +4.7
959nm,1.0s,21µm6.3nm
BSI Banda Aceh 5.92 327 P **Pn** **05 57 57.3 0.0**
1µm,0.9s,31µm16nm
MNAI Manna 6.54 138 P Pn 05 58 15.8 +10
LWLI Liwa 7.78 135 P Pn 05 58 28.9 +6.1
614nm,1.2s,16µm4.3nm
PPBI Pangkal Pinang 8.04 109 P Pn 05 58 32.8 +6.5
89nm,1.3s,2µm0.6nm
KASI Kota Agung 8.44 135 P Pn 05 58 34.8 +3.0
202nm,1.0s,3µm1.4nm
CGJI Cibinong 10.04 135 P Pn 05 58 56.8 +3.0
133nm,0.9s,2µm
DBJI Dramaga 10.78 131 P Pn 05 59 08.4 +4.5
200nm,0.6s,6µm
LEM Lembang 11.62 129 P Pn 05 59 21.2 +5.7
90nm,1.4s,2µm
KSM Kuching 11.80 85 *e*Pn **Pn** **05 59 19.4 +1.5**
KSM Kuching 11.80 85 P Pn 05 59 21.4 +3.6
KSM Kuching 11.80 85 P Pn 05 59 23.0 +5.2
76nm,1.3s,2µm
CISI Cisompet, Garu 12.23 131 P **Pn** **05 59 24.8 +1.0**
129nm,0.9s,3µm
COCO West Island 12.73 188 *e*P **Pn** **05 59 31.9 +1.3**
COCO West Island 12.73 188 *e*Pn **Pn** **05 59 31.9 +1.3**
TGJI Tegal 12.85 125 P P 05 59 37.1 -5.1
106nm,1.2s,4µm
STKI Sintang 12.94 92 P **P** **05 59 40.1 -3.2**
479nm,1.0s,22µm
PBKI Pangkalan Bun 13.50 104 P P 05 59 45.6 -3.9
462nm,1.2s,8µm
BJII Banjamegara 13.59 125 P P 05 59 45.7 -4.9
48nm,0.8s,1µm
SBUM Sibu 13.80 82 P P 05 59 49.1 -3.8
SBUM Sibu 13.80 82 P **P** **05 59 49.9 -3.0**
528nm,0.9s,4µm
SMRI Semarang 14.04 123 P **P** **05 59 54.7 -0.9**
158nm,1.0s,4µm
BTM Bintulu 14.77 79 P **P** **06 00 02.2 -1.5**
SJI Sawahan 15.52 122 P **P** **06 00 11.1 -1.0**
95nm,0.8s
PLKI Palangkaraya 15.63 100 P **P** **06 00 15.5 +2.2**
892nm,0.9s,8µm59µm
PWJI Pagerwojo 15.70 123 P P 06 00 17.8 +3.8
58nm,0.8s
BBKI Banjar Baru 16.76 104 P **P** **06 00 26.6 +0.9**
457nm,1.5s,6µm
BLJI Banyuglugur 17.10 119 P **P** **06 00 33.1 +3.6**
116nm,0.8s,4µm
KMMI Kalianget 17.12 116 P **P** **06 00 29.7 0.0**
246nm,1.0s,3µm
GMJI Gumukmas 17.22 121 P P 06 00 42.3 +11
CMAR Chiang Mai Arr 17.84 1 P **P** **06 00 37.9 +0.2**
CMAR PcP **PcP** **06 05 14.3 +1.4**
CMAR ScP **ScP** **06 08 45.1 -0.1**
CMAR Chiang Mai Arr 17.84 1 P **P** **06 00 37.9 +0.2**
15nm,0.3s,baz=190,slow=10,SNR=117
CMAR PcP **PcP** **06 05 14.3 +1.4**
0.5nm,0.3s,baz=258,slow=2.3,SNR=4.7
CMAR LR LR 06 08 12.4
comp=Z,6µm,18.1s,baz=182,slow=39
CMAR ScP **ScP** **06 08 45.1 -0.1**
baz=216,slow=3.3,SNR=6.4
JAGI Jajag, Banyuwa 17.93 120 P **P** **06 00 40.8 +2.1**
47nm,1.0s,1µm
KBKI Kotabaru 18.01 102 P **P** **06 00 41.4 +1.8**
170nm,1.3s,3µm
CHTO Chiang Mai 18.20 1 *e*P **P** **06 00 41.0 -0.6**
CHTO pmax pmax
comp=Z,77nm,0.8s
CHTO Chiang Mai 18.20 1 *e*P **P** **06 00 41.0 -0.6**
comp=Z,77nm,0.8s
CHTO Chiang Mai 18.20 1 P **P** **06 00 41.0 -0.6**
SNR=42
CHTO Chiang Mai 18.20 1 P **P** **06 00 40.9 -0.6**
comp=Z,74nm,0.8s,comp=Z,1µm
KKM Kota Kinabalu 18.47 72 *e*Pn **Pn** **06 00 47.0 +1.9**
comp=Z,550nm,1.0s
KKM Kota Kinabalu 18.47 72 P **Pn** **06 00 47.5 +2.3**
KKM Kota Kinabalu 18.47 72 P **Pn** **06 00 47.1 +1.9**
comp=Z,602nm,1.0s,comp=Z,4µm
SMKI Samarinda 18.69 93 P Pn 06 00 54.0 +6.3
comp=Z,293nm,1.0s,comp=Z,5µm
KHKI Kahang-Kahang 19.15 118 P **P** **06 00 51.2 -0.9**
comp=Z,121nm,1.1s,comp=Z,2µm
SDKM Sandakan 19.30 74 P **Pn** **06 00 56.5 +1.3**
KDM Kudat 19.32 70 P **Pn** **06 00 56.5 +1.3**
TSM Tawau 19.67 79 P **Pn** **06 00 60.0 +0.5**
MYLDM Lahad Datu 20.46 77 P Pn 06 01 09.4 +0.7
BATP Bataraza 20.87 66 *e*P Pn 06 01 12.6 -0.9
QIZ Qiongzhong 21.48 30 P **P** **06 01 15.9 -1.5**
QIZ sP **sP** **06 01 31.8 -0.7**
QIZ S **S** **06 05 13.6 -0.1**
QIZ LR LR
comp=N,2µm,17.9s
QIZ LR LR
comp=Z,3µm,17.6s
QIZ Qiongzhong 21.48 30 *e*P **P** **06 01 18.2 +0.8**
comp=Z,178nm,0.9s
QIZ LR LR
comp=Z,3µm,19.0s
TTSI Tana Toraja 21.55 100 P **P** **06 01 20.2 +2.0**
comp=Z,186nm,1.1s,comp=Z,3µm
SPSI Sidrap Palu 21.67 102 P **P** **06 01 21.8 +2.4**
comp=Z,92nm,1.2s,comp=Z,1µm
KAPI Kappang 21.88 105 *e*P **P** **06 01 22.2 +0.6**
comp=Z,145nm,0.8s
KAPI LR LR
comp=Z,2µm,20.0s
KAPI Kappang 21.88 105 P **P** **06 01 22.5 +0.8**
SNR=23
KAPI Kappang 21.88 105 P **P** **06 01 22.4 +0.7**
comp=Z,196nm,1.1s,comp=Z,1µm
BKSI Bulukumba 22.31 105 P **P** **06 01 28.5 +2.2**
comp=Z,152nm,0.7s,comp=Z,2µm
BWNR Bhubaneshwar 23.28 328 *ex* x 06 01 31.0
BWNR *ex* x 06 01 44.0
ENPP El Nido 23.30 62 *e*P **P** **06 01 37.7 +1.1**
MRSI Marisa 23.39 90 P **P** **06 01 37.6 +0.1**
comp=Z,440nm,0.8s,comp=Z,4µm
CAL Calcutta 24.05 336⇑*i*P **P** **06 01 43.6 0.0**
CAL AMb AMB 06 01 46.4
comp=Z,813nm,0.3s
CAL ⇓*i*x x 06 06 05.3
LUWI Luwuk 24.27 94 P **P** **06 01 45.9 +0.2**
comp=Z,1µm,0.9s,comp=Z,10µm
AGT Agartala 24.29 344 *e*PKP **P** **06 01 48.0 +2.3**
AGT *ex* x 06 02 48.0
KDI Kendari 24.46 101 P **P** **06 01 47.9 +0.4**
comp=Z,50nm,1.3s,comp=Z,1µm
IMP Imphal 24.54 350 *e*PKP **P** **06 01 45.0 -3.1**
IMP *e*S **S** **06 06 05.0 -1.4**
CUYO Cuyo Island 24.58 65 *e*P **P** **06 01 49.9 +1.4**
BBSI Bau Bau 24.72 104 P P 06 01 56.4 +6.6
comp=Z,476nm,0.9s,comp=Z,3µm
KMI Kunming 24.80 9 P **P** **06 01 51.5 +0.8**
KMI pP **pP** **06 01 59.8 -1.9**
KMI sP **sP** **06 02 03.3 -3.2**
KMI PP **PnPn** **06 02 28.8 +4.5**
KMI PcP **PcP** **06 05 28.6 +2.0**
KMI S **S** **06 06 09.8 -1.1**
KMI SS **SnSn** **06 07 08.1 +7.6**
KMI pmax pmax
comp=Z,110nm,0.8s
KMI pmax pmax
comp=Z,920nm,6.7s
KMI LR LR
comp=N,4µm,18.3s
KMI LR LR
comp=E,1µm,16.6s
KMI LR LR
comp=Z,5µm,19.1s
LUBP Lubang 25.18 58 *e*P **P** **06 01 54.5 +0.5**
MMRI Maumere 25.29 112 P P 06 01 58.9 +3.9
comp=Z,175nm,1.0s
KMSI Cibinong 25.43 90 P P 06 02 02.4 +6.1
comp=Z,664nm,1.0s,comp=Z,9µm
SHL Shillong 25.73 346⇑*i*P **P** **06 02 00.5 +1.5**
comp=Z,60nm,0.8s
SHL *ex* x 06 06 25.5
HYB Hyderabad 25.87 312 *i*P **P** **06 02 00.0 -0.3**
comp=Z,65nm,1.0s
HYB *e* 06 02 18.0
HYB *e*S **S** **06 06 28.0 +0.3**
GUIM Jordan 25.93 66 *e*P **P** **06 02 01.9 +1.2**
TGY Tagaytay City 25.95 58 LR LR 06 11 50.3
comp=Z,8.4nm,20.7s,slow=36
OTRP Odiongan 26.09 62 *e*P **P** **06 02 03.7 +1.5**
MNI Manado 26.30 88 P P 06 02 14.9 +11
CTBH Cotabato--PC H 26.48 75⇓*i*P **P** **06 02 06.6 +0.8**
GZH Guangzhou 26.66 32 P P 06 02 13.6 +6.4
GZH S S 06 06 48.8 +9.0
GZH LR LR
comp=N,3µm,15.2s
GZH LR LR
comp=E,1µm,14.3s
GZH LR LR
comp=Z,5µm,15.4s
GYA Guiyang 26.96 16⇑*i*P **P** **06 02 09.4 -0.7**
GYA pP **pP** **06 02 23.0 +2.0**
GYA PP PnPn 06 03 01.3 +7.7
GYA PcP **PcP** **06 05 32.1 +0.7**
GYA S **S** **06 06 44.0 -0.8**
GYA sS **sS** **06 07 04.5 +1.4**
GYA SS SnSn 06 08 03.1 +10
GYA ScP **ScP** **06 09 10.0 +1.4**
GYA pmax pmax
comp=Z,110nm,0.8s
GYA pmax pmax
comp=Z,320nm,10.2s
GYA LR LR
comp=N,4µm,18.0s
GYA LR LR
comp=E,2µm,16.8s
GYA LR LR
comp=Z,4µm,20.8s
DGAR Diego Garcia 27.19 253 PFAKE 06 02 20.0 +7.9
DGAR LR LR
comp=Z,3µm,20.0s
BUKP Musuan 27.42 74 *e*P **P** **06 02 15.3 +1.0**
DAV Davao City (W) 27.73 76 LR LR 06 14 34.4
comp=Z,2µm,21.3s,baz=251,slow=39
MSLP Maasin 27.86 69 *e*P **P** **06 02 18.9 +0.8**
LATR Latur 27.98 311 *e*PKP **P** **06 02 21.5 +2.3**
NGP Nagpur 27.99 318 *e*PKP **P** **06 02 18.4 -0.8**
NGP *ex* x 06 02 21.3
comp=Z,96nm,1.6s
NGP *ex* x 06 06 59.1
ODAN Odare 28.31 339 *e*P **P** **06 02 23.0 +0.7**
comp=Z,261nm,0.7s
ODAN Odare 28.31 339 *e*P **P** **06 02 23.0 +0.7**
comp=Z,261nm,0.7s
TAPN Taplejung 28.65 340 *e*P **P** **06 02 26.3 +1.0**
comp=Z,761nm,1.0s
TAPN Taplejung 28.65 340 *e*P **P** **06 02 26.3 +1.0**
comp=Z,761nm,1.0s
RAMN Ramite 28.69 337 *e*P **P** **06 02 26.8 +1.1**
RAMN Ramite 28.69 337 *e*P **P** **06 02 26.8 +1.1**
NLAI Namlea 28.78 98 P **P** **06 02 27.6 +1.2**
comp=Z,137nm,0.7s,comp=Z,1µm
LBMI Labuha 28.98 92 P **P** **06 02 29.8 +1.7**
comp=Z,300nm,0.9s,comp=Z,3µmcomp=Z,30µm
KAD Karad 29.22 306 *e*PKP **P** **06 02 32.1 +1.9**
ALBI Allahabad 29.48 328 *e*PKP **P** **06 02 31.5 -1.0**
JIRN Jiri 29.48 337 *e*P **P** **06 02 33.7 +0.8**
comp=Z,82nm,0.9s
JIRN Jiri 29.48 337 *e*P **P** **06 02 33.7 +0.8**
comp=Z,82nm,0.9s
PKI Pulchoki 29.72 336 *e*P **P** **06 02 35.6 +0.7**
comp=Z,272nm,0.9s
PKI Pulchoki 29.72 336 *e*P **P** **06 02 35.6 +0.7**
PKI pmax pmax
comp=Z,272nm,0.9s
PKI Pulchoki 29.72 336 *e*P **P** **06 02 35.6 +0.7**
comp=Z,272nm,0.9s
GUN Gumba 29.83 337 *e*P **P** **06 02 36.7 +0.8**
comp=Z,370nm,0.6s
GUN Gumba 29.83 337 *e*P **P** **06 02 36.7 +0.8**
comp=Z,370nm,0.6s
LSA Lhasa 29.87 347 P P 06 02 39.8 +3.4
LSA S **S** **06 07 30.6 -0.7**
LSA pmax pmax
comp=Z,210nm,1.2s
LSA LR LR
comp=E,1µm,38.4s
LSA LR LR
comp=Z,1µm,41.9s
LSA Lhasa 29.87 347 *e*P **P** **06 02 37.5 +1.1**
LSA pmax pmax
comp=Z,267nm,1.0s
LSA MLR MLR
comp=Z,828nm,21.0s
LSA Lhasa 29.87 347 *e*P **P** **06 02 37.5 +1.1**
comp=Z,267nm,1.0s
LSA LR LR
comp=Z,828nm,21.0s
DMN Daman 29.87 336 *e*P **P** **06 02 36.6 +0.4**
comp=Z,312nm,1.0s
DMN Daman 29.87 336 *e*P **P** **06 02 36.6 +0.4**
comp=Z,312nm,1.0s
MBWA Marble Bar 29.87 137 *e*P **P** **06 02 36.6 +0.6**
comp=Z,395nm,2.8s
MBWA LR LR
comp=Z,2µm,22.0s
KKN Kakani 29.96 336 *e*P **P** **06 02 37.5 +0.6**
comp=Z,271nm,1.0s
KKN Kakani 29.96 336 *e*P **P** **06 02 37.5 +0.6**
KKN pmax pmax
comp=Z,271nm,1.0s
KKN Kakani 29.96 336 *e*P **P** **06 02 37.5 +0.6**
comp=Z,271nm,1.0s
POO Poona 30.14 308⇓*i*P **P** **06 02 39.0 +0.5**
comp=Z,90nm,1.0s
POO *ex* x 06 07 22.0
GKN Gorkha 30.41 335 *e*P **P** **06 02 41.5 +0.6**
comp=Z,423nm,0.9s
GKN Gorkha 30.41 335 *e*P **P** **06 02 41.5 +0.6**
comp=Z,423nm,0.9s
MSAI Masohi 30.61 97 P P 06 02 45.7 +3.1
comp=Z,55nm,0.8s
CD2 Chengdu 30.64 9⇑P **P** **06 02 42.6 -0.1**
CD2 pP **pP** **06 02 52.1 -1.6**
CD2 sP **sP** **06 02 56.1 -2.4**
CD2 PP **PnPn** **06 03 43.8 +0.6**
CD2 PcP **PcP** **06 05 40.3 -0.1**
CD2 S **S** **06 07 41.8 -0.6**
CD2 sS **sS** **06 07 57.8 -3.0**
CD2 PcS **PcS** **06 09 22.8 -1.5**
CD2 SS **SnSn** **06 09 24.6 +2.2**
CD2 pmax pmax
comp=Z,70nm,0.8s
CD2 pmax pmax
comp=Z,350nm,4.2s
CD2 LR LR
comp=N,4µm,17.6s
CD2 LR LR
comp=E,3µm,16.2s
CD2 LR LR
comp=Z,5µm,20.6s
KOLN Koldanda 30.66 333 *e*P **P** **06 02 43.9 +0.8**
comp=Z,315nm,0.7s
KOLN Koldanda 30.66 333 *e*P **P** **06 02 43.9 +0.8**
comp=Z,315nm,0.7s
QZH Quanzhou 31.08 37⇑*i*P **P** **06 02 47.4 +0.9**
QZH pmax pmax
comp=Z,130nm,1.0s
QZH LR LR
comp=N,3µm,13.8s
QZH LR LR
comp=E,6µm,19.2s
QZH LR LR
comp=Z,6µm,16.6s
DANN Dangsing 31.09 334 *e*P **P** **06 02 47.6 +0.6**
comp=Z,293nm,0.7s
DANN Dangsing 31.09 334 *e*P **P** **06 02 47.6 +0.6**
comp=Z,293nm,0.7s
TPUB Ta-pu 31.20 42 *e*P **P** **06 02 48.5 +0.8**
comp=Z,74nm,1.0s
PYUN Piuthan 31.22 333 *e*P **P** **06 02 48.7 +0.7**
comp=Z,347nm,0.8s
PYUN Piuthan 31.22 333 *e*P **P** **06 02 48.7 +0.7**
comp=Z,347nm,0.8s
ENH Enshi 31.38 18 *e*P **P** **06 02 48.4 -0.8**
comp=Z,473nm,0.7s
ENH LR LR
comp=Z,3µm,19.0s
YULB Yu-li 31.71 43 *e*P **P** **06 02 53.0 +0.8**
comp=Z,44nm,0.9s
SSLB Suanglung 31.75 42 *e*P **P** **06 02 52.9 +0.4**
comp=Z,112nm,1.0s
FITZ Fitzroy Crossi 32.44 126 *e*P **P** **06 02 57.0 -1.6**
comp=Z,20nm,1.0s
FITZ PcP **PcP** **06 05 46.0 +0.6**
FITZ *e*PcP PcP 06 05 46.5 +1.1
FITZ *e*S S 06 08 04.0 -6.7
FITZ ScP **ScP** **06 09 26.1 -0.2**
FITZ Fitzroy Crossi 32.44 126 *e*P **P** **06 02 56.6 -2.0**
comp=Z,23nm,0.8s
FITZ *e*PCP **PcP** **06 05 46.3 +0.9**
FITZ *e*S S 06 08 02.9 -7.8
FITZ *e*SCP **ScP** **06 09 26.5 +0.2**
FITZ Fitzroy Crossi 32.44 126 P **P** **06 02 56.9 -1.6**
comp=Z,9.9nm,0.8s,baz=317,slow=11,SNR=12
FITZ PcP **PcP** **06 05 46.0 +0.6**
comp=Z,14nm,0.9s,baz=300,slow=5.0,SNR=4.4
FITZ ScP **ScP** **06 09 26.1 -0.2**
comp=Z,7.7nm,1.0s,baz=313,slow=4.5,SNR=3.8
FITZ LR LR 06 18 27.6
comp=Z,1µm,20.1s,baz=302,slow=41
NACB Ninganchiao 32.44 42 *e*P **P** **06 02 58.6 0.0**
comp=Z,86nm,1.0s
YHNB Yeheng 32.63 41 *e*P **P** **06 03 01.2 +0.9**
comp=Z,64nm,1.1s
YHNB LR LR
comp=Z,2µm,22.0s
SWI Sorong 32.74 92 P **P** **06 03 00.6 -0.7**
comp=Z,135nm,0.8s
TATO Taipei 32.92 41 PFAKE 06 03 10.0 +7.3
TATO LR LR
comp=Z,3µm,22.0s
WHN Wuhan 33.43 25⇓*i*P **P** **06 03 08.5 +1.4**
WHN *e*S **S** **06 08 25.3 -0.6**
WHN pmax pmax
comp=Z,370nm,0.7s
WHN LR LR
comp=N,2µm,16.7s
WHN LR LR
comp=E,3µm,14.9s
WHN LR LR
comp=Z,4µm,19.4s
LGTI Lohaghat 33.66 330 *ex* P 06 03 13.9 +4.8
PTH Pithoragarh 33.76 330 *e*PKP **P** **06 03 11.1 +0.9**
PTH *ex* x 06 08 28.1
FAKI Fak Fak 33.86 96 P **P** **06 03 10.9 -0.2**
comp=Z,120nm,1.1s,comp=Z,1µm
NDI New Delhi 34.65 326 *e*PKP **P** **06 03 18.0 +0.2**
NDI *e*S **S** **06 08 47.5 +2.6**
XAN Xi'an 34.74 15 P **P** **06 03 17.6 -0.9**
XAN pP **pP** **06 03 31.6 +1.9**
XAN sP **sP** **06 03 38.4 +3.9**
XAN PP **PnPn** **06 04 34.1 -1.4**
XAN S S 06 08 39.9 -6.3
XAN pmax pmax
comp=Z,120nm,0.9s
XAN LR LR
comp=N,2µm,17.6s
XAN LR LR
comp=E,370nm,17.4s
XAN LR LR
comp=Z,1µm,18.0s
DDI Dehra Dun 35.48 329⇑*i*P **P** **06 03 24.0 -0.9**
DDI *ex* x 06 09 02.0
LZH Lanzhou 35.74 7⇑P **P** **06 03 28.1 +0.9**
LZH pP **pP** **06 03 41.0 +2.6**
LZH sP **sP** **06 03 46.1 +3.0**
LZH S **S** **06 09 04.0 +2.3**
LZH sS **sS** **06 09 18.1 -2.1**
LZH SS **SnSn** **06 11 24.5 -1.7**
LZH pmax pmax
comp=Z,230nm,1.1s
LZH pmax pmax
comp=Z,770nm,4.0s
LZH LR LR
comp=N,5µm,19.8s
LZH LR LR
comp=E,1µm,14.6s
LZH LR LR
comp=Z,4µm,20.4s
KLBR Kellerberrin 36.75 152 *e*P P 06 03 38.4 +2.7
comp=Z,49nm,1.1s
NJ2 Nanjing 36.77 29 *e*P **P** **06 03 37.1 +1.2**
NJ2 pP **pP** **06 03 46.3 -0.8**
NJ2 sP **sP** **06 03 51.1 -0.7**
NJ2 PP **PnPn** **06 05 01.5 +1.1**
NJ2 S **S** **06 09 22.0 +4.7**
NJ2 sS **ScP** **06 09 38.0 -3.5**
NJ2 pmax pmax
comp=Z,170nm,0.9s
NJ2 pmax pmax
comp=Z,510nm,6.1s
NJ2 LR LR
comp=N,2µm,15.0s
NJ2 LR LR
comp=E,1µm,12.6s
NJ2 LR LR
comp=Z,11µm,16.2s
BHK Bhakra 37.20 328 *e*PKP **P** **06 03 40.4 +0.8**
SSE Sheshan 37.23 33 P **P** **06 03 40.9 +1.1**
SSE pP pP 06 03 56.3 +5.4
SSE S **S** **06 09 23.3 -0.9**
SSE sS **ScP** **06 09 48.6 +5.4**
SSE pmax pmax
comp=Z,59nm,0.8s
SSE pmax pmax
comp=Z,450nm,4.3s
SSE LR LR
comp=N,2µm,18.1s
SSE LR LR
comp=E,1µm,18.1s
SSE LR LR
comp=Z,4µm,15.9s
NWAO Narrogin (SRO) 37.64 154 *e*P P 06 03 46.6 +3.3
comp=Z,97nm,1.6s
NWAO Narrogin (SRO) 37.64 154 LR LR 06 17 11.6
comp=Z,2µm,21.7s,baz=332,slow=33
DLH Dalhousie 38.32 328 *e*PKP **P** **06 03 48.5 -0.8**
DLH *ex* x 06 04 01.5
THN Thein Dam 38.37 328 *e*PKP **P** **06 03 49.0 -0.4**
GTA Gaotai 38.73 2⇑P **P** **06 03 52.9 +0.4**
GTA pP **pP** **06 04 01.8 -2.0**
GTA sP **sP** **06 04 05.3 -3.2**
GTA PcP **PcP** **06 06 05.0 +1.3**
GTA S **S** **06 09 44.8 -2.3**
GTA ScS **ScS** **06 13 56.9 -2.8**
GTA pmax pmax
comp=Z,170nm,1.0s
GTA pmax pmax
comp=Z,830nm,6.7s
GTA LR LR
comp=N,1µm,17.3s
GTA LR LR
comp=E,990nm,18.8s
GTA LR LR
comp=Z,2µm,18.1s
JOW Kunigami 38.75 45 *e*P **P** **06 03 53.4 +0.7**
comp=Z,32nm,0.9s
JOW Kunigami 38.75 45 P **P** **06 03 52.4 -0.3**
comp=Z,31nm,0.4s,baz=241,slow=7.6,SNR=15
JOW LR LR 06 18 59.3
comp=Z,679nm,21.4s,baz=236,slow=35
TIY Taiyuan 39.17 18 *e*P **P** **06 03 57.0 +0.8**
TIY pP **pP** **06 04 08.5 +1.1**
TIY S **S** **06 09 52.8 -0.9**
TIY pmax pmax
comp=Z,140nm,0.6s
TIY pmax pmax
comp=Z,620nm,4.4s

TIY LR LR
comp=N,2µm,15.3s
TIY LR LR
comp=E,540nm,13.8s
TIY LR LR
comp=Z,2µm,21.1s
TIA Tai'an 39.49 24 P **P** **06 03 58.8 +0.1**
TIA PP **PnPn** **06 05 38.9 +5.8**
TIA S **S** **06 09 56.9 -1.4**
TIA LR LR
comp=N,2µm,23.7s
TIA LR LR
comp=E,2µm,17.8s
TIA LR LR
comp=Z,2µm,21.4s
SMPI Sarmi 40.23 94 P **P** **06 04 04.9 -0.4**
comp=Z,105nm,1.3s
WRA Warramunga Arr 40.53 122 P **P** **06 04 05.5 -2.2**
WRA PcP **PcP** **06 06 09.9 +0.2**
WRA ScP **ScP** **06 09 55.2 -0.9**
WRA S S 06 10 06.9 -7.4
WRA Warramunga Arr 40.53 122 P **P** **06 04 05.5 -2.2**
comp=Z,38nm,0.8s,baz=300,slow=9.1,SNR=88
WRA PcP **PcP** **06 06 09.9 +0.2**
comp=Z,20nm,0.8s,baz=306,slow=2.9,SNR=12
WRA ScP **ScP** **06 09 55.2 -0.9**
comp=Z,6.3nm,1.1s,baz=310,slow=3.6,SNR=7.6
WRA S S 06 10 06.9 -7.4
comp=Z,14nm,1.2s,baz=296,slow=16,SNR=12
WRA LR LR 06 24 25.0
comp=Z,1µm,20.2s,baz=290,slow=41
WRAB Tennant Creek 40.53 122 *e*P **P** **06 04 06.0 -1.7**
WRAB PcP **PcP** **06 06 09.9 +0.2**
comp=Z,46nm,0.8s
WRAB pmax pmax
comp=Z,1µm,22.0s
WRAB Tennant Creek 40.53 122 *e*P **P** **06 04 06.0 -1.7**
comp=Z,46nm,0.8s
WRAB LR LR
comp=Z,1µm,22.0s
BTO Baotou 41.25 13 *e*P **P** **06 04 14.3 +0.9**
BTO S **S** **06 10 25.9 +1.2**
HHC Hu-ho-hao-te 41.86 15⇑*i*P **P** **06 04 19.9 +1.6**
HHC pP pP 06 04 35.0 +5.4
HHC PP **PnPn** **06 06 02.5 +1.5**
HHC PcP **PcP** **06 06 10.9 -2.8**
HHC ScP **ScP** **06 09 57.0 -4.1**
HHC S S 06 10 40.3 +6.6
HHC SS **SS** **06 13 39.4 -1.7**
HHC ScS **ScS** **06 14 13.1 -5.1**
HHC pmax pmax
comp=Z,410nm,0.9s
HHC pmax pmax
comp=Z,640nm,7.2s
HHC LR LR
comp=N,4µm,19.2s
HHC LR LR
comp=E,1µm,15.6s
HHC LR LR
comp=Z,4µm,19.2s
FORT Forrest 41.89 141 *e*P **P** **06 04 19.2 +0.6**
comp=Z,142nm,0.8s
FORT Forrest 41.89 141 *e*P **P** **06 04 20.3 +1.7**
comp=Z,116nm,0.7s
FORT eS **S** **06 10 33.9 -0.3**
ASAR Alice Springs 41.91 127 P **P** **06 04 17.6 -1.3**
ASAR PcP **PcP** **06 06 15.1 +0.9**
ASAR ScP **ScP** **06 10 00.7 -0.9**
ASAR S S 06 10 27.6 -7.1
ASAR Alice Springs 41.91 127 P **P** **06 04 17.6 -1.3**
comp=Z,26nm,0.8s,baz=301,slow=7.8,SNR=123
ASAR PcP **PcP** **06 06 15.1 +0.9**
comp=Z,30nm,0.9s,baz=307,slow=3.0,SNR=24
ASAR ScP **ScP** **06 10 00.7 -0.9**
comp=Z,5.2nm,0.8s,baz=309,slow=3.6,SNR=8.6
ASAR S S 06 10 27.6 -7.1
comp=Z,3.9nm,0.8s,baz=291,slow=14,SNR=10.0
ASAR LR LR 06 24 20.3
comp=Z,867nm,19.7s,baz=303,slow=40
BJT Baijiatuau 42.48 20 *e*P **P** **06 04 23.5 +0.2**
comp=Z,1µm,1.0s
BJT LR LR
comp=Z,1µm,20.0s
BJI Beijing 42.50 20 P **P** **06 04 25.0 +1.6**
BJI pP **pP** **06 04 34.8 +0.1**
BJI sP **sP** **06 04 38.6 -0.9**
BJI PP **PP** **06 06 05.3 +2.8**
BJI S **S** **06 10 43.0 +0.1**
BJI sS **sS** **06 11 03.1 +1.4**
BJI pmax pmax
comp=Z,2µm,3.2s
BJI LR LR
comp=N,1µm,17.1s
BJI LR LR
comp=E,750nm,17.1s
BJI LR LR
comp=Z,930nm,26.1s
MSEY Mahe Island 43.33 263 PFAKE 06 04 40.0 +9.3
MSEY LR LR
comp=Z,2µm,21.0s
DL2 Dalian 43.68 26⇑*i*P **P** **06 04 33.8 +0.8**
DL2 pP **pP** **06 04 47.8 +3.5**
DL2 S **S** **06 11 00.3 +0.1**
DL2 pmax pmax
comp=Z,310nm,1.0s
DL2 pmax pmax
comp=Z,330nm,5.0s
DL2 LR LR
comp=N,790nm,18.3s
DL2 LR LR
comp=E,450nm,16.3s
DL2 LR LR
comp=Z,990nm,17.7s
KSH Kashi 43.96 335 P **P** **06 04 34.9 -0.5**
KSH pP **pP** **06 04 50.5 +3.7**
KSH sP sP 06 04 57.6 +6.1
KSH PcP **PcP** **06 06 19.6 -1.2**
KSH ScP **ScP** **06 10 05.5 -4.2**
KSH PcS **PcS** **06 10 11.3 -2.6**
KSH S **S** **06 11 01.4 -3.2**
KSH sS sS 06 11 29.3 +5.8
KSH SS SS 06 14 11.3 -11
KSH ScS **ScS** **06 14 25.3 -6.1**
KSH pmax pmax
comp=Z,57nm,0.8s
KSH pmax pmax
comp=Z,370nm,4.5s
KSH LR LR
comp=N,270nm,11.4s
KSH LR LR
comp=E,1µm,21.4s
KSH LR LR
comp=Z,950nm,19.1s
WMQ Urumqi 44.20 349 P **P** **06 04 38.5 +1.3**
WMQ pP pP 06 04 53.1 +4.5
WMQ PcP **PcP** **06 06 21.0 -0.5**
WMQ S **S** **06 11 06.0 -1.8**
WMQ sS sS 06 11 33.0 +6.3
WMQ ScS **SS** **06 14 26.0 -1.0**
WMQ pmax pmax
comp=Z,300nm,1.1s
WMQ pmax pmax
comp=Z,470nm,4.3s
WMQ LR LR
comp=N,1µm,19.8s
WMQ LR LR
comp=E,2µm,17.0s
WMQ LR LR
comp=Z,2µm,24.5s
WBK Wadi Bani Khal 44.31 303 P P 06 04 40.8 +2.4
SNR=12
JNU Nakatsue 44.45 40 *e*P **P** **06 04 39.0 -0.3**
comp=Z,112nm,0.9s
JNU Nakatsue 44.45 40 P **P** **06 04 39.2 -0.1**
comp=Z,228nm,0.8s,baz=204,slow=2.1,SNR=77
JNU LR LR 06 22 33.1
comp=Z,1µm,21.8s,baz=241,slow=35
JMDO Jabal Madar 44.95 302 P **P** **06 04 45.5 +2.0**
SNR=8.6
INCN Inchon 45.00 32 *e*P **P** **06 04 43.1 -0.5**
comp=Z,148nm,1.1s
INCN LR LR
comp=Z,2µm,20.0s
SMDO Samad 45.27 303 P **P** **06 04 48.3 +2.2**
SNR=8.1
KSAR Wonju Array Be 45.64 33 P **P** **06 04 48.9 +0.2**
KSRS Korea Array 45.67 33 P **P** **06 04 48.9 0.0**
comp=Z,209nm,0.8s,baz=221,slow=8.7,SNR=362
KSRS LR LR 06 26 27.6
comp=Z,1µm,18.6s,baz=225,slow=39
BSY Bisya 45.86 302 P P 06 04 53.1 +2.4
SNR=20
HOQ Hoqain 46.10 303 P **P** **06 04 54.9 +2.3**
SNR=12
ULHL Ulahol 46.15 337 P **P** **06 04 53.8 +0.9**
SNR=108
KZA Kyzart 46.40 336 P **P** **06 04 56.2 +1.1**
SNR=76
COEN Coen 46.47 110 *e*P **P** **06 04 54.1 -1.4**
comp=Z,64nm,0.7s
ARQ Araqi 46.67 302 P **P** **06 04 59.2 +2.2**
SNR=6.1
RBK Rabkut 46.76 294 P **P** **06 05 00.1 +2.2**
SNR=8.0
UCH Uchtor 46.83 335 P **P** **06 05 00.2 +1.7**
SNR=25
SNY Shenyang 46.92 26⇑P **P** **06 04 56.3 -2.3**
SNY S **S** **06 11 42.0 -5.0**
SNY pmax pmax
comp=Z,510nm,6.9s
SNY LR LR
comp=N,2µm,15.6s
SNY LR LR
comp=E,1µm,13.8s
SNY LR LR
comp=Z,1µm,22.1s
TKM2 Tokmak 2 46.97 337 *e*P **P** **06 05 00.2 +0.9**
TKM2 pmax pmax
comp=Z,257nm,1.0s
TKM2 MLR MLR
comp=Z,838nm,21.0s
TKM2 Tokmak 2 46.97 337 *e*P **P** **06 05 00.2 +0.9**
comp=Z,257nm,1.0s
TKM2 LR LR
comp=Z,838nm,21.0s
TKM2 Tokmak 2 46.97 337 P **P** **06 05 00.4 +1.0**
SNR=343
KBK Karagaybulak 47.01 336 P **P** **06 05 01.2 +1.6**
SNR=210
RER Riviere de l'E 47.03 240 PFAKE 06 05 10.0 +10
RER LR LR
comp=Z,1µm,19.0s
AML Almayashu 47.09 335 P **P** **06 05 02.2 +1.7**
SNR=16
AAK Ala-Archa 47.17 336 *e*P **P** **06 05 01.7 +0.9**
AAK pmax pmax
comp=Z,456nm,1.0s
AAK Ala-Archa 47.17 336 *e*P **P** **06 05 01.7 +0.9**
comp=Z,104nm,1.0s
AAK Ala-Archa 47.17 336 P **P** **06 05 02.3 +1.5**
SNR=64
AAK Ala-Archa 47.17 336 P **P** **06 05 03.0 +2.1**
SNR=72
AAK Ala-Archa 47.17 336 P **P** **06 05 02.1 +1.3**
comp=Z,31nm,0.6s,baz=149,slow=11,SNR=143
AAK LR LR 06 26 38.8
comp=Z,1µm,21.7s,baz=141,slow=38
FRU Bishkek 47.29 336⇑*i*P **P** **06 05 03.0 +1.4**
FRU *i* 06 05 18.0
FRU pmax pmax
comp=Z,280nm,2.0s
FRU MLR MLR
comp=Z,1µm,20.0s
CHMS Chumysh 47.37 336 P **P** **06 05 03.1 +0.9**
SNR=55
EKS2 Erkin-Say 47.49 335 *e*P **P** **06 05 04.6 +1.3**
EKS2 pmax pmax
comp=Z,120nm,0.8s
EKS2 MLR MLR
comp=Z,516nm,20.0s
EKS2 Erkin-Say 47.49 335 *e*P **P** **06 05 04.6 +1.3**
comp=Z,120nm,0.8s
EKS2 LR LR
comp=Z,516nm,20.0s
EKS2 Erkin-Say 47.49 335 P **P** **06 05 05.0 +1.7**
SNR=8.7
ABTO Aybut 47.55 293 P **P** **06 05 05.6 +1.5**
SNR=9.3
HATD Hatta, Dubai 47.59 304 P **P** **06 05 06.1 +2.0**
SNR=9.3
ASHO Ashiyiah 47.59 304 P **P** **06 05 05.6 +1.4**
SNR=7.7
SONM Songino Array 47.63 7 P **P** **06 05 05.2 +1.0**
SONM PcP **PcP** **06 06 34.3 +0.9**
SONM ScP ScP 06 10 31.6 +6.9
SONM Songino Array 47.63 7 P **P** **06 05 05.2 +1.0**
comp=Z,106nm,0.7s,baz=189,slow=8.6,SNR=764
SONM PcP **PcP** **06 06 34.3 +0.9**
comp=Z,64nm,0.8s,baz=182,slow=3.2,SNR=9.2
SONM ScP ScP 06 10 31.6 +6.9
comp=Z,4.2nm,0.9s,baz=190,slow=2.9,SNR=3.8
SONM LR LR 06 27 23.7
comp=Z,3µm,19.0s,baz=186,slow=39
USP Ospenovka 47.70 336 P **P** **06 05 06.3 +1.6**
SNR=12
ULN Ulaanbaatar 47.74 8 *e*P **P** **06 05 06.1 +0.9**
comp=Z,140nm,1.0s
ULN LR LR
comp=Z,3µm,20.0s
ULN Ulaanbaatar 47.74 8 P **P** **06 05 06.5 +1.4**
SNR=72
ULN Ulaanbaatar 47.74 8 P **P** **06 05 05.9 +0.7**
comp=Z,166nm,1.4s,comp=Z,2µm
NAZ Nazwa, Dubai 48.04 304 P **P** **06 05 09.5 +1.8**
SNR=6.9
ASUD Al Ashush, Dub 48.17 303 P P 06 05 11.2 +2.5
SNR=10
MK31 Makanchi Array 48.24 345 *e*P **P** **06 05 09.3 +0.4**
MK31 pmax pmax
comp=Z,173nm,0.6s
MKAR Makanchi Array 48.24 345 P **P** **06 05 09.4 +0.5**
MKAR pmax pmax
comp=Z,215nm,0.7s
MKAR MLR MLR
comp=Z,461nm,18.4s
MKAR Makanchi Array 48.24 345 *e*P **P** **06 05 09.4 +0.5**
MKAR Makanchi Array 48.24 345 P **P** **06 05 09.3 +0.5**
comp=Z,215nm,0.7s,baz=154,slow=7.4,SNR=1694
MKAR LR LR 06 30 22.9
comp=Z,461nm,18.4s,baz=161,slow=42
BBOO Buckleboo 48.45 137 *e*P **P** **06 05 11.2 +0.5**
comp=Z,558nm,0.9s
KK31 Karatay Array 49.27 333 *i* P **P** **06 05 17.1 +0.2**
KK31 pmax pmax
comp=Z,23nm,0.6s
KKAR Karatay Array 49.27 333 *e*P **P** **06 05 17.1 +0.2**
KKAR Karatay Array 49.27 333 *e*P **P** **06 05 17.1 +0.2**
CN2 Changchun 49.33 26 *e*P **P** **06 05 16.9 -0.3**
CN2 *e*pP **pP** **06 05 32.8 +4.1**
CN2 PcP **PcP** **06 06 38.9 -0.6**
CN2 *e*S **S** **06 12 19.3 -1.7**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1µm,19.0s
CN2 LR LR
comp=E,900nm,19.0s
CN2 LR LR
comp=Z,1µm,20.0s
ITEG Tejag 49.37 315 *e*P **P** **06 05 17.9 -0.1**
PMG Port Moresby 49.39 103 *e*P **P** **06 05 18.0 -0.2**
comp=Z,38nm,0.9s
PMG PcP **PcP** **06 06 40.7 +0.4**
PMG LR LR
comp=Z,537nm,22.0s
PMG Port Moresby 49.39 103 P **P** **06 05 18.0 -0.2**
comp=Z,43nm,1.3s,comp=Z,724nm
PMG Port Moresby 49.39 103 P **P** **06 05 17.7 -0.5**
comp=Z,34nm,0.8s,baz=271,slow=5.4,SNR=7.8
PMG PcP **PcP** **06 06 40.7 +0.4**
comp=Z,20nm,0.8s,baz=332,slow=19,SNR=3.0
CBIJ Chichi jima 49.52 54 P **P** **06 05 17.9 -1.1**
CBIJ Chichi jima 49.52 54 P **P** **06 05 17.9 -1.1**
comp=Z,393nm,0.7s,baz=307,slow=5.1,SNR=19
CBIJ LR LR 06 23 28.2
comp=Z,492nm,18.3s,baz=239,slow=33
ZAK Zakamensk 49.85 4 *e*P **P** **06 05 21.5 +0.3**
ZAK *e* 06 06 39.6
ZAK pmax pmax
comp=Z,51nm,1.0s
JHJ Hachijo jima 2 50.52 46 P **P** **06 05 25.1 -1.4**
comp=Z,217nm,0.7s,baz=255,slow=12,SNR=2.8
JHJ LR LR 06 24 41.6
comp=Z,520nm,21.0s,baz=252,slow=34
ISRO Mashad 50.79 319 *e*P **P** **06 05 28.3 -0.3**
CTA Charters Tower 50.99 117 P **P** **06 05 29.4 -0.9**
CTA Charters Tower 50.99 117 *e*P **P** **06 05 29.7 -0.6**
comp=Z,25nm,0.8s
CTA *e*pP **pP** **06 05 37.4 -4.4**
CTA *e*PCP **PcP** **06 06 46.6 +0.5**
CTA Charters Tower 50.99 117 P **P** **06 05 29.4 -0.9**
comp=Z,27nm,0.8s,baz=289,slow=9.8,SNR=26
CTA LR LR 06 28 39.1
comp=Z,854nm,21.2s,baz=80,slow=38
CTAO Charters Tower 50.99 117 *e*P **P** **06 05 30.0 -0.3**
CTAO pmax pmax
comp=Z,61nm,0.9s
CTAO MLR MLR
comp=Z,983nm,22.0s
CTAO Charters Tower 50.99 117 *e*P **P** **06 05 30.0 -0.3**
comp=Z,61nm,0.9s
CTAO LR LR
comp=Z,983nm,22.0s
MOY Mondy 51.02 2 *e*P **P** **06 05 30.8 +0.8**
MOY pmax pmax
comp=Z,92nm,3.6s
IBAF Bafgh 51.03 312 *e*P **P** **06 05 29.4 -1.2**
TLY Talaya 51.17 4⇑*i*P **P** **06 05 31.3 +0.2**
TLY *e*S S 06 12 39.6 -6.8
TLY *e*PS PKiKP 06 13 07.3 -22
TLY pmax pmax
comp=Z,67nm,0.8s
TLY pmax pmax
comp=Z,3µm,18.0s
TLY Talaya 51.17 4 *e*P **P** **06 05 32.2 +1.1**
comp=Z,69nm,0.8s
TLY LR LR
comp=Z,4µm,19.0s
TLY Talaya 51.17 4 P **P** **06 05 32.6 +1.5**
SNR=39
IPAY Payeh 51.18 319 *e*P **P** **06 05 31.5 -0.2**
MAJO Matsushiro 51.30 41 *e*P **P** **06 05 31.1 -1.2**
MAJO pmax pmax
comp=Z,72nm,1.1s
MAJO MLR MLR
comp=Z,967nm,20.0s
MAJO Matsushiro 51.30 41 *e*P **P** **06 05 31.1 -1.2**
comp=Z,72nm,1.1s
MAJO LR LR
comp=Z,967nm,20.0s
MAT Matsushiro 51.30 41 P **P** **06 05 31.3 -1.1**
MJAR Matsushiro Arr 51.31 41 P **P** **06 05 31.5 -0.9**
MJAR PcP **PcP** **06 06 47.3 +0.3**
MJAR Matsushiro Arr 51.31 41 P **P** **06 05 31.5 -0.9**
comp=Z,46nm,0.8s,baz=225,slow=7.2,SNR=66
MJAR PcP **PcP** **06 06 47.3 +0.3**
comp=Z,8.6nm,0.9s,baz=240,slow=3.9,SNR=4.2
MJAR LR LR 06 31 03.7
comp=Z,565nm,18.5s,baz=235,slow=40
IAKL Akhelmad 51.42 319 *e*P **P** **06 05 32.3 -1.3**
IKRD Kardeh 51.68 319 *e*P P 06 05 31.0 -4.5
IRK Irkutsk 51.78 4 *e*P **P** **06 05 36.2 +0.6**
IRK *e* 06 07 35.3
IRK pmax pmax
comp=Z,192nm,1.9s
MDJ Mudanjiang 51.83 28 P **P** **06 05 36.4 +0.4**
MDJ pP **pP** **06 05 45.5 -2.2**
MDJ sP **sP** **06 05 49.3 -3.0**
MDJ ScP **ScP** **06 10 43.8 +1.2**
MDJ PcS **PcS** **06 10 47.1 +0.5**
MDJ S **S** **06 12 56.8 +1.1**
MDJ sS **sS** **06 13 12.4 -2.5**
MDJ pmax pmax
comp=Z,51nm,1.3s
MDJ pmax pmax
comp=Z,430nm,5.0s
MDJ LR LR
comp=N,2µm,16.9s
MDJ LR LR
comp=E,880nm,16.6s
MDJ LR LR
comp=Z,3µm,16.3s
MDJ Mudanjiang 51.83 28 *e*P **P** **06 05 36.5 +0.4**
comp=Z,79nm,0.9s
MDJ LR LR
comp=Z,2µm,19.0s
VLA Vladivostok 51.86 31*c i*P **P** **06 05 36.4 +0.1**
VLA 06 06 49.2
VLA S **S** **06 12 56.3 +0.2**
VLA pmax pmax
comp=Z,112nm,1.1s
HIA Hailar 51.88 18 *e*P **P** **06 05 36.7 +0.3**
comp=Z,171nm,1.0s
HIA LR LR
comp=Z,902nm,21.0s
STKA Stephens Creek 51.90 132 P **P** **06 05 36.7 -0.1**
STKA Stephens Creek 51.90 132 *e*P **P** **06 05 36.7 -0.1**
comp=Z,20nm,0.6s
STKA Stephens Creek 51.90 132 P **P** **06 05 36.7 -0.1**
comp=Z,27nm,0.7s,baz=309,slow=8.1,SNR=47
STKA LR LR 06 27 22.3
comp=Z,1µm,21.9s,baz=294,slow=36
IEMG Emamgholi 51.96 320 *e*P **P** **06 05 36.5 -1.1**
ISFR Sfrayin 52.18 319 *e*P **P** **06 05 38.2 -1.0**
ICHK Chekchek 52.21 312 *e*P **P** **06 05 39.2 -0.3**
ABKT Ailbek 52.60 320 P **P** **06 05 42.7 +0.6**
comp=Z,234nm,0.9s,SNR=5.5
USRK Ussuriysk Arra 52.69 30 P **P** **06 05 42.6 +0.2**
comp=Z,211nm,0.9s,baz=229,slow=5.3,SNR=295
USRK LR LR 06 30 38.5
comp=Z,833nm,18.5s,baz=211,slow=39
KURBB Kurchatov Arra 52.75 344 P **P** **06 05 43.1 +0.3**
comp=Z,131nm,0.8s,baz=162,slow=7.1,SNR=910
KURBB S **S** **06 13 12.2 +4.1**
comp=Z,4.8nm,1.1s,baz=158,slow=12,SNR=8.5
KURBB LR LR 06 31 00.3
comp=Z,704nm,21.1s,baz=155,slow=39
KURK Kurchatov 52.81 344*ce*P **P** **06 05 43.5 +0.2**
KURK pmax pmax
comp=Z,321nm,1.0s
KURK Kurchatov 52.81 344 *e*P **P** **06 05 43.6 +0.4**
comp=Z,238nm,0.9s
KURK S **S** **06 13 12.2 +3.3**
KURK Kurchatov 52.81 344 P **P** **06 05 44.0 +0.8**
SNR=93
CIT Chita 52.86 12 *e*P **P** **06 05 45.6 +1.9**
CIT *e* 06 05 57.4
CIT pmax pmax
comp=Z,351nm,1.5s
ABPO Ambohimpanom 53.96 246 PFAKE 06 06 00.0 +7.5
ABPO LR LR
comp=Z,1µm,20.0s
IANJ Anjilo 54.13 315 *e*P **P** **06 05 52.4 -1.1**
ZALV Zalesovo Beam 54.46 350 P **P** **06 05 55.4 +0.1**
ZALV S **S** **06 13 32.7 +1.6**
ZALV pmax pmax
comp=Z,97nm,0.4s
ZALV smax smax
comp=N,4.0nm,0.9s
ZALV MLR MLR
comp=Z,894nm,21.5s
ZALV Zalesovo Beam 54.46 350 P **P** **06 05 55.4 +0.1**
ZALV S **S** **06 13 32.7 +1.6**
ZALV ⇑*e* 06 36 19.8
ZALV Zalesovo Beam 54.46 350 P **P** **06 05 55.4 +0.1**
comp=Z,97nm,0.4s,baz=176,slow=5.7,SNR=605
ZALV S **S** **06 13 32.7 +1.6**
comp=Z,4.4nm,0.9s,baz=172,slow=13,SNR=7.5
ZALV LR LR 06 31 35.6
comp=Z,894nm,21.5s,baz=168,slow=39
ZALV PKP2bc 06 36 19.8
comp=Z,0.2nm,0.3s,baz=282,slow=7.4,SNR=3.6
ISHM Shahmirzad 54.74 315 *e*P **P** **06 05 55.3 -2.7**
IKLH Kolahrood 54.82 312 *e*P **P** **06 05 57.8 -0.8**
IPIR Pirpir 55.06 311 *e*P **P** **06 06 00.7 +0.3**
NVS Novosibirsk 55.59 349⇑*i*P **P** **06 06 01.5 -1.9**
NVS *e* 06 08 11.3
NVS *e*S S 06 13 39.1 -7.2
NVS pmax pmax
comp=N,58nm,1.0s
NVS pmax pmax
comp=E,35nm,1.0s
NVS pmax pmax
comp=Z,112nm,1.0s
NVS pmax pmax
comp=N,28nm,1.8s
NVS pmax pmax

NVS pmax pmax
comp=Z,40nn,1.8s
NVS smax smax
comp=N,27nn,1.5s
NVS smax smax
comp=E,34nn,1.5s
KBD Kabd 56.20 305 *e*P **P 06 06 08.7 +0.4**
KBD AMb AMB 06 06 10.0
comp=Z,86nn,1.2s
RAYN Ar Rayn 56.27 298 P **P 06 06 09.5 +0.5**
comp=Z,261nn,0.7s,SNR=16
KLR Kul'dur 56.28 26⇓ *i*P P 06 06 05.0 -3.5
KLR *e*S **S 06 13 55.5 -0.2**
KLR pmax pmax
comp=N,640nn,1.8s
KLR pmax pmax
comp=E,220nn,1.8s
KLR pmax pmax
comp=Z,700nn,1.8s
KLR MLR MLR
comp=Z,4μm,14.0s
UMR Umm Al-Rimmam 56.31 306 *e*P **P 06 06 09.5 +0.4**
ATD Arta Tunnel 56.36 283 P **P 06 06 10.1 +0.4**
ATD Arta Tunnel 56.36 283 P **P 06 06 10.1 +0.4**
comp=Z,6.2nn,0.3s,baz=45,slow=7.1,SNR=4.2
ATD LR LR 06 26 30.1
comp=Z,244nn,19.1s,baz=343,slow=32
NAY Al-Naaiem 56.59 305 *e*P **P 06 06 11.1 0.0**
NAY AMb AMB 06 06 12.1
comp=Z,89nn,0.8s
EIDS Eidsvold 56.87 121 *e*P **P 06 06 13.0 -0.1**
comp=Z,32nn,0.6s
HABR Khabarovsk 57.22 28*ce*P **P 06 06 13.7 -1.4**
HABR *e**PP **pP 06 06 22.8 -4.0**
HABR *e**SP **sP 06 06 26.6 -4.9**
HABR *e* 06 07 07.7
HABR *e* 06 08 19.6
HABR *e*S **S 06 14 07.4 -0.6**
HABR *e* 06 14 18.1
HABR *e**SS **sS 06 14 23.0 -4.4**
HABR *e* 06 15 59.4
HABR pmax pmax
comp=N,33nn,1.3s
HABR pmax pmax
comp=Z,132nn,1.3s
HABR pmax pmax
comp=E,91nn,1.6s
HABR pmax pmax
comp=Z,582nn,3.5s
HABR MLR MLR
comp=Z,2μm,21.0s
BVAR Borovoye Array 57.35 340 P **P 06 06 15.5 -0.5**
BVAR pmax pmax
comp=Z,82nn,0.7s
BVAR Borovoye Array 57.35 340 P **P 06 06 15.5 -0.5**
BVAR Borovoye Array 57.35 340 P **P 06 06 15.5 -0.5**
comp=Z,82nn,0.7s,baz=143,slow=8.4,SNR=444
BRVK Borovoye 57.41 340*ce*P **P 06 06 16.1 -0.3**
BRVK pmax pmax
comp=Z,101nn,0.8s
BRVK Borovoye 57.41 340 *e*P **P 06 06 15.7 -0.7**
comp=Z,97nn,0.9s
BRVK LR LR
comp=Z,1μm,20.0s
BRVK Borovoye 57.41 340 P **P 06 06 15.8 -0.6**
SNR=37
TOO Toolangi 57.51 137 *e*P **P 06 06 19.3 +1.8**
comp=Z,156nn,1.0s
TOO *e*PCP **PcP 06 07 12.0 +1.2**
ERM Erimo 57.56 38 *e*P **P 06 06 17.7 0.0**
ERM Erimo 57.56 38 PFAKE 06 06 30.0 +12
ERM LR LR
comp=Z,1μm,20.0s
IKOM Komasi 58.25 311 *e*P **P 06 06 21.9 -1.0**
ASAJ Asahikawa 58.41 36 *e*P **P 06 06 23.9 +0.3**
comp=Z,41nn,1.2s
ASAJ Asahikawa 58.41 36 P **P 06 06 23.9 +0.3**
comp=Z,16nn,0.4s,baz=230,slow=7.9,SNR=11
ASAJ LR LR 06 30 33.1
comp=Z,475nn,21.4s,baz=260,slow=35
AB31 Akbulak array 58.76 331 *i*P **P 06 06 25.5 -0.4**
AB31 pmax pmax
comp=Z,97nn,0.8s
ABKAR Akbulak array 58.76 331 *e*P **P 06 06 25.4 -0.5**
CAN Canberra 58.96 133 PFAKE 06 06 40.0 +12
CAN LR LR
comp=Z,1μm,20.0s
IGHG Ghaleghazi 59.02 311 *e*P **P 06 06 28.0 -0.4**
ARMA Armidale 59.04 126 *e*P **P 06 06 29.8 +1.4**
comp=Z,27nn,0.9s
ARMA Armidale 59.04 126 *e*P **P 06 06 29.4 +1.0**
CNB Canberra Magne 59.23 132 *e*P **P 06 06 30.0 +0.4**
comp=Z,38nn,0.9s
ISRB Sarab 59.67 315 *e*P **P 06 06 32.4 -0.4**
CLNS Chul'man 60.01 16 *e*P **P 06 06 35.0 +0.5**
CLNS *e* 06 07 20.9
CLNS *e* 06 08 43.8
CLNS *e*S **S 06 14 45.0 +0.8**
CLNS pmax pmax
comp=Z,81nn,1.0s
CLNS pmax pmax
comp=E,35nn,1.0s
CLNS pmax pmax
comp=N,49nn,1.0s
CLNS pmax pmax
comp=Z,11nn,1.0s
CLNS pmax pmax
comp=E,10.0nn,1.0s
CLNS pmax pmax
comp=N,10.0nn,1.0s
CLNS smax smax
comp=N,305nn,14.9s
CLNS smax smax
comp=E,393nn,15.6s
CLNS MLR MLR
comp=E,289nn,15.0s
CLNS MLR MLR
comp=Z,126nn,15.0s
CLNS MLR MLR
comp=N,354nn,16.0s
IBST Bostanabad 60.17 314 *e*P **P 06 06 34.5 -1.7**
YSS Yuzh-Sakhalins 60.17 33⇑ *i*P **P 06 06 36.2 +0.5**
YSS *e* 06 06 48.8
YSS *e* 06 06 51.5
YSS pmax pmax
comp=N,60nn,1.0s
YSS pmax pmax
comp=Z,230nn,1.0s
YSS MLR MLR
comp=N,400nn,17.0s
YSS MLR MLR
comp=E,600nn,17.0s
YSS MLR MLR
comp=Z,400nn,17.0s
YSS Yuzh-Sakhalins 60.17 33 *e*P **P 06 06 35.9 +0.2**
comp=Z,236nn,1.0s
YSS LR LR
comp=Z,297nn,19.0s
BHD Baghdad 60.31 309 *ex* **P 06 06 33.8 -3.2**
BHD *ex* x 06 14 42.7
YUK Yuzh-Kuril'sk 60.33 38*d* *i*P **P 06 06 36.6 -0.2**
YUK *i* 06 08 53.4
YUK *i* PPP PPP 06 10 12.2
YUK *i* S **S 06 14 51.3 +2.7**
YUK *i* 06 16 20.4
YUK pmax pmax
comp=N,165nn,1.1s
YUK pmax pmax
comp=Z,199nn,1.1s
YUK pmax pmax
comp=E,225nn,1.1s
YUK pmax pmax
comp=Z,787nn,2.1s
YUK MLR MLR
comp=N,194nn,20.0s
YUK MLR MLR
comp=E,148nn,20.0s
YUK MLR MLR
comp=Z,406nn,20.0s
IHRS Heris 60.33 315 *e*P **P 06 06 36.7 -0.6**
AKTO Aktyubinsk 60.47 331 P **P 06 06 37.0 -0.8**
AKTO pmax pmax
comp=Z,42nn,0.9s
AKTO MLR MLR
comp=Z,280nn,18.1s
AKTO Aktyubinsk 60.47 331 P **P 06 06 37.0 -0.8**
AKTO Aktyubinsk 60.47 331 P **P 06 06 37.0 -0.8**
comp=Z,42nn,0.9s,baz=124,slow=7.6,SNR=93
AKTO LR LR 06 35 20.1
comp=Z,280nn,18.1s,baz=340,slow=38
IAZR Azarshahr 60.81 314 *e*P **P 06 06 39.3 -1.4**
MOO Moorlands 61.11 141 *e*P **P 06 06 44.0 +1.8**
comp=Z,214nn,1.0s
MOO *e* 06 07 13.9
KMBO Kilima Mbogo 61.31 268 *e*P **P 06 06 45.8 +1.3**
comp=Z,51nn,1.6s
KMBO LR LR
comp=Z,828nn,20.0s
KMBO Kilima Mbogo 61.31 268 P **P** 06 06 47.3 +2.9
SNR=13
KMBO Kilima Mbogo 61.31 268 *e*P **P 06 06 45.9 +1.5**
TAU Tasmania Unive 61.43 141 PFAKE 06 06 50.0 +5.6
TAU LR LR
comp=Z,677nn,19.0s
IMRD Marand 61.45 315 *e*P **P 06 06 44.9 +0.1**
HNR Honiara 61.91 101 *e*P **P 06 06 47.5 -0.7**
comp=Z,166nn,0.8s
HNR LR LR
comp=Z,593nn,20.0s
HNR Honiara 61.91 101 P **P 06 06 46.8 -1.3**
comp=Z,196nn,0.9s,baz=236,slow=3.6,SNR=8.4
MAK Makhachkala 62.13 320 *e*P **P 06 06 48.7 -0.3**
MAK *i* 06 09 04.9
MAK *e*PPP PPP 06 10 33.3
MAK *e*S **S 06 15 10.9 -0.6**
MAK pmax pmax
comp=Z,61nn,0.6s
HAKT HAKKARI 62.42 313 *i*P **P 06 06 51.2 -0.2**
GNI Garni 62.72 316 *e*P **P 06 06 54.3 +1.0**
comp=Z,62nn,0.9s
GNI LR LR
comp=Z,290nn,21.0s
GNI Garni 62.72 316 P **P 06 06 54.7 +1.4**
SNR=12
GNI Garni 62.72 316 P **P 06 06 54.2 +0.9**
comp=Z,34nn,1.0s,baz=143,slow=5.6,SNR=21
DGRG David-gareji 62.85 317 P **P 06 06 54.9 +0.9**
DYDN Diyadin 63.22 315 *i*P **P 06 06 57.2 +0.5**
TBLG Delisi 63.40 318 P **P 06 06 58.0 +0.4**
TBLG Delisi 63.40 318 P **P 06 06 58.0 +0.4**
SVE Sverdlovsk 63.83 338*de*P **P 06 07 00.3 +0.2**
SVE *e*S **S 06 15 32.5 +0.2**
SVE *e*SSS SSS 06 22 27.9
SVE pmax pmax
comp=Z,240nn,1.0s
SVE MLR MLR
comp=Z,1μm,22.0s
GOR Gori 63.93 318 P **P 06 07 02.5 +1.3**
AKH Akhalkalaki 64.11 317 P **P 06 07 03.0 +0.5**
ARU Arti 64.34 337*c* *i*P **P 06 07 03.1 -0.4**
ARU 06 07 36.7
ARU 06 09 20.4
ARU S **S 06 15 39.9 +1.2**
ARU SS **SS 06 19 46.1 -3.1**
ARU pmax pmax
comp=Z,119nn,1.0s
ARU MLR MLR
comp=Z,860nn,21.0s
ARU Arti 64.34 337 *e*P **P 06 07 02.4 -1.1**
comp=Z,112nn,1.0s
ARU LR LR
comp=Z,1μm,21.0s
ZEI Tsey 64.41 318 *e*P **P 06 07 05.5 +1.0**
ZEI pmax pmax
comp=Z,47nn,0.7s
MARD Mardin 64.50 312 *i*P **P 06 07 05.1 +0.1**
ONI Oni 64.63 318 P **P 06 07 06.2 +0.5**
HOMI Horasan 64.67 315 *i*P **P 06 07 07.1 +0.8**
BNGL BINGOL 64.81 313 *i*P **P 06 07 07.9 +0.7**
DAGI Agillar 65.07 316 *i*P **P 06 07 09.0 +0.3**
DDEM Demirkent 65.11 316 *i*P **P 06 07 09.3 +0.4**
DIYA Diyarbakir 65.20 312 *i*P **P 06 07 10.1 +0.6**
KBZ Khabaz 65.47 319 P **P 06 07 11.4 +0.3**
KBZ pmax pmax
comp=Z,64nn,0.8s
KBZ MLR MLR
comp=Z,153nn,18.5s
KBZ Khabaz 65.47 319 P **P 06 07 11.4 +0.3**
KBZ Khabaz 65.47 319 P **P 06 07 11.4 +0.3**
comp=Z,64nn,0.8s,baz=139,slow=5.2,SNR=140
KBZ LR LR 06 41 13.3
comp=Z,153nn,18.5s,baz=111,slow=41
KIV Kislovodsk 65.71 319*c* *i*P **P 06 07 12.7 -0.1**
KIV *e*S **S 06 15 54.1 -2.1**
KIV *e*SS **SS 06 20 13.7 +2.6**
KIV pmax pmax
comp=Z,139nn,1.1s
KIV pmax pmax
comp=Z,151nn,4.1s
KIV MLR MLR
comp=Z,164nn,18.0s
KIV Kislovodsk 65.71 319 *e*P **P 06 07 12.7 -0.1**
comp=Z,105nn,0.9s
KIV LR LR
comp=Z,245nn,20.0s
KIV Kislovodsk 65.71 319 P **P 06 07 13.2 +0.4**
SNR=20
KIV Kislovodsk 65.71 319 P **P 06 07 13.2 +0.4**
comp=Z,646nn,0.9s,SNR=19
YAK Yakutsk 65.71 16*c* *i*P **P 06 07 12.1 -0.1**
YAK *e* 06 07 43.2
YAK *e* 06 09 36.6
YAK *e*PPP PPP 06 11 14.8
YAK *e*S **S 06 15 52.1 -3.2**
YAK *e**SS sS 06 16 35.8 +21
YAK *e* 06 16 59.8
YAK *e*SS **SS 06 20 05.2 -5.0**
YAK pmax pmax
comp=Z,357nn,1.0s
YAK pmax pmax
comp=N,102nn,1.2s
YAK pmax pmax
comp=E,92nn,1.5s
YAK pmax pmax
comp=Z,49nn,1.8s
YAK pmax pmax
comp=N,42nn,1.6s
YAK pmax pmax
comp=E,111nn,2.5s
YAK smax smax
comp=N,92nn,2.7s
YAK smax smax
comp=E,86nn,2.6s
YAK Yakutsk 65.71 16 *e*P **P 06 07 12.1 -0.1**
comp=E,389nn,0.9s
YAK LR LR
comp=Z,2μm,20.0s
ASF Jabal al Asfar 65.96 305 P **P 06 07 15.6 +1.0**
ASF Jabal al Asfar 65.96 305 P **P 06 07 15.6 +1.0**
comp=Z,17nn,0.9s,baz=148,slow=2.7,SNR=16
ASF LR LR 06 37 10.1
comp=Z,404nn,19.0s,baz=106,slow=37
ELZG Elazig 66.24 312 *i*P **P 06 07 17.2 +0.9**
KELT Kelkit 66.60 314 *i*P **P 06 07 19.3 +0.6**
KEMA Kemaliye 66.86 313 *i*P **P 06 07 20.8 +0.6**
AKCD Akcadag 66.96 312 *e*P **P 06 07 21.9 +1.0**
EIL Elat 66.96 302 P **P 06 07 21.6 +0.6**
EIL Elat 66.96 302 P **P 06 07 21.6 +0.6**
comp=Z,65nn,1.0s,baz=117,slow=4.5,SNR=28
EIL LR LR 06 37 04.5
comp=Z,1μm,18.3s,baz=104,slow=36
KUZU Kuzuini 67.13 310 *i*P **P 06 07 22.8 +0.9**
SOKR Solikamsk 67.21 338*c* *i*P **P 06 07 22.2 +0.4**
SOKR pmax pmax
comp=Z,160nn,1.0s
SOKR MLR MLR
comp=Z,880nn,24.0s
MMAI Mount Meron Ar 67.40 306 P **P 06 07 25.1 +1.4**
MMAI Mount Meron Ar 67.40 306 P **P 06 07 25.1 +1.4**
comp=Z,35nn,0.9s,baz=96,slow=7.8,SNR=13
MMAI LR LR 06 38 18.2
comp=Z,314nn,18.6s,baz=170,slow=37
SOC Sochi 67.53 318*c* *i*P **P 06 07 23.5 -0.8**
SOC *e**SP **sP 06 07 37.4 -3.4**
SOC *e*S **S 06 16 13.2 -4.9**
SOC *e*SS **SS 06 20 37.1 -2.1**
SOC pmax pmax
comp=Z,168nn,0.9s
SOC MLR MLR
comp=Z,301nn,17.0s
MBAR Mbarara 67.82 269 *e*P **P 06 07 28.0 +1.1**
ANDN Andirin 67.92 311 *i*P P 06 07 31.8 +4.8
PINB Pinarbasi 68.21 312 *i*P **P 06 07 29.1 +0.2**
GULE Gulek 69.03 310 *i*P **P 06 07 34.6 +0.6**
AVNT Avonos 69.40 312 *e*P **P 06 07 36.4 +0.2**
VRHR Novokhopersk 69.45 326 *e*P **P 06 07 35.3 -0.8**
VRHR pmax pmax
comp=Z,210nn,0.8s
VRHR pmax pmax
comp=N,5.0nn,0.4s
VRHR pmax pmax
comp=E,50nn,0.8s
ANN Anapa 69.51 318 *e*P P 06 07 29.4 -7.1
ANN *e* 06 07 56.8
ANN pmax pmax
comp=Z,36nn,1.0s
SKR Severo-Kuril's 69.64 35 *e*P P 06 07 40.1 +2.9
SKR *e* 06 07 52.1
SKR pmax pmax
comp=N,130nn,1.0s
SKR pmax pmax
comp=Z,180nn,1.0s
DZM Mont Dzumac 69.77 114 *e*P **P 06 07 38.4 -0.4**
comp=Z,81nn,1.2s
DZM *e*LR LR 06 28 48.9
comp=Z,901nn,26.1s
DZM Mont Dzumac 69.77 114 P **P 06 07 39.0 +0.2**
DZM Mont Dzumac 69.77 114 P **P 06 07 39.0 +0.2**
comp=Z,25nn,1.0s,baz=259,slow=5.2,SNR=11
CTKT Corum 69.98 313 *i*P **P 06 07 40.5 +0.6**
CDAG Cicekdag 70.00 312 *i*P **P 06 07 39.4 -0.5**
MSNA Messina 70.39 246 *e*P P 06 07 56.6 +14
MSNA AMB AMB 06 08 04.5
comp=Z,34nn,3.9s
BRTR Keskin Array B 70.57 312 P **P 06 07 42.9 -0.6**
BRTR Keskin Array B 70.57 312 P **P 06 07 42.9 -0.6**
comp=Z,40nn,0.8s,baz=132,slow=7.0,SNR=194
BRTR LR LR 06 39 40.1
comp=Z,189nn,21.4s,baz=191,slow=37
VORD Divnogorie 70.73 325 *e*P **P 06 07 42.5 -1.4**
VORD pmax pmax
comp=N,40nn,0.9s
VORD pmax pmax
comp=E,80nn,0.9s
VORD pmax pmax
comp=Z,90nn,0.9s
VSR Storozhevoye 70.90 325 *e*P **P 06 07 44.1 -0.9**
VSR pmax pmax
comp=N,40nn,0.9s
VSR pmax pmax
comp=E,80nn,0.9s
VSR pmax pmax
comp=Z,140nn,0.9s
BBAL Bala 70.90 312 *i*P **P 06 07 45.1 -0.4**
LSZ Lusaka 71.21 254 *e*P **P 06 07 47.5 -0.1**
comp=Z,62nn,1.8s
LSZ LR LR
comp=Z,1μm,22.0s
LSZ Lusaka 71.21 254 *e*P **P 06 07 49.3 +1.6**
BALT Daday 71.27 314 *i*P **P 06 07 48.5 +0.8**
PETK Petropavlovsk- 71.57 33 P **P 06 07 48.6 -0.4**
PETK 06 10 36.0
PETK pmax pmax
comp=Z,26nn,0.7s
PETK pmax pmax
comp=Z,9.0nn,1.0s
PETK Petropavlovsk- 71.57 33 P **P 06 07 48.6 -0.4**
PETK PP PP 06 10 36.0 +7.8
PETK Petropavlovsk- 71.57 33 P **P 06 07 48.6 -0.4**
comp=Z,26nn,0.7s,baz=214,slow=2.6,SNR=39
PETK PP PP 06 10 36.0 +7.8
comp=Z,8.5nn,1.0s,baz=227,slow=12,SNR=4.1
PETK LR LR 06 44 51.8
comp=Z,483nn,18.0s,baz=156,slow=41
SIM Simferopol' 71.78 318*di* *i*P **P 06 07 51.1 +0.7**
SIM *e*S **S 06 17 06.0 -2.0**
SIM pmax pmax
comp=Z,142nn,0.9s
PET Petropavlovsk 72.06 33 *e*P **P 06 07 51.9 0.0**
PET *e*S **S 06 17 14.0 +3.2**
PET pmax pmax
comp=Z,180nn,1.1s
PET MLR MLR
comp=Z,600nn,19.0s
PET Petropavlovsk 72.06 33 *e*P **P 06 07 52.0 +0.1**
comp=Z,185nn,1.1s
BOLV Bolvadin 72.33 311 *i*P **P 06 07 53.4 -0.6**
MAW Mawson 72.35 194 LR LR 06 32 18.7
comp=Z,2μm,20.9s,baz=111,slow=30
KORT Korkueli 72.39 309 *i*P **P 06 07 53.9 -0.5**
ISP Isparta 72.44 310 *e*P **P 06 07 55.2 +0.5**
ISP pmax pmax
comp=Z,38nn,0.9s
ISP MLR MLR
comp=Z,224nn,20.0s
ISP Isparta 72.44 310 *e*P **P 06 07 55.2 +0.5**
comp=Z,38nn,0.9s
ISP LR LR
comp=Z,224nn,20.0s
ISP Isparta 72.44 310⇓ *i*P **P 06 07 55.1 +0.4**
SLR Silverton 72.50 243 *e*P P 06 08 02.1 +6.8
SLR AMB AMB 06 08 04.0
comp=Z,38nn,2.3s
DRV Dumont d'Urvil 73.12 164 S S 06 17 16.0 -6.4
KHAL Karahalli 73.36 310 *i*P **P 06 07 59.2 -0.9**
PRYS Parys 73.50 242 *e*P **P 06 08 02.9 +1.7**
PRYS AMB AMB 06 08 15.6
comp=Z,41nn,2.6s
MOS Moscow 73.61 329 *e*P P 06 07 57.5 -3.5
MOS *e* 06 08 05.5
MOS *e*S **SKiKP 06 17 22.0 -6.1**
MOS pmax pmax
comp=Z,353nn,0.8s
MOS pmax pmax
comp=Z,500nn,1.0s
MOS MLR MLR
comp=Z,700nn,20.0s
SEY Seymchan 73.87 23*ce*P **P 06 08 02.6 +0.2**
OBN Obninsk 73.91 328*c* *i*P **P 06 08 02.2 -0.6**
OBN *e* 06 10 47.8
OBN *e*SS SS 06 22 19.4 +2.7
OBN pmax pmax
comp=Z,166nn,0.9s
OBN MLR MLR
comp=Z,300nn,17.0s
OBN Obninsk 73.91 328 *e*P **P 06 08 02.2 -0.6**
comp=Z,151nn,0.9s
OBN LR LR
comp=Z,332nn,19.0s
KARP Karpathos 74.61 307 *e*P **P 06 08 07.9 +0.5**
LBTB Lobatse 74.79 244 *e*P P 06 08 11.0 +2.3
LBTB AMB AMB 06 08 18.0
comp=Z,36nn,3.9s
MANR Mangalia 75.28 315⇓ *i*P **P 06 08 11.6 +0.6**
SWZ Schweizer 75.33 242 *e*P P 06 08 15.1 +3.2
SWZ AMB AMB 06 08 25.5
comp=Z,45nn,2.6s
TLCR 75.45 317⇑ *i*P **P 06 08 12.5 +0.5**
TIRR Tirgusor 75.55 316 *e*P **P 06 08 12.5 -0.1**
TIRR pmax pmax
comp=Z,89nn,1.0s
TIRR Tirgusor 75.55 316 *e*P **P 06 08 12.5 -0.1**
comp=Z,89nn,1.0s
TIRR Tirgusor 75.55 316⇓ *i*P **P 06 08 12.8 +0.2**
BOSA Boshof 75.61 240 P **P 06 08 14.7 +1.3**
BOSA Boshof 75.61 240 P **P 06 08 14.7 +1.3**
comp=Z,3.9nn,0.8s,baz=76,slow=4.8,SNR=6.2
BOSA LR LR 06 36 05.6
comp=Z,676nn,20.2s,baz=74,slow=31
NPS Neapolis 75.81 306 *e*P **P 06 08 14.8 +0.5**
LAST Lasithi 75.90 306 *e*P **P 06 08 15.1 +0.2**
KIS Kishinev 75.90 319 *e*P **P 06 08 13.0 -1.5**
KIS *e* 06 08 27.0
KIS pmax pmax
comp=Z,230nn,1.0s
KIS Kishinev 75.90 319 *e*UNK 06 08 13.0
CFR Carcaliu 75.92 317⇓ *i*P **P 06 08 14.6 0.0**
PRD Provadia 75.98 314 P **P 06 08 15.0 0.0**
PRK Paraskevi 76.00 310 *e*P **P 06 08 15.2 0.0**
CHOS Chios island 76.00 309 *e*P **P 06 08 15.8 +0.4**
LEOM Leova 76.15 318⇑ *i*P **P 06 08 16.7 +0.8**
APE Apeiranthos 76.18 308 *e*P **P 06 08 15.6 -0.8**
APE Apeiranthos 76.18 308⇓ *i*P **P 06 08 15.1 -1.3**
JMB Yambol 76.41 314 P **P 06 08 18.1 +0.6**
SIVA Sivas 76.42 306 *e*P **P 06 08 17.2 -0.5**

ALN	Alexandroupoli	76.49 312	*eP*	P	06 08 17.9	-0.1
GHRR		76.62 317⇓	*iP*	P	06 08 20.0	+1.4
AKASG	Malin Array Be	76.62 322	P	P	06 08 17.6	-0.9
AKASG					06 11 09.1	
AKASG			pmax	pmax		
	comp=Z,43nm,0.7s					
AKASG			pmax	pmax		
	comp=Z,1.0nm,0.4s					
AKASG			MLR	MLR		
	comp=Z,226nm,21.6s					
AKASG	Malin Array Be	76.62 322	P	P	06 08 17.6	-0.9
AKASG			PP	PP	06 11 09.1	-2.1
AKASG	Malin Array Be	76.62 322	P	P	06 08 17.6	-0.9
	comp=Z,43nm,0.7s,baz=90,slow=5.0,SNR=116					
AKASG			PP	PP	06 11 09.1	-2.1
	comp=Z,0.8nm,0.4s,baz=86,slow=7.3,SNR=4.4					
AKASG			LR	LR	06 45 42.6	
	comp=Z,226nm,21.6s,baz=90,slow=38					
KIEV	Kiev	76.63 322	*eP*	P	06 08 17.7	-0.9
KIEV			pmax	pmax		
	comp=Z,55nm,0.8s					
KIEV	Kiev	76.63 322	*eP*	P	06 08 17.7	-0.9
	comp=Z,55nm,0.8s					
GRER		76.76 317⇓	*iP*	P	06 08 21.4	+2.0
RDO	Rodhopi	76.91 312	*eP*	P	06 08 20.2	-0.2
LIA	Limnos Island	76.95 311	*eP*	P	06 08 20.2	-0.4
VAM	Vamos	76.97 306	*eP*	P	06 08 21.6	+0.8
ISR	Istrita	77.00 316⇑	*iP*	P	06 08 22.4	+1.5
VRI	Vrincioaia	77.04 317⇓	*iP*	P	06 08 21.9	+0.9
SZH	Strazhica	77.04 314	P	P	06 08 20.7	-0.4
PLOR	Plostina	77.09 317⇓	*iP*	P	06 08 22.5	+1.2
DIM	Dimitrovgrad	77.09 313	P	P	06 08 21.3	0.0
KARN	Karanos	77.20 306	*eP*	P	06 08 22.6	+0.5
TESR		77.23 318⇓	*iP*	P	06 08 22.7	+0.6
SECR		77.31 316⇓	*iP*	P	06 08 24.1	+1.5
PVL	Pavlikeni	77.46 314	P	P	06 08 23.9	+0.5
MLR	Muntele Rosu	77.49 317	P	P	06 08 24.3	+0.6
MLR	Muntele Rosu	77.49 317⇓	*iP*	P	06 08 25.5	+1.8
MLR	Muntele Rosu	77.49 317	P	P	06 08 24.3	+0.6
	comp=Z,28nm,0.9s,baz=95,slow=5.0,SNR=134					
RZN	Rozhen	77.62 313	P	P	06 08 24.4	-0.2
PLD	Plovdiv	77.70 313	P	P	06 08 24.2	-0.6
RPZ	Rata Peaks	77.77 135	*eP*	P	06 08 26.2	+1.1
	comp=Z,98nm,0.7s					
HUMR	Humele	77.97 315⇓	*iP*	P	06 08 26.6	+0.4
KYTH	Kithira	78.03 307	*eP*	P	06 08 26.2	-0.6
DID	Didima	78.05 308	*eP*	P	06 08 25.5	-1.4
VOIR		78.10 316⇑	*iP*	P	06 08 26.7	-0.3
PGR	Panagyurishte	78.18 313	P	P	06 08 27.0	-0.5
NVR	Nevrokopi	78.19 312	*eP*	P	06 08 27.2	-0.4
MMB	Musomiste	78.33 312	P	P	06 08 27.6	-0.7
PLG	Polygyros	78.34 311	*eP*	P	06 08 28.0	-0.4
BURAR	Bucovina Array	78.43 319⇑	*iP*	P	06 08 29.6	+0.8
BUR08	Bucovina Ar. S	78.45 319	*eP*	P	06 08 29.7	+0.7
MICGM	Minsk	78.45 326⇓	*iP*	P	06 08 28.0	-0.6
MNK	Minsk	78.47 326⇓	*iP*	P	06 08 28.5	-0.3
MNK			pmax	pmax		
	comp=Z,390nm,1.0s					
VLX	Vlachokerasia	78.71 308	*eP*	P	06 08 30.1	-0.5
PUL	Pulkovo	78.74 331	*eP*	P	06 08 30.9	+0.8
PUL			pmax	pmax		
	comp=Z,146nm,0.7s					
GUR	Goura	78.82 308	*eP*	P	06 08 30.1	-1.1
KKB	Krupnik	78.85 313	P	P	06 08 30.4	-0.8
VTS	Vitosha	78.88 313⇑	*iP*	P	06 08 30.8	-0.8
VTS	Vitosha	78.88 313	P	P	06 08 30.7	-0.8
ITM	Ithomi	79.04 308	*eP*	P	06 08 30.7	-1.6
PYL	PYLOS	79.15 307	*eP*	P	06 08 32.1	-0.8
NACGM	Naroch	79.17 326	*eP*	P	06 08 30.0	-2.6
EFP	Efpalio	79.23 309	*eP*	P	06 08 32.6	-0.7
KHZ	Kahutara	79.29 133	*eP*	P	06 08 34.3	+0.7
	comp=Z,98nm,1.0s					
THL	Klokotos Trika	79.30 310	*eP*	P	06 08 32.1	-1.6
JOF	Joensuu	79.34 335	*eP*	P	06 08 33.3	-0.1
JOF			pmax	pmax		
	comp=Z,48nm,0.6s					
JOF	Joensuu	79.34 335	*ep*	P	06 08 33.3	-0.1
	comp=Z,48nm,0.6s					
RLS	Riolos of Patr	79.52 309	*eP*	P	06 08 35.4	+0.5
BMR	Baia Mare	79.58 318⇓	*iP*	P	06 08 36.2	+1.2
IIGN	Ignalina	79.59 326	*eP*	P	06 08 35.6	+0.7
IIGN			AMB	AMB	06 08 37.1	
	comp=Z,79nm,0.9s					
IIGN	Ignalina	79.59 326	*eP*	P	06 08 35.6	+0.7
IIGN			AMB	AMB	06 08 37.1	
	comp=Z,79nm,0.9s					
LVV	L'vov	79.65 321⇓	*iP*	P	06 08 35.3	0.0
DEV	Deva	79.66 317⇓	*iP*	P	06 08 37.0	+1.5
GZR	Gura Zlata	79.66 316⇓	*iP*	P	06 08 36.2	+0.6
IZAR	Zarasai	79.68 327	*eP*	P	06 08 36.0	+0.7
IZAR			AMB	AMB	06 08 37.4	
	comp=Z,48nm,1.1s					
IZAR	Zarasai	79.68 327	*eP*	P	06 08 36.0	+0.7
IZAR			AMB	AMB	06 08 37.4	
	comp=Z,48nm,1.1s					
ISAL	Salakas	79.70 327	*eP*	P	06 08 36.1	+0.7
ISAL			AMB	AMB	06 08 37.5	
	comp=Z,52nm,1.0s					
ISAL	Salakas	79.70 327	*eP*	P	06 08 36.1	+0.7
ISAL			AMB	AMB	06 08 37.5	
	comp=Z,52nm,1.0s					
SUR	Sutherland	79.92 237	LR	LR	06 40 02.2	
	comp=Z,697nm,18.6s,baz=112,slow=33					
SUR	Sutherland	79.92 237	*eP*	P	06 08 34.9	-2.5
SUR			AMB	AMB	06 08 36.7	
	comp=Z,44nm,4.7s					
LVZ	Lovozero	79.94 340	*eP*	P	06 08 36.6	0.0
LVZ			pmax	pmax		
	comp=Z,88nm,1.7s					
LVZ	Lovozero	79.94 340	*eP*	P	06 08 36.4	-0.2
	comp=Z,22nm,0.6s					
LVZ			LR	LR		
	comp=Z,856nm,22.0s					
DRGR		79.95 317⇑	*iP*	P	06 08 38.0	+0.9
SNZO	South Karori	79.95 132	PFAKE		06 08 50.0	+13
SNZO			LR	LR		
	comp=Z,976nm,21.0s					
MSVF	Nonsavu	80.16 108	*eP*	P	06 08 39.6	+0.8
MSVF			pmax	pmax		
	comp=Z,25nm,1.0s					
MSVF	Nonsavu	80.16 108	*eP*	P	06 08 39.6	+0.8
	comp=Z,24nm,1.0s					
JAN	Janina	80.21 310	*eP*	P	06 08 39.0	+0.4
VLS	Valsamata	80.22 309	*eP*	P	06 08 38.5	-0.2
APA	Apatity	80.24 339⇑	*iP*	P	06 08 39.0	+0.8
APA			pmax	pmax		
	comp=Z,32nm,1.0s					
APA			MLR	MLR		
	comp=Z,2μm,26.0s					
LKD2	Lefkada island	80.24 309	*eP*	P	06 08 38.9	+0.1
TRPA	Tarpa	80.30 319⇑	*iP*	P	06 08 39.0	+0.2
TRPA	Tarpa	80.30 319⇑	P	P	06 08 39.0	+0.2
FX1	Attu Island--F	80.34 36	P	P	06 08 38.6	-0.4
FX1	Attu Island--F	80.34 36	P	P	06 08 38.6	-0.4
	comp=Z,35nm,0.6s,baz=349,slow=5.2,SNR=4.5					
KWP	Kalwaria Pacla	80.46 320	*eP*	P	06 08 40.4	+0.6
KWP	Kalwaria Pacla	80.46 320	*eP*	P	06 08 40.4	+0.6
KWP	Kalwaria Pacla	80.46 320	*eP*	P	06 08 40.5	+0.8
KWP			pmax	pmax		
	comp=Z,47nm,0.8s					
KWP	Kalwaria Pacla	80.46 320	*eP*	P	06 08 40.5	+0.8
	comp=Z,47nm,0.8s					
KWP	Kalwaria Pacla	80.46 320⇓	*iP*	P	06 08 40.7	+1.0
BZS	Buzias	80.50 316⇓	*iP*	P	06 08 40.1	+0.1
UZH	Uzhgorod	80.55 319⇓	*iP*	P	06 08 40.2	0.0
UZH			*e*		06 08 49.6	
UZH			*i*		06 11 44.8	
KOLS	Kolonicke sedl	80.61 320	*eP*	P	06 08 41.8	+1.2
KOLS			pmax	pmax		
	comp=Z,108nm,1.0s					
KOLS	Kolonicke sedl	80.61 320	*eP*	P	06 08 41.8	+1.2
SUW	Suwalki	81.01 325	*eP*	P	06 08 41.9	-0.7
SUW	Suwalki	81.01 325	*eP*	P	06 08 41.9	-0.7
SUW	Suwalki	81.01 325	*eP*	P	06 08 42.3	-0.2
SUW			pmax	pmax		
	comp=Z,306nm,0.9s					
SUW	Suwalki	81.01 325	*eP*	P	06 08 42.3	-0.2
	comp=Z,306nm,0.9s					
KEK	Kerkira	81.02 310	*eP*	P	06 08 42.9	0.0
CRVS	Cervenica-Dubn	81.14 319	*eP*	P	06 08 44.1	+0.7
CRVS			pmax	pmax		
	comp=Z,38nm,1.2s					
CRVS	Cervenica-Dubn	81.14 319	*eP*	P	06 08 44.1	+0.7

TIR	Tirane	81.17 312	PFAKE		06 08 50.0	+6.3
TIR			LR	LR		
	comp=Z,323nm,20.0s					
FINES	FINESS Array B	81.23 332	P	P	06 08 43.4	-0.1
FINES	FINESS Array B	81.23 332	P	P	06 08 43.4	-0.1
	comp=Z,70nm,0.7s,baz=98,slow=5.8,SNR=186					
FINES			LR	LR	06 50 58.8	
	comp=Z,550nm,18.0s,baz=326,slow=40					
PVY	Plav	81.25 313⇑	*iP*	P	06 08 43.4	-0.9
KAF	Kangasniemi	81.30 333	*eP*	P	06 08 44.1	+0.2
KAF			pmax	pmax		
	comp=Z,114nm,0.7s					
KAF	Kangasniemi	81.30 333	*ep*	P	06 08 44.1	+0.2
	comp=Z,114nm,0.7s					
IVA	Berane	81.33 313⇑	*iP*	P	06 08 44.5	-0.1
URZ	Urewera	81.33 129	*eP*	P	06 08 44.5	-0.1
	comp=Z,519nm,2.9s					
TSUM	Tsumeb	81.63 251	PFAKE		06 09 00.0	+13
TSUM			LR	LR		
	comp=Z,791nm,20.0s					
TSUM	Tsumeb	81.63 251	*eP*	P	06 08 49.5	+2.8
ULC	Ulcinj	81.70 312⇑	*iP*	P	06 08 45.6	-0.9
TTG	Podgorica	81.75 313⇑	*iP*	P	06 08 45.7	-1.0
PLE	Pljevlja	81.76 314⇑	*iP*	P	06 08 46.2	-0.7
NIE	Niedzica	81.96 320	*eP*	P	06 08 48.1	+0.3
NIE	Niedzica	81.96 320	*eP*	P	06 08 48.9	+1.1
NKY	Niksic	81.99 313⇑	*iP*	P	06 08 46.8	-1.3
BUM	Brajici-Budva	82.00 313⇑	*iP*	P	06 08 46.9	-1.3
PSZ	Piszkesteto	82.02 318	*eP*	P	06 08 48.6	+0.5
PSZ			pmax	pmax		
	comp=Z,72nm,0.9s					
PSZ			MLR	MLR		
	comp=Z,162nm,21.0s					
PSZ	Piszkesteto	82.02 318	*eP*	P	06 08 48.6	+0.5
	comp=Z,72nm,0.9s					
PSZ			LR	LR		
	comp=Z,162nm,21.0s					
PSZ	Piszkesteto	82.02 318⇓	*iP*	P	06 08 48.8	+0.7
PSZ	Piszkesteto	82.02 318⇑	*iP*	P	06 08 48.1	0.0
BEL	Belsk	82.04 322	*eP*	P	06 08 48.3	+0.3
BEL	Belsk	82.04 322	*eP*	P	06 08 48.3	+0.3
BEL	Belsk	82.04 322	*eP*	P	06 08 48.3	+0.3
PKS6	Bocsa	82.06 317	⇓P	P	06 08 49.2	+1.0
SCTE	Santa Cesarea	82.08 310	*eP*	P	06 08 48.5	0.0
UPM	Unac-Piva	82.10 313⇑	*iP*	P	06 08 47.8	-1.0
PKS2	Kecel	82.28 317	⇓P	P	06 08 50.4	+1.0
HCY	Herceg Novi	82.31 313⇑	*iP*	P	06 08 49.5	-0.2
BRY	Bratogost	82.33 313⇑	*iP*	P	06 08 49.5	-0.5
OJC	Ojcow	82.41 321	*eP*	P	06 08 48.1	-2.0
OJC	Ojcow	82.41 321	*eP*	P	06 08 50.3	+0.2
OJC			pmax	pmax		
	comp=Z,55nm,0.9s					
OJC	Ojcow	82.41 321	*eP*	P	06 08 50.3	+0.2
	comp=Z,55nm,0.9s					
BUD	Budapest	82.54 318	⇑P	P	06 08 50.5	-0.3
PKSM	Moragy	82.64 316⇓	*iP*	P	06 08 51.8	+0.5
PKSM	Moragy	82.64 316⇑	*iP*	P	06 08 51.5	+0.2
LIKS	Likavka	82.69 319	*eP*	P	06 08 52.2	+0.7
LIKS			pmax	pmax		
	comp=Z,34nm,1.0s					
LIKS	Likavka	82.69 319	*eP*	P	06 08 52.2	+0.7
VYHS	Vyhne	82.80 319	*eP*	P	06 08 52.5	+0.4
VYHS			pmax	pmax		
	comp=Z,35nm,1.3s					
VYHS	Vyhne	82.80 319	*eP*	P	06 08 52.5	+0.4
RHK3	Tenkes	82.87 316	⇑P	P	06 08 52.6	0.0
PKS9	Tamasi	82.94 317	⇓P	P	06 08 53.3	+0.5
PKSG		82.96 318	⇓P	P	06 08 53.8	+0.9
PKST	T``s	83.18 317	⇑P	P	06 08 54.5	+0.4
KEV	Kevo	83.20 341	*eP*	P	06 08 54.0	+0.3
KEV			pmax	pmax		
	comp=Z,31nm,0.8s					
KEV	Kevo	83.20 341	*eP*	P	06 08 53.4	-0.2
	comp=Z,49nm,0.9s					
KEV			LR	LR		
	comp=Z,1μm,21.0s					
KEV	Kevo	83.20 341	*ep*	P	06 08 54.0	+0.3
	comp=Z,31nm,0.8s					
OKC	Ostrava-Krasne	83.41 320	*eP*	P	06 08 56.0	+0.8
OKC			*e*		06 09 08.4	
OKC	Ostrava-Krasne	83.41 320	*eP*	P	06 08 56.0	+0.8
OKC			*epP*	pP	06 09 08.4	+1.0
ARCES	ARCESS Array B	83.64 340	P	P	06 08 56.0	0.0
ARCES	ARCESS Array B	83.64 340	P	P	06 08 56.0	0.0
	comp=Z,44nm,0.9s,baz=94,slow=5.9,SNR=84					
ARCES			LR	LR	06 48 43.4	
	comp=Z,758nm,21.9s,baz=103,slow=37					
ARE0	ARCESS Array S	83.64 340	*eP*	P	06 08 54.9	-1.1
SMOL	Smolenice	83.73 319	*eP*	P	06 08 57.8	+0.9
SMOL	Smolenice	83.73 319	*eP*	P	06 08 57.8	+0.9
MORC	Moravsky Berou	83.80 320	*eP*	P	06 08 57.5	+0.2
MORC			pmax	pmax		
	comp=Z,55nm,1.0s					
MORC	Moravsky Berou	83.80 320	*eP*	P	06 08 57.5	+0.2
	comp=Z,55nm,1.0s					
MORC	Moravsky Berou	83.80 320⇑	*iP*	P	06 08 57.7	+0.4
BEHE	Becsehely	83.96 317	⇑P	P	06 08 58.9	+0.8
CUC	Castrocucco	84.10 310	*eP*	P	06 08 59.0	0.0
CUC			LR	LR		
	comp=Z,261nm,21.0s					
CUC	Castrocucco	84.10 310	*eP*	P	06 08 59.0	0.0
SOP	Sopron	84.22 318	⇑P	P	06 08 59.6	+0.2
KTK1	Kautokeino	84.28 339	*eP*	P	06 08 47.3	-12
KOGS	Kog	84.32 316	*i P*	P	06 09 00.2	+0.3
KOGS			*e*		06 09 11.4	
KRLC	Kraliky	84.32 320	*eP*	P	06 09 00.7	+0.8
VRAC	Vranov	84.36 319	P	P	06 08 59.9	-0.2
VRAC	Vranov	84.36 319	P	P	06 08 59.9	-0.2
	comp=Z,8.0nm,0.8s,baz=101,slow=6.9,SNR=10.0					
GKP	Gorka Klasztor	84.39 323	*eP*	P	06 09 00.4	+0.3
GKP	Gorka Klasztor	84.39 323	*eP*	P	06 09 00.4	+0.3
GKP	Gorka Klasztor	84.39 323	*eP*	P	06 09 00.4	+0.3
DPC	Dobruska-Polom	84.64 320	*eP*	P	06 09 02.2	+0.7
DPC	Dobruska-Polom	84.64 320	*eP*	P	06 09 01.3	-0.2
	comp=Z,55nm,0.9s					
DPC	Dobruska-Polom	84.64 320	*eP*	P	06 09 02.2	+0.7
KSP	Ksiaz	84.71 321	*eP*	P	06 09 02.3	+0.5
KSP	Ksiaz	84.71 321	*eP*	P	06 09 02.3	+0.5
KSP	Ksiaz	84.71 321	‖*eP*	P	06 09 02.2	+0.4
KSP			*e**PP	pP	06 09 13.6	-0.4
CONA	Conrad Observa	84.71 318⇓	*iP*	P	06 09 01.6	-0.4
	comp=Z,22nm,1.0s,SNR=9.0					
GROS	Grobnik	84.83 316	*i P*	P	06 09 02.6	0.0
GROS			*e*		06 09 14.2	
UPC	Upice	84.85 321	*eP*	P	06 09 03.7	+1.1
UPC	Upice	84.85 321	*eP*	P	06 09 03.7	+1.1
ARSA	Arzberg	84.88 317⇓	*iP*	P	06 09 02.9	+0.1
	comp=Z,61nm,1.1s,SNR=15					
BOJS	Bojanci	84.93 315	*i P*	P	06 09 03.2	+0.1
TREC	Trest	85.08 319	*eP*	P	06 09 04.5	+0.8
TREC	Trest	85.08 319	*eP*	P	06 09 04.5	+0.8
SOKA	Soboth	85.17 317⇑	*iP*	P	06 09 04.5	+0.1
	comp=Z,72nm,1.0s					
LJU	Ljubljana	85.47 316	*i P*	P	06 09 06.1	+0.3
LJU			*e*		06 09 17.4	
OBKA	Obir	85.49 316	*i P*	P	06 09 06.3	+0.4
	comp=Z,32nm,0.9s,SNR=14					
PRU	Pruhonice	85.75 320	*eP*	P	06 09 07.1	+0.1
PRU			*e*		06 09 19.4	
PRU	Pruhonice	85.75 320	*eP*	P	06 09 07.1	+0.1
PRU			*epP*	pP	06 09 19.4	+0.1
PVCC	Panska Ves	85.77 320	*eP*	P	06 09 08.2	+1.1
PVCC	Panska Ves	85.77 320	*eP*	P	06 09 08.2	+1.1
MOA	Molln	85.78 318⇑	*iP*	P	06 09 07.2	0.0
	comp=Z,18nm,0.8s,SNR=12					
PRA	Prague	85.82 320	P	P	06 09 08.0	+0.6
PRA			pP	pP	06 09 20.0	+0.4
TRO	Tromso	85.91 340	*eP*	P	06 09 08.2	+0.8
VOY	Vojsko	85.92 316	*eP*	P	06 09 07.7	-0.4
VOY			*e*		06 09 08.2	
VOY			*e*		06 09 20.5	
VOY			*e*		06 09 29.3	
BSD	Bornholm Skovb	85.93 325	*i P*	P	06 09 07.9	+0.1
BSD			pmax	pmax		
	comp=Z,47nm,0.8s					
BSD	Bornholm Skovb	85.93 325	*i P*	P	06 09 07.9	+0.1
	comp=Z,47nm,0.8s					
CADS	Cadrg	86.03 316	*i P*	P	06 09 08.5	-0.1
AQU	L'Aquila	86.06 312	*eP*	P	06 09 09.7	+0.8
	comp=Z,177nm,1.0s					
AQU			LR	LR		
	comp=Z,337nm,21.0s					

AQU	L'Aquila	86.06 312	*eP*	P	06 09 09.6	+0.8
AQU	L'Aquila	86.06 312⇑	*iP*	P	06 09 09.2	+0.4
MYKA	Terra Mystica	86.12 317⇑	*iP*	P	06 09 08.3	-0.7
	comp=Z,19nm,0.8s					
BRG	Berggiesshubel	86.19 321	*i* P	P	06 09 10.1	+0.9
	comp=Z,38nm,1.0s					
BRG			*i* PCP	PcP	06 09 11.4	-0.4
	comp=Z,16nm,0.9s					
BRG			PP	PP	06 12 28.3	-1.8
	comp=Z,7.4nm,1.2s					
BRG	Berggiesshubel	86.19 321	*eP*	P	06 09 09.8	+0.6
	comp=Z,132nm,1.9s					
GEC2	GERESS Array S	86.22 319	*eP*	P	06 09 10.0	+0.5
	comp=Z,103nm,1.4s					
GEC2	GERESS Array S	86.22 319	*eP*	P	06 09 10.0	+0.5
GEC2			pmax	pmax		
	comp=Z,103nm,1.4s					
GERES	GERESS Array B	86.22 319	P	P	06 09 09.8	+0.2
GERES	GERESS Array B	86.22 319	P	P	06 09 09.8	+0.2
	comp=Z,24nm,0.9s,baz=96,slow=4.9,SNR=121					
KHC	Kasperske Hory	86.32 319	*eP*	P	06 09 09.8	-0.1
KHC			*e*		06 09 20.5	
KHC	Kasperske Hory	86.32 319	*eP*	P	06 09 09.9	-0.1
	comp=Z,16nm,0.7s					
KHC	Kasperske Hory	86.32 319	*eP*	P	06 09 09.8	-0.1
KHC			*epP*	pP	06 09 20.5	-1.7
KHC			*ex*	x	06 09 32.0	
KBA	Koelnbreinsper	86.35 317⇓	*iP*	P	06 09 09.6	-0.7
	comp=Z,17nm,0.9s,SNR=6.7					
RUE	Ruedersdorf	86.40 322	*eP*	P	06 09 10.4	+0.3
	comp=Z,33nm,1.3s					
WET	Wettzell	86.78 319	*eP*	P	06 09 12.5	+0.3
	comp=Z,48nm,1.0s					
WET	Wettzell	86.78 319	*eP*	P	06 09 12.5	+0.3
WET			pmax	pmax		
	comp=Z,48nm,1.0s					
CLL	Collm	86.81 321	*eP*	P	06 09 12.4	+0.2
	comp=Z,46nm,1.2s					
CLL	Collm	86.81 321	*i* P	P	06 09 12.6	+0.4
CLL			*e*		06 09 27.0	
CLL			*eS*	S	06 19 46.0	-1.2
CLL			pmax	pmax		
	comp=Z,47nm,1.2s					
CLL			MLR	MLR		
	comp=Z,200nm,19.4s					
CLL	Collm	86.81 321	*i* P	P	06 09 12.6	+0.4
	comp=Z,47nm,1.2s					
CLL			*i* PcP	PcP	06 09 15.8	+1.3
CLL			*es*P	sP	06 09 27.0	-2.0
CLL			*eS*	S	06 19 46.0	-1.2
CLL			*e*(SP)		06 20 32.0	
CLL			*e*		06 26 42.0	
CLL			LmV		06 53 00.0	
	comp=Z,200nm,19.4s					
HFS	Hagfors	86.99 330	P	P	06 09 13.2	+0.3
HFS	Hagfors	86.99 330	P	P	06 09 13.2	+0.3
	comp=Z,75nm,0.9s,baz=114,slow=3.5,SNR=66					
HFS			LR	LR	06 55 03.3	
	comp=Z,422nm,19.0s,baz=84,slow=40					
STEI	Steigen	87.01 338	*eP*	P	06 09 13.8	+1.0
TANN	Tannenbergstha	87.11 320	*eP*	P	06 09 14.2	+0.4
	comp=Z,27nm,1.2s					
ROTZ	Rotzenmuhle	87.24 320	*eP*	P	06 09 15.3	+0.9
	comp=Z,37nm,1.0s					
LLD	Lille Linde	87.49 325	*eP*	P	06 09 16.4	+1.0
LLD	Lille Linde	87.49 325	*i* P	P	06 09 16.7	+1.3
	comp=Z,77nm,0.8s					
WTTA	Wattenberg	87.53 317⇑	*iP*	P	06 09 15.1	-0.9
	comp=Z,45nm,1.0s					
WATA	Walderalm	87.57 317⇑	*iP*	P	06 09 15.7	-0.5
	comp=Z,41nm,1.1s					
MOX	Moxa	87.66 320	*eP*	P	06 09 16.9	+0.5
	comp=Z,78nm,1.6s					
MOX			*epP*	pP	06 09 28.1	-0.5
MOX			*eS*	S	06 19 57.0	+1.6
MOX			*eL*	L	06 51 03.3	
	comp=Z,186nm,22.0s					
MOX	Moxa	87.66 320	*eP*	P	06 09 16.9	+0.5
MOX			*e**PP	pP	06 09 28.1	-0.5
MOX			*eS*	S	06 19 57.0	+1.6
MOX			pmax	pmax		
	comp=Z,78nm,1.6s					
MOX			MLR	MLR		
	comp=Z,200nm,22.0s					
FUR	Furstenfeldbru	87.80 318	*eP*	P	06 09 17.0	-0.1
	comp=Z,41nm,1.3s					
FUR	Furstenfeldbru	87.80 318	*eP*	P	06 09 17.0	-0.1
FUR			pmax	pmax		
	comp=Z,41nm,1.3s					
GRF	Grafenberg Arr	87.88 320	*eP*	P	06 09 18.2	+0.8
	comp=Z,62nm,1.0s					
GRF			*epP*	pP	06 09 29.5	-0.2
GRF			*eS*	S	06 19 59.9	+2.3
GRF			*eL*	L	06 51 46.3	
	comp=Z,208nm,21.3s					
GRF	Grafenberg Arr	87.88 320	*eP*	P	06 09 18.2	+0.8
GRF			*e**PP	pP	06 09 29.5	-0.2
GRF			*eS*	S	06 19 59.9	+2.3
GRF			pmax	pmax		
	comp=Z,62nm,1.0s					
GRF			MLR	MLR		
	comp=Z,200nm,21.3s					
GRFO	Grafenberg	87.88 320	*eP*	P	06 09 18.2	+0.7
GRFO			pmax	pmax		
	comp=Z,54nm,1.0s					
GRFO	Grafenberg	87.88 320	*eP*	P	06 09 18.1	+0.7
	comp=Z,54nm,1.0s					
MOTA	Moosalm	87.89 317⇑	*iP*	P	06 09 16.7	-1.0
	comp=Z,47nm,1.1s,SNR=13					
SPA0	Spitsbergen Ar	87.90 348	*eP*	P	06 09 16.5	-0.5
SPITS	Spitsbergen Ar	87.90 348	P	P	06 09 16.4	-0.6
SPITS	Spitsbergen Ar	87.90 348	P	P	06 09 16.4	-0.6
	comp=Z,34nm,0.8s,baz=123,slow=7.2,SNR=24					
NC602	NORSAR Array S	88.09 331	*eP*	P	06 09 17.5	-0.7
RETA	Reutte	88.13 317⇑	*iP*	P	06 09 18.6	-0.1
	comp=Z,33nm,0.8s					
FETA	Feichten	88.14 317	*i* P	P	06 09 19.0	+0.1
	comp=Z,22nm,1.0s,SNR=9.6					
NB2	NORSAR Subarra	88.26 331	P	P	06 09 19.0	0.0
	baz=98,slow=4.4					
NB2	NORSAR Subarra	88.26 331	P	P	06 09 19.0	0.0
	comp=Z,53nm,1.0s,baz=98,slow=4.4					
NOA	NORSAR Array B	88.26 331	P	P	06 09 19.1	0.0
NOA	NORSAR Array B	88.26 331	P	P	06 09 19.1	0.0
	comp=Z,30nm,0.9s,baz=95,slow

PGF **Pioggiola** 89.33 312 *e*P P 06 09 23.9 -0.6
PGF pmax pmax
comp=Z,109nm,1.2s
PGF **Pioggiola** 89.33 312 *e*P P 06 09 23.9 -0.6
comp=Z,109nm,1.2s
NVL **N'lazarevskaya** 89.39 199 *e*P P 06 09 17.5 -6.5
NVL *e* 06 20 09.1
NVL pmax pmax
comp=Z,28nm,0.8s
MAIT **Maitri** 89.42 199 *e*P P 06 09 28.8 +4.6
GAMB **Gambell** 89.44 26 *e*P P 06 09 25.0 +0.6
comp=Z,13nm,0.8s
TOD **Tromm** 89.45 319 *e*P P 06 09 25.4 +0.5
TOD **Tromm** 89.45 319 *e*P P 06 09 25.4 +0.5
SPAK **Spaichingen-Ko** 89.47 318 *e*P P 06 09 25.7 +0.7
TNS **Taunus Mts** 89.68 320 *e*P P 06 09 26.7 +0.7
comp=Z,91nm,1.0s
TNS **Taunus Mts** 89.68 320 *e*P P 06 09 26.7 +0.7
TNS pmax pmax
comp=Z,91nm,1.0s
BFO **Black Forest** 89.77 318 *e*P P 06 09 26.4 0.0
comp=Z,30nm,0.9s
BFO **Black Forest** 89.77 318 *e*P P 06 09 26.4 0.0
BFO pmax pmax
comp=Z,30nm,0.9s
BFO **Black Forest** 89.77 318 *e*P P 06 09 26.2 -0.2
BFO LR LR
comp=Z,255nm,21.0s
AFI **Afiamalu** 89.81 104 *e*P P 06 09 29.1 +1.8
comp=Z,104nm,1.2s
KTD **Kalmit** 89.92 319 *e*P P 06 09 28.1 +1.0
KTD **Kalmit** 89.92 319 *e*P P 06 09 28.1 +1.0
FELD **Feldberg im Sc** 89.99 318 *e*P P 06 09 27.8 +0.2
IBBN **Ibbenburen** 90.09 322 *e*P P 06 09 28.6 +0.9
comp=Z,136nm,1.1s
LANF **Langenberg** 90.11 319 *e*P P 06 09 28.9 +0.9
LANF **Langenberg** 90.11 319 *e*P P 06 09 28.9 +0.9
LANF **Langenberg** 90.11 319 *e*P P 06 09 28.9 +0.9
LIBD **Limburg** 90.26 318 *e*P P 06 09 29.8 +1.2
LIBD **Limburg** 90.26 318 *e*P P 06 09 29.8 +1.2
ABH **Alteburg** 90.26 320 *e*P P 06 09 29.7 +1.0
BBS **Basel-Blauen** 90.33 317 *e*P P 06 09 29.4 +0.3
BBS **Basel-Blauen** 90.33 317 *e*P P 06 09 29.4 +0.3
SAOF **Saorge** 90.37 314 *e*P P 06 09 30.0 +0.7
SAOF **Saorge** 90.37 314 *e*P P 06 09 30.0 +0.7
SAOF **Saorge** 90.37 314 *e*P P 06 09 30.0 +0.7
BUG **Bochum--Univer** 90.41 321 *e*P P 06 09 30.0 +0.8
comp=Z,88nm,1.0s
QSPA **South Pole Qui** 90.45 180 PKKPbc PKKPbc 06 26 56.3 -4.4
QSPA LR LR
comp=Z,892nm,20.0s
QSPA **South Pole Qui** 90.45 180 PKKPbc PKKPbc 06 26 56.3 -4.3
comp=Z,2.6nm,0.9s,baz=131,slow=2.8,SNR=6.6
SBF **Sospel** 90.45 314 *e*P P 06 09 29.8 0.0
comp=Z,169nm,1.0s
SBF **Sospel** 90.45 314 *e*P P 06 09 29.8 0.0
SBF pmax pmax
comp=Z,169nm,1.0s
SBF **Sospel** 90.45 314 *e*P P 06 09 29.8 0.0
comp=Z,169nm,1.0s
CDF **Champ du Feu** 90.47 318 *e*P P 06 09 29.6 -0.1
comp=Z,52nm,0.9s
CDF **Champ du Feu** 90.47 318 *e*P P 06 09 29.6 -0.1
CDF pmax pmax
comp=Z,52nm,0.9s
CDF **Champ du Feu** 90.47 318 *e*P P 06 09 29.6 -0.1
comp=Z,52nm,0.9s
SENIN **Lac Senin/Sane** 90.50 316 *e*P P 06 09 30.9 +0.8
REVF **Revere** 90.51 314 *e*P P 06 09 30.7 +0.7
REVF **Revere** 90.51 314 *e*P P 06 09 30.7 +0.7
REVF **Revere** 90.51 314 *e*P P 06 09 30.7 +0.7
ECH **Echery** 90.55 318 *e*P P 06 09 30.5 +0.4
ECH **Echery** 90.55 318 *e*P P 06 09 30.5 +0.4
ECH **Echery** 90.55 318 *e*P P 06 09 30.5 +0.4
MOF **Molkenrain** 90.58 318 *e*P P 06 09 30.4 +0.1
MOF **Molkenrain** 90.58 318 *e*P P 06 09 30.4 +0.1
MOF **Molkenrain** 90.58 318 *e*P P 06 09 30.4 +0.1
RUP **Ruppelstein** 90.58 320 *e*P P 06 09 31.2 +1.0
RUP **Ruppelstein** 90.58 320 *e*P P 06 09 31.2 +1.0
TOUF **Mont Tournerai** 90.59 314 *e*P P 06 09 31.3 +0.8
TOUF **Mont Tournerai** 90.59 314 *e*P P 06 09 31.3 +0.8
TOUF **Mont Tournerai** 90.59 314 *e*P P 06 09 31.3 +0.8
WTSB **Winterswijk** 90.68 322 *e*P P 06 09 31.2 +0.7
comp=Z,89nm,1.4s
HINF **Hinteralfeld** 90.77 318 *e*P P 06 09 30.6 -0.5
HINF **Hinteralfeld** 90.77 318 *e*P P 06 09 30.6 -0.5
HINF **Hinteralfeld** 90.77 318 *e*P P 06 09 30.6 -0.5
LOMF **Lomont** 90.80 317 *e*P P 06 09 31.6 +0.3
LOMF **Lomont** 90.80 317 *e*P P 06 09 31.6 +0.3
LOMF **Lomont** 90.80 317 *e*P P 06 09 31.6 +0.3
CALN **Calern** 90.85 314 *e*P P 06 09 32.7 +1.0
CALN **Calern** 90.85 314 *e*P P 06 09 32.7 +1.0
CALN **Calern** 90.85 314 *e*P P 06 09 32.7 +1.0
LPG **La Plagne** 90.90 315 *e*P P 06 09 32.3 +0.2
comp=Z,129nm,0.9s
LPG **La Plagne** 90.90 315 *e*P P 06 09 32.3 +0.2
LPG pmax pmax
comp=Z,129nm,0.9s
LPG **La Plagne** 90.90 315 *e*P P 06 09 32.3 +0.2
comp=Z,129nm,0.9s
MBDF **Montbardon** 90.91 315 *e*P P 06 09 31.4 -0.6
comp=Z,72nm,1.1s
MBDF **Montbardon** 90.91 315 *e*P P 06 09 31.4 -0.6
MBDF pmax pmax
comp=Z,72nm,1.1s
MBDF **Montbardon** 90.91 315 *e*P P 06 09 31.4 -0.6
comp=Z,72nm,1.1s
LPL **La Plagne** 90.92 315 *e*P P 06 09 32.3 +0.2
comp=Z,137nm,0.9s
LPL **La Plagne** 90.92 315 *e*P P 06 09 32.3 +0.2
LPL pmax pmax
comp=Z,137nm,0.9s
LPL **La Plagne** 90.92 315 *e*P P 06 09 32.3 +0.2
comp=Z,137nm,0.9s
OG01 **Vacheresse** 90.93 316 *e*P P 06 09 33.0 +1.1
OG01 **Vacheresse** 90.93 316 *e*P P 06 09 33.0 +1.1
BNI **Bardonecchia** 90.97 315 *e*P P 06 09 32.6 +0.4
BNI pmax pmax
comp=Z,32nm,1.0s
BNI **Bardonecchia** 90.97 315 *e*P P 06 09 32.6 +0.4
comp=Z,32nm,1.0s
RSL **Roselend** 90.99 316 *e*P P 06 09 33.8 +1.5
RSL **Roselend** 90.99 316 *e*P P 06 09 33.8 +1.5
RSL **Roselend** 90.99 316 *e*P P 06 09 33.8 +1.5
HAU **Haudompre** 91.10 318 *e*P P 06 09 32.5 -0.1
comp=Z,152nm,0.9s
HAU *e*R
comp=Z,221nm,21.0s
HAU **Haudompre** 91.10 318 *e*P P 06 09 32.5 -0.1
HAU pmax pmax
comp=Z,152nm,0.9s
HAU **Haudompre** 91.10 318 *e*P P 06 09 32.5 -0.1
comp=Z,152nm,0.9s
LMR **La Mourre** 91.14 313 *e*P P 06 09 33.2 +0.4
comp=Z,91nm,1.2s
LMR **La Mourre** 91.14 313 *e*P P 06 09 33.2 +0.4
LMR pmax pmax
comp=Z,91nm,1.2s
LMR **La Mourre** 91.14 313 *e*P P 06 09 33.2 +0.4
comp=Z,91nm,1.2s
WLF **Walferdange** 91.17 320 P P 06 09 34.2 +1.4
comp=Z,39nm,1.3s
WLF AP pP 06 09 46.3 +1.1
WLF **Walferdange** 91.17 320 *e*P P 06 09 33.9 +1.1
comp=Z,66nm,1.1s
WLF **Walferdange** 91.17 320 *e*P P 06 09 32.9 +0.1
WLF pmax pmax
comp=Z,35nm,1.0s
WLF MLR MLR
comp=Z,270nm,20.0s
WLF **Walferdange** 91.17 320 *e*P P 06 09 32.9 +0.1
comp=Z,35nm,1.0s
WLF LR LR
comp=Z,270nm,20.0s
MEM **Membach** 91.23 320 P P 06 09 33.7 +0.6
comp=Z,23nm,1.2s
HGN **Heimansgroeve** 91.27 321 *e*P P 06 09 33.3 +0.1
comp=Z,52nm,1.6s
HGN *e*X 06 09 44.6
CABF **La Chapelle** 91.33 316 *e*P P 06 09 34.2 +0.4
comp=Z,137nm,1.0s
CABF **La Chapelle** 91.33 316 *e*P P 06 09 34.2 +0.4
CABF pmax pmax
comp=Z,137nm,1.0s
CABF **La Chapelle** 91.33 316 *e*P P 06 09 34.2 +0.4
comp=Z,137nm,1.0s
THEF **They Montfort** 91.34 318 *e*P P 06 09 34.2 +0.5
THEF **They Montfort** 91.34 318 *e*P P 06 09 34.2 +0.5
THEF **They Montfort** 91.34 318 *e*P P 06 09 34.2 +0.5
OG25 **Le Caire** 91.42 314 *e*P P 06 09 35.1 +0.8
OG25 **Le Caire** 91.42 314 *e*P P 06 09 35.1 +0.8
BEBN **Eben Emael** 91.43 321 P P 06 09 34.3 +0.4
PAGF **Fort de Pagny** 91.50 318 *e*P P 06 09 34.5 +0.1
comp=Z,9.2nm,0.9s
PAGF **Fort de Pagny** 91.50 318 *e*P P 06 09 34.5 +0.1
comp=Z,9.2nm,0.9s
ORIF **Oris-en-Rattie** 91.54 315 *e*P P 06 09 35.2 +0.4
comp=Z,66nm,1.0s
ORIF *e*R
comp=Z,193nm,22.5s
ORIF **Oris-en-Rattie** 91.54 315 *e*P P 06 09 35.2 +0.4
ORIF pmax pmax
comp=Z,66nm,1.0s
ORIF **Oris-en-Rattie** 91.54 315 *e*P P 06 09 35.2 +0.4
comp=Z,66nm,1.0s
BCLA **Clavier** 91.69 320 P P 06 09 36.2 +1.0
OG35 **Corcelles** 91.71 316 *e*P P 06 09 36.3 +0.8
SMRF **Simiane la Rot** 91.80 314 *e*P P 06 09 36.8 +0.9
comp=Z,78nm,1.1s
SMRF **Simiane la Rot** 91.80 314 *e*P P 06 09 36.8 +0.9
comp=Z,78nm,1.1s
MEZF **Maizieres J'vi** 91.95 318 *e*P P 06 09 36.7 +0.2
comp=Z,100nm,1.0s
MEZF **Maizieres J'vi** 91.95 318 *e*P P 06 09 36.7 +0.2
comp=Z,100nm,1.0s
SFTF **Sexfontaines** 91.97 318 *e*P P 06 09 36.8 +0.2
comp=Z,248nm,0.9s
SFTF **Sexfontaines** 91.97 318 *e*P P 06 09 36.8 +0.2
comp=Z,248nm,0.9s
GIVF **Givet** 92.01 320 *e*P P 06 09 37.1 +0.4
comp=Z,48nm,1.0s
GIVF **Givet** 92.01 320 *e*P P 06 09 37.1 +0.4
GIVF pmax pmax
comp=Z,48nm,1.0s
GIVF **Givet** 92.01 320 *e*P P 06 09 37.1 +0.4
comp=Z,48nm,1.0s
DOU **Dourbes** 92.16 320 P P 06 09 38.2 +0.8
comp=Z,20nm,1.5s
SNF **Seneffe** 92.33 320 P P 06 09 39.2 +1.0
comp=Z,20nm,1.3s
VIVF **Saint-Julien-l** 92.40 315 *e*P P 06 09 38.9 +0.2
comp=Z,62nm,1.1s
VIVF **Saint-Julien-l** 92.40 315 *e*P P 06 09 38.9 +0.2
VIVF pmax pmax
comp=Z,63nm,1.1s
VIVF **Saint-Julien-l** 92.40 315 *e*P P 06 09 38.9 +0.2
comp=Z,62nm,1.1s
BAIF **Baives** 92.41 320 *e*P P 06 09 39.2 +0.6
comp=Z,99nm,1.0s
BAIF **Baives** 92.41 320 *e*P P 06 09 39.2 +0.6
BAIF pmax pmax
comp=Z,99nm,1.0s
BAIF **Baives** 92.41 320 *e*P P 06 09 39.2 +0.6
comp=Z,99nm,1.0s
SSB **Saint Sauveur** 92.47 315 *e*P P 06 09 39.7 +0.7
SSB **Saint Sauveur** 92.47 315 *e*P P 06 09 39.7 +0.7
SSB **Saint Sauveur** 92.47 315 *e*P P 06 09 39.7 +0.7
TAM **Tamanrasset** 92.59 293 PFAKE 06 09 50.0 +10
TAM LR LR
comp=Z,253nm,20.0s
LOR **Lormes** 92.82 317 *e*P P 06 09 40.7 +0.1
comp=Z,138nm,1.1s
LOR *e*R
comp=Z,247nm,22.8s
LOR **Lormes** 92.82 317 *e*P P 06 09 40.7 +0.1
comp=Z,138nm,1.1s
LASF **Ste Croix** 93.03 314 *e*P P 06 09 42.1 +0.5
comp=Z,28nm,1.1s
LASF **Ste Croix** 93.03 314 *e*P P 06 09 42.1 +0.5
comp=Z,28nm,1.1s
PLDF **La Plantade** 93.07 316 *e*P P 06 09 42.6 +0.8
PLDF **La Plantade** 93.07 316 *e*P P 06 09 42.6 +0.8
PLDF **La Plantade** 93.07 316 *e*P P 06 09 42.6 +0.8
SSF **Saint Saulge** 93.08 317 *e*P P 06 09 41.9 +0.2
comp=Z,93nm,1.4s
SSF **Saint Saulge** 93.08 317 *e*P P 06 09 41.9 +0.2
SSF pmax pmax
comp=Z,93nm,1.4s
SSF **Saint Saulge** 93.08 317 *e*P P 06 09 41.9 +0.2
comp=Z,93nm,1.4s
AVF **Avril sur Loir** 93.20 317 *e*P P 06 09 42.4 +0.1
comp=Z,95nm,1.2s
AVF **Avril sur Loir** 93.20 317 *e*P P 06 09 42.4 +0.1
AVF pmax pmax
comp=Z,95nm,1.2s
AVF **Avril sur Loir** 93.20 317 *e*P P 06 09 42.4 +0.1
comp=Z,95nm,1.2s
LBL **Lubilhac** 93.38 315 *e*P P 06 09 44.7 +1.4
LBL **Lubilhac** 93.38 315 *e*P P 06 09 44.7 +1.4
LBL **Lubilhac** 93.38 315 *e*P P 06 09 44.7 +1.4
AGO **Saint Agoulin** 93.41 316 *e*P P 06 09 44.2 +0.9
AGO **Saint Agoulin** 93.41 316 *e*P P 06 09 44.2 +0.9
PYM **Petit Puy Mans** 93.51 316 *e*P P 06 09 44.8 +0.9
PYM **Petit Puy Mans** 93.51 316 *e*P P 06 09 44.8 +0.9
PYM **Petit Puy Mans** 93.51 316 *e*P P 06 09 44.8 +0.9
BGF **Bois d'Agland** 93.56 317 *e*P P 06 09 44.4 +0.4
comp=Z,117nm,1.2s
BGF **Bois d'Agland** 93.56 317 *e*P P 06 09 44.4 +0.4
BGF pmax pmax
comp=Z,117nm,1.2s
BGF **Bois d'Agland** 93.56 317 *e*P P 06 09 44.4 +0.4
comp=Z,117nm,1.2s
HYF **Humbligny** 93.65 317 *e*P P 06 09 45.0 +0.6
HYF **Humbligny** 93.65 317 *e*P P 06 09 45.0 +0.6
TCF **Toulx Ste Croi** 94.03 316 *e*P P 06 09 46.3 +0.1
comp=Z,47nm,1.4s
TCF **Toulx Ste Croi** 94.03 316 *e*P P 06 09 46.3 +0.1
TCF pmax pmax
comp=Z,47nm,1.4s
TCF **Toulx Ste Croi** 94.03 316 *e*P P 06 09 46.3 +0.1
comp=Z,47nm,1.4s
CAF **Calviac** 94.24 315 *e*P P 06 09 47.7 +0.5
comp=Z,18nm,1.0s
CAF **Calviac** 94.24 315 *e*P P 06 09 47.7 +0.5
CAF pmax pmax
comp=Z,18nm,1.0s
CAF **Calviac** 94.24 315 *e*P P 06 09 47.7 +0.5
comp=Z,18nm,1.0s
RJF **Les Rejaudoux** 94.60 315 *e*P P 06 09 49.3 +0.5
comp=Z,81nm,1.5s
RJF *e*R
comp=Z,233nm,20.0s
RJF **Les Rejaudoux** 94.60 315 *e*P P 06 09 49.3 +0.5
RJF pmax pmax
comp=Z,81nm,1.5s
RJF **Les Rejaudoux** 94.60 315 *e*P P 06 09 49.3 +0.5
comp=Z,81nm,1.5s
LFF **La Frestale** 95.18 315 *e*P P 06 09 51.9 +0.5
LFF **La Frestale** 95.18 315 *e*P P 06 09 51.9 +0.5
LFF **La Frestale** 95.18 315 *e*P P 06 09 51.9 +0.5
LDF **La Druitiere** 95.36 319 *e*P P 06 09 52.0 -0.2
comp=Z,23nm,1.0s
LDF **La Druitiere** 95.36 319 *e*P P 06 09 52.0 -0.2
LDF pmax pmax
comp=Z,23nm,1.0s
LDF **La Druitiere** 95.36 319 *e*P P 06 09 52.0 -0.2
comp=Z,23nm,1.0s
DAG **Danmarks Havn** 95.55 348 *i*P P 06 09 51.6 -0.8
DAG pmax pmax
comp=Z,12nm,1.0s
DAG **Danmarks Havn** 95.55 348 *i*P P 06 09 51.6 -0.8
comp=Z,116nm,1.0s
FLN **La Foliniere** 95.58 319 *e*P P 06 09 53.0 -0.2
comp=Z,19nm,0.8s
FLN *e*R
comp=Z,247nm,22.0s
FLN **La Foliniere** 95.58 319 *e*P P 06 09 53.0 -0.2
FLN pmax pmax
comp=Z,19nm,0.8s
FLN **La Foliniere** 95.58 319 *e*P P 06 09 53.0 -0.2
comp=Z,19nm,0.8s
MFF **Saint Martin d** 95.61 317 *e*P P 06 09 53.3 -0.1
comp=Z,32nm,0.9s
MFF **Saint Martin d** 95.61 317 *e*P P 06 09 53.3 -0.1
MFF pmax pmax
comp=Z,32nm,0.9s
MFF **Saint Martin d** 95.61 317 *e*P P 06 09 53.3 -0.1
comp=Z,32nm,0.9s
GRR **Gorron** 95.88 319 *e*P P 06 09 53.5 -1.0
comp=Z,9.4nm,0.7s
GRR **Gorron** 95.88 319 *e*P P 06 09 53.5 -1.0
GRR pmax pmax
comp=Z,9.0nm,0.7s
GRR **Gorron** 95.88 319 *e*P P 06 09 53.5 -1.0
comp=Z,9.4nm,0.7s
ESK **Eskdalemuir** 96.27 326 *i*P P 06 09 57.8 +1.7
TORD **Torodi Ar. Bea** 96.56 283 P P 06 09 58.5 +0.1
TORD PP PP 06 14 08.4 +15
TORD PKKPbc **PKKPdf** 06 26 42.9 -0.8
TORD **Torodi Ar. Bea** 96.56 283 P P 06 09 58.5 +0.1
comp=Z,1.5nm,0.9s,baz=89,slow=4.6,SNR=8.4
TORD PP PP 06 14 08.4 +15
comp=Z,1.8nm,1.1s,baz=80,slow=5.5,SNR=4.8
TORD PKKPbc **PKKPdf** 06 26 42.9 -0.8
comp=Z,1.5nm,0.9s,baz=307,slow=3.8,SNR=6.1
TORD LR LR 06 51 17.7
comp=Z,508nm,21.8s,baz=110,slow=34
ALE **Alert** 96.62 358 P P 06 09 57.6 +0.3
comp=Z,58nm,0.7s,SNR=6.2
SVW2 **Sparrevohn** 97.19 28 *e*P Pdif 06 10 01.3 +1.0
SPU **Mount Spurr** 98.81 28 *e*P Pdif 06 10 07.2 -0.3
ESDC **Sonseca Array** 99.30 310 P **Pdif** 06 10 10.2 0.0
ESDC PKKPbc **PKKPbc** 06 26 35.4 0.0
ESDC **Sonseca Array** 99.30 310 P **Pdif** 06 10 10.2 0.0
comp=Z,0.1nm,0.3s,baz=48,slow=4.4,SNR=5.9
ESDC PKKPbc **PKKPbc** 06 26 35.4 0.0
comp=Z,0.2nm,0.3s,baz=237,slow=2.2,SNR=5.5
ESDC LR LR 06 56 37.9
comp=Z,155nm,20.5s,baz=55,slow=36
COLA **College** 99.38 23 *e*P **Pdif** 06 10 09.3 -0.6
COLA pmax pmax
comp=Z,4.0nm,0.9s
COLA MLR MLR
comp=Z,358nm,20.0s
COLA **College** 99.38 23 *e*P **Pdif** 06 10 09.3 -0.6
comp=Z,4.4nm,0.9s
COLA LR LR
comp=Z,358nm,20.0s
KDAK **Kodiak Island** 99.54 31 P **Pdif** 06 10 10.1 -0.7
KDAK LR LR
comp=Z,629nm,22.0s
KDAK **Kodiak Island** 99.54 31 P **Pdif** 06 10 10.1 -0.7
comp=Z,13nm,0.8s,baz=250,slow=3.9,SNR=10.0
ILAR **Eielson Array** 99.80 23 P **Pdif** 06 10 10.5 -1.4
ILAR PP PP 06 14 10.3 -6.0
ILAR PKKPbc **PKKPbc** 06 26 32.4 -2.4
ILAR **Eielson Array** 99.80 23 P **Pdif** 06 10 10.5 -1.4
comp=Z,2.7nm,0.9s,baz=292,slow=4.5,SNR=27
ILAR PP PP 06 14 10.3 -6.0
comp=Z,5.0nm,0.9s,baz=274,slow=6.5,SNR=9.0
ILAR PKKPbc **PKKPbc** 06 26 32.4 -2.4
comp=Z,0.5nm,0.7s,baz=149,slow=2.4,SNR=6.0
ILAR LR LR 07 03 16.6
comp=Z,286nm,19.9s,baz=201,slow=40
PMR **Palmer** 100.01 27 *e*P **Pdif** 06 10 12.7 -0.1
PMR **Palmer** 100.01 27 *e*Pdif **Pdif** 06 10 12.7 -0.1
SEW **Seward** 100.37 28 *e*Pdif **Pdif** 06 10 16.4 +1.9
MENT **Mentasta** 101.83 24 *e*Pdif **Pdif** 06 10 22.1 +1.2
MTE **Manteigas** 101.89 311 PFAKE 06 10 30.0 +8.2
MTE LR LR
comp=Z,184nm,19.0s
EGAK **Eagle** 102.02 22 PFAKE 06 10 30.0 +8.3
EGAK LR LR
comp=Z,678nm,20.0s
SUMG **Summit** 102.23 348 *i*P **PP** 06 14 35.8 +0.9
comp=Z,8.4nm,1.0s
RTC **Rabat Centre** 102.46 305 PFAKE 06 10 30.0 +5.7
RTC LR LR
comp=Z,221nm,19.0s
INK **Inuvik** 102.73 17 Pdif **Pdif** 06 10 24.7 0.0
INK PP PP 06 14 33.0 -5.3
INK **Inuvik** 102.73 17 Pdiff **Pdif** 06 10 24.7 0.0
comp=Z,10.0nm,0.9s,baz=345,slow=3.5,SNR=14
INK PP PP 06 14 33.0 -5.3
comp=Z,18nm,1.1s,baz=309,slow=6.9,SNR=4.5
DAWY **Dawson** 103.03 22 *e*Pdif **Pdif** 06 10 26.3 0.0
SHEL **Horse Pasture** 103.88 254 PFAKE 06 10 40.0 +8.9
SHEL LR LR
comp=Z,2µm,20.0s
RES **Resolute Bay** 104.47 4 PP PP 06 14 44.7 -6.3
RES **Resolute Bay** 104.47 4 PP PP 06 14 44.7 -6.3
comp=Z,2.4nm,1.0s,baz=326,slow=7.3,SNR=3.8
DLBC **Dease Lake** 109.91 25 PKiKP **PKiKP** 06 14 59.5 +0.5
DLBC **Dease Lake** 109.91 25 PKiKP **PKiKP** 06 14 59.5 +0.5
comp=Z,3.6nm,1.0s,baz=293,slow=7.7,SNR=3.5
TBI **Tubuai** 110.34 115 *e*LR LR 06 47 36.7
comp=Z,629nm,23.2s
PPT2 **Papeete2** 110.98 109 *e*LR LR 06 47 53.1
comp=Z,550nm,27.5s
YKA **Yellowknife Ar** 112.39 16 Pdif **Pdif** 06 11 08.2 +0.3
YKA PKiKP **PKiKP** 06 15 02.9 -0.5
YKA PP PP 06 15 38.5 -10
YKA PKKPbc **PKKPbc** 06 25 54.0 -1.9
YKA **Yellowknife Ar** 112.39 16 Pdiff **Pdif** 06 11 08.2 +0.3
comp=Z,0.7nm,0.7s,baz=327,slow=4.6,SNR=15
YKA PKiKP **PKiKP** 06 15 02.9 -0.5
comp=Z,2.4nm,0.9s,baz=321,slow=1.8,SNR=13
YKA PP PP 06 15 38.4 -10
comp=Z,2.4nm,0.8s,baz=323,slow=6.9,SNR=8.7
YKA PKKPbc **PKKPbc** 06 25 54.0 -1.9
comp=Z,0.4nm,0.8s,baz=139,slow=3.1,SNR=5.6
PMSA **Palmer Station** 114.64 188 PFAKE 06 15 20.0 +12
PMSA LR LR
comp=Z,1µm,19.0s
HDW **Hoodsport** 119.94 31 P **PKPdf** 06 15 19.6 +1.1
SACV **Santiago Islan** 120.80 288 PFAKE 06 15 30.0 +9.1
SACV LR LR
comp=Z,296nm,19.0s
LON **Longmire** 121.17 31 *e*PKiKP **PKPdf** 06 15 20.7 -0.2
LON **Longmire** 121.17 31 *e*PKPdf **PKPdf** 06 15 20.7 -0.2
TDL **Tradedollar La** 121.22 32 P **PKPdf** 06 15 21.8 +0.8
ETW **Entiat** 121.35 30 P **PKPdf** 06 15 21.5 +0.2
TBM **Table Mountain** 121.51 30 P **PKPdf** 06 15 22.0 +0.4
OD2 **Odessa Site #2** 122.30 29 P **PKPdf** 06 15 23.3 +0.3
FFC **Flin Flon** 122.42 14 *e*PKiKP **PKPdf** 06 15 22.6 -0.3
FFC MLR MLR
comp=Z,495nm,20.0s
FFC **Flin Flon** 122.42 14 *e*PKPdf **PKPdf** 06 15 22.6 -0.3
FFC LR LR
comp=Z,495nm,20.0s
NEW **Newport** 122.43 27 *e*PKPdf **PKPdf** 06 15 22.8 -0.4
NEW LR LR
comp=Z,455nm,20.0s
NEW **Newport** 122.43 27 ⇓P **PKPdf** 06 15 23.1 -0.1
baz=122,SNR=20
WRD **Warden** 122.49 30 P **PKPdf** 06 15 24.1 +0.7
HAWA **Hanford** 122.58 30 *e*PKPdf **PKPdf** 06 15 23.9 +0.4
HAWA LR LR
comp=Z,625nm,19.0s
A12A **Yaak River Ran** 122.60 26 ⇓P **PKPdf** 06 15 24.0 +0.5
baz=122,SNR=30
REDWA **Red Mountain** 122.69 30 P **PKPdf** 06 15 25.0 +1.3
B12A **Libby** 122.97 26 ⇓P **PKPdf** 06 15 24.3 0.0
baz=123,SNR=9.0
C11A **Tepee Creek (N** 123.14 27 ⇑P **PKPdf** 06 15 24.4 -0.2
baz=123
A13A **Flathead Natio** 123.14 25 ⇓P **PKPdf** 06 15 25.1 +0.4
baz=123
HUMO **Hull Mountain** 123.16 36 *e*PKPdf **PKPdf** 06 15 26.0 +1.2
VIPM **Ingram Point** 123.27 33 PKiKP **PKPdf** 06 15 26.3 +1.2
VIPM **Ingram Point** 123.27 33 P **PKPdf** 06 15 26.3 +1.2
RKT **Rikitea** 123.42 118 *e*LR LR 06 53 37.4
comp=Z,439nm,30.2s
A14A **Double T Ranch** 123.53 25 ⇓P **PKPdf** 06 15 25.1 -0.4
baz=123,SNR=11
B13A **Whitefish** 123.54 26 ⇑P **PKPdf** 06 15 25.3 -0.1
baz=123,SNR=46
SCHQ **Schefferville** 123.55 350 PKP **PKPdf** 06 15 25.1 0.0
SCHQ **Schefferville** 123.55 350 PKP **PKPdf** 06 15 25.1 0.0
comp=Z,6.7nm,0.8s,baz=46,slow=3.6,SNR=13
C12B **Naegeli Ranch,** 123.59 27 ⇓P **PKPdf** 06 15 24.8 -0.6
baz=124
KHMM **Horse Mountain** 123.73 38 *e*PKPdf **PKPdf** 06 15 27.2 +1.1
BSMT **Bassoo Peak** 123.79 26 P **PKPdf** 06 15 26.2 +0.2
A15A **Johnson Ranch,** 123.81 24 ⇓P **PKPdf** 06 15 25.3 -0.6
baz=124,SNR=28
YBH **Yreka Blue Hor** 123.84 36 PKP **PKPdf** 06 15 26.4 +0.2
YBH **Yreka Blue Hor** 123.84 36 PKP **PKPdf** 06 15 26.4 +0.2
comp=Z,2.7nm,0.7s,baz=34,slow=3.6,SNR=8.2
BLMT **Blacktail Moun** 123.86 26 *e*PKPdf **PKPdf** 06 15 26.4 +0.2
C13A **Hot Springs** 124.02 26 ⇑P **PKPdf** 06 15 25.8 -0.6
baz=124,SNR=14
B14A **Marquette Ranc** 124.06 25 ⇓P **PKPdf** 06 15 26.0 -0.5
baz=124,SNR=13
JTMT **Jette** 124.09 26 *e*PKPdf **PKPdf** 06 15 26.8 +0.2

YBMT **Yellow Bay** 124.13 26 *e*PKPdf **PKPdf** 06 15 26.7 +0.1
D12A **Red Ives Fores** 124.13 27 ⇑P **PKPdf** 06 15 25.6 -0.9
baz=124
A16A **West Butte Ran** 124.30 24 ⇑P **PKPdf** 06 15 26.5 -0.4
baz=124
C14A **Swan Lake** 124.31 26 ⇓P **PKPdf** 06 15 26.5 -0.4
baz=124
B15A **Bradely Ranch,** 124.40 25 ⇑P **PKPdf** 06 15 26.6 -0.5
baz=124,SNR=49
SWMT **Swartz Lake** 124.40 26 *e*PKPdf **PKPdf** 06 15 27.0 -0.1
E12A **Beaver Dam Sad** 124.50 28 ⇓P **PKPdf** 06 15 26.6 -0.8
baz=124
D13A **Huson** 124.51 27 ⇑P **PKPdf** 06 15 26.6 -0.7
baz=124
A17A **Triple J Farms** 124.65 23 ⇑P **PKPdf** 06 15 27.5 -0.1
baz=124
B16A **M & M Farms, S** 124.67 24 ⇑P **PKPdf** 06 15 27.3 -0.3
baz=124,SNR=16
BMO **Blue Mountains** 124.77 30 *e*PKIKP **PKPdf** 06 15 27.8 -0.1
BMO MLR MLR
comp=Z,237nm,21.0s
BMO **Blue Mountains** 124.77 30 *e*PKPdf **PKPdf** 06 15 27.8 -0.1
BMO LR LR
comp=Z,295nm,21.0s
C15A **Salmond Ranch,** 124.80 25 ⇑P **PKPdf** 06 15 27.6 -0.4
baz=125,SNR=116
SLMT **Seeley Lake** 124.83 26 *e*PKPdf **PKPdf** 06 15 28.1 +0.1
MSO **Missoula** 124.94 27 *e*PKPdf **PKPdf** 06 15 28.3 +0.1
MSO LR LR
comp=Z,289nm,20.0s
MSO **Missoula** 124.94 27 ⇓P **PKPdf** 06 15 27.8 -0.3
baz=125
D14A **Greenough** 124.94 26 ⇓P **PKPdf** 06 15 27.7 -0.5
baz=125,SNR=24
A18A **Metzger Ranch,** 125.00 23 ⇑P **PKPdf** 06 15 27.9 -0.3
baz=125
E13A **Victor** 125.12 27 ⇑P **PKPdf** 06 15 28.0 -0.6
baz=125,SNR=72
F12A **Elk City** 125.13 28 ⇓P **PKPdf** 06 15 28.0 -0.6
baz=125,SNR=7.2
MOD **Modoc** 125.13 35 *e*PKPdf **PKPdf** 06 15 29.9 +1.1
B17A **L&G Farms, Che** 125.14 24 ⇑P **PKPdf** 06 15 28.0 -0.5
baz=125,SNR=45
C16A **Fuhringer Ranc** 125.14 25 ⇑P **PKPdf** 06 15 27.7 -0.8
baz=125,SNR=22
CHMT **Chamberlain Mo** 125.18 26 *e*PKPdf **PKPdf** 06 15 28.9 +0.1
EFI **East Falkland** 125.34 198 PFAKE 06 15 40.0 +11
EFI LR LR
comp=Z,742nm,19.0s
D15A **Lincoln** 125.41 26 ⇑P **PKPdf** 06 15 28.8 -0.3
baz=125,SNR=47
A19A **Klindworth Far** 125.41 22 ⇓P **PKPdf** 06 15 28.5 -0.5
baz=125
E14A **Clinton** 125.46 27 ⇑P **PKPdf** 06 15 28.9 -0.4
baz=125,SNR=24
B18A **Beardsley Farm** 125.46 23 ⇑P **PKPdf** 06 15 28.8 -0.2
baz=125
F13A **Darby** 125.54 28 ⇑P **PKPdf** 06 15 28.6 -0.8
baz=125,SNR=22
G12A **Big Creek, Yel** 125.56 29 ⇑P **PKPdf** 06 15 28.6 -0.9
baz=125
C17A **Wharram Farm,** 125.68 24 ⇓P **PKPdf** 06 15 28.9 -0.6
baz=126,SNR=19
WVOR **Wild Horse Val** 125.72 33 *e*PKIKP **PKPdf** 06 15 31.0 +1.2
WVOR MLR MLR
comp=Z,197nm,20.0s
WVOR **Wild Horse Val** 125.72 33 *e*PKPdf **PKPdf** 06 15 31.0 +1.2
WVOR LR LR
comp=Z,197nm,20.0s
B19A **Brinkman Farms** 125.73 22 ⇑P **PKPdf** 06 15 29.2 -0.4
baz=126
A20A **Cobblestone Ra** 125.75 21 ⇓P **PKPdf** 06 15 29.5 -0.1
baz=126
EGMT **Eagleton** 125.77 23 *e*PKPdf **PKPdf** 06 15 29.4 -0.2
EGMT LR LR
comp=Z,471nm,20.0s
EGMT **Eagleton** 125.77 23 ⇓P **PKPdf** 06 15 29.8 +0.1
baz=126
E15A **Deer Lodge** 125.83 26 ⇓P **PKPdf** 06 15 29.6 -0.4
baz=126,SNR=12
D16A **Dana Ranch, Ca** 125.83 25 ⇑P **PKPdf** 06 15 29.6 -0.3
baz=126,SNR=68
HRY **Holter Researc** 125.96 25 *e*PKPdf **PKPdf** 06 15 30.6 +0.4
F14A **Wisdom** 125.97 27 ⇓P **PKPdf** 06 15 30.2 -0.1
baz=126,SNR=26
A21A **Bergtoll Ranch** 126.02 21 ⇑P **PKPdf** 06 15 30.0 -0.1
baz=126,SNR=40
B20A **Solberg Farm,** 126.09 22 ⇓P **PKPdf** 06 15 30.1 -0.1
baz=126
D17A **Six Diamond Ra** 126.09 24 ⇑P **PKPdf** 06 15 30.1 -0.4
baz=126,SNR=23
G13A **Cobalt** 126.11 28 ⇑P **PKPdf** 06 15 29.8 -0.7
baz=126,SNR=7.6
E16A **East Helena** 126.17 25 ⇓P **PKPdf** 06 15 30.4 -0.2
baz=126,SNR=28
H12A **Diamond D Ranc** 126.21 29 ⇑P **PKPdf** 06 15 30.6 -0.1
baz=126,SNR=21
C19A **Slack Wire Ran** 126.28 23 ⇑P **PKPdf** 06 15 30.7 0.0
baz=126
F15A **Butte** 126.34 27 ⇓P **PKPdf** 06 15 30.5 -0.5
baz=126,SNR=12
G14A **Jackson** 126.36 28 ⇓P **PKPdf** 06 15 31.0 -0.1
baz=126,SNR=31
A22A **Carney Farms,** 126.36 20 ⇓P **PKPdf** 06 15 30.7 0.0
baz=126,SNR=29
LRM **Limekiln Ridge** 126.38 27 *e*PKPdf **PKPdf** 06 15 31.5 +0.4
D18A **Linhart Farms,** 126.42 24 ⇑P **PKPdf** 06 15 30.9 -0.1
baz=126,SNR=14
B21A **Ellsworth Farm** 126.46 21 ⇑P **PKPdf** 06 15 31.1 +0.1
baz=126,SNR=15
H13A **Challis** 126.49 29 ⇑P **PKPdf** 06 15 31.3 +0.1
baz=126,SNR=43
MFID **Camas Ranch** 126.54 31 *e*PKPdf **PKPdf** 06 15 31.8 +0.4
MFID **Camas Ranch** 126.54 31 ⇓P **PKPdf** 06 15 31.6 +0.3
baz=126
I12A **Atlanta** 126.62 30 ⇑P **PKPdf** 06 15 31.9 +0.3
baz=126,SNR=30
DLMT **Dillon** 126.66 27 *e*PKPdf **PKPdf** 06 15 31.5 0.0
C20A **Veseth Ranch,** 126.70 22 ⇓P **PKPdf** 06 15 31.7 +0.3
baz=127
A23A **Redstone** 126.74 19 ⇓P **PKPdf** 06 15 31.7 +0.2
baz=127
F16A **Kennard Place,** 126.77 26 ⇓P **PKPdf** 06 15 31.8 0.0
baz=127,SNR=8.5
D19A **Cripps Ranch,** 126.81 23 ⇓P **PKPdf** 06 15 31.7 0.0
baz=127,SNR=24
G15A **Dillon** 126.86 27 ⇓P **PKPdf** 06 15 32.3 +0.3
baz=127,SNR=69
H14A **Leadore** 126.87 28 ⇓P **PKPdf** 06 15 32.3 +0.2
baz=127,SNR=20
BOZ **Bozeman (W)** 126.88 26 *e*PKIKP **PKPdf** 06 15 32.3 +0.3
BOZ MLR MLR
comp=Z,509nm,21.0s
BOZ **Bozeman (W)** 126.88 26 *e*PKPdf **PKPdf** 06 15 32.3 +0.3
BOZ LR LR
comp=Z,509nm,21.0s
BOZ **Bozeman (W)** 126.88 26 ⇑P **PKPdf** 06 15 31.9 -0.1
baz=127
E18A **Harlowton** 126.88 24 ⇓P **PKPdf** 06 15 32.1 +0.1
baz=127,SNR=8.9
B22A **Reddig Ranch S** 126.93 20 ⇑P **PKPdf** 06 15 32.2 +0.4
baz=127,SNR=9.7
C21A **Desert Coulee** 126.94 21 ⇓P **PKPdf** 06 15 32.2 +0.3
baz=127,SNR=14
MCMT **McKenzie Canyo** 126.95 28 *e*PKPdf **PKPdf** 06 15 33.3 +1.0
I13A **Wildhorse Cree** 127.03 29 ⇓P **PKPdf** 06 15 32.8 +0.4
baz=127,SNR=38
A24A **Westby** 127.05 18 ⇓P **PKPdf** 06 15 32.4 +0.3
baz=127,SNR=15
F17A **Fitzpatrick Pl** 127.10 25 ⇑P **PKPdf** 06 15 32.7 +0.3
baz=127,SNR=23
WCN **Washoe City** 127.11 37 ⇑P **PKPdf** 06 15 32.6 0.0
baz=127
G16A **Moss Hill, Enn** 127.12 27 ⇓P **PKPdf** 06 15 33.0 +0.5
baz=127,SNR=28
B23A **Brockton** 127.13 19 ⇑P **PKPdf** 06 15 32.4 +0.2
baz=127,SNR=28
HLID **Hailey** 127.15 30 *e*PKPdf **PKPdf** 06 15 33.0 +0.3
HLID LR LR
comp=Z,415nm,20.0s
HLID **Hailey** 127.15 30 ⇑P **PKPdf** 06 15 32.9 +0.3
baz=127,SNR=24
D20A **Manuel Ranch,** 127.16 23 ⇓P **PKPdf** 06 15 32.7 +0.3
baz=127
H15A **Lima** 127.21 28 ⇓P **PKPdf** 06 15 32.9 +0.2
baz=127,SNR=33
I14A **Mackay** 127.35 29 ⇓P **PKPdf** 06 15 33.1 +0.1
baz=127,SNR=14
DGMT **Dagmar** 127.38 19 *e*PKPdf **PKPdf** 06 15 33.4 +0.7
DGMT LR LR
comp=Z,602nm,20.0s
DGMT **Dagmar** 127.38 19 ⇑P **PKPdf** 06 15 33.0 +0.3
baz=127,SNR=7.3
J13A **Cove Ranch, Pi** 127.39 30 ⇓P **PKPdf** 06 15 33.5 +0.4
baz=127,SNR=46
E19A **Rath Farm, Rou** 127.42 24 ⇓P **PKPdf** 06 15 33.2 +0.3
baz=127,SNR=11
C22A **Vida** 127.44 21 ⇓P **PKPdf** 06 15 33.4 +0.5
baz=127,SNR=24
F18A **Big Timber** 127.50 25 ⇑P **PKPdf** 06 15 33.5 +0.4
baz=127,SNR=25
CMB **Columbia Colle** 127.50 39 *e*PKIKP **PKPdf** 06 15 33.9 +0.7
CMB **Columbia Colle** 127.50 39 *e*PKPdf **PKPdf** 06 15 33.9 +0.7
G17A **Pierce Place,** 127.52 26 ⇓P **PKPdf** 06 15 33.8 +0.6
baz=127,SNR=13
QLMT **Earthquake Lak** 127.60 27 *e*PKPdf **PKPdf** 06 15 35.0 +1.5
GCMT **Greycliff** 127.61 25 *e*PKPdf **PKPdf** 06 15 34.2 +0.8
C23A **Lambert** 127.64 20 ⇓P **PKPdf** 06 15 34.0 +0.8
baz=128,SNR=26
E20A **Meyer Farm, Mu** 127.65 23 ⇓P **PKPdf** 06 15 33.8 +0.4
baz=128,SNR=17
I15A **Monteview** 127.75 28 ⇓P **PKPdf** 06 15 34.2 +0.5
baz=128,SNR=12
J14A **Carey** 127.76 29 ⇓P **PKPdf** 06 15 34.0 +0.2
baz=128
H16A **Russell Place,** 127.78 27 ⇓P **PKPdf** 06 15 34.1 +0.3
baz=128,SNR=38
D22A **Cohagen** 127.84 21 ⇑P **PKPdf** 06 15 34.1 +0.5
baz=128,SNR=50
BMN **Battle Mountai** 127.85 34 PFAKE 06 15 40.0 +6.0
BMN LR LR
comp=Z,216nm,21.0s
F19A **Roth Farm, Mol** 127.85 24 ⇑P **PKPdf** 06 15 33.9 +0.1
baz=128,SNR=13
YMR **Madison River** 127.94 26 *e*PKPdf **PKPdf** 06 15 35.2 +1.1
ULM **Lac Lonnet** 127.95 12 PKP **PKPdf** 06 15 33.5 -0.2
ULM **Lac du Bonnet** 127.95 12 PKP **PKPdf** 06 15 33.5 -0.2
comp=Z,26nm,0.9s,baz=345,slow=2.9,SNR=30
E21A **Keefer Ranch,** 128.02 22 ⇑P **PKPdf** 06 15 34.4 +0.4
baz=128,SNR=27
G18A **Lazy EL Ranch,** 128.03 25 ⇓P **PKPdf** 06 15 34.2 0.0
baz=128
C24A **Savage** 128.13 20 ⇓P **PKPdf** 06 15 34.5 +0.3
baz=128,SNR=12
YFT **Old Faithful** 128.16 27 *e*PKPdf **PKPdf** 06 15 37.8 +3.2
D23A **Lindsay** 128.17 20 ⇑P **PKPdf** 06 15 34.6 +0.3
baz=128,SNR=20
F20A **Billings** 128.22 24 ⇓P **PKPdf** 06 15 34.4 -0.1
baz=128,SNR=7.3
J15A **Blackfoot** 128.23 29 ⇑P **PKPdf** 06 15 34.8 +0.2
baz=128,SNR=27
LKWY **Lake** 128.27 26 *e*PKIKP **PKPdf** 06 15 36.7 +1.9
LKWY MLR MLR
comp=Z,683nm,19.0s
LKWY **Lake** 128.27 26 *e*PKPdf **PKPdf** 06 15 36.7 +1.9
LKWY LR LR
comp=Z,683nm,19.0s
RLMT **Red Lodge** 128.31 25 *e*PKPdf **PKPdf** 06 15 35.8 +1.0
RLMT LR LR
comp=Z,490nm,19.0s
RLMT **Red Lodge** 128.31 25 ⇓P **PKPdf** 06 15 34.9 +0.1
baz=128,SNR=12
I16A **Newdale** 128.31 27 ⇓P **PKPdf** 06 15 35.1 +0.3
baz=128,SNR=18
H17A **Grant Village** 128.32 26 ⇑P **PKPdf** 06 15 35.5 +0.6
baz=128,SNR=18
H18A **Shoshone NF, C** 128.50 26 ⇑P **PKPdf** 06 15 35.2 0.0
baz=128,SNR=14
K14A **Jones Ranch, D** 128.51 30 ⇑P **PKPdf** 06 15 35.8 +0.6
baz=128,SNR=19
FLWY **Flagg Ranch** 128.51 27 *e*PKPdf **PKPdf** 06 15 36.9 +1.7
D24A **Glendive** 128.52 20 ⇑P **PKPdf** 06 15 35.6 +0.6
baz=128,SNR=19
E22A **Miles City** 128.53 22 ⇓P **PKPdf** 06 15 35.2 +0.3
baz=128,SNR=19
F21A **Absaloka Mine,** 128.60 23 ⇑P **PKPdf** 06 15 35.2 +0.1
baz=128,SNR=11
G20A **Bridger** 128.67 24 ⇓P **PKPdf** 06 15 35.6 +0.2
baz=128,SNR=22
DCID1 **Drake Creek** 128.67 27 *e*PKPdf **PKPdf** 06 15 36.8 +1.3
I17A **Pilgrim Ck.** 128.69 27 ⇑P **PKPdf** 06 15 35.8 +0.2
baz=129
E23A **Ismay** 128.71 21 ⇑P **PKPdf** 06 15 35.5 +0.2
baz=129,SNR=20
J16A **Bozeman** 128.72 28 ⇑P **PKPdf** 06 15 35.7 +0.1
baz=129,SNR=16
MLAC **Mammoth Lakes** 128.72 38 ⇑P **PKPdf** 06 15 35.9 0.0
baz=129
K15A **Arbon** 128.72 29 ⇓P **PKPdf** 06 15 35.8 +0.2
baz=129,SNR=17
ELK **Elko** 128.74 33 *e*PKPdf **PKPdf** 06 15 36.5 +0.7
MOOW **Moose Ponds** 128.75 27 *e*PKPdf **PKPdf** 06 15 36.5 +0.8
H19A **Powell** 128.79 25 ⇓P **PKPdf** 06 15 36.2 +0.5
baz=129,SNR=76
RRI2 **Red Ridge** 128.80 28 *e*PKPdf **PKPdf** 06 15 36.6 +0.8
L14A **Malta** 128.85 30 ⇑P **PKPdf** 06 15 35.8 0.0
baz=129,SNR=16
LOHW **Long Hollow** 128.92 27 *e*PKPdf **PKPdf** 06 15 36.8 +0.7
SNOW **Snow King Moun** 128.97 27 *e*PKPdf **PKPdf** 06 15 37.3 +1.1
F22A **Rosebud** 128.97 22 ⇓P **PKPdf** 06 15 35.7 -0.1
baz=129,SNR=10
REDW **Red Top Meadow** 129.00 27 *e*PKPdf **PKPdf** 06 15 36.5 +0.2
E24A **Baker** 129.01 20 ⇓P **PKPdf** 06 15 36.1 +0.2
baz=129,SNR=13
K16A **Soda Springs** 129.06 28 ⇓P **PKPdf** 06 15 36.4 +0.1
baz=129,SNR=16
J17A **Brown Place, J** 129.07 27 ⇑P **PKPdf** 06 15 36.2 -0.1
baz=129,SNR=25
G21A **Lodge Grass** 129.07 23 ⇓P **PKPdf** 06 15 35.9 -0.2
baz=129,SNR=6.9
I18A **Diamond G Ranc** 129.21 26 ⇓P **PKPdf** 06 15 36.4 -0.2
baz=129,SNR=6.4
HVU **Hansel Valley** 129.28 30 *e*PKIKP **PKPdf** 06 15 37.6 +0.9
HVU **Hansel Valley** 129.28 30 *e*PKPdf **PKPdf** 06 15 37.6 +0.9
I19A **Meeteetse** 129.30 26 ⇓P **PKPdf** 06 15 36.9 +0.2
baz=129,SNR=14
L15A **Malad City** 129.30 30 ⇓P **PKPdf** 06 15 36.8 +0.1
baz=129
MDND **Maddock** 129.31 16 ⇓P **PKPdf** 06 15 36.3 -0.1
baz=129
F23A **Volborg** 129.34 22 ⇑P **PKPdf** 06 15 36.5 0.0
baz=129,SNR=16
SMMC **Simmler** 129.39 41 ⇑P **PKPdf** 06 15 37.5 +0.6
baz=129
TPH **Tonopah** 129.41 37 PFAKE 06 15 50.0 +13
TPH LR LR
comp=Z,347nm,20.0s
G22A **Birney** 129.43 23 ⇓P **PKPdf** 06 15 36.7 -0.1
baz=129,SNR=14
K17A **Gardner Place,** 129.44 28 ⇑P **PKPdf** 06 15 36.9 -0.1
baz=129,SNR=6.4
J18A **Kendall Valley** 129.50 27 ⇑P **PKPdf** 06 15 36.6 -0.6
baz=129,SNR=15
F24A **Ekalaka** 129.58 21 ⇓P **PKPdf** 06 15 36.9 -0.1
baz=129,SNR=7.8
H21A **Big Horn, Sher** 129.63 24 ⇑P **PKPdf** 06 15 36.9 -0.3
baz=130
VES **Vestal, Richgr** 129.67 40 ⇓P **PKPdf** 06 15 36.9 -0.4
baz=130
M15A **Larsen Ranch,** 129.68 30 ⇓P **PKPdf** 06 15 37.1 -0.3
baz=130,SNR=16
I20A **Worland** 129.74 25 ⇑P **PKPdf** 06 15 37.6 +0.1
baz=130,SNR=33
PKM **Peak Mountain** 129.75 42 ⇑P **PKPdf** 06 15 37.6 -0.2
baz=130
L16A **Fish Haven** 129.76 29 ⇑P **PKPdf** 06 15 37.5 -0.2
baz=130,SNR=11
G23A **Biddle** 129.79 22 ⇑P **PKPdf** 06 15 37.5 0.0
baz=130,SNR=17
AGMN **Agassiz Nation** 129.80 12 *e*PKPdf **PKPdf** 06 15 37.7 +0.5
AGMN LR LR
comp=Z,616nm,21.0s
J19A **Crowheart** 129.89 26 ⇓P **PKPdf** 06 15 37.8 -0.1
baz=130,SNR=16
H22A **Clearmont** 129.93 23 ⇑P **PKPdf** 06 15 37.6 -0.2
baz=130
K18A **Toltan Ranch,** 129.94 27 ⇑P **PKPdf** 06 15 37.9 -0.1
baz=130,SNR=14
L17A **Cokeville** 129.97 28 ⇓P **PKPdf** 06 15 37.9 -0.1
baz=130,SNR=14
HWUT **Hardware Ranch** 130.01 29 *e*PKPdf **PKPdf** 06 15 38.8 +0.6
HWUT LR LR
comp=Z,415nm,19.0s
GRAC **Grapevine Rang** 130.02 38 ⇓P **PKPdf** 06 15 38.2 +0.2
baz=130
G24A **Alzada** 130.03 21 ⇑P **PKPdf** 06 15 38.0 0.0
baz=130,SNR=8.3
BW06 **Boulder Array** 130.06 27 PFAKE 06 15 50.0 +12
BW06 LR LR
comp=Z,467nm,19.0s
BW06 **Boulder Array** 130.06 27 ⇓P **PKPdf** 06 15 38.1 -0.1
baz=130
PDAR **Pinedale Array** 130.06 27 PKPpre PKPpre 06 15 31.9
PDAR PKP **PKiKP** 06 15 38.3 -0.7
PDAR SKPbc **SKPab** 06 18 56.2 -1.4
PDAR **Pinedale Array** 130.06 27 PKhKP PKPpre 06 15 31.9
comp=Z,1.3nm,0.7s,baz=207,slow=1.0,SNR=6.0
PDAR PKP **PKiKP** 06 15 38.3 -0.7
comp=Z,16nm,1.1s,baz=236,slow=1.0,SNR=27
PDAR SKPbc **SKPab** 06 18 56.2 -1.4
comp=Z,6.9nm,1.0s,baz=321,slow=1.2,SNR=9.0
N15A **Stansbury Isla** 130.06 31 ⇑P **PKPdf** 06 15 38.2 0.0
baz=130,SNR=19
ISA **Isabella** 130.17 40 ⇓P **PKPdf** 06 15 38.3 -0.1
baz=130
R11A **Troy Canyon, C** 130.19 35 ⇓P **PKPdf** 06 15 39.3 +0.8
baz=130
M16A **Huntsville** 130.19 30 ⇑P **PKPdf** 06 15 38.3 -0.2
baz=130
I21A **Big Trails, Te** 130.20 24 ⇑P **PKPdf** 06 15 38.3 -0.1
baz=130,SNR=20
J20A **Shoshoni** 130.24 25 ⇑P **PKPdf** 06 15 38.7 +0.2
baz=130,SNR=27
K19A **Absolon Red Bu** 130.33 26 ⇓P **PKPdf** 06 15 38.6 -0.1
baz=130,SNR=35
DAC **Darwin (Calif)** 130.34 39 PFAKE 06 15 50.0 +11
DAC LR LR
comp=Z,388nm,21.0s
DUG **Dugway** 130.42 32 *e*PKIKP **PKPdf** 06 15 40.2 +1.3
DUG MLR MLR
comp=Z,324nm,20.0s
DUG **Dugway** 130.42 32 *e*PKPdf **PKPdf** 06 15 40.2 +1.3
DUG LR LR
comp=Z,324nm,20.0s
DUG **Dugway** 130.42 32 ⇓P **PKPdf** 06 15 38.8 -0.1
baz=130
I22A **9 Mile Ranch,** 130.46 24 ⇓P **PKPdf** 06 15 38.9 0.0
baz=130,SNR=10
H24A **Dirks Ranch, A** 130.48 22 ⇑P **PKPdf** 06 15 38.6 -0.2
baz=130
L18A **Fontenelle, Gr** 130.50 28 ⇓P **PKPdf** 06 15 38.9 -0.1
baz=130,SNR=18
J21A **Lysite** 130.52 25 ⇑P **PKPdf** 06 15 39.0 -0.1
baz=130,SNR=12
O15A **The Old Anders** 130.54 31 ⇑P **PKPdf** 06 15 39.0 -0.1
baz=130,SNR=8.9
MPMC **Manual Prospec** 130.54 39 ⇓P **PKPdf** 06 15 39.2 -0.1
baz=130
M17A **Scullys Gap (B** 130.55 29 ⇑P **PKPdf** 06 15 39.0 -0.2
baz=130,SNR=14
N16A **Rees Ranch, Co** 130.61 30 ⇓P **PKPdf** 06 15 39.5 +0.1
baz=130,SNR=6.3
FURC **Furnace Creek,** 130.67 38 ⇑P **PKPdf** 06 15 39.0 -0.2
baz=131
L19A **Farson** 130.67 27 ⇑P **PKPdf** 06 15 39.2 -0.2
baz=130,SNR=13
K20A **Yellowstone Ra** 130.69 26 ⇓P **PKPdf** 06 15 39.1 -0.3
baz=131
BLG **Laguna Peak** 130.72 42 ⇑P **PKPdf** 06 15 39.4 -0.1
baz=131
LRMC **Laurel Mountai** 130.78 40 ⇓P **PKPdf** 06 15 39.5 -0.2
baz=131
J22A **Midwest** 130.86 24 ⇓P **PKPdf** 06 15 39.5 -0.2
baz=131
M18A **Lyman** 130.87 28 ⇓P **PKPdf** 06 15 39.6 -0.2
baz=131,SNR=7.0
N17A **Moffit Pass** 130.87 29 ⇑P **PKPdf** 06 15 39.5 -0.3
baz=131,SNR=12
EYMN **Ely** 130.95 9 *e*PKPdf **PKPdf** 06 15 39.8 +0.4
EYMN LR LR
comp=Z,612nm,20.0s
EDW2 **Edwards Air Fo** 130.96 40 ⇓P **PKPdf** 06 15 39.9 0.0
baz=131
DAU **Daniels Canyon** 131.06 30 *e*PKIKP **PKPdf** 06 15 41.5 +1.2
DAU **Daniels Canyon** 131.06 30 *e*PKPdf **PKPdf** 06 15 41.5 +1.2
P15A **Leamington** 131.16 32 ⇑P **PKPdf** 06 15 40.3 0.0
baz=131,SNR=8.3
MPU **Maple Canyon** 131.16 31 *e*PKPdf **PKPdf** 06 15 41.0 +0.6
MPU *e*PP **PP** 06 17 57.9 +0.7
K21A **Alcova** 131.18 25 ⇑P **PKPdf** 06 15 40.1 -0.3
baz=131,SNR=15
L20A **Wamsutter** 131.21 27 ⇑P **PKPdf** 06 15 40.1 -0.3
baz=131,SNR=6.3
RSSD **Black Hills** 131.21 22 *e*PKIKP **PKPdf** 06 15 41.0 +0.6
RSSD **Black Hills** 131.21 22 *e*PKPdf **PKPdf** 06 15 41.0 +0.6
I24A **Kuemmerle Ranc** 131.22 22 ⇓P **PKPdf** 06 15 40.1 -0.1
baz=131
R13A **O'Grain Ranch,** 131.23 34 ⇓P **PKPdf** 06 15 40.3 -0.3
baz=131
M19A **Rock Springs** 131.24 28 ⇓P **PKPdf** 06 15 40.2 -0.3
baz=131,SNR=9.2
J23A **Dilts Ranch, B** 131.24 23 ⇓P **PKPdf** 06 15 40.2 -0.2
baz=131
MWC **Mount Wilson** 131.32 41 *e*PKIKP **PKPdf** 06 15 42.7 +1.9
MWC **Mount Wilson** 131.32 41 *e*PKPdf **PKPdf** 06 15 42.7 +1.9
SHOC **Shoshone** 131.40 38 ⇑P **PKPdf** 06 15 40.6 -0.1
baz=131
N18A **Larsen Ranch,** 131.41 29 ⇓P **PKPdf** 06 15 40.5 -0.3
baz=131
P16A **Fountain Green** 131.45 31 ⇓P **PKPdf** 06 15 40.8 -0.1
baz=131,SNR=13
GSC **Goldstone** 131.46 39 *e*PKIKP **PKPdf** 06 15 42.3 +1.4
GSC **Goldstone** 131.46 39 *e*PKPdf **PKPdf** 06 15 42.3 +1.4
GSC **Goldstone** 131.46 39 ⇓P **PKPdf** 06 15 40.7 -0.2
baz=131
K22A **Casper** 131.47 25 ⇑P **PKPdf** 06 15 40.6 -0.3
baz=131,SNR=14
O17A **Robinson Place** 131.48 30 ⇑P **PKPdf** 06 15 40.9 -0.1
baz=131,SNR=30
BFSC **Mount Baldy Ra** 131.57 41 ⇑P **PKPdf** 06 15 41.1 -0.1
baz=132
J24A **Dixon Ranch, L** 131.65 23 ⇓P **PKPdf** 06 15 40.9 -0.2
baz=132
L21A **Rawlins** 131.67 26 ⇓P **PKPdf** 06 15 41.2 -0.1
baz=132,SNR=18
M20A **Sweetwater, Wa** 131.69 27 ⇓P **PKPdf** 06 15 41.3 -0.1
baz=132,SNR=5.4
N19A **John Jarvie Ra** 131.71 28 ⇓P **PKPdf** 06 15 41.0 -0.3
baz=132,SNR=26
SCI **San Clemente I** 131.73 43 ⇑P **PKPdf** 06 15 41.3 -0.1
baz=132
K23A **Bowen Ranch, D** 131.76 24 ⇓P **PKPdf** 06 15 41.1 -0.3
baz=132,SNR=11
O18A **Roosevelt** 131.79 29 ⇑P **PKPdf** 06 15 41.5 0.0
baz=132,SNR=23
ARUT **Antelope Range** 131.80 34 *e*PKIKP **PKPdf** 06 15 43.2 +1.6
ARUT **Antelope Range** 131.80 34 *e*PKPdf **PKPdf** 06 15 43.2 +1.6
TMUT **Trail Mountain** 131.92 31 *e*PKPdf **PKPdf** 06 15 43.2 +1.2
TUQ **Turquoise Moun** 131.92 38 ⇑P **PKPdf** 06 15 41.6 -0.2
baz=132
M21A **Separation Pea** 131.97 26 ⇓P **PKPdf** 06 15 41.6 -0.3
baz=132,SNR=32
RWWY **Rawlins** 131.97 26 *e*PKPdf **PKPdf** 06 15 39.9 -2.0
MVU **Marysvale** 131.97 33 *e*PKPdf **PKPdf** 06 15 43.8 +1.8
MVU LR LR
comp=Z,329nm,21.0s
MSU **Marysvale** 131.98 33 *e*PKIKP **PKPdf** 06 15 43.5 +1.5
MSU **Marysvale** 131.98 33 *e*PKPdf **PKPdf** 06 15 43.5 +1.5
CCUT **Cedar City** 132.01 34 *e*PKPdf **PKPdf** 06 15 43.8 +1.7
P17A **Butcher Ranch,** 132.03 31 ⇑P **PKPdf** 06 15 42.0 0.0
baz=132,SNR=12
HEC **Hector,Ludlow** 132.06 39 ⇑P **PKPdf** 06 15 42.1 +0.1
baz=132
R15A **Junction** 132.15 33 ⇑P **PKPdf** 06 15 42.7 +0.4
baz=132,SNR=5.8
P18A **Preston Nutter** 132.16 30 ⇓P **PKPdf** 06 15 42.6 +0.2
baz=132,SNR=25
N20A **Spence Gulch,** 132.18 28 ⇓P **PKPdf** 06 15 42.4 +0.1
baz=132,SNR=19
O19A **Miners Draw (B** 132.19 29 ⇑P **PKPdf** 06 15 42.1 -0.2
baz=132,SNR=14
Q16A **Castle Valley** 132.22 31 ⇓P **PKPdf** 06 15 42.3 -0.1
baz=132,SNR=18
L23A **Garrett** 132.26 24 ⇓P **PKPdf** 06 15 42.2 -0.2
baz=132,SNR=16
MURC **Murrieta** 132.26 41 ⇑P **PKPdf** 06 15 42.4 0.0
baz=132
SRU **San Rafael** 132.41 31 *e*PKIKP **PKPdf** 06 15 43.4 +0.7
SRU **San Rafael** 132.41 31 *e*PKPdf **PKPdf** 06 15 43.4 +0.7
SRU **San Rafael** 132.41 31 ⇑P **PKPdf** 06 15 42.6 -0.1
baz=132

M22A	Cedar Creek Ra	132.47	26	⇓P		PKPdf	06 15 42.8	-0.1	
	baz=132								
GMRC	Granite Mounta	132.51	39	⇓P		PKPdf	06 15 43.2	+0.3	
	baz=132,SNR=16								
R16A	Teasdale	132.52	32	⇓P		PKPdf	06 15 43.1	0.0	
	baz=132,SNR=8.2								
K25A	Mack Ranch, Ha	132.57	22	⇓P		PKPdf	06 15 43.1	+0.3	
	baz=132								
N21A	Black Mountain	132.58	27	⇓P		PKPdf	06 15 43.0	-0.1	
	baz=132,SNR=26								
BRSD	Miller	132.61	17	⇓P		PKPdf	06 15 43.0	+0.3	
	baz=132								
Q18A	Rafter H Ranch	132.62	30	⇑P		PKPdf	06 15 43.2	+0.2	
	baz=132,SNR=16								
L24A	Wheatland	132.63	24	⇑P		PKPdf	06 15 43.3	+0.2	
	baz=132								
LDFC	Landfair	132.66	38	*e*PKPdf		PKPdf	06 15 44.7	+1.4	
O20A	White River Ci	132.74	28	⇓P		PKPdf	06 15 43.3	0.0	
	baz=133,SNR=24								
PFO	Pinyon Flat Ob	132.74	41	*e*PKPdf		PKPdf	06 15 44.1	+0.7	
PFO				LR		LR			
	comp=Z,393nm,19.0s								
PFO	Pinyon Flat Ob	132.74	41	⇑P		PKPdf	06 15 43.5	+0.1	
	baz=133								
K26A	Motz Farm, Whi	132.75	22	⇓P		PKPdf	06 15 43.3	+0.2	
	baz=133								
109C	Camp Elliot, M	132.76	42	⇓P		PKPdf	06 15 43.4	+0.1	
	baz=133								
P19A	Cripple Cowboy	132.78	29	⇓P		PKPdf	06 15 43.6	+0.2	
	baz=133,SNR=11								
M23A	Laramie	132.79	25	⇓P		PKPdf	06 15 43.5	+0.1	
	baz=133								
BELC	Belle Mtn. Jos	132.79	40	⇓P		PKPdf	06 15 43.6	+0.1	
	baz=133								
R17A	Hanksville Air	132.83	32	⇓P		PKPdf	06 15 43.7	+0.2	
	baz=133,SNR=30								
S16A	Weppner Ranch,	132.87	33	⇓P		PKPdf	06 15 43.8	+0.2	
	baz=133,SNR=20								
N22A	Wattenberg Ran	133.02	26	⇑P		PKPdf	06 15 44.1	+0.1	
	baz=133,SNR=13								
PHWY	Pilot Hill	133.04	25	*e*PKPdf		PKPdf	06 15 43.6	-0.4	
O21A	Pagoda	133.04	27	⇑P		PKPdf	06 15 44.2	+0.2	
	baz=133								
K27A	Flueckinger Fa	133.09	21	⇑P		PKPdf	06 15 43.9	+0.1	
	baz=133								
M24A	Cheyenne	133.16	24	⇑P		PKPdf	06 15 43.9	-0.1	
	baz=133,SNR=10								
N23A	Red Feather La	133.16	26	⇓P		PKPdf	06 15 44.1	-0.1	
	baz=133								
Q19A	Hogan Spring (	133.16	30	⇑P		PKPdf	06 15 44.5	+0.4	
	baz=133,SNR=42								
P20A	De Beque	133.17	29	⇓P		PKPdf	06 15 44.5	+0.4	
	baz=133,SNR=8.9								
BAR	Barrett	133.17	42	*e*PKPdf		PKPdf	06 15 44.4	+0.2	
MONP	Monument Peak	133.21	41	⇑P		PKPdf	06 15 44.6	+0.1	
	baz=133,SNR=8.8								
IRM	Iron Mountain	133.23	39	⇓P		PKPdf	06 15 44.3	+0.1	
	baz=133								
R18A	Canyonlands Na	133.28	31	⇑P		PKPdf	06 15 44.5	+0.1	
	baz=133,SNR=20								
BC3	Big Chuckawall	133.36	40	⇓P		PKPdf	06 15 44.5	-0.1	
	baz=133								
L26A	Underwood Farm	133.36	22	⇓P		PKPdf	06 15 44.4	+0.1	
	baz=133								
S17A	Black Ridge (B	133.36	32	⇑P		PKPdf	06 15 44.5	0.0	
	baz=133								
SPMN	St. Paul	133.36	11	⇑P		PKPdf	06 15 44.4	+0.3	
	baz=133								
W13A	Hualapai Mount	133.39	37	⇑P		PKPdf	06 15 44.4	-0.3	
	baz=133								
U15A	North Rim	133.41	35	⇑P		PKPdf	06 15 44.8	0.0	
	baz=133,SNR=24								
M25A	Palm-Egli Farm	133.50	23	⇑P		PKPdf	06 15 44.7	0.0	
	baz=133								
O22A	Kremmling	133.50	27	⇓P		PKPdf	06 15 44.8	-0.2	
	baz=133,SNR=7.9								
DVTC	Desert V Tower	133.57	41	⇓P		PKPdf	06 15 45.1	+0.2	
	baz=134								
SWSC	Sam W. Stewart	133.59	41	⇑P		PKPdf	06 15 45.4	+0.6	
	baz=134								
P21A	Newcastle	133.60	28	⇓P		PKPdf	06 15 45.2	+0.1	
	baz=134								
L27A	T5 Ranch, Ells	133.60	21	⇑P		PKPdf	06 15 44.9	+0.1	
	baz=134								
Q20A	Ridgley Place,	133.64	29	⇓P		PKPdf	06 15 45.3	+0.2	
	baz=134								
N24A	Carr	133.67	25	⇓P		PKPdf	06 15 45.3	+0.2	
	baz=134								
R19A	Curley Farm, L	133.67	30	⇑P		PKPdf	06 15 45.3	+0.1	
	baz=134,SNR=26								
O23A	Lake Granby, G	133.74	26	⇑P		PKPdf	06 15 45.4	0.0	
	baz=134,SNR=22								
S18A	Hurst Farm, Bl	133.75	32	⇓P		PKPdf	06 15 45.3	-0.1	
	baz=134,SNR=12								
PDMCI	Parker Dam,Lak	133.77	38	⇓P		PKPdf	06 15 45.6	+0.4	
	baz=134								
PV04	Paradox Valley	133.78	30	*e*PKPdf		PKPdf	06 15 45.8	+0.4	
T17A	Navajo Res., N	133.83	33	⇑P		PKPdf	06 15 45.8	+0.3	
	baz=134,SNR=19								
P22A	Eagle	133.86	27	⇑P		PKPdf	06 15 45.7	+0.2	
	baz=134								
Y12C	Blythe	133.89	39	⇓P		PKPdf	06 15 45.8	+0.4	
	baz=134								
ECSD	EROS Data Cent	133.91	15	*e*PKPdf		PKPdf	06 15 39.8	-5.4	
ECSD				LR		LR			
	comp=Z,612nm,19.0s								
Q21A	Lamborn Mesa,	134.08	29	⇑P		PKPdf	06 15 46.0	+0.1	
	baz=134								
SMCO	Snowmass	134.09	28	*e*PKPdf		PKPdf	06 15 47.4	+1.2	
PV01	Paradox Valley	134.14	30	*e*PKPdf		PKPdf	06 15 47.0	+0.9	
GLA	Glamis	134.15	40	⇑P		PKPdf	06 15 46.4	+0.4	
	baz=134								
S19A	Harvey Farm, M	134.15	31	⇓P		PKPdf	06 15 46.3	+0.2	
	baz=134,SNR=16								
O24A	Longmont	134.18	25	⇓P		PKPdf	06 15 46.3	+0.3	
	baz=134								
R20A	Redvale	134.20	30	⇑P		PKPdf	06 15 46.2	0.0	
	baz=134								
ISCO	Idaho Springs	134.21	26	*e*PKIKP		PKPdf	06 15 46.6	+0.4	
ISCO				MLR		MLR			
	comp=Z,499nm,21.0s								
ISCO	Idaho Springs	134.21	26	*e*PKPdf		PKPdf	06 15 46.6	+0.4	
ISCO				LR		LR			
	comp=Z,499nm,21.0s								
ISCO	Idaho Springs	134.21	26	⇓P		PKPdf	06 15 46.5	+0.2	
	baz=134,SNR=7.9								
T18A	Mexican Hat	134.23	32	⇓P		PKPdf	06 15 46.4	+0.3	
	baz=134								
RCBR	Riachuelo	134.23	262	PFAKE			06 16 00.0	+13	
RCBR				LR		LR			
	comp=Z,498nm,22.0s								
Q22A	Crested Butte,	134.38	28	⇑P		PKPdf	06 15 46.7	+0.1	
	baz=134								
P23A	Jefferson	134.46	27	⇑P		PKPdf	06 15 46.8	0.0	
	baz=134								
R21A	Cimarron	134.46	29	⇑P		PKPdf	06 15 46.9	+0.2	
	baz=134,SNR=8.6								
S20A	Disappointment	134.48	30	⇓P		PKPdf	06 15 47.0	+0.2	
	baz=134,SNR=14								
WUAZ	Wupatki	134.58	35	*e*PKPdf		PKPdf	06 15 48.5	+1.6	
WUAZ				*e*SKPbc		SKPbc	06 19 13.8	-0.2	
WUAZ				LR		LR			
	comp=Z,303nm,19.0s								
WUAZ	Wupatki	134.58	35	⇓P		PKPdf	06 15 46.7	-0.2	
	baz=134								
O25A	Wiggins	134.59	25	⇓P		PKPdf	06 15 47.2	+0.4	
	baz=134								
N27A	Anderson Farm,	134.63	23	⇓P		PKPdf	06 15 47.2	+0.4	
	baz=134								
OGNE	Ogallala	134.70	22	PFAKE			06 16 00.0	+13	
OGNE				LR		LR			
	comp=Z,509nm,19.0s								
Y14A	Wickenburg	134.71	38	⇑P		PKPdf	06 15 47.4	+0.4	
	baz=135								
P24A	Kohler Place,	134.75	26	⇓P		PKPdf	06 15 47.6	+0.5	
	baz=135								
GLMI	Grayling	134.78	3	*e*PKPdf		PKPdf	06 15 47.4	+0.6	
GLMI				LR		LR			
	comp=Z,866nm,22.0s								
O26A	Horse Wrangler	134.81	24	⇓P		PKPdf	06 15 47.7	+0.6	
	baz=135								
Q23A	Hartsel	134.84	27	⇑P		PKPdf	06 15 47.7	+0.3	
	baz=135								
MVCO	Mesa Verde	134.89	31	*e*PKPdf		PKPdf	06 15 48.8	+1.3	
MVCO				LR		LR			
	comp=Z,404nm,21.0s								
MVCO	Mesa Verde	134.89	31	⇑P		PKPdf	06 15 48.1	+0.5	
	baz=135,SNR=18								
S21A	Coal Bank Pass	134.90	30	⇑P		PKPdf	06 15 48.1	+0.5	
	baz=135,SNR=44								
T19A	Beclabito	134.91	32	⇓P		PKPdf	06 15 47.7	+0.2	
	baz=135								
R22A	Saguache, Gunn	134.95	28	⇑P		PKPdf	06 15 48.0	+0.3	
	baz=135								
113A	Mohawk Valley,	135.01	40	⇓P		PKPdf	06 15 48.1	+0.6	
	baz=135								
P25A	Willow Gulch B	135.07	25	⇓P		PKPdf	06 15 48.1	+0.4	
	baz=135								
Q24A	Divide	135.10	26	⇑P		PKPdf	06 15 48.0	+0.1	
	baz=135								
Z14A	Wintersburg	135.14	38	⇑P		PKPdf	06 15 48.2	+0.4	
	baz=135								
O27A	Beecher Island	135.18	23	⇓P		PKPdf	06 15 48.3	+0.5	
	baz=135								
U19A	Dine' College,	135.21	32	⇓P		PKPdf	06 15 48.4	+0.2	
	baz=135								
S22A	4UR Ranch, Cre	135.30	29	⇑P		PKPdf	06 15 48.4	0.0	
	baz=135								
X16A	Lo Mia Camp, P	135.32	36	⇓P		PKPdf	06 15 48.5	+0.1	
	baz=135								
P26A	Davis Ranch, A	135.37	24	⇑P		PKPdf	06 15 48.7	+0.5	
	baz=135								
R23A	Moffat	135.42	28	⇓P		PKPdf	06 15 48.7	+0.2	
	baz=135								
U20A	Newcomb	135.51	32	⇑P		PKPdf	06 15 49.2	+0.5	
	baz=135,SNR=14								
Q25A	Bedland, Calha	135.53	26	⇓P		PKPdf	06 15 49.1	+0.4	
	baz=135								
T21A	Navajo Lake	135.55	30	⇓P		PKPdf	06 15 49.0	+0.2	
	baz=135,SNR=12								
BGNE	Belgrade	135.62	18	⇓P		PKPdf	06 15 48.6	+0.1	
	baz=136								
P27A	Ficken Ranch,	135.69	24	⇓P		PKPdf	06 15 49.3	+0.5	
	baz=136								
R24A	Sanders Place,	135.72	27	⇓P		PKPdf	06 15 49.3	+0.3	
	baz=136								
S23A	Nye Farm, Mont	135.73	28	⇓P		PKPdf	06 15 49.5	+0.4	
	baz=136								
W18A	Petrified Fore	135.79	34	⇓P		PKPdf	06 15 50.5	+1.3	
	baz=136								
Q26A	Hugo	135.84	25	⇑P		PKPdf	06 15 50.0	+0.9	
	baz=136								
T22A	Edith	135.84	30	⇑P		PKPdf	06 15 49.8	+0.5	
	baz=136,SNR=16								
U21A	Nageezi	135.92	31	⇓P		PKPdf	06 15 49.9	+0.5	
	baz=136,SNR=23								
SDCO	Great Sand Dun	135.93	28	*e*PKPdf		PKPdf	06 15 47.5	-2.0	
SDCO				LR		LR			
	comp=Z,396nm,21.0s								
SDCO	Great Sand Dun	135.93	28	⇑P		PKPdf	06 15 50.0	+0.5	
	baz=136								
V20A	Brimhall	135.98	32	⇓P		PKPdf	06 15 50.4	+0.8	
	baz=136								
X18A	Snowflake	136.10	35	⇓P		PKPdf	06 15 50.6	+0.8	
	baz=136								
KSCO	Kaye Shedlock'	136.13	24	⇓P		PKPdf	06 15 50.3	+0.7	
	baz=136								
S24A	Houchin Ranch,	136.15	27	⇓P		PKPdf	06 15 50.5	+0.5	
	baz=136								
214A	Organ Pipe Nat	136.15	40	⇓P		PKPdf	06 15 51.1	+1.3	
	baz=136								
R25A	Fountain Ranch	136.16	26	⇓P		PKPdf	06 15 50.4	+0.6	
	baz=136								
T23A	Casias Ranch,	136.25	29	⇑P		PKPdf	06 15 50.7	+0.6	
	baz=136								
U22A	Llaves	136.37	30	⇓P		PKPdf	06 15 51.2	+0.9	
	baz=136,SNR=14								
R26A	Arlington	136.39	25	⇓P		PKPdf	06 15 50.7	+0.5	
	baz=136								
SCIA	State Center	136.46	13	*e*PKPdf		PKPdf	06 15 50.2	+0.2	
SCIA				LR		LR			
	comp=Z,769nm,20.0s								
W20A	Ramah	136.47	33	⇑P		PKPdf	06 15 51.3	+0.8	
	baz=136,SNR=20								
S25A	Robets Cordova	136.49	27	⇓P		PKPdf	06 15 51.2	+0.8	
	baz=136								
R27A	Eads	136.68	25	⇓P		PKPdf	06 15 51.4	+0.8	
	baz=136								
T24A	Torres, Weston	136.69	28	⇓P		PKPdf	06 15 51.6	+0.7	
	baz=137								
V22A	San Miguel Ran	136.70	31	⇑P		PKPdf	06 15 52.0	+1.0	
	baz=137,SNR=11								
U23A	El Rito	136.74	30	⇑P		PKPdf	06 15 51.5	+0.6	
	baz=137								
X20A	Quemado	136.90	33	⇑P		PKPdf	06 15 52.3	+1.0	
	baz=137,SNR=8.8								
T25A	Trinidad	136.93	27	⇑P		PKPdf	06 15 51.9	+0.6	
	baz=137								
S26A	Kim	136.95	26	⇓P		PKPdf	06 15 51.6	+0.4	
	baz=137								
U24A	Moreno Valley	137.11	29	⇑P		PKPdf	06 15 52.2	+0.5	
	baz=137								
TUC	Tucson	137.18	38	*e*PKIKP		PKPdf	06 15 49.1	-2.6	
TUC				MLR		MLR			
	comp=Z,235nm,20.0s								
TUC	Tucson	137.18	38	*e*PKPdf		PKPdf	06 15 49.1	-2.6	
TUC				LR		LR			
	comp=Z,205nm,20.0s								
V23A	Ortiz Mt. (NFS	137.20	30	⇑P		PKPdf	06 15 52.6	+0.8	
	baz=137								
T26A	Comanche Natio	137.27	26	⇑P		PKPdf	06 15 52.2	+0.4	
	baz=137								
AAM	Ann Arbor	137.34	2	PFAKE			06 16 00.0	+8.4	
AAM				LR		LR			
	comp=Z,481nm,19.0s								
X21A	Alamocita Cree	137.37	33	⇓P		PKPdf	06 15 53.0	+0.8	
	baz=137,SNR=15								
CBKS	Cedar Bluff	137.41	21	PFAKE			06 16 00.0	+8.1	
CBKS				LR		LR			
	comp=Z,504nm,21.0s								
CBKS	Cedar Bluff	137.41	21	⇓P		PKPdf	06 15 52.9	+1.0	
	baz=137								
Y20A	Horse Springs,	137.44	34	⇑P		PKPdf	06 15 53.3	+0.9	
	baz=137,SNR=14								
U25A	Circle Dot Ran	137.53	28	⇑P		PKPdf	06 15 53.1	+0.7	
	baz=137								
ERPA	Erie	137.55	358	PFAKE			06 16 00.0	+8.0	
ERPA				LR		LR			
	comp=Z,499nm,20.0s								
V24A	Rampart Ranch,	137.66	29	⇑P		PKPdf	06 15 53.4	+0.7	
	baz=138								
W23A	Werner Place,	137.67	31	⇑P		PKPdf	06 15 53.6	+0.9	
	baz=138								
ANMO	Albuquerque	137.68	31	*e*PKPdf		PKPdf	06 15 54.1	+1.4	
ANMO				LR		LR			
	comp=Z,346nm,20.0s								
X22A	Bernardo	137.74	32	⇓P		PKPdf	06 15 53.5	+0.7	
	baz=138								
T27A	Campo	137.74	26	⇑P		PKPdf	06 15 53.6	+0.9	
	baz=138								
LAZ	Ladron	137.75	32	*e*PKPdf		PKPdf	06 15 53.9	+1.1	
Y21A	Point of Rocks	137.75	33	⇓P		PKPdf	06 15 53.6	+0.7	
	baz=138								
U26A	Atchley Ranch,	137.84	27	⇓P		PKPdf	06 15 53.8	+0.8	
	baz=138								
V25A	Rancho No Teng	137.89	28	⇓P		PKPdf	06 15 54.1	+1.0	
	baz=138								
Z20A	Nine Sixteen R	137.91	35	⇓P		PKPdf	06 15 54.2	+1.1	
	baz=138,SNR=13								
T28A	Walsh	137.95	25	⇑P		PKPdf	06 15 54.2	+1.2	
	baz=138								
W24A	Lazy 6 Ranch,	138.01	30	⇑P		PKPdf	06 15 54.1	+0.8	
	baz=138								
LENM	Lemitar	138.01	32	*e*PKPdf		PKPdf	06 15 54.7	+1.4	
LPM	Los Pinos Moun	138.08	32	*e*PKPdf		PKPdf	06 15 54.7	+1.3	
X23A	Hourglass Bar	138.11	31	⇓P		PKPdf	06 15 54.4	+0.8	
	baz=138								
Y22D	IRIS PASSCAL I	138.11	32	⇓P		PKPdf	06 15 54.5	+1.0	
	baz=138								
Y22A	Socorro	138.19	32	⇑P		PKPdf	06 15 54.5	+0.8	
	baz=138								
KSU1	Kansas State U	138.20	18	*e*PKPdf		PKPdf	06 15 54.0	+0.7	
KSU1				LR		LR			
	comp=Z,409nm,20.0s								
Z21A	St. Cloud Mine	138.28	34	⇑P		PKPdf	06 15 54.7	+0.8	
	baz=138								
120A	U Bar Ranch, L	138.29	35	⇓P		PKPdf	06 15 54.6	+0.7	
	baz=138,SNR=13								
V26A	Tequesquite Ra	138.32	28	⇓P		PKPdf	06 15 54.1	+0.3	
	baz=138								
W25A	X Bar L Ranch,	138.47	29	⇑P		PKPdf	06 15 54.8	+0.7	
	baz=138								
X24A	Lazy VL Ranch,	138.50	30	⇑P		PKPdf	06 15 54.8	+0.6	
	baz=138								
HDIL	Hopedale	138.51	9	PFAKE			06 16 00.0	+6.2	
HDIL				LR		LR			
	comp=Z,357nm,20.0s								
TRQA	Tornquist	138.56	203	PFAKE			06 16 00.0	+6.0	
TRQA				LR		LR			
	comp=Z,484nm,20.0s								
Y23A	Lovelace Mesa,	138.68	32	⇓P		PKPdf	06 15 55.2	+0.7	
	baz=139								
Z22A	Elephant Butte	138.71	33	⇓P		PKPdf	06 15 55.4	+0.8	
	baz=139								
319A	Douglas	138.75	37	⇓P		PKPdf	06 15 55.6	+0.9	
	baz=139								
121A	Cookes Peak, D	138.79	35	⇑P		PKPdf	06 15 55.6	+0.8	
	baz=139								
220A	Playas Peak, P	138.82	36	⇓P		PKPdf	06 15 55.7	+0.9	
	baz=139								
W26A	Owens Ranch, T	138.90	28	⇑P		PKPdf	06 15 55.6	+0.7	
	baz=139								
X25A	Clemmons Ranch	138.92	30	⇓P		PKPdf	06 15 55.5	+0.6	
	baz=139								
SFIN	Scholer Farm	138.98	7	⇑P		PKPdf	06 15 55.6	+0.9	
	baz=139								
Y24A	Capitan	139.01	31	⇓P		PKPdf	06 15 56.0	+0.8	
	baz=139								
V28A	Channing	139.06	26	⇓P		PKPdf	06 15 55.6	+0.5	
	baz=139								
Z23A	Rita Site, Whi	139.10	32	⇑P		PKPdf	06 15 55.8	+0.6	
	baz=139								
221A	Mesquite Ranch	139.18	35	⇑P		PKPdf	06 15 56.4	+1.0	
	baz=139								
320A	Kipp Ranch, An	139.23	37	⇑P		PKPdf	06 15 56.3	+0.7	
	baz=139								
W27A	Bowe Ranch, En	139.25	28	⇑P		PKPdf	06 15 56.3	+0.8	
	baz=139								
V29A	Stinnett	139.26	25	⇓P		PKPdf	06 15 56.4	+1.0	
	baz=139								
X26A	CR and CF Fran	139.32	29	⇓P		PKPdf	06 15 56.3	+0.6	
	baz=139								
Y25A	Mesa, Roswell	139.39	30	⇓P		PKPdf	06 15 56.3	+0.5	
	baz=139								
ACSO	Alum Creek Sta	139.43	2	*e*PKPdf		PKPdf	06 15 50.3	-5.2	
ACSO				LR		LR			
	comp=Z,712nm,21.0s								
W28A	Vega	139.48	27	⇑P		PKPdf	06 15 56.5	+0.6	
	baz=139								
222A	Williams Famil	139.50	34	⇓P		PKPdf	06 15 56.9	+0.8	
	baz=139								
Z24A	Sheeppen Canyo	139.51	32	⇑P		PKPdf	06 15 56.8	+0.7	
	baz=139								
123A	Bell Site, Whi	139.56	33	⇓P		PKPdf	06 15 57.1	+0.9	
	baz=140								
X27A	F and S Farms,	139.58	28	⇑P		PKPdf	06 15 56.8	+0.7	
	baz=140								
SPB	Sao Paulo	139.80	233	PFAKE			06 16 10.0	+13	
SPB				LR		LR			
	comp=Z,429nm,19.0s								
Y26A	Elida	139.82	29	⇑P		PKPdf	06 15 57.2	+0.7	
	baz=140								
W29A	Amraillo	139.84	26	⇑P		PKPdf	06 15 57.5	+1.0	
	baz=140								
Z25A	Roswell	139.88	31	⇑P		PKPdf	06 15 57.5	+0.8	
	baz=140								
223A	Chaparral, Ant	139.95	34	⇑P		PKPdf	06 15 57.6	+0.7	
	baz=140								
AMTX	Amarillo	140.03	26	*e*PKPdf		PKPdf	06 15 49.7	-7.2	
AMTX				LR		LR			
	comp=Z,513nm,20.0s								
AMTX	Amarillo	140.03	26	⇓P		PKPdf	06 15 58.0	+1.2	
	baz=140								
X28A	Dimmitt	140.10	27	⇓P		PKPdf	06 15 57.7	+0.7	
	baz=140								
Y27A	Causey	140.17	29	⇓P		PKPdf	06 15 57.8	+0.6	
	baz=140								
BLO	Bloomington	140.24	6	*e*PKIKP		PKPdf	06 15 57.5	+0.5	
BLO	Bloomington	140.24	6	*e*PKPdf		PKPdf	06 15 57.5	+0.5	
Z26A	Caprock	140.26	30	⇑P		PKPdf	06 15 58.2	+0.8	
	baz=140								
MSTX	Muleshoe	140.29	28	⇑P		PKPdf	06 15 58.0	+0.6	
	baz=140								
X29A	Tulia	140.39	27	⇑P		PKPdf	06 15 58.2	+0.6	
	baz=140								
224A	Cornudas Mount	140.39	33	⇑P		PKPdf	06 15 58.4	+0.7	
	baz=140								
125A	Gardner Draw,	140.40	31	⇑P		PKPdf	06 15 58.3	+0.6	
	baz=140								
OLIL	Olney	140.47	8	*e*PKPdf		PKPdf	06 15 56.3	-1.2	
Y28A	McKinney Farm,	140.58	28	⇑P		PKPdf	06 15 58.4	+0.5	
	baz=140								
Z27A	Tatum	140.61	29	⇓P		PKPdf	06 15 58.5	+0.5	
	baz=140								
126A	Clayton Basin,	140.74	31	⇑P		PKPdf	06 15 58.8	+0.5	
	baz=141								
225A	Deer Hill, Car	140.74	32	⇓P		PKPdf	06 15 59.0	+0.6	
	baz=141								
MNTX	Cornudas Mount	140.76	33	*e*PKPdf		PKPdf	06 15 54.2	-4.0	
MNTX				LR		LR			
	comp=Z,370nm,19.0s								
MNTX	Cornudas Mount	140.76	33	⇓P		PKPdf	06 15 59.0	+0.8	
	baz=141								
Y29A	Porterfield Fa	140.89	27	⇑P		PKPdf	06 15 59.2	+0.7	
	baz=141								
324A	Moseley Ranch,	140.90	33	⇓P		PKPdf	06 15 59.2	+0.6	
	baz=141								

MIAR					MLR	MLR			
	comp=Z,538nm,19.0s								
MIAR	**Mount Ida**	**143.33**	**17**	*e*PKPdf	PKPbc	06 15 59.4	-0.4		
MIAR					LR	LR			
	comp=Z,538nm,19.0s								
528A	**Cox Ranch, San**	**143.35**	**32**	⇓P	**PKPdf**	**06 16 04.6**	**+1.6**		
	baz=143								
429A	**Davenport Ranc**	**143.44**	**30**	⇓P	**PKPdf**	**06 16 04.9**	**+1.8**		
	baz=143								
UALR	**University of**	**143.45**	**15**	*e*PKPdf	PKPbc	06 15 59.6	-0.5		
TXAR	**Lajitas Array**	**143.52**	**34**	PKP	PKPbc	06 16 00.9	+0.3		
TXAR				PP	PP	06 19 25.1	+11		
TXAR	**Lajitas Array**	**143.52**	**34**	PKP	PKPbc	06 16 00.9	+0.3		
	comp=Z,13nm,0.8s,baz=228,slow=1.1,SNR=100								
TXAR				PP	PP	06 19 25.1	+11		
	comp=Z,5.7nm,1.0s,baz=355,slow=6.8,SNR=6.1								
627A	**Terlingua Ranc**	**143.58**	**33**	⇑P	**PKPdf**	**06 16 05.0**	**+1.6**		
	baz=144								
430A	**Baggett Ranch,**	**143.64**	**29**	⇑P	**PKPdf**	**06 16 05.1**	**+1.7**		
	baz=144								
529A	**Stev Forest Ra**	**143.68**	**31**	⇑P	**PKPdf**	**06 16 05.4**	**+1.9**		
	baz=144								
RFTA	**Plano**	**143.69**	**22**	*e*PKPdf	PKPbc	06 16 01.0	+0.2		
BDFB	**Brasilia**	**143.74**	**244**	PKP	**PKPdf**	**06 16 02.5**	**-1.5**		
BDFB	**Brasilia**	**143.74**	**244**	PKP	**PKPdf**	**06 16 02.5**	**-1.5**		
	comp=Z,7.0nm,0.7s,baz=148,slow=3.8,SNR=17								
628A	**Black Gap, Mar**	**143.83**	**33**	⇓P	**PKPdf**	**06 16 05.6**	**+1.8**		
	baz=144								
431A	**Sonora**	**144.03**	**29**	⇑P	**PKPdf**	**06 16 05.9**	**+1.8**		
	baz=144								
CPCT	**Cooper Cave**	**144.11**	**4**	*e*PKPdf	PKPbc	06 16 02.0	0.0		
PLAL	**Pickwick Lake**	**144.15**	**9**	PFAKE		06 16 10.0	+5.9		
PLAL				LR	LR				
	comp=Z,730nm,21.0s								
SWET	**Sewanee**	**144.21**	**6**	*e*PKPdf	PKPbc	06 16 01.7	-0.7		
CNNC	**Cliffs of the**	**144.28**	**355**	PFAKE		06 16 10.0	+5.7		
CNNC				LR	LR				
	comp=Z,1μm,19.0s								
WHTX	**Lake Whitney**	**144.30**	**24**	⇑P	**PKPdf**	**06 16 06.4**	**+2.0**		
	baz=144								
OXF	**Oxford**	**144.37**	**11**	*e*PKIKP	**PKPdf**	**06 16 03.2**	**-1.3**		
OXF				MLR	MLR				
	comp=Z,514nm,21.0s								
OXF	**Oxford**	**144.37**	**11**	*e*PKPbc	**PKPdf**	**06 16 03.2**	**-1.3**		
OXF				LR	LR				
	comp=Z,514nm,21.0s								
531A	**Rocksprings**	**144.49**	**29**	⇑P	**PKPdf**	**06 16 06.7**	**+1.8**		
	baz=144								
KMSC	**Kings Mountain**	**144.53**	**360**	⇑P	**PKPdf**	**06 16 07.0**	**+2.2**		
	baz=144								
JCT	**Junction City**	**144.58**	**28**	*e*PKIKP	**PKPdf**	**06 16 03.8**	**-1.2**		
JCT				MLR	MLR				
	comp=Z,400nm,20.0s								
JCT	**Junction City**	**144.58**	**28**	*e*PKPdf	**PKPdf**	**06 16 03.8**	**-1.2**		
JCT				LR	LR				
	comp=Z,400nm,20.0s								
CPUP	**Villa Florida**	**145.38**	**220**	PKPbc	**PKPab**	**06 16 07.2**	**+0.8**		
CPUP	**Villa Florida**	**145.38**	**220**	PKPbc	**PKPab**	**06 16 07.2**	**+0.8**		
	comp=Z,9.5nm,0.5s,baz=111,slow=2.6,SNR=45								
JSC	**Jenkinsville**	**145.39**	**360**	*e*PKIKP	**PKPab**	**06 16 05.7**	**-0.6**		
JSC	**Jenkinsville**	**145.39**	**360**	*e*PKPbc	**PKPab**	**06 16 05.7**	**-0.6**		
NATX	**Nacogdoches**	**145.55**	**20**	*e*PKPbc	**PKPab**	**06 16 07.0**	**+0.1**		
NATX				LR	LR				
	comp=Z,778nm,22.0s								
GOGA	**Godfrey**	**146.21**	**3**	*e*PKP2	**PKPab**	**06 16 08.9**	**-0.5**		
GOGA				MLR	MLR				
	comp=Z,587nm,20.0s								
GOGA	**Godfrey**	**146.21**	**3**	*e*PKPdf	**PKPab**	**06 16 08.9**	**-0.5**		
GOGA				LR	LR				
	comp=Z,587nm,20.0s								
LRAL	**Lakeview Retre**	**146.23**	**8**	*e*PKPbc	**PKPab**	**06 16 08.5**	**-0.9**		
LRAL				LR	LR				
	comp=Z,390nm,20.0s								
COW	**Cow Castle Cre**	**146.28**	**359**	*e*PKPbc	**PKPab**	**06 16 09.4**	**-0.2**		
VBMS	**Vicksburg**	**146.34**	**14**	*e*PKPbc	**PKPab**	**06 16 09.0**	**-0.9**		
VBMS				LR	LR				
	comp=Z,779nm,19.0s								
NHSC	**New Hope**	**146.54**	**358**	PFAKE		06 16 20.0	+9.4		
NHSC				LR	LR				
	comp=Z,794nm,19.0s								
KVTX	**Kingsville**	**147.94**	**28**	*e*PKPdf	**PKPdf**	**06 16 10.9**	**+0.2**		
KVTX				*e*PKPbc	**PKPbc**	**06 16 13.2**	**-0.5**		
KVTX				*e*PKPab	**PKPab**	**06 16 16.2**	**-0.1**		
KVTX				LR	LR				
	comp=Z,531nm,20.0s								
BRAL	**Brewton**	**148.20**	**9**	*e*PKPdf	**PKPbc**	**06 16 12.5**	**-1.9**		
BRAL				*e*PKPbc	**PKiKP**	**06 16 15.0**	**-1.1**		
BRAL				*e*PKPab	**PKPab**	**06 16 17.1**	**-0.2**		
BRAL				LR	LR				
	comp=Z,433nm,19.0s								
LCO	**Las Campanas**	**149.85**	**199**	*e*PKPdf	**PKPdf**	**06 16 14.3**	**+0.2**		
LCO				*e*PKPbc	**PKiKP**	**06 16 20.1**	**+0.2**		
LCO				*e*PKPab	**PKPab**	**06 16 24.1**	**-0.2**		
LCO				LR	LR				
	comp=Z,589nm,20.0s								
DWPF	**Disney**	**151.54**	**360**	*e*PKPdf	**PKPdf**	**06 16 16.2**	**-0.2**		
DWPF				*e*PKPbc	**PKiKP**	**06 16 22.8**	**-0.2**		
DWPF				*e*PKPab	**PKPab**	**06 16 31.2**	**+0.3**		
SIV	**San Ignacio**	**154.68**	**232**	PKP	**PKPdf**	**06 16 21.8**	**+0.5**		
SIV	**San Ignacio**	**154.68**	**232**	PKP	**PKPdf**	**06 16 21.8**	**+0.5**		
	comp=Z,1.7nm,0.8s,baz=68,slow=3.2,SNR=8.0								
LVC	**Limon Verde**	**154.87**	**208**	PFAKE		06 16 30.0	-0.4		
LVC				LR	LR				
	comp=Z,9.0nm,22.0s								
SJG	**San Juan**	**156.15**	**322**	PFAKE		06 16 30.0	+6.8		
SJG				LR	LR				
	comp=Z,537nm,20.0s								
SDDR	**Presa de Saban**	**158.21**	**333**	PFAKE		06 16 40.0	+14		
SDDR				LR	LR				
	comp=Z,517nm,19.0s								
TEIG	**Tepich**	**158.34**	**18**	PFAKE		06 16 40.0	+14		
TEIG				LR	LR				
	comp=Z,438nm,22.0s								
GTBY	**Guantanamo Bay**	**158.76**	**343**	PFAKE		06 16 40.0	+14		
GTBY				LR	LR				
	comp=Z,626nm,21.0s								
LPAZ	**La Paz**	**159.54**	**219**	PKP	**PKPdf**	**06 16 28.7**	**+0.5**		
LPAZ				PKPab	**PKPab**	**06 17 07.9**	**+1.7**		
LPAZ	**La Paz**	**159.54**	**219**	PKP	**PKPdf**	**06 16 28.7**	**+0.5**		
	comp=Z,3.8nm,0.8s,baz=17,slow=0.8,SNR=11								
LPAZ				PKPab	**PKPab**	**06 17 07.9**	**+1.7**		
	comp=Z,2.0nm,0.7s,baz=48,slow=3.7,SNR=3.9								
SAML	**Samuel**	**159.97**	**245**	PFAKE		06 16 40.0	+12		
SAML				LR	LR				
	comp=Z,561nm,20.0s								
SDV	**Santo Domingo**	**165.74**	**311**	PFAKE		06 16 40.0	+6.1		
SDV				LR	LR				
	comp=Z,184nm,20.0s								
NNA	**Nana**	**167.71**	**202**	PFAKE		06 16 50.0	+15		
NNA				LR	LR				
	comp=Z,528nm,19.0s								
JTS	**JuntasAbangare**	**168.72**	**18**	PFAKE		06 16 50.0	+14		
JTS				LR	LR				
	comp=Z,655nm,19.0s								
BCIP	**Isla Barro Col**	**170.25**	**351**	PFAKE		06 16 50.0	+13		
BCIP				LR	LR				
	comp=Z,431nm,22.0s								
ROSC	**El Rosal**	**171.11**	**307**	PKP	**PKPdf**	**06 16 37.9**	**+0.2**		
ROSC	**El Rosal**	**171.11**	**307**	PKP	**PKPdf**	**06 16 37.9**	**+0.2**		
	comp=Z,7.1nm,0.8s,baz=207,slow=2.3,SNR=7.5								
OTAV	**Otavalo**	**176.91**	**284**	*e*PKPdf	**PKPdf**	**06 16 40.2**	**+0.4**		
OTAV				LR	LR				
	comp=Z,426nm,21.0s								

NIED ***23*** *06:07:00,25.˚50N×141.˚10E,h8km,Mw4.6 Best double couple: M₀7.93000×10¹⁵ NP1:φ₀217.00000°,δ78.00000°, λ91.00000°. NP2:φ₀32.00000°,δ12.00000°,λ85.00000°.*

IDC 23 06:07:39.8±1.1,25.˚50N×142.˚68E,h0km,mb4.0/15, mb1 4.1/15,mb1mx4.0/27,mbtmp4.0/15,Error ellipse: s-maj=44.2km s-min=15.9km az=83.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.65**	**345**	Pn	Pg	06 08 11.8	+0.3
	79nm,0.3s,baz=189,slow=13,SNR=90						
CBIJ				Sn	Sg	06 08 36.5	+3.6
	99nm,0.3s,baz=270,slow=20,SNR=10						
USRK	**Ussuriysk Arra**	**20.57**	**338**	P	Pn	06 12 21.8	-0.6
	1.0nm,0.6s,baz=164,slow=9.7,SNR=3.9						
SONM	**Songino Array**	**36.17**	**318**	P	P	06 14 43.4	-0.8
	0.4nm,0.5s,baz=120,slow=8.8,SNR=5.2						
WRA	**Warramunga Arr**	**45.89**	**191**	P	P	06 16 04.2	-0.1
	1.8nm,0.4s,baz=8.1,slow=8.6,SNR=13						
FITZ	**Fitzroy Crossi**	**46.41**	**203**	P	P	06 16 08.1	-0.2
	2.5nm,0.8s,baz=17,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**49.61**	**191**	P	P	06 16 33.9	+0.8
	0.6nm,0.7s,baz=14,slow=12,SNR=6.1						
ZALV	**Zalesovo Beam**	**50.98**	**320**	PcP	PcP	06 18 00.5	+1.1
	0.8nm,0.7s,baz=108,slow=4.7,SNR=2.8						
MKAR	**Makanchi Array**	**51.83**	**311**	P	P	06 16 49.1	-0.7
	0.3nm,0.5s,baz=89,slow=9.6,SNR=7.9						
KURBB	**Kurchatov Arra**	**54.47**	**315**	P	P	06 17 08.7	-0.3
	1.9nm,0.6s,baz=91,slow=8.4,SNR=29						
BVAR	**Borovoye Array**	**59.51**	**318**	P	P	06 17 44.6	-0.2
	2.0nm,0.5s,baz=92,slow=7.2,SNR=15						
YKA	**Yellowknife Ar**	**73.33**	**28**	P	P	06 19 12.4	-0.6
	0.8nm,0.9s,baz=289,slow=6.3,SNR=3.7						
JOF	**Joensuu**	**76.70**	**334**	*e*P	P	06 19 36.6	+4.1
KBZ	**Khabaz**	**79.42**	**313**	P	P	06 19 48.2	+0.3
	1.7nm,0.7s,baz=128,slow=4.2,SNR=4.3						
FINES	**FINESS Array B**	**79.57**	**334**	P	P	06 19 47.9	-0.5
	2.2nm,0.7s,baz=53,slow=7.3,SNR=7.2						
AKASG	**Malin Array Be**	**84.16**	**324**	P	P	06 20 14.4	+1.5
	0.5nm,0.5s,baz=63,slow=4.2,SNR=3.5						
HFS	**Hagfors**	**85.06**	**337**	P	P	06 20 16.3	-1.0
	1.6nm,0.7s,baz=116,slow=6.6,SNR=3.2						
NOA	**NORSAR Array B**	**85.25**	**339**	P	P	06 20 18.8	+0.6
	1.5nm,0.8s,baz=44,slow=4.9,SNR=4.1						
BRTR	**Keskin Array B**	**87.41**	**313**	P	P	06 20 28.4	-1.0
	0.6nm,0.9s,baz=51,slow=5.7,SNR=2.1						

IDC 23 06:21:55.8±4.8,6.˚15S×102.˚94E,h0km,mb3.6/4, mb1 3.6/4,mb1mx3.4/22,mbtmp3.6/4,Error ellipse: s-maj=176.9km s-min=64.2km az=50.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**53.84**	**3**	P	P	06 31 20.6	0.0
	0.9nm,0.7s,baz=184,slow=8.6,SNR=6.5						
MKAR	**Makanchi Array**	**55.80**	**343**	P	P	06 31 35.0	+0.2
	0.2nm,0.5s,baz=148,slow=8.8,SNR=5.7						
KURBB	**Kurchatov Arra**	**60.34**	**342**	P	P	06 32 06.7	+0.3
	0.2nm,0.6s,baz=165,slow=5.9,SNR=3.4						
ZALV	**Zalesovo Beam**	**61.78**	**348**	P	P	06 32 15.4	-0.8
	0.5nm,0.4s,baz=167,slow=5.4,SNR=5.2						
TXAR	**Lajitas Array**	**145.91**	**44**	PKPbc	PKPdf	06 41 37.3	-0.2
	0.7nm,0.6s,baz=242,slow=1.9,SNR=14						

DJA 23 06:40:18.7±0.5,0.˚S±3.˚×12.˚3E±.˚,h10km,M3.9/4,MLv3.9/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.80**	**179**	P	Pg	06 40 32.6	-1.5
LUWI				S	Sb	06 40 45.2	-0.3
MRSI	**Marisa**	**1.09**	**311**	P	Pb	06 40 37.8	-1.8
APSI	**Ampana**	**1.30**	**239**	P	Pg	06 40 43.8	+0.2
KMSI	**Cibinong**	**1.46**	**56**	P	Pn	06 40 45.6	+0.4

ISCJB ***23*** *06:44:15.8±0.4, 7.˚31S±0.˚05×128.˚8E±0.˚1,h131km, mb4.2/18,Error ellipse: s-maj=15.1km s-min=6.3km az=169.4*

IDC ***23*** *06:44:15.2±3.3, 7.˚27S×128.˚75E,h107km±30km, mb4.1/11, mb1 4.3/15,mb1mx4.2/22,mbtmp4.2/15,Error ellipse: s-maj=24.0km s-min=13.2km az=77.0*

BJI ***23*** *06:44:16.9, 7.˚50S×128.˚50E,h143km,mB4.8/1,mb4.7/6*

NEIC ***23*** *06:44:16.2±1.9, 7.˚30S×128.˚78E,h118km±18km, mb4.8/7, Error ellipse: s-maj=14.2km s-min=11.5km az=72.0*

DJA ***23*** *06:44:22, 7.˚66S×128.˚49E,h130km, mb4.9/6*

ISC 23 06:44:17.5±0.5,7.˚32S±0.˚06×128.˚75E±0.˚08,h131km,n60, σ1°11/57,mb4.3/18,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**3.01**	**22**	P	Pn	06 45 12.1	+7.8
AAI	**Ambon**	**3.66**	**351**	P	Pn	06 45 20.1	+7.3
MSAI	**Masohi**	**3.96**	**3**	P	Pn	06 45 24.0	+7.3
NLAI	**Namlea**	**4.38**	**338**	P	Pn	06 45 30.2	+7.9
FAKI	**Fak Fak**	**5.59**	**39**	P	Pn	06 45 45.5	+6.9
	48nm,0.6s,4μm0.9nm						
WSI	**Waingapu**	**8.68**	**254**	P	**Sn**	**06 47 55.2**	**-1.2**
FITZ	**Fitzroy Crossi**	**11.13**	**196**	*e*Pn	**Pn**	**06 46 51.7**	**-1.3**
	36nm,0.6s						
FITZ				*e*Sn	Sn	06 48 47.0	-8.8
FITZ				S	Sn	06 48 48.0	-7.8
FITZ	**Fitzroy Crossi**	**11.13**	**196**	*e*P	**Pn**	**06 46 51.6**	**-1.4**
	69nm,0.6s						
FITZ				*e*S	Sn	06 48 45.7	-10
FITZ	**Fitzroy Crossi**	**11.13**	**196**	P	**Pn**	**06 46 51.1**	**-1.9**
	7.9nm,0.3s,baz=27,slow=9.4,SNR=121						
FITZ				S	Sn	06 48 48.0	-7.8
	12nm,0.3s,baz=311,slow=20,SNR=12						
WRAB	**Tennant Creek**	**13.66**	**157**	*e*Pn	**Pn**	**06 47 24.6**	**-1.3**
	58nm,0.8s						
WRAB				*e*Sn	Sn	06 49 48.4	-8.5
WRA	**Warramunga Arr**	**13.66**	**157**	P	**Pn**	**06 47 24.4**	**-1.6**
WRA				S	Sn	06 49 47.5	-10
WRA	**Warramunga Arr**	**13.66**	**157**	P	**Pn**	**06 47 24.4**	**-1.6**
	4.3nm,0.3s,baz=326,slow=13,SNR=93						
WRA				S	Sn	06 49 47.5	-10
	10nm,0.3s,baz=334,slow=20,SNR=13						
COEN	**Coen**	**15.63**	**116**	*e*P	**P**	**06 47 54.4**	**+2.3**
	75nm,0.4s						
MBWA	**Marble Bar**	**16.29**	**211**	*e*P	**P**	**06 47 59.0**	**-0.3**
	9.6nm,0.7s						
AS31	**Alice Springs**	**16.98**	**164**	*e*P	**Pn**	**06 48 07.6**	**+0.3**
AS31				*e*S	**Sn**	**06 51 15.6**	**-1.3**
ASAR	**Alice Springs**	**16.99**	**164**	P	**Pn**	**06 48 07.8**	**+0.4**
ASAR				S	Sn	06 51 06.2	-11
ASAR	**Alice Springs**	**16.99**	**164**	P	**Pn**	**06 48 07.8**	**+0.4**
	12nm,0.3s,baz=337,slow=10,SNR=620						
ASAR				S	Sn	06 51 06.2	-11
	3.9nm,0.3s,baz=321,slow=20,SNR=13						
PMG	**Port Moresby**	**18.33**	**98**	*e*P	**Pn**	**06 48 22.2**	**-1.3**
	19nm,0.7s						
PMG	**Port Moresby**	**18.33**	**98**	P	Pn	06 48 27.3	+3.9
PMG	**Port Moresby**	**18.33**	**98**	P	**Pn**	**06 48 21.7**	**-1.7**
	1.0nm,0.3s,baz=243,slow=9.0,SNR=2.5						
FORT	**Forrest**	**23.34**	**182**	*e*P	**P**	**06 49 15.4**	**+1.2**
	26nm,0.6s						
FORT				*e*S	Sn	06 53 32.9	-16
KLBR	**Kellerberrin**	**26.24**	**202**	*e*P	**P**	**06 49 40.9**	**+0.5**
	8.9nm,0.4s						
STKA	**Stephens Creek**	**27.21**	**156**	P	**P**	**06 49 49.9**	**+0.9**
STKA	**Stephens Creek**	**27.21**	**156**	*e*P	**P**	**06 49 50.0**	**+0.9**
	5.1nm,1.1s						
STKA	**Stephens Creek**	**27.21**	**156**	P	**P**	**06 49 49.9**	**+0.9**
	2.5nm,0.5s,baz=338,slow=8.7,SNR=12						
NWAO	**Narrogin (SRO)**	**27.63**	**201**	P	**P**	**06 49 53.5**	**+0.7**
NWAO	**Narrogin (SRO)**	**27.63**	**201**	P	**P**	**06 49 53.5**	**+0.7**
	11nm,0.3s,baz=30,slow=9.5,SNR=30						
MJAR	**Matsushiro Arr**	**44.53**	**11**	P	**P**	**06 52 14.8**	**-1.3**
MJAR	**Matsushiro Arr**	**44.53**	**11**	P	**P**	**06 52 14.8**	**-1.3**
	1.2nm,0.4s,baz=190,slow=11,SNR=4.6						
XAN	**Xi'an**	**45.23**	**337**	P	**P**	**06 52 21.5**	**-0.3**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
LZH	**Lanzhou**	**49.12**	**333**	*e*P	**P**	**06 52 51.0**	**-1.1**
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
USRK	**Ussuriysk Arra**	**51.37**	**3**	P	**P**	**06 53 08.7**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=175,slow=6.4,SNR=6.3						
GTA	**Gaotai**	**53.67**	**332**	*e*P	**P**	**06 53 27.0**	**+1.1**
GTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SONM	**Songino Array**	**58.37**	**342**	P	**P**	**06 53 59.9**	**+0.8**
SONM	**Songino Array**	**58.37**	**342**	P	**P**	**06 53 59.9**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=163,slow=6.6,SNR=7.3						
PETK	**Petropavlovsk-**	**65.02**	**19**	P	**P**	**06 54 44.5**	**+1.1**
PETK	**Petropavlovsk-**	**65.02**	**19**	P	**P**	**06 54 44.5**	**+1.1**
	comp=Z,4.9nm,0.6s,baz=183,slow=6.5,SNR=6.9						
MKAR	**Makanchi Array**	**67.82**	**327**	P	**P**	**06 55 01.8**	**+0.3**
MKAR	**Makanchi Array**	**67.82**	**327**	P	**P**	**06 55 01.8**	**+0.3**
	comp=Z,3.3nm,0.7s,baz=122,slow=7.7,SNR=42						
AAK	**Ala-Archa**	**69.99**	**320**	*e*P	**P**	**06 55 16.6**	**+1.4**
	comp=Z,33nm,1.5s						
AAK	**Ala-Archa**	**69.99**	**320**	P	**P**	**06 55 16.2**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=146,slow=7.3,SNR=7.3						
ZALV	**Zalesovo Beam**	**71.33**	**334**	P	**P**	**06 55 22.2**	**-0.6**
ZALV	**Zalesovo Beam**	**71.33**	**334**	P	**P**	**06 55 22.2**	**-0.6**
	comp=Z,3.1nm,0.5s,baz=128,slow=5.3,SNR=21						
KURBB	**Kurchatov Arra**	**72.14**	**329**	P	**P**	**06 55 28.1**	**+0.4**
	comp=Z,3.8nm,0.6s,baz=133,slow=5.0,SNR=70						
KURK	**Kurchatov**	**72.15**	**329**	*e*P	**P**	**06 55 28.1**	**+0.3**
	comp=Z,3.3nm,0.6s						
KKAR	**Karatay Array**	**72.77**	**319**	*e*P	**P**	**06 55 32.8**	**+1.2**
	comp=Z,0.6nm,0.5s						
ILAR	**Eielson Array**	**94.17**	**25**	P	**P**	**06 57 19.6**	**-1.5**
ILAR	**Eielson Array**	**94.17**	**25**	P	**P**	**06 57 19.6**	**-1.5**
	comp=Z,0.6nm,0.9s,baz=254,slow=4.6,SNR=8.5						
YKA	**Yellowknife Ar**	**108.58**	**26**	PKIKP	**PKiKP**	**07 02 29.7**	**-0.7**
YKA	**Yellowknife Ar**	**108.58**	**26**	PKIKP	**PKiKP**	**07 02 29.7**	**-0.7**
	comp=Z,0.1nm,0.6s,baz=277,slow=1.2,SNR=3.8						
TXAR	**Lajitas Array**	**126.16**	**59**	PKP	**PKPdf**	**07 03 05.9**	**+0.7**
TXAR	**Lajitas Array**	**126.16**	**59**	PKP	**PKPdf**	**07 03 05.9**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=177,slow=3.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**127.66**	**281**	PKP	**PKPdf**	**07 03 07.4**	**-1.0**
TORD	**Torodi Ar. Bea**	**127.66**	**281**	PKP	**PKPdf**	**07 03 07.4**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=120,slow=1.7,SNR=3.8						
PLCA	**Paso Flores**	**128.99**	**161**	PKP	**PKPdf**	**07 03 09.5**	**-0.8**
PLCA	**Paso Flores**	**128.99**	**161**	PKP	**PKPdf**	**07 03 09.5**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=95,slow=2.0,SNR=5.3						
CPUP	**Villa Florida**	**146.03**	**170**	PKPbc	**PKPab**	**07 03 42.7**	**-0.7**
CPUP	**Villa Florida**	**146.03**	**170**	PKPbc	**PKPab**	**07 03 42.7**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=153,slow=4.5,SNR=4.1						
LPAZ	**La Paz**	**151.20**	**145**	PKPbc	**PKPbc**	**07 03 58.6**	**+1.4**
LPAZ				PKPab	**PKPab**	**07 04 06.6**	**+1.3**
LPAZ	**La Paz**	**151.20**	**145**	PKPbc	**PKPbc**	**07 03 58.6**	**+1.4**
	comp=Z,0.6nm,0.4s,baz=55,slow=3.3,SNR=4.6						
LPAZ				PKPab	**PKPab**	**07 04 06.6**	**+1.3**
	comp=Z,1.9nm,0.6s,baz=254,slow=2.8,SNR=7.2						

IDC 23 07:14:05.4±4.5,44.˚51S×34.˚43E,h0km,mb4.4/2, mb1 4.1/3,mb1mx3.7/18,mbtmp4.2/3,ML4.1/1,MS3.5/1, Ms1 3.4/1,ms1mx3.0/24,Error ellipse: s-maj=279.1km s-min=76.3km az=67.0,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**17.47**	**332**	Pn	Pn	07 18 11.0	+0.3
	0.4nm,0.3s,baz=160,slow=11,SNR=11						
BOSA				LR	LR	07 23 48.2	
	comp=Z,150nm,18.5s,baz=162,slow=33						
DBIC	**Dimbokro**	**62.00**	**315**	P	P	07 24 27.1	-0.3
	1.6nm,0.5s,baz=133,slow=12,SNR=3.6						
TORD	**Torodi Ar. Bea**	**64.64**	**324**	P	P	07 24 45.1	+0.3
	3.5nm,0.6s,baz=158,slow=7.0,SNR=29						
TXAR	**Lajitas Array**	**143.66**	**260**	PKP	PKPdf	07 33 42.8	+0.5
	0.3nm,0.6s,baz=144,slow=5.6,SNR=4.3						
YKA	**Yellowknife Ar**	**154.64**	**326**	PKPab	PKPab	07 34 20.7	-1.2
	0.2nm,0.8s,baz=51,slow=4.0,SNR=3.3						

WEL 23 07:24:21.4±0.1,41.˚92S×173.˚73E,h41km±3km,ML3.6/14, 3C-15D,Error ellipse: s-maj=1.4km s-min=1.3km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.40**	**66**	⇓P*	Pn	07 24 31.4	+0.5
CMWZ				S*	Sn	07 24 40.0	+2.4
TUWZ	**Tuamarina**	**0.51**	**19**	⇑P*	Pn	07 24 31.6	-0.7
TUWZ				S*	Sn	07 24 39.3	-0.7
KHZ	**Kahutara**	**0.52**	**195**	⇑P*	Pn	07 24 32.2	-0.3
KHZ				S*	Sn	07 24 40.3	0.0
THZ	**Tophouse**	**0.63**	**284**	⇓P*	Pn	07 24 32.4	-1.7
THZ				S*	Sn	07 24 41.8	-1.3
NNZ	**Nelson**	**0.74**	**339**	⇑PN	Pn	07 24 34.2	-1.2
NNZ				SN	Sn	07 24 44.5	-1.1
TCW	**Tory Channel**	**0.81**	**31**	P*	Pn	07 24 36.0	-0.4
TCW				S*	Sn	07 24 47.6	+0.3
SNZO	**South Karori**	**0.95**	**51**	⇓PN	Pn	07 24 38.3	+0.1
BHW	**Baring Head**	**0.99

JIO	**Ouri**	**1.84**	**354**	P	**Pn**	07 36 12.0	**0.0**
JIO				*e*S	**Sn**	07 36 33.3	**-1.7**
JKT	**Katashina**	**1.89**	**275**	P	**Pn**	07 36 13.0	**+0.2**
JKT				*e*S	**Sn**	07 36 35.2	**-1.1**
JOU	**Okura**	**1.89**	**337**	P	**Pn**	07 36 13.6	**+0.8**
JOU				*e*S	**Sn**	07 36 36.9	**+0.6**
MJAR	**Matsushiro Arr**	**2.72**	**269**	P	**Pn**	07 36 24.9	**+0.7**
	15nm,0.3s,baz=100,slow=8.7,SNR=69						
MJAR				S	**Sn**	07 36 58.5	**+1.7**
	9.7nm,0.3s,baz=72,slow=28,SNR=6.9						
MAT	**Matsushiro**	**2.72**	**269**	P	**Pn**	07 36 25.4	**+1.2**
MAT				S	**Sn**	07 36 57.5	**+0.7**
JHJ	**Hachijo jima 2**	**3.80**	**204**	P	**Pn**	07 36 40.0	**+1.0**
	22nm,0.3s,baz=234,slow=23,SNR=14						
JHJ				S	**Sn**	07 37 21.1	**-2.3**
	37nm,0.3s,baz=61,slow=22,SNR=5.7						
USRK	**Ussuriysk Arra**	**10.52**	**319**	P	Pn	07 38 16.3	+5.2
	0.2nm,0.3s,baz=93,slow=12,SNR=5.5						
KSRS	**Korea Array**	**10.96**	**278**	LR	LR	07 42 41.1	
	comp=Z,50nm,18.3s,baz=340,slow=38						
SONM	**Songino Array**	**28.13**	**305**	P	**P**	**07 41 34.3**	**+1.8**
	0.9nm,0.5s,baz=99,slow=8.5,SNR=6.9						
ZALV	**Zalesovo Beam**	**42.30**	**313**	P	**P**	**07 43 33.8**	**0.0**
	0.3nm,0.4s,baz=103,slow=6.2,SNR=2.9						
MKAR	**Makanchi Array**	**44.46**	**302**	P	**P**	**07 43 51.1**	**-0.3**
	0.4nm,0.8s,baz=92,slow=7.9,SNR=4.5						
WRA	**Warramunga Arr**	**56.67**	**188**	P	**P**	**07 45 22.9**	**-0.9**
	0.1nm,0.3s,baz=6.0,slow=7.3,SNR=4.3						
YKA	**Yellowknife Ar**	**64.09**	**30**	P	**P**	**07 46 14.6**	**+0.5**
	0.1nm,0.6s,baz=305,slow=6.2,SNR=4.3						

IDC 23 07:50:35.6±1.0, 5°98S×154°33E, h54km±8km, mb3.3/7, mb1 3.7/11, mb1mx3.6/20, mbtmp3.6/11, MS3.0/2, Ms1 3.0/2, ms1mx2.8/14, Error ellipse: s-maj=18.5km s-min=15.1km az=14.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.54**	**122**	P	Pn	07 52 10.9	+1.6
	17nm,0.3s,baz=203,slow=17,SNR=4.1						
HNR				S	Sn	07 53 24.9	+2.3
	7.1nm,0.3s,baz=182,slow=14,SNR=1.3						
HNR				LR	LR	07 54 19.5	
	comp=Z,75nm,20.1s,baz=189,slow=34						
PMG	**Port Moresby**	**7.88**	**244**	P	Pn	07 52 29.1	+1.4
	6.8nm,0.3s,baz=51,slow=8.3,SNR=18						
PMG				S	Sn	07 53 57.7	+2.1
	2.2nm,0.3s,baz=341,slow=21,SNR=4.3						
CTA	**Charters Tower**	**16.07**	**208**	P	P	07 54 19.8	-1.0
	baz=26,slow=10,SNR=4.5						
CTA				LR	LR	07 59 15.3	
	comp=Z,73nm,19.8s,baz=233,slow=32						
DZM	**Mont Dzumac**	**19.83**	**145**	P	P	07 55 00.2	-2.0
	0.4nm,0.3s,baz=336,slow=18,SNR=5.4						
WRA	**Warramunga Arr**	**23.88**	**233**	P	P	07 55 43.8	-0.6
	1.0nm,0.9s,baz=56,slow=9.4,SNR=4.0						
WRA				pP	pP	07 55 57.5	-0.3
	3.7nm,0.7s,baz=55,slow=9.8,SNR=13						
ASAR	**Alice Springs**	**26.38**	**226**	P	P	07 56 06.2	-0.9
	0.3nm,0.5s,baz=56,slow=8.4,SNR=5.3						
ASAR				pP	pP	07 56 20.9	+0.3
	0.9nm,0.7s,baz=58,slow=9.1,SNR=5.9						
ASAR				PcP	PcP	07 59 32.1	+0.2
	0.6nm,0.7s,baz=62,slow=3.0,SNR=5.6						
CMAR	**Chiang Mai Arr**	**59.75**	**295**	P	P	08 00 35.1	-0.4
	0.7nm,0.4s,baz=113,slow=4.5,SNR=4.7						
SONM	**Songino Array**	**68.13**	**327**	P	P	08 01 32.1	+1.9
	0.5nm,0.8s,baz=130,slow=4.3,SNR=3.5						
MKAR	**Makanchi Array**	**82.21**	**319**	P	P	08 02 50.9	-0.2
	0.3nm,0.7s,baz=106,slow=4.6,SNR=4.6						
MKAR				pP	pP	08 03 05.8	-0.7
	0.3nm,0.8s,baz=114,slow=5.4,SNR=4.1						
ILAR	**Eielson Array**	**82.67**	**22**	P	P	08 02 52.2	-0.9
	0.2nm,0.6s,baz=243,slow=6.0,SNR=3.3						
ZALV	**Zalesovo Beam**	**82.97**	**326**	P	P	08 02 55.1	+0.3
	0.4nm,0.3s,baz=67,slow=3.7,SNR=4.4						
TORD	**Torodi Ar. Bea**	**152.11**	**287**	PKPbc	PKPbc	08 10 25.2	-1.0
	0.9nm,0.7s,baz=69,slow=1.9,SNR=5.8						
TORD				PKPab	PKPab	08 10 35.8	0.0
	1.7nm,0.8s,baz=66,slow=3.6,SNR=8.5						

TAP 23 07:54:20.7, 23°40N×121°30E, h11km, ML3.5, 5C-5D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWF1	**Yuli**	**0.05**	**185**	⇓*i*P	Pg	07 54 23.2	+0.2
	baz=176						
TWF1				*e*S	Sg	07 54 24.5	0.0
	baz=176						
EHY	**Hungye**	**0.10**	**10**	⇑*i*P	Pg	07 54 24.0	+0.4
	baz=14						
EHY				*i* S	Sg	07 54 25.6	0.0
	baz=14						
CHKT	**Chengkung**	**0.31**	**169**	P	Pb	07 54 27.9	-0.3
	baz=153						
CHKT				*e*S	Sb	07 54 33.8	+0.5
	baz=153						
ELDTW	**Lidau**	**0.34**	**231**	⇓*i*P	Pg	07 54 27.5	-0.2
	baz=230						
ELDTW				S	Sg	07 54 31.4	-0.9
	baz=230						
ESL	**Shilin**	**0.42**	**16**	P	Pg	07 54 29.1	-0.1
	baz=28						
ESL				*e*S	Sg	07 54 35.1	+0.3
	baz=28						
ALS	**Alishan**	**0.47**	**283**	*e*P	Pg	07 54 30.7	+0.4
	baz=274						
ESF	**Shoufeng Towns**	**0.50**	**22**	*e*P	Pg	07 54 30.7	+0.1
	baz=24						
SMLT	**Sun Moon Lake**	**0.60**	**322**	⇑*i*P	Pg	07 54 33.0	+0.4
	baz=323						
SMLT				S	Sg	07 54 40.6	-0.1
	baz=323						
TWG	**Pinlang**	**0.62**	**200**	P	Pg	07 54 32.6	-0.2
	baz=206						
TWG				S	Sg	07 54 40.6	-0.3
	baz=206						
HWA	**Hwalien**	**0.63**	**26**	*e*P	Pb	07 54 33.7	-0.1
	baz=19						
TYC	**Yuchr**	**0.64**	**321**	*i* P	Pb	07 54 33.7	-0.3
	baz=322						
TYC				*e*S	Sg	07 54 42.0	+0.2
	baz=322						
WTP	**Ta-pu**	**0.65**	**256**	⇓*i*P	Pb	07 54 34.2	0.0
	baz=256						
WTP				*e*S	Sb	07 54 42.9	-0.5
	baz=256						
CHN4	**Tsaushan**	**0.65**	**266**	*i* P	Pb	07 54 34.6	+0.4
	baz=258						
CHN4				*i* S	Sb	07 54 43.7	+0.4
	baz=258						
TTN	**Taitung**	**0.66**	**192**	*e*P	Pg	07 54 32.9	-0.7
	baz=179						
TWD	**Chiawan**	**0.72**	**22**	*i* P	Pg	07 54 34.8	+0.1
	baz=23						
TWD				*i* S	Sg	07 54 44.2	-0.1
	baz=23						
SGST	**Jiashian**	**0.73**	**244**	*e*P	Pb	07 54 35.3	-0.2
	baz=244						
SGST				*e*S	Sb	07 54 46.5	+0.9
	baz=244						
WGK	**Gukeng**	**0.73**	**293**	*e*P	Pn	07 54 36.5	-0.5
	baz=293						
WGK				*e*S	Sn	07 54 48.0	-0.3
	baz=293						
WNT	**Mingjian**	**0.74**	**310**	⇑*i*P	Pn	07 54 36.9	-0.1
	baz=311						
WNT				S	Sn	07 54 48.3	0.0
	baz=311						
WHF	**Hehuan Shan**	**0.74**	**357**	⇑*i*P	Pg	07 54 35.2	-0.4
	baz=359						
WHF				S	Sg	07 54 45.2	-0.5
	baz=359						
CHN1	**Nanshi**	**0.74**	**253**	P	Pb	07 54 36.2	+0.5
	baz=253						
CHN1				S	Sb	07 54 46.6	+0.7
	baz=253						
TWK	**Hsinying**	**0.76**	**260**	*e*P	Pb	07 54 36.5	+0.5
	baz=259						
TWK				*e*S	Sb	07 54 47.1	+0.6
	baz=259						
CHN2	**Minshiung**	**0.74**	**280**	*e*P	Pn	07 54 37.2	-0.3
	baz=295						
CHN2				*e*S	Sn	07 54 49.0	-0.1
	baz=295						
CHY	**Chiayi**	**0.81**	**277**	P	Pb	07 54 37.4	+0.6
	baz=277						
CHY				S	Sn	07 54 49.6	-0.5
	baz=277						
TWT	**Tachien**	**0.85**	**352**	P	Pg	07 54 37.2	-0.2
	baz=352						
TWT				*e*S	Sb	07 54 49.2	-0.3
	baz=352						
ECL	**Taimali**	**0.86**	**202**	⇓*i*P	Pg	07 54 36.8	-0.6
	baz=187						
SSD	**Sandimen**	**0.90**	**223**	⇓*i*P	Pg	07 54 37.4	-0.7
	baz=215						
TCU	**Taichung**	**0.94**	**322**	*e*P	Pn	07 54 40.2	+0.4
	baz=324						
TCU				*e*S	Sn	07 54 53.8	+0.6
	baz=324						
TWM1	**Shoushan**	**0.99**	**235**	*e*P	Pn	07 54 41.2	+0.6
	baz=223						
CHN8	**Yiju**	**1.00**	**267**	*e*P	Pn	07 54 41.6	+0.8
	baz=267						
CHN8				*e*S	Sn	07 54 56.1	+1.2
	baz=267						
NNS	**Nan Shan**	**1.03**	**4**	P	Pb	07 54 40.5	-0.3
	baz=356						
NNS				S	Sg	07 54 54.1	-0.3
	baz=356						
WTCT	**Ta-ch'eng**	**1.04**	**296**	*e*P	Pn	07 54 43.6	+2.4
	baz=297						
TWQ1	**Liyutan**	**1.06**	**333**	P	Pn	07 54 42.3	+0.8
	baz=335						
TWQ1				*e*S	Sn	07 54 57.8	+1.5
	baz=335						
ENA	**Nanau**	**1.10**	**21**	*e*P	Pb	07 54 41.3	-0.4
	baz=26						
EAST	**Anshuo**	**1.10**	**202**	P	Pb	07 54 41.1	-0.7
	baz=188						
TAW	**Tawu**	**1.11**	**200**	P	Pb	07 54 41.4	-0.5
	baz=183						
NSY	**Sanyi**	**1.12**	**334**	*e*P	Pn	07 54 43.9	+1.4
	baz=336						
NSY				*e*S	Sn	07 54 59.9	+2.0
	baz=336						
NSTT	**Nanjuang**	**1.25**	**347**	*e*P	Pg	07 54 44.8	0.0
	baz=349						
NSTT				*e*S	Sg	07 55 02.1	+1.0
	baz=349						
ENTT	**Nioudou**	**1.25**	**11**	*e*P	Pg	07 54 44.8	0.0
	baz=31						
ENTT				*e*S	Sg	07 55 01.7	+0.4
	baz=31						
NSK	**Sanguang**	**1.27**	**2**	⇑*i*P	Pb	07 54 44.9	+0.1
	baz=5.0						
NSK				*e*S	Sb	07 55 00.5	-0.7
	baz=5.0						
TWC	**Suao**	**1.30**	**23**	*e*P	Pn	07 54 44.3	-0.5
	baz=26						
TWC				*e*S	Sg	07 55 03.2	+0.6
	baz=26						
TWE	**Neicheng**	**1.35**	**14**	*e*P	Pn	07 54 44.4	-1.1
	baz=33						
TWP	**Hsiaoliuchiu**	**1.36**	**220**	*e*P	Pg	07 54 49.7	+2.8
	baz=214						
TWK1	**Hengchun**	**1.52**	**198**	*e*P	Pb	07 54 49.3	+0.3
	baz=183						
PNG	**Penghu**	**1.61**	**276**	*e*P	Pn	07 54 49.4	+0.3
	baz=274						
TWS1	**Kuangyinshan**	**1.69**	**4**	*e*P	Pg	07 54 53.0	-0.2
	baz=32						
NWF	**Wu-fen Shan**	**1.72**	**15**	*e*P	Pb	07 54 53.0	+0.6
	baz=33						
TWB1	**Santiao Chiao**	**1.72**	**21**	*e*P	Pb	07 54 52.7	+0.4
	baz=26						
YOJ	**Yonaguni jima**	**1.89**	**56**	*e*P	Pn	07 54 52.1	-0.7
	baz=51						
KNM	**Kinmen**	**2.81**	**292**	*e*P	Pb	07 55 08.9	-2.1
	baz=289						

DDA 23 08:09:36.1, 37°59N×35°55E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.24**	**116**	*e*PG	Pg	08 09 38.2	-2.7
KOZT				*e*SG	Sg	08 09 40.9	-3.3
CEYT	**Ceyhan**	**0.59**	**165**	*e*PG	Pg	08 09 45.1	-2.5
ANDN	**Andirin**	**0.63**	**90**	*i* P	Pg	08 09 48.9	+0.5
ANDN				*i* S	Sg	08 09 57.5	+0.7
GULE	**Gulek**	**0.69**	**244**	*i* P	Pg	08 09 49.4	-0.2
GULE				*i* S	Sb	08 10 01.1	+0.5

IDC 23 08:29:02.9±0.9, 20°42S×63°15W, h555km±8km, mb3.4/9, mb1 3.5/14, mb1mx3.4/21, mbtmp3.4/14, Error ellipse: s-maj=15.6km s-min=13.2km az=27.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIV	**San Ignacio**	**4.83**	**24**	P	P	08 30 33.3	+1.6
	4.1nm,0.3s,baz=211,slow=8.8,SNR=101						
SIV				S	S	08 31 45.0	+0.8
	0.7nm,0.3s,baz=352,slow=21,SNR=7.4						
LPAZ	**La Paz**	**6.27**	**310**	P	P	08 30 46.4	+1.4
	4.1nm,0.3s,baz=88,slow=4.8,SNR=118						
LPAZ				S	S	08 32 07.3	-1.1
	2.0nm,0.3s,baz=272,slow=20,SNR=14						
CPUP	**Villa Florida**	**7.95**	**139**	P	P	08 31 00.2	+0.1
	5.7nm,0.3s,baz=311,slow=9.1,SNR=67						
CFAA	**Coronel Fontan**	**12.03**	**201**	P	P	08 31 41.0	-0.7
	0.6nm,0.3s,baz=26,slow=11,SNR=88						
CFAA				S	S	08 33 48.4	-4.0
	0.2nm,0.3s,baz=238,slow=19,SNR=17						
BDFB	**Brasilia**	**15.16**	**74**	P	P	08 32 13.0	-1.1
	3.7nm,0.3s,baz=243,slow=9.2,SNR=46						
PLCA	**Paso Flores**	**21.20**	**196**	P	P	08 33 09.4	-0.1
	0.5nm,0.5s,baz=38,slow=13,SNR=3.3						
RCBR	**Riachuelo**	**30.17**	**65**	P	P	08 34 29.6	+0.8
	6.0nm,0.7s,baz=234,slow=14,SNR=5.3						
VNA3	**Neumayer Olymp**	**59.42**	**162**	*e*Pn	P	08 38 12.9	+0.9
VNA2	**Neumayer--Watz**	**59.93**	**162**	*e*Pn	P	08 38 15.7	+0.4
	baz=315,slow=7.7						
SNAA	**Sanae**	**61.57**	**162**	*e*Pn	P	08 38 18.7	-7.5
TXAR	**Lajitas Array**	**63.03**	**320**	P	P	08 38 36.1	-0.2
	0.6nm,0.7s,baz=146,slow=7.9,SNR=9.9						
TXAR				PcP	PcP	08 39 08.9	+0.8
	0.1nm,0.4s,baz=154,slow=8.6,SNR=2.7						
DBIC	**Dimbokro**	**63.28**	**71**	P	P	08 38 37.8	-0.4
	1.4nm,0.3s,baz=323,slow=23,SNR=5.2						
TORD	**Torodi Ar. Bea**	**71.95**	**68**	P	P	08 39 30.3	-0.7
	5.0nm,0.5s,baz=253,slow=5.6,SNR=79						
SCHQ	**Schefferville**	**75.02**	**358**	P	P	08 39 47.1	-0.5
	1.8nm,0.5s,baz=133,slow=4.0,SNR=11						
PDAR	**Pinedale Array**	**76.02**	**327**	P	P	08 39 54.0	+0.2
	1.2nm,0.5s,baz=124,slow=8.8,SNR=17						
ULM	**Lac du Bonnet**	**76.08**	**339**	P	P	08 39 52.8	-0.8
	2.6nm,0.5s,baz=142,slow=5.7,SNR=7.6						
YKA	**Yellowknife Ar**	**92.06**	**339**	P	P	08 41 12.3	-0.2
	0.9nm,0.4s,baz=128,slow=4.7,SNR=36						
YKA				pP	pP	08 43 17.3	+3.0
	0.1nm,0.7s,baz=188,slow=3.6,SNR=2.9						
ASAR	**Alice Springs**	**133.13**	**202**	PKP	PKPdf	08 47 15.9	-0.7
	0.6nm,0.6s,baz=145,slow=2.0,SNR=11						
WRA	**Warramunga Arr**	**136.38**	**204**	PKP	PKPdf	08 47 22.6	-0.1
	0.6nm,0.4s,baz=168,slow=1.6,SNR=17						
WRA				SKPbc	SKPbc	08 50 02.5	-0.7
	0.3nm,0.8s,baz=149,slow=2.9,SNR=3.9						
ZALV	**Zalesovo Beam**	**138.57**	**28**	PKP	PKPdf	08 47 25.1	-0.5
	0.8nm,0.5s,baz=269,slow=2.0,SNR=5.0						
ZALV				SKPbc	SKPbc	08 50 08.1	-0.2
	0.6nm,0.5s,baz=289,slow=2.2,SNR=4.7						
MKAR	**Makanchi Array**	**141.51**	**39**	PKhKP	PKPpre	08 47 26.7	
	0.4nm,0.7s,baz=315,slow=3.5,SNR=3.1						
MKAR				PKP	PKPdf	08 47 29.8	-1.4
	0.3nm,0.5s,baz=341,slow=2.6,SNR=4.4						
MKAR				SKPbc	SKPbc	08 50 16.2	-0.1
	0.4nm,0.7s,baz=300,slow=2.8,SNR=4.1						
SONM	**Songino Array**	**151.38**	**15**	PKPbc	PKPbc	08 47 54.6	+0.3
	1.8nm,0.4s,baz=294,slow=1.3,SNR=13						

ISCJB 23 08:35:46.8±0.5, 39°.11N±0°.03×29°.07E±0°.03, h8km±5km, Error ellipse: s-maj=4.8km s-min=4.1km az=164.8
ISK 23 08:35:46.3, 39°.14N×29°.05E, h5km, MD2.5
DDA 23 08:35:46.2, 39°.13N×29°.06E, h7km, MD2.8
CSEM 23 08:35:46.8±0.2, 39°.11N×29°.06E, h15km, MD2.8, Error ellipse: s-maj=4.8km s-min=4.5km az=131.0
ISC 23 08:35:46.5±0.9, 39°13N±0°02×29°02E±0°02, h13km±11km, n25, σ0°68/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**250**	*i* P	**Pb**	**08 35 53.4**	**+0.4**
DEMI				*i* S	**Sb**	**08 35 57.7**	**+0.3**
DEMI	**Demirci**	**0.25**	**250**	*i* P	**Pb**	**08 35 53.4**	**+0.4**
DEMI				*i* S	**Sb**	**08 35 57.7**	**+0.3**
GDZ	**Gediz**	**0.36**	**96**	*i* P	**Pg**	**08 35 53.8**	**0.0**
GDZ				*i* S	**Sg**	**08 35 58.4**	**-0.2**
GDZ	**Gediz**	**0.36**	**96**	*i* P	**Pg**	**08 35 53.8**	**0.0**
GDZ				*i* S	**Sg**	**08 35 58.4**	**-0.2**
TVSB	**Tavsanli**	**0.47**	**47**	*e*PG	**Pg**	**08 35 55.7**	**0.0**
TVSB				*e*SG	**Sg**	**08 36 01.9**	**-0.1**
TVSB	**Tavsanli**	**0.47**	**47**	*e*Pg	**Pg**	**08 35 55.7**	**0.0**
TVSB				*e*Sg	**Sg**	**08 36 01.9**	**-0.1**
DURS	**Dursunbey**	**0.64**	**318**	*i* P	**Pg**	**08 35 57.4**	**-1.5**
DURS				*i* S	**Sb**	**08 36 09.9**	**+1.5**
KULA	**Kula-Manisa**	**0.68**	**205**	*e*PG	**Pg**	**08 35 59.7**	**+0.1**
KULA	**Kula-Manisa**	**0.68**	**205**	*e*Pg	**Pg**	**08 35 59.7**	**+0.1**
MANT	**Manisa**	**0.73**	**210**	*i* P	**Pb**	**08 36 01.5**	**+0.2**
MANT				*i* S	**Sg**	**08 36 10.7**	**+0.3**
MANT	**Manisa**	**0.73**	**210**	*i* P	**Pb**	**08 36 01.5**	**+0.2**
MANT				*i* S	**Sg**	**08 36 10.7**	**+0.3**
KHAL	**Karahalli**	**0.84**	**154**	*i* P	**Pg**	**08 36 02.8**	**+0.1**
KHAL				*i* S	**Sg**	**08 36 13.6**	**-0.2**
KHAL	**Karahalli**	**0.84**	**154**	*i* P	**Pg**	**08 36 02.8**	**+0.1**
KHAL				*i* S	**Sg**	**08 36 13.6**	**-0.2**
ALT	**Altintas**	**0.85**	**95**	*e*PG	**Pg**	**08 36 02.9**	**0.0**
ALT	**Altintas**	**0.85**	**95**	*e*Pg	**Pg**	**08 36 02.9**	**0.0**
KHL	**Karahalli**	**0.89**	**154**	*e*PG	**Pn**	**08 36 04.3**	**-0.6**
KHL	**Karahalli**	**0.89**	**154**	*e*Pg	**Pn**	**08 36 04.3**	**-0.6**
BALY	**Balya**	**1.25**	**300**	*i* P	**Pn**	**08 36 08.0**	**-1.7**
BALY				*i* S	**Sg**	**08 36 28.0**	**+1.3**
BALY	**Balya**	**1.25**	**300**	*i* P	**Pn**	**08 36 08.0**	**-1.7**
BALY				*i* S	**Sg**	**08 36 28.0**	**+1.3**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pn**	**08 36 10.4**	**-0.6**
BORA				*i* S	**Sg**	**08 36 29.8**	**+0.2**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pn**	**08 36 10.4**	**-0.6**
BORA				*i* S	**Sg**	**08 36 29.8**	**+0.2**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*PN	**Pg**	**08 36 13.2**	**+0.1**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*Pn	**Pg**	**08 36 13.2**	**+0.1**
ARMT	**Armutlu**	**1.44**	**355**	*e*PN	**Pb**	**08 36 13.8**	**+0.6**
ARMT	**Armutlu**	**1.44**	**355**	*e*Pn	**Pb**	**08 36 13.8**	**+0.6**

IDC 23 08:39:38.0±2.7, 30°.42N×83°.81E, h0km, mb3.2/4, mb1 3.4/5, mb1mx3.3/27, mbtmp3.2/5, ML2.7/1, Error ellipse: s-maj=95.6km s-min=30.1km az=74.0
ISC 23 08:39:42.5±1.2, 30°.5N±0°.2×83°.9E±0°.1, h26km, n8, σ2°09/7, mb3.3/4, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTH	**Pithoragarh**	**3.32**	**254**	*e*PKP	**Pb**	**08 40 38.1**	**-2.8**
PTH				*ex*	x	08 42 29.1	
LGTI	**Lohaghat**	**3.33**	**252**	*e*PKP	**Pb**	**08 40 43.8**	**+2.9**
LGTI				*ex*	x	08 41 32.3	
DDI	**Dehra Dun**	**5.03**	**269**	*ex*	x	08 41 12.0	
MKAR	**Makanchi Array**	**16.27**	**356**	Pn	**Pn**	**08 43 29.2**	**0.0**
	0.0nm,0.3s,baz=183,slow=14,SNR=2.9						
ZALV	**Zalesovo Beam**	**23.40**	**1**	P	**P**	**08 44 48.7**	**-0.5**
	0.6nm,0.6s,baz=191,slow=9.4,SNR=5.2						
SONM	**Songino Array**	**24.41**	**39**	P	**P**	**08 44 59.7**	**+0.7**
	0.5nm,0.7s,baz=231,slow=9.1,SNR=3.3						
WRA	**Warramunga Arr**	**69.80**	**129**	P	**P**	**08 50 50.3**	**-0.6**
	0.1nm,0.3s,baz=325,slow=6.3,SNR=6.0						
YKA	**Yellowknife Ar**	**86.11**	**8**	P	**P**	**08 52 21.2**	**+0.4**
	0.1nm,0.6s,baz=335,slow=5.0,SNR=3.5						

NEIC 23 08:40:08.0, 39°.77S×174°.60E, h24km, ML4.1(WEL), After WEL.
NEIC Felt at Wanganui.
WEL 23 08:40:08.1±0.1, 39°.77S×174°.60E, h26km±1km, ML4.1/51, Error ellipse: s-maj=1.0km s-min=0.8km az=90.0, reported intensity MM 4.
WEL Felt from King Country to Wellington, and from Taranaki to Manawatu, maximum.
ISC 23 08:40:06.5±1.0, 39°.80S±0°.02×174°.56E±0°.03, h20km±12km, n187, σ0°57/194, 15C-26D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WAZ	**Wanganui**	**0.33**	**82**	⇓P*	**Pn**	**08 40 15.3**	**-0.9**
WAZ				S*	**Sn**	**08 40 21.7**	**-0.7**
WAZ	**Wanganui**	**0.33**	**82**	P*	**Pn**	**08 40 15.3**	**-0.9**
WAZ				S*	**Sn**	**08 40 21.7**	**-0.7**
RAEZ	**Rainy Point**	**0.53**	**346**	⇑P*	**Pn**	**08 40 18.8**	**-0.2**
RAEZ	**Rainy Point**	**0.53**	**346**	P*	**Pn**	**08 40 18.8**	**-0.2**
DFE	**Dawson Falls**	**0.59**	**323**	⇓P*	**Pn**	**08 40 19.7**	**-0.2**
DFE	**Dawson Falls**	**0.59**	**323**	P*	**Pn**	**08 40 19.7**	**-0.2**
NEZ	**North Egmont**	**0.64**	**326**	⇓P*	**Pn**	**08 40 20.4**	**-0.2**
NEZ	**North Egmont**	**0.64**	**326**	P*	**Pn**	**08 40 20.4**	**-0.2**
DREZ	**Durham Road**	**0.67**	**335**	⇑P*	**Pn**	**08 40 20.8**	**-0.1**
DREZ				S*	**Sn**	**08 40 31.8**	**+1.0**
DREZ	**Durham Road**	**0.67**	**335**	P*	**Pn**	**08 40 20.8**	**-0.1**
NRZ	**Ngariki Road**	**0.67**	**314**	⇓P*	**Pn**	**08 40 21.1**	**+0.2**
NRZ	**Ngariki Road**	**0.67**	**314**	P*	**Pn**	**08 40 21.1**	**+0.2**
VRZ	**Vera Road**	**0.69**	**13**	⇑P*	**Pn**	**08 40 20.7**	**-0.5**
VRZ				S*	**Sn**	**08 40 31.0**	**-0.3**
VRZ	**Vera Road**	**0.69**	**13**	P*	**Pn**	**08 40 20.3**	**+0.4**
MHEZ	**Mangahewa**	**0.75**	**346**	⇑P*	**Pn**	**08 40 22.0**	**+0.1**
MHEZ	**Mangahewa**	**0.75**	**346**	P*	**Pn**	**08 40 22.0**	**+0.1**
**PK

HOWZ	**Holdsworth Sta**	**1.32**	**147**	Pn	**Pb**	**08 40 30.7**	**+0.1**
RATZ	**Rangitukua**	**1.32**	**46**	⇓PN	**Pn**	**08 40 29.9**	**0.0**
RATZ	**Rangitukua**	**1.32**	**46**	Pn	**Pb**	**08 40 29.9**	**0.0**
DVHZ	**Dannevirke**	**1.33**	**112**	PN	**Pb**	**08 40 31.1**	**+0.3**
DVHZ	**Dannevirke**	**1.33**	**112**	Pn	**Pb**	**08 40 31.1**	**+0.3**
CAW	**Cannon Point**	**1.36**	**164**	PN	**Pn**	**08 40 30.9**	**+0.5**
CAW	**Cannon Point**	**1.36**	**164**	Pn	**Pn**	**08 40 30.9**	**+0.5**
TIWZ	**Tintock**	**1.41**	**134**	PN	**Pb**	**08 40 32.5**	**+0.4**
TIWZ	**Tintock**	**1.41**	**134**	Pn	**Pb**	**08 40 32.5**	**+0.4**
WATZ	**Wairara**	**1.42**	**40**	⇑PN	**Pn**	**08 40 31.4**	**+0.1**
WATZ	**Wairara**	**1.42**	**40**	Pn	**Pn**	**08 40 31.4**	**+0.1**
TCW	**Tory Channel**	**1.43**	**189**	⇑PN	**Pn**	**08 40 31.3**	**+0.1**
WPHZ	**Waipukurau**	**1.47**	**101**	PN	**Pb**	**08 40 33.7**	**+0.6**
WPHZ	**Waipukurau**	**1.47**	**101**	Pn	**Pb**	**08 40 33.7**	**+0.6**
WEL	**Wellington**	**1.49**	**174**	PN	**Pb**	**08 40 33.3**	**-0.2**
WEL	**Wellington**	**1.49**	**174**	Pn	**Pb**	**08 40 33.3**	**-0.2**
HATZ	**Hinemaiaia**	**1.50**	**53**	PN	**Pn**	**08 40 32.0**	**-0.3**
HATZ	**Hinemaiaia**	**1.50**	**53**	Pn	**Pn**	**08 40 32.0**	**-0.3**
SNZO	**South Karori**	**1.51**	**176**	PN	**Pn**	**08 40 33.0**	**+0.6**
SNZO	**South Karori**	**1.51**	**176**	Pn	**Pn**	**08 40 33.0**	**+0.6**
MTW	**Mount Morrison**	**1.54**	**152**	PN	**Pn**	**08 40 33.4**	**+0.6**
MTW	**Mount Morrison**	**1.54**	**152**	Pn	**Pn**	**08 40 33.4**	**+0.6**
BFZ	**Birch Farm**	**1.56**	**125**	PN	**Pn**	**08 40 33.7**	**+0.6**
BFZ	**Birch Farm**	**1.56**	**125**	Pn	**Pn**	**08 40 33.7**	**+0.6**
WHTZ	**Whakaora**	**1.57**	**44**	PN	**Pb**	**08 40 34.1**	**-0.7**
WHTZ	**Whakaora**	**1.57**	**44**	Pn	**Pb**	**08 40 34.1**	**-0.7**
BHW	**Baring Head**	**1.62**	**172**	PN	**Pb**	**08 40 35.0**	**-0.7**
BHW	**Baring Head**	**1.62**	**172**	Pn	**Pb**	**08 40 35.0**	**-0.7**
BKZ	**Black Stump Fm**	**1.62**	**68**	⇓PN	**Pn**	**08 40 34.3**	**+0.3**
BKZ	**Black Stump Fm**	**1.62**	**68**	Pn	**Pn**	**08 40 34.3**	**+0.3**
TMWZ	**Te Maipa**	**1.65**	**143**	PN	**Pb**	**08 40 35.6**	**-0.7**
TMWZ	**Te Maipa**	**1.65**	**143**	Pn	**Pb**	**08 40 35.6**	**-0.7**
PRHZ	**Porangahau**	**1.66**	**107**	PN	**Pb**	**08 40 35.8**	**-0.6**
PRHZ	**Porangahau**	**1.66**	**107**	Pn	**Pb**	**08 40 35.8**	**-0.6**
NNZ	**Nelson**	**1.68**	**212**	PN	**Pb**	**08 40 35.9**	**-0.8**
NNZ	**Nelson**	**1.68**	**212**	Pn	**Pb**	**08 40 35.9**	**-0.8**
MCHZ	**McNeill Hill**	**1.69**	**78**	PN	**Pb**	**08 40 37.2**	**+0.3**
MCHZ	**McNeill Hill**	**1.69**	**78**	Pn	**Pb**	**08 40 37.2**	**+0.3**
TUWZ	**Tuamarina**	**1.69**	**196**	PN	**Pn**	**08 40 35.0**	**+0.1**
TUWZ	**Tuamarina**	**1.69**	**196**	Pn	**Pn**	**08 40 35.0**	**+0.1**
MSWZ	**Moikau Station**	**1.69**	**162**	PN	**Pb**	**08 40 36.5**	**-0.5**
MSWZ	**Moikau Station**	**1.69**	**162**	Pn	**Pb**	**08 40 36.5**	**-0.5**
PAWZ	**Paruwai Farm**	**1.71**	**158**	PN	**Pb**	**08 40 36.7**	**-0.6**
PAWZ	**Paruwai Farm**	**1.71**	**158**	Pn	**Pb**	**08 40 36.7**	**-0.6**
KAHZ	**Kahuranaki**	**1.79**	**91**	PN	**Pb**	**08 40 38.1**	**-0.4**
KAHZ	**Kahuranaki**	**1.79**	**91**	Pn	**Pb**	**08 40 38.1**	**-0.4**
PXZ	**Pawanui**	**1.79**	**98**	PN	**Pb**	**08 40 38.3**	**-0.2**
PXZ	**Pawanui**	**1.79**	**98**	Pn	**Pb**	**08 40 38.3**	**-0.2**
TRWZ	**Traveller**	**1.81**	**152**	PN	**Pb**	**08 40 38.5**	**-0.6**
TRWZ	**Traveller**	**1.81**	**152**	Pn	**Pb**	**08 40 38.5**	**-0.6**
PLWZ	**Palliser**	**1.84**	**164**	PN	**Pb**	**08 40 37.9**	**+0.8**
PLWZ	**Palliser**	**1.84**	**164**	Pn	**Pb**	**08 40 37.9**	**+0.8**
ALRZ	**Allen Road**	**1.86**	**49**	PN	**Pn**	**08 40 37.2**	**0.0**
ALRZ	**Allen Road**	**1.86**	**49**	Pn	**Pn**	**08 40 37.2**	**0.0**
QRZ	**Quartz Range**	**1.86**	**236**	PN	**Pn**	**08 40 37.2**	**-0.1**
QRZ	**Quartz Range**	**1.86**	**236**	Pn	**Pn**	**08 40 37.2**	**-0.1**
PRRZ	**Plateau Road**	**1.93**	**48**	PN	**Pn**	**08 40 38.2**	**0.0**
PRRZ	**Plateau Road**	**1.93**	**48**	Pn	**Pn**	**08 40 38.2**	**0.0**
CKHZ	**Cape Kidnapper**	**1.95**	**87**	PN	**Pb**	**08 40 41.4**	**+0.1**
CKHZ	**Cape Kidnapper**	**1.95**	**87**	Pn	**Pb**	**08 40 41.4**	**+0.1**
BSWZ	**Blackbirch Sta**	**1.98**	**195**	PN	**Pn**	**08 40 39.7**	**+0.8**
BSWZ	**Blackbirch Sta**	**1.98**	**195**	Pn	**Pn**	**08 40 39.7**	**+0.8**
RRRZ	**Republican Roa**	**2.11**	**47**	PN	**Pn**	**08 40 40.8**	**+0.1**
RRRZ	**Republican Roa**	**2.11**	**47**	Pn	**Pn**	**08 40 40.8**	**+0.1**
RAHZ	**Arahi**	**2.15**	**67**	PN	**Pn**	**08 40 41.9**	**+0.7**
RAHZ	**Arahi**	**2.15**	**67**	Pn	**Pn**	**08 40 41.9**	**+0.7**
TARZ	**Mount Tarawera**	**2.18**	**45**	PN	**Pn**	**08 40 42.4**	**+0.7**
TARZ	**Mount Tarawera**	**2.18**	**45**	Pn	**Pn**	**08 40 42.4**	**+0.7**
KARZ	**Kaharoa**	**2.21**	**37**	PN	**Pb**	**08 40 45.6**	**-0.2**
KARZ	**Kaharoa**	**2.21**	**37**	Pn	**Pb**	**08 40 45.6**	**-0.2**
THZ	**Tophouse**	**2.33**	**212**	⇑PN	**Pn**	**08 40 45.5**	**+1.8**
THZ	**Tophouse**	**2.33**	**212**	Pn	**Pn**	**08 40 45.5**	**+1.8**
TGRZ	**Tauranga**	**2.46**	**33**	PN	**Pn**	**08 40 45.1**	**-0.3**
TGRZ	**Tauranga**	**2.46**	**33**	Pn	**Pn**	**08 40 45.1**	**-0.3**
URZ	**Urewera**	**2.51**	**53**	⇓PN	**Pn**	**08 40 46.3**	**+0.1**
URZ	**Urewera**	**2.51**	**53**	Pn	**Pn**	**08 40 46.3**	**+0.1**
KNZ	**Kokohu**	**2.54**	**73**	PN	**Pn**	**08 40 47.2**	**+0.7**
KNZ	**Kokohu**	**2.54**	**73**	Pn	**Pn**	**08 40 47.1**	**+0.7**
MHGZ	**Mahia Peninsul**	**2.67**	**77**	PN	**Pn**	**08 40 49.5**	**+1.1**
MHGZ	**Mahia Peninsul**	**2.67**	**77**	Pn	**Pn**	**08 40 49.5**	**+1.1**
PRGZ	**Paritu Road**	**2.72**	**72**	PN	**Pn**	**08 40 49.9**	**+0.8**
PRGZ	**Paritu Road**	**2.72**	**72**	Pn	**Pn**	**08 40 49.9**	**+0.8**
KHZ	**Kahutara**	**2.73**	**196**	⇓PN	**Pn**	**08 40 50.3**	**+1.2**
KHZ	**Kahutara**	**2.73**	**196**	Pn	**Pn**	**08 40 50.3**	**+1.2**
MKAZ	**Moumakai**	**2.73**	**10**	⇑PN	**Pn**	**08 40 49.6**	**+0.5**
MKAZ	**Moumakai**	**2.73**	**10**	Pn	**Pn**	**08 40 49.6**	**+0.5**
MWZ	**Matawai**	**2.73**	**59**	⇑PN	**Pn**	**08 40 49.1**	**-0.2**
MWZ	**Matawai**	**2.73**	**59**	Pn	**Pn**	**08 40 49.1**	**-0.2**
WTAZ	**Waiatarua**	**2.86**	**0**	PN	**Pn**	**08 40 51.8**	**+0.8**
WTAZ	**Waiatarua**	**2.86**	**0**	Pn	**Pn**	**08 40 51.8**	**+0.8**
KAAZ	**Kauri Point**	**2.98**	**2**	PN	**Pn**	**08 40 53.3**	**+0.7**
KAAZ	**Kauri Point**	**2.98**	**2**	Pn	**Pn**	**08 40 53.3**	**+0.7**
MTAZ	**Motutapu**	**3.02**	**5**	PN	**Pn**	**08 40 53.7**	**+0.5**
MTAZ	**Motutapu**	**3.02**	**5**	Pn	**Pn**	**08 40 53.7**	**+0.5**
RVAZ	**Riverhead Bore**	**3.03**	**0**	⇓PN	**Pn**	**08 40 53.8**	**+0.6**
CNGZ	**Carnagh Statio**	**3.13**	**66**	PN	**Pn**	**08 40 55.3**	**+0.6**
CNGZ	**Carnagh Statio**	**3.13**	**66**	Pn	**Pn**	**08 40 55.3**	**+0.6**
KUZ	**Kuaotunu**	**3.18**	**17**	PN	**Pn**	**08 40 54.8**	**-0.6**
KUZ	**Kuaotunu**	**3.18**	**17**	Pn	**Pn**	**08 40 54.8**	**-0.6**
ABAZ	**Army Bay**	**3.20**	**4**	⇓PN	**Pn**	**08 40 56.2**	**+0.6**
LTZ	**Lake Taylor**	**3.44**	**209**	PN	**Pn**	**08 40 59.9**	**+0.9**
LTZ	**Lake Taylor**	**3.44**	**209**	Pn	**Pn**	**08 40 59.9**	**+0.9**
MXZ	**Matakaoa Point**	**3.69**	**54**	PN	**Pn**	**08 41 03.5**	**+1.2**
MXZ	**Matakaoa Point**	**3.69**	**54**	Pn	**Pn**	**08 41 03.5**	**+1.2**
WCZ	**Waipu Caves**	**3.86**	**357**	PN	**Pn**	**08 41 04.7**	**0.0**
WCZ	**Waipu Caves**	**3.86**	**357**	Pn	**Pn**	**08 41 04.7**	**0.0**
MQZ	**McQueen's Vall**	**4.16**	**199**	PN	**Pn**	**08 41 07.4**	**-1.4**
MQZ	**McQueen's Vall**	**4.16**	**199**	Pn	**Pn**	**08 41 07.4**	**-1.4**
WVZ	**Waitaha Valley**	**4.35**	**220**	PN	**Pn**	**08 41 12.4**	**+0.9**
WVZ	**Waitaha Valley**	**4.35**	**220**	Pn	**Pn**	**08 41 12.4**	**+0.9**
OUZ	**Omahuta**	**4.64**	**350**	PN	**Pn**	**08 41 15.8**	**+0.4**
OUZ	**Omahuta**	**4.64**	**350**	Pn	**Pn**	**08 41 15.8**	**+0.4**
FOZ	**Fox Glacier**	**5.24**	**223**	PN	**Pn**	**08 41 22.1**	**-1.5**
FOZ	**Fox Glacier**	**5.24**	**223**	Pn	**Pn**	**08 41 22.1**	**-1.5**
ODZ	**Otahua Downs**	**5.99**	**208**	PN	**Pn**	**08 41 33.6**	**-0.3**
ODZ	**Otahua Downs**	**5.99**	**208**	Pn	**Pn**	**08 41 33.6**	**-0.3**
JCZ	**Jackson Bay**	**6.08**	**223**	PN	**Pn**	**08 41 35.1**	**-0.2**
JCZ	**Jackson Bay**	**6.08**	**223**	Pn	**Pn**	**08 41 35.1**	**-0.2**

IDC 23 09:09:04.9±3.4, **7°.14S×126°.86E, h413**km±43km, **mb3.4**/4, **mb1 3.3**/7, **mb1mx3.1**/18, **mbtmp3.2**/7, **Error ellipse: s-maj=53.4km s-min=15.7km az=66.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.96**	**186**	P	P	09 11 33.4	+0.6
	0.7nm,0.3s,baz=19,slow=10,SNR=20						
WRA	**Warramunga Arr**	**14.65**	**151**	P	P	09 12 11.8	-1.5
	0.6nm,0.3s,baz=331,slow=11,SNR=52						
WRA				S	S	09 14 45.6	-3.5
	0.1nm,0.3s,baz=327,slow=16,SNR=5.9						
ASAR	**Alice Springs**	**17.77**	**158**	P	P	09 12 46.3	-0.3
	0.7nm,0.3s,baz=338,slow=8.0,SNR=39						
ASAR				S	S	09 15 50.3	+0.4
	0.1nm,0.3s,baz=330,slow=19,SNR=5.7						
STKA	**Stephens Creek**	**28.19**	**153**	P	P	09 14 22.3	+0.4
	1.7nm,0.4s,baz=338,slow=11,SNR=10						
PETK	**Petropavlovsk-**	**65.47**	**20**	P	P	09 19 05.6	+0.2
	8.5nm,1.2s,baz=194,slow=5.5,SNR=4.4						
MKAR	**Makanchi Array**	**66.67**	**328**	P	P	09 19 13.3	+0.2
	0.3nm,0.5s,baz=126,slow=8.2,SNR=5.1						
ZALV	**Zalesovo Beam**	**70.36**	**335**	P	P	09 19 35.1	-0.3
	0.5nm,0.4s,baz=116,slow=6.7,SNR=3.6						

CSEM ***23*** *09:21:32.3±0.5, 80°.72N×2°.21W, h10km, ML3.4, Error ellipse: s-maj=14.2km s-min=4.3km az=171.0*
BER ***23*** *09:21:37.9±3.2, 80°.39N×1°.07W, h10km, MD2.4, ML3.0, ML3.4(NAO)*
IDC ***23*** *09:21:38.6±0.9, 80°.09N×1°.65W, h0km, mb3.5/7, mb1 3.8/9, mb1mx3.5/29, mbtmp3.7/9, ML3.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/44, Error ellipse: s-maj=26.4km s-min=13.9km az=32.0*
NAO ***23*** *09:21:44.2±5.8, 80°.64N×3°.62E, ML3.4*

ISC 23 09:21:39.4±1.9, **80°.2N**±0°.2×**0°.20W**±0°.08, **h10km, n33,** σ1**s50**/30, **mb3.5**/6, **North of Svalbard**

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

KBS	**Kingsbay**	**2.54**	**113**	Pn	**Pn**	**09 22 21.0**	**+0.5**
KBS				Sn	**Sn**	**09 22 50.9**	**-0.5**
KBS	**Kingsbay**	**2.54**	**113**	*e*P	**Pn**	**09 22 20.9**	**+0.4**
KBS				*e*S	**Sn**	**09 22 50.8**	**-0.5**
KBS				AML	AML	09 22 52.0	
	comp=Z,57nm,0.4s						
KBS	**Kingsbay**	**2.54**	**113**	Pn	**Pn**	**09 22 21.0**	**+0.5**
SPA0	**Spitsbergen Ar**	**3.70**	**114**	Pn	**Pn**	**09 22 37.4**	**+0.9**
	baz=319,slow=8.6						
SPA0				Sn	**Sn**	**09 23 19.4**	**-0.6**
	baz=333,slow=56						
SPA0	**Spitsbergen Ar**	**3.70**	**114**	Pn	**Pn**	**09 22 37.4**	**+0.9**
	baz=319,slow=8.6						
SPA0				Sn	**Sn**	**09 23 19.4**	**-0.6**
	baz=333,slow=56						
SPA0	**Spitsbergen Ar**	**3.70**	**114**	Pn	**Pn**	**09 22 37.3**	**+0.9**
	baz=319,slow=8.3,SNR=294						
SPITS	**Spitsbergen Ar**	**3.70**	**114**	Pn	**Pn**	**09 22 37.6**	**+1.2**
	baz=320,slow=7.6,SNR=463						
SPITS				Sn	**Sn**	**09 23 21.4**	**+1.4**
	baz=313,slow=11,SNR=7.7						
DAG	**Danmarks Havn**	**5.00**	**237**	*i* P	Pn	09 22 48.9	-5.4
DAG				*i* S	Sn	09 23 41.6	-11
HOPEN	**Hopen**	**6.23**	**113**	*e*P	**Pn**	**09 23 10.8**	**-0.3**
HOPEN				*e*S	**Sn**	**09 24 19.4**	**-2.9**
HOPEN				AML	AML	09 24 23.4	
	comp=E,56nm,0.4s						
HOPEN	**Hopen**	**6.23**	**113**	*e*P	**Pn**	**09 23 10.8**	**-0.3**
	SNR=47						
JNW	**Jan Mayen West**	**9.40**	**197**	*e*Pn	**Pn**	**09 23 53.9**	**-0.6**
JNW	**Jan Mayen West**	**9.40**	**197**	*e*Pn	**Pn**	**09 23 53.9**	**-0.6**
	SNR=50						
JNE	**Jan Mayen East**	**9.43**	**196**	*e*Pn	**Pn**	**09 23 54.3**	**-0.7**
JNE	**Jan Mayen East**	**9.43**	**196**	*e*Pn	**Pn**	**09 23 54.3**	**-0.7**
	SNR=50						
JMIC	**Jan Mayen**	**9.44**	**197**	Pn	**Pn**	**09 23 53.9**	**-1.3**
	comp=E,35nm,0.3s,baz=164,slow=6.5,SNR=2.5						
JMIC				Sn	Sn	09 25 34.0	-7.1
	comp=E,16nm,0.3s,baz=198,slow=9.7,SNR=1.6						
JMI	**Jan Mayen**	**9.51**	**197**	*e*Pn	**Pn**	**09 23 55.4**	**-0.7**
JMI	**Jan Mayen**	**9.51**	**197**	*e*Pn	**Pn**	**09 23 55.4**	**-0.7**
	SNR=50						
SCO	**Scoresbysund**	**11.05**	**221**	*i* P	**Pn**	**09 24 18.6**	**+1.5**
SCO				*e*S	Sn	09 26 06.8	-14
SUMG	**Summit**	**11.47**	**250**	*i* P	Pn	09 24 15.6	-7.7
SUMG				*e*S	Sn	09 26 11.9	-20
SUMG	**Summit**	**11.47**	**250**	*i* P	Pn	09 24 16.2	-7.1
SUMG				*i* S	Sn	09 26 16.7	-15
SUMG	**Summit**	**11.47**	**250**	*i* P	Pn	09 24 15.6	-7.7
ARA0	**ARCESS Array S**	**12.40**	**135**	Pn	**Pn**	**09 24 38.5**	**+2.9**
	baz=342,slow=12						
ARA0				Sn	Sn	09 26 49.0	-4.7
ARA0	**ARCESS Array S**	**12.40**	**135**	Pn	**Pn**	**09 24 38.5**	**+2.9**
	baz=342,slow=12						
ARA0				Sn	Sn	09 26 49.0	-4.7
ARA0	**ARCESS Array S**	**12.40**	**135**	Pn	**Pn**	**09 24 38.5**	**+2.9**
	baz=342,slow=12,SNR=9.3						
ARCES	**ARCESS Array B**	**12.40**	**135**	Pn	**Pn**	**09 24 37.9**	**+2.2**
	comp=E,0.2nm,0.3s,baz=327,slow=11,SNR=7.9						
ARCES				Sn	**Sn**	**09 26 52.4**	**-1.3**
	comp=E,0.1nm,0.3s,baz=34,slow=8.9,SNR=1.7						
SFJD	**Kangerlussuaq**	**18.40**	**254**	LR	LR	09 32 38.7	
	comp=E,53nm,18.9s,baz=315,slow=36						
FINES	**FINESS Array B**	**20.28**	**142**	P	Pn	09 26 17.3	+0.7
	comp=E,1.5nm,0.9s,baz=333,slow=11,SNR=2.5						
FRB	**Frobisher Bay**	**24.42**	**269**	P	**P**	**09 26 54.9**	**-2.6**
	comp=E,3.1nm,1.0s,baz=21,slow=6.6,SNR=6.7						
GERES	**GERESS Array B**	**31.81**	**162**	P	**P**	**09 28 04.4**	**+0.7**
	comp=E,0.2nm,0.3s,baz=19,slow=13,SNR=3.6						
YKA	**Yellowknife Ar**	**32.91**	**309**	P	P	09 28 13.6	+0.5
	comp=E,0.4nm,0.8s,baz=7.1,slow=8.3,SNR=5.3						
ILAR	**Eielson Array**	**34.06**	**335**	P	P	09 28 23.0	-0.1
	comp=E,0.3nm,0.6s,baz=2.6,slow=7.0,SNR=5.8						
KURBB	**Kurchatov Arra**	**38.66**	**89**	P	P	09 29 05.6	+3.1
	comp=E,0.8nm,0.4s,baz=341,slow=7.7,SNR=7.4						
MKAR	**Makanchi Array**	**43.01**	**87**	P	P	09 29 41.1	+2.7
	comp=E,0.7nm,0.7s,baz=348,slow=7.5,SNR=8.9						

IDC ***23*** *09:33:36.2±1.7, 21°.01S×169°.33E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/17, mbtmp4.0/5, ML3.4/1, MS3.2/1, Ms1 3.1/1, ms1mx2.2/32, Error ellipse: s-maj=44.7km s-min=30.8km az=175.0*
NOU ***23*** *09:33:37.1±1.2, 21°.02S×169°.18E, h10km±999km, MD2.9, ML3.2*

ISC 23 09:33:39.6±2.6, **20°.9S**±0°.6×**169°.0E**±0°.4, **h25km, n9,** σ1**s95**/10, **mb4.0**/4, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LASL	**Noumea**	**2.64**	**240**	*e*P	**Pb**	**09 34 24.4**	**-1.9**
LASL				*e*S	**Sb**	**09 34 59.2**	**+0.8**
LASL				AMP		09 35 02.5	
	comp=Z,210nm,2.0s						
DZM	**Mont Dzumac**	**2.65**	**244**	Pn	**Pb**	**09 34 24.7**	**-1.8**
	comp=Z,5.8nm,0.3s,baz=72,slow=19,SNR=121						
DZM				Sn	**Sb**	**09 34 59.3**	**+0.6**
	comp=Z,16nm,0.3s,baz=296,slow=23,SNR=9.9						
NORM	**Noumea**	**2.69**	**241**	*e*P	**Pb**	**09 34 25.5**	**-1.5**
NORM				*e*S	**Sb**	**09 34 59.8**	**+0.2**
NORM				AMP		09 35 07.1	
	comp=Z,121nm,3.1s						
NOUC	**Port Laguerre**	**2.78**	**245**	*e*P	**Pb**	**09 34 26.4**	**-2.3**
NOUC				*e*S	**Sb**	**09 35 04.7**	**+2.3**
NOUC				AMP		09 35 10.4	
	comp=Z,66nm,5.1s						
STKA	**Stephens Creek**	**26.80**	**240**	P	**P**	**09 39 20.2**	**+2.3**
	comp=Z,2.6nm,0.8s,baz=85,slow=11,SNR=2.9						
STKA				LR	LR	09 49 36.9	
	comp=Z,48nm,18.9s,baz=26,slow=36						
WRA	**Warramunga Arr**	**32.47**	**265**	P	P	09 40 10.2	+1.9
	comp=Z,1.1nm,0.7s,baz=102,slow=7.9,SNR=8.1						
ASAR	**Alice Springs**	**32.55**	**259**	P	P	09 40 11.7	+2.6
	comp=Z,1.7nm,0.9s,baz=86,slow=8.8,SNR=16						
QSPA	**South Pole Qui**	**69.13**	**180**	P	P	09 44 44.0	+0.4
	comp=Z,1.4nm,0.7s,baz=74,slow=4.8,SNR=6.6						
GERES	**GERESS Array B**	**145.86**	**331**	PKPbc	**PKPab**	**09 53 17.3**	**0.0**
	comp=Z,0.3nm,0.5s,baz=19,slow=6.2,SNR=2.7						

IDC ***23*** *09:45:04.6±0.8, 11°.50N×141°.76E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.2/22, mbtmp4.2/14, MS3.6/12, Ms1 3.6/12, ms1mx3.3/38, Error ellipse: s-maj=27.9km s-min=16.3km az=90.0*
ISCJB ***23*** *09:45:06.7±0.6, 11°.45N±0°.08×141°.62E±0°.07, h27km, mb4.2/17, MS3.6/10, Error ellipse: s-maj=12.6km s-min=8.5km az=138.9*
NEIC ***23*** *09:45:10.9±1.8, 11°.48N×141°.69E, h46km±18km, mb4.3/3, Error ellipse: s-maj=16.9km s-min=9.9km az=93.0*

ISC 23 09:45:08.9±0.7, **11°.5N**±0°.1×**141°.63E**±0°.09, **h27km, n43,** σ0**s87**/41, **mb4.2**/17, **MS3.6**/10, **Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.80**	**56**	Pn	**Pn**	**09 46 06.3**	**+0.6**
GUMO				Sn	**Sn**	**09 46 49.8**	**+0.4**
GUMO	**Guam**	**3.80**	**56**	Pn	**Pn**	**09 46 06.3**	**+0.6**
	5.4nm,0.3s,baz=190,slow=11,SNR=4.3						
GUMO				Sn	**Sn**	**09 46 49.8**	**+0.4**
	10nm,0.3s,baz=138,slow=12,SNR=1.6						
GUMO				LR	LR	09 47 24.5	
	comp=Z,281nm,18.4s,baz=242,slow=38						
JOW	**Kunigami**	**19.79**	**322**	LR	LR	09 57 05.2	
	comp=Z,135nm,18.2s,baz=250,slow=36						
JNU	**Nakatsue**	**23.70**	**337**	LR	LR	09 58 51.8	
	comp=Z,131nm,18.1s,baz=258,slow=35						
MJAR	**Matsushiro Arr**	**25.15**	**354**	P	**P**	**09 50 31.2**	**-0.7**
MJAR	**Matsushiro Arr**	**25.15**	**354**	P	**P**	**09 50 31.2**	**-0.7**
	1.5nm,0.6s,baz=167,slow=11,SNR=4.6						
MJAR				LR	LR	09 58 18.7	
	comp=Z,103nm,18.5s,baz=295,slow=32						
KSRS	**Korea Array**	**28.65**	**337**	P	**P**	**09 51 03.5**	**+0.2**
	0.7nm,0.5s,baz=151,slow=8.6,SNR=3.6						
KSRS				LR	LR	10 00 15.5	
	comp=Z,83nm,21.6s,baz=16,slow=32						
KSAR	**Wonju Array Be**	**28.65**	**337**	P	**P**	**09 51 03.5**	**+0.1**
CTA	**Charters Tower**	**31.69**	**172**	LR	LR	10 04 12.3	
	comp=Z,141nm,18.4s,baz=53,slow=36						
WRAB	**Tennant Creek**	**32.02**	**193**	*e*P	**P**	**09 51 33.0**	**-0.3**
WRA	**Warramunga Arr**	**32.03**	**193**	P	**P**	**09 51 32.8**	**-0.6**
WRA	**Warramunga Arr**	**32.03**	**193**	P	**P**	**09 51 32.8**	**-0.6**
	2.5nm,0.8s,baz=13,slow=9.5,SNR=9.0						
FITZ	**Fitzroy Crossi**	**33.36**	**208**	LR	LR	10 05 46.3	
	comp=Z,51nm,18.5s,baz=15,slow=37						

USRK	**Ussuriysk Arra**	**33.65**	**347**	P	**P**	**09 51 47.7**	**+0.5**
	6.9nm,0.6s,baz=166,slow=7.9,SNR=31						
ASAR	**Alice Springs**	**35.73**	**192**	P	**P**	**09 52 05.7**	**+0.2**
ASAR	**Alice Springs**	**35.73**	**192**	P	**P**	**09 52 05.7**	**+0.2**
	1.0nm,0.7s,baz=16,slow=12,SNR=16						
CMAR	**Chiang Mai Arr**	**41.74**	**285**	P	**P**	**09 52 57.9**	**+1.8**
CMAR	**Chiang Mai Arr**	**41.74**	**285**	P	**P**	**09 52 57.9**	**+1.8**
	1.7nm,0.6s,baz=90,slow=6.0,SNR=6.2						
CMAR				LR	LR	10 10 44.7	
	comp=Z,38nm,18.6s,baz=50,slow=37						
STKA	**Stephens Creek**	**43.10**	**180**	LR	LR	10 12 34.9	
	comp=Z,127nm,18.4s,baz=25,slow=38						
PETK	**Petropavlovsk-**	**43.48**	**14**	P	**P**	**09 53 09.9**	**+0.1**
PETK	**Petropavlovsk-**	**43.48**	**14**	P	**P**	**09 53 09.9**	**+0.1**
	2.7nm,0.9s,baz=198,slow=9.1,SNR=3.5						
ULN	**Ulaanbaatar**	**46.40**	**328**	*e*P	**P**	**09 53 33.2**	**0.0**
	2.7nm,0.9s						
SONM	**Songino Array**	**46.72**	**328**	P	**P**	**09 53 36.8**	**+1.0**
SONM				PcP	**PcP**	**09 55 09.1**	**+0.1**
SONM	**Songino Array**	**46.72**	**328**	P	**P**	**09 53 36.8**	**+1.0**
	1.4nm,0.7s,baz=141,slow=7.2,SNR=9.2						
SONM				PcP	**PcP**	**09 55 09.1**	**+0.1**
	0.8nm,0.8s,baz=141,slow=2.4,SNR=3.5						
SONM				LR	LR	10 13 16.4	
	comp=Z,84nm,18.4s,baz=139,slow=36						
MKAR	**Makanchi Array**	**60.85**	**317**	P	**P**	**09 55 19.1**	**0.0**
MKAR	**Makanchi Array**	**60.85**	**317**	P	**P**	**09 55 19.1**	**0.0**
	2.1nm,0.9s,baz=100,slow=8.1,SNR=18						
ZALV	**Zalesovo Beam**	**61.53**	**326**	P	**P**	**09 55 22.6**	**-0.8**
ZALV	**Zalesovo Beam**	**61.53**	**326**	P	**P**	**09 55 22.7**	**-0.8**
	1.5nm,0.5s,baz=104,slow=6.6,SNR=9.8						
ZALV				LR	LR	10 24 08.9	
	comp=Z,62nm,19.0s,baz=62,slow=38						
KURK	**K

11nm,0.7s,baz=344,slow=10,SNR=50
ASAR Alice Springs 28.30 166 P P 10 15 48.2 -0.4
0.6nm,0.5s,baz=349,slow=7.5,SNR=28
STKA Stephens Creek 38.28 160 P P 10 17 16.4 +1.0
3.9nm,0.7s,baz=333,slow=6.8,SNR=11
ASAJ Asahikawa 42.31 17 LR LR 10 37 12.8
comp=Z,33nm,18.2s,baz=170,slow=39
SONM Songino Array 47.14 341 P P 10 18 27.2 -0.1
0.4nm,0.7s,baz=152,slow=9.6,SNR=2.6
MKAR Makanchi Array 57.47 325 P P 10 19 43.8 -0.2
0.4nm,0.5s,baz=122,slow=8.1,SNR=9.1

*CSEM **23** 10:11:15.0±0.1,41.63N×15.67E,h17km,MD2.0/3,Error ellipse: s-maj=2.3km s-min=0.7km az=170.0*
ROM 23 10:11:15.3±0.0,41.62N×15.70E,h10km,Md2.0/3,Ml1.6/1, Error ellipse: s-maj=0.3km s-min=0.1km az=162.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RGNG	**Rignano Grg**	**0.10**	**302**	Pg	Pg	10 11 18.4	+0.4
RGNG				Sg	Sg	10 11 20.6	+0.6
RGNG	**Rignano Grg**	**0.10**	**302**	Pg	Pg	10 11 18.4	+0.4
RGNG				Sg	Sg	10 11 20.6	+0.6
SGRT	**San Giovanni R**	**0.14**	**13**	Pg	Pg	10 11 19.0	+0.4
SGRT	132nm,0.4s			Sg	Sg	10 11 21.7	+0.7
SGRT	**San Giovanni R**	**0.14**	**13**	Pg	Pg	10 11 19.0	+0.4
SGRT	132nm,0.4s			Sg	Sg	10 11 21.7	+0.7
MSAG	**Monte S. Angel**	**0.18**	**59**	Pg	Pg	10 11 19.8	+0.5
MSAG				Sg	Sg	10 11 23.1	+1.0
MSAG	**Monte S. Angel**	**0.18**	**59**	Pg	Pg	10 11 19.8	+0.5
MSAG				Sg	Sg	10 11 23.1	+1.0
MS1	**Monte Sant'Ang**	**0.20**	**65**	*e*Pg	Pg	10 11 20.2	+0.6
MS1				*e*Sg	Sg	10 11 23.5	+0.9

ATH 23 10:11:26.6,33.41N×25.52E,h5km,MD3.8/4,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**1.47**	**6**	*e*PG	Pn	10 11 53.8	+0.1
LAST	**Lasithi**	**1.75**	**359**	*e*PN	Pg	10 12 00.2	-0.1
ZKR	**Zakros**	**1.80**	**19**	*e*PN	Pg	10 12 00.7	-0.4
NPS	**Neapolis**	**1.85**	**2**	*e*PN	Pb	10 12 01.2	+0.2
NPS				*e*SN	Sg	10 12 26.6	+0.4

*DDA **23** 10:27:38.9,39.46N×28.09E,h7km,MD2.8*
*ISCJB **23** 10:27:39.6±0.5,39.45N±0.03×28.19E±0.04,h0km,Error ellipse: s-maj=4.9km s-min=3.0km az=140.0*
*ISK **23** 10:27:39.1,39.43N×28.15E,h17km,MD2.3*
*CSEM **23** 10:27:39.5±0.3,39.46N×28.17E,h1km,MD2.3,Error ellipse: s-maj=6.5km s-min=4.1km az=48.0*
ISC 23 10:27:38.7±1.0,39.46N±0.03×28.16E±0.03,h0km,n24, σ0.65/42,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.28**	**311**	*e*PG	**Pg**	**10 27 45.6**	**+1.5**
BALB				*e*SG	**Sb**	**10 27 51.0**	**-0.9**
BALB	**Balikesir**	**0.28**	**311**	*e*Pg	**Pg**	**10 27 45.6**	**+1.5**
BALB				*e*Sg	**Sb**	**10 27 51.0**	**-0.9**
DURS	**Dursunbey**	**0.28**	**60**	*i* P	**Pg**	**10 27 44.9**	**+0.7**
DURS				*i* S	**Sb**	**10 27 51.2**	**-0.9**
DURS	**Dursunbey**	**0.28**	**60**	*i* P	**Pg**	**10 27 44.9**	**+0.7**
DURS				*i* S	**Sb**	**10 27 51.2**	**-0.9**
BALY	**Balya**	**0.50**	**304**	*i* P	**Pg**	**10 27 47.8**	**-0.6**
BALY				*i* S	**Sb**	**10 27 58.2**	**-0.2**
BALY	**Balya**	**0.50**	**304**	*i* P	**Pg**	**10 27 47.8**	**-0.6**
BALY				*i* S	**Sb**	**10 27 58.2**	**-0.2**
DEMI	**Demirci**	**0.60**	**133**	*i* P	**Pg**	**10 27 51.1**	**+0.9**
DEMI				*i* S	**Sb**	**10 28 01.0**	**-0.2**
DEMI	**Demirci**	**0.60**	**133**	*i* P	**Pg**	**10 27 51.1**	**+0.9**
DEMI				*i* S	**Sb**	**10 28 01.0**	**-0.2**
GONE	**Gonen-Balikesi**	**0.69**	**329**	*e*PG	**Pg**	**10 27 52.6**	**+0.6**
GONE				*e*SG	**Sb**	**10 28 04.3**	**+0.5**
GONE	**Gonen-Balikesi**	**0.69**	**329**	*e*Pg	**Pg**	**10 27 52.6**	**+0.6**
GONE				*e*Sg	**Sb**	**10 28 04.3**	**+0.5**
ORLT	**Orhaneli**	**0.82**	**44**	*e*PG	**Pb**	**10 27 56.0**	**+0.1**
ORLT	**Orhaneli**	**0.82**	**44**	*e*Pg	**Pb**	**10 27 56.0**	**+0.1**
TVSB	**Tavsanli**	**1.01**	**90**	*e*PG	**Pb**	**10 27 59.2**	**0.0**
TVSB	**Tavsanli**	**1.01**	**90**	*e*Pg	**Pb**	**10 27 59.2**	**0.0**
MANT	**Manisa**	**1.01**	**162**	*i* P	**Pb**	**10 27 59.2**	**-0.1**
MANT				*i* S	**Sb**	**10 28 12.9**	**-0.4**
MANT	**Manisa**	**1.01**	**162**	*i* P	**Pb**	**10 27 59.2**	**-0.1**
MANT				*i* S	**Sb**	**10 28 12.9**	**-0.4**
ULDT	**Uludag**	**1.02**	**48**	*i* P	**Pb**	**10 27 59.5**	**+0.1**
ULDT				*i* S	**Sg**	**10 28 10.7**	**-0.8**
ULDT	**Uludag**	**1.02**	**48**	*i* P	**Pb**	**10 27 59.5**	**+0.1**
ULDT				*i* S	**Sg**	**10 28 10.7**	**-0.8**
KULA	**Kula-Manisa**	**1.02**	**157**	*e*PG	**Pg**	**10 27 58.9**	**+0.6**
KULA				*e*SG	**Sb**	**10 28 13.0**	**-0.3**
KULA	**Kula-Manisa**	**1.02**	**157**	*e*Pg	**Pg**	**10 27 58.9**	**+0.6**
KULA				*e*Sg	**Sb**	**10 28 13.0**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.07**	**31**	*e*PN	**Pb**	**10 28 00.2**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.07**	**31**	*e*Pn	**Pb**	**10 28 00.2**	**+0.1**
GDZ	**Gediz**	**1.09**	**109**	*i* P	**Pg**	**10 27 59.6**	**-0.1**
GDZ				*i* S	**Sb**	**10 28 16.2**	**+0.7**
GDZ	**Gediz**	**1.09**	**109**	*i* P	**Pg**	**10 27 59.6**	**-0.1**
GDZ				*i* S	**Sb**	**10 28 16.2**	**+0.7**

IDC 23 10:30:23.5±0.9,3.69N×126.72E,h0km,mb3.9/8, mb1 4.1/8,mb1mx3.8/22,mbtmp3.9/8,Error ellipse: s-maj=72.1km s-min=17.2km az=73.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.68**	**183**	P	P	10 35 16.1	0.0
	0.8nm,0.3s,baz=13,slow=12,SNR=5.6						
WRA	**Warramunga Arr**	**24.65**	**163**	P	P	10 35 45.5	-0.5
	4.4nm,0.5s,baz=344,slow=9.9,SNR=42						
ASAR	**Alice Springs**	**28.08**	**166**	P	P	10 36 17.1	+0.1
	0.6nm,0.4s,baz=344,slow=12,SNR=29						
STKA	**Stephens Creek**	**38.10**	**159**	P	P	10 37 44.5	+0.2
	4.6nm,0.8s,baz=355,slow=5.2,SNR=7.4						
MKAR	**Makanchi Array**	**57.58**	**325**	P	P	10 40 14.5	-0.7
	0.2nm,0.3s,baz=119,slow=7.4,SNR=12						
ZALV	**Zalesovo Beam**	**60.62**	**333**	P	P	10 40 36.6	+0.6
	0.2nm,0.4s,baz=91,slow=6.2,SNR=2.5						
ILAR	**Eielson Array**	**85.14**	**25**	P	P	10 43 00.9	-0.4
	0.5nm,1.2s,baz=252,slow=2.6,SNR=2.9						
ARCES	**ARCESS Array B**	**90.48**	**340**	P	P	10 43 27.7	+0.8
	4.7nm,1.0s,baz=74,slow=6.7,SNR=2.6						

*IDC **23** 10:40:35.7±0.9,3.58N×126.31E,h0km,mb4.2/13, mb1 4.3/13,mb1mx4.3/20,mbtmp4.2/13,MS4.4/3, Ms1 4.4/3,ms1mx3.5/25,Error ellipse: s-maj=35.6km s-min=19.3km az=72.0*
*DJA **23** 10:41:14,2.23N×124.99E,h10km,MLv4.3/8*
NEIC 23 10:40:41.0±0.4,3.73N×126.59E,h35km,mb4.6/6,Error ellipse: s-maj=13.8km s-min=9.3km az=71.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**2.86**	**218**	P	Pn	10 41 27.8	+3.6
	559nm,0.7s,11μm						
TNTI	**Ternate**	**3.04**	**165**	P	Pn	10 41 14.0	-13
	119nm,0.6s,7μm						
KMSI	**Cibinong**	**4.08**	**220**	P	Pn	10 41 47.2	+6.4
	417nm,0.9s,7μm						
LBMI	**Labuha**	**4.43**	**168**	P	Pn	10 41 47.5	+1.7
MRSI	**Marisa**	**5.66**	**235**	P	Pn	10 42 07.0	+4.4
	124nm,0.6s,2μm						
LUWI	**Luwuk**	**6.08**	**219**	P	Pn	10 42 15.4	+6.9
KSM	**Kuching**	**16.41**	**263**	*e*P	P	10 44 30.5	-0.8
	16nm,0.6s						
YULB	**Yu-li**	**20.20**	**346**	*e*P	P	10 45 11.0	-1.9
WRA	**Warramunga Arr**	**24.73**	**162**	P	P	10 45 58.5	-0.8
WRA	**Warramunga Arr**	**24.73**	**162**	P	P	10 45 58.5	-0.8
	16nm,1.0s,baz=340,slow=11,SNR=4.3						
MBWA	**Marble Bar**	**25.63**	**195**	*e*P	P	10 46 07.7	+0.2
	28nm,1.0s						
CMAR	**Chiang Mai Arr**	**30.75**	**301**	P	P	10 46 52.3	-0.9
CMAR	**Chiang Mai Arr**	**30.75**	**301**	P	P	10 46 52.3	-0.9
	1.9nm,0.6s,baz=111,slow=6.6,SNR=10						
KSAR	**Wonju Array Be**	**33.57**	**2**	P	P	10 47 19.4	+1.6
KSRS	**Korea Array**	**33.59**	**2**	P	P	10 47 19.4	+1.5
	1.1nm,0.5s,baz=178,slow=7.1,SNR=5.8						
STKA	**Stephens Creek**	**38.18**	**159**	P	P	10 47 57.0	-0.3
STKA	**Stephens Creek**	**38.18**	**159**	P	P	10 47 57.0	-0.3
	4.8nm,0.6s,baz=348,slow=14,SNR=3.3						
USRK	**Ussuriysk Arra**	**40.59**	**6**	P	P	10 48 19.2	+2.1
	1.3nm,0.7s,baz=184,slow=7.2,SNR=6.1						
SONM	**Songino Array**	**47.25**	**342**	P	P	10 49 11.3	+0.5
SONM	**Songino Array**	**47.25**	**342**	P	P	10 49 11.3	+0.5
	1.1nm,0.7s,baz=165,slow=7.2,SNR=6.7						
PETK	**Petropavlovsk-**	**55.48**	**22**	P	P	10 50 14.0	+1.7
PETK	**Petropavlovsk-**	**55.48**	**22**	P	P	10 50 14.0	+1.7
	2.8nm,0.8s,baz=180,slow=1.3,SNR=4.5						
MKAR	**Makanchi Array**	**57.47**	**325**	P	P	10 50 26.3	-0.3
MKAR	**Makanchi Array**	**57.47**	**325**	P	P	10 50 26.3	-0.3
	1.8nm,0.4s,baz=117,slow=7.0,SNR=20						
AAK	**Ala-Archa**	**60.26**	**318**	*e*P	P	10 50 46.1	-0.1
ZALV	**Zalesovo Beam**	**60.52**	**333**	P	P	10 50 46.8	-0.8
ZALV	**Zalesovo Beam**	**60.52**	**333**	P	P	10 50 46.8	-0.8
	0.7nm,0.5s,baz=111,slow=6.5,SNR=5.7						
KURK	**Kurchatov**	**61.66**	**328**	*e*P	P	10 50 54.9	-0.5
	11nm,0.9s						
KKAR	**Karatay Array**	**63.13**	**317**	*e*P	P	10 51 05.8	+0.4
	4.8nm,0.8s						
AFI	**Afiamalu**	**63.58**	**107**	P	P	10 51 08.9	+0.1
BRVK	**Borovoye**	**67.31**	**327**	*e*P	P	10 51 32.4	+0.1
	7.5nm,0.9s						
ABKAR	**Akbulak array**	**72.06**	**321**	*e*P	P	10 52 01.5	0.0
	1.4nm,0.6s						
ATD	**Arta Tunnel**	**83.14**	**281**	LR	LR	11 24 42.0	
	comp=Z,559nm,21.0s,baz=22,slow=32						
BRTR	**Keskin Array B**	**89.91**	**310**	P	P	10 53 37.2	+0.2
BRTR	**Keskin Array B**	**89.91**	**310**	P	P	10 53 37.2	+0.2
	1.2nm,0.8s,baz=125,slow=4.9,SNR=7.9						
ARCES	**ARCESS Array B**	**90.40**	**340**	P	P	10 53 37.9	-0.5
ARCES	**ARCESS Array B**	**90.40**	**340**	P	P	10 53 37.9	-0.5
	1.6nm,0.6s,baz=81,slow=7.5,SNR=9.1						
AKASG	**Malin Array Be**	**91.80**	**321**	P	P	10 53 44.6	-0.7
AKASG	**Malin Array Be**	**91.80**	**321**	P	P	10 53 44.6	-0.7
	0.7nm,0.4s,baz=72,slow=4.6,SNR=4.0						
AKASG				LR	LR	11 35 50.0	
	comp=Z,102nm,18.2s,baz=135,slow=36						
NOA	**NORSAR Array B**	**98.72**	**334**	LR	LR	11 44 30.5	
	comp=Z,87nm,19.2s,baz=105,slow=39						
YKA	**Yellowknife Ar**	**99.56**	**24**	P	Pdif	10 54 21.0	+0.6
YKA	**Yellowknife Ar**	**99.56**	**24**	P	Pdif	10 54 21.0	+0.6
	0.1nm,0.6s,baz=294,slow=4.5,SNR=3.9						
TORD	**Torodi Ar. Bea**	**122.78**	**288**	PKP	PKPdf	10 59 34.3	0.0
TORD	**Torodi Ar. Bea**	**122.78**	**288**	PKP	PKPdf	10 59 34.3	0.0
	0.5nm,0.9s,baz=72,slow=1.9,SNR=3.0						

*IDC **23** 10:40:46.5±0.6,0.33S×132.80E,h0km,mb4.3/10, mb1 4.5/13,mb1mx4.3/24,mbtmp4.3/13,ML4.5/3,MS4.2/10, Ms1 4.2/10,ms1mx3.8/25,Error ellipse: s-maj=27.5km s-min=12.3km az=78.0*
*ISCJB **23** 10:40:49.2±0.5,0.34S±0.06×132.94E±0.05,h32km, mb4.3/12,MS4.3/8,Error ellipse: s-maj=8.9km s-min=7.2km az=31.5*
*DJA **23** 10:40:50,0.45S×133.02E,h10km,MLv5.1/8*
*NEIC **23** 10:40:51.6±0.5,0.42S×132.78E,h35km,mb4.6/4,Error ellipse: s-maj=13.7km s-min=8.6km az=61.0*
ISC 23 10:40:51.2±0.5,0.34S±0.07×132.77E±0.06,h32km,n70, σ1.972/63,mb4.3/12,MS4.3/8,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.60**	**251**	P	**Pn**	**10 41 17.3**	**0.0**
SWI	**Sorong**	**1.60**	**251**	P	**Pb**	**10 41 18.6**	**-1.6**
	8μm,0.6s,98μm126μm						
FAKI	**Fak Fak**	**2.61**	**192**	P	**Pn**	**10 41 31.9**	**+0.6**
BAKI	**Biak**	**3.44**	**104**	P	**Pn**	**10 41 39.8**	**-2.8**
BAKI	**Biak**	**3.44**	**104**	P	**Pn**	**10 41 40.4**	**-2.2**
	639nm,0.8s,20μm						
MSAI	**Masohi**	**4.86**	**232**	P	Pn	10 42 06.1	+3.8
MSAI	**Masohi**	**4.86**	**232**	P	Pn	10 42 05.9	+3.6
	137nm,0.7s,2μm						
BNDI	**Bandanaira**	**5.04**	**215**	P	**Pn**	**10 42 07.2**	**+2.5**
	1μm,1.7s,15μm5.1nm						
BNDI	**Bandanaira**	**5.04**	**215**	P	**Pn**	**10 42 07.1**	**+2.4**
	1μm,1.7s,15μm						
AAI	**Ambon**	**5.65**	**234**	P	**Pn**	**10 42 15.5**	**+2.4**
	550nm,1.2s,2.1nm						
NLAI	**Namlea**	**6.36**	**243**	P	**Pn**	**10 42 20.1**	**-2.7**
KMSI	**Cibinong**	**8.84**	**276**	P	Pn	10 43 02.2	+5.3
	833nm,1.0s						
SPSI	**Sidrap Palu**	**13.48**	**254**	P	**Pn**	**10 44 03.0**	**+2.5**
	30nm,2.4s,740nm						
BKSI	**Bulukumba**	**13.56**	**248**	P	**P**	**10 44 08.3**	**-1.9**
	34nm,1.3s,650nm						
KAPI	**Kappang**	**13.81**	**250**	Pn	**Pn**	**10 44 05.7**	**+0.8**
KAPI	**Kappang**	**13.81**	**250**	P	**Pn**	**10 44 05.6**	**+0.8**
	27nm,1.4s,538nm						
KAPI	**Kappang**	**13.81**	**250**	Pn	**Pn**	**10 44 05.7**	**+0.8**
	1.1nm,0.3s,baz=201,slow=12,SNR=1.8						
KAPI				LR	LR	10 49 39.4	
	comp=Z,383nm,20.5s,baz=214,slow=38						
COEN	**Coen**	**17.00**	**143**	*e*Pn	**Pn**	**10 44 45.5**	**-1.2**
	63nm,0.8s						
GUMO	**Guam**	**18.31**	**40**	LR	LR	10 51 21.1	
	comp=Z,514nm,18.3s,baz=286,slow=35						
FITZ	**Fitzroy Crossi**	**18.99**	**201**	P	**P**	**10 45 09.1**	**-1.2**
FITZ				S	Sn	10 48 29.7	-13
FITZ	**Fitzroy Crossi**	**18.99**	**201**	*e*P	**P**	**10 45 08.4**	**-1.9**
	21nm,0.6s						
FITZ				*e*S	Sn	10 48 29.3	-14
FITZ	**Fitzroy Crossi**	**18.99**	**201**	P	**P**	**10 45 09.1**	**-1.2**
	1.3nm,0.3s,baz=16,slow=13,SNR=28						
FITZ				S	Sn	10 48 29.7	-13
	0.3nm,0.3s,baz=272,slow=18,SNR=2.1						
WRAB	**Tennant Creek**	**19.53**	**176**	*e*P	**P**	**10 45 15.3**	**-0.9**
	54nm,1.1s						
WRA	**Warramunga Arr**	**19.54**	**176**	P	**P**	**10 45 15.7**	**-0.6**
WRA				S	S	10 48 44.8	-11
WRA	**Warramunga Arr**	**19.54**	**176**	P	**P**	**10 45 15.7**	**-0.6**
	2.3nm,0.3s,baz=354,slow=11,SNR=81						
WRA				S	S	10 48 44.8	-11
	1.1nm,0.3s,baz=358,slow=23,SNR=5.8						
KSM	**Kuching**	**22.54**	**275**	*e*P	**P**	**10 45 47.8**	**-1.0**
ASAR	**Alice Springs**	**23.21**	**177**	P	**P**	**10 45 54.5**	**-1.2**
ASAR				S	**S**	**10 50 10.8**	**+5.2**
ASAR	**Alice Springs**	**23.21**	**177**	P	**P**	**10 45 54.5**	**-1.2**
	43nm,0.9s,baz=355,slow=11,SNR=140						
ASAR				S	**S**	**10 50 10.8**	**+5.2**
	4.7nm,1.0s,baz=1.2,slow=23,SNR=5.3						
CTA	**Charters Tower**	**23.65**	**147**	P	**P**	**10 45 59.8**	**-0.1**
CTA	**Charters Tower**	**23.65**	**147**	*e*P	**P**	**10 45 59.1**	**-0.9**
	12nm,0.9s						
CTA	**Charters Tower**	**23.65**	**147**	P	**P**	**10 45 59.8**	**-0.1**
	9.9nm,0.7s,baz=328,slow=11,SNR=7.2						
CTA				LR	LR	10 56 29.2	
	comp=Z,1μm,19.9s,baz=321,slow=40						
CTAO	**Charters Tower**	**23.65**	**147**	*e*P	**P**	**10 45 58.7**	**-1.2**
	18nm,0.9s						
BJII	**Banjarnegara**	**24.02**	**253**	P	**P**	**10 46 05.3**	**+1.7**
	49nm,2.4s						
JOW	**Kunigami**	**27.36**	**351**	LR	LR	10 55 46.6	
	comp=Z,697nm,19.6s,baz=145,slow=33						
STKA	**Stephens Creek**	**32.45**	**166**	P	**P**	**10 47 16.9**	**-1.9**
STKA	**Stephens Creek**	**32.45**	**166**	*e*P	**P**	**10 47 16.7**	**-2.0**
	6.0nm,0.5s						
STKA	**Stephens Creek**	**32.45**	**166**	P	**P**	**10 47 16.9**	**-1.9**
	13nm,0.7s,baz=340,slow=9.0,SNR=29						
STKA				LR	LR	11 01 54.0	
	comp=Z,822nm,19.4s,baz=345,slow=39						
JNU	**Nakatsue**	**33.33**	**357**	LR	LR	11 00 07.5	
	comp=Z,321nm,18.4s,baz=337,slow=35						
ARMA	**Armidale**	**34.87**	**151**	*e*P	**P**	**10 47 39.8**	**-0.1**
NWAO	**Narrogin (SRO)**	**35.56**	**203**	P	**P**	**10 47 45.8**	**+0.1**
NWAO	**Narrogin (SRO)**	**35.56**	**203**	P	**P**	**10 47 45.8**	**+0.1**
	13nm,1.1s,baz=22,slow=19,SNR=2.4						
KSRS	**Korea Array**	**37.88**	**354**	LR	LR	11 01 58.6	
	comp=Z,250nm,19.7s,baz=177,slow=34						
CMAR	**Chiang Mai Arr**	**38.13**	**301**	P	**P**	**10 48 08.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**38.13**	**301**	P	**P**	**10 48 08.7**	**+0.9**
	1.7nm,0.8s,baz=120,slow=6.0,SNR=7.1						
SHL	**Shillong**	**47.14**	**306**	*e*PKP	**P**	**10 49 22.0**	**+0.9**
SONM	**Songino Array**	**53.19**	**338**	P	**P**	**10 50 08.2**	**+1.7**
SONM	**Songino Array**	**53.19**	**338**	P	**P**	**10 50 08.2**	**+1.7**
	2.1nm,1.0s,baz=141,slow=7.3,SNR=4.0						
SONM				LR	LR	11 12 27.1	
	comp=Z,112nm,19.1s,baz=224,slow=36						
MKAR	**Makanchi Array**	**64.35**	**324**	P	**P**	**10 51 22.6**	**-1.4**
MKAR	**Makanchi Array**	**64.35**	**324**	P	**P**	**10 51 22.6**	**-1.4**
	1.0nm,0.7s,baz=136,slow=3.0,SNR=4.5						
ZALV	**Zalesovo Beam**	**66.98**	**332**	P	**P**	**10 51 40.0**	**-0.7**
ZALV	**Zalesovo Beam**	**66.98**	**332**	P	**P**	**10 51 40.0**	**-0.7**
	0.7nm,0.5s,baz=127,slow=7.4,SNR=3.0						
PPT	**Papeete**	**78.12**	**108**	LR	LR	11 23 03.2	
	comp=Z,312nm,18.2s,baz=316,slow=32						
ABKAR	**Akbulak array**	**79.11**	**320**	P	**P**	**10 52 52.8**	**+0.1**
	2.1nm,0.7s						
ILAR	**Eielson Array**	**86.19**	**25**	P	**P**	**10 53 28.7**	**-0.5**
ILAR	**Eielson Array**	**86.19**	**25**	P	**P**	**10 53 28.7**	**-0.5**
	0.7nm,0.8s,baz=271,slow=4.4,SNR=6.9						
QSPA	**South Pole Qui**	**89.59**	**180**	P	**P**	**10 53 45.8**	**+0.3**
QSPA	**South Pole Qui**	**89.59**	**180**	P	**P**	**10 53 45.8**	**+0.3**
	3.1nm,1.2s,baz=328,slow=3.3,SNR=5.2						
FINES	**FINESS Array B**	**98.24**	**332**	LR	LR	11 39 00.7	
	comp=Z,176nm,19.9s,baz=317,slow=36						
YKA	**Yellowknife Ar**	**100.59**	**26**	P	**Pdif**	**10 54 34.4**	**-1.3**
YKA	**Yellowknife Ar**	**100.59**	**26**	P	**Pdif**	**10 54 34.4**	**-1.3**
	0.1nm,0.5s,baz=298,slow=5.5,SNR=2.6						
TORD	**Torodi Ar. Bea**	**129.90**	**287**	PKP	**PKPdf**	**11 00 00.7**	**+2.0**
TORD	**Torodi Ar. Bea**	**129.90**	**287**	PKP	**PKPdf**	**11 00 00.7**	**+2.0**
	0.5nm,0.8s,baz=51,slow=1.1,SNR=2.5						
CFAA	**Coronel Fontan**	**142.50**	**150**	PKP	**PKPdf**	**11 00 20.1**	**-1.6**
CFAA	**Coronel Fontan**	**142.50**	**150**	PKP	**PKPdf**	**11 00 20.1**	**-1.6**
	0.1nm,0.4s,baz=135,slow=5.7,SNR=1.7						
ATAH	**Atahualpa**	**148.03**	**104**	PKPbc	**PKPbc**	**11 00 36.3**	**+1.0**
ATAH	**Atahualpa**	**148.03**	**104**	PKPbc	**PKPbc**	**11 00 36.3**	**+1.0**
	3.7nm,0.7s,baz=320,slow=7.9,SNR=2.4						
CPUP	**Villa Florida**	**151.75**	**161**	PKPbc	**PKPbc**	**11 00 43.9**	**+0.5**
CPUP	**Villa Florida**	**151.75**	**161**	PKPbc	**PKPbc**	**11 00 43.9**	**+0.5**
	1.0nm,0.5s,baz=218,slow=7.0,SNR=5.1						
LPAZ	**La Paz**	**153.57**	**130**	PKPab	**PKPab**	**11 01 02.9**	**+2.0**
LPAZ	**La Paz**	**153.57**	**130**	PKPab	**PKPab**	**11 01 02.9**	**+2.0**
	2.5nm,0.8s,baz=193,slow=3.4,SNR=8.7						

IDC 23 10:57:43.9±2.4,3.57N×126.80E,h0km,mb3.2/3, mb1 3.4/3,mb1mx3.2/21,mbtmp3.2/3,Error ellipse: s-maj=196.7km s-min=28.1km az=66.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.51**	**163**	P	P	11 03 04.5	-0.8
	0.2nm,0.4s,baz=343,slow=11,SNR=8.2						
ASAR	**Alice Springs**	**27.94**	**166**	P	P	11 03 37.3	+1.1
	0.1nm,0.3s,baz=342,slow=9.7,SNR=4.3						
MKAR	**Makanchi Array**	**57.72**	**325**	P	P	11 07 36.3	-0.3
	0.1nm,0.4s,baz=124,slow=7.5,SNR=4.1						

PRE 23 10:59:05.4±0.7,26.39S×27.61E,h2km,ML2.0,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPM	**east rand prop**	**0.57**	**85**	*e*P	Pg	10 59 16.0	-0.6
ERPM				*e*S	Sg	10 59 25.1	+0.9
ERPM				AML	AML	10 59 34.2	
	comp=Z,16nm,0.9s						
PRYS	**Parys**	**0.58**	**202**	*e*P	Pg	10 59 16.1	-0.6
PRYS				*e*S	Sg	10 59 24.7	+0.4
PRYS				AML	AML	10 59 28.4	
	comp=Z,61nm,0.7s						
SLR	**Silverton**	**0.89**	**43**	*e*P	Pg	10 59 22.7	-0.1
SLR				*e*S	Sg	10 59 35.1	+0.6
SLR				AML	AML	10 59 42.8	
	comp=Z,22nm,0.4s						
SEK	**Senekal**	**1.93**	**180**	*e*P	Pn	10 59 40.2	+0.8
SEK				*e*S	Sb	11 00 05.3	-0.9
SEK				AML	AML	11 00 06.8	
	comp=Z,22nm,0.3s						

*ISCJB **23** 10:59:42.5±0.9,40.87N±0.06×30.36E±0.06,h4km±8km, Error ellipse: s-maj=10.9km s-min=5.5km az=33.0*
*CSEM **23** 10:59:42.5,40.85N×30.35E,h6km,MD2.9,After ISK*
*ISK **23** 10:59:42.5,40.85N×30.35E,h6km,MD2.9*
ISC 23 10:59:42.6±1.2,40.85N±0.04×30.35E±0.03,h14km±10km, n32,σ0.945/36,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPNC	**Sapanca-Adapaz**	**0.17**	**192**	*e*PG	**Pg**	**10 59 46.6**	**0.0**
SPNC	**Sapanca-Adapaz**	**0.17**	**192**	*e*Pg	**Pg**	**10 59 46.6**	**0.0**
GULT	**Gulveren**	**0.43**	**164**	*e*PG	**Pb**	**10 59 51.5**	**-0.5**
GULT				*e*SG	**Sb**	**10 59 58.2**	**-0.2**
GULT	**Gulveren**

ellipse: s-maj=13.6km s-min=7.2km az=312.0

ISC 23 11:10:57.4±0.3,27°52N±0'03,55°46E±0'03,h15km±1km, h15km:pP-P,n661,σ1s31/718,mb4.8/159,MS4.2/31, 19C-23D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.96**	**94**	*e*Pg	**Pn**	**11 11 16.9**	**+0.5**
IBND				*e*Sg	**Sn**	**11 11 31.4**	**+1.6**
IBND				*e*		11 12 08.2	
	comp=Z,87μm,0.4s						
IBND	**Bandar-abas**	**0.96**	**94**	*e*Pg	**Pn**	**11 11 16.9**	**+0.5**
IBND				*e*Sg	**Sn**	**11 11 31.4**	**+1.6**
BANOM	**Banah**	**1.76**	**154**	P	**Pb**	**11 11 29.8**	**+0.4**
	SNR=784						
BANOM	**Banah**	**1.76**	**154**	P	**Pb**	**11 11 29.8**	**+0.4**
	SNR=784						
BANOM				Sn	**Sg**	**11 11 53.7**	**-0.3**
GHIR	**Ghir-Karzin**	**2.32**	**290**	*e*Pn	**Pg**	**11 11 41.7**	**-0.2**
GHIR				AML	AML	11 12 30.0	
	comp=N,5μm,0.4s						
GHIR				AML	AML	11 12 31.2	
	comp=E,5μm,0.7s						
NAZ	**Nazwa, Dubai**	**2.53**	**176**	P	**Pb**	**11 11 41.9**	**-0.5**
	SNR=22						
NAZ	**Nazwa, Dubai**	**2.53**	**176**	Pn	**Pb**	**11 11 41.7**	**-0.8**
KRBR	**Kerman**	**2.71**	**25**	*e*Pn	**Pn**	**11 11 42.4**	**+1.7**
KRBR				*e*Sg	**Sb**	**11 12 18.6**	**-0.3**
KRBR				AML	AML	11 12 34.8	
	comp=N,2μm,0.7s						
KRBR				AML	AML	11 12 35.3	
	comp=E,3μm,0.6s						
KRBR	**Kerman**	**2.71**	**25**	*e*Pn	**Pn**	**11 11 42.4**	**+1.7**
HATD	**Hatta, Dubai**	**2.75**	**167**	P	**Pb**	**11 11 44.3**	**-2.0**
	SNR=184						
HATD	**Hatta, Dubai**	**2.75**	**167**	Pn	**Pn**	**11 11 43.8**	**+2.8**
HATD	**Hatta, Dubai**	**2.75**	**167**	P	**Pb**	**11 11 44.3**	**-2.0**
	SNR=184						
FAQ	**Al Faqa, Dubai**	**2.76**	**177**	Pn	**Pb**	**11 11 44.6**	**-1.9**
ISRV	**Sarvestan**	**2.78**	**313**	*e*Pn	**Pb**	**11 11 45.1**	**-1.8**
ISRV				*e*		11 12 54.8	
	comp=Z,75μm,0.5s						
ISRV	**Sarvestan**	**2.78**	**313**	*e*Pn	**Pb**	**11 11 45.1**	**-1.8**
ASHO	**Ashiyiah**	**2.87**	**169**	P	**Pb**	**11 11 45.9**	**-2.5**
	SNR=420						
ASHO	**Ashiyiah**	**2.87**	**169**	P	**Pb**	**11 11 45.9**	**-2.5**
	SNR=420						
ASUD	**Al Ashush, Dub**	**2.88**	**182**	P	**Pb**	**11 11 47.0**	**-1.5**
	SNR=31						
ASUD	**Al Ashush, Dub**	**2.88**	**182**	P	**Pb**	**11 11 47.0**	**-1.5**
	SNR=31						
IPAR	**Pars**	**3.14**	**318**	*e*Pn	Pn	11 11 49.6	+3.0
IPAR				*e*Sg	**Sg**	**11 12 42.1**	**+3.8**
IPAR				*e*		11 13 00.1	
	comp=Z,28μm,0.4s						
IPAR	**Pars**	**3.14**	**318**	*e*Pn	Pn	11 11 49.6	+3.0
SHI	**Shiraz**	**3.34**	**310**	*e*		11 13 09.0	
	comp=Z,18μm,0.4s						
IMEH	**Mehriz**	**3.93**	**349**	*e*Pn	**Pn**	**11 11 59.5**	**+2.1**
IMEH				*e*		11 13 09.4	
	comp=Z,9μm,0.3s						
IMEH	**Mehriz**	**3.93**	**349**	*e*Pn	**Pn**	**11 11 59.5**	**+2.1**
IBAF	**Bafgh**	**4.06**	**1**	*e*Pn	**Pn**	**11 12 00.4**	**+1.3**
IBAF	**Bafgh**	**4.06**	**1**	*e*Pn	**Pn**	**11 12 00.4**	**+1.3**
HOQ	**Hoqain**	**4.26**	**156**	P	**Pn**	**11 12 02.3**	**+0.5**
	SNR=42						
HOQ	**Hoqain**	**4.26**	**156**	P	**Pn**	**11 12 02.3**	**+0.5**
	SNR=42						
ARQ	**Araqi**	**4.27**	**167**	P	**Pn**	**11 12 04.5**	**+2.5**
	SNR=58						
ARQ	**Araqi**	**4.27**	**167**	P	**Pn**	**11 12 04.5**	**+2.5**
	SNR=58						
ICHK	**Chekchek**	**4.80**	**349**	*e*Pn	**Pn**	**11 12 11.3**	**+1.9**
ICHK				*e*		11 13 54.4	
	comp=Z,6μm,0.5s						
ICHK	**Chekchek**	**4.80**	**349**	*e*Pn	**Pn**	**11 12 11.3**	**+1.9**
BSY	**Bisya**	**5.01**	**161**	P	**Pn**	**11 12 14.9**	**+2.9**
	SNR=40						
SMDO	**Samad**	**5.02**	**152**	P	**Pn**	**11 12 14.4**	**+2.1**
	SNR=147						
SMDO	**Samad**	**5.02**	**152**	P	**Pn**	**11 12 14.4**	**+2.1**
	SNR=147						
BSYO	**Bisya**	**5.03**	**161**	P	**Pn**	**11 12 14.9**	**+2.5**
	SNR=40						
JMDO	**Jabal Madar**	**5.66**	**154**	P	**Pn**	**11 12 23.7**	**+2.7**
	SNR=36						
JMDO	**Jabal Madar**	**5.66**	**154**	P	**Pn**	**11 12 23.7**	**+2.7**
	SNR=36						
IGAR	**Gharneh**	**5.70**	**330**	*e*Pn	**Pn**	**11 12 23.8**	**+2.0**
IGAR				*e*		11 12 25.8	
	comp=Z,4μm,0.2s						
IKOO	**Kooshah**	**5.78**	**31**	*e*Pn	**Pn**	**11 12 23.9**	**+1.1**
IKOO	**Kooshah**	**5.78**	**31**	*e*Pn	**Pn**	**11 12 23.9**	**+1.1**
WBK	**Wadi Bani Khal**	**5.83**	**146**	P	**Pn**	**11 12 25.3**	**+1.9**
	SNR=181						
WBK	**Wadi Bani Khal**	**5.83**	**146**	P	**Pn**	**11 12 25.3**	**+1.9**
	SNR=181						
IZEF	**Zefreh**	**6.00**	**334**	*e*Pn	**Pn**	**11 12 26.6**	**+0.6**
IZEF	**Zefreh**	**6.00**	**334**	*e*Pn	**Pn**	**11 12 26.6**	**+0.6**
ITEG	**Tejag**	**6.07**	**27**	*e*Pn	**Pn**	**11 12 28.3**	**+1.5**
ITEG	**Tejag**	**6.07**	**27**	*e*Pn	**Pn**	**11 12 28.3**	**+1.5**
TABS	**Tabas**	**6.28**	**13**	*e*Pn	**Pn**	**11 12 31.6**	**+2.0**
TABS	**Tabas**	**6.28**	**13**	*e*Pn	**Pn**	**11 12 31.6**	**+2.0**
IDAH	**Dahanechah**	**6.45**	**35**	*e*Pn	**Pn**	**11 12 33.9**	**+1.8**
IDAH				*e*		11 12 58.0	
	comp=Z,1μm,0.2s						
IDAH	**Dahanechah**	**6.45**	**35**	*e*Pn	**Pn**	**11 12 33.9**	**+1.8**
IPIR	**Pirpir**	**6.49**	**324**	*e*Pn	**Pn**	**11 12 34.9**	**+2.2**
IPIR				*e*		11 13 48.0	
	comp=Z,5μm,0.4s						
IPIR	**Pirpir**	**6.49**	**324**	*e*Pn	**Pn**	**11 12 34.9**	**+2.2**
IKLH	**Kolahrood**	**6.68**	**331**	*e*Pn	**Pn**	**11 12 36.7**	**+1.4**
IKLH				*e*		11 14 06.1	
	comp=Z,2μm,0.4s						
IKLH	**Kolahrood**	**6.68**	**331**	*e*Pn	**Pn**	**11 12 36.7**	**+1.4**
IMON	**Monand**	**6.72**	**32**	*e*Pn	**Pn**	**11 12 37.6**	**+1.8**
IMON				*e*		11 14 47.4	
	comp=E,5μm,0.3s						
IMON	**Monand**	**6.72**	**32**	*e*Pn	**Pn**	**11 12 37.6**	**+1.8**
QRN	**Al-Qurain**	**6.77**	**282**	*e*P	**Pn**	**11 12 36.9**	**+0.7**
QRN				AML	AML	11 13 51.8	
	comp=Z,86nm,0.5s						
KBD	**Kabd**	**7.04**	**285**	*e*P	**Pn**	**11 12 40.5**	**+0.6**
KBD				AML	AML	11 13 58.9	
	comp=Z,37nm,0.6s						
KBD	**Kabd**	**7.04**	**285**	*e*P	**Pn**	**11 12 40.5**	**+0.6**
RDF	**Al-Radifah**	**7.12**	**283**	*e*P	**Pn**	**11 12 41.5**	**+0.5**
RDF				AML	AML	11 14 02.3	
	comp=Z,114nm,0.8s						
RDF	**Al-Radifah**	**7.12**	**283**	*e*P	**Pn**	**11 12 41.5**	**+0.5**
ISFB	**Sefidab**	**7.35**	**339**	*e*Pn	**Pn**	**11 12 45.7**	**+1.4**
ISFB				*e*		11 15 12.5	
	comp=Z,871nm,0.3s						
ISFB	**Sefidab**	**7.35**	**339**	*e*Pn	**Pn**	**11 12 45.7**	**+1.4**
SHGR	**Shooshtar-Gavs**	**7.37**	**310**	*e*Pn	Pn	11 12 50.0	+5.5
NAY	**Al-Naaiem**	**7.44**	**285**	*e*P	**Pn**	**11 12 45.7**	**+0.3**
NAY				AML	AML	11 14 14.1	
	comp=Z,96nm,0.6s						
NAY	**Al-Naaiem**	**7.44**	**285**	*e*P	**Pn**	**11 12 45.7**	**+0.3**
MIB	**Mutribah**	**7.49**	**290**	*e*P	**Pn**	**11 12 47.1**	**+1.0**
MIB				AML	AML	11 14 10.6	
	comp=Z,118nm,0.6s						
MIB	**Mutribah**	**7.49**	**290**	*e*P	**Pn**	**11 12 47.1**	**+1.0**
IANJ	**Anjilo**	**8.03**	**351**	*e*Pn	**Pn**	**11 12 55.5**	**+1.7**
IANJ				*e*		11 13 30.1	
	comp=Z,514nm,0.3s						
IANJ	**Anjilo**	**8.03**	**351**	*e*Pn	**Pn**	**11 12 55.5**	**+1.7**
ISHM	**Shahmirzad**	**8.47**	**348**	*e*Pn	**Pn**	**11 13 01.6**	**+1.8**
ISHM				*e*		11 13 28.8	
	comp=Z,582nm,0.3s						
ISHM	**Shahmirzad**	**8.47**	**348**	*e*Pn	**Pn**	**11 13 01.6**	**+1.8**
IDMV	**Damavand**	**8.55**	**341**	*e*Pn	**Pn**	**11 13 02.4**	**+1.5**
IDMV				*e*		11 16 06.1	
	comp=Z,1μm,0.7s						
IDMV	**Damavand**	**8.55**	**341**	*e*Pn	**Pn**	**11 13 02.4**	**+1.5**
IR3	**Iran Long-Peri**	**8.79**	**336**	*e*Pn	**Pn**	**11 13 05.1**	**+1.1**
IR3	**Iran Long-Peri**	**8.79**	**336**	*e*Pn	**Pn**	**11 13 05.1**	**+1.1**
IKIA	**Kiasar**	**8.79**	**351**	*e*		11 13 14.7	
	comp=Z,614nm,0.5s						
IKIA				*e*Pn	**Pn**	**11 13 06.2**	**+2.0**
IALA	**Alasht**	**8.83**	**346**	*e*		11 13 17.8	
	comp=Z,598nm,0.3s						
IALA				*e*Pn	**Pn**	**11 13 06.5**	**+1.7**
IPRN	**Peran**	**9.09**	**344**	*e*Pn	**Pn**	**11 13 10.1**	**+1.9**
IPRN				*e*		11 14 03.4	
	comp=Z,695nm,0.3s						
IRAZ	**Razeghan**	**9.17**	**330**	*e*Pn	**Pn**	**11 13 09.6**	**+0.3**
IRAZ				*e*		11 15 11.1	
	comp=Z,577nm,0.3s						
IRAZ	**Razeghan**	**9.17**	**330**	*e*Pn	**Pn**	**11 13 09.6**	**+0.3**
ISRO	**Mashad**	**9.40**	**20**	*e*Pn	**Pn**	**11 13 14.0**	**+1.5**
ISRO	**Mashad**	**9.40**	**20**	*e*Pn	**Pn**	**11 13 14.0**	**+1.5**
IMYA	**Miami**	**9.64**	**23**	*e*Pn	**Pn**	**11 13 16.9**	**+1.1**
IMYA				*e*		11 16 39.5	
	comp=Z,494nm,0.6s						
IMYA	**Miami**	**9.64**	**23**	*e*Pn	**Pn**	**11 13 16.9**	**+1.1**
ISFR	**Sfrayin**	**9.75**	**12**	*e*Pn	**Pn**	**11 13 18.7**	**+1.4**
ISFR				*e*		11 16 55.5	
	comp=Z,563nm,0.6s						
ISFR	**Sfrayin**	**9.75**	**12**	*e*Pn	**Pn**	**11 13 18.7**	**+1.4**
RAYN	**Ar Rayn**	**9.83**	**248**	Pn	**Pn**	**11 13 17.2**	**-1.1**
	comp=Z,245nm,0.3s,SNR=12						
IGZV	**Ghazvin**	**9.90**	**335**	*e*Pn	**Pn**	**11 13 20.3**	**+1.0**
IGZV	**Ghazvin**	**9.90**	**335**	*e*Pn	**Pn**	**11 13 20.3**	**+1.0**
RBK	**Rabkut**	**10.03**	**187**	P	**Pn**	**11 13 21.5**	**+0.4**
	SNR=30						
RBK	**Rabkut**	**10.03**	**187**	P	**Pn**	**11 13 21.5**	**+0.4**
	SNR=30						
ABTO	**Aybut**	**10.31**	**192**	P	**Pn**	**11 13 25.1**	**+0.2**
	SNR=196						
ABTO	**Aybut**	**10.31**	**192**	P	**Pn**	**11 13 25.1**	**+0.2**
	SNR=196						
BHD	**Baghdad**	**11.15**	**304**	*ex*	Pn	11 13 32.0	-4.2
GNI	**Garni**	**15.41**	**328**	Pn	**P**	**11 14 37.6**	**-1.4**
GNI	**Garni**	**15.41**	**328**	Pn	**P**	**11 14 37.6**	**-1.4**
	comp=Z,2.6nm,0.3s,baz=180,slow=20,SNR=9.0						
GNI	**Garni**	**15.41**	**328**	P	**P**	**11 14 37.6**	**-1.4**
	comp=Z,3.0nm,0.3s						
DGRG	**David-gareji**	**16.18**	**332**	P	**P**	**11 14 50.4**	**+3.0**
DHBB	**Dhamar BB**	**16.50**	**221**	*e*P	**Pn**	**11 14 46.9**	**-1.8**
LBOS		**16.59**	**217**	*e*P	**Pn**	**11 14 49.4**	**-0.4**
TBLG	**Delisi**	**16.68**	**331**	P	**P**	**11 14 56.2**	**+3.3**
TBLG	**Delisi**	**16.68**	**331**	P	**P**	**11 14 56.2**	**+3.3**
ASF	**Jabal al Asfar**	**16.75**	**291**	Pn	**Pn**	**11 14 51.8**	**+0.1**
ASF				Sn	Sn	11 17 47.0	-11
ASF	**Jabal al Asfar**	**16.75**	**291**	Pn	**Pn**	**11 14 51.8**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=328,slow=7.3,SNR=7.5						
ASF				Sn	Sn	11 17 47.0	-11
	comp=Z,0.5nm,0.3s,baz=162,slow=10,SNR=2.2						
ASF				LR	LR	11 22 58.4	
	comp=Z,231nm,18.5s,baz=15,slow=43						
TRBA	**At Turbah**	**17.73**	**219**	*e*P	**P**	**11 15 04.7**	**-0.2**
ZEI	**Tsey**	**17.89**	**331**	*e*P	**P**	**11 15 09.2**	**+2.7**
ZEI				pmax	pmax		
	comp=Z,98nm,1.4s						
ONI	**Oni**	**17.93**	**330**	P	P	11 15 12.4	+5.6
KHET	**Khetri**	**18.01**	**83**	*e*PKP	**Pn**	**11 15 06.4**	**-0.9**
KHET				AMb	AMB	11 15 09.5	
	comp=Z,27nm,0.8s						
EIL	**Elat**	**18.14**	**282**	P	**Pn**	**11 15 07.0**	**-1.8**
EIL				S	S	11 18 46.8	+10
EIL	**Elat**	**18.14**	**282**	P	**Pn**	**11 15 07.0**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=63,slow=9.0,SNR=3.4						
EIL				S	S	11 18 46.8	+10
	comp=Z,0.3nm,0.3s,baz=51,slow=14,SNR=2.2						
EIL				LR	LR	11 22 37.2	
	comp=Z,143nm,20.4s,baz=279,slow=39						
EIL	**Elat**	**18.14**	**282**	P	**Pn**	**11 15 07.0**	**-1.8**
MMAI	**Mount Meron Ar**	**18.16**	**292**	P	**Pn**	**11 15 07.0**	**-2.1**
MMAI				S	**Sn**	**11 18 28.4**	**-3.2**
MMAI	**Mount Meron Ar**	**18.16**	**292**	P	**Pn**	**11 15 07.0**	**-2.1**
	comp=Z,2.7nm,0.3s,baz=106,slow=14,SNR=4.6						
MMAI				S	**Sn**	**11 18 28.4**	**-3.2**
	comp=Z,2.1nm,0.3s,baz=102,slow=25,SNR=2.8						
MMAI	**Mount Meron Ar**	**18.16**	**292**	P	**Pn**	**11 15 07.0**	**-2.1**
AKCD	**Akcadag**	**18.20**	**311**	*i* P	**P**	**11 15 10.0**	**+0.2**
KUDL	**Kundal**	**18.61**	**83**	*e*PKP	**Pn**	**11 15 15.0**	**+0.4**
KUDL				AMb	AMB	11 15 17.1	
	comp=Z,33nm,0.9s						
KKR	**Kurukshetra**	**18.89**	**78**	*e*PKP	**P**	**11 15 17.9**	**+0.5**
KKR				AMb	AMB	11 15 19.8	
	comp=Z,116nm,0.3s						
ANDN	**Andirin**	**18.95**	**307**	*i* P	Pn	11 15 24.5	+5.7
BHGR	**Bahadurgarh**	**18.99**	**81**	*ex*	**Pn**	**11 15 15.4**	**-3.8**
KBZ	**Khabaz**	**19.09**	**331**	P	**Pn**	**11 15 20.9**	**+0.6**
KBZ	**Khabaz**	**19.09**	**331**	P	**Pn**	**11 15 20.9**	**+0.6**
KBZ	**Khabaz**	**19.09**	**331**	P	**Pn**	**11 15 20.9**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=134,slow=8.6,SNR=15						
KBZ	**Khabaz**	**19.09**	**331**	P	**Pn**	**11 15 20.9**	**+0.6**
POO	**Poona**	**19.13**	**114**	*e*PKP	**Pn**	**11 15 21.0**	**+0.1**
AYAN	**Aya Nagar**	**19.16**	**82**	*e*PKP	**Pn**	**11 15 22.1**	**+0.8**
AYAN				AMb	AMB	11 15 23.0	
	comp=Z,42nm,0.8s						
NDI	**New Delhi**	**19.23**	**81**	*e*PKP	**Pn**	**11 15 22.0**	**-0.1**
SMLA	**Simla**	**19.26**	**74**	*i* P	**Pn**	**11 15 22.9**	**+0.4**
KIV	**Kislovodsk**	**19.36**	**331**	*e*P	**Pn**	**11 15 24.7**	**+1.0**
KIV				*e*S	**S**	**11 19 03.0**	**+1.8**
KIV				pmax	pmax		
	comp=Z,82nm,1.0s						
KIV	**Kislovodsk**	**19.36**	**331**	P	**Pn**	**11 15 24.8**	**+1.2**
	SNR=16						
KIV	**Kislovodsk**	**19.36**	**331**	*e*P	**Pn**	**11 15 24.7**	**+1.0**
	comp=Z,82nm,1.0s						
ASOR	**Ausora**	**19.72**	**81**	*ex*	Pn	11 15 20.0	-7.9
KK31	**Karatay Array**	**19.77**	**34**	*e*P	**P**	**11 15 26.3**	**-0.6**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KK31	**Karatay Array**	**19.77**	**34**	*e*P	**P**	**11 15 26.3**	**-0.6**
	comp=Z,7.0nm,0.5s						
KKAR	**Karatay Array**	**19.77**	**34**	*e*P	**P**	**11 15 27.1**	**+0.2**
KKAR				pmax	pmax		
	comp=Z,11nm,0.7s						
KKAR	**Karatay Array**	**19.77**	**34**	*e*P	**P**	**11 15 27.1**	**+0.2**
	comp=Z,11nm,0.7s						
KKAR	**Karatay Array**	**19.77**	**34**	*e*P	**P**	**11 15 27.1**	**+0.2**
	comp=Z,11nm,0.7s						
ATD	**Arta Tunnel**	**19.83**	**219**	P	**P**	**11 15 28.4**	**+0.6**
ATD	**Arta Tunnel**	**19.83**	**219**	P	**P**	**11 15 28.4**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=111,slow=22,SNR=5.4						
ATD	**Arta Tunnel**	**19.83**	**219**	P	**P**	**11 15 28.4**	**+0.6**
AGRA	**Agra**	**19.97**	**86**	*e*PKP	**Pn**	**11 15 30.4**	**-0.5**
AGRA				AMb	AMB	11 15 31.5	
	comp=Z,58nm,0.2s						
DDI	**Dehra Dun**	**19.97**	**77**	*e*PKP	**P**	**11 15 30.0**	**+0.7**
SOC	**Sochi**	**20.46**	**326**	*e*P	**P**	**11 15 33.4**	**-1.0**
SOC				*e*		11 15 51.8	
SOC				*e*S	Sn	11 19 24.7	-2.2
SOC				*e*SS	**SnSn**	**11 19 43.6**	**+2.0**
SOC				*e*SSS	SSS	11 19 57.2	
SOC				pmax	pmax		
	comp=Z,94nm,1.2s						
SOC				MLR	MLR		
	comp=Z,274nm,13.0s						
SOC	**Sochi**	**20.46**	**326**	*e*P	**P**	**11 15 33.4**	**-1.0**
	comp=Z,94nm,1.2s						
KSH	**Kashi**	**20.82**	**50**	P	P	11 15 32.3	-6.2
KSH				pP	Pn	11 15 36.4	-4.6
KSH				sP	sP	11 15 39.3	-5.5
KSH				PP	**PnPn**	**11 15 52.0**	**-4.8**
KSH				S	S	11 19 11.9	-19
KSH				SS	Sn	11 19 42.1	+6.2
KSH				PcP	**PcP**	**11 19 46.3**	**-0.7**
KSH				ScP	**ScP**	**11 23 19.8**	**-3.4**
KSH				PcS	**PcS**	**11 23 22.3**	**-2.7**
KSH				ScS	**ScS**	**11 27 01.6**	**-5.1**
KSH				pmax	pmax		
	comp=Z,18nm,0.6s						
KSH				LR	LR		
	comp=N,300nm,8.5s						
KSH				LR	LR		
	comp=E,540nm,11.0s						
KSH				LR	LR		
	comp=Z,440nm,11.2s						
AML	**Almayashu**	**20.83**	**41**	P	**P**	**11 15 38.9**	**0.0**
	SNR=42						
AML	**Almayashu**	**20.83**	**41**	P	**P**	**11 15 38.3**	**-0.6**
EKS2	**Erkin-Say**	**21.21**	**40**	P	**P**	**11 15 43.4**	**+0.7**
	SNR=34						
CDAG	**Cicekdag**	**21.26**	**310**	*i* P	**P**	**11 15 45.0**	**+1.8**
CTKT	**Corum**	**21.48**	**313**	*i* P	**P**	**11 15 44.0**	**-1.6**
AAK	**Ala-Archa**	**21.61**	**41**	*d* iP	**P**	**11 15 47.7**	**+0.7**
AAK				pmax	pmax		
	comp=Z,101nm,1.7s						
AAK				MLR	MLR		
	comp=Z,855nm,24.0s						
AAK	**Ala-Archa**	**21.61**	**41**	P	**P**	**11 15 47.6**	**+0.7**
AAK	**Ala-Archa**	**21.61**	**41**	P	**P**	**11 15 47.6**	**+0.6**
	SNR=23						
AAK	**Ala-Archa**	**21.61**	**41**	P	**P**	**11 15 47.5**	**+0.6**
	SNR=13						
AAK	**Ala-Archa**	**21.61**	**41**	P	**P**	**11 15 47.6**	**+0.6**
	comp=Z,7.4nm,0.7s,baz=267,slow=11,SNR=40						
AAK				LR	LR	11 24 27.1	
	comp=Z,400nm,19.8s,baz=223,slow=37						
AAK	**Ala-Archa**	**21.61**	**41**	*i* P	**P**	**11 15 47.7**	**+0.6**
	comp=Z,855nm,24.0s						
KZA	**Kyzart**	**21.72**	**43**	P	**P**	**11 15 49.8**	**+1.3**
	SNR=21						
FRU	**Bishkek**	**21.80**	**41**	*e*P	**P**	**11 15 52.0**	**+3.1**
FRU				*e*		11 16 16.0	
FRU	**Bishkek**	**21.80**	**41**	*e*P	**P**	**11 15 52.0**	**+3.1**
BRTR	**Keskin Array B**	**21.81**	**310**	P	**P**	**11 15 49.1**	**0.0**
BRTR				ScP	**ScP**	**11 23 23.8**	**-1.9**
BRTR	**Keskin Array B**	**21.81**	**310**	P	**P**	**11 15 49.1**	**0.0**
	comp=Z,12nm,0.9s,baz=130,slow=13,SNR=26						
BRTR				ScP	**ScP**	**11 23 23.8**	**-1.9**
	comp=Z,0.7nm,0.7s,baz=116,slow=3.4,SNR=3.5						
BRTR	**Keskin Array B**	**21.81**	**310**	P	**P**	**11 15 49.1**	**0.0**
	comp=Z,1.0nm,0.7s						
KBK	**Karagaybulak**	**21.89**	**41**	P	**P**	**11 15 51.0**	**+1.0**
	SNR=9.6						
AB31	**Akbulak array**	**21.98**	**8**	P	**P**	**11 15 50.2**	**-0.5**
AB31				pmax	pmax		
	comp=Z,86nm,1.1s						
AB31	**Akbulak array**	**21.98**	**8**	P	**P**	**11 15 50.2**	**-0.5**
	comp=Z,86nm,1.1s						
CHMS	**Chumysh**	**21.98**	**40**	P	**P**	**11 15 53.8**	**+3.0**
	SNR=6.8						
USP	**Ospenovka**	**22.01**	**39**	P	**P**	**11 15 54.0**	**+2.9**
	SNR=14						
ULHL	**Ulahol**	**22.43**	**44**	P	**P**	**11 15 56.5**	**+0.7**
	SNR=12						
TKM2	**Tokmak 2**	**22.43**	**42**	*i* P	**P**	**11 15 55.9**	**+0.1**
TKM2	**Tokmak 2**	**22.43**	**42**	P	**P**	**11 15 55.9**	**+0.1**
	SNR=16						
TKM2	**Tokmak 2**	**22.43**	**42**	*i* P	**P**	**11 15 55.9**	**+0.1**
ANN	**Anapa**	**22.48**	**325**	*e*P	**P**	**11 15 55.9**	**-0.2**
ANN				*e*		11 16 18.0	
ANN				*e*S	**S**	**11 20 03.9**	**+1.6**
ANN				*e*SS	**SnSn**	**11 20 39.7**	**+8.6**
ANN				pmax	pmax		
	comp=Z,30nm,1.6s						
ANN	**Anapa**	**22.48**	**325**	*e*P	**P**	**11 15 55.9**	**-0.2**
	comp=Z,30nm,1.6s						
AKTK	**Aktyubinsk**	**22.97**	**4**	P	**P**	**11 16 01.7**	**+0.5**
	comp=Z,45nm,0.9s						
AKTO	**Aktyubinsk**	**22.97**	**4**	P	**P**	**11 16 01.7**	**+0.5**
AKTO				S	**S**	**11 20 10.4**	**-0.5**
AKTO				pmax	pmax		
	comp=Z,45nm,0.9s						
AKTO				smax	smax		
	comp=N,2.0nm,0.7s						
AKTO	**Aktyubinsk**	**22.97**	**4**	P	**P**	**11 16 01.7**	**+0.5**
AKTO				S	**S**	**11 20 10.3**	**-0.5**
AKTO	**Aktyubinsk**	**22.97**	**4**	P	**P**	**11 16 01.7**	**+0.5**
	comp=N,45nm,0.8s,baz=187,slow=11,SNR=68						
AKTO				S	**S**	**11 20 10.3**	**-0.5**
	comp=N,1.6nm,0.7s,baz=109,slow=11,SNR=5.0						
AKTO	**Aktyubinsk**	**22.97**	**4**	P	**P**	**11 16 01.7**	**+0.5**
HYB	**Hyderabad**	**23.55**	**110**	*i* P	**P**	**11 16 09.0**	**+1.6**
PYUN	**Piuthan**	**24.34**	**82**	*e*P	**P**	**11 16 16.6**	**+1.6**
	comp=N,92nm,0.9s						
PYUN	**Piuthan**	**24.34**	**82**	*e*P	**P**	**11 16 16.6**	**+1.6**
	comp=N,92nm,0.9s						
PYUN	**Piuthan**	**24.34**	**82**	*e*P	**P**	**11 16 16.6**	**+1.6**
	comp=N,92nm,0.9s						
KOLN	**Koldanda**	**24.91**	**83**	*e*P	**P**	**11 16 21.5**	**+1.3**
	comp=N,54nm,1.1s						
KOLN	**Koldanda**	**24.91**	**83**	*e*P	**P**	**11 16 21.5**	**+1.3**
	comp=N,54nm,1.1s						
KOLN	**Koldanda**	**24.91**	**83**	*e*P	**P**	**11 16 21.5**	**+1.3**
	comp=N,54nm,1.1s						
DANN	**Dangsing**	**25.00**	**81**	*e*P	**P**	**11 16 23.0**	**+1.9**
	comp=N,184nm,1.0s						
DANN	**Dangsing**	**25.00**	**81**	*e*P	**P**	**11 16 23.0**	**+1.9**
	comp=N,184nm,1.0s						
DANN	**Dangsing**	**25.00**	**81**	*e*P	**P**	**11 16 23.0**	**+1.9**
	comp=N,184nm,1.0s						
VRHR	**Novokhopersk**	**25.78**	**340**	*e*P	**P**	**11 16 28.0**	**+0.5**
VRHR				pmax	pmax		
	comp=Z,30nm,0.6s						
VRHR				pmax	pmax

comp=Z,759nm,20.0s
BVAR Borovoye Array 27.79 19 P **P** **11 16 45.5 -0.2**
BVAR pmax pmax
comp=Z,16nm,0.7s
BVAR MLR MLR
comp=Z,637nm,18.9s
BVAR Borovoye Array 27.79 19 P **P** **11 16 45.5 -0.2**
BVAR Borovoye Array 27.79 19 P **P** **11 16 45.5 -0.2**
comp=Z,16nm,0.7s,baz=199,slow=8.8,SNR=63
BVAR LR LR 11 29 30.4
comp=Z,637nm,18.9s,baz=220,slow=40
BVAR Borovoye Array 27.79 19 P **P** **11 16 45.5 -0.2**
comp=Z,637nm,18.9s
CFR Carcaliu 28.00 316⇑ *iP* **P** **11 16 47.4 -0.2**
CFR Carcaliu 28.00 316⇑ *iP* **P** **11 16 47.4 -0.2**
ODAN Odare 28.37 84 *eP* **P** **11 16 52.3 +0.9**
comp=Z,54nm,1.1s
ODAN Odare 28.37 84 *eP* **P** **11 16 52.3 +0.9**
comp=Z,54nm,1.1s
ODAN Odare 28.37 84 *eP* **P** **11 16 52.3 +0.9**
comp=Z,54nm,1.1s
MK31 Makanchi Array 28.55 40 P **P** **11 16 52.5 0.0**
MK31 pmax pmax
comp=Z,4.0nm,0.6s
MK31 Makanchi Array 28.55 40 P **P** **11 16 52.5 0.0**
comp=Z,4.0nm,0.6s
MKAR Makanchi Array 28.55 40 P **P** **11 16 52.6 +0.1**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR MLR MLR
comp=Z,270nm,18.1s
MKAR Makanchi Array 28.55 40 P **P** **11 16 52.6 +0.1**
MKAR Makanchi Array 28.55 40 P **P** **11 16 52.6 +0.1**
comp=Z,5.4nm,0.7s,baz=227,slow=8.1,SNR=76
MKAR LR LR 11 30 13.3
comp=Z,270nm,18.1s,baz=241,slow=40
MKAR Makanchi Array 28.55 40 P **P** **11 16 52.6 +0.1**
comp=Z,270nm,18.1s
TAPN Taplejung 28.59 83 *eP* **P** **11 16 54.1 +0.7**
comp=Z,25nm,0.9s
TAPN Taplejung 28.59 83 *eP* **P** **11 16 54.1 +0.7**
comp=Z,25nm,0.9s
TAPN Taplejung 28.59 83 *eP* **P** **11 16 54.1 +0.7**
comp=Z,25nm,0.9s
ARU Arti 28.98 4*d iP* **P** **11 16 56.9 +0.7**
ARU 11 17 43.7
ARU S **S** **11 21 49.4 +3.0**
ARU SS **SnSn** **11 23 09.0 -0.6**
ARU pmax pmax
comp=Z,11nm,1.0s
ARU Arti 28.98 4 *i* P **P** **11 16 56.9 +0.7**
comp=Z,11nm,1.0s
KURBB Kurchatov Arra 28.98 31 P **P** **11 16 56.6 +0.3**
KURBB LR LR 11 30 12.7
comp=Z,371nm,19.9s,baz=225,slow=40
KURK Kurchatov 29.09 31⇓ *eP* **P** **11 16 57.8 +0.6**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURK MLR MLR
comp=Z,597nm,19.0s
KURK Kurchatov 29.09 31 P **P** **11 16 56.6 -0.6**
KURK Kurchatov 29.09 31 P **P** **11 16 57.9 +0.7**
SNR=6.0
KURK Kurchatov 29.09 31 *eP* **P** **11 16 57.8 +0.6**
comp=Z,597nm,19.0s
VRI Vrincioaia 29.20 316⇑ *iP* **P** **11 16 59.3 +1.0**
VRI Vrincioaia 29.20 316⇑ *iP* **P** **11 16 59.3 +1.0**
MLR Muntele Rosu 29.50 315 P **P** **11 17 01.7 +0.5**
MLR Muntele Rosu 29.50 315 P **P** **11 17 01.7 +0.5**
comp=Z,0.9nm,0.5s,baz=48,slow=4.1,SNR=7.0
MLR Muntele Rosu 29.50 315 P **P** **11 17 01.7 +0.5**
comp=Z,1.0nm,0.5s
SVE Sverdlovsk 29.52 6⇓ *eP* **P** **11 17 00.5 -0.5**
SVE pmax pmax
comp=Z,20nm,1.2s
SVE Sverdlovsk 29.52 6 *eP* **P** **11 17 00.5 -0.5**
comp=Z,20nm,1.2s
TESR 29.56 318⇓ *iP* **P** **11 17 02.0 +0.5**
TESR 29.56 318⇓ *iP* **P** **11 17 02.0 +0.5**
VOIR 30.04 315⇑ *iP* **P** **11 17 06.9 +1.0**
VOIR 30.04 315⇑ *iP* **P** **11 17 06.9 +1.0**
AKASG Malin Array Be 30.54 326 P **P** **11 17 09.2 -0.8**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKASG Malin Array Be 30.54 326 P **P** **11 17 09.2 -0.8**
AKASG Malin Array Be 30.54 326 P **P** **11 17 09.2 -0.8**
comp=Z,5.9nm,0.6s,baz=134,slow=8.7,SNR=21
AKASG Malin Array Be 30.54 326 P **P** **11 17 09.2 -0.8**
comp=Z,6.0nm,0.6s
WMQ Urumqi 30.59 49 *eP* **P** **11 17 13.4 +2.7**
WMQ pP **pP** **11 17 18.0 +2.7**
WMQ sP **sP** **11 17 20.8 +3.6**
WMQ PP **PnPn** **11 18 13.0 +3.1**
WMQ *eS* **S** **11 22 13.0 +0.9**
WMQ SS **ScP** **11 23 55.0 +3.8**
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,190nm,4.2s
WMQ LR LR
comp=N,950nm,13.4s
WMQ LR LR
comp=E,570nm,15.7s
WMQ LR LR
comp=Z,770nm,25.8s
OBN Obninsk 30.80 339⇑ *eP* **P** **11 17 12.8 +0.5**
OBN *e* 11 20 10.9
OBN *eS* **S** **11 22 16.6 +1.6**
OBN *eSS* **SnSn** **11 23 55.9 +2.0**
OBN pmax pmax
comp=Z,51nm,1.2s
OBN MLR MLR
comp=Z,100nm,16.0s
OBN Obninsk 30.80 339 *eP* **P** **11 17 12.8 +0.5**
comp=Z,51nm,1.2s
BURAR Bucovina Array 30.96 319⇓ *iP* **P** **11 17 14.6 +0.6**
BURAR Bucovina Array 30.96 319⇓ *iP* **P** **11 17 14.6 +0.6**
GZR Gura Zlata 31.48 313⇓ *iP* **P** **11 17 18.5 0.0**
GZR Gura Zlata 31.48 313⇓ *iP* **P** **11 17 18.5 0.0**
SOKR Solikamsk 32.05 1*d iP* **P** **11 17 24.3 +1.1**
SOKR pmax pmax
comp=Z,40nm,1.0s
SOKR MLR MLR
comp=Z,320nm,22.0s
SOKR Solikamsk 32.05 1 *i* P **P** **11 17 24.3 +1.1**
comp=Z,320nm,22.0s
DRGR 32.09 316⇓ *iP* **P** **11 17 25.2 +1.3**
DRGR 32.09 316⇓ *iP* **P** **11 17 25.2 +1.3**
BZS Buzias 32.32 313⇑ *iP* **P** **11 17 26.4 +0.6**
BZS Buzias 32.32 313⇑ *iP* **P** **11 17 26.4 +0.6**
SHL Shillong 32.57 85 *e*PKP **P** **11 17 29.5 +1.0**
TRPA Tarpa 32.79 318⇑ *iP* **P** **11 17 30.6 +0.7**
TRPA Tarpa 32.79 318⇑ *iP* **P** **11 17 30.6 +0.7**
UZH Uzhgorod 33.16 318 *eP* **P** **11 17 32.2 -1.0**
UZH *e* 11 17 38.6
UZH Uzhgorod 33.16 318 *eP* **P** **11 17 32.2 -1.0**
KOLS Kolonicke sedl 33.32 319 *eP* **P** **11 17 35.7 +1.2**
KOLS pmax pmax
comp=Z,21nm,1.1s
KOLS Kolonicke sedl 33.32 319 *eP* **P** **11 17 35.7 +1.2**
KOLS Kolonicke sedl 33.32 319 *eP* **P** **11 17 35.7 +1.2**
comp=Z,21nm,1.1s
KMBO Kilima Mbogo 33.43 215 *eP* **P** **11 17 38.9 +2.8**
comp=Z,15nm,1.0s
CRVS Cervenica-Dubn 33.78 318 *eP* **P** **11 17 39.5 +0.9**
CRVS pmax pmax
comp=Z,13nm,1.3s
CRVS Cervenica-Dubn 33.78 318 *eP* **P** **11 17 39.5 +0.9**
CRVS Cervenica-Dubn 33.78 318 *eP* **P** **11 17 39.5 +0.9**
comp=Z,13nm,1.3s
NVS Novosibirsk 33.96 29 *eP* **P** **11 17 38.6 -1.4**
NVS *eS* **S** **11 23 00.9 -3.3**
NVS pmax pmax
comp=N,5.0nm,1.2s
NVS pmax pmax
comp=Z,14nm,1.2s
NVS smax smax
comp=N,11nm,1.5s
NVS Novosibirsk 33.96 29 *eP* **P** **11 17 38.6 -1.4**
comp=N,11nm,1.5s
ZALV Zalesovo Beam 34.08 31 P **P** **11 17 40.7 -0.4**
ZALV S **S** **11 23 04.2 -2.0**
ZALV pmax pmax
comp=Z,14nm,0.6s
ZALV smax smax
comp=N,1.0nm,0.7s
ZALV MLR MLR
comp=Z,218nm,19.3s
ZALV Zalesovo Beam 34.08 31 P **P** **11 17 40.6 -0.4**
ZALV S **S** **11 23 04.2 -2.0**
ZALV Zalesovo Beam 34.08 31 P **P** **11 17 40.6 -0.4**
comp=Z,14nm,0.6s,baz=238,slow=9.2,SNR=93
ZALV S **S** **11 23 04.2 -2.0**
comp=Z,1.2nm,0.7s,baz=229,slow=15,SNR=3.9
ZALV LR LR 11 33 50.0
comp=Z,218nm,19.2s,baz=74,slow=40
NACGM Naroch 34.39 331 *e* P 11 17 40.0 -3.7
PKSM Moragy 34.47 313⇑ *iP* **P** **11 17 45.1 +0.6**
PKSM Moragy 34.47 313⇑ *iP* **P** **11 17 45.1 +0.6**
IIGN Ignalina 34.93 331 *eP* **P** **11 17 49.2 +0.8**
IIGN AMB AMB 11 17 51.8
comp=Z,16nm,0.9s
IIGN Ignalina 34.93 331 *eP* **P** **11 17 49.2 +0.8**
IIGN AMB AMB 11 17 51.8
comp=Z,16nm,0.9s
IIGN Ignalina 34.93 331 *eP* **P** **11 17 49.2 +0.8**
comp=Z,16nm,0.9s,SNR=26
CUC Castrocucco 34.95 301 *eP* **P** **11 17 48.2 -0.7**
comp=Z,51nm,1.5s
CUC Castrocucco 34.95 301 *eP* **P** **11 17 48.2 -0.7**
comp=Z,51nm,1.5s
ISAL Salakas 35.11 331 *eP* **P** **11 17 50.7 +0.7**
ISAL AMB AMB 11 17 54.2
comp=Z,13nm,1.4s
ISAL Salakas 35.11 331 *eP* **P** **11 17 50.7 +0.7**
ISAL AMB AMB 11 17 54.2
comp=Z,13nm,1.4s
ISAL Salakas 35.11 331 *eP* **P** **11 17 50.7 +0.7**
comp=Z,13nm,1.4s,SNR=26
IZAR Zarasai 35.18 331 *eP* **P** **11 17 51.3 +0.8**
IZAR AMB AMB 11 17 53.9
comp=Z,13nm,1.1s
IZAR Zarasai 35.18 331 *eP* **P** **11 17 51.3 +0.8**
IZAR AMB AMB 11 17 53.9
comp=Z,13nm,1.1s
IZAR Zarasai 35.18 331 *eP* **P** **11 17 51.3 +0.8**
comp=Z,13nm,1.1s,SNR=26
VYHS Vyhne 35.18 316 *eP* **P** **11 17 50.8 +0.1**
VYHS pmax pmax
comp=Z,8.0nm,1.3s
VYHS Vyhne 35.18 316 *eP* **P** **11 17 50.8 +0.1**
VYHS Vyhne 35.18 316 *eP* **P** **11 17 50.8 +0.1**
comp=Z,8.0nm,1.3s
LIKS Likavka 35.24 317 *eP* **P** **11 17 51.7 +0.5**
LIKS Likavka 35.24 317 *eP* **P** **11 17 51.7 +0.5**
LIKS Likavka 35.24 317 *eP* **P** **11 17 51.7 +0.5**
OJC Ojcow 35.34 320 *eP* **P** **11 17 51.1 -0.9**
OJC Ojcow 35.34 320 *eP* **P** **11 17 51.9 -0.1**
OJC Ojcow 35.34 320 *eP* **P** **11 17 52.1 +0.1**
comp=Z,30nm,1.3s
OJC Ojcow 35.34 320 *eP* **P** **11 17 51.9 -0.1**
KOGS Kog 36.11 312 *eP* **P** **11 17 59.1 +0.4**
KOGS Kog 36.11 312 *eP* **P** **11 17 59.1 +0.4**
OKC Ostrava-Krasne 36.14 318 *eP* **P** **11 17 58.7 -0.2**
OKC Ostrava-Krasne 36.14 318 *eP* **P** **11 17 58.7 -0.2**
OKC Ostrava-Krasne 36.14 318 *eP* **P** **11 17 58.7 -0.2**
MORC Moravsky Berou 36.47 318 *eP* **P** **11 18 01.4 -0.4**
MORC pmax pmax
comp=Z,49nm,1.7s
MORC Moravsky Berou 36.47 318 *eP* **P** **11 18 01.4 -0.4**
comp=Z,49nm,1.7s
MORC Moravsky Berou 36.47 318⇑ *iP* **P** **11 18 01.9 +0.1**
MORC Moravsky Berou 36.47 318 *eP* **P** **11 18 01.4 -0.4**
comp=Z,49nm,1.7s
BOJS Bojanci 36.51 310 *i* P **P** **11 18 02.1 0.0**
BOJS Bojanci 36.51 310 *i* P **P** **11 18 02.1 0.0**
VSU Vasula 36.84 335 *i* P **P** **11 18 04.8 +0.1**
VSU pmax pmax
comp=Z,17nm,0.6s
VSU MLR MLR
comp=Z,211nm,16.0s
VSU Vasula 36.84 335 *i* P **P** **11 18 04.8 +0.1**
comp=Z,211nm,16.0s
VRAC Vranov 36.86 317 P **P** **11 18 05.2 +0.1**
VRAC Vranov 36.86 317⇑ *iP* **P** **11 18 05.4 +0.3**
VRAC Vranov 36.86 317 P **P** **11 18 05.2 +0.1**
comp=Z,9.1nm,0.6s,baz=106,slow=8.8,SNR=8.1
VRAC Vranov 36.86 317 P **P** **11 18 05.2 +0.1**
comp=Z,9.0nm,0.6s
DPC Dobruska-Polom 37.42 318 *eP* **P** **11 18 09.4 -0.4**
DPC Dobruska-Polom 37.42 318 *eP* **P** **11 18 09.5 -0.4**
comp=Z,12nm,0.7s
DPC Dobruska-Polom 37.42 318 *eP* **P** **11 18 09.4 -0.4**
DPC Dobruska-Polom 37.42 318 *eP* **P** **11 18 09.5 -0.4**
comp=Z,12nm,0.7s
KSP Ksiaz 37.63 319 *eP* **P** **11 18 11.4 -0.1**
KSP Ksiaz 37.63 319 *eP* **P** **11 18 11.4 -0.1**
KSP Ksiaz 37.63 319 *eP* **P** **11 18 11.3 -0.3**
KSP Ksiaz 37.63 319 *eP* **P** **11 18 11.3 -0.3**
UPC Upice 37.66 318 *eP* **P** **11 18 11.8 -0.1**
UPC Upice 37.66 318 *eP* **P** **11 18 11.8 -0.1**
UPC Upice 37.66 318 *eP* **P** **11 18 11.8 -0.1**
MOA Molln 37.83 314⇑ *iP* **P** **11 18 13.3 0.0**
comp=Z,9.7nm,0.8s
MOA Molln 37.83 314 P **P** **11 18 13.3 0.0**
comp=Z,9.7nm,0.8s
KBA Koelnbreinsper 38.21 312⇓ *iP* **P** **11 18 16.2 -0.5**
comp=Z,9.5nm,0.8s
KBA Koelnbreinsper 38.21 312 P **P** **11 18 16.2 -0.5**
comp=Z,9.5nm,0.8s
PRU Pruhonice 38.35 317 *eP* **P** **11 18 17.2 -0.5**
PRU Pruhonice 38.35 317 *eP* **P** **11 18 17.2 -0.5**
PRU Pruhonice 38.35 317 *eP* **P** **11 18 17.2 -0.5**
GEC2 GERESS Array S 38.49 315 *eP* **P** **11 18 18.5 -0.5**
comp=Z,15nm,1.5s
GEC2 GERESS Array S 38.49 315 *eP* **P** **11 18 18.5 -0.5**
GEC2 pmax pmax
comp=Z,15nm,1.5s
GEC2 GERESS Array S 38.49 315 *eP* **P** **11 18 18.5 -0.5**
comp=Z,15nm,1.5s
GERES GERESS Array B 38.49 315 P **P** **11 18 17.8 -1.2**
GERES GERESS Array B 38.49 315 P **P** **11 18 17.8 -1.2**
comp=Z,1.9nm,0.7s,baz=123,slow=8.6,SNR=11
GERES GERESS Array B 38.49 315 P **P** **11 18 17.8 -1.2**
comp=Z,2.0nm,0.7s
GTA Gaotai 38.50 60 *eP* **P** **11 18 20.3 +1.0**
GTA pP **pP** **11 18 24.8 +0.8**
GTA sP **sP** **11 18 27.8 +1.9**
GTA S **S** **11 24 14.9 +0.4**
GTA sS **sS** **11 24 21.5 -0.7**
GTA SS **SnSn** **11 26 53.1 -8.1**
GTA pmax pmax
comp=Z,18nm,0.8s
GTA pmax pmax
comp=Z,94nm,5.9s
GTA LR LR
comp=N,190nm,15.4s
GTA LR LR
comp=E,180nm,14.5s
GTA LR LR
comp=Z,230nm,15.0s
PVCC Panska Ves 38.53 318 *eP* **P** **11 18 18.1 -1.0**
PVCC Panska Ves 38.53 318 *eP* **P** **11 18 18.1 -1.0**
PVCC Panska Ves 38.53 318 *eP* **P** **11 18 18.1 -1.0**
KHC Kasperske Hory 38.66 315 *eP* **P** **11 18 19.8 -0.5**
KHC pmax pmax
comp=Z,29nm,1.3s
KHC Kasperske Hory 38.66 315 *eP* **P** **11 18 19.8 -0.5**
comp=Z,29nm,1.3s
KHC Kasperske Hory 38.66 315 *eP* **P** **11 18 19.9 -0.4**
KHC Kasperske Hory 38.66 315 *eP* **P** **11 18 19.8 -0.5**
comp=Z,29nm,1.3s
ABTA Abfaltersbach 38.67 311⇓ *iP* **P** **11 18 20.3 -0.2**
comp=Z,10nm,1.1s
ABTA Abfaltersbach 38.67 311 P **P** **11 18 20.3 -0.2**
comp=Z,10nm,1.1s
RJOB Jochberg 38.75 313 *eP* **P** **11 18 21.2 +0.1**
comp=Z,50nm,2.0s
JOF Joensuu 38.78 343 *eP* **P** **11 18 20.9 -0.2**
JOF pmax pmax
comp=Z,2.0nm,0.3s
JOF Joensuu 38.78 343 *ep* **P** **11 18 20.9 -0.2**
comp=Z,2.0nm,0.3s
JOF Joensuu 38.78 343 *eP* **P** **11 18 20.9 -0.2**
comp=Z,2.0nm,0.3s
BRG Berggiesshubel 39.02 318 *eP* **P** **11 18 23.0 -0.3**
comp=Z,6.4nm,0.9s
BRG Berggiesshubel 39.02 318 *eP* **P** **11 18 22.8 -0.5**
comp=Z,32nm,1.7s
BRG Berggiesshubel 39.02 318 *eP* **P** **11 18 23.0 -0.3**
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG Berggiesshubel 39.02 318 *eP* **P** **11 18 23.0 -0.3**
comp=Z,6.0nm,0.9s
WET Wettzell 39.10 315 *eP* **P** **11 18 23.3 -0.7**
comp=Z,17nm,1.6s
WET Wettzell 39.10 315 *eP* **P** **11 18 23.3 -0.7**
WET pmax pmax
comp=Z,17nm,1.6s
WET Wettzell 39.10 315 *eP* **P** **11 18 23.3 -0.7**
comp=Z,17nm,1.6s
FINES FINESS Array B 39.20 338 P **P** **11 18 24.4 -0.2**
FINES FINESS Array B 39.20 338 P **P** **11 18 24.4 -0.2**
comp=Z,6.5nm,0.7s,baz=133,slow=8.2,SNR=14
FINES FINESS Array B 39.20 338 P **P** **11 18 24.4 -0.2**
comp=Z,7.0nm,0.7s
WTTA Wattenberg 39.38 312⇑ *iP* **P** **11 18 26.0 -0.6**
comp=Z,17nm,0.8s
WTTA Wattenberg 39.38 312 P **P** **11 18 26.0 -0.6**
comp=Z,17nm,0.8s
ROTZ Rotzenmuhle 39.71 316 *eP* **P** **11 18 29.0 0.0**
CLL Collm 39.73 318 *eP* **P** **11 18 29.4 +0.2**
comp=Z,19nm,1.1s
CLL Collm 39.73 318⇓ *iP* **P** **11 18 29.2 0.0**
CLL *i* 11 18 34.4
CLL pmax pmax
comp=Z,20nm,1.2s
CLL Collm 39.73 318⇓ *iP* **P** **11 18 29.2 0.0**
comp=Z,20nm,1.2s
CLL *i* (sP) **sP** **11 18 34.4 -1.4**
comp=Z,19nm,1.0s
CLL LmV 11 37 00.0
comp=Z,100nm,18.5s
CLL Collm 39.73 318 *i* P **P** **11 18 29.2 0.0**
comp=Z,20nm,1.2s
MOTA Moosalm 39.75 312⇓ *iP* **P** **11 18 28.6 -1.0**
comp=Z,6.4nm,0.5s
MOTA Moosalm 39.75 312 P **P** **11 18 28.6 -1.0**
comp=Z,6.4nm,0.5s
KEST Kesra 39.81 294 P **P** **11 18 28.8 -1.4**
KEST Kesra 39.81 294 P **P** **11 18 28.8 -1.4**
comp=Z,8.2nm,1.1s,baz=24,slow=17,SNR=7.4
KEST Kesra 39.81 294 P **P** **11 18 28.8 -1.4**
FETA Feichten 39.93 311⇑ *iP* **P** **11 18 30.3 -0.8**
comp=Z,28nm,1.0s,SNR=14
FETA Feichten 39.93 311 P **P** **11 18 30.3 -0.8**
comp=Z,28nm,1.0s,SNR=14
GRA1 Grafenberg Arr 40.30 316 *eP* **P** **11 18 34.1 +0.2**
comp=Z,44nm,1.7s
GRF Grafenberg Arr 40.30 316 *eP* **P** **11 18 34.1 +0.2**
comp=Z,44nm,1.7s
GRF *eL* L 11 41 30.0
comp=Z,133nm,18.5s
GRF Grafenberg Arr 40.30 316 *eP* **P** **11 18 34.1 +0.2**
GRF pmax pmax
comp=Z,44nm,1.7s
MOX Moxa 40.34 317 *eP* **P** **11 18 34.4 +0.1**
comp=Z,15nm,1.6s
MOX *eL* L 11 36 49.3
comp=Z,132nm,19.9s
MOX Moxa 40.34 317 *eP* **P** **11 18 34.4 +0.1**
MOX pmax pmax
comp=Z,15nm,1.6s
MOX MLR MLR
comp=Z,100nm,19.9s
MOX Moxa 40.34 317 *eP* **P** **11 18 34.4 +0.1**
comp=Z,100nm,19.9s
DAVOX Davos/Dischmat 40.44 311 P **P** **11 18 34.4 -1.0**
DAVOX Davos/Dischmat 40.44 311 P **P** **11 18 34.4 -1.0**
comp=Z,7.7nm,0.5s,baz=98,slow=11,SNR=8.5
DAVOX LR LR 11 37 07.2
comp=Z,124nm,20.1s,baz=80,slow=39
DAVOX Davos/Dischmat 40.44 311 P **P** **11 18 34.4 -1.0**
DAVA Damuels 40.55 312⇓ *iP* **P** **11 18 35.1 -1.1**
comp=Z,29nm,0.5s,SNR=11
DAVA Damuels 40.55 312 P **P** **11 18 35.1 -1.1**
comp=Z,29nm,0.5s,SNR=11
CHTO Chiang Mai 40.74 93 *eP* **P** **11 18 39.0 +1.0**
CHTO pmax pmax
comp=Z,21nm,1.4s
CHTO Chiang Mai 40.74 93 *eP* **P** **11 18 39.0 +1.0**
comp=Z,21nm,1.4s
TUE Stuetta 40.74 310 *eP* **P** **11 18 36.6 -1.2**
comp=Z,10nm,0.9s
CMAR Chiang Mai Arr 40.86 93 P **P** **11 18 40.2 +1.2**
CMAR PcP **PcP** **11 20 40.4 +0.6**
CMAR Chiang Mai Arr 40.86 93 P **P** **11 18 40.2 +1.2**
comp=Z,1.1nm,0.3s,baz=292,slow=8.6,SNR=11
CMAR PcP **PcP** **11 20 40.4 +0.6**
comp=Z,2.8nm,0.7s,baz=285,slow=4.8,SNR=8.1
CMAR LR LR 11 38 37.2
comp=Z,88nm,19.5s,baz=118,slow=40
UBBA Unterbreizbach 41.37 317 *eP* **P** **11 18 43.7 +1.1**
CLZ Clausthal 41.45 318 *eP* **P** **11 18 44.0 +0.5**
comp=Z,42nm,1.1s
CLZ Clausthal 41.45 318 *eP* **P** **11 18 44.0 +0.5**
CLZ pmax pmax
comp=Z,42nm,1.1s
MOY Mondy 41.67 42 *eP* **P** **11 18 46.7 +1.4**
SBF Sospel 41.67 306 *eP* **P** **11 18 45.8 +0.4**
comp=Z,85nm,1.1s
SBF Sospel 41.67 306 *eP* **P** **11 18 45.8 +0.4**
SBF pmax pmax
comp=Z,85nm,1.1s
SBF Sospel 41.67 306 *eP* **P** **11 18 45.8 +0.4**
comp=Z,85nm,1.1s
NRDL Niedersach Rie 41.82 319 *eP* **P** **11 18 47.0 +0.7**
CD2 Chengdu 42.04 73 P **P** **11 18 48.3 -0.3**
CD2 pP **pP** **11 18 52.8 -0.5**
CD2 sP **sP** **11 18 55.3 +0.1**
CD2 PP **PP** **11 20 28.9 +3.1**
CD2 PcP **PcP** **11 20 43.9 +0.4**
CD2 S **S** **11 25 07.0 -0.3**
CD2 SS **SS** **11 28 08.3 -6.2**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 pmax pmax
comp=Z,180nm,4.3s
CD2 LR LR
comp=N,730nm,15.7s
CD2 LR LR
comp=Z,530nm,16.8s
TNS Taunus Mts 42.16 316 *eP* **P** **11 18 48.8 -0.5**
comp=Z,34nm,1.5s
TNS Taunus Mts 42.16 316 *eP* **P** **11 18 48.8 -0.5**
TNS pmax pmax
comp=Z,34nm,1.5s
TNS Taunus Mts 42.16 316 *eP* **P** **11 18 48.8 -0.5**
comp=Z,34nm,1.5s
APA Apatity 42.24 348⇑ *iP* **P** **11 18 50.0 +0.4**
APA MLR MLR
comp=Z,1μm,19.0s
APA Apatity 42.24 348 *i* P **P** **11 18 50.0 +0.4**
comp=Z,1μm,19.0s
MBDF Montbardon 42.24 307 *eP* **P** **11 18 49.8 -0.4**
comp=Z,14nm,0.6s
MBDF Montbardon 42.24 307 *eP* **P** **11 18 49.8 -0.4**
MBDF pmax pmax
comp=Z,14nm,0.6s
MBDF Montbardon 42.24 307 *eP* **P** **11 18 49.8 -0.4**
comp=Z,14nm,0.6s
MBDF Montbardon 42.24 307 *eP* **P** **11 18 49.8 -0.4**
comp=Z,7.2nm,0.6s
KMI Kunming 42.25 82 P **P** **11 18 52.3 +1.7**
KMI pmax pmax
comp=Z,17nm,1.1s
BNI Bardonecchia 42.35 308 *eP* **P** **11 18 50.5 -0.5**
BNI pmax pmax
comp=Z,16nm,0.9s
BNI Bardonecchia 42.35 308 *eP* **P** **11 18 50.5 -0.5**
comp=Z,16nm,0.9s
BNI Bardonecchia 42.35 308 *eP* **P** **11 18 50.5 -0.5**
comp=Z,16nm,0.9s
LPG La Plagne 42.36 308 *eP* **P** **11 18 51.1 -0.2**
LPG La Plagne 42.36 308 *eP* **P** **11 18 51.1 -0.2**
LPG La Plagne 42.36 308 *eP* **P** **11 18 51.1 -0.2**
LPG La Plagne 42.36 308 *eP* **P** **11 18 51.1 -0.2**
LPL La Plagne 42.38 308 *eP* **P** **11 18 51.2 -0.1**
comp=Z,24nm,0.7s
LPL La Plagne 42.38 308 *eP* **P** **11 18 51.2 -0.1**
LPL pmax pmax
comp=Z,24nm,0.7s
LPL La Plagne 42.38 308 *eP* **P** **11 18 51.2 -0.1**
comp=Z,24nm,0.7s
LPL La Plagne 42.38 308 *eP* **P** **11 18 51.2 -0.1**

comp=Z,12nm,0.7s
CDF Champ du Feu 42.50 313 *e*P P 11 18 52.0 -0.1
comp=Z,8.0nm,0.7s
CDF Champ du Feu 42.50 313 *e*P P 11 18 52.0 -0.1
CDF pmax pmax
comp=Z,8.0nm,0.7s
CDF Champ du Feu 42.50 313 *e*P P 11 18 52.0 -0.1
comp=Z,8.0nm,0.7s
CDF Champ du Feu 42.50 313 *e*P P 11 18 52.0 -0.1
comp=Z,4.0nm,0.7s
ECH Echery 42.54 312 *e*P P 11 18 51.0 -1.4
ECH pmax pmax
comp=Z,10.0nm,0.9s
ECH Echery 42.54 312 *e*P P 11 18 51.0 -1.4
comp=Z,10nm,0.9s
ECH Echery 42.54 312 *e*P P 11 18 51.0 -1.4
comp=Z,10nm,0.9s
HINF Hinteralfeld 42.66 312 *e*P P 11 18 52.0 -1.4
comp=Z,12nm,0.8s
HINF Hinteralfeld 42.66 312 *e*P P 11 18 52.0 -1.4
HINF pmax pmax
comp=Z,12nm,0.8s
HINF Hinteralfeld 42.66 312 *e*P P 11 18 52.0 -1.4
comp=Z,12nm,0.8s
HINF Hinteralfeld 42.66 312 *e*P P 11 18 52.0 -1.4
comp=Z,5.8nm,0.8s
ZAK Zakamensk 42.71 44 *e*P P 11 18 52.5 -1.3
ZAK *e* 11 20 36.9
ZAK pmax pmax
comp=Z,3.0nm,1.1s
ZAK Zakamensk 42.71 44 *e*P P 11 18 52.5 -1.3
comp=Z,3.0nm,1.1s
CABF La Chapelle 42.98 310 *e*P P 11 18 55.4 -0.7
comp=Z,35nm,1.0s
CABF La Chapelle 42.98 310 *e*P P 11 18 55.4 -0.7
CABF pmax pmax
comp=Z,35nm,1.0s
CABF La Chapelle 42.98 310 *e*P P 11 18 55.4 -0.7
comp=Z,35nm,1.0s
CABF La Chapelle 42.98 310 *e*P P 11 18 55.4 -0.7
comp=Z,18nm,1.0s
HAU Haudompre 43.03 312 *e*P P 11 18 54.8 -1.6
comp=Z,16nm,0.7s
HAU *e*R
comp=Z,135nm,20.5s
HAU Haudompre 43.03 312 *e*P P 11 18 54.8 -1.6
HAU pmax pmax
comp=Z,16nm,0.7s
HAU Haudompre 43.03 312 *e*P P 11 18 54.8 -1.6
comp=Z,16nm,0.7s
HAU Haudompre 43.03 312 *e*P P 11 18 54.8 -1.6
comp=Z,7.9nm,0.7s
HFS Hagfors 43.16 331 P P 11 18 56.8 -0.4
HFS Hagfors 43.16 331 P P 11 18 56.8 -0.4
comp=Z,6.8nm,0.5s,baz=127,slow=9.8,SNR=16
HFS Hagfors 43.16 331 P P 11 18 56.8 -0.4
comp=Z,7.0nm,0.5s
BUG Bochum--Univer 43.20 317 *e*P P 11 18 57.6 0.0
TLY Talaya 43.26 43 *e*P P 11 18 59.1 +1.0
TLY pmax pmax
comp=Z,3.0nm,1.1s
TLY MLR MLR
comp=Z,243nm,19.0s
TLY Talaya 43.26 43 *e*P P 11 18 59.1 +1.0
comp=Z,243nm,19.0s
WLF Walferdange 43.48 314 P P 11 18 59.7 -0.3
comp=Z,7.4nm,1.1s
WLF Walferdange 43.48 314 *e*P P 11 18 59.9 0.0
WLF Walferdange 43.48 314 P P 11 18 59.6 -0.3
comp=Z,7.4nm,1.1s
PAGF Fort de Pagny 43.54 313 *e*P P 11 18 59.6 -0.9
comp=Z,4.5nm,0.7s
PAGF Fort de Pagny 43.54 313 *e*P P 11 18 59.6 -0.9
comp=Z,4.5nm,0.7s
PAGF Fort de Pagny 43.54 313 *e*P P 11 18 59.6 -0.9
comp=Z,2.2nm,0.7s
WTSB Winterswijk 43.61 318 *e*P P 11 19 02.0 +1.0
comp=Z,23nm,0.7s
WTSB Winterswijk 43.61 318 *e*P P 11 19 02.0 +1.0
comp=Z,23nm,0.7s
MEM Membach 43.77 316 P P 11 19 04.8 +2.5
comp=Z,8.0nm,1.3s
HGN Heimansgroeve 43.85 316 *e*P P 11 19 02.6 -0.3
comp=Z,31nm,1.1s
HGN Heimansgroeve 43.85 316 *e*P P 11 19 02.6 -0.3
comp=Z,31nm,1.1s
SFTF Sexfontaines 43.93 312 *e*P P 11 19 02.9 -0.7
comp=Z,14nm,0.6s
SFTF Sexfontaines 43.93 312 *e*P P 11 19 02.9 -0.7
comp=Z,14nm,0.6s
SFTF Sexfontaines 43.93 312 *e*P P 11 19 02.9 -0.7
comp=Z,7.1nm,0.6s
MEZF Maizieres J'vi 43.97 312 *e*P P 11 19 03.4 -0.5
comp=Z,21nm,0.6s,baz=108
MEZF Maizieres J'vi 43.97 312 *e*P P 11 19 03.4 -0.5
comp=Z,21nm,0.6s
MEZF Maizieres J'vi 43.97 312 *e*P P 11 19 03.4 -0.5
comp=Z,11nm,0.6s,baz=108
BEBN Eben Emael 44.02 316 P P 11 19 07.1 +2.9
BCLA Clavier 44.17 315 P P 11 19 07.0 +1.5
comp=Z,16nm,1.8s
BCLA Clavier 44.17 315 P P 11 19 06.9 +1.5
comp=Z,16nm,1.8s
SONM Songino Array 44.22 49 P P 11 19 06.3 +0.2
SONM Songino Array 44.22 49 P P 11 19 06.3 +0.2
comp=Z,5.3nm,1.0s,baz=262,slow=9.1,SNR=17
SONM LR LR 11 39 48.8
comp=Z,302nm,21.2s,baz=242,slow=39
SONM Songino Array 44.22 49 P P 11 19 06.3 +0.2
comp=Z,302nm,21.2s
GIVF Givet 44.41 315 *e*P P 11 19 06.5 -0.9
GIVF Givet 44.41 315 *e*P P 11 19 06.5 -0.9
GIVF Givet 44.41 315 *e*P P 11 19 06.5 -0.9
GIVF Givet 44.41 315 *e*P P 11 19 06.5 -0.9
DOU Dourbes 44.55 315 P P 11 19 09.1 +0.5
comp=Z,10.0nm,1.2s
DOU Dourbes 44.55 315 P P 11 19 09.0 +0.5
comp=Z,10.0nm,1.2s
LOR Lormes 44.58 311 *e*P P 11 19 07.7 -1.2
comp=Z,7.8nm,0.6s
LOR *e*R
comp=Z,104nm,17.8s
LOR Lormes 44.58 311 *e*P P 11 19 07.7 -1.2
comp=Z,7.8nm,0.6s
LOR Lormes 44.58 311 *e*P P 11 19 07.7 -1.2
comp=Z,3.9nm,0.6s
ULN Ulaanbaatar 44.66 49 *e*P P 11 19 09.8 +0.1
comp=Z,6.6nm,1.1s
ULN Ulaanbaatar 44.66 49 *e*P P 11 19 09.8 +0.1
comp=Z,6.6nm,1.1s
NB2 NORSAR Subarra 44.67 331 P P 11 19 08.1 -1.3
comp=Z,19nm,1.2s,baz=123,slow=7.9
NOA NORSAR Array B 44.67 331 P P 11 19 08.5 -0.9
NOA NORSAR Array B 44.67 331 P P 11 19 08.5 -0.9
comp=Z,2.5nm,0.5s,baz=122,slow=7.4,SNR=12
NOA NORSAR Array B 44.67 331 P P 11 19 08.5 -0.9
comp=Z,3.0nm,0.5s
BAIF Baives 44.79 314 *e*P P 11 19 10.8 +0.4
comp=Z,23nm,0.7s
BAIF Baives 44.79 314 *e*P P 11 19 10.8 +0.4
BAIF pmax pmax
comp=Z,23nm,0.7s
BAIF Baives 44.79 314 *e*P P 11 19 10.8 +0.4
comp=Z,23nm,0.7s
BAIF Baives 44.79 314 *e*P P 11 19 10.8 +0.4
comp=Z,12nm,0.7s
SSF Saint Saulge 44.80 310 *e*P P 11 19 09.7 -0.8
comp=Z,35nm,0.9s
SSF Saint Saulge 44.80 310 *e*P P 11 19 09.7 -0.8
SSF pmax pmax
comp=Z,35nm,0.9s
SSF Saint Saulge 44.80 310 *e*P P 11 19 09.7 -0.8
comp=Z,35nm,0.9s
SSF Saint Saulge 44.80 310 *e*P P 11 19 09.7 -0.8
comp=Z,17nm,0.9s
SNF Seneffe 44.83 315 P P 11 19 11.4 +0.7
comp=Z,12nm,1.5s
SNF Seneffe 44.83 315 P P 11 19 11.4 +0.7
comp=Z,12nm,1.5s
AVF Avril sur Loir 44.87 310 *e*P P 11 19 10.0 -1.1
comp=Z,8.5nm,0.7s
AVF Avril sur Loir 44.87 310 *e*P P 11 19 10.0 -1.1
AVF pmax pmax
comp=Z,9.0nm,0.7s
AVF Avril sur Loir 44.87 310 *e*P P 11 19 10.0 -1.1
comp=Z,8.5nm,0.7s
AVF Avril sur Loir 44.87 310 *e*P P 11 19 10.0 -1.1

comp=Z,4.2nm,0.7s
BGF Bois d'Agland 45.19 309 *e*P P 11 19 12.9 -0.8
comp=Z,18nm,0.7s
BGF Bois d'Agland 45.19 309 *e*P P 11 19 12.9 -0.8
BGF pmax pmax
comp=Z,18nm,0.7s
BGF Bois d'Agland 45.19 309 *e*P P 11 19 12.9 -0.8
comp=Z,18nm,0.7s
BGF Bois d'Agland 45.19 309 *e*P P 11 19 12.9 -0.8
comp=Z,8.8nm,0.7s
TAM Tamanrasset 45.20 276 *e*P P 11 19 14.3 0.0
TAM pmax pmax
comp=Z,7.0nm,0.9s
TAM Tamanrasset 45.20 276 *e*P P 11 19 14.3 0.0
comp=Z,6.9nm,0.9s
TAM Tamanrasset 45.20 276 *e*P P 11 19 14.3 0.0
comp=Z,6.9nm,0.9s
KEV Kevo 45.36 347 *e*P P 11 19 14.7 +0.1
KEV pmax pmax
comp=Z,8.0nm,0.6s
KEV Kevo 45.36 347 *e*p P 11 19 14.7 +0.1
comp=Z,7.5nm,0.6s
KEV Kevo 45.36 347 *e*P P 11 19 14.7 +0.1
comp=Z,8.0nm,0.6s
GYA Guiyang 45.37 79 *e*P P 11 19 18.0 +2.4
GYA PP PP 11 21 04.3 +2.6
GYA ScP ScP 11 24 48.8 +1.6
GYA S S 11 25 57.9 +1.6
GYA SS ScS 11 29 11.0 -1.3
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,90nm,5.0s
GYA LR LR
comp=N,450nm,18.2s
GYA LR LR
comp=E,410nm,16.9s
GYA LR LR
comp=Z,480nm,17.5s
HYF Humbligny 45.41 310 *e*P P 11 19 15.1 -0.3
HYF Humbligny 45.41 310 *e*P P 11 19 15.1 -0.3
HYF Humbligny 45.41 310 *e*P P 11 19 15.1 -0.3
ARCES ARCESS Array B 45.50 346 P P 11 19 16.2 +0.3
ARCES ARCESS Array B 45.50 346 P P 11 19 16.2 +0.3
comp=Z,2.4nm,0.6s,baz=142,slow=11,SNR=18
ARCES ARCESS Array B 45.50 346 P P 11 19 16.2 +0.3
comp=Z,2.0nm,0.6s
CAF Calviac 45.60 307 *e*P P 11 19 16.5 -0.5
comp=Z,26nm,1.0s
CAF Calviac 45.60 307 *e*P P 11 19 16.5 -0.5
CAF pmax pmax
comp=Z,26nm,1.0s
CAF Calviac 45.60 307 *e*P P 11 19 16.5 -0.5
comp=Z,26nm,1.0s
CAF Calviac 45.60 307 *e*P P 11 19 16.5 -0.5
comp=Z,13nm,1.0s
TCF Toulx Ste Croi 45.60 309 *e*P P 11 19 16.3 -0.7
comp=Z,27nm,0.9s
TCF Toulx Ste Croi 45.60 309 *e*P P 11 19 16.3 -0.7
TCF pmax pmax
comp=Z,27nm,0.9s
TCF Toulx Ste Croi 45.60 309 *e*P P 11 19 16.3 -0.7
comp=Z,27nm,0.9s
TCF Toulx Ste Croi 45.60 309 *e*P P 11 19 16.3 -0.7
comp=Z,14nm,0.9s
RJF Les Rejaudoux 46.01 308 *e*P P 11 19 20.0 -0.2
comp=Z,29nm,0.8s
RJF *e*R
comp=Z,155nm,22.2s
RJF Les Rejaudoux 46.01 308 *e*P P 11 19 20.0 -0.2
RJF pmax pmax
comp=Z,29nm,0.8s
RJF Les Rejaudoux 46.01 308 *e*P P 11 19 20.0 -0.2
comp=Z,29nm,0.8s
RJF Les Rejaudoux 46.01 308 *e*P P 11 19 20.0 -0.2
comp=Z,14nm,0.8s
LFF La Frestale 46.54 307 *e*P P 11 19 24.0 -0.3
comp=Z,50nm,0.9s
LFF La Frestale 46.54 307 *e*P P 11 19 24.0 -0.3
LFF pmax pmax
comp=Z,50nm,0.9s
LFF La Frestale 46.54 307 *e*P P 11 19 24.0 -0.3
comp=Z,50nm,0.9s
LFF La Frestale 46.54 307 *e*P P 11 19 24.0 -0.3
comp=Z,25nm,0.9s
EPF Esparros 46.77 304 *e*P P 11 19 26.1 -0.2
comp=Z,14nm,1.0s
EPF Esparros 46.77 304 *e*P P 11 19 26.1 -0.2
EPF pmax pmax
comp=Z,14nm,1.0s
EPF Esparros 46.77 304 *e*P P 11 19 26.1 -0.2
comp=Z,14nm,1.0s
EPF Esparros 46.77 304 *e*P P 11 19 26.1 -0.2
comp=Z,6.9nm,1.0s
ENH Enshi 47.01 73 P P 11 19 30.0 +1.7
ENH Enshi 47.01 73 P P 11 19 30.0 +1.7
MFF Saint Martin d 47.25 309 *e*P P 11 19 29.8 -0.1
MFF Saint Martin d 47.25 309 *e*P P 11 19 29.8 -0.1
MFF Saint Martin d 47.25 309 *e*P P 11 19 29.8 -0.1
MFF Saint Martin d 47.25 309 *e*P P 11 19 29.8 -0.1
LDF La Druitiere 47.39 312 *e*P P 11 19 29.6 -1.4
comp=Z,14nm,0.5s
LDF La Druitiere 47.39 312 *e*P P 11 19 29.6 -1.4
LDF pmax pmax
comp=Z,14nm,0.5s
LDF La Druitiere 47.39 312 *e*P P 11 19 29.6 -1.4
comp=Z,14nm,0.5s
LDF La Druitiere 47.39 312 *e*P P 11 19 29.6 -1.4
comp=Z,6.8nm,0.5s
ETSF Etsaut 47.43 304 *e*P P 11 19 31.4 0.0
comp=Z,27nm,0.9s
ETSF Etsaut 47.43 304 *e*P P 11 19 31.4 0.0
ETSF pmax pmax
comp=Z,27nm,0.9s
ETSF Etsaut 47.43 304 *e*P P 11 19 31.4 0.0
comp=Z,27nm,0.9s
ETSF Etsaut 47.43 304 *e*P P 11 19 31.4 0.0
comp=Z,14nm,0.9s
HHC Hu-ho-hao-te 47.53 59 *e*P P 11 19 32.6 +0.3
HHC pP pP 11 19 36.5 -0.6
HHC sP sP 11 19 40.1 +1.1
HHC PcP PcP 11 21 03.1 +0.8
HHC PP PP 11 21 22.4 -1.3
HHC ScP ScP 11 24 55.3 -0.7
HHC S S 11 26 21.8 -5.1
HHC ScS ScS 11 29 24.5 -1.4
HHC SS SS 11 29 45.0 -10
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,150nm,7.2s
HHC LR LR
comp=N,390nm,20.4s
HHC LR LR
comp=E,370nm,19.2s
HHC LR LR
comp=Z,500nm,15.0s
FLN La Foliniere 47.65 312 *e*P P 11 19 32.0 -0.9
comp=Z,35nm,1.0s
FLN *e*R
comp=Z,126nm,22.8s
FLN La Foliniere 47.65 312 *e*P P 11 19 32.0 -0.9
FLN pmax pmax
comp=Z,35nm,1.0s
FLN La Foliniere 47.65 312 *e*P P 11 19 32.0 -0.9
comp=Z,35nm,1.0s
FLN La Foliniere 47.65 312 *e*P P 11 19 32.0 -0.9
comp=Z,17nm,1.0s
GRR Gorron 47.86 312 *e*P P 11 19 33.5 -1.1
comp=Z,15nm,0.7s
GRR Gorron 47.86 312 *e*P P 11 19 33.5 -1.1
GRR pmax pmax
comp=Z,15nm,0.7s
GRR Gorron 47.86 312 *e*P P 11 19 33.5 -1.1
comp=Z,15nm,0.7s
GRR Gorron 47.86 312 *e*P P 11 19 33.5 -1.1
comp=Z,7.7nm,0.7s
SJPF Ste Jean 47.92 304 *e*P P 11 19 35.1 -0.1
comp=Z,17nm,0.7s
SJPF Ste Jean 47.92 304 *e*P P 11 19 35.1 -0.1
SJPF pmax pmax
comp=Z,17nm,0.7s
SJPF Ste Jean 47.92 304 *e*P P 11 19 35.1 -0.1
comp=Z,17nm,0.7s
SJPF Ste Jean 47.92 304 *e*P P 11 19 35.1 -0.1
comp=Z,8.4nm,0.7s

PSI Prapat 48.23 113 P P 11 19 37.8 -0.2
PSI Prapat 48.23 113 P P 11 19 37.8 -0.2
comp=Z,5.4nm,0.7s,baz=285,slow=14,SNR=3.6
SGMF Saint Gilles 48.98 311 *e*P P 11 19 42.3 -0.9
comp=Z,51nm,1.1s
SGMF Saint Gilles 48.98 311 *e*P P 11 19 42.3 -0.9
SGMF pmax pmax
comp=Z,51nm,1.1s
SGMF Saint Gilles 48.98 311 *e*P P 11 19 42.3 -0.9
comp=Z,51nm,1.1s
SGMF Saint Gilles 48.98 311 *e*P P 11 19 42.3 -0.9
comp=Z,26nm,1.1s
QUIF Quistinic 49.37 311 *e*P P 11 19 45.0 -1.2
comp=Z,64nm,1.2s
QUIF Quistinic 49.37 311 *e*P P 11 19 45.0 -1.2
QUIF pmax pmax
comp=Z,64nm,1.2s
QUIF Quistinic 49.37 311 *e*P P 11 19 45.0 -1.2
comp=Z,64nm,1.2s
ROSF Rostrenen 49.47 311 *e*P P 11 19 46.0 -0.9
comp=Z,50nm,1.0s
ROSF Rostrenen 49.47 311 *e*P P 11 19 46.0 -0.9
ROSF pmax pmax
comp=Z,50nm,1.0s
ROSF Rostrenen 49.47 311 *e*P P 11 19 46.0 -0.9
comp=Z,50nm,1.0s
LSZ Lusaka 50.09 215 *e*P P 11 19 53.2 +1.0
comp=Z,15nm,1.3s
ESDC Sonseca Array 50.14 300 P P 11 19 50.8 -1.5
ESDC Sonseca Array 50.14 300 P P 11 19 50.8 -1.5
comp=Z,0.7nm,0.3s,baz=83,slow=8.1,SNR=8.4
QIZ Qiongzhong 50.34 87 P P 11 19 55.8 +1.8
QIZ S S 11 27 08.4 +1.7
QIZ pmax pmax
comp=Z,18nm,1.4s
QIZ pmax pmax
comp=Z,25nm,3.1s
QIZ LR LR
comp=N,350nm,17.7s
QIZ LR LR
comp=E,330nm,17.7s
QIZ LR LR
comp=Z,850nm,17.6s
BOD Bodaibo 50.49 36 *e*P P 11 19 53.4 -1.1
TORD Torodi Ar. Bea 52.03 265 P P 11 20 06.5 -0.3
TORD Torodi Ar. Bea 52.03 265 P P 11 20 06.5 -0.3
comp=Z,16nm,0.6s,baz=65,slow=7.2,SNR=89
MVO Moncorvo 52.33 302 *e*P P 11 20 09.1 +0.4
comp=Z,17nm,0.8s
MVO Moncorvo 52.33 302 *e*P P 11 20 09.1 +0.4
comp=Z,17nm,0.8s
PCBR Castelo Branco 52.81 301 *e*P P 11 20 12.8 +0.6
comp=Z,17nm,1.3s
PCBR Castelo Branco 52.81 301 *e*P P 11 20 12.8 +0.6
comp=Z,17nm,1.3s
PESTR Estremoz 53.02 299 *e*P P 11 20 12.2 -1.6
comp=Z,22nm,1.6s
PESTR Estremoz 53.02 299 *e*P P 11 20 12.2 -1.6
comp=Z,22nm,1.6s
EVO Evora 53.40 299 *e*P P 11 20 17.2 +0.6
EVO *e*R
comp=Z,86nm,23.0s
EVOP Sao Brissos 53.48 299 *e*P P 11 20 17.2 0.0
EVOP Sao Brissos 53.48 299 *e*P P 11 20 17.2 0.0
PNCL Nicolau / Gran 53.86 299 *e*P P 11 20 22.7 +2.7
comp=Z,22nm,2.0s
PNCL Nicolau / Gran 53.86 299 *e*P P 11 20 22.7 +2.7
comp=Z,22nm,2.0s
NJ2 Nanjing 54.52 69 *e*P P 11 20 25.8 +1.0
NJ2 pP pP 11 20 29.3 -0.4
NJ2 sP sP 11 20 31.0 -0.5
NJ2 S S 11 28 05.0 +1.4
NJ2 sS sS 11 28 10.0 -1.5
NJ2 pmax pmax
comp=Z,20nm,0.5s
NJ2 LR LR
comp=N,320nm,14.5s
NJ2 LR LR
comp=E,360nm,15.5s
CN2 Changchun 57.52 54 *e*P P 11 20 49.6 +3.5
CN2 *e*S S 11 28 42.9 -0.3
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,300nm,18.0s
YAK Yakutsk 58.73 32 *e*P P 11 20 52.0 -2.2
YAK pmax pmax
comp=Z,14nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.5s
TSUM Tsumeb 59.18 222 *e*P P 11 20 59.5 +1.3
comp=E,16nm,1.0s
DAG Danmarks Havn 59.79 345 *i*P P 11 21 00.9 -0.5
DAG pmax pmax
comp=Z,4.0nm,0.9s
DAG Danmarks Havn 59.79 345 *i*P P 11 21 00.9 -0.5
comp=Z,35nm,0.9s
SCO Scoresbysund 60.14 338 *e*P P 11 21 08.6 +4.7
SCO pmax pmax
comp=Z,5.0nm,1.0s
SCO Scoresbysund 60.14 338 *i*P P 11 21 08.6 +4.7
comp=Z,4.9nm,1.0s
MDJ Mudanjiang 60.32 52 P P 11 21 05.4 -0.2
MDJ pP pP 11 21 08.5 -2.0
MDJ sP sP 11 21 09.8 -2.5
MDJ ScP ScP 11 25 52.0 +0.5
MDJ PcS PcS 11 25 53.3 +0.3
MDJ S S 11 29 19.3 -0.3
MDJ sS sS 11 29 24.4 -3.2
MDJ pmax pmax
comp=Z,4.0nm,1.3s
MDJ pmax pmax
comp=Z,85nm,3.6s
MDJ LR LR
comp=N,180nm,26.5s
MDJ LR LR
comp=E,330nm,25.5s
MDJ LR LR
comp=Z,170nm,19.4s
KSAR Wonju Array Be 60.55 61 P P 11 21 07.0 -0.3
KSRS Korea Array 60.58 61 P P 11 21 07.0 -0.4
comp=Z,4.7nm,0.7s,baz=275,slow=6.8,SNR=14
DBIC Dimbokro 60.66 262 P P 11 21 08.2 -0.1
DBIC Dimbokro 60.66 262 P P 11 21 08.2 -0.1
comp=Z,7.1nm,0.7s,baz=37,slow=9.3,SNR=7.6
KLR Kul'dur 60.99 47 *e*P P 11 21 05.0 -5.0
KLR MLR MLR
comp=E,500nm,14.0s
KLR MLR MLR
comp=Z,900nm,14.0s
LIC Lamto 61.02 261 *e*P P 11 21 10.7 -0.1
comp=Z,18nm,0.7s,baz=62
LIC *e*R
comp=Z,166nm,22.0s
LIC Lamto 61.02 261 *e*P P 11 21 10.7 -0.1
comp=Z,18nm,0.7s
USRK Ussuriysk Arra 62.10 52 P P 11 21 16.2 -1.4
comp=Z,2.1nm,0.8s,baz=243,slow=5.6,SNR=4.8
BOSA Boshof 62.88 210 P P 11 21 22.5 -0.5
BOSA Boshof 62.88 210 P P 11 21 22.5 -0.5
comp=Z,3.9nm,0.6s,baz=24,slow=8.8,SNR=9.9
BOSA LR LR 11 49 13.4
comp=Z,123nm,18.5s,baz=10,slow=36
SUMG Summit 65.17 341 *e*P P 11 21 37.9 0.0
SUMG pmax pmax
comp=Z,26nm,1.0s
SUMG Summit 65.17 341 *e*P P 11 21 37.9 0.0
comp=Z,26nm,1.0s
SUMG Summit 65.17 341 *i*P P 11 21 38.1 +0.2
comp=Z,14nm,0.9s
ALE Alert 66.35 353 P P 11 21 45.3 +0.4
comp=Z,61nm,0.7s,SNR=7.2
YSS Yuzh-Sakhalins 68.68 47 *e*P P 11 22 01.2 +1.0
YSS *e* 11 22 13.0
MJAR Matsushiro Arr 68.73 59 P P 11 22 00.7 -0.1
MJAR Matsushiro Arr 68.73 59 P P 11 22 00.7 -0.1
comp=Z,1.2nm,0.9s,baz=255,slow=3.8,SNR=3.4
MJAR LR LR 11 55 27.8
comp=Z,82nm,18.5s,baz=255,slow=39
SEY Seymchan 68.92 29‖ *e*P P 11 22 02.0 +0.6

ASAJ	**Asahikawa**	**69.47**	**50**	LR		LR	11 55 15.9	
	comp=Z,147nm,21.1s,baz=186,slow=38							
FITZ	**Fitzroy Crossi**	**81.69**	**115**	P		**P**	**11 23 14.4**	**-1.1**
FITZ	**Fitzroy Crossi**	**81.69**	**115**	P		**P**	**11 23 14.4**	**-1.1**
	comp=Z,4.2nm,0.9s,baz=282,slow=2.8,SNR=5.8							
COLD	**Coldfoot**	**83.59**	**10**	*e*P		**P**	**11 23 25.4**	**+0.7**
	comp=Z,5.5nm,1.0s							
SCHQ	**Schefferville**	**84.24**	**331**	P		**P**	**11 23 27.9**	**-0.4**
SCHQ	**Schefferville**	**84.24**	**331**	P		**P**	**11 23 27.9**	**-0.4**
	comp=Z,3.5nm,0.6s,baz=47,slow=4.2,SNR=17							
ILAR	**Eielson Array**	**86.38**	**9**	P		**P**	**11 23 38.0**	**-0.8**
ILAR	**Eielson Array**	**86.38**	**9**	P		**P**	**11 23 38.0**	**-0.8**
	comp=Z,1.4nm,0.6s,baz=320,slow=4.5,SNR=43							
MCK	**McKinley**	**87.04**	**11**	*e*P		**P**	**11 23 41.9**	**-0.2**
MCK				pmax		pmax		
	comp=Z,29nm,1.6s							
MCK	**McKinley**	**87.04**	**11**	*e*P		**P**	**11 23 41.9**	**-0.2**
	comp=Z,29nm,1.6s							
TRF	**Thorofare Moun**	**87.07**	**11**	*e*P		**P**	**11 23 42.0**	**-0.4**
	comp=Z,103nm,2.9s							
EGAK	**Eagle**	**87.10**	**7**	*e*P		**P**	**11 23 42.0**	**-0.3**
	comp=Z,5.7nm,0.6s							
RC01	**Rabbit Creek A**	**89.36**	**12**	*e*P		**P**	**11 23 52.8**	**-0.3**
	comp=Z,3.4nm,0.5s							
WRA	**Warramunga Arr**	**89.70**	**113**	P		**P**	**11 23 54.9**	**-0.5**
WRA	**Warramunga Arr**	**89.70**	**113**	P		**P**	**11 23 54.9**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=317,slow=3.9,SNR=25							
YKA	**Yellowknife Ar**	**89.95**	**355**	P		**P**	**11 23 56.0**	**+0.2**
YKA	**Yellowknife Ar**	**89.95**	**355**	P		**P**	**11 23 56.0**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=6,8,slow=5.4,SNR=39							
ASAR	**Alice Springs**	**91.17**	**116**	P		**P**	**11 24 02.0**	**-0.1**
ASAR	**Alice Springs**	**91.17**	**116**	P		**P**	**11 24 02.0**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=301,slow=4.6,SNR=35							
TXAR	**Lajitas Array**	**120.04**	**339**	PKP		**PKPdf**	**11 29 47.3**	**-0.8**
TXAR	**Lajitas Array**	**120.04**	**339**	PKP		**PKPdf**	**11 29 47.3**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=99,slow=5.9,SNR=4.5							

MAN 23 11:19:00,9.33N×123.34E,h65km,mb4.1,ML2.9,MS2.7, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.63**	**56**	*e*P	Pn	11 19 15.6	+1.8
TBP				*e*S	Sn	11 19 27.5	+3.7
PAGZ	**Pagadian**	**1.48**	**178**	*e*P	Pn	11 19 26.1	+1.6
PAGZ				*e*S	Sn	11 19 44.5	+1.5
GUIM	**Jordan**	**1.48**	**330**	*e*P	Pn	11 19 25.8	+1.2
GUIM				*e*S	Sn	11 19 47.5	+4.4

*ATH **23** 11:29:57.2,37.03N×20.73E,h5km,MD3.5/14*
*ISCJB **23** 11:29:58.2±0.7,37.09N±0.03×20.79E±0.04,h1km±4km, Error ellipse: s-maj=6.4km s-min=3.4km az=135.6*
*CSEM **23** 11:29:59.0±0.3,37.09N×20.83E,h2km,ML3.2/6, Error ellipse: s-maj=6.7km s-min=3.4km az=41.0*
*THE **23** 11:30:00.3,37.16N×20.89E,h0km±2km,ML3.2/6,Error ellipse: s-maj=3.6km s-min=1.0km az=224.0*
ISC 23 11:29:59.3±1.4,37.12N±0.04×20.86E±0.04,h1km±10km, n97,σ0s86/157,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.74**	**107**	P	**Pg**	**11 30 14.0**	**+0.5**
PYL				S	**Sb**	**11 30 24.4**	**-1.2**
PYL	**PYLOS**	**0.74**	**107**	*e*PB	**Pg**	**11 30 14.0**	**+0.5**
PYL				*e*SB	**Sb**	**11 30 25.5**	**-0.1**
PYL	**PYLOS**	**0.74**	**107**	P	**Pg**	**11 30 14.0**	**+0.5**
PYL				S	**Sb**	**11 30 24.4**	**-1.2**
PYL				*e*Sb	**Sb**	**11 30 25.5**	**-0.1**
ITM	**Ithomi**	**0.86**	**85**	P	**Pg**	**11 30 15.6**	**-0.1**
ITM				S	**Sb**	**11 30 28.6**	**-0.4**
ITM	**Ithomi**	**0.86**	**85**	*e*PB	**Pg**	**11 30 15.8**	**+0.1**
ITM				*e*SB	**Sb**	**11 30 29.2**	**+0.2**
ITM	**Ithomi**	**0.86**	**85**	*e*Pb	**Pg**	**11 30 15.8**	**+0.1**
ITM				S	**Sb**	**11 30 28.6**	**-0.4**
ITM				*e*Sb	**Sb**	**11 30 29.2**	**+0.2**
KFL	**Anninata**	**0.99**	**357**	P	**Pg**	**11 30 17.4**	**-0.9**
KFL				S	**Sb**	**11 30 32.6**	**-0.3**
KFL	**Anninata**	**0.99**	**357**	P	**Pg**	**11 30 17.4**	**-0.9**
KFL				S	**Sb**	**11 30 32.6**	**-0.3**
RLS	**Riolos of Patr**	**1.06**	**27**	P	**Pg**	**11 30 19.2**	**-0.3**
RLS				S	**Sb**	**11 30 34.7**	**0.0**
RLS	**Riolos of Patr**	**1.06**	**27**	*e*PG	**Pg**	**11 30 19.3**	**-0.3**
RLS				*e*SB	**Sn**	**11 30 36.3**	**-0.3**
RLS	**Riolos of Patr**	**1.06**	**27**	*e*Pg	**Pg**	**11 30 19.3**	**-0.3**
RLS				S	**Sb**	**11 30 34.7**	**0.0**
RLS				*e*Sb	**Sn**	**11 30 36.3**	**-0.3**
VLS	**Valsamata**	**1.08**	**349**	P	**Pg**	**11 30 18.9**	**-1.1**
VLS				S	**Sb**	**11 30 36.2**	**+0.8**
VLS	**Valsamata**	**1.08**	**349**	*e*PN	**Pg**	**11 30 18.9**	**-1.1**
VLS				*e*SG	**Sb**	**11 30 36.4**	**+1.0**
VLS	**Valsamata**	**1.08**	**349**	P	**Pg**	**11 30 18.9**	**-1.1**
VLS				*e*Sg	**Sb**	**11 30 36.4**	**+1.0**
VLX	**Vlachokerasia**	**1.24**	**78**	P	**Pg**	**11 30 22.4**	**-0.7**
VLX				S	**Sn**	**11 30 41.6**	**+0.2**
VLX	**Vlachokerasia**	**1.24**	**78**	*e*PB	**Pg**	**11 30 22.9**	**-0.2**
VLX				*e*SB	**Sn**	**11 30 41.5**	**+0.2**
VLX	**Vlachokerasia**	**1.24**	**78**	P	**Pg**	**11 30 22.4**	**-0.7**
VLX	**Vlachokerasia**	**1.24**	**78**	*e*Pb	**Pg**	**11 30 22.9**	**-0.2**
VLX				*e*Sb	**Sn**	**11 30 41.5**	**+0.2**
UPR	**University Cam**	**1.38**	**32**	P	**Pg**	**11 30 25.9**	**+0.2**
UPR	**University Cam**	**1.38**	**32**	P	**Pg**	**11 30 25.9**	**+0.2**
LAKA	**Lakka**	**1.43**	**38**	P	**Pn**	**11 30 25.6**	**-0.8**
LAKA				S	**Sn**	**11 30 47.2**	**+1.3**
LAKA	**Lakka**	**1.43**	**38**	P	**Pn**	**11 30 25.6**	**-0.8**
LAKA				S	**Sn**	**11 30 47.2**	**+1.3**
GUR	**Goura**	**1.44**	**55**	P	**Pn**	**11 30 25.2**	**-1.4**
GUR				S	**Sg**	**11 30 44.9**	**-0.6**
GUR	**Goura**	**1.44**	**55**	*e*PN	**Pn**	**11 30 25.2**	**-1.4**
GUR				*e*SB	**Sn**	**11 30 49.3**	**+3.1**
GUR	**Goura**	**1.44**	**55**	P	**Pn**	**11 30 25.2**	**-1.4**
GUR				S	**Sg**	**11 30 44.9**	**-0.6**
GUR				*e*Sb	**Sn**	**11 30 49.3**	**+3.1**
EFP	**Efpalio**	**1.55**	**32**	P	**Pn**	**11 30 28.2**	**+0.2**
EFP				S	**Sn**	**11 30 48.1**	**-0.7**
EFP	**Efpalio**	**1.55**	**32**	*e*PG	**Pn**	**11 30 28.3**	**+0.2**
EFP	**Efpalio**	**1.55**	**32**	P	**Pn**	**11 30 28.2**	**+0.2**
EFP				S	**Sn**	**11 30 48.1**	**-0.7**
TRIZ	**Trizonia**	**1.58**	**37**	P	**Pn**	**11 30 28.4**	**0.0**
TRIZ				S	**Sb**	**11 30 50.4**	**+0.7**
TRIZ	**Trizonia**	**1.58**	**37**	P	**Pn**	**11 30 28.4**	**0.0**
TRIZ				S	**Sb**	**11 30 50.4**	**+0.7**
KALE	**Kalithea**	**1.63**	**38**	P	**Pn**	**11 30 28.9**	**-0.3**
KALE				S	**Sg**	**11 30 52.3**	**+0.6**
KALE	**Kalithea**	**1.63**	**38**	P	**Pn**	**11 30 28.9**	**-0.3**
KALE				S	**Sg**	**11 30 52.3**	**+0.6**
LKD2	**Lefkada island**	**1.68**	**355**	P	**Pn**	**11 30 29.2**	**-0.6**
LKD2				S	**Sb**	**11 30 53.1**	**+0.5**
LKD2	**Lefkada island**	**1.68**	**355**	*e*PN	**Pb**	**11 30 30.8**	**-0.2**
LKD2	**Lefkada island**	**1.68**	**355**	P	**Pn**	**11 30 29.2**	**-0.6**
LKD2	**Lefkada island**	**1.68**	**355**	*e*Pn	**Pb**	**11 30 30.8**	**-0.2**
LKD2				S	**Sb**	**11 30 53.1**	**+0.5**
VLI	**Veliai**	**1.71**	**103**	P	**Pg**	**11 30 31.7**	**-0.4**
VLI				S	**Sg**	**11 30 55.1**	**+0.7**
VLI	**Veliai**	**1.71**	**103**	*e*PN	**Pg**	**11 30 31.8**	**-0.4**
VLI				*e*SN	**Sg**	**11 30 55.9**	**+1.5**
VLI	**Veliai**	**1.71**	**103**	*e*Pn	**Pg**	**11 30 31.8**	**-0.4**
DESF	**Desfina**	**1.86**	**45**	P	**Pn**	**11 30 32.4**	**+0.1**
DESF				S	**Sn**	**11 30 55.4**	**-1.0**
DESF	**Desfina**	**1.86**	**45**	P	**Pn**	**11 30 32.4**	**+0.1**
DESF				S	**Sn**	**11 30 55.4**	**-1.0**
LTK	**Loutraki**	**1.91**	**61**	P	**Pn**	**11 30 33.4**	**+0.5**
LTK	**Loutraki**	**1.91**	**61**	P	**Pn**	**11 30 33.4**	**+0.5**
DIDY	**Didyma**	**1.91**	**78**	P	**Pn**	**11 30 32.5**	**-0.6**
DIDY				S	**Sn**	**11 30 58.4**	**+0.5**
DIDY	**Didyma**	**1.91**	**78**	P	**Pn**	**11 30 32.5**	**-0.6**
DIDY				S	**Sn**	**11 30 58.4**	**+0.5**
DID	**Didima**	**1.94**	**78**	P	**Pn**	**11 30 33.2**	**-0.2**
DID				S	**Sn**	**11 30 59.4**	**+1.0**
DID	**Didima**	**1.94**	**78**	*e*PN	**Pb**	**11 30 35.0**	**-0.4**
DID	**Didima**	**1.94**	**78**	P	**Pn**	**11 30 33.2**	**-0.2**
DID	**Didima**	**1.94**	**78**	*e*Pn	**Pb**	**11 30 35.0**	**-0.4**
DID				S	**Sn**	**11 30 59.4**	**+1.0**
KYTH	**Kithira**	**1.94**	**115**	P	**Pb**	**11 30 34.4**	**-1.0**
KYTH	**Kithira**	**1.94**	**115**	*e*PN	**Pb**	**11 30 34.9**	**-0.5**
EVR	**Evrytania**	**1.95**	**22**	P	**Pn**	**11 30 34.1**	**+0.5**
EVR	**Evrytania**	**1.95**	**22**	*e*PG	**Pg**	**11 30 36.7**	**0.0**
EVR				*e*SG	**Sg**	**11 31 05.9**	**+4.0**
EVR	**Evrytania**	**1.95**	**22**	P	**Pn**	**11 30 34.1**	**+0.5**
EVR	**Evrytania**	**1.95**	**22**	*e*Pg	**Pg**	**11 30 36.7**	**0.0**
MAKR	**Makrakomi, Fth**	**2.15**	**28**	P	**Pb**	**11 30 37.7**	**-1.3**
MAKR	**Makrakomi, Fth**	**2.15**	**28**	P	**Pb**	**11 30 37.7**	**-1.3**
AXAR	**Agios Charalam**	**2.18**	**40**	P	**Pn**	**11 30 37.7**	**+1.0**
AXAR				S	**Sb**	**11 31 06.7**	**-0.3**
AXAR	**Agios Charalam**	**2.18**	**40**	P	**Pn**	**11 30 37.7**	**+1.0**
AXAR				S	**Sb**	**11 31 06.7**	**-0.3**
RGA	**Parga**	**2.24**	**350**	P	**Pn**	**11 30 37.5**	**0.0**
RGA				S	**Sn**	**11 31 07.2**	**+1.4**
RGA	**Parga**	**2.24**	**350**	P	**Pn**	**11 30 37.5**	**0.0**
RGA				S	**Sn**	**11 31 07.2**	**+1.4**
LKR	**Lokris**	**2.29**	**47**	P	**Pn**	**11 30 38.9**	**+0.8**
LKR	**Lokris**	**2.29**	**47**	P	**Pn**	**11 30 38.9**	**+0.8**
ATAL	**Atalanti**	**2.33**	**47**	P	**Pn**	**11 30 39.9**	**+1.2**
ATAL				S	**Sn**	**11 31 06.7**	**-1.2**
ATAL	**Atalanti**	**2.33**	**47**	P	**Pn**	**11 30 39.9**	**+1.2**
ATAL				S	**Sn**	**11 31 06.7**	**-1.2**
THL	**Klokotos Trika**	**2.61**	**20**	P	**Pn**	**11 30 43.4**	**+0.8**
THL				S	**Sn**	**11 31 14.4**	**-0.5**
THL	**Klokotos Trika**	**2.61**	**20**	*e*PB	**Pn**	**11 30 43.4**	**+0.8**
THL	**Klokotos Trika**	**2.61**	**20**	P	**Pn**	**11 30 43.4**	**+0.8**
THL				S	**Sn**	**11 31 14.4**	**-0.5**
MEV	**Metsovon**	**2.68**	**6**	P	**Pn**	**11 30 45.0**	**+1.3**
MEV	**Metsovon**	**2.68**	**6**	P	**Pn**	**11 30 45.0**	**+1.3**
MRKA	**Markates**	**2.68**	**53**	P	**Pn**	**11 30 43.0**	**-0.6**
MRKA	**Markates**	**2.68**	**53**	P	**Pn**	**11 30 43.0**	**-0.6**
ERET	**Eretria**	**2.69**	**60**	P	**Pn**	**11 30 44.0**	**+0.3**
ERET				S	**Sn**	**11 31 17.1**	**+0.2**
ERET	**Eretria**	**2.69**	**60**	P	**Pn**	**11 30 44.0**	**+0.3**
ERET				S	**Sn**	**11 31 17.1**	**+0.2**
KEK	**Kerkira**	**2.72**	**343**	P	**Pn**	**11 30 43.6**	**-0.5**
KEK	**Kerkira**	**2.72**	**343**	P	**Pn**	**11 30 43.6**	**-0.5**
NEO	**Neokhori**	**2.88**	**40**	P	**Pn**	**11 30 46.6**	**+0.3**
NEO				S	**Sn**	**11 31 21.4**	**-0.1**
NEO	**Neokhori**	**2.88**	**40**	*e*PB	**Pn**	**11 30 46.5**	**+0.3**
NEO	**Neokhori**	**2.88**	**40**	*e*Pb	**Pn**	**11 30 46.5**	**+0.3**
NEO				S	**Sn**	**11 31 21.4**	**-0.1**
KZN	**Kozani**	**3.27**	**12**	P	**Pn**	**11 30 51.6**	**-0.1**
KZN	**Kozani**	**3.27**	**12**	P	**Pn**	**11 30 51.6**	**-0.1**
NEST	**Nestorio**	**3.30**	**3**	P	**Pn**	**11 30 53.3**	**+1.2**
NEST				S	**Sn**	**11 31 32.7**	**+0.7**
NEST	**Nestorio**	**3.30**	**3**	P	**Pn**	**11 30 53.3**	**+1.2**
NEST				S	**Sn**	**11 31 32.7**	**+0.7**
PAIG	**Paliouri**	**3.58**	**37**	P	**Pn**	**11 30 55.3**	**-0.5**
PAIG	**Paliouri**	**3.58**	**37**	P	**Pn**	**11 30 55.3**	**-0.5**
FNA	**Florina**	**3.69**	**6**	P	**Pn**	**11 30 56.7**	**-0.7**
FNA				S	**Sn**	**11 31 41.7**	**+0.2**
FNA	**Florina**	**3.69**	**6**	P	**Pn**	**11 30 56.7**	**-0.7**
FNA				S	**Sn**	**11 31 41.7**	**+0.2**
PLG	**Polygyros**	**3.83**	**31**	P	**Pn**	**11 30 59.1**	**-0.3**
PLG	**Polygyros**	**3.83**	**31**	P	**Pn**	**11 30 59.1**	**-0.3**
HORT	**Hortiatis**	**3.89**	**26**	P	**Pn**	**11 30 59.8**	**-0.5**
HORT				S	**Sn**	**11 31 44.4**	**-2.3**
HORT	**Hortiatis**	**3.89**	**26**	P	**Pn**	**11 30 59.8**	**-0.5**
GRG	**Griva**	**4.02**	**17**	P	**Pn**	**11 31 01.3**	**-0.7**
GRG	**Griva**	**4.02**	**17**	P	**Pn**	**11 31 01.3**	**-0.7**
OUR	**Ouranopolis**	**4.04**	**36**	P	**Pn**	**11 31 02.2**	**0.0**
OUR	**Ouranopolis**	**4.04**	**36**	P	**Pn**	**11 31 02.2**	**0.0**
LAST	**Lasithi**	**4.22**	**116**	P	**Pn**	**11 31 05.1**	**+0.3**
LAST	**Lasithi**	**4.22**	**116**	P	**Pn**	**11 31 05.1**	**+0.3**

IDC 23 11:30:05.2±2.0,3.04N×126.05E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.4/20,mbtmp3.4/4,Error ellipse: s-maj=177.3km s-min=26.0km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.24**	**161**	P	P	11 35 23.3	-0.9
	0.6nm,0.5s,baz=340,slow=9.9,SNR=10						
ASAR	**Alice Springs**	**27.62**	**164**	P	P	11 35 54.8	+0.1
	0.2nm,0.7s,baz=341,slow=11,SNR=6.7						
STKA	**Stephens Creek**	**37.73**	**158**	P	P	11 37 23.5	+0.6
	1.3nm,0.6s,baz=320,slow=12,SNR=4.5						
MKAR	**Makanchi Array**	**57.74**	**326**	P	P	11 39 58.0	-0.1
	0.1nm,0.4s,baz=116,slow=6.6,SNR=2.3						

IDC 23 11:31:05.5±1.8,23.98S×66.70W,h187km±16km,mb3.2/5, mb1 3.4/10,mb1mx3.4/18,mbtmp3.2/10,Error ellipse: s-maj=21.7km s-min=16.1km az=71.0,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.72**	**190**	P	Pn	11 32 54.6	-0.5
	0.2nm,0.3s,baz=18,slow=14,SNR=52						
LPAZ	**La Paz**	**7.77**	**350**	P	Pn	11 32 57.2	+0.5
	1.6nm,0.3s,baz=171,slow=6.3,SNR=21						
LPAZ				S	Sn	11 34 23.6	-1.2
	0.1nm,0.3s,baz=338,slow=17,SNR=1.7						
CPUP	**Villa Florida**	**8.80**	**107**	P	Pn	11 33 09.8	+0.5
	0.3nm,0.3s,baz=310,slow=7.9,SNR=3.2						
SIV	**San Ignacio**	**9.55**	**35**	P	Pn	11 33 18.9	-0.3
	0.8nm,0.3s,baz=222,slow=14,SNR=22						
BDFB	**Brasilia**	**19.42**	**68**	P	P	11 35 18.4	+0.6
	0.4nm,0.3s,baz=244,slow=11,SNR=6.2						
TXAR	**Lajitas Array**	**63.82**	**324**	P	P	11 41 18.3	+0.2
	0.1nm,0.4s,baz=150,slow=5.9,SNR=7.2						
TORD	**Torodi Ar. Bea**	**76.31**	**69**	P	P	11 42 33.6	-0.6
	0.2nm,0.4s,baz=260,slow=5.9,SNR=4.9						
PDAR	**Pinedale Array**	**77.27**	**329**	P	P	11 42 39.6	+0.3
	0.1nm,0.4s,baz=122,slow=12,SNR=2.7						
SCHQ	**Schefferville**	**78.49**	**360**	P	P	11 42 45.3	-0.1
	2.0nm,1.0s,baz=240,slow=20,SNR=3.9						
YKA	**Yellowknife Ar**	**94.20**	**340**	P	P	11 44 02.4	-0.1
	0.3nm,0.5s,baz=139,slow=4.8,SNR=8.6						
ASAR	**Alice Springs**	**128.59**	**204**	PKP	PKPdf	11 49 50.5	-0.4
	0.3nm,0.5s,baz=161,slow=2.1,SNR=3.4						
WRA	**Warramunga Arr**	**131.77**	**207**	PKP	PKPdf	11 49 57.2	+0.2
	0.2nm,0.3s,baz=152,slow=2.1,SNR=6.8						
ZALV	**Zalevo Beam**	**143.25**	**28**	PKP	PKPbc	11 50 14.4	-0.2
	0.7nm,0.6s,baz=317,slow=6.3,SNR=3.9						
MKAR	**Makanchi Array**	**146.33**	**40**	PKPbc	PKPbc	11 50 23.4	-0.7
	0.9nm,0.6s,baz=306,slow=3.1,SNR=12						

*ISCJB **23** 11:31:08.8±0.6,25.54N±0.08×99.23E±0.06,h10km, mb3.8/10,Error ellipse: s-maj=12.6km s-min=6.8km az=21.8*
*IDC **23** 11:31:09.3±0.9,25.58N×99.29E,h0km,mb3.8/10, mb1 3.9/11,mb1mx3.7/30,mbtmp3.8/11,ML4.0/1,Error ellipse: s-maj=32.0km s-min=14.7km az=70.0*
*BJI **23** 11:31:12.7,25.71N×99.10E,h21km,mb4.2/2,ML4.0/6, Ms3.9/2,Ms7 3.6/1*
ISC 23 11:31:11.6±1.2,25.6N±0.1×98.99E±0.09,h10km,n13, σ1s01/7,mb3.7/10,1C,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.42**	**97**	Pg	**Pb**	**11 32 13.3**	**+0.8**
KMI				Sg	**Sb**	**11 32 54.8**	**+0.5**
KMI				smax	smax		
	comp=N,400nm,0.8s						
KMI				smax	smax		
	comp=E,420nm,0.9s						
KMI				LR	LR		
	comp=N,830nm,3.8s						
KMI				LR	LR		
	comp=E,630nm,3.8s						
KMI				LR	LR		
	comp=Z,270nm,2.8s						
GYA	**Guiyang**	**6.96**	**81**	*i*Pn	**Pn**	**11 32 52.5**	**-1.2**
CMAR	**Chiang Mai Arr**	**7.10**	**180**	Pn	**Pn**	**11 32 55.4**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=357,slow=13,SNR=4.2						
CMAR				Pg	Pb	11 33 22.6	+7.6
	comp=Z,1.6nm,0.3s,baz=356,slow=17,SNR=37						
CMAR				Lg	Lg	11 34 55.2	
	comp=Z,1.9nm,0.3s,baz=357,slow=30,SNR=15						
SONM	**Songino Array**	**22.96**	**13**	P	**P**	**11 36 15.7**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=132,slow=12,SNR=6.0						
MKAR	**Makanchi Array**	**24.99**	**332**	P	**P**	**11 36 36.5**	**+1.1**
	comp=Z,3.8nm,0.5s,baz=134,slow=11,SNR=74						
KURBB	**Kurchatov Arra**	**29.53**	**333**	P	P	11 37 16.0	-0.1
	comp=Z,0.3nm,0.4s,baz=131,slow=10,SNR=4.3						
ZALV	**Zalesovo Beam**	**30.23**	**343**	P	**P**	**11 37 22.6**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=148,slow=8.7,SNR=5.8						
USRK	**Ussuriysk Arra**	**32.53**	**47**	P	P	11 37 39.8	-2.8
	comp=Z,2.6nm,0.7s,baz=255,slow=8.6,SNR=4.8						
BVAR	**Borovoye Array**	**34.79**	**330**	P	P	11 38 02.5	+0.3
	comp=Z,0.5nm,0.7s,baz=140,slow=11,SNR=3.5						
AKTO	**Aktyubinsk**	**39.98**	**319**	P	P	11 38 46.7	+0.4
	comp=Z,0.6nm,0.6s,baz=96,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**56.82**	**139**	P	P	11 40 54.3	-2.2
	comp=Z,1.4nm,0.7s,baz=329,slow=7.4,SNR=8.8						
ASAR	**Alice Springs**	**59.50**	**142**	P	P	11 41 13.2	-2.0
	comp=Z,0.4nm,0.7s,baz=329,slow=6.5,SNR=9						
FINES	**FINESS Array B**	**59.72**	**328**	P	P	11 41 15.8	-0.4
	comp=Z,1.3nm,0.8s,baz=60,slow=8.2,SNR=2.1						

*NIED **23** 11:39:00,21.40N×120.90E,h32km,Mw4.5 Best double couple: M0 6.83000×10^15 NP1:φs175.00000°,δ71.00000°, λ145.00000°. NP2:φs279.00000°,δ57.00000°,λ23.00000°.*
*BJI **23** 11:39:12.4,21.70N×120.40E,h5km,mb4.4/2, mb4.0/9, ML3.5/1,Ms4.2/4,Ms7 4.0/4*
*TAP **23** 11:39:12.9,21.62N×120.61E,h52km,ML4.1,C*
*JMA **23** 11:39:13.2±0.3,21.37N×120.90E,h70km,M4.1*
*ISCJB **23** 11:39:13.9±0.4,21.62N±0.02×120.72E±0.03,h52km±3km, mb4.2/25,MS3.9/12,Error ellipse: s-maj=4.4km s-min=4.1km az=13.8*
*IDC **23** 11:39:14.2±4.5,21.56N×120.83E,h37km±40km,mb3.9/17, mb1 4.0/19,mb1mx3.9/29,mbtmp3.9/19,ML3.4/2,MS3.8/15, Ms1 3.8/15,ms1mx3.5/42,Error ellipse: s-maj=18.5km s-min=11.5km az=75.0*
*NEIC **23** 11:39:14.5±1.1,21.53N×120.83E,h41km±11km,mb4.3/7, Error ellipse: s-maj=8.5km s-min=7.1km az=78.0*
ISC 23 11:39:14.4±0.9,21.63N±0.05×120.64E±0.04,h48km±8km, n119,σ1s13/127,mb4.2/25,MS3.8/12,1C-6D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWK1	**Hengchun**	**0.35**	**26**	*i*P	**Pn**	**11 39 23.2**	**-0.7**
	baz=26						
TWK1				*i* S	**Sn**	**11 39 30.9**	**+0.3**
	baz=26						
HEN	**Hengchun**	**0.39**	**13**	*i*P	**Pn**	**11 39 23.9**	**-0.4**
	baz=25						
HEN				*e*S	**Sn**	**11 39 32.4**	**+1.1**
	baz=25						
TWP	**Hsiaoliuchiu**	**0.76**	**340**	P	**Pn**	**11 39 29.1**	**+0.2**
	baz=333						
TWP				*e*S	**Sn**	**11 39 41.1**	**+1.6**
	baz=333						
TAW	**Tawu**	**0.77**	**18**	*i*P	**Pn**	**11 39 28.9**	**-0.1**
	baz=30						
TAW				*i* S	**Sn**	**11 39 39.9**	**+0.4**
	baz=30						
EAST	**Anshuo**	**0.78**	**14**	*i*P	**Pn**	**11 39 29.0**	**-0.2**
	baz=7.0						
EAST				S	**Sn**	**11 39 40.4**	**+0.5**
	baz=7.0						
LAY	**Lan-yu**	**0.94**	**64**	P	**Pn**	**11 39 29.9**	**-1.4**
	baz=64						
LAY				*e*S	**Sn**	**11 39 42.9**	**-0.9**
	baz=64						
KAU	**Kaohsiung**	**0.99**	**342**	*e*P	**Pn**	**11 39 31.7**	**-0.2**
	baz=344						
KAU				*e*S	**Sn**	**11 39 45.9**	**+1.1**
	baz=344						
ECL	**Taimali**	**1.01**	**17**	P	**Pn**	**11 39 31.7**	**-0.6**
	baz=30						
SGLT	**Jiouru**	**1.10**	**353**	*e*P	**Pn**	**11 39 33.9**	**+0.4**
	baz=355						
SGLT				S	**Sn**	**11 39 49.0**	**+1.3**
	baz=355						
SSD	**Sandimen**	**1.12**	**360**	P	**Pn**	**11 39 33.2**	**-0.4**
	baz=1.0						
SSD				*e*S	**Sn**	**11 39 48.3**	**+0.3**
	baz=1.0						
TWM1	**Shoushan**	**1.21**	**350**	*e*P	**Pn**	**11 39 35.5**	**+0.5**
	baz=352						
TWM1				*e*S	**Sn**	**11 39 51.1**	**+0.9**
	baz=352						
TTN	**Taitung**	**1.22**	**23**	*e*P	**Pn**	**11 39 35.3**	**+0.3**
	baz=32						
TTN				*e*S	**Sn**	**11 39 50.6**	**+0.2**
	baz=32						
TWG	**Pinlang**	**1.25**	**18**	*e*P	**Pn**	**11 39 35.2**	**-0.4**
	baz=28						
TWG				*e*S	**Sn**	**11 39 52.4**	**+1.1**
	baz=28						
SGST	**Jiashian**	**1.45**	**358**	*e*P	**Pn**	**11 39 38.5**	**

baz=353
NNS Nan Shan 2.88 13 P Pn 11 39 59.3 +1.3
baz=14
NNS eS **Sn** **11 40 31.1 -0.4**
baz=14
ENA Nanau 2.97 20 eP **Pn** **11 39 59.2 +0.2**
baz=20
ENA eS **Sn** **11 40 32.6 -0.8**
baz=20
NSTT Nanjuang 3.01 6 eP **Pn** **11 39 59.6 -0.1**
baz=355
NSTT eS **Sn** **11 40 33.8 -0.7**
baz=355
NSK Sanguang 3.11 12 eP **Pn** **11 40 01.1 +0.1**
baz=13
NSK eS **Sn** **11 40 36.6 -0.4**
baz=13
ENTT Nioudou 3.12 16 eP **Pn** **11 40 01.6 +0.5**
baz=26
ENTT eS **Sn** **11 40 36.1 -1.1**
baz=26
TWC Suao 3.17 20 P **Pn** **11 40 02.0 +0.2**
baz=21
TWE Neicheng 3.22 17 eP Pn 11 40 03.7 +1.2
baz=27
TWE eS **Sn** **11 40 39.7 +0.1**
baz=27
PIP Pasuquin 3.28 180 ⇑iP Sn 11 40 27.5 -14
TATO Taipei 3.42 13 eP Pn 11 40 08.0 +2.7
KNM Kinmen 3.44 324 eP **Pn** **11 40 05.2 -0.3**
baz=323
YOJ Yonaguni jima 3.57 37 P **Pn** **11 40 08.4 +1.1**
YOJ eS **Sn** **11 40 50.9 +2.7**
NWF Wu-fen Shan 3.59 17 eP **Pn** **11 40 07.1 -0.5**
baz=25
NWF eS **Sn** **11 40 47.1 -1.7**
baz=25
TWB1 Santiao Chiao 3.59 20 eP **Pn** **11 40 06.8 -0.8**
baz=21
SIPP Brgy, Tapao 3.69 183 ||eP **Sn** **11 40 46.6 -4.5**
HATJ Hateruma jima 3.79 50 P **Pn** **11 40 10.7 +0.4**
HATJ eS **Sn** **11 40 54.3 +0.6**
QZH Quanzhou 3.80 331 Pn **Pn** **11 40 10.6 +0.1**
QZH Sn **Sn** **11 40 51.6 -2.3**
QZH smax smax
comp=N,150nm,0.5s
QZH smax smax
comp=E,120nm,0.6s
IRIF Iriomote-Funau 3.92 46 P **Pn** **11 40 12.4 +0.3**
IRIF eS **Sn** **11 40 57.5 +0.6**
JKRS Kuro-shima 4.05 49 P **Pn** **11 40 14.2 +0.3**
JKRS eS **Sn** **11 41 00.2 +0.2**
JIJ Ishigaki jima 4.22 49 P **Pn** **11 40 16.4 +0.1**
JIJ eS **Sn** **11 41 03.8 -0.5**
JTJ Tarama 4.79 50 P **Pn** **11 40 24.3 +0.2**
JTJ eS **Sn** **11 41 19.0 +0.7**
JOW Kunigami 8.68 52 Pn **Pn** **11 41 15.3 -2.1**
JOW Sn **Sn** **11 42 49.4 -4.6**
JOW Kunigami 8.68 52 Pn **Pn** **11 41 15.3 -2.1**
comp=E,1.3nm,0.3s,baz=264,slow=21,SNR=9.5
JOW Sn **Sn** **11 42 49.4 -4.6**
comp=E,0.2nm,0.3s,baz=315,slow=20,SNR=3.0
JOW LR LR 11 44 05.5
comp=E,102nm,21.8s,baz=79,slow=34
JNU Nakatsue 14.61 36 ePn **Pn** **11 42 38.2 -0.1**
JNU Nakatsue 14.61 36 LR LR 11 48 58.8
comp=E,215nm,20.6s,baz=96,slow=40
DAV Davao City (W) 15.24 161 LR LR 11 49 58.1
comp=E,248nm,19.7s,baz=11,slow=43
KSAR Wonju Array Be 16.96 20 Pn **P** **11 43 07.8 -1.8**
KSRS Korea Array 16.99 20 Pn **P** **11 43 07.8 -2.0**
comp=E,0.1nm,0.3s,baz=197,slow=11,SNR=2.8
CHTO Chiang Mai 20.55 266 eP Pn 11 43 51.1 -0.6
comp=E,16nm,1.1s
CMAR Chiang Mai Arr 20.62 265 P Pn 11 43 52.2 -0.4
CMAR Chiang Mai Arr 20.62 265 P Pn 11 43 52.2 -0.4
comp=E,7.5nm,0.9s,baz=72,slow=9.0,SNR=23
CMAR LR LR 11 52 43.4
comp=E,410nm,18.7s,baz=295,slow=39
MJAR Matsushiro Arr 21.32 42 P **P** **11 43 58.6 +1.4**
MJAR Matsushiro Arr 21.32 42 P **P** **11 43 58.6 +1.4**
comp=E,1.0nm,0.6s,baz=226,slow=11,SNR=5.4
USRK Ussuriysk Arra 24.40 20 P **P** **11 44 29.7 +1.5**
comp=E,5.1nm,0.8s,baz=204,slow=8.3,SNR=12
GUMO Guam 24.41 105 LR LR 11 51 52.3
comp=E,194nm,20.8s,baz=254,slow=31
GTA Gaotai 25.12 320 eP P 11 44 38.0 +3.0
GTA pP pP 11 44 42.1 -5.3
GTA sP sP 11 44 45.8 -7.4
GTA pmax pmax
comp=Z,4.0nm,1.1s
KAPI Kappang 26.49 182 P **P** **11 44 49.2 +1.8**
KAPI Kappang 26.49 182 P **P** **11 44 49.2 +1.8**
comp=Z,6.4nm,0.8s,baz=344,slow=7.4,SNR=3.5
SHL Shillong 26.62 284 ePKP P 11 44 51.5 +2.8
LSA Lhasa 27.71 293 eP P 11 45 01.7 +2.8
comp=Z,5.7nm,0.9s
PSI Prapat 28.21 231 LR LR 11 55 37.1
comp=Z,102nm,18.7s,baz=140,slow=35
SONM Songino Array 28.55 340 P P 11 45 07.8 +2.1
SONM Songino Array 28.55 340 P P 11 45 07.8 +2.1
comp=Z,0.5nm,0.5s,baz=153,slow=10,SNR=6.4
FITZ Fitzroy Crossi 39.78 173 P **P** **11 46 41.6 -1.2**
FITZ Fitzroy Crossi 39.78 173 P **P** **11 46 41.6 -1.2**
comp=Z,1.4nm,0.7s,baz=348,slow=14,SNR=3.0
MKAR Makanchi Array 39.86 318 P P 11 46 44.8 +1.4
MKAR Makanchi Array 39.86 318 P P 11 46 44.8 +1.4
comp=Z,2.5nm,0.8s,baz=114,slow=10,SNR=29
MKAR LR LR 12 05 07.2
comp=Z,130nm,18.9s,baz=104,slow=39
COEN Coen 41.71 146 eP **P** **11 46 57.8 -1.0**
comp=Z,14nm,0.4s
ZALV Zalesovo Beam 42.14 329 P P 11 47 03.9 +2.0
ZALV Zalesovo Beam 42.14 329 P P 11 47 03.9 +2.0
comp=Z,4.4nm,0.8s,baz=111,slow=8.1,SNR=23
ZALV LR LR 12 06 00.0
comp=Z,122nm,19.9s,baz=247,slow=38
WRAB Tennant Creek 43.42 161 eP **P** **11 47 11.5 -1.2**
comp=Z,7.8nm,0.8s
WRA Warramunga Arr 43.43 161 P **P** **11 47 11.8 -0.9**
WRA Warramunga Arr 43.43 161 P **P** **11 47 11.8 -0.9**
comp=Z,4.0nm,0.6s,baz=343,slow=9.0,SNR=46
KURK Kurchatov 43.76 322 P P 11 47 17.6 +2.5
KURBB Kurchatov Arra 43.77 322 P P 11 47 17.6 +2.4
comp=Z,2.5nm,0.7s,baz=122,slow=7.4,SNR=10
QIS Mount Isa 45.84 155 eP **P** **11 47 31.5 -0.4**
KKAR Karatay Array 46.66 309 eP P 11 47 41.0 +2.7
comp=Z,0.6nm,0.4s
ASAR Alice Springs 46.83 163 P **P** **11 47 40.0 +0.2**
ASAR Alice Springs 46.83 163 P **P** **11 47 40.0 +0.2**
comp=Z,4.7nm,1.2s,baz=344,slow=7.1,SNR=41
CTA Charters Tower 48.43 147 LR LR 12 08 31.0
comp=Z,97nm,18.3s,baz=131,slow=36
BVAR Borovoye Array 49.35 322 P P 11 48 01.3 +2.5
BVAR Borovoye Array 49.35 322 P P 11 48 01.3 +2.5
comp=Z,0.3nm,0.4s,baz=133,slow=6.5,SNR=4.6
HNR Honiara 49.41 125 LR LR 12 04 40.5
comp=Z,87nm,18.9s,baz=125,slow=31
ABKAR Akbulak array 54.89 316 eP P 11 48 42.2 +2.2
comp=Z,0.5nm,0.2s
BBOO Buckleboo 56.10 164 eP P 11 48 49.3 +0.5
comp=Z,55nm,0.9s
AKTO Aktyubinsk 56.27 317 P P 11 48 52.5 +2.6
AKTO Aktyubinsk 56.27 317 P P 11 48 52.5 +2.6
comp=Z,0.8nm,0.7s,baz=103,slow=14,SNR=2.8
STKA Stephens Creek 56.86 159 P **P** **11 48 54.5 +0.3**
STKA Stephens Creek 56.86 159 eP **P** **11 48 54.0 -0.2**
comp=Z,3.8nm,0.6s
STKA Stephens Creek 56.86 159 P **P** **11 48 54.5 +0.3**
comp=Z,4.8nm,0.8s,baz=328,slow=7.7,SNR=8.9
GNI Garni 65.85 305 LR LR 12 25 06.0
comp=Z,53nm,20.3s,baz=217,slow=42
KBZ Khabaz 66.70 310 P P 11 50 01.9 +1.4
KBZ Khabaz 66.70 310 P P 11 50 01.9 +1.4
comp=Z,1.8nm,0.7s,baz=143,slow=6.6,SNR=6.0
MCK McKinley 71.03 28 P P 11 50 28.5 +1.5
comp=Z,7.0nm,1.0s
ILAR Eielson Array 71.71 27 P **P** **11 50 31.2 +0.1**
ILAR Eielson Array 71.71 27 P **P** **11 50 31.2 +0.1**
comp=Z,1.2nm,0.6s,baz=288,slow=6.2,SNR=17
FINES FINESS Array B 73.40 330 LR LR 12 25 37.5
comp=Z,126nm,18.9s,baz=340,slow=38
MENT Mentasta 73.50 28 eP P 11 50 43.4 +1.6
ATD Arta Tunnel 74.60 276 LR LR 12 22 04.6
comp=Z,45nm,19.4s,baz=40,slow=34
INK Inuvik 75.78 22 eP P 11 50 56.0 +1.2
comp=Z,4.5nm,0.8s
HFS Hagfors 79.55 331 LR LR 12 29 25.4
comp=Z,178nm,19.0s,baz=64,slow=38
NOA NORSAR Array B 80.24 332 LR LR 12 30 38.9
comp=Z,163nm,19.8s,baz=60,slow=38
YKA Yellowknife Ar 85.51 22 P P 11 51 48.4 +1.4
YKA Yellowknife Ar 85.51 22 P P 11 51 48.4 +1.4
comp=Z,1.3nm,0.6s,baz=315,slow=4.8,SNR=34

VIE 23 12:05:01.6±0.4, 50.24N×12.84E, h0km, mb2.1/1, ML2.5/2, 2C, Error ellipse: s-maj=4.7km s-min=1.2km az=48.0
27 km E of Klingenthal Suspected Mining explosion., Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**2.29**	**73**	*e*Pg	Pg	12 05 48.0	+2.6
KSP				eSg	Sg	12 06 20.1	+5.0
MOA	**Molln**	**2.57**	**158**	⇑*i*Sg	Sg	12 06 25.8	+1.7
	8.7nm,0.4s						
CONA	**Conrad Observa**	**3.05**	**138**	⇑*i*Sg	Sg	12 06 42.4	+2.8
	4.6nm,0.3s						

DDA 23 12:05:46.3, 41.18N×36.19E, h7km, MD2.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAVZ	**Havza**	**0.37**	**254**	*i* P	Pg	12 05 53.2	-0.3
HAVZ				*i* S	Sg	12 05 58.9	+0.4
ERBA	**Erbaa**	**0.66**	**139**	*i* P	Pg	12 05 59.3	+0.2
ERBA				*i* S	Sb	12 06 08.7	-0.9
CTKT	**Corum**	**1.20**	**243**	*i* P	Pg	12 06 09.0	-0.5
CTKT				*i* S	Sn	12 06 27.1	+0.8

*IDC **23** 12:17:48.8±0.5, 0.70S×133.24E, h0km, mb4.8/17, mb1 4.9/20, mb1mx4.8/26, mbtmp4.9/20, ML4.8/2, MS4.2/23, Ms1 4.2/23, ms1mx4.0/38, Error ellipse: s-maj=18.8km s-min=11.2km az=76.0*
*BJI **23** 12:17:49.9, 1.03S×133.45E, h38km, mB5.1/31, mb4.9/48, Ms4.8/31, Ms7 4.4/33*
*MOS **23** 12:17:52.1±0.9, 0.72S×133.17E, h33km, mb5.3/27, Error ellipse: s-maj=11.9km s-min=6.1km az=114.7*
*DJA **23** 12:17:53, 0.76S×133.34E, h10km, mb5.2/49*
*ISCJB **23** 12:17:53.1±0.7, 0.73S±0.04×133.27E±0.03, h42km±6km, mb5.0/98, MS4.2/31, Error ellipse: s-maj=6.4km s-min=5.1km az=33.6*
*NEIC **23** 12:17:54.0±0.2, 0.72S×133.22E, h35km, mb5.2/46, Error ellipse: s-maj=5.4km s-min=3.8km az=60.0*
ISC 23 12:17:54.1±0.3, 0.72S±0.04×133.25E±0.04, h33km±1km, h33km:pP-P, n281, σt‡32/337, mb5.2/98, MS4.2/31, 2C-10D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SWI	**Sorong**	**1.99**	**266**	P	**Pn**	**12 18 25.4**	**0.0**
FAKI	**Fak Fak**	**2.40**	**204**	P	**Pn**	**12 18 31.3**	**+0.2**
BAKI	**Biak**	**2.90**	**99**	P	**Pn**	**12 18 38.5**	**+0.6**
TLE	**Tual**	**4.91**	**186**	P	**Pn**	**12 19 06.6**	**+1.0**
BNDI	**Bandanaira**	**5.04**	**221**	P	**Pn**	**12 19 08.5**	**+1.1**
MSAI	**Masohi**	**5.04**	**239**	P	**Pn**	**12 19 09.6**	**+2.2**
LBMI	**Labuha**	**5.74**	**271**	P	**Pn**	**12 19 18.7**	**+1.6**
	399nm,1.1s,5μm1.4nm						
TNTI	**Ternate**	**6.06**	**284**	P	**Pn**	**12 19 23.3**	**+1.9**
	188nm,0.9s,2μm0.9nm						
MNI	**Manado**	**8.67**	**284**	P	Pn	12 20 00.6	+3.3
	273nm,1.0s						
KMSI	**Cibinong**	**9.35**	**278**	P	**Pn**	**12 20 09.6**	**+3.0**
	517nm,0.9s,4μm						
LUWI	**Luwuk**	**10.48**	**268**	P	**Pn**	**12 20 22.1**	**+0.1**
	397nm,0.9s,3μm						
DAV	**Davao City (W)**	**10.88**	**315**	LR	LR	12 25 01.4	
	comp=Z,459nm,18.8s,baz=149,slow=40						
KDI	**Kendari**	**11.09**	**253**	P	**Pn**	**12 20 31.1**	**+0.6**
	115nm,0.9s,877nm						
MRSI	**Marisa**	**11.37**	**276**	P	**Pn**	**12 20 34.8**	**+0.6**
	64nm,1.3s,672nm						
MTN	**Manton Dam**	**12.23**	**190**	*e*P	**Pn**	**12 20 43.0**	**-3.0**
MTN				*e*S	Sn	12 22 51.3	-10
MMRI	**Maumere**	**13.49**	**234**	P	**Pn**	**12 21 03.7**	**+0.4**
	112nm,1.6s,1μm						
TTSI	**Tana Toraja**	**13.62**	**260**	P	**Pn**	**12 21 05.9**	**+0.9**
	62nm,1.0s,635nm						
SPSI	**Sidrap Palu**	**13.84**	**256**	P	**Pn**	**12 21 10.3**	**+2.2**
	63nm,0.9s,908nm						
BKSI	**Bulukumba**	**13.88**	**250**	P	**Pn**	**12 21 09.1**	**+0.6**
	132nm,0.9s,1μm						
KAPI	**Kappang**	**14.13**	**252**	*e*Pn	**Pn**	**12 21 13.0**	**+0.9**
KAPI	**Kappang**	**14.13**	**252**	P	Pn	12 21 15.3	+3.2
	SNR=11						
KAPI	**Kappang**	**14.13**	**252**	Pn	**Pn**	**12 21 14.1**	**+2.0**
	1μm,0.7s,SNR=15						
KAPI	**Kappang**	**14.13**	**252**	P	**Pn**	**12 21 14.6**	**+2.5**
	186nm,0.9s,1μm						
KAPI	**Kappang**	**14.13**	**252**	Pn	**Pn**	**12 21 11.2**	**-0.9**
	2.7nm,0.3s,baz=97,slow=7.4,SNR=56						
KAPI				LR	LR	12 27 00.8	
	comp=Z,360nm,21.2s,baz=80,slow=39						
MYLDM	**Lahad Datu**	**15.85**	**292**	P	**P**	**12 21 39.3**	**+1.0**
TSM	**Tawau**	**16.15**	**288**	P	**P**	**12 21 41.8**	**+0.2**
PMG	**Port Moresby**	**16.32**	**122**	*e*Pn	**Pn**	**12 21 41.6**	**+0.8**
	49nm,0.9s						
PMG	**Port Moresby**	**16.32**	**122**	P	**P**	**12 21 43.7**	**+0.2**
	71nm,1.1s,957nm						
PMG	**Port Moresby**	**16.32**	**122**	Pn	**P**	**12 21 43.0**	**-0.5**
	0.8nm,0.3s,baz=344,slow=6.3,SNR=11						
COEN	**Coen**	**16.42**	**144**	*e*Pn	**Pn**	**12 21 40.9**	**-1.2**
	138nm,0.7s						
SDKM	**Sandakan**	**17.23**	**292**	P	**P**	**12 21 56.3**	**+2.6**
KKM	**Kota Kinabalu**	**18.28**	**292**	*e*P	**P**	**12 22 05.3**	**0.0**
	75nm,1.2s						
KKM	**Kota Kinabalu**	**18.28**	**292**	P	**Pn**	**12 22 07.1**	**+1.7**
	53nm,1.5s,683nm						
GUMO	**Guam**	**18.30**	**39**	LR	LR	12 28 13.5	
	comp=Z,787nm,18.1s,baz=110,slow=34						
BBKI	**Banjar Baru**	**18.59**	**261**	P	**Pn**	**12 22 10.0**	**+0.9**
	73nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.82**	**203**	*e*P	**P**	**12 22 08.4**	**-2.7**
	60nm,0.8s						
FITZ				S	Sn	12 25 26.2	-15
FITZ	**Fitzroy Crossi**	**18.82**	**203**	*e*P	**P**	**12 22 07.6**	**-3.5**
	83nm,0.7s						
FITZ				*e*S	Sn	12 25 23.3	-18
FITZ	**Fitzroy Crossi**	**18.82**	**203**	P	**P**	**12 22 08.5**	**-2.7**
	1.2nm,0.3s,baz=38,slow=13,SNR=37						
FITZ				S	Sn	12 25 26.2	-15
	7.4nm,0.3s,baz=323,slow=20,SNR=10						
FITZ				LR	LR	12 30 06.6	
	comp=Z,378nm,21.4s,baz=35,slow=39						
WRAB	**Tennant Creek**	**19.13**	**177**	*e*P	**P**	**12 22 13.4**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,48nm,0.6s						
WRAB	**Tennant Creek**	**19.13**	**177**	*e*P	**P**	**12 22 13.4**	**-1.1**
	comp=Z,48nm,0.6s						
WRAB	**Tennant Creek**	**19.13**	**177**	P	**P**	**12 22 14.0**	**-0.5**
	comp=Z,506nm,0.6s,SNR=59						
WRA	**Warramunga Arr**	**19.14**	**177**	P	**P**	**12 22 13.0**	**-1.6**
WRA				S	Sn	12 25 36.4	-13
WRA	**Warramunga Arr**	**19.14**	**177**	P	**P**	**12 22 13.0**	**-1.6**
	comp=Z,3.8nm,0.3s,baz=356,slow=12,SNR=76						
WRA				S	Sn	12 25 36.4	-13
	comp=Z,3.2nm,0.3s,baz=354,slow=24,SNR=6.9						
KHKI	**Kahang-Kahang**	**19.14**	**246**	P	**Pn**	**12 22 15.6**	**-0.1**
	comp=Z,120nm,1.1s,comp=Z,2μm						
IGBI	**Denpasar**	**19.74**	**245**	P	**P**	**12 22 20.4**	**-0.8**
	comp=Z,67nm,0.9s,comp=Z,22μm						
BTM	**Bintulu**	**20.52**	**281**	P	Pn	12 22 32.4	+0.3
SBUM	**Sibu**	**21.25**	**279**	P	**P**	**12 22 40.1**	**+2.5**
SBUM	**Sibu**	**21.25**	**279**	P	**P**	**12 22 39.6**	**+1.9**
	comp=Z,38nm,1.1s,comp=Z,515nm						
PBKI	**Pangkalan Bun**	**21.65**	**265**	P	**P**	**12 22 43.8**	**+1.8**
	comp=Z,164nm,1.1s						
SJI	**Sawahan**	**22.51**	**251**	P	**P**	**12 22 52.2**	**+0.9**
	comp=Z,67nm,1.1s						
PWJI	**Pagerwojo**	**22.56**	**251**	P	**P**	**12 22 50.4**	**-1.3**
	comp=Z,55nm,0.9s						
ASAR	**Alice Springs**	**22.82**	**178**	P	**P**	**12 22 53.6**	**-0.7**
ASAR				S	**S**	**12 26 59.9**	**-1.7**
ASAR	**Alice Springs**	**22.82**	**178**	P	**P**	**12 22 53.6**	**-0.7**
	comp=Z,22nm,0.5s,baz=358,slow=9.3,SNR=328						
ASAR				S	**S**	**12 26 59.9**	**-1.7**
	comp=Z,3.6nm,0.7s,baz=359,slow=16,SNR=4.7						

KSM Kuching 23.04 275 *e*P **P** **12 22 57.0 +0.3**
comp=Z,36nm,1.1s
KSM Kuching 23.04 275 P **P** **12 22 58.4 +1.7**
KSM Kuching 23.04 275 P **P** **12 22 57.0 +0.3**
comp=Z,31nm,1.4s
CTA Charters Tower 23.08 147 P **P** **12 22 56.8 -0.2**
CTA Charters Tower 23.08 147 *e*P **P** **12 22 57.8 +0.8**
comp=Z,28nm,0.8s
CTA Charters Tower 23.08 147 P **P** **12 22 56.8 -0.2**
comp=Z,35nm,0.8s,baz=329,slow=12,SNR=28
CTA LR LR 12 33 20.1
comp=Z,2μm,19.0s,baz=326,slow=40
CTAO Charters Tower 23.08 147 *e*P **P** **12 22 58.0 +1.0**
CTAO pmax pmax
comp=Z,39nm,0.9s
CTAO Charters Tower 23.08 147 *e*P **P** **12 22 58.0 +1.0**
comp=Z,38nm,0.9s
SMRI Semarang 23.59 254 P **P** **12 23 02.0 -0.2**
comp=Z,143nm,1.1s
MBWA Marble Bar 24.22 212 *e*P **P** **12 23 08.1 +0.2**
comp=Z,52nm,0.9s
MBWA Marble Bar 24.22 212 P **P** **12 23 09.1 +1.1**
SNR=7.8
BJII Banjamegara 24.37 254 P **P** **12 23 10.8 +1.3**
comp=Z,108nm,1.6s,comp=Z,2μm
TGJI Tegal 24.82 255 P **P** **12 23 15.1 +1.6**
comp=Z,56nm,0.8s
CISI Cisompet, Garu 26.24 254 P **P** **12 23 24.1 -2.4**
comp=Z,152nm,0.9s,comp=Z,1μm
LEM Lembang 26.27 256 P **P** **12 23 27.6 +0.8**
comp=Z,50nm,1.0s
SSLB Suanglung 27.13 335 *e*P **P** **12 23 33.2 -1.1**
comp=Z,31nm,1.0s
JOW Kunigami 27.81 350 LR LR 12 33 03.7
comp=Z,1μm,19.7s,baz=331,slow=33
HNR Honiara 27.95 109 P **P** **12 23 42.0 +0.3**
HNR Honiara 27.95 109 P **P** **12 23 42.0 +0.3**
comp=Z,37nm,0.6s,baz=198,slow=11,SNR=6.5
QIZ Qiongzhong 30.22 312 P **P** **12 24 02.3 +0.5**
QIZ S **S** **12 29 01.4 +2.0**
QIZ pmax pmax
comp=Z,14nm,1.1s
QIZ pmax pmax
comp=Z,67nm,5.1s
QIZ LR LR
comp=Z,230nm,17.7s
FORT Forrest 30.30 189 *e*P **P** **12 24 03.1 +0.7**
comp=Z,31nm,0.6s
STKA Stephens Creek 31.98 167 P **P** **12 24 16.1 -1.1**
STKA Stephens Creek 31.98 167 *e*P **P** **12 24 16.1 -1.1**
comp=Z,12nm,0.4s
STKA Stephens Creek 31.98 167 P **P** **12 24 16.1 -1.1**
comp=Z,14nm,0.5s,baz=344,slow=7.9,SNR=38
STKA LR LR 12 38 42.8
comp=Z,880nm,19.6s,baz=114,slow=39
BBOO Buckleboo 32.03 176 *e*P **P** **12 24 16.9 -0.7**
comp=Z,612nm,1.1s
IPM Ipoh 32.60 279 *e*P **P** **12 24 23.0 0.0**
comp=Z,11nm,0.8s
IPM Ipoh 32.60 279 P **P** **12 24 23.5 +0.5**
IPM Ipoh 32.60 279 P **P** **12 24 22.6 -0.3**
comp=Z,16nm,1.0s
JNU Nakatsue 33.73 356 LR LR 12 36 15.2
comp=Z,436nm,19.5s,baz=131,slow=33
KLBR Kellerberrin 34.02 204 *e*P **P** **12 24 34.6 -0.5**
comp=Z,41nm,1.1s
ARMA Armidale 34.31 151 *e*P **P** **12 24 37.6 -0.2**
comp=Z,91nm,1.9s
ARMA Armidale 34.31 151 *e*P **P** **12 24 37.8 0.0**
PSI Prapat 34.49 276 P **P** **12 24 38.4 -1.2**
PSI Prapat 34.49 276 P **P** **12 24 38.3 -1.2**
comp=Z,22nm,1.1s
PSI Prapat 34.49 276 P **P** **12 24 38.4 -1.2**
comp=Z,11nm,0.8s,baz=126,slow=3.6,SNR=9.3
NJ2 Nanjing 35.33 339 *e*P **P** **12 24 47.6 +1.3**
NJ2 pmax pmax
comp=Z,20nm,0.8s
NWAO Narrogin (SRO) 35.41 204 P **P** **12 24 46.7 -0.3**
NWAO Narrogin (SRO) 35.41 204 P **P** **12 24 46.7 -0.3**
comp=Z,13nm,0.8s,baz=40,slow=8.7,SNR=9.6
WHN Wuhan 35.91 332 *e*P **P** **12 24 52.0 +0.6**
GYA Guiyang 37.24 318 P **P** **12 25 03.8 +0.9**
GYA pP **pP** **12 25 14.0 +1.4**
GYA PP **PnPn** **12 26 31.8 +2.9**
GYA PcP **PcP** **12 27 23.0 +0.7**
GYA S **S** **12 30 49.5 +1.4**
GYA sS **ScP** **12 31 07.3 +0.1**
GYA SS **SnSn** **12 33 21.4 -3.8**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,140nm,4.9s
GYA LR LR
comp=N,650nm,17.2s
GYA LR LR
comp=E,510nm,19.9s
GYA LR LR
comp=Z,680nm,18.5s
MJAR Matsushiro Arr 37.36 7 P **P** **12 25 01.7 -1.9**
MJAR Matsushiro Arr 37.36 7 P **P** **12 25 01.7 -1.9**
comp=Z,4.3nm,0.9s,baz=194,slow=9.5,SNR=9.1
MJAR LR LR 12 37 18.7
comp=Z,624nm,20.3s,baz=195,slow=31
ENH Enshi 38.23 326 *e*P **P** **12 25 10.6 -0.5**
comp=Z,3.7nm,0.5s
KSAR Wonju Array Be 38.29 353 P **P** **12 25 10.1 -1.4**
KSAR PcP **PcP** **12 27 25.2 +0.1**
KSRS Korea Array 38.30 353 P **P** **12 25 10.1 -1.4**
comp=Z,3.0nm,0.9s,baz=166,slow=9.5,SNR=7.0
KSRS PcP **PcP** **12 27 25.2 +0.1**
comp=Z,2.8nm,1.0s,baz=200,slow=6.3,SNR=4.7
KSRS LR LR 12 40 21.7
comp=Z,329nm,18.3s,baz=170,slow=35
DZM Mont Dzumac 38.67 126 *e*LR LR 12 35 51.6
comp=Z,504nm,24.2s
CMAR Chiang Mai Arr 38.73 301 P **P** **12 25 15.3 -0.1**
CMAR PcP **PcP** **12 27 27.9 +0.9**
CMAR Chiang Mai Arr 38.73 301 P **P** **12 25 15.3 -0.1**
comp=Z,4.2nm,1.1s,baz=122,slow=6.9,SNR=17
CMAR PcP **PcP** **12 27 27.9 +0.9**
comp=Z,0.8nm,0.4s,baz=128,slow=1.3,SNR=4.5
CHTO Chiang Mai 38.88 302 *e*P **P** **12 25 16.2 -0.5**
CHTO pmax pmax
comp=Z,10.0nm,1.3s
CHTO Chiang Mai 38.88 302 *e*P **P** **12 25 16.2 -0.5**
comp=Z,9.6nm,1.3s
CHTO Chiang Mai 38.88 302 P **P** **12 25 16.4 -0.3**
KMI Kunming 39.13 313 P **P** **12 25 19.8 +0.8**
KMI pmax pmax
comp=Z,14nm,1.2s
XAN Xi'an 41.44 329 P **P** **12 25 36.8 -1.0**
XAN pP **pP** **12 25 45.4 -2.2**
XAN pmax pmax
comp=Z,4.0nm,1.0s
XAN pmax pmax
comp=Z,22nm,6.5s
CD2 Chengdu 42.12 321 P **P** **12 25 43.4 0.0**
CD2 pP **pP** **12 25 53.3 +0.1**
CD2 sP **sP** **12 25 57.3 +0.1**
CD2 PP **PP** **12 27 24.6 +3.2**
CD2 PcP **PcP** **12 27 37.8 +0.1**
CD2 S **S** **12 32 01.1 0.0**
CD2 sS **sS** **12 32 17.4 +0.1**
CD2 SS **SS** **12 35 04.0 -5.6**
CD2 pmax pmax
comp=Z,40nm,0.5s
CD2 pmax pmax
comp=Z,140nm,5.0s
CD2 LR LR
comp=N,290nm,5.0s
CD2 LR LR
comp=Z,240nm,15.3s
BJT Baijiatuao 43.44 341 *e*P **P** **12 25 54.2 +0.3**
comp=Z,98nm,1.1s
BJI Beijing 43.46 341 P **P** **12 25 54.1 +0.1**
BJI pmax pmax
comp=Z,71nm,1.1s
BJI LR LR
comp=Z,140nm,25.9s
USRK Ussuriysk Arra 44.73 359 P **P** **12 26 04.0 -0.2**
comp=Z,5.6nm,0.8s,baz=172,slow=7.6,SNR=9.9
USRK LR LR 12 43 29.2
comp=Z,221nm,18.2s,baz=129,slow=34
CN2 Changchun 44.87 352 *e*P **P** **12 26 02.6 -2.7**
CN2 ePP **pP** **12 26 12.9 -2.2**
CN2 *e*S **S** **12 32 37.4 -3.4**

CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,19.0s
CN2 LR LR
comp=E,300nm,19.0s
CN2 LR LR
comp=Z,300nm,20.0s
MDJ Mudanjiang 45.25 356 P **P** 12 26 08.1 -0.2
MDJ pP **pP** 12 26 17.3 -0.9
MDJ sP **sP** 12 26 21.0 -1.2
MDJ ScP **ScP** 12 31 38.1 -0.2
MDJ PcS **PcS** 12 31 41.8 +0.1
MDJ S **S** 12 32 46.5 +0.2
MDJ sS **sS** 12 33 02.1 -0.5
MDJ ScS **ScS** 12 36 02.8 +0.1
MDJ pmax pmax
comp=Z,10.0nm,1.2s
MDJ pmax pmax
comp=Z,150nm,6.5s
MDJ LR LR
comp=N,140nm,33.7s
MDJ LR LR
comp=E,26nm,19.6s
MDJ LR LR
comp=Z,180nm,29.4s
MDJ Mudanjiang 45.25 356 *e*P **P** 12 26 08.0 -0.2
comp=Z,6.0nm,0.8s
LZH Lanzhou 45.71 326 *e*P **P** 12 26 13.3 +1.0
LZH pP **pP** 12 26 22.3 +0.1
LZH sP **sP** 12 26 26.0 -0.1
LZH pmax pmax
comp=Z,39nm,1.2s
LZH pmax pmax
comp=Z,85nm,4.6s
HHC Hu-ho-hao-te 45.83 337 *e*P **P** 12 26 13.9 +0.8
HHC pP **pP** 12 26 24.1 +1.1
HHC sP **sP** 12 26 26.5 -0.5
HHC PcP **PcP** 12 27 49.5 -0.7
HHC PP **PP** 12 28 02.8 +1.9
HHC ScP **ScP** 12 31 37.9 -3.0
HHC S **S** 12 32 57.3 +2.3
HHC sS **sS** 12 33 11.8 +0.4
HHC ScS **ScS** 12 36 03.8 -3.0
HHC SS SS 12 36 12.1 -8.0
HHC pmax pmax
comp=Z,34nm,1.1s
HHC pmax pmax
comp=Z,150nm,6.0s
HHC LR LR
comp=N,360nm,15.6s
HHC LR LR
comp=E,320nm,16.8s
HHC LR LR
comp=Z,260nm,13.8s
MSVF Nonsavu 47.16 114 *e*P **P** 12 26 26.2 +2.3
MSVF Nonsavu 47.16 114 *e*P **P** 12 26 26.2 +2.3
SHL Shillong 47.74 306 *e*PKP **P** 12 26 28.0 -0.4
YSS Yuzh-Sakhalins 48.20 9⇓*e*P **P** 12 26 31.3 0.0
YSS *e* 12 26 38.0
YSS pmax pmax
comp=Z,30nm,0.9s
HABR Khabarovsk 49.02 2*d*e**P P** 12 26 35.7 -1.9
HABR *e**PP **pP** 12 26 45.5 -2.1
HABR *e**SP **sP** 12 26 49.4 -2.1
HABR *e* 12 27 58.8
HABR *e* 12 28 29.2
HABR PPP PPP 12 29 21.1
HABR S **S** 12 33 38.4 -1.5
HABR *e**SS **sS** 12 33 55.1 -1.2
HABR *e* 12 36 24.9
HABR *e*SS **SS** 12 37 11.4 +0.1
HABR pmax pmax
comp=Z,22nm,1.0s
HABR pmax pmax
comp=E,24nm,2.1s
HABR pmax pmax
comp=N,29nm,1.7s
HABR MLR MLR
comp=Z,125nm,19.0s
KLR Kul'dur 49.77 359 *e*P P 12 26 38.3 -5.0
LSA Lhasa 50.25 311 P **P** 12 26 47.8 -0.1
LSA Lhasa 50.25 311 *e*P **P** 12 26 48.1 +0.2
LSA pmax pmax
comp=Z,23nm,1.1s
LSA Lhasa 50.25 311 *e*P **P** 12 26 48.1 +0.2
comp=Z,23nm,1.1s
GTA Gaotai 50.31 326 *e*P **P** 12 26 48.3 +0.5
GTA pP **pP** 12 26 57.4 -0.4
GTA sP **sP** 12 27 01.5 -0.3
GTA S **S** 12 33 58.5 -0.1
GTA sS **sS** 12 34 14.6 -0.4
GTA SS **SS** 12 37 28.4 -4.3
GTA pmax pmax
comp=Z,12nm,1.4s
GTA pmax pmax
comp=Z,140nm,6.2s
GTA LR LR
comp=N,120nm,15.2s
GTA LR LR
comp=E,100nm,13.5s
GTA LR LR
comp=Z,130nm,15.9s
OUZ Omahuta 50.87 137 *e*P P 12 26 54.9 +3.0
TAPN Taplejung 51.88 306 *e*P **P** 12 26 59.3 -0.7
comp=Z,48nm,1.3s
TAPN Taplejung 51.88 306 *e*P **P** 12 26 59.3 -0.7
comp=Z,48nm,1.3s
RAMN Ramite 52.62 305 *e*P **P** 12 27 04.9 -0.5
comp=Z,21nm,0.6s
RAMN Ramite 52.62 305 *e*P **P** 12 27 04.9 -0.5
comp=Z,21nm,0.6s
JIRN Jiri 53.24 306 *e*P **P** 12 27 09.2 -0.9
JIRN Jiri 53.24 306 *e*P **P** 12 27 09.2 -0.9
ULN Ulaanbaatar 53.49 338 P **P** 12 27 12.4 +1.1
SNR=12
GUN Gumba 53.59 306 *e*P **P** 12 27 12.0 -0.7
comp=Z,24nm,0.7s
GUN Gumba 53.59 306 *e*P **P** 12 27 12.0 -0.7
comp=Z,24nm,0.7s
SONM Songino Array 53.71 338 P **P** 12 27 13.5 +0.5
SONM PcP **PcP** 12 28 18.8 -0.1
SONM Songino Array 53.71 338 P **P** 12 27 13.5 +0.5
comp=Z,4.6nm,1.0s,baz=150,slow=6.8,SNR=27
SONM PcP **PcP** 12 28 18.8 -0.1
comp=Z,3.2nm,0.8s,baz=154,slow=3.4,SNR=7.0
SONM LR LR 12 50 44.2
comp=Z,169nm,19.5s,baz=120,slow=37
PKI Pulchoki 53.84 305 *e*P **P** 12 27 13.4 -1.1
PKI Pulchoki 53.84 305 *e*P **P** 12 27 13.4 -1.1
PKI Pulchoki 53.84 305 *e*P **P** 12 27 13.4 -1.1
KKN Kakani 54.03 306 *e*P **P** 12 27 14.6 -1.2
KKN Kakani 54.03 306 *e*P **P** 12 27 14.6 -1.2
KKN Kakani 54.03 306 *e*P **P** 12 27 14.6 -1.2
DMN Daman 54.10 305 *e*P **P** 12 27 15.7 -0.6
comp=Z,15nm,0.7s
DMN Daman 54.10 305 *e*P **P** 12 27 15.7 -0.6
comp=Z,15nm,0.7s
RPZ Rata Peaks 54.45 147 *e*P **P** 12 27 18.6 +0.2
comp=Z,61nm,1.1s
GKN Gorkha 54.63 306 *e*P **P** 12 27 19.2 -0.9
GKN Gorkha 54.63 306 *e*P **P** 12 27 19.2 -0.9
KOLN Koldanda 55.39 305 *e*P **P** 12 27 25.4 -0.2
comp=Z,29nm,0.7s
KOLN Koldanda 55.39 305 *e*P **P** 12 27 25.4 -0.2
comp=Z,29nm,0.7s
DANN Dangsing 55.48 306 *e*P **P** 12 27 25.8 -0.6
comp=Z,24nm,0.6s
DANN Dangsing 55.48 306 *e*P **P** 12 27 25.8 -0.6
comp=Z,24nm,0.6s
AFI Afiamalu 55.93 106 LR LR 12 50 33.0
comp=Z,160nm,19.3s,baz=274,slow=35
PYUN Piuthan 56.02 305 *e*P **P** 12 27 29.1 -1.0
comp=Z,66nm,0.9s
PYUN Piuthan 56.02 305 *e*P **P** 12 27 29.1 -1.0
comp=Z,66nm,0.9s
HYB Hyderabad 56.77 291 *i* P **P** 12 27 34.0 -1.4
ZAK Zakamensk 56.97 338⇓*i*P **P** 12 27 36.5 +0.1
ZAK *e* 12 28 29.5
ZAK pmax pmax
comp=Z,6.0nm,1.6s
PETK Petropavlovsk- 57.40 17 P **P** 12 27 38.9 -0.3
PETK Petropavlovsk- 57.40 17 P **P** 12 27 38.9 -0.3
comp=Z,6.3nm,0.9s,baz=191,slow=5.3,SNR=6.4
PETK LR LR 12 47 22.7
comp=Z,198nm,21.7s,baz=204,slow=31
CLNS Chul'man 57.77 355 *e*P **P** 12 27 42.1 +0.3
CLNS pmax pmax
comp=Z,16nm,1.3s
CLNS pmax pmax
comp=N,11nm,1.3s
CLNS pmax pmax
comp=E,8.0nm,1.2s
TLY Talaya 57.89 339 *e*P **P** 12 27 42.6 -0.1
TLY *e*S **S** 12 35 42.1 +1.8
TLY *e* 12 41 56.3
TLY pmax pmax
comp=Z,6.0nm,0.9s
TLY MLR MLR
comp=Z,110nm,20.0s
TLY Talaya 57.89 339 *e*P **P** 12 27 42.4 -0.4
comp=Z,15nm,1.5s
MOY Mondy 58.87 337 *e*P **P** 12 27 50.6 +0.9
MOY pmax pmax
comp=Z,29nm,1.8s
WMQ Urumqi 60.12 323⇓*i*P **P** 12 27 59.0 +0.6
WMQ pP **pP** 12 28 09.0 +0.4
WMQ sP **sP** 12 28 13.0 +0.5
WMQ PcP **PcP** 12 28 44.6 +0.7
WMQ PP **PP** 12 30 11.8 +0.5
WMQ *e*S **S** 12 36 10.0 +0.5
WMQ pmax pmax
comp=Z,46nm,1.1s
WMQ pmax pmax
comp=Z,280nm,6.2s
WMQ LR LR
comp=N,190nm,22.0s
WMQ LR LR
comp=E,260nm,20.6s
WMQ LR LR
comp=Z,230nm,21.2s
BOD Bodaibo 60.35 348 *e*P **P** 12 27 59.1 -0.5
BOD pmax pmax
comp=Z,20nm,1.3s
DDI Dehra Dun 60.84 306 *ex* x 12 28 02.0
YAK Yakutsk 62.64 358 *e*P **P** 12 28 14.8 -0.1
YAK *e* 12 28 48.7
YAK *e* 12 30 28.1
YAK *e*PPP PPP 12 32 03.3
YAK *e*S **S** 12 36 37.1 -3.7
YAK *e* 12 37 56.1
YAK *e*SS **SS** 12 40 51.8 +6.1
YAK pmax pmax
comp=Z,40nm,0.9s
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=Z,49nm,3.9s
YAK pmax pmax
comp=N,88nm,4.4s
YAK pmax pmax
comp=E,98nm,5.1s
YAK smax smax
comp=N,88nm,4.1s
YAK smax smax
comp=E,137nm,5.6s
YAK Yakutsk 62.64 358 *e*P **P** 12 28 14.9 -0.1
comp=E,53nm,0.9s
MK31 Makanchi Array 64.93 324 P **P** 12 28 30.7 +0.3
MK31 pmax pmax
comp=Z,29nm,0.8s
MKAR Makanchi Array 64.93 324 P **P** 12 28 30.8 +0.4
MKAR Makanchi Array 64.93 324 P **P** 12 28 30.8 +0.4
MKAR Makanchi Array 64.93 324 P **P** 12 28 30.8 +0.4
comp=Z,22nm,0.8s,baz=113,slow=7.8,SNR=223
SEY Seymchan 65.10 10⇓*e*P **P** 12 28 31.7 +0.6
KSH Kashi 65.78 314 P **P** 12 28 37.5 +1.3
KSH pP **pP** 12 28 48.6 +2.1
KSH sP **sP** 12 28 52.8 +2.4
KSH PcP **PcP** 12 29 09.1 +1.9
KSH PP **PP** 12 31 06.3 +5.0
KSH ScP 12 33 07.8
KSH PcS 12 33 12.0
KSH S **S** 12 37 21.9 +1.2
KSH sS **sS** 12 37 38.8 +1.1
KSH ScS **SKSac** 12 38 27.6 -2.2
KSH SS **SS** 12 41 38.8 +3.0
KSH pmax pmax
comp=Z,33nm,1.2s
KSH LR LR
comp=N,130nm,6.7s
KSH LR LR
comp=E,130nm,5.8s
KSH LR LR
comp=Z,140nm,10.9s
ULHL Ulahol 66.67 317 P **P** 12 28 42.5 +0.5
SNR=7.8
KZA Kyzart 67.28 317 P **P** 12 28 47.0 +0.9
SNR=38
TKM2 Tokmak 2 67.38 318 *i* P **P** 12 28 46.8 +0.3
TKM2 Tokmak 2 67.38 318 P **P** 12 28 46.9 +0.3
SNR=22
ZALV Zalesovo Beam 67.53 331 P **P** 12 28 46.1 -0.8
ZALV Zalesovo Beam 67.53 331 P **P** 12 28 46.0 -0.8
ZALV ⇑*e* 12 57 12.1
ZALV Zalesovo Beam 67.53 331 P **P** 12 28 46.0 -0.8
comp=Z,24nm,1.0s,baz=123,slow=7.0,SNR=69
ZALV PKP2bc 12 57 12.1
comp=Z,0.3nm,0.3s,baz=5.7,slow=1.5,SNR=4.3
ZALV LR LR 13 00 29.9
comp=Z,77nm,18.0s,baz=76,slow=38
CHMS Chumysh 67.98 318 P **P** 12 28 50.3 +0.2
SNR=7.0
AAK Ala-Archa 68.01 317⇓*e*P **P** 12 28 50.7 +0.2
AAK pmax pmax
comp=Z,42nm,1.7s
AAK Ala-Archa 68.01 317 *e*P **P** 12 28 50.6 +0.2
comp=Z,85nm,1.4s
AAK Ala-Archa 68.01 317 P **P** 12 28 51.2 +0.7
comp=Z,49nm,1.5s,SNR=6.4
AAK Ala-Archa 68.01 317 P **P** 12 28 51.1 +0.7
SNR=5.8
AAK Ala-Archa 68.01 317 P **P** 12 28 51.1 +0.7
SNR=8.5
AAK Ala-Archa 68.01 317 P **P** 12 28 50.1 -0.3
comp=Z,5.7nm,1.0s,baz=116,slow=5.4,SNR=11
USP Ospenovka 68.25 318 P **P** 12 28 52.1 +0.3
SNR=17
AML Almayashu 68.37 316 P **P** 12 28 53.8 +0.8
SNR=42
EKS2 Erkin-Say 68.51 317 *e*P **P** 12 28 53.9 +0.4
EKS2 pmax pmax
comp=Z,21nm,1.0s
EKS2 Erkin-Say 68.51 317 *e*P **P** 12 28 53.9 +0.4
comp=Z,21nm,1.0s
EKS2 Erkin-Say 68.51 317 P **P** 12 28 54.3 +0.8
SNR=21
NVS Novosibirsk 68.80 332⇓*i*P **P** 12 28 53.1 -1.8
NVS pmax pmax
comp=Z,33nm,1.1s
NVS pmax pmax
comp=N,14nm,1.2s
NVS pmax pmax
comp=E,21nm,1.2s
KURK Kurchatov 69.00 326⇓*e*P **P** 12 28 56.2 +0.1
KURK pmax pmax
comp=Z,78nm,1.2s
KURK Kurchatov 69.00 326 *e*P **P** 12 28 56.0 -0.1
comp=Z,45nm,0.9s
KURK Kurchatov 69.00 326 P **P** 12 28 56.6 +0.4
SNR=19
KURK Kurchatov 69.00 326 P **P** 12 28 56.3 +0.1
comp=Z,321nm,0.9s,SNR=38
KBL Kabul 69.38 307 *e*P **P** 12 28 58.7 -0.5
KBL *e**PP **pP** 12 29 10.0 +0.5
KBL pmax pmax
comp=Z,5.0nm,0.8s
KBL Kabul 69.38 307 *e*P **P** 12 28 58.7 -0.5
comp=Z,5.1nm,0.8s
KBL *ep*P **pP** 12 29 09.9 +0.5
KK31 Karatay Array 70.91 316 *i* P **P** 12 29 08.0 -0.1
KK31 pmax pmax
comp=Z,24nm,0.8s
KKAR Karatay Array 70.91 316 *e*P **P** 12 29 08.0 -0.1
KKAR pmax pmax
comp=Z,33nm,1.0s
KKAR Karatay Array 70.91 316 *e*P **P** 12 29 08.0 -0.1
comp=Z,32nm,1.0s
BVA2 Borovoye Array 74.59 326 P **P** 12 29 29.5 -0.3
BVA2 pmax pmax
comp=Z,5.0nm,1.1s
BRVK Borovoye 74.67 326*d i*P **P** 12 29 30.1 -0.1
BRVK pmax pmax
comp=Z,40nm,1.2s
BRVK Borovoye 74.67 326 *e*P **P** 12 29 30.0 -0.2
comp=Z,32nm,1.1s
BRVK Borovoye 74.67 326 P **P** 12 29 30.7 +0.5
comp=Z,145nm,1.5s,SNR=22
BRVK Borovoye 74.67 326 P **P** 12 29 30.6 +0.5
SNR=11
JMDO Jabal Madar 76.55 293 P **P** 12 29 41.8 +0.1
SNR=5.8
SDPT Sand Point 77.32 32 *e*P **P** 12 29 45.0 -0.2
HOQ Hoqain 77.41 294 P **P** 12 29 47.0 +0.5
SNR=9.0
BSY Bisya 77.42 293 P **P** 12 29 46.9 +0.3
SNR=8.8
PPT Papeete 77.56 108 LR LR 12 59 29.6
comp=Z,113nm,21.3s,baz=330,slow=32
PPT2 Papeete2 77.56 108 *e*S **S** 12 39 40.6 +3.4
comp=Z,57nm,29.0s
PPT2 *e*SS **SS** 12 44 42.4 +5.3
comp=Z,62nm,26.0s
PPT2 *e*LR LR 12 53 58.9
comp=Z,178nm,24.5s
TBI Tubuai 78.05 114 *e*LR LR 12 54 08.7
comp=Z,230nm,30.0s
ARQ Araqi 78.10 294 P **P** 12 29 50.8 +0.5
SNR=6.3
AB31 Akbulak array 79.70 320 *i* P **P** 12 29 57.6 -0.9
AB31 pmax pmax
comp=Z,5.0nm,0.6s
ABKAR Akbulak array 79.70 320 *e*P **P** 12 29 57.8 -0.7
comp=Z,8.2nm,0.8s
RBK Rabkut 79.77 288 P **P** 12 29 59.5 -0.1
SNR=6.2
ABTO Aybut 80.62 288 P **P** 12 30 04.1 -0.1
SNR=5.3
SVE Sverdlovsk 81.15 328⇓*i*P **P** 12 30 06.2 +0.1
SVE pmax pmax
comp=Z,19nm,1.4s
MAW Mawson 81.94 201 LR LR 13 03 46.6
comp=Z,271nm,18.5s,baz=146,slow=34
ARU Arti 82.16 327*c i*P **P** 12 30 11.1 -0.4
ARU S **S** 12 40 25.2 +1.1
ARU pmax pmax
comp=Z,12nm,1.0s
ARU Arti 82.16 327 *e*P **P** 12 30 10.6 -0.9
comp=Z,7.4nm,0.9s
KDAK Kodiak Island 82.21 31 *e*P **P** 12 30 12.0 +0.3
comp=Z,37nm,1.0s
KDAK Kodiak Island 82.21 31 P **P** 12 30 12.6 +0.9
comp=Z,188nm,0.8s,SNR=6.9
SLKM Skilak Lake 84.01 29 *e*P **P** 12 30 20.8 -0.2
SLKM Skilak Lake 84.01 29 *e*P **P** 12 30 20.8 -0.2
SEW Seward 84.30 29 *e*P **P** 12 30 22.4 -0.1
comp=Z,22nm,1.0s
RC01 Rabbit Creek A 84.36 28 *e*P **P** 12 30 22.1 -0.6
comp=Z,24nm,0.9s
TRF Thorofare Moun 84.61 26 *e*P **P** 12 30 22.8 -1.4
comp=Z,37nm,1.4s
PMR Palmer 84.75 28 *e*P **P** 12 30 23.6 -1.1
PMR pmax pmax
comp=Z,13nm,1.0s
PMR Palmer 84.75 28 *e*P **P** 12 30 23.6 -1.1
comp=Z,13nm,1.0s
SML Sawmill 85.16 28 *e*P **P** 12 30 25.7 -1.1
SML pmax pmax
comp=Z,19nm,1.2s
SML Sawmill 85.16 28 *e*P **P** 12 30 25.7 -1.1
comp=Z,19nm,1.2s
MCK McKinley 85.25 26 *e*P **P** 12 30 26.7 -0.5
MCK pmax pmax
comp=Z,59nm,1.3s
MCK McKinley 85.25 26 *e*P **P** 12 30 26.7 -0.5
comp=Z,59nm,1.3s
COLA College 85.93 25 *e*P **P** 12 30 29.8 -0.7
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA College 85.93 25 *e*P **P** 12 30 29.8 -0.7
comp=Z,7.1nm,0.9s
QRN Al-Qurain 86.24 299 *e*P **P** 12 30 31.6 -1.3
DIV Divide 86.26 29 *e*P **P** 12 30 32.5 +0.2
comp=Z,86nm,1.0s
ILAR Eielson Array 86.32 25 P **P** 12 30 31.2 -1.2
ILAR Eielson Array 86.32 25 P **P** 12 30 31.2 -1.2
comp=Z,8.7nm,0.8s,baz=259,slow=5.1,SNR=71
ILAR LR LR 13 03 09.2
comp=Z,142nm,20.1s,baz=125,slow=32
PAX Paxson 86.67 27 *e*P **P** 12 30 34.6 +0.3
PAX pmax pmax
comp=Z,41nm,1.4s
PAX Paxson 86.67 27 *e*P **P** 12 30 34.6 +0.3
comp=Z,41nm,1.4s
MIB Mutribah 86.80 300 *e*P **P** 12 30 34.0 -1.5
MIB AMb AMB 12 30 37.3
comp=Z,35nm,1.1s
BMRM Bremner River 86.81 29 *e*P **P** 12 30 35.2 +0.3
comp=Z,60nm,1.1s
NAY Al-Naaiem 86.86 299 *e*P **P** 12 30 34.6 -1.2
NAY AMb AMB 12 30 36.8
comp=Z,28nm,1.5s
DOT Dot Lake 87.39 26 *e*P **P** 12 30 37.1 -0.6
comp=Z,4.4nm,0.9s
MENT Mentasta 87.46 27 *e*P **P** 12 30 38.2 +0.1
DAWY Dawson 89.48 26 *e*P **P** 12 30 47.6 -0.1
ZEI Tsey 90.00 313 *e*P **P** 12 30 51.5 +0.7
ZEI pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 90.90 314 *e*P **P** 12 30 53.7 -1.1
KIV pmax pmax
comp=Z,4.0nm,1.0s
DIB Dawson Inlet, 93.14 37 T T 14 14 41.7
SNR=24
OBN Obninsk 94.41 325 *e*P **P** 12 31 09.4 -1.2
OBN pmax pmax
comp=Z,2.0nm,0.5s
ASF Jabal al Asfar 95.76 302 LR LR 13 20 32.0
comp=Z,32nm,18.1s,baz=66,slow=39
ARCES ARCESS Array B 96.82 340 P **P** 12 31 20.3 -1.0
ARCES ARCESS Array B 96.82 340 P **P** 12 31 20.3 -1.0
comp=Z,7.7nm,0.9s,baz=74,slow=4.1,SNR=10
ARCES LR LR 13 17 42.4
comp=Z,197nm,20.5s,baz=214,slow=37
MMAI Mount Meron Ar 96.97 303 LR LR 13 17 37.0
comp=Z,37nm,18.2s,baz=60,slow=37
FINES FINESS Array B 98.78 332 LR LR 13 22 17.1
comp=Z,198nm,18.3s,baz=320,slow=39
AKASG Malin Array Be 99.42 321 LR LR 13 25 02.2
comp=Z,108nm,19.1s,baz=10.0,slow=41
YKA Yellowknife Ar 100.72 26 P **Pdif** 12 31 38.1 -0.7
YKA Yellowknife Ar 100.72 26 P **Pdif** 12 31 38.1 -0.7
comp=Z,1.4nm,0.8s,baz=294,slow=4.7,SNR=21
PDAR Pinedale Array 110.18 44 PKKPbc PKKPbc 12 47 24.3 -1.5
PDAR PKKPab **PKKPab** 12 47 34.5 -1.5
PDAR Pinedale Array 110.18 44 PKKPbc PKKPbc 12 47 24.3 -1.5
comp=Z,0.7nm,0.9s,baz=107,slow=3.0,SNR=4.3
PDAR PKKPab **PKKPab** 12 47 34.5 -1.5
comp=Z,0.6nm,0.8s,baz=120,slow=3.6,SNR=4.9
ULM Lac du Bonnet 115.45 33 PKKPbc PKKPbc 12 47 09.9 +1.8
ULM Lac du Bonnet 115.45 33 PKKPbc PKKPbc 12 47 09.9 +1.8
comp=Z,2.0nm,0.7s,baz=157,slow=1.2,SNR=4.8
TXAR Lajitas Array 118.86 57 PKP **PKPdf** 12 36 39.7 -0.3
TXAR PKKPbc **PKKPbc** 12 46 54.5 -0.9
TXAR Lajitas Array 118.86 57 PKP **PKPdf** 12 36 39.7 -0.3
comp=Z,0.5nm,0.9s,baz=215,slow=3.0,SNR=3.7
TXAR PKKPbc **PKKPbc** 12 46 54.5 -0.9
comp=Z,0.2nm,0.6s,baz=105,slow=5.4,SNR=5.9
TORD Torodi Ar. Bea 130.46 287 PKP **PKPdf** 12 37 01.3 -1.0
TORD Torodi Ar. Bea 130.46 287 PKP **PKPdf** 12 37 01.3 -1.0
comp=Z,2.5nm,0.8s,baz=56,slow=1.7,SNR=12
PLCA Paso Flores 133.41 155 PKPpre PKPpre 12 36 59.2
PLCA PKP **PKiKP** 12 37 08.1 -0.5
PLCA Paso Flores 133.41 155 PKhKP PKPpre 12 36 59.2
comp=Z,0.7nm,0.6s,baz=153,slow=2.3,SNR=2.7
PLCA PKP **PKiKP** 12 37 08.1 -0.5
comp=Z,1.7nm,0.7s,baz=192,slow=7.0,SNR=7.8
LVC Limon Verde 148.32 138 *e*PKPbc **PKPbc** 12 37 39.1 +1.0
CPUP Villa Florida 151.24 160 PKP **PKPdf** 12 37 38.5 -0.5
CPUP PKPbc **PKiKP** 12 37 45.1 -0.3
CPUP Villa Florida 151.24 160 PKP **PKPdf** 12 37 38.5 -0.5
comp=Z,0.6nm,0.4s,baz=149,slow=5.9,SNR=3.9
CPUP PKPbc **PKiKP** 12 37 45.1 -0.3
comp=Z,13nm,0.8s,baz=221,slow=0.6,SNR=13

LPAZ	**La Paz**	**152.97**	**130**	PKP	**PKPdf**	**12**	**37**	**43.9 +1.3**
LPAZ				PKPbc	**PKiKP**	**12**	**37**	**50.5 +0.4**
LPAZ	**La Paz**	**152.97**	**130**	PKP	**PKPdf**	**12**	**37**	**43.9 +1.3**
	comp=Z,2.5nm,0.9s,baz=177,slow=3.5,SNR=7.7							
LPAZ				PKPbc	**PKiKP**	**12**	**37**	**50.5 +0.4**
	comp=Z,8.7nm,0.9s,baz=228,slow=2.9,SNR=16							
SDV	**Santo Domingo**	**154.88**	**70**	*e*PKPdf	**PKPdf**	**12**	**37**	**45.0 +0.1**
SAML	**Samuel**	**161.03**	**121**	*e*PKPdf	**PKPdf**	**12**	**37**	**51.6 -0.5**

IDC 23 12:29:39.2±3.0, 0.90S×133.30E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.3/19, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=142.1km s-min=30.2km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.95**	**177**	P	Pn	12 34 02.8	0.0
	0.1nm,0.3s,baz=356,slow=12,SNR=3.4						
ASAR	**Alice Springs**	**22.64**	**179**	P	P	12 34 41.9	-0.2
	0.8nm,0.8s,baz=355,slow=12,SNR=4.5						
MKAR	**Makanchi Array**	**65.11**	**324**	P	P	12 40 21.8	-0.1
	0.1nm,0.5s,baz=120,slow=5.2,SNR=2.5						

*ISCJB **23** 12:35:02.3±0.6, 38.35N±0.04×21.85E±0.06, h9km±5km, Error ellipse: s-maj=8.5km s-min=5.3km az=35.8*
*THE **23** 12:35:02.3, 38.36N×21.84E, h8km±2km, ML1.8/2, Error ellipse: s-maj=2.2km s-min=0.7km az=292.0*
*ATH **23** 12:35:02.3, 38.32N×21.90E, h9km±1km, MD3.0/4*
*CSEM **23** 12:35:02.5±0.1, 38.33N×21.88E, h5km, ML1.8/2, Error ellipse: s-maj=6.1km s-min=3.3km az=118.0*

ISC 23 12:35:02.5±1.2, 38.34N±0.03×21.85E±0.03, h8km±6km, n18, σ0.50/32, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.07**	**219**	P	**Pg**	**12 35 04.1**	**-0.4**
UPR				S	**Sg**	**12 35 06.5**	**+0.6**
UPR	**University Cam**	**0.07**	**219**	*e*PG	**Pg**	**12 35 04.8**	**+0.3**
UPR				*e*SG	**Sg**	**12 35 06.5**	**+0.6**
UPR	**University Cam**	**0.07**	**219**	P	**Pg**	**12 35 04.1**	**-0.4**
UPR	**University Cam**	**0.07**	**219**	*e*Pg	**Pg**	**12 35 04.8**	**+0.3**
UPR				S	**Sg**	**12 35 06.5**	**+0.6**
EFP	**Efpalio**	**0.10**	**29**	P	**Pg**	**12 35 04.4**	**-0.4**
EFP				S	**Sg**	**12 35 06.1**	**-0.4**
EFP	**Efpalio**	**0.10**	**29**	*e*PG	**Pg**	**12 35 04.9**	**+0.1**
EFP				*e*SG	**Sg**	**12 35 07.1**	**+0.6**
EFP	**Efpalio**	**0.10**	**29**	P	**Pg**	**12 35 04.4**	**-0.4**
EFP	**Efpalio**	**0.10**	**29**	*e*Pg	**Pg**	**12 35 04.9**	**+0.1**
EFP				S	**Sg**	**12 35 06.1**	**-0.4**
EFP				*e*Sg	Sg	12 35 07.1	+0.6
LAKA	**Lakka**	**0.14**	**134**	P	**Pg**	**12 35 05.9**	**+0.3**
LAKA				S	**Sg**	**12 35 08.0**	**+0.3**
LAKA	**Lakka**	**0.14**	**134**	P	**Pg**	**12 35 05.9**	**+0.3**
LAKA				S	**Sg**	**12 35 08.0**	**+0.3**
TRIZ	**Trizonia**	**0.18**	**82**	P	**Pg**	**12 35 06.2**	**0.0**
TRIZ				S	**Sg**	**12 35 09.3**	**+0.6**
TRIZ	**Trizonia**	**0.18**	**82**	P	**Pg**	**12 35 06.2**	**0.0**
TRIZ				S	**Sg**	**12 35 09.3**	**+0.6**
KALE	**Kalithea**	**0.24**	**78**	P	**Pg**	**12 35 07.1**	**-0.1**
KALE	**Kalithea**	**0.24**	**78**	P	**Pg**	**12 35 07.1**	**-0.1**
RLS	**Riolos of Patr**	**0.41**	**227**	*e*PG	**Pg**	**12 35 10.6**	**+0.1**
RLS				*e*SB	**Sb**	**12 35 17.5**	**-0.9**
RLS	**Riolos of Patr**	**0.41**	**227**	*e*Pg	**Pg**	**12 35 10.6**	**+0.1**
RLS				*e*Sb	**Sb**	**12 35 17.5**	**-0.9**
EVR	**Evrytania**	**0.57**	**357**	*e*PB	**Pg**	**12 35 14.0**	**+0.4**
EVR				*e*SB	**Sg**	**12 35 22.0**	**+0.8**
EVR	**Evrytania**	**0.57**	**357**	*e*Pb	**Pg**	**12 35 14.0**	**+0.4**
EVR				*e*Sb	**Sg**	**12 35 22.0**	**+0.8**

IDC 23 12:50:28.1±1.2, 3.43N×126.39E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.7/7, Error ellipse: s-maj=134.5km s-min=17.7km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.51**	**162**	P	P	12 55 48.7	-0.7
	1.5nm,0.7s,baz=341,slow=10,SNR=11						
ASAR	**Alice Springs**	**27.91**	**165**	P	P	12 56 21.2	+1.1
	0.2nm,0.7s,baz=345,slow=7.8,SNR=4.0						
STKA	**Stephens Creek**	**37.98**	**159**	P	P	12 57 47.8	-0.1
	1.5nm,0.7s,baz=333,slow=11,SNR=3.5						
SONM	**Songino Array**	**47.47**	**342**	P	P	12 59 05.0	+0.1
	0.5nm,0.6s,baz=154,slow=8.3,SNR=5.5						
MKAR	**Makanchi Array**	**57.60**	**326**	P	P	13 00 21.0	+1.0
	0.5nm,0.5s,baz=120,slow=7.9,SNR=6.5						
KURBB	**Kurchatov Arra**	**61.80**	**328**	P	P	13 00 47.8	-1.0
	0.8nm,0.5s,baz=128,slow=6.6,SNR=6.9						
AKTO	**Aktyubinsk**	**73.68**	**322**	P	P	13 02 03.3	-0.5
	0.9nm,0.6s,baz=96,slow=6.7,SNR=4.3						

*CSEM **23** 12:59:14.6±0.3, 36.90N×28.28E, h10km, ML2.5, Error ellipse: s-maj=7.0km s-min=4.3km az=173.0*
*DDA **23** 12:59:15.8, 36.97N×28.21E, h7km, MD2.8*
*ISK **23** 12:59:15.6, 37.00N×28.17E, h5km, ML2.5*

ISC 23 12:59:14.5±1.2, 36.92N±0.04×28.21E±0.03, h6km±10km, n14, σ1.22/26, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.23**	**15**	PG	**Pg**	**12 59 19.6**	**+0.6**
YER				*e*SG	**Sg**	**12 59 22.6**	**+0.5**
YER	**Yerkesik**	**0.23**	**15**	*i* Pg	**Pg**	**12 59 19.6**	**+0.6**
YER				*e*Sg	**Sg**	**12 59 22.6**	**+0.5**
TURN	**Turunc**	**0.32**	**98**	*i* P	**Pg**	**12 59 20.1**	**-0.6**
TURN				*i* S	**Sg**	**12 59 23.4**	**-1.6**
TURN	**Turunc**	**0.32**	**98**	*i* P	**Pg**	**12 59 20.1**	**-0.6**
TURN				*i* S	**Sg**	**12 59 23.4**	**-1.6**
BDRM	**Kayabasi**	**0.63**	**284**	*i* P	**Pb**	**12 59 27.5**	**-0.4**
BDRM				*i* S	**Sb**	**12 59 38.0**	**+1.0**
BDRM	**Kayabasi**	**0.63**	**284**	*i* P	**Pb**	**12 59 27.5**	**-0.4**
BDRM				*i* S	**Sb**	**12 59 38.0**	**+1.0**
BODT	**Bodrum**	**0.73**	**282**	*e*PG	**Pb**	**12 59 29.8**	**+0.1**
BODT				*e*SG	**Sn**	**12 59 41.8**	**-1.1**
BODT	**Bodrum**	**0.73**	**282**	*e*Pg	**Pb**	**12 59 29.8**	**+0.1**
BODT				*e*Sg	**Sn**	**12 59 41.8**	**-1.1**
AYDN	**Tasoluk**	**0.79**	**341**	*i* P	**Pb**	**12 59 30.3**	**-0.4**
AYDN				*i* S	**Sb**	**12 59 40.2**	**-1.4**
AYDN	**Tasoluk**	**0.79**	**341**	*i* P	**Pb**	**12 59 30.3**	**-0.4**
AYDN				*i* S	**Sb**	**12 59 40.2**	**-1.4**
DNZL	**Cakiroluk**	**1.02**	**41**	*i* P	**Pb**	**12 59 34.4**	**-0.2**
DNZL				*i* S	**Sn**	**12 59 50.5**	**+0.3**
DNZL	**Cakiroluk**	**1.02**	**41**	*i* P	**Pb**	**12 59 34.4**	**-0.2**
DNZL				*i* S	**Sn**	**12 59 50.5**	**+0.3**
ELL	**Elmali**	**1.37**	**97**	*e*PN	**Pg**	**12 59 43.7**	**+2.9**
ELL	**Elmali**	**1.37**	**97**	*e*Pn	**Pg**	**12 59 43.7**	**+2.9**

IDC 23 13:03:31.9±1.4, 3.99N×126.93E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/23, mbtmp3.7/6, Error ellipse: s-maj=95.0km s-min=19.7km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.99**	**183**	P	P	13 08 27.4	-0.4
	1.0nm,0.4s,baz=6.3,slow=11,SNR=6.2						
WRA	**Warramunga Arr**	**24.88**	**163**	P	P	13 08 56.1	-0.4
	3.5nm,0.7s,baz=344,slow=10,SNR=34						
ASAR	**Alice Springs**	**28.32**	**166**	P	P	13 09 27.9	+0.3
	0.3nm,0.7s,baz=346,slow=8.5,SNR=4.8						
STKA	**Stephens Creek**	**38.30**	**160**	P	P	13 10 54.7	+0.3
	2.8nm,0.7s,baz=343,slow=9.6,SNR=6.2						
MKAR	**Makanchi Array**	**57.46**	**325**	P	P	13 13 22.8	+0.1
	0.3nm,0.5s,baz=119,slow=7.9,SNR=4.6						
KURBB	**Kurchatov Arra**	**61.63**	**327**	P	P	13 13 51.2	-0.2
	0.3nm,0.5s,baz=130,slow=6.0,SNR=4.0						

IDC 23 13:04:25.0±1.1, 3.63N×126.79E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.9/24, mbtmp3.9/10, Error ellipse: s-maj=102.2km s-min=14.6km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.62**	**183**	P	P	13 09 16.6	-0.3
	0.6nm,0.3s,baz=14,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**24.57**	**163**	P	P	13 09 46.6	-0.2
	3.2nm,0.8s,baz=343,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.00**	**166**	P	P	13 10 18.6	+0.8
	0.3nm,0.3s,baz=341,slow=11,SNR=9.0						
STKA	**Stephens Creek**	**38.01**	**159**	P	P	13 11 44.9	-0.1
	2.0nm,0.6s,baz=337,slow=10,SNR=5.0						
SONM	**Songino Array**	**47.41**	**341**	P	P	13 13 01.5	+0.1
	0.6nm,0.5s,baz=157,slow=8.3,SNR=5.9						
MKAR	**Makanchi Array**	**57.67**	**325**	P	P	13 14 18.1	+0.8
	1.2nm,0.5s,baz=123,slow=8.0,SNR=16						
ZALV	**Zalesovo Beam**	**60.71**	**333**	P	P	13 14 38.4	+0.3
	0.3nm,0.3s,baz=132,slow=5.1,SNR=3.2						
KURBB	**Kurchatov Arra**	**61.86**	**327**	P	P	13 14 46.1	+0.1
	1.0nm,0.6s,baz=131,slow=6.6,SNR=9.8						
BVAR	**Borovoye Array**	**67.44**	**327**	P	P	13 15 21.7	-0.8
	0.5nm,0.4s,baz=42,slow=4.5,SNR=3.8						
ARCES	**ARCESS Array B**	**90.56**	**340**	P	P	13 17 28.1	-0.7
	2.4nm,0.8s,baz=74,slow=5.4,SNR=6.1						
TORD	**Torodi Ar. Bea**	**123.00**	**288**	PKP	PKPdf	13 23 23.4	-1.1
	0.2nm,0.7s,baz=69,slow=2.9,SNR=3.5						

IDC 23 13:20:59.7±1.7, 7.82S×117.72E, h0km, mb2.9/3, mb1 3.3/4, mb1mx3.1/21, mbtmp3.2/4, ML3.8/1, Error ellipse: s-maj=40.7km s-min=24.3km az=65.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**3.44**	**36**	Pn	Pn	13 21 55.2	+0.6
	9.9nm,0.3s,baz=214,slow=3.7,SNR=51						
KAPI				Sn	Sn	13 22 35.7	-0.4
	2.0nm,0.3s,baz=216,slow=19,SNR=3.9						
WRA	**Warramunga Arr**	**20.12**	**129**	P	P	13 25 35.5	+0.1
	0.2nm,0.5s,baz=305,slow=10,SNR=3.1						
ASAR	**Alice Springs**	**22.12**	**137**	P	P	13 25 56.9	-0.2
	0.2nm,0.4s,baz=310,slow=9.1,SNR=9.1						
MKAR	**Makanchi Array**	**62.83**	**333**	P	P	13 31 27.3	0.0
	0.3nm,0.8s,baz=152,slow=6.5,SNR=3.1						

IDC 23 13:31:40.9±2.8, 6.09S×150.41E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/17, mbtmp3.9/5, ML3.3/1, MS3.4/4, Ms1 3.4/4, ms1mx2.7/33, Error ellipse: s-maj=87.8km s-min=25.0km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.61**	**224**	Pn	Pn	13 32 53.6	+1.7
	9.0nm,0.3s,baz=45,slow=12,SNR=39						
PMG				Sn	Sn	13 33 46.0	-0.1
	19nm,0.3s,baz=85,slow=18,SNR=12						
CTA	**Charters Tower**	**14.49**	**196**	LR	LR	13 40 28.4	
	comp=Z,64nm,18.5s,baz=220,slow=36						
WRA	**Warramunga Arr**	**20.82**	**227**	P	P	13 36 24.8	+0.5
	2.1nm,0.5s,baz=52,slow=11,SNR=31						
DZM	**Mont Dzumac**	**22.19**	**137**	LR	LR	13 43 26.2	
	comp=Z,130nm,19.2s,baz=22,slow=32						
ASAR	**Alice Springs**	**23.61**	**221**	P	P	13 36 54.0	+0.2
	0.5nm,0.3s,baz=54,slow=9.2,SNR=49						
ASAR				LR	LR	13 45 27.0	
	comp=Z,54nm,19.6s,baz=113,slow=35						
FITZ	**Fitzroy Crossi**	**26.96**	**242**	P	P	13 37 23.6	-0.9
	1.9nm,0.5s,baz=66,slow=8.5,SNR=13						
SONM	**Songino Array**	**66.17**	**329**	P	P	13 42 31.9	+1.3
	0.2nm,0.4s,baz=144,slow=6.2,SNR=4.1						
AAK	**Ala-Archa**	**83.83**	**314**	LR	LR	14 20 57.8	
	comp=Z,47nm,20.7s,baz=195,slow=35						
TORD	**Torodi Ar. Bea**	**148.39**	**285**	PKPbc	PKPdf	13 51 28.8	+1.7
	2.5nm,0.7s,baz=64,slow=2.5,SNR=14						

*CSEM **23** 13:34:21.9±0.4, 36.91N×28.12E, h10km, ML2.2, Error ellipse: s-maj=9.4km s-min=5.1km az=176.0*
*ISCJB **23** 13:34:22.0±0.9, 36.94N±0.06×28.10E±0.04, h5km±7km, Error ellipse: s-maj=9.3km s-min=5.1km az=174.2*
*ISK **23** 13:34:23.1, 37.06N×28.04E, h4km, ML2.2*
*DDA **23** 13:34:23.2, 37.01N×28.05E, h7km, MD2.8*

ISC 23 13:34:21.5±1.1, 36.90N±0.05×28.11E±0.04, h14km±8km, n16, σ1.911/32, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.27**	**31**	*e*PG	**Pg**	**13 34 28.0**	**+0.7**
YER				*e*SG	**Sg**	**13 34 31.7**	**+0.5**
YER	**Yerkesik**	**0.27**	**31**	*e*Pg	**Pg**	**13 34 28.0**	**+0.7**
YER				*e*Sg	**Sg**	**13 34 31.7**	**+0.5**
TURN	**Turunc**	**0.40**	**94**	*i* P	**Pg**	**13 34 29.4**	**-0.1**
TURN				*e*S	**Sg**	**13 34 33.0**	**-2.0**
TURN	**Turunc**	**0.40**	**94**	*i* P	**Pg**	**13 34 29.4**	**-0.1**
TURN				*e*S	**Sg**	**13 34 33.0**	**-2.0**
BDRM	**Kayabasi**	**0.56**	**287**	*i* P	**Pb**	**13 34 33.1**	**+0.1**
BDRM				*i* S	**Sb**	**13 34 40.6**	**-0.2**
BDRM	**Kayabasi**	**0.56**	**287**	*i* P	**Pb**	**13 34 33.1**	**+0.1**
BDRM				*i* S	**Sb**	**13 34 40.6**	**-0.2**
BODT	**Bodrum**	**0.66**	**284**	*e*PG	**Pb**	**13 34 35.6**	**+0.8**
BODT				*e*SG	**Sb**	**13 34 43.6**	**-0.2**
BODT	**Bodrum**	**0.66**	**284**	*e*Pg	**Pb**	**13 34 35.6**	**+0.8**
BODT				*e*Sg	**Sb**	**13 34 43.6**	**-0.2**
AYDN	**Tasoluk**	**0.78**	**347**	*i* P	**Pb**	**13 34 36.5**	**-0.3**
AYDN				*i* S	**Sb**	**13 34 45.2**	**-2.1**
AYDN	**Tasoluk**	**0.78**	**347**	*i* P	**Pb**	**13 34 36.5**	**-0.3**
AYDN				*i* S	**Sb**	**13 34 45.2**	**-2.1**
DNZL	**Cakiroluk**	**1.08**	**43**	*i* P	**Pb**	**13 34 43.5**	**+1.3**
DNZL				*i* S	**Sn**	**13 34 58.8**	**+1.4**
DNZL	**Cakiroluk**	**1.08**	**43**	*i* P	**Pb**	**13 34 43.5**	**+1.3**
DNZL				*i* S	**Sn**	**13 34 58.8**	**+1.4**
MANT	**Manisa**	**1.62**	**13**	*e*P	**Pn**	**13 34 49.3**	**-0.6**
MANT				*e*S	**Sn**	**13 35 10.6**	**-0.1**
MANT	**Manisa**	**1.62**	**13**	*e*P	**Pn**	**13 34 49.3**	**-0.6**
MANT				*e*S	**Sn**	**13 35 10.6**	**-0.1**
KULA	**Kula-Manisa**	**1.67**	**15**	*e*PN	**Pn**	**13 34 51.5**	**+1.1**
KULA				*e*SN	**Sg**	**13 35 13.9**	**-1.3**
KULA	**Kula-Manisa**	**1.67**	**15**	*e*Pn	**Pn**	**13 34 51.5**	**+1.1**
KULA				*e*Sn	**Sg**	**13 35 13.9**	**-1.3**

IDC 23 13:49:55.7±2.2, 3.51N×126.50E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, Error ellipse: s-maj=194.9km s-min=25.2km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.55**	**162**	P	P	13 55 17.4	0.0
	1.0nm,0.6s,baz=341,slow=11,SNR=16						
ASAR	**Alice Springs**	**27.96**	**165**	P	P	13 55 48.5	+0.2
	0.1nm,0.5s,baz=341,slow=9.9,SNR=3.7						
MKAR	**Makanchi Array**	**57.60**	**325**	P	P	13 59 47.3	-0.2
	0.2nm,0.5s,baz=112,slow=8.8,SNR=2.9						

IDC 23 14:11:28.2±1.4, 14.59S×76.65W, h0km, mb3.9/2, mb1 3.8/6, mb1mx3.7/19, mbtmp3.8/6, ML3.7/2, MS3.3/5, Ms1 3.3/5, ms1mx2.9/25, Error ellipse: s-maj=40.7km s-min=22.5km az=60.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.59**	**356**	Pn	Pn	14 12 12.1	+0.6
	26nm,0.3s,baz=157,slow=11,SNR=17						
NNA				Sn	Sn	14 12 44.7	+1.0
	55nm,0.3s,baz=206,slow=14,SNR=11						
ATAH	**Atahualpa**	**7.60**	**347**	Pn	Pn	14 13 22.6	+1.8
	0.5nm,0.3s,baz=156,slow=10.0,SNR=2.4						
ATAH				Sn	Sn	14 14 49.8	+1.7
	0.8nm,0.3s,baz=78,slow=19,SNR=2.2						
LPAZ	**La Paz**	**8.38**	**103**	Pn	Pn	14 13 33.4	+1.5
	0.5nm,0.3s,baz=300,slow=8.0,SNR=15						
LPAZ				LR	LR	14 17 09.4	
	comp=Z,165nm,20.6s,baz=324,slow=41						
SIV	**San Ignacio**	**15.09**	**97**	Pn	Pn	14 15 03.4	+0.5
	0.1nm,0.3s,baz=288,slow=10,SNR=3.5						
SIV				LR	LR	14 20 44.8	
	comp=Z,106nm,18.3s,slow=37						
ROSC	**El Rosal**	**19.45**	**7**	LR	LR	14 24 18.1	
	comp=Z,50nm,19.1s,baz=179,slow=40						
JTS	**JuntasAbangare**	**26.05**	**341**	LR	LR	14 27 00.7	
	comp=Z,49nm,20.1s,baz=204,slow=36						
BDFB	**Brasilia**	**27.65**	**96**	LR	LR	14 28 54.9	
	comp=Z,115nm,21.7s,baz=118,slow=38						
TXAR	**Lajitas Array**	**50.87**	**329**	P	P	14 20 36.3	+5.2
	0.7nm,0.9s,baz=151,slow=11,SNR=2.6						
NVAR	**Mina Array Bea**	**65.59**	**325**	P	P	14 22 19.9	+5.6
	0.4nm,0.7s,baz=138,slow=7.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**82.30**	**74**	P	P	14 23 51.5	-0.9
	3.3nm,0.7s,baz=270,slow=4.1,SNR=19						
YKA	**Yellowknife Ar**	**82.37**	**343**	P	P	14 23 50.3	-1.3
	0.1nm,0.5s,baz=138,slow=6.3,SNR=4.0						
ASAR	**Alice Springs**	**131.65**	**219**	PKP	PKPdf	14 30 44.3	+0.3
	0.1nm,0.8s,baz=123,slow=0.8,SNR=3.1						
WRA	**Warramunga Arr**	**134.11**	**222**	PKP	PKPdf	14 30 49.7	+1.0
	0.3nm,1.1s,baz=144,slow=1.9,SNR=3.0						
SONM	**Songino Array**	**146.75**	**356**	PKPbc	PKPbc	14 31 12.2	-0.2
	0.8nm,1.0s,baz=350,slow=2.8,SNR=3.1						

IDC 23 14:39:00.3±2.0, 1.75S×127.85E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/19, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=148.2km s-min=25.9km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.16**	**161**	P	Pn	14 43 26.5	+0.1
	0.1nm,0.3s,baz=340,slow=12,SNR=10						
ASAR	**Alice Springs**	**22.56**	**165**	P	P	14 44 01.8	-0.6
	0.8nm,0.7s,baz=338,slow=9.3,SNR=14						
MKAR	**Makanchi Array**	**62.69**	**326**	P	P	14 49 27.1	-0.1
	0.3nm,0.6s,baz=120,slow=8.2,SNR=5.6						

IDC 23 14:40:16.6±2.5, 4.07N×127.38E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, Error ellipse: s-maj=201.9km s-min=27.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.82**	**164**	P	P	14 45 39.6	-1.2
	0.4nm,0.7s,baz=344,slow=9.7,SNR=9.9						
ASAR	**Alice Springs**	**28.29**	**167**	P	P	14 46 13.7	+1.6
	0.1nm,0.6s,baz=344,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**57.65**	**325**	P	P	14 50 08.8	-0.1
	0.1nm,0.3s,baz=126,slow=7.0,SNR=5.2						

IDC 23 15:25:10.6±1.6, 22.87S×66.03W, h228km±17km, mb3.3/2, mb1 3.4/6, mb1mx3.2/18, mbtmp3.2/6, Error ellipse: s-maj=33.6km s-min=13.5km az=95.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**6.84**	**343**	P	Pn	15 26 50.2	+0.3
	1.7nm,0.3s,baz=146,slow=8.6,SNR=30						
LPAZ				S	S	15 28 07.8	-1.1
	0.1nm,0.3s,baz=286,slow=19,SNR=2.7						
SIV	**San Ignacio**	**8.28**	**35**	P	Pn	15 27 08.5	+0.9
	1.0nm,0.5s,baz=227,slow=7.9,SNR=35						
CFAA	**Coronel Fontan**	**8.92**	**192**	P	Pn	15 27 17.1	+1.4
	0.2nm,0.3s,baz=27,slow=15,SNR=27						
CFAA				S	S	15 28 51.2	-5.2
	0.3nm,0.3s,baz=110,slow=20,SNR=7.5						
PLCA	**Paso Flores**	**18.22**	**191**	P	Pn	15 29 08.7	-1.1
	0.2nm,0.3s,baz=11,slow=11,SNR=3.9						
TORD	**Torodi Ar. Bea**	**75.33**	**69**	P	P	15 36 28.3	-1.0
	0.5nm,0.3s,baz=266,slow=6.1,SNR=7.6						
YKA	**Yellowknife Ar**	**93.37**	**340**	P	P	15 37 58.4	-0.9
	0.2nm,0.6s,baz=132,slow=4.7,SNR=5.0						
ASAR	**Alice Springs**	**129.85**	**204**	PKP	PKPdf	15 43 53.1	-0.5
	0.2nm,0.8s,baz=138,slow=1.6,SNR=3.2						
MKAR	**Makanchi Array**	**145.09**	**39**	PKPbc	PKPdf	15 44 20.8	+0.1
	1.3nm,0.8s,baz=306,slow=2.9,SNR=13						

IDC 23 15:53:48.6±2.4, 10.76S×161.23E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=50.5km s-min=28.8km az=87.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.82**	**316**	Pn	Pn	15 54 21.5	+0.3
	5.4nm,0.3s,baz=198,slow=5.6,SNR=10						
HNR				Sn	Sb	15 54 45.8	-0.5
	61nm,0.3s,baz=142,slow=19,SNR=13						
WRA	**Warramunga Arr**	**27.45**	**247**	P	P	15 59 37.2	+0.6
	0.3nm,0.5s,baz=76,slow=9.8,SNR=7.8						
ASAR	**Alice Springs**	**29.02**	**240**	P	P	15 59 50.1	-0.5
	0.3nm,0.9s,baz=65,slow=10,SNR=3.4						
SONM	**Songino Array**	**75.86**	**325**	P	P	16 05 38.5	+1.4
	0.5nm,0.9s,baz=132,slow=5.0,SNR=4.2						
MKAR	**Makanchi Array**	**90.30**	**318**	P	P	16 06 49.9	-1.7
	0.1nm,0.5s,baz=96,slow=7.2,SNR=3.7						

BJI 23 15:57:38.2, 22.92N×100.93E, h13km, ML3.6/5, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.75**	**37**	Pg	Pb	15 58 28.1	+0.6
KMI				Sg	Sb	15 59 03.8	+2.4
KMI				smax	smax		
	comp=N,30nm,1.0s						
KMI				smax	smax		
	comp=E,38nm,1.1s						

*ISCJB **23** 15:58:04.3±0.6, 46.69N±0.07×146.6E±0.1, h361km, mb3.4/5, Error ellipse: s-maj=15.8km s-min=6.5km az=33.1*
*IDC **23** 15:58:05

MKAR	Makanchi Array	57.46	325	P	P	16 30 54.0	-0.1
	0.6nm,0.5s,baz=112,slow=8.3,SNR=19							

*SZGRF **23** 16:24:10.7, 20.14S×178.79W, h33km, Fiji Islands region*
*PRU **23** 16:24:19.8, 16.70S×175.75W, h30km*
*VIE **23** 16:25:05.7, 18.34S×178.66W, h456km, mb3.6 310 km E of Suva*
*ISCJB **23** 16:25:12.4±0.5, 18.5S±0.1×178.87W±0.09, h548km, mb4.0/21, Error ellipse: s-maj=14.1km s-min=10.6km az=149.5*
*IDC **23** 16:25:13.7±2.0, 18.44S×178.82W, h550km±22km, mb3.5/21, mb1 3.7/21, mb1mx3.6/26, mbtmp3.5/21, Error ellipse: s-maj=13.9km s-min=10.0km az=146.0*

ISC 23 16:25:13.2±0.5, 18.4S±0.1×178.83W±0.10, h548km, n103, σ0.9s79/105, mb4.0/21, 26C-12D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	8.13	57	P	P	16 27 03.4	-8.9
	3.9nm,0.3s,baz=60,slow=9.5,SNR=6.7						
AFI				S	S	16 28 34.1	-16
	2.3nm,0.3s,baz=60,slow=22,SNR=3.3						
DZM	Mont Dzumac	14.28	253	P	P	16 28 13.0	-2.5
	1.3nm,0.3s,baz=82,slow=17,SNR=13						
HNR	Honiara	22.43	291	P	P	16 29 30.5	-0.9
	28nm,0.7s,baz=164,slow=3.2,SNR=4.6						
CTA	Charters Tower	32.97	261	P	P	16 31 03.2	0.0
	9.7nm,0.7s,baz=84,slow=12,SNR=9.5						
PMG	Port Moresby	34.15	281	P	P	16 31 14.3	+1.1
	6.7nm,0.8s,baz=100,slow=11,SNR=5.9						
STKA	Stephens Creek	38.03	242	P	P	16 31 45.8	+0.8
	2.2nm,0.7s,baz=152,slow=20,SNR=4.9						
STKA				PcP	PcP	16 33 46.6	+0.5
	2.3nm,1.0s,baz=289,slow=0.2,SNR=3.1						
WRA	Warramunga Arr	44.14	260	P	P	16 32 33.6	-0.1
	2.2nm,0.5s,baz=96,slow=6.6,SNR=36						
WRA				PcP	PcP	16 34 07.5	+0.8
	2.2nm,0.7s,baz=89,slow=3.8,SNR=8.6						
WRA				S	S	16 38 26.0	-1.3
	1.5nm,0.9s,baz=90,slow=14,SNR=7.3						
ASAR	Alice Springs	44.26	255	P	P	16 32 34.9	+0.3
	9.0nm,0.5s,baz=90,slow=8.5,SNR=365						
ASAR				PcP	PcP	16 34 07.2	+0.1
	2.6nm,0.6s,baz=99,slow=3.8,SNR=11						
ASAR				S	S	16 38 29.6	+0.7
	3.3nm,1.0s,baz=89,slow=16,SNR=17						
FITZ	Fitzroy Crossi	52.55	261	P	P	16 33 36.7	+0.5
	2.2nm,0.7s,baz=78,slow=9.3,SNR=5.0						
NWAO	Narrogin (SRO)	58.61	242	P	P	16 34 18.1	0.0
	8.0nm,0.9s,baz=63,slow=6.8,SNR=3.7						
VNDA	Vanda	59.90	185	P	P	16 34 25.4	-0.4
	1.4nm,0.5s,baz=19,slow=7.1,SNR=8.3						
MJAR	Matsushiro Arr	68.08	324	P	P	16 35 18.0	-0.6
	2.5nm,0.6s,baz=159,slow=6.6,SNR=7.9						
ASAJ	Asahikawa	71.54	332	P	P	16 35 40.3	+1.4
	9.5nm,1.1s,baz=123,slow=19,SNR=4.9						
QSPA	South Pole Qui	71.63	180	P	P	16 35 39.7	+0.4
	14nm,0.9s,baz=36,slow=1.8,SNR=51						
PETK	Petropavlovsk-	74.08	346	P	P	16 35 53.3	0.0
	5.8nm,0.7s,baz=134,slow=9.1,SNR=12						
KSRS	Korea Array	74.82	319	P	P	16 35 59.0	+1.2
	1.1nm,0.7s,baz=123,slow=6.2,SNR=4.9						
USRK	Ussuriysk Arra	76.81	326	P	P	16 36 10.2	+1.6
	1.4nm,0.6s,baz=167,slow=9.6,SNR=4.1						
NVAR	Mina Array Bea	80.08	44	P	P	16 36 26.6	+0.1
	2.0nm,0.8s,baz=222,slow=9.8,SNR=11						
ILAR	Eielson Array	86.48	13	P	P	16 36 56.4	-1.2
	2.5nm,0.8s,baz=232,slow=5.8,SNR=21						
TXAR	Lajitas Array	86.61	58	P	P	16 36 59.4	+0.2
	3.1nm,0.9s,baz=221,slow=6.6,SNR=17						
CMAR	Chiang Mai Arr	88.68	290	P	P	16 37 10.6	+1.7
	2.3nm,0.9s,baz=105,slow=2.9,SNR=14						
VNA3	Neumayer Olymp	90.25	177	*e*P	P	16 37 15.3	+0.1
VNA2	Neumayer--Watz	90.68	177	*e*P	P	16 37 17.6	+0.4
	baz=177,slow=2.7						
SONM	Songino Array	93.68	319	P	P	16 37 32.7	+1.2
	0.3nm,0.7s,baz=142,slow=1.8,SNR=4.4						
YKA	Yellowknife Ar	94.97	25	P	P	16 37 35.8	-0.9
	0.4nm,0.7s,baz=241,slow=4.4,SNR=8.0						
ZALV	Zalesovo Beam	108.39	322	PKiKP	PKiKP	16 42 38.4	-0.8
	0.2nm,0.3s,baz=327,slow=2.5,SNR=3.7						
MKAR	Makanchi Array	109.20	314	PKiKP	PKiKP	16 42 40.3	-0.8
	0.6nm,0.6s,baz=196,slow=1.0,SNR=12						
ARCES	ARCESS Array B	126.75	350	PKP	PKPdf	16 43 13.3	-0.7
	3.4nm,0.9s,baz=2.9,slow=2.4,SNR=6.4						
FINES	FINESS Array B	133.57	344	PKP	PKPdf	16 43 26.9	-0.1
	2.2nm,0.9s,baz=43,slow=3.4,SNR=4.6						
NOA	NORSAR Array B	136.84	353	PKP	PKPdf	16 43 34.1	+0.8
	1.0nm,0.9s,baz=18,slow=4.2,SNR=3.2						
AKASG	Malin Array Be	140.83	332	PKhKP	PKPpre	16 43 33.9	
	0.9nm,0.4s,baz=43,slow=4.3,SNR=4.8						
BSEG	Bad Segeberg	143.86	351	*e*PKPbc	PKPdf	16 43 45.6	-0.4
KWP	Kalwaria Pacla	144.38	336	∥*i*P	PKPab	16 43 47.4	0.0
TLCR		144.77	325	∥*i*P	PKPab	16 43 49.5	+0.5
BRTR	Keskin Array B	144.85	314	PKP	PKPab	16 43 48.9	-0.9
	4.6nm,0.8s,baz=137,slow=5.2,SNR=26						
BURAR	Bucovina Array	144.88	331	⇑*i*P	PKPab	16 43 49.8	+0.3
TESR		145.00	329	∥*i*P	PKPbc	16 43 48.7	-0.3
KOLS	Kolonicke sedl	145.11	335	*e*	PKPab	16 43 49.4	-0.8
CFR	Carcaliu	145.14	326	⇑*i*P	PKPab	16 43 49.7	-0.7
NRDL	Niedersach Rie	145.29	350	*e*PKPbc	PKPab	16 43 49.6	-1.1
VRI	Vrincioaia	145.41	328	⇑*i*P	PKPab	16 43 50.6	-0.9
CRVS	Cervenica-Dubn	145.45	336	*e*	PKPab	16 43 51.1	-0.5
PLOR	Plostina	145.46	328	⇑*i*P	PKPab	16 43 51.1	-0.6
TIRR	Tirgusor	145.46	325	⇑*i*P	PKPab	16 43 51.0	-0.7
TRPA	Tarpa	145.64	334	⇑*i*P	PKPab	16 43 51.4	-0.9
TRPA	Tarpa	145.64	334	∥*e*	PKPab	16 43 50.9	+0.2
IBBN	Ibbenburen	145.80	353	*e*PKPbc	PKPab	16 43 52.3	-0.4
OKC	Ostrava-Krasne	145.83	340	*e*PKP	PKPab	16 43 51.9	-1.1
UPC	Upice	145.87	343	*e*PKP	PKPab	16 43 52.1	-1.0
CLZ	Clausthal	145.87	350	*e*PKPbc	PKPab	16 43 51.8	-1.4
CLL	Collm	145.88	347	*e*PKPbc	PKPab	16 43 51.4	+0.1
CLL	Collm	145.88	347	∥*i*PKP	PKPab	16 43 51.6	-1.5
	comp=Z,26nm,0.8s						
DPC	Dobruska-Polom	145.92	343	*e*PKP	PKPab	16 43 52.4	-1.0
DPC				*ex*	x	16 43 54.8	
KRLC	Kraliky	146.04	342	*e*PKP	PKPab	16 43 52.7	-1.2
MLR	Muntele Rosu	146.06	328	∥*i*P	PKPbc	16 43 52.1	-0.1
BRG	Berggiesshubel	146.07	345	*e*PKP	PKPbc	16 43 52.2	+0.3
	comp=Z,10nm,0.9s						
BRG				*i*		16 43 54.9	
	comp=Z,12nm,1.2s						
BRG	Berggiesshubel	146.07	345	*e*PKPbc	PKPbc	16 43 52.2	+0.3
MORC	Moravsky Berou	146.07	341	∥*i*P	PKPab	16 43 52.6	-1.4
PVCC	Panska Ves	146.23	345	*e*PKP	PKPab	16 43 53.3	-1.3
PVCC				*ex*	x	16 43 55.5	
VOIR		146.54	329	⇑*i*P	PKPbc	16 43 54.0	+0.5
DRGR		146.62	333	∥*i*P	PKPbc	16 43 53.5	-0.1
BUG	Bochum--Univer	146.71	353	*e*PKPbc	PKPab	16 43 54.8	-1.6
PRU	Pruhonice	146.74	344	*e*PKP	PKPbc	16 43 54.2	+0.5
PRU				*ex*	x	16 43 57.5	
MOX	Moxa	146.79	348	*e*PKPbc	PKPbc	16 43 54.1	+0.2
TANN	Tannenbergstha	146.83	347	*e*PKPbc	PKPbc	16 43 54.3	+0.2
PSZ	Piszkesteto	146.85	337	∥*i*P	PKPbc	16 43 54.5	+0.3
PSZ	Piszkesteto	146.85	337	∥*e*	PKPbc	16 43 54.3	+0.1
UBBA	Unterbreizbach	146.92	350	*e*PKPbc	PKPab	16 43 56.0	-1.2
SMOL	Smolenice	147.21	340	*e*	PKPbc	16 43 56.3	-2.3
ROTZ	Rotzenmuhle	147.50	347	*e*PKPbc	PKPbc	16 43 56.4	+0.6
BUD	Budapest	147.54	337	⇑*e*	PKPbc	16 43 56.8	+0.9
GZR	Gura Zlata	147.66	331	⇑*i*P	PKPbc	16 43 56.5	+0.1
TNS	Taunus Mts	147.75	351	*e*PKPbc	PKPbc	16 43 56.6	+0.1
KHC	Kasperske Hory	147.77	345	*e*PKP	PKPbc	16 43 57.1	+0.6
KHC				*ex*	x	16 44 01.8	
GEC2	GERESS Array S	148.00	344	*e*PKPbc	PKPbc	16 43 57.4	+0.2
GERES	GERESS Array B	148.00	344	PKPbc	PKPbc	16 43 57.6	+0.4
	comp=Z,3.2nm,0.7s,baz=29,slow=3.0,SNR=25						
BZS	Buzias	148.01	332	⇑*i*P	PKPbc	16 43 56.9	-0.3
SOP	Sopron	148.22	340	∥*e*	PKPbc	16 43 58.2	+0.5
CONA	Conrad Observa	148.22	341	⇑*e*PKPbc	PKPbc	16 43 58.8	+1.0
	comp=Z,17nm,1.4s						
CSNA	Conrad Observa	148.22	341	⇑*e*PKPbc	PKPbc	16 43 58.8	+1.0
	comp=Z,16nm,1.4s						
WLF	Walferdange	148.58	354	*e*PKPbc	PKPbc	16 43 59.3	+0.8
PKSM	Moratgy	148.75	336	∥*e*	PKPbc	16 43 58.9	-0.1
MOA	Molln	148.76	343	⇑*e*PKPbc	PKPbc	16 43 59.4	+0.4
	comp=Z,6.9nm,1.2s						
STU	Stuttgart	149.04	350	*e*PKPbc	PKPbc	16 44 00.0	+0.4
BEHE	Becsehely	149.21	339	⇑*e*	PKPbc	16 44 00.8	+0.7
FUR	Furstenfeldbru	149.21	347	*e*PKPbc	PKPbc	16 44 00.3	+0.2
RJOB	Jochberg	149.26	345	*e*PKPbc	PKPbc	16 44 00.3	0.0
VTS	Vitosha	149.51	327	⇑*i*P	PKPbc	16 44 01.5	+0.3
SOKA	Soboth	149.59	341	⇑*e*PKPbc	PKPbc	16 44 01.1	0.0
	comp=Z,6.8nm,1.0s						
BFO	Black Forest	149.61	351	*e*PKPbc	PKPbc	16 44 01.2	+0.1
KBA	Koelnbreinsper	149.72	343	⇑*e*PKPbc	PKPbc	16 44 01.2	-0.3
	comp=Z,6.0nm,0.7s						
OBKA	Obir	149.89	341	⇑*e*PKPbc	PKPbc	16 44 01.8	-0.1
	comp=Z,2.5nm,0.6s						
WATA	Walderalm	149.93	346	⇑*i*PKPbc	PKPbc	16 44 02.1	+0.1
	comp=Z,4.3nm,0.6s						
RETA	Reutte	149.97	347	⇑*e*PKPbc	PKPbc	16 44 02.3	+0.3
	comp=Z,4.2nm,0.9s						
WTTA	Wattenberg	149.98	346	⇑*i*PKPbc	PKPbc	16 44 02.6	+0.4
	comp=Z,14nm,0.9s						
MOTA	Moosalm	150.03	346	⇑*e*PKPbc	PKPbc	16 44 02.3	+0.1
	comp=Z,8.3nm,0.9s						
MYKA	Terra Mystica	150.05	343	⇑*e*PKPbc	PKPbc	16 44 01.9	-0.3
	comp=Z,6.3nm,1.0s						
GCIS	Gornji Cirnik	150.12	339	*i* PKPbc	PKPbc	16 44 02.4	+0.1
ABTA	Abfaltersbach	150.25	344	⇑*e*PKPbc	PKPbc	16 44 02.5	-0.2
	comp=Z,13nm,0.9s						
LJU	Ljubljana	150.32	341	*i* PKPbc	PKPbc	16 44 02.9	+0.1
DAVA	Damuels	150.34	348	⇑*e*PKPbc	PKPbc	16 44 03.4	+0.4
	comp=Z,15nm,1.2s						
FETA	Feichten	150.42	347	⇑*e*PKPbc	PKPbc	16 44 03.7	+0.5
	comp=Z,9.6nm,1.1s						
BOJS	Bojanci	150.57	340	*i* PKPbc	PKPbc	16 44 03.8	+0.4

*CSEM **23** 16:27:24.8, 43.65N×12.07E, h10km, MD1.6/5, After ROM*

ROM 23 16:27:24.8±0.1, 43.65N×12.07E, h10km, Md1.6/5, MI0.9/4, 4C, Error ellipse: s-maj=1.5km s-min=0.6km az=16.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRE	Caprese Michel	0.09	251	⇑*i*Pg	Pg	16 27 27.8	+0.3
CRE				Sg	Sg	16 27 29.8	+0.4
CRE	Caprese Michel	0.09	251	⇑*i*Pg	Pg	16 27 27.8	+0.3
CRE				Sg	Sg	16 27 29.8	+0.4
PARC	Parchiule	0.12	91	⇑*i*Pg	Pg	16 27 28.2	+0.5
PARC				Sg	Sg	16 27 30.4	+0.6
PARC	Parchiule	0.12	91	⇑*i*Pg	Pg	16 27 28.2	+0.5
PARC				Sg	Sg	16 27 30.4	+0.6
BADI	Badiali	0.19	139	Pg	Pg	16 27 29.6	+0.8
BADI				Sg	Sg	16 27 32.7	+1.2
	24nm,0.5s						
BADI	Badiali	0.19	139	Pg	Pg	16 27 29.6	+0.8
BADI				Sg	Sg	16 27 32.7	+1.2
	24nm,0.5s						
ASQU	Asqua	0.25	305	Pg	Pg	16 27 30.5	+0.4
ASQU				Sg	Sg	16 27 34.7	+1.0
	22nm,1.0s						
ASQU	Asqua	0.25	305	Pg	Pg	16 27 30.5	+0.4
ASQU				Sg	Sg	16 27 34.7	+1.0
	22nm,1.0s						
SFI	Santa Sofia	0.30	327	Pg	Pb	16 27 31.7	-0.7
SFI				Sg	Sb	16 27 36.7	-0.8
	285nm,4.5s						
SFI	Santa Sofia	0.30	327	Pg	Pb	16 27 31.7	-0.7
SFI				Sg	Sb	16 27 36.7	-0.8
	285nm,4.5s						
PIEI	Pieia	0.35	109	Pg	Pg	16 27 32.3	+0.4
PIEI				Sg	Sb	16 27 38.2	-0.8
	19nm,0.1s						
PIEI	Pieia	0.35	109	Pg	Pg	16 27 32.3	+0.4
PIEI				Sg	Sb	16 27 38.2	-0.8
	19nm,0.1s						

IDC 23 16:35:53.2±2.1, 5.79S×130.43E, h0km, mb3.5/2, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, ML3.9/3, Error ellipse: s-maj=80.5km s-min=25.2km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	13.10	201	Pn	Pn	16 39 01.4	+0.8
	0.6nm,0.3s,baz=25,slow=12,SNR=32						
FITZ				Sn	Sn	16 41 14.6	-13
	0.8nm,0.3s,baz=227,slow=20,SNR=7.7						
WRA	Warramunga Arr	14.57	165	Pn	Pn	16 39 18.9	-1.9
	0.4nm,0.3s,baz=348,slow=14,SNR=12						
WRA				Sn	Sn	16 41 50.6	-13
	0.8nm,0.3s,baz=346,slow=22,SNR=7.7						
ASAR	Alice Springs	18.09	170	P	P	16 40 06.5	0.0
	0.4nm,0.3s,baz=341,slow=8.4,SNR=53						
ASAR				S	Sn	16 43 13.8	-15
	0.1nm,0.3s,baz=359,slow=29,SNR=3.7						
CMAR	Chiang Mai Arr	39.30	308	P	P	16 43 24.1	-0.2
	0.1nm,0.4s,baz=142,slow=7.0,SNR=4.4						
MKAR	Makanchi Array	67.46	326	P	P	16 46 50.9	0.0
	0.2nm,0.3s,baz=115,slow=7.6,SNR=12						

*IDC **23** 16:54:06.7±0.9, 36.21N×137.49E, h279km±10km, mb3.0/2, mb1 3.2/3, mb1mx2.7/26, mbtmp3.1/3, Error ellipse: s-maj=52.3km s-min=19.4km az=77.0*

JMA 23 16:54:06.8±0.2, 36.17N×137.06E, h274km±2km, M2.7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGM	Miyama	0.55	211	P	Pn	16 54 42.8	+0.1
JKG	Kaga	0.60	280	P	Pn	16 54 43.1	+0.4
JNG	Nsakai	0.87	74	P	Pn	16 54 43.9	0.0
JNG				*e*S	S	16 55 13.3	+0.1
MAT	Matsushiro	1.00	68	P	Pn	16 54 44.2	-0.2
MAT				S	S	16 55 14.1	0.0
MAT	Matsushiro	1.00	68	P	Pn	16 54 44.4	0.0
MJAR	Matsushiro Arr	1.00	68	P	Pn	16 54 44.5	+0.2
	1.8nm,0.3s,baz=251,slow=7.4,SNR=26						
MJAR				S	S	16 55 13.0	-1.1
	0.3nm,0.3s,baz=242,slow=18,SNR=3.6						
JWT	Wachi	1.61	237	P	Pn	16 54 48.4	+0.1
JKY	Yasaka	1.68	252	P	Pn	16 54 48.8	+0.1
JIE	Ise	1.80	189	P	Pn	16 54 50.2	+0.5
ASAJ	Asahikawa	9.00	26	P	Pn	16 56 09.7	-2.8
	0.7nm,0.3s,baz=231,slow=8.7,SNR=14						
WRA	Warramunga Arr	55.87	183	P	P	17 03 15.6	-0.7
	0.9nm,0.4s,baz=360,slow=7.6,SNR=24						
ASAR	Alice Springs	59.59	183	P	P	17 03 42.3	+0.2
	0.1nm,0.3s,baz=359,slow=6.2,SNR=10						

IDC 23 16:54:49.5±1.4, 2.22N×127.26E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/20, mbtmp3.3/4, Error ellipse: s-maj=137.6km s-min=21.4km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.09	163	P	P	16 59 56.5	-0.6
	0.7nm,0.4s,baz=343,slow=11,SNR=10						
ASAR	Alice Springs	26.53	166	P	P	17 00 29.5	+0.3
	0.2nm,0.5s,baz=347,slow=7.6,SNR=5.9						
SONM	Songino Array	48.89	341	P	P	17 03 38.0	+0.7
	0.3nm,0.6s,baz=148,slow=8.9,SNR=3.3						
MKAR	Makanchi Array	59.09	326	P	P	17 04 51.0	-0.8
	0.1nm,0.5s,baz=114,slow=8.4,SNR=4.5						

*ISCJB **23** 17:05:14.0±0.7, 53.22N±0.07×165.67W±0.06, h62km±5km, mb4.1/14, Error ellipse: s-maj=11.7km s-min=4.6km az=162.8*
*NEIC **23** 17:05:14.3, 53.21N×165.67W, h41km, mb4.2/3, ML3.8(AEIC), After AEIC.*
*IDC **23** 17:05:16.1±3.0, 53.62N×165.79W, h44km±28km, mb3.8/12, mb1 4.0/15, mb1mx3.8/33, mbtmp3.9/15, ML4.0/3, Error ellipse: s-maj=28.2km s-min=14.4km az=175.0*

ISC 23 17:05:16.1±1.2, 53.29N±0.09×165.74W±0.05, h56km±10km, n65, σ1.9s05/64, mb4.0/14, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UNV	Unalaska Valle	0.72	321	P	Pn	17 05 29.0	-1.3
UNV				S	Sn	17 05 41.1	+0.4
MREP	Makushin Rep't	0.80	312	P	Pn	17 05 31.1	-0.2
ZRO	Akutan Zero	0.82	350	P	Pn	17 05 31.0	-0.6
AKUT	Akutan	0.85	359	P	Pn	17 05 31.1	-0.8
AKUT				S	Sn	17 05 44.1	+0.5
AKRB	Akutan Reef Bi	0.87	347	P	Pn	17 05 31.7	-0.5
AKRB				S	Sn	17 05 45.1	+1.0
AKLV	Akutan Long Va	0.89	352	P	Pn	17 05 31.6	-0.9
AKLV				S	Sn	17 05 45.0	+0.5
MSOM	Makushin Julie	0.89	307	P	Pn	17 05 31.8	-0.7
AKGG	Akutan Green G	0.93	351	P	Pn	17 05 32.4	-0.6
AKGG				S	Sn	17 05 46.5	+1.1
MCIR	Makushin Cirqu	0.95	315	P	Pn	17 05 33.2	-0.2
OKFG	Magazine Ridge	1.30	276	P	Pn	17 05 36.9	-1.1
OKFG				S	Sn	17 05 53.9	-0.5
WESE	West Dahl East	1.37	30	P	Pn	17 05 38.3	-0.7
OKCE	Okmok Cone E	1.46	276	P	Pn	17 05 39.7	-0.4
OKCE				S	Sn	17 05 58.1	0.0
OKWE	Okmok W'ng Wal	1.51	278	P	Pn	17 05 40.6	-0.1
BRPK	Brown Peak	1.80	40	P	Pn	17 05 43.4	-1.4
NIKO	Nikolski	1.90	262	P	Pn	17 05 44.8	-1.2
FALS	False Pass	2.09	40	P	Pn	17 05 47.7	-0.9
FALS				S	Sn	17 06 14.5	+1.1
DRIA	Deer Island	2.65	49	P	Pn	17 05 55.5	-0.8
DTI	Dutton Round H	2.73	47	P	Pn	17 05 56.8	-0.6
DTNA	Dutton South F	2.77	46	P	Pn	17 05 57.5	-0.5
DOL	Dolgoi Island	2.94	49	P	Pn	17 05 59.6	-0.8
PS4A	Pavlof South-4	3.07	46	P	Pn	17 06 02.1	0.0
PVV	Pavlof Volcano	3.12	46	P	Pn	17 06 02.8	+0.1
SDPT	Sand Point	3.71	54	P	Pn	17 06 09.8	-1.0
VNSG	Veniaminof 6	4.79	51	P	Pn	17 06 25.8	+0.1
VNHG	Veniaminof 1	4.81	50	P	Pn	17 06 26.5	+0.6
KDAK	Kodiak Island	8.71	54	P	Pn	17 07 16.2	-3.0
KDAK	Kodiak Island	8.71	54	P	Pn	17 07 16.2	-3.0
	2.9nm,0.3s,baz=250,slow=6.2,SNR=91						
SLKM	Skilak Lake	11.13	43	*e*P	Pn	17 07 50.1	-2.2
SEW	Seward	11.24	46	*e*P	Pn	17 07 51.0	-2.7
	13nm,0.4s						
FX1	Attu Island--F	12.68	277	P	Pn	17 08 13.9	+0.5
FX1	Attu Island--F	12.68	277	P	Pn	17 08 13.9	+0.5
	2.9nm,0.3s,baz=101,slow=21,SNR=13						
DIV	Divide	13.33	46	*e*P	Pn	17 08 18.4	-3.9
	16nm,0.3s						
BMRM	Bremner River	13.77	48	*e*P	Pn	17 08 24.1	-4.1
	13nm,0.9s						
PAX	Paxson	14.38	40	*e*P	Pn	17 08 31.8	-4.5
	3.0nm,0.4s						
ILAR	Eielson Array	14.97	32	P	Pn	17 08 40.2	-3.7
ILAR	Eielson Array	14.97	32	P	Pn	17 08 40.2	-3.7
	0.2nm,0.3s,baz=215,slow=11,SNR=13						
COLD	Coldfoot	15.89	22	*e*P	P	17 08 56.4	-2.0
	4.3nm,0.7s						
DAWY	Dawson	17.29	41	*e*P	Pn	17 09 11.2	-2.1
INK	Inuvik	21.37	33	P	P	17 09 56.0	-2.3
INK	Inuvik	21.37	33	P	P	17 09 56.0	-2.3
	3.1nm,0.4s,baz=247,slow=11,SNR=19						
PETK	Petropavlovsk-	21.75	284	P	P	17 10 02.1	-0.4
PETK	Petropavlovsk-	21.75	284	P	P	17 10 02.1	-0.4
	3.2nm,0.4s,baz=85,slow=13,SNR=19						
YKA	Yellowknife Ar	27.97	50	P	P	17 11 01.4	+0.6
YKA	Yellowknife Ar	27.97	50	P	P	17 11 01.4	+0.6
	0.7nm,0.6s,baz=276,slow=8.7,SNR=11						
NVAR	Mina Array Bea	35.52	95	P	P	17 12 09.8	+2.2
NVAR	Mina Array Bea	35.52	95	P	P	17 12 09.8	+2.2
	0.7nm,0.7s,baz=300,slow=8.8,SNR=3.5						
KSRS	Korea Array	47.46	278	P	P	17 13 45.5	+0.6
	2.8nm,0.7s,baz=48,slow=6.8,SNR=9.4						
KSAR	Wonju Array Be	47.49	278	P	P	17 13 45.5	+0.3
TXAR	Lajitas Array	50.56	93	P	P	17 14 09.7	+0.8
TXAR	Lajitas Array	50.56	93	P	P	17 14 09.7	+0.8
	0.7nm,0.6s,baz=296,slow=5.4,SNR=5.7						
SONM	Songino Array	52.70	302	P	P	17 14 24.9	+0.3
SONM	Songino Array	52.70	302	P	P	17 14 24.9	+0.3
	0.8nm,1.0s,baz=60,slow=6.4,SNR=7.7						
ZALV	Zalesovo Beam	58.20	319	P	P	17 15 03.6	-0.3
ZALV	Zalesovo Beam	58.20	319	P	P	17 15 03.6	-0.3
	1.8nm,0.4s,baz=42,slow=6.8,SNR=12						
KURK	Kurchatov	63.12	320	*e*P	P	17 15 37.0	-0.3
	2.3nm,0.4s						
JOF	Joensuu	63.36	351	*e*p	P	17 15 37.8	-1.0
MKAR	Makanchi Array	64.74	315	P	P	17 15 47.4	-0.7
MKAR	Makanchi Array	64.74	315	P	P	17 15 47.4	-0.7
	2.0nm,0.7s,baz=45,slow=6.2,SNR=25						
FINES	FINESS Array B	65.23	354	P	P	17 15

190nm,0.9s,2μm0.8nm
OCLP Ormoc 7.62 345 *e*P Pn 17 35 54.5 +4.8
PLP Palo 7.65 348⇑*e*P **Pn 17 35 52.3 +2.4**
GUIM Jordan 8.01 330 *e*P Pn 17 35 59.6 +4.7
MYLDM Lahad Datu 8.24 281 P Pn 17 36 05.1 +7.0
MYLDM Lahad Datu 8.24 281 P Pn 17 36 03.7 +5.6
303nm,1.0s,7μm45μm
KDI Kendari 8.55 208 P Pn 17 36 05.4 +3.1
159nm,0.8s,2μm
FAKI Fak Fak 8.61 139 P **Pn 17 36 04.0 +0.8**
202nm,0.9s,2μm
TSM Tawau 8.75 275 P Pn 17 36 10.9 +5.7
TTSI Tana Toraja 9.51 226 P Pn 17 36 21.6 +6.1
221nm,1.4s,3μm8μm
SDKM Sandakan 9.60 282 P Pn 17 36 22.5 +5.6
SPSI Sidrap Palu 10.20 222 P Pn 17 36 32.4 +7.4
108nm,1.0s,1μm
KDM Kudat 10.27 289 P Pn 17 36 32.9 +6.9
BAKI Biak 10.63 117 P **Pn 17 36 32.9 +2.0**
226nm,0.9s,4μm
KKM Kota Kinabalu 10.64 283 *e*P Pn 17 36 36.0 +4.9
KKM Kota Kinabalu 10.64 283 P Pn 17 36 36.9 +5.8
KKM Kota Kinabalu 10.64 283 P Pn 17 36 36.3 +5.2
72nm,1.9s,2μm
KAPI Kappang 11.01 219 Pn **Pn 17 36 38.6 +2.6**
KAPI Kappang 11.01 219 Pn Pn 17 36 43.3 +7.3
341nm,0.8s,SNR=6.7
KAPI Kappang 11.01 219 P Pn 17 36 43.9 +7.9
35nm,1.2s,955nm
KAPI Kappang 11.01 219 Pn **Pn 17 36 38.6 +2.6**
0.3nm,0.9s,baz=232,slow=23,SNR=3.6
BKSI Bulukumba 11.02 216 P Pn 17 36 42.9 +6.6
63nm,0.9s,701nm
TLE Tual 11.06 146 P Pn 17 36 40.1 +3.3
271nm,1.1s,4μm
KBKI Kotabaru 12.52 237 P P 17 37 04.2 -3.3
52nm,1.2s,891nm
MMRI Maumere 12.96 200 P P 17 37 08.6 -3.8
155nm,1.3s,2μm
SMPI Sarmi 13.31 115 P **Pn 17 37 09.9 +2.3**
107nm,1.3s,3μm
BTM Bintulu 13.52 269 P **P 17 37 17.5 -1.2**
BBKI Banjar Baru 13.73 239 P **P 17 37 19.6 -1.4**
154nm,1.2s,4μm
SBUM Sibu 14.43 266 P **P 17 37 30.3 +1.5**
SBUM Sibu 14.43 266 P **P 17 37 28.8 0.0**
95nm,0.9s,1μm
WSI Waingapu 14.65 205 P **Pn 17 37 25.0 -0.7**
394nm,1.1s,5μm
JAY Jayapura 15.35 113 P **P 17 37 38.4 -0.7**
STKI Sintang 15.55 257 P **P 17 37 43.9 +2.7**
97nm,1.8s,3μm
KHKI Kahang-Kahang 16.22 223 P **P 17 37 50.9 +2.3**
88nm,0.9s,1μm
PBKI Pangkalan Bun 16.22 247 P **P 17 37 51.1 +2.4**
212nm,1.1s,3μm
KSM Kuching 16.44 263 *e*Pn **P 17 37 54.5 +3.3**
52nm,0.7s
KSM Kuching 16.44 263 P **P 17 37 55.2 +4.1**
KSM Kuching 16.44 263 P **P 17 37 54.0 +2.9**
81nm,1.0s,2μm
DNP Denpasar 16.71 223 P **P 17 37 58.7 +4.6**
342nm,1.0s,10μm
IGBI Denpasar 16.86 223 P **P 17 37 59.4 +3.6**
47nm,0.7s,21μm
NBBI Negara 16.90 225 P **P 17 37 57.9 +1.6**
147nm,1.1s,2μm
BYJI Banyuwangi 16.98 226 P **P 17 38 01.5 +4.3**
250nm,1.2s,10μm
BLJI Banyuglugur 17.23 229 P P 17 38 08.8 +8.9
JAGI Jajag, Banyuwa 17.31 226 P **P 17 38 03.7 +3.0**
106nm,0.7s,2μm
GMJI Gumukmas 17.69 228 P P 17 38 10.8 +5.8
95nm,0.9s,1μm
KRKI Karangkates 18.36 230 P Pn 17 38 19.9 +7.2
240nm,0.7s
SJI Sawahan 18.64 233 P **Pn 17 38 16.7 +0.5**
90nm,0.8s,2μm16μm
PWJI Pagerwojo 18.78 232 P **P 17 38 17.9 +0.9**
72nm,1.0s
PCJI Pacitan 19.38 233 P **Pn 17 38 26.1 +1.1**
139nm,0.8s
TWG Pinlang 19.81 345 *e*P **P 17 38 25.8 -2.3**
239nm,0.6s
BJII Banjamegara 20.09 237 P **P 17 38 32.6 +1.2**
57nm,1.9s,1μm
YULB Yu-li 20.30 346 *e*P **P 17 38 31.1 -2.3**
60nm,0.8s
TGJI Tegal 20.35 239 P Pn 17 38 40.2 +3.7
53nm,1.2s
TPUB Ta-pu 20.38 344 *e*P **P 17 38 33.0 -1.4**
112nm,0.6s
GUMO Guam 20.55 60 LR LR 17 45 12.7
comp=Z,1μm,21.3s,baz=232,slow=33
SSLB Suanglung 20.76 345 *e*P **P 17 38 36.0 -2.5**
80nm,0.7s
PPBI Pangkal Pinang 21.27 255 P P 17 38 50.0 +5.9
34nm,1.0s,625nm
YHNB Yeheng 21.51 347 *e*P **P 17 38 45.9 -0.7**
60nm,0.6s
FITZ Fitzroy Crossi 21.63 183 *e*P **P 17 38 47.9 +0.1**
32nm,0.8s
FITZ S **S 17 42 43.1 -2.2**
FITZ Fitzroy Crossi 21.63 183 *e*P **P 17 38 48.2 +0.4**
62nm,0.8s
FITZ *e*S **S 17 42 42.4 -2.9**
FITZ Fitzroy Crossi 21.63 183 P **P 17 38 48.3 +0.4**
32nm,0.9s,baz=25,slow=8.4,SNR=15
FITZ S **S 17 42 43.1 -2.2**
28nm,1.0s,baz=179,slow=18,SNR=8.4
LEM Lembang 21.64 241 P **P 17 38 51.7 +3.5**
90nm,0.9s,1μm
TATO Taipei 21.78 347 *e*P **P 17 38 49.6 +0.2**
DBJI Dramaga 22.28 243 P **P 17 38 58.7 +3.8**
64nm,1.3s,2μm
QIZ Qiongzhong 22.42 314 P **P 17 38 54.8 -1.6**
QIZ sP **sP 17 39 09.8 -2.2**
QIZ S **S 17 43 00.0 -0.2**
QIZ pmax pmax
comp=Z,220nm,5.0s
QIZ LR LR
comp=N,1μm,15.1s
QIZ LR LR
comp=E,340nm,13.2s
QIZ LR LR
comp=Z,2μm,18.3s
QZH Quanzhou 22.54 341⇓*i*P **P 17 38 59.3 +1.7**
QZH S **S 17 42 59.8 -2.3**
QZH pmax pmax
comp=Z,170nm,0.9s
QZH LR LR
comp=N,4μm,8.6s
QZH LR LR
comp=E,2μm,20.8s
QZH LR LR
comp=Z,6μm,20.4s
MYKOM Kota Tinggi 22.82 266 P **P 17 39 03.8 +3.1**
MYKOM Kota Tinggi 22.82 266 P **P 17 39 03.3 +2.6**
comp=Z,51nm,1.1s,comp=Z,1μm
JOW Kunigami 23.11 4 *e*P **P 17 39 03.8 +0.3**
comp=Z,29nm,0.8s
JOW Kunigami 23.11 4 P **P 17 39 04.7 +1.2**
comp=Z,64nm,0.7s,baz=196,slow=9.1,SNR=23
JOW LR LR 17 47 53.4
comp=Z,1μm,21.6s,baz=302,slow=36
BLSI Bandar Lampung 23.15 247 P P 17 39 12.4 +8.3
CGJI Cibinong 23.25 244 P **P 17 39 04.5 -0.5**
comp=Z,125nm,1.0s,comp=Z,1μmcomp=Z,24μm
KGM Kluang 23.33 267 P **P 17 39 08.7 +2.9**
KTGM Kuala Trenggan 23.48 275 P **P 17 39 11.6 +4.4**
KASI Kota Agung 23.90 248 P **P 17 39 13.0 +1.8**
comp=Z,112nm,0.9s,comp=Z,1μm
COEN Coen 23.99 137 *e*P **P 17 39 10.1 -1.9**
comp=Z,148nm,0.8s
LWLI Liwa 24.13 249 P **P 17 39 15.4 +2.0**
comp=Z,108nm,0.8s
PMG Port Moresby 24.23 122 P **P 17 39 12.4 -1.8**
PMG Port Moresby 24.23 122 P **P 17 39 12.4 -1.8**
comp=Z,9.4nm,0.9s,baz=327,slow=4.8,SNR=3.5
RGRI Rengat 24.60 261 P **P 17 39 20.6 +3.0**
comp=Z,832nm,0.5s,comp=Z,55μm
WRAB Tennant Creek 24.63 162 *e*P **P 17 39 16.7 -1.1**
WRAB pmax pmax
comp=Z,151nm,0.8s
WRAB Tennant Creek 24.63 162 *e*P **P 17 39 16.7 -1.1**
comp=Z,152nm,0.8s
WRAB Tennant Creek 24.63 162 P **P 17 39 17.0 -0.8**
comp=Z,1μm,0.7s,SNR=30
WRA Warramunga Arr 24.64 162 P **P 17 39 16.9 -1.0**
WRA S **S 17 43 38.9 +2.2**
WRA Warramunga Arr 24.64 162 P **P 17 39 16.9 -1.0**
comp=Z,68nm,0.6s,baz=344,slow=10,SNR=140
WRA S **S 17 43 38.9 +2.2**
comp=Z,16nm,0.9s,baz=332,slow=21,SNR=5.0
FRIM Kepong 24.95 270 P **P 17 39 24.1 +3.2**
KSI Kapahiang 25.08 253 P P 17 39 27.5 +5.4
comp=Z,89nm,1.8s,comp=Z,μm
IPM Ipoh 25.55 273 *e*P **P 17 39 28.4 +2.1**
comp=Z,42nm,1.0s
IPM Ipoh 25.55 273 P **P 17 39 28.8 +2.6**
IPM Ipoh 25.55 273 P **P 17 39 28.2 +2.0**
comp=Z,42nm,1.4s,comp=Z,1μm
MBWA Marble Bar 25.56 195 *e*P **P 17 39 27.8 +1.6**
comp=Z,57nm,0.9s
BKNI Bangkinang 25.78 263 P **P 17 39 30.2 +1.9**
comp=Z,118nm,1.0s,comp=Z,1μm
KULM Kulim 25.94 275 *e*P **P 17 39 31.4 +1.6**
comp=Z,53nm,1.1s
KULM LR LR
comp=Z,856nm,19.0s
KULM Kulim 25.94 275 P **P 17 39 32.7 +2.9**
KULM Kulim 25.94 275 P **P 17 39 31.3 +1.5**
comp=Z,45nm,1.1s,comp=Z,629nm
PPI Padang Panjang 26.52 262 P **P 17 39 38.6 +3.5**
comp=Z,25nm,0.8s,comp=Z,647nm
MNSI Mandailing Nat 27.17 265 P **P 17 39 40.2 -0.7**
comp=Z,51nm,0.9s,comp=Z,1μm
CBIJ Chichi jima 27.66 31 P **P 17 39 45.5 +0.4**
CBIJ Chichi jima 27.66 31 P **P 17 39 45.5 +0.4**
comp=Z,165nm,0.7s,baz=158,slow=5.5,SNR=7.3
CBIJ LR LR 17 48 30.7
comp=Z,1μm,21.6s,baz=130,slow=32
PSI Prapat 27.67 269 P **P 17 39 46.2 +0.7**
PSI Prapat 27.67 269 P **P 17 39 47.2 +1.7**
comp=Z,24nm,1.0s
PSI Prapat 27.67 269 P **P 17 39 46.2 +0.7**
comp=Z,13nm,0.7s,baz=93,slow=4.1,SNR=11
SSE Sheshan 27.78 350 *e*P **P 17 39 48.3 +2.2**
SSE sP **sP 17 40 03.4 +0.9**
SSE S **S 17 44 27.0 +0.9**
SSE sS **sS 17 44 45.6 +0.5**
SSE pmax pmax
comp=Z,46nm,1.3s
SSE pmax pmax
comp=Z,390nm,5.5s
SSE LR LR
comp=N,400nm,24.6s
SSE LR LR
comp=E,1μm,24.6s
SSE LR LR
comp=Z,850nm,19.0s
ASAR Alice Springs 28.06 166 P **P 17 39 48.5 -0.3**
ASAR PcP **PcP 17 43 03.6 +0.8**
ASAR S **S 17 44 33.8 +3.0**
ASAR Alice Springs 28.06 166 P **P 17 39 48.5 -0.3**
comp=Z,8.1nm,0.6s,baz=350,slow=8.0,SNR=16
ASAR PcP **PcP 17 43 03.6 +0.8**
comp=Z,6.7nm,0.7s,baz=336,slow=1.6,SNR=5.0
ASAR S **S 17 44 33.8 +3.0**
comp=Z,4.2nm,1.0s,baz=348,slow=20,SNR=4.4
WHN Wuhan 29.16 338 *e*P **P 17 39 58.5 +0.1**
WHN LR LR
comp=N,2μm,14.5s
WHN LR LR
comp=E,6μm,21.2s
WHN LR LR
comp=Z,6μm,21.3s
NJ2 Nanjing 29.18 346 *e*P **P 17 40 00.8 +2.2**
NJ2 pP **pP 17 40 10.5 +0.5**
NJ2 sP **sP 17 40 13.3 -1.7**
NJ2 S **S 17 44 53.0 +4.8**
NJ2 sS **sS 17 45 07.0 -0.2**
NJ2 pmax pmax
comp=Z,60nm,1.0s
NJ2 pmax pmax
comp=Z,280nm,11.0s
NJ2 LR LR
comp=N,830nm,16.5s
NJ2 LR LR
comp=E,840nm,15.5s
NJ2 LR LR
comp=Z,9μm,18.8s
JNU Nakatsue 29.59 7 *e*P **P 17 40 02.4 +0.2**
comp=Z,91nm,1.6s
JNU Nakatsue 29.59 7 P **P 17 40 02.5 +0.2**
comp=Z,24nm,0.7s,baz=184,slow=3.5,SNR=16
JNU LR LR 17 51 48.8
comp=Z,938nm,20.1s,baz=286,slow=36
GYA Guiyang 29.67 322 P **P 17 40 05.9 +2.8**
GYA pP **pP 17 40 16.3 +1.8**
GYA PP **PnPn 17 41 03.0 +3.5**
GYA PcP **PcP 17 43 08.9 +2.0**
GYA S **S 17 44 58.3 +2.1**
GYA sS **sS 17 45 15.5 +0.3**
GYA SS **SnSn 17 46 34.0 +6.1**
GYA ScP **ScP 17 46 45.6 -0.1**
GYA pmax pmax
comp=Z,30nm,0.8s
GYA pmax pmax
comp=Z,140nm,4.5s
GYA LR LR
comp=N,690nm,18.2s
GYA LR LR
comp=E,560nm,18.9s
GYA LR LR
comp=Z,720nm,19.5s
CTA Charters Tower 30.46 141 P **P 17 40 09.9 -0.2**
CTA Charters Tower 30.46 141 *e*P **P 17 40 09.8 -0.3**
comp=Z,7.3nm,0.8s
CTA Charters Tower 30.46 141 P **P 17 40 09.9 -0.2**
comp=Z,5.7nm,0.7s,baz=304,slow=9.7,SNR=5.2
CTAO Charters Tower 30.46 141 *e*P **P 17 40 08.9 -1.2**
CTAO MLR MLR
comp=Z,975nm,22.0s
CTAO Charters Tower 30.46 141 *e*P **P 17 40 08.9 -1.2**
CTAO LR LR
comp=Z,975nm,22.0s
CMAR Chiang Mai Arr 30.82 301 P **P 17 40 13.8 +0.5**
CMAR ScP **ScP 17 46 54.1 +4.6**
CMAR Chiang Mai Arr 30.82 301 P **P 17 40 13.8 +0.5**
comp=Z,1.8nm,0.5s,baz=119,slow=7.2,SNR=27
CMAR ScP **ScP 17 46 54.1 +4.6**
comp=Z,1.1nm,0.9s,baz=166,slow=1.6,SNR=5.0
CMAR LR LR 17 54 38.0
comp=Z,964nm,19.5s,baz=329,slow=40
CHTO Chiang Mai 30.97 301 *e*P **P 17 40 14.3 -0.3**
CHTO pmax pmax
comp=Z,29nm,1.0s
CHTO MLR MLR
comp=Z,863nm,20.0s
CHTO Chiang Mai 30.97 301 *e*P **P 17 40 14.3 -0.3**
comp=Z,29nm,1.0s
CHTO LR LR
comp=Z,863nm,20.0s
CHTO Chiang Mai 30.97 301 P **P 17 40 16.1 +1.5**
SNR=12
CHTO Chiang Mai 30.97 301 P **P 17 40 15.6 +1.0**
ENH Enshi 31.05 330 *e*P **P 17 40 14.9 -0.3**
comp=Z,40nm,0.8s
ENH LR LR
comp=Z,3μm,22.0s
KMI Kunming 31.36 315 P **P 17 40 20.3 +2.0**
KMI pP **pP 17 40 30.3 +0.6**
KMI sP **sP 17 40 34.1 -0.6**
KMI S **S 17 45 22.1 -1.0**
KMI sS **sS 17 45 41.9 -0.2**
KMI SS **SnSn 17 47 14.0 +4.6**
KMI pmax pmax
comp=Z,19nm,1.0s
KMI LR LR
comp=N,790nm,17.8s
KMI LR LR
comp=E,780nm,20.4s
KMI LR LR
comp=Z,2μm,20.4s
JHJ Hachijo jima 2 31.80 21 LR LR 17 51 14.8
comp=Z,2μm,18.9s,baz=264,slow=33
COCO West Island 33.53 242 PFAKE 17 40 50.0 +13
COCO LR LR
comp=Z,508nm,19.0s
KSAR Wonju Array Be 33.66 2 P **P 17 40 38.2 +0.3**
KSAR PcP **PcP 17 43 19.4 +2.1**
KSRS Korea Array 33.67 2 P **P 17 40 38.2 +0.2**
comp=Z,18nm,0.8s,baz=178,slow=9.6,SNR=60
KSRS PcP **PcP 17 43 19.4 +2.1**
comp=Z,3.7nm,0.7s,baz=182,slow=2.4,SNR=6.4
KSRS LR LR 17 54 12.7
comp=Z,453nm,21.2s,baz=193,slow=36
INCN Inchon 33.68 0 *e*P **P 17 40 38.8 +0.7**
comp=Z,181nm,1.8s
INCN LR LR
comp=Z,890nm,20.0s
FORT Forrest 34.26 178 *e*P **P 17 40 43.7 +0.6**
FORT Forrest 34.26 178 *e*P **P 17 40 43.4 +0.2**
comp=Z,88nm,0.7s
MAJO Matsushiro 34.43 17 *e*P **P 17 40 43.4 -1.3**
MAJO pmax pmax
comp=Z,99nm,1.7s
MAJO Matsushiro 34.43 17 *e*P **P 17 40 43.4 -1.3**
comp=Z,99nm,1.7s
MAT Matsushiro 34.43 17 P **P 17 40 42.4 -2.3**
MAT *e*S **sS 17 46 30.2 +1.0**
MJAR Matsushiro Arr 34.43 17 P **P 17 40 43.5 -1.2**
MJAR Matsushiro Arr 34.43 17 P **P 17 40 43.5 -1.2**
comp=Z,4.2nm,0.7s,baz=188,slow=10,SNR=12
XAN Xi'an 34.44 333 P **P 17 40 44.3 -0.5**
XAN pP **pP 17 40 54.5 -1.8**
XAN sP **sP 17 40 58.0 -3.3**
XAN PP **PnPn 17 41 58.9 -1.8**
XAN S **S 17 46 06.1 -4.3**
XAN pmax pmax
comp=Z,8.0nm,1.2s
XAN pmax pmax
comp=Z,35nm,6.9s
XAN LR LR
comp=N,1μm,22.5s
XAN LR LR
comp=E,270nm,27.1s
XAN LR LR
comp=Z,580nm,20.6s
CD2 Chengdu 34.65 324 P **P 17 40 48.5 +1.8**
CD2 pP **pP 17 40 58.3 +0.2**
CD2 sP **sP 17 41 02.1 -1.0**
CD2 PP **PP 17 42 06.3 +0.5**
CD2 PcP **PcP 17 43 21.8 +1.4**
CD2 S **S 17 46 15.8 +2.2**
CD2 sS **sS 17 46 31.8 -1.0**
CD2 PcS **PcS 17 47 07.3 +0.3**
CD2 SS **SnSn 17 48 30.0 +1.3**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,280nm,4.5s
CD2 LR LR
comp=N,1μm,20.1s
CD2 LR LR
comp=E,1μm,19.6s
CD2 LR LR
comp=Z,2μm,20.4s
DL2 Dalian 35.39 353⇑*i*P **P 17 40 52.1 -0.7**
DL2 *e*S **S 17 46 23.5 -1.2**
DL2 pmax pmax
comp=Z,60nm,1.5s
DL2 pmax pmax
comp=Z,250nm,5.6s
DL2 LR LR
comp=N,330nm,18.4s
DL2 LR LR
comp=E,430nm,18.5s
DL2 LR LR
comp=Z,590nm,18.7s
HNR Honiara 35.66 112 LR LR 17 54 28.3
comp=Z,731nm,20.8s,baz=85,slow=35
KLBR Kellerberrin 36.05 193 *e*P **P 17 40 58.7 +0.1**
comp=Z,63nm,1.2s
BBOO Buckleboo 37.34 167 *e*P **P 17 41 09.4 -0.3**
comp=Z,2μm,1.6s
EIDS Eidsvold 37.35 142 *e*P **P 17 41 08.5 -1.3**
comp=Z,120nm,1.8s
BJT Baijiatuau 37.42 347 *e*P **P 17 41 10.2 0.0**
comp=Z,122nm,0.7s
BJT LR LR
comp=Z,760nm,20.0s
BJI Beijing 37.44 347 P **P 17 41 11.1 +0.8**
BJI PP **PnPn 17 42 38.3 +0.9**
BJI S **S 17 47 00.9 +4.9**
BJI sS **sS 17 47 15.8 +0.6**
BJI pmax pmax
comp=Z,160nm,0.6s
BJI pmax pmax
comp=Z,490nm,3.6s
BJI LR LR
comp=N,850nm,18.2s
BJI LR LR
comp=E,370nm,19.6s
BJI LR LR
comp=Z,550nm,21.0s
NWAO Narrogin (SRO) 37.45 193 *e*P **P 17 41 10.4 0.0**
NWAO Narrogin (SRO) 37.45 193 P **P 17 41 10.3 -0.2**
comp=Z,15nm,0.8s,baz=18,slow=6.1,SNR=13
STKA Stephens Creek 38.09 159 P **P 17 41 16.1 +0.2**
STKA PcP **PcP 17 43 31.9 +1.3**
STKA Stephens Creek 38.09 159 *e*P **P 17 41 15.4 -0.5**
comp=Z,60nm,0.7s
STKA *e*S **S 17 47 03.2 -2.8**
STKA Stephens Creek 38.09 159 P **P 17 41 16.1 +0.2**
comp=Z,56nm,0.6s,baz=334,slow=8.4,SNR=122
STKA PcP **PcP 17 43 31.9 +1.3**
comp=Z,13nm,0.6s,baz=0.0,slow=8.1,SNR=3.5
SNY Shenyang 38.11 356⇑P **P 17 41 17.1 +1.1**
SNY S **S 17 47 10.0 +3.9**
SNY pmax pmax
comp=Z,770nm,2.5s
SNY pmax pmax
comp=Z,87nm,3.5s
SNY LR LR
comp=N,380nm,22.8s
SNY LR LR
comp=E,840nm,24.1s
SNY LR LR
comp=Z,850nm,24.0s
LZH Lanzhou 38.52 330 *e*P **P 17 41 20.5 +0.8**
LZH pP **pP 17 41 31.0 -0.3**
LZH sP **sP 17 41 34.5 -1.8**
LZH S **S 17 47 14.1 +1.3**
LZH pmax pmax
comp=Z,59nm,1.2s
LZH pmax pmax
comp=Z,260nm,4.0s
LZH LR LR
comp=N,2μm,18.2s
LZH LR LR
comp=E,2μm,18.7s
LZH LR LR
comp=Z,3μm,20.4s
HHC Hu-ho-hao-te 39.45 342 *e*P **P 17 41 27.9 +0.6**
HHC pP **pP 17 41 37.8 -1.1**
HHC sP **sP 17 41 40.3 -3.6**
HHC PP **PnPn 17 43 01.9 +0.3**
HHC PcP **PcP 17 43 36.8 +2.0**
HHC ScP **ScP 17 47 21.6 +1.3**
HHC S **S 17 47 28.9 +2.4**
HHC ScS **ScS 17 51 31.8 -0.6**
HHC pmax pmax
comp=Z,17nm,1.7s
HHC pmax pmax
comp=Z,240nm,8.4s
HHC LR LR
comp=N,950nm,19.2s
HHC LR LR
comp=E,2μm,21.6s
HHC LR LR
comp=Z,1μm,22.2s
VLA Vladivostok 39.59 6⇑*i*P **P 17 41 29.2 +0.9**
VLA S **S 17 47 30.2 +2.0**
VLA pmax pmax
comp=Z,95nm,1.5s
BTO Baotou 39.73 340 *e*P **P 17 41 30.0 +0.3**
SHL Shillong 39.84 307 *e*PKP **P 17 41 32.0 +1.1**
SHL *e*S **S 17 47 35.0 +2.0**
CN2 Changchun 40.00 359 *e*P **P 17 41 30.8 -1.0**
CN2 *es*P **sP 17 41 46.3 -2.0**
CN2 PcP **PcP 17 43 36.3 0.0**
CN2 *e*S **S 17 47 33.6 -0.9**
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 pmax pmax
comp=Z,200nm,4.0s

CN2 LR LR
comp=N,500nm,16.0s
CN2 LR LR
comp=E,300nm,16.0s
CN2 LR LR
comp=Z,500nm,18.0s
USRK Ussuriysk Arra 40.66 6 P **P 17 41 37.5 +0.3**
comp=Z,18nm,0.7s,baz=186,slow=7.3,SNR=42
MDJ Mudanjiang 40.89 3 P **P 17 41 40.3 +1.2**
MDJ pP **pP 17 41 49.3 -1.4**
MDJ sP **sP 17 41 53.1 -2.6**
MDJ ScP **ScP 17 47 27.5 +1.8**
MDJ PcS **PcS 17 47 31.3 +1.4**
MDJ S **S 17 47 50.6 +2.9**
MDJ sS **sS 17 48 05.9 -1.2**
MDJ pmax pmax
comp=Z,75nm,1.4s
MDJ pmax pmax
comp=Z,250nm,5.9s
MDJ LR LR
comp=N,470nm,29.0s
MDJ LR LR
comp=E,560nm,29.5s
MDJ LR LR
comp=Z,560nm,23.6s
MDJ Mudanjiang 40.89 3 *e*P **P 17 41 40.1 +1.0**
comp=Z,73nm,1.0s
ERM Erimo 40.97 19 PFAKE 17 41 50.0 +10
ERM LR LR
comp=Z,944nm,19.0s
ARMA Armidale 41.45 147 *e*P **P 17 41 44.2 0.0**
comp=Z,36nm,0.6s
ARMA Armidale 41.45 147⇑ *i*P **P 17 41 44.1 0.0**
LSA Lhasa 42.41 312 P **P 17 41 53.1 +0.7**
LSA S **S 17 48 08.8 -2.9**
LSA LR LR
comp=N,210nm,22.8s
LSA LR LR
comp=E,300nm,25.7s
LSA LR LR
comp=Z,700nm,22.8s
LSA Lhasa 42.41 312 *e*P **P 17 41 52.6 +0.2**
LSA pmax pmax
comp=Z,36nm,0.6s
LSA Lhasa 42.41 312 *e*P **P 17 41 52.6 +0.2**
comp=Z,36nm,0.6s
ASAJ Asahikawa 42.70 17 *e*P **P 17 41 55.0 +1.1**
comp=Z,145nm,1.8s
ASAJ Asahikawa 42.70 17 P **P 17 41 55.4 +1.5**
comp=Z,50nm,0.7s,baz=220,slow=11,SNR=60
ASAJ LR LR 17 58 27.3
comp=Z,470nm,22.0s,baz=346,slow=34
GTA Gaotai 43.11 329 P **P 17 41 58.0 +0.5**
GTA pP **pP 17 42 07.3 -1.9**
GTA sP **sP 17 42 11.9 -2.3**
GTA S **S 17 48 21.1 +0.1**
GTA sS **sS 17 48 37.9 -2.6**
GTA SS SS 17 51 28.0 -6.8
GTA pmax pmax
comp=Z,12nm,1.8s
GTA pmax pmax
comp=Z,190nm,6.4s
GTA LR LR
comp=N,870nm,22.6s
GTA LR LR
comp=E,2μm,21.6s
GTA LR LR
comp=Z,2μm,22.3s
TAPN Taplejung 43.98 306 *e*P **P 17 42 04.9 0.0**
comp=Z,51nm,0.9s
TAPN Taplejung 43.98 306 *e*P **P 17 42 04.9 0.0**
ODAN Odare 44.03 306 *e*P **P 17 42 05.2 0.0**
comp=Z,61nm,0.7s
ODAN Odare 44.03 306 *e*P **P 17 42 05.2 0.0**
CAN Canberra 44.08 153 *e*P **P 17 42 06.6 +1.3**
CAN Canberra 44.08 153 *e*P **P 17 42 06.6 +1.3**
TOO Toolangi 44.60 159 *e*P **P 17 42 11.5 +2.2**
comp=Z,66nm,0.7s
RAMN Ramite 44.71 305 *e*P **P 17 42 10.9 +0.2**
comp=Z,27nm,0.6s
RAMN Ramite 44.71 305 *e*P **P 17 42 10.9 +0.2**
HABR Khabarovsk 45.24 8*c i*P **P 17 42 15.0 +0.8**
HABR *e**PP **pP 17 42 24.7 -1.3**
HABR *e**SP **sP 17 42 29.0 -1.9**
HABR *e* 17 43 54.4
HABR *e* 17 44 01.2
HABR PPP PPP 17 44 42.4
HABR *e*S **S 17 48 53.4 +2.0**
HABR *e**SS **sS 17 49 10.2 -0.8**
HABR *e* 17 52 09.1
HABR *e*SSS SSS 17 53 05.6
HABR pmax pmax
comp=Z,166nm,1.8s
HABR pmax pmax
comp=N,70nm,1.8s
HABR pmax pmax
comp=E,59nm,1.8s
HABR MLR MLR
comp=Z,574nm,18.0s
JIRN Jiri 45.33 306 *e*P **P 17 42 16.0 +0.2**
JIRN Jiri 45.33 306 *e*P **P 17 42 16.0 +0.2**
YSS Yuzh-Sakhalins 45.35 16⇑ *e*P **P 17 42 17.0 +1.9**
YSS *e* 17 42 24.0
YSS *e* 17 42 33.0
YSS pmax pmax
comp=N,30nm,0.9s
YSS pmax pmax
comp=Z,60nm,0.9s
YSS MLR MLR
comp=N,500nm,19.0s
YSS MLR MLR
comp=E,500nm,19.0s
YSS MLR MLR
comp=Z,600nm,19.0s
YSS Yuzh-Sakhalins 45.35 16 *e*P **P 17 42 15.7 +0.6**
comp=Z,135nm,1.2s
KLR Kul'dur 45.63 5 *e*P P 17 42 13.4 -3.9
KLR pmax pmax
comp=Z,120nm,1.4s
GUN Gumba 45.69 306 *e*P **P 17 42 18.5 -0.1**
comp=Z,49nm,0.5s
GUN Gumba 45.69 306 *e*P **P 17 42 18.5 -0.1**
HIA Hailar 45.83 354 *e*P **P 17 42 20.1 +1.2**
comp=Z,24nm,0.8s
HIA LR LR
comp=Z,1μm,21.0s
PKI Pulchoki 45.93 306 *e*P **P 17 42 20.3 -0.1**
PKI Pulchoki 45.93 306 *e*P **P 17 42 20.3 -0.1**
PKI Pulchoki 45.93 306 *e*P **P 17 42 20.3 -0.1**
KKN Kakani 46.12 306 *e*P **P 17 42 21.4 -0.4**
KKN Kakani 46.12 306 *e*P **P 17 42 21.4 -0.4**
KKN Kakani 46.12 306 *e*P **P 17 42 21.4 -0.4**
DMN Daman 46.19 305 *e*P **P 17 42 22.3 -0.1**
DMN Daman 46.19 305 *e*P **P 17 42 22.3 -0.1**
DZM Mont Dzumac 46.57 125 *e*P **P 17 42 25.0 -0.3**
comp=Z,60nm,0.9s
DZM *e*S **S 17 49 14.8 +3.3**
comp=Z,1μm,29.5s
DZM *e*LR LR 17 55 34.2
comp=Z,552nm,26.8s
DZM Mont Dzumac 46.57 125 *e*P **P 17 42 25.2 0.0**
comp=Z,30nm,0.9s
DZM Mont Dzumac 46.57 125 P **P 17 42 26.1 +0.8**
comp=Z,27nm,0.8s,baz=302,slow=3.4,SNR=14
GKN Gorkha 46.73 306 *e*P **P 17 42 26.0 -0.5**
comp=Z,15nm,0.4s
ULN Ulaanbaatar 47.16 342 *e*P **P 17 42 30.1 +0.6**
comp=Z,22nm,0.8s
ULN Ulaanbaatar 47.16 342 P **P 17 42 31.0 +1.4**
SNR=14
SONM Songino Array 47.34 342 P **P 17 42 31.7 +0.7**
SONM Songino Array 47.34 342 P **P 17 42 31.7 +0.7**
comp=Z,6.2nm,0.6s,baz=163,slow=8.5,SNR=63
SONM LR LR 18 04 14.6
comp=Z,496nm,18.9s,baz=154,slow=38
KOLN Koldanda 47.48 305 *e*P **P 17 42 32.6 +0.1**
comp=Z,37nm,0.3s
DANN Dangsing 47.58 306 *e*P **P 17 42 33.0 -0.3**
comp=Z,61nm,0.4s
PYUN Piuthan 48.11 305 *e*P **P 17 42 37.5 +0.2**
comp=Z,33nm,0.5s
PYUN Piuthan 48.11 305 *e*P **P 17 42 37.5 +0.2**
HYB Hyderabad 49.04 290 *i*P **P 17 42 44.0 -0.4**
CIT Chita 49.43 349 *e*P **P 17 42 48.0 +1.2**
CIT pmax pmax
comp=Z,195nm,2.1s
ZAK Zakamensk 50.57 341 *e*P **P 17 42 55.6 0.0**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
LATR Latur 51.09 291 *e*PKP **P 17 43 02.0 +2.1**
TLY Talaya 51.58 342 *e*P **P 17 43 03.0 0.0**
TLY *e*S S 17 50 14.8 -6.0
TLY *e*SS **SS 17 54 01.6 +4.1**
TLY pmax pmax
comp=Z,16nm,0.9s
TLY MLR MLR
comp=Z,619nm,21.0s
TLY Talaya 51.58 342 *e*P **P 17 43 04.1 +1.1**
comp=Z,37nm,1.3s
TLY Talaya 51.58 342 P **P 17 43 04.6 +1.6**
SNR=11
TLY Talaya 51.58 342 P **P 17 43 04.9 +1.9**
comp=Z,109nm,0.9s,SNR=5.3
IRK Irkutsk 51.88 343 *e*P **P 17 43 06.4 +1.2**
IRK pmax pmax
comp=Z,59nm,1.9s
AGRA Agra 52.01 302 *e*PKP **P 17 43 06.8 +0.1**
AGRA AMb AMB 17 43 08.2
comp=Z,77nm,0.1s
MOY Mondy 52.42 340 *e*P **P 17 43 11.1 +1.7**
MOY pmax pmax
comp=Z,58nm,3.3s
ASOR Ausora 52.64 304 *e*PKP **P 17 43 11.1 -0.1**
WMQ Urumqi 52.73 325 P **P 17 43 12.5 +0.7**
WMQ pP **pP 17 43 22.3 -1.5**
WMQ sP **sP 17 43 26.0 -2.7**
WMQ PcP **PcP 17 44 23.0 +1.9**
WMQ PP **PP 17 45 14.0 +2.6**
WMQ S **S 17 50 34.8 -2.2**
WMQ sS **sS 17 50 55.0 -1.9**
WMQ ScS **ScS 17 52 57.0 -1.3**
WMQ pmax pmax
comp=Z,22nm,1.7s
WMQ pmax pmax
comp=Z,190nm,5.4s
WMQ LR LR
comp=N,1μm,14.9s
WMQ LR LR
comp=E,1μm,20.0s
WMQ LR LR
comp=Z,2μm,22.3s
DDI Dehra Dun 52.93 306 *e*PKP **P 17 43 12.5 -1.0**
CLNS Chul'man 53.06 359 *e*P **P 17 43 14.8 +0.9**
CLNS *e* 17 44 19.4
CLNS *e* 17 45 17.7
CLNS *e*PPP PPP 17 46 27.7
CLNS *e*S S 17 50 47.7 +6.8
CLNS pmax pmax
comp=Z,27nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,1.1s
CLNS pmax pmax
comp=N,21nm,1.2s
CLNS pmax pmax
comp=Z,19nm,2.1s
CLNS pmax pmax
comp=N,22nm,2.0s
CLNS pmax pmax
comp=E,13nm,2.0s
CLNS smax smax
comp=N,96nm,12.7s
CLNS smax smax
comp=E,200nm,16.4s
CLNS MLR MLR
comp=E,212nm,19.0s
CLNS MLR MLR
comp=N,314nm,22.0s
CLNS MLR MLR
comp=N,373nm,21.0s
NDI New Delhi 53.08 303 *e*PKP **P 17 43 15.0 +0.5**
AYAN Aya Nagar 53.09 303 *e*PKP **P 17 43 13.6 -1.0**
AYAN AMb AMB 17 43 16.5
comp=Z,47nm,1.1s
BHGR Bahadurgarh 53.31 303 *e*PKP **P 17 43 15.7 -0.5**
KUDL Kundal 53.52 303 *e*PKP **P 17 43 17.1 -0.7**
KUDL AMb AMB 17 43 19.7
comp=Z,62nm,1.4s
KKR Kurukshetra 53.82 305 *e*PKP **P 17 43 20.1 +0.2**
KKR AMb AMB 17 43 24.7
comp=Z,124nm,0.1s
SMLA Simla 53.93 306 *i*P **P 17 43 21.0 +0.3**
SMLA AMb AMB 17 43 22.7
comp=Z,216nm,0.3s
SMLA *i* x x 17 50 39.4
KHET Khetri 54.07 302 *e*PKP **P 17 43 21.4 -0.5**
KHET AMb AMB 17 43 24.9
comp=Z,62nm,1.4s
BOD Bodaibo 54.93 352 *e*P **P 17 43 29.0 +1.5**
BOD pmax pmax
comp=Z,30nm,2.0s
MSVF Nonsavu 54.98 115 *e*P **P 17 43 29.9 +1.3**
MSVF pmax pmax
comp=Z,35nm,1.1s
MSVF Nonsavu 54.98 115 *e*P **P 17 43 29.9 +1.3**
comp=Z,35nm,1.1s
DLH Dalhousie 55.37 307 *e*PKP **P 17 43 30.0 -1.5**
THN Thein Dam 55.53 307 *e*PKP **P 17 43 31.3 -1.0**
PEA0B Petropavlovsk- 55.55 22 *e*P **P 17 43 33.5 +1.5**
PETK Petropavlovsk- 55.55 22 P **P 17 43 33.4 +1.3**
PETK Petropavlovsk- 55.55 22 P **P 17 43 33.4 +1.3**
PETK Petropavlovsk- 55.55 22 P **P 17 43 33.4 +1.3**
comp=Z,33nm,0.6s,baz=188,slow=4.3,SNR=61
PETK LR LR 18 10 08.1
comp=Z,397nm,18.2s,baz=216,slow=39
PET Petropavlovsk 55.85 23*d i*P **P 17 43 35.0 +0.8**
PET *e*S **S 17 51 18.9 +0.4**
PET pmax pmax
comp=Z,58nm,0.8s
PET pmax pmax
comp=Z,400nm,17.1s
PET MLR MLR
comp=Z,500nm,17.0s
PET Petropavlovsk 55.85 23 *e*P **P 17 43 35.0 +0.8**
comp=Z,42nm,0.9s
MKAR Makanchi Array 57.56 325 P **P 17 43 46.2 -0.4**
MKAR Makanchi Array 57.56 325 P **P 17 43 46.2 -0.4**
MKAR Makanchi Array 57.56 325 P **P 17 43 46.2 -0.4**
comp=Z,9.6nm,0.4s,baz=120,slow=6.9,SNR=105
MKAR LR LR 18 10 21.0
comp=Z,1μm,19.9s,baz=254,slow=38
KSH Kashi 58.03 315 P **P 17 43 51.8 +1.7**
KSH pP **pP 17 44 02.3 +0.1**
KSH sP **sP 17 44 06.4 -0.6**
KSH PcP **PcP 17 44 43.1 +1.4**
KSH PP **PP 17 46 02.6 +3.6**
KSH ScP **ScP 17 48 39.0 +0.2**
KSH PcS **PcS 17 48 43.1 -0.1**
KSH S **S 17 51 50.1 +2.0**
KSH sS **sS 17 52 06.8 -1.4**
KSH ScS **ScS 17 53 36.1 -0.6**
KSH SS **SS 17 55 43.1 +3.2**
KSH pmax pmax
comp=Z,62nm,1.6s
KSH LR LR
comp=N,220nm,7.6s
KSH LR LR
comp=E,220nm,9.5s
KSH LR LR
comp=Z,850nm,19.8s
YAK Yakutsk 58.30 2*c i*P **P 17 43 51.8 +0.5**
YAK *e**PP pP 17 44 10.7 +7.3
YAK *e* 17 46 00.9
YAK *e*PPP PPP 17 47 22.2
YAK *e*S **S 17 51 47.7 -2.7**
YAK *e* 17 53 38.0
YAK pmax pmax
comp=Z,104nm,1.0s
YAK pmax pmax
comp=N,59nm,1.3s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK pmax pmax
comp=Z,162nm,2.8s
YAK pmax pmax
comp=N,140nm,2.7s
YAK pmax pmax
comp=E,113nm,3.5s
YAK smax smax
comp=N,96nm,3.2s
YAK smax smax
comp=E,116nm,2.8s
YAK Yakutsk 58.30 2 *e*P **P 17 43 52.1 +0.8**
comp=E,150nm,1.0s
ULHL Ulahol 59.01 318 P **P 17 43 58.7 +1.7**
SNR=12
KZA Kyzart 59.60 318 P **P 17 44 03.6 +2.2**
SNR=20
TKM2 Tokmak 2 59.74 319 *e*P **P 17 44 02.5 +0.5**
TKM2 Tokmak 2 59.74 319 *e*P **P 17 44 02.5 +0.5**
TKM2 Tokmak 2 59.74 319 P **P 17 44 02.9 +0.9**
SNR=20
KBK Karagaybulak 60.05 318 P **P 17 44 06.1 +2.0**
SNR=11
CHMS Chumysh 60.33 318 P **P 17 44 06.1 +0.3**
SNR=6.4
AAK Ala-Archa 60.35 318⇓ *e*P **P 17 44 07.1 +1.0**
AAK pmax pmax
comp=Z,68nm,1.7s
AAK Ala-Archa 60.35 318 *e*P **P 17 44 06.5 +0.3**
comp=Z,44nm,0.8s
AAK LR LR
comp=Z,744nm,22.0s
AAK Ala-Archa 60.35 318 P **P 17 44 07.2 +1.1**
comp=Z,64nm,1.7s,SNR=10.0
AAK Ala-Archa 60.35 318 P **P 17 44 07.7 +1.5**
SNR=18
AAK Ala-Archa 60.35 318 P **P 17 44 06.9 +0.8**
SNR=11
AAK Ala-Archa 60.35 318 P **P 17 44 06.4 +0.3**
comp=Z,3.3nm,0.8s,baz=108,slow=6.0,SNR=20
FRU Bishkek 60.35 318 *e*P **P 17 44 08.0 +2.0**
FRU *e* 17 44 18.0
FRU pmax pmax
comp=Z,60nm,2.0s
USP Ospenovka 60.61 319 P **P 17 44 09.4 +1.6**
SNR=12
ZALV Zalesovo Beam 60.61 333 P **P 17 44 06.8 -0.7**
ZALV Zalesovo Beam 60.61 333 P **P 17 44 06.8 -0.7**
ZALV Zalesovo Beam 60.61 333 P **P 17 44 06.8 -0.7**
comp=Z,3.0nm,0.4s,baz=134,slow=7.5,SNR=22
ZALV LR LR 18 12 58.8
comp=Z,596nm,19.0s,baz=320,slow=39
AML Almayashu 60.68 317 P **P 17 44 10.6 +1.9**
SNR=20
EKS2 Erkin-Say 60.84 318 *e*P **P 17 44 09.3 -0.1**
EKS2 Erkin-Say 60.84 318 *e*P **P 17 44 09.3 -0.1**
EKS2 Erkin-Say 60.84 318 P **P 17 44 11.4 +2.0**
SNR=19
KURBB Kurchatov Arra 61.75 327 P **P 17 44 15.1 -0.2**
comp=Z,12nm,0.5s,baz=130,slow=6.4,SNR=84
KURBB LR LR 18 12 30.0
comp=Z,379nm,22.0s,baz=75,slow=38
KURK Kurchatov 61.75 328*c i*P **P 17 44 15.4 +0.1**
KURK pmax pmax
comp=Z,82nm,1.7s
KURK Kurchatov 61.75 328 *e*P **P 17 44 14.9 -0.4**
comp=Z,51nm,0.8s
KURK Kurchatov 61.75 328 P **P 17 44 16.0 +0.8**
SNR=20
KURK Kurchatov 61.75 328 P **P 17 44 15.2 -0.1**
comp=Z,386nm,0.9s,SNR=49
RPZ Rata Peaks 61.76 145 *e*P **P 17 44 17.8 +2.3**
comp=Z,45nm,0.9s
NVS Novosibirsk 61.90 333 *e*P **P 17 44 15.9 -0.3**
NVS *e*S **S 17 52 37.2 +0.3**
NVS pmax pmax
comp=Z,34nm,1.1s
NVS pmax pmax
comp=N,14nm,1.0s
NVS pmax pmax
comp=E,21nm,1.0s
NVS smax smax
comp=E,21nm,2.1s
SEY Seymchan 62.14 13⇑ *e*P **P 17 44 19.1 +1.5**
FX1 Attu Island--F 62.21 30 LR LR 18 06 36.2
comp=E,581nm,20.6s,baz=252,slow=32
URZ Urewera 62.55 137 *e*P **P 17 44 23.1 +2.2**
comp=E,25nm,0.9s
KKAR Karatay Array 63.22 317 *e*P **P 17 44 26.3 +1.0**
KKAR pmax pmax
comp=Z,10.0nm,0.8s
KKAR Karatay Array 63.22 317 *e*P **P 17 44 26.3 +1.0**
comp=Z,9.6nm,0.8s
BVAR Borovoye Array 67.33 327 P **P 17 44 51.9 +0.2**
BVAR Borovoye Array 67.33 327 P **P 17 44 51.9 +0.2**
BVAR Borovoye Array 67.33 327 P **P 17 44 51.9 +0.2**
comp=Z,3.9nm,0.4s,baz=137,slow=11,SNR=24
BRVK Borovoye 67.40 327 *e*P **P 17 44 52.0 -0.2**
BRVK pmax pmax
comp=Z,49nm,0.9s
BRVK MLR MLR
comp=Z,659nm,20.0s
BRVK Borovoye 67.40 327 *e*P **P 17 44 52.0 -0.2**
comp=Z,49nm,0.9s
BRVK LR LR
comp=Z,659nm,20.0s
BRVK Borovoye 67.40 327 P **P 17 44 52.7 +0.6**
comp=Z,305nm,1.2s,SNR=17
MSEY Mahe Island 71.56 264 PFAKE 17 45 30.0 +11
MSEY LR LR
comp=Z,468nm,21.0s
ABKAR Akbulak array 72.15 321 *e*P **P 17 45 20.8 -0.6**
comp=Z,10nm,0.6s
ABTO Aybut 73.01 287⇑ P **P 17 45 26.1 -1.1**
UNV Unalaska Valle 73.55 35 *e*P **P 17 45 31.2 +1.6**
comp=Z,51nm,0.8s
AKTO Aktyubinsk 73.66 322 P **P 17 45 30.8 +0.4**
AKTO Aktyubinsk 73.66 322 P **P 17 45 30.8 +0.4**
AKTO Aktyubinsk 73.66 322 P **P 17 45 30.8 +0.4**
comp=Z,9.2nm,0.5s,baz=103,slow=8.0,SNR=36
SVE Sverdlovsk 73.98 329⇓ *i*P **P 17 45 33.4 +1.3**
SVE pmax pmax
comp=Z,31nm,0.9s
SVE MLR MLR
comp=Z,731nm,22.0s
AKUT Akutan 74.05 34 *e*P **P 17 45 33.4 +0.8**
comp=Z,226nm,1.3s
ARU Arti 74.95 328*c i*P **P 17 45 37.6 -0.2**
ARU 17 48 26.7
ARU S **S 17 55 13.4 +1.3**
ARU SS **SS 17 59 56.6 -4.5**
ARU pmax pmax
comp=Z,27nm,1.2s
ARU Arti 74.95 328 *e*P **P 17 45 36.9 -0.8**
comp=Z,23nm,0.8s
ARU LR LR
comp=Z,501nm,20.0s
ARU Arti 74.95 328 P **P 17 45 37.5 -0.2**
comp=Z,172nm,0.5s,SNR=12
TNA Tin City 76.71 23 *e*P **P 17 45 49.5 +2.0**
SOKR Solikamsk 76.73 331⇑ *i*P P 17 45 59.2 +11
SOKR pmax pmax
comp=Z,10.0nm,1.0s
SOKR MLR MLR
comp=Z,450nm,18.0s
SDPT Sand Point 77.32 34 *e*P **P 17 45 51.2 0.0**
comp=Z,45nm,0.5s
QRN Al-Qurain 78.35 298 *e*P **P 17 45 56.3 -1.3**
QRN AMb AMB 17 46 01.2
comp=Z,49nm,0.8s
RDF Al-Radifah 78.68 299 *e*P **P 17 45 58.3 -1.0**
RDF AMb AMB 17 46 02.9
comp=Z,39nm,1.1s
MIB Mutribah 78.90 300 *e*P **P 17 45 59.5 -1.1**
MIB AMb AMB 17 46 05.0
comp=Z,26nm,0.5s
NAY Al-Naaiem 78.96 299 *e*P **P 17 45 59.5 -1.4**
NAY AMb AMB 17 46 11.3
comp=Z,17nm,0.9s
MAK Makhachkala 79.56 313 *e*P **P 17 46 03.7 -0.1**
MAK MLR MLR
comp=Z,503nm,20.0s
RAYN Ar Rayn 80.42 293 P **P 17 46 08.3 -0.7**
comp=Z,72nm,0.7s,SNR=12
DGRG David-gareji 81.04 311 P **P 17 46 14.2 +2.2**
ABPO Ambohimpanom 81.18 250 *e*P **P 17 46 13.1 -0.2**
ABPO pmax pmax
comp=Z,10.0nm,0.8s
ABPO MLR MLR
comp=Z,257nm,19.0s
ABPO Ambohimpanom 81.18 250 *e*P **P 17 46 13.1 -0.2**
comp=Z,10nm,0.8s
ABPO LR LR
comp=Z,257nm,19.0s
GNI Garni 81.45 310 PFAKE 17 46 30.0 +16
GNI LR LR

comp=Z,296nm,21.0s
TBLG Delisi 81.53 311 *e*P **P 17 46 15.0 +0.5**
TBLG Delisi 81.53 311 P **P 17 46 15.0 +0.5**
KDAK Kodiak Island 82.02 32 *e*P **P 17 46 17.9 +1.2**
comp=Z,23nm,0.9s
KDAK LR LR
comp=Z,642nm,20.0s
KDAK Kodiak Island 82.02 32 P **P 17 46 18.0 +1.4**
comp=Z,167nm,0.6s,SNR=9.8
HAKT HAKKARI 82.17 307 *i* P **P 17 46 19.9 +1.6**
ZEI Tsey 82.19 313 *e*P **P 17 46 18.9 +0.7**
ZEI pmax pmax
comp=Z,12nm,0.9s
AKH Akhalkalaki 82.45 311 P **P 17 46 19.7 +0.1**
ONI Oni 82.52 312 P **P 17 46 20.5 +0.8**
KBZ Khabaz 82.96 313 P **P 17 46 23.0 +1.1**
KBZ Khabaz 82.96 313 P **P 17 46 23.0 +1.1**
KBZ Khabaz 82.96 313 P **P 17 46 23.0 +1.1**
comp=Z,2.3nm,1.0s,baz=193,slow=4.9,SNR=4.9
KBZ LR LR 18 31 01.7
comp=Z,391nm,18.2s,baz=249,slow=41
KIV Kislovodsk 83.12 314 *e*P **P 17 46 23.4 +0.6**
KIV *e* 17 49 36.6
KIV *e*S **S 17 56 42.1 +2.3**
KIV *e*SSS SSS 18 05 36.3
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,348nm,20.0s
KIV Kislovodsk 83.12 314 PFAKE 17 46 30.0 +7.1
KIV LR LR
comp=Z,452nm,22.0s
VNDA Vanda 83.36 173 P **P 17 46 23.7 +0.5**
VNDA Vanda 83.36 173 P **P 17 46 23.7 +0.5**
comp=Z,8.5nm,1.0s,baz=317,slow=5.4,SNR=6.8
VNDA LR LR 18 19 13.2
comp=Z,335nm,19.0s,baz=327,slow=33
SLKM Skilak Lake 83.47 30 *e*P **P 17 46 24.8 +0.6**
SLKM Skilak Lake 83.47 30 *e*P **P 17 46 24.8 +0.6**
DAGI Agillar 83.63 311 *i* P **P 17 46 26.9 +1.4**
TRF Thorofare Moun 83.66 27 *e*P **P 17 46 25.5 +0.1**
comp=Z,80nm,1.4s
DDEM Demirkent 83.75 311 *e*P **P 17 46 26.6 +0.4**
DBAD Bademkaya 83.80 311 *i* P **P 17 46 27.3 +0.9**
SEW Seward 83.83 30 *e*P **P 17 46 27.2 +1.2**
comp=Z,77nm,1.2s
COLD Coldfoot 84.01 23 *e*P **P 17 46 28.4 +1.6**
comp=Z,68nm,1.4s
VRHR Novokhopersk 84.04 321 *e*P **P 17 46 27.4 +0.2**
VRHR pmax pmax
comp=N,4.0nm,0.6s
VRHR pmax pmax
comp=E,2.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
PMR Palmer 84.07 29 *e*P **P 17 46 27.9 +0.7**
PMR pmax pmax
comp=Z,36nm,1.0s
PMR Palmer 84.07 29 *e*P **P 17 46 27.9 +0.7**
comp=Z,36nm,1.0s
MCK McKinley 84.29 26 *e*P **P 17 46 28.6 +0.3**
MCK pmax pmax
comp=Z,237nm,1.7s
MCK McKinley 84.29 26 *e*P **P 17 46 28.6 +0.3**
comp=Z,237nm,1.7s
SML Sawmill 84.46 28 *e*P **P 17 46 29.7 +0.4**
SML pmax pmax
comp=Z,10.0nm,0.8s
SML Sawmill 84.46 28 *e*P **P 17 46 29.7 +0.4**
comp=Z,9.7nm,0.8s
COLA College 84.82 25 *e*P **P 17 46 30.6 -0.3**
COLA pmax pmax
comp=Z,10.0nm,1.0s
COLA MLR MLR
comp=Z,293nm,21.0s
COLA College 84.82 25 *e*P **P 17 46 30.6 -0.3**
comp=Z,10nm,1.0s
COLA LR LR
comp=Z,293nm,21.0s
PPT Papeete 85.19 108 LR LR 18 22 00.9
comp=Z,26nm,18.5s,baz=183,slow=34
PPT2 Papeete2 85.19 108 *e*S **S 17 57 03.5 +2.1**
comp=Z,150nm,24.8s
PPT2 *e*SS **SS 18 02 39.5 +3.2**
comp=Z,280nm,29.2s
PPT2 *e*LR LR 18 13 33.9
comp=Z,435nm,28.0s
ILAR Eielson Array 85.22 25 P **P 17 46 34.5 +1.5**
ILAR Eielson Array 85.22 25 P **P 17 46 34.5 +1.5**
comp=Z,3.8nm,0.8s,baz=245,slow=6.1,SNR=36
ILAR LR LR 18 27 46.1
comp=Z,152nm,18.4s,baz=282,slow=38
SOC Sochi 85.27 313 *e*P P 17 46 39.2 +5.6
SOC pmax pmax
comp=Z,14nm,0.8s
VSR Storozhevoye 85.59 321 *e*P **P 17 46 35.2 +0.2**
VSR pmax pmax
comp=N,3.0nm,0.8s
VSR pmax pmax
comp=E,8.0nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s
KELT Kelkit 85.66 310 *i* P **P 17 46 34.9 -1.1**
DIV Divide 85.67 29 *e*P **P 17 46 36.6 +1.2**
comp=Z,76nm,1.1s
PAX Paxson 85.82 27 *e*P **P 17 46 36.7 +0.6**
PAX pmax pmax
comp=Z,27nm,1.3s
PAX Paxson 85.82 27 *e*P **P 17 46 36.7 +0.6**
comp=Z,27nm,1.3s
TBI Tubuai 85.85 114 *e*S **S 17 57 08.7 +1.1**
comp=Z,496nm,28.0s
TBI *e*LR LR 18 13 51.6
comp=Z,452nm,28.0s
BMRM Bremner River 86.24 29 *e*P **P 17 46 39.4 +1.2**
comp=Z,36nm,1.1s
KEMA Kemaliye 86.27 309 *i* P **P 17 46 40.2 +1.3**
MOS Moscow 86.45 325 *e*P **P 17 46 38.0 -1.2**
MOS *e* 17 49 56.5
MOS pmax pmax
comp=Z,144nm,1.6s
MOS pmax pmax
comp=Z,300nm,1.9s
MOS MLR MLR
comp=N,400nm,20.0s
MOS MLR MLR
comp=E,900nm,22.0s
MOS MLR MLR
comp=Z,900nm,19.0s
MENT Mentasta 86.62 27 *e*P **P 17 46 41.2 +1.2**
AKCD Akcadag 86.74 308 *e*P **P 17 46 39.3 -1.9**
ANN Anapa 86.88 315 *e*P **P 17 46 41.4 -0.1**
ANN *e*PP **pP 17 46 51.9 -2.3**
ANN *e*S S 17 57 05.2 -12
ANN pmax pmax
comp=Z,56nm,1.6s
GZT Gaziantep 87.06 307 *i* P **P 17 46 44.7 +1.9**
OBN Obninsk 87.07 325 *c i*P **P 17 46 42.6 +0.4**
OBN *e*PP **pP 17 46 51.4 -3.5**
OBN *e* 17 50 08.5
OBN *e*S S 17 57 04.3 -14
OBN pmax pmax
comp=Z,120nm,1.6s
OBN MLR MLR
comp=Z,400nm,17.0s
OBN Obninsk 87.07 325 *e*P **P 17 46 41.6 -0.6**
comp=Z,110nm,1.4s
LVZ Lovozero 87.39 338 PFAKE 17 47 00.0 +16
LVZ LR LR
comp=Z,1μm,22.0s
ERBA Erbaa 87.55 310 *e*P **P 17 46 46.9 +2.0**
EGAK Eagle 87.68 25 PFAKE 17 47 00.0 +15
EGAK LR LR
comp=Z,356nm,22.0s
APA Apatity 87.89 337 ⇓ *i*P P 17 46 57.4 +11
APA MLR MLR
comp=Z,2μm,19.0s
DAWY Dawson 88.50 26 *e*P **P 17 46 49.3 +0.4**
JOF Joensuu 89.20 333 *e*P **P 17 46 51.1 -1.1**
JOF pmax pmax
comp=Z,11nm,0.6s
JOF Joensuu 89.20 333 *e*p **P 17 46 51.1 -1.1**
comp=Z,11nm,0.6s
KMBO Kilima Mbogo 89.44 269 *e*P **P 17 46 56.2 +1.4**
comp=Z,24nm,1.4s
KMBO Kilima Mbogo 89.44 269 P **P 17 46 56.8 +2.1**
SNR=8.8
KEV Kevo 89.93 340 *e*P **P 17 46 54.9 -0.6**
KEV pmax pmax
comp=Z,6.0nm,0.5s
KEV Kevo 89.93 340 *e*p **P 17 46 54.9 -0.6**
comp=Z,6.1nm,0.5s
BRTR Keskin Array B 89.99 310 P **P 17 46 56.0 -0.7**
BRTR Keskin Array B 89.99 310 P **P 17 46 56.0 -0.7**
comp=Z,5.1nm,0.9s,baz=118,slow=4.8,SNR=17
BRTR LR LR 18 36 54.5
comp=Z,136nm,18.7s,baz=200,slow=42
INK Inuvik 90.28 21 *e*P **P 17 46 57.6 +0.5**
comp=Z,9.8nm,1.1s
ARCES ARCESS Array B 90.49 340 P **P 17 46 57.7 -0.4**
ARCES ARCESS Array B 90.49 340 P **P 17 46 57.7 -0.4**
comp=Z,11nm,0.6s,baz=82,slow=6.3,SNR=47
ARCES LR LR 18 30 39.0
comp=Z,514nm,21.8s,baz=67,slow=38
KAF Kangasniemi 91.62 332 *e*P **P 17 47 02.9 -0.6**
KAF pmax pmax
comp=Z,4.0nm,0.5s
KAF Kangasniemi 91.62 332 *e*p **P 17 47 02.9 -0.6**
comp=Z,4.2nm,0.5s
FINES FINESS Array B 91.86 332 P **P 17 47 04.8 +0.3**
FINES FINESS Array B 91.86 332 P **P 17 47 04.8 +0.3**
comp=Z,1.4nm,0.5s,baz=60,slow=5.5,SNR=21
FINES LR LR 18 31 16.9
comp=Z,403nm,18.4s,baz=278,slow=38
AKASG Malin Array Be 91.89 321 P **P 17 47 04.8 -0.2**
AKASG Malin Array Be 91.89 321 P **P 17 47 04.8 -0.2**
AKASG Malin Array Be 91.89 321 P **P 17 47 04.8 -0.2**
comp=Z,4.6nm,0.6s,baz=70,slow=4.3,SNR=11
AKASG LR LR 18 34 11.1
comp=Z,440nm,20.7s,baz=70,slow=39
VSU Vasula 92.08 329 *i* P **P 17 47 05.7 0.0**
VSU pmax pmax
comp=Z,46nm,1.7s
SYO Syowa Base 92.31 201 ⇓ *e*P **P 17 47 07.2 +0.7**
ISP Isparta 92.60 308 PFAKE 17 47 20.0 +11
ISP LR LR
comp=Z,324nm,22.0s
TIRR Tirgusor 93.32 315 ⇑ *i*P P 17 47 07.5 -4.3
CFR Carcaliu 93.41 316 ⇑ *i*P **P 17 47 10.3 -1.8**
QSPA South Pole Qui 93.55 180 *e*P **P 17 47 14.1 +1.6**
comp=Z,6.5nm,0.9s
DLBC Dease Lake 93.87 31 LR LR 18 25 28.6
comp=Z,359nm,20.0s,baz=74,slow=33
TESR 94.23 317 ⇑ *i*P **P 17 47 16.6 +0.7**
VRI Vrincioaia 94.28 316 ⇑ *i*P **P 17 47 17.4 +1.2**
PLOR Plostina 94.34 316 ⇑ *i*P **P 17 47 17.5 +1.0**
MLR Muntele Rosu 94.89 316 ⇑ *i*P **P 17 47 19.9 +0.8**
SUW Suwalki 94.93 325 *e*P **P 17 47 19.8 +0.9**
SUW Suwalki 94.93 325 *e*P **P 17 47 19.8 +0.9**
SUW Suwalki 94.93 325 *e*P **P 17 47 19.6 +0.7**
SUW pmax pmax
comp=Z,38nm,0.8s
SUW Suwalki 94.93 325 *e*P **P 17 47 19.6 +0.7**
comp=Z,38nm,0.8s
BURAR Bucovina Array 94.99 318 ⇑ *i*P **P 17 47 20.7 +1.2**
LVV L'vov 95.33 321 *e*P **P 17 47 20.7 -0.1**
VOIR 95.52 316 ⇑ *i*P **P 17 47 22.0 +0.1**
LOT Lotru 96.40 316 ⇑ *i*P **P 17 47 27.5 +1.5**
KOLS Kolonicke sedl 96.64 320 *e*P **P 17 47 28.7 +1.8**
KOLS pmax pmax
comp=Z,6.0nm,1.3s
KOLS Kolonicke sedl 96.64 320 *e*P **P 17 47 28.7 +1.8**
TRPA Tarpa 96.65 319 ⇓ *i*P **P 17 47 27.2 +0.3**
UZH Uzhgorod 96.70 320 *e*P **P 17 47 27.6 +0.5**
UZH *e* 17 47 37.0
DRGR 96.83 318 ⇓ *i*P **P 17 47 28.8 +0.9**
GZR Gura Zlata 97.09 316 ⇓ *i*P Pdif 17 47 31.0 +1.8
CRVS Cervenica-Dubn 97.17 320 *e*P Pdif 17 47 31.2 +1.8
CRVS pmax pmax
comp=Z,28nm,1.8s
CRVS Cervenica-Dubn 97.17 320 *e*P Pdif 17 47 31.2 +1.8
DAG Danmarks Havn 97.32 352 *i* P **P 17 47 28.3 -1.0**
DAG pmax pmax
comp=Z,6.0nm,0.9s
DAG Danmarks Havn 97.32 352 *i* P **P 17 47 28.3 -1.0**
comp=Z,61nm,0.9s
NB2 NORSAR Subarra 98.81 334 P **P 17 47 35.4 -1.0**
baz=65,slow=4.4
NB2 NORSAR Subarra 98.81 334 P **P 17 47 35.4 -1.0**
comp=Z,1.3nm,0.6s,baz=65,slow=4.4
NOA NORSAR Array B 98.81 334 P **P 17 47 35.7 -0.7**
NOA NORSAR Array B 98.81 334 P **P 17 47 35.7 -0.7**
comp=Z,1.7nm,0.6s,baz=66,slow=4.5,SNR=7.7
NOA LR LR 18 37 00.0
comp=Z,618nm,19.9s,baz=70,slow=38
VYHS Vyhne 98.95 320 *e*P Pdif 17 47 38.7 +1.4
VYHS pmax pmax
comp=Z,14nm,2.1s
VYHS Vyhne 98.95 320 PDIF Pdif 17 47 38.7 +1.4
OKC Ostrava-Krasne 99.01 322 *e*P **Pdif 17 47 39.0 +1.5**
OKC Ostrava-Krasne 99.01 322 *e*PDIFF **Pdif 17 47 39.0 +1.5**
LSZ Lusaka 99.08 255 *e*P **Pdif 17 47 38.5 -0.1**
comp=Z,5.6nm,0.9s
YKA Yellowknife Ar 99.62 24 P **Pdif 17 47 40.6 +0.8**
YKA Yellowknife Ar 99.62 24 P **Pdif 17 47 40.6 +0.8**
comp=Z,0.7nm,0.6s,baz=298,slow=4.3,SNR=14
KSP Ksiaz 99.84 323 *e*P **Pdif 17 47 43.1 +1.9**
PRU Pruhonice 101.18 322 *e*P **Pdif 17 47 49.0 +1.8**
PRU Pruhonice 101.18 322 *e*PDIFF **Pdif 17 47 49.0 +1.8**
BRG Berggiesshubel 101.24 323 *e*P **Pdif 17 47 49.0 +1.6**
comp=Z,7.8nm,1.3s
BRG *e* 17 47 58.3
comp=Z,9.6nm,1.3s
BRG *e* 17 59 16.2
comp=Z,4.9nm,1.3s
BRG Berggiesshubel 101.24 323 *e*P **Pdif 17 47 49.0 +1.6**
BRG *e* 17 59 16.2
BRG pmax pmax
comp=Z,8.0nm,1.3s
CLL Collm 101.64 324 *e*Sdif Sdif 17 59 30.0 +2.9
CLL *e*PS **PS 18 01 12.0 +7.6**
CLL *e*PPS PPS 18 02 06.0
CLL *e*(SS) 18 07 12.0
CLL *e* 18 11 30.0
CLL LmV 18 39 00.0
comp=Z,400nm,19.4s
KHC Kasperske Hory 102.06 322 *i* P **Pdif 17 47 51.3 +0.1**
KHC Kasperske Hory 102.06 322 *e*PDIFF **Pdif 17 47 51.3 +0.1**
KHC *e*SP 17 48 08.3
GERES GERESS Array B 102.08 322 P **Pdif 17 47 51.6 +0.3**
GERES GERESS Array B 102.08 322 P **Pdif 17 47 51.6 +0.3**
comp=Z,0.6nm,0.8s,baz=86,slow=5.5,SNR=5.5
CUC Castrocucco 103.41 312 PFAKE 17 48 10.0 +13
CUC LR LR
comp=Z,225nm,21.0s
AQU L'Aquila 104.44 315 PFAKE 17 48 10.0 +8.1
AQU LR LR
comp=Z,379nm,21.0s
BMO Blue Mountains 105.52 42 PFAKE 17 52 30.0
BMO LR LR
comp=Z,280nm,22.0s
BFO Black Forest 105.58 322 PFAKE 17 52 30.0
BFO LR LR
comp=Z,433nm,19.0s
MSO Missoula 106.91 39 PFAKE 17 52 30.0
MSO LR LR
comp=Z,117nm,20.0s
BMN Battle Mountai 107.16 46 PFAKE 17 52 40.0
BMN LR LR
comp=Z,434nm,19.0s
LPG La Plagne 107.74 320 *e*PKIKP **PKiKP 17 52 29.1 +4.7**
LPG La Plagne 107.74 320 *e*PKPdf **PKiKP 17 52 29.1 +4.7**
HLID Hailey 107.94 42 PFAKE 17 52 40.0
HLID LR LR
comp=Z,255nm,21.0s
BNI Bardonecchia 107.97 320 PFAKE 17 52 40.0
BNI LR LR
comp=Z,594nm,19.0s
ESK Eskdalemuir 108.27 332 PFAKE 17 52 40.0
ESK LR LR
comp=Z,688nm,19.0s
BOZ Bozeman (W) 108.87 39 PFAKE 17 52 40.0
BOZ LR LR
comp=Z,309nm,20.0s
EGMT Eagleton 108.92 36 PFAKE 17 52 40.0
EGMT LR LR
comp=Z,178nm,19.0s
FFC Flin Flon 109.35 27 PFAKE 17 52 40.0
FFC LR LR
comp=Z,456nm,20.0s
LKWY Lake 110.13 40 PFAKE 17 52 40.0
LKWY LR LR
comp=Z,483nm,19.0s
HWUT Hardware Ranch 110.66 43 PFAKE 17 52 40.0
HWUT LR LR
comp=Z,323nm,21.0s
D22A Cohagen 111.45 36 ⇓ P **PKiKP 17 52 32.4 +1.4**
baz=111
MVU Marysvale 111.47 46 PFAKE 17 52 40.0
MVU LR LR
comp=Z,361nm,21.0s
BW06 Boulder Array 111.49 41 PFAKE 17 52 40.0
BW06 LR LR
comp=Z,435nm,22.0s
PDAR Pinedale Array 111.49 41 PKKPbc PKKPbc 18 03 36.6 +9.2
comp=Z,1.7nm,0.9s,baz=123,slow=5.5,SNR=8.1
I20A Worland 111.86 39 ⇑ P **PKiKP 17 52 32.9 +0.9**
baz=112
J22A Midwest 113.17 39 ⇑ P **PKiKP 17 52 34.8 +0.3**
baz=113
M21A Separation Pea 113.47 41 ⇑ P **PKiKP 17 52 36.0 +0.7**
baz=113
S21A Coal Bank Pass 114.99 45 ⇑ P PKPdf 17 52 39.5 +1.0
baz=115
ULM Lac du Bonnet 115.08 29 PKP **PKPdf 17 52 37.8 0.0**
ULM Lac du Bonnet 115.08 29 PKP **PKPdf 17 52 37.8 0.0**
comp=Z,1.5nm,0.6s,baz=82,slow=3.4,SNR=3.9
Z20A Nine Sixteen R 116.33 50 ⇑ P **PKPdf 17 52 41.4 +0.5**
baz=116
AGMN Agassiz Nation 116.39 30 PFAKE 17 52 50.0 +10
AGMN LR LR
comp=Z,260nm,21.0s
T26A Comanche Natio 118.17 44 ⇓ P **PKPdf 17 52 45.3 +0.9**
baz=118
Y24A Capitan 118.37 48 ⇑ P **PKPdf 17 52 45.7 +0.8**
baz=118
Y25A Mesa, Roswell 118.92 48 ⇓ P **PKPdf 17 52 46.5 +0.6**
baz=119
MTE Manteigas 119.36 321 PFAKE 17 53 00.0 +14
MTE LR LR
comp=Z,446nm,19.0s
MNTX Cornudas Mount 119.38 50 *e*PKPdf **PKPdf 17 52 48.0 +1.4**
MNTX LR LR
comp=Z,158nm,20.0s
MNTX Cornudas Mount 119.38 50 ⇑ P **PKPdf 17 52 46.9 +0.2**
baz=119
BGNE Belgrade 119.43 37 ⇓ P **PKPdf 17 52 47.3 +0.8**
baz=119
CBKS Cedar Bluff 119.91 41 PFAKE 17 53 00.0 +12
CBKS LR LR
comp=Z,383nm,20.0s
425A Indio Mountain 120.08 51 ⇓ P **PKPdf 17 52 49.3 +1.1**
baz=120
Z27A Tatum 120.30 48 ⇓ P **PKPdf 17 52 49.2 +0.7**
baz=120
427A Hayter Ranch, 121.28 50 ⇓ P **PKPdf 17 52 51.4 +1.0**
baz=121
527A Woodward Ranch 121.43 51 ⇓ P **PKPdf 17 52 52.6 +1.8**
baz=121
328A Wristen Ranch, 121.49 50 ⇓ P **PKPdf 17 52 51.9 +1.1**
baz=121
TXAR Lajitas Array 121.73 52 PKP **PKPdf 17 52 52.8 +1.4**
TXAR Lajitas Array 121.73 52 PKP **PKPdf 17 52 52.8 +1.4**
comp=Z,0.9nm,0.7s,baz=166,slow=1.2,SNR=5.6
428A Kincaid Ranch, 121.89 50 ⇑ P **PKPdf 17 52 52.2 +0.6**
baz=122
627A Terlingua Ranc 121.90 52 ⇓ P **PKPdf 17 52 52.5 +0.8**
baz=122
529A Stev Forest Ra 122.52 51 ⇑ P **PKPdf 17 52 54.0 +1.3**
baz=122
429A Davenport Ranc 122.54 50 ⇓ P **PKPdf 17 52 54.2 +1.3**
baz=122
TORD Torodi Ar. Bea 122.84 288 PKP **PKPdf 17 52 54.3 +0.6**
TORD Torodi Ar. Bea 122.84 288 PKP **PKPdf 17 52 54.3 +0.6**
comp=Z,2.8nm,0.7s,baz=58,slow=2.0,SNR=19
431A Sonora 123.49 49 ⇓ P **PKPdf 17 52 54.9 +0.3**
baz=123
JCT Junction City 124.19 49 *e*PKIKP **PKPdf 17 52 57.3 +1.3**
JCT MLR MLR
comp=Z,167nm,20.0s
JCT Junction City 124.19 49 *e*PKPdf **PKPdf 17 52 57.3 +1.3**
JCT LR LR
comp=Z,167nm,20.0s
JCT Junction City 124.19 49 ⇓ P **PKPdf 17 52 57.2 +1.3**
baz=124
532A Rocksprings 124.29 50 ⇑ P **PKPdf 17 52 57.6 +1.4**
baz=124
MIAR Mount Ida 126.41 41 *e*PKIKP **PKPdf 17 53 02.0 +2.0**
MIAR Mount Ida 126.41 41 *e*PKPdf **PKPdf 17 53 02.0 +2.0**
NATX Nacogdoches 127.28 45 PFAKE 17 53 10.0 +8.2
NATX LR LR
comp=Z,604nm,19.0s
ERPA Erie 128.44 25 PFAKE 17 53 20.0 +16
ERPA LR LR
comp=Z,338nm,21.0s
DBIC Dimbokro 130.49 282 PKP **PKPdf 17 53 09.8 +1.5**
DBIC Dimbokro 130.49 282 PKP **PKPdf 17 53 09.8 +1.5**
comp=Z,2.4nm,0.6s,baz=151,slow=1.0,SNR=5.5
LIC Lamto 130.74 281 *e*PKIKP **PKPdf 17 53 10.5 +1.7**
LIC Lamto 130.74 281 *e*PKPdf **PKPdf 17 53 10.5 +1.7**
BLA Blacksburg 132.19 29 PFAKE 17 53 20.0 +9.0
BLA LR LR
comp=Z,276nm,21.0s
CBN Corbin 132.80 26 PFAKE 17 53 20.0 +8.0
CBN LR LR
comp=Z,542nm,19.0s
CNNC Cliffs of the 134.99 29 PFAKE 17 53 30.0 +14
CNNC LR LR
comp=Z,395nm,20.0s
PLCA Paso Flores 139.97 160 PKP **PKPdf 17 53 27.0 +1.6**
PLCA Paso Flores 139.97 160 PKP **PKPdf 17 53 27.0 +1.6**
comp=Z,4.0nm,0.8s,baz=195,slow=3.8,SNR=9.7
TRQA Tornquist 144.86 168 *e*PKPdf **PKPab 17 53 33.6 +0.5**
JTS JuntasAbangare 145.64 66 *e*PKPdf **PKPab 17 53 38.8 +2.1**
JTS LR LR
comp=Z,211nm,20.0s
LCO Las Campanas 149.88 149 *e*PKPbc **PKPbc 17 53 48.5 +0.7**
BCIP Isla Barro Col 150.72 64 PFAKE 17 54 00.0 +3.1
BCIP LR LR
comp=Z,322nm,19.0s
CPUP Villa Florida 157.13 171 PKP **PKPdf 17 53 54.5 +1.4**
CPUP PKPab **PKPab 17 54 23.4 -0.1**
CPUP Villa Florida 157.13 171 PKP **PKPdf 17 53 54.5 +1.4**
comp=Z,0.5nm,0.4s,baz=66,slow=7.9,SNR=3.6
CPUP PKPab **PKPab 17 54 23.4 -0.1**
comp=Z,3.0nm,0.7s,baz=83,slow=3.6,SNR=3.4
ANWB Willy Bob 157.25 21 PFAKE 17 54 10.0 -14
ANWB LR LR
comp=Z,411nm,22.0s
LPAZ La Paz 160.81 132 PKP **PKPdf 17 54 00.3 +1.9**
LPAZ PKPab **PKPab 17 54 42.4 +1.7**
LPAZ La Paz 160.81 132 PKP **PKPdf 17 54 00.3 +1.9**
comp=Z,2.4nm,0.9s,baz=50,slow=2.4,SNR=8.5
LPAZ PKPab **PKPab 17 54 42.4 +1.7**
comp=Z,3.2nm,0.9s,baz=47,slow=4.1,SNR=4.8

MAN 23 17:46:11, 6.67N×126.90E, h25km, mb4.1, ML2.9, MS2.7, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.69**	**294**	*e*P	Pb	17 46 24.8	+0.3
MATI				*e*S	Sn	17 46 35.4	+0.2
DMPH	**Davao City--Mi**	**1.44**	**287**	⇓ *e*P	Pb	17 46 38.1	+1.0
DMPH				*i* S	Sn	17 46 54.2	+0.5

IDC 23 17:47:08.4±1.8, 3.89N×127.29E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/23, mbtmp3.6/5, Error ellipse: s-maj=174.5km s-min=19.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.68**	**164**	P	P	17 52 30.9	-0.3
	1.7nm,0.7s,baz=344,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**28.14**	**167**	P	P	17 53 02.3	-0.2
	0.2nm,0.6s,baz=348,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**38.08**	**160**	P	P	17 54 29.5	+0.5
	2.5nm,1.1s,baz=343,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**57.75**	**325**	P	P	17 57 00.1	-1.3
	0.3nm,0.5s,baz=115,slow=8.6,SNR=6.8						
KURBB	**Kurchatov Arra**	**61.91**	**327**	P	P	17 57 30.8	+0.9
	0.3nm,0.5s,baz=125,slow=7.2,SNR=9.4						

WEL 23 17:59:42.0±0.3, 40.73S×173.21E, h165km±2km, ML3.5/9,

4C-2D, Error ellipse: s-maj=2.1km s-min=1.8km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.51**	**165**	⇑PN	Pn	18 00 05.0	-0.1
NNZ				SN	Sn	18 00 22.0	-0.9
QRZ	**Quartge Range**	**0.53**	**259**	⇑PN	Pn	18 00 04.9	-0.3
QRZ				SN	Sn	18 00 21.5	-1.5
DUWZ	**D'Urville Isla**	**0.55**	**98**	PN	Pn	18 00 05.4	+0.1
DUWZ				SN	Sn	18 00 22.9	-0.2
TUWZ	**Tuamarina**	**0.89**	**142**	⇓PN	Pn	18 00 07.7	+0.3
TUWZ				SN	Sn	18 00 26.0	-1.0
TCW	**Tory Channel**	**0.94**	**121**	PN	Pn	18 00 08.2	+0.5
TCW				SN	Sn	18 00 26.2	-1.4
THZ	**Tophouse**	**1.06**	**192**	⇑PN	Pn	18 00 08.6	-0.2
THZ				SN	Sn	18 00 29.1	-0.3
BSWZ	**Blackbirch Sta**	**1.10**	**153**	PN	Pn	18 00 09.4	+0.3
BSWZ				SN	Sn	18 00 28.6	-1.4
SNZO	**South Karori**	**1.27**	**118**	PN	Pn	18 00 10.5	0.0
SNZO				SN	Sn	18 00 31.3	-1.1
KIW	**Kapiti Island**	**1.30**	**96**	PN	Pn	18 00 10.7	0.0
KIW				SN	Sn	18 00 31.6	-1.4
BHW	**Baring Head**	**1.43**	**119**	PN	Pn	18 00 11.8	-0.1
CAW	**Cannon Point**	**1.46**	**106**	PN	Pn	18 00 12.2	-0.1
DSZ	**Denniston Nort**	**1.47**	**226**	⇑PN	Pn	18 00 11.8	-0.6
OGWZ	**Otaki Gorge**	**1.49**	**94**	PN	Pn	18 00 12.6	0.0
NWEZ	**Newall Road**	**1.54**	**19**	PN	Pn	18 00 10.0	-3.1
PKE	**Pukeiti**	**1.65**	**22**	PN	Pn	18 00 14.0	-0.2
MSWZ	**Moikau Station**	**1.69**	**115**	PN	Pn	18 00 14.3	-0.3
KHZ	**Kahutara**	**1.71**	**172**	⇓PN	Pn	18 00 14.5	-0.2
HOWZ	**Holdsworth Sta**	**1.76**	**96**	PN	Pn	18 00 15.2	-0.2
PLWZ	**Palliser**	**1.76**	**119**	PN	Pn	18 00 15.0	-0.4
MTW	**Mount Morrison**	**1.79**	**105**	PN	Pn	18 00 15.4	-0.3
PAWZ	**Paruwai Farm**	**1.80**	**112**	PN	Pn	18 00 15.4	-0.4
MRZ	**Mangatainoka R**	**1.80**	**89**	PN	Pn	18 00 15.4	-0.4

IDC 23 18:02:06.6±1.6, 3°.90N×126°.75E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse: s-maj=155.5km s-min=22.0km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.84**	**163**	P	P	18 07 30.1	-0.8
	1.9nm,0.7s,baz=343,slow=11,SNR=13						
STKA	**Stephens Creek**	**36.28**	**159**	P	P	18 09 29.4	+0.6
	1.9nm,0.7s,baz=343,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**57.43**	**325**	P	P	18 11 57.0	-0.2
	0.2nm,0.6s,baz=123,slow=7.2,SNR=5.4						
KURBB	**Kurchatov Arra**	**61.61**	**327**	P	P	18 12 26.0	+0.1
	0.1nm,0.4s,baz=134,slow=5.3,SNR=4.2						

WEL 23 18:02:10.6±0.3, 39°.10S×174°.90E, h220km±2km, ML3.8/15, 28C-6D, Error ellipse: s-maj=1.9km s-min=1.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.11**	**255**	PN	Pn	18 02 38.4	-0.7
VRZ				SN	S	18 03 00.9	-0.5
PKVZ	**Pokaka**	**0.40**	**119**	⇑PN	Pn	18 02 39.5	-0.2
PKVZ				SN	S	18 03 01.7	-0.8
TWVZ	**Taurewa**	**0.42**	**87**	⇑PN	Pn	18 02 39.3	-0.6
TWVZ				SN	S	18 03 01.6	-1.0
RAEZ	**Rainy Point**	**0.43**	**244**	PN	Pn	18 02 39.6	-0.2
WPVZ	**Whakapapa**	**0.52**	**102**	⇑PN	Pn	18 02 39.9	-0.2
WPVZ				SN	S	18 03 02.0	-1.3
MTVZ	**Mangateitei**	**0.53**	**123**	PN	Pn	18 02 40.0	-0.1
MTVZ				SN	S	18 03 02.4	-0.9
FWVZ	**Far West T-bar**	**0.54**	**107**	⇑PN	Pn	18 02 40.1	-0.3
FWVZ				SN	S	18 03 01.4	-2.2
WTVZ	**West Tongariro**	**0.54**	**92**	⇑PN	Pn	18 02 40.0	-0.3
WTVZ				SN	S	18 03 02.5	-0.9
TRVZ	**Turoa**	**0.55**	**112**	⇑PN	Pn	18 02 40.2	-0.2
TRVZ				SN	S	18 03 02.2	-1.5
DRZ	**Dome Shelter**	**0.55**	**109**	PN	Pn	18 02 40.4	-0.1
NGZ	**Ngauruhoe**	**0.56**	**98**	⇑PN	Pn	18 02 40.1	-0.2
KRVZ	**Karewarewa**	**0.58**	**90**	⇑PN	Pn	18 02 40.1	-0.3
KRVZ				SN	S	18 03 02.6	-1.0
HIZ	**Hauiti**	**0.58**	**357**	⇑PN	Pn	18 02 39.2	-1.1
HIZ				SN	S	18 03 02.1	-1.4
WNVZ	**Wahianoa**	**0.59**	**113**	PN	Pn	18 02 40.4	0.0
OTVZ	**Oturere**	**0.60**	**67**	PN	Pn	18 02 40.3	-0.2
TUVZ	**Tukino**	**0.61**	**106**	⇑PN	Pn	18 02 40.5	-0.1
KATZ	**Kakaramea**	**0.63**	**79**	⇓PN	Pn	18 02 40.4	-0.2
NEZ	**North Egmont**	**0.65**	**254**	⇓PN	Pn	18 02 40.6	0.0
DFE	**Dawson Falls**	**0.66**	**249**	PN	Pn	18 02 40.5	-0.1
WAZ	**Wanganui**	**0.66**	**174**	⇑PN	Pn	18 02 41.0	+0.4
PKE	**Pukeiti**	**0.71**	**262**	PN	Pn	18 02 40.6	-0.3
RATZ	**Rangitukua**	**0.72**	**72**	PN	Pn	18 02 40.3	-0.7
MOVZ	**Moawhango**	**0.73**	**115**	PN	Pn	18 02 40.5	-0.5
NRZ	**Ngariki Road**	**0.79**	**252**	PN	Pn	18 02 41.0	-0.1
NWEZ	**Newall Road**	**0.82**	**257**	PN	Pn	18 02 41.1	-0.2
BHHZ	**Black Hill Sta**	**0.99**	**114**	PN	Pn	18 02 41.9	-0.4
BKZ	**Black Stump Fm**	**1.24**	**94**	PN	Pn	18 02 43.2	-0.9
TSZ	**Takapari Road**	**1.27**	**140**	⇑PN	Pn	18 02 44.3	+0.2
PNHZ	**Pukenui**	**1.30**	**129**	PN	Pn	18 02 44.4	0.0
MCHZ	**McNeill Hill**	**1.44**	**104**	PN	Pn	18 02 45.9	+0.4
POWZ	**Post Office Ro**	**1.46**	**153**	⇑PN	Pn	18 02 45.5	-0.1
NMHZ	**Naumai**	**1.49**	**91**	PN	Pn	18 02 46.1	+0.1
WPHZ	**Waipukurau**	**1.52**	**129**	PN	Pn	18 02 46.4	+0.1
DVHZ	**Dannevirke**	**1.55**	**141**	PN	Pn	18 02 46.3	-0.2
MRZ	**Mangatainoka R**	**1.65**	**162**	⇑PN	Pn	18 02 46.9	-0.3
KAHZ	**Kahuranaki**	**1.69**	**115**	⇓PN	Pn	18 02 47.9	+0.3
RAHZ	**Arahi**	**1.72**	**85**	⇓PN	Pn	18 02 47.3	-0.6
OGWZ	**Otaki Gorge**	**1.73**	**173**	⇑PN	Pn	18 02 47.9	0.0
KIW	**Kapiti Island**	**1.76**	**180**	⇑PN	Pn	18 02 47.9	-0.3
PRHZ	**Porangahau**	**1.78**	**132**	PN	Pn	18 02 48.6	+0.2
CKHZ	**Cape Kidnapper**	**1.78**	**109**	PN	Pn	18 02 48.6	+0.2
PXZ	**Pawanui**	**1.78**	**122**	PN	Pn	18 02 48.4	0.0
TIWZ	**Tintock**	**1.84**	**156**	⇑PN	Pn	18 02 48.7	-0.3
DUWZ	**D'Urville Isla**	**1.86**	**203**	⇑PN	Pn	18 02 48.8	-0.5
HOWZ	**Holdsworth Sta**	**1.86**	**165**	⇑PN	Pn	18 02 48.7	-0.5
BFZ	**Birch Farm**	**1.89**	**147**	PN	Pn	18 02 49.1	-0.4
URZ	**Urewera**	**1.93**	**65**	⇓PN	Pn	18 02 47.6	-2.2
CAW	**Cannon Point**	**2.01**	**176**	⇑PN	Pn	18 02 50.2	-0.4
MTW	**Mount Morrison**	**2.11**	**167**	PN	Pn	18 02 50.9	-0.7
TMWZ	**Te Maipa**	**2.15**	**160**	PN	Pn	18 02 51.5	-0.6
KNZ	**Kokohu**	**2.17**	**89**	PN	Pn	18 02 51.2	-0.9
TCW	**Tory Channel**	**2.17**	**192**	PN	Pn	18 02 51.8	-0.3
WEL	**Wellington**	**2.19**	**183**	PN	Pn	18 02 51.8	-0.6
MWZ	**Matawai**	**2.19**	**71**	⇓PN	Pn	18 02 50.6	-2.0
SNZO	**South Karori**	**2.21**	**184**	⇑PN	Pn	18 02 51.9	-0.7
BHW	**Baring Head**	**2.31**	**180**	PN	Pn	18 02 52.7	-0.8
PAWZ	**Paruwai Farm**	**2.32**	**170**	⇑PN	Pn	18 02 53.0	-0.7
MSWZ	**Moikau Station**	**2.33**	**173**	⇑PN	Pn	18 02 53.1	-0.8
PRGZ	**Paritu Road**	**2.33**	**87**	PN	Pn	18 02 52.9	-1.0
MHGZ	**Mahia Peninsul**	**2.34**	**92**	PN	Pn	18 02 53.3	-0.7
TRWZ	**Traveller**	**2.38**	**165**	PN	Pn	18 02 53.7	-0.7
NNZ	**Nelson**	**2.42**	**208**	⇑PN	Pn	18 02 53.7	-1.0
TUWZ	**Tuamarina**	**2.44**	**197**	PN	Pn	18 02 54.4	-0.6
PLWZ	**Palliser**	**2.49**	**174**	⇑PN	Pn	18 02 54.6	-1.0
QRZ	**Quartz Range**	**2.51**	**226**	⇑PN	Pn	18 02 53.8	-1.9
CNGZ	**Carnagh Statio**	**2.66**	**78**	PN	Pn	18 02 56.3	-1.2
THZ	**Tophouse**	**3.07**	**209**	⇑PN	Pn	18 03 00.5	-1.6
MXZ	**Matakaoa Point**	**3.09**	**61**	PN	Pn	18 02 59.8	-2.4
KHZ	**Kahutara**	**3.47**	**197**	PN	Pn	18 03 03.3	-1.3
LTZ	**Lake Taylor**	**4.18**	**208**	PN	Pn	18 03 13.2	-2.1
MQZ	**McQueen's Vall**	**4.91**	**199**	PN	Pn	18 03 21.1	-3.0
WVZ	**Waitaha Valley**	**5.07**	**217**	PN	Pn	18 03 22.9	-3.3
RPZ	**Rata Peaks**	**5.44**	**211**	⇑PN	Pn	18 03 27.9	-3.1
FOZ	**Fox Glacier**	**5.94**	**220**	PN	Pn	18 03 32.5	-4.7
LBZ	**Lake Benmore**	**6.35**	**212**	PN	Pn	18 03 39.1	-3.4
ODZ	**Otahua Downs**	**6.73**	**207**	PN	Pn	18 03 45.3	-2.1

*IDC **23** 18:07:50.3±0.4, 3°.57N×126°.64E, h0km, mb4.5/25, mb1 4.6/25, mb1mx4.6/30, mbtmp4.5/25, MS3.6/4, Ms1 3.6/4, ms1mx3.1/38, Error ellipse: s-maj=20.8km s-min=8.5km az=77.0*
*DJA **23** 18:07:54, 3°.88N×127°.08E, h10km, mb4.7/19*
*ISCJB **23** 18:07:55.7±0.3, 3°.73N±0°.03×126°.80E±0°.05, h48km, mb4.5/34, MS3.5/3, Error ellipse: s-maj=6.6km s-min=4.2km az=169.5*
*BJI **23** 18:07:56.3, 3°.82N×126°.53E, h43km, mB5.1/7, mb4.7/23, Ms4.7/3, Ms7 4.6/3*
*MAN **23** 18:08:05, 4°.06N×126°.43E, h92km, mb5.0, ML4.0, MS4.1*
ISC 23 18:07:57.4±0.4, 3°.71N±0°.05×126°.76E±0°.07, h48km, n94,
σ1°08/92, mb4.7/33, MS3.6/3, 7C-3D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.97**	**323**	*i*P	**Pn**	**18 08 42.3**	**0.0**
MATI	**Mati**	**3.25**	**351**	*e*P	Pn	18 08 49.9	+3.9
MATI				*e*S	**Sn**	**18 09 20.8**	**-2.7**
DAV	**Davao City (W)**	**3.54**	**341**	Pn	**Pn**	**18 08 52.3**	**+2.4**
	33nm,0.3s,baz=106,slow=15,SNR=7.1						
DMPH	**Davao City--Mi**	**3.58**	**340**	⇓*e*P	Pn	18 08 54.5	+4.1
DMPH				*e*S	**Sn**	**18 09 30.0**	**-1.4**
KCP	**Kidapawan**	**3.67**	**333**	⇓*e*P	**Pn**	**18 08 52.7**	**+0.9**
KMSI	**Cibinong**	**4.17**	**222**	P	**Pn**	**18 09 00.9**	**+2.3**
CTBH	**Cotabato--PC H**	**4.29**	**324**	⇓*e*P	**Pn**	**18 09 02.1**	**+1.8**
LBMI	**Labuha**	**4.38**	**170**	P	**Pn**	**18 09 02.3**	**+0.8**
BUKP	**Musuan**	**4.47**	**338**	*e*P	Pn	18 09 08.1	+5.3
PAGZ	**Pagadian**	**5.31**	**321**	*e*P	Pn	18 09 17.4	+3.2
MRSI	**Marisa**	**5.79**	**236**	P	**Pn**	**18 09 22.8**	**+2.0**
	181nm,0.7s,2μm0.6nm						
SWI	**Sorong**	**6.39**	**135**	P	**Pn**	**18 09 29.6**	**+0.5**
	162nm,0.9s,3μm0.9nm						
MYLDM	**Lahad Datu**	**8.36**	**280**	P	Pn	18 10 00.4	+4.3
	77nm,0.8s						
FAKI	**Fak Fak**	**8.57**	**140**	P	**Pn**	**18 09 59.0**	**0.0**
	71nm,1.0s						
KDI	**Kendari**	**8.67**	**209**	P	**Pn**	**18 09 59.7**	**-0.6**
	31nm,0.8s						
TTSI	**Tana Toraja**	**9.65**	**226**	P	**Pn**	**18 10 13.6**	**-0.2**
	43nm,1.2s						
KKM	**Kota Kinabalu**	**10.76**	**283**	P	**Pn**	**18 10 31.9**	**+2.9**
	24nm,1.3s						
KAPI	**Kappang**	**11.14**	**219**	LR	LR	18 15 38.3	
	comp=Z,311nm,18.6s,baz=249,slow=43						
SBUM	**Sibu**	**14.57**	**265**	P	**Pn**	**18 11 20.7**	**-0.2**
JAY	**Jayapura**	**15.25**	**114**	P	**P**	**18 11 32.7**	**-1.2**
STKI	**Sintang**	**15.69**	**257**	P	**P**	**18 11 38.0**	**-0.8**
	23nm,1.5s						
KHKI	**Kahang-Kahang**	**16.36**	**223**	P	**P**	**18 11 46.5**	**+0.4**
	22nm,1.3s						
KSM	**Kuching**	**16.58**	**263**	P	**P**	**18 11 50.2**	**+1.6**
	29nm,1.0s,340nm						
JAGI	**Jajag, Banyuwa**	**17.45**	**226**	P	**P**	**18 11 59.1**	**+0.9**
	27nm,0.9s,402nm						
FITZ	**Fitzroy Crossi**	**21.70**	**183**	*e*P	**P**	**18 12 42.7**	**-1.8**
	14nm,0.5s						
FITZ	**Fitzroy Crossi**	**21.70**	**183**	P	**P**	**18 12 42.7**	**-1.8**
	11nm,0.6s,baz=13,slow=6.3,SNR=29						
DBJI	**Dramaga**	**22.43**	**243**	P	**P**	**18 12 53.2**	**+0.8**
	30nm,1.4s						
JOW	**Kunigami**	**23.04**	**3**	P	**P**	**18 12 59.5**	**+0.8**
	26nm,0.8s,baz=209,slow=8.8,SNR=9.6						
CGJI	**Cibinong**	**23.40**	**244**	P	**P**	**18 13 01.3**	**-1.0**
	45nm,1.0s						
WRA	**Warramunga Arr**	**24.66**	**163**	P	**P**	**18 13 12.5**	**-1.4**
	26nm,0.7s,baz=343,slow=10.0,SNR=84						
WRA				S	**S**	**18 17 33.6**	**+1.3**
	3.0nm,0.8s,baz=332,slow=20,SNR=6.0						
CBIJ	**Chichi jima**	**27.54**	**31**	LR	LR	18 24 07.0	
	comp=Z,116nm,20.6s,baz=157,slow=35						
PSI	**Prapat**	**27.80**	**269**	P	**P**	**18 13 41.8**	**-0.8**
	3.1nm,0.4s,baz=6.2,slow=3.7,SNR=5.8						
PSI				LR	LR	18 24 53.5	
	comp=Z,158nm,20.9s,baz=302,slow=37						
ASAR	**Alice Springs**	**28.09**	**166**	P	**P**	**18 13 43.7**	**-1.1**
	1.5nm,0.5s,baz=349,slow=7.5,SNR=36						
ASAR				PcP	**PcP**	**18 16 59.2**	**+0.7**
	1.7nm,0.4s,baz=346,slow=2.0,SNR=8.0						
ASAR				S	**S**	**18 18 27.7**	**+1.1**
	0.7nm,0.7s,baz=354,slow=22,SNR=4.5						
WHN	**Wuhan**	**29.15**	**338**	*e*P	**P**	**18 13 54.5**	**+0.4**
JNU	**Nakatsue**	**29.51**	**7**	P	**P**	**18 13 57.8**	**+0.4**
	18nm,0.8s,baz=125,slow=6.5,SNR=7.4						
CMAR	**Chiang Mai Arr**	**30.91**	**300**	P	**P**	**18 14 09.3**	**-0.5**
	2.5nm,0.8s,baz=116,slow=7.2,SNR=20						
CHTO	**Chiang Mai**	**31.06**	**301**	P	**P**	**18 14 11.3**	**+0.1**
KSRS	**Korea Array**	**33.60**	**2**	P	**P**	**18 14 34.3**	**+1.1**
	7.4nm,0.7s,baz=180,slow=9.2,SNR=25						
MJAR	**Matsushiro Arr**	**34.33**	**16**	P	**P**	**18 14 40.1**	**+0.5**
	0.8nm,0.6s,baz=186,slow=10,SNR=4.4						
XAN	**Xi'an**	**34.45**	**333**	P	**P**	**18 14 39.6**	**-1.1**
XAN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,30nm,6.3s						
HNR	**Honiara**	**35.56**	**112**	LR	LR	18 27 05.6	
	comp=Z,112nm,19.3s,baz=11,slow=32						
BJI	**Beijing**	**37.41**	**347**	P	**P**	**18 15 06.9**	**+1.0**
BJI				pmax	pmax		
	comp=Z,72nm,0.8s						
STKA	**Stephens Creek**	**38.10**	**159**	*e*P	**P**	**18 15 11.2**	**-0.6**
	comp=Z,11nm,0.8s						
STKA	**Stephens Creek**	**38.10**	**159**	P	**P**	**18 15 11.2**	**-0.6**
	comp=Z,14nm,0.6s,baz=336,slow=7.6,SNR=27						
STKA				PcP	**PcP**	**18 17 26.6**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=293,slow=4.8,SNR=3.0						
LZH	**Lanzhou**	**38.53**	**330**	*e*P	P	18 15 24.9	+9.3
LZH				pP	pP	18 15 29.0	+0.6
LZH				sP	sP	18 15 31.1	-3.0
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
SHL	**Shillong**	**39.91**	**306**	⇑*i*P	**P**	**18 15 28.0**	**+0.7**
USRK	**Ussuriysk Arra**	**40.59**	**6**	P	**P**	**18 15 33.1**	**+0.7**
	comp=Z,5.7nm,0.7s,baz=185,slow=7.6,SNR=18						
ARMA	**Armidale**	**41.43**	**147**	*e*P	**P**	**18 15 40.4**	**+0.7**
LSA	**Lhasa**	**42.47**	**311**	P	**P**	**18 15 48.8**	**+0.1**
ASAJ	**Asahikawa**	**42.60**	**17**	P	**P**	**18 15 49.3**	**+0.4**
	comp=Z,12nm,0.7s,baz=258,slow=9.6,SNR=11						
GTA	**Gaotai**	**43.13**	**329**	*e*P	**P**	**18 15 53.3**	**-0.1**
GTA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TAPN	**Taplejung**	**44.05**	**306**	*e*P	**P**	**18 16 00.5**	**-0.7**
	comp=Z,13nm,0.7s						
ODAN	**Odare**	**44.10**	**305**	*e*P	**P**	**18 16 00.6**	**-1.0**
RAMN	**Ramite**	**44.78**	**305**	*e*P	**P**	**18 16 06.6**	**-0.4**
	comp=Z,13nm,0.6s						
JIRN	**Jiri**	**45.41**	**306**	*e*P	**P**	**18 16 11.3**	**-0.8**
	comp=Z,4.0nm,0.6s						
GUN	**Gumba**	**45.76**	**306**	*e*P	**P**	**18 16 14.1**	**-0.8**
	comp=Z,21nm,0.6s						
PKI	**Pulchoki**	**46.00**	**305**	*e*P	**P**	**18 16 15.6**	**-1.2**
KKN	**Kakani**	**46.20**	**306**	*e*P	**P**	**18 16 17.0**	**-1.2**
DMN	**Daman**	**46.27**	**305**	*e*P	**P**	**18 16 18.1**	**-0.7**
	comp=Z,12nm,1.0s						
GKN	**Gorkha**	**46.80**	**306**	*e*P	**P**	**18 16 21.5**	**-1.4**
SONM	**Songino Array**	**47.33**	**341**	P	**P**	**18 16 26.5**	**0.0**
	comp=Z,2.5nm,0.6s,baz=159,slow=8.0,SNR=31						
SONM				PcP	**PcP**	**18 17 57.8**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=151,slow=3.8,SNR=6.8						
KOLN	**Koldanda**	**47.56**	**305**	*e*P	**P**	**18 16 28.2**	**-0.6**
	comp=Z,18nm,0.5s						
DANN	**Dangsing**	**47.65**	**306**	*e*P	**P**	**18 16 28.8**	**-0.8**
	comp=Z,34nm,0.6s						
PYUN	**Piuthan**	**48.18**	**305**	*e*P	**P**	**18 16 33.2**	**-0.4**
	comp=Z,21nm,0.6s						
PETK	**Petropavlovsk-**	**55.44**	**22**	P	**P**	**18 17 28.2**	**+1.2**
	comp=Z,8.7nm,0.7s,baz=194,slow=4.5,SNR=12						
MKAR	**Makanchi Array**	**57.59**	**325**	P	**P**	**18 17 41.9**	**-0.6**
	comp=Z,5.6nm,0.6s,baz=124,slow=8.4,SNR=72						
ULHL	**Ulahol**	**59.06**	**318**	P	**P**	**18 17 54.0**	**+1.0**
	SNR=6.4						
KZA	**Kyzart**	**59.65**	**318**	P	**P**	**18 17 58.8**	**+1.5**
	SNR=10						
TKM2	**Tokmak 2**	**59.78**	**319**	P	**P**	**18 17 58.7**	**+0.6**
	SNR=10						
AAK	**Ala-Archa**	**60.39**	**318**	P	**P**	**18 18 01.6**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=134,slow=7.2,SNR=8.4						
ZALV	**Zalesovo Beam**	**60.62**	**333**	P	**P**	**18 18 03.1**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=114,slow=6.6,SNR=12						
USP	**Ospenovka**	**60.65**	**318**	P	**P**	**18 18 04.0**	**+0.2**
	SNR=14						
AML	**Almayashu**	**60.72**	**317**	P	**P**	**18 18 05.9**	**+1.2**
	SNR=16						
EKS2	**Erkin-Say**	**60.88**	**318**	P	**P**	**18 18 06.5**	**+1.0**
	SNR=12						
KURBB	**Kurchatov Arra**	**61.77**	**327**	P	**P**	**18 18 10.5**	**-0.6**
	comp=Z,8.2nm,0.6s,baz=128,slow=6.9,SNR=82						
RDF	**Al-Radifah**	**78.77**	**299**	*e*P	**P**	**18 19 54.3**	**-1.2**
RDF				AMb	AMB	18 19 59.0	
	comp=Z,20nm,1.7s						
MIB	**Mutribah**	**78.99**	**299**	*e*P	**P**	**18 19 55.1**	**-1.6**
MIB				AMb	AMB	18 19 57.0	
	comp=Z,17nm,1.1s						
NAY	**Al-Naaiem**	**79.05**	**299**	*e*P	**P**	**18 19 55.5**	**-1.5**
NAY				AMb	AMB	18 19 57.2	
	comp=Z,11nm,1.2s						
ILAR	**Eielson Array**	**85.11**	**25**	P	**P**	**18 20 28.4**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=248,slow=5.1,SNR=8.4						
BRTR	**Keskin Array B**	**90.06**	**310**	P	**P**	**18 20 51.7**	**-0.9**
	comp=Z,2.8nm,0.9s,baz=108,slow=4.9,SNR=12						
ARCES	**ARCESS Array B**	**90.48**	**340**	P	**P**	**18 20 53.4**	**-0.3**
	comp=Z,2.9nm,0.5s,baz=88,slow=7.5,SNR=20						
FINES	**FINESS Array B**	**91.86**	**332**	P	**P**	**18 20 59.2**	**-1.0**
	comp=Z,1.3nm,0.6s,baz=29,slow=4.4,SNR=6.0						
AKASG	**Malin Array Be**	**91.93**	**321**	P	**P**	**18 21 00.1**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=74,slow=4.5,SNR=7.3						
TESR		**94.27**	**317**	⇑*i*P	**P**	**18 21 11.4**	**-0.4**
VRI	**Vrincioaia**	**94.33**	**316**	⇑*i*P	**P**	**18 21 12.1**	**0.0**
PLOR	**Plostina**	**94.39**	**316**	⇑*i*P	**P**	**18 21 12.9**	**+0.5**
MLR	**Muntele Rosu**	**94.93**	**316**	⇓*i*P	**P**	**18 21 14.8**	**-0.2**
BURAR	**Bucovina Array**	**95.03**	**318**	⇑*i*P	**P**	**18 21 15.5**	**+0.1**
RES	**Resolute Bay**	**97.83**	**10**	P	**P**	**18 21 25.8**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=228,slow=4.7,SNR=12						
YKA	**Yellowknife Ar**	**99.51**	**24**	P	**Pdif**	**18 21 36.0**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=304,slow=4.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**122.95**	**288**	PKP	**PKPdf**	**18 26 49.0**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=56,slow=2.1,SNR=6.9						
PLCA	**Paso Flores**	**139.98**	**159**	PKP	**PKPdf**	**18 27 19.8**	**-1.3**
	comp=Z,1.5nm,0.9s,baz=217,slow=14,SNR=4.0						
CFAA	**Coronel Fontan**	**148.87**	**155**	PKPbc	**PKPbc**	**18 27 41.5**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=238,slow=3.3,SNR=11						
LPAZ	**La Paz**	**160.76**	**132**	PKP	**PKPdf**	**18 27 55.9**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=247,slow=2.8,SNR=4.1						

MAN 23 18:14:02, 5°.90N×126°.09E, h119km, mb4.4, ML3.3, MS3.2, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.05**	**9**	*e*P	Pn	18 14 25.0	+0.5
MATI				*i* S	Sn	18 14 37.0	-4.6
MATI	**Mati**	**1.05**	**9**	*e*P	Pn	18 14 25.0	+0.5
MATI				*e*S	Sn	18 14 37.0	-4.6
DMPH	**Davao City--Mi**	**1.31**	**334**	⇑*e*P	Pn	18 14 28.7	+1.4
DMPH				*e*S	Sn	18 14 47.2	+0.8
KCP	**Kidapawan**	**1.48**	**318**	⇓*i*P	Pn	18 14 30.3	+1.0
KCP				*i* S	Sn	18 14 30.3	+1.0
BUKP	**Musuan**	**2.22**	**333**	*e*P	Pn	18 14 38.7	+0.5
BUKP				*i* S	Sn	18 15 07.0	+1.0
BUKP	**Musuan**	**2.22**	**333**	*e*P	Pn	18 14 38.7	+0.5
BUKP				*e*S	Sn	18 15 07.0	+1.0

IDC 23 18:15:55.6±2.6, 4°.07N×127°.43E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/23, mbtmp3.4/4, MS3.3/1, Ms1 3.3/1, ms1mx2.4/24, Error ellipse: s-maj=245.6km s-min=21.7km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.10**	**185**	LR	LR	18 30 08

MFF	**Saint Martin d**	**79.04**	**43**	*e*P	**P**	**18 35 37.7**	**0.0**	
FLN	**La Foliniere**	**79.06**	**41**	*e*P	**P**	**18 35 37.8**	**+0.1**	
FLN	**La Foliniere**	**79.06**	**41**	*e*P	**P**	**18 35 37.8**	**+0.1**	
TORD	**Torodi Ar. Bea**	**79.22**	**77**	P	**P**	**18 35 38.2**	**-1.1**	
TORD	**Torodi Ar. Bea**	**79.22**	**77**	P	**P**	**18 35 38.2**	**-1.1**	
	0.4nm,0.4s,baz=286,slow=6.1,SNR=9.1							
LDF	**La Druitiere**	**79.28**	**41**	*e*P	**P**	**18 35 38.8**	**-0.1**	
LDF	**La Druitiere**	**79.28**	**41**	*e*P	**P**	**18 35 38.8**	**-0.1**	
TCF	**Toulx Ste Croi**	**80.63**	**44**	*e*P	**P**	**18 35 46.0**	**-0.4**	
TCF	**Toulx Ste Croi**	**80.63**	**44**	*e*P	**P**	**18 35 46.0**	**-0.4**	
LOR	**Lormes**	**81.83**	**43**	*e*P	**P**	**18 35 52.0**	**-0.7**	
	3.4nm,0.4s							
NOA	**NORSAR Array B**	**86.46**	**29**	LR	LR	19 14 21.2		
	comp=Z,76nm,18.6s,baz=0.0,slow=35							
GERES	**GERESS Array B**	**88.43**	**41**	P	P	18 36 23.6	-2.2	
GERES	**GERESS Array B**	**88.43**	**41**	P	P	18 36 23.6	-2.2	
	0.5nm,0.5s,baz=284,slow=5.4,SNR=6.2							
BRG	**Berggiesshubel**	**88.45**	**39**	*e*P	**P**	**18 36 26.5**	**+0.8**	
	8.4nm,1.4s							
BRG								
	comp=N,469nm,30.5s							
BRG								
	comp=E,347nm,17.4s							
BRG								
	comp=Z,570nm,20.4s							
QSPA	**South Pole Qui**	**93.72**	**180**	P	**P**	**18 36 50.4**	**+0.4**	
QSPA	**South Pole Qui**	**93.72**	**180**	P	**P**	**18 36 50.4**	**+0.4**	
	comp=Z,3.8nm,1.1s,baz=202,slow=2.4,SNR=4.7							
ZALV	**Zalesovo Beam**	**120.82**	**12**	PKP	**PKPdf**	**18 42 26.0**	**+0.3**	
ZALV	**Zalesovo Beam**	**120.82**	**12**	PKP	**PKPdf**	**18 42 26.0**	**+0.3**	
	comp=Z,0.2nm,0.3s,baz=132,slow=2.1,SNR=2.9							
MKAR	**Makanchi Array**	**126.83**	**17**	PKP	**PKPdf**	**18 42 36.8**	**-0.7**	
MKAR	**Makanchi Array**	**126.83**	**17**	PKP	**PKPdf**	**18 42 36.8**	**-0.7**	
	comp=Z,0.2nm,0.6s,baz=264,slow=2.3,SNR=3.8							
SONM	**Songino Array**	**128.54**	**356**	PKP	**PKPdf**	**18 42 40.5**	**-0.3**	
SONM	**Songino Array**	**128.54**	**356**	PKP	**PKPdf**	**18 42 40.5**	**-0.3**	
	comp=Z,0.6nm,0.8s,baz=319,slow=0.8,SNR=6.2							
ASAR	**Alice Springs**	**143.28**	**234**	PKPpre	PKPpre	18 43 04.1		
ASAR	**Alice Springs**	**143.28**	**234**	PKhKP	PKPpre	18 43 04.1		
	comp=Z,0.5nm,0.4s,baz=120,slow=3.7,SNR=7.9							
DANN	**Dangsing**	**143.67**	**28**	*e*P	PKPab	18 43 06.1	-0.1	
	comp=Z,14nm,1.0s							
GKN	**Gorkha**	**144.36**	**27**	*e*P	**PKPab**	**18 43 07.4**	**-1.3**	
	comp=Z,15nm,1.0s							
WRAB	**Tennant Creek**	**144.50**	**240**	*e*PKPpre	**PKPab**	**18 43 08.8**	**-0.5**	
WRA	**Warramunga Arr**	**144.51**	**240**	PKP	**PKPab**	**18 43 08.7**	**-0.5**	
WRA	**Warramunga Arr**	**144.51**	**240**	PKP	**PKPab**	**18 43 08.7**	**-0.5**	
	comp=Z,5.9nm,0.8s,baz=111,slow=3.4,SNR=29							
KKN	**Kakani**	**144.83**	**26**	*e*P	**PKPab**	**18 43 10.1**	**-0.4**	
	comp=Z,12nm,0.7s							
DMN	**Daman**	**144.91**	**27**	*e*P	**PKPab**	**18 43 10.6**	**-0.2**	
	comp=Z,31nm,1.2s							
GUN	**Gumba**	**144.99**	**25**	*e*P	**PKPab**	**18 43 10.1**	**-1.1**	
	comp=Z,53nm,1.0s							
PKI	**Pulchoki**	**145.08**	**26**	*e*P	**PKPab**	**18 43 10.8**	**-0.7**	
LSA	**Lhasa**	**145.24**	**17**	*e*PKPdf	**PKPbc**	**18 43 11.5**	**-0.6**	
JIRN	**Jiri**	**145.34**	**25**	*e*P	**PKPbc**	**18 43 11.9**	**-0.5**	
TAPN	**Taplejung**	**146.23**	**23**	*e*P	**PKPdf**	**18 43 14.6**	**+0.5**	
	comp=Z,9.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**157.80**	**7**	PKPab	**PKPab**	**18 44 00.8**	**-2.7**	
CMAR	**Chiang Mai Arr**	**157.80**	**7**	PKPab	**PKPab**	**18 44 00.8**	**-2.7**	
	comp=Z,0.9nm,1.0s,baz=332,slow=5.1,SNR=4.0							

SZGRF ***23*** *18:23:29.1,21.°72S×169.°04E, h33km, Southeast of Loyalty Islands*

ISCJB ***23*** *18:24:00.4±0.7, 19.°1S±0.°1×169.°6E±0.°1, h246km, mb4.0/16, Error ellipse: s-maj=17.4km s-min=12.3km az=136.7*

VIE ***23*** *18:24:01.1, 19.°15S×169.°49E, h245km, mb3.7 200 km SE of Port Vila*

IDC ***23*** *18:24:03.3±2.5, 19.°17S×169.°54E, h265km±22km, mb3.7/16, mb1 3.9/18, mb1mx3.8/25, mbtmp3.8/18, Error ellipse: s-maj=20.3km s-min=14.9km az=136.0*

ISC 23 18:24:01.3±0.7, 19.°1S±0.°1×169.°6E±0.°1, h246km, n51, σ0°86/50, mb4.0/16, 12C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.18**	**224**	P	**Pn**	**18 25 08.8**	**+1.6**
	7.3nm,0.3s,baz=61,slow=18,SNR=8.5						
HNR	**Honiara**	**13.38**	**314**	P	**P**	**18 27 03.5**	**-0.1**
	26nm,0.3s,baz=0.0,slow=11,SNR=71						
CTA	**Charters Tower**	**22.00**	**263**	P	**P**	**18 28 36.3**	**+0.5**
	2.9nm,0.5s,baz=67,slow=13,SNR=9.0						
PMG	**Port Moresby**	**23.73**	**297**	P	**P**	**18 28 51.7**	**+0.1**
	15nm,0.7s,baz=82,slow=4.6,SNR=8.3						
STKA	**Stephens Creek**	**28.20**	**238**	P	**P**	**18 29 32.5**	**+1.0**
	1.4nm,0.6s,baz=91,slow=13,SNR=3.4						
STKA				PcP	**PcP**	**18 32 38.0**	**-0.6**
	2.3nm,1.0s,baz=74,slow=7.4,SNR=2.9						
WRA	**Warramunga Arr**	**33.19**	**263**	P	**P**	**18 30 14.1**	**-1.3**
	1.0nm,0.3s,baz=84,slow=6.4,SNR=34						
WRA				PcP	**PcP**	**18 32 51.3**	**-0.8**
	0.7nm,0.6s,baz=89,slow=3.1,SNR=5.2						
ASAR	**Alice Springs**	**33.48**	**256**	P	**P**	**18 30 17.1**	**-0.7**
	6.6nm,0.5s,baz=82,slow=9.2,SNR=101						
ASAR				pP	**pP**	**18 31 04.9**	**-2.2**
	2.5nm,0.7s,baz=85,slow=8.9,SNR=5.8						
FITZ	**Fitzroy Crossi**	**41.58**	**264**	P	**P**	**18 31 25.3**	**-0.2**
	1.9nm,0.5s,baz=56,slow=15,SNR=9.4						
MJAR	**Matsushiro Arr**	**62.76**	**332**	P	**P**	**18 34 00.4**	**-0.3**
	1.2nm,0.6s,baz=176,slow=6.1,SNR=4.3						
ASAJ	**Asahikawa**	**67.56**	**339**	P	**P**	**18 34 32.6**	**+1.4**
	4.0nm,0.6s,baz=314,slow=14,SNR=6.5						
QSPA	**South Pole Qui**	**70.97**	**180**	P	**P**	**18 34 51.6**	**-0.4**
	1.7nm,1.1s,baz=78,slow=1.5,SNR=4.0						
PETK	**Petropavlovsk-**	**72.62**	**353**	P	**P**	**18 35 02.4**	**+0.7**
	5.2nm,0.7s,baz=144,slow=7.1,SNR=12						
CMAR	**Chiang Mai Arr**	**78.73**	**294**	P	**P**	**18 35 38.1**	**+1.1**
	0.8nm,0.7s,baz=139,slow=4.0,SNR=6.1						
KDAK	**Kodiak Island**	**82.78**	**19**	P	**P**	**18 35 58.0**	**+0.6**
	7.8nm,0.9s,baz=149,slow=4.3,SNR=6.2						
SONM	**Songino Array**	**87.28**	**323**	P	**P**	**18 36 20.7**	**+0.4**
	2.0nm,0.7s,baz=144,slow=5.6,SNR=21						
NVAR	**Mina Array Bea**	**88.45**	**48**	P	**P**	**18 36 26.8**	**+0.6**
	1.9nm,0.7s,baz=230,slow=7.6,SNR=9.0						
ILAR	**Eielson Array**	**89.98**	**17**	P	**P**	**18 36 30.6**	**-1.7**
	1.6nm,0.8s,baz=237,slow=5.2,SNR=18						
PDAR	**Pinedale Array**	**96.27**	**47**	P	**P**	**18 37 03.5**	**+1.4**
	0.4nm,0.7s,baz=202,slow=3.2,SNR=3.7						
YKA	**Yellowknife Ar**	**100.33**	**27**	P	**Pdif**	**18 37 19.7**	**0.0**
	0.5nm,0.4s,baz=256,slow=4.6,SNR=11						
MKAR	**Makanchi Array**	**101.85**	**315**	P	**Pdif**	**18 37 27.4**	**+0.7**
	0.3nm,0.6s,baz=100,slow=5.7,SNR=6.0						
ARCES	**ARCESS Array B**	**124.99**	**345**	PKP	**PKPdf**	**18 42 30.2**	**-1.3**
	1.4nm,0.4s,baz=65,slow=2.1,SNR=23						
FINES	**FINESS Array B**	**130.56**	**338**	PKP	**PKPdf**	**18 42 41.1**	**-1.2**
	0.3nm,0.5s,baz=17,slow=2.0,SNR=3.6						
TANN	**Tannenbergstha**	**143.82**	**335**	*e*PKPbc	PKPab	18 43 04.6	-0.2
MOX	**Moxa**	**143.97**	**336**	*e*PKPbc	**PKPab**	**18 43 04.9**	**-0.4**
CONA	**Conrad Observa**	**144.17**	**329⇑**	*e*PKPdf	PKPbc	18 43 07.2	+0.6
	2.6nm,0.7s						
CSNA	**Conrad Observa**	**144.17**	**329⇑**	*i*PKPdf	PKPbc	18 43 07.2	+0.6
	2.3nm,0.6s						
UBBA	**Unterbreizbach**	**144.43**	**338**	*e*PKPbc	**PKPab**	**18 43 06.9**	**0.0**
ROTZ	**Rotzenmuhle**	**144.43**	**335**	*e*PKPbc	**PKPab**	**18 43 07.1**	**0.0**
GEC2	**GERESS Array S**	**144.50**	**332**	*e*PKPbc	**PKPab**	**18 43 06.9**	**-0.6**
GERES	**GERESS Array B**	**144.50**	**332**	PKP	**PKPab**	**18 43 06.8**	**-0.7**
	2.7nm,0.7s,baz=35,slow=4.4,SNR=26						
WET	**Wettzell**	**144.63**	**333**	*e*PKPbc	**PKPab**	**18 43 07.4**	**-0.5**
ARSA	**Arzberg**	**144.81**	**329⇑**	*i*PKPdf	**PKPdf**	**18 43 08.9**	**0.0**
	1.3nm,0.5s						
GRF	**Grafenberg Arr**	**144.88**	**335**	*e*PKPbc	PKPbc	18 43 08.1	-0.6
MOA	**Molln**	**144.98**	**331⇑**	*e*PKPab	**PKPbc**	**18 43 08.8**	**-0.2**
	7.7nm,0.9s						
SOKA	**Soboth**	**145.45**	**329⇑**	*i*PKPab	**PKPdf**	**18 43 09.8**	**-0.3**
	1.0nm,0.5s						
TNS	**Taunus Mts**	**145.47**	**338**	*e*PKPbc	**PKPbc**	**18 43 10.5**	**0.0**
RJOB	**Jochberg**	**145.73**	**332**	*e*PKPbc	**PKPdf**	**18 43 10.5**	**0.0**
KBA	**Koelnbreinsper**	**145.97**	**331⇑**	*e*PKPab	**PKPbc**	**18 43 11.7**	**-0.6**
	2.2nm,0.4s						
MYKA	**Terra Mystica**	**146.16**	**330⇑**	*e*PKPbc	**PKPdf**	**18 43 11.3**	**+0.1**
	2.6nm,0.5s						
CRNS	**Crni Vrh**	**146.25**	**328**	*i* PKPbc	**PKPdf**	**18 43 11.9**	**+0.5**
CEY	**Cerknica**	**146.40**	**328**	*i* PKPbc	**PKPbc**	**18 43 12.6**	**-0.8**
STU	**Stuttgart**	**146.41**	**336**	*e*PKPbc	**PKPdf**	**18 43 11.8**	**+0.3**
ABTA	**Abfaltersbach**	**146.60**	**331⇓**	*i*PKPbc	**PKPdf**	**18 43 12.8**	**+0.7**
	3.1nm,0.5s						
WTTA	**Wattenberg**	**146.60**	**332⇑**	*e*PKPbc	**PKPdf**	**18 43 13.1**	**+1.0**
	2.7nm,0.5s						
WLF	**Walferdange**	**146.72**	**340**	*e*PKPbc	**PKPbc**	**18 43 14.3**	**+0.2**
MOTA	**Moosalm**	**146.77**	**333⇑**	*i*PKPbc	**PKPdf**	**18 43 13.0**	**+0.6**
	4.0nm,0.8s						
RETA	**Reutte**	**146.81**	**333⇑**	*e*PKPbc	**PKPdf**	**18 43 13.4**	**+1.1**
	1.9nm,0.5s						
BFO	**Black Forest**	**147.10**	**337**	*e*PKPbc	**PKPbc**	**18 43 14.4**	**-0.9**
FETA	**Feichten**	**147.19**	**333⇑**	*i*PKPbc	**PKPbc**	**18 43 15.2**	**-0.6**
	3.6nm,0.5s						
DAVA	**Damuels**	**147.34**	**334⇑**	*e*PKPbc	**PKPbc**	**18 43 15.4**	**-0.7**
	3.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**166.95**	**245**	PKP	**PKPdf**	**18 43 37.0**	**-1.4**
	0.7nm,0.9s,baz=65,slow=1.4,SNR=4.0						

CSEM ***23*** *18:33:51.2, 43.°65N×12.°08E, h10km, MD1.6/4, After ROM*

ROM 23 18:33:51.2±0.1, 43.°65N×12.°08E, h10km, Md1.6/4, MI0.7/3, 4C, Error ellipse: s-maj=2.2km s-min=0.9km az=178.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRE	**Caprese Michel**	**0.10**	**249⇑**	*i*Pg	Pg	18 33 54.2	+0.3
CRE				Sg	Sg	18 33 56.2	+0.5
	12nm,0.2s						
CRE	**Caprese Michel**	**0.10**	**249⇑**	*i*Pg	Pg	18 33 54.2	+0.3
CRE				Sg	Sg	18 33 56.2	+0.5
	12nm,0.2s						
PARC	**Parchiule**	**0.12**	**93⇑**	*i*Pg	Pg	18 33 54.6	+0.5
PARC				Sg	Sg	18 33 56.8	+0.7
	51nm,0.2s						
PARC	**Parchiule**	**0.12**	**93⇑**	*i*Pg	Pg	18 33 54.6	+0.5
PARC				Sg	Sg	18 33 56.8	+0.7
	51nm,0.2s						
BADI	**Badiali**	**0.19**	**139**	Pg	Pg	18 33 55.9	+0.7
BADI				Sg	Sg	18 33 59.3	+1.3
	164nm,3.1s						
BADI	**Badiali**	**0.19**	**139**	Pg	Pg	18 33 55.9	+0.7
BADI				Sg	Sg	18 33 59.3	+1.3
	164nm,3.1s						
PIEI	**Pieia**	**0.35**	**109**	Pg	Pg	18 33 58.7	+0.4
PIEI				Sg	Sb	18 34 04.8	-0.7
PIEI	**Pieia**	**0.35**	**109**	Pg	Pg	18 33 58.7	+0.4
PIEI				Sg	Sb	18 34 04.8	-0.7

IDC 23 18:38:33.7±0.8, 3.°70N×126.°80E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.7/25, mbtmp3.8/10, 1C, Error ellipse: s-maj=69.4km s-min=14.2km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.32**	**324⇑**	*i*P	Pb	18 39 48.0	-2.6
FITZ	**Fitzroy Crossi**	**21.70**	**183**	P	P	18 43 28.2	+1.8
	3.1nm,0.7s,baz=298,slow=4.7,SNR=7.8						
WRA	**Warramunga Arr**	**24.64**	**163**	P	P	18 43 56.1	0.0
	4.0nm,0.8s,baz=343,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.07**	**166**	P	P	18 44 27.4	+0.2
	0.4nm,0.7s,baz=358,slow=7.5,SNR=3.4						
KSRS	**Korea Array**	**33.61**	**2**	P	P	18 45 16.8	+1.0
	1.2nm,0.8s,baz=178,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**38.08**	**159**	P	P	18 45 52.9	-1.4
	2.0nm,0.6s,baz=317,slow=16,SNR=6.7						
SONM	**Songino Array**	**47.35**	**341**	P	P	18 47 09.4	-0.1
	0.3nm,0.6s,baz=160,slow=8.9,SNR=4.1						
MKAR	**Makanchi Array**	**57.62**	**325**	P	P	18 48 26.1	+0.4
	0.8nm,0.6s,baz=120,slow=8.2,SNR=14						
ZALV	**Zalesovo Beam**	**60.64**	**333**	P	P	18 48 46.5	+0.1
	0.3nm,0.4s,baz=114,slow=8.9,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.80**	**327**	P	P	18 48 53.6	-0.7
	1.2nm,0.6s,baz=131,slow=6.4,SNR=19						
BVAR	**Borovoye Array**	**67.38**	**327**	P	P	18 49 30.0	-0.8
	1.2nm,1.0s,baz=146,slow=8.2,SNR=4.4						

IDC 23 18:46:14.1±2.0, 2.°56N×125.°48E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/21, mbtmp3.2/3, Error ellipse: s-maj=194.4km s-min=25.6km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.00**	**159**	P	P	18 51 30.8	0.0
	0.4nm,0.8s,baz=338,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**27.33**	**163**	P	P	18 52 01.4	+0.3
	0.1nm,0.7s,baz=339,slow=7.4,SNR=3.0						
MKAR	**Makanchi Array**	**57.81**	**326**	P	P	18 56 07.0	-0.4
	0.1nm,0.4s,baz=131,slow=7.5,SNR=6.1						

IDC 23 19:10:33.0±1.2, 3.°89N×126.°84E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/23, mbtmp3.8/6, MS2.6/1, Ms1 2.6/1, ms1mx2.0/38, 1C, Error ellipse: s-maj=86.4km s-min=17.5km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.20**	**322⇑**	*i*P	Pn	19 11 43.0	+4.7
KAPI	**Kappang**	**11.33**	**219**	LR	LR	19 17 52.4	
	comp=Z,36nm,21.4s,baz=114,slow=39						
FITZ	**Fitzroy Crossi**	**21.88**	**183**	P	P	19 15 26.9	-0.8
	1.1nm,0.5s,baz=356,slow=12,SNR=4.9						
WRA	**Warramunga Arr**	**24.80**	**163**	P	P	19 15 57.1	+0.1
	7.6nm,0.7s,baz=344,slow=10,SNR=61						
ASAR	**Alice Springs**	**28.24**	**166**	P	P	19 16 28.0	0.0
	0.3nm,0.3s,baz=348,slow=8.3,SNR=7.4						
STKA	**Stephens Creek**	**38.24**	**160**	P	P	19 17 55.2	+0.2
	5.5nm,0.7s,baz=344,slow=8.5,SNR=15						
SONM	**Songino Array**	**47.18**	**341**	P	P	19 19 07.3	-0.4
	0.3nm,1.0s,baz=150,slow=6.1,SNR=2.6						
MKAR	**Makanchi Array**	**57.49**	**325**	P	P	19 20 24.1	+0.1
	0.3nm,0.4s,baz=121,slow=8.0,SNR=13						

TRN 23 19:16:41.9, 14.°01N×60.°63W, h3km, MD3.5, M2.9(FDF), Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLB	**Belfond**	**0.44**	**246**	*e*P	Pn	19 16 55.2	0.0
SLB				*e*S	Sb	19 17 02.9	+3.4
MVM	**Montagne Vaucl**	**0.60**	**335**	*e*P	Pn	19 16 57.3	-0.1
BIM	**Bigot**	**0.66**	**320**	*e*P	Pn	19 16 58.4	+0.2
BIM				*e*S	Sn	19 17 11.8	+2.5
FDF	**Fort de France**	**0.88**	**325**	*e*P	Pn	19 17 01.7	+0.4
FDF				*e*S	Sn	19 17 17.4	+2.7
SVV	**Soufriere Volc**	**0.89**	**220**	*e*P	Pn	19 17 03.7	+2.2
SVV				*e*S	Sn	19 17 16.0	+1.1
SVB	**Belmont**	**0.95**	**220**	*e*P	Pn	19 17 04.5	+2.3

ISCJB ***23*** *19:28:29.8±0.6, 36.°48N±0.°03×57.°94E±0.°03, h4km±5km, mb3.5/7, MS3.0/3, Error ellipse: s-maj=4.5km s-min=3.8km az=8.6*

CSEM ***23*** *19:28:30.9±0.1, 36.°48N×57.°96E, h2km, ML3.8, Error ellipse: s-maj=2.8km s-min=2.0km az=172.0*

IDC ***23*** *19:28:30.2±1.1, 36.°50N×57.°66E, h0km, mb3.6/8, mb1 3.8/14, mb1mx3.6/31, mbtmp3.7/14, ML3.6/5, MS3.1/7, Ms1 3.1/7, ms1mx2.8/47, Error ellipse: s-maj=23.9km s-min=15.4km az=1.0*

THR ***23*** *19:28:31.5±0.4, 36.°45N×57.°89E, h14km±7km, ML3.7*

TEH ***23*** *19:28:32.1, 36.°46N×57.°95E, h3km, ML3.8*

NNC ***23*** *19:28:38.4±7.1, 37.°22N×57.°65E, h0km, mb3.6, Error ellipse: s-maj=100.9km s-min=30.2km az=63.0*

ISC 23 19:28:31.1±1.3, 36.°45N±0.°03×57.°96E±0.°03, h4km±9km, n106, σ0°87/110, mb3.5/7, MS3.0/3, 8C-9D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKRD	**Kardeh**	**0.55**	**54⇓**	*e*Pg	Pn	19 28 55.6	+10
IKRD				*e*Sg	Sn	19 29 13.4	+17
IKRD				*e*		19 29 16.1	
	comp=Z,22μm,0.2s						
ISFR	**Sfrayin**	**0.60**	**3⇓**	*e*Pg	**Pg**	**19 28 42.9**	**+0.2**
ISFR				*e*Sg	**Sg**	**19 28 52.0**	**+1.5**
ISFR				*e*		19 28 53.6	
	comp=Z,70μm,0.1s						
IAKL	**Akhelmad**	**0.66**	**77⇑**	*e*Pg	**Pg**	**19 28 43.7**	**0.0**
IAKL				*e*Sg	**Sg**	**19 28 51.8**	**-0.4**
IAKL				*e*		19 28 56.0	
	comp=Z,82μm,0.2s						
IQHU	**Qucahn**	**0.77**	**37**	*e*Pg	**Pg**	**19 28 46.1**	**+0.2**
IQHU				*e*		19 29 15.9	
	comp=Z,37μm,0.2s						
IQHU	**Qucahn**	**0.77**	**37**	*e*Pg	**Pg**	**19 28 46.1**	**+0.2**
IPAY	**Payeh**	**0.83**	**90⇓**	*e*Pg	**Pg**	**19 28 47.3**	**+0.2**
IPAY				*e*Sg	**Sg**	**19 28 59.4**	**+1.5**
IEMG	**Emamgholi**	**1.11**	**30**	*e*Pg	**Pg**	**19 28 52.2**	**-0.2**
IEMG				*e*Sg	**Sg**	**19 29 06.3**	**-0.4**
IEMG				*e*		19 29 14.3	
	comp=Z,16μm,0.3s						
IEMG	**Emamgholi**	**1.11**	**30**	*e*Pg	**Pg**	**19 28 52.2**	**-0.2**
IEMG				*e*Sg	**Sg**	**19 29 06.3**	**-0.4**
IMOG	**Moghan**	**1.16**	**107⇑**	*e*Pg	**Pg**	**19 28 52.2**	**-1.2**
IMOG				*e*Sg	**Sg**	**19 29 07.9**	**-0.6**
IMOG				*e*		19 29 12.3	
	comp=Z,19μm,0.2s						
IMOG	**Moghan**	**1.16**	**107⇑**	*e*Pg	**Pg**	**19 28 52.2**	**-1.2**
IMOG				*e*Sg	**Sg**	**19 29 07.9**	**-0.6**
ISRO	**Mashad**	**1.22**	**96⇓**	*e*Pg	**Pg**	**19 28 53.7**	**-0.9**
ISRO				*e*Sg	**Sg**	**19 29 09.6**	**-0.9**
ISRO	**Mashad**	**1.22**	**96⇓**	*e*Pg	**Pg**	**19 28 53.7**	**-0.9**
ISRO				*e*Sg	**Sg**	**19 29 09.6**	**-0.9**
MHI	**Mashad**	**1.22**	**96**	*e*Pg	**Pg**	**19 28 54.5**	**-0.1**
MHI				*e*		19 29 13.6	
	comp=Z,22μm,0.0s						
BJRD	**Bojnurd**	**1.32**	**340**	*e*Pg	**Pg**	**19 28 55.8**	**-0.7**
BJRD				AML	AML	19 29 15.7	
	comp=E,1μm,0.4s						
BJRD				AML	AML	19 29 21.2	
	comp=N,991nm,0.8s						
BJRD	**Bojnurd**	**1.32**	**340**	*e*Pg	**Pg**	**19 28 55.8**	**-0.7**
IMYA	**Miami**	**1.73**	**93⇑**	*e*Pn	**Pn**	**19 29 02.7**	**+0.5**
IMYA				*e*Sg	**Sb**	**19 29 26.8**	**+1.1**
IMYA				*e*		19 29 33.2	
	comp=Z,11μm,0.2s						
IMYA	**Miami**	**1.73**	**93⇑**	*e*Pn	**Pn**	**19 29 02.7**	**+0.5**
IMYA				*e*Sg	**Sb**	**19 29 26.8**	**+1.1**
MRVT	**Maraveh tapeh**	**1.92**	**309**	*e*Pn	**Pn**	**19 29 05.2**	**+0.5**
MRVT				AML	AML	19 29 35.9	
	comp=N,670nm,0.6s						
MRVT				AML	AML	19 29 36.9	
	comp=E,700nm,0.5s						
MRVT	**Maraveh tapeh**	**1.92**	**309**	*e*Pn	**Pn**	**19 29 05.2**	**+0.5**
TABS	**Tabas**	**2.88**	**194**	*e*Pn	**Pn**	**19 29 18.7**	**+0.7**
TABS	**Tabas**	**2.88**	**194**	*e*Pn	**Pn**	**19 29 18.7**	**+0.7**
SHRT	**Shahrakht**	**3.39**	**145**	*e*Pn	**Pn**	**19 29 26.4**	**+1.5**
SHRT	**Shahrakht**	**3.39**	**145**	*e*Pn	**Pn**	**19 29 26.4**	**+1.5**
IANJ	**Anjilo**	**3.43**	**254**	*e*Pn	**Pn**	**19 29 25.5**	**-0.1**
IANJ				*e*		19 30 34.5	
	comp=Z,2μm,0.3s						
IANJ	**Anjilo**	**3.43**	**254**	*e*Pn	**Pn**	**19 29 25.5**	**-0.1**
IKIA	**Kiasar**	**3.46**	**267**	*e*Pn	**Pn**	**19 29 26.7**	**+0.6**
IKIA				*e*		19 30 43.8	
	comp=Z,2μm,0.4s						
IKIA	**Kiasar**	**3.46**	**267**	*e*Pn	**Pn**	**19 29 26.7**	**+0.6**
IMON	**Monand**	**3.54**	**156**	*e*Pn	**Pn**	**19 29 28.3**	**+1.1**
IMON				*e*		19 29 42.1	
	comp=Z,2μm,0.2s						
IMON	**Monand**	**3.54**	**156**	*e*Pn	**Pn**	**19 29 28.3**	**+1.1**
ITEG	**Tejag**	**3.61**	**169**	*e*Pn	**Pn**	**19 29 29.1**	**+1.1**
ITEG				*e*		19 30 39.5	
	comp=Z,2μm,0.5s						
ITEG	**Tejag**	**3.61**	**169**	*e*Pn	**Pn**	**19 29 29.1**	**+1.1**
ISHM	**Shahmirzad**	**3.84**	**262**	*e*Pn	**Pn**	**19 29 31.8**	**+0.5**
ISHM				*e*		19 30 52.7	
	comp=Z,2μm,0.4s						
ISHM	**Shahmirzad**	**3.84**	**262**	*e*Pn	**Pn**	**19 29 31.8**	**+0.5**
IDAH	**Dahanechah**	**4.03**	**156**	*e*Pn	**Pn**	**19 29 34.7**	**+0.9**
IDAH				*e*		19 30 50.4	
	comp=Z,1μm,0.5s						
IDAH	**Dahanechah**	**4.03**	**156**	*e*Pn	**Pn**

comp=Z,0.4nm,0.3s,baz=174,slow=14,SNR=11
AKTO Sn Sn 19 34 17.1 -8.3
comp=Z,0.2nm,0.3s,baz=270,slow=24,SNR=4.5
AKTO LR LR 19 38 02.2
comp=Z,46nm,19.4s,baz=23,slow=41
AKTO Aktyubinsk 13.97 0 Pn **Pn 19 31 49.2 -0.7**
comp=Z,1.3nm,0.8s
AAK Ala-Archa 14.16 59 Pn **Pn 19 31 51.1 -1.6**
comp=Z,0.1nm,0.3s,baz=262,slow=9.5,SNR=12
AAK Sn Sn **19 34 26.4 -3.9**
comp=Z,0.1nm,0.3s,baz=47,slow=19,SNR=3.8
ASF Jabal al Asfar 17.91 262 P **Pn 19 32 42.1 +0.8**
comp=Z,0.2nm,0.3s,baz=308,slow=5.4,SNR=4.7
ASF LR LR 19 40 53.9
comp=Z,50nm,19.0s,baz=300,slow=42
ZRNK Zerenda 18.23 22 ⇑P **Pn 19 32 45.8 +0.9**
comp=Z,4.1nm,1.1s
ZRNK Zerenda 18.23 22 P **Pn 19 32 45.8 +0.9**
comp=Z,4.1nm,1.1s
VOSK Vostochnaya 18.67 25 ⇓P **P 19 32 49.1 -1.0**
comp=Z,3.2nm,0.8s
BVA0 Borovoye Array 18.73 24 P **P 19 32 49.5 -1.2**
comp=Z,0.7nm,0.8s,baz=205,slow=10,SNR=26
BVA0 Borovoye Array 18.73 24 P **P 19 32 49.5 -1.2**
comp=Z,0.7nm,0.8s,baz=205,SNR=26
BVAR Borovoye Array 18.73 24 P **P 19 32 50.4 -0.2**
comp=Z,0.4nm,0.3s,baz=203,slow=10,SNR=14
BVAR LR LR 19 41 11.5
comp=Z,61nm,18.6s,baz=92,slow=40
MMAI Mount Meron Ar 18.85 266 LR LR 19 41 11.7
comp=Z,44nm,19.6s,baz=80,slow=41
BRTR Keskin Array B 19.41 287 P P 19 32 53.9 -4.5
comp=Z,0.1nm,0.3s,baz=97,slow=10,SNR=2.6
EIL Elat 20.41 257 LR LR 19 42 24.7
comp=Z,73nm,20.5s,baz=74,slow=41
KURBB Kurchatov Arra 20.47 40 P **P 19 33 11.2 +1.5**
comp=Z,3.5nm,0.8s,baz=237,slow=12,SNR=15
KURBB LR LR 19 42 18.3
comp=Z,63nm,18.6s,baz=60,slow=40
MK31 Makanchi Array 20.84 53 P Pn 19 33 19.7 +3.5
comp=Z,1.1nm,0.8s,baz=239,slow=7.0,SNR=9.1
MKAR Makanchi Array 20.84 53 P **P 19 33 15.8 +2.0**
comp=Z,1.0nm,0.8s,baz=242,slow=7.7,SNR=3.8
AKASG Malin Array Be 25.03 314 P **P 19 33 55.3 -0.8**
comp=Z,2.1nm,0.8s,baz=113,slow=8.8,SNR=3.1
ZALV Zalesovo Beam 25.53 38 P **P 19 34 01.9 +1.2**
comp=Z,0.3nm,0.5s,baz=245,slow=9.4,SNR=2.9
ZALV LR LR 19 45 47.3
comp=Z,32nm,19.7s,baz=321,slow=40
MLR Muntele Rosu 25.66 301 P **P 19 34 02.9 +0.8**
comp=Z,0.6nm,0.8s,baz=260,slow=4.2,SNR=5.4
CMAR Chiang Mai Arr 40.19 105 P **P 19 36 10.3 +1.5**
comp=Z,0.6nm,0.7s,baz=299,slow=7.7,SNR=6.0
TORD Torodi Ar. Bea 55.26 260 P P 19 38 03.2 -2.6
comp=Z,1.0nm,1.1s,baz=59,slow=6.9,SNR=3.9
YKA Yellowknife Ar 81.21 357 P **P 19 40 47.7 -0.1**
comp=Z,0.2nm,0.5s,baz=3.4,slow=5.7,SNR=8.0
WRA Warramunga Arr 91.26 114 P **P 19 41 38.2 +0.2**
comp=Z,0.6nm,0.9s,baz=325,slow=4.0,SNR=3.6

IDC 23 19:30:22.0±1.8, 23°97S×176°80W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/21, mbtmp4.0/5, Error ellipse: s-maj=64.7km s-min=38.1km az=173.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.40**	**269**	P	P	19 37 11.4	+0.2
	2.0nm,0.4s,baz=84,slow=11,SNR=6.7						
STKA	**Stephens Creek**	**37.41**	**248**	P	P	19 37 37.5	+0.5
	2.6nm,1.0s,baz=103,slow=13,SNR=5.5						
ASAR	**Alice Springs**		**260**	P	P	19 38 39.0	+0.1
	0.6nm,0.3s,baz=90,slow=6.6,SNR=25						
WRA	**Warramunga Arr**	**45.32**	**265**	P	P	19 38 40.7	-1.4
	0.7nm,0.5s,baz=100,slow=8.3,SNR=21						
FITZ	**Fitzroy Crossi**	**53.74**	**265**	P	P	19 39 46.7	+0.4
	2.4nm,0.9s,baz=146,slow=11,SNR=3.0						
AKASG	**Malin Array Be**	**146.57**	**330**	PKPbc	PKPbc	19 50 05.3	+0.1
	0.9nm,0.4s,baz=44,slow=4.0,SNR=4.8						
BRTR	**Keskin Array B**	**149.93**	**309**	PKPbc	PKPbc	19 50 13.5	-1.2
	0.3nm,0.4s,baz=172,slow=3.8,SNR=3.5						
TORD	**Torodi Ar. Bea**	**169.14**	**172**	PKPab	PKPab	19 51 42.8	-0.6
	0.7nm,0.9s,baz=201,slow=3.4,SNR=3.6						

IDC 23 19:49:08.6±4.2, 8°34N×81°92W, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.6/22, mbtmp3.5/4, ML3.6/1, MS3.1/2, Ms1 3.2/2, ms1mx2.7/27, Error ellipse: s-maj=125.5km s-min=47.1km az=21.0, Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**3.56**	**303**	Pn	Pn	19 50 04.1	-1.1
	5.7nm,0.3s,baz=102,slow=20,SNR=4.5						
JTS				Sn	Sn	19 50 48.4	+0.3
	baz=300,slow=20,SNR=2.0						
JTS				LR	LR	19 51 41.1	
	comp=Z,245nm,19.9s,baz=359,slow=43						
TXAR	**Lajitas Array**	**29.21**	**318**	LR	LR	20 10 12.6	
	comp=Z,46nm,18.1s,baz=135,slow=43						
NVAR	**Mina Array Bea**	**44.33**	**318**	P	P	19 57 22.3	+1.2
	0.4nm,0.3s,baz=124,slow=9.3,SNR=4.9						
YKA	**Yellowknife Ar**	**59.05**	**343**	P	P	19 59 09.6	-0.5
	0.3nm,0.9s,baz=138,slow=7.3,SNR=4.6						
ILAR	**Eielson Array**	**71.96**	**336**	P	P	20 00 33.7	-0.1
	0.3nm,0.9s,baz=110,slow=5.3,SNR=3.6						
ASAR	**Alice Springs**	**142.48**	**242**	PKP	PKPdf	20 08 42.6	-1.8
	0.4nm,0.8s,baz=132,slow=2.6,SNR=3.0						

*SZGRF **23** 19:49:08.7, 18°.45S×176°.68W, h33km, Fiji Islands region*
*MOS **23** 19:49:20.3±1.9, 18°.55S×175°.62W, h130km, mb4.9/1, Error ellipse: s-maj=14.6km s-min=11.7km az=144.1*
*IDC **23** 19:49:20.6±2.7, 18°.83S×175°.25W, h145km±23km, mb4.3/21, mb1 4.5/22, mb1mx4.4/27, mbtmp4.3/22, Error ellipse: s-maj=16.3km s-min=10.6km az=144.0*
*BJI **23** 19:49:22.8, 18°.80S×174°.80W, h202km, mB5.0/14, mb4.7/20*
*NEIC **23** 19:49:23.3±1.5, 18°.85S×175°.09W, h175km±13km, mb4.9/13, Error ellipse: s-maj=16.6km s-min=10.1km az=140.0*
*ISCJB **23** 19:49:25.6±0.2, 18°.89S±0°.07×175°.45W±0°.05, h199km, mb4.4/37, Error ellipse: s-maj=10.8km s-min=5.0km az=152.2*
ISC 23 19:49:26.2±0.5, 18°90S±0°07×175°24W±0°07, h198km±3km, h198km; pP-P, n350, σ1s13/372, mb4.6/37, 99C-85D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.97**	**34**	*e*Pn	Pn	19 50 45.3	-7.9
AFI				S	Sn	19 51 44.8	-17
AFI	**Afiamalu**	**5.97**	**34**	P	Pn	19 50 45.3	-7.9
	19nm,0.3s,baz=145,slow=2.1,SNR=24						
AFI				S	Sn	19 51 44.8	-17
	65nm,0.3s,baz=50,slow=21,SNR=15						
MSVF	**Nonsavu**		**6.48 279**	*e*P	**Pn**	**19 51 01.7**	**+2.0**
MSVF	**Nonsavu**		**6.48 279**	*e*Pn	**Pn**	**19 51 01.7**	**+2.0**
DZM	**Mont Dzumac**	**17.45**	**256**	*e*P	**Pn**	**19 53 18.5**	**+0.6**
DZM	**Mont Dzumac**	**17.45**	**256**	P	**Pn**	**19 53 19.3**	**+1.3**
DZM	**Mont Dzumac**	**17.45**	**256**	P	**Pn**	**19 53 19.3**	**+1.3**
	2.1nm,0.3s,baz=75,slow=15,SNR=25						
OUZ	**Omahuta**		**19.03 209**	*e*P	**Pn**	**19 53 37.1**	**+0.8**
	248nm,2.8s						
URZ	**Urewera**		**20.41 197**	*e*P	**P**	**19 53 46.8**	**-1.1**
	34nm,0.5s						
RPZ	**Rata Peaks**		**27.29 202**	*e*P	**P**	**19 54 53.0**	**+0.7**
EIDS	**Eidsvold**		**31.79 252**	*e*P	**P**	**19 55 32.0**	**-0.2**
	25nm,0.8s						
ARMA	**Armidale**		**32.10 243**	*e*P	**P**	**19 55 37.0**	**+2.1**
	12nm,0.7s						
ARMA	**Armidale**		**32.10 243**	*e*P	**P**	**19 55 34.6**	**-0.4**
CTA	**Charters Tower**	**36.26**	**262**	P	**P**	**19 56 10.6**	**-0.2**
CTA	**Charters Tower**	**36.26**	**262**	*e*P	**P**	**19 56 09.9**	**-0.9**
	20nm,0.5s						
CTA	**Charters Tower**	**36.26**	**262**	P	**P**	**19 56 10.6**	**-0.2**
	28nm,0.5s,baz=91,slow=11,SNR=47						
CTAO	**Charters Tower**	**36.26**	**262**	*e*P	**P**	**19 56 10.4**	**-0.4**
CTAO	**Charters Tower**	**36.26**	**262**	*e*P	**P**	**19 56 10.4**	**-0.4**
PMG	**Port Moresby**		**37.59 279**	*e*P	**P**	**19 56 22.2**	**+0.3**
	39nm,0.9s						
PMG	**Port Moresby**	**37.59**	**279**	P	**P**	**19 56 21.8**	**-0.1**
	37nm,0.9s,baz=110,slow=5.3,SNR=11						
COEN	**Coen**		**40.12 271**	*e*P	**P**	**19 56 42.2**	**-0.8**
	67nm,0.5s						
STKA	**Stephens Creek**	**40.82**	**243**	P	**P**	**19 56 48.1**	**-0.4**
STKA	**Stephens Creek**	**40.82**	**243**	*e*P	**P**	**19 56 48.3**	**-0.3**
	9.0nm,1.0s						
STKA	**Stephens Creek**	**40.82**	**243**	P	**P**	**19 56 48.1**	**-0.4**
	16nm,0.9s,baz=79,slow=8.0,SNR=17						
WRAB	**Tennant Creek**	**47.41**	**260**	*e*P	**P**	**19 57 39.6**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,21nm,0.6s						
WRAB	**Tennant Creek**	**47.41**	**260**	*e*P	**P**	**19 57 39.6**	**-1.4**
	comp=Z,21nm,0.6s						
WRA	**Warramunga Arr**	**47.42**	**260**	P	**P**	**19 57 39.9**	**-1.1**
WRA				PcP	**PcP**	**19 59 08.8**	**+0.4**
WRA	**Warramunga Arr**	**47.42**	**260**	P	**P**	**19 57 39.9**	**-1.1**
	comp=Z,15nm,0.4s,baz=97,slow=7.7,SNR=359						
WRA				PcP	**PcP**	**19 59 08.8**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=95,slow=3.4,SNR=5.3						
ASAR	**Alice Springs**	**47.43**	**255**	P	**P**	**19 57 40.5**	**-0.6**
ASAR				PcP	**PcP**	**19 59 08.8**	**+0.3**
ASAR	**Alice Springs**	**47.43**	**255**	P	**P**	**19 57 40.5**	**-0.6**
	comp=Z,44nm,0.8s,baz=92,slow=7.7,SNR=352						
ASAR				PcP	**PcP**	**19 59 08.8**	**+0.3**
	comp=Z,4.3nm,0.6s,baz=105,slow=4.0,SNR=8.8						
FORT	**Forrest**	**52.31**	**245**	*e*P	**P**	**19 58 16.8**	**-1.0**
	comp=Z,28nm,0.6s						
FITZ	**Fitzroy Crossi**	**55.83**	**261**	*e*P	**P**	**19 58 42.2**	**-1.2**
	comp=Z,12nm,0.9s						
FITZ	**Fitzroy Crossi**	**55.83**	**261**	*e*P	**P**	**19 58 43.2**	**-0.2**
	comp=Z,22nm,1.5s						
FITZ	**Fitzroy Crossi**	**55.83**	**261**	P	**P**	**19 58 43.2**	**-0.2**
	comp=Z,5.5nm,0.5s,baz=131,slow=6.0,SNR=23						
VNDA	**Vanda**		**59.73 186**	P	**P**	**19 59 10.6**	**+1.0**
VNDA	**Vanda**		**59.73 186**	P	**P**	**19 59 10.6**	**+1.0**
	comp=Z,6.6nm,0.9s,baz=2.9,slow=6.4,SNR=6.4						
KLBR	**Kellerberrin**		**61.09 244**	*e*P	**P**	**19 59 18.3**	**-1.2**
	comp=Z,24nm,0.9s						
MJAR	**Matsushiro Arr**	**70.52**	**322**	P	**P**	**20 00 19.2**	**-0.3**
MJAR	**Matsushiro Arr**	**70.52**	**322**	P	**P**	**20 00 19.2**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=160,slow=6.3,SNR=17						
MAT	**Matsushiro**	**70.52**	**322**	P	**P**	**20 00 19.6**	**+0.1**
QSPA	**South Pole Qui**	**71.16**	**180**	P	**P**	**20 00 24.4**	**+1.3**
QSPA	**South Pole Qui**	**71.16**	**180**	P	**P**	**20 00 24.4**	**+1.3**
	comp=Z,19nm,0.7s,baz=34,slow=1.4,SNR=53						
JNU	**Nakatsue**	**72.95**	**315**	P	**P**	**20 00 34.2**	**+0.1**
JNU	**Nakatsue**	**72.95**	**315**	P	**P**	**20 00 34.2**	**+0.1**
	comp=Z,7.5nm,0.8s,baz=85,slow=5.8,SNR=5.4						
PETK	**Petropavlovsk-**	**75.44**	**344**	P	**P**	**20 00 48.2**	**+0.2**
PETK	**Petropavlovsk-**	**75.44**	**344**	P	**P**	**20 00 48.1**	**+0.2**
PETK	**Petropavlovsk-**	**75.44**	**344**	P	**P**	**20 00 48.1**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=122,slow=7.5,SNR=3.1						
KSM	**Kuching**		**75.79 277**	*e*P	**P**	**20 00 49.1**	**-1.8**
	comp=Z,14nm,0.9s						
EDW2	**Edwards Air Fo**	**76.25**	**45**	⇑P	**P**	**20 00 53.8**	**+0.8**
	baz=76						
ISA	**Isabella**	**76.37**	**44**	⇓P	**P**	**20 00 54.3**	**+0.6**
	baz=76						
BELC	**Belle Mtn. Jos**	**77.11**	**47**	⇑P	**P**	**20 00 58.4**	**+0.3**
	baz=77						
MPMC	**Manual Prospec**	**77.25**	**45**	⇓P	**P**	**20 00 59.5**	**+0.7**
	baz=77						
KSRS	**Korea Array**	**77.46**	**317**	P	**P**	**20 01 01.1**	**+1.5**
	comp=Z,2.1nm,0.7s,baz=136,slow=6.6,SNR=8.4						
KSAR	**Wonju Array Be**	**77.47**	**317**	P	**P**	**20 01 01.1**	**+1.4**
WCN	**Washoe City**	**77.70**	**41**	⇑P	**P**	**20 01 02.7**	**+1.5**
	baz=78						
IRM	**Iron Mountain**	**77.79**	**47**	⇓P	**P**	**20 01 02.8**	**+1.1**
	baz=78						
NVAR	**Mina Array Bea**	**78.09**	**42**	P	**P**	**20 01 04.1**	**+0.6**
NVAR	**Mina Array Bea**	**78.09**	**42**	P	**P**	**20 01 04.1**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=230,slow=8.8,SNR=11						
Y14A	**Wickenburg**	**79.18**	**49**	⇑P	**P**	**20 01 10.4**	**+1.1**
	baz=79						
X16A	**Lo Mia Camp, P**	**80.54**	**49**	⇑P	**P**	**20 01 18.0**	**+1.2**
	baz=81						
MDJ	**Mudanjiang**	**80.75**	**324**	P	**P**	**20 01 15.5**	**-1.8**
MDJ				pP	**pP**	**20 02 03.8**	**-1.6**
MDJ				sP	**sP**	**20 02 25.3**	**-1.0**
MDJ				S	**S**	**20 11 08.0**	**-0.4**
MDJ				sS	**sS**	**20 12 33.1**	**+0.9**
MDJ				SS	**SS**	**20 16 28.1**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,5.0nm,2.2s						
MDJ				pmax	pmax		
	comp=Z,73nm,3.2s						
R13A	**O'Grain Ranch,**	**80.77**	**44**	⇓P	**P**	**20 01 19.6**	**+1.7**
	baz=81						
NJ2	**Nanjing**	**80.90**	**308**	*e*P	**P**	**20 01 18.8**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
U15A	**North Rim**	**80.97**	**47**	⇑P	**P**	**20 01 20.1**	**+1.0**
	baz=81						
220A	**Playas Peak, P**	**81.43**	**52**	⇓P	**P**	**20 01 23.3**	**+1.8**
	baz=81						
120A	**U Bar Ranch, L**	**81.66**	**52**	⇓P	**P**	**20 01 24.2**	**+1.5**
	baz=82						
Z20A	**Nine Sixteen R**	**81.96**	**51**	⇑P	**P**	**20 01 26.1**	**+1.9**
	baz=82						
121A	**Cookes Peak, D**	**82.28**	**52**	⇑P	**P**	**20 01 27.4**	**+1.5**
	baz=82						
T17A	**Navajo Res., N**	**82.29**	**47**	⇑P	**P**	**20 01 27.4**	**+1.5**
	baz=82						
Y20A	**Horse Springs,**	**82.50**	**50**	⇓P	**P**	**20 01 28.7**	**+1.6**
	baz=82						
DUG	**Dugway**	**82.61**	**43**	⇓P	**P**	**20 01 27.9**	**+0.5**
	baz=83						
S17A	**Black Ridge (B**	**82.62**	**46**	⇓P	**P**	**20 01 28.3**	**+0.8**
	baz=83						
Z21A	**St. Cloud Mine**	**82.73**	**51**	⇑P	**P**	**20 01 30.2**	**+1.9**
	baz=83						
W20A	**Raman**	**82.99**	**49**	⇓P	**P**	**20 01 31.5**	**+1.9**
	baz=83						
T18A	**Mexican Hat**	**83.00**	**47**	⇑P	**P**	**20 01 30.6**	**+1.1**
	baz=83,SNR=10						
Y21A	**Point of Rocks**	**83.06**	**51**	⇓P	**P**	**20 01 32.6**	**+2.6**
	baz=83						
R17A	**Hanksville Air**	**83.08**	**46**	⇓P	**P**	**20 01 30.8**	**+1.0**
	baz=83						
X21A	**Alamocita Cree**	**83.18**	**50**	⇓P	**P**	**20 01 32.2**	**+1.6**
	baz=83						
S18A	**Hurst Farm, Bl**	**83.20**	**47**	⇓P	**P**	**20 01 31.4**	**+0.8**
	baz=83						
Z22A	**Elephant Butte**	**83.23**	**52**	⇓P	**P**	**20 01 32.7**	**+1.9**
	baz=83						
L14A	**Malta**	**83.32**	**41**	⇓P	**P**	**20 01 32.1**	**+1.1**
	baz=83						
HLID	**Hailey**	**83.43**	**40**	*e*P	P	20 01 26.4	-5.2
	comp=Z,3.0nm,0.6s						
HLID	**Hailey**	**83.43**	**40**	⇑P	**P**	**20 01 32.3**	**+0.7**
	baz=84,SNR=8.2						
J13A	**Cove Ranch, Pi**	**83.49**	**40**	⇓P	**P**	**20 01 32.6**	**+0.7**
	baz=84,SNR=7.6						
M15A	**Larsen Ranch,**	**83.52**	**42**	⇓P	**P**	**20 01 32.5**	**+0.5**
	baz=84,SNR=5.6						
324A	**Moseley Ranch,**	**83.52**	**54**	⇑P	**P**	**20 01 33.1**	**+0.8**
	baz=84,SNR=5.0						
Y22A	**Socorro**	**83.55**	**51**	⇓P	**P**	**20 01 33.3**	**+0.9**
	baz=84						
SRU	**San Rafael**	**83.55**	**45**	⇓P	**P**	**20 01 33.1**	**+0.8**
	baz=84,SNR=7.9						
U20A	**Newcomb**	**83.58**	**48**	⇑P	**P**	**20 01 33.8**	**+1.3**
	baz=84						
P17A	**Butcher Ranch,**	**83.59**	**45**	⇑P	**P**	**20 01 34.4**	**+1.9**
	baz=84						
425A	**Indio Mountain**	**83.61**	**55**	⇑P	**P**	**20 01 33.5**	**+0.7**
	baz=84,SNR=7.7						
R18A	**Canyonlands Na**	**83.61**	**46**	⇑P	**P**	**20 01 33.7**	**+1.0**
	baz=84						
K14A	**Jones Ranch, D**	**83.64**	**41**	⇑P	**P**	**20 01 33.6**	**+1.0**
	baz=84						
H12A	**Diamond D Ranc**	**83.72**	**39**	⇑P	**P**	**20 01 33.7**	**+0.7**
	baz=84						
626A	**Big Bend Ranch**	**83.74**	**56**	⇑P	**P**	**20 01 34.7**	**+1.4**
	baz=84						
I13A	**Wildhorse Cree**	**83.81**	**40**	⇓P	**P**	**20 01 34.6**	**+1.1**
	baz=84						
Q18A	**Rafter H Ranch**	**83.81**	**45**	⇑P	**P**	**20 01 34.6**	**+1.0**
	baz=84						
S19A	**Harvey Farm, M**	**83.82**	**47**	⇓P	**P**	**20 01 34.8**	**+1.1**
	baz=84						
L15A	**Malad City**	**83.84**	**42**	⇑P	**P**	**20 01 34.6**	**+0.9**
	baz=84						
325A	**Bean Ranch, Si**	**83.88**	**54**	⇑P	**P**	**20 01 35.1**	**+0.9**
	baz=84,SNR=5.8						
O17A	**Robinson Place**	**83.96**	**44**	⇓P	**P**	**20 01 35.3**	**+0.9**
	baz=84,SNR=11						
526A	**Mary Lane Ranc**	**83.99**	**56**	⇓P	**P**	**20 01 36.1**	**+1.4**
	baz=84						
TXAR	**Lajitas Array**	**84.01**	**56**	P	**P**	**20 01 36.0**	**+1.3**
TXAR	**Lajitas Array**	**84.01**	**56**	P	**P**	**20 01 36.0**	**+1.3**
	comp=Z,2.6nm,1.0s,baz=223,slow=5.1,SNR=16						
H13A	**Challis**	**84.08**	**39**	⇑P	**P**	**20 01 35.4**	**+0.6**
	baz=84						
K15A	**Arbon**	**84.11**	**41**	⇓P	**P**	**20 01 35.8**	**+0.7**
	baz=84						
F12A	**Elk City**	**84.17**	**38**	⇑P	**P**	**20 01 35.3**	**+0.1**
	baz=84,SNR=9.0						
U21A	**Nageezi**	**84.22**	**49**	⇓P	**P**	**20 01 37.2**	**+1.5**
	baz=84						
Y23A	**Lovelace Mesa,**	**84.22**	**51**	⇑P	**P**	**20 01 37.0**	**+1.2**
	baz=84						
I14A	**Mackay**	**84.22**	**40**	⇑P	**P**	**20 01 37.3**	**+1.7**
	baz=84						
627A	**Terlingua Ranc**	**84.28**	**56**	⇑P	**P**	**20 01 37.4**	**+1.3**
	baz=84,SNR=9.2						
N17A	**Moffit Pass**	**84.28**	**43**	⇓P	**P**	**20 01 36.9**	**+0.8**
	baz=84						
426A	**McDonald Obser**	**84.30**	**55**	⇓P	**P**	**20 01 36.8**	**+0.5**
	baz=84,SNR=6.4						
225A	**Deer Hill, Car**	**84.32**	**53**	⇑P	**P**	**20 01 37.7**	**+1.3**
	baz=84,SNR=6.7						
Q19A	**Hogan Spring (**	**84.33**	**46**	⇓P	**P**	**20 01 37.5**	**+1.4**
	baz=84						
ANMO	**Albuquerque**	**84.39**	**50**	*e*P	P	20 01 30.8	-5.8
	comp=Z,6.3nm,1.3s						
ANMO	**Albuquerque**	**84.39**	**50**	P	**P**	**20 01 38.0**	**+1.4**
	comp=Z,2.6nm,0.8s,baz=222,slow=5.3,SNR=6.3						
G13A	**Cobalt**	**84.39**	**39**	⇓P	**P**	**20 01 37.1**	**+0.8**
	baz=84						
S20A	**Disappointment**	**84.39**	**47**	⇑P	**P**	**20 01 38.2**	**+1.5**
	baz=84						
L16A	**Fish Haven**	**84.45**	**42**	⇓P	**P**	**20 01 36.9**	**0.0**
	baz=84,SNR=7.4						
J15A	**Blackfoot**	**84.56**	**41**	⇑P	**P**	**20 01 38.2**	**+1.0**
	baz=85,SNR=8.5						
T21A	**Navajo Lake**	**84.57**	**48**	⇑P	**P**	**20 01 39.2**	**+1.6**
	baz=85						
H14A	**Leadore**	**84.64**	**39**	⇑P	**P**	**20 01 39.0**	**+1.3**
	baz=85						
M17A	**Scullys Gap (B**	**84.66**	**43**	⇓P	**P**	**20 01 38.2**	**+0.3**
	baz=85						
Y24A	**Capitan**	**84.67**	**52**	⇑P	**P**	**20 01 39.3**	**+1.2**
	baz=85,SNR=14						
125A	**Gardner Draw,**	**84.69**	**53**	⇑P	**P**	**20 01 39.5**	**+1.4**
	baz=85						
628A	**Black Gap, Mar**	**84.69**	**57**	⇑P	**P**	**20 01 39.3**	**+1.2**
	baz=85,SNR=5.7						
S21A	**Coal Bank Pass**	**84.71**	**47**	⇑P	**P**	**20 01 39.6**	**+1.3**
	baz=85						
F13A	**Darby**	**84.72**	**38**	⇓P	**P**	**20 01 38.5**	**+0.5**
	baz=85						
K16A	**Soda Springs**	**84.78**	**41**	⇑P	**P**	**20 01 39.8**	**+1.4**
	baz=85						
427A	**Hayter Ranch,**	**84.87**	**55**	⇓P	**P**	**20 01 40.2**	**+1.2**
	baz=85,SNR=11						
Z25A	**Roswell**	**84.92**	**52**	⇓P	**P**	**20 01 41.0**	**+1.8**
	baz=85						
Q20A	**Ridgley Place,**	**84.98**	**46**	⇓P	**P**	**20 01 40.9**	**+1.4**
	baz=85						
J16A	**Bone**	**85.00**	**41**	⇓P	**P**	**20 01 40.9**	**+1.4**
	baz=85						
T22A	**Edith**	**85.03**	**48**	⇓P	**P**	**20 01 41.7**	**+1.8**
	baz=85						
528A	**Cox Ranch, San**	**85.05**	**56**	⇑P	**P**	**20 01 40.8**	**+0.8**
	baz=85,SNR=5.7						
N18A	**Larsen Ranch,**	**85.06**	**44**	⇑P	**P**	**20 01 40.9**	**+1.0**
	baz=85						
H15A	**Lima**	**85.08**	**40**	⇑P	**P**	**20 01 41.7**	**+1.9**
	baz=85						
O19A	**Miners Draw (B**	**85.08**	**45**	⇓P	**P**	**20 01 41.3**	**+1.4**
	baz=85						
K17A	**Gardner Place,**	**85.16**	**42**	⇑P	**P**	**20 01 41.8**	**+1.5**
	baz=85						
126A	**Clayton Basin,**	**85.17**	**53**	⇑P	**P**	**20 01 42.0**	**+1.5**
	baz=85						
P20A	**De Beque**	**85.18**	**46**	⇓P	**P**	**20 01 41.9**	**+1.4**
	baz=85						
R21A	**Cimarron**	**85.21**	**47**	⇓P	**P**	**20 01 42.3**	**+1.5**
	baz=85						
Y25A	**Mesa, Roswell**	**85.22**	**52**	⇓P	**P**	**20 01 41.5**	**+0.7**
	baz=85,SNR=5.9						
428A	**Kincaid Ranch,**	**85.37**	**56**	⇑P	**P**	**20 01 42.6**	**+1.0**
	baz=85						
D13A	**Huson**	**85.38**	**37**	⇓P	**P**	**20 01 41.8**	**+0.7**
	baz=85						
I16A	**Newdale**	**85.39**	**41**	⇓P	**P**	**20 01 43.2**	**+1.8**
	baz=85						
S22A	**4UR Ranch, Cre**	**85.42**	**48**	⇑P	**P**	**20 01 43.3**	**+1.4**
	baz=85						
SEY	**Seymchan**	**85.44**	**346**	⇑*e*P	**P**	**20 01 41.1**	**+0.2**
G15A	**Dillon**	**85.47**	**39**	⇑P	**P**	**20 01 42.9**	**+1.2**
	baz=86						
Z26A	**Caprock**	**85.47**	**53**	⇓P	**P**	**20 01 42.8**	**+0.8**
	baz=86,SNR=12						
529A	**Stev Forest Ra**	**85.48**	**56**	⇑P	**P**	**20 01 42.9**	**+0.9**
	baz=86,SNR=5.5						
328A	**Wristen Ranch,**	**85.55**	**55**	⇑P	**P**	**20 01 42.9**	**+0.6**
	baz=86,SNR=6.2						
V24A	**Rampart Ranch,**	**85.60**	**50**	⇓P	**P**	**20 01 43.0**	**+0.3**

PSI	Prapat	86.96	274	P		P	20 01 49.3	-0.4
	comp=Z,2.3nm,0.3s,baz=147,slow=14,SNR=4.5							
A14A	Double T Ranch	87.00	36	⇑P		P	20 01 49.5	+0.4
	baz=87							
D16A	Dana Ranch, Ca	87.01	38	⇓P		P	20 01 49.0	-0.2
	baz=87							
N22A	Wattenberg Ran	87.11	45	⇑P		P	20 01 50.7	+0.7
	baz=87							
B15A	Bradely Ranch,	87.12	36	⇓P		P	20 01 50.0	+0.4
	baz=87							
ENH	Enshi	87.32	303	*e*P		P	20 01 52.5	+1.6
	comp=Z,34nm,1.3s							
D17A	Six Diamond Ra	87.58	38	⇑P		P	20 01 52.4	+0.5
	baz=88							
C17A	Wharram Farm,	87.78	38	⇓P		P	20 01 53.8	+1.0
	baz=88							
AMTX	Amarillo	87.88	52	⇓P		P	20 01 53.7	+0.1
	baz=88							
M23A	Laramie	87.91	45	⇓P		P	20 01 54.1	+0.4
	baz=88							
I21A	Big Trails, Te	87.98	42	⇓P		P	20 01 54.3	+0.4
	baz=88							
T27A	Campo	88.04	50	⇑P		P	20 01 54.6	+0.3
	baz=88							
R26A	Arlington	88.05	48	⇑P		P	20 01 54.5	+0.2
	baz=88							
B17A	L&G Farms, Che	88.10	37	⇓P		P	20 01 54.4	+0.1
	baz=88							
GYA	Guiyang	88.14	299	P		P	20 01 53.0	-2.0
GYA				pP		pP	20 02 44.3	+0.4
GYA				sP		sP	20 03 05.1	+0.5
GYA				PP		PP	20 05 26.8	+1.6
GYA				SKS		SKSac	20 12 01.4	-3.8
GYA				S		S	20 12 20.0	-2.7
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
GYA				pmax		pmax		
	comp=Z,90nm,5.9s							
T28A	Walsh	88.50	50	⇓P		P	20 01 57.0	+0.6
	baz=88							
K23A	Bowen Ranch, D	88.56	44	⇓P		P	20 01 58.4	+1.7
	baz=89							
EGMT	Eagleton	88.57	38	⇓P		P	20 01 57.5	+1.0
	baz=89							
C19A	Slack Wire Ran	88.83	38	⇑P		P	20 01 59.4	+1.7
	baz=89							
SYO	Syowa Base	88.83	192	⇑*e*P		P	20 01 54.6	-2.7
A18A	Metzger Ranch,	88.97	37	⇑P		P	20 01 58.9	+0.6
	baz=89							
D20A	Manuel Ranch,	89.05	39	⇓P		P	20 02 00.1	+1.3
	baz=89							
B19A	Brinkman Farms	89.25	38	⇓P		P	20 02 01.3	+1.7
	baz=89							
XAN	Xi'an	89.26	306	P		P	20 02 01.9	+1.9
XAN				pmax		pmax		
	comp=Z,3.0nm,1.4s							
XAN				pmax		pmax		
	comp=Z,25nm,5.5s							
C20A	Veseth Ranch,	89.43	39	⇑P		P	20 02 02.3	+1.9
	baz=90							
J24A	Dixon Ranch, L	89.45	43	⇓P		P	20 02 02.5	+1.8
	baz=90							
VNA3	Neumayer Olymp	89.54	175	*e*P		P	20 02 01.2	+0.6
A19A	Klindworth Far	89.60	37	⇓P		P	20 02 02.5	+1.3
	baz=90							
VNA2	Neumayer--Watz	90.01	176	*e*P		P	20 02 04.0	+1.2
	baz=212,slow=3.4							
A20A	Cobblestone Ra	90.05	38	⇑P		P	20 02 04.1	+0.8
	baz=90							
HHC	Hu-ho-hao-te	90.12	313	*e*P		P	20 02 02.1	-1.8
HHC				pP		pP	20 02 52.0	-0.9
HHC				sP		sP	20 03 14.9	+1.3
HHC				PP		PP	20 05 40.4	-0.2
HHC				SKS		SKSac	20 12 11.3	-4.8
HHC				S		SKKSac	20 12 35.3	+4.9
HHC				sS		sS	20 14 06.6	+0.5
HHC				SS		SS	20 18 43.1	-1.6
HHC				pmax		pmax		
	comp=Z,9.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,100nm,7.2s							
HHC				LR		LR		
	comp=N,210nm,20.4s							
HHC				LR		LR		
	comp=E,630nm,19.2s							
HHC				LR		LR		
	comp=Z,100nm,15.6s							
K26A	Motz Farm, Whi	90.15	45	⇑P		P	20 02 05.2	+1.2
	baz=90							
H24A	Dirks Ranch, A	90.16	42	⇑P		P	20 02 04.5	+0.5
	baz=90							
D22A	Cohagen	90.25	40	⇑P		P	20 02 05.7	+1.4
	baz=90							
A21A	Bergtoll Ranch	90.68	38	⇑P		P	20 02 07.5	+1.3
	baz=91							
C23A	Lambert	91.15	39	⇑P		P	20 02 10.0	+1.6
	baz=91							
CMAR	Chiang Mai Arr	92.05	289	P		P	20 02 14.9	+1.7
CMAR	Chiang Mai Arr	92.05	289	P		P	20 02 14.9	+1.7
	comp=Z,5.9nm,0.9s,baz=111,slow=2.9,SNR=36							
INK	Inuvik	92.08	14	P		P	20 02 11.8	-0.4
INK	Inuvik	92.08	14	P		P	20 02 11.8	-0.4
	comp=Z,3.2nm,0.9s,baz=205,slow=4.0,SNR=6.4							
CHTO	Chiang Mai	92.17	289	*e*P		P	20 02 15.4	+1.6
CHTO				pmax		pmax		
	comp=Z,8.0nm,1.0s							
CHTO	Chiang Mai	92.17	289	*e*P		P	20 02 15.4	+1.6
	comp=Z,8.1nm,1.0s							
LZH	Lanzhou	93.88	307	*e*P		P	20 02 19.5	-2.0
LZH				sP		sP	20 03 31.5	+0.2
LZH				pmax		pmax		
	comp=Z,14nm,1.0s							
YKA	Yellowknife Ar	93.99	24	P		P	20 02 21.1	0.0
YKA	Yellowknife Ar	93.99	24	P		P	20 02 21.1	0.0
	comp=Z,1.0nm,0.8s,baz=241,slow=4.3,SNR=22							
ULM	Lac du Bonnet	97.74	40	PKKPbc		PKKPbc	20 19 14.9	0.0
ULM	Lac du Bonnet	97.74	40	PKKPbc		PKKPbc	20 19 14.9	0.0
	comp=Z,2.4nm,0.5s,baz=73,slow=9.0,SNR=5.7							
ZALV	Zalesovo Beam	110.87	321	PKIKP		PKiKP	20 07 34.5	-0.9
ZALV	Zalesovo Beam	110.87	321	PKIKP		PKiKP	20 07 34.5	-0.9
ZALV	Zalesovo Beam	110.87	321	PKIKP		PKiKP	20 07 34.5	-0.9
	comp=Z,1.2nm,0.6s,baz=150,slow=0.7,SNR=10							
MKAR	Makanchi Array	111.99	314	PKIKP			20 07 36.9	
MKAR	Makanchi Array	111.99	314	PKiKP		PKiKP	20 07 36.9	-0.9
MKAR				PKKPbc		PKKPbc	20 18 30.4	-1.1
MKAR	Makanchi Array	111.99	314	PKiKP		PKiKP	20 07 36.9	-0.9
	comp=Z,0.4nm,0.4s,baz=207,slow=1.0,SNR=11							
MKAR				PKKPbc		PKKPbc	20 18 30.4	-1.1
	comp=Z,0.4nm,0.7s,baz=276,slow=3.8,SNR=5.7							
KSH	Kashi	116.10	305	*e*PKP		PKPdf	20 07 38.9	-7.1
KSH				PP		PP	20 08 55.5	+1.4
KSH				sPKP			20 08 59.8	
KSH				PKS		PKSdf	20 11 14.9	-7.9
KSH				AMB		AMB		
	comp=Z,82nm,4.5s							
KSH				LR		LR		
	comp=N,88nm,5.6s							
KSH				LR		LR		
	comp=E,120nm,6.4s							
KSH				LR		LR		
	comp=Z,320nm,5.9s							
AAK	Ala-Archa	117.34	309	PKIKP		PKPdf	20 07 47.9	-0.5
AAK	Ala-Archa	117.34	309	PKP		PKPdf	20 07 47.9	-0.5
AAK				PKKPbc		PKKPbc	20 18 13.0	-0.2
AAK	Ala-Archa	117.34	309	PKP		PKPdf	20 07 47.9	-0.5
	comp=Z,0.6nm,0.6s,baz=176,slow=1.4,SNR=6.2							
AAK				PKKPbc		PKKPbc	20 18 13.0	-0.2
	comp=Z,0.2nm,0.3s,baz=225,slow=4.3,SNR=3.7							
ARU	Arti	125.33	327	*i* PKIKP		PKPdf	20 08 03.1	+0.1
ARU							20 09 54.9	
ARCES	ARCESS Array B	127.79	351	PKP		PKPdf	20 08 06.9	-0.5
ARCES	ARCESS Array B	127.79	351	PKP		PKPdf	20 08 06.9	-0.5
	comp=Z,2.3nm,0.8s,baz=33,slow=4.9,SNR=5.4							
BOSA	Boshof	128.78	203	PKP		PKPdf	20 08 11.6	+0.8
BOSA	Boshof	128.78	203	PKP		PKPdf	20 08 11.6	+0.8
	comp=Z,1.1nm,0.5s,baz=162,slow=16,SNR=4.3							
FINES	FINESS Array B	134.92	346	PKP		PKPdf	20 08 19.4	-1.6
FINES	FINESS Array B	134.92	346	PKP		PKPdf	20 08 19.4	-1.6
	comp=Z,1.9nm,0.8s,baz=18,slow=4.8,SNR=5.2							
OBN	Obninsk	136.53	334	*e*PKIKP		PKPdf	20 08 26.1	+1.9
OBN				pmax		pmax		
	comp=Z,4.0nm,0.9s							
OBN				MLR		MLR		
	comp=Z,100nm,18.0s							
AKASG	Malin Array Be	142.80	334	PKHKP		PKPpre	20 08 31.8	
AKASG	Malin Array Be	142.80	334	PKPpre		PKPpre	20 08 31.8	
AKASG	Malin Array Be	142.80	334	PKHpKP		PKPpre	20 08 31.8	
	comp=Z,1.4nm,0.5s,baz=40,slow=4.4,SNR=7.8							
BSEG	Bad Segeberg	144.77	354	*e*PKPbc		PKPdf	20 08 39.0	-0.1
BSEG	Bad Segeberg	144.77	354	*e*PKIKP		PKPdf	20 08 39.0	-0.1
LVV	L'vov	145.51	338	*e*PKP2		PKPdf	20 08 40.7	+0.2
KWP	Kalwaria Pacla	146.13	339	⇓*i*P		PKPdf	20 08 41.8	+0.2
NRDL	Niedersach Rie	146.22	354	*e*PKPbc		PKPbc	20 08 42.9	0.0
OJC	Ojcow	146.52	342	*e*PKP		PKPbc	20 08 44.0	0.0
OJC	Ojcow	146.52	342	*e*PKIKP		PKPbc	20 08 44.3	+0.3
CLZ	Clausthal	146.83	354	*e*PKPbc		PKPbc	20 08 44.8	-0.1
CLZ	Clausthal	146.83	354	*e*PKIKP		PKPbc	20 08 44.8	-0.1
KSP	Ksiaz	146.84	347	*e*PKIKP		PKPbc	20 08 45.1	+0.2
BURAR	Bucovina Array	146.85	334	⇑*i*P		PKPbc	20 08 45.8	+0.7
KOLS	Kolonicke sedl	146.87	339	*e*PKP2		PKPab	20 08 46.0	-0.8
KOLS	Kolonicke sedl	146.87	339	*e*PKP		PKPab	20 08 46.0	-0.8
CLL	Collm	147.01	350	*e*PKPbc		PKPbc	20 08 45.7	+0.4
CLL	Collm	147.01	350	⇓*i*PKIKP		PKPbc	20 08 45.7	+0.4
CLL				*e*			20 09 35.0	
CLL				pmax		pmax		
	comp=Z,18nm,1.4s							
CLL	Collm	147.01	350	⇓*i*PKPbc		PKPbc	20 08 45.7	+0.4
	comp=Z,18nm,1.4s							
CLL				*e*			20 08 52.0	
CLL				*e*pPKPdf		pPKPdf	20 09 33.0	-1.5
CLL				*e*pPKPbc		pPKPbc	20 09 35.0	-1.2
TLCR		147.04	328	⇑*i*P		PKPbc	20 08 46.3	+0.7
NIE	Niedzica	147.08	341	*e*PKP		PKPbc	20 08 46.0	+0.4
NIE	Niedzica	147.08	341	*e*PKP2		PKPbc	20 08 46.5	+0.9
TESR		147.10	332	⇑*i*P		PKPbc	20 08 46.2	+0.5
UZH	Uzhgorod	147.12	338	⇓*i*PKP2		PKPbc	20 08 46.4	+0.7
CRVS	Cervenica-Dubn	147.17	340	*e*PKP2		PKPab	20 08 48.5	+0.5
CRVS	Cervenica-Dubn	147.17	340	*e*PKP		PKPab	20 08 48.5	+0.5
BRG	Berggiesshubel	147.28	349	*e*PKP		PKPbc	20 08 46.2	+0.1
	comp=Z,6.5nm,1.1s							
BRG				*e*			20 08 48.3	
	comp=Z,5.6nm,0.8s							
BRG	Berggiesshubel	147.28	349	*e*PKPbc		PKPbc	20 08 46.4	+0.3
BRG	Berggiesshubel	147.28	349	*e*PKIKP		PKPbc	20 08 46.2	+0.1
BRG				*e*			20 08 48.3	
BRG				pmax		pmax		
	comp=Z,7.0nm,1.1s							
DPC	Dobruska-Polom	147.29	346	*e*PKPbc		PKPbc	20 08 47.0	+0.8
DPC	Dobruska-Polom	147.29	346	*e*PKPbc		PKPbc	20 08 47.0	+0.8
DPC				*e*PKPab		PKiKP	20 08 48.4	+0.1
OKC	Ostrava-Krasne	147.32	344	*e*PKIKP		PKPbc	20 08 46.8	+0.6
OKC	Ostrava-Krasne	147.32	344	*e*PKPbc		PKPbc	20 08 46.8	+0.6
CFR	Carcaliu	147.38	329	⇑*i*P		PKPbc	20 08 47.1	+0.6
TRPA	Tarpa	147.46	338	⇓*i*P		PKPbc	20 08 47.0	+0.4
BUG	Bochum--Univer	147.47	357	*e*PKPbc		PKPab	20 08 48.2	-0.8
PVCC	Panska Ves	147.49	348	*e*PKP2		PKPbc	20 08 47.7	+1.0
PVCC	Panska Ves	147.49	348	*e*PKPbc		PKPbc	20 08 47.7	+1.0
MORC	Moravsky Berou	147.53	344	⇑*i*P		PKPbc	20 08 47.5	+0.6
VRI	Vrincioaia	147.55	331	⇑*i*P		PKPbc	20 08 46.3	-0.7
BRTR	Keskin Array B	147.60	316	PKPbc		PKPbc	20 08 47.6	+0.1
BRTR	Keskin Array B	147.60	316	PKPbc		PKPbc	20 08 47.6	+0.1
	comp=Z,4.3nm,0.6s,baz=134,slow=4.0,SNR=20							
MOX	Moxa	147.86	352	*e*PKPbc		PKPbc	20 08 47.7	0.0
MOX	Moxa	147.86	352	*e*PKIKP		PKPbc	20 08 47.7	0.0
UBBA	Unterbreizbach	147.88	354	*e*PKPbc		PKPbc	20 08 48.6	+1.1
TANN	Tannenbergstha	147.96	351	*e*PKPbc		PKPbc	20 08 48.2	+0.2
PRU	Pruhonice	148.01	348	*e*PKIKP		PKPbc	20 08 48.4	+0.3
PRU	Pruhonice	148.01	348	*e*PKPbc		PKPbc	20 08 48.4	+0.3
MLR	Muntele Rosu	148.19	331	⇓*i*P		PKPbc	20 08 49.7	+0.8
VYHS	Vyhne	148.35	342	*e*PKP2		PKPbc	20 08 49.9	+0.9
VYHS	Vyhne	148.35	342	*e*PKP		PKPbc	20 08 49.9	+0.9
TNS	Taunus Mts	148.61	355	*e*PKPbc		PKPbc	20 08 50.3	+0.6
TNS	Taunus Mts	148.61	355	*e*PKIKP		PKPbc	20 08 50.3	+0.6
ROTZ	Rotzenmuhle	148.63	351	*e*PKPbc		PKPbc	20 08 50.3	+0.6
VOIR		148.63	332	⇓*i*P		PKPbc	20 08 50.5	+0.6
GRF	Grafenberg Arr	148.85	352	*e*PKPbc		PKPbc	20 08 50.7	+0.5
GRF	Grafenberg Arr	148.85	352	*e*PKIKP		PKPbc	20 08 50.7	+0.5
KHC	Kasperske Hory	149.01	340	*e*PKIKP		PKPbc	20 08 51.3	+0.6
KHC	Kasperske Hory	149.01	349	*e*PKPbc		PKPbc	20 08 51.3	+0.6
KHC				*ex*		x	20 19 39.5	
WET	Wettzell	149.13	350	*e*PKPbc		PKPbc	20 08 51.1	+0.1
WET	Wettzell	149.13	350	*e*PKIKP		PKPbc	20 08 51.1	+0.1
GEC2	GERESS Array S	149.27	348	*e*PKPbc		PKPbc	20 08 51.5	+0.1
GEC2	GERESS Array S	149.27	348	*e*PKIKP		PKPbc	20 08 51.5	+0.1
GERES	GERESS Array B	149.27	348	PKPbc		PKPbc	20 08 51.8	+0.4
GERES	GERESS Array B	149.27	348	PKPbc		PKPbc	20 08 51.8	+0.4
	comp=Z,2.3nm,0.7s,baz=26,slow=2.7,SNR=21							
WLF	Walferdange	149.29	358	PKPab		PKPbc	20 08 52.5	+1.2
WLF	Walferdange	149.29	358	*e*PKPbc		PKPbc	20 08 52.6	+1.3
GZR	Gura Zlata	149.64	334	⇓*i*P		PKPbc	20 08 52.6	+0.2
CONA	Conrad Observa	149.67	345	⇑*e*PKiKP		PKiKP	20 08 53.4	+0.1
	comp=Z,8.3nm,1.1s							
CSNA	Conrad Observa	149.67	345	⇑*i*PKiKP		PKiKP	20 08 53.4	0.0
	comp=Z,7.9nm,1.2s							
BZS	Buzias	149.91	336	⇑*i*P		PKPbc	20 08 53.4	+0.4
MOA	Molln	150.10	347	⇑*i*PKiKP		PKiKP	20 08 53.9	-0.2
	comp=Z,2.2nm,0.6s							
FUR	Furstenfeldbru	150.33	351	*e*PKPbc		PKPbc	20 08 54.5	+0.6
ARSA	Arzberg	150.38	345	⇑*i*PKiKP		PKiKP	20 08 54.6	-0.1
	comp=Z,3.8nm,1.0s							
PKSM	Moragy	150.45	340	⇑*i*P		PKPbc	20 08 54.6	+0.4
BFO	Black Forest	150.50	355	*e*PKPbc		PKPbc	20 08 54.9	+0.6
BFO	Black Forest	150.50	355	*e*PKIKP		PKPbc	20 08 54.9	+0.6
KBA	Koelnbreinsper	151.03	348	⇑*e*PKiKP		PKPbc	20 08 55.5	-0.2
	comp=Z,4.4nm,0.7s							
SOKA	Soboth	151.04	345	⇑*e*PKiKP		PKPbc	20 08 55.7	0.0
	comp=Z,4.2nm,0.9s							
RETA	Reutte	151.07	352	⇓*i*PKiKP		PKPbc	20 08 55.7	0.0
	comp=Z,6.0nm,1.5s							
WATA	Walderalm	151.09	350	⇑*i*PKiKP		PKPbc	20 08 56.0	+0.1
	comp=Z,3.4nm,0.4s							
WTTA	Wattenberg	151.16	350	⇓*i*PKiKP		PKPbc	20 08 56.4	+0.3
	comp=Z,12nm,0.6s							
MOTA	Moosalm	151.16	351	⇑*e*PKiKP		PKPbc	20 08 56.1	0.0
	comp=Z,5.8nm,0.9s							
OBKA	Obir	151.31	346	⇑*e*PKiKP		PKPbc	20 08 56.2	-0.2
	comp=Z,2.9nm,0.8s							
DAVA	Damuels	151.38	353	⇑*e*PKiKP		PKPbc	20 08 56.3	-0.2
	comp=Z,11nm,1.0s							
MYKA	Terra Mystica	151.40	347	⇑*i*PKiKP		PKPbc	20 08 56.2	-0.3
	comp=Z,4.4nm,0.5s							
ABTA	Abfaltersbach	151.50	349	⇑*i*PKiKP		PKPbc	20 08 56.7	-0.1
	comp=Z,8.4nm,0.6s							
FETA	Feichten	151.53	351	⇑*i*PKiKP		PKiKP	20 08 57.6	+0.2
	comp=Z,6.9nm,1.0s							
VTS	Vitosha	151.68	330	⇑*i*P		PKPbc	20 08 56.9	-0.5
LJU	Ljubljana	151.75	346	*i* PKPbc		PKPbc	20 08 57.3	+0.1
CRNS	Crni Vrh	151.78	346	*i* PKPbc		PKPbc	20 08 57.1	-0.3
BOJS	Bojanci	152.08	344	*i* PKPbc		PKPbc	20 08 58.5	+0.5
ESDC	Sonseca Array	157.97	18	PKPab		PKPab	20 09 33.9	+0.3
ESDC	Sonseca Array	157.97	18	PKPab		PKPab	20 09 33.9	+0.3
	comp=Z,1.0nm,0.7s,baz=315,slow=3.2,SNR=7.0							
DBIC	Dimbokro	164.66	141	PKP		PKPdf	20 09 06.6	-0.6
DBIC	Dimbokro	164.66	141	PKP		PKPdf	20 09 06.6	-0.6
	comp=Z,1.4nm,0.9s,baz=242,slow=23,SNR=3.1							
TORD	Torodi Ar. Bea	173.57	152	PKP		PKPdf	20 09 11.7	-0.9
TORD				PKPab		PKPab	20 10 42.4	-0.3
TORD	Torodi Ar. Bea	173.57	152	PKP		PKPdf	20 09 11.7	-0.9
	comp=Z,0.8nm,0.8s,baz=305,slow=1.4,SNR=7.6							
TORD				PKPab		PKPab	20 10 42.4	-0.3
	comp=Z,0.9nm,1.0s,baz=179,slow=1.7,SNR=3.1							

WEL 23 20:14:53.2±0.3, 39.18°S×174.80°E, h218km±2km, ML4.2/18, 27C-10D, Error ellipse: s-maj=2.1km s-min=1.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRZ	Vera Road	0.07	330	PN	Pn	20 15 20.9	-0.7
VRZ				SN	S	20 15 42.6	-1.1
RAEZ	Rainy Point	0.33	252	PN	Pn	20 15 21.8	-0.1
MHEZ	Mangahewa	0.39	286	PN	Pn	20 15 21.7	-0.4
MHEZ				SN	S	20 15 43.2	-1.3
PKVZ	Pokaka	0.44	104	⇑PN	Pn	20 15 22.1	-0.2
PKVZ				SN	S	20 15 44.1	-0.9
DREZ	Durham Road	0.47	269	PN	Pn	20 15 22.3	0.0
TWVZ	Taurewa	0.51	78	⇑PN	Pn	20 15 22.1	-0.5
TWVZ				SN	S	20 15 44.0	-1.4
MTVZ	Mangateitei	0.56	112	⇑PN	Pn	20 15 22.6	-0.1
MTVZ				SN	S	20 15 44.4	-1.3
DFE	Dawson Falls	0.56	255	⇓PN	Pn	20 15 22.7	0.0
WPVZ	Whakapapa	0.58	92	⇑PN	Pn	20 15 22.7	-0.2
FWVZ	Far West T-bar	0.59	97	PN	Pn	20 15 22.8	-0.3
WAZ	Wanganui	0.59	166	⇑PN	Pn	20 15 23.2	+0.4
TRVZ	Turoa	0.59	102	⇑PN	Pn	20 15 22.9	-0.2
WTVZ	West Tongariro	0.62	84	PN	Pn	20 15 22.7	-0.3
WTVZ				SN	S	20 15 45.0	-1.1
NGZ	Ngauruhoe	0.62	90	⇑PN	Pn	20 15 22.9	-0.2
PKE	Pukeiti	0.63	269	⇓PN	Pn	20 15 22.8	-0.1
WNVZ	Wahianoa	0.64	103	PN	Pn	20 15 23.0	-0.1
KRVZ	Karewarewa	0.66	83	⇑PN	Pn	20 15 22.9	-0.3
TUVZ	Tukino	0.67	98	⇑PN	Pn	20 15 23.2	0.0
HIZ	Hauiti	0.67	4	⇓PN	Pn	20 15 22.2	-1.0
HIZ				SN	S	20 15 45.1	-1.3
OTVZ	Oturere	0.67	89	PN	Pn	20 15 23.2	-0.1
NRZ	Ngariki Road	0.69	257	⇓PN	Pn	20 15 23.1	0.0
KATZ	Kakaramea	0.72	74	PN	Pn	20 15 23.0	-0.5
MOVZ	Moawhango	0.77	107	⇑PN	Pn	20 15 23.2	-0.5
RATZ	Rangitukua	0.82	68	⇑PN	Pn	20 15 23.3	-0.6
BHHZ	Black Hill Sta	1.02	108	⇑PN	Pn	20 15 24.7	-0.4
TSZ	Takapari Road	1.25	135	⇑PN	Pn	20 15 26.7	+0.1
PNHZ	Pukenui	1.30	124	⇑PN	Pn	20 15 27.0	0.0
BKZ	Black Stump Fm	1.31	90	PN	Pn	20 15 26.5	-0.6
POWZ	Post Office Ro	1.42	149	PN	Pn	20 15 27.6	-0.2
MCHZ	McNeill Hill	1.49	101	PN	Pn	20 15 28.9	+0.5
DVHZ	Dannevirke	1.53	137	⇑PN	Pn	20 15 28.6	-0.2
WPHZ	Waipukurau	1.54	125	⇑PN	Pn	20 15 28.9	+0.1
NMHZ	Naumai	1.56	88	⇓PN	Pn	20 15 29.3	+0.2
MRZ	Mangatainoka R	1.59	158	⇑PN	Pn	20 15 28.9	-0.4
TARZ	Mount Tarawera	1.64	55	⇓PN	Pn	20 15 28.7	-1.1
OGWZ	Otaki Gorge	1.66	170	⇑PN	Pn	20 15 29.7	-0.1
KIW	Kapiti Island	1.68	177	⇑PN	Pn	20 15 29.6	-0.4
KAHZ	Kahuranaki	1.72	112	⇓PN	Pn	20 15 30.8	+0.3
DUWZ	D'Urville Isla	1.75	202	⇑PN	Pn	20 15 30.3	-0.4
PRHZ	Porangahau	1.78	128	⇑PN	Pn	20 15 30.9	0.0
TIWZ	Tintock	1.80	153	⇑PN	Pn	20 15 30.7	-0.4
HOWZ	Holdsworth Sta	1.80	162	⇑PN	Pn	20 15 30.5	-0.6
CKHZ	Cape Kidnapper	1.83	106	PN	Pn	20 15 31.7	+0.3
BFZ	Birch Farm	1.86	144	⇓PN	Pn	20 15 31.2	-0.5
CAW	Cannon Point	1.93	174	PN	Pn	20 15 33.6	+1.2
URZ	Urewera	2.03	64	PN	Pn	20 15 31.2	-2.1
MTW	Mount Morrison	2.04	165	PN	Pn	20 15 32.7	-0.8
TCW	Tory Channel	2.07	191	PN	Pn	20 15 33.4	-0.3
TMWZ	Te Maipa	2.10	157	PN	Pn	20 15 33.3	-0.7
SNZO	South Karori	2.13	182	PN	Pn	20 15 33.5	-0.8
BHW	Baring Head	2.22	179	PN	Pn	20 15 34.3	-0.9
KNZ	Kokohu	2.24	87	⇓PN	Pn	20 15 34.6	-0.9
PAWZ	Paruwai Farm	2.25	168	⇑PN	Pn	20 15 34.8	-0.8
MSWZ	Moikau Station	2.26	171	⇑PN	Pn	20 15 34.8	-0.8
MWZ	Matawai	2.29	69	⇓PN	Pn	20 15 34.4	-1.7
NNZ	Nelson	2.31	208	⇑PN	Pn	20 15 35.2	-0.9
TRWZ	Traveller	2.31	163	PN	Pn	20 15 35.5	-0.8
TUWZ	Tuamarina	2.34	196	PN	Pn	20 15 35.9	-0.5
QRZ	Quartz Range	2.40	226	PN	Pn	20 15 35.6	-1.5
PLWZ	Palliser	2.41	172	PN	Pn	20 15 36.2	-1.1
PRGZ	Paritu Road	2.41

IDC 23 20:50:12.2±7.2, 25°28.S×178°02.W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/19, mbtmp4.0/5, Error ellipse: s-maj=220.5km s-min=94.4km az=147.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.30**	**272**	P	P	20 56 52.6	+0.8
	1.9nm,0.6s,baz=100,slow=12,SNR=2.2						
ASAR	**Alice Springs**	**43.60**	**262**	P	P	20 58 17.4	-1.1
	0.4nm,0.4s,baz=98,slow=8.1,SNR=12						
WRA	**Warramunga Arr**	**44.12**	**267**	P	P	20 58 22.2	-0.4
	1.6nm,0.4s,baz=105,slow=7.7,SNR=39						
FITZ	**Fitzroy Crossi**	**52.52**	**266**	P	P	20 59 28.3	+0.8
	2.1nm,0.8s,baz=118,slow=15,SNR=3.7						
CMAR	**Chiang Mai Arr**	**91.68**	**290**	P	P	21 03 22.0	+0.1
	0.5nm,0.7s,baz=148,slow=4.7,SNR=5.0						

IDC 23 21:01:27.3±2.3, 0°01.N×18°13.W, h0km, mb3.7/4, mb1 4.0/7, mb1mx3.7/28, mbtmp4.0/7, ML4.2/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/44, Error ellipse: s-maj=76.8km s-min=29.6km az=153.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**14.64**	**6**	Pn	Pn	21 04 55.4	-0.4
	1.3nm,0.3s,baz=168,slow=7.1,SNR=4.0						
BBTS				Sn	Sn	21 07 26.7	-12
	1.5nm,0.3s,baz=270,slow=19,SNR=4.8						
DBIC	**Dimbokro**	**14.80**	**63**	Pn	Pn	21 04 57.8	-0.3
	1.5nm,0.3s,baz=235,slow=14,SNR=28						
DBIC				Sn	Sn	21 07 29.0	-14
	0.2nm,0.3s,baz=148,slow=19,SNR=2.0						
DBIC				LR	LR	21 10 09.3	
	comp=Z,64nm,18.6s,baz=328,slow=35						
RCBR	**Riachuelo**	**18.67**	**252**	P	P	21 05 46.6	-0.5
	0.5nm,0.3s,baz=75,slow=16,SNR=6.3						
TORD	**Torodi Ar. Bea**	**23.58**	**56**	P	P	21 06 39.0	-0.9
	3.5nm,0.9s,baz=237,slow=8.8,SNR=15						
TORD				LR	LR	21 14 24.6	
	comp=Z,39nm,19.9s,baz=215,slow=33						
GERES	**GERESS Array B**	**55.84**	**25**	P	P	21 11 07.0	+0.3
	0.3nm,0.6s,baz=219,slow=7.6,SNR=5.5						
BRTR	**Keskin Array B**	**61.48**	**44**	P	P	21 11 46.9	+0.8
	0.6nm,0.7s,baz=259,slow=5.2,SNR=2.9						
FINES	**FINESS Array B**	**69.84**	**21**	P	P	21 12 39.3	-0.2
	1.4nm,0.8s,baz=242,slow=3.0,SNR=2.5						

*IDC **23** 21:30:13.8±0.7, 0°.24S×120°.17E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.9/24, mbtmp3.9/11, ML4.1/2, MS3.3/6, Ms1 3.3/6, ms1mx3.0/34, Error ellipse: s-maj=44.2km s-min=14.0km az=66.0*
*DJA **23** 21:30:16, 0°.12S×119°.92E, h10km, MLv4.8/8*
*ISCJB **23** 21:30:17.2±0.4, 0°.25S±0°.04×119°.98E±0°.06, h32km, mb4.1/15, MS3.4/5, Error ellipse: s-maj=8.1km s-min=5.4km az=171.4*
*NEIC **23** 21:30:18.7±0.4, 0°.24S×120°.24E, h35km, mb4.3/7, Error ellipse: s-maj=24.2km s-min=6.8km az=67.0*

ISC 23 21:30:18.5±0.5, 0°.22S±0°.06×120°.14E±0°.09, h32km, n42, σ1s02/37, mb4.2/15, MS3.1/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.93**	**69**	P	**Pb**	**21 30 51.6**	**-1.4**
LUWI	**Luwuk**	**2.75**	**107**	P	Pb	21 31 02.9	-4.2
TTSI	**Tana Toraja**	**2.83**	**187**	P	**Pn**	**21 31 02.7**	**+1.2**
SPSI	**Sidrap Palu**	**3.74**	**169**	P	**Pn**	**21 31 15.2**	**+1.2**
KMSI	**Cibinong**	**3.92**	**78**	P	Pb	21 31 19.1	-7.8
KDI	**Kendari**	**4.46**	**146**	P	Pn	21 31 26.0	+2.0
KAPI	**Kappang**	**4.78**	**185**	Pn	**Pn**	**21 31 28.9**	**+0.5**
KAPI				Sn	**Sn**	**21 32 23.4**	**+0.7**
KAPI	**Kappang**	**4.78**	**185**	P	**Pn**	**21 31 29.5**	**+1.1**
KAPI	**Kappang**	**4.78**	**185**	Pn	**Pn**	**21 31 28.9**	**+0.5**
	15nm,0.3s,baz=344,slow=8.1,SNR=43						
KAPI				Sn	**Sn**	**21 32 23.4**	**+0.7**
	5.8nm,0.3s,baz=278,slow=18,SNR=3.6						
KBKI	**Kotabaru**	**5.02**	**232**	P	Pn	21 31 29.0	-2.6
BKSI	**Bulukumba**	**5.07**	**180**	P	**Pn**	**21 31 33.5**	**+1.2**
	137nm,0.7s,1μm						
MYLDM	**Lahad Datu**	**5.61**	**343**	P	**Pn**	**21 31 42.2**	**+2.5**
	276nm,0.8s,2μm						
BBKI	**Banjar Baru**	**6.20**	**239**	P	**Pn**	**21 31 46.2**	**-1.7**
FITZ	**Fitzroy Crossi**	**18.58**	**163**	*e*P	**P**	**21 34 31.8**	**-1.2**
	3.1nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.58**	**163**	P	**Pn**	**21 34 33.7**	**+0.3**
	0.3nm,0.3s,baz=350,slow=9.8,SNR=6.1						
FITZ				LR	LR	21 42 26.1	
	comp=Z,21nm,19.0s,baz=162,slow=40						
PSI	**Prapat**	**21.49**	**277**	LR	LR	21 42 49.7	
	comp=Z,69nm,19.3s,baz=108,slow=35						
WRAB	**Tennant Creek**	**24.03**	**145**	*e*P	**P**	**21 35 30.1**	**-0.7**
	3.3nm,0.7s						
WRA	**Warramunga Arr**	**24.04**	**145**	P	**P**	**21 35 30.2**	**-0.7**
WRA	**Warramunga Arr**	**24.04**	**145**	P	**P**	**21 35 30.2**	**-0.7**
	2.6nm,0.9s,baz=329,slow=9.8,SNR=13						
ASAR	**Alice Springs**	**26.87**	**151**	P	**P**	**21 35 55.5**	**-1.1**
ASAR				PcP	**PcP**	**21 39 17.2**	**-1.4**
ASAR	**Alice Springs**	**26.87**	**151**	P	**P**	**21 35 55.5**	**-1.1**
	1.0nm,0.6s,baz=321,slow=7.2,SNR=6.3						
ASAR				PcP	**PcP**	**21 39 17.2**	**-1.4**
	0.5nm,0.6s,baz=328,slow=2.3,SNR=4.7						
CMAR	**Chiang Mai Arr**	**27.90**	**313**	P	**P**	**21 36 05.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**27.90**	**313**	P	**P**	**21 36 05.0**	**-0.8**
	0.2nm,0.3s,baz=141,slow=6.9,SNR=3.8						
CTA	**Charters Tower**	**32.30**	**129**	LR	LR	21 51 46.8	
	comp=Z,56nm,18.4s,baz=122,slow=40						
JNU	**Nakatsue**	**34.67**	**16**	LR	LR	21 52 03.8	
	comp=Z,34nm,19.4s,baz=92,slow=38						
STKA	**Stephens Creek**	**37.46**	**149**	P	**P**	**21 37 28.9**	**-0.2**
	3.6nm,0.8s,baz=302,slow=7.0,SNR=5.5						
KSRS	**Korea Array**	**38.17**	**10**	LR	LR	21 52 44.4	
	comp=Z,30nm,20.3s,baz=205,slow=35						
LSA	**Lhasa**	**40.61**	**320**	*e*P	**P**	**21 37 56.5**	**+0.4**
	4.6nm,0.8s						
USRK	**Ussuriysk Arra**	**45.47**	**12**	P	**P**	**21 38 35.0**	**+0.4**
	1.2nm,0.6s,baz=195,slow=5.2,SNR=7.8						
ULN	**Ulaanbaatar**	**49.23**	**348**	*e*P	**P**	**21 39 03.8**	**-0.3**
	2.8nm,0.8s						
SONM	**Songino Array**	**49.33**	**348**	P	**P**	**21 39 05.8**	**+1.0**
SONM	**Songino Array**	**49.33**	**348**	P	**P**	**21 39 05.8**	**+1.0**
	0.9nm,0.6s,baz=171,slow=7.7,SNR=11						
MKAR	**Makanchi Array**	**57.33**	**330**	P	**P**	**21 40 04.2**	**+0.7**
MKAR	**Makanchi Array**	**57.33**	**330**	P	**P**	**21 40 04.2**	**+0.7**
	1.8nm,0.9s,baz=129,slow=8.5,SNR=11						
AAK	**Ala-Archa**	**59.11**	**322**	*e*P	**P**	**21 40 17.7**	**+1.4**
	8.1nm,0.9s						
ZALV	**Zalesovo Beam**	**61.36**	**337**	P	**P**	**21 40 31.3**	**+0.1**
ZALV	**Zalesovo Beam**	**61.36**	**337**	P	**P**	**21 40 31.3**	**+0.1**
	1.5nm,0.7s,baz=141,slow=4.8,SNR=3.4						
KURK	**Kurchatov**	**61.77**	**331**	*e*P	**P**	**21 40 34.2**	**+0.3**
	4.9nm,1.0s						
ABKAR	**Akbulak array**	**71.17**	**323**	*e*P	**P**	**21 41 33.7**	**-0.4**
	1.7nm,0.8s						
BRTR	**Keskin Array B**	**87.44**	**310**	P	**P**	**21 43 03.8**	**+0.5**
BRTR	**Keskin Array B**	**87.44**	**310**	P	**P**	**21 43 03.8**	**+0.5**
	3.5nm,1.3s,baz=166,slow=7.1,SNR=3.3						
QSPA	**South Pole Qui**	**89.72**	**180**	LR	LR	22 21 25.9	
	comp=Z,129nm,18.1s,baz=336,slow=34						

GUC 23 21:36:30.7±1.0, 30°.42S×71°.60W, h33km±5km, ML3.6, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.39**	**118**	⇑*i*P	Pb	21 36 39.5	-0.1
OVCH				*i* S	Sb	21 36 45.6	-0.1
OVCH				AML	AML	21 36 46.0	
	comp=N,10μm,0.2s						
CHNG	**Los Chungos**	**1.46**	**177**	⇑*i*P	Pn	21 36 55.9	+1.1
CHNG				*i* S	Sb	21 37 14.6	-0.9
CHNG				AML	AML	21 37 15.3	
	comp=N,242nm,0.2s						
ROCH	**El Roble**	**2.59**	**169**	*e*P	Pn	21 37 11.7	+1.0
ROCH				AML	AML	21 37 49.7	
	comp=N,232nm,0.4s						
ROCH				AML	AML	21 37 54.1	
	comp=E,276nm,0.5s						
PEL	**Peldehue**	**2.82**	**164**	*e*P	Pn	21 37 14.8	+1.2
PEL				*i* S	Sn	21 37 48.7	+2.1
PEL				AML	AML	21 37 58.9	
	comp=E,281nm,0.5s						
CLCH	**Cerro Calan**	**3.10**	**163**	*e*S	Sn	21 37 54.9	+1.5
CLCH				AML	AML	21 38 08.1	
	comp=E,273nm,0.6s						
FCH	**Farellones**	**3.10**	**159**	AML	AML	21 38 10.6	
	comp=E,142nm,0.3s						
RCDM	**Rinconada Maip**	**3.13**	**168**	*e*P	Pn	21 37 19.5	+1.7
RCDM				AML	AML	21 38 07.0	
	comp=E,146nm,0.1s						
LMEL	**Las Melosas**	**3.61**	**161**	*e*P	Pn	21 37 25.9	+1.3
LMEL				*i* S	Sn	21 38 08.6	+2.3
LMEL				AML	AML	21 38 15.9	
	comp=N,108nm,0.2s						

IDC 23 21:42:45.7±1.2, 3°.63N×126°.47E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.6/22, mbtmp3.6/6, Error ellipse: s-maj=117.5km s-min=16.9km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.61**	**182**	P	P	21 47 36.9	-0.5
	2.2nm,1.1s,baz=1.4,slow=10,SNR=2.8						
WRA	**Warramunga Arr**	**24.67**	**162**	P	P	21 48 07.7	-0.8
	2.2nm,0.8s,baz=343,slow=10,SNR=15						
ASAR	**Alice Springs**	**28.08**	**165**	P	P	21 48 40.7	+1.4
	0.2nm,0.4s,baz=348,slow=14,SNR=4.1						
SONM	**Songino Array**	**47.31**	**342**	P	P	21 51 21.7	+0.4
	0.3nm,0.5s,baz=155,slow=7.9,SNR=2.6						
MKAR	**Makanchi Array**	**57.49**	**325**	P	P	21 52 36.8	0.0
	0.6nm,0.5s,baz=121,slow=7.2,SNR=18						
ZALV	**Zalesovo Beam**	**60.56**	**333**	P	P	21 52 58.2	+0.3
	0.2nm,0.3s,baz=113,slow=9.9,SNR=3.0						
ARCES	**ARCESS Array B**	**90.45**	**340**	P	P	21 55 47.7	-1.4
	4.3nm,0.9s,baz=69,slow=5.0,SNR=3.4						

IDC 23 21:44:32.2±1.2, 3°.97N×126°.83E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/23, mbtmp3.6/6, Error ellipse: s-maj=91.6km s-min=18.8km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.96**	**183**	P	P	21 49 27.5	-0.3
	1.7nm,0.8s,baz=6.3,slow=9.2,SNR=2.5						
WRA	**Warramunga Arr**	**24.88**	**163**	P	P	21 49 56.1	-0.8
	3.3nm,0.7s,baz=343,slow=10,SNR=11						
ASAR	**Alice Springs**	**28.32**	**166**	P	P	21 50 28.9	+1.0
	0.3nm,0.5s,baz=348,slow=12,SNR=3.1						
STKA	**Stephens Creek**	**38.31**	**160**	P	P	21 51 54.6	-0.2
	2.5nm,0.6s,baz=323,slow=11,SNR=6.5						
SONM	**Songino Array**	**47.11**	**341**	P	P	21 53 06.1	-0.1
	0.2nm,0.6s,baz=143,slow=6.5,SNR=2.8						
MKAR	**Makanchi Array**	**57.42**	**325**	P	P	21 54 22.6	-0.1
	0.3nm,0.5s,baz=117,slow=6.9,SNR=4.0						

*IDC **23** 21:44:47.7±9.4, 36°.66S×179°.67E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/16, mbtmp3.5/2, Error ellipse: s-maj=349.6km s-min=51.8km az=35.0*
*WEL **23** 21:44:55.3±0.4, 37°.87S×179°.15E, h33km, ML3.7/5, Error ellipse: s-maj=4.2km s-min=1.7km az=90.0*

ISC 23 21:44:54.1±2.6, 37°.93S±0°.07×179°.2E±0°.1, h25km±14km, n36, σ0s93/39, 1C-6D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.75**	**259**	⇓PN	**Pb**	**21 45 08.2**	**-0.3**
PUZ				SN	**Sb**	**21 45 18.8**	**+0.4**
MXZ	**Matakaoa Point**	**0.79**	**298**	⇓PN	**Pb**	**21 45 08.9**	**-0.2**
MXZ				SN	**Sb**	**21 45 19.2**	**-0.2**
CNGZ	**Carnagh Statio**	**0.95**	**234**	⇓PN	**Pb**	**21 45 12.4**	**+0.5**
CNGZ				SN	**Sb**	**21 45 24.9**	**+0.9**
MWZ	**Matawai**	**1.37**	**252**	⇓PN	**Pn**	**21 45 17.3**	**-0.3**
MWZ				SN	**Sn**	**21 45 34.9**	**0.0**
PRGZ	**Paritu Road**	**1.42**	**226**	PN	**Pn**	**21 45 18.7**	**+0.3**
PRGZ				SN	**Sn**	**21 45 34.6**	**-1.7**
MHGZ	**Mahia Peninsul**	**1.58**	**219**	PN	**Pn**	**21 45 21.0**	**+0.5**
MHGZ				SN	**Sn**	**21 45 40.7**	**+0.7**
KNZ	**Kokohu**	**1.61**	**227**	PN	**Pn**	**21 45 20.8**	**-0.1**
URZ	**Urewera**	**1.67**	**258**	PN	**Pn**	**21 45 22.1**	**+0.4**
RAHZ	**Arahi**	**1.92**	**239**	PN	**Pn**	**21 45 25.9**	**+0.7**
TARZ	**Mount Tarawera**	**2.14**	**261**	PN	**Pn**	**21 45 29.0**	**+0.7**
NMHZ	**Naumai**	**2.20**	**237**	PN	**Pn**	**21 45 29.7**	**+0.7**
CKHZ	**Cape Kidnapper**	**2.38**	**223**	PN	**Pn**	**21 45 31.0**	**-0.6**
BKZ	**Black Stump Fm**	**2.44**	**239**	⇓PN	**Pn**	**21 45 32.8**	**+0.3**
MCHZ	**McNeill Hill**	**2.46**	**232**	⇓PN	**Pn**	**21 45 33.2**	**+0.5**
KAHZ	**Kahuranaki**	**2.59**	**223**	PN	**Pn**	**21 45 34.0**	**-0.4**
BHHZ	**Black Hill Sta**	**2.90**	**237**	PN	**Pn**	**21 45 38.7**	**0.0**
WPHZ	**Waipukurau**	**3.00**	**224**	PN	**Pn**	**21 45 40.2**	**-0.2**
PNHZ	**Pukenui**	**3.06**	**229**	PN	**Pn**	**21 45 40.1**	**-0.8**
PRHZ	**Porangahau**	**3.06**	**220**	PN	**Pn**	**21 45 40.0**	**-0.9**
TUVZ	**Tukino**	**3.07**	**243**	PN	**Pn**	**21 45 41.1**	**0.0**
NGZ	**Ngauruhoe**	**3.07**	**245**	PN	**Pn**	**21 45 41.1**	**-0.1**
WNVZ	**Wahianoa**	**3.14**	**243**	PN	**Pn**	**21 45 41.7**	**-0.3**
FWVZ	**Far West T-bar**	**3.14**	**244**	PN	**Pn**	**21 45 42.1**	**0.0**
TRVZ	**Turoa**	**3.16**	**243**	PN	**Pn**	**21 45 42.2**	**-0.2**
MTVZ	**Mangateitei**	**3.25**	**242**	PN	**Pn**	**21 45 43.6**	**+0.1**
TSZ	**Takapari Road**	**3.29**	**229**	⇑PN	**Pn**	**21 45 42.8**	**-1.2**
DVHZ	**Dannevirke**	**3.33**	**224**	PN	**Pn**	**21 45 43.1**	**-1.4**
BFZ	**Birch Farm**	**3.57**	**219**	PN	Pn	21 45 45.9	-1.9
POWZ	**Post Office Ro**	**3.62**	**226**	PN	**Pn**	**21 45 48.1**	**-0.4**
MRZ	**Mangatainoka R**	**3.91**	**225**	PN	**Pn**	**21 45 50.8**	**-1.6**
HOWZ	**Holdsworth Sta**	**4.11**	**223**	PN	Pn	21 45 53.1	-2.1
OGWZ	**Otaki Gorge**	**4.24**	**226**	PN	**Pn**	**21 45 55.4**	**-1.6**
MTW	**Mount Morrison**	**4.30**	**220**	PN	Pn	21 45 55.7	-2.2
ASAR	**Alice Springs**	**41.02**	**277**	P	**P**	**21 52 33.9**	**-1.5**
	0.6nm,0.9s,baz=124,slow=8.3,SNR=5.8						
WRA	**Warramunga Arr**	**42.70**	**282**	P	**P**	**21 52 48.3**	**-0.7**
	0.5nm,0.6s,baz=123,slow=7.5,SNR=5.2						
TORD	**Torodi Ar. Bea**	**155.21**	**186**	PKPab	**PKPab**	**22 05 13.3**	**+3.0**
	0.4nm,0.8s,baz=196,slow=2.2,SNR=3.1						

*IDC **23** 21:47:03.1±5.8, 38°.54S×175°.80E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.8/16, mbtmp3.8/3, Error ellipse: s-maj=264.6km s-min=41.0km az=170.0*
*ISCJB **23** 21:47:30.3±0.4, 39°.13S±0°.04×174°.78E±0°.05, h221km±3km, mb3.4/3, Error ellipse: s-maj=8.1km s-min=5.7km az=139.4*
*WEL **23** 21:47:32.1±0.2, 39°.11S×174°.87E, h214km±1km, ML4.3/22, Error ellipse: s-maj=1.8km s-min=1.7km az=90.0*

ISC 23 21:47:31.1±0.8, 39°.13S±0°.06×174°.82E±0°.06, h218km±5km, n88, σ0s90/98, mb3.5/3, 28C-21D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.04**	**272**	⇑PN	**Pn**	**21 47 59.3**	**-0.1**
VRZ				SN	**S**	**21 48 20.4**	**-1.2**
RAEZ	**Rainy Point**	**0.36**	**244**	PN	**Pn**	**21 48 00.3**	**+0.4**
MHEZ	**Mangahewa**	**0.39**	**277**	⇑PN	**Pn**	**21 48 00.6**	**+0.6**
MHEZ				SN	**S**	**21 48 23.4**	**+1.0**
PKVZ	**Pokaka**	**0.44**	**112**	⇑PN	**Pn**	**21 48 00.5**	**+0.3**
PKVZ				SN	**S**	**21 48 21.9**	**-1.0**
DREZ	**Durham Road**	**0.48**	**262**	⇑PN	**Pn**	**21 48 00.6**	**+0.4**
DREZ				SN	**S**	**21 48 23.1**	**+0.1**
TWVZ	**Taurewa**	**0.49**	**84**	PN	**Pn**	**21 48 00.4**	**0.0**
TWVZ				SN	**S**	**21 48 21.9**	**-1.3**
MTVZ	**Mangateitei**	**0.57**	**117**	PN	**Pn**	**21 48 01.0**	**+0.3**
MTVZ				SN	**S**	**21 48 22.6**	**-1.1**
WPVZ	**Whakapapa**	**0.57**	**98**	PN	**Pn**	**21 48 01.0**	**+0.3**
WPVZ				SN	**S**	**21 48 22.3**	**-1.5**
NEZ	**North Egmont**	**0.58**	**255**	⇓PN	**Pn**	**21 48 01.4**	**+0.7**
FWVZ	**Far West T-bar**	**0.59**	**103**	⇑PN	**Pn**	**21 48 01.2**	**+0.3**
FWVZ				SN	**S**	**21 48 22.2**	**-1.9**
DFE	**Dawson Falls**	**0.59**	**250**	PN	**Pn**	**21 48 01.3**	**+0.6**
TRVZ	**Turoa**	**0.59**	**107**	PN	**Pn**	**21 48 01.3**	**+0.3**
TRVZ				SN	**S**	**21 48 22.6**	**-1.6**
DRZ	**Dome Shelter**	**0.60**	**105**	PN	**Pn**	**21 48 01.5**	**+0.4**
WTVZ	**West Tongariro**	**0.60**	**89**	PN	**Pn**	**21 48 01.1**	**+0.2**
WTVZ				SN	**S**	**21 48 22.2**	**-1.8**
HIZ	**Hauiti**	**0.61**	**3**	⇑PN	**Pn**	**21 48 00.5**	**-0.3**
HIZ				SN	**S**	**21 48 22.7**	**-1.2**
NGZ	**Ngauruhoe**	**0.61**	**95**	PN	**Pn**	**21 48 01.2**	**+0.3**
NGZ				SN	**S**	**21 48 23.0**	**-1.2**
WNVZ	**Wahianoa**	**0.64**	**109**	PN	**Pn**	**21 48 01.5**	**+0.4**
WAZ	**Wanganui**	**0.64**	**168**	⇑PN	**Pn**	**21 48 01.7**	**+0.8**
KRVZ	**Karewarewa**	**0.64**	**87**	⇓PN	**Pn**	**21 48 01.3**	**+0.2**
PKE	**Pukeiti**	**0.65**	**264**	PN	**Pn**	**21 48 01.3**	**+0.4**
OTVZ	**Oturere**	**0.66**	**94**	PN	**Pn**	**21 48 01.5**	**+0.4**
TUVZ	**Tukino**	**0.67**	**103**	⇓PN	**Pn**	**21 48 01.6**	**+0.5**
KATZ	**Kakaramea**	**0.70**	**78**	PN	**Pn**	**21 48 01.3**	**0.0**
NRZ	**Ngariki Road**	**0.72**	**253**	⇓PN	**Pn**	**21 48 01.7**	**+0.6**
MOVZ	**Moawhango**	**0.78**	**111**	PN	**Pn**	**21 48 01.6**	**0.0**
RATZ	**Rangitukua**	**0.79**	**71**	PN	**Pn**	**21 48 01.5**	**-0.1**
RITZ	**Rihia Road**	**0.82**	**80**	PN	**Pn**	**21 48 02.1**	**+0.3**
WATZ	**Wairara**	**0.83**	**60**	⇓PN	**Pn**	**21 48 02.0**	**+0.2**
BHHZ	**Black Hill Sta**	**1.03**	**111**	PN	**Pn**	**21 48 03.1**	**0.0**
TSZ	**Takapari Road**	**1.28**	**137**	⇑PN	**Pn**	**21 48 05.3**	**+0.6**
BKZ	**Black Stump Fm**	**1.30**	**92**	PN	**Pn**	**21 48 04.7**	**-0.2**
ALRZ	**Allen Road**	**1.32**	**65**	⇓PN	**Pn**	**21 48 04.5**	**-0.6**
PNHZ	**Pukenui**	**1.33**	**127**	⇓PN	**Pn**	**21 48 05.6**	**+0.5**
PRRZ	**Plateau Road**	**1.38**	**64**	PN	**Pn**	**21 48 04.9**	**-0.6**
POWZ	**Post Office Ro**	**1.46**	**150**	⇑PN	**Pn**	**21 48 06.4**	**+0.3**
MCHZ	**McNeill Hill**	**1.49**	**103**	⇓PN	**Pn**	**21 48 07.3**	**+0.9**
NMHZ	**Naumai**	**1.55**	**90**	⇓PN	**Pn**	**21 48 07.6**	**+0.6**
WPHZ	**Waipukurau**	**1.57**	**127**	PN	**Pn**	**21 48 07.5**	**+0.5**
DVHZ	**Dannevirke**	**1.57**	**139**	PN	**Pn**	**21 48 07.3**	**+0.3**
TARZ	**Mount Tarawera**	**1.59**	**57**	⇓PN	**Pn**	**21 48 06.9**	**-0.5**
MRZ	**Mangatainoka R**	**1.64**	**159**	⇑PN	**Pn**	**21 48 07.7**	**+0.1**
OGWZ	**Otaki Gorge**	**1.71**	**171**	⇑PN	**Pn**	**21 48 08.6**	**+0.4**
KAHZ	**Kahuranaki**	**1.73**	**113**	⇓PN	**Pn**	**21 48 09.2**	**+0.7**
KIW	**Kapiti Island**	**1.73**	**178**	⇑PN	**Pn**	**21 48 08.6**	**+0.1**
RAHZ	**Arahi**	**1.78**	**84**	⇓PN	**Pn**	**21 48 09.0**	**+0.1**
PRHZ	**Porangahau**	**1.81**	**130**	⇓PN	**Pn**	**21 48 09.6**	**+0.4**
DUWZ	**D'Urville Isla**	**1.81**	**202**	⇑PN	**Pn**	**21 48 09.3**	**+0.1**
PXZ	**Pawanui**	**1.82**	**120**	PN	**Pn**	**21 48 09.7**	**+0.4**
CKHZ	**Cape Kidnapper**	**1.83**	**108**	⇓PN	**Pn**	**21 48 10.0**	**+0.7**
TIWZ	**Tintock**	**1.84**	**154**	⇑PN	**Pn**	**21 48 09.5**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.85**	**163**	⇑PN	**Pn**	**21 48 09.4**	**-0.1**
BFZ	**Birch Farm**	**1.90**	**145**	⇓PN	**Pn**	**21 48 10.0**	**0.0**
CAW	**Cannon Point**	**1.99**	**174**	⇑PN	**Pn**	**21 48 12.6**	**+1.8**
URZ	**Urewera**	**1.99**	**65**	⇓PN	**Pn**	**21 48 09.6**	**-1.3**
MTW	**Mount Morrison**	**2.10**	**166**	⇑PN	**Pn**	**21 48 11.6**	**-0.3**
TMWZ	**Te Maipa**	**2.14**	**158**	⇑PN	**Pn**	**21 48 12.2**	**-0.2**
WEL	**Wellington**	**2.16**	**181**	PN	**Pn**	**21 48 12.3**	**-0.2**
SNZO	**South Karori**	**2.18**	**182**	⇑PN	**Pn**	**21 48 12.5**	**-0.2**
KNZ	**Kokohu**	**2.23**	**88**	PN	**Pn**	**21 48 12.9**	**-0.3**
MWZ	**Matawai**	**2.26**	**70**	PN	**Pn**	**21 48 12.7**	**-1.0**
BHW	**Baring Head**	**2.28**	**179**	PN	**Pn**	**21 48 13.4**	**-0.4**
PAWZ	**Paruwai Farm**	**2.30**	**168**	⇑PN	**Pn**	**21 48 13.7**	**-0.3**
MSWZ	**Moikau Station**	**2.31**	**172**	⇑PN	**Pn**	**21 48 13.8**	**-0.3**
NNZ	**Nelson**	**2.36**	**207**	⇑PN	**Pn**	**21 48 14.3**	**-0.3**
TRWZ	**Traveller**	**2.37**	**164**	⇑PN	**Pn**	**21 48 14.4**	**-0.3**
PRGZ	**Paritu Road**	**2.40**	**86**	⇓PN	**Pn**	**21 48 14.7**	**-0.4**
MHGZ	**Mahia Peninsul**	**2.40**	**92**	⇓PN	**Pn**	**21 48 15.1**	**0.0**
QRZ	**Quartz Range**	**2.44**	**225**	⇑PN	**Pn**	**21 48 14.5**	**-1.0**
PLWZ	**Palliser**	**2.46**	**172**	⇑PN	**Pn**	**21 48 15.2**	**-0.5**
CMWZ	**Cape Campbell**	**2.66**	**190**	⇑PN	**Pn**	**21 48 18.2**	**+0.3**
BSWZ	**Blackbirch Sta**	**2.68**	**195**	PN	**Pn**	**21 48 18.0**	**0.0**
CNGZ	**Carnagh Statio**	**2.73**	**77**	⇓PN	**Pn**	**21 48 18.2**	**-0.4**
PUZ	**Puketiti**	**2.90**	**70**	⇑PN	**Pn**	**21 48 19.3**	**-1.3**
THZ	**Tophouse**	**3.01**	**208**	⇑PN	**Pn**	**21 48 21.0**	**-0.8**
MXZ	**Matakaoa Point**	**3.16**	**61**	⇓PN	**Pn**	**21 48 22.0**	**-1.5**
DSZ	**Dennistone N

EFP				*e*SN	**Sg**	**22 35 59.6**	**+1.4**
EFP	**Efpalio**	**1.71**	**35**	*e*Pn	**Pb**	**22 35 35.4**	**0.0**
EFP				*e*Sn	**Sg**	**22 35 59.6**	**+1.4**
KALE	**Kalithea**	**1.79**	**40**	P	**Pn**	**22 35 35.9**	**+0.6**
KALE	**Kalithea**	**1.79**	**40**	P	**Pn**	**22 35 35.9**	**+0.6**
VLI	**Veliai**	**1.85**	**99**	P	**Pg**	**22 35 39.0**	**+0.2**
VLI	**Veliai**	**1.85**	**99**	*e*PG	**Pg**	**22 35 39.1**	**+0.2**
VLI				*e*SN	**Sg**	**22 36 03.5**	**+0.6**
VLI	**Veliai**	**1.85**	**99**	*e*Pg	**Pg**	**22 35 39.1**	**+0.2**
VLI				*e*Sn	**Sg**	**22 36 03.5**	**+0.6**
LTK	**Loutraki**	**2.08**	**61**	*e*PG	**Pg**	**22 35 43.0**	**-0.3**
LTK	**Loutraki**	**2.08**	**61**	*e*Pg	**Pg**	**22 35 43.0**	**-0.3**
EVR	**Evrytania**	**2.09**	**25**	*e*PB	**Pn**	**22 35 39.0**	**-0.4**
EVR	**Evrytania**	**2.09**	**25**	*e*Pb	**Pn**	**22 35 39.0**	**-0.4**
DID	**Didima**	**2.11**	**76**	P	**Pb**	**22 35 41.7**	**-0.5**
DID	**Didima**	**2.11**	**76**	*e*PN	**Pb**	**22 35 41.7**	**-0.5**
DID	**Didima**	**2.11**	**76**	P	**Pb**	**22 35 41.7**	**-0.5**
LKR	**Lokris**	**2.46**	**48**	*e*PN	**Pb**	**22 35 47.0**	**-1.2**
LKR	**Lokris**	**2.46**	**48**	*e*Pn	**Pb**	**22 35 47.0**	**-1.2**
THL	**Klokotos Trika**	**2.74**	**22**	*e*PN	**Pn**	**22 35 49.9**	**+1.6**
THL	**Klokotos Trika**	**2.74**	**22**	*e*Pn	**Pn**	**22 35 49.9**	**+1.6**
NEO	**Neokhori**	**3.04**	**41**	*e*PN	**Pn**	**22 35 53.2**	**+0.8**
NEO	**Neokhori**	**3.04**	**41**	*e*Pn	**Pn**	**22 35 53.2**	**+0.8**

IDC 23 22:37:25.2±5.8, 7°04S×150°50E, h58km±47km, mb3.6/6, mb1 3.9/7, mb1mx3.6/19, mbtmp3.6/7, ML2.5/1, Error ellipse: s-maj=59.0km s-min=30.9km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.06**	**234**	P	Pn	22 38 25.7	+0.9
	2.3nm,0.3s,baz=55,slow=8.5,SNR=14						
PMG				S	Sn	22 39 12.2	+1.1
	6.8nm,0.3s,baz=323,slow=20,SNR=17						
WRA	**Warramunga Arr**	**20.26**	**229**	P	P	22 41 55.3	-0.7
	1.8nm,0.4s,baz=56,slow=11,SNR=34						
ASAR	**Alice Springs**	**22.97**	**222**	P	P	22 42 24.1	-0.9
	2.3nm,0.5s,baz=57,slow=9.3,SNR=22						
FITZ	**Fitzroy Crossi**	**26.60**	**243**	P	P	22 42 58.0	-0.3
	2.4nm,0.6s,baz=54,slow=8.3,SNR=7.7						
SONM	**Songino Array**	**67.03**	**329**	P	P	22 48 11.9	-0.5
	0.5nm,0.8s,baz=147,slow=4.1,SNR=5.3						
MKAR	**Makanchi Array**	**80.52**	**320**	P	P	22 49 31.0	-0.3
	0.3nm,0.6s,baz=98,slow=6.3,SNR=4.3						
ILAR	**Eielson Array**	**85.08**	**22**	P	P	22 49 54.4	0.0
	1.4nm,0.8s,baz=258,slow=5.0,SNR=16						
TORD	**Torodi Ar. Bea**	**148.72**	**284**	PKPbc	PKPbc	22 57 08.0	+0.9
	1.6nm,0.6s,baz=49,slow=2.5,SNR=12						

*CSEM **23** 22:44:14.3, 37°03N×20°59E, h25km, MD3.5, After ATH*
ATH 23 22:44:14.3, 37°03N×20°59E, h25km±2km, MD3.5/7, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.93**	**98**	*e*PN	Pb	22 44 32.6	+0.8
PYL				*e*SN	Sn	22 44 45.5	+1.1
PYL	**PYLOS**	**0.93**	**98**	*e*Pn	Pb	22 44 32.6	+0.8
PYL				*e*Sn	Sn	22 44 45.5	+1.1
ITM	**Ithomi**	**1.08**	**82**	*e*PN	Pb	22 44 35.2	+0.9
ITM				*e*SN	Sn	22 44 49.0	+0.9
ITM	**Ithomi**	**1.08**	**82**	*e*Pn	Pb	22 44 35.2	+0.9
ITM				*e*Sn	Sn	22 44 49.0	+0.9
VLS	**Valsamata**	**1.15**	**360**	*e*PN	Pb	22 44 36.7	+1.2
VLS				*e*SN	Sb	22 44 53.1	+3.1
VLS	**Valsamata**	**1.15**	**360**	*e*Pn	Pb	22 44 36.7	+1.2
VLS				*e*Sn	Sb	22 44 53.1	+3.1
RLS	**Riolos of Patr**	**1.24**	**34**	*e*PB	Pb	22 44 36.9	-0.1
RLS				*e*SN	Sb	22 44 54.0	+1.4
RLS	**Riolos of Patr**	**1.24**	**34**	*e*Pb	Pb	22 44 36.9	-0.1
RLS				*e*Sn	Sb	22 44 54.0	+1.4
VLX	**Vlachokerasia**	**1.47**	**76**	*e*PN	Pb	22 44 42.1	+1.0
VLX				*e*SN	Sb	22 45 01.4	+2.0
VLX	**Vlachokerasia**	**1.47**	**76**	*e*Pn	Pb	22 44 42.1	+1.0
VLX				*e*Sn	Sb	22 45 01.4	+2.0
GUR	**Goura**	**1.66**	**56**	*e*PB	Pn	22 44 41.9	-0.1
GUR				*e*SN	Sb	22 45 05.9	+0.9
GUR	**Goura**	**1.66**	**56**	*e*Pb	Pn	22 44 41.9	-0.1
GUR				*e*Sn	Sb	22 45 05.9	+0.9
DID	**Didima**	**2.16**	**77**	*e*PB	Pb	22 44 51.8	-1.1
DID	**Didima**	**2.16**	**77**	*e*Pb	Pb	22 44 51.8	-1.1

*SKO **23** 23:01:07.3, 41°78N×23°92E, h0km, ML2.0*
*ATH **23** 23:01:07.8, 41°73N×23°81E, h5km±4km, MD3.3/4*
*THE **23** 23:01:08.9, 41°66N×23°77E, h5km±1km, ML2.3/6, Error ellipse: s-maj=1.3km s-min=0.7km az=295.0*
*CSEM **23** 23:01:08.7±0.1, 41°69N×23°77E, h2km, ML2.3/6, Error ellipse: s-maj=2.6km s-min=2.0km az=69.0*
*BEO **23** 23:01:11.5±1.9, 41°78N×23°74E, h15km±9km, ML2.4/6*
ISC 23 23:01:08.2±1.1, 41°70N±0°02×23°78E±0°02, h3km±10km, n45, σ0°50/90, 1C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVR	**Nevrokopi**	**0.35**	**170**	P	**Pg**	**23 01 15.2**	**+0.2**
NVR				S	**Sg**	**23 01 19.7**	**+0.1**
NVR	**Nevrokopi**	**0.35**	**170**	*e*PG	**Pg**	**23 01 15.1**	**+0.1**
NVR	**Nevrokopi**	**0.35**	**170**	P	**Pg**	**23 01 15.2**	**+0.2**
NVR				S	**Sg**	**23 01 19.7**	**+0.1**
SRS	**Serrai**	**0.60**	**194**	P	**Pg**	**23 01 20.1**	**+0.4**
SRS				S	**Sg**	**23 01 27.8**	**+0.4**
SRS	**Serrai**	**0.60**	**194**	P	**Pg**	**23 01 20.1**	**+0.4**
SRS				S	**Sg**	**23 01 27.8**	**+0.4**
PLD	**Plovdiv**	**0.80**	**59**	P	**Pb**	**23 01 24.6**	**-0.2**
PLD				S	**Sb**	**23 01 36.1**	**+0.1**
PLD	**Plovdiv**	**0.80**	**59**	P	**Pb**	**23 01 24.6**	**-0.2**
PLD				S	**Sb**	**23 01 36.1**	**+0.1**
KNT	**Kendrikon**	**0.85**	**231**	P	**Pg**	**23 01 24.6**	**0.0**
KNT				S	**Sg**	**23 01 36.2**	**+0.6**
KNT	**Kendrikon**	**0.85**	**231**	P	**Pg**	**23 01 24.6**	**0.0**
KNT				S	**Sg**	**23 01 36.2**	**+0.6**
KAVA	**Kavala**	**0.89**	**142**	P	**Pg**	**23 01 25.0**	**-0.3**
KAVA				S	**Sg**	**23 01 37.0**	**+0.1**
KAVA	**Kavala**	**0.89**	**142**	P	**Pg**	**23 01 25.0**	**-0.3**
KAVA				S	**Sg**	**23 01 37.0**	**+0.1**
SOH	**Sokhos**	**0.93**	**200**	P	**Pg**	**23 01 25.9**	**-0.2**
SOH				S	**Sg**	**23 01 39.0**	**+0.8**
SOH	**Sokhos**	**0.93**	**200**	P	**Pg**	**23 01 25.9**	**-0.2**
SOH				S	**Sg**	**23 01 39.0**	**+0.8**
VAY	**Valandovo**	**0.98**	**248**	*e*Pg	**Pn**	**23 01 28.5**	**-0.4**
VAY				*i* Sg	**Sn**	**23 01 43.0**	**-0.3**
VAY				*e*Lg	Lg	23 01 43.4	
	comp=E,34nm,0.3s						
VAY	**Valandovo**	**0.98**	**248**	*e*Pg	**Pn**	**23 01 29.0**	**+0.1**
VAY				*i* Sg	**Sn**	**23 01 43.4**	**+0.1**
VAY				*e*Lg	Lg	23 01 43.8	
	comp=E,34nm,0.3s						
VTS	**Vitosha**	**0.99**	**335**	P	**Pb**	**23 01 27.9**	**-0.2**
VTS				S	**Sb**	**23 01 42.3**	**+0.7**
VTS	**Vitosha**	**0.99**	**335**	⇑*i*Pg	**Pb**	**23 01 27.8**	**-0.3**
VTS				*e*Sg	**Sb**	**23 01 41.1**	**-0.5**
VTS	**Vitosha**	**0.99**	**335**	P	**Pb**	**23 01 27.9**	**-0.2**
VTS				*e*Sg	**Sb**	**23 01 41.1**	**-0.5**
VTS				S	**Sb**	**23 01 42.3**	**+0.7**
HORT	**Hortiatis**	**1.21**	**205**	P	**Pg**	**23 01 31.2**	**-0.3**
HORT				S	**Sg**	**23 01 47.3**	**+0.1**
HORT	**Hortiatis**	**1.21**	**205**	P	**Pg**	**23 01 31.2**	**-0.3**
HORT				S	**Sg**	**23 01 47.3**	**+0.1**
GRG	**Griva**	**1.28**	**235**	P	**Pg**	**23 01 32.5**	**-0.2**
GRG				S	**Sn**	**23 01 50.3**	**-0.3**
GRG	**Griva**	**1.28**	**235**	P	**Pg**	**23 01 32.5**	**-0.2**
GRG				S	**Sn**	**23 01 50.3**	**-0.3**
PLG	**Polygyros**	**1.35**	**191**	P	**Pn**	**23 01 33.6**	**-0.4**
PLG				S	**Sg**	**23 01 51.0**	**-0.5**
PLG	**Polygyros**	**1.35**	**191**	*e*PB	**Pn**	**23 01 33.6**	**-0.4**
PLG				*e*SB	**Sn**	**23 01 52.8**	**+0.4**
PLG	**Polygyros**	**1.35**	**191**	P	**Pn**	**23 01 33.6**	**-0.4**
PLG				S	**Sg**	**23 01 51.0**	**-0.5**
PLG				*e*Sb	**Sn**	**23 01 52.8**	**+0.4**
OUR	**Ouranopolis**	**1.37**	**174**	P	**Pn**	**23 01 33.4**	**-0.8**
OUR				S	**Sg**	**23 01 51.5**	**-0.8**
OUR	**Ouranopolis**	**1.37**	**174**	P	**Pn**	**23 01 33.4**	**-0.8**
OUR				S	**Sg**	**23 01 51.5**	**-0.8**
RDO	**Rodhopi**	**1.43**	**112**	P	**Pn**	**23 01 35.3**	**+0.2**
RDO				S	**Sb**	**23 01 53.8**	**-0.3**
RDO	**Rodhopi**	**1.43**	**112**	*e*PB	**Pn**	**23 01 35.3**	**+0.2**
RDO				*e*SB	**Sn**	**23 01 54.6**	**+0.2**
RDO	**Rodhopi**	**1.43**	**112**	P	**Pn**	**23 01 35.3**	**+0.2**
RDO				S	**Sb**	**23 01 53.8**	**-0.3**
ZAPS	**Zavoj**	**1.79**	**332**	*e*Pn	**Pb**	**23 01 41.5**	**-0.2**
ZAPS				*e*Sg	**Sg**	**23 02 06.1**	**+0.4**
BARS	**Barje**	**1.84**	**308**	*e*Pn	**Pn**	**23 01 41.2**	**+0.5**
BARS				*e*Sg	**Sg**	**23 02 06.9**	**-0.4**
BARS	**Barje**	**1.84**	**308**	*e*Pn	**Pn**	**23 01 41.2**	**+0.5**
BARS				*e*Sg	**Sg**	**23 02 06.9**	**-0.4**
ALN	**Alexandroupoli**	**1.89**	**114**	P	**Pn**	**23 01 41.9**	**+0.6**
ALN				S	**Sb**	**23 02 06.8**	**-0.4**
ALN	**Alexandroupoli**	**1.89**	**114**	*e*PN	**Pb**	**23 01 43.6**	**+0.3**
ALN				*e*SN	**Sg**	**23 02 08.9**	**+0.1**
ALN	**Alexandroupoli**	**1.89**	**114**	P	**Pn**	**23 01 41.9**	**+0.6**
ALN	**Alexandroupoli**	**1.89**	**114**	*e*Pn	**Pb**	**23 01 43.6**	**+0.3**
ALN				S	**Sb**	**23 02 06.8**	**-0.4**
ALN				*e*Sn	**Sg**	**23 02 08.9**	**+0.1**
SELS	**Selova**	**2.49**	**309**	*e*Sg	**Sg**	**23 02 28.2**	**0.0**
SELS	**Selova**	**2.49**	**309**	*e*Sg	**Sg**	**23 02 28.2**	**0.0**
GRUS	**Gruza**	**3.14**	**315**	*e*Pn	**Pn**	**23 01 59.5**	**+0.9**
GRUS				*e*Sg	**Sg**	**23 02 48.9**	**-0.3**
GRUS	**Gruza**	**3.14**	**315**	*e*Pn	**Pn**	**23 01 59.5**	**+0.9**
GRUS				*e*Sg	**Sg**	**23 02 48.9**	**-0.3**
DIVS	**Divibare**	**3.67**	**312**	*e*Pn	**Pn**	**23 02 06.9**	**+0.9**
DIVS				*e*Sg	**Sg**	**23 03 06.7**	**+0.5**
DIVS	**Divibare**	**3.67**	**312**	*e*Pn	**Pn**	**23 02 06.9**	**+0.9**
DIVS				*e*Sg	**Sg**	**23 03 06.7**	**+0.5**
BZS	**Buzias**	**4.22**	**339**	*e*Pn	**Pn**	**23 02 13.6**	**+0.2**
BZS				*e*Sg	**Sg**	**23 03 22.1**	**-1.6**
BZS	**Buzias**	**4.22**	**339**	*e*Pn	**Pn**	**23 02 13.6**	**+0.2**
BZS				*e*Sg	**Sg**	**23 03 22.1**	**-1.6**

IDC 23 23:12:37.1±1.6, 4°03N×126°99E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.2/22, mbtmp3.1/3, Error ellipse: s-maj=140.9km s-min=25.8km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.89**	**163**	P	P	23 18 01.9	0.0
	1.0nm,0.6s,baz=344,slow=11,SNR=12						
SONM	**Songino Array**	**47.10**	**341**	P	P	23 21 11.2	+0.1
	0.1nm,0.4s,baz=151,slow=6.3,SNR=2.4						
MKAR	**Makanchi Array**	**57.46**	**325**	P	P	23 22 27.6	-0.3
	0.1nm,0.4s,baz=127,slow=7.4,SNR=4.5						

IDC 23 23:21:46.8±1.3, 22°88S×66°30W, h224km±14km, mb3.4/3, mb1 3.4/9, mb1mx3.3/21, mbtmp3.3/9, Error ellipse: s-maj=22.3km s-min=12.5km az=99.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.78**	**345**	P	Pn	23 23 26.7	+1.4
	2.5nm,0.3s,baz=151,slow=9.4,SNR=62						
LPAZ				S	S	23 24 41.3	-2.4
	0.5nm,0.3s,baz=280,slow=19,SNR=13						
SIV	**San Ignacio**	**8.44**	**37**	P	Pn	23 23 46.1	+0.2
	1.8nm,0.3s,baz=241,slow=11,SNR=36						
SIV				S	S	23 25 21.8	+0.4
	baz=191,slow=22,SNR=1.4						
CPUP	**Villa Florida**	**8.86**	**115**	P	Pn	23 23 52.1	+1.1
	0.2nm,0.3s,baz=5.5,slow=13,SNR=1.7						
CFAA	**Coronel Fontan**	**8.86**	**191**	P	Pn	23 23 51.6	+0.5
	0.2nm,0.3s,baz=28,slow=15,SNR=21						
CFAA				S	S	23 25 26.3	-4.8
	0.4nm,0.3s,baz=238,slow=16,SNR=15						
PLCA	**Paso Flores**	**18.16**	**190**	P	Pn	23 25 44.6	-0.9
	0.1nm,0.3s,baz=11,slow=13,SNR=3.0						
BDFB	**Brasilia**	**18.69**	**71**	P	P	23 25 49.9	+1.1
	0.5nm,0.3s,baz=260,slow=12,SNR=10						
DBIC	**Dimbokro**	**66.84**	**72**	P	P	23 32 13.8	-1.2
	2.7nm,0.9s,baz=213,slow=3.5,SNR=3.2						
TORD	**Torodi Ar. Bea**	**75.57**	**69**	P	P	23 33 06.0	-1.3
	1.0nm,0.5s,baz=255,slow=5.6,SNR=34						
ESDC	**Sonseca Array**	**85.14**	**43**	P	P	23 33 58.8	+1.0
	0.2nm,0.5s,baz=231,slow=5.9,SNR=4.1						
MKAR	**Makanchi Array**	**145.25**	**39**	PKPbc	PKPab	23 40 58.2	0.0
	1.0nm,0.8s,baz=311,slow=2.4,SNR=9.1						

IDC 23 23:31:42.3±1.7, 3°80N×127°14E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/24, mbtmp3.7/5, Error ellipse: s-maj=111.5km s-min=19.3km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.82**	**184**	P	P	23 36 36.8	+0.5
	1.6nm,0.8s,baz=352,slow=15,SNR=2.4						
WRA	**Warramunga Arr**	**24.63**	**164**	P	P	23 37 03.7	-1.0
	1.7nm,0.8s,baz=342,slow=10,SNR=9.5						
ASAR	**Alice Springs**	**28.09**	**167**	P	P	23 37 36.6	+0.7
	0.2nm,0.3s,baz=348,slow=13,SNR=2.4						
MKAR	**Makanchi Array**	**57.73**	**325**	P	P	23 41 35.1	0.0
	0.5nm,0.4s,baz=118,slow=7.5,SNR=14						
KURBB	**Kurchatov Arra**	**61.90**	**327**	P	P	23 42 03.4	-0.2
	0.8nm,0.5s,baz=128,slow=6.3,SNR=6.8						

IDC 23 23:34:53.9±1.6, 2°79N×125°03E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.5/4, Error ellipse: s-maj=191.0km s-min=21.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.37**	**158**	P	P	23 40 13.0	-0.9
	0.4nm,0.4s,baz=337,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**27.68**	**162**	P	P	23 40 45.2	+1.3
	0.2nm,0.5s,baz=349,slow=8.5,SNR=2.9						
MKAR	**Makanchi Array**	**57.38**	**326**	P	P	23 44 44.1	0.0
	0.3nm,0.4s,baz=118,slow=7.6,SNR=10						
KURBB	**Kurchatov Arra**	**61.63**	**328**	P	P	23 45 13.0	-0.4
	0.5nm,0.5s,baz=129,slow=6.6,SNR=8.4						

*MOS **23** 23:49:00.9±1.4, 55°57N×110°47E, h7km, mb4.3/1, Error ellipse: s-maj=21.2km s-min=14.1km az=66.5*
*BYKL **23** 23:49:02.4±0.2, 55°51N×110°45E*
*IDC **23** 23:49:10.4±7.8, 55°27N×109°37E, h0km, mb3.0/1, mb1 3.1/5, mb1mx3.0/30, mbtmp3.1/5, ML3.0/4, Error ellipse: s-maj=106.5km s-min=28.0km az=75.0*
ISC 23 23:49:02.5±1.1, 55°48N±0°03×110°49E±0°03, h1km±9km, n37, σ1°96/57, 5C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.58**	**44**	*e*PG	**Pg**	**23 49 12.4**	**-1.0**
KMO				*e*		23 49 19.2	
KMO				pmax	pmax		
	comp=Z,351nm,0.4s						
KMO				smax	smax		
	comp=N,825nm,0.9s						
KMO	**Kumora**	**0.58**	**44**	⇓*i*Pg	**Pg**	**23 49 12.5**	**-1.0**
KMO				*e*Sg	**Sg**	**23 49 20.0**	**-1.0**
KMO				Pmax			
	comp=N,351nm,0.4s						
KMO				Smax			
	comp=N,446nm,0.2s						
NIZ	**Nizh Angarsk**	**0.61**	**300**	⇑*i*PG	**Pg**	**23 49 13.7**	**-0.5**
NIZ				*e*		23 49 22.3	
NIZ				pmax	pmax		
	comp=Z,119nm,0.3s						
NIZ				smax	smax		
	comp=N,694nm,0.3s						
NIZ	**Nizh Angarsk**	**0.61**	**300**	⇑*i*Pg	**Pg**	**23 49 13.7**	**-0.5**
NIZ				*e*Sg	**Sg**	**23 49 21.8**	**-0.4**
NIZ				Pmax			
	comp=N,28nm,0.4s						
NIZ				Smax			
	comp=N,693nm,0.3s						
YLYR	**Ulyunkhan**	**0.71**	**147**	*e*Pg	**Pg**	**23 49 15.9**	**-0.2**
YLYR				*e*Sg	**Sg**	**23 49 26.1**	**+0.7**
YLYR				Pmax			
	comp=N,24nm,0.1s						
YLYR				Smax			
	comp=N,167nm,0.2s						
YOA	**Uoyan**	**0.96**	**46**	*e*PG	**Pg**	**23 49 18.8**	**-2.0**
YOA				*e*		23 49 32.8	
YOA				pmax	pmax		
	comp=Z,101nm,0.2s						
YOA				smax	smax		
	comp=N,1μm,0.3s						
YOA	**Uoyan**	**0.96**	**46**	*e*Pg	**Pg**	**23 49 19.7**	**-1.1**
YOA				*e*Sg	**Sg**	**23 49 33.1**	**-0.2**
YOA				Pmax			
	comp=N,157nm,0.2s						
YOA				Smax			
	comp=N,1μm,0.3s						
SYVR	**Suvo**	**1.84**	**189**	*e*PN	**Pb**	**23 49 36.6**	**-0.4**
SYVR				*e*		23 50 01.8	
SYVR				pmax	pmax		
	comp=Z,35nm,0.5s						
SYVR				smax	smax		
	comp=N,324nm,0.8s						
SYVR	**Suvo**	**1.84**	**189**	*e*Pg	**Pb**	**23 49 36.5**	**-0.4**
SYVR				*e*		23 49 39.4	
SYVR				*e*Sg	**Sg**	**23 50 02.0**	**+0.4**
SYVR				max			
	comp=N,35nm,0.5s						
SYVR				Smax			
	comp=N,320nm,0.8s						
MXMB	**Maximikha**	**2.44**	**205**	*e*Pg	**Pb**	**23 49 46.9**	**-0.2**
MXMB				*e*Sg	**Sg**	**23 50 20.2**	**-0.6**
MXMB				Pmax			
	comp=N,42nm,0.1s						
MXMB				Smax			
	comp=N,443nm,1.0s						
OGRR	**Ongureny**	**2.49**	**224**	⇑*i*Pn	**Pn**	**23 49 45.1**	**+1.0**
OGRR				*e*Pg	**Pb**	**23 49 47.2**	**-0.8**
OGRR				*e*Sg	**Sb**	**23 50 20.1**	**+1.0**
OGRR				Pmax			
	comp=N,19nm,0.3s						
OGRR				Smax			
	comp=N,78nm,0.5s						
BOD	**Bodaibo**	**3.05**	**38**	*e*Pn	**Pn**	**23 49 51.8**	**+0.1**
BOD				*e*Sn	**Sn**	**23 50 27.3**	**-1.5**
BOD				*e*Sg	**Sb**	**23 50 35.7**	**+0.6**
BOD				Smax			
	comp=N,93nm,0.4s						
NLYR	**Nelyaty**	**3.10**	**69**	⇑*i*Pn	**Pn**	**23 49 52.9**	**+0.4**
NLYR				*e*Pg	**Pb**	**23 49 58.5**	**+0.1**
NLYR				*e*Sg	**Sb**	**23 50 38.8**	**+2.1**
NLYR				Pmax			
	comp=N,18nm,0.6s						
NLYR				Smax			
	comp=N,153nm,0.7s						
ZRHB	**Zarechye**	**3.53**	**215**	*e*Pg	**Pb**	**23 50 05.8**	**+0.2**
ZRHB				*e*Sg	**Sg**	**23 50 52.5**	**-3.2**
ZRHB				Pmax			
	comp=N,44nm,0.7s						
ZRHB				Smax			
	comp=N,168nm,1.0s						
TRG	**Tyrgan**	**3.65**	**224**	*e*Pn	**Pn**	**23 50 00.1**	**0.0**
TRG				*e*Pg	**Pb**	**23 50 07.7**	**-0.1**
TRG				*e*		23 50 11.4	
TRG				*e*Sn	**Sn**	**23 50 40.8**	**-3.0**
TRG				*e*Sg	**Sb**	**23 50 54.8**	**+2.3**
TRG				max			
	comp=N,13nm,0.3s						
TRG				Smax			
	comp=N,45nm,0.5s						
CRS	**Chara**	**4.58**	**69**	*e*PN	**Pb**	**23 50 24.4**	**+1.0**
CRS				*e*		23 51 23.6	
CRS				pmax	pmax		
	comp=Z,32nm,1.1s						
CRS				smax	smax		
	comp=N,75nm,1.0s						
CRS	**Chara**	**4.58**	**69**	*e*Pn	**Pn**	**23 50 13.4**	**+0.6**
CRS				*e*Pg	**Pb**	**23 50 24.5**	**+1.0**
CRS				*e*Sg	**Sb**	**23 51 23.7**	**+4.6**
CRS				Pmax			
	comp=N,17nm,0.8s						
CRS				Smax			
	comp=N,75nm,0.9s						
IRK	**Irkutsk**	**4.90**	**231**	*e*PN	Pg	23 50 32.5	-3.8
IRK				*e*		23 51 35.3	
IRK				pmax	pmax		
	comp=Z,136nm,0.1s						
IRK				smax	smax		
	comp=N,83nm,0.2s						
LSTR	**Listvyanka**	**4.94**	**225**	*e*Sg	**Sb**	**23 51 34.6**	**+5.2**
LSTR				Smax			
	comp=N,58nm,1.4s						
KHNR	**Khani**	**5.49**	**71**	*e*Sg	Sb	23 51 51.8	+6.3
TUP	**Tupik**	**5.56**	**97**	*e*PN	**Pn**	**23 50 25.9**	**-0.3**
TUP				*e*		23 50 41.8	
TUP				*e*S	**Sn**	**23 51 28.9**	**-1.8**
TUP				*e*		23 51 54.9	
TUP				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TUP				smax	smax		
	comp=E,56nm,1.0s						
TUP	**Tupik**	**5.56**	**97**	*e*Pn	**Pn**	**23 50 26.3**	**+0.1**
TUP				*e*Sn	**Sn**	**23 51 26.1**	**-4.6**
TUP				*e*Sg	Sg	23 51 54.8	-6.0
TUP				Smax			
	comp=E,56nm,0.8s						
TLY	**Talaya**	**5.57**	**230**	*e*PN	**Pb**	**23 50 41.4**	**+0.9**
TLY				*e*S	**Sn**	**23 51 28.3**	**-2.8**
TLY				*e*		23 51 53.9	
TLY				pmax	pmax		
	comp=Z,8.0nm,0.5s						
TLY				smax	smax		
	comp=N,45nm,1.2s						
TLY	**Talaya**	**5.57**	**230**	*e*Pg	**Pb**	**23 50 42.2**	**+1.7**
TLY				*e*		23 50 47.4	
TLY				*e*Sn	**Sn**	**23 51 28.1**	**-3.0**
TLY				*e*Sg	Sb	23 51 54.0	+6.2
TLY				max			
	comp=N,7.0nm,0.6s						
TLY				Smax			
	comp=N,45nm,1.2s						
KPC	**Khapcheranga**	**5.90**	**168**	*e*	Pb	23 50 50.7	+4.7
KPC				*e*Sn	**Sn**	**23 51 34.5**	**-4.6**
KPC				*e*Sg	Sg	23 52 05.9	-5.8
KPC				Smax			
	comp=N,40nm,1.2s						
ZAK	**Zakamensk**	**6.71**	**223**	*e*Pg	Pb	23 51 03.6	+3.8
ZAK				*e*Sg	Sg	23 52 30.8	-6.9
ZAK				Pmax			
	comp=N,1.0nm,0.1s						
ZAK				Smax			
	comp=N,14nm,1.4s						
MOY	**

*ISK **23** 23:54:33.9, 38°.34N×28°.24E, h6km, MD2.8*
*ISCJB **23** 23:54:34.2±0.5, 38°.33N±0°.02×28°.21E±0°.03, h8km±4km, Error ellipse: s-maj=4.2km s-min=3.8km az=141.1*
*DDA **23** 23:54:34.3, 38°.33N×28°.21E, h7km, MD3.0*
*CSEM **23** 23:54:34.5±0.1, 38°.33N×28°.23E, h8km, MD3.0, Error ellipse: s-maj=2.8km s-min=2.6km az=141.0*

ISC 23 23:54:34.7±0.9, 38°.33N±0°.02×28°.24E±0°.02, h15km±8km, n38, σ0°78/59, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANT	**Manisa**	**0.30**	**57**	*i* P	**Pg**	**23 54 41.3**	**+0.2**
MANT				*i* S	**Sg**	**23 54 45.4**	**-0.2**
MANT	**Manisa**	**0.30**	**57**	*i* P	**Pg**	**23 54 41.3**	**+0.2**
MANT				*i* S	**Sg**	**23 54 45.4**	**-0.2**
KULA	**Kula-Manisa**	**0.38**	**61**	*e*PG	**Pg**	**23 54 42.7**	**+0.2**
KULA				*e*SG	**Sg**	**23 54 46.9**	**-0.9**
KULA	**Kula-Manisa**	**0.38**	**61**	*e*Pg	**Pg**	**23 54 42.7**	**+0.2**
KULA				*e*Sg	**Sg**	**23 54 46.9**	**-0.9**
AKS	**Akhisar**	**0.64**	**329**	*e*PG	**Pg**	**23 54 46.9**	**-0.4**
AKS				*e*SG	**Sg**	**23 54 55.8**	**-0.1**
AKS	**Akhisar**	**0.64**	**329**	*e*Pg	**Pg**	**23 54 46.9**	**-0.4**
AKS				*e*Sg	**Sg**	**23 54 55.8**	**-0.1**
AYDN	**Tasoluk**	**0.72**	**203**	*i* P	**Pg**	**23 54 48.3**	**-0.6**
AYDN				*i* S	**Sg**	**23 54 58.4**	**0.0**
AYDN	**Tasoluk**	**0.72**	**203**	*i* P	**Pg**	**23 54 48.3**	**-0.6**
AYDN				*i* S	**Sg**	**23 54 58.4**	**0.0**
IZM	**Izmir**	**0.77**	**275**	*e*PG	**Pg**	**23 54 49.1**	**-0.6**
IZM				*e*SG	**Sg**	**23 54 59.8**	**-0.1**
IZM	**Izmir**	**0.77**	**275**	*e*Pg	**Pg**	**23 54 49.1**	**-0.6**
IZM				*e*Sg	**Sg**	**23 54 59.8**	**-0.1**
DEMI	**Demirci**	**0.81**	**28**	*i* P	**Pg**	**23 54 50.3**	**-0.1**
DEMI				*i* S	**Sg**	**23 54 59.9**	**-1.1**
DEMI	**Demirci**	**0.81**	**28**	*i* P	**Pg**	**23 54 50.3**	**-0.1**
DEMI				*i* S	**Sg**	**23 54 59.9**	**-1.1**
DNZL	**Cakiroluk**	**0.90**	**135**	*i* P	**Pb**	**23 54 53.2**	**+1.0**
DNZL				*i* S	**Sb**	**23 55 05.3**	**+1.2**
DNZL	**Cakiroluk**	**0.90**	**135**	*i* P	**Pb**	**23 54 53.2**	**+1.0**
DNZL				*i* S	**Sb**	**23 55 05.3**	**+1.2**
BLCB	**Balcova**	**0.94**	**274**	*e*PG	**Pg**	**23 54 52.3**	**-0.6**
BLCB	**Balcova**	**0.94**	**274**	*e*Pg	**Pg**	**23 54 52.3**	**-0.6**
KHAL	**Karahalli**	**0.99**	**87**	*i* P	**Pg**	**23 54 53.3**	**-0.6**
KHAL				*i* S	**Sg**	**23 55 06.1**	**-0.7**
KHAL	**Karahalli**	**0.99**	**87**	*i* P	**Pg**	**23 54 53.3**	**-0.6**
KHAL				*i* S	**Sg**	**23 55 06.1**	**-0.7**
KHL	**Karahalli**	**1.01**	**90**	*e*PG	**Pg**	**23 54 52.9**	**-1.4**
KHL	**Karahalli**	**1.01**	**90**	*e*Pg	**Pg**	**23 54 52.9**	**-1.4**
DURS	**Dursunbey**	**1.28**	**8**	*i* P	**Pn**	**23 54 58.3**	**+0.1**
DURS				*i* S	**Sb**	**23 55 14.6**	**-0.4**
DURS	**Dursunbey**	**1.28**	**8**	*i* P	**Pn**	**23 54 58.3**	**+0.1**
DURS				*i* S	**Sb**	**23 55 14.6**	**-0.4**
DST	**Dursunbey**	**1.31**	**13**	*e*PN	**Pn**	**23 54 58.5**	**0.0**
DST	**Dursunbey**	**1.31**	**13**	*e*Pn	**Pn**	**23 54 58.5**	**0.0**
BALB	**Balikesir**	**1.34**	**348**	*e*PN	**Pb**	**23 54 59.9**	**+0.4**
BALB	**Balikesir**	**1.34**	**348**	*e*Pn	**Pb**	**23 54 59.9**	**+0.4**
BDRM	**Kayabasi**	**1.41**	**207**	*i* P	**Pn**	**23 54 59.5**	**-0.3**
BDRM				*i* S	**Sn**	**23 55 15.7**	**-2.4**
BDRM	**Kayabasi**	**1.41**	**207**	*i* P	**Pn**	**23 54 59.5**	**-0.3**
BODT	**Bodrum**	**1.46**	**210**	*e*PN	**Pn**	**23 55 01.7**	**+1.1**
BODT	**Bodrum**	**1.46**	**210**	*e*Pn	**Pn**	**23 55 01.7**	**+1.1**
TVSB	**Tavsanli**	**1.47**	**40**	*e*PN	**Pb**	**23 55 02.0**	**+0.2**
TVSB	**Tavsanli**	**1.47**	**40**	*e*Pn	**Pb**	**23 55 02.1**	**+0.2**
BALY	**Balya**	**1.49**	**341**	*e*P	**Pn**	**23 55 01.5**	**+0.5**
BALY				*e*S	**Sn**	**23 55 20.1**	**-0.1**
BALY	**Balya**	**1.49**	**341**	*e*P	**Pn**	**23 55 01.5**	**+0.5**
BALY				*e*S	**Sn**	**23 55 20.1**	**-0.1**
GONE	**Gonen-Balikesi**	**1.77**	**346**	*e*PN	**Pn**	**23 55 06.0**	**+1.3**
GONE	**Gonen-Balikesi**	**1.77**	**346**	*e*Pn	**Pn**	**23 55 06.0**	**+1.3**
KCTX	**Karacabey (Bur**	**1.94**	**3**	*e*PN	**Pn**	**23 55 08.3**	**+1.2**
KCTX	**Karacabey (Bur**	**1.94**	**3**	*e*Pn	**Pn**	**23 55 08.3**	**+1.2**

IDC 24 00:08:06.3±1.3, 3°.77N×127°.14E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/23, mbtmp3.5/6, MS3.1/1, Ms1 3.1/1, ms1mx2.4/27, Error ellipse: s-maj=105.0km s-min=17.3km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.79**	**184**	P	P	00 12 59.7	-0.2
	1.5nm,0.9s,baz=11,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**24.61**	**164**	P	P	00 13 27.9	-0.6
	1.6nm,0.4s,baz=344,slow=10.0,SNR=22						
ASAR	**Alice Springs**	**28.06**	**167**	P	P	00 14 00.5	+0.8
	0.2nm,0.2s,baz=344,slow=11,SNR=3.2						
MJAR	**Matsushiro Arr**	**34.17**	**16**	LR	LR	00 25 32.1	
	comp=Z,36nm,21.8s,baz=80,slow=31						
SONM	**Songino Array**	**47.39**	**341**	P	P	00 16 41.7	-0.7
	0.1nm,0.5s,baz=164,slow=8.3,SNR=2.1						
MKAR	**Makanchi Array**	**57.75**	**325**	P	P	00 17 58.3	-0.9
	0.3nm,0.5s,baz=120,slow=6.1,SNR=11						
ZALV	**Zalesovo Beam**	**60.74**	**333**	P	P	00 18 20.9	+1.2
	0.1nm,0.3s,baz=119,slow=5.1,SNR=2.3						

*IDC **24** 00:10:54.9±2.2, 42°.89S×72°.58W, h0km, mb3.5/1, mb1 4.1/2, mb1mx3.6/17, mbtmp3.6/2, ML4.3/1, Error ellipse: s-maj=49.2km s-min=22.1km az=133.0*
*GUC **24** 00:10:54.7±0.4, 42°.81S×72°.64W, h0km±3km, ML3.2*
*ISCJB **24** 00:10:55.1±1.5, 42°.81S±0°.05×72°.7W±0°.1, h10km, mb3.4/1, Error ellipse: s-maj=16.2km s-min=6.2km az=161.5*

ISC 24 00:10:56.5±1.3, 42°.77S±0°.06×72°.4W±0°.1, h10km, n7, σ1s00/10, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUNY	**Huinay**	**0.39**	**359**	*i* P	**Pg**	**00 11 03.8**	**-0.2**
HUNY				*i* S	**Sg**	**00 11 10.6**	**+1.5**
HUNY				AML	AML	00 11 13.9	
	comp=E,2μm,0.5s						
FUTA	**Futaleufœ**	**0.59**	**136**	*i* P	**Pb**	**00 11 08.0**	**-0.9**
FUTA				*i* S	**Sb**	**00 11 18.6**	**+1.3**
ILCA	**Isla Las Cabra**	**0.71**	**352**	*e*P	**Pg**	**00 11 09.3**	**-0.9**
ILCA				*i* S	**Sg**	**00 11 20.0**	**+0.6**
ILCA				AML	AML	00 11 22.5	
	comp=E,1μm,0.4s						
PLCA	**Paso Flores**	**2.46**	**35**	Pn	**Pb**	**00 11 40.1**	**-0.8**
	comp=E,12nm,0.3s,baz=213,slow=17,SNR=109						
PLCA				Pg	**Pg**	**00 11 43.0**	**-0.6**
	comp=E,12nm,0.3s,baz=218,slow=17,SNR=112						
PLCA				Lg	Lg	00 12 17.8	
	comp=E,18nm,0.3s,baz=307,slow=13,SNR=14						
COYC	**Coyhaique**	**2.82**	**175**	AML	AML	00 12 24.5	
	comp=E,85nm,0.6s						
TXAR	**Lajitas Array**	**77.29**	**332**	P	**P**	**00 22 51.4**	**+0.3**
	comp=E,0.4nm,0.9s,baz=160,slow=7.8,SNR=3.7						
MKAR	**Makanchi Array**	**161.62**	**69**	PKPab	**PKPab**	**00 31 42.3**	**+0.1**
	comp=E,0.3nm,0.9s,baz=282,slow=3.8,SNR=3.6						

IDC 24 00:35:15.2±2.7, 26°.63N×67°.68E, h0km, mb3.5/7, mb1 3.6/8, mb1mx3.4/31, mbtmp3.5/8, ML3.2/1, Error ellipse: s-maj=67.8km s-min=24.6km az=149.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**16.91**	**18**	Pn	Pn	00 39 11.9	-1.7
	0.1nm,0.3s,baz=190,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**23.21**	**26**	P	P	00 40 22.9	-0.9
	0.4nm,0.6s,baz=206,slow=10,SNR=7.4						
KURBB	**Kurchatov Arra**	**25.36**	**16**	P	P	00 40 43.4	-0.5
	0.6nm,0.5s,baz=212,slow=8.6,SNR=15						
BVAR	**Borovoye Array**	**26.44**	**4**	P	P	00 40 54.5	+0.8
	0.6nm,0.8s,baz=165,slow=7.7,SNR=4.8						
ZALV	**Zalesovo Beam**	**30.09**	**20**	P	P	00 41 25.8	-0.4
	0.5nm,0.6s,baz=212,slow=7.9,SNR=4.4						
SONM	**Songino Array**	**36.87**	**45**	P	P	00 42 26.5	+1.0
	0.6nm,0.8s,baz=249,slow=7.7,SNR=7.9						
MLR	**Muntele Rosu**	**38.12**	**311**	P	P	00 42 37.3	+1.1
	0.7nm,1.0s,baz=120,slow=8.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**62.90**	**272**	P	P	00 45 43.0	-0.8
	0.4nm,0.7s,baz=58,slow=4.9,SNR=6.0						

IDC 24 00:35:24.2±3.5, 17°.10S×66°.92W, h299km±14km, mb3.5/2, mb1 3.3/4, mb1mx3.0/20, mbtmp3.3/4, Error ellipse: s-maj=140.4km s-min=28.3km az=11.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.41**	**305**	P	Pn	00 36 07.2	-0.3
	4.4nm,0.3s,baz=135,slow=5.0,SNR=130						
LPAZ				S	S	00 36 42.1	+0.2
	2.1nm,0.3s,baz=17,slow=17,SNR=14						
SIV	**San Ignacio**	**5.72**	**80**	P	Pn	00 36 49.6	-0.6
	1.0nm,0.3s,baz=254,slow=10,SNR=26						
BDFB	**Brasilia**	**18.20**	**88**	P	P	00 39 16.8	+0.5
	0.6nm,0.3s,baz=257,slow=10,SNR=7.4						
DBIC	**Dimbokro**	**65.71**	**74**	P	P	00 45 37.8	0.0
	1.8nm,0.6s,baz=215,slow=7.3,SNR=7.0						
TORD	**Torodi Ar. Bea**	**74.12**	**71**	P	P	00 46 28.6	0.0
	1.3nm,0.6s,baz=254,slow=5.3,SNR=20						

IDC 24 00:38:11.2±3.8, 6°.91S×155°.24E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.7/19, mbtmp3.9/5, MS3.0/1, Ms1 3.0/1, ms1mx2.6/26, Error ellipse: s-maj=109.8km s-min=33.6km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.07**	**235**	P	P	00 43 28.9	+0.4
	0.9nm,0.5s,baz=61,slow=9.6,SNR=24						
FITZ	**Fitzroy Crossi**	**30.91**	**246**	LR	LR	00 57 35.4	
	comp=Z,24nm,18.6s,baz=73,slow=38						
SONM	**Songino Array**	**69.39**	**327**	P	P	00 49 22.4	+1.3
	0.4nm,0.4s,baz=145,slow=6.3,SNR=14						
MKAR	**Makanchi Array**	**83.50**	**319**	P	P	00 50 41.3	+0.2
	1.5nm,0.6s,baz=103,slow=5.9,SNR=14						
ZALV	**Zalesovo Beam**	**84.24**	**326**	P	P	00 50 43.6	-1.1
	0.8nm,0.5s,baz=116,slow=5.7,SNR=6.2						
KURBB	**Kurchatov Arra**	**86.94**	**322**	P	P	00 50 56.7	-1.5
	0.6nm,0.7s,baz=97,slow=4.9,SNR=5.7						

IDC 24 00:39:31.1±2.1, 3°.93N×127°.04E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/22, mbtmp3.4/3, Error ellipse: s-maj=168.3km s-min=25.6km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.79**	**163**	P	P	00 44 54.6	-0.3
	1.4nm,0.5s,baz=343,slow=10.0,SNR=8.6						
ASAR	**Alice Springs**	**28.23**	**167**	P	P	00 45 26.3	+0.3
	0.3nm,0.7s,baz=338,slow=9.7,SNR=2.9						
MKAR	**Makanchi Array**	**57.57**	**325**	P	P	00 49 22.6	-0.1
	0.1nm,0.5s,baz=114,slow=5.4,SNR=3.3						

*ISCJB **24** 00:40:06.2±0.5, 36°.48N±0°.03×57°.97E±0°.03, h11km±5km, mb3.4/5, MS3.0/6, Error ellipse: s-maj=4.3km s-min=3.8km az=170.6*
*CSEM **24** 00:40:06.4±0.1, 36°.49N×57°.96E, h2km, ML3.9, Error ellipse: s-maj=3.7km s-min=2.5km az=164.0*
*THR **24** 00:40:06.6±0.3, 36°.50N×57°.82E, h15km, ML3.7*
*TEH **24** 00:40:07.9, 36°.45N×57°.97E, h5km, ML3.9*
*IDC **24** 00:40:08.3±1.7, 36°.60N×57°.77E, h0km, mb3.4/6, mb1 3.8/13, mb1mx3.6/32, mbtmp3.7/13, ML3.5/6, MS3.0/9, Ms1 3.1/9, ms1mx2.9/29, Error ellipse: s-maj=29.1km s-min=13.6km az=172.0*
*NNC **24** 00:40:12.6±8.0, 37°.05N×58°.38E, h0km, mb3.6, Error ellipse: s-maj=91.0km s-min=35.1km az=45.0*

ISC 24 00:40:06.8±1.1, 36°.49N±0°.03×57°.94E±0°.03, h9km±8km, n108, σ1s27/108, mb3.3/5, MS3.0/6, 8C-11D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKRD	**Kardeh**	**0.55**	**58**	*e*Pg	Pn	00 40 31.0	+10
IKRD				*e*Sg	Sn	00 40 47.6	+17
IKRD				*e*		00 40 52.1	
	comp=Z,24μm,0.1s						
ISFR	**Sfrayin**	**0.57**	**5**	*e*Pg	**Pb**	**00 40 18.8**	**-0.3**
ISFR				*e*Sg	**Sb**	**00 40 27.9**	**+0.5**
ISFR				*e*		00 40 30.7	
	comp=Z,97μm,0.1s						
ISFR	**Sfrayin**	**0.57**	**5**	*e*Pg	**Pb**	**00 40 18.8**	**-0.3**
IQHU	**Qucahn**	**0.76**	**39**	*e*Pg	**Pg**	**00 40 21.9**	**+0.4**
IQHU				*e*		00 40 36.2	
	comp=Z,51μm,0.1s						
IQHU	**Qucahn**	**0.76**	**39**	*e*Pg	**Pg**	**00 40 21.9**	**+0.4**
IPAY	**Payeh**	**0.86**	**92**	*e*Pg	**Pg**	**00 40 22.3**	**-1.0**
IPAY				*e*Sg	**Sg**	**00 40 34.7**	**+0.2**
IPAY				*e*		00 40 37.3	
	comp=Z,82μm,0.1s						
IPAY	**Payeh**	**0.86**	**92**	*e*Pg	**Pg**	**00 40 22.3**	**-1.0**
IPAY				*e*Sg	**Sg**	**00 40 34.7**	**+0.2**
IEMG	**Emamgholi**	**1.09**	**32**	*e*Pg	**Pg**	**00 40 27.9**	**+0.1**
IEMG				*e*Sg	**Sg**	**00 40 42.5**	**+0.5**
IEMG				*e*		00 40 51.9	
	comp=Z,29μm,0.1s						
IMOG	**Moghan**	**1.20**	**108**	*e*Pg	**Pg**	**00 40 28.2**	**-1.6**
IMOG				*e*Sg	**Sg**	**00 40 45.2**	**-0.1**
IMOG				*e*		00 40 56.7	
	comp=Z,18μm,0.2s						
IMOG	**Moghan**	**1.20**	**108**	*e*Pg	**Pg**	**00 40 28.2**	**-1.6**
IMOG				*e*Sg	**Sg**	**00 40 45.2**	**-0.1**
ISRO	**Mashad**	**1.25**	**98**	*e*Pg	**Pg**	**00 40 29.0**	**-1.8**
ISRO	**Mashad**	**1.25**	**98**	*e*Pg	**Pg**	**00 40 29.0**	**-1.8**
MHI	**Mashad**	**1.25**	**98**	*e*Pg	**Pg**	**00 40 30.0**	**-0.8**
MHI				*e*Sg	**Sg**	**00 40 46.9**	**-0.2**
MHI				*e*		00 40 53.1	
	comp=Z,32μm,0.0s						
BJRD	**Bojnurd**	**1.28**	**341**	*e*Pn	**Pb**	**00 40 31.5**	**+0.3**
BJRD				AML	AML	00 40 53.4	
	comp=E,1μm,0.7s						
BJRD	**Bojnurd**	**1.28**	**341**	*e*Pn	**Pb**	**00 40 31.5**	**+0.3**
IMYA	**Miami**	**1.75**	**94**	*e*Pn	**Pn**	**00 40 38.1**	**+0.5**
IMYA				*e*Sg	**Sb**	**00 41 02.7**	**+1.3**
IMYA				*e*		00 41 05.9	
	comp=Z,14μm,0.1s						
IMYA	**Miami**	**1.75**	**94**	*e*Pn	**Pn**	**00 40 38.1**	**+0.5**
IMYA				*e*Sg	**Sb**	**00 41 02.7**	**+1.3**
TABS	**Tabas**	**2.91**	**194**	*e*Pn	**Pn**	**00 40 54.2**	**+0.8**
TABS				AML	AML	00 41 50.3	
	comp=N,293nm,0.7s						
TABS	**Tabas**	**2.91**	**194**	*e*Pn	**Pn**	**00 40 54.2**	**+0.8**
IGLO	**Ghaloghah**	**3.31**	**271**	*e*Pn	**Pn**	**00 41 00.3**	**+1.3**
IGLO				*e*		00 42 10.4	
	comp=Z,5μm,0.5s						
IANJ	**Anjilo**	**3.42**	**254**	*e*Pn	**Pn**	**00 41 01.5**	**+1.0**
IANJ				*e*		00 42 14.2	
	comp=Z,4μm,0.6s						
IANJ	**Anjilo**	**3.42**	**254**	*e*Pn	**Pn**	**00 41 01.5**	**+1.0**
SHRT	**Shahrakht**	**3.43**	**145**	*e*Pn	**Pn**	**00 41 02.5**	**+2.0**
SHRT				AML	AML	00 42 07.6	
	comp=E,185nm,0.6s						
SHRT				AML	AML	00 42 07.9	
	comp=N,120nm,0.8s						
SHRT	**Shahrakht**	**3.43**	**145**	*e*Pn	**Pn**	**00 41 02.5**	**+2.0**
IKIA	**Kiasar**	**3.44**	**267**	*e*Pn	**Pn**	**00 41 02.4**	**+1.5**
IKIA				*e*		00 42 19.1	
	comp=Z,1μm,0.4s						
IKIA	**Kiasar**	**3.44**	**267**	*e*Pn	**Pn**	**00 41 02.4**	**+1.5**
ITEG	**Tejag**	**3.64**	**169**	*e*Pn	**Pn**	**00 41 04.6**	**+1.0**
ITEG				*e*		00 42 12.2	
	comp=Z,1μm,0.3s						
ITEG	**Tejag**	**3.64**	**169**	*e*Pn	**Pn**	**00 41 04.6**	**+1.0**
ISHM	**Shahmirzad**	**3.82**	**261**	*e*Pn	**Pn**	**00 41 07.4**	**+1.3**
ISHM				*e*		00 42 24.9	
	comp=Z,2μm,0.3s						
ISHM	**Shahmirzad**	**3.82**	**261**	*e*Pn	**Pn**	**00 41 07.4**	**+1.3**
IDAH	**Dahanechah**	**4.06**	**156**	*e*Pn	**Pn**	**00 41 09.9**	**+0.5**
IDAH				*e*		00 42 26.8	
	comp=Z,2μm,0.6s						
IDAH	**Dahanechah**	**4.06**	**156**	*e*Pn	**Pn**	**00 41 09.9**	**+0.5**
IKOO	**Kooshah**	**4.15**	**167**	*e*Pn	**Pn**	**00 41 11.2**	**+0.6**
IKOO				*e*		00 42 29.5	
	comp=Z,1μm,0.5s						
IKOO	**Kooshah**	**4.15**	**167**	*e*Pn	**Pn**	**00 41 11.2**	**+0.6**
IALA	**Alasht**	**4.16**	**266**	*e*Pn	**Pn**	**00 41 11.9**	**+1.1**
IALA				*e*		00 41 25.6	
	comp=Z,918nm,0.1s						
IALA	**Alasht**	**4.16**	**266**	*e*Pn	**Pn**	**00 41 11.9**	**+1.1**
ILAS	**Lasjerd**	**4.19**	**256**	*e*Pn	**Pn**	**00 41 12.2**	**+1.1**
ILAS				*e*		00 41 35.3	
	comp=Z,1μm,0.4s						
ILAS	**Lasjerd**	**4.19**	**256**	*e*Pn	**Pn**	**00 41 12.2**	**+1.1**
IFIR	**Firoozkooh**	**4.28**	**260**	*e*Pn	**Pn**	**00 41 13.5**	**+1.1**
IFIR				*e*		00 41 17.8	
	comp=Z,1μm,0.1s						
IFIR				*e*Sg	**Sg**	**00 42 22.9**	**-1.5**
IFIR	**Firoozkooh**	**4.28**	**260**	*e*Pn	**Pn**	**00 41 13.5**	**+1.1**
IFIR				*e*Sg	**Sg**	**00 42 22.9**	**-1.5**
IPRN	**Peran**	**4.52**	**269**	*e*Pn	**Pn**	**00 41 16.9**	**+1.3**
IPRN				*e*		00 41 37.4	
	comp=Z,1μm,0.3s						
ISFB	**Sefidab**	**5.12**	**247**	*e*Pn	**Pn**	**00 41 24.4**	**+0.7**
ISFB				*e*		00 43 16.6	
	comp=Z,1μm,0.4s						
ISFB	**Sefidab**	**5.12**	**247**	*e*Pn	**Pn**	**00 41 24.4**	**+0.7**
ICHK	**Chekchek**	**5.14**	**216**	*e*Pn	**Pn**	**00 41 24.8**	**+0.6**
ICHK				*e*		00 43 06.9	
	comp=Z,800nm,0.5s						
ICHK	**Chekchek**	**5.14**	**216**	*e*Pn	**Pn**	**00 41 24.8**	**+0.6**
IBAF	**Bafgh**	**5.26**	**203**	*e*Pn	**Pn**	**00 41 26.4**	**+0.6**
IBAF				*e*		00 43 03.2	
	comp=Z,994nm,0.5s						
IBAF	**Bafgh**	**5.26**	**203**	*e*Pn	**Pn**	**00 41 26.4**	**+0.6**
NASN	**Na'in**	**5.60**	**230**	*e*Pn	**Pn**	**00 41 31.0**	**+0.4**
NASN	**Na'in**	**5.60**	**230**	*e*Pn	**Pn**	**00 41 31.0**	**+0.4**
IR3	**Iran Long-Peri**	**5.70**	**262**	*e*Pn	**Pn**	**00 41 32.3**	**+0.6**
IR3	**Iran Long-Peri**	**5.70**	**262**	*e*Pn	**Pn**	**00 41 32.3**	**+0.6**
IMEH	**Mehriz**	**5.79**	**209**	*e*Pn	**Pn**	**00 41 33.8**	**+0.7**
IMEH				*e*		00 43 39.5	
	comp=Z,953nm,0.5s						
IMEH	**Mehriz**	**5.79**	**209**	*e*Pn	**Pn**	**00 41 33.8**	**+0.7**
IZEF	**Zefreh**	**5.84**	**234**	*e*Pn	**Pn**	**00 41 34.7**	**+0.8**
IZEF				*e*		00 43 38.8	
	comp=Z,378nm,0.4s						
IZEF	**Zefreh**	**5.84**	**234**	*e*Pn	**Pn**	**00 41 34.7**	**+0.8**
IKLH	**Kolahrood**	**6.10**	**241**	*e*Pn	**Pn**	**00 41 38.2**	**+0.7**
IKLH				*e*		00 43 42.9	
	comp=Z,1μm,0.6s						
IKLH	**Kolahrood**	**6.10**	**241**	*e*Pn	**Pn**	**00 41 38.2**	**+0.7**
IGZV	**Ghazvin**	**6.22**	**271**	*e*Pn	**Pn**	**00 41 40.2**	**+1.2**
IGZV				*e*		00 42 09.3	
	comp=Z,345nm,0.5s						
IGZV	**Ghazvin**	**6.22**	**271**	*e*Pn	**Pn**	**00 41 40.2**	**+1.2**
IGAR	**Gharneh**	**6.35**	**232**	*e*Pn	**Pn**	**00 41 41.1**	**+0.3**
IGAR				*e*		00 43 42.8	
	comp=Z,115nm,0.1s						
IGAR	**Gharneh**	**6.35**	**232**	*e*Pn	**Pn**	**00 41 41.1**	**+0.3**
IRAZ	**Razeghan**	**6.58**	**263**	*e*Pn	**Pn**	**00 41 44.6**	**+0.6**
IRAZ				*e*		00 44 06.3	
	comp=Z,353nm,0.4s						
IRAZ	**Razeghan**	**6.58**	**263**	*e*Pn	**Pn**	**00 41 44.6**	**+0.6**
IPIR	**Pirpir**	**6.94**	**239**	*e*Pn	Pn	00 41 52.3	+3.4
IPIR				*e*		00 41 52.9	
	comp=Z,617nm,0.3s						
ISRB	**Sarab**	**8.31**	**282**	*e*Pn	**Pn**	**00 42 08.4**	**+0.8**
ISRB	**Sarab**	**8.31**	**282**	*e*Pn	**Pn**	**00 42 08.4**	**+0.8**
IHRS	**Heris**	**8.86**	**285**	*e*Pn	**Pn**	**00 42 15.8**	**+0.6**
IHRS				*e*		00 42 31.7	
	comp=Z,222nm,0.2s						
IHRS	**Heris**	**8.86**	**285**	*e*Pn	**Pn**	**00 42 15.8**	**+0.6**
IBST	**Bostanabad**	**8.91**	**281**	*e*Pn	**Pn**	**00 42 16.2**	**+0.3**
IBST				*e*		00 42 29.4	
	comp=Z,41nm,0.2s						
IBST	**Bostanabad**	**8.91**	**281**	*e*Pn	**Pn**	**00 42 16.2**	**+0.3**
IMRD	**Marand**	**9.96**	**287**	*e*Pn	**Pn**	**00 42 30.8**	**+0.6**
IMRD				*e*		00 42 50.6	
	comp=Z,224nm,0.3s						
IMRD	**Marand**	**9.96**	**287**	*e*Pn	**Pn**	**00 42 30.8**	**+0.6**
GNI	**Garni**	**10.99**	**293**	Pn	Pn	00 42 47.8	+3.5
	comp=Z,0.4nm,0.3s,baz=90,slow=8.5,SNR=6.3						
KK31	**Karatay Array**	**11.71**	**52**	⇓Pn	**Pn**	**00 42 54.0**	**0.0**
	comp=Z,1.4nm,0.7s,baz=239,slow=14,SNR=9.0						
KK31	**Karatay Array**	**11.71**	**52**	Pn	**Pn**	**00 42 54.0**	**0.0**
	comp=Z,1.4nm,0.7s,SNR=9.0						
AB31	**Akbulak array**	**12.85**	**6**	Pn	**Pn**	**00 43 06.8**	**-2.7**
	comp=Z,0.9nm,0.6s,baz=186,slow=13,SNR=14						
AB31				⇓Sn	**Sn**	**00 45 27.3**	**-5.2**
	comp=Z,3.7nm,0.9s,baz=192,slow=20,SNR=3.0						
KBZ	**Khabaz**	**13.58**	**307**	Pn	Pn	**00 43 19.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=190,slow=8.7,SNR=5.6						
KBZ				Sn	**Sn**	**00 45 48.6**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=77,slow=20,SNR=2.1						
AKTO	**Aktyubinsk**	**13.94**	**0**	⇑Pn	**Pn**	**00 43 23.3**	**-1.2**
	comp=Z,1.1nm,1.8s						
AKTO				⇑Sn	**Sn**	**00 45 56.1**

Ms5.1/4,Ms7 4.9/4
*NEIC **24** 00:46:40.4±0.2,0.2°26S×18.2°32W,h10km,mb5.0/44,Error ellipse: s-maj=6.7km s-min=4.9km az=135.0*
*IGIL **24** 00:46:40.5,0.2°26S×18.2°47W,h10km,mb4.8*
*SZGRF **24** 00:46:41.3,0.2°95N×19.2°87W,h10km,mb5.4,MS4.0, Central Mid-Atlantic Ridge*
ISC 24 00:46:40.1±0.4,0.2°23S±0.2°07×18.2°37W±0.2°07,h10km, h10km:pP-P,n345,σ1°§45/362,mb4.7/123,MS4.3/21, 29C-19D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
LIC	**Lamto**	**14.78**	**64**	*e*Pn		**Pn**	**00 50 07.0**	**-2.4**
	baz=250							
LIC				*e*Sn		Sn	00 52 38.9	-14
	194nm,0.8s							
LIC				*e*R				
	2μm,17.2s							
LIC	**Lamto**	**14.78**	**64**	*e*Pn		**Pn**	**00 50 07.0**	**-2.4**
LIC				*e*Sn		Sn	00 52 38.9	-14
BBTS	**Babate**	**14.90**	**7**	Pn		**Pn**	**00 50 08.2**	**-2.9**
BBTS				Sn		Sn	00 52 39.7	-17
BBTS	**Babate**	**14.90**	**7**	Pn		**Pn**	**00 50 08.2**	**-2.9**
	33nm,0.3s,baz=251,slow=0.5,SNR=85							
BBTS				Sn		Sn	00 52 39.7	-17
	31nm,0.3s,baz=289,slow=22,SNR=11							
BBTS				LR		LR	00 54 43.9	
	comp=Z,1μm,19.4s,baz=209,slow=33							
DBIC	**Dimbokro**	**15.12**	**63**	Pn		**Pn**	**00 50 11.6**	**-2.4**
DBIC				Sn		Sn	00 52 48.5	-13
DBIC	**Dimbokro**	**15.12**	**63**	Pn		**Pn**	**00 50 11.6**	**-2.4**
	35nm,0.3s,baz=235,slow=14,SNR=229							
DBIC				Sn		Sn	00 52 48.5	-13
	14nm,0.3s,baz=142,slow=18,SNR=8.5							
RCBR	**Riachuelo**	**18.37**	**252**	P		**P**	**00 50 54.5**	**-0.7**
RCBR				S		Sn	00 54 00.4	-20
RCBR	**Riachuelo**	**18.37**	**252**	P		**P**	**00 50 54.5**	**-0.7**
	1.4nm,0.3s,baz=76,slow=15,SNR=24							
RCBR				S		Sn	00 54 00.4	-20
	0.2nm,0.3s,baz=217,slow=18,SNR=3.2							
RCBR				LR		LR	00 55 46.0	
	comp=Z,456nm,20.5s,baz=252,slow=30							
TORD	**Torodi Ar. Bea**	**23.92**	**56**	P		**P**	**00 51 53.5**	**-1.0**
TORD				S		**S**	**00 56 12.4**	**+1.2**
TORD	**Torodi Ar. Bea**	**23.92**	**56**	P		**P**	**00 51 53.5**	**-1.0**
	32nm,0.5s,baz=240,slow=11,SNR=197							
TORD				S		**S**	**00 56 12.4**	**+1.2**
	17nm,0.9s,baz=241,slow=23,SNR=6.2							
TORD				LR		LR	01 00 14.6	
	comp=Z,1μm,18.7s,baz=220,slow=34							
TAM	**Tamanrasset**	**32.62**	**44**	*e*P		**P**	**00 53 12.9**	**+0.4**
TAM				S		**S**	**00 58 34.0**	**+5.3**
TAM				pmax		pmax		
	comp=Z,15nm,1.1s							
TAM	**Tamanrasset**	**32.62**	**44**	*e*P		**P**	**00 53 12.9**	**+0.4**
	comp=Z,15nm,1.1s							
TAM				S		**S**	**00 58 34.0**	**+5.3**
BDFB	**Brasilia**	**33.03**	**241**	P		**P**	**00 53 16.1**	**0.0**
BDFB	**Brasilia**	**33.03**	**241**	P		**P**	**00 53 16.1**	**0.0**
	comp=Z,7.8nm,0.9s,baz=60,slow=9.0,SNR=10							
BDFB				LR		LR	01 05 43.8	
	comp=Z,433nm,18.5s,baz=64,slow=35							
MDT	**Midelt**	**35.34**	**20**	P		**P**	**00 53 37.1**	**+1.2**
MDT	**Midelt**	**35.34**	**20**	P		**P**	**00 53 37.1**	**+1.2**
	comp=Z,5.9nm,0.7s,baz=215,slow=6.3,SNR=16							
PSMN	**Pico do Norte,**	**37.56**	**351**	*e*T		T	01 32 53.9	
PSMA	**Santa Maria**	**37.56**	**351**	*e*T		T	01 32 55.6	
CMLA	**Cha da Macela**	**38.38**	**351**	*e*T		T	01 33 54.8	
MORF	**Marmelete**	**38.41**	**13**	*e*P		**P**	**00 54 03.1**	**+1.1**
	comp=Z,36nm,1.8s							
MORF	**Marmelete**	**38.41**	**13**	*e*P		**P**	**00 54 02.8**	**+0.8**
PSET	**Sete Cidades**	**38.47**	**351**	*e*T		T	01 34 01.6	
PBDV	**Barranco-do-Ve**	**38.51**	**13**	*e*P		**P**	**00 54 04.1**	**+1.3**
	comp=Z,44nm,1.6s							
PBDV				*i* SS		SS	01 02 46.3	-2.0
PTEO	**Sao Teotonio**	**38.63**	**12**	*e*P		**P**	**00 54 05.3**	**+1.6**
	comp=Z,44nm,0.9s							
PVAQ	**Vaqueiros**	**38.72**	**14**	*e*P		**P**	**00 54 05.8**	**+1.4**
	comp=Z,28nm,1.7s							
PVAQ				*i* SS		SS	01 02 55.9	+3.6
PCVE	**Castro Verde**	**38.86**	**13**	*e*P		**P**	**00 54 07.0**	**+1.4**
	comp=Z,24nm,1.8s							
PCVE				*i* SS		SS	01 03 21.3	+26
MESJ	**Messejana**	**39.02**	**13**	*e*P		**P**	**00 54 08.0**	**+1.0**
MESJ				AMb		AMB	00 54 24.5	
	comp=Z,22nm,1.5s							
MESJ	**Messejana**	**39.02**	**13**	*e*P		**P**	**00 54 08.0**	**+1.0**
	comp=Z,22nm,1.5s							
MESJ	**Messejana**	**39.02**	**13**	*e*P		**P**	**00 54 08.0**	**+1.0**
PNCL	**Nicolau / Gran**	**39.21**	**12**	*e*P		**P**	**00 54 10.1**	**+1.5**
	comp=Z,23nm,1.5s							
PNCL				*i* SS		SS	01 03 02.2	0.0
PBEJ	**Beja**	**39.28**	**13**	*e*P		**P**	**00 54 10.6**	**+1.5**
	comp=Z,17nm,1.2s							
PBAR	**Barrancos**	**39.61**	**14**	*e*P		**P**	**00 54 12.8**	**+0.9**
	comp=Z,19nm,1.8s							
EVOP	**Sao Brissos**	**39.70**	**13**	*e*P		**P**	**00 54 14.1**	**+1.5**
EVOP				pmax		pmax		
	comp=Z,15nm,0.7s							
EVOP	**Sao Brissos**	**39.70**	**13**	*e*P		**P**	**00 54 14.1**	**+1.5**
	comp=Z,15nm,0.7s							
EVO	**Evora**	**39.73**	**13**	*e*P		**P**	**00 54 14.1**	**+1.2**
	comp=Z,15nm,0.7s							
EVO				*e*R				
	comp=Z,396nm,21.8s							
PMAFR	**Mafra**	**39.88**	**11**	*i* SS		SS	01 02 59.0	-16
TSUM	**Tsumeb**	**39.98**	**120**	*e*P		**P**	**00 54 16.3**	**+0.9**
	comp=Z,7.0nm,0.9s							
TSUM	**Tsumeb**	**39.98**	**120**	P		**P**	**00 54 16.4**	**+1.0**
	comp=Z,6.0nm,0.9s,baz=288,slow=7.6,SNR=5.6							
PESTR	**Estremoz**	**40.14**	**13**	*e*P		**P**	**00 54 17.9**	**+1.5**
	comp=Z,15nm,1.7s							
PESTR				*i* SS		SS	01 03 27.7	+6.8
PMTG	**Montargil**	**40.20**	**12**	*e*P		**P**	**00 54 18.1**	**+1.3**
	comp=Z,18nm,2.0s							
PMTG				*i* SS		SS	01 03 18.1	-3.8
PTOM	**Tomar**	**40.69**	**12**	*e*P		**P**	**00 54 22.5**	**+1.7**
	comp=Z,38nm,1.8s							
PMRV	**Marv??o**	**40.73**	**13**	*e*P		**P**	**00 54 22.5**	**+1.3**
	comp=Z,25nm,1.7s							
PCBR	**Castelo Branco**	**41.10**	**13**	*e*P		**P**	**00 54 25.5**	**+1.3**
	comp=Z,14nm,1.6s							
PAB	**San Pablo**	**41.61**	**16**	*e*P		**P**	**00 54 30.2**	**+1.7**
PAB				pmax		pmax		
	comp=Z,22nm,1.2s							
PAB	**San Pablo**	**41.61**	**16**	*e*P		**P**	**00 54 30.2**	**+1.7**
	comp=Z,22nm,1.2s							
MTE	**Manteigas**	**41.62**	**12**	*e*P		**P**	**00 54 29.8**	**+1.2**
	comp=Z,27nm,1.7s							
MTE				*i* SS		SS	01 03 31.9	-18
MTE	**Manteigas**	**41.62**	**12**	*e*P		**P**	**00 54 29.5**	**+1.0**
	comp=Z,13nm,0.8s							
MTE				*ep*P		pP	00 54 43.6	+12
ESDC	**Sonseca Array**	**41.84**	**17**	P		**P**	**00 54 30.9**	**+0.5**
ESDC				PP		**PnPn**	**00 56 12.3**	**+0.1**
ESDC	**Sonseca Array**	**41.84**	**17**	P		**P**	**00 54 30.9**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=209,slow=8.8,SNR=21							
ESDC				PP		**PnPn**	**00 56 12.3**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=199,slow=11,SNR=4.6							
PVIS	**Viseu**	**41.85**	**12**	*e*P		**P**	**00 54 31.6**	**+1.2**
	comp=Z,23nm,1.9s							
PVRL	**Vila Real**	**42.42**	**12**	*e*P		**P**	**00 54 35.9**	**+0.8**
	comp=Z,32nm,1.5s							
MVO	**Moncorvo**	**42.47**	**13**	*e*P		**P**	**00 54 37.0**	**+1.5**
	comp=Z,24nm,2.0s							
MVO				*i* SS		SS	01 04 12.9	+5.9
PGAV	**Gavieira, Arco**	**42.98**	**11**	*i* SS		SS	01 04 21.8	+4.6
KEST	**Kesra**	**44.11**	**33**	LR		LR	01 14 37.7	
	comp=Z,409nm,18.9s,baz=4.0,slow=38							
SIV	**San Ignacio**	**44.94**	**247**	P		**P**	**00 54 57.4**	**+1.7**
SIV	**San Ignacio**	**44.94**	**247**	P		**P**	**00 54 57.4**	**+1.7**
	comp=Z,24nm,0.9s,baz=99,slow=11,SNR=6.9							
SAML	**Samuel**	**45.46**	**258**	*e*P		**P**	**00 55 00.6**	**+0.7**
	comp=Z,8.5nm,1.0s							
CPUP	**Villa Florida**	**45.61**	**232**	P		**P**	**00 55 01.8**	**+0.9**
CPUP	**Villa Florida**	**45.61**	**232**	P		**P**	**00 55 01.8**	**+0.9**
	comp=Z,4.2nm,0.9s,baz=67,slow=6.0,SNR=5.8							
CPUP				LR		LR	01 12 56.6	
	comp=Z,308nm,19.1s,baz=50,slow=34							
SJPF	**Ste Jean**	**45.81**	**18**	*e*P		**P**	**00 55 03.4**	**+1.2**
	comp=Z,22nm,0.8s							
SJPF	**Ste Jean**	**45.81**	**18**	*e*P		**P**	**00 55 03.4**	**+1.2**
SJPF				pmax		pmax		
	comp=Z,22nm,0.8s							
SJPF	**Ste Jean**	**45.81**	**18**	*e*P		**P**	**00 55 03.4**	**+1.2**
	comp=Z,22nm,0.8s							
ETSF	**Etsaut**	**45.82**	**18**	*e*P		**P**	**00 55 03.4**	**+1.1**
	comp=Z,31nm,1.0s							
ETSF	**Etsaut**	**45.82**	**18**	*e*P		**P**	**00 55 03.4**	**+1.1**
ETSF				pmax		pmax		
	comp=Z,31nm,1.0s							
ETSF	**Etsaut**	**45.82**	**18**	*e*P		**P**	**00 55 03.4**	**+1.1**
	comp=Z,31nm,1.0s							
EPF	**Esparros**	**46.22**	**19**	*e*P		**P**	**00 55 05.6**	**+0.1**
	comp=Z,46nm,1.3s							
EPF	**Esparros**	**46.22**	**19**	*e*P		**P**	**00 55 05.6**	**+0.1**
EPF				pmax		pmax		
	comp=Z,46nm,1.3s							
EPF	**Esparros**	**46.22**	**19**	*e*P		**P**	**00 55 05.6**	**+0.1**
	comp=Z,46nm,1.3s							
ANWB	**Willy Bob**	**46.27**	**295**	*e*P		P	00 54 58.7	-7.5
	comp=Z,138nm,1.1s							
LFF	**La Frestale**	**48.06**	**18**	*e*P		**P**	**00 55 20.8**	**+1.0**
	comp=Z,20nm,0.8s							
LFF	**La Frestale**	**48.06**	**18**	*e*P		**P**	**00 55 20.8**	**+1.0**
LFF				pmax		pmax		
	comp=Z,20nm,0.8s							
LFF	**La Frestale**	**48.06**	**18**	*e*P		**P**	**00 55 20.8**	**+1.0**
	comp=Z,20nm,0.8s							
LSZ	**Lusaka**	**48.34**	**110**	*e*P		**P**	**00 55 24.1**	**+1.5**
	comp=Z,10nm,0.9s							
LASF	**Ste Croix**	**48.36**	**21**	*e*P		**P**	**00 55 22.8**	**+0.7**
LASF	**Ste Croix**	**48.36**	**21**	*e*P		**P**	**00 55 22.8**	**+0.7**
CAF	**Calviac**	**48.48**	**19**	*e*P		**P**	**00 55 23.6**	**+0.6**
CAF	**Calviac**	**48.48**	**19**	*e*P		**P**	**00 55 23.6**	**+0.6**
CAF	**Calviac**	**48.48**	**19**	*e*P		**P**	**00 55 23.6**	**+0.6**
RJF	**Les Rejaudoux**	**48.63**	**19**	*e*P		**P**	**00 55 24.8**	**+0.6**
RJF				*e*R				
	comp=Z,315nm,17.8s							
RJF	**Les Rejaudoux**	**48.63**	**19**	*e*P		**P**	**00 55 24.8**	**+0.6**
RJF	**Les Rejaudoux**	**48.63**	**19**	*e*P		**P**	**00 55 24.8**	**+0.6**
SUR	**Sutherland**	**48.85**	**135**	P		**P**	**00 55 27.3**	**+0.9**
SUR	**Sutherland**	**48.85**	**135**	P		**P**	**00 55 27.3**	**+0.9**
	comp=Z,7.8nm,0.7s,baz=7.2,slow=2.5,SNR=6.6							
LBTB	**Lobatse**	**49.10**	**124**	P		**P**	**00 55 28.2**	**-0.1**
LBTB	**Lobatse**	**49.10**	**124**	P		**P**	**00 55 28.2**	**-0.1**
	comp=Z,6.1nm,0.7s,baz=294,slow=8.9,SNR=9.6							
MFF	**Saint Martin d**	**49.30**	**17**	*e*P		**P**	**00 55 29.9**	**+0.6**
	comp=Z,19nm,1.0s							
MFF	**Saint Martin d**	**49.30**	**17**	*e*P		**P**	**00 55 29.9**	**+0.6**
MFF				pmax		pmax		
	comp=Z,19nm,1.0s							
MFF	**Saint Martin d**	**49.30**	**17**	*e*P		**P**	**00 55 29.9**	**+0.6**
	comp=Z,19nm,1.0s							
VIVF	**Saint-Julien-l**	**49.33**	**22**	*e*P		**P**	**00 55 30.3**	**+0.7**
	comp=Z,50nm,1.5s							
VIVF	**Saint-Julien-l**	**49.33**	**22**	*e*P		**P**	**00 55 30.3**	**+0.7**
VIVF				pmax		pmax		
	comp=Z,50nm,1.5s							
VIVF	**Saint-Julien-l**	**49.33**	**22**	*e*P		**P**	**00 55 30.3**	**+0.7**
	comp=Z,50nm,1.5s							
TCF	**Toulx Ste Croi**	**49.73**	**19**	*e*P		**P**	**00 55 33.6**	**+1.0**
	comp=Z,37nm,1.4s							
TCF	**Toulx Ste Croi**	**49.73**	**19**	*e*P		**P**	**00 55 33.6**	**+1.0**
TCF				pmax		pmax		
	comp=Z,37nm,1.4s							
TCF	**Toulx Ste Croi**	**49.73**	**19**	*e*P		**P**	**00 55 33.6**	**+1.0**
	comp=Z,37nm,1.4s							
QUIF	**Quistinic**	**49.74**	**13**	*e*P		**P**	**00 55 32.9**	**+0.3**
	comp=Z,26nm,1.1s							
QUIF	**Quistinic**	**49.74**	**13**	*e*P		**P**	**00 55 32.9**	**+0.3**
QUIF				pmax		pmax		
	comp=Z,26nm,1.1s							
QUIF	**Quistinic**	**49.74**	**13**	*e*P		**P**	**00 55 32.9**	**+0.3**
	comp=Z,26nm,1.1s							
ORIF	**Oris-en-Rattie**	**49.83**	**22**	*e*P		**P**	**00 55 33.8**	**+0.3**
	comp=Z,64nm,1.6s							
ORIF				*e*R				
	comp=Z,316nm,19.2s							
ORIF	**Oris-en-Rattie**	**49.83**	**22**	*e*P		**P**	**00 55 33.8**	**+0.3**
ORIF				pmax		pmax		
	comp=Z,64nm,1.6s							
ORIF	**Oris-en-Rattie**	**49.83**	**22**	*e*P		**P**	**00 55 33.8**	**+0.3**
	comp=Z,64nm,1.6s							
MBDF	**Montbardon**	**50.02**	**23**	*e*P		**P**	**00 55 36.5**	**+1.5**
	comp=Z,43nm,1.2s							
MBDF	**Montbardon**	**50.02**	**23**	*e*P		**P**	**00 55 36.5**	**+1.5**
MBDF				pmax		pmax		
	comp=Z,43nm,1.2s							
MBDF	**Montbardon**	**50.02**	**23**	*e*P		**P**	**00 55 36.5**	**+1.5**
	comp=Z,43nm,1.2s							
ROSF	**Rostrenen**	**50.11**	**13**	*e*P		**P**	**00 55 35.4**	**0.0**
ROSF	**Rostrenen**	**50.11**	**13**	*e*P		**P**	**00 55 35.4**	**0.0**
ROSF	**Rostrenen**	**50.11**	**13**	*e*P		**P**	**00 55 35.4**	**0.0**
BGF	**Bois d'Agland**	**50.17**	**19**	*e*P		**P**	**00 55 36.3**	**+0.3**
BGF	**Bois d'Agland**	**50.17**	**19**	*e*P		**P**	**00 55 36.3**	**+0.3**
BGF	**Bois d'Agland**	**50.17**	**19**	*e*P		**P**	**00 55 36.3**	**+0.3**
SGMF	**Saint Gilles**	**50.20**	**14**	*e*P		**P**	**00 55 36.6**	**+0.5**
	comp=Z,45nm,1.2s							
SGMF	**Saint Gilles**	**50.20**	**14**	*e*P		**P**	**00 55 36.6**	**+0.5**
SGMF				pmax		pmax		
	comp=Z,45nm,1.3s							
SGMF	**Saint Gilles**	**50.20**	**14**	*e*P		**P**	**00 55 36.6**	**+0.5**
	comp=Z,45nm,1.3s							
BOSA	**Boshof**	**50.33**	**128**	P		**P**	**00 55 37.6**	**-0.1**
BOSA	**Boshof**	**50.33**	**128**	P		**P**	**00 55 37.6**	**-0.1**
	comp=Z,4.4nm,0.5s,baz=319,slow=12,SNR=9.3							
AVF	**Avril sur Loir**	**50.55**	**19**	*e*P		**P**	**00 55 39.7**	**+1.0**
AVF	**Avril sur Loir**	**50.55**	**19**	*e*P		**P**	**00 55 39.7**	**+1.0**
AVF	**Avril sur Loir**	**50.55**	**19**	*e*P		**P**	**00 55 39.7**	**+1.0**
LPG	**La Plagne**	**50.65**	**23**	*e*P		**P**	**00 55 41.3**	**+1.4**
	comp=Z,13nm,0.8s							
LPG	**La Plagne**	**50.65**	**23**	*e*P		**P**	**00 55 41.3**	**+1.4**
LPG				pmax		pmax		
	comp=Z,13nm,0.8s							
LPG	**La Plagne**	**50.65**	**23**	*e*P		**P**	**00 55 41.3**	**+1.4**
	comp=Z,13nm,0.8s							
LPL	**La Plagne**	**50.66**	**23**	*e*P		**P**	**00 55 41.2**	**+1.3**
	comp=Z,15nm,0.8s							
LPL	**La Plagne**	**50.66**	**23**	*e*P		**P**	**00 55 41.2**	**+1.3**
LPL				pmax		pmax		
	comp=Z,15nm,0.8s							
LPL	**La Plagne**	**50.66**	**23**	*e*P		**P**	**00 55 41.2**	**+1.3**
	comp=Z,15nm,0.8s							
TIP	**Timpagrande**	**50.71**	**35**	*e*P		**P**	**00 55 40.3**	**+0.1**
	comp=Z,16nm,1.0s							
GRR	**Gorron**	**50.75**	**15**	*e*P		**P**	**00 55 40.8**	**+0.6**
GRR	**Gorron**	**50.75**	**15**	*e*P		**P**	**00 55 40.8**	**+0.6**
GRR	**Gorron**	**50.75**	**15**	*e*P		**P**	**00 55 40.8**	**+0.6**
SSF	**Saint Saulge**	**50.83**	**19**	*e*P		**P**	**00 55 41.8**	**+0.9**
	comp=Z,14nm,0.9s							
SSF	**Saint Saulge**	**50.83**	**19**	*e*P		**P**	**00 55 41.8**	**+0.9**
SSF				pmax		pmax		
	comp=Z,14nm,0.9s							
SSF	**Saint Saulge**	**50.83**	**19**	*e*P		**P**	**00 55 41.8**	**+0.9**
	comp=Z,14nm,0.9s							
LDF	**La Druitiere**	**51.13**	**15**	*e*P		**P**	**00 55 43.6**	**+0.5**
	comp=Z,33nm,1.2s							
LDF	**La Druitiere**	**51.13**	**15**	*e*P		**P**	**00 55 43.6**	**+0.5**
LDF				pmax		pmax		
	comp=Z,33nm,1.3s							
LDF	**La Druitiere**	**51.13**	**15**	*e*P		**P**	**00 55 43.6**	**+0.5**
	comp=Z,33nm,1.3s							
AQU	**L'Aquila**	**51.13**	**30**	*e*P		**P**	**00 55 44.8**	**+1.5**
	comp=Z,26nm,1.0s							
LOR	**Lormes**	**51.13**	**19**	*e*P		**P**	**00 55 43.8**	**+0.6**
	comp=Z,8.3nm,0.8s,baz=218							
LOR				*e*R				
	comp=Z,288nm,18.5s							
LOR	**Lormes**	**51.13**	**19**	*e*P		**P**	**00 55 43.8**	**+0.6**
	comp=Z,8.3nm,0.8s							
FLN	**La Foliniere**	**51.19**	**15**	*e*P		**P**	**00 55 44.0**	**+0.5**
	comp=Z,23nm,1.0s							
FLN				*e*R				
	comp=Z,476nm,19.0s							
FLN	**La Foliniere**	**51.19**	**15**	*e*P		**P**	**00 55 44.0**	**+0.5**
FLN				pmax		pmax		
	comp=Z,23nm,1.0s							
FLN	**La Foliniere**	**51.19**	**15**	*e*P		**P**	**00 55 44.0**	**+0.5**
	comp=Z,23nm,1.0s							
CABF	**La Chapelle**	**51.34**	**21**	*e*P		**P**	**00 55 45.2**	**+0.3**
	comp=Z,39nm,1.3s							
CABF	**La Chapelle**	**51.34**	**21**	*e*P		**P**	**00 55 45.2**	**+0.3**
CABF				pmax		pmax		
	comp=Z,39nm,1.3s							
CABF	**La Chapelle**	**51.34**	**21**	*e*P		**P**	**00 55 45.2**	**+0.3**
	comp=Z,39nm,1.3s							
LPAZ	**La Paz**	**51.58**	**249**	P		**P**	**00 55 47.6**	**-0.2**
LPAZ	**La Paz**	**51.58**	**249**	P		**P**	**00 55 47.6**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=70,slow=8.6,SNR=7.9							
LPAZ				LR		LR	01 15 23.0	
	comp=Z,177nm,18.8s,baz=256,slow=33							
SENIN	**Lac Senin/Sane**	**51.59**	**23**	*e*P		**P**	**00 55 47.1**	**+0.2**
	comp=Z,130nm,2.9s							
SFTF	**Sexfontaines**	**52.34**	**20**	*e*P		**P**	**00 55 52.9**	**+0.7**
SFTF	**Sexfontaines**	**52.34**	**20**	*e*P		**P**	**00 55 52.9**	**+0.7**
MEZF	**Maizieres J'vi**	**52.60**	**19**	*e*P		**P**	**00 55 54.7**	**+0.6**
MEZF	**Maizieres J'vi**	**52.60**	**19**	*e*P		**P**	**00 55 54.7**	**+0.6**
HAU	**Haudompre**	**52.62**	**21**	*e*P		**P**	**00 55 54.6**	**+0.3**
	comp=Z,7.5nm,0.5s							
HAU				*e*R				
	comp=Z,212nm,23.0s							
HAU	**Haudompre**	**52.62**	**21**	*e*P		**P**	**00 55 54.6**	**+0.3**
HAU				pmax		pmax		
	comp=Z,8.0nm,0.5s							
HAU	**Haudompre**	**52.62**	**21**	*e*P		**P**	**00 55 54.6**	**+0.3**
	comp=Z,7.5nm,0.5s							
HINF	**Hinteralfeld**	**52.64**	**21**	*e*P		**P**	**00 55 56.1**	**+1.6**
HINF	**Hinteralfeld**	**52.64**	**21**	*e*P		**P**	**00 55 56.1**	**+1.6**
HINF	**Hinteralfeld**	**52.64**	**21**	*e*P		**P**	**00 55 56.1**	**+1.6**
PAGF	**Fort de Pagny**	**52.87**	**20**	*e*P		**P**	**00 55 56.9**	**+0.8**
	comp=Z,6.5nm,1.1s							
PAGF	**Fort de Pagny**	**52.87**	**20**	*e*P		**P**	**00 55 56.9**	**+0.8**
	comp=Z,6.5nm,1.1s							
DAVOX	**Davos/Dischmat**	**52.95**	**24**	P		**P**	**00 55 56.9**	**0.0**
DAVOX	**Davos/Dischmat**	**52.95**	**24**	P		**P**	**00 55 56.9**	**0.0**
	comp=Z,2.1nm,0.4s,baz=175,slow=8.6,SNR=10							
CDF	**Champ du Feu**	**53.30**	**21**	*e*P		**P**	**00 55 59.3**	**0.0**
	comp=Z,11nm,0.8s							
CDF	**Champ du Feu**	**53.30**	**21**	*e*P		**P**	**00 55 59.3**	**0.0**
CDF				pmax		pmax		
	comp=Z,11nm,0.8s							
CDF	**Champ du Feu**	**53.30**	**21**	*e*P		**P**	**00 55 59.3**	**0.0**
	comp=Z,11nm,0.8s							
DAVA	**Damuels**	**53.36**	**24**⇑	*e*P		**P**	**00 55 59.9**	**0.0**
	comp=Z,16nm,1.0s							
FETA	**Feichten**	**53.49**	**24**⇓	*e*P		**P**	**00 56 01.0**	**+0.1**
	comp=Z,6.7nm,0.9s							
BFO	**Black Forest**	**53.61**	**22**	*e*P		**P**	**00 56 02.3**	**+0.7**
BFO				pmax		pmax		
	comp=Z,9.0nm,1.0s							
BFO	**Black Forest**	**53.61**	**22**	*e*P		**P**	**00 56 02.3**	**+0.7**
	comp=Z,8.8nm,1.0s							
BAIF	**Baives**	**53.69**	**18**	*e*P		**P**	**00 56 02.2**	**+0.1**
BAIF	**Baives**	**53.69**	**18**	*e*P		**P**	**00 56 02.2**	**+0.1**
BAIF	**Baives**	**53.69**	**18**	*e*P		**P**	**00 56 02.2**	**+0.1**
DOU	**Dourbes**	**53.84**	**18**	P		**P**	**00 56 03.2**	**0.0**
	comp=Z,7.7nm,1.6s							
RETA	**Reutte**	**53.88**	**24**⇑	*e*P		**P**	**00 56 04.1**	**+0.5**
	comp=Z,10nm,1.4s							
MOTA	**Moosalm**	**53.90**	**24**⇑	*i*P		**P**	**00 56 04.5**	**+0.6**
	comp=Z,1.5nm,0.6s							
GIVF	**Givet**	**53.92**	**18**	*e*P		**P**	**00 56 03.7**	**-0.1**
GIVF	**Givet**	**53.92**	**18**	*e*P		**P**	**00 56 03.7**	**-0.1**
GIVF	**Givet**	**53.92**	**18**	*e*P		**P**	**00 56 03.7**	**-0.1**
ABTA	**Abfaltersbach**	**54.03**	**26**⇑	*e*P		**P**	**00 56 05.3**	**+0.6**
	comp=Z,15nm,1.6s							
WTTA	**Wattenberg**	**54.06**	**25**⇑	*e*P		**P**	**00 56 04.9**	**-0.2**
	comp=Z,8.1nm,1.0s							
JAVS	**Javornik**	**54.08**	**28**	*i*P		**P**	**00 56 05.7**	**+0.6**
JAVS				*i*			00 56 15.0	
VOY	**Vojsko**	**54.10**	**27**	*e*P		**P**	**00 56 04.9**	**-0.4**
VOY				*e*			00 56 15.5	
VOY				*e*			00 56 24.9	
BCLA	**Clavier**	**54.35**	**18**	P		**P**	**00 56 09.5**	**+2.6**
	comp=Z,8.0nm,1.9s							
BOJS	**Bojanci**	**54.35**	**29**	*i*P		**P**	**00 56 08.4**	**+1.4**
BOJS				*i*			00 56 17.2	
VISS	**Visnje**	**54.38**	**28**	*i*P		**P**	**00 56 07.9**	**+0.7**
VISS				*i*			00 56 17.5	
MYKA	**Terra Mystica**	**54.44**	**27**⇑	*e*P		**P

PSZ	**Piszkesteto**	**58.31**	**29**⇑	*i*P	P	00 56 41.3	+5.9
PSZ	**Piszkesteto**	**58.31**	**29**	⇑P	**P**	**00 56 35.9**	**+0.5**
UPC	**Upice**	**58.40**	**25**	*e*P	**P**	**00 56 36.3**	**+0.5**
UPC	**Upice**	**58.40**	**25**	*e*P	**P**	**00 56 36.3**	**+0.5**
UPC				*ex*	x	00 56 45.8	
KRLC	**Kraliky**	**58.41**	**26**	*e*P	**P**	**00 56 36.6**	**+0.6**
KRLC				*ep*P	**pP**	**00 56 41.5**	**+2.3**
DPC	**Dobruska-Polom**	**58.42**	**25**	*e*P	**P**	**00 56 36.3**	**+0.3**
DPC				*e*		00 56 41.0	
DPC	**Dobruska-Polom**	**58.42**	**25**	*e*P	**P**	**00 56 35.8**	**-0.2**
	comp=Z,7.9nm,1.0s						
DPC	**Dobruska-Polom**	**58.42**	**25**	*e*P	**P**	**00 56 36.3**	**+0.3**
DPC				*ep*P	**pP**	**00 56 41.0**	**+1.8**
DPC				*ex*	x	00 56 45.5	
MORC	**Moravsky Berou**	**58.53**	**26**	*e*P	**P**	**00 56 36.6**	**-0.2**
MORC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MORC	**Moravsky Berou**	**58.53**	**26**	*e*P	**P**	**00 56 36.6**	**-0.2**
	comp=Z,8.8nm,1.1s						
MORC	**Moravsky Berou**	**58.53**	**26**⇓	*i*P	**P**	**00 56 37.2**	**+0.4**
LOT	**Lotru**	**58.72**	**34**⇓	*i*P	**P**	**00 56 40.5**	**+2.2**
EIL	**Elat**	**58.80**	**55**	P	**P**	**00 56 38.6**	**-0.5**
EIL	**Elat**	**58.80**	**55**	P	**P**	**00 56 38.6**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=211,slow=12,SNR=3.3						
OKC	**Ostrava-Krasne**	**58.84**	**27**	*e*P	**P**	**00 56 39.2**	**+0.3**
OKC				*e*		00 56 43.2	
OKC	**Ostrava-Krasne**	**58.84**	**27**	*e*P	**P**	**00 56 39.2**	**+0.3**
OKC				*ep*P	**pP**	**00 56 43.2**	**+1.1**
DRGR		**59.00**	**32**⇑	*i*P	**P**	**00 56 40.6**	**+0.5**
VOIR		**59.43**	**34**⇑	*i*P	**P**	**00 56 43.2**	**0.0**
NIE	**Niedzica**	**59.55**	**28**	*e*P	**P**	**00 56 44.1**	**+0.2**
NIE	**Niedzica**	**59.55**	**28**	*e*P	**P**	**00 56 44.9**	**+1.0**
CRVS	**Cervenica-Dubn**	**59.75**	**29**	*e*P	**P**	**00 56 45.9**	**+0.7**
CRVS				pmax	pmax		
	comp=Z,15nm,1.6s						
CRVS	**Cervenica-Dubn**	**59.75**	**29**	*e*P	**P**	**00 56 45.9**	**+0.7**
TRPA	**Tarpa**	**59.77**	**31**⇓	*i*P	**P**	**00 56 45.5**	**+0.1**
TRPA	**Tarpa**	**59.77**	**31**⇑	P	**P**	**00 56 45.4**	**+0.1**
MLR	**Muntele Rosu**	**59.97**	**35**	P	**P**	**00 56 46.4**	**-0.5**
MLR	**Muntele Rosu**	**59.97**	**35**⇓	*i*P	**P**	**00 56 47.4**	**+0.5**
MLR	**Muntele Rosu**	**59.97**	**35**	P	**P**	**00 56 46.4**	**-0.5**
	comp=Z,3.5nm,1.2s,baz=169,slow=2.0,SNR=8.4						
UZH	**Uzhgorod**	**59.98**	**30**	*e*P	**P**	**00 56 46.4**	**-0.4**
UZH				*e*		00 56 55.4	
KOLS	**Kolonicke sedl**	**60.17**	**30**	*e*P	**P**	**00 56 49.5**	**+1.4**
KOLS				pmax	pmax		
	comp=Z,45nm,2.2s						
KOLS	**Kolonicke sedl**	**60.17**	**30**	*e*P	**P**	**00 56 49.5**	**+1.4**
PLOR	**Plostina**	**60.58**	**35**⇑	*i*P	**P**	**00 56 50.5**	**-0.5**
VRI	**Vrincioaia**	**60.63**	**35**⇑	*i*P	**P**	**00 56 50.8**	**-0.5**
BURAR	**Bucovina Array**	**60.84**	**32**⇓	*i*P	P	00 56 47.5	-5.4
KWP	**Kalwaria Pacla**	**60.84**	**29**⇑	*i*P	**P**	**00 56 50.7**	**-2.0**
TESR		**60.96**	**34**⇓	*i*P	**P**	**00 56 55.3**	**+1.7**
CFR	**Carcaliu**	**61.05**	**36**⇓	*i*P	P	00 56 59.1	+5.0
ASF	**Jabal al Asfar**	**61.24**	**53**	P	**P**	**00 56 56.7**	**+0.8**
ASF	**Jabal al Asfar**	**61.24**	**53**	P	**P**	**00 56 56.7**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=142,slow=6.7,SNR=3.9						
LVV	**L'vov**	**61.62**	**30**	*e*P	**P**	**00 56 57.2**	**-0.7**
BRTR	**Keskin Array B**	**61.82**	**44**	P	**P**	**00 57 00.2**	**+0.6**
BRTR	**Keskin Array B**	**61.82**	**44**	P	**P**	**00 57 00.2**	**+0.6**
	comp=Z,1.4nm,0.7s,baz=241,slow=7.7,SNR=8.3						
BRTR				LR	LR	01 26 56.0	
	comp=Z,156nm,19.2s,baz=65,slow=39						
PLCA	**Paso Flores**	**62.06**	**223**	LR	LR	01 20 21.4	
	comp=Z,161nm,20.9s,baz=264,slow=33						
SUW	**Suwalki**	**63.99**	**26**	*e*P	**P**	**00 57 13.4**	**-0.2**
SUW				pmax	pmax		
	comp=Z,42nm,1.1s						
SUW	**Suwalki**	**63.99**	**26**	*e*P	**P**	**00 57 13.4**	**-0.2**
	comp=Z,42nm,1.1s						
KIEV	**Kiev**	**64.78**	**31**	*e*P	**P**	**00 57 18.6**	**-0.3**
KIEV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KIEV	**Kiev**	**64.78**	**31**	*e*P	**P**	**00 57 18.6**	**-0.3**
	comp=Z,9.1nm,0.8s						
AKASG	**Malin Array Be**	**64.80**	**31**	P	**P**	**00 57 17.7**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**64.80**	**31**	P	**P**	**00 57 17.7**	**-1.3**
AKASG	**Malin Array Be**	**64.80**	**31**	P	**P**	**00 57 17.7**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=235,slow=7.3,SNR=9.6						
AKASG				LR	LR	01 24 33.8	
	comp=Z,254nm,21.0s,baz=240,slow=35						
HFS	**Hagfors**	**65.12**	**17**	P	**P**	**00 57 20.6**	**-0.3**
HFS	**Hagfors**	**65.12**	**17**	P	**P**	**00 57 20.6**	**-0.3**
	comp=Z,3.5nm,0.7s,baz=201,slow=7.9,SNR=7.6						
NB2	**NORSAR Subarra**	**65.18**	**15**	P	**P**	**00 57 21.7**	**+0.4**
	comp=Z,18nm,1.7s,baz=207,slow=6.9						
NOA	**NORSAR Array B**	**65.18**	**15**	P	**P**	**00 57 21.4**	**+0.1**
NOA	**NORSAR Array B**	**65.18**	**15**	P	**P**	**00 57 21.4**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=209,slow=6.9,SNR=4.4						
NOA				LR	LR	01 23 48.9	
	comp=Z,196nm,20.5s,baz=180,slow=34						
NACGM	**Naroch**	**66.16**	**27**	*e*	P	00 57 23.0	-4.7
ANN	**Anapa**	**66.58**	**40**	*e*P	**P**	**00 57 30.7**	**+0.1**
ANN				pmax	pmax		
	comp=Z,382nm,6.6s						
KIV	**Kislovodsk**	**69.71**	**42**	*e*P	**P**	**00 57 49.9**	**-0.5**
KIV				*e*		00 58 12.1	
KIV				*e*S	**S**	**01 06 56.0**	**-3.5**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,88nm,18.0s						
KBZ	**Khabaz**	**69.77**	**43**	P	**P**	**00 57 50.5**	**-0.1**
KBZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KBZ				MLR	MLR		
	comp=Z,141nm,19.8s						
KBZ	**Khabaz**	**69.77**	**43**	P	**P**	**00 57 50.5**	**-0.1**
KBZ	**Khabaz**	**69.77**	**43**	P	**P**	**00 57 50.5**	**-0.1**
	comp=Z,5.2nm,0.8s,baz=266,slow=5.2,SNR=15						
KBZ				LR	LR	01 29 58.8	
	comp=Z,141nm,19.8s,baz=254,slow=37						
FINES	**FINESS Array B**	**70.15**	**21**	P	**P**	**00 57 53.0**	**+0.4**
FINES	**FINESS Array B**	**70.15**	**21**	P	**P**	**00 57 53.0**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=221,slow=3.9,SNR=10						
FINES				LR	LR	01 30 17.1	
	comp=Z,266nm,19.0s,baz=288,slow=37						
VORD	**Divnogorie**	**70.42**	**35**	*e*P	**P**	**00 57 53.7**	**-0.8**
VORD				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VORD				pmax	pmax		
	comp=N,7.0nm,0.2s						
VORD				pmax	pmax		
	comp=E,60nm,0.6s						
VSR	**Storozhevoye**	**70.45**	**34**	*e*P	**P**	**00 57 53.5**	**-1.2**
VSR				pmax	pmax		
	comp=N,10.0nm,1.3s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.3s						
VSR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KAF	**Kangasniemi**	**70.68**	**21**	*e*P	P	00 58 00.5	+4.6
KAF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KAF	**Kangasniemi**	**70.68**	**21**	*ep*	P	00 58 00.5	+4.6
	comp=Z,2.6nm,0.8s						
OBN	**Obninsk**	**70.92**	**30**⇑	*e*P	**P**	**00 57 59.1**	**+1.6**
OBN				*e*		01 00 33.0	
OBN				*e*S	**S**	**01 07 13.0**	**0.0**
OBN				pmax	pmax		
	comp=Z,25nm,1.8s						
OBN				MLR	MLR		
	comp=Z,200nm,21.0s						
VRHR	**Novokhopersk**	**71.80**	**35**	*e*P	**P**	**00 58 04.5**	**+1.6**
VRHR				pmax	pmax		
	comp=N,6.0nm,1.4s						
VRHR				pmax	pmax		
	comp=E,10.0nm,1.4s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,1.4s						
JOF	**Joensuu**	**72.98**	**21**	*e*P	**P**	**00 58 09.8**	**+0.1**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
JOF	**Joensuu**	**72.98**	**21**	*ep*	**P**	**00 58 09.8**	**+0.1**
	comp=Z,3.8nm,0.8s						
SUMG	**Summit**	**73.79**	**354**	*i* P	P	00 58 31.4	+17
	comp=Z,5.9nm,1.0s						
OLIL	**Olney**	**74.43**	**310**	*e*P	**P**	**00 58 18.9**	**+0.2**
	comp=Z,7.4nm,0.6s						
ARCES	**ARCESS Array B**	**75.53**	**15**	P	**P**	**00 58 24.5**	**0.0**
ARCES	**ARCESS Array B**	**75.53**	**15**	P	**P**	**00 58 24.5**	**0.0**
	comp=Z,2.7nm,0.7s,baz=232,slow=4.0,SNR=3.8						
ARCES				LR	LR	01 31 21.3	
	comp=Z,207nm,18.6s,baz=35,slow=36						
AKTO	**Aktyubinsk**	**81.52**	**39**	P	**P**	**00 58 58.2**	**+0.3**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKTO	**Aktyubinsk**	**81.52**	**39**	P	**P**	**00 58 58.2**	**+0.3**
AKTO	**Aktyubinsk**	**81.52**	**39**	P	**P**	**00 58 58.2**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=304,slow=2.6,SNR=8.1						
ECSD	**EROS Data Cent**	**81.67**	**314**	*e*P	**P**	**00 58 58.5**	**-0.3**
	comp=Z,8.5nm,1.1s						
ULM	**Lac du Bonnet**	**82.19**	**321**	P	**P**	**00 59 01.6**	**+0.1**
ULM	**Lac du Bonnet**	**82.19**	**321**	P	**P**	**00 59 01.6**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=131,slow=4.4,SNR=8.3						
ULM				LR	LR	01 28 08.4	
	comp=Z,138nm,20.6s,baz=80,slow=30						
ABKAR	**Akbulak array**	**82.54**	**40**	*e*P	**P**	**00 59 03.0**	**-0.3**
	comp=Z,3.6nm,0.9s						
ARU	**Arti**	**82.97**	**33**	*c i*P	**P**	**00 59 05.6**	**+0.2**
ARU						01 02 16.6	
ARU				S	**S**	**01 09 26.1**	**+1.7**
ARU				SS	**SS**	**01 14 45.5**	**-2.3**
ARU				pmax	pmax		
	comp=Z,3.0nm,1.0s						
428A	**Kincaid Ranch,**	**85.22**	**301**	⇑P	**P**	**00 59 18.7**	**+1.2**
	baz=85						
TXAR	**Lajitas Array**	**86.01**	**299**	P	**P**	**00 59 22.4**	**+0.9**
TXAR	**Lajitas Array**	**86.01**	**299**	P	**P**	**00 59 22.4**	**+0.9**
	comp=Z,1.5nm,1.1s,baz=126,slow=6.3,SNR=7.5						
T26A	**Comanche Natio**	**86.32**	**307**	⇓P	**P**	**00 59 23.8**	**+0.8**
	baz=86						
426A	**McDonald Obser**	**86.38**	**301**	⇓P	**P**	**00 59 24.3**	**+0.8**
	baz=86						
626A	**Big Bend Ranch**	**86.42**	**299**	⇑P	**P**	**00 59 24.3**	**+0.7**
	baz=86						
GDL2	**Guadalupe Moun**	**86.73**	**302**	*e*P	**P**	**00 59 26.6**	**+1.5**
125A	**Gardner Draw,**	**86.99**	**303**	⇓P	**P**	**00 59 26.8**	**+0.5**
	baz=87						
O23A	**Lake Granby, G**	**88.27**	**310**	⇑P	**P**	**00 59 33.1**	**+0.6**
	baz=88						
I22A	**9 Mile Ranch,**	**88.79**	**314**	⇓P	**P**	**00 59 35.3**	**+0.6**
	baz=89						
I21A	**Big Trails, Te**	**89.38**	**314**	⇓P	**P**	**00 59 36.9**	**-0.6**
	baz=89						
BVAR	**Borovoye Array**	**89.43**	**37**	P	**P**	**00 59 37.6**	**+0.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR				MLR	MLR		
	comp=Z,106nm,19.5s						
BVAR	**Borovoye Array**	**89.43**	**37**	P	**P**	**00 59 37.6**	**+0.3**
BVAR	**Borovoye Array**	**89.43**	**37**	P	**P**	**00 59 37.6**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=262,slow=5.4,SNR=7.0						
BVAR				LR	LR	01 41 23.5	
	comp=Z,106nm,19.5s,baz=77,slow=37						
PDAR	**Pinedale Array**	**91.03**	**313**	LR	LR	01 34 44.1	
	comp=Z,154nm,20.3s,baz=86,slow=32						
AAK	**Ala-Archa**	**92.26**	**48**⇑	*e*P	**P**	**00 59 51.3**	**+0.4**
AAK				pmax	pmax		
	comp=Z,15nm,2.1s						
AAK				MLR	MLR		
	comp=Z,179nm,22.0s						
AAK	**Ala-Archa**	**92.26**	**48**	*e*P	**P**	**00 59 50.9**	**0.0**
	comp=Z,11nm,1.0s						
YKA	**Yellowknife Ar**	**93.09**	**332**	P	**P**	**00 59 54.0**	**-0.1**
YKA	**Yellowknife Ar**	**93.09**	**332**	P	**P**	**00 59 53.9**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=84,slow=5.1,SNR=11						
KSH	**Kashi**	**93.50**	**51**	*e*P	**P**	**00 59 56.1**	**-0.5**
KSH				pP	**pP**	**01 00 01.3**	**+1.3**
KSH				sP	**sP**	**01 00 02.8**	**+1.6**
KSH				PP	**PP**	**01 03 42.0**	**+0.9**
KSH				SKS	**SKSac**	**01 10 28.0**	**-3.6**
KSH				S	**S**	**01 11 00.3**	**-5.1**
KSH				sS	**ScS**	**01 11 08.3**	**+1.3**
KSH				SS	**SS**	**01 17 18.4**	**-3.9**
KSH				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KSH				pmax	pmax		
	comp=Z,110nm,4.3s						
KSH				LR	LR		
	comp=N,92nm,6.1s						
KSH				LR	LR		
	comp=E,100nm,6.6s						
KSH				LR	LR		
	comp=Z,240nm,5.8s						
KURBB	**Kurchatov Arra**	**94.56**	**39**	P	**P**	**01 00 01.0**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=281,slow=5.1,SNR=4.1						
KURK	**Kurchatov**	**94.61**	**39**	P	**P**	**01 00 01.0**	**-0.3**
KURK	**Kurchatov**	**94.61**	**39**	P	**P**	**01 00 01.0**	**-0.3**
MKAR	**Makanchi Array**	**97.47**	**43**	P	**P**	**01 00 14.3**	**-0.2**
MKAR	**Makanchi Array**	**97.47**	**43**	P	**P**	**01 00 14.3**	**-0.2**
MKAR	**Makanchi Array**	**97.47**	**43**	P	**P**	**01 00 14.3**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=254,slow=3.2,SNR=4.3						
ZALV	**Zalesovo Beam**	**97.93**	**36**	LR	LR	01 48 09.0	
	comp=Z,80nm,18.3s,baz=69,slow=38						
MTUM	**Tungsten Hills**	**98.25**	**308**	*ep*P	pP	01 00 28.1	+6.4
WMQ	**Urumqi**	**101.71**	**45**	*e*P	**Pdif**	**01 00 35.5**	**+2.0**
LZH	**Lanzhou**	**115.73**	**50**	*e*PKP	**PKPdf**	**01 05 20.5**	**-3.1**
LZH				sPKP		01 05 31.0	
CD2	**Chengdu**	**117.33**	**55**	PKP	**PKPdf**	**01 05 24.1**	**-2.6**
HHC	**Hu-ho-hao-te**	**119.31**	**42**	*e*PKP	**PKPdf**	**01 05 27.9**	**-2.4**
HHC				PP	**PP**	**01 06 53.4**	**+2.7**
HHC				PKS	**PKSdf**	**01 09 03.3**	**-3.7**
HHC				SKS	**SKSdf**	**01 12 39.0**	**-3.8**
HHC				SKKS	**SKKSac**	**01 13 45.8**	**-6.0**
HHC				SS	**SS**	**01 23 12.4**	**-0.5**
HHC				AMB	AMB		
	comp=Z,130nm,9.2s						
GYA	**Guiyang**	**121.09**	**59**	*e*Pdif	**Pdif**	**01 01 58.6**	**-1.5**
GYA				PKP	**PKPdf**	**01 05 32.8**	**-1.3**
GYA				PP	**PP**	**01 07 06.3**	**+2.7**
GYA				AMB	AMB		
	comp=Z,90nm,7.8s						
BJI	**Beijing**	**122.75**	**41**	PKP	PKPdf	01 05 30.8	-5.9
CN2	**Changchun**	**125.95**	**32**	*e*PKP	**PKPdf**	**01 05 38.6**	**-4.2**
CN2				*e*PP	**PP**	**01 07 36.6**	**+1.4**
CN2				*e*SS	SS	01 24 32.5	-3.9
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,300nm,20.0s						
CN2				LR	LR		
	comp=E,500nm,20.0s						
CN2				LR	LR		
	comp=Z,600nm,22.0s						
ASAR	**Alice Springs**	**144.10**	**133**	PKP	PKPbc	01 06 15.2	+0.2
ASAR	**Alice Springs**	**144.10**	**133**	PKP	PKPbc	01 06 15.2	+0.2
	comp=Z,4.4nm,1.0s,baz=214,slow=3.0,SNR=11						
WRA	**Warramunga Arr**	**146.58**	**128**	PKPbc	**PKPab**	**01 06 23.5**	**-0.5**
WRA	**Warramunga Arr**	**146.58**	**128**	PKPbc	**PKPab**	**01 06 23.5**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=240,slow=2.6,SNR=12						

IDC 24 01:07:10.3±2.8, 7.85S×116.64E, h0km, mb3.3/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, Error ellipse: s-maj=167.2km s-min=22.1km az=53.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.95**	**127**	P	P	01 11 55.0	0.0
	0.4nm,0.4s,baz=305,slow=10,SNR=15						
ASAR	**Alice Springs**	**22.84**	**135**	P	P	01 12 15.2	-0.1
	1.9nm,0.6s,baz=309,slow=8.9,SNR=18						
SONM	**Songino Array**	**56.17**	**352**	P	P	01 16 51.9	-0.1
	0.4nm,0.6s,baz=167,slow=8.3,SNR=4.7						
MKAR	**Makanchi Array**	**62.39**	**334**	P	P	01 17 35.0	+0.1
	0.1nm,0.6s,baz=124,slow=7.1,SNR=3.1						

MEX 24 01:20:17.9±0.6, 16.90N×100.94W, h16km±7km, MD4.2, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.66**	**77**	*i* P	Pg	01 20 28.3	-2.5
CAIG				*i* S	Sg	01 20 36.3	-3.2
ZIIG	**Zihuatanejo**	**0.86**	**324**	*e*P	Pb	01 20 31.2	-3.3
ZIIG				*i* S	Sb	01 20 42.0	-3.8
ARIG	**Puente Sto Nin**	**1.48**	**22**	*e*P	Pn	01 20 40.0	-4.0
ARIG				*i* S	Sn	01 20 57.8	-5.2
PLIG	**Platanillo**	**2.02**	**43**	*e*P	Pn	01 20 48.2	-3.2
PLIG				*i* S	Sn	01 21 11.7	-4.7
MMIG	**Aquila**	**2.68**	**301**	*i* P	Pn	01 20 57.8	-2.6
MMIG				*i* S	Sn	01 21 28.5	-4.0
PNIG	**Pinotepa**	**2.74**	**100**	*i* P	Pn	01 20 59.0	-2.3
PNIG				*i* S	Sn	01 21 29.4	-4.8
UTMO	**Huajuapan**	**3.13**	**72**	*i* P	Pn	01 21 04.6	-2.3
UTMO				*i* S	Sn	01 21 39.8	-4.3

VHO	**Vista Hermosa**	**4.03**	**87**	*i* P	Pn	01 21 19.9	+0.8

IDC ***24*** *01:26:14.9±0.4, 26.94S×75.19E, h0km, mb4.8/23, mb1 4.9/23, mb1mx4.8/29, mbtmp4.8/23, MS4.1/18, Ms1 4.1/18, ms1mx3.9/31, Error ellipse: s-maj=15.7km s-min=13.6km az=39.0*

MOS ***24*** *01:26:15.3±1.3, 27.04S×75.24E, h10km, mb5.4/29, Error ellipse: s-maj=12.2km s-min=7.6km az=101.0*

ISCJB ***24*** *01:26:15.9±0.3, 27.07S±0.05×75.19E±0.05, h14km, mb5.0/92, MS4.2/24, Error ellipse: s-maj=7.6km s-min=7.0km az=2.7*

BJI ***24*** *01:26:15.8, 27.10S×75.10E, h10km, mB5.1/19, mb4.8/34, Ms5.2/13, Ms7 4.8/15*

NEIC ***24*** *01:26:16.6±0.2, 27.05S×75.14E, h10km, mb5.1/21, Error ellipse: s-maj=7.3km s-min=6.4km az=15.0*

ISC 24 01:26:17.7±0.5, 27.06S±0.06×75.05E±0.07, h16km±2km, n291,σ1$46/305, mb5.2/92, MS4.2/24, 36C-41D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**19.70**	**352**	P	**P**	**01 30 46.7**	**+0.3**
DGAR	**Diego Garcia**	**19.70**	**352**	P	**P**	**01 30 46.7**	**+0.3**
ABPO	**Ambohimpanom**	**26.79**	**281**	P	**P**	**01 31 57.2**	**-0.2**
ABPO	**Ambohimpanom**	**26.79**	**281**	P	**P**	**01 31 57.2**	**-0.2**
OPO	**Ambohidratompo**	**26.99**	**282**	P	**P**	**01 32 00.2**	**+1.0**
OPO	**Ambohidratompo**	**26.99**	**282**	P	**P**	**01 32 00.2**	**+1.0**
	3.4nm,0.6s,baz=148,slow=3.9,SNR=12						
OPO				LR	LR	01 40 04.1	
	comp=Z,278nm,18.0s,baz=131,slow=31						
PSI	**Prapat**	**37.58**	**42**	LR	LR	01 46 09.8	
	comp=Z,233nm,19.5s,baz=8.8,slow=32						
MBWA	**Marble Bar**	**41.04**	**92**	*e*P	**P**	**01 33 59.8**	**-0.8**
	22nm,1.4s						
MAW	**Mawson**	**41.23**	**187**	LR	LR	01 47 47.0	
	comp=Z,416nm,19.2s,baz=324,slow=31						
BOSA	**Boshof**	**43.80**	**256**	P	**P**	**01 34 23.9**	**+0.8**
BOSA	**Boshof**	**43.80**	**256**	P	**P**	**01 34 23.9**	**+0.8**
	8.5nm,1.1s,baz=111,slow=6.8,SNR=5.1						
BOSA				LR	LR	01 49 01.6	
	comp=Z,108nm,18.0s,baz=317,slow=31						
LBTB	**Lobatse**	**44.26**	**261**	P	**P**	**01 34 27.6**	**+0.8**
LBTB	**Lobatse**	**44.26**	**261**	P	**P**	**01 34 27.6**	**+0.8**
	5.0nm,0.8s,baz=118,slow=7.0,SNR=7.2						
HYB	**Hyderabad**	**44.34**	**5**	*i* P	**P**	**01 34 26.5**	**-0.8**
HYB				*e*		01 34 29.0	
KMBO	**Kilima Mbogo**	**44.49**	**299**	*e*P	**P**	**01 34 30.1**	**+1.2**
	5.6nm,1.0s						
LSZ	**Lusaka**	**45.01**	**275**	*e*P	**P**	**01 34 34.0**	**+1.0**
	9.3nm,1.0s						
SBUM	**Sibu**	**46.31**	**57**	P	**P**	**01 34 44.5**	**+1.4**
	7.9nm,1.4s						
SYO	**Syowa Base**	**46.85**	**197**⇑	*e*P	**P**	**01 34 46.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**47.29**	**90**	*e*P	**P**	**01 34 49.5**	**-1.3**
	11nm,1.1s						
FITZ	**Fitzroy Crossi**	**47.29**	**90**	*e*P	**P**	**01 34 47.7**	**-3.0**
	11nm,0.9s						
CMAR	**Chiang Mai Arr**	**50.84**	**30**	P	**P**	**01 35 16.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**50.84**	**30**	P	**P**	**01 35 16.8**	**-1.0**
	1.8nm,0.4s,baz=233,slow=8.8,SNR=12						
CMAR				LR	LR	01 53 58.8	
	comp=Z,131nm,19.6s,baz=253,slow=33						
CHTO	**Chiang Mai**	**51.15**	**30**	*e*P	**P**	**01 35 22.6**	**+2.4**
CHTO				pmax	pmax		
	comp=Z,18nm,1.1s						
CHTO	**Chiang Mai**	**51.15**	**30**	*e*P	**P**	**01 35 22.6**	**+2.4**
	comp=Z,18nm,1.1s						
CHTO	**Chiang Mai**	**51.15**	**30**	P	**P**	**01 35 21.3**	**+1.1**
	comp=Z,19nm,1.2s						
ASAR	**Alice Springs**	**52.88**	**100**	P	**P**	**01 35 32.6**	**-0.6**
ASAR	**Alice Springs**	**52.88**	**100**	P	**P**	**01 35 32.6**	**-0.6**
	comp=Z,16nm,0.8s,baz=252,slow=6.4,SNR=117						
TSUM	**Tsumeb**	**53.05**	**266**	*e*P	**P**	**01 35 35.8**	**+1.2**
	comp=Z,78nm,2.6s						
WRA	**Warramunga Arr**	**54.41**	**96**	P	**P**	**01 35 43.8**	**-0.6**
WRA				PcP	**PcP**	**01 36 46.5**	**-1.6**
WRA	**Warramunga Arr**	**54.41**	**96**	P	**P**	**01 35 43.8**	**-0.6**
	comp=Z,26nm,0.8s,baz=254,slow=7.5,SNR=113						
WRA				PcP	**PcP**	**01 36 46.5**	**-1.6**
	comp=Z,2.9nm,0.9s,baz=241,slow=1.9,SNR=5.5						
WRAB	**Tennant Creek**	**54.43**	**96**	*e*P	**P**	**01 35 44.3**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,29nm,0.8s						
WRAB	**Tennant Creek**	**54.43**	**96**	*e*P	**P**	**01 35 44.3**	**-0.2**
	comp=Z,29nm,0.8s						
WRAB	**Tennant Creek**	**54.43**	**96**	P	**P**	**01 35 44.0**	**-0.6**
	comp=Z,207nm,1.0s,SNR=28						
SHL	**Shillong**	**54.78**	**19**	*e*PKP

LSA **Lhasa** **58.51** **16** P **P** **01 36 15.9 +2.1**
LSA **Lhasa** **58.51** **16** *e*P P 01 36 16.8 +3.0
LSA pmax pmax
comp=Z,59nm,1.5s
LSA **Lhasa** **58.51** **16** *e*P P 01 36 16.8 +3.0
comp=Z,59nm,1.5s
QRN **Al-Qurain** **61.29** **333** *e*P **P** **01 36 31.2 -1.2**
QRN AMb AMB 01 36 32.1
comp=Z,34nm,0.7s
GYA **Guiyang** **61.30** **32** P P 01 36 37.0 +4.3
GYA PP PP 01 38 54.3 +6.3
GYA ScP **ScP** **01 41 18.4 +2.3**
GYA S **S** **01 44 57.6 +5.0**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=N,140nm,22.2s
GYA LR LR
comp=E,110nm,23.9s
GYA LR LR
comp=Z,120nm,20.5s
RDF **Al-Radifah** **61.60** **333** *e*P **P** **01 36 33.3 -1.2**
RDF AMb AMB 01 36 37.4
comp=Z,42nm,1.1s
NAY **Al-Naaiem** **62.01** **333** *e*P **P** **01 36 36.2 -1.1**
NAY AMb AMB 01 36 40.3
comp=Z,23nm,1.0s
UMR **Umm Al-Rimmam** **62.08** **333** *e*P **P** **01 36 35.7 -2.0**
UMR AMb AMB 01 36 41.3
comp=Z,48nm,1.5s
VNA2 **Neumayer--Watz** **62.23** **202** *e*P **P** **01 36 39.5 +1.2**
baz=80,slow=6.5
MIB **Mutribah** **62.46** **333** *e*P **P** **01 36 38.9 -1.3**
MIB AMb AMB 01 36 43.3
comp=Z,33nm,0.9s
VNA3 **Neumayer Olymp** **62.95** **201** *e*P **P** **01 36 44.2 +1.1**
QSPA **South Pole Qui** **63.07** **180** P **P** **01 36 44.3 +0.2**
QSPA **South Pole Qui** **63.07** **180** P **P** **01 36 44.3 +0.2**
comp=Z,32nm,0.6s,baz=277,slow=1.8,SNR=153
VNDA **Vanda** **63.09** **166** P **P** **01 36 44.3 +0.4**
VNDA **Vanda** **63.09** **166** P **P** **01 36 44.3 +0.4**
comp=Z,20nm,0.8s,baz=275,slow=7.3,SNR=21
VNDA LR LR 02 00 54.2
comp=Z,378nm,18.9s,baz=274,slow=33
CD2 **Chengdu** **63.84** **27** P **P** **01 36 51.3 +1.9**
CD2 pP **pP** **01 36 56.0 +1.4**
CD2 sP **sP** **01 36 58.3 +1.8**
CD2 PcP **PcP** **01 37 26.3 +1.1**
CD2 PP **PP** **01 39 14.3 +4.1**
CD2 PcS 01 41 28.6
CD2 S **S** **01 45 26.8 +2.6**
CD2 sS **sS** **01 45 34.1 +1.5**
CD2 SKS **ScS** **01 46 42.6 0.0**
CD2 SS **SS** **01 49 37.3 +4.3**
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 pmax pmax
comp=Z,140nm,4.5s
COEN **Coen** **64.47** **93** *e*P **P** **01 36 53.4 -0.6**
comp=Z,27nm,0.7s
CTA **Charters Tower** **64.88** **101** *e*P **P** **01 36 56.5 -0.1**
comp=Z,10nm,0.9s
CTAO **Charters Tower** **64.88** **101** *e*P **P** **01 36 56.7 +0.1**
CTAO **Charters Tower** **64.88** **101** *e*P **P** **01 36 56.7 +0.1**
ENH **Enshi** **65.84** **32** *e*P **P** **01 37 01.9 -0.6**
comp=Z,11nm,1.2s
ARMA **Armidale** **66.00** **113** *e*P **P** **01 37 04.5 +0.6**
ARMA **Armidale** **66.00** **113** *e*P **P** **01 37 03.9 +0.1**
KSH **Kashi** **66.24** **1** P **P** **01 37 02.1 -2.9**
KSH pP **pP** **01 37 07.5 -2.6**
KSH PcP **PcP** **01 37 33.0 -2.0**
KSH PP **PP** **01 39 30.1 -1.2**
KSH ScP 01 41 34.3
KSH PcS 01 41 35.9
KSH S **S** **01 45 49.6 -4.0**
KSH sS **sS** **01 45 57.5 -4.5**
KSH ScS **SKSac** **01 46 55.3 -5.3**
KSH SS **SS** **01 50 07.5 -2.9**
KSH pmax pmax
comp=Z,22nm,0.9s
KSH LR LR
comp=N,170nm,7.9s
KSH LR LR
comp=E,210nm,6.8s
KSH LR LR
comp=Z,260nm,5.9s
BHD **Baghdad** **66.70** **332** *ex* **P** **01 37 05.0 -2.9**
BHD *ex* **S** **01 45 55.5 -3.6**
EIL **Elat** **68.24** **323** LR LR 01 59 44.1
comp=Z,50nm,20.7s,baz=107,slow=30
LZH **Lanzhou** **68.43** **25** *e*P **P** **01 37 19.0 0.0**
LZH pP **pP** **01 37 24.3 +0.1**
LZH sP sP 01 37 36.5 +10
LZH *e*S **S** **01 46 20.3 +0.2**
LZH sS **sS** **01 46 29.0 +0.3**
LZH SS **SS** **01 50 47.6 +3.1**
LZH pmax pmax
comp=Z,27nm,1.2s
LZH pmax pmax
comp=Z,190nm,4.0s
LZH LR LR
comp=N,370nm,17.3s
LZH LR LR
comp=E,140nm,18.0s
LZH LR LR
comp=Z,150nm,19.7s
KZA **Kyzart** **68.79** **0** P **P** **01 37 23.9 +2.4**
SNR=5.7
AML **Almayashu** **68.86** **359** P **P** **01 37 24.3 +2.5**
SNR=15
AAK **Ala-Archa** **69.35** **360** *d* i P **P** **01 37 25.9 +1.4**
AAK pmax pmax
comp=Z,49nm,1.2s
AAK MLR MLR
comp=Z,274nm,16.0s
AAK **Ala-Archa** **69.35** **360** *e*P **P** **01 37 25.7 +1.1**
comp=Z,90nm,1.2s
AAK **Ala-Archa** **69.35** **360** P **P** **01 37 26.0 +1.4**
comp=Z,75nm,1.1s,SNR=8.3
AAK **Ala-Archa** **69.35** **360** P **P** **01 37 27.1 +2.6**
SNR=12
AAK **Ala-Archa** **69.35** **360** LR LR 02 04 58.4
comp=Z,178nm,19.4s,baz=175,slow=34
KBK **Karagaybulak** **69.37** **360** P **P** **01 37 27.4 +2.7**
SNR=8.2
EKS2 **Erkin-Say** **69.39** **359** *e*P **P** **01 37 25.6 +0.9**
EKS2 **Erkin-Say** **69.39** **359** *e*P **P** **01 37 25.6 +0.9**
EKS2 **Erkin-Say** **69.39** **359** P **P** **01 37 27.6 +2.8**
SNR=11
TKM2 **Tokmak 2** **69.64** **0** *e*P **P** **01 37 26.0 -0.4**
TKM2 pmax pmax
comp=Z,31nm,0.6s
TKM2 **Tokmak 2** **69.64** **0** *e*P **P** **01 37 26.0 -0.4**
comp=Z,31nm,0.6s
TKM2 **Tokmak 2** **69.64** **0** P **P** **01 37 28.7 +2.3**
SNR=39
KKAR **Karatay Array** **69.94** **356** *e*P **P** **01 37 28.1 0.0**
KKAR pmax pmax
comp=Z,27nm,1.0s
KKAR **Karatay Array** **69.94** **356** *e*P **P** **01 37 28.1 0.0**
comp=Z,27nm,1.0s
USP **Ospenovka** **69.98** **360** P **P** **01 37 30.9 +2.6**
SNR=26
GTA **Gaotai** **70.05** **20** *e*P **P** **01 37 27.9 -1.0**
GTA pmax pmax
comp=Z,3.0nm,1.2s
WMQ **Urumqi** **71.48** **10** P **P** **01 37 37.8 +0.3**
WMQ pmax pmax
comp=Z,14nm,1.7s
WMQ pmax pmax
comp=Z,160nm,5.6s
NJ2 **Nanjing** **72.09** **38** *e*P **P** **01 37 42.4 +1.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
GNI **Garni** **72.58** **336** *e*P **P** **01 37 45.5 +1.3**
comp=Z,40nm,1.2s
GNI **Garni** **72.58** **336** P **P** **01 37 43.1 -1.2**
comp=Z,16nm,1.0s,baz=151,slow=6.3,SNR=15
DGRG **David-gareji** **73.50** **337** P **P** **01 37 48.3 -1.2**
MKAR **Makanchi Array** **73.80** **5** P **P** **01 37 49.4 -1.8**
MKAR **Makanchi Array** **73.80** **5** P **P** **01 37 49.4 -1.8**
MKAR **Makanchi Array** **73.80** **5** P **P** **01 37 49.4 -1.8**
comp=Z,9.6nm,0.8s,baz=189,slow=6.6,SNR=28
MKAR LR LR 02 08 30.9
comp=Z,112nm,18.2s,baz=179,slow=34
TBLG **Delisi** **73.97** **337** *e*P **P** **01 37 51.5 -0.8**
TBLG **Delisi** **73.97** **337** P **P** **01 37 51.5 -0.8**
AKH **Akhalkalaki** **74.14** **336** P **P** **01 37 55.3 +1.8**
ZEI **Tsey** **75.18** **337** *e*P **P** **01 38 00.2 +0.7**
ZEI pmax pmax
comp=Z,13nm,1.3s
ONI **Oni** **75.18** **336** P **P** **01 38 00.3 +1.0**
KBZ **Khabaz** **76.37** **337** P **P** **01 38 06.2 +0.2**
KBZ **Khabaz** **76.37** **337** P **P** **01 38 06.2 +0.2**
KBZ **Khabaz** **76.37** **337** P **P** **01 38 06.2 +0.2**
comp=Z,12nm,0.9s,baz=156,slow=4.0,SNR=16
KBZ LR LR 02 10 42.0
comp=Z,84nm,18.2s,baz=46,slow=35
KIV **Kislovodsk** **76.65** **337** *e*P **P** **01 38 09.7 +2.0**
KIV pmax pmax
comp=Z,22nm,1.0s
KIV **Kislovodsk** **76.65** **337** *e*P **P** **01 38 08.2 +0.6**
comp=Z,19nm,0.8s
KIV **Kislovodsk** **76.65** **337** P **P** **01 38 09.2 +1.5**
comp=Z,150nm,0.7s,SNR=5.2
BRTR **Keskin Array B** **76.84** **328** P **P** **01 38 09.0 +0.1**
BRTR **Keskin Array B** **76.84** **328** P **P** **01 38 09.0 +0.1**
comp=Z,5.8nm,0.8s,baz=155,slow=7.1,SNR=15
BJI **Beijing** **76.95** **31** P **P** **01 38 10.4 +1.0**
BJI pmax pmax
comp=Z,8.0nm,0.8s
BJI pmax pmax
comp=Z,75nm,3.1s
ABKAR **Akbulak array** **77.16** **350** *e*P **P** **01 38 09.1 -1.2**
comp=Z,9.0nm,0.9s
SOC **Sochi** **77.42** **334** *i* P **P** **01 38 13.2 +1.3**
SOC pmax pmax
comp=Z,26nm,1.0s
KURK **Kurchatov** **77.50** **2**⇑ *e*P **P** **01 38 13.2 +1.0**
KURK pmax pmax
comp=Z,18nm,1.7s
KURK **Kurchatov** **77.50** **2** *e*P **P** **01 38 11.1 -1.1**
comp=Z,10nm,1.1s
AKTO **Aktyubinsk** **78.62** **349** P **P** **01 38 18.7 +0.3**
AKTO **Aktyubinsk** **78.62** **349** P **P** **01 38 18.7 +0.3**
AKTO **Aktyubinsk** **78.62** **349** P **P** **01 38 18.7 +0.3**
comp=Z,6.5nm,0.8s,baz=182,slow=3.3,SNR=22
ANN **Anapa** **79.33** **334** *e*P **P** **01 38 24.1 +1.7**
ANN *e*S **S** **01 48 24.9 +2.6**
ANN *e*SSS SSS 01 57 01.4
ANN pmax pmax
comp=Z,60nm,1.4s
SONM **Songino Array** **79.70** **21** P **P** **01 38 24.1 -0.5**
SONM **Songino Array** **79.70** **21** P **P** **01 38 24.1 -0.5**
comp=Z,3.3nm,0.8s,baz=200,slow=6.0,SNR=18
BVAR **Borovoye Array** **79.85** **357** P **P** **01 38 24.4 -0.7**
BVAR **Borovoye Array** **79.85** **357** P **P** **01 38 24.4 -0.7**
BVAR **Borovoye Array** **79.85** **357** P **P** **01 38 24.4 -0.7**
comp=Z,6.9nm,0.9s,baz=163,slow=6.2,SNR=22
BVAR LR LR 02 12 07.3
comp=Z,146nm,18.2s,baz=171,slow=34
BRVK **Borovoye** **79.89** **357** *e*P **P** **01 38 24.1 -1.2**
BRVK pmax pmax
comp=Z,16nm,1.1s
BRVK **Borovoye** **79.89** **357** *e*P **P** **01 38 24.1 -1.2**
comp=Z,16nm,1.1s
ULN **Ulaanbaatar** **79.94** **21** *e*P **P** **01 38 25.0 -1.0**
ULN **Ulaanbaatar** **79.94** **21** P **P** **01 38 26.0 +0.1**
ZAK **Zakamensk** **81.06** **18**⇓ *i*P **P** **01 38 31.0 -0.8**
ZAK pmax pmax
comp=Z,4.0nm,1.6s
KSAR **Wonju Array Be** **81.09** **40** P **P** **01 38 30.9 -1.3**
ZAA0 **Zalesovo Array** **81.11** **6** *e*P **P** **01 38 29.6 -2.3**
ZALV **Zalesovo Beam** **81.11** **6** P **P** **01 38 30.0 -1.9**
ZALV **Zalesovo Beam** **81.11** **6** P **P** **01 38 30.0 -1.9**
ZALV **Zalesovo Beam** **81.11** **6** P **P** **01 38 30.0 -1.9**
comp=Z,5.3nm,0.9s,baz=204,slow=3.3,SNR=14
ZALV LR LR 02 13 14.7
comp=Z,91nm,18.4s,baz=236,slow=35
KSRS **Korea Array** **81.12** **40** P **P** **01 38 30.9 -1.4**
comp=Z,5.3nm,0.9s,baz=224,slow=5.5,SNR=12
TORD **Torodi Ar. Bea** **81.58** **289** P **P** **01 38 35.0 -0.2**
TORD **Torodi Ar. Bea** **81.58** **289** P **P** **01 38 35.0 -0.2**
comp=Z,6.1nm,0.8s,baz=114,slow=4.8,SNR=20
TORD LR LR 02 14 04.2
comp=Z,86nm,18.2s,baz=130,slow=35
MOY **Mondy** **81.64** **16** *e*P **P** **01 38 37.4 +2.5**
NVS **Novosibirsk** **81.87** **5** *e*P **P** **01 38 33.4 -2.4**
NVS pmax pmax
comp=Z,25nm,2.1s
NVS pmax pmax
comp=N,10.0nm,2.0s
TLY **Talaya** **82.33** **17** *e*P **P** **01 38 37.1 -1.3**
TLY pmax pmax
comp=Z,5.0nm,1.7s
TLY MLR MLR
comp=Z,50nm,17.0s
VRHR **Novokhopersk** **83.22** **340** *e*P **P** **01 38 45.0 +2.1**
VRHR pmax pmax
comp=Z,30nm,0.9s
VRHR pmax pmax
comp=N,6.0nm,0.4s
VRHR pmax pmax
comp=E,20nm,0.9s
TAM **Tamanrasset** **83.48** **300** *e*P **P** **01 38 45.8 +0.6**
TAM pmax pmax
comp=Z,19nm,1.5s
TAM **Tamanrasset** **83.48** **300** *e*P **P** **01 38 45.8 +0.6**
comp=Z,19nm,1.5s
CFR **Carcaliu** **83.63** **329**⇓ *i*P **P** **01 38 45.7 +0.5**
VORD **Divnogorie** **83.86** **338** *e*P **P** **01 38 48.7 +2.5**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=N,7.0nm,0.4s
VORD pmax pmax
comp=E,8.0nm,0.4s
DBIC **Dimbokro** **84.09** **281** LR LR 02 15 48.2
comp=E,117nm,18.1s,baz=98,slow=35
VSR **Storozhevoye** **84.11** **338** *e*P **P** **01 38 49.9 +2.4**
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,7.0nm,1.0s
VSR pmax pmax
comp=Z,20nm,1.0s
VTS **Vitosha** **84.16** **324**⇑ *i*P **P** **01 38 50.7 +2.5**
CN2 **Changchun** **84.29** **34** *e*P **P** **01 38 51.1 +2.5**
CN2 *e*sP **sP** **01 38 57.0 +1.2**
CN2 *e*S **SKKSac** **01 49 16.3 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,18.0s
CN2 LR LR
comp=E,600nm,18.0s
CN2 LR LR
comp=Z,700nm,19.0s
ARU **Arti** **84.33** **351** *c i*P **P** **01 38 48.6 +0.1**
ARU 01 42 04.3
ARU S **S** **01 49 11.9 -1.4**
ARU SS **SS** **01 54 43.5 -0.6**
ARU pmax pmax
comp=Z,43nm,1.7s
ARU **Arti** **84.33** **351** *e*P **P** **01 38 47.9 -0.6**
comp=Z,33nm,1.3s
SVE **Sverdlovsk** **84.45** **352**⇑ *e*P **P** **01 38 49.7 +0.6**
SVE pmax pmax
comp=Z,28nm,1.3s
VRI **Vrincioaia** **84.80** **328**⇑ *i*P **P** **01 38 51.5 +0.3**
PLOR **Plostina** **84.83** **328**⇓ *i*P **P** **01 38 52.1 +0.7**
MLR **Muntele Rosu** **84.89** **328** P **P** **01 38 52.2 +0.4**
MLR **Muntele Rosu** **84.89** **328**⇑ *i*P **P** **01 38 52.5 +0.7**
MLR **Muntele Rosu** **84.89** **328** P **P** **01 38 52.2 +0.4**
comp=Z,3.4nm,0.9s,baz=216,slow=6.6,SNR=16
VOIR **85.28** **327**⇑ *i*P **P** **01 38 54.1 +0.4**
TESR **85.32** **329**⇑ *i*P **P** **01 38 53.9 +0.1**
GZR **Gura Zlata** **86.37** **326**⇑ *i*P **P** **01 39 01.0 +1.9**
MAT **Matsushiro** **86.79** **46** P **P** **01 39 02.7 +1.4**
MAT S **S** **01 49 33.2 -5.3**
MJAR **Matsushiro Arr** **86.79** **46** P **P** **01 38 59.8 -1.5**
MJAR **Matsushiro Arr** **86.79** **46** P **P** **01 38 59.8 -1.5**
comp=Z,7.3nm,0.8s,baz=228,slow=6.5,SNR=12
BURAR **Bucovina Array** **86.80** **329**⇓ *i*P **P** **01 39 02.4 +1.2**
BZS **Buzias** **87.11** **326**⇓ *i*P **P** **01 39 02.6 0.0**
AKASG **Malin Array Be** **87.37** **333** P **P** **01 39 03.2 -0.5**
AKASG **Malin Array Be** **87.37** **333** P **P** **01 39 03.2 -0.5**
comp=Z,9.9nm,0.7s,baz=141,slow=4.5,SNR=21
AKASG LR LR 02 16 19.9
comp=Z,66nm,20.0s,baz=225,slow=34
KIEV **Kiev** **87.37** **333** *e*P **P** **01 39 03.5 -0.2**
KIEV pmax pmax
comp=Z,15nm,0.8s
KIEV **Kiev** **87.37** **333** *e*P **P** **01 39 03.5 -0.2**
comp=Z,15nm,0.8s
DRGR **87.39** **327**⇓ *i*P **P** **01 39 04.7 +0.7**
KEST **Kesra** **87.97** **312** LR LR 02 18 58.7
comp=Z,52nm,18.0s,baz=171,slow=36
OBN **Obninsk** **88.24** **339**⇓ *e*P **P** **01 39 10.3 +2.6**
OBN *e*S S 01 49 37.7 -14
OBN pmax pmax
comp=Z,56nm,1.7s
OBN MLR MLR
comp=Z,100nm,15.0s
TRPA **Tarpa** **88.42** **328**⇑ *i*P P 01 39 05.3 -3.5
TRPA **Tarpa** **88.42** **328** ⇓P P 01 39 11.9 +3.1
MOS **Moscow** **88.44** **340** *e*P **P** **01 39 10.6 +1.9**
UZH **Uzhgorod** **88.89** **328** *e*P **P** **01 39 13.2 +2.2**
UZH *i* 01 39 16.4
PKSM **Moragy** **89.03** **325**⇓ *i*P **P** **01 39 11.8 +0.1**
PKSM **Moragy** **89.03** **325**⇑ P **P** **01 39 12.1 +0.4**
KOLS **Kolonicke sedl** **89.11** **328** *e*P **P** **01 39 14.6 +2.5**
KOLS pmax pmax
comp=Z,21nm,1.7s
KOLS **Kolonicke sedl** **89.11** **328** *e*P **P** **01 39 14.6 +2.5**
KWP **Kalwaria Pacla** **89.40** **329** *e*P **P** **01 39 13.2 -0.2**
KWP pmax pmax
comp=Z,20nm,1.1s
KWP **Kalwaria Pacla** **89.40** **329** *e*P **P** **01 39 13.2 -0.2**
comp=Z,20nm,1.1s
KWP **Kalwaria Pacla** **89.40** **329**⇓ *i*P **P** **01 39 13.9 +0.5**
AQU **L'Aquila** **89.42** **319**⇓ *i*P P 01 39 21.5 +7.8
CRVS **Cervenica-Dubn** **89.47** **328** *e*P **P** **01 39 15.7 +1.9**
CRVS pmax pmax
comp=Z,40nm,2.3s
CRVS **Cervenica-Dubn** **89.47** **328** *e*P **P** **01 39 15.7 +1.9**
PSZ **Piszkesteto** **89.55** **326**⇓ P P 01 39 21.5 +7.3
BUD **Budapest** **89.69** **326**⇓ P **P** **01 39 17.8 +3.0**
VYHS **Vyhne** **90.46** **326** *e*P **P** **01 39 18.5 +0.1**
VYHS pmax pmax
comp=Z,5.0nm,1.1s
VYHS **Vyhne** **90.46** **326** *e*P **P** **01 39 18.5 +0.1**
BOD **Bodaibo** **90.64** **20** *e*P **P** **01 39 17.3 -1.6**
BOD pmax pmax
comp=Z,5.0nm,2.2s
SOP **Sopron** **91.07** **325**⇓ P **P** **01 39 24.2 +3.0**
KLR **Kul'dur** **91.19** **33** *e*P P 01 39 15.8 -5.9
ARSA **Arzberg** **91.33** **324**⇑ *e*pP pP 01 39 26.0 -1.8
comp=Z,10nm,2.2s
CONA **Conrad Observa** **91.59** **325**⇑ *i*P **P** **01 39 25.3 +1.6**
comp=Z,5.4nm,1.4s
MOA **Molln** **92.37** **324**⇓ *i*PcP **PcP** **01 39 29.2 +1.2**
comp=Z,5.9nm,1.0s
GERES **GERESS Array B** **93.28** **325** P **P** **01 39 30.9 -0.7**
GERES **GERESS Array B** **93.28** **325** P **P** **01 39 30.9 -0.7**
comp=Z,0.8nm,0.9s,baz=132,slow=5.6,SNR=3.5
KHC **Kasperske Hory** **93.53** **325** *e*P **P** **01 39 33.5 +0.9**
KHC **Kasperske Hory** **93.53** **325** *e*P **P** **01 39 33.5 +0.9**
RETA **Reutte** **94.02** **322**⇑ *e*PcP **PcP** **01 39 36.5 +1.0**
comp=Z,3.8nm,0.9s
DAVA **Damuels** **94.39** **322**⇑ *e*pP pP 01 39 39.7 -2.4
comp=Z,9.2nm,1.3s
CLL **Collm** **95.16** **326** *e*P P 01 39 46.0 +6.0
CLL **Collm** **95.16** **326** *e*(sP) P 01 39 46.0 +6.0
FINES **FINESS Array B** **96.64** **339** LR LR 02 17 52.5
comp=Z,67nm,18.4s,baz=137,slow=32
LPAZ **La Paz** **124.02** **224** PKP **PKPdf** **01 45 16.8 -0.1**
LPAZ **La Paz** **124.02** **224** PKP **PKPdf** **01 45 16.8 -0.1**
comp=Z,2.9nm,0.9s,baz=98,slow=5.8,SNR=6.8
ILAR **Eielson Array** **133.88** **23** PKP **PKPdf** **01 45 34.0 +0.7**
ILAR **Eielson Array** **133.88** **23** PKP **PKPdf** **01 45 34.0 +0.7**
comp=Z,0.9nm,0.9s,baz=297,slow=3.8,SNR=7.9
YKA **Yellowknife Ar** **144.00** **8** PKPpre PKPpre 01 45 47.5
YKA PP **PP** **01 49 04.7 -0.7**
YKA **Yellowknife Ar** **144.00** **8** PKhKP PKPpre 01 45 47.5
comp=Z,0.6nm,0.7s,baz=334,slow=3.1,SNR=11
YKA PP **PP** **01 49 04.7 -0.7**
comp=Z,0.5nm,0.9s,baz=349,slow=6.1,SNR=4.0
FFC **Flin Flon** **152.28** **356** *c i* PKIKP **PKPbc** **01 46 11.9 -0.5**
FFC **Flin Flon** **152.28** **356** *e*PKPdf **PKPdf** **01 46 05.9 +0.3**
ULM **Lac du Bonnet** **155.82** **346** PKP **PKPdf** **01 46 08.5 -2.3**
ULM **Lac du Bonnet** **155.82** **346** PKP **PKPdf** **01 46 08.5 -2.3**
comp=Z,0.5nm,0.4s,baz=297,slow=2.3,SNR=3.0
A16A **West Butte Ran** **157.55** **12**⇑P **PKPdf** **01 46 12.9 -0.3**
baz=158
B20A **Solberg Farm,** **158.53** **6**⇑P **PKPdf** **01 46 13.9 -0.4**
baz=158
D13A **Huson** **158.65** **18**⇑P **PKPdf** **01 46 13.3 -1.3**
baz=159
D22A **Cohagen** **159.93** **2**⇓P **PKPdf** **01 46 15.7 -0.3**
baz=160
K16A **Soda Springs** **163.36** **17**⇓P **PKPdf** **01 46 19.5 -0.4**
baz=163
J18A **Kendall Valley** **163.37** **13**⇓P **PKPdf** **01 46 19.5 -0.5**
baz=163
BW06 **Boulder Array** **163.89** **12**⇓P **PKPdf** **01 46 19.3 -1.2**
baz=164
PDAR **Pinedale Array** **163.89** **12** PKP **PKPdf** **01 46 18.9 -1.6**
PDAR PKPab **PKPab** **01 47 10.0 -2.9**
PDAR **Pinedale Array** **163.89** **12** PKP **PKPdf** **01 46 18.9 -1.6**
comp=Z,1.7nm,1.0s,baz=119,slow=1.0,SNR=9.1
PDAR PKPab **PKPab** **01 47 10.0 -2.9**
comp=Z,0.5nm,0.7s,baz=2.9,slow=3.6,SNR=2.4
NVAR **Mina Array Bea** **164.06** **41** PKP **PKPdf** **01 46 21.2 +0.5**
NVAR PKPab **PKPab** **01 47 12.8 -1.2**
NVAR **Mina Array Bea** **164.06** **41** PKP **PKPdf** **01 46 21.2 +0.5**
comp=Z,1.0nm,0.8s,baz=141,slow=1.1,SNR=5.0
NVAR PKPab **PKPab** **01 47 12.8 -1.2**
comp=Z,1.3nm,0.7s,baz=297,slow=4.9,SNR=8.0
T22A **Edith** **169.94** **9**⇓P **PKPdf** **01 46 25.4 +0.2**
baz=170
T25A **Trinidad** **169.94** **358**⇓P **PKPdf** **01 46 25.9 +0.8**
baz=170
U25A **Circle Dot Ran** **170.68** **357**⇑P **PKPdf** **01 46 25.6 +0.1**
baz=171
V23A **Ortiz Mt. (NFS** **171.28** **7**⇑P **PKPdf** **01 46 25.1 -0.8**
baz=171
WHTX **Lake Whitney** **171.83** **309**⇓P **PKPdf** **01 46 25.9 -0.1**
baz=172
W25A **X Bar L Ranch,** **171.86** **357**⇑P **PKPdf** **01 46 26.0 -0.1**
baz=172
W24A **Lazy 6 Ranch,** **171.87** **3**⇓P **PKPdf** **01 46 25.7 -0.5**
baz=172
Y20A **Horse Springs,** **172.56** **23**⇓P **PKPdf** **01 46 26.7 +0.2**
baz=172
Y24A **Capitan** **173.15** **3**⇓P **PKPdf** **01 46 26.3 -0.5**
baz=173
Y25A **Mesa, Roswell** **173.16** **358**⇑P **PKPdf** **01 46 26.2 -0.5**
baz=173
Z25A **Roswell** **173.80** **358**⇓P **PKPdf** **01 46 27.0 +0.1**
baz=174
121A **Cookes Peak, D** **174.02** **24**⇓P **PKPdf** **01 46 27.0 -0.1**
baz=174
128A **Castleberry Fa** **174.06** **339**⇓P **PKPdf** **01 46 26.6 -0.4**
baz=174
432A **Menard** **174.10** **311**⇑P **PKPdf** **01 46 26.9 -0.1**
baz=174
220A **Playas Peak, P** **174.25** **32**⇑P **PKPdf** **01 46 27.2 0.0**
baz=174
319A **Douglas** **174.27** **40**⇓P **PKPdf** **01 46 27.5 +0.4**
baz=174
JCT **Junction City** **174.34** **308** *e*PKIKP **PKPdf** **01 46 27.0 -0.1**
JCT **Junction City** **174.34** **308** *e*PKPdf **PKPdf** **01 46 26.9 -0.1**
JCT **Junction City** **174.34** **308**⇓P **PKPdf** **01 46 26.9 -0.2**
baz=174
532A **Rocksprings** **174.62** **306**⇑P **PKPdf** **01 46 27.0 -0.2**
baz=175
320A **Kipp Ranch, An** **174.72** **35**⇓P **PKPdf** **01 46 27.4 +0.1**
baz=175
431A **Sonora** **174.76** **314**⇑P **PKPdf** **01 46 27.0 -0.2**
baz=175
329A **Wagon Wheel Ra** **174.89** **330**⇓P **PKPdf** **01 46 26.9 -0.4**
baz=175
224A **Cornudas Mount** **174.98** **6**⇑P **PKPdf** **01 46 27.7 +0.3**
baz=175
531A **Rocksprings** **175.05** **310**⇓P **PKPdf** **01 46 27.1 -0.2**
baz=175
430A **Baggett Ranch,** **175.06** **320**⇑P **PKPdf** **01 46 26.7 -0.6**
baz=175
MNTX **Cornudas Mount** **175.36** **5**⇑P **PKPdf** **01 46 27.4 0.0**
baz=175

631A	**Perdido Creek** baz=176	**175.49**	**302**	⇑P		**PKPdf**	**01 46 27.3**	**-0.1**
429A	**Davenport Ranc** baz=176	**175.55**	**324**	⇑P		**PKPdf**	**01 46 27.4**	**0.0**
324A	**Moseley Ranch,** baz=176	**175.61**	**6**	⇓P		**PKPdf**	**01 46 27.6**	**0.0**
325A	**Bean Ranch, Si** baz=176	**175.71**	**0**	⇓P		**PKPdf**	**01 46 27.7**	**0.0**
428A	**Kincaid Ranch,** baz=176	**175.84**	**332**	⇓P		**PKPdf**	**01 46 27.6**	**+0.1**
427A	**Hayter Ranch,** baz=176	**175.99**	**341**	⇑P		**PKPdf**	**01 46 27.7**	**+0.1**
425A	**Indio Mountain** baz=176	**176.29**	**0**	⇓P		**PKPdf**	**01 46 27.2**	**-0.5**
426A	**McDonald Obser** baz=176	**176.32**	**348**	⇓P		**PKPdf**	**01 46 27.6**	**-0.2**
528A	**Cox Ranch, San** baz=176	**176.38**	**329**	⇓P		**PKPdf**	**01 46 27.5**	**-0.3**
526A	**Mary Lane Ranc** baz=177	**176.92**	**346**	⇑P		**PKPdf**	**01 46 27.8**	**-0.1**
627A	**Terlingua Ranc** baz=177	**177.25**	**330**	⇓P		**PKPdf**	**01 46 27.5**	**-0.5**
626A	**Big Bend Ranch** baz=177	**177.42**	**344**	⇑P		**PKPdf**	**01 46 27.2**	**-0.7**
TXAR	**Lajitas Array**	**177.47**	**334**	PKP		**PKPdf**	**01 46 26.9**	**-1.0**
TXAR				PKPab		PKPab	01 48 12.3	-0.9
TXAR	**Lajitas Array** comp=Z,0.8nm,0.8s,baz=122,slow=1.6,SNR=7.8	**177.47**	**334**	PKP		**PKPdf**	**01 46 26.9**	**-1.0**
TXAR	comp=Z,2.3nm,0.9s,baz=59,slow=2.2,SNR=14			PKPab		PKPab	01 48 12.3	-0.9

*IDC **24** 01:50:10.0±3.4, 13°.16N×92°.76W, h0km, mb3.5/5, mb1 3.9/6, mb1mx3.7/23, mbtmp3.5/6, ML4.4/2, MS3.0/2, Ms1 3.0/2, ms1mx2.7/21, Error ellipse: s-maj=63.5km s-min=52.5km az=174.0*

*ISCJB **24** 01:50:33.5±0.5, 15°.00N±0°.06×93°.21W±0°.04, h71km±7km, mb3.4/5, Error ellipse: s-maj=10.8km s-min=4.2km az=28.7*

*CASC **24** 01:50:34.0±4.2, 14°.18N×93°.33W, h80km±166km, MD4.2*

*NEIC **24** 01:50:35.3, 14°.96N×93°.19W, h60km, MD4.5(MEX), After MEX.*

*MEX **24** 01:50:35.3±0.9, 14°.96N×93°.19W, h60km±12km, MD4.5*

ISC 24 01:50:34.7±0.9, 15°.06N±0°.05×93°.14W±0°.04, h64km±9km, n42, σ1s41/56, mb3.5/5, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**0.65**	**353**	*eP*		**Pn**	**Pn**	**01 50 48.5**	**-0.1**
PCIG				*i*	S	**Sn**	**Sn**	**01 50 59.4**	**+0.6**
PCIG		**0.65**	**353**	*eP*		**Pn**	**Pn**	**01 50 48.5**	**-0.1**
PCIG				*i*	S	**Sn**	**Sn**	**01 50 59.4**	**+0.6**
THIG		**0.86**	**100**	*eP*		**Pn**	**Pn**	**01 50 50.5**	**-0.6**
THIG				*i*	S	**Sn**	**Sn**	**01 51 02.5**	**-0.7**
THIG		**0.86**	**100**	*eP*		**Pn**	**Pn**	**01 50 50.5**	**-0.6**
THIG				*i*	S	**Sn**	**Sn**	**01 51 02.5**	**-0.7**
CCIG	**Comitan**	**1.55**	**38**	*eP*		**Pn**	**Pn**	**01 51 01.6**	**+1.3**
CCIG				*i*	S	**Sn**	**Sn**	**01 51 21.1**	**+1.4**
CCIG	**Comitan**	**1.55**	**38**	*eP*		**Pn**	**Pn**	**01 51 01.6**	**+1.3**
CCIG				*i*	S	**Sn**	**Sn**	**01 51 21.1**	**+1.4**
TGIG		**1.71**	**1**	*i*	P	**Pn**	**Pn**	**01 51 02.1**	**-0.3**
TGIG				*i*	S	**Sn**	**Sn**	**01 51 24.1**	**+0.8**
TGIG		**1.71**	**1**	*i*	P	**Pn**	**Pn**	**01 51 02.1**	**-0.3**
TGIG				*i*	S	**Sn**	**Sn**	**01 51 24.1**	**+0.8**
TP2	**Tecpan 2**	**2.06**	**97**	*eP*		**Pn**	**Pn**	**01 51 08.7**	**+1.3**
TP2				*eS*		Sn	Sn	01 51 40.8	+8.5
FG6		**2.24**	**103**	*eP*		**Pn**	**Pn**	**01 51 11.3**	**+1.6**
FG6				*eS*		Sn	Sn	01 51 44.4	+7.9
PCG	**Pacaya**	**2.54**	**105**	*eP*		**Pn**	**Pn**	**01 51 14.7**	**+0.9**
PCG				*eS*		Sn	Sn	01 51 50.1	+6.4
CMIG	**Matias Romero**	**2.63**	**321**	*eP*		**Pn**	**Pn**	**01 51 14.9**	**+0.1**
CMIG				*i*	S	**Sn**	**Sn**	**01 51 46.4**	**+0.8**
CMIG	**Matias Romero**	**2.63**	**321**	*eP*		**Pn**	**Pn**	**01 51 14.9**	**+0.1**
CMIG				*i*	S	**Sn**	**Sn**	**01 51 46.4**	**+0.8**
NBG	**Las Nubes**	**2.74**	**99**	*eP*		Pn	Pn	01 51 19.8	+3.2
NBG				*eS*		Sn	Sn	01 51 56.6	+8.0
MRL	**Marmol**	**3.33**	**89**	*eP*		**Pn**	**Pn**	**01 51 26.2**	**+1.7**
MRL				*eS*		Sn	Sn	01 52 11.5	+8.5
RTR	**El Retiro**	**3.57**	**108**	*eP*		**Pn**	**Pn**	**01 51 29.1**	**+1.2**
RTR				*eS*		**Sn**	**Sn**	**01 52 08.7**	**-0.3**
SBLS	**San Blas**	**3.61**	**109**	*eP*		**Pn**	**Pn**	**01 51 29.9**	**+1.5**
SBLS				*eS*		**Sn**	**Sn**	**01 52 08.9**	**-1.2**
BOQS	**Boqueron**	**3.96**	**109**	*eP*		**Pn**	**Pn**	**01 51 34.5**	**+1.3**
VHO	**Vista Hermosa**	**4.00**	**301**	*eP*		**Pn**	**Pn**	**01 51 34.4**	**+0.7**
VHO				*i*	S	**Sn**	**Sn**	**01 52 19.2**	**-0.1**
VHO	**Vista Hermosa**	**4.00**	**301**	*eP*		**Pn**	**Pn**	**01 51 34.4**	**+0.7**
VHO				*i*	S	**Sn**	**Sn**	**01 52 19.2**	**-0.1**
PNIG	**Pinotepa**	**4.98**	**286**	*eP*		**Pn**	**Pn**	**01 51 46.0**	**-1.0**
PNIG				*i*	S	**Sn**	**Sn**	**01 52 41.2**	**-2.1**
PNIG	**Pinotepa**	**4.98**	**286**	*eP*		**Pn**	**Pn**	**01 51 46.0**	**-1.0**
PNIG				*i*	S	**Sn**	**Sn**	**01 52 42.1**	**-1.3**
UTMO	**Huajuapan**	**5.26**	**302**	*i*	P	**Pn**	**Pn**	**01 51 52.2**	**+1.3**
UTMO				*i*	S	**Sn**	**Sn**	**01 52 50.0**	**-0.3**
UTMO	**Huajuapan**	**5.26**	**302**	*i*	P	**Pn**	**Pn**	**01 51 50.2**	**-0.7**
UTMO				*i*	S	**Sn**	**Sn**	**01 52 50.0**	**-0.3**
TEIG	**Tepich**	**6.92**	**41**	*eP*		**Pn**	**Pn**	**01 52 11.5**	**-2.0**
TEIG					Sn	**Sn**	**Sn**	**01 53 26.4**	**-4.4**
TEIG	**Tepich**	**6.92**	**41**	*eP*		**Pn**	**Pn**	**01 52 11.5**	**-2.0**
TEIG	**Tepich** 15nm,0.3s,baz=250,slow=1.4,SNR=86	**6.92**	**41**	Pn		**Pn**	**Pn**	**01 52 11.3**	**-2.1**
TEIG	24nm,0.3s,baz=333,slow=23,SNR=11				Sn	**Sn**	**Sn**	**01 53 26.4**	**-4.4**
TEIG	comp=Z,117nm,19.0s,baz=263,slow=36			LR		LR	LR	01 55 04.8	
TXAR	**Lajitas Array**	**17.21**	**327**	P		**P**	**P**	**01 54 33.4**	**+1.7**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=151,slow=14,SNR=22	**17.21**	**327**	P		**P**	**P**	**01 54 33.4**	**+1.7**
TKL	**Tuckaleechee C** comp=Z,28nm,19.2s,baz=298,slow=37	**22.16**	**21**	LR		LR	LR	02 04 42.9	
ANMO	**Albuquerque**	**23.15**	**331**	P		**P**	**P**	**01 55 35.2**	**-0.6**
ANMO	**Albuquerque** 0.7nm,0.5s,baz=149,slow=13,SNR=5.1	**23.15**	**331**	P		**P**	**P**	**01 55 35.2**	**-0.6**
PDAR	**Pinedale Array**	**31.01**	**336**	P		**P**	**P**	**01 56 45.2**	**-1.2**
PDAR	**Pinedale Array** 0.2nm,0.6s,baz=129,slow=2.9,SNR=2.8	**31.01**	**336**	P		**P**	**P**	**01 56 45.2**	**-1.2**
NVAR	**Mina Array Bea**	**32.16**	**321**	P		**P**	**P**	**01 56 56.3**	**-0.3**
NVAR	**Mina Array Bea** 0.7nm,0.6s,baz=140,slow=8.5,SNR=6.3	**32.16**	**321**	P		**P**	**P**	**01 56 56.3**	**-0.3**
YKA	**Yellowknife Ar**	**49.75**	**347**	P		**P**	**P**	**01 59 19.1**	**-1.3**
YKA	**Yellowknife Ar** 0.3nm,0.5s,baz=155,slow=7.2,SNR=7.5	**49.75**	**347**	P		**P**	**P**	**01 59 19.0**	**-1.3**
ILAR	**Eielson Array**	**61.44**	**337**	P		P		02 00 39.5	-4.6
ILAR	**Eielson Array** 0.4nm,0.9s,baz=136,slow=7.1,SNR=4.5	**61.44**	**337**	P		P		02 00 39.5	-4.6
CMAR	**Chiang Mai Arr**	**144.63**	**340**	PKPbc		PKPab		02 09 53.5	-10
CMAR	**Chiang Mai Arr** 1.4nm,0.3s,baz=355,slow=6.3,SNR=2.9	**144.63**	**340**	PKPbc		PKPab		02 09 53.5	-10

IDC 24 01:52:43.9±1.9, 0°.80N×97°.11E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.6/25, mbtmp3.7/6, ML3.0/1, Error ellipse: s-maj=52.2km s-min=26.3km az=52.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat** 2.8nm,0.3s,baz=343,slow=7.4,SNR=7.8	**2.69**	**42**	Pn		Pn	Pn	01 53 27.7	-1.0
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=283,slow=8.5,SNR=3.3	**41.90**	**122**	P		P	P	02 00 36.4	-0.1
SONM	**Songino Array** 1.1nm,0.6s,baz=193,slow=9.5,SNR=12	**47.54**	**8**	P		P	P	02 01 20.6	-0.7
MKAR	**Makanchi Array** 0.6nm,0.7s,baz=157,slow=9.0,SNR=9.6	**47.61**	**346**	P		P	P	02 01 22.0	+0.3
ZALV	**Zalesovo Beam** 0.8nm,0.3s,baz=168,slow=6.4,SNR=8.1	**53.94**	**351**	P		P	P	02 02 09.7	+0.5
BVAR	**Borovoye Array** 0.5nm,0.7s,baz=113,slow=11,SNR=3.4	**56.60**	**341**	P		P	P	02 02 27.9	-0.6

TRN 24 02:09:41.8, 14°.97N×61°.17W, h152km, MD3.5, M2.4(FDF), 1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FDF	**Fort de France**	**0.24**	**176**	*eP*			Pn	02 10 03.7	+1.1
FDF				*eS*			Sn	02 10 19.5	+1.2
BIM	**Bigot**	**0.46**	**168**	*eP*			Pn	02 10 04.2	+0.9
MVM	**Montagne Vaucl**	**0.49**	**148**	⇓*eP*			Pn	02 10 04.1	+0.7
MGG	**Marie-Galante**	**0.95**	**351**	*eP*			Pn	02 10 07.1	+0.7
SLB	**Belfond**	**1.15**	**174**	*eP*			Pn	02 10 10.1	+1.9
SLB				*eS*			Sn	02 10 30.2	+1.9
MCLT	**Moule a Chique**	**1.28**	**170**	*eS*			Sn	02 10 30.9	+0.6
SVV	**Soufriere Volc**	**1.65**	**182**	*eS*			Sn	02 10 38.5	+1.3
SVB	**Belmont**	**1.69**	**183**	*eP*			Pn	02 10 14.6	+0.9
SVB				*eS*			Sn	02 10 38.1	0.0

IDC 24 02:19:55.3±1.2, 3°.46N×126°.93E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/23, mbtmp3.9/7, Error ellipse: s-maj=110.0km s-min=16.1km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 1.7nm,0.7s,baz=355,slow=12,SNR=3.7	**21.47**	**183**	P		P	P	02 24 45.8	+0.3
WRA	**Warramunga Arr** 2.9nm,0.6s,baz=340,slow=10,SNR=26	**24.37**	**163**	P		P	P	02 25 14.9	-0.4
ASAR	**Alice Springs** 0.6nm,0.6s,baz=354,slow=7.7,SNR=6.1	**27.81**	**166**	P		P	P	02 25 46.5	0.0
STKA	**Stephens Creek** 6.5nm,0.9s,baz=323,slow=6.5,SNR=5.5	**37.81**	**159**	P		P	P	02 27 13.7	+0.1
SONM	**Songino Array** 0.7nm,0.7s,baz=158,slow=8.4,SNR=8.4	**47.61**	**341**	P		P	P	02 28 33.8	+0.6
MKAR	**Makanchi Array** 0.7nm,0.5s,baz=122,slow=7.7,SNR=24	**57.89**	**325**	P		P	P	02 29 49.2	+0.1
ZALV	**Zalesovo Beam** 0.3nm,0.2s,baz=134,slow=8.3,SNR=2.6	**60.91**	**333**	P		P	P	02 30 08.9	-1.0

IDC 24 02:28:34.9±1.8, 17°.02S×178°.08W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.9/19, mbtmp4.0/4, Error ellipse: s-maj=157.2km s-min=31.2km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.8nm,0.3s,baz=95,slow=10.0,SNR=6.2	**39.33**	**240**	P		P	P	02 36 06.6	+0.5
WRA	**Warramunga Arr** 0.7nm,0.4s,baz=96,slow=7.5,SNR=25	**45.10**	**259**	P		P	P	02 36 52.9	-0.5
ASAR	**Alice Springs** 6.4nm,0.6s,baz=88,slow=8.2,SNR=84	**45.34**	**253**	P		P	P	02 36 54.9	-0.3
TXAR	**Lajitas Array** 0.4nm,0.9s,baz=211,slow=4.4,SNR=4.5	**85.26**	**58**	P		P	P	02 41 14.1	0.0

*DDA **24** 02:38:41.6, 36°.12N×35°.76E, h17km, MD3.1*

*CSEM **24** 02:38:42.2±0.3, 36°.10N×35°.79E, h10km, MD3.1, Error ellipse: s-maj=8.0km s-min=4.5km az=78.0*

*ISCJB **24** 02:38:43.1±0.9, 36°.12N±0°.03×35°.84E±0°.04, h14km±5km, Error ellipse: s-maj=6.2km s-min=4.8km az=147.9*

*NSSC **24** 02:38:43.8±3.7, 35°.99N×36°.10E, h0km±24km, MD1.4, ML2.2*

ISC 24 02:38:41.7±1.1, 36°.03N±0°.02×35°.74E±0°.03, h18km±5km, n27, σ1s24/48, 2C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YAYL	**Yayladag**	**0.30**	**89**	*i*	P	**Pg**		**02 38 48.2**	**-0.1**
YAYL				*i*	S	**Sg**		**02 38 52.4**	**-0.4**
YAYL	**Yayladag**	**0.30**	**89**	*i*	P	**Pg**		**02 38 48.2**	**-0.1**
YAYL				*i*	S	**Sg**		**02 38 52.4**	**-0.4**
COBT	**Iskenderun**	**0.64**	**40**	*i*	P	**Pg**		**02 38 53.6**	**-1.0**
COBT	**Iskenderun**	**0.64**	**40**	*i*	P	**Pg**		**02 38 53.6**	**-1.0**
WRDH	**Warideh** SNR=95	**0.75**	**133**	*eP*		**Pn**		**02 38 57.8**	**+0.3**
WRDH	SNR=95			*eS*		**Sn**		**02 39 08.5**	**0.0**
BIDA	**Albida** SNR=93	**1.12**	**155**	⇑*eP*		**Pg**		**02 39 04.2**	**+0.8**
BIDA	SNR=93			*eS*		**Sg**		**02 39 20.0**	**+2.0**
KFRA	**Kufra**	**1.19**	**133**	*eP*		Pn		02 38 59.4	-4.0
KFRA				*eS*		**Sb**		**02 39 15.0**	**-3.7**
KFRA	comp=Z,163nm,0.3s				AML	AML		02 39 16.4	
KFRA	comp=N,450nm,0.5s				AML	AML		02 39 17.2	
KFRA	comp=E,403nm,0.2s				AML	AML		02 39 17.2	
KUZU	**Kuzuini**	**1.31**	**55**	*i*	P	**Pn**		**02 39 05.3**	**+0.1**
KUZU				*i*	S	**Sn**		**02 39 21.8**	**-0.4**
KUZU	**Kuzuini**	**1.31**	**55**	*i*	P	**Pn**		**02 39 05.3**	**+0.1**
KUZU				*i*	S	**Sn**		**02 39 21.8**	**-0.4**
GULE	**Gulek**	**1.47**	**329**	*i*	P	**Pb**		**02 39 08.7**	**0.0**
GULE				*i*	S	**Sn**		**02 39 26.6**	**+0.2**
GULE	**Gulek**	**1.47**	**329**	*i*	P	**Pb**		**02 39 08.7**	**0.0**
GULE				*i*	S	**Sn**		**02 39 26.6**	**+0.2**
HAWK	**Haweek**	**1.60**	**160**	*i*	P	**Pb**		**02 39 11.7**	**+0.9**
HAWK				*i*	S	**Sg**		**02 39 33.9**	**+0.6**
HAWK	comp=Z,13nm,0.4s				AML	AML		02 39 35.3	
HAWK	comp=E,29nm,0.3s				AML	AML		02 39 36.2	
HAWK	comp=N,16nm,0.2s				AML	AML		02 39 36.5	
HAWK	**Haweek** SNR=57	**1.60**	**160**	⇓*iP*		**Pb**		**02 39 11.7**	**+0.9**
HAWK	comp=N,16nm,0.2s,SNR=58			*eS*		**Sg**		**02 39 32.5**	**-0.8**
ANDN	**Andirin**	**1.62**	**17**	*i*	P	**Pg**		**02 39 15.5**	**+2.5**
ANDN				*i*	S	**Sg**		**02 39 34.2**	**0.0**
ANDN	**Andirin**	**1.62**	**17**	*i*	P	**Pg**		**02 39 15.5**	**+2.5**
ANDN				*i*	S	**Sg**		**02 39 34.2**	**0.0**
SLMH	**Al Salmeh**	**1.78**	**83**	*i*	P	**Pn**		**02 39 12.0**	**+0.4**
SLMH				*i*	S	**Sn**		**02 39 32.2**	**-1.6**
SLMH	comp=E,26nm,0.5s				AML	AML		02 39 40.0	
SLMH	comp=N,42nm,0.5s				AML	AML		02 39 40.5	
SLMH	comp=Z,40nm,0.6s				AML	AML		02 39 43.2	
GZT	**Gaziantep**	**1.98**	**47**	*i*	P	**Pn**		**02 39 14.9**	**+0.5**
GZT				*i*	S	**Sb**		**02 39 41.8**	**+0.2**
JHLN	**Al Jahlan**	**2.22**	**98**	*eP*		**Pn**		**02 39 18.0**	**+0.3**
JHLN				*eS*		**Sn**		**02 39 43.3**	**-1.4**
JHLN	comp=N,20nm,0.5s				AML	AML		02 39 52.3	
JHLN	comp=Z,32nm,0.7s				AML	AML		02 39 52.6	
JHLN	comp=E,33nm,0.2s				AML	AML		02 39 53.6	
JHLN	**Al Jahlan** SNR=57	**2.22**	**98**	*eP*		**Pn**		**02 39 18.0**	**+0.3**
JHLN	comp=E,33nm,0.2s,SNR=58			*eS*		**Sn**		**02 39 43.3**	**-1.4**
ERMK	**Ermenek**	**2.36**	**286**	*i*	P	**Pn**		**02 39 17.2**	**-2.6**
ERMK				*i*	S	**Sb**		**02 39 53.9**	**+1.1**
ERMK	**Ermenek**	**2.36**	**286**	*i*	P	**Pn**		**02 39 17.2**	**-2.6**
ERMK				*i*	S	**Sb**		**02 39 53.9**	**+1.1**
ATAB	**Bozova**	**2.51**	**54**	*i*	P	**Pg**		**02 39 28.6**	**-1.2**
ATAB				*i*	S	**Sb**		**02 39 57.3**	**+0.6**
ATAB	**Bozova**	**2.51**	**54**	*i*	P	**Pg**		**02 39 28.6**	**-1.2**
ATAB				*i*	S	**Sb**		**02 39 57.3**	**+0.6**
KSRV	**Kasrt alli**	**2.65**	**93**	*eP*		**Pn**		**02 39 24.8**	**+1.2**
KSRV				*eS*		**Sn**		**02 39 56.7**	**+1.4**
KSRV	**Kasrt alli** SNR=57	**2.65**	**93**	⇑*eP*		**Pn**		**02 39 24.5**	**+0.9**
AKCD	**Akcadag**	**2.86**	**37**	*i*	P	**Pn**		**02 39 26.3**	**-0.2**
AKCD	**Akcadag**	**2.86**	**37**	*i*	P	**Pn**		**02 39 26.3**	**-0.2**

*IDC **24** 02:39:13.8±0.6, 53°.08N×173°.23E, h0km, mb3.7/9, mb1 4.0/10, mb1mx3.7/29, mbtmp3.7/10, ML4.0/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/40, Error ellipse: s-maj=19.9km s-min=6.7km az=107.0*

*MOS **24** 02:39:14.4±1.1, 53°.26N×173°.20E, h13km, mb4.1/7, Error ellipse: s-maj=15.6km s-min=11.5km az=106.9*

*ISCJB **24** 02:39:15.2±1.1, 53°.17N±0°.05×173°.19E±0°.06, h21km±9km, mb3.8/13, MS4.4/1, Error ellipse: s-maj=9.1km s-min=5.8km az=18.1*

*KRSC **24** 02:39:17.9±2.1, 53°.10N×172°.44E, h10km±10km, ML4.4*

*NEIC **24** 02:39:18.6±0.4, 53°.06N×173°.31E, h35km, mb4.0/5, Error ellipse: s-maj=12.1km s-min=8.8km az=160.0*

ISC 24 02:39:17.4±1.1, 53°.2N±0°.1×173°.16E±0°.04, h28km±10km, n50, σ2s33/62, mb3.8/13, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**0.27**	**180**			Pn	**Pb**	**02 39 24.3**	**+0.1**
FX1						Sn	**Sb**	**02 39 29.1**	**+0.3**
FX1	**Attu Island--F** 1µm,0.3s,baz=354,slow=14	**0.27**	**180**			Pn	**Pb**	**02 39 24.3**	**+0.1**
FX1						Sn	**Sb**	**02 39 29.1**	**+0.3**
SMY	**Shemya**	**0.70**	**126**	*eP*			**Pb**	**02 39 29.4**	**-1.7**
SMY				*eS*			**Sb**	**02 39 37.6**	**-2.8**
SMY	**Shemya**	**0.70**	**126**	*eP*			**Pb**	**02 39 29.4**	**-1.7**
SMY				*eS*			**Sb**	**02 39 37.6**	**-2.8**
BKI	**Bering**	**4.70**	**299**	P			**Pn**	**02 40 25.3**	**-1.0**
BKI				S			**Sn**	**02 41 14.9**	**-5.0**
BKI	**Bering**	**4.70**	**299**	P			**Pn**	**02 40 25.3**	**-1.0**
BKI				S			**Sn**	**02 41 14.9**	**-5.0**
KBTR	**Krutoberegovo**	**6.74**	**301**	P			**Pn**	**02 40 57.3**	**+3.0**
KBTR	**Krutoberegovo**	**6.74**	**301**	P			**Pn**	**02 40 57.3**	**+3.0**
MKZ	**Mys Kozlova**	**6.91**	**286**	P			**Pn**	**02 40 57.7**	**+1.0**
MKZ				S			**Sn**	**02 42 09.8**	**-4.5**
MKZ	**Mys Kozlova**	**6.91**	**286**	P			**Pn**	**02 40 57.7**	**+1.0**
MKZ				*eS*			**Sn**	**02 42 09.8**	**-4.5**
SPN	**Mys Shipunski**	**7.91**	**275**	S			**Sn**	**02 42 34.5**	**-4.3**
TUMR	**Tumrok**	**7.93**	**291**	P			**Pn**	**02 41 12.0**	**+1.3**
KMNR	**Kamenistaya**	**7.97**	**294**	P			**Pn**	**02 41 14.4**	**+3.0**
KMNR				S			**Sn**	**02 42 38.6**	**-2.0**
SDLR	**Sedlovina**	**8.57**	**277**	P			**Pn**	**02 41 21.1**	**+1.5**
UGLR	**Uglovaya**	**8.62**	**276**	P			**Pn**	**02 41 21.9**	**+1.7**
SMAR	**Somma**	**8.62**	**277**	P			**Pn**	**02 41 21.2**	**+0.8**
AVH	**Avacha**	**8.66**	**277**	P			**Pn**	**02 41 22.8**	**+2.0**
AVH				S			**Sn**	**02 42 53.6**	**-3.9**
RUS	**Russkaya**	**8.91**	**271**	P			**Pn**	**02 41 25.6**	**+1.5**
RUS				S			**Sn**	**02 42 58.5**	**-4.9**
RUS	**Russkaya**	**8.91**	**271**	P			**Pn**	**02 41 25.6**	**+1.5**
RUS				S			**Sn**	**02 42 58.5**	**-4.9**
MTVR	**Mutnovka**	**9.10**	**272**	P			**Pn**	**02 41 29.0**	**+2.1**
MTVR				S			**Sn**	**02 43 04.1**	**-4.2**
ASAK	**Asacha**	**9.29**	**271**	P			**Pn**	**02 41 31.3**	**+1.9**
ASAK				S			**Sn**	**02 43 07.9**	**-5.0**
PETK	**Petropavlovsk-** comp=Z,59nm,18.1s,baz=308,slow=37	**9.30**	**276**	LR		LR	LR	02 44 57.8	
KDAK	**Kodiak Island** 7.9nm,1.1s	**19.82**	**63**	*eP*		**P**	**P**	**02 43 45.7**	**+0.2**
KDAK	**Kodiak Island** 0.4nm,0.3s,baz=354,slow=18,SNR=6.2	**19.82**	**63**	P		**P**	**P**	**02 43 44.8**	**-0.7**
COLA	**College**	**22.82**	**44**	*eP*		**P**	**P**	**02 44 17.9**	**+0.2**
COLA	comp=Z,9.0nm,1.0s				pmax	pmax			
COLA	**College** comp=Z,9.0nm,1.0s	**22.82**	**44**	*eP*		**P**	**P**	**02 44 17.9**	**+0.2**
ILAR	**Eielson Array**	**23.20**	**44**	P		**P**	**P**	**02 44 21.2**	**-0.4**
ILAR	**Eielson Array** comp=Z,1.7nm,0.7s,baz=250,slow=8.1,SNR=23	**23.20**	**44**	P		**P**	**P**	**02 44 21.2**	**-0.4**
INK	**Inuvik** comp=Z,1.8nm,0.9s	**28.98**	**38**	*eP*		**P**	**P**	**02 45 14.7**	**+0.7**
YKA	**Yellowknife Ar**	**37.60**	**46**	P		**P**	**P**	**02 46 29.8**	**+0.8**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.6s,baz=288,slow=7.8,SNR=3.6	**37.60**	**46**	P		**P**	**P**	**02 46 29.8**	**+0.8**
ULN	**Ulaanbaatar** comp=Z,2.5nm,1.1s	**41.03**	**290**	*eP*		**P**	**P**	**02 46 59.3**	**+1.3**
SONM	**Songino Array**	**41.41**	**291**	P		**P**	**P**	**02 47 02.4**	**+1.2**
SONM	**Songino Array** comp=Z,0.4nm,0.5s,baz=56,slow=7.8,SNR=6.7	**41.41**	**291**	P		**P**	**P**	**02 47 02.4**	**+1.2**
PDAR	**Pinedale Array**	**50.38**	**69**	P		**P**	**P**	**02 48 12.2**	**+0.2**
PDAR	**Pinedale Array** comp=Z,0.9nm,0.7s,baz=332,slow=3.6,SNR=6.8	**50.38**	**69**	P		**P**	**P**	**02 48 12.2**	**+0.2**
KURK	**Kurchatov** comp=Z,0.2nm,1.1s	**54.14**	**309**	*eP*		**P**	**P**	**02 48 40.3**	**+0.8**
KURK	comp=Z,2.3nm,1.1s				pmax	pmax			
KURK	**Kurchatov** comp=Z,2.3nm,1.1s	**54.14**	**309**	*eP*		**P**	**P**	**02 48 40.2**	**+0.8**
MKAR	**Makanchi Array**	**54.99**	**303**	P		**P**	**P**	**02 48 45.9**	**+0.1**
MKAR	**Makanchi Array**	**54.99**	**303**	P		**P**	**P**	**02 48 45.9**	**+0.1**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.5s,baz=52,slow=6.1,SNR=14	**54.99**	**303**	P		**P**	**P**	**02 48 45.9**	**+0.1**
JMIC	**Jan Mayen** comp=Z,326nm,20.3s,baz=78,slow=33	**56.16**	**1**	LR		LR	LR	03 10 23.6	
SCHQ	**Schefferville**	**61.52**	**35**	P		**P**	**P**	**02 49 31.1**	**-0.2**
SCHQ	**Schefferville** comp=Z,1.5nm,0.6s,baz=299,slow=0.9,SNR=5.4	**61.52**	**35**	P		**P**	**P**	**02 49 31.1**	**-0.2**
TXAR	**Lajitas Array**	**63.15**	**76**	P		**P**	**P**	**02 49 43.6**	**+0.9**
TXAR	**Lajitas Array** comp=Z,1.0nm,0.5s,baz=305,slow=5.3,SNR=29	**63.15**	**76**	P		**P**	**P**	**02 49 43.6**	**+0.9**
WRA	**Warramunga Arr**	**80.17**	**217**	P		**P**	**P**	**02 51 25.5**	**+0.7**
WRA	**Warramunga Arr** comp=Z,0.8nm,1.1s,baz=51,slow=7.4,SNR=4.7	**80.17**	**217**	P		**P**	**P**	**02 51 25.5**	**+0.7**
ASAR	**Alice Springs**	**83.74**	**216**	P		**P**	**P**	**02 51 45.6**	**+2.0**
**ASA

APA0				Rg	Rg	02 55 11.6	
	baz=79,slow=37						
APA0	**Apatity Array**	**0.24**	**184**	Pg	Pg	02 55 05.5	-0.8
	baz=87,slow=18						
APA0				Lg	Lg	02 55 09.8	
	baz=80,slow=37						
APA0				Rg	Rg	02 55 11.6	
	baz=79,slow=37						
APA0	**Apatity Array**	**0.24**	**184**	*i* P	Pg	02 55 05.5	-0.8
APA0				*i* S	Sg	02 55 09.8	+0.4
APA0				*e*RG	Rg	02 55 11.6	
APA0	**Apatity Array**	**0.24**	**184**	P	Pg	02 55 05.5	-0.8
APA0				Lg	Lg	02 55 09.8	
	baz=80,slow=36						
VRF	**Varrio**	**1.31**	**268**	*e*P	Pg	02 55 24.8	-2.1
VRF	**Varrio**	**1.31**	**268**	P	Pg	02 55 24.8	-2.1
KU6	**Riekki**	**2.21**	**216**	*e*PB	Pn	02 55 40.1	+0.5
KU6				*e*SG	Sb	02 56 09.1	-1.2
KU6				MSG		02 56 09.1	
	comp=Z,1.7nm,0.4s						
KU6	**Riekki**	**2.21**	**216**	Pb	Pn	02 55 40.1	+0.5
MSF	**Maaselka**	**2.50**	**221**	*e*PB	Pn	02 55 45.6	+1.9
MSF				*e*SG	Sb	02 56 18.7	-0.1
MSF				MSG		02 56 18.7	
	comp=Z,0.4nm,0.4s						
MSF	**Maaselka**	**2.50**	**221**	Pb	Pn	02 55 45.6	+1.9
SGF	**Sodankyl**	**2.52**	**264**	*e*RG	Rg	02 56 24.7	
KEV	**Kevo**	**2.92**	**314**	*e*PB	Pb	02 55 52.8	-1.8
KEV				*e*SG	Sb	02 56 31.1	+0.3
KEV				MSG		02 56 31.1	
	comp=Z,1.4nm,0.2s						
KEV				*e*RG	Rg	02 56 45.2	
RNF	**Rovaniemi**	**3.00**	**249**	*e*P	Pn	02 55 51.7	+1.2
RNF				*e*RG	Rg	02 56 44.9	
ARA0	**ARCESS Array S**	**3.23**	**305**	Pn	Pn	02 55 56.0	+2.3
	baz=122,slow=16						
ARA0				Pg	Pg	02 56 04.4	+0.6
	baz=119,slow=16						
ARA0				Sn	Sn	02 56 36.4	+3.4
	baz=114,slow=22						
ARA0				Lg	Lg	02 56 48.9	
	baz=112,slow=37						
ARA0	**ARCESS Array S**	**3.23**	**305**	Pn	Pn	02 55 56.0	+2.3
	baz=122,slow=16						
ARA0				Pg	Pg	02 56 04.4	+0.6
	baz=119,slow=16						
ARA0				Sn	Sn	02 56 36.4	+3.4
	baz=114,slow=22						
ARA0				Lg	Lg	02 56 48.9	
	baz=112,slow=37						
ARA0	**ARCESS Array S**	**3.23**	**305**	*e*P	Pn	02 55 56.0	+2.2
ARA0				*e*SG	Sb	02 56 37.8	-2.2
ARA0				MSG	Sb	02 56 37.8	-2.2
	comp=Z,0.6nm,0.2s						
ARA0				*e*SB	Sb	02 56 37.8	-2.2
ARA0				MSG		02 56 37.8	
	comp=Z,0.6nm,0.2s						
ARA0	**ARCESS Array S**	**3.23**	**305**	P	Pn	02 55 56.0	+2.2
ARA0	**ARCESS Array S**	**3.23**	**305**	Pg	Pg	02 56 04.4	+0.6
	baz=119,slow=15,SNR=90						
ARA0				Sn	Sn	02 56 36.4	+3.4
	baz=114,slow=22,SNR=50						
ARA0				Lg	Lg	02 56 48.8	
	baz=112,slow=34,SNR=50						
FIA0	**FINESS Array S**	**7.08**	**208**	Lg	Lg	02 58 35.7	
	baz=32,slow=28						
FIA0	**FINESS Array S**	**7.08**	**208**	Lg	Lg	02 58 35.7	
	baz=32,slow=28						
FIA0	**FINESS Array S**	**7.08**	**208**	*e*SG	Sb	02 58 35.7	+5.3
FIA0	**FINESS Array S**	**7.08**	**208**	Lg	Lg	02 58 35.7	
	baz=32,slow=26,SNR=55						

*ISCJB **24** 02:59:44.6±0.2, 17°7S±0.1°×178°71W±0.07, h579km, mb4.4/34, Error ellipse: s-maj=15.2km s-min=4.4km az=151.7*

*IDC **24** 02:59:46.3±1.4, 18°01S×178°45W, h601km±17km, mb3.7/12, mb1 4.0/14, mb1mx3.7/23, mbtmp3.7/14, Error ellipse: s-maj=24.4km s-min=10.0km az=155.0*

*NEIC **24** 02:59:48.2±0.6, 17°80S×178°67W, h610km±7km, mb4.4/21, Error ellipse: s-maj=13.6km s-min=6.8km az=149.0*

ISC 24 02:59:45.3±0.5, 17°8S±0.1°×178°56W±0°09, h579km, n215, σ0°66/217, mb4.3/34, 83C-84D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.23**	**271**	*e*P		P	03 01 08.7	+4.6
AFI	**Afiamalu**	**7.59**	**60**	P		**P**	**03 01 41.0**	**+0.8**
	4.5nm,0.3s,baz=226,slow=21,SNR=5.2							
DZM	**Mont Dzumac**	**14.72**	**251**	P		**P**	**03 02 52.0**	**+0.5**
	1.4nm,0.3s,baz=80,slow=20,SNR=11							
OUZ	**Omahuta**	**18.69**	**200**	*e*P		**P**	**03 03 29.5**	**+1.5**
	13nm,0.8s							
URZ	**Urewera**	**20.72**	**190**	*e*P		**P**	**03 03 48.6**	**+2.3**
	21nm,1.4s							
EIDS	**Eidsvold**	**29.16**	**250**	*e*P		**P**	**03 05 01.2**	**+0.2**
	14nm,0.8s							
ARMA	**Armidale**	**29.86**	**240**	*e*P		**P**	**03 05 07.9**	**+0.8**
	10nm,0.7s							
ARMA	**Armidale**	**29.86**	**240**	*e*P		**P**	**03 05 07.9**	**+0.8**
CTA	**Charters Tower**	**33.32**	**260**	*e*P		**P**	**03 05 36.8**	**+0.3**
	11nm,0.6s							
CTAO	**Charters Tower**	**33.32**	**260**	*e*P		**P**	**03 05 37.0**	**+0.5**
	17nm,0.8s							
PMG	**Port Moresby**	**34.30**	**280**	*e*P		**P**	**03 05 46.6**	**+1.8**
	49nm,0.8s							
PMG	**Port Moresby**	**34.30**	**280**	P		**P**	**03 05 46.7**	**+2.0**
	53nm,0.8s,baz=80,slow=6.2,SNR=30							
COEN	**Coen**	**36.96**	**270**	*e*P		**P**	**03 06 08.0**	**+1.3**
	244nm,0.6s							
STKA	**Stephens Creek**	**38.55**	**241**	*e*P		**P**	**03 06 19.8**	**+0.4**
	10.0nm,0.6s							
STKA	**Stephens Creek**	**38.55**	**241**	P		**P**	**03 06 19.9**	**+0.4**
	16nm,0.7s,baz=88,slow=9.1,SNR=33							
BBOO	**Buckleboo**	**43.33**	**241**	*e*P		**P**	**03 06 57.4**	**+0.2**
	327nm,0.5s							
WRAB	**Tennant Creek**	**44.50**	**259**	*e*P		**P**	**03 07 06.0**	**-0.5**
	20nm,0.7s							
WRA	**Warramunga Arr**	**44.51**	**259**	P		**P**	**03 07 05.9**	**-0.7**
	14nm,0.5s,baz=95,slow=7.2,SNR=320							
WRA					ScP	**ScP**	**03 11 34.3**	**-0.3**
	0.8nm,1.0s,baz=92,slow=4.4,SNR=3.4							
WRA					S	**S**	**03 12 58.3**	**-2.5**
	0.5nm,0.8s,baz=101,slow=14,SNR=3.2							
AS31	**Alice Springs**	**44.67**	**254**	*e*P		**P**	**03 07 08.0**	**+0.2**
ASAR	**Alice Springs**	**44.68**	**254**	P		**P**	**03 07 07.9**	**+0.1**
	58nm,0.6s,baz=86,slow=8.4,SNR=355							
ASAR					S	**S**	**03 13 01.6**	**-1.5**
	0.8nm,0.8s,baz=94,slow=18,SNR=4.3							
MTN	**Manton Dam**	**48.65**	**268**	*e*P		**P**	**03 07 37.5**	**-0.3**
FORT	**Forrest**	**49.92**	**245**	*e*P		**P**	**03 07 46.3**	**-0.6**
	36nm,0.5s							
FORT	**Forrest**	**49.92**	**245**	*e*P		**P**	**03 07 45.9**	**-1.0**
	26nm,0.5s							
FITZ	**Fitzroy Crossi**	**52.90**	**260**	*e*P		**P**	**03 08 08.8**	**+0.3**
	127nm,3.0s							
FITZ	**Fitzroy Crossi**	**52.90**	**260**	*e*P		**P**	**03 08 08.4**	**-0.2**
	5.2nm,0.4s							
MBWA	**Marble Bar**	**57.95**	**256**	*e*P		**P**	**03 08 42.9**	**-0.6**
	10.0nm,0.8s							
KLBR	**Kellerberrin**	**58.74**	**243**	*e*P		**P**	**03 08 47.8**	**-0.9**
	19nm,0.6s							
NWAO	**Narrogin (SRO)**	**59.13**	**242**	*e*P		**P**	**03 08 51.6**	**+0.3**
	64nm,1.6s							
MJAR	**Matsushiro Arr**	**67.74**	**323**	P		**P**	**03 09 46.2**	**+0.1**
	1.4nm,0.5s,baz=156,slow=5.6,SNR=4.3							
UGM	**Wanagama**	**69.50**	**268**	*e*P		**P**	**03 09 56.6**	**-0.6**
	406nm,1.8s							
QSPA	**South Pole Qui**	**72.24**	**180**	P		**P**	**03 10 09.8**	**-2.6**
	1.0nm,0.3s,baz=260,slow=1.5,SNR=5.4							
KSM	**Kuching**	**72.53**	**277**	*e*P		**P**	**03 10 14.9**	**+0.1**
	18nm,0.8s							
VES	**Vestal, Richgr**	**77.53**	**46**	⇓P		**P**	**03 10 42.5**	**+0.3**
	baz=78							
MURC	**Murrieta**	**77.67**	**49**	⇓P		**P**	**03 10 43.5**	**+0.5**
	baz=78							
BFSC	**Mount Baldy Ra**	**77.67**	**48**	⇑P		**P**	**03 10 43.4**	**+0.2**
	baz=78							
EDW2	**Edwards Air Fo**	**77.78**	**47**	⇑P		**P**	**03 10 44.2**	**+0.5**
	baz=78							
ISA	**Isabella**	**77.86**	**46**	*e*P		**P**	**03 10 44.7**	**+0.6**
	6.1nm,0.9s							
ISA	**Isabella**	**77.86**	**46**	⇓P		**P**	**03 10 44.7**	**+0.6**
	baz=78							
MONP	**Monument Peak**	**77.86**	**50**	⇓P		**P**	**03 10 45.0**	**+0.7**
	baz=78							
PFO	**Pinyon Flat Ob**	**78.20**	**49**	⇑P		**P**	**03 10 46.2**	**+0.1**
	baz=78							
BELC	**Belle Mtn. Jos**	**78.73**	**49**	⇓P		**P**	**03 10 49.4**	**+0.5**
	baz=79							
MPMC	**Manual Prospec**	**78.74**	**46**	⇑P		**P**	**03 10 49.4**	**+0.4**
	baz=79							
GSC	**Goldstone**	**78.82**	**47**	⇓P		**P**	**03 10 49.6**	**+0.3**
	baz=79							
HEC	**Hector,Ludlow**	**78.92**	**48**	⇑P		**P**	**03 10 50.1**	**+0.3**
	baz=79							
BC3	**Big Chuckawall**	**78.95**	**49**	⇓P		**P**	**03 10 50.6**	**+0.6**
	baz=79							
GRAC	**Grapevine Rang**	**79.32**	**46**	⇑P		**P**	**03 10 52.6**	**+0.8**
	baz=80							
GMRC	**Granite Mounta**	**79.36**	**48**	⇑P		**P**	**03 10 52.6**	**+0.4**
	baz=80							
IRM	**Iron Mountain**	**79.42**	**49**	⇓P		**P**	**03 10 53.0**	**+0.7**
	baz=80							
NVAR	**Mina Array Bea**	**79.45**	**44**	P		**P**	**03 10 50.7**	**-2.0**
	3.0nm,0.7s,baz=224,slow=8.8,SNR=16							
SHOC	**Shoshone**	**79.50**	**47**	⇓P		**P**	**03 10 52.9**	**+0.2**
	baz=80							
TUQ	**Turquoise Moun**	**79.51**	**48**	⇑P		**P**	**03 10 53.3**	**+0.3**
	baz=80							
Y12C	**Blythe**	**79.67**	**50**	⇑P		**P**	**03 10 54.0**	**+0.4**
	baz=80							
113A	**Mohawk Valley,**	**79.75**	**51**	⇓P		**P**	**03 10 54.7**	**+0.7**
	baz=80							
LDFC	**Landfair**	**79.91**	**48**	*e*P		**P**	**03 10 56.0**	**+0.9**
	9.6nm,0.9s							
214A	**Organ Pipe Nat**	**80.07**	**52**	⇑P		**P**	**03 10 56.9**	**+1.1**
	baz=80							
PDMCI	**Parker Dam,Lak**	**80.22**	**49**	⇑P		**P**	**03 10 57.5**	**+1.1**
	baz=80							
Z14A	**Wintersburg**	**80.63**	**51**	⇑P		**P**	**03 10 59.3**	**+0.6**
	baz=81							
W13A	**Hualapai Mount**	**80.79**	**49**	⇑P		**P**	**03 10 59.9**	**+0.2**
	baz=81							
Y14A	**Wickenburg**	**80.86**	**50**	⇓P		**P**	**03 11 00.4**	**+0.5**
	baz=81							
R11A	**Troy Canyon, C**	**81.23**	**45**	⇑P		**P**	**03 11 02.0**	**+0.1**
	baz=82							
TUC	**Tucson**	**81.76**	**52**	*e*P		**P**	**03 11 05.3**	**+0.7**
	5.7nm,1.2s							
X16A	**Lo Mia Camp, P**	**82.23**	**50**	⇑P		**P**	**03 11 08.0**	**+0.9**
	baz=82							
CCUT	**Cedar City**	**82.35**	**47**	*e*P		**P**	**03 11 08.6**	**+0.9**
	2.7nm,0.9s							
319A	**Douglas**	**82.49**	**54**	⇑P		**P**	**03 11 08.9**	**+0.6**
	baz=83							
U15A	**North Rim**	**82.56**	**48**	⇓P		**P**	**03 11 09.7**	**+0.9**
	baz=83							
WUAZ	**Wupatki**	**82.79**	**49**	⇑P		**P**	**03 11 10.5**	**+0.6**
	baz=83							
320A	**Kipp Ranch, An**	**83.05**	**54**	⇓P		**P**	**03 11 12.2**	**+1.0**
	baz=83							
HAWA	**Hanford**	**83.11**	**37**	*e*P		**P**	**03 11 11.1**	**+0.2**
	10.0nm,1.2s							
220A	**Playas Peak, P**	**83.30**	**54**	⇑P		**P**	**03 11 13.1**	**+0.7**
	baz=84							
X18A	**Snowflake**	**83.38**	**51**	⇑P		**P**	**03 11 12.7**	**-0.1**
	baz=84							
120A	**U Bar Ranch, L**	**83.49**	**53**	⇑P		**P**	**03 11 14.3**	**+0.9**
	baz=84							
Z20A	**Nine Sixteen R**	**83.77**	**52**	⇓P		**P**	**03 11 15.6**	**+0.9**
	baz=84							
121A	**Cookes Peak, D**	**84.13**	**53**	⇑P		**P**	**03 11 17.7**	**+1.1**
	baz=84							
Y20A	**Horse Springs,**	**84.28**	**52**	⇓P		**P**	**03 11 17.8**	**+0.5**
	baz=84							
I12A	**Atlanta**	**84.32**	**41**	⇑P		**P**	**03 11 17.4**	**+0.1**
	baz=85							
X20A	**Quemado**	**84.46**	**51**	⇓P		**P**	**03 11 18.7**	**+0.5**
	baz=85							
Z21A	**St. Cloud Mine**	**84.55**	**53**	⇑P		**P**	**03 11 19.2**	**+0.5**
	baz=85							
HLID	**Hailey**	**84.65**	**41**	*e*P		**P**	**03 11 19.5**	**+0.7**
	2.8nm,0.8s							
HLID	**Hailey**	**84.65**	**41**	⇑P		**P**	**03 11 19.4**	**+0.6**
	baz=85,SNR=6.4							
U19A	**Dine' College,**	**84.71**	**49**	⇓P		**P**	**03 11 19.5**	**+0.1**
	baz=85							
W20A	**Ramah**	**84.71**	**51**	⇓P		**P**	**03 11 19.6**	**+0.2**
	baz=85							
J13A	**Cove Ranch, Pi**	**84.72**	**41**	⇑P		**P**	**03 11 18.7**	**-0.4**
	baz=85,SNR=5.3							
M15A	**Larsen Ranch,**	**84.87**	**44**	⇓P		**P**	**03 11 20.0**	**+0.1**
	baz=85							
H12A	**Diamond D Ranc**	**84.88**	**40**	⇑P		**P**	**03 11 19.7**	**-0.3**
	baz=85,SNR=5.9							
G12A	**Big Creek, Yel**	**84.90**	**39**	⇑P		**P**	**03 11 20.3**	**+0.3**
	baz=85							
I13A	**Wildhorse Cree**	**85.02**	**41**	⇑P		**P**	**03 11 21.2**	**+0.5**
	baz=85							
SRU	**San Rafael**	**85.06**	**46**	⇑P		**P**	**03 11 21.0**	**+0.1**
	baz=85							
Z22A	**Elephant Butte**	**85.06**	**53**	⇓P		**P**	**03 11 21.4**	**+0.3**
	baz=85							
J14A	**Carey**	**85.10**	**42**	⇑P		**P**	**03 11 21.7**	**+0.7**
	baz=85							
H13A	**Challis**	**85.26**	**40**	⇓P		**P**	**03 11 21.6**	**-0.2**
	baz=86							
F12A	**Elk City**	**85.27**	**39**	⇓P		**P**	**03 11 21.5**	**-0.2**
	baz=86,SNR=8.9							
K15A	**Arbon**	**85.41**	**43**	⇓P		**P**	**03 11 22.0**	**-0.5**
	baz=86							
O17A	**Robinson Place**	**85.41**	**45**	⇑P		**P**	**03 11 23.1**	**+0.4**
	baz=86							
E12A	**Beaver Dam Sad**	**85.42**	**38**	⇑P		**P**	**03 11 21.5**	**-1.0**
	baz=86							
I14A	**Mackay**	**85.44**	**41**	⇓P		**P**	**03 11 23.3**	**+0.7**
	baz=86,SNR=7.8							
324A	**Moseley Ranch,**	**85.46**	**55**	⇓P		**P**	**03 11 23.6**	**+0.6**
	baz=86							
NEW	**Newport**	**85.52**	**36**	⇑P		**P**	**03 11 22.3**	**-0.5**
	baz=86							
G13A	**Cobalt**	**85.54**	**40**	⇑P		**P**	**03 11 23.1**	**0.0**
	baz=86							
MNTX	**Cornudas Mount**	**85.64**	**55**	⇓P		**P**	**03 11 23.7**	**0.0**
	baz=86							
224A	**Cornudas Mount**	**85.68**	**55**	⇓P		**P**	**03 11 24.6**	**+0.5**
	baz=86							
626A	**Big Bend Ranch**	**85.78**	**57**	⇓P		**P**	**03 11 25.3**	**+0.8**
	baz=86,SNR=5.2							
C11A	**Tepee Creek (N**	**85.78**	**37**	⇓P		**P**	**03 11 23.9**	**-0.1**
	baz=86							
L16A	**Fish Haven**	**85.80**	**44**	⇓P		**P**	**03 11 23.7**	**-0.7**
	baz=86							
J15A	**Blackfoot**	**85.82**	**42**	⇑P		**P**	**03 11 25.5**	**+1.0**
	baz=86,SNR=13							
ILAR	**Eielson Array**	**85.83**	**13**	P		**P**	**03 11 22.6**	**-1.1**
	1.2nm,0.4s,baz=223,slow=5.2,SNR=42							
H14A	**Leadore**	**85.83**	**41**	⇑P		**P**	**03 11 25.0**	**+0.4**
	baz=86							
F13A	**Darby**	**85.84**	**39**	⇑P		**P**	**03 11 24.2**	**-0.2**
	baz=86							
D12A	**Red Lakes Fores**	**85.88**	**38**	⇑P		**P**	**03 11 25.2**	**+0.7**
	baz=86							
U21A	**Nageezi**	**85.89**	**50**	⇓P		**P**	**03 11 24.9**	**-0.2**
	baz=86							
S20A	**Disappointment**	**86.00**	**48**	⇓P		**P**	**03 11 25.3**	**-0.2**
	baz=86							
526A	**Mary Lane Ranc**	**86.01**	**57**	⇓P		**P**	**03 11 26.4**	**+0.8**
	baz=86							
Y23A	**Lovelace Mesa,**	**86.03**	**53**	⇓P		**P**	**03 11 25.7**	**0.0**
	baz=86							
TXAR	**Lajitas Array**	**86.07**	**58**	P		**P**	**03 11 26.6**	**+0.8**
	3.1nm,0.7s,baz=221,slow=5.9,SNR=38							
K16A	**Soda Springs**	**86.09**	**43**	⇓P		**P**	**03 11 25.6**	**-0.1**
	baz=86							
T21A	**Navajo Lake**	**86.22**	**49**	⇑P		**P**	**03 11 26.7**	**+0.1**
	baz=86							
225A	**Deer Hill, Car**	**86.24**	**55**	⇓P		**P**	**03 11 27.0**	**+0.2**
	baz=86							
E13A	**Victor**	**86.25**	**39**	⇑P		**P**	**03 11 25.9**	**-0.5**
	baz=86							
H15A	**Lima**	**86.28**	**41**	⇑P		**P**	**03 11 27.1**	**+0.5**
	baz=86,SNR=5.4							
426A	**McDonald Obser**	**86.30**	**56**	⇑P		**P**	**03 11 27.5**	**+0.5**
	baz=86							
S21A	**Coal Bank Pass**	**86.33**	**49**	⇑P		**P**	**03 11 27.3**	**+0.1**
	baz=86							
627A	**Terlingua Ranc**	**86.34**	**58**	⇓P		**P**	**03 11 28.1**	**+0.9**
	baz=86,SNR=8.9							
P19A	**Cripple Cowboy**	**86.36**	**46**	⇓P		**P**	**03 11 26.9**	**-0.3**
	baz=87							
527A	**Woodward Ranch**	**86.42**	**57**	⇓P		**P**	**03 11 27.5**	**-0.1**
	baz=87							
D13A	**Huson**	**86.43**	**38**	⇑P		**P**	**03 11 26.7**	**-0.5**
	baz=87							
M18A	**Lyman**	**86.43**	**45**	⇑P		**P**	**03 11 27.6**	**+0.1**
	baz=87							
Y24A	**Capitan**	**86.50**	**53**	⇓P		**P**	**03 11 27.7**	**-0.3**
	baz=87,SNR=5.3							
RRI2	**Red Ridge**	**86.51**	**42**	*e*P		**P**	**03 11 28.5**	**+0.7**
	7.3nm,0.8s							
125A	**Gardner Draw,**	**86.59**	**54**	⇓P		**P**	**03 11 28.4**	**+0.1**
	baz=87							
326A	**Caldwell Ranch**	**86.59**	**56**	⇓P		**P**	**03 11 28.2**	**-0.1**
	baz=87							
G15A	**Dillon**	**86.65**	**40**	⇑P		**P**	**03 11 28.5**	**+0.2**
	baz=87,SNR=6.2							
I16A	**Newdale**	**86.65**	**42**	⇑P		**P**	**03 11 29.3**	**+0.9**
	baz=87,SNR=5.7							
E14A	**Clinton**	**86.66**	**39**	⇑P		**P**	**03 11 27.8**	**-0.5**
	baz=87							
C13A	**Hot Springs**	**86.66**	**37**	⇑P		**P**	**03 11 27.3**	**-1.0**
	baz=87							
V23A	**Ortiz Mt. (NFS**	**86.69**	**51**	⇑P		**P**	**03 11 29.3**	**+0.5**
	baz=87							
628A	**Black Gap, Mar**	**86.75**	**58**	⇓P		**P**	**03 11 29.7**	**+0.7**
	baz=87							
Z25A	**Roswell**	**86.79**	**54**	⇑P		**P**	**03 11 29.7**	**+0.5**
	baz=87							
427A	**Hayter Ranch,**	**86.86**	**56**	⇓P		**P**	**03 11 30.4**	**+0.8**
	baz=87							
J17A	**Brown Place, J**	**86.91**	**43**	⇑P		**P**	**03 11 30.0**	**+0.3**
	baz=87,SNR=5.2							
K18A	**Toltan Ranch,**	**87.01**	**43**	⇓P		**P**	**03 11 29.7**	**-0.4**
	baz=87,SNR=5.8							
IMW	**Indian Meadow**	**87.01**	**42**	*e*P		**P**	**03 11 30.9**	**+0.7**
	4.6nm,0.9s							
S22A	**4UR Ranch, Cre**	**87.05**	**49**	⇓P		**P**	**03 11 30.3**	**-0.3**
	baz=87							
Y25A	**Mesa, Roswell**	**87.06**	**53**	⇑P		**P**	**03 11 30.3**	**-0.2**
	baz=87							
528A	**Cox Ranch, San**	**87.09**	**57**	⇓P		**P**	**03 11 31.0**	**+0.3**
	baz=87							
H16A	**Russell Place,**	**87.20**	**41**	⇓P		**P**	**03 11 32.1**	**+1.1**
	baz=87,SNR=5.2							
L19A	**Farson**	**87.21**	**44**	⇑P		**P**	**03 11 31.0**	**-0.1**
	baz=87,SNR=5.3							
I17A	**Pilgrim Ck.**	**87.25**	**42**	⇑P		**P**	**03 11 32.2**	**+0.9**
	baz=88							
J18A	**Kendall Valley**	**87.28**	**43**	⇓P		**P**	**03 11 31.4**	**-0.1**
	baz=88,SNR=15							
R22A	**Saguache, Gunn**	**87.31**	**49**	⇓P		**P**	**03 11 31.9**	**+0.1**
	baz=88							
Z26A	**Caprock**	**87.35**	**54**	⇓P		**P**	**03 11 31.7**	**-0.2**
	baz=88							
BW06	**Boulder Array**	**87.38**	**43**	*e*P		**P**	**03 11 31.7**	**-0.2**
	2.7nm,0.7s							
BW06	**Boulder Array**	**87.38**	**43**	⇓P		**P**	**03 11 31.7**	**-0.2**
	baz=88							
PDAR	**Pinedale Array**	**87.38**	**43**	P		**P**	**03 11 31.7**	**-0.2**
	2.2nm,0.6s,baz=220,slow=3.5,SNR=23							
N20A	**Spence Gulch,**	**87.38**	**46**	⇓P		**P**	**03 11 32.3**	**+0.3**
	baz=88							
428A	**Kincaid Ranch,**	**87.39**	**57**	⇑P		**P**	**03 11 32.2**	**+0.1**
	baz=88							
529A	**Stev Forest Ra**	**87.53**	**57**	⇓P		**P**	**03 11 33.1**	**+0.4**
	baz=88							
328A	**Wristen Ranch,**	**87.54**	**56**	⇑P		**P**	**03 11 32.1**	**-0.5**
	baz=88							
D15A	**Lincoln**	**87.55**	**39**	⇓P		**P**	**03 11 31.7**	**-0.8**
	baz=88							
M20A	**Sweetwater, Wa**	**87.72**	**45**	⇑P		**P**	**03 11 33.4**	**-0.2**
	baz=88							
B14A	**Marquette Ranc**	**87.76**	**37**	⇑P		**P**	**03 11 32.4**	**-1.0**
	baz=88							
G17A	**Pierce Place,**	**87.81**	**41**	⇑P		**P**	**03 11 34.6**	**+0.9**
	baz=88							
E16A	**East Helena**	**87.81**	**39**	⇓P		**P**	**03 11 33.6**	**0.0**
	baz=88							
L20A	**Wamsutter**	**87.85**	**45**	⇓P		**P**	**03 11 33.9**	**-0.2**
	baz=88							
C15A	**Salmond Ranch,**	**87.86**	**38**	⇓P		**P**	**03 11 33.3**	**-0.6**
	baz=88							
N21A	**Black Mountain**	**87.86**	**46**	⇓P		**P**	**03 11 34.5**	**+0.3**
	baz=88							
K19A	**Absolon Red Bu**	**87.88**	**44**	⇑P		**P**	**03 11 33.5**	**-0.6**
	baz=88							
J19A	**Crowheart**	**87.94**	**43**	⇓P		**P**	**03 11 34.3**	**-0.2**
	baz=88							
429A	**Davenport Ranc**	**87.98**	**57**	⇓P		**P**	**03 11 34.8**	**+0.1**
	baz=88,SNR=7.8							
A14A	**Double T Ranch**	**87.98**	**37**	⇓P		**P**	**03 11 34.0**	**-0.4**
	baz=88							
F17A	**Fitzpatrick Pl**	**88.13**	**40**	⇓P		**P**	**03 11 35.6**	**+0.4**
	baz=88							
K20A	**Yellowstone Ra**	**88.13**	**44**	⇓P		**P**	**03 11 34.8**	**-0.6**
	baz=88							
B15A	**Bradely Ranch,**	**88.15**	**38**	⇑P		**P**	**03 11 34.2**	**-1.0**
	baz=88							
329A	**Wagon Wheel Ra**	**88.23**	**56**	⇓P		**P**	**03 11 36.1**	**+0.1**
	baz=88							
128A	**Castleberry Fa**	**88.26**	**55**	⇓P		**P**	**03 11

H24A	**Dirks Ranch, A**	**91.51**	**43**	⇓P	**P**	**03 11 50.6**	**-0.2**
	baz=92							
A21A	**Bergtoll Ranch**	**91.78**	**39**	⇓P	**P**	**03 11 51.1**	**-0.8**
	baz=92							
D23A	**Lindsay**	**92.07**	**41**	⇓P	**P**	**03 11 53.9**	**+0.6**
	baz=92							
C23A	**Lambert**	**92.34**	**40**	⇑P	**P**	**03 11 54.9**	**+0.4**
	baz=93							
B23A	**Brockton**	**92.73**	**40**	⇓P	**P**	**03 11 56.1**	**-0.1**
	baz=93							
DGMT	**Dagmar**	**93.21**	**40**	⇑P	**P**	**03 11 58.4**	**-0.1**
	baz=93							
YKA	**Yellowknife Ar**	**94.30**	**25**	P	**P**	**03 12 02.3**	**-0.7**
	0.3nm,0.5s,baz=243,slow=4.6,SNR=8.0							
BRTR	**Keskin Array B**	**144.61**	**315**	PKP	**PKPdf**	**03 18 16.6**	**-0.3**
	1.0nm,0.4s,baz=101,slow=2.7,SNR=12							

MAN 24 03:06:26,17°.81N×120°.54E,h28km,mb3.9,ML2.7,MS2.3, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIPP	**Brgy, Tapao**	**0.14**	**328**	⇓*i*P	Pn	03 06 33.2	+0.9
ABRA	**Dolores**	**0.23**	**133**	*e*P	Pn	03 06 33.5	-0.1
ABRA				*e*S	Sb	03 06 39.5	+2.9
CAUP	**Cauayan**	**1.50**	**125**	*e*P	Pb	03 06 53.3	+0.1
CAUP				*e*S	Sn	03 07 03.6	-6.1

*ISK **24** 03:16:04.7,36°.97N×34°.40E,h7km,MD2.8*
*DDA **24** 03:16:04.6,36°.99N×34°.44E,h7km,MD3.0*
*ISCJB **24** 03:16:05.3±0.8,37°.00N±0°.04×34°.45E±0°.05,h6km±7km, Error ellipse: s-maj=6.9km s-min=6.2km az=157.8*
*CSEM **24** 03:16:05.2±0.2,37°.00N×34°.42E,h5km,MD2.8,Error ellipse: s-maj=4.2km s-min=3.1km az=4.0*
ISC 24 03:16:05.2±1.0,36°.98N±0°.04×34°.44E±0°.04,h9km±7km, n16,σ0°.946/26,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MERS	**Mersin**	**0.13**	**148**	*e*PG	**Pg**	**03 16 08.0**	**-0.3**
MERS				*e*SG	**Sg**	**03 16 11.0**	**+0.6**
MERS	**Mersin**	**0.13**	**148**	*e*Pg	**Pg**	**03 16 08.0**	**-0.3**
MERS				*e*Sg	**Sg**	**03 16 11.0**	**+0.6**
GULE	**Gulek**	**0.41**	**42**	*i* P	**Pg**	**03 16 12.8**	**-0.5**
GULE				*i* S	**Sg**	**03 16 18.3**	**-0.4**
GULE	**Gulek**	**0.41**	**42**	*i* P	**Pg**	**03 16 12.8**	**-0.5**
GULE				*i* S	**Sg**	**03 16 18.3**	**-0.4**
CEYT	**Ceyhan**	**1.05**	**88**	*e*PG	**Pb**	**03 16 25.9**	**+0.2**
CEYT				*e*SG	**Sn**	**03 16 40.8**	**-0.2**
CEYT	**Ceyhan**	**1.05**	**88**	*e*Pg	**Pb**	**03 16 25.9**	**+0.2**
CEYT				*e*Sg	**Sn**	**03 16 40.8**	**-0.2**
KOZT	**Kozan**	**1.22**	**65**	*e*PN	**Pg**	**03 16 29.3**	**+0.7**
KOZT	**Kozan**	**1.22**	**65**	*e*Pn	**Pg**	**03 16 29.3**	**+0.7**
ERMK	**Ermenek**	**1.27**	**255**	*i* P	**Pn**	**03 16 28.9**	**-0.5**
ERMK				*i* S	**Sn**	**03 16 47.0**	**+0.4**
ERMK	**Ermenek**	**1.27**	**255**	*i* P	**Pn**	**03 16 28.9**	**-0.5**
ERMK				*i* S	**Sn**	**03 16 47.0**	**+0.4**
SULT	**Sultanhani-AKS**	**1.42**	**329**	*e*PN	**Pn**	**03 16 31.3**	**0.0**
SULT	**Sultanhani-AKS**	**1.42**	**329**	*e*Pn	**Pn**	**03 16 31.3**	**0.0**
YAYL	**Yayladag**	**1.65**	**125**	*i* P	**Pb**	**03 16 35.3**	**-0.5**
YAYL				*i* S	**Sn**	**03 16 56.0**	**+0.1**
YAYL	**Yayladag**	**1.65**	**125**	*i* P	**Pb**	**03 16 35.3**	**-0.5**
YAYL				*i* S	**Sn**	**03 16 56.0**	**+0.1**
LADK	**Ladik-KONYA**	**2.04**	**307**	*e*PN	**Pn**	**03 16 40.4**	**+0.4**
LADK	**Ladik-KONYA**	**2.04**	**307**	*e*Pn	**Pn**	**03 16 40.4**	**+0.4**

MEX 24 03:20:06.7±0.9,15°.90N×96°.90W,h20km±39km,MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.18**	**8**	*i* P	Pn	03 20 24.6	-3.7
VHO				*e*S	Sb	03 20 39.1	-4.4
OXX	**Oaxaca**	**1.19**	**8**	*i* P	Pn	03 20 25.3	-3.1
OXX				*i* S	Sb	03 20 39.8	-4.1
PNIG	**Pinotepa**	**1.27**	**293**	*e*P	Pn	03 20 25.8	-3.6
PNIG				*e*S	Sn	03 20 41.7	-4.2
UTMO	**Huajuapan**	**2.10**	**336**	*i* P	Pn	03 20 39.2	-1.9
UTMO				*i* S	Sn	03 21 02.0	-4.7
CMIG	**Matias Romero**	**2.27**	**58**	*i* P	Pn	03 20 40.2	-2.9
CMIG				*i* S	Sn	03 21 07.7	-2.8
TPIG	**Tehuac#an**	**2.54**	**350**	*e*P	Pn	03 20 44.9	-2.1
TPIG				*i* S	Sn	03 21 14.6	-2.9
CAIG	**El Cayaco**	**3.42**	**290**	*i* P	Pn	03 20 56.5	-2.4
CAIG				*i* S	Sn	03 21 35.3	-3.6
PLIG	**Platanillo**	**3.51**	**315**	*i* P	Pn	03 20 57.1	-3.1
PLIG				*i* S	Sn	03 21 37.7	-3.6
ARIG	**Puente Sto Nin**	**4.05**	**306**	*e*P	Pn	03 21 06.3	-1.3
ARIG				*i* S	Sn	03 21 51.9	-2.7

IDC 24 03:58:51.3±16.0,18°.94S×178°.07W,h432km±186km, mb2.7/3,mb1 3.1/3,mb1mx2.9/19,mbtmp2.7/3,Error ellipse: s-maj=143.3km s-min=54.6km az=163.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.77**	**261**	P	P	04 06 24.9	-0.1
	0.2nm,0.3s,baz=97,slow=7.5,SNR=9.7						
TXAR	**Lajitas Array**	**86.27**	**57**	P	P	04 10 46.3	-0.1
	0.3nm,0.8s,baz=213,slow=4.3,SNR=3.8						
ILAR	**Eielson Array**	**86.82**	**13**	P	P	04 10 48.0	0.0
	0.2nm,0.6s,baz=240,slow=5.0,SNR=4.3						
GERES	**GERESS Array B**	**148.69**	**345**	PKPbc	PKPbc	04 17 48.2	-0.6
	0.3nm,0.5s,baz=0.0,slow=2.7,SNR=4.8						

*MOS **24** 05:05:48.0±1.2,52°.85N×100°.04E,h4km,mb4.2/1,Error ellipse: s-maj=37.7km s-min=26.1km az=108.6*
*BYKL **24** 05:05:50.0±0.3,52°.76N×100°.18E,h11km±4km*
ISC 24 05:05:49.2±1.3,52°.79N±0°.05×100°.17E±0°.06,h4km±14km, n18,σ2s37/35,2C-1D,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**0.33**	**222**	*e*PG	**Pg**	**05 05 55.6**	**0.0**
ORL				*e*		05 06 00.3	
ORL				pmax	pmax		
	comp=Z,204nm,0.1s						
ORL				smax	smax		
	comp=N,2μm,0.3s						
ORL	**Orlik**	**0.33**	**222**	⇓*i*Pg	**Pg**	**05 05 55.6**	**0.0**
ORL				*e*Sg	**Sg**	**05 06 00.3**	**+0.4**
ORL				Pmax			
	comp=N,213nm,0.1s						
ORL				Smax			
	comp=N,2μm,0.2s						
MOY	**Mondy**	**1.23**	**155**	⇑*i*Pg	**Pn**	**05 06 12.3**	**-1.0**
MOY				*e*Sg	**Sg**	**05 06 28.2**	**-0.5**
MOY				Pmax			
	comp=N,65nm,0.2s						
MOY				Smax			
	comp=N,117nm,0.3s						
ARS	**Arshan**	**1.63**	**121**	*e*PN	**Pn**	**05 06 19.2**	**+0.4**
ARS				*e*		05 06 42.0	
ARS				pmax	pmax		
	comp=Z,97nm,0.2s						
ARS				smax	smax		
	comp=E,504nm,0.3s						
ARS	**Arshan**	**1.63**	**121**	*e*Pg	**Pn**	**05 06 19.3**	**+0.4**
ARS				*e*Sg	**Sn**	**05 06 40.5**	**+0.2**
ARS				Pmax			
	comp=E,99nm,0.2s						
ARS				Smax			
	comp=E,708nm,0.3s						
TLY	**Talaya**	**2.41**	**116**	*e*PN	**Pb**	**05 06 32.3**	**-0.8**
TLY				*e*		05 07 04.2	
TLY				pmax	pmax		
	comp=Z,22nm,0.4s						
TLY				smax	smax		
	comp=N,199nm,1.3s						
TLY	**Talaya**	**2.41**	**116**	*e*Pg	**Pb**	**05 06 32.4**	**-0.7**
TLY				*e*Sg	**Sb**	**05 07 03.9**	**+0.7**
TLY				Pmax			
	comp=N,20nm,0.3s						
TLY				Smax			
	comp=N,129nm,0.3s						
LSTR	**Listvyanka**	**3.01**	**106**	*e*Pn	**Pn**	**05 06 37.9**	**+0.2**
LSTR				*e*Pg	**Pb**	**05 06 43.1**	**-0.2**
LSTR				*e*Sg	**Sb**	**05 07 22.0**	**+1.6**
LSTR				Pmax			
	comp=N,9.0nm,0.2s						
LSTR				Smax			
	comp=N,53nm,0.2s						
ZAK	**Zakamensk**	**3.09**	**140**	*e*Pg	**Pb**	**05 06 44.5**	**-0.3**
ZAK				*e*Sg	**Sb**	**05 07 25.2**	**+2.3**
ZAK				Pmax			
	comp=N,15nm,0.3s						
ZAK				Smax			
	comp=N,35nm,0.3s						
ORY	**Orie**	**3.73**	**309**	⇑*i*PN	**Pn**	**05 06 46.9**	**-0.6**
ORY				*i*		05 06 55.7	
ORY				*e*		05 07 32.1	
ORY				*e*		05 07 44.5	
TRG	**Tyrgan**	**3.75**	**88**	*e*Pn	**Pn**	**05 06 48.3**	**+0.3**
TRG				*e*		05 07 33.9	
TRG				*e*Sg	**Sb**	**05 07 46.0**	**+4.1**
TRG				Smax			
	comp=N,120nm,0.7s						
ZRHB	**Zarechye**	**4.26**	**90**	*e*Sn	**Sn**	**05 07 43.2**	**-1.8**
ZRHB				*e*Sg	**Sb**	**05 08 01.7**	**+5.3**
ZRHB				Smax			
	comp=N,226nm,1.4s						
OGRR	**Ongureny**	**4.55**	**76**	*e*PN	**Pn**	**05 06 59.3**	**+0.5**
OGRR				*e*		05 07 11.4	
OGRR				*e*S	**Sn**	**05 07 50.7**	**-1.4**
OGRR				*e*		05 08 09.6	
OGRR				pmax	pmax		
	comp=Z,10.0nm,0.4s						
OGRR				smax	smax		
	comp=N,102nm,0.6s						
OGRR	**Ongureny**	**4.55**	**76**	*e*Pn	**Pn**	**05 06 59.3**	**+0.5**
OGRR				*e*Pg	**Pb**	**05 07 11.5**	**+1.9**
OGRR				*e*Sn	**Sn**	**05 07 50.8**	**-1.4**
OGRR				*e*Sg	**Sb**	**05 08 10.5**	**+5.8**
OGRR				Pmax			
	comp=N,8.0nm,0.3s						
OGRR				Smax			
	comp=N,102nm,0.6s						
MXMB	**Maximikha**	**5.20**	**81**	*e*Pn	**Pn**	**05 07 08.9**	**+1.1**
MXMB				*e*Pg	Pb	05 07 24.0	+3.3
MXMB				*e*Sn	**Sn**	**05 08 07.3**	**-0.9**
MXMB				*e*Sg	Sb	05 08 30.6	+7.1
MXMB				Pmax			
	comp=N,5.0nm,0.1s						
MXMB				Smax			
	comp=N,91nm,1.3s						
NIZ	**Nizh Angarsk**	**6.25**	**58**	*e*Pn	**Pn**	**05 07 22.7**	**+0.5**
NIZ				*e*Pg	Pg	05 07 43.2	-5.7
NIZ				*e*Sn	**Sn**	**05 08 30.8**	**-3.3**
NIZ				*e*Sg	**Sg**	**05 09 04.2**	**-5.7**
NIZ				Pmax			
	comp=N,5.0nm,0.2s						
NIZ				Smax			
	comp=N,15nm,0.4s						
YLYR	**Ulyunkhan**	**6.84**	**68**	*e*Pn	**Pn**	**05 07 30.9**	**+0.6**
YLYR				*e*Sn	**Sn**	**05 08 46.5**	**-2.0**
YLYR				*e*Sg	Sg	05 09 21.2	-7.4
YLYR				Smax			
	comp=N,16nm,1.2s						
KPC	**Khapcheranga**	**8.26**	**107**	*e*Sn	**Sn**	**05 09 18.8**	**-4.8**
KPC				*e*Sg	Sb	05 10 04.3	+13
KPC				Smax			
	comp=N,12nm,1.2s						

*ISCJB **24** 05:09:58.2±0.8,37°.90N±0°.04×29°.19E±0°.08,h2km±11km, Error ellipse: s-maj=10.7km s-min=5.5km az=24.6*
*DDA **24** 05:09:58.2,37°.88N×29°.16E,h7km,MD2.9*
*CSEM **24** 05:09:58.0±0.3,37°.88N×29°.22E,h2km,MD2.5,Error ellipse: s-maj=7.2km s-min=4.8km az=122.0*
*ISK **24** 05:10:00.6,38°.06N×29°.23E,h10km,MD2.5*
ISC 24 05:09:58.4±1.0,37°.90N±0°.04×29°.17E±0°.05,h7km±14km, n14,σ0°.973/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZL	**Cakiroluk**	**0.23**	**205**	*i* P	**Pg**	**05 10 02.8**	**-0.2**
DNZL				*i* S	**Sg**	**05 10 06.4**	**+0.3**
DNZL	**Cakiroluk**	**0.23**	**205**	*i* P	**Pg**	**05 10 02.8**	**-0.2**
DNZL				*i* S	**Sg**	**05 10 06.4**	**+0.3**
KHL	**Karahalli**	**0.51**	**33**	*e*PG	**Pg**	**05 10 08.0**	**-0.2**
KHL				*e*SG	**Sg**	**05 10 13.7**	**-1.1**
KHL	**Karahalli**	**0.51**	**33**	*e*Pg	**Pg**	**05 10 08.0**	**-0.2**
KHL				*e*Sg	**Sg**	**05 10 13.7**	**-1.1**
KHAL	**Karahalli**	**0.53**	**28**	*i* P	**Pg**	**05 10 08.0**	**-0.7**
KHAL				*i* S	**Sg**	**05 10 17.3**	**+1.6**
KHAL	**Karahalli**	**0.53**	**28**	*i* P	**Pg**	**05 10 08.0**	**-0.7**
KHAL				*i* S	**Sg**	**05 10 17.3**	**+1.6**
KULA	**Kula-Manisa**	**0.73**	**327**	*e*PG	**Pb**	**05 10 13.5**	**-0.1**
KULA				*e*SG	**Sg**	**05 10 22.5**	**+0.5**
KULA	**Kula-Manisa**	**0.73**	**327**	*e*Pg	**Pb**	**05 10 13.5**	**-0.1**
KULA				*e*Sg	**Sg**	**05 10 22.5**	**+0.5**
SHUT	**Suhut-Afyon**	**1.27**	**59**	*e*PN	**Pg**	**05 10 23.0**	**+0.3**
SHUT	**Suhut-Afyon**	**1.27**	**59**	*e*Pn	**Pg**	**05 10 23.0**	**+0.3**
ALT	**Altintas**	**1.37**	**32**	*e*PN	**Pb**	**05 10 24.3**	**-0.1**
ALT	**Altintas**	**1.37**	**32**	*e*Pn	**Pb**	**05 10 24.3**	**-0.1**
TVSB	**Tavsanli**	**1.56**	**8**	*e*PN	**Pn**	**05 10 26.7**	**0.0**
TVSB	**Tavsanli**	**1.56**	**8**	*e*Pn	**Pn**	**05 10 26.7**	**0.0**

*ISCJB **24** 05:20:59.5±0.5,38°.53N±0°.03×39°.62E±0°.03,h4km±5km, Error ellipse: s-maj=4.9km s-min=3.5km az=176.4*
*ISK **24** 05:20:59.0,38°.50N×39°.61E,h6km,MD3.0*
*DDA **24** 05:20:59.5,38°.44N×39°.64E,h7km,MD3.1*
*CSEM **24** 05:20:59.7±0.2,38°.52N×39°.61E,h8km,MD3.0,Error ellipse: s-maj=5.4km s-min=4.3km az=168.0*
ISC 24 05:20:59.6±1.1,38°.50N±0°.03×39°.62E±0°.02,h5km±10km, n32,σ0°.965/49,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.43**	**335**	*e*PG	**Pg**	**05 21 07.6**	**-0.4**
PTK				*e*SG	**Sg**	**05 21 14.2**	**+0.5**
PTK	**Pertek**	**0.43**	**335**	*e*Pg	**Pg**	**05 21 07.6**	**-0.4**
PTK				*e*Sg	**Sg**	**05 21 14.2**	**+0.5**
ELZG	**Elazig**	**0.50**	**270**	*i* P	**Pg**	**05 21 09.1**	**-0.2**
ELZG				*i* S	**Sb**	**05 21 17.4**	**-1.3**
ELZG	**Elazig**	**0.50**	**270**	*i* P	**Pg**	**05 21 09.1**	**-0.2**
ELZG				*i* S	**Sb**	**05 21 17.4**	**-1.3**
DIYA	**Diyarbakir**	**0.70**	**146**	*i* P	**Pb**	**05 21 14.2**	**-0.1**
DIYA				*i* S	**Sb**	**05 21 24.6**	**+0.4**
DIYA	**Diyarbakir**	**0.70**	**146**	*i* P	**Pb**	**05 21 14.2**	**-0.1**
DIYA				*i* S	**Sb**	**05 21 24.6**	**+0.4**
MYA	**Malataya**	**0.96**	**260**	*e*PG	**Pg**	**05 21 16.9**	**-1.1**
MYA				*e*SG	**Sb**	**05 21 31.1**	**-0.6**
MYA	**Malataya**	**0.96**	**260**	*e*Pg	**Pg**	**05 21 16.9**	**-1.1**
MYA				*e*Sg	**Sb**	**05 21 31.1**	**-0.6**
MALT	**Malatya**	**0.96**	**259**	*e*PG	**Pg**	**05 21 17.7**	**-0.3**
MALT				*e*SG	**Sb**	**05 21 31.4**	**-0.3**
MALT	**Malatya**	**0.96**	**259**	*e*Pg	**Pg**	**05 21 17.7**	**-0.3**
MALT				*e*Sg	**Sb**	**05 21 31.4**	**-0.3**
BNGB	**Bing¯¶l**	**0.96**	**59**	*e*PG	**Pg**	**05 21 18.1**	**+0.1**
BNGB				*e*SG	**Sb**	**05 21 31.8**	**0.0**
ERZN	**Erzincan**	**1.09**	**4**	*e*PN	**Pb**	**05 21 20.8**	**-0.1**
URFA	**Urfa**	**1.23**	**211**	*e*PN	**Pg**	**05 21 22.8**	**-0.4**
URFA	**Urfa**	**1.23**	**211**	*e*Pn	**Pg**	**05 21 22.8**	**-0.4**
ILIC	**ilic-Erzincan**	**1.26**	**319**	*e*PN	**Pg**	**05 21 22.9**	**-0.8**
ILIC	**ilic-Erzincan**	**1.26**	**319**	*e*Pn	**Pg**	**05 21 22.9**	**-0.8**
AKCD	**Akcadag**	**1.35**	**262**	*i* P	**Pg**	**05 21 25.9**	**+0.4**
AKCD				*i* S	**Sn**	**05 21 44.7**	**+1.1**
AKCD	**Akcadag**	**1.35**	**262**	*i* P	**Pg**	**05 21 25.9**	**+0.4**
AKCD				*i* S	**Sn**	**05 21 44.7**	**+1.1**
BEST	**Besiri**	**1.43**	**115**	*i* P	**Pn**	**05 21 26.2**	**-0.1**
BEST				*i* S	**Sg**	**05 21 46.1**	**+0.5**
ATAB	**Bozova**	**1.47**	**226**	*i* P	**Pg**	**05 21 26.5**	**-0.3**
ATAB				*i* S	**Sg**	**05 21 47.5**	**+0.7**
ATAB	**Bozova**	**1.47**	**226**	*i* P	**Pn**	**05 21 26.5**	**-0.3**
ATAB				*i* S	**Sg**	**05 21 47.5**	**+0.7**
DARE	**Darende-Malaty**	**1.49**	**288**	*e*PN	**Pg**	**05 21 29.6**	**+1.4**
MARD	**Mardin**	**1.50**	**142**	*i* P	**Pb**	**05 21 28.0**	**+0.1**
MARD				*i* S	**Sn**	**05 21 46.9**	**-0.3**
BTMT	**Batman**	**1.50**	**101**	*e*PN	**Pn**	**05 21 25.9**	**-1.3**
BTMT	**Batman**	**1.50**	**101**	*e*Pn	**Pn**	**05 21 25.9**	**-1.3**
VRTB	**Varto-Mus**	**1.57**	**65**	*e*PN	**Pn**	**05 21 28.2**	**-0.1**
VRTB	**Varto-Mus**	**1.57**	**65**	*e*Pn	**Pn**	**05 21 28.2**	**-0.1**
BAYT	**Ayd¯¶n-ntepe-Bay**	**1.93**	**12**	*e*PN	**Pn**	**05 21 33.4**	**+0.1**
BAYT	**Ayd¯¶n-ntepe-Bay**	**1.93**	**12**	*e*Pn	**Pn**	**05 21 33.4**	**+0.1**
EZM	**Erzurum**	**1.95**	**43**	*e*PN	**Pn**	**05 21 33.4**	**-0.2**
GAZ	**Gaziantep**	**2.33**	**236**	*e*PN	**Pn**	**05 21 38.5**	**-0.1**
GAZ	**Gaziantep**	**2.33**	**236**	*e*Pn	**Pn**	**05 21 38.5**	**-0.1**

IDC 24 05:21:22.6±2.7,8°.25N×104°.69W,h0km,mb3.4/5, mb1 3.8/5,mb1mx3.7/19,mbtmp3.4/5,MS3.6/6,Ms1 3.6/6, ms1mx3.3/23,Error ellipse: s-maj=110.7km s-min=27.8km az=59.0,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**12.98**	**46**	LR	LR	05 27 54.4	
	comp=Z,359nm,20.9s,baz=192,slow=30						
TEIG	**Tepich**	**19.84**	**51**	LR	LR	05 32 18.7	
	comp=Z,166nm,19.1s,baz=199,slow=33						
TXAR	**Lajitas Array**	**20.99**	**2**	P	P	05 26 07.9	+0.1
	1.6nm,1.0s,baz=180,slow=7.1,SNR=8.2						
TXAR				LR	LR	05 33 39.1	
	comp=Z,197nm,18.0s,baz=15,slow=35						
ATAH	**Atahualpa**	**30.34**	**120**	LR	LR	05 37 37.5	
	comp=Z,63nm,18.1s,baz=22,slow=32						
PDAR	**Pinedale Array**	**34.64**	**354**	P	P	05 28 14.6	+0.6
	0.3nm,0.7s,baz=181,slow=12,SNR=2.6						
ULM	**Lac du Bonnet**	**42.50**	**8**	LR	LR	05 45 54.4	
	comp=Z,67nm,19.0s,baz=54,slow=35						
LPAZ	**La Paz**	**43.63**	**124**	P	P	05 29 29.9	-0.1
	1.9nm,1.0s,baz=284,slow=10,SNR=4.5						
SIV	**San Ignacio**	**49.44**	**119**	LR	LR	05 47 05.5	
	comp=Z,66nm,19.1s,slow=31						
YKA	**Yellowknife Ar**	**54.62**	**354**	P	P	05 30 52.1	-0.6
	0.1nm,0.5s,baz=162,slow=7.9,SNR=2.7						
ILAR	**Eielson Array**	**63.70**	**341**	P	P	05 31 55.5	-0.2
	0.9nm,0.8s,baz=150,slow=4.3,SNR=14						

*PDG **24** 05:22:15.9±1.0,42°.86N×16°.89E,h0km±11km,ML2.6/9, Error ellipse: s-maj=4.7km s-min=3.3km az=90.0*
*CSEM **24** 05:22:15.7±0.2,42°.79N×16°.56E,h20km,MD2.9/7,Error ellipse: s-maj=5.4km s-min=5.2km az=54.0*
*ROM **24** 05:22:17.6±2.7,42°.44N×16°.85E,h10km,Md2.9/7,Ml2.3/6, Error ellipse: s-maj=40.4km s-min=9.8km az=11.0*
ISC 24 05:22:13.1±1.4,42°.86N±0°.03×16°.71E±0°.03,h2km±11km, n49,σ0°.990/64,8C-12D,Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STON	**Ston**	**0.72**	**89**	*e*Pg	**Pb**	**05 22 28.2**	**-0.2**
STON				Sg	**Sb**	**05 22 38.3**	**-0.5**
STON	**Ston**	**0.72**	**89**	*e*Pg	**Pb**	**05 22 28.2**	**-0.2**
MS1	**Monte Sant'Ang**	**1.29**	**207**	*e*Pn	**Pg**	**05 22 37.9**	**+0.1**
MSAG	**Monte S. Angel**	**1.29**	**208**	Pn	Pg	05 22 36.1	-1.8
	97nm,0.4s						
MSAG	**Monte S. Angel**	**1.29**	**208**	Pn	Pg	05 22 36.1	-1.8
	97nm,0.4s						
SGRT	**San Giovanni R**	**1.32**	**213**	Pn	Pn	05 22 37.0	-1.6
	57nm,0.3s						
SGRT	**San Giovanni R**	**1.32**	**213**	Pn	Pn	05 22 37.0	-1.6
	57nm,0.3s						
BRY	**Bratogost**	**1.34**	**88**	⇑*i*Pg	**Pg**	**05 22 37.9**	**-0.9**
BRY				*e*Sg	**Sn**	**05 22 56.7**	**-0.8**
BRY	**Bratogost**	**1.34**	**88**	⇑*i*Pg	**Pg**	**05 22 37.9**	**-0.9**
BRY				*e*Sg	**Sn**	**05 22 56.7**	**-0.8**
HCY	**Herceg Novi**	**1.38**	**107**	⇑*i*Pg	**Pg**	**05 22 38.8**	**-0.7**
HCY				*e*Sg	**Sn**	**05 22 58.0**	**-0.1**
HCY	**Herceg Novi**	**1.38**	**107**	⇑*i*Pg	**Pg**	**05 22 38.8**	**-0.7**
HCY				*e*Sg	**Sn**	**05 22 58.0**	**-0.1**
RGNG	**Rignano Grg**	**1.45**	**216**	Pn	Pn	05 22 40.2	-0.2
RGNG	**Rignano Grg**	**1.45**	**216**	Pn	Pn	05 22 40.2	-0.2
UPM	**Unac-Piva**	**1.64**	**77**	⇓*i*Pg	**Pn**	**05 22 43.9**	**+0.7**
UPM				*e*Sg	**Sn**	**05 23 07.2**	**+2.2**
UPM	**Unac-Piva**	**1.64**	**77**	⇓*i*Pg	**Pn**	**05 22 43.9**	**+0.7**
UPM				*e*Sg	**Sn**	**05 23 07.2**	**+2.2**
NKY	**Niksic**	**1.68**	**91**	⇓*i*Pg	**Pb**	**05 22 44.8**	**0.0**
NKY				*e*Sg	**Sg**	**05 23 08.7**	**+1.7**
NKY	**Niksic**	**1.68**	**91**	⇓*i*Pg	**Pb**	**05 22 44.8**	**0.0**
NKY				*e*Sg	**Sg**	**05 23 08.7**	**+1.7**
BUM	**Brajici-Budva**	**1.71**	**108**	⇓*i*Pn	**Pg**	**05 22 45.5**	**-0.3**
BUM				*e*Sn	**Sg**	**05 23 09.2**	**+1.3**
BUM	**Brajici-Budva**	**1.71**	**108**	⇓*i*Pn	**Pg**	**05 22 45.5**	**-0.3**
BUM				*e*Sn	**Sg**	**05 23 09.2**	**+1.3**
BAI	**Bari**	**1.76**	**176**	*e*Pn	Pn	05 22 42.7	-1.8
BAI				*e*Sn	**Sn**	**05 23 05.8**	**-1.7**
CDT	**Castel del Mon**	**1.81**	**191**	*e*Pn	**Pn**	**05 22 46.8**	**+1.5**
MRVN	**Minervino Murg**	**1.84**	**192**	Pn	Pn	05 22 44.4	-1.3
	19nm,0.4s						
MRVN	**Minervino Murg**	**1.84**	**192**	Pn	Pn	05 22 44.4	-1.3
	19nm,0.4s						
PDG	**Podgorica**	**1.92**	**102**	⇓*i*Pn	**Pg**	**05 22 49.7**	**-0.3**
PDG				*e*Sn	**Sg**	**05 23 16.1**	**+1.2**
TTG	**Podgorica**	**1.93**	**102**	⇓*i*Pn	**Pg**	**05 22 49.7**	**-0.3**
TTG				*e*Sn	**Sg**	**05 23 16.1**	**+1.1**
AMUR	**Altamura**	**1.95**	**182**	Pn	Pn	05 22 46.3	-1.0
	37nm,0.6s						
AMUR	**Altamura**	**1.95**	**182**	Pn	Pn	05 22 46.3	-1.0
	37nm,0.6s						
SGTA	**Sant Agata di**	**2.00**	**211**	Pn	**Pn**	**05 22 48.6**	**+0.7**
	24nm,0.5s						
SGTA	**Sant Agata di**	**2.00**	**211**	Pn	**Pn**	**05 22 48.6**	**+0.7**
	24nm,0.5s						
PLE	**Pljevlja**	**2.02**	**76**	⇑*i*Pn	**Pb**	**05 22 50.5**	**0.0**
PLE				*e*Sn	**Sg**	**05 23 17.1**	**-0.7**

BZGR	**Bezymyannyi-Gr**	**1.93**	**325**	*i* P		**Pn**	**05 22 47.4**	**+1.6**
BZGR				*i* S		**Sn**	**05 23 10.4**	**+1.3**
ZLN	**Zelenaya**	**1.96**	**328**	*i* P		**Pn**	**05 22 47.9**	**+1.8**
ZLN				*i* S		**Sn**	**05 23 11.0**	**+1.2**
KMNR	**Kamenistaya**	**1.96**	**316**	*i* P		**Pn**	**05 22 47.9**	**+1.7**
KMNR				*i* S		**Sn**	**05 23 11.1**	**+1.3**
BZMR	**Bezymyannaya**	**2.00**	**323**	*eP*		**Pn**	**05 22 48.6**	**+1.9**
BZMR				*i* S		**Sn**	**05 23 11.5**	**+0.7**
SPN	**Mys Shipunski**	**2.02**	**232**	PN		**Pn**	**05 22 47.6**	**+0.8**
SPN				S		**Sn**	**05 23 10.4**	**-0.5**
SPN	**Mys Shipunski**	**2.02**	**232**	*eP*		**Pn**	**05 22 47.6**	**+0.8**
SPN				*i* S		**Sn**	**05 23 10.4**	**-0.5**
BZWR	**Bezymyannyi-We**	**2.02**	**323**	*eP*		**Pn**	**05 22 48.7**	**+1.7**
BZWR				*i* S		**Sn**	**05 23 11.2**	**+1.1**
LGNR	**Loginova**	**2.05**	**328**	*eP*		**Pn**	**05 22 49.5**	**+1.9**
LGNR				*i* S		**Sn**	**05 23 14.2**	**+1.9**
CIRR	**Tsirk**	**2.06**	**329**	*i* P		**Pn**	**05 22 49.7**	**+2.1**
CIRR				*i* S		**Sn**	**05 23 13.9**	**+1.6**
BKI	**Bering**	**2.10**	**65**	PN		**Pn**	**05 22 49.8**	**+1.9**
BKI				S		**Sn**	**05 23 13.8**	**+0.9**
BKI	**Bering**	**2.10**	**65**	*eP*		**Pn**	**05 22 49.8**	**+1.9**
BKI				*i* S		**Sn**	**05 23 13.8**	**+0.9**
KPT	**Kopyto**	**2.12**	**320**	*i* P		**Pn**	**05 22 50.3**	**+2.0**
KPT				*i* S		**Sn**	**05 23 15.4**	**+1.7**
KRSR	**Krestovskiy**	**2.20**	**328**	*i* P		**Pn**	**05 22 51.0**	**+1.5**
KRSR				*i* S		**Sn**	**05 23 16.4**	**+0.7**
KLY	**Klyuchi**	**2.26**	**330**	PN		**Pn**	**05 22 51.2**	**+1.1**
KLY				S		**Sn**	**05 23 17.1**	**+0.2**
KLY	**Klyuchi**	**2.26**	**330**	*eP*		**Pn**	**05 22 51.2**	**+1.1**
KLY				*i* S		**Sn**	**05 23 17.1**	**+0.2**
NLC	**Nalytchevo**	**2.30**	**240**	PN		**Pn**	**05 22 51.7**	**+1.0**
NLC				S		**Sn**	**05 23 17.3**	**-0.7**
NLC	**Nalytchevo**	**2.30**	**240**	P		**Pn**	**05 22 51.7**	**+1.0**
NLC				*i* S		**Sn**	**05 23 17.3**	**-0.7**
SMKR	**Semkarok**	**2.32**	**344**	*eP*		**Pn**	**05 22 53.2**	**+2.2**
SMKR				*i* S		**Sn**	**05 23 20.3**	**+1.8**
KOZR	**Kozyr**	**2.32**	**318**	PN		**Pn**	**05 22 53.0**	**+2.0**
KOZR				S		**Sn**	**05 23 20.1**	**+1.6**
KOZ	**Kozyrevsk**	**2.32**	**318**	*i* P		**Pn**	**05 22 53.0**	**+2.0**
KOZ				*i* S		**Sn**	**05 23 20.1**	**+1.5**
SRKR	**Sorokina**	**2.44**	**340**	*eP*		**Pn**	**05 22 53.8**	**+1.1**
SRKR				*i* S		**Sn**	**05 23 21.3**	**-0.2**
SDLR	**Sedlovina**	**2.49**	**245**	*i* P		**Pn**	**05 22 55.2**	**+1.8**
SDLR				*i* S		**Sn**	**05 23 23.2**	**+0.4**
SMAR	**Somma**	**2.54**	**246**	P		**Pn**	**05 22 55.3**	**+1.1**
SMAR				*i* S		**Sn**	**05 23 24.2**	**0.0**
UGLR	**Uglovaya**	**2.55**	**244**	*i* P		**Pn**	**05 22 56.1**	**+1.8**
UGLR				*i* S		**Sn**	**05 23 24.5**	**+0.2**
AVH	**Avacha**	**2.57**	**246**	*i* P		**Pn**	**05 22 56.8**	**+2.3**
AVH				*i* S		**Sn**	**05 23 26.1**	**+1.3**
SRDR	**Sredinnyy**	**2.57**	**321**	*i* P		**Pn**	**05 22 55.8**	**+1.3**
SRDR				*i* S		**Sn**	**05 23 23.9**	**-0.9**
PET	**Petropavlovsk**	**2.73**	**242**	*e*PN		**Pn**	**05 22 58.7**	**+2.1**
PET				*e*S		**Sn**	**05 23 29.5**	**+0.9**
PET	comp=Z,34nm,0.6s			pmax	pmax			
PET	comp=N,393nm,0.7s			smax	smax			
PET	comp=Z,100nm,13.0s			MLR	MLR			
PET	**Petropavlovsk**	**2.73**	**242**	P		**Pn**	**05 22 58.6**	**+2.0**
PET				*i* S		**Sn**	**05 23 29.5**	**+0.9**
ESO	**Esso**	**2.75**	**306**	PN		**Pn**	**05 22 58.8**	**+1.9**
ESO				S		**Sn**	**05 23 29.2**	**+0.1**
ESO	**Esso**	**2.75**	**306**	*eP*		**Pn**	**05 22 58.8**	**+1.9**
ESO				*i* S		**Sn**	**05 23 29.2**	**+0.1**
RUS	**Russkaya**	**3.15**	**234**	PN		**Pn**	**05 23 03.8**	**+1.5**
RUS				S		**Sn**	**05 23 38.4**	**-0.4**
RUS	**Russkaya**	**3.15**	**234**	*i* P		**Pn**	**05 23 03.8**	**+1.5**
RUS				*i* S		**Sn**	**05 23 38.4**	**-0.4**
PETK	**Petropavlovsk-**	**3.20**	**249**	PN		**Pn**	**05 23 05.2**	**+2.1**
PETK							05 23 43.1	
PETK	comp=Z,7.0nm,0.3s			pmax	pmax			
PETK	comp=N,6.0nm,0.3s			smax	smax			
PETK	**Petropavlovsk-**	**3.20**	**249**	Pn		**Pn**	**05 23 05.2**	**+2.1**
PETK	comp=N,6.5nm,0.3s,baz=80,slow=19,SNR=57			Sn		**Sn**	**05 23 43.1**	**+2.9**
MTVR	**Mutnovka**	**3.27**	**237**	P		**Pn**	**05 23 07.2**	**+3.0**
MTVR				*i* S		**Sn**	**05 23 44.5**	**+2.3**
ASAK	**Asacha**	**3.47**	**237**	*eP*		**Pn**	**05 23 10.0**	**+3.1**
ASAK				*i* S		**Sn**	**05 23 48.3**	**+1.3**
APC	**Apacha**	**3.58**	**248**	P		**Pn**	**05 23 11.1**	**+2.9**
APC				*i* S		**Sn**	**05 23 51.4**	**+2.0**
FX1	**Attu Island--F**	**6.43**	**99**	Pn		**Pn**	**05 23 49.8**	**+2.4**
KDAK	**Kodiak Island**	**24.86**	**64**	P		**P**	**05 27 36.9**	**+2.5**
ILAR	**Eielson Array**	**26.83**	**47**	P		**P**	**05 27 50.2**	**-1.9**
KURK	**Kurchatov**	**48.34**	**302**	P		**P**	**05 30 52.5**	**-0.8**
KURK	comp=Z,1.0nm,0.5s			pmax	pmax			
KURBB	**Kurchatov Arra**	**48.45**	**302**	P		**P**	**05 30 52.5**	**-1.5**
MKAR	**Makanchi Array**	**48.97**	**296**	P		**P**	**05 30 56.3**	**-1.9**
MKAR	**Makanchi Array**	**48.97**	**296**	P		**P**	**05 30 56.3**	**-1.9**
BVAR	**Borovoye Array**	**50.78**	**309**	P		**P**	**05 31 10.1**	**-1.7**
BVAR	comp=Z,1.0nm,0.5s			pmax	pmax			
BVAR	**Borovoye Array**	**50.78**	**309**	P		**P**	**05 31 10.1**	**-1.7**
PDAR	**Pinedale Array**	**55.58**	**63**	P		P	05 31 51.1	+3.5
AAK	**Ala-Archa**	**55.87**	**297**	P		**P**	**05 31 48.1**	**-1.4**
AAK	comp=Z,1.0nm,0.7s			pmax	pmax			
AAK	**Ala-Archa**	**55.87**	**297**	P		**P**	**05 31 48.1**	**-1.4**
JOF	**Joensuu**	**57.03**	**336**	*eP*		**P**	**05 31 58.5**	**+1.2**
JOF	comp=Z,2.0nm,0.9s			pmax	pmax			
JOF	**Joensuu**	**57.03**	**336**	*ep*		**P**	**05 31 58.5**	**+1.2**
KAF	**Kangasniemi**	**58.89**	**338**	*eP*		**P**	**05 32 09.0**	**-1.3**
KAF	comp=Z,2.0nm,0.6s			pmax	pmax			
KAF	**Kangasniemi**	**58.89**	**338**	*ep*		**P**	**05 32 09.0**	**-1.3**
FINES	**FINESS Array B**	**59.54**	**337**	P		**P**	**05 32 14.5**	**-0.3**
AKASG	**Malin Array Be**	**68.28**	**330**	P		**P**	**05 33 11.9**	**-0.5**
AKASG	comp=Z,1.0nm,0.6s			pmax	pmax			
AKASG	**Malin Array Be**	**68.28**	**330**	P		**P**	**05 33 11.9**	**-0.5**
TXAR	**Lajitas Array**	**68.75**	**69**	P		P	05 33 19.2	+3.4

comp=Z,2.1nm,0.6s,baz=33,slow=5.3,SNR=3.8

IDC 24 05:27:54.2±28.0, 8°27N×104°95W, h0km, mb3.4/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.5/3, Error ellipse: s-maj=797.6km s-min=98.2km az=121.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**20.99**	**3**	P	P	05 32 38.9	-0.5
	1.3nm,1.0s,baz=184,slow=13,SNR=6.6						
PDAR	**Pinedale Array**	**34.60**	**354**	P	P	05 34 45.8	+0.5
	2.7nm,1.0s,baz=167,slow=8.3,SNR=5.1						
ILAR	**Eielson Array**	**63.60**	**341**	P	P	05 38 26.5	-0.2
	0.8nm,0.8s,baz=152,slow=4.6,SNR=15						

IDC 24 05:38:46.0±1.8, 15°20S×175°12W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.9/18, mbtmp3.7/5, Error ellipse: s-maj=110.1km s-min=23.8km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.27**	**257**	P	P	05 47 28.9	-0.4
	0.5nm,0.4s,baz=96,slow=6.1,SNR=12						
ASAR	**Alice Springs**	**48.59**	**252**	P	P	05 47 32.1	+0.3
	3.1nm,0.6s,baz=88,slow=7.8,SNR=34						
TXAR	**Lajitas Array**	**81.89**	**57**	P	P	05 51 08.1	+0.2
	0.2nm,0.8s,baz=217,slow=4.2,SNR=3.0						
ILAR	**Eielson Array**	**82.58**	**12**	P	P	05 51 11.2	+0.7
	0.4nm,0.5s,baz=233,slow=5.4,SNR=16						
PDAR	**Pinedale Array**	**83.24**	**42**	P	P	05 51 14.6	-0.2
	0.6nm,0.6s,baz=192,slow=2.3,SNR=5.2						

GERES	**GERESS Array B**	**145.68**	**350**	PKPbc	PKPdf		05 58 24.3	-2.3
	0.3nm,0.7s,baz=33,slow=8.0,SNR=3.4							

IDC 24 05:41:10.8±2.5, 7°88N×104°51W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.9/18, mbtmp3.7/5, MS3.6/6, Ms1 3.6/6, ms1mx3.3/37, Error ellipse: s-maj=102.4km s-min=24.9km az=57.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**13.11**	**45**	LR	LR	05 47 46.4	
	comp=Z,224nm,19.7s,baz=194,slow=30						
JTS	**JuntasAbangare**	**19.45**	**81**	LR	LR	05 50 44.1	
	comp=Z,232nm,20.6s,baz=179,slow=30						
TEIG	**Tepich**	**19.94**	**50**	LR	LR	05 52 00.1	
	comp=Z,104nm,19.4s,baz=279,slow=33						
TXAR	**Lajitas Array**	**21.36**	**2**	P	P	05 45 59.6	-0.4
	1.0nm,0.7s,baz=185,slow=12,SNR=14						
TXAR				LR	LR	05 53 34.0	
	comp=Z,291nm,18.4s,baz=180,slow=35						
ANMO	**Albuquerque**	**27.00**	**356**	LR	LR	05 56 27.2	
	comp=Z,145nm,20.9s,baz=102,slow=34						
NVAR	**Mina Array Bea**	**32.87**	**340**	P	P	05 47 45.2	-1.6
	0.2nm,0.5s,baz=167,slow=8.3,SNR=3.0						
NVAR				LR	LR	05 58 50.4	
	comp=Z,98nm,20.6s,baz=3.0,slow=32						
PDAR	**Pinedale Array**	**35.03**	**354**	P	P	05 48 06.0	+0.5
	2.2nm,1.0s,baz=174,slow=9.1,SNR=10						
LPAZ	**La Paz**	**43.27**	**124**	P	P	05 49 15.0	-0.4
	1.3nm,0.8s,baz=308,slow=7.5,SNR=3.6						
YKA	**Yellowknife Ar**	**55.01**	**354**	PcP	PcP	05 51 47.6	+2.2
	0.4nm,0.7s,baz=153,slow=2.9,SNR=3.9						
ILAR	**Eielson Array**	**64.11**	**341**	P	P	05 51 47.3	+0.7
	1.4nm,0.6s,baz=152,slow=4.8,SNR=33						

IDC 24 05:43:16.8±1.2, 3°59N×126°62E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.7/22, mbtmp3.7/6, Error ellipse: s-maj=95.7km s-min=18.3km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.57**	**183**	P	P	05 48 08.7	+0.5
	0.8nm,0.3s,baz=350,slow=10,SNR=6.2						
WRA	**Warramunga Arr**	**24.58**	**162**	P	P	05 48 37.8	-1.0
	2.7nm,0.8s,baz=343,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**28.00**	**166**	P	P	05 49 09.6	-0.2
	0.2nm,0.3s,baz=343,slow=6.1,SNR=3.0						
STKA	**Stephens Creek**	**38.03**	**159**	P	P	05 50 37.8	+0.8
	0.8nm,0.4s,baz=328,slow=13,SNR=4.1						
SONM	**Songino Array**	**47.40**	**342**	P	P	05 51 53.7	+0.6
	0.4nm,0.6s,baz=159,slow=7.3,SNR=4.3						
MKAR	**Makanchi Array**	**57.61**	**325**	P	P	05 53 08.2	-0.5
	0.4nm,0.4s,baz=128,slow=7.4,SNR=18						

*IDC **24** 05:47:11.2±0.8, 34°31N×25°17E, h0km, mb3.9/14, mb1 4.1/20, mb1mx4.0/30, mbtmp4.0/20, ML4.2/6, MS3.2/2, Ms1 3.2/2, ms1mx2.6/58, Error ellipse: s-maj=17.9km s-min=14.1km az=162.0*

*ISCJB **24** 05:47:13.6±0.3, 34°08N±0°02×25°31E±0°03, h49km±4km, mb4.0/25, Error ellipse: s-maj=4.5km s-min=2.8km az=138.8*

*CSEM **24** 05:47:15.6±0.1, 34°15N×25°30E, h46km±1km, mb4.0/10, Ms3.0, Mw4.0, Error ellipse: s-maj=4.0km s-min=2.2km az=39.0*

*HLW **24** 05:47:16.8, 34°10N×25°57E, h33km±27km, Md3.9, Ml3.9*

*NEIC **24** 05:47:17.6, 34°37N×25°13E, h42km, mb4.2/9, After ATH.*

*THE **24** 05:47:17.9, 34°25N×25°14E, h85km±5km, ML3.7/2, Error ellipse: s-maj=5.1km s-min=1.1km az=54.0*

*ATH **24** 05:47:17.6, 34°37N×25°13E, h42km±5km, MD3.9/22*

ISC 24 05:47:14.6±1.1, 34°12N±0°03×25°27E±0°03, h30km±9km, n311, σ1°28/329, mb4.1/25, 4C-2D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.97**	**337**	*eP*	**Pn**	**05 47 32.2**	**-0.1**
SIVA	**Sivas**	**0.97**	**337**	*eP*	**Pn**	**05 47 32.2**	**-0.1**
LAST	**Lasithi**	**1.05**	**9**	*eP*	**Pb**	**05 47 34.2**	**0.0**
LAST	**Lasithi**	**1.05**	**9**	*eP*	**Pb**	**05 47 34.3**	**0.0**
NPS	**Neapolis**	**1.17**	**14**	P	**Pb**	**05 47 36.5**	**+0.1**
NPS				S	**Sb**	**05 47 52.9**	**+1.8**
NPS	**Neapolis**	**1.17**	**14**	*eP*	**Pb**	**05 47 36.4**	**+0.1**
NPS	**Neapolis**	**1.17**	**14**	*eP*	**Pb**	**05 47 36.4**	**+0.1**
NPS				S	**Sb**	**05 47 52.9**	**+1.8**
GVD	**Gavdhos**	**1.21**	**307**	*e*Pn	**Pb**	**05 47 36.0**	**-0.9**
GVD	**Gavdhos**	**1.21**	**307**	*eP*	**Pb**	**05 47 36.7**	**-0.2**
GVD	**Gavdhos**	**1.21**	**307**	*e*Pn	**Pb**	**05 47 36.0**	**-0.9**
GVD	**Gavdhos**	**1.21**	**307**	*eP*	**Pb**	**05 47 36.7**	**-0.2**
ZKR	**Zakros**	**1.26**	**38**	*eP*	**Pb**	**05 47 38.7**	**+0.9**
VAM	**Vamos**	**1.56**	**326**	P	**Pb**	**05 47 41.5**	**-1.3**
VAM	**Vamos**	**1.56**	**326**	*eP*	**Pb**	**05 47 41.3**	**-1.5**
VAM	**Vamos**	**1.56**	**326**	*eP*	**Pb**	**05 47 41.3**	**-1.5**
KARN	**Karanos**	**1.70**	**319**	*eP*	**Pb**	**05 47 43.5**	**-1.7**
KARN	**Karanos**	**1.70**	**319**	*eP*	**Pb**	**05 47 43.5**	**-1.7**
KARP	**Karpathos**	**2.11**	**47**	P	**Pb**	**05 47 50.9**	**-1.3**
KARP				S	**Sb**	**05 48 16.3**	**-1.6**
KARP	**Karpathos**	**2.11**	**47**	*eP*	**Pb**	**05 47 50.8**	**-1.4**
KARP				*eS*	**Sb**	**05 48 16.8**	**-1.1**
KARP	**Karpathos**	**2.11**	**47**	P	**Pb**	**05 47 50.9**	**-1.3**
KARP				S	**Sb**	**05 48 16.3**	**-1.6**
THR5	**Thira Island,**	**2.29**	**2**	P	**Pn**	**05 47 51.7**	**+1.3**
THR5	**Thira Island,**	**2.29**	**2**	P	**Pn**	**05 47 51.7**	**+1.3**
THR2	**Thira island,**	**2.32**	**3**	P	**Pn**	**05 47 51.9**	**+1.0**
THR2	**Thira island,**	**2.32**	**3**	P	**Pn**	**05 47 51.9**	**+1.0**
LTBQ	**Tobruq**	**2.35**	**209**	*i* P	**Pb**	**05 47 54.3**	**-2.0**
LTBQ	106nm,1.4s,SNR=24			*eS*	**Sn**	**05 48 21.1**	**+2.0**
	342nm,0.4s,SNR=24						
SLUM		**2.62**	**181**	P	**Pn**	**05 47 56.1**	**+1.1**
SLUM		**2.62**	**181**	AMP		05 48 00.0	
	comp=E,460μm,0.6s,logA/T=5.9,baz=187						
KYTH	**Kithira**	**2.83**	**320**	P	**Pn**	**05 47 58.4**	**+0.6**
KYTH	**Kithira**	**2.83**	**320**	*eP*	**Pn**	**05 47 59.3**	**+1.5**
KYTH	**Kithira**	**2.83**	**320**	P	**Pn**	**05 47 58.4**	**+0.6**
NIS1	**Nisyros Isl.**	**2.92**	**32**	P	**Pn**	**05 48 01.2**	**+2.1**
NIS1	**Nisyros Isl.**	**2.92**	**32**	P	**Pn**	**05 48 01.2**	**+2.1**
APE	**Apeiranthos**	**2.95**	**4**	P	**Pn**	**05 47 59.8**	**+0.3**
APE				S	**Sn**	**05 48 33.3**	**-0.6**
APE	**Apeiranthos**	**2.95**	**4**	*eP*	**Pn**	**05 47 59.8**	**+0.3**
APE	**Apeiranthos**	**2.95**	**4**	*eP*	**Pn**	**05 47 59.8**	**+0.3**
APE				S	**Sn**	**05 48 33.3**	**-0.6**
ARG	**Arkhangelos**	**3.14**	**47**	*eP*	**Pn**	**05 48 05.0**	**+3.0**
ARG				*eS*	**Sn**	**05 48 39.6**	**+1.1**
VLI	**Veliai**	**3.22**	**324**	P	**Pn**	**05 48 03.2**	**+0.1**
VLI				S	**Sn**	**05 48 38.1**	**-2.4**
VLI	**Veliai**	**3.22**	**324**	*eP*	**Pn**	**05 48 03.5**	**+0.4**
VLI	**Veliai**	**3.22**	**324**	P	**Pn**	**05 48 03.2**	**+0.1**
VLI				S	**Sn**	**05 48 38.1**	**-2.4**
HMAT	**Matruh**	**3.39**	**152**	S	**Sn**	**05 48 42.1**	**-2.6**
HMAT	**Matruh** baz=156	**3.39**	**152**	S	**Sn**	**05 48 42.1**	**-2.6**
DIDY	**Didyma**	**3.74**	**334**	P	**Pn**	**05 48 09.9**	**-0.6**
DIDY	**Didyma**	**3.74**	**334**	P	**Pn**	**05 48 09.9**	**-0.6**
DID	**Didima**	**3.76**	**335**	P	**Pn**	**05 48 10.5**	**-0.1**
DID				S	**Sn**	**05 48 51.9**	**-2.0**
DID	**Didima**	**3.76**	**335**	*eP*	**Pn**	**05 48 10.3**	**-0.3**
DID				*eS*	**Sn**	**05 48 51.4**	**-2.5**
DID	**Didima**	**3.76**	**335**	P	**Pn**	**05 48 10.5**	**-0.1**
DID				S	**Sn**	**05 48 51.9**	**-2.0**
NAIG	**Nisos Aigina**	**3.91**	**339**	*eP*	**Pn**	**05 48 12.7**	**+0.1**
NAIG	**Nisos Aigina**	**3.91**	**339**	*eP*	**Pn**	**05 48 12.7**	**+0.1**
PYL	**PYLOS**	**3.99**	**315**	P	**Pn**	**05 48 13.5**	**-0.3**
PYL	**PYLOS**	**3.99**	**315**	*eP*	**Pn**	**05 48 14.8**	**+1.0**
PYL	**PYLOS**	**3.99**	**315**	P	**Pn**	**05 48 13.5**	**-0.3**
VLX	**Vlachokerasia**	**4.00**	**325**	*eP*	**Pn**	**05 48 14.9**	**+0.8**
VLX	**Vlachokerasia**	**4.00**	**325**	*eP*	**Pn**	**05 48 14.9**	**+0.8**
ITM	**Ithomi**	**4.09**	**319**	*eP*	**Pn**	**05 48 15.1**	**-0.1**
ITM	**Ithomi**	**4.09**	**319**	*eP*	**Pn**	**05 48 15.1**	**-0.1**
CHOS	**Chios island**	**4.30**	**8**	*eP*	**Pn**	**05 48 19.2**	**+1.1**
CHOS	**Chios island**	**4.30**	**8**	*eP*	**Pn**	**05 48 19.2**	**+1.1**
LTK	**Loutraki**	**4.32**	**335**	*eP*	**Pn**	**05 48 18.0**	**-0.3**
LTK	**Loutraki**	**4.32**	**335**	*eP*	**Pn**	**05 48 18.0**	**-0.3**
GUR	**Goura**	**4.49**	**329**	P	**Pn**	**05 48 20.3**	**-0.4**
GUR	**Goura**	**4.49**	**329**	*eP*	**Pn**	**05 48 20.4**	**-0.3**
GUR	**Goura**	**4.49**	**329**	*eP*	**Pn**	**05 48 20.4**	**-0.3**
SWA2		**4.87**	**178**	P	**Pn**	**05 48 27.4**	**+1.6**
SWA2				S	**Sn**	**05 49 20.4**	**-0.7**
SWA2	baz=182	**4.87**	**178**	P	**Pn**	**05 48 27.4**	**+1.6**
SWA2	comp=E,420μm,0.6s,logA/T=5.9,baz=182			AMP		05 49 00.0	
SWA2	baz=182			S	**Sn**	**05 49 20.4**	**-0.7**
LKR	**Lokris**	**4.88**	**339**	P	**Pn**	**05 48 25.6**	**-0.3**
LKR	**Lokris**	**4.88**	**339**	P	**Pn**	**05 48 25.6**	**-0.3**
EFP	**Efpalio**	**5.08**	**329**	*eP*	**Pn**	**05 48 30.2**	**+1.4**
EFP	**Efpalio**	**5.08**	**329**	*eP*	**Pn**	**05 48 30.2**	**+1.4**
LJBD	**Adjabya** SNR=23	**5.35**	**235**	*i* P	**Pn**	**05 48 34.4**	**+2.0**
VLS	**Valsamata**	**5.54**	**318**	*eP*	**Pn**	**05 48 36.5**	**+1.4**
VLS				*eS*	**Sn**	**05 49 33.8**	**-4.0**
VLS	**Valsamata**	**5.54**	**318**	*eP*	**Pn**	**05 48 36.5**	**+1.4**
HMYD	**Mayadein**	**6.38**	**131**	P	**Pn**	**05 48 45.6**	**-1.0**
HMYD	**Mayadein** baz=132	**6.38**	**131**	P	**Pn**	**05 48 45.6**	**-1.0**
HNAT	**Natroun**	**6.38**	**133**	P	**Pn**	**05 48 46.4**	**-0.2**
HNAT	**Natroun** baz=134	**6.38**	**133**	P	**Pn**	**05 48 46.4**	**-0.2**
AWBH		**6.56**	**151**	P	**Pn**	**05 48 49.4**	**+0.2**
AWBH	baz=152	**6.56**	**151**	P	**Pn**	**05 48 49.4**	**+0.2**
KOT	**Kottamia**	**6.96**	**125**	P	**Pn**	**05 48 54.2**	**-0.5**
KOT	**Kottamia** baz=126	**6.96**	**125**	P	**Pn**	**05 48 54.2**	**-0.5**
AMAG	**Maghara**	**7.55**	**115**	P	**Pn**	**05 49 01.7**	**-1.1**
AMAG	**Maghara** baz=116	**7.55**	**115**	P	**Pn**	**05 49 01.7**	**-1.1**
SUZ		**7.71**	**122**	P	**Pn**	**05 49 04.7**	**-0.2**
SUZ	baz=122	**7.71**	**122**	P	**Pn**	**05 49 04.7**	**-0.2**
RSH		**7.80**	**112**	P	**Pn**	**05 49 05.2**	**-0.9**
RSH	baz=112	**7.80**	**112**	P	**Pn**	**05 49 05.2**	**-0.9**
ZAF		**7.85**	**126**	P	**Pn**	**05 49 06.6**	**-0.2**
ZAF	baz=127	**7.85**	**126**	P	**Pn**	**05 49 06.6**	**-0.2**
KZIT	**Kziot**	**8.35**	**110**	Pn	**Pn**	**05 49 13.4**	**-0.2**
HNKL	**Nakhl**	**8.49**	**117**	P	**Pn**	**05 49 14.7**	**-0.9**
HNKL	**Nakhl** baz=117	**8.49**	**117**	P	**Pn**	**05 49 14.7**	**-0.9**
TIP	**Timpagrande**	**8.50**	**309**	*e*Pn	**Pn**	**05 49 15.2**	**-0.5**
TIP				*e*Sn	Sn	05 50 39.9	-11
TIP	**Timpagrande**	**8.50**	**309**	*e*Pn	**Pn**	**05 49 15.2**	**-0.5**
RTMI	**Retamim**	**8.52**	**108**	Pn	**Pn**	**05 49 15.8**	**-0.1**
MMAI	**Mount Meron Ar**	**8.53**	**95**	Pn	**Pn**	**05 49 16.4**	**+0.2**
MMAI				Sn	**Sn**	**05 50 48.9**	**-2.5**
MMAI	**Mount Meron Ar** comp=E,4.5nm,0.3s,baz=271,slow=11,SNR=7.0	**8.53**	**95**	Pn	**Pn**	**05 49 16.4**	**+0.2**
MMAI	comp=E,7.2nm,0.3s,baz=321,slow=17,SNR=3.5			Sn	**Sn**	**05 50 48.9**	**-2.5**
MMAI	**Mount Meron Ar**	**8.53**	**95**	Pn	**Pn**	**05 49 16.4**	**+0.2**
MMAI				Sn	**Sn**	**05 50 48.9**	**-2.5**
LZLA	**Zalla** SNR=22	**8.62**	**232**	*i* P	**Pn**	**05 49 18.0**	**+0.7**
MMLI	**Mount Malkishu**	**8.66**	**98**	Pn	**Pn**	**05 49 18.0**	**0.0**
BRTR	**Keskin Array B**	**8.72**	**48**	Pn	**Pn**	**05 49 21.6**	**+2.7**
BRTR				Sn	**Sn**	**05 50 53.5**	**-2.8**
BRTR	**Keskin Array B** comp=E,0.2nm,0.3s,baz=212,slow=14,SNR=7.3	**8.72**	**48**	Pn	**Pn**	**05 49 21.6**	**+2.7**
BRTR	comp=E,0.5nm,0.3s,baz=219,slow=26,SNR=9.1			Sn	**Sn**	**05 50 53.5**	**-2.8**
YTIR	**Yattir**	**8.74**	**106**	Pn	**Pn**	**05 49 19.8**	**+0.8**
HMDT	**Nahal Hemdat**	**8.79**	**99**	Pn	**Pn**	**05 49 20.7**	**+1.0**
DSI	**Dead Sea**	**8.88**	**104**	Pn	**Pn**	**05 49 21.0**	**+0.1**
KRMI	**Paran Flat**	**8.96**	**114**	Pn	**Pn**	**05 49 21.9**	**-0.1**
WDD	**Wield Dalam**	**8.99**	**284**	*e*Pn	**Pn**	**05 49 22.8**	**+0.4**
WDD	**Wield Dalam**	**8.99**	**284**	*e*Pn	**Pn**	**05 49 22.8**	**+0.4**
PRNI	**Paran**	**9.06**	**112**	Pn	**Pn**	**05 49 23.1**	**-0.3**
ZFRI	**Zfri**	**9.10**	**110**	Pn	**Pn**	**05 49 23.6**	**-0.4**
TR2		**9.22**	**126**	P	**Pn**	**05 49 25.1**	**-0.5**
TR2	baz=127	**9.22**	**126**	P	**Pn**	**05 49 25.1**	**-0.5**
HRFI	**Mount Harif**	**9.23**	**114**	Pn	**Pn**	**05 49 25.5**	**-0.3**
MBRI	**Mt Berech**	**9.26**	**115**	Pn	**Pn**	**05 49 26.8**	**+0.6**
EIL	**Elat**	**9.35**	**116**	Pn	**Pn**	**05 49 27.9**	**+0.6**
EIL				Sn	**Sn**	**05 51 07.2**	**-4.2**
EIL	**Elat** comp=E,2.5nm,0.3s,baz=249,slow=6.

	comp=E,6.2nm,1.0s							
RETA	**Reutte**	**17.25**	**325**	P		**P**	**05 51 15.5**	**+0.9**
	comp=E,6.2nm,1.0s							
KHC	**Kasperske Hory**	**17.33**	**333**	*e*P		**Pn**	**05 51 14.7**	**+0.5**
	comp=E,50nm,2.3s							
KHC	**Kasperske Hory**	**17.33**	**333**	*e*P		**Pn**	**05 51 14.7**	**+0.5**
	comp=E,50nm,2.3s							
DPC	**Dobruska-Polom**	**17.50**	**341**	*e*Pn		**P**	**05 51 17.6**	**+0.3**
	comp=E,103nm,2.7s							
DPC	**Dobruska-Polom**	**17.50**	**341**	*e*Pn		**P**	**05 51 17.6**	**+0.3**
	comp=E,103nm,2.7s							
MBDF	**Montbardon**	**17.75**	**312**	*e*P		**Pn**	**05 51 17.7**	**-1.9**
MBDF	**Montbardon**	**17.75**	**312**	*e*P		**Pn**	**05 51 17.7**	**-1.9**
MBDF	**Montbardon**	**17.75**	**312**	*e*P		**Pn**	**05 51 17.7**	**-1.9**
LPG	**La Plagne**	**18.16**	**314**	*e*P		**Pn**	**05 51 23.8**	**-1.0**
	comp=E,4.7nm,0.5s							
LPG	**La Plagne**	**18.16**	**314**	*e*P		**Pn**	**05 51 23.8**	**-1.0**
LPG	**La Plagne**	**18.16**	**314**	*e*P		**Pn**	**05 51 23.8**	**-1.0**
	comp=E,2.3nm,0.5s							
LPL	**La Plagne**	**18.18**	**314**	*e*P		**Pn**	**05 51 22.9**	**-2.1**
	comp=E,18nm,1.2s							
LPL	**La Plagne**	**18.18**	**314**	*e*P		**Pn**	**05 51 22.9**	**-2.1**
LPL	**La Plagne**	**18.18**	**314**	*e*P		**Pn**	**05 51 22.9**	**-2.1**
	comp=E,9.2nm,1.2s							
SENIN	**Lac Senin/Sane**	**18.33**	**317**	*e*P		**Pn**	**05 51 26.9**	**+0.3**
	comp=E,45nm,2.0s							
SENIN	**Lac Senin/Sane**	**18.33**	**317**	*e*P		**Pn**	**05 51 27.0**	**+0.3**
	comp=E,45nm,2.0s							
ORIF	**Oris-en-Rattie**	**18.39**	**312**	*e*P		**Pn**	**05 51 27.8**	**+0.4**
	comp=E,5.4nm,0.7s							
ORIF				*e*R				
	comp=E,258nm,22.8s							
ORIF	**Oris-en-Rattie**	**18.39**	**312**	*e*P		**Pn**	**05 51 27.8**	**+0.4**
ORIF	**Oris-en-Rattie**	**18.39**	**312**	*e*P		**Pn**	**05 51 27.8**	**+0.4**
	comp=E,2.7nm,0.7s							
BRG	**Berggiesshubel**	**18.67**	**337**	*e*(P)		sP	05 51 41.5	-0.3
	comp=E,1.9nm,0.8s							
BFO	**Black Forest**	**19.02**	**323**	*e*P		**Pn**	**05 51 35.1**	**+0.3**
	comp=E,3.0nm,0.8s							
BFO	**Black Forest**	**19.02**	**323**	*e*P		**Pn**	**05 51 35.1**	**+0.3**
	comp=E,3.0nm,0.8s							
VIVF	**Saint-Julien-l**	**19.12**	**310**	*e*P		**P**	**05 51 34.5**	**-0.7**
	comp=E,16nm,1.0s							
VIVF	**Saint-Julien-l**	**19.12**	**310**	*e*P		**P**	**05 51 34.5**	**-0.7**
VIVF	**Saint-Julien-l**	**19.12**	**310**	*e*P		**P**	**05 51 34.5**	**-0.7**
	comp=E,7.8nm,1.0s							
CABF	**La Chapelle**	**19.16**	**316**	*e*P		**P**	**05 51 34.5**	**-1.1**
	comp=E,2.8nm,0.4s							
CABF	**La Chapelle**	**19.16**	**316**	*e*P		**P**	**05 51 34.5**	**-1.1**
CABF	**La Chapelle**	**19.16**	**316**	*e*P		**P**	**05 51 34.5**	**-1.1**
	comp=E,1.4nm,0.4s							
CLL	**Collm**	**19.35**	**336**	*e*(P)		**P**	**05 51 38.0**	**+0.4**
	comp=E,16nm,1.6s							
HINF	**Hinteralfeld**	**19.44**	**320**	*e*P		**P**	**05 51 38.6**	**-0.1**
	comp=E,6.6nm,0.7s							
HINF	**Hinteralfeld**	**19.44**	**320**	*e*P		**P**	**05 51 38.6**	**-0.1**
HINF	**Hinteralfeld**	**19.44**	**320**	*e*P		**P**	**05 51 38.6**	**-0.1**
	comp=E,3.3nm,0.7s							
ECH	**Echery**	**19.53**	**322**	*e*P		**Pn**	**05 51 43.4**	**+2.4**
	comp=E,12nm,1.3s							
CDF	**Champ du Feu**	**19.60**	**322**	*e*P		**P**	**05 51 40.3**	**-0.1**
	comp=E,6.0nm,0.6s							
CDF	**Champ du Feu**	**19.60**	**322**	*e*P		**P**	**05 51 40.3**	**-0.1**
CDF	**Champ du Feu**	**19.60**	**322**	*e*P		**P**	**05 51 40.3**	**-0.1**
	comp=E,3.0nm,0.6s							
HAU	**Haudompre**	**19.83**	**320**	*e*P		**P**	**05 51 41.8**	**-1.0**
	comp=E,5.7nm,0.5s							
HAU				*e*R				
	comp=E,140nm,19.0s							
HAU	**Haudompre**	**19.83**	**320**	*e*P		**P**	**05 51 41.8**	**-1.0**
HAU	**Haudompre**	**19.83**	**320**	*e*P		**P**	**05 51 41.8**	**-1.0**
	comp=E,2.8nm,0.5s							
SUW	**Suwalki**	**19.94**	**356**	*e*P		**P**	**05 51 42.6**	**-1.4**
	comp=E,24nm,0.6s							
SUW	**Suwalki**	**19.94**	**356**	*e*P		**P**	**05 51 42.6**	**-1.4**
	comp=E,24nm,0.6s							
LOR	**Lormes**	**20.80**	**316**	*e*P		**P**	**05 51 52.7**	**-0.7**
	comp=E,5.0nm,0.3s,baz=114							
LOR				*e*R				
	comp=E,92nm,18.5s							
LOR	**Lormes**	**20.80**	**316**	*e*P		**P**	**05 51 52.7**	**-0.7**
LOR	**Lormes**	**20.80**	**316**	*e*P		**P**	**05 51 52.7**	**-0.7**
	comp=E,2.5nm,0.3s,baz=114							
MEZF	**Maizieres J'vi**	**20.82**	**320**	*e*P		**P**	**05 51 52.6**	**-0.9**
MEZF	**Maizieres J'vi**	**20.82**	**320**	*e*P		**P**	**05 51 52.6**	**-0.9**
MEZF	**Maizieres J'vi**	**20.82**	**320**	*e*P		**P**	**05 51 52.6**	**-0.9**
CAF	**Calviac**	**20.83**	**308**	*e*P		**P**	**05 51 53.6**	**-0.2**
CAF	**Calviac**	**20.83**	**308**	*e*P		**P**	**05 51 53.6**	**-0.2**
CAF	**Calviac**	**20.83**	**308**	*e*P		**P**	**05 51 53.6**	**-0.2**
AVF	**Avril sur Loir**	**20.85**	**314**	*e*P		**P**	**05 51 53.3**	**-0.6**
AVF	**Avril sur Loir**	**20.85**	**314**	*e*P		**P**	**05 51 53.3**	**-0.6**
AVF	**Avril sur Loir**	**20.85**	**314**	*e*P		**P**	**05 51 53.3**	**-0.6**
SSF	**Saint Saulge**	**20.90**	**315**	*e*P		**P**	**05 51 54.0**	**-0.4**
	comp=E,4.7nm,0.6s							
SSF	**Saint Saulge**	**20.90**	**315**	*e*P		**P**	**05 51 54.0**	**-0.4**
SSF	**Saint Saulge**	**20.90**	**315**	*e*P		**P**	**05 51 54.0**	**-0.4**
	comp=E,2.3nm,0.6s							
BGF	**Bois d'Agland**	**21.05**	**313**	*e*P		**P**	**05 51 55.8**	**-0.2**
	comp=E,6.4nm,0.3s							
BGF	**Bois d'Agland**	**21.05**	**313**	*e*P		**P**	**05 51 55.8**	**-0.2**
BGF	**Bois d'Agland**	**21.05**	**313**	*e*P		**P**	**05 51 55.8**	**-0.2**
	comp=E,3.2nm,0.3s							
TCF	**Toulx Ste Croi**	**21.31**	**312**	*e*P		**P**	**05 51 58.9**	**0.0**
TCF	**Toulx Ste Croi**	**21.31**	**312**	*e*P		**P**	**05 51 58.9**	**0.0**
TCF	**Toulx Ste Croi**	**21.31**	**312**	*e*P		**P**	**05 51 58.9**	**0.0**
RJF	**Les Rejaudoux**	**21.34**	**309**	*e*P		**P**	**05 51 58.2**	**-1.0**
RJF				*e*R				
	comp=E,103nm,18.0s							
RJF	**Les Rejaudoux**	**21.34**	**309**	*e*P		**P**	**05 51 58.2**	**-1.0**
RJF	**Les Rejaudoux**	**21.34**	**309**	*e*P		**P**	**05 51 58.2**	**-1.0**
LFF	**La Frestale**	**21.71**	**307**	*e*P		**P**	**05 52 01.6**	**-1.5**
LFF	**La Frestale**	**21.71**	**307**	*e*P		**P**	**05 52 01.6**	**-1.5**
LFF	**La Frestale**	**21.71**	**307**	*e*P		**P**	**05 52 01.6**	**-1.5**
GIVF	**Givet**	**21.91**	**323**	*e*P		**P**	**05 52 04.1**	**-1.2**
GIVF	**Givet**	**21.91**	**323**	*e*P		**P**	**05 52 04.1**	**-1.2**
GIVF	**Givet**	**21.91**	**323**	*e*P		**P**	**05 52 04.1**	**-1.2**
ETSF	**Etsaut**	**21.96**	**301**	*e*P		**P**	**05 52 06.1**	**+0.1**
	comp=E,18nm,1.1s							
ETSF	**Etsaut**	**21.96**	**301**	*e*P		**P**	**05 52 06.1**	**+0.1**
ETSF	**Etsaut**	**21.96**	**301**	*e*P		**P**	**05 52 06.1**	**+0.1**
	comp=E,8.9nm,1.1s							
BAIF	**Baives**	**22.20**	**322**	*e*P		**P**	**05 52 07.1**	**-1.2**
BAIF	**Baives**	**22.20**	**322**	*e*P		**P**	**05 52 07.1**	**-1.2**
BAIF	**Baives**	**22.20**	**322**	*e*P		**P**	**05 52 07.1**	**-1.2**
MFF	**Saint Martin d**	**22.92**	**311**	*e*P		**P**	**05 52 14.9**	**-1.1**
MFF	**Saint Martin d**	**22.92**	**311**	*e*P		**P**	**05 52 14.9**	**-1.1**
MFF	**Saint Martin d**	**22.92**	**311**	*e*P		**P**	**05 52 14.9**	**-1.1**
LDF	**La Druitiere**	**23.78**	**315**	*e*P		**P**	**05 52 23.8**	**-0.7**
	comp=E,3.5nm,0.4s							
LDF	**La Druitiere**	**23.78**	**315**	*e*P		**P**	**05 52 23.8**	**-0.7**
LDF	**La Druitiere**	**23.78**	**315**	*e*P		**P**	**05 52 23.8**	**-0.7**
	comp=E,1.8nm,0.4s							
ESDC	**Sonseca Array**	**23.97**	**292**	P		**P**	**05 52 25.6**	**-0.8**
ESDC	**Sonseca Array**	**23.97**	**292**	P		**P**	**05 52 25.6**	**-0.8**
	comp=E,0.2nm,0.3s,baz=63,slow=7.4,SNR=5.9							
ESDC	**Sonseca Array**	**23.97**	**292**	P		**P**	**05 52 25.6**	**-0.8**
FLN	**La Foliniere**	**24.07**	**315**	*e*P		**P**	**05 52 26.4**	**-0.8**
	comp=E,11nm,0.4s							
FLN				*e*R				
	comp=E,91nm,22.7s							
FLN	**La Foliniere**	**24.07**	**315**	*e*P		**P**	**05 52 26.4**	**-0.8**
FLN	**La Foliniere**	**24.07**	**315**	*e*P		**P**	**05 52 26.4**	**-0.8**
	comp=E,5.3nm,0.4s							
GRR	**Gorron**	**24.12**	**314**	*e*P		**P**	**05 52 26.6**	**-1.1**
GRR	**Gorron**	**24.12**	**314**	*e*P		**P**	**05 52 26.6**	**-1.1**
GRR	**Gorron**	**24.12**	**314**	*e*P		**P**	**05 52 26.6**	**-1.1**
MDT	**Midelt**	**24.93**	**275**	P		**P**	**05 52 36.1**	**+0.8**
MDT	**Midelt**	**24.93**	**275**	P		**P**	**05 52 36.1**	**+0.8**
	comp=E,0.5nm,0.3s,baz=58,slow=8.8,SNR=3.7							
MDT	**Midelt**	**24.93**	**275**	P		**P**	**05 52 36.1**	**+0.8**
SGMF	**Saint Gilles**	**25.09**	**313**	*e*P		**P**	**05 52 35.6**	**-0.9**
	comp=E,3.4nm,0.3s							
SGMF	**Saint Gilles**	**25.09**	**313**	*e*P		**P**	**05 52 35.6**	**-0.9**
SGMF	**Saint Gilles**	**25.09**	**313**	*e*P		**P**	**05 52 35.6**	**-0.9**
	comp=E,1.7nm,0.3s							
QUIF	**Quistinic**	**25.33**	**312**	*e*P		**P**	**05 52 37.6**	**-1.0**
	comp=E,12nm,0.4s							
QUIF	**Quistinic**	**25.33**	**312**	*e*P		**P**	**05 52 37.6**	**-1.0**
QUIF	**Quistinic**	**25.33**	**312**	*e*P		**P**	**05 52 37.6**	**-1.0**
	comp=E,5.9nm,0.4s							
ROSF	**Rostrenen**	**25.56**	**312**	*e*P		**P**	**05 52 40.4**	**-0.3**
	comp=E,3.9nm,0.3s							
ROSF	**Rostrenen**	**25.56**	**312**	*e*P		**P**	**05 52 40.4**	**-0.3**
ROSF	**Rostrenen**	**25.56**	**312**	*e*P		**P**	**05 52 40.4**	**-0.3**
	comp=E,2.0nm,0.3s							

HFS	**Hagfors**	**27.11**	**347**	P		**P**	**05 52 53.4**	**-1.2**
HFS	**Hagfors**	**27.11**	**347**	P		**P**	**05 52 53.4**	**-1.2**
	comp=E,0.8nm,0.4s,baz=168,slow=9.4,SNR=19							
HFS	**Hagfors**	**27.11**	**347**	P		**P**	**05 52 53.4**	**-1.2**
FINES	**FINESS Array B**	**27.34**	**1**	P		**P**	**05 52 54.7**	**-2.0**
FINES	**FINESS Array B**	**27.34**	**1**	P		**P**	**05 52 54.7**	**-2.0**
	comp=E,1.9nm,0.7s,baz=160,slow=11,SNR=13							
FINES	**FINESS Array B**	**27.34**	**1**	P		**P**	**05 52 54.7**	**-2.0**
NB2	**NORSAR Subarra**	**28.43**	**346**	P		**P**	**05 53 05.3**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=156,slow=9.3							
NB2	**NORSAR Subarra**	**28.43**	**346**	P		**P**	**05 53 05.3**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=156,slow=9.0,SNR=3.5							
NOA	**NORSAR Array B**	**28.43**	**346**	P		**P**	**05 53 05.1**	**-1.3**
NOA	**NORSAR Array B**	**28.43**	**346**	P		**P**	**05 53 05.1**	**-1.3**
	comp=E,1.3nm,0.8s,baz=148,slow=8.7,SNR=7.2							
NOA	**NORSAR Array B**	**28.43**	**346**	P		**P**	**05 53 05.1**	**-1.3**
JOF	**Joensuu**	**29.07**	**6**	*e*p		**P**	**05 53 10.2**	**-1.9**
	comp=E,1.7nm,0.4s							
JOF	**Joensuu**	**29.07**	**6**	*e*P		**P**	**05 53 10.2**	**-1.9**
	comp=E,1.7nm,0.4s							
TORD	**Torodi Ar. Bea**	**29.90**	**231**	P		**P**	**05 53 21.8**	**+1.8**
TORD	**Torodi Ar. Bea**	**29.90**	**231**	P		**P**	**05 53 21.8**	**+1.8**
	comp=E,1.1nm,0.4s,baz=32,slow=8.7,SNR=16							
ARCES	**ARCESS Array B**	**35.47**	**0**	P		**P**	**05 54 06.1**	**-1.9**
ARCES	**ARCESS Array B**	**35.47**	**0**	P		**P**	**05 54 06.1**	**-1.9**
	comp=E,1.8nm,0.7s,baz=182,slow=8.9,SNR=13							
ARCES	**ARCESS Array B**	**35.47**	**0**	P		**P**	**05 54 06.1**	**-1.9**
KEV	**Kevo**	**35.70**	**1**	*e*p		**P**	**05 54 08.0**	**-2.0**
	comp=Z,0.2nm,0.3s							
KEV	**Kevo**	**35.70**	**1**	*e*P		**P**	**05 54 08.0**	**-2.0**
	comp=Z,0.2nm,0.3s							
DBIC	**Dimbokro**	**39.00**	**232**	P		**P**	**05 54 38.7**	**+0.1**
DBIC	**Dimbokro**	**39.00**	**232**	P		**P**	**05 54 38.7**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=75,slow=12,SNR=2.5							
DBIC	**Dimbokro**	**39.00**	**232**	P		**P**	**05 54 38.7**	**+0.1**
MKAR	**Makanchi Array**	**44.28**	**56**	P		**P**	**05 55 22.5**	**+1.0**
MKAR	**Makanchi Array**	**44.28**	**56**	P		**P**	**05 55 22.5**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=265,slow=7.5,SNR=33							
MKAR	**Makanchi Array**	**44.28**	**56**	P		**P**	**05 55 22.5**	**+1.0**
SPITS	**Spitsbergen Ar**	**44.33**	**357**	P		**P**	**05 55 20.3**	**-1.1**
SPITS	**Spitsbergen Ar**	**44.33**	**357**	P		**P**	**05 55 20.3**	**-1.1**
	comp=Z,39nm,1.2s,baz=151,slow=12,SNR=5.4							
SPITS	**Spitsbergen Ar**	**44.33**	**357**	P		**P**	**05 55 20.3**	**-1.1**
ZALV	**Zalesovo Beam**	**45.66**	**45**	P		**P**	**05 55 32.5**	**+0.2**
ZALV	**Zalesovo Beam**	**45.66**	**45**	P		**P**	**05 55 32.5**	**+0.2**
	comp=E,1.6nm,0.3s,baz=266,slow=8.6,SNR=14							
ZALV	**Zalesovo Beam**	**45.66**	**45**	P		**P**	**05 55 32.5**	**+0.2**
SONM	**Songino Array**	**60.08**	**50**	P		**P**	**05 57 20.3**	**+1.3**
SONM	**Songino Array**	**60.08**	**50**	P		**P**	**05 57 20.3**	**+1.3**
	comp=E,1.0nm,0.4s,baz=280,slow=7.8,SNR=19							
SONM	**Songino Array**	**60.08**	**50**	P		**P**	**05 57 20.3**	**+1.3**
ULN	**Ulaanbaatar**	**60.48**	**50**	*e*P		**P**	**05 57 23.1**	**+1.3**
	comp=Z,1.5nm,0.4s							
SCHQ	**Schefferville**	**64.04**	**320**	P		**P**	**05 57 45.6**	**+0.3**
SCHQ	**Schefferville**	**64.04**	**320**	P		**P**	**05 57 45.6**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=74,slow=7.2,SNR=24							
SCHQ	**Schefferville**	**64.04**	**320**	P		**P**	**05 57 45.6**	**+0.3**
YKA	**Yellowknife Ar**	**78.46**	**342**	P		**P**	**05 59 12.2**	**-0.1**
YKA	**Yellowknife Ar**	**78.46**	**342**	P		**P**	**05 59 12.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=32,slow=5.4,SNR=3.7							
YKA	**Yellowknife Ar**	**78.46**	**342**	P		**P**	**05 59 12.2**	**-0.1**
ILAR	**Eielson Array**	**81.24**	**357**	P		**P**	**05 59 28.2**	**+0.8**
ILAR	**Eielson Array**	**81.24**	**357**	P		**P**	**05 59 28.2**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=335,slow=3.3,SNR=9.9							
ILAR	**Eielson Array**	**81.24**	**357**	P		**P**	**05 59 28.2**	**+0.8**

*IDC **24** 05:50:10.9± 1.0, 13.˚74N× 146.˚47E, h0km, mb3.9/9, mb1 4.1/9, mb1mx4.0/23, mbtmp3.9/9, Error ellipse: s-maj=23.5km s-min=20.3km az=102.0*
*ISCJB **24** 05:50:12.2± 0.8, 13.˚78N± 0.˚10× 146.˚61E± 0.˚09, h26km, mb3.9/11, Error ellipse: s-maj=14.0km s-min=11.8km az=158.6*
*NEIC **24** 05:50:13.0± 0.7, 13.˚71N× 146.˚37E, h10km, mb4.3/1, Error ellipse: s-maj=18.7km s-min=14.0km az=98.0*

ISC 24 05:50:15.0± 0.9, 13.˚7N± 0.˚1× 146.˚45E± 0.˚09, h26km, n25, σ 0§73/25, mb4.0/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.54**	**265**	*e*Pn		**Pn**	**05 50 41.0**	**+0.2**
GUMO						Sn	**Sb**	**05 51 02.5**	**+0.4**
GUMO	**Guam**	**1.54**	**265**	Pn		**Pn**	**05 50 41.1**	**+0.3**
	129nm,0.3s,baz=109,slow=5.7,SNR=33							
GUMO						Sn	**Sb**	**05 51 02.5**	**+0.4**
	168nm,0.3s,baz=8.5,slow=22,SNR=7.1							
KSRS	**Korea Array**	**28.82**	**328**	P		**P**	**05 56 10.2**	**-0.9**
	2.6nm,0.8s,baz=146,slow=9.5,SNR=5.9							
KSAR	**Wonju Array Be**	**28.83**	**328**	P		**P**	**05 56 10.2**	**-1.0**
WRAB	**Tennant Creek**	**35.51**	**200**	*e*P		**P**	**05 57 09.7**	**-0.2**
	4.5nm,0.9s							
WRA	**Warramunga Arr**	**35.52**	**200**	P		**P**	**05 57 09.5**	**-0.5**
WRA	**Warramunga Arr**	**35.52**	**200**	P		**P**	**05 57 09.5**	**-0.5**
	1.4nm,0.8s,baz=21,slow=9.5,SNR=6.5							
ASAR	**Alice Springs**	**39.15**	**198**	P		**P**	**05 57 40.2**	**-0.5**
ASAR	**Alice Springs**	**39.15**	**198**	P		**P**	**05 57 40.2**	**-0.5**
	0.3nm,0.5s,baz=6.7,slow=13.5,SNR=4.0							
CMAR	**Chiang Mai Arr**	**45.79**	**282**	P		**P**	**05 58 34.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**45.79**	**282**	P		**P**	**05 58 34.5**	**-0.4**
	0.7nm,0.3s,baz=85,slow=6.0,SNR=5.7							
SONM	**Songino Array**	**47.51**	**324**	P		**P**	**05 58 48.1**	**0.0**
SONM	**Songino Array**	**47.51**	**324**	P		**P**	**05 58 48.1**	**0.0**
	1.0nm,0.8s,baz=134,slow=5.6,SNR=7.1							
ZALV	**Zalesovo Beam**	**62.40**	**324**	P		**P**	**06 00 34.6**	**-0.9**
ZALV	**Zalesovo Beam**	**62.40**	**324**	P		**P**	**06 00 34.6**	**-0.9**
	0.5nm,0.4s,baz=95,slow=9.3,SNR=3.9							
MKAR	**Makanchi Array**	**62.45**	**316**	P		**P**	**06 00 35.9**	**-0.3**
MKAR	**Makanchi Array**	**62.45**	**316**	P		**P**	**06 00 35.9**	**-0.3**
	0.5nm,0.4s,baz=90,slow=8.7,SNR=11							
YKA	**Yellowknife Ar**	**82.02**	**28**	P		P	06 02 35.9	+3.2
YKA	**Yellowknife Ar**	**82.02**	**28**	P		P	06 02 35.8	+3.2
	0.4nm,0.7s,baz=283,slow=5.5,SNR=5.1							
NVAR	**Mina Array Bea**	**85.63**	**52**	P		**P**	**06 02 52.5**	**+0.6**
NVAR	**Mina Array Bea**	**85.63**	**52**	P		**P**	**06 02 52.5**	**+0.6**
	0.5nm,0.6s,baz=239,slow=7.0,SNR=2.6							
FINES	**FINESS Array B**	**91.67**	**335**	P		P	**06 03 21.5**	**+1.7**
FINES	**FINESS Array B**	**91.67**	**335**	P		P	**06 03 21.5**	**+1.7**
	1.5nm,0.7s,baz=47,slow=10,SNR=3.8							
DBIC	**Dimbokro**	**145.03**	**304**	PKP		**PKPab**	**06 09 50.4**	**-0.1**
DBIC	**Dimbokro**	**145.03**	**304**	PKP		**PKPab**	**06 09 50.4**	**-0.1**
	5.8nm,0.8s,baz=2.5,slow=2.8,SNR=7.4							

DJA 24 05:50:23.0± 1.5, 5.˚7N± 7.˚9× 9.˚4E± 1.˚0, h10km, M3.8/3, MLv3.8/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**1.05**	**53**	P		Pg	05 50 42.9	-0.4
BSI				S		Sg	05 50 55.8	-1.3
LHMI	**Lhok Sumawe**	**2.51**	**82**	P		Pn	05 51 02.9	-1.1
LHMI				S		Sn	05 51 36.5	+1.8
TPTI		**3.15**	**120**	P		Pn	05 51 12.5	-0.2

*ISCJB **24** 05:50:31.7± 0.5, 36.˚95N± 0.˚02× 28.˚21E± 0.˚03, h3km± 4km, Error ellipse: s-maj=4.1km s-min=3.7km az=178.8*
*DDA **24** 05:50:32.0, 36.˚98N× 28.˚21E, h7km, MD3.1*
*ISK **24** 05:50:32.2, 37.˚01N× 28.˚24E, h7km, MD3.2*
*ATH **24** 05:50:32.4, 36.˚99N× 28.˚14E, h18km± 5km, MD3.3/6*
*CSEM **24** 05:50:32.5± 0.2, 36.˚96N× 28.˚18E, h10km, MD3.2, Error ellipse: s-maj=4.6km s-min=4.3km az=163.0*

ISC 24 05:50:31.7± 1.1, 36.˚96N± 0.˚02× 28.˚17E± 0.˚02, h3km± 10km, n64, σ 1§11/84, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.20**	**26**	PG		**Pg**	**05 50 35.1**	**-0.5**
YER				*e*SG		**Sg**	**05 50 38.7**	**+0.5**
YER	**Yerkesik**	**0.20**	**26**	*i* Pg		**Pg**	**05 50 35.1**	**-0.5**
YER				*e*Sg		**Sg**	**05 50 38.7**	**+0.5**
TURN	**Turunc**	**0.35**	**104**	*i* P		**Pg**	**05 50 36.1**	**-2.4**
TURN				*i* S		**Sg**	**05 50 39.7**	**-3.4**
BDRM	**Kayabasi**	**0.59**	**281**	*i* P		**Pg**	**05 50 44.0**	**+0.9**
BDRM				*i* S		**Sb**	**05 50 53.7**	**+0.2**
BDRM	**Kayabasi**	**0.59**	**281**	*i* P		**Pg**	**05 50 44.0**	**+0.9**
BDRM				*i* S		**Sb**	**05 50 53.7**	**+0.2**
BODT	**Bodrum**	**0.70**	**279**	*e*PG		**Pn**	**05 50 47.3**	**-1.2**
BODT				*e*SG		**Sn**	**05 50 58.1**	**-1.7**
BODT	**Bodrum**	**0.70**	**279**	*e*Pg		**Pn**	**05 50 47.3**	**-1.2**
BODT				*e*Sg		**Sn**	**05 50 58.1**	**-1.7**
AYDN	**Tasoluk**	**0.74**	**342**	*i* P		**Pg**	**05 50 46.4**	**+0.5**
AYDN				*i* S		**Sg**	**05 50 56.6**	**+1.1**
AYDN	**Tasoluk**	**0.74**	**342**	*i* P		**Pg**	**05 50 46.4**	**+0.5**
AYDN				*i* S		**Sg**	**05 50 56.6**	**+1.1**
ARG	**Arkhangelos**	**0.74**	**183**	*e*PB		**Pg**	**05 50 46.6**	**+0.7**
ARG				*e*SN		**Sn**	**05 50 59.4**	**-1.4**
ARG	**Arkhangelos**	**0.74**	**183**	*e*Pb		**Pg**	**05 50 46.6**	**+0.7**
ARG				*e*Sn		**Sn**	**05 50 59.4**	**-1.4**
FETY	**Fethiye**	**0.80**	**114**	*e*PG		**Pg**	**05 50 47.1**	**+0.1**
FETY				*e*SG		**Sb**	**05 50 58.4**	**-1.0**
FETY	**Fethiye**	**0.80**	**114**	*e*Pg		**Pg**	**05 50 47.1**	**+0.1**
FETY				*e*Sg		**Sb**	**05 50 58.4**	**-1.0**
DNZL	**Cakiroluk**	**1.01**	**43**	*i* P		**Pg**	**05 50 50.6**	**-0.5**
DNZL				*i* S		**Sn**	**05 51 09.0**	**+1.3**
DNZL	**Cakiroluk**	**1.01**	**43**	*i* P		**Pg**	**05 50 50.6**	**-0.5**
DNZL				*i* S		**Sn**	**05 51 09.0**	**+1.3**
AKAS	**Kas**	**1.36**	**122**	*i* P		**Pg**	**05 50 58.2**	**+0.4**
AKAS				*i* S		**Sg**	**05 51 21.0**	**+5.6**
AKAS	**Kas**	**1.36**	**122**	*i* P		**Pg**	**05 50 58.2**	**+0.4**
KSL	**Kastellorizon**	**1.39**	**125**	*e*PN		**Pg**	**05 50 59.5**	**+1.1**
ELL	**Elmali**	**1.41**	**98**	*e*PN		**Pb**	**05 50 58.5**	**-0.2**
ELL	**Elmali**	**1.41**	**98**	*e*Pn		**Pb**	**05 50 58.5**	**-0.2**
KULA	**Kula-Manisa**	**1.60**	**14**	*e*PN		**Pn**	**05 51 00.9**	**-0.1**
KULA	**Kula-Manisa**	**1.60**	**14**	*e*Pn		**Pn**	**05 51 00.9**	**-0.1**
IZM	**Izmir**	**1.61**	**334**	*e*PN		**Pn**	**05 51 01.1**	**0.0**
IZM	**Izmir**	**1.61**	**334**	*e*Pn		**Pn**	**05 51 01.1**	**0.0**
KARP	**Karpathos**	**1.63**	**210**	*e*PN		**Pb**	**05 51 02.1**	**-0.3**
KARP				*e*SN		**Sg**	**05 51 24.4**	**+0.4**
KARP	**Karpathos**	**1.63**	**210**	*e*Pn		**Pb**	**05 51 02.1**	**-0.3**
KARP				*e*Sn		**Sg**	**05 51 24.4**	**+0.4**
BLCB	**Balcova**	**

δ80.00000°, λ79.00000°. NP2:ϕ$_b$238.00000°, δ15.00000°, λ138.00000°. Principal axes: T 8.7400, Plg53.0000°, Azm266.0000°; N -1.2900, Plg10.0000°, Azm10.0000°; P -7.4500, Plg34.0000°, Azm108.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.

TEH **24** *05:58:01.0, 13.80N×146.28E, h10km, ML6.1*

MOS **24** *05:58:02.4±1.1, 13.84N×146.22E, h33km, mb5.8/83, MS5.7/48, Error ellipse: s-maj=7.4km s-min=4.8km az=108.7*

IDC **24** *05:58:05.4±1.0, 13.77N×146.31E, h47km±8km, mb5.1/50, mb1 5.1/51, mb1mx5.1/52, mbtmp5.1/51, ML4.9/1, MS5.6/33, Ms1 5.6/33, ms1mx5.6/41, Error ellipse: s-maj=9.1km s-min=7.1km az=85.0*

ISC 24 05:58:01.5±0.3, 13.84N±0.03×146.34E±0.03, h18km, h18km:pP-P, n1203, σ1937/1213, mb5.7/300, MS5.8/247, 232C-191D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
GUMO	**Guam**	**1.45**	**260**	*e*Pn		**Pg**	**05 58 29.1**	**-0.4**
GUMO				*e*Sn		**Sn**	**05 58 44.7**	**-0.6**
GUMO	**Guam**	**1.45**	**260**	P		**Pb**	**05 58 28.3**	**+0.4**
	2μm,0.3s,baz=112,slow=4.8,SNR=208							
GUMO				S		**Sg**	**05 58 51.2**	**+2.9**
	2μm,0.3s,baz=302,slow=16,SNR=8.6							
CBIJ	**Chichi jima**	**13.74**	**344**	P		**Pn**	**06 01 16.8**	**+1.4**
CBIJ				S		**Sn**	**06 03 45.1**	**-2.6**
CBIJ	**Chichi jima**	**13.74**	**344**	P		**Pn**	**06 01 16.8**	**+1.4**
	5.6nm,0.3s,baz=284,slow=20,SNR=5.6							
CBIJ				S		**Sn**	**06 03 45.1**	**-2.6**
	3.6nm,0.3s,baz=301,slow=19,SNR=2.7							
CBIJ				LR		LR	06 06 31.1	
	comp=Z,28μm,18.9s,baz=164,slow=37							
JAY	**Jayapura**	**17.18**	**199**	P		**Pn**	**06 01 59.0**	**-1.8**
	138nm,1.4s							
SMPI	**Sarmi**	**17.45**	**206**	P		**Pn**	**06 02 03.7**	**-0.4**
	229nm,1.6s,9μm							
WAMI	**Wamena**	**19.17**	**204**	P		**Pn**	**06 02 26.2**	**+1.1**
	197nm,0.8s,12μm							
JHJ	**Hachijo jima 2**	**20.10**	**344**	P		Pn	06 02 35.9	-0.1
	115nm,0.4s,baz=211,slow=17,SNR=2.4							
WAKE	**Wake Island**	**20.20**	**72**	PFAKE			06 02 50.0	+13
WAKE				LR		LR		
	comp=Z,14μm,19.0s							
PLP	**Palo**	**21.02**	**265**	⇑*i*P		**P**	**06 02 45.4**	**+1.1**
JOW	**Kunigami**	**21.27**	**310**	*e*Pn		**P**	**06 02 49.1**	**+2.2**
	comp=Z,214nm,1.0s							
JOW	**Kunigami**	**21.27**	**310**	P		**P**	**06 02 49.2**	**+2.4**
	comp=Z,339nm,0.8s,baz=107,slow=5.2							
JOW				LR		LR	06 10 59.4	
	comp=Z,23μm,18.0s,baz=146,slow=36							
MSLP	**Maasin**	**21.33**	**262**	*e*P		**P**	**06 02 47.9**	**+0.3**
DAV	**Davao City (W)**	**21.48**	**254**	P		**P**	**06 02 50.8**	**+1.5**
DAV	**Davao City (W)**	**21.48**	**254**	P		**P**	**06 02 50.8**	**+1.5**
	comp=Z,201nm,0.4s,baz=357,slow=4.7,SNR=4.3							
DAV				LR		LR	06 09 34.4	
	comp=Z,11μm,19.3s,baz=75,slow=32							
PVCP	**Virac**	**21.55**	**272**	*e*P		**P**	**06 02 51.6**	**+1.6**
BUKP	**Musuan**	**21.71**	**256**	*e*P		**P**	**06 02 53.4**	**+1.6**
FAKI	**Fak Fak**	**21.74**	**221**	P		**P**	**06 02 50.0**	**-2.0**
	comp=Z,431nm,1.1s,comp=Z,10μmcomp=Z,37μm							
CTBH	**Cotabato--PC H**	**22.68**	**255**	⇓*i*P		**P**	**06 03 03.7**	**+1.6**
TNTI	**Ternate**	**22.83**	**237**	P		**P**	**06 03 00.8**	**-2.9**
	comp=Z,366nm,1.1s,comp=Z,8μm							
PMG	**Port Moresby**	**23.11**	**178**	*e*P		**P**	**06 03 04.5**	**-2.1**
	comp=Z,192nm,1.0s							
PMG				LR		LR		
	comp=Z,8μm,19.0s							
PMG	**Port Moresby**	**23.11**	**178**	P		**P**	**06 03 04.2**	**-2.4**
	comp=Z,191nm,1.0s,comp=Z,4μm							
PMG	**Port Moresby**	**23.11**	**178**	P		**P**	**06 03 05.1**	**-1.5**
	comp=Z,77nm,0.9s,baz=5.0,slow=7.2,SNR=34							
GQP	**Guinayangan**	**23.19**	**273**	⇓*e*P		**P**	**06 03 08.1**	**+0.6**
GUIM	**Jordan**	**23.42**	**265**	*e*P		**P**	**06 03 11.2**	**+1.4**
LBMI	**Labuha**	**23.56**	**234**	P		**P**	**06 03 12.5**	**+1.4**
TLE	**Tual**	**23.60**	**216**	P		**P**	**06 03 11.9**	**+0.5**
	comp=Z,306nm,1.2s,comp=Z,14μmcomp=Z,51μm							
OTRP	**Odiongan**	**23.73**	**269**	*e*P		**P**	**06 03 14.2**	**+1.5**
MAJO	**Matsushiro**	**23.75**	**344**	*e*P		**P**	**06 03 11.1**	**-1.6**
MAJO				pmax		pmax		
	comp=Z,514nm,2.0s							
MAJO				MLR		MLR		
	comp=Z,16μm,19.0s							
MAJO	**Matsushiro**	**23.75**	**344**	*e*P		**P**	**06 03 11.1**	**-1.6**
	comp=Z,514nm,2.0s							
MAJO				LR		LR		
	comp=Z,16μm,19.0s							
MAT	**Matsushiro**	**23.75**	**344**	P		**P**	**06 03 10.8**	**-2.0**
MAT				S		**S**	**06 07 27.0**	**-0.3**
JNU	**Nakatsue**	**23.80**	**326**	*e*P		**P**	**06 03 14.0**	**+0.7**
	comp=Z,2μm,2.7s							
JNU	**Nakatsue**	**23.80**	**326**	P		**P**	**06 03 13.9**	**+0.5**
	comp=Z,134nm,0.8s,baz=105,slow=4.5,SNR=70							
CAUP	**Cauayan**	**23.83**	**281**	*e*P		**P**	**06 03 15.4**	**+1.7**
MSAI	**Masohi**	**24.29**	**227**	P		**P**	**06 03 17.7**	**-0.3**
MNI	**Manado**	**24.57**	**242**	P		**P**	**06 03 22.4**	**+1.8**
	comp=Z,680nm,1.0s,comp=Z,12μmcomp=Z,227μm							
TGY	**Tagaytay City**	**24.65**	**274**	P		**P**	**06 03 22.1**	**+0.7**
TGY	**Tagaytay City**	**24.65**	**274**	P		**P**	**06 03 22.1**	**+0.7**
	comp=Z,154nm,0.3s,baz=155,slow=4.0,SNR=7.7							
TGY				LR		LR	06 13 23.2	
	comp=Z,33nm,18.1s,baz=11,slow=37							
BCPH	**Baguio City Da**	**24.99**	**279**	⇑*i*P		**P**	**06 03 24.6**	**+0.1**
AAI	**Ambon**	**25.05**	**227**	P		**P**	**06 03 24.5**	**-0.4**
	comp=Z,835nm,0.9s,comp=Z,7μm							
NACB	**Ninganchiao**	**25.51**	**297**	*e*P		**P**	**06 03 31.2**	**+2.3**
	comp=Z,286nm,1.8s							
YULB	**Yu-li**	**25.52**	**296**	*e*P		**P**	**06 03 29.7**	**+0.6**
	comp=Z,75nm,0.8s							
NLAI	**Namlea**	**25.54**	**230**	P		**P**	**06 03 29.0**	**-0.3**
	comp=Z,81nm,0.9s,comp=Z,4μm							
TWG	**Pinlang**	**25.56**	**294**	*e*P		**P**	**06 03 29.6**	**+0.1**
	comp=Z,300nm,0.8s							
KMSI	**Cibinong**	**25.76**	**241**	P		**P**	**06 03 32.1**	**+0.8**
	comp=Z,2μm,1.0s,comp=Z,25μm							
YHNB	**Yeheng**	**25.86**	**298**	*e*P		**P**	**06 03 32.5**	**+0.2**
	comp=Z,74nm,0.9s							
YHNB				LR		LR		
	comp=Z,25μm,20.0s							
TATO	**Taipei**	**25.87**	**299**	PFAKE			06 03 40.0	+7.7
TATO				LR		LR		
	comp=Z,18μm,20.0s							
SSLB	**Suanglung**	**25.94**	**296**	*e*P		**P**	**06 03 33.0**	**0.0**
	comp=Z,263nm,0.9s							
TPUB	**Ta-pu**	**26.08**	**295**	*e*P		**P**	**06 03 33.8**	**-0.4**
	comp=Z,580nm,2.0s							
HNR	**Honiara**	**26.78**	**149**	PFAKE			06 03 50.0	+9.5
HNR				LR		LR		
	comp=Z,12μm,20.0s							
MRSI	**Marisa**	**27.56**	**243**	P		**P**	**06 03 47.4**	**-0.2**
	comp=Z,267nm,0.8s,comp=Z,3μmcomp=Z,26μm							
LUWI	**Luwuk**	**27.64**	**240**	P		**P**	**06 03 48.1**	**-0.2**
	comp=Z,915nm,0.9s,comp=Z,8μm							
COEN	**Coen**	**27.80**	**187**	*e*P		**P**	**06 03 49.5**	**-0.2**
	comp=Z,254nm,1.1s							
ERM	**Erimo**	**28.20**	**355**	*d i*P		**P**	**06 03 52.8**	**-0.3**
ERM	**Erimo**	**28.20**	**355**	*e*P		**P**	**06 03 52.8**	**-0.3**
	comp=Z,45nm,0.9s							
ERM				LR		LR		
	comp=Z,16μm,19.0s							
QZH	**Quanzhou**	**28.34**	**297**	⇑*i*P		**P**	**06 03 55.0**	**+0.5**
QZH				S		S	06 08 50.0	+10
QZH				pmax		pmax		
	comp=Z,3μm,9.8s							
QZH				LR		LR		
	comp=N,7μm,13.0s							
QZH				LR		LR		
	comp=E,12μm,15.5s							
QZH				LR		LR		
	comp=Z,16μm,16.0s							
APSI	**Ampana**	**28.52**	**241**	P		P	06 04 04.5	+8.4
KSRS	**Korea Array**	**28.67**	**328**	P		**P**	**06 03 57.3**	**0.0**
	comp=Z,83nm,0.9s,baz=144,slow=9.0,SNR=200							
KSRS				LR		LR	06 15 22.3	
	comp=Z,15μm,18.0s,baz=137,slow=36							
KSAR	**Wonju Array Be**	**28.68**	**328**	P		**P**	**06 03 57.3**	**-0.1**
MYLDM	**Lahad Datu**	**28.74**	**255**	P		**P**	**06 03 59.1**	**+0.9**
MYLDM	**Lahad Datu**	**28.74**	**255**	P		P	06 04 02.6	+4.4
	comp=Z,125nm,1.3s,comp=Z,4μm							
SSE	**Sheshan**	**28.78**	**311**	P		**P**	**06 03 58.3**	**-0.1**
SSE				sP		**sP**	**06 04 02.8**	**-3.5**
SSE				S		**S**	**06 08 48.3**	**+1.0**
SSE				pmax		pmax		
	comp=Z,58nm,1.1s							
SSE				pmax		pmax		
	comp=Z,1μm,10.9s							
SSE				LR		LR		
	comp=N,7μm,17.5s							
SSE				LR		LR		
	comp=E,9μm,17.5s							
SSE				LR		LR		
	comp=Z,12μm,19.3s							
INCN	**Inchon**	**29.36**	**327**	*e*P		**P**	**06 04 04.1**	**+0.6**
	comp=Z,85nm,1.0s							
INCN				LR		LR		
	comp=Z,9μm,19.0s							
KDI	**Kendari**	**29.44**	**235**	P		**P**	**06 04 04.7**	**+0.4**
	comp=Z,110nm,1.1s,comp=Z,2μm							
TSM	**Tawau**	**29.63**	**254**	P		**P**	**06 04 06.9**	**+0.8**
KDM	**Kudat**	**29.80**	**260**	P		**P**	**06 04 08.4**	**+0.8**
SDKM	**Sandakan**	**29.83**	**257**	P		**P**	**06 04 08.7**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**30.09**	**359**	*i* P		P	06 04 02.7	-7.1
YUK				*i* S		S	06 08 59.2	-8.2
YUK				pmax		pmax		
	comp=E,45nm,0.4s							
YUK				pmax		pmax		
	comp=N,31nm,0.2s							
YUK				pmax		pmax		
	comp=Z,220nm,0.4s							
YUK				pmax		pmax		
	comp=Z,26μm,0.1s							
YUK				MLR		MLR		
	comp=Z,6μm,21.0s							
YUK				MLR		MLR		
	comp=N,2μm,21.0s							
ASAJ	**Asahikawa**	**30.34**	**355**	*e*P		**P**	**06 04 13.6**	**+1.7**
	comp=N,95nm,1.9s							
ASAJ	**Asahikawa**	**30.34**	**355**	P		**P**	**06 04 13.2**	**+1.2**
	comp=N,52nm,1.2s,baz=191,slow=9.6,SNR=10.0							
ASAJ				LR		LR	06 15 09.5	
	comp=N,11μm,20.9s,baz=25,slow=34							
KKM	**Kota Kinabalu**	**30.64**	**258**	*e*P		**P**	**06 04 16.2**	**+1.2**
	comp=N,747nm,2.5s							
KKM				LR		LR		
	comp=Z,5μm,20.0s							
KKM	**Kota Kinabalu**	**30.64**	**258**	P		**P**	**06 04 15.8**	**+0.7**
KKM	**Kota Kinabalu**	**30.64**	**258**	P		P	06 04 19.1	+4.0
	comp=Z,77nm,2.3s,comp=Z,3μm							
NJ2	**Nanjing**	**30.98**	**310**	*e*P		**P**	**06 04 19.5**	**+1.7**
NJ2				pP		**pP**	**06 04 21.5**	**-2.0**
NJ2				sP		**sP**	**06 04 22.6**	**-3.2**
NJ2				PP		**PP**	**06 05 26.0**	**-1.9**
NJ2				S		**S**	**06 09 25.0**	**+3.2**
NJ2				sS		**sS**	**06 09 31.0**	**-0.1**
NJ2				pmax		pmax		
	comp=Z,40nm,1.0s							
NJ2				pmax		pmax		
	comp=Z,1μm,10.5s							
NJ2				LR		LR		
	comp=N,7μm,17.1s							
NJ2				LR		LR		
	comp=E,10μm,16.1s							
NJ2				LR		LR		
	comp=Z,14μm,17.7s							
TTSI	**Tana Toraja**	**31.20**	**239**	P		**P**	**06 04 21.8**	**+1.9**
	comp=Z,92nm,0.9s,comp=Z,2μmcomp=Z,7μm							
HKC	**Hong Kong Obse**	**31.66**	**290**	⇑P		**P**	**06 04 24.0**	**+0.1**
VLA	**Vladivostok**	**31.71**	**340**	⇓*i*P		**P**	**06 04 23.9**	**-0.2**
VLA				*e*			06 05 27.4	
VLA				*e*S		**S**	**06 09 33.5**	**+0.6**
VLA				pmax		pmax		
	comp=Z,58nm,0.8s							
VLA				MLR		MLR		
	comp=E,253μm,13.0s							
SMKI	**Samarinda**	**32.15**	**246**	P		P	06 04 32.2	+3.9
	comp=E,215nm,1.0s,comp=E,5μmcomp=E,166μm							
KAPI	**Kappang**	**32.36**	**236**	*e*P		**P**	**06 04 30.1**	**0.0**
	comp=E,386nm,1.9s							
KAPI				LR		LR		
	comp=Z,2μm,19.0s							
KAPI	**Kappang**	**32.36**	**236**	P		**P**	**06 04 30.5**	**+0.4**
SNR=7.3								
KAPI	**Kappang**	**32.36**	**236**	P		**P**	**06 04 30.7**	**+0.6**
	comp=Z,264nm,0.7s,SNR=6.2							
KAPI	**Kappang**	**32.36**	**236**	P		**P**	**06 04 30.0**	**-0.1**
	comp=Z,164nm,1.4s,comp=Z,2μm							
KAPI	**Kappang**	**32.36**	**236**	P		**P**	**06 04 29.3**	**-0.8**
	comp=Z,34nm,0.8s,baz=69,slow=6.0,SNR=13							
GZH	**Guangzhou**	**32.55**	**291**	P		**P**	**06 04 31.5**	**-0.2**
GZH				S		**S**	**06 09 47.8**	**+1.4**
GZH				LR		LR		
	comp=N,7μm,18.5s							
GZH				LR		LR		
	comp=E,9μm,20.6s							
GZH				LR		LR		
	comp=Z,15μm,20.8s							
USRK	**Ussuriysk Arra**	**32.64**	**341**	P		**P**	**06 04 32.2**	**-0.1**
	comp=Z,17nm,0.8s,baz=151,slow=7.9,SNR=23							
USRK				LR		LR	06 17 03.5	
	comp=Z,9μm,18.7s,baz=294,slow=35							
MMRI	**Maumere**	**32.72**	**228**	P		**P**	**06 04 36.3**	**+3.0**
	comp=Z,124nm,1.0s,comp=Z,2μm							
YSS	**Yuzh-Sakhalins**	**33.14**	**356**	*c e*P		**P**	**06 04 36.0**	**-0.6**
YSS				*e*PPP		PPP	06 06 06.0	
YSS				*e*S		**S**	**06 09 54.0**	**-1.1**
YSS				*e*SS		**SnSn**	**06 11 59.0**	**+4.2**
YSS				pmax		pmax		
	comp=Z,30nm,1.0s							
YSS				pmax		pmax		
	comp=Z,500nm,6.0s							
YSS				MLR		MLR		
	comp=Z,9μm,18.0s							
YSS				MLR		MLR		
	comp=N,8μm,19.0s							
YSS				MLR		MLR		
	comp=E,6μm,16.0s							
YSS	**Yuzh-Sakhalins**	**33.14**	**356**	*e*P		**P**	**06 04 37.8**	**+1.2**
	comp=E,23nm,0.7s							
YSS				LR		LR		
	comp=Z,3μm,20.0s							
DL2	**Dalian**	**33.16**	**323**	⇑*i*P		**P**	**06 04 37.9**	**+1.1**
DL2				PP		**PP**	**06 05 51.9**	**0.0**
DL2				S		**S**	**06 09 55.9**	**+0.4**
DL2				pmax		pmax		
	comp=Z,170nm,0.8s							
DL2				pmax		pmax		
	comp=Z,990nm,4.3s							
DL2				LR		LR		
	comp=N,4μm,18.0s							
DL2				LR		LR		
	comp=Z,6μm,18.6s							
CTA	**Charters Tower**	**33.72**	**180**	P		**P**	**06 04 41.7**	**-0.2**
CTA	**Charters Tower**	**33.72**	**180**	*e*P		**P**	**06 04 41.4**	**-0.5**
	comp=Z,23nm,1.1s							
CTA				*e*S		**S**	**06 10 00.3**	**-4.2**
CTA	**Charters Tower**	**33.72**	**180**	P		**P**	**06 04 41.7**	**-0.2**
	comp=Z,4.5nm,0.5s,baz=5.5,slow=11,SNR=9.2							
CTAO	**Charters Tower**	**33.72**	**180**	*e*P		**P**	**06 04 42.0**	**+0.1**
CTAO				pmax		pmax		
	comp=Z,47nm,1.2s							
CTAO				MLR		MLR		
	comp=Z,4μm,19.0s							
CTAO	**Charters Tower**	**33.72**	**180**	*e*P		**P**	**06 04 42.0**	**+0.1**
	comp=Z,47nm,1.2s							
CTAO				LR		LR		
	comp=Z,4μm,19.0s							
WHN	**Wuhan**	**33.80**	**305**	⇑P		**P**	**06 04 43.8**	**+1.3**
WHN				LR		LR		
	comp=N,13μm,14.7s							
WHN				LR		LR		
	comp=E,7μm,12.4s							
WHN				LR		LR		
	comp=Z,20μm,17.1s							
MDJ	**Mudanjiang**	**33.83**	**338**	P		**P**	**06 04 42.4**	**-0.2**
MDJ				pP		**pP**	**06 04 45.5**	**-2.8**
MDJ				sP		**sP**	**06 04 46.8**	**-3.7**
MDJ				PP		**PP**	**06 05 58.6**	**-0.7**
MDJ				S		**S**	**06 10 07.3**	**+1.5**
MDJ				sS		**sS**	**06 10 11.8**	**-3.3**
MDJ				ScP		**ScP**	**06 11 06.3**	**+0.8**
MDJ				PcS		**PcS**	**06 11 07.8**	**+0.6**
MDJ				pmax		pmax		
	comp=Z,24nm,0.8s							
MDJ				pmax		pmax		
	comp=Z,780nm,7.6s							
MDJ				LR		LR		
	comp=N,5μm,19.3s							
MDJ				LR		LR		
	comp=E,11μm,13.8s							
MDJ				LR		LR		
	comp=Z,14μm,16.6s							
MDJ	**Mudanjiang**	**33.83**	**338**	*e*P		**P**	**06 04 43.2**	**+0.6**
	comp=Z,13nm,0.8s							
MDJ				LR		LR		
	comp=Z,14μm,19.0s							
SNY	**Shenyang**	**34.17**	**329**	⇑P		**P**	**06 04 45.8**	**+0.2**
SNY				S		**S**	**06 10 12.8**	**+1.7**
SNY				pmax		pmax		
	comp=Z,62nm,1.1s							
SNY				pmax		pmax		
	comp=Z,1μm,9.4s							
SNY				LR		LR		
	comp=N,10μm,16.2s							
SNY				LR		LR		
	comp=E,7μm,18.6s							
SNY				LR		LR		
	comp=Z,13μm,19.0s							
TIA	**Tai'an**	**34.36**	**316**	⇑P		**P**	**06 04 47.8**	**+0.4**
TIA				PP		**PP**	**06 06 05.3**	**-0.1**
TIA				S		**S**	**06 10 18.3**	**+4.0**
TIA				pmax		pmax		
	comp=Z,60nm,0.9s							
TIA				LR		LR		
	comp=N,9μm,16.6s							
TIA				LR		LR		
	comp=E,13μm,16.6s							
TIA				LR		LR		
	comp=Z,13μm,19.0s							
BTM	**Bintulu**	**34.49**	**255**	P		**P**	**06 04 49.4**	**+0.6**
CN2	**Changchun**	**34.81**	**333**	⇓P		**P**	**06 04 51.9**	**+0.8**
CN2				*es*P		**sP**	**06 04 58.0**	**-1.1**
CN2				*e*S		**S**	**06 10 21.9**	**+0.9**
CN2				pmax		pmax		
	comp=Z,30nm,0.6s							
CN2				pmax		pmax		
	comp=Z,200nm,8.0s							
CN2				LR		LR		
	comp=N,10μm,17.0s							
CN2				LR		LR		
	comp=E,10μm,17.0s							
CN2				LR		LR		
	comp=Z,10μm,18.0s							
QIZ	**Qiongzhong**	**35.34**	**283**	P		**P**	**06 04 57.3**	**+1.3**
QIZ				pP		**pP**	**06 04 59.3**	**-2.4**
QIZ				PP		**PP**	**06 06 17.9**	**+1.6**
QIZ				S		**S**	**06 10 30.5**	**+0.8**
QIZ				sS		**sS**	**06 10 37.8**	**-1.2**
QIZ				PcS		**PcS**	**06 11 14.5**	**+1.0**
QIZ				ScS		**ScS**	**06 15 18.0**	**+2.1**
QIZ				pmax		pmax		
	comp=Z,2μm,8.3s							
QIZ				LR		LR		
	comp=N,4μm,19.2s							
QIZ				LR		LR		
	comp=E,6μm,19.5s							
QIZ				LR		LR		
	comp=Z,16μm,19.7s							
QIZ	**Qiongzhong**	**35.34**	**283**	*e*P		**P**	**06 04 57.2**	**+1.2**
	comp=Z,59nm,1.0s							
QIZ				LR		LR		
	comp=Z,17μm,20.0s							
SBUM	**Sibu**	**35.56**	**254**	P		**P**	**06 04 58.7**	**+0.8**
SBUM	**Sibu**	**35.56**	**254**	P		**P**	**06 04 58.8**	**+0.8**
	comp=Z,125nm,1.8s,comp=Z,3μm							
WRAB	**Tennant Creek**	**35.58**	**200**	*e*P		**P**	**06 04 57.1**	**-0.9**
WRAB				pmax		pmax		
	comp=Z,119nm,1.1s							
WRAB				MLR		MLR		
	comp=Z,6μm,19.0s							
WRAB	**Tennant Creek**	**35.58**	**200**	*e*P		**P**	**06 04 57.1**	**-0.9**
	comp=Z,119nm,1.1s							
WRAB				LR		LR		
	comp=Z,6μm,19.0s							
WRAB	**Tennant Creek**	**35.58**	**200**	P		**P**	**06 04 57.0**	**-0.9**
	comp=Z,375nm,0.8s,SNR=27							
WRA	**Warramunga Arr**	**35.59**	**200**	P		**P**	**06 04 57.5**	**-0.6**
WRA				PcP		**PcP**	**06 07 27.9**	**+1.0**
WRA				S		S	06 10 26.4	-7.0
WRA				ScP		**ScP**	**06 11 11.0**	**-1.1**
WRA	**Warramunga Arr**	**35.59**	**200**	P		**P**	**06 04 57.5**	**-0.6**
	comp=Z,41nm,0.8s,baz=21,slow=9.4,SNR=107							
WRA				PcP		**PcP**	**06 07 27.9**	**+1.0**
	comp=Z,6.3nm,0.6s,baz=17,slow=3.4,SNR=6.4							
WRA				S		S	06 10 26.4	-7.0
	comp=Z,1.9nm,1.1s,baz=28,slow=7.6,SNR=2.7							
WRA				ScP		**ScP**	**06 11 11.0**	**-1.1**
	comp=Z,6.3nm,1.1s,baz=17,slow=4.2,SNR=6.9							
WRA				LR		LR	06 18 50.2	
	comp=Z,5μm,19.2s,baz=35,slow=35							
HABR	**Khabarovsk**	**35.77**	**347**	*e*P		**P**	**06 04 58.2**	**-1.1**
HABR				*e*			06 07 25.6	
HABR				*e*SS		SS	06 13 00.4	-11
HABR				*e*			06 15 16.4	
HABR				pmax		pmax		
	comp=Z,158nm,2.0s							
HABR				pmax		pmax		
	comp=N,67nm,2.0s							
HABR				pmax		pmax		
	comp=E,31nm,1.3s							
HABR				MLR		MLR		
	comp=Z,11μm,15.0s							
PLKI	**Palangkaraya**	**35.86**	**246**	P		**P**	**06 05 02.1**	**+1.5**
	comp=Z,357nm,1.0s							
MIDW	**Midway**	**36.61**	**61**	PFAKE			06 05 20.0	+13
MIDW				LR		LR		
	comp=Z,6μm,22.0s							
BJT	**Baijiatuau**	**37.14**	**320**	*e*P		**P**	**06 05 11.7**	**+0.6**
	comp=Z,217nm,1.1s							
BJT				LR		LR		
	comp=Z,14μm,19.0s							
BJI	**Beijing**	**37.15**	**320**	P		**P**	**06 05 11.8**	**+0.6**
BJI				PP		**PP**	**06 06 35.8**	**-0.2**
BJI				S		**S**	**06 10 55.5**	**-1.4**
BJI				pmax		pmax		
	comp=Z,130nm,1.7s							
BJI				pmax		pmax		
	comp=Z,2μm,9.1s							
BJI				LR		LR		
	comp=N,14μm,19.2s							
BJI				LR		LR		
	comp=E,6μm,20.4s							
BJI				LR		LR		
	comp=Z,9μm,18.6s							
KLR	**Kul'dur**	**37.27**	**344**	*e*P		P	06 05 07.0	-5.1
KLR				pmax		pmax		
	comp=Z,150nm,1.8s							
KLR				pmax		pmax		
	comp=Z,2μm,12.0s							
KLR				MLR		MLR		
	comp=E,7μm,13.0s							
KLR				MLR		MLR		
	comp=Z,17μm,13.0s							
SKR	**Severo-Kuril's**	**37.59**	**10**	*e*P		P	06 05 21.0	+6.2
SKR				pmax		pmax		
	comp=N,80nm,0.7s							
SKR				pmax		pmax		
	comp=E,70nm,0.7s							
SKR				pmax		pmax		
	comp=Z,90nm,0.7s							
ENH	**Enshi**	**37.66**	**302**	*e*P		**P**	**06 05 16.5**	**+0.7**
	comp=Z,149nm,1.0s							
ENH				LR		LR		
	comp=Z,9μm,19.0s							
KSM	**Kuching**	**37.69**	**254**	*e*P		**P**	**06 05 16.1**	**0.0**
	comp=Z,150nm,1.0s							
KSM				LR		LR		
	comp=

TIY LR LR
comp=Z,16µm,17.3s
GYA Guiyang 39.14 295⇑ *i*P P 06 05 30.0 +1.6
GYA PP **PnPn 06 07 02.1 +1.3**
GYA ScP **S 06 11 27.3 -0.4**
GYA S **ScP 06 11 29.0 +3.3**
GYA SS **SS 06 14 13.4 -7.3**
GYA pmax pmax
comp=Z,80nm,0.9s
GYA pmax pmax
comp=Z,240nm,5.0s
GYA LR LR
comp=N,9µm,18.2s
GYA LR LR
comp=E,6µm,19.9s
GYA LR LR
comp=Z,9µm,17.5s
ASAR Alice Springs 39.21 198 P P 06 05 28.3 -0.5
ASAR S **S 06 11 24.5 -3.9**
ASAR Alice Springs 39.21 198 P P 06 05 28.3 -0.5
comp=Z,9.8nm,0.7s,baz=20,slow=7.1,SNR=81
ASAR S **S 06 11 24.5 -3.9**
comp=Z,1.2nm,0.9s,baz=22,slow=8.0,SNR=3.0
EIDS Eidsvold 39.25 173 *e*P P 06 05 28.0 -1.0
comp=Z,100nm,1.8s
XAN Xi'an 39.37 307 P P 06 05 30.4 +0.3
XAN PP **PnPn 06 07 06.8 +3.5**
XAN pmax pmax
comp=Z,14nm,0.9s
XAN pmax pmax
comp=Z,440nm,9.7s
XAN LR LR
comp=N,5µm,17.1s
XAN LR LR
comp=E,1µm,16.4s
XAN LR LR
comp=Z,3µm,19.1s
PETK Petropavlovsk- 40.20 11 P P 06 05 38.1 +1.4
PETK 06 07 41.1
PETK Petropavlovsk- 40.20 11 P P 06 05 38.0 +1.4
PETK PcP **PcP 06 07 41.0 +0.5**
PETK Petropavlovsk- 40.20 11 P P 06 05 38.0 +1.4
comp=Z,24nm,0.9s,baz=178,slow=8.0,SNR=12
PETK PcP **PcP 06 07 41.1 +0.5**
comp=Z,9.5nm,0.9s,baz=178,slow=5.4,SNR=3.1
PET Petropavlovsk 40.30 11κ *i*P P 06 05 38.9 +1.5
PET *e*S **S 06 11 43.1 -0.9**
PET *e*SS **SS 06 14 37.0 -5.7**
PET pmax pmax
comp=Z,50nm,0.9s
PET pmax pmax
comp=Z,700nm,7.5s
PET pmax pmax
comp=Z,900nm,4.2s
PET MLR MLR
comp=Z,6µm,20.0s
PET MLR MLR
comp=Z,5µm,18.0s
PET Petropavlovsk 40.30 11 *e*P P 06 05 39.0 +1.6
comp=Z,270nm,2.0s
PET LR LR
comp=Z,5µm,20.0s
HHC Hu-ho-hao-te 40.52 318 *e*P P 06 05 40.3 +0.7
HHC sP **sP 06 05 46.3 -1.3**
HHC PP **PnPn 06 07 17.8 +0.8**
HHC PcP **PcP 06 07 43.3 +1.3**
HHC ScP **ScP 06 11 30.8 +0.1**
HHC PcS **PcS 06 11 32.3 -0.4**
HHC S **S 06 11 48.3 +0.3**
HHC sS **sS 06 11 55.3 -2.1**
HHC SS **SS 06 14 42.3 -5.5**
HHC ScS **ScS 06 15 43.8 -1.2**
HHC pmax pmax
comp=Z,91nm,1.2s
HHC pmax pmax
comp=Z,2µm,6.6s
HHC LR LR
comp=N,4µm,14.8s
HHC LR LR
comp=E,7µm,14.2s
HHC LR LR
comp=Z,9µm,14.7s
DZM Mont Dzumac 40.78 151 *e*P P 06 05 41.8 -0.1
comp=Z,126nm,1.3s
DZM *e*S **S 06 11 51.0 -1.1**
comp=Z,3µm,24.0s
DZM *e*LR LR 06 16 56.2
comp=Z,8µm,33.2s
DZM Mont Dzumac 40.78 151 *e*P P 06 05 39.7 -2.2
DZM Mont Dzumac 40.78 151 P P 06 05 40.4 -1.5
DZM Mont Dzumac 40.78 151 P P 06 05 40.4 -1.5
comp=Z,29nm,1.0s,baz=318,slow=3.7,SNR=10
BTO Baotou 41.41 317 *e*P P 06 05 48.4 +1.5
BTO LR LR
comp=N,3µm,16.7s
BTO LR LR
comp=E,3µm,19.6s
HIA Hailar 41.53 334 *e*P P 06 05 48.5 +0.8
comp=E,95nm,1.1s
HIA LR LR
comp=Z,13µm,19.0s
UGM Wanagama 41.60 241 *e*P P 06 05 48.7 -0.1
comp=Z,756nm,1.5s
UGM Wanagama 41.60 241 P sP 06 06 04.0 +7.2
YOGI Yogyakarta 41.75 241 P sP 06 06 05.3 +7.4
TGJI Tegal 42.28 243 P P 06 05 56.6 +2.3
comp=Z,124nm,1.0s,comp=Z,3µm
KMI Kunming 42.43 292 P P 06 05 57.4 +1.7
KMI pP **pP 06 06 01.3 -0.1**
KMI PcP **PcP 06 07 52.3 +3.6**
KMI S **S 06 12 17.0 0.0**
KMI SS **SS 06 15 20.4 -6.0**
KMI pmax pmax
comp=Z,29nm,1.0s
KMI pmax pmax
comp=Z,2µm,9.8s
KMI LR LR
comp=N,4µm,17.5s
KMI LR LR
comp=E,7µm,19.1s
KMI LR LR
comp=Z,8µm,20.2s
CD2 Chengdu 42.59 301 ⇑P P 06 05 57.0 +0.3
CD2 pP **pP 06 06 01.5 -0.9**
CD2 sP **sP 06 06 04.0 -0.7**
CD2 PP **PP 06 07 38.8 +3.3**
CD2 PcP **PcP 06 07 49.5 +0.6**
CD2 S **S 06 12 14.5 -4.3**
CD2 sS **sS 06 12 26.9 -1.3**
CD2 SS **SS 06 15 23.9 -5.0**
CD2 ScS **ScS 06 15 56.3 -1.5**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,2µm,7.6s
CD2 LR LR
comp=N,9µm,19.6s
CD2 LR LR
comp=E,7µm,16.6s
CD2 LR LR
comp=Z,9µm,20.8s
PPBI Pangkal Pinang 42.91 251 P P 06 06 01.5 +2.1
comp=Z,36nm,1.4s,comp=Z,8µm
MBWA Marble Bar 43.51 217 *e*P P 06 06 04.1 0.0
comp=Z,126nm,1.7s
MBWA LR LR
comp=Z,2µm,20.0s
MBWA Marble Bar 43.51 217 P P 06 06 04.6 +0.5
SNR=8.4
LEM Lembang 43.57 244 P P 06 06 06.4 +1.4
comp=Z,110nm,1.8s,comp=Z,4µm
MYKOM Kota Tinggi 43.67 258 P P 06 06 06.0 +0.4
MYKOM Kota Tinggi 43.67 258 P P 06 06 06.3 +0.7
comp=Z,208nm,1.0s,comp=Z,3µm
CISI Cisompet, Garu 43.75 243 P sP 06 06 19.0 +4.8
LZH Lanzhou 43.98 308 ⇑P P 06 06 09.6 +1.6
LZH pP **pP 06 06 15.0 +1.2**
LZH sP **sP 06 06 18.3 +2.3**
LZH S **S 06 12 41.0 +1.7**
LZH sS **sS 06 12 47.5 -1.3**
LZH SS **SS 06 15 50.3 -6.0**
LZH pmax pmax
comp=Z,140nm,1.0s
LZH pmax pmax
comp=Z,2µm,6.8s
LZH LR LR
comp=N,5µm,14.6s
LZH LR LR
comp=E,5µm,15.9s
LZH LR LR
comp=Z,6µm,15.2s
KGM Kluang 44.10 258 P P 06 06 09.5 +0.5
ARMA Armidale 44.30 173 *e*P P 06 06 10.6 +0.2
comp=Z,318nm,2.6s
ARMA Armidale 44.30 173 *e*P P 06 06 09.9 -0.5
ARMA *e*S **S 06 12 41.6 -2.2**
MSVF Nonsavu 44.31 134 *e*P P 06 06 09.7 -1.0
MSVF pmax pmax
comp=Z,54nm,1.2s
MSVF MLR MLR
comp=Z,6µm,19.0s
MSVF Nonsavu 44.31 134 *e*P P 06 06 09.7 -1.0
comp=Z,54nm,1.2s
MSVF LR LR
comp=Z,6µm,19.0s
FX1 Attu Island--F 44.41 23 LR LR 06 22 53.2
comp=Z,8µm,20.7s,baz=235,slow=33
CGJI Cibinong 45.17 246 P P 06 06 16.4 -1.2
comp=Z,250nm,1.1s,comp=Z,3µm
FRIM Kepong 45.37 261 P P 06 06 19.5 +0.3
IPM Ipoh 45.61 263 *e*P P 06 06 22.1 +1.0
comp=Z,37nm,0.8s
IPM Ipoh 45.61 263 P P 06 06 21.5 +0.3
CHTO Chiang Mai 45.65 283 *e*P P 06 06 22.2 +0.9
CHTO pmax pmax
comp=Z,23nm,0.8s
CHTO MLR MLR
comp=Z,5µm,20.0s
CHTO Chiang Mai 45.65 283 *e*P P 06 06 22.2 +0.9
comp=Z,23nm,0.8s
CHTO LR LR
comp=Z,5µm,20.0s
CHTO Chiang Mai 45.65 283 P P 06 06 22.4 +1.1
SNR=24
CHTO Chiang Mai 45.65 283 P P 06 06 22.1 +0.8
comp=Z,50nm,0.9s,comp=Z,2µm
CMAR Chiang Mai Arr 45.66 282 P P 06 06 22.9 +1.5
CMAR PcP **PcP 06 08 00.6 +1.0**
CMAR Chiang Mai Arr 45.66 282 P P 06 06 22.9 +1.5
comp=Z,54nm,0.8s,baz=84,slow=5.9,SNR=129
CMAR PcP **PcP 06 08 00.6 +1.0**
comp=Z,6.5nm,0.7s,baz=81,slow=5.6,SNR=2.8
CMAR LR LR 06 25 15.2
comp=Z,7µm,19.2s,baz=84,slow=36
STKA Stephens Creek 45.69 186 P P 06 06 19.9 -1.4
STKA Stephens Creek 45.69 186 *e*P P 06 06 19.7 -1.6
comp=Z,21nm,0.7s
STKA *e*S S 06 12 57.1 -6.5
STKA Stephens Creek 45.69 186 P P 06 06 19.9 -1.4
comp=Z,13nm,0.7s,baz=354,slow=8.7,SNR=28
STKA LR LR 06 25 55.1
comp=Z,8µm,19.0s,baz=2.1,slow=37
KASI Kota Agung 45.77 248 P P 06 06 22.3 0.0
comp=Z,207nm,1.0s,comp=Z,2µm
KULM Kulim 45.77 264 *e*P P 06 06 22.9 +0.4
comp=Z,111nm,1.1s
KULM LR LR
comp=Z,6µm,20.0s
KULM Kulim 45.77 264 P P 06 06 22.8 +0.4
KULM Kulim 45.77 264 P P 06 06 23.7 +1.3
comp=Z,111nm,1.0s,comp=Z,2µm
CLNS Chul'man 45.93 344 *e*P P 06 06 22.1 -0.9
CLNS *e**PP **pP 06 06 31.0 +2.2**
CLNS *e* 06 08 00.3
CLNS *e* 06 08 09.4
CLNS *e*PPP PPP 06 08 52.0
CLNS *e*S **S 06 13 05.7 -1.0**
CLNS *e*SS ScS 06 16 08.9 -9.0
CLNS pmax pmax
comp=Z,11nm,0.8s
CLNS pmax pmax
comp=N,12nm,0.7s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS pmax pmax
comp=Z,12nm,0.9s
CLNS pmax pmax
comp=N,11nm,1.1s
CLNS pmax pmax
comp=E,13nm,0.9s
CLNS smax smax
comp=E,944nm,12.7s
CLNS smax smax
comp=N,772nm,12.7s
CLNS MLR MLR
comp=N,6µm,15.0s
CLNS MLR MLR
comp=Z,7µm,14.0s
CLNS MLR MLR
comp=E,3µm,15.0s
LWLI Liwa 45.95 249 P P 06 06 23.5 -0.4
comp=E,418nm,0.9s
CIT Chita 46.25 332 *e*P P 06 06 25.6 0.0
CIT *e* 06 06 37.2
CIT *e* 06 08 17.3
CIT pmax pmax
comp=Z,267nm,2.3s
MNAI Manna 46.69 250 P P 06 06 29.8 +0.3
comp=Z,512nm,1.4s,comp=Z,9µm
KSI Kapahiang 46.74 251 P P 06 06 29.4 -0.7
comp=Z,534nm,0.9s,comp=Z,7µm
BKNI Bangkinang 46.80 257 P P 06 06 32.1 +1.7
comp=Z,118nm,0.8s,comp=Z,2µm
ULN Ulaanbaatar 47.00 324 *e*P P 06 06 32.4 +0.7
comp=Z,47nm,0.7s
ULN LR LR
comp=Z,6µm,19.0s
ULN Ulaanbaatar 47.00 324 P P 06 06 33.0 +1.3
SNR=54
ULN Ulaanbaatar 47.00 324 P P 06 06 32.5 +0.7
comp=Z,90nm,0.8s,comp=Z,2µm
XMIS Christmas Isla 47.04 241 *e*P P 06 06 31.4 -0.9
comp=Z,515nm,0.9s
SONM Songino Array 47.35 324 P P 06 06 35.4 +0.9
SONM Songino Array 47.35 324 P P 06 06 35.4 +0.9
comp=Z,61nm,0.8s,baz=137,slow=8.3,SNR=233
SONM LR LR 06 27 09.6
comp=Z,8µm,18.9s,baz=121,slow=37
BBOO Buckleboo 47.42 192 *e*P P 06 06 34.1 -0.8
comp=Z,737nm,0.9s
PPI Padang Panjang 47.66 256 P P 06 06 36.7 -0.4
comp=Z,118nm,1.4s,comp=Z,2µm
FORT Forrest 47.72 201 *e*P P 06 06 37.5 +0.2
comp=Z,93nm,0.8s
FORT Forrest 47.72 201 *e*P P 06 06 37.2 -0.1
comp=Z,68nm,0.6s
MNSI Mandailing Nat 48.03 258 P P 06 06 39.8 -0.3
comp=Z,51nm,1.0s,comp=Z,9µm
GTA Gaotai 48.08 311 P P 06 06 41.4 +1.2
GTA pP **pP 06 06 45.4 -0.6**
GTA sP **sP 06 06 49.3 +1.0**
GTA PcP **PcP 06 08 10.0 +2.1**
GTA S **S 06 13 37.3 -0.8**
GTA sS **sS 06 13 46.9 -0.7**
GTA ScS **ScS 06 16 32.6 -0.4**
GTA SS **SS 06 17 00.9 -6.3**
GTA pmax pmax
comp=Z,56nm,1.2s
GTA pmax pmax
comp=Z,2µm,8.8s
GTA LR LR
comp=N,4µm,15.0s
GTA LR LR
comp=E,6µm,17.1s
GTA LR LR
comp=Z,7µm,16.9s
PSI Prapat 48.08 261 P P 06 06 41.0 +0.4
PSI Prapat 48.08 261 P P 06 06 40.8 +0.2
comp=Z,92nm,0.9s,comp=Z,2µm
PSI Prapat 48.08 261 P P 06 06 41.0 +0.4
comp=Z,54nm,0.8s,baz=84,slow=3.7,SNR=65
PSI LR LR 06 24 42.9
comp=Z,4µm,21.4s,baz=215,slow=33
CAN Canberra 48.96 177 PFAKE 06 07 00.0 +13
CAN LR LR
comp=Z,3µm,19.0s
SISI Saibi 49.18 256 P P 06 06 47.8 -1.0
comp=Z,347nm,0.9s,comp=Z,7µm
SEY Seymchan 49.21 4⇑ *e*P P 06 06 49.1 +0.8
LHMI Lhok Sumawe 49.37 265 P P 06 06 56.1 +5.8
comp=Z,212nm,1.0s,comp=Z,6µm
YAK Yakutsk 49.58 350 *e*P P 06 06 49.7 -1.5
YAK *e**PP **pP 06 06 58.7 +1.7**
YAK *e* 06 08 11.5
YAK *e* 06 08 42.4
YAK *e*S **S 06 13 54.0 -4.2**
YAK *e**SS **sS 06 14 09.7 +2.0**
YAK *e* 06 16 36.0
YAK *e*SS **SS 06 17 29.4 -0.9**
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=Z,50nm,0.8s
YAK pmax pmax
comp=N,29nm,1.4s
YAK pmax pmax
comp=Z,176nm,3.9s
YAK smax smax
comp=N,726nm,9.9s
YAK smax smax
comp=E,758nm,9.4s
YAK MLR MLR
comp=Z,10µm,18.0s
YAK MLR MLR
comp=N,7µm,15.0s
YAK MLR MLR
comp=E,1µm,14.0s
YAK Yakutsk 49.58 350 *e*P P 06 06 50.0 -1.2
comp=E,81nm,0.6s
YAK LR LR
comp=Z,8µm,19.0s
TPTI 49.63 262 P P 06 06 53.1 +0.7
comp=Z,115nm,1.1s,comp=Z,10µm
GSI Gunungsitoli 49.80 260 P P 06 06 52.9 -0.7
comp=Z,147nm,1.0s,comp=Z,2µm
AFI Afiamalu 49.81 122 P P 06 06 54.6 +1.0
AFI Afiamalu 49.81 122 P P 06 06 54.6 +1.0
comp=Z,24nm,0.8s,baz=288,slow=9.6,SNR=5.6
AFI LR LR 06 25 45.1
comp=Z,7µm,18.7s,baz=289,slow=33
BOD Bodaibo 50.20 338 *e*P P 06 06 55.5 -0.5
BOD pmax pmax
comp=Z,46nm,1.8s
IMP Imphal 50.37 291 *e*PKP P 06 06 58.0 +0.1
ZAK Zakamensk 50.43 325⇑ *i*P P 06 06 58.6 +0.6
ZAK *e* 06 09 58.3
ZAK *e* 06 13 59.2
ZAK pmax pmax
comp=Z,31nm,1.1s
IRK Irkutsk 50.88 328 *e*P P 06 07 01.0 -0.3
IRK pmax pmax
comp=Z,175nm,2.4s
BSI Banda Aceh 50.91 266 P P 06 07 02.2 +0.2
TLY Talaya 50.91 327*c* *i*P P 06 07 01.9 +0.4
TLY *e* 06 08 53.7
TLY *e*S **S 06 14 15.5 -1.7**
TLY *e* 06 16 48.0
TLY pmax pmax
comp=Z,72nm,1.0s
TLY MLR MLR
comp=Z,7µm,20.0s
TLY Talaya 50.91 327 *e*P P 06 07 01.7 +0.2
comp=Z,62nm,0.9s
TLY LR LR
comp=Z,8µm,19.0s
TLY Talaya 50.91 327 P P 06 07 02.0 +0.6
SNR=54
TLY Talaya 50.91 327 P P 06 07 02.4 +0.9
comp=Z,381nm,0.8s,SNR=27
TOO Toolangi 51.15 181 *e*P P 06 07 03.7 +0.3
comp=Z,95nm,1.2s
SHL Shillong 52.26 292⇑ *i*P P 06 07 13.0 +0.8
SHL *ex* x 06 12 23.0
MOY Mondy 52.32 326 *e*P P 06 07 12.6 +0.4
MOY pmax pmax
comp=Z,125nm,2.1s
AGT Agartala 52.80 290 *e*PKP P 06 07 18.0 +2.0
AGT *ex* x 06 08 27.0
KLBR Kellerberrin 52.85 211 *e*P P 06 07 15.3 -0.8
comp=Z,52nm,1.0s
LSA Lhasa 53.15 297 P P 06 07 21.8 +2.7
LSA pP **pP 06 07 29.8 +4.8**
LSA sP sP 06 07 33.9 +6.7
LSA PP **PP 06 09 21.8 +2.7**
LSA S **S 06 14 47.5 -2.0**
LSA pmax pmax
comp=Z,20nm,0.8s
LSA LR LR
comp=N,1µm,21.2s
LSA LR LR
comp=E,1µm,24.5s
LSA LR LR
comp=Z,2µm,20.3s
LSA Lhasa 53.15 297 *e*P P 06 07 20.7 +1.6
LSA pmax pmax
comp=Z,45nm,0.7s
LSA MLR MLR
comp=Z,2µm,19.0s
LSA Lhasa 53.15 297 *e*P P 06 07 20.7 +1.6
comp=Z,45nm,0.7s
LSA LR LR
comp=Z,2µm,19.0s
KIP Kipapa 53.34 74⇑ *e*P P 06 07 20.0 -0.1
KIP pmax pmax
comp=Z,150nm,1.7s
KIP Kipapa 53.34 74 *e*P P 06 07 19.9 -0.2
comp=Z,94nm,1.1s
KIP LR LR
comp=Z,5µm,20.0s
NWAO Narrogin (SRO) 54.19 210 PFAKE 06 07 40.0 +14
NWAO LR LR
comp=Z,5µm,19.0s
UNV Unalaska Valle 54.35 32 *e*P P 06 07 27.6 +0.8
comp=Z,56nm,0.8s
AKUT Akutan 54.87 32 *e*P P 06 07 30.6 0.0
comp=Z,134nm,1.0s
RAO Raoul Island 55.02 141 PFAKE 06 07 40.0 +8.0
RAO LR LR
comp=Z,5µm,19.0s
OUZ Omahuta 55.22 153 *e*P P 06 07 36.2 +2.8
comp=Z,222nm,2.0s
COCO West Island 55.47 244 PFAKE 06 07 50.0 +14
COCO LR LR
comp=Z,871nm,19.0s
CAL Calcutta 55.50 288 *e*PKP P 06 07 36.3 +0.6
CAL *ex* x 06 15 32.9
POHA Pohakuloa 55.74 75 *e*P P 06 07 38.1 +0.3
comp=Z,178nm,1.2s
TAPN Taplejung 56.05 294 *e*P P 06 07 40.7 +0.7
comp=Z,114nm,0.7s
TAPN Taplejung 56.05 294 *e*P P 06 07 40.7 +0.7
comp=Z,114nm,0.7s
ODAN Odare 56.33 293 *e*P P 06 07 42.5 +0.6
comp=Z,265nm,1.2s
ODAN Odare 56.33 293 *e*P P 06 07 42.5 +0.6
comp=Z,265nm,1.2s
TAU Tasmania Unive 56.48 179 PFAKE 06 07 50.0 +7.8
TAU LR LR
comp=Z,5µm,20.0s
XMAS Kiritimati 56.76 97 PFAKE 06 08 00.0 +15
XMAS LR LR
comp=Z,9µm,19.0s
RAMN Ramite 57.03 293 *e*P P 06 07 47.4 +0.5
comp=Z,134nm,0.9s
RAMN Ramite 57.03 293 *e*P P 06 07 47.4 +0.5
comp=Z,134nm,0.9s
JIRN Jiri 57.41 294 *e*P P 06 07 50.6 +0.9
comp=Z,32nm,0.7s
JIRN Jiri 57.41 294 *e*P P 06 07 50.6 +0.9
comp=Z,32nm,0.7s
GUN Gumba 57.69 294 *e*P P 06 07 52.4 +0.7
comp=Z,351nm,1.0s
GUN Gumba 57.69 294 *e*P P 06 07 52.4 +0.7
comp=Z,351nm,1.0s
GAMB Gambell 57.73 21 *e*P P 06 07 52.2 +1.3
comp=Z,121nm,1.5s
WMQ Urumqi 58.00 313 P P 06 07 54.5 +1.2
WMQ pP **pP 06 07 59.0 -0.1**
WMQ sP **sP 06 08 02.0 +0.6**
WMQ PcP **PcP 06 08 46.0 +0.8**
WMQ PP **PP 06 10 06.0 +4.2**
WMQ S **S 06 15 54.0 +0.9**
WMQ sS sS 06 16 08.0 +5.3
WMQ ScS **ScS 06 17 38.0 -4.3**
WMQ SS **SS 06 19 47.0 +2.8**
WMQ pmax pmax
comp=Z,76nm,1.3s

WMQ pmax pmax
comp=Z,2µm,11.8s
WMQ LR LR
comp=N,4µm,20.9s
WMQ LR LR
comp=E,6µm,17.6s
WMQ LR LR
comp=Z,6µm,19.4s
PKI Pulchoki 58.10 294 *e*P **P 06 07 54.8 +0.3**
comp=Z,88nm,0.9s
PKI Pulchoki 58.10 294 *e*P **P 06 07 54.8 +0.3**
PKI pmax pmax
comp=Z,88nm,0.9s
PKI Pulchoki 58.10 294 *e*P **P 06 07 54.8 +0.3**
comp=Z,88nm,0.9s
SDPT Sand Point 58.16 33 *e*P **P 06 07 54.4 +0.4**
comp=Z,315nm,1.1s
KKN Kakani 58.22 294 *e*P **P 06 07 55.5 +0.3**
comp=Z,144nm,1.1s
KKN Kakani 58.22 294 *e*P **P 06 07 55.5 +0.3**
KKN pmax pmax
comp=Z,144nm,1.1s
KKN Kakani 58.22 294 *e*P **P 06 07 55.5 +0.3**
comp=Z,144nm,1.1s
DMN Daman 58.37 294 *e*P **P 06 07 56.7 +0.4**
comp=Z,124nm,0.8s
DMN Daman 58.37 294 *e*P **P 06 07 56.7 +0.4**
comp=Z,124nm,0.8s
GKN Gorkha 58.78 294 *e*P **P 06 07 59.6 +0.5**
comp=Z,268nm,1.0s
GKN Gorkha 58.78 294 *e*P **P 06 07 59.6 +0.5**
comp=Z,268nm,1.0s
URZ Urewera 59.31 152 *e*P **P 06 08 03.2 +1.0**
comp=Z,94nm,1.5s
DANN Dangsing 59.56 295 *e*P **P 06 08 05.2 +0.5**
comp=Z,288nm,0.7s
DANN Dangsing 59.56 295 *e*P **P 06 08 05.2 +0.5**
comp=Z,288nm,0.7s
KOLN Koldanda 59.70 294 *e*P **P 06 08 06.0 +0.5**
comp=Z,110nm,0.8s
KOLN Koldanda 59.70 294 *e*P **P 06 08 06.0 +0.5**
comp=Z,110nm,0.8s
TNA Tin City 60.12 20 *e*P **P 06 08 08.4 +1.0**
comp=Z,55nm,1.1s
PYUN Piuthan 60.24 295 *e*P **P 06 08 09.5 +0.3**
comp=Z,208nm,0.9s
PYUN Piuthan 60.24 295 *e*P **P 06 08 09.5 +0.3**
comp=Z,208nm,0.9s
SNZO South Karori 60.82 156 PFAKE 06 08 20.0 +7.5
SNZO LR LR
comp=Z,6µm,19.0s
RPZ Rata Peaks 61.57 160 *e*P **P 06 08 18.3 +0.7**
comp=Z,58nm,1.1s
ZALV Zalesovo Beam 62.25 324 P **P 06 08 22.1 0.0**
ZALV S **S 06 16 45.1 -2.1**
ZALV Zalesovo Beam 62.25 324 P **P 06 08 22.1 0.0**
ZALV S **S 06 16 45.0 -2.1**
ZALV Zalesovo Beam 62.25 324 P **P 06 08 22.1 0.0**
comp=Z,18nm,0.6s,baz=104,slow=7.0,SNR=66
ZALV S **S 06 16 45.0 -2.1**
comp=Z,2.2nm,1.0s,baz=91,slow=7.2,SNR=2.5
ZALV LR LR 06 35 55.9
comp=Z,6µm,19.6s,baz=106,slow=36
MK31 Makanchi Array 62.30 316 *i*P **P 06 08 23.1 +0.5**
MK31 pmax pmax
comp=Z,50nm,0.8s
MKAR Makanchi Array 62.30 316 *e*P **P 06 08 23.1 +0.4**
MKAR S **S 06 16 48.4 +0.3**
MKAR Makanchi Array 62.30 316 *e*P **P 06 08 23.1 +0.4**
MKAR S **S 06 16 48.4 +0.3**
MKAR ⇑*e* 06 37 35.9
MKAR Makanchi Array 62.30 316 P **P 06 08 23.0 +0.4**
comp=Z,47nm,0.7s,baz=93,slow=8.4,SNR=289
MKAR S **S 06 16 48.4 +0.3**
comp=Z,0.8nm,0.8s,baz=92,slow=10,SNR=3.7
MKAR PKP2bc 06 37 35.9
comp=Z,0.3nm,0.7s,baz=290,slow=3.5,SNR=3.6
MKAR LR LR 06 37 42.8
comp=Z,4µm,19.4s,baz=99,slow=38
SVW2 Sparrevohn 62.79 28 *e*P **P 06 08 27.3 +1.7**
comp=Z,76nm,1.7s
KDAK Kodiak Island 63.10 32 *e*P **P 06 08 28.6 +0.9**
comp=Z,581nm,2.4s
KDAK LR LR
comp=Z,8µm,20.0s
KDAK Kodiak Island 63.10 32 P **P 06 08 28.7 +1.0**
comp=Z,47nm,0.9s,baz=300,slow=3.2,SNR=27
RAR Rarotonga 63.35 122 LR LR 06 32 40.7
comp=Z,4µm,18.7s,baz=120,slow=33
NVS Novosibirsk 63.38 325⇑*i*P **P 06 08 28.8 -0.8**
NVS *e* 06 10 49.4
NVS *i*S **S 06 16 58.7 -2.5**
NVS pmax pmax
comp=Z,182nm,1.3s
NVS pmax pmax
comp=N,58nm,1.4s
NVS pmax pmax
comp=E,120nm,1.4s
NVS pmax pmax
comp=E,65nm,1.9s
NVS pmax pmax
comp=Z,93nm,1.9s
NVS smax smax
comp=N,91nm,2.2s
NVS smax smax
comp=E,225nm,3.3s
NGP Nagpur 64.19 287 *e*PKP **P 06 08 35.3 -0.2**
NGP *ex* x 06 17 07.2
NGP *ex* x 06 38 43.5
comp=Z,5µm,21.6s
SPU Mount Spurr 64.42 28 *e*P **P 06 08 37.1 +0.7**
DDI Dehra Dun 64.52 297 *e*PKP **P 06 08 36.8 -0.9**
SLKM Skilak Lake 65.07 29 *e*P **P 06 08 41.3 +0.6**
SLKM Skilak Lake 65.07 29 *e*P **P 06 08 41.3 +0.6**
HYB Hyderabad 65.08 283 *i*P **P 06 08 41.0 -0.5**
comp=Z,70nm,1.0s
HYB *e*PcP **PcP 06 09 16.5 +2.2**
HYB *e*S **S 06 17 24.0 +0.4**
HYB *e*ScS **SKSac 06 18 34.5 -1.7**
KURK Kurchatov 65.31 320 P **P 06 08 42.5 +0.1**
KURK S **S 06 17 25.1 -0.2**
KURK Kurchatov 65.31 320 P **P 06 08 42.5 +0.1**
KURK S **S 06 17 25.1 -0.2**
KURK P'P' 06 37 24.2
SEW Seward 65.33 30 *e*P **P 06 08 43.0 +0.8**
comp=Z,102nm,1.0s
KURBB Kurchatov Arra 65.35 320 P **P 06 08 42.5 -0.1**
comp=Z,113nm,0.8s,baz=99,slow=6.5,SNR=475
KURBB S **S 06 17 25.1 -0.7**
comp=Z,3.1nm,1.1s,baz=104,slow=11,SNR=6.0
KURBB PKPPKP **P'P'df 06 37 24.2 -3.0**
comp=Z,0.6nm,0.6s,baz=285,slow=2.9,SNR=5.9
KURBB LR LR 06 38 46.9
comp=Z,9µm,18.0s,baz=105,slow=37
AAA Alma-Ata 65.66 311 *i*P **P 06 08 46.4 +1.5**
AAA pmax pmax
comp=Z,2µm,7.4s
AAA MLR MLR
comp=Z,6µm,16.0s
PMR Palmer 65.89 28 *e*P **P 06 08 46.1 +0.2**
PMR pmax pmax
comp=Z,53nm,0.9s
PMR Palmer 65.89 28 *e*P **P 06 08 46.0 +0.2**
comp=Z,52nm,0.9s
TRF Thorofare Moun 65.92 26 *e*P **P 06 08 45.6 -0.7**
comp=Z,341nm,1.8s
KSH Kashi 66.22 307⇑P **P 06 08 51.8 +3.2**
KSH pP **pP 06 08 56.0 +1.4**
KSH sP **sP 06 08 58.8 +2.0**
KSH PcP **PcP 06 09 20.9 +2.2**
KSH PP **PP 06 11 19.6 +5.2**
KSH ScP 06 13 22.5
KSH PcS 06 13 23.8
KSH S **S 06 17 39.4 +2.3**
KSH sS **sS 06 17 47.8 +0.8**
KSH ScS **SKSac 06 18 43.5 -0.9**
KSH SS **SS 06 21 57.6 +4.5**
KSH pmax pmax
comp=Z,23nm,1.1s
KSH pmax pmax
comp=Z,890nm,7.4s
KSH LR LR
comp=N,2µm,17.7s
KSH LR LR
comp=E,3µm,14.4s
KSH LR LR
comp=Z,4µm,16.9s
SML Sawmill 66.31 28 *e*P **P 06 08 49.5 +0.8**
SML pmax pmax
comp=Z,24nm,0.9s
SML Sawmill 66.31 28 *e*P **P 06 08 49.5 +0.8**
comp=Z,24nm,0.9s
MCK McKinley 66.58 26 *e*P **P 06 08 50.1 -0.3**
MCK pmax pmax
comp=Z,228nm,1.8s
MCK McKinley 66.58 26 *e*P **P 06 08 50.1 -0.3**
comp=Z,213nm,1.8s
TKM2 Tokmak 2 66.63 311 *i*P **P 06 08 52.2 +0.9**
TKM2 Tokmak 2 66.63 311 *e*P **P 06 08 52.2 +0.9**
comp=Z,31nm,0.8s
TKM2 LR LR
comp=Z,6µm,19.0s
TKM2 Tokmak 2 66.63 311 P **P 06 08 52.3 +0.9**
SNR=26
KZA Kyzart 66.85 310 P **P 06 08 54.8 +1.8**
SNR=26
KBK Karagaybulak 67.09 311 P **P 06 08 55.0 +0.8**
SNR=21
COLD Coldfoot 67.17 22 *e*P **P 06 08 55.7 +1.7**
comp=Z,65nm,1.0s
CHMS Chumysh 67.25 311 P **P 06 08 55.8 +0.7**
SNR=11
DIV Divide 67.34 29 *e*P **P 06 08 56.3 +1.0**
comp=Z,355nm,2.0s
FRU Bishkek 67.34 311 *e*P **P 06 08 57.0 +1.4**
FRU *e*S **S 06 17 50.0 -0.4**
FRU pmax pmax
comp=Z,130nm,2.1s
FRU MLR MLR
comp=E,6µm,17.0s
COLA College 67.36 25 *e*P **P 06 08 55.3 +0.1**
COLA pmax pmax
comp=Z,41nm,0.9s
COLA MLR MLR
comp=Z,6µm,20.0s
COLA College 67.36 25 *e*P **P 06 08 55.3 +0.1**
comp=Z,41nm,0.9s
COLA LR LR
comp=Z,6µm,20.0s
UCH Uchtor 67.40 310 P P 06 09 01.3 +4.8
SNR=9.8
AAK Ala-Archa 67.43 311⇑*e*P **P 06 08 57.0 +0.7**
AAK pmax pmax
comp=Z,79nm,1.7s
AAK MLR MLR
comp=Z,16µm,20.0s
AAK Ala-Archa 67.43 311 *e*P **P 06 08 56.6 +0.3**
comp=Z,16nm,0.8s
AAK ⇑*e* 06 37 21.0
AAK Ala-Archa 67.43 311 P **P 06 08 57.5 +1.2**
SNR=9.2
AAK Ala-Archa 67.43 311 P **P 06 08 56.8 +0.4**
SNR=16
AAK Ala-Archa 67.43 311 P **P 06 08 57.0 +0.7**
comp=Z,12nm,0.8s,baz=122,slow=7.5,SNR=9.5
AAK PKP2bc 06 37 21.0
comp=Z,0.6nm,0.5s,baz=114,slow=15,SNR=4.1
AAK LR LR 06 39 12.5
comp=Z,4µm,18.8s,baz=232,slow=37
USP Ospenovka 67.44 311 P **P 06 08 56.9 +0.6**
SNR=15
ILAR Eielson Array 67.73 25 P **P 06 08 56.8 -0.8**
ILAR S **S 06 17 51.1 -3.1**
ILAR P'P' 06 37 18.1
ILAR Eielson Array 67.73 25 P **P 06 08 56.8 -0.8**
comp=Z,30nm,0.9s,baz=258,slow=4.9,SNR=77
ILAR S **S 06 17 51.1 -3.1**
comp=Z,0.3nm,1.0s,baz=259,slow=9.1,SNR=3.1
ILAR LR LR 06 36 20.8
comp=Z,5µm,20.6s,baz=270,slow=34
ILAR PKPPKP **P'P'df 06 37 18.1 -4.6**
comp=Z,0.7nm,1.0s,baz=357,slow=0.7,SNR=4.3
AJM Ajmer 67.73 293 *e*PKP **P 06 08 58.0 -0.4**
BMRM Brenner River 67.86 29 *e*P **P 06 08 59.3 +0.7**
comp=Z,190nm,1.4s
PAX Paxson 67.89 27 *e*P **P 06 08 59.7 +0.9**
PAX pmax pmax
comp=Z,49nm,1.1s
PAX Paxson 67.89 27 *e*P **P 06 08 59.6 +0.9**
comp=Z,49nm,1.1s
EKS2 Erkin-Say 67.96 311 *e*P **P 06 09 00.0 +0.4**
EKS2 pmax pmax
comp=Z,21nm,0.8s
EKS2 MLR MLR
comp=Z,5µm,19.0s
EKS2 Erkin-Say 67.96 311 *e*P **P 06 09 00.0 +0.4**
comp=Z,21nm,0.8s
EKS2 LR LR
comp=Z,5µm,19.0s
EKS2 Erkin-Say 67.96 311 P **P 06 09 00.8 +1.2**
SNR=12
AML Almayashu 68.01 310 P **P 06 09 01.5 +1.3**
SNR=36
DOT Dot Lake 68.66 27 *e*P **P 06 09 04.1 +0.6**
comp=Z,78nm,1.0s
KAD Karad 69.23 283 *e*PKP **P 06 09 07.8 0.0**
POO Poona 69.36 285⇑*i*P **P 06 09 07.0 -1.7**
comp=Z,130nm,1.0s
POO *e*SCS SKiKP 06 19 08.0 +10
EGAK Eagle 70.13 26 *e*P **P 06 09 13.8 +1.3**
comp=Z,623nm,2.4s
EGAK LR LR
comp=Z,4µm,22.0s
PNL Peninsula 70.21 31 *e*P **P 06 09 13.0 -0.1**
comp=Z,121nm,1.4s
KK31 Karatay Array 70.36 311 *i*P **P 06 09 14.3 -0.1**
KK31 pmax pmax
comp=Z,33nm,0.8s
PPT Papeete 70.51 114 LR LR 06 36 42.3
comp=Z,4µm,18.4s,baz=357,slow=33
PPT2 Papeete2 70.52 114 *e*S **S 06 18 29.3 +0.5**
comp=Z,7µm,26.8s
PPT2 *e*LR LR 06 30 22.9
comp=Z,11µm,25.2s,baz=294
BVA0 Borovoye Array 70.61 322 *i*P **P 06 09 15.7 0.0**
BVA0 pmax pmax
comp=Z,34nm,1.1s
BVAR Borovoye Array 70.61 322 P **P 06 09 16.0 +0.3**
BVAR S **S 06 18 26.3 -2.3**
BVAR Borovoye Array 70.61 322 P **P 06 09 16.0 +0.3**
BVAR S **S 06 18 26.3 -2.3**
BVAR Borovoye Array 70.61 322 P **P 06 09 16.0 +0.3**
comp=Z,85nm,0.7s,baz=100,slow=7.7,SNR=331
BVAR S **S 06 18 26.3 -2.3**
comp=Z,3.9nm,1.0s,baz=92,slow=7.2,SNR=8.1
BVAR LR LR 06 42 26.5
comp=Z,10µm,18.7s,baz=89,slow=38
BRVK Borovoye 70.68 322*c i*P **P 06 09 16.4 +0.3**
BRVK pmax pmax
comp=Z,113nm,0.8s
BRVK MLR MLR
comp=Z,9µm,17.0s
BRVK Borovoye 70.68 322 *e*P **P 06 09 15.9 -0.1**
comp=Z,110nm,0.9s
BRVK LR LR
comp=Z,10µm,19.0s
BRVK Borovoye 70.68 322 P **P 06 09 16.0 -0.1**
comp=Z,738nm,0.8s,SNR=72
BRVK Borovoye 70.68 322 P **P 06 09 16.7 +0.7**
SNR=56
DAWY Dawson 70.77 27 *e*P **P 06 09 17.8 +1.3**
SKAG Skagway 72.26 32 *e*P **P 06 09 27.1 +1.7**
comp=Z,592nm,2.6s
TBI Tubuai 72.86 120 *e*S **S 06 18 54.7 -0.6**
comp=Z,2µm,31.8s
TBI *e*LR LR 06 31 03.1
comp=Z,6µm,32.0s,baz=297
INK Inuvik 73.59 22 *e*P **P 06 09 34.0 +0.9**
comp=Z,47nm,0.9s
INK Inuvik 73.59 22 P **P 06 09 33.9 +0.8**
comp=Z,42nm,1.0s,baz=263,slow=9.8,SNR=73
INK S **S 06 19 00.1 -2.1**
comp=Z,1.8nm,1.0s,baz=52,slow=30,SNR=8.6
WRAK Wrangell Islan 73.79 35 *e*P **P 06 09 36.5 +1.9**
comp=Z,261nm,1.9s
WRAK LR LR
comp=Z,4µm,20.0s
DLBC Dease Lake 75.00 33 *e*P **P 06 09 43.0 +1.3**
DLBC Dease Lake 75.00 33 P **P 06 09 43.5 +1.8**
comp=Z,32nm,0.8s,baz=282,slow=5.6,SNR=58
SVE Sverdlovsk 76.19 326*de*P **P 06 09 48.9 +0.4**
SVE *e* 06 12 38.7
SVE *e*S **S 06 19 28.8 -2.9**
SVE *e*SS **SS 06 24 22.7 -2.2**
SVE pmax pmax
comp=Z,113nm,1.4s
SVE smax smax
comp=N,1µm,13.3s
SVE smax smax
comp=E,1µm,13.1s
SVE MLR MLR
comp=Z,5µm,19.0s
SVE MLR MLR
comp=E,3µm,19.0s
DGAR Diego Garcia 76.29 259 *i*P **P 06 09 51.5 +1.7**
DGAR Diego Garcia 76.29 259 PFAKE 06 10 00.0 +10
DGAR LR LR
comp=Z,2µm,20.0s
AB31 Akbulak array 77.31 318 *i*P **P 06 09 54.9 0.0**
AB31 pmax pmax
comp=Z,35nm,0.7s
ABKAR Akbulak array 77.31 318 *e*P **P 06 09 55.0 0.0**
comp=Z,26nm,0.7s
ARU Arti 77.37 325*c i*P **P 06 09 55.2 +0.1**
ARU PPP PPP 06 14 33.4
ARU S **S 06 19 46.5 +1.9**
ARU SS **SS 06 24 40.3 -2.4**
ARU pmax pmax
comp=Z,131nm,1.7s
ARU MLR MLR
comp=Z,10µm,18.0s
ARU Arti 77.37 325 *e*P **P 06 09 55.2 +0.1**
comp=Z,59nm,0.9s
ARU LR LR
comp=Z,10µm,19.0s
ARU Arti 77.37 325 P **P 06 09 55.2 +0.1**
comp=Z,388nm,0.8s,SNR=21
SOKR Solikamsk 77.96 329*c i*P **P 06 09 59.2 +0.9**
SOKR S **S 06 19 55.5 +4.8**
SOKR SS **SS 06 24 45.8 -5.6**
SOKR pmax pmax
comp=Z,60nm,1.7s
SOKR MLR MLR
comp=Z,5µm,19.0s
AKTO Aktyubinsk 78.40 319 P **P 06 10 00.2 -0.8**
AKTO pmax pmax
comp=Z,4.0nm,0.9s
AKTO Aktyubinsk 78.40 319 P **P 06 10 00.7 -0.3**
AKTO Aktyubinsk 78.40 319 P **P 06 10 00.7 -0.3**
comp=Z,14nm,0.7s,baz=86,slow=7.2,SNR=43
AKTO LR LR 06 47 11.9
comp=Z,6µm,18.9s,baz=296,slow=38
IMYA Miami 78.94 305 *e*P **P 06 10 06.8 +2.3**
ISRO Mashad 79.45 305 *e*P **P 06 10 09.1 +1.9**
IMOG Moghan 79.59 305 *e*P **P 06 10 10.5 +2.3**
IPAY Payeh 79.81 305 *e*P **P 06 10 10.7 +1.4**
NLWA Neilton Lookou 79.82 44 *e*P **P 06 10 10.7 +1.8**
comp=Z,66nm,0.9s
NLWA LR LR
comp=Z,2µm,19.0s
PGC Sidney 79.89 42 *e*P **P 06 10 10.7 +1.5**
comp=Z,3.5nm,0.9s
IEMG Emamgholi 79.92 306 *e*P **P 06 10 11.5 +1.6**
IAKL Akhelmad 79.97 305 *e*P **P 06 10 12.0 +1.8**
IKRD Kardeh 80.13 305 *e*P P 06 10 07.2 -3.9
ABKT Ailbek 80.25 307 P **P 06 10 13.8 +2.4**
comp=Z,470nm,0.8s,SNR=10
HDW Hoodsport 80.32 43 P **P 06 10 13.6 +1.9**
ISFR Sfrayin 80.49 306 *e*P **P 06 10 15.7 +2.7**
IKOO Kooshah 80.50 301 *e*P **P 06 10 15.5 +2.4**
ITEG Tejag 80.62 302 *e*P **P 06 10 15.0 +1.3**
ISHV Shirvan 80.64 306 *e*P P 06 10 18.8 +5.1
JCW Jim Creek 80.97 43 P **P 06 10 16.4 +1.4**
KHMM Horse Mountain 81.03 50 *e*P **P 06 10 17.3 +1.6**
comp=Z,93nm,1.1s
HUMO Hull Mountain 81.28 48 *e*P **P 06 10 16.0 -0.8**
comp=Z,122nm,1.6s
LON Longmire 81.31 44 *e*P **P 06 10 17.7 +0.7**
LON pmax pmax
comp=Z,27nm,1.0s
LON Longmire 81.31 44 *e*P **P 06 10 17.7 +0.7**
comp=Z,27nm,1.0s
KCPM Cahto Peak 81.36 51 *e*P **P 06 10 18.9 +1.5**
comp=Z,132nm,1.3s
KIPM Iron Peak 81.42 51 *e*P **P 06 10 19.2 +1.5**
comp=Z,548nm,1.9s
WPW White Pass 81.50 44 P **P 06 10 19.1 +1.1**
YBH Yreka Blue Hor 81.63 49 *e*P **P 06 10 19.6 +0.9**
comp=Z,45nm,1.0s
YBH Yreka Blue Hor 81.63 49 P **P 06 10 20.2 +1.4**
comp=Z,30nm,0.9s,baz=310,slow=2.4,SNR=34
HOPS Hopland 81.88 52 *e*P **P 06 10 21.1 +1.0**
comp=Z,77nm,1.1s
WDC Whiskeytown Da 81.98 50 *e*P **P 06 10 21.3 +0.8**
WDC pmax pmax
comp=Z,78nm,1.4s
WDC Whiskeytown Da 81.98 50 *e*P **P 06 10 21.3 +0.8**
comp=Z,78nm,1.4s
YKA Yellowknife Ar 81.98 28 P **P 06 10 19.9 -0.1**
YKA PKKP **PKKPbc 06 28 47.2 -4.7**
YKA Yellowknife Ar 81.98 28 P **P 06 10 19.9 -0.1**
comp=Z,8.1nm,0.6s,baz=287,slow=5.4,SNR=22
YKA PKKP **PKKPbc 06 28 47.2 -4.7**
comp=Z,0.4nm,0.7s,baz=111,slow=2.4,SNR=6.5
TBM Table Mountain 82.05 43 P **P 06 10 21.8 +1.0**
EBG Ellensburg 82.12 44 P **P 06 10 22.5 +1.3**
WTV Waterville 82.36 43 P **P 06 10 23.5 +1.1**
WBK Wadi Bani Khal 82.41 291 P **P 06 10 26.3 +3.2**
SNR=11
VIPM Ingram Point 82.58 46 P **P 06 10 24.9 +1.1**
VIPM Ingram Point 82.58 46 P **P 06 10 24.9 +1.1**
ALE Alert 82.89 4 P **P 06 10 25.0 +0.5**
comp=Z,333nm,0.9s,SNR=38
HAWA Hanford 82.92 44 *e*P **P 06 10 26.5 +1.1**
comp=Z,37nm,1.0s
HAWA LR LR
comp=Z,3µm,19.0s
OHCM Honcut 83.03 51 *e*P **P 06 10 26.9 +0.9**
SMDO Samad 83.14 292 P **P 06 10 29.2 +2.1**
SNR=11
JMDO Jabal Madar 83.24 291 P **P 06 10 30.3 +2.8**
SNR=9.2
OD2 Odessa Site #2 83.25 43 P **P 06 10 27.7 +0.6**
MOD Modoc 83.36 49 *e*P **P 06 10 29.3 +1.4**
comp=Z,85nm,0.9s
IBAF Bafgh 83.52 301 *e*P **P 06 10 30.5 +1.6**
HOPEN Hopen 83.54 348 *e*P **P 06 10 25.2 -2.6**
HOPEN *e*SKS **S 06 20 47.6 -1.0**
SAO San Andreas Ge 83.60 54 *e*P **P 06 10 30.1 +1.1**
SAO pmax pmax
comp=Z,59nm,1.2s
SAO San Andreas Ge 83.60 54 *e*P **P 06 10 30.1 +1.1**
comp=Z,59nm,1.2s
HOQ Hoqain 83.70 293 P **P 06 10 32.1 +2.4**
SNR=44
IGLO Ghaloghah 83.88 306 *e*P **P 06 10 32.7 +2.0**
RES Resolute Bay 83.97 14 *e*P **P 06 10 30.9 +0.7**
comp=Z,361nm,2.4s
RES Resolute Bay 83.97 14 P **P 06 10 31.4 +1.3**
comp=Z,22nm,0.7s,baz=327,slow=4.6,SNR=54
BSY Bisya 83.98 292 P **P 06 10 32.1 +0.9**
SNR=23
SPITS Spitsbergen Ar 84.03 351 P **P 06 10 31.0 +0.6**
SPITS Spitsbergen Ar 84.03 351 P **P 06 10 31.0 +0.6**
comp=Z,15nm,0.7s,baz=81,slow=5.3,SNR=20
IKIA Kiasar 84.06 306 *e*P **P 06 10 33.3 +1.6**
NEW Newport 84.09 42 *e*P **P 06 10 31.7 +0.4**
comp=Z,35nm,0.9s
NEW LR LR
comp=Z,3µm,19.0s
NEW Newport 84.09 42⇑P **P 06 10 31.4 +0.1**
baz=84,SNR=36
BANOM Banah 84.10 295 P **P 06 10 34.5 +2.6**
SNR=12
CMB Columbia Colle 84.14 52 *e*P **P 06 10 32.3 +0.5**
CMB pmax pmax
comp=Z,70nm,1.1s
CMB Columbia Colle 84.14 52 *e*P **P 06 10 32.3 +0.5**
comp=Z,70nm,1.1s
KBS Kingsbay 84.15 352⇓*e*P **P 06 10 32.4 +1.4**
KBS pmax pmax
comp=Z,178nm,2.5s
KBS Kingsbay 84.15 352 *e*P **P 06 10 31.6 +0.6**
comp=Z,48nm,1.0s
KBS LR LR
comp=Z,3µm,19.0s
ICHK Chekchek 84.34 302 *e*P **P 06 10 34.5 +1.3**
WVOR Wild Horse Val 84.44 48 PFAKE 06 10 40.0 +6.6
WVOR LR LR

comp=Z,4µm,19.0s
ARQ Araqi 84.46 293 P P 06 10 35.4 +1.7
SNR=24
HATD Hatta, Dubai 84.48 294 P P 06 10 34.9 +1.1
SNR=32
ASHO Ashiyiah 84.58 294 P P 06 10 35.2 +0.9
SNR=26
IALA Alasht 84.78 306 eP P 06 10 35.3 -0.1
BMO Blue Mountains 84.80 45 eP P 06 10 36.0 +0.9
BMO pmax pmax
comp=Z,274nm,2.1s
BMO MLR MLR
comp=Z,3µm,21.0s
BMO Blue Mountains 84.80 45 eP P 06 10 36.0 +0.9
comp=Z,341nm,2.1s
BMO LR LR
comp=Z,3µm,21.0s
PTRM Twissleman Ran 84.82 55 eP P 06 10 36.6 +1.3
NAZ Nazwa, Dubai 84.86 294 P P 06 10 36.7 +1.0
SNR=14
A12A Yaak River Ran 84.87 41 ⇓P P 06 10 35.8 +0.5
baz=85,SNR=23
IFIR Firoozkooh 84.92 305 eP P 06 10 37.0 +0.9
B12A Libby 85.03 41 ⇓P P 06 10 36.1 +0.1
baz=85,SNR=18
SMMC Simmler 85.06 55 ⇑P P 06 10 37.1 +0.5
baz=85
IPRN Peran 85.11 306 eP P 06 10 38.6 +1.7
LVZ Lovozero 85.17 339 eP P 06 10 35.7 -0.7
LVZ pmax pmax
comp=Z,48nm,1.1s
LVZ MLR MLR
comp=Z,5µm,20.0s
LVZ Lovozero 85.17 339 eP P 06 10 35.7 -0.7
comp=Z,48nm,1.1s
LVZ LR LR
comp=Z,5µm,20.0s
ASUD Al Ashush, Dub 85.24 294 P P 06 10 38.9 +1.3
SNR=12
RKT Rikitea 85.27 115 eS S 06 21 08.3 +0.7
comp=Z,3µm,35.0s
RKT eSS SS 06 26 44.2 +1.7
comp=Z,650nm,26.2s
RKT eLR LR 06 36 44.4
comp=Z,6µm,31.2s,baz=288
C12B Naegeli Ranch, 85.30 42 ⇓P P 06 10 38.0 +0.5
baz=85,SNR=16
PKM Peak Mountain 85.30 55 ⇑P P 06 10 38.2 +0.2
baz=85
RCTC Rector, Farmer 85.43 54 ⇑P P 06 10 39.0 +0.7
baz=85
MLAC Mammoth Lakes 85.43 53 ⇓P P 06 10 38.7 +0.2
baz=85
SBC Santa Barbara 85.49 56 ⇓P P 06 10 39.5 +0.8
baz=86
IDMV Damavand 85.51 305 eP P 06 10 40.4 +1.3
D12A Red Ives Fores 85.56 43 ⇓P P 06 10 39.2 +0.3
baz=86
E12A Beaver Dam Sad 85.58 43 ⇑P P 06 10 39.0 0.0
baz=86
ISFB Sefidab 85.63 304 eP P 06 10 40.4 +0.9
NVAR Mina Array Bea 85.65 52 P P 06 10 40.8 +1.1
NVAR Mina Array Bea 85.65 52 P P 06 10 40.8 +1.1
comp=Z,21nm,0.7s,baz=263,slow=6.1,SNR=85
NVAR LR LR 06 41 53.7
comp=Z,2µm,21.4s,baz=266,slow=31
BSC Santa Cruz Isl 85.67 56 ⇓P P 06 10 39.7 +0.1
baz=86
VES Vestal, Richgr 85.67 54 ⇑P P 06 10 39.3 -0.2
baz=86,SNR=17
MTUM Tungsten Hills 85.71 53 eP P 06 10 41.3 +1.4
BSMT Bassoo Peak 85.71 42 eP P 06 10 41.0 +1.3
APA Apatity 85.74 339 ⇑iP P 06 10 39.0 -0.1
APA iS S 06 21 10.0 -0.7
APA pmax pmax
comp=Z,49nm,10.0s
APA MLR MLR
comp=Z,4µm,19.0s
B13A Whitefish 85.77 41 ⇓P P 06 10 40.2 +0.4
baz=86,SNR=58
C13A Hot Springs 85.90 42 ⇑P P 06 10 40.7 +0.2
baz=86,SNR=45
BJO Bjornoya 85.91 348 e 06 21 11.0
WALA Waterton Lakes 85.94 41 eP P 06 10 41.9 +1.2
comp=Z,3.8nm,1.1s
BLMT Blacktail Moun 85.94 42 eP P 06 10 42.5 +1.6
BMN Battle Mountai 85.96 49 eP P 06 10 42.2 +1.2
BMN pmax pmax
comp=Z,25nm,0.9s
BMN MLR MLR
comp=Z,6µm,19.0s
BMN Battle Mountai 85.96 49 eP P 06 10 42.2 +1.2
comp=Z,25nm,0.9s
BMN LR LR
comp=Z,6µm,19.0s
F12A Elk City 85.97 44 ⇑P P 06 10 40.7 -0.2
baz=86,SNR=30
IPAR Pars 86.03 300 eP P 06 10 41.9 +0.1
ARVC Arvin 86.04 55 ⇑P P 06 10 41.3 -0.1
baz=86
TIN Tinemaha 86.04 53 ⇑P P 06 10 41.4 -0.1
baz=86
JTMT Jette 86.07 42 eP P 06 10 42.1 +0.8
ISRV Sarvestan 86.08 299 eP P 06 10 42.6 +0.5
G12A Big Creek, Yel 86.09 45 ⇓P P 06 10 41.4 -0.2
baz=86
BLG Laguna Peak 86.10 56 ⇓P P 06 10 41.4 -0.2
baz=86
D13A Huson 86.13 43 ⇓P P 06 10 41.7 +0.1
baz=86,SNR=27
ISA Isabella 86.19 54 eP P 06 10 42.1 -0.1
ISA pmax pmax
comp=Z,156nm,2.3s
ISA Isabella 86.19 54 eP P 06 10 42.1 -0.1
comp=Z,156nm,2.3s
ISA Isabella 86.19 54 ⇓P P 06 10 41.8 -0.4
baz=86,SNR=10
MFID Camas Ranch 86.20 46 eP P 06 10 42.8 +0.7
comp=Z,519nm,2.3s
MFID Camas Ranch 86.20 46 ⇑P P 06 10 42.1 0.0
baz=86,SNR=45
YBMT Yellow Bay 86.21 42 eP P 06 10 42.6 +0.5
comp=Z,52nm,1.2s
IGAR Gharneh 86.26 302 eP P 06 10 43.9 +1.1
A14A Double T Ranch 86.27 41 ⇓P P 06 10 42.7 +0.3
baz=86,SNR=105
CWC Cottonwood Cre 86.31 54 ⇑P P 06 10 43.0 +0.1
baz=86,SNR=13
SWMT Swartz Lake 86.32 42 eP P 06 10 43.0 +0.4
IR3 Iran Long-Peri 86.33 305 eP P 06 10 42.8 -0.1
C14A Swan Lake 86.41 42 ⇓P P 06 10 43.2 +0.2
baz=86
IKLH Kolahrood 86.41 303 eP P 06 10 44.9 +1.3
E13A Victor 86.49 43 ⇑P P 06 10 43.4 -0.1
baz=86,SNR=17
B14A Marquette Ranc 86.54 41 ⇑P P 06 10 44.2 +0.5
baz=86,SNR=88
MSO Missoula 86.55 43 eP P 06 10 44.4 +0.7
comp=Z,121nm,2.4s
MSO LR LR
comp=Z,2µm,20.0s
MSO Missoula 86.55 43 ⇓P P 06 10 43.9 +0.2
baz=86,SNR=17
TPH Tonopah 86.56 52 PFAKE 06 10 50.0 +5.9
TPH LR LR
comp=Z,3µm,19.0s
IMHD Mahdasht 86.56 306 eP P 06 10 44.7 +0.6
H12A Diamond D Ranc 86.57 45 ⇓P P 06 10 44.2 +0.2
baz=86,SNR=18
F13A Darby 86.58 44 ⇑P P 06 10 43.8 -0.1
baz=86,SNR=86
I12A Atlanta 86.58 46 ⇑P P 06 10 44.0 -0.1
baz=86
DECC Green Verdugo 86.65 56 ⇓P P 06 10 44.5 +0.1
baz=87
A15A Johnson Ranch, 86.70 40 ⇓P P 06 10 44.5 +0.1
baz=87,SNR=90
KEV Kevo 86.72 342 eP P 06 10 42.7 -1.2
KEV pmax pmax
comp=Z,15nm,0.5s
KEV Kevo 86.72 342 eP P 06 10 42.9 -1.0
comp=Z,34nm,0.9s
KEV LR LR
comp=Z,4µm,21.0s
KEV Kevo 86.72 342 ep P 06 10 42.7 -1.2
comp=Z,15nm,0.5s
GRAC Grapevine Rang 86.72 53 ⇑P P 06 10 44.9 +0.1
baz=87
SLMT Seeley Lake 86.72 42 eP P 06 10 44.7 +0.1
DAC Darwin (Calif) 86.73 54 PFAKE 06 11 00.0 +15
DAC LR LR
comp=Z,4µm,21.0s
IGZV Ghazvin 86.74 307 eP P 06 10 44.6 -0.5
D14A Greenough 86.76 42 ⇓P P 06 10 44.3 -0.5
baz=87,SNR=16
EDW2 Edwards Air Fo 86.77 55 ⇓P P 06 10 45.0 -0.1
baz=87,SNR=23
PASC Pasadena Art C 86.79 56 eP P 06 10 45.5 +0.4
comp=Z,176nm,1.8s
SCI San Clemente I 86.79 57 ⇑P P 06 10 45.4 +0.3
baz=87
CIS Catalina Islan 86.80 57 ⇓P P 06 10 45.0 -0.2
baz=87,SNR=9.0
FMP Fort Macarthur 86.81 56 ⇑P P 06 10 45.0 -0.2
baz=87
G13A Cobalt 86.84 44 ⇑P P 06 10 45.4 +0.1
baz=87,SNR=61
LRMC Laurel Mountai 86.86 54 ⇓P P 06 10 45.4 -0.1
baz=87
MPMC Manual Prospec 86.86 54 ⇓P P 06 10 45.9 +0.3
baz=87,SNR=40
MWC Mount Wilson 86.88 56 eP P 06 10 46.4 +0.7
MWC pmax pmax
comp=Z,138nm,1.5s
MWC Mount Wilson 86.88 56 eP P 06 10 46.4 +0.7
comp=Z,138nm,1.5s
E14A Clinton 86.96 43 ⇓P P 06 10 46.2 +0.3
baz=87,SNR=9.9
CHMT Chamberlain Mo 86.98 42 eP P 06 10 46.2 +0.2
H13A Challis 86.98 45 ⇓P P 06 10 46.3 +0.3
baz=87,SNR=28
B15A Bradely Ranch, 87.01 41 ⇑P P 06 10 46.1 +0.2
baz=87,SNR=59
MAK Makhachkala 87.02 313 eP P 06 10 43.3 -2.6
MAK ePPP PPP 06 16 03.2
MAK eS **SKSac 06 21 06.6 -5.9**
MAK e 06 21 27.4
MAK eSSS SSS 06 30 40.9
MAK pmax pmax
comp=Z,180nm,1.7s
IPIR Pirpir 87.13 303 eP P 06 10 48.1 +1.0
C15A Salmond Ranch, 87.14 42 ⇑P P 06 10 46.8 +0.1
baz=87,SNR=47
HLID Hailey 87.15 46 eP P 06 10 47.5 +0.6
comp=Z,52nm,1.3s
HLID LR LR
comp=Z,3µm,19.0s
HLID Hailey 87.15 46 ⇓P P 06 10 46.9 0.0
baz=87,SNR=38
BFSC Mount Baldy Ra 87.19 56 ⇓P P 06 10 46.8 -0.4
baz=87
IRAZ Razeghan 87.22 306 eP P 06 10 47.5 +0.1
F14A Wisdom 87.22 44 ⇓P P 06 10 47.2 0.0
baz=87,SNR=9.8
FURC Furnace Creek, 87.25 53 ⇓P P 06 10 47.7 +0.5
baz=87,SNR=18
I13A Wildhorse Cree 87.25 46 ⇑P P 06 10 47.7 +0.3
baz=87,SNR=26
ARCES ARCESS Array B 87.28 342 P P 06 10 47.1 +0.4
ARCES ARCESS Array B 87.28 342 P P 06 10 47.1 +0.4
comp=Z,24nm,0.7s,baz=59,slow=3.6,SNR=34
ARCES LR LR 06 54 30.1
comp=Z,7µm,19.2s,baz=60,slow=39
ARE0 ARCESS Array S 87.28 342 eP P 06 10 47.2 +0.5
ARE0 eSKS **SKSac 06 21 12.2 -1.0**
G14A Jackson 87.32 44 ⇓P P 06 10 47.4 -0.3
baz=87
ELK Elko 87.34 49 eP P 06 10 48.6 +0.8
comp=Z,1µm,1.1s
J13A Cove Ranch, Pi 87.36 46 ⇑P P 06 10 48.0 +0.2
baz=87,SNR=39
D15A Lincoln 87.42 42 ⇓P P 06 10 48.2 +0.2
baz=87,SNR=19
A16A West Butte Ran 87.43 40 ⇓P P 06 10 48.0 0.0
baz=87
B16A M & M Farms, S 87.52 41 ⇓P P 06 10 48.9 +0.4
baz=88,SNR=11
E15A Deer Lodge 87.52 43 ⇓P P 06 10 48.6 +0.1
baz=88,SNR=98
RRX Edison Barstow 87.55 55 ⇑P P 06 10 48.9 +0.1
baz=88
H14A Leadore 87.57 45 ⇓P P 06 10 49.0 +0.1
baz=88
GSC Goldstone 87.60 54 eP P 06 10 50.0 +0.9
GSC pmax pmax
comp=Z,221nm,2.0s
GSC Goldstone 87.60 54 eP P 06 10 50.0 +0.9
comp=Z,221nm,2.0s
GSC Goldstone 87.60 54 ⇓P P 06 10 49.4 +0.3
baz=88,SNR=18
C16A Fuhringer Ranc 87.69 41 ⇓P P 06 10 49.5 +0.3
baz=88,SNR=24
I14A Mackay 87.71 45 ⇓P P 06 10 49.7 +0.1
baz=88,SNR=37
MURC Murrieta 87.72 56 ⇓P P 06 10 50.1 +0.5
baz=88
R11A Troy Canyon, C 87.73 51 ⇑P P 06 10 50.3 +0.6
baz=88,SNR=36
BBRC Big Bear Solar 87.78 55 ⇑P P 06 10 50.1 0.0
baz=88
F15A Butte 87.80 43 ⇓P P 06 10 50.2 +0.2
baz=88,SNR=49
LRM Limekiln Ridge 87.83 43 eP P 06 10 50.9 +0.8
J14A Carey 87.84 46 ⇑P P 06 10 50.5 +0.4
baz=88
SHOC Shoshone 87.85 54 ⇓P P 06 10 50.8 +0.6
baz=88,SNR=13
MCMT McKenzie Canyo 87.86 44 eP P 06 10 51.1 +0.8
comp=Z,14nm,0.9s
DLMT Dillon 87.87 44 eP P 06 10 51.1 +0.8
comp=Z,27nm,0.9s
RBK Rabkut 87.90 287 P P 06 10 51.2 +0.5
SNR=46
HRY Holter Researc 87.97 42 eP P 06 10 51.7 +1.1
109C Camp Elliot, M 87.99 57 ⇓P P 06 10 51.1 +0.3
baz=88,SNR=11
A17A Triple J Farms 87.99 40 ⇑P P 06 10 51.3 +0.7
baz=88,SNR=29
G15A Dillon 88.00 44 ⇓P P 06 10 51.2 +0.2
baz=88,SNR=29
D16A Dana Ranch, Ca 88.05 42 ⇑P P 06 10 51.6 +0.6
baz=88,SNR=48
H15A Lima 88.06 45 ⇑P P 06 10 51.6 +0.3
baz=88,SNR=40
HEC Hector,Ludlow 88.10 55 ⇓P P 06 10 51.6 +0.1
baz=88
E16A East Helena 88.12 43 ⇑P P 06 10 51.6 +0.2
baz=88,SNR=61
B17A L&G Farms, Che 88.14 41 ⇓P P 06 10 51.6 +0.3
baz=88,SNR=46
KTK1 Kautokeino 88.24 342 eSKS SKSac 06 21 11.4 -7.5
TUQ Turquoise Moun 88.26 54 ⇓P P 06 10 52.5 +0.2
baz=88
K14A Jones Ranch, D 88.31 47 ⇑P P 06 10 53.0 +0.6
baz=88,SNR=28
PFO Pinyon Flat Ob 88.32 56 eP P 06 10 53.2 +0.6
comp=Z,97nm,1.7s
PFO LR LR
comp=Z,3µm,19.0s
PFO Pinyon Flat Ob 88.32 56 P **P 06 10 53.4 +0.8**
comp=Z,129nm,1.2s,SNR=9.6
PFO Pinyon Flat Ob 88.32 56 ⇑P P 06 10 52.7 0.0
baz=88,SNR=13
VRHR Novokhopersk 88.34 322 eP P 06 10 50.4 -1.7
VRHR eS SKSac 06 21 10.5 -10
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=E,2.0nm,0.2s
VRHR smax smax
comp=N,330nm,3.8s
VRHR smax smax
comp=E,580nm,3.8s
VRHR smax smax
comp=Z,210nm,3.8s
VRHR MLR MLR
comp=Z,4µm,19.0s
VRHR MLR MLR
comp=N,170nm,6.0s
VRHR MLR MLR
comp=E,3µm,19.0s
I15A Monteview 88.36 45 ⇑P P 06 10 53.0 +0.4
baz=88,SNR=18
C17A Wharram Farm, 88.37 41 ⇑P P 06 10 52.5 0.0
baz=88,SNR=37
F16A Kennard Place, 88.39 43 ⇑P P 06 10 53.0 +0.3
baz=88,SNR=12
BAR Barrett 88.39 57 eP P 06 10 53.4 +0.6
comp=E,51nm,1.2s
L14A Malta 88.41 47 ⇑P P 06 10 53.4 +0.5
baz=88,SNR=27
BOZ Bozeman (W) 88.43 43 eP P 06 10 54.0 +1.1
BOZ pmax pmax
comp=Z,22nm,0.9s
BOZ MLR MLR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 88.43 43 eP P 06 10 54.0 +1.1
comp=Z,22nm,0.9s
BOZ LR LR
comp=Z,2µm,20.0s
BOZ Bozeman (W) 88.43 43 ⇓P P 06 10 53.3 +0.4
baz=88,SNR=14
G16A Moss Hill, Enn 88.44 44 ⇑P P 06 10 53.5 +0.5
baz=88,SNR=32
A18A Metzger Ranch, 88.53 40 ⇑P P 06 10 54.1 +0.9
baz=88,SNR=25
MONP Monument Peak 88.54 57 ⇓P P 06 10 53.7 -0.1
baz=88,SNR=19
D17A Six Diamond Ra 88.57 42 ⇓P P 06 10 54.1 +0.6
baz=88,SNR=35
J15A Blackfoot 88.57 46 ⇓P P 06 10 54.4 +0.8
baz=88,SNR=67
BELC Belle Mtn. Jos 88.58 55 ⇓P P 06 10 54.0 +0.2
baz=88,SNR=17
GMRC Granite Mounta 88.64 55 ⇑P P 06 10 54.7 +0.6
baz=89,SNR=12
JOF Joensuu 88.66 335 eP P 06 10 51.6 -1.8
JOF pmax pmax
comp=Z,26nm,0.7s
JOF Joensuu 88.66 335 ep P 06 10 51.6 -1.8
comp=Z,26nm,0.7s
E17A Martinsdale 88.68 42 ⇓P P 06 10 54.9 +0.7
baz=89,SNR=26
K15A Arbon 88.72 46 ⇑P P 06 10 54.7 +0.4
baz=89,SNR=16
B18A Beardsley Farm 88.75 40 ⇑P P 06 10 55.0 +0.8
baz=89,SNR=12
ABTO Aybut 88.78 287 P P 06 10 55.8 +0.9
SNR=42
QLMT Earthquake Lak 88.82 44 eP P 06 10 56.5 +1.7
HVU Hansel Valley 88.82 47 eP P 06 10 56.2 +1.4
HVU pmax pmax
comp=Z,96nm,1.2s
HVU Hansel Valley 88.82 47 eP P 06 10 56.2 +1.4
comp=Z,96nm,1.2s
MOS Moscow 88.86 328 eP P 06 10 52.5 -2.0
MOS e 06 14 23.9
MOS eS **SKSac 06 21 19.6 -3.5**
MOS eSS **SS 06 27 36.9 +4.1**
MOS pmax pmax
comp=Z,59nm,0.8s
MOS MLR MLR
comp=Z,7µm,19.0s
MOS MLR MLR
comp=E,6µm,19.0s
DVTC Desert V Tower 88.86 57 ⇑P P 06 10 55.3 +0.2
baz=89,SNR=7.6
EGMT Eagleton 88.88 41 eP P 06 10 55.5 +0.6
comp=E,44nm,1.3s
EGMT LR LR
comp=Z,2µm,20.0s
EGMT Eagleton 88.88 41 ⇓P P 06 10 55.4 +0.5
baz=89,SNR=17
DGRG David-gareji 88.97 312 P P 06 10 56.1 +0.7
DGRG S **SKSac 06 21 22.2 -2.3**
H16A Russell Place, 88.98 44 ⇑P P 06 10 56.3 +0.7
baz=89,SNR=15
F17A Fitzpatrick Pl 88.99 43 ⇑P P 06 10 56.1 +0.5
baz=89,SNR=17
LDFC Landfair 89.00 54 eP P 06 10 56.9 +1.2
comp=Z,68nm,0.8s
R13A O'Grain Ranch, 89.00 51 ⇑P P 06 10 56.4 +0.6
baz=89,SNR=25
L15A Malad City 89.03 47 ⇓P P 06 10 56.0 +0.2
baz=89,SNR=34
SWSC Sam W. Stewart 89.03 56 ⇓P P 06 10 56.1 +0.4
baz=89
TRO Tromso 89.08 344 eP P 06 10 54.8 -0.4
TRO AMS AMS 06 56 40.0
comp=Z,3µm,20.8s
I16A Newdale 89.08 45 ⇑P P 06 10 56.5 +0.5
baz=89,SNR=44
BC3 Big Chuckawall 89.11 56 ⇓P P 06 10 57.0 +0.7
baz=89,SNR=24
DAG Danmarks Havn 89.12 357 i P P 06 10 54.4 -0.9
comp=Z,147nm,0.9s
G17A Pierce Place, 89.13 43 ⇓P P 06 10 56.9 +0.8
baz=89,SNR=12
D18A Linhart Farms, 89.13 41 ⇑P P 06 10 56.3 +0.2
baz=89
M15A Larsen Ranch, 89.15 48 ⇓P P 06 10 56.6 +0.3
baz=89,SNR=31
YMR Madison River 89.19 44 eP P 06 10 58.3 +1.7
comp=Z,64nm,0.9s
A19A Klindworth Far 89.21 40 ⇑P P 06 10 57.5 +1.2
baz=89,SNR=12
IRM Iron Mountain 89.22 55 ⇑P P 06 10 57.3 +0.6
baz=89,SNR=16
B19A Brinkman Farms 89.25 40 ⇑P P 06 10 56.9 +0.3
baz=89
E18A Harlowton 89.27 42 ⇓P P 06 10 57.6 +0.8
baz=89,SNR=22
DUG Dugway 89.27 49 eP P 06 10 57.5 +0.6
DUG pmax pmax
comp=Z,132nm,1.5s
DUG MLR MLR
comp=Z,3µm,19.0s
DUG Dugway 89.27 49 eP P 06 10 57.5 +0.6
comp=Z,132nm,1.5s
DUG LR LR
comp=Z,3µm,19.0s
DUG Dugway 89.27 49 ⇑P P 06 10 57.5 +0.6
baz=89,SNR=59
N15A Stansbury Isla 89.27 48 ⇓P P 06 10 57.3 +0.4
baz=89,SNR=6.0
K16A Soda Springs 89.34 46 ⇓P P 06 10 57.8 +0.5
baz=89,SNR=38
TBLG Delisi 89.34 313 P P 06 10 55.8 -1.3
TBLG S **SKSac 06 21 25.3 -1.3**
TBLG Delisi 89.34 313 P P 06 10 55.8 -1.3
TBLG S **SKSac 06 21 25.3 -1.3**
YFT Old Faithful 89.34 44 eP P 06 11 00.1 +2.7
comp=Z,54nm,1.0s
RRI2 Red Ridge 89.36 45 eP P 06 10 58.4 +0.9
comp=Z,60nm,1.2s
YNR Norris Junctio 89.36 44 eP P 06 10 59.9 +2.5
comp=Z,114nm,1.3s
DCID1 Drake Creek 89.38 45 eP P 06 10 59.5 +2.0
comp=Z,46nm,1.1s
C19A Slack Wire Ran 89.43 41 ⇑P P 06 10 58.3 +0.9
baz=89,SNR=18
IMW Indian Meadow 89.45 45 eP P 06 10 59.4 +1.5
comp=Z,25nm,0.9s
IKOM Komasi 89.46 305 eP P 06 10 57.0 -1.0
NEE2 Needles Airpor 89.47 54 ⇑P P 06 10 58.3 +0.5
baz=89
O15A The Old Anders 89.49 49 ⇑P P 06 10 58.6 +0.6
baz=89,SNR=9.9
ARUT Antelope Range 89.51 51 eP P 06 10 59.2 +1.0
ARUT pmax pmax
comp=Z,28nm,0.9s
ARUT Antelope Range 89.51 51 eP P 06 10 59.2 +1.0
comp=Z,28nm,0.9s
H17A Grant Village 89.54 44 ⇑P P 06 11 00.5 +2.2
baz=90,SNR=27
FLWY Flagg Ranch 89.55 45 eP P 06 11 00.2 +1.9
comp=Z,56nm,1.1s
TPAW Teton Pass 89.57 45 eP P 06 10 59.8 +1.3
comp=Z,54nm,1.4s
LKWY Lake 89.60 44 eP P 06 11 01.6 +3.1
LKWY pmax pmax
comp=Z,52nm,1.1s
LKWY MLR MLR
comp=Z,5µm,19.0s
LKWY Lake 89.60 44 eP P 06 11 01.6 +3.1
comp=Z,52nm,1.1s
LKWY LR LR
comp=Z,5µm,19.0s
ZEI Tsey 89.61 314 eP P 06 10 57.6 -1.0

ZEI pmax pmax
comp=Z,59nm,1.8s
F18A Big Timber 89.61 43 ⇑P P 06 10 59.3 +0.9
baz=90,SNR=22
MOOW Moose Ponds 89.63 45 eP P 06 10 59.9 +1.2
comp=Z,38nm,1.4s
CCUT Cedar City 89.64 51 eP P 06 11 00.1 +1.2
comp=Z,146nm,1.9s
OBN Obninsk 89.66 327 ⇑iP P 06 10 58.6 +0.4
OBN e 06 14 29.3
OBN pmax pmax
comp=Z,80nm,1.7s
OBN MLR MLR
comp=Z,6µm,16.0s
OBN Obninsk 89.66 327 eP P 06 10 58.3 +0.1
comp=Z,17nm,0.7s
OBN LR LR
comp=Z,7µm,19.0s
REDW Red Top Meadow 89.68 45 eP P 06 11 00.1 +1.2
comp=Z,98nm,1.8s
GCMT Greycliff 89.69 43 eP P 06 11 00.1 +1.3
comp=Z,17nm,0.9s
I17A Pilgrim Ck. 89.69 45 ⇑P P 06 10 60.0 +1.0
baz=90,SNR=24
AHID Auburn Hatcher 89.70 46 eP P 06 11 00.3 +1.3
comp=Z,43nm,1.1s
AHID LR LR
comp=Z,4µm,20.0s
L16A Fish Haven 89.70 47 ⇓P P 06 10 59.5 +0.5
baz=90,SNR=58
SNOW Snow King Moun 89.72 45 eP P 06 11 01.0 +1.8
comp=Z,318nm,2.7s
D19A Cripps Ranch, 89.73 41 ⇓P P 06 10 58.9 0.0
baz=90,SNR=19
A20A Cobblestone Ra 89.73 39 ⇓P P 06 10 59.1 +0.3
baz=90,SNR=14
HWUT Hardware Ranch 89.74 47 eP P 06 10 59.6 +0.4
comp=Z,37nm,0.9s
HWUT LR LR
comp=Z,4µm,19.0s
VSR Storozhevoye 89.74 323 eP P 06 10 57.5 -1.2
VSR e*SP sP 06 11 03.1 -3.9
VSR pmax pmax
comp=Z,30nm,0.7s
VSR pmax pmax
comp=N,4.0nm,0.3s
VSR pmax pmax
comp=E,10.0nm,0.7s
VSR MLR MLR
comp=N,2µm,18.0s
VSR MLR MLR
comp=E,4µm,18.0s
VSR MLR MLR
comp=Z,8µm,18.0s
LOHW Long Hollow 89.77 45 eP P 06 11 00.5 +1.2
comp=Z,46nm,1.6s
J17A Brown Place, J 89.78 45 ⇑P P 06 10 60.0 +0.7
baz=90,SNR=17
M16A Huntsville 89.78 47 ⇑P P 06 10 59.7 +0.3
baz=90
GLA Glamis 89.79 56 eP P 06 11 00.8 +1.4
GLA pmax pmax
comp=Z,258nm,2.1s
GLA Glamis 89.79 56 eP P 06 11 00.8 +1.4
comp=Z,258nm,2.1s
GLA Glamis 89.79 56 ⇓P P 06 10 59.9 +0.5
baz=90,SNR=8.8
GNI Garni 89.82 311 eP P 06 11 01.2 +1.6
comp=Z,74nm,1.5s
GNI Garni 89.82 311 P P 06 11 00.5 +0.9
SNR=11
GNI Garni 89.82 311 P P 06 11 00.9 +1.3
comp=Z,3.2nm,0.4s,baz=358,slow=16,SNR=13
GNI LR LR 06 57 17.5
comp=Z,2µm,18.6s,baz=255,slow=40
K17A Gardner Place, 89.83 46 ⇓P P 06 11 00.1 +0.5
baz=90,SNR=14
B20A Solberg Farm, 89.83 40 ⇑P P 06 10 59.4 +0.2
baz=90
Y12C Blythe 89.83 55 ⇑P P 06 10 59.9 +0.3
baz=90,SNR=12
P15A Leamington 89.85 49 ⇓P P 06 11 00.1 +0.4
baz=90,SNR=28
G18A Lazy EL Ranch, 89.91 43 ⇓P P 06 11 00.7 +0.8
baz=90,SNR=16
W13A Hualapai Mount 89.95 54 ⇓P P 06 11 00.8 +0.4
baz=90,SNR=24
ONI Oni 89.98 314 P P 06 11 01.1 +1.0
ONI S SKSac 06 21 30.3 -0.1
PDMCI Parker Dam,Lak 89.98 55 ⇑P P 06 11 00.9 +0.7
baz=90,SNR=14
KBZ Khabaz 89.99 315 P P 06 10 59.3 -0.7
KBZ Khabaz 89.99 315 P P 06 10 59.2 -0.7
KBZ Khabaz 89.99 315 P P 06 10 59.2 -0.7
comp=Z,12nm,0.9s,baz=94,slow=3.6,SNR=24
KBZ LR LR 06 54 43.3
comp=Z,4µm,19.7s,baz=75,slow=38
E19A Rath Farm, Rou 90.03 42 ⇑P P 06 11 00.9 +0.6
baz=90,SNR=8.4
N16A Rees Ranch, Co 90.05 48 ⇑P P 06 11 01.2 +0.5
baz=90,SNR=11
H18A Shoshone NF, C 90.06 44 ⇓P P 06 11 01.5 +0.9
baz=90,SNR=9.5
KIV Kislovodsk 90.06 315 eP P 06 11 00.2 -0.3
KIV e 06 14 30.6
KIV e 06 21 31.2
KIV pmax pmax
comp=Z,24nm,0.8s
KIV pmax pmax
comp=Z,168nm,4.2s
KIV MLR MLR
comp=Z,4µm,20.0s
KIV Kislovodsk 90.06 315 eP P 06 11 01.2 +0.7
comp=Z,33nm,1.0s
KIV LR LR
comp=Z,5µm,20.0s
KIV Kislovodsk 90.06 315 P P 06 11 00.9 +0.4
SNR=9.2
KIV Kislovodsk 90.06 315 P P 06 11 00.5 0.0
comp=Z,173nm,0.9s,SNR=6.8
L17A Cokeville 90.07 47 ⇑P P 06 11 00.9 +0.1
baz=90,SNR=12
C20A Veseth Ranch, 90.10 41 ⇑P P 06 11 01.4 +0.9
baz=90,SNR=28
JLU Jordanelle 90.13 48 eP P 06 11 02.1 +0.9
comp=Z,247nm,2.0s
F19A Roth Farm, Mol 90.14 43 ⇓P P 06 11 01.7 +0.8
baz=90,SNR=8.9
RLMT Red Lodge 90.18 43 eP P 06 11 03.0 +1.8
comp=Z,330nm,2.5s
RLMT LR LR
comp=Z,2µm,19.0s
RLMT Red Lodge 90.18 43 ⇓P P 06 11 02.0 +0.8
baz=90,SNR=17
MPU Maple Canyon 90.18 49 eP P 06 11 02.4 +1.0
comp=Z,88nm,1.5s
MVU Marysvale 90.22 50 eP P 06 11 03.0 +1.4
comp=Z,26nm,1.1s
MVU LR LR
comp=Z,4µm,20.0s
D20A Manuel Ranch, 90.23 41 ⇑P P 06 11 02.1 +0.9
baz=90,SNR=21
MSU Marysvale 90.25 50 eP P 06 11 03.1 +1.4
MSU Marysvale 90.25 50 eP P 06 11 03.1 +1.4
R15A Junction 90.27 51 ⇑P P 06 11 02.2 +0.5
baz=90,SNR=13
I18A Diamond G Ranc 90.28 45 ⇑P P 06 11 01.7 0.0
baz=90,SNR=14
P16A Fountain Green 90.29 49 ⇓P P 06 11 02.3 +0.5
baz=90
J18A Kendall Valley 90.30 45 ⇓P P 06 11 02.1 +0.2
baz=90,SNR=50
A21A Bergtoll Ranch 90.31 39 ⇑P P 06 11 02.1 +0.7
baz=90,SNR=23
AKH Akhalkalaki 90.33 313 P P 06 11 01.5 -0.4
AKH S SKSac 06 21 33.4 +0.6
DAU Daniels Canyon 90.33 48 eP P 06 11 03.2 +1.1
DAU Daniels Canyon 90.33 48 eP P 06 11 03.2 +1.1
M17A Scullys Gap (B 90.42 47 ⇑P P 06 11 02.6 +0.2
baz=90,SNR=15
E20A Meyer Farm, Mu 90.44 42 ⇑P P 06 11 02.6 +0.3
baz=90,SNR=9.4
B21A Ellsworth Farm 90.46 40 ⇓P P 06 11 02.7 +0.5
baz=90,SNR=9.1
N17A Moffit Pass 90.47 48 ⇓P P 06 11 03.1 +0.4
baz=90,SNR=11
K18A Toltan Ranch, 90.48 46 ⇓P P 06 11 03.3 +0.6
baz=90,SNR=33
H19A Powell 90.52 44 ⇑P P 06 11 03.5 +0.9
baz=90,SNR=24
C21A Desert Coulee 90.63 40 ⇓P P 06 11 04.0 +1.0
baz=91,SNR=16
F20A Billings 90.68 42 ⇓P P 06 11 03.8 +0.4
baz=91
KBD Kabd 90.71 300 eP P 06 11 02.8 -0.9
KBD AMb AMB 06 11 07.6
comp=Z,44nm,2.8s
L18A Fontenelle, Gr 90.72 46 ⇑P P 06 11 04.5 +0.7
baz=91,SNR=28
113A Mohawk Valley, 90.72 56 ⇓P P 06 11 04.1 +0.5
baz=91
TMUT Trail Mountain 90.72 49 eP P 06 11 04.5 +0.6
comp=Z,168nm,2.1s
I19A Meeteetse 90.73 44 ⇑P P 06 11 03.8 0.0
baz=91,SNR=18
BW06 Boulder Array 90.77 46 eP P 06 11 03.8 -0.2
comp=Z,73nm,1.9s
BW06 LR LR
comp=Z,3µm,19.0s
BW06 Boulder Array 90.77 46 ⇑P P 06 11 04.5 +0.5
baz=91,SNR=8.4
PDAR Pinedale Array 90.77 46 P P 06 11 04.3 +0.3
PDAR Pinedale Array 90.77 46 P P 06 11 04.3 +0.3
comp=Z,4.0nm,0.8s,baz=252,slow=2.7,SNR=20
PDAR LR LR 06 50 37.0
comp=Z,3µm,18.5s,baz=300,slow=35
O17A Robinson Place 90.78 48 ⇓P P 06 11 04.9 +0.8
baz=91,SNR=27
U15A North Rim 90.80 52 ⇑P P 06 11 05.3 +1.0
baz=91,SNR=22
FFC Flin Flon 90.83 33 eP P 06 11 03.4 -0.3
FFC pmax pmax
comp=Z,71nm,1.7s
FFC MLR MLR
comp=Z,3µm,20.0s
FFC Flin Flon 90.83 33 eP P 06 11 03.4 -0.3
comp=Z,71nm,1.7s
FFC LR LR
comp=Z,3µm,20.0s
FFC Flin Flon 90.83 33 P P 06 11 04.7 +1.0
comp=Z,99nm,1.0s,SNR=10
R16A Teasdale 90.84 50 ⇓P P 06 11 05.0 +0.5
baz=91,SNR=32
G20A Bridger 90.84 43 ⇓P P 06 11 04.9 +0.7
baz=91,SNR=24
M18A Lyman 90.86 47 ⇓P P 06 11 05.2 +0.7
baz=91,SNR=14
Q16A Castle Valley 90.87 50 ⇑P P 06 11 05.1 +0.6
baz=91,SNR=24
RDF Al-Radifah 90.90 300 eP P 06 11 04.3 -0.3
RDF AMb AMB 06 11 08.1
comp=Z,67nm,1.1s
A22A Carney Farms, 90.92 39 ⇓P P 06 11 04.8 +0.4
baz=91,SNR=12
S16A Weppner Ranch, 90.93 51 ⇑P P 06 11 05.6 +0.8
baz=91,SNR=27
J19A Crowheart 90.95 45 ⇑P P 06 11 05.3 +0.5
baz=91,SNR=48
Y14A Wickenburg 90.99 55 ⇑P P 06 11 05.7 +0.7
baz=91,SNR=18
P17A Butcher Ranch, 91.01 49 ⇑P P 06 11 05.9 +0.8
baz=91,SNR=14
NAY Al-Naaiem 91.06 300 eP P 06 11 04.3 -1.0
NAY AMb AMB 06 11 07.0
comp=Z,54nm,1.1s
KAF Kangasniemi 91.07 336 eP P 06 11 02.0 -2.7
KAF pmax pmax
comp=Z,24nm,0.8s
KAF Kangasniemi 91.07 336 ep P 06 11 02.0 -2.7
comp=Z,24nm,0.8s
E21A Keefer Ranch, 91.11 41 ⇑P P 06 11 05.9 +0.6
baz=91,SNR=7.3
L19A Farson 91.14 46 ⇓P P 06 11 06.1 +0.3
baz=91,SNR=23
B22A Reddig Ranch S 91.14 40 ⇓P P 06 11 05.9 +0.5
baz=91,SNR=9.3
Z14A Wintersburg 91.21 55 ⇓P P 06 11 06.5 +0.5
baz=91,SNR=9.9
STEI Steigen 91.21 343 eP P 06 11 05.4 +0.2
H20A Greybull 91.24 44 ⇑P P 06 11 06.5 +0.5
baz=91,SNR=12
K19A Absoloka Red Bu 91.25 45 ⇓P P 06 11 06.2 0.0
baz=91,SNR=40
O18A Roosevelt 91.28 48 ⇑P P 06 11 06.5 +0.1
baz=91,SNR=16
SRU San Rafael 91.28 49 eP P 06 11 07.2 +0.8
SRU pmax pmax
comp=Z,25nm,0.9s
SRU San Rafael 91.28 49 eP P 06 11 07.2 +0.8
comp=Z,25nm,0.9s
SRU San Rafael 91.28 49 ⇑P P 06 11 06.5 +0.1
baz=91,SNR=26
N18A Larsen Ranch, 91.29 47 ⇓P P 06 11 06.2 -0.3
baz=91,SNR=22
P18A Preston Nutter 91.32 49 ⇑P P 06 11 07.2 +0.4
baz=91,SNR=9.1
F21A Absaloka Mine, 91.34 42 ⇓P P 06 11 06.7 +0.3
baz=91,SNR=6.4
I20A Worland 91.34 44 ⇓P P 06 11 06.9 +0.4
baz=91,SNR=20
R17A Hanksville Air 91.37 50 ⇑P P 06 11 06.8 0.0
baz=91,SNR=29
C22A Vida 91.42 40 ⇓P P 06 11 07.3 +0.6
baz=91,SNR=8.0
D22A Cohagen 91.46 41 ⇓P P 06 11 07.2 +0.4
baz=91,SNR=25
G21A Lodge Grass 91.50 43 ⇑P P 06 11 07.6 +0.4
baz=91,SNR=9.1
FINES FINESS Array B 91.53 335 P P 06 11 05.3 -1.5
FINES FINESS Array B 91.53 335 P P 06 11 05.3 -1.5
comp=Z,31nm,0.8s,baz=67,slow=5.0,SNR=56
FINES LR LR 06 57 32.0
comp=Z,4µm,19.4s,baz=63,slow=39
A23A Redstone 91.57 39 ⇓P P 06 11 08.1 +0.8
baz=92
J20A Shoshoni 91.58 45 ⇓P P 06 11 08.0 +0.3
baz=92,SNR=15
VNDA Vanda 91.63 177 P P 06 11 05.7 -1.1
VNDA Vanda 91.63 177 P P 06 11 05.7 -1.1
comp=Z,6.1nm,1.0s,baz=257,slow=2.3,SNR=3.4
VNDA LR LR 06 54 00.3
comp=Z,1µm,18.2s,baz=342,slow=37
K20A Yellowstone Ra 91.65 45 ⇑P P 06 11 08.1 0.0
baz=92,SNR=25
N19A John Jarvie Ra 91.67 47 ⇑P P 06 11 08.0 -0.1
baz=92,SNR=12
B23A Brockton 91.69 39 ⇑P P 06 11 08.4 +0.5
baz=92,SNR=12
214A Organ Pipe Nat 91.73 57 ⇓P P 06 11 09.2 +0.7
baz=92,SNR=8.4
WUAZ Wupatki 91.79 53 eP P 06 11 09.6 +0.8
comp=Z,138nm,1.6s
WUAZ LR LR
comp=Z,2µm,20.0s
WUAZ Wupatki 91.79 53 ⇓P P 06 11 09.3 +0.5
baz=92
H21A Big Horn, Sher 91.83 43 ⇓P P 06 11 09.5 +0.7
baz=92,SNR=30
C23A Lambert 91.83 40 ⇓P P 06 11 09.3 +0.7
baz=92,SNR=48
E22A Miles City 91.87 41 ⇑P P 06 11 08.9 +0.1
baz=92,SNR=25
L20A Wamsutter 91.88 46 ⇑P P 06 11 09.6 +0.5
baz=92,SNR=22
O19A Miners Draw (B 91.91 48 ⇑P P 06 11 09.5 +0.2
baz=92,SNR=19
F22A Rosebud 91.92 42 ⇑P P 06 11 09.3 +0.2
baz=92,SNR=14
MSEY Mahe Island 91.93 266 PFAKE
MSEY LR LR 06 11 20.0 +10
comp=Z,1µm,20.0s
I21A Big Trails, Te 91.96 44 ⇑P P 06 11 09.7 +0.3
baz=92,SNR=29
J21A Lysite 92.02 45 ⇑P P 06 11 10.5 +0.7
baz=92,SNR=20
D23A Lindsay 92.06 40 ⇓P P 06 11 10.8 +1.1
baz=92,SNR=30
X16A Lo Mia Camp, P 92.08 54 ⇓P P 06 11 10.5 +0.3
baz=92,SNR=12
G22A Birney 92.11 42 ⇓P P 06 11 10.6 +0.6
baz=92,SNR=12
S18A Hurst Farm, Bl 92.14 50 ⇓P P 06 11 10.7 +0.2
baz=92,SNR=13
M20A Sweetwater, Wa 92.17 46 ⇑P P 06 11 11.1 +0.5
baz=92,SNR=27
DGMT Dagmar 92.18 39 eP P 06 11 10.8 +0.7
comp=Z,20nm,0.9s
DGMT LR LR
comp=Z,4µm,20.0s
DGMT Dagmar 92.18 39 ⇓P P 06 11 10.3 +0.1
baz=92
SOC Sochi 92.21 316 eP P 06 11 08.5 -1.8
SOC ePPP x 06 16 50.4
SOC eS SKSac 06 21 41.7 -1.2
SOC eSS SS 06 28 21.0 -0.8
SOC pmax pmax
comp=Z,17nm,0.9s
BHD Baghdad 92.22 305 ex P 06 11 08.0 -2.6
BHD ix x 06 21 37.3
BHD ix x 06 22 08.3
P19A Cripple Cowboy 92.24 48 ⇓P P 06 11 11.7 +0.8
baz=92,SNR=36
E23A Ismay 92.26 41 ⇓P P 06 11 11.3 +0.7
baz=92,SNR=10
Q19A Hogan Spring (92.26 49 ⇓P P 06 11 11.0 +0.2
baz=92
H22A Clearmont 92.30 43 ⇑P P 06 11 11.6 +0.7
baz=92,SNR=14
N20A Spence Gulch, 92.34 47 ⇑P P 06 11 11.5 +0.1
baz=92,SNR=9.7
C24A Savage 92.41 40 ⇓P P 06 11 11.9 +0.6
baz=92
K21A Alcova 92.41 45 ⇓P P 06 11 12.1 +0.5
baz=92,SNR=24
T18A Mexican Hat 92.41 51 ⇑P P 06 11 11.8 +0.1
baz=92,SNR=14
I22A 9 Mile Ranch, 92.47 44 ⇑P P 06 11 12.2 +0.4
baz=92,SNR=9.7
L21A Rawlins 92.57 46 ⇓P P 06 11 12.9 +0.5
baz=92,SNR=24
O20A White River Ci 92.60 48 ⇑P P 06 11 13.1 +0.6
baz=92,SNR=10
PV10 Paradox Valley 92.62 50 eP P 06 11 13.4 +0.7
comp=Z,582nm,0.9s
D24A Glendive 92.64 40 ⇑P P 06 11 12.8 +0.4
baz=93
J22A Midwest 92.66 44 ⇓P P 06 11 12.9 +0.3
baz=93,SNR=8.5
G23A Biddle 92.70 42 ⇑P P 06 11 13.1 +0.4
baz=93,SNR=20
M21A Separation Pea 92.70 46 ⇑P P 06 11 13.4 +0.4
baz=93,SNR=31
P20A De Beque 92.71 48 ⇓P P 06 11 13.5 +0.4
baz=93,SNR=13
PV04 Paradox Valley 92.72 50 eP P 06 11 13.9 +0.8
RWWY Rawlins 92.78 46 eP P 06 11 14.4 +1.0
comp=Z,342nm,2.5s
VSU Vasula 92.86 333 iP P 06 11 13.1 +0.1
VSU pmax pmax
comp=Z,55nm,1.0s
VSU MLR MLR
comp=Z,4µm,21.0s
E24A Baker 92.87 41 ⇑P P 06 11 13.7 +0.3
baz=93
N21A Black Mountain 92.90 47 ⇑P P 06 11 14.2 +0.2
baz=93,SNR=18
K22A Casper 92.91 45 ⇑P P 06 11 14.6 +0.7
baz=93,SNR=12
PV01 Paradox Valley 93.05 50 eP P 06 11 15.0 +0.3
comp=Z,1µm,0.9s
F24A Ekalaka 93.06 41 ⇑P P 06 11 14.9 +0.5
baz=93,SNR=7.0
O21A Pagoda 93.13 47 ⇑P P 06 11 15.7 +0.7
baz=93
T19A Beclabito 93.16 51 ⇑P P 06 11 15.8 +0.7
baz=93,SNR=35
R20A Redvale 93.17 50 ⇓P P 06 11 15.9 +0.6
baz=93,SNR=22
W18A Petrified Fore 93.18 53 ⇑P P 06 11 16.4 +1.1
baz=93
L22A Ellis Ranch, M 93.20 45 ⇓P P 06 11 16.3 +1.0
baz=93
U19A Dine' College, 93.20 52 ⇑P P 06 11 16.1 +0.7
baz=93,SNR=19
X18A Snowflake 93.21 53 ⇓P P 06 11 16.1 +0.6
baz=93,SNR=9.9
TUC Tucson 93.26 56 eP P 06 11 17.5 +1.9
TUC pmax pmax
comp=Z,57nm,1.8s
TUC MLR MLR
comp=Z,2µm,21.0s
TUC Tucson 93.26 56 eP P 06 11 17.4 +1.9
comp=Z,12nm,1.8s
TUC LR LR
comp=Z,2µm,21.0s
ANN Anapa 93.27 318 eP P 06 11 14.9 -0.3
ANN e 06 21 48.8
ANN e 06 22 07.2
ANN pmax pmax
comp=Z,72nm,1.7s
G24A Alzada 93.29 42 ⇑P P 06 11 15.4 0.0
baz=93,SNR=8.4
S20A Disappointment 93.31 50 ⇑P P 06 11 16.1 +0.2
baz=93,SNR=10
M22A Cedar Creek Ra 93.31 46 ⇓P P 06 11 16.2 +0.4
baz=93,SNR=19
P21A Newcastle 93.39 48 ⇓P P 06 11 16.7 +0.5
baz=93,SNR=7.1
MVCO Mesa Verde 93.42 51 eP P 06 11 17.8 +1.4
comp=Z,42nm,1.3s
MVCO LR LR
comp=Z,4µm,19.0s
MVCO Mesa Verde 93.42 51 ⇓P P 06 11 17.1 +0.7
baz=93,SNR=15
H24A Dirks Ranch, A 93.43 42 ⇓P P 06 11 16.3 +0.2
baz=93,SNR=17
K23A Bowen Ranch, D 93.48 45 ⇓P P 06 11 16.8 +0.4
baz=93
Q21A Lamborn Mesa, 93.54 49 ⇑P P 06 11 17.4 +0.5
baz=94,SNR=23
N22A Wattenberg Ran 93.64 47 ⇓P P 06 11 17.9 +0.6
baz=94,SNR=13
L23A Garrett 93.67 45 ⇑P P 06 11 17.7 +0.3
baz=94,SNR=17
U20A Newcomb 93.69 51 ⇑P P 06 11 18.1 +0.5
baz=94,SNR=15
SUMG Summit 93.72 1 eP P 06 11 17.5 +0.3
SUMG pmax pmax
comp=Z,190nm,2.1s
SUMG Summit 93.72 1 eP P 06 11 17.5 +0.3
comp=Z,190nm,2.1s
SUMG Summit 93.72 1 iP P 06 11 16.7 -0.5
comp=Z,8.0nm,1.0s
R21A Cimarron 93.72 49 ⇓P P 06 11 18.5 +0.7
baz=94,SNR=42
I24A Kuemmerle Ranc 93.73 43 ⇓P P 06 11 17.7 +0.2
baz=94
S21A Coal Bank Pass 93.79 50 ⇑P P 06 11 18.9 +0.7
baz=94,SNR=9.9
O22A Kremmling 93.80 47 ⇓P P 06 11 18.5 +0.3
baz=94,SNR=17
SMCO Snowmass 93.86 48 eP P 06 11 19.3 +0.8
comp=Z,33nm,1.1s
P22A Eagle 93.86 48 ⇓P P 06 11 19.0 +0.6
baz=94,SNR=21
M23A Laramie 93.90 46 ⇓P P 06 11 19.4 +0.9
baz=94,SNR=30
V20A Brimhall 93.93 52 ⇑P P 06 11 19.6 +0.8
baz=94,SNR=7.2
N23A Red Feather La 93.96 46 ⇓P P 06 11 19.9 +1.0
baz=94,SNR=19
Q22A Crested Butte, 94.02 49 ⇑P P 06 11 20.2 +1.0
baz=94,SNR=26
RSSD Black Hills 94.02 43 eP P 06 11 19.4 +0.4
RSSD pmax pmax
comp=Z,16nm,1.0s
RSSD Black Hills 94.02 43 eP P 06 11 19.4 +0.4
comp=Z,16nm,1.0s
W20A Ramah 94.13 52 ⇓P P 06 11 20.4 +0.7
baz=94,SNR=13
PHWY Pilot Hill 94.15 46 eP P 06 11 20.2 +0.5
comp=Z,46nm,1.5s
RAYN Ar Rayn 94.20 295 P P 06 11 20.9 +0.9
comp=Z,84nm,0.8s,SNR=5.2
T21A Navajo Lake 94.22 50 ⇓P P 06 11 20.2 +0.1
baz=94
L24A Wheatland 94.23 45 ⇑P P 06 11 20.5 +0.6
baz=94
O23A Lake Granby, G 94.23 47 ⇓P P 06 11 21.2 +1.0
baz=94,SNR=9.8
U21A Nageezi 94.33 51 ⇓P P 06 11 21.4 +0.8
baz=94,SNR=15
X20A Quemado 94.33 53 ⇑P P 06 11 22.1 +1.4

baz=94,SNR=24
R22A Saguache, Gunn 94.36 49 ⇑P P 06 11 21.6 +0.8
baz=94,SNR=18
MICGM Minsk 94.41 329⇑ eP P 06 11 17.0 -3.2
MNK Minsk 94.43 329⇑ eP P 06 11 17.0 -3.3
MNK e 06 15 06.0
MNK e 06 21 50.0
MNK eS S 06 22 24.0 -7.6
MNK pmax pmax
comp=Z,360nm,1.5s
MNK MLR MLR
comp=N,9μm,16.0s
MNK MLR MLR
comp=Z,14μm,16.0s
MNK MLR MLR
comp=E,7μm,14.0s
S22A 4UR Ranch, Cre 94.48 50 ⇓P P 06 11 22.1 +0.7
baz=94,SNR=26
M24A Cheyenne 94.52 46 ⇑P P 06 11 21.2 -0.1
baz=94
P23A Jefferson 94.60 48 ⇑P P 06 11 22.4 +0.4
baz=94
ISCO Idaho Springs 94.61 47 eP P 06 11 23.0 +1.1
ISCO pmax pmax
comp=Z,63nm,2.0s
ISCO MLR MLR
comp=Z,3μm,19.0s
ISCO Idaho Springs 94.61 47 eP P 06 11 23.0 +1.1
comp=Z,63nm,2.0s
ISCO LR LR
comp=Z,3μm,19.0s
ISCO Idaho Springs 94.61 47 ⇑P P 06 11 22.4 +0.5
baz=94,SNR=8.5
Y20A Horse Springs, 94.64 54 ⇓P P 06 11 22.9 +0.8
baz=95,SNR=15
T22A Edith 94.69 50 ⇓P P 06 11 22.6 +0.4
baz=95
K25A Mack Ranch, Ha 94.73 44 ⇑P P 06 11 22.9 +0.7
baz=95
N24A Carr 94.73 46 ⇑P P 06 11 22.8 +0.5
baz=95
Z20A Nine Sixteen R 94.74 54 ⇓P P 06 11 23.7 +1.2
baz=95,SNR=14
L25A Engebretsen Ra 94.84 45 ⇑P P 06 11 23.7 +1.0
baz=95
O24A Longmont 94.87 47 ⇑P P 06 11 23.7 +0.8
baz=95
120A U Bar Ranch, L 94.90 55 ⇓P P 06 11 23.8 +0.6
baz=95
X21A Alamocita Cree 94.92 53 ⇑P P 06 11 24.1 +0.8
baz=95
U22A Llaves 94.95 51 ⇓P P 06 11 24.2 +0.8
baz=95,SNR=8.5
R23A Moffat 95.05 49 ⇓P P 06 11 24.8 +0.8
baz=95
MALT Malatya 95.06 311 PFAKE 06 11 30.0 +6.3
MALT LR LR
comp=Z,33nm,21.0s
S23A Nye Farm, Mont 95.10 49 ⇓P P 06 11 24.5 +0.4
baz=95
Y21A Point of Rocks 95.16 53 ⇓P P 06 11 25.3 +0.9
baz=95,SNR=13
K26A Motz Farm, Whi 95.16 44 ⇓P P 06 11 24.2 +0.1
baz=95
220A Playas Peak, P 95.20 56 ⇓P P 06 11 25.6 +1.0
baz=95
Q24A Divide 95.25 48 ⇑P P 06 11 25.3 +0.4
baz=95
320A Kipp Ranch, An 95.39 56 ⇓P P 06 11 25.6 +0.1
baz=95
Z21A St. Cloud Mine 95.40 54 ⇑P P 06 11 25.9 +0.4
baz=95
LAZ Ladron 95.44 53 eP P 06 11 26.9 +1.2
comp=Z,26nm,1.9s
SDCO Great Sand Dun 95.46 49 eP P 06 11 26.3 +0.5
comp=Z,19nm,1.5s
SDCO LR LR
comp=Z,3μm,19.0s
SDCO Great Sand Dun 95.46 49 ⇓P P 06 11 26.0 +0.2
baz=95,SNR=7.6
U23A El Rito 95.47 51 ⇓P P 06 11 26.2 +0.4
baz=95,SNR=9.1
SCO Scoresbysund 95.49 356 i P P 06 11 24.8 0.0
comp=Z,5.0nm,1.1s
R24A Sanders Place, 95.56 49 ⇑P P 06 11 26.5 +0.3
baz=96
121A Cookes Peak, D 95.58 55 ⇓P P 06 11 26.9 +0.6
baz=96
AKASG Malin Array Be 95.62 325 P P 06 11 25.1 -0.7
AKASG Malin Array Be 95.62 325 P P 06 11 25.1 -0.7
AKASG Malin Array Be 95.62 325 P P 06 11 25.1 -0.7
comp=Z,2.1nm,0.6s,baz=52,slow=4.1,SNR=8.5
AKASG LR LR 07 00 01.2
comp=Z,4μm,18.2s,baz=90,slow=39
KIEV Kiev 95.64 325 PFAKE 06 11 40.0 +14
KIEV LR LR
comp=Z,4μm,19.0s
V23A Ortiz Mt. (NFS 95.69 51 ⇓P P 06 11 27.6 +0.8
baz=96
S24A Houchin Ranch, 95.71 49 ⇓P P 06 11 27.5 +0.5
baz=96
Y22A Socorro 95.73 53 ⇓P P 06 11 27.7 +0.7
baz=96
P25A Willow Gulch B 95.75 47 ⇑P P 06 11 27.7 +0.7
baz=96
ANMO Albuquerque 95.77 52 eP P 06 11 28.2 +1.1
comp=Z,16nm,1.4s
ANMO LR LR
comp=Z,2μm,20.0s
ANMO Albuquerque 95.77 52 P P 06 11 28.0 +0.9
comp=Z,2.6nm,0.8s,baz=294,slow=8.8,SNR=10
K27A Flueckinger Fa 95.79 44 ⇓P P 06 11 27.6 +0.6
baz=96
BNM Barren Site 95.92 53 eP P 06 11 29.1 +1.2
comp=Z,20nm,1.6s
W23A Werner Place, 95.92 52 ⇓P P 06 11 28.4 +0.5
baz=96
Z22A Elephant Butte 95.98 54 ⇑P P 06 11 29.0 +0.9
baz=96,SNR=13
T24A Torres, Weston 96.04 50 ⇑P P 06 11 28.3 -0.2
baz=96
O26A Horse Wrangler 96.06 46 ⇓P P 06 11 28.6 +0.3
baz=96
U24A Moreno Valley 96.12 50 ⇑P P 06 11 29.1 +0.3
baz=96
ULM Lac du Bonnet 96.22 35 P P 06 11 28.3 -0.3
ULM PKKP **PKKPbc 06 28 14.1 -2.3**
ULM Lac du Bonnet 96.22 35 P P 06 11 28.3 -0.3
comp=Z,11nm,1.0s,baz=311,slow=5.3,SNR=19
ULM PKKP **PKKPbc 06 28 14.1 -2.3**
comp=Z,1.2nm,0.7s,baz=172,slow=9.6,SNR=3.2
ULM LR LR 06 56 21.2
comp=Z,5μm,18.8s,baz=305,slow=36
S25A Robets Cordova 96.27 49 ⇑P P 06 11 30.0 +0.7
baz=96
222A Williams Famil 96.27 55 ⇑P P 06 11 30.3 +0.8
baz=96
P26A Davis Ranch, A 96.31 47 ⇑P P 06 11 30.1 +0.6
baz=96
N27A Anderson Farm, 96.37 45 ⇓P P 06 11 30.2 +0.5
baz=96
V24A Rampart Ranch, 96.38 51 ⇓P P 06 11 30.7 +0.7
baz=96
Y23A Lovelace Mesa, 96.44 53 ⇑P P 06 11 30.6 +0.4
baz=96,SNR=7.5
W24A Lazy 6 Ranch, 96.47 52 ⇑P P 06 11 31.4 +1.0
baz=96
Z23A Rita Site, Whi 96.55 54 ⇓P P 06 11 31.4 +0.7
baz=96
OGNE Ogallala 96.66 45 PFAKE 06 11 40.0 +9.0
OGNE LR LR
comp=Z,3μm,19.0s
R26A Arlington 96.74 48 ⇑P P 06 11 31.3 -0.1
baz=97
U25A Circle Dot Ran 96.78 50 ⇓P P 06 11 31.8 +0.1
baz=97
Y24A Capitan 96.92 53 ⇑P P 06 11 32.5 +0.1
baz=97
S26A Kim 96.99 49 ⇑P P 06 11 32.3 -0.3
baz=97
KSCO Kaye Shedlock' 97.04 47 ⇓P Pdif 06 11 33.1 +0.2
baz=97
T26A Comanche Natio 97.08 49 ⇓P Pdif 06 11 33.2 0.0
baz=97
HFS Hagfors 97.09 338 P P 06 11 31.8 -0.5
HFS Hagfors 97.09 338 P P 06 11 31.8 -0.5
comp=Z,2.6nm,0.5s,baz=87,slow=7.6,SNR=10
W25A X Bar L Ranch, 97.19 51 ⇑P P 06 11 33.2 -0.3
baz=97
Z24A Sheeppen Canyo 97.20 53 ⇑P Pdif 06 11 33.9 +0.1
baz=97
AGMN Agassiz Nation 97.21 37 eP Pdif 06 11 33.3 +0.1
comp=Z,12nm,1.0s
AGMN LR LR
comp=Z,7μm,21.0s
R27A Eads 97.21 48 ⇑P P 06 11 33.0 -0.5
baz=97
X25A Clemmons Ranch 97.30 52 ⇓P P 06 11 34.1 0.0
baz=97
NB2 NORSAR Subarra 97.31 340 P P 06 11 31.8 -1.6
baz=47,slow=4.6
NB2 NORSAR Subarra 97.31 340 P P 06 11 31.8 -1.6
comp=Z,7.5nm,0.8s,baz=47,slow=4.6
NOA NORSAR Array B 97.31 340 P P 06 11 32.1 -1.3
NOA PP PP 06 15 20.6 -8.7
NOA NORSAR Array B 97.31 340 P P 06 11 32.1 -1.3
comp=Z,5.3nm,0.8s,baz=52,slow=4.3,SNR=17
NOA PP PP 06 15 20.6 -8.7
comp=Z,1.8nm,0.8s,baz=46,slow=8.6,SNR=3.5
NOA LR LR 06 58 30.9
comp=Z,3μm,19.3s,baz=45,slow=37
NC602 NORSAR Array S 97.42 339 eSKS SKSac 06 22 09.1 -1.1
V26A Tequesquite Ra 97.47 50 ⇓P Pdif 06 11 35.1 +0.2
baz=97
Y25A Mesa, Roswell 97.50 52 ⇓P Pdif 06 11 35.2 +0.2
baz=97
224A Cornudas Mount 97.53 54 ⇑P Pdif 06 11 35.5 +0.3
baz=98,SNR=14
KIS Kishinev 97.69 322 ePP PP 06 15 31.0 -1.7
KIS Kishinev 97.69 322 ePPP x 06 17 44.0
KIS eSKS SKSac 06 22 04.0 -8.2
KIS eSKKS SKKSac 06 22 22.0 -18
KIS eS S 06 22 43.0 -17
KIS Kishinev 97.69 322 ePS PS 06 24 22.0 -2.8
KIS Kishinev 97.69 322 ePPS x 06 25 06.0
KIS eSS SS 06 29 50.0 +11
KIS eL L 06 46 00.0
KIS LQM 06 49 26.0
comp=Z,3μm,23.0s
KIS LRM MLR 06 59 06.0
comp=Z,4μm,18.0s
Z25A Roswell 97.72 53 ⇑P Pdif 06 11 36.2 +0.2
baz=98
T27A Campo 97.76 49 ⇑P Pdif 06 11 36.4 +0.2
baz=98
W26A Owens Ranch, T 97.76 51 ⇓P Pdif 06 11 36.4 +0.2
baz=98
MNTX Cornudas Mount 97.78 55 PFAKE 06 11 50.0 +14
MNTX LR LR
comp=Z,2μm,19.0s
MNTX Cornudas Mount 97.78 55 ⇑P Pdif 06 11 36.5 +0.4
baz=98,SNR=18
324A Moseley Ranch, 97.80 55 ⇑P Pdif 06 11 36.5 0.0
baz=98
BRTR Keskin Array B 97.92 314 P P 06 11 35.9 -0.9
BRTR PP **PP 06 15 30.5 -4.4**
BRTR Keskin Array B 97.92 314 P P 06 11 35.9 -0.9
comp=Z,6.4nm,1.0s,baz=101,slow=2.6,SNR=21
BRTR PP **PP 06 15 30.5 -4.4**
comp=Z,1.6nm,0.9s,baz=57,slow=5.3,SNR=3.1
BRTR LR LR 07 00 32.3
comp=Z,1μm,19.3s,baz=192,slow=38
X26A CR and CF Fran 97.94 52 ⇓P Pdif 06 11 37.2 +0.2
baz=98
125A Gardner Draw, 98.00 54 ⇓P Pdif 06 11 37.4 +0.1
baz=98
225A Deer Hill, Car 98.07 54 ⇑P P 06 11 37.1 -0.6
baz=98
T28A Walsh 98.18 49 ⇓P P 06 11 37.6 -0.3
baz=98
325A Bean Ranch, Si 98.23 55 ⇓P Pdif 06 11 38.4 0.0
baz=98,SNR=9.3
Z26A Caprock 98.30 53 ⇑P P 06 11 38.4 -0.1
baz=98
W27A Bowe Ranch, En 98.30 51 ⇑P P 06 11 38.1 -0.4
baz=98
GDL2 Guadalupe Moun 98.40 54 eP Pdif 06 11 40.7 +1.6
SFJD Kangerlussuaq 98.43 7 PFAKE 06 11 50.0 +12
SFJD LR LR
comp=Z,3μm,20.0s
425A Indio Mountain 98.43 56 ⇓Pdiff Pdif 06 11 39.5 +0.3
baz=98
X27A F and S Farms, 98.44 51 ⇑Pdiff Pdif 06 11 39.4 +0.2
baz=98
126A Clayton Basin, 98.50 53 ⇑Pdiff Pdif 06 11 39.7 +0.2
baz=98
ASF Jabal al Asfar 98.52 306 P Pdif 06 11 39.6 +0.1
ASF Jabal al Asfar 98.52 306 P Pdif 06 11 39.6 +0.1
comp=Z,8.3nm,1.0s,baz=113,slow=2.7,SNR=5.8
V28A Channing 98.66 50 ⇑Pdiff Pdif 06 11 40.5 +0.4
baz=99
Y27A Causey 98.69 52 ⇑Pdiff Pdif 06 11 40.8 +0.5
baz=99
Z27A Tatum 98.87 53 ⇑Pdiff Pdif 06 11 41.2 +0.1
baz=99
KONO Kongsberg 98.88 339 PFAKE 06 11 50.0 +10
KONO LR LR
comp=Z,4μm,20.0s
ECSD EROS Data Cent 99.00 41 eP P 06 11 40.8 -0.5
comp=Z,14nm,1.3s
ECSD LR LR
comp=Z,2μm,19.0s
127A Arkansas Junct 99.01 53 ⇑Pdiff Pdif 06 11 42.1 +0.3
baz=99
CFR Carcaliu 99.01 321 ⇓P Pdif 06 11 39.7 -1.6
CFR Carcaliu 99.01 321 ⇓i P Pdif 06 11 39.7 -1.6
326A Caldwell Ranch 99.04 55 ⇑Pdiff Pdif 06 11 42.2 +0.4
baz=99
CBKS Cedar Bluff 99.17 46 PFAKE 06 11 50.0 +7.8
CBKS LR LR
comp=Z,2μm,20.0s
X28A Dimmitt 99.17 51 ⇑Pdiff Pdif 06 11 42.6 +0.2
baz=99
TESR 99.22 323 ⇓i P Pdif 06 11 41.4 -0.8
426A McDonald Obser 99.24 55 ⇑Pdiff Pdif 06 11 43.4 +0.4
baz=99
MMAI Mount Meron Ar 99.36 307 P Pdif 06 11 43.9 +0.6
MMAI Mount Meron Ar 99.36 307 P Pdif 06 11 43.9 +0.6
comp=Z,8.8nm,0.7s,baz=45,slow=2.5,SNR=6.5
Y28A McKinney Farm, 99.38 52 ⇓Pdiff Pdif 06 11 43.8 +0.5
baz=99
AMTX Amarillo 99.41 51 eP Pdif 06 11 45.1 +1.6
comp=Z,94nm,2.3s
AMTX LR LR
comp=Z,4μm,19.0s
AMTX Amarillo 99.41 51 ⇓Pdiff Pdif 06 11 43.8 +0.4
baz=99
526A Mary Lane Ranc 99.42 56 ⇓Pdiff Pdif 06 11 44.0 +0.4
baz=99
BURAR Bucovina Array 99.47 324 ⇑i P Pdif 06 11 43.3 -0.1
VRI Vrincioaia 99.51 322 ⇑P Pdif 06 11 44.6 +1.1
VRI Vrincioaia 99.51 322 ⇑i P Pdif 06 11 44.6 +1.1
Z28A Tucker Farm, M 99.52 52 ⇓Pdiff Pdif 06 11 43.9 0.0
baz=100
PLOR Plostina 99.56 322 ⇑P Pdif 06 11 44.6 +0.7
PLOR Plostina 99.56 322 ⇑i P Pdif 06 11 44.5 +0.7
626A Big Bend Ranch 99.57 56 ⇑Pdiff Pdif 06 11 44.6 +0.3
baz=100
X29A Tulia 99.58 51 ⇑Pdiff Pdif 06 11 44.4 +0.2
baz=100
427A Hayter Ranch, 99.67 55 ⇓Pdiff Pdif 06 11 45.2 +0.5
baz=100
KWP Kalwaria Pacla 99.74 327 eP Pdif 06 11 45.1 +0.7
KWP pmax pmax
comp=Z,24nm,1.4s
KWP MLR MLR
comp=Z,7μm,19.0s
KWP Kalwaria Pacla 99.74 327 eP Pdif 06 11 45.1 +0.7
comp=Z,24nm,1.4s
KWP LR LR
comp=Z,7μm,19.0s
527A Woodward Ranch 99.77 56 ⇑Pdiff Pdif 06 11 45.7 +0.5
baz=100
Y29A Porterfield Fa 99.84 52 ⇓Pdiff Pdif 06 11 46.0 +0.6
baz=100
EYMN Ely 99.89 35 ePdif Pdif 06 11 45.4 +0.2
EYMN LR LR
comp=Z,5μm,19.0s
TXAR Lajitas Array 100.03 56 P Pdif 06 11 47.0 +0.7
TXAR PP **PP 06 15 49.8 -1.6**
TXAR Lajitas Array 100.03 56 P Pdif 06 11 47.0 +0.7
comp=Z,1.2nm,0.9s,baz=270,slow=2.5,SNR=9.1
TXAR PP **PP 06 15 49.8 -1.6**
comp=Z,1.6nm,1.0s,baz=294,slow=6.2,SNR=6.3
Z29A Hungry Hill Ra 100.05 52 ⇓Pdiff Pdif 06 11 46.4 +0.1
baz=100
MLR Muntele Rosu 100.17 322 P Pdif 06 11 47.3 +0.7
MLR Muntele Rosu 100.17 322 ⇑i P Pdif 06 11 47.4 +0.7
MLR Muntele Rosu 100.17 322 P Pdif 06 11 47.3 +0.7
comp=Z,0.6nm,0.9s,baz=189,slow=18,SNR=3.0
627A Terlingua Ranc 100.21 56 ⇓Pdiff Pdif 06 11 47.8 +0.7
baz=100
DOPR Dopca 100.25 323 ⇑i P Pdif 06 11 47.1 +0.2
428A Kincaid Ranch, 100.29 55 ⇑Pdiff Pdif 06 11 48.1 +0.7
baz=100
528A Cox Ranch, San 100.42 55 ⇑Pdiff Pdif 06 11 48.6 +0.5
baz=100
UZH Uzhgorod 100.53 326 eP Pdif 06 11 46.8 -1.2
UZH e 06 15 52.8
UZH ePPP PPP 06 18 02.6
UZH e 06 22 24.2
UZH eS **Sdif 06 23 17.0 -7.0**
UZH i PS **PS 06 24 54.8 -0.5**
329A Wagon Wheel Ra 100.55 54 ⇑Pdiff Pdif 06 11 48.9 +0.4
baz=100
628A Black Gap, Mar 100.60 56 ⇑Pdiff Pdif 06 11 49.1 +0.3
baz=100
529A Stev Forest Ra 100.89 55 ⇓Pdiff Pdif 06 11 49.5 -0.6
baz=101
ISP Isparta 100.94 313 PFAKE 06 12 00.0 +10
ISP LR LR
comp=Z,2μm,20.0s
429A Davenport Ranc 100.95 55 ⇑Pdiff Pdif 06 11 50.4 0.0
baz=101
EIL Elat 101.02 304 P Pdif 06 11 51.2 +0.6
EIL Elat 101.02 304 P Pdif 06 11 51.2 +0.6
comp=Z,10nm,0.9s,baz=332,slow=9.4,SNR=6.1
KSU1 Kansas State U 101.21 45 PFAKE 06 12 00.0 +8.7
KSU1 LR LR
comp=Z,3μm,19.0s
DRGR 101.35 324 ⇑P Pdif 06 11 52.5 +0.7
DRGR 101.35 324 ⇑i P Pdif 06 11 52.5 +0.7
430A Baggett Ranch, 101.41 54 ⇓Pdiff Pdif 06 11 52.5 +0.1
baz=101
WMOK Wichita Mounta 101.64 50 PFAKE 06 12 00.0 +6.7
WMOK LR LR
comp=Z,3μm,19.0s
431A Sonora 101.95 54 ⇑Pdiff Pdif 06 11 54.9 +0.1
baz=102
OKC Ostrava-Krasne 101.98 329 AMS AMS 07 01 00.0
comp=Z,6μm,18.1s
SCIA State Center 102.08 41 PFAKE 06 12 10.0 +15
SCIA LR LR
comp=Z,3μm,20.0s
531A Rocksprings 102.20 55 ⇑Pdiff Pdif 06 11 55.9 0.0
baz=102
PSZ Piszkesteto 102.25 326 PFAKE 06 12 10.0 +14
PSZ LR LR
comp=Z,4μm,20.0s
DPC Dobruska-Polom 102.56 330 ePP PP 06 16 07.5 -2.0
DPC AMS AMS 07 01 30.0
comp=Z,3μm,18.1s
JCT Junction City 102.66 54 eP Pdif 06 11 58.9 +0.9
JCT MLR MLR
comp=Z,2μm,19.0s
JCT Junction City 102.66 54 ePdif Pdif 06 11 58.9 +0.9
JCT LR LR
comp=Z,2μm,19.0s
JCT Junction City 102.66 54 ⇓Pdiff Pdif 06 11 58.0 +0.1
baz=103
ABPO Ambohimpanom 102.86 253 PFAKE 06 12 10.0 +11
ABPO LR LR
comp=Z,921nm,20.0s
TUL1 Tulsa 103.28 48 ⇑Pdiff Pdif 06 12 00.6 0.0
baz=103
PVCC Panska Ves 103.29 331 AMS AMS 07 05 10.0
comp=Z,3μm,16.6s
BRG Berggiesshubel 103.35 331 PDIF Pdif 06 11 59.0 -1.5
BRG PP **PP 06 16 16.2 +0.8**
comp=Z,17nm,1.4s
BRG SKS 06 22 41.0
BRG SDIF **PS 06 25 26.0 +0.9**
BRG e 06 27 49.5
comp=Z,2.2nm,0.7s
BRG SS SKKPbc 06 31 17.0 -19
BRG
comp=N,2μm,16.1s
BRG
comp=E,4μm,18.5s
BRG
comp=Z,6μm,19.9s
BRG Berggiesshubel 103.35 331 P Pdif 06 11 59.0 -1.5
BRG 06 16 16.2
BRG 06 22 41.0
BRG S **PS 06 25 26.0 +0.9**
BRG SS SS 06 31 17.0 +19
BRG pmax pmax
comp=Z,17nm,1.4s
BRG pmax pmax
comp=Z,2.0nm,0.7s
BRG MLR MLR
comp=N,2μm,16.1s
BRG MLR MLR
comp=E,4μm,18.5s
BRG MLR MLR
comp=Z,6μm,19.9s
CLL Collm 103.49 332 eP Pdif 06 12 01.0 -0.1
CLL e 06 16 20.0
CLL e 06 22 41.0
CLL eS **Sdif 06 23 45.0 -3.6**
CLL MLR MLR
comp=Z,4μm,18.5s
CLL Collm 103.49 332 ePdif Pdif 06 12 01.0 -0.1
CLL e 06 16 12.0
CLL ePP **PKiKP 06 16 20.0 +0.2**
CLL eSKSac **SKSac 06 22 41.0 +0.8**
CLL eSdif **Sdif 06 23 45.0 -3.6**
CLL ePS **PS 06 25 27.0 +0.5**
CLL ePPS PPS 06 26 11.0
CLL eSS SKKPbc 06 31 24.0 -12
CLL eSSS SSS 06 34 42.0
CLL e 06 40 38.0
CLL Lm MLR 07 04 00.0
comp=N,2μm,19.1s
CLL Lm MLR 07 04 00.0
comp=E,800nm,19.4s
CLL Lm MLR 07 04 00.0
comp=Z,4μm,18.5s
TREC Trest 103.66 329 AMS AMS 07 03 30.0
comp=Z,5μm,18.3s
PRU Pruhonice 103.67 330 AMS AMS 07 03 00.0
comp=Z,3μm,18.0s
QSPA South Pole Qui 103.68 180 PFAKE 06 12 10.0 +8.4
QSPA LR LR
comp=Z,2μm,20.0s
CONA Conrad Observa 104.36 328⇑ ePdiff Pdif 06 12 01.4 -3.7
comp=Z,5.1nm,1.1s
CONA ⇑ePP **PKiKP 06 16 22.3 +0.7**
comp=Z,11nm,1.7s
CSNA Conrad Observa 104.36 328 ⇑PP PP 06 16 22.3 -0.8
comp=Z,8.3nm,1.4s
NKC Novy Kostel 104.49 331 AMS AMS 07 04 00.0
comp=Z,6μm,19.5s
KHC Kasperske Hory 104.71 330 ePP PP 06 16 21.9 -3.6
KHC AMS AMS 07 02 50.0
comp=Z,4μm,18.4s
GERES GERESS Array B 104.84 330 Pdif Pdif 06 12 06.5 -0.8
GERES GERESS Array B 104.84 330 Pdiff Pdif 06 12 06.5 -0.8
comp=Z,0.3nm,0.4s,baz=32,slow=5.2,SNR=4.0
HDIL Hopedale 105.30 41 PFAKE 06 16 30.0
HDIL LR LR
comp=Z,3μm,20.0s
KVTX Kingsville 105.40 56 PFAKE 06 16 30.0
KVTX LR LR
comp=Z,3μm,19.0s
MIAR Mount Ida 105.53 48 PFAKE 06 16 30.0
MIAR LR LR
comp=Z,3μm,20.0s
GLMI Grayling 105.57 35 PFAKE 06 16 30.0
GLMI LR LR
comp=Z,5μm,19.0s
NATX Nacogdoches 106.06 51 PFAKE 06 16 40.0
NATX LR LR
comp=Z,2μm,19.0s
TIR Tirane 106.15 321 PFAKE 06 16 40.0
TIR LR LR
comp=Z,536nm,22.0s
ESK Eskdalemuir 106.47 342 PFAKE 06 16 40.0
ESK LR LR
comp=Z,3μm,20.0s

ABTA	**Abfaltersbach**	**106.85**	**329**⇑	*e*PP		PP		06 16 42.3	+0.8
	comp=Z,6.9nm,1.2s								
WATA	**Walderalm**	**106.91**	**330**⇑	*i*PP		PP		06 16 44.0	+2.1
	comp=Z,2.0nm,0.2s								
MOTA	**Moosalm**	**107.14**	**330**⇑	*e*PP		PP		06 16 45.1	+1.5
	comp=Z,10nm,1.1s								
RETA	**Reutte**	**107.20**	**330**⇑	*e*PP		PP		06 16 45.6	+1.6
	comp=Z,12nm,1.4s								
FETA	**Feichten**	**107.55**	**330**	⇑PP		PP		06 16 47.1	+0.5
	comp=Z,19nm,1.3s								
AAM	**Ann Arbor**	**107.69**	**37**	PFAKE				06 16 40.0	
AAM				LR	LR				
	comp=Z,6μm,20.0s								
WLF	**Walferdange**	**107.70**	**334**	PFAKE				06 16 40.0	
WLF				LR	LR				
	comp=Z,4μm,19.0s								
BFO	**Black Forest**	**107.74**	**332**	PFAKE				06 16 40.0	
BFO				LR	LR				
	comp=Z,4μm,19.0s								
DAVA	**Damuels**	**107.77**	**330**⇑	*e*PP		PP		06 16 51.0	+2.8
	comp=Z,19nm,1.4s								
GIVF	**Givet**	**107.92**	**335**	*e*PP		PP		06 16 48.5	-0.5
	comp=Z,78nm,1.7s								
CDF	**Champ du Feu**	**108.15**	**333**	*e*PP		PP		06 16 51.4	+0.5
	comp=Z,78nm,1.7s								
BAIF	**Baives**	**108.20**	**335**	*e*PP		PP		06 16 51.0	0.0
	comp=Z,88nm,1.8s								
ECH	**Echery**	**108.35**	**333**	PFAKE				06 16 40.0	
ECH				LR	LR				
	comp=Z,3μm,19.0s								
OXF	**Oxford**	**108.50**	**46**	PFAKE				06 16 40.0	
OXF				LR	LR				
	comp=Z,4μm,19.0s								
TUE	**Stuetta**	**108.61**	**330**	PFAKE				06 16 40.0	
TUE				LR	LR				
	comp=Z,3μm,19.0s								
HINF	**Hinteralfeld**	**108.78**	**332**	*e*PP		PP		06 16 56.4	+1.0
	comp=Z,23nm,1.1s								
RPN	**Rapa Nui**	**108.79**	**114**	PFAKE				06 16 40.0	
RPN				LR	LR				
	comp=Z,4μm,20.0s								
KMBO	**Kilima Mbogo**	**108.79**	**274**	PFAKE				06 16 40.0	
KMBO				LR	LR				
	comp=Z,1μm,19.0s								
VBMS	**Vicksburg**	**108.91**	**49**	PFAKE				06 16 40.0	
VBMS				LR	LR				
	comp=Z,4μm,21.0s								
PLAL	**Pickwick Lake**	**109.18**	**45**	PFAKE				06 16 40.0	
PLAL				LR	LR				
	comp=Z,3μm,20.0s								
AQU	**L'Aquila**	**109.32**	**325**	PFAKE				06 16 40.0	
AQU				LR	LR				
	comp=Z,6μm,19.0s								
TIP	**Timpagrande**	**109.35**	**321**	PFAKE				06 16 40.0	
TIP				LR	LR				
	comp=Z,3μm,19.0s								
ACSO	**Alum Creek Sta**	**109.38**	**38**	PFAKE				06 16 40.0	
ACSO				LR	LR				
	comp=Z,4μm,19.0s								
CUC	**Castrocucco**	**109.43**	**322**	PFAKE				06 16 40.0	
CUC				LR	LR				
	comp=Z,2μm,20.0s								
VLC	**Villacollemand**	**109.72**	**328**	PFAKE				06 16 40.0	
VLC				LR	LR				
	comp=Z,5μm,19.0s								
ERPA	**Erie**	**109.89**	**35**	PFAKE				06 16 40.0	
ERPA				LR	LR				
	comp=Z,5μm,19.0s								
LOR	**Lormes**	**110.52**	**334**	*e*PP		PP		06 17 08.6	+0.7
	comp=Z,41nm,1.5s								
LPG	**La Plagne**	**110.56**	**331**	*e*PP		PP		06 17 11.3	+2.7
	comp=Z,81nm,1.6s								
SSF	**Saint Saulge**	**110.83**	**334**	*e*PP		PP		06 17 10.3	+0.1
	comp=Z,10nm,0.9s								
BNI	**Bardonecchia**	**110.92**	**331**	PFAKE				06 16 40.0	
BNI				LR	LR				
	comp=Z,6μm,20.0s								
LONY	**Lake Ozonia**	**110.96**	**30**	PFAKE				06 16 40.0	
LONY				LR	LR				
	comp=Z,3μm,20.0s								
LRAL	**Lakeview Retre**	**110.99**	**46**	PFAKE				06 16 40.0	
LRAL				LR	LR				
	comp=Z,5μm,19.0s								
FLN	**La Foliniere**	**111.08**	**337**	*e*PP		PP		06 17 10.9	-0.9
	comp=Z,114nm,1.6s								
LDF	**La Druitiere**	**111.08**	**337**	*e*PP		PP		06 17 10.1	-1.7
	comp=Z,30nm,1.0s								
MBDF	**Montbardon**	**111.11**	**330**	*e*PP		PP		06 17 13.2	+0.7
	comp=Z,30nm,1.2s								
ORIF	**Oris-en-Rattie**	**111.40**	**331**	*e*PP		PP		06 17 14.7	+0.3
GRR	**Gorron**	**111.53**	**337**	*e*PP		PP		06 17 16.5	+1.5
	comp=Z,60nm,1.6s								
TCF	**Toulx Ste Croi**	**111.99**	**334**	*e*PP		PP		06 17 18.3	-0.2
	comp=Z,26nm,1.2s								
BINY	**Binghamton**	**112.00**	**33**	PFAKE				06 16 50.0	
BINY				LR	LR				
	comp=Z,5μm,21.0s								
VIVF	**Saint-Julien-l**	**112.01**	**332**	*e*PP		PP		06 17 17.2	-1.5
	comp=Z,21nm,1.2s								
BRAL	**Brewton**	**112.05**	**48**	PFAKE				06 16 50.0	
BRAL				LR	LR				
	comp=Z,3μm,21.0s								
LMR	**La Mourre**	**112.27**	**329**	*e*PP		PP		06 17 20.3	-0.3
	comp=Z,200nm,1.9s								
LBNH	**Lisbon**	**112.51**	**29**	PFAKE				06 16 50.0	
LBNH				LR	LR				
	comp=Z,4μm,19.0s								
MFF	**Saint Martin d**	**112.72**	**336**	*e*PP		PP		06 17 23.7	+0.1
	comp=Z,30nm,1.2s								
WDD	**Wield Dalam**	**112.79**	**319**	PFAKE				06 16 50.0	
WDD				LR	LR				
	comp=Z,2μm,20.0s								
BLA	**Blacksburg**	**112.84**	**39**	PFAKE				06 16 50.0	
BLA				LR	LR				
	comp=Z,4μm,20.0s								
CAF	**Calviac**	**113.13**	**333**	*e*PP		PP		06 17 27.8	+1.1
	comp=Z,30nm,1.3s								
GOGA	**Godfrey**	**113.21**	**44**	PFAKE				06 16 50.0	
GOGA				LR	LR				
	comp=Z,3μm,20.0s								
VSL	**Villasalto**	**113.50**	**325**	PFAKE				06 16 50.0	
VSL				LR	LR				
	comp=Z,4μm,19.0s								
CBN	**Corbin**	**114.00**	**37**	PFAKE				06 16 50.0	
CBN				LR	LR				
	comp=Z,6μm,19.0s								
NHSC	**New Hope**	**115.58**	**42**	PFAKE				06 16 50.0	+7.0
NHSC				LR	LR				
	comp=Z,2μm,19.0s								
CNNC	**Cliffs of the**	**115.67**	**39**	PFAKE				06 16 50.0	+6.9
CNNC				LR	LR				
	comp=Z,4μm,20.0s								
TEIG	**Tepich**	**116.52**	**59**	PFAKE				06 17 00.0	+15
TEIG				LR	LR				
	comp=Z,1μm,20.0s								
PGAV	**Gavieira, Arco**	**119.74**	**338**	*e*LQ		LQ		06 51 08.0	
PGAV				*e*LR		LR		06 57 14.0	
	comp=Z,2μm,18.0s								
MVO	**Moncorvo**	**119.97**	**337**	*e*PKPdf		**PKPdf**		**06 16 55.0**	**+3.6**
MVO				*e*LQ		LQ		06 51 09.5	
MVO				*e*LR		LR		06 57 14.5	
	comp=Z,2μm,18.0s								
ESDC	**Sonseca Array**	**120.00**	**334**	PKP		**PKPdf**		**06 16 51.5**	**0.0**
ESDC				PP		**PP**		**06 18 12.5**	**-2.2**
ESDC	**Sonseca Array**	**120.00**	**334**	PKP		**PKPdf**		**06 16 51.5**	**0.0**
	comp=Z,0.3nm,0.3s,baz=75,slow=1.6,SNR=3.6								
ESDC				PP		**PP**		**06 18 12.5**	**-2.2**
	comp=Z,5.1nm,0.8s,baz=28,slow=7.8,SNR=12								
POLO	**Lamas de Olo**	**120.08**	**338**	*e*PKPdf		**PKPdf**		**06 16 56.6**	**+5.0**
PAB	**San Pablo**	**120.27**	**334**	PFAKE				06 17 00.0	+8.0
PAB				LR	LR				
	comp=Z,2μm,20.0s								
LSZ	**Lusaka**	**120.30**	**260**	*e*PKPdf		**PKPdf**		**06 16 53.5**	**+0.9**
LSZ				LR	LR				
	comp=Z,851nm,20.0s								
PVIS	**Viseu**	**120.69**	**337**	*e*PKPdf		**PKPdf**		**06 16 56.8**	**+4.1**
VNA2	**Neumayer--Watz**	**120.72**	**190**	*e*P		**PKPdf**		**06 16 51.9**	**+0.1**
	baz=231,slow=0.9								
VNA2	**Neumayer--Watz**	**120.72**	**190**	*e*WP		**PKPdf**		**06 16 55.9**	**+4.1**
	baz=231,slow=0.9								
VNA3	**Neumayer Olymp**	**120.80**	**189**	*e*P		**PKPdf**		**06 16 51.7**	**-0.2**
VNA3	**Neumayer Olymp**	**120.80**	**189**	*e*WP		**PKPdf**		**06 16 55.8**	**+3.9**
MTE	**Manteigas**	**120.83**	**337**	*e*PKPdf		**PKPdf**		**06 16 53.8**	**+0.8**
MTE	**Manteigas**	**120.83**	**337**	PFAKE				06 17 00.0	+7.0
MTE				LR	LR				
	comp=Z,2μm,20.0s								
PMRV	**Marv??o**	**121.61**	**336**	*e*PKPdf		**PKPdf**		**06 16 54.9**	**+0.4**
PMRV				*e*LQ		LQ		06 52 55.2	
PMRV				*e*LR		LR		06 58 16.7	
	comp=Z,2μm,20.0s								
PTOM	**Tomar**	**121.84**	**337**	*e*PKPdf		**PKPdf**		**06 16 55.4**	**+0.5**
PESTR	**Estremoz**	**122.17**	**336**	*e*PKPdf		**PKPdf**		**06 16 57.0**	**+1.4**
PMTG	**Montargil**	**122.25**	**337**	*e*PKPdf		**PKPdf**		**06 16 55.7**	**0.0**
PBAR	**Barrancos**	**122.55**	**335**	*e*PKPdf		**PKPdf**		**06 16 57.5**	**+1.2**
EVO	**Evora**	**122.63**	**336**	*e*PKIKP		**PKPdf**		**06 16 55.4**	**-1.1**
	comp=Z,18nm,1.1s								
EVOP	**Sao Brissos**	**122.68**	**336**	*e*PKIKP		**PKPdf**		**06 16 55.4**	**-1.1**
EVOP	**Sao Brissos**	**122.68**	**336**	*e*PKPdf		**PKPdf**		**06 16 55.4**	**-1.1**
LIS	**Lisbon**	**122.91**	**337**	*e*PP		PP		06 18 35.5	+1.1
LIS				*e*SS		SS		06 35 21.0	+4.7
LIS				AMS		AMS		07 07 25.1	
	comp=E,2μm,22.0s								
LIS	**Lisbon**	**122.91**	**337**	*e*PP		PP		06 18 35.5	+1.2
LIS				*e*SS		SS		06 35 21.0	+4.7
PBEJ	**Beja**	**123.01**	**336**	*e*PKPdf		**PKPdf**		**06 16 59.9**	**+2.7**
PNCL	**Nicolau / Gran**	**123.20**	**336**	*e*P		**PKPdf**		**06 16 56.5**	**-1.0**
MESJ	**Messejana**	**123.31**	**336**	*e*PP		PP		06 18 38.6	+1.5
MESJ				AMS		AMS		07 14 14.1	
	comp=Z,2μm,21.0s								
MESJ	**Messejana**	**123.31**	**336**	*e*PP		PP		06 18 38.6	+1.5
MESJ				A		A		07 14 14.1	
	comp=Z,2μm,21.0s								
PCVE	**Castro Verde**	**123.42**	**336**	*e*PKPdf		**PKPdf**		**06 16 59.2**	**+1.2**
PVAQ	**Vaqueiros**	**123.48**	**335**	*e*LQ		LQ		06 54 49.8	
PVAQ				*e*LR		LR		06 59 03.2	
	comp=Z,3μm,18.0s								
BOSA	**Boshof**	**123.65**	**245**	PKP		**PKPdf**		**06 16 58.0**	**-0.8**
BOSA	**Boshof**	**123.65**	**245**	PKP		**PKPdf**		**06 16 58.0**	**-0.8**
	comp=Z,5.1nm,0.9s,baz=324,slow=10,SNR=3.5								
JTS	**JuntasAbangare**	**123.75**	**67**	PFAKE				06 17 10.0	+11
JTS				LR	LR				
	comp=Z,1μm,20.0s								
MORF	**Marmelete**	**123.94**	**336**	*e*PKPdf		**PKPdf**		**06 17 01.2**	**+2.1**
PFVI	**Vila Bisbo**	**124.16**	**336**	*e*PKPdf		**PKPdf**		**06 16 56.7**	**-2.7**
PMSA	**Palmer Station**	**125.02**	**165**	PFAKE				06 17 10.0	+10
PMSA				LR	LR				
	comp=Z,1μm,19.0s								
BBSR	**BB Station**	**125.28**	**32**	PFAKE				06 17 10.0	+8.3
BBSR				LR	LR				
	comp=Z,2μm,19.0s								
RTC	**Rabat Centre**	**126.02**	**332**	PFAKE				06 17 10.0	+7.0
RTC				LR	LR				
	comp=Z,1μm,20.0s								
MTDJ	**Mount Denham**	**126.27**	**55**	PFAKE				06 17 10.0	+5.9
MTDJ				LR	LR				
	comp=Z,2μm,20.0s								
TAM	**Tamanrasset**	**127.10**	**313**	*e*PKIKP		**PKPdf**		**06 17 08.0**	**+2.4**
TAM				MLR	MLR				
	comp=Z,802nm,19.0s								
TAM	**Tamanrasset**	**127.10**	**313**	*e*PKPdf		**PKPdf**		**06 17 08.0**	**+2.4**
TAM				LR	LR				
	comp=Z,802nm,19.0s								
SUR	**Sutherland**	**127.18**	**240**	PFAKE				06 17 20.0	+14
SUR				LR	LR				
	comp=Z,811nm,20.0s								
GTBY	**Guantanamo Bay**	**127.19**	**51**	PFAKE				06 17 20.0	+14
GTBY				LR	LR				
	comp=Z,3μm,20.0s								
BCIP	**Isla Barro Col**	**128.79**	**66**	PFAKE				06 17 20.0	+11
BCIP				LR	LR				
	comp=Z,2μm,19.0s								
GRTK	**Grand Turk**	**129.14**	**47**	PFAKE				06 17 20.0	+11
GRTK				LR	LR				
	comp=Z,3μm,20.0s								
SDDR	**Presa de Saban**	**130.63**	**50**	PFAKE				06 17 20.0	+7.7
SDDR				LR	LR				
	comp=Z,2μm,20.0s								
TSUM	**Tsumeb**	**130.72**	**257**	PFAKE				06 17 20.0	+7.5
TSUM				LR	LR				
	comp=Z,964nm,21.0s								
OTAV	**Otavalo**	**133.50**	**76**	*e*PKPdf		**PKPdf**		**06 17 18.4**	**+0.1**
OTAV				LR	LR				
	comp=Z,2μm,21.0s								
SJG	**San Juan**	**134.89**	**46**	PFAKE				06 17 30.0	+10
SJG				LR	LR				
	comp=Z,2μm,21.0s								
ATAH	**Atahualpa**	**135.57**	**86**	PKP		**PKPdf**		**06 17 23.7**	**+1.6**
ATAH	**Atahualpa**	**135.57**	**86**	PKP		**PKPdf**		**06 17 23.7**	**+1.6**
	comp=Z,5.4nm,0.8s,baz=80,slow=6.1,SNR=3.3								
ROSC	**El Rosal**	**135.57**	**68**	PKP		**PKPdf**		**06 17 22.1**	**-0.1**
ROSC	**El Rosal**	**135.57**	**68**	PKP		**PKPdf**		**06 17 22.1**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=99,slow=12,SNR=5.6								
TORD	**Torodi Ar. Bea**	**135.88**	**306**	PKPpre		PKPpre		06 17 12.2	
TORD				PKP		**PKPdf**		**06 17 21.6**	**-0.7**
TORD				SKP				06 20 52.7	
TORD	**Torodi Ar. Bea**	**135.88**	**306**	PKhKP		PKPpre		06 17 12.2	
	comp=Z,1.9nm,1.0s,baz=31,slow=2.9,SNR=6.5								
TORD				PKP		**PKPdf**		**06 17 21.6**	**-0.7**
	comp=Z,4.4nm,0.9s,baz=29,slow=1.4,SNR=11								
TORD				SKP				06 20 52.7	
	comp=Z,7.1nm,1.2s,baz=61,slow=2.0,SNR=6.3								
SDV	**Santo Domingo**	**136.92**	**60**	*e*PKPdf		**PKPdf**		**06 17 25.5**	**+1.1**
SDV				LR	LR				
	comp=Z,357nm,20.0s								
EFI	**East Falkland**	**137.46**	**158**	PFAKE				06 17 30.0	+6.0
EFI				LR	LR				
	comp=Z,1μm,19.0s								
NNA	**Nana**	**137.91**	**93**	PFAKE				06 17 40.0	+14
NNA				LR	LR				
	comp=Z,2μm,21.0s								
PLCA	**Paso Flores**	**138.15**	**137**	PKP		**PKPdf**		**06 17 27.0**	**+1.2**
PLCA	**Paso Flores**	**138.15**	**137**	PKP		**PKPdf**		**06 17 27.0**	**+1.2**
	comp=Z,6.3nm,0.9s,baz=225,slow=4.3,SNR=6.6								
ANWB	**Willy Bob**	**138.16**	**42**	PFAKE				06 17 40.0	+14
ANWB				LR	LR				
	comp=Z,4μm,21.0s								
FDF	**Fort de France**	**140.68**	**45**	PFAKE				06 17 40.0	+9.0
FDF				LR	LR				
	comp=Z,3μm,20.0s								
GRGR	**Grenville**	**142.11**	**48**	PFAKE				06 17 40.0	+6.4
GRGR				LR	LR				
	comp=Z,3μm,21.0s								
LCO	**Las Campanas**	**142.55**	**120**	*e*PKPdf		**PKPdf**		**06 17 33.7**	**-0.6**
LCO				LR	LR				
	comp=Z,2μm,20.0s								
BBGH	**Gun Hill**	**142.89**	**45**	PFAKE				06 17 50.0	+15
BBGH				LR	LR				
	comp=Z,5μm,21.0s								
CFAA	**Coronel Fontan**	**143.75**	**125**	PKP		**PKPdf**		**06 17 36.2**	**+0.2**
CFAA	**Coronel Fontan**	**143.75**	**125**	PKP		**PKPdf**		**06 17 36.2**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=245,slow=4.2,SNR=9.4								
DBIC	**Dimbokro**	**144.88**	**304**	PKP		**PKPdf**		**06 17 38.2**	**-0.2**
DBIC	**Dimbokro**	**144.88**	**304**	PKP		**PKPdf**		**06 17 38.2**	**-0.2**
	comp=Z,211nm,0.8s,baz=35,slow=3.9,SNR=208								
TRQA	**Tornquist**	**145.18**	**139**	*e*PKPdf		**PKPbc**		**06 17 37.1**	**-0.8**
TRQA				LR	LR				
	comp=Z,2μm,19.0s								
LIC	**Lamto**	**145.28**	**303**⇑	*i*PKIKP		**PKPdf**		**06 17 39.3**	**+0.1**
	comp=Z,642nm,0.9s								
LIC	**Lamto**	**145.28**	**303**⇑	*i*PKPdf		**PKPdf**		**06 17 39.3**	**+0.1**
LVC	**Limon Verde**	**145.48**	**110**	*e*PKPdf		**PKPab**		**06 17 40.5**	**+0.6**
LPAZ	**La Paz**	**146.65**	**99**	PKPbc		**PKPbc**		**06 17 43.3**	**-0.5**
LPAZ	**La Paz**	**146.65**	**99**	PKPbc		**PKPbc**		**06 17 43.3**	**-0.5**
	comp=Z,10nm,0.6s,baz=294,slow=1.6,SNR=28								
SACV	**Santiago Islan**	**149.69**	**340**	PFAKE				06 18 00.0	+3.9
SACV				LR	LR				
	comp=Z,1μm,20.0s								
SAML	**Samuel**	**150.67**	**84**	*e*PKPdf		**PKPdf**		**06 17 48.3**	**+0.3**
SAML				*e*PKPbc		**PKPbc**		**06 17 52.8**	**-0.7**
SAML				LR	LR				
	comp=Z,2μm,19.0s								
SHEL	**Horse Pasture**	**152.95**	**262**	PFAKE				06 18 00.0	+1.3
SHEL				LR	LR				
	comp=Z,1μm,20.0s								
SIV	**San Ignacio**	**153.44**	**98**	PKP		**PKPdf**		**06 17 53.0**	**+0.9**
SIV				PKPbc		**PKPbc**		**06 17 59.7**	**0.0**
SIV	**San Ignacio**	**153.44**	**98**	PKP		**PKPdf**		**06 17 53.0**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=158,slow=4.6,SNR=4.7								
SIV				PKPbc		**PKPbc**		**06 17 59.7**	**0.0**
	comp=Z,7.8nm,0.8s,baz=259,slow=3.3,SNR=18								
CPUP	**Villa Florida**	**154.59**	**123**	PKP		**PKPdf**		**06 17 54.0**	**+0.5**
CPUP				PKPab		**PKPab**		**06 18 16.7**	**+0.2**
CPUP	**Villa Florida**	**154.59**	**123**	PKP		**PKPdf**		**06 17 54.0**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=315,slow=10.0,SNR=2.1								
CPUP				PKPab		**PKPab**		**06 18 16.7**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=274,slow=5.9,SNR=2.9								
SPB	**Sao Paulo**	**163.76**	**129**	PFAKE				06 18 10.0	+5.8
SPB				LR	LR				
	comp=Z,2μm,19.0s								
BDFB	**Brasilia**	**166.00**	**99**	PKP		**PKPdf**		**06 18 06.7**	**+0.2**
BDFB				PKPab		**PKPab**		**06 19 06.4**	**-0.2**
BDFB	**Brasilia**	**166.00**	**99**	PKP		**PKPdf**		**06 18 06.7**	**+0.2**
	comp=Z,4.6nm,1.0s,baz=26,slow=0.6,SNR=5.6								
BDFB				PKPab		**PKPab**		**06 19 06.4**	**-0.2**
	comp=Z,4.0nm,0.9s,baz=240,slow=8.1,SNR=3.3								
RCBR	**Riachuelo**	**171.74**	**16**	PFAKE				06 18 20.0	+10
RCBR				LR	LR				
	comp=Z,2μm,19.0s								

IDC 24 06:02:56.9±3.1, 7°.92N×104°.33W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.7/19, mbtmp3.5/4, Error ellipse: s-maj=128.0km s-min=26.7km az=59.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**21.31**	**2**	P	P	06 07 44.9	-0.8
	0.8nm,1.0s,baz=175,slow=12,SNR=5.5						
PDAR	**Pinedale Array**	**35.02**	**353**	P	P	06 09 52.4	+0.8
	1.2nm,1.0s,baz=184,slow=11,SNR=2.6						
LPAZ	**La Paz**	**43.15**	**124**	P	P	06 11 00.3	-0.2
	0.6nm,0.6s,baz=337,slow=7.7,SNR=2.2						
ILAR	**Eielson Array**	**64.13**	**341**	P	P	06 13 32.4	-0.5
	0.7nm,0.6s,baz=157,slow=4.8,SNR=4.3						

JMA 24 06:03:29.0±0.4, 43°.60N×148°.45E, h0km, M4.2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.98**	**264**	P	Pn	06 04 04.3	+0.5
NEM2				*e*S	Sn	06 04 30.2	+0.9
JRA	**Rausu**	**2.43**	**279**	P	Pn	06 04 11.0	+1.0
JNK	**Nakash**	**2.71**	**271**	P	Pn	06 04 14.7	+0.9
JAK	**Akkeshi**	**2.81**	**259**	P	Pn	06 04 16.3	+1.2
JAR	**Ashorobuto**	**3.42**	**267**	P	Pn	06 04 25.6	+2.0
JNBK	**Urakawa-nobuka**	**4.39**	**254**	P	Pn	06 04 38.8	+2.0
JKB	**Kayabe**	**5.72**	**255**	P	Pn	06 04 57.1	+1.9
JKB				*e*S	Sn	06 06 01.9	+0.4
JOSM	**Okushiri--Mats**	**6.77**	**260**	P	Pn	06 05 11.8	+2.2

*LJU **24** 06:09:26.6, 45°.39N×14°.49E, h20km, ML1.4*
*VIE **24** 06:09:26.4±0.6, 45°.35N×14°.45E, h8km, ML1.5/1, Error ellipse: s-maj=4.1km s-min=1.9km az=10.0 4 km E of Rijeka*

CSEM 24 06:09:27.1±0.2, 45°.37N×14°.48E, h10km, ML2.0/4, 1C-1D, Error ellipse: s-maj=3.0km s-min=2.2km az=44.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GBRS	**Gornja Briga**	**0.28**	**56**	Pg	Pg	06 09 33.0	+0.1
GBRS				*i* Sg	Sg	06 09 37.6	+0.8
	19nm,0.1s						
CEY	**Cerknica**	**0.37**	**355**	*i* Pg	Pg	06 09 34.3	-0.2
CEY				*i* Sg	Sg	06 09 40.4	+1.0
CEY							
	comp=Z,7.0nm,0.1s						
CEY	**Cerknica**	**0.37**	**355**	*i* Pg	Pg	06 09 34.3	-0.2
CEY				*i* Sg	Sg	06 09 40.4	+0.9
	comp=Z,6.0nm,0.1s						
SKDS	**Skadanscina**	**0.37**	**298**	*i* Pg	Pg	06 09 34.4	-0.1
SKDS				*i* Sg	Sg	06 09 40.5	+1.0
SKDS	**Skadanscina**	**0.37**	**298**	*i* Pg	Pg	06 09 34.4	-0.1
SKDS				*i* Sg	Sg	06 09 40.5	+1.0
VISS	**Visnje**	**0.50**	**30**	*i* Pg	Pg	06 09 36.5	-0.4
VISS				*i* Sg	Sg	06 09 43.8	+0.2
VISS	**Visnje**	**0.50**	**30**	*i* Pg	Pg	06 09 36.5	-0.4
VISS				*i* Sg	Sg	06 09 43.8	+0.2
BOJS	**Bojanci**	**0.56**	**76**	*i* Pg	Pg	06 09 37.8	-0.3
BOJS				*i* Sg	Sg	06 09 46.1	+0.6
BOJS							
	comp=Z,5.0nm,0.1s						
BOJS	**Bojanci**	**0.56**	**76**	*i* Pg	Pg	06 09 37.8	-0.2
BOJS				*i* Sg	Sg	06 09 46.1	+0.6
	comp=Z,5.0nm,0.1s						
JAVS	**Javornik**	**0.60**	**331**	*i* Pg	Pg	06 09 38.1	-0.7
JAVS				*i* Sg	Sg	06 09 47.2	+0.4
JAVS	**Javornik**	**0.60**	**331**	*i* Pg	Pg	06 09 38.1	-0.8
JAVS				*i* Sg	Sg	06 09 47.2	+0.4
CRNS	**Crni Vrh**	**0.72**	**348**	*i* Pg	Pg	06 09 41.3	+0.1
VOY	**Vojsko**	**0.78**	**328**	*e*Pg	Pg	06 09 42.5	+0.2
VOY				*e*Sg	Sg	06 09 52.9	+0.4
VOJS	**Vojsko**	**0.78**	**328**	*i* Pg	Pg	06 09 42.2	-0.1
VOJS	**Vojsko**	**0.78**	**328**	*i* Pg	Pg	06 09 42.2	-0.1
**NV

NBG	Las Nubes	1.19	187	*e*P	Pg	06 23 42.4	+0.3
NBG				*e*S	Sg	06 23 57.7	+0.2
TP2	Tecpan 2	1.27	219	*e*P	Pb	06 23 44.1	+0.4
FG6		1.38	209	*e*P	Pg	06 23 46.0	+0.3
PCG	Pacaya	1.43	196	*e*P	Pn	06 23 44.8	-1.0
RBDL	Robledal	1.72	163	*e*P	Pn	06 23 49.9	+0.1
RBDL				*e*S	Sn	06 24 11.4	-0.6
RTR	El Retiro	1.94	164	*e*P	Pn	06 23 53.1	+0.4
RTR				*e*S	Sn	06 24 15.3	-2.1
SNJE	San Jose	1.97	163	*e*P	Pn	06 23 53.5	+0.2
SNJE				*e*S	Sn	06 24 16.1	-2.3
SBLS	San Blas	2.00	164	*e*P	Pn	06 23 54.1	+0.5
SBLS				*e*S	Sn	06 24 17.3	-1.6
BOQS	Boqueron	2.21	156	*e*P	Pn	06 23 56.5	0.0
SNET	Serv Nac Est T	2.27	156	AML	AML	06 24 37.9	
	comp=Z,760nm,0.5s						
CAHU	Cacacuatique	2.76	136	*e*P	Pn	06 24 05.3	+1.2
CMIG	Matias Romero	4.69	287	Pn	Pn	06 24 29.4	-1.0
	comp=Z,0.3nm,0.3s,baz=86,slow=9.5,SNR=32						
CMIG				Sn	Sn	06 25 22.9	-2.3
	comp=Z,5.3nm,0.3s,baz=302,slow=16,SNR=11						
CMIG				Lg	Lg	06 25 45.3	
	comp=Z,4.9nm,0.3s,baz=11,slow=21,SNR=6.0						
TEIG	Tepich	4.79	22	Pn	Pn	06 24 31.5	-0.3
	comp=Z,36nm,0.3s,baz=227,slow=1.3,SNR=720						
TEIG				Sn	Sn	06 25 26.1	-1.6
	comp=Z,26nm,0.3s,baz=44,slow=21,SNR=13						
TEIG				Lg	Lg	06 25 47.3	
	comp=Z,19nm,0.3s,baz=260,slow=23,SNR=3.7						
TEIG				LR	LR	06 26 43.0	
	comp=Z,182nm,20.9s,baz=44,slow=44						
TXAR	Lajitas Array	18.34	320	P	P	06 27 34.7	+0.4
	comp=Z,0.0nm,0.3s,baz=141,slow=12,SNR=7.8						
NNA	Nana	30.58	154	LR	LR	06 40 01.1	
	comp=Z,616nm,20.5s,baz=182,slow=32						
NVAR	Mina Array Bea	33.47	318	P	P	06 30 01.0	+1.6
	comp=Z,0.8nm,0.9s,baz=125,slow=13,SNR=3.2						
YKA	Yellowknife Ar	49.74	345	P	P	06 32 12.4	+0.5
	comp=Z,0.3nm,0.6s,baz=149,slow=7.4,SNR=6.1						
DLBC	Dease Lake	51.79	335	P	P	06 32 28.2	+0.7
	comp=Z,1.9nm,0.9s,baz=129,slow=8.9,SNR=3.6						

NEIC ***24*** *06:23:51.2,38.˚73S×175.˚14E,h244km,MG4.1(WEL), After WEL.*

WEL 24 06:23:51.3±0.6,38.˚74S×175.˚14E,h244km±4km,ML4.1/16, 38C-5D,Error ellipse: s-maj=2.9km s-min=1.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIZ	Hauiti	0.31	315	PN	Pn	06 24 22.4	-0.7
HIZ				SN	S	06 24 47.1	-0.9
HIZ	Hauiti	0.31	315	Pn	Pn	06 24 22.4	-0.7
HIZ				Sn	S	06 24 47.1	-0.9
TWVZ	Taurewa	0.41	145	PN	Pn	06 24 22.8	-0.5
TWVZ	Taurewa	0.41	145	Pn	Pn	06 24 22.8	-0.5
WATZ	Wairara	0.47	87	*e*PN	Pn	06 24 23.2	-0.3
VRZ	Vera Road	0.49	217	PN	Pn	06 24 22.7	-0.7
VRZ	Vera Road	0.49	217	Pn	Pn	06 24 22.7	-0.7
VRZ				Sn	S	06 24 47.5	-1.2
KATZ	Kakaramea	0.50	119	PN	Pn	06 24 23.3	-0.4
KATZ	Kakaramea	0.50	119	Pn	Pn	06 24 23.3	-0.4
RATZ	Rangitukua	0.51	105	⇑PN	Pn	06 24 23.1	-0.4
RATZ	Rangitukua	0.51	105	Pn	Pn	06 24 23.1	-0.4
WTVZ	West Tongariro	0.52	137	PN	Pn	06 24 23.3	-0.3
WTVZ				*e*SN	S	06 24 47.4	-1.7
WTVZ	West Tongariro	0.52	137	Pn	Pn	06 24 23.4	-0.3
KRVZ	Karewarewa	0.53	133	⇓PN	Pn	06 24 23.7	0.0
KRVZ	Karewarewa	0.53	133	Pn	Pn	06 24 23.7	0.0
WPVZ	Whakapapa	0.57	146	⇑PN	Pn	06 24 23.6	-0.2
WPVZ	Whakapapa	0.57	146	Pn	Pn	06 24 23.6	-0.2
NGZ	Ngauruhoe	0.57	141	⇑PN	Pn	06 24 23.7	-0.1
NGZ	Ngauruhoe	0.57	141	Pn	Pn	06 24 23.7	-0.1
PKVZ	Pokaka	0.58	164	PN	Pn	06 24 23.5	-0.3
PKVZ	Pokaka	0.58	164	Pn	Pn	06 24 23.5	-0.3
OTVZ	Oturere	0.59	136	PN	Pn	06 24 23.9	-0.1
OTVZ	Oturere	0.59	136	Pn	Pn	06 24 23.9	-0.1
FWVZ	Far West T-bar	0.61	148	PN	Pn	06 24 23.8	-0.3
FWVZ	Far West T-bar	0.61	148	Pn	Pn	06 24 23.8	-0.3
RITZ	Rihia Road	0.61	114	PN	Pn	06 24 23.8	-0.1
RITZ	Rihia Road	0.61	114	Pn	Pn	06 24 23.8	-0.1
TRVZ	Turoa	0.65	151	⇑PN	Pn	06 24 24.1	-0.1
TRVZ	Turoa	0.65	151	Pn	Pn	06 24 24.1	-0.1
TUVZ	Tukino	0.67	143	⇑PN	Pn	06 24 24.2	-0.1
TUVZ	Tukino	0.67	143	Pn	Pn	06 24 24.2	-0.1
WNVZ	Wahianoa	0.69	149	PN	Pn	06 24 24.2	-0.2
WNVZ	Wahianoa	0.69	149	Pn	Pn	06 24 24.2	-0.2
MTVZ	Mangateitei	0.70	158	⇑PN	Pn	06 24 24.1	-0.1
MTVZ	Mangateitei	0.70	158	Pn	Pn	06 24 24.1	-0.1
HATZ	Hinemaiaia	0.76	102	PN	Pn	06 24 23.9	-0.5
HATZ	Hinemaiaia	0.76	102	Pn	Pn	06 24 23.9	-0.5
RAEZ	Rainy Point	0.80	226	PN	Pn	06 24 24.4	-0.2
RAEZ	Rainy Point	0.80	226	Pn	Pn	06 24 24.4	-0.2
MOVZ	Moawhango	0.83	145	⇑PN	Pn	06 24 24.4	-0.5
MOVZ	Moawhango	0.83	145	Pn	Pn	06 24 24.4	-0.5
DREZ	Durham Road	0.86	238	PN	Pn	06 24 24.7	-0.2
DREZ	Durham Road	0.86	238	Pn	Pn	06 24 24.7	-0.2
ALRZ	Allen Road	0.96	80	⇑PN	Pn	06 24 24.9	-0.6
ALRZ	Allen Road	0.96	80	Pn	Pn	06 24 24.9	-0.6
ALRZ				Sn	S	06 24 26.0	-26
DFE	Dawson Falls	1.00	233	PN	Pn	06 24 25.7	0.0
DFE	Dawson Falls	1.00	233	Pn	Pn	06 24 25.7	0.0
PKE	Pukeiti	1.01	242	PN	Pn	06 24 25.5	-0.2
PKE	Pukeiti	1.01	242	Pn	Pn	06 24 25.5	-0.2
WAZ	Wanganui	1.03	187	⇑PN	Pn	06 24 25.9	+0.1
WAZ	Wanganui	1.03	187	Pn	Pn	06 24 25.9	+0.1
BHHZ	Black Hill Sta	1.04	137	⇑PN	Pn	06 24 25.6	-0.4
BHHZ	Black Hill Sta	1.04	137	Pn	Pn	06 24 25.6	-0.4
NRZ	Ngariki Road	1.11	237	PN	Pn	06 24 26.2	0.0
NRZ	Ngariki Road	1.11	237	Pn	Pn	06 24 26.2	0.0
NWEZ	Newall Road	1.13	241	PN	Pn	06 24 26.4	+0.1
NWEZ	Newall Road	1.13	241	Pn	Pn	06 24 26.4	+0.1
BKZ	Black Stump Fm	1.14	113	⇑PN	Pn	06 24 26.1	-0.4
BKZ	Black Stump Fm	1.14	113	Pn	Pn	06 24 26.1	-0.4
NMHZ	Naumai	1.35	106	⇑PN	Pn	06 24 28.4	+0.4
NMHZ	Naumai	1.35	106	Pn	Pn	06 24 28.4	+0.4
MCHZ	McNeill Hill	1.41	121	⇑PN	Pn	06 24 28.9	+0.6
MCHZ	McNeill Hill	1.41	121	Pn	Pn	06 24 28.9	+0.6
PNHZ	Pukenui	1.44	145	⇑PN	Pn	06 24 28.5	-0.1
PNHZ	Pukenui	1.44	145	Pn	Pn	06 24 28.5	-0.1
TSZ	Takapari Road	1.47	155	⇑PN	Pn	06 24 28.7	-0.1
TSZ	Takapari Road	1.47	155	Pn	Pn	06 24 28.7	-0.1
RAHZ	Arahi	1.53	97	PN	Pn	06 24 29.5	+0.2
RAHZ	Arahi	1.53	97	Pn	Pn	06 24 29.5	+0.2
URZ	Urewera	1.62	74	⇓PN	Pn	06 24 28.6	-1.4
URZ				SN	S	06 24 56.0	-4.3
URZ	Urewera	1.62	74	Pn	Pn	06 24 28.6	-1.4
WPHZ	Waipukurau	1.67	143	PN	Pn	06 24 30.3	0.0
WPHZ	Waipukurau	1.67	143	Pn	Pn	06 24 30.3	0.0
KAHZ	Kahuranaki	1.72	129	⇑PN	Pn	06 24 31.0	+0.2
KAHZ	Kahuranaki	1.72	129	Pn	Pn	06 24 31.0	+0.2
POWZ	Post Office Ro	1.73	164	⇑PN	Pn	06 24 30.4	-0.4
POWZ	Post Office Ro	1.73	164	Pn	Pn	06 24 30.4	-0.4
DVHZ	Dannevirke	1.75	153	⇑PN	Pn	06 24 30.6	-0.4
DVHZ	Dannevirke	1.75	153	Pn	Pn	06 24 30.6	-0.4
CKHZ	Cape Kidnapper	1.77	122	PN	Pn	06 24 31.6	+0.5
CKHZ	Cape Kidnapper	1.77	122	Pn	Pn	06 24 31.6	+0.5
PXZ	Pawanui	1.86	135	⇑PN	Pn	06 24 31.8	-0.1
PXZ	Pawanui	1.86	135	Pn	Pn	06 24 31.8	-0.1
MWZ	Matawai	1.92	79	⇓PN	Pn	06 24 31.5	-1.0
MWZ				SN	S	06 25 00.7	-4.3
MWZ	Matawai	1.92	79	Pn	Pn	06 24 31.5	-1.0
PRHZ	Porangahau	1.92	143	⇑PN	Pn	06 24 32.3	-0.1
PRHZ	Porangahau	1.92	143	Pn	Pn	06 24 32.3	-0.1
MRZ	Mangatainoka R	1.96	170	⇑PN	Pn	06 24 32.1	-0.7
MRZ	Mangatainoka R	1.96	170	Pn	Pn	06 24 32.1	-0.7
KNZ	Kokohu	2.00	99	⇓PN	Pn	06 24 32.9	-0.3
KNZ	Kokohu	2.00	99	Pn	Pn	06 24 32.9	-0.3
OGWZ	Otaki Gorge	2.08	179	⇑PN	Pn	06 24 33.5	-0.4
OGWZ	Otaki Gorge	2.08	179	Pn	Pn	06 24 33.5	-0.4
TIWZ	Tintock	2.12	164	PN	Pn	06 24 33.6	-0.7
TIWZ	Tintock	2.12	164	Pn	Pn	06 24 33.6	-0.7
BFZ	Birch Farm	2.12	157	PN	Pn	06 24 33.7	-0.7
BFZ	Birch Farm	2.12	157	Pn	Pn	06 24 33.7	-0.7
KIW	Kapiti Island	2.13	185	⇑PN	Pn	06 24 33.6	-0.8
KIW	Kapiti Island	2.13	185	Pn	Pn	06 24 33.6	-0.8
PRGZ	Paritu Road	2.15	96	PN	Pn	06 24 34.3	-0.4
PRGZ	Paritu Road	2.15	96	Pn	Pn	06 24 34.3	-0.4
HOWZ	Holdsworth Sta	2.18	172	⇑PN	Pn	06 24 34.0	-0.9
HOWZ	Holdsworth Sta	2.18	172	Pn	Pn	06 24 34.0	-0.9
MHGZ	Mahia Peninsul	2.20	102	PN	Pn	06 24 35.0	-0.1
MHGZ	Mahia Peninsul	2.20	102	Pn	Pn	06 24 35.0	-0.1
DUWZ	D'Urville Isla	2.27	204	⇑PN	Pn	06 24 34.7	-1.0
DUWZ	D'Urville Isla	2.27	204	Pn	Pn	06 24 34.8	-1.0
CAW	Cannon Point	2.37	181	⇑PN	Pn	06 24 35.9	-0.9
CAW	Cannon Point	2.37	181	Pn	Pn	06 24 35.9	-0.9
CNGZ	Carnagh Statio	2.42	85	⇑PN	Pn	06 24 37.2	0.0
CNGZ	Carnagh Statio	2.42	85	Pn	Pn	06 24 37.2	0.0
MTW	Mount Morrison	2.44	174	⇑PN	Pn	06 24 36.3	-1.1
MTW	Mount Morrison	2.44	174	Pn	Pn	06 24 36.3	-1.1
TMWZ	Te Maipa	2.44	167	⇑PN	Pn	06 24 36.5	-1.0
TMWZ	Te Maipa	2.44	167	Pn	Pn	06 24 36.5	-1.0
TCW	Tory Channel	2.56	195	⇑PN	Pn	06 24 37.8	-0.8
TCW	Tory Channel	2.56	195	Pn	Pn	06 24 37.8	-0.8
WEL	Wellington	2.56	186	PN	Pn	06 24 37.5	-1.1
WEL	Wellington	2.56	186	Pn	Pn	06 24 37.5	-1.1
SNZO	South Karori	2.59	187	⇑PN	Pn	06 24 37.7	-1.2
SNZO	South Karori	2.59	187	Pn	Pn	06 24 37.7	-1.2
PAWZ	Paruwai Farm	2.65	175	⇑PN	Pn	06 24 38.5	-1.1
PAWZ	Paruwai Farm	2.65	175	Pn	Pn	06 24 38.5	-1.1
BHW	Baring Head	2.68	184	⇑PN	Pn	06 24 38.6	-1.2
BHW	Baring Head	2.68	184	Pn	Pn	06 24 38.6	-1.2
MSWZ	Moikau Station	2.68	178	⇑PN	Pn	06 24 38.7	-1.2
MSWZ	Moikau Station	2.68	178	Pn	Pn	06 24 38.7	-1.2
TRWZ	Traveller	2.69	171	PN	Pn	06 24 39.0	-1.1
TRWZ	Traveller	2.69	171	Pn	Pn	06 24 39.0	-1.1
MXZ	Matakaoa Point	2.76	66	PN	Pn	06 24 39.4	-1.4
MXZ	Matakaoa Point	2.76	66	Pn	Pn	06 24 39.4	-1.4
NNZ	Nelson	2.83	208	⇑PN	Pn	06 24 39.8	-1.5
NNZ	Nelson	2.83	208	Pn	Pn	06 24 39.9	-1.5
PLWZ	Palliser	2.83	178	⇑PN	Pn	06 24 40.2	-1.4
PLWZ	Palliser	2.83	178	Pn	Pn	06 24 40.2	-1.4
TUWZ	Tuamarina	2.84	198	PN	Pn	06 24 40.5	-1.1
TUWZ	Tuamarina	2.84	198	Pn	Pn	06 24 40.5	-1.1
QRZ	Quartz Range	2.90	223	PN	Pn	06 24 40.0	-2.2
QRZ	Quartz Range	2.90	223	Pn	Pn	06 24 40.0	-2.2
BSWZ	Blackbirch Sta	3.13	198	PN	Pn	06 24 43.7	-1.0
BSWZ	Blackbirch Sta	3.13	198	Pn	Pn	06 24 43.7	-1.0
THZ	Tophouse	3.48	209	⇑PN	Pn	06 24 46.6	-2.1
THZ	Tophouse	3.48	209	Pn	Pn	06 24 46.6	-2.1
KHZ	Kahutara	3.88	198	PN	Pn	06 24 51.6	-1.6
KHZ	Kahutara	3.88	198	Pn	Pn	06 24 51.6	-1.6
DSZ	Denniston Nort	3.94	219	⇑PN	Pn	06 24 51.4	-2.8
DSZ	Denniston Nort	3.94	219	Pn	Pn	06 24 51.4	-2.8
LTZ	Lake Taylor	4.59	207	PN	Pn	06 24 59.5	-2.4
LTZ	Lake Taylor	4.59	207	Pn	Pn	06 24 59.5	-2.4
CRLZ	Canterbury Las	5.20	201	PN	Pn	06 25 06.1	-3.0
CRLZ	Canterbury Las	5.20	201	Pn	Pn	06 25 06.1	-3.0
MQZ	McQueen's Vall	5.31	200	PN	Pn	06 25 07.2	-3.3
MQZ	McQueen's Vall	5.31	200	Pn	Pn	06 25 07.2	-3.3
WVZ	Waitaha Valley	5.47	216	PN	Pn	06 25 08.9	-3.6
WVZ	Waitaha Valley	5.47	216	Pn	Pn	06 25 08.9	-3.6
RPZ	Rata Peaks	5.85	210	⇓PN	Pn	06 25 14.0	-3.3
RPZ	Rata Peaks	5.85	210	Pn	Pn	06 25 14.1	-3.3
FOZ	Fox Glacier	6.34	219	Pn	Pn	06 25 18.4	-4.9
LBZ	Lake Benmore	6.76	212	PN	Pn	06 25 25.2	-3.5
LBZ	Lake Benmore	6.76	212	Pn	Pn	06 25 25.2	-3.5
ODZ	Otahua Downs	7.14	207	PN	Pn	06 25 31.5	-2.0
ODZ	Otahua Downs	7.14	207	Pn	Pn	06 25 31.5	-2.0
WKZ	Wanaka	7.61	215	PN	Pn	06 25 35.8	-3.7
WKZ	Wanaka	7.61	215	Pn	Pn	06 25 35.8	-3.7

IDC 24 06:42:08.7±2.1,7.˚92N×104.˚40W,h0km,mb3.7/7, mb1 4.1/7,mb1mx4.0/19,mbtmp3.8/7,Error ellipse: s-maj=84.4km s-min=25.2km az=59.0,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	21.31	2	P	P	06 46 56.6	-0.8
	2.1nm,0.9s,baz=186,slow=12,SNR=12						
NVAR	Mina Array Bea	32.87	340	P	P	06 48 46.5	+1.9
	0.6nm,0.7s,baz=174,slow=9.0,SNR=3.3						
PDAR	Pinedale Array	35.00	353	P	P	06 49 02.8	-0.4
	1.3nm,1.1s,baz=160,slow=9.1,SNR=5.6						
ULM	Lac du Bonnet	42.79	8	P	P	06 50 09.2	+1.1
	2.1nm,0.9s,baz=181,slow=6.7,SNR=4.4						
LPAZ	La Paz	43.21	124	P	P	06 50 12.7	0.0
	1.2nm,0.8s,baz=288,slow=4.7,SNR=6.5						
YKA	Yellowknife Ar	54.98	354	P	P	06 51 39.9	-1.5
	0.4nm,0.6s,baz=164,slow=7.6,SNR=5.0						
YKA				PcP	PcP	06 52 42.4	-0.8
	0.3nm,0.6s,baz=164,slow=3.3,SNR=5.3						
ILAR	Eielson Array	64.10	341	P	P	06 52 44.0	-0.4
	2.4nm,0.6s,baz=150,slow=4.7,SNR=60						

ISCJB ***24*** *06:46:06.6±0.6,8.˚11N±0.˚07×103.˚88W±0.˚08,h10km, mb4.3/41,MS4.5/2,Error ellipse: s-maj=13.8km s-min=7.1km az=138.0*

IDC ***24*** *06:46:07.3±1.2,8.˚34N×103.˚61W,h0km,mb3.9/11, mb1 4.2/12,mb1mx4.1/23,mbtmp4.0/12,ML3.8/1,MS4.6/1, Ms1 4.7/1,ms1mx3.3/27,Error ellipse: s-maj=48.1km s-min=16.2km az=58.0*

NEIC ***24*** *06:46:08.8±0.8,8.˚19N×103.˚77W,h10km,mb4.4/30,Error ellipse: s-maj=24.6km s-min=9.3km az=54.0*

BJI ***24*** *06:46:09.0,8.˚20N×103.˚80W,h10km,Ms5.0/1,Ms7 4.4/1*

ISC 24 06:46:07.7±0.8,8.˚1N±0.˚1×104.˚0W±0.˚1,h10km,n286, σ1902/294,mb4.4/41,97C-123D,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	12.60	44	Pn	Pn	06 48 59.9	-7.3
CMIG	Matias Romero	12.60	44	Pn	Pn	06 48 59.9	-7.3
	0.5nm,0.3s,baz=288,slow=2.2,SNR=8.2						
JTS	JuntasAbangare	18.93	82	*e*P	Pn	06 50 30.4	+0.8
	37nm,1.4s						
TXAR	Lajitas Array	21.12	1	P	P	06 50 52.7	-0.2
TXAR	Lajitas Array	21.12	1	P	P	06 50 52.7	-0.2
	3.8nm,0.9s,baz=181,slow=12,SNR=23						
627A	Terlingua Ranc	21.24	1	⇑P	P	06 50 54.9	+0.7
	baz=21						
628A	Black Gap, Mar	21.30	3	⇓P	P	06 50 55.2	+0.5
	baz=21						
626A	Big Bend Ranch	21.34	360	⇑P	P	06 50 56.3	+1.1
	baz=21,SNR=5.8						
526A	May Lane Ranc	21.84	360	⇓P	P	06 51 01.3	+0.7
	baz=22						
527A	Woodward Ranch	21.93	1	⇓P	P	06 51 02.6	+1.0
	baz=22,SNR=14						
529A	Stev Forest Ra	21.97	4	⇓P	P	06 51 02.7	+0.8
	baz=22,SNR=13						
528A	Cox Ranch, San	21.97	3	⇑P	P	06 51 02.7	+0.7
	baz=22						
531A	Rocksprings	22.18	8	⇓P	P	06 51 04.9	+0.6
	baz=22,SNR=5.3						
426A	McDonald Obser	22.45	360	⇓P	P	06 51 07.7	+0.4
	baz=22						
429A	Davenport Ranc	22.49	5	⇓P	P	06 51 08.4	+0.9
	baz=22						
428A	Kincaid Ranch,	22.54	3	⇓P	P	06 51 09.3	+1.2
	baz=23						
425A	Indio Mountain	22.58	358	⇓P	P	06 51 09.3	+0.7
	baz=23						
JCT	Junction City	22.60	9	*e*P	P	06 51 08.6	-0.1
	16nm,1.1s						
JCT	Junction City	22.60	9	⇓P	P	06 51 09.0	+0.3
	baz=23,SNR=7.3						
427A	Hayter Ranch,	22.64	1	⇓P	P	06 51 10.0	+0.9
	baz=23						
431A	Sonora	22.68	8	⇓P	P	06 51 10.0	+0.4
	baz=23,SNR=5.8						
430A	Baggett Ranch,	22.71	6	⇑P	P	06 51 10.1	+0.2
	baz=23						
HKT	Hockley	23.04	18	*e*P	P	06 51 13.5	+0.3
	88nm,2.3s						
325A	Bean Ranch, Si	23.17	358	⇓P	P	06 51 14.9	+0.2
	baz=23						
328A	Wristen Ranch,	23.18	3	⇑P	P	06 51 14.9	+0.1
	baz=23						
324A	Moseley Ranch,	23.26	357	⇓P	P	06 51 15.8	+0.2
	baz=23						
320A	Kipp Ranch, An	23.50	350	⇓P	P	06 51 18.3	+0.3
	baz=24						
MNTX	Cornudas Mount	23.51	357	⇓P	P	06 51 17.9	-0.1
	baz=24,SNR=13						
319A	Douglas	23.67	349	⇑P	P	06 51 20.0	+0.3
	baz=24						
224A	Cornudas Mount	23.89	357	⇓P	P	06 51 21.9	0.0
	baz=24						
225A	Deer Hill, Car	23.90	358	⇓P	P	06 51 21.7	-0.2
	baz=24						
GDL2	Guadalupe Moun	23.98	359	*e*P	P	06 51 21.6	-1.0
220A	Playas Peak, P	24.05	351	⇓P	P	06 51 23.4	0.0
	baz=24						
126A	Clayton Basin,	24.42	360	⇓P	P	06 51 26.6	-0.1
	baz=24						
128A	Castleberry Fa	24.43	3	⇓P	P	06 51 27.2	+0.4
	baz=24						
125A	Gardner Draw,	24.44	359	⇑P	P	06 51 26.8	-0.1
	baz=24						
127A	Arkansas Junct	24.46	1	⇑P	P	06 51 26.7	-0.3
	baz=24						
WHTX	Lake Whitney	24.53	13	⇑P	P	06 51 27.4	-0.2
	baz=24						
121A	Cookes Peak, D	24.56	352	⇓P	P	06 51 28.8	+0.8
	baz=25						
120A	U Bar Ranch, L	24.70	351	⇓P	P	06 51 30.2	+0.9
	baz=25						
ABTX	Abilene, Hawle	24.73	9	⇓P	P	06 51 29.4	0.0
	baz=25						
TUC	Tucson	24.90	346	*e*P	P	06 51 32.4	+1.4
	9.2nm,1.3s						
Z26A	Caprock	25.04	0	⇓P	P	06 51 32.1	-0.2
	baz=25,SNR=6.5						
Z25A	Roswell	25.06	359	⇑P	P	06 51 32.7	+0.2
	baz=25						
Z27A	Tatum	25.10	2	⇑P	P	06 51 33.2	+0.3
	baz=25						
Z28A	Tucker Farm, M	25.10	3	⇓P	P	06 51 32.4	-0.4
	baz=25,SNR=5.2						
Z23A	Rita Site, Whi	25.12	356	⇓P	P	06 51 33.4	+0.3
	baz=25						
Z29A	Hungry Hill Ra	25.12	5	⇓P	P	06 51 32.9	-0.1
	baz=25						
Z24A	Sheeppen Canyo	25.13	357	⇓P	P	06 51 33.4	+0.2
	baz=25						
Z22A	Elephant Butte	25.18	354	⇓P	P	06 51 34.2	+0.6
	baz=25						
Z20A	Nine Sixteen R	25.25	351	⇓P	P	06 51 34.8	+0.5
	baz=25						
Z21A	St. Cloud Mine	25.31	353	⇑P	P	06 51 35.2	+0.3
	baz=25						
Y27A	Causey	25.66	2	⇑P	P	06 51 38.6	+0.6
	baz=26,SNR=7.9						
Y25A	Mesa, Roswell	25.70	359	⇓P	P	06 51 38.5	+0.2
	baz=26						
Y29A	Porterfield Fa	25.72	4	⇓P	P	06 51 39.0	+0.5
	baz=26,SNR=6.2						
Y24A	Capitan	25.73	357	⇓P	P	06 51 38.7	+0.1
	baz=26						
Y28A	McKinney Farm,	25.73	3	⇓P	P	06 51 38.4	-0.2
	baz=26						
MSTX	Muleshoe	25.76	2	⇓P	P	06 51 38.6	-0.3
	baz=26						
Y23A	Lovelace Mesa,	25.77	356	⇑P	P	06 51 39.9	+0.8
	baz=26,SNR=7.2						
Y22A	Socorro	25.85	354	⇓P	P	06 51 39.9	+0.2
	baz=26						
Y21A	Point of Rocks	26.00	353	⇑P	P	06 51 41.8	+0.6
	baz=26						
LPM	Los Pinos Moun	26.19	355	*e*P	P	06 51 44.6	+1.8
X29A	Tulia	26.30	4	⇑P	P	06 51 43.6	-0.1
	baz=26						
LAZ	Ladron	26.33	354	*e*P	P	06 51 44.9	+0.8
X28A	Dimmitt	26.34	3	⇓P	P	06 51 44.2	+0.1
	baz=26						
X24A	Lazy VL Ranch,	26.37	357	⇓P	P	06 51 44.5	0.0
	baz=26						
X21A	Alamocita Cree	26.45	353	⇑P	P	06 51 46.0	+0.8
	baz=26						
OTAV	Otav

R26A	Arlington	30.07	1	⇓P	P	06 52 17.3	0.0	
	baz=30							
R27A	Eads	30.07	2	⇑P	P	06 52 17.7	+0.3	
	baz=30							
R22A	Saguache, Gunn	30.09	356	⇓P	P	06 52 18.6	+0.8	
	baz=30							
R20A	Redvale	30.21	353	⇑P	P	06 52 19.4	+0.6	
	baz=30							
S16A	Weppner Ranch,	30.28	348	⇓P	P	06 52 20.1	+0.8	
	baz=30							
R21A	Cimarron	30.30	354	⇑P	P	06 52 20.1	+0.5	
	baz=30							
MPMC	Manual Prospec	30.43	338	⇑P	P	06 52 22.2	+1.5	
	baz=30							
ISA	Isabella	30.46	336	⇓P	P	06 52 22.4	+1.6	
	baz=31							
PV10	Paradox Valley	30.48	352	eP	P	06 52 21.6	+0.4	
	116nm,1.0s							
FURC	Furnace Creek,	30.57	339	⇑P	P	06 52 23.1	+1.4	
	baz=31							
R18A	Canyonlands Na	30.61	351	⇑P	P	06 52 23.5	+1.2	
	baz=31,SNR=5.7							
Q25A	Bedland, Calha	30.68	360	⇑P	P	06 52 23.5	+0.7	
	baz=31							
Q26A	Hugo	30.69	1	⇑P	P	06 52 23.4	+0.6	
	baz=31							
Q22A	Crested Butte,	30.73	356	⇓P	P	06 52 24.2	+0.7	
	baz=31,SNR=8.2							
Q21A	Lamborn Mesa,	30.76	355	⇑P	P	06 52 24.3	+0.7	
	baz=31							
SMCO	Snowmass	31.05	356	eP	P	06 52 28.1	+1.8	
	25nm,2.0s							
Q19A	Hogan Spring (	31.08	352	⇑P	P	06 52 27.3	+1.0	
	baz=31							
P23A	Jefferson	31.18	357	⇑P	P	06 52 28.0	+0.6	
	baz=31							
R13A	O'Grain Ranch,	31.27	345	⇓P	P	06 52 29.6	+1.5	
	baz=31							
P21A	Newcastle	31.44	355	⇓P	P	06 52 30.5	+0.9	
	baz=32,SNR=6.2							
P22A	Eagle	31.45	356	⇓P	P	06 52 30.5	+0.8	
	baz=32							
P20A	De Beque	31.51	353	⇑P	P	06 52 31.2	+1.0	
	baz=32							
ISCO	Idaho Springs	31.59	358	⇑P	P	06 52 31.5	+0.5	
	baz=32							
P19A	Cripple Cowboy	31.71	353	⇑P	P	06 52 32.9	+0.9	
	baz=32							
P18A	Preston Nutter	31.88	351	⇓P	P	06 52 34.6	+1.0	
	baz=32							
O22A	Kremmling	32.00	356	⇓P	P	06 52 35.3	+0.7	
	baz=32,SNR=6.6							
O26A	Horse Wrangler	32.01	1	⇓P	P	06 52 35.3	+0.8	
	baz=32							
O23A	Lake Granby, G	32.02	357	⇓P	P	06 52 35.3	+0.5	
	baz=32							
O20A	White River Ci	32.12	354	⇓P	P	06 52 37.3	+1.7	
	baz=32							
O19A	Miners Draw (B	32.38	353	⇓P	P	06 52 39.4	+1.6	
	baz=32							
N22A	Wattenberg Ran	32.63	357	⇓P	P	06 52 40.7	+0.6	
	baz=33							
N21A	Black Mountain	32.67	355	⇑P	P	06 52 41.3	+0.9	
	baz=33							
N23A	Red Feather La	32.70	357	⇓P	P	06 52 41.4	+0.7	
	baz=33							
N20A	Spence Gulch,	32.81	354	⇓P	P	06 52 42.6	+1.0	
	baz=33							
NVAR	Mina Array Bea	32.83	339	P	P	06 52 44.1	+2.3	
NVAR	Mina Array Bea	32.83	339	P	P	06 52 44.1	+2.3	
	0.8nm,0.7s,baz=161,slow=9.4,SNR=4.3							
DUG	Dugway	32.91	348	⇓P	P	06 52 43.5	+1.1	
	baz=33							
N19A	John Jarvie Ra	32.98	353	⇑P	P	06 52 44.2	+1.2	
	baz=33							
SDV	Santo Domingo	33.00	86	eP	P	06 52 43.4	-0.2	
	9.5nm,1.0s							
N18A	Larsen Ranch,	33.12	352	⇑P	P	06 52 45.0	+0.7	
	baz=33							
M23A	Laramie	33.26	358	⇑P	P	06 52 46.1	+0.6	
	baz=33							
M16A	Huntsville	33.76	350	⇓P	P	06 52 51.1	+1.2	
	baz=34							
L21A	Rawlins	33.85	355	⇑P	P	06 52 51.0	+0.3	
	baz=34							
M15A	Larsen Ranch,	34.05	349	⇓P	P	06 52 53.1	+0.7	
	baz=34							
L18A	Fontenelle, Gr	34.10	352	⇑P	P	06 52 53.4	+0.5	
	baz=34							
L19A	Farson	34.19	353	⇑P	P	06 52 54.0	+0.4	
	baz=34							
K21A	Alcova	34.51	356	⇓P	P	06 52 57.5	+1.2	
	baz=35							
K23A	Bowen Ranch, D	34.54	358	⇓P	P	06 52 57.2	+0.7	
	baz=35							
L15A	Malad City	34.57	349	⇓P	P	06 52 57.7	+0.9	
	baz=35							
K20A	Yellowstone Ra	34.63	354	⇓P	P	06 52 57.7	+0.4	
	baz=35							
L14A	Malta	34.77	348	⇑P	P	06 52 59.4	+0.8	
	baz=35							
K18A	Toltan Ranch,	34.80	352	⇑P	P	06 52 59.7	+0.8	
	baz=35							
K19A	Absolon Red Bu	34.84	354	⇓P	P	06 52 59.7	+0.5	
	baz=35							
BW06	Boulder Array	34.87	353	eP	P	06 53 00.0	+0.5	
	5.1nm,1.0s							
BW06	Boulder Array	34.87	353	⇓P	P	06 53 00.4	+0.8	
	baz=35,SNR=7.0							
PDAR	Pinedale Array	34.87	353	P	P	06 53 00.0	+0.5	
PDAR	Pinedale Array	34.87	353	P	P	06 53 00.0	+0.5	
	4.1nm,0.9s,baz=166,slow=8.2,SNR=20							
HDIL	Hopedale	34.87	20	eP	P	06 52 58.1	-1.2	
	28nm,0.8s							
J21A	Lysite	35.23	356	⇓P	P	06 53 03.3	+0.7	
	baz=35							
K14A	Jones Ranch, D	35.24	348	⇓P	P	06 53 03.2	+0.6	
	baz=35							
J20A	Shoshoni	35.29	355	⇓P	P	06 53 03.8	+0.8	
	baz=35							
J19A	Crowheart	35.30	354	⇓P	P	06 53 03.8	+0.6	
	baz=35							
J18A	Kendall Valley	35.36	352	⇓P	P	06 53 04.4	+0.6	
	baz=35							
SFIN	Scholer Farm	35.50	22	⇑P	P	06 53 03.9	-0.8	
	baz=36							
J17A	Brown Place, J	35.61	352	⇑P	P	06 53 06.4	+0.5	
	baz=36							
I21A	Big Trails, Te	35.68	356	⇑P	P	06 53 06.7	+0.2	
	baz=36							
RRI2	Red Ridge	35.69	351	eP	P	06 53 07.0	+0.4	
	5.8nm,1.0s							
I22A	9 Mile Ranch,	35.71	357	⇓P	P	06 53 07.0	+0.3	
	baz=36							
I18A	Diamond G Ranc	35.82	353	⇑P	P	06 53 08.1	+0.3	
	baz=36							
LOHW	Long Hollow	35.84	352	eP	P	06 53 08.9	+1.1	
	4.7nm,1.0s							
I20A	Worland	35.89	355	⇓P	P	06 53 08.7	+0.5	
	baz=36							
J15A	Blackfoot	35.92	350	⇑P	P	06 53 09.3	+0.8	
	baz=36							
I19A	Meeteetse	36.06	354	⇓P	P	06 53 10.7	+1.0	
	baz=36							
I17A	Pilgrim Ck.	36.13	352	⇑P	P	06 53 11.3	+0.9	
	baz=36							
FLWY	Flagg Ranch	36.31	352	eP	P	06 53 13.1	+1.2	
	6.2nm,1.0s							
H22A	Clearmont	36.41	357	⇓P	P	06 53 12.6	0.0	
	baz=36							
HLID	Hailey	36.48	347	eP	P	06 53 14.8	+1.6	
	2.9nm,1.0s							
HLID	Hailey	36.48	347	⇑P	P	06 53 13.7	+0.4	
	baz=37							
H19A	Powell	36.68	354	⇓P	P	06 53 15.3	+0.3	
	baz=37							
I12A	Atlanta	36.86	347	⇓P	P	06 53 17.0	+0.4	
	baz=37							
H16A	Russell Place,	37.00	351	⇑P	P	06 53 18.5	+0.8	
	baz=37							
G22A	Birney	37.03	357	⇑P	P	06 53 18.3	+0.5	
	baz=37							
RLMT	Red Lodge	37.16	354	⇓P	P	06 53 19.7	+0.6	
	baz=37							
H14A	Leadore	37.27	349	⇑P	P	06 53 21.0	+1.0	
	baz=37							
YBH	Yreka Blue Hor	37.36	337	P	P	06 53 22.2	+1.5	
YBH	Yreka Blue Hor	37.36	337	P	P	06 53 22.2	+1.5	
	2.8nm,0.8s,baz=124,slow=7.3,SNR=3.8							
H13A	Challis	37.40	348	⇑P	P	06 53 22.0	+0.9	
	baz=38							
G17A	Pierce Place,	37.53	352	⇓P	P	06 53 23.0	+0.8	
	baz=38							
G16A	Moss Hill, Enn	37.60	351	⇑P	P	06 53 23.1	+0.3	
	baz=38							
F24A	Ekalaka	37.60	359	⇑P	P	06 53 22.8	+0.1	
	baz=38							
G15A	Dillon	37.65	350	⇓P	P	06 53 23.7	+0.5	
	baz=38							
F19A	Roth Farm, Mol	37.85	354	⇓P	P	06 53 25.1	+0.3	
	baz=38							
G13A	Cobalt	37.90	348	⇑P	P	06 53 26.4	+1.1	
	baz=38,SNR=11							
F18A	Big Timber	37.98	354	⇑P	P	06 53 26.0	+0.1	
	baz=38							
F17A	Fitzpatrick Pl	38.10	352	⇓P	P	06 53 27.1	+0.2	
	baz=38							
E22A	Miles City	38.23	358	⇑P	P	06 53 27.6	-0.3	
	baz=38							
LRM	Limekiln Ridge	38.28	350	eP	P	06 53 30.8	+2.2	
	30nm,0.9s							
F15A	Butte	38.30	350	⇓P	P	06 53 28.9	+0.2	
	baz=38							
E20A	Meyer Farm, Mu	38.42	355	⇑P	P	06 53 29.8	+0.2	
	baz=38,SNR=5.8							
E19A	Rath Farm, Rou	38.44	355	⇓P	P	06 53 29.8	+0.1	
	baz=38,SNR=7.5							
F13A	Darby	38.59	348	⇑P	P	06 53 31.4	+0.3	
	baz=39							
E18A	Harlowton	38.66	353	⇑P	P	06 53 31.8	+0.2	
	baz=39							
E17A	Martinsdale	38.67	352	⇓P	P	06 53 32.0	+0.2	
	baz=39							
F12A	Elk City	38.75	347	⇑P	P	06 53 32.8	+0.4	
	baz=39							
E15A	Deer Lodge	38.90	350	⇑P	P	06 53 33.5	-0.1	
	baz=39							
D22A	Cohagen	38.95	358	⇓P	P	06 53 33.3	-0.7	
	baz=39							
E14A	Clinton	39.03	350	⇓P	P	06 53 34.7	-0.1	
	baz=39							
D19A	Cripps Ranch,	39.14	355	⇑P	P	06 53 36.0	+0.3	
	baz=39,SNR=6.2							
E13A	Victor	39.19	349	⇑P	P	06 53 36.3	+0.2	
	baz=39							
C24A	Savage	39.29	360	⇑P	P	06 53 37.0	+0.2	
	baz=39							
D17A	Six Diamond Ra	39.33	353	⇑P	P	06 53 36.9	-0.3	
	baz=39							
D15A	Lincoln	39.48	351	⇑P	P	06 53 38.6	+0.1	
	baz=40							
MSO	Missoula	39.51	349	⇑P	P	06 53 39.2	+0.5	
	baz=40							
C22A	Vida	39.53	358	⇑P	P	06 53 38.8	-0.1	
	baz=40							
C23A	Lambert	39.57	359	⇑P	P	06 53 38.8	-0.3	
	baz=40,SNR=6.6							
C20A	Veseth Ranch,	39.62	356	⇓P	P	06 53 39.5	0.0	
	baz=40							
D14A	Greenough	39.68	350	⇑P	P	06 53 40.6	+0.4	
	baz=40							
C19A	Slack Wire Ran	39.72	355	⇓P	P	06 53 40.6	+0.1	
	baz=40							
C17A	Wharram Farm,	39.81	353	⇓P	P	06 53 41.7	+0.5	
	baz=40,SNR=6.9							
EGMT	Eagleton	40.08	354	eP	P	06 53 42.5	-0.9	
	9.9nm,1.3s							
EGMT	Eagleton	40.08	354	⇑P	P	06 53 43.4	0.0	
	baz=40							
DGMT	Dagmar	40.23	360	eP	P	06 53 44.5	-0.1	
	12nm,1.0s							
DGMT	Dagmar	40.23	360	⇓P	P	06 53 44.5	-0.1	
	baz=40							
B23A	Brockton	40.23	359	⇑P	P	06 53 44.3	-0.4	
	baz=40							
B20A	Solberg Farm,	40.34	356	⇑P	P	06 53 45.6	+0.1	
	baz=40							
C14A	Swan Lake	40.38	350	⇑P	P	06 53 46.3	+0.3	
	baz=40							
B18A	Beardsley Farm	40.45	354	⇓P	P	06 53 47.1	+0.6	
	baz=40							
B17A	L&G Farms, Che	40.46	353	⇑P	P	06 53 46.5	-0.1	
	baz=40							
AGMN	Agassiz Nation	40.64	8	eP	P	06 53 46.7	-1.3	
	11nm,0.8s							
B15A	Bradely Ranch,	40.72	351	⇑P	P	06 53 48.4	-0.3	
	baz=41							
A20A	Cobblestone Ra	40.77	356	⇓P	P	06 53 48.9	-0.2	
	baz=41							
A22A	Carney Farms,	40.78	358	⇓P	P	06 53 49.1	-0.1	
	baz=41							
A21A	Bergtoll Ranch	40.82	357	⇑P	P	06 53 49.1	-0.4	
	baz=41							
A19A	Klindworth Far	40.88	355	⇓P	P	06 53 49.9	-0.2	
	baz=41							
A18A	Metzger Ranch,	40.97	354	⇑P	P	06 53 51.2	+0.4	
	baz=41							
A17A	Triple J Farms	41.09	353	⇓P	P	06 53 52.3	+0.5	
	baz=41							
B13A	Whitefish	41.10	349	⇓P	P	06 53 52.9	+1.1	
	baz=41							
EYMN	Ely	41.10	13	eP	P	06 53 49.5	-2.2	
	4.1nm,0.7s							
A16A	West Butte Ran	41.21	352	⇓P	P	06 53 53.1	+0.4	
	baz=41							
A15A	Johnson Ranch,	41.39	351	⇓P	P	06 53 54.7	+0.4	
	baz=42							
A14A	Double T Ranch	41.50	351	⇑P	P	06 53 55.7	+0.5	
	baz=42							
NEW	Newport	41.54	347	eP	P	06 53 55.9	+0.5	
	18nm,1.7s							
NEW	Newport	41.54	347	⇓P	P	06 53 56.1	+0.7	
	baz=42							
WALA	Waterton Lakes	41.66	350	eP	P	06 53 58.2	+1.7	
	0.1nm,1.1s							
A12A	Y at River Ran	41.86	348	⇑P	P	06 53 58.5	+0.4	
	baz=42							
ULM	Lac du Bonnet	42.55	8	P	P	06 54 01.6	-2.0	
ULM	Lac du Bonnet	42.55	8	P	P	06 54 01.6	-2.0	
	3.5nm,0.9s,baz=194,slow=9.1,SNR=7.8							
LPAZ	La Paz	42.98	124	P	P	06 54 08.9	+0.7	
LPAZ	La Paz	42.98	124	P	P	06 54 08.9	+0.7	
	1.9nm,0.9s,baz=318,slow=9.6,SNR=4.4							
LPAZ				LR	LR	07 09 37.0		
	comp=Z,729nm,21.2s,baz=200,slow=33							
SAML	Samuel	44.05	112	eP	P	06 54 15.2	-1.1	
	3.6nm,1.1s							
SIV	San Ignacio	48.78	119	P	P	06 54 52.4	-1.0	
SIV	San Ignacio	48.78	119	P	P	06 54 52.4	-1.0	
	0.4nm,0.6s,baz=270,slow=12,SNR=2.7							
DLBC	Dease Lake	54.05	343	eP	P	06 55 34.0	+1.6	
YKA	Yellowknife Ar	54.84	354	P	P	06 55 36.8	-1.1	
YKA				PcP	PcP	06 56 39.1	-0.9	
YKA	Yellowknife Ar	54.84	354	P	P	06 55 36.7	-1.1	
	0.4nm,0.6s,baz=169,slow=7.6,SNR=7.5							
YKA				PcP	PcP	06 56 39.1	-0.9	
	0.6nm,0.8s,baz=158,slow=3.8,SNR=8.1							
CPUP	Villa Florida	56.77	129	P	P	06 55 53.5	+1.1	
CPUP	Villa Florida	56.77	129	P	P	06 55 53.5	+1.1	
	2.4nm,0.9s,baz=325,slow=7.9,SNR=4.0							
EGAK	Eagle	62.31	343	eP	P	06 56 32.9	+3.0	
	4.9nm,1.0s							
DOT	Dot Lake	62.38	341	eP	P	06 56 30.1	-0.4	
	2.3nm,0.8s							
SML	Sawmill	62.64	338	eP	P	06 56 32.6	+0.4	
	1.5nm,0.8s							
PMR	Palmer	62.80	338	eP	P	06 56 33.6	+0.3	
INK	Inuvik	63.23	348	eP	P	06 56 34.7	-1.3	
	3.6nm,0.8s							
ILAR	Eielson Array	64.06	341	P	P	06 56 40.8	-0.8	
ILAR	Eielson Array	64.06	341	P	P	06 56 40.8	-0.8	
	3.5nm,0.8s,baz=154,slow=5.0,SNR=32							
HHC	Hu-ho-hao-te	121.32	329	ePKP	PKPdf	07 05 00.9	-0.9	
HHC				PP	PP	07 06 35.4	+3.8	
HHC				PKS	PKSdf	07 08 36.5	-2.0	
HHC				SKS	SKSdf	07 12 11.6	-2.6	
HHC				SKKS	SKKSac	07 13 27.4	-5.1	
HHC				SS	SS	07 23 06.3	+0.9	
HHC				LR	LR			
	comp=N,120nm,20.4s							
HHC				LR	LR			
	comp=E,130nm,20.2s							
HHC				LR	LR			
	comp=Z,88nm,20.4s							
NJ2	Nanjing	122.85	317	ePKP	PKPdf	07 05 04.6	-0.2	
MKAR	Makanchi Array	125.06	355	PKP	PKPdf	07 05 07.9	-0.8	
MKAR	Makanchi Array	125.06	355	PKP	PKPdf	07 05 07.9	-0.8	
	comp=Z,0.1nm,0.6s,baz=22,slow=5.4,SNR=2.2							
LZH	Lanzhou	128.83	331	ePKP	PKPdf	07 05 13.0	-3.4	
LZH				sPKP		07 05 21.5		
KSH	Kashi	132.62	0	ePKP	PKPdf	07 05 26.4	+3.0	
KSH				PP	PP	07 07 54.5	+8.7	
KSH				PKS	PKSdf	07 09 01.3	+1.3	
KSH				SKS	SKSdf	07 12 36.3	+1.0	
KSH				SKKS	SKKSac	07 14 45.9	+2.1	
KSH				SS	SS	07 25 32.1	+6.8	

IDC 24 06:46:52.0±2.3, 3°.53N×126°.89E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/21, mbtmp3.4/3, Error ellipse: s-maj=186.9km s-min=26.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.45	163	P	P	06 52 12.8	0.0
	1.4nm,0.9s,baz=343,slow=10,SNR=5.8						
ASAR	Alice Springs	27.88	166	P	P	06 52 43.9	+0.1
	0.3nm,0.8s,baz=357,slow=7.4,SNR=3.4						
MKAR	Makanchi Array	57.81	325	P	P	06 56 45.1	-0.2
	0.2nm,0.4s,baz=118,slow=8.1,SNR=5.5						

IDC 24 06:54:15.1±33.0, 8°.43N×104°.91W, h0km, mb3.3/3, mb1 3.8/3, mb1mx3.5/19, mbtmp3.3/3, Error ellipse: s-maj=949.2km s-min=105.8km az=120.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	20.83	3	P	P	06 58 57.4	-1.1
	0.3nm,0.7s,baz=181,slow=12,SNR=5.0						
PDAR	Pinedale Array	34.44	354	P	P	07 01 05.8	+1.0
	1.0nm,1.1s,baz=185,slow=10.0,SNR=2.9						
ILAR	Eielson Array	63.46	341	P	P	07 04 46.1	-0.5
	0.5nm,0.9s,baz=148,slow=7.0,SNR=6.1						

IDC 24 06:58:17.1±1.3, 13°.80N×146°.65E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/24, mbtmp3.7/7, Error ellipse: s-maj=30.5km s-min=23.0km az=135.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.74	263	Pn	Pn	06 58 48.9	+0.3
	113nm,0.3s,baz=101,slow=4.5,SNR=32						
GUMO				Sn	Sn	06 59 11.4	-0.1
	60nm,0.3s,baz=341,slow=22,SNR=6.6						
KSRS	Korea Array	28.87	328	P	P	07 04 17.3	-0.2
	0.9nm,0.5s,baz=140,slow=9.8,SNR=3.5						
WRA	Warramunga Arr	35.65	200	P	P	07 05 16.9	-0.3
	0.8nm,0.8s,baz=19,slow=9.4,SNR=5.2						
SONM	Songino Array	47.57	324	P	P	07 06 55.9	+1.2
	0.4nm,0.7s,baz=141,slow=7.9,SNR=4.7						
ZALV	Zalesovo Beam	62.47	324	P	P	07 08 41.3	-0.8
	0.3nm,0.4s,baz=86,slow=8.8,SNR=2.7						
MKAR	Makanchi Array	62.54	316	P	P	07 08 43.2	+0.3
	0.5nm,0.4s,baz=91,slow=8.4,SNR=12						
ILAR	Eielson Array	67.64	25	P	P	07 09 15.8	+0.1
	0.3nm,0.7s,baz=250,slow=6.2,SNR=2.8						
FINES	FINESS Array B	91.69	336	P	P	07 11 24.5	-1.8
	0.4nm,0.3s,baz=57,slow=7.0,SNR=4.8						
DBIC	Dimbokro	145.16	304	PKPbc	PKPdf	07 17 57.7	-0.1
	4.3nm,0.8s,baz=38,slow=4.4,SNR=6.1						

ISCJB 24 07:05:33.6±0.5, 8°.03N±0°.06×103°.87W±0°.06, h10km, mb4.8/104, MS4.6/8, Error ellipse: s-maj=10.0km s-min=6.4km az=42.0

IDC 24 07:05:35.2±0.8, 8°.34N×103°.69W, h0km, mb4.3/15, mb1 4.5/16, mb1mx4.4/25, mbtmp4.3/16, ML3.4/1, MS4.5/9, Ms1 4.5/9, ms1mx4.2/36, Error ellipse: s-maj=33.5km s-min=14.0km az=60.0

NEIC 24 07:05:36.5±0.4, 8°.18N×103°.78W, h10km, mb4.8/84, Error ellipse: s-maj=11.5km s-min=5.8km az=51.0

BJI 24 07:05:36.1, 8°.10N×103°.80W, h10km, mB5.4/3, Ms5.2/3, Ms7 4.7/3

ISC 24 07:05:35.7±0.6, 8°.2N±0°.1×103°.9W±0°.1, h10km, n514, σ1s06/510, mb4.8/105, MS4.6/8, 170C-175D, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	12.53	44	Pn	Pn	07 08 29.0	-5.2
CMIG	Matias Romero	12.53	44	Pn	Pn	07 08 29.0	-5.2
	0.2nm,0.3s,baz=213,slow=9.5,SNR=6.3						
CMIG				LR	LR	07 12 18.1	
	comp=Z,2μm,18.8s,baz=205,slow=33						
JTS	JuntasAbangare	18.86	82	eP	Pn	07 09 57.6	+0.7
	75nm,1.6s						
JTS	JuntasAbangare	18.86	82	P	Pn	07 09 59.0	+2.1
	baz=252,slow=11,SNR=3.3						
TEIG	Tepich	19.34	50	LR	LR	07 16 31.5	
	comp=Z,1μm,19.9s,baz=338,slow=34						
TXAR	Lajitas Array	21.08	1	P	P	07 10 20.7	+0.3
TXAR	Lajitas Array	21.08	1	P	P	07 10 20.7	+0.3
	5.4nm,1.1s,baz=180,slow=7.8,SNR=29						
627A	Terlingua Ranc	21.20	1	⇓P	P	07 10 23.0	+1.2
	baz=21,SNR=16						
628A	Black Gap, Mar	21.25	3	⇓P	P	07 10 23.1	+0.9
	baz=21						
626A	Big Bend Ranch	21.30	360	⇓P	P	07 10 24.0	+1.2
	baz=21,SNR=15						
526A	Mary Lane Ranc	21.80	360	⇓P	P	07 10 29.9	+1.6
	baz=22,SNR=20						
527A	Woodward Ranch	21.89	1	⇑P	P	07 10 30.8	+1.6
	baz=22,SNR=31						
529A	Stev Forest Ra	21.92	4	⇑P	P	07 10 30.9	+1.5
	baz=22,SNR=29						
528A	Cox Ranch, San	21.93	3	⇓P	P	07 10 30.9	+1.3
	baz=22,SNR=7.1						
531A	Rocksprings	22.13	8	⇑P	P	07 10 32.9	+1.2
	baz=22,SNR=28						
426A	McDonald Obser	22.41	360	⇓P	P	07 10 36.2	+1.4
	baz=22,SNR=16						
429A	Davenport Ranc	22.45	5	⇓P	P	07 10 36.9	+1.8
	baz=22,SNR=7.8						
428A	Kincaid Ranch,	22.50	3	⇓P	P	07 10 37.0	+1.3
	baz=23,SNR=15						
425A	Indio Mountain	22.55	358	⇓P	P	07 10 37.1	+0.9
	baz=23,SNR=19						
JCT	Junction City	22.55	9	eP	P	07 10 36.6	+0.4
	52nm,1.3s						
JCT	Junction City	22.55	9	⇑P	P	07 10 37.2	+1.1
	baz=23,SNR=18						
427A	Hayter Ranch,	22.59	1	⇓P	P	07 10 37.9	+1.2
	baz=23,SNR=15						
431A	Sonora	22.64	7	⇓P	P	07 10 38.9	+1.8
	baz=23,SNR=27						
430A	Baggett Ranch,	22.67	6	⇓P	P	07 10 38.4	+1.0
	baz=23,SNR=14						
HKT

221A	Mesquite Ranch baz=24,SNR=5.6	24.01	352	⇓P	P	07 10 51.1	+0.1
220A	Playas Peak, P baz=24,SNR=12	24.02	350	⇓P	P	07 10 51.2	+0.1
126A	Clayton Basin, baz=24	24.38	360	⇑P	P	07 10 54.3	0.0
128A	Castleberry Fa baz=24,SNR=7.4	24.39	3	⇑P	P	07 10 54.5	0.0
125A	Gardner Draw, baz=24,SNR=5.6	24.40	359	⇓P	P	07 10 54.6	+0.1
127A	Arkansas Junct baz=24	24.41	1	⇓P	P	07 10 54.2	-0.5
129A	Stewart Farms, baz=24,SNR=12	24.44	4	⇑P	P	07 10 55.2	+0.4
123A	Bell Site, Whi baz=25	24.46	355	⇓P	P	07 10 54.8	-0.3
WHTX	Lake Whitney baz=24,SNR=6.7	24.48	13	⇓P	P	07 10 55.2	+0.1
121A	Cookes Peak, D baz=25	24.53	352	⇓P	P	07 10 56.0	+0.3
122A	Conniff Cattle baz=25	24.60	354	⇑P	P	07 10 55.9	-0.5
120A	U Bar Ranch, L baz=25	24.67	350	⇓P	P	07 10 57.6	+0.6
ABTX	Abilene, Hawle baz=25,SNR=11	24.68	9	⇑P	P	07 10 56.7	-0.3
TUC	Tucson 138nm,1.0s	24.87	346	eP	P	07 10 59.0	+0.2
Z26A	Caprock baz=25,SNR=21	25.00	360	⇓P	P	07 10 59.9	-0.1
Z25A	Roswell baz=25,SNR=13	25.02	358	⇓P	P	07 11 00.3	+0.1
NATX	Nacogdoches 38nm,1.1s	25.03	19	eP	P	07 10 60.0	-0.2
Z27A	Tatum baz=25	25.05	1	⇑P	P	07 11 00.6	+0.1
Z28A	Tucker Farm, M baz=25,SNR=8.3	25.06	3	⇓P	P	07 11 00.8	+0.3
Z29A	Hungry Hill Ra baz=25,SNR=11	25.08	4	⇓P	P	07 11 00.8	+0.2
Z23A	Rita Site, Whi baz=25,SNR=16	25.08	355	⇑P	P	07 11 02.2	+1.4
214A	Organ Pipe Nat baz=25,SNR=81	25.09	342	⇑P	P	07 11 02.0	+1.3
Z24A	Sheeppen Canyo baz=25	25.09	357	⇑P	P	07 11 01.0	+0.1
Z22A	Elephant Butte baz=25,SNR=18	25.14	354	⇑P	P	07 11 02.7	+1.4
Z20A	Nine Sixteen R baz=25,SNR=15	25.21	351	⇓P	P	07 11 03.0	+1.0
Z21A	St. Cloud Mine baz=25	25.28	353	⇓P	P	07 11 03.1	+0.5
Y27A	Causey baz=26,SNR=12	25.62	1	⇓P	P	07 11 06.1	+0.5
Y26A	Elida baz=26	25.65	0	⇓P	P	07 11 06.1	+0.2
Y25A	Mesa, Roswell baz=26,SNR=17	25.66	359	⇑P	P	07 11 06.6	+0.6
Y29A	Porterfield Fa baz=26,SNR=16	25.68	4	⇓P	P	07 11 06.2	+0.2
Y28A	McKinney Farm, baz=26,SNR=9.7	25.68	3	⇓P	P	07 11 06.5	+0.3
Y24A	Capitan baz=26	25.69	357	⇓P	P	07 11 06.3	0.0
MSTX	Muleshoe baz=26	25.72	2	⇓P	P	07 11 06.3	-0.2
Y23A	Lovelace Mesa, baz=26,SNR=12	25.73	356	⇑P	P	07 11 07.0	+0.3
Y22A	Socorro baz=26	25.82	354	⇑P	P	07 11 08.6	+1.2
Y22D	IRIS PASSCAL I baz=26	25.95	354	⇑P	P	07 11 08.6	0.0
Y20A	Horse Springs, baz=26	25.96	352	⇓P	P	07 11 09.5	+0.6
Y21A	Point of Rocks baz=26,SNR=8.1	25.97	353	⇑P	P	07 11 09.4	+0.5
BNM	Barren Site 13nm,1.2s	26.00	355	eP	P	07 11 10.2	+1.1
LENM	Lemitar 47nm,1.8s	26.05	354	eP	P	07 11 11.5	+2.0
113A	Mohawk Valley, baz=26,SNR=85	26.14	341	⇑P	P	07 11 11.2	+1.0
LPM	Los Pinos Moun	26.16	355	eP	P	07 11 12.5	+1.9
X29A	Tulia baz=26	26.25	4	⇑P	P	07 11 11.3	-0.1
X25A	Clemmons Ranch baz=26	26.26	359	⇑P	P	07 11 11.6	+0.1
X26A	CR and CF Fran baz=26	26.28	0	⇓P	P	07 11 11.6	0.0
LAZ	Ladron 8.8nm,1.1s	26.30	354	eP	P	07 11 13.0	+1.2
X28A	Dimmitt baz=26	26.30	3	⇓P	P	07 11 11.0	-0.7
X24A	Lazy VL Ranch, baz=26,SNR=9.5	26.33	357	⇓P	P	07 11 12.5	+0.3
X22A	Bernardo baz=26	26.39	354	⇑P	P	07 11 14.3	+1.7
X27A	F and S Farms, baz=26	26.39	2	⇓P	P	07 11 12.6	+0.1
X23A	Hourglass Bar baz=26	26.39	356	⇑P	P	07 11 12.9	+0.2
X21A	Alamocita Cree baz=26	26.41	353	⇑P	P	07 11 13.5	+0.6
Z14A	Wintersburg baz=27	26.44	343	⇑P	P	07 11 13.3	+0.4
OTAV	Otavalo 29nm,1.4s	26.59	106	eP	P	07 11 16.5	+1.6
X20A	Quemado baz=27	26.60	352	⇑P	P	07 11 16.0	+1.4
AMTX	Amarillo 44nm,1.1s	26.69	4	eP	P	07 11 15.3	0.0
AMTX	Amarillo baz=27	26.69	4	⇓P	P	07 11 15.1	-0.2
GLA	Glamis baz=27,SNR=32	26.76	339	⇑P	P	07 11 16.8	+1.0
ANMO	Albuquerque 10nm,1.2s	26.78	355	eP	P	07 11 16.4	+0.3
ANMO	Albuquerque 1.6nm,0.9s,baz=162,slow=14,SNR=4.8	26.78	355	P	P	07 11 16.7	+0.6
W27A	Bowe Ranch, En baz=27	26.80	2	⇑P	P	07 11 16.4	+0.1
W26A	Owens Ranch, T baz=27	26.82	0	⇑P	P	07 11 15.8	-0.6
X18A	Snowflake baz=27	26.83	349	⇑P	P	07 11 17.8	+1.1
DVTC	Desert V Tower baz=27	26.87	337	⇓P	P	07 11 18.1	+1.2
W29A	Amarillo baz=27	26.93	4	⇑P	P	07 11 17.7	+0.3
W22A	Albuquerque baz=27	26.93	355	⇑P	P	07 11 18.1	+0.5
W25A	X Bar L Ranch, baz=27	26.95	359	⇓P	P	07 11 19.3	+1.6
W23A	Werner Place, baz=27	26.96	356	⇓P	P	07 11 18.5	+0.6
W24A	Lazy 6 Ranch, baz=27	26.97	357	⇑P	P	07 11 18.4	+0.5
Y14A	Wickenburg baz=27	27.00	343	⇓P	P	07 11 19.0	+1.1
SWSC	Sam W. Stewart baz=27,SNR=12	27.01	338	⇑P	P	07 11 18.8	+0.8
W28A	Vega baz=27	27.03	3	⇓P	P	07 11 18.3	0.0
X16A	Lo Mia Camp, P baz=27	27.04	346	⇑P	P	07 11 19.4	+0.9
W21A	San Fidel baz=27	27.06	353	⇑P	P	07 11 19.0	+0.3
BAR	Barrett 3µm,1.8s	27.12	336	eP	P	07 11 21.3	+2.3
MONP	Monument Peak baz=27,SNR=16	27.20	337	⇓P	P	07 11 21.1	+1.0
Y12C	Blythe baz=27	27.29	340	⇑P	P	07 11 21.9	+1.4
109C	Camp Elliot, M baz=28,SNR=8.7	27.48	335	⇓P	P	07 11 23.6	+1.4
V24A	Rampart Ranch, baz=28,SNR=11	27.48	358	⇓P	P	07 11 23.2	+0.7
V28A	Channing baz=28	27.52	3	⇓P	P	07 11 22.6	-0.2
V26A	Tequesquite Ra baz=28	27.52	0	⇓P	P	07 11 23.0	+0.3
BC3	Big Chuckawall baz=28,SNR=14	27.52	339	⇓P	P	07 11 23.9	+1.1
V23A	Ortiz Mt. (NFS baz=28	27.55	356	⇓P	P	07 11 23.6	+0.5
PDMCI	Parker Dam,Lak baz=28	27.67	342	⇑P	P	07 11 25.1	+1.2
V29A	Stinnett baz=28	27.69	4	⇓P	P	07 11 24.3	+0.1
V22A	San Miguel Ran baz=28	27.77	355	⇓P	P	07 11 25.7	+0.6
V20A	Brimhall baz=28	27.83	352	⇑P	P	07 11 25.8	+0.2
PFO	Pinyon Flat Ob 721nm,1.1s	27.85	337	eP	P	07 11 26.9	+1.2
PFO	Pinyon Flat Ob baz=28,SNR=7.3	27.85	337	⇓P	P	07 11 26.7	+0.9
IRM	Iron Mountain baz=28,SNR=13	27.87	340	⇑P	P	07 11 26.9	+1.1
MIAR	Mount Ida 40nm,1.3s	27.95	18	eP	P	07 11 25.5	-0.9
BELC	Belle Mtn. Jos baz=28,SNR=6.6	28.03	338	⇓P	P	07 11 28.1	+0.7
WUAZ	Wupatki 16nm,1.0s	28.08	347	eP	P	07 11 30.2	+2.4
WUAZ	Wupatki baz=28	28.08	347	⇑P	P	07 11 29.2	+1.4
U25A	Circle Dot Ran baz=28	28.13	359	⇑P	P	07 11 27.6	-0.7
U23A	El Rito baz=28,SNR=5.4	28.13	356	⇑P	P	07 11 29.1	+0.9
SCI	San Clemente I baz=28	28.17	333	⇑P	P	07 11 28.2	-0.2
U22A	Llaves baz=28,SNR=7.6	28.23	355	⇑P	P	07 11 30.4	+1.2
W13A	Hualapai Mount baz=28	28.34	343	⇑P	P	07 11 31.2	+1.0
U21A	Nageezi baz=28	28.36	354	⇓P	P	07 11 30.8	+0.5
U20A	Newcomb baz=28	28.41	352	⇓P	P	07 11 31.0	+0.2
U19A	Dine' College, baz=28	28.43	351	⇓P	P	07 11 31.5	+0.6
GMRC	Granite Mounta baz=29,SNR=13	28.61	340	⇑P	P	07 11 33.3	+0.8
TUL1	Tulsa baz=29	28.62	14	⇑P	P	07 11 32.2	-0.2
LDFC	Landfair 241nm,1.0s	28.70	341	eP	P	07 11 35.4	+2.2
T27A	Campo baz=29	28.80	2	⇑P	P	07 11 34.7	+0.5
T24A	Torres, Weston baz=29	28.81	358	⇓P	P	07 11 34.9	+0.4
T23A	Casias Ranch, baz=29	28.82	357	⇓P	P	07 11 35.0	+0.4
T22A	Edith baz=29,SNR=9.3	28.86	355	⇓P	P	07 11 36.1	+1.2
T25A	Trinidad baz=29	28.86	359	⇑P	P	07 11 35.7	+0.8
BFSC	Mount Baldy Ra baz=29,SNR=12	28.88	336	⇓P	P	07 11 36.0	+1.1
T28A	Walsh baz=29	28.89	3	⇓P	P	07 11 35.4	+0.5
HEC	Hector,Ludlow baz=29	28.89	339	⇑P	P	07 11 36.3	+1.3
T26A	Comanche Natio baz=29	28.90	1	⇓P	P	07 11 36.1	+0.9
T21A	Navajo Lake baz=29	28.90	354	⇓P	P	07 11 35.7	+0.5
T19A	Beclabito baz=29	28.93	352	⇓P	P	07 11 35.3	0.0
MWC	Mount Wilson 621nm,1.9s	29.03	335	eP	P	07 11 37.7	+1.4
U15A	North Rim baz=29	29.16	346	⇑P	P	07 11 38.3	+0.7
MVCO	Mesa Verde 14nm,1.0s	29.23	353	eP	P	07 11 39.0	+0.9
MVCO	Mesa Verde baz=29	29.23	353	⇑P	P	07 11 38.3	+0.2
LRAL	Lakview Retre 6.1nm,1.1s	29.32	30	eP	P	07 11 38.0	-0.6
S26A	Kim baz=29	29.35	1	⇑P	P	07 11 40.1	+1.1
BLG	Laguna Peak baz=30	29.36	334	⇑P	P	07 11 39.3	+0.3
T18A	Mexican Hat baz=30	29.36	350	⇑P	P	07 11 39.3	+0.2
S24A	Houchin Ranch, baz=30,SNR=6.4	29.38	358	⇓P	P	07 11 40.4	+0.9
S25A	Robets Cordova baz=30	29.39	359	⇑P	P	07 11 39.2	-0.3
OXF	Oxford 20nm,1.3s	29.45	25	eP	P	07 11 39.4	-0.4
S23A	Nye Farm, Mont baz=30	29.49	357	⇑P	P	07 11 41.5	+1.1
GSC	Goldstone 287nm,1.1s	29.49	338	eP	P	07 11 41.7	+1.5
GSC	Goldstone baz=30	29.49	338	⇑P	P	07 11 41.6	+1.3
SDCO	Great Sand Dun 12nm,1.4s	29.50	357	eP	P	07 11 42.2	+1.6
SDCO	Great Sand Dun baz=30	29.50	357	⇓P	P	07 11 41.8	+1.3
EDW2	Edwards Air Fo baz=30,SNR=5.2	29.57	336	⇑P	P	07 11 42.1	+1.1
S22A	4UR Ranch, Cre baz=30	29.58	355	⇑P	P	07 11 42.2	+0.9
S21A	Coal Bank Pass baz=30	29.59	354	⇑P	P	07 11 42.3	+0.9
ATAH	Atahualpa comp=Z,2µm,21.6s,baz=314,slow=31	29.65	120	LR	LR	07 20 46.4	
S20A	Disappointment baz=30	29.82	353	⇓P	P	07 11 44.3	+0.9
S19A	Harvey Farm, M baz=30	29.84	352	⇑P	P	07 11 44.5	+1.0
R25A	Fountain Ranch baz=30,SNR=11	29.87	359	⇑P	P	07 11 44.7	+1.0
S18A	Hurst Farm, Bl baz=30	29.92	350	⇑P	P	07 11 45.2	+0.9
R23A	Moffat baz=30	29.96	357	⇑P	P	07 11 45.5	+0.9
R24A	Sanders Place, baz=30,SNR=5.6	29.97	358	⇑P	P	07 11 45.7	+1.1
R26A	Arlington baz=30	30.02	1	⇓P	P	07 11 45.7	+0.7
R27A	Eads baz=30	30.02	2	⇑P	P	07 11 45.6	+0.7
R22A	Saguache, Gunn baz=30	30.06	356	⇑P	P	07 11 45.8	+0.3
PV01	Paradox Valley 216nm,0.2s	30.15	353	eP	P	07 11 47.4	+1.1
R20A	Redvale baz=30	30.18	353	⇓P	P	07 11 46.9	+0.5
S16A	Weppner Ranch, baz=30	30.25	348	⇑P	P	07 11 47.5	+0.4
R21A	Cimarron baz=30	30.27	354	⇑P	P	07 11 47.7	+0.4
PKM	Peak Mountain baz=30	30.35	334	⇑P	P	07 11 48.6	+0.6
MPMC	Manual Prospec baz=31,SNR=13	30.41	338	⇑P	P	07 11 49.6	+1.0
PLAL	Pickwick Lake 18nm,1.4s	30.42	26	eP	P	07 11 48.7	+0.3
PV04	Paradox Valley	30.45	352	eP	P	07 11 51.5	+2.8
ISA	Isabella 50nm,1.1s	30.45	336	eP	P	07 11 50.1	+1.4
ISA	Isabella baz=31,SNR=5.5	30.45	336	⇓P	P	07 11 49.8	+1.1
PV10	Paradox Valley 382nm,1.0s	30.45	352	eP	P	07 11 48.5	-0.4
CCUT	Cedar City 48nm,0.9s	30.49	345	eP	P	07 11 50.5	+1.2
FURC	Furnace Creek, baz=31,SNR=5.5	30.55	339	⇑P	P	07 11 50.7	+1.2
R18A	Canyonlands Na baz=31,SNR=8.6	30.58	351	⇑P	P	07 11 50.9	+0.9
Q25A	Bedland, Calha baz=31,SNR=5.8	30.64	360	⇓P	P	07 11 51.2	+0.7
Q26A	Hugo baz=31	30.64	1	⇑P	P	07 11 51.0	+0.5
Q22A	Crested Butte, baz=31,SNR=20	30.70	355	⇑P	P	07 11 52.2	+1.1
Q24A	Divide baz=31	30.70	358	⇑P	P	07 11 52.0	+0.7
ARUT	Antelope Range 8.2nm,1.0s	30.74	345	eP	P	07 11 52.4	+1.0
R17A	Hanksville Air baz=31,SNR=10	30.75	350	⇑P	P	07 11 52.3	+0.8
KSCO	Kaye Shedlock' baz=31	30.75	2	⇑P	P	07 11 52.3	+0.9
CBKS	Cedar Bluff baz=31	30.77	6	⇑P	P	07 11 52.2	+0.7
VES	Vestal, Richgr baz=31	30.85	336	⇑P	P	07 11 53.1	+0.9
SMCO	Snowmass 22nm,1.3s	31.02	355	eP	P	07 11 55.7	+1.6
Q19A	Hogan Spring (baz=31,SNR=14	31.05	352	⇓P	P	07 11 54.7	+0.7
MVU	Marysvale 35nm,1.1s	31.13	347	eP	P	07 11 57.3	+2.4
MSU	Marysvale	31.13	347	eP	P	07 11 56.0	+1.1
P23A	Jefferson baz=31,SNR=14	31.14	357	⇑P	P	07 11 56.1	+1.0
GRAC	Grapevine Rang baz=31	31.21	339	⇑P	P	07 11 56.6	+1.2
R13A	O'Grain Ranch, baz=31,SNR=7.0	31.24	345	⇓P	P	07 11 56.8	+0.9
P26A	Davis Ranch, A baz=31	31.28	1	⇓P	P	07 11 57.3	+1.1
Q16A	Castle Valley baz=31	31.32	349	⇓P	P	07 11 57.4	+0.9
SRU	San Rafael 12nm,0.8s	31.39	350	eP	P	07 11 58.7	+1.6
SRU	San Rafael baz=32	31.39	350	⇑P	P	07 11 58.3	+1.1
P21A	Newcastle baz=32,SNR=15	31.40	355	⇑P	P	07 11 58.7	+1.4
P22A	Eagle baz=32,SNR=9.2	31.41	356	⇓P	P	07 11 58.4	+1.0
GOGA	Godfrey 16nm,1.1s	31.46	34	eP	P	07 11 55.9	-1.7
P20A	De Beque baz=32	31.47	353	⇓P	P	07 11 59.0	+1.1
ISCO	Idaho Springs 121nm,3.0s	31.55	358	eP	P	07 11 59.4	+0.7
ISCO	Idaho Springs baz=32	31.55	358	⇑P	P	07 11 59.2	+0.5
P19A	Cripple Cowboy baz=32	31.68	353	⇑P	P	07 12 00.5	+0.8
TMUT	Trail Mountain 13nm,0.8s	31.70	349	eP	P	07 12 01.9	+2.0
P17A	Butcher Ranch, baz=32	31.78	350	⇑P	P	07 12 01.2	+0.7
O25A	Wiggins baz=32,SNR=5.4	31.83	360	⇓P	P	07 12 01.2	+0.3
P18A	Preston Nutter baz=32	31.85	351	⇑P	P	07 12 02.3	+1.0
R11A	Troy Canyon, C baz=32	31.85	342	⇑P	P	07 12 02.7	+1.4
O24A	Longmont baz=32	31.86	358	⇑P	P	07 12 01.6	+0.4
O27A	Beecher Island baz=32	31.93	2	⇓P	P	07 12 03.0	+1.2
O22A	Kremmling baz=32,SNR=23	31.96	356	⇑P	P	07 12 03.2	+0.9
O26A	Horse Wrangler baz=32	31.96	1	⇑P	P	07 12 03.4	+1.3
O23A	Lake Granby, G baz=32	31.98	357	⇓P	P	07 12 03.7	+1.3
P16A	Fountain Green baz=32	32.08	349	⇑P	P	07 12 05.0	+1.8
O20A	White River Ci baz=32,SNR=19	32.08	354	⇑P	P	07 12 04.7	+1.4
O21A	Pagoda baz=32	32.09	355	⇓P	P	07 12 05.0	+1.6
P15A	Leamington baz=32	32.17	348	⇓P	P	07 12 05.6	+1.7
SIUC	Southern Illin 22nm,1.1s	32.31	22	eP	P	07 12 02.5	-2.5
O19A	Miners Draw (B baz=32	32.35	353	⇓P	P	07 12 06.9	+1.4
O18A	Roosevelt baz=33	32.44	351	⇓P	P	07 12 07.2	+0.9
MPU	Maple Canyon 23nm,1.1s	32.47	349	eP	P	07 12 07.2	+0.5
O17A	Robinson Place baz=33	32.49	350	⇑P	P	07 12 07.6	+0.8
N27A	Anderson Farm, baz=33	32.55	2	⇓P	P	07 12 08.3	+1.1
N26A	Koester Ranch, baz=33	32.55	1	⇓P	P	07 12 08.4	+1.2
N24A	Carr baz=33	32.55	359	⇑P	P	07 12 08.7	+1.4
N22A	Wattenberg Ran baz=33,SNR=6.3	32.60	356	⇓P	P	07 12 09.1	+1.3
N21A	Black Mountain baz=33	32.63	355	⇑P	P	07 12 09.5	+1.4
N23A	Red Feather La baz=33	32.66	357	⇑P	P	07 12 09.6	+1.2
N20A	Spence Gulch, baz=33	32.78	354	⇑P	P	07 12 10.9	+1.5
DAU	Daniels Canyon	32.79	350	eP	P	07 12 10.0	+0.5
NVAR	Mina Array Bea	32.82	339	P	P	07 12 11.7	+2.0
NVAR	Mina Array Bea 1.9nm,0.8s,baz=174,slow=9.1,SNR=6.2	32.82	339	P	P	07 12 11.7	+2.0
DUG	Dugway 16nm,1.1s	32.88	347	eP	P	07 12 11.8	+1.7
DUG	Dugway baz=33	32.88	347	⇓P	P	07 12 11.9	+1.7
O15A	The Old Anders baz=33	32.89	348	⇓P	P	07 12 12.0	+1.7
SDV	Santo Domingo 34nm,1.1s	32.94	86	eP	P	07 12 11.3	+0.2
JLU	Jordanelle 8.6nm,1.2s	33.01	349	eP	P	07 12 13.5	+2.1
PHWY	Pilot Hill 12nm,1.0s	33.05	358	eP	P	07 12 12.8	+1.0
N18A	Larsen Ranch, baz=33,SNR=14	33.09	352	⇑P	P	07 12 13.2	+1.2
M24A	Cheyenne baz=33	33.19	359	⇑P	P	07 12 14.5	+1.6
M23A	Laramie baz=33,SNR=20	33.22	358	⇑P	P	07 12 14.6	+1.3
N17A	Moffit Pass baz=33	33.23	350	⇓P	P	07 12 14.3	+0.9
N16A	Rees Ranch, Co baz=33	33.28	350	⇓P	P	07 12 14.9	+1.2
M20A	Sweetwater, Wa baz=34	33.42	354	⇓P	P	07 12 16.5	+1.5
M21A	Separation Pea baz=34	33.46	355	⇓P	P	07 12 16.3	+1.0
BGNE	Belgrade baz=34	33.52	8	⇓P	P	07 12 16.4	+0.8
M19A	Rock Springs baz=34	33.54	353	⇓P	P	07 12 17.2	+1.2
M18A	Lyman baz=34	33.59	352	⇓P	P	07 12 17.8	+1.4
M17A	Scullys Gap (B baz=34,SNR=6.5	33.72	351	⇑P	P	07 12 18.1	+0.6
M16A	Huntsville baz=34	33.73	350	⇑P	P	07 12 18.6	+1.0
L21A	Rawlins baz=34	33.82	355	⇑P	P	07 12 19.3	+0.9
L23A	Garrett baz=34	33.87	358	⇑P	P	07 12 19.8	+1.0
KMSC	Kings Mountain baz=34	33.93	34	⇓P	P	07 12 18.4	-0.8
L20A	Wamsutter baz=34	33.95	354	⇑P	P	07 12 20.5	+1.0
ELK	Elko	33.99	345	eP	P	07 12 20.9	+1.0
HWUT	Hardware Ranch 14nm,1.2s	34.00	350	eP	P	07 12 21.0	+1.0
HWUT				epP	PP	07 13 25.5	-12
M15A	Larsen Ranch, baz=34,SNR=12	34.03	349	⇓P	P	07 12 21.1	+0.9
L19A	Farson baz=34	34.15	353	⇓P	P	07 12 22.1	+0.8
BMN	Battle Mountai 8.4nm,1.0s	34.26	342	eP	P	07 12 23.9	+1.6
L16A	Fish Haven baz=34	34.38	350	⇓P	P	07 12 23.8	+0.6
HVU	Hansel Valley 13nm,1.1s	34.40	348	eP	P	07 12 24.3	+0.9
K27A	Flueckinger Fa baz=34	34.45	2	⇑P	P	07 12 24.5	+0.8
K21A	Alcova baz=35	34.47	356	⇓P	P	07 12 24.2	+0.1
K23A	Bowen Ranch, D baz=35	34.50	358	⇓P	P	07 12 25.0	+0.8
L15A	Malad City baz=35	34.54	349	⇑P	P	07 12 25.2	+0.6
K20A	Yellowstone Ra baz=35	34.59	354	⇑P	P	07 12 25.5	+0.4
L14A	Malta baz=35	34.74	348	⇑P	P	07 12 27.1	+0.8
K18A	Toltan Ranch, baz=35	34.77	352	⇑P	P	07 12 27.2	+0.5
K19A	Absolon Red Bu baz=35,SNR=17	34.81	354	⇓P	P	07 12 27.8	+0.8
HDIL	Hopedale 70nm,1.0s	34.81	20	eP	P	07 12 25.6	-1.1
OHCM	Honcut	34.82	336	eP	P	07 12 28.8	+2.0
BW06	Boulder Array 22nm,1.0s	34.84	353	eP	P	07 12 27.6	+0.4

BW06	Boulder Array	34.84	353	⇓P	P	07 12 28.1	+0.9
	baz=35,SNR=22						
PDAR	Pinedale Array	34.84	353	P	P	07 12 28.1	+0.9
PDAR	Pinedale Array	34.84	353	P	P	07 12 28.1	+0.9
	6.9nm,0.9s,baz=164,slow=8.2,SNR=25						
PDAR				LR	LR	07 26 47.7	
	comp=Z,497nm,18.5s,baz=201,slow=37						
AHID	Auburn Hatcher	35.05	351	eP	P	07 12 30.1	+1.1
	15nm,0.9s						
J21A	Lysite	35.20	356	⇓P	P	07 12 31.3	+1.0
	baz=35						
K16A	Soda Springs	35.20	350	⇓P	P	07 12 30.9	+0.6
	baz=35						
J22A	Midwest	35.20	357	⇑P	P	07 12 30.8	+0.5
	baz=35						
K14A	Jones Ranch, D	35.22	348	⇓P	P	07 12 31.4	+1.1
	baz=35,SNR=5.3						
K15A	Arbon	35.22	349	⇑P	P	07 12 31.3	+0.8
	baz=35						
J20A	Shoshoni	35.26	355	⇓P	P	07 12 31.2	+0.5
	baz=35						
J19A	Crowheart	35.27	354	⇑P	P	07 12 31.2	+0.3
	baz=35						
J18A	Kendall Valley	35.33	352	⇓P	P	07 12 31.7	+0.1
	baz=36						
SFIN	Scholer Farm	35.44	22	⇓P	P	07 12 31.8	-0.4
	baz=36						
RPN	Rapa Nui	35.45	188	LR	LR	07 22 35.7	
	comp=Z,684nm,18.2s,baz=137,slow=29						
J17A	Brown Place, J	35.58	351	⇑P	P	07 12 34.1	+0.6
	baz=36,SNR=8.4						
REDW	Red Top Meadow	35.60	351	eP	P	07 12 34.2	+0.4
	17nm,1.3s						
I21A	Big Trails, Te	35.65	356	⇑P	P	07 12 34.4	+0.3
	baz=36						
RRI2	Red Ridge	35.66	351	eP	P	07 12 35.0	+0.7
	17nm,0.9s						
I22A	9 Mile Ranch,	35.68	357	⇑P	P	07 12 35.3	+0.9
	baz=36,SNR=6.3						
SNOW	Snow King Moun	35.68	351	eP	P	07 12 36.5	+1.9
	12nm,0.9s						
TPAW	Teton Pass	35.74	351	eP	P	07 12 35.2	+0.2
	17nm,1.4s						
I18A	Diamond G Ranc	35.79	353	⇓P	P	07 12 35.8	+0.4
	baz=36,SNR=7.7						
LOHW	Long Hollow	35.81	352	eP	P	07 12 36.0	+0.5
	15nm,1.0s						
RSSD	Black Hills	35.84	360	eP	P	07 12 36.9	+1.1
	63nm,2.5s						
I20A	Worland	35.85	355	⇓P	P	07 12 36.9	+1.1
	baz=36,SNR=16						
DCID1	Drake Creek	35.88	351	eP	P	07 12 37.6	+1.5
	21nm,1.0s						
J15A	Blackfoot	35.90	349	⇓P	P	07 12 36.8	+0.5
	baz=36,SNR=5.0						
MOOW	Moose Ponds	35.96	352	eP	P	07 12 38.2	+1.3
	9.3nm,1.2s						
ECSD	EROS Data Cent	36.02	9	eP	P	07 12 34.6	-2.5
	19nm,1.5s						
I19A	Meeteetse	36.02	354	⇓P	P	07 12 38.3	+0.9
	baz=36,SNR=6.5						
J14A	Carey	36.03	348	⇓P	P	07 12 38.2	+0.8
	baz=36						
I17A	Pilgrim Ck.	36.10	352	⇓P	P	07 12 38.9	+0.8
	baz=36,SNR=5.2						
IMW	Indian Meadow	36.13	351	eP	P	07 12 38.9	+0.5
	7.8nm,1.1s						
I16A	Newdale	36.20	351	⇑P	P	07 12 39.6	+0.7
	baz=36						
J13A	Cove Ranch, Pi	36.24	347	⇑P	P	07 12 39.2	0.0
	baz=36						
FLWY	Flagg Ranch	36.28	352	eP	P	07 12 40.9	+1.2
	22nm,1.0s						
HLID	Hailey	36.45	347	eP	P	07 12 42.2	+1.1
	16nm,1.1s						
HLID	Hailey	36.45	347	⇓P	P	07 12 42.1	+1.1
	baz=37,SNR=19						
H24A	Dirks Ranch, A	36.47	359	⇓P	P	07 12 41.7	+0.7
	baz=37						
I14A	Mackay	36.60	348	⇓P	P	07 12 43.2	+0.8
	baz=37						
MOD	Modoc	36.60	339	eP	P	07 12 42.7	+0.4
	11nm,1.0s						
MFID	Camas Ranch	36.64	345	eP	P	07 12 43.5	+0.8
	9.8nm,0.9s						
MFID	Camas Ranch	36.64	345	⇓P	P	07 12 43.4	+0.8
	baz=37						
H19A	Powell	36.65	354	⇓P	P	07 12 43.1	+0.5
	baz=37						
LKWY	Lake	36.71	352	eP	P	07 12 45.5	+2.2
	11nm,1.0s						
I13A	Wildhorse Cree	36.72	348	⇑P	P	07 12 44.3	+0.9
	baz=37						
H18A	Shoshone NF, C	36.73	353	⇓P	P	07 12 44.2	+0.7
	baz=37						
I12A	Atlanta	36.83	346	⇑P	P	07 12 45.2	+0.8
	baz=37						
G23A	Biddle	36.94	358	⇓P	P	07 12 45.4	+0.3
	baz=37						
H16A	Russell Place,	36.97	351	⇑P	P	07 12 46.4	+0.9
	baz=37,SNR=6.6						
G22A	Birney	36.99	357	⇓P	P	07 12 46.3	+0.8
	baz=37						
ACSO	Alum Creek Sta	37.02	27	eP	P	07 12 44.2	-1.6
	15nm,1.2s						
H15A	Lima	37.11	350	⇓P	P	07 12 47.5	+0.8
	baz=37						
G20A	Bridger	37.12	355	⇓P	P	07 12 47.5	+0.8
	baz=37						
QLMT	Earthquake Lak	37.12	351	eP	P	07 12 48.4	+1.7
RLMT	Red Lodge	37.12	354	eP	P	07 12 48.0	+1.2
	10nm,1.1s						
RLMT	Red Lodge	37.12	354	⇓P	P	07 12 48.0	+1.2
	baz=37						
YBH	Yreka Blue Hor	37.35	337	P	P	07 12 48.6	0.0
YBH	Yreka Blue Hor	37.35	337	P	P	07 12 48.6	0.0
	2.5nm,0.8s,baz=106,slow=12,SNR=3.4						
G18A	Lazy EL Ranch,	37.35	353	⇑P	P	07 12 49.5	+0.8
	baz=38						
MCMT	McKenzie Canyo	37.35	350	eP	P	07 12 50.1	+1.3
	6.7nm,1.0s						
H13A	Challis	37.37	348	⇑P	P	07 12 49.6	+0.8
	baz=38,SNR=9.2						
H12A	Diamond D Ranc	37.49	347	⇑P	P	07 12 50.9	+1.1
	baz=38,SNR=11						
G17A	Pierce Place,	37.50	352	⇑P	P	07 12 51.1	+1.2
	baz=38,SNR=18						
F22A	Rosebud	37.55	357	⇓P	P	07 12 51.1	+0.9
	baz=38						
F24A	Ekalaka	37.56	359	⇓P	P	07 12 50.8	+0.4
	baz=38						
G16A	Moss Hill, Enn	37.57	351	⇓P	P	07 12 51.3	+0.8
	baz=38						
G15A	Dillon	37.62	350	⇓P	P	07 12 52.1	+1.2
	baz=38,SNR=15						
F20A	Billings	37.69	355	⇑P	P	07 12 51.9	+0.5
	baz=38						
F19A	Roth Farm, Mol	37.82	354	⇓P	P	07 12 52.6	+0.1
	baz=38						
DLMT	Dillon	37.83	350	eP	P	07 12 53.7	+1.1
	15nm,1.3s						
GCMT	Greycliff	37.83	353	eP	P	07 12 53.5	+0.8
	12nm,1.2s						
G13A	Cobalt	37.87	348	⇓P	P	07 12 54.1	+1.0
	baz=38,SNR=20						
BOZ	Bozeman (W)	37.95	351	⇓P	P	07 12 54.4	+0.7
	baz=38						
F18A	Big Timber	37.95	353	⇑P	P	07 12 54.1	+0.5
	baz=38						
F17A	Fitzpatrick Pl	38.06	352	⇓P	P	07 12 55.2	+0.6
	baz=38,SNR=8.3						
G12A	Big Creek, Yel	38.14	347	⇑P	P	07 12 55.3	0.0
	baz=38						
SPMN	St. Paul	38.18	13	⇓P	P	07 12 54.5	-0.9
	baz=38						
LRM	Limekiln Ridge	38.25	350	eP	P	07 12 57.1	+0.7
F15A	Butte	38.27	350	⇓P	P	07 12 57.3	+0.8
	baz=38,SNR=5.1						
E21A	Keefer Ranch,	38.35	357	⇓P	P	07 12 56.7	-0.2
	baz=38						
BMO	Blue Mountains	38.36	345	eP	P	07 12 57.6	+0.5
	6.3nm,1.1s						
E20A	Meyer Farm, Mu	38.39	355	⇑P	P	07 12 57.7	+0.4
	baz=38,SNR=19						
E19A	Rath Farm, Rou	38.40	355	⇑P	P	07 12 57.9	+0.5
	baz=38,SNR=24						
F13A	Darby	38.56	348	⇓P	P	07 12 59.7	+0.9
	baz=39,SNR=12						
E18A	Harlowton	38.62	353	⇑P	P	07 12 59.3	0.0
	baz=39						
E17A	Martinsdale	38.64	352	⇓P	P	07 12 59.7	+0.2
	baz=39						
F12A	Elk City	38.72	347	⇑P	P	07 13 00.6	+0.4
	baz=39,SNR=5.5						
E16A	East Helena	38.82	351	⇓P	P	07 13 01.9	+0.9
	baz=39,SNR=5.8						
D24A	Glendive	38.83	360	⇑P	P	07 13 01.7	+0.7
	baz=39,SNR=7.6						
E15A	Deer Lodge	38.87	350	⇓P	P	07 13 01.6	+0.2
	baz=39						
D23A	Lindsay	38.90	359	⇑P	P	07 13 02.3	+0.7
	baz=39						
D22A	Cohagen	38.91	358	⇑P	P	07 13 02.0	+0.4
	baz=39						
D20A	Manuel Ranch,	38.97	355	⇑P	P	07 13 02.7	+0.5
	baz=39						
E14A	Clinton	39.00	349	⇑P	P	07 13 03.2	+0.6
	baz=39,SNR=16						
D19A	Cripps Ranch,	39.11	355	⇑P	P	07 13 04.3	+1.0
	baz=39,SNR=25						
E13A	Victor	39.16	349	⇑P	P	07 13 03.8	0.0
	baz=39						
D18A	Linhart Farms,	39.23	354	⇑P	P	07 13 04.6	+0.2
	baz=39						
C24A	Savage	39.25	359	⇑P	P	07 13 05.3	+0.8
	baz=39						
D16A	Dana Ranch, Ca	39.29	352	⇓P	P	07 13 04.9	0.0
	baz=39						
D17A	Six Diamond Ra	39.29	353	⇓P	P	07 13 05.2	+0.2
	baz=39,SNR=19						
E12A	Beaver Dam Sad	39.42	347	⇓P	P	07 13 06.1	+0.1
	baz=40						
CHMT	Chamberlain Mo	39.44	350	eP	P	07 13 06.5	+0.2
D15A	Lincoln	39.45	351	⇑P	P	07 13 06.5	+0.2
	baz=40						
MSO	Missoula	39.48	349	eP	P	07 13 06.7	+0.2
	5.0nm,0.9s						
MSO	Missoula	39.48	349	⇓P	P	07 13 07.0	+0.5
	baz=40						
C22A	Vida	39.50	358	⇓P	P	07 13 06.9	+0.4
	baz=40						
C23A	Lambert	39.53	359	⇓P	P	07 13 07.3	+0.5
	baz=40,SNR=6.4						
C20A	Veseth Ranch,	39.58	356	⇑P	P	07 13 07.6	+0.4
	baz=40						
C21A	Desert Coulee	39.63	357	⇓P	P	07 13 08.6	+0.9
	baz=40,SNR=8.5						
D14A	Greenough	39.65	350	⇑P	P	07 13 08.2	+0.2
	baz=40						
C19A	Slack Wire Ran	39.69	355	⇑P	P	07 13 08.5	+0.4
	baz=40						
C17A	Wharram Farm,	39.77	353	⇑P	P	07 13 08.8	-0.1
	baz=40,SNR=21						
SLMT	Seeley Lake	39.80	350	eP	P	07 13 09.6	+0.4
SSPA	Standing Stone	39.80	31	eP	P	07 13 04.7	-4.4
	36nm,1.5s						
TAOE	Nuku Hiva Isla	39.83	246	eT	T	07 55 20.9	
	206nm,0.3s						
D13A	Huson	39.84	349	⇓P	P	07 13 09.5	+0.1
	baz=40						
D12A	Red Ives Fores	39.98	348	⇑P	P	07 13 10.6	0.0
	baz=40						
EGMT	Eagleton	40.05	354	eP	P	07 13 13.2	+2.0
	20nm,1.0s						
EGMT	Eagleton	40.05	354	⇑P	P	07 13 11.5	+0.4
	baz=40,SNR=6.5						
B22A	Reddig Ranch S	40.05	358	⇓P	P	07 13 11.0	-0.2
	baz=40						
C16A	Fuhringer Ranc	40.07	352	⇑P	P	07 13 11.5	+0.1
	baz=40,SNR=5.6						
SWMT	Swartz Lake	40.15	349	eP	P	07 13 12.0	0.0
DGMT	Dagmar	40.19	360	eP	P	07 13 12.9	+0.7
	25nm,0.9s						
DGMT	Dagmar	40.19	360	⇓P	P	07 13 11.7	-0.5
	baz=40						
B23A	Brockton	40.19	359	⇓P	P	07 13 12.8	+0.5
	baz=40						
B21A	Ellsworth Farm	40.23	357	⇓P	P	07 13 12.9	+0.3
	baz=40						
B20A	Solberg Farm,	40.30	356	⇓P	P	07 13 13.7	+0.5
	baz=40,SNR=17						
C14A	Swan Lake	40.36	350	⇓P	P	07 13 13.4	-0.4
	baz=40						
HAWA	Hanford	40.39	343	eP	P	07 13 17.1	+3.2
	14nm,0.9s						
B19A	Brinkman Farms	40.39	355	⇑P	P	07 13 13.9	-0.1
	baz=40						
B18A	Beardsley Farm	40.41	354	⇓P	P	07 13 14.9	+0.8
	baz=40,SNR=5.2						
C13A	Hot Springs	40.42	349	⇓P	P	07 13 14.4	+0.2
	baz=40						
B17A	L&G Farms, Che	40.43	353	⇓P	P	07 13 14.9	+0.7
	baz=40,SNR=5.7						
JTMT	Jette	40.43	349	eP	P	07 13 14.5	+0.1
	3.2nm,1.1s						
AGMN	Agassiz Nation	40.59	8	eP	P	07 13 14.9	-0.7
	25nm,0.9s						
C12B	Naegeli Ranch,	40.63	348	⇑P	P	07 13 16.5	+0.6
	baz=41,SNR=5.6						
A24A	Westby	40.64	360	⇓P	P	07 13 15.8	-0.2
	baz=41						
B15A	Bradely Ranch,	40.69	351	⇓P	P	07 13 16.6	+0.1
	baz=41,SNR=5.2						
A20A	Cobblestone Ra	40.73	356	⇓P	P	07 13 16.9	+0.1
	baz=41,SNR=14						
A22A	Carney Farms,	40.74	358	⇓P	P	07 13 17.5	+0.6
	baz=41,SNR=16						
A21A	Bergtoll Ranch	40.78	357	⇓P	P	07 13 17.2	0.0
	baz=41						
A19A	Klindworth Far	40.85	355	⇓P	P	07 13 17.6	-0.1
	baz=41						
B14A	Marquette Ranc	40.85	350	⇑P	P	07 13 17.4	-0.4
	baz=41						
A18A	Metzger Ranch,	40.94	354	⇑P	P	07 13 18.3	-0.2
	baz=41						
EYMN	Ely	41.05	13	eP	P	07 13 18.0	-1.3
	31nm,1.4s						
A17A	Triple J Farms	41.06	353	⇑P	P	07 13 19.3	-0.2
	baz=41						
B13A	Whitefish	41.07	349	⇑P	P	07 13 20.1	+0.5
	baz=41,SNR=9.2						
A16A	West Butte Ran	41.17	352	⇓P	P	07 13 20.3	-0.2
	baz=41						
A15A	Johnson Ranch,	41.36	351	⇑P	P	07 13 22.3	+0.2
	baz=42,SNR=7.0						
B12A	Libby	41.38	348	⇓P	P	07 13 22.7	+0.6
	baz=42,SNR=5.3						
LON	Longmire	41.40	341	eP	P	07 13 22.7	+0.4
	29nm,1.0s						
A14A	Double T Ranch	41.47	351	⇑P	P	07 13 23.1	+0.2
	baz=42,SNR=12						
NEW	Newport	41.51	347	eP	P	07 13 23.5	+0.3
	21nm,0.9s						
NEW	Newport	41.51	347	⇑P	P	07 13 23.3	+0.1
	baz=42,SNR=13						
WALA	Swerton Lakes	41.63	350	eP	P	07 13 24.2	-0.1
	0.5nm,1.0s						
A12A	Yaak River Ran	41.83	348	⇓P	P	07 13 25.9	0.0
	baz=42						
ULM	Lac du Bonnet	42.50	8	P	P	07 13 29.9	-1.3
ULM	Lac du Bonnet	42.50	8	P	P	07 13 29.9	-1.3
	7.7nm,1.0s,baz=188,slow=8.1,SNR=6.5						
NLWA	Neilton Lookou	42.63	340	eP	P	07 13 33.0	+0.7
	37nm,0.9s						
LPAZ	La Paz	42.96	124	P	P	07 13 37.5	+1.4
LPAZ	La Paz	42.96	124	P	P	07 13 37.5	+1.4
	13nm,1.2s,baz=298,slow=6.9,SNR=13						
LPAZ				LR	LR	07 28 01.5	
	comp=Z,609nm,19.8s,baz=173,slow=31						
RKT	Rikitea	43.45	224	eLR	LR	07 25 41.4	
	923nm,26.0s,baz=46						
RKT				eT	T	07 59 54.3	
	18nm,0.3s						
SAML	Samuel	44.01	112	eP	P	07 13 42.6	-1.4
	15nm,1.4s						
LVC	Linson Verde	45.95	132	eP	P	07 13 58.8	-0.7
	0.5nm,1.0s						
FFC	Flin Flon	46.48	2	eP	P	07 14 02.3	-0.6
	16nm,1.4s						
SIV	San Ignacio	48.75	120	P	P	07 14 20.9	-0.3
SIV	San Ignacio	48.75	120	P	P	07 14 20.9	-0.3
	2.8nm,1.1s,baz=295,slow=9.9,SNR=5.4						
PMOR	Pomariorio Ree	49.27	242	eT	T	08 07 07.9	
	5.0nm,0.3s						
PPT2	Papeete2	51.83	240	eLR	LR	07 29 29.0	
	632nm,25.2s,baz=63						
CFAA	Coronel Fontan	52.22	141	P	P	07 14 52.5	+5.2
CFAA	Coronel Fontan	52.22	141	P	P	07 14 52.5	+5.2
	0.3nm,0.8s,baz=288,slow=3.2						
DLBC	Dease Lake	54.02	343	eP	P	07 15 00.8	+0.6
TBI	Tubuai	54.41	234	eLR	LR	07 30 40.1	
	655nm,28.2s,baz=53						
YKA	Yellowknife Ar	54.80	354	P	P	07 15 04.4	-1.2
YKA				PcP	PcP	07 16 07.0	-0.9
YKA	Yellowknife Ar	54.80	354	P	P	07 15 04.4	-1.2
	3.9nm,1.2s,baz=166,slow=7.8,SNR=11						
YKA				PcP	PcP	07 16 07.0	-0.9
	0.4nm,0.8s,baz=166,slow=3.7,SNR=2.6						
SCHQ	Schefferville	55.13	25	P	P	07 15 05.6	-2.6
SCHQ	Schefferville	55.13	25	P	P	07 15 05.6	-2.6
	4.8nm,1.0s,baz=246,slow=6.9,SNR=3.8						
CPUP	Villa Florida	56.75	129	P	P	07 15 20.9	+0.7
CPUP	Villa Florida	56.75	129	P	P	07 15 20.9	+0.7
	1.3nm,0.6s,baz=275,slow=8.7,SNR=3.7						
BDFB	Brasilia	60.22	113	P	P	07 15 44.4	-0.4
BDFB	Brasilia	60.22	113	P	P	07 15 44.4	-0.4
	3.2nm,1.0s,baz=256,slow=8.3,SNR=2.3						
BMRM	Bremner River	60.71	339	eP	P	07 15 48.0	+0.7
	14nm,0.9s						
DAWY	Dawson	61.24	343	eP	P	07 15 50.1	-0.8
MENT	Mentasta	61.76	341	eP	P	07 15 54.3	0.0
EGAK	Eagle	62.29	343	eP	P	07 15 57.3	-0.5
	12nm,0.9s						
DOT	Dot Lake	62.37	341	eP	P	07 15 56.9	-1.5
	17nm,0.8s						
PAX	Paxson	62.37	340	eP	P	07 15 57.9	-0.6
	6.3nm,1.1s						
SLKM	Skilak Lake	62.55	336	eP	P	07 15 59.5	-0.2
SML	Sawmill	62.62	338	eP	P	07 15 59.9	-0.2
	8.2nm,0.9s						
PMR	Palmer	62.79	338	eP	P	07 16 00.9	-0.3
INK	Inuvik	63.21	348	eP	P	07 16 03.6	-0.3
	19nm,0.9s						
INK	Inuvik	63.21	348	P	P	07 16 03.2	-0.6
	4.1nm,0.9s,baz=148,slow=9.3,SNR=8.1						
SPU	Mount Spurr	63.68	336	eP	P	07 16 06.8	-0.4
ILAR	Eielson Array	64.04	341	P	P	07 16 08.7	-0.7
ILAR	Eielson Array	64.04	341	P	P	07 16 08.7	-0.7
	5.3nm,0.9s,baz=153,slow=5.1,SNR=50						
MCK	McKinley	64.05	340	eP	P	07 16 09.4	-0.1
	12nm,0.9s						
TRF	Thorofare Moun	64.35	339	eP	P	07 16 11.1	-0.6
	52nm,2.0s						
COLD	Coldfoot	66.66	342	eP	P	07 16 27.6	+1.2
	8.8nm,1.0s						
RES	Resolute Bay	66.70	3	eP	P	07 16 27.7	+1.2
	3.8nm,1.1s						
RES	Resolute Bay	66.70	3	P	P	07 16 27.6	+1.2
	1.5nm,0.8s,baz=181,slow=6.7,SNR=6.1						
SFJD	Kangerlussuaq	68.78	20	LR	LR	07 51 39.9	
	comp=Z,288nm,18.1s,baz=252,slow=40						
SPITS	Spitsbergen Ar	88.01	10	LR	LR	07 58 03.0	
	comp=Z,332nm,18.6s,baz=10.0,slow=36						
ARCES	ARCESS Array B	95.13	16	LR	LR	08 00 34.9	
	comp=Z,266nm,19.6s,baz=105,slow=35						
HHC	Hu-ho-hao-te	121.31	329	ePKP	PKPdf	07 24 28.1	-1.7
HHC				PP	PP	07 26 02.4	+2.8
HHC				PKS	PKSdf	07 28 03.4	-3.1
HHC				SKS	SKSdf	07 31 38.3	-3.9
HHC				SKKS	SKKSac	07 32 54.8	-5.7
HHC				SS	SS	07 42 33.8	+0.5
HHC				LR	LR		
	comp=N,130nm,20.3s						
HHC				LR	LR		
	comp=E,280nm,20.0s						
HHC				LR	LR		
	comp=Z,110nm,20.5s						
WRA	Warramunga Arr	122.51	252	PKP	PKPdf	07 24 34.3	+1.8
WRA	Warramunga Arr	122.51	252	PKP	PKPdf	07 24 34.3	+1.8
	comp=Z,0.9nm,0.8s,baz=120,slow=0.8,SNR=5.8						
ASAR	Alice Springs	122.64	247	PKP	PKPdf	07 24 34.0	+1.3
ASAR	Alice Springs	122.64	247	PKP	PKPdf	07 24 34.0	+1.3
	comp=Z,0.7nm,0.8s,baz=114,slow=3.1,SNR=4.5						
NJ2	Nanjing	122.86	317	ePKP	PKPdf	07 24 31.4	-1.4
MKAR	Makanchi Array	125.02	355	PKP	PKPdf	07 24 36.9	+0.3
MKAR	Makanchi Array	125.02	355	PKP	PKPdf	07 24 36.9	+0.3
	comp=Z,0.5nm,0.8s,baz=13,slow=2.7,SNR=5.3						
WMQ	Urumqi	127.21	349	ePKP	PKPdf	07 24 40.6	-0.3
LZH	Lanzhou	128.82	331	ePKP	PKPdf	07 24 44.5	+0.1
KSH	Kashi	132.58	0	ePKP	PKPdf	07 24 53.5	+2.2
KSH				PP	PP	07 27 22.6	+9.0
KSH				PKS	PKSdf	07 28 28.3	+0.4
KSH				SKS	SKSdf	07 32 04.1	+0.9
KSH				SKKS	SKKSac	07 34 14.0	+2.5
KSH				SS	SS	07 45 02.8	+10
KSH				AMB	AMB		
	comp=Z,120nm,7.7s						
KSH				LR	LR		
	comp=N,86nm,4.4s						
KSH				LR	LR		
	comp=E,120nm,6.3s						
KSH				LR	LR		
	comp=Z,170nm,6.1s						
CD2	Chengdu	132.96	327	PKP	PKPdf	07 24 50.1	-2.1
GYA	Guiyang	134.55	320	ePdif	Pdif	07 21 54.0	-1.6
GYA				PKP	PKPdf	07 24 53.8	-1.6
GYA				PP	PP	07 27 31.0	+3.9
GYA				AMB	AMB		
	comp=Z,90nm,7.8s						
CMAR	Chiang Mai Arr	145.23	320	PKP	PKPbc	07 25 14.7	+0.3
CMAR	Chiang Mai Arr	145.23	320	PKP	PKPbc	07 25 14.7	+0.3
	comp=Z,1.1nm,0.3s,baz=9.8,slow=2.8,SNR=8.1						

IDC 24 07:09:37.7±4.0, 16°66S×178°48W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/18, mbtmp4.0/4, Error ellipse: s-maj=180.3km s-min=31.1km az=138.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	39.19	240	P	P	07 17 08.2	+0.6
	1.6nm,0.5s,baz=97,slow=8.4,SNR=7.2						
WRA	Warramunga Arr	44.81	258	P	P	07 17 52.9	-1.0
	0.3nm,0.5s,baz=95,slow=7.1,SNR=7.1						
ASAR	Alice Springs	45.08	253	P	P	07 17 55.9	-0.1
	3.3nm,0.4s,baz=90,slow=8.1,SNR=53						
ILAR	Eielson Array	84.69	13	P	P	07 22 13.1	0.0
	0.2nm,0.4s,baz=223,slow=5.1,SNR=10						

*BJI **24** 07:10:28.2, 29.80N×114.50W, h10km, mb4.8/5, Ms5.2/2, Ms7 5.0/3*
*ISCJB **24** 07:10:30.9±0.4, 30.05N±0.04×114.31W±0.03, h10km, mb4.5/45, MS4.6/2, Error ellipse: s-maj=5.6km s-min=2.7km az=29.8*
*NEIC **24** 07:10:30.6, 30.10N×114.35W, h4km, mb4.6/35, ML4.8(ECX), After ECX.*
*ECX **24** 07:10:30.6±0.5, 30.10N×114.35W, h14km, MD4.7, ML4.8*
*IDC **24** 07:10:31.1±0.8, 29.95N×114.22W, h0km, mb4.3/16, mb1 4.4/21, mb1mx4.3

RMX La Rumorosa 2.85 332 ⇑ ePN Pn 07 11 16.6 -1.0
CBX Cerro Bola 2.89 321 ⇓ ePN Pn 07 11 17.3 -0.9
DVTC Desert V Tower 2.91 332 ⇓Sb Sg 07 12 03.2 -1.6
baz=3.0
MONP Monument Peak 3.24 330 ⇑Sb Sg 07 12 14.2 -1.3
baz=3.3
Z14A Wintersburg 3.53 22 ⇑P Pn 07 11 25.4 -1.5
baz=3.5
109C Camp Elliot, M 3.57 322 ⇓Sb Sb 07 12 20.5 +1.8
baz=3.6
Y12C Blythe 3.66 360 ⇓P Pn 07 11 27.8 -0.7
baz=3.6
TUC Tucson 3.89 54 ePn Pn 07 11 29.8 -2.0
PFO Pinyon Flat Ob 3.89 335 ⇓P Pn 07 11 31.4 -0.4
baz=3.9
Y14A Wickenburg 4.05 18 ⇑P Pn 07 11 32.8 -1.2
baz=4.0
MURC Murrieta 4.19 328 ⇓Sb Sb 07 12 39.3 +2.8
baz=4.3
W13A Hualapai Mount 5.03 6 ⇓P Pn 07 11 47.8 +0.2
baz=5.0
X16A Lo Mia Camp, P 5.04 30 ⇑P Pn 07 11 46.9 -0.9
baz=5.0
PASC Pasadena Art C 5.14 324 ePn Pn 07 11 48.7 -0.2
PASC ePg Pg 07 12 07.8 -1.9
PASC eS Sg 07 13 11.5 -4.7
120A U Bar Ranch, L 5.59 62 ⇑P Pn 07 11 53.5 -1.9
baz=5.5
X18A Snowflake 5.88 40 ⇓P Pn 07 11 58.2 -1.1
baz=5.8
Z20A Nine Sixteen R 5.88 58 ⇓P Pn 07 11 57.4 -1.9
baz=5.8
WUAZ Wupatki 6.03 25 ePn Pn 07 12 01.5 +0.2
comp=N,34nm,0.8s
WUAZ Wupatki 6.03 25 ⇑P Pn 07 12 01.4 +0.2
baz=6.0
121A Cookes Peak, D 6.25 65 ⇑P Pn 07 12 03.1 -1.2
baz=6.1
ISA Isabella 6.49 330 ePn Pn 07 12 08.5 +0.9
ISA eS Sg 07 13 56.4 -3.3
U15A North Rim 6.60 16 ⇓P Pn 07 12 10.0 +0.8
baz=6.6
Z21A St. Cloud Mine 6.65 59 ⇑P Pn 07 12 08.5 -1.4
baz=6.5
Y21A Point of Rocks 7.00 54 ⇑P Pn 07 12 13.8 -0.9
baz=6.9
X21A Alamocita Cree 7.16 51 ⇓P Pn 07 12 16.6 -0.4
baz=7.0
Z22A Elephant Butte 7.16 62 ⇓P Pn 07 12 15.2 -1.6
baz=7.0
Y22A Socorro 7.47 57 ⇓P Pn 07 12 19.5 -1.5
baz=7.3
LENM Lemitar 7.57 56 ePn Pn 07 12 21.5 -1.0
LAZ Ladron 7.58 53 ePn Pn 07 12 21.4 -1.2
comp=N,10nm,1.0s
X22A Bernardo 7.73 53 ⇓P Pn 07 12 23.1 -1.5
baz=7.6
Z23A Rita Site, Whi 7.73 64 ⇑P Pn 07 12 22.8 -1.8
baz=7.6
ARUT Antelope Range 7.74 6 ePn Pn 07 12 27.0 +2.2
comp=N,49nm,1.1s
BNM Barren Site 7.82 57 ePn Pn 07 12 24.4 -1.5
comp=N,11nm,0.8s
324A Moseley Ranch, 7.88 78 ⇓P Pn 07 12 24.8 -1.9
baz=7.7
MNTX Cornudas Mount 8.00 76 ⇓P Pn 07 12 26.4 -1.9
baz=7.9
Y23A Lovelace Mesa, 8.14 60 ⇓P Pn 07 12 28.1 -2.2
baz=8.0
425A Indio Mountain 8.25 83 ⇓P Pn 07 12 29.8 -2.0
baz=8.1
R11A Troy Canyon, C 8.30 354 ⇑P Pn 07 12 33.5 +1.1
baz=8.3
ANMO Albuquerque 8.35 52 ePn Pn 07 12 31.9 -1.3
ANMO Lg Lg 07 14 52.7
ANMO Albuquerque 8.35 52 Pn Pn 07 12 32.4 -0.8
comp=N,0.6nm,0.3s,baz=224,slow=11,SNR=17
ANMO Lg Lg 07 14 52.7
comp=N,0.1nm,0.3s,baz=306,slow=14,SNR=2.4
225A Deer Hill, Car 8.54 74 ⇑P Pn 07 12 34.8 -1.0
baz=8.4
Y24A Capitan 8.60 61 ⇓P Pn 07 12 34.5 -2.2
baz=8.5
MVU Marysvale 8.61 12 ePn Pn 07 12 38.8 +1.9
MSU Marysvale 8.63 12 ePn Pn 07 12 39.9 +2.9
W23A Werner Place, 8.68 52 ⇓P Pn 07 12 36.8 -0.9
baz=8.6
MVCO Mesa Verde 8.70 34 ePn Pn 07 12 38.8 +0.9
X24A Lazy VL Ranch, 8.88 57 ⇑P Pn 07 12 39.0 -1.5
baz=8.7
NVAR Mina Array Bea 8.90 340 Pn Pn 07 12 46.4 +5.6
NVAR Lg Lg 07 15 21.1
NVAR Mina Array Bea 8.90 340 Pn Pn 07 12 46.4 +5.6
comp=N,0.2nm,0.3s,baz=166,slow=15,SNR=6.6
NVAR Lg Lg 07 15 21.1
comp=N,0.0nm,0.3s,baz=172,slow=26,SNR=2.8
Z25A Roswell 8.93 67 ⇓P Pn 07 12 40.2 -0.8
baz=8.8
GDL2 Guadalupe Moun 8.94 74 ePn Pn 07 12 44.0 +2.8
626A Big Bend Ranch 9.03 91 ⇑P Pn 07 12 40.5 -1.9
baz=8.9
426A McDonald Obser 9.07 84 ⇑P Pn 07 12 41.5 -1.6
baz=8.9
W24A Lazy 6 Ranch, 9.22 54 ⇓P Pn 07 12 44.1 -1.0
baz=9.1
R19A Curley Farm, L 9.27 27 ⇓P Pn 07 12 45.5 -0.3
baz=9.2
PV01 Paradox Valley 9.42 30 ePn Pn 07 12 48.6 +0.8
comp=N,3μm,1.1s
PV10 Paradox Valley 9.43 27 ePn Pn 07 12 48.9 +0.9
comp=N,209nm,0.7s
X25A Clemmons Ranch 9.44 59 ⇑P Pn 07 12 47.6 -0.5
baz=9.3
TXAR Lajitas Array 9.46 92 Pn Pn 07 12 46.1 -2.1
TXAR Lg Lg 07 15 27.2
TXAR Lajitas Array 9.46 92 Pn Pn 07 12 46.1 -2.1
comp=N,0.2nm,0.3s,baz=265,slow=13,SNR=15
TXAR Lg Lg 07 15 27.2
comp=N,0.0nm,0.3s,baz=264,slow=34,SNR=3.9
TXAR LR LR 07 16 41.8
comp=N,7μm,18.1s,baz=340,slow=40
PV04 Paradox Valley 9.50 28 ePn Pn 07 12 51.1 +2.2
SRU San Rafael 9.59 19 ePn Pn 07 12 52.2 +2.1
SRU San Rafael 9.59 19 ⇑P Pn 07 12 51.9 +1.8
baz=9.5
TMUT Trail Mountain 9.59 16 ePn Pn 07 12 52.5 +2.3
427A Hayter Ranch, 9.61 83 ⇑P Pn 07 12 49.4 -1.0
baz=9.5
P18A Preston Nutter 10.15 19 ⇓P Pn 07 12 59.3 +1.4
baz=10
DUG Dugway 10.19 7 ePn Pn 07 13 01.6 +3.3
428A Kincaid Ranch, 10.23 83 ⇑P Pn 07 12 58.4 -0.5
baz=10
ELK Elko 10.66 357 ePn Pn 07 13 06.9 +2.0
SDCO Great Sand Dun 10.69 42 ePn Pn 07 13 07.8 +2.4
comp=N,15nm,1.4s
JLU Jordanelle 10.79 13 ePn Pn 07 13 07.9 +1.2
429A Davenport Ranc 10.91 84 ⇓P Pn 07 13 07.6 -0.6
baz=11
SMCO Snowmass 10.99 32 ePn Pn 07 13 12.3 +2.8
HWUT Hardware Ranch 11.75 11 ePn Pn 07 13 21.4 +1.7
HVU Hansel Valley 11.76 6 ePn Pn 07 13 21.3 +1.5
ISCO Idaho Springs 12.13 35 ePn Pn 07 13 25.3 +0.3
MOD Modoc 12.69 340 Pn Pn 07 13 33.0 +0.4
JCT Junction City 12.72 85 ePn Pn 07 13 31.3 -1.5
PDAR Pinedale Array 13.27 16 Pn Pn 07 13 44.3 +3.8
PDAR Lg Lg 07 17 36.1
PDAR Pinedale Array 13.27 16 Pn Pn 07 13 44.3 +3.8
comp=N,0.1nm,0.3s,baz=188,slow=8.2,SNR=4.3
PDAR Lg Lg 07 17 36.1
baz=213,slow=18,SNR=2.1
MFID Camas Ranch 13.35 356 ePn Pn 07 13 44.2 +2.6
PHWY Pilot Hill 13.38 31 ePn Pn 07 13 41.8 -0.3
YBH Yreka Blue Hor 13.38 333 ePn Pn 07 13 43.7 +1.7
comp=N,61nm,1.6s
YBH Yreka Blue Hor 13.38 333 Pn P 07 13 47.6 -4.1
comp=N,0.1nm,0.3s,baz=166,slow=7.8,SNR=5.7
HLID Hailey 13.46 0 ePn P 07 13 48.3 -4.2
RRI2 Red Ridge 13.48 10 ePn Pn 07 13 46.5 +3.0
REDW Red Top Meadow 13.57 11 ePn Pn 07 13 46.5 +1.8
TPAW Teton Pass 13.68 11 ePn Pn 07 13 48.5 +2.3
SNOW Snow King Moun 13.69 12 ePn P 07 13 51.1 -4.1
comp=N,25nm,1.3s
DCID1 Drake Creek 13.75 10 ePn P 07 13 53.1 -2.7
comp=N,18nm,1.1s
LOHW Long Hollow 13.86 12 ePn Pn 07 13 51.9 +3.3

MOOW Moose Ponds 13.97 11 ePn Pn 07 13 53.5 +3.5
IMW Indian Meadow 14.08 11 ePn Pn 07 13 55.1 +3.4
comp=N,25nm,1.3s
FLWY Flagg Ranch 14.30 11 ePn Pn 07 13 56.2 +1.6
YFT Old Faithful 14.64 10 eP P 07 14 06.5 +0.8
comp=N,27nm,1.2s
MCMT McKenzie Canyo 14.78 5 eP P 07 14 07.3 -0.1
comp=N,12nm,1.2s
LKWY Lake 14.82 12 eP P 07 14 06.5 -1.3
comp=N,28nm,1.3s
BMO Blue Mountains 14.91 352 eP P 07 14 06.8 -1.9
comp=N,20nm,1.4s
YNR Norris Junctio 14.92 11 eP P 07 14 08.8 -0.1
comp=N,14nm,1.1s
QLMT Earthquake Lak 14.92 9 eP Pn 07 14 05.3 +2.2
QLMT e 07 14 09.1
CBKS Cedar Bluff 14.96 50 eP Pn 07 14 05.2 +1.7
comp=N,50nm,1.5s
DLMT Dillon 15.33 5 eP P 07 14 13.0 -0.3
comp=N,28nm,1.2s
RLMT Red Lodge 15.57 14 eP P 07 14 16.1 0.0
comp=N,32nm,1.4s
BOZ Bozeman (W) 15.70 7 eP P 07 14 18.2 +0.7
comp=N,20nm,1.3s
LRM Limekiln Ridge 15.80 5 ePn Pn 07 14 16.8 +2.1
RSSD Black Hills 16.29 28 eP Pn 07 14 22.5 +1.5
comp=N,35nm,1.4s
MSO Missoula 16.73 1 eP P 07 14 30.7 +1.9
comp=N,20nm,1.1s
HAWA Haford 16.75 348 eP P 07 14 31.2 +2.2
comp=N,167nm,2.3s
CHMT Chamberlain Mo 16.84 3 eP P 07 14 31.9 +1.8
SLMT Seeley Lake 17.16 2 eP P 07 14 35.5 +2.0
KSU1 Kansas State U 17.24 54 eP P 07 14 33.9 -0.6
comp=N,55nm,1.4s
SWMT Swartz Lake 17.41 1 eP P 07 14 38.3 +1.9
LON Longmire 17.59 343 eP Pn 07 14 37.6 +0.5
comp=N,149nm,2.2s
JTMT Jette 17.64 0 eP P 07 14 42.4 +3.5
BSMT Bassoo Peak 17.75 359 eP P 07 14 42.2 +2.0
MIAR Mount Ida 18.24 70 eP Pn 07 14 45.3 +0.1
comp=N,75nm,1.8s
NEW Newport 18.27 354 eP P 07 14 47.2 +1.5
comp=N,152nm,2.8s
EGMT Eagleton 18.29 10 eP P 07 14 50.0 +4.0
comp=N,50nm,1.3s
WALA Waterton Lakes 18.96 1 eP Pn 07 14 56.3 +2.3
comp=N,0.9nm,1.4s
ECSD EROS Data Cent 19.70 41 eP Pn 07 15 02.9 +0.1
comp=N,41nm,1.2s
DGMT Dagmar 19.99 20 eP Pn 07 15 06.8 +0.5
comp=N,104nm,1.2s
VBMS Vicksburg 20.63 78 eP P 07 15 12.4 +0.8
comp=N,60nm,1.2s
CMIG Matias Romero 22.10 121 LR LR 07 24 08.7
comp=N,2μm,19.1s,baz=286,slow=38
SIUC Southern Illin 22.28 63 eP P 07 15 29.5 +0.1
comp=N,22nm,1.1s
PLAL Pickwick Lake 22.78 71 eP P 07 15 39.1 +4.4
comp=N,43nm,1.5s
HDIL Hopedale 23.00 56 eP P 07 15 35.5 -1.5
comp=N,42nm,1.2s
WVT Waverly 23.11 68 eP P 07 15 39.7 +1.6
comp=N,29nm,1.4s
AGMN Agassiz Nation 23.13 33 eP P 07 15 38.3 +0.1
comp=N,164nm,2.4s
OLIL Olney 23.37 61 eP P 07 15 39.1 -1.7
comp=N,32nm,1.2s
BRAL Brewton 23.64 81 eP P 07 15 45.0 +1.5
comp=N,60nm,1.4s
ULM Lac du Bonnet 24.54 30 P P 07 15 51.6 -0.2
ULM Lac du Bonnet 24.54 30 P P 07 15 51.6 -0.2
comp=N,48nm,1.1s,baz=220,slow=10,SNR=25
SWET Sewanee 24.55 70 eP P 07 15 50.7 -1.4
comp=N,17nm,1.3s
WCI Wyandotte Cave 24.65 63 eP P 07 15 52.0 -0.9
comp=N,25nm,1.4s
BLO Bloomington 24.67 61 eP P 07 15 53.8 +0.7
comp=N,38nm,1.2s
EYMN Ely 25.10 38 eP P 07 15 54.8 -2.1
comp=N,12nm,1.3s
FFC Flin Flon 26.23 17 eP P 07 16 07.4 +0.5
comp=N,26nm,1.3s
TKL Tuckaleechee C 26.34 70 P P 07 16 08.7 +0.5
TKL Tuckaleechee C 26.34 70 P P 07 16 08.7 +0.5
comp=N,2.7nm,0.7s,baz=243,slow=4.5,SNR=3.2
ACSO Adam Creek Sta 27.56 60 eP P 07 16 18.2 -1.0
comp=N,20nm,1.2s
YKA Yellowknife Ar 32.42 360 PcP PcP 07 19 49.2 +0.1
comp=N,0.4nm,0.7s,baz=172,slow=2.7,SNR=5.3
DAWY Dawson 37.47 342 eP P 07 17 47.4 +1.8
EGAK Eagle 38.51 342 eP P 07 17 55.5 +1.3
comp=N,21nm,1.5s
PMR Palmer 38.83 334 eP P 07 17 58.6 +1.7
comp=N,18nm,1.3s
INK Inuvik 39.86 349 eP P 07 18 06.6 +1.2
comp=N,14nm,1.2s
INK Inuvik 39.86 349 P P 07 18 06.6 +1.2
comp=N,3.7nm,1.0s,baz=154,slow=8.4,SNR=4.5
MCK McKinley 40.12 337 eP P 07 18 09.4 +1.6
comp=N,20nm,1.4s
ILAR Eielson Array 40.16 339 P P 07 18 09.6 +1.6
ILAR Eielson Array 40.16 339 P P 07 18 09.6 +1.6
comp=N,3.4nm,1.0s,baz=152,slow=6.6,SNR=7.4
TRF Thorofare Moun 40.41 336 eP P 07 18 10.6 +0.3
comp=N,36nm,1.8s
SCHQ Schefferville 41.89 40 P P 07 18 22.1 -0.3
SCHQ Schefferville 41.89 40 P P 07 18 22.1 -0.3
comp=N,13nm,1.2s,baz=237,slow=5.7,SNR=4.7
COLD Coldfoot 42.83 340 eP P 07 18 31.7 +1.8
comp=N,15nm,1.3s
OTAV Otavalo 45.35 124 eP P 07 18 51.0 -0.3
comp=N,10nm,1.4s
SUMG Summit 57.42 20 eP P 07 20 21.2 +0.3
comp=N,20nm,1.2s
SUMG Summit 57.42 20 i P P 07 20 21.6 +0.6
comp=N,8.7nm,1.1s
SUMG i 07 21 05.5
DAG Danmarks Havn 62.29 15 i P P 07 20 53.1 -0.8
comp=N,52nm,1.0s
DAG e 07 21 33.6
LPAZ La Paz 64.19 129 P P 07 21 06.5 -1.6
LPAZ La Paz 64.19 129 P P 07 21 06.5 -1.6
comp=N,1.4nm,0.9s,baz=321,slow=8.9,SNR=4.1
SIV San Ignacio 68.89 124 P P 07 21 36.2 -1.2
SIV San Ignacio 68.89 124 P P 07 21 36.2 -1.2
comp=N,6.0nm,0.9s,baz=320,slow=5.5,SNR=23
CFAA Coronel Fontan 75.45 140 P P 07 22 16.2 -0.2
CFAA Coronel Fontan 75.45 140 P P 07 22 16.2 -0.2
comp=N,0.3nm,0.8s,baz=304,slow=6.8,SNR=7.5
NOA NORSAR Array B 79.08 24 P P 07 22 37.8 +1.3
NOA NORSAR Array B 79.08 24 P P 07 22 37.8 +1.3
comp=N,3.9nm,1.1s,baz=313,slow=5.2,SNR=3.4
PLCA Paso Flores 81.37 148 P P 07 22 49.6 +0.7
PLCA Paso Flores 81.37 148 P P 07 22 49.6 +0.7
comp=N,2.9nm,1.0s,baz=332,slow=8.4,SNR=4.7
PMTG Montargil 82.88 49 eP P 07 22 59.0 +1.9
comp=N,21nm,1.5s
PNCL Nicolau / Gran 83.20 50 eP P 07 22 58.9 +0.1
comp=N,20nm,1.2s
PMRV Marv??o 83.23 48 eP P 07 22 59.3 -0.4
comp=N,19nm,1.3s
FINES FINESS Array B 83.36 18 P P 07 22 59.9 +0.8
FINES FINESS Array B 83.36 18 P P 07 22 59.9 +0.8
comp=N,2.0nm,0.7s,baz=350,slow=9.7,SNR=3.8
PTEO Sao Teotonio 83.38 50 eP P 07 23 01.1 +1.4
comp=N,39nm,1.2s
PESTR Esmoz 83.41 49 eP P 07 23 00.4 +0.5
comp=N,20nm,1.4s
MORF Marmelete 83.56 51 eP P 07 23 01.0 +0.3
comp=N,24nm,1.7s
PCVE Castro Verde 83.79 50 eP P 07 23 02.8 +1.0
comp=N,22nm,1.4s
PVAQ Vaqueiros 84.13 50 eP P 07 23 05.7 +2.1
comp=N,13nm,1.3s
ESDC Sonseca Array 85.28 46 P P 07 23 08.6 -0.8
ESDC Sonseca Array 85.28 46 P P 07 23 08.6 -0.8
comp=N,0.2nm,0.3s,baz=318,slow=3.5,SNR=6.2
CN2 Changchun 88.30 321 eP P 07 23 24.1 +0.1
GERES GERESS Array B 88.84 31 P P 07 23 28.2 +1.7
GERES GERESS Array B 88.84 31 P P 07 23 28.2 +1.7
comp=N,0.2nm,0.3s,baz=333,slow=1.8,SNR=5.1
AKASG Malin Array Be 93.41 22 P P 07 23 48.8 +1.2
AKASG Malin Array Be 93.41 22 P P 07 23 48.8 +1.2
comp=N,0.4nm,0.4s,baz=331,slow=4.3,SNR=4.2
SONM Songino Array 94.18 334 P P 07 23 52.9 +1.5
SONM Songino Array 94.18 334 P P 07 23 52.9 +1.5
comp=N,1.4nm,1.1s,baz=48,slow=2.2,SNR=7.1
ZALV Zalesovo Beam 94.66 349 P P 07 23 53.7 +0.4
ZALV Zalesovo Beam 94.66 349 P P 07 23 53.7 +0.4
comp=N,0.6nm,0.6s,baz=5.7,slow=1.5,SNR=5.5
HHC Hu-ho-hao-te 97.54 327 eP P 07 24 06.3 -0.5
HHC sP sP 07 24 11.8 +2.8
HHC PP PP 07 28 06.8 +3.6
HHC SKS SKSac 07 34 41.8 -3.5
HHC S S 07 35 26.4 -6.2
HHC sS sS 07 35 35.1 -0.1
HHC SS SS 07 42 09.4 -0.7
HHC LR LR
comp=N,220nm,16.8s
HHC LR LR
comp=E,220nm,18.6s
HHC LR LR
comp=Z,190nm,17.5s
NJ2 Nanjing 100.13 316 eP Pdif 07 24 18.3 -0.1
LZH Lanzhou 104.96 329 ePdif Pdif 07 24 37.0 -3.1
KSH Kashi 110.08 351 ePKP 07 29 05.6
KSH PP PP 07 29 45.3 +9.0
KSH PKS PKSdf 07 32 41.0 -0.1
KSH SKKS 07 36 39.5
KSH SS SS 07 45 10.1 +8.4
KSH LR LR
comp=N,100nm,5.3s
KSH LR LR
comp=E,88nm,5.1s
KSH LR LR
comp=Z,220nm,7.4s
ASAR Alice Springs 119.44 258 PKP PKPdf 07 29 21.4 -1.1
ASAR Alice Springs 119.44 258 PKP PKPdf 07 29 21.4 -1.1
comp=Z,0.6nm,0.8s,baz=51,slow=3.0,SNR=4.8

IDC 24 07:11:12.8±1.3, 30°11N×114°67W, h0km, mb4.2/5, mb1 4.4/8, mb1mx4.1/25, mbtmp4.1/8, ML3.3/3, MS4.6/2, Ms1 4.6/2, ms1mx3.9/50, Error ellipse: s-maj=28.8km s-min=14.8km az=51.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANMO	Albuquerque	8.44	53	Pn	Pn	07 13 15.5	-1.2
	0.2nm,0.3s,baz=228,slow=15,SNR=3.9						
NVAR	Mina Array Bea	8.83	341	Pn	Pn	07 13 21.9	-0.1
	0.2nm,0.3s,baz=165,slow=14,SNR=11						
TXAR	Lajitas Array	9.60	92	Pn	Pn	07 13 33.3	+0.9
	0.1nm,0.3s,baz=255,slow=14,SNR=3.0						
ULM	Lac du Bonnet	24.59	30	P	P	07 16 35.7	+1.2
	25nm,1.1s,baz=225,slow=10,SNR=5.5						
YKA	Yellowknife Ar	32.39	0	PcP	PcP	07 20 32.8	+1.4
	0.0nm,0.3s,baz=158,slow=2.6,SNR=3.9						
ILAR	Eielson Array	40.08	339	P	P	07 18 54.1	+4.4
	1.1nm,0.9s,baz=150,slow=7.3,SNR=2.9						
SJG	San Juan	45.56	94	LR	LR	07 39 39.0	
	comp=Z,504nm,20.1s,baz=360,slow=37						
SIV	San Ignacio	69.02	124	P	P	07 22 20.6	0.0
	6.8nm,1.0s,baz=322,slow=8.0,SNR=6.5						
CFAA	Coronel Fontan	75.56	140	P	P	07 22 58.5	-1.0
	0.5nm,1.1s,baz=300,slow=5.1,SNR=4.1						
PLCA	Paso Flores	81.47	148	P	P	07 23 32.7	+0.8
	3.3nm,1.0s,baz=349,slow=6.8,SNR=3.5						
PNCL	Nicolau / Gran	83.29	50	*i* P	P	07 23 44.6	+3.0
PMRV	Marv??o	83.31	48	*i* P	P	07 23 43.2	+1.4
PTEO	Sao Teotonio	83.47	50	*i* P	P	07 23 43.7	+1.1
PESTR	Estremoz	83.50	49	*i* P	P	07 23 44.6	+1.9
PCVE	Castro Verde	83.88	50	*i* P	P	07 23 47.1	+2.4
ESDC	Sonseca Array	85.36	46	P	P	07 23 53.2	+1.0
	0.2nm,0.3s,baz=308,slow=4.2,SNR=4.2						
GERES	GERESS Array B	88.89	31	LR	LR	08 08 20.6	
	comp=Z,381nm,18.0s,baz=276,slow=39						

*ISCJB **24** 07:17:33.8±1.0, 29°.96N±0°.10×114°.43W±0°.07, h10km, mb3.9/6, MS4.2/1, Error ellipse: s-maj=14.9km s-min=6.4km az=22.4*

*IDC **24** 07:17:34.7±1.4, 29°.95N×114°.32W, h0km, mb4.2/5, mb1 4.1/9, mb1mx3.9/27, mbtmp3.9/9, ML3.4/4, MS4.2/1, Ms1 4.4/1, ms1mx2.9/52, Error ellipse: s-maj=27.5km s-min=12.9km az=43.0*

*ECX **24** 07:17:35.7±0.3, 30°.46N×114°.10W, h15km, MD4.4, ML4.5*

*NEIC **24** 07:17:37.3±1.2, 30°.01N×114°.22W, h10km, mb4.0/7, Error ellipse: s-maj=18.3km s-min=10.1km az=23.0*

ISC 24 07:17:36.0±1.1, 30°.0N±0°.1×114°.48W±0°.08, h10km, n43, σ1883/41, mb4.0/6, 3C-1D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPX	San Pedro Mart	1.35	321	⇑ eP	Pn	07 17 58.3	-3.0
SPX				*e*S	Sb	07 18 16.3	-2.9
SPX				⇑*e*		07 18 24.3	
	comp=N,7μm,1.2s						
RDX	Rancho Dawling	2.31	327	*e*PN	Pn	07 18 11.7	-2.6
RDX				*e*S	Sn	07 18 39.2	-3.6
RDX				⇑*e*		07 19 04.6	
	comp=N,2μm,1.1s						
ECNX	Esteban Cantu	2.47	313	*e*PN	Pn	07 18 15.3	-1.1
ECNX				*e*PN	Pb	07 18 17.7	-2.9
PBX	Punta Banda	2.61	313	‖ *e*PN	Pn	07 18 17.0	-1.2
RMX	La Rumorosa	2.94	333	*e*PN	Pn	07 18 19.3	-3.7
CBX	Cerro Bola	2.98	322	*e*PN	Pn	07 18 21.3	-2.2
GLA	Glamis	3.07	354	*e*Pn	Pn	07 18 23.0	-1.6
BAR	Barrett	3.27	326	*e*Pn	Pn	07 18 26.1	-1.4
TUC	Tucson	3.92	53	*e*Pn	Pn	07 18 33.2	-3.1
MWC	Mount Wilson	5.20	325	*e*Pn	Pn	07 18 54.5	+0.5
	comp=N,6.1nm,1.5s						
PASC	Pasadena Art C	5.22	324	Pn	Pn	07 18 58.7	+4.5
PASC				*e*S	Sb	07 20 15.3	+5.0
GSC	Goldstone	5.65	340	*e*Pg	Pg	07 19 22.4	-1.8
WUAZ	Wupatki	6.10	25	*e*Pn	Pn	07 19 05.8	-0.6
ISA	Isabella	6.58	330	*e*Pn	Pn	07 19 16.6	+3.7
	comp=N,30nm,1.2s						
CCUT	Cedar City	7.60	7	*e*Pn	Pn	07 19 27.8	+0.8
	comp=N,42nm,1.3s						
BNM	Barren Site	7.84	56	*e*Pn	Pn	07 19 28.7	-1.7
	comp=N,4.3nm,0.4s						
ANMO	Albuquerque	8.38	52	*e*Pn	Pn	07 19 36.4	-1.3
ANMO				Lg	Lg	07 22 05.8	
ANMO	Albuquerque	8.38	52	Pn	Pn	07 19 35.9	-1.8
	comp=N,0.4nm,0.3s,baz=231,slow=14,SNR=11						
ANMO				Lg	Lg	07 22 05.8	
	comp=N,0.0nm,0.3s,baz=293,slow=18,SNR=2.4						
NVAR	Mina Array Bea	8.99	340	Pn	Pn	07 19 48.6	+2.4
NVAR				Lg	Lg	07 22 22.1	
NVAR	Mina Array Bea	8.99	340	Pn	Pn	07 19 48.6	+2.4
	comp=N,0.1nm,0.3s,baz=162,slow=16,SNR=2.8						
NVAR				Lg	Lg	07 22 22.1	
	comp=N,0.1nm,0.3s,baz=166,slow=12,SNR=2.4						
TXAR	Lajitas Array	9.43	91	Pn	Pn	07 19 51.6	-0.4
TXAR				Lg	Lg	07 22 34.9	
TXAR	Lajitas Array	9.43	91	Pn	Pn	07 19 51.6	-0.4
	comp=N,0.2nm,0.3s,baz=270,slow=12,SNR=12						
TXAR				Lg	Lg	07 22 34.9	
	comp=N,0.1nm,0.3s,baz=276,slow=32,SNR=4.1						
PDAR	Pinedale Array	13.35	16	Pn	Pn	07 20 49.1	+3.4
PDAR	Pinedale Array	13.35	16	Pn	Pn	07 20 49.1	+3.4
	comp=N,0.0nm,0.3s,baz=172,slow=9.1,SNR=3.6						
MCMT	McKenzie Canyo	14.87	5	*e*P	P	07 21 12.2	-0.1
	comp=N,4.8nm,1.1s						
BMO	Blue Mountains	15.01	352	*e*P	P	07 21 15.7	+2.0
	comp=N,6.0nm,1.2s						
DLMT	Dillon	15.42	5	*e*P	P	07 21 17.1	-1.2
	comp=N,13nm,1.3s						
RSSD	Black Hills	16.36	28	*e*P	P	07 21 27.0	-1.8
	comp=N,11nm,1.2s						
CHMT	Chamberlain Mo	16.93	3	*e*P	P	07 21 35.6	+0.6
	comp=N,7.3nm,1.2s						
EGMT	Eagleton	18.37	10	*e*P	P	07 21 52.3	+1.4
	comp=N,14nm,1.3s						
DGMT	Dagmar	20.07	20	*e*P	Pn	07 22 10.1	-1.1
	comp=N,27nm,1.1s						
ULM	Lac du Bonnet	24.61	29	P	P	07 22 56.2	0.0
ULM	Lac du Bonnet	24.61	29	P	P	07 22 56.2	0.0
	comp=N,19nm,1.1s,baz=225,slow=9.9,SNR=12						
YKA	Yellowknife Ar	32.51	360	P	P	07 24 07.7	+1.1
YKA				PcP	PcP	07 26 52.8	-0.4
YKA	Yellowknife Ar	32.51	360	P	P	07 24 07.7	+1.1
	comp=N,0.1nm,0.6s,baz=188,slow=8.1,SNR=2.7						
YKA				PcP	PcP	07 26 52.7	-0.4
	comp=N,0.4nm,0.9s,baz=184,slow=1.9,SNR=4.2						
INK	Inuvik	39.95	349	*e*P	P	07 25 12.0	+1.9
	comp=N,5.9nm,1.3s						
INK	Inuvik	39.95	349	P	P	07 25 08.9	-1.2
	comp=N,3.6nm,1.2s,baz=166,slow=6.7,SNR=2.9						

ILAR	**Eielson Array**	**40.25 339**	P	**P**	**07 25 13.5**	**+0.8**
ILAR	**Eielson Array**	**40.25 339**	P	**P**	**07 25 13.5**	**+0.8**
	comp=N,1.6nm,1.0s,baz=146,slow=6.8,SNR=13					
ILAR			LR	LR	07 42 13.0	
	comp=N,329nm,18.6s,baz=129,slow=37					
SIV	**San Ignacio**	**68.82 124**	P	**P**	**07 28 40.1**	**-0.8**
SIV	**San Ignacio**	**68.82 124**	P	**P**	**07 28 40.1**	**-0.8**
	comp=N,3.9nm,1.1s,baz=337,slow=6.8,SNR=7.0					
SONM	**Songino Array**	**94.27 334**	P	**P**	**07 30 58.1**	**+2.4**
SONM	**Songino Array**	**94.27 334**	P	**P**	**07 30 58.1**	**+2.4**
	comp=N,0.6nm,0.9s,baz=46,slow=4.3,SNR=4.2					

IDC 24 07:19:25.1±2.7, **12°41N**×**88°20W**, **h56**km±29km, **mb3.7**/8, **mb1 3.9**/10, **mb1mx3.7**/26, **mbtmp3.7**/10, **ML3.4**/2, **Error ellipse: s-maj=46.2km s-min=17.2km az=50.0, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTS	**JuntasAbangare**	**3.82**	**123**	P	Pn	07 20 21.4	-0.1
	2.6nm,0.3s,baz=315,slow=17,SNR=30						
JTS				S	Sn	07 21 00.6	-4.5
	1.2nm,0.3s,baz=180,slow=20,SNR=2.8						
CMIG	**Matias Romero**	**7.97**	**307**	P	Pn	07 21 17.0	-1.3
	0.5nm,0.3s,baz=91,slow=11,SNR=17						
TXAR	**Lajitas Array**	**22.15**	**322**	P	P	07 24 17.5	+1.1
	2.5nm,0.7s,baz=140,slow=11,SNR=13						
TKL	**Tuckaleechee C**	**23.49**	**9**	P	P	07 24 31.7	+1.7
	3.0nm,0.6s,baz=206,slow=8.7,SNR=3.9						
PDAR	**Pinedale Array**	**35.47**	**332**	PcP	PcP	07 28 46.5	+1.5
	0.4nm,0.6s,baz=134,slow=5.2,SNR=3.5						
ULM	**Lac du Bonnet**	**38.26**	**352**	P	P	07 26 39.0	-0.7
	4.4nm,0.5s,baz=166,slow=9.3,SNR=12						
SIV	**San Ignacio**	**38.94**	**136**	P	P	07 26 45.9	0.0
	1.7nm,0.8s,baz=299,slow=7.2,SNR=8.9						
SCHQ	**Schefferville**	**45.53**	**17**	P	P	07 27 38.7	-0.3
	2.1nm,0.7s,baz=260,slow=15,SNR=7.2						
YKA	**Yellowknife Ar**	**53.46**	**348**	P	P	07 28 38.9	-0.3
	1.1nm,0.8s,baz=139,slow=7.7,SNR=15						
RES	**Resolute Bay**	**62.38**	**358**	P	P	07 29 40.9	-0.6
	0.5nm,0.6s,baz=190,slow=8.6,SNR=5.1						
ILAR	**Eielson Array**	**65.77**	**336**	P	P	07 30 04.2	+0.2
	0.3nm,0.8s,baz=105,slow=4.7,SNR=4.2						

*ISCJB **24** 07:41:19.9±0.4, 39°.13N±0°.02×29°.04E±0°.02, h2km±4km, Error ellipse: s-maj=3.3km s-min=2.8km az=173.6*
*ISK **24** 07:41:19.4, 39°.13N×29°.06E, h3km, ML3.4*
*DDA **24** 07:41:19.9, 39°.13N×29°.02E, h7km, ML3.6*
*CSEM **24** 07:41:20.4±0.1, 39°.13N×29°.06E, h2km, ML3.4, Error ellipse: s-maj=1.9km s-min=1.8km az=34.0*

ISC 24 07:41:20.4±1.1, **39°.14N**±0°.02×**29°.04E**±0°.02, **h0**km±13km, **n129**, **σ0s54**/148, **4C-2D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.27**	**250**	*i* Pg	**Pg**	**07 41 25.9**	**+0.3**
DEMI				*i* Sg	**Sg**	**07 41 29.5**	**+0.4**
GDZ	**Gediz**	**0.34**	**97**	*i* Pg	**Pg**	**07 41 27.7**	**+0.7**
GDZ				*i* Sg	**Sg**	**07 41 32.6**	**+1.1**
TVSB	**Tavsanli**	**0.45**	**46**	PG	**Pg**	**07 41 29.3**	**+0.2**
TVSB				*e*SG	**Sg**	**07 41 35.9**	**+0.9**
TVSB	**Tavsanli**	**0.45**	**46**	*i* Pg	**Pg**	**07 41 29.3**	**+0.2**
TVSB				*e*Sg	**Sg**	**07 41 35.9**	**+0.9**
DST	**Dursunbey**	**0.57**	**325**	*e*PG	**Pg**	**07 41 31.6**	**+0.3**
DST	**Dursunbey**	**0.57**	**325**	*e*Pg	**Pg**	**07 41 31.7**	**+0.3**
DURS	**Dursunbey**	**0.64**	**317**	*i* P	**Pg**	**07 41 32.9**	**+0.2**
DURS				*i* S	**Sg**	**07 41 41.4**	**+0.3**
DURS	**Dursunbey**	**0.64**	**317**	*i* P	**Pg**	**07 41 32.9**	**+0.2**
DURS				*i* S	**Sg**	**07 41 41.4**	**+0.3**
KULA	**Kula-Manisa**	**0.69**	**206**	*e*PG	**Pg**	**07 41 33.2**	**-0.4**
KULA	**Kula-Manisa**	**0.69**	**206**	*e*Pg	**Pg**	**07 41 33.2**	**-0.4**
MANT	**Manisa**	**0.75**	**211**	*i* P	**Pg**	**07 41 34.4**	**-0.3**
MANT				*i* S	**Sg**	**07 41 43.6**	**-0.8**
MANT	**Manisa**	**0.75**	**211**	*i* P	**Pg**	**07 41 34.4**	**-0.3**
MANT				*i* S	**Sg**	**07 41 43.6**	**-0.8**
ALT	**Altintas**	**0.83**	**95**	*e*PG	**Pg**	**07 41 36.1**	**-0.3**
ALT	**Altintas**	**0.83**	**95**	*e*Pg	**Pg**	**07 41 36.1**	**-0.3**
KHAL	**Karahalli**	**0.84**	**155**	*i* P	**Pg**	**07 41 36.7**	**+0.2**
KHAL				*i* S	**Sg**	**07 41 47.4**	**0.0**
KHAL	**Karahalli**	**0.84**	**155**	*i* P	**Pg**	**07 41 36.7**	**+0.2**
KHAL				*i* S	**Sg**	**07 41 47.4**	**0.0**
KHL	**Karahalli**	**0.89**	**155**	*e*PG	**Pg**	**07 41 37.5**	**0.0**
KHL	**Karahalli**	**0.89**	**155**	*e*Pg	**Pg**	**07 41 37.5**	**0.0**
ORLT	**Orhaneli**	**0.92**	**353**	*e*PG	**Pg**	**07 41 37.9**	**-0.1**
ORLT	**Orhaneli**	**0.92**	**353**	*e*Pg	**Pg**	**07 41 37.9**	**-0.1**
AKHS	**Akhisar**	**0.99**	**255**	*i* P	**Pg**	**07 41 39.3**	**+0.1**
AKHS				*i* S	**Sg**	**07 41 52.2**	**0.0**
AKHS	**Akhisar**	**0.99**	**255**	*i* P	**Pg**	**07 41 39.3**	**-0.1**
AKHS				*i* S	**Sg**	**07 41 52.2**	**0.0**
AKS	**Akhisar**	**0.99**	**255**	*e*PG	**Pg**	**07 41 39.5**	**+0.1**
AKS	**Akhisar**	**0.99**	**255**	*e*Pg	**Pg**	**07 41 39.5**	**+0.1**
ULDT	**Uludag**	**1.01**	**4**	*i* P	**Pg**	**07 41 39.5**	**-0.2**
ULDT				*i* S	**Sg**	**07 41 52.1**	**-0.7**
ULDT	**Uludag**	**1.01**	**4**	*i* P	**Pg**	**07 41 39.5**	**-0.2**
ULDT				*i* S	**Sg**	**07 41 52.1**	**-0.7**
BALB	**Balikesir**	**1.03**	**300**	*e*PG	**Pg**	**07 41 40.0**	**-0.2**
BALB	**Balikesir**	**1.03**	**300**	*e*Pg	**Pg**	**07 41 40.0**	**-0.2**
CAVI	**Cavuskoy**	**1.23**	**30**	*e*PN	**Pg**	**07 41 43.9**	**-0.2**
CAVI	**Cavuskoy**	**1.23**	**30**	*e*Pn	**Pg**	**07 41 43.9**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.24**	**354**	*e*PN	**Pg**	**07 41 43.7**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.24**	**354**	*e*Pn	**Pg**	**07 41 43.7**	**-0.5**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*PN	**Pg**	**07 41 44.1**	**-0.2**
KCTX	**Karacabey (Bur**	**1.25**	**335**	*e*Pn	**Pg**	**07 41 44.2**	**-0.2**
BALY	**Balya**	**1.26**	**299**	*i* P	**Pg**	**07 41 44.2**	**-0.3**
BALY				*i* S	**Sg**	**07 42 00.4**	**-0.4**
BALY	**Balya**	**1.26**	**299**	*i* P	**Pg**	**07 41 44.2**	**-0.3**
BALY				*i* S	**Sg**	**07 42 00.4**	**-0.4**
SHUT	**Suhut-Afyon**	**1.31**	**116**	*e*PN	**Pg**	**07 41 45.1**	**-0.5**
SHUT	**Suhut-Afyon**	**1.31**	**116**	*e*Pn	**Pg**	**07 41 45.1**	**-0.5**
BORA	**Eskisehir**	**1.32**	**55**	*e*P	**Pg**	**07 41 45.4**	**-0.3**
BORA				*e*S	**Sb**	**07 42 03.5**	**-0.2**
BORA	**Eskisehir**	**1.32**	**55**	*e*P	**Pg**	**07 41 45.4**	**-0.3**
BORA				*e*S	**Sb**	**07 42 03.5**	**-0.2**
GONE	**Gonen-Balikesi**	**1.39**	**311**	*e*PN	**Pn**	**07 41 46.4**	**-0.7**
GONE	**Gonen-Balikesi**	**1.39**	**311**	*e*Pn	**Pn**	**07 41 46.4**	**-0.7**
ADVT	**Abdulvahap**	**1.40**	**22**	*e*PN	**Pn**	**07 41 46.8**	**-0.5**
ADVT	**Abdulvahap**	**1.40**	**22**	*e*Pn	**Pn**	**07 41 46.8**	**-0.5**
ARMT	**Armutlu**	**1.44**	**354**	*e*PN	**Pn**	**07 41 46.4**	**-1.3**
ARMT	**Armutlu**	**1.44**	**354**	*e*Pn	**Pn**	**07 41 46.4**	**-1.3**
YLV	**Yalova**	**1.45**	**10**	*e*PN	**Pn**	**07 41 46.8**	**-1.2**
YLV	**Yalova**	**1.45**	**10**	*e*Pn	**Pn**	**07 41 46.8**	**-1.2**
ESKT	**Eskisehir**	**1.45**	**74**	*e*PN	**Pn**	**07 41 46.9**	**-1.2**
ESKT	**Eskisehir**	**1.45**	**74**	*e*Pn	**Pn**	**07 41 46.9**	**-1.2**
BNT	**Bandirma**	**1.50**	**325**	*e*PN	**Pn**	**07 41 48.6**	**0.0**
BNT	**Bandirma**	**1.50**	**325**	*e*Pn	**Pn**	**07 41 48.6**	**0.0**
GPA	**Golpazari**	**1.51**	**40**	*e*PN	**Pn**	**07 41 48.3**	**-0.5**
GPA	**Golpazari**	**1.51**	**40**	*e*Pn	**Pn**	**07 41 48.3**	**-0.5**
EDC	**Edincik**	**1.51**	**323**	*e*PN	**Pn**	**07 41 48.7**	**-0.1**
EDC	**Edincik**	**1.51**	**323**	*e*Pn	**Pn**	**07 41 48.7**	**-0.1**
IZM	**Izmir**	**1.57**	**243**	*e*PN	**Pn**	**07 41 49.5**	**-0.2**
IZM	**Izmir**	**1.57**	**243**	*e*Pn	**Pn**	**07 41 49.5**	**-0.2**
GULT	**Gulveren**	**1.72**	**41**	*e*PN	**Pn**	**07 41 51.2**	**-0.5**
GULT	**Gulveren**	**1.72**	**41**	*e*Pn	**Pn**	**07 41 51.2**	**-0.5**
BLCB	**Balcova**	**1.73**	**245**	*e*PN	**Pn**	**07 41 51.8**	**0.0**
BLCB	**Balcova**	**1.73**	**245**	*e*Pn	**Pn**	**07 41 51.8**	**0.0**
ISP	**Isparta**	**1.75**	**138**	*e*PN	**Pn**	**07 41 51.2**	**-0.9**
ISP	**Isparta**	**1.75**	**138**	*e*Pn	**Pn**	**07 41 51.2**	**-0.9**
HRT	**Hereke**	**1.75**	**16**	*e*PN	**Pn**	**07 41 51.8**	**-0.3**
HRT	**Hereke**	**1.75**	**16**	*e*Pn	**Pn**	**07 41 51.8**	**-0.3**
SPNC	**Sapanca-Adapaz**	**1.83**	**32**	*e*PN	**Pn**	**07 41 53.0**	**-0.2**
SPNC	**Sapanca-Adapaz**	**1.83**	**32**	*e*Pn	**Pn**	**07 41 53.0**	**-0.2**
AYVA	**Ayvalik**	**1.83**	**276**	*e*P	**Pb**	**07 41 54.6**	**-0.2**
AYVA				*e*S	**Sg**	**07 42 19.1**	**-0.3**
AYVA	**Ayvalik**	**1.83**	**276**	*e*P	**Pb**	**07 41 54.6**	**-0.2**
AYVA				*e*S	**Sg**	**07 42 19.1**	**-0.3**
KRBG	**Karabiga-Canak**	**1.84**	**314**	*e*PN	**Pn**	**07 41 53.3**	**0.0**
KRBG	**Karabiga-Canak**	**1.84**	**314**	*e*Pn	**Pn**	**07 41 53.3**	**0.0**
ISK	**Istanbul-Kandi**	**1.93**	**0**	*e*PN	**Pn**	**07 41 54.4**	**-0.1**
ISK	**Istanbul-Kandi**	**1.93**	**0**	*e*Pn	**Pn**	**07 41 54.4**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.95**	**80**	*e*PN	**Pn**	**07 41 54.0**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.95**	**80**	*e*Pn	**Pn**	**07 41 54.0**	**-0.9**
BGKT	**Bogazkoy**	**2.05**	**354**	*e*PN	**Pn**	**07 41 56.2**	**0.0**
BGKT	**Bogazkoy**	**2.05**	**354**	*e*Pn	**Pn**	**07 41 56.2**	**0.0**
BCK	**Bucak**	**2.07**	**143**	*e*PN	**Pn**	**07 41 56.1**	**-0.3**
BCK	**Bucak**	**2.07**	**143**	*e*Pn	**Pn**	**07 41 56.1**	**-0.3**
SILT	**Sile**	**2.07**	**13**	*e*PN	**Pn**	**07 41 56.4**	**0.0**
SILT	**Sile**	**2.07**	**13**	*e*Pn	**Pn**	**07 41 56.4**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.11**	**318**	*e*PN	**Pn**	**07 41 57.0**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.11**	**318**	*e*Pn	**Pn**	**07 41 57.0**	**0.0**
MDUB	**Mudurnu**	**2.13**	**51**	*e*PN	**Pn**	**07 41 57.1**	**-0.2**
MDUB	**Mudurnu**	**2.13**	**51**	*e*Pn	**Pn**	**07 41 57.1**	**-0.2**
CTKS	**Kestanelik-??a**	**2.14**	**349**	*e*PN	**Pn**	**07 41 57.5**	**+0.1**
CTKS	**Kestanelik-??a**	**2.14**	**349**	*e*Pn	**Pn**	**07 41 57.5**	**+0.1**
LPK	**Lapseki**	**2.15**	**306**	*e*PN	**Pn**	**07 41 57.7**	**+0.2**
LPK	**Lapseki**	**2.15**	**306**	*e*Pn	**Pn**	**07 41 57.7**	**+0.2**
PRK	**Paraskevi**	**2.16**	**274**	*e*P	Pn	07 41 52.5	-5.1
PRK				*e*S	**Sg**	**07 42 29.3**	**-0.4**
SLVT	**Silivri**	**2.19**	**343**	*e*PN	**Pn**	**07 41 58.2**	**+0.2**
SLVT	**Silivri**	**2.19**	**343**	*e*Pn	**Pn**	**07 41 58.3**	**+0.2**
EZN	**Ezine**	**2.21**	**289**	*e*PN	**Pn**	**07 41 58.6**	**+0.3**
EZN	**Ezine**	**2.21**	**289**	*e*Pn	**Pn**	**07 41 58.7**	**+0.3**
GELI	**Tayfur-Gelibol**	**2.35**	**303**	*e*PN	**Pn**	**07 42 00.5**	**+0.3**
GELI	**Tayfur-Gelibol**	**2.35**	**303**	*e*Pn	**Pn**	**07 42 00.5**	**+0.3**
CTYL	**Yal??k??y-??at**	**2.41**	**346**	*e*PN	**Pn**	**07 42 01.3**	**+0.2**
CTYL	**Yal??k??y-??at**	**2.41**	**346**	*e*Pn	**Pn**	**07 42 01.3**	**+0.2**
ERIK	**Erikli-Kesan**	**2.48**	**309**	*e*PN	**Pn**	**07 42 02.4**	**+0.4**
ERIK	**Erikli-Kesan**	**2.48**	**309**	*e*Pn	**Pn**	**07 42 02.4**	**+0.4**
BODT	**Bodrum**	**2.48**	**214**	*e*PN	**Pn**	**07 42 02.2**	**+0.1**
BODT	**Bodrum**	**2.48**	**214**	*e*Pn	**Pn**	**07 42 02.2**	**+0.1**
ELL	**Elmali**	**2.48**	**164**	*e*PN	**Pn**	**07 42 02.0**	**-0.2**
ELL	**Elmali**	**2.48**	**164**	*e*Pn	**Pn**	**07 42 02.0**	**-0.2**
FETY	**Fethiye**	**2.50**	**179**	*e*PN	**Pn**	**07 42 01.8**	**-0.5**
FETY	**Fethiye**	**2.50**	**179**	*e*Pn	**Pn**	**07 42 01.8**	**-0.5**
ENEZ	**Enez**	**2.74**	**307**	*e*PN	**Pn**	**07 42 06.1**	**+0.5**
ENEZ	**Enez**	**2.74**	**307**	*e*Pn	**Pn**	**07 42 06.1**	**+0.5**
ALN	**Alexandroupoli**	**2.90**	**308**	*e*P	**Pn**	**07 42 08.4**	**+0.6**
LOD	**Lodumlu**	**2.98**	**74**	*e*PN	**Pn**	**07 42 09.1**	**+0.1**
LOD	**Lodumlu**	**2.98**	**74**	*e*Pn	**Pn**	**07 42 09.1**	**+0.1**
LIA	**Limnos Island**	**3.08**	**286**	*e*P	**Pn**	**07 42 07.7**	**-2.6**
EDRB	**Edirne**	**3.23**	**328**	*e*PN	**Pn**	**07 42 12.9**	**+0.6**
EDRB	**Edirne**	**3.23**	**328**	*e*Pn	**Pn**	**07 42 13.0**	**+0.6**
RDO	**Rodopi**	**3.35**	**308**	*e*P	**Pn**	**07 42 14.6**	**+0.5**
APE	**Apeiranthos**	**3.45**	**234**	↑*i*P	**Pg**	**07 42 27.4**	**+0.8**
SAFT	**Safranbolu**	**3.50**	**52**	*e*PN	**Pn**	**07 42 16.6**	**+0.6**
SAFT	**Safranbolu**	**3.50**	**52**	*e*Pn	**Pn**	**07 42 16.6**	**+0.6**
SULT	**Sultanhani-AKS**	**3.62**	**104**	*e*PN	**Pn**	**07 42 18.2**	**+0.4**
SULT	**Sultanhani-AKS**	**3.62**	**104**	*e*Pn	**Pn**	**07 42 18.3**	**+0.4**
CORM	**Corum**	**4.44**	**75**	*e*PN	**Pn**	**07 42 29.9**	**+0.8**
CORM	**Corum**	**4.44**	**75**	*e*Pn	**Pn**	**07 42 29.9**	**+0.8**
TIRR	**Tirgusor**	**5.34**	**355**	↑*i*P		08 13 33.6	
TIRR				S		08 13 37.8	
TLCR		**6.05**	**358**	↑*i*P	**Pn**	**07 42 50.4**	**-0.7**
CFR	**Carcaliu**	**6.08**	**354**	↓*i*P	**Pn**	**07 42 50.6**	**-0.9**
MLR	**Muntele Rosu**	**6.75**	**341**	↑*i*P	**Pn**	**07 43 01.9**	**+1.0**
VOIR		**6.96**	**336**	↓*i*P	**Pn**	**07 43 03.5**	**-0.2**
ONI	**Oni**	**11.45**	**68**	P	**Pn**	**07 44 06.2**	**+1.1**

IDC 24 07:45:46.6±6.5, **17°.67S**×**178°.36W**, **h569**km±72km, **mb2.9**/6, **mb1 3.3**/6, **mb1mx3.1**/18, **mbtmp2.9**/6, **Error ellipse: s-maj=93.0km s-min=23.4km az=151.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.72**	**259**	P	P	07 53 10.2	-0.1
	0.5nm,0.5s,baz=96,slow=7.2,SNR=10						
WRA				PcP	PcP	07 54 39.4	-0.8
	0.4nm,0.6s,baz=99,slow=3.1,SNR=3.5						
ASAR	**Alice Springs**	**44.90**	**254**	P	P	07 53 11.5	-0.1
	2.4nm,0.6s,baz=87,slow=8.6,SNR=34						
ASAR				PcP	PcP	07 54 40.0	-0.8
	0.5nm,0.5s,baz=104,slow=3.9,SNR=5.9						
NVAR	**Mina Array Bea**	**79.22**	**44**	P	P	07 56 52.8	-1.0
	0.5nm,0.8s,baz=218,slow=11,SNR=4.1						
ILAR	**Eielson Array**	**85.65**	**13**	P	P	07 57 24.8	-0.4
	0.5nm,0.7s,baz=225,slow=4.8,SNR=8.0						
TXAR	**Lajitas Array**	**85.83**	**58**	P	P	07 57 28.0	+1.0
	0.5nm,0.7s,baz=218,slow=4.9,SNR=8.4						
PDAR	**Pinedale Array**	**87.15**	**43**	P	P	07 57 32.5	-0.6
	0.1nm,0.5s,baz=178,slow=2.4,SNR=4.1						
GERES	**GERESS Array B**	**147.40**	**345**	PKPbc	PKPbc	08 04 27.2	+0.2
	0.9nm,0.6s,baz=29,slow=3.0,SNR=8.1						

*IDC **24** 07:45:45.3±1.3, 8°.44N×103°.55W, h0km, mb3.9/9, mb1 4.2/10, mb1mx4.1/22, mbtmp3.9/10, ML3.8/1, MS4.1/3, Ms1 4.1/3, ms1mx3.6/38, Error ellipse: s-maj=49.1km s-min=17.4km az=58.0*
*ISCJB **24** 07:45:46.6±1.1, 8°.5N±0°.1×103°.3W±0°.2, h10km, mb4.2/18, MS3.9/1, Error ellipse: s-maj=28.4km s-min=12.3km az=151.1*
*NEIC **24** 07:45:47.2±1.0, 8°.35N×103°.48W, h10km, mb4.4/11, Error ellipse: s-maj=26.2km s-min=14.2km az=64.0*

ISC 24 07:45:47.1±1.1, **8°.4N**±0°.1×**103°.4W**±0°.2, **h10**km, **n34**, **σ1s50**/32, **mb4.2**/18, **Northern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**12.00**	**43**	Pn	**Pn**	**07 48 37.0**	**-1.3**
CMIG	**Matias Romero**	**12.00**	**43**	Pn	**Pn**	**07 48 37.0**	**-1.3**
	0.6nm,0.3s,baz=195,slow=8.7,SNR=10						
CMIG				LR	LR	07 52 16.6	
	comp=Z,933nm,22.0s,baz=277,slow=32						
TEIG	**Tepich**	**18.79**	**50**	LR	LR	07 56 30.5	
	comp=Z,493nm,20.2s,baz=298,slow=34						
TXAR	**Lajitas Array**	**20.81**	**359**	P	**P**	**07 50 30.1**	**+1.2**
TXAR	**Lajitas Array**	**20.81**	**359**	P	**P**	**07 50 30.1**	**+1.2**
	2.0nm,0.9s,baz=182,slow=11,SNR=6.7						
TXAR				LR	LR	07 58 01.0	
	comp=Z,534nm,19.4s,baz=70,slow=35						
JCT	**Junction City**	**22.22**	**8**	*e*P	**P**	**07 50 46.4**	**+2.5**
	11nm,1.1s						
HKT	**Hockley**	**22.58**	**17**	*e*P	**P**	**07 50 50.6**	**+2.8**
	76nm,2.2s						
MNTX	**Cornudas Mount**	**23.24**	**356**	*e*P	**P**	**07 50 55.1**	**+0.5**
	7.6nm,1.5s						
TUC	**Tucson**	**24.74**	**345**	*e*P	**P**	**07 51 10.2**	**+1.3**
	6.4nm,1.3s						
LAZ	**Ladron**	**26.09**	**353**	*e*P	**P**	**07 51 23.9**	**+2.6**
MIAR	**Mount Ida**	**27.55**	**18**	*e*P	**P**	**07 51 35.3**	**+1.2**
	15nm,1.4s						
MPU	**Maple Canyon**	**32.31**	**348**	*e*P	P	07 52 21.5	+4.9
	12nm,1.4s						
NVAR	**Mina Array Bea**	**32.75**	**338**	P	**P**	**07 52 21.4**	**+0.9**
NVAR	**Mina Array Bea**	**32.75**	**338**	P	**P**	**07 52 21.4**	**+0.9**
	0.2nm,0.4s,baz=171,slow=10,SNR=4.0						
HDIL	**Hopedale**	**34.40**	**19**	*e*P	**P**	**07 52 36.0**	**+1.4**
	21nm,0.9s						
BW06	**Boulder Array**	**34.64**	**352**	*e*P	**P**	**07 52 37.4**	**+0.5**
	3.3nm,1.0s						
PDAR	**Pinedale Array**	**34.64**	**352**	P	**P**	**07 52 37.6**	**+0.7**
PDAR	**Pinedale Array**	**34.64**	**352**	P	**P**	**07 52 37.6**	**+0.7**
	3.3nm,1.0s,baz=168,slow=7.4,SNR=14						
LOHW	**Long Hollow**	**35.62**	**351**	*e*P	**P**	**07 52 46.5**	**+1.2**
	1.8nm,0.8s						
AGMN	**Agassiz Nation**	**40.26**	**8**	*e*P	**P**	**07 53 23.8**	**-0.4**
	8.1nm,1.1s						
ULM	**Lac du Bonnet**	**42.18**	**7**	P	**P**	**07 53 39.0**	**-0.9**
ULM	**Lac du Bonnet**	**42.18**	**7**	P	**P**	**07 53 39.0**	**-0.9**
	0.9nm,0.4s,baz=191,slow=8.1,SNR=3.8						
LPAZ	**La Paz**	**42.70**	**125**	P	**P**	**07 53 46.8**	**+1.4**
LPAZ	**La Paz**	**42.70**	**125**	P	**P**	**07 53 46.8**	**+1.4**
	1.9nm,0.7s,baz=314,slow=7.0,SNR=9.0						
SIV	**San Ignacio**	**48.45**	**120**	P	**P**	**07 54 31.4**	**+1.2**
SIV	**San Ignacio**	**48.45**	**120**	P	**P**	**07 54 31.4**	**+1.2**
	1.3nm,1.0s,baz=292,slow=10,SNR=4.0						
CPUP	**Villa Florida**	**56.54**	**129**	P	**P**	**07 55 28.9**	**-1.1**
CPUP	**Villa Florida**	**56.54**	**129**	P	**P**	**07 55 28.9**	**-1.1**
	1.5nm,0.9s,baz=270,slow=10,SNR=3.5						
INK	**Inuvik**	**63.05**	**348**	*e*P	**P**	**07 56 12.3**	**-1.8**
	4.5nm,1.0s						
INK	**Inuvik**	**63.05**	**348**	P	**P**	**07 56 12.5**	**-1.7**
	2.5nm,0.9s,baz=140,slow=6.3,SNR=7.0						
ILAR	**Eielson Array**	**63.95**	**341**	P	**P**	**07 56 17.8**	**-2.4**
ILAR	**Eielson Array**	**63.95**	**341**	P	**P**	**07 56 17.8**	**-2.4**
	1.8nm,0.8s,baz=150,slow=4.6,SNR=27						
CMAR	**Chiang Mai Arr**	**145.35**	**321**	PKPbc	**PKPdf**	**08 05 26.4**	**+0.1**
CMAR	**Chiang Mai Arr**	**145.35**	**321**	PKPbc	**PKPdf**	**08 05 26.4**	**+0.1**
	0.8nm,0.4s,baz=32,slow=3.6,SNR=4.5						

*ISCJB **24** 07:57:54.7±0.5, 36°.53N±0°.02×9°.86W±0°.04, h30km, Error ellipse: s-maj=4.2km s-min=3.2km az=170.4*
*SFS **24** 07:57:55.0, 36°.49N×10°.00W, h28km, ML3.5*
*CSEM **24** 07:57:56.6±0.2, 36°.54N×9°.89W, h30km, ML4.2/5, Error ellipse: s-maj=5.2km s-min=3.6km az=81.0*
*MDD **24** 07:57:56.6±0.7, 36°.48N×9°.98W, h30km, mbLg3.5/40, Error ellipse: s-maj=7.0km s-min=4.7km az=85.0, PRXIMO*
*LDG **24** 07:57:57.0±0.2, 36°.49N×10°.04W, h30km, Ml3.9/4, Error ellipse: s-maj=3.3km s-min=2.5km az=33.0*

*CNRM **24** 07:57:58.9, 36°.29N×9°.88W, h30km, MD3.5*
*IGIL **24** 07:57:58.4, 36°.59N×9°.86W, h15km, ML3.1*
*INMG **24** 07:57:58.3±1.0, 36°.53N×9°.94W, h28km±17km, MD3.4, ML3.2, Error ellipse: s-maj=12.9km s-min=2.4km az=52.0*

ISC 24 07:57:53.2±0.9, **36°.43N**±0°.03×**10°.06W**±0°.04, **h30**km, **n174**, **σ2s28**/303, **5C-6D, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MORF	**Marmelete**	**1.43**	**52**	*i* P	**Pn**	**07 58 19.0**	**+1.9**
MORF				*e*S	**Sn**	**07 58 34.5**	**-0.4**
MORF				A	A	07 58 35.7	
	264nm,0.2s						
MORF	**Marmelete**	**1.43**	**52**	⇑P	**Pn**	**07 58 19.0**	**+1.9**
MORF				S	**Sn**	**07 58 34.5**	**-0.4**
	264nm,0.2s						
MORF	**Marmelete**	**1.43**	**52**	P	**Pn**	**07 58 19.0**	**+1.9**
MORF				S	**Sn**	**07 58 34.5**	**-0.4**
	264nm,0.2s						
PTEO	**Sao Teotonio**	**1.54**	**43**	*i* P	**Pn**	**07 58 20.5**	**+1.9**
PTEO				*e*S	**Sn**	**07 58 37.0**	**-0.6**
PTEO				A	A	07 58 47.3	
	223nm,0.7s						
PTEO	**Sao Teotonio**	**1.54**	**43**	⇓P	**Pn**	**07 58 20.5**	**+1.9**
PTEO				S	**Sn**	**07 58 37.0**	**-0.6**
	112nm,0.7s						
PTEO	**Sao Teotonio**	**1.54**	**43**	P	**Pn**	**07 58 20.5**	**+1.9**
PTEO				S	**Sn**	**07 58 37.0**	**-0.6**
	112nm,0.7s						
PBDV	**Barranco-do-Ve**	**1.89**	**64**	*i* Pn	**Pn**	**07 58 25.5**	**+2.1**
PBDV				*e*Sn	**Sn**	**07 58 45.6**	**-0.6**
PBDV				A	A	07 58 47.7	
	109nm,0.3s						
PBDV	**Barranco-do-Ve**	**1.89**	**64**	⇑P	**

PESTR A A 07 59 18.3
comp=N,27nm,0.3s
PESTR Estremoz 3.12 38 P **Pn 07 58 41.6 +1.2**
PESTR S **Sn 07 59 14.8 -1.8**
comp=N,27nm,0.3s
PESTR Estremoz 3.12 38 P **Pn 07 58 41.6 +1.2**
PESTR S **Sn 07 59 14.8 -1.8**
comp=N,27nm,0.3s
CNIL Conil 3.23 90 S Sn 07 59 14.3 -4.9
CNIL Conil 3.23 90 S Sn 07 59 14.3 -4.9
EBAD Badajoz 3.35 45 ⇓P **Pn 07 58 44.8 +1.3**
comp=N,4.8nm,0.1s,SNR=18
EBAD S **Sn 07 59 20.5 -1.8**
comp=N,97nm,0.2s,SNR=7.9
EBAD Badajoz 3.35 45 P **Pn 07 58 44.8 +1.3**
comp=N,4.8nm,0.1s,SNR=18
EBAD S **Sn 07 59 20.5 -1.8**
comp=N,97nm,0.2s,SNR=7.9
ESPR Espera 3.41 81 P **Pn 07 58 46.2 +2.0**
comp=N,35nm,0.1s,SNR=56
ESPR S **Sn 07 59 22.2 -1.4**
comp=N,373nm,0.2s,SNR=11
ESPR Espera 3.41 81 P **Pn 07 58 46.2 +2.0**
comp=N,35nm,0.1s,SNR=56
ESPR S **Sn 07 59 22.2 -1.4**
comp=N,373nm,0.2s,SNR=11
PTOM Tomar 3.44 22 *e*Pn **Pn 07 58 46.3 +1.6**
PTOM *e*Sn **Sn 07 59 23.0 -1.4**
PTOM A A 07 59 25.1
comp=N,61nm,0.2s
PTOM Tomar 3.44 22 P **Pn 07 58 46.3 +1.6**
PTOM S **Sn 07 59 23.0 -1.4**
comp=N,31nm,0.2s
PTOM Tomar 3.44 22 P **Pn 07 58 46.3 +1.6**
PTOM S **Sn 07 59 23.0 -1.4**
comp=N,31nm,0.2s
PMRV Marv??o 3.66 34 *e*Pn **Pn 07 58 49.5 +1.8**
PMRV *e*Sn **Sn 07 59 27.6 -2.3**
PMRV A A 07 59 30.2
comp=N,65nm,0.2s
PMRV Marv??o 3.66 34 P **Pn 07 58 49.5 +1.8**
PMRV S **Sn 07 59 27.6 -2.3**
comp=N,65nm,0.2s
PMRV Marv??o 3.66 34 P **Pn 07 58 49.5 +1.8**
PMRV S **Sn 07 59 27.6 -2.3**
comp=N,65nm,0.2s
EJIF Jimena Fronter 3.70 88 P **Pn 07 58 50.8 +2.5**
comp=N,5.2nm,0.1s,SNR=7.9
EJIF S **Sn 07 59 29.4 -1.5**
comp=N,45nm,0.4s,SNR=7.9
EJIF Jimena Fronter 3.70 88 P **Pn 07 58 50.8 +2.5**
comp=N,5.2nm,0.1s,SNR=7.9
EJIF S **Sn 07 59 29.4 -1.5**
comp=N,45nm,0.4s,SNR=7.9
LIJA Lijar 3.77 81 P **Pn 07 58 51.7 +2.3**
LIJA S Sn 07 59 21.9 -11
LIJA Lijar 3.77 81 P **Pn 07 58 51.7 +2.3**
LIJA S Sn 07 59 21.9 -11
PCBR Castelo Branco 3.96 30 *i* Pn **Pn 07 58 53.7 +1.8**
PCBR *e*Sn **Sn 07 59 34.9 -2.5**
PCBR A A 07 59 38.1
comp=N,29nm,0.5s
PCBR Castelo Branco 3.96 30 ⇓P **Pn 07 58 53.7 +1.8**
PCBR S **Sn 07 59 34.9 -2.5**
comp=N,14nm,0.5s
PCBR Castelo Branco 3.96 30 P **Pn 07 58 53.7 +1.8**
PCBR S **Sn 07 59 34.9 -2.5**
comp=N,14nm,0.5s
EMIJ Mijas 4.26 87 P **Pn 07 58 58.8 +2.8**
comp=N,2.3nm,0.2s,SNR=7.9
EMIJ S **Sn 07 59 43.8 -0.9**
comp=N,16nm,0.3s,SNR=7.9
EMIJ Mijas 4.26 87 P **Pn 07 58 58.8 +2.8**
comp=N,2.3nm,0.2s,SNR=7.9
EMIJ S **Sn 07 59 43.8 -0.9**
comp=N,16nm,0.3s,SNR=7.9
MTE Manteigas 4.43 26 *e*Pn **Pn 07 58 59.9 +1.6**
MTE *e*Sn **Sn 07 59 45.8 -3.1**
MTE A A 07 59 49.8
comp=N,46nm,0.3s
MTE Manteigas 4.43 26 P **Pn 07 58 59.9 +1.6**
MTE S **Sn 07 59 45.8 -3.1**
comp=N,23nm,0.3s
MTE Manteigas 4.43 26 P **Pn 07 58 59.9 +1.6**
MTE S **Sn 07 59 45.8 -3.1**
comp=N,23nm,0.3s
EMAL Malaga-Limoner 4.54 84 S **Sn 07 59 50.8 -0.8**
EMAL Malaga-Limoner 4.54 84 S **Sn 07 59 50.8 -0.8**
PVIS Viseu 4.60 21 *e*Pn **Pn 07 59 02.2 +1.5**
PVIS *e*Sn **Sn 07 59 50.5 -2.7**
PVIS A A 07 59 54.3
comp=N,17nm,0.3s
PVIS Viseu 4.60 21 P **Pn 07 59 02.2 +1.5**
PVIS S **Sn 07 59 50.5 -2.7**
comp=N,8.4nm,0.3s
PVIS Viseu 4.60 21 P **Pn 07 59 02.2 +1.5**
PVIS S **Sn 07 59 50.5 -2.7**
comp=N,8.4nm,0.3s
EADA Adamuz 4.70 67 P **Pn 07 59 03.9 +1.9**
comp=N,5.5nm,0.1s,SNR=33
EADA S **Sn 07 59 51.7 -3.9**
comp=N,55nm,0.2s,SNR=14
EADA Adamuz 4.70 67 P **Pn 07 59 03.9 +1.9**
comp=N,5.5nm,0.1s,SNR=33
EADA S **Sn 07 59 51.7 -3.9**
comp=N,55nm,0.2s,SNR=14
JHA Jbel Lahdid 4.71 174 P **Pn 07 59 05.0 +2.8**
JHA S **Sn 07 59 55.0 -0.9**
JHA Jbel Lahdid 4.71 174 P **Pn 07 59 05.0 +2.8**
JHA S **Sn 07 59 55.0 -0.9**
ELUQ Luque 4.77 75 P **Pn 07 59 04.9 +1.9**
comp=N,6.1nm,0.2s,SNR=7.9
ELUQ S **Sn 07 59 54.1 -3.2**
comp=N,42nm,0.2s,SNR=7.9
ELUQ Luque 4.77 75 P **Pn 07 59 04.9 +1.9**
comp=N,6.1nm,0.2s,SNR=7.9
ELUQ S **Sn 07 59 54.1 -3.2**
comp=N,42nm,0.2s,SNR=7.9
EPLA Plasencia 4.79 40 P **Pn 07 59 04.7 +1.4**
comp=N,6.4nm,0.3s,SNR=12
EPLA S **Sn 07 59 54.6 -3.2**
comp=N,60nm,0.2s,SNR=16
EPLA Plasencia 4.79 40 P **Pn 07 59 04.7 +1.4**
comp=N,6.4nm,0.3s,SNR=12
EPLA S **Sn 07 59 54.6 -3.2**
comp=N,60nm,0.2s,SNR=16
CIA Chichaoua 4.97 167 P **Pn 07 59 08.5 +2.7**
CIA S **Sn 08 00 01.0 -1.3**
CIA Chichaoua 4.97 167 P **Pn 07 59 08.5 +2.7**
CIA S **Sn 08 00 01.0 -1.3**
PVRL Vila Real 5.17 20 *e*Pn **Pn 07 59 09.7 +1.2**
PVRL *e*Sn **Sn 08 00 03.8 -3.4**
PVRL A A 08 00 08.6
comp=N,43nm,0.3s
PVRL Vila Real 5.17 20 P **Pn 07 59 09.7 +1.2**
PVRL S **Sn 08 00 03.8 -3.4**
comp=N,21nm,0.3s
PVRL Vila Real 5.17 20 P **Pn 07 59 09.7 +1.2**
PVRL S **Sn 08 00 03.8 -3.4**
comp=N,21nm,0.3s
TZC Tazercounte 5.19 144 P **Pn 07 59 12.0 +3.0**
TZC S **Sn 08 00 05.0 -3.0**
TZC Tazercounte 5.19 144 *i* P **Pn 07 59 12.0 +3.0**
TZC S **Sn 08 00 05.0 -3.0**
EGUA Guajares 5.24 84 P **Pn 07 59 11.7 +2.3**
comp=N,4.7nm,0.2s,SNR=7.9
EGUA S **Sn 08 00 06.1 -2.7**
comp=N,40nm,0.3s,SNR=7.9
EGUA Guajares 5.24 84 P **Pn 07 59 11.7 +2.3**
comp=N,4.7nm,0.2s,SNR=7.9
EGUA S **Sn 08 00 06.1 -2.7**
comp=N,40nm,0.3s,SNR=7.9
POLO Lamas de Olo 5.24 19 *e*Pn **Pn 07 59 10.8 +1.2**
POLO *e*Sn **Sn 08 00 05.6 -3.4**
POLO A A 08 00 10.0
comp=N,7.6nm,0.3s
POLO Lamas de Olo 5.24 19 *e*Pn **Pn 07 59 10.8 +1.2**
POLO *e*Sn **Sn 08 00 05.6 -3.4**
comp=N,7.6nm,0.3s
MVO Moncorvo 5.29 26 *e*Pn **Pn 07 59 11.4 +1.3**
MVO *e*Sn **Sn 08 00 06.8 -3.2**
MVO A A 08 00 10.9
comp=N,25nm,0.3s
MVO Moncorvo 5.29 26 ⇓P **Pn 07 59 11.5 +1.3**
comp=N,0.3nm,0.0s,SNR=18
MVO S **Sn 08 00 06.4 -3.6**
comp=N,17nm,0.2s,SNR=9.5
MVO Moncorvo 5.29 26 *e*Pn **Pn 07 59 11.4 +1.3**
MVO S **Sn 08 00 06.4 -3.6**
comp=N,17nm,0.2s,SNR=9.5
EBAN Banos Encina 5.29 69 P **Pn 07 59 11.7 +1.6**
comp=N,3.9nm,0.1s,SNR=7.9
EBAN S **Sn 08 00 05.3 -4.8**
comp=N,26nm,0.2s,SNR=7.3
EBAN Banos Encina 5.29 69 P **Pn 07 59 11.7 +1.6**
comp=N,3.9nm,0.1s,SNR=7.9
EBAN S **Sn 08 00 05.3 -4.8**
comp=N,26nm,0.2s,SNR=7.3
CZD Col de Zad 5.34 128 P **Pn 07 59 13.0 +1.9**
CZD S Sn 08 00 08.0 -3.7
CZD Col de Zad 5.34 128 *i* P **Pn 07 59 13.0 +1.9**
CZD S Sn 08 00 08.0 -3.7
PCAB Cabril 5.50 16 *e*Pn **Pn 07 59 14.3 +1.2**
PCAB *e*Sn **Sn 08 00 11.5 -3.9**
PCAB Cabril 5.50 16 P **Pn 07 59 14.3 +1.2**
PCAB S **Sn 08 00 11.5 -3.9**
PCAB Cabril 5.50 16 P **Pn 07 59 14.3 +1.2**
PCAB S **Sn 08 00 11.5 -3.9**
ELOB Lobios 5.65 15 P **Pn 07 59 16.1 +1.0**
comp=N,6.8nm,0.1s,SNR=35
ELOB S Sn 08 00 14.1 -4.9
comp=N,9.3nm,0.1s,SNR=5.7
ELOB Lobios 5.65 15 P **Pn 07 59 16.1 +1.0**
comp=N,6.8nm,0.1s,SNR=35
ELOB S Sn 08 00 14.1 -4.9
comp=N,9.3nm,0.1s,SNR=5.7
PGAV Gavieira, Arco 5.70 14 *e*Pn **Pn 07 59 17.3 +1.5**
PGAV *e*Sn **Sn 08 00 16.8 -3.5**
PGAV A A 08 00 18.8
comp=N,12nm,0.5s
PGAV Gavieira, Arco 5.70 14 *e*Pn **Pn 07 59 17.3 +1.5**
PGAV *e*Sn **Sn 08 00 16.8 -3.5**
comp=N,12nm,0.5s
EALB Alboran 5.70 93 S **Sn 08 00 15.8 -4.4**
comp=N,17nm,0.3s,SNR=5.5
EALB Alboran 5.70 93 S **Sn 08 00 15.8 -4.4**
comp=N,17nm,0.3s,SNR=5.5
EQES Quesada 5.75 74 P **Pn 07 59 18.4 +1.9**
comp=N,2.4nm,0.2s,SNR=7.9
EQES S **Sn 08 00 18.3 -3.2**
comp=N,37nm,0.3s,SNR=16
EQES Quesada 5.75 74 P **Pn 07 59 18.4 +1.9**
comp=N,2.4nm,0.2s,SNR=7.9
EQES S **Sn 08 00 18.3 -3.2**
comp=N,37nm,0.3s,SNR=16
EBER Berja 5.78 83 P **Pn 07 59 19.5 +2.4**
comp=N,0.9nm,0.2s,SNR=4.7
EBER S **Sn 08 00 20.3 -2.1**
comp=N,12nm,0.3s,SNR=6.0
EBER Berja 5.78 83 P **Pn 07 59 19.5 +2.4**
comp=N,0.9nm,0.2s,SNR=4.7
EBER S **Sn 08 00 20.3 -2.1**
comp=N,12nm,0.3s,SNR=6.0
ESDC Sonseca Array 5.80 54 P **Pn 07 59 18.8 +1.6**
comp=N,17nm,0.1s,baz=240,slow=13,SNR=31
ESDC S **Sn 08 00 18.9 -3.7**
comp=N,23nm,0.2s,baz=240,slow=23,SNR=3.6
ESDC Sonseca Array 5.80 54 P **Pn 07 59 18.8 +1.6**
comp=N,17nm,0.1s,baz=240,slow=13,SNR=31
ESDC S **Sn 08 00 18.9 -3.7**
comp=N,23nm,0.2s,baz=240,slow=23,SNR=3.6
EZAM Zamans 5.81 10 P **Pn 07 59 18.6 +1.3**
comp=N,13nm,0.2s,SNR=7.9
EZAM S **Sn 08 00 19.0 -3.8**
comp=N,15nm,0.3s,SNR=7.9
EZAM Zamans 5.81 10 P **Pn 07 59 18.6 +1.3**
comp=N,13nm,0.2s,SNR=7.9
EZAM S **Sn 08 00 19.0 -3.8**
comp=N,15nm,0.3s,SNR=7.9
PBRG Braganca 5.95 25 *e*Pn **Pn 07 59 20.6 +1.3**
PBRG *e*Sn **Sn 08 00 22.9 -3.6**
PBRG A A 08 00 25.8
comp=N,10nm,0.3s
PBRG Braganca 5.95 25 P **Pn 07 59 20.6 +1.3**
PBRG S **Sn 08 00 22.9 -3.6**
comp=N,5.2nm,0.3s
PBRG Braganca 5.95 25 P **Pn 07 59 20.6 +1.3**
PBRG S **Sn 08 00 22.9 -3.6**
comp=N,5.2nm,0.3s
ECAL Calabor 6.08 24 P **Pn 07 59 22.3 +1.3**
comp=N,5.5nm,0.2s,SNR=17
ECAL S **Sn 08 00 25.6 -3.9**
comp=N,24nm,0.2s,SNR=4.8
ECAL Calabor 6.08 24 P **Pn 07 59 22.3 +1.3**
comp=N,5.5nm,0.2s,SNR=17
ECAL S **Sn 08 00 25.6 -3.9**
comp=N,24nm,0.2s,SNR=4.8
EHUE Huescar 6.12 75 P **Pn 07 59 23.1 +1.5**
comp=N,1.7nm,0.2s,SNR=7.9
EHUE S **Sn 08 00 26.3 -4.4**
comp=N,8.4nm,0.1s,SNR=7.9
EHUE Huescar 6.12 75 P **Pn 07 59 23.1 +1.5**
comp=N,1.7nm,0.2s,SNR=7.9
EHUE S **Sn 08 00 26.3 -4.4**
comp=N,8.4nm,0.1s,SNR=7.9
GUD Guadarrama 6.25 46 P **Pn 07 59 25.0 +1.5**
comp=N,3.6nm,0.2s,SNR=15
GUD S **Sn 08 00 30.5 -3.5**
comp=N,22nm,0.3s,SNR=12
GUD Guadarrama 6.25 46 P **Pn 07 59 25.0 +1.5**
comp=N,3.6nm,0.2s,SNR=15
GUD S **Sn 08 00 30.5 -3.5**
comp=N,22nm,0.3s,SNR=12
ERUA La Rua 6.37 20 P **Pn 07 59 25.4 +0.5**
comp=N,4.3nm,0.1s,SNR=7.9
ERUA S **Sn 08 00 33.0 -3.6**
comp=N,8.4nm,0.2s,SNR=7.9
ERUA La Rua 6.37 20 P **Pn 07 59 25.4 +0.5**
comp=N,4.3nm,0.1s,SNR=7.9
ERUA S **Sn 08 00 33.0 -3.6**
comp=N,8.4nm,0.2s,SNR=7.9
EVIA Vianos 6.39 68 S **Sn 08 00 32.9 -4.6**
comp=N,21nm,0.2s,SNR=8.6
EVIA Vianos 6.39 68 S **Sn 08 00 32.9 -4.6**
comp=N,21nm,0.2s,SNR=8.6
ZFT Errachidia 6.45 131 P **Pn 07 59 29.0 +2.8**
ZFT S Sn 08 00 35.0 -3.9
ZFT Errachidia 6.45 131 P **Pn 07 59 29.0 +2.8**
ZFT S Sn 08 00 35.0 -3.9
STS Santiago 6.55 10 P **Pn 07 59 28.8 +1.4**
comp=N,8.6nm,0.2s,SNR=7.0
STS S **Sn 08 00 37.6 -3.5**
comp=N,7.4nm,0.4s
STS Santiago 6.55 10 P **Pn 07 59 28.8 +1.4**
comp=N,8.6nm,0.2s,SNR=7.0
STS S **Sn 08 00 37.6 -3.5**
comp=N,7.4nm,0.4s
EMAZ Mazaricos 6.56 7 P **Pn 07 59 28.4 +0.8**
comp=N,24nm,0.3s,SNR=40
EMAZ S Sn 08 00 34.8 -6.6
comp=N,18nm,0.2s
EMAZ Mazaricos 6.56 7 P **Pn 07 59 28.4 +0.8**
comp=N,24nm,0.3s,SNR=40
EMAZ S Sn 08 00 34.8 -6.6
comp=N,18nm,0.2s
YBT Youssef Ben Ta 6.58 176 P **Pn 07 59 31.0 +3.1**
YBT S Sn 08 00 38.0 -4.0
YBT Youssef Ben Ta 6.58 176 P **Pn 07 59 31.0 +3.1**
YBT S Sn 08 00 38.0 -4.0
ETOB Tobarra 7.11 69 P **Pn 07 59 36.6 +1.4**
comp=N,1.0nm,0.1s,SNR=6.1
ETOB S **Sn 08 00 50.8 -4.3**
comp=N,5.3nm,0.2s,SNR=7.9
ETOB Tobarra 7.11 69 P **Pn 07 59 36.6 +1.4**
comp=N,1.0nm,0.1s,SNR=6.1
ETOB S **Sn 08 00 50.8 -4.3**
comp=N,5.3nm,0.2s,SNR=7.9
EMUR La Murta 7.18 76 S **Sn 08 00 52.9 -3.8**
comp=N,7.7nm,0.4s,SNR=7.9
EMUR La Murta 7.18 76 S **Sn 08 00 52.9 -3.8**
comp=N,7.7nm,0.4s,SNR=7.9
EPON Pontenova 7.24 17 P **Pn 07 59 38.0 +1.1**
comp=N,2.7nm,0.2s,SNR=12
EPON S **Sn 08 00 53.6 -4.5**
comp=N,2.3nm,0.2s,SNR=5.8
EPON Pontenova 7.24 17 P **Pn 07 59 38.0 +1.1**
comp=N,2.7nm,0.2s,SNR=12
EPON S **Sn 08 00 53.6 -4.5**
comp=N,2.3nm,0.2s,SNR=5.8
ETOR Torete 7.64 53 P **Pn 07 59 44.4 +1.9**
comp=N,25nm,0.3s,SNR=22
ETOR S Sn 08 01 02.7 -5.4
comp=N,47nm,0.3s,SNR=5.6
ETOR Torete 7.64 53 P **Pn 07 59 44.4 +1.9**
comp=N,25nm,0.3s,SNR=22
ETOR S Sn 08 01 02.7 -5.4
comp=N,47nm,0.3s,SNR=5.6
EARI Arriondas 7.81 27 P **Pn 07 59 47.1 +2.4**
comp=N,2.6nm,0.2s,SNR=12
EARI S **Sn 08 01 08.3 -3.8**
comp=N,1.7nm,0.2s,SNR=7.9
EARI Arriondas 7.81 27 P **Pn 07 59 47.1 +2.4**
comp=N,2.6nm,0.2s,SNR=12
EARI S **Sn 08 01 08.3 -3.8**
comp=N,1.7nm,0.2s,SNR=7.9
EBEN Beniarda 8.13 71 P **Pn 07 59 50.5 +1.3**
comp=N,0.3nm,0.2s,SNR=7.9
EBEN S **Sn 08 01 16.3 -3.8**
comp=N,1.5nm,0.2s,SNR=7.9
EBEN Beniarda 8.13 71 P **Pn 07 59 50.5 +1.3**
comp=N,0.3nm,0.2s,SNR=7.9
EBEN S **Sn 08 01 16.3 -3.8**
comp=N,1.5nm,0.2s,SNR=7.9
CFUE Fuerteventura 8.42 204 S Sn 08 01 23.6 -3.6
comp=N,5.7nm,0.1s,SNR=7.9
CFUE Fuerteventura 8.42 204 S Sn 08 01 23.6 -3.6
comp=N,5.7nm,0.1s,SNR=7.9
EMOS Mosqueruela 8.49 60 P **Pn 07 59 56.6 +2.4**
comp=N,3.3nm,0.5s,SNR=6.7
EMOS S Sn 08 01 23.8 -5.2
comp=N,29nm,0.5s,SNR=7.9
EMOS Mosqueruela 8.49 60 P **Pn 07 59 56.6 +2.4**
comp=N,3.3nm,0.5s,SNR=6.7
EMOS S Sn 08 01 23.8 -5.2
comp=N,29nm,0.5s,SNR=7.9
IELO Elcoad 9.34 44 P **Pn 08 00 07.6 +1.8**
comp=N,1.8nm,0.2s,SNR=7.9
IELO S Sn 08 01 43.7 -6.1
comp=N,3.6nm,0.2s,SNR=7.9
IELO Elcoad 9.34 44 P **Pn 08 00 07.6 +1.8**
comp=N,1.8nm,0.2s,SNR=7.9
IELO S Sn 08 01 43.7 -6.1
comp=N,3.6nm,0.2s,SNR=7.9
SJPF Ste Jean 9.52 43 *e*Pn **Pn 08 00 09.7 +1.5**
SJPF *e*Sn Sn 08 01 48.7 -5.5
comp=N,3.0nm,0.2s
SJPF Ste Jean 9.52 43 P **Pn 08 00 09.7 +1.5**
SJPF S Sn 08 01 48.7 -5.5
comp=N,0.8nm,0.2s
ETSF Etsaut 9.76 46 *e*Pn **Pn 08 00 13.1 +1.6**
ETSF *e*Sn Sn 08 01 54.0 -6.1
comp=N,2.5nm,0.3s
ETSF Etsaut 9.76 46 P **Pn 08 00 13.1 +1.6**
ETSF S Sn 08 01 54.0 -6.1
comp=N,0.6nm,0.3s
EPF Esparros 10.37 47 *e*Pn **Pn 08 00 21.6 +1.8**
EPF *e*Sn Sn 08 02 08.7 -6.2
comp=N,6.0nm,0.4s
EPF Esparros 10.37 47 P **Pn 08 00 21.6 +1.8**
EPF S Sn 08 02 08.7 -6.2
comp=N,1.5nm,0.4s
RJF Les Rejaudoux 12.45 41 *e*Pn **Pn 08 00 49.0 +0.8**
RJF Les Rejaudoux 12.45 41 P **Pn 08 00 49.0 +0.8**
QUIF Quistinic 12.56 22 *e*Pn **Pn 08 00 50.1 +0.5**
QUIF Quistinic 12.56 22 P **Pn 08 00 50.1 +0.5**
ROSF Rostrenen 12.90 21 *e*Pn **Pn 08 00 54.7 +0.3**
ROSF Rostrenen 12.90 21 P **Pn 08 00 54.7 +0.3**

NNC 24 08:07:46.4±0.5, 42°.94N×69°.79E, h0km, mpv2.1, 12C-7D, Error ellipse: s-maj=51.4km s-min=2.5km az=162.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KK08	**Karatay Array**	**0.54**	**71**		⇑P	Pg	08 07 57.2	+0.4
KK08					⇓S	Sg	08 08 05.2	+1.4
KK07	**Karatay Array**	**0.54**	**73**		⇑P	Pg	08 07 57.0	+0.1
KK07					⇓S	Sg	08 08 04.7	+0.7
KK03	**Karatay Array**	**0.55**	**72**		⇑P	Pg	08 07 57.2	+0.2
KK03					⇑S	Sg	08 08 04.8	+0.6
KK01	**Karatay Array**	**0.55**	**72**		⇑P	Pg	08 07 57.3	+0.2
KK01					⇓S	Sg	08 08 05.4	+1.1
KK09	**Karatay Array**	**0.55**	**70**		⇑P	Pg	08 07 57.6	+0.5
KK09					⇑S	Sg	08 08 04.7	+0.3
KK04	**Karatay Array**	**0.55**	**71**		⇑P	Pg	08 07 57.3	+0.2
KK04					⇓S	Sg	08 08 05.1	+0.8
KK02	**Karatay Array**	**0.56**	**72**		⇓P	Pg	08 07 57.4	+0.2
KK02					⇑S	Sg	08 08 05.4	+1.0
KK31	**Karatay Array**	**0.56**	**72**		P	Pg	08 07 57.3	+0.2
	3.2nm,0.5s,baz=184,slow=15,SNR=125							
KK31					⇑S	Sg	08 08 05.1	+0.7
	11nm,0.4s,baz=290,slow=34,SNR=27							
KK06	**Karatay Array**	**0.56**	**73**		⇑P	Pg	08 07 57.1	-0.1
KK06					⇓S	Sg	08 08 04.9	+0.3
KK05	**Karatay Array**	**0.57**	**71**		⇑P	Pg	08 07 57.5	+0.1
KK05					⇓S	Sg	08 08 04.6	-0.1

*GUC **24** 08:08:08.2±0.3, 42°.86S×72°.60W, h14km±5km, ML3.2*
*IDC **24** 08:08:14.9±6.2, 41°.79S×73°.24W, h0km, mb3.6/4, mb1 4.0/5, mb1mx3.7/18, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=156.8km s-min=34.2km az=169.0*
ISC 24 08:08:12.0±1.6, 42°.5S±0°.1×72°.84W±0°.09, h10km, n10, σ1°93/9, mb3.6/3, 1C, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUNY	**Huinay**	**0.32**	**77**	*e*P		**Pg**	**08 08 17.7**	**-0.7**
HUNY				*i* S		**Sg**	**08 08 24.9**	**+2.2**
HUNY				AML		AML	08 08 28.8	
	comp=E,2μm,0.4s							
ILCA	**Isla Las Cabra**	**0.45**	**30**	⇑*i*P		**Pn**	**08 08 23.0**	**-1.5**
ILCA				*e*S		Sb	08 08 34.3	+5.6
ILCA				AML		AML	08 08 36.0	
	comp=E,1μm,0.4s							
HOCH	**HornopirØn**	**0.63**	**30**	*i* S		**Sn**	**08 08 39.5**	**+2.4**
HOCH				AML		AML	08 08 43.7	
	comp=E,2μm,0.5s							
PUEL	**Puelo Alto**	**0.88**	**27**	AML		AML	08 09 14.7	
	comp=E,396nm,0.8s							
PLCA	**Paso Flores**	**2.43**	**46**	Pn		**Pb**	**08 08 53.5**	**-2.3**
	comp=E,6.5nm,0.3s,baz=222,slow=16,SNR=98							
PLCA						**Sg**	**08 09 30.9**	**+1.0**
	comp=E,20nm,0.3s,baz=132,slow=18,SNR=8.7							
COYC	**Coyhaique**	**3.17**	**170**	AML		AML	08 09 37.5	
	comp=E,98nm,0.7s							
CPUP	**Villa Florida**	**20.50**	**43**	P		Pn	08 12 52.5	+0.2
	comp=E,1.5nm,0.7s,baz=207,slow=11,SNR=3.6							
SIV	**San Ignacio**	**28.24**	**24**	P		**P**	**08 14 05.3**	**+0.1**
	comp=E,0.7nm,0.8s,baz=215,slow=7.8,SNR=3.2							
TXAR	**Lajitas Array**	**76.87**	**333**	P		**P**	**08 20 04.4**	**+0.2**
	comp=E,0.5nm,1.0s,baz=152,slow=5.8,SNR=3.9							
PDAR	**Pinedale Array**	**91.04**	**334**	P		**P**	**08 21 18.1**	**+1.7**
	comp=E,1.4nm,1.2s,baz=156,slow=6.8,SNR=3.5							

*CSEM **24** 08:10:06.2, 36°.47N×21°.85E, h19km±9km, MD3.2, After ATH*
ATH 24 08:10:06.2, 36°.47N×21°.85E, h19km±9km, MD3.2/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.43**	**348**	*e*PB		Pg	08 10 13.8	-1.4
PYL				*e*SB		Sb	08 10 22.2	+0.6
PYL	**PYLOS**	**0.43**	**348**	*e*Pb		Pg	08 10 13.8	-1.4
PYL				*e*Sb		Sb	08 10 22.2	+0.6
ITM	**Ithomi**	**0.71**	**5**	*e*PB		Pb	08 10 19.6	-0.4
ITM				*e*SN		Sn	08 10 31.3	-0.5
ITM	**Ithomi**	**0.71**	**5**	*e*Pb		Pb	08 10 19.6	-0.4
ITM				*e*Sn		Sn	08 10 31.3	-0.5
VLI	**Veliai**	**0.91**	**74**	*e*PB		Pb	08 10 23.1	-0.3
VLI				*e*SN		Sn	08 10 36.5	-0.1
VLI	**Veliai**	**0.91**	**74**	*e*Pb		Pb	08 10 23.1	-0.3
VLI				*e*Sn		Sn	08 10 36.5	-0.1
KYTH	**Kithira**	**0.98**	**101**	*e*PN		Pg	08 10 26.1	+0.8
KYTH	**Kithira**	**0.98**	**101**	*e*Pn		Pg	08 10 26.1	+0.8

*CSEM **24** 08:10:38.4, 38°.33N×21°.80E, h6km±2km, ML1.0/2, After THE*
THE 24 08:10:38.4, 38°.33N×21°.80E, h6km±2km, ML1.0/2, Error ellipse: s-maj=3.0km s-min=0.7km az=51.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.12**	**42**	P		Pg	08 10 41.0	-0.1
EFP				S		Sg	08 10 43.1	+0.2

EFP	**Efpalio**	**0.12**	**42**	*e*PN	Pg	08 10 40.9	-0.2
EFP	**Efpalio**	**0.12**	**42**	*e*Pn	Pg	08 10 40.9	-0.2
EFP	**Efpalio**	**0.12**	**42**	P	Pg	08 10 41.0	-0.1
EFP				S	Sg	08 10 43.1	+0.2
LAKA	**Lakka**	**0.17**	**123**	P	Pg	08 10 42.0	+0.1
LAKA				S	Sg	08 10 44.4	+0.1
LAKA	**Lakka**	**0.17**	**123**	P	Pg	08 10 42.0	+0.1
LAKA				S	Sg	08 10 44.4	+0.1
TRIZ	**Trizonia**	**0.22**	**81**	P	Pg	08 10 42.8	+0.1
TRIZ				S	Sg	08 10 45.9	+0.3
TRIZ	**Trizonia**	**0.22**	**81**	P	Pg	08 10 42.8	+0.1
TRIZ				S	Sg	08 10 45.9	+0.3
KALE	**Kalithea**	**0.27**	**78**	P	Pg	08 10 43.5	-0.4
KALE				S	Sg	08 10 48.0	+0.4
KALE	**Kalithea**	**0.27**	**78**	P	Pg	08 10 43.5	-0.4
KALE				S	Sg	08 10 48.0	+0.4

IDC 24 08:11:40.0±2.4, 8°07'N×104°60'W, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.8/21, mbtmp3.7/7, MS3.7/3, Ms1 3.8/3, ms1mx3.1/42, Error ellipse: s-maj=100.7km s-min=25.1km az=59.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**13.04**	**46**	LR	LR		08 18 26.2	
	comp=Z,192nm,19.0s,baz=279,slow=31							
TXAR	**Lajitas Array**	**21.17**	**2**	P	P		08 16 27.2	+0.2
	1.5nm,0.8s,baz=183,slow=12,SNR=20							
TXAR				LR	LR		08 23 59.0	
	comp=Z,316nm,18.1s,baz=5.0,slow=35							
ANMO	**Albuquerque**	**26.81**	**357**	P	P		08 17 22.3	+0.1
	1.0nm,0.9s,baz=177,slow=8.3,SNR=2.6							
NVAR	**Mina Array Bea**	**32.66**	**340**	LR	LR		08 28 57.3	
	comp=Z,159nm,18.0s,baz=111,slow=32							
PDAR	**Pinedale Array**	**34.83**	**354**	P	P		08 18 33.0	0.0
	0.6nm,0.8s,baz=161,slow=11,SNR=5.2							
LPAZ	**La Paz**	**43.46**	**124**	P	P		08 19 45.8	-0.2
	2.2nm,1.2s,baz=321,slow=9.1,SNR=2.9							
YKA	**Yellowknife Ar**	**54.81**	**354**	P	P		08 21 11.0	-0.5
	0.2nm,0.5s,baz=165,slow=8.3,SNR=4.5							
INK	**Inuvik**	**63.15**	**348**	P	P		08 22 08.9	-0.4
	1.9nm,0.9s,baz=145,slow=6.1,SNR=5.6							
ILAR	**Eielson Array**	**63.90**	**341**	P	P		08 22 14.7	+0.3
	1.4nm,0.9s,baz=149,slow=4.7,SNR=16							

*MOS **24** 08:12:34.2±1.1, 45°67'N×147°90'E, h143km, mb3.8/16, Error ellipse: s-maj=16.7km s-min=10.0km az=67.2*
*JMA **24** 08:12:37.9±0.7, 44°95'N×148°19'E, h145km, M4.4*
*IDC **24** 08:12:37.9±1.4, 45°63'N×147°94'E, h163km±12km, mb3.5/20, mb1 3.7/26, mb1mx3.6/34, mbtmp3.5/26, Error ellipse: s-maj=16.5km s-min=8.9km az=155.0*

ISC 24 08:12:35.2±0.7, 45°17'N±0'08×148°26'E±0'07, h156km±5km, n61, σ1s52/74, mb3.7/21, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.29**	**284**	*i*PN	P	**Pn**	**08 12 55.5**	**-0.8**
KUR				*i* S	S	**Sn**	**08 13 10.4**	**-2.1**
KUR				pmax	pmax			
	comp=N,70nm,0.3s							
KUR				pmax	pmax			
	comp=E,70nm,0.4s							
KUR				smax	smax			
	comp=N,9μm,1.0s							
KUR				smax	smax			
	comp=E,13μm,1.4s							
KUR				smax	smax			
	comp=E,4μm,1.0s							
KUR				smax	smax			
	comp=N,2μm,0.8s							
YUK	**Yuzh-Kuril'sk**	**2.06**	**237**	*d i*PN	P	**Pn**	**08 13 12.4**	**+1.2**
YUK				*i* S	S	**Sn**	**08 13 39.7**	**+0.7**
YUK				pmax	pmax			
	comp=N,104nm,0.3s							
YUK				pmax	pmax			
	comp=Z,1μm,0.3s							
YUK				pmax	pmax			
	comp=E,90nm,0.3s							
YUK				smax	smax			
	comp=N,1μm,0.5s							
YUK				smax	smax			
	comp=E,2μm,0.5s							
NEM2	**Nemuro 2**	**2.55**	**226**	P	P	**Pn**	**08 13 17.1**	**-0.1**
NEM2				*e*S	S	**Sn**	**08 13 47.9**	**-1.7**
JRA	**Rausu**	**2.56**	**242**	P	P	**Pn**	**08 13 18.0**	**+0.8**
JNK	**Nakash**	**2.99**	**239**	P	P	**Pn**	**08 13 23.6**	**+1.0**
JTKR	**Abashiri--Toko**	**3.33**	**251**	P	P	**Pn**	**08 13 27.6**	**+0.7**
JTKR				*e*S	S	**Sn**	**08 14 07.2**	**+0.1**
JAK	**Akkeshi**	**3.36**	**231**	P	P	**Pn**	**08 13 27.6**	**+0.3**
JAK				*e*S	S	**Sn**	**08 14 05.8**	**-1.9**
JAR	**Ashorobuto**	**3.73**	**242**	P	P	**Pn**	**08 13 33.7**	**+1.6**
JKK2	**Kamakawa 2**	**4.15**	**254**	P	P	**Pn**	**08 13 39.2**	**+1.7**
ASAJ	**Asahikawa**	**4.18**	**257**	P	P	**Pn**	**08 13 39.9**	**+2.1**
	comp=E,3.1nm,0.3s,baz=90,slow=15,SNR=8.3							
ASAJ				S	S	**Sn**	**08 14 27.9**	**+1.2**
	comp=E,1.2nm,0.3s,baz=96,slow=19,SNR=2.7							
YSS	**Yuzh-Sakhalins**	**4.23**	**297**	*e*PN	P	**Pn**	**08 13 39.0**	**+0.5**
YSS				pmax	pmax			
	comp=Z,20nm,0.7s							
JCH	**Churui**	**4.37**	**236**	P	P	**Pn**	**08 13 40.6**	**+0.3**
JCH				*e*S	S	**Sn**	**08 14 28.8**	**-2.2**
JWK2	**Keihoku**	**4.50**	**274**	P	P	**Pn**	**08 13 43.9**	**+1.9**
JNBK	**Urakawa-nobuka**	**4.93**	**236**	P	P	**Pn**	**08 13 47.1**	**-0.6**
JKB	**Kayabe**	**6.19**	**241**	P	P	**Pn**	**08 14 03.6**	**-0.8**
JKB				*e*S	S	**Sn**	**08 15 09.6**	**-4.7**
JOT	**Ohata**	**6.48**	**237**	P	P	**Pn**	**08 14 06.7**	**-1.6**
JOSM	**Okushiri--Mats**	**7.08**	**247**	P	P	**Pn**	**08 14 16.1**	**-0.1**
SKR	**Severo-Kuril's**	**7.63**	**41**	*e*PN	P	Pn	08 14 19.1	-4.4
SKR				*e*			08 15 42.5	
SKR				pmax	pmax			
	comp=Z,160nm,0.9s							
SKR				pmax	pmax			
	comp=N,30nm,0.5s							
SKR				pmax	pmax			
	comp=E,50nm,0.5s							
PETK	**Petropavlovsk-**	**10.06**	**34**	PN	P	**Pn**	**08 14 54.3**	**-1.4**
PETK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PETK	**Petropavlovsk-**	**10.06**	**34**	P	P	**Pn**	**08 14 54.3**	**-1.4**
	comp=Z,1.1nm,0.3s,baz=193,slow=12,SNR=7.8							
USRK	**Ussuriysk Arra**	**11.62**	**271**	P	P	**Pn**	**08 15 15.2**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=82,slow=14,SNR=5.5							
KSRS	**Korea Array**	**17.09**	**250**	P	P	**Pn**	**08 16 24.5**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=60,slow=11,SNR=9.6							
FX1	**Attu Island--F**	**18.00**	**56**	P	P	**Pn**	**08 16 35.7**	**+0.4**
	comp=Z,4.9nm,0.3s,baz=257,slow=7.7,SNR=12							
JNU	**Nakatsue**	**18.02**	**234**	P	P	**Pn**	**08 16 38.1**	**+2.3**
	comp=Z,0.6nm,0.3s,baz=38,slow=3.4,SNR=6.1							
SONM	**Songino Array**	**28.69**	**291**	P	P	**P**	**08 18 17.5**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=86,slow=8.5,SNR=11							
KDAK	**Kodiak Island**	**37.71**	**49**	P	P	**P**	**08 19 35.9**	**+0.7**
	comp=Z,2.6nm,0.5s,baz=287,slow=6.8,SNR=12							
ILAR	**Eielson Array**	**39.88**	**37**	P	P	**P**	**08 19 53.5**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=270,slow=9.0,SNR=29							
ZALV	**Zalesovo Beam**	**40.80**	**306**	P	P	**P**	**08 19 59.4**	**-1.4**
ZALV							08 21 58.8	
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZALV	**Zalesovo Beam**	**40.80**	**306**	P	P	**P**	**08 19 59.4**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=91,slow=7.2,SNR=2.2							
ZALV				PcP	PcP	**PcP**	**08 21 58.8**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=77,slow=3.0,SNR=4.7							
MKAR	**Makanchi Array**	**44.65**	**297**	P	P	**P**	**08 20 30.7**	**-1.3**
MKAR				*PP		**pP**	**08 21 07.6**	**+1.1**
MKAR							08 22 12.4	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**44.65**	**297**	P	P	**P**	**08 20 30.7**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=73,slow=7.3,SNR=7.5							
MKAR				pP		**pP**	**08 21 07.6**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=69,slow=8.5,SNR=3.0							
MKAR				PcP	PcP	**PcP**	**08 22 12.4**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=69,slow=4.2,SNR=5.6							
MKAR				ScP	ScP	**ScP**	**08 25 48.0**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=54,slow=3.9,SNR=4.8							
INK	**Inuvik**	**44.78**	**31**	P	P	**P**	**08 20 32.7**	**0.0**
	comp=Z,1.0nm,0.4s,baz=320,slow=5.8,SNR=11							
CMAR	**Chiang Mai Arr**	**48.69**	**253**	P	P	**P**	**08 21 06.0**	**+2.2**
	comp=Z,1.7nm,0.6s,baz=41,slow=7.3,SNR=7.6							
TAPN	**Taplejung**	**50.78**	**271**	*e*P	P	**P**	**08 21 21.2**	**+1.4**
	comp=Z,12nm,0.4s							
JIRN	**Jiri**	**51.67**	**272**	*e*P	P		**08 21 28.0**	**+1.6**
	comp=Z,9.0nm,0.5s							
GUN	**Gumba**	**51.73**	**273**	*e*P	P		**08 21 28.0**	**+1.1**
	comp=Z,27nm,0.4s							
RAMN	**Ramite**	**51.80**	**271**	*e*P	P		**08 21 28.5**	**+1.2**
	comp=Z,38nm,0.6s							
KKN	**Kakani**	**52.23**	**273**	*e*P	P		**08 21 31.9**	**+1.5**
	comp=Z,17nm,0.5s							
PKI	**Pulchoki**	**52.27**	**273**	*e*P	P		**08 21 31.9**	**+1.0**
	comp=Z,13nm,0.5s							
DMN	**Daman**	**52.46**	**273**	*e*P	P		**08 21 33.6**	**+1.4**
	comp=Z,18nm,0.5s							
GKN	**Gorkha**	**52.56**	**274**	*e*P	P		**08 21 33.8**	**+1.0**
	comp=Z,16nm,0.3s							
DANN	**Dangsing**	**52.97**	**275**	*e*P	P		**08 21 37.6**	**+1.7**
	comp=Z,52nm,0.5s							
KOLN	**Koldanda**	**53.43**	**274**	*e*P	P		**08 21 40.6**	**+1.4**
	comp=Z,17nm,0.4s							
PYUN	**Piuthan**	**53.66**	**275**	*e*P	P		**08 21 42.3**	**+1.4**
	comp=Z,18nm,0.4s							
YKA	**Yellowknife Ar**	**54.18**	**35**	P	P		**08 21 44.5**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=304,slow=7.3,SNR=7.5							
YKA				pP		**pP**	**08 22 21.6**	**+1.9**
	comp=Z,0.2nm,0.5s,baz=301,slow=6.7,SNR=4.5							
JOF	**Joensuu**	**61.21**	**332**	*e*P	P		**08 22 30.0**	**-2.9**
JOF				pmax	pmax			
	comp=Z,1.0nm,0.4s							
JOF	**Joensuu**	**61.21**	**332**	*e*p	P		**08 22 30.0**	**-2.9**
	comp=Z,1.4nm,0.4s							
FINES	**FINESS Array B**	**63.98**	**333**	P	P		**08 22 49.1**	**-2.1**
	comp=Z,1.8nm,0.5s,baz=40,slow=8.2,SNR=15							
NVAR	**Mina Array Bea**	**66.16**	**59**	P	P		**08 23 08.4**	**+2.4**
	comp=Z,1.1nm,0.7s,baz=297,slow=7.0,SNR=6.4							
PDAR	**Pinedale Array**	**68.39**	**51**	P	P		**08 23 21.3**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=323,slow=1.4,SNR=9.7							
NOA	**NORSAR Array B**	**68.57**	**339**	P	P		**08 23 18.5**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=29,slow=6.5,SNR=4.8							
HFS	**Hagfors**	**68.69**	**337**	P	P		**08 23 19.2**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=11,slow=1.5,SNR=3.9							
KBZ	**Khabaz**	**69.46**	**312**	P	P		**08 23 25.8**	**-0.4**
KBZ				pmax	pmax			
	comp=Z,1.0nm,0.8s							
KBZ	**Khabaz**	**69.46**	**312**	P	P		**08 23 25.8**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=56,slow=7.3,SNR=4.0							
ASAR	**Alice Springs**	**69.74**	**194**	P	P		08 23 31.9	+3.7
	comp=Z,1.3nm,0.5s,baz=12,slow=5.8,SNR=19							
AKASG	**Malin Array Be**	**70.91**	**324**	P	P		**08 23 33.4**	**-1.6**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**70.91**	**324**	P	P		**08 23 33.4**	**-1.6**
	comp=Z,1.2nm,0.5s,baz=36,slow=5.9,SNR=4.4							
ANMO	**Albuquerque**	**75.53**	**55**	P	P		**08 24 04.1**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=320,slow=7.9,SNR=4.1							
BRTR	**Keskin Array B**	**77.14**	**314**	P	P		**08 24 11.3**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=45,slow=3.7,SNR=3.9							
GERES	**GERESS Array B**	**78.31**	**331**	P	P		**08 24 16.9**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=35,slow=4.9,SNR=4.4							
TXAR	**Lajitas Array**	**81.21**	**57**	P	P		**08 24 35.4**	**+1.7**
	comp=Z,1.0nm,0.6s,baz=298,slow=4.2,SNR=16							
TXAR				pP		**pP**	**08 25 11.3**	**-1.0**
	comp=Z,0.2nm,0.8s,baz=306,slow=3.2,SNR=4.3							

PRE 24 08:14:32.9±1.1, 26°35S×27°73E, h2km, ML1.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ERPM	**east rand prop**	**0.46**	**89**	*e*P	Pg		08 14 42.9	+0.9
ERPM				*e*S	Sg		08 14 47.8	-0.3
PRYS	**Parys**	**0.66**	**210**	*e*P	Pg		08 14 46.0	+0.1
PRYS				*e*S	Sg		08 14 54.5	-0.1
PRYS				AML	AML		08 15 02.7	
	comp=Z,30nm,0.8s							
LBTB	**Lobatse**	**2.34**	**304**	*e*P	Pn		08 15 13.1	+0.5
LBTB				*e*S	Sn		08 15 42.4	+0.4
LBTB				AML	AML		08 15 47.2	
	comp=Z,4.5nm,0.3s							
BOSA	**Boshof**	**3.15**	**224**	*e*P	Pn		08 15 24.2	+0.5
BOSA				*e*S	Sn		08 16 02.2	+0.2
BOSA				AML	AML		08 16 11.7	
	comp=Z,1.8nm,0.8s							

IDC 24 08:25:48.1±7.8, 7°49N×103°17W, h0km, mb3.4/3, mb1 3.9/4, mb1mx3.6/20, mbtmp3.5/4, ML3.2/1, MS3.4/3, Ms1 3.5/3, ms1mx2.9/24, Error ellipse: s-maj=147.1km s-min=65.1km az=152.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**12.50**	**40**	Pn	Pn		08 28 47.5	0.0
	0.1nm,0.3s,baz=218,slow=17,SNR=4.8							
CMIG				LR	LR		08 32 28.5	
	comp=Z,166nm,20.5s,baz=17,slow=32							
TEIG	**Tepich**	**19.19**	**47**	LR	LR		08 36 17.7	
	comp=Z,100nm,18.8s,baz=331,slow=33							
TXAR	**Lajitas Array**	**21.73**	**359**	P	P		08 30 40.8	-0.5
	0.5nm,0.9s,baz=178,slow=14,SNR=6.3							
TXAR				LR	LR		08 38 30.5	
	comp=Z,146nm,18.0s,baz=120,slow=35							
PDAR	**Pinedale Array**	**35.58**	**352**	P	P		08 32 48.0	+0.4
	0.8nm,0.9s,baz=159,slow=10,SNR=4.8							
ILAR	**Eielson Array**	**64.90**	**341**	P	P		08 36 28.9	-0.2
	0.9nm,1.0s,baz=154,slow=4.5,SNR=7.6							

*IDC **24** 08:29:32.6±0.4, 3°55N×126°58E, h0km, mb4.6/29, mb1 4.6/29, mb1mx4.6/33, mbtmp4.6/29, MS3.2/1, Ms1 3.2/1, ms1mx2.5/44, Error ellipse: s-maj=19.7km s-min=8.7km az=74.0*
*BJI **24** 08:29:36.8, 3°16N×126°94E, h76km, mB5.1/26, mb4.9/39, Ms4.8/18, Ms7 4.3/17*
*MOS **24** 08:29:36.6±0.9, 3°61N×126°53E, h33km, mb5.1/25, Error ellipse: s-maj=13.6km s-min=6.7km az=114.5*
*NEIC **24** 08:29:38.7±0.2, 3°68N×126°58E, h35km, mb4.8/32, Error ellipse: s-maj=9.8km s-min=5.3km az=70.0*
*DJA **24** 08:29:38, 3°71N×127°06E, h10km, MLv5.0/5*
*ISCJB **24** 08:29:41.0±0.7, 3°63N±0°03×126°62E±0°05, h72km±6km, mb4.6/78, Error ellipse: s-maj=8.2km s-min=5.3km az=169.7*

ISC 24 08:29:42.3±0.6, 3°61N±0°04×126°61E±0°07, h69km±4km, n194, σ1s32/225, mb4.7/77, 2C-4D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**2.78**	**219**	P	P	**Pn**	**08 30 25.2**	**+0.6**
TNTI	**Ternate**	**2.92**	**165**	P	P	**Pn**	**08 30 25.6**	**-0.9**
DAV	**Davao City (W)**	**3.59**	**343**	Pn	Pn	**Pn**	**08 30 35.8**	**+0.1**
DAV				Sn	Sn	Sn	08 31 28.2	+11
DAV	**Davao City (W)**	**3.59**	**343**	Pn	Pn	**Pn**	**08 30 35.7**	**+0.1**
	76nm,0.3s,baz=239,slow=9.9,SNR=4.5							
DAV				Sn	Sn		08 31 28.2	+11
	49nm,0.3s,baz=127,slow=20,SNR=5.0							
KCP	**Kidapawan**	**3.70**	**336**	*e*P	P	**Pn**	**08 30 38.0**	**+0.8**
KMSI	**Cibinong**	**4.00**	**221**	P	P	**Pn**	**08 30 41.1**	**-0.1**
CTBH	**Cotabato--PC H**	**4.29**	**327**	*e*P	P	**Pn**	**08 30 45.0**	**-0.2**
CGP	**Cagayan de Oro**	**5.18**	**339**	*e*P	P	**Pn**	**08 30 58.5**	**+1.2**
MRSI	**Marisa**	**5.61**	**236**	P	P	**Pn**	**08 31 04.8**	**+1.6**
	180nm,0.6s,2μm0.7nm							
MRSI				S	Sn		08 32 11.8	+5.5
	180nm,0.6s,2μm0.7nm							
LUWI	**Luwuk**	**6.00**	**220**	P	P	**Pn**	**08 31 07.2**	**-1.4**
	236nm,1.0s,2μm1.2nm							
APSI	**Ampana**	**6.69**	**228**	P	P	**Pn**	**08 31 18.6**	**+0.6**
	917nm,0.7s,86nm							
MYLDM	**Lalad Datu**	**8.24**	**281**	P	Pn		08 31 44.5	+5.3
	83nm,1.1s,1μm							
TTSI	**Tana Toraja**	**9.47**	**226**	P	P	**Pn**	**08 31 53.7**	**-2.4**
	35nm,1.5s,515nm							
KKM	**Kota Kinabalu**	**10.64**	**284**	*e*Pn	Pn		08 32 15.1	+3.0
KAPI	**Kappang**	**10.97**	**219**	*e*Pn	Pn		08 32 22.7	+6.2
KAPI	**Kappang**	**10.97**	**219**	Pn	Pn	**Pn**	**08 32 17.1**	**+0.6**
	0.7nm,0.3s,baz=47,slow=16,SNR=2.0							
KAPI				LR	LR		08 35 59.1	
	comp=Z,137nm,21.7s,baz=282,slow=35							
SBUM	**Sibu**	**14.42**	**266**	P	P	**Pn**	**08 33 07.4**	**-0.5**
	30nm,1.1s,458nm							
KHKI	**Kahang-Kahang**	**16.18**	**223**	P	P	**Pn**	**08 33 26.8**	**-0.7**
	20nm,1.0s							
KSM	**Kuching**	**16.42**	**263**	*e*P	P	**Pn**	**08 33 32.8**	**+2.6**
	25nm,0.9s							
KSM	**Kuching**	**16.42**	**263**	P	P	**Pn**	**08 33 33.0**	**+2.8**
	30nm,0.9s							
JAGI	**Jajag, Banyuwa**	**17.27**	**226**	P	P	**Pn**	**08 33 40.2**	**+0.6**
YULB	**Yu-li**	**20.33**	**346**	*e*P	P	**Pn**	**08 34 08.2**	**-4.8**
	17nm,0.8s							
TPUB	**Ta-pu**	**20.41**	**344**	*e*P	P	**Pn**	**08 34 10.8**	**-3.1**
	49nm,0.7s							
SSLB	**Suanglung**	**20.79**	**345**	*e*P	P	**Pn**	**08 34 14.7**	**-3.4**
	36nm,0.8s							
YHNB	**Yeheng**	**21.54**	**347**	*e*P	P	**Pn**	**08 34 24.2**	**-1.8**
	21nm,0.4s							
FITZ	**Fitzroy Crossi**	**21.59**	**183**	*e*P	P	**Pn**	**08 34 27.0**	**+0.5**
	4.9nm,0.6s							
FITZ	**Fitzroy Crossi**	**21.59**	**183**	*e*P	P	**Pn**	**08 34 26.8**	**+0.2**
	9.2nm,0.5s							
FITZ	**Fitzroy Crossi**	**21.59**	**183**	P	P	**Pn**	**08 34 25.0**	**-1.6**
	3.3nm,0.6s,baz=17,slow=11,SNR=14							
QIZ	**Qiongzhong**	**22.44**	**314**	P	P		**08 34 37.5**	**+1.8**
QIZ				S	S		**08 38 39.3**	**+1.7**
JOW	**Kunigami**	**23.15**	**4**	P	P		**08 34 41.1**	**-1.8**
JOW	**Kunigami**	**23.15**	**4**	P	P		**08 34 41.1**	**-1.8**
	35nm,0.9s,baz=202,slow=11,SNR=4.8							
PMG	**Port Moresby**	**24.22**	**122**	P	P	**Pn**	**08 34 51.6**	**-1.2**
PMG	**Port Moresby**	**24.22**	**122**	P	P	**Pn**	**08 34 51.6**	**-1.2**
	1.7nm,0.4s,baz=306,slow=8.7,SNR=2.2							
WRAB	**Tennant Creek**	**24.60**	**162**	*e*P	P	**Pn**	**08 34 55.3**	**-0.9**
WRAB				pmax	pmax			
	comp=Z,33nm,0.8s							
WRAB	**Tennant Creek**	**24.60**	**162**	*e*P	P	**Pn**	**08 34 55.3**	**-0.9**
	comp=Z,33nm,0.8s							
WRA	**Warramunga Arr**	**24.61**	**162**	P	P	**Pn**	**08 34 55.2**	**-1.0**
WRA				PcP	PcP	**PcP**	**08 38 33.5**	**+0.8**
WRA				S	S	**Sn**	**08 39 15.9**	**+3.2**
WRA	**Warramunga Arr**	**24.61**	**162**	P	P	**Pn**	**08 34 55.2**	**-1.0**
	comp=Z,27nm,0.8s,baz=344,slow=10,SNR=133							
WRA				PcP	PcP	**PcP**	**08 38 33.5**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=336,slow=2.5,SNR=3.5							
WRA				S	S	**Sn**	**08 39 15.9**	**+3.2**
	comp=Z,2.7nm,0.8s,baz=342,slow=16,SNR=5.4							
MBWA	**Marble Bar**	**25.52**	**195**	*e*P	P	**Pn**	**08 35 07.0**	**+2.5**
	comp=Z,7.9nm,0.8s							
PSI	**Prapat**	**27.65**	**269**	P	P	**Pn**	**08 35 23.2**	**-0.8**
PSI	**Prapat**	**27.65**	**269**	P	P	**Pn**	**08 35 23.2**	**-0.8**
	comp=Z,3.5nm,0.7s,baz=101,slow=4.0,SNR=7.3							
ASAR	**Alice Springs**	**28.03**	**166**	P	P		**08 35 26.5**	**-0.6**
ASAR				PcP	PcP	**PcP**	**08 38 41.2**	**+0.6**
ASAR				S	S	**Sn**	**08 40 09.6**	**+2.7**
ASAR	**Alice Springs**	**28.03**	**166**	P	P	**Pn**	**08 35 26.5**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=351,slow=7.4,SNR=27							
ASAR				PcP	PcP	**PcP**	**08 38 41.2**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=350,slow=2.4,SNR=4.4							
ASAR				S	S	**Sn**	**08 40 09.5**	**+2.7**
	comp=Z,0.7nm,0.7s,baz=350,slow=19,SNR=3.7							
WHN	**Wuhan**	**29.19**	**338**	P	P		**08 35 37.3**	**0.0**
NJ2	**Nanjing**	**29.22**	**346**	*e*P	P		**08 35 38.8**	**+1.2**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
JNU	**Nakatsue**	**29.63**	**7**	*e*P	P		**08 35 40.0**	**-1.3**
	comp=Z,11nm,0.9s							
JNU	**Nakatsue**	**29.63**	**7**	P	P		**08 35 40.1**	**-1.2**
	comp=Z,20nm,0.9s,baz=181,slow=3.4,SNR=10							
GYA	**Guiyang**	**29.69**	**322**	P	P		08 35 44.8	+2.8
GYA				pP	pP		08 36 03.5	+4.9
GYA				sP	sP		08 36 12.8	+6.0
GYA				PP	PnPn		**08 36 44.0**	**+3.8**
GYA				S	S		**08 40 34.5**	**+1.4**
GYA				sS	sS		08 41 05.8	+4.2
GYA				ScP	ScP		**08 42 21.0**	**0.0**
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,120nm,4.6s							
GYA				LR	LR			
	comp=N,490nm,17.2s							
GYA				LR	LR			
	comp=E,460nm,18.0s							
GYA				LR	LR			
	comp=Z,420nm,17.5s							
CMAR	**Chiang Mai Arr**	**30.83**	**301**	P	P		**08 35 52.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**30.83**	**301**	P	P		**08 35 51.9**	**-0.1**
	comp=Z,4.6nm,0.8s,baz=112,slow=6.7,SNR=19							
CHTO	**Chiang Mai**	**30.98**	**301**	*e*P	P		**08 35 53.3**	**-0.1**
CHTO				pmax	pmax			
	comp=Z,9.0nm,0.9s							
CHTO	**Chiang Mai**	**30.98**	**301**	*e*P	P		**08 35 53.3**	**-0.1**
	comp=Z,9.0nm,0.9s							
**EN

MDJ	**Mudanjiang**	**40.92**	**3**	*e*P		**P**	**08 37 18.0**	**+0.1**
	comp=Z,27nm,1.0s							
ARMA	**Armidale**	**41.43**	**146**	*e*P		**P**	**08 37 24.3**	**+1.9**
	comp=Z,6.6nm,0.6s							
LSA	**Lhasa**	**42.43**	**312**	P		**P**	**08 37 30.9**	**-0.2**
LSA	**Lhasa**	**42.43**	**312**	*e*P		**P**	**08 37 30.9**	**-0.2**
LSA				pmax	pmax			
	comp=Z,13nm,0.8s							
LSA	**Lhasa**	**42.43**	**312**	*e*P		**P**	**08 37 30.9**	**-0.2**
	comp=Z,13nm,0.8s							
GTA	**Gaotai**	**43.14**	**329**	*e*P		**P**	**08 37 35.3**	**-0.9**
GTA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
TAPN	**Taplejung**	**43.99**	**306**	*e*P		**P**	**08 37 42.8**	**-0.7**
	comp=Z,21nm,0.9s							
TAPN	**Taplejung**	**43.99**	**306**	*e*P		**P**	**08 37 42.8**	**-0.7**
ODAN	**Odare**	**44.04**	**306**	*e*P		**P**	**08 37 43.5**	**-0.3**
	comp=Z,16nm,0.4s							
RAMN	**Ramite**	**44.72**	**305**	*e*P		**P**	**08 37 48.5**	**-0.8**
	comp=Z,14nm,0.6s							
RAMN	**Ramite**	**44.72**	**305**	*e*P		**P**	**08 37 48.5**	**-0.8**
HABR	**Khabarovsk**	**45.28**	**8**	*e*P		**P**	**08 37 52.2**	**-0.8**
HABR				*e*			08 39 31.5	
HABR				*e*			08 39 38.4	
HABR				*e*S		**S**	**08 44 30.9**	**+2.7**
HABR				*e*			08 47 46.1	
HABR				*e*SSS	SSS		08 48 43.1	
HABR				pmax	pmax			
	comp=Z,51nm,2.0s							
HABR				pmax	pmax			
	comp=E,45nm,2.0s							
HABR				pmax	pmax			
	comp=N,24nm,2.0s							
HABR				MLR	MLR			
	comp=Z,63nm,16.0s							
JIRN	**Jiri**	**45.35**	**306**	*e*P		**P**	**08 37 53.7**	**-0.7**
JIRN	**Jiri**	**45.35**	**306**	*e*P		**P**	**08 37 53.7**	**-0.7**
KLR	**Kul'dur**	**45.67**	**5**	*e*P		P	08 37 49.2	-6.9
GUN	**Gumba**	**45.70**	**306**	*e*P		**P**	**08 37 56.4**	**-0.7**
	comp=Z,35nm,0.7s							
GUN	**Gumba**	**45.70**	**306**	*e*P		**P**	**08 37 56.4**	**-0.7**
HIA	**Hailar**	**45.87**	**354**	*e*P		**P**	**08 37 59.8**	**+2.1**
	comp=Z,18nm,0.9s							
PKI	**Pulchoki**	**45.94**	**306**	*e*P		**P**	**08 37 59.1**	**+0.1**
	comp=Z,7.7nm,0.2s							
DMN	**Daman**	**46.20**	**305**	*e*P		**P**	**08 37 59.7**	**-1.3**
DMN	**Daman**	**46.20**	**305**	*e*P		**P**	**08 37 59.7**	**-1.3**
GKN	**Gorkha**	**46.74**	**306**	*e*P		**P**	**08 38 04.4**	**-0.7**
GKN	**Gorkha**	**46.74**	**306**	*e*P		**P**	**08 38 04.4**	**-0.7**
ULN	**Ulaanbaatar**	**47.20**	**342**	*e*P		**P**	**08 38 07.9**	**-0.4**
	comp=Z,9.2nm,1.1s							
SONM	**Songino Array**	**47.38**	**342**	P		**P**	**08 38 08.8**	**-0.8**
SONM				PcP		**PcP**	**08 39 39.4**	**0.0**
SONM	**Songino Array**	**47.38**	**342**	P		**P**	**08 38 08.8**	**-0.8**
	comp=Z,4.0nm,0.6s,baz=157,slow=8.2,SNR=30							
SONM				PcP		**PcP**	**08 39 39.4**	**0.0**
	comp=Z,2.3nm,0.8s,baz=154,slow=4.2,SNR=4.9							
KOLN	**Koldanda**	**47.49**	**305**	*e*P		**P**	**08 38 10.7**	**-0.3**
	comp=Z,24nm,0.4s							
DANN	**Dangsing**	**47.59**	**306**	*e*P		**P**	**08 38 10.8**	**-1.0**
	comp=Z,42nm,0.6s							
DANN	**Dangsing**	**47.59**	**306**	*e*P		**P**	**08 38 10.8**	**-1.0**
PYUN	**Piuthan**	**48.12**	**305**	*e*P		**P**	**08 38 15.0**	**-0.8**
PYUN	**Piuthan**	**48.12**	**305**	*e*P		**P**	**08 38 15.0**	**-0.8**
ZAK	**Zakamensk**	**50.60**	**341**	*e*P		**P**	**08 38 33.5**	**-0.7**
ZAK				*e*			08 39 50.6	
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.3s							
TLY	**Talaya**	**51.61**	**342**	*e*P		**P**	**08 38 41.2**	**-0.5**
TLY				pmax	pmax			
	comp=Z,5.0nm,1.4s							
TLY	**Talaya**	**51.61**	**342**	*e*P		**P**	**08 38 41.4**	**-0.3**
	comp=Z,5.6nm,0.9s							
MOY	**Mondy**	**52.45**	**340**	*e*P		**P**	**08 38 48.2**	**+0.1**
WMQ	**Urumqi**	**52.76**	**325**	*e*P		**P**	**08 38 50.4**	**0.0**
WMQ				pP		**pP**	**08 39 07.0**	**-1.1**
WMQ				pmax	pmax			
	comp=Z,7.0nm,1.3s							
WMQ				pmax	pmax			
	comp=Z,100nm,4.5s							
WMQ				LR	LR			
	comp=Z,330nm,23.7s							
BOD	**Bodaibo**	**54.97**	**352**	*e*P		**P**	**08 39 05.9**	**-0.2**
BOD				pmax	pmax			
	comp=Z,6.0nm,0.9s							
MSVF	**Nonsavu**	**54.97**	**114**	*e*P		**P**	**08 39 08.2**	**+1.2**
MSVF				pmax	pmax			
	comp=Z,8.0nm,1.1s							
MSVF	**Nonsavu**	**54.97**	**114**	*e*P		**P**	**08 39 08.2**	**+1.2**
	comp=Z,8.3nm,1.1s							
PETK	**Petropavlovsk-**	**55.59**	**22**	P		**P**	**08 39 11.0**	**+0.3**
PETK	**Petropavlovsk-**	**55.59**	**22**	P		**P**	**08 39 11.0**	**+0.3**
PETK	**Petropavlovsk-**	**55.59**	**22**	P		**P**	**08 39 11.0**	**+0.3**
	comp=Z,10nm,0.7s,baz=196,slow=6.7,SNR=7.9							
MKAR	**Makanchi Array**	**57.59**	**325**	P		**P**	**08 39 24.6**	**-0.5**
MKAR	**Makanchi Array**	**57.59**	**325**	P		**P**	**08 39 24.6**	**-0.5**
MKAR	**Makanchi Array**	**57.59**	**325**	P		**P**	**08 39 24.6**	**-0.5**
	comp=Z,7.3nm,0.6s,baz=124,slow=8.4,SNR=81							
KSH	**Kashi**	**58.05**	**315**	P		**P**	**08 39 29.3**	**+0.8**
KSH				pP		**pP**	**08 39 48.8**	**+2.2**
KSH				sP		sP	08 39 57.4	+3.0
KSH				PcP		**PcP**	**08 40 19.5**	**-0.3**
KSH				PP		**PP**	**08 41 40.5**	**+2.7**
KSH				ScP		**ScP**	**08 44 11.3**	**-2.8**
KSH				PcS		**PcS**	**08 44 19.5**	**-1.9**
KSH				S		**S**	**08 47 23.6**	**-0.8**
KSH				sS		sS	08 47 57.1	+2.2
KSH				ScS		**ScS**	**08 49 08.0**	**-4.2**
KSH				SS		**SS**	**08 51 17.9**	**+1.2**
KSH				pmax	pmax			
	comp=Z,7.0nm,1.1s							
KSH				pmax	pmax			
	comp=Z,120nm,4.7s							
KSH				LR	LR			
	comp=N,120nm,5.6s							
KSH				LR	LR			
	comp=E,130nm,5.9s							
KSH				LR	LR			
	comp=Z,210nm,8.1s							
YAK	**Yakutsk**	**58.33**	**2**	*e*P		**P**	**08 39 29.4**	**-0.5**
YAK				pmax	pmax			
	comp=Z,21nm,1.0s							
YAK				pmax	pmax			
	comp=N,10.0nm,1.5s							
KZA	**Kyzart**	**59.62**	**318**	P		**P**	**08 39 41.1**	**+1.3**
	SNR=6.9							
TKM2	**Tokmak 2**	**59.76**	**319**	*e*P		**P**	**08 39 40.9**	**+0.4**
TKM2				pmax	pmax			
	comp=Z,7.0nm,0.6s							
TKM2	**Tokmak 2**	**59.76**	**319**	*e*P		**P**	**08 39 40.9**	**+0.4**
	comp=Z,6.8nm,0.6s							
TKM2	**Tokmak 2**	**59.76**	**319**	P		**P**	**08 39 41.0**	**+0.5**
	SNR=7.3							
AAK	**Ala-Archa**	**60.37**	**318**	*e*P		**P**	**08 39 45.0**	**+0.4**
AAK				pmax	pmax			
	comp=Z,14nm,0.8s							
AAK	**Ala-Archa**	**60.37**	**318**	*e*P		**P**	**08 39 45.0**	**+0.4**
	comp=Z,14nm,0.8s							
USP	**Ospenovka**	**60.63**	**319**	P		**P**	**08 39 46.3**	**+0.1**
	SNR=10							
ZALV	**Zalesovo Beam**	**60.64**	**333**	P		**P**	**08 39 44.8**	**-1.2**
ZALV	**Zalesovo Beam**	**60.64**	**333**	P		**P**	**08 39 44.8**	**-1.2**
ZALV	**Zalesovo Beam**	**60.64**	**333**	P		**P**	**08 39 44.8**	**-1.2**
	comp=Z,2.7nm,0.7s,baz=116,slow=6.8,SNR=16							
AML	**Almayashu**	**60.70**	**317**	P		**P**	**08 39 47.2**	**+0.1**
	SNR=13							
EKS2	**Erkin-Say**	**60.86**	**318**	*e*P		**P**	**08 39 48.2**	**+0.3**
EKS2				pmax	pmax			
	comp=Z,10.0nm,0.8s							
EKS2	**Erkin-Say**	**60.86**	**318**	*e*P		**P**	**08 39 48.2**	**+0.3**
	comp=Z,9.7nm,0.8s							
EKS2	**Erkin-Say**	**60.86**	**318**	P		**P**	**08 39 48.8**	**+0.9**
	SNR=11							
NVS	**Novosibirsk**	**61.92**	**333**	*e*P		P	08 39 51.2	-3.4
NVS				pmax	pmax			
	comp=Z,7.0nm,0.9s							
NVS				pmax	pmax			
	comp=N,2.0nm,0.9s							
NVS				pmax	pmax			
	comp=E,3.0nm,0.7s							
SEY	**Seymchan**	**62.18**	**13**	*e*P		**P**	**08 39 58.0**	**+1.8**
BRVK	**Borovoye**	**67.43**	**327**	*e*P		**P**	**08 40 30.0**	**-0.5**
BRVK				pmax	pmax			
	comp=Z,27nm,1.0s							
BRVK	**Borovoye**	**67.43**	**327**	*e*P		**P**	**08 40 30.1**	**-0.5**
	comp=Z,21nm,0.9s							
AKTO	**Aktyubinsk**	**73.68**	**322**	P		**P**	**08 41 08.2**	**-0.5**
AKTO	**Aktyubinsk**	**73.68**	**322**	P		**P**	**08 41 08.2**	**-0.5**
AKTO	**Aktyubinsk**	**73.68**	**322**	P		**P**	**08 41 08.2**	**-0.5**
	comp=Z,4.5nm,0.6s,baz=104,slow=5.8,SNR=18							
ARU	**Arti**	**74.97**	**328**	*d i*P		**P**	**08 41 16.6**	**+0.6**
ARU							08 44 01.0	
ARU				S		**S**	**08 50 51.2**	**+3.0**
ARU				pmax	pmax			
	comp=Z,12nm,1.0s							
ARU	**Arti**	**74.97**	**328**	*e*P		**P**	**08 41 14.8**	**-1.2**
	comp=Z,9.5nm,0.6s							
KDAK	**Kodiak Island**	**82.06**	**32**	P		**P**	**08 41 55.8**	**+0.9**
KDAK	**Kodiak Island**	**82.06**	**32**	P		**P**	**08 41 55.8**	**+0.9**
	comp=Z,4.6nm,0.7s,baz=284,slow=4.5,SNR=7.6							
ZEI	**Tsey**	**82.21**	**313**	*e*P		**P**	**08 41 56.0**	**-0.4**
ZEI				pmax	pmax			
	comp=Z,4.0nm,1.0s							
TRF	**Thorofare Moun**	**83.70**	**27**	*e*P		**P**	**08 42 03.4**	**-0.3**
	comp=Z,10nm,1.2s							
COLD	**Coldfoot**	**84.05**	**23**	*e*P		**P**	**08 42 07.0**	**+1.9**
	comp=Z,5.3nm,0.8s							
VRHR	**Novokhopersk**	**84.06**	**321**	*e*P		**P**	**08 42 04.1**	**-1.3**
VRHR				pmax	pmax			
	comp=N,3.0nm,0.6s							
VRHR				pmax	pmax			
	comp=Z,9.0nm,0.6s							
VRHR				pmax	pmax			
	comp=E,1.0nm,0.2s							
PMR	**Palmer**	**84.11**	**29**	*e*P		**P**	**08 42 05.8**	**+0.3**
PMR				pmax	pmax			
	comp=Z,10.0nm,1.0s							
PMR	**Palmer**	**84.11**	**29**	*e*P		**P**	**08 42 05.8**	**+0.3**
	comp=Z,9.9nm,1.0s							
MCK	**McKinley**	**84.33**	**26**	*e*P		**P**	**08 42 07.0**	**+0.4**
MCK				pmax	pmax			
	comp=Z,17nm,1.6s							
MCK	**McKinley**	**84.33**	**26**	*e*P		**P**	**08 42 07.0**	**+0.4**
	comp=Z,17nm,1.6s							
SML	**Sawmill**	**84.50**	**28**	*e*P		**P**	**08 42 08.3**	**+0.7**
SML				pmax	pmax			
	comp=Z,3.0nm,0.9s							
SML	**Sawmill**	**84.50**	**28**	*e*P		**P**	**08 42 08.3**	**+0.7**
	comp=Z,3.0nm,0.9s							
ILAR	**Eielson Array**	**85.26**	**25**	P		**P**	**08 42 10.8**	**-0.5**
ILAR	**Eielson Array**	**85.26**	**25**	P		**P**	**08 42 10.8**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=250,slow=5.4,SNR=9.2							
VORD	**Divnogorie**	**85.53**	**321**	*e*P		**P**	**08 42 11.9**	**-0.9**
VORD				pmax	pmax			
	comp=N,10.0nm,0.5s							
VORD				pmax	pmax			
	comp=E,30nm,0.5s							
VORD				pmax	pmax			
	comp=Z,10.0nm,0.5s							
VSR	**Storozhevoye**	**85.61**	**321**	*e*P		**P**	**08 42 12.5**	**-0.7**
VSR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
VSR				pmax	pmax			
	comp=N,2.0nm,0.4s							
VSR				pmax	pmax			
	comp=E,10.0nm,0.9s							
PAX	**Paxson**	**85.86**	**27**	*e*P		**P**	**08 42 15.8**	**+1.4**
PAX				pmax	pmax			
	comp=Z,14nm,1.5s							
PAX	**Paxson**	**85.86**	**27**	*e*P		**P**	**08 42 15.8**	**+1.4**
	comp=Z,14nm,1.5s							
MOS	**Moscow**	**86.47**	**325**	*e*P		**P**	**08 42 16.2**	**-1.2**
MOS				*e*			08 45 37.6	
MOS				pmax	pmax			
	comp=Z,28nm,0.8s							
OBN	**Obninsk**	**87.09**	**325**	*i*P		**P**	**08 42 20.8**	**+0.4**
OBN				*e*S		S	08 52 47.6	-6.4
OBN				pmax	pmax			
	comp=Z,15nm,1.3s							
OBN				MLR	MLR			
	comp=Z,100nm,17.0s							
ASF	**Jabal al Asfar**	**87.86**	**302**	P		**P**	**08 42 23.8**	**-0.9**
ASF	**Jabal al Asfar**	**87.86**	**302**	P		**P**	**08 42 23.8**	**-0.9**
	comp=Z,3.2nm,0.7s,baz=96,slow=5.5,SNR=5.6							
JOF	**Joensuu**	**89.23**	**333**	*e*pkp			08 59 46.6	
	comp=Z,1.6nm,0.6s							
KMBO	**Kilima Mbogo**	**89.43**	**269**	*e*P		**P**	**08 42 33.6**	**+0.9**
	comp=Z,9.3nm,1.2s							
BRTR	**Keskin Array B**	**90.01**	**310**	P		**P**	**08 42 33.8**	**-1.0**
BRTR	**Keskin Array B**	**90.01**	**310**	P		**P**	**08 42 33.8**	**-1.0**
	comp=Z,2.7nm,0.9s,baz=123,slow=5.1,SNR=8.7							
INK	**Inuvik**	**90.32**	**21**	P		**P**	**08 42 35.3**	**-0.1**
INK	**Inuvik**	**90.32**	**21**	P		**P**	**08 42 35.3**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=268,slow=3.5,SNR=3.7							
ARCES	**ARCESS Array B**	**90.52**	**340**	P		**P**	**08 42 35.6**	**-0.8**
ARCES	**ARCESS Array B**	**90.52**	**340**	P		**P**	**08 42 35.6**	**-0.8**
	comp=Z,3.4nm,0.6s,baz=83,slow=6.6,SNR=19							
SPITS	**Spitsbergen Ar**	**90.58**	**349**	P		**P**	**08 42 36.2**	**-0.2**
SPITS	**Spitsbergen Ar**	**90.58**	**349**	P		**P**	**08 42 36.3**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=148,slow=11,SNR=4.1							
KAF	**Kangasniemi**	**91.65**	**332**	*e*pkp			08 59 51.9	
	comp=Z,14nm,0.7s							
FINES	**FINESS Array B**	**91.88**	**332**	P		**P**	**08 42 42.0**	**-0.8**
FINES	**FINESS Array B**	**91.88**	**332**	P		**P**	**08 42 42.0**	**-0.8**
	comp=Z,3.8nm,0.9s,baz=43,slow=6.3,SNR=4.5							
AKASG	**Malin Array Be**	**91.91**	**321**	P		**P**	**08 42 42.4**	**-0.7**
AKASG	**Malin Array Be**	**91.91**	**321**	P		**P**	**08 42 42.4**	**-0.7**
AKASG	**Malin Array Be**	**91.91**	**321**	P		**P**	**08 42 42.4**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=70,slow=4.9,SNR=6.2							
MLR	**Muntele Rosu**	**94.90**	**316**	P		**P**	**08 42 56.8**	**-0.5**
MLR	**Muntele Rosu**	**94.90**	**316**	P		**P**	**08 42 56.8**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=146,slow=3.6,SNR=6.3							
RES	**Resolute Bay**	**97.95**	**10**	P		**P**	**08 43 09.8**	**-0.4**
RES	**Resolute Bay**	**97.95**	**10**	P		**P**	**08 43 09.8**	**-0.4**
	baz=292,slow=4.7							
HFS	**Hagfors**	**98.07**	**332**	P		**P**	**08 43 10.3**	**-0.7**
HFS	**Hagfors**	**98.07**	**332**	P		**P**	**08 43 10.3**	**-0.7**
	comp=Z,4.4nm,1.0s,baz=79,slow=3.1,SNR=3.2							
NOA	**NORSAR Array B**	**98.84**	**334**	P		**P**	**08 43 13.1**	**-1.5**
NOA	**NORSAR Array B**	**98.84**	**334**	P		**P**	**08 43 13.1**	**-1.5**
	comp=Z,1.5nm,0.8s,baz=67,slow=4.6,SNR=3.5							
YKA	**Yellowknife Ar**	**99.66**	**24**	P		**Pdif**	**08 43 17.2**	**-0.9**
YKA	**Yellowknife Ar**	**99.66**	**24**	P		**Pdif**	**08 43 17.2**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=296,slow=4.2,SNR=5.4							
GERES	**GERESS Array B**	**102.11**	**322**	P		**Pdif**	**08 43 29.9**	**+0.4**
GERES	**GERESS Array B**	**102.11**	**322**	P		**Pdif**	**08 43 29.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=86,slow=4.0,SNR=3.8							
TXAR	**Lajitas Array**	**121.77**	**52**	PKP		**PKPdf**	**08 48 29.7**	**+0.4**
TXAR	**Lajitas Array**	**121.77**	**52**	PKP		**PKPdf**	**08 48 29.7**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=234,slow=1.3,SNR=5.3							
TORD	**Torodi Ar. Bea**	**122.84**	**288**	PKP		**PKPdf**	**08 48 31.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**122.84**	**288**	PKP		**PKPdf**	**08 48 31.8**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=57,slow=2.1,SNR=5.6							
LCO	**Las Campanas**	**149.85**	**149**	*e*PKPbc		**PKPbc**	**08 49 26.5**	**+0.8**

*CSEM **24** 08:40:04.1,39.28N×33.09E,h7km,MD2.8,After DDA*
DDA 24 08:40:04.1,39.28N×33.09E,h7km,MD2.8,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s	ISC
BBAL	**Bala**	**0.26**	**5**	*i* P	Pg	08	40	10.2	+0.7
BBAL				*i* S	Sg	08	40	13.2	0.0
BBAL	**Bala**	**0.26**	**5**	*i* P	Pg	08	40	10.2	+0.7
BBAL				*i* S	Sg	08	40	13.2	0.0
CDAG	**Cicekdag**	**1.05**	**70**	*e*P	Pg	08	40	24.0	-0.4
CDAG	**Cicekdag**	**1.05**	**70**	*e*P	Pg	08	40	24.0	-0.4
KDHN	**Kadinhani**	**1.07**	**225**	*e*P	Pg	08	40	24.6	-0.4
KDHN	**Kadinhani**	**1.07**	**225**	*e*P	Pg	08	40	24.6	-0.3
ELDT	**Eldivan**	**1.23**	**12**	*i* P	Pg	08	40	29.5	+1.5
ELDT				*i* S	Sn	08	40	45.5	+0.3
ELDT	**Eldivan**	**1.23**	**12**	*i* P	Pg	08	40	29.5	+1.4
ELDT				*i* S	Sn	08	40	45.5	+0.3

*IDC **24** 08:40:15.0±0.6,30.83S×176.85W,h0km,mb4.6/17, mb1 4.7/18,mb1mx4.7/24,mbtmp4.6/18,ML2.9/1,MS4.0/5, Ms1 4.0/5,ms1mx3.6/29,Error ellipse: s-maj=23.9km s-min=16.3km az=155.0*
*ISCJB **24** 08:40:17.8±0.3,31.38S±0.04×176.81W±0.09,h33km, mb4.7/30,MS4.2/5,Error ellipse: s-maj=11.5km s-min=4.1km az=26.5*
*BJI **24** 08:40:19.4,31.13S×177.06W,h41km,mB5.3/9,mb5.2/11, Ms5.0/6,Ms7 4.6/6*
*NEIC **24** 08:40:20.0±0.3,31.04S×176.96W,h35km,mb4.8/13, Error ellipse: s-maj=11.1km s-min=7.6km az=125.0*
ISC 24 08:40:19.4±0.4,31.13S±0.06×176.77W±0.08,h35km, n126,σ1s55/128,mb4.8/30,MS4.3/5,1D,Kermadec

Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s	ISC
RAO	**Raoul Island**	**2.12**	**332**	*e*Pn	Pn	08	40	48.9	-3.4
MXZ	**Matakaoa Point**	**7.60**	**211**	*e*PN	**Pn**	**08**	**42**	**05.6**	**-2.1**
MXZ				*e*SN	**Sn**	**08**	**43**	**32.9**	**+0.3**
PUZ	**Puketiti**	**8.05**	**209**	*e*PN	**Pn**	**08**	**42**	**12.0**	**-1.9**
PUZ				*e*SN	**Sn**	**08**	**43**	**41.2**	**-2.5**
CNGZ	**Carnagh Statio**	**8.42**	**208**	*e*PN	**Pn**	**08**	**42**	**17.3**	**-1.6**
MWZ	**Matawai**	**8.59**	**212**	*e*PN	**Pn**	**08**	**42**	**19.6**	**-1.6**
MWZ				*e*SN	**Sn**	**08**	**43**	**56.8**	**0.0**
URZ	**Urewera**	**8.72**	**214**	*e*Pn	**Pn**	**08**	**42**	**21.4**	**-1.6**
URZ				*e*Sn	**Sn**	**08**	**44**	**00.3**	**+0.3**
URZ	**Urewera**	**8.72**	**214**	*e*PN	**Pn**	**08**	**42**	**21.1**	**-1.8**
URZ				*e*SN	**Sn**	**08**	**43**	**59.0**	**-1.0**
OUZ	**Omahuta**	**9.05**	**241**	*e*Pn	Pn	08	42	31.2	+3.7
	26nm,0.9s								
OUZ	**Omahuta**	**9.05**	**241**	*e*PN	Pn	08	42	33.8	+6.3
NMHZ	**Naumai**	**9.54**	**212**	*e*PN	**Pn**	**08**	**42**	**32.6**	**-1.6**
BKZ	**Black Stump Fm**	**9.73**	**213**	*e*PN	**Pn**	**08**	**42**	**34.5**	**-2.5**
BHHZ	**Black Hill Sta**	**10.19**	**213**	*e*PN	**Pn**	**08**	**42**	**42.5**	**-0.7**
PXZ	**Pawanui**	**10.29**	**209**	*e*SN	**Sn**	**08**	**44**	**33.4**	**-5.0**
TSZ	**Takapari Road**	**10.70**	**212**	*e*PN	Pn	08	42	46.7	-3.4
BFZ	**Birch Farm**	**11.09**	**209**	*e*PN	Pn	08	42	50.9	-4.4
BFZ				*e*SN	**Sn**	**08**	**44**	**54.0**	**-4.1**
MRZ	**Mangatainoka R**	**11.36**	**211**	*e*PN	Pn	08	42	54.4	-4.6
MRZ				*e*SN	Sn	08	44	57.7	-7.0
OGWZ	**Otaki Gorge**	**11.66**	**212**	*e*PN	**Pn**	**08**	**43**	**01.5**	**-1.8**
CTZ	**Chatham Island**	**12.59**	**180**	*e*PN	**Pn**	**08**	**43**	**13.0**	**-2.9**
CTZ				*e*SN	Sn	08	45	22.5	-12
THZ	**Tophouse**	**13.47**	**215**	*e*PN	Pn	08	43	24.2	-3.8
THZ				*e*SN	Sn	08	45	48.2	-6.3
KHZ	**Kahutara**	**13.68**	**212**	*e*PN	**Pn**	**08**	**43**	**29.9**	**-0.8**
KHZ				*e*Sn	Sn	08	45	54.1	-7.2
KHZ	**Kahutara**	**13.68**	**212**	*e*PN	Pn	08	43	26.7	-4.0
DSZ	**Denniston Nort**	**14.02**	**218**	*e*PN	**Pn**	**08**	**43**	**34.0**	**-1.5**
MSVF	**Nonsavu**	**14.14**	**339**	*e*Pn	**Pn**	**08**	**43**	**34.8**	**-2.5**
LTZ	**Lake Taylor**	**14.55**	**214**	*e*PN	**Pn**	**08**	**43**	**39.7**	**-3.0**
RPZ	**Rata Peaks**	**15.84**	**214**	*e*Pn	**Pn**	**08**	**43**	**57.5**	**-2.1**
	98nm,1.6s								
ODZ	**Otahua Downs**	**17.04**	**212**	*e*P	P	08	44	21.4	+5.1
	33nm,0.7s								
DZM	**Mont Dzumac**	**17.50**	**297**	*e*P	P	08	44	28.1	+6.4
	78nm,1.0s								
DZM				*e*LR	LR	08	48	35.4	
	748nm,24.3s								
DZM	**Mont Dzumac**	**17.50**	**297**	P	**P**	**08**	**44**	**24.5**	**+2.8**
DZM	**Mont Dzumac**	**17.50**	**297**	P	**P**	**08**	**44**	**24.5**	**+2.8**
	0.6nm,0.3s,baz=102,slow=17,SNR=6.6								
DZM				LR	LR	08	49	36.4	
	comp=Z,360nm,20.1s,baz=126,slow=32								
AFI	**Afiamalu**	**17.74**	**16**	P	**Pn**	**08**	**44**	**20.5**	**-3.3**
AFI				S	Sn	08	47	15.7	-25
AFI	**Afiamalu**	**17.74**	**16**	P	**Pn**	**08**	**44**	**20.5**	**-3.3**
	2.2nm,0.3s,baz=200,slow=18,SNR=4.2								
AFI				S	Sn	08	47	15.7	-25
	1.4nm,0.3s,baz=197,slow=18,SNR=3.2								
TBI	**Tubuai**	**25.44**	**79**	*e*LR	LR	08	51	54.8	
	490nm,30.5s,baz=242								
PPT2	**Papeete2**	**28.11**	**68**	*e*LR	LR	08	53	05.8	
	217nm,22.0s								
PPT	**Papeete**	**28.12**	**68**	LR	LR	08	53	07.9	
	comp=Z,221nm,21.5s,baz=186,slow=28								
EIDS	**Eidsvold**	**28.84**	**273**	*e*P	**P**	**08**	**46**	**15.7**	**+1.2**
	5.1nm,0.7s								
CTA	**Charters Tower**	**34.96**	**279**	P	**P**	**08**	**47**	**09.4**	**+1.1**
CTA	**Charters Tower**	**34.96**	**279**	*e*P	**P**	**08**	**47**	**10.0**	**+1.6**
	15nm,0.6s								
CTA	**Charters Tower**	**34.96**	**279**	P	**P**	**08**	**47**	**09.4**	**+1.1**
	18nm,0.7s,baz=105,slow=11,SNR=27								
CTAO	**Charters Tower**	**34.96**	**279**	*e*P	**P**	**08**	**47**	**09.8**	**+1.4**
	20nm,0.7s								
STKA	**Stephens Creek**	**35.36**	**258**	P	**P**	**08**	**47**	**12.8**	**+1.2**
STKA	**Stephens Creek**	**35.36**	**258**	*e*P	**P**	**08**	**47**	**12.8**	**+1.2**
	11nm,1.0s								
STKA	**Stephens Creek**	**35.36**	**258**	P	**P**	**08**	**47**	**12.8**	**+1.2**
	14nm,1.0s,baz=82,slow=9.0,SNR=12								

comp=Z,41nm,21.3s,baz=357,slow=30
HHC Hu-ho-hao-te 97.50 313 *e*P Pdif 08 53 49.9 +0.1
HHC sP sP 08 54 04.3 -0.6
HHC PP **PP** **08 57 49.1 +1.4**
HHC SKS **SKSac** **09 04 23.4 -1.0**
HHC S **S** **09 05 08.5 -3.4**
HHC sS sS 09 05 26.6 -3.9
HHC SS **SS** **09 11 50.9 -1.5**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,99nm,7.3s
HHC LR LR
comp=N,120nm,17.5s
HHC LR LR
comp=E,160nm,17.4s
HHC LR LR
comp=Z,110nm,17.8s
ILAR Eielson Array 98.40 12 P **P** **08 53 52.8 -0.3**
ILAR Eielson Array 98.40 12 P **P** **08 53 52.8 -0.3**
comp=Z,0.7nm,0.9s,baz=191,slow=3.7,SNR=4.3
YKA Yellowknife Ar 105.64 25 PKiKP **PKiKP** **08 58 38.3 +0.1**
YKA Yellowknife Ar 105.64 25 PKiKP **PKiKP** **08 58 38.3 +0.1**
comp=Z,0.2nm,0.6s,baz=222,slow=2.1,SNR=3.8
WMQ Urumqi 114.51 308 *e*P **PP** **08 59 49.0 -4.1**
WMQ Urumqi 114.51 308 *e*PKP PKPdf 08 58 56.0 +0.4
MKAR Makanchi Array 119.05 309 PKP **PKPdf** **08 59 03.3 -0.9**
MKAR Makanchi Array 119.05 309 PKP **PKPdf** **08 59 03.3 -0.9**
comp=Z,1.6nm,1.1s,baz=86,slow=2.2,SNR=6.8
KSH Kashi 121.52 300 PKP **PKPdf** **08 59 10.0 +0.7**
KSH sPKP 08 59 24.3
KSH PP **PP** **09 00 46.8 +4.8**
KSH PKS **PKSdf** **09 02 45.4 -0.6**
KSH SKS **SKSdf** **09 06 17.0 -1.7**
KSH SKKS **SKKSac** **09 07 34.3 -4.0**
KSH SS **SS** **09 17 17.3 +1.9**
KSH AMB AMB
comp=Z,97nm,5.7s
KSH LR LR
comp=N,110nm,5.5s
KSH LR LR
comp=E,91nm,5.5s
KSH LR LR
comp=Z,190nm,6.1s
KURK Kurchatov 122.32 313 PKP **PKPdf** **08 59 10.1 -0.2**
KURBB Kurchatov Arra 122.36 313 PKP **PKPdf** **08 59 10.1 -0.2**
comp=Z,4.6nm,1.1s,baz=105,slow=2.3,SNR=8.8
AAK Ala-Archa 123.40 303 PKP **PKPdf** **08 59 13.6 +0.8**
AAK Ala-Archa 123.40 303 PKP **PKPdf** **08 59 13.6 +0.8**
comp=Z,0.5nm,0.4s,baz=90,slow=1.0,SNR=3.5
BVAR Borovoye Array 127.67 315 PKP **PKPdf** **08 59 20.7 +0.2**
BVAR Borovoye Array 127.67 315 PKP **PKPdf** **08 59 20.7 +0.2**
comp=Z,1.0nm,0.6s,baz=90,slow=3.0,SNR=9.1
GNI Garni 145.35 297 *e*PKPdf **PKPab** **08 59 54.6 +0.9**
FINES FINESS Array B 146.19 340 PKPbc **PKPbc** **08 59 54.9 -0.4**
FINES FINESS Array B 146.19 340 PKPbc **PKPbc** **08 59 54.9 -0.4**
comp=Z,14nm,0.7s,baz=48,slow=3.5,SNR=50
KBZ Khabaz 146.40 303 PKPbc **PKPab** **08 59 57.0 -0.4**
KBZ Khabaz 146.40 303 PKPbc **PKPab** **08 59 57.0 -0.4**
comp=Z,6.2nm,0.9s,baz=86,slow=4.4,SNR=8.9
NB2 NORSAR Subarra1 49.62 352 PKP **PKPbc** **09 00 04.5 -0.1**
comp=Z,2.1nm,0.6s,baz=14,slow=2.6
NOA NORSAR Array B 149.62 352 PKPbc **PKPbc** **09 00 04.6 +0.1**
NOA NORSAR Array B 149.62 352 PKPbc **PKPbc** **09 00 04.6 +0.1**
comp=Z,4.3nm,0.8s,baz=14,slow=4.2,SNR=11
HFS Hagfors 150.16 349 PKPbc **PKPbc** **09 00 05.7 -0.1**
HFS Hagfors 150.16 349 PKPbc **PKPbc** **09 00 05.7 -0.1**
comp=Z,5.7nm,0.7s,baz=46,slow=4.3,SNR=9.6
AKASG Malin Array Be 152.52 323 PKPbc **PKPbc** **09 00 11.8 +0.2**
AKASG PKPab **PKPab** **09 00 21.6 -0.4**
AKASG Malin Array Be 152.52 323 PKPbc **PKPbc** **09 00 11.8 +0.2**
comp=Z,5.7nm,0.8s,baz=54,slow=2.4,SNR=14
AKASG PKPab **PKPab** **09 00 21.6 -0.4**
comp=Z,4.7nm,0.6s,baz=46,slow=3.8,SNR=8.9
KIEV Kiev 152.53 323 *e*PKPbc **PKPbc** **09 00 11.7 +0.1**
BRTR Keskin Array B 153.88 298 PKPbc **PKPbc** **09 00 15.9 +0.8**
BRTR PKPab **PKPab** **09 00 28.6 +0.1**
BRTR Keskin Array B 153.88 298 PKPbc **PKPbc** **09 00 15.9 +0.8**
comp=Z,1.3nm,0.9s,baz=133,slow=5.4,SNR=3.8
BRTR PKPab **PKPab** **09 00 28.6 +0.1**
comp=Z,0.9nm,0.5s,baz=88,slow=4.1,SNR=4.1
CRVS Cervenica-Dubn 157.52 327 *e*PKP **PKPab** **09 00 44.0 +0.6**
VYHS Vyhne 158.99 330 *e*PKP **PKPab** **09 00 50.2 +0.4**
KHC Kasperske Hory 160.39 339 *e*PKPAB **PKPab** **09 00 56.0 +0.1**
GERES GERESS Array B 160.60 339 PKPab **PKPab** **09 00 56.6 -0.3**
GERES GERESS Array B 160.60 339 PKPab **PKPab** **09 00 56.6 -0.3**
comp=Z,1.9nm,1.0s,baz=35,slow=5.1,SNR=8.0
TORD Torodi Ar. Bea 162.05 175 PKPab **PKPab** **09 01 05.7 +1.8**
TORD Torodi Ar. Bea 162.05 175 PKPab **PKPab** **09 01 05.7 +1.8**
comp=Z,2.2nm,0.7s,baz=179,slow=4.0,SNR=8.8

IDC ***24*** *08:40:30.2±0.4, 3.˚56N×126.˚58E, h0km, mb4.6/32, mb1 4.6/32, mb1mx4.6/36, mbtmp4.6/32, MS4.0/16, Ms1 4.0/16, ms1mx3.7/45, Error ellipse: s-maj=18.2km s-min=8.4km az=76.0*

BJI ***24*** *08:40:31.5, 2.˚92N×126.˚99E, h69km, mB4.9/20, mb4.8/37, Ms4.7/16, Ms7 4.3/17*

MOS ***24*** *08:40:34.1±1.0, 3.˚66N×126.˚54E, h33km, mb5.0/25, Error ellipse: s-maj=13.9km s-min=6.5km az=113.2*

NEIC ***24*** *08:40:36.1±0.2, 3.˚66N×126.˚60E, h35km, mb4.8/31, Error ellipse: s-maj=8.5km s-min=4.7km az=74.0*

ISCJB ***24*** *08:40:37.9±0.5, 3.˚67N±0.˚03×126.˚79E±0.˚04, h68km±5km, mb4.6/82, Error ellipse: s-maj=7.2km s-min=4.2km az=160.6*

DJA ***24*** *08:40:38, 3.˚48N×126.˚92E, h10km, MLv5.0/8*

ISC 24 08:40:40.3±0.5, 3.˚63N±0.˚03×126.˚74E±0.˚06, h75km±3km, n196, σ1°38/219, mb4.7/80, 7C-12D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.21**	**273**	P		**Pn**	**Pn**	**08 40 59.3**	**-2.4**
MNI	**Manado**	**2.88**	**221**	P		**Pn**	**Pn**	**08 41 23.8**	**-0.2**
MNI				S		**Sn**	**Sn**	**08 42 01.6**	**+4.0**
TNTI	**Ternate**	**2.90**	**167**	P		**Pn**	**Pn**	**08 41 22.3**	**-2.0**
TNTI				S		**Sn**	**Sn**	**08 41 57.8**	**-0.4**
GSPH	**General Santos**	**3.02**	**324**	↓*i*P		**Pn**	**Pn**	**08 41 23.8**	**-2.3**
DAV	**Davao City (W)**	**3.61**	**341**	Pn		**Pn**	**Pn**	**08 41 33.2**	**-0.8**
DAV				Sn		**Sn**	**Sn**	**08 42 18.6**	**+3.1**
DAV	**Davao City (W)**	**3.61**	**341**	P		Pn	Pn	08 41 30.5	-3.5
DAV	**Davao City (W)**	**3.61**	**341**	Pn		**Pn**	**Pn**	**08 41 33.2**	**-0.8**
	51nm,0.3s,baz=201,slow=14,SNR=4.5								
DAV				Sn		**Sn**	**Sn**	**08 42 18.6**	**+3.1**
	50nm,0.3s,baz=143,slow=20,SNR=3.3								
DMPH	**Davao City--Mi**	**3.65**	**340**	↑*e*P		**Pn**	**Pn**	**08 41 33.4**	**-1.1**
DMPH				*e*S		**Sn**	**Sn**	**08 42 19.6**	**+3.3**
KCP	**Kidapawan**	**3.74**	**334**	↑*e*P		**Pn**	**Pn**	**08 41 36.7**	**+0.9**
KMSI	**Cibinong**	**4.10**	**222**	P		Pn	Pn	08 41 47.1	+6.5
LBMI	**Labuha**	**4.30**	**170**	P		**Pn**	**Pn**	**08 41 42.4**	**-1.0**
CTBH	**Cotabato--PC H**	**4.35**	**325**	↑*i*P		**Pn**	**Pn**	**08 41 42.3**	**-1.7**
PAGZ	**Pagadian**	**5.36**	**322**	*e*P		**Pn**	**Pn**	**08 41 56.5**	**-1.3**
PAGZ				*e*S		**Sn**	**Sn**	**08 42 59.9**	**+1.6**
MRSI	**Marisa**	**5.72**	**237**	P		**Pn**	**Pn**	**08 42 03.2**	**+0.4**
	146nm,0.5s,2μm0.6nm								
LUWI	**Luwuk**	**6.10**	**221**	P		**Pn**	**Pn**	**08 42 08.4**	**+0.5**
	216nm,1.0s,2μm1.3nm								
LUWI				S		Sn	Sn	08 43 28.7	+12
	216nm,1.0s,2μm1.3nm								
APSI	**Ampana**	**6.79**	**229**	P		**Pn**	**Pn**	**08 42 17.6**	**+0.2**
	1μm,1.0s,84nm								
NLAI	**Namlea**	**6.83**	**177**	P		**Pn**	**Pn**	**08 42 16.2**	**-1.7**
	55nm,0.7s,0.4nm								
MYLDM	**Lahad Datu**	**8.36**	**281**	P		**Pn**	**Pn**	**08 42 39.1**	**+0.3**
	78nm,0.9s,1μm								
FAKI	**Fak Fak**	**8.52**	**140**	P		**Pn**	**Pn**	**08 42 40.0**	**-1.1**
	151nm,0.9s,2μm								
TTSI	**Tana Toraja**	**9.58**	**226**	P		Pn	Pn	08 42 59.1	+3.6
	64nm,1.0s								
KKM	**Kota Kinabalu**	**10.76**	**283**	*e*Pn		**Pn**	**Pn**	**08 43 13.9**	**+2.2**
KAPI	**Kappang**	**11.06**	**219**	Pn		**Pn**	**Pn**	**08 43 16.0**	**+0.3**
KAPI	**Kappang**	**11.06**	**219**	Pn		**Pn**	**Pn**	**08 43 16.0**	**+0.3**
	0.3nm,0.3s,baz=44,slow=18,SNR=2.0								
SBUM	**Sibu**	**14.54**	**266**	P		**P**	**P**	**08 44 04.6**	**-2.3**
	33nm,0.9s,11μm								
JAY	**Jayapura**	**15.23**	**113**	P		**Pn**	**Pn**	**08 44 10.4**	**-1.0**
	51nm,0.8s								
STKI	**Sintang**	**15.65**	**257**	P		**P**	**P**	**08 44 20.3**	**+1.0**
	39nm,0.7s,26μm								
KHKI	**Kahang-Kahang**	**16.28**	**223**	P		**P**	**P**	**08 44 26.8**	**+0.6**
	20nm,1.6s								
KSM	**Kuching**	**16.55**	**263**	*e*Pn		**P**	**P**	**08 44 29.9**	**+0.7**
	23nm,0.8s								
KSM	**Kuching**	**16.55**	**263**	P		**P**	**P**	**08 44 29.6**	**+0.4**
	30nm,0.9s								
JAGI	**Jajag, Banyuwa**	**17.38**	**226**	P		**P**	**P**	**08 44 40.0**	**+1.7**
	35nm,0.8s								
YULB	**Yu-li**	**20.34**	**345**	*e*P		P	P	08 45 05.8	-5.0
	9.5nm,0.3s								
TPUB	**Ta-pu**	**20.43**	**344**	*e*P		**P**	**P**	**08 45 08.2**	**-3.5**
	43nm,0.7s								
GUMO	**Guam**	**20.46**	**60**	LR		LR	LR	08 52 08.0	
	comp=Z,144nm,18.2s,baz=191,slow=34								
SSLB	**Suanglung**	**20.81**	**345**	*e*P		**P**	**P**	**08 45 12.6**	**-3.2**
	38nm,0.7s								
YHNB	**Yeheng**	**21.55**	**347**	*e*P		**P**	**P**	**08 45 22.5**	**-1.2**
	21nm,0.6s								
FITZ	**Fitzroy Crossi**	**21.62**	**183**	*e*P		**P**	**P**	**08 45 23.3**	**-1.1**
	7.1nm,0.6s								
FITZ	**Fitzroy Crossi**	**21.62**	**183**	*e*P		**P**	**P**	**08 45 22.9**	**-1.5**
	14nm,0.5s								
FITZ	**Fitzroy Crossi**	**21.62**	**183**	P		**P**	**P**	**08 45 23.0**	**-1.4**
	4.2nm,0.6s,baz=8.4,slow=12,SNR=8.7								
QIZ	**Qiongzhong**	**22.52**	**314**	P		**P**	**P**	**08 45 33.9**	**-0.2**
QIZ				S		**S**	**S**	**08 49 38.5**	**+2.4**
QIZ				pmax	pmax				
	comp=Z,9.0nm,1.1s								
QIZ				LR	LR				
	comp=N,190nm,18.8s								
QIZ				LR	LR				
	comp=Z,370nm,20.9s								
COEN	**Coen**	**23.90**	**137**	*e*P		**P**	**P**	**08 45 48.0**	**+0.6**
	comp=Z,47nm,0.7s								
WRAB	**Tennant Creek**	**24.58**	**163**	*e*P		**P**	**P**	**08 45 52.8**	**-0.7**
WRAB				pmax	pmax				
	comp=Z,53nm,0.9s								
WRAB	**Tennant Creek**	**24.58**	**163**	*e*P		**P**	**P**	**08 45 52.8**	**-0.7**
	comp=Z,52nm,0.9s								
WRA	**Warramunga Arr**	**24.58**	**163**	P		**P**	**P**	**08 45 52.4**	**-1.2**
WRA				S		**S**	**S**	**08 50 13.0**	**+3.6**
WRA	**Warramunga Arr**	**24.58**	**163**	P		**P**	**P**	**08 45 52.4**	**-1.2**
	comp=Z,25nm,0.7s,baz=344,slow=10,SNR=110								
WRA				S		**S**	**S**	**08 50 13.0**	**+3.6**
	comp=Z,2.6nm,0.8s,baz=341,slow=16,SNR=4.6								
MBWA	**Marble Bar**	**25.57**	**195**	*e*P		**P**	**P**	**08 46 03.5**	**+1.0**
	comp=Z,8.7nm,0.8s								
MNSI	**Mandailing Nat**	**27.28**	**265**	P		**P**	**P**	**08 46 22.1**	**+4.1**
CBIJ	**Chichi jima**	**27.62**	**31**	LR		LR	LR	08 55 06.8	
	comp=Z,318nm,20.9s,baz=218,slow=32								
PSI	**Prapat**	**27.78**	**269**	P		**P**	**P**	**08 46 20.8**	**-1.9**
PSI	**Prapat**	**27.78**	**269**	P		**P**	**P**	**08 46 20.8**	**-1.9**
	comp=Z,3.6nm,0.6s,baz=54,slow=4.2,SNR=3.5								
PSI				LR		LR	LR	08 58 21.2	
	comp=Z,378nm,18.0s,baz=257,slow=39								
ASAR	**Alice Springs**	**28.01**	**166**	P		**P**	**P**	**08 46 24.2**	**-0.2**
ASAR				PcP		**PcP**	**PcP**	**08 49 38.9**	**+0.9**
ASAR				S		**S**	**S**	**08 51 06.4**	**+2.8**
ASAR	**Alice Springs**	**28.01**	**166**	P		**P**	**P**	**08 46 24.2**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=348,slow=7.4,SNR=31								
ASAR				PcP		**PcP**	**PcP**	**08 49 38.9**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=1.4,slow=2.9,SNR=4.3								
ASAR				S		**S**	**S**	**08 51 06.4**	**+2.8**
	comp=Z,0.8nm,0.8s,baz=344,slow=17,SNR=3.4								
WHN	**Wuhan**	**29.22**	**338**	P		P	P	08 46 40.6	+5.5
WHN				*e*S		**S**	**S**	**08 51 27.9**	**+5.5**
WHN				LR	LR				
	comp=Z,1μm,25.1s								
NJ2	**Nanjing**	**29.23**	**346**	*e*P		**P**	**P**	**08 46 36.4**	**+1.3**
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
JNU	**Nakatsue**	**29.60**	**7**	*e*P		**P**	**P**	**08 46 36.8**	**-1.6**
	comp=Z,9.1nm,0.9s								
JNU	**Nakatsue**	**29.60**	**7**	P		**P**	**P**	**08 46 37.1**	**-1.3**
	comp=Z,18nm,0.9s,baz=180,slow=10,SNR=9.2								
JNU				LR	LR			08 59 27.0	
	comp=Z,129nm,18.1s,baz=81,slow=38								
GYA	**Guiyang**	**29.75**	**322**	P		**P**	**P**	**08 46 41.8**	**+1.8**
GYA				pP		**pP**	**pP**	**08 46 58.0**	**+0.3**
GYA				PP		**PnPn**	**PnPn**	**08 47 41.3**	**+2.5**
GYA				S		**S**	**S**	**08 51 32.0**	**+0.8**
GYA				sS		**sS**	**sS**	**08 52 01.6**	**0.0**
GYA				ScS		**ScS**	**ScS**	**08 57 12.0**	**-1.3**
GYA				pmax	pmax				
	comp=Z,10.0nm,0.8s								
GYA				pmax	pmax				
	comp=Z,90nm,4.7s								
GYA				LR	LR				
	comp=N,430nm,17.4s								
GYA				LR	LR				
	comp=E,460nm,18.3s								
GYA				LR	LR				
	comp=Z,420nm,17.9s								
CMAR	**Chiang Mai Arr**	**30.93**	**301**	P		**P**	**P**	**08 46 49.3**	**-1.1**
CMAR	**Chiang Mai Arr**	**30.93**	**301**	P		**P**	**P**	**08 46 49.3**	**-1.1**
	comp=Z,3.3nm,0.6s,baz=110,slow=7.0,SNR=22								
CMAR				LR		LR	LR	08 59 19.0	
	comp=Z,142nm,18.9s,baz=312,slow=37								
CHTO	**Chiang Mai**	**31.08**	**301**	*e*P		**P**	**P**	**08 46 51.5**	**-0.2**
CHTO				pmax	pmax				
	comp=Z,7.0nm,0.8s								
CHTO	**Chiang Mai**	**31.08**	**301**	*e*P		**P**	**P**	**08 46 51.5**	**-0.2**
	comp=Z,6.6nm,0.8s								
ENH	**Enshi**	**31.12**	**330**	*e*P		**P**	**P**	**08 46 50.2**	**-1.7**
	comp=Z,12nm,0.6s								
KSAR	**Wonju Array Be**	**33.67**	**2**	P		**P**	**P**	**08 47 14.1**	**0.0**
KSRS	**Korea Array**	**33.68**	**2**	P		**P**	**P**	**08 47 14.1**	**-0.1**
	comp=Z,6.7nm,0.7s,baz=181,slow=9.6,SNR=34								
KSRS				LR		LR	LR	09 00 23.2	
	comp=Z,49nm,20.0s,baz=190,slow=35								
FORT	**Forrest**	**34.23**	**178**	*e*P		**P**	**P**	**08 47 16.3**	**-2.8**
	comp=Z,23nm,0.7s								
XAN	**Xi'an**	**34.51**	**333**	P		**P**	**P**	**08 47 19.3**	**-2.2**
XAN				pmax	pmax				
	comp=Z,5.0nm,0.7s								
XAN				LR	LR				
	comp=N,160nm,21.5s								
XAN				LR	LR				
	comp=Z,67nm,21.2s								
NWAO	**Narrogin (SRO)**	**37.45**	**193**	P		**P**	**P**	**08 47 46.5**	**0.0**
NWAO	**Narrogin (SRO)**	**37.45**	**193**	P		**P**	**P**	**08 47 46.5**	**0.0**
	comp=Z,14nm,1.0s,baz=329,slow=5.9,SNR=2.7								
BJT	**Baijiatuan**	**37.47**	**347**	*e*P		**P**	**P**	**08 47 46.6**	**-0.1**
	comp=Z,57nm,0.7s								
BJI	**Beijing**	**37.49**	**347**	P		**P**	**P**	**08 47 46.5**	**-0.3**
BJI				pP		**pP**	**pP**	**08 48 03.4**	**-1.4**
BJI				S		S	S	08 53 37.8	+7.7
BJI				pmax	pmax				
	comp=Z,78nm,0.7s								
STKA	**Stephens Creek**	**38.03**	**159**	P		**P**	**P**	**08 47 51.5**	**0.0**
STKA	**Stephens Creek**	**38.03**	**159**	P		**P**	**P**	**08 47 51.5**	**0.0**
	comp=Z,16nm,0.9s,baz=356,slow=7.3,SNR=11								
SNY	**Shenyang**	**38.14**	**356**	↓P		**P**	**P**	**08 47 52.6**	**+0.4**
SNY				pmax	pmax				
	comp=Z,32nm,0.6s								
LZH	**Lanzhou**	**38.60**	**330**	*e*P		**P**	**P**	**08 47 55.8**	**-0.6**
LZH				pmax	pmax				
	comp=Z,27nm,1.0s								
LZH				pmax	pmax				
	comp=Z,84nm,4.0s								
LZH				LR	LR				
	comp=N,300nm,13.1s								
LZH				LR	LR				
	comp=E,1μm,19.4s								
LZH				LR	LR				
	comp=Z,500nm,20.0s								
HHC	**Hu-ho-hao-te**	**39.50**	**342**	*e*P		**P**	**P**	**08 48 03.9**	**+0.1**
HHC				PP		**PnPn**	**PnPn**	**08 49 40.3**	**+0.9**
HHC				PcP		**PcP**	**PcP**	**08 50 10.9**	**+0.7**
HHC				PcS		**PcS**	**PcS**	**08 54 00.3**	**+0.1**
HHC				S		**S**	**S**	**08 54 02.3**	**+1.6**
HHC				pmax	pmax				
	comp=Z,6.0nm,0.6s								
HHC				pmax	pmax				
	comp=Z,130nm,6.5s								
HHC				LR	LR				
	comp=N,220nm,16.4s								
HHC				LR	LR				
	comp=E,510nm,16.5s								
HHC				LR	LR				
	comp=Z,210nm,16.4s								
CN2	**Changchun**	**40.02**	**359**	*e*P		**P**	**P**	**08 48 08.0**	**+0.1**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
USRK	**Ussuriysk Arra**	**40.67**	**6**	P		**P**	**P**	**08 48 13.4**	**+0.2**
	comp=Z,5.8nm,0.8s,baz=184,slow=8.0,SNR=10								
USRK				LR		LR	LR	09 03 51.7	
	comp=Z,121nm,19.6s,baz=151,slow=34								
MDJ	**Mudanjiang**	**40.90**	**3**	P		**P**	**P**	**08 48 15.4**	**+0.2**
MDJ				pmax	pmax				
	comp=Z,22nm,1.0s								
MDJ				pmax	pmax				
	comp=Z,72nm,4.2s								
MDJ	**Mudanjiang**	**40.90**	**3**	*e*P		**P**	**P**	**08 48 15.8**	**+0.6**
	comp=Z,19nm,1.0s								
ARMA	**Armidale**	**41.38**	**147**	*e*P		**P**	**P**	**08 48 21.4**	**+1.9**
	comp=Z,9.3nm,0.8s								
ARMA	**Armidale**	**41.38**	**147**	*e*P		**P**	**P**	**08 48 20.1**	**+0.7**
LSA	**Lhasa**	**42.51**	**311**	P		**P**	**P**	**08 48 28.5**	**-0.7**
LSA	**Lhasa**	**42.51**	**311**	*e*P		**P**	**P**	**08 48 28.8**	**-0.4**
LSA				pmax	pmax				
	comp=Z,12nm,0.6s								
LSA	**Lhasa**	**42.51**	**311**	*e*P		**P**	**P**	**08 48 28.8**	**-0.4**
	comp=Z,12nm,0.6s								
ASAJ	**Asahikawa**	**42.69**	**17**	P		**P**	**P**	**08 48 29.7**	**-0.1**
ASAJ	**Asahikawa**	**42.69**	**17**	P		**P**	**P**	**08 48 29.7**	**-0.1**
	comp=Z,11nm,0.7s,baz=215,slow=10,SNR=8.2								
GTA	**Gaotai**	**43.19**	**329**	*e*P		**P**	**P**	**08 48 32.6**	**-1.5**
GTA				pmax	pmax				
	comp=Z,3.0nm,0.7s								
KLR	**Kul'dur**	**45.64**	**5**	*e*P		P	P	08 48 48.8	-4.5
KLR				pmax	pmax				
	comp=Z,33nm,1.4s								
HIA	**Hailar**	**45.86**	**354**	*e*P		**P**	**P**	**08 48 56.0**	**+1.0**
	comp=Z,11nm,0.8s								
DZM	**Mont Dzumac**	**46.47**	**125**	P		**P**	**P**	**08 49 01.7**	**+1.4**
DZM	**Mont Dzumac**	**46.47**	**125**	P		**P**	**P**	**08 49 01.7**	**+1.4**
	comp=Z,4.1nm,0.7s,baz=280,slow=18,SNR=5.3								
ULN	**Ulaanbaatar**	**47.22**	**342**	*e*P		**P**	**P**	**08 49 05.5**	**-0.4**
	comp=Z,14nm,1.2s								
SONM	**Songino Array**	**47.40**	**341**	P		**P**	**P**	**08 49 06.2**	**-1.0**
SONM				PcP		**PcP**	**PcP**	**08 50 37.1**	**+0.3**
SONM	**Songino Array**	**47.40**	**341**	P		**P**	**P**	**08 49 06.2**	**-1.0**
	comp=Z,3.5nm,0.6s,baz=159,slow=7.7,SNR=31								
SONM				PcP		**PcP**	**PcP**	**08 50 37.1**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=140,slow=2.8,SNR=4.1								
SONM				LR		LR	LR	09 09 23.1	
	comp=Z,300nm,21.1s,baz=359,slow=37								
ZAK	**Zakamensk**	**50.62**	**341**	*e*P		**P**	**P**	**08 49 31.2**	**-0.6**
ZAK				*e*				08 50 45.9	
ZAK				pmax	pmax				
	comp=Z,1.0nm,1.4s								
TLY	**Talaya**	**51.63**	**342**	*e*P		**P**	**P**	**08 49 37.9**	**-1.3**
TLY				pmax	pmax				
	comp=Z,3.0nm,0.8s								
TLY				MLR	MLR				
	comp=Z,143nm,19.0s								
TLY	**Talaya**	**51.63**	**342**	*e*P		**P**	**P**	**08 49 39.5**	**+0.3**
	comp=Z,3.9nm,0.8s								
BOD	**Bodaibo**	**54.97**	**352**	*e*P		**P**	**P**	**08 50 03.5**	**-0.1**
BOD				pmax	pmax				
	comp=Z,7.0nm,0.9s								
PETK	**Petropavlovsk-**	**55.52**	**22**	P		**P**	**P**	**08 50 08.3**	**+0.6**
PETK	**Petropavlovsk-**	**55.52**	**22**	P		**P**	**P**	**08 50 08.3**	**+0.6**
PETK	**Petropavlovsk-**	**55.52**	**22**	P		**P**	**P**	**08 50 08.3**	**+0.6**
	comp=Z,12nm,0.8s,baz=186,slow=4.8,SNR=13								
MK31	**Makanchi Array**	**57.64**	**325**	*i* P		**P**	**P**	**08 50 21.5**	**-1.4**
MK31				pmax	pmax				
	comp=Z,6.0nm,0.6s								
MKAR	**Makanchi Array**	**57.64**	**325**	P		**P**	**P**	**08 50 21.9**	**-1.0**
MKAR	**Makanchi Array**	**57.64**	**325**	P		**P**	**P**	**08 50 21.9**	**-1.0**
MKAR	**Makanchi Array**	**57.64**	**325**	P		**P**	**P**	**08 50 21.9**	**-1.0**
	comp=Z,7.4nm,0.6s,baz=119,slow=6.8,SNR=83								
MKAR				LR		LR	LR	09 16 57.1	
	comp=Z,204nm,19.8s,baz=262,slow=38								
KSH	**Kashi**	**58.12**	**315**	*e*P		**P**	**P**	**08 50 26.8**	**+0.3**
KSH				pP		**pP**	**pP**	**08 50 46.3**	**+0.6**
KSH				sP		**sP**	**sP**	**08 50 54.8**	**+0.7**
KSH				PcP		**PcP**	**PcP**	**08 51 16.8**	**-0.6**
KSH				PP		**PP**	**PP**	**08 52 37.9**	**+1.9**
KSH				ScP		**ScP**	**ScP**	**08 55 09.5**	**-1.7**
KSH				PcS		**PcS**	**PcS**	**08 55 16.8**	**-2.2**
KSH				S		**S**	**S**	**08 58 21.0**	**-1.3**
KSH				sS		**sS**	**sS**	**08 58 54.5**	**-0.5**
KSH				ScS		**ScS**	**ScS**	**09 00 05.3**	**-4.3**
KSH				pmax	pmax				
	comp=Z,17nm,1.5s								
KSH				pmax	pmax				
	comp=Z,47nm,2.8s								
KSH				LR	LR				
	comp=N,120nm,6.9s								
KSH				LR	LR				
	comp=E,93nm,6.6s								
KSH				LR	LR				
	comp=Z,240nm,5.7s								
YAK	**Yakutsk**	**58.31**	**2**	*e*P		**P**	**P**	**08 50 26.7**	**-0.5**
YAK				pmax	pmax				
	comp=Z,21nm,1.1s								
YAK				pmax	pmax				
	comp=N,9.0nm,1.1s								
TKM2	**Tokmak 2**	**59.83**	**319**	*e*P		**P**	**P**	**08 50 37.9**	**-0.4**
TKM2				pmax	pmax				
	comp=Z,7.0nm,0.8s								
TKM2	**Tokmak 2**	**59.83**	**319**	*e*P		**P**	**P**	**08 50

KBZ	**Khabaz**	**83.06**	**313**	LR	LR	09 37 08.1			
	comp=Z,74nm,18.0s,baz=152,slow=41								
TRF	**Thorofare Moun**	**83.63**	**27**	*eP*	**P**	**08 53 00.1**	**-0.5**		
	comp=Z,7.0nm,1.1s								
COLD	**Coldfoot**	**83.98**	**23**	*eP*	**P**	**08 53 04.4**	**+2.2**		
	comp=Z,3.8nm,0.7s								
PMR	**Palmer**	**84.03**	**29**	*eP*	**P**	**08 53 02.9**	**+0.4**		
PMR				pmax	pmax				
	comp=Z,9.0nm,1.0s								
PMR	**Palmer**	**84.03**	**29**	*eP*	**P**	**08 53 02.9**	**+0.4**		
	comp=Z,8.9nm,1.0s								
VRHR	**Novokhopersk**	**84.12**	**321**	*eP*	**P**	**08 53 02.2**	**-0.9**		
VRHR				pmax	pmax				
	comp=N,10.0nm,0.6s								
VRHR				pmax	pmax				
	comp=E,5.0nm,0.6s								
VRHR				pmax	pmax				
	comp=Z,8.0nm,0.6s								
MCK	**McKinley**	**84.25**	**26**	*eP*	**P**	**08 53 04.2**	**+0.6**		
MCK				pmax	pmax				
	comp=Z,10.0nm,1.0s								
MCK	**McKinley**	**84.25**	**26**	*eP*	**P**	**08 53 04.2**	**+0.6**		
	comp=Z,10nm,1.0s								
SML	**Sawmill**	**84.42**	**28**	*eP*	**P**	**08 53 05.7**	**+1.2**		
SML				pmax	pmax				
	comp=Z,4.0nm,0.8s								
SML	**Sawmill**	**84.42**	**28**	*eP*	**P**	**08 53 05.7**	**+1.2**		
	comp=Z,4.3nm,0.8s								
ILAR	**Eielson Array**	**85.19**	**25**	P	**P**	**08 53 09.0**	**+0.7**		
ILAR	**Eielson Array**	**85.19**	**25**	P	**P**	**08 53 09.0**	**+0.7**		
	comp=Z,0.9nm,0.7s,baz=250,slow=5.3,SNR=11								
VORD	**Divnogorie**	**85.59**	**321**	*eP*	**P**	**08 53 09.7**	**-0.8**		
VORD				pmax	pmax				
	comp=N,3.0nm,0.8s								
VORD				pmax	pmax				
	comp=E,8.0nm,0.8s								
VORD				pmax	pmax				
	comp=Z,8.0nm,0.8s								
VSR	**Storozhevoye**	**85.67**	**321**	*eP*	**P**	**08 53 09.1**	**-1.8**		
VSR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
VSR				pmax	pmax				
	comp=N,3.0nm,0.4s								
VSR				pmax	pmax				
	comp=E,9.0nm,0.9s								
BMRM	**Bremner River**	**86.20**	**29**	*eP*	**P**	**08 53 15.1**	**+1.6**		
	comp=E,5.7nm,0.7s								
MOS	**Moscow**	**86.53**	**325**	*eP*	**P**	**08 53 13.5**	**-1.5**		
OBN	**Obninsk**	**87.15**	**325**⇑	*eP*	**P**	**08 53 18.4**	**+0.4**		
OBN				*eS*	S	09 03 44.4	-7.0		
OBN				pmax	pmax				
	comp=Z,29nm,2.2s								
OBN				MLR	MLR				
	comp=Z,100nm,17.0s								
KMBO	**Kilima Mbogo**	**89.56**	**269**	*eP*	**P**	**08 53 31.0**	**+0.4**		
	comp=Z,1.8nm,0.9s								
BRTR	**Keskin Array B**	**90.09**	**310**	P	**P**	**08 53 31.4**	**-1.1**		
BRTR	**Keskin Array B**	**90.09**	**310**	P	**P**	**08 53 31.4**	**-1.1**		
	comp=Z,2.9nm,1.0s,baz=128,slow=5.0,SNR=8.8								
INK	**Inuvik**	**90.26**	**21**	P	**P**	**08 53 32.2**	**-0.2**		
INK	**Inuvik**	**90.26**	**21**	P	**P**	**08 53 32.2**	**-0.2**		
	comp=Z,1.8nm,0.9s,baz=287,slow=5.1,SNR=4.8								
ARCES	**ARCESS Array B**	**90.55**	**340**	P	**P**	**08 53 33.1**	**-0.7**		
ARCES	**ARCESS Array B**	**90.55**	**340**	P	**P**	**08 53 33.1**	**-0.7**		
	comp=Z,5.3nm,0.7s,baz=78,slow=6.3,SNR=20								
ARCES				LR	LR	09 38 00.4			
	comp=Z,200nm,18.6s,baz=267,slow=38								
SPITS	**Spitsbergen Ar**	**90.58**	**349**	P	**P**	**08 53 34.2**	**+0.4**		
SPITS	**Spitsbergen Ar**	**90.58**	**349**	P	**P**	**08 53 34.2**	**+0.4**		
	comp=Z,4.4nm,0.7s,baz=123,slow=10.0,SNR=3.9								
FINES	**FINESS Array B**	**91.93**	**332**	P	**P**	**08 53 39.9**	**-0.5**		
FINES	**FINESS Array B**	**91.93**	**332**	P	**P**	**08 53 39.9**	**-0.5**		
	comp=Z,1.2nm,0.6s,baz=102,slow=3.4,SNR=3.5								
AKASG	**Malin Array Be**	**91.98**	**321**	P	**P**	**08 53 39.9**	**-0.9**		
AKASG	**Malin Array Be**	**91.98**	**321**	P	**P**	**08 53 39.9**	**-0.9**		
AKASG	**Malin Array Be**	**91.98**	**321**	P	**P**	**08 53 39.9**	**-0.9**		
	comp=Z,2.6nm,0.6s,baz=68,slow=5.1,SNR=6.2								
DLBC	**Dease Lake**	**93.83**	**31**	P	**P**	**08 53 50.4**	**+1.1**		
DLBC	**Dease Lake**	**93.83**	**31**	P	**P**	**08 53 50.4**	**+1.1**		
	comp=Z,1.0nm,0.7s,baz=326,slow=7.3,SNR=2.4								
TESR		**94.32**	**317**⇓	*P*	**P**	**08 53 51.1**	**-0.6**		
VRI	**Vrincioaia**	**94.37**	**316**⇓	*P*	**P**	**08 53 52.1**	**+0.1**		
VRI	**Vrincioaia**	**94.37**	**316**⇓	*P*	**P**	**08 53 52.1**	**+0.1**		
MLR	**Muntele Rosu**	**94.98**	**316**⇑	*P*	**P**	**08 53 53.9**	**-1.0**		
BURAR	**Bucovina Array**	**95.08**	**318**⇓	*P*	**P**	**08 53 55.2**	**-0.1**		
KWP	**Kalwaria Pacla**	**96.29**	**321**	⇓P	**P**	**08 54 00.5**	**-0.2**		
KWP	**Kalwaria Pacla**	**96.29**	**321**	⇓*P*	**P**	**08 54 00.5**	**-0.2**		
LOT	**Lotru**	**96.49**	**316**⇓	*P*	**P**	**08 54 02.2**	**+0.4**		
DRGR		**96.92**	**318**	⇓P	**P**	**08 54 03.4**	**-0.3**		
DRGR		**96.92**	**318**⇓	*P*	**P**	**08 54 03.4**	**-0.3**		
RES	**Resolute Bay**	**97.91**	**10**	P	Pdif	08 54 07.8	+0.3		
RES	**Resolute Bay**	**97.91**	**10**	P	Pdif	08 54 07.8	+0.3		
	comp=Z,1.8nm,0.7s,baz=302,slow=6.4,SNR=8.3								
HFS	**Hagfors**	**98.11**	**332**	LR	LR	09 42 37.0			
	comp=Z,184nm,18.4s,baz=160,slow=38								
NB2	**NORSAR Subarra**	**98.88**	**334**	P	**P**	**08 54 10.7**	**-1.4**		
	comp=Z,1.9nm,0.8s,baz=67,slow=5.1								
NOA	**NORSAR Array B**	**98.88**	**334**	P	**P**	**08 54 10.9**	**-1.2**		
NOA	**NORSAR Array B**	**98.88**	**334**	P	**P**	**08 54 10.9**	**-1.2**		
	comp=Z,1.5nm,0.8s,baz=66,slow=4.5,SNR=4.0								
YKA	**Yellowknife Ar**	**99.59**	**24**	P	**Pdif**	**08 54 14.8**	**-0.4**		
YKA	**Yellowknife Ar**	**99.59**	**24**	P	**Pdif**	**08 54 14.8**	**-0.4**		
	comp=Z,0.3nm,0.6s,baz=297,slow=4.5,SNR=4.1								
TXAR	**Lajitas Array**	**121.66**	**52**	PKP	**PKPdf**	**08 59 27.6**	**+1.1**		
TXAR	**Lajitas Array**	**121.66**	**52**	PKP	**PKPdf**	**08 59 27.6**	**+1.1**		
	comp=Z,0.2nm,0.7s,baz=163,slow=0.9,SNR=4.6								
TORD	**Torodi Ar. Bea**	**122.96**	**288**	PKP	**PKPdf**	**08 59 29.1**	**0.0**		
TORD	**Torodi Ar. Bea**	**122.96**	**288**	PKP	**PKPdf**	**08 59 29.1**	**0.0**		
	comp=Z,1.0nm,0.8s,baz=68,slow=1.7,SNR=7.1								
PLCA	**Paso Flores**	**139.91**	**159**	PKP	**PKPdf**	**09 00 01.8**	**+1.3**		
PLCA	**Paso Flores**	**139.91**	**159**	PKP	**PKPdf**	**09 00 01.8**	**+1.3**		
	comp=Z,1.3nm,0.7s,baz=230,slow=3.8,SNR=4.4								

IDC 24 08:52:35.4±51.0, 17.02°S×171.98°W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/20, mbtmp4.0/3, Error ellipse: s-maj=1000.0km s-min=183.5km az=81.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**44.45**	**242**	P	P	09 00 48.6	+0.2
	1.2nm,0.4s,baz=77,slow=8.7,SNR=7.2						
WRA	**Warramunga Arr**	**50.83**	**258**	P	P	09 01 37.8	-0.5
	0.9nm,0.9s,baz=97,slow=6.7,SNR=10						
ASAR	**Alice Springs**	**50.93**	**253**	P	P	09 01 39.0	-0.1
	2.5nm,0.5s,baz=91,slow=8.3,SNR=52						

IDC 24 08:59:27.7±2.0, 0.52°S×133.07°E, h0km, mb4.0/3, mb1 4.0/5, mb1mx3.6/21, mbtmp3.8/5, ML3.6/2, Error ellipse: s-maj=80.2km s-min=25.8km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.94**	**202**	P	P	09 03 50.5	0.0
	0.1nm,0.3s,baz=27,slow=11,SNR=2.5						
FITZ				S	Sn	09 07 08.2	-16
	0.1nm,0.3s,baz=270,slow=18,SNR=2.0						
WRA	**Warramunga Arr**	**19.35**	**176**	P	P	09 03 54.9	0.0
	0.3nm,0.3s,baz=355,slow=11,SNR=18						
WRA				S	Sn	09 07 24.8	-8.9
	0.1nm,0.3s,baz=353,slow=21,SNR=4.9						
ASAR	**Alice Springs**	**23.03**	**178**	P	P	09 04 35.0	+0.3
	1.7nm,0.4s,baz=355,slow=11,SNR=32						
STKA	**Stephens Creek**	**32.22**	**166**	P	P	09 05 57.4	-0.4
	2.1nm,0.4s,baz=352,slow=9.6,SNR=7.2						
KURBB	**Kurchatov Arra**	**68.74**	**326**	P	P	09 10 33.4	0.0
	0.3nm,0.3s,baz=114,slow=5.1,SNR=4.0						

IDC 24 09:14:29.2±1.8, 6.34°S×129.42E, h0km, mb3.8/2, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, ML3.8/3, Error ellipse: s-maj=85.3km s-min=25.1km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.26**	**197**	Pn	Pn	09 17 26.8	+1.6
	0.4nm,0.3s,baz=23,slow=13,SNR=23						
FITZ				Sn	Sn	09 19 33.6	-9.1
	1.7nm,0.3s,baz=3.6,slow=16,SNR=12						
WRA	**Warramunga Arr**	**14.35**	**161**	Pn	Pn	09 17 52.2	-1.5
	0.7nm,0.3s,baz=338,slow=12,SNR=26						
WRA				Sn	Sn	09 20 18.5	-15
	1.8nm,0.3s,baz=333,slow=25,SNR=14						
ASAR	**Alice Springs**	**17.76**	**166**	P	Pn	09 18 37.8	-0.3
	0.3nm,0.3s,baz=345,slow=9.9,SNR=12						
ASAR				S	Sn	09 21 41.6	-15
	0.4nm,0.3s,baz=350,slow=26,SNR=4.4						
MKAR	**Makanchi Array**	**67.36**	**327**	P	P	09 25 26.3	+0.1
	0.6nm,0.4s,baz=129,slow=7.3,SNR=8.9						
KURBB	**Kurchatov Arra**	**71.65**	**329**	P	P	09 25 52.5	-0.1
	0.3nm,0.4s,baz=120,slow=4.5,SNR=3.5						

*ISCJB **24** 09:29:37.2±0.6, 36.56°N±0.04°×70.99°E±0.08, h188km, mb3.3/3, Error ellipse: s-maj=10.1km s-min=5.0km az=154.7*
*IDC **24** 09:29:38.0±5.6, 36.59°N×70.89°E, h177km±42km, mb3.1/3, mb1 3.0/8, mb1mx2.9/29, mbtmp2.9/8, Error ellipse: s-maj=58.9km s-min=33.1km az=151.0*
*NNC **24** 09:29:42.2±3.2, 37.36°N×70.48°E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=25.4km s-min=23.9km az=168.0*
ISC 24 09:29:38.5±0.9, 36.64°N±0.08×70.96°E±0.09, h188km, n23, σ1=85/28, mb3.4/3, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.46**	**357**⇑	Pn	**Pn**	**09 31 12.0**	**+0.5**
	1.1nm,0.3s,baz=181,slow=12,SNR=75						
KK31				⇓Sn	**Sn**	**09 32 21.6**	**-3.6**
	5.4nm,0.3s,baz=190,slow=25,SNR=6.8						
AAK	**Ala-Archa**	**6.58**	**23**	P	**Pn**	**09 31 14.3**	**+1.1**
	1.4nm,0.3s,baz=196,slow=6.5,SNR=13						
AAK				S	**Sn**	**09 32 27.8**	**-0.2**
	0.7nm,0.3s,baz=163,slow=19,SNR=15						
TKM2	**Tokmak 2**	**7.21**	**28**⇑	Pn	**Pn**	**09 31 22.2**	**+0.7**
	6.3nm,0.7s						
TKM2				⇓Sn	**Sn**	**09 32 42.5**	**-0.7**
	3.8nm,0.8s						
MKAR	**Makanchi Array**	**13.19**	**36**	P	**Pn**	**09 32 40.0**	**+1.3**
	0.0nm,0.3s,baz=220,slow=14,SNR=3.9						
PYUN	**Piuthan**	**13.25**	**127**	*eP*	**Pn**	**09 32 37.6**	**-2.1**
	6.7nm,0.2s						
DANN	**Dangsing**	**13.59**	**124**	*eP*	**Pn**	**09 32 42.2**	**-1.9**
	7.6nm,0.3s						
KOLN	**Koldanda**	**13.87**	**126**	*eP*	**Pn**	**09 32 45.9**	**-1.6**
	6.3nm,0.3s						
GKN	**Gorkha**	**14.40**	**123**	*eP*	**Pn**	**09 32 52.2**	**-1.8**
	18nm,0.5s						
AB31	**Akbulak array**	**14.95**	**331**⇑	Pn	**P**	**09 33 03.7**	**+2.4**
	2.4nm,1.0s,baz=142,slow=13,SNR=25						
AB31				Sn	**Sn**	**09 35 41.4**	**-5.8**
	0.6nm,0.5s,baz=149,slow=23,SNR=4.7						
DMN	**Daman**	**14.97**	**123**	*eP*	**Pn**	**09 32 59.3**	**-1.9**
	14nm,0.5s						
KKN	**Kakani**	**14.98**	**122**	*eP*	**Pn**	**09 33 00.4**	**-0.8**
	14nm,0.6s						
KURBB	**Kurchatov Arra**	**15.00**	**19**	P	**P**	**09 33 03.0**	**+1.1**
	0.0nm,0.3s,baz=208,slow=11,SNR=4.0						
PKI	**Pulchoki**	**15.20**	**122**	*eP*	**Pn**	**09 33 02.9**	**-1.1**
	14nm,0.5s						
GUN	**Gumba**	**15.31**	**120**	*eP*	**Pn**	**09 33 04.7**	**-0.7**
	6.1nm,0.4s						
JIRN	**Jiri**	**15.68**	**120**	*eP*	**Pn**	**09 33 09.2**	**-0.7**
	3.1nm,0.3s						
RAMN	**Ramite**	**16.41**	**122**	*eP*	**P**	**09 33 16.7**	**-1.3**
	11nm,0.5s						
AKTO	**Aktyubinsk**	**16.64**	**330**⇑	Pn	**Pn**	**09 33 21.6**	**+0.7**
	1.2nm,1.2s						
AKTO				⇓Sn	**S**	**09 36 25.5**	**+1.5**
	0.4nm,1.2s						
AKTO	**Aktyubinsk**	**16.64**	**330**	P	**Pn**	**09 33 21.6**	**+0.7**
	0.4nm,0.3s,baz=137,slow=11,SNR=5.3						
TAPN	**Taplejung**	**16.94**	**118**	*eP*	**P**	**09 33 23.7**	**-0.1**
	8.9nm,0.4s						
ZALV	**Zalesovo Beam**	**19.80**	**25**	P	**P**	**09 33 55.3**	**+1.0**
	0.1nm,0.3s,baz=224,slow=10,SNR=3.7						
NOA	**NORSAR Array B**	**44.25**	**323**	P	**P**	**09 37 29.4**	**+0.5**
	0.7nm,0.6s,baz=97,slow=7.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**65.69**	**269**	P	**P**	**09 40 03.0**	**-0.1**
	0.1nm,0.4s,baz=54,slow=5.9,SNR=4.1						
YKA	**Yellowknife Ar**	**81.11**	**3**	P	**P**	**09 41 33.4**	**+1.2**
	0.3nm,0.3s,baz=350,slow=5.5,SNR=5.8						

*CSEM **24** 09:30:48.9±0.2, 80.08°N×1.81°W, h10km, mb4.5/4, Error ellipse: s-maj=11.7km s-min=6.6km az=14.0*
*IDC **24** 09:30:48.3±0.6, 80.17°N×1.76°W, h0km, mb3.8/20, mb1 4.0/23, mb1mx3.9/34, mbtmp3.9/23, ML3.7/2, MS3.6/10, Ms1 3.6/10, ms1mx3.3/42, Error ellipse: s-maj=18.1km s-min=10.9km az=26.0*
*NEIC **24** 09:30:49.8±0.3, 80.10°N×1.83°W, h10km, mb4.5/4, Error ellipse: s-maj=9.3km s-min=5.5km az=205.0*
*BER **24** 09:30:50.5±3.5, 80.73°N×1.44E, h8km±327km, MD2.7, ML3.4, ML4.1(NAO)*
*NAO **24** 09:30:51.5±5.6, 80.30°N×0.80E, ML4.1*
ISC 24 09:30:48.8±4.1, 80.08°N±0.07×1.80°W±0.04, h8km±26km, n108, σ1=68/99, mb4.0/23, MS3.6/7, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**2.77**	**108**	*i* P	**Pn**	**09 31 30.9**	**-2.4**
	SNR=56						
KBS				*i* S	Sn	09 31 59.4	-7.4
	SNR=56						
SPA0	**Spitsbergen Ar**	**3.92**	**110**	Pn	**Pn**	**09 31 47.0**	**-2.1**
	baz=330,slow=11						
SPA0				Sn	Sn	09 32 28.2	-7.1
	baz=328,slow=111						
SPA0	**Spitsbergen Ar**	**3.92**	**110**	Pn	**Pn**	**09 31 47.0**	**-2.1**
	baz=330,slow=11						
SPA0				*eP*	Pb	09 31 47.3	-11
SPA0				Sn	Sn	09 32 28.2	-7.1
	baz=328,slow=111						
SPA0				*eS*	Sb	09 32 28.9	-17
SPA0	**Spitsbergen Ar**	**3.92**	**110**	Pn	**Pn**	**09 31 47.0**	**-2.1**
	baz=330,slow=11,SNR=375						
SPA0	**Spitsbergen Ar**	**3.92**	**110**	*eP*	**Pn**	**09 31 47.3**	**-1.8**
	SNR=50						
SPA0				Sn	Sn	09 32 28.2	-7.1
	baz=328,slow=61,SNR=7.5						
SPITS	**Spitsbergen Ar**	**3.92**	**110**	Pn	**Pn**	**09 31 47.3**	**-1.8**
SPITS				Sn	**Sn**	**09 32 29.7**	**-5.6**
SPITS	**Spitsbergen Ar**	**3.92**	**110**	Pn	**Pn**	**09 31 47.3**	**-1.8**
	baz=322,slow=12,SNR=704						
SPITS				Sn	**Sn**	**09 32 29.7**	**-5.6**
	baz=333,slow=16,SNR=4.3						
SPITS	**Spitsbergen Ar**	**3.92**	**110**	Pn	**Pn**	**09 31 47.3**	**-1.8**
DAG	**Danmarks Havn**	**4.72**	**234**	*i* P	**Pn**	**09 31 59.4**	**-0.8**
DAG				*i* S	**Sn**	**09 32 51.6**	**-3.4**
DAG	**Danmarks Havn**	**4.72**	**234**	*i* S	**Sn**	**09 32 51.7**	**-3.3**
	143nm,0.6s,SNR=51						
HOPEN	**Hopen**	**6.46**	**110**	*eP*	Pn	09 32 20.5	-3.3
HOPEN				*eS*	Sn	09 33 27.7	-10
HOPEN				AML	AML	09 33 32.5	
	comp=Z,69nm,0.4s						
SCO	**Scoresbysund**	**10.80**	**218**	*i* P	**Pn**	**09 33 25.7**	**+2.3**
SCO				*i* S	Sn	09 35 15.7	-8.5
SUMG	**Summit**	**11.18**	**248**	*ePn*	**Pn**	**09 33 27.0**	**-2.0**
	comp=Z,26nm,0.5s						
SUMG				*eSn*	**Sn**	**09 35 31.5**	**-2.6**
SUMG	**Summit**	**11.18**	**248**	*i* P	**Pn**	**09 33 27.1**	**-1.9**
SUMG				*i* S	Sn	09 35 27.8	-6.3
SUMG	**Summit**	**11.18**	**248**	*i* P	**Pn**	**09 33 27.1**	**-1.9**
	SNR=53						
SUMG				*eSn*	**Sn**	**09 35 31.5**	**-2.6**
ARA0	**ARCESS Array S**	**12.54**	**132**	Pn	**Pn**	**09 33 47.5**	**+0.3**
	baz=346,slow=11						
ARA0				Sn	Sn	09 35 59.1	-7.7
	baz=353,slow=22						
ARA0	**ARCESS Array S**	**12.54**	**132**	Pn	**Pn**	**09 33 47.5**	**+0.3**
	baz=346,slow=11						
ARA0				Sn	Sn	09 35 59.1	-7.7
	baz=353,slow=22						
ARCES	**ARCESS Array B**	**12.54**	**132**	Pn	**Pn**	**09 33 47.5**	**+0.3**
ARCES				Sn	Sn	09 35 58.4	-8.5
ARCES	**ARCESS Array B**	**12.54**	**132**	Pn	**Pn**	**09 33 47.5**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=346,slow=11,SNR=21						
ARCES				Sn	Sn	09 35 58.4	-8.5
	comp=Z,0.3nm,0.3s,baz=331,slow=21,SNR=3.1						
ARCES	**ARCESS Array B**	**12.54**	**132**	Pn	**Pn**	**09 33 47.5**	**+0.3**
BORG	**Borgarnes**	**16.31**	**211**	*ePn*	**Pn**	**09 34 38.7**	**+1.0**
BORG	**Borgarnes**	**16.31**	**211**	*ePn*	**Pn**	**09 34 38.7**	**+1.0**
SFJD	**Kangerlussuaq**	**18.11**	**252**	P	**Pn**	**09 34 57.2**	**-2.9**
SFJD	**Kangerlussuaq**	**18.11**	**252**	*i* P	**Pn**	**09 34 58.2**	**-1.9**
SFJD	**Kangerlussuaq**	**18.11**	**252**	P	**Pn**	**09 34 57.2**	**-2.9**
	comp=Z,1.6nm,0.3s,baz=14,slow=7.3,SNR=7.3						
SFJD				LR	LR	09 43 09.7	
	comp=Z,283nm,18.3s,baz=253,slow=41						
SFJD	**Kangerlussuaq**	**18.11**	**252**	*eP*	**Pn**	**09 34 58.2**	**-1.9**
	SNR=40						
RES	**Resolute Bay**	**18.75**	**304**	P	**P**	**09 35 03.7**	**-3.8**
RES	**Resolute Bay**	**18.75**	**304**	P	**P**	**09 35 03.7**	**-3.8**
	comp=Z,0.2nm,0.3s,baz=39,slow=13,SNR=3.6						
RES				LR	LR	09 42 25.5	
	comp=Z,165nm,19.4s,baz=273,slow=37						
NOA	**NORSAR Array B**	**19.51**	**161**	P	**Pn**	**09 35 17.1**	**-0.2**
NOA	**NORSAR Array B**	**19.51**	**161**	P	**Pn**	**09 35 17.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=359,slow=13,SNR=2.4						
NOA				LR	LR	09 41 47.3	
	comp=Z,95nm,18.1s,baz=0.0,slow=34						
NOA	**NORSAR Array B**	**19.51**	**161**	P	**Pn**	**09 35 17.1**	**-0.2**
FIA0	**FINESS Array S**	**20.39**	**140**	P	Pn	09 35 27.3	-0.2
	baz=352,slow=10						
FIA0	**FINESS Array S**	**20.39**	**140**	P	Pn	09 35 27.3	-0.2
	baz=352,slow=10						
FINES	**FINESS Array B**	**20.39**	**140**	P	Pn	09 35 27.0	-0.5
FINES	**FINESS Array B**	**20.39**	**140**	P	Pn	09 35 27.0	-0.5
	comp=Z,3.8nm,0.9s,baz=335,slow=8.6,SNR=5.8						
FINES	**FINESS Array B**	**20.39**	**140**	P	Pn	09 35 27.0	-0.5
HFS	**Hagfors**	**20.57**	**158**	P	Pn	09 35 31.6	+2.0
	slow=10						
HFS	**Hagfors**	**20.57**	**158**	P	Pn	09 35 31.6	+2.0
	slow=10						
HFS	**Hagfors**	**20.57**	**158**	P	Pn	09 35 29.8	+0.1
HFS	**Hagfors**	**20.57**	**158**	P	Pn	09 35 29.8	+0.1
	comp=Z,1.5nm,0.6s,baz=337,slow=9.4,SNR=2.2						
HFS	**Hagfors**	**20.57**	**158**	P	Pn	09 35 29.8	+0.1
FRB	**Frobisher Bay**	**24.14**	**268**	P	**P**	**09 36 05.5**	**+1.0**
FRB	**Frobisher Bay**	**24.14**	**268**	P	**P**	**09 36 05.5**	**+1.0**
	comp=Z,7.5nm,0.9s,baz=23,slow=10.0,SNR=16						
FRB	**Frobisher Bay**	**24.14**	**268**	P	**P**	**09 36 05.6**	**+1.0**
AKASG	**Malin Array Be**	**31.29**	**141**	P	**P**	**09 37 09.2**	**+0.5**
AKASG	**Malin Array Be**	**31.29**	**141**	P	**P**	**09 37 09.2**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=348,slow=9.1,SNR=4.4						
AKASG	**Malin Array Be**	**31.29**	**141**	P	**P**	**09 37 09.2**	**+0.5**
GERES	**GERESS Array B**	**31.81**	**160**	P	**P**	**09 37 15.4**	**+2.0**
GERES	**GERESS Array B**	**31.81**	**160**	P	**P**	**09 37 15.4**	**+2.0**
	comp=Z,0.6nm,0.7s,baz=0.7,slow=7.8,SNR=2.3						
GERES	**GERESS Array B**	**31.81**	**160**	P	**P**	**09 37 15.4**	**+2.0**
SCHQ	**Schefferville**	**32.26**	**259**	P	**P**	**09 37 18.1**	**+0.9**
SCHQ	**Schefferville**	**32.26**	**259**	P	**P**	**09 37 18.1**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=337,slow=6.4,SNR=2.5						
SCHQ	**Schefferville**	**32.26**	**259**	P	**P**	**09 37 18.1**	**+0.9**
YKA	**Yellowknife Ar**	**32.75**	**308**	P	**P**	**09 37 21.4**	**0.0**
YKA	**Yellowknife Ar**	**32.75**	**308**	P	**P**	**09 37 21.4**	**0.0**
	comp=Z,0.4nm,0.8s,baz=7.7,slow=8.7,SNR=5.9						
YKA	**Yellowknife Ar**	**32.75**	**308**	P	**P**	**09 37 21.4**	**0.0**
ILAR	**Eielson Array**	**34.02**	**334**	P	**P**	**09 37 32.4**	**-0.1**
ILAR	**Eielson Array**	**34.02**	**334**	P	**P**	**09 37 32.4**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=5.1,slow=7.4,SNR=16						
ILAR	**Eielson Array**	**34.02**	**334**	P	**P**	**09 37 32.4**	**-0.1**
BVAR	**Borovoye Array**	**35.22**	**94**	P	**P**	**09 37 44.5**	**+1.5**
BVAR	**Borovoye Array**	**35.22**	**94**	P	**P**	**09 37 44.5**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=343,slow=7.5,SNR=5.6						
BVAR	**Borovoye Array**	**35.22**	**94**	P	**P**	**09 37 44.5**	**+1.5**
AKTO	**Aktyubinsk**	**35.62**	**108**	P	**P**	**09 37 47.1**	**+0.7**
AKTO	**Aktyubinsk**	**35.62**	**108**	P	**P**	**09 37 47.1**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=339,slow=8.1,SNR=6.8						
AKTO	**Aktyubinsk**	**35.62**	**108**	P	**P**	**09 37 47.1**	**+0.7**
ZALV	**Zalesovo Beam**	**36.83**	**80**	LR	LR	09 56 53.0	
	comp=Z,62nm,18.3s,baz=27,slow=42						
KURK	**Kurchatov**	**38.87**	**87**	*eP*	**P**	**09 38 14.9**	**+1

WRA	Warramunga Arr	22.82	229	P		P	09 39 58.5	-1.9	
	4.4nm,0.8s,baz=55,slow=10,SNR=23								
WRA				LR		LR	09 49 16.9		
	comp=Z,95nm,20.3s,baz=60,slow=38								
ASAR	Alice Springs	25.50	223	P		P	09 40 24.9	-0.6	
ASAR	Alice Springs	25.50	223	P		P	09 40 24.8	-0.6	
	6.1nm,0.9s,baz=54,slow=8.3,SNR=35								
STKA	Stephens Creek	28.24	200	P		P	09 40 50.1	+0.2	
STKA	Stephens Creek	28.24	200	P		P	09 40 50.1	+0.2	
	3.2nm,1.0s,baz=356,slow=15,SNR=3.1								
STKA				LR		LR	09 52 55.8		
	comp=Z,194nm,18.3s,baz=24,slow=38								
FITZ	Fitzroy Crossi	29.11	242	*eP*		P	09 40 56.7	-1.1	
	6.5nm,0.8s								
FITZ	Fitzroy Crossi	29.11	242	P		P	09 40 57.1	-0.8	
	4.3nm,0.5s,baz=54,slow=9.2,SNR=9.1								
AFI	Afiamalu	36.16	106	*eP*		P	09 41 53.7	-6.0	
	26nm,0.4s								
JNU	Nakatsue	43.47	333	P		P	09 42 59.4	-0.7	
JNU	Nakatsue	43.47	333	P		P	09 42 59.4	-0.7	
	6.5nm,0.9s,baz=108,slow=4.8,SNR=4.1								
KSRS	Korea Array	48.41	334	P		P	09 43 38.1	-0.8	
	0.8nm,0.6s,baz=131,slow=6.7,SNR=5.1								
KSAR	Wonju Array Be	48.42	334	P		P	09 43 38.1	-0.8	
CMAR	Chiang Mai Arr	57.87	296	P		P	09 44 49.3	+0.3	
CMAR	Chiang Mai Arr	57.87	296	P		P	09 44 49.3	+0.3	
	0.6nm,0.3s,baz=108,slow=4.7,SNR=6.4								
SONM	Songino Array	66.69	328	P		P	09 45 48.2	+0.7	
SONM	Songino Array	66.69	328	P		P	09 45 48.2	+0.7	
	2.1nm,0.7s,baz=144,slow=5.6,SNR=18								
MKAR	Makanchi Array	80.59	319	P		P	09 47 09.6	+0.5	
MKAR	Makanchi Array	80.59	319	P		P	09 47 09.6	+0.5	
	2.0nm,0.9s,baz=106,slow=6.4,SNR=14								
ZALV	Zalesovo Beam	81.50	326	P		P	09 47 13.4	-0.3	
ZALV	Zalesovo Beam	81.50	326	P		P	09 47 13.4	-0.3	
	2.6nm,0.6s,baz=113,slow=5.5,SNR=12								
MCK	McKinley	81.54	23	*eP*		P	09 47 13.9	+0.1	
	9.1nm,1.0s								
COLA	College	82.53	22	*eP*		P	09 47 18.5	-0.3	
	3.6nm,0.8s								
ILAR	Eielson Array	82.83	22	P		P	09 47 19.9	-0.6	
ILAR	Eielson Array	82.83	22	P		P	09 47 19.9	-0.6	
	1.9nm,0.8s,baz=252,slow=5.2,SNR=22								
KURK	Kurchatov	84.07	322	*eP*		P	09 47 26.8	-0.4	
	14nm,1.3s								
KURBB	Kurchatov Arra	84.10	322	P		P	09 47 27.2	-0.1	
	1.3nm,0.5s,baz=95,slow=4.5,SNR=12								
AAK	Ala-Archa	84.87	314	P		P	09 47 32.1	+0.4	
AAK	Ala-Archa	84.87	314	P		P	09 47 32.1	+0.4	
	4.8nm,0.8s,baz=121,slow=5.8,SNR=14								
INK	Inuvik	89.13	21	P		P	09 47 51.4	0.0	
INK	Inuvik	89.13	21	P		P	09 47 51.4	0.0	
	3.8nm,1.1s,baz=214,slow=5.6,SNR=4.8								
BVAR	Borovoye Array	89.56	323	P		P	09 47 53.5	-0.3	
BVAR	Borovoye Array	89.56	323	P		P	09 47 53.5	-0.3	
	3.0nm,0.6s,baz=100,slow=5.0,SNR=15								
YKA	Yellowknife Ar	96.10	28	P		P	09 48 25.1	+1.3	
YKA	Yellowknife Ar	96.10	28	P		P	09 48 25.1	+1.3	
	0.7nm,0.7s,baz=270,slow=4.7,SNR=14								
PDAR	Pinedale Array	99.48	48	P		Pdif	09 48 40.1	+0.3	
PDAR	Pinedale Array	99.48	48	P		Pdif	09 48 40.1	+0.3	
	0.6nm,1.1s,baz=27,slow=1.0,SNR=2.5								
TORD	Torodi Ar. Bea	150.21	287	PKPbc		PKPbc	09 54 47.8	-0.6	
TORD	Torodi Ar. Bea	150.21	287	PKPbc		PKPbc	09 54 47.8	-0.6	
	1.0nm,0.6s,baz=86,slow=2.2,SNR=9.0								

*IDC **24** 10:02:28.4±0.8,4°.97S×102°.92E,h0km,mb4.3/18, mb1 4.4/18,mb1mx4.3/26,mbtmp4.3/18,MS3.3/1, Ms1 3.3/1,ms1mx2.6/32,Error ellipse: s-maj=33.6km s-min=13.2km az=51.0*

*NEIC **24** 10:02:33.7±0.5,4°.97S×102°.95E,h35km,mb4.5/3,Error ellipse: s-maj=19.9km s-min=6.3km az=49.0*

*ISCJB **24** 10:02:35.8±1.1,5°.0S±0°.1×103°.1E±0°.1,h73km±7km, mb4.2/20,Error ellipse: s-maj=23.2km s-min=6.7km az=135.5*

*DJA **24** 10:02:46,4°.29S×103°.07E,h10km,MLv4.1/7*

ISC 24 10:02:36.0±1.7,5°.1S±0°.1×103°.0E±0°.1,h57km±13km,n48, σ0s86/55,mb4.4/20,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	Manna	0.69	360	P	Pn	10 02 49.5	-0.5
LWLI	Liwa	1.09	88	P	Pn	10 02 54.9	-0.4
LWLI				S	Sn	10 03 09.2	-0.4
KSI	Kapahiang	1.44	345	P	Pn	10 03 00.1	+0.1
KSI				S	Sn	10 03 18.7	+0.8
KASI	Kota Agung	1.60	107	P	Pn	10 03 01.7	-0.3
KASI				S	Sn	10 03 20.4	-1.2
BLSI	Bandar Lampung	2.30	98	P	Pn	10 03 17.7	+6.2
BLSI				S	Sn	10 03 42.5	+3.9
PMBI	Palembang	2.78	41	P	Pn	10 03 18.0	-0.1
CGJI	Cibinong	3.13	120	P	Pn	10 03 32.6	+10
RGRI	Rengat	4.72	352	P	Pn	10 03 46.6	+1.9
CMAR	Chiang Mai Arr	23.70	350	P	P	10 07 41.9	-0.9
CMAR	Chiang Mai Arr	23.70	350	P	P	10 07 41.9	-0.9
	3.2nm,0.4s,baz=182,slow=8.6,SNR=15						
FITZ	Fitzroy Crossi	25.68	122	*eP*	P	10 08 00.8	0.0
	7.0nm,1.0s						
FITZ	Fitzroy Crossi	25.68	122	P	P	10 08 00.6	-0.2
	5.4nm,0.9s,baz=298,slow=8.7,SNR=6.7						
NWAO	Narrogin (SRO)	30.76	156	LR	LR	10 20 57.2	
	comp=Z,59nm,20.1s,baz=196,slow=36						
WRA	Warramunga Arr	33.92	119	P	P	10 09 13.9	-0.1
WRA				PcP	PcP	10 11 51.6	+0.1
WRA	Warramunga Arr	33.92	119	P	P	10 09 13.9	-0.1
	3.1nm,0.6s,baz=299,slow=11,SNR=16						
WRA				PcP	PcP	10 11 51.7	+0.1
	0.5nm,0.8s,baz=310,slow=2.3,SNR=3.8						
WRAB	Tennant Creek	33.93	119	*eP*	P	10 09 14.2	+0.2
	4.1nm,0.6s						
ASAR	Alice Springs	35.08	125	P	P	10 09 24.7	+0.7
ASAR	Alice Springs	35.08	125	P	P	10 09 24.7	+0.7
	2.4nm,0.8s,baz=296,slow=7.8,SNR=17						
STKA	Stephens Creek	44.92	131	P	P	10 10 46.3	+0.9
STKA	Stephens Creek	44.92	131	P	P	10 10 46.3	+0.9
	3.1nm,0.5s,baz=302,slow=9.1,SNR=11						
KSAR	Wonju Array Be	48.24	27	P	P	10 11 11.1	-0.1
KSRS	Korea Array	48.27	27	P	P	10 11 11.1	-0.3
	1.2nm,0.6s,baz=225,slow=7.1,SNR=4.9						
SONM	Songino Array	52.75	3	P	P	10 11 45.4	+0.1
SONM				PcP	PcP	10 12 54.1	-0.1
SONM	Songino Array	52.75	3	P	P	10 11 45.4	+0.1
	2.7nm,0.8s,baz=181,slow=8.2,SNR=24						
SONM				PcP	PcP	10 12 54.1	-0.1
	0.8nm,0.5s,baz=188,slow=4.4,SNR=8.1						
TKM2	Tokmak 2	53.81	335	*eP*	P	10 11 53.0	-0.1
	4.5nm,0.8s						
MKAR	Makanchi Array	54.78	343	P	P	10 11 59.1	-0.8
MKAR	Makanchi Array	54.78	343	P	P	10 11 59.1	-0.8
	3.0nm,0.5s,baz=152,slow=8.8,SNR=44						
USRK	Ussuriysk Arra	55.56	25	P	P	10 12 04.2	-1.3
	3.3nm,0.9s,baz=185,slow=7.1,SNR=7.0						
KURBB	Kurchatov Arra	59.32	342	P	P	10 12 31.0	-0.9
	2.3nm,0.7s,baz=161,slow=6.5,SNR=20						
KURBB				PcP	PcP	10 13 19.8	+0.4
	0.9nm,0.6s,baz=155,slow=3.5,SNR=5.4						
KURK	Kurchatov	59.38	342	P	P	10 12 31.0	-1.3
KURK				PcP	PcP	10 13 19.8	+0.2
ASAJ	Asahikawa	60.54	32	P	P	10 12 39.7	-0.7
ASAJ	Asahikawa	60.54	32	P	P	10 12 39.7	-0.7
	2.1nm,0.3s,baz=288,slow=29,SNR=3.1						
ZALV	Zalesovo Beam	60.73	348	P	P	10 12 40.6	-0.9
ZALV	Zalesovo Beam	60.73	348	P	P	10 12 40.6	-0.9
	1.6nm,0.4s,baz=163,slow=4.4,SNR=10						
BVAR	Borovoye Array	64.07	339	P	P	10 13 02.8	-1.1
BVAR	Borovoye Array	64.07	339	P	P	10 13 02.8	-1.1
	2.9nm,0.5s,baz=142,slow=9.6,SNR=14						
AKTO	Aktyubinsk	67.44	331	P	P	10 13 24.9	-0.7
AKTO	Aktyubinsk	67.44	331	P	P	10 13 24.9	-0.7
	0.7nm,0.3s,baz=166,slow=7.4,SNR=4.1						
KBZ	Khabaz	72.54	319	P	P	10 13 57.3	+0.3
KBZ	Khabaz	72.54	319	P	P	10 13 57.3	+0.3
	1.6nm,0.7s,baz=82,slow=2.0,SNR=5.6						
BRTR	Keskin Array B	77.55	312	P	P	10 14 26.1	0.0
BRTR	Keskin Array B	77.55	312	P	P	10 14 26.1	0.0
	1.3nm,0.7s,baz=133,slow=7.0,SNR=6.9						
FINES	FINESS Array B	88.18	332	P	P	10 15 20.8	+0.3
FINES	FINESS Array B	88.18	332	P	P	10 15 20.8	+0.3
	2.4nm,0.8s,baz=19,slow=6.9,SNR=4.5						
ARCES	ARCESS Array B	90.34	340	P	P	10 15 30.6	+0.1
ARCES	ARCESS Array B	90.34	340	P	P	10 15 30.6	+0.1
	2.8nm,0.9s,baz=104,slow=5.1,SNR=5.3						
TXAR	Lajitas Array	145.11	43	PKPbc	PKPdf	10 22 07.9	0.0
	1.1nm,0.5s,baz=264,slow=1.4,SNR=24						

IDC 24 10:03:10.8±1.8,2°.72N×125°.30E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.6/20,mbtmp3.7/4,Error ellipse: s-maj=178.4km s-min=23.3km az=64.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	24.20	159	P	P	10 08 29.1	-0.2
	3.5nm,0.7s,baz=338,slow=11,SNR=24						
ASAR	Alice Springs	27.53	163	P	P	10 09 00.2	+0.8
	0.3nm,0.5s,baz=348,slow=8.5,SNR=6.8						
STKA	Stephens Creek	37.73	157	P	P	10 10 28.1	-0.3
	1.4nm,0.5s,baz=343,slow=8.2,SNR=6.9						
MKAR	Makanchi Array	57.58	326	P	P	10 13 02.1	-0.4
	0.3nm,0.5s,baz=130,slow=8.4,SNR=1.6						

IDC 24 10:06:29.3±0.5,13°.94N×144°.94E,h133km±2km,mb3.7/12, mb1 3.8/12,mb1mx3.6/30,mbtmp3.7/12,Error ellipse: s-maj=25.4km s-min=12.6km az=93.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	0.35	191	P	Pn	10 06 49.5	+1.4
	495nm,0.3s,baz=138,slow=1.5,SNR=560						
GUMO				S	Sn	10 07 03.7	+1.4
	3µm,0.3s,baz=110,slow=23,SNR=164						
PMG	Port Moresby	23.30	174	P	P	10 11 24.8	-0.6
	7.4nm,0.7s,baz=333,slow=5.0,SNR=4.5						
CTA	Charters Tower	33.84	178	P	P	10 13 00.1	+1.0
	2.1nm,0.7s,baz=346,slow=17,SNR=3.1						
WRA	Warramunga Arr	35.24	197	P	P	10 13 10.9	-0.4
	4.1nm,0.8s,baz=20,slow=9.5,SNR=24						
FITZ	Fitzroy Crossi	37.09	211	P	P	10 13 26.6	-0.4
	0.7nm,0.3s,baz=41,slow=8.9,SNR=8.2						
ASAR	Alice Springs	38.90	196	P	P	10 13 41.6	-0.6
	0.5nm,0.4s,baz=16,slow=6.5,SNR=17						
DZM	Mont Dzumac	41.54	149	P	P	10 14 04.8	+0.8
	5.1nm,0.5s,baz=304,slow=15,SNR=12						
STKA	Stephens Creek	45.66	184	P	P	10 14 35.8	-1.0
	2.5nm,0.4s,baz=4.4,slow=10,SNR=13						
KURBB	Kurchatov Arra	64.41	320	P	P	10 16 51.9	+0.6
	0.9nm,0.6s,baz=103,slow=6.8,SNR=5.7						
ILAR	Eielson Array	68.23	25	P	P	10 17 13.3	-2.0
	0.5nm,0.6s,baz=248,slow=6.1,SNR=9.8						
BVAR	Borovoye Array	69.70	322	P	P	10 17 25.1	+0.4
	0.6nm,0.4s,baz=113,slow=8.8,SNR=3.9						
NVAR	Mina Array Bea	86.65	51	P	P	10 18 59.9	+1.3
	0.3nm,0.6s,baz=265,slow=6.3,SNR=3.9						
PDAR	Pinedale Array	91.67	45	P	P	10 19 22.1	0.0
	0.2nm,0.6s,baz=258,slow=4.5,SNR=2.4						
TORD	Torodi Ar. Bea	134.72	305	PKP	PKPdf	10 25 34.4	+1.1
	0.4nm,1.1s,baz=70,slow=2.8,SNR=2.6						
DBIC	Dimbokro	143.70	302	PKhKP	PKPpre	10 25 47.0	
	1.1nm,0.5s,baz=34,slow=3.6,SNR=3.8						

*DDA **24** 10:19:15.7,37°.23N×35°.86E,h7km,MD2.8*

*ISK **24** 10:19:16.3,37°.40N×36°.01E,h18km,MD2.3*

*CSEM **24** 10:19:16.5±0.5,37°.29N×35°.91E,h10km,MD2.3, Error ellipse: s-maj=13.4km s-min=9.7km az=176.0*

ISC 24 10:19:16.3±1.2,37°.28N±0°.03×35°.94E±0°.03,h0km±13km, n14,σ1s10/26,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	Kozan	0.23	336	*e*PG	Pg	10 19 21.4	+0.7
KOZT				*e*SG	Sg	10 19 24.6	+1.0
KOZT	Kozan	0.23	336	*e*Pg	Pg	10 19 21.4	+0.7
KOZT				*e*Sg	Sg	10 19 24.6	+1.0
CEYT	Ceyhan	0.31	210	*e*PG	Pb	10 19 24.8	+0.1
CEYT				*e*SG	Sb	10 19 32.5	+2.3
CEYT	Ceyhan	0.31	210	*e*Pg	Pb	10 19 24.8	+0.1
CEYT				*e*Sg	Sb	10 19 32.5	+2.3
ANDN	Andirin	0.44	46	*i* P	Pb	10 19 27.3	+0.2
ANDN				*i* S	Sb	10 19 33.9	-0.4
ANDN	Andirin	0.44	46	*i* P	Pb	10 19 27.3	+0.2
ANDN				*i* S	Sb	10 19 33.9	-0.4
KMRS	Kahramanmaras	0.80	73	*e*PG	Pg	10 19 31.1	-0.5
KMRS				*e*SG	Sg	10 19 41.1	-0.8
KMRS	Kahramanmaras	0.80	73	*e*Pg	Pg	10 19 31.1	-0.5
KMRS				*e*Sg	Sg	10 19 41.1	-0.8
GULE	Gulek	0.93	271	*i* P	Pg	10 19 32.0	-2.1
GULE				*i* S	Sg	10 19 45.8	-0.4
GULE	Gulek	0.93	271	*i* P	Pg	10 19 32.0	-2.1
GULE				*i* S	Sg	10 19 45.8	-0.4
GAZ	Gaziantep	1.02	95	*e*PG	Pg	10 19 35.7	-0.1
GAZ	Gaziantep	1.02	95	*e*Pg	Pg	10 19 35.7	-0.1
KUZU	Kuzuini	1.04	119	*i* P	Pg	10 19 36.5	+0.4
KUZU				*i* S	Sn	10 19 52.7	-0.7
KUZU	Kuzuini	1.04	119	*i* P	Pg	10 19 36.5	+0.4
KUZU				*i* S	Sn	10 19 52.7	-0.7

WEL 24 10:25:42.3±0.6,37°.88S×179°.17E,h33km,ML3.8/7,1C-2D, Error ellipse: s-maj=5.3km s-min=2.6km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	Puketiti	0.74	255	PN	Pn	10 25 55.2	-1.3
PUZ				SN	Sn	10 26 06.0	-0.8
MXZ	Matakaoa Point	0.75	295	PN	Pn	10 25 55.9	-0.7
MXZ				SN	Sn	10 26 06.6	-0.2
CNGZ	Carnagh Statio	0.97	231	↓PN	Pn	10 25 59.4	-0.2
MWZ	Matawai	1.37	250	PN	Pn	10 26 04.0	-1.2
PRGZ	Paritu Road	1.45	224	PN	Pn	10 26 05.6	-0.7
MHGZ	Mahia Peninsul	1.61	218	PN	Pn	10 26 07.8	-0.6
KNZ	Kokohu	1.63	225	PN	Pn	10 26 07.6	-1.1
URZ	Urewera	1.67	256	PN	Pn	10 26 08.9	-0.3
RAHZ	Arahi	1.93	237	PN	Pn	10 26 12.8	-0.1
OPRZ	Ohinepanea	2.07	270	PN	Pn	10 26 13.8	-0.8
TARZ	Mount Tarawera	2.13	260	*e*PN	Pn	10 26 15.1	-0.6
NMHZ	Naumai	2.21	236	PN	Pn	10 26 16.7	-0.1
PRRZ	Plateau Road	2.27	253	*e*PN	Pn	10 26 17.1	-0.5
TGRZ	Tauranga	2.31	273	PN	Pn	10 26 17.3	-0.6
ALRZ	Allen Road	2.33	252	PN	Pn	10 26 18.5	+0.2
CKHZ	Cape Kidnapper	2.41	222	PN	Pn	10 26 18.5	-0.9
BKZ	Black Stump Fm	2.46	238	↓PN	Pn	10 26 19.8	-0.4
MCHZ	McNeill Hill	2.48	230	PN	Pn	10 26 20.0	-0.5
KAHZ	Kahuranaki	2.62	222	PN	Pn	10 26 20.9	-1.4
PXZ	Pawanui	2.80	219	PN	Pn	10 26 22.8	-1.9
BHHZ	Black Hill Sta	2.91	236	PN	Pn	10 26 25.4	-1.0
KATZ	Kakaramea	2.94	247	PN	Pn	10 26 26.4	-0.4
KUZ	Kuaotunu	2.97	291	PN	Pn	10 26 26.5	-0.6
KRVZ	Karewarewa	3.02	245	PN	Pn	10 26 27.2	-0.8
WPHZ	Waipukurau	3.04	223	PN	Pn	10 26 26.5	-1.7
MOVZ	Moawhango	3.08	239	PN	Pn	10 26 27.7	-1.0
PNHZ	Pukenui	3.08	228	PN	Pn	10 26 26.9	-1.8
NGZ	Ngauruhoe	3.08	244	PN	Pn	10 26 28.0	-0.8
TUVZ	Tukino	3.08	242	PN	Pn	10 26 28.1	-0.7
PRHZ	Porangahau	3.09	219	*e*PN	Pn	10 26 26.2	-2.5
WPVZ	Whakapapa	3.13	244	PN	Pn	10 26 28.8	-0.7
WNVZ	Wahianoa	3.15	242	PN	Pn	10 26 28.9	-0.9
FWVZ	Far West T-bar	3.15	243	*e*PN	Pn	10 26 28.9	-1.0
TRVZ	Turoa	3.17	242	PN	Pn	10 26 29.2	-1.0
MTVZ	Mangateitei	3.26	241	*e*PN	Pn	10 26 30.3	-0.9
MKAZ	Moumakai	3.27	282	PN	Pn	10 26 31.1	-0.2
PKVZ	Pokaka	3.31	244	*e*PN	Pn	10 26 31.1	-0.8
TSZ	Takapari Road	3.31	228	↑PN	Pn	10 26 29.8	-2.1
DVHZ	Dannevirke	3.36	223	PN	Pn	10 26 30.2	-2.3
HIZ	Hauiti	3.46	258	PN	Pn	10 26 34.2	+0.4
BFZ	Birch Farm	3.60	218	PN	Pn	10 26 32.6	-3.1
POWZ	Post Office Ro	3.64	225	PN	Pn	10 26 34.5	-1.9
VRZ	Vera Road	3.67	249	PN	Pn	10 26 36.7	-0.1
WAZ	Wanganui	3.76	239	*e*PN	Pn	10 26 37.5	-0.6
TIWZ	Tintock	3.85	220	PN	Pn	10 26 36.9	-2.4
MRZ	Mangatainoka R	3.93	224	PN	Pn	10 26 37.4	-2.9
TMWZ	Te Maipa	4.10	217	*e*PN	Pn	10 26 39.3	-3.3
HOWZ	Holdsworth Sta	4.13	222	PN	Pn	10 26 40.1	-3.0
NEZ	North Egmont	4.21	249	*e*PN	Pn	10 26 44.8	+0.6
OGWZ	Otaki Gorge	4.26	225	PN	Pn	10 26 42.0	-2.9
MTW	Mount Morrison	4.33	220	PN	Pn	10 26 41.9	-3.8
KIW	Kapiti Island	4.44	227	PN	Pn	10 26 44.4	-2.9
CAW	Cannon Point	4.52	223	PN	Pn	10 26 45.1	-3.3
PAWZ	Paruwai Farm	4.53	218	*e*PN	Pn	10 26 44.6	-4.0
MSWZ	Moikau Station	4.65	219	PN	Pn	10 26 46.3	-3.9
PLWZ	Palliser	4.76	218	PN	Pn	10 26 47.6	-4.2
OUZ	Omahuta	5.21	299	PN	Pn	10 26 59.7	+1.8
TUWZ	Tuamarina	5.37	227	PN	Pn	10 26 56.6	-3.4
NNZ	Nelson	5.58	232	*e*PN	Pn	10 26 59.5	-3.4
QRZ	Quartz Range	5.92	238	PN	Pn	10 27 03.9	-3.8
THZ	Tophouse	6.18	229	PN	Pn	10 27 07.6	-3.8
CTZ	Chatham Island	6.66	153	PN	Pn	10 27 19.0	+1.2
LTZ	Lake Taylor	7.19	225	*e*PN	Pn	10 27 21.3	-3.9

*ISCJB **24** 10:26:02.1±0.5,5°.49S±0°.09×151°.77E±0°.10,h45km, mb4.2/16,MS4.0/7,Error ellipse: s-maj=17.3km s-min=8.0km az=40.0*

*NEIC **24** 10:26:02.5±0.4,5°.45S×151°.83E,h35km,mb4.4/2,Error ellipse: s-maj=14.3km s-min=8.5km az=126.0*

*IDC **24** 10:26:04.0±3.8,5°.49S×151°.80E,h48km±36km,mb4.0/13, mb1 4.2/14,mb1mx4.2/18,mbtmp4.1/14,ML3.4/1,MS4.1/8, Ms1 4.1/8,ms1mx3.6/26,Error ellipse: s-maj=21.8km s-min=20.7km az=38.0*

ISC 24 10:26:03.7±0.6,5°.5S±0°.1×151°.8E±0°.1,h45km,n45, σ0s83/41,mb4.2/16,MS3.9/7,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	6.06	230	P	Pn	10 27 31.5	+0.7
PMG				*e*Pn	Pn	10 27 31.9	+1.0
PMG				*e*Sn	Sn	10 28 38.4	-0.6
PMG				S		10 28 39.0	
PMG	Port Moresby	6.06	230	P	Pn	10 27 31.5	+0.7
	6.6nm,0.3s,baz=49,slow=8.8,SNR=23						
PMG				S	Sn	10 28 39.0	0.0
	5.8nm,0.3s,baz=105,slow=23,SNR=11						
CTA	Charters Tower	15.51	200	LR	LR	10 35 14.6	
	comp=Z,689nm,18.9s,baz=27,slow=36						
DZM	Mont Dzumac	21.73	141	P	P	10 30 50.9	-0.5
DZM	Mont Dzumac	21.73	141	P	P	10 30 50.9	-0.5
	6.4nm,0.9s,baz=27,slow=21,SNR=4.2						
DZM				LR	LR	10 37 48.4	
	comp=Z,449nm,19.7s,baz=23,slow=32						
WRAB	Tennant Creek	22.27	228	*e*P	P	10 30 56.0	-1.1
	14nm,0.7s						
WRA	Warramunga Arr	22.28	228	P	P	10 30 55.8	-1.5
WRA	Warramunga Arr	22.28	228	P	P	10 30 55.8	-1.5
	5.4nm,0.7s,baz=52,slow=9.7,SNR=27						
WRA				LR	LR	10 40 17.9	
	comp=Z,299nm,18.4s,baz=55,slow=38						
AS31	Alice Springs	25.01	222	*e*P	P	10 31 23.7	+0.1
ASAR	Alice Springs	25.01	222	P	P	10 31 22.8	-0.9
ASAR	Alice Springs	25.01	222	P	P	10 31 22.8	-0.9
	9.9nm,0.8s,baz=58,slow=8.7,SNR=68						
STKA	Stephens Creek	27.96	199	P	P	10 31 51.6	+1.5
STKA	Stephens Creek	27.96	199	P	P	10 31 51.7	+1.5
	2.3nm,0.9s,baz=20,slow=9.2,SNR=3.4						
STKA				LR	LR	10 43 17.4	
	comp=Z,278nm,19.4s,baz=27,slow=37						
FITZ	Fitzroy Crossi	28.50	242	P	P	10 31 54.1	-0.9
FITZ	Fitzroy Crossi	28.50	242	P	P	10 31 54.1	-0.9
	14nm,0.8s,baz=88,slow=6.1,SNR=29						
NWAO	Narrogin (SRO)	42.23	225	LR	LR	10 52 19.0	
	comp=Z,322nm,20.6s,baz=280,slow=37						
JNU	Nakatsue	43.23	334	LR	LR	10 50 31.7	
	comp=Z,153nm,20.1s,baz=76,slow=34						
KSRS	Korea Array	48.17	334	P	P	10 34 44.1	+4.5
	0.6nm,0.6s,baz=149,slow=8.0,SNR=4.2						
KSAR	Wonju Array Be	48.18	334	P	P	10 34 44.1	+4.4
CMAR	Chiang Mai Arr	57.30	296	P	P	10 35 48.2	+0.8
CMAR	Chiang Mai Arr	57.30	296	P	P	10 35 48.2	+0.8
	1.5nm,0.5s,baz=123,slow=5.9,SNR=7.4						
PETK	Petropavlovsk-	58.57	4	LR	LR	10 56 50.5	
	comp=Z,90nm,20.6s,baz=204,slow=32						
SONM	Songino Array	66.38	328	P	P	10 36 48.5	+0.4
SONM	Songino Array	66.38	328	P	P	10 36 48.5	+0.4
	2.3nm,0.6s,baz=146,slow=5

KHKI **Kahang-Kahang** 8.19 217 P Pn **10 37 38.3 +2.2**
28nm,0.7s,709nm
KMMI **Kalianget** 8.40 231 P Pn 10 37 42.4 +3.4
61nm,1.0s
NBBI **Negara** 8.82 222 P **Pn** **10 37 45.2 +0.4**
135nm,1.2s,2µm
KKM **Kota Kinabalu** 8.91 331 *e*Pn **Pn** **10 37 47.3 +1.1**
KKM **Kota Kinabalu** 8.91 331 P **Pn** **10 37 47.2 +1.1**
117nm,1.0s,972nm
PBKI **Pangkalan Bun** 8.94 264 P Pn 10 37 49.0 +2.6
175nm,1.1s,3µm0.7nm
JAGI **Jajag, Banyuwa** 9.21 224 P **Pn** **10 37 52.9 +2.8**
53nm,0.9s,1µm
STKI **Sintang** 9.27 281 P **Pn** **10 37 51.2 +0.2**
55nm,1.1s,20µm
SBUM **Sibu** 9.35 297 P **Pn** **10 37 52.4 +0.4**
36nm,1.3s
GMJI **Gumukmas** 9.58 228 P Pn 10 38 02.6 +7.4
PWJI **Pagerwojo** 10.70 234 P Pn 10 38 18.5 +8.0
SWI **Sorong** 10.73 85 P Pn 10 38 15.4 +4.5
46nm,0.7s
KSM **Kuching** 10.76 287 *e*Pn **Pn** **10 38 12.4 +1.0**
KSM *e*Sn **Sn** **10 40 15.3 +4.5**
KSM **Kuching** 10.76 287 P **Pn** **10 38 12.0 +0.7**
34nm,1.1s
BJII **Banjamegara** 12.14 243 P Pn 10 38 36.5 +6.2
78nm,1.8s,1µm
DBJI **Dramaga** 14.57 251 P P 10 39 16.4 +6.8
CGJI **Cibinong** 15.59 252 P P 10 39 28.4 +7.5
TGY **Tagaytay City** 15.79 1 Pn **Pn** **10 39 20.0 +0.4**
TGY **Tagaytay City** 15.79 1 Pn **Pn** **10 39 20.0 +0.4**
55nm,0.3s,baz=216,slow=4.0,SNR=2.7
KASI **Kota Agung** 16.46 257 P P 10 39 38.0 +7.4
FITZ **Fitzroy Crossi** 16.96 163 *e*Pn **Pn** **10 39 33.9 -0.5**
18nm,1.0s
FITZ **Fitzroy Crossi** 16.96 163 *e*P Pn 10 39 30.9 -3.5
18nm,0.9s
FITZ **Fitzroy Crossi** 16.96 163 P **Pn** **10 39 33.6 -0.8**
0.1nm,0.3s,baz=1.6,slow=10,SNR=7.8
FITZ LR LR 10 47 15.8
comp=Z,339nm,18.2s,baz=211,slow=41
MYKOM **Kota Tinggi** 17.09 282 P **P** **10 39 38.5 +0.9**
42nm,1.2s
KSI **Kapahiang** 18.05 264 P P 10 39 56.0 +7.7
MBWA **Marble Bar** 19.27 182 *e*P **P** **10 40 02.0 +0.4**
30nm,0.8s
PPI **Padang Panjang** 20.21 274 P Pn 10 40 15.8 +1.9
51nm,1.1s
IPM **Ipoh** 20.50 288 *e*P **P** **10 40 15.4 +0.3**
53nm,1.0s
IPM **Ipoh** 20.50 288 P **P** **10 40 15.8 +0.8**
58nm,1.1s,597nm
KULM **Kulim** 21.10 290 *e*P **P** **10 40 20.2 -1.4**
KULM **Kulim** 21.10 290 P **P** **10 40 22.7 +1.1**
33nm,1.1s
MNSI **Mandailing Nat** 21.14 277 P **P** **10 40 18.8 -3.2**
PSI **Prapat** 22.11 282 P **P** **10 40 32.1 -0.5**
PSI **Prapat** 22.11 282 P **P** **10 40 33.4 +0.8**
47nm,0.9s
PSI **Prapat** 22.11 282 P **P** **10 40 32.1 -0.5**
29nm,0.8s,baz=68,slow=4.2,SNR=10
PSI LR LR 10 50 29.8
comp=Z,197nm,19.1s,baz=105,slow=40
WRAB **Tennant Creek** 22.51 144 *e*P **P** **10 40 36.6 -0.1**
WRAB pmax pmax
comp=Z,212nm,0.9s
WRAB **Tennant Creek** 22.51 144 *e*P **P** **10 40 36.6 -0.1**
comp=Z,212nm,0.9s
WRAB **Tennant Creek** 22.51 144 P **P** **10 40 36.0 -0.7**
comp=Z,1µm,0.9s,SNR=80
WRA **Warramunga Arr** 22.51 144 P **P** **10 40 36.7 0.0**
WRA **Warramunga Arr** 22.51 144 P **P** **10 40 36.7 0.0**
comp=Z,128nm,0.8s,baz=320,slow=11,SNR=425
WRA LR LR 10 50 09.6
comp=Z,263nm,21.4s,baz=325,slow=39
GSI **Gunungsitoli** 23.19 277 P P 10 40 50.4 +6.6
QIZ **Qiongzhong** 23.22 333 P **P** **10 40 45.3 +1.3**
QIZ pP pP 10 40 53.4 +1.3
QIZ sP sP 10 40 58.8 +3.0
QIZ S **S** **10 44 56.6 +2.4**
QIZ sS Sn 10 45 11.0 -1.9
QIZ pmax pmax
comp=Z,40nm,1.3s
QIZ pmax pmax
comp=Z,120nm,7.0s
QIZ **Qiongzhong** 23.22 333 *e*P **P** **10 40 44.0 0.0**
comp=Z,42nm,1.3s
TPTI 23.91 282 P **P** **10 40 52.1 +1.4**
comp=Z,121nm,1.0s,comp=Z,8µm
TWG **Pinlang** 24.46 1 *e*P **P** **10 40 55.3 -0.4**
comp=Z,127nm,1.0s
LHMI **Lhok Sumawe** 24.60 287 P P 10 41 05.0 +7.9
TPUB **Ta-pu** 24.94 0 *e*P **P** **10 41 01.1 +1.0**
comp=Z,76nm,1.4s
ASAR **Alice Springs** 25.30 150 P **P** **10 41 03.8 +0.4**
ASAR PcP **PcP** **10 44 36.0 -0.1**
ASAR **Alice Springs** 25.30 150 P **P** **10 41 03.8 +0.4**
comp=Z,12nm,0.7s,baz=323,slow=7.8,SNR=104
ASAR PcP **PcP** **10 44 36.0 -0.1**
comp=Z,0.9nm,0.6s,baz=342,slow=1.9,SNR=6.3
SSLB **Suanglung** 25.43 1 *e*P **P** **10 41 03.3 -1.1**
comp=Z,35nm,0.9s
PMG **Port Moresby** 27.51 107 P **P** **10 41 23.7 +0.3**
PMG **Port Moresby** 27.51 107 P **P** **10 41 23.7 +0.3**
comp=Z,12nm,0.7s,baz=321,slow=7.1,SNR=7.1
GUMO **Guam** 28.53 57 LR LR 10 52 16.5
comp=Z,115nm,20.6s,baz=199,slow=35
CMAR **Chiang Mai Arr** 29.28 314 P **P** **10 41 38.9 -0.3**
CMAR **Chiang Mai Arr** 29.28 314 P **P** **10 41 38.9 -0.3**
comp=Z,12nm,0.9s,baz=137,slow=7.2,SNR=30
CHTO **Chiang Mai** 29.52 315 *e*P **P** **10 41 41.0 -0.2**
CHTO pmax pmax
comp=Z,19nm,1.0s
CHTO **Chiang Mai** 29.52 315 *e*P **P** **10 41 41.0 -0.2**
comp=Z,19nm,1.0s
CHTO **Chiang Mai** 29.52 315 P **P** **10 41 40.8 -0.4**
comp=Z,16nm,0.8s
FORT **Forrest** 29.70 167 *e*P **P** **10 41 42.3 -0.3**
comp=Z,32nm,0.7s
KLBR **Kellerberrin** 29.76 185 *e*P **P** **10 41 42.7 -0.6**
comp=Z,17nm,0.8s
CTA **Charters Tower** 31.00 128 P **P** **10 41 54.3 -0.1**
CTA **Charters Tower** 31.00 128 P **P** **10 41 54.3 -0.1**
comp=Z,5.4nm,0.9s,baz=295,slow=9.7,SNR=3.8
GYA **Guiyang** 31.13 335 P P 10 41 58.8 +3.3
GYA pP pP 10 42 08.6 +4.5
GYA PP **PP** **10 43 03.0 -3.1**
GYA S **S** **10 47 02.1 +2.5**
GYA sS sS 10 47 19.4 +5.7
GYA ScP **ScP** **10 48 32.8 +1.2**
GYA ScS **ScS** **10 52 28.5 -0.5**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,580nm,17.8s
GYA LR LR
comp=E,510nm,18.0s
GYA LR LR
comp=Z,520nm,17.8s
NWAO **Narrogin (SRO)** 31.13 185 P **P** **10 41 55.6 +0.2**
NWAO **Narrogin (SRO)** 31.13 185 P **P** **10 41 55.6 +0.2**
comp=Z,24nm,0.7s,baz=6.9,slow=9.3,SNR=14
KMI **Kunming** 31.85 328 P P 10 42 04.8 +2.8
KMI pmax pmax
comp=Z,26nm,1.4s
WHN **Wuhan** 32.69 350 P P 10 42 15.3 +6.3
ENH **Enshi** 33.59 343 *e*P **P** **10 42 18.6 +1.6**
comp=Z,15nm,0.8s
NJ2 **Nanjing** 33.69 357 *e*P P 10 42 20.9 +3.1
NJ2 S **S** **10 47 43.0 +3.8**
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 LR LR
comp=N,690nm,23.8s
NJ2 LR LR
comp=E,860nm,16.5s
NJ2 LR LR
comp=Z,320nm,18.6s
BBOO **Buckleboo** 34.12 156 *e*P **P** **10 42 21.5 0.0**
comp=Z,80nm,0.7s
CBIJ **Chichi jima** 35.48 34 P **P** **10 42 33.8 +0.5**
CBIJ **Chichi jima** 35.48 34 P **P** **10 42 33.8 +0.5**
comp=Z,82nm,1.0s,baz=256,slow=15,SNR=3.4
CBIJ LR LR 10 56 30.1
comp=Z,95nm,19.8s,baz=239,slow=36
STKA **Stephens Creek** 35.90 149 P **P** **10 42 37.5 +0.7**
STKA **Stephens Creek** 35.90 149⇑ *i*P **P** **10 42 37.2 +0.3**
comp=Z,34nm,0.8s
STKA **Stephens Creek** 35.90 149 P **P** **10 42 37.5 +0.7**
comp=Z,40nm,0.8s,baz=321,slow=8.7,SNR=64
STKA LR LR 10 59 13.4
comp=Z,275nm,18.6s,baz=15,slow=39
JNU **Nakatsue** 36.06 15 P **P** **10 42 35.5 -2.8**
JNU **Nakatsue** 36.06 15 P **P** **10 42 35.5 -2.8**
comp=Z,5.6nm,0.9s,baz=338,slow=6.1,SNR=3.0
CD2 **Chengdu** 36.24 335 P **P** **10 42 40.5 +0.6**
CD2 pP pP 10 42 50.3 +1.8
CD2 sP sP 10 42 54.1 +2.0
CD2 PP **PP** **10 44 04.0 +1.3**
CD2 PcP **PcP** **10 45 05.3 +0.5**
CD2 S **S** **10 48 18.3 -0.3**
CD2 sS sS 10 48 34.4 +1.5
CD2 SS **SnSn** **10 50 43.6 -2.9**
CD2 pmax pmax
comp=Z,30nm,0.4s
CD2 pmax pmax
comp=Z,100nm,4.5s
CD2 LR LR
comp=N,200nm,19.6s
CD2 LR LR
comp=E,230nm,21.1s
CD2 LR LR
comp=Z,370nm,19.0s
XAN **Xi'an** 37.28 344 P **P** **10 42 49.4 +0.7**
CMSA **Cobar Meteorol** 37.92 144 *e*P **P** **10 42 54.8 +0.7**
comp=Z,60nm,0.9s
SHL **Shillong** 38.86 316 *e*PKP **P** **10 43 02.5 +0.2**
JHJ **Hachijo jima 2** 39.17 26 LR LR 10 59 30.3
comp=Z,331nm,19.4s,baz=235,slow=37
KSAR **Wonju Array Be** 39.62 9 P **P** **10 43 07.3 -0.9**
KSRS **Korea Array** 39.64 9 P **P** **10 43 07.3 -1.0**
comp=Z,1.0nm,0.5s,baz=185,slow=11,SNR=6.4
KSRS LR LR 10 59 40.7
comp=Z,77nm,18.1s,baz=175,slow=37
LZH **Lanzhou** 40.78 339 *e*P **P** **10 43 19.0 +0.9**
LZH pP pP 10 43 29.5 +2.7
LZH sP sP 10 43 33.1 +2.7
LZH *e*S **S** **10 49 30.0 +2.7**
LZH sS sS 10 49 44.5 +2.9
LZH SS **SS** **10 52 25.1 -3.9**
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.0s
LZH LR LR
comp=N,180nm,12.4s
LZH LR LR
comp=E,210nm,13.4s
LZH LR LR
comp=Z,160nm,10.7s
BJT **Baijiatuan** 41.80 355 *e*P **P** **10 43 26.6 +0.4**
comp=Z,24nm,0.6s
BJI **Beijing** 41.82 355 P P 10 43 29.3 +3.0
BJI S **S** **10 49 41.3 -0.9**
BJI pmax pmax
comp=Z,34nm,0.8s
BJI LR LR
comp=N,170nm,21.6s
BJI LR LR
comp=E,120nm,20.1s
LSA **Lhasa** 42.08 320 P **P** **10 43 28.9 -0.3**
LSA **Lhasa** 42.08 320 *e*P **P** **10 43 28.3 -0.9**
LSA pmax pmax
comp=Z,15nm,0.6s
LSA **Lhasa** 42.08 320 *e*P **P** **10 43 28.3 -0.9**
comp=Z,15nm,0.6s
TOO **Toolangi** 42.35 150 *e*P **P** **10 43 32.2 +1.4**
comp=Z,60nm,0.8s
CAN **Canberra** 42.56 145 *e*P **P** **10 43 34.2 +1.7**
CAN pmax pmax
comp=Z,53nm,1.3s
CAN **Canberra** 42.56 145 *e*P **P** **10 43 34.2 +1.7**
comp=Z,53nm,1.3s
CAN **Canberra** 42.56 145 *e*P **P** **10 43 33.8 +1.3**
comp=Z,21nm,0.8s
ODAN **Odare** 42.83 314 *e*P **P** **10 43 33.6 -1.4**
comp=Z,46nm,0.9s
ODAN **Odare** 42.83 314 *e*P **P** **10 43 33.6 -1.4**
comp=Z,46nm,0.9s
TAPN **Taplejung** 42.89 315 *e*P **P** **10 43 34.7 -0.9**
comp=Z,27nm,0.5s
TAPN **Taplejung** 42.89 315 *e*P **P** **10 43 34.7 -0.9**
comp=Z,27nm,0.5s
RAMN **Ramite** 43.45 314 *e*P **P** **10 43 38.9 -1.2**
comp=Z,64nm,1.0s
RAMN **Ramite** 43.45 314 *e*P **P** **10 43 38.9 -1.2**
comp=Z,64nm,1.0s
SNY **Shenyang** 43.50 3 ⇑P **P** **10 43 39.8 -0.1**
SNY pmax pmax
comp=Z,16nm,1.3s
SNY pmax pmax
comp=Z,150nm,5.1s
SNY LR LR
comp=N,120nm,6.7s
SNY LR LR
comp=E,170nm,3.8s
SNY LR LR
comp=Z,190nm,18.6s
JIRN **Jiri** 44.16 314 *e*P **P** **10 43 44.6 -1.3**
comp=Z,7.1nm,0.6s
JIRN **Jiri** 44.16 314 *e*P **P** **10 43 44.6 -1.3**
comp=Z,7.1nm,0.6s
GUN **Gumba** 44.53 314 *e*P **P** **10 43 47.8 -1.1**
comp=Z,68nm,0.8s
GUN **Gumba** 44.53 314 *e*P **P** **10 43 47.8 -1.1**
comp=Z,68nm,0.8s
PKI **Pulchoki** 44.67 313 *e*P **P** **10 43 48.1 -1.9**
PKI **Pulchoki** 44.67 313 *e*P **P** **10 43 48.1 -1.9**
PKI **Pulchoki** 44.67 313 *e*P **P** **10 43 48.1 -1.9**
KKN **Kakani** 44.89 314 *e*P **P** **10 43 50.5 -1.1**
KKN **Kakani** 44.89 314 *e*P **P** **10 43 50.5 -1.1**
KKN **Kakani** 44.89 314 *e*P **P** **10 43 50.5 -1.1**
DMN **Daman** 44.91 313 *e*P **P** **10 43 50.1 -1.7**
comp=Z,22nm,0.6s
DMN **Daman** 44.91 313 *e*P **P** **10 43 50.1 -1.7**
comp=Z,22nm,0.6s
GTA **Gaotai** 45.21 337 *e*P **P** **10 43 55.5 +1.6**
GTA pP pP 10 44 04.8 +2.1
GTA sP sP 10 44 09.1 +2.9
GTA S **S** **10 50 34.4 +2.3**
GTA sS sS 10 50 49.3 +2.6
GTA SS **ScS** **10 53 49.1 +0.1**
GTA pmax pmax
comp=Z,15nm,1.0s
GTA pmax pmax
comp=Z,110nm,4.5s
GTA LR LR
comp=N,79nm,14.3s
GTA LR LR
comp=E,140nm,18.8s
GTA LR LR
comp=Z,130nm,15.9s
GKN **Gorkha** 45.48 313 *e*P **P** **10 43 54.7 -1.5**
comp=Z,26nm,0.5s
GKN **Gorkha** 45.48 313 *e*P **P** **10 43 54.7 -1.5**
comp=Z,26nm,0.5s
HYB **Hyderabad** 45.59 297 *i* P **P** **10 43 57.5 +0.4**
CN2 **Changchun** 45.60 5 *e*P P 10 44 01.4 +4.8
CN2 *e*sP sP 10 44 16.3 +7.3
CN2 *e*S **S** **10 50 42.1 +4.8**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,14.0s
CN2 LR LR
comp=E,300nm,14.0s
CN2 LR LR
comp=Z,500nm,15.0s
KOLN **Koldanda** 46.11 312 *e*P **P** **10 43 59.5 -1.8**
comp=Z,20nm,0.5s
KOLN **Koldanda** 46.11 312 *e*P **P** **10 43 59.5 -1.8**
comp=Z,20nm,0.5s
DANN **Dangsing** 46.31 313 *e*P **P** **10 44 01.7 -1.3**
comp=Z,47nm,0.6s
DANN **Dangsing** 46.31 313 *e*P **P** **10 44 01.7 -1.3**
comp=Z,47nm,0.6s
PYUN **Piuthan** 46.74 312 *e*P **P** **10 44 04.5 -1.7**
comp=Z,137nm,1.0s
PYUN **Piuthan** 46.74 312 *e*P **P** **10 44 04.5 -1.7**
comp=Z,137nm,1.0s
MDJ **Mudanjiang** 46.90 9 P **P** **10 44 06.3 -0.6**
MDJ pmax pmax
comp=Z,15nm,1.6s
MDJ pmax pmax
comp=Z,78nm,4.3s
MDJ **Mudanjiang** 46.90 9 *e*P **P** **10 44 07.2 +0.3**
comp=Z,20nm,1.1s
USRK **Ussuriysk Arra** 46.91 11 P **P** **10 44 05.2 -1.8**
comp=Z,1.5nm,0.5s,baz=192,slow=6.1,SNR=6.3
ASAJ **Asahikawa** 49.77 21 P **P** **10 44 28.0 -1.1**
ASAJ **Asahikawa** 49.77 21 P **P** **10 44 28.0 -1.1**
comp=Z,5.2nm,0.5s,baz=93,slow=29,SNR=2.9
ULN **Ulaanbaatar** 50.84 348 *e*P **P** **10 44 37.0 -0.3**
SONM **Songino Array** 50.95 348 P **P** **10 44 36.5 -1.6**
SONM **Songino Array** 50.95 348 P **P** **10 44 36.5 -1.6**
comp=Z,3.0nm,0.8s,baz=166,slow=8.2,SNR=16
WMQ **Urumqi** 54.11 331 P **P** **10 45 03.3 +1.8**
WMQ pP pP 10 45 13.3 +2.8
WMQ sP sP 10 45 17.3 +3.3
WMQ PcP **PcP** **10 46 09.0 +3.0**
WMQ PP **PP** **10 47 06.0 +2.7**
WMQ *e*S **S** **10 52 35.0 -1.3**
WMQ pmax pmax
comp=Z,10.0nm,1.2s
WMQ pmax pmax
comp=Z,160nm,5.3s
WMQ LR LR
comp=N,410nm,21.8s
WMQ LR LR
comp=E,630nm,20.5s
WMQ LR LR
comp=Z,690nm,22.5s
TLY **Talaya** 55.17 347 *e*P **P** **10 45 08.2 -0.8**
TLY pmax pmax
comp=Z,9.0nm,1.4s
TLY MLR MLR
comp=Z,84nm,17.0s
TLY **Talaya** 55.17 347 *e*P **P** **10 45 09.0 0.0**
comp=Z,3.5nm,0.7s
MOY **Mondy** 55.79 345 *e*P **P** **10 45 14.5 +1.0**
KSH **Kashi** 57.93 320 P **P** **10 45 28.4 -0.6**
KSH pP **pP** **10 45 38.3 +0.2**
KSH sP sP 10 45 42.5 +1.0
KSH PcP **PcP** **10 46 19.9 -1.2**
KSH PP **PP** **10 47 38.3 +0.6**
KSH ScP **ScP** **10 50 17.0 -2.4**
KSH PcS **PcS** **10 50 19.9 -2.6**
KSH S **S** **10 53 24.3 -3.2**
KSH sS sS 10 53 42.3 -0.1
KSH ScS ScS 10 55 11.5 -5.4
KSH SS **SS** **10 57 17.3 -1.6**
KSH pmax pmax
comp=Z,12nm,1.3s
KSH pmax pmax
comp=Z,67nm,5.1s
KSH LR LR
comp=N,150nm,5.4s
KSH LR LR
comp=E,150nm,6.6s
KSH LR LR
comp=Z,280nm,6.4s
MSVF **Nonsavu** 58.57 110 *e*P **P** **10 45 36.0 +2.2**
MSVF pmax pmax
comp=Z,11nm,0.8s
MSVF **Nonsavu** 58.57 110 *e*P **P** **10 45 36.0 +2.2**
comp=Z,11nm,0.8s
MK31 **Makanchi Array** 58.90 330 *i* P **P** **10 45 34.2 -1.3**
MK31 pmax pmax
comp=Z,8.0nm,0.7s
MKAR **Makanchi Array** 58.90 330 P **P** **10 45 33.9 -1.6**
MKAR **Makanchi Array** 58.90 330 P **P** **10 45 33.9 -1.6**
MKAR **Makanchi Array** 58.90 330 P **P** **10 45 33.9 -1.6**
comp=Z,4.9nm,0.9s,baz=132,slow=8.3,SNR=23
BOD **Bodaibo** 59.65 356 *e*P **P** **10 45 37.9 -2.5**
BOD pmax pmax
comp=Z,10.0nm,1.3s
TKM2 **Tokmak 2** 60.10 323 *e*P **P** **10 45 45.6 +1.5**
TKM2 pmax pmax
comp=Z,35nm,1.4s
TKM2 **Tokmak 2** 60.10 323 *e*P **P** **10 45 45.6 +1.5**
comp=Z,35nm,1.4s
AAK **Ala-Archa** 60.61 322 *ce*P **P** **10 45 47.1 -0.4**
AAK pmax pmax
comp=Z,41nm,1.7s
AAK **Ala-Archa** 60.61 322 *e*P **P** **10 45 46.7 -0.8**
comp=Z,51nm,0.8s
AAK **Ala-Archa** 60.61 322 P **P** **10 45 46.5 -1.0**
comp=Z,79nm,0.9s,SNR=6.0
EKS2 **Erkin-Say** 61.06 322 *e*P **P** **10 45 49.6 -0.9**
EKS2 pmax pmax
comp=Z,22nm,1.3s
EKS2 **Erkin-Say** 61.06 322 *e*P **P** **10 45 49.6 -0.9**
comp=Z,22nm,1.3s
ZALV **Zalesovo Beam** 62.97 337 P **P** **10 46 00.1 -2.9**
ZALV **Zalesovo Beam** 62.97 337 P **P** **10 46 00.1 -2.9**
ZALV **Zalesovo Beam** 62.97 337 P **P** **10 46 00.1 -2.9**
comp=Z,7.0nm,0.7s,baz=123,slow=5.5,SNR=14
KK31 **Karatay Array** 63.33 321 *i* P P 10 46 09.5 +3.9
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KURK **Kurchatov** 63.34 332 *ce*P **P** **10 46 03.4 -2.1**
KURK pmax pmax
comp=Z,33nm,1.8s
KURK **Kurchatov** 63.34 332 *e*P **P** **10 46 03.4 -2.1**
comp=Z,20nm,0.9s
KURK **Kurchatov** 63.34 332 P **P** **10 46 03.9 -1.6**
comp=Z,132nm,0.8s,SNR=11
YAK **Yakutsk** 64.03 5 *e*P **P** **10 46 09.1 -0.7**
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,11nm,0.9s
NVS **Novosibirsk** 64.25 337 *e*P P 10 46 05.7 -5.7
NVS pmax pmax
comp=Z,23nm,1.6s
NVS pmax pmax
comp=N,12nm,1.7s
NVS pmax pmax
comp=E,10.0nm,1.5s
DRV **Dumont d'Urvil** 66.18 172 PP PP 10 48 46.0 -3.6
DRV **Dumont d'Urvil** 66.18 172 SS SS 10 59 26.0 -0.5
DRV L L 11 03 00.0
DRV R 11 07 00.0
BVA0 **Borovoye Array** 68.78 330 *i* P **P** **10 46 42.0 +1.6**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s
SEY **Seymchan** 68.84 15 *e*P **P** **10 46 40.3 -0.3**
BRVK **Borovoye** 68.85 330 *e*P **P** **10 46 40.9 0.0**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK **Borovoye** 68.85 330 *e*P **P** **10 46 40.9 0.0**
comp=Z,16nm,1.1s
FX1 **Attu Island--F** 69.92 31 P P 10 46 44.7 -2.8
FX1 **Attu Island--F** 69.92 31 P P 10 46 44.7 -2.8
comp=Z,5.9nm,0.6s,baz=47,slow=17,SNR=3.4
AB31 **Akbulak array** 72.67 323 *i* P **P** **10 47 04.8 +0.6**
SVE **Sverdlovsk** 75.56 331⇑ *e*P **P** **10 47 23.7 +2.8**
SVE pmax pmax
comp=Z,18nm,1.1s
ARU **Arti** 76.42 330 P **P** **10 47 25.1 -0.7**
ARU **Arti** 76.42 330 *e*P **P** **10 47 27.0 +1.3**
comp=Z,15nm,1.0s
VNDA **Vanda** 78.83 172 LR LR 11 22 03.2
comp=Z,159nm,18.4s,baz=48,slow=35
ZEI **Tsey** 81.45 314 *e*P **P** **10 47 56.1 +2.1**
ZEI pmax pmax
comp=Z,20nm,1.3s
VRHR **Novokhopersk** 84.44 322 *e*P **P** **10 48 07.9 -1.1**
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=N,2.0nm,0.4s
SYO **Syowa Base** 85.10 201⇑ *e*P **P** **10 48 10.8 -1.1**
SYO **Syowa Base** 85.10 201⇑ *e*PP PP 10 51 30.8 +1.6
VSR **Storozhevoye** 85.99 321 *e*P **P** **10 48 15.9 -0.8**
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s

OBN	**Obninsk**	88.01	325	⇓	*e*P		**P**	10 48 26.8	+0.4
OBN					*e*		**PP**	10 51 51.9	-1.2
OBN					*e*S		**SKSac**	10 58 50.5	-2.3
OBN					pmax		pmax		
	comp=Z,9.0nm,1.2s								
OBN					MLR		MLR		
	comp=Z,100nm,20.0s								
BRTR	**Keskin Array B**	88.76	310		P		**P**	10 48 30.3	-0.3
BRTR	**Keskin Array B**	88.76	310		P		**P**	10 48 30.3	-0.3
	comp=Z,2.3nm,0.9s,baz=107,slow=4.3,SNR=7.2								
BRTR					LR		LR	11 35 39.1	
	comp=Z,27nm,18.4s,baz=96,slow=41								
BOSA	**Boshof**	93.82	241		LR		LR	11 25 11.9	
	comp=Z,159nm,20.6s,baz=162,slow=32								
A13A	**Flathead Natio**	113.67	36	⇑	P		**PKiKP**	10 54 14.6	-0.5
	baz=114								
B13A	**Whitefish**	113.89	37	⇑	P		**PKiKP**	10 54 15.0	-0.5
	baz=114								
B15A	**Bradely Ranch,**	115.05	36	⇑	P		**PKPdf**	10 54 16.8	-1.0
	baz=115								
NVAR	**Mina Array Bea**	115.15	48		PKP		**PKPdf**	10 54 17.9	-0.4
NVAR	**Mina Array Bea**	115.15	48		PKP		**PKPdf**	10 54 18.0	-0.4
	comp=Z,0.7nm,0.7s,baz=262,slow=1.8,SNR=3.4								
A17A	**Triple J Farms**	115.83	35	⇓	P		**PKPdf**	10 54 18.4	-0.7
	baz=116								
HLID	**Hailey**	115.99	41	⇓	P		**PKPdf**	10 54 19.3	-0.5
	baz=116								
I13A	**Wildhorse Cree**	116.04	41	⇓	P		**PKPdf**	10 54 19.5	-0.5
	baz=116								
J13A	**Cove Ranch, Pi**	116.22	42	⇑	P		**PKPdf**	10 54 20.4	+0.2
	baz=116								
A18A	**Metzger Ranch,**	116.32	35	⇑	P		**PKPdf**	10 54 19.4	-0.7
	baz=116								
MPMC	**Manual Prospec**	116.53	50	⇑	P		**PKPdf**	10 54 20.5	-0.5
	baz=116								
EGMT	**Eagleton**	116.83	35	⇑	P		**PKPdf**	10 54 20.6	-0.5
	baz=117								
C19A	**Slack Wire Ran**	117.39	35	⇑	P		**PKPdf**	10 54 21.8	-0.5
	baz=117								
B20A	**Solberg Farm,**	117.61	34	⇑	P		**PKPdf**	10 54 21.2	-1.4
	baz=118								
PFO	**Pinyon Flat Ob**	118.11	53	⇑	P		**PKPdf**	10 54 24.2	+0.1
	baz=118								
BELC	**Belle Mtn. Jos**	118.34	52	⇓	P		**PKPdf**	10 54 24.3	-0.2
	baz=118								
MONP	**Monument Peak**	118.36	53	⇑	P		**PKPdf**	10 54 23.8	-0.9
	baz=118								
GMRC	**Granite Mounta**	118.36	51	⇑	P		**PKPdf**	10 54 24.8	+0.2
	baz=118								
DUG	**Dugway**	118.47	44	⇓	P		**PKPdf**	10 54 24.0	-0.6
	baz=118								
TORD	**Torodi Ar. Bea**	118.50	284		PKP		**PKPdf**	10 54 24.0	-1.2
TORD	**Torodi Ar. Bea**	118.50	284		PKP		**PKPdf**	10 54 24.0	-1.2
	comp=Z,0.7nm,0.7s,baz=107,slow=1.9,SNR=5.2								
J17A	**Brown Place, J**	118.50	40	⇑	P		**PKPdf**	10 54 24.4	-0.2
	baz=118								
J18A	**Kendall Valley**	119.02	40	⇓	P		**PKPdf**	10 54 25.4	-0.4
	baz=119								
N16A	**Rees Ranch, Co**	119.12	43	⇓	P		**PKPdf**	10 54 24.9	-1.0
	baz=119								
C22A	**Vida**	119.19	34	⇑	P		**PKPdf**	10 54 25.4	-0.3
	baz=119								
K18A	**Toltan Ranch,**	119.27	41	⇓	P		**PKPdf**	10 54 26.1	-0.1
	baz=119								
D22A	**Cohagen**	119.35	35	⇑	P		**PKPdf**	10 54 25.8	-0.2
	baz=119								
PDAR	**Pinedale Array**	119.53	41		PKP		**PKPdf**	10 54 25.1	-1.6
PDAR					PKKPbc		**PKKPbc**	11 04 39.6	+0.3
PDAR	**Pinedale Array**	119.53	41		PKP		**PKPdf**	10 54 25.1	-1.6
	comp=Z,0.7nm,0.9s,baz=96,slow=3.0,SNR=4.5								
PDAR					PKKPbc		**PKKPbc**	11 04 39.6	+0.3
	comp=Z,1.6nm,0.9s,baz=120,slow=5.6,SNR=11								
A24A	**Westby**	119.53	32	⇑	P		**PKPdf**	10 54 25.8	-0.5
	baz=119								
L18A	**Fontenelle, Gr**	119.61	42	⇓	P		**PKPdf**	10 54 26.6	-0.2
	baz=120								
W13A	**Hualapai Mount**	119.62	50	⇓	P		**PKPdf**	10 54 27.0	-0.1
	baz=120								
M18A	**Lyman**	119.81	42	⇑	P		**PKPdf**	10 54 26.5	-0.8
	baz=120								
I20A	**Worland**	119.86	39	⇓	P		**PKPdf**	10 54 26.7	-0.5
	baz=120								
E22A	**Miles City**	119.87	35	⇑	P		**PKPdf**	10 54 26.7	-0.3
	baz=120								
O17A	**Robinson Place**	119.91	44	⇓	P		**PKPdf**	10 54 27.3	-0.2
	baz=120								
K19A	**Absolon Red Bu**	119.96	40	⇓	P		**PKPdf**	10 54 26.5	-1.0
	baz=120								
J20A	**Shoshoni**	120.19	39	⇑	P		**PKPdf**	10 54 27.1	-0.8
	baz=120								
E23A	**Ismay**	120.21	35	⇓	P		**PKPdf**	10 54 27.3	-0.4
	baz=120								
U15A	**North Rim**	120.33	48	⇑	P		**PKPdf**	10 54 28.5	0.0
	baz=120								
S16A	**Weppner Ranch,**	120.34	47	⇓	P		**PKPdf**	10 54 27.8	-0.6
	baz=120								
O18A	**Roosevelt**	120.38	43	⇑	P		**PKPdf**	10 54 28.7	+0.4
	baz=120								
SRU	**San Rafael**	120.52	45	⇓	P		**PKPdf**	10 54 28.3	-0.3
	baz=120								
F23A	**Volborg**	120.58	36	⇑	P		**PKPdf**	10 54 27.7	-0.7
	baz=120								
J21A	**Lysite**	120.60	39	⇑	P		**PKPdf**	10 54 28.1	-0.6
	baz=120								
L20A	**Wamsutter**	120.68	41	⇑	P		**PKPdf**	10 54 28.5	-0.5
	baz=121								
R17A	**Hanksville Air**	120.69	45	⇑	P		**PKPdf**	10 54 27.9	-1.0
	baz=121								
E24A	**Baker**	120.74	35	⇓	P		**PKPdf**	10 54 28.3	-0.4
	baz=121								
Q18A	**Rafter H Ranch**	120.80	45	⇓	P		**PKPdf**	10 54 28.4	-0.7
	baz=121								
G23A	**Biddle**	120.88	36	⇓	P		**PKPdf**	10 54 28.3	-0.7
	baz=121								
K21A	**Alcova**	121.08	40	⇑	P		**PKPdf**	10 54 29.3	-0.4
	baz=121								
J22A	**Midwest**	121.17	39	⇓	P		**PKPdf**	10 54 28.3	-1.5
	baz=121								
T17A	**Navajo Res., N**	121.21	47	⇓	P		**PKPdf**	10 54 29.4	-0.6
	baz=121								
R18A	**Canyonlands Na**	121.28	45	⇑	P		**PKPdf**	10 54 29.6	-0.6
	baz=121								
N20A	**Spence Gulch,**	121.30	42	⇓	P		**PKPdf**	10 54 29.9	-0.3
	baz=121								
WUAZ	**Wupatki**	121.37	49	⇓	P		**PKPdf**	10 54 29.7	-0.7
	baz=121								
Q19A	**Hogan Spring (**	121.47	44	⇓	P		**PKPdf**	10 54 30.2	-0.2
	baz=121								
M21A	**Separation Pea**	121.52	41	⇓	P		**PKPdf**	10 54 29.7	-0.9
	baz=121								
K22A	**Casper**	121.53	39	⇓	P		**PKPdf**	10 54 29.6	-0.9
	baz=121								
H24A	**Dirks Ranch, A**	121.62	36	⇓	P		**PKPdf**	10 54 28.9	-1.6
	baz=122								
O20A	**White River Ci**	121.64	43	⇓	P		**PKPdf**	10 54 30.7	-0.1
	baz=122								
X16A	**Lo Mia Camp, P**	121.74	50	⇑	P		**PKPdf**	10 54 31.0	-0.1
	baz=122								
N21A	**Black Mountain**	121.83	42	⇓	P		**PKPdf**	10 54 30.9	-0.3
	baz=122								
T18A	**Mexican Hat**	121.83	46	⇑	P		**PKPdf**	10 54 30.8	-0.3
	baz=122								
P20A	**De Beque**	121.83	43	⇓	P		**PKPdf**	10 54 30.5	-0.7
	baz=122								
S19A	**Harvey Farm, M**	122.09	46	⇑	P		**PKPdf**	10 54 30.7	-1.0
	baz=122								
PV01	**Paradox Valley**	122.33	45		*e*PKPdf		**PKPdf**	10 54 32.2	-0.1
N22A	**Wattenberg Ran**	122.51	41	⇑	P		**PKPdf**	10 54 32.0	-0.5
	baz=122								
T19A	**Beclabito**	122.57	46	⇓	P		**PKPdf**	10 54 32.2	-0.4
	baz=122								
S20A	**Disappointment**	122.61	45	⇓	P		**PKPdf**	10 54 32.4	-0.5
	baz=122								
ULM	**Lac du Bonnet**	122.68	27		PKP		**PKPdf**	10 54 31.1	-1.1
ULM	**Lac du Bonnet**	122.68	27		PKP		**PKPdf**	10 54 31.1	-1.1
	comp=Z,0.9nm,0.5s,baz=132,slow=4.3,SNR=2.5								
R21A	**Cimarron**	122.94	44	⇑	P		**PKPdf**	10 54 32.6	-0.8
	baz=123								
S21A	**Coal Bank Pass**	123.09	45	⇓	P		**PKPdf**	10 54 34.1	+0.3
	baz=123								
O23A	**Lake Granby, G**	123.16	42	⇓	P		**PKPdf**	10 54 33.5	-0.3
	baz=123								
W20A	**Ramah**	123.68	48	⇑	P		**PKPdf**	10 54 34.7	-0.2
	baz=124								
U21A	**Nageezi**	123.74	46	⇓	P		**PKPdf**	10 54 35.2	+0.3
	baz=124								
R23A	**Moffat**	124.21	44	⇓	P		**PKPdf**	10 54 36.1	+0.2
	baz=124								
Y20A	**Horse Springs,**	124.28	49	⇑	P		**PKPdf**	10 54 35.7	-0.4
	baz=124								
W21A	**San Fidel**	124.31	48	⇓	P		**PKPdf**	10 54 36.5	+0.4
	baz=124								
U22A	**Llaves**	124.34	46	⇑	P		**PKPdf**	10 54 36.1	0.0
	baz=124								
Z20A	**Nine Sixteen R**	124.43	50	⇓	P		**PKPdf**	10 54 35.9	-0.4
	baz=124								
X21A	**Alamocita Cree**	124.50	49	⇑	P		**PKPdf**	10 54 35.9	-0.6
	baz=124								
V22A	**San Miguel Ran**	124.51	47	⇓	P		**PKPdf**	10 54 36.3	-0.2
	baz=124								
SDCO	**Great Sand Dun**	124.65	44	⇓	P		**PKPdf**	10 54 36.6	-0.1
	baz=125								
P25A	**Willow Gulch B**	124.67	41	⇑	P		**PKPdf**	10 54 36.1	-0.6
	baz=125								
Y21A	**Point of Rocks**	124.77	49	⇓	P		**PKPdf**	10 54 37.0	0.0
	baz=125								
Z21A	**St. Cloud Mine**	125.06	50	⇑	P		**PKPdf**	10 54 37.7	+0.1
	baz=125								
V23A	**Ortiz Mt. (NFS**	125.11	46	⇓	P		**PKPdf**	10 54 37.0	-0.6
	baz=125								
320A	**Kipp Ranch, An**	125.17	52	⇓	P		**PKPdf**	10 54 37.4	-0.3
	baz=125								
P26A	**Davis Ranch, A**	125.19	41	⇓	P		**PKPdf**	10 54 37.3	-0.3
	baz=125								
ANMO	**Albuquerque**	125.26	47		*e*PKPdf		**PKPdf**	10 54 36.0	-1.9
121A	**Cookes Peak, D**	125.29	51	⇑	P		**PKPdf**	10 54 38.0	0.0
	baz=125								
S25A	**Robets Cordova**	125.43	44	⇑	P		**PKPdf**	10 54 38.0	-0.2
	baz=125								
Z22A	**Elephant Butte**	125.62	49	⇓	P		**PKPdf**	10 54 38.1	-0.5
	baz=126								
X23A	**Hourglass Bar**	125.63	48	⇓	P		**PKPdf**	10 54 38.4	-0.2
	baz=126								
W24A	**Lazy 6 Ranch,**	125.92	47	⇓	P		**PKPdf**	10 54 38.9	-0.3
	baz=126								
Y23A	**Lovelace Mesa,**	126.01	48	⇓	P		**PKPdf**	10 54 39.3	-0.1
	baz=126								
X24A	**Lazy VL Ranch,**	126.19	47	⇓	P		**PKPdf**	10 54 39.1	-0.6
	baz=126								
V25A	**Rancho No Teng**	126.19	46	⇑	P		**PKPdf**	10 54 39.7	0.0
	baz=126								
R27A	**Eads**	126.22	42	⇓	P		**PKPdf**	10 54 39.5	-0.1
	baz=126								
T26A	**Comanche Natio**	126.26	44	⇑	P		**PKPdf**	10 54 39.0	-0.7
	baz=126								
Y24A	**Capitan**	126.48	48	⇓	P		**PKPdf**	10 54 40.1	-0.1
	baz=126								
W25A	**X Bar L Ranch,**	126.60	46	⇓	P		**PKPdf**	10 54 40.5	+0.2
	baz=126								
SCHQ	**Schefferville**	126.78	5		PKP		**PKPdf**	10 54 38.9	-1.1
SCHQ	**Schefferville**	126.78	5		PKP		**PKPdf**	10 54 38.9	-1.1
	comp=Z,2.8nm,0.9s,baz=297,slow=16,SNR=3.2								
Y25A	**Mesa, Roswell**	127.03	48	⇑	P		**PKPdf**	10 54 40.9	-0.4
	baz=127								
X26A	**CR and CF Fran**	127.39	47	⇓	P		**PKPdf**	10 54 42.0	+0.1
	baz=127								
MNTX	**Cornudas Mount**	127.49	51	⇓	P		**PKPdf**	10 54 42.1	+0.1
	baz=127								
324A	**Moseley Ranch,**	127.52	51	⇑	P		**PKPdf**	10 54 42.3	0.0
	baz=127								
125A	**Gardner Draw,**	127.62	49	⇑	P		**PKPdf**	10 54 42.3	-0.1
	baz=128								
Z26A	**Caprock**	127.86	48	⇑	P		**PKPdf**	10 54 42.7	-0.1
	baz=128								
325A	**Bean Ranch, Si**	127.94	51	⇓	P		**PKPdf**	10 54 43.3	+0.2
	baz=128								
425A	**Indio Mountain**	128.18	51	⇑	P		**PKPdf**	10 54 43.1	-0.4
	baz=128								
Z27A	**Tatum**	128.40	48	⇓	P		**PKPdf**	10 54 44.0	+0.1
	baz=128								
MSTX	**Muleshoe**	128.42	47	⇓	P		**PKPdf**	10 54 43.9	0.0
	baz=128								
527A	**Woodward Ranch**	129.52	51	⇑	P		**PKPdf**	10 54 45.6	-0.5
	baz=130								
Z29A	**Hungry Hill Ra**	129.54	47	⇓	P		**PKPdf**	10 54 45.8	-0.2
	baz=130								
328A	**Wristen Ranch,**	129.60	50	⇓	P		**PKPdf**	10 54 45.9	-0.2
	baz=130								
TXAR	**Lajitas Array**	129.82	52		PKP		**PKPdf**	10 54 46.4	-0.2
TXAR					SKPbc		SKPbc	10 58 08.9	+1.8
TXAR	**Lajitas Array**	129.82	52		PKP		**PKPdf**	10 54 46.4	-0.2
	comp=Z,0.6nm,0.7s,baz=269,slow=0.9,SNR=7.8								
TXAR					SKPbc		SKPbc	10 58 08.9	+1.8
	comp=Z,0.7nm,1.0s,baz=349,slow=1.3,SNR=4.2								
428A	**Kincaid Ranch,**	129.99	50	⇓	P		**PKPdf**	10 54 47.8	+0.9
	baz=130								
627A	**Terlingua Ranc**	130.00	52	⇓	P		**PKPdf**	10 54 46.9	0.0
	baz=130								
529A	**Stev Forest Ra**	130.62	51	⇑	P		**PKPdf**	10 54 47.8	-0.2
	baz=130								
429A	**Davenport Ranc**	130.64	50	⇓	P		**PKPdf**	10 54 47.8	-0.4
	baz=131								
430A	**Baggett Ranch,**	131.07	50	⇑	P		**PKPdf**	10 54 48.8	-0.2
	baz=131								
JCT	**Junction City**	132.30	49		*e*PKIKP		**PKPdf**	10 54 51.9	+0.7
JCT	**Junction City**	132.30	49		*e*PKPdf		**PKPdf**	10 54 51.9	+0.7
JCT	**Junction City**	132.30	49	⇓	P		**PKPdf**	10 54 51.4	+0.2
	baz=132								
LCO	**Las Campanas**	147.53	161		*e*PKPdf		**PKPdf**	10 55 19.3	+0.3
LCO					*e*PKPbc		**PKPbc**	10 55 21.6	0.0
LCO					*e*PKPab		**PKPab**	10 55 23.2	-0.4
CPUP	**Villa Florida**	151.97	184		PKPbc		**PKPbc**	10 55 32.4	+0.1
CPUP	**Villa Florida**	151.97	184		PKPbc		**PKPbc**	10 55 32.4	+0.1
	comp=Z,2.4nm,0.6s,baz=172,slow=1.4,SNR=11								
BDFB	**Brasilia**	159.33	213		PKPab		**PKPab**	10 56 13.7	+0.5
BDFB	**Brasilia**	159.33	213		PKPab		**PKPab**	10 56 13.7	+0.5
	comp=Z,6.6nm,0.8s,baz=136,slow=6.1,SNR=7.2								
LPAZ	**La Paz**	160.09	155		PKP		**PKPdf**	10 55 36.0	-1.5
LPAZ					PKPab		**PKPab**	10 56 18.5	+1.4
LPAZ	**La Paz**	160.09	155		PKP		**PKPdf**	10 55 36.0	-1.5
	comp=Z,1.0nm,0.9s,baz=175,slow=1.4,SNR=3.6								
LPAZ					PKPab		**PKPab**	10 56 18.5	+1.4
	comp=Z,1.0nm,0.7s,baz=124,slow=9.7,SNR=2.6								

*ISCJB **24** 10:36:27.5±0.4, 22°.44N±0°.02×121°.30E±0°.03, h20km±4km,*
Error ellipse: s-maj=4.2km s-min=3.3km az=171.1
*TAP **24** 10:36:28.4, 22°.46N×121°.20E, h26km, ML3.5, B*
*JMA **24** 10:36:29.6±0.2, 22°.39N×121°.42E, h90km, M2.8*

ISC 24 10:36:27.6±1.0, 22°.40N±0°.03×121°.25E±0°.03, h22km±6km,
n51, σ1°14/85, 8C-5D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TAW	**Tawu**	**0.33**	**263**	⇓	*i*P		**Pb**	**10 36 35.3**	**+0.5**
	baz=258								
TAW					*i*S		**Sb**	**10 36 40.0**	**+0.2**
	baz=258								
ECL	**Taimali**	**0.34**	**305**	⇑	*i*P		**Pb**	**10 36 34.7**	**-0.2**
	baz=301								
TTN	**Taitung**	**0.36**	**345**		*e*P		**Pb**	**10 36 36.1**	**+0.7**
	baz=340								
EAST	**Anshuo**	**0.37**	**267**	⇓	*i*P		**Pb**	**10 36 35.9**	**+0.3**
	baz=256								
EAST					S		**Sb**	**10 36 40.9**	**0.0**
	baz=256								
TWG	**Pinlang**	**0.45**	**338**	⇑	*i*P		**Pb**	**10 36 36.3**	**-0.6**
	baz=332								
TWG					S		**Sb**	**10 36 41.7**	**-1.4**
	baz=332								
LAY	**Lan-yu**	**0.46**	**142**	⇑	*i*P		**Pn**	**10 36 38.4**	**-0.5**
	baz=143								
LAY					*e*S		**Sn**	**10 36 46.0**	**-0.3**
	baz=143								
SCZT	**Fangliau**	**0.58**	**267**	⇓	*i*P		**Pb**	**10 36 39.2**	**0.0**
	baz=263								
SCZT					S		**Sb**	**10 36 46.6**	**-0.5**
	baz=263								
TSEB	**Hengchuen, Pin**	**0.59**	**213**		*e*P		**Pn**	**10 36 40.5**	**-0.2**
	baz=202								
TSEB					*e*S		**Sn**	**10 36 49.4**	**-0.4**
	baz=202								
TWK1	**Hengchun**	**0.61**	**222**	⇓	*i*P		**Pn**	**10 36 40.2**	**-0.8**
	baz=207								
TWK1					S		**Sn**	**10 36 48.9**	**-1.3**
	baz=207								
HEN	**Hengchun**	**0.62**	**230**	⇓	P		**Pn**	**10 36 40.5**	**-0.5**
	baz=224								
HEN					S		**Sn**	**10 36 48.8**	**-1.4**
	baz=224								
SSD	**Sandimen**	**0.67**	**301**	⇑	*i*P		**Pn**	**10 36 39.9**	**-1.9**
	baz=298								
SSD					S		**Sb**	**10 36 47.4**	**-2.0**
	baz=298								
CHKT	**Chengkung**	**0.70**	**9**		P		**Pn**	**10 36 40.7**	**-1.5**
	baz=12								
CHKT					S		**Sn**	**10 36 49.7**	**-2.7**
	baz=12								
SGLT	**Jiouru**	**0.77**	**295**		*e*P		**Pn**	**10 36 41.3**	**-1.8**
	baz=292								
SGLT					*e*S		**Sn**	**10 36 52.5**	**-1.6**
	baz=292								
ELDTW	**Lidau**	**0.81**	**345**	⇑	*i*P		**Pn**	**10 36 41.5**	**-2.3**
	baz=356								
TWP	**Hsiaoliuchiu**	**0.82**	**266**		*e*P		**Pb**	**10 36 45.9**	**+2.7**
	baz=249								
TWM1	**Shoushan**	**0.87**	**299**		*e*P		**Pb**	**10 36 44.9**	**+0.8**
	baz=297								
KAU	**Kaohsiung**	**0.89**	**281**		*e*P		**Pb**	**10 36 44.8**	**+0.5**
	baz=277								
SGST	**Jiashian**	**0.92**	**318**		*e*P		**Pn**	**10 36 44.9**	**-0.3**
	baz=317								
SGST					*e*S		**Sn**	**10 36 56.2**	**-1.5**
	baz=317								
TWF1	**Yuli**	**0.95**	**3**		*e*P		**Pn**	**10 36 43.2**	**-2.5**
	baz=357								
CHN1	**Nanshi**	**1.03**	**320**	⇑	*i*P		**Pb**	**10 36 47.2**	**+0.5**
	baz=329								
CHN1					*e*S		**Sn**	**10 36 59.6**	**-0.8**
	baz=329								
WTP	**Ta-pu**	**1.03**	**325**	⇑	*i*P		**Pn**	**10 36 46.8**	**+0.1**
	baz=335								
WTP					*e*S		**Sn**	**10 36 59.6**	**-0.9**
	baz=335								
CHN3	**Shinhua**	**1.06**	**310**		*e*P		**Pb**	**10 36 47.6**	**+0.4**
	baz=308								
CHN3					*e*S		**Sb**	**10 37 04.5**	**+3.8**
	baz=308								
EHY	**Hungye**	**1.10**	**3**		*e*P		**Pn**	**10 36 45.4**	**-2.3**
	baz=5.0								
TWK	**Hsinying**	**1.11**	**321**		*e*P		**Pn**	**10 36 48.2**	**+0.3**
	baz=321								
TWK					*e*S		**Sn**	**10 37 02.3**	**-0.3**
	baz=321								
YUS	**Yu-Shan**	**1.12**	**346**		P		**Pn**	**10 36 47.0**	**-1.4**
	baz=351								
YUS					*e*S		**Sn**	**10 37 01.8**	**-1.5**
	baz=351								
CHN4	**Tsaushan**	**1.12**	**327**		P		**Pn**	**10 36 48.3**	**+0.3**
	baz=336								
CHN4					*e*S		**Sn**	**10 37 02.9**	**+0.1**
	baz=336								
TAI1	**Yung-k'ang**	**1.14**	**304**		*e*P		**Pn**	**10 36 48.2**	**0.0**
	baz=303								
ALS	**Alishan**	**1.18**	**340**	⇑	*i*P		**Pn**	**10 36 48.6**	**-0.4**
	baz=348								
ALS					*e*S		**Sn**	**10 37 04.1**	**-0.5**
	baz=348								
CHN5	**Tsauling**	**1.30**	**336**		*e*P		**Pn**	**10 36 50.8**	**+0.2**
	baz=344								
CHN5					*e*S		**Sb**	**10 37 08.3**	**+0.6**
	baz=344								
CHY	**Chiayi**	**1.33**	**325**		*e*P		**Pn**	**10 36 50.3**	**-0.6**
	baz=325								
CHY					*e*S		**Sn**	**10 37 08.2**	**+0.3**
	baz=325								
ESL	**Shilin**	**1.42**	**7**		*e*P		**Pn**	**10 36 50.8**	**-1.2**
	baz=8.0								
WGK	**Gukeng**	**1.43**	**334**		*e*P		**Pn**	**10 36 52.9**	**+0.8**
	baz=334								
WGK					*e*S		**Sn**	**10 37 10.1**	**-0.2**
	baz=334								
SMLT	**Sun Moon Lake**	**1.51**	**348**		P		**Pn**	**10 36 54.0**	**+0.6**
	baz=356								
SMLT					*e*S		**Sn**	**10 37 12.6**	**+0.1**
	baz=356								
TYC	**Yuchr**	**1.54**	**346**		P		**Pn**	**10 36 55.0**	**+1.2**
	baz=356								
TYC					*e*S		**Sn**	**10 37 13.2**	**+0.2**
	baz=356								
WNT	**Mingjian**	**1.56**	**341**		*e*P		**Pn**	**10 36 55.0**	**

COV1	Cotopaxi Volc	1.92	115	P	Pn	10 52 05.6	+1.6
ANTI	Antisana	2.01	108	⇓S	Sb	10 52 33.1	-0.8
ANTI	Antisana	2.01	108	⇓P	Pb	10 52 07.8	-1.0
PISA	Pisayambo	2.08	126	⇑P	Pb	10 52 10.4	+0.5
CAYA	Cayambe	2.09	92	⇓P	Pb	10 52 09.6	-0.5
IGUA	Igualata	2.18	139	P	Pb	10 52 11.3	-0.5
BRUN	Tungurahua Vol	2.29	133	P	Pb	10 52 11.8	-1.6
BMAS	Trigal station	2.30	136	⇑P	Pb	10 52 11.7	-1.9
ARRY	Arrayan	2.32	136	P	Pb	10 52 12.0	-1.9

*ISCJB **24** 10:59:47.6±1.3, 31°.57S±0°.03×71°.98W±0°.09, h25km±8km, mb4.2/5, MS3.7/1, Error ellipse: s-maj=12.5km s-min=4.9km az=177.1*
*GUC **24** 10:59:49.9±0.6, 31°.69S×71°.86W, h29km±2km, MD4.0, ML4.0*
*IDC **24** 10:59:54.5±5.0, 31°.53S×71°.68W, h62km±36km, mb4.0/5, mb1 3.9/8, mb1mx3.7/20, mbtmp3.9/8, ML3.5/3, MS3.8/1, Ms1 3.7/1, ms1mx2.8/26, Error ellipse: s-maj=51.2km s-min=25.0km az=106.0*
ISC 24 10:59:46.3±3.4, 31°.59S±0°.04×71°.98W±0°.08, h8km±20km, n23, σ1♀18/30, mb4.4/5, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	Los Chungos	0.50	126	⇓P	Pb	10 59 57.9	+0.5
CHNG				*i* S	Sb	11 00 03.8	-1.1
IHA	Instituto Hidr	1.46	169	⇑P	Pn	11 00 13.0	+0.1
IHA				*i* S	Sn	11 00 31.1	-1.2
ROCH	El Roble	1.61	150	*i* P	Pn	11 00 15.7	+0.5
ROCH				*i* S	Sb	11 00 35.4	-1.5
PEL	Peldehue	1.90	145	⇓P	Pn	11 00 20.1	+1.1
PEL				*i* S	Sb	11 00 42.8	-2.3
PEL				AML	AML	11 00 51.8	
	comp=N,2μm,0.5s						
SAN	Santiago	2.17	149	AML	AML	11 00 58.9	
	comp=N,842nm,0.7s						
CLCH	Cerro Calan	2.18	146	*e*P	Pn	11 00 23.9	+1.1
CLCH				*e*S	Sn	11 00 49.4	-0.7
CLCH				AML	AML	11 00 59.4	
	comp=E,3μm,0.5s						
CLCH				AML	AML	11 00 59.9	
	comp=E,3μm,0.6s						
ANTU	Antumapu	2.28	150	AML	AML	11 01 03.9	
	comp=E,956nm,0.7s						
LNV	Longovilo	2.41	169	*e*P	Pn	11 00 26.9	+0.9
LNV				*e*S	Sn	11 00 55.3	-0.4
SJCH	San Jose de Ma	2.46	147	AML	AML	11 01 06.2	
	comp=E,696nm,0.6s						
CHCH	Chadas Angostu	2.59	155	*e*P	Pn	11 00 29.7	+1.1
CHCH				*i* S	Sn	11 00 59.6	-0.7
LMEL	Las Melosas	2.71	147	*e*P	Pn	11 00 31.9	+1.7
LMEL				*i* S	Sn	11 01 03.3	+0.1
LMEL				AML	AML	11 01 12.7	
	comp=E,811nm,0.5s						
VACH	Vallenar	3.18	20	*e*P	Pn	11 00 36.0	-0.6
VACH				*i* S	Sn	11 01 14.4	-0.3
CFAA	Coronel Fontan	3.19	91	P	Pb	11 00 40.0	-3.3
	comp=E,2.5nm,0.3s,baz=264,slow=11,SNR=118						
CFAA				S	Sb	11 01 22.3	0.0
	comp=E,4.0nm,0.3s,baz=348,slow=22,SNR=15						
CPUP	Villa Florida	13.85	71	P	P	11 03 09.0	-2.3
	comp=E,0.5nm,0.3s,baz=232,slow=16,SNR=2.6						
CPUP				S	Sn	11 05 39.1	+2.2
	comp=E,0.7nm,0.3s,baz=128,slow=17,SNR=2.4						
LPAZ	La Paz	15.63	14	P	Pn	11 03 29.0	+1.5
	comp=E,0.1nm,0.3s,baz=187,slow=4.9,SNR=4.2						
SIV	San Ignacio	18.43	35	P	P	11 04 02.3	0.0
	comp=E,0.1nm,0.3s,baz=257,slow=12,SNR=8.1						
BDFB	Brasilia	27.00	60	P	P	11 05 27.7	-1.3
	comp=E,6.0nm,1.0s,baz=216,slow=9.0,SNR=5.8						
BDFB				LR	LR	11 17 18.7	
	comp=E,214nm,21.6s,baz=167,slow=39						
QSPA	South Pole Qui	58.64	180	P	P	11 09 45.0	+1.2
	comp=E,1.5nm,1.0s,baz=48,slow=10,SNR=3.9						
DBIC	Dimbokro	74.37	72	P	P	11 11 24.4	-0.5
	comp=E,4.0nm,0.8s,baz=216,slow=6.2,SNR=6.3						
LBTB	Lobatse	83.28	115	P	P	11 12 13.5	-0.4
	comp=E,2.2nm,0.8s,baz=121,slow=15,SNR=2.9						
TORD	Torodi Ar. Bea	83.34	70	P	P	11 12 14.2	0.0
	comp=E,3.2nm,0.8s,baz=258,slow=4.9,SNR=17						
ZALV	Zalesovo Beam	152.14	30	PKPbc	PKPbc	11 19 42.5	+0.7
	comp=E,3.8nm,0.5s,baz=301,slow=3.4,SNR=23						
MKAR	Makanchi Array	155.09	45	PKPbc		11 19 48.7	
	comp=E,0.2nm,0.5s,baz=29,slow=2.8,SNR=4.0						
MKAR				PKPab	PKPab	11 20 04.3	+0.1
	comp=E,0.5nm,0.8s,baz=300,slow=2.7,SNR=5.6						

*ISK **24** 11:02:38.1, 38°.89N×41°.32E, h7km, MD3.0*
*DDA **24** 11:02:38.8, 38°.89N×41°.32E, h7km, MD3.0*
*CSEM **24** 11:02:38.5±0.4, 38°.94N×41°.23E, h0km±4km, MD3.0, Error ellipse: s-maj=8.3km s-min=5.2km az=124.0*
*ISCJB **24** 11:02:39.5±0.6, 38°.95N±0°.03×41°.29E±0°.05, h8km±4km, Error ellipse: s-maj=6.8km s-min=4.0km az=29.2*
ISC 24 11:02:38.9±0.9, 38°.91N±0°.03×41°.30E±0°.03, h11km±7km, n27, σ1♀10/39, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNGL	BINGOL	0.12	293	*i* P	Pg	11 02 42.4	+0.2
BNGL				*i* S	Sg	11 02 45.2	+0.6
VRTB	Varto-Mus	0.28	26	*e*PG	Pg	11 02 44.4	-0.4
VRTB				*e*SG	Sg	11 02 49.0	+0.2
VRTB	Varto-Mus	0.28	26	*e*Pg	Pg	11 02 44.4	-0.4
VRTB				*e*Sg	Sg	11 02 49.0	+0.2
BNGB	Bingˆ¶‖	0.49	280	*e*PG	Pg	11 02 48.3	-0.3
BNGB				*e*SG	Sg	11 02 55.9	+0.8
BINT	Bingol	0.63	268	*e*Pg	Pg	11 02 48.3	-2.9
BINT				*e*Sg	Sg	11 02 55.9	-3.7
BTMT	Batman	0.73	168	*e*PG	Pb	11 02 53.5	-0.2
BTMT	Batman	0.73	168	*e*Pg	Pb	11 02 53.5	-0.2
EZM	Erzurum	1.00	3	*e*PG	Pg	11 02 57.7	-0.6
EZM	Erzurum	1.00	3	*e*Pg	Pg	11 02 57.7	-0.6
ERZM	Erzurum	1.00	3	*i* P	Pg	11 02 57.6	-0.7
ERZM				*i* S	Sg	11 03 09.4	-2.0
ERZM	Erzurum	1.00	3	*i* P	Pg	11 02 57.6	-0.7
ERZM				*i* S	Sg	11 03 09.4	-2.0
BEST	Besiri	1.01	181	*i* P	Pn	11 02 59.2	+0.1
BEST				*i* S	Sn	11 03 14.4	+1.0
HOMI	Horasan	1.23	22	*i* P	Pg	11 03 01.8	-0.9
HOMI				*i* S	Sn	11 03 20.1	+1.0
DIYA	Diyarbakir	1.35	224	*i* P	Pb	11 03 04.9	+0.7
DIYA				*i* S	Sn	11 03 22.7	+1.1
DIYA	Diyarbakir	1.35	224	*i* P	Pb	11 03 04.9	+0.7
DIYA				*i* S	Sn	11 03 22.7	+1.1
AGRB	Hanur-Agry	1.48	63	*e*PN	Pn	11 03 05.5	-0.2
AGRB	Hanur-Agry	1.48	63	*e*Pn	Pn	11 03 05.5	-0.2
PTK	Pertek	1.49	270	*e*PN	Pn	11 03 06.1	+0.3
PTK	Pertek	1.49	270	*e*Pn	Pn	11 03 06.1	+0.3
MARD	Mardin	1.64	195	*i* P	Pg	11 03 10.0	-0.4
MARD				*i* S	Sg	11 03 31.4	-0.3
EZC	Erzincan	1.73	300	*e*PN	Pn	11 03 09.6	+0.6
EZC	Erzincan	1.73	300	*e*Pn	Pn	11 03 09.6	+0.6
BAYT	Ayd¨¬ntepe-Bay	1.73	329	*e*PN	Pn	11 03 09.7	+0.5
BAYT	Ayd¨¬ntepe-Bay	1.73	329	*e*Pn	Pn	11 03 09.7	+0.5
DAGI	Agillar	2.22	12	*i* P	Pb	11 03 19.7	+0.5
MALT	Malatya	2.32	256	*e*PN	Pn	11 03 18.1	+0.9
MALT	Malatya	2.32	256	*e*Pn	Pn	11 03 18.1	+0.9

*IDC **24** 11:18:25.2±1.4, 6°.53N×125°.20E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/22, mbtmp3.4/3, Error ellipse: s-maj=35.5km s-min=9.9km az=116.0*
*ISCJB **24** 11:18:27.4±0.7, 6°.8N±0°.1×126°.05E±0°.06, h36km±10km, mb3.4/3, Error ellipse: s-maj=19.3km s-min=9.3km az=14.3*
*MAN **24** 11:18:27, 6°.99N×126°.06E, h23km, mb4.4, ML3.3, MS3.2*
ISC 24 11:18:27.7±1.2, 6°.9N±0°.1×126°.02E±0°.05, h26km±10km, n10, σ1♀40/12, mb3.5/3, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	Mati	0.25	77	*e*P	Pn	11 18 34.4	-1.3
MATI				*e*S	Sb	11 18 40.0	+1.7
DAV	Davao City (W)	0.47	293	Pg	Pb	11 18 36.5	-0.9
	340nm,0.3s,baz=130,slow=2.6,SNR=32						
DAV				Lg	Lg	11 18 48.3	
	773nm,0.3s,baz=80,slow=24,SNR=9.8						
DMPH	Davao City--Mi	0.54	291	⇑*e*P	Pb	11 18 38.4	-0.2
DMPH				*e*S	Sn	11 18 49.4	+1.4
GSPH	General Santos	1.32	233	⇑*e*P	Pn	11 18 49.6	-1.1
BUKP	Musuan	1.36	316	*e*P	Pb	11 18 51.2	-1.4
CTBH	Cotabato--PC H	1.79	281	⇑*e*P	Pn	11 18 57.0	+0.1
PAGZ	Pagadian	2.78	290	*e*P	Pb	11 19 14.6	-2.1
WRA	Warramunga Arr	27.89	163	P	P	11 24 16.2	+0.4
	0.6nm,0.6s,baz=341,slow=9.9,SNR=8.8						
ASAR	Alice Springs	31.33	166	P	P	11 24 46.9	+0.7
	0.5nm,0.5s,baz=344,slow=7.1,SNR=16						
MKAR	Makanchi Array	54.58	324	P	P	11 27 54.5	+0.6
	0.2nm,0.7s,baz=122,slow=9.4,SNR=2.8						

*ISCJB **24** 11:18:57.9±0.4, 58°.30N±0°.04×154°.14W±0°.06, h91km±4km, mb3.8/1, Error ellipse: s-maj=7.0km s-min=4.5km az=143.8*
*IDC **24** 11:18:58.4±2.0, 58°.45N×154°.24W, h66km±29km, mb3.4/1, mb1 3.8/5, mb1mx3.3/28, mbtmp3.5/5, ML3.7/4, Error ellipse: s-maj=29.0km s-min=18.4km az=101.0*
*NEIC **24** 11:18:59.8, 58°.26N×154°.15W, h76km, MG3.2(AEIC), After AEIC.*
ISC 24 11:18:58.9±0.9, 58°.31N±0°.04×154°.16W±0°.04, h85km±7km, n69, σ1♀04/82, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPH	Katmai Pasha	0.31	341	P	Pn	11 19 11.6	-0.2
KAPH				S	Sn	11 19 21.3	-0.2
KARR	Katmai Rainbow	0.35	304	P	Pn	11 19 11.9	-0.1
KABR	Katmai Barrier	0.47	248	P	Pn	11 19 12.2	-0.7
KAKN	Katmai Knife C	0.48	269	P	Pn	11 19 12.5	-0.5
KAKN				S	Sn	11 19 22.7	-0.8
KCE	Katmai Mt Cerb	0.55	264	P	Pn	11 19 13.4	-0.1
MGLS	Mageik Landsli	0.56	253	P	Pn	11 19 13.2	-0.5
MGLS				S	Sn	11 19 23.6	-1.0
FOPK	Fourpeaked Vol	0.58	38	P	Pn	11 19 13.9	+0.1
KABU	Katmai Buttres	0.60	267	P	Pn	11 19 13.7	-0.4
KDAK	Kodiak Island	0.99	121	P	Pn	11 19 18.1	0.0
KDAK				S	Sn	11 19 32.6	+0.3
KDAK	Kodiak Island	0.99	121	P	Pn	11 19 18.4	+0.4
	127nm,0.3s,baz=324,slow=4.6,SNR=2001						
KDAK				S	Sn	11 19 32.7	+0.3
	79nm,0.3s,baz=157,slow=23,SNR=31						
AUW	Augustine West	1.12	18	P	Pn	11 19 20.6	+0.9
AUE	Augustine Isla	1.13	21	P	Pn	11 19 20.8	+1.0
AUNW	Augustine NWes	1.13	18	P	Pn	11 19 20.4	+0.9
OPT	Oil Point	1.43	19	P	Pn	11 19 24.4	+0.9
ILW	Iliamna West	1.84	16	P	Pn	11 19 29.5	+0.6
INE	Iliamna NE	1.85	17	P	Pn	11 19 29.7	+0.7
BRLK	Bradley Lake	2.23	48	P	Pn	11 19 34.1	+0.1
BRLK				S	Sn	11 20 00.6	-0.3
NCT	North Crescent	2.35	15	P	Pn	11 19 36.5	+0.9
DFR	Drift River	2.41	17	P	Pn	11 19 37.4	+0.9
ANNW	Aniakchak Nort	2.56	240	P	Pn	11 19 38.7	+0.2
ANPK	Aniakchak Peak	2.59	237	P	Pn	11 19 38.4	-0.4
SLKM	Skilak Lake	2.99	41	P	Pn	11 19 44.4	+0.3
SEW	Seward	3.02	51	P	Pn	11 19 44.2	-0.2
SEW				S	Sn	11 20 17.5	-2.1
CKL	Chakachamna La	3.04	17	P	Pn	11 19 45.8	+0.9
SPU	Mount Spurr	3.08	19	P	Pn	11 19 46.0	+0.7
BGL	Barrier Glacie	3.10	16	P	Pn	11 19 46.9	+1.2
STLK	Strandline Lak	3.41	19	P	Pn	11 19 50.5	+0.6
VNHG	Veniaminof 1	3.43	235	P	Pn	11 19 51.6	+1.4
VNSG	Veniaminof 6	3.46	233	P	Pn	11 19 51.4	+0.9
FIB	Fire Island	3.51	33	P	Pn	11 19 52.3	+1.3
FIB				S	Sn	11 20 32.0	+0.6
RC01	Rabbit Creek A	3.58	37	P	Pn	11 19 52.3	+0.2
RC01				S	Sn	11 20 31.9	-1.2
SUA	Susitna One	3.60	27	P	Pn	11 19 52.1	-0.4
SKT	Skwentna	3.91	18	P	Pn	11 19 56.8	+0.2
PMR	Palmer	4.15	35	P	Pn	11 19 59.2	-0.6
MID	Middleton Isla	4.21	71	P	Pn	11 20 01.0	+0.4
SML	Sawmill	4.57	37	P	Pn	11 20 05.3	-0.2
PPLA	Purkeypile	4.71	11	P	Pn	11 20 08.8	+1.3
EYAK	Cordova Ski Ar	4.85	59	P	Pn	11 20 09.1	-0.2
VLZ	Valdez	4.87	51	P	Pn	11 20 10.2	+0.7
SCM	Sheep Creek Mo	4.92	41	P	Pn	11 20 10.2	-0.1
GOAT	Goat Mountain	5.32	61	P	Pn	11 20 16.4	+0.5
TRF	Thorofare Moun	5.50	18	P	Pn	11 20 17.8	-0.5
BMRM	Bremner River	5.53	57	P	Pn	11 20 18.6	-0.1
NICH	Nichawak Mount	5.57	65	P	Pn	11 20 19.8	+0.6
RND	Reindeer	5.73	25	P	Pn	11 20 20.9	-0.5
BERG	Berg Lake	5.74	64	P	Pn	11 20 22.0	+0.6
DHY	Denali Highway	5.83	32	P	Pn	11 20 22.6	-0.2
GRIN	Grindle Hills	5.89	66	P	Pn	11 20 24.6	+1.0
KHIT	Khitrov Hills	5.97	64	P	Pn	11 20 25.0	+0.4
MCK	McKinley	6.00	23	P	Pn	11 20 25.1	0.0
HARP	HAARP	6.07	44	P	Pn	11 20 26.6	+0.7
VRDI	Verde Repeater	6.15	57	P	Pn	11 20 27.1	-0.1
KULT	Kultieth River	6.18	67	P	Pn	11 20 28.1	+0.7
BARK	Barkley Ridge	6.33	66	P	Pn	11 20 30.3	+0.8
PAX	Paxson	6.33	39	P	Pn	11 20 29.6	+0.1
ISLE	Juniper Island	6.45	64	P	Pn	11 20 32.0	+0.8
KIAG	Kiagna River	6.54	61	P	Pn	11 20 32.9	+0.5
MESA	MESA	6.54	68	P	Pn	11 20 33.4	+1.0
BAGL	Bagley Icefiel	6.54	65	P	Pn	11 20 33.4	+1.2
MENT	Mentasta	6.92	43	*e*Pn	Pn	11 20 38.7	+1.2
DOT	Dot Lake	7.26	38	*e*Pn	Pn	11 20 44.0	+1.8
	2.5nm,1.1s						
DOT				*e*Sn	Sn	11 22 05.1	+2.2
ILAR	Eielson Array	7.35	25	P	Pn	11 20 42.0	-1.4
	1.1nm,0.3s,baz=216,slow=14,SNR=41						
ILAR				S	Sn	11 22 01.3	-3.8
	0.7nm,0.3s,baz=208,slow=24,SNR=6.2						
PNL	Peninsula	7.75	74	*e*Pn	Pn	11 20 49.4	+0.6
	22nm,0.7s						
PNL				*e*Sn	Sn	11 22 11.9	-2.9
DAWY	Dawson	9.16	45	*e*Pn	Pn	11 21 08.9	+0.9
GAMB	Gambell	10.10	310	*e*Pn	Pn	11 21 18.6	-2.2
	5.8nm,0.4s						
DLBC	Dease Lake	12.65	79	P	Pn	11 21 57.1	+1.8
	0.5nm,0.3s,baz=257,slow=11,SNR=13						
DLBC				S	Sn	11 24 12.1	-2.0
	0.1nm,0.3s,baz=176,slow=25,SNR=1.2						
INK	Inuvik	13.57	34	P	Pn	11 22 06.7	-0.7
	0.2nm,0.3s,baz=190,slow=9.1,SNR=5.1						
YKA	Yellowknife Ar	19.75	61	P	P	11 23 23.1	+1.6
	0.1nm,0.3s,baz=274,slow=11,SNR=20						
SONM	Songino Array	55.31	306	P	P	11 28 23.5	+0.1
	0.4nm,0.4s,baz=45,slow=5.6,SNR=9.5						

*IDC **24** 11:19:45.0±1.2, 1°.67S×120°.80E, h0km, mb3.4/4, mb1 3.7/6, mb1mx3.6/22, mbtmp3.6/6, ML3.4/2, Error ellipse: s-maj=59.5km s-min=19.3km az=70.0*
*DJA **24** 11:19:46.0±0.7, 1°.5S×120°.0E±°, h10km, M4.1/8, MLv4.1/8*
ISC 24 11:19:46.3±0.9, 1°.68S±0°.05×120°.61E±0°.07, h10km, n14, σ1♀23/18, mb3.5/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APSI	Ampana	1.29	54	P	Pg	11 20 29.4	-0.8
APSI				S	Sg	11 20 29.8	+1.9
TTSI	Tana Toraja	1.57	210	P	Pn	11 20 13.8	-0.5
TTSI				S	Sg	11 20 36.4	-0.5
LUWI	Luwuk	2.26	74	P	Pb	11 20 27.4	+0.2
LUWI				S	Sg	11 20 58.0	-0.9
SPSI	Sidrap Palu	2.42	200	P	Pn	11 20 27.1	+1.1
SPSI				S	Sb	11 20 58.3	-1.7
MRSI	Marisa	2.52	32	P	Pn	11 20 27.2	-0.2
KDI	Kendari	3.03	138	P	Pg	11 20 44.5	0.0
KDI				S	Sg	11 21 31.5	+7.7
KAPI	Kappang	3.42	194	P	Pn	11 20 40.4	+0.6
	6.4nm,0.3s,baz=359,slow=9.5,SNR=25						
KAPI				Sn	Sb	11 21 30.4	+1.5
	5.9nm,0.3s,baz=225,slow=22,SNR=1.8						
BKSI	Bulukumba	3.65	188	P	Pn	11 20 45.0	+2.0
KMSI	Cibinong	4.05	57	P	Pn	11 20 51.2	+2.8
FITZ	Fitzroy Crossi	17.06	163	P	Pn	11 23 43.3	-1.8
	0.1nm,0.3s,baz=4.8,slow=12,SNR=2.2						
WRA	Warramunga Arr	22.58	144	P	P	11 24 46.1	-1.1
	2.0nm,0.8s,baz=319,slow=11,SNR=9.9						
ASAR	Alice Springs	25.38	151	P	P	11 25 13.9	-0.1
	0.4nm,0.6s,baz=332,slow=8.8,SNR=7.3						
SONM	Songino Array	50.85	348	P	P	11 28 47.2	-0.1
	0.3nm,0.6s,baz=156,slow=5.0,SNR=2.7						
MKAR	Makanchi Array	58.82	330	P	P	11 29 46.4	+1.4
	0.4nm,0.7s,baz=138,slow=7.1,SNR=5.1						

*DDA **24** 11:36:45.9, 39°.50N×28°.16E, h8km, MD2.8*

*ISCJB **24** 11:36:46.2±0.4, 39°.47N±0°.03×28°.17E±0°.03, h0km, Error ellipse: s-maj=3.7km s-min=3.5km az=10.3*
*ISK **24** 11:36:46.2, 39°.46N×28°.15E, h8km, MD2.8*
*CSEM **24** 11:36:46.2±0.2, 39°.48N×28°.15E, h1km, MD2.8, Error ellipse: s-maj=4.0km s-min=3.6km az=13.0*
ISC 24 11:36:45.7±0.8, 39°.49N±0°.02×28°.15E±0°.02, h0km, n40, σ0♀67/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALB	Balikesir	0.26	306	*e*PG	Pb	11 36 52.2	-1.0
BALB				*e*SG	Sb	11 36 57.0	-1.2
BALB	Balikesir	0.26	306	*e*Sg	Sb	11 36 57.0	-1.2
DURS	Dursunbey	0.28	66	*i* P	Pg	11 36 52.1	+1.1
DURS				*i* S	Sb	11 36 57.8	-1.1
DURS	Dursunbey	0.28	66	*i* P	Pg	11 36 52.1	+1.1
DURS				*i* S	Sb	11 36 57.8	-1.1
DST	Dursunbey	0.38	72	*e*PG	Pg	11 36 54.3	+1.2
DST				*e*SG	Sb	11 37 00.7	-1.2
BALY	Balya	0.48	302	*i* P	Pg	11 36 55.7	+0.8
BALY				*i* S	Sb	11 37 04.9	+0.2
BALY	Balya	0.48	302	*i* P	Pg	11 36 55.7	+0.8
BALY				*i* S	Sb	11 37 04.9	+0.2
GONE	Gonen-Balikesi	0.66	328	*e*PG	Pg	11 36 59.0	+0.7
GONE	Gonen-Balikesi	0.66	328	*e*Pg	Pg	11 36 59.1	+0.7
AKHS	Akhisar	0.66	203	*i* P	Pg	11 36 58.5	+0.1
AKHS				*i* S	Sb	11 37 09.0	-0.9
AKHS	Akhisar	0.66	203	*i* P	Pg	11 36 58.5	+0.1
AKHS				*i* S	Sb	11 37 09.0	-0.9
KCTX	Karacabey (Bur	0.79	12	*e*PG	Pb	11 37 02.2	-0.2
KCTX	Karacabey (Bur	0.79	12	*e*Pg	Pb	11 37 02.2	-0.2
ORLT	Orhaneli	0.80	46	*e*PG	Pg	11 37 01.9	+0.8
ORLT	Orhaneli	0.80	46	*e*Pg	Pg	11 37 01.9	+0.8
ULDT	Uludag	1.00	49	*i* P	Pg	11 37 05.3	+0.3
ULDT				*i* S	Sg	11 37 18.0	+0.1
ULDT	Uludag	1.00	49	*i* P	Pg	11 37 05.3	+0.3
ULDT				*i* S	Sg	11 37 18.0	+0.1
TVSB	Tavsanli	1.02	92	*e*PG	Pb	11 37 06.4	+0.1
TVSB	Tavsanli	1.02	92	*e*Pg	Pb	11 37 06.4	+0.1
MANT	Manisa	1.05	162	*i* P	Pg	11 37 06.2	+0.4
MANT				*i* S	Sg	11 37 20.1	+0.8
MANT	Manisa	1.05	162	*i* P	Pg	11 37 06.2	+0.4
MANT				*i* S	Sg	11 37 20.1	+0.8
KULA	Kula-Manisa	1.05	158	*e*PG	Pg	11 37 06.3	+0.4
KRBG	Karabiga-Canak	1.11	324	*e*PN	Pb	11 37 08.2	+0.3
KRBG	Karabiga-Canak	1.11	324	*e*Pn	Pb	11 37 08.2	+0.3
ARMT	Armutlu	1.21	27	*e*PN	Pn	11 37 09.9	0.0
ARMT	Armutlu	1.21	27	*e*Pn	Pn	11 37 09.9	0.0
LPK	Lapseki	1.39	310	*e*PN	Pb	11 37 12.7	+0.2
LPK	Lapseki	1.39	310	*e*Pn	Pb	11 37 12.7	+0.2
RKY	Sarkoy-Tekirda	1.41	328	*e*PN	Pg	11 37 13.1	+0.3
RKY	Sarkoy-Tekirda	1.41	328	*e*Pn	Pg	11 37 13.1	+0.3
EZN	Ezine	1.45	284	*e*PN	Pn	11 37 13.4	+0.2
EZN	Ezine	1.45	284	*e*Pn	Pn	11 37 13.4	+0.2
MFT	Murefte	1.46	333	*e*PN	Pb	11 37 14.0	+0.2
MFT	Murefte	1.46	333	*e*Pn	Pb	11 37 14.0	+0.2
CAVI	Cavuskoy	1.49	61	*e*PN	Pg	11 37 14.3	+0.1
CAVI	Cavuskoy	1.49	61	*e*Pn	Pg	11 37 14.3	+0.1
BUY	Buyukada	1.55	28	*i* P	Pn	11 37 13.6	-1.0
BUY				*i* S	P	11 37 21.0	
BUY	Buyukada	1.55	28	*i* P	Pn	11 37 13.6	-1.0
ALT	Altintas	1.58	105	*e*PN	Pn	11 37 15.4	+0.2
ALT	Altintas	1.58	105	*e*Pn	Pn	11 37 15.4	+0.2

*NSSC **24** 11:40:53.5, 33°.77N×36°.93E, h0km, MD1.9, ML2.0, MW3.2*
*CSEM **24** 11:40:53.8±0.2, 33°.78N×36°.93E, h30km, ML1.8, Error ellipse: s-maj=7.0km s-min=5.1km az=134.0*
ISC 24 11:40:53.8±1.2, 33°.78N±0°.04×36°.93E±0°.04, h15km±11km, n13, σ0♀68/23, 1C-3D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROOS	tl_alroos	0.50	37	*e*P	Pb	11 41 03.8	-0.4
ROOS				*e*S	Sb	11 41 11.6	+0.2
ROOS	tl_alroos	0.50	37	⇓*e*P	Pb	11 41 03.8	-0.4
	SNR=91						
ROOS				*e*S	Sb	11 41 11.6	+0.2
	2.5nm,0.3s,SNR=59						
TOTH	TOTAH	0.58	225	*e*P	Pg	11 41 05.1	-0.2
TOTH				*e*S	Sb	11 41 13.9	+0.1
TOTH	TOTAH	0.58	225	⇓*e*P	Pg	11 41 05.1	-0.2

comp=E,0.9nm,0.3s,baz=14,slow=13,SNR=9.4
CMAR Pg **Pg** **11 55 41.6 -0.6**
comp=E,1.7nm,0.3s,baz=22,slow=17,SNR=29
CMAR Lg Lg 11 56 43.9
comp=E,1.8nm,0.8s,baz=278,slow=19,SNR=14
SONM Songino Array 25.25 9 P **P** **11 59 35.9 -0.2**
comp=E,0.4nm,0.8s,baz=185,slow=10.0,SNR=5.5
MKAR Makanchi Array 28.20 332 P **P** **12 00 02.7 0.0**
comp=E,0.9nm,0.7s,baz=156,slow=12,SNR=8.8
KURBB Kurchatov Arra 32.74 333 P **P** **12 00 42.3 -0.4**
comp=E,0.4nm,0.6s,baz=133,slow=8.1,SNR=4.7
BVAR Borovoye Array 38.02 330 P **P** **12 01 27.8 -0.3**
comp=E,0.3nm,0.4s,baz=130,slow=7.8,SNR=3.4
ASAR Alice Springs 56.27 143 P **P** **12 03 50.1 -0.6**
comp=E,0.5nm,0.7s,baz=321,slow=6.6,SNR=5.2

*ISCJB **24** 11:55:24.8±0.5,56°.06S±0'.08×28°.0W±0'.2,h121km, mb4.3/13, Error ellipse: s-maj=16.8km s-min=9.5km az=153.5*
*NEIC **24** 11:55:31.0±1.2,56°.02S×28°.10W,h166km±10km,mb4.9/1, Error ellipse: s-maj=11.0km s-min=8.0km az=51.0*
*IDC **24** 11:55:30.2±1.7,56°.01S×28°.04W,h158km±14km,mb4.1/12, mb1 4.1/12,mb1mx4.0/17,mbtmp4.1/12, Error ellipse: s-maj=17.3km s-min=13.2km az=62.0*

ISC 24 11:55:26.6±0.6,56°.0S±0'.2×28°.0W±0'.2,h121km,n73, σ2s11/50,mb4.2/12,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**17.17**	**160**	*e*Pn	P	11 59 16.8	-1.6
VNA3	**Neumayer Olymp**	**17.17**	**160**	*e*WP	Px	11 59 25.4	
VNA2	**Neumayer--Watz** baz=314,slow=13	**17.39**	**157**	*e*Pn	P	11 59 19.3	-1.5
VNA2	**Neumayer--Watz** baz=314,slow=13	**17.39**	**157**	*e*WP	Px	11 59 27.8	
MAIT	**Maitri**	**22.51**	**146**	*e*P	P	12 00 14.4	-1.2
QSPA	**South Pole Qui** 33nm,1.1s	**34.23**	**180**	*e*P	P	12 02 00.3	0.0
QSPA	**South Pole Qui** 25nm,1.0s,baz=190,slow=1.4,SNR=166	**34.23**	**180**	P	P	12 02 00.3	0.0
CPUP	**Villa Florida**	**36.46**	**312**	P	P	12 02 19.4	-0.2
CPUP	**Villa Florida** 0.6nm,0.4s,baz=246,slow=18,SNR=3.3	**36.46**	**312**	P	P	12 02 19.4	-0.2
CFAA	**Coronel Fontan**	**37.13**	**294**	P	P	12 02 24.9	-0.5
CFAA	**Coronel Fontan** 0.2nm,0.3s,baz=84,slow=5.7,SNR=4.3	**37.13**	**294**	P	P	12 02 24.9	-0.5
MAW	**Mawson**	**40.44**	**144**	P	P	12 02 52.8	+0.4
MAW	**Mawson** 32nm,0.9s,baz=261,slow=9.1,SNR=2.4	**40.44**	**144**	P	P	12 02 52.8	+0.4
BDFB	**Brasilia**	**43.12**	**331**	P	P	12 03 14.8	-0.1
BDFB	**Brasilia** 1.0nm,0.4s,baz=77,slow=18,SNR=2.4	**43.12**	**331**	P	P	12 03 14.8	-0.1
BOSA	**Boshof**	**46.40**	**77**	P	P	12 03 40.9	+0.1
BOSA	**Boshof** 4.1nm,1.1s,baz=142,slow=9.3,SNR=3.6	**46.40**	**77**	P	P	12 03 40.9	+0.1
VNDA	**Vanda**	**46.58**	**183**	P	**P**	**12 03 42.0**	**+0.5**
VNDA	**Vanda** 9.2nm,0.9s,baz=157,slow=6.4,SNR=9.5	**46.58**	**183**	P	**P**	**12 03 42.0**	**+0.5**
LBTB	**Lobatse**	**49.44**	**74**	P	**P**	**12 04 05.7**	**+1.5**
LBTB	**Lobatse** 2.5nm,0.8s,baz=239,slow=6.5,SNR=3.6	**49.44**	**74**	P	**P**	**12 04 05.7**	**+1.5**
LPAZ	**La Paz**	**49.99**	**306**	P	**P**	**12 04 09.3**	**+0.2**
LPAZ	**La Paz** 1.8nm,0.4s,baz=116,slow=6.2,SNR=15	**49.99**	**306**	P	**P**	**12 04 09.3**	**+0.2**
DBIC	**Dimbokro**	**65.33**	**25**	P	P	12 05 55.7	+0.1
DBIC	**Dimbokro** 1.5nm,0.6s,baz=182,slow=6.9,SNR=3.0	**65.33**	**25**	P	P	12 05 55.7	+0.1
TORD	**Torodi Ar. Bea**	**73.26**	**30**	P	P	12 06 43.1	-1.2
TORD	**Torodi Ar. Bea** 2.7nm,0.4s,baz=200,slow=6.5,SNR=64	**73.26**	**30**	P	P	12 06 43.1	-1.2
STKA	**Stephens Creek**	**92.00**	**171**	P	P	12 08 20.9	-0.5
STKA	**Stephens Creek** 1.8nm,0.6s,baz=339,slow=6.2,SNR=4.5	**92.00**	**171**	P	P	12 08 20.9	-0.5
ASAR	**Alice Springs**	**99.15**	**163**	P	**Pdif**	**12 08 52.5**	**-1.6**
ASAR	**Alice Springs** 2.5nm,0.9s,baz=188,slow=3.8,SNR=13	**99.15**	**163**	P	**Pdif**	**12 08 52.5**	**-1.6**
WRA	**Warramunga Arr**	**102.87**	**163**	P	**Pdif**	**12 09 08.7**	**-2.1**
WRA	**Warramunga Arr** 0.6nm,0.8s,baz=197,slow=4.5,SNR=8.0	**102.87**	**163**	P	**Pdif**	**12 09 08.7**	**-2.1**
MEM	**Membach**	**109.95**	**22**	P	**Pdif**	**12 09 35.7**	**-5.5**
PDAR	**Pinedale Array**	**119.95**	**303**	PKP	PKPdf	12 13 59.8	-2.3
PDAR	**Pinedale Array** 0.2nm,0.6s,baz=104,slow=3.8,SNR=3.2	**119.95**	**303**	PKP	PKPdf	12 13 59.8	-2.3
NVAR	**Mina Array Bea**	**120.97**	**294**	PKP	**PKPdf**	**12 14 03.8**	**-0.4**
NVAR	**Mina Array Bea** 0.3nm,0.5s,baz=108,slow=2.9,SNR=2.6	**120.97**	**294**	PKP	**PKPdf**	**12 14 03.8**	**-0.4**
FINES	**FINESS Array B**	**124.57**	**28**	PKP	PKPdf	12 14 07.7	-2.3
FINES	**FINESS Array B** 1.2nm,0.6s,baz=147,slow=3.9,SNR=4.8	**124.57**	**28**	PKP	PKPdf	12 14 07.7	-2.3
CMAR	**Chiang Mai Arr**	**125.50**	**111**	PKP	**PKPdf**	**12 14 12.3**	**-0.9**
CMAR	**Chiang Mai Arr** 0.4nm,0.4s,baz=228,slow=3.7,SNR=5.9	**125.50**	**111**	PKP	**PKPdf**	**12 14 12.3**	**-0.9**
AAK	**Ala-Archa**	**130.40**	**71**	PKP	**PKPdf**	**12 14 21.4**	**-0.6**
AAK	**Ala-Archa** 0.5nm,0.4s,baz=164,slow=22,SNR=3.6	**130.40**	**71**	PKP	**PKPdf**	**12 14 21.4**	**-0.6**
ARCES	**ARCESS Array B**	**131.09**	**22**	PKP	PKPdf	12 14 20.4	-1.9
ARCES	**ARCESS Array B** 4.8nm,0.9s,baz=236,slow=1.3,SNR=6.4	**131.09**	**22**	PKP	PKPdf	12 14 20.4	-1.9
BVAR	**Borovoye Array**	**135.15**	**58**	PKP	**PKPdf**	**12 14 30.7**	**+0.3**
BVAR	**Borovoye Array** 0.3nm,0.4s,baz=225,slow=1.8,SNR=2.9	**135.15**	**58**	PKP	**PKPdf**	**12 14 30.7**	**+0.3**
YKA	**Yellowknife Ar**	**135.85**	**318**	PKP	**PKPdf**	**12 14 29.9**	**-1.5**
YKA				SKP		12 17 49.1	
YKA	**Yellowknife Ar** 0.8nm,0.6s,baz=124,slow=2.3,SNR=13	**135.85**	**318**	PKP	**PKPdf**	**12 14 29.9**	**-1.5**
YKA				SKP		12 17 49.1	
	1.0nm,0.9s,baz=127,slow=2.0,SNR=11						
MKAR	**Makanchi Array**	**137.31**	**72**	PKP	**PKPdf**	**12 14 34.7**	**0.0**
MKAR				SKPbc	SKPbc	12 17 52.4	-4.1
MKAR	**Makanchi Array** 0.2nm,0.7s,baz=285,slow=1.1,SNR=2.8	**137.31**	**72**	PKP	**PKPdf**	**12 14 34.7**	**0.0**
MKAR				SKPbc	SKPbc	12 17 52.4	-4.1
	1.2nm,1.1s,baz=252,slow=6.3,SNR=6.1						
KURBB	**Kurchatov Arra**	**137.70**	**65**	SKPbc	SKPbc	12 17 52.7	-4.8
	0.6nm,0.7s,baz=233,slow=3.3,SNR=5.6						
KURK	**Kurchatov**	**137.80**	**65**	SKPbc	SKPbc	12 17 52.7	-5.1
ZALV	**Zalesovo Beam**	**142.77**	**64**	PKP	**PKPdf**	**12 14 42.7**	**-1.5**
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=295,slow=43,SNR=3.9	**142.77**	**64**	PKP	**PKPdf**	**12 14 42.7**	**-1.5**
INK	**Inuvik**	**145.50**	**321**	*e*PKPdf	**PKPdf**	**12 14 47.7**	**-0.8**
DAWY	**Dawson**	**146.44**	**312**	*e*PKPbc	**PKPdf**	**12 14 50.4**	**0.0**
BMRM	**Bremner River**	**147.68**	**305**	*e*PKPbc	**PKPdf**	**12 14 54.8**	**+2.2**
MENT	**Mentasta**	**147.93**	**309**	*e*PKPdf	**PKPdf**	**12 14 52.3**	**-0.5**
MENT				*e*PKPbc	**PKPbc**	**12 14 54.7**	**-1.4**
MENT				*e*PKPab	**PKiKP**	**12 14 58.0**	**+0.2**
PAX	**Paxson**	**148.70**	**309**	*e*PKPdf	**PKPdf**	**12 14 53.2**	**-1.0**
PAX				*e*PKPbc	**PKPbc**	**12 14 57.3**	**-0.9**
PAX				*e*PKPab	**PKiKP**	**12 15 01.3**	**+1.8**
ILAR	**Eielson Array**	**149.76**	**312**	PKPbc	**PKPdf**	**12 14 59.1**	**+3.4**
ILAR	**Eielson Array** 8.1nm,0.8s,baz=129,slow=3.8,SNR=82	**149.76**	**312**	PKPbc	**PKPdf**	**12 14 59.1**	**+3.4**
RC01	**Rabbit Creek A**	**150.09**	**304**	*e*PKPdf	**PKPdf**	**12 14 55.5**	**-0.9**
RC01				*e*PKPbc	**PKPbc**	**12 15 01.0**	**-0.5**
RC01				*e*PKPab	**PKiKP**	**12 15 05.8**	**+3.5**
COLA	**College**	**150.19**	**312**	*e*PKPbc	**PKPdf**	**12 15 00.2**	**+3.9**
KDAK	**Kodiak Island**	**150.40**	**297**	PKPbc	**PKPdf**	**12 15 01.4**	**+4.5**
KDAK	**Kodiak Island** 5.1nm,0.4s,baz=158,slow=1.3,SNR=40	**150.40**	**297**	PKPbc	**PKPdf**	**12 15 01.4**	**+4.5**
MCK	**McKinley**	**150.40**	**309**	*e*PKPbc	**PKPdf**	**12 15 01.5**	**+4.7**
TRF	**Thorofare Moun**	**150.93**	**309**	*e*PKPbc	**PKPdf**	**12 15 02.0**	**+4.2**
SONM	**Songino Array**	**151.18**	**87**	PKP	**PKPdf**	**12 14 57.4**	**-1.2**
SONM				PKPbc	PKPbc	12 15 02.7	-2.0
SONM	**Songino Array** 1.3nm,0.5s,baz=107,slow=1.5,SNR=3.6	**151.18**	**87**	PKP	**PKPdf**	**12 14 57.4**	**-1.2**
SONM				PKPbc	PKPbc	12 15 02.7	-2.0
	3.3nm,0.5s,baz=222,slow=3.7,SNR=87						
COLD	**Coldfoot**	**151.49**	**316**	*e*PKPdf	**PKPdf**	**12 14 57.9**	**-0.5**
COLD				*e*PKPbc	**PKPbc**	**12 15 04.4**	**-0.3**
COLD				*e*PKPab	**PKPab**	**12 15 13.1**	**-0.5**
ULN	**Ulaanbaatar**	**151.56**	**88**	*e*PKPdf	**PKPdf**	**12 14 57.9**	**-1.4**
ULN				*e*PKPbc	PKPbc	12 15 03.8	-1.8
ULN				*e*PKPab	PKiKP	12 15 13.8	+7.8

*ISK **24** 11:57:48.2,39°.46N×28°.19E,h5km,MD2.7*
*ISCJB **24** 11:57:49.2±0.4,39°.46N±0'.03×28°.17E±0'.03,h0km, Error ellipse: s-maj=4.5km s-min=3.2km az=40.2*
*DDA **24** 11:57:49.2,39°.47N×28°.13E,h7km,MD2.8*
*CSEM **24** 11:57:49.3±0.1,39°.46N×28°.18E,h1km,MD2.8, Error ellipse: s-maj=3.6km s-min=2.6km az=47.0*
ISC 24 11:57:49.2±0.9,39°.47N±0°.02×28°.16E±0°.02,h0km,n34, σ0s69/47,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.28**	**309**	*e*PG	**Pg**	**11 57 55.2**	**+0.8**
BALB				*e*SG	**Sb**	**11 58 00.6**	**-1.7**
BALB	**Balikesir**	**0.28**	**309**	*e*Pg	**Pg**	**11 57 55.3**	**+0.8**
BALB				*e*Sg	**Sb**	**11 58 00.6**	**-1.7**
DURS	**Dursunbey**	**0.28**	**61**	*i* P	**Pg**	**11 57 55.0**	**+0.5**
DURS				*i* S	**Sg**	**11 57 59.8**	**+1.6**
DURS	**Dursunbey**	**0.28**	**61**	*i* P	**Pg**	**11 57 55.0**	**+0.5**
DURS				*i* S	**Sg**	**11 57 59.8**	**+1.6**
DST	**Dursunbey**	**0.38**	**69**	*e*PG	**Pg**	**11 57 56.4**	**-0.2**
DST				*e*SG	**Sg**	**11 58 02.2**	**+0.7**
DST	**Dursunbey**	**0.38**	**69**	*e*Pg	**Pg**	**11 57 56.4**	**-0.2**
DST				*e*Sg	**Sg**	**11 58 02.2**	**+0.7**
BALY	**Balya**	**0.50**	**304**	*i* P	**Pg**	**11 57 58.5**	**-0.2**
BALY				*i* S	**Sb**	**11 58 08.0**	**-0.7**
BALY	**Balya**	**0.50**	**304**	*i* P	**Pg**	**11 57 58.5**	**-0.2**
BALY				*i* S	**Sb**	**11 58 08.0**	**-0.7**
DEMI	**Demirci**	**0.61**	**134**	*i* P	**Pg**	**11 58 01.0**	**+0.2**
DEMI				*i* S	**Sb**	**11 58 11.3**	**-0.5**
DEMI	**Demirci**	**0.61**	**134**	*i* P	**Pg**	**11 58 01.0**	**+0.2**
AKS	**Akhisar**	**0.64**	**205**	*e*PG	**Pg**	**11 58 01.6**	**+0.1**
AKS	**Akhisar**	**0.64**	**205**	*e*Pg	**Pg**	**11 58 01.6**	**+0.1**
GONE	**Gonen-Balikesi**	**0.69**	**328**	*e*PG	**Pg**	**11 58 02.5**	**+0.2**
GONE	**Gonen-Balikesi**	**0.69**	**328**	*e*Pg	**Pg**	**11 58 02.5**	**+0.2**
ORLT	**Orhaneli**	**0.81**	**44**	*e*PG	**Pg**	**11 58 05.1**	**+0.3**
ORLT	**Orhaneli**	**0.81**	**44**	*e*Pg	**Pg**	**11 58 05.1**	**+0.3**
KCTX	**Karacabey (Bur**	**0.81**	**11**	*e*PG	**Pg**	**11 58 04.7**	**-0.1**
KCTX	**Karacabey (Bur**	**0.81**	**11**	*e*Pg	**Pg**	**11 58 04.7**	**-0.1**
EDC	**Edincik**	**0.91**	**346**	*e*PG	**Pg**	**11 58 07.0**	**+0.4**
EDC	**Edincik**	**0.91**	**346**	*e*Pg	**Pg**	**11 58 07.0**	**+0.4**
TVSB	**Tavsanli**	**1.01**	**90**	*e*PG	**Pg**	**11 58 08.1**	**-0.4**
TVSB	**Tavsanli**	**1.01**	**90**	*e*Pg	**Pg**	**11 58 08.1**	**-0.4**
MANT	**Manisa**	**1.02**	**162**	*i* P	**Pg**	**11 58 09.0**	**+0.2**
MANT				*i* S	**Sg**	**11 58 23.2**	**+1.2**
MANT	**Manisa**	**1.02**	**162**	*i* P	**Pg**	**11 58 09.0**	**+0.2**
MANT				*i* S	**Sg**	**11 58 23.2**	**+1.2**
KULA	**Kula-Manisa**	**1.03**	**157**	*e*PG	**Pg**	**11 58 08.9**	**0.0**
KULA	**Kula-Manisa**	**1.03**	**157**	*e*Pg	**Pg**	**11 58 08.9**	**0.0**
GDZ	**Gediz**	**1.09**	**110**	*i* P	**Pg**	**11 58 10.3**	**+0.1**
GDZ				*i* S	**Sb**	**11 58 25.7**	**-0.3**
GDZ	**Gediz**	**1.09**	**110**	*i* P	**Pg**	**11 58 10.3**	**+0.1**
GDZ				*i* S	**Sb**	**11 58 25.7**	**-0.3**
ARMT	**Armutlu**	**1.23**	**26**	*e*PN	**Pg**	**11 58 12.4**	**-0.2**
ARMT	**Armutlu**	**1.23**	**26**	*e*Pn	**Pg**	**11 58 12.4**	**-0.2**
MFT	**Murefte**	**1.48**	**333**	*e*PN	**Pn**	**11 58 17.4**	**+0.2**
MFT	**Murefte**	**1.48**	**333**	*e*Pn	**Pn**	**11 58 17.4**	**+0.2**
ALT	**Altintas**	**1.57**	**104**	*e*PN	**Pn**	**11 58 17.5**	**-0.9**
ALT	**Altintas**	**1.57**	**104**	*e*Pn	**Pn**	**11 58 17.5**	**-0.9**

IDC 24 11:58:37.0±1.8,16°.64S×175°.87W,h451km±44km, mb3.0/4,mb1 3.3/5,mb1mx3.0/19,mbtmp3.1/5,Error ellipse: s-maj=177.3km s-min=25.3km az=141.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.79**	**56**	P	P	11 59 58.8	-0.8
	4.1nm,0.3s,baz=20,slow=4.8,SNR=7.6						
AFI				S	S	12 01 07.8	+1.0
	0.3nm,0.3s,baz=297,slow=23,SNR=1.2						
STKA	**Stephens Creek**	**41.36**	**241**	P	P	12 05 42.1	-0.2
	1.1nm,0.9s,baz=114,slow=18,SNR=1.2						
WRA	**Warramunga Arr**	**47.26**	**258**	P	P	12 06 28.5	+0.1
	0.3nm,0.5s,baz=85,slow=7.6,SNR=9.7						
ASAR	**Alice Springs**	**47.48**	**253**	P	P	12 06 29.8	-0.3
	5.8nm,0.6s,baz=85,slow=8.1,SNR=94						
ILAR	**Eielson Array**	**84.13**	**12**	P	P	12 10 18.9	-0.1
	0.5nm,0.9s,baz=217,slow=6.5,SNR=4.5						

*CSEM **24** 11:58:48.7,60°.35N×22°.35E,h0km,ML1.6,Mining explosion. After HEL*
HEL 24 11:58:48.7±0.8,60°.35N×22°.35E,h0km,ML1.6, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAF	**Rauma**	**0.73**	**337**	SG	Sg	11 59 10.4	-1.8
RAF				RG	Rg	11 59 15.2	
RAF	**Rauma**	**0.73**	**337**	Sg	Sg	11 59 10.4	-1.8
AAL	**Aland**	**1.19**	**263**	SG	Sb	11 59 27.9	-0.1
AAL	**Aland**	**1.19**	**263**	Sg	Sb	11 59 27.8	-0.2
MTSE	**Matsula**	**1.81**	**155**	SG	Sn	11 59 44.0	-0.5
MTSE	**Matsula**	**1.81**	**155**	Sg	Sn	11 59 44.0	-0.5
FIA0	**FINESS Array S** baz=240	**2.12**	**57**	PN	Pn	11 59 24.5	-0.9
FIA0				SG	Sb	11 59 54.4	-0.5
FIA0				MSG		11 59 54.4	
	comp=Z,0.6nm,0.1s						
FIA0	**FINESS Array S**	**2.12**	**57**	Pn	Pn	11 59 24.5	-0.9
FIA0				Sg	Sb	11 59 54.4	-0.5

*CSEM **24** 11:59:52.6,60°.50N×26°.80E,h0km,ML1.4,Mining explosion. After HEL*
HEL 24 11:59:52.6±0.2,60°.50N×26°.80E,h0km,ML1.4, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.38**	**84**	PG	Pg	11 59 59.3	-0.5
VJF				SG	Sg	12 00 04.6	-0.1
VJF	**Virojoki**	**0.38**	**84**	Pg	Pg	11 59 59.2	-0.6
VJF				Sg	Sg	12 00 04.6	-0.1
PVF	**Pernaja**	**0.47**	**276**	PG	Pg	12 00 00.7	-0.8
PVF				SG	Sg	12 00 01.0	-0.4
PVF	**Pernaja**	**0.47**	**276**	Pg	Pg	12 00 00.6	-0.9
PVF				Sg	Sg	12 00 07.1	-0.4
FIA0	**FINESS Array S** baz=158	**1.01**	**340**	PG	Pg	12 00 10.2	-1.8
FIA0				SG	Sg	12 00 23.4	-1.7
FIA0				RG	Rg	12 00 29.9	
FIA0	**FINESS Array S**	**1.01**	**340**	Pg	Pg	12 00 10.2	-1.8
FIA0				Sg	Sg	12 00 23.4	-1.7
KAF	**Kangasniemi**	**1.64**	**352**	SG	Sn	12 00 43.2	-1.2
KAF				MSG		12 00 43.2	
	comp=Z,2.1nm,0.4s						
KAF	**Kangasniemi**	**1.64**	**352**	Sg	Sn	12 00 43.2	-1.2
KEF	**Keuruu**	**1.91**	**332**	SG	Sb	12 00 52.5	-0.2
KEF				MSG		12 00 52.5	
	comp=Z,0.8nm,0.2s						
KEF	**Keuruu**	**1.91**	**332**	Sg	Sb	12 00 52.5	-0.3
SUF	**Sumiainen**	**2.25**	**352**	SG	Sb	12 01 01.0	-1.4
SUF				MSG		12 01 01.0	
	comp=Z,2.2nm,0.4s						
SUF	**Sumiainen**	**2.25**	**352**	Sg	Sb	12 01 01.0	-1.4
MTSE	**Matsula**	**2.35**	**222**	SG	Sb	12 01 04.5	-0.7
MTSE	**Matsula**	**2.35**	**222**	Sg	Sb	12 01 04.5	-0.7
RAF	**Rauma**	**2.53**	**284**	SG	Sb	12 01 09.0	-1.3
RAF				MSG		12 01 09.0	
	comp=Z,1.1nm,0.4s						
RAF	**Rauma**	**2.53**	**284**	Sg	Sb	12 01 09.0	-1.3

IDC 24 12:06:05.5±5.5,22°.25S×170°.83E,h0km,mb3.7/3, mb1 3.8/4,mb1mx3.7/17,mbtmp3.7/4,ML3.4/1,MS3.0/1, Ms1 3.0/1,ms1mx2.2/30,Error ellipse: s-maj=113.7km s-min=63.0km az=24.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.07**	**272**	*e*P	Pn	12 07 10.7	+1.6
DZM	**Mont Dzumac**	**4.07**	**272**	Pn	Pn	12 07 10.9	+1.8
	2.4nm,0.3s,baz=100,slow=17,SNR=77						
DZM				LR	LR	12 07 55.2	
	comp=Z,199nm,21.4s,baz=186,slow=27						
DZM				Sn	Sn	12 07 56.0	-1.6
	1.5nm,0.3s,baz=111,slow=19,SNR=6.3						
STKA	**Stephens Creek**	**27.67**	**243**	P	P	12 11 55.2	0.0
	2.1nm,1.0s,baz=90,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**33.97**	**260**	P	P	12 12 50.9	-0.2
	1.8nm,0.9s,baz=85,slow=9.3,SNR=7.9						
WRA	**Warramunga Arr**	**34.07**	**267**	P	P	12 12 51.5	-0.4
	0.3nm,0.5s,baz=98,slow=8.4,SNR=4.3						

IDC 24 12:10:20.1±3.6,2°.01N×66°.58E,h0km,mb3.6/5,mb1 3.6/5, mb1mx3.4/25,mbtmp3.6/5,Error ellipse: s-maj=86.1km s-min=52.0km az=162.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**46.66**	**15**	P	P	12 18 51.0	+0.5
	0.3nm,0.8s,baz=194,slow=5.5,SNR=3.0						
BRTR	**Keskin Array B**	**48.01**	**326**	P	P	12 19 01.2	-0.1
	0.3nm,0.4s,baz=140,slow=11,SNR=3.0						
KURBB	**Kurchatov Arra**	**49.49**	**10**	P	P	12 19 11.9	-0.3
	0.2nm,0.3s,baz=205,slow=7.4,SNR=2.7						
ZALV	**Zalesovo Beam**	**53.90**	**13**	P	P	12 19 44.3	-0.8
	0.5nm,0.4s,baz=210,slow=7.8,SNR=3.8						
SONM	**Songino Array**	**57.12**	**31**	P	P	12 20 08.6	0.0
	0.6nm,0.8s,baz=223,slow=6.6,SNR=5.3						
TXAR	**Lajitas Array**	**147.47**	**344**	PKPbc	PKPbc	12 30 06.2	-0.7
	1.9nm,0.9s,baz=52,slow=2.9,SNR=19						

*ISCJB **24** 12:12:25.8±0.6,39°.68N±0°.03×38°.58E±0°.05,h7km±6km, Error ellipse: s-maj=5.9km s-min=4.6km az=173.1*
*ISK **24** 12:12:25.4,39°.68N×38°.57E,h11km,MD2.8*
*CSEM **24** 12:12:25.8±0.2,39°.67N×38°.61E,h10km,MD2.9, Error ellipse: s-maj=6.7km s-min=4.2km az=88.0*
*DDA **24** 12:12:25.6,39°.66N×38°.58E,h7km,MD2.8*
ISC 24 12:12:25.3±1.1,39°.67N±0°.03×38°.57E±0°.04,h16km±10km, n21,σ0s71/33,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEMA	**Kemaliye**	**0.41**	**189**	*i* P	**Pg**	**12 12 33.3**	**-0.3**
KEMA				*i* S	**Sb**	**12 12 39.7**	**-0.5**
KEMA	**Kemaliye**	**0.41**	**189**	*i* P	**Pg**	**12 12 33.3**	**-0.3**
KEMA				*i* S	**Sb**	**12 12 39.7**	**-0.5**
SUSE	**Susehri**	**0.61**	**332**	*e*P	**Pn**	**12 12 38.2**	**-1.2**
SUSE				*e*S	**Sb**	**12 12 46.7**	**+0.7**
SUSE	**Susehri**	**0.61**	**332**	*e*P	**Pn**	**12 12 38.2**	**-1.2**
SUSE				*e*S	**Sb**	**12 12 46.7**	**+0.7**
KELT	**Kelkit**	**0.71**	**48**	*e*P	**Pn**	**12 12 40.0**	**-0.9**
KELT				*e*S	**Sb**	**12 12 49.9**	**+0.9**
KELT	**Kelkit**	**0.71**	**48**	*e*P	**Pn**	**12 12 40.0**	**-0.9**
KELT				*e*S	**Sb**	**12 12 49.9**	**+0.9**
ERZN	**Erzincan**	**0.89**	**95**	*e*PG	**Pn**	**12 12 53.7**	**+0.4**
ERZN				*e*SG	**Sn**	**12 12 55.7**	**-0.3**
DARE	**Darende-Malaty**	**0.93**	**220**	*e*PN	Pn	12 12 51.3	+7.5
PTK	**Pertek**	**1.00**	**140**	*e*PG	**Pn**	**12 12 44.9**	**0.0**
PTK				*e*SG	**Sn**	**12 12 59.7**	**+0.9**
PTK	**Pertek**	**1.00**	**140**	*e*Pg	**Pn**	**12 12 44.9**	**0.0**
PTK				*e*Sg	**Sn**	**12 12 59.7**	**+0.9**
RSDY	**Resadiye-TOKAT**	**1.20**	**308**	*e*PN	**Pg**	**12 12 48.8**	**+0.4**
RSDY	**Resadiye-TOKAT**	**1.20**	**308**	*e*Pn	**Pg**	**12 12 48.8**	**+0.4**
ELZG	**Elazig**	**1.22**	**165**	*e*P	**Pg**	**12 12 48.1**	**-0.6**
ELZG				*e*S	**Sg**	**12 13 05.0**	**+0.4**
ELZG	**Elazig**	**1.22**	**165**	*e*P	**Pg**	**12 12 48.1**	**-0.6**
ELZG				*e*S	**Sg**	**12 13 05.0**	**+0.4**
MYA	**Malataya**	**1.35**	**185**	*e*PN	**Pg**	**12 12 50.5**	**-0.7**
MYA	**Malataya**	**1.35**	**185**	*e*Pn	**Pg**	**12 12 50.5**	**-0.7**
BAYT	**Ayd¯–ntepe-Bay**	**1.41**	**59**	*e*PN	**Pb**	**12 12 50.6**	**-0.6**
BAYT	**Ayd¯–ntepe-Bay**	**1.41**	**59**	*e*Pn	**Pb**	**12 12 50.6**	**-0.6**
AKCD	**Akcadag**	**1.46**	**200**	*e*P	**Pg**	**12 12 53.9**	**+0.5**
AKCD				*e*S	**Sg**	**12 13 13.4**	**+0.9**
AKCD	**Akcadag**	**1.46**	**200**	*e*P	**Pg**	**12 12 53.9**	**+0.5**
AKCD				*e*S	**Sg**	**12 13 13.4**	**+0.9**
BNGB	**Bing¯¶l**	**1.77**	**112**	*e*PN	**Pb**	**12 12 57.2**	**-0.2**

KRSC 24 12:13:04.5±0.2,54°.80N×162°.15E,h21km±20km,ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.34**	**225**	*i* P	Pn	12 13 13.2	-1.0
MKZ				*i* S	Sn	12 13 19.2	-1.3

west coast of northern Sumatera, Indonesia

ISC 24 12:13:14.6±0.3,1°44N±0°03×97°14E±0°03,h32km±1km, h31km:pP-P,n905,σ1s37/897,mb5.5/209,MS5.6/220, 105C-87D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
TPTI		**1.81**	**1**	P	**Pn**	**12 13 42.9**	**-0.7**
PSI	**Prapat**	**2.23**	**53**	Pn	**Pn**	**12 13 48.2**	**-1.3**
PSI	**Prapat**	**2.23**	**53**	P	Pb	12 13 50.8	-3.6
PSI	**Prapat**	**2.23**	**53**	Pn	**Pn**	**12 13 48.2**	**-1.3**
	35nm,0.3s,baz=233,slow=6.9,SNR=115						
TSI	**Tuntungan**	**2.49**	**35**	P	**Pn**	**12 13 53.2**	**+0.2**
TSI				S	**Sn**	**12 14 20.2**	**-2.2**
MNSI	**Mandailing Nat**	**2.52**	**105**	P	**Pn**	**12 13 53.1**	**-0.3**
SISI	**Saibi**	**3.37**	**145**	P	**Pb**	**12 14 11.8**	**-1.8**
PPI	**Padang Panjang**	**3.76**	**120**	P	**Pn**	**12 14 11.1**	**+0.7**
LHMI	**Lhok Sumawe**	**3.77**	**357**	P	Pb	12 14 16.2	-4.3
BKNI	**Bangkinang**	**4.05**	**106**	P	**Pn**	**12 14 16.2**	**+1.8**
BSI	**Banda Aceh**	**4.43**	**335**	P	**Pn**	**12 14 17.2**	**-2.5**
BSI				S	Sn	12 15 00.2	-10
FRIM	**Kepong**	**4.82**	**68**	P	**Pn**	**12 14 27.0**	**+2.0**
IPM	**Ipoh**	**4.91**	**52**	*e*Pn	**Pn**	**12 14 27.1**	**+0.8**
IPM				*e*Sn	**Sn**	**12 15 27.4**	**+5.2**
IPM	**Ipoh**	**4.91**	**52**	P	**Pn**	**12 14 27.4**	**+1.1**
IPM	**Ipoh**	**4.91**	**52**	P	**Pn**	**12 14 26.2**	**-0.2**
KULM	**Kulim**	**5.18**	**42**	*e*Pn	**Pn**	**12 14 30.1**	**0.0**
KULM	**Kulim**	**5.18**	**42**	P	**Pn**	**12 14 30.6**	**+0.5**
KULM	**Kulim**	**5.18**	**42**	P	**Pn**	**12 14 30.4**	**+0.3**
RGRI	**Rengat**	**5.49**	**109**	P	Pn	12 14 36.9	+2.7
	328nm,1.4s,225µm31µm17nm						
KRJI	**Kerinci**	**5.56**	**129**	P	Pb	12 14 45.6	-5.5
KGM	**Kluang**	**6.20**	**85**	P	**Pn**	**12 14 44.9**	**+0.9**
MYKOM	**Kota Tinggi**	**6.71**	**87**	P	Pn	12 14 53.7	+2.6
MYKOM	**Kota Tinggi**	**6.71**	**87**	P	**Pn**	**12 14 52.5**	**+1.4**
	163nm,1.1s,3µm56µm1.8nm						
KSI	**Kapahiang**	**7.43**	**133**	P	**Pn**	**12 15 03.0**	**+2.0**
	402nm,0.9s,6µm1.9nm						
LWLI	**Liwa**	**9.43**	**133**	P	Pn	12 15 39.7	+11
PPBI	**Pangkal Pinang**	**9.68**	**112**	P	Pn	12 15 34.4	+2.6
	53nm,1.4s,2µm						
KASI	**Kota Agung**	**10.09**	**133**	P	Pn	12 15 44.3	+6.9
	106nm,0.8s						
DBJI	**Dramaga**	**12.45**	**130**	P	**P**	**12 16 20.3**	**-0.9**
KSM	**Kuching**	**13.16**	**90**	*e*Pn	**Pn**	**12 16 20.6**	**+1.1**
KSM	**Kuching**	**13.16**	**90**	P	Pn	12 16 22.5	+3.0
KSM	**Kuching**	**13.16**	**90**	P	P	12 16 23.9	-5.2
	77nm,1.0s,1µm						
STKI	**Sintang**	**14.40**	**95**	P	P	12 16 39.5	-3.4
	129nm,1.3s						
TGJI	**Tegal**	**14.53**	**125**	P	P	12 16 53.8	+9.5
PBKI	**Pangkalan Bun**	**15.09**	**106**	P	**P**	**12 16 47.7**	**-3.0**
	224nm,1.5s,2µm						
SBUM	**Sibu**	**15.10**	**86**	P	**P**	**12 16 48.1**	**-2.6**
SBUM	**Sibu**	**15.10**	**86**	P	**Pn**	**12 16 46.5**	**+0.7**
	119nm,1.3s,2µm22µm						
BTM	**Bintulu**	**16.02**	**83**	P	**P**	**12 17 00.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**17.00**	**6**	Pn	**Pn**	**12 17 09.3**	**-0.9**
CMAR				ScP	**ScP**	**12 25 28.9**	**+0.7**
CMAR	**Chiang Mai Arr**	**17.00**	**6**	Pn	**Pn**	**12 17 09.3**	**-0.9**
	1.9nm,0.3s,baz=195,slow=13,SNR=152						
CMAR				LR	LR	12 24 45.1	
	comp=Z,22µm,18.3s,baz=188,slow=41						
CMAR				ScP	**ScP**	**12 25 28.9**	**+0.7**
	0.3nm,0.3s,baz=227,slow=3.2,SNR=5.3						
SJI	**Sawahan**	**17.20**	**122**	P	P	12 17 23.2	+9.1
CHTO	**Chiang Mai**	**17.36**	**6**	*e*P	**Pn**	**12 17 13.3**	**-1.4**
CHTO	**Chiang Mai**	**17.36**	**6**	*e*Pn	**Pn**	**12 17 13.3**	**-1.4**
CHTO	**Chiang Mai**	**17.36**	**6**	P	**Pn**	**12 17 13.7**	**-0.9**
	SNR=44						
CHTO	**Chiang Mai**	**17.36**	**6**	P	**Pn**	**12 17 13.2**	**-1.4**
	72nm,1.0s,2µm15µm						
BBKI	**Banjar Baru**	**18.35**	**105**	P	**Pn**	**12 17 28.4**	**+1.5**
	89nm,0.9s,2µm						
KMMI	**Kalianget**	**18.79**	**117**	P	**Pn**	**12 17 33.4**	**+1.2**
	106nm,1.4s,2µm						
KKM	**Kota Kinabalu**	**19.57**	**76**	*e*P	**Pn**	**12 17 40.5**	**-1.2**
	408nm,1.3s						
KKM	**Kota Kinabalu**	**19.57**	**76**	P	**Pn**	**12 17 42.4**	**+0.7**
KKM	**Kota Kinabalu**	**19.57**	**76**	P	**Pn**	**12 17 42.1**	**+0.4**
	233nm,1.3s,3µm30µm						
SMKI	**Samarinda**	**20.15**	**95**	P	Pn	12 17 48.9	+0.4
	114nm,1.6s,11µm						
KDM	**Kudat**	**20.37**	**74**	P	Pn	12 17 49.4	-1.7
SDKM	**Sandakan**	**20.44**	**78**	P	Pn	12 17 50.2	-1.7
TSM	**Tawau**	**20.89**	**82**	P	Pn	12 17 55.4	-1.8
QIZ	**Qiongzhong**	**21.46**	**35**	P	**P**	**12 17 59.6**	**-1.0**
QIZ				pP	**pP**	**12 18 08.4**	**-0.6**
QIZ				sP	sP	12 18 16.6	+3.6
QIZ				S	**S**	**12 21 59.5**	**+2.4**
QIZ				pmax	pmax		
	comp=Z,88nm,1.3s						
QIZ				LR	LR		
	comp=N,15µm,15.2s						
QIZ				LR	LR		
	comp=E,7µm,14.9s						
QIZ				LR	LR		
	comp=Z,12µm,15.4s						
QIZ	**Qiongzhong**	**21.46**	**35**	*e*P	**P**	**12 18 01.1**	**+0.5**
	comp=Z,147nm,1.3s						
QIZ				LR	LR		
	comp=Z,8µm,21.0s						
MYLDM	**Lahad Datu**	**21.64**	**80**	P	**P**	**12 18 05.4**	**+2.8**
MYLDM	**Lahad Datu**	**21.64**	**80**	P	**P**	**12 18 03.3**	**+0.8**
	comp=Z,218nm,1.7s,comp=Z,3µm						
CAL	**Calcutta**	**22.66**	**338**	*e*PKP	**P**	**12 18 11.7**	**-1.6**
CAL				*ex*	x	12 22 20.9	
AGT	**Agartala**	**23.03**	**346**	*ex*	x	12 18 19.0	
AGT				*ex*	x	12 19 27.0	
TTSI	**Tana Toraja**	**23.10**	**101**	P	**P**	**12 18 19.4**	**+1.3**
	comp=Z,105nm,1.2s,comp=Z,2µm						
SPSI	**Sidrap Palu**	**23.24**	**103**	P	**P**	**12 18 21.3**	**+1.8**
	comp=Z,56nm,1.2s,comp=Z,2µm						
IMP	**Imphal**	**23.41**	**353**	*e*PKP	**P**	**12 18 18.0**	**-3.1**
IMP				*ex*	x	12 22 20.0	
KAPI	**Kappang**	**23.48**	**106**	*e*P	**P**	**12 18 21.0**	**-0.8**
	comp=Z,131nm,1.3s						
KAPI				LR	LR		
	comp=Z,11µm,21.0s						
KAPI	**Kappang**	**23.48**	**106**	P	**P**	**12 18 21.5**	**-0.3**
	comp=Z,79nm,1.2s,comp=Z,1µm						
KAPI	**Kappang**	**23.48**	**106**	P	**P**	**12 18 21.0**	**-0.8**
	comp=Z,58nm,1.0s,baz=274,slow=6.5,SNR=8.8						
BKSI	**Bulukumba**	**23.91**	**106**	P	**P**	**12 18 26.8**	**+0.8**
	comp=Z,95nm,1.3s,comp=Z,2µm						
KMI	**Kunming**	**24.16**	**12**	⇑P	**P**	**12 18 28.3**	**-0.1**
KMI				pP	**pP**	**12 18 37.9**	**+0.4**
KMI				PcP	**PcP**	**12 22 08.4**	**-0.6**
KMI				S	**S**	**12 22 43.3**	**-1.4**
KMI				pmax	pmax		
	comp=Z,300nm,1.3s						
KMI				pmax	pmax		
	comp=Z,2µm,4.9s						
KMI				LR	LR		
	comp=N,33µm,16.0s						
KMI				LR	LR		
	comp=E,23µm,13.9s						
KMI				LR	LR		
	comp=Z,38µm,15.5s						
HYB	**Hyderabad**	**24.21**	**312**	*i* P	**P**	**12 18 30.0**	**+1.3**
HYB				*e*pP	**pP**	**12 18 38.0**	**+0.2**
HYB				*e*S	**S**	**12 22 45.0**	**-0.3**
HYB				LR	LR	12 27 30.0	
	comp=Z,4.6nm,20.0s						
SHL	**Shillong**	**24.52**	**348**	⇑*i*P	**P**	**12 18 31.0**	**-0.6**
SHL				*ex*	x	12 22 55.0	
MRSI	**Marisa**	**24.81**	**92**	P	**P**	**12 18 33.6**	**-0.6**
	comp=Z,150nm,1.2s,comp=Z,2µm						
LUWI	**Luwuk**	**25.74**	**95**	P	**P**	**12 18 43.8**	**+1.1**
KDI	**Kendari**	**26.02**	**102**	P	**P**	**12 18 45.6**	**+0.5**
	comp=Z,32nm,0.8s,comp=Z,921nm						
DGAR	**Diego Garcia**	**26.16**	**250**	PFAKE		12 19 00.0	+14
DGAR				LR	LR		
	comp=Z,6µm,19.0s						
LATR	**Latur**	**26.32**	**311**	*ex*	x	12 18 52.6	
NGP	**Nagpur**	**26.37**	**319**	*e*PKP	**P**	**12 18 49.0**	**+0.7**
NGP				*ex*	x	12 19 15.3	
	comp=Z,119nm,1.6s						
NGP				*e*S	**S**	**12 23 19.2**	**-0.4**
GYA	**Guiyang**	**26.51**	**19**	⇑*i*P	**P**	**12 18 48.1**	**-1.5**
GYA				pP	pP	12 19 03.3	+4.6
GYA				PcP	**PcP**	**12 22 17.6**	**+3.5**
GYA				ScP	**ScP**	**12 25 52.4**	**+0.5**
GYA				pmax	pmax		
	comp=Z,190nm,1.1s						
GYA				pmax	pmax		
	comp=Z,950nm,12.1s						
GYA				LR	LR		
	comp=N,31µm,15.8s						
GYA				LR	LR		
	comp=E,8µm,13.6s						
GYA				LR	LR		
	comp=Z,45µm,15.5s						
HKC	**Hong Kong Obse**	**26.54**	**37**	P	**P**	**12 18 50.0**	**+0.3**
GZH	**Guangzhou**	**26.65**	**35**	P	P	12 18 55.8	+5.1
GZH				S	S	12 23 45.8	+22
GZH				LR	LR		
	comp=N,15µm,13.9s						
GZH				LR	LR		
	comp=E,17µm,12.8s						
GZH				LR	LR		
	comp=Z,35µm,13.4s						
KMSI	**Cibinong**	**26.85**	**92**	P	P	12 18 59.5	+6.9
MMRI	**Maumere**	**26.94**	**112**	P	**P**	**12 18 51.1**	**-2.4**
	comp=Z,90nm,1.4s,comp=Z,952nm						
ODAN	**Odare**	**26.96**	**340**	*e*P	**P**	**12 18 55.0**	**+1.3**
	comp=Z,727nm,1.0s						
ODAN	**Odare**	**26.96**	**340**	*e*P	**P**	**12 18 55.0**	**+1.3**
	comp=Z,727nm,1.0s						
GTK	**Gangtok**	**27.02**	**343**	*ex*	x	12 18 48.0	
TAPN	**Taplejung**	**27.31**	**341**	*e*P	**P**	**12 18 58.7**	**+1.8**
	comp=Z,1µm,0.9s						
TAPN	**Taplejung**	**27.31**	**341**	*e*P	**P**	**12 18 58.7**	**+1.8**
	comp=Z,1µm,0.9s						
RAMN	**Ramite**	**27.31**	**339**	*e*P	**P**	**12 18 58.8**	**+1.9**
	comp=Z,471nm,0.9s						
RAMN	**Ramite**	**27.31**	**339**	*e*P	**P**	**12 18 58.8**	**+1.9**
	comp=Z,471nm,0.9s						
AKL	**Akola**	**27.44**	**316**	*e*PKP	**P**	**12 18 58.4**	**+0.5**
BCPH	**Baguio City Da**	**27.45**	**56**	⇑*i*P	**P**	**12 18 56.7**	**-1.5**
KAD	**Karad**	**27.54**	**306**	*e*PKP	**P**	**12 18 59.5**	**+0.7**
JIRN	**Jiri**	**28.11**	**339**	*e*P	**P**	**12 19 05.1**	**+0.9**
	comp=Z,179nm,1.0s						
JIRN	**Jiri**	**28.11**	**339**	*e*P	**P**	**12 19 05.1**	**+0.9**
	comp=Z,179nm,1.0s						
PKI	**Pulchoki**	**28.31**	**338**	*e*P	**P**	**12 19 07.2**	**+1.2**
	comp=Z,386nm,1.2s						
PKI	**Pulchoki**	**28.31**	**338**	*e*P	**P**	**12 19 07.2**	**+1.2**
PKI				pmax	pmax		
	comp=Z,386nm,1.2s						
PKI	**Pulchoki**	**28.31**	**338**	*e*P	**P**	**12 19 07.2**	**+1.2**
	comp=Z,386nm,1.2s						
GUN	**Gumba**	**28.45**	**339**	*e*P	**P**	**12 19 07.7**	**+0.5**
	comp=Z,586nm,0.8s						
GUN	**Gumba**	**28.45**	**339**	*e*P	**P**	**12 19 07.7**	**+0.5**
	comp=Z,586nm,0.8s						
DMN	**Daman**	**28.46**	**337**	*e*P	**P**	**12 19 08.6**	**+1.4**
	comp=Z,492nm,1.2s						
DMN	**Daman**	**28.46**	**337**	*e*P	**P**	**12 19 08.6**	**+1.4**
	comp=Z,492nm,1.2s						
POO	**Poona**	**28.47**	**308**	⇑*i*P	**P**	**12 19 08.0**	**+0.8**
	comp=Z,107nm,1.5s						
POO				*e*PCP	**PcP**	**12 22 17.0**	**-1.9**
KKN	**Kakani**	**28.56**	**338**	*e*P	**P**	**12 19 09.4**	**+1.4**
	comp=Z,675nm,1.2s						
KKN	**Kakani**	**28.56**	**338**	*e*P	**P**	**12 19 09.4**	**+1.4**
KKN				pmax	pmax		
	comp=Z,675nm,1.2s						
KKN	**Kakani**	**28.56**	**338**	*e*P	**P**	**12 19 09.4**	**+1.4**
	comp=Z,675nm,1.2s						
LSA	**Lhasa**	**28.68**	**349**	P	**P**	**12 19 10.4**	**+1.0**
LSA				LR	LR		
	comp=N,3µm,21.2s						
LSA				LR	LR		
	comp=E,5µm,23.5s						
LSA				LR	LR		
	comp=Z,7µm,20.1s						
LSA	**Lhasa**	**28.68**	**349**	*e*P	**P**	**12 19 09.9**	**+0.5**
LSA				pmax	pmax		
	comp=Z,63nm,0.8s						
LSA				MLR	MLR		
	comp=Z,8µm,19.0s						
LSA	**Lhasa**	**28.68**	**349**	*e*P	**P**	**12 19 09.9**	**+0.5**
	comp=Z,64nm,0.8s						
LSA				LR	LR		
	comp=Z,8µm,19.0s						
DAV	**Davao City (W)**	**28.89**	**78**	P	**P**	**12 19 13.2**	**+2.3**
	SNR=8.3						
DAV	**Davao City (W)**	**28.89**	**78**	LR	LR	12 32 55.4	
	comp=Z,4µm,19.0s,baz=337,slow=41						
GKN	**Gorkha**	**29.00**	**337**	*e*P	**P**	**12 19 12.5**	**+0.6**
	comp=Z,458nm,0.9s						
GKN	**Gorkha**	**29.00**	**337**	*e*P	**P**	**12 19 12.5**	**+0.6**
	comp=Z,458nm,0.9s						
KOLN	**Koldanda**	**29.22**	**335**	*e*P	**P**	**12 19 14.6**	**+0.7**
	comp=Z,189nm,0.6s						
KOLN	**Koldanda**	**29.22**	**335**	*e*P	**P**	**12 19 14.6**	**+0.7**
	comp=Z,189nm,0.6s						
DANN	**Dangsing**	**29.66**	**336**	*e*P	**P**	**12 19 18.5**	**+0.6**
	comp=Z,307nm,0.9s						
DANN	**Dangsing**	**29.66**	**336**	*e*P	**P**	**12 19 18.5**	**+0.6**
	comp=Z,307nm,0.9s						
PYUN	**Piuthan**	**29.77**	**334**	*e*P	**P**	**12 19 19.5**	**+0.7**
	comp=Z,296nm,0.9s						
PYUN	**Piuthan**	**29.77**	**334**	*e*P	**P**	**12 19 19.5**	**+0.7**
	comp=Z,296nm,0.9s						
CD2	**Chengdu**	**29.97**	**11**	P	**P**	**12 19 20.4**	**0.0**
CD2				pP	**pP**	**12 19 30.0**	**+0.5**
CD2				sP	**sP**	**12 19 34.0**	**+0.6**
CD2				PP	**PnPn**	**12 20 19.3**	**+1.7**
CD2				PcP	**PcP**	**12 22 21.3**	**-1.1**
CD2				S	**S**	**12 24 16.0**	**-0.3**
CD2				sS	**sS**	**12 24 31.9**	**+0.5**
CD2				SS	**SnSn**	**12 25 54.9**	**+5.4**
CD2				PcS	**PcS**	**12 26 03.6**	**-2.3**
CD2				pmax	pmax		
	comp=Z,140nm,1.0s						
CD2				pmax	pmax		
	comp=Z,770nm,5.8s						
CD2				LR	LR		
	comp=N,19µm,17.6s						
CD2				LR	LR		
	comp=E,29µm,17.2s						
CD2				LR	LR		
	comp=Z,23µm,18.4s						
LBMI	**Labuha**	**30.43**	**94**	P	**P**	**12 19 27.0**	**+2.5**
	comp=Z,122nm,1.5s,comp=Z,2µm						
ENH	**Enshi**	**30.98**	**21**	*e*P	**P**	**12 19 26.6**	**-2.7**
	comp=Z,312nm,0.9s						
ENH				LR	LR		
	comp=Z,15µm,19.0s						
QZH	**Quanzhou**	**31.23**	**40**	⇑*i*P	**P**	**12 19 30.1**	**-1.3**
QZH				S	**S**	**12 24 37.1**	**+1.2**
QZH				pmax	pmax		
	comp=Z,1µm,5.0s						
QZH				LR	LR		
	comp=N,27µm,13.5s						
QZH				LR	LR		
	comp=E,17µm,14.2s						
QZH				LR	LR		
	comp=Z,32µm,15.2s						
TPUB	**Ta-pu**	**31.48**	**45**	*e*P	**P**	**12 19 33.4**	**-0.4**
	comp=Z,115nm,1.2s						
TWG	**Pinlang**	**31.49**	**46**	*e*P	**P**	**12 19 35.9**	**+2.1**
	comp=Z,494nm,1.4s						
MBWA	**Marble Bar**	**31.51**	**137**	*e*P	**P**	**12 19 35.0**	**+1.0**
	comp=Z,105nm,1.5s						
MBWA				LR	LR		
	comp=Z,7µm,21.0s						
YULB	**Yu-li**	**32.01**	**45**	*e*P	**P**	**12 19 39.3**	**+0.9**
	comp=Z,103nm,1.1s						
SSLB	**Suanglung**	**32.02**	**44**	*e*P	**P**	**12 19 38.3**	**-0.2**
	comp=Z,192nm,1.1s						
PTH	**Pithoragarh**	**32.27**	**332**	*e*PKP	**P**	**12 19 40.7**	**-0.1**
PTH				*ex*	x	12 22 56.1	
YHNB	**Yeheng**	**32.89**	**43**	*e*P	**P**	**12 19 47.4**	**+1.3**
	comp=Z,41nm,0.9s						
YHNB				LR	LR		
	comp=Z,6µm,20.0s						
AJM	**Ajmer**	**32.98**	**321**	*e*PKP	**P**	**12 19 48.0**	**+1.1**
TATO	**Taipei**	**33.17**	**43**	PFAKE		12 20 00.0	+12
TATO				LR	LR		
	comp=Z,5µm,20.0s						
WHN	**Wuhan**	**33.23**	**28**	P	**P**	**12 19 49.4**	**+0.5**
WHN				sP	sP	12 20 04.9	+2.9
WHN				S	**S**	**12 25 08.8**	**+1.8**
WHN				pmax	pmax		
	comp=Z,150nm,1.0s						
WHN				pmax	pmax		
	comp=Z,1µm,5.7s						
WHN				LR	LR		
	comp=N,17µm,12.9s						
WHN				LR	LR		
	comp=E,17µm,12.9s						
WHN				LR	LR		
	comp=Z,40µm,14.3s						
FITZ	**Fitzroy Crossi**	**34.11**	**126**	*e*P	**P**	**12 19 55.6**	**-1.2**
	comp=Z,8.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**34.11**	**126**	*e*P	**P**	**12 19 54.9**	**-1.8**
	comp=Z,16nm,0.8s						
FITZ				*e*S	S	12 25 11.2	-10
FITZ	**Fitzroy Crossi**	**34.11**	**126**	P	**P**	**12 19 55.0**	**-1.8**
	comp=Z,6.0nm,0.7s,baz=295,slow=6.6						
XAN	**Xi'an**	**34.25**	**18**	P	**P**	**12 19 56.9**	**-1.0**
XAN				S	**S**	**12 25 26.5**	**+3.6**
XAN				pmax	pmax		
	comp=Z,97nm,1.1s						
XAN				LR	LR		
	comp=N,14µm,15.1s						
XAN				LR	LR		
	comp=E,3µm,13.6s						
XAN				LR	LR		
	comp=Z,8µm,14.9s						
LZH	**Lanzhou**	**35.03**	**9**	*e*P	**P**	**12 20 04.3**	**-0.4**
LZH				pP	**pP**	**12 20 15.0**	**+1.1**
LZH				sP	sP	12 20 19.5	+1.7
LZH				S	**S**	**12 25 34.3**	**-0.8**
LZH				sS	**sS**	**12 25 50.0**	**-0.3**
LZH				SS	**SnSn**	**12 27 52.0**	**-0.4**
LZH				pmax	pmax		
	comp=Z,220nm,1.1s						
LZH				pmax	pmax		
	comp=Z,650nm,5.9s						
LZH				LR	LR		
	comp=N,15µm,15.8s						
LZH				LR	LR		
	comp=E,18µm,15.8s						
LZH				LR	LR		
	comp=Z,18µm,17.5s						
SMLA	**Simla**	**35.06**	**329**	*i* P	**P**	**12 20 05.7**	**+0.9**
SMLA				AMb	AMB	12 20 14.3	
	comp=Z,289nm,0.5s						
SMLA				*i* S	**S**	**12 25 34.1**	**-1.3**
NJ2	**Nanjing**	**36.69**	**32**	*e*P	**P**	**12 20 19.5**	**+0.7**
NJ2				pP	**pP**	**12 20 29.1**	**+1.0**
NJ2				sP	**sP**	**12 20 33.0**	**+1.1**
NJ2				PP	**PnPn**	**12 21 42.0**	**-0.7**
NJ2				S	**S**	**12 26 04.0**	**+3.7**
NJ2				sS	sS	12 26 19.0	+3.4
NJ2				pmax	pmax		
	comp=Z,60nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,710nm,6.1s						
NJ2				LR	LR		
	comp=N,11µm,14.2s						
NJ2				LR	LR		
	comp=E,10µm,14.7s						
NJ2				LR	LR		
	comp=Z,29µm,18.2s						
SSE	**Sheshan**	**37.25**	**35**	P	**P**	**12 20 24.3**	**+0.7**
SSE				PP	**PnPn**	**12 21 50.3**	**+0.7**
SSE				S	**S**	**12 26 10.9**	**+2.0**
SSE				pmax	pmax		
	comp=Z,55nm,0.8s						
SSE				pmax	pmax		
	comp=Z,710nm,12.0s						
SSE				LR	LR		
	comp=N,9µm,16.8s						
SSE				LR	LR		
	comp=E,5µm,16.8s						
SSE				LR	LR		
	comp=Z,13µm,16.0s						
GTA	**Gaotai**	**37.87**	**3**	⇓P	**P**	**12 20 29.1**	**+0.2**
GTA				pP	**pP**	**12 20 38.1**	**-0.1**
GTA				sP	**sP**	**12 20 42.3**	**+0.3**
GTA				PP	**PnPn**	**12 21 58.4**	**+1.3**
GTA				S	**S**	**12 26 16.6**	**-1.7**
GTA				sS	**ScP**	**12 26 32.8**	**+2.5**
GTA				SS	**SnSn**	**12 28 52.4**	**-8.6**
GTA				pmax	pmax		
	comp=Z,44nm,1.0s						
GTA				pmax	pmax		
	comp=Z,1µm,8.1s						
GTA				LR	LR		
	comp=N,10µm,13.5s						
GTA				LR	LR		
	comp=E,7µm,13.5s						
GTA				LR	LR		
	comp=Z,10µm,13.8s						
TIY	**Taiyuan**	**38.74**	**20**	*e*P	**P**	**12 20 36.3**	**+0.1**
TIY				PP	**PnPn**	**12 22 07.3**	**-0.3**
TIY				S	**S**	**12 26 31.8**	**+0.3**
TIY				pmax	pmax		
	comp=Z,470nm,6.2s						
TIY				LR	LR		
	comp=N,21µm,14.5s						
TIY				LR	LR		
	comp=E,15µm,13.6s						
TIY				LR	LR		
	comp=Z,25µm,14.9s						
NIL	**Nilore**	**39.09**	**328**	PFAKE		12 20 50.0	+11
NIL				LR	LR		
	comp=Z,71nm,22.0s						
NWAO	**Narrogin (SRO)**	**39.09**	**153**	LR	LR	12 36 26.0	
	comp=Z,6µm,21.7s,baz=329,slow=36						
JOW	**Kunigami**	**39.12**	**47**	*e*P	**P**	**12 20 40.2**	**+0.8**
	comp=Z,29nm,0.5s						
JOW	**Kunigami**	**39.12**	**47**	P	**P**	**12 20 38.2**	**-1.2**
	comp=Z,74nm,0.5s,baz=242,slow=6.7,SNR=20						
JOW				LR	LR	12 36 53.9	
	comp=Z,3µm,20.2s,baz=20,slow=36						
TIA	**Tai'an**	**39.24**	**26**	⇑P	**P**	**12 20 37.8**	**-2.5**
TIA				PP	**PP**	**12 22 09.4**	**-1.3**
TIA				S	S	12 26 30.3	-8.6
TIA				LR	LR		
	comp=N,12µm,16.7s						
TIA				LR	LR		
	comp=E,12µm,19.0s						
TIA				LR	LR		
	comp=Z,23µm,16.7s						
BTO	**Baotou**	**40.70**	**15**	*e*P	**P**	**12 20 52.3**	**-0.1**
HHC	**Hu-ho-hao-te**	**41.35**	**17**	*e*P	**P**	**12 20 59.8**	**+2.0**
HHC				sP	sP	12 21 12.8	+1.9
HHC				PP	**PnPn**	**12 22 39.9**	**+1.5**
HHC				PcP	**PcP**	**12 22 57.1**	**+1.3**
HHC				ScP	**ScP**	**12 26 43.4**	**-0.3**
HHC				PcS	**PcS**	**12 26 47.3**	**+0.3**
HHC				S	**S**	**12 27 12.0**	**+1.6**
HHC				sS	sS	12 27 29.1	+3.3
HHC				SS	**SS**	**12 30 13.3**	**-1.7**
HHC				ScS	**ScS**	**12 30 57.9**	**-1.8**
HHC				pmax	pmax		
	comp=Z,56nm,1.2s						
HHC				pmax	pmax		
	comp=Z,1µm,6.2s						
HHC				LR	LR		
	comp=N,11µm,15.3s						
HHC				LR	LR		
	comp=E,4µm,14.8s						
HHC				LR	LR		
	comp=Z,9µm,14.0s						
MSEY	**Mahe Island**	**42.07**	**261**	PFAKE		12 21 10.0	+6.0
MSEY				LR	LR		
	comp=Z,4µm,19.0s						
BJT	**Baijiatuau**	**42.12**	**22**	*e*P	**P**	**12 21 05.0**	**+1.1**
	comp=Z,92nm,0.6s						
BJT				LR	LR		
	comp=Z,5µ

WRA S **S** **12 27 20.1 -3.5**
comp=Z,5.2nm,1.2s,baz=296,slow=16,SNR=5.8
WRA LR LR 12 42 02.9
comp=Z,4μm,20.7s,baz=290,slow=41
WRAB Tennant Creek 42.21 122 *e*P **P** **12 21 03.8 -1.2**
WRAB pmax pmax
comp=Z,25nm,0.7s
WRAB MLR MLR
comp=Z,5μm,20.0s
WRAB Tennant Creek 42.21 122 *e*P **P** **12 21 03.8 -1.2**
comp=Z,25nm,0.7s
WRAB LR LR
comp=Z,5μm,20.0s
KSH Kashi 42.53 336 P **P** **12 21 06.4 -1.1**
KSH pP **pP** **12 21 15.0 -1.9**
KSH sP **sP** **12 21 19.3 -1.4**
KSH PP **PP** **12 22 47.3 +0.8**
KSH PcP **PcP** **12 22 58.1 -1.7**
KSH ScP **ScP** **12 26 44.6 -3.9**
KSH PcS **PcS** **12 26 48.8 -3.1**
KSH S **S** **12 27 25.0 -3.0**
KSH sS **sS** **12 27 41.8 -1.7**
KSH SS SS 12 30 30.3 -8.2
KSH ScS **ScS** **12 31 02.3 -4.7**
KSH pmax pmax
comp=Z,27nm,1.0s
KSH pmax pmax
comp=Z,480nm,6.9s
KSH LR LR
comp=N,1μm,13.0s
KSH LR LR
comp=E,2μm,14.2s
KSH LR LR
comp=Z,3μm,21.4s
WBK Wadi Bani Khal 42.63 303 P **P** **12 21 11.1 +2.6**
SNR=7.1
WMQ Urumqi 43.03 350 P **P** **12 21 12.8 +1.4**
WMQ pP **pP** **12 21 22.0 +1.2**
WMQ sP **sP** **12 21 26.0 +1.4**
WMQ PcP **PcP** **12 23 05.4 +4.1**
WMQ S **S** **12 27 36.0 +0.9**
WMQ sS **sS** **12 27 50.0 -0.6**
WMQ ScS **ScS** **12 31 09.0 -0.8**
WMQ pmax pmax
comp=Z,130nm,1.1s
WMQ pmax pmax
comp=Z,1μm,5.0s
WMQ LR LR
comp=N,4μm,16.6s
WMQ LR LR
comp=E,5μm,19.8s
WMQ LR LR
comp=Z,3μm,22.4s
DL2 Dalian 43.49 28⇑ *i*P **P** **12 21 15.8 +0.7**
DL2 S **S** **12 27 46.3 +4.5**
DL2 pmax pmax
comp=Z,100nm,1.4s
DL2 pmax pmax
comp=Z,500nm,6.9s
DL2 LR LR
comp=E,4μm,15.2s
DL2 LR LR
comp=Z,4μm,19.1s
FORT Forrest 43.49 140 *e*P P 12 21 18.6 +3.3
comp=Z,60nm,0.6s
FORT Forrest 43.49 140 *e*P P 12 21 18.6 +3.3
comp=Z,57nm,0.6s
ASAR Alice Springs 43.58 127 P **P** **12 21 15.8 -0.4**
ASAR ScP **ScP** **12 26 53.6 +0.6**
ASAR S **S** **12 27 41.5 -2.2**
ASAR Alice Springs 43.58 127 P **P** **12 21 15.8 -0.4**
comp=Z,18nm,1.1s,baz=300,slow=6.6,SNR=64
ASAR ScP **ScP** **12 26 53.6 +0.6**
comp=Z,3.2nm,1.0s,baz=300,slow=3.7,SNR=8.4
ASAR S **S** **12 27 41.5 -2.2**
comp=Z,3.1nm,1.2s,baz=299,slow=12,SNR=5.9
BSY Bisya 44.18 302 P **P** **12 21 23.5 +2.5**
SNR=11
JNU Nakatsue 44.66 42 *e*P **P** **12 21 23.7 -1.0**
comp=Z,72nm,1.1s
JNU Nakatsue 44.66 42 P **P** **12 21 24.9 +0.2**
comp=Z,118nm,1.0s,baz=176,slow=1.1,SNR=38
JNU LR LR 12 40 34.0
comp=Z,6μm,21.3s,baz=230,slow=37
INCN Inchon 44.98 34 *e*P **P** **12 21 26.6 -0.5**
comp=Z,123nm,1.4s
INCN LR LR
comp=Z,6μm,21.0s
INCN Inchon 44.98 34 P **P** **12 21 27.0 -0.1**
SNR=5.9
KZA Kyzart 44.99 337 P **P** **12 21 29.0 +1.4**
SNR=19
RBK Rabkut 45.10 293 P P 12 21 31.5 +3.0
SNR=12
UCH Uchtor 45.41 336 P **P** **12 21 33.3 +2.3**
SNR=8.6
TKM2 Tokmak 2 45.58 338 *i*P **P** **12 21 32.9 +0.9**
TKM2 Tokmak 2 45.58 338 *e*P **P** **12 21 31.9 -0.1**
comp=Z,79nm,1.0s
TKM2 LR LR
comp=Z,4μm,21.0s
TKM2 Tokmak 2 45.58 338 P **P** **12 21 32.9 +0.9**
SNR=32
KBK Karagaybulak 45.60 337 P **P** **12 21 34.5 +2.4**
SNR=27
KSAR Wonju Array Be 45.66 35 P **P** **12 21 32.5 +0.1**
AML Almayashu 45.66 336 P **P** **12 21 34.5 +1.6**
SNR=39
KSRS Korea Array 45.69 35 P **P** **12 21 32.5 -0.1**
comp=Z,108nm,1.0s,baz=223,slow=8.7,SNR=174
KSRS LR LR 12 41 06.1
comp=Z,4μm,20.9s,baz=101,slow=37
AAK Ala-Archa 45.76 337 *i*P **P** **12 21 34.9 +1.6**
AAK Ala-Archa 45.76 337 *e*P **P** **12 21 33.7 +0.3**
comp=Z,256nm,1.8s
AAK Ala-Archa 45.76 337 P **P** **12 21 36.1 +2.7**
SNR=51
AAK Ala-Archa 45.76 337 P **P** **12 21 35.0 +1.6**
SNR=16
AAK Ala-Archa 45.76 337 P **P** **12 21 33.9 +0.6**
comp=Z,27nm,1.0s,baz=112,slow=2.8,SNR=28
AAK LR LR 12 43 54.5
comp=Z,3μm,19.6s,baz=147,slow=40
FRU Bishkek 45.88 337⇓ *i*P **P** **12 21 36.0 +1.8**
FRU *i* S **S** **12 28 19.0 +2.5**
FRU pmax pmax
comp=Z,160nm,2.0s
ABTO Aybut 45.90 293 P P 12 21 38.7 +4.0
SNR=13
CHMS Chumysh 45.97 337 P **P** **12 21 36.2 +1.3**
SNR=14
EKS2 Erkin-Say 46.07 336 *e*P **P** **12 21 37.5 +1.7**
EKS2 pmax pmax
comp=Z,41nm,0.8s
EKS2 MLR MLR
comp=Z,3μm,20.0s
EKS2 Erkin-Say 46.07 336 *e*P **P** **12 21 37.5 +1.7**
comp=Z,42nm,0.8s
EKS2 LR LR
comp=Z,3μm,20.0s
EKS2 Erkin-Say 46.07 336 P **P** **12 21 37.6 +1.7**
SNR=23
RER Riviere de l'E 46.29 239 PFAKE 12 21 50.0 +12
RER LR LR
comp=Z,2μm,21.0s
USP Ospenovka 46.29 337 P **P** **12 21 38.8 +1.4**
SNR=65
SNY Shenyang 46.72 27 ⇑P **P** **12 21 39.8 -0.9**
SNY pmax pmax
comp=Z,510nm,2.1s
SNY pmax pmax
comp=Z,920nm,5.3s
SNY LR LR
comp=N,9μm,15.9s
SNY LR LR
comp=E,11μm,15.1s
SNY LR LR
comp=Z,12μm,15.2s
SONM Songino Array 46.91 9 P **P** **12 21 42.0 -0.2**
SONM Songino Array 46.91 9 P **P** **12 21 42.0 -0.2**
comp=Z,106nm,0.9s,baz=192,slow=5.9,SNR=338
SONM LR LR 12 44 04.4
comp=Z,15μm,18.5s,baz=188,slow=39
MK31 Makanchi Array 47.00 346 *i*P **P** **12 21 43.2 +0.3**
MK31 pmax pmax
comp=Z,77nm,0.7s
comp=Z,3μm,18.4s,baz=168,slow=42
STKA Stephens Creek 53.56 132 P **P** **12 22 34.0 +1.2**
STKA Stephens Creek 53.56 132 *e*P **P** **12 22 32.6 -0.2**
comp=Z,16nm,0.8s
STKA *e*S **S** **12 30 01.3 -2.8**
STKA Stephens Creek 53.56 132 P **P** **12 22 34.0 +1.2**
comp=Z,29nm,1.2s,baz=304,slow=6.7,SNR=17
QRN Al-Qurain 54.18 305 *e*P **P** **12 22 38.0 +0.6**
QRN AMb AMB 12 22 50.8
comp=Z,84nm,0.6s
NVS Novosibirsk 54.43 350⇓ *i*P **P** **12 22 37.6 -1.1**
NVS *i* S **S** **12 30 13.3 -1.8**
NVS *e* 12 32 28.4
NVS pmax pmax
comp=N,51nm,1.3s
NVS pmax pmax
comp=E,47nm,1.3s
NVS pmax pmax
comp=Z,116nm,1.3s
NVS smax smax
comp=N,26nm,1.7s
NVS smax smax
comp=E,50nm,1.7s
NAY Al-Naaiem 54.91 305 *e*P **P** **12 22 42.6 -0.1**
NAY AMb AMB 12 22 55.4
comp=Z,40nm,0.8s
MIB Mutribah 55.03 306 *e*P **P** **12 22 43.4 -0.2**
MIB AMb AMB 12 22 56.9
comp=Z,131nm,0.9s
PAF Port-aux-Franc 55.67 201 PFAKE 12 23 00.0 +12
PAF LR LR
comp=Z,3μm,19.0s
BVA0 Borovoye Array 56.01 341 *i*P **P** **12 22 49.5 -0.6**
BVA0 pmax pmax
comp=Z,8.0nm,0.9s
BVAR Borovoye Array 56.01 341 P **P** **12 22 49.0 -1.1**
BVAR Borovoye Array 56.01 341 P **P** **12 22 49.0 -1.1**
BVAR Borovoye Array 56.01 341 P **P** **12 22 49.0 -1.1**
comp=Z,38nm,0.9s,baz=147,slow=7.9,SNR=136
KLR Kul'dur 56.07 27 *e*P P 12 22 46.7 -3.9
KLR *e*S **S** **12 30 38.0 +0.8**
KLR *e*SS **SS** **12 34 23.5 -0.4**
KLR pmax pmax
comp=E,100nm,1.2s
KLR pmax pmax
comp=Z,300nm,1.2s
BRVK Borovoye 56.07 341 *ce*P **P** **12 22 50.8 +0.2**
BRVK pmax pmax
comp=Z,65nm,1.2s
BRVK Borovoye 56.07 341 *e*P **P** **12 22 50.5 -0.1**
comp=Z,44nm,0.9s
BRVK LR LR
comp=Z,4μm,22.0s
BRVK Borovoye 56.07 341 P **P** **12 22 51.0 +0.4**
SNR=17
HABR Khabarovsk 57.08 29 *e*P **P** **12 22 56.6 -1.2**
HABR *e**PP **pP** **12 23 05.8 -1.6**
HABR *e**SP **sP** **12 23 10.0 -1.2**
HABR 12 23 51.1
HABR *e* 12 25 02.9
HABR PPP PPP 12 26 19.5
HABR *e*S **S** **12 30 49.5 -1.1**
HABR *e* 12 31 01.5
HABR *e**SS **sS** **12 31 06.2 -0.3**
HABR *e* 12 32 42.3
HABR *e*SS **SS** **12 34 39.4 -0.4**
HABR pmax pmax
comp=N,34nm,1.2s
HABR pmax pmax
comp=Z,131nm,1.2s
HABR pmax pmax
comp=E,101nm,1.4s
HABR pmax pmax
comp=Z,173nm,1.1s
HABR MLR MLR
comp=N,3μm,15.0s
HABR MLR MLR
comp=E,8μm,18.0s
HABR MLR MLR
comp=Z,8μm,16.0s
AB31 Akbulak array 57.28 332 *i*P **P** **12 22 58.6 -0.6**
AB31 pmax pmax
comp=Z,124nm,1.0s
ERM Erimo 57.72 39 PFAKE 12 23 10.0 +7.5
ERM LR LR
comp=Z,2μm,19.0s
BOD Bodaibo 57.79 11 *e*P **P** **12 23 01.5 -1.1**
BOD pmax pmax
comp=Z,74nm,1.3s
ASAJ Asahikawa 58.51 37 *e*P **P** **12 23 09.6 +1.6**
comp=Z,35nm,1.1s
ASAJ Asahikawa 58.51 37 P **P** **12 23 08.4 +0.4**
comp=Z,6.1nm,0.4s,baz=231,slow=14,SNR=8.9
ASAJ LR LR 12 47 38.6
comp=Z,3μm,21.7s,baz=95,slow=35
EIDS Eidsvold 58.55 121 *e*P **P** **12 23 08.6 0.0**
comp=Z,24nm,0.7s
BHD Baghdad 58.64 309 *ex* P **P** **12 23 09.0 -0.1**
BHD *ex* **S** **12 31 09.0 -2.6**
AKTO Aktyubinsk 58.99 332 P **P** **12 23 10.9 -0.4**
AKTO Aktyubinsk 58.99 332 P **P** **12 23 10.9 -0.4**
AKTO Aktyubinsk 58.99 332 P **P** **12 23 10.9 -0.4**
comp=Z,32nm,0.9s,baz=134,slow=6.1,SNR=67
CLNS Chul'man 59.53 17 *e*P **P** **12 23 15.6 +0.7**
CLNS *e**PP pP 12 23 33.3 +8.7
CLNS *e* 12 23 58.0
CLNS *e* 12 25 29.8
CLNS *e*PPP PPP 12 26 53.1
CLNS *e*S **S** **12 31 28.0 +5.6**
CLNS pmax pmax
comp=Z,64nm,1.0s
CLNS pmax pmax
comp=E,30nm,1.0s
CLNS pmax pmax
comp=N,34nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=Z,10.0nm,1.1s
CLNS smax smax
comp=E,546nm,14.6s
CLNS smax smax
comp=N,461nm,12.3s
CLNS MLR MLR
comp=N,8μm,16.0s
CLNS MLR MLR
comp=E,8μm,14.0s
CLNS MLR MLR
comp=Z,14μm,16.0s
KMBO Kilima Mbogo 59.94 268 *e*P **P** **12 23 20.2 +1.4**
comp=Z,8.1nm,1.4s
KMBO LR LR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 59.94 268 *e*P **P** **12 23 18.6 -0.1**
YSS Yuzh-Sakhalins 60.18 34α *i*P **P** **12 23 21.5 +2.0**
*e**SP **sP** **12 23 34.0 +1.1**
YSS *e* 12 25 36.0
YSS *e*S **S** **12 31 34.0 +2.9**
YSS *e*PS **PnS** **12 31 46.0 -0.9**
YSS *e* 12 33 07.0
YSS *e*SSS SSS 12 37 56.0
YSS pmax pmax
comp=Z,210nm,1.1s
YSS pmax pmax
comp=Z,500nm,5.0s
YSS MLR MLR
comp=N,2μm,16.0s
YSS MLR MLR
comp=Z,4μm,16.0s
YSS Yuzh-Sakhalins 60.18 34 *e*P **P** **12 23 20.4 +0.9**
comp=Z,222nm,1.1s
YSS LR LR
comp=Z,676nm,20.0s
YUK Yuzh-Kuril'sk 60.46 39 *i*P P 12 23 15.7 -5.7
YUK *i* 12 25 31.9
YUK *i* PPP PPP 12 26 57.1
YUK *i* S **S** **12 31 35.9 +1.2**
YUK pmax pmax
comp=N,174nm,1.5s
YUK pmax pmax
comp=E,221nm,1.5s
YUK pmax pmax
comp=Z,292nm,1.5s
MKAR Makanchi Array 47.00 346 P **P** **12 21 42.5 -0.4**
MKAR Makanchi Array 47.00 346 P **P** **12 21 42.5 -0.4**
MKAR Makanchi Array 47.00 346 P **P** **12 21 42.5 -0.4**
comp=Z,118nm,0.9s,baz=158,slow=6.6,SNR=436
MKAR LR LR 12 45 17.5
comp=Z,3μm,21.6s,baz=160,slow=41
ULN Ulaanbaatar 47.04 9 *e*P **P** **12 21 42.7 -0.6**
comp=Z,91nm,1.0s
ULN LR LR
comp=Z,11μm,21.0s
ULN Ulaanbaatar 47.04 9 P **P** **12 21 43.1 -0.2**
SNR=50
ULN Ulaanbaatar 47.04 9 P **P** **12 21 43.4 +0.1**
comp=Z,96nm,1.0s,comp=Z,1μm
KK31 Karatay Array 47.82 334 *i*P **P** **12 21 50.5 +1.2**
KK31 pmax pmax
comp=Z,10.0nm,0.5s
COEN Coen 48.10 110 *e*P **P** **12 21 51.1 -0.8**
comp=Z,353nm,1.3s
GUMO Guam 48.72 73 LR LR 12 43 25.1
comp=Z,970nm,18.1s,baz=74,slow=37
ZAK Zakamensk 49.04 5⇑ *i*P **P** **12 21 58.1 -0.6**
ZAK pmax pmax
comp=Z,30nm,1.3s
CN2 Changchun 49.12 27⇓ P **P** **12 21 59.0 -0.3**
CN2 *es*P **sP** **12 22 13.8 +1.3**
CN2 *e*S **S** **12 29 01.3 -1.1**
CN2 pmax pmax
comp=Z,60nm,1.0s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,5μm,14.0s
CN2 LR LR
comp=E,8μm,14.0s
CN2 LR LR
comp=Z,8μm,16.0s
BBOO Buckleboo 50.09 136 *e*P **P** **12 22 07.3 +0.5**
comp=Z,164nm,0.6s
CBIJ Chichi jima 50.13 55 P **P** **12 22 07.1 -0.2**
CBIJ Chichi jima 50.13 55 P **P** **12 22 07.1 -0.2**
comp=Z,58nm,0.6s,baz=293,slow=16,SNR=7.7
CBIJ LR LR 12 41 28.2
comp=Z,1μm,21.9s,baz=255,slow=34
MOY Mondy 50.16 3 *e*P **P** **12 22 07.8 +0.6**
MOY pmax pmax
comp=Z,49nm,2.6s
TLY Talaya 50.36 5 *e*P **P** **12 22 09.6 +1.0**
TLY *e* 12 24 07.2
TLY *e*S **S** **12 29 20.3 +0.7**
TLY *e* 12 29 33.1
TLY *e* 12 31 55.6
TLY pmax pmax
comp=Z,43nm,0.9s
TLY MLR MLR
comp=Z,7μm,17.0s
TLY Talaya 50.36 5 *e*P **P** **12 22 10.0 +1.4**
comp=Z,41nm,0.9s
TLY LR LR
comp=Z,10μm,19.0s
TLY Talaya 50.36 5 P **P** **12 22 10.0 +1.4**
SNR=20
PMG Port Moresby 50.96 103 *e*P **P** **12 22 13.6 -0.2**
comp=Z,19nm,0.7s
PMG LR LR
comp=Z,4μm,20.0s
PMG Port Moresby 50.96 103 P **P** **12 22 14.6 +0.8**
comp=Z,34nm,0.7s,comp=Z,1μm
IRK Irkutsk 50.98 6 *e*P **P** **12 22 13.7 +0.5**
IRK pmax pmax
comp=Z,129nm,1.7s
ABKT Ailbek 50.99 320 P **P** **12 22 14.3 +0.6**
comp=Z,377nm,1.0s,SNR=5.4
HIA Hailar 51.43 19 *e*P **P** **12 22 17.4 +0.7**
comp=Z,100nm,1.1s
HIA LR LR
comp=Z,10μm,22.0s
KURBB Kurchatov Arra 51.49 345 P **P** **12 22 16.4 -0.6**
comp=Z,32nm,0.9s,baz=163,slow=6.8,SNR=106
KURK Kurchatov 51.55 345 *c* *i*P **P** **12 22 17.3 -0.2**
KURK pmax pmax
comp=Z,108nm,1.7s
KURK Kurchatov 51.55 345 *e*P **P** **12 22 17.0 -0.5**
comp=Z,150nm,1.3s
KURK LR LR
comp=Z,4μm,21.0s
KURK Kurchatov 51.55 345 P **P** **12 22 18.3 +0.8**
SNR=49
MAJO Matsushiro 51.55 42 *e*P **P** **12 22 18.2 +0.3**
MAJO pmax pmax
comp=Z,23nm,1.1s
MAJO MLR MLR
comp=Z,4μm,21.0s
MAJO Matsushiro 51.55 42 *e*P **P** **12 22 18.2 +0.3**
comp=Z,23nm,1.1s
MAJO LR LR
comp=Z,4μm,21.0s
MAT Matsushiro 51.55 42 P **P** **12 22 17.3 -0.6**
MAT S **S** **12 29 35.0 -1.6**
MDJ Mudanjiang 51.69 29 P **P** **12 22 19.0 +0.3**
MDJ pP **pP** **12 22 27.5 -0.7**
MDJ sP **sP** **12 22 31.8 -0.2**
MDJ PP **PP** **12 24 16.5 0.0**
MDJ ScP **ScP** **12 27 26.3 -0.3**
MDJ PcS **PcS** **12 27 30.0 +0.2**
MDJ sS **sS** **12 29 53.3 -0.6**
MDJ pmax pmax
comp=Z,86nm,1.1s
MDJ pmax pmax
comp=Z,750nm,7.9s
MDJ LR LR
comp=N,3μm,16.2s
MDJ LR LR
comp=E,5μm,15.6s
MDJ LR LR
comp=Z,9μm,16.2s
MDJ Mudanjiang 51.69 29 *e*P **P** **12 22 19.3 +0.6**
comp=Z,108nm,1.1s
MDJ LR LR
comp=Z,6μm,20.0s
VLA Vladivostok 51.80 32⇑ *i*P **P** **12 22 19.4 -0.1**
VLA 12 23 30.7
VLA *e* 12 24 16.6
VLA S **S** **12 29 39.3 -0.4**
VLA pmax pmax
comp=Z,336nm,1.4s
CIT Chita 52.25 13 *e*P **P** **12 22 24.5 +1.7**
CIT *e* 12 22 34.5
CIT *e* 12 23 32.7
CIT pmax pmax
comp=Z,302nm,1.4s
USRK Ussuriysk Arra 52.60 31 P **P** **12 22 25.6 +0.2**
comp=Z,231nm,1.0s,baz=233,slow=6.0,SNR=106
USRK LR LR 12 46 43.6
comp=Z,9μm,19.9s,baz=212,slow=38
CTA Charters Tower 52.66 117 *e*P **P** **12 22 27.2 +0.8**
comp=Z,16nm,1.2s
CTA *e*S S 12 29 44.0 -8.2
CTAO Charters Tower 52.66 117 *e*P **P** **12 22 26.5 +0.2**
CTAO pmax pmax
comp=Z,60nm,1.4s
CTAO MLR MLR
comp=Z,4μm,20.0s
CTAO Charters Tower 52.66 117 *e*P **P** **12 22 26.5 +0.2**
comp=Z,60nm,1.4s
CTAO LR LR
comp=Z,4μm,20.0s
OPO Ambohidratompo 52.97 245 P **P** **12 22 29.4 +0.5**
OPO Ambohidratompo 52.97 245 P **P** **12 22 29.4 +0.5**
comp=Z,7.2nm,1.0s,baz=62,slow=9.4,SNR=4.6
OPO LR LR 12 40 34.7
comp=Z,3μm,20.3s,baz=16,slow=31
ABPO Ambohimpanom 53.06 245 *e*P **P** **12 22 30.8 +1.3**
ABPO pmax pmax
comp=Z,22nm,1.3s
ABPO MLR MLR
comp=Z,3μm,19.0s
ABPO Ambohimpanom 53.06 245 *e*P **P** **12 22 30.8 +1.3**
comp=Z,22nm,1.3s
ABPO LR LR
comp=Z,3μm,19.0s
ZALV Zalesovo Beam 53.31 351 P **P** **12 22 30.1 -0.4**
ZALV Zalesovo Beam 53.31 351 P **P** **12 22 30.1 -0.4**
ZALV Zalesovo Beam 53.31 351 P **P** **12 22 30.1 -0.4**
comp=Z,82nm,0.7s,baz=175,slow=5.9,SNR=167
ZALV LR LR 12 50 20.4

YUK pmax pmax
comp=Z,490nm,1.5s
YUK MLR MLR
comp=E,2μm,18.0s
YUK MLR MLR
comp=Z,4μm,18.0s
MAK Makhachkala 60.52 320 *e*P **P 12 23 20.7 -1.1**
MAK *e* 12 24 05.3
MAK *e*S **S 12 31 33.9 -1.5**
MAK *e* 12 33 10.2
MAK *e*SS **SS 12 35 40.4 +6.4**
MAK pmax pmax
comp=Z,330nm,2.5s
CAN Canberra 60.62 132 PFAKE 12 23 30.0 +7.2
CAN LR LR
comp=Z,13μm,20.0s
CAN Canberra 60.62 132 *e*P **P 12 23 21.2 -1.6**
comp=Z,9.2nm,0.9s
ARMA Armidale 60.72 126 *e*P **P 12 23 25.7 +2.1**
ARMA *e*S **S 12 31 39.7 +0.9**
GNI Garni 61.08 316 *e*P **P 12 23 26.6 +0.6**
comp=Z,87nm,1.3s
GNI LR LR
comp=Z,1μm,20.0s
GNI Garni 61.08 316 P **P 12 23 27.2 +1.2**
SNR=7.4
GNI Garni 61.08 316 P **P 12 23 25.6 -0.4**
comp=Z,7.8nm,0.7s,baz=163,slow=20,SNR=10
DGRG David-gareji 61.22 318 P **P 12 23 28.4 +1.7**
TBLG Delisi 61.77 318 P **P 12 23 31.2 +0.8**
TBLG Delisi 61.77 318 P **P 12 23 31.2 +0.8**
GOR Gori 62.30 318 P **P 12 23 32.5 -1.5**
SVE Sverdlovsk 62.45 338 ⇓*i*P **P 12 23 35.2 +0.6**
SVE *e* 12 25 53.8
SVE *e*S **S 12 32 00.3 +0.8**
SVE *e*SS **SS 12 36 09.8 +6.0**
SVE *e*SSS SSS 12 38 42.2
SVE pmax pmax
comp=Z,98nm,1.0s
SVE MLR MLR
comp=Z,3μm,19.0s
AKH Akhalkalaki 62.48 317 P **P 12 23 36.2 +0.9**
ZEI Tsey 62.78 318 *e*P **P 12 23 36.3 -1.1**
ZEI pmax pmax
comp=Z,22nm,0.9s
ARU Arti 62.94 337 *d*iP **P 12 23 37.2 -0.7**
ARU S **S 12 32 06.4 +0.7**
ARU SS **SS 12 36 07.3 -4.2**
ARU pmax pmax
comp=Z,73nm,1.2s
ARU MLR MLR
comp=Z,2μm,19.0s
ARU Arti 62.94 337 *e*P **P 12 23 37.5 -0.4**
comp=Z,65nm,1.1s
ARU LR LR
comp=Z,3μm,19.0s
ONI Oni 63.00 318 P **P 12 23 39.5 +0.8**
TAU Tasmania Unive 63.03 141 PFAKE 12 23 50.0 +11
TAU LR LR
comp=Z,12μm,20.0s
HNR Honiara 63.47 101 *e*P **P 12 23 42.4 +0.3**
comp=Z,539nm,1.6s
HNR LR LR
comp=Z,7μm,20.0s
KBZ Khabaz 63.86 319 P **P 12 23 44.4 +0.2**
KBZ Khabaz 63.86 319 P **P 12 23 44.4 +0.2**
KBZ Khabaz 63.86 319 P **P 12 23 44.4 +0.2**
comp=Z,25nm,0.8s,baz=130,slow=4.7,SNR=48
KBZ LR LR 12 56 20.0
comp=Z,658nm,20.4s,baz=115,slow=40
KIV Kislovodsk 64.09 319 *e*P **P 12 23 46.3 +0.4**
KIV *e* 12 24 19.2
KIV *e* 12 26 06.4
KIV *e*S **S 12 32 19.0 -1.7**
KIV *e*SS **SS 12 36 28.0 -2.2**
KIV pmax pmax
comp=Z,65nm,1.1s
KIV pmax pmax
comp=Z,212nm,5.8s
KIV Kislovodsk 64.09 319 *e*P **P 12 23 46.4 +0.4**
comp=Z,52nm,1.0s
KIV LR LR
comp=Z,1μm,19.0s
KIV Kislovodsk 64.09 319 P **P 12 23 46.9 +1.0**
SNR=9.5
KIV Kislovodsk 64.09 319 P **P 12 23 46.6 +0.7**
comp=Z,317nm,1.1s,SNR=5.8
YAK Yakutsk 65.21 16 *e*P **P 12 23 51.3 -1.4**
YAK *e**PP **pP 12 24 03.5 +1.1**
YAK *e* 12 24 24.9
YAK *e* 12 26 14.2
YAK *e*PPP PPP 12 27 46.5
YAK *e*S **S 12 32 32.4 -1.2**
YAK *e**SS **sS 12 32 48.1 -1.6**
YAK *e* 12 33 40.5
YAK *e*SS **SS 12 36 46.5 -0.1**
YAK pmax pmax
comp=Z,324nm,0.9s
YAK pmax pmax
comp=E,122nm,1.5s
YAK pmax pmax
comp=N,132nm,1.2s
YAK pmax pmax
comp=Z,108nm,3.5s
YAK pmax pmax
comp=N,125nm,3.6s
YAK pmax pmax
comp=E,59nm,2.2s
YAK smax smax
comp=N,342nm,5.3s
YAK smax smax
comp=E,154nm,4.7s
YAK MLR MLR
comp=Z,11μm,17.0s
YAK MLR MLR
comp=N,6μm,19.0s
YAK MLR MLR
comp=E,5μm,16.0s
YAK Yakutsk 65.21 16 *e*P **P 12 23 50.9 -1.7**
comp=E,383nm,1.0s
YAK LR LR
comp=Z,10μm,19.0s
EIL Elat 65.28 302 P **P 12 23 53.9 +0.1**
EIL Elat 65.28 302 P **P 12 23 53.9 +0.1**
comp=Z,7.3nm,0.8s,baz=69,slow=6.0,SNR=5.1
MMAI Mount Meron Ar 65.72 306 P **P 12 23 56.9 +0.2**
MMAI Mount Meron Ar 65.72 306 P **P 12 23 56.9 +0.2**
comp=Z,1.5nm,0.3s,baz=141,slow=7.1,SNR=4.7
SOC Sochi 65.91 318 *c*iP **P 12 23 55.8 -1.8**
SOC *e* 12 26 19.7
SOC *e*S **S 12 32 38.7 -4.1**
SOC *e*S S 12 32 39.5 -3.3
SOC *e*SS **SS 12 36 57.3 -0.9**
SOC pmax pmax
comp=Z,31nm,0.7s
SOC MLR MLR
comp=Z,907nm,22.0s
CSS Prodhromos 67.88 307 PFAKE 12 24 20.0 +10
CSS LR LR
comp=Z,1μm,20.0s
ANN Anapa 67.88 318 *e*P P 12 24 04.9 -5.2
ANN *e* 12 26 45.7
ANN *e*S **S 12 33 02.5 -4.1**
ANN *e* 12 34 04.6
ANN pmax pmax
comp=Z,45nm,1.2s
ANN MLR MLR
comp=Z,1μm,21.0s
VRHR Novokhopersk 67.90 326 *e*P **P 12 24 08.6 -1.5**
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,70nm,0.9s
BRTR Keskin Array B 68.91 312 P **P 12 24 15.2 -1.6**
BRTR Keskin Array B 68.91 312 P **P 12 24 15.2 -1.6**
comp=Z,8.4nm,0.9s,baz=135,slow=6.7,SNR=26
BRTR LR LR 12 58 23.5
comp=Z,740nm,18.7s,baz=255,slow=39
VORD Divnogorie 69.16 325 *e*P **P 12 24 16.7 -1.3**
VORD pmax pmax
comp=N,30nm,0.7s
VORD pmax pmax
comp=E,30nm,0.7s
VORD pmax pmax
comp=Z,30nm,0.7s
VORD MLR MLR
comp=N,1μm,18.0s
VORD MLR MLR
comp=E,790nm,18.0s
VORD MLR MLR
comp=Z,1μm,18.0s
VSR Storozhevoye 69.34 325 *e*P **P 12 24 18.0 -1.1**
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,40nm,1.1s
VSR pmax pmax
comp=Z,50nm,1.1s
MSNA Messina 69.49 246 *e*P **P 12 24 22.2 +1.6**
MSNA AMB AMB 12 24 24.6
comp=Z,35nm,3.9s
SKR Severo-Kuril's 69.69 36 *e*P P 12 24 18.0 -3.2
SKR *e* 12 33 34.0
LSZ Lusaka 70.13 253 PFAKE 12 24 40.0 +15
LSZ LR LR
comp=Z,3μm,19.0s
LSZ Lusaka 70.13 253 *e*P **P 12 24 22.9 -1.8**
SIM Simferopol' 70.15 318 *e*P **P 12 24 24.2 0.0**
SIM *e*S **S 12 33 30.0 -3.5**
WAKE Wake Island 70.20 70 PFAKE 12 24 40.0 +15
WAKE LR LR
comp=Z,6μm,22.0s
ISP Isparta 70.77 310 PFAKE 12 24 40.0 +12
ISP LR LR
comp=Z,1μm,20.0s
DZM Mont Dzumac 71.43 114 *e*P **P 12 24 34.5 +1.9**
comp=Z,71nm,1.5s
DZM *e*S **S 12 33 49.5 +0.1**
comp=Z,273nm,23.7s
DZM *e*LR LR 12 46 32.1
comp=Z,3μm,23.6s
DZM Mont Dzumac 71.43 114 *e*P **P 12 24 32.6 0.0**
comp=Z,31nm,1.4s
DZM Mont Dzumac 71.43 114 P **P 12 24 32.4 -0.2**
comp=Z,8.1nm,0.9s,baz=5.9,slow=4.6,SNR=4.1
PETK Petropavlovsk- 71.57 34 P **P 12 24 32.4 -0.3**
PETK Petropavlovsk- 71.57 34 P **P 12 24 32.4 -0.3**
PETK Petropavlovsk- 71.57 34 P **P 12 24 32.4 -0.3**
comp=Z,12nm,0.9s,baz=193,slow=6.1,SNR=9.0
SLR Silverton 71.68 242 *e*P **P 12 24 33.8 -0.3**
SLR AMB AMB 12 24 44.4
comp=Z,37nm,1.4s
PET Petropavlovsk 72.06 34 *e*P **P 12 24 36.0 +0.4**
PET *e*S **S 12 33 53.6 -1.7**
PET pmax pmax
comp=Z,600nm,7.6s
PET pmax pmax
comp=Z,95nm,1.0s
PET pmax pmax
comp=Z,700nm,13.3s
PET pmax pmax
comp=Z,400nm,14.6s
PET MLR MLR
comp=Z,1μm,16.0s
PET MLR MLR
comp=Z,1μm,15.0s
PET Petropavlovsk 72.06 34 *e*P **P 12 24 35.1 -0.6**
comp=Z,90nm,1.0s
PET LR LR
comp=Z,2μm,19.0s
MOS Moscow 72.10 329 *e*P **P 12 24 35.0 -0.8**
MOS *e* 12 24 42.0
MOS *e* 12 27 16.2
MOS pmax pmax
comp=Z,97nm,0.9s
MOS pmax pmax
comp=Z,100nm,1.3s
MOS MLR MLR
comp=Z,2μm,20.0s
OBN Obninsk 72.39 328⇑*e*P **P 12 24 36.8 -0.7**
OBN *e* 12 27 18.6
OBN *i*S **S 12 34 00.4 +1.5**
OBN pmax pmax
comp=Z,47nm,1.0s
OBN MLR MLR
comp=Z,1μm,23.0s
OBN Obninsk 72.39 328 *e*P **P 12 24 36.6 -0.8**
comp=Z,44nm,0.8s
OBN LR LR
comp=Z,2μm,20.0s
PRYS Parys 72.71 241 *e*P **P 12 24 39.2 -1.0**
PRYS AMB AMB 12 24 52.6
comp=Z,28nm,1.7s
SEK Senekal 72.75 240 *e*P **P 12 24 41.6 +1.2**
SEK AMB AMB 12 24 42.5
comp=Z,42nm,3.8s
SEY Seymchan 73.56 23 *e*P **P 12 24 44.7 +0.4**
TIRR Tirgusor 73.91 316 ⇓P **P 12 24 47.2 +0.4**
TIRR Tirgusor 73.91 316 *e*P **P 12 24 47.0 +0.3**
comp=Z,46nm,1.0s
TIRR Tirgusor 73.91 316⇓*i*P **P 12 24 47.2 +0.4**
LBTB Lobatse 73.94 244 *e*P P 12 24 42.7 -4.8
LBTB AMB AMB 12 24 50.9
comp=Z,17nm,1.5s
CFR Carcaliu 74.28 317⇑P **P 12 24 48.8 -0.1**
CFR Carcaliu 74.28 317⇑*i*P **P 12 24 48.8 -0.1**
KIS Kishinev 74.28 319 *e*P **P 12 24 49.0 +0.1**
KIS *e* 12 24 56.0
KIS *e*S **S 12 34 23.0 +2.2**
KIS MLR MLR
comp=Z,1μm,20.0s
KIS MLR MLR
comp=N,1μm,21.0s
KIS MLR MLR
comp=E,700nm,18.0s
KIS MLR MLR
comp=Z,1μm,20.0s
KIS Kishinev 74.28 319 *e*P **P 12 24 49.0 +0.1**
KIS *e*S **S 12 34 23.0 +2.2**
KIS *e*L L 12 50 42.0
KIS LRM MLR 13 02 48.0
comp=Z,1μm,20.0s
SWZ Schweizer 74.54 241 *e*P **P 12 24 49.2 -1.8**
SWZ AMB AMB 12 24 52.3
comp=Z,31nm,4.3s
BOSA Boshof 74.85 240 P **P 12 24 52.3 -0.4**
BOSA Boshof 74.85 240 P **P 12 24 52.3 -0.4**
comp=Z,7.4nm,1.1s,baz=55,slow=3.7,SNR=4.2
BOSA LR LR 12 56 05.5
comp=Z,2μm,18.2s,baz=58,slow=34
BOSA Boshof 74.85 240 *e*P **P 12 24 51.5 -1.2**
BOSA AMB AMB 12 25 07.5
comp=Z,37nm,3.9s
AKASG Malin Array Be 75.04 322 P **P 12 24 51.7 -1.5**
AKASG Malin Array Be 75.04 322 P **P 12 24 51.7 -1.5**
AKASG Malin Array Be 75.04 322 P **P 12 24 51.7 -1.5**
comp=Z,17nm,0.8s,baz=91,slow=4.8,SNR=39
KIEV Kiev 75.04 322 *e*P **P 12 24 51.6 -1.6**
KIEV pmax pmax
comp=Z,28nm,0.9s
KIEV MLR MLR
comp=Z,1μm,19.0s
KIEV Kiev 75.04 322 *e*P **P 12 24 51.6 -1.6**
comp=Z,28nm,0.9s
KIEV LR LR
comp=Z,1μm,19.0s
VRI Vrincioaia 75.41 317⇑P **P 12 24 56.3 +0.9**
VRI Vrincioaia 75.41 317⇑*i*P **P 12 24 56.3 +0.9**
PLOR Plostina 75.45 317 ⇓P **P 12 24 56.1 +0.3**
PLOR Plostina 75.45 317⇓*i*P **P 12 24 56.1 +0.3**
TESR 75.61 318⇓*i*P **P 12 24 57.1 +0.5**
SECR 75.67 316⇓*i*P P 12 25 00.9 +3.9
TARA Tarawa 75.75 89 PFAKE 12 25 10.0 +12
TARA LR LR
comp=Z,3μm,20.0s
MLR Muntele Rosu 75.86 317 P **P 12 24 58.9 +0.7**
MLR Muntele Rosu 75.86 317⇑*i*P **P 12 24 59.2 +1.0**
MLR Muntele Rosu 75.86 317 P **P 12 24 58.9 +0.7**
comp=Z,5.5nm,1.0s,baz=50,slow=2.1,SNR=17
VOIR 76.46 316⇑P **P 12 25 02.9 +1.3**
VOIR 76.46 316⇑*i*P **P 12 25 02.9 +1.3**
BURAR Bucovina Array 76.81 319⇓*i*P **P 12 25 04.2 +0.7**
VTS Vitosha 77.23 313⇑P **P 12 25 05.9 -0.1**
VTS Vitosha 77.23 313⇑*i*P **P 12 25 05.9 -0.1**
NACGM Naroch 77.62 326 *e* **P 12 25 06.0 -1.7**
IDID Didziasalis 77.75 327 *e*P **P 12 25 08.6 +0.1**
IDID AMB AMB 12 25 10.8
comp=Z,19nm,1.0s
JOF Joensuu 77.91 335 *e*P **P 12 25 07.9 -1.3**
JOF pmax pmax
comp=Z,14nm,0.9s
JOF Joensuu 77.91 335 *e*p **P 12 25 07.9 -1.3**
comp=Z,14nm,0.9s
GZR Gura Zlata 78.02 316⇑P **P 12 25 10.8 +0.5**
GZR Gura Zlata 78.02 316⇑*i*P **P 12 25 10.8 +0.5**
IIGN Ignalina 78.05 327 *e*P **P 12 25 10.2 +0.1**
IIGN AMB AMB 12 25 12.5
comp=Z,21nm,1.0s
IIGN Ignalina 78.05 327 *e*P **P 12 25 10.2 +0.1**
IIGN AMB AMB 12 25 12.5
comp=Z,21nm,1.0s
LVV L'vov 78.05 321 *e*P **P 12 25 10.4 +0.2**
LVV *e* 12 25 22.8
IZAR Zarasai 78.14 327 *e*P **P 12 25 10.7 +0.1**
IZAR AMB AMB 12 25 12.8
comp=Z,14nm,1.1s
IZAR Zarasai 78.14 327 *e*P **P 12 25 10.7 +0.1**
IZAR AMB AMB 12 25 12.8
comp=Z,14nm,1.1s
ISAL Salakas 78.16 327 *e*P **P 12 25 10.7 0.0**
ISAL AMB AMB 12 25 13.0
comp=Z,13nm,0.8s
ISAL Salakas 78.16 327 *e*P **P 12 25 10.7 0.0**
ISAL AMB AMB 12 25 13.0
comp=Z,13nm,0.8s
DRGR 78.32 317 ⇓P **P 12 25 13.1 +1.2**
DRGR 78.32 317⇓*i*P **P 12 25 13.1 +1.2**
LVZ Lovozero 78.59 340 *c*eP **P 12 25 13.0 0.0**
LVZ pmax pmax
comp=Z,38nm,0.7s
LVZ Lovozero 78.59 340 *e*P **P 12 25 12.9 0.0**
comp=Z,32nm,0.8s
LVZ LR LR
comp=Z,3μm,20.0s
VSU Vasula 78.61 330 *e*P **P 12 25 13.7 +0.6**
VSU pmax pmax
comp=Z,23nm,1.2s
TRPA Tarpa 78.68 319⇑*i*P **P 12 25 14.9 +1.2**
TRPA Tarpa 78.68 319⇑e **P 12 25 14.8 +1.1**
KWP Kalwaria Pacla 78.85 320 PFAKE 12 25 30.0 +15
KWP LR LR
comp=Z,907nm,22.0s
BZS Buzias 78.86 316 ⇓P **P 12 25 15.0 +0.1**
BZS Buzias 78.86 316⇓*i*P **P 12 25 15.0 +0.1**
APA Apatity 78.89 339⇑*i*P **P 12 25 15.1 +0.6**
APA *i* 12 25 24.0
APA *i* 12 28 09.0
APA *i*S **S 12 35 10.0 -0.4**
APA pmax pmax
comp=Z,49nm,1.0s
APA MLR MLR
comp=Z,3μm,19.0s
UZH Uzhgorod 78.93 319 *e*P **P 12 25 17.6 +2.5**
UZH *i* 12 25 23.2
UZH *e* 12 25 26.0
UZH *e* 12 28 16.8
UZH *e*PPP x 12 30 07.2
UZH *i*S **S 12 35 11.8 +0.2**
UZH *e* 12 35 31.3
UZH *i*PS **PnS 12 35 55.3 -1.6**
KOLS Kolonicke sedl 79.00 320 *e*P **P 12 25 16.9 +1.4**
KOLS pmax pmax
comp=Z,38nm,1.1s
KOLS Kolonicke sedl 79.00 320 *e*P **P 12 25 16.9 +1.4**
KOLS *e*pP **PcP 12 25 24.7 +0.7**
SUR Sutherland 79.25 237 PFAKE 12 25 30.0 +13
SUR LR LR
comp=Z,3μm,19.0s
SUR Sutherland 79.25 237 *e*P **P 12 25 16.7 -0.7**
SUR AMB AMB 12 25 24.3
comp=Z,79nm,3.5s
SUW Suwalki 79.45 325 *e*P **P 12 25 17.8 0.0**
SUW Suwalki 79.45 325 *e*P **P 12 25 17.8 0.0**
SUW Suwalki 79.45 325 *e*P **P 12 25 17.7 -0.1**
SUW pmax pmax
comp=Z,122nm,0.9s
SUW Suwalki 79.45 325 *e*P **P 12 25 17.7 -0.1**
comp=Z,122nm,0.9s
TIR Tirane 79.50 312 PFAKE 12 25 30.0 +12
TIR LR LR
comp=Z,880nm,20.0s
CRVS Cervenica-Dubn 79.52 319 *e*P **P 12 25 19.6 +1.2**
CRVS pmax pmax
comp=Z,15nm,1.2s
CRVS Cervenica-Dubn 79.52 319 *e*P **P 12 25 19.6 +1.2**
CRVS *e*pP **PcP 12 25 27.4 +1.1**
FINES FINESS Array B 79.76 332 P **P 12 25 19.3 -0.1**
FINES FINESS Array B 79.76 332 P **P 12 25 19.3 -0.1**
comp=Z,18nm,0.8s,baz=100,slow=6.8,SNR=28
FINES LR LR 13 03 56.6
comp=Z,1μm,20.9s,baz=108,slow=38
KAF Kangasniemi 79.85 333 *e*P **P 12 25 18.7 -1.1**
KAF pmax pmax
comp=Z,21nm,0.9s
KAF Kangasniemi 79.85 333 *e*p **P 12 25 18.7 -1.1**
comp=Z,21nm,0.9s
CVNA Calvinia 80.00 238 *e*P **P 12 25 23.5 +2.0**
CVNA AMB AMB 12 25 33.4
comp=Z,36nm,4.0s
NIE Niedzica 80.35 320 *e*P **P 12 25 24.1 +1.2**
PSZ Piszkesteto 80.39 318⇑P **P 12 25 23.5 +0.3**
PSZ Piszkesteto 80.39 318 *e*P **P 12 25 23.7 +0.5**
comp=Z,53nm,1.3s
PSZ LR LR
comp=Z,1μm,19.0s
PSZ Piszkesteto 80.39 318⇑*i*P **P 12 25 23.5 +0.3**
PSZ Piszkesteto 80.39 318 ⇓e **P 12 25 23.5 +0.3**
FX1 Attu Island--F 80.43 37 P **P 12 25 23.7 +0.5**
FX1 Attu Island--F 80.43 37 P **P 12 25 23.7 +0.5**
comp=Z,8.4nm,0.5s,baz=337,slow=15,SNR=8.5
TSUM Tsumeb 80.62 250 *e*P **P 12 25 25.9 +0.8**
comp=Z,16nm,1.0s
TSUM LR LR
comp=Z,1μm,22.0s
TSUM Tsumeb 80.62 250 *e*P **P 12 25 26.1 +1.1**
TSUM AMB AMB 12 25 30.2
comp=Z,905nm,3.4s
OJC Ojcow 80.81 321 *e*P **P 12 25 25.1 -0.2**
OJC *e*S **S 12 35 32.0 +0.7**
OJC Lm MLR 13 07 35.0
comp=Z,1μm,20.8s
OJC Ojcow 80.81 321 *e*P **P 12 25 25.6 +0.3**
OJC *e*S **S 12 35 32.3 +1.0**
BILL Bilibino 80.96 21 PFAKE 12 25 40.0 +14
BILL LR LR
comp=Z,1.0nm,21.0s
PKSM Moragy 81.01 316 ⇓P **P 12 25 26.4 0.0**
PKSM Moragy 81.01 316⇓*i*P **P 12 25 26.4 0.0**
PKSM Moragy 81.01 316 ⇓e **P 12 25 26.5 0.0**
VYHS Vyhne 81.18 319 *e*P **P 12 25 27.5 +0.2**
VYHS pmax pmax
comp=Z,8.0nm,1.2s
VYHS Vyhne 81.18 319 *e*P **P 12 25 27.5 +0.2**
VYHS *e*pP **PcP 12 25 33.5 0.0**
RHK3 Tenkes 81.23 316 ⇑e **P 12 25 27.8 +0.1**
PKSG 81.33 318 ⇑e **P 12 25 28.7 +0.6**
PKST T˜'s 81.55 317 ⇑e **P 12 25 29.7 +0.4**
SNZO South Karori 81.62 132 PFAKE 12 25 40.0 +10
SNZO LR LR
comp=Z,14μm,22.0s
TIP Timpagrande 81.64 309 PFAKE 12 25 40.0 +10
TIP LR LR
comp=Z,771nm,20.0s
OKC Ostrava-Krasne 81.80 320 *e*P **P 12 25 31.8 +1.2**
OKC *e* 12 25 39.1
OKC *e*S **S 12 35 39.6 -2.1**
OKC Ostrava-Krasne 81.80 320 *e*P **P 12 25 31.8 +1.2**
OKC *e*pP **pP 12 25 39.1 -1.5**
OKC *e*S **S 12 35 39.6 -2.1**
KEV Kevo 81.86 341 *e*P **P 12 25 28.3 -2.1**
KEV pmax pmax
comp=Z,15nm,0.8s
KEV Kevo 81.86 341 PFAKE 12 25 40.0 +10
KEV LR LR
comp=Z,3μm,19.0s
KEV Kevo 81.86 341 *e*p **P 12 25 28.3 -2.1**
comp=Z,14nm,0.8s
MORC Moravsky Berou 82.19 320⇑P **P 12 25 33.3 +0.6**
MORC Moravsky Berou 82.19 320 *e*P **P 12 25 33.3 +0.6**

comp=Z,19nm,1.0s
MORC Moravsky Berou 82.19 320 ⇑*i*P **P 12 25 33.3 +0.6**
ARCES ARCESS Array B 82.29 340 P **P 12 25 31.7 -1.1**
ARCES ARCESS Array B 82.29 340 P **P 12 25 31.7 -1.1**
comp=Z,8.8nm,0.5s,baz=99,slow=7.5,SNR=56
ARCES LR LR 13 06 25.4
comp=Z,3μm,20.8s,baz=210,slow=39
BEHE Becsehely 82.32 317 ⇑e **P 12 25 35.0 +1.6**
CUC Castrocucco 82.43 310 PFAKE 12 25 40.0 +5.9
CUC LR LR
comp=Z,849nm,20.0s
SOP Sopron 82.59 318 ⇑e **P 12 25 35.9 +1.1**
KRLC Kraliky 82.71 320 *e*P **P 12 25 36.4 +1.0**
DPC Dobruska-Polom 83.03 320 *e*P **P 12 25 37.9 +0.8**
DPC *e* 12 25 45.9
DPC *e*S **S 12 35 55.5 +1.1**
DPC MLR MLR
comp=Z,1μm,22.7s
DPC Dobruska-Polom 83.03 320 *e*P **P 12 25 37.9 +0.8**
DPC *e*pP **pP 12 25 45.9 -1.2**
DPC *e*S **S 12 35 55.5 +1.1**
DPC AMS AMS 13 08 30.0
comp=Z,1μm,22.7s
CONA Conrad Observa 83.09 318 ⇑*i*P **P 12 25 37.8 +0.3**
comp=Z,9.5nm,1.1s
KSP Ksiaz 83.10 321 *e*P **P 12 25 38.3 +0.9**
KSP Ksiaz 83.10 321 *e*P **P 12 25 38.3 +0.9**
KSP Ksiaz 83.10 321 *e*P **P 12 25 37.8 +0.5**
KSP *e*S **S 12 35 55.0 0.0**
WDD Wield Dalam 83.17 306 PFAKE 12 25 50.0 +12
WDD LR LR
comp=Z,980nm,19.0s
UPC Upice 83.25 321 *e*P **P 12 25 39.5 +1.4**
UPC *e* 12 25 48.5
UPC Upice 83.25 321 *e*P **P 12 25 39.5 +1.4**
UPC *e*pP **pP 12 25 48.5 +0.4**
BOJS Bojanci 83.29 315 *i*P **P 12 25 38.9 +0.5**
TREC Trest 83.46 319 *e*P **P 12 25 40.6 +1.3**
TREC MLR MLR
comp=Z,1μm,16.9s
TREC Trest 83.46 319 *e*P **P 12 25 40.6 +1.3**
TREC AMS AMS 13 13 50.0
comp=Z,1μm,16.9s
SOKA Soboth 83.54 317 ⇑*i*P **P 12 25 40.6 +0.8**
comp=Z,25nm,1.2s
PRU Pruhonice 84.14 320 *e*P **P 12 25 43.1 +0.4**
PRU *e* 12 25 55.5
PRU *e*S **S 12 36 05.7 +0.3**
PRU MLR MLR
comp=Z,1μm,17.0s
PRU Pruhonice 84.14 320 *e*P **P 12 25 43.1 +0.4**
PRU *e*pP pP 12 25 55.5 +2.8
PRU *e*S **S 12 36 05.7 +0.3**
PRU AMS AMS 13 10 00.0
comp=Z,1μm,17.0s
PVCC Panska Ves 84.17 320 *e*P **P 12 25 43.8 +1.0**
PVCC *e* 12 25 50.7
PVCC MLR MLR
comp=Z,1μm,15.6s
PVCC Panska Ves 84.17 320 *e*P **P 12 25 43.8 +1.0**
PVCC *e*pP **pP 12 25 50.7 -2.1**
PVCC AMS AMS 13 13 10.0
comp=Z,1μm,15.6s
PRA Prague 84.21 320 P **P 12 25 44.0 +1.0**
VOY Vojsko 84.28 316 *e*P **P 12 25 43.6 0.0**
VOY *e* 12 25 59.9
VOY *e* 12 26 04.9
VOY *e* 12 26 15.2
AQU L'Aquila 84.40 312 PFAKE 12 25 50.0 +5.7
AQU LR LR
comp=Z,1μm,20.0s
BRG Berggiesshubel 84.59 321 *e*P **P 12 25 45.6 +0.7**
comp=Z,24nm,1.4s
BRG *e* 12 25 53.3
comp=Z,18nm,1.4s
BRG *e* 12 26 14.2
comp=Z,17nm,1.2s
BRG PP PP 12 29 12.4 +12
comp=Z,18nm,1.6s
BRG S **S 12 36 10.0 +0.1**
BRG Berggiesshubel 84.59 321 *e*P **P 12 25 45.4 +0.5**
comp=Z,24nm,1.4s
BRG Berggiesshubel 84.59 321 *e*P **P 12 25 45.6 +0.7**
BRG *e* 12 25 53.3
BRG S **S 12 36 10.0 +0.1**
BRG pmax pmax
comp=Z,24nm,1.4s
BRG pmax pmax
comp=Z,18nm,1.4s
BRG pmax pmax
comp=Z,17nm,1.2s
BRG pmax pmax
comp=Z,18nm,1.7s
GEC2 GERESS Array S 84.60 319 *e*P **P 12 25 45.5 +0.3**
comp=Z,32nm,1.2s
GEC2 GERESS Array S 84.60 319 *e*P **P 12 25 45.5 +0.3**
GEC2 pmax pmax
comp=Z,32nm,1.2s
GERES GERESS Array B 84.60 319 P **P 12 25 45.3 +0.1**
GERES GERESS Array B 84.60 319 P **P 12 25 45.3 +0.1**
comp=Z,14nm,1.0s,baz=98,slow=5.5,SNR=60
KHC Kasperske Hory 84.70 319 *e*P **P 12 25 45.5 -0.1**
KHC *e* 12 25 57.9
KHC *e*S **S 12 36 11.2 0.0**
KHC MLR MLR
comp=Z,1μm,19.9s
KHC Kasperske Hory 84.70 319 *e*P **P 12 25 45.8 +0.3**
KHC *e*P **PcP 12 25 46.1 -2.9**
KHC Kasperske Hory 84.70 319 *e*P **P 12 25 45.5 -0.1**
KHC *e*pP **pP 12 25 57.9 +2.2**
KHC *e*S **S 12 36 11.2 0.0**
KHC AMS AMS 13 14 20.0
comp=Z,1μm,19.9s
KBA Koelnbreinsper 84.72 317 ⇑*i*P **P 12 25 46.2 +0.3**
comp=Z,12nm,1.1s
WET Wettzell 85.16 319 *e*P **P 12 25 48.0 +0.1**
comp=Z,22nm,1.1s
WET Wettzell 85.16 319 *e*P **P 12 25 48.0 +0.1**
WET pmax pmax
comp=Z,22nm,1.1s
CLL Collm 85.21 321 *e*P **P 12 25 48.3 +0.3**
comp=Z,13nm,1.1s
CLL Collm 85.21 321 *e*P **P 12 25 48.0 0.0**
CLL *e* 12 25 56.0
CLL *e* 12 26 02.0
CLL *e*S **S 12 36 13.0 -3.0**
CLL pmax pmax
comp=Z,13nm,1.1s
ABTA Abfaltersbach 85.27 317 ⇑*i*P **P 12 25 48.7 +0.1**
comp=Z,11nm,1.0s
MIDW Midway 85.34 62 PFAKE 12 26 00.0 +11
MIDW LR LR
comp=Z,4μm,21.0s
HFS Hagfors 85.49 330 P **P 12 25 49.0 -0.2**
HFS Hagfors 85.49 330 P **P 12 25 49.0 -0.2**
comp=Z,14nm,1.0s,baz=159,slow=6.3,SNR=10
NKC Novy Kostel 85.50 320 *e*P **P 12 25 50.2 +0.6**
NKC *e* 12 26 03.0
NKC *e*S **S 12 36 23.0 +4.0**
NKC MLR MLR
comp=Z,1μm,16.8s
NKC Novy Kostel 85.50 320 *e*P **P 12 25 50.2 +0.6**
NKC *e*pP pP 12 26 03.0 +3.4
NKC *e*S **S 12 36 23.0 +4.0**
NKC AMS AMS 13 11 10.0
comp=Z,1μm,16.8s
TANN Tannenbergstha 85.50 320 *e*P **P 12 25 50.2 +0.6**
ROTZ Rotzenmuhle 85.63 320 *e*P **P 12 25 51.0 +0.8**
LLD Lille Linde 85.93 325 *i*P sP 12 26 07.7 +2.5
MOX Moxa 86.05 320 *e*P **P 12 25 52.4 +0.1**
comp=Z,13nm,1.2s
MOX *e*S **S 12 36 25.0 +0.6**
MOX *e*L L 13 11 45.4
comp=Z,1μm,20.9s
MOX Moxa 86.05 320 *e*P **P 12 25 52.4 +0.1**
MOX *e*S **S 12 36 25.0 +0.6**
MOX pmax pmax
comp=Z,13nm,1.2s
MOTA Moosalm 86.26 317 ⇓*i*P **P 12 25 52.9 -0.6**
comp=Z,14nm,1.0s
GRF Grafenberg Arr 86.27 320 *e*P **P 12 25 53.9 +0.6**
comp=Z,27nm,1.0s
GRF *e*S **S 12 36 27.9 +1.4**
GRF *e*L L 13 10 55.6
comp=Z,1μm,20.3s
GRF Grafenberg Arr 86.27 320 *e*P **P 12 25 53.9 +0.6**
GRF *e*S **S 12 36 27.9 +1.4**
GRF pmax pmax
comp=Z,27nm,1.0s
GRFO Grafenberg 86.27 320 *e*P **P 12 25 54.3 +0.9**
GRFO pmax pmax
comp=Z,22nm,1.0s
GRFO Grafenberg 86.27 320 *e*P **P 12 25 54.3 +0.9**
comp=Z,22nm,1.0s
FETA Feichten 86.50 317 ⇓*i*P **P 12 25 54.9 +0.1**
comp=Z,7.9nm,1.0s
VLC Villacollemand 86.67 314 PFAKE 12 26 10.0 +14
VLC LR LR
comp=Z,968nm,21.0s
SPITS Spitsbergen Ar 86.71 348 P **P 12 25 55.0 0.0**
SPITS Spitsbergen Ar 86.71 348 P **P 12 25 55.0 0.0**
comp=Z,16nm,0.8s,baz=99,slow=8.6,SNR=7.9
NB2 NORSAR Subarra 86.77 331 P **P 12 25 55.4 -0.2**
baz=95,slow=4.8
NB2 NORSAR Subarra 86.77 331 P **P 12 25 55.4 -0.2**
comp=Z,23nm,1.0s,baz=95,slow=4.8
NOA NORSAR Array B 86.77 331 P **P 12 25 55.5 -0.2**
NOA NORSAR Array B 86.77 331 P **P 12 25 55.5 -0.2**
comp=Z,11nm,0.9s,baz=94,slow=4.9,SNR=26
NOA LR LR 13 10 30.6
comp=Z,1μm,20.8s,baz=55,slow=40
CLZ Clausthal 86.88 322 *e*P **P 12 25 57.1 +0.8**
comp=Z,19nm,1.1s
CLZ Clausthal 86.88 322 *e*P **P 12 25 57.1 +0.8**
CLZ pmax pmax
comp=Z,19nm,1.1s
BSEG Bad Segeberg 86.97 324 *e*P **P 12 25 57.6 +1.0**
comp=Z,47nm,1.1s
BSEG Bad Segeberg 86.97 324 *e*P **P 12 25 57.6 +1.0**
BSEG pmax pmax
comp=Z,47nm,1.1s
NRDL Niedersach Rie 87.06 322 *e*P **P 12 25 58.2 +1.2**
DAVOX Davos/Dischmat 87.08 317 P **P 12 25 58.0 +0.4**
DAVOX Davos/Dischmat 87.08 317 P **P 12 25 58.0 +0.4**
comp=Z,15nm,0.9s,baz=99,slow=3.6,SNR=12
SBA Scott Base 87.17 169 PFAKE 12 26 10.0 +13
SBA LR LR
comp=Z,4μm,19.0s
VSL Villasalto 87.37 309 PFAKE 12 26 10.0 +11
VSL LR LR
comp=Z,639nm,19.0s
KEST Kesra 87.38 306 P **P 12 25 59.9 +0.7**
KEST Kesra 87.38 306 P **P 12 25 59.9 +0.7**
comp=Z,2.6nm,0.8s,baz=188,slow=6.3,SNR=4.7
KEST LR LR 13 09 08.0
comp=Z,620nm,18.0s,baz=190,slow=38
TUE Stuetta 87.44 316 PFAKE 12 26 10.0 +11
TUE LR LR
comp=Z,1μm,21.0s
KONO Kongsberg 87.52 329 PFAKE 12 26 10.0 +11
KONO LR LR
comp=Z,1μm,19.0s
KBS Kingsbay 87.67 349 PFAKE 12 26 10.0 +10
KBS LR LR
comp=Z,2μm,19.0s
MUD Monsted U'grnd 87.69 326 *i*P **P 12 26 01.4 +1.4**
comp=Z,16nm,1.1s
TOD Tromm 87.83 319 *e*P **P 12 26 01.8 +0.8**
TOD Tromm 87.83 319 *e*P **P 12 26 01.8 +0.8**
SPAK Spaichingen-Ko 87.84 318 *e*P **P 12 26 01.5 +0.4**
TNS Taunus Mts 88.07 320 *e*P **P 12 26 02.4 +0.3**
comp=Z,24nm,1.4s
TNS Taunus Mts 88.07 320 *e*P **P 12 26 02.4 +0.3**
TNS pmax pmax
comp=Z,24nm,1.4s
BFO Black Forest 88.14 318 *e*P **P 12 26 03.0 +0.5**
comp=Z,5.0nm,1.0s
BFO Black Forest 88.14 318 *e*P **P 12 26 02.5 0.0**
BFO pmax pmax
comp=Z,6.0nm,1.0s
BFO MLR MLR
comp=Z,1μm,20.0s
BFO Black Forest 88.14 318 *e*P **P 12 26 02.5 0.0**
comp=Z,6.1nm,1.0s
BFO LR LR
comp=Z,1μm,20.0s
FELD Feldberg im Sc 88.36 318 *e*P **P 12 26 04.2 +0.5**
LANF Langenberg 88.49 319 *e*P **P 12 26 05.4 +1.3**
LANF Langenberg 88.49 319 *e*P **P 12 26 05.4 +1.3**
LANF Langenberg 88.49 319 *e*P **P 12 26 05.4 +1.3**
IBBN Ibbenburen 88.50 322 *e*P **P 12 26 05.5 +1.5**
SBF Sospel 88.80 314 *e*P **P 12 26 05.8 +0.1**
comp=Z,65nm,1.0s
SBF Sospel 88.80 314 *e*P **P 12 26 05.8 +0.1**
SBF pmax pmax
comp=Z,65nm,1.0s
SBF Sospel 88.80 314 *e*P **P 12 26 05.8 +0.1**
comp=Z,65nm,1.0s
CDF Champ du Feu 88.85 318 *e*P **P 12 26 05.5 -0.4**
CDF Champ du Feu 88.85 318 *e*P **P 12 26 05.5 -0.4**
CDF Champ du Feu 88.85 318 *e*P **P 12 26 05.5 -0.4**
ECH Echery 88.93 318 *e*P **P 12 26 06.6 +0.4**
ECH pmax pmax
comp=Z,6.0nm,1.1s
ECH MLR MLR
comp=Z,1μm,20.0s
ECH Echery 88.93 318 *e*P **P 12 26 06.6 +0.4**
comp=Z,6.3nm,1.1s
ECH LR LR
comp=Z,1μm,20.0s
ECH Echery 88.93 318 *e*P **P 12 26 07.0 +0.8**
MOF Molkenrain 88.95 318 *e*P **P 12 26 08.3 +1.9**
MOF Molkenrain 88.95 318 *e*P **P 12 26 08.3 +1.9**
MOF Molkenrain 88.95 318 *e*P **P 12 26 08.3 +1.9**
RUP Ruppelstein 88.97 320 *e*P **P 12 26 07.9 +1.5**
RUP Ruppelstein 88.97 320 *e*P **P 12 26 07.9 +1.5**
HINF Hinteralfeld 89.14 318 *e*P **P 12 26 06.7 -0.5**
HINF Hinteralfeld 89.14 318 *e*P **P 12 26 06.7 -0.5**
HINF Hinteralfeld 89.14 318 *e*P **P 12 26 06.7 -0.5**
LOMF Lomont 89.17 317 *e*P **P 12 26 08.2 +0.8**
LOMF Lomont 89.17 317 *e*P **P 12 26 08.2 +0.8**
LOMF Lomont 89.17 317 *e*P **P 12 26 08.2 +0.8**
GAMB Gambell 89.23 26 *e*P **P 12 26 07.5 +0.4**
comp=Z,25nm,1.1s
LPG La Plagne 89.26 315 *e*P **P 12 26 08.2 +0.1**
comp=Z,30nm,1.0s
LPG La Plagne 89.26 315 *e*P **P 12 26 08.2 +0.1**
LPG pmax pmax
comp=Z,30nm,1.0s
LPG La Plagne 89.26 315 *e*P **P 12 26 08.2 +0.1**
comp=Z,30nm,1.0s
LPL La Plagne 89.27 315 *e*P **P 12 26 08.2 +0.1**
comp=Z,58nm,1.2s
LPL La Plagne 89.27 315 *e*P **P 12 26 08.2 +0.1**
LPL pmax pmax
comp=Z,58nm,1.2s
LPL La Plagne 89.27 315 *e*P **P 12 26 08.2 +0.1**
comp=Z,58nm,1.2s
BNI Bardonecchia 89.32 315 PFAKE 12 26 20.0 +12
BNI LR LR
comp=Z,869nm,21.0s
HAU Haudompre 89.47 318 *e*P **P 12 26 08.5 -0.3**
comp=Z,17nm,0.8s
HAU *e*R
comp=Z,1μm,21.5s
HAU Haudompre 89.47 318 *e*P **P 12 26 08.5 -0.3**
HAU pmax pmax
comp=Z,17nm,0.8s
HAU Haudompre 89.47 318 *e*P **P 12 26 08.5 -0.3**
comp=Z,17nm,0.8s
LMR La Mourre 89.49 313 *e*P **P 12 26 08.9 0.0**
comp=Z,149nm,1.7s
LMR La Mourre 89.49 313 *e*P **P 12 26 08.9 0.0**
LMR pmax pmax
comp=Z,149nm,1.7s
LMR La Mourre 89.49 313 *e*P **P 12 26 08.9 0.0**
comp=Z,149nm,1.7s
WLF Walferdange 89.56 319 *e*P **P 12 26 10.5 +1.4**
WLF Walferdange 89.56 319 PFAKE 12 26 20.0 +11
WLF LR LR
comp=Z,1μm,20.0s
CABF La Chapelle 89.69 316 *e*P **P 12 26 10.2 +0.3**
comp=Z,35nm,1.0s
CABF La Chapelle 89.69 316 *e*P **P 12 26 10.2 +0.3**
CABF pmax pmax
comp=Z,35nm,1.0s
CABF La Chapelle 89.69 316 *e*P **P 12 26 10.2 +0.3**
comp=Z,35nm,1.0s
NVL N'lazarevskaya 89.80 199 *e*P P 12 26 03.4 -6.3
NVL pmax pmax
comp=Z,42nm,1.5s
SMRF Simiane la Rot 90.14 314 *e*P **P 12 26 12.7 +0.7**
comp=Z,162nm,1.7s
SMRF Simiane la Rot 90.14 314 *e*P **P 12 26 12.7 +0.7**
comp=Z,162nm,1.7s
SFTF Sexfontaines 90.34 318 *e*P **P 12 26 12.9 +0.1**
comp=Z,82nm,1.1s
SFTF Sexfontaines 90.34 318 *e*P **P 12 26 12.9 +0.1**
comp=Z,82nm,1.1s
GIVF Givet 90.40 320 *e*P **P 12 26 13.3 +0.3**
comp=Z,25nm,0.9s
GIVF Givet 90.40 320 *e*P **P 12 26 13.3 +0.3**
GIVF pmax pmax
comp=Z,25nm,0.9s
GIVF Givet 90.40 320 *e*P **P 12 26 13.3 +0.3**
comp=Z,25nm,0.9s
VIVF Saint-Julien-l 90.75 315 *e*P **P 12 26 15.0 +0.2**
comp=Z,51nm,1.2s
VIVF Saint-Julien-l 90.75 315 *e*P **P 12 26 15.0 +0.2**
VIVF pmax pmax
comp=Z,51nm,1.3s
VIVF Saint-Julien-l 90.75 315 *e*P **P 12 26 15.0 +0.2**
comp=Z,51nm,1.3s
BAIF Baives 90.80 320 *e*P **P 12 26 15.4 +0.6**
comp=Z,55nm,1.0s
BAIF Baives 90.80 320 *e*P **P 12 26 15.4 +0.6**
BAIF pmax pmax
comp=Z,55nm,1.0s
BAIF Baives 90.80 320 *e*P **P 12 26 15.4 +0.6**
comp=Z,55nm,1.0s
TAM Tamanrasset 90.94 293 *e*P **P 12 26 18.2 +1.9**
TAM pmax pmax
comp=Z,16nm,1.1s
TAM MLR MLR
comp=Z,827nm,20.0s
TAM Tamanrasset 90.94 293 *e*P **P 12 26 18.2 +1.9**
comp=Z,16nm,1.1s
TAM LR LR
comp=Z,827nm,20.0s
LOR Lormes 91.19 317 *e*P **P 12 26 16.9 +0.1**
comp=Z,55nm,1.1s,baz=82
LOR *e*R
comp=Z,1μm,20.2s
LOR Lormes 91.19 317 *e*P **P 12 26 16.9 +0.1**
comp=Z,55nm,1.1s
QSPA South Pole Qui 91.38 180 P **P 12 26 18.8 +1.4**
QSPA LR LR
comp=Z,2μm,20.0s
QSPA South Pole Qui 91.38 180 P **P 12 26 18.8 +1.4**
comp=Z,2.3nm,1.1s,baz=27,slow=2.3,SNR=4.4
PLDF La Plantade 91.43 316 *e*P **P 12 26 19.2 +1.2**
PLDF La Plantade 91.43 316 *e*P **P 12 26 19.2 +1.2**
PLDF La Plantade 91.43 316 *e*P **P 12 26 19.2 +1.2**
SSF Saint Saulge 91.44 317 *e*P **P 12 26 18.2 +0.3**
comp=Z,42nm,1.3s
SSF Saint Saulge 91.44 317 *e*P **P 12 26 18.2 +0.3**
SSF pmax pmax
comp=Z,42nm,1.3s
SSF Saint Saulge 91.44 317 *e*P **P 12 26 18.2 +0.3**
comp=Z,42nm,1.3s
AVF Avril sur Loir 91.56 317 *e*P **P 12 26 18.6 +0.1**
comp=Z,49nm,1.1s
AVF Avril sur Loir 91.56 317 *e*P **P 12 26 18.6 +0.1**
AVF pmax pmax
comp=Z,49nm,1.1s
AVF Avril sur Loir 91.56 317 *e*P **P 12 26 18.6 +0.1**
comp=Z,49nm,1.1s
BGF Bois d'Agland 91.93 316 *e*P **P 12 26 20.7 +0.5**
comp=Z,75nm,1.1s
BGF Bois d'Agland 91.93 316 *e*P **P 12 26 20.7 +0.5**
BGF pmax pmax
comp=Z,75nm,1.1s
BGF Bois d'Agland 91.93 316 *e*P **P 12 26 20.7 +0.5**
comp=Z,75nm,1.1s
HYF Humbligny 92.02 317 *e*P **P 12 26 21.3 +0.7**
HYF Humbligny 92.02 317 *e*P **P 12 26 21.3 +0.7**
TCF Toulx Ste Croi 92.39 316 *e*P **P 12 26 22.8 +0.5**
comp=Z,36nm,1.3s
TCF Toulx Ste Croi 92.39 316 *e*P **P 12 26 22.8 +0.5**
TCF pmax pmax
comp=Z,36nm,1.3s
TCF Toulx Ste Croi 92.39 316 *e*P **P 12 26 22.8 +0.5**
comp=Z,36nm,1.3s
CAF Calviac 92.60 315 *e*P **P 12 26 24.0 +0.6**
comp=Z,58nm,1.3s
CAF Calviac 92.60 315 *e*P **P 12 26 24.0 +0.6**
CAF pmax pmax
comp=Z,58nm,1.3s
CAF Calviac 92.60 315 *e*P **P 12 26 24.0 +0.6**
comp=Z,58nm,1.3s
JOHN Johnston Islan 92.78 73 PFAKE 12 26 30.0 +5.3
JOHN LR LR
comp=Z,18nm,20.0s
RJF Les Rejaudoux 92.95 315 *e*P **P 12 26 25.5 +0.6**
RJF *e*R
comp=Z,971nm,19.8s
RJF Les Rejaudoux 92.95 315 *e*P **P 12 26 25.5 +0.6**
RJF Les Rejaudoux 92.95 315 *e*P **P 12 26 25.5 +0.6**
JMIC San Mayan 93.72 342 LR LR 13 10 41.8
comp=Z,562nm,20.6s,baz=81,slow=37
LDF La Druitiere 93.74 319 *e*P **P 12 26 28.6 +0.1**
comp=Z,29nm,1.1s
LDF La Druitiere 93.74 319 *e*P **P 12 26 28.6 +0.1**
LDF pmax pmax
comp=Z,29nm,1.1s
LDF La Druitiere 93.74 319 *e*P **P 12 26 28.6 +0.1**
comp=Z,29nm,1.1s
FLN La Foliniere 93.96 319 *e*P **P 12 26 29.5 0.0**
comp=Z,28nm,1.2s
FLN *e*R
comp=Z,1μm,21.2s
FLN La Foliniere 93.96 319 *e*P **P 12 26 29.5 0.0**
FLN pmax pmax
comp=Z,28nm,1.2s
FLN La Foliniere 93.96 319 *e*P **P 12 26 29.5 0.0**
comp=Z,28nm,1.2s
MFF Saint Martin d 93.98 317 *e*P **P 12 26 29.8 +0.2**
comp=Z,46nm,1.2s
MFF Saint Martin d 93.98 317 *e*P **P 12 26 29.8 +0.2**
MFF pmax pmax
comp=Z,46nm,1.2s
MFF Saint Martin d 93.98 317 *e*P **P 12 26 29.8 +0.2**
comp=Z,46nm,1.2s
GRR Gorron 94.25 319 *e*P **P 12 26 31.0 +0.2**
comp=Z,33nm,1.3s
GRR Gorron 94.25 319 *e*P **P 12 26 31.0 +0.2**
GRR pmax pmax
comp=Z,33nm,1.3s
GRR Gorron 94.25 319 *e*P **P 12 26 31.0 +0.2**
comp=Z,33nm,1.3s
ESK Eskdalemuir 94.71 326 PFAKE 12 26 40.0 +7.2
ESK LR LR
comp=Z,1μm,19.0s
TORD Torodi Ar. Bea 94.98 283 P **P 12 26 35.5 +0.6**
TORD Torodi Ar. Bea 94.98 283 P **P 12 26 35.5 +0.6**
comp=Z,0.5nm,0.7s,baz=78,slow=5.1,SNR=3.9
TORD LR LR 13 08 50.4
comp=Z,2μm,19.0s,baz=95,slow=35
SJPF Ste Jean 95.14 313 *e*P **P 12 26 34.6 -0.5**
SJPF Ste Jean 95.14 313 *e*P **P 12 26 34.6 -0.5**
SJPF Ste Jean 95.14 313 *e*P **P 12 26 34.6 -0.5**
PAB San Pablo 97.94 310 PFAKE 12 27 00.0 +12
PAB LR LR
comp=Z,747nm,20.0s
TRF Thorofare Moun 98.64 25 *e*P Pdif 12 26 50.7 0.0
comp=Z,6.4nm,1.0s
COLA College 99.08 23 PFAKE 12 27 00.0 +7.7
COLA LR LR
comp=Z,2μm,20.0s
MCK McKinley 99.09 24 *e*P **Pdif 12 26 52.8 +0.3**
MCK pmax pmax
comp=Z,17nm,1.2s
MCK McKinley 99.09 24 *e*P **Pdif 12 26 52.8 +0.3**
comp=Z,16nm,1.2s
MDT Midelt 99.10 303 PP PP 12 30 56.3 +0.5
MDT Midelt 99.10 303 PP PP 12 30 56.3 +0.5
comp=Z,0.8nm,0.6s,baz=122,slow=4.6,SNR=3.9
KDAK Kodiak Island 99.47 31 P **Pdif 12 26 53.7 -0.5**
KDAK LR LR
comp=Z,2μm,22.0s
KDAK Kodiak Island 99.47 31 P **Pdif 12 26 53.7 -0.5**
comp=Z,4.4nm,0.8s,baz=46,slow=1.7,SNR=4.8
ILAR Eielson Array 99.50 23 P **Pdif 12 26 52.8 -1.4**
ILAR PP **PP 12 30 54.3 -3.4**
ILAR PKKPbc **PKKPbc 12 43 20.4 +1.0**

ILAR Eielson Array 99.50 23 P **Pdif 12 26 52.8 -1.4**
comp=Z,0.6nm,0.9s,baz=320,slow=4.8,SNR=7.2
ILAR PP **PP 12 30 54.3 -3.4**
comp=Z,1.8nm,0.9s,baz=299,slow=6.5,SNR=6.8
ILAR PKKPbc **PKKPbc 12 43 20.4 +1.0**
comp=Z,0.7nm,1.0s,baz=193,slow=0.9,SNR=5.6
RC01 Rabbit Creek A 99.73 27 *e*Pdif **Pdif 12 26 55.6 +0.3**
comp=Z,12nm,1.1s
SML Sawmill 100.08 26 *e*P **Pdif 12 26 57.8 +0.9**
SML pmax pmax
comp=Z,3.0nm,0.9s
SML Sawmill 100.08 26 *e*Pdif **Pdif 12 26 57.8 +0.9**
comp=Z,2.8nm,0.9s
MTE Manteigas 100.22 311 PFAKE 12 27 10.0 +12
MTE LR LR
comp=Z,669nm,20.0s
RTC Rabat Centre 100.78 305 PFAKE 12 27 10.0 +9.4
RTC LR LR
comp=Z,928nm,19.0s
EGAK Eagle 101.69 22 PFAKE 12 27 10.0 +6.1
EGAK LR LR
comp=Z,4µm,21.0s
BMRM Bremner River 102.07 26 *e*Pdif **Pdif 12 27 06.6 +0.8**
comp=Z,14nm,1.1s
SHEL Horse Pasture 102.79 254 PFAKE 12 27 20.0 +10
SHEL LR LR
comp=Z,2µm,19.0s
KIP Kipapa 103.27 68 PFAKE 12 27 20.0 +8.1
KIP LR LR
comp=Z,5µm,22.0s
XMAS Kiritimati 105.34 88 PFAKE 12 31 50.0
XMAS LR LR
comp=Z,6µm,20.0s
SFJD Kangerlussuaq 108.02 347 PFAKE 12 31 50.0
SFJD LR LR
comp=Z,3µm,21.0s
WRAK Wrangell Islan 109.88 27 PFAKE 12 31 50.0
WRAK LR LR
comp=Z,2µm,20.0s
YKA Yellowknife Ar 111.88 15 Pdif **Pdif 12 27 52.5 +3.2**
YKA PP **PP 12 32 26.5 -2.3**
YKA PKKPbc **PKKPbc 12 42 44.7 +3.3**
YKA Yellowknife Ar 111.88 15 Pdiff **Pdif 12 27 52.5 +3.2**
comp=Z,0.2nm,0.7s,baz=325,slow=3.5,SNR=4.0
YKA PP **PP 12 32 26.5 -2.3**
comp=Z,6.3nm,1.2s,baz=332,slow=7.7,SNR=8.6
YKA PKKPbc **PKKPbc 12 42 44.7 +3.3**
comp=Z,0.4nm,1.0s,baz=142,slow=3.1,SNR=4.1
TBI Tubuai 112.00 115 *e*PP PP 12 32 26.8 -4.6
comp=Z,150nm,26.2s
TBI *e*Sdif Sdif 12 40 09.3 -1.2
comp=Z,567nm,26.8s
TBI Tubuai 112.00 115 *e*PS PS 12 42 04.7 -0.5
comp=Z,353nm,29.5s
TBI *e*SS SS 12 48 09.6 +2.0
comp=Z,1µm,27.5s
TBI *e*LR LR 13 05 07.3
comp=Z,2µm,24.2s
PPT2 Papeete2 112.60 108 *e*PP PP 12 32 26.4 -10
comp=Z,163nm,24.5s
PPT2 *e*Sdif Sdif 12 40 14.3 -1.6
comp=Z,552nm,25.8s
PPT2 Papeete2 112.60 108 *e*PS PS 12 42 12.6 +1.5
comp=Z,466nm,27.0s
PPT2 *e*LR LR 13 05 35.7
comp=Z,1µm,23.8s
FRB Frobisher Bay 114.11 353 PP **PP 12 32 42.9 -1.6**
FRB Frobisher Bay 114.11 353 PP **PP 12 32 42.9 -1.6**
comp=Z,3.9nm,0.9s,baz=10,slow=7.7,SNR=6.0
SACV Santiago Islan 119.19 288 PFAKE 12 32 10.0 +8.4
SACV LR LR
comp=Z,761nm,19.0s
NLWA Neilton Lookou 119.62 31 PFAKE 12 32 10.0 +8.4
NLWA LR LR
comp=Z,3µm,20.0s
FFC Flin Flon 121.84 13 PFAKE 12 32 20.0 +14
FFC LR LR
comp=Z,3µm,20.0s
NEW Newport 122.24 26 PFAKE 12 32 20.0 +13
NEW LR LR
comp=Z,2µm,21.0s
NEW Newport 122.24 26 ⇑P **PKPdf 12 32 07.3 +0.7**
baz=122
SCHQ Schefferville 122.38 349 PP PP 12 33 44.1 +2.2
SCHQ Schefferville 122.38 349 PP PP 12 33 44.1 +2.2
comp=Z,11nm,1.1s,baz=25,slow=11,SNR=5.5
HAWA Hanford 122.47 29 PFAKE 12 32 20.0 +13
HAWA LR LR
comp=Z,3µm,20.0s
A13A Flathead Natio 122.89 24 ⇓P **PKPdf 12 32 08.3 +0.4**
baz=123
C11A Tepee Creek (N 122.94 26 ⇓P **PKPdf 12 32 08.1 +0.1**
baz=123
B13A Whitefish 123.30 25 ⇓P **PKPdf 12 32 08.9 +0.2**
baz=123
A15A Johnson Ranch, 123.53 23 ⇑P **PKPdf 12 32 09.0 -0.2**
baz=123
B14A Marquette Ranc 123.81 24 ⇓P **PKPdf 12 32 09.4 -0.3**
baz=124
YBH Yreka Blue Hor 123.91 35 *e*PKPdf **PKPdf 12 32 09.5 -0.6**
D12A Red Ives Fores 123.94 26 ⇑P **PKPdf 12 32 09.9 -0.1**
baz=124
A16A West Butte Ran 123.99 22 ⇑P **PKPdf 12 32 10.2 +0.1**
baz=124
C14A Swan Lake 124.08 25 ⇓P **PKPdf 12 32 10.1 -0.1**
baz=124
B15A Bradely Ranch, 124.13 24 ⇓P **PKPdf 12 32 10.1 -0.3**
baz=124
SWMT Swartz Lake 124.17 25 *e*PKPdf **PKPdf 12 32 10.6 +0.2**
A17A Triple J Farms 124.33 22 ⇑P **PKPdf 12 32 11.1 +0.4**
baz=124
C15A Salmond Ranch, 124.54 24 ⇑P **PKPdf 12 32 11.0 -0.2**
baz=124
SLMT Seeley Lake 124.60 25 *e*PKPdf **PKPdf 12 32 12.0 +0.6**
BMO Blue Mountains 124.67 29 PFAKE 12 32 20.0 +8.5
BMO LR LR
comp=Z,2µm,20.0s
A18A Metzger Ranch, 124.67 21 ⇑P **PKPdf 12 32 10.8 -0.5**
baz=124
D14A Greenough 124.72 25 ⇓P **PKPdf 12 32 11.0 -0.6**
baz=124
MSO Missoula 124.73 26 PFAKE 12 32 20.0 +8.4
MSO LR LR
comp=Z,2µm,20.0s
MSO Missoula 124.73 26 ⇑P **PKPdf 12 32 11.4 -0.2**
baz=125
B17A L&G Farms, Che 124.83 22 ⇑P **PKPdf 12 32 11.5 -0.2**
baz=125
E13A Victor 124.92 26 ⇑P **PKPdf 12 32 11.8 -0.1**
baz=125
A19A Klindworth Far 125.06 21 ⇓P **PKPdf 12 32 12.0 -0.1**
baz=125
RKT Rikitea 125.09 117 *e*PS PS 12 44 05.8 +2.7
comp=Z,410nm,27.5s
RKT *e*SS SS 12 50 58.7 +1.8
comp=Z,712nm,31.8s
RKT *e*LR LR 13 11 11.4
comp=Z,2µm,26.2s
B18A Beardsley Farm 125.13 22 ⇑P **PKPdf 12 32 12.1 -0.1**
baz=125
D15A Lincoln 125.16 24 ⇓P **PKPdf 12 32 12.0 -0.4**
baz=125
F13A Darby 125.36 27 ⇑P **PKPdf 12 32 12.2 -0.6**
baz=125
A20A Cobblestone Ra 125.38 20 ⇑P **PKPdf 12 32 12.6 -0.1**
baz=125
B19A Brinkman Farms 125.39 21 ⇓P **PKPdf 12 32 12.4 -0.3**
baz=125
C17A Wharram Farm, 125.39 23 ⇓P **PKPdf 12 32 12.4 -0.4**
baz=125
EGMT Eagleton 125.45 22 *e*PKPdf **PKPdf 12 32 13.7 +0.8**
EGMT LR LR
comp=Z,3µm,20.0s
EGMT Eagleton 125.45 22 ⇓P **PKPdf 12 32 12.9 +0.1**
baz=125
D16A Dana Ranch, Ca 125.57 24 ⇓P **PKPdf 12 32 13.2 +0.1**
baz=125
A21A Bergtoll Ranch 125.62 19 ⇓P **PKPdf 12 32 13.3 +0.1**
baz=125
EFI East Falkland 125.78 199 PFAKE 12 32 20.0 +6.8
EFI LR LR
comp=Z,1µm,22.0s
A22A Carney Farms, 125.95 19 ⇓P **PKPdf 12 32 13.7 -0.1**
baz=126
C19A Slack Wire Ran 125.95 22 ⇑P **PKPdf 12 32 13.9 +0.1**
baz=126
H12A Diamond D Ranc 126.07 28 ⇓P **PKPdf 12 32 14.4 +0.1**
baz=126
B21A Ellsworth Farm 126.08 20 ⇓P **PKPdf 12 32 14.3 +0.4**
baz=126
F15A Butte 126.13 25 ⇑P **PKPdf 12 32 14.6 +0.2**
baz=126
E17A Martinsdale 126.31 24 ⇑P **PKPdf 12 32 14.7 0.0**
baz=126
H13A Challis 126.34 28 ⇓P **PKPdf 12 32 14.9 +0.1**
baz=126
C20A Veseth Ranch, 126.35 21 ⇑P **PKPdf 12 32 15.1 +0.5**
baz=126
MFID Camas Ranch 126.45 30 ⇓P **PKPdf 12 32 14.9 0.0**
baz=126
DLMT Dillon 126.46 26 *e*PKPdf **PKPdf 12 32 16.2 +1.2**
D19A Cripps Ranch, 126.49 22 ⇓P **PKPdf 12 32 15.1 +0.3**
baz=126
I12A Atlanta 126.50 29 ⇓P **PKPdf 12 32 15.3 +0.2**
baz=126
A24A Westby 126.60 17 ⇓P **PKPdf 12 32 15.3 +0.3**
baz=126
BOZ Bozeman (W) 126.65 25 PFAKE 12 32 30.0 +15
BOZ LR LR
comp=Z,2µm,19.0s
BOZ Bozeman (W) 126.65 25 ⇑P **PKPdf 12 32 15.2 -0.1**
baz=126
G15A Dillon 126.66 26 ⇓P **PKPdf 12 32 16.1 +0.7**
baz=126
H14A Leadore 126.70 27 ⇑P **PKPdf 12 32 15.9 +0.4**
baz=126
B23A Brockton 126.71 18 ⇑P **PKPdf 12 32 15.4 +0.2**
baz=126
MCMT McKenzie Canyo 126.77 26 *e*PKPdf **PKPdf 12 32 16.9 +1.2**
D20A Manuel Ranch, 126.83 21 ⇑P **PKPdf 12 32 15.8 +0.3**
baz=127
F17A Fitzpatrick Pl 126.84 24 ⇓P **PKPdf 12 32 16.2 +0.5**
baz=127
I13A Wildhorse Cree 126.89 28 ⇑P **PKPdf 12 32 16.0 +0.1**
baz=127
G16A Moss Hill, Enn 126.91 25 ⇑P **PKPdf 12 32 16.2 +0.3**
baz=127
DGMT Dagmar 126.95 18 *e*PKPdf **PKPdf 12 32 16.5 +0.8**
DGMT LR LR
comp=Z,2µm,20.0s
HLID Hailey 127.02 28 PFAKE 12 32 30.0 +14
HLID LR LR
comp=Z,2µm,20.0s
HLID Hailey 127.02 28 ⇑P **PKPdf 12 32 16.8 +0.7**
baz=127
H15A Lima 127.03 26 ⇑P **PKPdf 12 32 16.1 -0.1**
baz=127
F18A Big Timber 127.22 23 ⇓P **PKPdf 12 32 16.7 +0.3**
baz=127
C23A Lambert 127.23 19 ⇑P **PKPdf 12 32 17.2 +1.0**
baz=127
J13A Cove Ranch, Pi 127.26 28 ⇑P **PKPdf 12 32 17.4 +0.8**
baz=127
ULM Lac du Bonnet 127.31 10 PKP **PKPdf 12 32 15.6 -0.7**
ULM Lac du Bonnet 127.31 10 PKP **PKPdf 12 32 15.6 -0.7**
comp=Z,3.3nm,0.8s,baz=335,slow=4.5,SNR=7.4
E20A Meyer Farm, Mu 127.33 22 ⇓P **PKPdf 12 32 17.1 +0.6**
baz=127
D22A Cohagen 127.47 20 ⇓P **PKPdf 12 32 17.4 +0.7**
baz=127
H16A Russell Place, 127.56 25 ⇑P **PKPdf 12 32 18.2 +1.0**
baz=127
I15A Mcteview 127.58 27 ⇓P **PKPdf 12 32 17.7 +0.6**
baz=127
J14A Carey 127.63 28 ⇑P **PKPdf 12 32 18.3 +1.1**
baz=127
E21A Keefer Ranch, 127.68 21 ⇑P **PKPdf 12 32 18.6 +1.4**
baz=128
C24A Savage 127.71 18 ⇓P **PKPdf 12 32 17.9 +0.8**
baz=128
G18A Lazy EL Ranch, 127.77 24 ⇑P **PKPdf 12 32 18.2 +0.7**
baz=128
D23A Lindsay 127.77 19 ⇑P **PKPdf 12 32 18.6 +1.3**
baz=128
BMN Battle Mountai 127.86 33 PFAKE 12 32 30.0 +12
BMN LR LR
comp=Z,3µm,22.0s
LKWY Lake 128.03 25 PFAKE 12 32 30.0 +12
LKWY LR LR
comp=Z,3µm,19.0s
RLMT Red Lodge 128.04 24 PFAKE 12 32 30.0 +12
RLMT LR LR
comp=Z,2µm,22.0s
E22A Miles City 128.16 20 ⇓P **PKPdf 12 32 18.5 +0.5**
baz=128
H18A Shoshone NF, C 128.25 24 ⇓P **PKPdf 12 32 19.2 +0.7**
baz=128
H19A Powell 128.53 24 ⇑P **PKPdf 12 32 19.3 +0.4**
baz=128
NVAR Mina Array Bea 128.62 36 PKP **PKPdf 12 32 19.2 -0.2**
NVAR Mina Array Bea 128.62 36 PKP **PKPdf 12 32 19.2 -0.2**
comp=Z,3.9nm,1.0s,baz=290,slow=1.4,SNR=16
MDND Maddock 128.78 14 ⇑P **PKPdf 12 32 19.4 +0.2**
baz=129
REDW Red Top Meadow 128.81 26 *e*PKPdf **PKPdf 12 32 20.9 +1.3**
J17A Brown Place, J 128.87 26 ⇓P **PKPdf 12 32 20.2 +0.5**
baz=129
H20A Greybull 129.07 23 ⇑P **PKPdf 12 32 20.3 +0.4**
baz=129
G22A Birney 129.10 21 ⇑P **PKPdf 12 32 20.2 +0.3**
baz=129
AHID Auburn Hatcher 129.17 27 PFAKE 12 32 30.0 +10
AHID LR LR
comp=Z,2µm,19.0s
L15A Malad City 129.17 28 ⇓P **PKPdf 12 32 21.2 +0.9**
baz=129
AGMN Agassiz Nation 129.19 11 PFAKE 12 32 30.0 +10
AGMN LR LR
comp=Z,4µm,21.0s
G23A Biddle 129.43 21 ⇓P **PKPdf 12 32 21.2 +0.7**
baz=129
I20A Wetland 129.47 24 ⇑P **PKPdf 12 32 21.5 +0.8**
baz=129
TPH Tonopah 129.49 35 PFAKE 12 32 30.0 +9.0
TPH LR LR
comp=Z,4µm,22.0s
L16A Fish Haven 129.61 28 ⇑P **PKPdf 12 32 22.5 +1.3**
baz=129
J19A Crowheart 129.66 25 ⇑P **PKPdf 12 32 21.9 +0.8**
baz=130
BW06 Boulder Array 129.85 26 PFAKE 12 32 30.0 +8.4
BW06 LR LR
comp=Z,2µm,22.0s
BW06 Boulder Array 129.85 26 ⇑P **PKPdf 12 32 22.2 +0.6**
baz=130
PDAR Pinedale Array 129.85 26 PKP **PKPdf 12 32 19.9 -1.7**
PDAR PP **PP 12 34 34.7 +2.5**
PDAR Pinedale Array 129.85 26 PKP **PKPdf 12 32 19.9 -1.7**
comp=Z,1.2nm,0.6s,baz=354,slow=1.5,SNR=10
PDAR PP **PP 12 34 34.7 +2.5**
comp=Z,8.0nm,1.3s,baz=284,slow=2.4,SNR=7.4
HWUT Hardware Ranch 129.87 28 PFAKE 12 32 30.0 +8.4
HWUT LR LR
comp=Z,3µm,21.0s
I21A Big Trails, Te 129.92 23 ⇓P **PKPdf 12 32 22.2 +0.6**
baz=130
H24A Dirks Ranch, A 130.12 20 ⇑P **PKPdf 12 32 22.7 +0.8**
baz=130
R11A Troy Canyon, C 130.23 34 ⇓P **PKPdf 12 32 23.3 +0.9**
baz=130
EYMN Ely 130.24 8 *e*PKPdf **PKPdf 12 32 22.9 +1.0**
EYMN LR LR
comp=Z,3µm,20.0s
J21A Lysite 130.25 23 ⇓P **PKPdf 12 32 22.8 +0.5**
baz=130
DUG Dugway 130.35 30 *e*PKIKP **PKPdf 12 32 24.6 +2.1**
DUG MLR MLR
comp=Z,3µm,22.0s
DUG Dugway 130.35 30 *e*PKPdf **PKPdf 12 32 24.6 +2.1**
DUG LR LR
comp=Z,3µm,22.0s
DUG Dugway 130.35 30 ⇑P **PKPdf 12 32 23.9 +1.3**
baz=130
DAC Darwin (Calif) 130.48 37 PFAKE 12 32 30.0 +7.0
DAC LR LR
comp=Z,3µm,21.0s
MPMC Manual Prospec 130.68 37 ⇑P **PKPdf 12 32 24.4 +1.0**
baz=130
K21A Alcova 130.92 24 ⇑P **PKPdf 12 32 25.1 +1.4**
baz=131
R13A O'Grain Ranch, 131.24 33 ⇑P **PKPdf 12 32 25.5 +1.2**
baz=131
J24A Dixon Ranch, L 131.32 21 ⇓P **PKPdf 12 32 25.2 +1.0**
baz=131
O17A Robinson Place 131.36 29 ⇑P **PKPdf 12 32 25.4 +0.8**
baz=131
L21A Rawlins 131.43 24 ⇓P **PKPdf 12 32 25.3 +0.6**
baz=131
M21A Separation Pea 131.73 25 ⇓P **PKPdf 12 32 26.0 +0.7**
baz=132
CIS Catalina Islan 131.81 41 ⇓P **PKPdf 12 32 26.2 +0.9**
baz=132
MVU Marysvale 131.93 31 PFAKE 12 32 40.0 +14
MVU LR LR
comp=Z,3µm,22.0s
MSU Marysvale 131.94 31 *e*PKIKP **PKPdf 12 32 27.0 +1.3**
MSU Marysvale 131.94 31 *e*PKPdf **PKPdf 12 32 27.0 +1.3**
SRU San Rafael 132.31 29 ⇑P **PKPdf 12 32 26.7 +0.4**
baz=132
Q18A Rafter H Ranch 132.51 29 ⇓P **PKPdf 12 32 27.2 +0.6**
baz=132
PFO Pinyon Flat Ob 132.93 39 PFAKE 12 32 40.0 +12
PFO LR LR
comp=Z,2µm,20.0s
RCBR Riachuelo 132.95 263 PFAKE 12 32 40.0 +12
RCBR LR LR
comp=Z,1µm,20.0s
Q19A Hogan Spring (133.04 28 ⇓P **PKPdf 12 32 28.2 +0.6**
baz=133
R18A Canyonlands Na 133.18 29 ⇓P **PKPdf 12 32 27.3 -0.7**
baz=133
ECSD EROS Data Cent 133.37 14 PFAKE 12 32 40.0 +12
ECSD LR LR
comp=Z,4µm,21.0s
MONP Monument Peak 133.42 40 ⇓P **PKPdf 12 32 29.0 +0.4**
baz=133
U15A North Rim 133.43 33 ⇓P **PKPdf 12 32 29.5 +0.9**
baz=133
LBNH Lisbon 133.49 349 PFAKE 12 32 40.0 +12
LBNH LR LR
comp=Z,3µm,19.0s
LONY Lake Ozonia 133.55 352 PFAKE 12 32 40.0 +12
LONY LR LR
comp=Z,3µm,20.0s
S18A Hurst Farm, Bl 133.68 30 ⇓P **PKPdf 12 32 28.0 -1.0**
baz=134
GLMI Grayling 133.91 2 PFAKE 12 32 40.0 +11
GLMI LR LR
comp=Z,4µm,20.0s
ISCO Idaho Springs 133.97 24 PFAKE 12 32 40.0 +10
ISCO LR LR
comp=Z,2µm,19.0s
PV01 Paradox Valley 134.02 28 *e*PKPdf **PKPdf 12 32 29.3 -0.3**
OGNE Ogallala 134.34 20 PFAKE 12 32 40.0 +10
OGNE LR LR
comp=Z,2µm,19.0s
WUAZ Wupatki 134.60 33 *e*PKPdf **PKPdf 12 32 30.6 -0.1**
WUAZ LR LR
comp=Z,2µm,20.0s
MVCO Mesa Verde 134.79 29 PFAKE 12 32 40.0 +8.9
MVCO LR LR
comp=Z,2µm,21.0s
T22A Edith 135.71 28 ⇓P **PKPdf 12 32 32.0 -0.8**
baz=136
SDCO Great Sand Dun 135.74 26 PFAKE 12 32 40.0 +7.1
SDCO LR LR
comp=Z,2µm,21.0s
U21A Nageezi 135.82 29 ⇓P **PKPdf 12 32 32.8 -0.3**
baz=136
SCIA State Center 135.85 11 PFAKE 12 32 40.0 +7.4
SCIA LR LR
comp=Z,3µm,21.0s
BINY Binghamton 136.12 353 PFAKE 12 32 40.0 +6.8
BINY LR LR
comp=Z,3µm,22.0s
AAM Ann Arbor 136.46 1 PFAKE 12 32 40.0 +6.3
AAM LR LR
comp=Z,3µm,21.0s
ERPA Erie 136.57 357 PFAKE 12 32 40.0 +6.0
ERPA LR LR
comp=Z,3µm,21.0s
CBKS Cedar Bluff 137.03 19 PFAKE 12 32 50.0 +15
CBKS LR LR
comp=Z,2µm,19.0s
TUC Tucson 137.28 36 PFAKE 12 32 50.0 +14
TUC LR LR
comp=Z,2µm,20.0s
ANMO Albuquerque 137.59 29 PFAKE 12 32 50.0 +14
ANMO LR LR
comp=Z,2µm,20.0s
KSU1 Kansas State U 137.72 16 PFAKE 12 32 50.0 +14
KSU1 LR LR
comp=Z,2µm,19.0s
HDIL Hopedale 137.79 7 PFAKE 12 32 50.0 +14
HDIL LR LR
comp=Z,2µm,19.0s
BNM Barren Site 138.14 30 *e*PKPdf **PKPdf 12 32 37.9 +0.4**
ACSO Alum Creek Sta 138.53 0 PFAKE 12 32 50.0 +12
ACSO LR LR
comp=Z,3µm,21.0s
TRQA Tornquist 138.82 205 PFAKE 12 32 50.0 +12
TRQA LR LR
comp=Z,1µm,20.0s
SPB Sao Paulo 139.22 235 PFAKE 12 32 50.0 +11
SPB LR LR
comp=Z,862nm,19.0s
PLCA Paso Flores 139.33 194 PKP **PKPdf 12 32 37.4 -1.8**
PLCA Paso Flores 139.33 194 PKP **PKPdf 12 32 37.4 -1.8**
comp=Z,1.0nm,0.8s,baz=284,slow=8.1,SNR=3.0
AMTX Amarillo 139.79 24 PFAKE 12 32 50.0 +10
AMTX LR LR
comp=Z,2µm,20.0s
Z26A Caprock 140.14 28 ⇓P PKPdf 12 32 34.6 -6.3
baz=140
CBN Corbin 140.23 353 PFAKE 12 32 50.0 +9.2
CBN LR LR
comp=Z,2µm,21.0s
125A Gardner Draw, 140.31 29 ⇓P **PKPdf 12 32 42.0 +0.7**
baz=140
Z27A Tatum 140.46 27 ⇑P PKPdf 12 32 35.6 -6.0
baz=140
MNTX Cornudas Mount 140.72 31 PFAKE 12 32 50.0 +8.1
MNTX LR LR
comp=Z,1µm,22.0s
MNTX Cornudas Mount 140.72 31 ⇑P PKPdf 12 32 36.7 -5.2
baz=141
324A Moseley Ranch, 140.87 31 ⇓P **PKPdf 12 32 37.6 -4.7**
baz=141
WMOK Wichita Mounta 141.04 21 *e*PKPdf PKPdf 12 32 36.6 -5.8
WMOK LR LR
comp=Z,2µm,22.0s
Z29A Hungry Hill Ra 141.18 26 ⇑P **PKPdf 12 32 38.3 -4.5**
baz=141
325A Bean Ranch, Si 141.19 31 ⇓P PKPdf 12 32 37.8 -5.1
baz=141
BLA Blacksburg 141.48 357 PFAKE 12 32 50.0 +6.9
BLA LR LR
comp=Z,2µm,20.0s
425A Indio Mountain 141.65 32 ⇓P PKPdf 12 32 38.5 -5.2
baz=142
426A McDonald Obser 142.24 31 ⇓P **PKPdf 12 32 40.9 -4.0**
baz=142
WVT Waverly 142.34 7 *e*PKIKP **PKPdf 12 32 40.5 -4.1**
WVT Waverly 142.34 7 *e*PKPdf **PKPdf 12 32 40.5 -4.1**
427A Hayter Ranch, 142.41 30 ⇑P **PKPdf 12 32 41.4 -3.7**
baz=142
329A Wagon Wheel Ra 142.56 27 ⇑P **PKPdf 12 32 41.3 -4.0**
baz=142
ABTX Abilene, Hawle 142.59 24 ⇓P **PKPdf 12 32 41.1 -4.1**
baz=142
526A Mary Lane Ranc 142.69 31 ⇓P **PKPdf 12 32 42.4 -3.2**
baz=142
MIAR Mount Ida 142.82 15 *e*PKIKP **PKPdf 12 32 41.7 -3.9**
MIAR MLR MLR
comp=Z,2µm,22.0s
MIAR Mount Ida 142.82 15 *e*PKPdf **PKPdf 12 32 41.7 -3.9**
MIAR LR LR
comp=Z,2µm,22.0s
428A Kincaid Ranch, 142.86 29 ⇓P **PKPdf 12 32 43.4 -2.4**
baz=143
BDFB Brasilia 142.86 246 PKP **PKPdf 12 32 45.5 -0.7**
BDFB Brasilia 142.86 246 PKP **PKPdf 12 32 45.5 -0.7**
comp=Z,1.0nm,0.4s,baz=90,slow=7.1,SNR=2.2
527A Woodward Ranch 142.87 31 ⇓P **PKPdf 12 32 42.8 -3.2**
baz=143
626A Big Bend Ranch 143.07 32 ⇓P PKPbc 12 32 43.7 +0.6
baz=143
CNNC Cliffs of the 143.22 353 PFAKE 12 33 00.0 +14
CNNC LR LR
comp=Z,2µm,20.0s

528A	**Cox Ranch, San** baz=143	**143.27**	**30**	⇓P		PKPbc	12 32 44.1	+0.5
429A	**Davenport Ranc** baz=143	**143.32**	**28**	⇑P		PKPab	12 32 42.8	+0.2
PLAL	**Pickwick Lake**	**143.44**	**7**	PFAKE			12 33 00.0	+13
PLAL	comp=Z,2μm,20.0s			LR	LR			
430A	**Baggett Ranch,** baz=143	**143.49**	**27**	⇑P		PKPbc	12 32 43.4	-0.8
TXAR	**Lajitas Array**	**143.50**	**31**	PKP		PKPbc	12 32 44.5	+0.3
TXAR				PP		**PP**	**12 36 01.8**	**+4.1**
TXAR	**Lajitas Array** comp=Z,6.6nm,1.1s,baz=279,slow=2.4,SNR=28	**143.50**	**31**	PKP		PKPbc	12 32 44.5	+0.3
TXAR	comp=Z,1.4nm,0.9s,baz=337,slow=2.9,SNR=3.5			PP		**PP**	**12 36 01.8**	**+4.1**
627A	**Terlingua Ranc** baz=143	**143.54**	**31**	⇑P		PKPbc	12 32 44.9	+0.5
529A	**Stev Forest Ra** baz=143	**143.58**	**29**	⇑P		PKPbc	12 32 44.4	0.0
OXF	**Oxford**	**143.71**	**9**	PFAKE			12 33 00.0	+13
OXF	comp=Z,2μm,20.0s			LR	LR			
628A	**Black Gap, Mar** baz=144	**143.77**	**30**	⇑P		PKPbc	12 32 45.7	+0.7
431A	**Sonora** baz=144	**143.86**	**26**	⇓P		PKPbc	12 32 45.0	-0.3
432A	**Menard** baz=144	**144.05**	**25**	⇑P		PKPbc	12 32 45.7	-0.1
531A	**Rocksprings** baz=144	**144.33**	**27**	⇑P		PKPbc	12 32 46.3	-0.4
JCT	**Junction City**	**144.39**	**26**	*e*PKIKP		PKPbc	12 32 47.3	+0.5
JCT	comp=Z,1μm,21.0s			MLR	MLR			
JCT	**Junction City**	**144.39**	**26**	*e*PKPdf		PKPbc	12 32 47.3	+0.4
JCT	comp=Z,1μm,21.0s			LR	LR			
JCT	**Junction City** baz=144	**144.39**	**26**	⇓P		PKPbc	12 32 47.3	+0.5
532A	**Rocksprings** baz=144	**144.65**	**26**	⇓P		PKPbc	12 32 47.3	-0.3
NATX	**Nacogdoches**	**145.13**	**18**	*e*PKPbc		**PKPdf**	**12 32 50.2**	**+0.5**
NATX	comp=Z,3μm,19.0s			LR	LR			
CPUP	**Villa Florida**	**145.14**	**223**	PKPbc		**PKPdf**	**12 32 50.1**	**+0.3**
CPUP	**Villa Florida** comp=Z,15nm,1.0s,baz=119,slow=2.0,SNR=11	**145.14**	**223**	PKPbc		**PKPdf**	**12 32 50.1**	**+0.3**
GOGA	**Godfrey**	**145.33**	**1**	*e*PKIKP		**PKPdf**	**12 32 49.8**	**-0.2**
GOGA	comp=Z,2μm,19.0s			MLR	MLR			
GOGA	**Godfrey**	**145.33**	**1**	*e*PKPbc		**PKPdf**	**12 32 49.8**	**-0.2**
GOGA	comp=Z,2μm,19.0s			LR	LR			
LRAL	**Lakeview Retre**	**145.49**	**6**	*e*PKPbc		**PKPbc**	**12 32 49.9**	**-0.3**
LRAL	comp=Z,2μm,19.0s			LR	LR			
NHSC	**New Hope**	**145.55**	**356**	PFAKE			12 33 00.0	+9.4
NHSC	comp=Z,2μm,20.0s			LR	LR			
VBMS	**Vicksburg**	**145.75**	**12**	*e*PKPbc		**PKPab**	**12 32 53.1**	**+1.7**
VBMS	comp=Z,2μm,21.0s			LR	LR			
732A	**Laxson Ranch,** baz=146	**145.81**	**27**	⇑P		**PKPab**	**12 32 51.8**	**0.0**
HKT	**Hockley**	**146.42**	**21**	*e*PKP2		**PKPab**	**12 32 53.4**	**-0.5**
HKT	**Hockley**	**146.42**	**21**	*e*PKPbc		**PKPab**	**12 32 53.4**	**-0.5**
BRAL	**Brewton**	**147.48**	**7**	PFAKE			12 33 00.0	+1.9
BRAL	comp=Z,2μm,22.0s			LR	LR			
KVTX	**Kingsville**	**147.75**	**26**	PFAKE			12 33 00.0	+0.7
KVTX	comp=Z,1μm,20.0s			LR	LR			
LCO	**Las Campanas**	**150.23**	**202**	*e*PKPdf		**PKPdf**	**12 33 00.1**	**+1.6**
LCO				*e*PKPbc		**PKiKP**	**12 33 04.2**	**-0.2**
LCO				*e*PKPab		**PKPab**	**12 33 09.3**	**-0.4**
LCO	comp=Z,758nm,19.0s			LR	LR			
ANWB	**Willy Bob**	**151.87**	**313**	PFAKE			12 33 10.0	+2.6
ANWB	comp=Z,967nm,21.0s			LR	LR			
FDF	**Fort de France**	**153.17**	**308**	PFAKE			12 33 10.0	-0.4
FDF	comp=Z,1μm,21.0s			LR	LR			
GRTK	**Grand Turk**	**154.47**	**334**	PFAKE			12 33 10.0	-3.0
GRTK	comp=Z,1μm,21.0s			LR	LR			
SJG	**San Juan**	**154.55**	**320**	PFAKE			12 33 20.0	+6.8
SJG	comp=Z,779nm,20.0s			LR	LR			
GRGR	**Grenville**	**154.99**	**303**	PFAKE			12 33 20.0	+5.7
GRGR	comp=Z,982nm,20.0s			LR	LR			
SDDR	**Presa de Saban**	**156.74**	**331**	PFAKE			12 33 20.0	+12
SDDR	comp=Z,1μm,21.0s			LR	LR			
GTBY	**Guantanamo Bay**	**157.45**	**341**	PFAKE			12 33 20.0	+11
GTBY	comp=Z,980nm,20.0s			LR	LR			
TEIG	**Tepich**	**157.82**	**14**	PFAKE			12 33 20.0	+11
TEIG	comp=Z,1μm,19.0s			LR	LR			
SAML	**Samuel**	**159.05**	**248**	PFAKE			12 33 20.0	+9.3
SAML	comp=Z,1μm,20.0s			LR	LR			
LPAZ	**La Paz**	**159.31**	**224**	PKP		**PKPdf**	**12 33 11.0**	**-0.7**
LPAZ	**La Paz** comp=Z,2.5nm,1.2s,baz=35,slow=4.4,SNR=3.4	**159.31**	**224**	PKP		**PKPdf**	**12 33 11.0**	**-0.7**
MTDJ	**Mount Denham**	**159.77**	**345**	PFAKE			12 33 20.0	+8.4
MTDJ	comp=Z,1μm,19.0s			LR	LR			
SDV	**Santo Domingo**	**164.08**	**310**	PFAKE			12 33 30.0	+14
SDV	comp=Z,503nm,19.0s			LR	LR			
NNA	**Nana**	**167.94**	**209**	PFAKE			12 33 30.0	+11
NNA	comp=Z,1μm,21.0s			LR	LR			
JTS	**JuntasAbangare**	**168.16**	**10**	PFAKE			12 33 30.0	+11
JTS	comp=Z,1μm,19.0s			LR	LR			
BCIP	**Isla Barro Col**	**169.04**	**344**	PFAKE			12 33 30.0	+10
BCIP	comp=Z,1μm,19.0s			LR	LR			
OTAV	**Otavalo**	**175.29**	**291**	*e*PKPdf		**PKPdf**	**12 33 24.0**	**+0.8**
OTAV	comp=Z,1μm,19.0s			LR	LR			

*IDC **24** 12:14:46.1±1.3,47°.28N×152°.64E,h69km±8km,mb3.4/7, mb1 3.6/9,mb1mx3.5/28,mbtmp3.5/9,MS3.8/1,Ms1 3.8/1, ms1mx2.6/37,Error ellipse: s-maj=44.3km s-min=17.9km az=159.0*

ISC 24 12:14:47.2±1.3,46°.1N±0°.3×153°.1E±0°.2,h100km,n20, σ1§41/19,mb3.7/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NEM2	**Nemuro 2**	**5.91**	**245**	P		**Pn**	**12 16 12.6**	**+0.5**
NEM2				*e*S		**Sn**	**12 17 19.3**	**+0.9**
JRA	**Rausu**	**6.05**	**252**	P		**Pn**	**12 16 15.6**	**+1.5**
JNK	**Nakash**	**6.46**	**250**	P		**Pn**	**12 16 20.9**	**+1.2**
JAK	**Akkeshi**	**6.75**	**246**	P		**Pn**	**12 16 23.6**	**0.0**
JAK				*e*S		**Sn**	**12 17 39.7**	**+0.7**
JTKR	**Abashiri--Toko**	**6.85**	**255**	P		**Pn**	**12 16 26.5**	**+1.5**
JMP	**Maruseppu**	**7.21**	**257**	P		**Pn**	**12 16 31.7**	**+1.8**
JAR	**Ashorobuto**	**7.21**	**251**	P		**Pn**	**12 16 31.8**	**+1.9**
JKK2	**Kamakawa 2**	**7.67**	**257**	P		**Pn**	**12 16 37.3**	**+1.2**
ASAJ	**Asahikawa** 0.9nm,0.3s,baz=84,slow=18,SNR=5.7	**7.69**	**259**	P		**Pn**	**12 16 35.3**	**-1.2**
JCH	**Churui**	**7.79**	**247**	P		**Pn**	**12 16 38.3**	**+0.5**
JCH				*e*S		**Sn**	**12 18 04.7**	**+0.3**
JNBK	**Urakawa-nobuka**	**8.35**	**247**	P		**Pn**	**12 16 45.0**	**-0.4**
JKB	**Kayabe**	**9.66**	**249**	P		**Pn**	**12 17 02.2**	**-0.9**
JKB				*e*S		**Sn**	**12 18 46.6**	**-3.1**
USRK	**Ussuriysk Arra** 0.3nm,0.3s,baz=62,slow=12,SNR=2.9	**15.01**	**270**	P		**Pn**	**12 18 12.1**	**-1.8**
USRK	comp=Z,302nm,18.1s,baz=128,slow=41			LR		LR	12 24 55.1	
KSRS	**Korea Array** 1.0nm,0.6s,baz=56,slow=11,SNR=5.2	**20.60**	**254**	P		Pn	12 19 21.1	-0.3
ILAR	**Eielson Array** 0.3nm,0.5s,baz=260,slow=5.1,SNR=5.9	**37.08**	**38**	P		P	12 21 43.2	-4.1
ILAR	0.2nm,0.6s,baz=268,slow=4.9,SNR=1.6			pP		pP	12 22 00.1	-10
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=296,slow=7.1,SNR=4.1	**51.47**	**36**	P		P	12 23 38.1	-3.7
YKA				pP		pP	12 23 56.2	-10
FINES	**FINESS Array B** 1.6nm,0.8s,baz=64,slow=8.7,SNR=6.1	**64.65**	**335**	P		P	12 25 07.6	-6.1
PDAR	**Pinedale Array** 0.3nm,0.5s,baz=267,slow=1.0,SNR=3.5	**65.15**	**54**	P		**P**	**12 25 17.1**	**-0.6**
HFS	**Hagfors** 0.7nm,0.4s,baz=50,slow=4.6,SNR=6.8	**69.09**	**340**	P		P	12 25 35.9	-6.1
TXAR	**Lajitas Array** 1.3nm,0.5s,baz=300,slow=5.0,SNR=30	**77.83**	**60**	P		**P**	**12 26 34.2**	**+0.5**
TXAR	0.6nm,0.7s,baz=299,slow=3.6,SNR=5.4			pP		PcP	12 26 52.1	+8.8

*CSEM **24** 12:23:19.7,41°.24N×19°.79E,h6km,ML2.5,After TIR*

TIR 24 12:23:19.7±1.3,41°.24N×19°.79E,h6km±101km,ML2.5, Albania

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TIR	**Tirane**	**0.12**	**29**	*e*PG		Pg	12 23 22.4	+0.1
TIR				*e*SG		Sg	12 23 24.3	+0.2
TIR	**Tirane** SNR=93	**0.12**	**29**	*e*Pg		Pg	12 23 22.4	+0.1
TIR	SNR=93			*e*Sg		Sg	12 23 24.3	+0.2
PHP	**Peshkopia**	**0.66**	**48**	*e*PG		Pg	12 23 32.6	0.0
PHP				*e*SG		Sb	12 23 43.4	+0.1
PHP	**Peshkopia** SNR=90	**0.66**	**48**	*e*Pg		Pg	12 23 32.6	0.0
PHP	SNR=90			*e*Sg		Sb	12 23 43.4	+0.1
PUK	**Puka**	**0.81**	**6**	*e*PG		Pb	12 23 36.3	+0.1
PUK				*e*SG		Sb	12 23 48.4	+0.9
PUK	**Puka** SNR=90	**0.81**	**6**	*e*Pg		Pb	12 23 36.3	+0.1
PUK	SNR=90			*e*Sg		Sb	12 23 48.4	+0.9
BCI	**Bajram Curri**	**1.14**	**10**	*e*PG		Pg	12 23 41.5	-0.2
BCI	**Bajram Curri** SNR=90	**1.14**	**10**	*e*Pg		Pg	12 23 41.5	-0.2
FNA	**Florina**	**1.29**	**110**	*e*PG		Pg	12 23 45.3	+0.8
FNA	**Florina** SNR=90	**1.29**	**110**	*e*Pg		Pg	12 23 45.3	+0.8

*NOU **24** 12:23:52.6±0.3,22°.44S×169°.52E,h10km±50km,MD3.2, ML3.2*

*IDC **24** 12:23:52.8±1.5,23°.24S×170°.51E,h0km,mb3.8/7, mb1 4.0/8,mb1mx3.9/19,mbtmp3.8/8,ML3.7/1,Error ellipse: s-maj=38.6km s-min=30.1km az=32.0*

ISC 24 12:24:00.7±1.3,22°.8S±0°.3×169°.90E±0°.10,h25km,n13, σ0§74/9,mb3.8/7,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LASL	**Noumea**	**3.16**	**280**	*e*P		Pb	12 24 52.1	-4.1
NORM	**Noumea**	**3.21**	**280**	*e*P		Pb	12 24 52.5	-4.5
DZM	**Mont Dzumac**	**3.28**	**283**	*e*P		Pb	12 24 53.3	-5.1
DZM				*e*S		**Sb**	**12 25 38.2**	**+0.2**
DZM	comp=Z,394nm,0.4s			AMP			12 25 39.7	
DZM	**Mont Dzumac** comp=Z,5.1nm,0.3s,baz=78,slow=16,SNR=89	**3.28**	**283**	Pn		Pb	12 24 54.2	-4.1
DZM	comp=Z,7.1nm,0.3s,baz=144,slow=17,SNR=9.2			Sn		**Sb**	**12 25 38.1**	**+0.2**
NOUC	**Port Laguerre**	**3.40**	**282**	*e*P		Pb	12 24 55.4	-4.9
NOUC	comp=Z,25nm,0.8s			AMP			12 25 48.9	
STKA	**Stephens Creek** comp=Z,1.8nm,0.8s,baz=103,slow=18,SNR=2.4	**26.64**	**244**	P		**P**	**12 29 37.9**	**+0.4**
ASAR	**Alice Springs** comp=Z,0.7nm,0.8s,baz=101,slow=10,SNR=6.2	**33.03**	**261**	P		**P**	**12 30 34.0**	**-0.3**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.7s,baz=99,slow=9.1,SNR=3.2	**33.19**	**268**	P		**P**	**12 30 34.6**	**-1.0**
FITZ	**Fitzroy Crossi** comp=Z,1.6nm,0.8s,baz=101,slow=5.2,SNR=3.8	**41.62**	**268**	P		**P**	**12 31 47.3**	**+0.2**
QSPA	**South Pole Qui** comp=Z,2.3nm,1.1s,baz=0.5,slow=1.9,SNR=3.1	**67.24**	**180**	P		P	12 34 46.1	-6.8
CMAR	**Chiang Mai Arr** comp=Z,0.6nm,0.4s,baz=122,slow=3.6,SNR=4.3	**80.54**	**295**	P		**P**	**12 36 12.6**	**+1.2**
SONM	**Songino Array** comp=Z,0.6nm,1.0s,baz=131,slow=6.1,SNR=3.6	**90.45**	**323**	P		**P**	**12 36 59.6**	**-0.5**
GERES	**GERESS Array B** comp=Z,2.0nm,0.9s,baz=29,slow=3.0,SNR=8.9	**147.92**	**330**	PKPbc		**PKPdf**	**12 43 40.5**	**-0.2**

IDC 24 12:35:43.7±1.1,23°.33S×170°.38E,h0km,mb4.0/8, mb1 4.2/9,mb1mx4.1/19,mbtmp4.0/9,ML3.5/1,Error ellipse: s-maj=31.9km s-min=23.5km az=3.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac** 3.8nm,0.3s,baz=125,slow=18,SNR=50	**3.84**	**288**	Pn		Pn	12 36 44.5	+0.2
DZM	1.3nm,0.3s,baz=131,slow=19,SNR=3.0			Sn		Sn	12 37 30.2	0.0
STKA	**Stephens Creek** 1.9nm,1.0s,baz=77,slow=14,SNR=1.9	**26.83**	**245**	P		P	12 41 24.6	-1.3
ASAR	**Alice Springs** 1.4nm,0.8s,baz=86,slow=9.2,SNR=14	**33.40**	**262**	P		P	12 42 23.8	-0.4
WRA	**Warramunga Arr** 0.8nm,0.8s,baz=98,slow=8.3,SNR=6.1	**33.62**	**269**	P		P	12 42 26.1	0.0
FITZ	**Fitzroy Crossi** 8.1nm,0.7s,baz=128,slow=7.1,SNR=3.9	**42.05**	**268**	P		P	12 43 38.4	+1.1
QSPA	**South Pole Qui** 2.2nm,1.0s,baz=288,slow=4.1,SNR=3.2	**66.75**	**180**	P		P	12 46 37.1	+0.4
CMAR	**Chiang Mai Arr** 0.4nm,0.4s,baz=90,slow=3.6,SNR=3.6	**81.15**	**294**	P		P	12 48 02.3	+0.7
NVAR	**Mina Array Bea** 0.2nm,0.4s,baz=238,slow=3.1,SNR=3.0	**90.72**	**48**	P		P	12 48 48.3	-0.5
SONM	**Songino Array** 0.1nm,0.4s,baz=113,slow=1.9,SNR=3.3	**91.11**	**323**	P		P	12 48 49.9	-0.4
GERES	**GERESS Array B** 0.9nm,0.8s,baz=48,slow=2.0,SNR=5.8	**148.56**	**330**	PKPbc		PKPbc	12 55 31.9	-0.7

*IDC **24** 12:39:36.8±0.3,23°.21S×170°.56E,h0km,mb5.3/31, mb1 5.3/33,mb1mx5.3/33,mbtmp5.3/33,ML4.4/2,MS5.1/22, Ms1 5.1/22,ms1mx5.0/29,Error ellipse: s-maj=13.6km s-min=10.9km az=1.0*

*SZGRF **24** 12:39:37.3,24°.56S×171°.82E,h28km,mb5.3,Southeast of Loyalty Islands*

*ISCJB **24** 12:39:39.2±1.5,23°.18S±0°.03×170°.43E±0°.02,h22km±10km, mb5.6/177,MS5.2/43,Error ellipse: s-maj=5.5km s-min=3.2km az=16.4*

*LDG **24** 12:39:39.1±0.1,22°.50S×170°.73E,h10km,Mb5.7/4, Ms5.5/8,Error ellipse: s-maj=18.5km s-min=4.3km az=2.0*

*MOS **24** 12:39:41.8±1.2,23°.07S×170°.45E,h33km,mb5.7/48, MS5.4/11,Error ellipse: s-maj=7.9km s-min=7.9km az=133.7*

*NEIC **24** 12:39:41.8±0.1,23°.18S×170°.56E,mb5.6/79,MW5.7, Error ellipse: s-maj=4.2km s-min=3.8km az=168.0*

*DJA **24** 12:39:41,23°.24S×170°.35E,h10km,mb5.7/25*

*BGS **24** 12:39:44.3±1.9,21°.63S×171°.96E,h33km,mb5.6(NEIC)*

*BJI **24** 12:39:45.6,22°.51S×170°.66E,h56km,mB6.0/35,mb5.3/50, Ms5.5/34,Ms7 5.1/34*

*NEIC **24** 12:40:01.7±0.0,23°.20S×169°.71E,h10km,Moment Tensor Solution. s147 Moment tensor: Scale 10^{17}Nm; M_{rr}=2.86; $M_{\theta\theta}$=2.67; $M_{\phi\phi}$=0.19; $M_{r\theta}$=-3.06; $M_{r\phi}$=-1.79; $M_{\theta\phi}$=2.07; Best double couple: M_0=4.90000×10^{17} NP1:ϕ_s=123.00000°, δ=70.00000°,λ=-84.00000°. NP2:ϕ_s=290.00000°,δ=21.00000°, λ=-101.00000°. Principal axes: T 5.2700, Plg24.0000°, Azm209.0000°; N -0.7100, Plg4.0000°, Azm301.0000°; P -4.5600, Plg65.0000°, Azm41.0000°.*

ISC 24 12:39:42.2±0.3,23°.14S±0°.04×170°.58E±0°.04,h35km±1km, h35km:pP-P,n1097,σ1§24/1200,mb5.6/173,MS5.2/44, 113C-143D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LASL	**Noumea**	**3.84**	**283**	*e*P		**Pn**	**12 40 36.5**	**-2.3**
LASL				*e*S		**Sn**	**12 41 19.1**	**-3.6**
LASL	comp=Z,2μm,0.7s			AMP			12 41 25.7	
NORM	**Noumea**	**3.89**	**283**	*e*P		**Pn**	**12 40 36.6**	**-3.0**
NORM				*e*S		**Sn**	**12 41 21.6**	**-2.4**
DZM	**Mont Dzumac** comp=Z,700nm,0.3s	**3.97**	**285**	*e*Pn		**Pn**	**12 40 38.1**	**-2.6**
DZM	comp=Z,684nm,0.3s			*e*Sn		**Sn**	**12 41 22.9**	**-3.2**
DZM	**Mont Dzumac**	**3.97**	**285**	*e*P		**Pn**	**12 40 37.6**	**-3.1**
DZM	**Mont Dzumac** comp=Z,165nm,0.3s,baz=100,slow=14,SNR=445	**3.97**	**285**	Pn		**Pn**	**12 40 37.9**	**-2.8**
DZM				Sn		**Sn**	**12 41 22.2**	**-3.9**
DZM	comp=Z,49nm,0.3s,baz=89,slow=18,SNR=3.3			LR		LR	12 41 59.6	
NOUC	**Port Laguerre**	**4.08**	**284**	*e*P		**Pn**	**12 40 39.9**	**-2.4**
NOUC				*e*S		**Sn**	**12 41 27.0**	**-1.8**
MSVF	**Nonsavu**	**8.83**	**54**	*e*P		Pn	12 41 52.2	+4.7
MSVF				*e*			12 43 24.0	
MSVF	**Nonsavu**	**8.83**	**54**	*e*Pn		Pn	12 41 52.2	+4.7
MSVF				*e*Sn		**Sn**	**12 43 23.9**	**-2.0**
OUZ	**Omahuta**	**12.32**	**168**	*e*Pn		**Pn**	**12 42 34.4**	**-0.8**
OUZ	**Omahuta**	**12.32**	**168**	PN		**Pn**	**12 42 33.8**	**-1.4**
MKAZ	**Moumakai**	**14.47**	**165**	PN		**Pn**	**12 43 05.3**	**+0.7**
HIZ	**Hauiti**	**15.76**	**168**	PN		**Pn**	**12 43 22.3**	**+0.8**
URZ	**Urewera** comp=Z,853nm,1.4s	**16.07**	**161**	*e*Pn		**Pn**	**12 43 25.5**	**0.0**
URZ	**Urewera**	**16.07**	**161**	PN		**Pn**	**12 43 24.6**	**-1.0**
MWZ	**Matawai**	**16.27**	**160**	*e*PN		**Pn**	**12 43 28.7**	**+0.6**
RATZ	**Rangitukua**	**16.29**	**165**	PN		**P**	**12 43 32.6**	**+1.5**
BKZ	**Black Stump Fm**	**16.75**	**164**	PN		**P**	**12 43 35.4**	**-0.8**
HNR	**Honiara**	**17.01**	**322**	*e*Pn		**Pn**	**12 43 37.6**	**0.0**
TSZ	**Takapari Road**	**17.47**	**166**	PN		**Pn**	**12 43 43.3**	**+0.1**
EIDS	**Eidsvold** comp=Z,385nm,1.4s	**17.92**	**259**	*e*Pn		**P**	**12 43 51.0**	**+1.9**
MRZ	**Mangatainoka R**	**17.97**	**168**	PN		**P**	**12 43 49.8**	**+0.2**
BFZ	**Birch Farm**	**18.13**	**166**	PN		**Pn**	**12 43 50.1**	**-1.1**
ARMA	**Armidale** comp=Z,138nm,1.1s	**18.39**	**243**	*e*Pn		**Pn**	**12 43 55.0**	**+0.4**
ARMA	**Armidale**	**18.39**	**243**	*e*P		**P**	**12 43 54.3**	**-0.1**
ARMA				*e*S		**S**	**12 47 29.2**	**+6.4**
SNZO	**South Karori** comp=Z,1μm,1.4s	**18.45**	**170**	*e*Pn		**Pn**	**12 43 56.2**	**+1.1**
AFI	**Afiamalu** comp=Z,309nm,1.0s	**19.07**	**64**	*e*P		**P**	**12 44 00.5**	**-1.4**
AFI	**Afiamalu** comp=Z,11nm,0.3s,baz=43,slow=4.1,SNR=27	**19.07**	**64**	P		**P**	**12 44 00.6**	**-1.2**
AFI	comp=Z,5μm,18.1s,baz=235,slow=33			LR		LR	12 50 12.1	
KHZ	**Kahutara** comp=Z,633nm,1.3s	**19.38**	**173**	*e*P		**Pn**	**12 44 05.8**	**-0.6**
LTZ	**Lake Taylor**	**19.64**	**176**	PN		**P**	**12 44 08.3**	**+0.4**
WVZ	**Waitaha Valley**	**19.88**	**180**	PN		**Pn**	**12 44 11.6**	**-0.7**
RIV	**Riverview**	**20.09**	**234**	*e*P		Pn	12 44 14.9	+0.1
FOZ	**Fox Glacier**	**20.38**	**182**	PN		**P**	**12 44 15.8**	**-0.1**
RPZ	**Rata Peaks** comp=Z,496nm,1.0s	**20.53**	**179**	*e*P		**P**	**12 44 16.7**	**-0.8**
RPZ	**Rata Peaks**	**20.53**	**179**	PN		**P**	**12 44 18.3**	**+0.8**
WKZ	**Wanaka**	**21.67**	**183**	PN		**P**	**12 44 31.3**	**+1.4**
ODZ	**Otahua Downs** comp=Z,440nm,1.4s	**21.85**	**180**	*e*P		**P**	**12 44 31.6**	**-0.1**
CNB	**Canberra Magne** comp=Z,836nm,1.0s	**22.08**	**232**	*e*P		**P**	**12 44 36.0**	**+1.6**
CNB				*e*S		**S**	**12 48 41.4**	**+5.4**
CAN	**Canberra**	**22.35**	**232**	*e*P		**P**	**12 44 38.7**	**+1.4**
CAN	comp=Z,197nm,1.1s			pmax		pmax		
CAN	**Canberra** comp=Z,197nm,1.1s	**22.35**	**232**	*e*P		**P**	**12 44 38.7**	**+1.4**
TUZ	**Tuapeka**	**22.77**	**182**	PN		**P**	**12 44 41.5**	**0.0**
CTA	**Charters Tower**	**22.81**	**273**	P		**P**	**12 44 41.1**	**-1.2**
CTA	**Charters Tower** comp=Z,44nm,0.9s	**22.81**	**273**	*e*P		**P**	**12 44 41.7**	**-0.6**
CTA				*e*S		**S**	**12 48 55.9**	**+6.6**
CTA	**Charters Tower** comp=Z,20nm,0.8s,baz=100,slow=11,SNR=21	**22.81**	**273**	P		**P**	**12 44 41.1**	**-1.2**
CTA	comp=Z,5μm,18.2s,baz=277,slow=34			LR		LR	12 52 37.0	
CTAO	**Charters Tower** comp=Z,128nm,1.2s	**22.81**	**273**	*e*P		**P**	**12 44 42.4**	**+0.2**
CTAO				pmax		pmax		
CTAO	**Charters Tower** comp=Z,128nm,1.2s	**22.81**	**273**	*e*P		**P**	**12 44 42.4**	**+0.2**
TOO	**Toolangi** comp=Z,447nm,1.0s	**25.89**	**231**	*e*P		**P**	**12 45 10.0**	**-0.9**
PMG	**Port Moresby**	**26.25**	**298**	P		**P**	**12 45 14.1**	**-0.2**
PMG	**Port Moresby** comp=Z,90nm,0.9s,comp=Z,2μmcomp=Z,0.4nm	**26.25**	**298**	P		**P**	**12 45 14.3**	**0.0**
PMG	**Port Moresby** comp=Z,90nm,0.9s,comp=Z,2μm	**26.25**	**298**	P		**P**	**12 45 14.3**	**0.0**
PMG	**Port Moresby** comp=Z,47nm,0.8s,baz=108,slow=6.0,SNR=13	**26.25**	**298**	P		**P**	**12 45 14.1**	**-0.2**
STKA	**Stephens Creek**	**27.07**	**245**	P		**P**	**12 45 21.6**	**-0.1**
STKA	**Stephens Creek** comp=Z,57nm,0.8s	**27.07**	**245**	*e*P		**P**	**12 45 21.3**	**-0.4**
STKA	**Stephens Creek** comp=Z,20nm,0.8s,baz=82,slow=11,SNR=26	**27.07**	**245**	P		**P**	**12 45 21.6**	**-0.1**
STKA				LR		LR	12 54 52.2	
COEN	**Coen** comp=Z,8μm,21.2s,baz=80,slow=34	**27.50**	**285**	*e*P		**P**	**12 45 26.0**	**+0.4**
RAR	**Rarotonga** comp=Z,98nm,1.0s	**27.50**	**92**	*e*P		**P**	**12 45 26.2**	**+0.7**
RAR	**Rarotonga** comp=Z,48nm,0.9s,baz=261,slow=7.5,SNR=8.1	**27.50**	**92**	P		**P**	**12 45 25.2**	**-0.4**
RAR	comp=Z,2μm,22.0s,baz=261,slow=29			LR		LR	12 53 02.8	
TAU	**Tasmania Unive**	**27.57**	**219**	*e*P		**P**	**12 45 25.1**	**-0.9**
TAU	comp=Z,83nm,1.1s			pmax		pmax		
TAU	**Tasmania Unive** comp=Z,83nm,1.1s	**27.57**	**219**	*e*P		**P**	**12 45 25.1**	**-0.9**
BBOO	**Buckleboo**	**31.85**	**245**	*e*P		**P**	**12 46 03.8**	**-0.2**
MMPI	**Merauke** comp=Z,427nm,1.0s,comp=Z,7μm	**32.41**	**292**	P		**P**	**12 46 09.9**	**+0.8**
MCQ	**Macquarie Isla**	**32.51**	**193**	P		**P**	**12 46 08.3**	**-1.2**
MCQ	**Macquarie Isla**	**32.51**	**193**	P		**P**	**12 46 08.3**	**-1.2**
ASAR	**Alice Springs**	**33.60**	**262**	P		**P**	**12 46 18.4**	**-1.1**
ASAR				PcP		**PcP**	**12 48 58.3**	**-1.2**
ASAR	**Alice Springs** comp=Z,43nm,1.0s,baz=95,slow=9.8,SNR=162	**33.60**	**262**	P		**P**	**12 46 18.4**	**-1.1**
ASAR	comp=Z,3.1nm,0.8s,baz=92,slow=3.2,SNR=2.8			PcP		**PcP**	**12 48 58.3**	**-1.2**
WRAB	**Tennant Creek**	**33.80**	**268**	*e*P		**P**	**12 46 19.6**	**-1.6**
WRAB	comp=Z,107nm,1.4s			pmax		pmax		
WRAB	**Tennant Creek** comp=Z,107nm,1.4s	**33.80**	**268**	*e*P		**P**	**12 46 19.6**	**-1.6**
WRA	**Warramunga Arr**	**33.80**	**268**	P		**P**	**12 46 19.4**	**-1.9**
WRA				PKiKP		**PKiKP**	**12 56 23.0**	**-1.8**
**WR

FAKI Fak Fak 42.19 293 P **P** **12 47 31.7 -0.3**
FAKI Fak Fak 42.19 293 P **P** **12 47 32.6 +0.6**
comp=Z,143nm,1.7s,comp=Z,2µm
FITZ Fitzroy Crossi 42.23 268 *e*P **P** **12 47 31.2 -1.2**
comp=Z,241nm,1.0s
FITZ *e*pP **pP** **12 47 41.4 -1.2**
FITZ Fitzroy Crossi 42.23 268 *e*P **P** **12 47 30.2 -2.1**
comp=Z,359nm,0.9s
FITZ Fitzroy Crossi 42.23 268 P **P** **12 47 32.2 -0.2**
comp=Z,54nm,0.7s,baz=131,slow=7.8,SNR=107
FITZ LR LR 13 03 46.6
comp=Z,4µm,19.6s,baz=107,slow=34
SWI Sorong 44.12 294 P **P** **12 47 47.4 -0.2**
comp=Z,223nm,1.2s,comp=Z,3µm
SWI Sorong 44.12 294 P **P** **12 47 46.6 -1.0**
comp=Z,223nm,1.2s,comp=Z,3µm
MSAI Masohi 44.82 290 P **P** **12 47 55.1 +1.9**
comp=Z,26nm,0.4s,comp=Z,1µm
AAI Ambon 45.29 289 P **P** **12 47 58.1 +1.1**
AAI Ambon 45.29 289 P **P** **12 47 56.2 -0.8**
comp=Z,128nm,1.6s,comp=Z,3µm
MBWA Marble Bar 46.95 262 *e*P **P** **12 48 08.5 -1.5**
comp=Z,308nm,1.2s
MBWA *e*pP **pP** **12 48 18.2 -2.1**
KLBR Kellerberrin 47.28 248 *e*P **P** **12 48 11.1 -1.4**
comp=Z,310nm,1.2s
LBMI Labuha 47.42 292 P P 12 48 19.7 +6.0
LBMI Labuha 47.42 292 P **P** **12 48 11.2 -2.5**
comp=Z,162nm,1.8s,comp=Z,3µm
NWAO Narrogin (SRO) 47.66 246 P **P** **12 48 14.4 -0.9**
NWAO Narrogin (SRO) 47.66 246 P **P** **12 48 14.4 -0.9**
comp=Z,33nm,0.9s,baz=89,slow=8.1,SNR=12
NWAO LR LR 13 08 09.9
comp=Z,6µm,18.9s,baz=96,slow=36
TNTI Ternate 48.27 293 P **P** **12 48 22.1 +1.8**
comp=Z,111nm,2.0s,comp=Z,3µm
TNTI Ternate 48.27 293 P **P** **12 48 21.7 +1.4**
comp=Z,111nm,2.0s,comp=Z,3µm
MMRI Maumere 48.45 279 P **P** **12 48 21.5 -0.2**
comp=Z,214nm,1.4s,comp=Z,3µm
MMRI Maumere 48.45 279 P **P** **12 48 23.1 +1.4**
comp=Z,132nm,1.5s,comp=Z,3µm
RKT Rikitea 49.81 101 *e*P **P** **12 48 34.2 +2.2**
comp=Z,70nm,0.8s
RKT *e*S **S** **12 55 41.5 +2.0**
comp=Z,878nm,27.5s
RKT *e*LQ LQ 13 00 04.9
comp=Z,2µm,27.8s
RKT *e*LR LR 13 02 37.5
comp=Z,2µm,29.0s,baz=264
WSI Waingapu 49.82 277 P P 12 48 41.4 +9.2
WSI Waingapu 49.82 277 P **P** **12 48 34.0 +1.8**
comp=Z,561nm,1.4s,comp=Z,7µm
KDI Kendari 50.08 285 P **P** **12 48 34.1 0.0**
comp=Z,59nm,1.8s
KDI Kendari 50.08 285 P **P** **12 48 33.6 -0.5**
comp=Z,72nm,1.4s
MNI Manado 50.77 292 P **P** **12 48 39.2 -0.1**
MNI Manado 50.77 292 P **P** **12 48 36.8 -2.5**
comp=Z,233nm,1.5s,comp=Z,4µm
KMSI Cibinong 51.06 291 P P 12 48 44.9 +3.4
comp=Z,280nm,1.5s,comp=Z,4µm
KMSI Cibinong 51.06 291 P **P** **12 48 41.5 0.0**
comp=Z,290nm,1.5s,comp=Z,4µm
BKSI Bulukumba 51.72 282 P **P** **12 48 46.4 0.0**
comp=Z,104nm,1.4s
BKSI Bulukumba 51.72 282 P **P** **12 48 47.5 +1.1**
comp=Z,104nm,1.4s
KAPI Kappang 52.18 282 *e*P **P** **12 48 48.7 -1.2**
comp=Z,537nm,1.4s
KAPI *e*pP **pP** **12 48 58.5 -1.8**
KAPI Kappang 52.18 282 P **P** **12 48 49.8 -0.2**
SNR=18
KAPI Kappang 52.18 282 P **P** **12 48 49.6 -0.3**
comp=Z,262nm,1.4s,comp=Z,4µm
KAPI Kappang 52.18 282 P **P** **12 48 50.4 +0.5**
comp=Z,282nm,1.4s,comp=Z,4µm
KAPI Kappang 52.18 282 P **P** **12 48 49.3 -0.6**
comp=Z,88nm,1.2s,baz=129,slow=4.1,SNR=15
KAPI LR LR 13 09 39.9
comp=Z,1µm,19.2s,baz=286,slow=35
SPSI Sidrap Palu 52.62 283 P P 12 49 01.9 +8.7
SPSI Sidrap Palu 52.62 283 P **P** **12 48 54.2 +1.0**
comp=Z,63nm,1.6s,comp=Z,1µm
MRSI Marisa 52.77 290 P **P** **12 48 53.7 -0.6**
MRSI Marisa 52.77 290 P **P** **12 48 54.2 -0.1**
comp=Z,80nm,1.4s,comp=Z,1µm
TTSI Tana Toraja 52.98 284 P **P** **12 48 56.4 +0.6**
comp=Z,91nm,1.4s,comp=Z,1µm
TTSI Tana Toraja 52.98 284 P **P** **12 48 55.8 0.0**
comp=Z,92nm,1.4s,comp=Z,1µm
DAV Davao City (W) 53.26 299 P **P** **12 48 58.0 +0.1**
DAV Davao City (W) 53.26 299 P **P** **12 48 57.9 +0.1**
comp=Z,128nm,0.4s,baz=267,slow=17,SNR=3.8
CTBH Cotabato--PC H 54.42 298⇓ *e*P **P** **12 49 05.9 -0.4**
VNDA Vanda 54.60 182 P **P** **12 49 07.1 +0.4**
VNDA Vanda 54.60 182 P **P** **12 49 07.1 +0.4**
comp=Z,15nm,0.9s,baz=8.1,slow=7.2,SNR=11
VNDA LR LR 13 08 22.5
comp=Z,4µm,20.1s,baz=13,slow=32
DNP Denpasar 54.85 276 P P 12 49 19.6 +10
comp=Z,354nm,1.4s
DNP Denpasar 54.85 276 P **P** **12 49 09.3 -0.2**
comp=Z,354nm,1.4s
IGBI Denpasar 54.85 276 P **P** **12 49 08.0 -1.5**
comp=Z,94nm,1.2s,comp=Z,20µm
NBBI Negara 55.57 276 P **P** **12 49 13.3 -0.9**
comp=Z,148nm,1.4s,comp=Z,3µm
BYJI Banyuwangi 55.80 276 P P 12 49 25.8 +9.4
comp=Z,172nm,1.2s,comp=Z,10µm
BYJI Banyuwangi 55.80 276 P **P** **12 49 15.7 -0.7**
comp=Z,174nm,1.2s,comp=Z,10µm
JAGI Jajag, Banyuwa 55.89 275 P **P** **12 49 16.8 -0.2**
comp=Z,177nm,1.4s,comp=Z,2µm
KBKI Kotabaru 56.14 282 P P 12 49 28.6 +10
comp=Z,87nm,1.1s
KBKI Kotabaru 56.14 282 P **P** **12 49 19.1 +0.3**
comp=Z,60nm,1.4s,comp=Z,2µm
KMMI Kalianget 56.60 277 P **P** **12 49 22.3 +0.2**
comp=Z,181nm,1.5s,comp=Z,3µm
GMJI Gumukmas 56.62 275 P **P** **12 49 22.8 +0.6**
comp=Z,87nm,1.2s
BLJI Banyuglugur 56.68 276 P P 12 49 31.3 +8.7
BLJI Banyuglugur 56.68 276 P **P** **12 49 21.6 -1.0**
comp=Z,90nm,0.6s,comp=Z,9µm
CBIJ Chichi jima 56.99 330 P **P** **12 49 24.4 0.0**
CBIJ Chichi jima 56.99 330 P **P** **12 49 24.4 0.0**
comp=Z,85nm,0.8s,baz=106,slow=22,SNR=5.7
CBIJ LR LR 13 08 41.6
comp=Z,774nm,20.0s,baz=308,slow=31
BBKI Banjar Baru 57.27 281 P **P** **12 49 24.9 -1.9**
comp=Z,206nm,1.7s,comp=Z,4µm
KRKI Karangkates 57.57 275 P **P** **12 49 26.2 -2.7**
comp=Z,328nm,1.4s
MYLDM Lahad Datu 58.10 292 P **P** **12 49 33.3 +0.7**
MYLDM Lahad Datu 58.10 292 P P 12 49 36.6 +4.0
comp=Z,112nm,1.8s,comp=Z,2µm
TSM Tawau 58.19 291 P **P** **12 49 33.6 +0.4**
SDKM Sandakan 59.45 292 P **P** **12 49 42.2 +0.1**
BJII Banjamegara 60.39 275 P **P** **12 49 49.9 +1.3**
comp=Z,62nm,1.8s,comp=Z,2µm
KDM Kudat 60.42 293 P **P** **12 49 49.1 +0.5**
PBKI Pangkalan Bun 60.45 280 P P 12 49 53.1 +4.2
comp=Z,349nm,1.2s,comp=Z,3µm
KKM Kota Kinabalu 60.49 292 *e*P **P** **12 49 49.6 +0.3**
comp=Z,298nm,1.4s
KKM *e*pP **pP** **12 49 58.4 -1.5**
KKM Kota Kinabalu 60.49 292 P **P** **12 49 49.8 +0.5**
KKM Kota Kinabalu 60.49 292 P **P** **12 49 48.1 -1.2**
comp=Z,150nm,1.6s,comp=Z,3µm
TGY Tagaytay City 61.07 302 P **P** **12 49 52.5 -0.6**
TGY Tagaytay City 61.07 302 P **P** **12 49 52.5 -0.6**
comp=Z,86nm,0.3s,baz=230,slow=12,SNR=3.5
TGJI Tegal 61.11 275 P **P** **12 49 51.9 -1.5**
comp=Z,164nm,1.3s
STKI Sintang 61.82 283 P **P** **12 49 56.8 -1.4**
comp=Z,194nm,1.4s
CISI Cisompet, Garu 62.05 274 P **P** **12 50 00.3 +0.5**
comp=Z,190nm,1.4s,comp=Z,3µm
SBUM Sibu 62.23 286 P **P** **12 50 01.7 +0.7**
SBUM Sibu 62.23 286 P **P** **12 50 01.3 +0.3**
comp=Z,85nm,1.6s,comp=Z,1µm
LEM Lembang 62.51 274 P **P** **12 50 02.9 -0.1**
comp=Z,233nm,1.4s,comp=Z,3µm
DBJI Dramaga 63.41 274 P **P** **12 50 09.5 +0.7**
comp=Z,390nm,1.4s,comp=Z,6µm
KSM Kuching 63.49 284 *e*P **P** **12 50 09.2 -0.1**
comp=Z,242nm,1.3s
KSM *e*pP **pP** **12 50 18.3 -1.7**
KSM Kuching 63.49 284 P **P** **12 50 09.4 +0.1**
KSM Kuching 63.49 284 P **P** **12 50 11.0 +1.6**
comp=Z,161nm,1.3s,comp=Z,2µm
SBJI Serang 64.14 274 P **P** **12 50 15.2 +1.6**
comp=Z,302nm,1.5s,comp=Z,6µm
JOW Kunigami 64.35 318 *e*P **P** **12 50 16.0 +1.3**
comp=Z,36nm,1.1s
CGJI Cibinong 64.35 274 P **P** **12 50 15.3 +0.3**
comp=Z,186nm,1.4s,comp=Z,2µm
PPBI Pangkal Pinang 65.70 278 P **P** **12 50 22.8 -1.0**
comp=Z,82nm,1.4s
KASI Kota Agung 65.87 274 P **P** **12 50 22.5 -2.4**
comp=Z,147nm,1.2s
TWG Pinlang 66.37 310 *e*P **P** **12 50 26.8 -1.1**
comp=Z,646nm,1.6s
LWLI Liwa 66.46 275 P **P** **12 50 28.5 -0.4**
comp=Z,200nm,1.7s,comp=Z,12µm
YULB Yu-li 66.58 311 *e*P **P** **12 50 28.7 -0.5**
comp=Z,40nm,1.3s
PMBI Palembang 66.64 277 P **P** **12 50 31.4 +1.6**
comp=Z,303nm,0.4s
MAJO Matsushiro 66.77 332 *e*P **P** **12 50 30.2 +0.1**
MAJO pmax pmax
comp=Z,92nm,1.5s
MAJO Matsushiro 66.77 332 *e*P **P** **12 50 30.2 +0.1**
comp=Z,92nm,1.5s
MAT Matsushiro 66.77 332 P **P** **12 50 30.0 -0.1**
NACB Ninganchiao 66.88 311 *e*P **P** **12 50 31.6 +0.5**
comp=Z,200nm,1.4s
QSPA South Pole Qui 66.93 180 *e*P **P** **12 50 30.4 -0.6**
comp=Z,226nm,1.1s
QSPA South Pole Qui 66.93 180 P **P** **12 50 31.1 +0.1**
comp=Z,123nm,0.9s,baz=23,slow=2.2,SNR=248
QSPA LR LR 13 15 19.8
comp=Z,2µm,18.8s,baz=31,slow=32
TPUB Ta-pu 66.99 310 *e*P **P** **12 50 31.3 -0.5**
comp=Z,159nm,1.4s
SSLB Suanglung 67.08 311 *e*P **P** **12 50 30.8 -1.6**
comp=Z,57nm,0.9s
YHNB Yeheng 67.36 312 *e*P **P** **12 50 34.9 +0.7**
comp=Z,106nm,1.1s
TATO Taipei 67.48 312 *e*P **P** **12 50 35.6 +0.7**
comp=Z,245nm,1.4s
JNU Nakatsue 67.55 325 P **P** **12 50 35.6 +0.4**
JNU Nakatsue 67.55 325 P **P** **12 50 35.6 +0.4**
comp=Z,16nm,0.9s,baz=134,slow=4.8,SNR=8.7
KSI Kapahiang 68.34 275 P **P** **12 50 40.9 +0.2**
comp=Z,197nm,1.4s,comp=Z,11µm
MYKOM Kota Tinggi 69.43 281 P **P** **12 50 47.9 +0.5**
MYKOM Kota Tinggi 69.43 281 P **P** **12 50 49.3 +2.0**
comp=Z,92nm,1.0s
QZH Quanzhou 69.47 310⇓ *i*P **P** **12 50 49.3 +2.0**
QZH S **S** **12 59 55.9 +3.4**
QZH pmax pmax
comp=Z,3µm,4.6s
QZH LR LR
comp=N,1µm,13.6s
QZH LR LR
comp=E,2µm,17.5s
QZH LR LR
comp=Z,1µm,12.7s
RGRI Rengat 69.91 279 P **P** **12 50 52.8 +2.5**
comp=Z,425nm,1.4s,comp=Z,85µm
KGM Kluang 70.00 281 P **P** **12 50 51.5 +0.6**
BKNI Bangkinang 71.36 279 P **P** **12 50 59.1 -0.1**
comp=Z,198nm,1.5s,comp=Z,3µm
RPN Rapa Nui 71.43 112 LR LR 13 14 48.6
comp=Z,449nm,18.1s,baz=288,slow=30
PPI Padang Panjang 71.63 278 P **P** **12 50 59.8 -1.0**
comp=Z,26nm,1.0s
ASAJ Asahikawa 71.67 339 *e*P **P** **12 51 01.9 +1.5**
comp=Z,55nm,1.6s
ASAJ Asahikawa 71.67 339 P **P** **12 51 01.7 +1.3**
comp=Z,16nm,0.7s,baz=189,slow=14,SNR=25
FRIM Kepong 72.05 282 P **P** **12 51 06.0 +2.7**
KSRS Korea Array 72.42 326 P **P** **12 51 05.9 +1.0**
comp=Z,10nm,0.8s,baz=144,slow=6.0,SNR=35
KSRS LR LR 13 22 13.8
comp=Z,601nm,18.5s,baz=105,slow=35
KSAR Wonju Array Be 72.43 326 P **P** **12 51 05.9 +0.9**
QIZ Qiongzhong 72.60 300 P **P** **12 51 08.3 +1.8**
QIZ S **S** **13 00 29.8 +0.6**
QIZ pmax pmax
comp=Z,29nm,1.7s
QIZ Qiongzhong 72.60 300 *e*P **P** **12 51 08.2 +1.8**
comp=Z,103nm,1.4s
MNSI Mandailing Nat 72.89 278 P **P** **12 51 08.6 +0.3**
comp=Z,113nm,1.1s
INCN Inchon 73.12 325 *e*P **P** **12 51 10.2 +1.0**
comp=Z,95nm,1.4s
IPM Ipoh 73.12 283 *e*P **P** **12 51 09.7 0.0**
comp=Z,227nm,1.2s
IPM Ipoh 73.12 283 P **P** **12 51 09.7 0.0**
IPM Ipoh 73.12 283 P **P** **12 51 10.6 +0.9**
comp=Z,145nm,1.0s,comp=Z,2µm
KULM Kulim 73.81 283 *e*P **P** **12 51 13.2 -0.5**
comp=Z,212nm,1.4s
KULM Kulim 73.81 283 P **P** **12 51 13.9 +0.2**
KULM Kulim 73.81 283 P **P** **12 51 14.8 +1.1**
comp=Z,112nm,1.4s,comp=Z,2µm
NJ2 Nanjing 73.87 316 *e*P **P** **12 51 14.3 +0.7**
NJ2 pmax pmax
comp=Z,40nm,1.0s
NJ2 pmax pmax
comp=Z,1µm,10.8s
YSS Yuzh-Sakhalins 74.16 341⇓ *e*P **P** **12 51 17.6 +2.6**
YSS *e*S **S** **13 00 48.0 +2.4**
YSS pmax pmax
comp=Z,80nm,1.0s
YSS pmax pmax
comp=Z,1µm,4.0s
YSS MLR MLR
comp=Z,1µm,16.0s
YSS Yuzh-Sakhalins 74.16 341 *e*P **P** **12 51 16.9 +2.0**
comp=Z,62nm,0.8s
PSI Prapat 74.31 280 P **P** **12 51 15.6 -1.3**
PSI Prapat 74.31 280 P **P** **12 51 16.9 +0.1**
comp=Z,119nm,1.4s
PSI Prapat 74.31 280 P **P** **12 51 15.6 -1.3**
comp=Z,28nm,0.9s,baz=78,slow=3.9,SNR=19
PSI LR LR 13 26 58.5
comp=Z,1µm,18.7s,baz=131,slow=38
TSI Tuntungan 74.93 281 P **P** **12 51 20.2 0.0**
comp=Z,150nm,0.8s
VLA Vladivostok 74.93 332*e*P **P** **12 51 18.7 -0.8**
VLA *e* 12 51 32.0
VLA *e* 12 54 05.9
VLA S **S** **13 00 51.2 -3.2**
VLA pmax pmax
comp=Z,19nm,1.6s
MAW Mawson 75.31 202 P **P** **12 51 21.3 -0.2**
MAW Mawson 75.31 202 P **P** **12 51 21.3 -0.2**
comp=Z,103nm,1.2s,baz=188,slow=4.2,SNR=3.7
MAW LR LR 13 19 05.6
comp=Z,1µm,21.1s,baz=94,slow=32
USRK Ussuriysk Arra 75.75 332 P **P** **12 51 24.8 +0.5**
comp=Z,6.6nm,0.7s,baz=151,slow=4.4,SNR=9.0
USRK LR LR 13 22 53.9
comp=Z,890nm,18.1s,baz=133,slow=34
WHN Wuhan 75.89 312 P **P** **12 51 26.0 +0.7**
PET Petropavlovsk 76.55 353⇓ *i*P **P** **12 51 29.3 +0.7**
PET *e*S **S** **13 01 06.2 -5.7**
PET pmax pmax
comp=Z,63nm,0.7s
PET pmax pmax
comp=Z,800nm,3.4s
PET pmax pmax
comp=Z,600nm,11.5s
PET Petropavlovsk 76.55 353 *e*P **P** **12 51 29.2 +0.7**
comp=Z,127nm,1.5s
PETK Petropavlovsk- 76.75 352 P **P** **12 51 30.8 +1.1**
PETK Petropavlovsk- 76.75 352 P **P** **12 51 30.8 +1.1**
PETK Petropavlovsk- 76.75 352 P **P** **12 51 30.8 +1.1**
comp=Z,72nm,0.9s,baz=152,slow=7.8,SNR=47
PETK LR LR 13 20 25.6
comp=Z,2µm,19.4s,baz=150,slow=32
DL2 Dalian 76.87 323 P **P** **12 51 31.0 +0.3**
DL2 pmax pmax
comp=Z,40nm,2.1s
MDJ Mudanjiang 77.13 331 P **P** **12 51 32.9 +0.8**
MDJ pP pP 12 51 49.5 +6.5
MDJ sP sP 12 51 53.5 +6.5
MDJ PP **PP** **12 54 27.6 +1.2**
MDJ S **S** **13 01 20.3 +1.7**
MDJ pmax pmax
comp=Z,26nm,1.5s
MDJ pmax pmax
comp=Z,1µm,7.4s
MDJ LR LR
comp=N,380nm,15.6s
MDJ LR LR
comp=E,500nm,15.1s
MDJ LR LR
comp=Z,810nm,19.4s
MDJ Mudanjiang 77.13 331 *e*P **P** **12 51 32.8 +0.8**
comp=Z,37nm,1.2s
SNY Shenyang 77.90 326 ⇑P **P** **12 51 37.5 +1.1**
SNY pmax pmax
comp=Z,23nm,2.5s
SNY pmax pmax
comp=Z,1µm,11.2s
SNY LR LR
comp=N,1µm,15.2s
SNY LR LR
comp=E,750nm,17.6s
SNY LR LR
comp=Z,1µm,16.5s
HABR Khabarovsk 78.06 337 *e*P **P** **12 51 36.6 -0.5**
HABR *e* 12 51 45.6
HABR *e**PP **pP** **12 51 53.1 +5.0**
HABR *e*PPP x 12 56 21.2
HABR *e*S **S** **13 01 26.5 -2.0**
HABR *e* 13 01 47.3
HABR *e* 13 01 50.6
HABR *e*SS **SS** **13 06 29.8 -1.3**
HABR *e*SSS SSS 13 09 54.6
HABR pmax pmax
comp=E,24nm,1.3s
HABR pmax pmax
comp=Z,102nm,1.6s
HABR pmax pmax
comp=N,23nm,1.6s
HABR MLR MLR
comp=Z,292nm,17.0s
CN2 Changchun 78.42 328 *e*P **P** **12 51 39.9 +0.6**
CN2 *e*sP sP 12 52 05.0 +11
CN2 *e*S **S** **13 01 31.0 -1.6**
CN2 pmax pmax
comp=Z,30nm,0.9s
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,700nm,15.0s
CN2 LR LR
comp=E,700nm,15.0s
CN2 LR LR
comp=Z,600nm,17.0s
BSI Banda Aceh 78.72 281 P **P** **12 51 41.9 +0.3**
comp=Z,338nm,1.2s,comp=Z,4µm
GYA Guiyang 79.07 305⇑ *i*P **P** **12 51 43.5 +0.1**
GYA pP pP 12 52 02.0 +7.7
GYA sP sP 12 52 10.4 +12
GYA PP **PP** **12 54 46.3 +3.2**
GYA S **S** **13 01 38.8 -1.7**
GYA SKS **SKSac** **13 01 50.0 -7.0**
GYA sS **ScS** **13 02 08.5 +5.0**
GYA SS **SS** **13 06 48.3 +1.0**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,180nm,5.4s
GYA LR LR
comp=N,3µm,19.8s
GYA LR LR
comp=E,3µm,19.0s
GYA LR LR
comp=Z,2µm,18.8s
ENH Enshi 79.11 310 *e*P **P** **12 51 44.0 +0.6**
comp=Z,406nm,1.5s
KLR Kul'dur 79.92 335 *e*P **P** **12 51 45.0 -2.4**
KLR pmax pmax
comp=Z,120nm,1.8s
BJT Baijiatuau 80.73 321 *e*P **P** **12 51 52.8 +0.9**
comp=Z,143nm,1.4s
BJI Beijing 80.74 321 P **P** **12 51 53.0 +1.1**
BJI S **S** **13 02 00.3 +3.0**
BJI pmax pmax
comp=Z,35nm,1.9s
BJI pmax pmax
comp=Z,1µm,3.7s
BJI LR LR
comp=N,640nm,23.7s
BJI LR LR
comp=E,720nm,23.7s
BJI LR LR
comp=Z,790nm,26.2s
CMAR Chiang Mai Arr 81.24 294 P **P** **12 51 57.0 +1.9**
CMAR PKKPbc **PKKPbc** **13 10 30.9 +0.4**
CMAR Chiang Mai Arr 81.24 294 P **P** **12 51 57.0 +1.9**
comp=Z,24nm,0.8s,baz=137,slow=4.0,SNR=146
CMAR PKKPbc **PKKPbc** **13 10 30.9 +0.4**
comp=Z,1.3nm,0.8s,baz=288,slow=4.3,SNR=9.2
KMI Kunming 81.39 302 P **P** **12 51 57.5 +1.4**
KMI pmax pmax
comp=Z,96nm,1.4s
KMI pmax pmax
comp=Z,620nm,3.7s
CHTO Chiang Mai 81.41 295 *e*P **P** **12 51 55.9 -0.1**
CHTO pmax pmax
comp=Z,118nm,1.2s
CHTO Chiang Mai 81.41 295 *e*P **P** **12 51 55.9 -0.1**
comp=Z,118nm,1.2s
CHTO Chiang Mai 81.41 295 P **P** **12 51 57.8 +1.8**
SNR=71
CHTO Chiang Mai 81.41 295 P **P** **12 51 57.6 +1.6**
comp=Z,102nm,1.4s,comp=Z,2µm
SYO Syowa Base 81.55 196⇑ *i*P **P** **12 51 53.6 -2.3**
XAN Xi'an 81.65 312 P **P** **12 51 58.3 +1.2**
XAN pmax pmax
comp=Z,18nm,1.2s
CD2 Chengdu 83.59 307 P **P** **12 52 07.8 +0.6**
CD2 pP pP 12 52 24.6 +6.4
CD2 sP sP 12 52 31.4 +9.2
CD2 PP **PP** **12 55 23.1 +2.8**
CD2 sS sS 13 02 53.3 +8.0
CD2 SS **SS** **13 07 55.3 +0.8**
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 pmax pmax
comp=Z,850nm,4.7s
CD2 LR LR
comp=N,710nm,13.2s
CD2 LR LR
comp=E,710nm,17.7s
CD2 LR LR
comp=Z,570nm,21.1s
HHC Hu-ho-hao-te 83.98 319⇓ P **P** **12 52 10.3 +1.3**
HHC sP sP 12 52 34.1 +10
HHC PP **PP** **12 55 26.9 +3.5**
HHC SKS **SKSac** **13 02 24.9 -4.7**
HHC S **S** **13 02 29.1 -1.6**
HHC sS sS 13 02 57.8 +8.9
HHC pmax pmax
comp=Z,54nm,1.1s
HHC pmax pmax
comp=Z,920nm,6.8s
HHC LR LR
comp=N,500nm,17.6s
HHC LR LR
comp=E,460nm,17.5s
HHC LR LR
comp=Z,640nm,17.5s
BTO Baotou 84.77 318 *e*P **P** **12 52 14.0 +0.9**
MAIT Maitri 85.16 187 *e*P **P** **12 52 14.4 -0.1**
MAIT *e* 12 52 19.2
VNA2 Neumayer--Watz 86.18 181 *e*P **P** **12 52 19.1 -0.5**
baz=152,slow=5.2
LZH Lanzhou 86.25 312⇓ P **P** **12 52 22.6 +2.0**
LZH pP pP 12 52 40.1 +8.4
LZH sP sP 12 52 44.3 +8.7
LZH SKS **SKSac** **13 02 42.0 -2.4**
LZH sS sS 13 03 21.3 +9.5
LZH pmax pmax
comp=Z,160nm,1.3s
LZH pmax pmax
comp=Z,990nm,4.0s
LZH LR LR
comp=N,790nm,18.0s
LZH LR LR
comp=E,330nm,10.1s

LZH					LR		LR			
	comp=Z,470nm,16.7s									
SEY	**Seymchan**	**86.99**	**352**	*d*	*i*P		**P**	**12 52 23.9**	**+0.6**
BSC	**Santa Cruz Isl**	**87.32**	**51**	⇑	P		**P**	**12 52 26.7**	**+1.0**
	baz=88									
USHA	**Ushuaia**	**87.45**	**150**		P		**P**	**12 52 26.1**	**+0.1**
USHA	**Ushuaia**	**87.45**	**150**		P		**P**	**12 52 26.1**	**+0.1**
	comp=Z,20nm,1.0s,baz=292,slow=4.6,SNR=3.8									
SAO	**San Andreas Ge**	**87.46**	**48**		*e*P		**P**	**12 52 26.0**	**-0.3**
SAO					pmax		pmax			
	comp=Z,24nm,1.1s									
SAO	**San Andreas Ge**	**87.46**	**48**		*e*P		**P**	**12 52 26.0**	**-0.3**
	comp=Z,24nm,1.1s									
SBC	**Santa Barbara**	**87.49**	**51**	⇑	P		**P**	**12 52 27.5**	**+1.1**
	baz=88									
SCI	**San Clemente I**	**87.61**	**53**	⇑	P		**P**	**12 52 28.1**	**+1.1**
	baz=88									
PKM	**Peak Mountain**	**87.64**	**50**	⇑	P		**P**	**12 52 28.5**	**+1.0**
	baz=88,SNR=6.8									
SMMC	**Simmler**	**87.72**	**50**	⇑	P		**P**	**12 52 28.8**	**+1.1**
	baz=88									
GAMB	**Gambell**	**87.74**	**8**		*e*P		**P**	**12 52 26.6**	**-0.3**
	comp=Z,55nm,1.0s									
BLG	**Laguna Peak**	**87.79**	**51**	⇑	P		**P**	**12 52 28.9**	**+0.9**
	baz=88									
CIS	**Catalina Islan**	**87.92**	**52**	⇓	P		**P**	**12 52 29.6**	**+1.0**
	baz=88									
FMP	**Fort Macarthur**	**88.15**	**52**	⇓	P		**P**	**12 52 30.6**	**+1.0**
	baz=88									
DECC	**Green Verdugo**	**88.39**	**52**	⇓	P		**P**	**12 52 31.5**	**+0.7**
	baz=89									
CLNS	**Chul'man**	**88.45**	**337**		*e*P		**P**	**12 52 31.6**	**+1.0**
CLNS					*e*			12 52 36.7		
CLNS					*e*			12 56 05.4		
CLNS					pmax		pmax			
	comp=Z,20nm,1.4s									
CLNS					pmax		pmax			
	comp=N,27nm,1.1s									
CLNS					pmax		pmax			
	comp=E,4.0nm,1.3s									
CLNS					pmax		pmax			
	comp=Z,12nm,1.5s									
CLNS					pmax		pmax			
	comp=E,6.0nm,1.0s									
CLNS					pmax		pmax			
	comp=N,17nm,2.0s									
ARVC	**Arvin**	**88.46**	**51**	⇓	P		**P**	**12 52 32.2**	**+1.1**
	baz=89									
MWC	**Mount Wilson**	**88.57**	**52**		*e*P		**P**	**12 52 32.5**	**+0.6**
MWC					pmax		pmax			
	comp=Z,52nm,1.5s									
MWC	**Mount Wilson**	**88.57**	**52**		*e*P		**P**	**12 52 32.5**	**+0.6**
	comp=Z,52nm,1.5s									
109C	**Camp Elliot, M**	**88.62**	**53**	⇓	P		**P**	**12 52 32.7**	**+0.8**
	baz=89									
VES	**Vestal, Richgr**	**88.63**	**50**	⇑	P		**P**	**12 52 32.2**	**+0.3**
	baz=89,SNR=6.1									
WDC	**Whiskeytown Da**	**88.73**	**44**		*e*P		**P**	**12 52 32.3**	**+0.1**
WDC					pmax		pmax			
	comp=Z,32nm,1.2s									
WDC	**Whiskeytown Da**	**88.73**	**44**		*e*P		**P**	**12 52 32.3**	**+0.1**
	comp=Z,32nm,1.2s									
RCTC	**Rector, Farmer**	**88.76**	**49**	⇓	P		**P**	**12 52 33.1**	**+0.7**
	baz=89									
CMB	**Columbia Colle**	**88.84**	**48**		*e*P		**P**	**12 52 33.7**	**+0.8**
CMB					*e**PP		**pP**	**12 52 44.7**	**+0.8**
CMB					*e**SP		**sP**	**12 52 49.8**	**+1.9**
CMB					pmax		pmax			
	comp=Z,26nm,1.1s									
CMB	**Columbia Colle**	**88.84**	**48**		*e*P		**P**	**12 52 33.7**	**+0.8**
	comp=Z,26nm,1.1s									
CMB					*ep*P		**pP**	**12 52 44.7**	**+0.8**
CMB					*es*P		**sP**	**12 52 49.8**	**+1.9**
BFSC	**Mount Baldy Ra**	**88.87**	**52**	⇑	P		**P**	**12 52 33.7**	**+0.5**
	baz=89,SNR=8.0									
MURC	**Murrieta**	**88.89**	**53**	⇓	P		**P**	**12 52 34.1**	**+0.9**
	baz=89									
EDW2	**Edwards Air Fo**	**88.94**	**51**	⇑	P		**P**	**12 52 34.4**	**+1.0**
	baz=89,SNR=10									
ISA	**Isabella**	**88.98**	**50**		*e*P		**P**	**12 52 34.6**	**+1.0**
ISA					*e**PP		**pP**	**12 52 46.3**	**+1.6**
ISA					pmax		pmax			
	comp=Z,36nm,1.2s									
ISA	**Isabella**	**88.98**	**50**		*e*P		**P**	**12 52 34.6**	**+1.0**
	comp=Z,36nm,1.2s									
ISA					*ep*P		**pP**	**12 52 46.3**	**+1.6**
ISA	**Isabella**	**88.98**	**50**	⇑	P		**P**	**12 52 34.6**	**+1.0**
	baz=89,SNR=15									
MONP	**Monument Peak**	**89.13**	**54**	⇓	P		**P**	**12 52 35.8**	**+1.2**
	baz=89,SNR=10.0									
SEW	**Seward**	**89.13**	**19**		*e*P		**P**	**12 52 33.3**	**-0.3**
	comp=Z,16nm,1.1s									
SLKM	**Skilak Lake**	**89.23**	**18**		*e*P		**P**	**12 52 34.2**	**+0.1**
SLKM					*e**PP		**pP**	**12 52 44.4**	**-0.8**
SLKM					*e**SP		**sP**	**12 52 49.2**	**0.0**
SLKM	**Skilak Lake**	**89.23**	**18**		*e*P		**P**	**12 52 34.2**	**+0.1**
SLKM					*ep*P		**pP**	**12 52 44.4**	**-0.8**
SLKM					*es*P		**sP**	**12 52 49.2**	**0.0**
YBH	**Yreka Blue Hor**	**89.24**	**43**		P		**P**	**12 52 34.7**	**0.0**
YBH	**Yreka Blue Hor**	**89.24**	**43**		P		**P**	**12 52 34.7**	**0.0**
	comp=Z,5.9nm,0.9s,baz=157,slow=3.3,SNR=6.0									
DVTC	**Desert V Tower**	**89.26**	**54**	⇑	P		**P**	**12 52 36.1**	**+1.1**
	baz=90									
BBRC	**Big Bear Solar**	**89.41**	**52**	⇓	P		**P**	**12 52 36.6**	**+0.7**
	baz=90,SNR=6.1									
PFO	**Pinyon Flat Ob**	**89.44**	**53**		*e*P		**P**	**12 52 34.8**	**-1.1**
	comp=Z,92nm,2.0s									
PFO	**Pinyon Flat Ob**	**89.44**	**53**	⇑	P		**P**	**12 52 36.4**	**+0.5**
	baz=90									
LRMC	**Laurel Mountai**	**89.44**	**51**	⇑	P		**P**	**12 52 37.1**	**+1.2**
	baz=90									
SWSC	**Sam W. Stewart**	**89.61**	**54**	⇑	P		**P**	**12 52 37.4**	**+0.9**
	baz=90,SNR=6.1									
CWC	**Cottonwood Cre**	**89.64**	**50**	⇓	P		**P**	**12 52 38.0**	**+1.2**
	baz=90									
RRX	**Edison Barstow**	**89.65**	**52**	⇓	P		**P**	**12 52 37.6**	**+0.9**
	baz=90									
MLAC	**Mammoth Lakes**	**89.69**	**48**	⇓	P		**P**	**12 52 38.4**	**+1.3**
	baz=90									
TIN	**Tinemaha**	**89.83**	**49**	⇓	P		**P**	**12 52 38.9**	**+1.3**
	baz=90									
RC01	**Rabbit Creek A**	**89.84**	**18**		*e*P		**P**	**12 52 36.7**	**-0.3**
	comp=Z,44nm,1.4s									
RC01					*ep*P		**pP**	**12 52 45.7**	**-2.3**
CIT	**Chita**	**89.87**	**329**		*e*P		**P**	**12 52 38.1**	**+0.8**
CIT					*e*			12 52 48.6		
MPMC	**Manual Prospec**	**89.87**	**50**	⇑	P		**P**	**12 52 38.8**	**+0.9**
	baz=90,SNR=16									
TNA	**Tin City**	**89.94**	**9**		*e*P		**P**	**12 52 39.4**	**+2.2**
	comp=Z,58nm,1.5s									
TNA					*ep*P		**pP**	**12 52 48.5**	**+0.2**
BELC	**Belle Mtn. Jos**	**89.96**	**53**	⇑	P		**P**	**12 52 39.7**	**+1.3**
	baz=90,SNR=19									
GSC	**Goldstone**	**89.99**	**51**		*e*P		**P**	**12 52 39.9**	**+1.5**
GSC					*e**PP		**pP**	**12 52 49.2**	**-0.3**
GSC					pmax		pmax			
	comp=Z,35nm,1.5s									
GSC	**Goldstone**	**89.99**	**51**		*e*P		**P**	**12 52 39.9**	**+1.5**
	comp=Z,35nm,1.5s									
GSC					*ep*P		**pP**	**12 52 49.2**	**-0.3**
GSC	**Goldstone**	**89.99**	**51**	⇑	P		**P**	**12 52 39.3**	**+1.0**
	baz=90,SNR=8.2									
HEC	**Hector,Ludlow**	**90.11**	**52**	⇑	P		**P**	**12 52 39.9**	**+0.9**
	baz=90,SNR=18									
BC3	**Big Chuckawall**	**90.20**	**53**	⇑	P		**P**	**12 52 40.5**	**+1.1**
	baz=90,SNR=9.0									
SHL	**Shillong**	**90.27**	**298**	⇓	*i*P		**P**	**12 52 41.5**	**+1.5**
SHL					*e*S		PP	12 55 57.0	-18	
GLA	**Glamis**	**90.39**	**54**		*e*P		**P**	**12 52 39.9**	**-0.3**
GLA					pmax		pmax			
	comp=Z,20nm,0.9s									
GLA	**Glamis**	**90.39**	**54**		*e*P		**P**	**12 52 39.9**	**-0.3**
	comp=Z,20nm,0.9s									
GLA	**Glamis**	**90.39**	**54**	⇑	P		**P**	**12 52 41.6**	**+1.4**
	baz=91,SNR=11									
GRAC	**Grapevine Rang**	**90.41**	**50**	⇓	P		**P**	**12 52 41.7**	**+1.4**
	baz=91									
PMR	**Palmer**	**90.42**	**18**		*e*P		**P**	**12 52 39.5**	**-0.1**
PMR					*e**PP		**pP**	**12 52 49.6**	**-1.1**
PMR					*e**SP		**sP**	**12 52 54.7**	**+0.1**
PMR					pmax		pmax			
	comp=Z,92nm,1.8s									
PMR	**Palmer**	**90.42**	**18**		*e*P		**P**	**12 52 39.5**	**-0.1**
	comp=Z,92nm,1.8s									
PMR					*ep*P		**pP**	**12 52 49.5**	**-1.1**
PMR					*es*P		**sP**	**12 52 54.7**	**+0.1**
NVAR	**Mina Array Bea**	**90.45**	**48**		P		**P**	**12 52 41.8**	**+1.2**
NVAR	**Mina Array Bea**	**90.45**	**48**		P		**P**	**12 52 41.8**	**+1.2**
	comp=Z,13nm,0.8s,baz=225,slow=8.1,SNR=63									
NVAR					LR		LR	13 24 41.8		
	comp=Z,4μm,21.8s,baz=80,slow=30									
FURC	**Furnace Creek,**	**90.51**	**50**	⇑	P		**P**	**12 52 42.0**	**+1.4**
	baz=91,SNR=10									
GMRC	**Granite Mounta**	**90.57**	**52**	⇑	P		**P**	**12 52 42.3**	**+1.1**
	baz=91,SNR=12									
SHOC	**Shoshone**	**90.65**	**51**	⇓	P		**P**	**12 52 42.6**	**+1.2**
	baz=91									
IRM	**Iron Mountain**	**90.66**	**53**	⇓	P		**P**	**12 52 42.8**	**+1.3**
	baz=91,SNR=16									
TUQ	**Turquoise Moun**	**90.69**	**52**	⇓	P		**P**	**12 52 42.5**	**+0.8**
	baz=91									
GTA	**Gaotai**	**90.70**	**313**		*e*P		**P**	**12 52 42.8**	**+1.2**
GTA					pP		pP	12 53 00.5	+7.8	
GTA					sP		sP	12 53 06.3	+10	
GTA					SKS		**SKSac**	**13 03 08.4**	**-2.4**
GTA					S		**S**	**13 03 35.0**	**-0.4**
GTA					pmax		pmax			
	comp=Z,28nm,1.5s									
GTA					pmax		pmax			
	comp=Z,1μm,7.6s									
GTA					LR		LR			
	comp=N,410nm,16.9s									
GTA					LR		LR			
	comp=E,300nm,12.3s									
GTA					LR		LR			
	comp=Z,620nm,15.9s									
ULN	**Ulaanbaatar**	**90.72**	**323**		*e*P		**P**	**12 52 40.7**	**-0.9**
	comp=Z,58nm,1.1s									
ULN					*ep*P		**pP**	**12 52 52.6**	**0.0**
ULN	**Ulaanbaatar**	**90.72**	**323**		P		**P**	**12 52 42.9**	**+1.3**
	SNR=34									
ULN	**Ulaanbaatar**	**90.72**	**323**		P		**P**	**12 52 43.2**	**+1.6**
SML	**Sawmill**	**90.83**	**18**		*e*P		**P**	**12 52 41.4**	**-0.2**
SML					*e**PP		**pP**	**12 52 51.4**	**-1.3**
SML					pmax		pmax			
	comp=Z,6.0nm,1.1s									
SML	**Sawmill**	**90.83**	**18**		*e*P		**P**	**12 52 41.4**	**-0.2**
	comp=Z,5.5nm,1.1s									
SML					*ep*P		**pP**	**12 52 51.4**	**-1.3**
MOD	**Modoc**	**90.86**	**44**		*e*P		**P**	**12 52 43.9**	**+1.6**
	comp=Z,14nm,0.9s									
MOD					*ep*P		**pP**	**12 52 54.1**	**+0.7**
MOD					*es*P		**sP**	**12 52 58.5**	**+1.1**
Y12C	**Blythe**	**90.93**	**54**	⇓	P		**P**	**12 52 43.9**	**+1.2**
	baz=91,SNR=9.5									
YAK	**Yakutsk**	**90.95**	**342**		*e*P		**P**	**12 52 41.9**	**-0.1**
YAK					*e**PP		**pP**	**12 52 53.8**	**+0.7**
YAK					pmax		pmax			
	comp=Z,52nm,1.1s									
YAK	**Yakutsk**	**90.95**	**342**		*e*P		**P**	**12 52 41.9**	**-0.1**
	comp=Z,52nm,1.1s									
YAK					*ep*P		**pP**	**12 52 53.8**	**+0.7**
113A	**Mohawk Valley,**	**91.05**	**55**	⇓	P		**P**	**12 52 44.6**	**+1.3**
	baz=91									
DIV	**Divide**	**91.06**	**20**		*e*P		**P**	**12 52 42.7**	**+0.1**
	comp=Z,64nm,1.5s									
SONM	**Songino Array**	**91.07**	**323**		P		**P**	**12 52 44.0**	**+0.8**
SONM					PKKPbc		**PKKPdf**	**13 10 06.3**	**+0.7**
SONM	**Songino Array**	**91.07**	**323**		P		**P**	**12 52 44.0**	**+0.8**
	comp=Z,22nm,1.1s,baz=136,slow=4.4,SNR=94									
SONM					PKKPbc		**PKKPdf**	**13 10 06.3**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=291,slow=0.5,SNR=4.2									
SONM					LR		LR	13 31 26.7		
	comp=Z,577nm,19.5s,baz=121,slow=34									
LDFC	**Landfair**	**91.11**	**52**		*e*P		**P**	**12 52 45.2**	**+1.5**
	comp=Z,37nm,1.0s									
BMRM	**Bremner River**	**91.30**	**20**		*e*P		**P**	**12 52 43.9**	**+0.1**
	comp=Z,176nm,1.8s									
BMRM					*ep*P		**pP**	**12 52 53.8**	**-1.0**
BMRM					*es*P		**sP**	**12 52 59.8**	**+1.0**
214A	**Organ Pipe Nat**	**91.41**	**56**	⇑	P		**P**	**12 52 46.3**	**+1.3**
	baz=92,SNR=8.8									
PDMCI	**Parker Dam,Lak**	**91.47**	**53**	⇑	P		**P**	**12 52 46.5**	**+1.4**
	baz=92,SNR=7.1									
TRF	**Thorofare Moun**	**91.62**	**16**		*e*P		**P**	**12 52 44.1**	**-1.2**
	comp=Z,80nm,1.7s									
Z14A	**Wintersburg**	**91.93**	**55**	⇑	P		**P**	**12 52 48.9**	**+1.5**
	baz=92									
W13A	**Hualapai Mount**	**92.02**	**53**	⇓	P		**P**	**12 52 49.2**	**+1.2**
	baz=92									
Y14A	**Wickenburg**	**92.14**	**54**	⇓	P		**P**	**12 52 49.4**	**+1.0**
	baz=92									
WVOR	**Wild Horse Val**	**92.20**	**44**		*e*P		**P**	**12 52 48.7**	**+0.2**
WVOR					*e**PP		**pP**	**12 52 59.3**	**-0.3**
WVOR					pmax		pmax			
	comp=Z,16nm,1.2s									
WVOR	**Wild Horse Val**	**92.20**	**44**		*e*P		**P**	**12 52 48.7**	**+0.2**
	comp=Z,16nm,1.2s									
WVOR					*ep*P		**pP**	**12 52 59.2**	**-0.3**
MCK	**McKinley**	**92.20**	**17**		*e*P		**P**	**12 52 47.3**	**-0.6**
MCK					*e**PP		**pP**	**12 52 57.6**	**-1.4**
MCK					pmax		pmax			
	comp=Z,83nm,1.8s									
MCK	**McKinley**	**92.20**	**17**		*e*P		**P**	**12 52 47.3**	**-0.6**
	comp=Z,83nm,1.8s									
MCK					*ep*P		**pP**	**12 52 57.5**	**-1.4**
R11A	**Troy Canyon, C**	**92.29**	**49**	⇑	P		**P**	**12 52 50.1**	**+1.0**
	baz=92,SNR=14									
PAX	**Paxson**	**92.57**	**19**		*e*P		**P**	**12 52 48.6**	**-1.1**
PAX					*e**PP		**pP**	**12 52 58.8**	**-2.0**
PAX					*e**SP		**sP**	**12 53 04.5**	**-0.3**
PAX					pmax		pmax			
	comp=Z,25nm,1.4s									
PAX	**Paxson**	**92.57**	**19**		*e*P		**P**	**12 52 48.6**	**-1.1**
	comp=Z,25nm,1.4s									
PAX					*ep*P		**pP**	**12 52 58.8**	**-2.0**
PAX					*es*P		**sP**	**12 53 04.5**	**-0.3**
LSA	**Lhasa**	**92.62**	**301**		P		**P**	**12 52 50.8**	**-0.4**
LSA	**Lhasa**	**92.62**	**301**		*e*P		**P**	**12 52 51.5**	**+0.3**
LSA					*e**PP		**pP**	**12 53 00.8**	**-1.5**
LSA					*e**SP		**sP**	**12 53 06.3**	**0.0**
LSA					pmax		pmax			
	comp=Z,45nm,1.6s									
LSA	**Lhasa**	**92.62**	**301**		*e*P		**P**	**12 52 51.5**	**+0.3**
	comp=Z,45nm,1.6s									
LSA					*ep*P		**pP**	**12 53 00.8**	**-1.5**
LSA					*es*P		**sP**	**12 53 06.3**	**0.0**
MENT	**Mentasta**	**93.06**	**19**		*e*P		**P**	**12 52 51.9**	**0.0**
MENT					*ep*P		**pP**	**12 53 01.9**	**-1.1**
TUC	**Tucson**	**93.11**	**56**		*e*P		**P**	**12 52 54.3**	**+1.3**
TUC					*e**PP		**pP**	**12 53 03.8**	**-0.2**
TUC					pmax		pmax			
	comp=Z,8.0nm,1.1s									
TUC	**Tucson**	**93.11**	**56**		*e*P		**P**	**12 52 54.2**	**+1.3**
	comp=Z,7.9nm,1.1s									
TUC					*ep*P		**pP**	**12 53 03.8**	**-0.2**
R13A	**O'Grain Ranch,**	**93.34**	**50**	⇑	P		**P**	**12 52 55.6**	**+1.5**
	baz=94,SNR=7.3									
BOD	**Bodaibo**	**93.37**	**333**		*e*P		**P**	**12 52 51.8**	**-1.5**
BOD					pmax		pmax			
	comp=Z,8.0nm,1.8s									
COLA	**College**	**93.40**	**16**		*e*P		**P**	**12 52 51.9**	**-1.4**
COLA					*e**PP		**pP**	**12 53 03.5**	**-0.9**
COLA					pmax		pmax			
	comp=Z,45nm,0.9s									
COLA	**College**	**93.40**	**16**		*e*P		**P**	**12 52 51.9**	**-1.4**
	comp=Z,45nm,0.9s									
COLA					*ep*P		**pP**	**12 53 03.5**	**-0.9**
SKAG	**Skagway**	**93.46**	**24**		*e*P		**P**	**12 52 55.0**	**+1.3**
	comp=Z,58nm,1.6s									
SKAG					*ep*P		**pP**	**12 53 05.2**	**+0.4**
CCUT	**Cedar City**	**93.49**	**51**		*e*P		**P**	**12 52 56.0**	**+1.3**
	comp=Z,20nm,1.6s									
CCUT					*ep*P		**pP**	**12 53 06.0**	**+0.2**
DOT	**Dot Lake**	**93.50**	**19**		*e*P		**P**	**12 52 53.7**	**-0.2**
	comp=Z,7.3nm,0.8s									
DOT					*ep*P		**pP**	**12 53 04.4**	**-0.6**
X16A	**Lo Mia Camp, P**	**93.52**	**54**	⇓	P		**P**	**12 52 56.4**	**+1.5**
	baz=94,SNR=16									
ARUT	**Antelope Range**	**93.54**	**50**		*e*P		**P**	**12 52 55.1**	**+0.2**
ARUT					pmax		pmax			
	comp=Z,5.0nm,0.9s									
ARUT	**Antelope Range**	**93.54**	**50**		*e*P		**P**	**12 52 55.1**	**+0.2**
	comp=Z,5.5nm,0.9s									
ILAR	**Eielson Array**	**93.58**	**17**		P		**P**	**12 52 53.2**	**-1.0**
ILAR					PKiKP		**PKiKP**	**12 57 39.9**	**+0.2**
ILAR					PKKPbc		**PKKPdf**	**13 09 58.6**	**-2.9**
ILAR	**Eielson Array**	**93.58**	**17**		P		**P**	**12 52 53.2**	**-1.0**
	comp=Z,14nm,0.8s,baz=236,slow=4.6,SNR=143									
ILAR					PKiKP		**PKiKP**	**12 57 39.9**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=274,slow=2.6,SNR=5.5									
ILAR					PKKPbc		**PKKPdf**	**13 09 58.6**	**-2.9**
	comp=Z,0.8nm,0.9s,baz=359,slow=3.4,SNR=8.4									
U15A	**North Rim**	**93.77**	**52**	⇑	P		**P**	**12 52 57.7**	**+1.6**
	baz=94,SNR=24									
319A	**Douglas**	**93.88**	**58**	⇓	P		**P**	**12 52 58.0**	**+1.5**
	baz=94,SNR=9.0									
WUAZ	**Wupatki**	**94.04**	**53**		*e*P		**P**	**12 52 58.4**	**+1.2**
	comp=Z,6.2nm,0.9s									
WUAZ	**Wupatki**	**94.04**	**53**	⇑	P		**P**	**12 52 58.4**	**+1.2**
	baz=94,SNR=6.2									
ZAK	**Zakamensk**	**94.17**	**324**	⇑	*i*P		**P**	**12 52 57.3**	**-0.1**
ZAK					*e*			13 03 33.6		
ZAK					pmax		pmax			
	comp=Z,22nm,1.3s									
320A	**Kipp Ranch, An**	**94.45**	**58**	⇑	P		**P**	**12 53 00.7**	**+1.5**
	baz=95,SNR=5.5									
MFID	**Camas Ranch**	**94.48**	**45**	⇓	P		**P**	**12 53 00.4**	**+1.3**
	baz=95									
R15A	**Junction**	**94.55**	**50**	⇓	P		**P**	**12 53 00.6**	**+1.0**
	baz=95									
IRK	**Irkutsk**	**94.63**	**326**		*e*P		**P**	**12 52 58.8**	**-0.5**
IRK					pmax		pmax			
	comp=Z,46nm,3.7s									
TLY	**Talaya**	**94.66**	**325**		*e*P		**P**	**12 52 58.3**	**-1.2**
TLY					pmax		pmax			
	comp=Z,18nm,1.2s									
TLY	**Talaya**	**94.66**	**325**		*e*P		**P**	**12 53 00.0**	**+0.5**
	comp=Z,31nm,1.4s									
TLY	**Talaya**	**94.66**	**325**		P		**P**	**12 53 00.3**	**+0.8**
	SNR=9.5									
220A	**Playas Peak, P**	**94.68**	**57**	⇓	P		**P**	**12 53 01.7**	**+1.4**
	baz=95									
X18A	**Snowflake**	**94.68**	**55**	⇓	P		**P**	**12 53 01.5**	**+1.2**
	baz=95									
COLD	**Coldfoot**	**94.72**	**14**		*e*P		**P**	**12 52 59.1**	**-0.3**
	comp=Z,22nm,1.0s									
MSU	**Marysvale**	**94.75**	**50**		*e*P		**P**	**12 53 02.5**	**+2.0**
MSU					pmax		pmax			
	comp=Z,16nm,1.5s									
MSU	**Marysvale**	**94.75**	**50**		*e*P		**P**	**12 53 02.5**	**+2.0**
	comp=Z,16nm,1.5s									
PLCA	**Paso Flores**	**94.80**	**138**		PKKPbc		**PKKPbc**	13 09 57.5	0.0	
PLCA	**Paso Flores**	**94.80**	**138**		PKKPbc		**PKKPbc**	13 09 57.5	0.0	
	comp=Z,1.7nm,0.8s,baz=226,slow=4.4,SNR=3.3									
S16A	**Weppner Ranch,**	**94.83**	**51**	⇑	P		**P**	**12 53 01.8**	**+1.0**
	baz=95,SNR=5.8									
120A	**U Bar Ranch, L**	**94.86**	**57**	⇑	P		**P**	**12 53 02.2**	**+1.2**
	baz=95,SNR=5.9									
DLBC	**Dease Lake**	**94.92**	**27**		P		**P**	**12 53 00.9**	**+0.3**
DLBC	**Dease Lake**	**94.92**	**27**		P		**P**	**12 53 00.9**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=184,slow=5.7,SNR=4.0									
DUG	**Dugway**	**95.04**	**48**	⇓	P		**P**	**12 53 02.7**	**+1.0**
	baz=95									
W18A	**Petrified Fore**	**95.09**	**54**	⇓	P		**P**	**12 53 03.1**	**+1.0**
	baz=95									
T17A	**Navajo Res., N**	**95.09**	**52**	⇓	P		**P**	**12 53 03.4**	**+1.3**
	baz=95,SNR=6.0									
Z20A	**Nine Sixteen R**	**95.13**	**56**	⇓	P		**P**	**12 53 03.6**	**+1.3**
	baz=95									
R16A	**Teasdale**	**95.15**	**51**	⇓	P		**P**	**12 53 03.5**	**+1.2**
	baz=95									
EGAK	**Eagle**	**95.19**	**19**		*e*P		**P**	**12 53 01.3**	**-0.3**
	comp=Z,22nm,0.9s									
DAWY	**Dawson**	**95.22**	**20**		*e*P		**P**	**12 53 02.0**	**+0.2**
221A	**Mesquite Ranch**	**95.31**	**58**	⇓	P		**P**	**12 53 04.6**	**+1.5**
	baz=96									
O15A	**The Old Anders**	**95.32**	**48**	⇓	P		**P**	**12 53 04.2**	**+1.2**
	baz=96									
S17A	**Black Ridge (B**	**95.36**	**51**	⇓	P		**P**	**12 53 03.7**	**+0.5**
	baz=96,SNR=5.8									
HLID	**Hailey**	**95.47**	**45**		*e*P		**P**	**12 53 04.7**	**+1.1**
	comp=Z,3.8nm,0.9s									
HLID	**Hailey**	**95.47**	**45**	⇓	P		**P**	**12 53 04.9**	**+1.3**
	baz=96									
121A	**Cookes Peak, D**	**95.51**	**57**

	baz=97									
325A	**Bean Ranch, Si**	**97.25**	**59**	⇓P		Pdif	12 53 12.5	+0.4		
	baz=97									
E14A	**Clinton**	**97.31**	**43**	⇑P		Pdif	12 53 12.0	0.0		
	baz=98									
Y23A	**Lovelace Mesa,**	**97.39**	**56**	⇑P		**P**	**12 53 12.5**	**-0.1**		
	baz=98									
G15A	**Dillon**	**97.41**	**44**	⇓P		**P**	**12 53 12.4**	**0.0**		
	baz=98									
M18A	**Lyman**	**97.45**	**48**	⇑P		Pdif	12 53 13.2	+0.3		
	baz=98									
526A	**Mary Lane Ranc**	**97.46**	**61**	⇑P		Pdif	12 53 13.1	+0.1		
	baz=98									
V22A	**San Miguel Ran**	**97.52**	**54**	⇑P		**P**	**12 53 13.1**	**-0.1**		
	baz=98									
TXAR	**Lajitas Array**	**97.53**	**61**	P		Pdif	12 53 13.8	+0.6		
TXAR				PKKPbc		**PKKPbc**	**13 09 51.0**	**+0.7**		
TXAR	**Lajitas Array**	**97.53**	**61**	P		Pdif	12 53 13.8	+0.6		
	comp=Z,1.4nm,0.9s,baz=228,slow=5.9,SNR=13									
TXAR				PKKPbc		**PKKPbc**	**13 09 51.0**	**+0.7**		
	comp=Z,0.6nm,0.6s,baz=117,slow=4.7,SNR=8.8									
N18A	**Larsen Ranch,**	**97.54**	**49**	⇓P		Pdif	12 53 13.5	+0.4		
	baz=98									
S21A	**Coal Bank Pass**	**97.55**	**52**	⇑P		Pdif	12 53 13.5	+0.1		
	baz=98									
426A	**McDonald Obser**	**97.74**	**60**	⇑P		**P**	**12 53 14.0**	**-0.3**		
	baz=98									
627A	**Terlingua Ranc**	**97.80**	**61**	⇓P		Pdif	12 53 14.7	+0.2		
	baz=98									
P20A	**De Beque**	**97.85**	**50**	⇑P		**P**	**12 53 14.4**	**-0.1**		
	baz=98									
E15A	**Deer Lodge**	**97.85**	**43**	⇓P		Pdif	12 53 14.7	+0.4		
	baz=98									
Y24A	**Capitan**	**97.87**	**57**	⇑P		Pdif	12 53 14.9	+0.1		
	baz=98									
527A	**Woodward Ranch**	**97.87**	**61**	⇑P		**P**	**12 53 14.8**	**0.0**		
	baz=98									
K18A	**Toltan Ranch,**	**97.96**	**47**	⇑P		Pdif	12 53 15.8	+0.8		
	baz=98									
125A	**Gardner Draw,**	**97.99**	**58**	⇑P		Pdif	12 53 15.4	+0.1		
	baz=98									
R21A	**Cimarron**	**98.00**	**52**	⇑P		**P**	**12 53 15.3**	**0.0**		
	baz=98									
H16A	**Russell Place,**	**98.01**	**45**	⇑Pdiff		Pdif	12 53 15.4	+0.2		
	baz=98									
I17A	**Pilgrim Ck.**	**98.13**	**46**	⇑Pdiff		Pdif	12 53 16.2	+0.4		
	baz=98									
BOZ	**Bozeman (W)**	**98.16**	**44**	⇓Pdiff		Pdif	12 53 16.5	+0.7		
	baz=98									
D15A	**Lincoln**	**98.19**	**42**	⇑Pdiff		Pdif	12 53 16.5	+0.7		
	baz=98									
O20A	**White River Ci**	**98.20**	**50**	⇑Pdiff		Pdif	12 53 16.5	+0.3		
	baz=98									
J18A	**Kendall Valley**	**98.21**	**47**	⇓Pdiff		Pdif	12 53 16.8	+0.6		
	baz=98									
L19A	**Farson**	**98.21**	**48**	⇓Pdiff		Pdif	12 53 16.8	+0.6		
	baz=98									
F16A	**Kennard Place,**	**98.22**	**44**	⇑Pdiff		Pdif	12 53 16.7	+0.8		
	baz=98									
S22A	**4UR Ranch, Cre**	**98.29**	**53**	⇓Pdiff		Pdif	12 53 16.9	+0.2		
	baz=98									
B14A	**Marquette Ranc**	**98.29**	**41**	⇓Pdiff		Pdif	12 53 17.0	+0.7		
	baz=98									
427A	**Hayter Ranch,**	**98.31**	**60**	⇑Pdiff		**P**	**12 53 16.5**	**-0.2**		
	baz=98									
PDAR	**Pinedale Array**	**98.34**	**47**	P		Pdif	12 53 17.1	+0.4		
PDAR				PP		PP	12 57 23.6	+6.4		
PDAR	**Pinedale Array**	**98.34**	**47**	P		Pdif	12 53 17.1	+0.4		
	comp=Z,1.1nm,0.9s,baz=213,slow=2.2,SNR=8.8									
PDAR				PP		PP	12 57 23.6	+6.4		
	comp=Z,1.4nm,1.0s,baz=237,slow=6.9,SNR=5.3									
PDAR				LR		LR	13 30 25.6			
	comp=Z,2μm,21.4s,baz=337,slow=31									
Y25A	**Mesa, Roswell**	**98.44**	**57**	⇑Pdiff		**P**	**12 53 17.0**	**-0.2**		
	baz=99									
N20A	**Spence Gulch,**	**98.46**	**49**	⇑Pdiff		Pdif	12 53 17.9	+0.5		
	baz=99									
R22A	**Saguache, Gunn**	**98.53**	**52**	⇓Pdiff		Pdif	12 53 18.0	+0.2		
	baz=99									
L20A	**Wamsutter**	**98.87**	**48**	⇑Pdiff		Pdif	12 53 19.6	+0.5		
	baz=99									
W25A	**X Bar L Ranch,**	**99.10**	**56**	⇑Pdiff		**Pdif**	**12 53 20.2**	**0.0**		
	baz=99									
I19A	**Meeteetse**	**99.22**	**46**	⇓Pdiff		**Pdif**	**12 53 21.3**	**+0.7**		
	baz=99									
SDCO	**Great Sand Dun**	**99.26**	**53**	⇑Pdiff		**Pdif**	**12 53 21.6**	**+0.6**		
	baz=100									
D17A	**Six Diamond Ra**	**99.37**	**43**	⇓Pdiff		**Pdif**	**12 53 21.9**	**+0.8**		
	baz=100									
INK	**Inuvik**	**99.84**	**18**	*e*Pdif		**Pdif**	**12 53 20.8**	**-1.6**		
	comp=Z,43nm,1.8s									
INK	**Inuvik**	**99.84**	**18**	P		**Pdif**	**12 53 21.7**	**-0.7**		
	comp=Z,2.6nm,0.9s,baz=258,slow=4.6,SNR=8.8									
O23A	**Lake Granby, G**	**99.88**	**51**	⇓Pdiff		**Pdif**	**12 53 23.6**	**-0.1**		
	baz=100									
WMQ	**Urumqi**	**100.78**	**313**	P		**Pdif**	**12 53 28.3**	**+1.0**		
WMQ				pP		pP	12 53 44.5	+6.0		
WMQ				sP		sP	12 53 50.0	+7.5		
WMQ				SKS		**SKSac**	**13 04 01.0**	**-2.8**		
WMQ				*e*S		SKKSac	13 04 57.0	+18		
WMQ				pmax		pmax				
	comp=Z,18nm,1.6s									
WMQ				LR		LR				
	comp=N,760nm,19.0s									
WMQ				LR		LR				
	comp=E,430nm,20.2s									
WMQ				LR		LR				
	comp=Z,490nm,19.0s									
CFAA	**Coronel Fontan**	**101.71**	**132**	P		**Pdif**	**12 53 31.6**	**-0.2**		
CFAA	**Coronel Fontan**	**101.71**	**132**	P		**Pdif**	**12 53 31.6**	**-0.2**		
	comp=Z,0.2nm,0.3s,baz=186,slow=11,SNR=3.6									
YKA	**Yellowknife Ar**	**103.54**	**27**	Pdif		**Pdif**	**12 53 38.5**	**-0.5**		
YKA				PKiKP		**PKiKP**	**12 57 57.4**	**0.0**		
YKA	**Yellowknife Ar**	**103.54**	**27**	Pdiff		**Pdif**	**12 53 38.5**	**-0.5**		
	comp=Z,0.6nm,0.8s,baz=250,slow=4.6,SNR=9.7									
YKA				PKiKP		**PKiKP**	**12 57 57.4**	**0.0**		
	comp=Z,0.3nm,0.3s,baz=234,slow=1.5,SNR=8.8									
MKAR	**Makanchi Array**	**105.37**	**315**	P		**Pdif**	**12 53 47.9**	**+0.3**		
MKAR	**Makanchi Array**	**105.37**	**315**	Pdif		**Pdif**	**12 53 47.9**	**+0.3**		
MKAR				PKiKP		**PKiKP**	**12 58 00.8**	**-0.5**		
MKAR				PKKPbc		**PKKPbc**	**13 09 26.2**	**-1.8**		
MKAR	**Makanchi Array**	**105.37**	**315**	Pdiff		**Pdif**	**12 53 47.9**	**+0.3**		
	comp=Z,2.3nm,0.7s,baz=105,slow=4.3,SNR=16									
MKAR				PKiKP		**PKiKP**	**12 58 00.8**	**-0.5**		
	comp=Z,0.8nm,0.7s,baz=125,slow=0.7,SNR=6.0									
MKAR				PKKPbc		**PKKPbc**	**13 09 26.2**	**-1.8**		
	comp=Z,1.6nm,0.8s,baz=298,slow=2.6,SNR=9.2									
ZALV	**Zalesovo Beam**	**105.96**	**322**	P		**Pdif**	**12 53 50.6**	**+0.6**		
ZALV	**Zalesovo Beam**	**105.96**	**322**	Pdif		**Pdif**	**12 53 50.6**	**+0.6**		
ZALV				PKiKP		**PKiKP**	**12 58 01.2**	**-0.9**		
ZALV	**Zalesovo Beam**	**105.96**	**322**	Pdiff		**Pdif**	**12 53 50.6**	**+0.6**		
	comp=Z,0.6nm,0.5s,baz=116,slow=6.8,SNR=4.8									
ZALV				PKiKP		**PKiKP**	**12 58 01.2**	**-0.9**		
	comp=Z,0.4nm,0.4s,baz=116,slow=3.4,SNR=2.9									
KSH	**Kashi**	**107.75**	**306**	*e*Pdif		**Pdif**	**12 54 03.6**	**+5.1**		
KSH				S		**Sdif**	**13 06 03.9**	**+2.9**		
KSH				AMB		AMB				
	comp=Z,510nm,5.9s									
KSH				LR		LR				
	comp=N,500nm,11.9s									
KSH				LR		LR				
	comp=E,190nm,6.5s									
KSH				LR		LR				
	comp=Z,500nm,13.1s									
AAK	**Ala-Archa**	**109.61**	**309**	PKiKP		**PKiKP**	**12 58 09.4**	**-0.2**		
AAK				PKKPbc		**PKKPbc**	**13 09 14.3**	**-0.4**		
AAK	**Ala-Archa**	**109.61**	**309**	PKiKP		**PKiKP**	**12 58 09.4**	**-0.2**		
	comp=Z,1.2nm,0.8s,baz=217,slow=4.3,SNR=4.5									
AAK				PKKPbc		**PKKPbc**	**13 09 14.3**	**-0.4**		
	comp=Z,2.0nm,0.9s,baz=223,slow=5.5,SNR=4.4									
LPAZ	**La Paz**	**110.50**	**119**	PP		PP	12 58 45.5	-2.6		
LPAZ	**La Paz**	**110.50**	**119**	PP		PP	12 58 45.5	-2.6		
	comp=Z,1.6nm,1.0s,baz=224,slow=9.3,SNR=5.0									
CPUP	**Villa Florida**	**112.42**	**134**	PP		PP	12 58 57.9	-2.6		
CPUP	**Villa Florida**	**112.42**	**134**	PP		PP	12 58 57.9	-2.6		
	comp=Z,2.6nm,0.8s,baz=218,slow=7.1,SNR=3.4									
KKAR	**Karatay Array**	**112.58**	**309**	*e*PKiKP		**PKiKP**	**12 58 15.2**	**+0.3**		
KKAR	**Karatay Array**	**112.58**	**309**	*e*PKPdf		**PKiKP**	**12 58 15.2**	**+0.3**		
RES	**Resolute Bay**	**113.33**	**17**	*e*PKPdf		**PKiKP**	**12 58 14.7**	**-0.7**		
BRVK	**Borovoye**	**114.26**	**319**	*d*PKiKP		PKPdf	12 58 17.5	-0.3		
BRVK				pmax		pmax				
	comp=Z,8.0nm,1.0s									
BRVK	**Borovoye**	**114.26**	**319**	*e*PKPdf		PKPdf	12 58 17.6	-0.2		
SIV	**San Ignacio**	**116.25**	**123**	PKP		**PKPdf**	**12 58 22.4**	**-0.4**		
SIV				PP		**PP**	**12 59 25.3**	**-2.9**		
SIV	**San Ignacio**	**116.25**	**123**	PKP		**PKPdf**	**12 58 22.4**	**-0.4**		
	comp=Z,1.1nm,0.7s,baz=345,slow=1.8,SNR=5.2									
SIV				PP		**PP**	**12 59 25.3**	**-2.9**		
	comp=Z,3.6nm,1.2s,baz=245,slow=9.3,SNR=5.2									
BOSA	**Boshof**	**118.64**	**215**	PKP		**PKPdf**	**12 58 27.1**	**-0.3**		
BOSA	**Boshof**	**118.64**	**215**	PKP		**PKPdf**	**12 58 27.1**	**-0.3**		
	comp=Z,5.0nm,0.9s,baz=125,slow=4.4,SNR=5.7									
SDV	**Santo Domingo**	**119.87**	**93**	*e*PKPdf		**PKPdf**	**12 58 29.6**	**-0.4**		
SVE	**Sverdlovsk**	**119.93**	**323**	⇓*i*PKIKP		**PKPdf**	**12 58 29.2**	**+0.6**		
SVE				pmax		pmax				
	comp=Z,35nm,1.6s									
SADO	**Sadowa**	**120.10**	**51**	PKP		**PKPdf**	**12 58 28.3**	**-1.0**		
SADO	**Sadowa**	**120.10**	**51**	PKP		**PKPdf**	**12 58 28.3**	**-1.0**		
	comp=Z,4.2nm,0.8s,baz=214,slow=15,SNR=3.5									
RBK	**Rabkut**	**120.47**	**277**	P		**PKPdf**	**12 58 31.4**	**+0.5**		
	SNR=8.9									
ARU	**Arti**	**121.11**	**323**	*i* PKIKP		**PKPdf**	**12 58 30.2**	**-0.7**		
ARU							13 00 03.6			
ARU							13 05 23.5			
ARU				SP		SP	13 09 47.1	-1.4		
ARU				PS		**PS**	**13 09 55.8**	**+2.2**		
ARU				SS		**SKKSdf**	**13 16 24.6**	**+4.9**		
ARU	**Arti**	**121.11**	**323**	*e*PKPdf		**PKPdf**	**12 58 30.9**	**0.0**		
BDFB	**Brasilia**	**126.05**	**132**	PKP		**PKPdf**	**12 58 40.5**	**-1.2**		
BDFB	**Brasilia**	**126.05**	**132**	PKP		**PKPdf**	**12 58 40.5**	**-1.2**		
	comp=Z,7.5nm,0.8s,baz=228,slow=2.9,SNR=9.6									
DAG	**Danmarks Havn**	**126.12**	**3**	*i* P		**PKPdf**	**12 58 39.2**	**-0.8**		
	comp=Z,141nm,0.8s									
SJG	**San Juan**	**126.94**	**84**	PKP		**PKPdf**	**12 58 42.5**	**-0.6**		
SJG				*e*PKPdf		**PKiKP**	**12 58 42.7**	**-1.0**		
SJG	**San Juan**	**126.94**	**84**	PKP		**PKPdf**	**12 58 42.5**	**-0.6**		
	comp=Z,60nm,0.8s,baz=90,slow=1.8,SNR=16									
LSZ	**Lusaka**	**126.97**	**227**	*e*PKPdf		**PKPdf**	**12 58 43.8**	**+0.2**		
SCHQ	**Schefferville**	**127.27**	**38**	PKP		**PKPdf**	**12 58 42.4**	**-0.4**		
SCHQ	**Schefferville**	**127.27**	**38**	PKP		**PKPdf**	**12 58 42.4**	**-0.4**		
	comp=Z,8.0nm,1.1s,baz=295,slow=7.1,SNR=5.2									
MTP	**Monte Pirata**	**127.49**	**84**	*e*PKPdf		**PKPdf**	**12 58 43.7**	**-0.5**		
LVZ	**Lovozero**	**127.73**	**341**	*c i*PKIKP		**PKPdf**	**12 58 42.8**	**-0.5**		
LVZ				pmax		pmax				
	comp=Z,96nm,2.5s									
SUMG	**Summit**	**127.96**	**11**	*i* P		**PKPdf**	**12 58 44.1**	**0.0**		
	comp=Z,14nm,1.0s									
APA	**Apatity**	**128.31**	**341**	⇓*i*PKIKP		**PKPdf**	**12 58 45.0**	**+0.6**		
APA				pmax		pmax				
	comp=Z,43nm,1.2s									
APA				MLR		MLR				
	comp=Z,2μm,20.0s									
KMBO	**Kilima Mbogo**	**128.60**	**249**	*e*PKPdf		**PKPdf**	**12 58 46.5**	**-0.4**		
KMBO	**Kilima Mbogo**	**128.60**	**249**	P		**PKPdf**	**12 58 48.7**	**+1.8**		
	SNR=7.3									
KEV	**Kevo**	**128.62**	**345**	*e*PKIKP		**PKPdf**	**12 58 44.3**	**-0.6**		
KEV				pmax		pmax				
	comp=Z,11nm,0.6s									
KEV	**Kevo**	**128.62**	**345**	*ep*		**PKPdf**	**12 58 44.3**	**-0.6**		
	comp=Z,10nm,0.6s									
ARCES	**ARCESS Array B**	**129.14**	**345**	PKP		**PKPdf**	**12 58 46.4**	**+0.4**		
ARCES	**ARCESS Array B**	**129.14**	**345**	PKP		**PKPdf**	**12 58 46.4**	**+0.4**		
	comp=Z,25nm,0.7s,baz=90,slow=1.6,SNR=53									
SFJD	**Kangerlussuaq**	**129.16**	**20**	*i* P		**PKPdf**	**12 58 46.6**	**+0.6**		
	comp=Z,6.1nm,1.1s									
TSUM	**Tsumeb**	**130.34**	**214**	*e*PKPdf		**PKPdf**	**12 58 49.4**	**-0.5**		
TSUM				PKP		**PKPdf**	**12 58 50.4**	**+0.5**		
TSUM	**Tsumeb**	**130.34**	**214**	PKP		**PKPdf**	**12 58 50.4**	**+0.5**		
	comp=Z,6.2nm,0.8s,baz=190,slow=2.5,SNR=15									
DGRG	**David-gareji**	**131.04**	**305**	P		**PKSab**	**13 02 18.0**	**+1.5**		
TBLG	**Delisi**	**131.50**	**306**	P		**PKSab**	**13 02 20.0**	**+1.6**		
GNI	**Garni**	**131.61**	**304**	*e*PKPdf		**PKPdf**	**12 58 51.8**	**+0.1**		
GNI	**Garni**	**131.61**	**304**	P		**PKPdf**	**12 58 53.5**	**+1.7**		
	SNR=5.7									
JOF	**Joensuu**	**131.81**	**336**	*e*PKIKP		**PKPdf**	**12 58 51.0**	**-0.1**		
JOF				pmax		pmax				
	comp=Z,22nm,0.7s									
JOF	**Joensuu**	**131.81**	**336**	*ep*		**PKPdf**	**12 58 51.0**	**-0.1**		
	comp=Z,22nm,0.7s									
VRHR	**Novokhopersk**	**131.93**	**319**	*e*PKIKP		**PKPdf**	**12 58 51.9**	**+0.2**		
VRHR				pmax		pmax				
	comp=N,5.0nm,0.9s									
VRHR				pmax		pmax				
	comp=E,9.0nm,0.9s									
VRHR				pmax		pmax				
	comp=Z,30nm,0.9s									
BHD	**Baghdad**	**131.97**	**295**	*ex*		**PKPdf**	**12 58 53.0**	**+0.6**		
BHD				*ex*		x	12 59 48.0			
BHD				*i* x		x	13 02 21.0			
BHD				*i* x		x	13 05 53.3			
BHD				*i* x		x	13 05 59.0			
ZEI	**Tsey**	**132.01**	**307**	*i* PKIKP		**PKPdf**	**12 58 53.0**	**+0.5**		
ZEI				pmax		pmax				
	comp=Z,25nm,2.0s									
SCO	**Scoresbysund**	**132.07**	**6**	*i* P		**PKPdf**	**12 58 52.1**	**+0.7**		
	comp=Z,12nm,0.9s									
ONI	**Oni**	**132.36**	**307**	P		**PKSab**	**13 02 24.1**	**+2.0**		
AKH	**Akhalkalaki**	**132.46**	**306**	P		**PKSab**	**13 02 22.9**	**+0.1**		
MOS	**Moscow**	**132.61**	**326**	*e*PKIKP		**PKPdf**	**12 58 51.6**	**-1.2**		
MOS				*e*			12 59 05.8			
MOS				*e*			13 01 16.9			
KBZ	**Khabaz**	**132.61**	**309**	PKIKP		**PKPdf**	**12 58 54.4**	**+1.1**		
KBZ							13 01 19.5			
KBZ	**Khabaz**	**132.61**	**309**	PKP		**PKPdf**	**12 58 54.4**	**+1.1**		
KBZ				PP		**PP**	**13 01 19.4**	**+1.7**		
KBZ	**Khabaz**	**132.61**	**309**	PKP		**PKPdf**	**12 58 54.4**	**+1.1**		
	comp=Z,3.2nm,0.8s,baz=75,slow=2.8,SNR=6.3									
KBZ				PP		**PP**	**13 01 19.4**	**+1.7**		
	comp=Z,0.8nm,0.8s,baz=88,slow=5.4,SNR=4.3									
KIV	**Kislovodsk**	**132.73**	**309**	*i* PKIKP		**PKPdf**	**12 58 54.3**	**+0.7**		
KIV				pmax		pmax				
	comp=Z,13nm,1.1s									
VSR	**Storozhevoye**	**133.37**	**320**	*e*PKIKP		**PKPdf**	**12 58 55.6**	**+1.2**		
VSR				pmax		pmax				
	comp=N,5.0nm,0.9s									
VSR				pmax		pmax				
	comp=E,6.0nm,0.9s									
VSR				pmax		pmax				
	comp=Z,10.0nm,0.9s									
OBN	**Obninsk**	**133.41**	**325**	⇑*i*PKIKP		**PKPdf**	**12 58 54.5**	**+0.1**		
OBN				*i*			13 01 20.7			
OBN				*e*PS		**PS**	**13 11 43.3**	**+2.1**		
OBN				*e*SS		SS	13 19 02.0	-2.5		
OBN				pmax		pmax				
	comp=Z,69nm,1.4s									
KAF	**Kangasniemi**	**134.12**	**338**	*e*PKIKP		**PKPdf**	**12 58 54.3**	**-1.2**		
KAF				pmax		pmax				
	comp=Z,12nm,0.6s									
KAF	**Kangasniemi**	**134.12**	**338**	*ep*		**PKPdf**	**12 58 54.3**	**-1.2**		
	comp=Z,12nm,0.6s									
FINES	**FINESS Array B**	**134.65**	**337**	PKPpre		PKPpre	12 58 46.5			
FINES				PKP		**PKPdf**	**12 58 56.6**	**+0.1**		
FINES	**FINESS Array B**	**134.65**	**337**	PKhKP		PKPpre	12 58 46.5			
	comp=Z,1.6nm,0.7s,baz=178,slow=5.7,SNR=4.1									
FINES				PKP		**PKPdf**	**12 58 56.6**	**+0.1**		
	comp=Z,22nm,0.9s,baz=52,slow=3.1,SNR=22									
SOC	**Sochi**	**134.92**	**309**	*i* PKIKP		**PKPdf**	**12 58 59.8**	**+2.2**		
SOC				*e*			13 01 31.7			
SOC				pmax		pmax				
	comp=Z,9.0nm,0.5s									
SOC				MLR		MLR				
	comp=Z,474nm,19.0s									
VSU	**Vasula**	**136.31**	**333**	*i* PKIKP		**PKPdf**	**12 58 59.4**	**-0.3**		
MICGM	**Minsk**	**138.12**	**328**	⇓*e*P		**PKPdf**	**12 59 02.0**	**-1.2**		
MNK	**Minsk**	**138.14**	**328**	⇓*e*PKIKP		**PKPdf**	**12 59 02.0**	**-1.2**		
MNK				pmax		pmax				
	comp=Z,80nm,1.0s									
NACGM	**Naroch**	**138.42**	**329**	*e*		PKPpre	12 58 50.0			
AKASG	**Malin Array Be**	**139.35**	**322**	PKHKP		PKPpre	12 58 57.2			
AKASG							12 59 03.9			
AKASG	**Malin Array Be**	**139.35**	**322**	PKPpre		PKPpre	12 58 57.2			
AKASG				PKP		**PKPdf**	**12 59 03.9**	**-1.7**		
AKASG	**Malin Array Be**	**139.35**	**322**	PKhKP		PKPpre	12 58 57.2			
	comp=Z,2.5nm,0.7s,baz=59,slow=3.4,SNR=7.1									
AKASG				PKP		**PKPdf**	**12 59 03.9**	**-1.7**		
	comp=Z,12nm,0.9s,baz=60,slow=2.3,SNR=9.2									
KIEV	**Kiev**	**139.37**	**322**	*e*PKHKP		PKPpre	12 58 59.0			
KIEV	**Kiev**	**139.37**	**322**	*e*PKPdf		PKPpre	12 58 59.0			
NB2	**NORSAR Subarra**	**139.52**	**345**	PKPdf		PKPpre	12 58 57.0			
	baz=31,slow=1.9									
NB2	**NORSAR Subarra**	**139.52**	**345**	PKPdf		PKPpre	12 58 57.0			
	comp=Z,12nm,1.0s,baz=31,slow=1.9									
NOA	**NORSAR Array B**	**139.52**	**345**	PKP		**PKPdf**	**12 59 05.0**	**-0.6**		
NOA	**NORSAR Array B**	**139.52**	**345**	PKP		**PKPdf**	**12 59 05.0**	**-0.6**		
	comp=Z,8.8nm,0.8s,baz=36,slow=2.0,SNR=12									
BRTR	**Keskin Array B**	**140.12**	**305**	PKPpre		PKPpre	12 59 01.9			
BRTR				PKP		**PKPdf**	**12 59 06.8**	**-0.8**		
BRTR	**Keskin Array B**	**140.12**	**305**	PKhKP		PKPpre	12 59 01.9			
	comp=Z,1.9nm,0.8s,baz=48,slow=1.8,SNR=7.0									
BRTR				PKP		**PKPdf**	**12 59 06.8**	**-0.8**		
	comp=Z,2.0nm,0.8s,baz=53,slow=1.5,SNR=6.7									
SUW	**Suwalki**	**140.63**	**330**	*e*PKP		PKPpre	12 59 02.7			
SUW	**Suwalki**	**140.63**	**330**	*e*PKP		PKPpre	12 59 02.7			
RCBR	**Riachuelo**	**141.29**	**135**	PKPpre		PKPpre	12 59 03.7			
RCBR	**Riachuelo**	**141.29**	**135**	PKhKP		PKPpre	12 59 03.7			
	comp=Z,5.1nm,0.8s,baz=158,slow=4.5,SNR=5.7									
CFR	**Carcaliu**	**142.41**	**315**	⇑PKIKP		**PKPdf**	**12 59 09.7**	**-1.5**		
CFR	**Carcaliu**	**142.41**	**315**	⇑*i*P		**PKPdf**	**12 59 09.7**	**-1.5**		
TIRR	**Tirgusor**	**142.50**	**314**	⇑PKHKP		PKPpre	12 59 02.0			
TIRR	**Tirgusor**	**142.50**	**314**	⇑*i*P		PKPdf	12 59 02.0	-9.4		
LVV	**L'vov**	**142.67**	**324**	*e*PKIKP		**PKPdf**	**12 59 09.4**	**-2.2**		
LVV				*e*			12 59 19.6			
TESR		**142.79**	**318**	⇑*i*P		**PKPdf**	**12 59 09.7**	**-2.2**		
ADVT	**Abdulvahap**	**142.87**	**307**	*e*P		**PKPdf**	**12 59 08.8**	**-3.4**		
PSN	**Preselentsi**	**142.94**	**313**	*i* P		**PKPdf**	**12 59 10.3**	**-1.9**		
VRI	**Vrincioaia**	**143.03**	**317**	⇑PKIKP		PKPbc	12 59 10.2	+1.0		
VRI	**Vrincioaia**	**143.03**	**317**	⇑*i*P		PKPbc	12 59 10.2	+1.0		
PLOR	**Plostina**	**143.08**	**317**	⇑PKIKP		PKPbc	12 59 10.4	+1.0		
PLOR	**Plostina**	**143.08**	**317**	⇑*i*P		PKPbc	12 59 10.4	+1.0		
BEL	**Belsk**	**143.13**	**329**	*e*PKP		**PKPdf**	**12 59 12.2**	**0.0**		
BEL	**Belsk**	**143.13**	**329**	*e*PKP		**PKPdf**	**12 59 12.2**	**0.0**		
BURAR	**Bucovina Array**	**143.14**	**320**	⇑*i*P		**PKPdf**	**12 59 12.5**	**-0.1**		
BSD	**Bornholm Skovb**	**143.29**	**337**	*i* P		**PKPdf**	**12 59 12.4**	**-0.1**		
	comp=Z,24nm,0.8s									
ARMT	**Armutlu**	**143.47**	**308**	*e*P		PKPab	12 59 09.2	-0.4		
KWP	**Kalwaria Pacla**	**143.49**	**324**	*e*PKP		**PKPdf**	**12 59 12.2**	**-0.9**		
KWP	**Kalwaria Pacla**	**143.49**	**324**	*e*PKP		**PKPdf**	**12 59 12.2**	**-0.9**		
KWP	**Kalwaria Pacla**	**143.49**	**324**	*e*PKIKP		PKPbc	12 59 11.6	+1.2		
KWP	**Kalwaria Pacla**	**143.49**	**324**	*e*PKPdf		PKPbc	12 59 11.6	+1.3		
PRD	**Provadia**	**143.65**	**312**	*i* P		PKPbc	12 59 11.7	+0.7		
MLR	**Muntele Rosu**	**143.68**	**317**	⇑*i*P		**PKPdf**	**12 59 12.5**	**-1.2**		
COP	**Copenhagen**	**143.70**	**339**	*i* P		**PKPdf**	**12 59 13.9**	**+0.8**		
	comp=Z,20nm,0.9s									
GKP	**Gorka Klasztor**	**143.76**	**333**	*e*PKP		**PKPdf**	**12 59 12.4**	**-1.0**		
GKP	**Gorka Klasztor**	**143.76**	**333**	*e*PKP		**PKPdf**	**12 59 12.4**	**-

PVCC	**Panska Ves**	**146.88**	332	*e*PKIKP	**PKPdf**	**12 59 19.5**	**+0.7**
PVCC				*e*		12 59 22.0	
PVCC				*e*		12 59 30.7	
PVCC				MLR	MLR		
	comp=Z,900nm,18.7s						
PVCC	**Panska Ves**	**146.88**	332	*e*PKP	**PKPdf**	**12 59 19.5**	**+0.7**
PVCC				*ex*	x	12 59 22.0	
PVCC				*ep*PKP	**pPKPdf**	**12 59 30.7**	**+0.5**
PVCC				AMS	AMS	14 03 40.0	
	comp=Z,900nm,18.7s						
BRG	**Berggiesshubel**	**146.90**	333	*i* PKP	**PKPdf**	**12 59 19.8**	**+0.9**
	comp=Z,75nm,1.9s						
BRG				*i*		12 59 23.5	
	comp=Z,98nm,1.2s						
BRG				*i*		12 59 29.6	
	comp=Z,150nm,1.3s						
BRG				*e*		13 10 22.0	
BRG							
	comp=N,772nm,29.8s						
BRG							
	comp=E,1µm,19.8s						
BRG							
	comp=Z,2µm,18.1s						
BRG	**Berggiesshubel**	**146.90**	333	*e*PKPbc	**PKPbc**	**12 59 21.4**	**+0.6**
BRG	**Berggiesshubel**	**146.90**	333	*i* PKP2	**PKPdf**	**12 59 19.8**	**+0.9**
BRG				pmax	pmax		
	comp=Z,75nm,1.9s						
BRG				pmax	pmax		
	comp=Z,98nm,1.2s						
BRG				pmax	pmax		
	comp=Z,150nm,1.3s						
BRG				MLR	MLR		
	comp=N,772nm,29.8s						
BRG				MLR	MLR		
	comp=E,1µm,19.8s						
BRG				MLR	MLR		
	comp=Z,2µm,18.1s						
SMOL	**Smolenice**	**146.92**	327	*e*PKP2	**PKPab**	**12 59 22.4**	**0.0**
SMOL	**Smolenice**	**146.92**	327	*e*PKP	**PKPab**	**12 59 22.4**	**0.0**
APE	**Apeiranthos**	**146.93**	303	⇑PKP2	**PKPdf**	**12 59 20.4**	**+1.0**
APE	**Apeiranthos**	**146.93**	303	⇑*i*P	**PKPdf**	**12 59 20.4**	**+1.0**
PKS6	**Bocsa**	**146.95**	322	⇓*i*PKPdf	**PKPdf**	**12 59 22.4**	**+3.4**
CLL	**Collm**	**146.96**	334	*e*PKPbc	**PKPab**	**12 59 22.0**	**-0.4**
CLL	**Collm**	**146.96**	334	⇓*e*PKIKP	**PKPdf**	**12 59 19.0**	**+0.1**
CLL				*i*		12 59 21.7	
CLL				pmax	pmax		
	comp=Z,112nm,1.2s						
CLL				MLR	MLR		
	comp=Z,700nm,21.0s						
CLL	**Collm**	**146.96**	334	*e*PKPdf	**PKPdf**	**12 59 19.0**	**+0.1**
CLL				⇓*i*PKPbc	**PKPab**	**12 59 21.7**	**-0.7**
	comp=Z,112nm,1.2s						
CLL				*i* PKPab	**PKiKP**	**12 59 23.4**	**-0.1**
	comp=Z,77nm,0.9s						
CLL				*i* PKiKP	**PKPbc**	**12 59 25.4**	**+4.5**
	comp=Z,92nm,1.0s						
CLL				*i* pPKPbc	pPKPbc	12 59 30.2	-2.0
CLL				*i* sPKiKP	sPKiKP	12 59 37.0	-1.7
CLL				*i*		12 59 44.5	
CLL				LmV		14 05 00.0	
	comp=Z,700nm,21.0s						
EAU	**Auchinoon**	**147.04**	354	*e*P	**PKPdf**	**12 59 19.3**	**+0.3**
EAU	**Auchinoon**	**147.04**	354	P	**PKPdf**	**12 59 19.3**	**+0.3**
SRS	**Serrai**	**147.05**	311	P	**PKPdf**	**12 59 18.9**	**-0.6**
EBL	**Broad Law**	**147.07**	353	*e*P	**PKPdf**	**12 59 18.1**	**-0.9**
EBL	**Broad Law**	**147.07**	353	P	**PKPdf**	**12 59 18.1**	**-0.9**
OUR	**Ouranopolis**	**147.07**	309	P	**PKPbc**	**12 59 21.4**	**-0.2**
NRDL	**Niedersach Rie**	**147.10**	338	*e*PKPbc	**PKPbc**	**12 59 21.8**	**+0.6**
KKB	**Krupnik**	**147.10**	312	*i* P	**PKPbc**	**12 59 21.4**	**-0.3**
PKSG		**147.13**	324	⇓*i*PKPdf	**PKPdf**	**12 59 22.3**	**+3.0**
PGBU	**Glenifferbraes**	**147.17**	355	*e*P	**PKPdf**	**12 59 19.5**	**+0.4**
PGBU				AMB	AMB	12 59 24.0	
	comp=Z,183nm,2.8s						
PGBU	**Glenifferbraes**	**147.17**	355	P	**PKPdf**	**12 59 19.5**	**+0.4**
PGBU				AMB	AMB	12 59 24.0	
	comp=Z,183nm,2.8s						
PKS2	**Kecel**	**147.21**	322	⇓*i*PKPdf	**PKPdf**	**12 59 23.3**	**+3.8**
PRA	**Prague**	**147.28**	331	PKPDF	**PKPdf**	**12 59 20.0**	**+0.5**
PRA				⇑PKP	**PKPab**	**12 59 23.0**	**-0.7**
PRA				PKPAB	**PKiKP**	**12 59 27.0**	**+2.9**
PRA				*ep*PKP	**pPKPdf**	**12 59 31.0**	**+0.1**
PRU	**Pruhonice**	**147.29**	331	*e*PKIKP	**PKPdf**	**12 59 20.3**	**+0.8**
PRU				*e*		12 59 23.0	
PRU				*e*		12 59 31.4	
PRU				MLR	MLR		
	comp=Z,600nm,23.1s						
PRU	**Pruhonice**	**147.29**	331	*e*PKP	**PKPdf**	**12 59 20.3**	**+0.8**
PRU				*ex*	x	12 59 23.0	
PRU				*ep*PKP	**pPKPdf**	**12 59 31.4**	**+0.5**
PRU				AMS	AMS	14 04 20.0	
	comp=Z,600nm,23.1s						
XRY	**Khrisi**	**147.30**	299	*e*P	**PKPbc**	**12 59 22.8**	**+0.4**
TREC	**Trest**	**147.35**	329	*e*PKIKP	**PKPdf**	**12 59 20.6**	**+0.9**
TREC				*e*		12 59 23.3	
TREC				*e*		12 59 32.4	
TREC				MLR	MLR		
	comp=Z,2µm,26.0s						
TREC	**Trest**	**147.35**	329	*e*PKP	**PKPdf**	**12 59 20.6**	**+0.9**
TREC				*ex*	x	12 59 23.3	
TREC				*ep*PKP	**pPKPdf**	**12 59 32.4**	**+1.3**
TREC				AMS	AMS	14 00 40.0	
	comp=Z,2µm,26.0s						
PKST	**T''s**	**147.40**	324	⇓*i*PKPdf	**PKPdf**	**12 59 23.0**	**+3.2**
LAST	**Lasithi**	**147.41**	299	P	**PKPdf**	**12 59 21.0**	**+0.7**
LAST	**Lasithi**	**147.41**	299	*e*P	**PKPbc**	**12 59 23.3**	**+0.5**
ESK	**Eskdalemuir**	**147.53**	353	*e*P	**PKPdf**	**12 59 19.0**	**-0.8**
ESK	**Eskdalemuir**	**147.53**	353	P	**PKPdf**	**12 59 19.0**	**-0.8**
ESK	**Eskdalemuir**	**147.53**	353	*e*PKHKP	PKPpre	12 59 17.9	
ESK				*e*		12 59 20.9	
ESK				*e*		12 59 22.7	
ESK	**Eskdalemuir**	**147.53**	353	*e*PKPdf	**PKPdf**	**12 59 17.9**	**-1.9**
ESK				*e*PKPbc	**PKPbc**	**12 59 20.9**	**-1.5**
ESK				*e*PKPab	**PKPab**	**12 59 22.7**	**-1.8**
CLZ	**Clausthal**	**147.54**	337	*e*PKPbc	**PKPbc**	**12 59 23.4**	**+0.8**
CLZ	**Clausthal**	**147.54**	337	*e*PKP2	**PKPbc**	**12 59 23.4**	**+0.8**
HORT	**Hortiatis**	**147.60**	310	P	**PKPbc**	**12 59 22.3**	**-0.9**
ECK	**Cauldkaine Hil**	**147.66**	353	*e*P	**PKPdf**	**12 59 20.1**	**+0.1**
ECK	**Cauldkaine Hil**	**147.66**	353	P	**PKPdf**	**12 59 20.1**	**+0.1**
PKS9	**Tamasi**	**147.68**	323	⇓*i*PKPdf	**PKPdf**	**12 59 23.8**	**+3.5**
VAY	**Valandovo**	**147.68**	312	⇑*i*P	**PKPdf**	**12 59 19.4**	**-1.0**
PKSM	**Moragy**	**147.70**	322	⇑PKP2	**PKPab**	**12 59 24.5**	**-1.0**
PKSM	**Moragy**	**147.70**	322	⇑*i*P	**PKPab**	**12 59 24.5**	**-1.0**
PKSM	**Moragy**	**147.70**	322	⇓*i*PKPdf	**PKPdf**	**12 59 24.0**	**+3.7**
ERET	**Eretria**	**147.84**	306	P	**PKPdf**	**12 59 20.6**	**-0.3**
TANN	**Tannenbergstha**	**147.87**	333	*e*PKPdf	**PKPdf**	**12 59 20.7**	**+0.1**
TANN				*e*PKPbc	**PKPbc**	**12 59 24.2**	**+0.7**
SOP	**Sopron**	**147.91**	326	⇓*i*PKPdf	**PKPdf**	**12 59 24.7**	**+4.1**
GRG	**Griva**	**147.94**	311	P	**PKPdf**	**12 59 21.8**	**+0.8**
SIVA	**Sivas**	**147.98**	299	*e*P	**PKPbc**	**12 59 24.7**	**+0.5**
NKC	**Novy Kostel**	**148.01**	333	*e*PKIKP	**PKPdf**	**12 59 21.4**	**+0.6**
NKC				*e*		12 59 25.1	
NKC				*e*		12 59 33.6	
NKC				MLR	MLR		
	comp=Z,700nm,19.1s						
NKC	**Novy Kostel**	**148.01**	333	*e*PKP	**PKPdf**	**12 59 21.4**	**+0.6**
NKC				*ex*	x	12 59 25.1	
NKC				*ep*PKP	**pPKPdf**	**12 59 33.6**	**+1.4**
NKC				AMS	AMS	14 11 30.0	
	comp=Z,700nm,19.1s						
MOX	**Moxa**	**148.03**	334	*e*PKPdf	**PKPdf**	**12 59 20.8**	**0.0**
MOX				*e*PKPbc	**PKPbc**	**12 59 24.4**	**+0.5**
MOX				*ep*PKPbc	**pPKPbc**	**12 59 33.3**	**-1.9**
MOX				*e*L	L	14 04 08.1	
	comp=Z,553nm,20.9s						
MOX	**Moxa**	**148.03**	334	*e*PKIKP	**PKPdf**	**12 59 20.8**	**0.0**
IBBN	**Ibbenburen**	**148.04**	340	*e*PKPdf	**PKPdf**	**12 59 20.9**	**+0.2**
IBBN				*e*PKPbc	**PKPbc**	**12 59 24.2**	**+0.4**
GCD	**Castle Douglas**	**148.06**	354	*e*P	**PKPdf**	**12 59 20.3**	**-0.3**
GCD	**Castle Douglas**	**148.06**	354	P	**PKPdf**	**12 59 20.3**	**-0.3**
DIVS	**Divibare**	**148.07**	318	P	**PKPdf**	**12 59 22.0**	**+0.9**
CONA	**Conrad Observa**	**148.10**	327	⇓*i*PKiKP	**PKiKP**	**12 59 25.4**	**-0.6**
	comp=Z,102nm,0.9s,SNR=32						
CSNA	**Conrad Observa**	**148.10**	327	⇓*i*PKiKP	**PKiKP**	**12 59 25.5**	**-0.5**
	comp=Z,99nm,0.9s						
RHK3	**Tenkes**	**148.11**	322	⇓*i*PKPdf	**PKPdf**	**12 59 25.1**	**+4.1**
GAL1	**Galloway**	**148.12**	355	*e*P	**PKPdf**	**12 59 20.1**	**-0.6**
GAL1				AMB	AMB	12 59 25.1	
	comp=Z,125nm,2.3s						
GAL1	**Galloway**	**148.12**	355	P	**PKPdf**	**12 59 20.1**	**-0.6**
GAL1				AMB	AMB	12 59 25.1	
	comp=Z,125nm,2.3s						
SKO	**Skopje**	**148.17**	314	⇑*i*P	**PKPbc**	**12 59 23.4**	**-1.2**
LIT	**Litokhoron**	**148.22**	310	P	**PKPdf**	**12 59 20.2**	**-1.2**
KESW	**Keswick, Cumbr**	**148.24**	353	*e*P	**PKPdf**	**12 59 21.2**	**+0.2**
KESW				AMB	AMB	12 59 26.3	
	comp=Z,137nm,2.6s						
KESW	**Keswick, Cumbr**	**148.24**	353	P	**PKPdf**	**12 59 21.2**	**+0.2**
KESW				AMB	AMB	12 59 26.3	
	comp=Z,137nm,2.6s						
NAIG	**Nisos Aigina**	**148.29**	305	*e*P	**PKPbc**	**12 59 23.8**	**-1.2**
ATAL	**Atalanti**	**148.34**	307	P	**PKPbc**	**12 59 24.7**	**-0.4**
KHC	**Kasperske Hory**	**148.34**	331	*e*PKIKP	**PKPdf**	**12 59 21.1**	**-0.3**
KHC				*e*		12 59 25.9	
KHC	**Kasperske Hory**	**148.34**	331	*e*PKPdf	**PKPdf**	**12 59 21.1**	**-0.3**
KHC				*e*PKPbc	**PKiKP**	**12 59 25.9**	**-0.6**
KHC	**Kasperske Hory**	**148.34**	331	*e*PKP	**PKPdf**	**12 59 21.5**	**+0.1**
KHC				*ex*	x	12 59 25.9	
KHC				*ep*PKP	**pPKPdf**	**12 59 34.5**	**+1.7**
KHC				AMS	AMS	14 12 10.0	
	comp=Z,600nm,20.8s						
VAM	**Vamos**	**148.38**	300	*e*P	**PKPbc**	**12 59 26.3**	**+1.0**
ROTZ	**Rotzenmuhle**	**148.47**	333	*e*PKPbc	**PKPbc**	**12 59 25.9**	**+0.8**
GEC2	**GERESS Array S**	**148.49**	330	*e*PKPdf	**PKPdf**	**12 59 21.5**	**-0.2**
GEC2				*e*PKPbc	**PKPbc**	**12 59 25.8**	**+0.5**
GEC2	**GERESS Array S**	**148.49**	330	*e*PKIKP	**PKPdf**	**12 59 21.5**	**-0.2**
GERES	**GERESS Array B**	**148.49**	330	PKP	**PKPdf**	**12 59 21.9**	**+0.2**
GERES				PKPbc	**PKiKP**	**12 59 26.1**	**-0.7**
GERES	**GERESS Array B**	**148.49**	330	PKP	**PKPdf**	**12 59 21.9**	**+0.2**
	comp=Z,52nm,0.8s,baz=107,slow=1.4,SNR=51						
GERES				PKPbc	**PKiKP**	**12 59 26.1**	**-0.7**
	comp=Z,52nm,0.8s,baz=35,slow=2.4,SNR=222						
UBBA	**Unterbreizbach**	**148.51**	336	*e*PKPdf	**PKPdf**	**12 59 21.8**	**+0.4**
UBBA				*e*PKPbc	**PKiKP**	**12 59 26.0**	**-0.5**
DID	**Didima**	**148.56**	305	P	**PKPdf**	**12 59 23.9**	**+1.8**
BEHE	**Becsehely**	**148.57**	324	⇓*i*PKPdf	**PKPbc**	**12 59 26.5**	**+1.1**
DIDY	**Didyma**	**148.59**	305	P	**PKPbc**	**12 59 24.1**	**-1.8**
GVD	**Gavdhos**	**148.60**	299	*e*PKPdf	**PKPdf**	**12 59 21.9**	**-0.3**
GVD				*e*PKPbc	**PKPbc**	**12 59 26.2**	**+0.3**
GVD				*e*PKPab	**PKPab**	**12 59 29.6**	**+0.1**
GVD	**Gavdhos**	**148.60**	299	P	**PKPdf**	**12 59 22.7**	**+0.5**
GVD	**Gavdhos**	**148.60**	299	*e*P	**PKPdf**	**12 59 24.0**	**+1.8**
LTK	**Loutraki**	**148.60**	306	P	**PKPdf**	**12 59 21.1**	**-1.0**
KARN	**Karanos**	**148.60**	300	P	**PKPdf**	**12 59 20.6**	**+1.4**
KARN	**Karanos**	**148.60**	300	*e*P	**PKPbc**	**12 59 26.1**	**+0.2**
WTSB	**Winterswijk**	**148.63**	341	*e*PKP	**PKPdf**	**12 59 22.4**	**+0.7**
WET	**Wettzell**	**148.65**	331	*e*PKPdf	**PKPdf**	**12 59 21.4**	**-0.4**
WET				*e*PKPbc	**PKPbc**	**12 59 26.2**	**+0.6**
WET	**Wettzell**	**148.65**	331	*e*PKP2	**PKPbc**	**12 59 26.2**	**+0.6**
BIA	**Bitola**	**148.66**	312	*i* P	**PKPbc**	**12 59 25.7**	**-0.2**
ARSA	**Arzberg**	**148.72**	326	⇓*i*PKiKP	**PKPbc**	**12 59 26.4**	**+0.6**
	comp=Z,102nm,2.1s,SNR=13						
FNA	**Florina**	**148.72**	312	P	**PKPdf**	**12 59 20.5**	**-1.8**
IVA	**Berane**	**148.75**	316	⇓*i*PKP	**PKPbc**	**12 59 26.8**	**+0.7**
DESF	**Desfina**	**148.80**	307	P	**PKPbc**	**12 59 25.0**	**-1.4**
GMM	**Mts of Mourne**	**148.84**	356	*e*P	**PKPdf**	**12 59 21.3**	**-0.6**
GMM	**Mts of Mourne**	**148.84**	356	P	**PKPdf**	**12 59 21.3**	**-0.6**
PLE	**Pljevlja**	**148.84**	317	⇓*i*PKP	**PKPbc**	**12 59 26.7**	**+0.3**
PVY	**Plav**	**148.85**	316	⇓*i*PKP	**PKPbc**	**12 59 26.9**	**+0.4**
MAKR	**Makrakomi, Fth**	**148.88**	308	P	**PKPdf**	**12 59 22.2**	**-0.4**
GRF	**Grafenberg Arr**	**148.93**	334	*e*PKPdf	**PKPdf**	**12 59 22.0**	**-0.3**
GRF				*e*PKPbc	**PKPbc**	**12 59 26.8**	**+0.5**
GRF				*ep*PKPbc	**pPKPbc**	**12 59 34.7**	**-2.9**
GRF				*e*L	L	14 04 47.3	
	comp=Z,513nm,20.8s						
GRF	**Grafenberg Arr**	**148.93**	334	*e*PKIKP	**PKPdf**	**12 59 22.0**	**-0.3**
GRFO	**Grafenberg**	**148.93**	334	*e*PKP2	**PKPbc**	**12 59 27.1**	**+0.8**
GRFO	**Grafenberg**	**148.93**	334	*e*PKPbc	**PKPbc**	**12 59 27.1**	**+0.8**
MOA	**Molln**	**148.94**	328	⇓*i*PKiKP	**PKiKP**	**12 59 27.2**	**-0.5**
	comp=Z,45nm,0.7s,SNR=24						
BUG	**Bochum--Univer**	**148.94**	340	*e*PKPbc	**PKPbc**	**12 59 26.5**	**+0.3**
KALE	**Kalithea**	**149.09**	307	P	**PKPdf**	**12 59 23.2**	**+0.2**
GUR	**Goura**	**149.10**	306	P	**PKPbc**	**12 59 27.1**	**-0.1**
UPM	**Unac-Piva**	**149.21**	317	⇓*i*PKP	**PKPbc**	**12 59 27.3**	**+0.1**
MEV	**Metsovon**	**149.23**	310	P	**PKPbc**	**12 59 29.0**	**+1.4**
GROS	**Grobnik**	**149.25**	325	*i* PKPdf	**PKPdf**	**12 59 22.5**	**-0.4**
GROS				*i* PKPbc	**PKPbc**	**12 59 27.6**	**+0.3**
GROS				*i* PKPab	**PKPab**	**12 59 35.8**	**+4.0**
EFP	**Efpalio**	**149.25**	307	P	**PKPdf**	**12 59 24.2**	**+1.1**
LAKA	**Lakka**	**149.26**	307	P	**PKPdf**	**12 59 20.6**	**-2.6**
SOKA	**Soboth**	**149.35**	326	⇓*i*PKiKP	**PKiKP**	**12 59 28.1**	**-0.5**
	comp=Z,121nm,1.1s						
NKY	**Niksic**	**149.35**	317	⇓*i*PKP	**PKPbc**	**12 59 28.2**	**+0.5**
TTG	**Podgorica**	**149.38**	316	⇓*i*PKP	**PKPbc**	**12 59 28.0**	**+0.4**
TIR	**Tirane**	**149.50**	313	*e*PKIKP	**PKPdf**	**12 59 22.5**	**-1.0**
TIR				*e*		12 59 29.0	
TIR				*e*		12 59 31.9	
TIR	**Tirane**	**149.50**	313	*e*PKPdf	**PKPdf**	**12 59 22.4**	**-1.0**
TIR				*e*PKPbc	**PKiKP**	**12 59 29.0**	**0.0**
TIR				*e*PKPab	**PKPab**	**12 59 31.9**	**-1.0**
WME	**Myndd Eilian**	**149.54**	354	*e*P	**PKPdf**	**12 59 23.2**	**+0.1**
WME	**Myndd Eilian**	**149.54**	354	P	**PKPdf**	**12 59 23.2**	**+0.1**
JAN	**Janina**	**149.55**	310	*e*P	**PKPbc**	**12 59 29.0**	**+0.8**
TNS	**Taunus Mts**	**149.57**	337	*e*PKPbc	**PKPbc**	**12 59 28.5**	**+0.6**
TNS	**Taunus Mts**	**149.57**	337	*e*PKP2	**PKPbc**	**12 59 28.5**	**+0.6**
BRY	**Bratogost**	**149.60**	317	⇓*i*PKP	**PKPbc**	**12 59 28.5**	**+0.2**
ULC	**Ulcinj**	**149.62**	315	⇓*i*PKP	**PKPbc**	**12 59 28.6**	**+0.3**
WPM1	**Penmaenmawr**	**149.64**	353	*e*P	**PKPdf**	**12 59 22.8**	**-0.4**
WPM1	**Penmaenmawr**	**149.64**	353	P	**PKPdf**	**12 59 22.8**	**-0.4**
WLF1	**Llynfaes**	**149.66**	354	*e*P	**PKPdf**	**12 59 23.3**	**0.0**
WLF1				AMB	AMB	12 59 29.3	
	comp=Z,156nm,5.2s						
WLF1	**Llynfaes**	**149.66**	354	P	**PKPdf**	**12 59 23.3**	**0.0**
WLF1				AMB	AMB	12 59 29.3	
	comp=Z,156nm,5.2s						
BUM	**Brajici-Budva**	**149.68**	316	⇓*i*PKP	**PKPbc**	**12 59 28.8**	**+0.3**
RLS	**Riolos of Patr**	**149.71**	307	*e*P	**PKPbc**	**12 59 29.3**	**+0.8**
OBKA	**Obir**	**149.71**	326	⇓*i*PKiKP	**PKPbc**	**12 59 28.7**	**+0.3**
	comp=Z,64nm,1.0s,SNR=15						
RJOB	**Jochberg**	**149.71**	330	*e*PKPbc	**PKPbc**	**12 59 28.3**	**-0.1**
YLL	**Llanberis**	**149.78**	354	*e*P	**PKPdf**	**12 59 23.2**	**-0.3**
YLL	**Llanberis**	**149.78**	354	P	**PKPdf**	**12 59 23.2**	**-0.3**
DLF	**Lyons Farm**	**149.81**	357	*e*P	**PKPdf**	**12 59 22.1**	**-1.4**
HCY	**Herceg Novi**	**149.86**	316	⇓*i*PKP	**PKPbc**	**12 59 28.7**	**-0.1**
FOEL	**Foel Wylfa**	**149.92**	352	*e*P	**PKPdf**	**12 59 24.1**	**+0.4**
FOEL				AMB	AMB	12 59 29.7	
	comp=Z,148nm,2.0s						
FOEL	**Foel Wylfa**	**149.92**	352	P	**PKPdf**	**12 59 24.1**	**+0.4**
FOEL				AMB	AMB	12 59 29.7	
	comp=Z,148nm,2.0s						
KBA	**Koelnbreinsper**	**149.92**	328	⇓*i*PKiKP	**PKPbc**	**12 59 29.1**	**+0.1**
	comp=Z,138nm,1.1s,SNR=33						
HGN	**Heimansgroeve**	**149.95**	340	*e*PKP	**PKPbc**	**12 59 28.4**	**-0.3**
TOD	**Tromm**	**149.95**	336	PKP	**PKPdf**	**12 59 24.6**	**+0.7**
BEBN	**Eben Emael**	**150.00**	341	PKPbc	**PKPbc**	**12 59 29.9**	**+1.1**
BEBN				PKPab	**PKPab**	**12 59 37.7**	**+3.1**
BOJS	**Bojanci**	**150.00**	324	*i* PKPdf	**PKPdf**	**12 59 24.0**	**0.0**
BOJS				*i* PKPbc	**PKiKP**	**12 59 30.1**	**+0.2**
BOJS				*i* PKPab	**PKPab**	**12 59 39.2**	**+4.4**
LJU	**Ljubljana**	**150.03**	326	*i* PKPdf	**PKPdf**	**12 59 23.9**	**-0.3**
LJU				*i* PKPbc	**PKiKP**	**12 59 30.1**	**0.0**
LJU				*i* PKPab	**PKPab**	**12 59 39.0**	**+4.1**
MEM	**Membach**	**150.06**	340	PKPbc	**PKPbc**	**12 59 29.7**	**+0.7**
MEM				PKPab	**PKPab**	**12 59 33.6**	**-1.3**
MEM				APKP	**pPKPdf**	**12 59 41.9**	**+6.5**
FUR	**Furstenfeldbru**	**150.08**	332	*e*PKPdf	**PKPdf**	**12 59 24.1**	**-0.1**
FUR				*e*PKPbc	**PKPbc**	**12 59 29.6**	**+0.4**
FUR	**Furstenfeldbru**	**150.08**	332	*e*PKIKP	**PKPdf**	**12 59 24.1**	**-0.1**
MYKA	**Terra Mystica**	**150.09**	327	⇓*i*PKPbc	**PKPbc**	**12 59 29.4**	**+0.1**
	comp=Z,84nm,0.7s						
ABH	**Alteburg**	**150.17**	338	PKP	**PKPdf**	**12 59 25.3**	**+1.0**
VOY	**Vojsko**	**150.37**	326	*e*PKPdf	**PKPdf**	**12 59 24.7**	**-0.1**
VOY				*e*PKPbc	**PKPbc**	**12 59 30.2**	**+0.2**
JAVS	**Javornik**	**150.38**	326	*i* PKPdf	**PKPdf**	**12 59 23.7**	**-1.1**
JAVS				*i* PKPbc	**PKPbc**	**12 59 30.2**	**+0.1**
JAVS				*i* PKPab	**PKPab**	**12 59 39.4**	**+2.9**
UCC	**Uccle**	**150.38**	342	PKPbc	**PKPbc**	**12 59 31.1**	**+1.4**
BCLA	**Clavier**	**150.44**	341	PKPbc	**PKPbc**	**12 59 30.6**	**+0.7**
BCLA				PKPab	**PKPab**	**12 59 38.2**	**+1.8**
STU	**Stuttgart**	**150.47**	335	*e*PKIKP	**PKPdf**	**12 59 25.4**	**+0.7**
STU				*e*		12 59 30.8	
STU				*e*		12 59 35.4	
STU	**Stuttgart**	**150.47**	335	*e*PKPdf	**PKPdf**	**12 59 25.4**	**+0.7**
STU				*e*PKPbc	**PKiKP**	**12 59 30.8**	**0.0**
STU				*e*PKPab	**PKPab**	**12 59 35.4**	**-1.3**
RUP	**Ruppelstein**	**150.49**	338	PKIKP	**PKPdf**	**12 59 25.9**	**+1.1**
RUP	**Ruppelstein**	**150.49**	338	PKP	**PKPdf**	**12 59 25.9**	**+1.1**
ABTA	**Abfaltersbach**	**150.56**	328	⇓*i*PKiKP	**PKPbc**	**12 59 30.5**	**+0.1**
	comp=Z,132nm,0.7s,SNR=51						
WATA	**Walderalm**	**150.57**	330	⇓*i*PKiKP	**PKiKP**	**12 59 31.0**	**-0.3**
	comp=Z,169nm,1.1s,SNR=25						
SNF	**Seneffe**	**150.66**	342	PKPbc	**PKPbc**	**12 59 31.2**	**+0.8**
SNF				PKPab	**PKPab**	**12 59 40.1**	**+2.8**
MCH1	**Michaelchurch**	**150.77**	352	*e*P	**PKPdf**	**12 59 25.1**	**+0.1**
MCH1				AMB	AMB	12 59 31.4	
	comp=Z,112nm,1.4s						
MCH1	**Michaelchurch**	**150.77**	352	P	**PKPdf**	**12 59 25.1**	**+0.1**
MCH1				AMB	AMB	12 59 31.4	
	comp=Z,112nm,1.4s						
MOTA	**Moosalm**	**150.78**	331	⇓*i*PKiKP	**PKiKP**	**12 59 31.4**	**-0.2**
	comp=Z,233nm,0.9s,SNR=57						
RETA	**Reutte**	**150.82**	331	⇓*i*PKiKP	**PKiKP**	**12 59 31.6**	**-0.1**
	comp=Z,95nm,1.0s,SNR=37						
WLF	**Walferdange**	**150.83**	339	PKPbc	**PKPbc**	**12 59 32.4**	**+1.4**
WLF				PKPab	**PKPab**	**12 59 36.1**	**-2.0**
WLF				E		12 59 40.9	
WLF	**Walferdange**	**150.83**	339	*e*PKPdf	**PKPdf**	**12 59 25.5**	**+0.3**
WLF				*e*PKPbc	**PKiKP**	**12 59 31.9**	**+0.4**
WLF	**Walferdange**	**150.83**	339	*e*PKIKP	**PKPbc**	**12 59 32.3**	**+1.4**
WLF				*e*		12 59 37.2	
WLF	**Walferdange**	**150.83**	339	*e*PKPbc	**PKPbc**	**12 59 32.3**	**+1.4**
WLF				*e*PKPab	**PKPab**	**12 59 37.2**	**-0.8**
LANF	**Langenberg**	**150.83**	336	PKIKP	**PKPdf**	**12 59 26.3**	**+1.0**
LANF	**Langenberg**	**150.83**	336	PKP	**PKPdf**	**12 59 26.3**	**+1.0**
LANF	**Langenberg**	**150.83**	336	PKP	**PKPdf**	**12 59 26.3**	**+1.0**
GIVF	**Givet**	**150.87**	341	*e*PKIKP	**PKPdf**	**12 59 25.5**	**+0.2**
GIVF	**Givet**	**150.87**	341	*e*PKIKP	**PKPdf**	**12 59 25.5**	**+0.2**
GIVF	**Givet**	**150.87**	341	*e*PKPdf	**PKPdf**	**12 59 25.5**	**+0.2**
DOU	**Dourbes**	**150.94**	341	PKP	**PKPdf**	**12 59 26.4**	**+1.0**
DOU				PKPbc	**PKiKP**	**12 59 32.0**	**+0.3**
DOU				PKPab	**PKPab**	**12 59 40.4**	**+1.9**
DOU				APKP	pPKPdf	12 59 44.5	+7.7
BAIF	**Baives**	**151.09**	342	*e*PKIKP	**PKPdf**	**12 59 25.8**	**+0.2**
	comp=Z,32nm,1.2s						
BAIF	**Baives**	**151.09**

MBDF	**Montbardon**	**154.71**	**332**	*e*PKIKP	**PKPdf**	**12**	**59**	**31.3 0.0**
MBDF	**Montbardon**	**154.71**	**332**	*e*PKPdf	**PKPdf**	**12**	**59**	**31.3 0.0**
QUIF	**Quistinic**	**154.78**	**350**	*e*PKIKP	**PKPdf**	**12**	**59**	**30.6 -0.4**
QUIF	**Quistinic**	**154.78**	**350**	*e*PKIKP	**PKPdf**	**12**	**59**	**30.6 -0.4**
QUIF	**Quistinic**	**154.78**	**350**	*e*PKPdf	**PKPdf**	**12**	**59**	**30.6 -0.4**
PLDF	**La Plantade**	**154.89**	**338**	PKIKP	**PKPdf**	**12**	**59**	**32.0 +0.6**
PLDF	**La Plantade**	**154.89**	**338**	PKP	**PKPdf**	**12**	**59**	**32.0 +0.6**
PLDF	**La Plantade**	**154.89**	**338**	PKP	**PKPdf**	**12**	**59**	**32.0 +0.6**
AGO	**Saint Agoulin**	**154.98**	**339**	PKP	**PKPdf**	**12**	**59**	**32.1 +0.6**
AGO	**Saint Agoulin**	**154.98**	**339**	PKP	**PKPdf**	**12**	**59**	**32.1 +0.6**
TCF	**Toulx Ste Croi**	**155.06**	**341**	*e*PKIKP	**PKPdf**	**12**	**59**	**31.7 +0.1**
	comp=Z,120nm,1.5s							
TCF	**Toulx Ste Croi**	**155.06**	**341**	*e*PKIKP	**PKPdf**	**12**	**59**	**31.7 +0.1**
TCF	**Toulx Ste Croi**	**155.06**	**341**	*e*PKPdf	**PKPdf**	**12**	**59**	**31.7 +0.1**
SBF	**Sospel**	**155.10**	**330**	*e*PKIKP	**PKPdf**	**12**	**59**	**32.2 +0.5**
SBF	**Sospel**	**155.10**	**330**	*e*PKIKP	**PKPdf**	**12**	**59**	**32.2 +0.5**
SBF	**Sospel**	**155.10**	**330**	*e*PKPdf	**PKPdf**	**12**	**59**	**32.2 +0.5**
PYM	**Petit Puy Mans**	**155.28**	**339**	PKIKP	**PKPdf**	**12**	**59**	**32.8 +0.8**
PYM	**Petit Puy Mans**	**155.28**	**339**	PKP	**PKPdf**	**12**	**59**	**32.8 +0.8**
PYM	**Petit Puy Mans**	**155.28**	**339**	PKP	**PKPdf**	**12**	**59**	**32.8 +0.8**
MFF	**Saint Martin d**	**155.42**	**345**	*e*PKIKP	**PKPdf**	**12**	**59**	**32.1 +0.1**
	comp=Z,117nm,1.4s							
MFF	**Saint Martin d**	**155.42**	**345**	*e*PKIKP	**PKPdf**	**12**	**59**	**32.1 +0.1**
MFF	**Saint Martin d**	**155.42**	**345**	*e*PKPdf	**PKPdf**	**12**	**59**	**32.1 +0.1**
VIVF	**Saint-Julien-l**	**155.46**	**335**	*e*PKIKP	**PKPdf**	**12**	**59**	**32.0 -0.2**
VIVF	**Saint-Julien-l**	**155.46**	**335**	*e*PKIKP	**PKPdf**	**12**	**59**	**32.0 -0.2**
VIVF	**Saint-Julien-l**	**155.46**	**335**	*e*PKPdf	**PKPdf**	**12**	**59**	**32.0 -0.2**
LBL	**Lubilhac**	**155.66**	**338**	PKIKP	**PKPdf**	**12**	**59**	**33.4 +0.9**
LBL	**Lubilhac**	**155.66**	**338**	PKP	**PKPdf**	**12**	**59**	**33.4 +0.9**
LBL	**Lubilhac**	**155.66**	**338**	PKP	**PKPdf**	**12**	**59**	**33.4 +0.9**
SMRF	**Simiane la Rot**	**155.83**	**333**	*e*PKIKP	**PKPdf**	**12**	**59**	**32.9 +0.2**
SMRF	**Simiane la Rot**	**155.83**	**333**	*e*PKPdf	**PKPdf**	**12**	**59**	**32.9 +0.2**
LMR	**La Mourre**	**155.93**	**331**	*e*PKIKP	**PKPdf**	**12**	**59**	**33.1 +0.3**
LMR	**La Mourre**	**155.93**	**331**	*e*PKIKP	**PKPdf**	**12**	**59**	**33.1 +0.3**
LMR	**La Mourre**	**155.93**	**331**	*e*PKPdf	**PKPdf**	**12**	**59**	**33.1 +0.3**
RJF	**Les Rejaudoux**	**156.16**	**341**	*e*PKIKP	**PKPdf**	**12**	**59**	**33.3 +0.3**
	comp=Z,139nm,1.8s							
RJF				*e*R				
	comp=Z,1μm,20.5s							
RJF	**Les Rejaudoux**	**156.16**	**341**	*e*PKIKP	**PKPdf**	**12**	**59**	**33.3 +0.3**
RJF	**Les Rejaudoux**	**156.16**	**341**	*e*PKPdf	**PKPdf**	**12**	**59**	**33.3 +0.3**
CAF	**Calviac**	**156.32**	**339**	*e*PKIKP	**PKPdf**	**12**	**59**	**33.8 +0.5**
	comp=Z,74nm,1.6s							
CAF	**Calviac**	**156.32**	**339**	*e*PKIKP	**PKPdf**	**12**	**59**	**33.8 +0.5**
CAF	**Calviac**	**156.32**	**339**	*e*PKPdf	**PKPdf**	**12**	**59**	**33.8 +0.5**
EPF	**Esparros**	**158.57**	**340**	*e*PKIKP	**PKPdf**	**12**	**59**	**36.3 +0.1**
	comp=Z,69nm,1.5s							
EPF	**Esparros**	**158.57**	**340**	*e*PKIKP	**PKPdf**	**12**	**59**	**36.3 +0.1**
EPF	**Esparros**	**158.57**	**340**	*e*PKPdf	**PKPdf**	**12**	**59**	**36.3 +0.1**
ETSF	**Etsaut**	**158.97**	**342**	*e*PKIKP	**PKPdf**	**12**	**59**	**37.2 +0.5**
ETSF	**Etsaut**	**158.97**	**342**	*e*PKIKP	**PKPdf**	**12**	**59**	**37.2 +0.5**
ETSF	**Etsaut**	**158.97**	**342**	*e*PKPdf	**PKPdf**	**12**	**59**	**37.2 +0.5**
KEST	**Kesra**	**159.44**	**312**	PKPab	**PKPab**	**13**	**00**	**14.8 -0.6**
KEST	**Kesra**	**159.44**	**312**	PKPab	**PKPab**	**13**	**00**	**14.8 -0.6**
	comp=Z,4.4nm,1.2s,baz=360,slow=3.9,SNR=3.9							
PGAV	**Gavieira, Arco**	**161.20**	**357**	*e*PKPdf	**PKPdf**	**12**	**59**	**39.4 +0.1**
PGAV				*e*LR	LR	14	03	46.3
	comp=Z,1μm,20.0s							
POLO	**Lamas de Olo**	**161.77**	**356**	*e*PKPdf	**PKPdf**	**12**	**59**	**40.6 +0.7**
POLO	**Lamas de Olo**	**161.77**	**356**	*e*PKPab	**PKPab**	**13**	**00**	**25.7 +0.5**
PVRL	**Vila Real**	**161.86**	**356**	*e*PKPab	**PKPab**	**13**	**00**	**25.9 +0.3**
MVO	**Moncorvo**	**161.92**	**354**	*e*PKPdf	**PKPdf**	**12**	**59**	**38.8 -1.2**
MVO				*e*LR	LR	14	02	31.2
	comp=Z,866nm,18.0s							
PVIS	**Viseu**	**162.43**	**356**	*e*PKPdf	**PKPdf**	**12**	**59**	**41.3 +0.8**
PVIS	**Viseu**	**162.43**	**356**	*e*PKPab	**PKPab**	**13**	**00**	**29.2 +1.1**
LIC	**Lamto**	**162.66**	**195**	*e*PKIKP	**PKPdf**	**12**	**59**	**40.6 -0.9**
	comp=Z,68nm,1.4s							
LIC				*e*R				
	comp=Z,3μm,23.0s							
LIC	**Lamto**	**162.66**	**195**	*e*PKPdf	**PKPdf**	**12**	**59**	**40.6 -0.9**
MTE	**Manteigas**	**162.72**	**355**	*e*LR	LR	14	06	27.2
ESDC	**Sonseca Array**	**162.88**	**346**	PKP	**PKPdf**	**12**	**59**	**40.7 -0.3**
ESDC				PKPab	**PKPab**	**13**	**00**	**29.5 -0.6**
ESDC	**Sonseca Array**	**162.88**	**346**	PKP	**PKPdf**	**12**	**59**	**40.7 -0.3**
	comp=Z,0.2nm,0.3s,baz=318,slow=26,SNR=4.7							
ESDC				PKPab	**PKPab**	**13**	**00**	**29.5 -0.6**
	comp=Z,2.9nm,0.8s,baz=7.2,slow=3.8,SNR=7.9							
DBIC	**Dimbokro**	**163.04**	**196**	PKP	**PKPdf**	**12**	**59**	**41.2 -0.7**
DBIC				PKPab	**PKPab**	**13**	**00**	**30.8 -0.5**
DBIC	**Dimbokro**	**163.04**	**196**	PKP	**PKPdf**	**12**	**59**	**41.2 -0.7**
	comp=Z,6.0nm,1.1s,baz=80,slow=6.8,SNR=4.2							
DBIC				PKPab	**PKPab**	**13**	**00**	**30.8 -0.5**
	comp=Z,18nm,1.0s,baz=130,slow=4.7,SNR=9.9							
PCBR	**Castelo Branco**	**163.27**	**355**	*e*PKPdf	**PKPdf**	**12**	**59**	**41.4 +0.1**
PCBR	**Castelo Branco**	**163.27**	**355**	*e*PKPab	**PKPab**	**13**	**00**	**31.9 +0.2**
PTOM	**Tomar**	**163.55**	**357**	*e*PKPdf	**PKPdf**	**12**	**59**	**41.7 +0.1**
PTOM	**Tomar**	**163.55**	**357**	*i* PKPab	**PKPab**	**13**	**00**	**33.2 +0.3**
PMRV	**Marv??o**	**163.67**	**354**	*e*PKPdf	**PKPdf**	**12**	**59**	**39.0 -2.7**
PMRV	**Marv??o**	**163.67**	**354**	*i* PKPab	**PKPab**	**13**	**00**	**37.1 +3.6**
PMRV				*e*LR	LR	14	07	04.3
	comp=Z,728nm,22.0s							
PMTG	**Montargil**	**164.09**	**357**	*e*PKPdf	**PKPdf**	**12**	**59**	**42.6 +0.5**
PMTG	**Montargil**	**164.09**	**357**	*i* PKPab	**PKPab**	**13**	**00**	**34.0 -1.3**
PESTR	**Estremoz**	**164.25**	**355**	*e*PKPdf	**PKPdf**	**12**	**59**	**42.0 -0.2**
PESTR	**Estremoz**	**164.25**	**355**	*i* PKPab	PKPab	13	00	27.7 -8.3
LIS	**Lisbon**	**164.47**	**359**	*e*P	**PKPdf**	**12**	**59**	**40.7 -1.7**
LIS				*e*PP	**PP**	**13**	**04**	**22.7 +0.7**
LIS				AMS	AMS	14	14	02.2
	comp=Z,1μm,22.8s							
LIS	**Lisbon**	**164.47**	**359**	*e*PP	PP	13	04	22.7 +0.6
LIS				A	A	14	14	02.3
	comp=Z,1μm,22.8s							
LIS	**Lisbon**	**164.47**	**359**	*e*PKIKP	**PKPdf**	**12**	**59**	**40.7 -1.7**
LIS				*e*		13	04	22.7
EVO	**Evora**	**164.61**	**356**	*e*PKIKP	**PKPdf**	**12**	**59**	**41.9 -0.7**
	comp=Z,115nm,1.7s							
EVO				*e*R				
	comp=Z,2μm,22.2s							
EVOP	**Sao Brissos**	**164.62**	**356**	*e*PKIKP	**PKPdf**	**12**	**59**	**41.9 -0.6**
EVOP	**Sao Brissos**	**164.62**	**356**	*e*PKPdf	**PKPdf**	**12**	**59**	**41.9 -0.6**
PNCL	**Nicolau / Gran**	**165.06**	**357**	*e*PKPdf	**PKPdf**	**12**	**59**	**43.2 +0.3**
PBEJ	**Beja**	**165.10**	**355**	*e*PKPdf	**PKPdf**	**12**	**59**	**43.2 +0.2**
PBEJ	**Beja**	**165.10**	**355**	*e*PKPab	**PKPab**	**13**	**00**	**40.1 +0.3**
MESJ	**Messejana**	**165.31**	**356**	*e*P	**PKPdf**	**12**	**59**	**42.7 -0.5**
MESJ				*e*PP	**PP**	**13**	**04**	**27.2 +0.7**
MESJ				AMS	AMS	14	08	41.8
	comp=Z,1μm,26.5s							
MESJ	**Messejana**	**165.31**	**356**	*e*PP	PP	13	04	27.2 +0.7
MESJ				A	A	14	08	41.8
	comp=Z,1μm,26.5s							
MESJ	**Messejana**	**165.31**	**356**	*e*PKIKP	**PKPdf**	**12**	**59**	**42.7 -0.5**
MESJ				*e*		13	04	27.2
TORD	**Torodi Ar. Bea**	**165.50**	**229**	PKP	**PKPdf**	**12**	**59**	**43.6 -0.4**
TORD				PKPab	**PKPab**	**13**	**00**	**41.9 -0.4**
TORD				PP	**PP**	**13**	**04**	**31.9 +3.2**
TORD	**Torodi Ar. Bea**	**165.50**	**229**	PKP	**PKPdf**	**12**	**59**	**43.6 -0.4**
	comp=Z,8.4nm,1.0s,baz=70,slow=1.7,SNR=35							
TORD				PKPab	**PKPab**	**13**	**00**	**41.9 -0.4**
	comp=Z,13nm,1.1s,baz=127,slow=4.2,SNR=10.0							
TORD				PP	**PP**	**13**	**04**	**31.9 +3.2**
	comp=Z,3.3nm,1.1s,baz=145,slow=5.4,SNR=3.8							
PCVE	**Castro Verde**	**165.51**	**356**	*e*PKPdf	**PKPdf**	**12**	**59**	**43.7 +0.4**
PCVE	**Castro Verde**	**165.51**	**356**	*e*PKPab	PKPab	13	00	30.3 -11
PTEO	**Sao Teotonio**	**165.63**	**358**	*e*PKPdf	**PKPdf**	**12**	**59**	**43.8 +0.4**
PTEO	**Sao Teotonio**	**165.63**	**358**	*e*PKPab	**PKPab**	**13**	**00**	**43.2 +1.1**
PVAQ	**Vaqueiros**	**165.71**	**354**	*e*PKPdf	**PKPdf**	**12**	**59**	**42.0 -1.5**
PVAQ	**Vaqueiros**	**165.71**	**354**	*e*PKPab	**PKPab**	**13**	**00**	**42.6 +0.1**
MORF	**Marmelete**	**165.87**	**357**	*e*PKPdf	**PKPdf**	**12**	**59**	**44.1 +0.4**
MORF	**Marmelete**	**165.87**	**357**	*e*PKPab	**PKPab**	**13**	**00**	**43.2 -0.1**
MORF	**Marmelete**	**165.87**	**357**	*e*PKIKP	**PKPdf**	**12**	**59**	**42.8 -0.9**
PBDV	**Barranco-do-Ve**	**165.89**	**355**	*e*PKPdf	**PKPdf**	**12**	**59**	**44.8 +1.1**
PBDV	**Barranco-do-Ve**	**165.89**	**355**	*e*PKPab	**PKPab**	**13**	**00**	**40.8 -2.5**

*ISCJB **24** 12:40:50.5±0.5, 0.°02S±0.°05×126.°67E±0.°04, h73km, mb4.3/5, Error ellipse: s-maj=8.1km s-min=5.6km az=23.1*
*DJA **24** 12:40:51.1±0.9, 0.°N±3.°×12.°7E±.°, h22km±16km, M4.0/4, mb4.4/2, MLv3.9/4*
*IDC **24** 12:40:53.0±8.8, 0.°15S×126.°53E, h70km±83km, mb3.6/4, mb1 3.9/5, mb1mx3.5/21, mbtmp3.7/5, ML3.8/1, Error ellipse: s-maj=61.4km s-min=21.2km az=52.0*

ISC 24 12:40:51.8±0.9, 0.°02S±0.°06×126.°68E±0.°05, h73km, n12, σ1°§47/17, mb3.7/5, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.03**	**127**	P	**Pn**	**12 41 10.2**	**-0.7**
LBMI				S	**Sn**	**12 41 24.5**	**-0.6**
TNTI	**Ternate**	**1.04**	**41**	P	**Pn**	**12 41 09.5**	**-1.5**
TNTI				S	**Sn**	**12 41 24.5**	**-0.8**
MNI	**Manado**	**2.34**	**308**	P	**Pn**	**12 41 27.6**	**-0.6**
MNI				S	**Sn**	**12 41 55.1**	**-0.9**
KMSI	**Cibinong**	**2.76**	**282**	P	**Pn**	**12 41 33.3**	**-0.5**
KMSI				S	**Sn**	**12 42 05.7**	**-0.5**
TTSI	**Tana Toraja**	**7.49**	**246**	P	**Pn**	**12 42 39.5**	**+1.1**
	16nm,1.4s						
SPSI	**Sidrap Palu**	**7.94**	**240**	P	**Pn**	**12 42 45.8**	**+1.2**
KAPI	**Kappang**	**8.52**	**234**	P	**Pn**	**12 42 51.9**	**-0.6**
	1.2nm,0.3s,baz=255,slow=9.5,SNR=6.6						
KAPI				S	**Sn**	**12 44 22.9**	**-4.2**
	1.6nm,0.3s,baz=171,slow=23,SNR=6.9						
WRA	**Warramunga Arr**	**21.18**	**160**	P	**P**	**12 45 31.6**	**+0.2**
	0.7nm,0.3s,baz=339,slow=11,SNR=19						
ASAR	**Alice Springs**	**24.54**	**164**	P	**P**	**12 46 06.0**	**+1.2**
	1.5nm,0.5s,baz=343,slow=11,SNR=16						
FORT	**Forrest**	**30.62**	**178**	*e*P	**P**	**12 46 58.9**	**-0.3**
	235nm,0.8s						
STKA	**Stephens Creek**	**34.69**	**157**	P	**P**	**12 47 35.3**	**+0.6**
	11nm,1.0s,baz=332,slow=9.9,SNR=4.4						
MKAR	**Makanchi Array**	**60.61**	**327**	P	**P**	**12 50 56.6**	**+1.6**
	0.2nm,0.3s,baz=119,slow=7.1,SNR=7.6						

PRE 24 12:49:48.7±1.1, 25.°79S×27.°69E, h2km, ML1.8, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLR	**Silverton**	**0.53**	**84**	*e*P	Pg	12 49 59.1	-0.1
SLR				*e*S	Sg	12 50 06.0	-0.2
SLR				AML	AML	12 50 12.2	
	comp=Z,62nm,0.7s						
ERPM	**east rand prop**	**0.74**	**138**	*e*P	Pg	12 50 02.5	-0.7
ERPM				*e*S	Sg	12 50 10.5	-2.5
ERPM				AML	AML	12 50 18.7	
	comp=Z,13nm,0.8s						
PRYS	**Parys**	**1.17**	**195**	*e*P	Pb	12 50 11.8	-0.1
PRYS				*e*S	Sb	12 50 27.8	0.0
PRYS				AML	AML	12 50 34.4	
	comp=Z,19nm,0.4s						
LBTB	**Lobatse**	**2.05**	**292**	*e*P	Pn	12 50 25.1	+0.8
LBTB				*e*S	Sn	12 50 51.4	+0.8
LBTB				AML	AML	12 50 55.6	
	comp=Z,8.2nm,0.2s						
BOSA	**Boshof**	**3.56**	**217**	*e*P	Pn	12 50 45.6	+0.5
BOSA				*e*S	Sn	12 51 26.6	-1.2
BOSA				AML	AML	12 51 48.5	
	comp=Z,1.8nm,0.7s						

*IDC **24** 12:50:53.0±0.9, 23.°23S×170.°58E, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.1/19, mbtmp4.1/11, ML4.1/1, Error ellipse: s-maj=29.7km s-min=20.9km az=161.0*
*ISCJB **24** 12:50:55.8±0.7, 23.°2S±0.°1×170.°54E±0.°07, h28km, mb4.1/11, Error ellipse: s-maj=21.3km s-min=8.7km az=12.1*
*NEIC **24** 12:50:58.5±0.7, 23.°21S×170.°58E, h35km, mb4.5/2, Error ellipse: s-maj=23.2km s-min=14.9km az=165.0*

ISC 24 12:50:57.4±0.8, 23.°2S±0.°2×170.°58E±0.°09, h28km, n26, σ0°§94/29, mb4.1/11, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.99**	**286**	Pn	**Pn**	**12 51 56.7**	**0.0**
DZM				Sn	**Sn**	**12 52 43.2**	**+0.6**
DZM	**Mont Dzumac**	**3.99**	**286**	Pn	**Pn**	**12 51 56.7**	**0.0**
	12nm,0.3s,baz=94,slow=15,SNR=16						
DZM				Sn	**Sn**	**12 52 43.2**	**+0.6**
	7.6nm,0.3s,baz=359,slow=23,SNR=6.5						
NOUC	**Port Laguerre**	**4.10**	**285**	*e*P	**Pn**	**12 51 57.9**	**-0.4**
NOUC				*e*S	**Sn**	**12 52 44.3**	**-1.1**
STKA	**Stephens Creek**	**27.04**	**245**	P	**P**	**12 56 37.8**	**+0.4**
STKA	**Stephens Creek**	**27.04**	**245**	P	**P**	**12 56 37.8**	**+0.4**
	3.2nm,1.0s,baz=84,slow=16,SNR=2.9						
ASAR	**Alice Springs**	**33.59**	**262**	P	**P**	**12 57 36.4**	**+0.9**
ASAR	**Alice Springs**	**33.59**	**262**	P	**P**	**12 57 36.4**	**+0.9**
	1.3nm,0.8s,baz=87,slow=9.1,SNR=14						
WRAB	**Tennant Creek**	**33.79**	**269**	*e*P	**P**	**12 57 37.6**	**+0.4**
	5.7nm,1.1s						
WRA	**Warramunga Arr**	**33.80**	**269**	P	**P**	**12 57 35.3**	**-2.0**
WRA	**Warramunga Arr**	**33.80**	**269**	P	**P**	**12 57 35.3**	**-2.0**
	0.4nm,0.4s,baz=98,slow=8.4,SNR=11						
FITZ	**Fitzy Crossi**	**42.23**	**268**	*e*P	**P**	**12 58 50.1**	**+1.8**
	14nm,1.4s						
FITZ	**Fitzroy Crossi**	**42.23**	**268**	P	**P**	**12 58 47.0**	**-1.3**
	6.8nm,1.1s,baz=138,slow=8.1,SNR=6.0						
QSPA	**South Pole Qui**	**66.85**	**180**	P	**P**	**13 01 46.2**	**-0.4**
QSPA	**South Pole Qui**	**66.85**	**180**	P	**P**	**13 01 46.2**	**-0.4**
	3.5nm,0.9s,baz=7.6,slow=0.2,SNR=6.1						
PETK	**Petropavlovsk-**	**76.83**	**352**	P	**P**	**13 02 45.9**	**-0.4**
PETK	**Petropavlovsk-**	**76.83**	**352**	P	**P**	**13 02 45.9**	**-0.4**
	1.2nm,0.4s,baz=19,slow=11,SNR=4.4						
CMAR	**Chiang Mai Arr**	**81.27**	**294**	P	**P**	**13 03 11.7**	**+0.2**
CMAR	**Chiang Mai Arr**	**81.27**	**294**	P	**P**	**13 03 11.7**	**+0.2**
	0.7nm,0.3s,baz=150,slow=2.6,SNR=5.5						
NVAR	**Mina Array Bea**	**90.51**	**48**	P	**P**	**13 03 57.1**	**+0.1**
NVAR	**Mina Array Bea**	**90.51**	**48**	P	**P**	**13 03 57.1**	**+0.1**
	0.6nm,0.8s,baz=231,slow=6.7,SNR=3.4						
SONM	**Songino Array**	**91.14**	**323**	P	**P**	**13 03 59.9**	**+0.3**
SONM	**Songino Array**	**91.14**	**323**	P	**P**	**13 03 59.9**	**+0.3**
	0.8nm,0.9s,baz=146,slow=2.9,SNR=4.1						
ILAR	**Eielson Array**	**93.66**	**17**	P	**P**	**13 04 10.1**	**-0.6**
ILAR	**Eielson Array**	**93.66**	**17**	P	**P**	**13 04 10.1**	**-0.6**
	0.6nm,0.8s,baz=226,slow=3.7,SNR=7.2						
GERES	**GERESS Array B**	**148.57**	**330**	PKPbc	**PKPbc**	**13 10 43.1**	**+1.5**
GERES	**GERESS Array B**	**148.57**	**330**	PKPbc	**PKPbc**	**13 10 43.1**	**+1.5**
	2.0nm,0.8s,baz=48,slow=2.0,SNR=12						

*DJA **24** 12:53:55.6±4.4, 1.°N±18.°×9.°7E±3.°1, h74km±53km, M3.8/4, mb3.8/2, MLv3.8/4*
*IDC **24** 12:53:55.6±1.5, 1.°68N×96.°82E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.5/24, mbtmp3.5/6, ML2.6/1, MS3.4/1, Ms1 3.4/1, ms1mx2.7/33, Error ellipse: s-maj=32.4km s-min=21.9km az=48.0*
*ISCJB **24** 12:53:58.4±1.3, 1.°6N±0.°1×97.°0E±0.°1, h28km, mb3.5/5, Error ellipse: s-maj=19.6km s-min=13.2km az=152.9*

ISC 24 12:53:59.8±1.4, 1.°6N±0.°1×97.°1E±0.°1, h28km, n12, σ1°§39/13, mb3.8/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		**1.67**	**5**	P	**Pn**	**12 54 26.8**	**-0.5**
PSI	**Prapat**	**2.23**	**57**	P	**Pn**	**12 54 34.6**	**-0.5**
PSI	**Prapat**	**2.23**	**57**	Pn	**Pn**	**12 54 34.2**	**-0.8**
	1.6nm,0.3s,baz=258,slow=6.0,SNR=4.6						
PSI				Pg	**Pb**	**12 54 39.6**	**0.0**
	3.5nm,0.3s,baz=251,slow=8.3,SNR=12						
PSI				LR	LR	12 55 29.3	
	comp=Z,920nm,20.8s,baz=135,slow=40						
TSI	**Tuntungan**	**2.44**	**38**	P	**Pn**	**12 54 38.4**	**+0.6**
MNSI	**Mandailing Nat**	**2.65**	**107**	P	**Pn**	**12 54 39.1**	**-1.6**
IPM	**Ipoh**	**4.91**	**54**	P	**Pn**	**12 55 11.8**	**0.0**
	12nm,0.7s						
KULM	**Kulim**	**5.15**	**44**	P	**Pn**	**12 55 14.8**	**-0.3**
WRA	**Warramunga Arr**	**42.36**	**122**	P	**P**	**13 01 52.9**	**+0.9**
	0.7nm,0.9s,baz=303,slow=9.1,SNR=3.8						
ASAR	**Alice Springs**	**43.74**	**127**	P	**P**	**13 02 06.2**	**+3.1**
	0.1nm,0.4s,baz=296,slow=7.9,SNR=5.2						
SONM	**Songino Array**	**46.78**	**9**	P	**P**	**13 02 26.3**	**-0.7**
	0.8nm,0.8s,baz=188,slow=10.0,SNR=5.5						
MKAR	**Makanchi Array**	**46.84**	**346**	P	**P**	**13 02 27.6**	**+0.3**
	0.5nm,0.5s,baz=162,slow=8.4,SNR=5.9						
ZALV	**Zalesovo Beam**	**53.16**	**351**	P	**P**	**13 03 13.0**	**-2.1**
	0.5nm,0.3s,baz=165,slow=6.0,SNR=4.4						

IDC 24 12:56:32.7±1.6, 23.°28S×170.°48E, h0km, mb3.9/7, mb1 4.1/8, mb1mx4.0/19, mbtmp3.9/8, ML3.5/1, MS3.7/1, Ms1 3.7/1, ms1mx3.1/26, Error ellipse: s-maj=39.0km s-min=31.9km az=29.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.92**	**287**	*e*P	Pb	12 57 38.8	-4.1
DZM				*e*S	Sn	12 58 23.4	+2.3
DZM	**Mont Dzumac**	**3.92**	**287**	Pn	Pn	12 57 34.1	-0.2
	3.6nm,0.3s,baz=90,slow=19,SNR=20						
DZM				Sn	Sn	12 58 18.6	-2.6
	2.3nm,0.3s,baz=252,slow=20,SNR=2.8						
DZM				LR	LR	12 58 37.6	
	comp=Z,1μm,20.1s,baz=229,slow=32						
NOUC	**Port Laguerre**	**4.03**	**286**	*e*P	Pn	12 57 35.5	-0.3
STKA	**Stephens Creek**	**26.94**	**245**	P	P	13 02 16.8	+0.9
	1.5nm,0.6s,baz=346,slow=15,SNR=6.4						
ASAR	**Alice Springs**	**33.50**	**262**	P	P	13 03 14.4	+0.3
	2.3nm,0.8s,baz=96,slow=10,SNR=18						
WRA	**Warramunga Arr**	**33.71**	**269**	P	P	13 03 15.2	-0.8
	0.5nm,0.7s,baz=98,slow=8.8,SNR=6.1						
FITZ	**Fitzroy Crossi**	**42.14**	**268**	P	P	13 04 26.1	-1.1
	3.2nm,0.8s,baz=124,slow=9.1,SNR=5.9						
QSPA	**South Pole Qui**	**66.80**	**180**	P	P	13 07 25.9	-0.1
	1.1nm,0.8s,baz=37,slow=12,SNR=5.1						
CMAR	**Chiang Mai Arr**	**81.22**	**294**	P	P	13 08 51.8	+0.8
	0.6nm,0.6s,baz=149,slow=5.0,SNR=4.7						
SONM	**Songino Array**	**91.13**	**323**	P	P	13 09 40.0	+0.6
	0.3nm,0.4s,baz=348,slow=27,SNR=6.1						
GERES	**GERESS Array B**	**148.57**	**330**	PKPbc	PKPbc	13 16 20.2	-1.5
	0.4nm,0.6s,baz=64,slow=3.1,SNR=4.5						

CSEM 24 12:57:24.2, 42.°72N×6.°61W, h0km, ML1.5, Mining explosion. After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERUA	**La Rua**	**0.51**	**230**	Pg	Pg	12 57 33.4	-0.6
	1.5nm,0.2s,SNR=7.9						
ERUA				Lg	Lg	12 57 39.0	
	5.4nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**0.72**	**327**	Pg	Pg	12 57 37.9	-0.3
	9.1nm,0.8s,SNR=12						
EPON				Lg	Lg	12 57 47.9	
	7.9nm,0.6s,SNR=8.0						
ECAL	**Calabor**	**0.78**	**187**	Pg	Pg	12 57 38.9	-0.5
	12nm,0.5s,SNR=25						
ECAL				Lg	Lg	12 57 50.4	
	14nm,0.3s,SNR=8.5						
EARI	**Arriondas**	**1.18**	**60**	Pg	Pg	12 57 44.9	-2.1
	6.3nm,0.4s,SNR=37						
EARI				Lg	Lg	12 58 02.1	
	7.8nm,0.4s,SNR=7.4						
ELOB	**Lobios**	**1.37**	**232**	Pg	Pg	12 57 48.9	-1.7
	4.6nm,0.7s,SNR=13						
ELOB				Lg	Lg	12 58 07.8	
	4.9nm,0.3s						
MVO	**Moncorvo**	**1.58**	**191**	Pg	Pn	12

FETY				*e*Sg	**Sb**	13 30 10.2	+0.2		
ELL	**Elmali**	**0.45**	**94**	*e*PG	**Pg**	13 30 07.0	+0.5		
ELL				*e*SG	**Sb**	13 30 16.1	+0.5		
ELL	**Elmali**	**0.45**	**94**	*e*Pg	**Pg**	13 30 07.0	+0.5		
ELL				*e*Sg	**Sb**	13 30 16.1	+0.5		
GOLH	**Golhisar**	**0.49**	**20**	*i* P	**Pn**	13 30 12.3	+0.5		
GOLH				*i* S	Sb	13 30 24.8	+7.9		
GOLH	**Golhisar**	**0.49**	**20**	*i* P	**Pn**	13 30 12.3	+0.5		
GOLH				*i* S	Sb	13 30 24.8	+7.9		
TURN	**Turunc**	**0.61**	**279**	*i* P	**Pn**	13 30 13.0	-0.3		
TURN				*i* S	**Sn**	13 30 26.7	+3.1		
TURN	**Turunc**	**0.61**	**279**	*i* P	**Pn**	13 30 13.0	-0.3		
TURN				*i* S	**Sn**	13 30 26.7	+3.1		
KORT	**Korkueli**	**0.83**	**74**	*i* P	**Pb**	13 30 14.0	-1.0		
KORT				*i* S	**Sn**	13 30 29.3	0.0		
KORT	**Korkueli**	**0.83**	**74**	*i* P	**Pb**	13 30 14.0	-1.0		
KORT				*i* S	**Sn**	13 30 29.3	0.0		
YER	**Yerkesik**	**0.93**	**293**	*e*PG	**Pn**	13 30 16.2	-1.6		
YER				*e*SG	**Sn**	13 30 28.7	-2.9		
YER	**Yerkesik**	**0.93**	**293**	*e*Pg	**Pn**	13 30 16.2	-1.6		
DNZL	**Cakiroluk**	**0.94**	**345**	*i* P	Pn	13 30 19.7	+1.6		
DNZL				*i* S	Sn	13 30 39.5	+7.1		
DNZL	**Cakiroluk**	**0.94**	**345**	*i* P	Pn	13 30 19.7	+1.6		
DNZL				*i* S	Sn	13 30 39.5	+7.2		
AYDN	**Tasoluk**	**1.47**	**307**	*i* P	**Pg**	13 30 26.6	+0.5		
AYDN				*i* S	Sg	13 30 49.8	+4.7		
AYDN	**Tasoluk**	**1.47**	**307**	*i* P	**Pg**	13 30 26.6	+0.5		
AYDN				*i* S	Sg	13 30 49.8	+4.7		

IDC 24 13:43:24.1±1.5, 1°22′N×96°88′E, h0km, mb3.5/5, mb1 3.6/7, mb1mx3.5/25, mbtmp3.5/7, ML3.3/2, Error ellipse: s-maj=32.3km s-min=21.1km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.58**	**53**	Pn	Pn	13 44 05.8	-1.4
	1.1nm,0.3s,baz=258,slow=4.3,SNR=6.9						
PSI				Pg	Pb	13 44 10.8	-0.5
	1.8nm,0.3s,baz=254,slow=5.7,SNR=8.5						
CMAR	**Chiang Mai Arr**	**17.25**	**7**	Pn	Pn	13 47 26.4	-0.1
	0.1nm,0.3s,baz=202,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**42.32**	**122**	P	P	13 51 19.5	-0.6
	0.2nm,0.6s,baz=299,slow=8.9,SNR=3.2						
ASAR	**Alice Springs**	**43.67**	**127**	P	P	13 51 31.4	+0.4
	0.2nm,0.9s,baz=299,slow=7.9,SNR=3.0						
MKAR	**Makanchi Array**	**47.14**	**346**	P	P	13 51 58.7	+0.5
	0.5nm,0.5s,baz=165,slow=8.3,SNR=7.2						
SONM	**Songino Array**	**47.16**	**9**	P	P	13 51 57.4	-1.1
	0.7nm,0.7s,baz=194,slow=8.8,SNR=7.0						
ZALV	**Zalesovo Beam**	**53.48**	**351**	P	P	13 52 46.1	+0.1
	1.2nm,0.6s,baz=174,slow=6.5,SNR=7.9						

*ISCJB **24** 14:11:40.4±0.4, 31°.78′N±0°.03×104°.55E±0°.06, h15km, mb3.9/9, Error ellipse: s-maj=7.9km s-min=4.8km az=12.6*
*IDC **24** 14:11:40.2±0.9, 31°.82′N×104°.49E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.7/27, mbtmp3.7/11, ML3.3/2, Error ellipse: s-maj=30.5km s-min=17.1km az=67.0*
*BJI **24** 14:11:42.1, 31°.73′N×104°.55E, h11km, ML3.6/12, Ms3.5/1, Ms7 3.2/1*
*NEIC **24** 14:11:45.7±1.1, 31°.86′N×104°.44E, h40km±12km, mb4.6/1, Error ellipse: s-maj=11.8km s-min=8.1km az=73.0*
ISC 24 14:11:42.3±0.6, 31°.83′N±0°.04×104°.50E±0°.05, h15km, n29, σ1§27/35, mb4.1/9, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.11**	**215**	Pg	**Pn**	**14 12 02.3**	**-1.1**
CD2				Sg	**Sb**	**14 12 16.9**	**-0.7**
CD2				smax	smax		
	comp=N,4μm,0.4s						
CD2				smax	smax		
	comp=E,2μm,0.5s						
LZH	**Lanzhou**	**4.28**	**353**	Pg	**Pg**	**14 13 03.1**	**-1.2**
LZH				Sn	**Sn**	**14 13 40.8**	**+4.0**
LZH				Sg	**Sg**	**14 13 58.8**	**-0.9**
LZH				smax	smax		
	comp=N,83nm,0.6s						
LZH				smax	smax		
	comp=E,120nm,0.5s						
LZH				LR	LR		
	comp=N,360nm,6.8s						
LZH				LR	LR		
	comp=E,310nm,7.3s						
LZH				LR	LR		
	comp=Z,260nm,8.8s						
XAN	**Xi'an**	**4.32**	**58**	Pn	**Pn**	**14 12 48.3**	**+0.8**
XAN				Pg	**Pg**	**14 13 03.8**	**-1.3**
XAN				Sg	**Sg**	**14 13 57.8**	**-3.3**
XAN				smax	smax		
	comp=N,79nm,0.5s						
XAN				smax	smax		
	comp=E,47nm,0.6s						
ENH	**Enshi**	**4.56**	**109**	*e*P	**Pn**	**14 12 53.6**	**+2.9**
GYA	**Guiyang**	**5.68**	**160**	Pn	**Pn**	**14 13 06.8**	**+0.5**
GYA				Sn	**Sn**	**14 14 09.9**	**-1.4**
GYA				Sg	**Sg**	**14 14 45.0**	**+0.4**
GYA				smax	smax		
	comp=N,70nm,0.7s						
GYA				smax	smax		
	comp=E,80nm,0.9s						
CMAR	**Chiang Mai Arr**	**14.23**	**202**	Pn	**Pn**	**14 15 04.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**14.23**	**202**	Pn	**Pn**	**14 15 04.5**	**+1.2**
	comp=E,0.2nm,0.3s,baz=13,slow=12,SNR=3.4						
SONM	**Songino Array**	**16.05**	**5**	Pn	**Pn**	**14 15 27.0**	**-0.5**
SONM	**Songino Array**	**16.05**	**5**	Pn	**Pn**	**14 15 27.0**	**-0.5**
	comp=E,0.0nm,0.3s,baz=184,slow=10,SNR=2.3						
TLY	**Talaya**	**19.84**	**358**	P	**P**	**14 16 11.7**	**-0.8**
KSAR	**Wonju Array Be**	**20.02**	**67**	P	**Pn**	**14 16 16.4**	**+0.1**
KSRS	**Korea Array**	**20.05**	**67**	P	Pn	14 16 16.4	-0.3
	comp=E,2.7nm,0.7s,baz=255,slow=11,SNR=12						
MKAR	**Makanchi Array**	**22.66**	**318**	P	**P**	**14 16 43.8**	**+0.9**
MKAR	**Makanchi Array**	**22.66**	**318**	P	**P**	**14 16 43.8**	**+0.9**
	comp=E,0.6nm,0.8s,baz=111,slow=11,SNR=5.0						
ZALV	**Zalesovo Beam**	**26.22**	**333**	P	**P**	**14 17 16.8**	**+0.4**
ZALV	**Zalesovo Beam**	**26.22**	**333**	P	**P**	**14 17 16.8**	**+0.4**
	comp=E,0.8nm,0.5s,baz=118,slow=8.6,SNR=5.1						
PETK	**Petropavlovsk-**	**43.44**	**45**	P	**P**	**14 19 44.1**	**-0.3**
PETK	**Petropavlovsk-**	**43.44**	**45**	P	**P**	**14 19 44.1**	**-0.3**
	comp=E,3.2nm,0.8s,baz=280,slow=7.3,SNR=3.3						
FINES	**FINESS Array B**	**57.15**	**326**	P	**P**	**14 21 28.2**	**+0.1**
FINES	**FINESS Array B**	**57.15**	**326**	P	**P**	**14 21 28.2**	**+0.1**
	comp=E,1.1nm,0.7s,baz=54,slow=7.1,SNR=3.6						
WRAB	**Tennant Creek**	**58.89**	**147**	*e*P	**P**	**14 21 40.8**	**0.0**
	comp=E,2.9nm,0.6s						
WRA	**Warramunga Arr**	**58.89**	**147**	P	**P**	**14 21 41.1**	**+0.3**
WRA	**Warramunga Arr**	**58.89**	**147**	P	**P**	**14 21 41.1**	**+0.3**
	comp=E,2.2nm,0.5s,baz=340,slow=7.8,SNR=49						
ASAR	**Alice Springs**	**61.94**	**149**	P	**P**	**14 22 01.9**	**+0.3**
ASAR	**Alice Springs**	**61.94**	**149**	P	**P**	**14 22 01.9**	**+0.3**
	comp=E,0.9nm,0.5s,baz=332,slow=6.5,SNR=48						
STKA	**Stephens Creek**	**72.44**	**147**	P	**P**	**14 23 07.4**	**-0.6**
STKA	**Stephens Creek**	**72.44**	**147**	P	**P**	**14 23 07.4**	**-0.6**
	comp=E,1.1nm,0.7s,baz=320,slow=22,SNR=3.7						
YKA	**Yellowknife Ar**	**80.90**	**17**	P	**P**	**14 23 55.5**	**0.0**
YKA	**Yellowknife Ar**	**80.90**	**17**	P	**P**	**14 23 55.5**	**0.0**
	comp=E,0.3nm,0.5s,baz=328,slow=5.1,SNR=5.8						

*IDC **24** 14:24:57.0±4.2, 14°.07′N×91°.51W, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.7/24, mbtmp3.6/7, ML3.6/2, Error ellipse: s-maj=91.8km s-min=44.6km az=16.0*
*MEX **24** 14:25:02.4±0.4, 13°.60′N×92°.68′W, h30km, MD4.0*
ISC 24 14:25:02.0±3.1, 13°.8′N±0°.1×92°.4′W±0°.1, h26km±17km, n16, σ1§80/19, mb3.7/5, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.12**	**7**	*i* P	**Pb**	**14 25 22.8**	**0.0**
THIG				*i* S	**Sb**	**14 25 39.4**	**+2.4**
PCIG		**2.06**	**338**	*i* P	**Pn**	**14 25 34.1**	**-0.9**
PCIG				*i* S	**Sn**	**14 25 59.5**	**-0.3**
CCIG	**Comitan**	**2.50**	**6**	*i* P	**Pn**	**14 25 42.8**	**+1.7**
CCIG				*i* S	**Sb**	**14 26 13.4**	**-3.3**
TGIG		**3.05**	**347**	*i* P	**Pn**	**14 25 48.9**	**+0.2**
TGIG				*i* S	**Sn**	**14 26 25.8**	**+1.4**
CMIG	**Matias Romero**	**4.06**	**324**	*i* P	**Pn**	**14 26 01.7**	**-0.7**
CMIG				*i* S	**Sn**	**14 26 48.8**	**-0.4**
CMIG	**Matias Romero**	**4.06**	**324**	Pn	**Pn**	**14 26 03.8**	**+1.3**
	0.4nm,0.3s,baz=138,slow=16,SNR=4.6						
PNIG	**Pinotepa**	**6.10**	**296**	*i* P	Pn	14 26 24.5	-6.0
UTMO	**Huajuapan**	**6.56**	**308**	*i* P	**Pn**	**14 26 35.1**	**-2.0**
TEIG	**Tepich**	**7.53**	**31**	Pn	**Pn**	**14 26 47.2**	**-2.9**
	2.9nm,0.3s,baz=194,slow=13,SNR=11						
TXAR	**Lajitas Array**	**18.66**	**328**	P	**Pn**	**14 29 19.8**	**+1.2**
	0.1nm,0.3s,baz=137,slow=11,SNR=4.0						
ANMO	**Albuquerque**	**24.60**	**331**	P	**P**	**14 30 21.6**	**+1.2**
	0.9nm,0.5s,baz=126,slow=18,SNR=3.3						
PDAR	**Pinedale Array**	**32.45**	**336**	P	**P**	**14 31 29.8**	**-0.6**
	0.3nm,0.8s,baz=151,slow=7.7,SNR=2.6						
NVAR	**Mina Array Bea**	**33.59**	**322**	P	**P**	**14 31 42.4**	**+2.1**
	0.6nm,0.6s,baz=130,slow=8.9,SNR=5.3						
SCHQ	**Schefferville**	**45.56**	**20**	P	P	14 33 13.7	-5.8
	3.5nm,1.0s,baz=238,slow=9.5,SNR=3.7						
YKA	**Yellowknife Ar**	**51.14**	**347**	P	**P**	**14 34 00.8**	**-1.6**
	1.5nm,0.6s,baz=147,slow=7.6,SNR=24						
CMAR	**Chiang Mai Arr**	**146.06**	**340**	PKPbc	**PKPdf**	**14 44 38.8**	**-0.9**
	0.4nm,0.4s,baz=353,slow=3.6,SNR=3.8						

*PGC **24** 14:30:28.4±5.5, 62°.93′N×143°.73W, h1km, ML3.6/3, 242km northeast of Valdez, Ak Central Alaska*
NEIC 24 14:30:29.1, 62°.90′N×143°.74W, h11km, ML3.6(PGC), **ML3.0**(AEIC), **6D, After AEIC., Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MENT	**Mentasta**	**0.04**	**11**	*e*Pg	Pg	14 30 31.1	-0.2
DOT	**Dot Lake**	**0.77**	**349**	*e*Pg	Pg	14 30 43.8	-0.3
PAX	**Paxson**	**0.80**	**276**	P	Pg	14 30 44.0	-0.7
PAX				S	Sg	14 30 54.8	-0.3
HARP	**HAARP**	**0.82**	**234**	P	Pg	14 30 45.0	0.0
HARP				S	Sb	14 30 57.2	+0.7
DDM	**Donnelly Dome**	**1.31**	**314**	P	Pb	14 30 53.7	-0.1
DHY	**Denali Highway**	**1.67**	**278**	P	Pn	14 30 59.0	+0.5
VRDI	**Verde Repeater**	**1.68**	**175**	P	Pn	14 30 58.8	+0.1
BMRM	**Bremner River**	**1.98**	**192**	P	Pn	14 31 02.5	-0.1
BALM	**Baldy**	**1.98**	**160**	P	Pn	14 31 03.4	+0.7
SCM	**Sheep Creek Mo**	**1.98**	**239**	P	Pn	14 31 03.8	+1.1
DIV	**Divide**	**2.02**	**209**	*e*P	Pn	14 31 04.0	+0.8
KIAG	**Kiagna River**	**2.08**	**161**	P	Pn	14 31 04.7	+0.5
HDA	**Harding Lake**	**2.09**	**318**	P	Pn	14 31 04.2	+0.1
BARN	**Barnard Glacie**	**2.09**	**151**	P	Pn	14 31 05.6	+1.3
VLZ	**Valdez**	**2.15**	**216**	P	Pn	14 31 06.0	+1.2
EGAK	**Eagle**	**2.21**	**30**	*e*Pn	Pn	14 31 05.1	-0.6
EGAK				*e*Pg	Pb	14 31 09.3	+0.3
DAWY	**Dawson**	**2.28**	**57**	P	Pn	14 31 05.5	-1.2
DAWY	**Dawson**	**2.28**	**57**	⇑Pn	Pn	14 31 05.7	-1.0
DAWY				⇓Pg	Pb	14 31 09.6	+0.6
DAWY				⇑Sg	Sb	14 31 38.8	+0.3
GOAT	**Goat Mountain**	**2.37**	**192**	P	Pb	14 31 10.0	-1.9
RND	**Reindeer**	**2.38**	**285**	P	Pb	14 31 10.6	-1.4
ISLE	**Juniper Island**	**2.40**	**163**	P	Pn	14 31 09.6	+1.2
SML	**Sawmill**	**2.41**	**245**	P	Pb	14 31 10.5	-2.0
KHIT	**Khitrov Hills**	**2.47**	**174**	P	Pn	14 31 11.4	+1.9
MCK	**McKinley**	**2.49**	**292**	P	Pb	14 31 11.8	-2.1
BERG	**Berg Lake**	**2.51**	**180**	P	Pn	14 31 11.8	+1.9
CCB	**Clear Creek Bu**	**2.52**	**316**	P	Pn	14 31 09.2	-0.8
BAGL	**Bagley Icefiel**	**2.54**	**161**	P	Pn	14 31 11.8	+1.6
EYAK	**Cordova Ski Ar**	**2.54**	**203**	P	Pb	14 31 12.6	-2.1
BARK	**Barkley Ridge**	**2.57**	**166**	P	Pn	14 31 13.0	+2.2
NICHA	**Nichawak Mount**	**2.67**	**182**	P	Pb	14 31 14.7	-2.3
COLA	**College**	**2.69**	**319**	*e*Pn	Pn	14 31 12.4	+0.2
KULT	**Kultieth River**	**2.70**	**169**	P	Pn	14 31 14.4	+1.8
PRP	**Porcupine Dome**	**2.75**	**344**	P	Pn	14 31 13.7	+0.4
TABL	**Table Mountain**	**2.76**	**152**	P	Pn	14 31 15.0	+1.4
PMR	**Palmer**	**2.84**	**245**	*e*Pn	Pn	14 31 16.2	+1.8
RKAV	**Rock Avalanche**	**2.85**	**155**	P	Pn	14 31 16.4	+1.7
MESA	**MESA**	**2.86**	**162**	P	Pn	14 31 16.4	+1.5
MDM	**Murphy Dome**	**2.87**	**318**	P	Pn	14 31 13.9	-0.9
TRF	**Thorofare Moun**	**3.02**	**284**	P	Pn	14 31 19.2	+2.1
TRAP	**Trapper Creek**	**3.06**	**262**	P	Pb	14 31 20.5	-3.0
SAMH	**Samovar Hills**	**3.12**	**152**	P	Pn	14 31 20.6	+2.3
FIB	**Fire Island**	**3.50**	**243**	P	Pn	14 31 25.4	+2.1
SUA	**Susitna One**	**3.58**	**249**	P	Pn	14 31 28.0	+3.2
HYT	**Haines Junctio**	**3.61**	**122**	P	Pn	14 31 23.9	-1.2
HYT	**Haines Junctio**	**3.61**	**122**	⇑Pn	Pn	14 31 23.8	-1.3
HYT				⇓Pg	Pb	14 31 34.0	+0.9
HYT				⇓Sn	Sn	14 32 07.7	-0.1
HYT				⇑Sg	Sb	14 32 20.2	+3.2
SLKM	**Skilak Lake**	**3.91**	**235**	*e*Pn	Pn	14 31 32.1	+3.0
SEW	**Seward**	**3.92**	**227**	*e*Pn	Pn	14 31 30.9	+1.8
WHY	**Whitehorse**	**4.77**	**114**	⇑Pn	Pn	14 31 40.1	-0.9
WHY				⇑Sn	Sn	14 32 33.8	-2.4
WHY				⇑Sg	Sb	14 32 55.7	+5.5
COLD	**Coldfoot**	**5.13**	**331**	*e*Pn	Pn	14 31 46.5	+0.7
	7.4nm,0.5s						
INK	**Inuvik**	**6.88**	**33**	*e*Pn	Pn	14 32 09.3	-0.4
	3.1nm,0.8s						
INK	**Inuvik**	**6.88**	**33**	⇓Pn	Pn	14 32 08.8	-0.8
DLBC	**Dease Lake**	**8.07**	**117**	⇓Pn	Pn	14 32 25.9	-0.4
DLBC				⇓Sg	Sg	14 34 38.0	-10

IDC 24 14:36:15.3±2.2, 7°.04S×127°.38E, h0km, mb4.0/1, mb1 3.9/3, mb1mx3.5/17, mbtmp3.7/3, ML3.6/2, MS3.7/1, Ms1 3.7/1, ms1mx2.9/30, Error ellipse: s-maj=295.6km s-min=30.0km az=64.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.50**	**153**	Pn	Pn	14 39 41.1	-0.9
	0.2nm,0.3s,baz=330,slow=13,SNR=8.8						
WRA				Sn	Sn	14 42 07.9	-16
	0.4nm,0.3s,baz=332,slow=22,SNR=10						
ASAR	**Alice Springs**	**17.68**	**160**	P	P	14 40 23.9	-0.4
	0.7nm,0.3s,baz=338,slow=9.8,SNR=104						
ASAR				S	Sn	14 43 24.2	-17
	0.0nm,0.3s,baz=325,slow=16,SNR=2.8						
USRK	**Ussuriysk Arra**	**51.17**	**4**	LR	LR	15 05 32.8	
	comp=Z,76nm,19.7s,baz=164,slow=34						
MKAR	**Makanchi Array**	**66.86**	**328**	P	P	14 47 09.2	0.0
	0.6nm,0.4s,baz=123,slow=7.2,SNR=18						

*ATH **24** 14:42:22.9, 38°.10N×23°.17E, h22km±1km, ML2.5*
*ISCJB **24** 14:42:23.5±0.4, 38°.12N±0°.02×23°.22E±0°.03, h20km±6km, Error ellipse: s-maj=4.7km s-min=3.7km az=36.4*
*THE **24** 14:42:23.4, 38°.11N×23°.20E, h13km, ML2.7/6, Error ellipse: s-maj=0.9km s-min=0.3km az=291.0*
*CSEM **24** 14:42:23.2±0.1, 38°.12N×23°.20E, h12km, ML2.5, Error ellipse: s-maj=2.7km s-min=2.3km az=110.0*
ISC 24 14:42:23.0±0.9, 38°.11N±0°.02×23°.21E±0°.02, h15km±7km, n39, σ0§40/61, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LTK	**Loutraki**	**0.21**	**247**	P	**Pg**	**14 42 27.9**	**0.0**
LTK				S	**Sg**	**14 42 30.9**	**-0.2**
LTK	**Loutraki**	**0.21**	**247**	*e*PB	**Pg**	**14 42 27.9**	**0.0**
LTK	**Loutraki**	**0.21**	**247**	P	**Pg**	**14 42 27.9**	**0.0**
LTK				S	**Sg**	**14 42 30.9**	**-0.2**
NAIG	**Nisos Aigina**	**0.41**	**148**	*e*PB	**Pb**	**14 42 31.9**	**-0.1**
NAIG	**Nisos Aigina**	**0.41**	**148**	*e*Pb	**Pb**	**14 42 31.9**	**-0.1**
ATH	**Athens Observa**	**0.42**	**108**	*e*PB	**Pb**	**14 42 32.0**	**-0.1**
ATH				*e*SB	**Sb**	**14 42 38.4**	**+0.1**
ATH	**Athens Observa**	**0.42**	**108**	*e*Pb	**Pb**	**14 42 32.0**	**-0.1**
ATH				*e*Sb	**Sb**	**14 42 38.4**	**+0.1**
PTL	**Penteli**	**0.52**	**96**	*e*PN	**Pb**	**14 42 34.2**	**+0.4**
PTL	**Penteli**	**0.52**	**96**	*e*Pn	**Pb**	**14 42 34.3**	**+0.4**
LKR	**Lokris**	**0.57**	**343**	*e*PN	**Pg**	**14 42 33.9**	**-0.4**
LKR				*e*SN	**Sb**	**14 42 43.3**	**+0.8**
LKR	**Lokris**	**0.57**	**343**	*e*Pn	**Pg**	**14 42 33.9**	**-0.4**
LKR				*e*Sn	**Sb**	**14 42 43.3**	**+0.8**
ERET	**Eretria**	**0.58**	**54**	P	**Pg**	**14 42 34.6**	**+0.2**
ERET				S	**Sb**	**14 42 43.3**	**+0.4**
ERET	**Eretria**	**0.58**	**54**	P	**Pg**	**14 42 34.6**	**+0.2**
ERET				S	**Sb**	**14 42 43.3**	**+0.4**
DID	**Didima**	**0.60**	**178**	P	**Pg**	**14 42 34.8**	**0.0**
DID				S	**Sb**	**14 42 43.9**	**+0.5**
DID	**Didima**	**0.60**	**178**	P	**Pg**	**14 42 34.8**	**0.0**
DID				S	**Sb**	**14 42 43.9**	**+0.5**
ATAL	**Atalanti**	**0.60**	**346**	P	**Pg**	**14 42 34.5**	**-0.4**
ATAL				S	**Sb**	**14 42 44.0**	**+0.4**
ATAL	**Atalanti**	**0.60**	**346**	P	**Pg**	**14 42 34.5**	**-0.4**
ATAL				S	**Sb**	**14 42 44.0**	**+0.4**
MRKA	**Markates**	**0.67**	**26**	P	**Pg**	**14 42 35.8**	**-0.3**
MRKA				S	**Sb**	**14 42 46.3**	**+0.8**
MRKA	**Markates**	**0.67**	**26**	P	**Pg**	**14 42 35.8**	**-0.3**
MRKA				S	**Sb**	**14 42 46.3**	**+0.8**
GUR	**Goura**	**0.71**	**256**	P	**Pg**	**14 42 36.6**	**-0.2**
GUR				S	**Sb**	**14 42 46.5**	**-0.1**
KALE	**Kalithea**	**0.89**	**289**	P	**Pb**	**14 42 40.3**	**+0.1**
KALE				S	**Sn**	**14 42 53.0**	**-0.6**
KALE	**Kalithea**	**0.89**	**289**	P	**Pb**	**14 42 40.3**	**+0.1**
KALE				S	**Sn**	**14 42 53.0**	**-0.6**
VLX	**Vlachokerasia**	**0.99**	**222**	P	**Pb**	**14 42 41.9**	**+0.1**
VLX				S	**Sn**	**14 42 56.0**	**-0.1**
VLX	**Vlachokerasia**	**0.99**	**222**	P	**Pb**	**14 42 41.9**	**+0.1**
VLX				S	**Sn**	**14 42 56.0**	**-0.1**
SKIA	**Skiathos**	**1.08**	**11**	P	**Pb**	**14 42 43.4**	**+0.1**
SKIA	**Skiathos**	**1.08**	**11**	P	**Pb**	**14 42 43.4**	**+0.1**
AOS	**Alonnisos**	**1.19**	**26**	P	**Pn**	**14 42 44.6**	**-0.4**
AOS	**Alonnisos**	**1.19**	**26**	P	**Pn**	**14 42 44.6**	**-0.4**
NEO	**Neokhori**	**1.20**	**1**	*e*PN	**Pn**	**14 42 45.2**	**0.0**
NEO	**Neokhori**	**1.20**	**1**	*e*Pn	**Pn**	**14 42 45.2**	**0.0**
XOR	**Xorichti**	**1.26**	**359**	P	**Pn**	**14 42 45.4**	**-0.7**
XOR	**Xorichti**	**1.26**	**359**	P	**Pn**	**14 42 45.4**	**-0.7**
ITM	**Ithomi**	**1.38**	**228**	*e*PN	**Pb**	**14 42 49.0**	**+0.6**
ITM				*e*SN	**Sg**	**14 43 07.5**	**+0.1**
ITM	**Ithomi**	**1.38**	**228**	*e*Pn	**Pb**	**14 42 49.0**	**+0.6**
ITM				*e*Sn	**Sg**	**14 43 07.5**	**+0.1**
VLI	**Veliai**	**1.40**	**189**	*e*PN	**Pb**	**14 42 48.7**	**-0.2**
VLI	**Veliai**	**1.40**	**189**	*e*Pn	**Pb**	**14 42 48.7**	**-0.2**
THL	**Klokotos Trika**	**1.73**	**328**	*e*PN	**Pn**	**14 42 53.2**	**+0.7**
THL	**Klokotos Trika**	**1.73**	**328**	*e*Pn	**Pn**	**14 42 53.2**	**+0.7**

IDC 24 14:57:28.9±1.4, 3°.79N×126°.64E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/21, mbtmp3.3/4, Error ellipse: s-maj=142.5km s-min=22.2km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.77**	**162**	P	P	15 02 51.0	-1.6
	0.7nm,1.0s,baz=343,slow=10,SNR=8.2						
ASAR	**Alice Springs**	**28.20**	**166**	P	P	15 03 25.4	+1.9
	0.4nm,1.0s,baz=340,slow=7.9,SNR=3.8						
SONM	**Songino Array**	**47.21**	**341**	P	P	15 06 03.9	+0.2
	0.1nm,0.5s,baz=165,slow=6.0,SNR=2.9						
MKAR	**Makanchi Array**	**57.45**	**325**	P	P	15 07 19.1	-0.5
	0.3nm,0.5s,baz=118,slow=7.4,SNR=4.8						

*ISK **24** 14:59:28.8, 39°.29N×41°.70E, h13km, MD2.8*
*CSEM **24** 14:59:28.6±1.1, 39°.28N×41°.68E, h19km±2km, MD2.8, Error ellipse: s-maj=29.8km s-min=15.7km az=61.0*
*ISCJB **24** 14:59:29.8±0.6, 39°.25N±0°.05×41°.68E±0°.05, h19km±9km, Error ellipse: s-maj=9.1km s-min=5.6km az=142.9*
*DDA **24** 14:59:29.1, 39°.28N×41°.70E, h7km, MD3.0*
ISC 24 14:59:28.9±1.3, 39°.26N±0°.04×41°.70E±0°.04, h15km±10km, n17, σ0§48/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRTB	**Varto-Mus**	**0.22**	**242**	*e*PG	**Pg**	**14 59 34.1**	**+0.2**
VRTB				*e*SG	**Sb**	**14 59 38.3**	**-0.1**
VRTB	**Varto-Mus**	**0.22**	**242**	*e*Pg	**Pg**	**14 59 34.1**	**+0.2**
VRTB				*e*Sg	**Sb**	**14 59 38.3**	**-0.1**
BNGL	**BINGOL**	**0.53**	**234**	*i* P	**Pg**	**14 59 39.4**	**-0.1**
BNGL				*i* S	**Sb**	**14 59 48.0**	**+0.5**
ERZM	**Erzurum**	**0.69**	**338**	*i* P	**Pb**	**14 59 42.2**	**-0.6**
ERZM	**Erzurum**	**0.69**	**338**	*i* P	**Pb**	**14 59 42.2**	**-0.6**
EZM	**Erzurum**	**0.69**	**338**	*e*PG	**Pb**	**14 59 42.1**	**-0.7**
HOMI	**Horasan**	**0.80**	**11**	*i* P	**Pb**	**14 59 44.3**	**-0.3**
HOMI				*i* S	**Sn**	**14 59 57.3**	**-0.2**
TATV	**Tatvan**	**0.88**	**149**	*e*P	**Pb**	**14 59 45.2**	**-0.6**
TATV	**Tatvan**	**0.88**	**149**	*e*P	**Pb**	**14

AAI	**Ambon**	**5.57**	**170**	P		**Pn**	**15 22 33.3**	**+0.9**
	69nm,0.7s,1μm0.3nm							
KDI	**Kendari**	**7.38**	**219**	P		**Pn**	**15 22 55.3**	**-1.6**
	80nm,0.7s,1μm							
TTSI	**Tana Toraja**	**8.87**	**237**	P		**Pn**	**15 23 17.0**	**0.0**
	30nm,0.7s							
SPSI	**Sidrap Palu**	**9.44**	**232**	P		**Pn**	**15 23 24.9**	**+0.1**
	33nm,0.6s,596nm							
BKSI	**Bulukumba**	**10.06**	**225**	P		**Pn**	**15 23 34.9**	**+1.7**
KAPI	**Kappang**	**10.12**	**228**	P		**Pn**	**15 23 35.0**	**+1.0**
	3.6nm,0.3s,baz=37,slow=5.1,SNR=3.7							
MTNI	**Mataram**	**15.17**	**227**	P		**Pn**	**15 24 37.4**	**-2.8**
JAGI	**Jajag, Banyuwa**	**16.59**	**232**	P		**P**	**15 25 00.7**	**+2.3**
PWJI	**Pagerwojo**	**18.25**	**237**	P		**Pn**	**15 25 17.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**19.88**	**184**	P		**P**	**15 25 32.7**	**-1.7**
	0.8nm,0.3s,baz=17,slow=9.2,SNR=22							
WRA	**Warramunga Arr**	**22.74**	**163**	P		**P**	**15 26 03.0**	**-1.6**
	5.6nm,0.3s,baz=340,slow=11,SNR=123							
ASAR	**Alice Springs**	**26.17**	**166**	P		**P**	**15 26 34.9**	**-1.0**
	1.3nm,0.3s,baz=344,slow=11,SNR=51							
ASAR				ScP		**ScP**	**15 33 27.8**	**-2.3**
	0.2nm,0.5s,baz=348,slow=2.8,SNR=6.1							
KSRS	**Korea Array**	**35.45**	**1**	P		**P**	**15 27 57.4**	**+0.1**
	2.2nm,0.6s,baz=176,slow=9.6,SNR=9.0							
STKA	**Stephens Creek**	**36.19**	**159**	P		**P**	**15 28 02.7**	**-1.0**
	3.5nm,0.7s,baz=337,slow=9.5,SNR=6.0							
USRK	**Ussuriysk Arra**	**42.39**	**5**	P		**P**	**15 28 55.7**	**+0.6**
	2.9nm,0.7s,baz=180,slow=3.8,SNR=5.4							
ASAJ	**Asahikawa**	**44.25**	**16**	P		**P**	**15 29 10.4**	**+0.4**
	5.2nm,0.9s,baz=228,slow=9.9,SNR=6.8							
SONM	**Songino Array**	**49.24**	**342**	P		**P**	**15 29 49.8**	**+0.8**
	1.3nm,0.7s,baz=148,slow=8.7,SNR=4.2							
PETK	**Petropavlovsk-**	**56.98**	**21**	P		**P**	**15 30 46.6**	**+1.1**
	2.6nm,0.8s,baz=127,slow=0.7,SNR=6.0							
MKAR	**Makanchi Array**	**59.39**	**326**	P		**P**	**15 31 03.2**	**+0.7**
	2.0nm,0.5s,baz=120,slow=8.3,SNR=34							
ZALV	**Zalesovo Beam**	**62.49**	**333**	P		**P**	**15 31 21.8**	**-1.5**
	0.4nm,0.4s,baz=121,slow=7.6,SNR=2.8							
KURBB	**Kurchatov Arra**	**63.60**	**328**	P		**P**	**15 31 30.8**	**+0.2**
	1.9nm,0.5s,baz=125,slow=6.7,SNR=17							
BVAR	**Borovoye Array**	**69.17**	**327**	P		**P**	**15 32 06.2**	**0.0**
	0.9nm,0.7s,baz=139,slow=9.2,SNR=5.2							
ILAR	**Eielson Array**	**86.58**	**25**	P		**P**	**15 33 41.0**	**-1.2**
	0.2nm,0.6s,baz=261,slow=5.1,SNR=4.5							

KRSC 24 15:22:29.7±1.1, 55°29N×160°65E, h188km±38km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TUMR	**Tumrok**	**0.29**	**269**	*eP*		Pn	15 22 55.8	+0.9
TUMR				*i* S		Sn	15 23 14.8	+0.5
KMNR	**Kamenistaya**	**0.52**	**333**	*eP*		Pn	15 22 55.9	+0.3
MKZ	**Mys Kozlova**	**0.96**	**139**	P		Pn	15 22 59.2	+1.3
MKZ				*i* S		Sn	15 23 20.8	+1.1
KBTR	**Krutoberegovo**	**1.53**	**52**	*eP*		Pn	15 23 02.8	+0.2
KBTR				*eS*		Sn	15 23 27.0	-1.2
SPN	**Mys Shipunski**	**2.23**	**190**	P		Pn	15 23 10.2	+0.4
SPN				*i* S		Sn	15 23 40.0	-0.9
NLC	**Nalytchevo**	**2.26**	**200**	P		Pn	15 23 11.4	+1.3
SDLR	**Sedlovina**	**2.27**	**208**	P		Pn	15 23 12.1	+1.7
SMAR	**Somma**	**2.30**	**209**	P		Pn	15 23 12.6	+1.7
AVH	**Avacha**	**2.32**	**210**	P		Pn	15 23 12.7	+1.8
UGLR	**Uglovaya**	**2.34**	**208**	P		Pn	15 23 13.3	+2.1
PET	**Petropavlovsk**	**2.56**	**208**	P		Pn	15 23 15.3	+1.8
BKI	**Bering**	**3.05**	**89**	P		Pn	15 23 21.7	+2.5
BKI				*i* S		Sn	15 23 59.7	+1.9
RUS	**Russkaya**	**3.13**	**205**	*eP*		Pn	15 23 21.2	+1.0
ASAK	**Asacha**	**3.34**	**210**	P		Pn	15 23 24.6	+1.7

*BJI **24** 15:23:22.3, 28°.22N×86°.28E, h14km, mb4.2/5, ML3.5/1*
*NDI **24** 15:23:30.1±3.8, 28°.42N×86°.43E, h10km, ML3.9*
*ISCJB **24** 15:23:31.3±0.5, 28°.83N±0°.05×86°.46E±0°.04, h72km±8km, mb3.8/14, Error ellipse: s-maj=8.9km s-min=4.5km az=19.3*
*DMN **24** 15:23:32.3±0.0, 28°.76N×86°.52E, h60km, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*IDC **24** 15:23:33.1±8.7, 28°.63N×86°.52E, h75km±77km, mb3.6/14, mb1 3.8/15, mb1mx3.6/27, mbtmp3.7/15, ML4.4/1, Error ellipse: s-maj=31.6km s-min=17.3km az=34.0*
ISC 24 15:23:32.3±0.8, 28°.75N±0°.06×86°.54E±0°.04, h71km±9km, n44, σ1°51/57, mb4.0/14, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUN	**Gumba**	**1.02**	**215**	*ePg*		**Pn**	**15 23 52.2**	**+0.7**
GUN				*eSg*		**Sn**	**15 24 06.2**	**+0.5**
	20μm,0.4s							
JIRN	**Jiri**	**1.13**	**196**	*ePg*		**Pn**	**15 23 53.9**	**+1.0**
JIRN				*eSg*		**Sn**	**15 24 08.7**	**+0.5**
	10μm,0.4s							
KKN	**Kakani**	**1.47**	**230**	*ePg*		**Pn**	**15 23 57.9**	**+0.8**
PKI	**Pulchoki**	**1.54**	**221**	*ePg*		**Pn**	**15 23 59.1**	**+0.9**
PKI				*eSg*		**Sn**	**15 24 17.3**	**-0.4**
	3μm,0.2s							
DMN	**Daman**	**1.71**	**228**	*ePg*		**Pn**	**15 24 01.0**	**+0.7**
DMN				*eSg*		**Sn**	**15 24 21.6**	**+0.2**
	1μm,0.2s							
TAPN	**Taplejung**	**1.73**	**143**	*ePg*		**Pn**	**15 24 01.3**	**+0.6**
RAMN	**Ramite**	**1.79**	**178**	*ePg*		**Pn**	**15 24 01.5**	**0.0**
RAMN				*eSg*		**Sn**	**15 24 22.8**	**-0.7**
	1μm,0.2s							
GKN	**Gorkha**	**1.84**	**247**	*ePg*		**Pn**	**15 24 02.0**	**0.0**
GKN				*eSg*		**Sn**	**15 24 23.9**	**-0.5**
ODAN	**Odare**	**2.03**	**158**	*ePg*		**Pn**	**15 24 05.2**	**+0.6**
ODAN				*eSg*		**Sn**	**15 24 28.4**	**-0.7**
	702nm,0.2s							
GTK	**Gangtok**	**2.31**	**127**	*ePKP*		**Pn**	**15 24 06.5**	**-1.9**
GTK				*ex*		Sn	15 24 29.5	-6.5
DANN	**Dangsing**	**2.48**	**261**	*ePg*		**Pn**	**15 24 10.3**	**-0.5**
DANN				*eSn*		**Sn**	**15 24 39.1**	**-1.1**
	735nm,0.2s							
KOLN	**Koldanda**	**2.77**	**250**	*ePn*		**Pn**	**15 24 13.8**	**-0.9**
KOLN				*eSn*		**Sn**	**15 24 44.9**	**-2.3**
	647nm,0.2s							
PYUN	**Piuthan**	**3.20**	**259**	*ePn*		**Pn**	**15 24 19.4**	**-1.0**
PYUN				*eSn*		**Sn**	**15 24 55.8**	**-1.7**
	580nm,0.3s							
LSA	**Lhasa**	**4.13**	**76**	Pn		**Pn**	**15 24 34.8**	**+1.4**
LSA				Sn		**Sn**	**15 25 19.3**	**-1.5**
LSA				*smax*		*smax*		
	comp=N,70nm,0.7s							
LSA				*smax*		*smax*		
	comp=E,80nm,0.5s							
LGTI	**Lohaghat**	**5.55**	**279**	*ePKP*		Pn	15 24 58.7	+6.3
LGTI				*eS*		Sn	15 26 02.3	+7.4
PTH	**Pithoragarh**	**5.59**	**280**	*ePKP*		**Pn**	**15 24 52.1**	**-1.0**
PTH				*eS*		**Sn**	**15 25 53.5**	**-2.6**
SHL	**Shillong**	**5.72**	**122**	*ePKP*		**Pn**	**15 24 54.0**	**-0.8**
SHL				*eS*		**Sn**	**15 25 56.0**	**-3.2**
DDI	**Dehra Dun**	**7.56**	**284**	*ePKP*		**Pn**	**15 25 19.0**	**-0.9**
DDI				*eS*		**Sn**	**15 26 42.0**	**-2.1**
NDI	**New Delhi**	**8.19**	**272**	*ePKP*		**Pn**	**15 25 27.0**	**-1.5**
NDI				*eS*		Sn	15 26 50.0	-10
SMLA	**Simla**	**8.47**	**289**	*i* P		**Pn**	**15 25 32.2**	**-0.1**
SMLA				*i* x		Sn	15 26 59.4	-7.0
THN	**Thein Dam**	**10.03**	**294**	*ex*		**Pn**	**15 25 51.6**	**-1.9**
THN				*eS*		**Sn**	**15 27 40.4**	**-3.9**
NGP	**Nagpur**	**10.17**	**224**	*ePKP*		Pn	15 25 51.3	-4.2
NGP				*eS*		Sn	15 27 35.4	-13
NGP				AML		AML	15 27 54.1	
	comp=N,44nm,0.1s							
NGP				AML		AML	15 27 54.3	
	comp=E,44nm,0.1s							
CHCP	**Chirah Chowk**	**12.37**	**297**	P		**Pn**	**15 26 23.6**	**-2.0**
THW	**Thamme Wali**	**13.35**	**291**	P		Pn	15 26 35.4	-3.3
HYB	**Hyderabad**	**13.46**	**215**	*eP*		Pn	15 26 34.5	-5.8
HYB				*eS*		Sn	15 28 52.0	-16
CEP	**Cherat**	**13.49**	**296**	P		**Pn**	**15 26 37.7**	**-3.1**
CEP				S		Sn	15 28 59.0	-10
KSH	**Kashi**	**13.84**	**324**	*eP*		**Pn**	**15 26 42.3**	**-3.0**
CMAR	**Chiang Mai Arr**	**15.29**	**129**	P		**P**	**15 27 07.2**	**-0.3**
	comp=E,0.3nm,0.3s,baz=313,slow=12,SNR=4.8							
MKAR	**Makanchi Array**	**18.32**	**351**	P		**Pn**	**15 27 41.5**	**+0.1**
	comp=E,1.3nm,0.3s,baz=162,slow=12,SNR=66							
KURBB	**Kurchatov Arra**	**22.67**	**347**	P		**P**	**15 28 29.2**	**+1.5**
	comp=E,10.0nm,0.7s,baz=164,slow=9.4,SNR=119							
SONM	**Songino Array**	**24.49**	**34**	P		**P**	**15 28 47.2**	**+2.3**
	comp=E,8.9nm,0.7s,baz=219,slow=10,SNR=78							
ZALV	**Zalesovo Beam**	**25.21**	**358**	P		**P**	**15 28 52.8**	**+1.6**
	comp=E,2.6nm,0.5s,baz=191,slow=8.2,SNR=17							
BVAR	**Borovoye Array**	**27.02**	**338**	P		**P**	**15 29 09.3**	**+1.7**
	comp=E,0.7nm,0.5s,baz=148,slow=10.0,SNR=10							
KSRS	**Korea Array**	**35.50**	**65**	P		**P**	**15 30 22.1**	**-0.1**
	comp=E,1.2nm,0.6s,baz=265,slow=8.0,SNR=5.9							
AKASG	**Malin Array Be**	**47.87**	**314**	P		**P**	**15 32 03.4**	**+0.4**
	comp=E,1.4nm,0.5s,baz=79,slow=7.3,SNR=6.2							
FINES	**FINESS Array B**	**51.12**	**328**	P		**P**	**15 32 28.4**	**+0.8**
	comp=E,0.8nm,0.5s,baz=98,slow=12,SNR=5.4							
ARCES	**ARCESS Array B**	**53.31**	**337**	P		**P**	**15 32 45.1**	**+1.4**
	comp=E,2.4nm,0.7s,baz=103,slow=7.4,SNR=11							
NB2	**NORSAR Subarra**	**58.25**	**326**	P		**P**	**15 33 18.9**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=88,slow=6.9							
NOA	**NORSAR Array B**	**58.25**	**326**	P		**P**	**15 33 19.5**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=87,slow=7.0,SNR=4.0							
WRA	**Warramunga Arr**	**66.88**	**131**	P		**P**	**15 34 16.9**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=324,slow=6.6,SNR=4.8							
WRA				pP		**pP**	**15 34 38.7**	**+2.9**
	comp=Z,0.9nm,0.5s,baz=321,slow=6.6,SNR=3.8							
ASAR	**Alice Springs**	**69.25**	**134**	P		**P**	**15 34 32.4**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=323,slow=6.6,SNR=6.4							
ASAR				pP		**PcP**	**15 34 53.5**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=318,slow=6.5,SNR=6.8							
ILAR	**Eielson Array**	**77.99**	**21**	P		**P**	**15 35 23.2**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=312,slow=4.8,SNR=9.3							
TORD	**Torodi Ar. Bea**	**79.34**	**279**	P		**P**	**15 35 31.4**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=60,slow=4.3,SNR=5.2							
YKA	**Yellowknife Ar**	**87.50**	**10**	P		**P**	**15 36 12.8**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=336,slow=5.0,SNR=6.4							

IDC 24 15:28:19.7±1.7, 27°.47S×176°.33W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.9/17, mbtmp4.0/4, MS3.8/5, Ms1 3.8/5, ms1mx3.4/31, Error ellipse: s-maj=62.6km s-min=38.6km az=1.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.54**	**285**	LR		LR	15 36 33.2	
	comp=Z,277nm,20.3s,baz=19,slow=30							
TBI	**Tubuai**	**24.59**	**86**	*e*LR		LR	15 39 24.0	
	238nm,30.5s							
TBI				*e*T		T	15 58 40.2	
	5.2nm,0.3s							
PAE	**Paea**	**26.51**	**74**	*e*T		T	16 00 57.6	
	2.5nm,0.3s							
PPT2	**Papeete2**	**26.54**	**74**	*e*LR		LR	15 39 43.6	
	218nm,29.8s							
PPT2				*e*T		T	16 01 01.2	
	1.2nm,0.2s							
PPT	**Papeete**	**26.55**	**74**	LR		LR	15 42 02.7	
	comp=Z,76nm,19.2s,baz=147,slow=31							
CTA	**Charters Tower**	**34.92**	**274**	P		P	15 35 14.9	+1.5
	5.3nm,0.7s,baz=94,slow=8.5,SNR=12							
STKA	**Stephens Creek**	**36.66**	**253**	P		P	15 35 27.9	-0.3
	1.8nm,0.8s,baz=76,slow=12,SNR=3.7							
STKA				LR		LR	15 47 47.0	
	comp=Z,213nm,18.5s,baz=24,slow=32							
ASAR	**Alice Springs**	**44.82**	**263**	P		P	15 36 34.9	-0.9
	0.3nm,0.4s,baz=102,slow=7.0,SNR=12							
ASAR				LR		LR	15 55 01.4	
	comp=Z,154nm,19.8s,baz=106,slow=36							
WRA	**Warramunga Arr**	**45.55**	**268**	P		P	15 36 40.6	-1.0
	1.3nm,1.0s,baz=107,slow=7.1,SNR=7.5							
LPAZ	**La Paz**	**97.97**	**113**	LR		LR	16 17 16.9	
	comp=Z,58nm,18.6s,baz=287,slow=30							
AKASG	**Malin Array Be**	**149.75**	**327**	PKPbc		PKPbc	15 48 09.9	-1.4
	0.3nm,0.3s,baz=44,slow=2.8,SNR=3.8							
BRTR	**Keskin Array B**	**152.34**	**304**	PKPab		PKPab	15 48 28.6	+0.7
	1.1nm,0.8s,baz=90,slow=3.7,SNR=4.1							
TORD	**Torodi Ar. Bea**	**165.63**	**172**	PKPab		PKPab	15 49 25.9	+0.2
	0.5nm,0.8s,baz=192,slow=2.5,SNR=4.8							

*BJI **24** 15:29:19.5, 1°.35N×97°.42E, h13km, mB4.9/6, mb4.7/17, Ms4.4/2, Ms7 4.1/3*
*IDC **24** 15:29:23.2±0.8, 1°.39N×97°.00E, h22km±5km, mb4.2/19, mb1 4.2/21, mb1mx4.1/29, mbtmp4.1/21, ML3.9/2, MS3.4/5, Ms1 3.4/5, ms1mx3.1/42, Error ellipse: s-maj=19.1km s-min=13.2km az=39.0*
*DJA **24** 15:29:29, 1°.61N×97°.47E, h5km, MLv4.2/9*
ISC 24 15:29:23.4±0.7, 1°.42N±0°.07×97°.00E±0°.07, h23km±4km, h22km:pP-P,n53,σ1°15/60, mb4.3/22, MS3.4/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.59**	**101**	P		**Pn**	**15 29 36.1**	**-0.3**
GSI				S		**Sn**	**15 29 45.5**	**+0.2**
TPTI		**1.84**	**6**	P		Pb	15 30 00.5	+4.0
PSI	**Prapat**	**2.37**	**54**	P		**Pn**	**15 30 00.4**	**-0.6**
PSI	**Prapat**	**2.37**	**54**	Pn		**Pn**	**15 29 59.9**	**-1.1**
	6.9nm,0.3s,baz=234,slow=5.2,SNR=59							
PSI				Pg		**Pb**	**15 30 07.0**	**+1.5**
	13nm,0.3s,baz=195,slow=10,SNR=39							
PSI				LR		LR	15 30 39.7	
	comp=Z,309nm,19.5s,baz=283,slow=33							
TSI	**Tuntungan**	**2.60**	**37**	P		**Pn**	**15 30 04.0**	**-0.1**
MNSI	**Mandailing Nat**	**2.65**	**103**	P		**Pn**	**15 30 05.2**	**+0.3**
BKNI	**Bangkinang**	**4.18**	**105**	P		Pb	15 30 40.3	+3.9
BSI	**Banda Aceh**	**4.40**	**337**	P		**Pn**	**15 30 27.4**	**-1.5**
FRIM	**Kepong**	**4.96**	**69**	P		**Pn**	**15 30 38.5**	**+1.9**
IPM	**Ipoh**	**5.04**	**53**	P		**Pn**	**15 30 38.3**	**+0.5**
IPM	**Ipoh**	**5.04**	**53**	P		**Pn**	**15 30 37.8**	**0.0**
	48nm,0.7s,597nm							
KULM	**Kulim**	**5.30**	**43**	P		**Pn**	**15 30 41.3**	**0.0**
KULM	**Kulim**	**5.30**	**43**	P		**Pn**	**15 30 40.8**	**-0.5**
	75nm,0.9s,758nm							
KGM	**Kluang**	**6.35**	**85**	P		**Pn**	**15 30 56.4**	**+0.8**
MYKOM	**Kota Tinggi**	**6.86**	**87**	P		**Pn**	**15 31 01.2**	**-1.5**
	27nm,1.0s,576nm							
KSI	**Kapahiang**	**7.52**	**132**	P		**Pn**	**15 31 12.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**17.04**	**6**	P		**Pn**	**15 33 18.9**	**-1.5**
	0.4nm,0.3s,baz=195,slow=13,SNR=15							
SDKM	**Sandakan**	**20.59**	**78**	P		**P**	**15 34 01.7**	**+0.5**
KAPI	**Kappang**	**23.61**	**106**	LR		LR	15 44 10.5	
	comp=Z,116nm,18.1s,baz=111,slow=38							
SHL	**Shillong**	**24.51**	**349**	*e*PKP		**P**	**15 34 42.5**	**+0.9**
ODAN	**Odare**	**26.93**	**341**	*eP*		**P**	**15 35 05.0**	**+1.5**
RAMN	**Ramite**	**27.28**	**339**	*eP*		**P**	**15 35 08.1**	**+1.4**
TAPN	**Taplejung**	**27.28**	**342**	*eP*		**P**	**15 35 08.1**	**+1.4**
	55nm,0.9s							
JIRN	**Jiri**	**28.08**	**339**	*eP*		**P**	**15 35 15.4**	**+1.5**
	6.7nm,0.8s							
PKI	**Pulchoki**	**28.28**	**338**	*eP*		**P**	**15 35 16.7**	**+1.0**
GUN	**Gumba**	**28.42**	**339**	*eP*		**P**	**15 35 18.3**	**+1.4**
	22nm,0.6s							
DMN	**Daman**	**28.43**	**337**	*eP*		**P**	**15 35 18.2**	**+1.3**
KKN	**Kakani**	**28.53**	**338**	*eP*		**P**	**15 35 18.8**	**+1.0**
	22nm,1.0s							
GKN	**Gorkha**	**28.96**	**337**	*eP*		**P**	**15 35 22.9**	**+1.3**
KOLN	**Koldanda**	**29.18**	**335**	*eP*		**P**	**15 35 25.2**	**+1.6**
	22nm,0.6s							
DANN	**Dangsing**	**29.62**	**336**	*eP*		**P**	**15 35 29.0**	**+1.4**
	13nm,0.6s							
LZH	**Lanzhou**	**35.08**	**10**	*eP*		**P**	**15 36 14.5**	**-0.6**
LZH				pP		**pP**	**15 36 19.0**	**-3.0**
LZH				*pmax*		*pmax*		
	comp=Z,16nm,1.3s							
GTA	**Gaotai**	**37.90**	**4**	*eP*		**P**	**15 36 39.8**	**+0.6**
GTA				pP		**pP**	**15 36 44.6**	**-1.5**
GTA				sP		**sP**	**15 36 48.3**	**-0.5**
GTA				*pmax*		*pmax*		
	comp=Z,4.0nm,1.1s							
JOW	**Kunigami**	**39.24**	**47**	P		**P**	**15 36 49.3**	**-1.2**
	comp=Z,19nm,0.7s,baz=252,slow=5.9,SNR=7.3							
WRA	**Warramunga Arr**	**42.32**	**122**	P		**P**	**15 37 15.2**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=302,slow=9.2,SNR=6.2							
WRA				pP		**pP**	**15 37 22.3**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=301,slow=9.0,SNR=8.7							
WRA				LR		LR	15 57 24.8	
	comp=Z,146nm,18.7s,baz=145,slow=40							
WMQ	**Urumqi**	**43.03**	**350**	P		**P**	**15 37 22.0**	**+0.6**
WMQ				pP		**pP**	**15 37 32.3**	**+3.9**
WMQ				*pmax*		*pmax*		
	comp=Z,15nm,1.3s							
WMQ				LR		LR		
	comp=Z,160nm,14.8s							
ASAR	**Alice Springs**	**43.68**	**127**	P		**P**	**15 37 26.8**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=306,slow=7.8,SNR=9.0							
ASAR				pP		**pP**	**15 37 33.1**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=296,slow=7.7,SNR=5.3							
JNU	**Nakatsue**	**44.78**	**42**	P		**P**	**15 37 34.9**	**-0.7**
	comp=Z,8.3nm,0.9s,baz=292,slow=1.7,SNR=4.4							
KSRS	**Korea Array**	**45.79**	**35**	P		**P**	**15 37 42.9**	**-0.6**
	comp=Z,6.9nm,0.8s,baz=218,slow=9.3,SNR=18							
KSRS				LR		LR	15 57 24.1	
	comp=Z,44nm,20.9s,baz=235,slow=37							
SONM	**Songino Array**	**46.95**	**9**	P		**P**	**15 37 52.9**	**+0.2**
	comp=Z,8.0nm,0.8s,baz=192,slow=8.3,SNR=58							
SONM				PcP		**PcP**	**15 39 25.0**	**0.0**
	comp=Z,1.0nm,0.9s,baz=177,slow=4.2,SNR=4.0							
SONM				LR		LR	15 58 25.8	
	comp=Z,34nm,19.0s,baz=171,slow=37							
MKAR	**Makanchi Array**	**46.99**	**346**	P		**P**	**15 37 53.4**	**+0.5**
	comp=Z,6.2nm,0.6s,baz=160,slow=8.2,SNR=91							
KURBB	**Kurchatov Arra**	**51.47**	**345**	P		**P**	**15 38 27.5**	**+0.5**
	comp=Z,2.4nm,0.7s,baz=165,slow=7.2,SNR=32							
USRK	**Ussuriysk Arra**	**52.70**	**31**	P		**P**	**15 38 36.2**	**0.0**
	comp=Z,15nm,1.0s,baz=240,slow=4.9,SNR=13							
ZALV	**Zalesovo Beam**	**53.32**	**351**	P		**P**	**15 38 41.0**	**+0.3**
	comp=Z,7.3nm,0.7s,baz=179,slow=7.0,SNR=34							
STKA	**Stephens Creek**	**53.65**	**132**	P		**P**	**15 38 44.0**	**+0.5**
	comp=Z,2.6nm,0.6s,baz=356,slow=6.8,SNR=8.0							
BVAR	**Borovoye Array**	**55.98**	**341**	P		**P**	**15 38 59.8**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=137,slow=8.9,SNR=16							
KBZ	**Khabaz**	**63.78**	**319**	P		**P**	**15 39 54.6**	**+0.8**
	comp=Z,1.6nm,0.9s,baz=78,slow=7.8,SNR=4.4							
BRTR	**Keskin Array B**	**68.82**	**312**	P		**P**	**15 40 25.9**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=149,slow=7.6,SNR=3.3							
BRTR				pP		**pP**	**15 40 33.9**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=128,slow=7.7,SNR=3.8							
AKASG	**Malin Array Be**	**74.97**	**322**	P		**P**	**15 41 01.1**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=86,slow=5.3,SNR=4.1							
FINES	**FINESS Array B**	**79.72**	**333**	P		**P**	**15 41 28.8**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=103,slow=6.1,SNR=7.1							
ARCES	**ARCESS Array B**	**82.27**	**340**	P		**P**	**15 41 43.1**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=101,slow=6.3,SNR=7.9							
GERES	**GERESS Array B**	**84.52**	**319**	P		**P**	**15 41 55.0**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=72,slow=4.3,SNR=6.3							
NOA	**NORSAR Array B**	**86.72**	**331**	P		**P**	**15 42 05.3**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=98,slow=5.0,SNR=3.4							

*NOU **24** 15:33:47.6±1.4, 20°.68S×170°.71E, h10km, MD3.2, ML3.3*
*IDC **24** 15:33:50.9±1.5, 23°.29S×170°.41E, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.2/19, mbtmp4.2/8, ML4.2/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/29, Error ellipse: s-maj=37.5km s-min=31.3km az=27.0*
*ISCJB **24** 15:33:54.2±1.2, 23°.3S±0°.2×170°.3E±0°.1, h32km, mb4.1/7, MS3.7/2, Error ellipse: s-maj=34.3km s-min=10.1km az=27.7*
ISC 24 15:33:55.8±1.2, 23°.3S±0°.2×170°.4E±0°.1, h32km, n16, σ1°02/18, mb4.1/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLUM	**Mont Dore**	**3.58**	**286**	*eP*		**Pn**	**15 34 48.1**	**-1.0**
LASL	**Noumea**	**3.68**	**286**	*eP*		**Pn**	**15 34 49.2**	**-1.3**
NORM	**Noumea**	**3.73**	**286**	*eP*		**Pn**	**15 34 50.1**	**-1.1**
DZM	**Mont Dzumac**	**3.81**	**288**	*eP*		**Pn**	**15 34 51.1**	**-1.4**
DZM				*eS*		**Sn**	**15 35 37.2**	**+1.0**
DZM				AMP			15 35 46.9	
	comp=Z,452nm,1.8s							
DZM	**Mont Dzumac**	**3.81**	**288

WRA	**Warramunga Arr**	**33.64**	**269**	P		**P**	**16 12 28.3**	**-1.4**
WRA	**Warramunga Arr**	**33.64**	**269**	P		**P**	**16 12 28.3**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=98,slow=8.5,SNR=18							
WRA				LR		LR	16 26 07.1	
	comp=Z,104nm,18.9s,baz=165,slow=36							
FITZ	**Fitzroy Crossi**	**42.07**	**268**	*e*P		**P**	**16 13 41.2**	**+0.4**
	comp=Z,12nm,0.7s							
VNDA	**Vanda**	**54.54**	**182**	LR		LR	16 33 22.4	
	comp=Z,159nm,19.4s,baz=308,slow=30							
QSPA	**South Pole Qui**	**66.88**	**180**	*e*P		**P**	**16 16 40.0**	**-0.6**
	comp=Z,14nm,1.3s							
QSPA	**South Pole Qui**	**66.88**	**180**	P		**P**	**16 16 39.4**	**-1.2**
	comp=Z,5.1nm,1.1s,baz=352,slow=6.4,SNR=11							
PETK	**Petropavlovsk-**	**76.78**	**352**	LR		LR	16 47 12.6	
	comp=Z,31nm,21.0s,baz=240,slow=32							
CMAR	**Chiang Mai Arr**	**81.11**	**294**	P		**P**	**16 18 04.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**81.11**	**294**	P		**P**	**16 18 04.6**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=133,slow=4.1,SNR=12							
NVAR	**Mina Array Bea**	**90.61**	**48**	P		**P**	**16 18 51.3**	**0.0**
NVAR	**Mina Array Bea**	**90.61**	**48**	P		**P**	**16 18 51.3**	**0.0**
	comp=Z,0.3nm,0.5s,baz=224,slow=6.3,SNR=2.9							
SONM	**Songino Array**	**91.01**	**323**	P		**P**	**16 18 53.2**	**+0.4**
SONM	**Songino Array**	**91.01**	**323**	P		**P**	**16 18 53.2**	**+0.4**
	comp=Z,1.2nm,1.1s,baz=141,slow=4.9,SNR=5.5							
KOLS	**Kolonicke sedl**	**144.06**	**324**	*e*PKP		**PKPdf**	**16 25 23.0**	**-1.0**
CRVS	**Cervenica-Dubn**	**144.52**	**324**	*e*PKP		**PKPdf**	**16 25 24.8**	**0.0**
VYHS	**Vyhne**	**146.16**	**325**	*e*PKP		**PKPab**	**16 25 28.6**	**-0.8**
BRG	**Berggiesshubel**	**146.87**	**332**	*e*P		PKPab	16 25 38.2	+6.2
	comp=Z,6.8nm,1.3s							
CLL	**Collm**	**146.94**	**334**	*e*pPKPbc		**PKPab**	**16 25 35.0**	**+2.8**
PRU	**Pruhonice**	**147.25**	**331**	*e*PKP		**PKPbc**	**16 25 31.8**	**+0.1**
KHC	**Kasperske Hory**	**148.31**	**331**	*e*PKP		**PKPbc**	**16 25 34.7**	**0.0**
KHC				*e*pPKP		**pPKPdf**	**16 25 42.9**	**+2.3**
GERES	**GERESS Array B**	**148.46**	**330**	PKPbc		**PKPbc**	**16 25 34.9**	**-0.2**
GERES	**GERESS Array B**	**148.46**	**330**	PKPbc		**PKPbc**	**16 25 34.9**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=38,slow=2.4,SNR=13							
DAVOX	**Davos/Dischmat**	**151.72**	**331**	PKPbc		**PKPbc**	**16 25 42.3**	**-1.0**
DAVOX	**Davos/Dischmat**	**151.72**	**331**	PKPbc		**PKPbc**	**16 25 42.3**	**-1.0**
	comp=Z,6.1nm,0.8s,baz=37,slow=5.1,SNR=5.9							

IDC 24 16:15:11.7±3.0, **8.59S**×**151.70E**, **h0**km, **mb2.8**/2, **mb1 3.2**/3, **mb1mx3.1**/17, **mbtmp3.1**/3, **ML2.1**/1, **Error ellipse: s-maj=77.6km s-min=44.3km az=154.0, D'Entrecasteaux Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.56**	**259**	Pn	Pn	16 16 22.8	+0.9
	0.7nm,0.3s,baz=22,slow=5.4,SNR=4.1						
PMG				Sn	Sn	16 17 16.4	+0.7
	1.4nm,0.3s,baz=41,slow=18,SNR=3.3						
WRA	**Warramunga Arr**	**20.23**	**234**	P	P	16 19 47.6	-1.0
	0.2nm,0.6s,baz=59,slow=9.9,SNR=2.8						
ASAR	**Alice Springs**	**22.69**	**227**	P	P	16 20 15.5	+0.4
	0.4nm,0.6s,baz=54,slow=9.4,SNR=5.5						
TORD	**Torodi Ar. Bea**	**150.21**	**281**	PKPbc	PKPbc	16 35 05.4	-0.4
	0.2nm,0.4s,baz=102,slow=2.1,SNR=3.2						

*ISK **24** 16:16:27.8, 38.51N×39.14E, h2km, MD3.2*
*ISCJB **24** 16:16:28.7±0.6, 38.48N±0.03×39.17E±0.03, h6km±4km, Error ellipse: s-maj=4.3km s-min=3.8km az=157.1*
*DDA **24** 16:16:28.2, 38.49N×39.17E, h17km, MD3.1*
*CSEM **24** 16:16:28.7±0.1, 38.48N×39.16E, h2km, MD3.1, Error ellipse: s-maj=3.4km s-min=2.9km az=143.0*

ISC 24 16:16:28.9±1.0, **38.47N**±0.03×**39.19E**±0.03, **h8**km±8km, **n43**, σ0**.71**/61, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.16**	**280**	*i* P	**Pg**	**16 16 32.3**	**0.0**
ELZG				*i* S	**Sg**	**16 16 35.0**	**+0.3**
ELZG	**Elazig**	**0.16**	**280**	*i* P	**Pg**	**16 16 32.3**	**0.0**
ELZG				*i* S	**Sg**	**16 16 35.0**	**+0.3**
PTK	**Pertek**	**0.45**	**21**	*e*PG	**Pg**	**16 16 37.2**	**-0.5**
PTK				*e*SG	**Sg**	**16 16 44.1**	**+0.5**
PTK	**Pertek**	**0.45**	**21**	*e*Pg	**Pg**	**16 16 37.2**	**-0.5**
PTK				*e*Sg	**Sg**	**16 16 44.1**	**+0.5**
MYA	**Malataya**	**0.62**	**257**	*e*PG	**Pg**	**16 16 40.2**	**-0.6**
MYA				*e*SG	**Sg**	**16 16 49.0**	**+0.2**
MYA	**Malataya**	**0.62**	**257**	*e*Pg	**Pg**	**16 16 40.2**	**-0.6**
MYA				*e*Sg	**Sg**	**16 16 49.1**	**+0.2**
DIYA	**Diyarbakir**	**0.92**	**126**	*i* P	**Pb**	**16 16 47.1**	**0.0**
DIYA				*i* S	**Sb**	**16 16 59.6**	**+0.2**
DIYA	**Diyarbakir**	**0.92**	**126**	*i* P	**Pb**	**16 16 47.1**	**0.0**
DIYA				*i* S	**Sb**	**16 16 59.6**	**+0.2**
KEMA	**Kemaliye**	**0.96**	**326**	*i* P	**Pg**	**16 16 46.1**	**-1.3**
KEMA				*i* S	**Sg**	**16 16 59.7**	**-0.3**
KEMA	**Kemaliye**	**0.96**	**326**	*i* P	**Pg**	**16 16 46.1**	**-1.3**
KEMA				*i* S	**Sg**	**16 16 59.7**	**-0.3**
DIY	**Diyarbakir**	**1.00**	**125**	*e*PG	**Pb**	**16 16 48.4**	**-0.1**
DIY	**Diyarbakir**	**1.00**	**125**	*e*Pg	**Pb**	**16 16 48.4**	**-0.1**
AKCD	**Akcadag**	**1.01**	**261**	*i* P	**Pg**	**16 16 47.0**	**-1.3**
AKCD				*i* S	**Sg**	**16 17 00.9**	**-0.5**
AKCD	**Akcadag**	**1.01**	**261**	*i* P	**Pg**	**16 16 47.0**	**-1.3**
AKCD				*i* S	**Sg**	**16 17 00.9**	**-0.5**
URFA	**Urfa**	**1.07**	**196**	*e*PN	**Pb**	**16 16 49.7**	**0.0**
URFA	**Urfa**	**1.07**	**196**	*e*Pn	**Pb**	**16 16 49.7**	**0.0**
ERZN	**Erzincan**	**1.19**	**20**	*e*PN	**Pg**	**16 16 51.1**	**-0.6**
ATAB	**Bozova**	**1.22**	**216**	*i* P	**Pn**	**16 16 52.3**	**0.0**
ATAB				*i* S	**Sb**	**16 17 08.1**	**-0.1**
ATAB	**Bozova**	**1.22**	**216**	*i* P	**Pn**	**16 16 52.3**	**0.0**
ATAB				*i* S	**Sb**	**16 17 08.1**	**-0.1**
EZC	**Erzincan**	**1.29**	**6**	*e*Pn	**Pg**	**16 16 51.1**	**-2.5**
KELT	**Kelkit**	**1.68**	**2**	*i* P	**Pb**	**16 17 00.1**	**-0.1**
KELT				*i* S	**Sn**	**16 17 21.8**	**+1.2**
KELT	**Kelkit**	**1.68**	**2**	*i* P	**Pb**	**16 17 00.1**	**-0.1**
KELT				*i* S	**Sn**	**16 17 21.8**	**+1.2**
MARD	**Mardin**	**1.71**	**132**	*i* P	**Pn**	**16 16 59.4**	**+0.3**
MARD				*i* S	**Sn**	**16 17 20.5**	**-0.7**
BEST	**Besiri**	**1.74**	**109**	*i* P	**Pn**	**16 17 00.1**	**+0.6**
BEST				*i* S	**Sb**	**16 17 24.2**	**+1.0**
BTMT	**Batman**	**1.83**	**98**	*e*PN	**Pn**	**16 17 00.2**	**-0.5**
BTMT	**Batman**	**1.83**	**98**	*e*Pn	**Pn**	**16 17 00.2**	**-0.5**
VRTB	**Varto-Mus**	**1.90**	**68**	*e*PN	**Pn**	**16 17 02.7**	**+0.9**
VRTB	**Varto-Mus**	**1.90**	**68**	*e*Pn	**Pn**	**16 17 02.7**	**+0.9**
GUMT	**Gumushane**	**2.00**	**6**	*e*PN	**Pn**	**16 17 03.4**	**+0.2**
GUMT	**Gumushane**	**2.00**	**6**	*e*Pn	**Pn**	**16 17 03.4**	**+0.2**
GAZ	**Gaziantep**	**2.03**	**231**	*e*PN	**Pn**	**16 17 04.4**	**+0.9**
GAZ	**Gaziantep**	**2.03**	**231**	*e*Pn	**Pn**	**16 17 04.4**	**+0.9**
KMRS	**Kahramanmaras**	**2.05**	**243**	*e*PN	**Pn**	**16 17 04.5**	**+0.8**
KMRS	**Kahramanmaras**	**2.05**	**243**	*e*Pn	**Pn**	**16 17 04.5**	**+0.8**
BAYT	**Ayd¨–ntepe-Bay**	**2.06**	**21**	*e*PN	**Pn**	**16 17 04.3**	**+0.3**
BAYT	**Ayd¨–ntepe-Bay**	**2.06**	**21**	*e*Pn	**Pn**	**16 17 04.3**	**+0.3**
EZM	**Erzurum**	**2.22**	**49**	*e*PN	**Pn**	**16 17 06.9**	**+0.7**
ESPY	**Espiye-Giresun**	**2.47**	**352**	*e*PN	**Pn**	**16 17 10.0**	**+0.5**
ESPY	**Espiye-Giresun**	**2.47**	**352**	*e*Pn	**Pn**	**16 17 10.0**	**+0.5**
BNN	**Bunyan**	**2.65**	**279**	*e*PN	**Pn**	**16 17 12.0**	**0.0**
BNN	**Bunyan**	**2.65**	**279**	*e*Pn	**Pn**	**16 17 12.0**	**0.0**
KOZT	**Kozan**	**2.83**	**251**	*e*PN	**Pn**	**16 17 15.4**	**+0.9**
KOZT	**Kozan**	**2.83**	**251**	*e*Pn	**Pn**	**16 17 15.4**	**+0.9**

MAN 24 16:16:48, 16.28N×**119.82E, h31**km, **mb4.2, ML3.0, MS2.7, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.14**	**44**	*e*P	Pn	16 16 55.6	+1.6
BOLP				*e*S	Sb	16 17 00.0	+2.4
BCPH	**Baguio City Da**	**0.74**	**82**	↑*i*P	Pn	16 16 59.5	-3.1
ABRA	**Dolores**	**1.61**	**32**	*e*P	Pn	16 17 15.0	+0.7
ABRA				*e*S	Sn	16 17 30.3	-3.6
BALP	**Baler**	**1.78**	**107**	*e*P	Pn	16 17 17.3	+0.7
CAUP	**Cauayan**	**2.03**	**71**	*e*P	Pb	16 17 22.6	-1.7

*PGC **24** 16:20:22.8±10.0, 62.92N×143.68W, h5km, ML4.6/3, Mw4.0, 243km northeast of Valdez, Ak Central Alaska*
*ISCJB **24** 16:20:22.0±0.5, 62.99N±0.02×143.51W±0.05, h9km±3km, mb3.6/12, MS3.3/1, Error ellipse: s-maj=3.6km s-min=3.3km az=21.5*
*NEIC **24** 16:20:23.6, 62.88N×143.80W, h6km, mb4.3/3, ML3.9(AEIC), MW4.0(USGS), MW4.0(PGC), After AEIC.*
*IDC **24** 16:20:24.2±1.8, 63.07N×143.37W, h12km±13km, mb3.5/8, mb1 3.9/13, mb1mx3.7/30, mbtmp3.6/13, ML3.7/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/30, Error ellipse: s-maj=14.9km s-min=9.3km az=36.0*

ISC 24 16:20:23.2±0.8, **62.95N**±0.03×**143.62W**±0.03, **h10**km±5km, **n87**, σ1**.19**/100, **mb3.6**/12, **6D, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MENT	**Mentasta**	**0.05**	**252**	*e*Pg	**Pg**	**16 20 25.1**	**-0.2**
MENT				*e*Sg	**Sg**	**16 20 26.9**	**+0.2**
DOT	**Dot Lake**	**0.73**	**344**	P	**Pg**	**16 20 37.6**	**+0.4**
DOT				S	**Sb**	**16 20 47.9**	**-0.1**
PAX	**Paxson**	**0.85**	**272**	P	**Pg**	**16 20 38.0**	**-1.4**
PAX				S	**Sg**	**16 20 49.4**	**-1.2**
HARP	**HAARP**	**0.90**	**233**	P	**Pg**	**16 20 39.1**	**-1.4**
HARP				S	**Sg**	**16 20 51.4**	**-0.7**
DDM	**Donnelly Dome**	**1.31**	**311**	P	**Pn**	**16 20 47.7**	**0.0**
DHY	**Denali Highway**	**1.72**	**276**	P	**Pn**	**16 20 53.0**	**-0.3**
VRDI	**Verde Repeater**	**1.73**	**177**	P	**Pn**	**16 20 53.0**	**-0.6**
BALM	**Baldy**	**2.02**	**162**	P	**Pn**	**16 20 57.2**	**-0.1**
BMRM	**Bremner River**	**2.05**	**194**	P	**Pn**	**16 20 56.7**	**-1.0**
SCM	**Sheep Creek Mo**	**2.06**	**239**	P	**Pn**	**16 20 57.9**	**-0.1**
HDA	**Harding Lake**	**2.08**	**316**	P	**Pn**	**16 20 57.9**	**-0.3**
DIV	**Divide**	**2.09**	**210**	P	**Pn**	**16 20 58.1**	**-0.3**
BARN	**Barnard Glacie**	**2.11**	**153**	P	**Pn**	**16 20 58.1**	**-0.7**
KIAG	**Kiagna River**	**2.12**	**163**	P	**Pn**	**16 20 58.6**	**-0.3**
EGAK	**Eagle**	**2.13**	**30**	*e*Pn	**Pn**	**16 20 59.5**	**+0.7**
EGAK				*e*Pg	**Pb**	**16 21 03.3**	**+1.5**
EGAK				*e*Sg	**Sg**	**16 21 32.5**	**+1.0**
DAWY	**Dawson**	**2.20**	**58**	P	**Pn**	**16 20 59.6**	**-0.2**
DAWY	**Dawson**	**2.20**	**58**	⇑Pn	**Pn**	**16 20 59.8**	**0.0**
DAWY				⇑Pg	**Pb**	**16 21 03.8**	**+0.7**
DAWY				⇑Sg	**Sb**	**16 21 32.3**	**+2.0**
VLZ	**Valdez**	**2.23**	**216**	P	**Pn**	**16 20 59.9**	**-0.3**
ILAR	**Eielson Array**	**2.33**	**323**	Pn	**Pn**	**16 21 00.7**	**-0.9**
ILAR				Pg	**Pb**	**16 21 06.2**	**+1.0**
ILAR				Lg	Lg	16 21 36.5	
ILAR	**Eielson Array**	**2.33**	**323**	Pn	**Pn**	**16 21 00.7**	**-0.9**
	6.7nm,0.3s,baz=152,slow=12,SNR=237						
ILAR				Pg	**Pb**	**16 21 06.2**	**+1.0**
	109nm,0.3s,baz=139,slow=16,SNR=557						
ILAR				Lg	Lg	16 21 36.5	
	521nm,0.3s,baz=140,slow=30,SNR=29						
RND	**Reindeer**	**2.42**	**283**	P	**Pn**	**16 21 03.5**	**+0.6**
ISLE	**Juniper Island**	**2.44**	**165**	P	**Pn**	**16 21 03.6**	**+0.4**
GOAT	**Goat Mountain**	**2.44**	**193**	P	**Pn**	**16 21 03.9**	**+0.8**
SML	**Sawmill**	**2.48**	**244**	*e*P	**Pn**	**16 21 05.0**	**+1.3**
CCB	**Clear Creek Bu**	**2.52**	**314**	P	**Pn**	**16 21 03.2**	**-0.9**
MCK	**McKinley**	**2.52**	**290**	P	**Pn**	**16 21 05.6**	**+1.4**
KHIT	**Khitrov Hills**	**2.53**	**176**	P	**Pn**	**16 21 04.9**	**+0.5**
BERG	**Berg Lake**	**2.57**	**181**	P	**Pn**	**16 21 05.9**	**+1.0**
BAGL	**Bagley Icefiel**	**2.58**	**163**	P	**Pn**	**16 21 05.9**	**+1.0**
BARK	**Barkley Ridge**	**2.62**	**168**	P	**Pn**	**16 21 05.4**	**-0.2**
EYAK	**Cordova Ski Ar**	**2.62**	**204**	P	**Pn**	**16 21 06.5**	**+1.0**
GLM	**Gilmore Dome**	**2.63**	**322**	P	**Pn**	**16 21 05.7**	**-0.1**
GRIN	**Grindle Hills**	**2.69**	**177**	P	**Pn**	**16 21 07.4**	**+0.9**
COLA	**College**	**2.69**	**318**	P	**Pn**	**16 21 05.4**	**-1.0**
PRP	**Porcupine Dome**	**2.71**	**343**	P	**Pn**	**16 21 07.6**	**+0.7**
NICHA	**Nichawak Mount**	**2.73**	**184**	P	**Pn**	**16 21 07.7**	**+0.6**
KULT	**Kultieth River**	**2.75**	**171**	P	**Pn**	**16 21 08.3**	**+0.9**
TABL	**Table Mountain**	**2.78**	**154**	P	**Pn**	**16 21 08.7**	**+0.7**
MDM	**Murphy Dome**	**2.86**	**317**	P	**Pn**	**16 21 07.9**	**-1.0**
RKAV	**Rock Avalanche**	**2.88**	**157**	P	**Pn**	**16 21 10.0**	**+0.8**
MESA	**MESA**	**2.90**	**163**	P	**Pn**	**16 21 10.5**	**+0.9**
PMR	**Palmer**	**2.92**	**245**	P	**Pn**	**16 21 10.9**	**+1.3**
NEA	**Nenana**	**2.92**	**306**	P	**Pn**	**16 21 10.0**	**+0.3**
TRF	**Thorofare Moun**	**3.06**	**282**	*e*P	**Pn**	**16 21 13.2**	**+1.4**
RC01	**Rabbit Creek A**	**3.44**	**240**	*e*P	**Pn**	**16 21 16.1**	**+1.3**
HYT	**Haines Junctio**	**3.60**	**124**	⇑Pn	**Pn**	**16 21 17.9**	**-1.2**
HYT				⇓Pg	**Pb**	**16 21 27.2**	**+0.3**
HYT				⇓Sg	**Sb**	**16 22 14.1**	**+3.5**
PNL	**Peninsula**	**3.87**	**146**	*e*P	**Pn**	**16 21 22.1**	**-0.6**
SLKM	**Skilak Lake**	**3.99**	**235**	*e*Pn	**Pn**	**16 21 26.0**	**+1.6**
SEW	**Seward**	**4.00**	**227**	*e*P	**Pn**	**16 21 25.3**	**+0.9**
WHY	**Whitehorse**	**4.74**	**115**	⇓Pn	**Pn**	**16 21 33.9**	**-0.9**
WHY				⇓Pg	**Pb**	**16 21 46.8**	**+0.5**
WHY				⇓Sg	**Sg**	**16 22 50.9**	**-4.3**
COLD	**Coldfoot**	**5.11**	**330**	*e*Pn	**Pn**	**16 21 40.4**	**+0.7**
	7.4nm,0.2s						
SKAG	**Skagway**	**5.32**	**127**	*e*Pn	**Pn**	**16 21 42.7**	**+0.1**
	58nm,0.6s						
INK	**Inuvik**	**6.80**	**33**	Pn	**Pn**	**16 22 02.0**	**-0.8**
INK				Sn	**Sn**	**16 23 18.2**	**-1.9**
INK				Lg	Lg	16 23 58.1	
INK	**Inuvik**	**6.80**	**33**	⇓Pn	**Pn**	**16 22 02.6**	**-0.2**
INK	**Inuvik**	**6.80**	**33**	Pn	**Pn**	**16 22 02.0**	**-0.8**
	0.7nm,0.3s,baz=232,slow=16,SNR=17						
INK				Sn	**Sn**	**16 23 18.2**	**-1.9**
	4.3nm,0.3s,baz=236,slow=7.4,SNR=4.7						
INK				Lg	Lg	16 23 58.1	
	4.9nm,0.3s,baz=128,slow=23,SNR=6.6						
KDAK	**Kodiak Island**	**6.83**	**225**	Pn	**Pn**	**16 22 03.0**	**-0.3**
KDAK	**Kodiak Island**	**6.83**	**225**	Pn	**Pn**	**16 22 03.0**	**-0.3**
	1.2nm,0.3s,baz=52,slow=11,SNR=18						
DLBC	**Dease Lake**	**8.05**	**118**	Pn	**Pn**	**16 22 20.0**	**-0.1**
DLBC				Lg	Lg	16 24 34.5	
DLBC	**Dease Lake**	**8.05**	**118**	⇑Pn	**Pn**	**16 22 19.7**	**-0.5**
DLBC				⇑Sg	Sg	16 24 31.8	-10
DLBC	**Dease Lake**	**8.05**	**118**	Pn	**Pn**	**16 22 20.0**	**-0.1**
	2.9nm,0.3s,baz=334,slow=8.6,SNR=31						
DLBC				Lg	Lg	16 24 34.5	
	1.7nm,0.3s,baz=252,slow=20,SNR=3.0						
YKA	**Yellowknife Ar**	**13.26**	**79**	Pn	**Pn**	**16 23 29.6**	**-1.6**
YKA				Sn		16 25 52.8	-5.7
YKA				Lg		16 27 17.4	
YKA	**Yellowknife Ar**	**13.26**	**79**	Pn	**Pn**	**16 23 29.6**	**-1.6**
	0.3nm,0.3s,baz=284,slow=13,SNR=6.7						
YKA				Sn	Sn	16 25 52.8	-5.7
	0.2nm,0.3s,baz=283,slow=24,SNR=3.8						
YKA				Lg	Lg	16 27 17.4	
	baz=275,slow=27,SNR=3.2						
RES	**Resolute Bay**	**20.35**	**35**	*e*P	**P**	**16 24 55.9**	**-3.4**
RES	**Resolute Bay**	**20.35**	**35**	P	**P**	**16 24 56.4**	**-2.9**
	0.5nm,0.3s,baz=346,slow=5.4,SNR=8.5						
WALA	**Waterton Lakes**	**21.40**	**117**	*e*P	**P**	**16 25 12.2**	**+1.3**
	0.2nm,0.9s						
FFC	**Flin Flon**	**22.68**	**92**	*e*P	**P**	**16 25 24.4**	**-0.1**
	7.2nm,1.0s						
PDAR	**Pinedale Array**	**28.28**	**120**	P	**P**	**16 26 17.9**	**+1.2**
PDAR	**Pinedale Array**	**28.28**	**120**	P	**P**	**16 26 17.9**	**+1.2**
	1.1nm,0.7s,baz=321,slow=5.9,SNR=8.5						
NVAR	**Mina Array Bea**	**28.94**	**136**	P	**P**	**16 26 24.6**	**+2.0**
NVAR	**Mina Array Bea**	**28.94**	**136**	P	**P**	**16 26 24.6**	**+2.0**
	0.1nm,0.3s,baz=316,slow=8.3,SNR=3.9						
TXAR	**Lajitas Array**	**42.31**	**124**	P	**P**	**16 28 17.9**	**+0.9**
TXAR	**Lajitas Array**	**42.31**	**124**	P	**P**	**16 28 17.9**	**+0.9**
	0.2nm,0.5s,baz=324,slow=6.0,SNR=2.9						
SONM	**Songino Array**	**56.50**	**311**	P	P	16 30 08.6	+3.4
SONM	**Songino Array**	**56.50**	**311**	P	P	16 30 08.6	+3.4
	0.3nm,0.8s,baz=35,slow=5.3,SNR=4.1						
KSRS	**Korea Array**	**56.75**	**288**	LR	LR	16 55 10.0	
	comp=Z,25nm,18.6s,baz=89,slow=37						
ZALV	**Zalesovo Beam**	**57.45**	**328**	P	**P**	**16 30 10.4**	**-1.1**
ZALV	**Zalesovo Beam**	**57.45**	**328**	P	**P**	**16 30 10.4**	**-1.1**
	0.2nm,0.4s,baz=9.5,slow=4.4,SNR=2.4						
ESK	**Eskdalemuir**	**58.10**	**25**	P	**P**	**16 30 15.8**	**-0.3**
	12nm,0.7s						
MKAR	**Makanchi Array**	**64.68**	**327**	P	**P**	**16 31 01.5**	**+0.7**
MKAR	**Makanchi Array**	**64.68**	**327**	P	**P**	**16 31 01.5**	**+0.7**
	0.2nm,0.8s,baz=41,slow=7.7,SNR=2.5						
AKASG	**Malin Array Be**	**66.55**	**5**	P	**P**	**16 31 13.8**	**+1.0**
AKASG	**Malin Array Be**	**66.55**	**5**	P	**P**	**16 31 13.8**	**+1.0**
	0.8nm,0.6s,baz=355,slow=6.1,SNR=2.8						
ABKAR	**Akbulak array**	**66.59**	**343**	*e*P	**P**	**16 31 11.9**	**-1.1**
	0.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**85.42**	**302**	P	**P**	**16 33 01.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**85.42**	**302**	P	**P**	**16 33 01.9**	**+1.1**
	0.8nm,0.7s,baz=355,slow=5.9,SNR=5.2						
BOSA	**Boshof**	**144.90**	**17**	PKP	**PKPab**	**16 39 59.3**	**+0.2**
BOSA	**Boshof**	**144.90**	**17**	PKP	**PKPab**	**16 39 59.3**	**+0.2**
	2.6nm,0.9s,baz=315,slow=4.3,SNR=3.6						

PRE 24 16:20:59.8±1.1, **26.41S**×**27.44E, h2**km, **ML1.6, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.52**	**188**	*e*P	Pg	16 21 10.2	+0.3
PRYS				*e*S	Sg	16 21 16.5	-0.3
PRYS				AML	AML	16 21 19.5	
	comp=Z,8.4nm,0.4s						
SLR	**Silverton**	**1.01**	**48**	*e*P	Pg	16 21 18.7	-0.8
SLR				*e*S	Sb	16 21 33.8	-0.4
SLR				AML	AML	16 21 39.4	
	comp=Z,12nm,0.5s						
LBTB	**Lobatse**	**2.17**	**310**	*e*P	Pn	16 21 38.4	+1.2
LBTB				*e*S	Sn	16 22 04.8	+0.1
LBTB				AML	AML	16 22 09.4	
	comp=Z,4.8nm,0.8s						
BOSA	**Boshof**	**2.93**	**221**	*e*P	Pn	16 21 48.6	+1.0
BOSA				*e*S	Sn	16 22 24.0	+0.5
BOSA				AML	AML	16 22 33.7	
	comp=Z,2.0nm,0.8s						

PRE 24 16:25:23.6±1.2, **26.40S**×**27.45E, h2**km, **ML1.9, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.15**	**70**	*e*P	Pg	16 25 27.4	+0.6
KLOF				*e*S	Sg	16 25 28.7	-0.4
KLOF				AML	AML	16 25 29.3	
	comp=Z,1μm,0.1s						
PRYS	**Parys**	**0.53**	**189**	*e*P	Pg	16 25 33.5	-0.5
PRYS				*e*S	Sg	16 25 40.9	0.0
PRYS				AML	AML	16 25 46.2	
	comp=Z,19nm,0.4s						
KSR	**Koster**	**0.74**	**318**	*e*P	Pg	16 25 38.6	+0.6
KSR				*e*S	Sg	16 25 48.0	+0.1
KSR				AML	AML	16 25 53.0	
	comp=Z,27nm,0.1s						
SLR	**Silverton**	**1.00**	**49**	*e*P	Pg	16 25 42.8	-0.2
SLR				*e*S	Sg	16 25 56.3	+0.1
SLR				AML	AML	16 26 02.5	
	comp=Z,24nm,0.2s						
LBTB	**Lobatse**	**2.17**	**309**	*e*P	Pn	16 26 01.6	+0.7
LBTB				*e*S	Sn	16 26 28.4	0.0
LBTB				AML	AML	16 26 33.3	
	comp=Z,8.4nm,0.2s						
BOSA	**Boshof**	**2.94**	**221**	*e*P	Pn	16 26 11.7	+0.1
BOSA				*e*S	Sn	16 26 48.4	+0.8
BOSA				AML	AML	16 26 59.3	
	comp=Z,1.9nm,0.6s						

*ISCJB **24** 17:05:18.9±0.5, 39.12N±0.03×29.04E±0.03, h2km±6km, Error ellipse: s-maj=5.2km s-min=3.5km az=161.5*
*ISK **24** 17:05:18.7, 39.10N×29.06E, h6km, MD2.8*
*DDA **24** 17:05:19.1, 39.10N×29.02E, h8km, MD2.9*
*CSEM **24** 17:05:19.3±0.1, 39.10N×29.05E, h8km, MD2.9, Error ellipse: s-maj=2.1km s-min=1.8km az=158.0*

ISC 24 17:05:19.1±0.9, **39.11N**±0.02×**29.05E**±0.02, **h10**km±8km, **n44**, σ0**.48**/60, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.27**	**257**	*i* P	**Pg**	**17 05 24.9**	**+0.4**
DEMI				*i* S	**Sg**	**17 05 28.2**	**-0.1**
DEMI	**Demirci**	**0.27**	**257**	*i* P	**Pg**	**17 05 24.9**	**+0.4**
DEMI				*i* S	**Sg**	**17 05 28.2**	**-0.1**
GDZ	**Gediz**	**0.33**	**93**	*i* P	**Pb**	**17 05 26.7**	**-0.5**

Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.83**	**64**	*e*P	Pn	17 14 26.2	-1.3
CMIG				*i* S	Sn	17 14 38.3	-2.1
HUIG	**Huatulco**	**1.05**	**204**	*e*P	Pn	17 14 28.5	-1.5
HUIG				*i* S	Sn	17 14 43.1	-1.6
VHO	**Vista Hermosa**	**1.07**	**289**	*e*P	Pn	17 14 29.7	-0.8
VHO				*i* S	Sn	17 14 43.9	-1.9
UTMO	**Huajuapan**	**2.31**	**298**	*i* P	Pn	17 14 45.9	-0.7
UTMO				*i* S	Sn	17 15 12.1	-2.4
PNIG	**Pinotepa**	**2.38**	**262**	*i* P	Pn	17 14 45.6	-1.7
PNIG				*i* S	Sn	17 15 13.5	-2.3
TGIG		**2.44**	**89**	*i* P	Pn	17 14 47.5	-0.6
TGIG				*i* S	Sn	17 15 15.8	-1.4
PCIG		**2.57**	**113**	*i* P	Pn	17 14 49.3	-0.5
PCIG				*i* S	Sn	17 15 19.3	-0.7
CCIG	**Comitan**	**3.42**	**97**	*i* P	Pn	17 15 00.5	-1.0
CCIG				*i* S	Sn	17 15 40.1	-1.1

PRE 24 17:34:24.1±1.1**, 26°40S**×**27°50E, h2**km**, ML2.1, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.11**	**60**	*e*P	Pg	17 34 26.4	-0.1
KLOF				*e*S	Sg	17 34 27.9	-0.2
KLOF				AML	AML	17 34 30.5	
	comp=Z,2μm,0.1s						
PRYS	**Parys**	**0.54**	**194**	*e*P	Pg	17 34 34.9	+0.3
PRYS				*e*S	Sg	17 34 42.7	+0.9
PRYS				AML	AML	17 34 49.1	
	comp=Z,29nm,0.2s						
ERPM	**east rand prop**	**0.67**	**85**	*e*P	Pg	17 34 37.5	+0.3
ERPM				*e*S	Sg	17 34 46.3	+0.3
ERPM				AML	AML	17 34 48.2	
	comp=Z,30nm,0.2s						
BFSD	**Buffelsfontein**	**0.79**	**234**	*e*P	Pb	17 34 40.2	-0.6
BFSD				*e*S	Sg	17 34 50.3	+0.4
BFSD				AML	AML	17 34 51.0	
	comp=Z,62nm,0.1s						
SLR	**Silverton**	**0.97**	**47**	*e*P	Pg	17 34 43.1	+0.3
SLR				*e*S	Sg	17 34 56.2	+0.6
SLR				AML	AML	17 35 04.2	
	comp=Z,24nm,0.2s						
SEK	**Senekal**	**1.92**	**177**	*e*P	Pn	17 34 57.9	-0.1
SEK				*e*S	Sn	17 35 23.1	+0.3
SEK				AML	AML	17 35 26.3	
	comp=Z,23nm,0.2s						
SWZ	**Schweizer**	**2.09**	**248**	*e*P	Pn	17 35 01.4	+1.0
SWZ				*e*S	Sn	17 35 27.1	0.0
SWZ				AML	AML	17 35 30.1	
	comp=Z,31nm,0.6s						
LBTB	**Lobatse**	**2.21**	**308**	*e*P	Pn	17 35 02.8	+0.9
LBTB				*e*S	Sn	17 35 30.3	+0.4
LBTB				AML	AML	17 35 37.5	
	comp=Z,7.1nm,0.2s						
BOSA	**Boshof**	**2.97**	**222**	*e*P	Pn	17 35 12.6	+0.1
BOSA				*e*S	Sn	17 35 49.1	+0.2
BOSA				AML	AML	17 35 58.8	
	comp=Z,3.1nm,0.2s						

PRE 24 17:36:47.1±0.8**, 26°41S**×**27°46E, h2**km**, ML2.1, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.15**	**66**	*e*P	Pg	17 36 50.2	-0.1
KLOF				*e*S	Sg	17 36 52.5	0.0
KLOF				AML	AML	17 36 54.2	
	comp=Z,1μm,0.1s						
PRYS	**Parys**	**0.52**	**189**	*e*P	Pg	17 36 57.1	-0.2
PRYS				*e*S	Sg	17 37 04.7	+0.5
PRYS				AML	AML	17 37 10.9	
	comp=Z,24nm,0.3s						
ERPM	**east rand prop**	**0.71**	**85**	*e*P	Pg	17 37 01.1	+0.1
ERPM				*e*S	Sg	17 37 10.9	+0.6
ERPM				AML	AML	17 37 19.6	
	comp=Z,11nm,0.2s						
SLR	**Silverton**	**1.00**	**48**	*e*P	Pg	17 37 07.0	+0.4
SLR				*e*S	Sg	17 37 20.1	+0.3
SLR				AML	AML	17 37 25.5	
	comp=Z,18nm,0.2s						
SEK	**Senekal**	**1.91**	**176**	*e*P	Pn	17 37 21.3	+0.3
SEK				*e*S	Sn	17 37 46.4	+0.6
SEK				AML	AML	17 37 49.3	
	comp=Z,14nm,0.3s						
SWZ	**Schweizer**	**2.05**	**247**	*e*P	Pn	17 37 23.9	+1.1
SWZ				*e*S	Sn	17 37 49.7	+0.6
SWZ				AML	AML	17 37 54.1	
	comp=Z,14nm,0.6s						
LBTB	**Lobatse**	**2.18**	**309**	*e*P	Pn	17 37 25.2	+0.7
LBTB				*e*S	Sn	17 37 52.7	+0.5
LBTB				AML	AML	17 37 58.2	
	comp=Z,13nm,0.2s						
BOSA	**Boshof**	**2.94**	**221**	*e*P	Pn	17 37 35.1	+0.1
BOSA				*e*S	Sn	17 38 11.5	+0.5
BOSA				AML	AML	17 38 18.7	
	comp=Z,9.4nm,0.5s						

*ISCJB **24** 17:46:12.0±1.3, 25°.84N±0°.03×94°.58E±0°.02, h15km±8km, mb4.5/94, MS3.7/21, Error ellipse: s-maj=5.2km s-min=3.6km az=14.1*

*MOS **24** 17:46:14.5±1.3, 25°.85N×94°.58E, h33km, mb4.8/48, Error ellipse: s-maj=9.1km s-min=5.0km az=119.6*

*LDG **24** 17:46:14.6±0.4, 26°.04N×94°.10E, h10km, Mb4.7/16, Ms3.7/6, Error ellipse: s-maj=17.5km s-min=10.0km az=156.0*

*BJI **24** 17:46:14.5, 25°.89N×94°.58E, h31km, mB4.7/22, mb4.8/40, ML4.6/2, Ms4.3/31, Ms7 4.1/23*

*TEH **24** 17:46:16.0, 25°.90N×94°.71E, h32km, ML4.6*

*NEIC **24** 17:46:16.1±0.2, 25°.84N×94°.67E, mb4.8/40, Error ellipse: s-maj=7.7km s-min=4.8km az=45.0*

*IDC **24** 17:46:16.0±0.5, 25°.81N×94°.58E, h34km±3km, mb4.0/25, mb1 4.1/25, mb1mx4.0/28, mbtmp4.0/25, MS3.6/18, Ms1 3.7/18, ms1mx3.5/47, Error ellipse: s-maj=14.9km s-min=10.4km az=49.0*

*DJA **24** 17:46:21, 25°.83N×94°.77E, h63km, mb4.8/11*

*SZGRF **24** 17:46:24.0, 24°.51N×96°.00E, h33km, mb4.7, Myanmar*

ISC 24 17:46:16.1±0.3**, 25°.88N**±0°.03×**94°.56E**±0°.03**, h32**km±2km**, h32**km**:pP-P, n338,** σ1°§**83**/353**, mb4.6**/94**, MS3.6**/21**, 16C-10D, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.22**	**208**	*e*PKP	**Pb**	**17 46 38.0**	**-0.8**
IMP				*e*S	**Sb**	**17 46 57.0**	**+2.7**
SHL	**Shillong**	**2.43**	**263**	*e*PKP	**Pn**	**17 46 54.9**	**+1.2**
SHL				*e*S	**Sn**	**17 47 25.9**	**+3.4**
AGT	**Agartala**	**3.60**	**237**	*e*PKP	**Pn**	**17 47 11.0**	**+1.4**
AGT				*ex*	x	17 48 18.0	
LSA	**Lhasa**	**4.86**	**322**	Pn	**Pn**	**17 47 30.3**	**+2.9**
LSA				smax	smax		
	comp=N,400nm,0.7s						
LSA				smax	smax		
	comp=E,600nm,0.7s						
LSA	**Lhasa**	**4.86**	**322**	*e*P	**Pn**	**17 47 29.9**	**+2.5**
LSA				*e*	**Sn**	**17 48 20.4**	**-2.4**
LSA	**Lhasa**	**4.86**	**322**	*e*Pn	**Pn**	**17 47 29.9**	**+2.5**
LSA				*e*Sn	**Sn**	**17 48 20.4**	**-2.4**
GTK	**Gangtok**	**5.51**	**287**	*e*PKP	**Pn**	**17 47 34.0**	**-2.1**
GTK				*ex*	**Sn**	**17 48 36.0**	**-2.5**
SLGI	**Shiliguri**	**5.57**	**280**	*ex*	x	17 47 54.8	
SHBG	**Sahibganj**	**6.26**	**265**	*ex*	**Pn**	**17 47 45.7**	**-0.4**
SHBG				*ex*	**Sn**	**17 48 53.8**	**-2.7**
TAPN	**Taplejung**	**6.30**	**285**	*e*Pn	**Pn**	**17 47 47.0**	**-0.1**
TAPN				*e*Sn	**Sn**	**17 48 56.1**	**-2.0**
	comp=E,677nm,0.4s						
TAPN	**Taplejung**	**6.30**	**285**	*e*Pn	**Pn**	**17 47 47.0**	**-0.1**
TAPN				*e*Sn	**Sn**	**17 48 56.1**	**-2.0**
ODAN	**Odare**	**6.50**	**280**	*e*Pn	**Pn**	**17 47 50.6**	**+0.8**
ODAN				*e*Sn	**Sn**	**17 49 02.5**	**-0.5**
	comp=E,965nm,0.5s						
ODAN	**Odare**	**6.50**	**280**	*e*Pn	**Pn**	**17 47 50.6**	**+0.8**
ODAN				*e*Sn	**Sn**	**17 49 02.5**	**-0.5**
CAL	**Calcutta**	**6.58**	**241**	*ex*	Sn	17 49 13.1	+8.5
RAMN	**Ramite**	**7.21**	**280**	*e*Pn	**Pn**	**17 47 59.9**	**+0.4**
RAMN				*e*Sn	**Sn**	**17 49 18.8**	**-1.7**
	comp=E,1μm,0.6s						
RAMN	**Ramite**	**7.21**	**280**	*e*Pn	**Pn**	**17 47 59.9**	**+0.4**
RAMN				*e*Sn	**Sn**	**17 49 18.8**	**-1.7**
KMI	**Kunming**	**7.43**	**94**	Pn	Pn	17 48 09.3	+6.8
KMI				Sn	Sn	17 49 36.1	+10
KMI				LR	LR		
	comp=N,1μm,5.8s						
KMI				LR	LR		
	comp=E,390nm,5.8s						
KMI				LR	LR		
	comp=Z,970nm,13.7s						
JIRN	**Jiri**	**7.69**	**285**	*e*Pn	**Pn**	**17 48 05.8**	**-0.3**
JIRN				*e*Sn	**Sn**	**17 49 29.3**	**-3.0**
	comp=Z,116nm,0.4s						
JIRN	**Jiri**	**7.69**	**285**	*e*Pn	**Pn**	**17 48 05.8**	**-0.3**
JIRN				*e*Sn	**Sn**	**17 49 29.3**	**-3.0**
	comp=Z,427nm,0.6s						
PKI	**Pulchoki**	**8.35**	**284**	*e*P	**Pn**	**17 48 14.2**	**-1.0**
PKI				*e*		17 49 45.8	
	comp=Z,13nm,0.5s						
PKI	**Pulchoki**	**8.35**	**284**	*e*Pn	**Pn**	**17 48 14.2**	**-1.0**
PKI				*e*Sn	**Sn**	**17 49 45.8**	**-2.8**
CMAR	**Chiang Mai Arr**	**8.43**	**150**	Pn	**Pn**	**17 48 18.6**	**+2.7**
CMAR				Lg	Lg	17 50 38.8	
CMAR				ScP	**ScP**	**17 58 14.5**	**-1.3**
CMAR	**Chiang Mai Arr**	**8.43**	**150**	Pn	**Pn**	**17 48 18.6**	**+2.7**
	comp=Z,1.9nm,0.3s,baz=325,slow=14,SNR=60						
CMAR				Lg	Lg	17 50 38.8	
	comp=Z,1.2nm,0.3s,baz=321,slow=30,SNR=5.4						
CMAR				LR	LR	17 51 59.5	
	comp=Z,424nm,18.9s,baz=327,slow=41						
CMAR				ScP	**ScP**	**17 58 14.5**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=307,slow=2.1,SNR=6.7						
KKN	**Kakani**	**8.50**	**285**	*e*Pn	**Pn**	**17 48 16.3**	**-0.9**
KKN				*e*Sn	**Sn**	**17 49 48.5**	**-3.7**
	comp=Z,626nm,0.7s						
KKN	**Kakani**	**8.50**	**285**	*e*P	**Pn**	**17 48 16.3**	**-0.9**
KKN				*e*		17 49 48.5	
KKN	**Kakani**	**8.50**	**285**	*e*Pn	**Pn**	**17 48 16.3**	**-0.9**
KKN				*e*Sn	**Sn**	**17 49 48.5**	**-3.7**
DMN	**Daman**	**8.62**	**284**	*e*Pn	**Pn**	**17 48 17.7**	**-1.2**
DMN	**Daman**	**8.62**	**284**	*e*Pn	**Pn**	**17 48 17.7**	**-1.2**
GKN	**Gorkha**	**9.10**	**286**	*e*Pn	**Pn**	**17 48 24.7**	**-0.7**
GKN				*e*Sn	**Sn**	**17 50 01.6**	**-5.2**
	comp=Z,515nm,0.4s						
GKN	**Gorkha**	**9.10**	**286**	*e*Pn	**Pn**	**17 48 24.7**	**-0.7**
GKN				*e*Sn	**Sn**	**17 50 01.6**	**-5.2**
CD2	**Chengdu**	**9.53**	**56**	P	**Pn**	**17 48 32.3**	**+1.2**
CD2				pP		17 48 41.5	
CD2				sP		17 48 43.8	
CD2				S	**Sn**	**17 50 17.9**	**+0.8**
CD2				sS		17 50 28.6	
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,90nm,5.4s						
CD2				LR	LR		
	comp=N,2μm,9.4s						
CD2				LR	LR		
	comp=E,1μm,7.4s						
CD2				LR	LR		
	comp=Z,540nm,11.7s						
BWNR	**Bhubaneshwar**	**9.78**	**237**	*ex*	x	17 48 30.0	
DANN	**Dangsing**	**9.93**	**287**	*e*Pn	**Pn**	**17 48 34.7**	**-2.1**
DANN				*e*Sn	Sn	17 50 20.5	-6.8
	comp=Z,434nm,0.4s						
DANN	**Dangsing**	**9.93**	**287**	*e*Pn	**Pn**	**17 48 34.7**	**-2.1**
DANN				*e*Sn	Sn	17 50 20.5	-6.8
KOLN	**Koldanda**	**9.97**	**283**	*e*Pn	**Pn**	**17 48 36.0**	**-1.3**
KOLN				*e*Sn	**Sn**	**17 50 22.5**	**-5.6**
	comp=Z,197nm,0.4s						
KOLN	**Koldanda**	**9.97**	**283**	*e*Pn	**Pn**	**17 48 36.0**	**-1.3**
KOLN				*e*Sn	**Sn**	**17 50 22.5**	**-5.6**
PYUN	**Piuthan**	**10.55**	**285**	*e*Pn	**Pn**	**17 48 42.8**	**-2.5**
PYUN				*e*Sn	Sn	17 50 35.7	-6.8
	comp=Z,691nm,0.7s						
PYUN	**Piuthan**	**10.55**	**285**	*e*Pn	**Pn**	**17 48 42.8**	**-2.5**
PYUN				*e*Sn	Sn	17 50 35.7	-6.8
GYA	**Guiyang**	**10.89**	**84**	*i* P	**Pn**	**17 48 52.1**	**+2.2**
GYA				pP		17 48 56.5	
GYA				S	**Sn**	**17 50 50.0**	**-0.7**
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
LZH	**Lanzhou**	**12.92**	**36**	*e*P	**Pn**	**17 49 19.3**	**+1.7**
LZH				pP	**P**	**17 49 26.0**	**-1.8**
LZH				sP		17 49 31.3	
LZH				*e*S	**Sn**	**17 51 43.1**	**+2.8**
LZH				sS		17 51 51.0	
LZH				SS	**SnSn**	**17 51 57.4**	**+4.7**
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
LZH				pmax	pmax		
	comp=Z,170nm,4.2s						
LZH				LR	LR		
	comp=N,680nm,10.5s						
LZH				LR	LR		
	comp=E,660nm,6.9s						
LZH				LR	LR		
	comp=Z,740nm,11.2s						
LGTI	**Lohaghat**	**13.17**	**289**	*ex*	Pn	17 49 24.3	+3.4
LGTI				*ex*	**Sn**	**17 51 46.2**	**0.0**
GTA	**Gaotai**	**14.20**	**17**	*e*P	**Pn**	**17 49 33.3**	**-1.7**
GTA				pP	**P**	**17 49 42.6**	**+0.6**
GTA				sP		17 49 47.3	
GTA				pmax	pmax		
	comp=Z,9.0nm,1.6s						
XAN	**Xi'an**	**14.86**	**53**	P	**P**	**17 49 49.6**	**+0.2**
XAN				pmax	pmax		
	comp=Z,11nm,0.9s						
XAN				LR	LR		
	comp=N,460nm,12.3s						
XAN				LR	LR		
	comp=E,110nm,12.3s						
XAN				LR	LR		
	comp=Z,58nm,8.5s						
NGP	**Nagpur**	**14.98**	**255**	*ex*	P	17 49 47.1	-3.5
	comp=Z,8.0nm,0.4s						
NGP				*ex*	x	17 52 18.9	
DDI	**Dehra Dun**	**15.22**	**291**	*e*PKP	**Pn**	**17 49 44.0**	**-4.7**
DDI				*ex*	x	17 55 34.5	
QIZ	**Qiongzhong**	**15.68**	**113**	P	**Pn**	**17 49 53.5**	**-1.2**
QIZ				S	**Sn**	**17 52 45.4**	**-2.1**
QIZ				pmax	pmax		
	comp=Z,38nm,1.1s						
QIZ				LR	LR		
	comp=N,160nm,16.6s						
QIZ				LR	LR		
	comp=E,140nm,16.4s						
QIZ				LR	LR		
	comp=Z,320nm,17.8s						
QIZ	**Qiongzhong**	**15.68**	**113**	Pn	**Pn**	**17 49 52.6**	**-2.2**
	comp=Z,37nm,0.8s						
QIZ				*ep*Pn	**P**	**17 50 00.0**	**+1.6**
QIZ				*ep*P	**pP**	**17 50 04.0**	**-3.0**
SMLA	**Simla**	**16.15**	**293**	*i* P	**Pn**	**17 49 56.9**	**-3.8**
SMLA				*i* x	x	17 52 44.0	
SDNR	**Sundarnagar**	**16.41**	**294**	*e*PKP	**Pn**	**17 50 00.0**	**-4.0**
HYB	**Hyderabad**	**17.08**	**244**	P	**Pn**	**17 50 11.5**	**-1.0**
HYB				S	**Sn**	**17 53 25.0**	**+3.4**
HYB	**Hyderabad**	**17.08**	**244**	P	**Pn**	**17 50 11.5**	**-1.0**
HYB				S	**Sn**	**17 53 25.0**	**+3.4**
HYB	**Hyderabad**	**17.08**	**244**	*i* P	**Pn**	**17 50 11.5**	**-1.0**
HYB				*e*S	**Sn**	**17 53 25.0**	**+3.4**
DLH	**Dalhousie**	**17.52**	**297**	*e*PKP	**Pn**	**17 50 15.0**	**-3.2**
THN	**Thein Dam**	**17.70**	**296**	*ex*	**P**	**17 50 19.8**	**-0.9**
THN				*ex*	x	17 53 21.4	
AJM	**Ajmer**	**17.89**	**276**	*ex*	P	17 50 18.0	-4.9
WHN	**Wuhan**	**18.05**	**71**	P	**P**	**17 50 25.3**	**+0.7**
WHN				S	**Sn**	**17 53 46.5**	**+1.6**
WHN				LR	LR		
	comp=N,1μm,10.4s						
WHN				LR	LR		
	comp=E,280nm,10.4s						
WHN				LR	LR		
	comp=Z,700nm,11.6s						
LATR	**Latur**	**18.24**	**250**	*ex*	**P**	**17 50 27.6**	**+0.9**
WMQ	**Urumqi**	**18.76**	**344**	*i* P	**Pn**	**17 50 33.8**	**+0.8**
WMQ				pP	**pP**	**17 50 42.0**	**+1.0**
WMQ				sP	**sP**	**17 50 46.5**	**+1.4**
WMQ				*e*S	**Sn**	**17 53 59.0**	**-2.8**
WMQ				sS	**sS**	**17 54 14.0**	**-3.8**
WMQ				pmax	pmax		
	comp=Z,47nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,240nm,4.5s						
WMQ				LR	LR		
	comp=N,870nm,15.4s						
WMQ				LR	LR		
	comp=E,1μm,16.8s						
WMQ				LR	LR		
	comp=Z,800nm,19.4s						
BTO	**Baotou**	**19.53**	**37**	*e*P	**Pn**	**17 50 41.9**	**-0.4**
CHCP	**Chirah Chowk**	**20.02**	**298**	P	**P**	**17 50 45.9**	**-0.4**
BSI	**Banda Aceh**	**20.28**	**178**	P	**P**	**17 50 49.0**	**-0.1**
	comp=Z,26nm,1.0s						
POO	**Poona**	**20.50**	**253**	*e*PKP	**P**	**17 50 50.0**	**-1.6**
HHC	**Hu-ho-hao-te**	**20.56**	**39**	*e*P	**P**	**17 50 52.5**	**+0.4**
HHC				PP	**PnPn**	**17 51 15.1**	**+5.0**
HHC				S	**S**	**17 54 33.4**	**-6.9**
HHC				sS	**sS**	**17 54 52.3**	**-1.8**
HHC				PcP	**PcP**	**17 55 02.8**	**+0.4**
HHC				SS	**SnSn**	**17 55 05.9**	**+5.6**
HHC				ScS	**ScS**	**18 02 14.8**	**-5.0**
HHC				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC				pmax	pmax		
	comp=Z,130nm,4.8s						
HHC				LR	LR		
	comp=N,380nm,12.4s						
HHC				LR	LR		
	comp=E,500nm,12.3s						
HHC				LR	LR		
	comp=Z,330nm,11.7s						
KSH	**Kashi**	**20.67**	**316**	P	Pn	17 50 55.1	-0.8
KSH				pP	pP	17 51 04.3	+2.3
KSH				sP	sP	17 51 08.5	+2.3
KSH				PP	**PnPn**	**17 51 17.1**	**+5.3**
KSH				S	**S**	**17 54 39.8**	**-2.9**
KSH				sS	sS	17 54 53.8	-2.7
KSH				PcP	**PcP**	**17 55 03.1**	**+0.4**
KSH				SS	**SnSn**	**17 55 11.8**	**+8.7**
KSH				ScP	**ScP**	**17 58 36.6**	**-0.4**
KSH				PcS	**PcS**	**17 58 39.8**	**-0.8**
KSH				ScS	**ScS**	**18 02 18.4**	**-1.9**
KSH				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KSH				pmax	pmax		
	comp=Z,52nm,3.5s						
KSH				LR	LR		
	comp=N,160nm,5.6s						
KSH				LR	LR		
	comp=E,290nm,4.9s						
KSH				LR	LR		
	comp=Z,240nm,5.9s						
KAD	**Karad**	**20.75**	**250**	*ex*	x	17 50 44.0	
THW	**Thamme Wali**	**21.03**	**294**	P	**P**	**17 50 57.1**	**-0.1**
CEP	**Cherat**	**21.15**	**297**	P	**P**	**17 51 00.5**	**+1.9**
CEP				S	S	17 54 38.0	-14
KULM	**Kulim**	**21.28**	**163**	*e*P	**P**	**17 51 00.1**	**+0.1**
	comp=Z,23nm,0.9s						
KULM	**Kulim**	**21.28**	**163**	P	**P**	**17 50 59.1**	**-0.9**
	comp=Z,28nm,1.0s						
NJ2	**Nanjing**	**22.11**	**68**	*e*P	**P**	**17 51 06.4**	**-2.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
IPM	**Ipoh**	**22.16**	**163**	P	**P**	**17 51 07.7**	**-1.7**
	comp=Z,19nm,0.8s						
BJI	**Beijing**	**22.91**	**47**	P	**P**	**17 51 15.8**	**-1.4**
BJI				S	**S**	**17 55 26.8**	**+1.9**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BJI				pmax	pmax		
	comp=Z,83nm,4.5s						
BJI				LR	LR		
	comp=N,430nm,22.7s						
BJI				LR	LR		
	comp=E,360nm,25.3s						
MK31	**Makanchi Array**	**23.04**	**338**	*e*P	**P**	**17 51 18.0**	**-0.5**
MK31				pmax	pmax		
	comp=Z,25nm,0.6s						
MKAR	**Makanchi Array**	**23.04**	**338**	P	**P**	**17 51 18.5**	**0.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MKAR				pmax	pmax		
	comp=N,1.0nm,0.9s						
MKAR	**Makanchi Array**	**23.04**	**338**	P	**P**	**17 51 18.5**	**0.0**
MKAR				ScP	**ScP**	**17 58 41.7**	**-1.0**
MKAR	**Makanchi Array**	**23.04**	**338**	P	**P**	**17 51 18.5**	**0.0**
	comp=N,3.0nm,0.4s,baz=143,slow=13,SNR=98						
MKAR				ScP	**ScP**	**17 58 41.7**	**-1.0**
	comp=N,1.1nm,0.9s,baz=122,slow=3.4,SNR=5.2						
PSI	**Prapat**	**23.32**	**169**	P	**P**	**17 51 21.5**	**-0.1**
PSI	**Prapat**	**23.32**	**169**	P	**P**	**17 51 20.1**	**-1.5**
	comp=N,17nm,0.8s						
PSI	**Prapat**	**23.32**	**169**	P	**P**	**17 51 21.5**	**-0.1**
	comp=N,9.0nm,0.6s,baz=345,slow=8.4,SNR=13						
AAK	**Ala-Archa**	**23.45**	**320**	*e*P	**P**	**17 51 22.9**	**+0.1**
AAK	**Ala-Archa**	**23.45**	**320**	*e*P	**P**	**17 51 23.6**	**+0.8**
	comp=N,77nm,1.0s						
AAK	**Ala-Archa**	**23.45**	**320**	P	**P**	**17 51 25.5**	**+2.7**
	comp=N,4.0nm,0.9s,baz=111,slow=12,SNR=8.2						
AAK				LR	LR	18 03 03.1	
	comp=N,109nm,18.4s,baz=124,slow=43						
SONM	**Songino Array**	**23.82**	**20**	P	**P**	**17 51 26.9**	**+0.7**
SONM				ScP	**ScP**	**17 58 43.2**	**-1.6**
SONM	**Songino Array**	**23.82**	**20**	P	**P**	**17 51 26.9**	**+0.7**
	comp=N,3.0nm,0.6s,baz=199,slow=11,SNR=34						
SONM				ScP	**ScP**	**17 58 43.2**	**-1.6**
	comp=N,0.9nm,0.8s,baz=211,slow=2.8,SNR=6.5						
EKS2	**Erkin-Say**	**23.88**	**320**	*e*P	**P**	**17 51 28.9**	**+2.0**
EKS2				*e**PP	**pP**	**17 51 38.1**	**+2.0**
EKS2				pmax	pmax		
	comp=Z,22nm,0.9s						
EKS2	**Erkin-Say**	**23.88**	**320**	*e*P	**P**	**17 51 28.9**	**+2.0**
	comp=Z,22nm,0.9s						
EKS2				*ep*P	**pP**	**17 51 38.1**	**+2.0**
ULN	**Ulaanbaatar**	**24.06**	**21**	*e*P	**P**	**17 51 28.4**	**0.0**
	comp=Z,14nm,0.8s						
ULN	**Ulaanbaatar**	**24.06**	**21**	P	**P**	**17 51 28.9**	**+0.4**
	comp=Z,22nm,1.1s						
YHNB	**Yeheng**	**24.27**	**87**	*e*P	**P**	**17 51 29.0**	**-1.6**
	comp=Z,14nm,0.7s						
GSI	**Gunungsitoli**	**24.60**	**173**	P	**P**	**17 51 33.0**	**-0.5**
ZAK	**Zakamensk**	**25.38**	**13**	*e*P	**P**	**17 51 39.3**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
MNSI	**Mandailing Nat**	**25.40**	**168**	P	**P**	**17 51 38.3**	**-2.4**
KK31	**Karatay Array**	**26.09**	**317**	*i* P	**pP**	**17 51 55.8**	**-0.4**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KKAR	**Karatay Array**	**26.09**	**317**	*e*P	**P**	**17 51 47.5**	**+0.7**
KKAR				*e**PP	**pP**	**17 51 56.2**	**0.0**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KKAR	**Karatay Array**	**26.09**	**317**	*e*P	**P**	**17 51 47.5**	**+0.7**
	comp=Z,4.7nm,0.6s						
KKAR				*ep*P	**pP**	**17 51 56.2**	**0.0**
KURBB	**Kurchatov Arra**	**27.61**	**338**	P	**P**	**17 52 00.8**	**+0.4**
	comp=Z,4.2nm,0.4s,baz=152,slow=9.7,SNR=18						
KURBB				ScP	**ScP**	**17 58 55.2**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=160,slow=2.8,SNR=5.5						
KURK	**Kurchatov**	**27.66**	**338**	*e*P	**P**	**17 52 00.6**	**-0.2**
KURK				pmax	pmax		
	comp=Z,10

ZALV Zalesovo Beam 28.96 348 P **P** **17 52 13.2 +0.8**
comp=Z,2.0nm,0.5s,baz=180,slow=8.6,SNR=14
ZALV LR LR 18 04 22.2
comp=Z,79nm,18.6s,baz=238,slow=37
NVS Novosibirsk 30.11 347 ||*i*P **P** **17 52 21.5 -1.0**
NVS pmax pmax
comp=N,6.0nm,0.9s
NVS pmax pmax
comp=E,4.0nm,0.9s
NVS pmax pmax
comp=Z,10.0nm,0.9s
KSAR Wonju Array Be 30.47 60 P **P** **17 52 24.2 -1.7**
KSRS Korea Array 30.50 60 P **P** **17 52 24.2 -2.0**
comp=Z,1.0nm,0.7s,baz=249,slow=9.1,SNR=4.6
KSRS LR LR 18 06 08.8
comp=Z,92nm,18.6s,baz=74,slow=39
CN2 Changchun 30.78 47 *e*P **P** **17 52 29.0 +0.4**
IMYA Miami 31.14 298 *e*P pP 17 52 42.4 +0.9
IPAY Payeh 32.04 298 *e*P pP 17 52 50.2 +0.7
IAKL Akhelmad 32.26 298 *e*P P 17 52 48.0 +6.0
JNU Nakatsue 32.31 68 P **P** **17 52 41.2 -1.0**
JNU Nakatsue 32.31 68 P **P** **17 52 41.2 -1.0**
comp=Z,4.5nm,0.9s,baz=291,slow=0.4,SNR=2.8
JNU LR LR 18 05 32.2
comp=Z,116nm,19.2s,baz=89,slow=36
IEMG Emamgholi 32.48 300 *e*P pP 17 52 54.3 +0.9
IKRD Kardeh 32.48 298 *e*P P 17 52 47.8 +3.9
BVA0 Borovoye Array 32.61 333 *i*P P 17 52 50.4 +5.9
BVA0 pmax pmax
comp=Z,1.0nm,0.9s
BVAR Borovoye Array 32.61 333 LR LR 18 06 46.8
comp=Z,75nm,19.5s,baz=136,slow=38
BRVK Borovoye 32.67 333*ce*P **P** **17 52 46.2 +1.1**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BRVK Borovoye 32.67 333 *e*P **P** **17 52 45.5 +0.3**
comp=Z,4.2nm,0.6s
BRVK *e*pP **pP** **17 52 53.6 -0.9**
ISFR Sfrayin 32.93 299 *e*P pP 17 52 58.2 +0.9
ISHV Shirvan 33.24 300 *e*P pP 17 53 01.2 +1.2
BOD Bodaibo 34.79 18 *e*P **P** **17 53 03.7 +0.3**
BOD pmax pmax
comp=Z,5.0nm,1.8s
USRK Ussuriysk Arra 35.31 49 P **P** **17 53 08.2 +0.1**
comp=Z,2.2nm,0.4s,baz=252,slow=5.3,SNR=10
USRK LR LR 18 08 44.0
comp=Z,70nm,18.7s,baz=320,slow=38
AB31 Akbulak array 35.54 320 *e*P **P** **17 53 10.4 +0.4**
AB31 pmax pmax
comp=Z,11nm,0.6s
ABKAR Akbulak array 35.54 320 *e*P **P** **17 53 10.2 +0.1**
comp=Z,12nm,0.6s
ABKAR *e*pP **pP** **17 53 20.1 +0.5**
IKIA Kiasar 36.27 297 *e*P pP 17 53 27.1 +0.8
ISHM Shahmirzad 36.56 296 *e*P P 17 53 22.6 +3.3
IFIR Firoozkooh 36.98 296 *e*P pP 17 53 34.1 +1.7
AKTO Aktyubinsk 37.20 321 P **P** **17 53 24.4 +0.2**
AKTO pmax pmax
comp=Z,1.0nm,0.4s
AKTO MLR MLR
comp=Z,64nm,18.5s
AKTO Aktyubinsk 37.20 321 P **P** **17 53 24.4 +0.2**
AKTO Aktyubinsk 37.20 321 P **P** **17 53 24.4 +0.2**
comp=Z,0.9nm,0.4s,baz=113,slow=5.3,SNR=9.0
AKTO LR LR 18 12 35.9
comp=Z,64nm,18.5s,baz=119,slow=42
IZEF Zefreh 37.26 291 *e*P P 17 53 29.5 +4.2
IPRN Peran 37.36 296 *e*P pP 17 53 36.2 +0.8
IDMV Damavand 37.57 295 *e*P P 17 53 32.5 +4.6
IKLH Kolahrood 37.89 292 *e*P pP 17 53 40.8 +0.7
IPIR Pirpir 38.48 291 *e*P **P** **17 53 37.8 +2.2**
MAT Matsushiro 38.53 63 P **P** **17 53 34.0 -1.7**
IRAZ Razeghan 39.28 295 *e*P pP 17 53 51.6 -0.1
SVE Sverdlovsk 39.33 331 *e*P **P** **17 53 43.1 +1.1**
SVE pmax pmax
comp=Z,20nm,1.0s
ARU Arti 40.02 329*c i*P **P** **17 53 48.0 +0.2**
ARU 17 55 17.6
ARU S **S** **17 59 55.3 +4.1**
ARU pmax pmax
comp=Z,8.0nm,1.7s
ARU Arti 40.02 329 *e*P **P** **17 53 47.7 -0.1**
comp=Z,5.9nm,0.6s
ARU *e*pP **pP** **17 53 57.4 +0.1**
RDF Al-Radifah 41.63 285 *e*P **P** **17 54 03.8 +2.3**
RDF AMb AMB 17 54 11.4
comp=Z,97nm,1.1s
IHRS Heris 41.70 299 *e*P pP 17 54 12.0 +0.2
MIB Mutribah 41.71 287 *e*P **P** **17 54 04.9 +2.8**
MIB AMb AMB 17 54 12.9
comp=Z,46nm,0.9s
NAY Al-Naaiem 41.86 286 *e*P **P** **17 54 06.0 +2.6**
NAY AMb AMB 17 54 14.0
comp=Z,34nm,1.0s
IGHG Ghaleghazi 42.04 293 *e*P pP 17 54 14.1 -0.5
IDHR Dehrash 42.18 294 *e*P **P** **17 54 08.6 +2.5**
ASAJ Asahikawa 42.70 52 P **P** **17 54 10.3 +0.4**
ASAJ Asahikawa 42.70 52 P **P** **17 54 10.3 +0.4**
comp=Z,8.8nm,0.5s,baz=284,slow=6.7,SNR=18
YAK Yakutsk 43.10 23 *e*P **P** **17 54 13.4 +0.5**
YAK pmax pmax
comp=Z,5.0nm,0.6s
YAK Yakutsk 43.10 23 *e*P **P** **17 54 13.4 +0.5**
comp=Z,5.2nm,0.6s
YSS Yuzh-Sakhalins 43.32 48 P **P** **17 54 14.4 -0.5**
YSS pmax pmax
comp=Z,32nm,1.1s
YSS Yuzh-Sakhalins 43.32 48 P **P** **17 54 14.4 -0.5**
comp=Z,32nm,1.1s
GNI Garni 43.59 302 P **P** **17 54 15.6 -1.8**
comp=Z,13nm,0.9s
GNI *e*pP **pP** **17 54 25.4 -1.7**
GNI pP **pP** **17 54 27.6 +0.6**
GNI Garni 43.59 302 pP pP 17 54 27.6 +0.6
comp=Z,5.6nm,0.8s,baz=325,slow=20,SNR=2.5
ZEI Tsey 44.42 306 *e*P **pP** **17 54 33.8 0.0**
ZEI pmax pmax
comp=Z,9.0nm,0.5s
KBZ Khabaz 45.24 307 P pP 17 54 39.4 -0.6
KBZ Khabaz 45.24 307 pP **pP** 17 54 39.4 -0.6
KBZ Khabaz 45.24 307 pP **pP** **17 54 39.4 -0.6**
comp=Z,1.7nm,0.7s,baz=123,slow=4.0,SNR=5.2
KBZ LR LR 18 16 01.3
comp=Z,152nm,19.6s,baz=272,slow=39
KIV Kislovodsk 45.42 307 *e*P **P** **17 54 31.7 -0.2**
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV MLR MLR
comp=Z,82nm,16.0s
KIV Kislovodsk 45.42 307 P P 17 54 36.8 +5.0
comp=Z,12nm,0.9s
VRHR Novokhopersk 47.21 317 *e*P P 17 54 52.9 +7.2
VRHR pmax pmax
comp=N,8.0nm,0.6s
VRHR pmax pmax
comp=E,8.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VORD Divnogorie 48.63 316 *e*P **pP** **17 55 06.3 -0.2**
VORD pmax pmax
comp=N,7.0nm,1.0s
VORD pmax pmax
comp=E,8.0nm,1.0s
VORD pmax pmax
comp=Z,9.0nm,1.0s
VSR Storozhevoye 48.76 316 *e*P **pP** **17 55 06.9 -0.5**
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,6.0nm,0.6s
VSR pmax pmax
comp=Z,5.0nm,0.6s
ASF Jabal al Asfar 50.30 291 LR LR 18 20 07.5
comp=Z,55nm,19.2s,baz=187,slow=40
ATD Arta Tunnel 50.70 264 pP pP 17 55 23.6 +0.8
ATD Arta Tunnel 50.70 264 pP pP 17 55 23.6 +0.8
comp=Z,9.9nm,0.8s,baz=124,slow=23,SNR=1.8
OBN Obninsk 50.98 321⇑ *e*P P 17 55 11.1 -3.3
OBN *e* 17 57 09.7
OBN *e*S S 18 02 21.9 -7.2
OBN pmax pmax
comp=Z,21nm,1.5s
OBN MLR MLR
comp=Z,100nm,17.0s
MMAI Mount Meron Ar 51.43 293 LR LR 18 20 00.8
comp=Z,45nm,18.4s,baz=280,slow=39
BRTR Keskin Array B 52.12 301 P **P** **17 55 23.7 +0.2**
BRTR pP **pP** **17 55 34.0 +0.7**
BRTR Keskin Array B 52.12 301 P **P** **17 55 23.7 +0.2**
comp=Z,0.5nm,0.6s,baz=110,slow=11,SNR=4.4
BRTR pP **pP** **17 55 34.0 +0.7**
comp=Z,5.6nm,0.7s,baz=108,slow=7.3,SNR=26
EIL Elat 52.38 289 LR LR 18 22 38.1
comp=Z,58nm,18.8s,baz=268,slow=42
MBWA Marble Bar 52.75 150 *e*P **P** **17 55 26.5 -1.5**
comp=Z,18nm,0.7s
FITZ Fitzroy Crossi 53.15 142 *e*P **P** **17 55 29.6 -1.4**
comp=Z,8.8nm,0.6s
PETK Petropavlovsk- 53.73 42 P **P** **17 55 35.2 +0.3**
PETK pmax pmax
comp=Z,3.0nm,0.6s
PETK MLR MLR
comp=Z,49nm,19.5s
PETK Petropavlovsk- 53.73 42 P **P** **17 55 35.2 +0.3**
PETK Petropavlovsk- 53.73 42 P **P** **17 55 35.2 +0.3**
comp=Z,3.0nm,0.6s,baz=240,slow=3.5,SNR=14
PETK LR LR 18 21 29.4
comp=Z,49nm,19.5s,baz=79,slow=39
AKASG Malin Array Be 54.97 315 P **P** **17 55 43.1 -0.8**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 54.97 315 P **P** **17 55 43.1 -0.8**
AKASG Malin Array Be 54.97 315 P **P** **17 55 43.1 -0.8**
comp=Z,1.5nm,0.6s,baz=82,slow=6.5,SNR=4.7
KIEV Kiev 54.98 315 *e*P **P** **17 55 41.9 -2.1**
KIEV *e**PP **pP** **17 55 52.3 -1.6**
KIEV pmax pmax
comp=Z,10.0nm,0.9s
KIEV Kiev 54.98 315 *e*P **P** **17 55 41.9 -2.1**
comp=Z,10.0nm,0.9s
KIEV *e*pP **pP** **17 55 52.3 -1.6**
JOF Joensuu 55.14 330 *e*P **P** **17 55 44.7 -0.3**
JOF pmax pmax
comp=Z,3.0nm,0.7s
JOF Joensuu 55.14 330 *e*p **P** **17 55 44.7 -0.3**
comp=Z,3.2nm,0.7s
CFR Carcaliu 55.83 308 ||P pP 17 55 59.8 -0.3
CFR Carcaliu 55.83 308 ||*i*P pP 17 55 59.8 -0.3
VRI Vrincioaia 56.77 309 ||P pP 17 56 07.5 +0.6
VRI Vrincioaia 56.77 309 ||*i*P pP 17 56 07.5 +0.6
PLOR Plostina 56.82 309⇑P pP 17 56 08.1 +0.8
PLOR Plostina 56.82 309⇑*i*P pP 17 56 08.1 +0.8
KAF Kangasniemi 57.31 329 *e*P **P** **17 56 00.9 +0.4**
KAF pmax pmax
comp=Z,3.0nm,0.8s
KAF Kangasniemi 57.31 329 *e*p **P** **17 56 00.9 +0.4**
comp=Z,2.6nm,0.8s
MLR Muntele Rosu 57.34 309 ||*i*P pP 17 56 11.4 +0.3
MLR Muntele Rosu 57.34 309 LR LR 18 23 37.5
comp=Z,32nm,18.0s,baz=299,slow=39
FINES FINESS Array B 57.35 328 P **P** **17 56 00.8 -0.1**
FINES FINESS Array B 57.35 328 P **P** **17 56 00.8 -0.1**
comp=Z,1.3nm,0.7s,baz=118,slow=11,SNR=4.6
KEV Kevo 58.22 338 *e*P **P** **17 56 04.7 -2.1**
KEV pmax pmax
comp=Z,3.0nm,0.7s
KEV Kevo 58.22 338 *e*p **P** **17 56 04.7 -2.1**
comp=Z,3.2nm,0.7s
ARCES ARCESS Array B 58.70 337 P **P** **17 56 10.3 +0.2**
ARCES pP **pP** **17 56 21.1 +1.0**
ARCES ARCESS Array B 58.70 337 P **P** **17 56 10.3 +0.2**
comp=Z,4.3nm,0.9s,baz=99,slow=8.7,SNR=4.0
ARCES pP **pP** **17 56 21.1 +1.0**
comp=Z,5.7nm,0.7s,baz=90,slow=7.3,SNR=3.9
TRPA Tarpa 59.43 312⇑*i*P pP 17 56 26.8 +1.3
KOLS Kolonicke sedl 59.53 313 *e*P **P** **17 56 17.0 +0.7**
KOLS pmax pmax
comp=Z,16nm,2.2s
KOLS Kolonicke sedl 59.53 313 *e*P **P** **17 56 17.0 +0.7**
KOLS *e*pP **pP** **17 56 28.2 +2.0**
VTS Vitosha 59.64 306 ||P pP 17 56 28.3 +1.0
VTS Vitosha 59.64 306 ||*i*P pP 17 56 28.3 +1.0
WRA Warramunga Arr 59.73 136 P **P** **17 56 17.1 -0.9**
WRA Warramunga Arr 59.73 136 P **P** **17 56 17.1 -0.9**
comp=Z,23nm,0.5s,baz=322,slow=7.4,SNR=435
WRAB Tennant Creek 59.73 136 *e*P **P** **17 56 17.1 -0.8**
WRAB pmax pmax
comp=Z,24nm,0.6s
WRAB Tennant Creek 59.73 136 *e*P **P** **17 56 17.1 -0.8**
comp=Z,24nm,0.6s
CRVS Cervenica-Dubn 60.07 313 *e*P **P** **17 56 21.2 +1.2**
CRVS pmax pmax
comp=Z,2.0nm,0.9s
CRVS Cervenica-Dubn 60.07 313 *e*P **P** **17 56 21.2 +1.2**
CRVS *e*pP **pP** **17 56 28.6 -1.3**
CRVS *e*sP **sP** **17 56 32.1 -1.6**
VYHS Vyhne 61.84 313 *e*P **P** **17 56 31.3 -0.7**
VYHS pmax pmax
comp=Z,5.0nm,2.1s
VYHS Vyhne 61.84 313 *e*P **P** **17 56 31.3 -0.7**
VYHS *e*pP **pP** **17 56 39.3 -2.7**
VYHS *e*sP **sP** **17 56 45.1 -0.7**
PMG Port Moresby 62.00 117 *e*P P 17 56 30.2 -3.3
comp=Z,9.7nm,0.8s
OKC Ostrava-Krasne 62.10 315 *e*P pP 17 56 45.3 +1.6
OKC Ostrava-Krasne 62.10 315 *e*pP pP 17 56 45.3 +1.6
ASAR Alice Springs 62.26 139 P **P** **17 56 34.5 -0.6**
ASAR sP **sP** **17 56 49.6 +0.8**
ASAR Alice Springs 62.26 139 P **P** **17 56 34.5 -0.6**
comp=Z,12nm,0.6s,baz=321,slow=6.8,SNR=272
ASAR sP **sP** **17 56 49.6 +0.8**
comp=Z,3.0nm,0.6s,baz=322,slow=7.1,SNR=4.3
PKSM Moragy 62.32 310⇑P pP 17 56 44.5 -0.7
PKSM Moragy 62.32 310⇑*i*P pP 17 56 44.5 -0.7
SPITS Spitsbergen Ar 62.44 347 LR LR 18 29 07.9
comp=Z,99nm,19.1s,baz=155,slow=41
MORC Moravsky Berou 62.50 315⇑P pP 17 56 48.6 +2.1
MORC Moravsky Berou 62.50 315 P P 17 56 42.6 +6.1
comp=Z,4.1nm,0.8s
MORC Moravsky Berou 62.50 315⇑*i*P pP 17 56 48.6 +2.1
VRAC Vranov 63.18 314 ||*i*P pP 17 56 53.0 +2.0
VRAC Vranov 63.18 314 LR LR 18 28 10.9
comp=Z,74nm,18.9s,baz=279,slow=40
CONA Conrad Observa 63.90 313⇑*i*pP pP 17 56 57.0 +1.2
comp=Z,10nm,1.0s
PRU Pruhonice 64.38 315 *e*P pP 17 57 00.8 +1.9
PRU Pruhonice 64.38 315 *e*pP pP 17 57 00.8 +1.9
NB2 NORSAR Subarra 64.53 328 P **P** **17 56 48.8 -0.9**
comp=Z,4.9nm,0.7s,baz=84,slow=6.9
NOA NORSAR Array B 64.53 328 P **P** **17 56 49.0 -0.7**
NOA pP **pP** **17 56 60.0 +0.3**
NOA NORSAR Array B 64.53 328 P **P** **17 56 49.0 -0.7**
comp=Z,0.9nm,0.7s,baz=83,slow=6.7,SNR=4.1
NOA pP **pP** **17 56 60.0 +0.3**
comp=Z,4.6nm,0.7s,baz=83,slow=6.7,SNR=14
NOA LR LR 18 27 26.0
comp=Z,105nm,19.9s,baz=215,slow=38
BRG Berggiesshubel 64.60 316 *e*P pP 17 57 01.5 +1.2
comp=Z,4.6nm,0.9s
BRG Berggiesshubel 64.60 316 *e*P **pP** **17 57 01.5 +1.2**
BRG pmax pmax
comp=Z,5.0nm,0.9s
MOA Molln 64.97 313⇑*i*pP pP 17 57 02.4 -0.3
comp=Z,8.4nm,1.0s
GERES GERESS Array B 65.14 314 P **P** **17 56 53.4 -0.5**
GERES pP **pP** **17 57 04.3 +0.4**
GERES GERESS Array B 65.14 314 P **P** **17 56 53.4 -0.5**
comp=Z,0.5nm,0.6s,baz=57,slow=7.2,SNR=6.0
GERES pP **pP** **17 57 04.3 +0.4**
comp=Z,3.5nm,0.8s,baz=64,slow=6.1,SNR=14
KHC Kasperske Hory 65.16 314 *e*P pP 17 57 05.1 +1.1
KHC Kasperske Hory 65.16 314 *e*pP pP 17 57 05.1 +1.1
GRF Grafenberg Arr 66.55 315 *e*P pP 17 57 14.3 +1.4
comp=Z,6.0nm,1.2s
GRF Grafenberg Arr 66.55 315 *e*P **pP** **17 57 14.3 +1.4**
GRF pmax pmax
comp=Z,6.0nm,1.2s
FETA Feichten 67.49 313⇑*i*pP pP 17 57 19.4 +0.3
comp=Z,6.8nm,1.1s
CTA Charters Tower 67.88 127 *e*P **P** **17 57 10.8 -0.8**
comp=Z,11nm,0.6s
CTAO Charters Tower 67.88 127 *e*P **P** **17 57 10.8 -0.8**
CTAO Charters Tower 67.88 127 *e*P **P** **17 57 10.8 -0.8**
DAVA Damuels 67.99 313⇑*i*pP pP 17 57 21.2 -1.1
comp=Z,6.4nm,0.8s
DAVOX Davos/Dischmat 68.11 312 LR LR 18 30 38.3
comp=Z,77nm,19.5s,baz=82,slow=39
CDF Champ du Feu 69.38 315 *e*P **P** **17 57 22.0 +1.2**
comp=Z,7.4nm,0.8s
CDF Champ du Feu 69.38 315 *e*P **P** **17 57 22.0 +1.2**
CDF pmax pmax
comp=Z,7.0nm,0.8s
CDF Champ du Feu 69.38 315 *e*P **P** **17 57 22.0 +1.2**
comp=Z,7.4nm,0.8s
HINF Hinteralfeld 69.82 314 *e*P **P** **17 57 24.4 +0.9**
HINF Hinteralfeld 69.82 314 *e*P **P** **17 57 24.4 +0.9**
HINF Hinteralfeld 69.82 314 *e*P **P** **17 57 24.4 +0.9**
HAU Haudompre 70.09 314 *e*P **P** **17 57 26.3 +1.2**
HAU *e*R
comp=Z,68nm,18.8s
HAU Haudompre 70.09 314 *e*P **P** **17 57 26.3 +1.2**
HAU Haudompre 70.09 314 *e*P **P** **17 57 26.3 +1.2**
LPG La Plagne 70.56 312 *e*P **P** **17 57 29.4 +1.1**
comp=Z,11nm,0.7s
LPG La Plagne 70.56 312 *e*P **P** **17 57 29.4 +1.1**
LPG pmax pmax
comp=Z,11nm,0.7s
LPG La Plagne 70.56 312 *e*P **P** **17 57 29.4 +1.1**
comp=Z,11nm,0.7s
LPL La Plagne 70.57 312 *e*P **P** **17 57 29.1 +0.8**
comp=Z,9.6nm,0.6s
LPL La Plagne 70.57 312 *e*P **P** **17 57 29.1 +0.8**
LPL pmax pmax
comp=Z,10.0nm,0.6s
LPL La Plagne 70.57 312 *e*P **P** **17 57 29.1 +0.8**
comp=Z,9.6nm,0.6s
MEZF Maizieres J'vi 70.77 315 *e*P **P** **17 57 30.8 +1.6**
comp=Z,21nm,0.8s
MEZF Maizieres J'vi 70.77 315 *e*P **P** **17 57 30.8 +1.6**
comp=Z,21nm,0.8s
MBDF Montbardon 70.78 311 *e*P **P** **17 57 30.5 +1.0**
comp=Z,9.7nm,0.6s
MBDF Montbardon 70.78 311 *e*P **P** **17 57 30.5 +1.0**
MBDF pmax pmax
comp=Z,10.0nm,0.6s
MBDF Montbardon 70.78 311 *e*P **P** **17 57 30.5 +1.0**
comp=Z,9.7nm,0.6s
SFTF Sexfontaines 70.87 315 *e*P **P** **17 57 31.2 +1.4**
comp=Z,11nm,0.7s
SFTF Sexfontaines 70.87 315 *e*P **P** **17 57 31.2 +1.4**
comp=Z,11nm,0.7s
FRF La Foret Royal 71.22 310 *e*P **P** **17 57 33.0 +1.0**
comp=Z,13nm,0.8s
FRF La Foret Royal 71.22 310 *e*P **P** **17 57 33.0 +1.0**
FRF pmax pmax
comp=Z,13nm,0.8s
FRF La Foret Royal 71.22 310 *e*P **P** **17 57 33.0 +1.0**
comp=Z,13nm,0.8s
KEST Kesra 71.73 301 pP pP 17 57 46.1 +0.6
KEST Kesra 71.73 301 pP pP 17 57 46.1 +0.6
comp=Z,1.8nm,0.7s,baz=146,slow=15,SNR=3.6
LOR Lormes 71.92 314 *e*P **P** **17 57 37.2 +1.0**
LOR *e*R
comp=Z,67nm,17.5s
LOR Lormes 71.92 314 *e*P **P** **17 57 37.2 +1.0**
SSF Saint Saulge 72.21 314 *e*P **P** **17 57 39.2 +1.3**
comp=Z,11nm,0.8s
SSF Saint Saulge 72.21 314 *e*P **P** **17 57 39.2 +1.3**
SSF pmax pmax
comp=Z,11nm,0.8s
SSF Saint Saulge 72.21 314 *e*P **P** **17 57 39.2 +1.3**
comp=Z,11nm,0.8s
AVF Avril sur Loir 72.40 314 *e*P **P** **17 57 40.4 +1.4**
comp=Z,20nm,1.1s
AVF Avril sur Loir 72.40 314 *e*P **P** **17 57 40.4 +1.4**
AVF pmax pmax
comp=Z,20nm,1.1s
AVF Avril sur Loir 72.40 314 *e*P **P** **17 57 40.4 +1.4**
comp=Z,20nm,1.1s
STKA Stephens Creek 72.89 139 P **P** **17 57 40.6 -1.4**
STKA Stephens Creek 72.89 139 *e*P **P** **17 57 40.7 -1.3**
comp=Z,7.0nm,0.5s
STKA Stephens Creek 72.89 139 P **P** **17 57 40.6 -1.4**
comp=Z,8.1nm,0.5s,baz=309,slow=7.5,SNR=52
TCF Toulx Ste Croi 73.31 314 *e*P **P** **17 57 46.2 +1.7**
comp=Z,12nm,0.8s
TCF Toulx Ste Croi 73.31 314 *e*P **P** **17 57 46.2 +1.7**
TCF pmax pmax
comp=Z,12nm,0.8s
TCF Toulx Ste Croi 73.31 314 *e*P **P** **17 57 46.2 +1.7**
comp=Z,12nm,0.8s
CAF Calviac 73.88 312 *e*P **P** **17 57 49.7 +1.8**
CAF Calviac 73.88 312 *e*P **P** **17 57 49.7 +1.8**
CAF Calviac 73.88 312 *e*P **P** **17 57 49.7 +1.8**
LDF La Druitiere 73.99 316 *e*P **P** **17 57 49.8 +1.4**
comp=Z,8.7nm,0.8s
LDF La Druitiere 73.99 316 *e*P **P** **17 57 49.8 +1.4**
LDF pmax pmax
comp=Z,9.0nm,0.8s
LDF La Druitiere 73.99 316 *e*P **P** **17 57 49.8 +1.4**
comp=Z,8.7nm,0.8s
RJF Les Rejaudoux 74.11 313 *e*P **P** **17 57 51.3 +2.1**
RJF *e*R
comp=Z,116nm,17.5s
RJF Les Rejaudoux 74.11 313 *e*P **P** **17 57 51.3 +2.1**
RJF Les Rejaudoux 74.11 313 *e*P **P** **17 57 51.3 +2.1**
GRR Gorron 74.52 316 *e*P **P** **17 57 53.6 +2.1**
comp=Z,7.7nm,0.7s
GRR Gorron 74.52 316 *e*P **P** **17 57 53.6 +2.1**
GRR pmax pmax
comp=Z,8.0nm,0.7s
GRR Gorron 74.52 316 *e*P **P** **17 57 53.6 +2.1**
comp=Z,7.7nm,0.7s
MFF Saint Martin d 74.72 315 *e*P **P** **17 57 54.1 +1.4**
MFF Saint Martin d 74.72 315 *e*P **P** **17 57 54.1 +1.4**
MFF Saint Martin d 74.72 315 *e*P **P** **17 57 54.1 +1.4**
ETSF Etsaut 76.39 311 *e*P **P** **17 58 03.7 +1.3**
comp=Z,8.6nm,0.8s
ETSF Etsaut 76.39 311 *e*P **P** **17 58 03.7 +1.3**
ETSF pmax pmax
comp=Z,9.0nm,0.8s
ETSF Etsaut 76.39 311 *e*P **P** **17 58 03.7 +1.3**
comp=Z,8.6nm,0.8s
LSZ Lusaka 76.42 245 *e*P P 17 57 56.2 -6.7
comp=Z,7.6nm,1.0s
MCK McKinley 77.89 24 P **P** **17 58 10.3 -0.1**
MCK pmax pmax
comp=Z,5.0nm,1.0s
MCK McKinley 77.89 24 P P **17 58 10.2 -0.1**
comp=Z,5.3nm,1.0s
ILAR Eielson Array 78.02 23 P **P** **17 58 11.4 +0.3**
ILAR Eielson Array 78.02 23 P **P** **17 58 11.4 +0.3**
comp=Z,0.5nm,0.6s,baz=294,slow=4.4,SNR=10
ARMA Armidale 78.21 132 *e*P **P** **17 58 13.3 +0.6**
PMR Palmer 79.03 26 P **P** **17 58 16.8 +0.1**
PMR pmax pmax
comp=Z,4.0nm,0.7s
PMR Palmer 79.03 26 P P **17 58 16.8 +0.1**
comp=Z,4.0nm,0.7s
SML Sawmill 79.22 25 *e*P **P** **17 58 15.9 -1.9**
SML pmax pmax
comp=Z,2.0nm,0.9s
SML Sawmill 79.22 25 *e*P P **17 58 15.9 -1.9**
comp=Z,2.3nm,0.9s
RES Resolute Bay 79.50 3 *e*P P **17 58 19.4 +0.5**
comp=Z,1.2nm,0.7s
INK Inuvik 79.68 16 *e*P P 17 58 15.8 -4.2
comp=Z,6.6nm,1.0s
ESDC Sonseca Array 80.04 309 P **P** **17 58 23.0 +0.4**
ESDC Sonseca Array 80.04 309 P **P** **17 58 23.0 +0.4**
comp=Z,0.2nm,0.3s,baz=31,slow=7.1,SNR=2.7
BOSA Boshof 85.80 236 P **P** **17 58 53.3 +0.7**
BOSA Boshof 85.80 236 P **P** **17 58 53.3 +0.7**
comp=Z,2.9nm,1.0s,baz=85,slow=2.4,SNR=2.5
TORD Torodi Ar. Bea 86.89 283 P **P** **17 58 59.9 +1.6**
TORD pP **pP** **17 59 08.6 0.0**
TORD Torodi Ar. Bea 86.89 283 P **P** **17 58 59.9 +1.6**
comp=Z,0.4nm,0.5s,baz=54,slow=5.3,SNR=4.5
TORD pP **pP** **17 59 08.6 0.0**
comp=Z,4.0nm,0.9s,baz=54,slow=4.4,SNR=16
YKA Yellowknife Ar 88.90 13 P **P** **17 59 08.4 +1.5**
YKA Yellowknife Ar 88.90 13 P **P** **17 59 08.4 +1.5**
comp=Z,0.3nm,0.6s,baz=328,slow=4.4,SNR=6.1
TXAR Lajitas Array 122.39 19 PKP **PKPdf** **18 05 08.5 -0.1**
TXAR Lajitas Array 122.39 19 PKP **PKPdf** **18 05 08.5 -0.1**
comp=Z,0.4nm,0.6s,baz=186,slow=1.8,SNR=5.7
CPUP Villa Florida 154.77 263 PKPbc **PKPbc** **18 06 13.8 -0.7**
CPUP Villa Florida 154.77 263 PKPbc **PKPbc** **18 06 13.8 -0.7**
comp=Z,0.3nm,0.3s,baz=27,slow=6.8,SNR=2.8

*ISK **24** 17:55:56.8, 39˚.14N×28˚.99E, h5km, MD2.7*
*ISCJB **24** 17:55:57.4±0.5, 39˚.11N±0˚.05×29˚.02E±0˚.04, h5km×7km, Error ellipse: s-maj=8.4km s-min=3.7km az=153.6*
*DDA **24** 17:55:57.2, 39˚.11N×29˚.03E, h7km, MD2.8*
*CSEM **24** 17:55:57.6±0.1, 39˚.11N×29˚.01E, h8km, MD2.8, Error ellipse: s-maj=3.3km s-min=2.0km az=146.0*

ISC 24 17:55:57.9±0.9, 39˚.11N±0˚.04×29˚.02E±0˚.02, h11km±8km, n32, σ0°45/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.25**	**254**	*i* P	**Pg**	**17 56 03.2**	**+0.1**
DEMI				*i* S	**Sg**	**17 56 06.8**	**+0.3**
DEMI	**Demirci**	**0.25**	**254**	*i* P	**Pg**	**17 56 03.2**	**+0.1**
DEMI				*i* S	**Sg**	**17 56 06.8**	**+0.3**
GDZ	**Gediz**	**0.36**	**93**	*i* P	**Pg**	**17 56 05.0**	**-0.1**
GDZ				*i* S	**Sg**	**17 56 09.6**	**-0.4**
GDZ	**Gediz**	**0.36**	**93**	*i* P	**Pg**	**17 56 05.0**	**-0.1**
GDZ				*i* S	**Sg**	**17 56 09.6**	**-0.4**
TVSB	**Tavsanli**	**0.48**	**45**	*e*PG	**Pg**	**17 56 06.8**	**-0.6**
TVSB				*e*SG	**Sg**	**17 56 13.4**	**-0.4**
TVSB	**Tavsanli**	**0.48**	**45**	*e*Pg	**Pg**	**17 56 06.8**	**-0.6**
TVSB				*e*Sg	**Sg**	**17 56 13.4**	**-0.4**
KULA	**Kula-Manisa**	**0.66**	**205**	*e*PG	**Pg**	**17 56 10.2**	**-0.5**
KULA	**Kula-Manisa**	**0.66**	**205**	*e*Pg	**Pg**	**17 56 10.2**	**-0.5**
MANT	**Manisa**	**0.72**	**210**	*i* P	**Pg**	**17 56 11.7**	**-0.1**
MANT				*i* S	**Sg**	**17 56 21.2**	**-0.1**
MANT	**Manisa**	**0.72**	**210**	*i* P	**Pg**	**17 56 11.7**	**-0.1**
MANT				*i* S	**Sg**	**17 56 21.2**	**-0.1**
ALT	**Altintas**	**0.85**	**93**	*e*PG	**Pg**	**17 56 14.5**	**+0.2**
ALT	**Altintas**	**0.85**	**93**	*e*Pg	**Pg**	**17 56 14.5**	**+0.2**
KHL	**Karahalli**	**0.88**	**153**	*e*PG	**Pg**	**17 56 14.1**	**-0.8**
KHL	**Karahalli**	**0.88**	**153**	*e*Pg	**Pg**	**17 56 14.1**	**-0.8**
AKHS	**Akhisar**	**0.97**	**257**	*i* P	**Pg**	**17 56 16.6**	**+0.1**
AKHS				*i* S	**Sg**	**17 56 29.2**	**0.0**
AKHS	**Akhisar**	**0.97**	**257**	*i* P	**Pg**	**17 56 16.6**	**+0.1**
AKHS				*i* S	**Sg**	**17 56 29.2**	**0.0**
AKS	**Akhisar**	**0.97**	**257**	*e*PG	**Pg**	**17 56 15.3**	**-1.2**
AKS	**Akhisar**	**0.97**	**257**	*e*Pg	**Pg**	**17 56 15.4**	**-1.2**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*PN	**Pn**	**17 56 21.3**	**-0.1**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*Pn	**Pn**	**17 56 21.3**	**-0.1**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*PN	**Pn**	**17 56 21.1**	**-0.4**
KCTX	**Karacabey (Bur**	**1.26**	**336**	*e*Pn	**Pn**	**17 56 21.1**	**-0.4**
BORA	**Eskisehir**	**1.35**	**55**	*i* P	**Pn**	**17 56 22.7**	**0.0**
BORA				*i* S	**Sn**	**17 56 41.0**	**+0.3**
BORA	**Eskisehir**	**1.35**	**55**	*i* P	**Pn**	**17 56 22.7**	**0.0**
BORA				*i* S	**Sn**	**17 56 41.0**	**+0.3**
ARMT	**Armutlu**	**1.46**	**355**	*e*PN	**Pn**	**17 56 24.0**	**-0.1**
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn	**Pn**	**17 56 24.0**	**-0.1**
ESKT	**Eskisehir**	**1.48**	**73**	*e*PN	**Pb**	**17 56 25.8**	**+0.4**
ESKT	**Eskisehir**	**1.48**	**73**	*e*Pn	**Pb**	**17 56 25.8**	**+0.4**
GULT	**Gulveren**	**1.75**	**41**	*e*PN	**Pn**	**17 56 28.8**	**+0.5**
GULT	**Gulveren**	**1.75**	**41**	*e*Pn	**Pn**	**17 56 28.8**	**+0.5**
YER	**Yerkesik**	**2.06**	**197**	*e*PG	Pg	17 56 42.2	+4.9
YER				*e*SG	Sn	17 56 45.5	-13
BODT	**Bodrum**	**2.45**	**214**	*e*PG	Pg	17 56 54.1	+9.2

*ISCJB **24** 18:00:31.4±0.4, 67˚.07N±0˚.02×20˚.99E±0˚.08, h0km, Error ellipse: s-maj=4.5km s-min=3.1km az=13.4*
*CSEM **24** 18:00:32.4±0.2, 67˚.09N×20˚.88E, h2km, ML2.2, Error ellipse: s-maj=3.9km s-min=3.0km az=91.0, Mining explosion.*
*IDC **24** 18:00:32.7±0.8, 67˚.13N×21˚.17E, h0km, mb1 3.1/4, mb1mx2.9/27, mbtmp3.0/4, ML2.6/4, Error ellipse: s-maj=14.7km s-min=6.6km az=116.0*
*UPP **24** 18:00:32.3, 67˚.07N×20˚.96E, h0km, ML2.2, Mining explosion.*
*HEL **24** 18:00:33.1±0.1, 67˚.07N×20˚.91E, h0km, ML1.8, ML2.2(UPP), ML2.0(BER), Explosion*
*NAO **24** 18:00:33.2±0.8, 67˚.05N×21˚.37E, ML2.4*
*BER **24** 18:00:34.4±3.3, 67˚.15N×20˚.79E, h0km, ML2.0, ML2.4(NAO), Suspected explosion*

ISC 24 18:00:31.6±0.7, 67˚.07N±0˚.02×20˚.86E±0˚.03, h0km, n68, σ1°13/107, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERTU	**Ertsjaerv**	**0.74**	**134**	*i* P	**Pg**	**18 00 45.9**	**+0.2**
ERTU	**Ertsjaerv**	**0.74**	**134**	P	**Pg**	**18 00 45.8**	**+0.2**
HARU	**Harads**	**0.91**	**177**	*e*P	**Pg**	**18 00 49.4**	**+0.4**
HARU				*e*S	**Sb**	**18 01 02.8**	**+0.1**
HARU	**Harads**	**0.91**	**177**	P	**Pg**	**18 00 49.3**	**+0.4**
HARU				S	**Sb**	**18 01 02.8**	**+0.1**
KUA	**Kurravaara**	**0.92**	**348**	*e*P	**Pg**	**18 00 49.5**	**+0.4**
KUA	**Kurravaara**	**0.92**	**348**	P	**Pg**	**18 00 49.5**	**+0.4**
SALU	**Saltoluokta**	**0.97**	**290**	*e*P	**Pb**	**18 00 51.2**	**-0.1**
SALU	**Saltoluokta**	**0.97**	**290**	P	**Pb**	**18 00 51.1**	**-0.1**
NIKU	**Nikkaluokta**	**1.07**	**320**	*e*P	**Pb**	**18 00 52.5**	**-0.4**
NIKU	**Nikkaluokta**	**1.07**	**320**	P	**Pb**	**18 00 52.5**	**-0.4**
LANU	**Lannavaara**	**1.08**	**23**	*e*P	**Pg**	**18 00 51.8**	**-0.5**
LANU				*e*SB	**Sb**	**18 01 07.2**	**-0.6**
LANU				*e*RG	Rg	18 01 09.6	
LANU	**Lannavaara**	**1.08**	**23**	P	**Pg**	**18 00 51.9**	**-0.4**
LANU				Sb	**Sb**	**18 01 07.2**	**-0.6**
KALU	**Kalix**	**1.57**	**139**	*e*P	**Pn**	**18 01 00.8**	**+0.1**
KALU	**Kalix**	**1.57**	**139**	P	**Pn**	**18 01 00.8**	**+0.1**
SJUU	**Sjulsmark**	**1.59**	**169**	*e*P	**Pn**	**18 01 01.5**	**+0.5**
SJUU	**Sjulsmark**	**1.59**	**169**	P	**Pn**	**18 01 01.5**	**+0.5**
HEF	**Hetta**	**1.72**	**37**	*e*P	**Pn**	**18 01 03.1**	**+0.3**
HEF				MSG	**Sn**	**18 01 25.4**	**0.0**
	comp=Z,5.9nm,0.4s						
HEF				*e*S	**Sn**	**18 01 25.4**	**0.0**
HEF	**Hetta**	**1.72**	**37**	P	**Pn**	**18 01 03.0**	**+0.3**
HEF				S	**Sn**	**18 01 25.4**	**0.0**
LILU	**Lilltraesk**	**1.83**	**193**	*e*P	**Pb**	**18 01 05.7**	**-0.3**
LILU	**Lilltraesk**	**1.83**	**193**	P	**Pb**	**18 01 05.6**	**-0.3**
KIF	**Kilpisjarvi**	**1.95**	**359**	*e*PB	**Pb**	**18 01 08.0**	**+0.1**
KIF	**Kilpisjarvi**	**1.95**	**359**	Pb	**Pb**	**18 01 08.0**	**+0.1**
RNF	**Rovaniemi**	**2.09**	**100**	*e*P	**Pn**	**18 01 09.2**	**+1.4**
RNF				*e*SG	**Sb**	**18 01 37.2**	**+0.4**
RNF				MSG		18 01 37.2	
	comp=Z,7.4nm,0.4s						
RNF	**Rovaniemi**	**2.09**	**100**	P	**Pn**	**18 01 09.2**	**+1.4**
RNF				Sg	**Sb**	**18 01 37.2**	**+0.4**
KTK1	**Kautokeino**	**2.15**	**23**	*e*Sg	**Sb**	**18 01 39.3**	**+0.8**
KTK1				AML	AML	18 01 42.2	
	comp=Z,24nm,0.3s						
KTK1	**Kautokeino**	**2.15**	**23**	*e*SG	**Sb**	**18 01 39.3**	**+0.8**
KTK1				AML	AML	18 01 42.2	
	comp=Z,24nm,0.3s						
KTK1	**Kautokeino**	**2.15**	**23**	Sg	**Sb**	**18 01 39.3**	**+0.8**
	comp=Z,24nm,0.3s						
SGF	**Sodankyl**	**2.24**	**78**	*e*P	**Pn**	**18 01 11.4**	**+1.6**
SGF				MSG	**Sg**	**18 01 42.8**	**-0.5**
	comp=Z,6.4nm,0.1s						
SGF				*e*SG	**Sg**	**18 01 42.8**	**-0.5**
SGF	**Sodankyl**	**2.24**	**78**	P	**Pn**	**18 01 11.4**	**+1.6**
SGF				Sg	**Sg**	**18 01 42.8**	**-0.5**
MOR8	**Moi Rana**	**2.71**	**254**	*e*Sg	**Sb**	**18 01 54.9**	**+0.2**
MOR8				AML	AML	18 01 55.8	
	comp=Z,11nm,0.3s						
MOR8	**Moi Rana**	**2.71**	**254**	*e*SG	**Sb**	**18 01 54.9**	**+0.2**
MOR8				AML	AML	18 01 55.8	
	comp=Z,11nm,0.3s						
MOR8	**Moi Rana**	**2.71**	**254**	*e*Sg	**Sb**	**18 01 54.9**	**+0.2**
	comp=Z,11nm,0.3s,SNR=90						
OUL	**Oulu**	**2.86**	**132**	*e*PB	**Pb**	**18 01 21.4**	**-2.0**
OUL				*e*SG	**Sb**	**18 02 00.5**	**+1.7**
OUL	**Oulu**	**2.86**	**132**	Pb	**Pb**	**18 01 21.4**	**-2.0**
OUL				Sg	**Sb**	**18 02 00.5**	**+1.7**
ARA0	**ARCESS Array S**	**3.02**	**33**	Pn	**Pn**	**18 01 21.5**	**+0.9**
	baz=219,slow=14						
ARA0				Sn	**Sn**	**18 01 57.4**	**-0.1**
	baz=214,slow=28						
ARA0				Lg	Lg	18 02 02.9	
	baz=216,slow=28						
ARA0	**ARCESS Array S**	**3.02**	**33**	Pn	**Pn**	**18 01 21.5**	**+0.9**
	baz=219,slow=14						
ARA0				Sn	**Sn**	**18 01 57.4**	**-0.1**
	baz=214,slow=28						
ARA0				Lg	Lg	18 02 02.9	
	baz=216,slow=28						
ARA0	**ARCESS Array S**	**3.02**	**33**	*e*P	**Pn**	**18 01 21.5**	**+0.9**
ARA0				*e*S	**Sn**	**18 01 57.4**	**-0.1**
ARA0				*e*SB	**Sb**	**18 02 02.9**	**-0.7**
ARA0	**ARCESS Array S**	**3.02**	**33**	P	**Pn**	**18 01 21.5**	**+0.9**
ARA0				S	**Sn**	**18 01 57.4**	**-0.1**
ARA0				Sb	**Sb**	**18 02 02.9**	**-0.7**
ARA0				Lg	Lg	18 02 02.9	
	baz=216,slow=23,SNR=1.2						
ARCES	**ARCESS Array B**	**3.02**	**33**	Pn	**Pn**	**18 01 21.5**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=212,slow=14,SNR=64						
ARCES				Lg	Lg	18 02 02.4	
	comp=Z,1.5nm,0.3s,baz=220,slow=22,SNR=6.9						
VRF	**Varrio**	**3.45**	**75**	*e*P	**Pn**	**18 01 28.2**	**+1.7**
VRF				*e*SG	**Sb**	**18 02 18.9**	**+3.1**
VRF				MSG		18 02 18.9	
	comp=Z,1.1nm,0.4s						
VRF	**Varrio**	**3.45**	**75**	P	**Pn**	**18 01 28.2**	**+1.7**
VRF				Sg	**Sb**	**18 02 18.9**	**+3.1**
MSF	**Maaselka**	**3.48**	**106**	*e*P	**Pn**	**18 01 29.1**	**+2.2**
MSF	**Maaselka**	**3.48**	**106**	P	**Pn**	**18 01 29.1**	**+2.2**
KEV	**Kevo**	**3.53**	**37**	*e*P	**Pn**	**18 01 28.3**	**+0.7**
KEV	**Kevo**	**3.53**	**37**	P	**Pn**	**18 01 28.3**	**+0.7**
KU6	**Riekki**	**3.76**	**102**	*e*P	**Pn**	**18 01 31.8**	**+1.0**
KU6				MSG	**Sg**	**18 02 30.4**	**-1.8**
	comp=Z,1.2nm,0.4s						
KU6				*e*SG	**Sg**	**18 02 30.4**	**-1.8**
KU6	**Riekki**	**3.76**	**102**	P	**Pn**	**18 01 31.7**	**+1.0**
KU6				Sg	**Sg**	**18 02 30.4**	**-1.8**
VAF	**Ylistaro**	**4.11**	**168**	*e*P	**Pn**	**18 01 37.5**	**+1.9**
VAF	**Ylistaro**	**4.11**	**168**	P	**Pn**	**18 01 37.4**	**+1.9**
APA0	**Apatity Array**	**4.73**	**78**	Pn	**Pn**	**18 01 44.9**	**+0.8**
	baz=267,slow=12						
APA0				Sn	**Sn**	**18 02 39.4**	**0.0**
	baz=269,slow=22						
APA0	**Apatity Array**	**4.73**	**78**	Pn	**Pn**	**18 01 44.9**	**+0.8**
	baz=267,slow=12						
APA0				Sn	**Sn**	**18 02 39.4**	**0.0**
	baz=269,slow=22						
APA0	**Apatity Array**	**4.73**	**78**	*e*P	**Pn**	**18 01 44.9**	**+0.8**
APA0				*e*S	**Sn**	**18 02 39.4**	**0.0**
APA0	**Apatity Array**	**4.73**	**78**	P	**Pn**	**18 01 44.8**	**+0.8**
APA0				Sn	**Sn**	**18 02 39.4**	**0.0**
	baz=269,slow=22,SNR=50						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**18 02 04.4**	**+1.7**
	baz=346,slow=14						
FIA0				Sn	**Sn**	**18 03 12.0**	**-0.8**
	baz=344,slow=28						
FIA0	**FINESS Array S**	**6.08**	**156**	Pn	**Pn**	**18 02 04.4**	**+1.7**
	baz=346,slow=14						
FIA0				Sn	**Sn**	**18 03 12.0**	**-0.8**
	baz=344,slow=28						
FIA0	**FINESS Array S**	**6.08**	**156**	*e*P	**Pn**	**18 02 04.4**	**+1.7**
FIA0				*e*S	**Sn**	**18 03 12.0**	**-0.8**
FIA0	**FINESS Array S**	**6.08**	**156**	P	**Pn**	**18 02 04.3**	**+1.7**
FIA0				S	**Sn**	**18 03 12.0**	**-0.8**
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**18 02 04.3**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=347,slow=13,SNR=19						
FINES				Sn	**Sn**	**18 03 13.4**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=345,slow=23,SNR=6.3						
FINES				Lg	Lg	18 03 43.0	
	comp=Z,0.4nm,0.3s,baz=351,slow=25,SNR=3.5						
NB2	**NORSAR Subarra**	**7.37**	**219**	Pn	**Pn**	**18 02 21.1**	**+0.7**
	baz=29,slow=14						
NB2	**NORSAR Subarra**	**7.37**	**219**	Pn	**Pn**	**18 02 21.1**	**+0.7**
	baz=29,slow=14						
NB2	**NORSAR Subarra**	**7.37**	**219**	*e*P	**Pn**	**18 02 21.1**	**+0.7**
NB2	**NORSAR Subarra**	**7.37**	**219**	P	**Pn**	**18 02 21.0**	**+0.7**
NOA	**NORSAR Array B**	**7.37**	**219**	Pn	**Pn**	**18 02 21.4**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=25,slow=11,SNR=2.8						
NOA				Sn	**Sn**	**18 03 43.4**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=50,slow=21,SNR=2.7						
HFS	**Hagfors**	**7.65**	**208**	Pn	**Pn**	**18 02 24.7**	**+0.6**
	baz=18,slow=16						
HFS				Sn	**Sn**	**18 03 49.1**	**-2.3**
	baz=39,slow=28						
HFS	**Hagfors**	**7.65**	**208**	Pn	**Pn**	**18 02 24.7**	**+0.6**
	baz=18,slow=16						
HFS				Sn	**Sn**	**18 03 49.1**	**-2.3**
	baz=39,slow=28						
HFS	**Hagfors**	**7.65**	**208**	*e*P	**Pn**	**18 02 24.7**	**+0.6**
HFS				*e*S	**Sn**	**18 03 49.1**	**-2.3**
HFS	**Hagfors**	**7.65**	**208**	Pn	**Pn**	**18 02 24.6**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=28,slow=13,SNR=13						
HFS				Sn	**Sn**	**18 03 52.6**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=20,slow=24,SNR=5.2						
HFS				Lg	Lg	18 04 36.5	
	comp=Z,0.2nm,0.3s,baz=27,slow=26,SNR=2.5						
HFS	**Hagfors**	**7.65**	**208**	P	**Pn**	**18 02 24.7**	**+0.6**

*ISCJB **24** 18:05:38.1±0.6, 41˚.87N±0˚.05×124˚.03E±0˚.06, h10km, mb3.6/4, Error ellipse: s-maj=7.3km s-min=5.6km az=149.1*
*IDC **24** 18:05:40.1±1.1, 41˚.88N×123˚.89E, h0km, mb3.6/4, mb1 3.6/7, mb1mx3.4/27, mbtmp3.4/7, ML2.4/3, Error ellipse: s-maj=19.6km s-min=16.8km az=18.0*

ISC 24 18:05:42.6±0.8, 41˚.84N±0˚.09×123˚.74E±0˚.06, h10km, n9, σ1°44/10, mb3.6/4, 1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNY	**Shenyang**	**0.12**	**263**	⇓P	**Pg**	**18 05 45.6**	**+0.2**
SNY				Sg	**Sg**	**18 05 49.3**	**+1.8**
SNY				*s*max	*s*max		
	comp=N,7μm,1.4s						
SNY				*s*max	*s*max		
	comp=E,7μm,1.3s						
CN2	**Changchun**	**2.33**	**32**	*e*Pg	Pn	18 06 21.1	+0.2
CN2				*e*Sg	**Sn**	**18 06 50.8**	**+1.3**
CN2				*s*max	*s*max		
	comp=N,100nm,0.5s						
CN2				*s*max	*s*max		
	comp=E,100nm,0.5s						
KSRS	**Korea Array**	**5.44**	**142**	Pn	**Pn**	**18 07 01.9**	**-1.8**
	comp=E,0.1nm,0.3s,baz=324,slow=13,SNR=4.6						
KSRS				Pg	**Pb**	**18 07 19.8**	**+2.1**
	comp=E,1.0nm,0.3s,baz=329,slow=17,SNR=16						
KSRS				Sn	Sn	18 08 00.5	-5.9
	comp=E,0.8nm,0.3s,baz=322,slow=24,SNR=5.0						
KSRS				Lg	Lg	18 08 31.2	
	comp=E,4.3nm,0.3s,baz=321,slow=29,SNR=12						
USRK	**Ussuriysk Arra**	**6.50**	**66**	Pn	Pn	18 07 13.6	-4.6
	comp=E,0.5nm,0.3s,baz=258,slow=13,SNR=7.8						
USRK				Pg	Pb	18 07 35.2	-0.4
	comp=E,1.1nm,0.3s,baz=245,slow=16,SNR=15						
USRK				Sn	**Sn**	**18 08 31.9**	**-0.4**
	comp=E,0.3nm,0.3s,baz=265,slow=27,SNR=2.7						
USRK				Lg	Lg	18 09 00.4	
	comp=E,1.8nm,0.3s,baz=251,slow=27,SNR=4.5						
SONM	**Songino Array**	**13.68**	**302**	Pn	**Pn**	**18 08 55.8**	**-0.7**
	comp=E,0.0nm,0.3s,baz=106,slow=11,SNR=2.4						
SONM				Lg	Lg	18 12 57.0	
	comp=E,0.1nm,0.3s,baz=114,slow=30,SNR=3.6						
CMAR	**Chiang Mai Arr**	**31.46**	**230**	P	**P**	**18 12 03.2**	**-1.1**
	comp=E,0.3nm,0.8s,baz=25,slow=9.0,SNR=4.3						
ILAR	**Eielson Array**	**52.84**	**33**	P	P	18 14 55.5	-2.4
	comp=E,0.3nm,0.6s,baz=290,slow=8.4,SNR=7.6						
FINES	**FINESS Array B**	**57.66**	**326**	P	**P**	**18 15 32.3**	**-0.3**
	comp=E,2.6nm,1.0s,baz=76,slow=5.9,SNR=4.2						
NVAR	**Mina Array Bea**	**82.17**	**44**	P	**P**	**18 18 04.2**	**+0.3**
	comp=E,0.2nm,0.3s,baz=316,slow=6.4,SNR=2.6						

*ISCJB **24** 18:08:38.4±0.8, 31˚.92N±0˚.07×104˚.7E±0˚.1, h15km, mb3.2/5, Error ellipse: s-maj=14.4km s-min=7.5km az=30.2*
*IDC **24** 18:08:40.6±1.1, 31˚.99N×104˚.44E, h0km, mb3.3/5, mb1 3.4/6, mb1mx3.3/27, mbtmp3.3/6, ML2.5/1, Error ellipse: s-maj=88.3km s-min=18.5km az=58.0*

ISC 24 18:08:40.4±0.9, 31˚.98N±0˚.06×104˚.61E±0˚.06, h15km, n9, σ1°37/12, mb3.2/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.29**	**215**	Pg	**Pn**	**18 09 02.8**	**-1.1**
CD2				Sg	**Sn**	**18 09 19.3**	**-1.6**
CD2				*s*max	*s*max		
	comp=N,510nm,0.6s						
CD2				*s*max	*s*max		
	comp=E,280nm,0.7s						
LZH	**Lanzhou**	**4.15**	**351**	Pg	**Pg**	**18 09 59.8**	**-0.1**
LZH				Sg	**Sg**	**18 10 52.1**	**-1.6**
LZH				*s*max	*s*max		
	comp=N,41nm,0.6s						
LZH				*s*max	*s*max		
	comp=E,42nm,0.7s						
LZH				LR	LR		
	comp=N,170nm,5.5s						
LZH				LR	LR		
	comp=E,190nm,5.3s						
LZH				LR	LR		
	comp=Z,140nm,4.7s						
XAN	**Xi'an**	**4.17**	**59**	Pn	**Pb**	**18 09 53.3**	**-0.2**
XAN				Pg	**Pg**	**18 10 00.0**	**-0.3**
XAN				Sg	**Sg**	**18 10 53.0**	**-1.3**
XAN				*s*max	*s*max		
	comp=N,41nm,0.6s						
XAN				*s*max	*s*max		
	comp=E,14nm,0.5s						
SONM	**Songino Array**	**15.90**	**4**	Pn	**P**	**18 12 27.8**	**+0.5**
	comp=E,0.0nm,0.3s,baz=182,slow=14,SNR=2.6						
MKAR	**Makanchi Array**	**22.62**	**317**	P	**P**	**18 13 42.0**	**+1.3**
	comp=E,0.3nm,0.7s,baz=112,slow=12,SNR=5.4						
ZALV	**Zalesovo Beam**	**26.13**	**333**	P	**P**	**18 14 14.6**	**+0.9**
	comp=E,0.2nm,0.3s,baz=126,slow=9.8,SNR=2.8						
KURBB	**Kurchatov Arra**	**26.81**	**322**	P	**P**	**18 14 21.5**	**+1.6**
	comp=E,0.3nm,0.7s,baz=120,slow=11,SNR=4.6						
WRA	**Warramunga AR**	**58.96**	**147**	P	**P**	**18 18 41.3**	**+1.8**
	comp=E,0.5nm,0.6s,baz=340,slow=7.6,SNR=8.1						
ASAR	**Alice Springs**	**62.02**	**149**	P	P	18 19 04.7	+4.4
	comp=E,0.2nm,0.5s,baz=335,slow=6.9,SNR=8.4						

*ISCJB **24** 18:11:13.4±0.9, 37˚.35N±0˚.03×27˚.04E±0˚.05, h1km×7km, Error ellipse: s-maj=6.2km s-min=4.7km az=170.2*
*DDA **24** 18:11:13.2, 37˚.35N×27˚.05E, h7km, MD3.0*
*CSEM **24** 18:11:13.7±0.2, 37˚.36N×27˚.04E, h2km, MD3.3, Error ellipse: s-maj=4.3km s-min=3.0km az=66.0*
*ISK **24** 18:11:14.0, 37˚.40N×27˚.13E, h5km, MD3.3*
*ATH **24** 18:11:14.8, 37˚.22N×27˚.04E, h21km±3km, MD3.4/4*

ISC 24 18:11:13.9±1.2, 37˚.34N±0˚.02×27˚.07E±0˚.03, h8km±11km, n48, σ0°96/63, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.33**	**145**	PG	**Pb**	**18 11 21.8**	**-0.3**
BODT				*e*SG	**Sb**	**18 11 27.4**	**-0.2**
BODT	**Bodrum**	**0.33**	**145**	*i* Pg	**Pb**	**18 11 21.8**	**-0.3**
BODT				*e*Sg	**Sb**	**18 11 27.4**	**-0.2**
GCAM	**G?zelcaml?**	**0.39**	**20**	*i* P	**Pg**	**18 11 21.0**	**-0.5**
GCAM				*i* S	**Sg**	**18 11 26.7**	**+0.1**
GCAM	**G?zelcaml?**	**0.39**	**20**	*i* P	**Pg**	**18 11 21.0**	**-0.5**
GCAM				*i* S	**Sg**	**18 11 26.7**	**+0.1**
AYDN	**Tasoluk**	**0.72**	**63**	*i* P	**Pg**	**18 11 27.1**	**-0.7**
AYDN				*i* S	**Sg**	**18 11 38.1**	**+0.9**
AYDN	**Tasoluk**	**0.72**	**63**	*i* P	**Pg**	**18 11 27.1**	**-0.7**
YER	**Yerkesik**	**0.99**	**101**	*e*PG	**Pg**	**18 11 33.1**	**+0.2**
YER				*e*SG	**Sb**	**18 11 46.5**	**-0.1**
YER	**Yerkesik**	**0.99**	**101**	*e*Pg	**Pg**	**18 11 33.1**	**+0.2**
YER				*e*Sg	**Sb**	**18 11 46.5**	**-0.1**
IZM	**Izmir**	**1.07**	**8**	*e*PG	**Pg**	**18 11 33.3**	**-1.2**
IZM	**Izmir**	**1.07**	**8**	*e*Pg	**Pg**	**18 11 33.3**	**-1.2**
URLA	**Izmir**	**1.09**	**340**	*i* P	**Pg**	**18 11 33.6**	**-1.2**
URLA				*i* S	**Sb**	**18 11 49.5**	**+0.1**
URLA	**Izmir**	**1.09**	**340**	*i* P	**Pg**	**18 11 33.6**	**-1.2**
URLA				*i* S	**Sb**	**18 11 49.5**	**+0.1**
APE	**Apeiranthos**	**1.26**	**258**	*e*PN	**Pg**	**18 11 38.5**	**+0.5**
APE				*e*SN	**Sn**	**18 11 54.8**	**-0.1**
APE	**Apeiranthos**	**1.26**	**258**	*e*Pn	**Pg**	**18 11 38.5**	**+0.5**
APE				*e*Sn	**Sn**	**18 11 54.8**	**-0.1**
TURN	**Turunc**	**1.31**	**110**	*i* P	Pn	18 11 34.8	-3.7
TURN				*i* S	**Sb**	**18 11 51.2**	**-4.5**
TURN	**Turunc**	**1.31**	**110**	*i* P	Pn	18 11 34.8	-3.7
ARG	**Arkhangelos**	**1.40**	**142**	*e*PN	**Pb**	**18 11 40.1**	**-0.2**
ARG	**Arkhangelos**	**1.40**	**142**	*e*Pn	**Pb**	**18 11 40.1**	**-0.2**
MANT	**Manisa**	**1.65**	**45**	*i* P	**Pn**	**18 11 43.8**	**+0.4**
MANT				*i* S	**Sb**	**18 12 06.1**	**+0.4**
MANT	**Manisa**	**1.65**	**45**	*i* P	**Pn**	**18 11 43.8**	**+0.4**
MANT				*i* S	**Sb**	**18 12 06.1**	**+0.4**
AKHS	**Akhisar**	**1.65**	**21**	*i* P	**Pb**	**18 11 44.7**	**+0.1**
AKHS				*i* S	**Sg**	**18 12 10.5**	**+3.6**
AKHS	**Akhisar**	**1.65**	**21**	*i* P	**Pb**	**18 11 44.7**	**+0.1**
AKS	**Akhisar**	**1.65**	**21**	*e*PN	**Pn**	**18 11 43.4**	**+0.2**
AKS	**Akhisar**	**1.65**	**21**	*e*Pn	**Pn**	**18 11 43.4**	**+0.2**
KULA	**Kula-Manisa**	**1.72**	**46**	*e*PN	**Pn**	**18 11 44.5**	**+0.2**
KULA	**Kula-Manisa**	**1.72**	**46**	*e*Pn	**Pn**	**18 11 44.5**	**+0.2**
FETY	**Fethi

MIDW Midway 54.90 359 P P 18 37 41.5 -2.2
GUMO Guam 55.19 312 LR LR 18 57 58.5
comp=Z,270nm,18.3s,baz=101,slow=32
RPN Rapa Nui 58.97 107 LR LR 18 59 32.2
comp=Z,232nm,18.9s,baz=346,slow=32
QSPA South Pole Qui 63.10 180 P P 18 38 39.3 -1.1
14nm,0.8s
QSPA South Pole Qui 63.10 180 P P 18 38 39.3 -1.1
23nm,0.9s,baz=30,slow=2.3,SNR=69
QSPA LR LR 19 02 56.4
comp=Z,296nm,18.1s,baz=226,slow=33
KSM Kuching 75.88 279 *eP* **P 18 39 59.3 -0.6**
16nm,0.9s
MAW Mawson 76.00 200 LR LR 19 14 11.6
comp=Z,456nm,19.7s,baz=302,slow=36
MAJO Matsushiro 76.33 324 *eP* **P 18 40 04.5 +2.7**
13nm,0.8s
SYO Syowa Base 80.75 192⇓*eP* **P 18 40 23.4 -2.4**
VNA3 Neumayer Olymp 81.59 176 *eP* P 18 40 26.6 -3.7
VNA2 Neumayer--Watz 82.04 176 *eP* **P 18 40 31.9 -0.8**
baz=162,slow=3.8
KSRS Korea Array 82.74 318 P P 18 40 38.7 +2.0
2.6nm,0.7s,baz=131,slow=6.3,SNR=5.9
KSRS LR LR 19 15 21.6
comp=Z,72nm,18.2s,baz=5.4,slow=34
KSAR Wonju Array Be 82.75 318 P P 18 40 38.7 +1.9
ISA Isabella 82.85 44 P P 18 40 38.3 +0.8
5.9nm,1.0s
PETK Petropavlovsk- 82.91 345 P P 18 40 38.9 +1.7
PETK Petropavlovsk- 82.91 345 P P 18 40 38.9 +1.7
48nm,0.9s,baz=155,slow=8.7,SNR=17
PETK LR LR 19 18 48.9
comp=Z,79nm,18.6s,baz=323,slow=37
PLCA Paso Flores 83.74 133 P P 18 40 41.4 -0.8
PLCA Paso Flores 83.74 133 P P 18 40 41.4 -0.8
3.6nm,0.9s,baz=224,slow=4.3,SNR=7.0
PLCA LR LR 19 12 19.2
comp=Z,236nm,19.9s,baz=254,slow=32
NVAR Mina Array Bea 84.75 42 P P 18 40 47.9 +0.6
NVAR Mina Array Bea 84.75 42 P P 18 40 47.9 +0.6
2.8nm,0.9s,baz=218,slow=9.1,SNR=14
TUC Tucson 85.84 51 *eP* **P 18 40 54.0 +1.2**
3.0nm,0.8s
PSI Prapat 86.57 275 LR LR 19 21 16.8
comp=Z,178nm,18.2s,baz=165,slow=37
TXAR Lajitas Array 89.31 56 P P 18 41 10.3 +0.9
TXAR Lajitas Array 89.31 56 P P 18 41 10.3 +0.9
2.7nm,0.9s,baz=211,slow=7.0,SNR=14
TXAR LR LR 19 17 18.1
comp=Z,117nm,18.3s,baz=290,slow=33
TMUT Trail Mountain 89.63 45 *eP* **P 18 41 12.7 +1.6**
4.5nm,0.8s
ANMO Albuquerque 90.30 50 P P 18 41 15.3 +1.2
3.6nm,1.1s
PMR Palmer 90.97 13 *eP* **P 18 41 16.3 0.0**
PDAR Pinedale Array 92.66 43 P P 18 41 25.3 +0.4
PDAR Pinedale Array 92.66 43 P P 18 41 25.3 +0.4
0.8nm,0.8s,baz=213,slow=3.9,SNR=6.4
PDAR LR LR 19 20 18.4
comp=Z,129nm,18.6s,baz=241,slow=34
NNA Nana 92.92 105 LR LR 19 17 28.1
comp=Z,105nm,18.9s,baz=146,slow=32
ILAR Eielson Array 94.30 12 P P 18 41 32.3 +0.7
ILAR Eielson Array 94.30 12 P P 18 41 32.3 +0.7
1.1nm,0.7s,baz=218,slow=5.6,SNR=13
LPAZ La Paz 98.16 113 LR LR 19 17 47.4
comp=Z,98nm,20.9s,baz=32,slow=30
SONM Songino Array 101.60 318 PKKPbc PKKPbc 18 58 12.4 -1.1
SONM Songino Array 101.60 318 PKKPbc PKKPbc 18 58 12.4 -1.1
0.3nm,0.8s,baz=285,slow=2.8,SNR=4.2
ZALV Zalesovo Beam 116.44 319 PKP PKPdf 18 46 55.8 -0.3
ZALV Zalesovo Beam 116.44 319 PKP PKPdf 18 46 55.8 -0.3
1.1nm,0.7s,baz=116,slow=3.4,SNR=4.9
MKAR Makanchi Array 116.67 311 PKP PKPdf 18 46 56.5 -0.3
MKAR Makanchi Array 116.67 311 PKP PKPdf 18 46 56.5 -0.3
0.8nm,0.7s,baz=56,slow=3.1,SNR=6.6
KURK Kurchatov 119.72 315 PKP PKPdf 18 47 02.2 -0.3
KURBB Kurchatov Arra 119.76 315 PKP PKPdf 18 47 02.2 -0.4
1.1nm,0.8s,baz=96,slow=1.5,SNR=8.4
BOSA Boshof 120.95 202 PKP PKPdf 18 47 05.9 0.0
BOSA Boshof 120.95 202 PKP PKPdf 18 47 05.9 0.0
2.4nm,0.9s,baz=56,slow=7.9,SNR=3.6
BVAR Borovoye Array 124.94 317 PKP PKPdf 18 47 12.6 +0.1
BVAR Borovoye Array 124.94 317 PKP PKPdf 18 47 12.6 +0.1
1.0nm,0.6s,baz=27,slow=1.7,SNR=6.1
AKTO Aktyubinsk 132.81 315 PKP PKPdf 18 47 27.8 +0.3
AKTO Aktyubinsk 132.81 315 PKP PKPdf 18 47 27.8 +0.3
1.6nm,0.9s,baz=60,slow=9.4,SNR=4.6
ARCES ARCESS Array B 135.55 349 PKP PKPdf 18 47 32.1 0.0
ARCES ARCESS Array B 135.55 349 PKP PKPdf 18 47 32.1 0.0
5.3nm,0.8s,baz=13,slow=1.6,SNR=4.3
FINES FINESS Array B 142.40 343 PKPpre PKPpre 18 47 41.1
FINES FINESS Array B 142.40 343 PKhKP PKPpre 18 47 41.1
1.7nm,0.7s,baz=21,slow=6.3,SNR=4.8
KBZ Khabaz 144.29 308 PKP PKPdf 18 47 48.5 -0.2
KBZ Khabaz 144.29 308 PKP PKPdf 18 47 48.5 -0.2
2.0nm,0.8s,baz=79,slow=3.7,SNR=4.7
NB2 NORSAR Subarra 145.58 354 PKP PKPab 18 47 51.3 +0.3
comp=Z,12nm,1.0s,baz=10,slow=3.2
NOA NORSAR Array B 145.58 354 PKPbc **PKPab 18 47 51.1 +0.1**
NOA NORSAR Array B 145.58 354 PKPbc **PKPab 18 47 51.1 +0.1**
comp=Z,5.6nm,0.8s,baz=15,slow=4.3,SNR=16
HFS Hagfors 146.16 351 PKPbc **PKPdf 18 47 51.8 +0.4**
HFS Hagfors 146.16 351 PKPbc **PKPdf 18 47 51.8 +0.4**
comp=Z,12nm,0.8s,baz=318,slow=2.0,SNR=17
NACGM Naroch 147.41 335 *e* **PKPbc 18 47 55.0 -1.2**
AKASG Malin Array Be 149.35 327 PKPbc **PKPbc 18 48 01.9 +0.5**
AKASG Malin Array Be 149.35 327 PKPbc **PKPbc 18 48 01.9 +0.5**
comp=Z,4.5nm,0.7s,baz=41,slow=3.6,SNR=18
KIEV Kiev 149.36 327 *e*PKPbc **PKPbc 18 48 01.7 +0.3**
SUW Suwalki 149.41 337 *e*PX **PKPbc 18 48 03.2 +1.8**
SUW Suwalki 149.41 337 *e*PX **PKPbc 18 48 03.2 +1.8**
SUW Suwalki 149.41 337 *e*PKPbc **PKPbc 18 48 02.8 +1.4**
ASF Jabal al Asfar 150.71 288 PKPab **PKPab 18 48 13.7 +1.2**
ASF Jabal al Asfar 150.71 288 PKPab **PKPab 18 48 13.7 +1.2**
comp=Z,3.0nm,0.7s,baz=74,slow=2.5,SNR=7.5
MMAI Mount Meron Ar 151.93 290 PKPab **PKPab 18 48 18.0 +0.4**
MMAI Mount Meron Ar 151.93 290 PKPab **PKPab 18 48 18.0 +0.4**
comp=Z,5.9nm,0.6s,baz=104,slow=5.2,SNR=6.0
BRTR Keskin Array B 152.07 305 PKPbc **PKPbc 18 48 08.8 +0.4**
BRTR PKPab **PKPab 18 48 16.3 -1.7**
BRTR Keskin Array B 152.07 305 PKPbc **PKPbc 18 48 08.8 +0.4**
comp=Z,0.9nm,0.7s,baz=138,slow=5.0,SNR=5.2
BRTR PKPab **PKPab 18 48 16.3 -1.7**
comp=Z,3.8nm,0.7s,baz=114,slow=4.4,SNR=13
EIL Elat 152.37 283 PKPab **PKPab 18 48 21.5 +2.1**
EIL Elat 152.37 283 PKPab **PKPab 18 48 21.5 +2.1**
comp=Z,5.9nm,0.8s,baz=295,slow=5.9,SNR=7.8
KSP Ksiaz 154.31 341 *e*PX **PKPab 18 48 25.1 -1.7**
KSP Ksiaz 154.31 341 *e*PX **PKPab 18 48 25.1 -1.7**
CLL Collm 154.70 346 *e*PKPdiff **PKPbc 18 48 15.0 +1.5**
comp=Z,4.0nm,0.8s
CLL *e*PKPab **PKPab 18 48 30.0 +1.6**
CLL *e* 18 48 41.0
BRG Berggiesshubel 154.90 345 *e*PKP **PKPbc 18 48 15.2 +1.3**
comp=Z,8.3nm,1.4s
KHC Kasperske Hory 156.60 343 *eP* **PKPab 18 48 37.0 +0.3**
KHC *ex* x 18 48 46.5
GERES GERESS Array B 156.83 343 PKPab **PKPab 18 48 36.3 -1.4**
GERES GERESS Array B 156.83 343 PKPab **PKPab 18 48 36.3 -1.4**
comp=Z,0.7nm,0.7s,baz=25,slow=3.5,SNR=3.6
DBIC Dimbokro 158.22 157 PKPab **PKPab 18 48 43.5 -1.0**
DBIC Dimbokro 158.22 157 PKPab **PKPab 18 48 43.5 -1.0**
comp=Z,2.1nm,0.8s,baz=226,slow=6.3,SNR=3.1
TORD Torodi Ar. Bea 166.10 172 PKP **PKPdf 18 48 18.4 -0.2**
TORD PKPab **PKPab 18 49 17.9 -0.9**
TORD Torodi Ar. Bea 166.10 172 PKP **PKPdf 18 48 18.4 -0.2**
comp=Z,1.6nm,0.8s,baz=233,slow=0.3,SNR=8.6
TORD PKPab **PKPab 18 49 17.9 -0.9**
comp=Z,7.1nm,0.8s,baz=186,slow=4.1,SNR=24

*SZGRF **24** 18:29:38.9, 16˚.95S×170˚.79E, h33km, Vanuatu Islands region*
*BJI **24** 18:30:13.8, 13˚.08S×167˚.36E, h221km, mB5.1/31, mb5.1/50*
*IDC **24** 18:30:13.4±0.8, 13˚.24S×167˚.29E, h202km±6km, mb4.8/27, mb1 4.8/27, mb1mx4.8/28, mbtmp4.8/27, Error ellipse: s-maj=10.3km s-min=8.5km az=116.0*
*ISCJB **24** 18:30:14.1±0.1, 13˚.22S±0˚.03×167˚.19E±0˚.03, h219km, mb5.0/123, Error ellipse: s-maj=3.7km s-min=3.3km az=137.7*
*NEIC **24** 18:30:15.3±0.1, 13˚.18S×167˚.24E, mb5.2/57, Error ellipse: s-maj=4.6km s-min=3.9km az=129.0*
*MOS **24** 18:30:15.5±1.0, 13˚.09S×167˚.12E, h223km, mb5.2/27, Error ellipse: s-maj=8.3km s-min=7.3km az=130.9*
*TEH **24** 18:30:17.0, 13˚.12S×167˚.16E, h236km, ML5.4*
*DJA **24** 18:30:40, 13˚.63S×166˚.17E, h422km, mb4.8/27*
ISC 24 18:30:15.4±0.2, 13˚.22S±0˚.04×167˚.25E±0˚.04, h222km, h222km:pP-P, n743, σ1.921/964, mb5.2/123, 80C-85D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.09**	**297**	⇓*i*	Pn		**Pn**	**18 32 08.9**	**-0.9**
	395nm,1.3s								
DZM	**Mont Dzumac**	**8.84**	**185**	*e*	P		Pn	18 32 12.9	-6.6
	185nm,1.3s								
DZM				*e*	LR		LR	18 36 07.8	
	2μm,26.4s								
DZM	**Mont Dzumac**	**8.84**	**185**		P		Pn	18 32 13.1	-6.4
DZM					S		**S**	**18 34 00.5**	**+1.2**
DZM	**Mont Dzumac**	**8.84**	**185**		P		Pn	18 32 13.1	-6.4
	0.9nm,0.3s,baz=76,slow=12,SNR=8.0								
DZM					S		**S**	**18 34 00.5**	**+1.2**
	8.0nm,0.3s,baz=303,slow=22,SNR=5.8								
NOUC	**Port Laguerre**	**8.88**	**186**	*e*	P		Pn	18 32 11.8	-8.1
NOUC				*e*	S		**S**	**18 33 59.5**	**-0.5**
MSVF	**Nonsavu**	**11.34**	**115**	⇓*i*	P		**P**	**18 32 55.7**	**-0.6**
MSVF					pmax		pmax		
	comp=Z,126nm,0.7s								
MSVF	**Nonsavu**	**11.34**	**115**	⇓*i*	Pn		**P**	**18 32 55.7**	**-0.6**
	comp=Z,126nm,0.7s								
MSVF				*e*				18 33 01.8	
MSVF	**Nonsavu**	**11.34**	**115**		P		**P**	**18 32 56.9**	**+0.6**
	comp=Z,1μm,0.8s,SNR=8.6								
EIDS	**Eidsvold**	**19.44**	**229**	⇓*i*	P		**P**	**18 34 26.8**	**+1.4**
	comp=Z,76nm,0.8s								
EIDS				*e*	S		**S**	**18 37 55.6**	**+2.5**
PMG	**Port Moresby**	**20.06**	**279**		P		**P**	**18 34 31.9**	**-0.2**
PMG	**Port Moresby**	**20.06**	**279**		P		**P**	**18 34 32.9**	**+0.8**
	comp=Z,53nm,1.2s,comp=Z,854nm								
PMG	**Port Moresby**	**20.06**	**279**		P		**P**	**18 34 31.9**	**-0.2**
	comp=Z,32nm,0.8s,baz=84,slow=5.8,SNR=18								
AFI	**Afiamalu**	**20.40**	**94**	⇑*i*	P		**P**	**18 34 37.0**	**+1.2**
	comp=Z,209nm,0.9s								
AFI	**Afiamalu**	**20.40**	**94**		P		**P**	**18 34 37.7**	**+1.9**
	comp=Z,195nm,0.9s,baz=94,slow=7.2,SNR=16								
CTA	**Charters Tower**	**21.23**	**248**		P		**P**	**18 34 44.5**	**0.0**
CTA					PcP		**PcP**	**18 38 41.1**	**+0.9**
CTA					ScP		**ScP**	**18 41 58.3**	**+2.3**
CTA	**Charters Tower**	**21.23**	**248**	*eP*			**P**	**18 34 44.5**	**0.0**
	comp=Z,23nm,0.8s								
CTA				*e*	S		**S**	**18 38 24.2**	**-2.0**
CTA	**Charters Tower**	**21.23**	**248**		P		**P**	**18 34 44.5**	**0.0**
	comp=Z,23nm,0.6s,baz=76,slow=12,SNR=31								
CTA					PcP		**PcP**	**18 38 41.1**	**+0.9**
	comp=Z,5.1nm,0.6s,baz=108,slow=3.0,SNR=4.6								
CTA					ScP		**ScP**	**18 41 58.3**	**+2.3**
	comp=Z,5.5nm,1.0s,baz=315,slow=1.4,SNR=3.6								
CTAO	**Charters Tower**	**21.23**	**248**	⇓*i*	P		**P**	**18 34 44.4**	**0.0**
CTAO					pmax		pmax		
	comp=Z,34nm,0.8s								
CTAO	**Charters Tower**	**21.23**	**248**	⇓*i*	P		**P**	**18 34 44.4**	**0.0**
	comp=Z,34nm,0.8s								
ARMA	**Armidale**	**22.39**	**218**	⇑*i*	P		**P**	**18 34 56.7**	**+1.3**
	comp=Z,266nm,1.4s								
ARMA	**Armidale**	**22.39**	**218**	*eP*			**P**	**18 34 57.1**	**+1.6**
ARMA				*e*	PcP		**PcP**	**18 38 43.6**	**+1.2**
ARMA				*e*	S		**S**	**18 38 51.7**	**+6.9**
OUZ	**Omahuta**	**22.64**	**166**	⇓*i*	P		**P**	**18 34 59.6**	**+2.1**
	comp=Z,236nm,1.0s								
COEN	**Coen**	**23.41**	**265**	⇓*i*	P		**P**	**18 35 06.0**	**+1.3**
	comp=Z,527nm,1.3s								
COEN				*e*	pP		**pP**	**18 35 44.1**	**-0.9**
COEN				*e*	PcP		**PcP**	**18 38 45.1**	**+0.4**
RIV	**Riverview**	**25.20**	**213**	*eP*			**P**	**18 35 22.3**	**+1.5**
URZ	**Urewera**	**26.44**	**162**	*eP*			**P**	**18 35 32.9**	**+1.1**
	comp=Z,50nm,0.8s								
URZ				*e*	PcP		**PcP**	**18 38 49.8**	**-1.2**
URZ				*e*	S		**S**	**18 39 48.3**	**-0.4**
BKZ	**Black Stump Fm**	**27.11**	**164**		PN		**P**	**18 35 38.9**	**+1.0**
BKZ					SN		**S**	**18 39 59.7**	**+0.3**
CNB	**Canberra Magne**	**27.29**	**213**	*eP*			**P**	**18 35 40.5**	**+0.9**
	comp=Z,354nm,0.7s								
CNB				*e*	PCP		**PcP**	**18 38 54.0**	**+0.8**
CNB				*e*	S		**sS**	**18 41 26.0**	**+3.9**
BHHZ	**Black Hill Sta**	**27.30**	**165**		PN		**P**	**18 35 40.7**	**+1.1**
BHHZ					SN		**S**	**18 40 00.7**	**-1.7**
MCHZ	**McNeill Hill**	**27.42**	**164**		PN		**P**	**18 35 42.3**	**+1.8**
CAN	**Canberra**	**27.49**	**214**	⇑*i*	P		**P**	**18 35 41.3**	**0.0**
CAN				*e*				18 38 54.3	
CAN					pmax		pmax		
	comp=Z,53nm,1.0s								
CAN	**Canberra**	**27.49**	**214**	⇑*i*	P		**P**	**18 35 41.3**	**0.0**
	comp=Z,53nm,1.0s								
CAN				*e*	PcP		**PcP**	**18 38 54.3**	**+0.6**
KIW	**Kapiti Island**	**28.34**	**168**		PN		**P**	**18 35 49.2**	**+0.4**
OGWZ	**Otaki Gorge**	**28.36**	**167**		PN		**P**	**18 35 49.4**	**+0.6**
OGWZ					SN		**S**	**18 40 17.6**	**-1.3**
BFZ	**Birch Farm**	**28.47**	**166**		PN		**P**	**18 35 49.3**	**-0.6**
BFZ					SN		**S**	**18 40 19.9**	**-0.8**
HOWZ	**Holdsworth Sta**	**28.51**	**167**		PN		**P**	**18 35 50.4**	**+0.2**
SNZO	**South Karori**	**28.73**	**168**	*eP*			**P**	**18 35 53.2**	**+1.1**
	comp=Z,81nm,0.7s								
THZ	**Tophouse**	**28.86**	**171**		PN		**P**	**18 35 54.6**	**+1.2**
THZ					SN		**S**	**18 40 32.8**	**+5.8**
KHZ	**Kahutara**	**29.60**	**171**	*eP*			**P**	**18 35 59.8**	**0.0**
	comp=Z,66nm,0.9s								
LTZ	**Lake Taylor**	**29.78**	**173**		PN		**P**	**18 36 02.3**	**+0.9**
STKA	**Stephens Creek**	**29.98**	**227**		P		**P**	**18 36 04.0**	**+0.7**
STKA					PcP		**PcP**	**18 39 00.5**	**+0.5**
STKA					ScP		**ScP**	**18 42 22.4**	**+1.4**
STKA					PKiKP		**PKiKP**	**18 46 30.4**	**-1.5**
STKA	**Stephens Creek**	**29.98**	**227**	*eP*			**P**	**18 36 04.2**	**+0.9**
	comp=Z,44nm,0.8s								
STKA				*e*	pP		pP	18 36 54.8	+6.8
STKA				*e*	PCP		**PcP**	**18 39 00.3**	**+0.3**
STKA				*e*	S		**S**	**18 40 44.8**	**+0.3**
STKA				*e*	SCP		**ScP**	**18 42 22.3**	**+1.3**
STKA				*e*	PCS		**PcS**	**18 42 41.9**	**-1.8**
STKA				*e*	SCS		**ScS**	**18 46 16.7**	**-0.2**
STKA	**Stephens Creek**	**29.98**	**227**		P		**P**	**18 36 04.0**	**+0.7**
	comp=Z,57nm,0.8s,baz=44,slow=7.6,SNR=57								
STKA					PcP		**PcP**	**18 39 00.5**	**+0.5**
	comp=Z,41nm,0.8s,baz=49,slow=3.0,SNR=16								
STKA					ScP		**ScP**	**18 42 22.4**	**+1.4**
	comp=Z,8.6nm,1.0s,baz=39,slow=5.4,SNR=5.1								
STKA					PKiKP		**PKiKP**	**18 46 30.4**	**-1.5**
	comp=Z,2.5nm,0.8s,baz=162,slow=21,SNR=3.0								
FOZ	**Fox Glacier**	**30.31**	**176**		PN		**P**	**18 36 07.0**	**+1.0**
RPZ	**Rata Peaks**	**30.57**	**175**	*eP*			**P**	**18 36 08.6**	**+0.3**
	comp=Z,85nm,0.7s								
RPZ	**Rata Peaks**	**30.57**	**175**		PN		**P**	**18 36 08.9**	**+0.6**
TOO	**Toolangi**	**31.06**	**215**	⇑*i*	P		**P**	**18 36 13.6**	**+0.8**
	comp=Z,316nm,0.8s								
TOO				*e*	PCP		**PcP**	**18 39 03.4**	**+0.6**
LBZ	**Lake Benmore**	**31.16**	**176**		PN		**P**	**18 36 13.0**	**-0.5**
ODZ	**Otahua Downs**	**31.85**	**175**	*eP*			**P**	**18 36 19.5**	**0.0**
	comp=Z,148nm,0.9s								
WRAB	**Tennant Creek**	**32.19**	**254**	*eP*			**P**	**18 36 22.1**	**-0.8**
WRAB				*e*	*PP		**pP**	**18 37 04.8**	**-3.0**
WRAB				*e*				18 39 05.3	
WRAB				*e*	S		**S**	**18 41 14.7**	**-4.6**
WRAB				*e*				18 42 30.3	
WRAB					pmax		pmax		
	comp=Z,20nm,1.0s								
WRAB	**Tennant Creek**	**32.19**	**254**	*eP*			**P**	**18 36 22.1**	**-0.8**
	comp=Z,20nm,1.0s								
WRAB				*e*	pP		**pP**	**18 37 04.8**	**-3.0**
WRAB				*e*	PcP		**PcP**	**18 39 05.3**	**-0.8**
WRAB				*e*	S		**S**	**18 41 14.7**	**-4.6**
WRAB				*e*	ScP		**ScP**	**18 42 30.3**	**+1.6**
WRAB	**Tennant Creek**	**32.19**	**254**		P		**P**	**18 36 22.0**	**-0.8**
	comp=Z,100nm,1.0s,SNR=17								
WRA	**Warramunga Arr**	**32.20**	**254**		P		**P**	**18 36 22.1**	**-0.9**
WRA					pP		**pP**	**18 37 03.8**	**-4.1**
WRA					PcP		**PcP**	**18 39 06.3**	**+0.1**
WRA					S		**S**	**18 41 15.2**	**-4.3**
WRA					ScP		**ScP**	**18 42 30.8**	**+2.0**
WRA					PKiKP		**PKiKP**	**18 46 32.6**	**-1.2**
WRA	**Warramunga Arr**	**32.20**	**254**		P		**P**	**18 36 22.1**	**-0.9**
	comp=Z,9.0nm,0.5s,baz=86,slow=9.2,SNR=197								
WRA					pP		**pP**	**18 37 03.8**	**-4.1**
	comp=Z,15nm,0.9s,baz=86,slow=8.7,SNR=5.4								
WRA					PcP		**PcP**	**18 39 06.3**	**+0.1**
	comp=Z,6.3nm,1.0s,baz=73,slow=2.0,SNR=8.4								
WRA					S		**S**	**18 41 15.2**	**-4.3**
	comp=Z,6.3nm,1.0s,baz=83,slow=14,SNR=10								
WRA					ScP		**ScP**	**18 42 30.8**	**+2.0**
	comp=Z,12nm,1.0s,baz=84,slow=3.5,SNR=15								
WRA					PKiKP		**PKiKP**	**18 46 32.6**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=0.9,slow=0.5,SNR=16								
ASAR	**Alice Springs**	**33.22**	**247**	*eP*			**P**	**18 36 31.1**	**-0.6**
ASAR					pP		**pP**	**18 37 13.4**	**-3.4**
ASAR					PcP		**PcP**	**18 39 08.5**	**-0.5**
ASAR					S		**S**	**18 41 32.2**	**-2.9**
ASAR					ScP		**ScP**	**18 42 34.4**	**+2.1**
ASAR					PKiKP		**PKiKP**	**18 46 32.9**	**-1.7**
ASAR	**Alice Springs**	**33.22**	**247**	P			**P**	**18 36 31.1**	**-0.6**
	comp=Z,21nm,0.6s,baz=75,slow=9.6,SNR=206								
ASAR					pP		**pP**	**18 37 13.4**	**-3.4**
	comp=Z,9.2nm,0.8s,baz=76,slow=9.0,SNR=2.5								
ASAR					PcP		**PcP**	**18 39 08.5**	**-0.5**
	comp=Z,14nm,0.8s,baz=83,slow=4.2,SNR=13								
ASAR					S		**S**	**18 41 32.2**	**-2.9**
	comp=Z,15nm,1.1s,baz=73,slow=17,SNR=19								
ASAR					ScP		**ScP**	**18 42 34.4**	**+2.1**
	comp=Z,17nm,0.9s,baz=83,slow=3.4,SNR=24								
ASAR					PKiKP		**PKiKP**	**18 46 32.9**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=90,slow=1.4,SNR=8.8								
MOO	**Moorlands**	**33.91**	**207**	*eP*			**P**	**18 36 38.6**	**+1.2**
	comp=Z,189nm,1.2s								
MOO				*e*	PCP		**PcP**	**18 39 12.1**	**+1.6**
MTN	**Manton Dam**	**35.17**	**266**	*eP*			**P**	**18 36 49.2**	**+0.7**
MTN				*e*	PCP		**PcP**	**18 39 15.0**	**+0.3**
SWI	**Sorong**	**37.70**	**286**	P			**P**	**18 37 10.4**	**+0.5**
	comp=Z,71nm,1.1s,comp=Z,704nm								
FORT	**Forrest**	**40.07**	**238**	*eP*			**P**	**18 37 29.5**	**+0.2**
	comp=Z,62nm,0.6s								
FORT				*e*	PCP		**PcP**	**18 39 29.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**40.30**	**258**	P			**P**	**18 37 31.4**	**+0.1**
FITZ					PcP		**PcP**	**18 39 31.2**	**+0.7**
FITZ	**Fitzroy Crossi**	**40.30**	**258**	*eP*			**P**	**18 37 31.5**	**+0.1**
	comp=Z,22nm,0.6s								
FITZ				*e*	PCP		**PcP**	**18 39 31.4**	**+0.9**
FITZ				*e*	S		**S**	**18 43 19.9**	**-2.4**
FITZ	**Fitzroy Crossi**	**40.30**	**258**	P			**P**	**18 37 31.4**	**+0.1**
	comp=Z,12nm,0.7s,baz=88,slow=7.4,SNR=34								
FITZ					PcP		**PcP**	**18 39 31.2**	**+0.7**
	comp=Z,12nm,0.7s,baz=160,slow=3.5,SNR=4.7								
LBMI	**Labuha**	**41.31**	**284**	P			**P**	**18 37 41.0**	**+1.3**
	comp=Z,58nm,0.9s								
PPT2	**Papeete2**	**41.78**	**102**	*e*	LQ		LQ	18 38 49.8	
	comp=Z,1μm,24.2s								
PPT2				*e*	LR		LR	18 40 09.4	
	comp=Z,886nm,29.5s,baz=239								
TNTI	**Ternate**	**41.91**	**286**	P			**P**	**18 37 45.5**	**+0.9**
	comp=Z,33nm,1.1s								
TBI	**Tubuai**	**42.18**	**110**	*e*	LQ		LQ	18 38 05.8	
	comp=Z,838nm,27.2s								
TBI				*e*	LR		LR	18 39 19.8	
	comp=Z,798nm,29.5s,baz=267								
MMRI	**Maumere**	**44.39**	**271**	P			**P**	**18 38 04.4**	**0.0**
	comp=Z,94nm,1.1s,comp=Z,831nm								
KDI	**Kendari**	**45.01**	**278**	P			**P**	**18 38 10.1**	**+0.8**
	comp=Z,16nm,1.2s,comp=Z,533nm								
KMSI	**Cibinong**	**45.03**	**284**	P			P	18 38 15.4	+6.0
	comp=Z,126nm,1.1s								
MBWA	**Marble Bar**	**45.94**	**253**	*eP*			**P**	**18 38 17.0**	**+0.5**
	comp=Z,87nm,1.0s								
MBWA				*e*	pP		**pP**	**18 39 02.2**	**-2.0**
MBWA				*e*	PcP		**PcP**	**18 39 49.0**	**-0.6**
DAV	**Davao City (W)**	**46.04**	**294**	P			**P**	**18 38 17.9**	**+0.5**
DAV	**Davao City (W)**	**46.04**	**294**	P			**P**	**18 38 17.8**	**+0.5**
	comp=Z,171nm,0.5s,baz=154,slow=12,SNR=4.7								
WSI	**Waingapu**	**46.10**	**269**	P			**P**	**18 38 19.5**	**+1.6**
	comp=Z,129nm,0.9s								
CBIJ	**Chichi jima**	**46.89**	**329**	P			**P**	**18 38 23.7**	**0.0**
CBIJ	**Chichi jima**	**46.89**	**329**	P			**P**	**18 38 23.7**	**0.0**
	comp=Z,128nm,0.9s,baz=296,slow=20,SNR=5.2								
KAPI	**Kappang**	**47.53**	**275**	*eP*			**P**	**18 38 28.1**	**-0.8**
	comp=Z,103nm,1.5s								
KAPI				*e*	pP		**pP**	**18 39 16.7**	**-0.2**
KAPI				*e*	PcP		**PcP**	**18 39 54.3**	**-1.1**
KAPI	**Kappang**	**47.53**	**275**	P			**P**	**18 38 28.8**	**-0.1**
	comp=Z,56nm,1.3s,comp=Z,629nm								
KAPI	**Kappang**	**47.53**	**275**	P			**P**	**18 38 28.4**	**-0.5**
	comp=Z,33nm,0.9s,baz=92,slow=6.8,SNR=9.3								
KAPI					PcP		**PcP**	**18 39 54.8**	**-0.6**
	comp=Z,21nm,0.8s,baz=205,slow=3.4,SNR=5.4								
SPSI	**Sidrap Palu**	**47.76**	**277**	P			**P**	**18 38 30.4**	**-0.3**
	comp=Z,30nm,0.9s								
KLBR	**Kellerberrin**	**48.84**	**240**	*eP*			**P**	**18 38 37.9**	**-0.8**
	comp=Z,23nm,0.6s								
NWAO	**Narrogin (SRO)**	**49.52**	**238**	*eP*			**P**	**18 38 43.5**	**-0.3**
	comp=Z

MYKOM **Kota Tinggi** 64.61 278 P **P** 18 40 30.6 +0.8
comp=Z,40nm,1.1s
SBA **Scott Base** 64.64 180 *e*P **P** 18 40 30.6 +1.8
SBA pmax pmax
comp=Z,32nm,0.7s
SBA **Scott Base** 64.64 180 *e*P **P** 18 40 30.6 +1.8
comp=Z,32nm,0.7s
QIZ **Qiongzhong** 65.00 298 P **P** 18 40 33.3 +1.2
QIZ pP **pP** 18 41 22.1 -1.1
QIZ S **S** 18 48 56.9 +0.5
QIZ pmax pmax
comp=Z,18nm,1.6s
QIZ pmax pmax
comp=Z,120nm,10.4s
KGM **Kluang** 65.18 278 P **P** 18 40 34.4 +0.9
USRK **Ussuriysk Arra** 65.53 333 P **P** 18 40 36.1 +1.1
comp=Z,47nm,1.1s,baz=139,slow=5.2,SNR=40
PET **Petropavlovsk** 66.39 354 *e*P **P** 18 40 40.9 +0.7
PET *e*S **S** 18 49 07.2 -4.7
PET pmax pmax
comp=Z,25nm,0.8s
PET pmax pmax
comp=Z,100nm,12.6s
PET MLR MLR
comp=Z,100nm,21.0s
PET **Petropavlovsk** 66.39 354 *e*P **P** 18 40 40.4 +0.2
comp=Z,60nm,1.1s
PETK **Petropavlovsk-** 66.57 354 P **P** 18 40 42.4 +1.0
PETK **Petropavlovsk-** 66.57 354 P **P** 18 40 42.4 +1.0
PETK **Petropavlovsk-** 66.57 354 P **P** 18 40 42.4 +1.0
comp=Z,48nm,0.9s,baz=157,slow=10,SNR=27
WHN **Wuhan** 66.93 312 P **P** 18 40 44.3 +0.1
MDJ **Mudanjiang** 66.95 332 P **P** 18 40 45.0 +1.0
MDJ pP **pP** 18 41 35.9 +0.5
MDJ sP **sP** 18 41 59.8 +0.5
MDJ PP **PP** 18 43 15.0 +0.2
MDJ S **S** 18 49 21.4 +2.4
MDJ ScS **ScS** 18 50 20.4 +0.7
MDJ sS **sS** 18 50 51.3 +2.3
MDJ pmax pmax
comp=Z,50nm,1.3s
MDJ pmax pmax
comp=Z,150nm,3.9s
MDJ **Mudanjiang** 66.95 332 *e*P **P** 18 40 44.8 +0.8
comp=Z,58nm,1.1s
FRIM **Kepong** 67.14 279 P **P** 18 40 46.0 +0.1
HABR **Khabarovsk** 67.74 337 *ce*P **P** 18 40 48.2 -0.7
HABR *e* 18 41 12.1
HABR *e**PP **pP** 18 41 39.2 -1.2
HABR *e**SP **sP** 18 42 03.1 -1.2
HABR 18 43 19.0
HABR *e*PPP PPP 18 44 59.8
HABR S **S** 18 49 27.4 -0.9
HABR *e* 18 50 23.9
HABR *e*SS **SS** 18 53 52.9 -1.7
HABR pmax pmax
comp=Z,166nm,1.4s
HABR pmax pmax
comp=N,26nm,1.1s
HABR pmax pmax
comp=E,46nm,1.1s
HABR MLR MLR
comp=Z,141nm,19.0s
IPM **Ipoh** 68.05 280 *e*P **P** 18 40 51.6 0.0
comp=Z,111nm,1.1s
IPM **Ipoh** 68.05 280 P **P** 18 40 51.6 0.0
IPM **Ipoh** 68.05 280 P **P** 18 40 51.7 +0.1
comp=Z,105nm,1.1s,comp=Z,803nm
CN2 **Changchun** 68.35 329 ⇑P **P** 18 40 53.9 +1.1
CN2 *e*sP **sP** 18 42 08.9 +0.6
CN2 *e*S **S** 18 49 36.4 +0.7
CN2 pmax pmax
comp=Z,60nm,1.0s
CN2 pmax pmax
comp=Z,200nm,4.0s
KULM **Kulim** 68.64 281 *e*P **P** 18 40 55.2 0.0
comp=Z,66nm,1.4s
KULM **Kulim** 68.64 281 P **P** 18 40 55.8 +0.6
KULM **Kulim** 68.64 281 P **P** 18 40 55.3 +0.1
comp=Z,45nm,1.2s,comp=Z,514nm
PSI **Prapat** 69.62 278 P **P** 18 41 00.4 -1.0
comp=Z,92nm,0.9s,comp=Z,717nm
KLR **Kul'dur** 69.63 336 *e*P **P** 18 40 57.7 -2.8
KLR pmax pmax
comp=E,50nm,1.6s
KLR pmax pmax
comp=Z,150nm,1.6s
ENH **Enshi** 70.40 309 *e*P **P** 18 41 05.0 -0.7
comp=Z,87nm,1.1s
GYA **Guiyang** 70.85 304 P **P** 18 41 08.9 +0.3
GYA pP **pP** 18 42 02.8 +2.2
GYA sP **sP** 18 42 25.0 +0.7
GYA PP **PP** 18 43 51.6 +2.7
GYA S **S** 18 50 05.4 -0.4
GYA SKS **SKSac** 18 50 46.0 -3.9
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.0s
BJT **Baijiatuau** 71.08 321 *e*P **P** 18 41 09.7 +0.2
BJI **Beijing** 71.09 321 P **P** 18 41 10.1 +0.6
BJI pP **pP** 18 42 02.5 +1.0
BJI S **S** 18 50 10.6 +2.9
BJI SS **SS** 18 54 44.3 -2.0
BJI pmax pmax
comp=Z,40nm,1.2s
BJI pmax pmax
comp=Z,120nm,3.9s
XAN **Xi'an** 72.66 312 P **P** 18 41 19.5 +0.4
XAN pmax pmax
comp=Z,9.0nm,1.0s
KMI **Kunming** 73.50 301 P **P** 18 41 25.9 +1.4
KMI pP **pP** 18 42 17.8 +1.0
KMI S **S** 18 50 37.0 +0.8
KMI pmax pmax
comp=Z,80nm,1.1s
KMI pmax pmax
comp=Z,140nm,3.5s
CMAR **Chiang Mai Arr** 74.33 294 P **P** 18 41 29.9 +0.9
CMAR PKiKP **PKiKP** 18 47 20.4 -0.2
CMAR **Chiang Mai Arr** 74.33 294 P **P** 18 41 29.9 +0.9
comp=Z,35nm,0.8s,baz=125,slow=4.4,SNR=220
CMAR PKiKP **PKiKP** 18 47 20.4 -0.2
comp=Z,0.3nm,0.6s,baz=146,slow=0.4,SNR=4.1
HHC **Hu-ho-hao-te** 74.43 319 *e*P **P** 18 41 30.3 +1.0
HHC pP **pP** 18 42 23.5 +1.7
HHC sP **sP** 18 42 46.4 +0.9
HHC PP **PP** 18 44 21.9 +2.8
HHC S **S** 18 50 45.4 -0.3
HHC SKS **SKSac** 18 51 11.9 -4.3
HHC ScS **SKKSac** 18 51 16.9 +0.4
HHC sS **sS** 18 52 18.4 +0.9
HHC SS **SS** 18 55 39.5 +2.0
HHC pmax pmax
comp=Z,48nm,1.1s
HHC pmax pmax
comp=Z,200nm,7.7s
CHTO **Chiang Mai** 74.45 294 *e*P **P** 18 41 30.3 +0.5
CHTO pmax pmax
comp=Z,39nm,1.0s
CHTO **Chiang Mai** 74.45 294 *e*P **P** 18 41 30.3 +0.5
comp=Z,39nm,1.0s
CHTO **Chiang Mai** 74.45 294 P **P** 18 41 30.2 +0.5
comp=Z,54nm,1.2s,comp=Z,480nm
HIA **Hailar** 74.98 330 *e*P **P** 18 41 32.6 +0.4
comp=Z,58nm,1.1s
CD2 **Chengdu** 75.08 307 P **P** 18 41 33.9 +0.7
CD2 pP **pP** 18 42 26.3 +0.5
CD2 sP **sP** 18 42 49.5 +0.1
CD2 PP **PP** 18 44 26.9 +2.2
CD2 S **S** 18 50 52.0 -1.2
CD2 SKS **SKSac** 18 51 16.5 -4.8
CD2 sS **sS** 18 52 23.4 -1.7
CD2 SS **SS** 18 55 48.3 +0.7
CD2 pmax pmax
comp=Z,60nm,0.9s
CD2 pmax pmax
comp=Z,150nm,4.3s
SEY **Seymchan** 76.79 353 *ce*P **P** 18 41 42.6 +0.6
QSPA **South Pole Qui** 76.80 180 P **P** 18 41 43.2 +0.8
QSPA PKiKP **PKiKP** 18 47 22.3 -0.8
QSPA **South Pole Qui** 76.80 180 P **P** 18 41 43.2 +0.8
comp=Z,151nm,1.0s,baz=0.0,slow=1.2,SNR=147
QSPA PKiKP **PKiKP** 18 47 22.3 -0.8
comp=Z,1.2nm,0.7s,baz=287,slow=4.0,SNR=4.7
LZH **Lanzhou** 77.30 312 *e*P **P** 18 41 47.5 +1.8
LZH pP **pP** 18 42 40.1 +1.5
LZH sP **sP** 18 43 05.0 +2.8
LZH S **S** 18 51 18.3 +0.9
LZH sS **sS** 18 52 51.0 +1.2
LZH SS **SS** 18 56 26.5 +5.4
LZH pmax pmax
comp=Z,77nm,1.0s
LZH pmax pmax
comp=Z,220nm,4.0s
KDAK **Kodiak Island** 78.06 21 *e*P **P** 18 41 49.5 +0.3
comp=Z,48nm,1.0s
KDAK **Kodiak Island** 78.06 21 P **P** 18 41 49.5 +0.3
comp=Z,300nm,0.9s,SNR=6.3
KDAK **Kodiak Island** 78.06 21 P **P** 18 41 49.5 +0.3
comp=Z,41nm,0.9s,baz=248,slow=3.1,SNR=23
CLNS **Chul'man** 78.13 338 *e*P **P** 18 41 50.2 +0.5
CLNS pmax pmax
comp=Z,69nm,1.2s
CLNS pmax pmax
comp=N,27nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,1.1s
CIT **Chita** 79.77 330 *e*P **P** 18 41 59.5 +0.8
CIT *e* 18 42 49.6
CIT pmax pmax
comp=Z,174nm,1.5s
YAK **Yakutsk** 80.59 343 *c i*P **P** 18 42 03.1 +0.3
YAK pmax pmax
comp=Z,146nm,1.4s
YAK pmax pmax
comp=E,28nm,1.3s
YAK pmax pmax
comp=N,40nm,1.1s
YAK **Yakutsk** 80.59 343 *e*P **P** 18 42 03.0 +0.3
comp=N,202nm,1.3s
TNA **Tin City** 80.73 10 *e*P **P** 18 42 04.8 +1.4
comp=N,49nm,1.4s
IMP **Imphal** 80.83 298 *e*PKP **P** 18 42 02.0 -3.0
SEW **Seward** 80.89 20 *e*P **P** 18 42 04.4 0.0
comp=N,43nm,0.9s
SEW *e*pP **pP** 18 42 55.7 -1.9
ULN **Ulaanbaatar** 80.91 324 *e*P **P** 18 42 05.8 +0.7
comp=N,56nm,1.0s
ULN **Ulaanbaatar** 80.91 324 P **P** 18 42 05.4 +0.4
SLKM **Skilak Lake** 80.93 20 *e*P **P** 18 42 04.9 +0.2
SLKM *e**PP **pP** 18 42 57.6 -0.4
SLKM **Skilak Lake** 80.93 20 *e*P **P** 18 42 04.9 +0.2
SLKM *e*pP **pP** 18 42 57.6 -0.4
SONM **Songino Array** 81.28 323 P **P** 18 42 07.4 +0.5
SONM PKiKP **PKiKP** 18 47 30.0 -0.5
SONM PKKPbc **PKKPbc** 19 00 40.9 -2.2
SONM **Songino Array** 81.28 323 P **P** 18 42 07.4 +0.5
comp=N,16nm,0.9s,baz=146,slow=6.4,SNR=112
SONM PKiKP **PKiKP** 18 47 30.0 -0.5
comp=N,0.7nm,0.7s,baz=118,slow=1.2,SNR=5.8
SONM PKKPbc **PKKPbc** 19 00 40.9 -2.2
comp=N,1.6nm,0.8s,baz=272,slow=3.0,SNR=12
GTA **Gaotai** 81.62 314 P **P** 18 42 09.9 +1.0
GTA pP **pP** 18 43 04.4 +2.1
GTA sP **sP** 18 43 27.5 +1.8
GTA pmax pmax
comp=Z,46nm,1.3s
PMR **Palmer** 82.09 19 *e*P **P** 18 42 10.6 0.0
PMR *e**PP **pP** 18 43 03.2 -0.9
PMR pmax pmax
comp=Z,30nm,0.8s
PMR **Palmer** 82.09 19 *e*P **P** 18 42 10.6 0.0
comp=Z,30nm,0.8s
PMR *e*pP **pP** 18 43 03.1 -0.9
SML **Sawmill** 82.51 20 *e*P **P** 18 42 13.3 +0.4
SML *e**PP **pP** 18 43 05.9 -0.5
SML pmax pmax
comp=Z,29nm,1.3s
SML **Sawmill** 82.51 20 *e*P **P** 18 42 13.3 +0.4
comp=Z,29nm,1.3s
SML *e*pP **pP** 18 43 05.9 -0.5
SHL **Shillong** 82.84 298 ⇑*i*P **P** 18 42 17.0 +1.4
DIV **Divide** 82.89 21 *e*P **P** 18 42 15.1 +0.2
comp=Z,106nm,1.2s
DIV *e*pP **pP** 18 43 08.5 0.0
BOD **Bodaibo** 83.11 334 *e*P **P** 18 42 15.7 -0.3
BOD pmax pmax
comp=Z,35nm,1.7s
TRF **Thorofare Moun** 83.12 18 *e*P **P** 18 42 14.9 -1.2
comp=Z,48nm,1.2s
MAW **Mawson** 83.27 202 P **P** 18 42 17.3 +0.6
MAW **Mawson** 83.27 202 P **P** 18 42 17.3 +0.6
comp=Z,89nm,1.1s,baz=147,slow=4.5,SNR=3.6
MCK **McKinley** 83.73 18 *e*P **P** 18 42 18.8 -0.3
MCK *e**PP **pP** 18 43 12.5 -0.3
MCK pmax pmax
comp=Z,132nm,1.2s
MCK **McKinley** 83.73 18 *e*P **P** 18 42 18.8 -0.3
comp=Z,132nm,1.2s
MCK *e*pP **pP** 18 43 12.5 -0.3
PKM **Peak Mountain** 83.94 52 ⇓P **P** 18 42 21.4 +0.4
baz=84
PAX **Paxson** 84.28 20 *e*P **P** 18 42 21.4 -0.5
PAX pmax pmax
comp=Z,28nm,1.4s
PAX **Paxson** 84.28 20 *e*P **P** 18 42 21.4 -0.5
comp=Z,28nm,1.4s
ZAK **Zakamensk** 84.32 325 *e*P **P** 18 42 21.8 -0.6
ZAK pmax pmax
comp=Z,47nm,1.2s
CMB **Columbia Colle** 84.63 49 *e*P **P** 18 42 23.9 -0.3
CMB *e**PP **pP** 18 43 19.2 +1.2
CMB pmax pmax
comp=Z,8.0nm,1.0s
CMB **Columbia Colle** 84.63 49 *e*P **P** 18 42 23.9 -0.3
comp=Z,8.3nm,1.0s
CMB *e*pP **pP** 18 43 19.2 +1.2
IRK **Irkutsk** 84.67 327 *e*P **P** 18 42 23.4 -0.6
IRK pmax pmax
comp=Z,73nm,1.2s
TLY **Talaya** 84.74 326 *e*P **P** 18 42 22.0 -2.4
TLY pmax pmax
comp=Z,55nm,0.9s
TLY **Talaya** 84.74 326 *e*P **P** 18 42 24.3 -0.1
comp=Z,54nm,0.9s
TLY **Talaya** 84.74 326 P **P** 18 42 24.8 +0.4
comp=Z,348nm,0.9s,SNR=31
LSA **Lhasa** 84.75 302 P **P** 18 42 25.9 +0.4
LSA **Lhasa** 84.75 302 *e*P **P** 18 42 26.0 +0.4
LSA pmax pmax
comp=Z,30nm,0.8s
LSA **Lhasa** 84.75 302 *e*P **P** 18 42 26.0 +0.5
comp=Z,30nm,0.8s
VES **Vestal, Richgr** 84.83 52 ⇑P **P** 18 42 25.7 +0.5
baz=85
MENT **Mentasta** 84.84 20 P **P** 18 42 24.7 0.0
COLA **College** 84.89 18 *e*P **P** 18 42 24.2 -0.6
COLA *e**PP **pP** 18 43 17.4 -1.2
COLA pmax pmax
comp=Z,71nm,0.9s
COLA **College** 84.89 18 *e*P **P** 18 42 24.2 -0.6
comp=Z,71nm,0.9s
COLA *e*pP **pP** 18 43 17.4 -1.2
ILAR **Eielson Array** 85.10 18 P **P** 18 42 25.4 -0.5
ILAR pP **pP** 18 43 17.9 -1.9
ILAR PKKP **PKKPdf** 19 00 30.4 +3.6
ILAR **Eielson Array** 85.10 18 P **P** 18 42 25.4 -0.5
comp=Z,40nm,0.7s,baz=239,slow=5.1,SNR=230
ILAR pP **pP** 18 43 17.9 -1.9
comp=Z,14nm,0.9s,baz=223,slow=3.0,SNR=5.3
ILAR PKKP **PKKPdf** 19 00 30.4 +3.6
comp=Z,1.2nm,0.8s,baz=326,slow=1.3,SNR=10
DOT **Dot Lake** 85.21 20 *e*P **P** 18 42 26.2 -0.2
comp=Z,12nm,0.8s
DOT *e*pP **pP** 18 43 19.2 -1.1
ISA **Isabella** 85.24 52 *e*P **P** 18 42 27.6 +0.3
ISA *e**PP **pP** 18 43 21.4 +0.2
ISA pmax pmax
comp=Z,13nm,1.2s
ISA **Isabella** 85.24 52 *e*P **P** 18 42 27.6 +0.3
comp=Z,13nm,1.2s
ISA *e*pP **pP** 18 43 21.4 +0.2
ISA **Isabella** 85.24 52 ⇓P **P** 18 42 27.6 +0.3
baz=85,SNR=6.7
EDW2 **Edwards Air Fo** 85.35 53 ⇓P **P** 18 42 28.4 +0.5
baz=85,SNR=5.2
BFSC **Mount Baldy Ra** 85.39 53 ⇓P **P** 18 42 28.5 +0.3
baz=86
LRMC **Laurel Mountai** 85.78 52 ⇑P **P** 18 42 30.6 +0.6
baz=86
MONP **Monument Peak** 85.94 55 ⇓P **P** 18 42 31.4 +0.4
baz=86
COLD **Coldfoot** 85.99 15 *e*P **P** 18 42 31.1 +0.9
comp=Z,30nm,0.9s
COLD *e*pP **pP** 18 43 24.1 -0.1
MPMC **Manual Prospec** 86.12 52 ⇓P **P** 18 42 32.4 +0.6
baz=86,SNR=6.2
PFO **Pinyon Flat Ob** 86.14 54 ⇑P **P** 18 42 32.3 +0.4
baz=86
MOY **Mondy** 86.19 325 *e*P **P** 18 42 32.3 +0.6
MOY pmax pmax
comp=Z,32nm,1.7s
NVAR **Mina Array Bea** 86.30 49 P **P** 18 42 33.5 +0.8
NVAR pP **pP** 18 43 25.4 -1.4
NVAR PKKPbc **PKKPbc** 19 00 30.2 -0.6
NVAR P'P' 19 08 37.6
NVAR **Mina Array Bea** 86.30 49 P **P** 18 42 33.5 +0.8
comp=Z,2.9nm,0.8s,baz=234,slow=8.1,SNR=9.6
NVAR pP **pP** 18 43 25.4 -1.4
comp=Z,5.6nm,1.1s,baz=234,slow=7.9,SNR=5.2
NVAR PKKPbc **PKKPbc** 19 00 30.2 -0.6
comp=Z,0.9nm,0.6s,baz=92,slow=3.0,SNR=7.4
NVAR PKPPKP **P'P'df** 19 08 37.6 +1.1
comp=Z,1.5nm,0.9s,baz=51,slow=4.7,SNR=7.6
GSC **Goldstone** 86.40 53 ⇑P **P** 18 42 33.8 +0.7
baz=86
SWSC **Sam W. Stewart** 86.45 55 ⇑P **P** 18 42 33.9 +0.7
baz=86
BELC **Belle Mtn. Jos** 86.62 54 ⇑P **P** 18 42 34.9 +0.7
baz=87
HEC **Hector,Ludlow** 86.62 53 ⇑P **P** 18 42 34.7 +0.5
baz=87
FURC **Furnace Creek,** 86.74 52 ⇑P **P** 18 42 35.5 +1.0
baz=87
EGAK **Eagle** 86.91 20 *e*P **P** 18 42 34.3 -0.4
comp=Z,23nm,0.8s
EGAK *e*pP **pP** 18 43 27.3 -1.5
TAPN **Taplejung** 86.94 299 *e*P **P** 18 42 36.0 -0.1
comp=Z,97nm,1.2s
TAPN **Taplejung** 86.94 299 *e*P **P** 18 42 36.0 -0.1
BC3 **Big Chuckawall** 86.94 55 ⇓P **P** 18 42 36.4 +0.6
baz=87
SHOC **Shoshone** 87.00 52 ⇓P **P** 18 42 36.4 +0.6
baz=87
DAWY **Dawson** 87.05 21 *e*P **P** 18 42 35.0 -0.5
DAWY *e*pP **pP** 18 43 29.3 -0.2
ODAN **Odare** 87.08 298 *e*P **P** 18 42 36.8 +0.1
comp=Z,121nm,0.9s
ODAN **Odare** 87.08 298 *e*P **P** 18 42 36.8 +0.1
TUQ **Turquoise Moun** 87.13 53 ⇑P **P** 18 42 37.2 +0.6
baz=87
GMRC **Granite Mounta** 87.13 53 ⇓P **P** 18 42 37.1 +0.4
baz=87
GLA **Glamis** 87.26 55 ⇑P **P** 18 42 37.8 +0.6
baz=87
IRM **Iron Mountain** 87.34 54 ⇑P **P** 18 42 38.6 +1.1
baz=87
LDFC **Landfair** 87.65 53 *e*P **P** 18 42 39.7 +0.6
LDFC *e*pP **pP** 18 43 35.4 +2.1
Y12C **Blythe** 87.71 55 ⇑P **P** 18 42 39.9 +0.6
baz=88
RAMN **Ramite** 87.78 298 *e*P **P** 18 42 39.8 -0.3
comp=Z,79nm,1.1s
RAMN **Ramite** 87.78 298 *e*P **P** 18 42 39.8 -0.3
113A **Mohawk Valley,** 88.03 56 ⇑P **P** 18 42 41.2 +0.5
baz=88
PDMCI **Parker Dam,Lak** 88.18 54 ⇓P **P** 18 42 42.0 +0.5
baz=88
HAWA **Hanford** 88.24 42 *e*P **P** 18 42 42.1 +0.7
comp=Z,35nm,1.6s
HAWA *e*pP **pP** 18 43 36.5 +0.8
R11A **Troy Canyon, C** 88.30 50 ⇓P **P** 18 42 42.6 +0.4
baz=88,SNR=7.6
JIRN **Jiri** 88.32 299 *e*P **P** 18 42 42.7 -0.1
comp=Z,24nm,1.0s
JIRN **Jiri** 88.32 299 *e*P **P** 18 42 42.7 -0.1
214A **Organ Pipe Nat** 88.57 57 ⇓P **P** 18 42 43.8 +0.4
baz=89
W13A **Hualapai Mount** 88.61 54 ⇑P **P** 18 42 44.1 +0.3
baz=89
GUN **Gumba** 88.65 299 *e*P **P** 18 42 44.1 -0.2
comp=Z,74nm,0.9s
GUN **Gumba** 88.65 299 *e*P **P** 18 42 44.1 -0.2
Z14A **Wintersburg** 88.86 55 ⇓P **P** 18 42 45.4 +0.7
baz=89
PKI **Pulchoki** 88.97 298 *e*P **P** 18 42 45.4 -0.3
comp=Z,109nm,1.0s
PKI **Pulchoki** 88.97 298 *e*P **P** 18 42 45.4 -0.3
PKI **Pulchoki** 88.97 298 *e*P **P** 18 42 45.4 -0.3
Y14A **Wickenburg** 88.98 55 ⇓P **P** 18 42 45.9 +0.6
baz=89
KKN **Kakani** 89.13 299 *e*P **P** 18 42 46.2 -0.2
comp=Z,72nm,1.0s
KKN **Kakani** 89.13 299 *e*P **P** 18 42 46.2 -0.2
KKN **Kakani** 89.13 299 *e*P **P** 18 42 46.2 -0.2
DMN **Daman** 89.23 298 *e*P **P** 18 42 46.8 -0.1
comp=Z,168nm,1.0s
DMN **Daman** 89.23 298 *e*P **P** 18 42 46.8 -0.1
ELK **Elko** 89.30 48 *e*P **P** 18 42 46.9 +0.1
ELK *e*pP **pP** 18 43 42.1 +0.9
R13A **O'Grain Ranch,** 89.46 51 ⇓P **P** 18 42 48.0 +0.3
baz=90
MFID **Camas Ranch** 89.72 45 *e*P **P** 18 42 49.1 +0.5
comp=Z,21nm,1.5s
MFID *e*pP **pP** 18 43 44.3 +1.3
MFID **Camas Ranch** 89.72 45 ⇓P **P** 18 42 49.3 +0.7
baz=90
GKN **Gorkha** 89.74 299 *e*P **P** 18 42 48.3 -0.8
comp=Z,96nm,1.1s
GKN **Gorkha** 89.74 299 *e*P **P** 18 42 48.3 -0.8
SYO **Syowa Base** 90.14 197 ⇓*i*P **P** 18 42 48.6 -1.3
U15A **North Rim** 90.24 53 ⇓P **P** 18 42 51.9 +0.5
baz=90
TUC **Tucson** 90.32 57 *e*P **P** 18 42 51.4 -0.2
TUC *e**PP **pP** 18 43 46.1 +0.1
TUC pmax pmax
comp=Z,6.0nm,1.2s
TUC **Tucson** 90.32 57 *e*P **P** 18 42 51.4 -0.2
comp=Z,6.4nm,1.2s
TUC *e*pP **pP** 18 43 46.1 +0.1
NEW **Newport** 90.43 40 *e*P **P** 18 42 50.8 -0.9
comp=Z,11nm,1.5s
NEW *e*pP **pP** 18 43 46.4 +0.3
NEW **Newport** 90.43 40 ⇓P **P** 18 42 52.0 +0.3
baz=90
KOLN **Koldanda** 90.57 298 *e*P **P** 18 42 51.9 -1.1
KOLN **Koldanda** 90.57 298 *e*P **P** 18 42 51.9 -1.1
DANN **Dangsing** 90.58 299 *e*P **P** 18 42 52.0 -1.2
comp=Z,66nm,1.1s
DANN **Dangsing** 90.58 299 *e*P **P** 18 42 52.0 -1.2
WUAZ **Wupatki** 90.70 54 ⇑P **P** 18 42 53.8 +0.4
baz=91
H12A **Diamond D Ranc** 90.73 44 ⇓P **P** 18 42 53.9 +0.5
baz=91,SNR=8.1
HLID **Hailey** 90.74 45 ⇑P **P** 18 42 53.8 +0.4
baz=91,SNR=6.4
F12A **Elk City** 90.84 43 ⇓P **P** 18 42 53.8 0.0
baz=91,SNR=6.5
J13A **Cove Ranch, Pi** 90.86 46 ⇓P **P** 18 42 54.6 +0.6
baz=91
DUG **Dugway** 90.90 49 ⇑P **P** 18 42 54.7 +0.5
baz=91
I13A **Wildhorse Cree** 91.05 45 ⇓P **P** 18 42 55.2 +0.3
baz=91,SNR=8.2
L14A **Malta** 91.12 47 ⇓P **P** 18 42 55.5 +0.4
baz=91
S16A **Weppner Ranch,** 91.13 52 ⇑P **P** 18 42 55.7 +0.3
baz=91
H13A **Challis** 91.15 44 ⇑P **P** 18 42 55.6 +0.3
baz=91,SNR=7.5
PYUN **Piuthan** 91.17 298 *e*P **P** 18 42 54.5 -1.3
comp=Z,39nm,1.0s
PYUN **Piuthan** 91.17 298 *e*P **P** 18 42 54.5 -1.3
C12B **Naegeli Ranch,** 91.30 41 ⇓P **P** 18 42 56.1 +0.4
baz=91
K14A **Jones Ranch, D** 91.31 47 ⇑P **P** 18 42 56.5 +0.5
baz=91
G13A **Cobalt** 91.32 44 ⇑P **P** 18 42 56.2 +0.2
baz=91
HVU **Hansel Valley** 91.38 47 *e*P **P** 18 42 56.6 +0.2
HVU *e**PP **pP** 18 43 52.1 +1.3
HVU pmax pmax
comp=Z,2.0nm,0.7s
HVU **Hansel Valley** 91.38 47 *e*P **P** 18 42 56.6 +0.2

HVU comp=Z,1.9nm,0.7s *e*pP **pP** 18 43 52.1 +1.3
F13A Darby baz=92,SNR=5.1 **91.46 43** ⇓P **P** 18 42 56.6 -0.1
INK Inuvik comp=Z,3.8nm,1.0s **91.47 19** *e*P **P** 18 42 54.6 -1.4
INK *e*pP **pP** 18 43 47.2 -3.2
INK PKiKP **PKKPdf** 19 00 14.9 -0.6
INK Inuvik comp=Z,2.1nm,0.9s,baz=66,slow=8.0,SNR=4.5 **91.47 19** PKKP 19 00 14.9
I14A Mackay baz=92 **91.51 45** ⇑P **P** 18 42 57.4 +0.3
M15A Larsen Ranch, baz=92 **91.52 48** ⇓P **P** 18 42 57.5 +0.4
T17A Navajo Res., N baz=92 **91.54 52** ⇓P **P** 18 42 57.4 0.0
A12A Yaak River Ran baz=92 **91.57 40** ⇓P **P** 18 42 57.7 +0.6
X18A Snowflake baz=92 **91.57 55** ⇓P **P** 18 42 57.9 +0.4
WMQ Urumqi **91.66 315** P **P** 18 42 57.5 -0.1
WMQ pP **pP** 18 43 51.1 -0.9
WMQ pmax pmax
comp=Z,28nm,1.7s
WMQ pmax pmax
comp=Z,140nm,5.1s
S17A Black Ridge (B baz=92 **91.71 52** ⇓P **P** 18 42 58.3 +0.3
L15A Malad City baz=92 **91.72 47** ⇓P **P** 18 42 58.3 +0.3
E13A Victor baz=92 **91.75 43** ⇓P **P** 18 42 58.6 +0.6
R17A Hanksville Air baz=92 **91.99 51** ⇑P **P** 18 42 59.6 +0.3
220A Playas Peak, P baz=92 **92.07 58** ⇓P **P** 18 43 00.1 +0.2
E14A Clinton baz=92 **92.20 43** ⇑P **P** 18 43 00.3 +0.2
H15A Lima baz=92 **92.27 45** ⇑P **P** 18 43 01.0 +0.5
T18A Mexican Hat baz=92 **92.30 53** ⇓P **P** 18 43 01.1 +0.4
S18A Hurst Farm, BI baz=92 **92.34 52** ⇓P **P** 18 43 01.2 +0.1
O17A Robinson Place baz=92 **92.43 49** ⇓P **P** 18 43 01.9 +0.5
G15A Dillon baz=93 **92.52 44** ⇓P **P** 18 43 02.2 +0.5
R18A Canyonlands Na baz=93 **92.60 51** ⇑P **P** 18 43 02.7 +0.5
U19A Dine' College, baz=93 **92.60 53** ⇓P **P** 18 43 02.3 0.0
HYB Hyderabad **92.66 287** *i* P **P** 18 43 01.5 -1.2
Y20A Horse Springs, baz=93 **92.68 56** ⇓P **P** 18 43 03.0 +0.3
WALA Waterton Lakes WALA **92.70 40** *e*P **P** 18 43 00.6 -1.7
*e*pP **pP** 18 43 58.0 +1.2
F15A Butte baz=93 **92.71 44** ⇑P **P** 18 43 03.1 +0.6
I16A Newdale baz=93 **92.86 46** ⇑P **P** 18 43 04.4 +1.2
A14A Double T Ranch baz=93 **92.98 40** ⇑P **P** 18 43 04.0 +0.3
S19A Harvey Farm, M baz=93 **93.02 52** ⇓P **P** 18 43 04.2 0.0
D15A Lincoln baz=93 **93.02 42** ⇓P **P** 18 43 04.2 +0.4
C15A Salmond Ranch, baz=93 **93.17 42** ⇑P **P** 18 43 05.0 +0.5
Q19A Hogan Spring (baz=93 **93.22 51** ⇑P **P** 18 43 05.4 +0.5
BOZ Bozeman (W) baz=93 **93.24 44** ⇑P **P** 18 43 05.4 +0.5
B15A Bradely Ranch, baz=93 **93.35 41** ⇓P **P** 18 43 05.4 +0.1
A15A Johnson Ranch, baz=94 **93.42 41** ⇑P **P** 18 43 06.0 +0.4
E16A East Helena baz=94 **93.44 43** ⇑P **P** 18 43 06.2 +0.4
S20A Disappointment baz=94 **93.63 52** ⇑P **P** 18 43 07.6 +0.5
Z22A Elephant Butte baz=94 **93.67 57** ⇑P **P** 18 43 07.4 +0.2
C16A Fuhringer Ranc baz=94 **93.73 42** ⇑P **P** 18 43 07.4 +0.3
BW06 Boulder Array baz=94 **93.94 47** ⇓P **P** 18 43 08.7 +0.4
PDAR Pinedale Array **93.94 47** P **P** 18 43 07.9 -0.4
PDAR PKKPbc **PKKPdf** 19 00 09.8 -0.9
PDAR P'P' 19 08 23.1
PDAR Pinedale Array comp=Z,0.5nm,0.8s,baz=267,slow=4.5,SNR=2.9 **93.94 47** P **P** 18 43 07.9 -0.4
PDAR PKKPbc **PKKPdf** 19 00 09.8 -0.9
comp=Z,2.1nm,0.8s,baz=95,slow=5.2,SNR=16
PDAR PKPPKP **P'P'df** 19 08 23.1 +0.9
comp=Z,0.3nm,0.4s,baz=108,slow=5.1,SNR=4.1
F17A Fitzpatrick Pl baz=94 **93.96 44** ⇓P **P** 18 43 08.7 +0.5
P20A De Beque baz=94 **94.01 51** ⇓P **P** 18 43 09.1 +0.5
S21A Coal Bank Pass baz=94 **94.03 52** ⇑P **P** 18 43 09.2 +0.2
R21A Cimarron baz=94 **94.38 52** ⇑P **P** 18 43 10.4 -0.1
ANMO Albuquerque comp=Z,1.2nm,0.6s **94.46 55** *e*P **P** 18 43 10.4 -0.4
B17A L&G Farms, Che baz=95 **94.48 42** ⇑P **P** 18 43 10.7 +0.4
NVL N'lazarevskaya **94.54 188** *e*P P 18 43 00.5 -10
MAIT Maitri **94.54 188** *e*P **P** 18 43 11.2 +0.9
G18A Lazy EL Ranch, baz=95 **94.56 45** ⇑P **P** 18 43 11.8 +0.8
A17A Triple J Farms baz=95 **94.71 41** ⇓P **P** 18 43 12.0 +0.6
P21A Newcastle baz=95 **94.72 51** ⇓P **P** 18 43 12.4 +0.4
Z24A Sheeppen Canyo baz=95 **94.99 57** ⇓P **P** 18 43 13.5 +0.2
Y24A Capitan baz=95 **95.06 56** ⇓P **P** 18 43 13.7 +0.1
EGMT Eagleton baz=95 **95.09 42** ⇑P **P** 18 43 13.5 +0.3
P22A Eagle baz=95 **95.26 51** ⇓P **P** 18 43 15.2 +0.8
TXAR Lajitas Array **95.57 61** P **P** 18 43 16.1 +0.2
TXAR PP **PP** 18 47 09.4 -1.0
TXAR PKKPbc **PKKPbc** 19 00 06.0 -0.8
TXAR Lajitas Array comp=Z,0.4nm,0.6s,baz=289,slow=8.5,SNR=3.1 **95.57 61** P **P** 18 43 16.1 +0.2
TXAR PP **PP** 18 47 09.4 -1.0
comp=Z,1.5nm,1.1s,baz=226,slow=5.0,SNR=6.3
TXAR PKKPbc **PKKPbc** 19 00 06.0 -0.8
comp=Z,0.9nm,0.7s,baz=95,slow=6.7,SNR=5.7
VNA3 Neumayer Olymp **95.72 181** *e*P **P** 18 43 15.5 -0.1
VNA3 Neumayer Olymp **95.72 181** *e*PiKP **PiKP** 18 47 55.0 +1.2
VNA2 Neumayer--Watz baz=181,slow=3.6 **95.98 182** *e*P **P** 18 43 17.0 +0.2
VNA2 Neumayer--Watz baz=181,slow=3.6 **95.98 182** *e*pP pP 18 44 11.7 +0.4
VNA2 Neumayer--Watz baz=181,slow=3.6 **95.98 182** *e*PKiKP **PKiKP** 18 47 57.1 +2.8
MKAR Makanchi Array MKAR **96.10 317** P **P** 18 43 17.9 +0.1
18 47 12.7
MKAR Makanchi Array MKAR **96.10 317** P **P** 18 43 17.9 +0.1
PP **PP** 18 47 12.7 -1.2
MKAR PKiKP **PKiKP** 18 47 55.0 -0.2
MKAR Makanchi Array comp=Z,14nm,0.7s,baz=93,slow=6.5,SNR=208 **96.10 317** P **P** 18 43 17.9 +0.1
MKAR PP **PP** 18 47 12.7 -1.2
comp=Z,0.8nm,0.8s,baz=99,slow=7.9,SNR=4.1
MKAR PKiKP **PKiKP** 18 47 55.0 -0.2
comp=Z,1.3nm,0.6s,baz=216,slow=0.8,SNR=13
Z26A Caprock baz=96 **96.12 57** ⇑P **P** 18 43 19.1 +0.8
ZALV Zalesovo Beam **96.17 324** P **P** 18 43 17.1 -0.7
ZALV Zalesovo Beam **96.17 324** P **P** 18 43 17.1 -0.7
ZALV PKiKP **PKiKP** 18 47 55.5 +0.6
ZALV PKKP **PKKPbc** 19 00 03.0 -3.1
ZALV Zalesovo Beam comp=Z,15nm,0.8s,baz=108,slow=4.8,SNR=79 **96.17 324** P **P** 18 43 17.1 -0.7
ZALV PKiKP **PKiKP** 18 47 55.5 +0.6
comp=Z,1.3nm,0.6s,baz=148,slow=1.9,SNR=5.3
ZALV PKKP **PKKPbc** 19 00 03.0 -3.1
comp=Z,0.7nm,0.6s,baz=296,slow=2.9,SNR=4.4
YKA Yellowknife Ar **96.22 27** P **P** 18 43 17.1 -0.8
YKA pP **pP** 18 44 08.9 -3.5
YKA PKiKP **PKiKP** 18 47 56.2 +1.5
YKA PKKP **PKKPbc** 19 00 03.5 -2.7
YKA Yellowknife Ar comp=Z,4.7nm,0.9s,baz=255,slow=4.6,SNR=48 **96.22 27** P **P** 18 43 17.0 -0.8
YKA pP **pP** 18 44 08.9 -3.5
comp=Z,2.6nm,0.9s,baz=255,slow=4.6,SNR=3.3
YKA PKiKP **PKiKP** 18 47 56.2 +1.5
comp=Z,0.4nm,0.7s,baz=265,slow=1.4,SNR=4.7
YKA PKKP **PKKPbc** 19 00 03.5 -2.7
comp=Z,0.9nm,0.6s,baz=74,slow=2.7,SNR=12
R24A Sanders Place, baz=96 **96.23 52** ⇑P **P** 18 43 18.7 -0.1
X26A CR and CF Fran baz=97 **96.51 56** ⇓P **P** 18 43 19.9 -0.2
NVS Novosibirsk **97.28 325** *i* P **P** 18 43 20.7 -2.1
NVS pmax pmax
comp=N,5.0nm,1.4s
NVS pmax pmax
comp=E,5.0nm,1.4s
NVS pmax pmax
comp=Z,21nm,1.4s
KURK Kurchatov **99.24 320** *ce*P **Pdif** 18 43 30.9 -0.8
KURK pmax pmax
comp=Z,9.0nm,1.3s
KURK Kurchatov **99.24 320** PKiKP **PKiKP** 18 48 00.5 0.0
KURK PKKPbc **PKKPbc** 18 59 55.9 -1.5
KSH Kashi **99.25 308** *e*P **Pdif** 18 43 32.5 +0.3
KSH pP **pP** 18 44 27.1 +0.2
KSH sP **sP** 18 44 50.8 +0.8
KSH PP **PP** 18 47 41.1 +2.8
KSH SKS **SKSac** 18 53 48.1 -1.2
KSH S **ScS** 18 54 41.1 -3.4
KSH sS **sS** 18 56 18.8 -2.4
KSH SS **SS** 19 01 41.1 +1.8
KSH pmax pmax
comp=Z,4.0nm,1.3s
KSH pmax pmax
comp=Z,110nm,5.1s
KSH LR LR
comp=N,130nm,5.8s
KSH LR LR
comp=E,130nm,6.1s
KSH LR LR
comp=Z,260nm,6.1s
KURBB Kurchatov Arra **99.28 320** PKiKP **PKiKP** 18 48 00.5 0.0
comp=Z,1.9nm,0.9s,baz=109,slow=1.7,SNR=7.9
KURBB PKKPbc **PKKPbc** 18 59 55.9 -1.4
comp=Z,2.0nm,0.9s,baz=277,slow=3.4,SNR=15
PLCA Paso Flores **104.28 138** PKiKP **PKiKP** 18 48 09.8 -0.3
PLCA Paso Flores comp=Z,0.2nm,0.3s,baz=97,slow=4.9,SNR=3.3 **104.28 138** PKiKP **PKiKP** 18 48 09.8 -0.3
ULM Lac du Bonnet **104.42 41** PKiKP **PKiKP** 18 48 08.2 -1.6
ULM Lac du Bonnet comp=Z,2.7nm,0.9s,baz=236,slow=1.2,SNR=3.9 **104.42 41** PKiKP **PKiKP** 18 48 08.2 -1.6
BVAR Borovoye Array **104.56 322** P **Pdif** 18 43 54.6 -0.7
BVAR Borovoye Array **104.56 322** Pdif **Pdif** 18 43 54.6 -0.7
BVAR PKiKP **PKiKP** 18 48 10.2 +0.2
BVAR Borovoye Array comp=Z,2.6nm,0.9s,baz=101,slow=6.0,SNR=14 **104.56 322** Pdiff **Pdif** 18 43 54.6 -0.7
BVAR PKiKP **PKiKP** 18 48 10.2 +0.2
comp=Z,2.0nm,0.6s,baz=114,slow=1.6,SNR=7.4
CFAA Coronel Fontan **110.63 131** PKiKP **PKiKP** 18 48 21.5 -0.7
CFAA Coronel Fontan comp=Z,0.2nm,0.6s,baz=229,slow=4.6,SNR=4.1 **110.63 131** PKiKP **PKiKP** 18 48 21.5 -0.7
ABKAR Akbulak array **111.19 318** *e*PKPdf **PKiKP** 18 48 21.4 -1.2
ARU Arti **111.24 326** *i* PKiKP **PKiKP** 18 48 22.2 -0.2
ARU 18 49 07.3
ARU 18 54 42.3
AKTO Aktyubinsk **112.32 319** PKiKP **PKiKP** 18 48 24.8 +0.1
AKTO Aktyubinsk **112.32 319** PKiKP **PKiKP** 18 48 24.8 +0.1
AKTO Aktyubinsk comp=Z,6.8nm,0.6s,baz=90,slow=2.5,SNR=28 **112.32 319** PKiKP **PKiKP** 18 48 24.8 +0.1
IAKL Akhelmad **112.55 304** *e*P **PKiKP** 18 48 26.2 +0.3
IEMG Emamgholi **112.63 305** *e*P **PKiKP** 18 48 26.5 +0.4
IKRD Kardeh **112.74 304** *e*P **PKiKP** 18 48 24.6 -1.7
ISFR Sfrayin **113.15 305** *e*P **PKiKP** 18 48 27.7 +0.6
IMEH Mehriz **116.00 299** *e*P **PKPdf** 18 48 31.9 -0.8
ICHK Chekchek **116.17 300** *e*P **PKPdf** 18 48 32.5 -0.4
DAG Danmarks Havn comp=Z,62nm,0.8s **116.37 2** *i* P **PKPdf** 18 48 30.8 -0.9
ISHM Shahmirzad **116.99 304** *e*P **PKPdf** 18 48 34.5 0.0
IPRN Peran **117.73 304** *e*P **PKPdf** 18 48 36.2 +0.5
LPAZ La Paz **117.90 117** PKP **PKPdf** 18 48 37.2 0.0
LPAZ PKKPbc **PKKPbc** 18 58 58.5 +0.5
LPAZ La Paz comp=Z,4.2nm,0.7s,baz=272,slow=2.0,SNR=18 **117.90 117** PKP **PKPdf** 18 48 37.2 0.0
LPAZ PKKPbc **PKKPbc** 18 58 58.5 +0.5
comp=Z,1.7nm,0.9s,baz=124,slow=1.9,SNR=6.3
ISFB Sefidab **117.92 302** *e*P **PKPdf** 18 48 36.6 +0.5
APA Apatity **117.95 342** ⇑*i*PKiKP **PKPdf** 18 48 34.8 -0.2
APA pmax pmax
comp=Z,43nm,1.2s
APA MLR MLR
comp=Z,2μm,20.0s
KEV Kevo **118.27 345** *e*PKiKP **PKPdf** 18 48 34.3 -1.2
KEV Kevo **118.27 345** *e*pkp **PKPdf** 18 48 34.3 -1.2
IKLH Kolahrood **118.52 301** *e*P **PKPdf** 18 48 37.4 -0.1
SUMG Summit **118.75 9** *i* P **PKPdf** 18 48 36.2 -0.8
comp=Z,8.7nm,1.0s
ARCES ARCESS Array B **118.79 346** PKP **PKPdf** 18 48 36.5 -0.2
ARCES PKKPbc **PKKPab** 18 58 52.4 -2.7
ARCES ARCESS Array B comp=Z,23nm,0.7s,baz=100,slow=1.9,SNR=53 **118.79 346** PKP **PKPdf** 18 48 36.5 -0.2
ARCES PKKPbc **PKKPab** 18 58 52.4 -2.7
comp=Z,4.6nm,0.6s,baz=174,slow=3.4,SNR=15
IMHD Mahdasht **119.13 304** *e*P **PKPdf** 18 48 38.6 +0.2
IPIR Pirpir **119.13 300** *e*P **PKPdf** 18 48 38.5 -0.2
IRAZ Razeghan **119.75 303** *e*P **PKPdf** 18 48 40.1 +0.4
SFJD Kangerlussuaq comp=Z,5.5nm,0.9s **120.73 16** *i* P **PKPdf** 18 48 39.0 -1.3
SCHQ Schefferville **121.05 33** PKP **PKPdf** 18 48 40.7 -0.7
SCHQ PKKPab **PKKPab** 18 58 46.1 +0.5
SCHQ Schefferville comp=Z,5.5nm,0.7s,baz=320,slow=2.7,SNR=9.0 **121.05 33** PKP **PKPdf** 18 48 40.7 -0.7
SCHQ PKKPab **PKKPab** 18 58 46.1 +0.5
comp=Z,5.5nm,0.8s,baz=110,slow=5.9,SNR=7.1
ISRB Sarab **121.30 306** *e*P **PKPdf** 18 48 42.4 -0.2
CPUP Villa Florida **121.48 132** PKP **PKPdf** 18 48 42.8 -0.3
CPUP Villa Florida comp=Z,8.7nm,0.7s,baz=265,slow=2.3,SNR=25 **121.48 132** PKP **PKPdf** 18 48 42.8 -0.3
JOF Joensuu **121.49 338** *e*PKiKP **PKPdf** 18 48 40.2 -1.7
JOF pmax pmax
comp=Z,31nm,0.7s
JOF Joensuu comp=Z,31nm,0.7s **121.49 338** *e*pkp **PKPdf** 18 48 40.2 -1.7
IHRS Heris **121.72 307** *e*P **PKPdf** 18 48 43.2 -0.2
IKOM Komasi **121.84 302** *e*P **PKPdf** 18 48 42.8 -0.9
QRN Al-Qurain **121.85 296** *e*P **PKPdf** 18 48 44.2 +0.6
IBST Bostanabad **121.92 306** *e*P **PKPdf** 18 48 42.8 -1.1
UMR Umm Al-Rimmam **121.99 297** *e*P **PKPdf** 18 48 44.3 +0.4
UMR AMb AMB 18 48 47.0
comp=Z,102nm,1.6s
VRHR Novokhopersk **122.28 323** *e*PKiKP **PKPdf** 18 48 43.7 -0.1
VRHR pmax pmax
comp=N,5.0nm,0.7s
VRHR pmax pmax
comp=E,9.0nm,0.7s
VRHR pmax pmax
comp=Z,80nm,0.7s
MIB Mutribah **122.31 297** *e*P **PKPdf** 18 48 44.3 -0.2
MIB AMb AMB 18 48 45.7
comp=Z,81nm,1.0s
IVIS Veis **122.35 303** *e*P **PKPdf** 18 48 43.6 -1.0
NAY Al-Naaiem **122.42 296** *e*P **PKPdf** 18 48 44.6 -0.1
SCO Scoresbysund comp=Z,13nm,0.9s **122.48 4** *i* P **PKPdf** 18 48 43.7 +0.1
MOS Moscow **122.59 329** *e*PKiKP **PKPdf** 18 48 43.4 -0.8
MOS pmax pmax
comp=Z,63nm,1.0s
IGHG Ghaleghazi **122.60 302** *e*P **PKPdf** 18 48 44.4 -0.9
IMRD Marand **122.69 308** *e*P **PKPdf** 18 48 45.5 +0.3
IDHR Dehrash **122.71 303** *e*P **PKPdf** 18 48 44.2 -1.2
TBLG Delisi **122.85 311** P **PKPdf** 18 48 47.4 +2.2
SDV Santo Domingo **123.12 88** *e*PKPdf **PKPdf** 18 48 46.2 -0.6
GNI Garni **123.17 309** *e*PKPdf **PKPdf** 18 48 46.1 0.0
ZEI Tsey **123.23 313** *i* PKiKP **PKPdf** 18 48 46.3 +0.1
ZEI pmax pmax
comp=Z,21nm,1.1s
OBN Obninsk **123.42 329** ⇑*i*PKiKP **PKPdf** 18 48 45.7 -0.1
OBN *e* 18 55 18.6
OBN *e*SS SS 19 06 57.9 -0.2
OBN pmax pmax
comp=Z,39nm,0.7s
VSR Storozhevoye **123.67 323** *e*PKiKP **PKPdf** 18 48 46.6 +0.1
VSR pmax pmax
comp=Z,60nm,0.7s
VSR pmax pmax
comp=N,2.0nm,0.3s
VSR pmax pmax
comp=E,10.0nm,0.7s
VORD Divnogorie **123.70 323** *e*PKIKP **PKPdf** 18 48 45.8 -0.7
VORD pmax pmax
comp=N,80nm,0.6s
VORD pmax pmax
comp=E,40nm,0.6s
VORD pmax pmax
comp=Z,30nm,0.6s
KBZ Khabaz **123.70 314** PKIKP **PKPdf** 18 48 46.9 +0.1
KBZ Khabaz **123.70 314** PKP **PKPdf** 18 48 46.9 +0.1
KBZ Khabaz comp=Z,11nm,0.9s,baz=102,slow=4.3,SNR=12 **123.70 314** PKP **PKPdf** 18 48 46.9 +0.1
KAF Kangasniemi KAF **123.79 339** *e*PKIKP pmax **PKPdf** pmax 18 48 44.9 -1.4
comp=Z,25nm,0.7s
KAF Kangasniemi comp=Z,25nm,0.7s **123.79 339** *e*pkp **PKPdf** 18 48 44.9 -1.4
KIV Kislovodsk KIV **123.79 314** *i* PKIKP pmax **PKPdf** pmax 18 48 47.1 0.0
comp=Z,26nm,1.1s
SIV San Ignacio **124.10 120** PKP **PKPdf** 18 48 48.0 -0.4
SIV PKKPbc **PKKPbc** 18 58 32.7 -1.5
SIV San Ignacio comp=Z,9.3nm,0.8s,baz=262,slow=1.4,SNR=35 **124.10 120** PKP **PKPdf** 18 48 48.0 -0.4
SIV PKKPbc **PKKPbc** 18 58 32.7 -1.5
comp=Z,1.2nm,0.8s,baz=78,slow=7.4,SNR=3.5
FINES FINESS Array B **124.32 339** PKP **PKPdf** 18 48 47.3 -0.1
FINES FINESS Array B comp=Z,35nm,0.9s,baz=66,slow=4.6,SNR=36 **124.32 339** PKP **PKPdf** 18 48 47.3 -0.1
SUR Sutherland **124.44 215** *e*PKPdf **PKPdf** 18 48 49.4 +0.5
BOSA Boshof **124.50 221** PKP **PKPdf** 18 48 49.2 +0.2
BOSA Boshof comp=Z,23nm,0.8s,baz=106,slow=2.3,SNR=34 **124.50 221** PKP **PKPdf** 18 48 49.2 +0.2
KMBO Kilima Mbogo **128.42 258** *e*PKPdf **PKPdf** 18 48 58.3 +1.3
NB2 NORSAR Subarra baz=27,slow=1.8 **129.17 345** PKPdf **PKPdf** 18 48 56.5 -0.3
NB2 NORSAR Subarra comp=Z,21nm,1.0s,baz=27,slow=1.8 **129.17 345** PKPdf **PKPdf** 18 48 56.5 -0.3
NOA NORSAR Array B **129.17 345** PKP **PKPdf** 18 48 56.9 +0.1
NOA SKPbc SKPbc 18 51 59.6 +2.9
NOA NORSAR Array B comp=Z,15nm,0.8s,baz=33,slow=2.0,SNR=18 **129.17 345** PKP **PKPdf** 18 48 56.9 +0.1
NOA SKPbc SKPbc 18 51 59.6 +2.9
comp=Z,4.0nm,1.0s,baz=32,slow=2.9,SNR=4.2
HFS Hagfors **129.28 343** PKP **PKPdf** 18 48 56.8 -0.1
HFS Hagfors comp=Z,19nm,0.8s,baz=252,slow=0.9,SNR=8.9 **129.28 343** PKP **PKPdf** 18 48 56.8 -0.1
AKASG Malin Array Be **129.48 327** PKIKP **PKPdf** 18 48 57.3 -0.3
AKASG Malin Array Be **129.48 327** PKP **PKPdf** 18 48 57.3 -0.3
AKASG SKPbc SKPbc 18 52 01.2 +3.0
AKASG Malin Array Be comp=Z,14nm,0.7s,baz=58,slow=2.0,SNR=15 **129.48 327** PKP **PKPdf** 18 48 57.3 -0.3
AKASG SKPbc SKPbc 18 52 01.2 +3.0
comp=Z,2.9nm,1.0s,baz=54,slow=5.5,SNR=5.2
SUW Suwalki **130.45 333** *e*PKP **PKiKP** 18 49 00.1 -0.1
SUW Suwalki **130.45 333** *e*PKP **PKiKP** 18 49 00.1 -0.1
SUW Suwalki **130.45 333** *e*PKIKP **PKPdf** 18 48 59.1 -0.2
SUW Suwalki **130.45 333** *e*PKPdf **PKPdf** 18 48 59.1 -0.2
LSZ Lusaka **130.58 236** *e*PKPdf **PKPdf** 18 49 00.1 -0.8
LSZ *e*PP **PP** 18 51 15.1 -2.9
LSZ *e*SKP 18 52 05.2
ASF Jabal al Asfar **130.93 301** PKP **PKPdf** 18 49 02.1 +1.1
ASF Jabal al Asfar comp=Z,5.4nm,0.7s,baz=276,slow=1.8,SNR=5.4 **130.93 301** PKP **PKPdf** 18 49 02.1 +1.1
BRTR Keskin Array B **131.51 312** PKP **PKPdf** 18 49 02.0 0.0
BRTR SKPbc **SKPab** 18 52 08.3 +1.1
BRTR PKKP **PKKPdf** 18 58 58.7 -1.2
BRTR Keskin Array B comp=Z,7.0nm,0.9s,baz=107,slow=2.1,SNR=8.1 **131.51 312** PKP **PKPdf** 18 49 02.0 0.0
BRTR SKPbc **SKPab** 18 52 08.3 +1.1
comp=Z,2.7nm,0.7s,baz=82,slow=3.4,SNR=8.1
BRTR PKKP **PKKPdf** 18 58 58.7 -1.2
comp=Z,0.6nm,0.8s,baz=213,slow=5.9,SNR=4.6
KIS Kishinev **131.63 323** *e*PKIKP **PKPdf** 18 49 02.5 +0.7
KIS Kishinev **131.63 323** *e*UNK 18 49 02.5
LEOM Leova **132.24 322** ⇑PKIKP **PKPdf** 18 49 03.8 +0.9
LEOM Leova **132.24 322** ⇑*i*P **PKPdf** 18 49 03.8 +0.9
TLCR **132.53 320** ⇓PKIKP **PKPdf** 18 49 04.3 +0.8
TLCR **132.53 320** ⇓*i*P **PKPdf** 18 49 04.3 +0.8
LVV L'vov **132.71 328** *e*PKIKP **PKPdf** 18 49 02.8 -0.9
CFR Carcaliu **132.95 321** ⇑PKIKP **PKPdf** 18 49 05.1 +0.8
CFR Carcaliu **132.95 321** ⇑*i*P **PKPdf** 18 49 05.1 +0.8
BSD Bornholm Skovb comp=Z,20nm,0.8s **132.96 339** *i* P **PKPdf** 18 49 04.7 +0.7
BEL Belsk **132.99 332** *e*PKP **PKPdf** 18 49 05.5 +1.4
BEL Belsk **132.99 332** *e*PKP **PKPdf** 18 49 05.5 +1.4
EIL Elat **133.03 298** PKP **PKPdf** 18 49 05.8 +0.8
EIL Elat comp=Z,14nm,0.8s,baz=353,slow=2.8,SNR=8.7 **133.03 298** PKP **PKPdf** 18 49 05.8 +0.8
TIRR Tirgusor **133.13 320** ⇓PKIKP **PKPdf** 18 49 06.4 +1.7
TIRR Tirgusor **133.13 320** ⇓*i*P **PKPdf** 18 49 06.4 +1.7
TESR **133.16 323** ⇑*i*P **PKiKP** 18 49 06.0 +0.1
COP Copenhagen comp=Z,28nm,1.0s **133.34 341** *i* P **PKPdf** 18 49 06.2 +1.5
VRI Vrincioaia **133.46 322** ⇑PKIKP **PKPdf** 18 49 06.0 +0.7
VRI Vrincioaia **133.46 322** ⇑*i*P **PKPdf** 18 49 05.9 +0.7
GKP Gorka Klasztor **133.50 336** *e*PKP **PKPdf** 18 49 06.7 +1.6
GKP Gorka Klasztor **133.50 336** *e*PKP **PKPdf** 18 49 06.7 +1.6
KWP Kalwaria Pacla **133.50 329** *e*PKP **PKPdf** 18 49 05.6 +0.6
KWP Kalwaria Pacla **133.50 329** *e*PKP **PKPdf** 18 49 05.9 +0.6
MUD Monsted U'grnd comp=Z,14nm,0.9s **133.67 343** *i* P **PKPdf** 18 49 06.5 +1.2
LLD Lille Linde comp=Z,55nm,0.8s **133.70 341** *i* P **PKPdf** 18 49 05.3 -0.1
ISR Istrita **133.95 321** ⇓PKIKP **PKPdf** 18 49 08.4 +2.1
ISR Istrita **133.95 321** ⇓*i*P **PKPdf** 18 49 08.4 +2.1
MLR Muntele Rosu **134.12 322** ⇑*i*P **PKPdf** 18 49 07.3 +0.6
KOLS Kolonicke sedl **134.16 328** *e*PKIKP **PKPdf** 18 49 07.9 +1.4
KOLS Kolonicke sedl **134.16 328** *e*PKP **PKPdf** 18 49 07.9 +1.4
TRPA Tarpa **134.53 327** ⇑*i*P **PKPdf** 18 49 08.1 +0.9
TRPA Tarpa **134.53 327** ⇓*e* **PKPdf** 18 49 08.0 +0.9
OJC Ojcow **134.54 331** *e*PKP **PKPdf** 18 49 07.1 -0.1
OJC Ojcow **134.54 331** *e*PKIKP **PKPdf** 18 49 07.8 +0.6
CRVS Cervenica-Dubn **134.60 329** *e*PKIKP **PKPdf** 18 49 08.1 +0.7
CRVS *e* 18 51 44.8
CRVS Cervenica-Dubn **134.60 329** *e*PKP **PKPdf** 18 49 08.0 +0.7
CRVS *e*PP **PP** 18 51 44.8 +2.2
CRVS *e*SKP 18 52 19.9
VOIR **134.68 323** ⇑PKIKP **PKPdf** 18 49 09.5 +1.8
VOIR **134.68 323** ⇑*i*P **PKPdf** 18 49 09.5 +1.8
NIE Niedzica **134.84 330** *e*PKP **PKPdf** 18 49 09.0 +1.2
NIE Niedzica **134.84 330** *e*PKIKP **PKPdf** 18 49 09.4 +1.6
BDFB Brasilia **134.84 128** PKP **PKPdf** 18 49 09.0 +0.1
BDFB Brasilia comp=Z,14nm,0.8s,baz=213,slow=3.1,SNR=19 **134.84 128** PKP **PKPdf** 18 49 09.0 +0.1
DRGR **135.24 326** ⇓PKIKP **PKPdf** 18 49 09.3 +0.6
DRGR **135.24 326** ⇓*i*P **PKPdf** 18 49 09.3 +0.6
BSEG Bad Segeberg **135.48 341** *e*PKPdf **PKPdf** 18 49 09.0 +0.2
BSEG Bad Segeberg **135.48 341** *e*PKIKP **PKPdf** 18 49 09.0 +0.2
OKC Ostrava-Krasne **135.58 332** *e*PKIKP **PKPdf** 18 49 09.7 +0.6
OKC Ostrava-Krasne **135.58 332** *e*PKPdf **PKPdf** 18 49 09.7 +0.6
KSP Ksiaz **135.68 334** *e*PKP **PKPdf** 18 49 10.2 +0.9
KSP Ksiaz **135.68 334** *e*PKP **PKPdf** 18 49 10.2 +0.9
KSP Ksiaz **135.68 334** *i* PKIKP **PKPdf** 18 49 10.0 +0.7
MORC Moravsky Berou **135.90 332** ⇓PKIKP **PKPdf** 18 49 11.0 +1.2
MORC Moravsky Berou **135.90 332** *e*PKPdf **PKPdf** 18 49 10.2 +0.4
MORC *e*SKP 18 52 21.8
MORC Moravsky Berou **135.90 332** ⇓*i*P **PKPdf** 18 49 11.0 +1.2
GZR Gura Zlata **136.03 324** ⇓PKIKP **PKPdf** 18 49 10.5 +0.3
GZR Gura Zlata **136.03 324** ⇓*i*P **PKPdf** 18 49 10.5 +0.3
KRLC Kraliky **136.03 333** *e*PKPdf **PKPdf** 18 49 08.6 -1.4
PSZ Piszkesteto **136.03 328** ⇑PKIKP **PKPdf** 18 49 11.6 +1.5
PSZ Piszkesteto **136.03 328** ⇑*i*P **PKPdf** 18 49 11.6 +1.5
PSZ Piszkesteto **136.03 328** ⇓*e* **PKPdf** 18 49 11.0 +0.9
DPC Dobruska-Polom **136.03 333** *e*PKIKP **PKPdf** 18 49 10.7 +0.7
DPC Dobruska-Polom **136.03 333** *e*PKPdf **PKPdf** 18 49 10.7 +0.7
UPC Upice **136.05 334** *e*PKIKP **PKPdf** 18 49 11.1 +1.1
UPC Upice **136.05 334** *e*PKPdf **PKPdf** 18 49 11.1 +1.1
TSUM Tsumeb **136.06 223** *e*PKPpre PKPpre 18 49 02.3
TSUM *e*PKPdf **PKPdf** 18 49 11.1 0.0
VYHS Vyhne **136.18 330** *e*PKIKP **PKPdf** 18 49 10.9 +0.6
VYHS *e* 18 51 55.2
VYHS Vyhne **136.18 330** *e*PKP **PKPdf** 18 49 10.9 +0.6
VYHS *e*PP **PP** 18 51 55.2 +2.7
VYHS *e*SKP 18 52 24.9
BZS Buzias **136.56 325** ⇓PKIKP **PKPdf** 18 49 11.5 +0.4
BZS Buzias **136.56 325** ⇓*i*P **PKPdf** 18 49 11.5 +0.4
BRG Berggiesshubel **136.64 336** *e*PKPdf **PKPdf** 18 49 11.4 +0.4
BRG Berggiesshubel **136.64 336** *i* pPKP **PKiKP** 18 49 11.6 -1.2

	comp=Z,33nm,0.9s							
BRG				*e*		18 52 25.3		
	comp=Z,10nm,1.2s							
PVCC	**Panska Ves**	**136.65 335**		*e*PKIKP	**PKPdf**	**18 49 12.1**	**+1.0**	
PVCC	**Panska Ves**	**136.65 335**		*e*PKPdf	**PKPdf**	**18 49 12.1**	**+1.0**	
VRAC	**Vranov**	**136.67 332**	⇑	*i*P	**PKPdf**	**18 49 12.3**	**+1.1**	
CLL	**Collm**	**136.67 337**		*e*PKPdf	**PKPdf**	**18 49 11.6**	**+0.5**	
CLL	**Collm**	**136.67 337**	⇑	*i*PKIKP	**PKPdf**	**18 49 11.2**	**+0.1**	
CLL				pmax	pmax			
	comp=Z,10.0nm,0.9s							
CLL				pmax	pmax			
	comp=Z,26nm,0.9s							
CLL	**Collm**	**136.67 337**	⇑	*i*PKPdf	**PKPdf**	**18 49 11.2**	**+0.1**	
	comp=Z,10.0nm,0.9s							
CLL				*i* PKiKP	**PKiKP**	**18 49 12.8**	**-0.1**	
	comp=Z,26nm,0.9s							
CLL				*e*PP	**PP**	**18 51 58.0**	**+2.7**	
CLL				*e*SKPdf	**SKPdf**	**18 52 24.0**	**-0.9**	
CLL				*e*		18 52 32.0		
CLL				*e*PKSdf	**PKSdf**	**18 52 46.0**	**-1.1**	
NRDL	**Niedersach Rie**	**136.76 340**		*e*PKPdf	**PKPdf**	**18 49 11.6**	**+0.5**	
BUD	**Budapest**	**136.76 329**	⇓	*e*	**PKPdf**	**18 49 12.3**	**+0.9**	
SMOL	**Smolenice**	**136.84 331**		*e*PKIKP	**PKPdf**	**18 49 12.9**	**+1.4**	
SMOL	**Smolenice**	**136.84 331**		*e*PKP	**PKPdf**	**18 49 12.9**	**+1.4**	
PRU	**Pruhonice**	**137.07 334**		*e*PKIKP	**PKPdf**	**18 49 12.6**	**+0.7**	
PRU	**Pruhonice**	**137.07 334**		*e*PKPdf	**PKPdf**	**18 49 12.6**	**+0.7**	
PRU				*ex*	x	18 49 14.4		
PKSG		**137.14 329**	⇓	*e*	**PKPdf**	**18 49 12.3**	**+0.2**	
CLZ	**Clausthal**	**137.21 339**		*e*PKPdf	**PKPdf**	**18 49 12.7**	**+0.6**	
CLZ	**Clausthal**	**137.21 339**		*e*PKIKP	**PKPdf**	**18 49 12.7**	**+0.6**	
VTS	**Vitosha**	**137.34 320**	⇑	PKIKP	**PKPdf**	**18 49 13.6**	**+0.8**	
VTS	**Vitosha**	**137.34 320**	⇑	*i*P	**PKPdf**	**18 49 13.6**	**+0.8**	
PKST	**T˜˜s**	**137.41 329**	⇓	*e*	**PKPdf**	**18 49 12.7**	**+0.1**	
TANN	**Tannenbergstha**	**137.59 336**		*e*PKPdf	**PKPdf**	**18 49 13.4**	**+0.5**	
MOX	**Moxa**	**137.73 337**		*e*PKPdf	**PKPdf**	**18 49 13.5**	**+0.4**	
MOX	**Moxa**	**137.73 337**		*e*PKIKP	**PKPdf**	**18 49 13.5**	**+0.4**	
NKC	**Novy Kostel**	**137.74 336**		*e*PKIKP	**PKPdf**	**18 49 14.0**	**+0.9**	
NKC	**Novy Kostel**	**137.74 336**		*e*PKPdf	**PKPdf**	**18 49 14.0**	**+0.9**	
NKC				*ex*	x	18 49 15.9		
PKSM	**Moragy**	**137.80 327**	⇓	PKIKP	**PKPdf**	**18 49 14.2**	**+0.9**	
PKSM	**Moragy**	**137.80 327**	⇓	*i*P	**PKPdf**	**18 49 14.2**	**+0.9**	
PKSM	**Moragy**	**137.80 327**	⇓	*e*	**PKPdf**	**18 49 14.0**	**+0.7**	
SOP	**Sopron**	**137.84 330**	⇓	*e*	**PKPdf**	**18 49 14.2**	**+0.8**	
CONA	**Conrad Observa**	**138.00 331**	⇑	*i*PKPdf	**PKPdf**	**18 49 14.1**	**+0.3**	
	comp=Z,31nm,0.7s							
KHC	**Kasperske Hory**	**138.13 334**		*e*PKIKP	**PKPdf**	**18 49 14.2**	**+0.3**	
KHC				*e*		18 52 04.2		
KHC	**Kasperske Hory**	**138.13 334**		*e*PKPdf	**PKPdf**	**18 49 14.2**	**+0.3**	
KHC				*e*PP	**PP**	**18 52 04.2**	**-0.3**	
KHC				*e*SKP		18 52 27.3		
KHC	**Kasperske Hory**	**138.13 334**		*e*PKPdf	**PKPdf**	**18 49 14.7**	**+0.8**	
KHC				*ex*	x	18 49 16.6		
KHC				*e*SKP		18 52 30.0		
UBBA	**Unterbreizbach**	**138.19 338**		*e*PKPdf	**PKPdf**	**18 49 14.9**	**+1.1**	
ROTZ	**Rotzenmuhle**	**138.20 336**		*e*PKPdf	**PKPdf**	**18 49 14.2**	**+0.2**	
RHK3	**Tenkes**	**138.21 327**	⇓	*e*	**PKPdf**	**18 49 14.5**	**+0.4**	
WTSB	**Winterswijk**	**138.27 342**		*e*PKP	**PKPdf**	**18 49 14.6**	**+0.6**	
GEC2	**GERESS Array S**	**138.29 334**		*e*PKPdf	**PKPdf**	**18 49 14.4**	**+0.1**	
GEC2	**GERESS Array S**	**138.29 334**		*e*PKIKP	**PKPdf**	**18 49 14.4**	**+0.1**	
GERES	**GERESS Array B**	**138.29 334**		PKP	**PKPdf**	**18 49 14.1**	**-0.2**	
GERES				SKP		18 52 30.6		
GERES	**GERESS Array B**	**138.29 334**		PKP	**PKPdf**	**18 49 14.1**	**-0.2**	
	comp=Z,15nm,0.9s,baz=70,slow=1.6,SNR=20							
GERES				SKP		18 52 30.6		
	comp=Z,4.3nm,0.9s,baz=36,slow=2.5,SNR=9.5							
WET	**Wettzell**	**138.41 335**		*e*PKPdf	**PKPdf**	**18 49 14.6**	**+0.2**	
WET	**Wettzell**	**138.41 335**		*e*PKIKP	**PKPdf**	**18 49 14.6**	**+0.2**	
BE	**Becsehely**	**138.58 329**	⇓	*e*	**PKPdf**	**18 49 14.2**	**-0.6**	
BUG	**Bochum--Univer**	**138.58 341**		*e*PKPdf	**PKPdf**	**18 49 14.5**	**-0.1**	
GRF	**Grafenberg Arr**	**138.65 336**		*e*PKPdf	**PKPdf**	**18 49 15.4**	**+0.6**	
GRF	**Grafenberg Arr**	**138.65 336**		*e*PKIKP	**PKPdf**	**18 49 15.4**	**+0.6**	
GRFO	**Grafenberg**	**138.65 336**		*e*PKIKP	**PKPdf**	**18 49 14.5**	**-0.3**	
GRFO	**Grafenberg**	**138.65 336**		*e*PKPdf	**PKPdf**	**18 49 14.5**	**-0.3**	
GROS	**Grobnik**	**139.22 330**		*i* PKPbc	**PKPdf**	**18 49 17.1**	**+1.0**	
TNS	**Taunus Mts**	**139.23 339**		*e*PKPdf	**PKPdf**	**18 49 16.1**	**+0.2**	
TNS	**Taunus Mts**	**139.23 339**		*e*PKIKP	**PKPdf**	**18 49 16.1**	**+0.2**	
HGN	**Heimansgroeve**	**139.59 342**		*e*PKP	**PKPdf**	**18 49 17.0**	**+0.6**	
MEM	**Membach**	**139.70 342**		PKhKP	PKPpre	18 49 10.3		
MEM				PKP	**PKPdf**	**18 49 17.2**	**+0.5**	
DLF	**Lyons Farm**	**139.72 354**		*e*P	**PKPdf**	**18 49 16.0**	**-0.6**	
VISS	**Visnje**	**140.01 330**		*i* PKPbc	**PKPdf**	**18 49 18.3**	**+0.9**	
BOJS	**Bojanci**	**140.02 329**		*i* PKPdf	PKPdf	18 49 11.4	-6.0	
BOJS				*i* PKPbc	**PKiKP**	**18 49 18.0**	**-1.9**	
BCLA	**Clavier**	**140.08 342**		PKhKP	PKPpre	18 49 12.6		
BCLA				PKP	**PKPdf**	**18 49 17.3**	**0.0**	
STU	**Stuttgart**	**140.17 337**		*e*PKIKP	**PKPdf**	**18 49 18.5**	**+0.9**	
STU	**Stuttgart**	**140.17 337**		*e*PKPdf	**PKPdf**	**18 49 18.5**	**+0.9**	
CEY	**Cerknica**	**140.26 330**		*i* PKPdf	PKPdf	18 49 12.0	-5.8	
CEY				*i* PKPbc	**PKiKP**	**18 49 18.6**	**-1.8**	
SNF	**Seneffe**	**140.30 343**		PKP	**PKPdf**	**18 49 18.7**	**+0.9**	
WLF	**Walferdange**	**140.48 341**		PKhKP	PKPpre	18 49 11.8		
WLF				PKP	**PKPdf**	**18 49 19.2**	**+1.1**	
WLF	**Walferdange**	**140.48 341**		*e*PKHKP	PKPpre	18 49 12.0		
WLF				*e*		18 49 18.8		
WLF	**Walferdange**	**140.48 341**		*e*PKPpre	PKPpre	18 49 12.0		
WLF				*e*PKPdf	**PKPdf**	**18 49 18.8**	**+0.6**	
DOU	**Dourbes**	**140.58 342**		PKhKP	PKPpre	18 49 12.2		
DOU				PKP	**PKPdf**	**18 49 19.2**	**+0.9**	
FETA	**Feichten**	**140.97 334**	⇑	*i*PKPdf	**PKPdf**	**18 49 14.5**	**-4.9**	
	comp=Z,36nm,1.1s							
DAVA	**Damuels**	**141.11 335**	⇑	*i*PKPdf	**PKPdf**	**18 49 14.9**	**-4.6**	
	comp=Z,14nm,0.8s							
FELD	**Feldberg im Sc**	**141.36 338**		PKP	**PKPdf**	**18 49 15.4**	**-4.6**	
ECH	**Echery**	**141.38 339**		*e*PKHKP	PKPpre	18 49 14.3		
ECH				*e*		18 49 22.0		
ECH	**Echery**	**141.38 339**		*e*PKPpre	PKPpre	18 49 14.3		
ECH				*e*PKPdf	**PKiKP**	**18 49 22.0**	**-0.6**	
TUE	**Stuetta**	**141.98 335**		*e*PKPpre	PKPpre	18 49 16.8		
TUE				*e*PP	**PP**	**18 52 27.6**	**-0.6**	
TUE				*e*SKP		18 52 40.0		
LOMF	**Lomont**	**142.23 338**		PKIKP	**PKPdf**	**18 49 18.6**	**-2.9**	
LOMF	**Lomont**	**142.23 338**		PKP	**PKPdf**	**18 49 18.6**	**-2.9**	
LOMF	**Lomont**	**142.23 338**		PKP	**PKPdf**	**18 49 18.6**	**-2.9**	
TIP	**Timpagrande**	**143.29 320**		*e*PKPdf	PKPbc	18 49 21.4	+0.1	
RSL	**Roseland**	**143.71 337**		PKIKP	**PKPdf**	**18 49 23.8**	**-0.4**	
RSL	**Roseland**	**143.71 337**		PKP	**PKPdf**	**18 49 23.8**	**-0.4**	
RSL	**Roseland**	**143.71 337**		PKP	**PKPdf**	**18 49 23.8**	**-0.4**	
OG35	**Corcelles**	**143.80 338**		PKP	PKPbc	18 49 22.8	+0.3	
BNI	**Bardonecchia**	**144.22 336**		*e*PKIKP	PKPbc	18 49 24.4	+0.5	
BNI				*e*		18 50 20.5		
BNI				*e*		18 52 40.6		
BNI	**Bardonecchia**	**144.22 336**		*e*PKPdf	PKPbc	18 49 24.4	+0.5	
BNI				*ep*PKPdf	pPKPdf	18 50 20.5	-1.8	
BNI				*e*SKP		18 52 40.6		
BST	**Brest**	**144.28 350**		PKP	PKPbc	18 49 24.2	+0.4	
BST	**Brest**	**144.28 350**		PKP	PKPbc	18 49 24.2	+0.4	
OG22	**Abries**	**144.30 336**		PKP	PKPbc	18 49 24.3	+0.1	
OG22	**Abries**	**144.30 336**		PKP	PKPbc	18 49 24.3	+0.1	
GDM	**Grand'Maison**	**144.31 337**		PKP	**PKPdf**	**18 49 24.8**	**-0.5**	
GDM	**Grand'Maison**	**144.31 337**		PKP	**PKPdf**	**18 49 24.8**	**-0.5**	
GRN	**Grenoble**	**144.42 337**		PKIKP	**PKPdf**	**18 49 25.3**	**-0.1**	
GRN	**Grenoble**	**144.42 337**		PKP	**PKPdf**	**18 49 25.3**	**-0.1**	
GRN	**Grenoble**	**144.42 337**		PKP	**PKPdf**	**18 49 25.3**	**-0.1**	
PLDF	**La Plantade**	**144.54 340**		PKIKP	**PKPdf**	**18 49 25.6**	**+0.1**	
PLDF	**La Plantade**	**144.54 340**		PKP	**PKPdf**	**18 49 25.6**	**+0.1**	
PLDF	**La Plantade**	**144.54 340**		PKP	**PKPdf**	**18 49 25.6**	**+0.1**	
AGO	**Saint Agoulin**	**144.62 341**		PKP	**PKPdf**	**18 49 25.7**	**+0.1**	
AGO	**Saint Agoulin**	**144.62 341**		PKP	**PKPdf**	**18 49 25.7**	**+0.1**	
SURF	**Saint Ours**	**144.64 336**		PKP	**PKPdf**	**18 49 25.8**	**-0.1**	
SURF	**Saint Ours**	**144.64 336**		PKP	**PKPdf**	**18 49 25.8**	**-0.1**	
SAOF	**Saorge**	**144.74 334**		PKIKP	**PKPdf**	**18 49 25.7**	**-0.2**	
SAOF	**Saorge**	**144.74 334**		PKP	**PKPdf**	**18 49 25.7**	**-0.2**	
SAOF	**Saorge**	**144.74 334**		PKP	**PKPdf**	**18 49 25.7**	**-0.2**	
AUTN	**L'Aution**	**144.78 334**		PKIKP	**PKPdf**	**18 49 26.5**	**+0.3**	
AUTN	**L'Aution**	**144.78 334**		PKP	**PKPdf**	**18 49 26.5**	**+0.3**	
AUTN	**L'Aution**	**144.78 334**		PKP	**PKPdf**	**18 49 26.5**	**+0.3**	
SSB	**Saint Sauveur**	**144.83 339**		PKIKP	**PKPdf**	**18 49 26.4**	**+0.4**	
SSB	**Saint Sauveur**	**144.83 339**		PKP	**PKPdf**	**18 49 26.4**	**+0.4**	
SSB	**Saint Sauveur**	**144.83 339**		PKP	**PKPdf**	**18 49 26.4**	**+0.4**	
TOUF	**Mont Tournerai**	**144.84 335**		PKIKP	**PKPab**	**18 49 26.0**	**0.0**	
TOUF	**Mont Tournerai**	**144.84 335**		PKP	**PKPab**	**18 49 26.0**	**0.0**	
TOUF	**Mont Tournerai**	**144.84 335**		PKP	**PKPab**	**18 49 26.0**	**0.0**	
COLF	**Collangettes**	**144.91 340**		PKP	**PKPdf**	**18 49 26.8**	**+0.6**	
COLF	**Collangettes**	**144.91 340**		PKP	**PKPdf**	**18 49 26.8**	**+0.6**	
PYM	**Petit Puy Mans**	**144.93 341**		PKIKP	**PKPdf**	**18 49 26.7**	**+0.5**	
PYM	**Petit Puy Mans**	**144.93 341**		PKP	**PKPdf**	**18 49 26.7**	**+0.5**	
PYM	**Petit Puy Mans**	**144.93 341**		PKP	**PKPdf**	**18 49 26.7**	**+0.5**	
MVIF	**Mont Vial**	**144.98 335**		PKIKP	**PKPab**	**18 49 26.4**	**0.0**	
MVIF	**Mont Vial**	**144.98 335**		PKP	**PKPab**	**18 49 26.4**	**0.0**	
MVIF	**Mont Vial**	**144.98 335**		PKP	**PKPab**	**18 49 26.4**	**0.0**	
REVF	**Revere**	**145.02 334**		PKIKP	**PKPab**	**18 49 26.4**	**0.0**	
REVF	**Revere**	**145.02 334**		PKP	**PKPab**	**18 49 26.4**	**0.0**	
REVF	**Revere**	**145.02 334**		PKP	**PKPab**	**18 49 26.4**	**0.0**	
OCF	**Saint Nazaire**	**145.15 337**		PKP	**PKPab**	**18 49 27.6**	**+0.7**	
OG26	**St.-Nazaire-De**	**145.15 337**		PKP	**PKPab**	**18 49 27.6**	**+0.7**	
CALN	**Calern**	**145.21 335**		PKIKP	**PKPab**	**18 49 27.3**	**0.0**	
CALN	**Calern**	**145.21 335**		PKP	**PKPab**	**18 49 27.3**	**0.0**	
CALN	**Calern**	**145.21 335**		PKP	**PKPab**	**18 49 27.3**	**0.0**	
LBL	**Lubilhac**	**145.31 340**		PKP2	**PKPab**	**18 49 28.3**	**+0.8**	
LBL	**Lubilhac**	**145.31 340**		PKP	**PKPab**	**18 49 28.3**	**+0.8**	
LBL	**Lubilhac**	**145.31 340**		PKP	**PKPab**	**18 49 28.3**	**+0.8**	
OSPF	**L'Ospedale**	**145.82 330**		PKP	**PKPbc**	**18 49 29.1**	**+0.3**	
OSPF	**L'Ospedale**	**145.82 330**		PKP	**PKPbc**	**18 49 29.1**	**+0.3**	
VSL	**Villasalto**	**147.35 327**		*e*PKPdf	**PKPdf**	**18 49 30.6**	**+0.1**	
VSL				*e*PKPbc	**PKPbc**	**18 49 33.5**	**+0.4**	
LRDF	**Laroque-de-Fa**	**147.57 339**		PKP	**PKPbc**	**18 49 34.3**	**+0.7**	
LRDF	**Laroque-de-Fa**	**147.57 339**		PKP	**PKPbc**	**18 49 34.3**	**+0.7**	
FILF	**Fillols**	**147.90 338**		PKP	**PKPbc**	**18 49 34.8**	**+0.2**	
FILF	**Fillols**	**147.90 338**		PKP	**PKPbc**	**18 49 34.8**	**+0.2**	
CARF	**Carcanieres**	**147.92 339**		PKP	**PKPbc**	**18 49 34.7**	**0.0**	
CARF	**Carcanieres**	**147.92 339**		PKP	**PKPbc**	**18 49 34.7**	**0.0**	
MLS	**Moulis**	**148.04 341**		PKP	**PKPbc**	**18 49 35.1**	**+0.2**	
MLS	**Moulis**	**148.04 341**		PKP	**PKPbc**	**18 49 35.1**	**+0.2**	
MELF	**Melles**	**148.23 341**		PKP	**PKPbc**	**18 49 35.6**	**+0.2**	
MELF	**Melles**	**148.23 341**		PKP	**PKPbc**	**18 49 35.6**	**+0.2**	
VALF	**Valcebollere**	**148.23 339**		PKP	**PKPbc**	**18 49 36.3**	**+0.7**	
VALF	**Valcebollere**	**148.23 339**		PKP	**PKPbc**	**18 49 36.3**	**+0.7**	
REYF	**Montagne du Re**	**148.40 343**		PKP	**PKPbc**	**18 49 36.4**	**+0.5**	
REYF	**Montagne du Re**	**148.40 343**		PKP	**PKPbc**	**18 49 36.4**	**+0.5**	
RESF	**Ens**	**148.42 341**		PKP	**PKPbc**	**18 49 37.3**	**+1.3**	
RESF	**Ens**	**148.42 341**		PKP	**PKPbc**	**18 49 37.3**	**+1.3**	
VIEF	**Viey**	**148.44 342**		PKP	**PKPbc**	**18 49 37.2**	**+1.2**	
VIEF	**Viey**	**148.44 342**		PKP	**PKPbc**	**18 49 37.2**	**+1.2**	
OSSF	**Osses**	**148.47 344**		PKP	**PKPbc**	**18 49 36.0**	**+0.1**	
OSSF	**Osses**	**148.47 344**		PKP	**PKPbc**	**18 49 36.0**	**+0.1**	
LARF	**Larrau**	**148.60 343**		PKP	**PKPbc**	**18 49 37.2**	**+0.9**	
LARF	**Larrau**	**148.60 343**		PKP	**PKPbc**	**18 49 37.2**	**+0.9**	
KEST	**Kesra**	**150.03 322**		PKP	**PKPdf**	**18 49 34.7**	**-0.3**	
KEST				PKPbc	**PKiKP**	**18 49 40.9**	**0.0**	
KEST	**Kesra**	**150.03 322**		PKP	**PKPdf**	**18 49 34.7**	**-0.3**	
	comp=Z,3.1nm,0.9s,baz=299,slow=8.9,SNR=5.4							
KEST				PKPbc	**PKiKP**	**18 49 40.9**	**0.0**	
	comp=Z,50nm,0.8s,baz=147,slow=0.2,SNR=80							
RCBR	**Riachuelo**	**150.22 128**		PKP	**PKPdf**	**18 49 36.2**	**+0.4**	
RCBR				*e*PKPdf	**PKPbc**	**18 49 36.4**	**-4.8**	
RCBR				PKPbc	**PKPab**	**18 49 40.8**	**-0.4**	
RCBR				*e*PKPbc	PKPab	18 49 41.0	-6.9	
RCBR	**Riachuelo**	**150.22 128**		PKP	**PKPdf**	**18 49 36.2**	**+0.4**	
	comp=Z,37nm,0.9s,baz=229,slow=4.4,SNR=4.3							
RCBR				PKPbc	**PKPbc**	**18 49 40.8**	**-0.4**	
	comp=Z,34nm,0.8s,baz=213,slow=5.1,SNR=18							
CMAH	**Djebel Manchou**	**150.50 326**		P	**PKPbc**	**18 49 41.6**	**+0.4**	
CAEH	**ʿAin El Ouahch**	**150.69 327**		P	**PKPbc**	**18 49 41.4**	**-0.2**	
ABSA	**Djebel Ababsia**	**150.72 325**		P	**PKPbc**	**18 49 42.4**	**+0.6**	
PBRG	**Braganca**	**151.04 351**		*e*PKPbc	**PKPbc**	**18 49 42.9**	**+0.6**	
CKFL	**Kef-Lekhel**	**151.05 326**		P	**PKPbc**	**18 49 43.3**	**+0.7**	
PGAV	**Gavieira, Arco**	**151.09 353**		*e*PKPbc	**PKPbc**	**18 49 43.0**	**+0.5**	
CASM	**Ain Smara**	**151.28 326**		P	**PKPbc**	**18 49 44.0**	**+1.0**	
POLO	**Lamas de Olo**	**151.62 352**		*e*PKPbc	**PKPbc**	**18 49 44.6**	**+0.9**	
MVO	**Moncorvo**	**151.71 351**		*e*PKPbc	**PKPbc**	**18 49 44.8**	**+0.9**	
SET	**Setif**	**151.90 328**		P	**PKPbc**	**18 49 46.0**	**+1.5**	
ESDC	**Sonseca Array**	**152.53 345**		PKP	**PKPdf**	**18 49 39.4**	**+0.8**	
ESDC				PKPbc	**PKiKP**	**18 49 46.2**	**+0.3**	
ESDC				PP	**PP**	**18 53 29.7**	**+0.3**	
ESDC	**Sonseca Array**	**152.53 345**		PKP	**PKPdf**	**18 49 39.4**	**+0.8**	
	comp=Z,2.4nm,0.8s,baz=14,slow=2.8,SNR=10.0							
ESDC				PKPbc	**PKiKP**	**18 49 46.2**	**+0.3**	
	comp=Z,30nm,0.8s,baz=15,slow=2.7,SNR=73							
ESDC				PP	**PP**	**18 53 29.7**	**+0.3**	
	comp=Z,0.3nm,0.4s,baz=17,slow=5.5,SNR=4.5							
PAB	**San Pablo**	**152.75 346**		*e*PKIKP	**PKPdf**	**18 49 39.7**	**+0.7**	
PAB	**San Pablo**	**152.75 346**		*e*PKPdf	**PKPdf**	**18 49 39.7**	**+0.7**	
PAB				*e*PKPbc	**PKiKP**	**18 49 47.0**	**+0.6**	
PMRV	**Marv??o**	**153.47 351**		*e*PKPdf	**PKPdf**	**18 49 40.2**	**+0.3**	
PMRV	**Marv??o**	**153.47 351**		*e*PKPbc	**PKPbc**	**18 49 48.4**	**+0.7**	
PMTG	**Montargil**	**153.94 352**		*e*PKPbc	**PKPbc**	**18 49 48.2**	**-0.5**	
PESTR	**Estremoz**	**154.05 351**		*e*PKPbc	**PKPbc**	**18 49 49.5**	**+0.5**	
PESTR	**Estremoz**	**154.05 351**		*e*PKPab	**PKPab**	**18 50 03.8**	**+0.5**	
PMAFR	**Mafra**	**154.18 354**		*e*PKPbc	**PKPbc**	**18 49 49.7**	**+0.4**	
PBAR	**Barrancos**	**154.63 349**		*e*PKPdf	**PKPdf**	**18 49 42.0**	**+0.4**	
PBAR	**Barrancos**	**154.63 349**		*e*PKPbc	**PKPbc**	**18 49 50.9**	**+0.7**	
PBAR	**Barrancos**	**154.63 349**		*e*PKPab	**PKPab**	**18 50 06.8**	**+1.1**	
PNCL	**Nicolau / Gran**	**154.93 352**		*e*PKPbc	**PKPbc**	**18 49 51.4**	**+0.6**	
PNCL	**Nicolau / Gran**	**154.93 352**		*e*PKPab	**PKPab**	**18 50 08.7**	**+1.7**	
PCVE	**Castro Verde**	**155.33 351**		*e*PKPab	**PKPab**	**18 50 10.1**	**+1.4**	
PVAQ	**Vaqueiros**	**155.50 350**		*e*PKPab	**PKPab**	**18 50 10.5**	**+1.0**	
PBDV	**Barranco-do-Ve**	**155.69 351**		*e*PKPab	**PKPab**	**18 50 11.4**	**+1.1**	
MORF	**Marmelete**	**155.73 352**		*e*PKPdf	**PKPdf**	**18 49 43.6**	**+0.4**	
MORF	**Marmelete**	**155.73 352**		*e*PKPab	**PKPab**	**18 50 11.7**	**+1.2**	
TAM	**Tamanrasset**	**160.21 301**		*e*PKIKP	**PKPdf**	**18 49 49.3**	**+0.2**	
TAM				*e*		18 50 30.4		
TAM	**Tamanrasset**	**160.21 301**		*e*PKPdf	**PKPdf**	**18 49 49.3**	**+0.2**	
TAM				*e*PKPab	**PKPab**	**18 50 30.4**	**-0.2**	
TORD	**Torodi Ar. Bea**	**165.93 271**		PKP	**PKPdf**	**18 49 54.1**	**-0.5**	
TORD				PKPab	**PKPab**	**18 50 55.8**	**-0.1**	
TORD				pPKPab	**pPKPab**	**18 51 48.2**	**-2.4**	
TORD				PP	**PP**	**18 54 40.9**	**-3.2**	
TORD	**Torodi Ar. Bea**	**165.93 271**		PKP	**PKPdf**	**18 49 54.1**	**-0.5**	
	comp=Z,26nm,1.1s,baz=37,slow=0.8,SNR=29							
TORD				PKPab	**PKPab**	**18 50 55.8**	**-0.1**	
	comp=Z,8.4nm,0.9s,baz=80,slow=4.7,SNR=10							
TORD				pPKPab	**pPKPab**	**18 51 48.2**	**-2.4**	
	comp=Z,2.8nm,0.9s,baz=162,slow=6.5,SNR=3.3							
TORD				PP	**PP**	**18 54 40.9**	**-3.2**	
	comp=Z,1.5nm,0.9s,baz=123,slow=7.3,SNR=3.5							
DBIC	**Dimbokro**	**169.86 231**		PKP	**PKPdf**	**18 49 56.9**	**-0.4**	
DBIC				PKPab	**PKPab**	**18 51 13.2**	**0.0**	
DBIC	**Dimbokro**	**169.86 231**		PKP	**PKPdf**	**18 49 56.9**	**-0.4**	
	comp=Z,14nm,0.9s,baz=109,slow=1.0,SNR=11							
DBIC				PKPab	**PKPab**	**18 51 13.2**	**0.0**	
	comp=Z,3.8nm,0.6s,baz=131,slow=6.6,SNR=4.9							

TAP ***24*** *18:37:35.9,24˚.66N×121˚.20E,h7km,ML3.5,C*
ISCJB ***24*** *18:37:37.0±0.2,24˚.63N±0˚.01×121˚.22E±0˚.02,h2km±3km,*
Error ellipse: s-maj=2.9km s-min=2.2km az=43.1

ISC 24 18:37:36.6±0.8,24˚.65N±0˚.02×121˚.21E±0˚.02,h10km±6km,
n51,σ0°54/92,10C-10D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NSK	**Sanguang**	**0.14**	**79**	⇓ *i*P			**Pg**	**18 37 39.8**	**-0.1**
	baz=83								
NSK				*i* S			**Sg**	**18 37 42.1**	**-0.1**
	baz=83								
NSTT	**Nanjuang**	**0.19**	**264**	⇓ *i*P			**Pg**	**18 37 40.4**	**-0.3**
	baz=247								
NSTT				*i* S			**Sg**	**18 37 43.3**	**-0.1**
	baz=247								
NNS	**Nan Shan**	**0.26**	**144**	⇑ *i*P			**Pg**	**18 37 42.3**	**+0.3**
	baz=142								
NNS				*i* S			**Sg**	**18 37 46.2**	**+0.7**
	baz=142								
HSN	**Hsinchu**	**0.26**	**305**	⇑ *e*P			**Pg**	**18 37 42.2**	**+0.2**
	baz=315								
HSN				S			**Sg**	**18 37 46.7**	**+1.1**
	baz=315								
NCU	**National Centr**	**0.32**	**357**	⇑ P			**Pb**	**18 37 43.7**	**-0.8**
	baz=359								
NCU				S			**Sb**	**18 37 49.4**	**-0.2**
	baz=359								
ENTT	**Nioudou**	**0.33**	**92**	⇓ *i*P			**Pg**	**18 37 43.4**	**+0.2**
	baz=106								
ENTT				S			**Sg**	**18 37 47.8**	**+0.3**
	baz=106								
TWT	**Tachien**	**0.40**	**184**	⇑ *i*P			**Pg**	**18 37 44.5**	**0.0**
	baz=184								
TWT				*e*S			**Sg**	**18 37 49.2**	**-0.6**
	baz=184								
TWE	**Neicheng**	**0.42**	**80**	⇓ *i*P			**Pg**	**18 37 45.2**	**+0.2**
	baz=92								
TWE				*i* S			**Sg**	**18 37 50.8**	**+0.2**
	baz=92								
NSY	**Sanyi**	**0.47**	**240**	*e*P			**Pb**	**18 37 46.5**	**-0.4**
	baz=237								
NSY				*e*S			**Sb**	**18 37 53.3**	**-0.6**
	baz=237								
TAP	**Taipei**	**0.47**	**35**	*e*P			**Pg**	**18 37 46.3**	**+0.3**
	baz=38								
TAP				*e*S			**Sb**	**18 37 54.0**	**0.0**
	baz=38								
TAP1	**Taipei**	**0.48**	**36**	P			**Pg**	**18 37 46.4**	**+0.3**
	baz=38								
TAP1				S			**Sb**	**18 37 53.9**	**-0.4**
	baz=38								
TWS1	**Kuangyinshan**	**0.49**	**23**	*i* P			**Pb**	**18 37 47.3**	**0.0**
	baz=35								
TWS1				S			**Sb**	**18 37 54.7**	**+0.1**
	baz=35								
TWQ1	**Liyutan**	**0.50**	**233**	⇓ *i*P			**Pg**	**18 37 46.8**	**+0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.74**	**262**	Pn	Pn	18 58 05.4	-0.2
	111nm,0.3s,baz=94,slow=3.4,SNR=39						
GUMO				Sn	Sn	18 58 26.7	-1.8
	76nm,0.3s,baz=338,slow=22,SNR=8.6						
KSRS	**Korea Array**	**28.82**	**328**	P	P	19 03 33.8	-0.3
	1.2nm,0.4s,baz=145,slow=9.4,SNR=7.7						
WRA	**Warramunga Arr**	**35.69**	**200**	P	P	19 04 34.0	-0.5
	0.6nm,0.8s,baz=21,slow=8.7,SNR=3.7						
ASAR	**Alice Springs**	**39.31**	**199**	P	P	19 05 05.2	+0.1
	0.2nm,0.7s,baz=8.3,slow=7.0,SNR=2.9						
CMAR	**Chiang Mai Arr**	**45.94**	**282**	P	P	19 05 59.4	+0.2
	0.6nm,0.5s,baz=74,slow=6.6,SNR=9.2						
SONM	**Songino Array**	**47.52**	**324**	P	P	19 06 12.0	+0.6
	1.0nm,0.8s,baz=132,slow=9.7,SNR=9.2						
ZALV	**Zalesovo Beam**	**62.42**	**324**	P	P	19 07 58.8	-0.1
	0.5nm,0.4s,baz=96,slow=7.7,SNR=4.1						
MKAR	**Makanchi Array**	**62.50**	**316**	P	P	19 07 59.6	-0.1
	0.5nm,0.5s,baz=90,slow=8.7,SNR=15						
KURBB	**Kurchatov Arra**	**65.54**	**320**	P	P	19 08 19.1	-0.4
	1.1nm,0.5s,baz=100,slow=6.8,SNR=15						
ILAR	**Eielson Array**	**67.60**	**25**	P	P	19 08 32.5	+0.1
	1.5nm,1.1s,baz=262,slow=5.1,SNR=6.9						
FINES	**FINESS Array B**	**91.65**	**336**	P	P	19 10 42.1	-0.9
	2.0nm,0.9s,baz=64,slow=3.2,SNR=3.0						
DBIC	**Dimbokro**	**145.13**	**304**	PKPbc	PKPdf	19 17 14.5	-0.2
	3.0nm,0.8s,baz=44,slow=9.1,SNR=4.5						

IDC 24 18:59:29.4±2.4,5.81S×130.50E,h0km,mb3.4/1, mb1 3.6/4,mb1mx3.4/17,mbtmp3.5/4,ML3.6/2,Error ellipse: s-maj=102.6km s-min=28.9km az=78.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.11**	**201**	Pn	Pn	19 02 36.3	-0.6
	0.2nm,0.3s,baz=24,slow=12,SNR=14						
FITZ				Sn	Sn	19 04 45.7	-18
	0.2nm,0.3s,baz=319,slow=20,SNR=2.9						
WRA	**Warramunga Arr**	**14.53**	**165**	Pn	Pn	19 02 56.3	-0.2
	0.3nm,0.3s,baz=350,slow=13,SNR=22						
WRA				Sn	Sn	19 05 24.2	-14
	0.4nm,0.3s,baz=338,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**18.05**	**170**	Pn	P	19 03 42.4	+0.1
	0.1nm,0.3s,baz=346,slow=11,SNR=16						
ASAR				Sn	Sn	19 06 50.8	-13
	0.1nm,0.3s,baz=351,slow=25,SNR=4.2						
MKAR	**Makanchi Array**	**67.51**	**326**	P	P	19 10 27.5	0.0
	0.3nm,0.7s,baz=124,slow=6.3,SNR=3.9						

IDC 24 19:02:22.5±4.1,25.65N×94.49E,h0km,mb3.2/3, mb1 3.5/3,mb1mx3.1/25,mbtmp3.2/3,Error ellipse: s-maj=375.3km s-min=27.3km az=60.0,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.36**	**269**	*e*PN	Pg	19 03 11.0	+3.0
SHL				*e*SN	Sg	19 03 44.0	+5.2
MKAR	**Makanchi Array**	**23.23**	**338**	P	P	19 07 31.2	0.0
	0.1nm,0.6s,baz=147,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**59.61**	**136**	P	P	19 12 28.2	-0.2
	0.4nm,0.5s,baz=323,slow=7.4,SNR=8.4						
ASAR	**Alice Springs**	**62.13**	**139**	P	P	19 12 45.7	+0.1
	0.3nm,0.8s,baz=328,slow=7.4,SNR=3.2						

WEL 24 19:24:48.9±0.1,39.35S×176.79E,h41km±1km,ML3.6/12, 22C-13D,Error ellipse: s-maj=0.9km s-min=0.6km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCHZ	**McNeill Hill**	**0.12**	**218**	⇑PN	Pn	19 24 55.1	-0.7
MCHZ				SN	Sn	19 25 00.9	+0.4
NMHZ	**Naumai**	**0.25**	**2**	⇓PN	Pn	19 24 55.9	-0.9
NMHZ				SN	Sn	19 25 01.7	-0.6
BKZ	**Black Stump Fm**	**0.29**	**307**	⇓PN	Pn	19 24 55.5	-1.7
BKZ				SN	Sn	19 25 01.3	-1.8
CKHZ	**Cape Kidnapper**	**0.38**	**145**	⇑PN	Pn	19 24 58.8	+0.6
CKHZ				SN	Sn	19 25 07.5	+2.8
KAHZ	**Kahuranaki**	**0.45**	**172**	⇑PN	Pn	19 24 59.6	+0.5
RAHZ	**Arahi**	**0.48**	**28**	⇑PN	Pn	19 24 59.1	-0.4
RAHZ				SN	Sn	19 25 07.5	+0.5
BHHZ	**Black Hill Sta**	**0.58**	**256**	⇓PN	Pn	19 24 59.9	-1.1
PXZ	**Pawanui**	**0.69**	**176**	⇓PN	Pn	19 25 02.2	0.0
HATZ	**Hinemaiaia**	**0.71**	**309**	PN	Pn	19 25 01.8	-0.8
PNHZ	**Pukenui**	**0.73**	**219**	⇓PN	Pn	19 25 02.7	-0.2
PNHZ				SN	Sn	19 25 14.2	+1.3
KNZ	**Kokohu**	**0.76**	**65**	PN	Pn	19 25 03.0	-0.1
WPHZ	**Waipukurau**	**0.77**	**201**	PN	Pn	19 25 03.3	-0.1
MOVZ	**Moawhango**	**0.81**	**265**	⇓PN	Pn	19 25 03.5	-0.5
RITZ	**Rihia Road**	**0.81**	**296**	PN	Pn	19 25 03.9	-0.1
ALRZ	**Allen Road**	**0.86**	**336**	⇑PN	Pn	19 25 04.0	-0.6
MHGZ	**Mahia Peninsul**	**0.89**	**78**	⇑PN	Pn	19 25 05.1	+0.2
TUVZ	**Tukino**	**0.89**	**275**	⇑PN	Pn	19 25 05.1	0.0
OTVZ	**Oturere**	**0.90**	**281**	⇑PN	Pn	19 25 05.1	-0.2
PRRZ	**Plateau Road**	**0.90**	**340**	⇑PN	Pn	19 25 04.6	-0.6
RATZ	**Rangitukua**	**0.93**	**301**	PN	Pn	19 25 05.2	-0.4
WNVZ	**Wahianoa**	**0.93**	**271**	⇑PN	Pn	19 25 05.7	-0.1
PRHZ	**Porangahau**	**0.93**	**188**	⇓PN	Pn	19 25 05.2	-0.3
KRVZ	**Karewarewa**	**0.93**	**285**	⇑PN	Pn	19 25 05.3	-0.4
KATZ	**Kakaramea**	**0.93**	**293**	⇓PN	Pn	19 25 05.4	-0.3
WHTZ	**Whakaora**	**0.94**	**316**	⇓PN	Pn	19 25 05.5	-0.3
NGZ	**Ngauruhoe**	**0.94**	**280**	⇑PN	Pn	19 25 05.7	-0.2
PRGZ	**Paritu Road**	**0.95**	**64**	⇓PN	Pn	19 25 05.6	-0.2
TSZ	**Takapari Road**	**0.96**	**222**	⇓PN	Pn	19 25 05.5	-0.5
WTVZ	**West Tongariro**	**0.96**	**283**	⇑PN	Pn	19 25 05.9	-0.2
FWVZ	**Far West T-bar**	**0.97**	**275**	PN	Pn	19 25 06.0	-0.4
TRVZ	**Turoa**	**0.97**	**272**	⇑PN	Pn	19 25 06.1	-0.2
WPVZ	**Whakapapa**	**0.98**	**278**	⇑PN	Pn	19 25 06.2	-0.2
MTVZ	**Mangateitei**	**1.03**	**267**	⇑PN	Pn	19 25 06.9	-0.1
RRRZ	**Republican Roa**	**1.03**	**348**	⇓PN	Pn	19 25 06.4	-0.5
HRRZ	**Handcock Road**	**1.03**	**337**	⇑PN	Pn	19 25 06.6	-0.4
WATZ	**Wairara**	**1.04**	**307**	⇑PN	Pn	19 25 06.3	-0.8
DVHZ	**Dannevirke**	**1.07**	**207**	PN	Pn	19 25 06.7	-0.8
TWVZ	**Taurewa**	**1.09**	**284**	PN	Pn	19 25 07.2	-0.7
URZ	**Urewera**	**1.11**	**13**	⇑PN	Pn	19 25 07.5	-0.6
TARZ	**Mount Tarawera**	**1.13**	**348**	⇑PN	Pn	19 25 08.1	-0.4
MWZ	**Matawai**	**1.16**	**30**	⇑PN	Pn	19 25 08.5	-0.2
MKRZ	**Makatiti**	**1.23**	**348**	PN	Pn	19 25 09.6	-0.1
EDRZ	**Edgecumbe**	**1.24**	**358**	⇑PN	Pn	19 25 09.4	-0.5
POWZ	**Post Office Ro**	**1.31**	**217**	PN	Pn	19 25 10.1	-0.7
MARZ	**Manawahe**	**1.36**	**356**	PN	Pn	19 25 10.9	-0.6
CNGZ	**Carnagh Statio**	**1.40**	**52**	PN	Pn	19 25 11.9	0.0
BFZ	**Birch Farm**	**1.40**	**197**	PN	Pn	19 25 10.8	-1.2
WAZ	**Wanganui**	**1.46**	**253**	PN	Pn	19 25 13.9	+1.1
OPRZ	**Ohinepanea**	**1.51**	**353**	PN	Pn	19 25 12.9	-0.6
TIWZ	**Tintock**	**1.59**	**206**	PN	Pn	19 25 13.5	-1.2
MRZ	**Mangatainoka R**	**1.61**	**215**	⇓PN	Pn	19 25 13.5	-1.4
HIZ	**Hauiti**	**1.73**	**298**	⇑PN	Pn	19 25 15.9	-0.6
HOWZ	**Holdsworth Sta**	**1.83**	**212**	PN	Pn	19 25 16.1	-1.9
TMWZ	**Te Maipa**	**1.89**	**201**	PN	Pn	19 25 16.9	-1.8
OGWZ	**Otaki Gorge**	**1.93**	**220**	PN	Pn	19 25 17.6	-1.6
MTW	**Mount Morrison**	**2.06**	**208**	PN	Pn	19 25 18.9	-2.2
KIW	**Kapiti Island**	**2.09**	**223**	PN	Pn	19 25 19.9	-1.6
MXZ	**Matakaoa Point**	**2.14**	**34**	PN	Pn	19 25 22.0	-0.1
PKE	**Pukeiti**	**2.18**	**273**	PN	Pn	19 25 23.6	+0.8
CAW	**Cannon Point**	**2.20**	**216**	PN	Pn	19 25 20.7	-2.3
TRWZ	**Traveller**	**2.22**	**202**	PN	Pn	19 25 20.8	-2.4
PAWZ	**Paruwai Farm**	**2.29**	**207**	PN	Pn	19 25 21.7	-2.5
PLWZ	**Palliser**	**2.51**	**207**	PN	Pn	19 25 24.2	-3.2
TCW	**Tory Channel**	**2.68**	**225**	PN	Pn	19 25 27.3	-2.3
THZ	**Tophouse**	**3.82**	**230**	PN	Pn	19 25 43.1	-2.2

*ISCJB **24** 19:27:40.8±0.5, 13.78N±0.05×120.51E±0.07, h120km, mb3.7/7, Error ellipse: s-maj=9.3km s-min=6.6km az=177.7*

*MAN **24** 19:27:41, 13.81N×120.50E, h109km, mb4.2, ML3.0, MS2.8*

*IDC **24** 19:27:41.9±0.6, 13.85N×120.93E, h124km±5km, mb3.4/7, mb1 3.5/7, mb1mx3.3/23, mbtmp3.4/7, Error ellipse: s-maj=39.6km s-min=11.9km az=70.0*

ISC 24 19:27:41.8±0.7, 13.78N±0.05×120.53E±0.07, h120km, n19, σ1§17/26, mb3.9/7, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.28**	**262**	*e*P	Pn	19 27 58.3	-0.4
LUBP				*e*S	Sn	19 28 10.5	-0.9
TGY	**Tagaytay City**	**0.51**	**50**	⇓*i*P	Pn	19 28 00.3	+0.4
TGY	**Tagaytay City**	**0.51**	**50**	P	Pn	19 28 00.4	+0.4
	434nm,0.3s,baz=225,slow=5.0,SNR=21						
TGY				S	Sn	19 28 13.5	0.0
	2µm,0.3s,baz=0.0,slow=20,SNR=90						
BOAC	**Boac**	**1.31**	**104**	*e*P	Pn	19 28 07.5	+0.4
BOAC				*e*S	Sn	19 28 25.9	-0.4
PCPH	**Palayan**	**1.86**	**17**	⇓*e*P	Pn	19 28 12.4	-1.1
PCPH				*e*S	Sn	19 28 35.9	-1.8
OTRP	**Odiongan**	**2.02**	**134**	*e*P	Pn	19 28 15.4	-0.2
SCZP	**Santa Cruz**	**2.08**	**343**	*e*P	Pn	19 28 14.8	-1.5
BALP	**Baler**	**2.20**	**27**	*e*P	Pn	19 28 18.6	+0.8
ENPP	**El Nido**	**2.77**	**203**	*i* P	Pn	19 28 25.6	+0.4
CUYO	**Cuyo Island**	**2.95**	**171**	*e*P	Pn	19 28 27.2	-0.2
CAUP	**Cauayan**	**3.39**	**21**	*e*P	Pn	19 28 34.9	+1.7
PALP	**Palanan**	**3.74**	**29**	*e*P	Pn	19 28 37.9	0.0
CMAR	**Chiang Mai Arr**	**21.25**	**286**	P	P	19 32 22.1	+3.4
	0.9nm,0.8s,baz=94,slow=6.8,SNR=8.3						
SONM	**Songino Array**	**35.94**	**344**	P	P	19 34 31.0	+0.2
	1.6nm,0.6s,baz=162,slow=10.0,SNR=22						
WRA	**Warramunga Arr**	**36.16**	**158**	P	P	19 34 30.7	-2.1
	0.2nm,0.5s,baz=343,slow=8.7,SNR=5.6						
WRA				pP	pP	19 34 58.3	-1.2
	0.4nm,0.7s,baz=333,slow=9.9,SNR=2.4						
ASAR	**Alice Springs**	**39.44**	**161**	P	P	19 35 00.5	+0.1
	0.2nm,0.3s,baz=336,slow=7.4,SNR=6.6						
ASAR				pP	pP	19 35 27.6	+0.2
	0.4nm,0.6s,baz=339,slow=7.0,SNR=3.5						
ASAR				sP	sP	19 35 41.3	+0.2
	0.4nm,0.6s,baz=345,slow=6.0,SNR=2.5						
MKAR	**Makanchi Array**	**45.88**	**324**	P	P	19 35 53.2	+1.1
	1.5nm,0.6s,baz=137,slow=9.1,SNR=21						
ZALV	**Zalesovo Beam**	**48.92**	**333**	P	P	19 36 15.3	-0.2
	1.3nm,0.3s,baz=126,slow=6.2,SNR=9.9						
ARCES	**ARCESS Array B**	**78.96**	**339**	P	P	19 39 31.3	-0.6
	1.6nm,0.7s,baz=83,slow=7.4,SNR=5.9						

IDC 24 19:34:13.2±2.3,23.05S×170.20E,h0km,mb3.5/3, mb1 3.6/4,mb1mx3.6/17,mbtmp3.5/4,ML3.4/1,Error ellipse: s-maj=77.3km s-min=37.0km az=172.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.61**	**285**	*e*P	Pn	19 35 12.0	+1.5
DZM				*e*S	Sn	19 35 52.3	-1.7
DZM	**Mont Dzumac**	**3.61**	**285**	Pn	Pn	19 35 12.2	+1.7
	3.1nm,0.3s,baz=100,slon=21,SNR=18						
DZM				Sn	Sn	19 35 54.0	0.0
	1.5nm,0.3s,baz=356,slow=19,SNR=2.9						
ASAR	**Alice Springs**	**33.28**	**262**	P	P	19 40 52.5	-0.1
	0.4nm,0.5s,baz=84,slow=9.0,SNR=7.7						
WRA	**Warramunga Arr**	**33.46**	**268**	P	P	19 40 53.3	-1.0
	0.5nm,1.0s,baz=100,slow=8.8,SNR=6.4						
SONM	**Songino Array**	**90.79**	**323**	P	P	19 47 19.2	+0.8
	0.1nm,0.3s,baz=108,slow=4.7,SNR=3.8						
GERES	**GERESS Array B**	**148.24**	**330**	PKPbc	PKPbc	19 54 00.0	-1.3
	0.4nm,0.7s,baz=28,slow=2.3,SNR=4.7						

IDC 24 19:36:39.1±7.3,30.77S×178.88W,h0km,mb3.5/2, mb1 3.7/2,mb1mx3.6/16,mbtmp3.5/2,MS3.4/1,Ms1 3.4/1, ms1mx2.6/12,Error ellipse: s-maj=298.2km s-min=61.6km az=157.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.33**	**268**	P	P	19 44 34.6	-0.4
	0.1nm,0.4s,baz=108,slow=7.4,SNR=4.6						
WRA	**Warramunga Arr**	**43.35**	**273**	P	P	19 44 43.3	0.0
	0.4nm,0.3s,baz=111,slow=8.1,SNR=27						
GUMO	**Guam**	**56.21**	**316**	LR	LR	20 04 33.4	
	comp=Z,37nm,21.3s,baz=112,slow=30						
FINES	**FINESS Array B**	**145.22**	**339**	PKPbc	PKPbc	19 56 16.8	-0.8
	2.6nm,1.0s,baz=56,slow=2.5,SNR=3.8						

IDC 24 19:47:14.4±8.0,32.46N×80.45E,h0km,mb3.2/3, mb1 3.4/4,mb1mx3.2/26,mbtmp3.3/4,ML2.7/1,Error ellipse: s-maj=175.1km s-min=29.9km az=68.0,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.39**	**5**	Pn	Pn	19 50 37.6	-1.8
	0.0nm,0.3s,baz=182,slow=11,SNR=3.6						
CMAR	**Chiang Mai Arr**	**21.70**	**125**	P	P	19 52 07.2	0.0
	1.0nm,0.8s,baz=307,slow=11,SNR=11						
ZALV	**Zalesovo Beam**	**21.71**	**7**	P	P	19 52 06.9	0.0
	0.6nm,0.4s,baz=187,slow=11,SNR=2.9						
SONM	**Songino Array**	**24.92**	**44**	P	P	19 52 39.4	0.0
	0.4nm,1.0s,baz=232,slow=4.7,SNR=3.6						

*IDC **24** 19:50:06.2±2.2,23.22S×171.14E, h0km, mb3.9/5, mb1 4.2/6, mb1mx4.0/16, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=101.4km s-min=27.4km az=165.0*

*ISCJB **24** 19:50:09.7±0.7,23.05±0.1×170.98E±0.06, h31km, mb4.1/9, Error ellipse: s-maj=18.9km s-min=7.6km az=179.9*

*NOU **24** 19:50:09.3±1.9,20.32S×170.85E, h10km±999km, MD3.3, ML2.3, MS2.9*

*NEIC **24** 19:50:12.4±2.1,22.95S×170.96E, h38km±17km, mb4.5/3, Error ellipse: s-maj=28.9km s-min=14.6km az=166.0*

ISC 24 19:50:11.6±0.8,23.05±0.2×170.98E±0.07, h31km, n37, σ1§33/42, mb4.0/9, 3C-1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NORM	**Noumea**	**4.22**	**279**	*e*P	Pn	19 51 14.1	+0.3
DZM	**Mont Dzumac**	**4.29**	**281**	*e*P	Pn	19 51 14.9	0.0
DZM				*e*S	Sn	19 52 01.1	-2.8
DZM				AMP		19 52 12.3	
	comp=Z,436nm,12.0s						
DZM	**Mont Dzumac**	**4.29**	**281**	*e*Pn	Pn	19 51 14.7	-0.2
DZM				Sn	Sn	19 52 04.9	+1.0
DZM	**Mont Dzumac**	**4.29**	**281**	Pn	Pn	19 51 15.1	+0.3
	comp=Z,5.0nm,0.3s,baz=207,slon=21,SNR=42						
DZM				Sn	Sn	19 52 04.9	+1.0
	comp=Z,5.9nm,0.3s,baz=110,slon=18,SNR=4.1						
NOUC	**Port Laguerre**	**4.41**	**280**	*e*P	Pn	19 51 15.8	-0.7
NOUC				*e*S	Sn	19 52 07.3	+0.6
NOUC				AMP		19 52 13.2	
	comp=Z,11nm,1.7s						
MSVF	**Nonsavu**	**8.43**	**53**	*e*Pn	Pn	19 52 13.0	+1.3
	comp=Z,65nm,1.4s						
HNR	**Honiara**	**17.11**	**320**	Pn	Pn	19 54 07.9	-0.7
ASAR	**Alice Springs**	**33.99**	**261**	P	P	19 56 53.0	+0.2
ASAR	**Alice Springs**	**33.99**	**261**	P	P	19 56 53.0	+0.2
	comp=Z,0.8nm,0.7s,baz=94,slow=10,SNR=12						
WRAB	**Tennant Creek**	**34.17**	**268**	P	P	19 56 53.2	-1.2
	comp=Z,2.3nm,0.8s						
WRA	**Warramunga Arr**	**34.18**	**268**	P	P	19 56 53.8	-0.7
WRA	**Warramunga Arr**	**34.18**	**268**	P	P	19 56 53.8	-0.7
	comp=Z,0.3nm,0.4s,baz=98,slow=8.8,SNR=17						
QSPA	**South Pole Qui**	**67.11**	**180**	*e*P	P	20 01 01.8	-0.3
	comp=Z,19nm,1.3s						
CMAR	**Chiang Mai Arr**	**81.50**	**294**	P	P	20 02 28.8	+2.3
CMAR	**Chiang Mai Arr**	**81.50**	**294**	P	P	20 02 28.8	+2.3
	comp=Z,0.9nm,0.8s,baz=141,slow=4.4,SNR=7.3						
CHTO	**Chiang Mai**	**81.67**	**294**	*e*P	P	20 02 29.6	+2.3
	comp=Z,5.3nm,1.1s						
NVAR	**Mina Array Bea**	**90.06**	**48**	P	P	20 03 08.3	-0.5
NVAR	**Mina Array Bea**	**90.06**	**48**	P	P	20 03 08.3	-0.5
	comp=Z,1.5nm,0.7s,baz=228,slow=8.6,SNR=12						
SONM	**Songino Array**	**91.15**	**323**	P	P	20 03 13.7	+0.2
SONM	**Songino Array**	**91.15**	**323**	P	P	20 03 13.7	+0.2
	comp=Z,0.7nm,0.8s,baz=126,slow=3.7,SNR=6.6						
ILAR	**Eielson Array**	**93.30**	**17**	P	P	20 03 19.9	-2.9
ILAR	**Eielson Array**	**93.30**	**17**	P	P	20 03 19.9	-2.9
	comp=Z,0.4nm,0.9s,baz=245,slow=5.8,SNR=4.1						
KOLS	**Kolonicke sedl**	**144.19**	**324**	*e*PKP	PKPab	20 09 42.1	0.0
CRVS	**Cervenica-Dubn**	**144.65**	**325**	*e*PKP	PKPab	20 09 42.7	-1.1
OKC	**Ostrava-Krasne**	**145.75**	**328**	*e*PKP	PKPab	20 09 48.2	+0.5
DPC	**Dobruska-Polom**	**146.25**	**330**	*e*PKP	PKPab	20 09 49.7	0.0
DPC				*e*pPKP	pPKPdf	20 09 59.5	+1.4
VYHS	**Vyhne**	**146.27**	**326**	*e*PKP	PKPab	20 09 53.6	+3.8
UPC	**Upice**	**146.28**	**331**	*e*PKP	PKPab	20 09 50.0	+0.2
BRG	**Berggiesshubel**	**146.91**	**333**	*e*P	PKPbc	20 09 51.0	+0.3
	comp=Z,6.6nm,0.9s						
CLL	**Collm**	**146.96**	**334**	⇓*i*PKPbc	PKPbc	20 09 51.0	+0.1
	comp=Z,6.0nm,0.8s						
CLL				⇑*i*(PKiKP)		20 09 52.5	
	comp=Z,7.0nm,0.7s						
PRU	**Pruhonice**	**147.31**	**331**	*e*PKP	PKPbc	20 09 52.4	+0.5
KHC	**Kasperske Hory**	**148.37**	**331**	*e*PKPbc	PKPbc	20 09 54.0	-0.9
KHC	**Kasperske Hory**	**148.37**	**331**	*e*PKP	PKPbc	20 09 55.3	+0.4
KHC				*ex*	x	20 09 58.5	
GERES	**GERESS Array B**	**148.52**	**331**	PKPbc	PKPbc	20 09 55.2	-0.1
GERES	**GERESS Array B**	**148.52**	**331**	PKPbc	PKPbc	20 09 55.2	-0.1
	comp=Z,1.4nm,0.7s,baz=48,slow=2.0,SNR=12						
MOA	**Molln**	**148.97**	**329**	⇑*i*PKPbc	PKPbc	20 09 56.1	-0.3
	comp=Z,2.5nm,1.1s						
FETA	**Feichten**	**151.21**	**331**	⇑*i*PKPbc	PKPbc	20 10 00.5	-1.5
	comp=Z,6.7nm,1.1s						

*ISK **24** 20:08:06.8, 38.54N×37.38E, h6km, MD2.8*

*ISCJB **24** 20:08:07.9±0.7, 38.55N±0.04×37.37E±0.04, h5km±6km, Error ellipse: s-maj=7.5km s-min=5.2km az=12.6*

*DDA **24** 20:08:08.6, 38.52N×37.41E, h7km, MD2.8*

*CSEM **24** 20:08:08.6±0.2, 38.50N×37.40E, h20km, MD2.8, Error ellipse: s-maj=8.1km s-min=4.7km az=4.0*

ISC 24 20:08:08.1±1.3, 38.54N±0.04×37.39E±0.03, h7km±11km, n16, σ0§89/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.48**	**121**	*i* P	Pg	20 08 17.8	+0.2
AKCD				*i* S	Sb	20 08 25.9	-0.6
AKCD	**Akcadag**	**0.48**	**121**	*i* P	Pg	20 08 17.8	+0.2
AKCD				*i* S	Sb	20 08 25.9	-0.6
DARE	**Darende-Malaty**	**0.52**	**38**	PG	Pg	20 08 09.5	-8.8
DARE				*e*SG	Sg	20 08 10.9	-14
PINB	**Pinarbasi**	**0.79**	**280**	*i* P	Pg	20 08 23.7	+0.4
PINB				*i* S	Sb	20 08 36.5	+1.2
PINB	**Pinarbasi**	**0.79**	**280**	*i* P	Pg	20 08 23.7	+0.4
PINB				*i* S	Sb	20 08 36.5	+1.2
MYA	**Malataya**	**0.84**	**105**	*e*PG	Pg	20 08 23.6	-0.7
MYA				*e*SG	Sg	20 08 35.7	+0.5
MYA	**Malataya**	**0.84**	**105**	*e*Pg	Pg	20 08 23.6	-0.7
MYA				*e*Sg	Sg	20 08 35.7	+0.5
KMRS	**Kahramanmaras**	**1.11**	**201**	*e*PN	Pg	20 08 28.3	-1.1
KMRS	**Kahramanmaras**	**1.11**	**201**	*e*Pn	Pg	20 08 28.3	-1.1
KEMA	**Kemaliye**	**1.12**	**50**	*i* P	Pg	20 08 29.3	-0.4
KEMA				*i* S	Sn	20 08 46.6	+0.4
KEMA	**Kemaliye**	**1.12**	**50**	*i* P	Pg	20 08 29.3	-0.4
KEMA				*i* S	Sn	20 08 46.6	+0.4
GZT	**Gaziantep**	**1.20**	**173**	*i* P	Pn	20 08 33.5	+2.1
GZT				*i* S	Sb	20 08 47.2	+0.3
BNN	**Bunyan**	**1.25**	**285**	*e*PN	Pn	20 08 30.9	-1.2
BNN				*e*SN	Sb	20 08 48.4	-0.1
BNN	**Bunyan**	**1.25**	**285**	*e*Pn	Pn	20 08 30.9	-1.2
BNN				*e*Sn	Sb	20 08 48.4	-0.1
KOZT	**Kozan**	**1.63**	**230**	*e*PN	Pn	20 08 36.5	-0.8
KOZT	**Kozan**	**1.63**	**230**	*e*Pn	Pn	20 08 36.5	-0.8

IDC 24 20:13:30.5±2.1,40.78N×126.96W,h0km,mb3.3/4, mb1 3.8/7,mb1mx3.5/29,mbtmp3.6/7,ML3.7/3,Error ellipse: s-maj=31.9km s-min=14.3km az=34.0,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YBH	**Yreka Blue Hor**	**3.34**	**72**	Pn	Pn	20 14 24.1	0.0
	7.8nm,0.3s,baz=270,slow=8.5,SNR=57						
YBH				Sn	Sn	20 15 04.9	+0.2
	3.1nm,0.3s,baz=137,slow=9.5,SNR=9.1						
NVAR	**Mina Array Bea**	**7.08**	**107**	Pn	Pn	20 15 16.0	+0.3
	0.3nm,0.3s,baz=282,slow=14,SNR=5.9						
NVAR				Sn	Sn	20 16 38.5	+1.4
	0.8nm,0.3s,baz=28,slow=44,SNR=5.3						
BBB	**Bella Bella**	**11.44**	**356**	Pn	Pn	20 16 15.7	+0.6
	0.2n

PNCL					*e*Sn		**Sn**	**20 17 51.5 -0.7**
	2.2nm,0.1s							
MESJ	**Messejana**	**6.13**	**74**	*e*S			**Sn**	**20 17 58.5 +1.9**
MESJ					AML		AML	20 17 59.0
	comp=N,2.3nm,0.2s							
MESJ	**Messejana**	**6.13**	**74**	S			**Sn**	**20 17 58.5 +1.9**
MESJ				S			**Sn**	**20 17 58.5 +1.9**
MESJ	**Messejana**	**6.13**	**74**	*e*S			**Sn**	**20 17 58.5 +1.9**
PCVE	**Castro Verde**	**6.23**	**76**	*e*Pn			Pn	20 16 52.9 +5.0
PCVE				*e*Sn			**Sn**	**20 17 59.5 +0.3**
PCVE				A			A	20 18 04.5
	comp=N,1.6nm,0.2s							
PCVE	**Castro Verde**	**6.23**	**76**	P			Pn	20 16 52.9 +5.0
PCVE				S			**Sn**	**20 17 59.5 +0.3**
	comp=N,1.6nm,0.2s							
PCVE	**Castro Verde**	**6.23**	**76**	P			Pn	20 16 52.9 +5.0
PCVE				S			**Sn**	**20 17 59.5 +0.3**
	comp=N,1.6nm,0.2s							
PBDV	**Barranco-do-Ve**	**6.27**	**80**	*e*Sn			**Sn**	**20 18 02.5 +2.4**
PBDV				A			A	20 18 09.9
	comp=N,1.9nm,0.3s							
PBDV	**Barranco-do-Ve**	**6.27**	**80**	S			**Sn**	**20 18 02.5 +2.4**
	comp=N,1.9nm,0.3s							
PBDV	**Barranco-do-Ve**	**6.27**	**80**	S			**Sn**	**20 18 02.5 +2.4**
	comp=N,1.9nm,0.3s							
PBEJ	**Beja**	**6.44**	**73**	*e*Sn			**Sn**	**20 18 05.0 +0.7**
PBEJ				A			A	20 18 08.7
	comp=N,1.7nm,0.2s							
PBEJ	**Beja**	**6.44**	**73**	S			**Sn**	**20 18 05.0 +0.7**
	comp=N,0.9nm,0.2s							
PBEJ	**Beja**	**6.44**	**73**	S			**Sn**	**20 18 05.0 +0.7**
	comp=N,0.9nm,0.2s							
PVAQ	**Vaqueiros**	**6.45**	**79**	*e*Pn			Pn	20 16 55.7 +4.7
PVAQ				*e*Sn			**Sn**	**20 18 05.6 +0.9**
PVAQ				A			A	20 18 11.8
	comp=N,2.7nm,0.3s							
PVAQ	**Vaqueiros**	**6.45**	**79**	P			Pn	20 16 55.7 +4.7
PVAQ				S			**Sn**	**20 18 05.6 +0.9**
	comp=N,2.7nm,0.3s							
PVAQ	**Vaqueiros**	**6.45**	**79**	P			Pn	20 16 55.7 +4.7
PVAQ				S			**Sn**	**20 18 05.6 +0.9**
	comp=N,2.7nm,0.3s							
PMTG	**Montargil**	**6.47**	**64**	*e*Pn			Pn	20 16 55.6 +4.4
PMTG				*e*Sn			**Sn**	**20 18 04.3 -0.9**
PMTG				A			A	20 18 09.1
	comp=N,1.7nm,0.1s							
PMTG	**Montargil**	**6.47**	**64**	*e*Pn			Pn	20 16 55.6 +4.4
PMTG				*e*Sn			**Sn**	**20 18 04.3 -0.9**
	comp=N,1.7nm,0.1s							
EGRO	**El Granado**	**6.65**	**78**	P			Pn	20 16 58.3 +4.6
	comp=N,1.1nm,0.3s,SNR=7.9							
EGRO				S			**Sn**	**20 18 10.1 +0.5**
	comp=N,3.7nm,0.4s,SNR=7.9							
EGRO	**El Granado**	**6.65**	**78**	P			Pn	20 16 58.3 +4.6
	comp=N,1.1nm,0.3s,SNR=7.9							
EGRO				S			**Sn**	**20 18 10.1 +0.5**
	comp=N,3.7nm,0.4s,SNR=7.9							
PESTR	**Estremoz**	**6.87**	**67**	*e*Sn			**Sn**	**20 18 14.1 -0.8**
PESTR				A			A	20 18 20.9
	comp=N,1.8nm,0.4s							
PESTR	**Estremoz**	**6.87**	**67**	S			**Sn**	**20 18 14.1 -0.8**
	comp=N,1.8nm,0.4s							
PESTR	**Estremoz**	**6.87**	**67**	S			**Sn**	**20 18 14.1 -0.8**
	comp=N,1.8nm,0.4s							
PBAR	**Barrancos**	**7.11**	**73**	*e*Pn			Pn	20 17 03.9 +4.0
PBAR				*e*Sn			**Sn**	**20 18 19.8 -0.9**
PBAR				A			A	20 18 26.4
	comp=N,1.2nm,0.2s							
PBAR	**Barrancos**	**7.11**	**73**	P			Pn	20 17 03.9 +4.0
PBAR				S			**Sn**	**20 18 19.8 -0.9**
	comp=N,1.2nm,0.2s							
PBAR	**Barrancos**	**7.11**	**73**	P			Pn	20 17 03.9 +4.0
PBAR				S			**Sn**	**20 18 19.8 -0.9**
	comp=N,1.2nm,0.2s							
PMRV	**Marv??o**	**7.21**	**63**	*e*Pn			Pn	20 17 04.9 +3.5
PMRV				*e*Sn			**Sn**	**20 18 21.1 -2.2**
PMRV				A			A	20 18 24.7
	comp=N,1.9nm,0.2s							
PMRV	**Marv??o**	**7.21**	**63**	P			Pn	20 17 04.9 +3.5
PMRV				S			**Sn**	**20 18 21.1 -2.2**
	comp=N,1.9nm,0.2s							
PMRV	**Marv??o**	**7.21**	**63**	P			Pn	20 17 04.9 +3.5
EBAD	**Badajoz**	**7.27**	**69**	P			Pn	20 17 05.7 +3.6
	comp=N,1.6nm,0.9s,SNR=4.5							
EBAD				S			**Sn**	**20 18 23.6 -1.1**
	comp=N,3.5nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**7.27**	**69**	P			Pn	20 17 05.7 +3.6
	comp=N,1.6nm,0.9s,SNR=4.5							
EBAD				S			**Sn**	**20 18 23.6 -1.1**
	comp=N,3.5nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**7.32**	**77**	P			Pn	20 17 06.7 +3.8
	comp=N,0.5nm,0.3s,SNR=7.9							
EMIN				S			**Sn**	**20 18 25.6 -0.5**
	comp=N,0.8nm,0.3s,SNR=5.5							
EMIN	**Mina Concepcio**	**7.32**	**77**	P			Pn	20 17 06.7 +3.8
	comp=N,0.5nm,0.3s,SNR=7.9							
EMIN				S			**Sn**	**20 18 25.6 -0.5**
	comp=N,0.8nm,0.3s,SNR=5.5							
CFUE	**Fuerteventura**	**7.87**	**169**	S			**Sn**	**20 18 35.6 -4.1**
	comp=N,3.1nm,0.3s,SNR=7.9							
ESPR	**Espera**	**7.91**	**84**	P			Pn	20 17 16.1 +5.2
	comp=N,0.7nm,0.1s,SNR=7.9							
ESPR				S			**Sn**	**20 18 40.8 +0.4**
	comp=N,3.6nm,0.4s,SNR=7.9							
ELOB	**Lobios**	**8.04**	**45**	P			**Pn**	**20 17 14.7 +1.8**
	comp=N,2.0nm,0.3s,SNR=8.9							
ELOB				S			**Sn**	**20 18 38.8 -5.2**
	comp=N,4.5nm,0.7s							
ELOB	**Lobios**	**8.04**	**45**	P			**Pn**	**20 17 14.7 +1.8**
	comp=N,2.0nm,0.3s,SNR=8.9							
MVO	**Moncorvo**	**8.25**	**52**	P			**Pn**	**20 17 17.5 +1.7**
	comp=N,0.4nm,0.2s,SNR=7.9							
MVO				S			**Sn**	**20 18 44.2 -4.9**
	comp=N,6.7nm,0.7s,SNR=7.9							
MVO	**Moncorvo**	**8.25**	**52**	P			**Pn**	**20 17 17.5 +1.7**
	comp=N,0.4nm,0.2s,SNR=7.9							
EMAZ	**Mazaricos**	**8.33**	**36**	P			**Pn**	**20 17 18.3 +1.6**
	comp=N,3.2nm,0.2s,SNR=5.3							
EMAZ				S			Sn	20 18 43.6 -7.2
	comp=N,4.4nm,0.6s							
EMAZ	**Mazaricos**	**8.33**	**36**	P			**Pn**	**20 17 18.3 +1.6**
	comp=N,3.2nm,0.2s,SNR=5.3							
EPLA	**Plasencia**	**8.39**	**61**	P			Pn	20 17 20.8 +3.3
	comp=N,0.5nm,0.2s,SNR=7.9							
EPLA				S			**Sn**	**20 18 49.5 -2.8**
	comp=N,1.1nm,0.4s,SNR=7.9							
EPLA	**Plasencia**	**8.39**	**61**	P			Pn	20 17 20.8 +3.3
	comp=N,0.5nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**8.87**	**49**	P			Pn	20 17 26.8 +2.6
	comp=N,6.6nm,0.6s,SNR=8.3							
ECAL				S			**Sn**	**20 18 59.3 -4.9**
	comp=N,8.1nm,0.8s							
ECAL	**Calabor**	**8.87**	**49**	P			Pn	20 17 26.8 +2.6
	comp=N,6.6nm,0.6s,SNR=8.3							
EADA	**Adamuz**	**9.02**	**75**	P			Pn	20 17 30.8 +4.6
	comp=N,0.3nm,0.1s,SNR=7.9							
EADA				S			**Sn**	**20 19 06.3 -1.5**
	comp=N,1.3nm,0.5s,SNR=7.9							
EPON	**Pontenova**	**9.52**	**41**	P			**Pn**	**20 17 34.4 +1.3**
	comp=N,0.6nm,0.2s,SNR=7.9							
EPON				S			Sn	20 19 13.0 -7.1
	comp=N,1.5nm,0.7s,SNR=7.9							
EPON	**Pontenova**	**9.52**	**41**	P			**Pn**	**20 17 34.4 +1.3**
	comp=N,0.6nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**9.97**	**61**	S			**Sn**	**20 19 27.1 -4.1**
	comp=N,1.1nm,0.5s,SNR=4.0							
EARI	**Arriondas**	**10.58**	**46**	P			**Pn**	**20 17 48.7 +1.1**
	comp=N,1.2nm,0.6s,SNR=4.0							
EARI	**Arriondas**	**10.58**	**46**	P			**Pn**	**20 17 48.7 +1.1**
	comp=N,1.2nm,0.6s,SNR=4.0							
ETOR	**Torete**	**11.53**	**63**	P			**Pn**	**20 18 03.1 +2.5**
	comp=N,0.4nm,0.3s,SNR=4.0							
ETOR				S			Sn	20 20 04.1 -5.4
	comp=N,6.4nm,2.2s,SNR=7.9							
ETOR	**Torete**	**11.53**	**63**	P			**Pn**	**20 18 03.1 +2.5**
	comp=N,0.4nm,0.3s,SNR=4.0							

MAN 24 20:32:51,8°39N×125°76E, h36km, mb4.0, ML2.7, MS2.4, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.59**	**347**	*e*P	Pn	20 33 05.4	+2.4
BUTP				*e*S	Sn	20 33 13.3	+1.9
BUKP	**Musuan**	**0.85**	**234**	*e*P	Pn	20 33 06.8	+0.3
BUKP				*e*S	Sn	20 33 19.9	+2.0
CGP	**Cagayan de Oro**	**1.05**	**274**	*i*P	Pn	20 33 09.8	+0.6
CGP				*i*S	Sn	20 33 22.9	+0.3
CGP	**Cagayan de Oro**	**1.05**	**274**	*e*P	Pn	20 33 09.8	+0.6
CGP				*i*S	Sn	20 33 22.9	+0.3
MSLP	**Maasin**	**1.95**	**333**	*e*P	Pn	20 33 21.5	0.0
TBP	**Tagbilaran**	**2.27**	**305**	*e*P	Pn	20 33 27.4	+1.4
TBP				*e*S	Sn	20 33 55.2	+2.4

IDC ***24*** *20:34:58.4±0.9, 51°.09N×169°.18W, h0km, mb3.7/9, mb1 4.0/11, mb1mx3.7/29, mbtmp3.7/11, ML3.8/2, Error ellipse: s-maj=31.6km s-min=18.0km az=171.0*
ISCJB ***24*** *20:35:03.3±1.3, 51°.13N±0°.08×169°.3W±0°.1, h44km±11km, mb3.9/15, Error ellipse: s-maj=13.6km s-min=11.3km az=149.0*
NEIC ***24*** *20:35:04.9±1.6, 51°.14N×169°.30W, h43km±12km, mb4.0/6, Error ellipse: s-maj=18.1km s-min=9.2km az=183.0*

ISC 24 20:35:04.6±0.9, 51°.1N±0°.2×169°.32W±0°.09, h39km±10km, n48, σ0°95/52, mb3.8/15, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**1.86**	**9**	*e*Pn	**Pn**	**20 35 32.3**	**-1.5**
NIKO				*e*Sn	**Sn**	**20 35 54.6**	**-1.5**
OKSO	**Okmok South**	**2.33**	**17**	P	**Pn**	**20 35 39.7**	**-0.7**
OKFG	**Magazine Ridge**	**2.43**	**20**	P	**Pn**	**20 35 41.1**	**-0.6**
OKFG				S	**Sn**	**20 36 10.8**	**+0.6**
MSOM	**Makushin Julie**	**3.04**	**28**	P	**Pn**	**20 35 50.5**	**+0.3**
MSW	**Makushin Switc**	**3.18**	**28**	P	**Pn**	**20 35 52.6**	**+0.5**
MSW				S	**Sn**	**20 36 29.5**	**+0.8**
UNV	**Unalaska Valle**	**3.21**	**31**	*e*Pn	**Pn**	**20 35 52.2**	**-0.2**
UNV				*e*Sn	**Sn**	**20 36 28.5**	**-0.8**
UNV				S		20 36 29.4	
MTBL	**Makushin Table**	**3.26**	**29**	P	**Pn**	**20 35 53.8**	**+0.6**
AKRB	**Akutan Reef Bi**	**3.59**	**32**	P	**Pn**	**20 35 58.2**	**+0.6**
AKRB				S	**Sn**	**20 36 40.5**	**+1.7**
AKLV	**Akutan Long Va**	**3.65**	**33**	P	**Pn**	**20 35 59.6**	**+1.0**
AHB	**Akutan Harbor**	**3.66**	**34**	P	**Pn**	**20 35 59.3**	**+0.6**
AKUT	**Akutan**	**3.69**	**34**	*e*Pn	**Pn**	**20 35 59.6**	**+0.5**
FALS	**False Pass**	**5.15**	**41**	P	**Pn**	**20 36 20.6**	**+1.5**
DT1	**Dutton Round H**	**5.81**	**44**	P	**Pn**	**20 36 29.4**	**+1.4**
DTNA	**Dutton South F**	**5.85**	**44**	P	**Pn**	**20 36 29.8**	**+1.2**
SDPT	**Sand Point**	**6.77**	**48**	*e*Pn	**Pn**	**20 36 42.1**	**+0.8**
KDAK	**Kodiak Island**	**11.77**	**49**	*e*Pn	**Pn**	**20 37 48.9**	**-0.8**
KDAK	**Kodiak Island**	**11.77**	**49**	Pn	**Pn**	**20 37 49.9**	**+0.2**
	1.6nm,0.3s,baz=251,slow=9.2,SNR=25						
ILAR	**Eielson Array**	**17.96**	**32**	P	**Pn**	**20 39 09.9**	**-1.0**
ILAR	**Eielson Array**	**17.96**	**32**	P	**Pn**	**20 39 09.9**	**-1.0**
	0.1nm,0.3s,baz=230,slow=11,SNR=6.7						
PETK	**Petropavlovsk-**	**20.25**	**288**	P	**P**	**20 39 37.1**	**+0.8**
PETK	**Petropavlovsk-**	**20.25**	**288**	P	**P**	**20 39 37.1**	**+0.8**
	3.3nm,0.7s,baz=79,slow=15,SNR=4.1						
SKAG	**Skagway**	**20.86**	**53**	P	**P**	**20 39 42.1**	**-0.6**
INK	**Inuvik**	**24.37**	**32**	P	**P**	**20 40 19.8**	**+1.3**
	1.4nm,0.6s						
PDAR	**Pinedale Array**	**40.62**	**78**	P	**P**	**20 42 39.2**	**-1.5**
PDAR	**Pinedale Array**	**40.62**	**78**	P	**P**	**20 42 39.2**	**-1.5**
	1.1nm,0.8s,baz=316,slow=4.1,SNR=7.3						
ULN	**Ulaanbaatar**	**51.59**	**301**	*e*P	**P**	**20 44 06.5**	**-0.3**
	0.9nm,0.6s						
SONM	**Songino Array**	**51.96**	**302**	P	**P**	**20 44 09.9**	**+0.4**
SONM	**Songino Array**	**51.96**	**302**	P	**P**	**20 44 09.9**	**+0.4**
	0.5nm,0.6s,baz=49,slow=5.7,SNR=14						
TXAR	**Lajitas Array**	**52.75**	**88**	P	**P**	**20 44 15.2**	**-0.4**
TXAR	**Lajitas Array**	**52.75**	**88**	P	**P**	**20 44 15.2**	**-0.4**
	0.6nm,0.6s,baz=312,slow=7.1,SNR=5.3						
ALLY	**Alegheny Colle**	**58.60**	**61**	P	P	20 44 52.9	-4.4
	33nm,0.6s						
KURK	**Kurchatov**	**63.31**	**319**	P	**P**	**20 45 28.5**	**-0.6**
	1.6nm,0.9s						
MKAR	**Makanchi Array**	**64.67**	**314**	P	**P**	**20 45 37.9**	**-0.2**
MKAR	**Makanchi Array**	**64.67**	**314**	P	**P**	**20 45 37.9**	**-0.2**
	0.4nm,0.8s,baz=49,slow=6.6,SNR=5.6						
BRVK	**Borovoye**	**64.73**	**325**	P	**P**	**20 45 37.0**	**-1.4**
NB2	**NORSAR Subarra**	**68.17**	**360**	P	**P**	**20 46 02.5**	**+2.3**
	comp=Z,0.6nm,0.6s,baz=3.8,slow=6.9						
NOA	**NORSAR Array B**	**68.17**	**360**	P	**P**	**20 46 01.0**	**+0.7**
NOA	**NORSAR Array B**	**68.17**	**360**	P	**P**	**20 46 01.0**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=3.6,slow=6.7,SNR=3.7						
AAK	**Ala-Archa**	**71.40**	**316**	*e*P	**P**	**20 46 21.6**	**+1.0**
	comp=Z,8.7nm,0.7s						
ABKAR	**Akbulak array**	**71.50**	**328**	*e*P	**P**	**20 46 21.7**	**+0.9**
	comp=Z,2.6nm,0.5s						
EKS2	**Erkin-Say**	**71.69**	**316**	*e*P	**P**	**20 46 23.2**	**+0.9**
	comp=Z,2.9nm,1.0s						
LSA	**Lhasa**	**73.02**	**296**	*e*P	**P**	**20 46 31.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**76.92**	**283**	P	**P**	**20 46 52.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**76.92**	**283**	P	**P**	**20 46 52.5**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=24,slow=6.9,SNR=5.0						
WRA	**Warramunga Arr**	**86.27**	**232**	P	**P**	**20 47 42.4**	**+0.3**
WRA	**Warramunga Arr**	**86.27**	**232**	P	**P**	**20 47 42.3**	**+0.3**
	comp=Z,0.3nm,0.9s,baz=50,slow=6.9,SNR=3.2						
ASAR	**Alice Springs**	**89.63**	**230**	P	**P**	**20 47 57.1**	**-0.9**
ASAR	**Alice Springs**	**89.63**	**230**	P	**P**	**20 47 57.1**	**-0.9**
	comp=Z,0.3nm,1.0s,baz=15,slow=6.3,SNR=4.2						

IDC 24 20:59:44.5±2.9, 4°.80S×102°.29E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/21, mbtmp3.8/7, Error ellipse: s-maj=129.0km s-min=17.4km az=57.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**23.35**	**352**	P	P	21 04 55.8	+1.1
	0.5nm,0.4s,baz=179,slow=7.9,SNR=3.5						
WRA	**Warramunga Arr**	**34.63**	**119**	P	P	21 06 35.1	-0.7
	0.5nm,0.8s,baz=300,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**35.77**	**125**	P	P	21 06 45.9	+0.2
	0.2nm,0.4s,baz=303,slow=7.6,SNR=2.8						
STKA	**Stephens Creek**	**45.59**	**131**	P	P	21 08 07.0	+0.4
	1.2nm,0.5s,baz=319,slow=9.3,SNR=5.5						
SONM	**Songino Array**	**52.54**	**3**	P	P	21 08 59.5	-0.2
	1.5nm,0.6s,baz=183,slow=8.9,SNR=25						
MKAR	**Makanchi Array**	**54.34**	**343**	P	P	21 09 13.2	+0.3
	1.7nm,0.7s,baz=146,slow=8.0,SNR=23						
ZALV	**Zalesovo Beam**	**60.34**	**348**	P	P	21 09 54.1	-1.0
	1.4nm,0.4s,baz=166,slow=4.4,SNR=14						

NEIC ***24*** *21:40:22.4, 19°.58N×66°.36W, h11km, MD3.5(RSPR), After RSPR.*

RSPR 24 21:40:22.4, 19°.58N×66°.36W, h11km±18km, MD3.5/3, 4C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**1.28**	**197**	*e*P	Pn	21 40 42.9	-3.4
AOPR				*e*S	Sb	21 40 59.0	-4.1
AOPR	**Arecibo Observ**	**1.28**	**197**	*i*P	Pn	21 40 42.9	-3.4
AOPR	**Arecibo Observ**	**1.28**	**197**	*e*P	Pn	21 40 42.9	-3.4
AOPR				*e*S	Sb	21 40 58.8	-4.2
CELP	**Cerrillos**	**1.51**	**188**	*e*P	Pn	21 40 46.5	-2.9
CELP	**Cerrillos**	**1.51**	**188**	*e*P	Pn	21 40 46.5	-2.9
LSP	**Las Mesas**	**1.55**	**206**	*e*P	Pn	21 40 47.2	-2.8
LSP	**Las Mesas**	**1.55**	**206**	*e*P	Pn	21 40 47.2	-2.8
MTP	**Monte Pirata**	**1.66**	**152**	*e*P	Pn	21 40 48.3	-3.1
MTP	**Monte Pirata**	**1.66**	**152**	*e*P	Pn	21 40 48.3	-3.1
MTP				*e*S	Sn	21 41 09.1	-3.7
CRPR	**Cabo Rojo, PR**	**1.72**	**204**	*e*P	Pn	21 40 49.9	-2.3
CRPR	**Cabo Rojo, PR**	**1.72**	**204**	*e*P	Pn	21 40 49.9	-2.3
CRPR				*e*S	Sn	21 41 10.8	-3.3

IDC 24 21:55:34.0±1.4, 1°.21N×126°.70E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=140.0km s-min=20.6km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.32**	**161**	P	P	22 00 32.5	-0.9
	0.7nm,0.4s,baz=339,slow=11,SNR=28						
ASAR	**Alice Springs**	**25.70**	**165**	P	P	22 01 06.8	+0.7
	0.5nm,0.3s,baz=345,slow=12,SNR=5.9						
SONM	**Songino Array**	**49.67**	**342**	P	P	22 04 27.7	0.0
	0.2nm,0.5s,baz=153,slow=8.7,SNR=3.5						
MKAR	**Makanchi Array**	**59.61**	**326**	P	P	22 05 39.7	-0.1
	0.5nm,0.4s,baz=119,slow=7.7,SNR=22						

IDC 24 22:23:21.2±60.0, 19°.22S×179°.30W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/17, mbtmp3.7/3, Error ellipse: s-maj=1093.0km s-min=148.2km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.27**	**242**	P	P	22 30 35.1	+0.2
	1.8nm,0.6s,baz=73,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**43.58**	**261**	P	P	22 31 27.6	+0.1
	0.1nm,0.3s,baz=97,slow=7.7,SNR=12						
ASAR	**Alice Springs**	**43.64**	**256**	P	P	22 31 27.1	-0.7
	0.5nm,0.5s,baz=95,slow=7.5,SNR=8.2						

IDC ***24*** *22:39:00.8±1.5, 53°.43N×165°.77W, h0km, mb3.6/8, mb1 3.7/10, mb1mx3.6/30, mbtmp3.6/10, ML3.4/2, Error ellipse: s-maj=37.8km s-min=17.8km az=167.0*
NEIC ***24*** *22:39:07.1, 53°.30N×165°.60W, h11km, ML3.5(AEIC), After AEIC.*

ISC 24 22:39:05.7±1.9, 53°.27N±0°.08×165°.66W±0°.05, h26km±14km, n30, σ0°54/26, mb3.8/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UNV	**Unalaska Valle**	**0.77**	**320**	P	**Pn**	**22 39 21.0**	**+0.2**
UNV				S	**Sn**	**22 39 31.7**	**+0.1**
MREP	**Makushin Rep't**	**0.85**	**311**	P	**Pn**	**22 39 22.8**	**+0.8**
ZRO	**Akutan Zero**	**0.85**	**347**	P	**Pn**	**22 39 22.0**	**0.0**
AKUT	**Akutan**	**0.87**	**356**	P	**Pb**	**22 39 22.1**	**-0.1**
AKUT				S	**Sn**	**22 39 34.4**	**+0.2**
AKA	**Akutan**	**0.87**	**356**	P	**Pn**	**22 39 22.4**	**+0.1**
AKA				S	**Sn**	**22 39 34.3**	**+0.1**
AKRB	**Akutan Reef Bi**	**0.90**	**344**	P	**Pn**	**22 39 22.8**	**+0.1**
AKLV	**Akutan Long Va**	**0.92**	**349**	P	**Pb**	**22 39 22.6**	**-0.3**
AKLV				S	**Sb**	**22 39 34.7**	**0.0**
MSOM	**Makushin Julie**	**0.95**	**306**	P	**Pb**	**22 39 23.6**	**+0.2**
AKGG	**Akutan Green G**	**0.95**	**348**	P	**Pn**	**22 39 23.6**	**+0.1**
AKGG				S	**Sn**	**22 39 37.0**	**+0.8**
MCIR	**Makushin Cirqu**	**1.00**	**314**	P	**Pb**	**22 39 24.9**	**+0.4**
OKFG	**Magazine Ridge**	**1.36**	**277**	P	**Pn**	**22 39 29.8**	**+0.8**
WESE	**West Dahl East**	**1.37**	**27**	P	**Pn**	**22 39 29.4**	**+0.3**
OKCE	**Okmok Cone E**	**1.51**	**277**	P	**Pb**	**22 39 32.6**	**-0.5**
OKRE	**Okmok R'deer P**	**1.52**	**281**	P	**Pb**	**22 39 32.9**	**-0.3**
BRPK	**Brown Peak**	**1.79**	**39**	P	**Pn**	**22 39 34.8**	**-0.2**
FALS	**False Pass**	**2.07**	**39**	P	**Pn**	**22 39 39.0**	**+0.3**
DRIA	**Deer Island**	**2.63**	**48**	P	**Pn**	**22 39 47.0**	**+0.6**
DT1	**Dutton Round H**	**2.71**	**46**	P	**Pn**	**22 39 48.2**	**+0.7**
PS4A	**Pavlof South-4**	**3.05**	**45**	P	**Pn**	**22 39 53.3**	**+1.0**
SDPT	**Sand Point**	**3.68**	**53**	P	**Pn**	**22 40 01.2**	**+0.3**
KDAK	**Kodiak Island**	**8.68**	**53**	Pn	Pn	22 41 07.6	-1.9
	0.7nm,0.3s,baz=17,slow=6.7,SNR=13						
KDAK				Sn	Sn	22 42 38.6	-7.8
	0.1nm,0.3s,baz=92,slow=7.8,SNR=2.5						
ILAR	**Eielson Array**	**14.96**	**32**	Pn	Pn	22 42 32.1	-3.1
	0.1nm,0.3s,baz=222,slow=12,SNR=3.7						
INK	**Inuvik**	**21.36**	**33**	P	P	22 43 46.7	-4.0
	0.3nm,0.3s,baz=260,slow=11,SNR=3.6						
PETK	**Petropavlovsk-**	**21.81**	**284**	P	**P**	**22 43 54.4**	**-1.2**
	2.0nm,0.7s,baz=84,slow=13,SNR=4.0						
TXAR	**Lajitas Array**	**50.51**	**93**	P	P	22 48 01.5	-0.1
	0.4nm,0.7s,baz=287,slow=6.5,SNR=3.9						
SONM	**Songino Array**	**52.75**	**302**	P	P	22 48 16.9	-1.3
	0.2nm,0.5s,baz=67,slow=4.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**58.25**	**319**	P	P	22 48 54.6	-2.8
	0.4nm,0.3s,baz=51,slow=8.6,SNR=4.1						
MKAR	**Makanchi Array**	**64.79**	**315**	P	P	22 49 39.4	-2.3
	0.8nm,0.6s,baz=48,slow=5.3,SNR=13						
FINES	**FINESS Array B**	**65.26**	**354**	P	P	22 49 41.7	-2.8
	1.6nm,1.0s,baz=352,slow=8.3,SNR=3.8						
CMAR	**Chiang Mai Arr**	**78.58**	**285**	P	P	22 51 03.6	-1.4
	0.5nm,0.3s,baz=0.0,slow=5.4,SNR=4.2						

ISCJB ***24*** *22:41:22.1±0.9, 19°.30N±0°.05×64°.87W±0°.04, h27km±9km, Error ellipse: s-maj=9.0km s-min=

THE ***24*** *22:44:41.9, 36°.95N×22°.23E, h8km±1km, ML3.0/5, Error ellipse: s-maj=1.9km s-min=0.9km az=155.0*
CSEM ***24*** *22:44:41.9±0.2, 36°.95N×22°.22E, h2km, MD3.5, Error ellipse: s-maj=4.3km s-min=3.5km az=165.0*
ISCJB ***24*** *22:44:42.0±0.7, 36°.95N±0°.04×22°.19E±0°.04, h9km±6km, Error ellipse: s-maj=6.3km s-min=5.2km az=165.7*
ATH ***24*** *22:44:42.1, 36°.96N×22°.19E, h14km, MD3.5/10*
ISC 24 22:44:41.5±1.3, 36°.97N±0°.03×22°.22E±0°.03, h11km±11km, n34, σ0°70/52, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.31**	**313**	*e*PB	**Pg**	**22 44 48.2**	**+0.4**
ITM				*e*SB	**Sb**	**22 44 53.2**	**-1.0**
ITM	**Ithomi**	**0.31**	**313**	*e*Pb	**Pg**	**22 44 48.2**	**+0.4**
ITM				*e*Sb	**Sb**	**22 44 53.2**	**-1.0**
PYL	**PYLOS**	**0.39**	**260**	P	**Pg**	**22 44 49.2**	**+0.1**
PYL				S	**Sb**	**22 44 55.5**	**-0.7**
PYL	**PYLOS**	**0.39**	**260**	*e*PB	**Pg**	**22 44 49.4**	**+0.3**
PYL	**PYLOS**	**0.39**	**260**	P	**Pg**	**22 44 49.2**	**+0.1**
PYL	**PYLOS**	**0.39**	**260**	*e*Pb	**Pg**	**22 44 49.4**	**+0.3**
PYL				S	**Sb**	**22 44 55.5**	**-0.7**
VLX	**Vlachokerasia**	**0.42**	**18**	P	**Pb**	**22 44 50.6**	**-0.4**
VLX				S	**Sb**	**22 44 57.1**	**-0.3**
VLX	**Vlachokerasia**	**0.42**	**18**	*e*PB	**Pb**	**22 44 50.8**	**-0.2**
VLX				*e*SB	**Sb**	**22 44 57.3**	**-0.1**
VLX	**Vlachokerasia**	**0.42**	**18**	P	**Pb**	**22 44 50.6**	**-0.4**
VLX	**Vlachokerasia**	**0.42**	**18**	*e*Pb	**Pb**	**22 44 50.8**	**-0.2**
VLX				S	**Sb**	**22 44 57.1**	**-0.3**
VLX				*e*Sb	**Sb**	**22 44 57.3**	**-0.1**
VLI	**Veliai**	**0.63**	**113**	*e*PB	**Pb**	**22 44 54.9**	**+0.5**
VLI	**Veliai**	**0.63**	**113**	*e*Pb	**Pb**	**22 44 54.9**	**+0.5**
DIDY	**Didyma**	**0.94**	**57**	P	**Pb**	**22 44 59.5**	**-0.4**
DIDY				S	**Sb**	**22 45 13.1**	**+0.7**
DIDY	**Didyma**	**0.94**	**57**	P	**Pb**	**22 44 59.5**	**-0.4**
DIDY				S	**Sb**	**22 45 13.1**	**+0.7**
KYTH	**Kithira**	**0.95**	**136**	*e*PB	**Pn**	**22 45 00.4**	**-0.3**
KYTH	**Kithira**	**0.95**	**136**	*e*Pb	**Pn**	**22 45 00.4**	**-0.3**
GUR	**Goura**	**0.97**	**6**	P	**Pg**	**22 44 59.9**	**-0.3**
GUR				S	**Sb**	**22 45 14.4**	**+1.1**
GUR	**Goura**	**0.97**	**6**	P	**Pg**	**22 44 59.9**	**-0.3**
GUR				S	**Sb**	**22 45 14.4**	**+1.1**
DID	**Didima**	**0.98**	**56**	P	**Pn**	**22 45 00.7**	**-0.4**
DID				S	**Sn**	**22 45 14.4**	**-0.5**
DID	**Didima**	**0.98**	**56**	P	**Pn**	**22 45 00.7**	**-0.4**
DID				S	**Sn**	**22 45 14.4**	**-0.5**
LTK	**Loutraki**	**1.21**	**29**	P	**Pn**	**22 45 05.1**	**+0.8**
LTK				S	**Sn**	**22 45 21.0**	**+0.3**
LTK	**Loutraki**	**1.21**	**29**	P	**Pn**	**22 45 05.1**	**+0.8**
LTK				S	**Sn**	**22 45 21.0**	**+0.3**
RLS	**Riolos of Patr**	**1.24**	**332**	*e*PB	**Pg**	**22 45 05.6**	**+0.3**
RLS	**Riolos of Patr**	**1.24**	**332**	*e*Pb	**Pg**	**22 45 05.6**	**+0.3**
LAKA	**Lakka**	**1.28**	**352**	P	**Pn**	**22 45 05.3**	**0.0**
LAKA				S	**Sn**	**22 45 24.5**	**+1.9**
LAKA	**Lakka**	**1.28**	**352**	P	**Pn**	**22 45 05.3**	**0.0**
LAKA				S	**Sn**	**22 45 24.5**	**+1.9**
NAIG	**Nisos Aigina**	**1.29**	**52**	*e*PB	**Pg**	**22 45 06.7**	**+0.5**
NAIG	**Nisos Aigina**	**1.29**	**52**	*e*Pb	**Pg**	**22 45 06.7**	**+0.5**
PTL	**Penteli**	**1.70**	**50**	*e*PN	**Pg**	**22 45 13.4**	**-0.7**
PTL	**Penteli**	**1.70**	**50**	*e*Pn	**Pg**	**22 45 13.4**	**-0.7**
LKR	**Lokris**	**1.79**	**20**	*e*PN	**Pg**	**22 45 14.9**	**-0.9**
LKR	**Lokris**	**1.79**	**20**	*e*Pn	**Pg**	**22 45 14.9**	**-0.9**
NEO	**Neokhori**	**2.47**	**18**	*e*PN	**Pb**	**22 45 25.0**	**-0.8**
NEO	**Neokhori**	**2.47**	**18**	*e*Pn	**Pb**	**22 45 25.0**	**-0.8**

IDC 24 22:45:47.0±5.5, 33°.77S×179°.41W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.8/16, mbtmp3.7/2, Error ellipse: s-maj=247.5km s-min=56.9km az=163.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNGZ	**Carnagh Statio**	**5.09**	**202**	PN	Pn	22 46 52.4	-12
CNGZ				SN	Sn	22 47 44.6	-19
MWZ	**Matawai**	**5.19**	**208**	PN	Pn	22 46 55.4	-11
URZ	**Urewera**	**5.30**	**211**	PN	Pn	22 46 56.7	-11
URZ				SN	Sn	22 47 49.0	-20
CTZ	**Chatham Island**	**10.19**	**168**	PN	Pn	22 47 57.7	-17
ASAR	**Alice Springs**	**41.86**	**271**	P	P	22 53 38.9	-0.2
	0.6nm,0.5s,baz=110,slow=7.4,SNR=5.1						
WRA	**Warramunga Arr**	**43.16**	**277**	P	P	22 53 49.5	-0.1
	0.8nm,0.6s,baz=118,slow=7.8,SNR=11						
FINES	**FINESS Array B**	**147.83**	**337**	PKPbc	PKPbc	23 05 32.4	-0.7
	1.9nm,0.9s,baz=84,slow=5.7,SNR=2.2						

ISCJB ***24*** *22:45:52.9±0.8, 52°.9S±0°.1×9°.7E±0°.3, h12km, mb4.3/8, MS3.7/6, Error ellipse: s-maj=30.6km s-min=12.3km az=23.2*
IDC ***24*** *22:45:52.1±1.3, 53°.02S×9°.96E, h0km, mb4.3/8, mb1 4.4/8, mb1mx4.2/18, mbtmp4.3/8, MS3.8/6, Ms1 3.8/6, ms1mx3.3/24, Error ellipse: s-maj=48.3km s-min=20.5km az=136.0*
ISC 24 22:45:54.3±1.0, 53°.0S±0°.2×9°.9E±0°.2, h12km, n17, σ0°77/15, mb4.3/8, MS3.7/6, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**19.62**	**197**	*e*P	**Pn**	**22 50 24.2**	**+0.6**
VNA3	**Neumayer Olymp**	**20.30**	**198**	*e*P	Pn	22 50 31.4	-0.2
SUR	**Sutherland**	**22.03**	**25**	P	**P**	**22 50 48.8**	**+0.1**
	8.5nm,1.0s,baz=180,slow=16,SNR=3.5						
SUR				LR	LR	22 57 06.1	
	comp=Z,188nm,21.9s,baz=276,slow=30						
BOSA	**Boshof**	**26.85**	**31**	LR	LR	23 00 15.7	
	comp=Z,182nm,18.8s,baz=166,slow=32						
LBTB	**Lobatse**	**30.32**	**29**	P	**P**	**22 52 05.2**	**-0.4**
	2.2nm,0.8s,baz=216,slow=14,SNR=4.2						
LBTB				LR	LR	23 01 33.2	
	comp=Z,133nm,21.5s,baz=32,slow=31						
VNDA	**Vanda**	**48.62**	**172**	LR	LR	23 14 58.0	
	comp=Z,217nm,18.9s,baz=144,slow=36						
PLCA	**Paso Flores**	**53.56**	**249**	P	**P**	**22 55 14.2**	**-0.7**
	0.7nm,0.5s,baz=114,slow=6.4,SNR=4.4						
CPUP	**Villa Florida**	**55.84**	**271**	P	**P**	**22 55 30.9**	**-0.4**
	2.3nm,0.6s,baz=114,slow=6.6,SNR=9.1						
CPUP				PcP	**PcP**	**22 56 30.1**	**-0.1**
	1.9nm,0.7s,baz=73,slow=5.6,SNR=3.4						
DBIC	**Dimbokro**	**60.71**	**343**	P	**P**	**22 56 05.2**	**-0.2**
	8.6nm,0.7s,baz=151,slow=7.5,SNR=14						
DBIC				LR	LR	23 15 05.7	
	comp=Z,66nm,19.1s,baz=333,slow=29						
TORD	**Torodi Ar. Bea**	**66.22**	**351**	P	**P**	**22 56 41.5**	**-0.3**
	2.3nm,0.9s,baz=195,slow=2.0,SNR=13						
TORD				LR	LR	23 19 21.3	
	comp=Z,49nm,21.4s,baz=250,slow=30						
LPAZ	**La Paz**	**69.97**	**269**	P	**P**	**22 57 07.0**	**+0.7**
	5.5nm,0.8s,baz=130,slow=3.8,SNR=22						
KEST	**Kesra**	**88.33**	**360**	P	**P**	**22 58 47.2**	**+1.9**
	1.4nm,0.8s,baz=180,slow=4.0,SNR=2.3						
MKAR	**Makanchi Array**	**116.93**	**47**	PKP	**PKPdf**	**23 04 37.0**	**-0.9**
	0.4nm,0.8s,baz=250,slow=2.5,SNR=4.3						
TXAR	**Lajitas Array**	**126.81**	**271**	PKP	**PKPdf**	**23 04 57.4**	**-0.2**
	0.5nm,0.7s,baz=73,slow=4.2,SNR=4.3						
SONM	**Songino Array**	**129.39**	**60**	PKP	**PKPdf**	**23 05 01.2**	**-0.7**
	0.4nm,0.8s,baz=264,slow=1.1,SNR=3.2						
YKA	**Yellowknife Ar**	**149.81**	**310**	PKPbc	**PKPbc**	**23 05 42.3**	**-0.3**
	3.3nm,0.8s,baz=92,slow=2.6,SNR=41						
ILAR	**Eielson Array**	**163.28**	**324**	PKPab	**PKPab**	**23 06 46.5**	**+0.5**
	0.6nm,0.8s,baz=32,slow=3.6,SNR=7.0						

IDC 24 23:02:06.9±57.0, 13°.94S×174°.78W, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.7/18, mbtmp4.2/3, Error ellipse: s-maj=1092.0km s-min=177.7km az=76.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.64**	**238**	P	P	23 10 13.4	-0.1
	1.4nm,0.7s,baz=83,slow=8.1,SNR=2.8						
WRA	**Warramunga Arr**	**48.90**	**256**	P	P	23 10 54.9	-0.2
	0.2nm,0.3s,baz=81,slow=6.0,SNR=24						
ASAR	**Alice Springs**	**49.31**	**251**	P	P	23 10 58.1	-0.1
	9.8nm,0.5s,baz=85,slow=8.4,SNR=140						

ISCJB ***24*** *23:28:29.3±0.4, 51°.0N±0°.02×6°.48E±0°.04, h0km, Error ellipse: s-maj=3.6km s-min=2.5km az=38.7*
CSEM ***24*** *23:28:30.5±0.2, 51°.47N×6°.52E, h1km, ML2.8/14, Error ellipse: s-maj=4.8km s-min=3.9km az=128.0*
BUG ***24*** *23:28:30.9, 51°.51N×6°.61E, h1km, ML2.3*
BNS ***24*** *23:28:31.2±1.0, 51°.53N×6°.58E, h1km±9km, ML2.4*
BGR ***24*** *23:28:31.8±0.7, 51°.49N×6°.61E, h1km, ML2.5/5, Error ellipse: s-maj=6.7km s-min=3.3km az=134.0*
STR ***24*** *23:28:31.1±1.6, 51°.43N×7°.05E, h5km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
LDG ***24*** *23:28:31.5±0.1, 51°.51N×6°.54E, h1km, Md3.2/2, Ml2.9/21, Error ellipse: s-maj=1.9km s-min=1.8km az=127.0, Suspected Mining induced.*
ISC 24 23:28:29.7±0.8, 51°.47N±0°.02×6°.48E±0°.02, h0km, n105, σ1°23/171, 1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAUG	**Laupendahl**	**0.31**	**112**	*e*Pg	**Pg**	**23 28 36.7**	**+1.0**
LAUG	**Laupendahl**	**0.31**	**112**	Pg	**Pg**	**23 28 36.7**	**+1.0**
RODG	**Roetgen-Dahlhe**	**0.38**	**210**	*e*Pg	**Pb**	**23 28 39.9**	**+0.6**
RODG				*i* Sg	**Sb**	**23 28 46.6**	**+1.1**
RODG	**Roetgen-Dahlhe**	**0.38**	**210**	Pg	**Pb**	**23 28 39.8**	**+0.6**
BUG	**Bochum--Univer**	**0.49**	**93**	*e*Pg	**Pg**	**23 28 39.8**	**+0.7**
BUG				Sg	**Sg**	**23 28 46.3**	**+0.8**
WTSB	**Winterswijk**	**0.54**	**22**	*e*Pg	**Pg**	**23 28 40.9**	**+0.9**
WTSB				*e*Sg	**Sg**	**23 28 47.7**	**+0.8**
WTSB	**Winterswijk**	**0.54**	**22**	*e*Pg	**Pg**	**23 28 40.9**	**+0.9**
WTSB				*e*Sg	**Sg**	**23 28 47.7**	**+0.8**
BNS	**Bensberg**	**0.67**	**139**	*e*Pg	**Pb**	**23 28 44.3**	**+0.1**
BNS	**Bensberg**	**0.67**	**139**	Pg	**Pb**	**23 28 44.3**	**+0.1**
HOBG	**Hohbusch**	**0.72**	**132**	*e*Pg	**Pb**	**23 28 45.0**	**-0.1**
HOBG	**Hohbusch**	**0.72**	**132**	Pg	**Pb**	**23 28 45.0**	**-0.1**
HGN	**Heimansgroeve**	**0.79**	**206**	*e*Pn	**Pn**	**23 28 47.3**	**-0.7**
	2.0nm,0.1s						
HGN				*e*Pg	**Pb**	**23 28 48.7**	**+2.6**
	71nm,0.2s						
HGN				*e*Sn	**Sb**	**23 28 58.5**	**+1.1**
HGN				*e*Sg	**Sn**	**23 29 01.4**	**+1.0**
HGN	**Heimansgroeve**	**0.79**	**206**	*e*Pn	**Pn**	**23 28 47.3**	**-0.7**
	2.0nm,0.1s						
DREG	**Dreilaegerbach**	**0.82**	**191**	*e*Pg	**Pb**	**23 28 47.6**	**+0.8**
DREG				*e*Sg	**Sn**	**23 29 00.4**	**-0.9**
DREG	**Dreilaegerbach**	**0.82**	**191**	Pg	**Pb**	**23 28 47.6**	**+0.8**
KLL	**Kalltalsperre**	**0.83**	**187**	*e*Pg	**Pn**	**23 28 48.7**	**+0.1**
KLL				*e*Sg	**Sn**	**23 29 00.9**	**-0.7**
KLL	**Kalltalsperre**	**0.83**	**187**	Pg	**Pn**	**23 28 48.7**	**+0.1**
BEBN	**Eben Emael**	**0.84**	**217**	P	**Pn**	**23 28 48.9**	**+0.1**
BEBN	**Eben Emael**	**0.84**	**217**	P	**Pn**	**23 28 48.9**	**+0.1**
STB	**Steinbach**	**0.91**	**165**	*e*Pg	**Pn**	**23 28 49.7**	**+0.1**
STB				*e*Sg	**Sb**	**23 29 02.3**	**+1.5**
	98nm,0.3s						
STB	**Steinbach**	**0.91**	**165**	Pg	**Pn**	**23 28 49.7**	**+0.1**
MEM	**Membach**	**0.91**	**199**	P	**Pn**	**23 28 49.4**	**-0.4**
MEM	**Membach**	**0.91**	**199**	*e*Pg	**Pn**	**23 28 49.6**	**-0.1**
MEM				*e*Sg	**Sn**	**23 29 02.9**	**-0.6**
MEM	**Membach**	**0.91**	**199**	P	**Pn**	**23 28 49.3**	**-0.4**
MEM	**Membach**	**0.91**	**199**	Pg	**Pn**	**23 28 49.6**	**-0.1**
MEM				Sg	**Sn**	**23 29 02.9**	**-0.6**
IBBN	**Ibbenburen**	**1.15**	**43**	*e*Pg	**Pg**	**23 28 52.1**	**+0.3**
IBBN				*e*Sg	**Sg**	**23 29 07.3**	**+0.6**
IBBN	**Ibbenburen**	**1.15**	**43**	Pg	**Pg**	**23 28 52.1**	**+0.3**
IBBN				Sg	**Sg**	**23 29 07.3**	**+0.6**
HILG	**Hillesheim**	**1.19**	**174**	*e*Pg	**Pn**	**23 28 54.3**	**+0.8**
HILG				*e*Sg	**Sn**	**23 29 10.7**	**+0.4**
	96nm,0.5s						
HILG	**Hillesheim**	**1.19**	**174**	Pg	**Pn**	**23 28 54.3**	**+0.8**
HILG				Sg	**Sn**	**23 29 10.7**	**+0.4**
	96nm,0.5s						
BCLA	**Clavier**	**1.29**	**216**	P	**Pn**	**23 28 56.2**	**+1.3**
BCLA	**Clavier**	**1.29**	**216**	P	**Pn**	**23 28 56.2**	**+1.3**
BGG	**Burgeitz**	**1.38**	**156**	*e*Pg	**Pb**	**23 28 56.6**	**+0.3**
BGG	**Burgeitz**	**1.38**	**156**	Pg	**Pb**	**23 28 56.6**	**+0.3**
SNF	**Seneffe**	**1.69**	**236**	P	**Pg**	**23 29 01.9**	**-0.2**
SNF	**Seneffe**	**1.69**	**236**	P	**Pg**	**23 29 01.8**	**-0.2**
GIVF	**Givet**	**1.73**	**218**	*e*Pn	**Pn**	**23 29 01.6**	**+0.7**
	SNR=1.0						
GIVF	**Givet**	**1.73**	**218**	*e*Pg	**Pg**	**23 29 04.2**	**+1.5**
GIVF				*e*Sg	**Sg**	**23 29 27.3**	**+2.2**
	40nm,0.3s,SNR=1.0						
GIVF	**Givet**	**1.73**	**218**	*e*Pn	**Pn**	**23 29 01.6**	**+0.7**
	SNR=1.0						
GIVF	**Givet**	**1.73**	**218**	*e*Pg	**Pg**	**23 29 04.2**	**+1.5**
ABH	**Alteburg**	**1.73**	**156**	Pg	**Pn**	**23 29 01.8**	**+0.8**
ABH				Sg	**Sn**	**23 29 23.3**	**-0.5**
TNS	**Taunus Mts**	**1.76**	**134**	*e*Pg	**Pg**	**23 29 03.9**	**+0.5**
TNS				*e*Sg	**Sg**	**23 29 26.8**	**+0.5**
TNS	**Taunus Mts**	**1.76**	**134**	Pg	**Pg**	**23 29 03.9**	**+0.5**
TNS				Sg	**Sg**	**23 29 26.8**	**+0.5**
RUP	**Ruppelstein**	**1.81**	**168**	Pg	**Pb**	**23 29 03.5**	**-0.1**
WLF	**Walferdange**	**1.82**	**187**	P	**Pg**	**23 29 05.6**	**+1.1**
WLF	**Walferdange**	**1.82**	**187**	P	**Pg**	**23 29 05.5**	**+1.1**
DOU	**Dourbes**	**1.82**	**222**	P	**Pb**	**23 29 03.8**	**-0.1**
DOU	**Dourbes**	**1.82**	**222**	P	**Pb**	**23 29 03.8**	**-0.1**
BAIF	**Baives**	**2.02**	**227**	*e*Pn	**Pn**	**23 29 05.1**	**+0.2**
	SNR=1.0						
BAIF	**Baives**	**2.02**	**227**	*e*Pg	**Pg**	**23 29 10.1**	**+1.8**
BAIF				*e*Sn	**Sn**	**23 29 29.7**	**-1.1**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**23 29 35.9**	**+1.4**
	17nm,0.4s,SNR=1.0						
BAIF	**Baives**	**2.02**	**227**	*e*Pn	**Pn**	**23 29 05.1**	**+0.2**
	SNR=1.0						
BAIF	**Baives**	**2.02**	**227**	*e*Pg	**Pg**	**23 29 10.1**	**+1.8**
BAIF				*e*Sg	**Sg**	**23 29 35.9**	**+1.4**
	8.3nm,0.4s,SNR=1.0						
GTTG	**Gvttingen**	**2.18**	**87**	*e*Sg	**Sb**	**23 29 37.0**	**-0.5**
PAGF	**Fort de Pagny**	**2.96**	**190**	*e*Pn	**Pn**	**23 29 18.0**	**+0.1**
	baz=16						
PAGF	**Fort de Pagny**	**2.96**	**190**	*e*Pg	**Pg**	**23 29 26.7**	**+0.4**
PAGF				*e*Sg	**Sg**	**23 30 05.8**	**+1.2**
	1.9nm,0.3s						
PAGF	**Fort de Pagny**	**2.96**	**190**	*e*Pn	**Pn**	**23 29 18.0**	**+0.1**
	baz=16						
PAGF	**Fort de Pagny**	**2.96**	**190**	*e*Pg	**Pg**	**23 29 26.7**	**+0.4**
PAGF				*e*Sg	**Sg**	**23 30 05.8**	**+1.2**
	0.9nm,0.3s						
CDF	**Champ du Feu**	**3.10**	**170**	*e*Pn	**Pn**	**23 29 20.7**	**+0.8**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**23 29 54.8**	**-2.9**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**23 30 09.9**	**+0.6**
	8.0nm,0.5s,SNR=1.0						
CDF	**Champ du Feu**	**3.10**	**170**	*e*Pn	**Pn**	**23 29 20.7**	**+0.8**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**23 30 09.9**	**+0.6**
	4.0nm,0.5s,SNR=1.0						
MEZF	**Maizieres J'vi**	**3.11**	**198**	*e*Pn	**Pn**	**23 29 20.6**	**+0.7**
	baz=17,SNR=1.0						
MEZF	**Maizieres J'vi**	**3.11**	**198**	*e*Pg	**Pg**	**23 29 29.6**	**+0.4**
	baz=11						
MEZF				*e*Sg	**Sg**	**23 30 11.4**	**+1.9**
	17nm,0.6s,SNR=1.0						
MEZF	**Maizieres J'vi**	**3.11**	**198**	*e*Pn	**Pn**	**23 29 20.6**	**+0.7**
	baz=17,SNR=1.0						
MEZF	**Maizieres J'vi**	**3.11**	**198**	*e*Pg	**Pg**	**23 29 29.6**	**+0.4**
	baz=11						
MEZF				*e*Sg	**Sg**	**23 30 11.4**	**+1.9**
	8.6nm,0.6s,SNR=1.0						
SFTF	**Sexfontaines**	**3.40**	**197**	*e*Pg	**Pg**	**23 29 35.2**	**+0.4**
SFTF				*e*Sg	**Sg**	**23 30 19.5**	**+0.7**
	11nm,0.3s						
SFTF	**Sexfontaines**	**3.40**	**197**	*e*Pg	**Pg**	**23 29 35.2**	**+0.4**
SFTF				*e*Sg	**Sg**	**23 30 19.5**	**+0.7**
	5.7nm,0.3s						
HAU	**Haudompre**	**3.47**	**181**	*e*Pn	**Pn**	**23 29 25.4**	**+0.5**
	SNR=1.0						
HAU	**Haudompre**	**3.47**	**181**	*e*Pg	**Pg**	**23 29 36.0**	**-0.1**
HAU				*e*Sg	**Sg**	**23 30 20.7**	**-0.3**
	5.9nm,0.4s						
HAU	**Haudompre**	**3.47**	**181**	*e*Pn	**Pn**	**23 29 25.4**	**+0.5**
	SNR=1.0						
HAU	**Haudompre**	**3.47**	**181**	*e*Pg	**Pg**	**23 29 36.0**	**-0.1**
HAU				*e*Sg	**Sg**	**23 30 20.7**	**-0.3**
	3.0nm,0.4s						
GRA1	**Grafenberg Arr**	**3.51**	**119**	Pn	**Pn**	**23 29 26.0**	**+0.6**
GRF	**Grafenberg Arr**	**3.51**	**119**	*e*Pn	**Pn**	**23 29 26.0**	**+0.6**
HINF	**Hinteralfeld**	**3.66**	**176**	*e*Pn	**Pn**	**23 29 27.5**	**-0.1**
HINF	**Hinteralfeld**	**3.66**	**176**	*e*Pg	**Pg**	**23 29 39.5**	**-0.4**
HINF				*e*Sg	**Sg**	**23 30 27.4**	**+0.1**
	2.5nm,0.4s						
HINF	**Hinteralfeld**	**3.66**	**176**	*e*Pn	**Pn**	**23 29 27.5**	**-0.1**
HINF	**Hinteralfeld**	**3.66**	**176**	*e*Pg	**Pg**	**23 29 39.5**	**-0.4**
HINF				*e*Sg	**Sg**	**23 30 27.4**	**+0.1**
	1.2nm,0.4s						
LOR	**Lormes**	**4.54**	**203**	*e*Pn	**Pn**	**23 29 39.8**	**+0.2**
	baz=36,SNR=1.0						
LOR				*e*Sn	**Sn**	**23 30 31.0**	**-2.1**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**23 30 55.4**	**0.0**
	6.8nm,0.4s,SNR=1.0						
LOR	**Lormes**	**4.54**	**203**	*e*Pn	**Pn**	**23 29 39.8**	**+0.2**
	baz=36,SNR=1.0						
LOR				*e*Sn	**Sn**	**23 30 31.0**	**-2.1**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**23 30 55.4**	**0.0**
	3.4nm,0.4s,SNR=1.0						
BRG	**Berggiesshubel**	**4.73**	**94**	SG	**Sg**	**23 31 00.1**	**-1.5**
	2.0nm,0.7s						
SSF	**Saint Saulge**	**4.82**	**205**	*e*Pn	**Pn**	**23 29 43.8**	**+0.3**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**23 30 36.5**	**-3.5**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**23 31 03.1**	**-1.4**
	5.2nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**4.82**	**205**	*e*Pn	**Pn**	**23 29 43.8**	**+0.3**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**23 30 36.5**	**-3.5**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**23 31 03.1**	**-1.4**
	2.6nm,0.4s,SNR=1.0						
CABF	**La Chapelle**	**4.87**	**183**	*e*Pn	**Pn**	**23 29 44.8**	**+0.6**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**23 31 05.4**	**-0.6**
	3.4nm,0.5s						
CABF	**La Chapelle**	**4.87**	**183**	*e*Pn	**Pn**	**23 29 44.8**	**+0.6**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**23 31 05.4**	**-0.6**
	1.7nm,0.5s						
HYF	**Humbligny**	**4.89**	**212**	*e*Sn	**Sn**	**23 30 39.5**	**-2.3**
HYF				*e*Sg	**Sg**	**23 31 06.1**	**-0.7**
HYF	**Humbligny**	**4.89**	**212**	*e*Sn	**Sn**	**23 30 39.5**	**-2.3**
HYF				*e*Sg	**Sg**	**23 31 06.1**	**-0.7**
AVF	**Avril sur Loir**	**5.11**	**205**	*e*Pn	**Pn**	**23 29 47.4**	**-0.1**
AVF				*e*Sn	**Sn**	**23 30 44.3**	**-2.8**
AVF				*e*Sg	**Sg**	**23 31 13.4**	**-0.4**
	2.2nm,0.4s						
AVF	**Avril sur Loir**	**5.11**	**205**	*e*Pn	**Pn**	**23 29 47.4**	**-0.1**
AVF				*e*Sn	**Sn**	**23 30 44.3**	**-2.8**
AVF				*e*Sg	**Sg**	**23 31 13.4**	**-0.4**
	1.1nm,0.4s						
SMF	**Signal de Mont**	**5.13**	**201**	*e*Pn	**Pn**	**23 29 48.8**	**+1.1**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**23 31 14.1**	**-0.3**
	4.0nm,0.3s						
SMF	**Signal de Mont**	**5.13**	**201**	*e*Pn	**Pn**	**23 29 48.8**	**+1.1**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**23 31 14.1**	**-0.3**
	2.0nm,0.3s						
LDF	**La Druitiere**	**5.14**	**239**	*e*Pn	**Pn**	**23 29 48.6**	**+0.8**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**23 30 44.6**	**-3.1**
	2.1nm,0.4s,SNR=1.0						
LDF	**La Druitiere**	**5.14**	**239**	*e*Pn	**Pn**	**23 29 48.6**	**+0.8**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**23 30 44.6**	**-3.1**
	1.0nm,0.4s,SNR=1.0						
FLN	**La Foliniere**	**5.23**	**242**	*e*Pn	**Pn**	**23 29 49.8**	**+0.7**
	baz=57,SNR=1.0						
FLN				*e*Sn	**Sn**	**23 30 47.8**	**-2.3**
	1.5nm,0.2s						
FLN	**La Foliniere**	**5.23**	**242**	*e*Pn	**Pn**	**23 29 49.8**	**+0.7**
	baz=57,SNR=1.0						
FLN				*e*Sn	**Sn**	**23 30 47.8**	**-2.3**
	0.8nm,0.2s						
BGF	**Bois d'Agland**	**5.46**	**207**	*e*Pn	**Pn**	**23 29 52.5**	**+0.2**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**23 30 52.8**	**-3.1**
BGF				*e*Sg	**Sg**	**23 31 24.3**	**-0.8**
	11nm,0.4s						
BGF	**Bois d'Agland**	**5.46**	**207**	*e*Pn	**Pn**	**23 29 52.5**	**+0

comp=Z,71nm,19.0s,baz=218,slow=39
BDFB Brasilia 44.38 18 P **P 23 43 51.4 +1.6**
BDFB Brasilia 44.38 18 P **P 23 43 51.4 +1.6**
1.9nm,0.7s,baz=66,slow=13,SNR=3.9
MAW Mawson 47.12 154 LR LR 00 03 14.3
comp=Z,441nm,18.1s,baz=299,slow=35
BOSA Boshof 64.02 103 P **P 23 46 10.2 -2.7**
BOSA Boshof 64.02 103 P **P 23 46 10.2 -2.7**
1.4nm,0.8s,baz=215,slow=12,SNR=3.9
LBTB Lobatse 67.15 101 P **P 23 46 32.0 -1.2**
LBTB Lobatse 67.15 101 P **P 23 46 32.0 -1.2**
2.4nm,0.6s,baz=239,slow=7.9,SNR=8.3
TORD Torodi Ar. Bea 87.82 60 P **P 23 48 28.9 +0.4**
TORD Torodi Ar. Bea 87.82 60 P **P 23 48 28.9 +0.4**
0.5nm,1.0s,baz=227,slow=3.4,SNR=2.6
YKA Yellowknife Ar 128.02 332 PKP **PKPdf 23 54 46.9 +3.2**
YKA Yellowknife Ar 128.02 332 PKP **PKPdf 23 54 46.9 +3.2**
0.3nm,0.8s,baz=148,slow=3.1,SNR=3.6
AKTO Aktyubinsk 144.90 77 PKP **PKPab 23 55 12.6 -1.9**
AKTO Aktyubinsk 144.90 77 PKP **PKPab 23 55 12.6 -1.9**
1.0nm,0.6s,baz=188,slow=5.2,SNR=4.1
LSA Lhasa 145.03 135 *e*PKPdf **PKPab 23 55 15.5 -0.6**
ABKAR Akbulak array 145.14 80 *e*PKPdf **PKPbc 23 55 13.7 -1.6**
AAK Ala-Archa 148.15 101 PKPbc **PKPbc 23 55 24.0 -0.5**
AAK Ala-Archa 148.15 101 PKPbc **PKPbc 23 55 24.0 -0.5**
0.6nm,0.6s,baz=270,slow=11,SNR=3.3
BVAR Borovoye Array 152.68 81 PKPbc **PKPbc 23 55 34.6 -0.2**
BVAR Borovoye Array 152.68 81 PKPbc **PKPbc 23 55 34.6 -0.2**
1.0nm,0.6s,baz=205,slow=3.1,SNR=7.0
MKAR Makanchi Array 155.02 103 PKPab PKPab 23 55 49.8 -6.0
MKAR Makanchi Array 155.02 103 PKPab PKPab 23 55 49.8 -6.0
0.3nm,0.7s,baz=257,slow=4.9,SNR=3.6
KURBB Kurchatov Arra 155.53 92 PKPab **PKPab 23 55 57.0 -0.9**
1.1nm,0.8s,baz=235,slow=4.0,SNR=6.7
KURK Kurchatov 155.63 92 PKPab **PKPab 23 55 57.0 -1.3**
SONM Songino Array 166.50 141 PKPab **PKPab 23 56 45.2 -0.8**
SONM Songino Array 166.50 141 PKPab **PKPab 23 56 45.2 -0.8**
1.0nm,0.8s,baz=214,slow=5.2,SNR=11

*NSSP **24** 23:57:09.1,41°.78N×46°.18E,h6km,Ms3.1*
*TIF **24** 23:57:12.1,41°.74N×46°.27E,h14km±3km*
*CSEM **24** 23:57:13.0±2.5,41°.86N×45°.98E,h10km,ML3.1,Error ellipse: s-maj=52.3km s-min=31.1km az=32.0*
ISC 24 23:57:12.3±2.4, 41°.76N±0°.06×46°.3E±0°.1, h19km±4km, n17, σ1⇟43/33, 7C-9D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGRG	**David-gareji**	**0.73**	**245**	P	**Pn**	**23 57 27.5**	**-0.1**
DGRG				S	**Sn**	**23 57 40.9**	**+2.6**
TBLG	**Delisi**	**1.13**	**269**	P	**Pn**	**23 57 33.4**	**+0.2**
TBLG				S	**Sn**	**23 57 51.4**	**+3.2**
TBLG	**Delisi**	**1.13**	**269**	P	**Pn**	**23 57 33.4**	**+0.2**
TBLG				S	**Sn**	**23 57 51.4**	**+3.2**
CKLZ	**Chkalov**	**1.46**	**236**	⇑*i* P	**Pn**	**23 57 36.3**	**-1.5**
CKLZ				⇓*i* S	**Sn**	**23 57 56.2**	**-0.3**
CKLZ	**Chkalov**	**1.46**	**236**	⇑P	**Pn**	**23 57 36.3**	**-1.5**
CKLZ				S	**Sn**	**23 57 56.2**	**-0.3**
LMTZ	**Lermontov**	**1.57**	**231**	⇓*i* P	**Pn**	**23 57 38.2**	**-1.2**
STEZ	**Stepenevan**	**1.59**	**242**	⇓*i* P	**Pn**	**23 57 38.7**	**-0.9**
STEZ				⇓*i* S	**Sn**	**23 58 00.3**	**+0.7**
STEZ	**Stepenevan**	**1.59**	**242**	⇓*e* P	**Pn**	**23 57 39.4**	**-0.2**
STEZ				⇓*e* S	**Sb**	**23 58 01.0**	**+0.1**
STE	**Stepanavan**	**1.61**	**242**	⇓P	**Pn**	**23 57 39.4**	**-0.4**
STE				S	**Sn**	**23 58 01.0**	**+0.9**
GOR	**Gori**	**1.61**	**279**	P	**Pb**	**23 57 41.5**	**-0.1**
GOR				S	**Sg**	**23 58 04.8**	**+0.3**
VADZ	**Vardenis**	**1.63**	**194**	*e*P	**Pg**	**23 57 44.0**	**+0.2**
VADZ				⇑S	**Sg**	**23 58 07.0**	**+1.9**
VADZ	**Vardenis**	**1.63**	**194**	P	**Pg**	**23 57 44.0**	**+0.2**
VADZ				S	**Sg**	**23 58 07.0**	**+1.9**
SPIZ	**Spitak**	**1.76**	**239**	⇓*i* P	**Pn**	**23 57 39.9**	**-2.1**
SPIZ				⇑*i* S	**Sn**	**23 58 02.5**	**-1.4**
SPIZ	**Spitak**	**1.76**	**239**	⇓P	**Pn**	**23 57 39.9**	**-2.1**
SPIZ				S	**Sn**	**23 58 02.5**	**-1.4**
GNI	**Garni**	**1.98**	**216**	⇑*i* P	**Pb**	**23 57 47.4**	**-0.4**
GNI				⇑*i* S	**Sg**	**23 58 15.5**	**-0.5**
GNI	**Garni**	**1.98**	**216**	⇑P	**Pb**	**23 57 47.4**	**-0.4**
GNI				S	**Sg**	**23 58 15.5**	**-0.5**
ONI	**Oni**	**2.24**	**293**	P	**Pb**	**23 57 51.5**	**-0.7**
ONI				S	**Sg**	**23 58 22.7**	**-1.6**

IDC 25 00:09:31.9±65.0, 21°.59S×178°.99W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/17, mbtmp4.0/3, Error ellipse: s-maj=1186.0km s-min=165.1km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.49**	**245**	P	P	00 16 38.3	-0.8
1.6nm,0.5s,baz=90,slow=11,SNR=3.6							
ASAR	**Alice Springs**	**43.38**	**258**	P	P	00 17 36.4	-0.1
1.0nm,0.5s,baz=98,slow=7.3,SNR=12							
WRA	**Warramunga Arr**	**43.55**	**263**	P	P	00 17 38.1	+0.3
0.8nm,0.3s,baz=96,slow=8.4,SNR=64							

IDC 25 00:25:02.3±2.0, 6°.77S×129°.62E, h0km, mb3.6/1, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.1/3, Error ellipse: s-maj=80.4km s-min=27.5km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.92**	**199**	Pn	Pn	00 27 55.0	+1.4
0.0nm,0.3s,baz=21,slow=14,SNR=2.9							
FITZ				Sn	Sn	00 29 57.1	-10
0.2nm,0.3s,baz=7.1,slow=16,SNR=4.1							
WRA	**Warramunga Arr**	**13.87**	**161**	Pn	Pn	00 28 19.1	-1.2
0.2nm,0.3s,baz=338,slow=13,SNR=24							
WRA				Sn	Sn	00 30 41.3	-14
0.5nm,0.3s,baz=333,slow=23,SNR=8.3							
ASAR	**Alice Springs**	**17.30**	**167**	P	Pn	00 29 05.2	-0.2
0.0nm,0.3s,baz=356,slow=10,SNR=3.2							
MKAR	**Makanchi Array**	**67.83**	**327**	P	P	00 36 02.3	0.0
0.3nm,0.5s,baz=121,slow=8.2,SNR=9.1							

*IDC **25** 00:25:53.1±0.9, 6°.76S×156°.03E, h156km±6km, mb3.9/13, mb1 4.0/14, mb1mx3.9/20, mbtmp3.9/14, Error ellipse: s-maj=21.2km s-min=10.4km az=122.0*
*ISCJB **25** 00:25:54.2±2.0, 6°.82S±0°.09×156°.3E±0°.1, h189km±16km, mb4.0/15, Error ellipse: s-maj=21.5km s-min=11.3km az=35.2*
*NEIC **25** 00:25:57.5±2.4, 6°.83S×156°.14E, h201km±20km, mb4.2/4, Error ellipse: s-maj=20.7km s-min=11.5km az=97.0*
ISC 25 00:25:52.4±0.7, 6°.8S±0°.1×156°.2E±0°.1, h155km±5km, h155km:pP-P,n43,σ1⇟26/63, mb4.2/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**9.37**	**253**	P	Pn	00 28 08.4	+4.4
PMG				S	**Sn**	**00 29 51.1**	**+3.2**
PMG	**Port Moresby**	**9.37**	**253**	P	Pn	00 28 08.4	+4.4
1.5nm,0.3s,baz=38,slow=6.6,SNR=4.6							
PMG				S	**Sn**	**00 29 51.1**	**+3.2**
3.5nm,0.3s,baz=70,slow=13,SNR=14							
CTA	**Charters Tower**	**16.41**	**215**	P	**Pn**	**00 29 34.8**	**+0.9**
CTA	**Charters Tower**	**16.41**	**215**	P	**Pn**	**00 29 34.8**	**+0.9**
0.9nm,0.3s,baz=31,slow=11,SNR=9.0							
CTAO	**Charters Tower**	**16.41**	**215**	*e*Pn	**Pn**	**00 29 34.3**	**+0.4**
WRAB	**Tennant Creek**	**24.95**	**236**	*e*P	**P**	**00 31 01.5**	**-0.1**
4.2nm,0.6s							
WRA	**Warramunga Arr**	**24.96**	**236**	P	**P**	**00 31 01.6**	**-0.1**
WRA				pP	**pP**	**00 31 33.2**	**-0.6**
WRA				S	**S**	**00 31 10.7**	**-3.4**
WRA	**Warramunga Arr**	**24.96**	**236**	P	**P**	**00 31 01.6**	**-0.1**
2.5nm,0.3s,baz=61,slow=9.1,SNR=8.1							
WRA				pP	**pP**	**00 31 33.2**	**-0.6**
2.9nm,0.7s,baz=59,slow=9.7,SNR=4.9							
WRA				S	**S**	**00 35 10.7**	**-3.4**
0.7nm,0.8s,baz=62,slow=14,SNR=3.0							
ASAR	**Alice Springs**	**27.25**	**230**	P	**P**	**00 31 22.3**	**0.0**
ASAR				PcP	**PcP**	**00 34 38.9**	**+0.5**
ASAR				S	**S**	**00 35 47.6**	**-2.6**
ASAR	**Alice Springs**	**27.25**	**230**	P	**P**	**00 31 22.3**	**0.0**
5.2nm,0.3s,baz=59,slow=9.4,SNR=37							
ASAR				PcP	**PcP**	**00 34 38.9**	**+0.5**
0.6nm,0.5s,baz=76,slow=2.0,SNR=4.5							
ASAR				S	**S**	**00 35 47.6**	**-2.6**
0.1nm,0.3s,baz=57,slow=16,SNR=2.8							
STKA	**Stephens Creek**	**28.48**	**207**	P	**P**	**00 31 33.4**	**+0.4**
1.1nm,0.8s,baz=59,slow=12,SNR=2.0							
FITZ	**Fitzroy Crossi**	**31.88**	**246**	*e*P	**P**	**00 32 02.2**	**-1.0**
3.7nm,0.5s							
FITZ	**Fitzroy Crossi**	**31.88**	**246**	P	**P**	**00 32 02.4**	**-0.8**
2.9nm,0.3s,baz=61,slow=8.7,SNR=11							
KSRS	**Korea Array**	**51.33**	**331**	P	**P**	**00 34 41.1**	**+0.3**
0.8nm,0.4s,baz=138,slow=7.5,SNR=3.5							
KSAR	**Wonju Array Be**	**51.34**	**331**	P	**P**	**00 34 41.1**	**+0.2**
PETK	**Petropavlovsk-**	**59.66**	**1**	P	**P**	**00 35 39.6**	**-0.5**
PETK	**Petropavlovsk-**	**59.66**	**1**	P	**P**	**00 35 39.6**	**-0.5**
3.1nm,0.6s,baz=163,slow=8.8,SNR=5.3							
CMAR	**Chiang Mai Ar**	**61.81**	**295**	P	**P**	**00 35 56.3**	**+1.0**
CMAR				pP	**pP**	**00 36 31.1**	**-0.8**
CMAR	**Chiang Mai Arr**	**61.81**	**295**	P	**P**	**00 35 56.3**	**+1.0**
0.4nm,0.3s,baz=111,slow=4.9,SNR=4.0							
CMAR				pP	**pP**	**00 36 31.1**	**-0.8**
1.0nm,0.7s,baz=110,slow=6.8,SNR=2.3							
ULN	**Ulaanbaatar**	**69.48**	**327**	*e*P	**P**	**00 36 44.5**	**+0.4**
3.9nm,1.3s							
SONM	**Songino Array**	**69.82**	**327**	P	**P**	**00 36 47.3**	**+1.1**
SONM				pP	**pP**	**00 37 23.2**	**-0.5**
SONM	**Songino Array**	**69.82**	**327**	P	**P**	**00 36 47.3**	**+1.1**
2.0nm,0.8s,baz=140,slow=6.7,SNR=19							
SONM				pP	**pP**	**00 37 23.2**	**-0.5**
1.1nm,1.0s,baz=131,slow=4.0,SNR=3.2							
ILAR	**Eielson Array**	**82.72**	**21**	P	**P**	**00 37 58.5**	**0.0**
ILAR	**Eielson Array**	**82.72**	**21**	P	**P**	**00 37 58.5**	**0.0**
0.9nm,0.5s,baz=249,slow=5.0,SNR=24							
QSPA	**South Pole Qui**	**83.20**	**180**	*e*P	**P**	**00 38 02.1**	**+0.9**
4.3nm,0.8s							
QSPA	**South Pole Qui**	**83.20**	**180**	P	**P**	**00 38 02.6**	**+1.5**
2.7nm,0.5s,baz=285,slow=1.1,SNR=12							
MKAR	**Makanchi Array**	**84.06**	**318**	P	**P**	**00 38 06.2**	**+0.5**
MKAR				pP	**pP**	**00 38 44.0**	**-0.5**
MKAR	**Makanchi Array**	**84.06**	**318**	P	**P**	**00 38 06.2**	**+0.5**
3.6nm,0.6s,baz=101,slow=7.3,SNR=58							
MKAR				pP	**pP**	**00 38 44.0**	**-0.5**
0.5nm,0.7s,baz=104,slow=5.2,SNR=2.8							
ZALV	**Zalesovo Beam**	**84.69**	**326**	P	**P**	**00 38 08.1**	**-0.6**
ZALV	**Zalesovo Beam**	**84.69**	**326**	P	**P**	**00 38 08.1**	**-0.6**
1.9nm,0.5s,baz=112,slow=5.8,SNR=13							
KURK	**Kurchatov**	**87.42**	**322**	P	**P**	**00 38 21.2**	**-1.0**
YKA	**Yellowknife Ar**	**95.56**	**28**	P	**P**	**00 39 00.6**	**+1.0**
YKA				pP	**pP**	**00 39 39.6**	**+0.8**
YKA	**Yellowknife Ar**	**95.56**	**28**	P	**P**	**00 39 00.6**	**+1.0**
0.3nm,0.6s,baz=261,slow=4.6,SNR=6.0							
YKA				pP	**pP**	**00 39 39.6**	**+0.8**
0.3nm,0.5s,baz=262,slow=5.0,SNR=3.2							
TXAR	**Lajitas Array**	**102.07**	**62**	P	**Pdif**	**00 39 30.3**	**+0.6**
TXAR	**Lajitas Array**	**102.07**	**62**	P	**Pdif**	**00 39 30.3**	**+0.6**
0.0nm,0.3s,baz=280,slow=5.4,SNR=2.3							
GERES	**GERESS Array B**	**127.50**	**330**	PKP	**PKPdf**	**00 44 39.3**	**+0.1**
GERES	**GERESS Array B**	**127.50**	**330**	PKP	**PKPdf**	**00 44 39.3**	**+0.1**
0.4nm,0.5s,baz=74,slow=3.5,SNR=4.7							
BDFB	**Brasilia**	**147.24**	**133**	PKPbc	**PKPbc**	**00 45 19.1**	**+0.5**
BDFB	**Brasilia**	**147.24**	**133**	PKPbc	**PKPbc**	**00 45 19.1**	**+0.5**
1.0nm,0.6s,baz=137,slow=12,SNR=3.1							
TORD	**Torodi Ar. Bea**	**154.16**	**286**	PKPbc	**PKPbc**	**00 45 34.3**	**-0.7**
TORD				PKPab	**PKPab**	**00 45 47.1**	**-2.2**
TORD				pPKPab	**pPKPab**	**00 46 27.1**	**-1.5**
TORD	**Torodi Ar. Bea**	**154.16**	**286**	PKPbc	**PKPbc**	**00 45 34.3**	**-0.7**
0.4nm,0.5s,baz=49,slow=1.9,SNR=13							
TORD				PKPab	**PKPab**	**00 45 47.1**	**-2.2**
0.5nm,0.8s,baz=80,slow=4.1,SNR=6.2							
TORD				pPKPab	**pPKPab**	**00 46 27.3**	**-1.5**
0.2nm,0.5s,baz=78,slow=2.8,SNR=1.7							
DBIC	**Dimbokro**	**161.23**	**271**	PKPab	**PKPab**	**00 46 19.7**	**-0.3**
DBIC	**Dimbokro**	**161.23**	**271**	PKPab	**PKPab**	**00 46 19.7**	**-0.3**
2.5nm,0.8s,baz=55,slow=3.4,SNR=3.7							

*IDC **25** 00:27:42.0±2.5, 19°.85S×168°.76E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.8/18, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=88.6km s-min=30.5km az=142.0*
ISC 25 00:27:44.9±3.2, 19°.9S±0°.3×168°.6E±0°.5, h10km, n8, σ0⇟76/7, mb3.9/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.00**	**223**	*e*P	**Pn**	**00 28 32.8**	**+0.3**
DZM				*e*S	**Sg**	**00 29 20.6**	**-0.6**
DZM	**Mont Dzumac**	**3.00**	**223**	Pn	**Pn**	**00 28 33.1**	**+0.6**
4.2nm,0.3s,baz=104,slow=16,SNR=82							
DZM				Sn	Sg	00 29 17.8	-3.4
baz=300,slow=20,SNR=2.1							
NOUC	**Port Laguerre**	**3.11**	**224**	*e*P	**Pn**	**00 28 34.5**	**+0.5**
NOUC				*e*S	Sg	00 29 21.6	-3.2
WRA	**Warramunga Arr**	**32.22**	**264**	P	**P**	**00 34 13.6**	**0.0**
0.3nm,0.5s,baz=99,slow=8.4,SNR=2.7							
ASAR	**Alice Springs**	**32.43**	**257**	P	P	00 34 13.3	-2.1
1.9nm,1.0s,baz=81,slow=9.4,SNR=8.1							
FITZ	**Fitzroy Crossi**	**40.62**	**265**	P	**P**	**00 35 25.9**	**+0.6**
2.6nm,0.9s,baz=116,slow=6.1,SNR=3.7							
ILAR	**Eielson Array**	**91.01**	**17**	P	P	00 40 47.5	-1.3
0.2nm,0.3s,baz=227,slow=5.9,SNR=4.9							
GERES	**GERESS Array B**	**144.78**	**331**	PKP	**PKPab**	**00 47 20.1**	**-1.0**
0.8nm,0.8s,baz=66,slow=3.2,SNR=8.6							

IDC 25 00:39:35.7±4.8, 20°.61S×179°.09W, h579km±50km, mb2.9/6, mb1 3.3/7, mb1mx3.1/18, mbtmp2.9/7, Error ellipse: s-maj=114.1km s-min=24.7km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.56**	**261**	P	P	00 42 29.8	-0.7
0.2nm,0.3s,baz=79,slow=17,SNR=3.6							
ASAR	**Alice Springs**	**43.50**	**257**	P	P	00 46 49.3	0.0
1.0nm,0.7s,baz=85,slow=7.8,SNR=8.1							
WRA	**Warramunga Arr**	**43.58**	**262**	P	P	00 46 49.7	-0.1
0.2nm,0.2s,baz=95,slow=8.7,SNR=28							
NVAR	**Mina Array Bea**	**81.81**	**44**	P	P	00 50 55.6	+0.3
0.5nm,0.6s,baz=230,slow=6.1,SNR=4.9							
TXAR	**Lajitas Array**	**87.97**	**58**	P	P	00 51 25.2	0.0
0.3nm,0.9s,baz=256,slow=5.0,SNR=3.5							
ILAR	**Eielson Array**	**88.65**	**13**	P	P	00 51 27.1	-0.3
0.4nm,0.4s,baz=222,slow=5.5,SNR=9.9							
PDAR	**Pinedale Array**	**89.74**	**44**	P	P	00 51 33.0	-0.3
0.4nm,0.6s,baz=224,slow=4.1,SNR=4.8							
ZALV	**Zalesovo Beam**	**109.94**	**321**	PKiKP	PKiKP	00 57 00.8	-0.8
0.3nm,0.4s,baz=101,slow=4.6,SNR=2.6							
MKAR	**Makanchi Array**	**110.53**	**313**	PKiKP	PKiKP	00 57 02.7	-0.2
0.1nm,0.4s,baz=107,slow=0.3,SNR=3.9							
BVAR	**Borovoye Array**	**118.51**	**320**	PKP	PKPdf	00 57 17.9	-0.2
0.4nm,0.4s,baz=103,slow=3.1,SNR=6.6							
AKASG	**Malin Array Be**	**142.61**	**330**	PKP	PKPdf	00 58 01.1	-2.2
1.0nm,0.4s,baz=45,slow=3.9,SNR=5.0							
BRTR	**Keskin Array B**	**146.16**	**312**	PKPbc	PKPbc	00 58 11.8	-0.4
0.4nm,0.6s,baz=126,slow=4.4,SNR=3.4							
GERES	**GERESS Array B**	**150.02**	**343**	PKPbc	PKPbc	00 58 21.7	+0.1
0.6nm,0.7s,baz=48,slow=2.0,SNR=5.9							

FUNV 25 00:49:36.4, 10°.55N×62°.10W, h60km, MW3.1, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.15**	**309**	*e*P	Pn	00 49 45.6	-0.1
GUIV				*e*S	Sn	00 49 52.0	-0.4
TRN	**Trinidad (W)**	**0.70**	**82**	*e*P	Pn	00 49 54.0	+3.4
TRN				*e*S	Sn	00 50 05.6	+4.5
GUNV	**Guanoco**	**0.91**	**245**	*e*P	Pn	00 49 53.4	+0.1
GUNV				*e*S	Sn	00 50 05.5	-0.3
CRUV	**Carupano**	**1.12**	**276**	*e*P	Pn	00 49 55.4	-0.6
CRUV				*e*S	Sn	00 50 08.9	-1.7
ORIV	**Oritupano**	**1.95**	**221**	*e*P	Pn	00 50 06.8	-0.5
RIOV	**Rio Grande**	**2.48**	**173**	*e*P	Pn	00 50 14.0	-0.5
RIOV				*e*S	Sn	00 50 41.2	-2.5
PCRV	**Puerto La Cruz**	**2.52**	**262**	*e*P	Pn	00 50 13.2	-1.8
PCRV				*e*S	Sn	00 50 41.0	-3.7
GURV	**El Guri**	**2.94**	**199**	*e*P	Pn	00 50 19.9	-0.8
CUPV	**Cepira**	**3.66**	**263**	*e*P	Pn	00 50 29.3	-1.3
MERV	**Las Mercedes**	**4.33**	**253**	*e*S	Sn	00 51 24.3	-4.7
LUEV	**Luepa**	**4.72**	**172**	*e*P	Pn	00 50 43.9	-1.5
BAUV	**El Baul**	**6.07**	**255**	*e*P	Pn	00 51 01.4	-2.1
BAUV				*e*S	Sn	00 52 05.1	-6.6

IDC 25 01:08:27.2±14.0, 15°.41S×176°.77W, h324km±149km, mb3.0/4, mb1 3.3/4, mb1mx3.1/19, mbtmp3.0/4, Error ellipse: s-maj=153.2km s-min=34.4km az=149.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.67**	**257**	P	P	01 16 24.5	-0.2
0.2nm,0.4s,baz=97,slow=6.1,SNR=8.1							
ASAR	**Alice Springs**	**47.02**	**252**	P	P	01 16 27.2	-0.1
1.1nm,0.5s,baz=89,slow=7.7,SNR=13							
NVAR	**Mina Array Bea**	**76.55**	**43**	P	P	01 19 42.8	+0.1
0.4nm,0.6s,baz=233,slow=7.5,SNR=4.4							
ILAR	**Eielson Array**	**83.12**	**12**	P	P	01 20 16.6	-0.2
0.3nm,0.6s,baz=212,slow=5.9,SNR=8.8							
BRTR	**Keskin Array B**	**144.06**	**318**	PKP	PKPbc	01 27 23.9	0.0
0.4nm,0.6s,baz=108,slow=3.7,SNR=3.1							
GERES	**GERESS Array B**	**145.57**	**348**	PKPbc	PKPdf	01 27 27.6	+0.4
0.2nm,0.5s,baz=35,slow=3.6,SNR=2.8							

CASC 25 01:10:07.2±2.8, 13°.95N×90°.95W, h128km±13km, MD3.6, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.51**	**12**	*e*P	Pn	01 10 25.1	-1.2
FUG				*e*S	Sn	01 10 43.2	+2.4
IXG	**Ixpaco**	**0.53**	**65**	*e*P	Pn	01 10 25.7	-0.7
IXG				*e*S	Sn	01 10 43.6	+2.7
PCG	**Pacaya**	**0.55**	**37**	*e*P	Pn	01 10 26.2	-0.5
PCG				*e*S	Sn	01 10 43.1	+1.7
FG6		**0.61**	**6**	*e*P	Pn	01 10 26.1	-1.1
FG6				*e*S	Sn	01 10 43.1	+0.8
TP2	**Tecpan 2**	**0.83**	**355**	*e*P	Pn	01 10 28.9	-0.1
TP2				*e*S	Sn	01 10 46.0	+0.5
NBG	**Las Nubes**	**0.86**	**42**	*e*P	Pn	01 10 29.3	+0.3
NBG				*e*S	Sn	01 10 46.3	+0.7
RBDL	**Robledal**	**1.23**	**82**	*e*P	Pn	01 10 32.5	0.0
RBDL				*e*S	Sn	01 10 51.1	-0.5
RTR	**El Retiro**	**1.27**	**92**	*e*P	Pn	01 10 33.3	+0.5
RTR				*e*S	Sn	01 10 52.5	+0.2
SBLS	**San Blas**	**1.29**	**95**	*e*P	Pn	01 10 33.8	+0.7
SBLS				*e*S	Sn	01 10 53.0	+0.1
MTO2	**Montecristo 2**	**1.60**	**74**	*e*P	Pn	01 10 36.7	+0.1
BOQS	**Boqueron**	**1.63**	**97**	*e*P	Pn	01 10 38.1	+1.1
MRL	**Marmol**	**1.65**	**47**	*e*P	Pn	01 10 38.5	+1.5
MRL				*e*S	Sn	01 11 01.0	+1.2
LFRS	**El Faro**	**1.86**	**100**	*e*P	Pn	01 10 41.1	+1.6
LFRS				*e*S	Sn	01 11 06.1	+1.9
SNVI	**San Vicente**	**2.08**	**99**	*e*P	Pn	01 10 43.7	+1.5

*ISCJB **25** 01:13:13.5±0.6, 26°.91N±0°.05×55°.66E±0°.05, h14km, Error ellipse: s-maj=6.7km s-min=6.1km az=178.0*
*KISR **25** 01:13:13.5±0.8, 27°.88N×55°.65E, h34km±999km, ML3.3*
*CSEM **25** 01:13:14.2±0.3, 26°.80N×55°.74E, h2km, ML2.8, Error ellipse: s-maj=9.9km s-min=7.5km az=81.0*
*OMAN **25** 01:13:17.9±99.0, 26°.60N×55°.94E, h7km±213km, Error ellipse: s-maj=1784.0km s-min=28.1km az=5.0*
ISC 25 01:13:13.7±1.1, 26°.80N±0°.04×55°.77E±0°.06, h14km, n17, σ1⇟09/20, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**0.70**	**31**	*e*Pg	**Pb**	**01 13 27.8**	**0.0**
BNDS				*e*Sg	**Sg**	**01 13 35.6**	**-1.1**
BANOM	**Banah**	**0.99**	**151**	P	**Pb**	**01 13 32.3**	**-0.4**
SNR=354							
BANOM	**Banah**	**0.99**	**151**	P	**Pb**	**01 13 32.3**	**-0.4**
SNR=354							
HATD	**Hatta, Dubai**	**1.99**	**170**	⇑P	**Pb**	**01 13 49.4**	**-0.2**
HATD	**Hatta, Dubai**	**1.99**	**170**	P	**Pb**	**01 13 49.4**	**-0.2**
ASHO	**Ashiyiah**	**2.12**	**173**	P	**Pb**	**01 13 50.8**	**-1.1**
SNR=10							
ASHO	**Ashiyiah**	**2.12**	**173**	P	**Pb**	**01 13 50.8**	**-1.1**
SNR=10							
ASUD	**Al Ashush, Dub**	**2.19**	**190**	P	**Pb**	**01 13 52.8**	**-0.4**
SNR=9.8							
ASUD	**Al Ashush, Dub**	**2.19**	**190**	P	**Pb**	**01 13 52.8**	**-0.4**
SNR=9.8							
GHIR	**Ghir-Karzin**	**2.88**	**302**	*e*Pn	**Pb**	**01 14 03.9**	**-1.1**
KRBR	**Kerman**	**3.29**	**15**	*e*Pn	Pb	01 14 08.6	-3.5
UMR	**Umm Al-Rimmam**	**7.62**	**293**	*e*P	**Pn**	**01 15 05.1**	**+

σ0$87/68, **4C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien** baz=293	**0.24**	**298**	*e*P	Pb	02 11 13.8	+3.2
HWA	baz=293			*e*S	**Sb**	**02 11 19.8**	**+5.2**
TWD	**Chiawan** baz=317	**0.31**	**315**	⇑*i*P	**Pn**	**02 11 14.5**	**0.0**
TWD	baz=317			S	**Sn**	**02 11 20.8**	**+0.2**
ESL	**Shilin** baz=259	**0.37**	**262**	P	**Pn**	**02 11 15.1**	**-0.3**
ESL	baz=259			S	**Sn**	**02 11 21.9**	**-0.3**
ENA	**Nanau** baz=347	**0.57**	**351**	⇑*i*P	**Pn**	**02 11 17.6**	**-0.5**
ENA	baz=347			*e*S	**Sn**	**02 11 26.4**	**-0.7**
EHY	**Hungye** baz=230	**0.59**	**233**	*e*P	**Pn**	**02 11 17.6**	**-0.8**
EHY	baz=230			*e*S	**Sb**	**02 11 25.9**	**+1.1**
WHF	**Hehuan Shan** baz=291	**0.59**	**298**	⇑*i*P	**Pn**	**02 11 18.0**	**-0.8**
WHF	baz=291			S	**Sn**	**02 11 26.6**	**-1.6**
TWF1	**Yuli** baz=230	**0.71**	**224**	P	**Pb**	**02 11 19.2**	**+0.5**
TWF1	baz=230			*e*S	**Sb**	**02 11 29.1**	**+0.9**
NNS	**Nan Shan** baz=325	**0.71**	**324**	P	**Pn**	**02 11 19.6**	**-0.6**
NNS	baz=325			S	**Sn**	**02 11 29.4**	**-1.4**
TWT	**Tachien** baz=302	**0.72**	**303**	*e*P	**Pn**	**02 11 19.9**	**-0.4**
TWT	baz=302			*e*S	**Sn**	**02 11 29.6**	**-1.4**
TWC	**Suao** baz=11	**0.74**	**1**	*i*P	**Pn**	**02 11 20.4**	**-0.1**
TWC	baz=11			S	**Sn**	**02 11 30.8**	**-0.5**
ENTT	**Nioudou** baz=337	**0.81**	**342**	*e*P	**Pn**	**02 11 21.0**	**-0.4**
ENTT	baz=337			*e*S	**Sn**	**02 11 32.1**	**-1.0**
SMLT	**Sun Moon Lake** baz=270	**0.86**	**271**	*e*P	**Pn**	**02 11 21.8**	**-0.3**
SMLT	baz=270			*e*S	**Sg**	**02 11 32.2**	**-0.6**
TWE	**Neicheng** baz=343	**0.87**	**350**	*e*P	**Pn**	**02 11 22.1**	**-0.1**
TWE	baz=343			*e*S	**Sg**	**02 11 33.5**	**+0.3**
CHKT	**Chengkung** baz=200	**0.88**	**210**	*e*P	**Pb**	**02 11 21.6**	**+0.1**
YUS	**Yu-Shan** baz=237	**0.89**	**245**	*e*P	**Pn**	**02 11 22.8**	**-0.2**
YUS	baz=237			S	**Sg**	**02 11 34.1**	**0.0**
TYC	**Yuchr** baz=275	**0.90**	**273**	*e*P	**Pn**	**02 11 22.6**	**0.0**
TYC	baz=275			*e*S	**Sg**	**02 11 33.6**	**-0.4**
NSK	**Sanguang** baz=333	**0.92**	**332**	⇑*i*P	**Pg**	**02 11 22.7**	**0.0**
NSK	baz=333			S	**Sg**	**02 11 34.2**	**-0.5**
ALS	**Alishan** baz=248	**1.01**	**250**	*e*P	**Pg**	**02 11 24.6**	**+0.2**
ALS	baz=248			*e*S	**Sg**	**02 11 37.4**	**-0.2**
ELDTW	**Lidau** baz=223	**1.01**	**228**	*e*P	**Pb**	**02 11 23.1**	**-0.7**
ELDTW	baz=223			*e*S	**Sb**	**02 11 36.0**	**-0.8**
NSTT	**Nanjuang** baz=315	**1.08**	**315**	*e*P	**Pg**	**02 11 25.5**	**-0.2**
NSTT	baz=315			*e*S	**Sg**	**02 11 38.9**	**-0.9**
TWQ1	**Liyutan** baz=296	**1.08**	**297**	*e*P	**Pg**	**02 11 25.4**	**-0.4**
TWQ1	baz=296			*e*S	**Sn**	**02 11 39.4**	**-0.4**
CHN5	**Tsauling** baz=255	**1.09**	**256**	*e*P	**Pb**	**02 11 25.2**	**-0.1**
CHN5	baz=255			*e*S	**Sg**	**02 11 40.3**	**0.0**
TCU	**Taichung** baz=284	**1.10**	**285**	*e*P	**Pg**	**02 11 25.9**	**-0.1**
TCU	baz=284			*e*S	**Sn**	**02 11 39.5**	**-0.6**
WGK	**Gukeng** baz=261	**1.18**	**262**	*e*P	**Pn**	**02 11 26.1**	**-0.3**
NWF	**Wu-fen Shan** baz=358	**1.20**	**358**	*e*P	**Pb**	**02 11 27.1**	**0.0**
NWF	baz=358			*e*S	**Sn**	**02 11 42.8**	**-0.1**
YOJ	**Yonaguni jima**	**1.23**	**61**	P	**Pn**	**02 11 27.4**	**+0.2**
YOJ				*e*S	**Sb**	**02 11 43.3**	**+0.2**
CHN4	**Tsaushan** baz=244	**1.25**	**246**	*e*P	**Pb**	**02 11 28.2**	**+0.3**
CHN4	baz=244			*e*S	**Sg**	**02 11 44.7**	**-0.5**
TWG	**Pinlang** baz=213	**1.25**	**214**	*e*P	**Pn**	**02 11 27.1**	**-0.4**
TWK	**Hsinying** baz=243	**1.37**	**245**	*e*P	**Pn**	**02 11 29.6**	**+0.4**
TWK	baz=243			*e*S	**Sn**	**02 11 46.8**	**-0.1**
CHN1	**Nanshi** baz=239	**1.38**	**241**	*e*P	**Pn**	**02 11 29.4**	**+0.1**
CHN1	baz=239			*e*S	**Sn**	**02 11 46.5**	**-0.5**
SSD	**Sandimen** baz=225	**1.57**	**225**	*e*P	**Pn**	**02 11 32.3**	**+0.5**
IRIF	**Iriomote-Funau**	**1.79**	**74**	P	**Pn**	**02 11 35.1**	**+0.2**
IRIF				*e*S	**Sn**	**02 11 56.8**	**-0.5**
HATJ	**Hateruma jima**	**1.81**	**84**	P	**Pn**	**02 11 35.4**	**+0.2**
HATJ				*e*S	**Sn**	**02 11 57.4**	**-0.4**
SCZT	**Fangliau** baz=218	**1.86**	**217**	*e*P	**Pb**	**02 11 38.3**	**0.0**
JKRS	**Kuro-shima**	**2.02**	**79**	P	**Pn**	**02 11 38.6**	**+0.5**
JKRS				*e*S	**Sn**	**02 12 03.1**	**+0.1**
JIJ	**Ishigaki jima**	**2.17**	**76**	P	**Pn**	**02 11 39.8**	**-0.3**
JIJ				*e*S	**Sn**	**02 12 05.0**	**-1.6**
JTJ	**Tarama**	**2.73**	**73**	P	**Pn**	**02 11 48.0**	**+0.2**
JTJ				*e*S	**Sn**	**02 12 19.6**	**-0.8**

*IDC **25** 02:15:29.3±1.1,4°.31N×127°.20E,h0km,mb3.9/8, mb1 4.1/8,mb1mx3.9/22,mbtmp3.9/8,MS3.4/2,Ms1 3.4/2, ms1mx2.6/42,Error ellipse: s-maj=70.8km s-min=15.8km az=68.0*

*ISCJB **25** 02:15:32.6±0.8,4°.3N±0°.1×127°.1E±0°.3,h36km,mb4.0/13, MS3.8/1,Error ellipse: s-maj=41.5km s-min=10.0km az=159.9*

*NEIC **25** 02:15:34.2±0.4,4°.29N×127°.16E,h35km,mb4.3/5,Error ellipse: s-maj=25.2km s-min=6.9km az=70.0*

ISC 25 02:15:34.7±1.5,4°.2N±0°.2×127°.1E±0°.6,h36km,n27,
σ0$41/11,mb4.0/13,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang** comp=Z,72nm,18.7s,baz=320,slow=39	**11.75**	**219**	LR	LR	02 23 16.3	
FITZ	**Fitzroy Crossi**	**22.25**	**184**	P	**P**	**02 20 29.1**	**+0.5**
FITZ	**Fitzroy Crossi** 2.0nm,0.8s,baz=355,slow=12,SNR=4.2	**22.25**	**184**	P	**P**	**02 20 29.1**	**+0.5**
WRAB	**Tennant Creek** 5.9nm,0.9s	**25.06**	**164**	*e*P	**P**	**02 20 56.4**	**+0.5**
WRA	**Warramunga Arr**	**25.07**	**164**	P	**P**	**02 20 56.0**	**+0.1**
WRA	**Warramunga Arr** 3.2nm,0.8s,baz=344,slow=10,SNR=11	**25.07**	**164**	P	**P**	**02 20 56.0**	**+0.1**
MBWA	**Marble Bar** 11nm,1.1s	**26.25**	**196**	*e*P	**P**	**02 21 06.0**	**-0.7**
ASAR	**Alice Springs**	**28.52**	**167**	P	P	02 21 27.2	+0.1
ASAR	**Alice Springs** 0.4nm,0.6s,baz=339,slow=6.7,SNR=5.0	**28.52**	**167**	P	P	02 21 27.2	+0.1
CMAR	**Chiang Mai Arr**	**30.92**	**299**	P	P	02 21 48.8	+0.4
CMAR	**Chiang Mai Arr** 1.7nm,0.3s,baz=97,slow=7.4,SNR=3.9	**30.92**	**299**	P	P	02 21 48.8	+0.4
STKA	**Stephens Creek**	**38.48**	**160**	P	P	02 22 53.0	-0.5
STKA	**Stephens Creek** 4.5nm,0.9s,baz=336,slow=10.0,SNR=7.1	**38.48**	**160**	P	P	02 22 53.0	-0.5
SONM	**Songino Array**	**46.93**	**341**	P	P	02 24 02.5	+0.5
SONM	**Songino Array** 0.3nm,0.5s,baz=153,slow=7.7,SNR=5.7	**46.93**	**341**	P	P	02 24 02.5	+0.5
MKAR	**Makanchi Array**	**57.34**	**325**	P	P	02 25 19.1	-0.2
MKAR				PcP	**PcP**	**02 26 13.3**	**+0.2**
MKAR	**Makanchi Array** 0.6nm,0.4s,baz=120,slow=8.5,SNR=19	**57.34**	**325**	P	P	02 25 19.1	-0.2
MKAR				PcP	**PcP**	**02 26 13.3**	**+0.2**
ZALV	**Zalesovo Beam**	**60.30**	**333**	P	P	02 25 38.9	-0.7
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=118,slow=5.2,SNR=3.0	**60.30**	**333**	P	P	02 25 38.9	-0.7
KURK	**Kurchatov** 1.7nm,0.8s	**61.50**	**327**	*e*P	P	02 25 46.7	-1.2
BRVK	**Borovoye** 2.5nm,0.8s	**67.16**	**327**	*e*P	P	02 26 24.8	-0.1
ABKAR	**Akbulak array** 0.8nm,0.7s	**71.98**	**321**	*e*P	P	02 26 54.3	-0.4
AKTO	**Aktyubinsk** comp=Z,46nm,19.8s,baz=186,slow=38	**73.48**	**321**	LR	LR	03 01 58.0	
TORD	**Torodi Ar. Bea**	**123.09**	**289**	PKP	**PKPdf**	**02 34 28.7**	**+0.1**
TORD	**Torodi Ar. Bea** 0.3nm,0.7s,baz=68,slow=2.0,SNR=3.5	**123.09**	**289**	PKP	**PKPdf**	**02 34 28.7**	**+0.1**
HKT	**Hockley**	**126.69**	**47**	*e*PKPdf	PKPdf	02 34 33.5	-1.4
TRQA	**Tornquist**	**145.34**	**167**	*e*PKPbc	**PKPbc**	**02 35 08.9**	**-0.2**

*IDC **25** 02:43:04.0±1.0,2°.79N×126°.85E,h0km,mb3.9/10, mb1 4.0/10,mb1mx3.9/24,mbtmp3.9/10,Error ellipse: s-maj=100.6km s-min=14.4km az=69.0*

*ISCJB **25** 02:43:07.6±0.6,2°.9N±0°.1×127°.1E±0°.2,h44km,mb4.0/14, Error ellipse: s-maj=33.6km s-min=9.5km az=159.5*

*NEIC **25** 02:43:08.5±0.5,2°.85N×127°.12E,h35km,mb4.3/5,Error ellipse: s-maj=27.5km s-min=8.1km az=69.0*

ISC 25 02:43:09.8±0.7,2°.8N±0°.1×127°.1E±0°.3,h44km,n26,
σ0$83/28,mb4.1/14,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.86**	**184**	P	**P**	**02 47 47.5**	**-0.6**
FITZ	**Fitzroy Crossi** 4.3nm,0.7s,baz=19,slow=7.1,SNR=11	**20.86**	**184**	P	**P**	**02 47 47.5**	**-0.6**
WRAB	**Tennant Creek** 11nm,0.9s	**23.71**	**163**	*e*P	**P**	**02 48 17.7**	**-0.2**
WRA	**Warramunga Arr**	**23.72**	**163**	P	**P**	**02 48 17.8**	**-0.2**
WRA				PcP	**PcP**	**02 52 02.9**	**+1.5**
WRA	**Warramunga Arr** 4.3nm,0.5s,baz=340,slow=11,SNR=63	**23.72**	**163**	P	**P**	**02 48 17.8**	**-0.2**
WRA				PcP	**PcP**	**02 52 02.9**	**+1.5**
MBWA	**Marble Bar** 3.7nm,0.6s	**24.93**	**197**	*e*P	**P**	**02 48 28.5**	**-0.5**
ASAR	**Alice Springs**	**27.16**	**166**	P	**P**	**02 48 49.3**	**+0.1**
ASAR	**Alice Springs** 0.5nm,0.4s,baz=342,slow=8.5,SNR=11	**27.16**	**166**	P	**P**	**02 48 49.3**	**+0.1**
STKA	**Stephens Creek**	**37.16**	**159**	P	**P**	**02 50 17.4**	**+0.9**
STKA	**Stephens Creek** 2.4nm,0.3s,baz=346,slow=7.1,SNR=13	**37.16**	**159**	P	**P**	**02 50 17.4**	**+0.9**
DZM	**Mont Dzumac** 11nm,1.0s	**45.70**	**125**	*e*P	**P**	**02 51 25.6**	**-1.3**
SONM	**Songino Array**	**48.27**	**341**	P	**P**	**02 51 47.0**	**+0.4**
SONM	**Songino Array** 0.5nm,0.8s,baz=158,slow=9.7,SNR=4.6	**48.27**	**341**	P	**P**	**02 51 47.0**	**+0.4**
MKAR	**Makanchi Array**	**58.51**	**325**	P	**P**	**02 53 01.6**	**-0.1**
MKAR	**Makanchi Array** 0.7nm,0.5s,baz=119,slow=8.1,SNR=19	**58.51**	**325**	P	**P**	**02 53 01.6**	**-0.1**
ZALV	**Zalesovo Beam**	**61.56**	**333**	P	**P**	**02 53 21.8**	**-0.6**
ZALV	**Zalesovo Beam** 0.4nm,0.4s,baz=115,slow=7.8,SNR=2.6	**61.56**	**333**	P	**P**	**02 53 21.8**	**-0.6**
EKS2	**Erkin-Say** 1.3nm,0.9s	**61.78**	**318**	*e*P	**P**	**02 53 21.8**	**-2.5**
KURBB	**Kurchatov Arra** 0.7nm,0.5s,baz=130,slow=5.5,SNR=5.1	**62.70**	**327**	P	**P**	**02 53 29.4**	**-0.8**
KURK	**Kurchatov** 2.3nm,0.7s	**62.70**	**328**	*e*P	**P**	**02 53 30.0**	**-0.2**
BVAR	**Borovoye Array**	**68.28**	**327**	P	**P**	**02 54 06.0**	**-0.2**
BVAR	**Borovoye Array** 0.3nm,0.4s,baz=115,slow=6.5,SNR=3.1	**68.28**	**327**	P	**P**	**02 54 06.0**	**-0.2**
AKTO	**Aktyubinsk**	**74.60**	**322**	P	**P**	**02 54 44.7**	**+0.3**
AKTO	**Aktyubinsk** 0.5nm,0.4s,baz=80,slow=8.8,SNR=3.9	**74.60**	**322**	P	**P**	**02 54 44.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**123.57**	**288**	PKP	**PKPdf**	**03 02 03.5**	**-0.1**
TORD	**Torodi Ar. Bea** 0.8nm,1.2s,baz=96,slow=1.2,SNR=6.5	**123.57**	**288**	PKP	**PKPdf**	**03 02 03.5**	**-0.1**

WEL 25 02:54:38.1±0.4,34°.98S×177°.88E,h33km,ML3.9/3,Error ellipse: s-maj=6.2km s-min=2.7km az=90.0,North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.60**	**173**	PN	Pn	02 55 17.0	-0.8
MXZ				SN	Sn	02 55 46.6	-1.5
URZ	**Urewera**	**3.33**	**191**	PN	Pn	02 55 27.3	-0.5
URZ				SN	Sn	02 56 04.1	-2.1
MWZ	**Matawai**	**3.36**	**185**	PN	Pn	02 55 27.4	-0.9
MWZ				SN	Sn	02 56 03.7	-3.3

*IDC **25** 02:56:30.9±1.2,9°.79N×104°.24W,h0km,mb3.8/10, mb1 4.1/11,mb1mx4.0/21,mbtmp3.9/11,ML3.5/1,MS3.6/10, Ms1 3.6/10,ms1mx3.4/29,Error ellipse: s-maj=39.9km s-min=16.9km az=56.0*

*NEIC **25** 02:56:32.6±0.7,9°.85N×104°.16W,h10km,mb4.3/12,Error ellipse: s-maj=20.3km s-min=7.2km az=58.0*

*ISCJB **25** 02:56:35.3±0.8,10°.02N±0°.09×103°.9W±0°.1,h33km, mb4.1/22,MS3.6/8,Error ellipse: s-maj=20.9km s-min=7.1km az=149.3*

ISC 25 02:56:36.6±1.0,9°.9N±0°.1×104°.1W±0°.2,h35km,n134,
σ0$90/130,mb4.1/22,MS3.6/8,35C-54D,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero** comp=Z,239nm,19.7s,baz=207,slow=31	**11.47**	**50**	LR	LR	03 02 29.6	
TXAR	**Lajitas Array**	**19.35**	**1**	P	**P**	**03 00 58.3**	**-1.0**
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=181,slow=7.1,SNR=27	**19.35**	**1**	P	**P**	**03 00 58.3**	**-1.0**
TXAR	comp=Z,232nm,18.4s,baz=5.0,slow=35			LR	LR	03 07 56.2	
627A	**Terlingua Ranc** baz=20	**19.48**	**2**	⇓P	**P**	**03 00 59.5**	**-1.2**
628A	**Black Gap, Mar** baz=20	**19.53**	**3**	⇓P	**P**	**03 01 01.1**	**-0.2**
626A	**Big Bend Ranch** baz=20	**19.57**	**360**	⇑P	**P**	**03 01 01.6**	**0.0**
526A	**Mary Lane Ranc** baz=20	**20.07**	**0**	⇑P	**P**	**03 01 07.3**	**0.0**
527A	**Woodward Ranch** baz=20,SNR=7.7	**20.16**	**1**	⇓P	**P**	**03 01 07.0**	**-1.2**
528A	**Cox Ranch, San** baz=20	**20.21**	**3**	⇓P	**P**	**03 01 08.0**	**-0.7**
529A	**Stev Forest Ra** baz=20	**20.21**	**5**	⇓P	**P**	**03 01 08.1**	**-0.5**
531A	**Rocksprings** baz=21	**20.45**	**9**	⇑P	**P**	**03 01 10.6**	**-0.6**
426A	**McDonald Obser** baz=21	**20.68**	**0**	⇓P	**P**	**03 01 13.2**	**-0.6**
429A	**Davenport Ranc** baz=21	**20.74**	**5**	⇓P	**P**	**03 01 13.4**	**-0.9**
428A	**Kincaid Ranch,** baz=21	**20.78**	**3**	⇑P	**P**	**03 01 14.4**	**-0.4**
425A	**Indio Mountain** baz=21,SNR=8.4	**20.81**	**358**	⇓P	**P**	**03 01 14.4**	**-0.8**
427A	**Hayter Ranch,** baz=21,SNR=5.8	**20.87**	**2**	⇑P	**P**	**03 01 15.3**	**-0.5**
JCT	**Junction City** 11nm,1.2s	**20.88**	**10**	*e*P	**P**	**03 01 14.4**	**-1.4**
JCT	**Junction City** baz=21	**20.88**	**10**	⇓P	**P**	**03 01 14.9**	**-0.9**
431A	**Sonora** baz=21,SNR=5.7	**20.95**	**8**	⇓P	**P**	**03 01 15.8**	**-0.8**
430A	**Baggett Ranch,** baz=21	**20.97**	**7**	⇓P	**P**	**03 01 16.1**	**-0.7**
325A	**Bean Ranch, Si** baz=22,SNR=6.4	**21.39**	**358**	⇓P	**P**	**03 01 20.7**	**-0.8**
HKT	**Hockley** 21nm,1.4s	**21.41**	**20**	*e*P	**P**	**03 01 20.5**	**-0.9**
324A	**Moseley Ranch,** baz=22,SNR=9.8	**21.49**	**357**	⇑P	**P**	**03 01 21.8**	**-0.7**
329A	**Wagon Wheel Ra** baz=22	**21.59**	**5**	⇓P	**P**	**03 01 22.1**	**-1.3**
320A	**Kipp Ranch, An** baz=22	**21.74**	**350**	⇓P	**P**	**03 01 24.9**	**-0.3**
319A	**Douglas** baz=22	**21.92**	**348**	⇓P	**P**	**03 01 26.8**	**-0.3**
224A	**Cornudas Mount** baz=22,SNR=7.1	**22.12**	**357**	⇑P	**P**	**03 01 28.2**	**-1.1**
225A	**Deer Hill, Car** baz=22	**22.13**	**358**	⇓P	**P**	**03 01 28.4**	**-1.0**
228A	**UT Block 9, Go** baz=22	**22.17**	**3**	⇑P	**P**	**03 01 28.5**	**-1.3**
220A	**Playas Peak, P** baz=22,SNR=7.1	**22.29**	**350**	⇓P	**P**	**03 01 30.0**	**-1.1**
125A	**Gardner Draw,** baz=23	**22.67**	**359**	⇑P	**P**	**03 01 34.2**	**-0.9**
128A	**Castleberry Fa** baz=23	**22.68**	**4**	⇑P	**P**	**03 01 33.7**	**-1.4**
127A	**Arkansas Junct** baz=23	**22.69**	**2**	⇓P	**P**	**03 01 34.0**	**-1.3**
129A	**Stewart Farms,** baz=23	**22.73**	**5**	⇓P	**P**	**03 01 34.4**	**-1.3**
121A	**Cookes Peak, D** baz=23	**22.79**	**352**	⇑P	**P**	**03 01 35.0**	**-1.4**
120A	**U Bar Ranch, L** baz=23	**22.94**	**350**	⇑P	**P**	**03 01 36.9**	**-1.0**
ABTX	**Abilene, Hawle** baz=23	**23.00**	**10**	⇓P	**P**	**03 01 36.5**	**-2.0**
TUC	**Tucson** 6.9nm,1.4s	**23.16**	**345**	*e*P	**P**	**03 01 40.6**	**+0.5**
Z26A	**Caprock** baz=23	**23.27**	**0**	⇓P	**P**	**03 01 39.9**	**-1.4**
Z25A	**Roswell** baz=23	**23.29**	**359**	⇑P	**P**	**03 01 39.9**	**-1.6**
Z27A	**Tatum** baz=24,SNR=13	**23.33**	**2**	⇓P	**P**	**03 01 40.5**	**-1.4**
Z28A	**Tucker Farm, M** baz=24	**23.34**	**4**	⇓P	**P**	**03 01 40.3**	**-1.7**
Z23A	**Rita Site, Whi** baz=24	**23.35**	**356**	⇑P	**P**	**03 01 40.9**	**-1.1**
Z29A	**Hungry Hill Ra** baz=24	**23.37**	**5**	⇑P	**P**	**03 01 40.5**	**-1.7**
Y27A	**Causey** baz=24,SNR=6.7	**23.90**	**2**	⇓P	**P**	**03 01 45.9**	**-1.4**
Y25A	**Mesa, Roswell** baz=24	**23.93**	**359**	⇑P	**P**	**03 01 46.5**	**-1.1**
Y24A	**Capitan** baz=24	**23.96**	**357**	⇓P	**P**	**03 01 47.2**	**-0.7**
Y29A	**Porterfield Fa** baz=24	**23.97**	**5**	⇑P	**P**	**03 01 46.5**	**-1.4**
Y28A	**McKinney Farm,** baz=24	**23.97**	**4**	⇑P	**P**	**03 01 47.2**	**-0.7**
Y23A	**Lovelace Mesa,** baz=24,SNR=6.1	**24.00**	**356**	⇑P	**P**	**03 01 48.1**	**-0.3**
MSTX	**Muleshoe** baz=24	**24.00**	**3**	⇑P	**P**	**03 01 47.3**	**-0.9**
Y22A	**Socorro** baz=24	**24.08**	**354**	⇓P	**P**	**03 01 48.4**	**-0.7**
Y20A	**Horse Springs,** baz=24,SNR=6.6	**24.23**	**351**	⇓P	**P**	**03 01 50.7**	**+0.2**
Y21A	**Point of Rocks** baz=24,SNR=7.4	**24.23**	**353**	⇑P	**P**	**03 01 50.5**	**0.0**
X25A	**Clemmons Ranch** baz=25	**24.53**	**359**	⇓P	**P**	**03 01 52.1**	**-1.0**
LAZ	**Ladron**	**24.56**	**354**	*e*P	**P**	**03 01 53.1**	**-0.3**
X21A	**Alamocita Cree** baz=25	**24.68**	**353**	⇑P	**P**	**03 01 54.1**	**-0.4**
X20A	**Quemado** baz=25	**24.87**	**351**	⇓P	**P**	**03 01 55.8**	**-0.5**
AMTX	**Amarillo** 6.8nm,0.9s	**24.98**	**5**	*e*P	**P**	**03 01 56.1**	**-1.0**
AMTX	**Amarillo** baz=25	**24.98**	**5**	⇓P	**P**	**03 01 56.2**	**-1.0**
ANMO	**Albuquerque** 15nm,1.6s	**25.04**	**355**	*e*P	**P**	**03 01 58.0**	**+0.2**
ANMO	**Albuquerque** 3.0nm,1.0s,baz=172,slow=9.7,SNR=5.1	**25.04**	**355**	P	**P**	**03 01 57.8**	**-0.1**
ANMO	comp=Z,88nm,20.8s,baz=37,slow=35			LR	LR	03 11 06.6	
W27A	**Bowe Ranch, En** baz=25	**25.08**	**2**	⇓P	**P**	**03 01 56.9**	**-1.2**
W25A	**X Bar L Ranch,** baz=25	**25.22**	**359**	⇑P	**P**	**03 01 59.0**	**-0.4**
W29A	**Amarillo** baz=25	**25.22**	**5**	⇓P	**P**	**03 01 58.7**	**-0.6**
W20A	**Ramah** baz=26,SNR=6.6	**25.44**	**352**	⇑P	**P**	**03 02 02.2**	**+0.7**
V24A	**Rampart Ranch,** baz=26	**25.75**	**358**	⇓P	**P**	**03 02 04.1**	**-0.2**
V26A	**Tequesquite Ra** baz=26	**25.80**	**1**	⇑P	**P**	**03 02 03.5**	**-1.0**
V25A	**Rancho No Teng** baz=26	**25.84**	**359**	⇑P	**P**	**03 02 04.1**	**-0.9**
U26A	**Atchley Ranch,** baz=26	**26.39**	**1**	⇓P	**P**	**03 02 09.3**	**-0.7**
U23A	**El Rito** baz=26	**26.39**	**356**	⇑P	**P**	**03 02 09.4**	**-0.7**
U25A	**Circle Dot Ran** baz=26	**26.40**	**359**	⇓P	**P**	**03 02 09.7**	**-0.4**
U22A	**Llaves** baz=27	**26.49**	**355**	⇓P	**P**	**03 02 10.5**	**-0.5**
U21A	**Nageezi** baz=27	**26.62**	**354**	⇓P	**P**	**03 02 12.0**	**-0.2**
T25A	**Trinidad** baz=27	**27.13**	**359**	⇓P	**P**	**03 02 16.2**	**-0.5**
OTAV	**Otavalo** 7.1nm,1.3s	**27.27**	**109**	*e*P	**P**	**03 02 19.1**	**+0.6**
T17A	**Navajo Res., N** baz=28	**27.66**	**348**	⇓P	**P**	**03 02 21.6**	**+0.1**
S22A	**4UR Ranch, Cre** baz=28	**27.85**	**355**	⇑P	**P**	**03 02 22.4**	**-0.8**
S19A	**Harvey Farm, M** baz=28	**28.11**	**352**	⇑P	**P**	**03 02 25.3**	**-0.1**
R27A	**Eads** baz=28	**28.30**	**2**	⇓P	**P**	**03 02 26.2**	**-0.9**
R18A	**Canyonlands Na** baz=29	**28.85**	**351**	⇑P	**P**	**03 02 32.1**	**+0.1**
Q22A	**Crested Butte,** baz=29	**28.96**	**355**	⇓P	**P**	**03 02 32.6**	**-0.5**
R17A	**Hanksville Air** baz=29	**29.02**	**349**	⇓P	**P**	**03 02 33.5**	**0.0**
O22A	**Kremmling** baz=30	**30.23**	**356**	⇑P	**P**	**03 02 43.7**	**-0.7**
O20A	**White River Ci** baz=30	**30.35**	**354**	⇓P	**P**	**03 02 44.7**	**-0.5**
ATAH	**Atahualpa** comp=Z,212nm,19.9s,baz=290,slow=31	**30.69**	**122**	LR	LR	03 12 36.9	
NVAR	**Mina Array Bea**	**31.15**	**338**	P	**P**	**03 02 51.6**	**-0.8**
NVAR	**Mina Array Bea** 0.8nm,0.9s,baz=173,slow=9.8,SNR=3.7	**31.15**	**338**	P	**P**	**03 02 51.6**	**-0.8**
NVAR	comp=Z,71nm,20.9s,baz=39,slow=33			LR	LR	03 13 38.0	
DUG	**Dugway** 3.8nm,1.3s	**31.16**	**347**	*e*P	**P**	**03 02 52.5**	**+0.1**
M23A	**Laramie** baz=32	**31.49**	**358**	⇓P	**P**	**03 02 55.0**	**-0.4**
HWUT	**Hardware Ranch** 2.7nm,1.0s	**32.27**	**349**	*e*P	**P**	**03 03 01.5**	**-0.7**
BW06	**Boulder Array** 13nm,1.8s	**33.10**	**353**	*e*P	**P**	**03 03 09.4**	**-0.1**
BW06	**Boulder Array** baz=33	**33.10**	**353**	⇓P	**P**	**03 03 09.3**	**-0.1**
PDAR	**Pinedale Array**	**33.10**	**353**	P	**P**	**03 03 09.1**	**-0.4**
PDAR	**Pinedale Array** 1.1nm,0.9s,baz=161,slow=8.6,SNR=8.0	**33.10**	**353**	P	**P**	**03 03 09.1**	**-0.4**
J20A	**Shoshoni** baz=34	**33.52**	**355**	⇓P	**P**	**03 03 12.5**	**-0.5**
HLID	**Hailey** 17nm,2.3s	**34.73**	**347**	*e*P	**P**	**03 03 23.3**	**-0.3**
NNA	**Nana** 9.8nm,0.8s	**34.73**	**128**	*e*P	**P**	**03 03 23.6**	**-0.2**
F18A	**Big Timber** baz=36	**36.21**	**353**	⇑P	**P**	**03 03 35.8**	**-0.4**
E16A	**East Helena** baz=37	**37.09**	**351**	⇑P	**P**	**03 03 43.2**	**-0.5**
D19A	**Cripps Ranch,** baz=38	**37.37**	**355**	⇑P	**P**	**03 03 44.6**	**-1.4**
E13A	**Victor** baz=38	**37.43**	**349**	⇓P	**P**	**03 03 46.4**	**-0.2**
D17A	**Six Diamond Ra** baz=38	**37.56**	**353**	⇓P	**P**	**03 03 47.4**	**-0.3**
SJG	**San Juan**	**37.66**	**73**	P	**P**	**03 03 49.2**	**+0.4**
SJG	**San Juan** 8.6nm,0.3s,baz=270,slow=11,SNR=11	**37.66**	**73**	P	**P**	**03 03 49.2**	**+0.4**
C22A	**Vida** baz=38	**37.76**	**358**	⇓P	**P**	**03 03 48.7**	**-0.6**
C23A	**Lambert** baz=38	**37.80**	**359**	⇑P	**P**	**03 03 49.3**	**-0.3**
C19A	**Slack Wire Ran** baz=38	**37.95**	**355**	⇓P	**P**	**03 03 50.5**	**-0.4**

C17A	**Wharram Farm,** baz=38	**38.04**	**353**	⇓P		**P**	**03 03 51.7**	**0.0**
A20A	**Cobblestone Ra** baz=39	**39.00**	**356**	⇓P		**P**	**03 03 59.1**	**-0.6**
A14A	**Double T Ranch** baz=40	**39.73**	**350**	⇓P		**P**	**03 04 05.3**	**-0.6**
NEW	**Newport** 2.4nm,0.9s	**39.79**	**346**	*e*P		**P**	**03 04 05.3**	**-1.0**
NEW	**Newport** baz=40	**39.79**	**346**	⇓P		**P**	**03 04 06.0**	**-0.3**
ULM	**Lac du Bonnet**	**40.81**	**8**	P		**P**	**03 04 14.2**	**-0.4**
ULM	**Lac du Bonnet** 1.6nm,0.7s,baz=164,slow=9.0,SNR=3.4	**40.81**	**8**	P		**P**	**03 04 14.2**	**-0.4**
ULM				LR	LR		03 21 11.0	
	comp=Z,104nm,18.4s,baz=324,slow=36							
SADO	**Sadowa** comp=Z,33nm,21.5s,baz=280,slow=40	**40.89**	**27**	LR	LR		03 23 31.7	
LPAZ	**La Paz**	**44.09**	**126**	P		**P**	**03 04 43.0**	**+0.6**
LPAZ	**La Paz** 2.6nm,0.9s,baz=322,slow=10,SNR=5.8	**44.09**	**126**	P		**P**	**03 04 43.0**	**+0.6**
LPAZ				LR	LR		03 19 58.4	
	comp=Z,56nm,19.1s,baz=249,slow=32							
SAML	**Samuel** 12nm,1.7s	**44.83**	**113**	*e*P		**P**	**03 04 46.0**	**-1.7**
SIV	**San Ignacio**	**49.76**	**121**	P		**P**	**03 05 25.8**	**-0.3**
SIV	**San Ignacio** 2.2nm,1.0s,baz=322,slow=9.4,SNR=5.8	**49.76**	**121**	P		**P**	**03 05 25.8**	**-0.3**
YKA	**Yellowknife Ar**	**53.06**	**354**	P		**P**	**03 05 51.8**	**+1.7**
YKA	**Yellowknife Ar** 0.3nm,0.7s,baz=161,slow=7.7,SNR=5.2	**53.06**	**354**	P		**P**	**03 05 51.8**	**+1.7**
SCHQ	**Schefferville**	**53.65**	**26**	P		**P**	**03 05 57.0**	**+2.5**
SCHQ	**Schefferville** 3.9nm,1.1s,baz=252,slow=4.3,SNR=3.5	**53.65**	**26**	P		**P**	**03 05 57.0**	**+2.5**
SCHQ				LR	LR		03 29 32.2	
	comp=Z,71nm,18.9s,baz=89,slow=37							
BDFB	**Brasilia**	**61.06**	**114**	P		**P**	**03 06 47.0**	**-0.6**
BDFB	**Brasilia** 1.5nm,0.7s,baz=284,slow=9.0,SNR=3.0	**61.06**	**114**	P		**P**	**03 06 47.0**	**-0.6**
ILAR	**Eielson Array**	**62.35**	**341**	P		**P**	**03 06 55.4**	**0.0**
ILAR	**Eielson Array** 1.3nm,1.0s,baz=154,slow=4.8,SNR=9.6	**62.35**	**341**	P		**P**	**03 06 55.4**	**0.0**
ARCES	**ARCESS Array B** comp=Z,64nm,18.6s,baz=6.2,slow=39	**93.51**	**16**	LR	LR		03 57 26.2	
WRA	**Warramunga Arr**	**122.88**	**253**	PKP		**PKPdf**	**03 15 30.1**	**0.0**
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=86,slow=3.1,SNR=4.2	**122.88**	**253**	PKP		**PKPdf**	**03 15 30.1**	**0.0**
MKAR	**Makanchi Array**	**123.29**	**355**	PKP		**PKPdf**	**03 15 28.9**	**-1.2**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=32,slow=3.6,SNR=3.1	**123.29**	**355**	PKP		**PKPdf**	**03 15 28.9**	**-1.2**

IDC 25 03:00:44.3±1.7, 29.68N×90.23E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.5/27, mbtmp3.5/7, ML2.9/1, Error ellipse: s-maj=64.3km s-min=19.9km az=69.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**4.36**	**160**	*e*PKP	Pn	03 01 56.0	+4.0
SHL				*e*S	Sg	03 03 02.0	-2.7
MKAR	**Makanchi Array** 0.0nm,0.3s,baz=158,slow=13,SNR=7.3	**18.17**	**342**	P	Pn	03 04 56.4	-1.6
SONM	**Songino Array** 1.8nm,0.7s,baz=214,slow=12,SNR=24	**22.00**	**30**	P	P	03 05 40.1	0.0
KURBB	**Kurchatov Arra** 0.4nm,0.6s,baz=157,slow=9.2,SNR=3.3	**22.69**	**340**	P	P	03 05 47.8	+0.5
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=150,slow=12,SNR=2.9	**24.57**	**352**	P	P	03 06 06.0	+0.3
WRA	**Warramunga Arr** 0.8nm,0.5s,baz=326,slow=6.5,SNR=5.5	**65.12**	**134**	P	P	03 11 26.6	-0.5
ASAR	**Alice Springs** 0.5nm,0.6s,baz=315,slow=6.0,SNR=7.4	**67.64**	**137**	P	P	03 11 43.6	+0.4
ILAR	**Eielson Array** 0.5nm,0.8s,baz=298,slow=5.3,SNR=8.2	**75.95**	**22**	P	P	03 12 32.6	0.0

*IDC **25** 03:04:57.4±5.8, 37.43N×71.77E, h95km±53km, mb3.4/3, mb1 3.2/8, mb1mx3.0/31, mbtmp3.2/8, Error ellipse: s-maj=51.9km s-min=38.4km az=134.0*
*NNC **25** 03:05:03.6±1.9, 38.26N×71.40E, h0km, mb3.7, mpv3.2, Error ellipse: s-maj=15.1km s-min=12.7km az=20.0*
ISC 25 03:04:53.0±1.6, 37.3N±0.1×71.4E±0.1, h35km, n11, σ2s09/15, mb3.8/3, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array** 1.2nm,0.3s,baz=169,slow=11,SNR=46	**5.81**	**354**	Pn	Pn	03 06 21.4	+4.7
KK31				⇑Sn	Sn	**03 07 22.1**	**+0.1**
	7.6nm,0.3s,baz=145,slow=43,SNR=3.6						
AAK	**Ala-Archa** 0.8nm,0.3s,baz=194,slow=17,SNR=7.3	**5.81**	**23**	P	**Pn**	**03 06 19.1**	**+2.4**
AAK				S	**Sn**	**03 07 20.0**	**-2.3**
	1.2nm,0.3s,baz=142,slow=19,SNR=10						
TKM2	**Tokmak 2** 4.0nm,1.2s	**6.45**	**29**	⇓Pn	**Pn**	**03 06 28.3**	**+2.7**
TKM2				⇑Sn	**Sn**	**03 07 35.9**	**-2.1**
	1.2nm,0.6s						
MKAR	**Makanchi Array** 0.0nm,0.3s,baz=221,slow=11,SNR=2.5	**12.44**	**37**	P	**Pn**	**03 07 48.6**	**+1.1**
MKAR				S	**Sn**	**03 10 06.5**	**+1.7**
	0.1nm,0.3s,baz=198,slow=22,SNR=4.6						
AB31	**Akbulak array** 1.0nm,0.7s,baz=138,slow=14,SNR=20	**14.53**	**329**	Pn	**Pn**	**03 08 18.6**	**+2.8**
AB31				⇓Sn	**Sn**	**03 10 53.2**	**-2.4**
	1.2nm,0.5s,baz=145,slow=24,SNR=5.4						
BVAR	**Borovoye Array** 0.3nm,0.3s,baz=158,slow=12,SNR=5.0	**15.72**	**358**	P	**Pn**	**03 08 31.5**	**0.0**
AKTO	**Aktyubinsk** 0.8nm,0.3s,baz=132,slow=10,SNR=15	**16.23**	**328**	P	**P**	**03 08 41.4**	**+0.4**
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=224,slow=9.9,SNR=2.6	**19.04**	**25**	P	**P**	**03 09 08.4**	**-3.3**
FINES	**FINESS Array B** 0.7nm,0.4s,baz=115,slow=9.3,SNR=6.9	**36.98**	**325**	P	**P**	**03 11 58.2**	**-0.4**
HFS	**Hagfors** 0.9nm,0.5s,baz=95,slow=7.8,SNR=7.9	**42.62**	**321**	P	**P**	**03 12 44.9**	**-0.5**
TORD	**Torodi Ar. Bea** 0.8nm,1.2s,baz=50,slow=5.4,SNR=7.6	**66.05**	**269**	P	**P**	**03 15 35.6**	**-0.9**

GUC 25 03:18:51.7±0.7, 33.94S×72.15W, h35km±4km, MD3.5, ML2.5, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.62**	**92**	⇓*i*P	Pn	03 19 03.9	-0.1
LNV				*i* S	Sn	03 19 12.4	-0.2
CHCH	**Chadas Angostu**	**1.25**	**90**	*e*P	Pn	03 19 13.7	+1.0
CHCH				*e*S	Sb	03 19 30.9	+0.2
CACH	**El Canelo**	**1.30**	**98**	*e*P	Pb	03 19 15.0	-0.8
ANTU	**Antumapu**	**1.32**	**74**	*e*S	Sb	03 19 32.1	-0.6
ANTU				AML	AML	03 19 34.3	
	comp=N,131nm,0.2s						
ROCH	**El Roble**	**1.35**	**45**	⇑*i*P	Pn	03 19 15.4	+1.0
ROCH				AML	AML	03 19 41.6	
	comp=E,98nm,0.3s						
CLCH	**Cerro Calan**	**1.45**	**69**	⇑*i*P	Pn	03 19 16.9	+1.3
CLCH				*i* S	Sb	03 19 35.9	-0.7
CLCH				AML	AML	03 19 48.4	
	comp=E,89nm,0.3s						
PEL	**Peldehue**	**1.46**	**58**	*e*P	Pb	03 19 17.2	-1.2
PEL				*i* S	Sb	03 19 36.3	-0.4
PEL				AML	AML	03 19 42.1	
	comp=N,211nm,0.4s						
LMEL	**Las Melosas**	**1.62**	**87**	*e*P	Pn	03 19 19.7	+1.6
LMEL				*e*S	Sb	03 19 40.8	-0.9
LMEL				AML	AML	03 19 47.1	
	comp=N,156nm,0.2s						
FCH	**Farellones** comp=N,106nm,0.2s	**1.67**	**69**	AML	AML	03 19 49.0	

IDC 25 03:34:03.1±1.3, 2.98N×127.02E, h0km, mb3.4/6, mb1 3.5/6, mb1mx3.5/22, mbtmp3.4/6, MS3.3/1, Ms1 3.3/1, ms1mx1.8/23, Error ellipse: s-maj=108.3km s-min=17.9km az=73.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 2.2nm,0.9s,baz=348,slow=14,SNR=2.3	**20.99**	**184**	P	P	03 38 48.3	+0.1
WRA	**Warramunga Arr** 0.6nm,0.6s,baz=342,slow=10,SNR=5.8	**23.89**	**163**	P	P	03 39 18.3	-0.3
ASAR	**Alice Springs** 0.3nm,0.7s,baz=344,slow=9.6,SNR=2.6	**27.32**	**166**	P	P	03 39 50.1	+0.2
SONM	**Songino Array**	**48.10**	**341**	P	P	03 42 44.1	-0.6
	0.1nm,0.5s,baz=140,slow=7.5,SNR=2.7						
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=114,slow=6.5,SNR=4.6	**58.33**	**325**	P	P	03 43 59.2	-0.9
MKAR				LR	LR	04 08 47.8	
	comp=Z,25nm,18.9s,baz=181,slow=36						
ZALV	**Zalesovo Beam** 0.2nm,0.3s,baz=148,slow=8.5,SNR=2.8	**61.38**	**333**	P	P	03 44 21.9	+1.0

IDC 25 03:42:27.5±2.3, 4.27S×130.37E, h0km, mb3.4/1, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, ML3.4/3, Error ellipse: s-maj=106.5km s-min=27.9km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=17,slow=12,SNR=5.3	**14.50**	**198**	Pn	Pn	03 45 56.3	+2.1
FITZ				Sn	Sn	03 48 17.2	-19
	0.1nm,0.3s,baz=3.5,slow=19,SNR=3.3						
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=348,slow=13,SNR=2.3	**16.05**	**166**	Pn	Pn	03 46 15.2	+0.4
WRA				Sn	Sn	03 48 57.6	-16
	0.1nm,0.3s,baz=353,slow=22,SNR=4.6						
ASAR	**Alice Springs** 0.2nm,0.3s,baz=347,slow=11,SNR=13	**19.58**	**170**	P	P	03 46 56.4	-0.9
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=118,slow=8.1,SNR=5.8	**66.17**	**326**	P	P	03 53 17.1	0.0

*DJA **25** 03:46:41.1±1.4, 2.5S±18.10E±1.0, h14km±16km, M3.6/5, MLv3.6/5*
*IDC **25** 03:46:44.4±3.2, 1.16S×100.26E, h48km±9km, mb3.4/5, mb1 3.5/6, mb1mx3.3/25, mbtmp3.4/6, ML2.8/1, Error ellipse: s-maj=168.5km s-min=16.8km az=54.0*
ISC 25 03:46:41.5±1.0, 1.49S±0.09×99.59E±0.06, h30km, n12, σ2s12/14, mb3.7/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.53**	**288**	P	**Pb**	**03 46 51.4**	**-1.0**
PPI	**Padang Panjang**	**1.30**	**38**	P	**Pb**	**03 47 04.9**	**-0.5**
SDSI	**Sungai Dareh**	**1.92**	**73**	P	**Pb**	**03 47 14.3**	**-1.5**
MNSI	**Mandailing Nat**	**2.27**	**360**	P	**Pb**	**03 47 19.5**	**-2.4**
BKNI	**Bangkinang**	**2.31**	**39**	P	**Pn**	**03 47 19.3**	**+1.7**
PSI	**Prapat** 0.6nm,0.3s,baz=179,slow=17,SNR=3.3	**4.32**	**351**	P	**Pn**	**03 47 45.9**	**+0.6**
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=302,slow=9.2,SNR=3.7	**38.60**	**121**	P	**P**	**03 53 59.5**	**-2.8**
WRA				pP	**pP**	**03 54 12.5**	**+1.3**
	0.5nm,0.8s,baz=301,slow=9.2,SNR=1.9						
ASAR	**Alice Springs** 0.2nm,0.5s,baz=300,slow=7.2,SNR=2.8	**39.88**	**126**	P	**P**	**03 54 11.1**	**-1.8**
ASAR				pP	**pP**	**03 54 24.8**	**+2.9**
	0.4nm,0.7s,baz=300,slow=7.4,SNR=3.2						
MKAR	**Makanchi Array** 0.6nm,0.6s,baz=154,slow=8.2,SNR=6.0	**50.43**	**345**	P	**P**	**03 55 36.2**	**-0.2**
MKAR				pP	**pP**	**03 55 49.3**	**+3.8**
	0.5nm,0.6s,baz=146,slow=7.9,SNR=4.3						
KURBB	**Kurchatov Arra** 0.3nm,0.4s,baz=170,slow=6.6,SNR=4.4	**54.95**	**344**	P	**P**	**03 56 08.8**	**-0.8**
ZALV	**Zalesovo Beam** 1.1nm,0.4s,baz=175,slow=5.4,SNR=6.7	**56.60**	**350**	P	**P**	**03 56 20.9**	**-0.5**
TXAR	**Lajitas Array** 0.3nm,0.5s,baz=214,slow=1.3,SNR=12	**144.54**	**36**	PKP	PKPbc	04 06 14.2	-0.3
TXAR				pPKP	pPKPdf	04 06 27.7	+1.8
	0.5nm,0.6s,baz=290,slow=1.5,SNR=7.5						

IDC 25 03:50:53.3±2.6, 23.01S×170.41E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.6/19, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=97.5km s-min=42.3km az=179.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LASL	**Noumea**	**3.66**	**281**	*e*P	Pn	03 51 51.4	+0.3
DZM	**Mont Dzumac** 2.7nm,0.3s,baz=87,slow=17,SNR=16	**3.78**	**283**	Pn	Pn	03 51 54.3	+1.3
DZM				Sn	Sn	03 52 38.6	+0.3
	0.9nm,0.3s,baz=87,slow=19,SNR=3.4						
NOUC	**Port Laguerre**	**3.90**	**283**	*e*P	Pn	03 51 56.2	+1.7
NOUC				*e*S	Sn	03 52 44.2	+3.2
ASAR	**Alice Springs** 0.5nm,0.9s,baz=97,slow=9.5,SNR=4.2	**33.47**	**262**	P	P	03 57 34.0	-0.5
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=98,slow=8.7,SNR=3.6	**33.65**	**268**	P	P	03 57 34.7	-1.3
FITZ	**Fitzroy Crossi** 1.6nm,0.9s,baz=126,slow=10,SNR=2.3	**42.08**	**268**	P	P	03 58 48.1	+0.8
GERES	**GERESS Array B** 0.3nm,0.7s,baz=20,slow=3.2,SNR=4.3	**148.30**	**330**	PKPbc	PKPbc	04 10 41.0	-0.5

*IDC **25** 04:04:18.3±1.1, 30.37N×79.44E, h0km, mb3.6/12, mb1 3.7/14, mb1mx3.6/32, mbtmp3.6/14, ML3.5/2, Error ellipse: s-maj=27.1km s-min=21.5km az=58.0*
*NDI **25** 04:04:21.5±4.5, 30.73N×79.71E, h10km, ML3.5*
*ISCJB **25** 04:04:23.5±0.8, 30.76N±0.05×79.63E±0.06, h35km±10km, mb3.5/12, Error ellipse: s-maj=9.1km s-min=6.5km az=140.3*
*NNC **25** 04:04:29.8±2.6, 31.65N×79.91E, h0km, mb3.8, Error ellipse: s-maj=34.4km s-min=26.1km az=108.0*
ISC 25 04:04:22.2±1.5, 30.77N±0.05×79.59E±0.06, h15km±10km, n31, σ1s83/37, mb3.5/12, 1C-2D, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTH	**Pithoragarh**	**1.33**	**156**	*e*PKP	**Pn**	**04 04 45.9**	**-0.5**
PTH				*e*S	**Sb**	**04 05 01.1**	**-2.7**
DDI	**Dehra Dun**	**1.40**	**252**	*e*PKP	**Pg**	**04 04 49.2**	**+0.1**
DDI				*ex*	S	04 05 00.0	
LGTI	**Lohaghat**	**1.43**	**156**	*e*PKP	Pg	04 04 55.2	+5.4
LGTI				*e*S	**Sg**	**04 05 10.2**	**+1.8**
SMLA	**Simla**	**2.11**	**280**	*i* P	**Pn**	**04 04 57.9**	**+1.0**
SMLA				*i* S	**Sn**	**04 05 25.1**	**+2.2**
SDNR	**Sundarnagar**	**2.36**	**289**	*e*PKP	**Pb**	**04 05 03.0**	**-1.5**
SDNR				*ex*	S	04 05 34.6	
BHK	**Bhakra**	**2.80**	**284**	*e*PKP	**Pn**	**04 05 07.6**	**+1.2**
BHK				*ex*	S	04 05 48.0	
DLH	**Dalhousie**	**3.56**	**301**	*ex*	**Pg**	**04 05 28.0**	**-2.5**
DLH				*e*S	**Sn**	**04 06 00.0**	**+1.0**
THN	**Thein Dam**	**3.70**	**298**	*e*PKP	**Pn**	**04 05 20.1**	**+1.3**
THN				*e*S	**Sn**	**04 06 02.7**	**+0.6**
KUDL	**Kundal**	**3.76**	**227**	*ex*	P	04 05 17.9	
KUDL				*e*S	**Sn**	**04 06 04.8**	**+1.2**
KUDL				AML	AML	04 06 11.1	
	comp=N,166nm,0.5s						
KUDL				AML	AML	04 06 12.1	
	comp=E,205nm,0.5s						
AGRA	**Agra**	**3.81**	**203**	*ex*	**Pb**	**04 05 28.6**	**-0.5**
AGRA				*ex*	x	04 06 14.0	
AGRA				AML	AML	04 06 21.0	
	comp=E,326nm,0.4s						
AGRA				AML	AML	04 06 25.1	
	comp=N,294nm,0.4s						
KHET	**Khetri**	**4.26**	**232**	*ex*	Pn	04 05 23.5	-2.9
KHET				*ex*	x	04 06 23.9	
KHET				AML	AML	04 06 27.6	
	comp=N,126nm,0.4s						
KHET				AML	AML	04 06 27.9	
	comp=E,55nm,0.4s						
CHCP	**Chirah Chowk**	**6.09**	**300**	P	**Pn**	**04 05 53.3**	**+1.6**
THW	**Thamme Wali**	**6.98**	**289**	P	**Pn**	**04 06 04.7**	**+0.8**
CEP	**Cherat**	**7.18**	**297**	P	**Pn**	**04 06 06.3**	**-0.5**
CEP				S	Sn	**04 07 26.0**	**-2.2**
AAK	**Ala-Archa** comp=E,0.4nm,0.3s,baz=160,slow=11,SNR=4.8	**12.53**	**342**	Pn	**Pn**	**04 07 22.4**	**+2.4**
KK31	**Karatay Array** comp=E,2.1nm,0.6s,baz=137,slow=12,SNR=27	**14.28**	**332**	P	**Pn**	**04 07 43.6**	**-0.3**
KK31				⇓S	**Sn**	**04 10 18.0**	**-3.9**
	comp=E,1.0nm,0.5s,baz=135,slow=22,SNR=6.2						
MK31	**Makanchi Array** comp=E,2.9nm,0.8s,baz=186,slow=12,SNR=34	**16.14**	**7**	⇓P	**Pn**	**04 08 06.7**	**-1.7**
MK31				S	Sn	04 10 56.9	-10
	comp=E,0.1nm,0.2s,baz=187,slow=24,SNR=2.7						
MKAR	**Makanchi Array** comp=E,0.1nm,0.3s,baz=186,slow=13,SNR=10	**16.14**	**7**	Pn	**Pn**	**04 08 09.8**	**+1.4**
MKAR				Sn	**Sn**	**04 11 05.9**	**-1.1**
	comp=E,0.1nm,0.3s,baz=190,slow=24,SNR=3.3						
KURBB	**Kurchatov Arra** comp=E,1.3nm,0.2s,baz=184,slow=10,SNR=5.3	**19.85**	**358**	P	**Pn**	**04 08 54.7**	**+0.7**
BVAR	**Borovoye Array** comp=E,0.5nm,0.3s,baz=159,slow=12,SNR=6.9	**23.23**	**346**	P	**P**	**04 09 30.3**	**+1.7**
ZALV	**Zalesovo Beam** comp=E,1.4nm,0.6s,baz=192,slow=9.2,SNR=8.8	**23.47**	**8**	P	**P**	**04 09 33.2**	**+2.2**
AB31	**Akbulak array** comp=E,0.6nm,0.6s,baz=132,slow=8.7,SNR=20	**23.70**	**327**	⇑P	**P**	**04 09 37.4**	**+4.1**
AKTO	**Aktyubinsk** comp=E,0.7nm,0.4s,baz=152,slow=15,SNR=2.7	**25.42**	**327**	P	**P**	**04 09 49.4**	**+0.3**
SONM	**Songino Array** comp=E,0.4nm,0.6s,baz=236,slow=9.7,SNR=3.9	**26.65**	**43**	P	**P**	**04 10 02.9**	**+2.5**
BRTR	**Keskin Array B** comp=E,0.4nm,0.7s,baz=91,slow=7.5,SNR=2.7	**38.23**	**296**	P	**P**	**04 11 40.5**	**-1.1**
FINES	**FINESS Array B** comp=E,2.5nm,0.9s,baz=111,slow=7.9,SNR=10	**46.18**	**328**	P	**P**	**04 12 46.5**	**+0.4**
ARCES	**ARCESS Array B** comp=E,3.2nm,0.9s,baz=125,slow=8.9,SNR=6.1	**49.15**	**338**	P	**P**	**04 13 10.3**	**+1.3**
WRA	**Warramunga Arr** comp=E,0.5nm,1.0s,baz=320,slow=6.2,SNR=2.7	**72.86**	**126**	P	**P**	**04 15 48.4**	**-2.3**
TORD	**Torodi Ar. Bea** comp=E,0.2nm,0.5s,baz=59,slow=4.1,SNR=4.3	**73.09**	**275**	P	**P**	**04 15 50.7**	**-1.6**
ILAR	**Eielson Array** comp=E,0.2nm,0.6s,baz=327,slow=6.5,SNR=3.9	**78.12**	**19**	P	**P**	**04 16 21.0**	**+0.7**
YKA	**Yellowknife Ar** comp=E,0.1nm,0.5s,baz=343,slow=4.7,SNR=2.2	**86.36**	**7**	P	**P**	**04 17 03.8**	**+0.4**

MEX 25 04:19:13.4±1.1, 14.11N×93.37W, h16km±56km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.33**	**53**	*e*P	Pn	04 19 33.0	-4.3
THIG				*i* S	Sn	04 19 49.8	-5.0
PCIG		**1.59**	**5**	*e*P	Pn	04 19 36.4	-4.6
PCIG				*i* S	Sn	04 19 55.4	-5.8
CCIG	**Comitan**	**2.47**	**29**	*e*P	Pn	04 19 50.8	-2.4
CCIG				*i* S	Sn	04 20 18.2	-5.0
TGIG		**2.66**	**5**	*i* P	Pn	04 19 53.4	-2.4
TGIG				*i* S	Sn	04 20 24.3	-3.5
SCX	**San Cristobal**	**2.71**	**15**	*i* P	Pn	04 19 55.3	-0.9
HUIG	**Huatulco**	**3.12**	**302**	*e*P	Pn	04 19 59.0	-2.9
HUIG				*i* S	Sn	04 20 34.2	-4.7
CMIG	**Matias Romero**	**3.30**	**334**	*i* P	Pn	04 20 02.2	-2.3
CMIG				*i* S	Sn	04 20 39.3	-4.1
VHO	**Vista Hermosa**	**4.38**	**313**	*e*P	Pn	04 20 16.3	-3.2
VHO				*i* S	Sn	04 21 06.6	-3.8
PNIG	**Pinotepa**	**5.12**	**297**	*e*P	Pn	04 20 27.8	-1.7
PNIG				*i* S	Sn	04 21 24.0	-4.4

IDC 25 04:30:16.7±1.7, 4.19S×129.78E, h0km, mb3.9/2, mb1 4.0/5, mb1mx3.7/20, mbtmp3.8/5, ML3.9/3, Error ellipse: s-maj=94.9km s-min=24.0km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=21,slow=13,SNR=3.4	**14.41**	**196**	Pn	Pn	04 33 43.9	+1.7
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=345,slow=13,SNR=13	**16.28**	**165**	Pn	Pn	04 34 06.3	-0.7
WRA				Sn	Sn	04 36 55.5	-13
	0.3nm,0.3s,baz=344,slow=24,SNR=3.5						
ASAR	**Alice Springs** 0.9nm,0.3s,baz=345,slow=9.8,SNR=52	**19.77**	**169**	P	P	04 34 49.3	+0.7
ASAR				S	S	04 38 17.3	-15
	0.1nm,0.3s,baz=354,slow=24,SNR=2.9						
STKA	**Stephens Creek** 0.8nm,0.5s,baz=331,slow=12,SNR=3.3	**29.70**	**159**	P	P	04 36 23.7	-0.9
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=113,slow=6.9,SNR=8.8	**65.77**	**326**	P	P	04 41 03.7	0.0

KRSC 25 04:43:17.6±0.8, 50.87N×158.08E, h10km±10km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAK	**Asacha**	**1.52**	**356**	*e*P	Pn	04 43 45.3	+0.3
ASAK				*e*S	Sb	04 44 05.4	0.0
RUS	**Russkaya**	**1.59**	**10**	*i* P	Pn	04 43 46.3	+0.5
RUS				*e*S	Sb	04 44 06.9	-0.2
MTVR	**Mutnovka**	**1.62**	**2**	*e*P	Pn	04 43 46.9	+0.5
MTVR				*e*S	Sb	04 44 08.4	+0.1
MIPR	**Malaya Ipel'ka**	**1.63**	**330**	*e*P	Pn	04 43 45.9	-0.5
PET	**Petropavlovsk**	**2.19**	**9**	P	Pn	04 43 55.0	+1.0
PET				*e*S	Sn	04 44 22.3	+1.2
UGLR	**Uglovaya**	**2.39**	**11**	P	Pn	04 43 58.4	+1.5
SMAR	**Somma**	**2.44**	**10**	P	Pn	04 43 59.5	+1.8
KOK	**Koryaka**	**2.45**	**8**	P	Pb	04 44 00.0	-1.9
SDLR	**Sedlovina**	**2.46**	**11**	*e*P	Pn	04 43 59.5	+1.5
SDLR				S	Sn	04 44 30.1	+1.9
SPN	**Mys Shipunski**	**2.53**	**28**	P	Pn	04 44 00.1	+1.3
SPN				S	Sn	04 44 31.9	+2.2
MKZ	**Mys Kozlova**	**4.31**	**30**	P	Pn	04 44 25.0	+1.9
KBTR	**Krutoberegovo**	**6.05**	**26**	*e*P	Pn	04 44 49.3	+2.3

*BJI **25** 04:44:24.5, 35.71N×89.08E, h17km, ML3.7/3*
IDC 25 04:44:23.6±1.3, 35.69N×89.52E, h0km, mb3.4/5, mb1 3.6/11, mb1mx3.5/31, mbtmp3.5/11, ML3.3/5, MS3.3/6, Ms1 3.3/6, ms1mx2.9/31, Error ellipse: s-maj=33.8km s-min=24.4km az=55.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=133,slow=14,SNR=2.5	**12.35**	**336**	Pn	Pn	04 47 18.2	-2.4
AAK	**Ala-Archa** 0.1nm,0.3s,baz=142,slow=12,SNR=6.1	**13.55**	**305**	Pn	Pn	04 47 37.6	+0.3
KURBB	**Kurchatov Arra** baz=148,slow=12,SNR=8.3	**16.91**	**335**	Pn	Pn	04 48 19.4	-2.2
KURBB				LR	LR	04 54 47.8	
	comp=Z,55nm,18.2s,baz=150,sl

LAST	Lasithi	0.36	237	*e*Pb	Pg	04 47 35.9	-0.5
KARP	Karpathos	1.08	80	*e*PN	Pg	04 47 49.6	-0.3
KARP	Karpathos	1.08	80	*e*PN	Pg	04 47 49.6	-0.3
VAM	Vamos	1.35	273	*e*PN	Pn	04 47 53.9	+0.3
VAM				*e*Sn	Sb	04 48 12.6	+1.2
VAM	Vamos	1.35	273	*e*Pn	Pn	04 47 53.9	+0.3
VAM				*e*Sn	Sb	04 48 12.6	+1.2
NIS1	Nisyros Isl.	1.64	40	P	Pn	04 47 58.2	+0.6
NIS1	Nisyros Isl.	1.64	40	P	Pn	04 47 58.2	+0.6
APE	Apeiranthos	1.73	351	*e*PN	Pn	04 47 58.5	-0.3
ARG	Arkhangelos	2.04	64	*e*PN	Pn	04 48 03.8	+0.8
ARG	Arkhangelos	2.04	64	*e*Pn	Pn	04 48 03.8	+0.8
BODT	Bodrum	2.07	34	*e*PN	Pn	04 48 02.8	-0.6
BODT				*e*SN	Sn	04 48 26.9	-2.2
BODT	Bodrum	2.07	34	*e*Pn	Pn	04 48 02.8	-0.6
BDRM	Kayabasi	2.13	37	*i* P	Pn	04 48 04.9	+0.5
BDRM				*i* S	Sn	04 48 30.3	-0.4
BDRM	Kayabasi	2.13	37	*i* P	Pn	04 48 04.9	+0.5
BDRM				*i* S	Sn	04 48 30.3	-0.4
KYTH	Kithira	2.47	293	*e*PN	Pn	04 48 08.0	-0.9
KYTH	Kithira	2.47	293	*e*Pn	Pn	04 48 08.0	-0.9
YER	Yerkesik	2.65	47	*e*PN	Pn	04 48 11.8	+0.4
YER				*e*SN	Sn	04 48 42.4	-1.0
YER	Yerkesik	2.65	47	*e*Pn	Pn	04 48 11.8	+0.4
YER				*e*Sn	Sn	04 48 42.4	-1.0
TURN	Turunc	2.69	55	*i* P	Pn	04 48 08.3	-3.7
TURN				*i* S	Sn	04 48 36.7	-7.6
VLI	Veliai	2.73	301	*e*PN	Pn	04 48 12.4	-0.1
VLI	Veliai	2.73	301	*e*Pn	Pn	04 48 12.4	-0.1
AYDN	Tasoluk	2.82	35	*i* P	Pn	04 48 14.9	+1.1
AYDN				*i* S	Sb	04 48 54.3	+0.7
AYDN	Tasoluk	2.82	35	*i* P	Pn	04 48 14.9	+1.1
AYDN				*i* S	Sb	04 48 54.3	+0.7
FETY	Fethiye	2.91	63	*e*PN	Pn	04 48 16.4	+1.4
FETY	Fethiye	2.91	63	*e*Pn	Pn	04 48 16.4	+1.4
DIDY	Didyma	3.00	316	P	Pn	04 48 17.9	+1.6
DIDY				S	Sb	04 48 59.4	+0.4
DIDY	Didyma	3.00	316	P	Pn	04 48 17.9	+1.6
DID	Didima	3.01	316	P	Pn	04 48 17.9	+1.5
DID				S	Sb	04 48 59.4	+0.3
DID	Didima	3.01	316	*e*PB	Pn	04 48 17.9	+1.5
DID	Didima	3.01	316	P	Pn	04 48 17.9	+1.5
CHOS	Chios island	3.03	3	P	Pn	04 48 16.9	+0.2
CHOS				S	Sb	04 48 57.9	-1.8
CHOS	Chios island	3.03	3	P	Pn	04 48 16.9	+0.2
CHOS				S	Sb	04 48 57.9	-1.8
NAIG	Nisos Aigina	3.06	322	*e*PN	Pn	04 48 18.3	+1.2
NAIG	Nisos Aigina	3.06	322	*e*Pn	Pn	04 48 18.3	+1.2
AKAS	Kas	3.17	73	*i* P	Pn	04 48 58.5	+1.8
AKAS				*i* S	Sn	04 48 58.7	+2.2
AKAS	Kas	3.17	73	*i* P	Pn	04 48 20.5	+1.8
AKAS				*i* S	Sn	04 48 58.7	+2.2
IZM	Izmir	3.24	20	*e*PN	Pn	04 48 18.9	-0.6
IZM	Izmir	3.24	20	*e*Pn	Pn	04 48 18.9	-0.6
VLX	Vlachokerasia	3.45	307	P	Pn	04 48 23.8	+1.3
VLX	Vlachokerasia	3.45	307	P	Pn	04 48 23.8	+1.3
DNZL	Cakiroluk	3.47	47	*i* P	Pn	04 48 25.0	+2.2
DNZL	Cakiroluk	3.47	47	*i* P	Pn	04 48 25.0	+2.2
ERET	Eretria	3.49	333	P	Pn	04 48 24.4	+1.4
ERET	Eretria	3.49	333	P	Pn	04 48 24.4	+1.4
LTK	Loutraki	3.53	320	P	Pn	04 48 26.2	+2.7
LTK	Loutraki	3.53	320	*e*PN	Pn	04 48 25.3	+1.8
LTK	Loutraki	3.53	320	*e*Pn	Pn	04 48 25.3	+1.8
LTK	Loutraki	3.53	320	P	Pn	04 48 26.2	+2.7
GOLH	Golhisar	3.53	57	*i* P	Pn	04 48 25.8	+2.1
GOLH	Golhisar	3.53	57	*i* P	Pn	04 48 25.8	+2.1
ELL	Elmali	3.57	66	*e*PN	Pn	04 48 25.8	+1.6
ELL	Elmali	3.57	66	*e*Pn	Pn	04 48 25.8	+1.6
PYL	PYLOS	3.67	296	P	Pn	04 48 26.8	+1.4
PYL	PYLOS	3.67	296	P	Pn	04 48 26.8	+1.4
MRKA	Markates	3.80	332	P	Pn	04 48 28.8	+1.5
MRKA	Markates	3.80	332	P	Pn	04 48 28.8	+1.5
MANT	Manisa	3.80	34	*i* P	Pn	04 48 30.0	+2.5
MANT	Manisa	3.80	34	*i* P	Pn	04 48 30.0	+2.5
GUR	Goura	3.82	313	P	Pn	04 48 29.1	+1.5
GUR	Goura	3.82	313	*e*PN	Pn	04 48 29.1	+1.5
GUR	Goura	3.82	313	P	Pn	04 48 29.1	+1.5
AKS	Akhisar	3.85	23	*e*PN	Pn	04 48 27.4	-0.5
AKS	Akhisar	3.85	23	*e*Pn	Pn	04 48 27.4	-0.5
KULA	Kula-Manisa	3.87	35	*e*PN	Pn	04 48 28.4	+0.2
KULA	Kula-Manisa	3.87	35	*e*Pn	Pn	04 48 28.5	+0.2
KORT	Korkueli	3.99	64	*i* P	Pn	04 48 32.2	+2.3
KORT				*i* S	Sn	04 49 17.9	+1.2
KORT	Korkueli	3.99	64	*i* P	Pn	04 48 32.2	+2.3
KORT				*i* S	Sn	04 49 14.9	+1.1
ATAL	Atalanti	4.03	327	P	Pn	04 48 32.6	+2.3
ATAL	Atalanti	4.03	327	P	Pn	04 48 32.6	+2.3
DESF	Desfina	4.05	320	P	Pn	04 48 32.7	+2.0
DESF	Desfina	4.05	320	P	Pn	04 48 32.7	+2.0
KHL	Karahalli	4.17	44	*e*PN	Pn	04 48 33.2	+0.8
KHL	Karahalli	4.17	44	*e*Pn	Pn	04 48 33.2	+0.8
KHAL	Karahalli	4.19	43	*i* P	Pn	04 48 34.8	+2.1
KHAL				*i* S	Sn	04 49 24.8	+3.3
KHAL	Karahalli	4.19	43	*i* P	Pn	04 48 34.8	+2.1
KHAL				*i* S	Sn	04 49 24.8	+3.3
LAKA	Lakka	4.24	314	P	Pn	04 48 35.0	+1.8
LAKA	Lakka	4.24	314	P	Pn	04 48 35.0	+1.8
KALE	Kalithea	4.25	317	P	Pn	04 48 35.1	+1.7
KALE	Kalithea	4.25	317	P	Pn	04 48 35.1	+1.7
AXAR	Agios Charalam	4.25	324	P	Pn	04 48 35.3	+1.8
AXAR	Agios Charalam	4.25	324	P	Pn	04 48 35.3	+1.8
TRIZ	Trizonia	4.27	316	P	Pn	04 48 35.4	+1.8
TRIZ	Trizonia	4.27	316	P	Pn	04 48 35.4	+1.8
BCK	Bucak	4.36	60	*e*PN	Pn	04 48 36.7	+1.7
BCK	Bucak	4.36	60	*e*Pn	Pn	04 48 36.7	+1.7
HMAT	Matruh	4.38	166	P	Pn	04 48 35.1	-0.1
HMAT	Matruh	4.38	166	AMP		04 49 00.0	
	comp=E,60µm,0.9s,logA/T=4.8,baz=166						
EFP	Efpalio	4.40	315	P	Pn	04 48 37.5	+2.0
EFP	Efpalio	4.40	315	*e*PN	Pn	04 48 37.6	+2.0
EFP	Efpalio	4.40	315	P	Pn	04 48 37.5	+2.0
EZN	Ezine	4.47	5	*e*PN	Pn	04 48 36.0	-0.5
EZN	Ezine	4.47	5	*e*Pn	Pn	04 48 36.0	-0.5
BALB	Balikesir	4.57	20	*e*PN	Pn	04 48 38.0	+0.2
BALB	Balikesir	4.57	20	*e*Pn	Pn	04 48 38.0	+0.2
GDZ	Gediz	4.72	37	*i* P	Pn	04 48 42.3	+2.4
GDZ	Gediz	4.72	37	*i* P	Pn	04 48 42.3	+2.4
DST	Dursunbey	4.77	27	*e*PN	Pn	04 48 41.0	+0.3
DST	Dursunbey	4.77	27	*e*Pn	Pn	04 48 41.0	+0.3
GONE	Gonen-Balikesi	4.90	17	*e*PN	Pn	04 48 42.6	+0.3
GONE	Gonen-Balikesi	4.90	17	*e*Pn	Pn	04 48 42.6	+0.3
SHUT	Suhut-Afyon	4.93	48	*e*PN	Pn	04 48 44.1	+1.3
SHUT	Suhut-Afyon	4.93	48	*e*Pn	Pn	04 48 44.2	+1.3
TVSB	Tavsanli	4.99	34	*e*PN	Pn	04 48 44.4	+0.7
TVSB	Tavsanli	4.99	34	*e*Pn	Pn	04 48 44.4	+0.7
ALT	Altintas	5.01	41	*e*PN	Pn	04 48 44.9	+0.9
ALT	Altintas	5.01	41	*e*Pn	Pn	04 48 44.9	+0.9
ERIK	Erikli-Kesan	5.33	5	*e*PN	Pn	04 48 48.3	+0.1
ERIK	Erikli-Kesan	5.33	5	*e*Pn	Pn	04 48 48.3	+0.1
LKD2	Lefkada island	5.38	311	P	Pn	04 48 51.0	+2.0
LKD2	Lefkada island	5.38	311	P	Pn	04 48 51.0	+2.0
SEYT	Eskypehyr	5.75	42	*i* P	Pn	04 48 56.6	+2.5
SEYT	Eskypehyr	5.75	42	*i* P	Pn	04 48 56.6	+2.5
KONT	Konya--Tatoy	5.83	62	*e*PN	Pn	04 48 56.9	+1.7
KONT	Konya--Tatoy	5.83	62	*e*Pn	Pn	04 48 56.9	+1.7
ERMK	Ermenek	5.86	75	*i* P	Pn	04 48 58.5	+2.7
ERMK				*i* S	Sn	04 50 05.2	+2.2
ERMK	Ermenek	5.86	75	*i* P	Pn	04 48 58.5	+2.7
ERMK				*i* S	Sn	04 50 05.2	+2.2
RGA	Parga	5.90	314	P	Pn	04 48 58.1	+1.9
RGA	Parga	5.90	314	P	Pn	04 48 58.1	+1.9
KIZT	Kizilcal	5.96	52	*e*PN	Pn	04 48 58.8	+1.8
KIZT	Kizilcal	5.96	52	*e*Pn	Pn	04 48 58.8	+1.8
SWA2		6.11	183	P	Pn	04 48 58.4	-0.5
SWA2				S	Sn	04 50 06.0	-2.7
SWA2		6.11	183	P	Pn	04 48 58.4	-0.5
	baz=184						
SWA2				AMP		04 50 00.0	
	comp=N,40µm,0.5s,logA/T=4.9,baz=184						
SWA2				S	Sn	04 50 06.0	-2.7
	baz=184						
NEST	Nestorio	6.32	324	P	Pn	04 49 04.2	+2.3
NEST	Nestorio	6.32	324	P	Pn	04 49 04.2	+2.3
BRTR	Keskin Array B	7.56	53	Pn	Pn	04 49 20.2	+1.1
	comp=N,0.5nm,0.3s,baz=222,slow=15,SNR=18						
BRTR				Sn	Sn	04 50 44.1	-0.6
	comp=N,0.1nm,0.3s,baz=4.0,slow=18,SNR=1.9						
RSH		7.92	121	P	Pn	04 49 22.5	-1.4
RSH		7.92	121	P	Pn	04 49 22.5	-1.4
	baz=122						
SUZ		8.06	131	P	Pn	04 49 25.2	-0.5
SUZ		8.06	131	P	Pn	04 49 25.2	-0.5
	baz=131						
MMAI	Mount Meron Ar	8.25	104	Pn	Pn	04 49 27.4	-1.0
	comp=N,2.5nm,0.3s,baz=316,slow=12,SNR=4.3						
MMAI				Sn	Sn	04 50 54.0	-7.5
	comp=N,2.8nm,0.3s,baz=310,slow=17,SNR=3.7						
HFRF	Wahat Farafira	8.45	165	P	Pn	04 49 30.3	-0.8
HFRF	Wahat Farafira	8.45	165	P	Pn	04 49 30.3	-0.8
	baz=165						
HNKL	Nakhl	8.73	126	P	Pn	04 49 34.7	-0.3
HNKL	Nakhl	8.73	126	P	Pn	04 49 34.7	-0.3
	baz=126						
EIL	Elat	9.54	124	Pn	Pn	04 49 45.2	-1.0
	comp=N,0.6nm,0.3s,baz=336,slow=18,SNR=11						
EIL				Sn	Sn	04 51 25.9	-7.3
	comp=N,1.2nm,0.3s,baz=105,slow=19,SNR=4.5						
AKASG	Malin Array Be	15.53	8	Pn	P	04 51 10.2	-1.6
	comp=N,3.7nm,0.3s,baz=197,slow=11,SNR=262						
KBZ	Khabaz	15.56	52	Pn	P	04 51 12.8	+0.5
	comp=N,0.2nm,0.3s,baz=217,slow=9.7,SNR=6.7						
GERES	GERESS Array B	16.19	330	Pn	P	04 51 18.9	-0.4
	comp=N,0.1nm,0.3s,baz=153,slow=13,SNR=5.2						
LPG	La Plagne	17.68	311	*e*P	P	04 51 39.9	+3.8
	comp=N,6.2nm,0.8s						
LPG	La Plagne	17.68	311	*e*P	P	04 51 39.9	+3.8
	comp=N,6.0nm,0.8s						
LPL	La Plagne	17.70	311	*e*P	P	04 51 39.2	+3.0
	comp=N,4.4nm,0.6s						
LOR	Lormes	20.28	313	*e*P	P	04 52 03.8	-0.5
LOR	Lormes	20.28	313	*e*P	P	04 52 03.8	-0.5
SSF	Saint Saulge	20.40	312	*e*P	P	04 52 05.6	0.0
	comp=N,4.3nm,0.5s						
SSF	Saint Saulge	20.40	312	*e*P	P	04 52 05.6	0.0
	comp=N,4.0nm,0.5s						
LDF	La Druitiere	23.27	313	*e*P	P	04 52 37.9	+1.8
	comp=N,4.4nm,0.6s						
LDF	La Druitiere	23.27	313	*e*P	P	04 52 37.9	+1.8
	comp=N,4.0nm,0.6s						
ESDC	Sonseca Array	23.98	289	P	P	04 52 43.4	+0.1
	comp=N,0.3nm,0.4s,baz=82,slow=9.1,SNR=5.9						
AKTO	Aktyubinsk	27.70	47	P	P	04 53 16.3	-0.4
	comp=N,0.4nm,0.4s,baz=211,slow=12,SNR=2.5						
TORD	Torodi Ar. Bea	31.05	231	P	P	04 53 47.2	+0.4
	comp=N,1.2nm,0.4s,baz=36,slow=8.8,SNR=21						
BVAR	Borovoye Array	35.80	46	P	P	04 54 28.0	+0.2
	comp=N,0.9nm,0.6s,baz=246,slow=11,SNR=3.7						
AAK	Ala-Archa	38.06	64	P	P	04 54 47.2	-0.2
	comp=N,0.8nm,0.4s,baz=243,slow=4.5,SNR=3.7						
KURBB	Kurchatov Arra	40.55	51	P	P	04 55 07.8	-0.1
	comp=N,2.0nm,0.4s,baz=274,slow=8.6,SNR=22						
MKAR	Makanchi Array	43.19	57	P	P	04 55 29.7	+0.1
	comp=N,2.1nm,0.5s,baz=272,slow=8.2,SNR=51						
ZALV	Zalesovo Beam	44.46	46	P	P	04 55 38.4	-1.2
	comp=N,0.9nm,0.4s,baz=265,slow=10.0,SNR=7.7						
SONM	Songino Array	58.92	51	P	P	04 57 27.6	-0.3
	comp=N,0.2nm,0.5s,baz=298,slow=8.7,SNR=3.3						
SCHQ	Schefferville	63.40	320	P	P	04 57 57.1	-0.8
	comp=N,1.4nm,0.5s,baz=51,slow=8.9,SNR=7.5						
CMAR	Chiang Mai Arr	65.98	84	P	P	04 58 15.7	+0.3
	comp=N,1.0nm,0.3s,baz=294,slow=6.5,SNR=4.6						
YKA	Yellowknife Ar	77.43	342	P	P	04 59 22.1	-1.4
	comp=N,0.1nm,0.4s,baz=39,slow=6.0,SNR=3.4						

IDC ***25*** *04:55:32.5±1.0,23.°20S×170.°59E,h0km,mb4.1/8, mb1 4.3/9,mb1mx4.2/18,mbtmp4.1/9,ML3.6/1,MS3.6/1, Ms1 3.5/1,ms1mx2.2/31,Error ellipse: s-maj=31.1km s-min=26.1km az=160.0*

ISCJB ***25*** *04:55:35.2±0.7,23.°1S±0.°1×170.°48E±0.°06,h28km, mb4.3/10,MS3.5/1,Error ellipse: s-maj=19.3km s-min=7.5km az=2.3*

NEIC ***25*** *04:55:35.4±5.1,23.°19S×170.°55E,h19km±30km,mb4.4/1, Error ellipse: s-maj=24.7km s-min=11.4km az=161.0*

ISC 25 04:55:37.0±0.7,23.°1S±0.°2×170.°49E±0.°07,h28km,n38, σ0s90/41,mb4.3/10,3C-1D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	3.88	285	*e*P	Pn	04 56 34.4	-0.5
DZM				*e*S	Sn	04 57 18.6	-0.9
DZM	Mont Dzumac	3.88	285	Pn	Pn	04 56 34.6	-0.3
DZM				Sn	Sn	04 57 18.7	-0.9
DZM	Mont Dzumac	3.88	285	Pn	Pn	04 56 34.6	-0.3
	3.9nm,0.3s,baz=126,slow=17,SNR=54						
DZM				Sn	Sn	04 57 18.7	-0.9
	6.2nm,0.3s,baz=114,slow=20,SNR=4.9						
NOUC	Port Laguerre	4.00	284	*e*P	Pn	04 56 36.4	-0.1
NOUC				*e*S	Sn	04 57 21.8	-0.6
MSVF	Nonsavu	8.88	54	*e*Pn	Pn	04 57 43.1	-0.4
STKA	Stephens Creek	27.02	245	LR	LR	05 10 22.8	
	comp=Z,117nm,19.0s,baz=29,slow=33						
COEN	Coen	27.41	285	*e*P	P	05 01 21.5	+1.0
	84nm,1.1s						
ASAR	Alice Springs	33.53	262	P	P	05 02 14.4	-0.1
ASAR	Alice Springs	33.53	262	P	P	05 02 14.4	-0.1
	3.8nm,1.1s,baz=88,slow=9.4,SNR=11						
WRA	Warramunga Arr	33.73	268	P	P	05 02 15.6	-0.7
WRA	Warramunga Arr	33.73	268	P	P	05 02 15.6	-0.7
	0.5nm,0.4s,baz=96,slow=8.4,SNR=6.2						
FORT	Forrest	38.41	249	*e*P	P	05 02 55.9	-0.4
	4.5nm,0.7s						
QSPA	South Pole Qui	66.97	180	P	P	05 06 26.5	-0.5
QSPA	South Pole Qui	66.97	180	P	P	05 06 26.5	-0.5
	4.4nm,1.1s,baz=18,slow=4.5,SNR=7.2						
PETK	Petropavlovsk-	76.70	352	P	P	05 07 26.2	+1.0
PETK	Petropavlovsk-	76.70	352	P	P	05 07 26.2	+1.0
	7.2nm,0.9s,baz=157,slow=4.7,SNR=6.0						
CMAR	Chiang Mai Arr	81.15	294	P	P	05 07 52.6	+2.2
CMAR	Chiang Mai Arr	81.15	294	P	P	05 07 52.6	+2.2
	0.8nm,0.5s,baz=130,slow=4.0,SNR=6.1						
NVAR	Mina Array Bea	90.49	48	P	P	05 08 36.0	-0.6
NVAR	Mina Array Bea	90.49	48	P	P	05 08 36.0	-0.6
	0.5nm,0.7s,baz=232,slow=4.4,SNR=4.6						
SONM	Songino Array	90.99	323	P	P	05 08 39.2	+0.6
SONM	Songino Array	90.99	323	P	P	05 08 39.2	+0.6
	0.8nm,0.9s,baz=134,slow=4.2,SNR=5.0						
ILAR	Eielson Array	93.56	17	P	P	05 08 48.4	-1.5
ILAR	Eielson Array	93.56	17	P	P	05 08 48.4	-1.5
	1.1nm,0.9s,baz=232,slow=5.5,SNR=4.3						
KOLS	Kolonicke sedl	144.04	324	*e*PKP	PKPdf	05 15 17.2	+7.3
TRPA	Tarpa	144.34	322	*i*P	PKPdf	05 15 10.2	-0.2
CRVS	Cervenica-Dubn	144.50	324	*e*PKP	PKPdf	05 15 11.3	+0.6
LOT	Lotru	144.98	318	*i*P	PKPdf	05 15 13.1	+1.3
PSZ	Piszkesteto	145.92	324	*e*PKPbc	PKPbc	05 15 14.1	+0.2
MORC	Moravsky Berou	145.97	328	*e*PKPbc	PKPdf	05 15 11.8	-1.4
CLL	Collm	146.89	334	*e*PKPbc	PKPbc	05 15 17.0	+0.4
CLL				*i* PKiKP	PKiKP	05 15 19.6	+0.5
	comp=Z,5.0nm,0.9s						
PRU	Pruhonice	147.22	331	*e*PKP	PKPab	05 15 18.5	-0.8
PKSM	Moragy	147.62	322	*i*P	PKPbc	05 15 19.3	+0.6
KHC	Kasperske Hory	148.27	331	*e*PKP	PKPbc	05 15 21.0	+0.5
GERES	GERESS Array B	148.42	330	PKPbc	PKPbc	05 15 21.6	+0.7
GERES	GERESS Array B	148.42	330	PKPbc	PKPbc	05 15 21.6	+0.7
	comp=Z,6nm,0.8s,baz=40,slow=1.7,SNR=17						
KBA	Koenigbreinsper	149.85	328	*i*PKPbc	PKPbc	05 15 24.5	-0.1
	comp=Z,5.5nm,0.7s						
WLF	Walferdange	150.77	339	*e*PKPbc	PKPbc	05 15 26.4	-0.2

IDC ***25*** *05:03:03.6±0.7,24.°88N×62.°88E,h0km,mb4.2/26, mb1 4.4/26,mb1mx4.3/36,mbtmp4.3/26,MS3.6/8, Ms1 3.6/8,ms1mx3.2/42,Error ellipse: s-maj=18.8km s-min=12.3km az=16.0*

OMAN ***25*** *05:03:04.4±4.7,24.°62N×63.°17E,h10km,Error ellipse: s-maj=5.0km s-min=2.2km az=317.0*

CSEM ***25*** *05:03:05.7±0.2,25.°04N×62.°84E,h10km,mb4.7/40,Ms3.8, Error ellipse: s-maj=7.0km s-min=4.0km az=174.0*

ISCJB ***25*** *05:03:06.1±0.3,25.°02N±0.°04×62.°83E±0.°03,h28km, mb4.5/72,MS3.6/10,Error ellipse: s-maj=6.3km s-min=3.4km az=168.9*

MOS ***25*** *05:03:08.8±0.8,25.°06N×62.°84E,h49km,mb4.9/33,Error ellipse: s-maj=7.9km s-min=5.7km az=107.0*

BJI ***25*** *05:03:09.4,25.°18N×62.°92E,h40km,mB4.9/5,mb4.6/12, Ms4.6/1,Ms7 4.1/1*

TEH ***25*** *05:03:12.0,25.°08N×62.°92E,h60km, ML4.7*

NEIC ***25*** *05:03:12.0±2.3,24.°97N×62.°89E,h67km±21km,mb4.9/40, Error ellipse: s-maj=10.8km s-min=4.7km az=202.0*

ISC 25 05:03:08.1±0.5,25.°03N±0.°07×62.°88E±0.°05,h28km,n350, σ1s10/319,mb4.6/72,MS3.6/10,10C-4D,Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WBK	Wadi Bani Khal	4.31	237	⇑P	Pn	05 04 09.0	-2.9
	SNR=17						
WBK	Wadi Bani Khal	4.31	237	P	Pn	05 04 09.0	-2.9
	SNR=17						
SMDO	Samad	4.83	247	⇓P	Pn	05 04 17.6	-1.5
	SNR=6.3						
SMDO	Samad	4.83	247	P	Pn	05 04 17.6	-1.5
	SNR=6.3						
JMDO	Jabal Madar	5.11	240	⇓P	Pn	05 04 21.8	-1.1
	SNR=54						
JMDO	Jabal Madar	5.11	240	P	Pn	05 04 21.8	-1.1
	SNR=54						
BSYO	Bisya	5.64	247	P	Pn	05 04 30.2	0.0
	SNR=21						
BSY	Bisya	5.67	248	⇑P	Pn	05 04 30.2	-0.4
	SNR=21						
BANOM	Banah	6.01	280	P	Pn	05 04 33.9	-1.4
	SNR=39						
BANOM	Banah	6.01	280	P	Pn	05 04 33.9	-1.4
	SNR=39						
ARQ	Araqi	6.04	255	⇑P	Pn	05 04 36.0	+0.3
	SNR=11						
ARQ	Araqi	6.04	255	P	Pn	05 04 36.0	+0.3
	SNR=11						
HATD	Hatta, Dubai	6.13	270	P	Pn	05 04 36.3	-0.6
	SNR=7.5						
HATD	Hatta, Dubai	6.13	270	P	Pn	05 04 36.3	-0.6
	SNR=7.5						
ASHO	Ashiyiah	6.21	268	P	Pn	05 04 37.4	-0.5
	SNR=26						
ASHO	Ashiyiah	6.21	268	P	Pn	05 04 37.4	-0.5
	SNR=26						
NAZ	Nazwa, Dubai	6.55	271	⇑P	Pn	05 04 44.6	+2.0
NAZ	Nazwa, Dubai	6.55	271	P	Pn	05 04 43.7	+1.1
FAQ	Al Faqa, Dubai	6.62	269	P	Pn	05 04 44.6	+1.0
ASUD	Al Ashush, Dub	6.87	268	⇑P	Pn	05 04 48.6	+1.6
ASUD	Al Ashush, Dub	6.87	268	P	Pn	05 04 46.0	+1.0
IKOO	Kooshah	8.12	336	*e*P	Pn	05 05 01.7	-2.7
IKOO	Kooshah	8.12	336	*e*P	Pn	05 05 01.7	-2.7
IMON	Monand	8.61	342	*e*P	Pn	05 05 09.3	-1.8
IMON	Monand	8.61	342	*e*P	Pn	05 05 09.3	-1.8
ITEG	Tejag	8.63	336	*e*P	Pn	05 05 07.9	-3.5
ISRV	Sarvestan	9.71	299	*e*P	Pn	05 05 25.0	-1.4
ISRV	Sarvestan	9.71	299	*e*P	Pn	05 05 25.0	-1.4
ICHK	Chekchek	10.35	316	*e*P	Pn	05 05 34.1	-0.8
ICHK	Chekchek	10.35	316	*e*P	Pn	05 05 34.1	-0.8
THW	Thamme Wali	10.96	43	⇓P	Pn	05 05 40.7	-2.4
CEP	Cherat	11.77	40	P	Pn	05 05 53.9	-0.5
CEP				S	Sn	05 07 57.0	-7.9
IPAY	Payeh	11.87	345	*e*P	Pn	05 05 53.3	-2.4
IPAY	Payeh	11.87	345	*e*P	Pn	05 05 53.3	-2.4
KHET	Khetri	11.96	72	*e*PKP	Pn	05 05 53.1	-3.7
KHET				AMb	AMB	05 05 54.8	
	comp=Z,8.7nm,0.4s						
KHET				*e*S	Sn	05 07 58.7	-11
POO	Poona	12.06	120	*e*x	P	05 05 57.0	-14
CHCP	Chirah Chowk	12.48	44	P	Pn	05 06 01.5	-2.5
KUDL	Kundal	12.57	73	*e*PKP	Pn	05 06 02.1	-3.0
KUDL				AMb	AMB	05 06 03.7	
	comp=Z,14nm,0.4s						
KUDL				*e*S	Sn	05 08 12.7	-11
ISFB	Sefidab	13.10	318	*e*P	Pn	05 06 09.9	-2.5
ISFB	Sefidab	13.10	318	*e*

PKI Pulchoki 20.35 78 *e*P Pn 05 07 44.7 -0.4
comp=Z,23nm,0.8s
CHMS Chumysh 20.41 26 P Pn 05 07 44.2 -1.0
SNR=6.9
ULHL Ulahol 20.42 29 P Pn 05 07 45.3 -0.2
SNR=34
USP Ospenovka 20.54 25 P **P** **05 07 44.8 +0.4**
SNR=33
TKM2 Tokmak 2 20.69 27 *i* P **P** **05 07 46.6 +0.4**
TKM2 Tokmak 2 20.69 27 *e*P **P** **05 07 46.5 +0.3**
comp=Z,17nm,1.0s
TKM2 Tokmak 2 20.69 27 P **P** **05 07 46.6 +0.4**
SNR=11
TKM2 Tokmak 2 20.69 27 *i* P **P** **05 07 46.6 +0.4**
GUN Gumba 20.78 77 *e*P **P** **05 07 48.2 +0.7**
comp=Z,96nm,0.9s
GUN Gumba 20.78 77 *e*P **P** **05 07 48.2 +0.7**
comp=Z,96nm,0.9s
GUN Gumba 20.78 77 *e*P **P** **05 07 48.2 +0.7**
comp=Z,96nm,0.9s
JIRN Jiri 21.05 78 *e*P **P** **05 07 51.4 +1.0**
comp=Z,18nm,0.9s
JIRN Jiri 21.05 78 *e*P **P** **05 07 51.4 +1.0**
comp=Z,18nm,0.9s
JIRN Jiri 21.05 78 *e*P **P** **05 07 51.4 +1.0**
comp=Z,18nm,0.9s
RAMN Ramite 21.40 80 *e*P **P** **05 07 56.8 +2.7**
comp=Z,34nm,0.6s
RAMN Ramite 21.40 80 *e*P **P** **05 07 56.8 +2.7**
comp=Z,34nm,0.6s
RAMN Ramite 21.40 80 *e*P **P** **05 07 56.8 +2.7**
comp=Z,34nm,0.6s
GNI Garni 21.41 319 *e*P **P** **05 07 56.1 +2.2**
comp=Z,34nm,0.9s
GNI Garni 21.41 319 P **P** **05 07 56.4 +2.5**
comp=Z,26nm,0.8s,baz=346,slow=3.2,SNR=12
GNI Garni 21.41 319 *e*P **P** **05 07 56.1 +2.2**
comp=Z,34nm,0.9s
TAPN Taplejung 22.39 79 *e*P **P** **05 08 05.3 +0.5**
comp=Z,63nm,1.3s
TAPN Taplejung 22.39 79 *e*P **P** **05 08 05.3 +0.5**
comp=Z,63nm,1.3s
TAPN Taplejung 22.39 79 *e*P **P** **05 08 05.3 +0.5**
comp=Z,63nm,1.3s
ATD Arta Tunnel 23.24 238 LR LR 05 16 32.5
comp=Z,100nm,21.9s,baz=65,slow=35
ZEI Tsey 23.60 323 *e*P **P** **05 08 21.0 +4.1**
ZEI pmax pmax
comp=Z,8.0nm,0.6s
ASF Jabal al Asfar 23.86 293 P **P** **05 08 20.4 +1.1**
ASF Jabal al Asfar 23.86 293 P **P** **05 08 20.4 +1.1**
comp=Z,1.9nm,0.7s,baz=183,slow=3.1,SNR=3.2
AB31 Akbulak array 24.30 355 *i* P **P** **05 08 23.4 +0.4**
AB31 pmax pmax
comp=Z,24nm,0.9s
AB31 Akbulak array 24.30 355 *i* P **P** **05 08 23.4 +0.4**
comp=Z,24nm,0.9s
ABKAR Akbulak array 24.30 355 *e*P **P** **05 08 23.5 +0.4**
comp=Z,14nm,0.8s
ABKAR Akbulak array 24.30 355 *e*P **P** **05 08 23.5 +0.4**
comp=Z,14nm,0.8s
KBZ Khabaz 24.79 324 P **P** **05 08 29.9 +2.3**
KBZ Khabaz 24.79 324 P **P** **05 08 29.9 +2.3**
KBZ Khabaz 24.79 324 P **P** **05 08 29.9 +2.3**
comp=Z,21nm,0.9s,baz=144,slow=8.1,SNR=34
KBZ Khabaz 24.79 324 P **P** **05 08 29.9 +2.3**
KIV Kislovodsk 25.05 324 *e*P **P** **05 08 32.9 +2.8**
KIV *e*S **S** **05 12 49.8 -3.0**
KIV pmax pmax
comp=Z,57nm,1.1s
KIV MLR MLR
comp=Z,27nm,14.0s
KIV Kislovodsk 25.05 324 *e*P **P** **05 08 32.5 +2.4**
comp=Z,55nm,1.0s
KIV Kislovodsk 25.05 324 P **P** **05 08 33.4 +3.3**
SNR=7.6
KIV Kislovodsk 25.05 324 *e*P **P** **05 08 32.5 +2.4**
comp=Z,55nm,1.0s
MMAI Mount Meron Ar 25.26 295 P **P** **05 08 34.1 +2.0**
MMAI Mount Meron Ar 25.26 295 P **P** **05 08 34.1 +2.0**
comp=Z,0.6nm,0.3s,baz=315,slow=57,SNR=2.5
MMAI Mount Meron Ar 25.26 295 P **P** **05 08 34.1 +2.0**
LSA Lhasa 25.50 73 *e*P **P** **05 08 35.5 +0.7**
LSA Lhasa 25.50 73 *e*P **P** **05 08 35.5 +0.7**
LSA Lhasa 25.50 73 *e*P **P** **05 08 35.5 +0.7**
AKTK Aktyubinsk 25.64 353 P **P** **05 08 36.0 +0.7**
AKTO Aktyubinsk 25.64 353 P **P** **05 08 36.0 +0.7**
AKTO Aktyubinsk 25.64 353 P **P** **05 08 36.0 +0.7**
AKTO Aktyubinsk 25.64 353 P **P** **05 08 36.0 +0.7**
comp=Z,9.6nm,0.6s,baz=154,slow=12,SNR=37
AKTO Aktyubinsk 25.64 353 P **P** **05 08 36.0 +0.7**
MK31 Makanchi Array 26.68 31 P **P** **05 08 44.4 -0.3**
MK31 pmax pmax
comp=Z,4.0nm,0.5s
MK31 Makanchi Array 26.68 31 P **P** **05 08 44.4 -0.3**
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 26.68 31 P **P** **05 08 45.3 +0.6**
MKAR Makanchi Array 26.68 31 P **P** **05 08 45.3 +0.6**
MKAR Makanchi Array 26.68 31 P **P** **05 08 45.3 +0.6**
comp=Z,5.7nm,0.8s,baz=213,slow=9.1,SNR=52
MKAR Makanchi Array 26.68 31 P **P** **05 08 45.3 +0.6**
WMQ Urumqi 27.59 41 P **P** **05 08 54.4 +1.4**
WMQ pP **pP** **05 09 04.0 +2.8**
WMQ pmax pmax
comp=Z,14nm,0.8s
WMQ pmax pmax
comp=Z,120nm,4.1s
WMQ LR LR
comp=N,550nm,12.8s
WMQ LR LR
comp=E,410nm,11.6s
WMQ LR LR
comp=Z,460nm,17.4s
KURBB Kurchatov Arra 28.27 21 P **P** **05 08 59.5 +0.6**
comp=Z,2.3nm,0.8s,baz=217,slow=8.7,SNR=25
KURK Kurchatov 28.38 21 *ce*P **P** **05 09 00.8 +1.0**
KURK pmax pmax
comp=Z,5.0nm,1.1s
KURK Kurchatov 28.38 21 *e*P **P** **05 09 00.5 +0.7**
comp=Z,3.5nm,1.3s
KURK Kurchatov 28.38 21 *e*P **P** **05 09 00.5 +0.7**
comp=Z,3.5nm,1.3s
BVA0 Borovoye Array 28.53 10 *i* P **P** **05 09 01.6 +0.4**
BVA0 pmax pmax
comp=Z,1.0nm,1.1s
BVA0 Borovoye Array 28.53 10 *i* P **P** **05 09 01.6 +0.4**
comp=Z,1.0nm,1.1s
BVAR Borovoye Array 28.53 10 P **P** **05 09 02.0 +0.8**
BVAR Borovoye Array 28.53 10 P **P** **05 09 02.0 +0.8**
BVAR Borovoye Array 28.53 10 P **P** **05 09 02.0 +0.8**
comp=Z,2.9nm,0.8s,baz=185,slow=8.1,SNR=10
BVAR Borovoye Array 28.53 10 P **P** **05 09 02.0 +0.8**
BRVK Borovoye 28.55 9 *e*P **P** **05 09 02.4 +1.1**
BRVK pmax pmax
comp=Z,9.0nm,1.3s
BRVK Borovoye 28.55 9 *e*P **P** **05 09 02.4 +1.1**
comp=Z,8.5nm,1.3s
BRVK Borovoye 28.55 9 *e*P **P** **05 09 02.4 +1.1**
comp=Z,8.5nm,1.3s
BRTR Keskin Array B 28.56 308 P **P** **05 09 02.6 +0.8**
BRTR Keskin Array B 28.56 308 P **P** **05 09 02.6 +0.8**
comp=Z,1.3nm,0.8s,baz=142,slow=7.2,SNR=4.2
BRTR Keskin Array B 28.56 308 P **P** **05 09 02.6 +0.8**
ARU Arti 31.53 355 P **P** **05 09 24.8 -2.9**
ARU 05 10 27.2
ARU S S 05 14 24.3 -10
ARU SS **SnSn** **05 16 19.3 -1.1**
VORD Divnogorie 31.61 331 *e*P **P** **05 09 28.3 -0.1**
VORD pmax pmax
comp=N,4.0nm,0.6s
VORD pmax pmax
comp=E,5.0nm,0.6s
VORD pmax pmax
comp=Z,5.0nm,0.6s
VORD Divnogorie 31.61 331 *e*P **P** **05 09 28.3 -0.1**
VSR Storozhevoye 31.84 331 *e*P **P** **05 09 30.3 -0.2**
VSR pmax pmax
comp=N,1.0nm,0.4s
VSR pmax pmax
comp=Z,3.0nm,0.4s
VSR Storozhevoye 31.84 331 *e*P **P** **05 09 30.3 -0.2**
ZALV Zalesovo Beam 33.20 24 P **P** **05 09 42.6 +0.2**
ZALV Zalesovo Beam 33.20 24 P **P** **05 09 42.5 +0.2**
ZALV Zalesovo Beam 33.20 24 P **P** **05 09 42.5 +0.2**
comp=Z,5.1nm,0.6s,baz=228,slow=10.0,SNR=33
ZALV LR LR 05 24 60.0
comp=Z,132nm,18.4s,baz=250,slow=40
ZALV Zalesovo Beam 33.20 24 P **P** **05 09 42.5 +0.2**
NVS Novosibirsk 33.37 21 *i* P **P** **05 09 42.9 -0.8**
NVS pmax pmax
comp=Z,11nm,1.4s
NVS pmax pmax
comp=N,7.0nm,1.6s
NVS pmax pmax
comp=E,3.0nm,1.4s
NVS Novosibirsk 33.37 21 *i* P **P** **05 09 42.9 -0.8**
comp=E,7.0nm,1.6s
CMAR Chiang Mai Arr 34.06 94 P **P** **05 09 51.3 +1.1**
CMAR Chiang Mai Arr 34.06 94 P **P** **05 09 51.3 +1.1**
comp=E,1.0nm,0.6s,baz=289,slow=10.0,SNR=8.4
CMAR LR LR 05 25 34.1
comp=E,53nm,19.9s,baz=285,slow=40
CMAR Chiang Mai Arr 34.06 94 P **P** **05 09 51.3 +1.1**
GTA Gaotai 34.13 56 *e*P P 05 09 39.4 -11
GTA pP pP 05 09 48.5 -11
GTA sP sP 05 09 52.4 -10
GTA pmax pmax
comp=Z,4.0nm,0.7s
OBN Obninsk 35.75 334 *e*P **P** **05 10 05.3 +0.9**
OBN pmax pmax
comp=Z,19nm,1.5s
OBN Obninsk 35.75 334 *e*P **P** **05 10 05.3 +0.9**
comp=Z,19nm,1.5s
AKASG Malin Array Be 36.40 324 P **P** **05 10 10.2 +0.2**
AKASG Malin Array Be 36.40 324 P **P** **05 10 10.2 +0.2**
AKASG Malin Array Be 36.40 324 P **P** **05 10 10.2 +0.2**
comp=Z,9.5nm,0.7s,baz=124,slow=7.8,SNR=22
AKASG Malin Array Be 36.40 324 P **P** **05 10 10.2 +0.2**
KIEV Kiev 36.41 324 *e*P **P** **05 10 09.8 -0.2**
KIEV pmax pmax
comp=Z,16nm,0.8s
KIEV Kiev 36.41 324 *e*P **P** **05 10 09.8 -0.2**
comp=Z,16nm,0.8s
KIEV Kiev 36.41 324 *e*P **P** **05 10 09.8 -0.2**
comp=Z,16nm,0.8s
LZH Lanzhou 36.72 63 *e*P **P** **05 10 14.0 +0.9**
LZH pmax pmax
comp=Z,15nm,1.4s
ZAK Zakamensk 40.05 40 *e*P **P** **05 10 38.7 -2.2**
ZAK pmax pmax
comp=Z,3.0nm,1.1s
SONM Songino Array 41.05 45 P **P** **05 10 51.2 +1.9**
SONM Songino Array 41.05 45 P **P** **05 10 51.2 +1.9**
comp=Z,4.8nm,0.8s,baz=254,slow=8.2,SNR=40
SONM Songino Array 41.05 45 P **P** **05 10 51.2 +1.9**
PSI Prapat 41.14 117 P **P** **05 10 50.5 +0.1**
PSI Prapat 41.14 117 P **P** **05 10 50.5 +0.1**
comp=Z,4.5nm,0.8s,baz=243,slow=4.5,SNR=4.1
ULN Ulaanbaatar 41.48 45 *e*P **P** **05 10 53.8 +1.0**
comp=Z,3.9nm,0.9s
ULN Ulaanbaatar 41.48 45 *e*P **P** **05 10 53.8 +1.0**
comp=Z,3.9nm,0.9s
IPM Ipoh 41.93 113 *e*P **P** **05 10 54.7 -2.0**
comp=Z,40nm,0.8s
IPM Ipoh 41.93 113 *e*P **P** **05 10 54.7 -2.0**
comp=Z,40nm,0.8s
FINES FINESS Array B 44.11 336 P **P** **05 11 13.2 -0.5**
FINES FINESS Array B 44.11 336 P **P** **05 11 13.2 -0.5**
comp=Z,1.4nm,0.7s,baz=134,slow=9.9,SNR=4.4
FINES FINESS Array B 44.11 336 P **P** **05 11 13.2 -0.5**
MOA Molln 44.36 314 ⇓ *i*P **P** **05 11 16.4 +0.4**
comp=Z,3.3nm,0.6s
MOA Molln 44.36 314 P **P** **05 11 16.4 +0.4**
comp=Z,3.3nm,0.6s
GERES GERESS Array B 44.96 315 P **P** **05 11 20.9 +0.1**
GERES GERESS Array B 44.96 315 P **P** **05 11 20.9 +0.1**
comp=Z,3.5nm,0.8s,baz=106,slow=7.3,SNR=26
GERES GERESS Array B 44.96 315 P **P** **05 11 20.9 +0.1**
BRG Berggiesshubel 45.33 318 *e*(P) P 05 11 29.0 +5.4
comp=Z,12nm,1.8s
CLL Collm 46.02 318 ⇑ *i*P **P** **05 11 30.1 +1.1**
CLL *e* 05 11 40.0
CLL pmax pmax
comp=Z,15nm,1.0s
CLL Collm 46.02 318 *i* P **P** **05 11 29.6 +0.6**
comp=Z,15nm,1.0s
CLL *e*pP pP 05 11 44.0 +6.5
CLL Collm 46.02 318 *i* P **P** **05 11 30.1 +1.1**
comp=Z,15nm,1.0s
FETA Feichten 46.55 312 ⇑ *i*P **P** **05 11 33.3 -0.2**
comp=Z,7.4nm,0.8s
FETA Feichten 46.55 312 P **P** **05 11 33.3 -0.2**
comp=Z,7.4nm,0.8s
DAVA Damuels 47.17 312 ⇑ *i*P **P** **05 11 38.0 -0.3**
comp=Z,12nm,0.7s
DAVA Damuels 47.17 312 P **P** **05 11 38.0 -0.3**
comp=Z,12nm,0.7s
SBF Sospel 48.49 307 *e*P **P** **05 11 48.2 -0.3**
comp=Z,74nm,1.0s
SBF Sospel 48.49 307 *e*P **P** **05 11 48.2 -0.3**
SBF pmax pmax
comp=Z,74nm,1.0s
SBF Sospel 48.49 307 *e*P **P** **05 11 48.2 -0.3**
comp=Z,74nm,1.0s
SBF Sospel 48.49 307 *e*P **P** **05 11 48.2 -0.3**
comp=Z,37nm,1.0s
MBDF Montbardon 49.03 308 *e*P **P** **05 11 53.2 +0.5**
comp=Z,19nm,0.9s
MBDF Montbardon 49.03 308 *e*P **P** **05 11 53.2 +0.5**
MBDF pmax pmax
comp=Z,19nm,0.9s
MBDF Montbardon 49.03 308 *e*P **P** **05 11 53.2 +0.5**
comp=Z,19nm,0.9s
MBDF Montbardon 49.03 308 *e*P **P** **05 11 53.2 +0.5**
comp=Z,9.4nm,0.9s
CDF Champ du Feu 49.07 313 *e*P **P** **05 11 52.2 -0.7**
comp=Z,12nm,1.1s
CDF Champ du Feu 49.07 313 *e*P **P** **05 11 52.2 -0.7**
CDF pmax pmax
comp=Z,12nm,1.1s
CDF Champ du Feu 49.07 313 *e*P **P** **05 11 52.2 -0.7**
comp=Z,12nm,1.1s
CDF Champ du Feu 49.07 313 *e*P **P** **05 11 52.2 -0.7**
comp=Z,5.9nm,1.1s
LPG La Plagne 49.10 309 *e*P **P** **05 11 53.0 -0.5**
comp=Z,22nm,1.2s
LPG La Plagne 49.10 309 *e*P **P** **05 11 53.0 -0.5**
LPG pmax pmax
comp=Z,22nm,1.2s
LPG La Plagne 49.10 309 *e*P **P** **05 11 53.0 -0.5**
comp=Z,22nm,1.2s
LPG La Plagne 49.10 309 *e*P **P** **05 11 53.0 -0.5**
comp=Z,11nm,1.2s
LPL La Plagne 49.12 309 *e*P **P** **05 11 53.0 -0.5**
comp=Z,11nm,0.8s
LPL La Plagne 49.12 309 *e*P **P** **05 11 53.0 -0.5**
LPL pmax pmax
comp=Z,11nm,0.8s
LPL La Plagne 49.12 309 *e*P **P** **05 11 53.0 -0.5**
comp=Z,11nm,0.8s
LPL La Plagne 49.12 309 *e*P **P** **05 11 53.0 -0.5**
comp=Z,5.6nm,0.8s
HINF Hinteralfeld 49.27 312 *e*P **P** **05 11 53.9 -0.5**
HINF Hinteralfeld 49.27 312 *e*P **P** **05 11 53.9 -0.5**
HINF Hinteralfeld 49.27 312 *e*P **P** **05 11 53.9 -0.5**
HINF Hinteralfeld 49.27 312 *e*P **P** **05 11 53.9 -0.5**
HAU Haudompre 49.63 313 *e*P **P** **05 11 56.4 -0.7**
HAU *e*R
comp=Z,49nm,18.8s
HAU Haudompre 49.63 313 *e*P **P** **05 11 56.4 -0.7**
HAU Haudompre 49.63 313 *e*P **P** **05 11 56.4 -0.7**
HAU Haudompre 49.63 313 *e*P **P** **05 11 56.4 -0.7**
ARCES ARCESS Array B 49.66 344 P **P** **05 11 56.7 -0.2**
ARCES ARCESS Array B 49.66 344 P **P** **05 11 56.7 -0.2**
comp=Z,4.8nm,1.0s,baz=141,slow=9.3,SNR=4.4
ARCES ARCESS Array B 49.66 344 P **P** **05 11 56.7 -0.2**
CABF La Chapelle 49.66 311 *e*P **P** **05 11 56.9 -0.6**
comp=Z,31nm,1.2s
CABF La Chapelle 49.66 311 *e*P **P** **05 11 56.9 -0.6**
CABF pmax pmax
comp=Z,31nm,1.2s
CABF La Chapelle 49.66 311 *e*P **P** **05 11 56.9 -0.6**
comp=Z,31nm,1.2s
CABF La Chapelle 49.66 311 *e*P **P** **05 11 56.9 -0.6**
comp=Z,16nm,1.2s
SMRF Simiane la Rot 49.84 307 *e*P **P** **05 11 58.7 -0.1**
SMRF Simiane la Rot 49.84 307 *e*P **P** **05 11 58.7 -0.1**
SMRF Simiane la Rot 49.84 307 *e*P **P** **05 11 58.7 -0.1**
NB2 NORSAR Subarra 50.10 330 P **P** **05 11 59.7 -0.8**
comp=Z,1.2nm,0.7s,baz=111,slow=7.9
NB2 NORSAR Subarra 50.10 330 P **P** **05 11 59.7 -0.8**
comp=Z,1.2nm,0.7s,SNR=5.2
NOA NORSAR Array B 50.10 330 P **P** **05 11 59.7 -0.8**
NOA NORSAR Array B 50.10 330 P **P** **05 11 59.7 -0.8**
comp=Z,2.0nm,0.8s,baz=111,slow=7.5,SNR=5.5
NOA LR LR 05 36 21.9
comp=Z,73nm,19.3s,baz=180,slow=40
NOA NORSAR Array B 50.10 330 P **P** **05 11 59.7 -0.8**
SFTF Sexfontaines 50.53 313 *e*P **P** **05 12 03.1 -0.8**
comp=Z,18nm,0.9s
SFTF Sexfontaines 50.53 313 *e*P **P** **05 12 03.1 -0.8**
comp=Z,18nm,0.9s
SFTF Sexfontaines 50.53 313 *e*P **P** **05 12 03.1 -0.8**
comp=Z,9.1nm,0.9s
MEZF Maizieres J'vi 50.55 313 *e*P **P** **05 12 03.2 -0.8**
MEZF Maizieres J'vi 50.55 313 *e*P **P** **05 12 03.2 -0.8**
MEZF Maizieres J'vi 50.55 313 *e*P **P** **05 12 03.2 -0.8**
GIVF Givet 50.88 315 *e*P **P** **05 12 06.3 -0.2**
comp=Z,15nm,0.9s
GIVF Givet 50.88 315 *e*P **P** **05 12 06.3 -0.2**
GIVF pmax pmax
comp=Z,15nm,0.9s
GIVF Givet 50.88 315 *e*P **P** **05 12 06.3 -0.2**
comp=Z,15nm,0.9s
GIVF Givet 50.88 315 *e*P **P** **05 12 06.3 -0.2**
comp=Z,7.6nm,0.9s
LASF Ste Croix 51.09 307 *e*P **P** **05 12 08.0 -0.2**
comp=Z,36nm,1.2s
LASF Ste Croix 51.09 307 *e*P **P** **05 12 08.0 -0.2**
comp=Z,36nm,1.2s
LASF Ste Croix 51.09 307 *e*P **P** **05 12 08.0 -0.2**
comp=Z,18nm,1.2s
LOR Lormes 51.24 312 *e*P **P** **05 12 08.8 -0.5**
LOR *e*R
comp=Z,75nm,20.0s
LOR Lormes 51.24 312 *e*P **P** **05 12 08.8 -0.5**
LOR Lormes 51.24 312 *e*P **P** **05 12 08.8 -0.5**
SSF Saint Saulge 51.47 311 *e*P **P** **05 12 10.8 -0.2**
comp=Z,12nm,1.0s
SSF Saint Saulge 51.47 311 *e*P **P** **05 12 10.8 -0.2**
SSF pmax pmax
comp=Z,12nm,1.0s
SSF Saint Saulge 51.47 311 *e*P **P** **05 12 10.8 -0.2**
comp=Z,12nm,1.0s
SSF Saint Saulge 51.47 311 *e*P **P** **05 12 10.8 -0.2**
comp=Z,5.8nm,1.0s
AVF Avril sur Loir 51.55 311 *e*P **P** **05 12 11.1 -0.5**
AVF Avril sur Loir 51.55 311 *e*P **P** **05 12 11.1 -0.5**
AVF Avril sur Loir 51.55 311 *e*P **P** **05 12 11.1 -0.5**
AVF Avril sur Loir 51.55 311 *e*P **P** **05 12 11.1 -0.5**
BGF Bois d'Agland 51.89 311 *e*P **P** **05 12 13.9 -0.2**
BGF Bois d'Agland 51.89 311 *e*P **P** **05 12 13.9 -0.2**
BGF Bois d'Agland 51.89 311 *e*P **P** **05 12 13.9 -0.2**
BGF Bois d'Agland 51.89 311 *e*P **P** **05 12 13.9 -0.2**
TCF Toulx Ste Croi 52.32 310 *e*P **P** **05 12 16.6 -0.8**
comp=Z,15nm,1.1s
TCF Toulx Ste Croi 52.32 310 *e*P **P** **05 12 16.6 -0.8**
TCF pmax pmax
comp=Z,15nm,1.1s
TCF Toulx Ste Croi 52.32 310 *e*P **P** **05 12 16.6 -0.8**
comp=Z,15nm,1.1s
TCF Toulx Ste Croi 52.32 310 *e*P **P** **05 12 16.6 -0.8**
comp=Z,7.3nm,1.1s
CAF Calviac 52.38 308 *e*P **P** **05 12 18.1 +0.2**
comp=Z,9.7nm,0.9s
CAF Calviac 52.38 308 *e*P **P** **05 12 18.1 +0.2**
CAF pmax pmax
comp=Z,10.0nm,0.9s
CAF Calviac 52.38 308 *e*P **P** **05 12 18.1 +0.2**
comp=Z,9.7nm,0.9s
CAF Calviac 52.38 308 *e*P **P** **05 12 18.1 +0.2**
comp=Z,4.8nm,0.9s
RJF Les Rejaudoux 52.78 309 *e*P **P** **05 12 21.1 +0.3**
comp=Z,11nm,0.8s
RJF *e*R
comp=Z,67nm,21.8s
RJF Les Rejaudoux 52.78 309 *e*P **P** **05 12 21.1 +0.3**
RJF pmax pmax
comp=Z,11nm,0.8s
RJF Les Rejaudoux 52.78 309 *e*P **P** **05 12 21.1 +0.3**
comp=Z,11nm,0.8s
RJF Les Rejaudoux 52.78 309 *e*P **P** **05 12 21.1 +0.3**
comp=Z,5.7nm,0.8s
LDF La Druitiere 53.98 313 *e*P **P** **05 12 29.1 -0.4**
comp=Z,10nm,0.8s
LDF La Druitiere 53.98 313 *e*P **P** **05 12 29.1 -0.4**
LDF pmax pmax
comp=Z,10.0nm,0.8s
LDF La Druitiere 53.98 313 *e*P **P** **05 12 29.1 -0.4**
comp=Z,10nm,0.8s
LDF La Druitiere 53.98 313 *e*P **P** **05 12 29.1 -0.4**
comp=Z,5.1nm,0.8s
FLN La Foliniere 54.23 313 *e*P **P** **05 12 31.0 -0.3**
comp=Z,13nm,0.9s
FLN *e*R
comp=Z,96nm,17.8s
FLN La Foliniere 54.23 313 *e*P **P** **05 12 31.0 -0.3**
FLN pmax pmax
comp=Z,13nm,0.9s
FLN La Foliniere 54.23 313 *e*P **P** **05 12 31.0 -0.3**
comp=Z,13nm,0.9s
FLN La Foliniere 54.23 313 *e*P **P** **05 12 31.0 -0.3**
comp=Z,6.5nm,0.9s
ETSF Etsaut 54.31 306 *e*P **P** **05 12 32.5 +0.4**
comp=Z,18nm,0.9s
ETSF Etsaut 54.31 306 *e*P **P** **05 12 32.5 +0.4**
ETSF pmax pmax
comp=Z,18nm,0.9s
ETSF Etsaut 54.31 306 *e*P **P** **05 12 32.5 +0.4**
comp=Z,18nm,0.9s
ETSF Etsaut 54.31 306 *e*P **P** **05 12 32.5 +0.4**
comp=Z,8.8nm,0.9s
SJPF Ste Jean 54.79 306 *e*P **P** **05 12 35.7 +0.2**
comp=Z,30nm,1.2s
SJPF Ste Jean 54.79 306 *e*P **P** **05 12 35.7 +0.2**
SJPF pmax pmax
comp=Z,30nm,1.2s
SJPF Ste Jean 54.79 306 *e*P **P** **05 12 35.7 +0.2**
comp=Z,30nm,1.2s
SJPF Ste Jean 54.79 306 *e*P **P** **05 12 35.7 +0.2**
comp=Z,15nm,1.2s
SGMF Saint Gilles 55.60 313 *e*P **P** **05 12 40.4 -0.8**
comp=Z,7.7nm,0.8s
SGMF Saint Gilles 55.60 313 *e*P **P** **05 12 40.4 -0.8**
SGMF pmax pmax
comp=Z,8.0nm,0.8s
SGMF Saint Gilles 55.60 313 *e*P **P** **05 12 40.4 -0.8**
comp=Z,7.7nm,0.8s
SGMF Saint Gilles 55.60 313 *e*P **P** **05 12 40.4 -0.8**
comp=Z,3.8nm,0.8s
KSAR Wonju Array Be 55.96 61 P **P** **05 12 43.8 -0.2**
KSAR Wonju Array Be 55.96 61 P **P** **05 12 43.8 -0.2**
KSRS Korea Array 55.99 61 P **P** **05 12 43.8 -0.4**
comp=Z,2.9nm,0.7s,baz=282,slow=8.0,SNR=5.8
KSRS LR LR 05 38 31.0
comp=Z,35nm,20.1s,baz=12,slow=38
QUIF Quistinic 56.01 312 *e*P **P** **05 12 43.6 -0.6**
comp=Z,33nm,1.3s
QUIF Quistinic 56.01 312 *e*P **P** **05 12 43.6 -0.6**
QUIF pmax pmax
comp=Z,33nm,1.3s
QUIF Quistinic 56.01 312 *e*P **P** **05 12 43.6 -0.6**
comp=Z,33nm,1.3s
QUIF Quistinic 56.01 312 *e*P **P** **05 12 43.6 -0.6**
comp=Z,16nm,1.3s
ROSF Rostrenen 56.08 313 *e*P **P** **05 12 44.2 -0.5**
comp=Z,14nm,0.9s
ROSF Rostrenen 56.08 313 *e*P **P** **05 12 44.2 -0.5**
ROSF pmax pmax
comp=Z,14nm,0.9s
ROSF Rostrenen 56.08 313 *e*P **P** **05 12 44.2 -0.5**
comp=Z,14nm,0.9s
ROSF Rostrenen 56.08 313 *e*P **P** **05 12 44.2 -0.5**
comp=Z,7.2nm,0.9s
ESDC Sonseca Array 57.12 302 P **P** **05 12 51.8 -0.5**
ESDC Sonseca Array 57.12 302 P **P** **05 12 51.8 -0.5**
comp=Z,0.1nm,0.3s,baz=71,slow=7.9,SNR=4.6
ESDC Sonseca Array 57.12 302 P **P** **05 12 51.8 -0.5**
KLR Kul'dur 57.85 46 *e*P P 05 12 53.8 -3.4
USRK Ussuriysk Arra 58.34 52 LR LR 05 42 07.4
comp=Z,62nm,21.7s,baz=33,slow=40
TORD Torodi Ar. Bea 58.60 271 P **P** **05 13 02.3 -0.6**
TORD Torodi Ar. Bea 58.60 271 P **P** **05 13 02.3 -0.6**
comp=Z,3.1nm,0.9s,baz=64,slow=6.2,SNR=31
TORD Torodi Ar. Bea 58.60 271 P **P** **05 13 02.3 -0.6**
MDT Midelt 58.71 294 P **P** **05 13 03.9 +0.2**
MDT Midelt 58.71 294 P **P** **05 13 03.9 +0.2**
comp=Z,2.1nm,0.7s,baz=63,slow=8.3,SNR=6.4

MDT	**Midelt**	**58.71**	**294**	P	**P**	05 13 03.9	**+0.2**
YSS	**Yuzh-Sakhalins**	**65.43**	**48**	*e*P	**P**	05 13 49.4	**+1.0**
SEY	**Seymchan**	**67.81**	**30**	*ce*P	**P**	05 14 03.8	**+0.6**
WRA	**Warramunga Arr**	**82.60**	**116**	P	**P**	05 15 28.0	**-1.2**
WRA	**Warramunga Arr**	**82.60**	**116**	P	**P**	05 15 28.0	**-1.2**
	comp=Z,1.3nm,0.8s,baz=308,slow=4.8,SNR=8.9						
WRA	**Warramunga Arr**	**82.60**	**116**	P	**P**	05 15 28.0	**-1.2**
ASAR	**Alice Springs**	**84.11**	**119**	P	**P**	05 15 36.1	**-0.8**
ASAR	**Alice Springs**	**84.11**	**119**	P	**P**	05 15 36.1	**-0.8**
	comp=Z,0.5nm,0.8s,baz=320,slow=4.0,SNR=3.9						
ASAR	**Alice Springs**	**84.11**	**119**	P	**P**	05 15 36.1	**-0.8**
ILAR	**Eielson Array**	**87.56**	**12**	LR	LR	06 00 35.4	
	comp=Z,78nm,20.7s,baz=308,slow=39						
YKA	**Yellowknife Ar**	**92.76**	**359**	P	**P**	05 16 17.6	**0.0**
YKA	**Yellowknife Ar**	**92.76**	**359**	P	**P**	05 16 17.5	**0.0**
	comp=Z,1.0nm,0.8s,baz=353,slow=5.2,SNR=15						
YKA	**Yellowknife Ar**	**92.76**	**359**	P	**P**	05 16 17.5	**0.0**

IDC 25 05:08:22.1±2.8, 22°.48S×170°.62E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/18, mbtmp3.6/3, ML3.9/1, MS3.9/2, Ms1 3.9/2, ms1mx3.1/18, Error ellipse: s-maj=123.2km s-min=41.1km az=172.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.89**	**275**	Pn	Pn	05 09 25.4	+2.1
	7.6nm,0.3s,baz=184,slow=17,SNR=18						
DZM				Sn	Sn	05 10 10.5	+0.6
	13nm,0.3s,baz=107,slow=23,SNR=6.3						
STKA	**Stephens Creek**	**27.40**	**244**	LR	LR	05 24 14.5	
	comp=Z,106nm,18.2s,baz=24,slow=35						
ASAR	**Alice Springs**	**33.74**	**261**	P	P	05 15 05.0	-0.6
	1.3nm,1.0s,baz=92,slow=10,SNR=5.4						
WRA	**Warramunga Arr**	**33.87**	**267**	P	P	05 15 05.9	-0.8
	0.2nm,0.4s,baz=98,slow=8.5,SNR=6.9						
VNDA	**Vanda**	**55.26**	**182**	LR	LR	05 38 41.2	
	comp=Z,206nm,18.5s,baz=241,slow=33						
GERES	**GERESS Array B**	**147.94**	**331**	PKPbc	PKPbc	05 28 09.2	-0.2
	0.4nm,0.5s,baz=4.6,slow=4.9,SNR=4.6						

NIED ***25*** *05:12:00, 33°.10N×142°.50E, h5km, Mw4.0 Best double couple: M₀1.02000×10¹⁵ NP1:φ₀188.00000°, δ76.00000°, λ-32.00000°. NP2:φ₀287.00000°, δ59.00000°, λ-163.00000°.*

IDC ***25*** *05:12:01.2±0.7, 32°.88N×142°.62E, h0km, mb3.8/15, mb1 4.0/20, mb1mx3.9/32, mbtmp3.9/20, ML4.1/5, MS3.1/2, Ms1 3.2/2, ms1mx2.2/41, Error ellipse: s-maj=18.7km s-min=15.2km az=64.0*

NEIC ***25*** *05:12:02.5±0.5, 32°.96N×142°.64E, h10km, mb4.4/5, MW3.9(NIED), Error ellipse: s-maj=12.1km s-min=8.6km az=69.0*

ISCJB ***25*** *05:12:03.9±0.5, 33°.04N±0°.04×142°.55E±0°.05, h33km, mb3.9/20, MS3.0/1, Error ellipse: s-maj=7.2km s-min=4.1km az=142.0*

JMA ***25*** *05:12:05.4±0.3, 33°.10N×142°.49E, h66km, M4.3*

ISC 25 05:12:05.4±0.6, 33°.04N±0°.05×142°.60E±0°.07, h33km, n65, σ1ᵖ38/77, mb3.9/20, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**2.10**	**320**	P	**Pn**	05 12 37.7	**0.0**
BSO1				*e*S	**Sn**	05 13 02.2	**-0.2**
BSO2	**Boso 2**	**2.29**	**319**	*e*S	**Sn**	05 13 05.5	**-2.0**
JHJ2	**Mitsune**	**2.34**	**272**	P	**Pn**	05 12 41.1	**-0.4**
JHJ2				*e*S	**Sn**	05 13 09.2	**+0.2**
JHJ	**Hachijo jima 2**	**2.36**	**273**	Pn	**Pn**	05 12 41.2	**-0.6**
	185nm,0.3s,baz=225,slow=19,SNR=14						
JHJ				Sn	**Sn**	05 13 08.8	**-0.9**
	157nm,0.3s,baz=72,slow=19,SNR=6.8						
BSO3	**Boso 3**	**2.47**	**316**	P	**Pn**	05 12 43.0	**0.0**
BSO3				*e*S	**Sn**	05 13 11.4	**-0.5**
BSO4	**Boso 4**	**2.70**	**317**	P	**Pn**	05 12 46.8	**+0.4**
BSO4				*e*S	**Sn**	05 13 18.3	**+0.4**
JMY	**Miyakejima3**	**2.77**	**293**	P	**Pn**	05 12 47.8	**+0.3**
KTR	**Katsuura**	**2.83**	**319**	*e*S	**Sn**	05 13 20.2	**-0.9**
JOD2	**Odawara 2**	**3.66**	**308**	P	**Pn**	05 12 58.7	**-1.0**
JOD2				*e*S	**Sn**	05 13 38.6	**-3.1**
TK02	**Tokai 2**	**4.14**	**284**	P	**Pn**	05 13 06.9	**+0.8**
JYN	**Shimob**	**4.16**	**307**	P	**Pn**	05 13 05.8	**-0.7**
JYN				*e*S	**Sn**	05 13 52.9	**-1.1**
JAG	**Ashikaga**	**4.25**	**323**	P	**Pn**	05 13 07.6	**-0.2**
JAG				*e*S	**Sn**	05 13 54.1	**-2.2**
JRY	**Ryogami san**	**4.26**	**315**	P	**Pn**	05 13 07.7	**-0.2**
JRY				*e*S	**Sn**	05 13 56.4	**0.0**
JFT	**Otama**	**4.83**	**338**	P	**Pn**	05 13 14.8	**-1.0**
JFT				*e*S	**Sn**	05 14 06.1	**-4.5**
TTO1	**TONANKAI O.B.S**	**4.90**	**278**	P	**Pn**	05 13 17.4	**+0.9**
MJAR	**Matsushiro Arr**	**5.02**	**315**	Pn	**Pn**	05 13 19.3	**+0.9**
MJAR				Sn	**Sn**	05 14 14.6	**-0.7**
MJAR	**Matsushiro Arr**	**5.02**	**315**	Pn	**Pn**	05 13 19.3	**+0.9**
	3.8nm,0.3s,baz=153,slow=13,SNR=18						
MJAR				Sn	**Sn**	05 14 14.6	**-0.7**
	8.7nm,0.3s,baz=134,slow=17,SNR=9.7						
MAJO	**Matsushiro**	**5.02**	**315**	*e*Pn	**Pn**	05 13 18.1	**-0.4**
	37nm,0.6s						
MAT	**Matsushiro**	**5.02**	**315**	P	**Pn**	05 13 19.1	**+0.7**
MAT				S	**Sn**	05 14 14.1	**-1.3**
MAT	**Matsushiro**	**5.02**	**315**	P	**Pn**	05 13 19.4	**+1.0**
MAT				*e*S	**Sn**	05 14 13.9	**-1.5**
JIE	**Ise**	**5.09**	**287**	P	**Pn**	05 13 19.7	**+0.4**
CBIJ	**Chichi jima**	**5.94**	**184**	Pn	**Pn**	05 13 29.0	**-2.0**
CBIJ				Sn	Sn	05 14 32.0	-5.8
CBIJ	**Chichi jima**	**5.94**	**184**	P	**Pn**	05 13 29.7	**-1.3**
CBIJ	**Chichi jima**	**5.94**	**184**	Pn	**Pn**	05 13 29.0	**-2.0**
	39nm,0.3s,baz=285,slow=20,SNR=11						
CBIJ				Sn	Sn	05 14 32.0	-5.8
	48nm,0.3s,baz=278,slow=22,SNR=7.1						
JMK	**Ichinoseki**	**6.00**	**350**	P	**Pn**	05 13 29.6	**-2.2**
JMK				*e*S	Sn	05 14 32.4	-7.0
JNU	**Nakatsue**	**9.84**	**274**	Pn	**Pn**	05 14 25.4	**+0.9**
JNU	**Nakatsue**	**9.84**	**274**	Pn	**Pn**	05 14 25.4	**+0.9**
	1.4nm,0.3s,baz=254,slow=18,SNR=6.7						
ASAJ	**Asahikawa**	**11.06**	**360**	Pn	**Pn**	05 14 39.1	**-2.1**
ASAJ	**Asahikawa**	**11.06**	**360**	Pn	**Pn**	05 14 39.1	**-2.1**
	2.2nm,0.3s,baz=235,slow=5.6,SNR=7.9						
ASAJ				LR	LR	05 19 25.6	
	comp=Z,103nm,18.0s,baz=344,slow=40						
KSRS	**Korea Array**	**12.78**	**294**	Pn	**Pn**	05 15 05.2	**+0.5**
	0.2nm,0.3s,baz=79,slow=14,SNR=4.0						
KSAR	**Wonju Array Be**	**12.80**	**294**	Pn	**Pn**	05 15 05.2	**+0.1**
ENH	**Enshi**	**28.26**	**273**	*e*P	**P**	05 17 52.7	**-2.9**
	10nm,0.8s						
ULN	**Ulaanbaatar**	**30.53**	**310**	*e*P	**P**	05 18 17.9	**+2.2**
	3.2nm,0.8s						
SONM	**Songino Array**	**30.94**	**309**	P	**P**	05 18 21.5	**+2.2**
SONM	**Songino Array**	**30.94**	**309**	P	**P**	05 18 21.5	**+2.2**
	1.4nm,0.5s,baz=112,slow=8.7,SNR=15						
CMAR	**Chiang Mai Arr**	**41.62**	**261**	P	**P**	05 19 49.1	**-1.5**
CMAR	**Chiang Mai Arr**	**41.62**	**261**	P	**P**	05 19 49.1	**-1.5**
	0.6nm,0.3s,baz=61,slow=7.3,SNR=4.8						
CMAR				LR	LR	05 36 40.4	
	comp=Z,20nm,20.7s,baz=280,slow=36						
ZALV	**Zalesovo Beam**	**45.38**	**315**	P	**P**	05 20 22.1	**+1.7**
ZALV	**Zalesovo Beam**	**45.38**	**315**	P	**P**	05 20 22.1	**+1.7**
	0.6nm,0.5s,baz=96,slow=7.2,SNR=3.2						
MKAR	**Makanchi Array**	**47.14**	**305**	P	**P**	05 20 35.7	**+1.2**
MKAR	**Makanchi Array**	**47.14**	**305**	P	**P**	05 20 35.7	**+1.2**
	1.3nm,0.4s,baz=92,slow=9.6,SNR=9.0						
KURK	**Kurchatov**	**49.22**	**311**	*e*P	**P**	05 20 50.3	**-0.1**
	6.1nm,0.7s						
KURBB	**Kurchatov Arra**	**49.28**	**311**	P	**P**	05 20 51.9	**+1.0**
	2.5nm,0.5s,baz=84,slow=7.3,SNR=36						
ILAR	**Eielson Array**	**52.38**	**31**	P	**P**	05 21 15.1	**+1.1**
ILAR	**Eielson Array**	**52.38**	**31**	P	**P**	05 21 15.1	**+1.1**
	0.4nm,0.8s,baz=257,slow=6.2,SNR=4.6						
WRAB	**Tennant Creek**	**53.26**	**190**	*e*P	**P**	05 21 20.5	**-0.4**
	4.2nm,0.9s						
WRA	**Warramunga Arr**	**53.27**	**190**	P	**P**	05 21 21.3	**+0.3**
WRA	**Warramunga Arr**	**53.27**	**190**	P	**P**	05 21 21.3	**+0.3**
	0.4nm,0.3s,baz=7.7,slow=7.5,SNR=7.7						
AAK	**Ala-Archa**	**53.32**	**301**	P	**P**	05 21 22.7	**+1.2**
AAK	**Ala-Archa**	**53.32**	**301**	P	**P**	05 21 22.7	**+1.2**
	0.5nm,0.4s,baz=112,slow=19,SNR=2.3						
BVAR	**Borovoye Array**	**54.02**	**315**	P	**P**	05 21 27.9	**+1.7**
BVAR	**Borovoye Array**	**54.02**	**315**	P	**P**	05 21 27.9	**+1.7**
	0.6nm,0.6s,baz=88,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**57.00**	**190**	P	**P**	05 21 47.0	**-0.8**
ASAR	**Alice Springs**	**57.00**	**190**	P	**P**	05 21 47.1	**-0.8**
	0.3nm,0.6s,baz=11,slow=5.0,SNR=4.2						
ABKAR	**Akbulak array**	**61.29**	**312**	*e*P	**P**	05 22 18.2	**+0.8**
	1.0nm,0.4s						
STKA	**Stephens Creek**	**64.58**	**181**	P	**P**	05 22 39.1	**-0.1**
STKA	**Stephens Creek**	**64.58**	**181**	P	**P**	05 22 39.1	**-0.1**
	0.9nm,0.7s,baz=5.2,slow=11,SNR=2.4						
YKA	**Yellowknife Ar**	**66.78**	**30**	P	**P**	05 22 54.3	**+1.1**
YKA	**Yellowknife Ar**	**66.78**	**30**	P	**P**	05 22 54.3	**+1.1**
	0.3nm,0.8s,baz=290,slow=7.0,SNR=4.1						
FINES	**FINESS Array B**	**72.80**	**333**	P	P	05 23 34.1	+3.9
FINES	**FINESS Array B**	**72.80**	**333**	P	P	05 23 34.1	+3.9
	1.5nm,0.8s,baz=55,slow=5.3,SNR=2.9						
NVAR	**Mina Array Bea**	**76.61**	**53**	P	**P**	05 23 54.8	**+1.7**
NVAR	**Mina Array Bea**	**76.61**	**53**	P	**P**	05 23 54.8	**+1.7**
	0.3nm,0.5s,baz=290,slow=5.6,SNR=3.1						
TXAR	**Lajitas Array**	**91.76**	**53**	P	**P**	05 25 10.8	**+0.6**
TXAR	**Lajitas Array**	**91.76**	**53**	P	**P**	05 25 10.8	**+0.6**
	0.2nm,0.6s,baz=310,slow=3.2,SNR=3.6						

IDC 25 05:27:33.1±0.9, 18°.79N×145°.68E, h0km, mb3.8/6, mb1 4.2/6, mb1mx3.8/24, mbtmp3.8/6, Error ellipse: s-maj=48.9km s-min=21.2km az=110.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.07**	**197**	P	P	05 35 11.3	+0.9
	1.8nm,0.5s,baz=21,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**43.73**	**196**	P	P	05 35 38.9	-1.5
	0.6nm,0.7s,baz=19,slow=8.8,SNR=5.5						
MKAR	**Makanchi Array**	**58.39**	**314**	P	P	05 37 30.5	0.0
	0.3nm,0.7s,baz=92,slow=8.4,SNR=3.8						
ILAR	**Eielson Array**	**63.57**	**26**	P	P	05 38 05.3	0.0
	0.6nm,0.5s,baz=249,slow=5.7,SNR=3.2						
YKA	**Yellowknife Ar**	**77.92**	**28**	P	P	05 39 32.5	-0.2
	0.6nm,0.5s,baz=290,slow=5.6,SNR=7.2						
NVAR	**Mina Array Bea**	**83.09**	**52**	P	P	05 40 01.6	+0.3
	1.2nm,0.6s,baz=270,slow=6.0,SNR=12						

IDC ***25*** *05:27:40.9±2.0, 42°.95S×72°.47W, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.8/17, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=54.8km s-min=23.0km az=132.0*

GUC 25 05:27:41.5±0.5, 42°.82S×72°.63W, h13km±8km, ML3.2, 1C-1D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUNY	**Huinay**	**0.47**	**20**	*i* P	Pg	05 27 50.7	-0.1
HUNY				*i* S	Sg	05 27 57.2	+0.1
HUNY				AML	AML	05 28 01.0	
	comp=E,2μm,0.6s						
FUTA	**Futaleufœ**	**0.68**	**123**	*i* P	Pg	05 27 54.0	-0.8
FUTA				*i* S	Sb	05 28 04.3	-0.3
ILCA	**Isla Las Cabra**	**0.76**	**5**	*e*P	Pg	05 27 56.0	-0.3
ILCA				*i* S	Sg	05 28 06.4	+0.1
ILCA				AML	AML	05 28 08.8	
	comp=E,1μm,0.5s						
HOCH	**HornopirØn**	**0.93**	**10**	*i* S	Sb	05 28 11.9	+0.2
HOCH				AML	AML	05 28 19.3	
	comp=E,817nm,0.5s						
PUEL	**Puelo Alto**	**1.18**	**12**	*e*P	Pn	05 28 03.5	-0.3
PUEL				*i* S	Sn	05 28 19.8	+0.1
PUEL				AML	AML	05 28 34.8	
	comp=E,400nm,0.7s						
PLCA	**Paso Flores**	**2.60**	**37**	Pn	Pb	05 28 26.7	-1.5
	comp=E,4.6nm,0.3s,baz=217,slow=17,SNR=59						
PLCA				Lg	Lg	05 29 03.7	
	comp=E,10nm,0.3s,baz=301,slow=19,SNR=7.8						
COYC	**Coyhaique**	**2.78**	**172**	AML	AML	05 29 10.8	
	comp=E,89nm,0.5s						
TXAR	**Lajitas Array**	**77.27**	**333**	P	P	05 39 38.4	+2.9
	comp=E,0.3nm,0.9s,baz=155,slow=6.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**87.68**	**70**	P	P	05 40 30.4	+0.4
	comp=E,0.4nm,0.8s,baz=224,slow=4.0,SNR=2.6						
PDAR	**Pinedale Array**	**91.44**	**334**	P	P	05 40 49.0	+1.7
	comp=E,0.6nm,1.0s,baz=131,slow=4.9,SNR=4.0						

IDC 25 05:42:55.4±1.0, 27°.37S×176°.32W, h0km, mb3.9/6, mb1 4.2/6, mb1mx4.0/17, mbtmp3.9/6, MS2.7/1, Ms1 2.7/1, ms1mx2.0/25, Error ellipse: s-maj=54.5km s-min=22.8km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.52**	**285**	LR	LR	05 50 45.2	
	comp=Z,26nm,20.2s,baz=29,slow=28						
STKA	**Stephens Creek**	**36.70**	**253**	P	P	05 50 03.4	-0.8
	1.6nm,0.9s,baz=113,slow=13,SNR=2.3						
ASAR	**Alice Springs**	**44.84**	**263**	P	P	05 51 11.9	+0.3
	0.5nm,0.5s,baz=91,slow=6.6,SNR=10						
WRA	**Warramunga Arr**	**45.56**	**268**	P	P	05 51 17.6	+0.2
	0.6nm,0.6s,baz=108,slow=7.6,SNR=5.0						
NVAR	**Mina Array Bea**	**85.01**	**42**	P	P	05 55 33.3	+0.3
	1.6nm,0.9s,baz=221,slow=8.0,SNR=10						
TXAR	**Lajitas Array**	**89.50**	**56**	P	P	05 55 54.8	-0.1
	1.1nm,1.0s,baz=221,slow=7.7,SNR=7.4						
ILAR	**Eielson Array**	**94.65**	**12**	P	P	05 56 17.1	-0.6
	0.3nm,0.9s,baz=202,slow=3.0,SNR=4.2						
NB2	**NORSAR Subarra1**	**45.95**	**353**	PKP	PKPdf	06 02 35.8	+0.1
	comp=Z,1.0nm,0.6s,baz=11,slow=3.0						
NOA	**NORSAR Array B**	**145.95**	**353**	PKPbc	PKPdf	06 02 35.2	-0.5
	comp=Z,0.5nm,0.7s,baz=16,slow=4.7,SNR=6.7						
AKASG	**Malin Array Be**	**149.67**	**327**	PKPbc	PKPbc	06 02 46.3	-0.4
	comp=Z,0.3nm,0.4s,baz=38,slow=2.1,SNR=5.0						
TORD	**Torodi Ar. Bea**	**165.73**	**172**	PKPab	PKPab	06 04 01.4	-0.3
	comp=Z,1.2nm,0.8s,baz=178,slow=4.0,SNR=7.1						

IDC ***25*** *06:10:24.2±1.0, 23°.26S×170°.59E, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.3/20, mbtmp4.3/10, ML4.2/1, MS3.8/11, Ms1 3.8/11, ms1mx3.7/23, Error ellipse: s-maj=28.8km s-min=24.9km az=141.0*

ISCJB ***25*** *06:10:28.1±3.2, 23°.1S±0°.1×170°.41E±0°.06, h30km±24km, mb4.4/12, MS4.0/9, Error ellipse: s-maj=20.1km s-min=9.5km az=179.6*

NEIC ***25*** *06:10:30.0±0.7, 23°.29S×170°.43E, h35km, mb4.2/2, Error ellipse: s-maj=20.5km s-min=10.3km az=160.0*

ISC 25 06:10:29.7±3.7, 23°.2S±0°.1×170°.39E±0°.07, h30km±26km, n61, σ1ᵖ22/57, mb4.3/12, MS3.9/9, 4C-4D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.83**	**287**	*e*Pn	**Pn**	06 11 26.2	**-0.5**
	77nm,0.2s						
DZM				*e*Sn	**Sn**	06 12 07.4	**-3.3**
	122nm,0.3s						
DZM	**Mont Dzumac**	**3.83**	**287**	*e*P	**Pn**	06 11 26.1	**-0.5**
DZM				*e*S	**Sn**	06 12 12.2	**+1.5**
DZM	**Mont Dzumac**	**3.83**	**287**	*e*Pn	**Pn**	06 11 26.3	**-0.3**
DZM				Sn	**Sn**	06 12 10.3	**-0.3**
DZM				*e*Sn	Sb	06 12 11.5	-11
DZM	**Mont Dzumac**	**3.83**	**287**	Pn	**Pn**	06 11 26.2	**-0.5**
	17nm,0.3s,baz=127,slow=8.3,SNR=315						
DZM				Sn	**Sn**	06 12 10.3	**-0.3**
	15nm,0.3s,baz=317,slow=19,SNR=10						
DZM				LR	LR	06 12 13.1	
	comp=Z,178nm,21.3s,baz=225,slow=27						
NOUC	**Port Laguerre**	**3.94**	**286**	*e*P	**Pn**	06 11 27.8	**-0.3**
NOUC				*e*S	**Sn**	06 12 12.4	**-1.0**
MSVF	**Nonsavu**	**9.03**	**54**	Pn	**Pn**	06 12 38.6	**+0.5**
	101nm,1.6s						
EIDS	**Eidsvold**	**17.73**	**259**	P	**Pn**	06 14 33.5	**-0.9**
	16nm,0.9s						
EIDS	**Eidsvold**	**17.73**	**259**	*e*P	P	06 14 40.3	+5.3
	75nm,0.9s						
ARMA	**Armidale**	**18.19**	**243**	*e*P	P	06 14 48.1	+7.9
AFI	**Afiamalu**	**19.27**	**64**	LR	LR	06 19 30.1	
	comp=Z,73nm,19.8s,baz=204,slow=29						
CTA	**Charters Tower**	**22.64**	**273**	LR	LR	06 22 59.5	
	comp=Z,205nm,20.2s,baz=76,slow=33						
CTAO	**Charters Tower**	**22.64**	**273**	P	**P**	06 15 29.2	**+0.8**
	12nm,1.2s						
CMSA	**Cobar Meteorol**	**23.40**	**244**	*e*P	**P**	06 15 38.0	**+1.9**
	112nm,1.0s						
QLP	**Quilpie**	**23.94**	**257**	*e*P	**P**	06 15 43.3	**+2.0**
STKA	**Stephens Creek**	**26.87**	**245**	P	**P**	06 16 08.6	**+0.7**
STKA	**Stephens Creek**	**26.87**	**245**	P	**P**	06 16 08.6	**+0.7**
	1.5nm,0.7s,baz=80,slow=12,SNR=7.7						
STKA				LR	LR	06 25 38.2	
	comp=Z,330nm,18.7s,baz=31,slow=34						
COEN	**Coen**	**27.35**	**285**	*e*P	**P**	06 16 13.2	**+0.8**
	92nm,0.9s						
COEN	**Coen**	**27.35**	**285**	*e*P	**P**	06 16 14.3	**+1.9**
	63nm,1.0s						
ASAR	**Alice Springs**	**33.42**	**262**	P	**P**	06 17 06.2	**+0.3**
ASAR	**Alice Springs**	**33.42**	**262**	P	**P**	06 17 06.2	**+0.3**
	4.4nm,0.9s,baz=82,slow=8.9,SNR=27						
WRAB	**Tennant Creek**	**33.62**	**269**	*e*P	**P**	06 17 07.2	**-0.5**
WRA	**Warramunga Arr**	**33.63**	**269**	P	**P**	06 17 06.7	**-1.1**
WRA	**Warramunga Arr**	**33.63**	**269**	P	**P**	06 17 06.7	**-1.1**
	0.7nm,0.4s,baz=98,slow=8.3,SNR=6.4						
WRA				LR	LR	06 29 54.7	
	comp=Z,174nm,20.9s,baz=90,slow=35						
PPT2	**Papeete2**	**37.85**	**89**	*e*LR	LR	06 27 49.1	
	117nm,31.2s						
FITZ	**Fitzroy Crossi**	**42.06**	**268**	P	**P**	06 18 19.3	**+0.3**
FITZ	**Fitzroy Crossi**	**42.06**	**268**	P	**P**	06 18 19.3	**+0.3**
	7.4nm,1.0s,baz=126,slow=10,SNR=7.7						
FITZ				LR	LR	06 35 05.7	
	comp=Z,116nm,20.0s,baz=104,slow=35						
VNDA	**Vanda**	**54.49**	**182**	LR	LR	06 39 17.0	
	comp=Z,256nm,20.6s,baz=334,slow=32						
QSPA	**South Pole Qui**	**66.83**	**180**	P	**P**	06 21 17.6	**-0.9**
QSPA	**South Pole Qui**	**66.83**	**180**	P	**P**	06 21 17.5	**-0.9**
	3.4nm,0.8s,baz=11,slow=2.2,SNR=9.4						
PETK	**Petropavlovsk-**	**76.82**	**352**	P	**P**	06 22 17.6	**-0.7**
PETK	**Petropavlovsk-**	**76.82**	**352**	P	**P**	06 22 17.6	**-0.7**
	9.8nm,0.9s,baz=155,slow=7.5,SNR=5.2						
PETK				LR	LR	06 49 49.0	
	comp=Z,64nm,20.3s,baz=330,slow=31						
CMAR	**Chiang Mai Arr**	**81.12**	**294**	P	**P**	06 22 44.7	**+2.1**
CMAR	**Chiang Mai Arr**	**81.12**	**294**	P	**P**	06 22 44.7	**+2.1**
	1.1nm,0.3s,baz=131,slow=4.2,SNR=5.4						
NVAR	**Mina Array Bea**	**90.65**	**48**	LR	LR	06 55 05.9	
	comp=Z,123nm,21.4s,baz=309,slow=30						
SONM	**Songino Array**	**91.04**	**323**	P	**P**	06 23 31.7	**+0.5**
SONM	**Songino Array**	**91.04**	**323**	P	**P**	06 23 31.7	**+0.5**
	0.9nm,0.9s,baz=132,slow=4.1,SNR=5.7						
ILAR	**Eielson Array**	**93.72**	**17**	P	**P**	06 23 40.7	**-2.3**
ILAR	**Eielson Array**	**93.72**	**17**	P	**P**	06 23 40.7	**-2.3**
	0.9nm,0.9s,baz=232,slow=6.1,SNR=6.3						
TXAR	**Lajitas Array**	**97.73**	**62**	LR	LR	07 03 13.0	
	comp=Z,66nm,18.2s,baz=270,slow=32						
PDAR	**Pinedale Array**	**98.54**	**47**	LR	LR	07 00 56.9	
	comp=Z,68nm,19.6s,baz=273,slow=31						
BURAR	**Bucovina Array**	**143.11**	**320**	*i* P	**PKPdf**	06 30 00.3	**-0.4**
KOLS	**Kolonicke sedl**	**144.10**	**324**	*e*PKP	**PKPdf**	06 30 02.4	**+0.1**
VOIR		**144.22**	**317**	*i* P	**PKPdf**	06 30 01.9	**-0.8**
CRVS	**Cervenica-Dubn**	**144.56**	**324**	*e*PKP	**PKPdf**	06 30 03.1	**0.0**
CRVS				*e*		06 46 51.0	
DRGR		**145.00**	**320**	*i* P	**PKPdf**	06 30 04.3	**+0.3**
GZR	**Gura Zlata**	**145.66**	**318**	*i* P	**PKPab**	06 30 05.7	**-0.1**
MORC	**Moravsky Berou**	**146.03**	**328**	*i* P	**PKPbc**	06 30 06.4	**-0.1**
VYHS	**Vyhne**	**146.20**	**325**	*e*PKP	**PKPbc**	06 30 07.1	**+0.1**
VYHS				*e*		06 46 59.0	
DPC	**Dobruska-Polom**	**146.22**	**330**	*e*PKP	**PKPab**	06 30 07.6	**-0.2**
BZS	**Buzias**	**146.26**	**319**	*i* P	**PKPab**	06 30 08.4	**+0.4**
PVCC	**Panska Ves**	**146.89**	**331**	*e*PKP	**PKPab**	06 30 09.8	**-0.5**
BRG	**Berggiesshubel**	**146.91**	**332**	*e*P	**PKPbc**	06 30 09.2	**+0.3**
	18nm,1.7s						
BRG				*e*		06 30 15.8	
	15nm,1.3s						
CLL	**Collm**	**146.97**	**334**	*e*(pPKPdf)	**PKPab**	06 30 15.0	**+4.4**
PRU	**Pruhonice**	**147.29**	**331**	*e*PKP	**PKPbc**	06 30 10.7	**+0.7**
PKSM	**Moragy**	**147.67**	**322**	*i* P	**PKPbc**	06 30 11.7	**+0.5**
KHC	**Kasperske Hory**	**148.34**	**330**	*e*PKP	**PKPbc**	06 30 13.0	**0.0**
GERES	**GERESS Array B**	**148.49**	**330**	PKPbc	**PKPbc**	06 30 13.0	**-0.5**
GERES	**GERESS Array B**	**148.49**	**330**	PKPbc	**PKPbc**	06 30 13.0	**-0.5**
	2.4nm,0.9s,baz=60,slow=2.4,SNR=12						
FETA	**Feichten**	**151.19**	**330**	*i* PKiKP	**PKiKP**	06 30 20.9	**+0.2**
	12nm,1.3s						
TORD	**Torodi Ar. Bea**	**165.31**	**229**	PKPab	**PKPab**	06 31 28

TORD	**Torodi Ar. Bea**	**166.10 173**	PKPab	PKPab	06 59 29.1	-0.3
	0.3nm,0.6s,baz=192,slow=5.9,SNR=3.4					

*IDC **25** 06:46:03.7±1.0,23˚.21S×170˚.64E,h0km,mb4.1/10, mb1 4.3/11,mb1mx4.2/19,mbtmp4.1/11,ML3.9/1,MS3.6/6, Ms1 3.6/6,ms1mx3.2/29,Error ellipse: s-maj=29.1km s-min=23.2km az=140.0*
*NOU **25** 06:46:05.9±0.8, 19˚.55S×169˚.79E,h10km,MD3.5,MS1.9*
*ISCJB **25** 06:46:06.5±0.7,23˚.2S±0˚.1×170˚.49E±0˚.07,h28km, mb4.1/10,MS3.8/4,Error ellipse: s-maj=20.9km s-min=7.9km az=10.5*
*VIE **25** 06:46:08.2,22˚.35S×170˚.24E,h0km,mb4.2 550 km SSE of Port Vila*

ISC 25 06:46:08.3±0.8,23˚.2S±0˚.2×170˚.52E±0˚.09,h28km,n20, σ1§15/19,mb4.1/10,MS3.7/4,1C-1D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LASL	**Noumea**	**3.79**	**283**	*eS*		**Sn**		**06 47 50.1**	**+1.7**
DZM	**Mont Dzumac**	**3.92**	**285**	*eP*		**Pn**		**06 47 06.1**	**-0.6**
DZM	**Mont Dzumac**	**3.92**	**285**	Pn		**Pn**		**06 47 06.1**	**-0.6**
	7.2nm,0.3s,baz=98,slow=12,SNR=133								
DZM				Sn		**Sn**		**06 47 49.8**	**-2.0**
	15nm,0.3s,baz=61,slow=19,SNR=9.8								
DZM				LR		LR		06 47 52.2	
	comp=Z,118nm,20.2s,baz=210,slow=27								
NOUC	**Port Laguerre**	**4.03**	**284**	*eP*		**Pn**		**06 47 07.5**	**-0.7**
NOUC				*eS*		**Sn**		**06 47 54.2**	**-0.4**
NOUC				AMP				06 48 07.2	
	comp=Z,46nm,12.8s								
AFI	**Afiamalu**	**19.12**	**64**	LR		LR		06 56 13.1	
	comp=Z,163nm,18.5s,baz=125,slow=32								
STKA	**Stephens Creek**	**27.02**	**245**	P		**P**		**06 51 48.3**	**+0.1**
	comp=Z,2.7nm,1.0s,baz=90,slow=12,SNR=4.3								
STKA				LR		LR		07 02 20.0	
	comp=Z,120nm,18.3s,baz=29,slow=36								
ASAR	**Alice Springs**	**33.55**	**262**	P		**P**		**06 52 46.0**	**0.0**
	comp=Z,1.2nm,0.7s,baz=99,slow=10,SNR=14								
WRA	**Warramunga Arr**	**33.75**	**268**	P		**P**		**06 52 46.9**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=98,slow=8.2,SNR=2.7								
VNDA	**Vanda**	**54.58**	**182**	LR		LR		07 17 05.8	
	comp=Z,284nm,18.6s,baz=337,slow=34								
MJAR	**Matsushiro Arr**	**66.75**	**332**	P		**P**		**06 56 56.7**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=168,slow=7.8,SNR=4.0								
QSPA	**South Pole Qui**	**66.92**	**180**	P		**P**		**06 56 57.5**	**-0.5**
	comp=Z,3.6nm,0.9s,baz=326,slow=5.2,SNR=6.8								
PETK	**Petropavlovsk-**	**76.76**	**352**	P		**P**		**06 57 57.6**	**+0.8**
	comp=Z,7.8nm,0.9s,baz=152,slow=6.5,SNR=6.3								
PETK				LR		LR		07 28 53.4	
	comp=Z,22nm,20.2s,baz=72,slow=34								
CMAR	**Chiang Mai Arr**	**81.19**	**294**	P		**P**		**06 58 24.2**	**+2.2**
	comp=Z,1.0nm,0.3s,baz=134,slow=3.3,SNR=4.6								
NVAR	**Mina Aray Bea**	**90.50**	**48**	P		**P**		**06 59 06.7**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=225,slow=7.1,SNR=4.6								
SONM	**Songino Aray**	**91.05**	**323**	P		**P**		**06 59 11.1**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=138,slow=4.7,SNR=6.1								
ILAR	**Eielson Aray**	**93.61**	**17**	P		**P**		**06 59 20.1**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=228,slow=6.3,SNR=10								
PDAR	**Pinedale Aray**	**98.39**	**47**	LR		LR		07 36 17.9	
	comp=Z,43nm,19.0s,baz=92,slow=31								
CONA	**Conrad Observa**	**148.08**	**327**	*i*	PKPbc	**PKPbc**		**07 05 52.5**	**+1.2**
	comp=Z,3.2nm,0.7s								
GERES	**GERESS Array B**	**148.48**	**330**		PKPbc	**PKPbc**		**07 05 52.8**	**+0.5**
	comp=Z,3.2nm,0.9s,baz=27,slow=2.4,SNR=16								
FETA	**Feichten**	**151.18**	**331**	*i*	PKPbc	**PKPbc**		**07 05 59.8**	**+0.7**
	comp=Z,11nm,1.0s								

IDC 25 07:06:07.0±2.6,22˚.85S×170˚.38E,h0km,mb3.3/2, mb1 3.5/3,mb1mx3.5/18,mbtmp3.3/3,ML3.3/1,Error ellipse: s-maj=103.9km s-min=40.6km az=176.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.72**	**281**	*eP*		Pn		07 07 06.9	+1.0
DZM	**Mont Dzumac**	**3.72**	**281**	Pn		Pn		07 07 07.0	+1.0
	2.5nm,0.3s,baz=136,slow=18,SNR=14								
DZM				Sn		Sn		07 07 51.4	+0.8
	5.8nm,0.3s,baz=78,slow=20,SNR=5.6								
NOUC	**Port Laguerre**	**3.84**	**280**	*eP*		Pn		07 07 08.4	+1.0
NOUC				*eS*		Sn		07 07 54.4	+1.1
ASAR	**Alice Springs**	**33.47**	**261**	P		P		07 12 48.6	+0.5
	0.3nm,0.6s,baz=88,slow=10,SNR=3.9								
WRA	**Warramunga Arr**	**33.63**	**268**	P		P		07 12 48.3	-1.3
	0.2nm,0.3s,baz=100,slow=8.2,SNR=2.8								
GERES	**GERESS Array B**	**148.15**	**330**		PKPbc	PKPbc		07 25 54.5	-0.4
	1.0nm,0.7s,baz=60,slow=2.4,SNR=6.1								

*NIED **25** 07:11:00,41˚.50N×142˚.10E,h56km,Mw3.8 Best double couple: M0 6.23000×10^14 NP1:ϕs20.00000°,δ70.00000°, λ98.00000°. NP2:ϕs176.00000°,δ21.00000°,λ68.00000°.*
*ISCJB **25** 07:11:34.5±0.4,41˚.54N±0˚.03×142˚.07E±0˚.04,h68km±4km, mb3.8/12,Error ellipse: s-maj=5.9km s-min=3.7km az=37.3*
*JMA **25** 07:11:34.9±0.1,41˚.55N×142˚.07E,h64km±2km,MS3.7 Broadband fault plane solution: P waves. NP1: ϕs30.00000°,δ80.00000°,λ100.00000°. NP2: ϕs164.00000°,δ14.00000°,λ45.00000°. Principal axes: T Plg54.0000°, Azm312.0000°; N Plg10.0000°, Azm208.0000°; P Plg34.0000°, Azm111.0000°;*
JMA Felt I J1.
*IDC **25** 07:11:35.5±2.6,41˚.52N×142˚.06E,h60km±21km,mb3.6/12, mb1 3.8/14,mb1mx3.6/29,mbtmp3.6/14,ML3.3/2 Error ellipse: s-maj=20.0km s-min=15.3km az=132.0*

ISC 25 07:11:35.3±0.9,41˚.54N±0˚.03×142˚.08E±0˚.04,h57km±9km, n33,σ0§72/48,mb3.9/12,2C-9D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.79**	**259**	⇓P		**Pn**		**07 11 50.6**	**+0.1**
JOT				*eS*		**Sn**		**07 12 02.1**	**+0.5**
JKB	**Kayabe**	**0.85**	**294**	⇓P		**Pn**		**07 11 51.0**	**-0.3**
JKB				*eS*		**Sn**		**07 12 02.9**	**-0.2**
JNBK	**Urakawa-nobuka**	**0.90**	**34**	⇑P		**Pn**		**07 11 51.2**	**-0.7**
JNBK				*eS*		**Sn**		**07 12 03.9**	**-0.1**
JEM	**Erimo**	**0.94**	**59**	⇑P		**Pn**		**07 11 52.2**	**-0.2**
JEM				S		**Sn**		**07 12 05.0**	**0.0**
JTM	**Tenmabayashi**	**1.07**	**226**	⇓P		**Pn**		**07 11 54.6**	**+0.4**
JTM				*eS*		**Sn**		**07 12 08.7**	**+0.6**
JNB	**Noboribetsu**	**1.21**	**321**	⇓P		**Pn**		**07 11 55.4**	**-0.6**
JANG	**Nango**	**1.24**	**200**	P		**Pn**		**07 11 56.4**	**-0.1**
JANG				S		**Sn**		**07 12 12.3**	**+0.1**
JSR	**Shiriuchi**	**1.24**	**270**	⇓P		**Pn**		**07 11 56.6**	**+0.1**
JSR				*eS*		**Sn**		**07 12 12.7**	**+0.5**
JBT2	**Biratori 2**	**1.25**	**10**	⇓P		**Pn**		**07 11 56.7**	**+0.1**
JBT2				*eS*		**Sn**		**07 12 14.3**	**+1.8**
JEW	**Eniwo**	**1.38**	**341**	⇓P		**Pn**		**07 11 58.4**	**+0.1**
JEW				*eS*		**Sn**		**07 12 15.6**	**+0.1**
JYM2	**Yakumo 2**	**1.40**	**295**	⇓P		**Pn**		**07 11 58.9**	**+0.4**
JCH	**Churui**	**1.44**	**41**	⇓P		**Pn**		**07 11 59.6**	**+0.5**
JCH				*eS*		**Sn**		**07 12 17.8**	**+0.9**
JFR	**Furan**	**1.67**	**13**	P		**Pn**		**07 12 02.2**	**0.0**
JFR				*eS*		**Sn**		**07 12 22.5**	**0.0**
JOSM	**Okushiri--Mats**	**2.02**	**286**	P		**Pn**		**07 12 06.5**	**-0.4**
JOSM				*eS*		**Sn**		**07 12 30.4**	**-0.6**
JOM	**Ohasama**	**2.15**	**196**	P		**Pn**		**07 12 09.7**	**+0.9**
JOM				*eS*		**Sn**		**07 12 35.2**	**+0.9**
JAR	**Ashorobuto**	**2.16**	**35**	*eS*		**Sn**		**07 12 34.2**	**-0.3**
JSK	**Shakotan**	**2.16**	**327**	P		**Pn**		**07 12 09.2**	**+0.3**
JSK				*eS*		**Sn**		**07 12 35.1**	**+0.5**
ASAJ	**Asahikawa**	**2.60**	**8**	P		**Pn**		**07 12 16.9**	**+1.9**
	10nm,0.3s,baz=208,slow=12,SNR=23								
ASAJ				S		**Sn**		**07 12 46.2**	**+0.9**
	9.0nm,0.3s,baz=7.9,slow=29,SNR=8.0								
MJAR	**Matsushiro Arr**	**5.83**	**212**	P		Pn		07 13 03.9	+4.7
	0.8nm,0.3s,baz=26,slow=12,SNR=8.0								
USRK	**Ussuriysk Arra**	**7.86**	**293**	P		**Pn**		**07 13 28.5**	**+1.6**
	0.6nm,0.3s,baz=93,slow=13,SNR=9.9								
KSRS	**Korea Array**	**11.67**	**254**	P		Pn		07 14 25.2	+6.3
	0.7nm,0.3s,baz=63,slow=14,SNR=5.9								
SONM	**Songino Array**	**25.92**	**296**	P		**P**		**07 17 01.7**	**-0.9**
	1.2nm,0.5s,baz=87,slow=8.2,SNR=12								
ZALV	**Zalesovo Beam**	**39.39**	**308**	P		**P**		**07 18 58.8**	**-0.4**
	1.6nm,0.4s,baz=88,slow=8.5,SNR=12								
ZALV				PcP		**PcP**		**07 21 06.2**	**-0.1**
	0.7nm,0.6s,baz=106,slow=2.5,SNR=3.9								
MKAR	**Makanchi Array**	**42.30**	**298**	P		**P**		**07 19 22.9**	**-0.4**
	2.2nm,0.9s,baz=86,slow=8.9,SNR=11								
MKAR				PcP		**PcP**		**07 21 15.9**	**-0.1**
	0.2nm,0.3s,baz=60,slow=5.3,SNR=4.3								
ILAR	**Eielson Array**	**45.46**	**35**	P		**P**		**07 19 48.5**	**+0.3**
	1.5nm,1.0s,baz=279,slow=7.3,SNR=13								
AAK	**Ala-Archa**	**48.92**	**295**	P		**P**		**07 20 15.4**	**-0.3**
	1.1nm,0.4s,baz=94,slow=4.8,SNR=6.3								
INK	**Inuvik**	**50.17**	**29**	P		**P**		**07 20 24.9**	**+0.2**
	1.9nm,0.6s,baz=288,slow=6.5,SNR=15								
AKTO	**Aktyubinsk**	**56.11**	**310**	P		**P**		**07 21 10.3**	**+1.7**
	0.5nm,0.4s,baz=59,slow=14,SNR=4.0								
YKA	**Yellowknife Ar**	**59.68**	**32**	P		**P**		**07 21 33.5**	**+0.1**
	0.1nm,0.5s,baz=303,slow=5.8,SNR=3.7								
WRA	**Warramunga Arr**	**61.59**	**188**	P		**P**		**07 21 45.9**	**-0.9**
	0.8nm,0.7s,baz=6.9,slow=6.8,SNR=7.9								
FINES	**FINESS Array B**	**65.08**	**332**	P		**P**		**07 22 08.6**	**-0.9**
	2.1nm,0.6s,baz=42,slow=7.2,SNR=10								
ASAR	**Alice Springs**	**65.32**	**188**	P		**P**		**07 22 10.8**	**-0.6**
	0.8nm,1.0s,baz=348,slow=5.9,SNR=5.7								
NOA	**NORSAR Array B**	**70.24**	**337**	P		**P**		**07 22 41.3**	**-0.7**
	0.9nm,0.6s,baz=35,slow=6.2,SNR=3.3								

NNC 25 07:31:33.4±0.9,50˚.21N×87˚.65E,h0km,mb3.7,mpv3.5, 10C-11D,Error ellipse: s-maj=7.2km s-min=4.8km az=81.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.93**	**228**	Pn		Pn		07 32 52.2	+3.4
	6.4nm,0.6s,baz=50,slow=12,SNR=283								
MK31				⇓Pg		Pb		07 33 02.9	+2.2
	8.8nm,0.6s,baz=49,slow=18,SNR=6.7								
MK31				Sn		Sn		07 33 52.5	+5.9
	3.8nm,0.3s,baz=54,slow=21,SNR=6.1								
MK31				⇑Lg		Lg		07 34 08.3	
	37nm,0.5s,baz=53,slow=29,SNR=9.5								
KURK	**Kurchatov**	**5.79**	**278**	⇑Pn		Pn		07 33 01.0	+0.5
	5.9nm,1.0s								
KURK				⇑Sn		Sn		07 34 09.1	+1.6
	9.3nm,0.6s								
KURK				⇓Lg		Lg		07 34 36.4	
	40nm,0.6s								
KURBB	**Kurchatov Arra**	**5.84**	**278**	⇑Pn		Pn		07 33 01.8	+0.5
	1.0nm,0.5s								
KURBB				⇓Sn		Sn		07 34 09.8	+1.0
	3.5nm,0.4s								
KURBB				⇓Lg		Lg		07 34 38.1	
	9.9nm,0.6s								
VOSK	**Vostochnaya**	**10.70**	**290**	⇓Pn		Pn		07 34 06.8	-1.0
	1.5nm,0.9s								
VOSK				⇓Sn		Sn		07 36 09.7	+1.5
	1.9nm,0.8s								
VOSK				⇑Lg		Lg		07 37 12.6	
	12nm,1.1s								
TKM2	**Tokmak 2**	**11.03**	**233**	Pn		Pn		07 34 13.3	+0.6
TKM2				Lg		Lg		07 37 24.2	
BVA0	**Borovoye Array**	**11.09**	**291**	⇓Pn		Pn		07 34 12.3	-0.9
	0.1nm,0.6s,baz=100,slow=13,SNR=4.1								
BVA0				⇑Sn		Sn		07 36 19.4	+1.5
	0.7nm,0.9s,baz=103,slow=22,SNR=5.4								
BRVK	**Borovoye**	**11.16**	**291**	⇓Pn		Pn		07 34 13.1	-1.1
	6.7nm,1.5s								
BRVK				⇑Sn		Sn		07 36 20.4	+0.9
	3.2nm,0.5s								
ZRNK	**Zerenda**	**11.91**	**290**	⇓Pn		Pn		07 34 24.3	-0.1
	0.4nm,0.3s								
ZRNK				⇑Sn		Sn		07 36 38.8	+0.8
	1.9nm,0.7s								
ZRNK				⇑Lg		Lg		07 37 51.5	
	7.9nm,1.1s								
KK31	**Karatay Array**	**13.73**	**245**	⇓Pn		Pn		07 34 51.2	+1.9
	0.3nm,0.3s,baz=56,slow=14,SNR=6.7								
KK31				⇑Sn		Sn		07 37 29.1	+6.6
	1.0nm,0.6s,baz=0.0,slow=0.1,SNR=8.9								
KK31				⇓Lg		Lg		07 38 43.5	
	6.5nm,1.2s								

*IDC **25** 07:43:17.2±1.2,23˚.22S×170˚.47E,h0km,mb4.1/7, mb1 4.2/8,mb1mx4.0/20,mbtmp4.0/8,ML3.7/1,MS3.4/4, Ms1 3.4/4,ms1mx3.1/24,Error ellipse: s-maj=33.2km s-min=26.2km az=176.0*
*ISCJB **25** 07:43:19.6±0.9,23˚.2S±0˚.2×170˚.43E±0˚.09,h28km, mb4.0/7,MS3.4/3,Error ellipse: s-maj=26.3km s-min=9.7km az=15.8*

ISC 25 07:43:21.6±1.0,23˚.2S±0˚.2×170˚.5E±0˚.1,h28km,n16, σ0§91/16,mb4.1/7,MS3.5/3,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.87**	**286**	*eP*		**Pn**		**07 44 18.7**	**-0.6**
DZM				*eS*		**Sn**		**07 45 03.4**	**-0.5**
DZM	**Mont Dzumac**	**3.87**	**286**	Pn		**Pn**		**07 44 18.9**	**-0.3**
	5.0nm,0.3s,baz=2.6,slow=4.9,SNR=78								
DZM				Sn		**Sn**		**07 45 04.2**	**+0.4**
	7.3nm,0.3s,baz=12,slow=22,SNR=12								
NOUC	**Port Laguerre**	**3.98**	**285**	*eP*		**Pn**		**07 44 20.2**	**-0.6**
NOUC				*eS*		**Sn**		**07 45 06.7**	**+0.1**
AFI	**Afiamalu**	**19.20**	**64**	LR		LR		07 53 22.5	
	comp=Z,71nm,21.8s,baz=242,slow=32								
CTA	**Charters Tower**	**22.69**	**273**	LR		LR		07 55 42.4	
	comp=Z,52nm,18.4s,baz=243,slow=33								
STKA	**Stephens Creek**	**26.94**	**245**	LR		LR		07 59 12.5	
	comp=Z,115nm,18.2s,baz=28,slow=35								
ASAR	**Alice Springs**	**33.47**	**262**	P		**P**		**07 49 58.7**	**0.0**
	1.0nm,0.8s,baz=90,slow=8.5,SNR=9.2								
WRA	**Warramunga Arr**	**33.68**	**269**	P		**P**		**07 49 59.6**	**-0.8**
	0.4nm,0.8s,baz=97,slow=8.3,SNR=3.2								
FITZ	**Fitzroy Crossi**	**42.11**	**268**	P		**P**		**07 51 10.6**	**-1.0**
	2.9nm,0.9s,baz=143,slow=9.0,SNR=3.7								
FITZ				LR		LR		08 07 50.3	
	comp=Z,124nm,21.5s,baz=233,slow=35								
KALP	**Kalibo**	**58.47**	**301**	*eP*		**P**		**07 53 16.3**	**+0.9**
QSPA	**South Pole Qui**	**66.87**	**180**	P		**P**		**07 54 10.9**	**-0.1**
	1.6nm,0.8s,baz=47,slow=6.6,SNR=4.5								
PETK	**Petropavlovsk-**	**76.79**	**352**	P		**P**		**07 55 10.6**	**+0.2**
	5.3nm,0.9s,baz=161,slow=9.4,SNR=5.1								
CMAR	**Chiang Mai Arr**	**81.15**	**294**	P		**P**		**07 55 37.1**	**+2.1**
	0.8nm,0.4s,baz=142,slow=4.6,SNR=4.2								
ILAR	**Eielson Array**	**93.67**	**17**	P		**P**		**07 56 33.4**	**-1.6**
	1.1nm,1.1s,baz=234,slow=4.6,SNR=5.3								
KHC	**Kasperske Hory**	**148.34**	**331**	*eP*		**PKPbc**		**08 03 05.0**	**-0.2**
GERES	**GERESS Array B**	**148.49**	**330**		PKPbc	**PKPbc**		**08 03 06.1**	**+0.5**
	1.6nm,0.9s,baz=54,slow=2.3,SNR=9.6								

NNC 25 07:45:28.0±2.3,53˚.93N×85˚.53E,h0km,mb3.8,mpv3.4, 4C-5D,Error ellipse: s-maj=21.2km s-min=9.9km az=61.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.32**	**236**	⇑Pn		Pn		07 46 49.1	+0.4
	2.6nm,0.6s								
KURK				⇑Lg		Lg		07 48 17.9	
	2.8nm,0.6s								
KURBB	**Kurchatov Arra**	**5.43**	**235**	Pn		Pn		07 46 50.8	+0.7
	0.6nm,0.5s								
MK31	**Makanchi Array**	**7.44**	**197**	⇑Pn		Pn		07 47 20.2	+2.4
	1.3nm,0.4s,baz=27,slow=13,SNR=81								
MK31				⇑Sn		Sn		07 48 49.3	+6.4
	1.8nm,1.0s,baz=25,slow=24,SNR=4.3								
MK31				⇓Lg		Lg		07 49 21.6	
	1.8nm,0.7s,baz=23,slow=29,SNR=6.3								
VOSK	**Vostochnaya**	**8.80**	**268**	⇓Pn		Pn		07 47 36.7	+0.4
	1.8nm,0.5s								
VOSK				⇓Sn		Sn		07 49 15.3	-0.9
	1.3nm,0.6s								
ZRNK	**Zerenda**	**9.91**	**271**	⇓Pn		Pn		07 47 51.9	+0.2
	2.3nm,0.6s								
ZRNK				⇓Sn		Sn		07 49 45.1	+1.6
	1.5nm,1.0s								

*DJA **25** 07:51:37,9˚.52N×126˚.82E,h10km,mb5.1/36*
*MOS **25** 07:51:37.6±1.0,9˚.13N×126˚.16E,h33km,mb5.2/38,Error ellipse: s-maj=12.6km s-min=5.8km az=112.5*
*BJI **25** 07:51:39.7,8˚.77N×126˚.58E,h80km,mB4.9/30,mb4.8/41, Ms4.5/26,Ms7 4.1/25*
*MAN **25** 07:51:41,9˚.11N×126˚.37E,h19km,mb5.5,ML4.5,MS4.8*
MAN INTENSITY IV - SAN FRANCISCO AGUSAN DEL SUR; INTENSITY III - BISLIG SURIGAO DEL SUR.
*IDC **25** 07:51:42.6±1.4,9˚.15N×126˚.29E,h60km±11km,mb4.5/32, mb1 4.6/34,mb1mx4.6/36,mbtmp4.5/34,MS3.8/21, Ms1 3.9/21,ms1mx3.7/38,Error ellipse: s-maj=15.8km s-min=8.7km az=82.0*
*ISCJB **25** 07:51:42.4±0.4,9˚.11N±0˚.02×126˚.36E±0˚.03,h76km±3km, mb4.9/117,Error ellipse: s-maj=5.7km s-min=3.4km az=161.4*
*TEH **25** 07:51:45.0,9˚.09N×126˚.21E,h81km,ML4.8*
*NEIC **25** 07:51:45.1±0.8,9˚.10N×126˚.28E,h84km±7km,mb5.0/45, Error ellipse: s-maj=6.3km s-min=4.2km az=68.0*
NEIC Felt [IV PIVS] at San Francisco; [III PIVS] at Bislig and Hinatuan; [II PIVS] at Butuan, Compostela, La Paz and Surigao; [I PIVS] at Mati. Also felt [I PIVS] on Camiguin Island.

ISC 25 07:51:43.9±0.5,9˚.11N±0˚.03×126˚.32E±0˚.05,h72km±3km, n309,σ1§32/350,mb5.0/116,11C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.70**	**259**	*eP*		**Pn**		**07 51 55.9**	**-3.0**
BUTP				*eS*		**Sn**		**07 52 07.3**	**-2.8**
CGP	**Cagayan de Oro**	**1.73**	**248**	*i*	P	**Pn**		**07 52 10.8**	**-1.2**
CGP				*i*	S	**Sn**		**07 52 30.9**	**-2.4**
BUKP	**Musuan**	**1.74**	**226**	*eP*		**Pn**		**07 52 11.3**	**-0.9**
BUKP				*eS*		**Sn**		**07 52 34.7**	**+1.1**
MSLP	**Maasin**	**1.76**	**306**	*eP*		**Pn**		**07 52 12.6**	**+0.2**
MATI	**Mati**	**2.15**	**182**	*eP*		**Pn**		**07 52 16.2**	**-1.4**
DAV	**Davao City (W)**	**2.15**	**200**	*ePn*		**Pn**		**07 52 17.2**	**-0.5**
DAV				S		Sn		07 52 49.5	+6.2
DAV	**Davao City (W)**	**2.15**	**200**	P		**Pn**		**07 52 17.6**	**0.0**
DAV	**Davao City (W)**	**2.15**	**200**	P		**Pn**		**07 52 16.8**	**-0.8**
	496nm,0.3s,baz=354,slow=0.2,SNR=13								
DAV				S		Sn		07 52 49.5	+6.2
	547nm,0.3s,baz=86,slow=20,SNR=8.4								
DMPH	**Davao City--Mi**	**2.16**	**202**	⇑	*eP*	**Pn**		**07 52 16.9**	**-0.9**
DMPH				*eS*		**Sn**		**07 52 44.4**	**+0.6**
KCP	**Kidapawan**	**2.41**	**210**	⇑	*iP*	**Pn**		**07 52 22.6**	**+1.4**
KCP				*i*	S	**Sn**		**07 52 51.9**	**+2.1**
PLP	**Palo**	**2.43**	**327**	*eP*		**Pn**		**07 52 20.5**	**-0.9**
PLP				*i*	S	**Sn**		**07 52 52.7**	**+2.5**
TBP	**Tagbilaran**	**2.49**	**284**	*eP*		**Pn**		**07 52 22.9**	**+0.7**
TBP				*eS*		**Sn**		**07 52 53.1**	**+1.5**
OCLP	**Ormoc**	**2.56**	**319**	*eP*		Pn		07 52 24.3	+1.1
LLP	**Lapu-Lapu**	**2.61**	**298**	*eP*		**Pn**		**07 52 24.2**	**+0.4**
LLP				*eS*		**Sn**		**07 52 55.9**	**+1.3**
CTBH	**Cotabato--PC H**	**2.78**	**228**	⇓	*iP*	**Pn**		**07 52 24.6**	**-1.5**
PAGZ	**Pagadian**	**3.16**	**247**	*eP*		**Pn**		**07 52 31.6**	**+0.3**
GSPH	**General Santos**	**3.29**	**204**	*eP*		**Pn**		**07 52 32.2**	**-1.0**
CNP	**Catarman**	**3.75**	**334**	*eP*		**Pn**		**07 52 39.4**	**0.0**
GUIM	**Jordan**	**3.97**	**293**	*eP*		**Pn**		**07 52 42.4**	**+0.1**
RCP	**Roxas**	**4.28**	**305**	⇑	*eP*	**Pn**		**07 52 46.5**	**-0.1**
OTRP	**Odiongan**	**5.32**	**308**	*eP*		Pn		07 53 02.9	+2.1
CUYO	**Cuyo Island**	**5.50**	**289**	*eP*		**Pn**		**07 53 04.0**	**+0.8**
ENPP	**El Nido**	**7.10**	**288**	*eP*		**Pn**		**07 53 25.8**	**+0.7**
TGY	**Tagaytay City**	**7.24**	**314**	P		Pn		07 53 29.8	+2.7
TGY				S		**Sn**		**07 54 45.0**	**-3.0**
TGY	**Tagaytay City**	**7.24**	**314**	P		Pn		07 53 29.8	+2.7
	baz=183,slow=18,SNR=6.6								
TGY				S		**Sn**		**07 54 45.0**	**-3.0**
	77nm,0.3s,baz=18,slow=6.9,SNR=2.5								
LUBP	**Lubang**	**7.52**	**308**	*eP*		Pn		07 53 35.4	+4.5
MNI	**Manado**	**7.75**	**191**	P		Pn		07 53 44.2	+10
TNTI	**Ternate**	**8.35**	**173**	P		**Pn**		**07 53 42.6**	**+0.4**
	410nm,1.0s,3µm1.5nm								
MYLDM	**Lahad Datu**	**8.68**	**244**	P		Pn		07 53 56.1	+9.3
MYLDM	**Lahad Datu**	**8.68**	**244**	P		Pn		07 53 54.7	+7.9
	48nm,0.9s								
MRSI	**Marisa**	**9.62**	**207**	P		**Pn**		**07 53 58.2**	**-1.4**
	120nm,0.8s,1µm								
TSM	**Tawau**	**9.65**	**241**	P		Pn		07 54 07.6	+7.6
SDKM	**Sandakan**	**9.68**	**250**	P		P

comp=N,200nm,18.0s
KMI LR LR
comp=E,330nm,19.7s
KMI LR LR
comp=Z,410nm,24.6s
PSI Prapat 27.94 259 P **P** **07 57 29.5 +1.6**
PSI Prapat 27.94 259 P **P** **07 57 29.5 +1.6**
comp=Z,67nm,1.2s,baz=58,slow=4.3,SNR=28
CMAR Chiang Mai Arr 28.13 292 P **P** **07 57 30.4 +0.9**
CMAR PcP **PcP** **08 00 42.8 +0.6**
CMAR ScP **ScP** **08 04 17.9 +0.8**
CMAR Chiang Mai Arr 28.13 292 P **P** **07 57 30.4 +0.9**
comp=Z,26nm,1.0s,baz=112,slow=6.9,SNR=48
CMAR PcP **PcP** **08 00 42.8 +0.6**
comp=Z,3.4nm,0.7s,baz=94,slow=1.0,SNR=7.5
CMAR ScP **ScP** **08 04 17.9 +0.8**
comp=Z,1.8nm,0.7s,baz=46,slow=3.9,SNR=4.1
CMAR LR LR 08 09 24.3
comp=Z,181nm,18.6s,baz=288,slow=38
CHTO Chiang Mai 28.22 293 *e*P **P** **07 57 30.6 +0.4**
CHTO pmax pmax
comp=Z,16nm,0.9s
CHTO Chiang Mai 28.22 293 *e*P **P** **07 57 30.6 +0.4**
comp=Z,16nm,0.9s
KSAR Wonju Array Be 28.25 3 P **P** **07 57 30.7 +0.5**
KSRS Korea Array 28.26 3 P **P** **07 57 30.7 +0.4**
comp=Z,6.0nm,0.9s,baz=179,slow=11,SNR=9.5
KSRS LR LR 08 10 34.6
comp=Z,135nm,18.1s,baz=180,slow=40
COEN Coen 28.37 144 *e*P **P** **07 57 32.6 +1.0**
comp=Z,344nm,1.5s
COEN Coen 28.37 144 *e*P **P** **07 57 32.5 +1.0**
comp=Z,22nm,0.3s
MJAR Matsushiro Arr 29.37 20 P **P** **07 57 38.9 -1.3**
MJAR Matsushiro Arr 29.37 20 P **P** **07 57 38.9 -1.3**
comp=Z,2.2nm,0.7s,baz=193,slow=9.8,SNR=10
MJAR LR LR 08 09 37.5
comp=Z,99nm,18.0s,baz=210,slow=37
WRAB Tennant Creek 29.92 165 *e*P **P** **07 57 43.5 -1.7**
WRAB pmax pmax
comp=Z,8.0nm,0.8s
WRAB Tennant Creek 29.92 165 *e*P **P** **07 57 43.5 -1.7**
comp=Z,8.2nm,0.8s
WRA Warramunga Arr 29.93 165 P **P** **07 57 44.0 -1.2**
WRA ScP **ScP** **08 04 25.0 +2.4**
WRA Warramunga Arr 29.93 165 P **P** **07 57 44.0 -1.2**
comp=Z,5.1nm,0.6s,baz=345,slow=9.4,SNR=46
WRA ScP **ScP** **08 04 25.0 +2.4**
comp=Z,0.7nm,0.6s,baz=342,slow=3.3,SNR=2.9
CD2 Chengdu 30.21 319 P **P** **07 57 47.5 -0.2**
CD2 pP **pP** **07 58 04.0 -0.8**
CD2 sP **sP** **07 58 12.8 -0.4**
CD2 PP **PnPn** **07 58 48.8 +0.6**
CD2 S **S** **08 02 41.0 -1.1**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,80nm,5.2s
MBWA Marble Bar 30.77 192 *e*P **P** **07 57 52.6 -0.1**
comp=Z,141nm,2.3s
MBWA Marble Bar 30.77 192 *e*P **P** **07 57 52.7 +0.1**
BJI Beijing 32.10 345 P **P** **07 58 02.8 -1.4**
BJI S S 08 03 17.0 +5.6
BJI pmax pmax
comp=Z,18nm,0.9s
BJI pmax pmax
comp=Z,76nm,5.6s
BJI LR LR
comp=N,130nm,20.2s
BJI LR LR
comp=E,150nm,18.8s
BJI LR LR
comp=Z,93nm,25.1s
QIS Mount Isa 32.25 156 *e*P **P** **07 58 04.7 -1.0**
SNY Shenyang 32.68 356 ⇑P **P** **07 58 09.5 +0.3**
SNY pmax pmax
comp=Z,26nm,0.7s
SNY pmax pmax
comp=Z,180nm,3.7s
SNY LR LR
comp=E,280nm,4.5s
SNY LR LR
comp=Z,140nm,4.7s
ASAR Alice Springs 33.41 167 P **P** **07 58 15.3 -0.5**
ASAR PcP **PcP** **08 00 56.0 -0.1**
ASAR ScP **ScP** **08 04 34.6 +0.2**
ASAR Alice Springs 33.41 167 P **P** **07 58 15.3 -0.5**
comp=Z,2.8nm,0.5s,baz=357,slow=8.4,SNR=48
ASAR PcP **PcP** **08 00 56.0 -0.1**
comp=Z,1.6nm,0.7s,baz=331,slow=3.0,SNR=4.7
ASAR ScP **ScP** **08 04 34.6 +0.2**
comp=Z,0.8nm,0.8s,baz=329,slow=3.2,SNR=4.1
LZH Lanzhou 33.76 326 *e*P P 07 58 25.0 +6.0
LZH sP sP 07 58 52.0 +7.4
LZH S S 08 03 43.5 +5.9
LZH pmax pmax
comp=Z,37nm,1.2s
LZH pmax pmax
comp=Z,450nm,5.9s
LZH LR LR
comp=N,400nm,13.4s
LZH LR LR
comp=E,350nm,14.0s
LZH LR LR
comp=Z,530nm,16.0s
HHC Hu-ho-hao-te 34.22 340 *e*P P 07 58 26.0 +3.2
HHC pP pP 07 58 44.5 +4.5
HHC sP sP 07 58 53.5 +5.1
HHC PP **PP** **07 59 44.0 +2.4**
HHC *e*S **S** **08 03 47.8 +3.3**
HHC sS sS 08 04 18.0 +4.0
HHC PcS **PcS** **08 04 46.0 +1.5**
HHC SS **SnSn** **08 06 02.3 +2.5**
HHC pmax pmax
comp=Z,26nm,0.9s
HHC pmax pmax
comp=Z,140nm,3.7s
HHC LR LR
comp=N,210nm,16.7s
HHC LR LR
comp=E,160nm,13.1s
HHC LR LR
comp=Z,200nm,15.7s
CN2 Changchun 34.57 359 *e*P **P** **07 58 25.5 -0.2**
CN2 *e*pP **pP** **07 58 44.5 +1.6**
CN2 *e*S **S** **08 03 49.3 -0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CTA Charters Tower 35.03 146 P **P** **07 58 29.4 -0.4**
CTA Charters Tower 35.03 146 *e*P **P** **07 58 27.5 -2.4**
comp=Z,3.6nm,0.7s
CTA Charters Tower 35.03 146 P **P** **07 58 29.4 -0.4**
comp=Z,6.1nm,0.8s,baz=327,slow=9.8,SNR=6.5
CTA LR LR 08 12 31.4
comp=Z,147nm,19.6s,baz=338,slow=36
USRK Ussuriysk Arra 35.31 7 P **P** **07 58 33.0 +1.1**
comp=Z,25nm,0.8s,baz=192,slow=8.0,SNR=29
USRK LR LR 08 11 47.4
comp=Z,93nm,19.2s,baz=293,slow=34
MDJ Mudanjiang 35.49 4 P **P** **07 58 34.5 +0.9**
MDJ pP pP 07 58 53.3 +2.4
MDJ sP sP 07 59 02.8 +3.5
MDJ PP **PP** **07 59 56.5 +1.1**
MDJ sS **ScP** **08 04 40.0 -1.4**
MDJ pmax pmax
comp=Z,26nm,1.3s
MDJ pmax pmax
comp=Z,28nm,3.0s
MDJ LR LR
comp=N,63nm,23.7s
MDJ LR LR
comp=E,62nm,23.0s
MDJ LR LR
comp=Z,86nm,21.1s
ERM Erimo 35.98 22⇓*e*P **P** **07 58 38.8 +1.0**
SHL Shillong 36.57 301⇑*i*P **P** **07 58 43.0 -0.3**
ASAJ Asahikawa 37.64 19 *e*P **P** **07 58 51.8 0.0**
ASAJ Asahikawa 37.64 19 P **P** **07 58 51.9 0.0**
comp=Z,5.4nm,0.4s,baz=259,slow=16,SNR=7.5
GTA Gaotai 38.36 326 *e*P **P** **07 58 57.5 -0.7**
GTA pP **pP** **07 59 15.8 +0.1**
GTA sP sP 07 59 25.0 +1.0
GTA PcP **PcP** **08 01 11.5 +0.9**
GTA S **S** **08 04 47.8 -0.1**
GTA sS sS 08 05 20.5 +2.8
GTA SS **SnSn** **08 07 33.0 -7.0**
GTA pmax pmax
comp=Z,4.0nm,0.9s
GTA pmax pmax
comp=Z,55nm,4.3s
GTA LR LR
comp=N,220nm,22.1s
GTA LR LR
comp=E,190nm,21.4s
GTA LR LR
comp=Z,310nm,21.4s
LSA Lhasa 38.75 307 P **P** **07 59 02.3 +0.3**
LSA pmax pmax
comp=Z,10.0nm,1.4s
MORW Morawa 39.23 194 *e*P **P** **07 59 05.8 +0.5**
comp=Z,110nm,0.6s
FORT Forrest 39.69 178 *e*P **P** **07 59 09.6 +0.4**
comp=Z,57nm,0.6s
FORT Forrest 39.69 178 *e*P **P** **07 59 09.7 +0.5**
comp=Z,51nm,0.6s
HABR Khabarovsk 39.92 9 P **P** **07 59 09.3 -1.6**
HABR *e* 08 00 42.6
HABR *e* 08 05 03.1
HABR pmax pmax
comp=Z,48nm,2.3s
HABR pmax pmax
comp=N,36nm,2.3s
HABR pmax pmax
comp=E,62nm,2.3s
HABR MLR MLR
comp=Z,142nm,17.0s
TAPN Taplejung 40.69 302 *e*P **P** **07 59 17.8 -0.1**
comp=Z,56nm,0.5s
TAPN Taplejung 40.69 302 *e*P **P** **07 59 17.8 -0.1**
comp=Z,56nm,0.5s
ODAN Odare 40.80 301 *e*P **P** **07 59 18.7 -0.1**
comp=Z,276nm,0.7s
ODAN Odare 40.80 301 *e*P **P** **07 59 18.7 -0.1**
comp=Z,276nm,0.7s
RAMN Ramite 41.50 301 *e*P **P** **07 59 24.5 -0.1**
comp=Z,128nm,0.8s
RAMN Ramite 41.50 301 *e*P **P** **07 59 24.5 -0.1**
comp=Z,128nm,0.8s
ULN Ulaanbaatar 41.93 341 *e*P **P** **07 59 26.6 -1.0**
comp=Z,7.2nm,0.6s
JIRN Jiri 42.06 301 *e*P **P** **07 59 29.1 -0.2**
comp=Z,42nm,0.7s
JIRN Jiri 42.06 301 *e*P **P** **07 59 29.1 -0.2**
comp=Z,42nm,0.7s
SONM Songino Array 42.12 340 P **P** **07 59 27.3 -1.8**
SONM PcP **PcP** **08 01 22.4 -0.1**
SONM ScP **ScP** **08 05 10.1 +3.2**
SONM Songino Array 42.12 340 P **P** **07 59 27.3 -1.8**
comp=Z,1.8nm,0.6s,baz=159,slow=8.8,SNR=12
SONM PcP **PcP** **08 01 22.4 -0.1**
comp=Z,3.2nm,0.7s,baz=164,slow=3.8,SNR=8.2
SONM ScP **ScP** **08 05 10.1 +3.2**
comp=Z,0.3nm,0.6s,baz=149,slow=3.4,SNR=3.5
SONM LR LR 08 18 13.9
comp=Z,112nm,19.7s,baz=149,slow=38
GUN Gumba 42.40 302 *e*P **P** **07 59 31.8 -0.2**
comp=Z,265nm,0.8s
GUN Gumba 42.40 302 *e*P **P** **07 59 31.8 -0.2**
comp=Z,265nm,0.8s
NWAO Narrogin (SRO) 42.69 191 P **P** **07 59 35.6 +1.9**
NWAO Narrogin (SRO) 42.69 191 P **P** **07 59 35.6 +1.9**
comp=Z,11nm,0.7s,baz=18,slow=7.5,SNR=8.1
PKI Pulchoki 42.70 301 *e*P **P** **07 59 33.7 -0.7**
comp=Z,75nm,0.8s
PKI Pulchoki 42.70 301 *e*P **P** **07 59 33.7 -0.7**
PKI pmax pmax
comp=Z,75nm,0.8s
PKI Pulchoki 42.70 301 *e*P **P** **07 59 33.7 -0.7**
comp=Z,75nm,0.8s
BBOO Buckleboo 42.70 168 *e*P **P** **07 59 34.0 +0.2**
comp=Z,571nm,0.5s
BBOO Buckleboo 42.70 168 *e*P **P** **07 59 34.1 +0.2**
comp=Z,227nm,0.4s
KKN Kakani 42.87 301 *e*P **P** **07 59 34.8 -0.9**
comp=Z,76nm,0.8s
KKN Kakani 42.87 301 *e*P **P** **07 59 34.8 -0.9**
KKN pmax pmax
comp=Z,76nm,0.8s
KKN Kakani 42.87 301 *e*P **P** **07 59 34.8 -0.9**
comp=Z,76nm,0.8s
DMN Daman 42.97 301 *e*P **P** **07 59 35.9 -0.6**
comp=Z,95nm,0.9s
DMN Daman 42.97 301 *e*P **P** **07 59 35.9 -0.6**
comp=Z,95nm,0.9s
STKA Stephens Creek 43.29 161 P **P** **07 59 39.0 +0.3**
STKA Stephens Creek 43.29 161 *e*P **P** **07 59 37.4 -1.2**
comp=Z,3.9nm,0.6s
STKA Stephens Creek 43.29 161 P **P** **07 59 39.0 +0.3**
comp=Z,5.5nm,0.7s,baz=327,slow=6.7,SNR=17
GKN Gorkha 43.48 301 *e*P **P** **07 59 39.6 -0.9**
comp=Z,35nm,0.6s
GKN Gorkha 43.48 301 *e*P **P** **07 59 39.6 -0.9**
comp=Z,35nm,0.6s
KOLN Koldanda 44.29 301 *e*P **P** **07 59 46.7 -0.4**
comp=Z,167nm,0.8s
KOLN Koldanda 44.29 301 *e*P **P** **07 59 46.7 -0.4**
comp=Z,167nm,0.8s
DANN Dangsing 44.32 301 *e*P **P** **07 59 46.9 -0.5**
comp=Z,148nm,0.7s
DANN Dangsing 44.32 301 *e*P **P** **07 59 46.9 -0.5**
comp=Z,148nm,0.7s
PYUN Piuthan 44.90 301 *e*P **P** **07 59 51.6 -0.3**
comp=Z,308nm,0.9s
PYUN Piuthan 44.90 301 *e*P **P** **07 59 51.6 -0.3**
comp=Z,308nm,0.9s
MDRS Chennai 45.34 279 *ex* x 07 59 13.2
MDRS *ex* x 08 11 29.2
MDRS *ex* x 08 20 16.2
MDRS *ex* x 08 27 12.2
ZAK Zakamensk 45.36 339 *e*P **P** **07 59 53.0 -2.1**
ZAK *e* 08 01 33.3
ZAK pmax pmax
comp=Z,2.0nm,0.8s
TLY Talaya 46.34 341 *e*P **P** **08 00 01.1 -1.6**
TLY pmax pmax
comp=Z,7.0nm,0.9s
TLY Talaya 46.34 341 *e*P **P** **08 00 02.1 -0.5**
comp=Z,6.5nm,0.7s
TARA Tarawa 47.00 97 *e*P **P** **08 00 09.2 +0.8**
comp=Z,10nm,0.8s
HYB Hyderabad 47.11 285 *i*P **P** **08 00 09.0 -0.3**
comp=Z,50nm,1.0s
MOY Mondy 47.24 339 *e*P **P** **08 00 09.5 -0.3**
CLNS Chul'man 47.63 359 *e*P **P** **08 00 12.4 -0.2**
CLNS pmax pmax
comp=Z,16nm,1.1s
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.9s
ARPS Mount Arapiles 47.91 163 *e*P **P** **08 00 15.6 +0.6**
comp=E,14nm,0.5s
WMQ Urumqi 48.17 323 P **P** **08 00 17.3 +0.2**
WMQ pP **pP** **08 00 36.0 +0.9**
WMQ sP sP 08 00 45.0 +1.7
WMQ *e*S **S** **08 07 09.0 -2.0**
WMQ ScS **ScS** **08 10 00.0 -3.5**
WMQ pmax pmax
comp=Z,17nm,0.8s
WMQ pmax pmax
comp=Z,240nm,5.6s
WMQ LR LR
comp=N,570nm,14.0s
WMQ LR LR
comp=E,490nm,11.2s
WMQ LR LR
comp=Z,460nm,22.2s
NDI New Delhi 49.97 300 *ex* P 08 00 22.0 -9.0
DZM Mont Dzumac 50.08 129 *e*LR LR 08 15 04.6
comp=Z,316nm,24.4s
PETK Petropavlovsk- 50.67 24 P **P** **08 00 37.5 +1.6**
PETK Petropavlovsk- 50.67 24 P **P** **08 00 37.5 +1.6**
PETK Petropavlovsk- 50.67 24 P **P** **08 00 37.5 +1.6**
comp=Z,6.4nm,0.7s,baz=197,slow=5.9,SNR=7.8
PETK LR LR 08 21 35.5
comp=Z,42nm,19.8s,baz=96,slow=35
POO Poona 51.65 286⇓*i*x **P** **08 00 42.0 -1.8**
comp=Z,30nm,1.0s
YAK Yakutsk 52.88 2 *e*P **P** **08 00 51.4 -0.7**
YAK pmax pmax
comp=Z,15nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=N,12nm,1.2s
MK31 Makanchi Array 52.98 323 *e*P **P** **08 00 52.3 -0.9**
MK31 pmax pmax
comp=Z,20nm,0.7s
MKAR Makanchi Array 52.98 323 *e*P **P** **08 00 52.7 -0.5**
MKAR 08 02 03.8
MKAR Makanchi Array 52.98 323 *e*P **P** **08 00 52.7 -0.5**
MKAR PcP **PcP** **08 02 03.8 +2.7**
MKAR ScP **ScP** **08 05 52.9 +0.3**
MKAR Makanchi Array 52.98 323 P **P** **08 00 52.7 -0.5**
comp=Z,26nm,0.8s,baz=122,slow=8.2,SNR=153
MKAR PcP **PcP** **08 02 03.8 +2.7**
comp=Z,7.1nm,0.6s,baz=113,slow=4.7,SNR=5.3
MKAR ScP **ScP** **08 05 52.8 +0.3**
comp=Z,0.8nm,0.9s,baz=126,slow=2.0,SNR=3.7
MKAR LR LR 08 25 00.4
comp=Z,180nm,19.7s,baz=247,slow=38
KSH Kashi 54.04 313 P **P** **08 01 02.5 +1.2**
KSH pP pP 08 01 21.8 +2.2
KSH sP sP 08 01 30.5 +2.8
KSH PcP **PcP** **08 02 06.5 +1.0**
KSH PP **PP** **08 03 06.5 +3.1**
KSH ScP **ScP** **08 05 55.5 -2.0**
KSH PcS **PcS** **08 06 05.0 0.0**
KSH S **S** **08 08 32.0 -0.4**
KSH sS sS 08 09 05.3 +1.8
KSH ScS **ScS** **08 10 41.5 -2.8**
KSH SS **SS** **08 12 14.8 +0.1**
KSH pmax pmax
comp=Z,63nm,5.5s
KSH LR LR
comp=N,140nm,5.3s
KSH LR LR
comp=E,170nm,5.2s
KSH LR LR
comp=Z,190nm,6.7s
ULHL Ulahol 54.84 316 P **P** **08 01 06.8 -0.3**
SNR=12
KZA Kyzart 55.46 315 P **P** **08 01 12.1 +0.3**
SNR=18
TKM2 Tokmak 2 55.53 316 *i*P **P** **08 01 11.6 -0.4**
TKM2 Tokmak 2 55.53 316 *e*P **P** **08 01 11.6 -0.4**
comp=Z,10nm,0.8s
TKM2 Tokmak 2 55.53 316 P **P** **08 01 11.7 -0.4**
SNR=16
ZALV Zalesovo Beam 55.66 332 P **P** **08 01 10.9 -1.7**
ZALV 08 02 12.7
ZALV Zalesovo Beam 55.66 332 P **P** **08 01 10.8 -1.7**
ZALV PcP **PcP** **08 02 12.7 +1.5**
ZALV ScP **ScP** **08 06 03.5 -0.5**
ZALV Zalesovo Beam 55.66 332 P **P** **08 01 10.8 -1.7**
comp=Z,10nm,0.6s,baz=118,slow=6.6,SNR=43
ZALV PcP **PcP** **08 02 12.7 +1.5**
comp=Z,3.5nm,0.6s,baz=139,slow=4.9,SNR=3.9
ZALV ScP **ScP** **08 06 03.5 -0.5**
comp=Z,0.6nm,0.6s,baz=165,slow=6.0,SNR=3.7
ZALV LR LR 08 27 27.3
comp=Z,59nm,18.8s,baz=253,slow=39
AAK Ala-Archa 56.18 316*d i*P **P** **08 01 15.8 -0.9**
AAK pmax pmax
comp=Z,20nm,1.1s
AAK Ala-Archa 56.18 316 *e*P **P** **08 01 16.4 -0.2**
comp=Z,31nm,0.9s
AAK Ala-Archa 56.18 316 P **P** **08 01 16.2 -0.5**
comp=Z,2.3nm,0.4s,baz=114,slow=8.6,SNR=10
AAK LR LR 08 27 22.0
comp=Z,247nm,21.9s,baz=79,slow=38
USP Ospenovka 56.41 316 P **P** **08 01 17.5 -0.6**
SNR=17
AML Almayashu 56.56 315 P **P** **08 01 19.7 0.0**
SNR=28
EKS2 Erkin-Say 56.69 316 *e*P **P** **08 01 20.0 -0.2**
EKS2 pmax pmax
comp=Z,15nm,0.7s
EKS2 Erkin-Say 56.69 316 *e*P **P** **08 01 20.0 -0.2**
comp=Z,14nm,0.7s
EKS2 Erkin-Say 56.69 316 P **P** **08 01 20.1 -0.1**
SNR=15
SEY Seymchan 56.93 14⇑*e*P **P** **08 01 22.9 +1.5**
NVS Novosibirsk 56.94 332 *i*P **P** **08 01 18.9 -2.7**
NVS pmax pmax
comp=N,9.0nm,1.0s
NVS pmax pmax
comp=E,10.0nm,1.0s
NVS pmax pmax
comp=Z,22nm,1.0s
KURK Kurchatov 57.05 326*c i*P **P** **08 01 21.5 -0.9**
KURK pmax pmax
comp=Z,43nm,0.8s
KURK Kurchatov 57.05 326 *e*P **P** **08 01 21.7 -0.8**
comp=Z,38nm,0.8s
KK31 Karatay Array 59.10 315 *i*P **P** **08 01 35.6 -1.4**
KK31 pmax pmax
comp=Z,6.0nm,0.5s
KKAR Karatay Array 59.10 315 *e*P **P** **08 01 36.3 -0.7**
KKAR pmax pmax
comp=Z,8.0nm,0.6s
KKAR Karatay Array 59.10 315 *e*P **P** **08 01 36.3 -0.7**
comp=Z,8.3nm,0.6s
VOSK Vostochnaya 62.20 326 P **P** **08 01 56.4 -1.4**
VOSK pmax pmax
comp=Z,14nm,0.8s
BVA0 Borovoye Array 62.65 326 P **P** **08 02 00.0 -0.8**
BVA0 pmax pmax
comp=Z,4.0nm,1.0s
BVAR Borovoye Array 62.65 326 LR LR 08 30 29.5
comp=Z,66nm,20.8s,baz=222,slow=37
BRVK Borovoye 62.72 326*ce*P **P** **08 02 00.4 -0.8**
BRVK pmax pmax
comp=Z,33nm,1.1s
BRVK Borovoye 62.72 326 *e*P **P** **08 02 00.5 -0.8**
comp=Z,29nm,0.9s
ZRNK Zerenda 63.39 325 P **P** **08 02 04.6 -1.2**
ZRNK pmax pmax
comp=Z,12µm,0.1s
RPZ Rata Peaks 66.40 146 *e*P **P** **08 02 26.5 +1.1**
comp=Z,17nm,0.7s
IAKL Akhelmad 66.63 306 *e*P P 08 02 30.2 +2.8
URZ Urewera 66.77 138 P **P** **08 02 27.4 -0.4**
IEMG Emamgholi 66.80 307 *e*P **P** **08 02 28.6 +0.1**
ISFR Sfrayin 67.28 306 *e*P P 08 02 34.1 +2.5
ISHV Shirvan 67.56 307 *e*P **P** **08 02 34.3 +1.0**
AB31 Akbulak array 67.78 320 *i*P **P** **08 02 32.9 -1.2**
AB31 pmax pmax
comp=Z,8.0nm,0.7s
ABKAR Akbulak array 67.78 320 *e*P **P** **08 02 33.2 -0.9**
SVE Sverdlovsk 69.21 328⇑*i*P **P** **08 02 42.4 -0.5**
SVE pmax pmax
comp=Z,27nm,0.9s
AKTO Aktyubinsk 69.24 321 P **P** **08 02 42.3 -0.9**
AKTO Aktyubinsk 69.24 321 P **P** **08 02 42.3 -0.9**
AKTO Aktyubinsk 69.24 321 P **P** **08 02 42.3 -0.9**
comp=Z,7.7nm,0.7s,baz=91,slow=6.5,SNR=26
AKTO LR LR 08 35 09.3
comp=Z,148nm,18.0s,baz=289,slow=38
AKUT Akutan 69.78 36 *e*P **P** **08 02 46.7 +0.3**
ARU Arti 70.22 327*c i*P **P** **08 02 47.8 -1.3**
ARU 08 05 23.7
ARU S **S** **08 11 57.7 +2.6**
ARU SS **SS** **08 16 26.2 -0.1**
ARU pmax pmax
comp=Z,14nm,0.6s
ARU Arti 70.22 327 *e*P **P** **08 02 47.6 -1.4**
comp=Z,22nm,0.9s
IANJ Anjilo 70.45 304 *e*P **P** **08 02 53.1 +1.8**
ISHM Shahmirzad 70.98 305 *e*P **P** **08 02 54.2 -0.3**
IPAR Pars 71.04 298 *e*P **P** **08 02 55.5 +0.5**
IDMV Damavand 71.99 304 *e*P **P** **08 03 00.1 -0.5**
IKOM Komasi 75.71 303 *e*P **P** **08 03 21.0 -1.2**
KBD Kabd 75.72 298 *e*P **P** **08 03 21.2 -0.9**
MIB Mutribah 76.00 298 *e*P **P** **08 03 22.7 -1.0**
MIB AMb AMB 08 03 23.3
comp=Z,36nm,0.8s
NAY Al-Naaiem 76.11 298 *e*P **P** **08 03 22.8 -1.6**
NAY AMb AMB 08 03 25.7
comp=Z,12nm,1.1s
IMRD Marand 77.06 308 *e*P **P** **08 03 29.9 +0.1**
DGRG David-gareji 77.26 310 P **P** **08 03 31.5 +0.8**
TBLG Delisi 77.73 311 *e*P **P** **08 03 33.4 +0.1**
TBLG Delisi 77.73 311 P **P** **08 03 33.4 +0.1**
GNI Garni 77.77 309 *e*P **P** **08 03 36.1 +2.4**
comp=Z,19nm,0.8s
RAYN Ar Rayn 78.05 292 P **P** **08 03 34.5 -0.9**

comp=Z,123nm,0.6s,SNR=7.1
ZEI Tsey 78.33 312 *e*P **P 08 03 35.8 -1.0**
ZEI pmax pmax
comp=Z,20nm,0.6s
ONI Oni 78.66 312 P **P 08 03 38.7 +0.2**
AKH Akhalkalaki 78.67 310 P **P 08 03 39.6 +0.9**
TRF Thorofare Moun 78.96 27 *e*P **P 08 03 40.0 +0.2**
comp=Z,12nm,0.8s
KBZ Khabaz 79.03 313 P **P 08 03 39.5 -0.8**
KBZ Khabaz 79.03 313 P **P 08 03 39.5 -0.8**
KBZ Khabaz 79.03 313 P **P 08 03 39.5 -0.8**
comp=Z,15nm,0.9s,baz=116,slow=2.8,SNR=15
COLD Coldfoot 79.14 23 *e*P **P 08 03 41.5 +1.0**
comp=Z,5.4nm,1.0s
KIV Kislovodsk 79.17 313 *e*P **P 08 03 41.1 -0.2**
KIV pmax pmax
comp=Z,47nm,0.9s
KIV MLR MLR
comp=Z,83nm,19.0s
KIV Kislovodsk 79.17 313 *e*P **P 08 03 41.5 +0.2**
comp=Z,40nm,0.7s
PMR Palmer 79.46 29 *e*P **P 08 03 42.6 +0.3**
PMR pmax pmax
comp=Z,6.0nm,0.7s
PMR Palmer 79.46 29 *e*P **P 08 03 42.6 +0.3**
comp=Z,6.3nm,0.7s
MCK McKinley 79.57 27 *e*P **P 08 03 43.2 +0.3**
MCK pmax pmax
comp=Z,9.0nm,0.8s
MCK McKinley 79.57 27 *e*P **P 08 03 43.2 +0.3**
comp=Z,9.2nm,0.8s
VRHR Novokhopersk 79.65 320 *e*P **P 08 03 41.7 -1.9**
VRHR pmax pmax
comp=N,8.0nm,0.6s
VRHR pmax pmax
comp=E,7.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
SML Sawmill 79.84 29 *e*P **P 08 03 44.7 +0.2**
SML pmax pmax
comp=Z,27nm,2.5s
SML Sawmill 79.84 29 *e*P **P 08 03 44.7 +0.2**
comp=Z,27nm,2.5s
COLA College 80.05 26 *e*P **P 08 03 45.3 -0.1**
COLA pmax pmax
comp=Z,3.0nm,0.9s
COLA College 80.05 26 *e*P **P 08 03 45.3 -0.1**
comp=Z,3.0nm,0.9s
ILAR Eielson Array 80.46 26 P **P 08 03 47.2 -0.5**
ILAR Eielson Array 80.46 26 P **P 08 03 47.2 -0.5**
comp=Z,1.1nm,0.5s,baz=245,slow=4.8,SNR=26
KLMR Klimovskoe 80.55 330 *e*P **P 08 03 46.8 -1.4**
KLMR pmax pmax
comp=Z,51nm,1.2s
PAX Paxson 81.14 28 *e*P **P 08 03 52.1 +0.6**
PAX pmax pmax
comp=Z,10.0nm,1.4s
PAX Paxson 81.14 28 *e*P **P 08 03 52.1 +0.6**
comp=Z,10nm,1.4s
VSR Storozhevoye 81.19 321 *e*P **P 08 03 50.3 -1.5**
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,1.0nm,0.3s
VSR pmax pmax
comp=E,5.0nm,0.6s
BMRM Bremner River 81.66 30 *e*P **P 08 03 54.8 +0.5**
DOT Dot Lake 81.74 27 *e*P **P 08 03 54.8 +0.3**
comp=E,6.4nm,1.0s
LVZ Lovozero 82.26 338Î *e*P **P 08 03 57.4 +0.2**
LVZ pmax pmax
comp=Z,25nm,1.0s
OBN Obninsk 82.46 325 *e*P **P 08 03 57.1 -1.3**
OBN pmax pmax
comp=Z,30nm,1.2s
OPO Ambohidratompo 82.71 250 LR LR 08 36 04.9
comp=Z,98nm,19.6s,baz=258,slow=32
DAWY Dawson 83.76 26 *e*P **P 08 04 06.3 +1.3**
JOF Joensuu 84.24 333 *e*P **P 08 04 06.2 -1.2**
JOF pmax pmax
comp=Z,12nm,0.6s
JOF Joensuu 84.24 333 *e*p **P 08 04 06.2 -1.2**
comp=Z,12nm,0.6s
KEV Kevo 84.73 340 *e*P P 08 04 04.5 -5.2
KEV pmax pmax
comp=Z,6.0nm,0.7s
KEV Kevo 84.73 340 *e*p P 08 04 04.5 -5.2
comp=Z,6.3nm,0.7s
ARCES ARCESS Array B 85.29 340 P **P 08 04 11.3 -1.3**
ARCES ARCESS Array B 85.29 340 P **P 08 04 11.3 -1.3**
comp=Z,14nm,0.8s,baz=79,slow=6.4,SNR=20
ARCES LR LR 08 43 01.4
comp=Z,113nm,18.3s,baz=349,slow=36
INK Inuvik 85.34 22 *e*P **P 08 04 13.5 +0.7**
comp=Z,5.1nm,0.9s
MMAI Mount Meron Ar 85.87 303 P **P 08 04 17.2 +0.9**
MMAI Mount Meron Ar 85.87 303 P **P 08 04 17.2 +0.9**
comp=Z,3.2nm,0.5s,baz=62,slow=7.1,SNR=4.4
BRTR Keskin Array B 86.30 309 P **P 08 04 16.7 -1.7**
BRTR PP **PP 08 07 37.5 -2.5**
BRTR Keskin Array B 86.30 309 P **P 08 04 16.7 -1.7**
comp=Z,2.0nm,0.8s,baz=103,slow=5.0,SNR=8.7
BRTR PP **PP 08 07 37.5 -2.5**
comp=Z,1.1nm,0.9s,baz=74,slow=11,SNR=3.2
BRTR LR LR 08 44 27.8
comp=Z,38nm,18.6s,baz=240,slow=37
KAF Kangasniemi 86.67 332 *e*P **P 08 04 16.7 -2.8**
KAF pmax pmax
comp=Z,9.0nm,0.7s
KAF Kangasniemi 86.67 332 *e*p **P 08 04 16.7 -2.8**
comp=Z,9.3nm,0.7s
EIL Elat 86.73 299 P **P 08 04 20.2 -0.3**
EIL Elat 86.73 299 P **P 08 04 20.2 -0.3**
comp=Z,7.3nm,0.9s,baz=126,slow=4.2,SNR=4.5
FINES FINESS Array B 86.93 332 P **P 08 04 19.6 -1.2**
FINES FINESS Array B 86.93 332 P **P 08 04 19.6 -1.2**
comp=Z,9.3nm,0.5s,baz=76,slow=4.7,SNR=30
PPT2 Papeete2 87.16 108 *e*LR LR 08 32 14.0
comp=Z,167nm,25.8s
AKASG Malin Array Be 87.49 321 P **P 08 04 22.0 -1.7**
AKASG Malin Array Be 87.49 321 P **P 08 04 22.0 -1.7**
AKASG Malin Array Be 87.49 321 P **P 08 04 22.0 -1.7**
comp=Z,7.7nm,0.7s,baz=71,slow=4.6,SNR=12
AKASG LR LR 08 46 43.6
comp=Z,60nm,19.9s,baz=0.0,slow=38
KIEV Kiev 87.50 321 *e*P **P 08 04 23.2 -0.6**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
KIEV Kiev 87.50 321 *e*P **P 08 04 23.2 -0.6**
comp=Z,9.1nm,0.9s
TBI Tubuai 88.31 114 *e*LR LR 08 32 49.7
comp=Z,142nm,25.2s
VNDA Vanda 88.78 173 P **P 08 04 29.1 -0.1**
VNDA Vanda 88.78 173 P **P 08 04 29.1 -0.1**
comp=Z,4.5nm,0.6s,baz=326,slow=5.8,SNR=18
KMBO Kilima Mbogo 89.25 269 *e*P **P 08 04 33.1 0.0**
comp=Z,9.1nm,1.2s
BUR08 Bucovina Ar. S 90.74 318 *e*P **P 08 04 38.7 -0.5**
KOLS Kolonicke sedl 92.28 320 *e*P **P 08 04 44.8 -1.4**
KOLS pmax pmax
comp=Z,102nm,3.1s
KOLS Kolonicke sedl 92.28 320 *e*P **P 08 04 44.8 -1.4**
RES Resolute Bay 92.63 10 *e*P **P 08 04 47.6 +0.4**
comp=Z,3.4nm,0.8s
CRVS Cervenica-Dubn 92.80 320 *e*P **P 08 04 48.5 -0.1**
CRVS pmax pmax
comp=Z,12nm,1.0s
CRVS Cervenica-Dubn 92.80 320 *e*P **P 08 04 48.5 -0.1**
OJC Ojcow 93.43 322 *e*P **P 08 04 51.0 -0.4**
OJC Ojcow 93.43 322 *e*P **P 08 04 51.1 -0.4**
NB2 NORSAR Subarra 93.82 334 P **P 08 04 51.3 -1.8**
comp=Z,1.5nm,0.6s,baz=65,slow=4.6
NOA NORSAR Array B 93.82 334 P **P 08 04 52.3 -0.8**
NOA NORSAR Array B 93.82 334 P **P 08 04 52.3 -0.8**
comp=Z,1.6nm,0.6s,baz=68,slow=4.7,SNR=6.5
NOA LR LR 08 50 23.4
comp=Z,64nm,18.1s,baz=0.0,slow=38
YKA Yellowknife Ar 94.79 24 P **P 08 04 58.1 +0.7**
YKA Yellowknife Ar 94.79 24 P **P 08 04 58.1 +0.7**
comp=Z,1.1nm,0.6s,baz=298,slow=4.3,SNR=20
GERES GERESS Array B 97.63 322 P Pdif 08 05 10.2 -0.6
GERES GERESS Array B 97.63 322 P Pdif 08 05 10.2 -0.6
comp=Z,1.5nm,0.7s,baz=70,slow=4.4,SNR=8.9
GERES LR LR 08 50 40.0
comp=Z,69nm,18.3s,baz=67,slow=36
QSPA South Pole Qui 98.98 180 P **Pdif 08 05 16.4 +0.1**
comp=Z,1.0nm,0.6s,baz=306,slow=4.1,SNR=5.2
TXAR Lajitas Array 118.54 50 PKP **PKPdf 08 10 25.2 +0.9**
TXAR Lajitas Array 118.54 50 PKP **PKPdf 08 10 25.2 +0.9**
comp=Z,0.3nm,0.6s,baz=305,slow=1.1,SNR=7.8
TORD Torodi Ar. Bea 120.73 291 PKP **PKPdf 08 10 27.9 -0.8**
TORD Torodi Ar. Bea 120.73 291 PKP **PKPdf 08 10 27.9 -0.8**
comp=Z,2.4nm,0.7s,baz=36,slow=2.1,SNR=18
TRQA Tornquist 150.22 167 ePKPdf **PKPdf 08 11 22.2 +0.1**
MTP Monte Pirata 150.54 23 ePKPdf **PKPdf 08 11 21.6 -1.4**
LPAZ La Paz 164.21 118 PKP **PKPdf 08 11 41.9 +1.0**
LPAZ La Paz 164.21 118 PKP **PKPdf 08 11 41.9 +1.0**
comp=Z,0.7nm,0.6s,baz=298,slow=4.1,SNR=3.6

*IDC **25** 08:28:58.5±1.0,23.17°S×170.64°E,h0km,mb4.2/8, mb1 4.3/9,mb1mx4.2/19,mbtmp4.2/9,ML3.8/1,MS3.7/8, Ms1 3.7/8,ms1mx3.3/23,Error ellipse: s-maj=30.5km s-min=23.3km az=149.0*
*NOU **25** 08:28:59.5±0.6,22.85°S×169.62°E,h10km±1.24km,MD2.9*
ISC 25 08:28:58.6±1.2,23.05°S±0.3°×169.8E±0.1°,h10km,n16, σ0§53/5,mb4.2/8,MS3.6/6,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLUM	**Mont Dore**	**2.96**	**283**	*e*P	Pg	08 29 57.6	+2.3
PLUM				*e*S	Sg	08 30 40.7	+7.0
NORM	**Noumea**	**3.11**	**283**	*e*P	Pg	08 29 59.4	+1.2
NORM				*e*S	Sg	08 30 43.1	+4.5
DZM	**Mont Dzumac**	**3.19**	**285**	Pn	Pg	08 30 00.6	+0.9
	6.1nm,0.3s,baz=106,slow=14,SNR=79						
DZM				Sn	Sg	08 30 46.8	+5.7
	9.6nm,0.3s,baz=91,slow=19,SNR=4.5						
DZM				LR	LR	08 30 51.0	
	comp=Z,195nm,19.4s,baz=130,slow=28						
NOUC	**Port Laguerre**	**3.31**	**284**	*e*P	**Pg**	**08 30 02.0**	**0.0**
NOUC				*e*S	Sg	08 30 48.9	+4.1
NOUC				AMP		08 31 01.3	
	comp=Z,33nm,6.2s						
AFI	**Afiamalu**	**19.67**	**66**	LR	LR	08 39 21.5	
	comp=Z,174nm,21.0s,baz=185,slow=33						
CTA	**Charters Tower**	**22.05**	**273**	LR	LR	08 41 41.6	
	comp=Z,89nm,18.1s,baz=269,slow=33						
STKA	**Stephens Creek**	**26.47**	**244**	P	P	08 34 43.6	+7.5
	comp=Z,2.8nm,1.0s,baz=86,slow=14,SNR=2.8						
STKA				LR	LR	08 43 50.3	
	comp=Z,170nm,19.2s,baz=188,slow=33						
ASAR	**Alice Springs**	**32.88**	**262**	P	P	08 35 40.1	+7.0
	comp=Z,3.9nm,1.0s,baz=86,slow=8.6,SNR=20						
WRA	**Warramunga Arr**	**33.05**	**268**	P	P	08 35 44.2	+10
	comp=Z,3.7nm,1.2s,baz=111,slow=8.2,SNR=2.8						
WRA				LR	LR	08 49 01.6	
	comp=Z,104nm,19.7s,baz=90,slow=36						
VNDA	**Vanda**	**54.76**	**182**	LR	LR	08 59 52.1	
	comp=Z,287nm,18.5s,baz=329,slow=34						
QSPA	**South Pole Qui**	**67.12**	**180**	P	**P**	**08 39 52.3**	**-0.1**
	comp=Z,5.5nm,1.0s,baz=76,slow=3.6,SNR=9.5						
PETK	**Petropavlovsk-**	**76.46**	**353**	P	P	08 40 51.4	+3.1
	comp=Z,3.4nm,0.8s,baz=171,slow=10,SNR=3.7						
PETK				LR	LR	09 11 18.2	
	comp=Z,39nm,21.1s,baz=329,slow=33						
SONM	**Songino Array**	**90.46**	**323**	P	P	08 42 06.2	+5.6
	comp=Z,1.2nm,1.1s,baz=124,slow=2.7,SNR=5.1						
NVAR	**Mina Array Bea**	**90.89**	**48**	P	**P**	**08 42 03.4**	**+0.5**
	comp=Z,0.1nm,0.6s,baz=201,slow=7.8,SNR=4.5						
NVAR				LR	LR	09 12 52.8	
	comp=Z,86nm,19.2s,baz=309,slow=29						
ILAR	**Eielson Array**	**93.62**	**17**	P	**P**	**08 42 14.1**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=242,slow=5.6,SNR=7.0						
GERES	**GERESS Array B**	**147.95**	**330**	PKPbc	**PKPab**	**08 48 47.0**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=38,slow=2.4,SNR=12						

IDC 25 08:29:16.9±2.0,6.42S×129.45E,h0km,mb3.2/1, mb1 3.7/4,mb1mx3.5/19,mbtmp3.5/4,ML3.8/3,Error ellipse: s-maj=80.4km s-min=27.4km az=76.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.19**	**197**	Pn	Pn	08 32 12.4	+0.4
	0.3nm,0.3s,baz=26,slow=12,SNR=17						
FITZ				Sn	Sn	08 34 15.0	-14
	0.5nm,0.3s,baz=79,slow=22,SNR=6.9						
WRA	**Warramunga Arr**	**14.26**	**161**	Pn	Pn	08 32 40.5	+0.2
	0.6nm,0.3s,baz=340,slow=13,SNR=18						
WRA				Sn	Sn	08 35 06.8	-12
	0.4nm,0.3s,baz=331,slow=22,SNR=6.5						
ASAR	**Alice Springs**	**17.67**	**166**	P	Pn	08 33 24.0	-0.7
	0.2nm,0.3s,baz=342,slow=11,SNR=12						
MKAR	**Makanchi Array**	**67.45**	**327**	P	P	08 40 14.6	0.0
	0.1nm,0.3s,baz=134,slow=5.8,SNR=3.4						

*NOU **25** 08:54:59.1±0.8,22.64S×169.69E,h10km±78km,MD3.2, ML3.5,MS1.9*
*IDC **25** 08:54:59.1±0.9,23.18S×170.55E,h0km,mb4.0/8, mb1 4.2/9,mb1mx4.1/19,mbtmp4.0/9,ML3.9/1,MS3.3/3, Ms1 3.3/3,ms1mx2.8/31,Error ellipse: s-maj=27.8km s-min=22.3km az=158.0*
ISC 25 08:54:59.3±0.9,23.05°S±0.2°×169.8E±0.1°,h10km,n17, σ1§42/9,mb3.9/8,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NORM	**Noumea**	**3.14**	**283**	*e*P	Pg	08 56 00.2	+0.8
NORM				AMP		08 56 49.6	
	comp=Z,122nm,20.6s						
DZM	**Mont Dzumac**	**3.21**	**286**	*e*P	Pg	08 56 01.4	+0.5
DZM				*e*S	Sg	08 56 46.6	+4.0
DZM				AMP		08 56 50.8	
	comp=Z,690nm,0.9s						
DZM	**Mont Dzumac**	**3.21**	**286**	Pn	**Pg**	**08 56 00.5**	**-0.4**
	comp=Z,7.6nm,0.3s,baz=260,slow=17,SNR=107						
DZM				Sn	Sg	08 56 47.6	+5.0
	comp=Z,22nm,0.3s,baz=124,slow=18,SNR=6.2						
DZM				LR	LR	08 56 58.3	
	comp=Z,145nm,18.8s,baz=33,slow=30						
NOUC	**Port Laguerre**	**3.33**	**284**	*e*P	**Pg**	**08 56 02.8**	**-0.3**
NOUC				*e*S	Sg	08 56 50.9	+4.6
NOUC				AMP		08 56 58.1	
	comp=Z,45nm,0.6s						
AFI	**Afiamalu**	**19.66**	**66**	LR	LR	09 04 58.0	
	comp=Z,129nm,20.7s,baz=121,slow=31						
STKA	**Stephens Creek**	**26.48**	**244**	P	P	09 00 43.2	+6.4
	comp=Z,1.9nm,0.7s,baz=78,slow=10,SNR=5.5						
STKA				LR	LR	09 10 01.4	
	comp=Z,125nm,19.7s,baz=194,slow=33						
ASAR	**Alice Springs**	**32.90**	**262**	P	P	09 01 41.5	+7.6
	comp=Z,1.5nm,0.8s,baz=99,slow=10,SNR=24						
WRA	**Warramunga Arr**	**33.08**	**268**	P	P	09 01 42.2	+6.8
	comp=Z,0.7nm,0.9s,baz=99,slow=8.6,SNR=4.8						
QSPA	**South Pole Qui**	**67.10**	**180**	P	**P**	**09 05 53.1**	**+0.2**
	comp=Z,4.1nm,0.9s,baz=348,slow=1.7,SNR=12						
PETK	**Petropavlovsk-**	**76.48**	**353**	P	P	09 06 53.3	+4.3
	comp=Z,2.5nm,0.7s,baz=141,slow=7.4,SNR=3.7						
VNA3	**Neumayer Olymp**	**86.04**	**180**	*e*P	**P**	**09 07 39.2**	**-0.6**
VNA2	**Neumayer--Watz**	**86.34**	**181**	*e*P	**P**	**09 07 41.1**	**-0.1**
	baz=261,slow=2.2						
SONM	**Songino Array**	**90.49**	**323**	P	P	09 08 04.6	+3.2
	comp=Z,0.3nm,0.7s,baz=142,slow=4.8,SNR=4.0						
NVAR	**Mina Array Bea**	**90.89**	**48**	P	**P**	**09 08 01.5**	**-2.1**
	comp=Z,0.4nm,0.7s,baz=232,slow=7.2,SNR=3.7						
ILAR	**Eielson Array**	**93.63**	**17**	P	**P**	**09 08 15.9**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=232,slow=5.8,SNR=5.7						
ARCES	**ARCESS Array B**	**128.78**	**345**	PKP	**PKPdf**	**09 14 08.8**	**+2.5**
	comp=Z,12nm,1.2s,baz=353,slow=3.8,SNR=3.7						
GERES	**GERESS Array B**	**147.98**	**330**	PKPbc	**PKPab**	**09 14 48.4**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=29,slow=3.0,SNR=9.7						

PRE 25 09:02:12.3±1.7,24.09S×17.70E,h10km,ML3.0,Namibia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUM	**Tsumeb**	**4.86**	**359**	*e*P	Pn	09 03 25.6	-0.2
TSUM				*e*S	Sn	09 04 21.5	-0.8
TSUM				AML	AML	09 04 52.8	
	comp=Z,563nm,0.5s						
LBTB	**Lobatse**	**7.25**	**99**	*e*P	Pn	09 03 58.8	+0.2
LBTB				*e*S	Sn	09 05 18.0	-3.2
LBTB				AML	AML	09 06 06.1	
	comp=Z,8.1nm,0.6s						
SWZ	**Schweizer**	**7.55**	**116**	*e*P	Pn	09 04 03.8	+1.1
SWZ				*e*S	Sn	09 05 24.7	-3.8
SWZ				AML	AML	09 05 28.5	
	comp=Z,6.3nm,0.4s						
CVNA	**Calvinia**	**7.59**	**167**	*e*P	Pn	09 04 04.3	+1.1
CVNA				*e*S	Sn	09 05 25.8	-3.6
CVNA				AML	AML	09 06 17.0	
	comp=Z,13nm,0.5s						
BOSA	**Boshof**	**8.14**	**125**	*e*P	Pn	09 04 11.8	+1.0
BOSA				*e*S	Sn	09 05 37.8	-5.2
BOSA				AML	AML	09 06 45.4	
	comp=Z,5.3nm,0.6s						
KSR	**Koster**	**8.53**	**104**	*e*P	Pn	09 04 19.8	+3.6
KSR				*e*S	Sn	09 05 50.2	-2.6
KSR				AML	AML	09 06 47.8	
	comp=Z,11nm,0.8s						
SUR	**Sutherland**	**8.71**	**162**	*e*P	Pn	09 04 18.7	+0.1
SUR				*e*S	Sn	09 05 54.1	-3.0
SUR				AML	AML	09 06 31.4	
	comp=Z,1.8nm,0.3s						
PRYS	**Parys**	**9.18**	**110**	*e*P	Pn	09 04 27.3	+2.3
PRYS				*e*S	Sn	09 06 02.8	-5.7
PRYS				AML	AML	09 07 15.2	
	comp=Z,4.6nm,0.5s						
CER	**Ceres**	**9.35**	**172**	*e*S	Sn	09 06 09.0	-3.5
CER				AML	AML	09 07 09.1	
	comp=Z,3.1nm,0.4s						
SEK	**Senekal**	**9.86**	**117**	*e*S	Sn	09 06 21.6	-3.8
SEK				AML	AML	09 07 32.7	
	comp=Z,7.9nm,0.6s						

*CSEM **25** 09:07:45.8,38.60N×27.05E,h7km,MD2.7,After DDA*
DDA 25 09:07:45.8,38.60N×27.05E,h7km,MD2.7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.66**	**65**	*i* P	Pg	09 07 58.7	+0.1
AKHS				*i* S	Sb	09 08 08.8	-0.3
AKHS	**Akhisar**	**0.66**	**65**	*i* P	Pg	09 07 58.7	+0.2
AKHS				*i* S	Sb	09 08 08.8	-0.3
AYDN	**Tasoluk**	**1.14**	**145**	*i* P	Pb	09 08 08.0	0.0
AYDN				*i* S	Sb	09 08 23.7	+0.6
AYDN	**Tasoluk**	**1.14**	**145**	*i* P	Pb	09 08 08.0	0.0
AYDN				*i* S	Sb	09 08 23.7	+0.6
MANT	**Manisa**	**1.19**	**95**	*i* P	Pn	09 08 09.7	+0.5
MANT				*i* S	Sb	09 08 24.7	-0.1
MANT	**Manisa**	**1.19**	**95**	*i* P	Pn	09 08 09.7	+0.5
MANT				*i* S	Sb	09 08 24.7	-0.1
BALY	**Balya**	**1.22**	**21**	*i* P	Pg	09 08 08.8	-0.5
BALY				*i* S	Sg	09 08 25.1	-0.2
BALY	**Balya**	**1.22**	**21**	*i* P	Pg	09 08 08.8	-0.5
BALY				*i* S	Sg	09 08 25.1	-0.2

*IDC **25** 09:19:43.4±0.5,23.21S×170.55E,h0km,mb4.5/18, mb1 4.6/20,mb1mx4.6/24,mbtmp4.5/20,ML4.0/2,MS4.5/18, Ms1 4.6/18,ms1mx4.3/28,Error ellipse: s-maj=17.2km s-min=15.4km az=164.0*
*DJA **25** 09:19:45,23.00S×171.83E,h10km,mb5.3/13*
*NOU **25** 09:19:45.1±0.6,20.85S×170.45E,h10km,MD3.6,ML4.0*
*ISCJB **25** 09:19:46.3±0.3,23.14S±0.05×170.49E±0.04,h28km, mb4.9/58,MS4.6/28,Error ellipse: s-maj=7.2km s-min=5.1km az=7.8*
*NEIC **25** 09:19:48.7±0.2,23.15S×170.56E,h35km,mb5.1/24,Error ellipse: s-maj=7.6km s-min=6.3km az=156.0*
*MOS **25** 09:19:50.5±1.8,22.61S×170.11E,h33km,mb5.2/10,Error ellipse: s-maj=13.0km s-min=10.9km az=30.0*
*BJI **25** 09:19:52.5,22.62S×169.72E,h35km,mB5.4/25,mb4.8/32, Ms5.2/18,Ms7 4.7/19*
ISC 25 09:19:48.1±0.3,23.13S±0.05×170.57E±0.05,h28km, h27km:pP-P,n273,σ1§47/312,mb5.0/57,MS4.6/29, 35C-10D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLUM	**Mont Dore**	**3.73**	**282**	*e*P	**Pn**	**09 20 41.9**	**-2.0**
PLUM				*e*S	**Sn**	**09 21 23.9**	**-3.1**
PLUM				AMP		09 21 27.5	
	comp=Z,867nm,0.8s						
LASL	**Noumea**	**3.83**	**283**	*e*P	**Pn**	**09 20 43.3**	**-1.9**
DZM	**Mont Dzumac**	**3.96**	**285**	*e*Pn	**Pn**	**09 20 44.8**	**-2.3**
	comp=Z,239nm,0.3s						
DZM				*e*Sn	**Sn**	**09 21 29.5**	**-3.2**
	comp=Z,393nm,0.3s						
DZM	**Mont Dzumac**	**3.96**	**285**	Pn	**Pn**	**09 20 45.1**	**-2.0**
DZM				*e*Sn	**Sn**	**09 21 29.6**	**-3.2**
DZM				Sn	Sb	09 21 31.8	-13
DZM	**Mont Dzumac**	**3.96**	**285**	Pn	**Pn**	**09 20 45.1**	**-2.0**
	comp=Z,57nm,0.3s,baz=112,slow=11,SNR=362						
DZM				Sn	**Sn**	**09 21 31.8**	**-0.9**
	comp=Z,155nm,0.3s,baz=13,slow=19,SNR=7.8						
NOUC	**Port Laguerre**	**4.08**	**284**	*e*P	**Pn**	**09 20 46.3**	**-2.4**
NOUC				*e*S	**Sn**	**09 21 32.2**	**-3.2**
NOUC				AMP		09 21 39.2	
	comp=Z,242nm,6.7s						
MSVF	**Nonsavu**	**8.83**	**54**	*e*P	**Pn**	**09 21 53.0**	**-1.1**
MSVF	**Nonsavu**	**8.83**	**54**	*e*Pn	**Pn**	**09 21 53.0**	**-1.1**
OUZ	**Omahuta**	**12.33**	**168**	*e*Pn	**Pn**	**09 22 40.0**	**-1.8**
URZ	**Urewera**	**16.08**	**161**	*e*Pn	**P**	**09 23 36.5**	**+1.2**
	comp=Z,368nm,2.4s						
EIDS	**Eidsvold**	**17.91**	**259**	Pn	**P**	**09 23 55.7**	**-0.1**
	comp=Z,123nm,1.4s						
ARMA	**Armidale**	**18.39**	**243**	*e*P	**Pn**	**09 24 01.7**	**+0.4**
	comp=Z,423nm,2.8s						
ARMA	**Armidale**	**18.39**	**243**	*e*P	**P**	**09 24 01.0**	**-0.1**
AFI	**Afiamalu**	**19.07**	**64**	P	**P**	**09 24 06.9**	**-1.7**
	comp=Z,1.8nm,0.7s						
AFI	**Afiamalu**	**19.07**	**64**	P	**P**	**09 24 06.9**	**-1.7**
	comp=Z,4.8nm,0.3s,baz=280,slow=6.7,SNR=7.2						
AFI				LR	LR	09 30 16.0	
	comp=Z,1μm,18.4s,baz=233,slow=33						
KHZ	**Kahutara**	**19.39**	**173**	*e*Pn	**Pn**	**09 24 13.6**	**+0.5**
	comp=Z,78nm,1.1s						
RIV	**Riverview**	**20.09**	**234**	*e*P	Pn	09 24 30.6	+9.2
RPZ	**Rata Peaks**	**20.53**	**179**	*e*P	**P**	**09 24 24.1**	**-0.2**
	comp=Z,55nm,0.9s						
ODZ	**Otahua Downs**	**21.86**	**180**	*e*P	P	09 24 33.8	-4.7
	comp=Z,99nm,1.6s						
CNB	**Canberra Magne**	**22.08**	**232**	*e*P	**P**	**09 24 41.9**	**+0.8**
	comp=Z,114nm,1.3s						
CNB				*e*pP	**pP**	**09 24 51.2**	**+2.4**
CNB				*e*S	**S**	**09 28 47.9**	**+4.6**
CAN	**Canberra**	**22.35**	**232**	*e*P	**P**	**09 24 44.9**	**+0.9**
CAN				pmax	pmax		
	comp=Z,27nm,0.9s						
CAN	**Canberra**	**22.35**	**232**	*e*P	**P**	**09 24 44.9**	**+0.9**
	comp=Z,27nm,0.9s						
CTA	**Charters Tower**	**22.80**	**273**	P	**P**	**09 24 47.7**	**-1.2**
CTA	**Charters Tower**	**22.80**	**273**	*e*P	**P**	**09 24 49.1**	**+0.2**
	comp=Z,4.5nm,0.6s						
CTA				*e*pP	**pP**	**09 24 58.3**	**+1.8**
CTA	**Charters Tower**	**22.80**	**273**	P	**P**	**09 24 47.7**	**-1.2**
	comp=Z,5.9nm,0.7s,baz=98,slow=12,SNR=8.5						
CTA				LR	LR	09 32 44.2	
	comp=Z,1μm,19.7s,baz=96,slow=34						
CTAO	**Charters Tower**	**22.80**	**273**	*e*P	**P**	**09 24 48.8**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,91nm,1.6s						
CTAO	**Charters Tower**	**22.80**	**273**	*e*P	**P**	**09 24 48.8**	**-0.1**
	comp=Z,91nm,1.6s						
TOO	**Toolangi**	**25.89**	**230**	*e*P	**P**	**09 25 18.4**	**+0.7**
	comp=Z,60nm,1.1s						
TOO				*e*pP	**pP**	**09 25 26.4**	**+0.5**
PMG	**Port Moresby**	**26.24**	**298**	P	**P**	**09 25 21.0**	**0.0**
PMG	**Port Moresby**	**26.24**	**298**	P	P	09 25 26.3	+5.3
	comp=Z,25nm,1.0s						
PMG	**Port Moresby**	**26.24**	**298**	P	**P**	**09 25 21.0**	**0.0**
	comp=Z,12nm,0.9s,baz=32,slow=1.0,SNR=4.3						
STKA	**Stephens Creek**	**27.07**	**245**	P	**P**	**09 25 27.2**	**-1.2**
**

comp=Z,16nm,1.0s
WRAB Tennant Creek 33.79 268 *e*P **P** **09 26 25.7 -2.3**
comp=Z,16nm,1.0s
WRAB Tennant Creek 33.79 268 P **P** **09 26 25.0 -3.0**
comp=Z,81nm,0.6s,SNR=14
WRA Warramunga Arr 33.80 268 P **P** **09 26 25.8 -2.2**
WRA Warramunga Arr 33.80 268 P **P** **09 26 25.8 -2.2**
comp=Z,2.4nm,0.4s,baz=98,slow=8.4,SNR=47
WRA LR LR 09 40 09.4
comp=Z,955nm,19.4s,baz=95,slow=36
TBI Tubuai 36.64 98 *e*S **S** **09 32 32.5 -1.5**
comp=Z,96nm,25.5s
TBI *e*LQ LQ 09 34 47.9
comp=Z,340nm,30.8s
TBI *e*LR LR 09 36 36.5
comp=Z,745nm,30.0s,baz=274
PPT2 Papeete2 37.68 89 *e*S S 09 32 43.0 -7.1
comp=Z,136nm,25.0s
PPT2 *e*LQ LQ 09 35 26.5
comp=Z,609nm,30.8s
PPT2 *e*LR LR 09 37 04.1
comp=Z,681nm,28.8s,baz=261
PPT Papeete 37.69 89 LR LR 09 39 34.3
comp=Z,278nm,19.1s,baz=266,slow=32
FORT Forrest 38.47 249 *e*P **P** **09 27 06.7 -1.2**
comp=Z,84nm,0.7s
FORT Forrest 38.47 249 *e*P **P** **09 27 06.5 -1.4**
comp=Z,18nm,0.6s
FORT *e*pP **pP** **09 27 15.6 -0.6**
MTN Manton Dam 38.77 278 *e*P **P** **09 27 09.5 -1.0**
FITZ Fitzroy Crossi 42.23 268 *e*P **P** **09 27 38.0 -1.1**
comp=Z,68nm,1.1s
FITZ Fitzroy Crossi 42.23 268 *e*P **P** **09 27 38.1 -1.1**
comp=Z,16nm,0.6s
FITZ *e*pP **pP** **09 27 46.6 -0.9**
MBWA Marble Bar 46.94 262 *e*P **P** **09 28 15.5 -1.2**
comp=Z,73nm,1.1s
KLBR Kellerberrin 47.28 248 *e*P P 09 28 26.1 +6.8
comp=Z,73nm,1.0s
NWAO Narrogin (SRO) 47.66 246 *e*P P 09 28 28.5 +6.3
comp=Z,27nm,0.8s
LUWI Luwuk 51.30 288 P **P** **09 28 49.9 -0.2**
comp=Z,65nm,1.2s,comp=Z,998nm
KAPI Kappang 52.17 282 *e*P P 09 29 04.1 +7.4
comp=Z,72nm,1.3s
VNDA Vanda 54.60 182 P **P** **09 29 13.3 -0.3**
VNDA Vanda 54.60 182 P **P** **09 29 13.3 -0.3**
comp=Z,7.6nm,1.2s,baz=350,slow=6.1,SNR=2.2
VNDA LR LR 09 47 55.7
comp=Z,1μm,21.1s,baz=14,slow=31
KKM Kota Kinabalu 60.49 292 *e*P **P** **09 29 54.6 -1.6**
comp=Z,42nm,1.2s
SBUM Sibu 62.23 286 P **P** **09 30 06.5 -1.3**
comp=Z,25nm,1.2s,comp=Z,710nm
KSM Kuching 63.48 284 *e*P **P** **09 30 15.6 -0.5**
comp=Z,46nm,0.9s
KSM Kuching 63.48 284 P **P** **09 30 15.9 -0.3**
comp=Z,57nm,1.0s,comp=Z,522nm
MJAR Matsushiro Arr 66.76 332 P **P** **09 30 35.9 -1.0**
MJAR Matsushiro Arr 66.76 332 P **P** **09 30 35.9 -1.0**
comp=Z,1.9nm,0.5s,baz=168,slow=7.5,SNR=9.6
MJAR LR LR 09 58 38.8
comp=Z,126nm,18.3s,baz=145,slow=35
MAJO Matsushiro 66.76 332 *e*P **P** **09 30 36.3 -0.7**
MAJO pmax pmax
comp=Z,5.0nm,0.7s
MAJO Matsushiro 66.76 332 *e*P **P** **09 30 36.2 -0.7**
comp=Z,4.6nm,0.7s
MAT Matsushiro 66.76 332 P **P** **09 30 35.8 -1.2**
MAT S **S** **09 39 28.0 +0.6**
QSPA South Pole Qui 66.94 180 *e*P **P** **09 30 37.4 -0.6**
comp=Z,66nm,1.2s
QSPA South Pole Qui 66.94 180 P **P** **09 30 37.3 -0.6**
comp=Z,11nm,0.9s,baz=352,slow=3.0,SNR=40
YUK Yuzh-Kuril'sk 70.58 341 *c i*P **P** **09 30 59.3 -1.2**
YUK *e* 09 33 37.4
YUK S **S** **09 40 09.7 -2.6**
YUK pmax pmax
comp=E,567nm,1.8s
YUK pmax pmax
comp=N,301nm,1.8s
YUK pmax pmax
comp=Z,617nm,1.8s
YUK pmax pmax
comp=Z,1μm,1.8s
ASAJ Asahikawa 71.67 339 P **P** **09 31 08.2 +1.0**
ASAJ Asahikawa 71.67 339 P **P** **09 31 08.2 +1.0**
comp=Z,5.7nm,0.6s,baz=309,slow=4.1,SNR=9.9
ASAJ LR LR 09 57 02.6
comp=Z,559nm,21.8s,baz=181,slow=31
KSRS Korea Array 72.41 326 P **P** **09 31 11.9 +0.2**
comp=Z,2.3nm,0.9s,baz=147,slow=7.5,SNR=5.1
KSRS LR LR 10 02 02.4
comp=Z,132nm,18.4s,baz=321,slow=35
KSAR Wonju Array Be 72.42 326 P **P** **09 31 11.9 +0.1**
QIZ Qiongzhong 72.59 300 P **P** **09 31 13.3 0.0**
QIZ pP **pP** **09 31 22.8 +0.7**
QIZ sP **sP** **09 31 28.5 +3.1**
QIZ pmax pmax
comp=Z,10.0nm,1.3s
IPM Ipoh 73.12 283 *e*P **P** **09 31 16.4 -0.2**
comp=Z,37nm,1.0s
NJ2 Nanjing 73.86 316 *e*P **P** **09 31 21.3 +0.8**
NJ2 pmax pmax
comp=Z,20nm,1.0s
YSS Yuzh-Sakhalins 74.15 341⇓ *e*P **P** **09 31 23.4 +1.6**
YSS *e*S **S** **09 40 57.0 +4.0**
YSS MLR MLR
comp=Z,400nm,18.0s
PSI Prapat 74.31 280 P **P** **09 31 21.6 -2.1**
comp=Z,22nm,1.1s,comp=Z,387nm
MAW Mawson 75.31 202 LR LR 09 59 00.1
comp=Z,422nm,20.9s,baz=100,slow=31
USRK Ussuriysk Arra 75.75 332 P **P** **09 31 32.2 +1.2**
comp=Z,1.5nm,0.7s,baz=150,slow=3.6,SNR=3.5
USRK LR LR 09 59 06.9
comp=Z,218nm,21.3s,baz=136,slow=31
WHN Wuhan 75.88 312 *e*P **P** **09 31 31.5 -0.7**
PET Petropavlovsk 76.54 353 *e*P **P** **09 31 35.0 -0.4**
PET *e*S **S** **09 41 17.9 -1.4**
PET pmax pmax
comp=Z,500nm,5.0s
PET pmax pmax
comp=Z,30nm,0.7s
PET pmax pmax
comp=Z,300nm,5.8s
PETK Petropavlovsk- 76.74 352 P **P** **09 31 37.0 +0.4**
PETK Petropavlovsk- 76.74 352 P **P** **09 31 37.0 +0.4**
PETK Petropavlovsk- 76.74 352 P **P** **09 31 37.0 +0.4**
comp=Z,20nm,1.1s,baz=134,slow=6.4,SNR=12
PETK LR LR 10 01 21.4
comp=Z,556nm,19.7s,baz=327,slow=32
MDJ Mudanjiang 77.12 331 P **P** **09 31 40.0 +1.1**
MDJ pP **PcP** **09 31 49.5 -0.1**
MDJ sP **sP** **09 31 53.5 +2.4**
MDJ PP **PP** **09 34 32.8 -0.3**
MDJ S **S** **09 41 23.8 -2.3**
MDJ pmax pmax
comp=Z,6.0nm,1.2s
MDJ pmax pmax
comp=Z,190nm,4.0s
MDJ LR LR
comp=N,110nm,24.5s
MDJ LR LR
comp=E,110nm,26.7s
MDJ LR LR
comp=Z,180nm,23.4s
HABR Khabarovsk 78.05 337 *e*P **P** **09 31 42.8 -1.2**
HABR *e* 09 31 52.2
HABR *e**PP PcP 09 31 59.4 +5.9
HABR *e*S **S** **09 41 31.7 -4.2**
HABR *e* 09 41 52.8
HABR *e* 09 41 56.7
HABR *e*SS **SS** **09 46 34.5 -3.9**
HABR pmax pmax
comp=N,6.0nm,0.7s
HABR pmax pmax
comp=E,16nm,0.7s
HABR pmax pmax
comp=Z,25nm,0.7s
HABR MLR MLR
comp=Z,129nm,19.0s
CN2 Changchun 78.41 328 *e*P **P** **09 31 49.0 +2.9**
CN2 *e*pP **PcP** **09 31 56.0 +0.7**
CN2 *e*S **S** **09 41 42.0 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=N,200nm,18.0s
CN2 LR LR
comp=E,200nm,18.0s
CN2 LR LR
comp=Z,200nm,18.0s
GYA Guiyang 79.06 305 P **P** **09 31 51.0 +0.8**
GYA pP **pP** **09 32 01.8 +2.6**
GYA sP **sP** **09 32 07.5 +5.0**
GYA PP **PP** **09 34 52.0 +2.1**
GYA S **S** **09 41 47.3 -0.7**
GYA SKS **SKSac** **09 41 59.0 -5.5**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,130nm,5.9s
GYA LR LR
comp=N,540nm,19.4s
GYA LR LR
comp=E,520nm,20.5s
GYA LR LR
comp=Z,580nm,18.9s
ENH Enshi 79.10 310 *e*P **P** **09 31 50.4 +0.1**
comp=Z,17nm,0.9s
KLR Kul'dur 79.91 335 *e*P P 09 31 48.8 -5.4
BJI Beijing 80.73 321 P **P** **09 31 59.5 +0.7**
BJI pmax pmax
comp=Z,280nm,4.1s
BJI LR LR
comp=N,200nm,22.6s
BJI LR LR
comp=E,150nm,23.5s
BJI LR LR
comp=Z,120nm,33.6s
CMAR Chiang Mai Arr 81.23 294 P **P** **09 32 03.4 +1.4**
CMAR Chiang Mai Arr 81.23 294 P **P** **09 32 03.4 +1.4**
comp=Z,1.6nm,0.3s,baz=144,slow=4.2,SNR=13
KMI Kunming 81.38 302 P **P** **09 32 03.8 +0.9**
KMI S **S** **09 42 12.0 -0.6**
KMI pmax pmax
comp=Z,180nm,3.6s
KMI LR LR
comp=Z,85nm,30.9s
CHTO Chiang Mai 81.40 295 *e*P **P** **09 32 04.1 +1.2**
CHTO pmax pmax
comp=Z,20nm,1.0s
CHTO Chiang Mai 81.40 295 *e*P **P** **09 32 04.1 +1.2**
comp=Z,20nm,1.0s
CHTO Chiang Mai 81.40 295 P **P** **09 32 03.7 +0.8**
SYO Syowa Base 81.56 196⇑ *e*P **P** **09 32 00.8 -2.0**
SYO Syowa Base 81.56 196⇑ *e*PcP **P** **09 32 04.6 +1.8**
XAN Xi'an 81.64 312 P **P** **09 32 04.5 +0.6**
XAN pmax pmax
comp=Z,4.0nm,1.5s
CD2 Chengdu 83.58 307 P **P** **09 32 15.0 +0.9**
CD2 pP **pP** **09 32 26.0 +2.9**
CD2 sP **sP** **09 32 30.0 +3.7**
CD2 PP **PP** **09 35 30.0 +2.9**
CD2 SKS **S** **09 42 31.3 -3.3**
CD2 S **SKSac** **09 42 34.0 -1.0**
CD2 sS **sS** **09 42 52.5 +3.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,100nm,5.0s
HHC Hu-ho-hao-te 83.97 319 *e*P **P** **09 32 16.5 +0.6**
HHC pP **pP** **09 32 26.8 +1.9**
HHC sP **sP** **09 32 31.5 +3.4**
HHC PP **PP** **09 35 33.0 +2.8**
HHC SKS **SKSac** **09 42 33.5 -3.7**
HHC S **S** **09 42 37.8 -0.4**
HHC sS **sS** **09 42 55.5 +2.4**
HHC pmax pmax
comp=Z,13nm,1.3s
HHC pmax pmax
comp=Z,180nm,6.4s
HHC LR LR
comp=N,150nm,14.4s
HHC LR LR
comp=E,190nm,14.3s
HHC LR LR
comp=Z,190nm,17.6s
NVL N'lazarevskaya 85.17 187 *e*P P 09 32 12.0 -9.4
VNA3 Neumayer Olymp 85.88 180 *e*P **P** **09 32 23.4 -1.6**
VNA3 Neumayer Olymp 85.88 180 *e*pP pP 09 32 32.5 -1.5
VNA2 Neumayer--Watz 86.19 181 *e*P **P** **09 32 25.0 -1.5**
baz=186,slow=3.8
VNA2 Neumayer--Watz 86.19 181 *e*pP pP 09 32 33.9 -1.6
baz=186,slow=3.8
LZH Lanzhou 86.24 312 ⇑P **P** **09 32 28.5 +1.0**
LZH pP **pP** **09 32 38.5 +2.0**
LZH sP **sP** **09 32 42.5 +2.7**
LZH SKS **SKSac** **09 42 51.5 -0.5**
LZH pmax pmax
comp=Z,33nm,1.2s
LZH pmax pmax
comp=Z,260nm,5.2s
LZH LR LR
comp=N,440nm,15.1s
LZH LR LR
comp=E,370nm,17.9s
LZH LR LR
comp=Z,500nm,18.0s
SEY Seymchan 86.98 352⇑ *i*P **P** **09 32 29.5 -0.7**
YBH Yreka Blue Hor 89.24 43 P **P** **09 32 43.1 +1.5**
YBH Yreka Blue Hor 89.24 43 P **P** **09 32 43.1 +1.5**
comp=Z,1.8nm,0.8s,baz=158,slow=7.7,SNR=3.2
SHL Shillong 90.26 298 *e*PKP **P** **09 32 48.0 +1.1**
NVAR Mina Array Bea 90.45 48 P **P** **09 32 47.0 -0.5**
NVAR Mina Array Bea 90.45 48 P **P** **09 32 47.0 -0.5**
comp=Z,1.6nm,0.7s,baz=226,slow=7.4,SNR=15
NVAR LR LR 10 04 24.0
comp=Z,864nm,21.1s,baz=37,slow=30
GTA Gaotai 90.69 313 *e*P **P** **09 32 49.3 +0.8**
GTA pP **pP** **09 32 58.5 +0.9**
GTA sP **sP** **09 33 03.5 +2.7**
GTA SKS **SKSac** **09 43 16.8 -1.6**
GTA S **S** **09 43 42.0 -0.9**
GTA pmax pmax
comp=Z,6.0nm,1.3s
GTA pmax pmax
comp=Z,150nm,5.7s
GTA LR LR
comp=N,130nm,13.8s
GTA LR LR
comp=E,130nm,13.1s
GTA LR LR
comp=Z,160nm,14.5s
ULN Ulaanbaatar 90.71 323 *e*P **P** **09 32 47.1 -1.3**
comp=Z,11nm,1.1s
SONM Songino Array 91.06 323 P **P** **09 32 49.9 -0.1**
SONM Songino Array 91.06 323 P **P** **09 32 49.9 -0.1**
comp=Z,1.8nm,0.7s,baz=141,slow=5.9,SNR=12
SONM LR LR 10 12 44.2
comp=Z,135nm,21.1s,baz=73,slow=35
COLA College 93.39 16 *e*P **P** **09 32 59.0 -1.2**
COLA pmax pmax
comp=Z,2.0nm,0.6s
COLA College 93.39 16 *e*P **P** **09 32 59.0 -1.2**
comp=Z,2.4nm,0.6s
ILAR Eielson Array 93.57 17 P **P** **09 32 59.5 -1.5**
ILAR Eielson Array 93.57 17 P **P** **09 32 59.5 -1.5**
comp=Z,2.1nm,0.7s,baz=234,slow=4.3,SNR=31
ILAR LR LR 10 11 13.6
comp=Z,273nm,19.2s,baz=127,slow=33
ZAK Zakamensk 94.16 324 *e*P **P** **09 33 01.8 -2.4**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
TLY Talaya 94.65 325 *e*P **pP** **09 33 16.5 +1.1**
TLY *e*S **S** **09 44 18.2 +0.8**
TLY pmax pmax
comp=Z,2.0nm,0.8s
PLCA Paso Flores 94.81 138 LR LR 10 06 44.3
comp=Z,116nm,21.8s,baz=185,slow=30
EGAK Eagle 95.19 19 *e*P P 09 32 59.1 -9.3
comp=Z,4.8nm,0.7s
TXAR Lajitas Array 97.53 61 P Pdif 09 33 20.2 +0.1
TXAR Lajitas Array 97.53 61 P Pdif 09 33 20.2 +0.1
comp=Z,0.3nm,0.9s,baz=189,slow=5.4,SNR=3.1
TXAR LR LR 10 10 05.6
comp=Z,297nm,18.9s,baz=55,slow=31
PDAR Pinedale Array 98.34 47 LR LR 10 09 47.0
comp=Z,437nm,21.0s,baz=252,slow=30
WMQ Urumqi 100.77 313 *e*P **Pdif** **09 33 36.0 +1.8**
WMQ pP pP 09 33 46.5 +3.1
WMQ sP sP 09 33 51.0 +4.4
WMQ SKS **SKSac** **09 44 11.0 -0.4**
WMQ *e*S **Sdif** **09 45 08.0 -2.1**
WMQ pmax pmax
comp=Z,7.0nm,0.6s
WMQ pmax pmax
comp=Z,170nm,4.5s
WMQ LR LR
comp=N,370nm,16.3s
WMQ LR LR
comp=E,270nm,22.2s
WMQ LR LR
comp=Z,340nm,22.3s
YKA Yellowknife Ar 103.54 27 Pdif **Pdif** **09 33 47.1 +1.2**
YKA Yellowknife Ar 103.54 27 Pdiff **Pdif** **09 33 47.1 +1.2**
comp=Z,0.1nm,0.4s,baz=319,slow=2.8,SNR=4.1
MKAR Makanchi Array 105.36 315 P **Pdif** **09 33 55.1 +0.6**
MKAR 09 38 16.8
MKAR Makanchi Array 105.36 315 Pdif **Pdif** **09 33 55.1 +0.6**
MKAR PP **PP** **09 38 16.8 +0.2**
MKAR Makanchi Array 105.36 315 Pdiff **Pdif** **09 33 55.1 +0.6**
comp=Z,0.4nm,0.7s,baz=96,slow=5.9,SNR=5.9
MKAR PP **PP** **09 38 16.8 +0.2**
comp=Z,0.4nm,0.8s,baz=97,slow=6.2,SNR=4.2
KSH Kashi 107.74 306 *e*Pdif **Pdif** **09 34 05.5 +0.1**
KSH PP **PP** **09 38 39.3 +4.9**
KSH S **Sdif** **09 46 05.8 -2.7**
KSH AMB AMB
comp=Z,140nm,5.5s
KSH LR LR
comp=N,160nm,5.4s
KSH LR LR
comp=E,68nm,6.5s
KSH LR LR
comp=Z,170nm,5.9s
BVAR Borovoye Array 114.18 319 PKIKP **PKiKP** **09 38 23.9 -0.7**
BVAR Borovoye Array 114.18 319 PKP **PKiKP** **09 38 23.9 -0.7**
BVAR Borovoye Array 114.18 319 PKP **PKiKP** **09 38 23.9 -0.7**
comp=Z,1.2nm,0.7s,baz=48,slow=2.2,SNR=7.2
BRVK Borovoye 114.25 319⇑ *i*PKIKP **PKiKP** **09 38 24.2 -0.5**
BRVK Borovoye 114.25 319 *e*PKPdf PKPdf 09 38 23.7 -1.1
BOSA Boshof 118.65 215 PKP **PKPdf** **09 38 34.0 -0.2**
BOSA Boshof 118.65 215 PKP **PKPdf** **09 38 34.0 -0.2**
comp=Z,3.3nm,1.1s,baz=309,slow=2.6,SNR=3.5
ABKAR Akbulak array 120.50 315 *e*PKPdf **PKPdf** **09 38 36.6 -0.2**
ARU Arti 121.10 323 *i* PKIKP **PKPdf** **09 38 37.4 -0.4**
ARU 09 40 07.8
ARU 09 45 29.8
ARU SS SS 09 56 31.6 -7.4
AKTO Aktyubinsk 121.75 316 PKIKP **PKPdf** **09 38 39.3 0.0**
AKTO Aktyubinsk 121.75 316 PKP **PKPdf** **09 38 39.2 0.0**
AKTO Aktyubinsk 121.75 316 PKP **PKPdf** **09 38 39.2 0.0**
comp=Z,1.6nm,0.6s,baz=105,slow=2.9,SNR=8.6
BDFB Brasilia 126.06 132 PKP **PKPdf** **09 38 47.5 -1.2**
BDFB Brasilia 126.06 132 PKP **PKPdf** **09 38 47.5 -1.2**
comp=Z,3.0nm,0.8s,baz=46,slow=18,SNR=4.0
APA Apatity 128.30 341⇑ *e*PKIKP **PKPdf** **09 38 53.6 +2.3**
ARCES ARCESS Array B 129.13 345 PKP **PKPdf** **09 38 51.5 -1.4**
ARCES ARCESS Array B 129.13 345 PKP **PKPdf** **09 38 51.5 -1.4**
comp=Z,4.8nm,0.6s,baz=37,slow=3.0,SNR=22
FINES FINESS Array B 134.64 337 PKP **PKPdf** **09 39 02.5 -0.9**
FINES FINESS Array B 134.64 337 PKP **PKPdf** **09 39 02.5 -0.9**
comp=Z,1.9nm,0.6s,baz=77,slow=4.1,SNR=6.4
AKASG Malin Array Be 139.34 322 PKIKP **PKPdf** **09 39 13.6 +1.1**
AKASG Malin Array Be 139.34 322 PKP **PKPdf** **09 39 13.6 +1.1**
AKASG Malin Array Be 139.34 322 PKP **PKPdf** **09 39 13.6 +1.1**
comp=Z,0.6nm,0.4s,baz=60,slow=3.2,SNR=4.3
NB2 NORSAR Subarra 139.51 345 PKPdf **PKPdf** **09 39 13.4 +0.9**
comp=Z,4.6nm,1.2s,baz=31,slow=1.9
NOA NORSAR Array B 139.51 345 PKP **PKPdf** **09 39 13.4 +0.9**
NOA NORSAR Array B 139.51 345 PKP **PKPdf** **09 39 13.4 +0.9**
comp=Z,1.7nm,0.7s,baz=33,slow=2.0,SNR=7.9
BRTR Keskin Array B 140.12 305 PKP **PKPdf** **09 39 15.6 +1.2**
BRTR Keskin Array B 140.12 305 PKP **PKPdf** **09 39 15.6 +1.2**
comp=Z,0.8nm,0.9s,baz=145,slow=3.5,SNR=1.8
BURAR Bucovina Array 143.13 320⇓ *i*P **PKPdf** **09 39 19.4 -0.2**
MLR Muntele Rosu 143.67 317⇑ *i*P PKPbc 09 39 17.8 -0.3
DOPR Dopca 143.81 318⇓ *i*P **PKPdf** **09 39 19.8 -0.9**
BMR Baia Mare 144.11 321⇑ PKIKP PKPbc 09 39 19.8 +0.6
BMR Baia Mare 144.11 321⇑ *i*P PKPbc 09 39 19.8 +0.6
KOLS Kolonicke sedl 144.11 324 *e*PKIKP **PKPdf** **09 39 20.4 -0.7**
KOLS Kolonicke sedl 144.11 324 *e*PKP **PKPdf** **09 39 20.4 -0.7**
VOIR 144.26 317 PKIKP PKPbc 09 39 20.2 +0.3
VOIR 144.26 317⇓ *i*P PKPbc 09 39 20.2 +0.3
UZH Uzhgorod 144.27 323⇓ *i*PKIKP PKPbc 09 39 20.0 +0.4
UZH *i* 09 39 30.3
UZH *i* 09 39 36.3
TRPA Tarpa 144.41 322⇑ *i*P **PKPdf** **09 39 21.0 -0.6**
TRPA Tarpa 144.41 322 ⇑*i*PKPdf **PKPdf** **09 39 20.9 -0.6**
CRVS Cervenica-Dubn 144.57 324 *e*PKIKP **PKPdf** **09 39 21.3 -0.6**
CRVS Cervenica-Dubn 144.57 324 *e*PKP **PKPdf** **09 39 21.3 -0.6**
HUMR Humele 144.71 316⇑ *i*P **PKPab** **09 39 21.0 0.0**
NIE Niedzica 144.87 326 *e*PKPdf **PKPdf** **09 39 22.1 -0.4**
NIE Niedzica 144.87 326 *e*PKIKP **PKPdf** **09 39 22.6 +0.2**
DRGR 145.03 320 PKIKP **PKPdf** **09 39 22.7 -0.1**
DRGR 145.03 320⇓ *i*P **PKPdf** **09 39 23.2 +0.4**
LOT Lotru 145.06 318⇑ *i*P **PKPab** **09 39 22.5 0.0**
GZR Gura Zlata 145.69 318 PKHKP **PKPdf** **09 39 24.8 +0.8**
GZR Gura Zlata 145.69 318⇑ *i*P **PKPdf** **09 39 24.1 +0.1**
BSEG Bad Segeberg 145.83 339 *e*PKP **PKPbc** **09 39 24.3 -0.1**
BSEG Bad Segeberg 145.83 339 *e*PKIKP **PKPbc** **09 39 24.3 -0.1**
KSP Ksiaz 145.88 331 *e*PKP **PKPab** **09 39 25.1 -0.1**
KSP Ksiaz 145.88 331 *e*PKP **PKPab** **09 39 25.1 -0.1**
KSP Ksiaz 145.88 331 *e*PKIKP **PKPbc** **09 39 24.6 -0.1**
PSZ Piszkesteto 145.99 324 *e*PKIKP **PKPbc** **09 39 25.5 +0.2**
PSZ Piszkesteto 145.99 324 *e*PKPbc **PKPbc** **09 39 25.5 +0.2**
PSZ Piszkesteto 145.99 324⇓ *i*PKPdf **PKPdf** **09 39 24.7 +0.2**
MORC Moravsky Berou 146.03 328⇑ PKIKP **PKPbc** **09 39 25.5 +0.2**
MORC Moravsky Berou 146.03 328 *e*PKPdf **PKPdf** **09 39 24.1 -0.3**
MORC Moravsky Berou 146.03 328⇑ *i*P **PKPbc** **09 39 25.5 +0.2**
VYHS Vyhne 146.20 326 *e*PKP2 **PKPab** **09 39 26.3 -0.2**
VYHS Vyhne 146.20 326 *e*PKP **PKPab** **09 39 26.3 -0.2**
DPC Dobruska-Polom 146.21 330 *e*PKP2 **PKPbc** **09 39 26.1 +0.3**
DPC Dobruska-Polom 146.21 330 *e*PKP **PKPbc** **09 39 26.1 +0.3**
UPC Upice 146.25 330 *e*PKP2 **PKPab** **09 39 26.3 -0.3**
UPC Upice 146.25 330 *e*PKP **PKPab** **09 39 26.3 -0.3**
UPC *ep*PKP **pPKPdf** **09 39 36.3 +2.3**
BZS Buzias 146.28 319 PKP2 **PKPbc** **09 39 26.4 +0.3**
BZS Buzias 146.28 319⇓ *i*P **PKPbc** **09 39 26.4 +0.3**
VTS Vitosha 146.71 313⇑ PKP2 **PKPbc** **09 39 28.1 +0.5**
VTS Vitosha 146.71 313⇑ *i*P **PKPbc** **09 39 28.1 +0.5**
BUD Budapest 146.72 324⇑ *i*PKPdf **PKPbc** **09 39 27.8 +0.5**
VRAC Vranov 146.80 328⇓ *i*P **PKPab** **09 39 28.3 -0.5**
BRG Berggiesshubel 146.89 333 *e*PKP **PKPbc** **09 39 28.0 +0.3**
comp=Z,20nm,1.1s
BRG *i* 09 39 50.5
comp=Z,42nm,1.5s
BRG SS SS 10 01 56.0 +6.6
CLL Collm 146.95 334 *e*PKP **PKPbc** **09 39 27.3 -0.5**
CLL Collm 146.95 334⇑ *i*PKP2 **PKPbc** **09 39 27.9 +0.1**
CLL MLR MLR
comp=Z,300nm,19.3s
PRU Pruhonice 147.28 331 *e*PKP2 **PKPbc** **09 39 29.1 +0.3**
PRU Pruhonice 147.28 331 *e*PKP **PKPbc** **09 39 29.1 +0.3**
PRU *ex* x 09 39 32.9
PRU *ep*PKP **pPKPdf** **09 39 37.4 +1.6**
CLZ Clausthal 147.53 337 *e*PKP **PKPbc** **09 39 29.4 -0.1**
CLZ Clausthal 147.53 337 *e*PKP2 **PKPbc** **09 39 29.4 -0.1**
PKSM Moragy 147.69 322⇑ PKP2 **PKPbc** **09 39 30.5 +0.5**
PKSM Moragy 147.69 322⇑ *i*P **PKPbc** **09 39 30.5 +0.5**
PKSM Moragy 147.69 322⇑ *i*PKPdf **PKPbc** **09 39 30.5 +0.5**
SOP Sopron 147.90 326⇑ *i*PKPdf **PKPbc** **09 39 31.1 +0.5**
NKC Novy Kostel 148.00 333 *e*PKP2 **PKPbc** **09 39 31.1 +0.3**
NKC Novy Kostel 148.00 333 *e*PKP **PKPbc** **09 39 31.1 +0.3**
NKC *ep*PKP **pPKPdf** **09 39 37.3 +0.3**
CONA Conrad Observa 148.09 327⇑ *i*PKiKP **PKPbc** **09 39 31.2 0.0**
comp=Z,12nm,0.7s,SNR=7.1
KHC Kasperske Hory 148.33 331 *e*PKP2 **PKPbc** **09 39 32.2 +0.5**
KHC Kasperske Hory 148.33 331 *e*PKPbc **PKPbc** **09 39 31.9 +0.2**
KHC Kasperske Hory 148.33 331 *e*PKP **PKPbc** **09 39 32.2 +0.5**
KHC *ep*PKP **PKPab** **09 39 35.9 +1.0**
KHC *es*PKP 09 39 47.5
GEC2 GERESS Array S 148.49 330 *e*PKP **PKPbc** **09 39 32.0 -0.2**
GEC2 GERESS Array S 148.49 330 *e*PKP2 **PKPbc** **09 39 32.0 -0.2**
GERES GERESS Array B 148.49 330 PKPbc **PKPbc** **09 39 32.5 +0.3**
GERES GERESS Array B 148.49 330 PKPbc **PKPbc** **09 39 32.5 +0.3**
comp=Z,7.8nm,0.7s,baz=38,slow=2.4,SNR=48
BEHE Becsehely 148.56 324⇓ *i*PKPdf **PKPbc** **09 39 32.8 +0.5**
KOGS Kog 148.85 325 *e*PKPbc **PKPbc** **09 39 32.7 -0.4**
GRF Grafenberg Arr 148.92 334 *e*PKP **PKPbc** **09 39 33.1 -0.1**
GRF *eL* L 10 38 29.8

	comp=Z,190nm,21.6s						
GRF	**Grafenberg Arr**	**148.92**	**334**	*e*PKP2	**PKPbc**	**09 39 33.1**	**-0.1**
MOA	**Molln**	**148.93**	**328**⇑	*i*PKP2	**PKPbc**	**09 39 32.4**	**-0.9**
	comp=Z,8.3nm,0.6s						
GROS	**Grobnik**	**149.24**	**325**	*e*PKPbc	**PKPbc**	**09 39 33.8**	**-0.4**
GROS				*e*		09 39 43.4	
SOKA	**Soboth**	**149.34**	**326**⇑	*i*PKPbc	**PKPbc**	**09 39 33.8**	**-0.6**
	comp=Z,12nm,0.8s						
TNS	**Taunus Mts**	**149.56**	**337**	*e*PKP	**PKPbc**	**09 39 34.6**	**-0.2**
TNS	**Taunus Mts**	**149.56**	**337**	*e*PKP2	**PKPbc**	**09 39 34.6**	**-0.2**
KBA	**Koelnbreinsper**	**149.91**	**328**⇑	*i*PKPbc	**PKPbc**	**09 39 35.0**	**-1.0**
	comp=Z,21nm,0.6s						
BOJS	**Bojanci**	**149.99**	**324**	*i* PKPbc	**PKPbc**	**09 39 36.2**	**+0.3**
LJU	**Ljubljana**	**150.03**	**326**	*e*PKPbc	**PKPbc**	**09 39 36.1**	**0.0**
LJU				*e*		09 39 45.3	
MEM	**Membach**	**150.05**	**340**	PKPbc	**PKPbc**	**09 39 36.0**	**+0.1**
MYKA	**Terra Mystica**	**150.08**	**327**⇑	*i*PKPbc	**PKPbc**	**09 39 34.9**	**-1.3**
	comp=Z,16nm,0.6s						
CADS	**Cadrg**	**150.31**	**327**	*i* PKPbc	**PKPbc**	**09 39 35.9**	**-0.8**
CADS				*e*		09 39 45.2	
VOY	**Vojsko**	**150.36**	**326**	*e*PKPbc	**PKPbc**	**09 39 35.9**	**-1.1**
VOY				*e*		09 39 46.0	
BCLA	**Clavier**	**150.43**	**341**	PKPbc	**PKPbc**	**09 39 36.8**	**0.0**
ABTA	**Abfaltersbach**	**150.55**	**328**⇑	*i*PKPbc	**PKPbc**	**09 39 36.4**	**-1.0**
	comp=Z,26nm,0.6s,SNR=7.5						
WATA	**Walderalm**	**150.56**	**330**⇑	*i*PKPbc	**PKPbc**	**09 39 36.3**	**-1.1**
	comp=Z,13nm,0.6s						
MOTA	**Moosalm**	**150.77**	**331**⇑	*i*PKPbc	**PKPbc**	**09 39 37.1**	**-0.9**
	comp=Z,27nm,0.8s,SNR=15						
WLF	**Walferdange**	**150.82**	**339**	*e*PKIKP	**PKPbc**	**09 39 36.1**	**-1.7**
WLF	**Walferdange**	**150.82**	**339**	*e*PKPbc	**PKPbc**	**09 39 36.1**	**-1.7**
LANF	**Langenberg**	**150.82**	**336**	*e*P	**PKPbc**	**09 39 38.1**	**+0.2**
DOU	**Dourbes**	**150.93**	**341**	PKPbc	**PKPbc**	**09 39 37.8**	**-0.2**
BFO	**Black Forest**	**151.16**	**335**	*e*PKIKP	**PKPbc**	**09 39 38.3**	**-0.4**
BFO	**Black Forest**	**151.16**	**335**	*e*PKPbc	**PKPbc**	**09 39 38.3**	**-0.4**
SPAK	**Spaichingen-Ko**	**151.16**	**334**	*e*PKPbc	**PKPbc**	**09 39 38.6**	**-0.2**
FETA	**Feichten**	**151.18**	**331**⇑	*i*PKiKP	**PKPbc**	**09 39 38.4**	**-0.5**
	comp=Z,22nm,0.8s,SNR=20						
DAVA	**Damuels**	**151.35**	**332**⇑	*i*PKiKP	**PKPbc**	**09 39 38.7**	**-0.6**
	comp=Z,12nm,0.7s						
FELD	**Feldberg im Sc**	**151.66**	**335**	*e*P	**PKPbc**	**09 39 39.6**	**-0.4**
ECH	**Echery**	**151.70**	**336**	*e*PKIKP	**PKPbc**	**09 39 39.6**	**-0.3**
ECH	**Echery**	**151.70**	**336**	*e*PKPbc	**PKPbc**	**09 39 39.6**	**-0.3**
ECH	**Echery**	**151.70**	**336**	*e*P	**PKPbc**	**09 39 38.1**	**-1.8**
MOF	**Molkenrain**	**152.01**	**336**	*e*PKIKP	**PKPdf**	**09 39 36.7**	**+2.5**
MOF	**Molkenrain**	**152.01**	**336**	*e*P	**PKPdf**	**09 39 36.7**	**+2.5**
MOF	**Molkenrain**	**152.01**	**336**	*e*P	**PKPdf**	**09 39 36.7**	**+2.5**
TUE	**Stuetta**	**152.21**	**332**	*e*PKPbc	**PKPbc**	**09 39 41.4**	**0.0**
LOMF	**Lomont**	**152.54**	**336**	*e*PKIKP	**PKPdf**	**09 39 37.4**	**+2.4**
LOMF	**Lomont**	**152.54**	**336**	*e*P	**PKPdf**	**09 39 37.4**	**+2.4**
LOMF	**Lomont**	**152.54**	**336**	*e*P	**PKPdf**	**09 39 37.4**	**+2.4**
TORD	**Torodi Ar. Bea**	**165.51**	**229**	PKP	**PKPdf**	**09 39 50.1**	**-0.8**
TORD				PKPab	**PKPab**	**09 40 48.2**	**-1.1**
TORD	**Torodi Ar. Bea**	**165.51**	**229**	PKP	**PKPdf**	**09 39 50.1**	**-0.8**
	comp=Z,1.1nm,1.0s,baz=307,slow=1.7,SNR=4.8						
TORD				PKPab	**PKPab**	**09 40 48.2**	**-1.1**
	comp=Z,1.5nm,1.0s,baz=118,slow=3.6,SNR=4.2						

MEX 25 09:36:12.7±0.7, 16°29N×97°86W, h5km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.28**	**292**	*e*P	Pg	09 36 17.2	-1.0
PNIG				*i* S	Sg	09 36 22.6	+0.6
VHO	**Vista Hermosa**	**1.33**	**54**	*i* P	Pn	09 36 34.0	-4.2
VHO				*i* S	Sg	09 36 50.8	-5.2
UTMO	**Huajuapan**	**1.53**	**2**	*i* P	Pn	09 36 37.8	-3.2
UTMO				*i* S	Sn	09 36 55.9	-5.7
HUIG	**Huatulco**	**1.76**	**107**	*e*P	Pn	09 36 40.7	-3.1
HUIG				*i* S	Sn	09 37 02.5	-4.1
MEIG	**Mezcala**	**2.34**	**314**	*i* P	Pn	09 36 48.3	-3.7
MEIG				*i* S	Sn	09 37 17.3	-4.0
CAIG	**El Cayaco**	**2.43**	**288**	*i* P	Pn	09 36 49.6	-3.5
CAIG				*i* S	Sn	09 37 19.4	-3.9
YAIG	**Yautepec**	**2.81**	**336**	*i* P	Pn	09 36 55.0	-3.5
YAIG				*i* S	Sn	09 37 29.1	-3.9
PPM	**Popocatepetl**	**2.86**	**345**	*i* P	Pn	09 36 56.0	-3.6
PPM				*i* S	Sn	09 37 30.4	-4.5
ARIG	**Puente Sto Nin**	**3.10**	**310**	*i* P	Pn	09 36 58.5	-3.8
ARIG				*i* S	Sn	09 37 36.1	-3.7

MAN 25 09:50:42, 7°34N×124°65E, h9km, mb4.0, ML2.8, MS2.5
IDC 25 09:49:43.2±0.7, 3°87N×126°38E, h0km, mb3.9/12, mb1 4.1/12, mb1mx4.0/23, mbtmp3.9/12, MS3.1/1, Ms1 3.1/1, ms1mx2.8/35, 1D, Error ellipse: s-maj=38.5km s-min=14.3km az=74.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.28**	**346**	LR	LR	09 51 56.2	
	comp=Z,288nm,19.8s,baz=73,slow=41						
CTBH	**Cotabato--PC H**	**3.95**	**328**‖	*e*	Pb	09 50 51.3	-2.4
FITZ	**Fitzroy Crossi**	**21.84**	**182**	P	P	09 54 37.0	-0.4
	2.9nm,0.8s,baz=358,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**24.92**	**162**	P	P	09 55 07.1	-1.1
	1.7nm,0.7s,baz=343,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**28.34**	**165**	P	P	09 55 39.9	+0.9
	0.4nm,0.6s,baz=343,slow=7.7,SNR=8.5						
CMAR	**Chiang Mai Arr**	**30.50**	**300**	P	P	09 55 59.6	+1.4
	1.0nm,0.3s,baz=98,slow=6.5,SNR=4.5						
KSRS	**Korea Array**	**33.46**	**2**	P	P	09 56 24.9	+0.9
	1.7nm,0.6s,baz=181,slow=10.0,SNR=4.5						
STKA	**Stephens Creek**	**38.38**	**159**	P	P	09 57 07.7	+1.4
	1.5nm,0.7s,baz=347,slow=12,SNR=3.4						
USRK	**Ussuriysk Arra**	**40.47**	**6**	P	P	09 57 23.9	+0.4
	0.8nm,0.4s,baz=187,slow=6.4,SNR=5.9						
SONM	**Songino Array**	**47.06**	**342**	P	P	09 58 17.2	+0.5
	0.9nm,0.7s,baz=156,slow=8.4,SNR=11						
SONM				PcP	PcP	09 59 48.5	-0.4
	0.7nm,0.8s,baz=163,slow=3.2,SNR=4.3						
ZALV	**Zalesovo Beam**	**60.30**	**333**	P	P	09 59 52.5	-1.1
	0.8nm,0.5s,baz=111,slow=8.1,SNR=5.0						
ILAR	**Eielson Array**	**85.13**	**25**	P	P	10 02 20.0	-1.0
	0.1nm,0.5s,baz=260,slow=5.3,SNR=4.3						
BRTR	**Keskin Array B**	**89.66**	**310**	P	P	10 02 42.5	-1.1
	0.7nm,0.7s,baz=81,slow=9.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**122.54**	**288**	PKP	PKPdf	10 08 40.8	-1.0
	0.4nm,0.6s,baz=56,slow=2.2,SNR=3.3						

ISCJB 25 10:00:38.3±0.8, 64°73N×0°04×30°4E±0°1, h0km, Error ellipse: s-maj=9.1km s-min=5.2km az=177.4
IDC 25 10:00:39.0±2.5, 64°65N×31°05E, h0km, mb1 3.0/3, mb1mx2.8/27, mbtmp2.9/3, ML2.5/3, Error ellipse: s-maj=36.5km s-min=8.8km az=101.0
HEL 25 10:00:39.9±0.3, 64°71N×30°59E, h0km, ML1.8, Explosion
CSEM 25 10:00:39.9, 64°71N×30°59E, h0km, ML1.8, Mining explosion. After HEL
ISC 25 10:00:39.1±1.0, 64°76N±0°03×30°59E±0°07, h0km, n23, σ1°42/37, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.30**	**347**	PG	**Pg**	**10 01 04.1**	**0.0**
	baz=174						
KU6				SG	**Sb**	**10 01 22.5**	**+0.8**
KU6				MSG		10 01 22.5	
	comp=Z,8.2nm,0.4s						
KU6				RG	Rg	10 01 30.0	
KU6	**Riekki**	**1.30**	**347**	Pg	**Pg**	**10 01 04.0**	**0.0**
KU6				Sg	**Sb**	**10 01 22.5**	**+0.8**
MSF	**Maaselka**	**1.32**	**331**	PG	**Pg**	**10 01 04.2**	**-0.3**
MSF				SG	**Sg**	**10 01 22.5**	**+0.9**
MSF	**Maaselka**	**1.32**	**331**	Pg	**Pg**	**10 01 04.2**	**-0.3**
MSF				Sg	**Sg**	**10 01 22.5**	**+0.9**
JOF	**Joensuu**	**1.88**	**170**	PN	**Pn**	**10 01 11.3**	**-1.1**
	baz=343						
JOF				SG	**Sn**	**10 01 35.6**	**-1.2**
JOF				MSG		10 01 35.6	
	comp=Z,7.3nm,0.4s						
JOF	**Joensuu**	**1.88**	**170**	Pn	**Pn**	**10 01 11.3**	**-1.1**
JOF				Sg	**Sn**	**10 01 35.6**	**-1.2**
OUL	**Oulu**	**2.03**	**281**	PN	**Pn**	**10 01 15.7**	**+1.2**
OUL				SG	**Sb**	**10 01 42.5**	**-0.1**
OUL	**Oulu**	**2.03**	**281**	Pn	**Pn**	**10 01 15.7**	**+1.2**
OUL				Sg	**Sb**	**10 01 42.4**	**-0.1**
RNF	**Rovaniemi**	**2.65**	**316**	PN	**Pb**	**10 01 26.1**	**-1.3**
RNF				SG	**Sb**	**10 02 00.9**	**+0.5**
RNF				MSG		10 02 00.9	
	comp=Z,2.7nm,0.4s						
RNF	**Rovaniemi**	**2.65**	**316**	Pn	**Pb**	**10 01 26.1**	**-1.3**
RNF				Sg	**Sb**	**10 02 00.9**	**+0.5**
SUF	**Sumiainen**	**2.85**	**226**	PN	**Pn**	**10 01 27.3**	**+1.6**
SUF	**Sumiainen**	**2.85**	**226**	Pn	**Pn**	**10 01 27.3**	**+1.6**
VRF	**Varrio**	**3.02**	**353**	PN	**Pn**	**10 01 29.5**	**+1.3**
	baz=170						
VRF				SG	**Sb**	**10 02 13.5**	**+2.3**
VRF				MSG		10 02 13.5	
	comp=Z,2.8nm,0.4s						
VRF	**Varrio**	**3.02**	**353**	Pn	**Pn**	**10 01 29.5**	**+1.3**
VRF				Sg	**Sb**	**10 02 13.5**	**+2.3**
SGF	**Sodankyl**	**3.16**	**330**	SG	**Sb**	**10 02 14.8**	**-0.2**
SGF				MSG		10 02 14.8	
	comp=Z,2.0nm,0.4s						
SGF	**Sodankyl**	**3.16**	**330**	Sg	**Sb**	**10 02 14.8**	**-0.2**
KEF	**Keuruu**	**3.66**	**227**	PN	**Pn**	**10 01 38.1**	**+1.2**
KEF	**Keuruu**	**3.66**	**227**	Pn	**Pn**	**10 01 38.1**	**+1.2**
FIA0	**FINESS Array S**	**3.91**	**214**	SG	**Sb**	**10 02 39.8**	**+3.1**
FIA0				MSG		10 02 39.8	
	comp=Z,2.9nm,0.5s						
FIA0	**FINESS Array S**	**3.91**	**214**	Sg	**Sb**	**10 02 39.8**	**+3.1**
FINES	**FINESS Array B**	**3.91**	**214**	Pn	**Pn**	**10 01 39.6**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=37,slow=14,SNR=5.2						
FINES				Pg	**Pb**	**10 01 48.0**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=35,slow=15,SNR=9.4						
FINES				Lg	Lg	10 02 39.6	
	comp=Z,1.4nm,0.3s,baz=37,slow=26,SNR=11						
ARCES	**ARCESS Array B**	**5.19**	**340**	Pn	**Pn**	**10 01 57.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=152,slow=13,SNR=27						
ARCES				Sn	**Sn**	**10 02 55.2**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=156,slow=26,SNR=2.9						
ARCES				Lg	Lg	10 03 19.3	
	comp=Z,0.7nm,0.3s,baz=154,slow=28,SNR=7.5						
NOA	**NORSAR Array B**	**9.58**	**256**	Pn	**Pn**	**10 02 57.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=57,slow=12,SNR=2.5						

CSEM 25 10:06:47.1±0.6, 41°35N×44°51E, h2km, mb3.9, Error ellipse: s-maj=12.8km s-min=9.4km az=80.0
MOS 25 10:06:49.3±0.5, 41°50N×44°74E, h13km, mb3.9/1, Error ellipse: s-maj=71.6km s-min=9.5km az=101.5
ISC 25 10:06:46.6±2.4, 41°36N±0°10×44°65E±0°06, h6km±13km, n21, σ1°05/40, 1C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBLG	**Delisi**	**0.37**	**10**	PG	Pb	**10 06 55.2**	**-0.5**
TBLG				*i* S	**Sb**	**10 07 01.3**	**-0.4**
TBLG	**Delisi**	**0.37**	**10**	P	**Pb**	**10 06 55.2**	**-0.5**
TBLG				S	**Sb**	**10 07 01.3**	**-0.4**
TBLG	**Delisi**	**0.37**	**10**	P	**Pb**	**10 06 55.2**	**-0.5**
TBLG				S	**Sb**	**10 07 01.3**	**-0.4**
DGRG	**David-gareji**	**0.55**	**81**	P	**Pn**	**10 07 01.1**	**+0.1**
DGRG				S	**Sn**	**10 07 11.7**	**+1.2**
GOR	**Gori**	**0.74**	**327**	P	**Pg**	**10 07 00.5**	**-0.4**
GOR				S	**Sg**	**10 07 11.0**	**+0.4**
AKH	**Akhalkalaki**	**0.87**	**273**	P	Pb	10 07 00.8	-3.5
AKH				S	Sg	10 07 11.1	-3.7
LACR	**Lac**	**1.48**	**350**‖	*i* PG	**Pb**	**10 07 14.7**	**0.0**
LACR				*e*S	**Sg**	**10 07 36.8**	**+2.4**
LACR	**Lac**	**1.48**	**350**	*i* Pg	**Pb**	**10 07 14.7**	**0.0**
LACR				*e*Sg	**Sg**	**10 07 36.8**	**+2.4**
ZEI	**Tsey**	**1.51**	**339**⇑	*i* PG	**Pn**	**10 07 15.1**	**+0.7**
ZEI				*e*S	**Sg**	**10 07 37.5**	**+2.2**
ZEI	**Tsey**	**1.51**	**339**	*i* Pg	**Pn**	**10 07 15.1**	**+0.7**
ZEI				*e*Sg	**Sg**	**10 07 37.5**	**+2.2**
ONI	**Oni**	**1.52**	**324**	P	**Pn**	**10 07 13.8**	**-0.5**
ONI				S	**Sn**	**10 07 33.9**	**-0.5**
DIGR	**Digorskoe uzhe**	**1.73**	**333**	*e*PN	**Pn**	**10 07 18.1**	**+0.7**
DIGR				*e*S	**Sg**	**10 07 42.5**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.73**	**333**	*e*Pn	**Pn**	**10 07 18.1**	**+0.7**
DIGR				*e*Sg	**Sg**	**10 07 42.5**	**+0.3**
KORR	**Kora**	**1.78**	**346**	*e*PN	**Pb**	**10 07 19.0**	**-0.6**
KORR				*e*S	**Sg**	**10 07 44.4**	**+0.7**
KORR	**Kora**	**1.78**	**346**	*e*Pn	**Pb**	**10 07 19.0**	**-0.6**
KORR				*e*Sg	**Sg**	**10 07 44.4**	**+0.7**
LSNR	**Lesken**	**2.01**	**342**	*e*PN	**Pn**	**10 07 22.2**	**+1.1**
LSNR				*e*S	**Sg**	**10 07 50.1**	**-1.0**
LSNR	**Lesken**	**2.01**	**342**	*e*Pn	**Pn**	**10 07 22.2**	**+1.1**
LSNR				*e*Sg	**Sg**	**10 07 50.1**	**-1.0**
BTKR	**Batakoyurt**	**2.01**	**358**	*e*PN	**Pb**	**10 07 22.3**	**-1.3**
BTKR				*e*S	**Sg**	**10 07 50.7**	**-0.5**
BTKR	**Batakoyurt**	**2.01**	**358**	*e*Pn	**Pb**	**10 07 22.3**	**-1.3**
BTKR				*e*Sg	**Sg**	**10 07 50.7**	**-0.5**
KMSR	**Komsomolskaya**	**2.02**	**353**	*e*PN	**Pb**	**10 07 22.8**	**-1.0**
KMSR				*e*S	**Sg**	**10 07 51.0**	**-0.7**
KMSR	**Komsomolskaya**	**2.02**	**353**	*e*Pn	**Pb**	**10 07 22.8**	**-1.0**
KMSR				*e*Sg	**Sg**	**10 07 51.0**	**-0.7**

ISCJB 25 10:19:31.2±1.2, 38°62N±0°04×26°03E±0°07, h4km, 8km, Error ellipse: s-maj=9.3km s-min=6.7km az=172.2
ATH 25 10:19:31.7, 38°65N×26°35E, h59km, MD2.6/3
CSEM 25 10:19:31.9±0.4, 38°62N×26°05E, h10km, MD2.9, Error ellipse: s-maj=9.6km s-min=7.0km az=83.0
DDA 25 10:19:32.6, 38°67N×26°17E, h7km, MD2.9
ISC 25 10:19:32.0±1.5, 38°66N±0°05×26°09E±0°07, h16km±13km, n14, σ0°41/24, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.50**	**126**	*i* P	**Pg**	**10 19 41.6**	**-0.3**
URLA				*i* S	**Sg**	**10 19 48.5**	**0.0**
URLA	**Izmir**	**0.50**	**126**	*i* P	**Pg**	**10 19 41.6**	**-0.3**
URLA				*i* S	**Sg**	**10 19 48.5**	**0.0**
PRK	**Paraskevi**	**0.61**	**14**	*e*P	**Pb**	**10 19 45.2**	**+0.9**
PRK				*e*S	**Sn**	**10 19 55.2**	**-0.3**
PRK	**Paraskevi**	**0.61**	**14**	*e*P	**Pb**	**10 19 45.2**	**+0.9**
PRK				*e*S	**Sn**	**10 19 55.3**	**-0.3**
AYVA	**Ayvalik**	**0.81**	**36**	*i* P	**Pb**	**10 19 47.3**	**-0.3**
AYVA				*i* S	**Sb**	**10 19 58.2**	**-0.1**
AYVA	**Ayvalik**	**0.81**	**36**	*i* P	**Pb**	**10 19 47.3**	**-0.3**
AYVA				*i* S	**Sb**	**10 19 58.2**	**-0.1**
AKHS	**Akhisar**	**1.37**	**80**	*i* P	**Pg**	**10 19 58.2**	**-0.1**
AKHS				*i* S	**Sg**	**10 20 16.8**	**+0.6**
AKHS	**Akhisar**	**1.37**	**80**	*i* P	**Pg**	**10 19 58.2**	**-0.1**
AKHS				*i* S	**Sg**	**10 20 16.8**	**+0.6**
LIA	**Limnos Island**	**1.43**	**331**	*e*P	**Pb**	**10 19 58.0**	**-0.2**
LIA	**Limnos Island**	**1.43**	**331**	*e*P	**Pb**	**10 19 58.0**	**-0.2**
BALY	**Balya**	**1.61**	**47**	*i* P	**Pn**	**10 19 59.8**	**-0.1**
BALY				*i* S	**Sg**	**10 20 24.0**	**+0.1**
BALY	**Balya**	**1.61**	**47**	*i* P	**Pn**	**10 19 59.8**	**-0.1**
BALY				*i* S	**Sg**	**10 20 24.0**	**+0.1**
APE	**Apeiranthos**	**1.64**	**196**	*e*P	**Pn**	**10 20 00.6**	**+0.3**
APE	**Apeiranthos**	**1.64**	**196**	*e*P	**Pn**	**10 20 00.6**	**+0.3**

SZGRF 25 10:22:07.6, 52°48N×159°80E, h33km, mb5.0, Off east coast of Kamchatka Peninsula, Russia
MOS 25 10:22:23.2±1.0, 53°97N×159°14E, h123km, mb4.8/96, Error ellipse: s-maj=7.3km s-min=4.4km az=94.9
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
BJI 25 10:22:23.4, 54°16N×159°22E, h132km, mB4.8/25, mb4.9/35
ISCJB 25 10:22:24.8±0.1, 53°82N±0°02×159°24E±0°02, h142km±1km, mb4.7/212, Error ellipse: s-maj=3.1km s-min=2.0km az=146.6
IDC 25 10:22:25.9±0.4, 53°99N×159°19E, h136km±3km, mb4.4/34, mb1 4.5/35, mb1mx4.5/37, mbtmp4.4/35, MS3.7/2, Ms1 3.7/2, ms1mx2.9/32, Error ellipse: s-maj=11.4km s-min=6.1km az=148.0
KRSC 25 10:22:25.9±0.8, 53°75N×159°69E, h123km±43km, ML4.6
NEIC 25 10:22:25.5±0.1, 53°93N×159°15E, mb4.8/116, Error ellipse: s-maj=4.3km s-min=2.2km az=166.0
DJA 25 10:22:56.4±8.9, 54°N±13°×15°7E±5°0, h380km±74km, M4.7/8, mB4.9/1, mb4.7/8, Mw(mB)4.2/1
ISC 25 10:22:25.0±0.3, 53°75N±0°03×159°47E±0°03, h137km±1km, h136km:pP-P, n905, σ1°42/1053, mb4.8/213, 192C-195D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.29**	**358**	*i* P	**Pn**	**10 22 44.5**	**+0.5**
KII				*i* S	**Sn**	**10 22 58.6**	**+0.1**
NLC	**Nalytchevo**	**0.58**	**187**	PN	**Pn**	**10 22 45.6**	**+0.3**
NLC	**Nalytchevo**	**0.58**	**187**	*i* P	**Pn**	**10 22 45.6**	**+0.3**
SDLR	**Sedlovina**	**0.59**	**217**	*i* P	**Pn**	**10 22 46.2**	**+0.7**
KRER	**Koryakskii**	**0.62**	**224**	*i* P	**Pn**	**10 22 46.9**	**+1.1**
KRER				*i* S	**Sn**	**10 23 02.3**	**+0.8**
SMAR	**Somma**	**0.63**	**219**	*i* P	**Pn**	**10 22 46.6**	**+0.7**
SMAR				*i* S	**Sn**	**10 23 01.9**	**+0.2**
AVH	**Avacha**	**0.65**	**222**	*i* P	**Pn**	**10 22 47.0**	**+1.1**
AVH				*i* S	**Sn**	**10 23 02.0**	**+0.3**
UGLR	**Uglovaya**	**0.67**	**216**	*i* P	**Pn**	**10 22 47.0**	**+1.0**
UGLR				*i* S	**Sn**	**10 23 01.7**	**-0.2**
KOK	**Koryaka**	**0.68**	**228**	*i* P	**Pn**	**10 22 47.2**	**+1.1**
KOK				*i* S	**Sn**	**10 23 02.7**	**+0.7**
SPN	**Mys Shipunski**	**0.73**	**153**	PN	**Pn**	**10 22 46.0**	**-0.3**
SPN	**Mys Shipunski**	**0.73**	**153**	*i* P	**Pn**	**10 22 46.0**	**-0.3**
INSR	**Institute**	**0.86**	**217**	*e*P	**Pn**	**10 22 47.9**	**+0.6**
INSR				*i* S	**Sn**	**10 23 04.4**	**+0.2**
PET	**Petropavlovsk**	**0.88**	**214**‖	*i* PN	**Pn**	**10 22 48.2**	**+0.7**
PET				*e*S	**Sn**	**10 23 04.8**	**+0.4**
PET				pmax	pmax		
	comp=Z,3μm,0.6s						
PET				smax	smax		
	comp=N,10μm,0.3s						
PET				smax	smax		
	comp=E,14μm,0.4s						
PET				smax	smax		
	comp=E,15μm,0.4s						
PET				smax	smax		
	comp=N,10μm,0.6s						
PET	**Petropavlovsk**	**0.88**	**214**	*e*Pn	**Pn**	**10 22 48.1**	**+0.7**
PET				*e*Sn	**Sn**	**10 23 05.4**	**+1.0**
PET	**Petropavlovsk**	**0.88**	**214**	*i* P	**Pn**	**10 22 48.1**	**+0.7**
PET				*i* S	**Sn**	**10 23 04.5**	**+0.1**
PETK	**Petropavlovsk-**	**1.24**	**239**	PN	**Pn**	**10 22 52.0**	**+1.2**
PETK				S	Sn	11 23 11.8	
PETK				smax	smax		
	comp=N,381nm,0.3s						
PETK	**Petropavlovsk-**	**1.24**	**239**	P	**Pn**	**10 22 52.0**	**+1.2**
PETK				S	**Sn**	**10 23 11.8**	**+1.3**
PETK	**Petropavlovsk-**	**1.24**	**239**	P	**Pn**	**10 22 52.0**	**+1.2**
	comp=N,1μm,0.3s,baz=72,slow=15						
PETK				S	**Sn**	**10 23 11.8**	**+1.3**
	comp=N,381nm,0.3s,baz=53,slow=22,SNR=16						
RUS	**Russkaya**	**1.44**	**204**	PN	**Pn**	**10 22 53.0**	**+0.1**
RUS				S	**Sn**	**10 23 12.9**	**-1.2**
RUS	**Russkaya**	**1.44**	**204**	*i* P	**Pn**	**10 22 53.0**	**+0.1**
RUS				*i* S	**Sn**	**10 23 12.9**	**-1.2**
MTVR	**Mutnovka**	**1.49**	**212**	*i* P	**Pn**	**10 22 54.6**	**+1.0**
MTVR				*i* S	**Sn**	**10 23 15.7**	**+0.4**
MKZ	**Mys Kozlova**	**1.56**	**58**	PN	**Pn**	**10 22 54.1**	**0.0**
MKZ				S	**Sn**	**10 23 14.4**	**-2.0**
MKZ	**Mys Kozlova**	**1.56**	**58**	*i* P	**Pn**	**10 22 54.1**	**0.0**
MKZ				*i* S	**Sn**	**10 23 14.4**	**-2.0**
TUMR	**Tumrok**	**1.59**	**14**	*i* P	**Pn**	**10 22 56.1**	**+1.5**
TUMR				*e*S	**Sn**	**10 23 18.1**	**+0.8**
APC	**Apacha**	**1.61**	**240**	*i* P	**Pn**	**10 22 56.5**	**+1.7**
APC				*i* S	**Sn**	**10 23 19.1**	**+1.6**
ASAK	**Asacha**	**1.67**	**215**	*i* P	**Pn**	**10 22 56.8**	**+1.3**
ASAK				*i* S	**Sn**	**10 23 19.7**	**+0.9**
KMNR	**Kamenistaya**	**2.06**	**12**	*i* P	**Pn**	**10 23 01.7**	**+1.6**
KMNR				*e*S	**Sn**	**10 23 27.8**	**+0.7**
MIPR	**Malaya Ipel'ka**	**2.21**	**229**	*i* P	**Pn**	**10 23 03.4**	**+1.6**
MIPR				*i* S	**Sn**	**10 23 30.8**	**+0.7**
ESO	**Esso**	**2.22**	**349**	PN	**Pn**	**10 23 03.0**	**+1.0**
ESO	**Esso**	**2.22**	**349**	*i* P	**Pn**	**10 23 03.0**	**+1.0**
ESO				*i* S	**Sn**	**10 23 30.0**	**-0.5**
KPT	**Kopyto**	**2.26**	**11**	*i* P	**Pn**	**10 23 03.7**	**+1.1**
KIRR	**Kirishev**	**2.26**	**13**	*i* P	**Pn**	**10 23 03.6**	**+0.9**
BZMR	**Bezymyannaya**	**2.27**	**15**	*i* P	**Pn**	**10 23 04.3**	**+1.6**
BZMR				*e*S	**Sn**	**10 23 32.3**	**+0.6**
BZWR	**Bezymyannyi-We**	**2.30**	**15**	*i* P	**Pn**	**10 23 04.7**	**+1.6**
BZWR				*e*S	**Sn**	**10 23 33.1**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**2.31**	**17**	*i* P	**Pn**	**10 23

comp=E,3.0nm,0.6s,baz=51,slow=13,SNR=12
MDJ Mudanjiang 21.42 257 P **P** **10 27 01.3 -0.6**
MDJ pmax pmax
comp=Z,47nm,4.4s
MAJO Matsushiro 22.68 229 *eP* **P** **10 27 15.2 +0.4**
MAJO pmax pmax
comp=Z,44nm,0.5s
MAJO Matsushiro 22.68 229 *eP* **P** **10 27 15.2 +0.4**
comp=Z,44nm,0.5s
MAT Matsushiro 22.68 229 P **P** **10 27 15.1 +0.3**
MAT S **S** **10 31 10.0 -2.5**
MJAR Matsushiro Arr 22.68 229 P **P** **10 27 15.1 +0.3**
MJAR Matsushiro Arr 22.68 229 P **P** **10 27 15.1 +0.3**
comp=Z,14nm,0.5s,baz=18,slow=9.1,SNR=42
CN2 Changchun 24.31 260 *eP* **P** **10 27 28.8 -0.8**
CN2 *epP* **pP** **10 27 59.8 +2.1**
CN2 *esP* **sP** **10 28 14.8 +0.6**
CN2 *ePcP* **PcP** **10 31 08.5 +3.0**
CN2 *eS* **S** **10 31 32.8 -5.8**
CN2 ScS **ScS** **10 38 18.3 -0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
BOD Bodaibo 25.50 298 ⇓*iP* **P** **10 27 38.9 -1.4**
BOD pmax pmax
comp=Z,45nm,1.1s
SPU Mount Spurr 26.55 54 *eP* **P** **10 27 51.1 +1.4**
KDAK Kodiak Island 26.82 62 P **P** **10 27 52.6 +0.5**
KDAK Kodiak Island 26.82 62 P **P** **10 27 52.6 +0.5**
comp=Z,6.3nm,0.3s,baz=120,slow=23,SNR=18
KSRS Korea Array 27.13 246 P **P** **10 27 56.0 +0.9**
comp=Z,3.1nm,0.6s,baz=42,slow=8.7,SNR=7.3
KSRS LR LR 10 38 43.3
comp=Z,23nm,19.1s,baz=245,slow=36
KSAR Wonju Array Be 27.16 246 P **P** **10 27 56.0 +0.6**
TRF Thorofare Moun 27.20 49 *eP* **P** **10 27 56.5 +0.9**
comp=Z,6.8nm,0.9s
MCK McKinley 27.79 48 *eP* **P** **10 28 02.0 +1.3**
MCK pmax pmax
comp=Z,118nm,2.5s
MCK McKinley 27.79 48 *eP* **P** **10 28 02.0 +1.3**
comp=Z,118nm,2.5s
MCK *eScP* **ScP** **10 34 42.0 +1.1**
PMR Palmer 27.90 53 *eP* **P** **10 28 02.7 +1.0**
PMR pmax pmax
comp=Z,13nm,1.4s
PMR Palmer 27.90 53 *eP* **P** **10 28 02.7 +1.0**
comp=Z,13nm,1.4s
COLA College 28.21 46 *eP* **P** **10 28 05.3 +1.0**
COLA pmax pmax
comp=Z,2.0nm,0.4s
COLA College 28.21 46 *eP* **P** **10 28 05.3 +1.0**
comp=Z,1.8nm,0.4s
SML Sawmill 28.25 52 *eP* **P** **10 28 05.8 +0.9**
SML pmax pmax
comp=Z,4.0nm,0.8s
SML Sawmill 28.25 52 *eP* **P** **10 28 05.8 +0.9**
comp=Z,3.7nm,0.8s
ILAR Eielson Array 28.62 46 P **P** **10 28 08.4 +0.3**
ILAR ScP **ScP** **10 34 42.5 -1.0**
ILAR Eielson Array 28.62 46 P **P** **10 28 08.4 +0.3**
comp=Z,1.9nm,0.6s,baz=262,slow=5.5,SNR=46
ILAR ScP **ScP** **10 34 42.5 -1.0**
comp=Z,1.5nm,1.0s,baz=290,slow=4.6,SNR=8.9
JNU Nakatsue 28.94 236 P **P** **10 28 12.1 +0.9**
JNU Nakatsue 28.94 236 P **P** **10 28 12.1 +0.9**
comp=Z,9.2nm,0.6s,baz=142,slow=3.4,SNR=7.7
PAX Paxson 29.42 50 *eP* **P** **10 28 15.8 +0.6**
PAX *e* 10 34 47.6
PAX pmax pmax
comp=Z,43nm,2.5s
PAX Paxson 29.42 50 *eP* **P** **10 28 15.8 +0.6**
comp=Z,43nm,2.5s
PAX *eScP* **ScP** **10 34 47.5 +1.4**
DOT Dot Lake 29.96 48 *eP* **P** **10 28 20.0 +0.1**
comp=Z,14nm,1.6s
BMRM Bremner River 30.16 54 *eP* **P** **10 28 22.7 +1.0**
comp=Z,17nm,0.9s
BMRM *eScP* **ScP** **10 34 49.4 +0.9**
EGAK Eagle 31.07 46 *eP* **P** **10 28 29.9 +0.3**
comp=Z,5.8nm,0.7s
BJI Beijing 32.07 263 P **P** **10 28 38.0 -0.6**
BJI pP **pP** **10 29 05.8 -2.2**
BJI S **S** **10 33 38.0 -2.4**
BJI sS **sS** **10 34 30.0 -1.9**
BJI pmax pmax
comp=Z,8.0nm,0.4s
PNL Peninsula 32.99 55 *eP* **P** **10 28 47.5 +1.0**
comp=Z,24nm,0.9s
ULN Ulaanbaatar 32.99 282 *eP* **P** **10 28 46.4 -0.4**
comp=Z,7.8nm,0.9s
ULN *eScP* **ScP** **10 35 00.5 +2.0**
ULN Ulaanbaatar 32.99 282 P **P** **10 28 46.8 -0.1**
comp=Z,10nm,0.9s
TLY Talaya 33.14 290 *eP* **P** **10 28 47.5 -0.5**
TLY pmax pmax
comp=Z,8.0nm,0.8s
SONM Songino Array 33.39 282 P **P** **10 28 49.4 -0.8**
SONM PcP **PcP** **10 31 29.0 +0.6**
SONM ScP **ScP** **10 35 01.4 +1.5**
SONM Songino Array 33.39 282 P **P** **10 28 49.4 -0.8**
comp=Z,9.6nm,0.6s,baz=60,slow=8.2,SNR=99
SONM PcP **PcP** **10 31 29.0 +0.6**
comp=Z,6.0nm,0.5s,baz=69,slow=1.6,SNR=23
SONM ScP **ScP** **10 35 01.4 +1.5**
comp=Z,2.6nm,0.9s,baz=65,slow=1.9,SNR=12
INK Inuvik 33.58 38 P **P** **10 28 52.8 +1.3**
INK Inuvik 33.58 38 P **P** **10 28 52.8 +1.3**
comp=Z,3.9nm,0.5s,baz=299,slow=8.1,SNR=35
ZAK Zakamensk 33.94 288 *eP* **P** **10 28 54.1 -0.8**
ZAK *e* 10 30 11.6
ZAK pmax pmax
comp=Z,4.0nm,1.2s
HHC Hu-ho-hao-te 34.29 268 *eP* **P** **10 28 59.5 +1.4**
HHC pP **pP** **10 29 28.0 +0.4**
HHC sP **sP** **10 29 42.3 -1.0**
HHC PP **PP** **10 30 18.0 -0.3**
HHC S **S** **10 34 14.5 -0.5**
HHC sS **ScP** **10 35 03.5 +0.4**
HHC SS **SnSn** **10 36 31.5 -8.4**
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,98nm,8.3s
HHC LR LR
comp=N,180nm,16.6s
HHC LR LR
comp=E,270nm,15.5s
HHC LR LR
comp=Z,190nm,17.8s
MOY Mondy 34.63 291 *eP* **P** **10 29 01.1 +0.2**
MOY pmax pmax
comp=Z,27nm,4.0s
SKAG Skagway 35.02 54 *eP* **P** **10 29 05.3 +1.3**
comp=Z,17nm,0.8s
JOW Kunigami 35.40 233 P **P** **10 29 09.2 +1.7**
JOW Kunigami 35.40 233 P **P** **10 29 09.2 +1.7**
comp=Z,23nm,0.5s,baz=26,slow=9.2,SNR=18
JOW LR LR 10 42 35.0
comp=Z,928nm,20.6s,baz=288,slow=34
WHN Wuhan 39.79 253 *eP* **P** **10 29 45.0 +0.6**
LZH Lanzhou 41.98 268 *eP* **P** **10 30 02.8 +0.3**
LZH pP **pP** **10 30 28.0 -5.0**
LZH sP **sP** **10 30 43.8 -4.6**
LZH *eS* S 10 36 17.3 +6.4
LZH sS **sS** **10 37 05.0 +1.2**
LZH pmax pmax
comp=Z,23nm,1.2s
LZH pmax pmax
comp=Z,120nm,6.8s
LZH LR LR
comp=N,180nm,13.3s
LZH LR LR
comp=E,140nm,10.8s
LZH LR LR
comp=Z,280nm,14.6s
ZALV Zalesovo Beam 42.11 302 P **P** **10 30 01.5 -1.7**
ZALV 10 31 55.0
ZALV pmax pmax
comp=Z,7.0nm,0.3s
ZALV pmax pmax
comp=Z,4.0nm,0.5s
ZALV Zalesovo Beam 42.11 302 P **P** **10 30 01.4 -1.7**
ZALV PcP **PcP** **10 31 55.0 0.0**
ZALV Zalesovo Beam 42.11 302 P **P** **10 30 01.4 -1.7**
comp=Z,6.9nm,0.3s,baz=56,slow=7.4,SNR=62
ZALV PcP **PcP** **10 31 55.0 0.0**
comp=Z,3.6nm,0.5s,baz=95,slow=3.4,SNR=9.0
GTA Gaotai 42.17 275 P **P** **10 30 04.0 0.0**
GTA pP **pP** **10 30 35.5 +1.0**
GTA sP **sP** **10 30 51.8 +1.9**
GTA PcP **PcP** **10 31 56.8 +1.1**
GTA S **S** **10 36 13.3 -0.3**
GTA pmax pmax
comp=Z,29nm,1.0s
GTA pmax pmax
comp=Z,180nm,6.2s
NVS Novosibirsk 42.44 304 ⇑*iP* **P** **10 30 03.6 -2.2**
NVS *e*PPP PPP 10 31 42.3
NVS *e* 10 36 05.2
NVS pmax pmax
comp=N,25nm,1.2s
NVS pmax pmax
comp=E,59nm,1.2s
NVS pmax pmax
comp=Z,102nm,1.2s
RES Resolute Bay 42.85 22 *eP* **P** **10 30 10.3 +1.4**
comp=Z,12nm,0.7s
YKA Yellowknife Ar 42.93 43 P **P** **10 30 10.1 +0.4**
YKA ScP **ScP** **10 35 36.1 +0.5**
YKA Yellowknife Ar 42.93 43 P **P** **10 30 10.1 +0.4**
comp=Z,1.6nm,0.5s,baz=300,slow=8.2,SNR=28
YKA ScP **ScP** **10 35 36.1 +0.5**
comp=Z,1.0nm,0.8s,baz=302,slow=4.0,SNR=12
WMQ Urumqi 46.40 288 ⇓*iP* **P** **10 30 37.5 0.0**
WMQ pP **pP** **10 31 08.0 -0.5**
WMQ sP **sP** **10 31 23.0 -0.8**
WMQ pmax pmax
comp=Z,41nm,1.0s
WMQ pmax pmax
comp=Z,200nm,6.2s
KURK Kurchatov 47.07 301 *diP* **P** **10 30 40.8 -1.7**
KURK pmax pmax
comp=Z,39nm,0.6s
KURK Kurchatov 47.07 301 P **P** **10 30 41.7 -0.8**
comp=Z,7.9nm,0.6s
KURK PcP **PcP** **10 32 12.4 +0.2**
KURK PP **PP** **10 32 35.0 +0.8**
KURK ScP **ScP** **10 35 52.8 -0.1**
KURBB Kurchatov Arra 47.17 301 P **P** **10 30 41.7 -1.6**
comp=Z,34nm,0.7s,baz=57,slow=7.6,SNR=224
KURBB PcP **PcP** **10 32 12.4 -0.1**
comp=Z,6.1nm,0.6s,baz=51,slow=3.5,SNR=14
KURBB PP **PP** **10 32 35.0 -0.1**
comp=Z,3.2nm,0.9s,baz=52,slow=10,SNR=4.7
KURBB ScP **ScP** **10 35 52.8 -0.5**
comp=Z,1.0nm,0.6s,baz=52,slow=3.7,SNR=4.6
GYA Guiyang 47.28 256 *eP* **P** **10 30 45.8 +1.2**
GYA pP **pP** **10 31 16.8 +1.1**
GYA sP **sP** **10 31 32.0 +1.1**
GYA ScP **ScP** **10 35 55.8 +1.5**
GYA PcS **PcS** **10 36 10.5 +1.3**
GYA S **S** **10 37 26.0 -1.6**
GYA pmax pmax
comp=Z,10.0nm,1.0s
MK31 Makanchi Array 47.53 295 *iP* **P** **10 30 44.7 -1.5**
MK31 pmax pmax
comp=Z,4.0nm,0.2s
MKAR Makanchi Array 47.53 295 P **P** **10 30 44.6 -1.7**
MKAR pmax pmax
comp=Z,18nm,0.7s
MKAR Makanchi Array 47.53 295 *eP* **P** **10 30 44.5 -1.7**
MKAR Makanchi Array 47.53 295 P **P** **10 30 44.5 -1.7**
comp=Z,18nm,0.7s,baz=56,slow=7.3,SNR=255
VOSK Vostochnaya 49.60 307 P **P** **10 30 59.4 -2.5**
VOSK pmax pmax
comp=Z,19nm,0.8s
BVA0 Borovoye Array 49.69 308 *iP* **P** **10 31 00.7 -1.8**
BVA0 pmax pmax
comp=Z,4.0nm,0.7s
BVAR Borovoye Array 49.69 308 P **P** **10 31 01.0 -1.6**
BVAR 10 32 21.2
BVAR 10 32 56.6
BVAR pmax pmax
comp=Z,17nm,0.6s
BVAR pmax pmax
comp=Z,6.0nm,0.4s
BVAR pmax pmax
comp=Z,5.0nm,0.7s
BVAR pmax pmax
comp=N,1.0nm,0.9s
BVAR Borovoye Array 49.69 308 P **P** **10 31 01.0 -1.6**
BVAR PcP **PcP** **10 32 21.2 -0.4**
BVAR PP **PP** **10 32 56.6 -1.3**
BVAR ScP **ScP** **10 36 03.3 -0.8**
BVAR Borovoye Array 49.69 308 P **P** **10 31 01.0 -1.6**
comp=N,17nm,0.6s,baz=58,slow=8.1,SNR=108
BVAR PcP **PcP** **10 32 21.2 -0.4**
comp=N,5.6nm,0.4s,baz=75,slow=2.4,SNR=20
BVAR PP **PP** **10 32 56.6 -1.3**
comp=N,4.9nm,0.7s,baz=61,slow=10,SNR=5.8
BVAR ScP **ScP** **10 36 03.3 -0.8**
comp=N,1.4nm,0.8s,baz=86,slow=4.6,SNR=4.1
BRVK Borovoye 49.72 308 *diP* **P** **10 31 01.3 -1.4**
BRVK pmax pmax
comp=Z,20nm,0.6s
BRVK Borovoye 49.72 308 *eP* **P** **10 31 01.8 -1.0**
comp=Z,22nm,0.6s
DAG Danmarks Havn 49.74 359 *i* P **P** **10 31 02.1 -0.5**
comp=Z,158nm,0.8s
NEW Newport 49.90 60 *eP* **P** **10 31 05.6 +1.3**
comp=Z,3.8nm,0.8s
NEW Newport 49.90 60 ⇑P **P** **10 31 05.1 +0.9**
baz=50
A12A Yaak River Ran 50.22 59 ⇓P **P** **10 31 07.7 +1.0**
baz=50
KMI Kunming 50.58 259 P **P** **10 31 12.5 +2.6**
KMI pmax pmax
comp=Z,10.0nm,1.5s
C11A Tepee Creek (N 50.62 60 ⇓P **P** **10 31 11.0 +1.3**
baz=50
A13A Flathead Natio 50.85 58 ⇓P **P** **10 31 12.8 +1.3**
baz=51
WALA Warterton Lakes 51.02 58 *eP* **P** **10 31 14.0 +1.2**
comp=Z,0.2nm,0.6s
WALA *epP* **pP** **10 31 44.0 -0.3**
C12B Naegeli Ranch, 51.10 60 ⇓P **P** **10 31 14.8 +1.4**
baz=51,SNR=11
B13A Whitefish 51.19 59 ⇑P **P** **10 31 15.2 +1.3**
baz=51,SNR=8.2
A14A Double T Ranch 51.32 57 ⇑P **P** **10 31 16.0 +0.9**
baz=51,SNR=6.1
QIZ Qiongzhong 51.34 247 P **P** **10 31 16.5 +1.2**
QIZ S **S** **10 38 24.8 +0.8**
QIZ pmax pmax
comp=Z,16nm,1.7s
BSMT Bassoo Peak 51.36 59 *eP* **P** **10 31 17.2 +1.8**
SVE Sverdlovsk 51.54 316 *eP* **P** **10 31 14.1 -2.3**
SVE *eS* S 10 38 32.5 +6.6
SVE pmax pmax
comp=Z,21nm,0.9s
C13A Hot Springs 51.59 59 ⇑P **P** **10 31 18.4 +1.4**
baz=51,SNR=6.4
A15A Johnson Ranch, 51.66 57 ⇓P **P** **10 31 17.9 +0.3**
baz=52,SNR=5.2
JTMT Jette 51.69 59 *eP* **P** **10 31 19.7 +1.9**
B14A Marquette Ranc 51.80 58 ⇑P **P** **10 31 19.5 +0.9**
baz=52
SWMT Swartz Lake 51.99 59 *eP* **P** **10 31 21.4 +1.4**
BMO Blue Mountains 52.02 64 *eP* **P** **10 31 21.8 +1.6**
comp=Z,3.4nm,0.6s
D13A Huson 52.03 60 ⇓P **P** **10 31 21.1 +0.9**
baz=52
KEV Kevo 52.07 341 *eP* **P** **10 31 17.7 -2.4**
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 52.07 341 *ep* **P** **10 31 17.7 -2.4**
comp=Z,0.9nm,0.3s
B15A Bradely Ranch, 52.19 58 ⇓P **P** **10 31 21.9 +0.5**
baz=52,SNR=6.6
A16A West Butte Ran 52.25 56 ⇑P **P** **10 31 22.6 +0.7**
baz=52
SLMT Seeley Lake 52.42 59 *eP* **P** **10 31 24.5 +1.2**
MSO Missoula 52.47 60 *eP* **P** **10 31 24.7 +1.2**
comp=Z,9.8nm,1.5s
MSO Missoula 52.47 60 ⇑P **P** **10 31 24.6 +1.0**
baz=52,SNR=5.8
C15A Salmond Ranch, 52.52 58 ⇓P **P** **10 31 25.2 +1.2**
baz=52,SNR=14
D14A Greenough 52.52 59 ⇓P **P** **10 31 25.2 +1.2**
baz=52,SNR=17
ARCES ARCESS Array B 52.54 341 P **P** **10 31 21.7 -1.9**
ARCES PcP **PcP** **10 32 31.6 -0.4**
ARCES ARCESS Array B 52.54 341 P **P** **10 31 21.7 -1.9**
comp=Z,8.1nm,0.8s,baz=38,slow=7.2,SNR=24
ARCES PcP **PcP** **10 32 31.6 -0.4**
comp=Z,5.5nm,0.8s,baz=46,slow=3.5,SNR=6.3
B16A M & M Farms, S 52.55 57 ⇓P **P** **10 31 24.7 +0.6**
baz=52
E13A Victor 52.60 60 ⇓P **P** **10 31 26.0 +1.5**
baz=52,SNR=6.2
ARU Arti 52.66 317 *diP* **P** **10 31 23.3 -1.3**
ARU *PP **pP** **10 31 55.9 -0.4**
ARU 10 32 29.8
ARU 10 33 19.7
ARU S **S** **10 38 40.9 -0.3**
ARU pmax pmax
comp=Z,28nm,0.8s
ARU Arti 52.66 317 *eP* **P** **10 31 23.4 -1.2**
comp=Z,29nm,0.5s
A17A Triple J Farms 52.69 56 ⇑P **P** **10 31 25.7 +0.6**
baz=52,SNR=5.8
CHMT Chamberlain Mo 52.77 59 *eP* **P** **10 31 26.9 +1.0**
FFC Flin Flon 52.84 46 *iP* **P** **10 31 28.1 +2.1**
FFC Flin Flon 52.84 46 *eP* **P** **10 31 27.0 +1.1**
comp=Z,78nm,2.7s
G12A Big Creek, Yel 52.89 62 ⇓P **P** **10 31 27.8 +1.1**
baz=53,SNR=6.9
C16A Fuhringer Ranc 52.94 58 ⇓P **P** **10 31 27.9 +1.0**
baz=53,SNR=7.6
F13A Darby 52.96 61 ⇓P **P** **10 31 28.2 +1.0**
baz=53,SNR=5.2
E14A Clinton 52.98 60 ⇓P **P** **10 31 28.5 +1.2**
baz=53,SNR=17
D15A Lincoln 53.05 59 ⇓P **P** **10 31 29.1 +1.2**
baz=53
B17A L&G Farms, Che 53.08 57 ⇑P **P** **10 31 29.0 +1.0**
baz=53
A18A Metzger Ranch, 53.13 56 ⇑P **P** **10 31 28.8 +0.6**
baz=53,SNR=8.1
SUMG Summit 53.35 7 *eP* **P** **10 31 30.5 +0.5**
SUMG pmax pmax
comp=Z,71nm,0.8s
SUMG Summit 53.35 7 *eP* **P** **10 31 30.5 +0.5**
comp=Z,71nm,0.8s
SUMG Summit 53.35 7 *iP* **P** **10 31 30.4 +0.5**
comp=Z,59nm,0.8s
E15A Deer Lodge 53.41 59 ⇓P **P** **10 31 31.7 +1.2**
baz=53,SNR=8.2
F14A Wisdom 53.45 60 ⇓P **P** **10 31 31.8 +1.0**
baz=53
OHCM Honcut 53.46 71 *eP* **P** **10 31 32.8 +2.1**
G13A Cobalt 53.48 62 ⇓P **P** **10 31 32.0 +1.0**
baz=53,SNR=9.7
B18A Beardsley Farm 53.52 56 ⇓P **P** **10 31 32.2 +1.1**
baz=53,SNR=11
H12A Diamond D Ranc 53.52 62 ⇑P **P** **10 31 33.3 +1.9**
baz=53
C17A Wharram Farm, 53.54 57 ⇑P **P** **10 31 32.2 +0.9**
baz=53,SNR=9.2
D16A Dana Ranch, Ca 53.55 58 ⇑P **P** **10 31 32.9 +1.4**
baz=53,SNR=6.0
HRY Holter Researc 53.63 59 *eP* **P** **10 31 33.7 +1.7**
A19A Klindworth Far 53.66 55 ⇑P **P** **10 31 33.1 +0.9**
baz=54,SNR=6.6
TKM2 Tokmak 2 53.67 295 *eP* **P** **10 31 31.5 -1.0**
TKM2 *e* 10 32 36.6
TKM2 *e* 10 33 33.1
TKM2 pmax pmax
comp=Z,9.0nm,0.6s
TKM2 Tokmak 2 53.67 295 *eP* **P** **10 31 31.5 -1.0**
comp=Z,8.5nm,0.6s
TKM2 *ePcP* **PcP** **10 32 36.6 -0.4**
TKM2 *ePP* **PP** **10 33 33.1 -1.2**
TKM2 Tokmak 2 53.67 295 P **P** **10 31 31.4 -1.1**
SNR=19
MFID Camas Ranch 53.78 64 *eP* **P** **10 31 34.7 +1.6**
comp=Z,9.2nm,1.4s
MFID Camas Ranch 53.78 64 ⇓P **P** **10 31 34.3 +1.2**
baz=54
ULHL Ulahol 53.78 294 P **P** **10 31 32.8 -0.5**
SNR=5.2
EGMT Eagleton 53.78 56 *eP* **P** **10 31 34.0 +1.0**
comp=Z,51nm,2.5s
EGMT Eagleton 53.78 56 ⇓P **P** **10 31 33.9 +0.9**
baz=54
E16A East Helena 53.83 59 ⇑P **P** **10 31 34.8 +1.3**
baz=54
H13A Challis 53.83 62 ⇓P **P** **10 31 34.8 +1.2**
baz=54,SNR=8.9
F15A Butte 53.88 60 ⇓P **P** **10 31 35.3 +1.4**
baz=54
B19A Brinkman Farms 53.88 55 ⇑P **P** **10 31 34.9 +1.1**
baz=54
I12A Atlanta 53.89 63 ⇑P **P** **10 31 35.6 +1.5**
baz=54
D17A Six Diamond Ra 53.91 58 ⇑P **P** **10 31 35.3 +1.2**
baz=54,SNR=6.6
USP Ospenovka 54.02 296 P **P** **10 31 34.0 -0.8**
SNR=23
CHMS Chumysh 54.07 296 P **P** **10 31 34.5 -0.7**
SNR=6.7
A20A Cobblestone Ra 54.09 55 ⇓P **P** **10 31 36.6 +1.3**
baz=54,SNR=6.9
KBK Karagaybulak 54.20 295 P **P** **10 31 35.3 -0.9**
SNR=18
FRU Bishkek 54.25 295 ⇓*iP* **P** **10 31 35.0 -1.5**
FRU pmax pmax
comp=Z,30nm,1.6s
H14A Leadore 54.26 62 ⇓P **P** **10 31 37.7 +1.0**
baz=54,SNR=6.4
D18A Linhart Farms, 54.32 57 ⇓P **P** **10 31 38.2 +1.2**
baz=54
C19A Slack Wire Ran 54.32 56 ⇑P **P** **10 31 38.5 +1.5**
baz=54,SNR=11
G15A Dillon 54.34 60 ⇑P **P** **10 31 38.4 +1.1**
baz=54,SNR=8.3
I13A Wildhorse Cree 54.34 63 ⇓P **P** **10 31 39.0 +1.6**
baz=54,SNR=18
F16A Kennard Place, 54.36 59 ⇑P **P** **10 31 38.4 +1.1**
baz=54
HLID Hailey 54.43 63 ⇓P **P** **10 31 39.3 +1.3**
baz=54
KZA Kyzart 54.43 294 P **P** **10 31 38.1 -0.1**
SNR=11
BOZ Bozeman (W) 54.45 60 ⇑P **P** **10 31 39.9 +1.8**
baz=54,SNR=5.0
AAK Ala-Archa 54.45 295 P **P** **10 31 37.6 -0.5**
AAK pmax pmax
comp=Z,19nm,0.8s
AAK Ala-Archa 54.45 295 P **P** **10 31 37.6 -0.5**
comp=Z,3.5nm,0.8s
AAK *epP* **pP** **10 32 12.1 +2.0**
AAK *ePcP* **PcP** **10 32 39.7 -0.2**
AAK Ala-Archa 54.45 295 P **P** **10 31 36.8 -1.4**
SNR=24
AAK Ala-Archa 54.45 295 P **P** **10 31 37.6 -0.5**
comp=Z,19nm,0.8s,baz=105,slow=4.3,SNR=65
A21A Bergtoll Ranch 54.50 54 ⇑P **P** **10 31 39.6 +1.4**
baz=54,SNR=8.1
H15A Lima 54.63 61 ⇑P **P** **10 31 40.5 +1.1**
baz=54
G16A Moss Hill, Enn 54.65 60 ⇑P **P** **10 31 41.2 +1.6**
baz=54,SNR=11
J13A Cove Ranch, Pi 54.67 63 ⇑P **P** **10 31 41.2 +1.6**
baz=54
I14A Mackay 54.69 62 ⇑P **P** **10 31 41.8 +2.0**
baz=55,SNR=12
E18A Harlowton 54.69 58 ⇑P **P** **10 31 41.5 +1.7**
baz=54,SNR=5.6
F17A Fitzpatrick Pl 54.77 59 ⇑P **P** **10 31 41.8 +1.5**
baz=55
D19A Cripps Ranch, 54.80 57 ⇓P **P** **10 31 41.7 +1.2**
baz=55,SNR=7.1
EKS2 Erkin-Say 54.82 296 *eP* **P** **10 31 40.2 -0.5**
EKS2 pmax pmax
comp=Z,22nm,0.7s
EKS2 Erkin-Say 54.82 296 *eP* **P** **10 31 40.2 -0.5**
comp=Z,22nm,0.7s
EKS2 Erkin-Say 54.82 296 P **P** **10 31 40.0 -0.7**
SNR=21
C20A Veseth Ranch, 54.85 56 ⇓P **P** **10 31 42.4 +1.6**
baz=55,SNR=9.7
CMB Columbia Colle 54.98 72 *eP* **P** **10 31 43.9 +2.1**
CMB pmax pmax
comp=Z,4.0nm,0.8s
CMB Columbia Colle 54.98 72 *eP* **P** **10 31 43.9 +2.1**
comp=Z,3.5nm,0.8s
A22A Carney Farms, 54.98 53 ⇑P **P** **10 31 43.1 +1.4**

baz=55,SNR=7.1
BMN Battle Mountai 55.07 68 *e*P **P 10 31 44.9 +2.3**
BMN pmax pmax
comp=Z,7.0nm,0.8s
BMN Battle Mountai 55.07 68 *e*P **P 10 31 44.9 +2.3**
comp=Z,6.7nm,0.8s
QLMT Earthquake Lak 55.12 60 *e*P **P 10 31 45.0 +2.1**
G17A Pierce Place, 55.13 59 ⇓P **P 10 31 44.6 +1.7**
baz=55
D20A Manuel Ranch, 55.22 56 ⇑P **P 10 31 45.1 +1.7**
baz=55,SNR=6.8
C21A Desert Coulee 55.22 55 ⇑P **P 10 31 44.9 +1.5**
baz=55
AML Almayashu 55.23 295 P **P 10 31 43.3 -0.7**
SNR=16
F18A Big Timber 55.25 58 ⇑P **P 10 31 45.6 +1.9**
baz=55,SNR=17
H16A Russell Place, 55.30 60 ⇓P **P 10 31 46.0 +1.8**
baz=55,SNR=17
B22A Reddig Ranch S 55.42 54 ⇑P **P 10 31 46.2 +1.4**
baz=55
E20A Meyer Farm, Mu 55.63 57 ⇑P **P 10 31 48.2 +1.8**
baz=56,SNR=8.0
F19A Roth Farm, Mol 55.67 58 ⇑P **P 10 31 48.1 +1.4**
baz=56
YFT Old Faithful 55.68 60 *e*P P 10 31 50.4 +3.3
comp=Z,9.1nm,0.6s
G18A Lazy EL Ranch, 55.73 59 ⇓P **P 10 31 48.5 +1.2**
baz=56
I16A Newdale 55.75 61 ⇓P **P 10 31 49.6 +2.2**
baz=56,SNR=7.9
B23A Brockton 55.79 53 ⇓P **P 10 31 48.6 +1.1**
baz=56
KSH Kashi 55.81 292 P **P 10 31 50.8 +3.0**
KSH pP **pP 10 32 20.0 +0.1**
KSH sP **sP 10 32 34.0 -0.9**
KSH PcP **PcP 10 32 48.0 +2.8**
KSH PP 10 33 59.0 +5.6
KSH ScP **ScP 10 36 33.8 +2.8**
KSH PcS **PcS 10 36 48.0 +2.3**
KSH S **S 10 39 26.8 +2.6**
KSH sS **sS 10 40 18.5 -1.0**
KSH ScS **ScS 10 41 24.0 +0.7**
KSH SS **SS 10 43 13.0 +1.9**
KSH pmax pmax
comp=Z,110nm,4.2s
KSH LR LR
comp=N,170nm,5.7s
KSH LR LR
comp=E,140nm,5.9s
KSH LR LR
comp=Z,210nm,6.1s
LKWY Lake 55.83 60 *e*P **P 10 31 51.0 +2.9**
LKWY pmax pmax
comp=Z,7.0nm,0.8s
LKWY Lake 55.83 60 *e*P **P 10 31 51.0 +2.9**
comp=Z,7.1nm,0.8s
H17A Grant Village 55.86 60 ⇓P P 10 31 51.5 +3.3
baz=56,SNR=10.0
C22A Vida 55.86 54 ⇓P **P 10 31 49.4 +1.4**
baz=56
NVAR Mina Array Bea 55.87 70 P **P 10 31 50.7 +2.3**
NVAR pP **pP 10 32 21.5 +1.1**
NVAR ScP **ScP 10 36 33.0 +1.5**
NVAR Mina Array Bea 55.87 70 P **P 10 31 50.7 +2.3**
comp=Z,5.7nm,0.6s,baz=298,slow=7.5,SNR=50
NVAR pP **pP 10 32 21.5 +1.1**
comp=Z,3.5nm,0.7s,baz=297,slow=7.4,SNR=7.1
NVAR ScP **ScP 10 36 33.0 +1.5**
comp=Z,0.5nm,0.8s,baz=267,slow=5.9,SNR=3.6
A24A Westby 55.93 52 ⇓P **P 10 31 49.7 +1.2**
baz=56
ELK Elko 55.94 66 *e*P **P 10 31 51.1 +2.2**
ELK *ep*P **pP 10 32 22.6 +1.8**
FLWY Flagg Ranch 56.01 60 *e*P **P 10 31 52.0 +2.7**
comp=Z,5.9nm,0.8s
IMW Indian Meadow 56.02 61 *e*P **P 10 31 51.8 +2.4**
comp=Z,4.8nm,0.7s
RLMT Red Lodge 56.02 59 *e*P **P 10 31 51.5 +2.1**
comp=Z,12nm,0.8s
RLMT Red Lodge 56.02 59 ⇓P **P 10 31 51.5 +2.1**
baz=56,SNR=10
K15A Arbon 56.03 63 ⇓P **P 10 31 52.2 +2.8**
baz=56,SNR=19
DCID1 Drake Creek 56.10 61 *e*P **P 10 31 52.3 +2.3**
comp=Z,7.1nm,0.8s
J16A Bone 56.10 62 ⇓P **P 10 31 52.0 +2.1**
baz=56
F20A Billings 56.11 57 ⇑P **P 10 31 51.5 +1.6**
baz=56
E21A Keefer Ranch, 56.12 56 ⇑P **P 10 31 52.0 +2.1**
baz=56
H18A Shoshone NF, C 56.13 59 ⇑P **P 10 31 52.0 +1.8**
baz=56
D22A Cohagen 56.13 55 ⇓P **P 10 31 51.6 +1.7**
baz=56,SNR=5.1
C23A Lambert 56.16 54 ⇓P **P 10 31 51.8 +1.7**
baz=56
I17A Pilgrim Ck. 56.19 60 ⇓P **P 10 31 53.0 +2.4**
baz=56
KLMR Klimovskoe 56.19 329 *e*P **P 10 31 48.4 -1.6**
KLMR pmax pmax
comp=Z,39nm,1.0s
RRI2 Red Ridge 56.20 61 *e*P **P 10 31 53.0 +2.2**
comp=Z,16nm,1.8s
MOOW Moose Ponds 56.22 61 *e*P **P 10 31 53.1 +2.2**
comp=Z,64nm,3.0s
KK31 Karatay Array 56.24 298 *i*P **P 10 31 48.7 -2.0**
KK31 pmax pmax
comp=Z,8.0nm,0.7s
KKAR Karatay Array 56.24 298 *e*P **P 10 31 48.8 -1.9**
KKAR Karatay Array 56.24 298 *e*P **P 10 31 48.8 -1.9**
TPAW Teton Pass 56.30 61 *e*P **P 10 31 53.8 +2.3**
comp=Z,4.0nm,0.7s
LOHW Long Hollow 56.39 61 *e*P **P 10 31 54.4 +2.4**
comp=Z,7.6nm,1.1s
K16A Soda Springs 56.42 62 ⇑P **P 10 31 55.4 +3.2**
baz=56,SNR=11
H19A Powell 56.48 59 ⇓P **P 10 31 54.8 +2.3**
baz=56
G20A Bridger 56.48 58 ⇓P **P 10 31 54.1 +1.5**
baz=56,SNR=11
MTUM Tungsten Hills 56.48 71 *e*P **P 10 31 54.8 +2.0**
J17A Brown Place, J 56.51 61 ⇑P **P 10 31 55.5 +2.6**
baz=56,SNR=5.1
L15A Malad City 56.58 63 ⇓P **P 10 31 55.6 +2.2**
baz=56,SNR=11
D23A Lindsay 56.59 54 ⇑P **P 10 31 55.1 +1.9**
baz=56
C24A Savage 56.71 54 ⇑P **P 10 31 55.6 +1.5**
baz=56
I18A Diamond G Ranc 56.73 60 ⇑P **P 10 31 56.4 +1.9**
baz=57
E22A Miles City 56.75 56 ⇓P **P 10 31 55.9 +1.6**
baz=57
PTRM Twissleman Ran 56.76 74 *e*P **P 10 31 57.0 +2.5**
JOF Joensuu 56.81 335 *e*P **P 10 31 52.8 -1.6**
JOF pmax pmax
comp=Z,14nm,0.5s
JOF Joensuu 56.81 335 *ep* **P 10 31 52.8 -1.6**
comp=Z,14nm,0.5s
K17A Gardner Place, 56.83 62 ⇓P **P 10 31 57.1 +2.0**
baz=57,SNR=5.6
RCTC Rector, Farmer 56.84 72 ⇑P **P 10 31 57.4 +2.4**
baz=57
I19A Meeteetse 56.92 59 ⇑P **P 10 31 57.8 +2.1**
baz=57
M15A Larsen Ranch, 56.93 64 ⇓P **P 10 31 57.9 +2.2**
baz=57,SNR=12
J18A Kendall Valley 56.97 61 ⇑P **P 10 31 58.3 +2.1**
baz=57,SNR=7.3
G21A Lodge Grass 56.98 57 ⇑P **P 10 31 57.4 +1.4**
baz=57
F22A Rosebud 57.06 56 ⇓P **P 10 31 58.2 +1.6**
baz=57
L16A Fish Haven 57.08 63 ⇓P **P 10 31 59.0 +2.1**
baz=57,SNR=7.7
AB31 Akbulak array 57.08 310 *i*P **P 10 31 55.0 -1.5**
AB31 pmax pmax
comp=Z,7.0nm,0.5s
AKTO Aktyubinsk 57.10 312 P **P 10 31 55.4 -1.3**
AKTO 10 32 49.4
AKTO pmax pmax
comp=Z,11nm,0.4s
AKTO pmax pmax
comp=Z,3.0nm,0.6s
AKTO Aktyubinsk 57.10 312 P **P 10 31 55.4 -1.3**
AKTO PcP **PcP 10 32 49.4 -0.4**
AKTO Aktyubinsk 57.10 312 P **P 10 31 55.4 -1.3**
comp=Z,11nm,0.4s,baz=66,slow=8.2,SNR=81
AKTO PcP **PcP 10 32 49.4 -0.4**
comp=Z,3.4nm,0.6s,baz=58,slow=3.8,SNR=3.7
SMMC Simmler 57.12 74 ⇑P **P 10 31 59.8 +2.8**
baz=57
VES Vestal, Richgr 57.26 73 ⇓P **P 10 31 59.4 +1.4**
baz=57
N15A Stansbury Isla 57.30 64 ⇓P **P 10 32 00.5 +2.2**
baz=57
HWUT Hardware Ranch 57.30 63 *e*P **P 10 32 00.8 +2.4**
comp=Z,11nm,0.6s
HWUT *ep*P **pP 10 32 32.3 +1.7**
L17A Cokeville 57.31 62 ⇑P **P 10 32 00.7 +2.2**
baz=57,SNR=10
K18A Toltan Ranch, 57.37 61 ⇑P **P 10 32 01.6 +2.6**
baz=57,SNR=32
GRAC Grapevine Rang 57.40 71 ⇓P **P 10 32 01.6 +2.6**
baz=57,SNR=8.2
I20A Worland 57.42 59 ⇑P **P 10 32 01.2 +2.0**
baz=57
J19A Crowheart 57.44 60 ⇓P **P 10 32 01.7 +2.3**
baz=57,SNR=8.3
R11A Troy Canyon, C 57.44 68 ⇑P **P 10 32 01.2 +1.8**
baz=57,SNR=5.8
G22A Birney 57.44 57 ⇑P **P 10 32 00.5 +1.2**
baz=57
SFJD Kangerlussuaq 57.46 14 *e*P **P 10 31 58.7 -0.2**
comp=Z,13nm,0.4s
SFJD Kangerlussuaq 57.46 14 *i*P **P 10 31 58.4 -0.5**
comp=Z,11nm,0.7s
M16A Huntsville 57.47 63 ⇓P **P 10 32 01.7 +2.1**
baz=57,SNR=6.5
H21A Big Horn, Sher 57.49 58 ⇓P **P 10 32 01.2 +1.6**
baz=57
F23A Volborg 57.52 56 ⇑P **P 10 32 01.4 +1.6**
baz=57,SNR=6.2
BW06 Boulder Array 57.53 61 *e*P **P 10 32 02.0 +1.9**
comp=Z,11nm,0.8s
BW06 Boulder Array 57.53 61 ⇓P **P 10 32 02.0 +1.9**
baz=57,SNR=20
PDAR Pinedale Array 57.53 61 P **P 10 32 01.8 +1.7**
PDAR pP **pP 10 32 33.2 +0.9**
PDAR Pinedale Array 57.53 61 P **P 10 32 01.8 +1.7**
comp=Z,12nm,0.7s,baz=323,slow=2.4,SNR=95
PDAR pP **pP 10 32 33.2 +0.9**
comp=Z,3.4nm,0.8s,baz=336,slow=3.3,SNR=3.8
DUG Dugway 57.63 65 *e*P **P 10 32 03.0 +2.3**
DUG *e**PP **pP 10 32 34.3 +1.3**
DUG pmax pmax
comp=Z,7.0nm,1.0s
DUG Dugway 57.63 65 *e*P **P 10 32 03.0 +2.3**
comp=Z,7.1nm,1.0s
DUG *ep*P **pP 10 32 34.3 +1.3**
DUG Dugway 57.63 65 ⇑P **P 10 32 03.0 +2.3**
baz=58,SNR=8.8
CHTO Chiang Mai 57.68 257 *e*P **P 10 32 01.1 0.0**
CHTO pmax pmax
comp=Z,6.0nm,0.5s
CHTO Chiang Mai 57.68 257 *e*P **P 10 32 01.1 0.0**
comp=Z,5.8nm,0.5s
CHTO Chiang Mai 57.68 257 P **P 10 32 01.1 0.0**
comp=Z,8.8nm,0.7s
ISA Isabella 57.74 73 *e*P **P 10 32 02.8 +1.4**
ISA pmax pmax
comp=Z,5.0nm,1.1s
ISA Isabella 57.74 73 *e*P **P 10 32 02.8 +1.4**
comp=Z,5.1nm,1.1s
ISA Isabella 57.74 73 ⇑P **P 10 32 02.7 +1.4**
baz=58
O15A The Old Anders 57.76 65 ⇑P **P 10 32 03.8 +2.2**
baz=58
TAPN Taplejung 57.79 273 *e*P **P 10 32 01.4 -0.8**
comp=Z,46nm,0.5s
TAPN Taplejung 57.79 273 *e*P **P 10 32 01.4 -0.8**
comp=Z,46nm,0.5s
K19A Absolon Red Bu 57.85 60 ⇑P **P 10 32 03.6 +1.3**
baz=58,SNR=5.8
H22A Clearmont 57.86 57 ⇓P **P 10 32 03.8 +1.6**
baz=58
J20A Shoshoni 57.87 59 ⇓P **P 10 32 04.5 +2.2**
baz=58,SNR=12
M17A Scullys Gap (B 57.87 63 ⇓P **P 10 32 04.3 +1.8**
baz=58
L18A Fontenelle, Gr 57.88 62 ⇑P **P 10 32 04.4 +1.9**
baz=58,SNR=7.3
N16A Rees Ranch, Co 57.88 64 ⇓P **P 10 32 04.3 +1.8**
baz=58
G23A Biddle 57.90 56 ⇓P **P 10 32 04.1 +1.6**
baz=58
F24A Ekalaka 57.91 55 ⇓P **P 10 32 04.0 +1.5**
baz=58
I21A Big Trails, Te 57.95 59 ⇓P **P 10 32 04.5 +1.6**
baz=58
CMAR Chiang Mai Arr 57.96 257 P **P 10 32 03.4 +0.3**
CMAR Chiang Mai Arr 57.96 257 P **P 10 32 03.4 +0.3**
comp=Z,3.3nm,0.6s,baz=24,slow=6.9,SNR=13
MPMC Manual Prospec 58.01 72 ⇓P **P 10 32 05.4 +1.9**
baz=58,SNR=8.5
FURC Furnace Creek, 58.07 71 ⇓P **P 10 32 05.9 +2.3**
baz=58,SNR=16
JLU Jordanelle 58.08 64 *e*P **P 10 32 05.9 +2.0**
comp=Z,3.2nm,0.9s
L19A Fason 58.11 61 ⇑P **P 10 32 05.5 +1.4**
baz=58
N17A Moffit Pass 58.16 63 ⇑P **P 10 32 06.1 +1.6**
baz=58
J21A Lysite 58.20 59 ⇑P **P 10 32 06.4 +1.7**
baz=58,SNR=5.3
M18A Lyman 58.22 62 ⇑P **P 10 32 06.5 +1.6**
baz=58
K20A Yellowstone Ra 58.23 60 ⇓P **P 10 32 06.0 +1.1**
baz=58,SNR=7.6
G24A Alzada 58.29 56 ⇓P **P 10 32 06.5 +1.3**
baz=58
I22A 9 Mile Ranch, 58.30 58 ⇓P **P 10 32 07.1 +1.8**
baz=58,SNR=6.5
ODAN Odare 58.34 273 *e*P **P 10 32 05.1 -0.8**
comp=Z,28nm,0.7s
ODAN Odare 58.34 273 *e*P **P 10 32 05.1 -0.8**
comp=Z,28nm,0.7s
P15A Leamington 58.37 65 ⇑P **P 10 32 07.9 +2.1**
baz=58,SNR=5.2
MPU Maple Canyon 58.40 64 *e*P **P 10 32 08.3 +2.2**
comp=Z,8.4nm,0.7s
R13A O'Grain Ranch, 58.45 67 ⇑P **P 10 32 08.3 +1.9**
baz=58
GUN Gumba 58.46 275 *e*P **P 10 32 05.7 -1.2**
comp=Z,30nm,0.4s
GUN Gumba 58.46 275 *e*P **P 10 32 05.7 -1.2**
comp=Z,30nm,0.4s
JIRN Jiri 58.46 275 *e*P **P 10 32 06.2 -0.7**
comp=Z,4.6nm,0.4s
JIRN Jiri 58.46 275 *e*P **P 10 32 06.2 -0.7**
comp=Z,4.6nm,0.4s
EDW2 Edwards Air Fo 58.58 73 ⇑P **P 10 32 09.2 +1.9**
baz=58,SNR=7.5
ULM Lac du Bonnet 58.64 47 P **P 10 32 08.2 +0.8**
ULM Lac du Bonnet 58.64 47 P **P 10 32 08.2 +0.8**
comp=Z,1.1nm,0.3s,baz=313,slow=7.8,SNR=6.3
H24A Dirks Ranch, A 58.64 56 ⇓P **P 10 32 08.8 +1.2**
baz=58,SNR=9.5
J22A Midwest 58.64 58 ⇑P **P 10 32 09.5 +1.8**
baz=58,SNR=8.6
P16A Fountain Green 58.67 65 ⇑P **P 10 32 10.1 +2.1**
baz=59
L20A Wamsutter 58.70 61 ⇓P **P 10 32 09.8 +1.6**
baz=59,SNR=9.0
KAF Kangasniemi 58.73 336 *e*P **P 10 32 05.6 -2.2**
KAF pmax pmax
comp=Z,16nm,0.5s
KAF Kangasniemi 58.73 336 *ep* **P 10 32 05.6 -2.2**
comp=Z,16nm,0.5s
O17A Robinson Place 58.74 64 ⇓P **P 10 32 10.5 +1.9**
baz=59
RAMN Ramite 58.74 274 *e*P **P 10 32 07.6 -1.1**
comp=Z,72nm,0.5s
RAMN Ramite 58.74 274 *e*P **P 10 32 07.6 -1.1**
comp=Z,72nm,0.5s
MDND Maddock 58.75 51 ⇑P **P 10 32 09.7 +1.6**
baz=58
N18A Larsen Ranch, 58.75 62 ⇑P **P 10 32 10.1 +1.6**
baz=59
K21A Alcova 58.81 59 ⇑P **P 10 32 10.4 +1.5**
baz=59,SNR=16
DECC Green Verdugo 58.84 74 ⇓P **P 10 32 11.0 +2.0**
baz=59
KKN Kakani 58.90 275 *e*P **P 10 32 09.0 -0.8**
comp=Z,26nm,0.4s
KKN Kakani 58.90 275 *e*P **P 10 32 09.0 -0.8**
KKN pmax pmax
comp=Z,26nm,0.4s
KKN Kakani 58.90 275 *e*P **P 10 32 09.0 -0.8**
comp=Z,26nm,0.4s
GSC Goldstone 58.94 72 *e*P **P 10 32 11.7 +1.9**
GSC pmax pmax
comp=Z,6.0nm,0.7s
GSC Goldstone 58.94 72 *e*P **P 10 32 11.7 +1.9**
comp=Z,6.1nm,0.7s
GSC Goldstone 58.94 72 ⇑P **P 10 32 11.7 +1.9**
baz=59,SNR=5.6
PKI Pulchoki 58.99 275 *e*P **P 10 32 09.5 -1.0**
comp=Z,33nm,0.7s
PKI Pulchoki 58.99 275 *e*P **P 10 32 09.5 -1.0**
PKI pmax pmax
comp=Z,33nm,0.7s
PKI Pulchoki 58.99 275 *e*P **P 10 32 09.5 -1.0**
comp=Z,33nm,0.7s
N19A John Jarvie Ra 59.07 62 ⇓P **P 10 32 12.4 +1.7**
baz=59,SNR=5.2
O18A Roosevelt 59.08 63 ⇑P **P 10 32 13.5 +2.7**
baz=59,SNR=8.1
GKN Gorkha 59.12 276 *e*P **P 10 32 10.3 -0.9**
comp=Z,19nm,0.4s
GKN Gorkha 59.12 276 *e*P **P 10 32 10.3 -0.9**
comp=Z,19nm,0.4s
DMN Daman 59.14 275 *e*P **P 10 32 10.6 -0.9**
DMN Daman 59.14 275 *e*P **P 10 32 10.6 -0.9**
TMUT Trail Mountain 59.14 65 *e*P **P 10 32 13.4 +2.0**
comp=Z,13nm,0.7s
M20A Sweetwater, Wa 59.15 61 ⇓P **P 10 32 13.4 +2.0**
baz=59,SNR=5.2
K22A Casper 59.17 59 ⇓P **P 10 32 13.3 +1.9**
baz=59
MVU Marysvale 59.17 66 *e*P **P 10 32 14.2 +2.6**
comp=Z,2.8nm,0.7s
MSU Marysvale 59.18 66 *e*P **P 10 32 14.1 +2.5**
MSU Marysvale 59.18 66 *e*P **P 10 32 14.1 +2.5**
BFSC Mount Baldy Ra 59.23 73 ⇓P **P 10 32 13.7 +1.9**
baz=59
CCUT Cedar City 59.23 67 *e*P **P 10 32 14.2 +2.2**
comp=Z,3.7nm,0.7s
L21A Rawlins 59.23 60 ⇑P **P 10 32 13.4 +1.5**
baz=59
I24A Kuemmerle Ranc 59.25 57 ⇓P **P 10 32 13.6 +1.7**
baz=59
P17A Butcher Ranch, 59.26 64 ⇓P **P 10 32 14.0 +1.9**
baz=59
TUQ Turquoise Moun 59.34 71 ⇑P **P 10 32 14.4 +1.8**
baz=59
R15A Junction 59.35 66 ⇓P **P 10 32 15.1 +2.4**
baz=59
RSSD Black Hills 59.35 56 *e*P **P 10 32 14.4 +1.7**
RSSD pmax pmax
comp=Z,21nm,0.6s
RSSD Black Hills 59.35 56 *e*P **P 10 32 14.4 +1.7**
comp=Z,21nm,0.6s
FINES FINESS Array B 59.37 336 P **P 10 32 11.4 -0.7**
FINES PcP **PcP 10 32 57.7 -0.9**
FINES FINESS Array B 59.37 336 P **P 10 32 11.4 -0.7**
comp=Z,18nm,0.5s,baz=36,slow=8.7,SNR=94
FINES PcP **PcP 10 32 57.7 -0.9**
comp=Z,0.9nm,0.5s,baz=33,slow=4.5,SNR=3.9
DANN Dangsing 59.38 277 *e*P **P 10 32 12.3 -0.9**
comp=Z,30nm,0.6s
DANN Dangsing 59.38 277 *e*P **P 10 32 12.3 -0.9**
comp=Z,30nm,0.6s
P18A Preston Nutter 59.42 64 ⇑P **P 10 32 15.4 +2.2**
baz=59
Q16A Castle Valley 59.43 65 ⇓P **P 10 32 15.3 +2.1**
baz=59,SNR=7.2
M21A Separation Pea 59.49 60 ⇑P **P 10 32 15.2 +1.5**
baz=59,SNR=6.9
O19A Miners Draw (B 59.52 63 ⇑P **P 10 32 15.6 +1.7**
baz=59,SNR=7.0
HEC Hector,Ludlow 59.55 72 ⇑P **P 10 32 15.7 +1.7**
baz=60
K23A Bowen Ranch, D 59.55 58 ⇑P **P 10 32 14.7 +0.7**
baz=59
N20A Spence Gulch, 59.59 62 ⇑P **P 10 32 16.7 +2.3**
baz=59,SNR=9.6
J24A Dixon Ranch, L 59.62 57 ⇑P **P 10 32 15.9 +1.5**
baz=59
SRU San Rafael 59.64 64 *e*P **P 10 32 16.7 +2.0**
SRU pmax pmax
comp=Z,16nm,0.7s
SRU San Rafael 59.64 64 *e*P **P 10 32 16.7 +2.0**
comp=Z,16nm,0.7s
SRU San Rafael 59.64 64 ⇑P **P 10 32 16.8 +2.0**
baz=60,SNR=26
L22A Ellis Ranch, M 59.66 59 ⇓P **P 10 32 17.1 +2.2**
baz=60
R16A Teasdale 59.72 66 ⇓P **P 10 32 17.9 +2.5**
baz=60,SNR=12
Q18A Rafter H Ranch 59.86 64 ⇓P **P 10 32 17.7 +1.7**
baz=60,SNR=7.5
KOLN Koldanda 59.91 277 *e*P **P 10 32 15.7 -1.0**
comp=Z,24nm,0.6s
KOLN Koldanda 59.91 277 *e*P **P 10 32 15.7 -1.0**
comp=Z,24nm,0.6s
MURC Murrieta 59.95 73 ⇑P **P 10 32 18.3 +1.6**
baz=60
GMRC Granite Mounta 59.96 71 ⇓P **P 10 32 18.7 +1.8**
baz=60,SNR=8.3
L23A Garrett 59.98 59 ⇑P **P 10 32 18.2 +1.2**
baz=60
PYUN Piuthan 60.02 277 *e*P **P 10 32 16.4 -1.1**
comp=Z,77nm,0.8s
PYUN Piuthan 60.02 277 *e*P **P 10 32 16.4 -1.1**
comp=Z,77nm,0.8s
N21A Black Mountain 60.03 61 ⇓P **P 10 32 18.8 +1.4**
baz=60
R17A Hanksville Air 60.04 65 ⇑P **P 10 32 19.1 +1.7**
baz=60,SNR=10.0
S16A Weppner Ranch, 60.07 66 ⇑P **P 10 32 20.1 +2.4**
baz=60,SNR=7.9
P19A Cripple Cowboy 60.08 63 ⇓P **P 10 32 19.5 +1.7**
baz=60,SNR=8.1
O20A White River Ci 60.11 62 ⇑P **P 10 32 19.5 +1.6**
baz=60,SNR=6.6
BELC Belle Mtn. Jos 60.34 72 ⇑P **P 10 32 20.9 +1.5**
baz=60
PFO Pinyon Flat Ob 60.37 73 ⇓P **P 10 32 21.0 +1.4**
baz=60
Q19A Hogan Spring (60.43 64 ⇓P **P 10 32 21.5 +1.5**
baz=60,SNR=23
M23A Laramie 60.44 59 ⇑P **P 10 32 21.6 +1.5**
baz=60
P20A De Beque 60.49 63 ⇓P **P 10 32 21.6 +1.2**
baz=60
R18A Canyonlands Na 60.51 65 ⇓P **P 10 32 22.0 +1.4**
baz=60,SNR=20
N22A Wattenberg Ran 60.55 60 ⇓P **P 10 32 23.0 +2.0**
baz=60,SNR=5.4
S17A Black Ridge (B 60.56 66 ⇓P **P 10 32 23.0 +2.0**
baz=60,SNR=22
U15A North Rim 60.63 68 ⇑P **P 10 32 23.5 +1.9**
baz=60
IRM Iron Mountain 60.70 71 ⇓P **P 10 32 23.8 +2.0**
baz=61,SNR=6.0
W13A Hualapai Mount 60.72 70 ⇑P **P 10 32 23.9 +1.8**
baz=61,SNR=6.9
N23A Red Feather La 60.75 60 ⇑P **P 10 32 24.1 +1.8**
baz=61,SNR=7.8
K26A Motz Farm, Whi 60.82 57 ⇑P **P 10 32 24.0 +1.5**
baz=61
BC3 Big Chuckawall 60.90 72 ⇓P **P 10 32 24.9 +1.6**
baz=61
R19A Curley Farm, L 60.91 64 ⇓P **P 10 32 24.8 +1.4**
baz=61,SNR=6.4
Q20A Ridgley Place, 60.94 63 ⇑P **P 10 32 24.9 +1.4**
baz=61,SNR=5.2
S18A Hurst Farm, Bl 60.96 65 ⇑P **P 10 32 25.4 +1.6**
baz=61,SNR=18
P21A Newcastle 60.97 62 ⇑P **P 10 32 25.5 +1.8**
baz=61,SNR=8.2
O22A Kremmling 60.97 61 ⇓P **P 10 32 25.7 +1.8**
baz=61
PV04 Paradox Valley 61.03 64 *e*P **P 10 32 26.3 +2.2**
T17A Navajo Res., N 61.03 66 ⇓P **P 10 32 25.4 +1.2**
baz=61
PDMCI Parker Dam,Lak 61.17 71 ⇑P **P 10 32 26.7 +1.8**
baz=61
O23A Lake Granby, G 61.26 61 ⇓P **P 10 32 28.2 +2.3**
baz=61,SNR=5.6

P22A **Eagle** 61.28 62 ⇓P P 10 32 27.7 +1.9
baz=61,SNR=7.2
K27A **Flueckinger Fa** 61.28 56 ⇑P P 10 32 26.8 +1.1
baz=61
Y12C **Blythe** 61.36 71 ⇓P P 10 32 27.9 +1.7
baz=61
S19A **Harvey Farm, M** 61.38 65 ⇓P P 10 32 28.1 +1.5
baz=61,SNR=18
PV01 **Paradox Valley** 61.40 64 *e*P P 10 32 28.3 +1.6
comp=Z,245nm,0.6s
Q21A **Lamborn Mesa,** 61.41 63 ⇓P P 10 32 28.4 +1.7
baz=61,SNR=5.2
T18A **Mexican Hat** 61.43 65 ⇓P P 10 32 28.0 +1.3
baz=61,SNR=14
R20A **Redvale** 61.46 64 ⇑P P 10 32 28.8 +1.7
baz=61,SNR=5.3
GLA **Glamis** 61.70 72 *e*P P 10 32 30.6 +2.1
GLA pmax pmax
comp=Z,8.0nm,0.7s
GLA **Glamis** 61.70 72 *e*P P 10 32 30.6 +2.1
comp=Z,7.7nm,0.7s
GLA **Glamis** 61.70 72 ⇑P P 10 32 30.6 +2.1
baz=62,SNR=6.2
ISCO **Idaho Springs** 61.72 61 ⇓P P 10 32 31.1 +2.1
baz=62,SNR=7.6
S20A **Disappointment** 61.73 64 ⇑P P 10 32 30.6 +1.6
baz=62,SNR=7.2
Q22A **Crested Butte,** 61.74 62 ⇓P P 10 32 31.0 +2.0
baz=62,SNR=6.8
OBN **Obninsk** 61.76 327 ⇑*i*P P 10 32 27.6 -0.9
OBN *i* *PP pP 10 33 01.2 +0.1
OBN *e*S S 10 40 39.2 -1.0
OBN pmax pmax
comp=Z,18nm,1.2s
OBN **Obninsk** 61.76 327 *e*P P 10 32 27.4 -1.1
comp=Z,17nm,0.5s
R21A **Cimarron** 61.77 63 ⇓P P 10 32 31.3 +2.1
baz=62,SNR=19
WUAZ **Wupatki** 61.81 68 ⇓P P 10 32 31.7 +2.3
baz=62
P23A **Jefferson** 61.92 61 ⇓P P 10 32 32.3 +2.0
baz=62
Y14A **Wickenburg** 62.07 70 ⇑P P 10 32 32.9 +1.9
baz=62,SNR=5.4
M27A **Reverse DX Ran** 62.08 57 ⇑P P 10 32 32.4 +1.4
baz=62
T19A **Beclabito** 62.12 65 ⇓P P 10 32 33.3 +1.9
baz=62,SNR=12
MVCO **Mesa Verde** 62.12 65 *e*P P 10 32 32.9 +1.4
comp=Z,5.3nm,0.8s
MVCO *e*pP pP 10 33 05.2 +1.1
MVCO **Mesa Verde** 62.12 65 ⇓P P 10 32 33.2 +1.7
baz=62,SNR=6.8
S21A **Coal Bank Pass** 62.16 64 ⇓P P 10 32 34.1 +2.3
baz=62,SNR=11
N26A **Koester Ranch,** 62.18 58 ⇑P P 10 32 33.7 +1.9
baz=62
EYMN **Ely** 62.27 46 *e*P P 10 32 32.8 +0.8
comp=Z,5.0nm,0.9s
Q23A **Hartsel** 62.27 61 ⇑P P 10 32 34.7 +2.1
baz=62
U19A **Dine' College,** 62.42 66 ⇑P P 10 32 35.6 +2.1
baz=62,SNR=7.7
113A **Mohawk Valley,** 62.51 71 ⇑P P 10 32 35.4 +1.5
baz=62
Z14A **Wintersburg** 62.53 70 ⇑P P 10 32 36.1 +2.1
baz=62
N27A **Anderson Farm,** 62.55 58 ⇑P P 10 32 35.8 +1.7
baz=62
O26A **Horse Wrangler** 62.58 59 ⇓P P 10 32 36.2 +1.8
baz=62
X16A **Lo Mia Camp, P** 62.58 69 ⇑P P 10 32 37.0 +2.4
baz=62,SNR=8.7
S22A **4UR Ranch, Cre** 62.61 63 ⇓P P 10 32 37.0 +2.2
baz=62,SNR=7.5
P25A **Willow Gulch B** 62.68 60 ⇑P P 10 32 37.2 +2.1
baz=62,SNR=6.6
OGNE **Ogallala** 62.69 57 ⇓P P 10 32 37.2 +2.1
baz=62
U20A **Newcomb** 62.73 65 ⇑P P 10 32 37.6 +2.1
baz=63
T21A **Navajo Lake** 62.80 64 ⇓P P 10 32 37.7 +1.7
baz=63
NB2 **NORSAR Subarra** 62.80 343 P P 10 32 34.3 -1.1
baz=23,slow=6.9
NB2 **NORSAR Subarra** 62.80 343 P P 10 32 34.3 -1.1
comp=Z,15nm,0.8s,baz=23,slow=6.9
NOA **NORSAR Array B** 62.80 343 P P 10 32 34.6 -0.8
NOA PcP PcP 10 33 12.4 -0.1
NOA **NORSAR Array B** 62.80 343 P P 10 32 34.6 -0.8
comp=Z,11nm,0.7s,baz=22,slow=6.6,SNR=43
NOA PcP PcP 10 33 12.4 -0.1
comp=Z,2.2nm,0.7s,baz=21,slow=2.7,SNR=5.4
R23A **Moffat** 62.81 62 ⇑P P 10 32 38.3 +2.1
baz=63,SNR=5.5
O27A **Beecher Island** 63.04 58 ⇑P P 10 32 38.9 +1.5
baz=63,SNR=5.3
P26A **Davis Ranch, A** 63.07 59 ⇓P P 10 32 39.1 +1.4
baz=63
S23A **Nye Farm, Mont** 63.08 62 ⇓P P 10 32 40.0 +2.1
baz=63
Q25A **Bedland, Calha** 63.09 60 ⇓P P 10 32 39.6 +1.7
baz=63
T22A **Edith** 63.12 64 ⇑P P 10 32 40.4 +2.3
baz=63,SNR=7.2
U21A **Nageezi** 63.15 65 ⇓P P 10 32 40.3 +2.0
baz=63
R24A **Sanders Place,** 63.15 61 ⇓P P 10 32 40.0 +1.7
baz=63
V20A **Brimhall** 63.18 66 ⇑P P 10 32 40.6 +2.1
baz=63
ECSD **EROS Data Cent** 63.21 52 *e*P P 10 32 39.0 +0.6
comp=Z,6.7nm,1.0s
VRHR **Novokhopersk** 63.29 321 *e*P P 10 32 36.1 -2.6
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=E,3.0nm,0.3s
SDCO **Great Sand Dun** 63.31 62 *e*P P 10 32 41.3 +1.8
comp=E,5.0nm,1.3s
SDCO **Great Sand Dun** 63.31 62 ⇑P P 10 32 41.2 +1.8
baz=63
X18A **Snowflake** 63.32 68 ⇓P P 10 32 41.7 +2.2
baz=63,SNR=8.2
Q26A **Hugo** 63.46 60 ⇓P P 10 32 41.8 +1.5
baz=63,SNR=5.5
P27A **Ficken Ranch,** 63.46 59 ⇓P P 10 32 41.3 +1.1
baz=63
S24A **Houchin Ranch,** 63.54 62 ⇓P P 10 32 43.0 +2.0
baz=63
U22A **Llaves** 63.62 64 ⇓P P 10 32 43.4 +2.0
baz=64
V21A **Milan** 63.63 65 ⇑P P 10 32 43.1 +1.6
baz=64
R25A **Fountain Ranch** 63.65 61 ⇓P P 10 32 43.1 +1.7
baz=64
214A **Organ Pipe Nat** 63.65 71 ⇑P P 10 32 43.3 +1.8
baz=64,SNR=5.5
W20A **Ramah** 63.67 66 ⇑P P 10 32 43.5 +1.7
baz=64,SNR=8.8
SPMN **St. Paul** 63.80 49 ⇓P P 10 32 43.3 +1.0
baz=64
KSCO **Kaye Shedlock'** 63.85 59 ⇑P P 10 32 44.4 +1.6
baz=64
S25A **Robets Cordova** 63.93 61 ⇑P P 10 32 45.1 +1.6
baz=64
V22A **San Miguel Ran** 63.94 64 ⇓P P 10 32 45.2 +1.7
baz=64
R26A **Arlington** 63.96 60 ⇑P P 10 32 45.2 +1.7
baz=64,SNR=13
U23A **El Rito** 64.01 64 ⇑P P 10 32 46.1 +2.1
baz=64,SNR=11
T24A **Torres, Weston** 64.05 62 ⇑P P 10 32 46.5 +2.2
baz=64,SNR=5.5
VSR **Storozhevoye** 64.08 323 *e*P P 10 32 42.8 -1.1
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,1.0nm,0.2s
VSR pmax pmax
comp=E,6.0nm,0.7s
SBUM **Sibu** 64.09 235 P P 10 32 46.4 +2.0
comp=E,23nm,0.7s,comp=E,314nm
X20A **Quemado** 64.11 66 ⇑P P 10 32 46.9 +2.3
baz=64,SNR=13
VORD **Divnogorie** 64.25 323 *e*P P 10 32 43.8 -1.2
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=E,7.0nm,0.4s
R27A **Eads** 64.31 60 ⇓P P 10 32 46.8 +1.0
baz=64
T25A **Trinidad** 64.34 62 ⇑P P 10 32 47.7 +1.6
baz=64
V23A **Ortiz Mt. (NFS** 64.45 64 ⇑P P 10 32 49.3 +2.4
baz=64,SNR=9.0
S26A **Kim** 64.46 61 ⇓P P 10 32 47.7 +0.9
baz=64,SNR=5.0
X21A **Alamocita Cree** 64.57 66 ⇓P P 10 32 50.0 +2.4
baz=64,SNR=11
Y20A **Horse Springs,** 64.65 67 ⇑P P 10 32 50.6 +2.4
baz=64,SNR=8.9
T26A **Comanche Natio** 64.74 61 ⇑P P 10 32 49.5 +0.8
baz=65,SNR=6.7
U25A **Circle Dot Ran** 64.90 62 ⇓P P 10 32 51.3 +1.6
baz=65
ANMO **Albuquerque** 64.91 65 *e*P P 10 32 51.6 +1.9
comp=E,54nm,2.7s
ANMO *e*pP pP 10 33 23.7 +1.0
W23A **Werner Place,** 64.91 64 ⇑P P 10 32 51.6 +1.8
baz=65
X22A **Bernardo** 64.94 65 ⇑P P 10 32 52.6 +2.6
baz=65
LAZ **Ladron** 64.95 66 *e*P P 10 32 51.9 +1.8
comp=E,2.9nm,0.9s
LAZ *e*PcP pP 10 33 25.0 +2.0
V24A **Rampart Ranch,** 64.95 63 ⇑P P 10 32 52.1 +2.0
baz=65,SNR=6.6
Y21A **Point of Rocks** 64.95 66 ⇑P P 10 32 52.6 +2.4
baz=65
V25A **Rancho No Teng** 65.21 63 ⇓P P 10 32 53.3 +1.6
baz=65,SNR=5.2
SCHQ **Schefferville** 65.24 27 P P 10 32 51.2 -0.2
SCHQ **Schefferville** 65.24 27 P P 10 32 51.2 -0.2
comp=E,3.7nm,0.4s,baz=337,slow=6.1,SNR=35
U26A **Atchley Ranch,** 65.25 62 ⇑P P 10 32 53.5 +1.5
baz=65
W24A **Lazy 6 Ranch,** 65.27 64 ⇑P P 10 32 54.3 +2.1
baz=65
T27A **Campo** 65.28 61 ⇑P P 10 32 53.5 +1.4
baz=65
Y22A **Socorro** 65.39 66 ⇑P P 10 32 55.2 +2.3
baz=65
BNM **Barren Site** 65.42 65 *e*P P 10 32 55.1 +2.0
CBKS **Cedar Bluff** 65.46 58 *e*P P 10 32 53.0 -0.1
CBKS pmax pmax
comp=Z,9.0nm,0.8s
CBKS **Cedar Bluff** 65.46 58 *e*P P 10 32 53.0 -0.1
comp=Z,9.2nm,0.8s
Z21A **St. Cloud Mine** 65.49 67 ⇓P P 10 32 56.0 +2.4
baz=65
120A **U Bar Ranch, L** 65.53 68 ⇑P P 10 32 56.1 +2.2
baz=65,SNR=10
T28A **Walsh** 65.55 60 ⇑P P 10 32 54.6 +0.8
baz=65
V26A **Tequesquite Ra** 65.68 62 ⇓P P 10 32 56.0 +1.3
baz=66
X24A **Lazy VL Ranch,** 65.74 64 ⇓P P 10 32 57.4 +2.1
baz=66
W25A **X Bar L Ranch,** 65.77 63 ⇓P P 10 32 56.7 +1.4
baz=66
KSM **Kuching** 65.87 236 *e*P P 10 32 58.0 +2.1
comp=Z,14nm,0.7s
Y23A **Lovelace Mesa,** 65.89 65 ⇑P P 10 32 58.3 +2.1
baz=66,SNR=11
Z22A **Elephant Butte** 65.91 66 ⇑P P 10 32 58.3 +2.0
baz=66,SNR=5.5
121A **Cookes Peak, D** 66.01 67 ⇑P P 10 32 59.2 +2.3
baz=66,SNR=5.0
319A **Douglas** 66.06 69 ⇓P P 10 32 59.3 +2.1
baz=66,SNR=5.6
220A **Playas Peak, P** 66.08 68 ⇓P P 10 32 59.3 +1.9
baz=66
X25A **Clemmons Ranch** 66.19 64 ⇓P P 10 33 00.0 +2.1
baz=66
Y24A **Capitan** 66.23 65 ⇓P P 10 33 00.2 +1.9
baz=66,SNR=12
122A **Goniff Cattle** 66.31 67 ⇑P P 10 33 01.2 +2.4
baz=66
221A **Mesquite Ranch** 66.41 68 ⇑P P 10 33 01.7 +2.3
baz=66
X26A **CR and CF Fran** 66.62 63 ⇑P P 10 33 02.0 +1.3
baz=66
W27A **Bowe Ranch, En** 66.62 62 ⇓P P 10 33 02.4 +1.7
baz=66
Y25A **Mesa, Roswell** 66.63 64 ⇓P P 10 33 02.3 +1.6
baz=66,SNR=11
Z24A **Sheeppen Canyo** 66.72 65 ⇑P P 10 33 03.3 +1.8
baz=67,SNR=12
X27A **F and S Farms,** 66.92 63 ⇓P P 10 33 04.1 +1.5
baz=67,SNR=5.4
Y27A **Causey** 67.47 63 ⇑P P 10 33 07.4 +1.3
baz=67,SNR=7.6
AMTX **Amarillo** 67.48 62 ⇓P P 10 33 07.2 +1.1
baz=67
X28A **Dimmitt** 67.50 62 ⇓P P 10 33 07.1 +0.9
baz=67
224A **Cornudas Mount** 67.59 66 ⇑P P 10 33 08.6 +1.6
baz=68,SNR=5.8
125A **Gardner Draw,** 67.61 65 ⇑P P 10 33 08.5 +1.5
baz=68,SNR=7.8
MSTX **Muleshoe** 67.61 63 ⇓P P 10 33 08.1 +1.1
baz=68,SNR=5.9
KULM **Kulim** 67.67 247 *e*P P 10 33 08.0 +0.6
comp=Z,20nm,0.6s
X29A **Tulia** 67.81 62 ⇑P P 10 33 09.5 +1.3
baz=68
AKASG **Malin Array Be** 67.86 328 P P 10 33 06.7 -1.3
AKASG pmax pmax
comp=Z,4.0nm,0.4s
AKASG **Malin Array Be** 67.86 328 P P 10 33 06.7 -1.3
AKASG **Malin Array Be** 67.86 328 P P 10 33 06.7 -1.3
comp=Z,3.8nm,0.4s,baz=29,slow=7.1,SNR=21
KIEV **Kiev** 67.87 328 *e*P P 10 33 06.7 -1.4
KIEV pmax pmax
comp=Z,9.0nm,1.0s
KIEV **Kiev** 67.87 328 *e*P P 10 33 06.7 -1.4
comp=Z,9.1nm,1.0s
Z27A **Tatum** 67.88 64 ⇓P P 10 33 09.8 +1.2
baz=68,SNR=7.8
Y28A **McKinney Farm,** 67.94 63 ⇓P P 10 33 10.3 +1.4
baz=68
225A **Deer Hill, Car** 67.95 66 ⇑P P 10 33 10.7 +1.5
baz=68,SNR=5.1
MNTX **Cornudas Mount** 67.96 66 *e*P P 10 33 10.8 +1.8
comp=Z,15nm,1.5s
MNTX *es*P sP 10 33 55.6 -1.4
MNTX **Cornudas Mount** 67.96 66 ⇑P P 10 33 10.9 +1.8
baz=68,SNR=10
126A **Clayton Basin,** 67.97 65 ⇑P P 10 33 10.6 +1.5
baz=68
324A **Moseley Ranch,** 68.10 67 ⇑P P 10 33 11.3 +1.2
baz=68
GDL2 **Guadalupe Moun** 68.13 65 *e*P P 10 33 11.7 +1.5
comp=Z,6.3nm,0.8s
IPM **Ipoh** 68.14 246 *e*P P 10 33 10.8 +0.4
comp=Z,34nm,0.8s
IPM **Ipoh** 68.14 246 P P 10 33 10.7 +0.4
comp=Z,45nm,0.9s
Y29A **Porterfield Fa** 68.28 62 ⇓P P 10 33 12.4 +1.3
baz=68
127A **Arkansas Junct** 68.30 64 ⇓P P 10 33 12.3 +1.0
baz=68
Z28A **Thacker Farm, M** 68.34 63 ⇓P P 10 33 12.2 +0.6
baz=68
325A **Bean Ranch, Si** 68.44 66 ⇑P P 10 33 13.6 +1.4
baz=68,SNR=6.7
KIV **Kislovodsk** 68.70 316 *e*P P 10 33 13.3 -0.3
KIV pmax pmax
comp=Z,19nm,0.7s
KIV **Kislovodsk** 68.70 316 *e*P P 10 33 13.1 -0.4
comp=Z,24nm,0.5s
Z29A **Hungry Hill Ra** 68.73 63 ⇓P P 10 33 15.0 +1.2
baz=69,SNR=7.4
KBZ **Khabaz** 68.80 316 P P 10 33 13.9 -0.1
KBZ pmax pmax
comp=Z,22nm,0.6s
KBZ **Khabaz** 68.80 316 P P 10 33 13.9 -0.1
KBZ **Khabaz** 68.80 316 P P 10 33 13.9 -0.1
comp=Z,22nm,0.6s,baz=94,slow=3.1,SNR=60
128A **Castleberry Fa** 68.81 64 ⇓P P 10 33 15.7 +1.3
baz=69
425A **Indio Mountain** 68.88 67 ⇑P P 10 33 16.5 +1.6
baz=69,SNR=8.3
326A **Caldwell Ranch** 69.02 66 ⇑P P 10 33 17.1 +1.4
baz=69,SNR=6.3
HDIL **Hopedale** 69.07 49 *e*P P 10 33 15.5 -0.2
comp=Z,6.8nm,0.5s
WMOK **Wichita Mounta** 69.10 60 *e*P P 10 33 16.9 +0.8
WMOK *e**PP pP 10 33 49.0 -0.3
WMOK *e**SP sP 10 34 03.8 -0.3
WMOK pmax pmax
comp=Z,8.0nm,0.9s
WMOK **Wichita Mounta** 69.10 60 *e*P P 10 33 16.9 +0.8
comp=Z,8.2nm,0.9s
WMOK *e*pP pP 10 33 49.0 -0.3
WMOK *es*P sP 10 34 03.8 -0.3
228A **UT Block 9, Go** 69.14 64 ⇓P P 10 33 17.9 +1.5
baz=69
ZEI **Tsey** 69.17 315 *e*P P 10 33 14.9 -1.7
ZEI pmax pmax
comp=Z,22nm,1.0s
426A **McDonald Obser** 69.49 66 ⇑P P 10 33 19.8 +1.0
baz=69
ONI **Oni** 69.50 315 P P 10 33 19.2 +0.7
328A **Wristen Ranch,** 69.59 65 ⇑P P 10 33 20.5 +1.3
baz=70,SNR=10
DGRG **David-gareji** 69.61 313 P P 10 33 18.9 -0.3
TBLG **Delisi** 69.66 314 *e*P P 10 33 19.3 -0.1
TBLG **Delisi** 69.66 314 P P 10 33 19.3 -0.1
229A **Bryant Ranch,** 69.67 64 ⇓P P 10 33 20.4 +0.7
baz=70
TUL1 **Tulsa** 69.69 57 ⇓P P 10 33 20.4 +0.7
baz=70
427A **Hayter Ranch,** 69.69 65 ⇓P P 10 33 21.2 +1.4
baz=70,SNR=6.6
526A **Mary Lane Ranc** 69.93 67 ⇑P P 10 33 23.0 +1.6
baz=70
329A **Wagon Wheel Ra** 69.96 64 ⇓P P 10 33 22.8 +1.3
baz=70,SNR=6.5
527A **Woodward Ranch** 70.12 66 ⇑P P 10 33 23.9 +1.3
baz=70,SNR=7.7
428A **Kincaid Ranch,** 70.17 65 ⇑P P 10 33 24.5 +1.7
baz=70
626A **Big Bend Ranch** 70.30 67 ⇑P P 10 33 25.0 +1.5
baz=70,SNR=11
ABTX **Abilene, Hawle** 70.31 62 ⇓P P 10 33 24.5 +1.0
baz=70,SNR=5.4
528A **Cox Ranch, San** 70.56 66 ⇓P P 10 33 26.7 +1.5
baz=70
429A **Davenport Ranc** 70.67 65 ⇓P P 10 33 27.0 +1.1
baz=71
PSI **Prapat** 70.69 247 P P 10 33 26.6 +0.5
PSI **Prapat** 70.69 247 P P 10 33 26.7 +0.6
comp=Z,29nm,0.8s
PSI **Prapat** 70.69 247 P P 10 33 26.6 +0.5
comp=Z,16nm,0.7s,baz=27,slow=4.9,SNR=12
TXAR **Lajitas Array** 70.72 67 P P 10 33 27.8 +1.6
TXAR pP pP 10 33 59.8 +0.2
TXAR **Lajitas Array** 70.72 67 P P 10 33 27.8 +1.6
comp=Z,5.8nm,0.4s,baz=296,slow=5.1,SNR=244
TXAR pP pP 10 33 59.8 +0.2
comp=Z,4.9nm,0.7s,baz=301,slow=4.6,SNR=6.8
KWP **Kalwaria Pacla** 70.73 332 *e*P P 10 33 25.4 -0.4
KWP pmax pmax
comp=Z,13nm,0.9s
KWP **Kalwaria Pacla** 70.73 332 *e*P P 10 33 25.4 -0.4
comp=Z,13nm,0.9s
627A **Terlingua Ranc** 70.78 66 ⇑P P 10 33 28.0 +1.5
baz=71,SNR=6.3
529A **Stev Forest Ra** 70.89 65 ⇓P P 10 33 28.4 +1.3
baz=71,SNR=6.9
430A **Baggett Ranch,** 70.90 64 ⇓P P 10 33 28.2 +1.0
baz=71,SNR=5.4
GNI **Garni** 70.95 313 P P 10 33 27.5 0.0
GNI **Garni** 70.95 313 P P 10 33 27.5 0.0
comp=Z,5.3nm,0.5s,baz=334,slow=4.8,SNR=5.3
OJC **Ojcow** 70.99 334 *e*P P 10 33 27.1 -0.2
OJC **Ojcow** 70.99 334 *e*P P 10 33 27.7 +0.4
OJC **Ojcow** 70.99 334 *e*P P 10 33 27.5 +0.2
comp=Z,49nm,1.9s
628A **Black Gap, Mar** 71.03 66 ⇓P P 10 33 29.3 +1.4
baz=71
431A **Sonora** 71.32 64 ⇓P P 10 33 30.7 +1.0
baz=71,SNR=5.9
KOLS **Kolonicke sedl** 71.49 332 *e*P P 10 33 30.3 0.0
KOLS pmax pmax
comp=Z,6.0nm,1.0s
KOLS **Kolonicke sedl** 71.49 332 *e*P P 10 33 30.3 0.0
CLL **Collm** 71.60 339 ⇓*i*P P 10 33 30.4 -0.6
CLL pmax pmax
comp=Z,21nm,1.1s
CLL **Collm** 71.60 339 ⇓*i*P P 10 33 30.4 -0.6
comp=Z,21nm,1.1s
CLL *e*PcP PcP 10 33 48.0 -1.4
CLL *e*(pP) pP 10 34 07.0 +2.6
UPC **Upice** 71.67 336 *e*P P 10 33 32.2 +0.8
UPC **Upice** 71.67 336 *e*P P 10 33 32.2 +0.8
DPC **Dobruska-Polom** 71.74 336 *e*P P 10 33 32.0 +0.1
DPC **Dobruska-Polom** 71.74 336 *e*P P 10 33 31.0 -0.9
comp=Z,12nm,1.0s
DPC **Dobruska-Polom** 71.74 336 *e*P P 10 33 32.0 +0.1
CRVS **Cervenica-Dubn** 71.74 332 *e*P P 10 33 31.2 -0.7
CRVS pmax pmax
comp=Z,2.0nm,0.8s
CRVS **Cervenica-Dubn** 71.74 332 *e*P P 10 33 31.1 -0.8
531A **Rocksprings** 71.76 64 ⇓P P 10 33 33.3 +1.0
baz=72
OKC **Ostrava-Krasne** 71.76 335 *e*P P 10 33 31.9 0.0
OKC **Ostrava-Krasne** 71.76 335 *e*P P 10 33 31.9 0.0
BRG **Berggiesshubel** 71.80 338 *e*P P 10 33 32.1 -0.1
comp=Z,11nm,1.1s
BURAR **Bucovina Array** 71.82 329 P P 10 33 31.9 -0.5
BURAR **Bucovina Array** 71.82 329 ⇑*i*P P 10 33 32.1 -0.3
MIAR **Mount Ida** 71.87 56 *e*P P 10 33 33.6 +0.8
MIAR pmax pmax
comp=Z,6.0nm,0.8s
MIAR **Mount Ida** 71.87 56 *e*P P 10 33 33.6 +0.8
comp=Z,6.5nm,0.8s
JCT **Junction City** 71.90 63 *e*P P 10 33 34.0 +0.8
JCT *e**PP pP 10 34 06.7 0.0
JCT pmax pmax
comp=Z,6.0nm,0.9s
JCT **Junction City** 71.90 63 *e*P P 10 33 34.0 +0.8
comp=Z,6.5nm,0.9s
JCT *e*pP pP 10 34 06.7 0.0
JCT **Junction City** 71.90 63 ⇓P P 10 33 34.2 +1.0
baz=72
WHTX **Lake Whitney** 71.94 61 ⇓P P 10 33 34.4 +1.1
baz=72
MORC **Moravsky Berou** 71.97 335 ⇑P P 10 33 33.7 +0.4
MORC **Moravsky Berou** 71.97 335 *e*P P 10 33 32.8 -0.5
comp=Z,7.5nm,0.9s
MORC **Moravsky Berou** 71.97 335 ⇑*i*P P 10 33 33.7 +0.4
PARMO **Parma** 72.01 52 *e*P P 10 33 34.6 +1.0
TRPA **Tarpa** 72.14 331 ⇑*i*P P 10 33 34.6 +0.4
WCI **Wyandotte Cave** 72.31 49 *e*P P 10 33 36.1 +0.6
WCI pmax pmax
comp=Z,1.1nm,0.6s
WCI **Wyandotte Cave** 72.31 49 *e*P P 10 33 36.1 +0.6
comp=Z,10nm,0.6s
TESR 72.36 328 ⇑*i*P P 10 33 34.7 -0.9
PRU **Pruhonice** 72.50 337 *e*P P 10 33 36.3 0.0
PRU **Pruhonice** 72.50 337 *e*P P 10 33 36.3 0.0
PRU *ex* x 10 33 40.2
VRAC **Vranov** 72.64 336 ⇑*i*P P 10 33 37.2 0.0
NKC **Novy Kostel** 72.74 339 *e*P P 10 33 38.1 +0.3
NKC **Novy Kostel** 72.74 339 *e*P P 10 33 38.1 +0.3
VYHS **Vyhne** 72.82 334 *e*P P 10 33 38.5 +0.2
VYHS pmax pmax
comp=Z,4.0nm,0.8s
VYHS **Vyhne** 72.82 334 *e*P P 10 33 38.5 +0.2
TLCR 72.83 326 ⇑*i*P P 10 33 37.9 -0.4
TLCR 72.83 326 ⇑*i*P P 10 33 37.9 -0.4
VRI **Vrincioaia** 72.91 328 ⇑*i*P P 10 33 38.6 -0.2
VRI **Vrincioaia** 72.91 328 ⇑*i*P P 10 33 38.6 -0.2
CFR **Carcaliu** 73.06 326 ⇑*i*P P 10 33 39.2 -0.5
CFR **Carcaliu** 73.06 326 ⇑*i*P P 10 33 39.2 -0.5
DRGR 73.30 331 ⇑*i*P P 10 33 40.6 -0.6
DRGR 73.30 331 P P 10 33 40.9 -0.3
DRGR 73.30 331 ⇑*i*P P 10 33 40.6 -0.6
MLR **Muntele Rosu** 73.49 328 ⇓*i*P P 10 33 42.9 +0.5
GRF **Grafenberg Arr** 73.51 339 *e*P P 10 33 42.8 +0.5
comp=Z,17nm,1.2s
GRF **Grafenberg Arr** 73.51 339 *e*P P 10 33 42.8 +0.5
GRF pmax pmax
comp=Z,17nm,1.2s

KHC	Kasperske Hory	73.52 337	*e*P	P	10 33 43.0	+0.6
KHC	Kasperske Hory	73.52 337	*e*P	P	10 33 42.0	-0.4
	comp=Z,14nm,1.2s					
KHC	Kasperske Hory	73.52 337	*e*P	P	10 33 43.0	+0.6
KHC			*e*pP	pP	10 34 19.8	+3.8
TIRR	Tirgusor	73.61 326	⇑P	P	10 33 42.7	-0.2
TIRR	Tirgusor	73.61 326	⇑*i*P	P	10 33 42.7	-0.2
MEM	Membach	73.65 343	P	P	10 33 43.0	-0.1
	comp=Z,14nm,1.1s					
GERES	GERESS Array B	73.76 337	P	P	10 33 43.8	-0.1
GERES	GERESS Array B	73.76 337	P	P	10 33 43.8	-0.1
	comp=Z,2.6nm,0.5s,baz=34,slow=5.8,SNR=19					
VOIR		73.82 328	⇓P	P	10 33 44.9	+0.6
VOIR		73.82 328	⇓*i*P	P	10 33 44.9	+0.6
BCLA	Clavier	73.95 343	P	P	10 33 45.2	+0.3
CONA	Conrad Observa	74.10 335	⇑*i*P	P	10 33 46.7	+0.8
	comp=Z,6.9nm,0.6s					
BAIF	Baives	74.48 344	*e*P	P	10 33 47.5	-0.4
	comp=Z,12nm,0.6s					
BAIF	Baives	74.48 344	*e*P	P	10 33 47.5	-0.4
BAIF			pmax	pmax		
	comp=Z,12nm,0.6s					
BAIF	Baives	74.48 344	*e*P	P	10 33 47.5	-0.4
	comp=Z,12nm,0.6s					
GZR	Gura Zlata	74.55 330	⇑P	P	10 33 48.3	-0.2
GZR	Gura Zlata	74.55 330	⇑*i*P	P	10 33 48.3	-0.2
BZS	Buzias	74.69 331	⇓P	P	10 33 49.2	0.0
BZS	Buzias	74.69 331	⇓*i*P	P	10 33 49.2	0.0
ARSA	Arzberg	74.82 335	⇑*i*P	P	10 33 50.2	+0.3
	comp=Z,4.9nm,0.6s					
SWET	Sewanee	74.96 50	*e*P	P	10 33 51.5	+0.5
	comp=Z,42nm,1.7s					
BFO	Black Forest	75.40 341	*e*P	P	10 33 53.6	+0.3
BFO			pmax	pmax		
	comp=Z,24nm,1.6s					
BFO	Black Forest	75.40 341	*e*P	P	10 33 53.6	+0.3
	comp=Z,24nm,1.6s					
SOKA	Soboth	75.47 336	⇓*i*P	P	10 33 54.3	+0.5
	comp=Z,7.0nm,0.5s					
KBA	Koelnbreinsper	75.50 337	⇓*i*P	P	10 33 55.2	+1.2
	comp=Z,32nm,0.8s					
CDF	Champ du Feu	75.52 341	*e*P	P	10 33 53.5	-0.5
	comp=Z,20nm,0.9s					
CDF	Champ du Feu	75.52 341	*e*P	P	10 33 53.5	-0.5
CDF			pmax	pmax		
	comp=Z,20nm,0.9s					
CDF	Champ du Feu	75.52 341	*e*P	P	10 33 53.5	-0.5
	comp=Z,20nm,0.9s					
GROS	Grobnik	75.56 335	*i* P	P	10 33 54.4	+0.1
ECH	Echery	75.73 341	*e*P	P	10 33 54.8	-0.4
ECH			pmax	pmax		
	comp=Z,10.0nm,1.1s					
ECH	Echery	75.73 341	*e*P	P	10 33 54.8	-0.4
	comp=Z,9.9nm,1.1s					
ECH	Echery	75.73 341	*e*P	P	10 33 55.6	+0.4
MOTA	Moosalm	75.76 338	⇑*i*P	P	10 33 55.6	+0.1
	comp=Z,4.9nm,0.8s					
BR131	Keskin Array S	75.88 320	*e*P	P	10 33 55.4	-0.8
	comp=Z,4.2nm,0.6s					
BRTR	Keskin Array B	75.88 320	P	P	10 33 55.8	-0.5
BRTR	Keskin Array B	75.88 320	P	P	10 33 55.8	-0.5
	comp=Z,6.9nm,0.7s,baz=57,slow=3.0,SNR=29					
FELD	Feldberg im Sc	75.90 341	*e*P	P	10 33 56.1	-0.1
THEF	They Montfort	75.94 342	*e*P	P	10 33 55.8	-0.5
THEF	They Montfort	75.94 342	*e*P	P	10 33 55.8	-0.5
THEF	They Montfort	75.94 342	*e*P	P	10 33 55.8	-0.5
ABTA	Abfaltersbach	76.01 337	⇑*i*P	P	10 33 57.2	+0.4
	comp=Z,16nm,1.2s					
HAU	Haudompre	76.09 342	*e*P	P	10 33 57.2	0.0
	comp=Z,13nm,0.7s					
HAU	Haudompre	76.09 342	*e*P	P	10 33 57.2	0.0
HAU			pmax	pmax		
	comp=Z,13nm,0.6s					
HAU	Haudompre	76.09 342	*e*P	P	10 33 57.2	0.0
	comp=Z,13nm,0.6s					
MOF	Molkenrain	76.09 341	*e*P	P	10 33 56.3	-1.0
MOF	Molkenrain	76.09 341	*e*P	P	10 33 56.3	-1.0
MOF	Molkenrain	76.09 341	*e*P	P	10 33 56.3	-1.0
FETA	Feichten	76.15 339	⇑*i*P	P	10 33 58.5	+0.8
	comp=Z,7.8nm,0.8s					
HINF	Hinteralfeld	76.17 341	*e*P	P	10 33 57.6	-0.1
	comp=Z,4.4nm,0.4s					
HINF	Hinteralfeld	76.17 341	*e*P	P	10 33 57.6	-0.1
HINF			pmax	pmax		
	comp=Z,4.0nm,0.4s					
HINF	Hinteralfeld	76.17 341	*e*P	P	10 33 57.6	-0.1
	comp=Z,4.4nm,0.4s					
CADS	Cadrg	76.21 336	*e*P	P	10 33 57.3	-0.6
LRAL	Lakeview Retre	76.27 52	*e*P	P	10 33 58.3	-0.1
	comp=Z,2.1nm,0.5s					
FLN	La Foliniere	76.46 347	*e*P	P	10 33 58.8	-0.4
FLN	La Foliniere	76.46 347	*e*P	P	10 33 58.8	-0.4
FLN	La Foliniere	76.46 347	*e*P	P	10 33 58.8	-0.4
WRA	Warramunga Arr	76.52 204	P	P	10 34 00.8	+1.0
WRA			pP	pP	10 34 33.7	0.0
WRA	Warramunga Arr	76.52 204	P	P	10 34 00.8	+1.0
	comp=Z,1.4nm,0.6s,baz=11,slow=5.9,SNR=22					
WRA			pP	pP	10 34 33.7	0.0
	comp=Z,2.4nm,0.8s,baz=20,slow=6.1,SNR=6.1					
LDF	La Druitiere	76.58 346	*e*P	P	10 33 59.4	-0.5
LDF	La Druitiere	76.58 346	*e*P	P	10 33 59.4	-0.5
LDF	La Druitiere	76.58 346	*e*P	P	10 33 59.4	-0.5
FUORN	Ofenpass-Fuorn	76.63 339	*e*P	P	10 34 00.9	+0.4
	comp=Z,15nm,1.4s					
GRR	Gorron	76.88 347	*e*P	P	10 34 01.0	-0.6
	comp=Z,15nm,0.7s					
GRR	Gorron	76.88 347	*e*P	P	10 34 01.0	-0.6
GRR			pmax	pmax		
	comp=Z,15nm,0.7s					
GRR	Gorron	76.88 347	*e*P	P	10 34 01.0	-0.6
	comp=Z,15nm,0.7s					
VTS	Vitosha	76.96 328	⇓P	P	10 34 01.6	-0.7
VTS	Vitosha	76.96 328	⇓*i*P	P	10 34 01.6	-0.7
TUE	Stuetta	76.96 339	*e*P	P	10 34 02.9	+0.6
	comp=Z,7.9nm,0.7s					
SGMF	Saint Gilles	77.23 348	*e*P	P	10 34 03.2	-0.4
	comp=Z,29nm,0.7s					
SGMF	Saint Gilles	77.23 348	*e*P	P	10 34 03.2	-0.4
SGMF			pmax	pmax		
	comp=Z,29nm,0.7s					
SGMF	Saint Gilles	77.23 348	*e*P	P	10 34 03.2	-0.4
	comp=Z,29nm,0.7s					
ROSF	Rostrenen	77.24 348	*e*P	P	10 34 03.2	-0.4
	comp=Z,23nm,0.8s					
ROSF	Rostrenen	77.24 348	*e*P	P	10 34 03.2	-0.4
ROSF			pmax	pmax		
	comp=Z,23nm,0.8s					
ROSF	Rostrenen	77.24 348	*e*P	P	10 34 03.2	-0.4
	comp=Z,23nm,0.8s					
LOR	Lormes	77.24 343	*e*P	P	10 34 03.8	+0.1
	comp=Z,17nm,0.7s					
LOR	Lormes	77.24 343	*e*P	P	10 34 03.8	+0.1
	comp=Z,17nm,0.7s					
CABF	La Chapelle	77.48 342	*e*P	P	10 34 05.7	+0.6
	comp=Z,21nm,0.8s					
CABF	La Chapelle	77.48 342	*e*P	P	10 34 05.7	+0.6
CABF			pmax	pmax		
	comp=Z,21nm,0.8s					
CABF	La Chapelle	77.48 342	*e*P	P	10 34 05.7	+0.6
	comp=Z,21nm,0.8s					
SSF	Saint Saulge	77.50 343	*e*P	P	10 34 04.4	-0.7
	comp=Z,6.6nm,0.6s					
SSF	Saint Saulge	77.50 343	*e*P	P	10 34 04.4	-0.7
SSF			pmax	pmax		
	comp=Z,7.0nm,0.6s					
SSF	Saint Saulge	77.50 343	*e*P	P	10 34 04.4	-0.7
	comp=Z,6.6nm,0.6s					
QUIF	Quistinic	77.64 348	*e*P	P	10 34 05.6	-0.2
	comp=Z,18nm,0.8s					
QUIF	Quistinic	77.64 348	*e*P	P	10 34 05.6	-0.2
QUIF			pmax	pmax		
	comp=Z,18nm,0.8s					
QUIF	Quistinic	77.64 348	*e*P	P	10 34 05.6	-0.2
	comp=Z,18nm,0.8s					
AVF	Avril sur Loir	77.79 343	*e*P	P	10 34 05.9	-0.8
AVF	Avril sur Loir	77.79 343	*e*P	P	10 34 05.9	-0.8
AVF	Avril sur Loir	77.79 343	*e*P	P	10 34 05.9	-0.8
BGF	Bois d'Agland	78.10 344	*e*P	P	10 34 08.5	+0.1
BGF	Bois d'Agland	78.10 344	*e*P	P	10 34 08.5	+0.1
BGF	Bois d'Agland	78.10 344	*e*P	P	10 34 08.5	+0.1
MIB	Mutribah	78.26 305	*e*P	P	10 34 08.4	-1.1
MIB			AMb	AMB	10 34 09.4	
	comp=Z,45nm,0.6s					
RSL	Roselend	78.26 341	*e*P	P	10 34 10.8	+1.3
RSL	Roselend	78.26 341	*e*P	P	10 34 10.8	+1.3
RSL	Roselend	78.26 341	*e*P	P	10 34 10.8	+1.3
LPL	La Plagne	78.41 341	*e*P	P	10 34 11.0	+0.6
LPL	La Plagne	78.41 341	*e*P	P	10 34 11.0	+0.6
LPL	La Plagne	78.41 341	*e*P	P	10 34 11.0	+0.6
LPG	La Plagne	78.42 341	*e*P	P	10 34 11.5	+0.9
	comp=Z,38nm,0.8s					
LPG	La Plagne	78.42 341	*e*P	P	10 34 11.5	+0.9
LPG			pmax	pmax		
	comp=Z,38nm,0.8s					
LPG	La Plagne	78.42 341	*e*P	P	10 34 11.5	+0.9
	comp=Z,38nm,0.8s					
TCF	Toulx Ste Croi	78.47 344	*e*P	P	10 34 09.8	-0.7
	comp=Z,9.8nm,0.7s					
TCF	Toulx Ste Croi	78.47 344	*e*P	P	10 34 09.8	-0.7
TCF			pmax	pmax		
	comp=Z,10.0nm,0.7s					
TCF	Toulx Ste Croi	78.47 344	*e*P	P	10 34 09.8	-0.7
	comp=Z,9.8nm,0.7s					
MFF	Saint Martin d	78.53 346	*e*P	P	10 34 10.2	-0.5
	comp=Z,8.6nm,0.6s					
MFF	Saint Martin d	78.53 346	*e*P	P	10 34 10.2	-0.5
MFF			pmax	pmax		
	comp=Z,9.0nm,0.6s					
MFF	Saint Martin d	78.53 346	*e*P	P	10 34 10.2	-0.5
	comp=Z,8.6nm,0.6s					
PLDF	La Plantade	78.54 343	*e*P	P	10 34 11.6	+0.7
PLDF	La Plantade	78.54 343	*e*P	P	10 34 11.6	+0.7
PLDF	La Plantade	78.54 343	*e*P	P	10 34 11.6	+0.7
AGO	Saint Agoulin	78.55 343	*e*P	P	10 34 11.6	+0.7
AGO	Saint Agoulin	78.55 343	*e*P	P	10 34 11.6	+0.7
NAY	Al-Naaiem	78.77 304	*e*P	P	10 34 10.8	-1.6
QRN	Al-Qurain	78.85 304	*e*P	P	10 34 11.9	-0.9
PYM	Petit Puy Mans	78.86 343	*e*P	P	10 34 13.3	+0.6
PYM	Petit Puy Mans	78.86 343	*e*P	P	10 34 13.3	+0.6
PYM	Petit Puy Mans	78.86 343	*e*P	P	10 34 13.3	+0.6
RDF	Al-Radifah	78.88 304	*e*P	P	10 34 12.8	-0.2
ORIF	Oris-en-Rattie	79.15 341	*e*P	P	10 34 14.4	+0.1
	comp=Z,22nm,0.7s					
ORIF	Oris-en-Rattie	79.15 341	*e*P	P	10 34 14.4	+0.1
ORIF			pmax	pmax		
	comp=Z,22nm,0.7s					
ORIF	Oris-en-Rattie	79.15 341	*e*P	P	10 34 14.4	+0.1
	comp=Z,22nm,0.7s					
MBDF	Montbardon	79.16 341	*e*P	P	10 34 14.5	+0.1
	comp=Z,15nm,0.8s					
MBDF	Montbardon	79.16 341	*e*P	P	10 34 14.5	+0.1
MBDF			pmax	pmax		
	comp=Z,15nm,0.8s					
MBDF	Montbardon	79.16 341	*e*P	P	10 34 14.5	+0.1
	comp=Z,15nm,0.8s					
VIVF	Saint-Julien-l	79.43 342	*e*P	P	10 34 15.6	-0.2
	comp=Z,18nm,0.9s					
VIVF	Saint-Julien-l	79.43 342	*e*P	P	10 34 15.6	-0.2
VIVF			pmax	pmax		
	comp=Z,18nm,0.9s					
VIVF	Saint-Julien-l	79.43 342	*e*P	P	10 34 15.6	-0.2
	comp=Z,18nm,0.9s					
CAF	Calviac	79.82 344	*e*P	P	10 34 17.8	-0.1
	comp=Z,12nm,0.6s					
CAF	Calviac	79.82 344	*e*P	P	10 34 17.8	-0.1
CAF			pmax	pmax		
	comp=Z,12nm,0.6s					
CAF	Calviac	79.82 344	*e*P	P	10 34 17.8	-0.1
	comp=Z,12nm,0.6s					
CSS	Prodhromos	80.14 318	*e*P	P	10 34 19.6	-0.1
	comp=Z,14nm,0.5s					
ASAR	Alice Springs	80.21 204	P	P	10 34 21.8	+1.7
ASAR			pP	pP	10 34 55.1	+1.0
ASAR	Alice Springs	80.21 204	P	P	10 34 21.8	+1.7
	comp=Z,1.9nm,0.7s,baz=15,slow=5.0,SNR=14					
ASAR			pP	pP	10 34 55.1	+1.0
	comp=Z,1.7nm,0.6s,baz=15,slow=5.4,SNR=4.3					
LASF	Ste Croix	80.34 342	*e*P	P	10 34 20.8	+0.2
LASF	Ste Croix	80.34 342	*e*P	P	10 34 20.8	+0.2
PGF	Pioggiola	80.78 338	*e*P	P	10 34 23.2	+0.1
	comp=Z,40nm,1.0s					
PGF	Pioggiola	80.78 338	*e*P	P	10 34 23.2	+0.1
PGF			pmax	pmax		
	comp=Z,40nm,1.0s					
PGF	Pioggiola	80.78 338	*e*P	P	10 34 23.2	+0.1
	comp=Z,40nm,1.0s					
EPF	Esparros	81.94 345	*e*P	P	10 34 29.0	-0.2
EPF	Esparros	81.94 345	*e*P	P	10 34 29.0	-0.2
EPF	Esparros	81.94 345	*e*P	P	10 34 29.0	-0.2
SJPF	Ste Jean	82.10 346	*e*P	P	10 34 31.4	+1.5
	comp=Z,20nm,0.7s					
SJPF	Ste Jean	82.10 346	*e*P	P	10 34 31.4	+1.5
SJPF			pmax	pmax		
	comp=Z,20nm,0.7s					
SJPF	Ste Jean	82.10 346	*e*P	P	10 34 31.4	+1.5
	comp=Z,20nm,0.7s					
ETSF	Etsaut	82.21 345	*e*P	P	10 34 31.3	+0.7
	comp=Z,23nm,0.8s					
ETSF	Etsaut	82.21 345	*e*P	P	10 34 31.3	+0.7
ETSF			pmax	pmax		
	comp=Z,23nm,0.8s					
ETSF	Etsaut	82.21 345	*e*P	P	10 34 31.3	+0.7
	comp=Z,23nm,0.8s					
PGAV	Gavieira, Arco	84.08 351	*e*P	P	10 34 41.4	+1.2
	comp=Z,30nm,1.4s					
PBRG	Braganca	84.08 350	*e*P	P	10 34 40.8	+0.6
	comp=Z,17nm,1.0s					
PCAB	Cabril	84.31 351	*e*P	P	10 34 41.9	+0.6
	comp=Z,26nm,0.9s					
POLO	Lamas de Olo	84.62 350	*e*P	P	10 34 43.9	+0.9
	comp=Z,17nm,0.9s					
PVRL	Vila Real	84.71 350	*e*P	P	10 34 44.4	+1.1
	comp=Z,45nm,0.7s					
MVO	Moncorvo	84.75 350	*e*P	P	10 34 43.8	+0.2
	comp=Z,23nm,0.9s					
PVIS	Viseu	85.28 350	*e*P	P	10 34 46.7	+0.5
	comp=Z,22nm,0.7s					
MTE	Manteigas	85.56 350	*e*P	P	10 34 48.4	+0.8
	comp=Z,22nm,0.8s					
ESDC	Sonseca Array	85.86 347	P	P	10 34 49.2	+0.1
ESDC	Sonseca Array	85.86 347	P	P	10 34 49.2	+0.1
	comp=Z,17nm,0.8s,baz=5.3,slow=4.8,SNR=30					
PAB	San Pablo	86.03 348	*e*P	P	10 34 49.8	-0.2
PAB			pmax	pmax		
	comp=Z,8.0nm,0.7s					
PAB	San Pablo	86.03 348	*e*P	P	10 34 49.8	-0.2
	comp=Z,7.7nm,0.7s					
PCBR	Castelo Branco	86.10 350	*e*P	P	10 34 50.6	+0.4
	comp=Z,18nm,0.7s					
PMRV	Marv??o	86.50 350	*e*P	P	10 34 52.0	-0.2
	comp=Z,10nm,1.6s					
PMTG	Montargil	86.94 350	*e*P	P	10 34 54.4	+0.1
	comp=Z,8.5nm,1.4s					
KEST	Kesra	87.20 336	P	P	10 34 55.8	+0.1
KEST	Kesra	87.20 336	P	P	10 34 55.8	+0.1
	comp=Z,6.7nm,0.9s,baz=312,slow=3.1,SNR=9.1					
EVO	Evora	87.45 350	*e*P	P	10 34 56.0	-0.8
	comp=Z,16nm,1.0s					
EVOP	Sao Brissos	87.47 350	*e*P	P	10 34 56.0	-0.8
EVOP			pmax	pmax		
	comp=Z,16nm,1.0s					
EVOP	Sao Brissos	87.47 350	*e*P	P	10 34 56.0	-0.8
	comp=Z,16nm,1.0s					
PBAR	Barrancos	87.70 349	*e*P	P	10 34 54.8	-3.2
	comp=Z,13nm,1.1s					
TORD	Torodi Ar. Bea	110.71 337	PKiKP	PKiKP	10 40 41.5	-0.1
TORD	Torodi Ar. Bea	110.71 337	PKiKP	PKiKP	10 40 41.5	-0.1
	comp=Z,0.2nm,0.4s,baz=9.0,slow=2.1,SNR=7.0					
BOSA	Boshof	138.37 288	PKP	PKPdf	10 41 33.3	-0.6
BOSA	Boshof	138.37 288	PKP	PKPdf	10 41 33.3	-0.6
	comp=Z,2.0nm,0.6s,baz=153,slow=1.5,SNR=3.8					
QSPA	South Pole Qui	143.50 180	*e*PKPdf	PKPab	10 41 38.9	+0.3
QSPA			PKPpre	PKPpre	10 41 39.6	
QSPA	South Pole Qui	143.50 180	PKhKP	PKPpre	10 41 39.6	
	comp=Z,5.5nm,0.7s,baz=341,slow=4.4,SNR=22					
SUR	Sutherland	143.71 289	PKP	PKPbc	10 41 42.1	+0.6
SUR	Sutherland	143.71 289	PKP	PKPbc	10 41 42.1	+0.6
	comp=Z,2.2nm,0.4s,baz=38,slow=15,SNR=6.7					
PLCA	Paso Flores	144.38 89	PKP	PKPdf	10 41 43.8	-0.4
PLCA	Paso Flores	144.38 89	PKP	PKPdf	10 41 43.8	-0.4
	comp=Z,4.6nm,0.9s,baz=311,slow=4.5,SNR=8.2					

GUC 25 10:28:39.8±0.8, 31.76S×68.41W, h1km±10km, MD4.0, ML3.5, 4C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FCH	Farellones	2.22	225	⇑*i*P		Pn		10 29 19.4	+1.1
FCH				*i* S		Sn		10 29 46.1	-0.6
FCH				AML		AML		10 29 48.9	
	comp=E,225nm,0.5s								
PEL	Peldehue	2.36	234	⇑*i*P		Pn		10 29 21.4	+1.6
PEL				*e*S		Sb		10 29 51.8	-1.2
PEL				AML		AML		10 29 58.3	
	comp=N,383nm,0.4s								
CLCH	Cerro Calan	2.42	227	⇑*i*P		Pn		10 29 21.8	+1.2
CLCH				*i* S		Sb		10 29 53.5	-1.2
CLCH				AML		AML		10 29 59.0	
	comp=N,402nm,0.7s								
ROCH	El Roble	2.51	241	*e*P		Pn		10 29 22.2	+0.2
ROCH				*e*S		Sb		10 29 55.7	-1.8
ROCH				AML		AML		10 30 05.5	
	comp=N,372nm,0.4s								
LMEL	Las Melosas	2.57	215	*e*P		Pn		10 29 23.7	+1.0
LMEL				*i* S		Sb		10 29 57.7	-1.4
LMEL				AML		AML		10 30 01.6	
	comp=N,162nm,0.4s								
CHNG	Los Chungos	2.63	267	⇑*i*P		Pn		10 29 24.3	+0.9
CHNG				*i* S		Sn		10 29 57.7	+1.8
CHNG				AML		AML		10 29 59.5	
	comp=N,167nm,0.3s								
OVCH	Ovalle	2.65	295	*e*P		Pn		10 29 24.6	+0.9
OVCH				*i* S		Sb		10 29 59.4	-1.8
OVCH				AML		AML		10 30 02.2	
	comp=N,617nm,0.5s								

DJA ***25*** *11:49:27, 1.27S×120.11E, h10km, MLv4.5/7*
IDC ***25*** *11:49:27.3±0.8, 1.55S×120.82E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.7/23, mbtmp3.7/9, ML3.9/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/28, Error ellipse: s-maj=42.5km s-min=14.6km az=66.0*
NEIC ***25*** *11:49:28.4±0.5, 1.67S×120.65E, h10km, mb4.5/2, Error ellipse: s-maj=24.0km s-min=8.5km az=65.0*

ISC 25 11:49:28.3±2.3, 1.65S±0.05×120.56E±0.06, h8km±15km, n34, σ1°49/39, mb3.9/10, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TTSI	Tana Toraja	1.57	208	P		Pn		11 49 56.0	-0.5
TTSI				S		Sg		11 50 21.7	+2.9
LUWI	Luwuk	2.29	75	P		Pn		11 50 07.8	+1.3
LUWI				S		Sg		11 50 41.5	-0.6
SPSI	Sidrap Palu	2.43	199	P		Pn		11 50 10.1	+1.7
SPSI				S		Sb		11 50 43.9	+1.4
MRSI	Marisa	2.52	33	P		Pn		11 50 09.9	+0.2
KDI	Kendari	3.08	138	P		Pb		11 50 21.7	-1.7
KAPI	Kappang	3.44	194	*e*Pn		Pn		11 50 21.8	-0.4
KAPI				Sn		Sb		11 51 09.4	-2.1
KAPI				*e*Sg		Sg		11 51 19.5	+0.8
KAPI	Kappang	3.44	194	P		Pn		11 50 24.1	+1.9
KAPI	Kappang	3.44	194	Pn		Pn		11 50 23.8	+1.5
	11nm,0.3s,baz=15,slow=9.1,SNR=22								
KAPI				Sn		Sb		11 51 09.4	-2.1
	6.3nm,0.3s,baz=49,slow=19,SNR=3.5								
KAPI				LR		LR		11 51 52.8	
	comp=Z,315nm,19.6s,baz=346,slow=40								
BKSI	Bulukumba	3.67	187	P		Pb		11 50 29.7	-3.8
KMSI	Cibinong	4.07	57	P		Pn		11 50 32.9	+1.9
BBSI	Bau Bau	4.31	152	P		Pn		11 50 37.8	+3.6
KBKI	Kotabaru	4.68	249	P		Pn		11 50 37.8	-1.6
MNI	Manado	5.27	54	P		Pn		11 50 49.4	+1.9
	162nm,0.8s,0.8nm								
BBKI	Banjar Baru	5.99	252	P		Pn		11 50 55.6	-1.7
	46nm,0.8s,0.3nm								
PLKI	Palangkaraya	6.63	265	P		Pn		11 51 03.3	-2.9
MYLDM	Lahad Datu	7.09	343	P		Pn		11 51 16.8	+4.3
WRAB	Tennant Creek	22.63	144	*e*P		P		11 54 28.9	-1.0
	36nm,1.6s								
WRA	Warramunga Arr	22.63	144	P		P		11 54 28.6	-1.4
WRA	Warramunga Arr	22.63	144	P		P		11 54 28.6	-1.4
	2.6nm,0.7s,baz=320,slow=11,SNR=15								
ASAR	Alice Springs	25.42	150	P		P		11 54 56.2	-0.5
ASAR				PcP		PcP		11 58 30.7	+1.6
ASAR	Alice Springs	25.42	150	P		P		11 54 56.2	-0.5
	0.2nm,0.4s,baz=325,slow=8.0,SNR=11								
ASAR				PcP		PcP		11 58 30.7	+1.6
	0.2nm,0.6s,baz=321,slow=2.1,SNR=4.5								
CMAR	Chiang Mai Arr	29.18	314	P		P		11 55 31.1	+0.6
CMAR	Chiang Mai Arr	29.18	314	P		P		11 55 31.1	+0.6
	1.4nm,0.8s,baz=137,slow=7.4,SNR=6.4								
STKA	Stephens Creek	36.02	149	P		P		11 56 29.9	-0.3
STKA	Stephens Creek	36.02	149	P		P		11 56 29.9	-0.3
	1.4nm,0.8s,baz=312,slow=14,SNR=4.6								
SONM	Songino Array	50.81	348	P		P		11 58 29.4	-0.1
SONM	Songino Array	50.81	348	P		P		11 58 29.4	-0.1
	0.6nm,0.9s,baz=157,slow=8.0,SNR=4.9								
MKAR	Makanchi Array	58.77	330	P		P		11 59 26.4	-0.7
MKAR	Makanchi Array	58.77	330	P		P		11 59 26.4	-0.7
	1.0nm,1.0s,baz=130,slow=8.1,SNR=5.3								
AAK	Ala-Archa	60.49	322	P		P		11 59 41.4	+2.2
AAK	Ala-Archa	60.49	322	P		P		11 59 41.4	+2.2
	1.0nm,0.7s,baz=139,slow=11,SNR=2.5								
ZALV	Zalesovo Beam	62.84	337	P		P		11 59 54.3	-0.2
ZALV	Zalesovo Beam	62.84	337	P		P		11 59 54.3	-0.2
	0.3nm,0.4s,baz=128,slow=9.5,SNR=2.6								
KURK	Kurchatov	63.22	332	*e*P		P		11 59 56.6	-0.5
	2.3nm,0.9s								

THE ***25*** *12:05:22.4, 38.29N×20.88E, h7km±1km, ML2.7/3, Error ellipse: s-maj=1.3km s-min=0.4km az=257.0*
ATH ***25*** *12:05:22.5, 38.22N×20.81E, h11km±4km, MD2.9/4*
CSEM ***25*** *12:05:22.0±0.2, 38.26N×20.86E, h10km, MD2.9, Error ellipse: s-maj=5.3km s-min=3.5km az=20.0*

ISC 25 12:05:22.0±1.0, 38.30N±0.03×20.87E±0.03, h9km±10km, n26, σ0°44/40, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KFL	Anninata	0.20	198

s-maj=33.1km s-min=15.0km az=142.0

ISC 25 12:08:39.2±0.9, 50.13N±0.10×156.47E±0.10, h100km±9km, n41, σ1938/51, mb3.4/5, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.60**	**338**	*i* PN	**Pn**	**12 08 54.9**	**-0.8**
SKR				*i* S	**Sn**	**12 09 07.5**	**-0.6**
SKR	comp=E,150nm,0.5s			pmax	pmax		
SKR	comp=Z,660nm,0.5s			pmax	pmax		
SKR	comp=N,410nm,0.3s			pmax	pmax		
SKR	comp=N,1μm,0.3s			smax	smax		
SKR	comp=E,5μm,0.3s			smax	smax		
MIPR	**Malaya Ipel'ka**	**2.16**	**5**	P	**Pn**	**12 09 13.9**	**+0.1**
ASAK	**Asacha**	**2.43**	**21**	*i* P	**Pn**	**12 09 18.6**	**+1.2**
ASAK				*e*S	**Sn**	**12 09 46.7**	**0.0**
MTVR	**Mutnovka**	**2.59**	**24**	*i* P	**Pn**	**12 09 20.5**	**+0.9**
MTVR				*e*S	**Sn**	**12 09 50.9**	**+0.3**
RUS	**Russkaya**	**2.64**	**28**	*i* P	**Pn**	**12 09 20.2**	**+0.1**
RUS				*e*S	**Sn**	**12 09 49.7**	**-1.8**
APC	**Apacha**	**2.83**	**8**	*e*P	**Pn**	**12 09 22.6**	**0.0**
PETK	**Petropavlovsk-**	**3.08**	**14**	PN	**Pn**	**12 09 26.6**	**+0.6**
PETK	comp=Z,9.0nm,0.3s			S	**Sn**	**12 10 02.5**	**+0.4**
PETK				pmax	pmax		
PETK	**Petropavlovsk-**	**3.08**	**14**	P	**Pn**	**12 09 26.6**	**+0.6**
PETK	comp=Z,9.0nm,0.3s,baz=210,slow=13,SNR=330 baz=153,slow=19,SNR=3.2			S	**Sn**	**12 10 02.5**	**+0.4**
PET	**Petropavlovsk**	**3.21**	**24**	*e*PN	**Pn**	**12 09 28.2**	**+0.6**
PET				*e*S	**Sn**	**12 10 03.0**	**-1.9**
PET	comp=Z,25nm,0.4s			pmax	pmax		
PET	comp=N,73nm,0.6s			smax	smax		
PET	comp=E,48nm,0.5s			smax	smax		
PET	**Petropavlovsk**	**3.21**	**24**	*i* P	**Pn**	**12 09 29.0**	**+1.4**
PET				*e*S	**Sn**	**12 10 04.1**	**-0.8**
UGLR	**Uglovaya**	**3.42**	**25**	*i* P	**Pn**	**12 09 32.0**	**+1.5**
KOK	**Koryaka**	**3.44**	**22**	*i* P	**Pn**	**12 09 32.6**	**+1.7**
AVH	**Avacha**	**3.44**	**23**	*i* P	**Pn**	**12 09 32.5**	**+1.6**
SMAR	**Somma**	**3.46**	**24**	*i* P	**Pn**	**12 09 32.5**	**+1.3**
KRER	**Koryakskii**	**3.48**	**23**	*i* P	**Pn**	**12 09 33.0**	**+1.5**
KRER				S	**Sn**	**12 10 12.0**	**+0.1**
SDLR	**Sedlovina**	**3.50**	**25**	*i* P	**Pn**	**12 09 32.5**	**+0.9**
SDLR				*e*S	**Sn**	**12 10 11.2**	**-0.9**
NLC	**Nalytchevo**	**3.54**	**29**	*e*P	**Pn**	**12 09 31.2**	**-0.8**
NLC				*e*S	**Sn**	**12 10 08.6**	**-4.3**
SPN	**Mys Shipunski**	**3.71**	**35**	*e*P	**Pn**	**12 09 34.6**	**+0.3**
SPN				*e*S	**Sn**	**12 10 14.3**	**-2.8**
MKZ	**Mys Kozlova**	**5.48**	**34**	*e*P	**Pn**	**12 09 57.2**	**-1.1**
MKZ				*e*S	Sn	12 10 53.0	-7.0
TUMR	**Tumrok**	**5.63**	**22**	P	**Pn**	**12 10 01.0**	**+0.6**
KMNR	**Kamenistaya**	**6.08**	**21**	*e*P	**Pn**	**12 10 07.1**	**+0.6**
KPT	**Kopyto**	**6.27**	**20**	P	**Pn**	**12 10 10.4**	**+1.3**
BZMR	**Bezymyannaya**	**6.30**	**21**	P	**Pn**	**12 10 11.0**	**+1.4**
BZWR	**Bezymyannyi-We**	**6.33**	**21**	P	**Pn**	**12 10 10.6**	**+0.6**
BZGR	**Bezymyannyi-Gr**	**6.36**	**22**	P	**Pn**	**12 10 11.5**	**+1.2**
ZLN	**Zelenaya**	**6.45**	**22**	P	**Pn**	**12 10 12.5**	**+0.9**
SRDR	**Sredinnyy**	**6.50**	**16**	P	**Pn**	**12 10 12.9**	**+0.7**
KLY	**Klyuchi**	**6.69**	**20**	P	**Pn**	**12 10 15.6**	**+1.0**
KBTR	**Krutoberegovo**	**7.19**	**30**	*e*P	**Pn**	**12 10 20.2**	**-1.2**
BKI	**Bering**	**7.69**	**45**	S	Sn	12 11 44.8	-8.9
FX1	**Attu Island--F** comp=E,7.9nm,0.3s,baz=6.6,slow=1.1,SNR=56	**10.77**	**69**	P	**Pn**	**12 11 13.2**	**+3.1**
FX1	comp=E,5.9nm,0.3s,baz=55,slow=22,SNR=8.5			S	**Sn**	**12 13 08.4**	**-0.1**
ASAJ	**Asahikawa** comp=E,0.2nm,0.3s,baz=99,slow=12,SNR=5.8	**11.19**	**243**	P	**Pn**	**12 11 15.3**	**-0.6**
ERM	**Erimo**	**12.29**	**234**	*e*PN	**Pn**	**12 11 31.0**	**+0.5**
MJA0	**Matsu Arr-Jizo**	**18.91**	**231**	*e*P	**Pn**	**12 12 54.9**	**+1.4**
MJAR	**Matsushiro Arr** comp=E,0.4nm,0.3s,baz=16,slow=13,SNR=6.9	**18.93**	**231**	P	**P**	**12 12 51.1**	**-0.9**
ILAR	**Eielson Array** comp=E,0.5nm,0.7s,baz=265,slow=6.3,SNR=7.0	**32.52**	**42**	P	**P**	**12 14 59.6**	**-0.4**
YKA	**Yellowknife Ar** comp=E,0.3nm,0.5s,baz=300,slow=7.6,SNR=6.1	**46.89**	**39**	P	**P**	**12 16 58.2**	**-0.6**
KURK	**Kurchatov**	**47.40**	**302**	*e*P	P	12 16 56.2	-6.7
KURK				*i* *PP	pP	12 17 22.6	-4.0
KURK	comp=Z,3.0nm,1.2s			pmax	pmax		
MKAR	**Makanchi Array**	**47.42**	**296**	P	P	12 16 58.0	-5.2
MKAR	**Makanchi Array** comp=Z,0.1nm,0.3s,baz=60,slow=6.6,SNR=7.5	**47.42**	**296**	P	P	12 16 58.0	-5.2
TXAR	**Lajitas Array** comp=Z,0.1nm,0.5s,baz=309,slow=6.2,SNR=4.7	**73.93**	**64**	P	**P**	**12 20 03.6**	**+0.1**
TXAR	comp=Z,0.3nm,0.6s,baz=300,slow=5.0,SNR=5.3			pP	**pP**	**12 20 32.1**	**+3.1**

*ATH **25** 12:11:18.3, 38.19N×27.20E, h44km, MD2.4/3*
*ISCJB **25** 12:11:28.0±0.8, 38.62N±0.03×26.99E±0.05, h7km±6km, Error ellipse: s-maj=6.8km s-min=4.0km az=154.7*
*DDA **25** 12:11:27.8, 38.61N×27.00E, h7km, MD2.9*
*ISK **25** 12:11:28.0, 38.62N×27.02E, h14km, MD2.7*
*CSEM **25** 12:11:28.5±0.1, 38.61N×27.02E, h15km, MD2.7, Error ellipse: s-maj=3.1km s-min=1.7km az=68.0*

ISC 25 12:11:27.3±1.1, 38.60N±0.03×26.93E±0.03, h14km±9km, n26, σ0965/42, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZM	**Izmir**	**0.33**	**127**	P	**Pg**	**12 11 34.4**	**+0.4**
IZM				*e*SG	**Sb**	**12 11 39.3**	**-0.7**
IZM	**Izmir**	**0.33**	**127**	*i* Pg	**Pg**	**12 11 34.4**	**+0.4**
IZM				*e*Sg	**Sb**	**12 11 39.3**	**-0.7**
AYVA	**Ayvalik**	**0.74**	**345**	*i* P	**Pb**	**12 11 42.5**	**+0.6**
AYVA				*i* S	**Sb**	**12 11 52.3**	**+0.5**
AYVA	**Ayvalik**	**0.74**	**345**	*i* P	**Pb**	**12 11 42.5**	**+0.6**
AYVA				*i* S	**Sb**	**12 11 52.3**	**+0.5**
AKS	**Akhisar**	**0.74**	**67**	*e*PG	**Pg**	**12 11 41.7**	**-0.1**
AKS				*e*SG	**Sg**	**12 11 51.3**	**-0.3**
AKS	**Akhisar**	**0.74**	**67**	*e*Pg	**Pg**	**12 11 41.7**	**-0.1**
AKS				*e*Sg	**Sg**	**12 11 51.3**	**-0.3**
AKHS	**Akhisar**	**0.74**	**67**	*i* P	**Pg**	**12 11 41.4**	**-0.4**
AKHS				*i* S	**Sg**	**12 11 50.8**	**-0.7**
AKHS	**Akhisar**	**0.74**	**67**	*i* P	**Pg**	**12 11 41.4**	**-0.4**
PRK	**Paraskevi**	**0.83**	**322**	*e*P	**Pb**	**12 11 41.3**	**-2.2**
PRK				*e*S	**Sn**	**12 11 57.3**	**+0.8**
PRK	**Paraskevi**	**0.83**	**322**	*e*P	**Pb**	**12 11 41.3**	**-2.2**
PRK				*e*S	**Sn**	**12 11 57.3**	**+0.8**
GCAM	**G?zelcaml?**	**0.93**	**165**	*i* P	**Pg**	**12 11 46.1**	**+0.3**
GCAM				*i* S	**Sg**	**12 11 57.8**	**+0.5**
GCAM	**G?zelcaml?**	**0.93**	**165**	*i* P	**Pn**	**12 11 46.1**	**+0.3**
GCAM				*i* S	**Sg**	**12 11 57.8**	**+0.5**
AYDN	**Tasoluk**	**1.20**	**141**	*i* P	**Pg**	**12 11 50.4**	**+0.1**
AYDN				*i* S	**Sn**	**12 12 05.5**	**-0.2**
AYDN	**Tasoluk**	**1.20**	**141**	*i* P	**Pg**	**12 11 50.4**	**+0.1**
AYDN				*i* S	**Sn**	**12 12 05.5**	**-0.2**
BALY	**Balya**	**1.26**	**25**	*i* P	**Pb**	**12 11 51.0**	**+0.2**
BALY				*i* S	**Sn**	**12 12 07.7**	**+0.4**
BALY	**Balya**	**1.26**	**25**	*i* P	**Pb**	**12 11 51.0**	**+0.2**
BALY				*i* S	**Sn**	**12 12 07.7**	**+0.4**
BALB	**Balikesir**	**1.28**	**35**	*e*PN	**Pn**	**12 11 50.7**	**0.0**
BALB	**Balikesir**	**1.28**	**35**	*e*Pn	**Pn**	**12 11 50.7**	**0.0**
MANT	**Manisa**	**1.28**	**94**	*i* P	**Pb**	**12 11 51.3**	**+0.1**
MANT				*i* S	**Sb**	**12 12 07.4**	**-0.2**
MANT	**Manisa**	**1.28**	**94**	*i* P	**Pb**	**12 11 51.3**	**+0.1**
EZN	**Ezine**	**1.32**	**339**	*e*PN	**Pg**	**12 11 52.9**	**+0.3**
EZN	**Ezine**	**1.32**	**339**	*e*Pn	**Pg**	**12 11 52.9**	**+0.3**
KULA	**Kula-Manisa**	**1.36**	**93**	*e*PN	**Pb**	**12 11 52.3**	**-0.2**
KULA	**Kula-Manisa**	**1.36**	**93**	*e*Pn	**Pb**	**12 11 52.3**	**-0.2**
GONE	**Gonen-Balikesi**	**1.56**	**22**	*e*PN	**Pb**	**12 11 55.3**	**-0.6**
GONE	**Gonen-Balikesi**	**1.56**	**22**	*e*Pn	**Pb**	**12 11 55.3**	**-0.6**

IDC 25 12:16:30.6±2.3, 6.81S×129.49E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/19, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=105.1km s-min=27.9km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.84**	**198**	Pn	Pn	12 19 21.5	+0.7
FITZ	0.1nm,0.3s,baz=19,slow=12,SNR=6.0			Sn	Sn	12 21 20.7	-13
	0.4nm,0.3s,baz=93,slow=18,SNR=5.8						
WRA	**Warramunga Arr**	**13.88**	**161**	Pn	Pn	12 19 48.5	-0.2
	0.1nm,0.3s,baz=335,slow=14,SNR=9.7						
WRA				Sn	Sn	12 22 11.0	-13
	0.3nm,0.3s,baz=337,slow=22,SNR=7.9						
ASAR	**Alice Springs**	**17.29**	**166**	P	Pn	12 20 33.1	-0.5
	0.1nm,0.3s,baz=342,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**67.79**	**327**	P	P	12 27 30.4	0.0
	0.3nm,0.6s,baz=127,slow=7.1,SNR=2.9						

IDC 25 12:19:39.5±1.2, 3.71N×126.21E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, Error ellipse: s-maj=129.8km s-min=19.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.83**	**162**	P	P	12 25 03.4	-0.3
	1.1nm,0.6s,baz=343,slow=10,SNR=6.6						
ASAR	**Alice Springs**	**28.23**	**165**	P	P	12 25 34.0	-0.5
	0.3nm,0.9s,baz=335,slow=9.4,SNR=2.8						
STKA	**Stephens Creek**	**38.30**	**159**	P	P	12 27 02.7	+0.7
	2.1nm,0.7s,baz=340,slow=9.6,SNR=5.3						
SONM	**Songino Array**	**47.15**	**342**	P	P	12 28 14.4	+0.6
	0.2nm,0.6s,baz=159,slow=8.1,SNR=3.3						
MKAR	**Makanchi Array**	**57.27**	**325**	P	P	12 29 28.3	-0.8
	0.3nm,0.5s,baz=125,slow=7.3,SNR=6.9						

PRE 25 12:21:59.4±1.4, 26.39S×27.45E, h2km, ML2.0, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.54**	**188**	*e*P	Pg	12 22 10.2	+0.2
PRYS				*e*S	Sg	12 22 17.6	+0.4
PRYS				AML	AML	12 22 22.7	
	comp=Z,41nm,0.7s						
ERPM	**east rand prop**	**0.71**	**87**	*e*P	Pb	12 22 14.8	0.0
ERPM				*e*S	Sg	12 22 23.8	+1.0
ERPM				AML	AML	12 22 34.0	
	comp=Z,19nm,0.3s						
KSR	**Koster**	**0.73**	**317**	*e*P	Pg	12 22 13.3	-0.3
KSR				*e*S	Sg	12 22 23.9	+0.6
KSR				AML	AML	12 22 32.9	
	comp=Z,69nm,0.1s						
SLR	**Silverton**	**0.99**	**49**	*e*P	Pg	12 22 17.3	-1.4
SLR				*e*S	Sg	12 22 31.5	-0.2
SLR				AML	AML	12 22 40.7	
	comp=Z,33nm,0.2s						
SWZ	**Schweizer**	**2.05**	**247**	*e*P	Pn	12 22 35.4	+0.2
SWZ				*e*S	Sn	12 23 01.9	+0.4
SWZ				AML	AML	12 23 05.7	
	comp=Z,24nm,0.5s						
LBTB	**Lobatse**	**2.16**	**309**	*e*P	Pn	12 22 37.7	+1.2
LBTB				*e*S	Sn	12 23 05.1	+1.1
LBTB				AML	AML	12 23 09.8	
	comp=Z,13nm,0.7s						
BOSA	**Boshof**	**2.95**	**221**	*e*P	Pn	12 22 47.6	+0.1
BOSA				*e*S	Sn	12 23 23.4	-0.3
BOSA				AML	AML	12 23 30.7	
	comp=Z,2.8nm,0.3s						

JSN 25 12:23:14.6±0.7, 18.07N×76.61W, h0km±3km, MD3.8, 2C, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.12**	**271**	*i* P	Pg	12 23 16.8	-0.3
HOJ	**Hope**	**0.15**	**244**	*i* P	Pg	12 23 18.3	+0.7
STH	**Stony Hill**	**0.19**	**272**	*i* P	Pg	12 23 18.2	-0.1
STH				*i* S	Sg	12 23 21.7	+0.7
CMJ	**Castle Mountai**	**0.23**	**74**	*i* P	Pg	12 23 20.0	+0.9
BNJ	**Bonny Gate**	**0.41**	**307**	*i* P	Pg	12 23 22.6	+0.1
BBJ	**Bamboo Saint A**	**0.70**	**296**	*i* P	Pg	12 23 27.8	-0.3
MCJ	**Malvern**	**1.04**	**262**	*i* P	Pg	12 23 33.4	-1.3
MBJ	**Montego Bay**	**1.24**	**286**	*i* P	Pg	12 23 36.9	-1.6
MBJ				*i* S	Sg	12 23 54.1	-0.5

IDC 25 12:51:40.1±0.9, 13.78N×146.31E, h0km, mb3.6/9, mb1 3.9/9, mb1mx3.7/24, mbtmp3.6/9, MS4.1/1, Ms1 4.1/1, ms1mx2.6/37, Error ellipse: s-maj=29.1km s-min=20.0km az=100.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**21.28**	**310**	LR	LR	13 03 47.5	
	comp=Z,560nm,20.9s,baz=272,slow=34						
KSRS	**Korea Array**	**28.71**	**329**	P	P	12 57 39.0	0.0
	0.7nm,0.5s,baz=142,slow=9.9,SNR=3.9						
WRA	**Warramunga Arr**	**35.52**	**200**	P	P	12 58 38.3	-0.7
	1.3nm,0.9s,baz=22,slow=9.6,SNR=4.9						
ASAR	**Alice Springs**	**39.15**	**198**	P	P	12 59 09.8	+0.1
	0.2nm,0.6s,baz=16,slow=11,SNR=3.8						
CMAR	**Chiang Mai Arr**	**45.64**	**282**	P	P	13 00 03.2	+0.4
	0.8nm,0.7s,baz=86,slow=5.8,SNR=5.9						
SONM	**Songino Array**	**47.39**	**324**	P	P	13 00 16.2	-0.1
	0.8nm,0.8s,baz=132,slow=9.4,SNR=6.7						
MKAR	**Makanchi Array**	**62.32**	**316**	P	P	13 02 04.4	0.0
	0.5nm,0.5s,baz=89,slow=8.2,SNR=9.1						
ILAR	**Eielson Array**	**67.80**	**25**	P	P	13 02 38.1	-1.6
	1.2nm,1.1s,baz=253,slow=6.1,SNR=9.0						
YKA	**Yellowknife Ar**	**82.05**	**28**	P	P	13 04 03.0	+1.0
	0.4nm,0.9s,baz=281,slow=5.5,SNR=3.3						
NVAR	**Mina Array Bea**	**85.71**	**52**	P	P	13 04 22.9	+1.3
	0.6nm,0.7s,baz=263,slow=6.5,SNR=5.4						
DBIC	**Dimbokro**	**144.90**	**304**	PKP	PKPab	13 11 19.1	-0.2
	5.0nm,1.0s,baz=48,slow=8.6,SNR=4.9						

IDC 25 12:54:26.6±2.0, 4.12N×127.38E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/22, mbtmp3.6/4, Error ellipse: s-maj=158.2km s-min=25.7km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.87**	**164**	P	P	12 59 50.7	-0.4
	0.6nm,0.4s,baz=343,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**28.34**	**167**	P	P	13 00 24.1	+1.7
	0.3nm,0.6s,baz=348,slow=12,SNR=7.3						
STKA	**Stephens Creek**	**38.26**	**160**	P	P	13 01 47.1	-1.6
	1.7nm,0.8s,baz=330,slow=12,SNR=4.5						
MKAR	**Makanchi Array**	**57.62**	**325**	P	P	13 04 18.5	0.0
	0.2nm,0.4s,baz=120,slow=7.0,SNR=5.3						

*ISCJB **25** 13:07:19.4±0.7, 4.17S±0.09×69.5E±0.1, h10km, mb4.4/17, MS3.5/10, Error ellipse: s-maj=19.3km s-min=10.9km az=151.4*
*IDC **25** 13:07:19.8±0.8, 4.16S×69.46E, h0km, mb4.3/13, mb1 4.4/13, mb1mx4.1/29, mbtmp4.3/13, MS3.5/10, Ms1 3.6/10, ms1mx3.3/46, Error ellipse: s-maj=25.1km s-min=17.8km az=62.0*
*NEIC **25** 13:07:21.2±0.4, 4.20S×69.42E, h10km, mb4.8/4, Error ellipse: s-maj=14.1km s-min=8.5km az=59.0*

ISC 25 13:07:21.2±0.7, 4.25S±0.1×69.4E±0.1, h10km, n46, σ0971/42, mb4.5/17, MS3.6/10, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**4.38**	**137**	*e*P	**Pn**	**13 08 26.9**	**-0.9**
OPO	**Ambohidratompo**	**26.02**	**235**	LR	LR	13 21 21.4	
	comp=Z,162nm,18.1s,baz=274,slow=32						
PSI	**Prapat**	**30.28**	**77**	LR	LR	13 24 16.0	
	comp=Z,178nm,19.0s,baz=96,slow=34						
ATD	**Arta Tunnel**	**30.72**	**301**	LR	LR	13 23 03.0	
	comp=Z,62nm,18.4s,baz=41,slow=31						
KULM	**Kulim**	**32.57**	**73**	*e*P	**P**	**13 13 54.0**	**+0.9**
CMAR	**Chiang Mai Arr**	**36.77**	**51**	P	**P**	**13 14 29.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**36.77**	**51**	P	**P**	**13 14 29.9**	**+0.5**
	1.4nm,0.6s,baz=242,slow=9.6,SNR=14						
CMAR				LR	LR	13 27 38.7	
	comp=Z,50nm,19.6s,baz=45,slow=33						
AAK	**Ala-Archa**	**46.84**	**5**	*e*P	**P**	**13 15 52.2**	**+0.7**
AAK	**Ala-Archa**	**46.84**	**5**	P	**P**	**13 15 52.1**	**+0.6**
	2.4nm,0.8s,baz=171,slow=7.0,SNR=7.3						
TKM2	**Tokmak 2**	**47.23**	**6**	*e*P	**P**	**13 15 54.8**	**+0.1**
	5.9nm,1.1s						
BOSA	**Boshof**	**48.43**	**235**	P	**P**	**13 16 04.9**	**+0.8**
BOSA	**Boshof**	**48.43**	**235**	P	**P**	**13 16 04.9**	**+0.8**
	4.3nm,0.7s,baz=56,slow=10,SNR=5.2						
MMAI	**Mount Meron Ar**	**49.08**	**322**	LR	LR	13 33 26.2	
	comp=Z,35nm,18.0s,baz=200,slow=32						
GNI	**Garni**	**49.62**	**335**	LR	LR	13 34 10.8	
	comp=Z,34nm,19.7s,baz=289,slow=32						
MKAR	**Makanchi Array**	**52.03**	**11**	P	**P**	**13 16 29.9**	**-1.1**
MKAR				PcP	**PcP**	**13 17 43.0**	**-0.2**
MKAR	**Makanchi Array**	**52.03**	**11**	P	**P**	**13 16 29.9**	**-1.1**
	0.6nm,0.7s,baz=192,slow=7.1,SNR=8.7						
MKAR				PcP	**PcP**	**13 17 43.0**	**-0.2**
	0.6nm,0.9s,baz=193,slow=5.0,SNR=3.8						
MKAR				LR	LR	13 39 44.4	
	comp=Z,58nm,18.9s,baz=54,slow=37						
ABKAR	**Akbulak array**	**53.88**	**352**	*e*P	**P**	**13 16 44.7**	**+0.2**
	4.8nm,0.9s						
KURK	**Kurchatov**	**55.27**	**7**	*e*P	**P**	**13 16 54.3**	**-0.3**
	3.4nm,0.3s						
AKTO	**Aktyubinsk**	**55.30**	**351**	P	**P**	**13 16 54.2**	**-0.7**
AKTO	**Aktyubinsk**	**55.30**	**351**	P	**P**	**13 16 54.2**	**-0.7**
	2.5nm,0.7s,baz=160,slow=6.3,SNR=8.9						
AKTO				LR	LR	13 41 17.0	
	comp=Z,46nm,18.2s,baz=202,slow=37						
FITZ	**Fitzroy Crossi**	**56.62**	**109**	*e*P	**P**	**13 17 05.5**	**+0.6**
FITZ	**Fitzroy Crossi**	**56.62**	**109**	P	**P**	**13 17 04.0**	**-0.9**
	5.2nm,1.0s,baz=263,slow=8.5,SNR=5.3						
ZALV	**Zalesovo Beam**	**59.35**	**11**	P	**P**	**13 17 22.6**	**-0.8**
ZALV	**Zalesovo Beam**	**59.35**	**11**	P	**P**	**13 17 22.6**	**-0.8**
	1.6nm,0.6s,baz=207,slow=7.3,SNR=11						
SONM	**Songino Array**	**61.11**	**28**	P	**P**	**13 17 35.7**	**0.0**
SONM	**Songino Array**	**61.11**	**28**	P	**P**	**13 17 35.7**	**0.0**
	4.8nm,0.9s,baz=217,slow=7.1,SNR=39						
ASAR	**Alice Springs**	**64.96**	**114**	P	**P**	**13 18 01.9**	**+0.1**
ASAR	**Alice Springs**	**64.96**	**114**	P	**P**	**13 18 01.9**	**+0.1**
	3.9nm,0.8s,baz=284,slow=6.1,SNR=37						
WRA	**Warramunga Arr**	**65.00**	**110**	P	**P**	**13 18 02.5**	**+0.4**
WRA	**Warramunga Arr**	**65.00**	**110**	P	**P**	**13 18 02.5**	**+0.4**
	10.0nm,0.8s,baz=284,slow=6.3,SNR=61						
WRAB	**Tennant Creek**	**65.01**	**110**	*e*P	**P**	**13 18 02.6**	**+0.6**
	9.3nm,0.8s						
KSRS	**Korea Array**	**68.23**	**47**	LR	LR	13 47 37.1	
	comp=Z,37nm,19.6s,baz=196,slow=36						
STKA	**Stephens Creek**	**72.65**	**122**	P	**P**	**13 18 49.9**	**+0.4**
STKA	**Stephens Creek**	**72.65**	**122**	P	**P**	**13 18 49.9**	**+0.4**
	3.3nm,0.8s,baz=304,slow=4.9,SNR=5.3						
MJAR	**Matsushiro Arr**	**75.66**	**51**	P	**P**	**13 19 07.0**	**0.0**
MJAR	**Matsushiro Arr**	**75.66**	**51**	P	**P**	**13 19 07.0**	**0.0**
	0.6nm,0.4s,baz=250,slow=6.4,SNR=4.7						
MJAR				LR	LR	13 54 08.8	
	comp=Z,47nm,20.1s,baz=35,slow=37						
HFS	**Hagfors**	**77.41**	**335**	P	**P**	**13 19 17.1**	**+0.7**
HFS	**Hagfors**	**77.41**	**335**	P	**P**	**13 19 17.1**	**+0.7**
	2.8nm,0.8s,baz=167,slow=14,SNR=4.0						
YKA	**Yellowknife Ar**	**121.76**	**2**	PKP	**PKPdf**	**13 26 14.1**	**-1.1**
YKA	**Yellowknife Ar**	**121.76**	**2**	PKP	**PKPdf**	**13 26 14.1**	**-1.1**
	0.2nm,0.6s,baz=353,slow=2.1,SNR=3.7						
BSMT	**Bassoo Peak**	**136.36**	**4**	*e*PKPdf	**PKPdf**	**13 26 41.8**	**-1.9**
SMCO	**Snowmass**	**145.03**	**355**	*e*PKP	**PKPdf**	**13 26 59.8**	**-0.1**
NVAR	**Mina Array Bea**	**145.21**	**11**	PKPbc	**PKPdf**	**13 27 00.5**	**+0.6**
NVAR	**Mina Array Bea**	**145.21**	**11**	PKPbc	**PKPdf**	**13 27 00.5**	**+0.6**
	0.3nm,0.6s,baz=64,slow=4.1,SNR=4.0						
TXAR	**Lajitas Array**	**154.16**	**346**	PKPbc	**PKPbc**	**13 27 22.0**	**-0.4**
TXAR	**Lajitas Array**	**154.16**	**346**	PKPbc	**PKPbc**	**13 27 22.0**	**-0.4**
	0.7nm,0.9s,baz=118,slow=0.9,SNR=7.4						

IDC 25 13:17:37.1±0.7, 3.52N×126.64E, h0km, mb3.9/11, mb1 4.1/11, mb1mx4.0/24, mbtmp4.0/11, Error ellipse: s-maj=44.0km s-min=14.0km az=76.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.50**	**183**	P	P	13 22 27.9	+0.1
	1.7nm,0.6s,baz=7.6,slow=15,SNR=2.6						
WRA	**Warramunga Arr**	**24.51**	**162**	P	P	13 22 57.8	-0.7
	7.1nm,0.7s,baz=343,slow=10,SNR=32						
ASAR	**Alice Springs**	**27.93**	**166**	P	P	13 23 29.8	+0.4
	0.6nm,0.4s,baz=346,slow=11,SNR=10						
KSRS	**Korea Array**	**33.80**	**2**	P	P	13 24 21.0	+0.1
	1.2nm,0.7s,baz=176,slow=8.4,SNR=5.2						
STKA	**Stephens Creek**	**37.96**	**159**	P	P	13 24 56.9	+0.1
	3.0nm,0.6s,baz=341,slow=9.6,SNR=14						
SONM	**Songino Array**	**47.47**	**342**	P	P	13 26 14.4	+0.5
	0.8nm,0.6s,baz=154,slow=8.1,SNR=11						
SONM				PcP	PcP	13 27 44.2	-0.1
	0.5nm,0.8s,baz=129,slow=2.0,SNR=3.3						
PETK	**Petropavlovsk-**	**55.66**	**22**	P	P	13 27 15.0	0.0
	0.8nm,0.5s,baz=352,slow=3.0,SNR=6.2						
MKAR	**Makanchi Array**	**57.68**	**325**	P	P	13 27 29.4	-0.1
	1.3nm,0.4s,baz=118,slow=7.5,SNR=38				

KULA	Kula-Manisa	0.69	208	*i* Pg	Pg	13 28 05.0	-0.9		
MANT	Manisa	0.76	213	*i* P	Pg	13 28 06.4	-0.7		
MANT				*i* S	Sg	13 28 16.1	-0.9		
MANT	Manisa	0.76	213	*i* P	Pg	13 28 06.4	-0.7		
MANT				*i* S	Sg	13 28 16.1	-0.9		
ALT	Altintas	0.81	95	*e*PG	Pg	13 28 07.1	-0.9		
ALT	Altintas	0.81	95	*e*Pg	Pg	13 28 07.1	-0.9		
KHAL	Karahalli	0.82	157	*i* P	Pg	13 28 07.9	-0.5		
KHAL				*i* S	Sg	13 28 18.4	-0.8		
KHAL	Karahalli	0.82	157	*i* P	Pg	13 28 07.9	-0.5		
KHAL				*i* S	Sg	13 28 18.4	-0.8		
KHL	Karahalli	0.88	156	*e*PG	Pg	13 28 09.0	-0.3		
KHL	Karahalli	0.88	156	*e*Pg	Pg	13 28 09.0	-0.3		
ORLT	Orhaneli	0.93	351	*e*PG	Pg	13 28 09.9	-0.4		
ORLT	Orhaneli	0.93	351	*e*Pg	Pg	13 28 09.9	-0.4		
AKHS	Akhisar	1.01	256	*i* P	Pg	13 28 11.8	-0.1		
AKHS				*i* S	Sb	13 28 25.7	+0.5		
AKHS	Akhisar	1.01	256	*i* P	Pg	13 28 11.8	-0.1		
AKHS				*i* S	Sb	13 28 25.7	+0.5		
AKS	Akhisar	1.02	256	*e*PG	Pg	13 28 10.9	-1.0		
AKS	Akhisar	1.02	256	*e*Pg	Pg	13 28 11.0	-1.0		
BALB	Balikesir	1.06	299	*e*PG	Pg	13 28 12.2	-0.6		
BALB	Balikesir	1.06	299	*e*Pg	Pg	13 28 12.2	-0.6		
CAVI	Cavuskoy	1.22	29	*e*PN	Pn	13 28 15.1	-0.2		
CAVI	Cavuskoy	1.22	29	*e*Pn	Pn	13 28 15.1	-0.2		
MDNY	Mudanya-Bursa	1.25	353	*e*PN	Pn	13 28 15.7	+0.1		
MDNY	Mudanya-Bursa	1.25	353	*e*Pn	Pn	13 28 15.7	+0.1		
KCTX	Karacabey (Bur	1.26	334	*e*PN	Pn	13 28 15.9	+0.1		
KCTX	Karacabey (Bur	1.26	334	*e*Pn	Pn	13 28 15.9	+0.1		
BALY	Balya	1.28	299	*i* P	Pn	13 28 16.6	+0.5		
BALY				*i* S	Sb	13 28 33.3	+0.4		
BALY	Balya	1.28	299	*i* P	Sb	13 28 16.6	+0.5		
BALY				*i* S	Sb	13 28 33.3	+0.4		
SHUT	Suhut-Afyon	1.29	116	*e*PN	Pn	13 28 16.5	+0.2		
SHUT	Suhut-Afyon	1.29	116	*e*Pn	Pn	13 28 16.5	+0.2		
BORA	Eskisehir	1.30	54	*i* P	Pn	13 28 16.8	+0.4		
BORA				*i* S	Sg	13 28 34.5	+0.1		
BORA	Eskisehir	1.30	54	*i* P	Pn	13 28 16.8	+0.4		
BORA				*i* S	Sg	13 28 34.5	+0.1		
DENT	Denizli	1.37	181	*e*PN	Pn	13 28 17.5	+0.2		
DENT	Denizli	1.37	181	*e*Pn	Pn	13 28 17.5	+0.2		
ADVT	Abdulvahap	1.40	21	*e*PN	Pn	13 28 17.3	-0.4		
ADVT	Abdulvahap	1.40	21	*e*Pn	Pn	13 28 17.3	-0.4		
GONE	Gonen-Balikesi	1.41	311	*e*PN	Pn	13 28 17.4	-0.4		
GONE	Gonen-Balikesi	1.41	311	*e*Pn	Pn	13 28 17.4	-0.4		
ESKT	Eskisehir	1.43	74	*e*PN	Pn	13 28 17.8	-0.4		
ESKT	Eskisehir	1.43	74	*e*Pn	Pn	13 28 17.8	-0.4		
DNZL	Cakiroluk	1.44	181	*i* P	Pn	13 28 18.4	0.0		
DNZL				*i* S	Sg	13 28 40.5	+1.8		
DNZL	Cakiroluk	1.44	181	*i* P	Pn	13 28 18.4	0.0		
ARMT	Armutlu	1.44	353	*e*PN	Pn	13 28 18.2	-0.1		
ARMT	Armutlu	1.44	353	*e*Pn	Pn	13 28 18.2	-0.1		
GPA	Golpazari	1.50	39	*e*PN	Pn	13 28 19.4	+0.3		
GPA	Golpazari	1.50	39	*e*Pn	Pn	13 28 19.4	+0.3		
BNT	Bandirma	1.52	324	*e*PN	Pn	13 28 19.8	+0.5		
BNT	Bandirma	1.52	324	*e*Pn	Pn	13 28 19.8	+0.5		
BOLV	Bolvadin	1.52	105	*i* P	Pn	13 28 20.2	+0.8		
BOLV				*i* S	Sg	13 28 41.2	-0.1		
BOLV	Bolvadin	1.52	105	*i* P	Pn	13 28 20.2	+0.8		
BOLV				*i* S	Sg	13 28 41.2	-0.1		
EDC	Edincik	1.53	323	*e*PN	Pn	13 28 20.0	+0.5		
EDC	Edincik	1.53	323	*e*Pn	Pn	13 28 20.0	+0.5		
IZM	Izmir	1.59	243	*e*PN	Pn	13 28 20.7	+0.3		
IZM	Izmir	1.59	243	*e*Pn	Pn	13 28 20.7	+0.3		
GULT	Gulveren	1.71	40	*e*PN	Pn	13 28 21.8	-0.2		
GULT	Gulveren	1.71	40	*e*Pn	Pn	13 28 21.8	-0.2		
ISP	Isparta	1.73	139	*i* P	Pb	13 28 24.8	+0.7		
ISP	Isparta	1.73	139	*i* P	Pb	13 28 24.8	+0.7		
AYDN	Tasoluk	1.74	213	*i* P	Pb	13 28 24.3	0.0		
AYDN				*i* S	Sb	13 28 46.9	+0.8		
AYDN	Tasoluk	1.74	213	*i* P	Pb	13 28 24.3	0.0		
AYDN				*i* S	Sb	13 28 46.9	+0.8		
HRT	Hereke	1.75	15	*e*PN	Pn	13 28 22.8	+0.3		
HRT	Hereke	1.75	15	*e*Pn	Pn	13 28 22.8	+0.3		
SPNC	Sapanca-Adapaz	1.82	31	*e*PN	Pn	13 28 23.9	+0.5		
SPNC	Sapanca-Adapaz	1.82	31	*e*Pn	Pn	13 28 24.0	+0.5		
AYVA	Ayvalik	1.86	276	*i* P	Pg	13 28 27.8	-0.3		
AYVA				*i* S	Sg	13 28 52.5	+0.3		
KRBG	Karabiga-Canak	1.86	313	*e*PN	Pn	13 28 24.5	+0.5		
KRBG	Karabiga-Canak	1.86	313	*e*Pn	Pn	13 28 24.5	+0.5		
SVRH	Sivrihisar-ESK	1.93	80	*e*PN	Pn	13 28 25.3	+0.3		
SVRH	Sivrihisar-ESK	1.93	80	*e*Pn	Pn	13 28 25.3	+0.3		
ISK	Istanbul-Kandi	1.93	360	*e*PN	Pn	13 28 25.5	+0.5		
ISK	Istanbul-Kandi	1.93	360	*e*Pn	Pn	13 28 25.5	+0.5		
BCK	Bucak	2.05	144	*e*PN	Pn	13 28 27.1	+0.4		
BCK	Bucak	2.05	144	*e*Pn	Pn	13 28 27.1	+0.4		
BGKT	Bogazkoy	2.06	354	*e*PN	Pn	13 28 27.4	+0.6		
BGKT	Bogazkoy	2.06	354	*e*Pn	Pn	13 28 27.4	+0.6		
SILT	Sile	2.07	12	*e*PN	Pn	13 28 27.3	+0.4		
SILT	Sile	2.07	12	*e*Pn	Pn	13 28 27.3	+0.4		
YER	Yerkesik	2.09	198	*e*PN	Pn	13 28 27.5	+0.3		
YER	Yerkesik	2.09	198	*e*Pn	Pn	13 28 27.5	+0.3		
MLSB	Milas	2.10	210	*e*PN	Pn	13 28 27.8	+0.5		
MLSB	Milas	2.10	210	*e*Pn	Pn	13 28 27.8	+0.5		
MDUB	Mudurnu	2.11	50	*e*PN	Pn	13 28 28.1	+0.5		
MDUB	Mudurnu	2.11	50	*e*Pn	Pn	13 28 28.1	+0.5		
RKY	Sarkoy-Tekirda	2.13	317	*e*PN	Pn	13 28 28.4	+0.6		
RKY	Sarkoy-Tekirda	2.13	317	*e*Pn	Pn	13 28 28.4	+0.6		
CTKS	Kestanelik-??a	2.15	348	*e*PN	Pn	13 28 28.7	+0.7		
CTKS	Kestanelik-??a	2.15	348	*e*Pn	Pn	13 28 28.7	+0.7		
MFT	Murefte	2.15	321	*e*PN	Pn	13 28 28.8	+0.6		
MFT	Murefte	2.15	321	*e*Pn	Pn	13 28 28.8	+0.6		
LPK	Lapseki	2.17	306	*e*PN	Pn	13 28 28.9	+0.6		
LPK	Lapseki	2.17	306	*e*Pn	Pn	13 28 28.9	+0.6		
KIZT	Kizilcal	2.20	96	*e*PN	Pn	13 28 29.3	+0.5		
KIZT	Kizilcal	2.20	96	*e*Pn	Pn	13 28 29.3	+0.5		
SLVT	Silivri	2.20	343	*e*PN	Pn	13 28 29.3	+0.6		
SLVT	Silivri	2.20	343	*e*Pn	Pn	13 28 29.3	+0.6		
TKR	Tekirdag	2.20	328	*e*PN	Pn	13 28 29.5	+0.8		
TKR	Tekirdag	2.20	328	*e*Pn	Pn	13 28 29.5	+0.8		
EZN	Ezine	2.24	289	*e*PN	Pn	13 28 29.6	+0.4		
EZN	Ezine	2.24	289	*e*Pn	Pn	13 28 29.6	+0.4		
GELI	Tayfur-Gelibol	2.37	303	*e*PN	Pn	13 28 31.8	+0.8		
GELI	Tayfur-Gelibol	2.37	303	*e*Pn	Pn	13 28 31.8	+0.8		
CTYL	Yal??k??y-??at	2.42	346	*e*PN	Pn	13 28 32.6	+0.9		
CTYL	Yal??k??y-??at	2.42	346	*e*Pn	Pn	13 28 32.6	+0.9		
ELL	Elmali	2.47	164	*e*PN	Pn	13 28 33.1	+0.6		
ELL	Elmali	2.47	164	*e*Pn	Pn	13 28 33.1	+0.6		
FETY	Fethiye	2.49	180	*e*PN	Pn	13 28 33.4	+0.7		
FETY	Fethiye	2.49	180	*e*Pn	Pn	13 28 33.4	+0.7		
ERIK	Erikli-Kesan	2.50	309	*e*PN	Pn	13 28 33.6	+0.8		
ERIK	Erikli-Kesan	2.50	309	*e*Pn	Pn	13 28 33.6	+0.8		
ENEZ	Enez	2.76	306	*e*PN	Pn	13 28 37.4	+1.0		
ENEZ	Enez	2.76	306	*e*Pn	Pn	13 28 37.4	+1.0		
KONT	Konya--Tatoy	2.83	114	*e*PN	Pn	13 28 38.3	+0.9		
KONT	Konya--Tatoy	2.83	114	*e*Pn	Pn	13 28 38.3	+0.9		
EDRB	Edirne	3.25	328	*e*PN	Pn	13 28 44.0	+1.0		
EDRB	Edirne	3.25	328	*e*Pn	Pn	13 28 44.0	+1.0		
SAFT	Safranbolu	3.48	52	*e*PN	Pn	13 28 47.5	+1.2		
SAFT	Safranbolu	3.48	52	*e*Pn	Pn	13 28 47.5	+1.2		
TIRR	Tirgusor	5.35	355	*i*P	Pn	13 29 12.5	+0.6		
TIRR	Tirgusor	5.35	355	*i*P	Pn	13 29 12.5	+0.6		
VTS	Vitosha	5.63	310	*i*P	Sn	13 30 18.2	-2.5		
CFR	Carcaliu	6.08	354	*i*P	Pn	13 29 22.4	+0.4		
CFR	Carcaliu	6.08	354	*i*P	Pn	13 29 22.4	+0.4		
MLR	Muntele Rosu	6.77	341	*i*P	Pn	13 29 33.5	+2.0		
MLR	Muntele Rosu	6.77	341	*i*P	Pn	13 29 33.5	+2.0		
VOIR		6.97	336	*i*P	Pn	13 29 35.4	+1.1		
VOIR		6.97	336	*i*P	Pn	13 29 35.4	+1.1		
DOPR	Dopca	7.36	339	*i*P	Pn	13 29 39.3	-0.2		
DOPR	Dopca	7.36	339	*i*P	Pn	13 29 39.3	-0.2		
LOT	Lotru	7.44	330	*i*P	Pn	13 29 40.0	-0.7		
LOT	Lotru	7.44	330	*i*P	Pn	13 29 40.0	-0.7		
GZR	Gura Zlata	7.81	325	*i*P	Pn	13 29 46.0	+0.2		
GZR	Gura Zlata	7.81	325	*i*P	Pn	13 29 46.0	+0.2		

*NNC **25** 13:42:33.7±0.5, 40.°74N×78.°66E, h0km, mb3.8, mpv3.6, Error ellipse: s-maj=4.6km s-min=2.8km az=5.0*
*BJI **25** 13:42:33.4, 40.°77N×78.°70E, h12km, mb4.2/2, ML3.5/8*
*IDC **25** 13:42:33.9±1.8, 40.°83N×78.°71E, h0km, mb3.5/3, mb1 3.5/8, mb1mx3.4/32, mbtmp3.5/8, ML3.3/5, MS3.9/1, Ms1 3.9/1, ms1mx2.5/37, Error ellipse: s-maj=22.3km s-min=16.9km az=164.0*

ISC 25 13:42:37.4±1.2, 40.92N±0.08×78.67E±0.09, h20km, n27, σ1°23/24, 5C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULHL	**Ulahol**	**2.25**	**307**	P	**Pb**	**13 43 15.9**	**-1.6**
	SNR=69						
KSH	**Kashi**	**2.50**	**237**	Pn	**Pb**	**13 43 21.5**	**-0.1**
KSH				Sn	Sb	13 44 00.0	+8.1
KSH				smax	smax		
	comp=N,210nm,0.8s						
KSH				smax	smax		
	comp=E,200nm,0.7s						
KNDC	**Almaty**	**2.62**	**332**	⇓Pg	**Pb**	**13 43 24.6**	**+0.8**
	comp=E,91nm,0.7s						
KNDC				⇑Lg	Lg	13 44 01.9	
	comp=E,380nm,1.1s						
KZA	**Kyzart**	**2.82**	**295**	P	**Pb**	**13 43 26.3**	**-1.0**
	SNR=22						
TKM2	**Tokmak 2**	**3.04**	**312**	⇓Pn	**Pn**	**13 43 24.9**	**+0.4**
	comp=E,27nm,0.6s						
TKM2				⇓Lg	Lg	13 44 13.6	
	comp=E,104nm,0.6s						
TKM2	**Tokmak 2**	**3.04**	**312**	P	**Pn**	**13 43 27.0**	**+2.4**
	SNR=19						
KBK	**Karagaybulak**	**3.28**	**303**	P	**Pb**	**13 43 35.3**	**+0.3**
	SNR=18						
UCH	**Uchtor**	**3.38**	**294**	P	**Pb**	**13 43 35.8**	**-1.1**
	SNR=6.6						
AAK	**Ala-Archa**	**3.56**	**300**	P	**Pb**	**13 43 39.3**	**-0.5**
	SNR=14						
AAK	**Ala-Archa**	**3.56**	**300**	Pn	**Pn**	**13 43 33.9**	**+2.2**
	comp=E,2.2nm,0.3s,baz=117,slow=9.4,SNR=29						
AAK				Lg	Lg	13 44 27.0	
	comp=E,3.5nm,0.3s,baz=279,slow=19,SNR=13						
CHMS	**Chumysh**	**3.59**	**307**	P	**Pb**	**13 43 39.4**	**-0.8**
	SNR=16						
USP	**Ospenovka**	**3.89**	**308**	P	**Pb**	**13 43 43.4**	**-1.9**
	SNR=13						
AML	**Almayashu**	**3.93**	**290**	P	**Pb**	**13 43 46.6**	**+0.4**
	SNR=19						
EKS2	**Erkin-Say**	**4.05**	**297**	P	**Pb**	**13 43 48.6**	**+0.5**
	SNR=14						
MK31	**Makanchi Array**	**6.43**	**23**	Pn	Pn	13 44 14.5	+3.6
	comp=E,0.5nm,0.3s,baz=200,slow=13,SNR=37						
MK31				⇓Lg	Lg	13 46 00.1	
	comp=E,4.9nm,0.5s,baz=207,slow=29,SNR=4.4						
MKAR	**Makanchi Array**	**6.43**	**23**	Pn	**Pn**	**13 44 12.2**	**+1.3**
	comp=E,0.9nm,0.3s,baz=201,slow=13,SNR=24						
MKAR				Lg	Lg	13 45 56.7	
	comp=E,2.2nm,0.3s,baz=206,slow=32,SNR=5.6						
KK31	**Karatay Array**	**6.46**	**292**	Pg	Pb	13 44 33.0	+4.0
	comp=E,1.1nm,0.5s,baz=109,slow=15,SNR=19						
KK31				⇓Lg	Lg	13 45 58.4	
	comp=E,5.7nm,0.7s,baz=109,slow=26,SNR=4.1						
KURBB	**Kurchatov Arra**	**9.71**	**359**	⇑Pn	**Pn**	**13 44 56.8**	**+1.0**
	comp=E,0.3nm,0.8s						
KURBB				⇑Lg	Lg	13 47 47.0	
	comp=E,4.5nm,0.7s						
KURBB	**Kurchatov Arra**	**9.71**	**359**	Pn	**Pn**	**13 44 57.1**	**+1.3**
	comp=E,0.1nm,0.3s,baz=186,slow=12,SNR=7.4						
KURBB				Lg	Lg	13 47 42.4	
	comp=E,0.1nm,0.3s,baz=33,slow=25,SNR=7.2						
VOSK	**Vostochnaya**	**12.92**	**339**	⇑Pn	**Pn**	**13 45 40.9**	**+1.1**
	comp=E,2.1nm,1.1s						
VOSK				⇓Lg	Lg	13 49 28.8	
	comp=E,12nm,1.1s						
BVAR	**Borovoye Array**	**13.35**	**338**	Pn	**Pn**	**13 45 44.4**	**-1.2**
	comp=E,0.1nm,0.3s,baz=144,slow=13,SNR=6.0						
BVAR				Lg	Lg	13 49 39.2	
	comp=E,0.2nm,0.3s,baz=144,slow=24,SNR=5.1						
ZALV	**Zalesovo Beam**	**13.68**	**16**	Pn	**Pn**	**13 45 50.3**	**+0.3**
	comp=E,0.1nm,0.3s,baz=198,slow=13,SNR=8.0						
ZALV				Lg	Lg	13 49 52.5	
	baz=196,slow=24,SNR=2.8						
ZRNK	**Zerenda**	**13.71**	**335**	⇓Pn	**Pn**	**13 45 51.2**	**+0.7**
	comp=E,2.3nm,1.4s						
ZRNK				⇑Lg	Lg	13 49 54.2	
	comp=E,12nm,1.4s						
SONM	**Songino Array**	**20.91**	**61**	P	**P**	**13 47 18.2**	**-0.4**
	comp=E,1.8nm,0.6s,baz=258,slow=11,SNR=22						
BRTR	**Keskin Array B**	**34.07**	**283**	P	**P**	**13 49 20.7**	**+0.2**
	comp=E,1.6nm,0.8s,baz=95,slow=6.8,SNR=8.1						
JHJ	**Hachijo jima 2**	**48.54**	**79**	LR	LR	14 10 13.8	
	comp=E,123nm,21.2s,baz=20,slow=34						
YKA	**Yellowknife Ar**	**76.38**	**6**	P	**P**	**13 54 23.2**	**-1.5**
	comp=E,0.1nm,0.5s,baz=342,slow=6.6,SNR=3.7						

IDC 25 13:46:38.2±13.0, 27.°34S×176.°34W, h75km±120km, mb3.8/10, mb1 4.0/10, mb1mx3.9/19, mbtmp3.8/10, MS3.4/2, Ms1 3.4/2, ms1mx3.0/25, Error ellipse: s-maj=33.1km s-min=24.5km az=43.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**16.49**	**285**	*e*LR	LR	13 54 30.2	
	77nn,23.8s						
TBI	**Tubuai**	**24.60**	**87**	*e*LR	LR	13 57 31.4	
	78nn,31.0s						
PPT2	**Papeete2**	**26.52**	**74**	*e*LR	LR	13 58 37.3	
	66nn,27.2s						
CTA	**Charters Tower**	**34.90**	**274**	LR	LR	14 06 13.6	
	comp=Z,59nm,20.5s,baz=169,slow=34						
STKA	**Stephens Creek**	**36.69**	**253**	P	P	13 53 38.1	+0.2
	0.8nn,0.5s,baz=106,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**44.82**	**263**	P	P	13 54 45.2	+0.1
	0.6nn,0.5s,baz=97,slow=7.6,SNR=17						
WRA	**Warramunga Arr**	**45.54**	**268**	P	P	13 54 50.0	-0.7
	0.8nn,0.6s,baz=108,slow=7.3,SNR=10						
FITZ	**Fitzroy Crossi**	**53.90**	**267**	LR	LR	14 17 54.6	
	comp=Z,35nn,21.9s,baz=68,slow=35						
QSPA	**South Pole Qui**	**62.76**	**180**	P	P	13 56 55.9	+0.5
	5.7nn,1.0s,baz=37,slow=4.0,SNR=8.8						
PLCA	**Paso Flores**	**83.51**	**133**	P	P	13 58 57.3	-0.8
	2.4nn,1.0s,baz=230,slow=7.7,SNR=3.2						
NVAR	**Mina Away Bea**	**85.00**	**42**	P	P	13 59 06.3	+0.6
	1.7nn,0.9s,baz=221,slow=9.1,SNR=10						
USRK	**Ussuriysk Arra**	**85.44**	**326**	P	P	13 59 06.7	-0.6
	0.9nn,0.7s,baz=92,slow=12,SNR=2.6						
TXAR	**Lajitas Array**	**89.50**	**56**	P	P	13 59 27.4	0.0
	1.4nn,1.1s,baz=205,slow=5.5,SNR=5.8						
ANMO	**Albuquerque**	**90.53**	**50**	P	P	13 59 32.1	-0.1
	1.5nn,0.9s,baz=180,slow=6.1,SNR=4.1						
CMAR	**Chiang Mai Arr**	**93.78**	**289**	P	P	13 59 47.5	+0.2
	0.4nn,0.3s,baz=78,slow=8.4,SNR=3.4						
BVAR	**Borovoye Array**	**125.19**	**317**	PKP	PKPdf	14 05 30.0	+0.3
	0.5nn,0.8s,baz=100,slow=5.1,SNR=3.7						
NB2	**NORSAR Subarra1**	**145.92**	**353**	PKP	PKPab	14 06 08.9	-0.3
	comp=Z,0.7nn,0.6s,baz=4.2,slow=3.0						
NOA	**NORSAR Array B**	**145.92**	**353**	PKPbc	PKPdf	14 06 05.5	-2.3
	comp=Z,1.6nn,0.8s,baz=13,slow=4.5,SNR=3.9						
HFS	**Hagfors**	**146.50**	**351**	PKPbc	PKPbc	14 06 09.9	-0.3
	comp=Z,4.8nn,0.9s,baz=64,slow=3.4,SNR=4.9						
AKASG	**Malin Array Be**	**149.64**	**327**	PKPbc	PKPbc	14 06 19.8	+1.0
	comp=Z,0.2nn,0.2s,baz=57,slow=3.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**165.76**	**172**	PKPab	PKPab	14 07 32.9	-1.4
	comp=Z,1.2nn,0.9s,baz=146,slow=2.9,SNR=4.8						

IDC 25 13:57:08.1±1.3, 55.°27N×35.°16W, h0km, mb3.4/6, mb1 3.6/7, mb1mx3.4/31, mbtmp3.5/7, ML2.6/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/35, Error ellipse: s-maj=45.7km s-min=21.1km az=19.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**18.08**	**282**	P	P	14 01 21.6	+0.7
	0.2nn,0.3s,baz=68,slow=16,SNR=4.2						
FRB	**Frobisher Bay**	**18.74**	**310**	LR	LR	14 08 06.8	
	comp=Z,62nn,19.4s,baz=70,slow=35						
GERES	**GERESS Array B**	**30.19**	**82**	LR	LR	14 16 00.2	
	comp=Z,57nn,18.2s,baz=292,slow=38						
ULM	**Lac du Bonnet**	**36.05**	**288**	P	P	14 04 12.1	+1.2
	0.8nn,0.6s,baz=51,slow=6.5,SNR=3.3						
YKA	**Yellowknife Ar**	**39.20**	**314**	P	P	14 04 36.5	-0.9
	0.2nn,0.6s,baz=59,slow=9.3,SNR=2.4						
BRTR	**Keskin Array B**	**47.03**	**79**	P	P	14 05 42.4	+1.2
	0.4nn,0.4s,baz=295,slow=9.4,SNR=4.0						
ILAR	**Eielson Array**	**49.45**	**328**	P	P	14 05 59.6	+0.2
	0.3nn,0.7s,baz=37,slow=5.8,SNR=6.3						
TORD	**Torodi Ar. Bea**	**50.84**	**131**	P	P	14 06 10.2	-0.3
	0.5nn,0.8s,baz=331,slow=7.3,SNR=3.5						
MKAR	**Makanchi Array**	**65.51**	**42**	P	P	14 07 53.4	+0.5
	0.1nn,0.4s,baz=320,slow=6.4,SNR=3.1						
ASAR	**Alice Springs**	**147.41**	**19**	PKPbc	PKPdf	14 16 50.5	-0.6
	0.5nn,0.6s,baz=344,slow=2.9,SNR=13						

*TAP **25** 14:07:56.8, 24.°91N×122.°04E, h11km, ML3.2, C*
*IDC **25** 14:07:56.4±2.1, 24.°70N×121.°84E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/24, mbtmp3.5/3, Error ellipse: s-maj=250.3km s-min=25.8km az=67.0*

ISC 25 14:07:57.2±1.1, 24.°89N±0.°03×122.°03E±0.°06, h10km±7km, n32, σ0°84/45, mb3.4/3, 7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.12**	**341**	⇓*i*P	**Pg**	**14 07 59.9**	**-0.2**
	baz=336						
TWB1				*i* S	**Sg**	**14 08 02.0**	**-0.2**
	baz=336						
ILA	**Ilan**	**0.29**	**244**	*e*P	**Pb**	**14 08 03.5**	**-1.0**
	baz=244						
ILA				*e*S	**Sg**	**14 08 08.3**	**+1.4**
	baz=244						
NWF	**Wu-fen Shan**	**0.29**	**308**	⇓*i*P	**Pb**	**14 08 03.7**	**-0.9**
	baz=304						
NWF				*i* S	**Sg**	**14 08 08.3**	**+1.3**
	baz=304						
TWC	**Suao**	**0.33**	**211**	⇓*i*P	**Pg**	**14 08 04.0**	**+0.2**
	baz=220						
TWC				*e*S	**Sb**	**14 08 09.1**	**-1.3**
	baz=220						
TWE	**Neicheng**	**0.37**	**243**	⇓*i*P	**Pb**	**14 08 04.9**	**-1.0**
	baz=243						
TWE				*e*S	**Sb**	**14 08 10.4**	**-1.4**
	baz=243						
TAP1	**Taipei**	**0.48**	**288**	P	**Pb**	**14 08 07.7**	**-0.2**
	baz=286						
TAP1				*i* S	**Sb**	**14 08 14.7**	**-0.4**
	baz=286						
ENTT	**Nioudou**	**0.49**	**239**	⇓*i*P	**Pb**	**14 08 07.1**	**-0.9**
	baz=234						
ENTT				*e*S	**Sb**	**14 08 15.2**	**-0.1**
	baz=234						
TAP	**Taipei**	**0.50**	**287**	*e*P	**Pb**	**14 08 08.2**	**+0.1**
	baz=286						
TAP				*e*S	**Sb**	**14 08 14.9**	**-0.6**
	baz=286						
ENA	**Nanau**	**0.53**	**210**	*e*P	**Pg**	**14 08 07.7**	**+0.2**
	baz=219						
ENA				*e*S	**Sb**	**14 08 16.1**	**-0.3**
	baz=219						
TWY	**Chenhua**	**0.55**	**314**	⇓*i*P	**Pb**	**14 08 08.8**	**-0.2**
	baz=311						
TWY				S	**Sb**	**14 08 16.3**	**-0.6**
	baz=311						
TWS1	**Kuangyinshan**	**0.59**	**291**	P	Pn	**14 08 10.2**	**-1.6**
	baz=289						
NSK	**Sanguang**	**0.65**	**251**	⇓*i*P	**Pb**	**14 08 09.8**	**-0.9**
	baz=252						
NSK				*e*S	**Sb**	**14 08 18.2**	**-1.6**
	baz=252						
NNS	**Nan Shan**	**0.75**	**233**	*e*P	**Pb**	**14 08 11.8**	**-0.6**
	baz=248						
NCU	**National Centr**	**0.77**	**276**	*e*P	**Pn**	**14 08 13.7**	**-0.5**
	baz=276						
NCU				*e*S	**Sn**	**14 08 25.7**	**-0.2**
	baz=276						
TWD	**Chiawan**	**0.90**	**206**	*e*P	**Pb**	**14 08 14.9**	**0.0**
	baz=204						
HSN	**Hsinchu**	**0.97**	**265**	*e*P	**Pn**	**14 08 16.6**	**-0.3**
	baz=266						

KHET				AML	AML	14 14 37.5		
	comp=N,8.0nm,0.2s							
SHL	**Shillong**	**9.00**	**124**	*e*PKP	**Pn**	**14 13 25.0**	**+1.3**	
SHL				*e*S	**Sn**	**14 15 02.0**	**-2.9**	
AJM	**Ajmer**	**9.06**	**243**	*e*PKP	**Pn**	**14 13 24.0**	**-0.4**	
BHPL	**Bhopal**	**9.44**	**217**	*ex*	P	14 13 29.8		
NGP	**Nagpur**	**10.56**	**204**	*ex*	P	14 13 43.0		
NGP				*ex*	x	14 15 31.7		
AKL	**Akola**	**11.79**	**212**	*ex*	P	14 13 59.6		
AKL				*ex*	x	14 15 55.1		
AAK	**Ala-Archa**	**13.80**	**330**	Pn	**Pn**	**14 14 31.0**	**+1.7**	
	comp=N,0.1nm,0.3s,baz=145,slow=7.9,SNR=14							
AAK				LR	LR	14 20 21.7		
	comp=N,693nm,19.1s,baz=125,slow=40							
HYB	**Hyderabad**	**14.21**	**200**	*e*P	Pn	14 14 30.0	-5.0	
HYB				*e*S	Sn	14 17 02.0	-10	
POO	**Poona**	**15.20**	**218**	*ex*	x	14 14 25.0		
GTA	**Gaotai**	**15.69**	**53**	*e*P	**Pn**	**14 14 52.3**	**-2.4**	
GTA				pmax	pmax			
	comp=Z,1.0nm,1.0s							
GTA				pmax	pmax			
	comp=Z,63nm,5.7s							
GTA				LR	LR			
	comp=N,900nm,12.8s							
GTA				LR	LR			
	comp=E,290nm,10.7s							
GTA				LR	LR			
	comp=Z,260nm,9.0s							
MKAR	**Makanchi Array**	**15.89**	**357**	Pn	**Pn**	**14 14 55.1**	**-2.1**	
	comp=Z,0.1nm,0.3s,baz=173,slow=11,SNR=28							
MKAR				LR	LR	14 22 04.4		
	comp=Z,528nm,18.6s,baz=192,slow=41							
LZH	**Lanzhou**	**17.60**	**68**	⇑P	**P**	**14 15 20.8**	**+0.8**	
LZH				pP	**pP**	**14 15 24.3**	**-0.2**	
LZH				sP	**sP**	**14 15 27.8**	**+1.3**	
LZH				PP	**PnPn**	**14 15 36.5**	**+7.1**	
LZH				S	**S**	**14 18 41.0**	**-1.4**	
LZH				sS	**sS**	**14 18 49.0**	**-0.5**	
LZH				pmax	pmax			
	comp=Z,43nm,1.2s							
LZH				pmax	pmax			
	comp=Z,250nm,5.9s							
LZH				LR	LR			
	comp=N,960nm,14.0s							
LZH				LR	LR			
	comp=E,760nm,12.4s							
LZH				LR	LR			
	comp=Z,950nm,15.2s							
KMI	**Kunming**	**17.80**	**104**	P	**Pn**	**14 15 20.3**	**-1.3**	
KMI				S	**Sn**	**14 18 42.5**	**+2.6**	
KMI				pmax	pmax			
	comp=Z,12nm,1.1s							
KMI				LR	LR			
	comp=N,490nm,11.1s							
KMI				LR	LR			
	comp=E,420nm,9.5s							
KMI				LR	LR			
	comp=Z,470nm,14.8s							
CMAR	**Chiang Mai Arr**	**18.59**	**128**	P	**P**	**14 15 29.8**	**-1.1**	
	comp=Z,0.5nm,0.3s,baz=312,slow=14,SNR=27							
CMAR				LR	LR	14 22 39.4		
	comp=Z,225nm,19.8s,baz=315,slow=37							
KURBB	**Kurchatov Arra**	**20.06**	**350**	P	**P**	**14 15 45.5**	**-1.1**	
	comp=Z,21nm,0.9s,baz=172,slow=10,SNR=82							
KURBB				LR	LR	14 24 36.7		
	comp=Z,631nm,18.8s,baz=175,slow=40							
XAN	**Xi'an**	**21.53**	**75**	P	**P**	**14 16 01.5**	**-1.2**	
XAN				S	**S**	**14 19 59.3**	**-1.6**	
XAN				pmax	pmax			
	comp=Z,6.0nm,1.0s							
XAN				LR	LR			
	comp=N,110nm,9.3s							
XAN				LR	LR			
	comp=E,160nm,12.3s							
XAN				LR	LR			
	comp=Z,130nm,9.9s							
ZALV	**Zalesovo Beam**	**23.04**	**2**	P	**P**	**14 16 16.7**	**-1.8**	
	comp=Z,5.7nm,0.7s,baz=186,slow=10,SNR=27							
ZALV				LR	LR	14 26 26.3		
	comp=Z,313nm,18.7s,baz=78,slow=40							
WSAR	**Wadi Sarin**	**23.52**	**257**	P	**P**	**14 16 25.4**	**+1.7**	
	comp=Z,3.5nm,0.7s,baz=121,slow=12,SNR=4.2							
BVAR	**Borovoye Array**	**24.12**	**340**	P	**P**	**14 16 29.0**	**-0.2**	
	comp=Z,0.9nm,0.5s,baz=144,slow=8.5,SNR=11							
BVAR				LR	LR	14 27 15.7		
	comp=Z,62nm,18.3s,baz=17,slow=40							
SONM	**Songino Array**	**24.25**	**39**	P	**P**	**14 16 30.9**	**+0.4**	
	comp=Z,7.4nm,0.7s,baz=230,slow=9.6,SNR=41							
AKTO	**Aktyubinsk**	**27.31**	**323**	P	**P**	**14 16 56.9**	**-1.2**	
	comp=Z,1.4nm,0.8s,baz=77,slow=4.5,SNR=4.4							
AKTO				LR	LR	14 27 49.8		
	comp=Z,127nm,21.1s,baz=299,slow=37							
KBZ	**Khabaz**	**34.50**	**303**	P	**P**	**14 18 01.7**	**+0.2**	
	comp=Z,1.7nm,0.7s,baz=173,slow=8.1,SNR=2.5							
KSRS	**Korea Array**	**36.94**	**68**	P	**P**	**14 18 25.4**	**+3.0**	
	comp=Z,1.7nm,0.8s,baz=279,slow=8.6,SNR=3.3							
KSRS				LR	LR	14 34 37.6		
	comp=Z,142nm,18.4s,baz=94,slow=38							
ASF	**Jabal al Asfar**	**39.62**	**284**	LR	LR	14 37 05.0		
	comp=Z,63nm,20.8s,baz=327,slow=39							
MMAI	**Mount Meron Ar**	**40.71**	**286**	LR	LR	14 40 08.7		
	comp=Z,73nm,19.9s,baz=290,slow=43							
BRTR	**Keskin Array B**	**41.29**	**296**	P	**P**	**14 19 01.1**	**+2.0**	
	comp=Z,2.6nm,0.9s,baz=118,slow=7.6,SNR=9.2							
BRTR				LR	LR	14 38 55.8		
	comp=Z,55nm,20.1s,baz=342,slow=40							
EIL	**Elat**	**41.80**	**281**	LR	LR	14 38 56.9		
	comp=Z,120nm,18.8s,baz=270,slow=40							
AKASG	**Malin Array Be**	**44.57**	**313**	P	**P**	**14 19 22.9**	**-2.3**	
	comp=Z,0.7nm,0.4s,baz=84,slow=7.4,SNR=7.1							
MJAR	**Matsushiro Arr**	**45.22**	**68**	LR	LR	14 40 34.0		
	comp=Z,55nm,19.8s,baz=280,slow=39							
JOF	**Joensuu**	**45.99**	**330**	*ep*	**P**	**14 19 35.3**	**-1.0**	
	comp=Z,6.6nm,0.7s							
MLR	**Muntele Rosu**	**46.66**	**305**	LR	LR	14 41 52.9		
	comp=Z,40nm,20.1s,baz=72,slow=39							
ASAJ	**Asahikawa**	**47.63**	**57**	P	**P**	**14 19 47.1**	**-2.3**	
	comp=Z,7.3nm,1.0s,baz=303,slow=17,SNR=4.1							
FINES	**FINESS Array B**	**47.95**	**327**	P	**P**	**14 19 51.7**	**0.0**	
	comp=Z,3.9nm,0.7s,baz=87,slow=9.7,SNR=10							
FINES				LR	LR	14 40 41.1		
	comp=Z,209nm,18.1s,baz=2.6,slow=37							
KAPI	**Kappang**	**49.65**	**130**	LR	LR	14 42 52.9		
	comp=Z,77nm,19.5s,baz=111,slow=38							
ARCES	**ARCESS Array B**	**50.35**	**337**	P	**P**	**14 20 10.3**	**+0.3**	
	comp=Z,5.0nm,0.9s,baz=97,slow=7.5,SNR=6.3							
ARCES				LR	LR	14 42 02.3		
	comp=Z,127nm,19.4s,baz=34,slow=37							
HFS	**Hagfors**	**53.84**	**324**	P	**P**	**14 20 34.5**	**-1.6**	
	comp=Z,2.6nm,0.6s,baz=90,slow=8.9,SNR=8.6							
HFS				LR	LR	14 43 35.6		
	comp=Z,261nm,18.4s,baz=83,slow=36							
NB2	**NORSAR Subarra**	**55.06**	**326**	P	**P**	**14 20 44.1**	**-0.9**	
	comp=Z,1.0nm,0.6s,baz=87,slow=7.4							
NOA	**NORSAR Array B**	**55.06**	**326**	P	**P**	**14 20 43.9**	**-1.1**	
	comp=Z,1.3nm,0.7s,baz=89,slow=7.4,SNR=6.3							
NOA				LR	LR	14 44 25.3		
	comp=Z,76nm,19.1s,baz=355,slow=36							
SPITS	**Spitsbergen Ar**	**55.34**	**347**	LR	LR	14 48 20.1		
	comp=Z,93nm,18.2s,baz=280,slow=40							
SUMG	**Summit**	**69.52**	**344**	*i* P	**P**	**14 22 23.2**	**+1.1**	
	comp=Z,6.5nm,0.9s							
WRA	**Warramunga Arr**	**70.19**	**129**	P	**P**	**14 22 25.9**	**-0.5**	
	comp=Z,2.0nm,0.6s,baz=325,slow=6.3,SNR=31							
ASAR	**Alice Springs**	**72.55**	**132**	P	**P**	**14 22 40.2**	**-0.5**	
	comp=Z,1.2nm,0.7s,baz=318,slow=5.6,SNR=18							
RES	**Resolute Bay**	**74.66**	**360**	P	**P**	**14 22 52.5**	**+0.2**	
	comp=Z,0.7nm,0.8s,baz=18,slow=11,SNR=3.2							
TORD	**Torodi Ar. Bea**	**76.55**	**277**	P	**P**	**14 23 04.8**	**+0.6**	
	comp=Z,0.3nm,0.4s,baz=49,slow=4.3,SNR=3.7							
TORD				LR	LR	15 02 02.9		
	comp=Z,72nm,19.3s,baz=310,slow=40							
ILAR	**Eielson Array**	**76.83**	**20**	P	**P**	**14 23 04.3**	**-0.6**	
	comp=Z,1.2nm,0.8s,baz=306,slow=4.8,SNR=15							
BOSA	**Boshof**	**81.23**	**229**	P	**P**	**14 23 31.0**	**+1.3**	
	comp=Z,4.2nm,1.0s,baz=85,slow=1.5,SNR=5.2							
STKA	**Stephens Creek**	**83.14**	**133**	P	**P**	**14 23 38.7**	**-0.7**	
	comp=Z,2.4nm,0.9s,baz=1.3,slow=1.9,SNR=4.2							
STKA				LR	LR	15 02 21.5		
	comp=Z,61nm,18.6s,baz=228,slow=37							
DBIC	**Dimbokro**	**85.34**	**275**	LR	LR	15 05 30.6		
	comp=Z,79nm,18.5s,baz=200,slow=38							
YKA	**Yellowknife Ar**	**85.77**	**8**	P	**P**	**14 23 51.3**	**-1.1**	
	comp=Z,1.5nm,0.7s,baz=338,slow=5.3,SNR=23							
CPUP	**Villa Florida**	**145.57**	**268**	PKPbc	**PKPdf**	**14 30 51.4**	**-0.7**	
	comp=Z,0.6nm,0.5s,baz=90,slow=7.1,SNR=2.5							

IDC 25 14:59:03.5±61.0, 19.27°S×179.40°E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.6/3, Error ellipse: s-maj=1090.0km s-min=160.7km az=80.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.16**	**242**	P	P	15 06 06.9	-0.8
	2.0nm,1.0s,baz=90,slow=6.1,SNR=3.5						
WRA	**Warramunga Arr**	**42.35**	**261**	P	P	15 06 59.6	-0.1
	0.2nm,0.5s,baz=94,slow=8.3,SNR=6.2						
ASAR	**Alice Springs**	**42.43**	**256**	P	P	15 07 00.7	+0.3
	0.9nm,1.0s,baz=85,slow=8.8,SNR=12						

IDC 25 15:08:60.0±1.6, 4.08N×127.04E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.4/23, mbtmp3.4/5, Error ellipse: s-maj=146.6km s-min=19.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.92**	**164**	P	P	15 14 24.9	-0.1
	1.2nm,0.7s,baz=344,slow=11,SNR=11						
ASAR	**Alice Springs**	**28.38**	**167**	P	P	15 14 56.1	-0.1
	0.3nm,0.9s,baz=340,slow=7.6,SNR=7.4						
STKA	**Stephens Creek**	**38.34**	**160**	P	P	15 16 22.8	0.0
	1.6nm,0.9s,baz=315,slow=11,SNR=3.4						
MKAR	**Makanchi Array**	**57.45**	**325**	P	P	15 18 50.6	-0.1
	0.2nm,0.5s,baz=121,slow=8.8,SNR=5.7						
KURBB	**Kurchatov Arra**	**61.62**	**327**	P	P	15 19 19.4	0.0
	0.1nm,0.3s,baz=126,slow=6.3,SNR=2.7						

IDC 25 15:35:27.3±1.3, 21.44S×69.33E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/24, mbtmp3.6/4, Error ellipse: s-maj=47.6km s-min=31.3km az=4.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**40.39**	**251**	P	P	15 43 07.5	0.0
	3.3nm,1.1s,baz=80,slow=6.1,SNR=3.0						
ASAR	**Alice Springs**	**59.22**	**105**	P	P	15 45 30.6	-0.3
	0.5nm,0.8s,baz=265,slow=5.8,SNR=8.0						
WRA	**Warramunga Arr**	**60.43**	**101**	P	P	15 45 39.4	+0.2
	0.5nm,0.8s,baz=254,slow=6.5,SNR=4.6						
MKAR	**Makanchi Array**	**68.91**	**10**	P	P	15 46 33.9	-0.1
	0.2nm,0.6s,baz=181,slow=5.8,SNR=4.6						

ISK ***25*** *15:47:13.3, 38.38N×39.21E, h3km, MD3.4*
ISCJB ***25*** *15:47:14.5±0.6, 38.36N±0.03×39.21E±0.03, h6km±5km, Error ellipse: s-maj=5.8km s-min=3.9km az=9.0*
DDA ***25*** *15:47:14.6, 38.32N×39.19E, h7km, MD3.4, ML3.5*
CSEM ***25*** *15:47:14.6±0.2, 38.36N×39.22E, h5km, ML3.5, Error ellipse: s-maj=5.2km s-min=3.8km az=169.0*

ISC 25 15:47:14.7±1.1, 38.34N±0.04×39.23E±0.02, h8km±11km, n41, σ0=73/51, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.25**	**311**	*i* P	**Pg**	**15 47 19.8**	**0.0**
ELZG				*i* S	**Sg**	**15 47 23.7**	**+0.5**
ELZG	**Elazig**	**0.25**	**311**	*i* P	**Pg**	**15 47 19.8**	**0.0**
ELZG				*i* S	**Sg**	**15 47 23.7**	**+0.5**
MYA	**Malataya**	**0.63**	**269**	*e*PG	**Pg**	**15 47 26.2**	**-0.7**
MYA	**Malataya**	**0.63**	**269**	*e*Pg	**Pg**	**15 47 26.2**	**-0.7**
DIYA	**Diyarbakir**	**0.82**	**120**	*i* P	**Pb**	**15 47 30.9**	**-0.3**
DIYA				*i* S	**Sb**	**15 47 43.6**	**+1.2**
DIYA	**Diyarbakir**	**0.82**	**120**	*i* P	**Pb**	**15 47 30.9**	**-0.3**
DIYA				*i* S	**Sb**	**15 47 43.6**	**+1.2**
DIY	**Diyarbakir**	**0.90**	**119**	*e*PG	**Pg**	**15 47 31.8**	**-0.3**
DIY				*e*SG	**Sb**	**15 47 45.8**	**+0.9**
DIY	**Diyarbakir**	**0.90**	**119**	*e*Pg	**Pg**	**15 47 31.8**	**-0.3**
URFA	**Urfa**	**0.95**	**200**	*e*PG	**Pb**	**15 47 33.2**	**-0.2**
URFA	**Urfa**	**0.95**	**200**	*e*Pg	**Pb**	**15 47 33.2**	**-0.2**
AKCD	**Akcadag**	**1.02**	**268**	*i* P	**Pg**	**15 47 33.5**	**-0.9**
AKCD				*i* S	**Sb**	**15 47 48.0**	**-0.4**
AKCD	**Akcadag**	**1.02**	**268**	*i* P	**Pg**	**15 47 33.5**	**-0.9**
AKCD				*i* S	**Sb**	**15 47 48.0**	**-0.4**
BINT	**Bingol**	**1.13**	**61**	*e*Pn	**Pn**	**15 47 38.9**	**+2.0**
ATAB	**Bozova**	**1.14**	**221**	*e*P	**Pn**	**15 47 37.2**	**+0.3**
ATAB				*e*S	**Sb**	**15 47 51.2**	**-0.3**
ATAB	**Bozova**	**1.14**	**221**	*e*P	**Pn**	**15 47 37.2**	**+0.3**
ATAB				*e*S	**Sb**	**15 47 51.2**	**-0.3**
DARE	**Darende-Malaty**	**1.27**	**299**	*e*PN	**Pg**	**15 47 39.8**	**+0.7**
DARE	**Darende-Malaty**	**1.27**	**299**	*e*Pn	**Pg**	**15 47 39.8**	**+0.7**
ERZN	**Erzincan**	**1.31**	**17**	*e*PN	**Pn**	**15 47 38.3**	**-1.1**
BNGB	**Bing¶l**	**1.31**	**60**	*e*PN	**Pn**	**15 47 38.9**	**-0.5**
EZC	**Erzincan**	**1.42**	**4**	*e*PN	**Pn**	**15 47 40.2**	**-0.7**
EZC	**Erzincan**	**1.42**	**4**	*e*Pn	**Pn**	**15 47 40.2**	**-0.7**
BEST	**Besiri**	**1.67**	**105**	*i* P	**Pn**	**15 47 44.9**	**+0.5**
BEST				*i* S	**Sg**	**15 48 07.9**	**-0.6**
BTMT	**Batman**	**1.79**	**94**	*e*PN	**Pn**	**15 47 44.4**	**-1.5**
BTMT	**Batman**	**1.79**	**94**	*e*Pn	**Pn**	**15 47 44.4**	**-1.5**
GAZ	**Gaziantep**	**1.97**	**235**	*e*PN	**Pn**	**15 47 49.0**	**+0.5**
GAZ	**Gaziantep**	**1.97**	**235**	*e*Pn	**Pn**	**15 47 49.0**	**+0.5**
KMRS	**Kahramanmaras**	**2.02**	**246**	*e*PN	**Pn**	**15 47 49.6**	**+0.6**
KMRS	**Kahramanmaras**	**2.02**	**246**	*e*Pn	**Pn**	**15 47 49.6**	**+0.6**
GUMT	**Gumushane**	**2.13**	**5**	*e*PN	**Pn**	**15 47 50.4**	**-0.3**
GUMT	**Gumushane**	**2.13**	**5**	*e*Pn	**Pn**	**15 47 50.4**	**-0.3**
BAYT	**Ayd¯–ntepe-Bay**	**2.17**	**19**	*e*PN	**Pn**	**15 47 51.0**	**-0.3**
BAYT	**Ayd¯–ntepe-Bay**	**2.17**	**19**	*e*Pn	**Pn**	**15 47 51.0**	**-0.3**
EZM	**Erzurum**	**2.29**	**46**	*e*PN	**Pn**	**15 47 52.9**	**0.0**
BNN	**Bunyan**	**2.70**	**282**	*e*PN	**Pn**	**15 47 58.8**	**+0.3**
BNN	**Bunyan**	**2.70**	**282**	*e*Pn	**Pn**	**15 47 58.8**	**+0.3**
KOZT	**Kozan**	**2.82**	**253**	*e*PN	**Pn**	**15 48 00.9**	**+0.8**
KOZT	**Kozan**	**2.82**	**253**	*e*Pn	**Pn**	**15 48 00.9**	**+0.8**
AGRB	**Hanur-Agry**	**3.19**	**66**	*e*PN	**Pn**	**15 48 06.0**	**+0.7**
AGRB	**Hanur-Agry**	**3.19**	**66**	*e*Pn	**Pn**	**15 48 06.0**	**+0.7**
YOZ	**Yozgat**	**3.31**	**294**	*e*PN	**Pn**	**15 48 07.4**	**+0.5**
YOZ	**Yozgat**	**3.31**	**294**	*e*Pn	**Pn**	**15 48 07.4**	**+0.5**

MOS ***25*** *16:07:58.5±1.0, 41.91S×88.68E, h10km, mb5.3/16, MS5.3/7, Error ellipse: s-maj=16.7km s-min=10.8km az=86.5*
IDC ***25*** *16:07:58.8±0.5, 41.87S×88.66E, h0km, mb4.5/17, mb1 4.6/17, mb1mx4.5/24, mbtmp4.5/17, MS5.2/24, Ms1 5.2/24, ms1mx5.1/32, Error ellipse: s-maj=18.2km s-min=15.7km az=162.0*
ISCJB ***25*** *16:07:59.6±0.3, 41.91S±0.05×88.51E±0.07, h14km, mb5.0/74, MS5.2/46, Error ellipse: s-maj=7.7km s-min=7.2km az=9.9*
BJI ***25*** *16:07:59.0, 42.00S×88.60E, h10km, mB5.3/32, mb5.0/36, Ms5.5/35, Ms7 5.3/37*
NEIC ***25*** *16:08:00.1±0.2, 41.89S×88.63E, h10km, mb5.5/30, MW5.5, Error ellipse: s-maj=7.6km s-min=6.5km az=194.0*
TEH ***25*** *16:08:00.0, 42.03S×88.61E, h10km, ML5.4*
DJA ***25*** *16:08:05, 41.98S×88.28E, h10km, mb5.0/12*
NEIC ***25*** *16:08:16.0±0.0, 41.56S×88.17E, h10km, Moment Tensor Solution. s137 Moment tensor: Scale 10¹⁷Nm; Mrr0.09; Mθθ2.29; Mθφ-2.38; Mrθ-1.01; Mrφ0.17; Mφφ0.47; Best double couple: M₀2.60000×10¹⁷ NP1:φ221.00000°, δ66.00000°, λ173.00000°. NP2:φ314.00000°, δ84.00000°, λ24.00000°. Principal axes: T 2.6800, Plg21.0000°, Azm180.0000°; N -0.1900, Plg65.0000°, Azm328.0000°; P -2.4900, Plg11.0000°, Azm85.0000°;*
ISC 25 16:08:01.4±0.4, 41.99S±0.05×88.26E±0.06, h14km±1km, n179, σ1°82/228, mb5.2/74, MS5.2/46, 4C-1D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**24.62**	**78**	P	**P**	**16 13 21.4**	**+0.1**
NWAO	**Narrogin (SRO)**	**24.62**	**78**	P	**P**	**16 13 21.4**	**+0.1**
	21nm,0.9s,baz=272,slow=8.4,SNR=4.0						
NWAO				LR	LR	16 20 37.3	
	comp=Z,8μm,21.0s,baz=238,slow=31						
MAW	**Mawson**	**29.10**	**200**	LR	LR	16 23 04.0	
	comp=Z,9μm,21.7s,baz=35,slow=31						
COCO	**West Island**	**30.62**	**17**	*e*P	**P**	**16 14 13.6**	**-1.5**
COCO				pmax	pmax		
	comp=Z,266nm,1.6s						
COCO	**West Island**	**30.62**	**17**	*e*P	**P**	**16 14 13.6**	**-1.5**
	comp=Z,266nm,1.6s						
FORT	**Forrest**	**33.66**	**84**	*e*P	**P**	**16 14 38.7**	**-3.1**
	comp=Z,219nm,1.8s						
SYO	**Syowa Base**	**36.95**	**207**	⇑*e*P	**P**	**16 15 08.6**	**-0.9**
BBOO	**Buckleboo**	**38.64**	**92**	*e*P	**P**	**16 15 23.0**	**-1.3**
	comp=Z,1μm,1.4s						
BBOO	**Buckleboo**	**38.64**	**92**	*e*P	**P**	**16 15 23.4**	**-0.9**
	comp=Z,109nm,1.1s						
BBOO				*e*S	**S**	**16 21 17.4**	**-2.9**
ARPS	**Mount Arapiles**	**41.18**	**101**	*e*P	P	16 15 49.0	+3.6
	comp=Z,100nm,1.3s						
OPO	**Ambohidratompo**	**41.92**	**291**	LR	LR	16 29 21.8	
	comp=Z,2μm,18.0s,baz=128,slow=30						
ASAR	**Alice Springs**	**41.94**	**79**	P	**P**	**16 15 48.7**	**-3.1**
ASAR				PcP	**PcP**	**16 17 45.5**	**-1.7**
ASAR	**Alice Springs**	**41.94**	**79**	P	**P**	**16 15 48.7**	**-3.1**
	comp=Z,14nm,0.9s,baz=224,slow=7.5,SNR=54						
ASAR				PcP	**PcP**	**16 17 45.5**	**-1.7**
	comp=Z,5.6nm,0.8s,baz=223,slow=2.2,SNR=7.4						
STKA	**Stephens Creek**	**43.20**	**94**	P	P	16 15 57.6	-4.3
STKA				PcP	**PcP**	**16 17 50.2**	**-1.0**
STKA	**Stephens Creek**	**43.20**	**94**	*e*P	**P**	**16 16 01.0**	**-0.9**
	comp=Z,12nm,0.9s						
STKA				*e*S	**S**	**16 22 26.0**	**-2.2**
STKA	**Stephens Creek**	**43.20**	**94**	P	P	16 15 57.6	-4.3
	comp=Z,7.5nm,0.9s,baz=260,slow=6.2,SNR=3.7						
STKA				PcP	**PcP**	**16 17 50.2**	**-1.0**
	comp=Z,4.8nm,1.0s,baz=270,slow=3.0,SNR=3.3						
STKA				LR	LR	16 31 56.1	
	comp=Z,4μm,18.2s,baz=246,slow=34						
TOO	**Toolangi**	**43.51**	**104**	*e*P	P	16 16 07.1	+2.7
	comp=Z,64nm,1.1s						
KAAM	**Kaadhehdhoo**	**44.48**	**338**	P	**P**	**16 16 14.0**	**+1.7**
	comp=Z,46nm,1.6s						
WRA	**Warramunga Arr**	**44.57**	**75**	P	P	16 16 09.4	-3.6
WRA				PcP	**PcP**	**16 17 55.9**	**-0.1**
WRA	**Warramunga Arr**	**44.57**	**75**	P	P	16 16 09.4	-3.6
	comp=Z,20nm,0.9s,baz=230,slow=8.0,SNR=41						
WRA				PcP	**PcP**	**16 17 55.9**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=234,slow=3.0,SNR=3.7						
WRA				LR	LR	16 33 00.6	
	comp=Z,4μm,19.3s,baz=235,slow=34						
WRAB	**Tennant Creek**	**44.58**	**75**	*e*P	P	16 16 08.9	-4.2
WRAB				pmax	pmax		
	comp=Z,86nm,1.1s						
WRAB	**Tennant Creek**	**44.58**	**75**	*e*P	P	16 16 08.9	-4.2
	comp=Z,86nm,1.1s						
WRAB	**Tennant Creek**	**44.58**	**75**	P	**P**	**16 16 11.4**	**-1.7**
	comp=Z,340nm,1.0s,SNR=7.5						
PSI	**Prapat**	**45.62**	**15**	P	**P**	**16 16 19.5**	**-2.0**
PSI	**Prapat**	**45.62**	**15**	P	**P**	**16 16 20.0**	**-1.5**
	comp=Z,18nm,2.5s,comp=Z,584nm						
PSI	**Prapat**	**45.62**	**15**	P	**P**	**16 16 19.5**	**-2.0**
	comp=Z,4.1nm,0.7s,baz=169,slow=8.2,SNR=10						
PSI				LR	LR	16 30 50.7	
	comp=Z,6μm,22.0s,baz=190,slow=30						
VNDA	**Vanda**	**45.86**	**163**	P	**P**	**16 16 22.9**	**+0.3**
VNDA	**Vanda**	**45.86**	**163**	P	**P**	**16 16 22.9**	**+0.3**
	comp=Z,3.2nm,0.8s,baz=322,slow=6.9,SNR=4.1						
VNDA				LR	LR	16 33 15.4	
	comp=Z,3μm,21.3s,baz=270,slow=33						
CMSA	**Cobar Meteorol**	**46.41**	**96**	*e*P	**P**	**16 16 27.3**	**-0.2**
	comp=Z,68nm,1.3s						
CMSA				*e*S	**S**	**16 23 17.9**	**+3.2**
NVL	**N'lazarevskaya**	**46.62**	**206**	*e*P	P	16 16 22.3	-6.3
NVL				*e**PP	pP	16 16 28.9	-4.2
NVL				*e*		16 17 57.8	
NVL				*e*S	**S**	**16 23 14.7**	**-2.0**
NVL				*e*SS	**SS**	**16 26 44.2**	**+1.9**
NVL				pmax	pmax		
	comp=Z,15nm,0.8s						
NVL				MLR	MLR		
	comp=Z,2μm,16.0s						
MAIT	**Maitri**	**46.65**	**206**	*e*P	**P**	**16 16 31.1**	**+2.3**
QLP	**Quilpie**	**47.92**	**90**	*e*P	**P**	**16 16 37.4**	**-1.9**
QIS	**Mount Isa**	**48.01**	**80**	*e*P	**P**	**16 16 38.1**	**-2.0**
QSPA	**South Pole Qui**	**48.16**	**180**	*e*P	**P**	**16 16 40.7**	**-0.1**
	comp=Z,255nm,2.6s						
QSPA	**South Pole Qui**	**48.16**	**180**	P	**P**	**16 16 41.2**	**+0.3**
	comp=Z,8.9nm,0.9s,baz=265,slow=2.4,SNR=13						
QSPA				LR	LR	16 35 29.9	
	comp=Z,6μm,18.8s,baz=305,slow=34						
SBUM	**Sibu**	**49.29**	**32**	P	**P**	**16 16 52.5**	**+2.6**
	comp=Z,15nm,1.2s						
ARMA	**Armidale**	**51.36**	**99**	*e*P	**P**	**16 17 04.5**	**-1.2**
ARMA				*e*S	**S**	**16 24 29.3**	**+4.6**
BOSA	**Boshof**	**52.04**	**264**	P	**P**	**16 17 12.7**	**+1.9**
BOSA	**Boshof

KMI PP PP 16 21 37.3 +5.7
KMI S **S** **16 28 03.3 +2.9**
KMI sS **sS** **16 28 09.8 +1.7**
KMI SKS **SKSac** **16 28 59.0 -0.1**
KMI pmax pmax
comp=Z,9.0nm,1.1s
KMI pmax pmax
comp=Z,120nm,4.1s
KMI LR LR
comp=N,1μm,19.2s
KMI LR LR
comp=E,970nm,17.6s
KMI LR LR
comp=Z,2μm,22.2s
ODAN Odare 68.51 359 *e*P **P 16 19 02.1 -1.3**
comp=Z,61nm,1.2s
ODAN Odare 68.51 359 *e*P **P 16 19 02.1 -1.3**
comp=Z,61nm,1.2s
RAMN Ramite 68.61 358 *e*P **P 16 19 03.0 -1.1**
comp=Z,110nm,1.5s
RAMN Ramite 68.61 358 *e*P **P 16 19 03.0 -1.1**
comp=Z,110nm,1.5s
TAPN Taplejung 69.00 359 *e*P **P 16 19 05.4 -1.1**
comp=Z,55nm,1.0s
TAPN Taplejung 69.00 359 *e*P **P 16 19 05.4 -1.1**
comp=Z,55nm,1.0s
PKI Pulchoki 69.27 357 *e*P **P 16 19 06.9 -1.3**
comp=Z,51nm,1.2s
PKI Pulchoki 69.27 357 *e*P **P 16 19 06.9 -1.3**
PKI pmax pmax
comp=Z,51nm,1.2s
PKI Pulchoki 69.27 357 *e*P **P 16 19 06.9 -1.3**
comp=Z,51nm,1.2s
DMN Daman 69.31 357 *e*P **P 16 19 07.5 -0.9**
comp=Z,49nm,1.2s
DMN Daman 69.31 357 *e*P **P 16 19 07.5 -0.9**
comp=Z,49nm,1.2s
JIRN Jiri 69.33 358 *e*P **P 16 19 08.0 -0.7**
comp=Z,29nm,1.6s
JIRN Jiri 69.33 358 *e*P **P 16 19 08.0 -0.7**
comp=Z,29nm,1.6s
KKN Kakani 69.49 357 *e*P **P 16 19 08.9 -0.6**
comp=Z,38nm,1.1s
KKN Kakani 69.49 357 *e*P **P 16 19 08.9 -0.6**
KKN pmax pmax
comp=Z,38nm,1.1s
KKN Kakani 69.49 357 *e*P **P 16 19 08.9 -0.6**
comp=Z,38nm,1.1s
KOLN Koldanda 69.55 356 *e*P **P 16 19 08.2 -1.6**
comp=Z,36nm,1.2s
KOLN Koldanda 69.55 356 *e*P **P 16 19 08.2 -1.6**
comp=Z,36nm,1.2s
GUN Gumba 69.59 358 *e*P **P 16 19 09.3 -0.9**
comp=Z,274nm,1.7s
GUN Gumba 69.59 358 *e*P **P 16 19 09.3 -0.9**
comp=Z,274nm,1.7s
GKN Gorkha 69.73 357 *e*P **P 16 19 09.4 -1.5**
comp=Z,69nm,1.4s
GKN Gorkha 69.73 357 *e*P **P 16 19 09.4 -1.5**
comp=Z,69nm,1.4s
PYUN Piuthan 69.91 355 *e*P **P 16 19 10.4 -1.7**
comp=Z,64nm,1.0s
PYUN Piuthan 69.91 355 *e*P **P 16 19 10.4 -1.7**
comp=Z,64nm,1.0s
DANN Dangsing 70.11 356 *e*P **P 16 19 11.8 -1.6**
comp=Z,38nm,1.0s
DANN Dangsing 70.11 356 *e*P **P 16 19 11.8 -1.6**
comp=Z,38nm,1.0s
GYA Guiyang 70.20 18 P **P 16 19 16.0 +2.2**
GYA PP **PP** **16 21 54.5 +4.9**
GYA S **S** **16 28 27.5 +2.6**
GYA SKS **SKSac** **16 29 14.3 -0.4**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,140nm,5.8s
GYA LR LR
comp=N,840nm,19.6s
GYA LR LR
comp=E,620nm,20.0s
GYA LR LR
comp=Z,780nm,18.8s
LSA Lhasa 71.39 3 P **P 16 19 19.5 -1.8**
LSA Lhasa 71.39 3 *e*P **P 16 19 20.6 -0.7**
LSA pmax pmax
comp=Z,20nm,1.3s
LSA Lhasa 71.39 3 *e*P **P 16 19 20.6 -0.7**
comp=Z,20nm,1.3s
CD2 Chengdu 73.94 14 P **P 16 19 36.0 0.0**
CD2 pP **pP** **16 19 40.8 +0.1**
CD2 sP **sP** **16 19 43.0 +0.6**
CD2 PP **PP** **16 22 22.5 +1.0**
CD2 S **S** **16 29 06.5 -1.0**
CD2 sS **sS** **16 29 13.8 -1.4**
CD2 SKS **SKSac** **16 29 38.3 -4.2**
CD2 SS **SS** **16 33 52.5 -0.2**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
CD2 LR LR
comp=N,3μm,21.7s
CD2 LR LR
comp=E,1μm,18.4s
CD2 LR LR
comp=Z,2μm,21.5s
XAN Xi'an 78.01 17 P **P 16 19 59.0 -0.1**
XAN pP **PcP** **16 20 06.3 -2.5**
XAN S **S** **16 29 50.8 -1.4**
XAN pmax pmax
comp=Z,3.0nm,1.3s
XAN pmax pmax
comp=Z,44nm,5.0s
XAN LR LR
comp=Z,430nm,19.5s
SSE Sheshan 78.80 28 P **P 16 20 02.8 -0.7**
SSE sP **sP** **16 20 07.5 -2.4**
SSE S **S** **16 30 02.8 +2.1**
SSE sS **sS** **16 30 08.3 -0.2**
SSE SS **SS** **16 35 09.0 +2.7**
SSE pmax pmax
comp=Z,28nm,1.0s
SSE pmax pmax
comp=Z,330nm,4.4s
SSE LR LR
comp=N,730nm,19.2s
SSE LR LR
comp=E,500nm,19.2s
SSE LR LR
comp=Z,990nm,17.3s
NJ2 Nanjing 78.88 26 *e*P **P 16 20 05.5 +1.6**
NJ2 pP **pP** **16 20 08.0 -0.6**
NJ2 S S 16 30 08.0 +6.5
NJ2 pmax pmax
comp=Z,20nm,1.2s
NJ2 pmax pmax
comp=Z,340nm,4.1s
NJ2 LR LR
comp=N,1μm,19.0s
NJ2 LR LR
comp=E,1μm,17.4s
NJ2 LR LR
comp=Z,850nm,20.7s
LZH Lanzhou 79.00 13 *e*P **P 16 20 05.5 +0.8**
LZH pP **pP** **16 20 10.5 +1.0**
LZH sP **sP** **16 20 14.0 +2.8**
LZH *e*S **S** **16 30 04.0 +1.0**
LZH sS **sS** **16 30 15.0 +4.1**
LZH pmax pmax
comp=Z,23nm,1.1s
LZH pmax pmax
comp=Z,220nm,6.0s
LZH LR LR
comp=N,2μm,16.8s
LZH LR LR
comp=E,2μm,18.5s
LZH LR LR
comp=Z,2μm,19.0s
ITEG Tejag 79.31 335 *e*P P 16 20 11.2 +4.7
GTA Gaotai 81.70 9 *e*P **P 16 20 19.0 -0.1**
GTA pP **pP** **16 20 23.3 -0.6**
GTA sP **sP** **16 20 26.5 +0.9**
GTA S **S** **16 30 29.8 -1.4**
GTA sS **SKSac** **16 30 38.3 0.0**
GTA SS **SS** **16 35 50.0 +0.2**
GTA pmax pmax
comp=Z,10.0nm,1.0s
GTA pmax pmax
comp=Z,140nm,5.5s
GTA LR LR
comp=N,740nm,19.2s
GTA LR LR
comp=E,930nm,19.0s
GTA LR LR
comp=Z,790nm,19.2s
KSH Kashi 81.89 350 P **P 16 20 17.5 -2.6**
KSH pP **pP** **16 20 22.0 -2.9**
KSH sP **sP** **16 20 24.5 -2.1**
KSH PP **PP** **16 23 27.5 -0.6**
KSH S **S** **16 30 29.0 -4.1**
KSH SKS SKSac 16 30 32.0 -7.6
KSH sS **sS** **16 30 37.5 -3.5**
KSH SS **SS** **16 35 51.5 -1.1**
KSH pmax pmax
comp=Z,52nm,2.0s
KSH pmax pmax
comp=Z,140nm,6.0s
KSH LR LR
comp=N,1μm,18.6s
KSH LR LR
comp=E,920nm,16.4s
KSH LR LR
comp=Z,2μm,18.1s
IMYA Miami 82.10 337 *e*P **P 16 20 24.5 +3.1**
IMOG Moghan 82.11 337 *e*P P 16 20 25.5 +4.0
IAKL Akhelmad 82.74 336 *e*P **P 16 20 24.0 -0.8**
ISFR Sfrayin 83.38 336 *e*P P 16 20 32.6 +4.5
IEMG Emamgholi 83.52 337 *e*P P 16 20 33.0 +4.1
IFIR Firoozkooh 83.82 332 *e*P P 16 20 36.2 +5.8
ABKT Ailbek 84.16 336 P P 16 20 36.5 +4.7
comp=Z,90nm,1.8s,SNR=5.6
HHC Hu-ho-hao-te 85.12 18 *e*P **P 16 20 37.0 +0.4**
HHC pP **pP** **16 20 41.5 +0.1**
HHC sP **sP** **16 20 45.0 +1.9**
HHC PP **PP** **16 23 56.3 +1.8**
HHC SKS **SKSac** **16 30 58.3 -2.3**
HHC S **SKKSac** **16 31 06.5 -0.4**
HHC sS **sS** **16 31 14.5 +1.0**
HHC SS **SS** **16 36 44.3 +4.0**
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,97nm,4.9s
HHC LR LR
comp=N,1μm,16.0s
HHC LR LR
comp=E,590nm,14.1s
HHC LR LR
comp=Z,1μm,16.7s
AAK Ala-Archa 85.15 350⇑ *e*P **P 16 20 36.1 -0.8**
AAK pmax pmax
comp=Z,37nm,2.2s
AAK Ala-Archa 85.15 350 *e*P **P 16 20 35.7 -1.2**
comp=Z,60nm,1.3s
AAK Ala-Archa 85.15 350 P **P 16 20 36.0 -0.8**
comp=Z,1.9nm,0.9s,baz=156,slow=8.1,SNR=9.1
EKS2 Erkin-Say 85.28 349 *e*P **P 16 20 37.4 0.0**
EKS2 pmax pmax
comp=Z,73nm,2.1s
EKS2 Erkin-Say 85.28 349 *e*P **P 16 20 37.4 0.0**
comp=Z,73nm,2.1s
TKM2 Tokmak 2 85.30 351 *e*P **P 16 20 36.9 -0.7**
TKM2 pmax pmax
comp=Z,30nm,1.8s
TKM2 Tokmak 2 85.30 351 *e*P **P 16 20 36.9 -0.7**
comp=Z,30nm,1.8s
FRU Bishkek 85.33 350 *e*P **P 16 20 38.0 +0.4**
FRU pmax pmax
comp=Z,40nm,2.0s
IGZV Ghazvin 85.41 330 *e*P P 16 20 43.4 +5.0
WMQ Urumqi 85.43 360 P **P 16 20 38.5 +0.4**
WMQ pP **pP** **16 20 43.0 +0.1**
WMQ sP **sP** **16 20 46.0 +1.4**
WMQ PP **PP** **16 23 54.0 -3.0**
WMQ SKS **SKSac** **16 31 00.0 -2.3**
WMQ SS **SS** **16 36 44.0 -0.8**
WMQ pmax pmax
comp=Z,47nm,0.7s
WMQ pmax pmax
comp=Z,290nm,5.6s
WMQ LR LR
comp=N,2μm,17.0s
WMQ LR LR
comp=E,1μm,17.0s
WMQ LR LR
comp=Z,1μm,24.8s
BJI Beijing 85.49 21 P **P 16 20 39.5 +1.2**
BJI PP **PP** **16 23 58.0 +0.6**
BJI SKS **S** **16 31 05.0 -4.0**
BJI S **SKKSac** **16 31 13.5 +4.1**
BJI SS **SS** **16 36 49.5 +3.9**
BJI pmax pmax
comp=Z,10.0nm,0.8s
BJI LR LR
comp=N,2μm,21.7s
BJI LR LR
comp=E,850nm,20.7s
BJI LR LR
comp=Z,1μm,19.8s
KKAR Karatay Array 86.21 347 *e*P **P 16 20 41.0 -0.9**
KKAR Karatay Array 86.21 347 *e*P **P 16 20 41.0 -0.9**
MKAR Makanchi Array 88.56 356 P **P 16 20 51.4 -1.8**
MKAR Makanchi Array 88.56 356 P **P 16 20 51.4 -1.8**
MKAR Makanchi Array 88.56 356 P **P 16 20 51.4 -1.8**
comp=Z,1.3nm,0.9s,baz=133,slow=8.5,SNR=9.9
MKAR LR LR 16 59 27.7
comp=Z,948nm,18.3s,baz=182,slow=35
MJAR Matsushiro Arr 90.51 38 LR LR 17 03 09.3
comp=Z,165nm,19.2s,baz=205,slow=37
SONM Songino Array 90.88 12 P **P 16 21 03.3 -0.8**
SONM Songino Array 90.88 12 P **P 16 21 03.3 -0.8**
comp=Z,0.8nm,0.9s,baz=192,slow=4.4,SNR=6.9
SONM LR LR 17 00 11.9
comp=Z,1μm,20.7s,baz=173,slow=34
ULN Ulaanbaatar 91.01 13 *e*P **P 16 21 04.0 -0.8**
comp=Z,22nm,1.8s
CN2 Changchun 91.71 26 *e*P **P 16 21 09.5 +1.6**
CN2 *ep*P **pP** **16 21 14.0 +1.3**
CN2 *e*S **S** **16 32 08.3 +0.7**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 LR LR
comp=N,900nm,20.0s
CN2 LR LR
comp=E,500nm,20.0s
CN2 LR LR
comp=Z,600nm,20.0s
MAK Makhachkala 92.18 331 P **P 16 21 13.0 +2.9**
MAK *e*S S 16 31 43.9 -28
MAK *e* 16 32 09.3
MAK *e*PS PnS 16 33 26.2 +0.7
MAK *e*SS **SS** **16 38 17.4 -5.4**
MAK MLR MLR
comp=Z,788nm,19.0s
ZAK Zakamensk 92.93 10 *e*P P 16 21 08.7 -4.8
ZAK pmax pmax
comp=Z,3.0nm,1.5s
MDJ Mudanjiang 93.83 28 P **P 16 21 18.5 +0.8**
MDJ pP **pP** **16 21 21.8 -0.7**
MDJ sP **sP** **16 21 23.0 -1.2**
MDJ PP **PP** **16 25 03.8 0.0**
MDJ S **S** **16 32 26.8 +0.3**
MDJ sS **sS** **16 32 35.0 +0.5**
MDJ SS **SS** **16 38 50.0 +3.5**
MDJ pmax pmax
comp=Z,2.0nm,0.8s
MDJ pmax pmax
comp=Z,48nm,3.8s
MDJ LR LR
comp=N,260nm,24.7s
MDJ LR LR
comp=E,260nm,20.2s
MDJ LR LR
comp=Z,310nm,23.4s
MOY Mondy 93.94 8 *e*P **P 16 21 18.0 -0.1**
ABKAR Akbulak array 94.22 342 *e*P **P 16 21 19.2 -0.1**
TLY Talaya 94.25 10 *e*P **P 16 21 19.7 +0.3**
TLY pmax pmax
comp=Z,6.0nm,1.9s
TLY MLR MLR
comp=Z,1μm,21.0s
KBZ Khabaz 94.55 329 P P 16 21 26.0 +5.0
KBZ Khabaz 94.55 329 P P 16 21 26.0 +5.0
KBZ Khabaz 94.55 329 P P 16 21 26.0 +5.0
comp=Z,2.0nm,1.0s,baz=172,slow=7.1,SNR=3.9
KBZ LR LR 16 59 50.9
comp=Z,742nm,21.2s,baz=151,slow=33
KIV Kislovodsk 94.83 329 *e*P **P 16 21 22.0 -0.4**
KIV *e* 16 31 56.7
KIV *e*SS SS 16 38 58.4 -2.5
KIV pmax pmax
comp=Z,11nm,1.1s
BRTR Keskin Array B 95.24 321 LR LR 17 01 02.8
comp=Z,793nm,19.6s,baz=123,slow=33
PLCA Paso Flores 95.45 196 P **P 16 21 25.5 -0.1**
PLCA Paso Flores 95.45 196 P **P 16 21 25.5 -0.1**
comp=Z,1.7nm,0.9s,baz=350,slow=2.7,SNR=4.0
PLCA LR LR 17 05 37.0
comp=Z,2μm,18.4s,baz=177,slow=36
ZALV Zalesovo Beam 95.61 358 P **P 16 21 23.4 -2.2**
ZALV Zalesovo Beam 95.61 358 P **P 16 21 23.4 -2.2**
ZALV Zalesovo Beam 95.61 358 P **P 16 21 23.4 -2.2**
comp=Z,0.5nm,0.5s,baz=172,slow=4.5,SNR=5.6
ZALV LR LR 17 03 01.0
comp=Z,528nm,19.5s,baz=9.0,slow=35
SOC Sochi 95.69 327 *e*P P 16 21 16.5 -10
SOC pmax pmax
comp=Z,35nm,0.6s
SOC MLR MLR
comp=Z,633nm,15.0s
AKTO Aktyubinsk 95.77 341 P **P 16 21 26.7 +0.3**
AKTO Aktyubinsk 95.77 341 P **P 16 21 26.7 +0.3**
AKTO Aktyubinsk 95.77 341 P **P 16 21 26.7 +0.3**
comp=Z,1.8nm,0.7s,baz=193,slow=3.9,SNR=4.3
TBI Tubuai 95.93 129 *e*LR LR 16 52 10.1
comp=Z,1μm,23.0s,baz=217
BRVK Borovoye 95.94 349⇑ *e*P **P 16 21 26.0 -1.1**
BRVK pmax pmax
comp=Z,7.0nm,2.4s
TORD Torodi Ar. Bea 96.15 282 LR LR 17 03 27.9
comp=Z,998nm,18.4s,baz=145,slow=34
DBIC Dimbokro 96.72 273 LR LR 16 58 53.7
comp=Z,1μm,22.0s,baz=122,slow=32
ANN Anapa 97.63 326 *e*P Pdif 16 21 35.4 +0.4
ANN MLR MLR
comp=N,371nm,19.0s
ANN MLR MLR
comp=Z,527nm,19.0s
PPT2 Papeete2 100.27 125 *e*LR LR 16 54 10.0
comp=Z,1μm,28.8s,baz=210
ARU Arti 101.22 344 *d i*P **Pdif** **16 21 50.2 -0.5**
ARU **PP** **16 25 57.6 -2.8**
ARU S **SKSac** **16 32 29.2 +0.5**
ARU pmax pmax
comp=Z,11nm,1.6s
ARU MLR MLR
comp=Z,1μm,20.0s
CLL Collm 113.56 319 *e*SS SS 16 43 22.0 +4.2
CLL *e* 16 54 30.0
APA Apatity 116.80 339⇑ *i*PKIKP PKPdf 16 26 36.0 -8.1
APA MLR MLR
comp=Z,2μm,21.0s
ILAR Eielson Array 141.71 35 PKP **PKPdf** **16 27 28.6 -2.6**
ILAR Eielson Array 141.71 35 PKP **PKPdf** **16 27 28.6 -2.6**
comp=Z,2.3nm,0.8s,baz=272,slow=3.4,SNR=3.8
DAWY Dawson 145.03 35 *e*PKPdf **PKPab** **16 27 36.5 -0.1**
INK Inuvik 145.64 26 PKPbc **PKPdf** **16 27 37.0 -0.9**
INK *e*PKPdf **PKPbc** **16 27 37.2 -1.1**
INK Inuvik 145.64 26 PKPbc **PKPdf** **16 27 37.0 -0.9**
comp=Z,11nm,0.9s,baz=310,slow=4.0,SNR=27
RES Resolute Bay 147.18 2 *e*PKPbc **PKPbc** **16 27 41.8 -1.0**
RES Resolute Bay 147.18 2 PKPbc **PKPbc** **16 27 42.0 -0.7**
comp=Z,4.9nm,0.8s,baz=14,slow=6.2,SNR=4.1
YKA Yellowknife Ar 155.41 26 PKP **PKPdf** **16 27 56.4 +3.1**
YKA PKPab **PKPab** **16 28 18.4 -0.5**
YKA Yellowknife Ar 155.41 26 PKP **PKPdf** **16 27 56.4 +3.1**
comp=Z,0.2nm,0.8s,baz=326,slow=2.0,SNR=4.4
YKA PKPab **PKPab** **16 28 18.4 -0.5**
comp=Z,1.0nm,0.9s,baz=321,slow=3.3,SNR=6.1
YBH Yreka Blue Hor 156.99 80 PKPab **PKPab** **16 28 24.6 -2.0**
YBH Yreka Blue Hor 156.99 80 PKPab **PKPab** **16 28 24.6 -2.0**
comp=Z,3.1nm,0.8s,baz=211,slow=6.1,SNR=4.4
NVAR Mina Array Bea 159.44 91 PKPab **PKPab** **16 28 36.4 -1.1**
NVAR Mina Array Bea 159.44 91 PKPab **PKPab** **16 28 36.4 -1.1**
comp=Z,1.9nm,0.8s,baz=231,slow=6.2,SNR=6.7
PDAR Pinedale Array 166.80 81 PKP **PKPdf** **16 28 09.4 +3.1**
PDAR PKPab **PKPab** **16 29 09.6 -0.1**
PDAR Pinedale Array 166.80 81 PKP **PKPdf** **16 28 09.4 +3.1**
comp=Z,2.3nm,1.1s,baz=229,slow=1.4,SNR=9.0
PDAR PKPab **PKPab** **16 29 09.6 -0.1**
comp=Z,1.8nm,0.9s,baz=246,slow=2.5,SNR=7.6

IDC 25 16:08:08.0±1.9, 19.14S×177.63W, h524km±20km, mb3.4/9, mb1 3.6/10, mb1mx3.4/22, mbtmp3.4/10, Error ellipse: s-maj=55.3km s-min=11.4km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.65**	**48**	P	P	16 10 02.7	+1.0
	6.0nm,0.3s,baz=83,slow=3.3,SNR=12						
AFI				S	S	16 11 32.6	-2.1
	1.7nm,0.3s,baz=227,slow=18,SNR=3.7						
PMG	**Port Moresby**	**35.40**	**281**	P	P	16 14 21.2	+1.2
	12nm,0.9s,baz=144,slow=2.4,SNR=4.6						
STKA	**Stephens Creek**	**38.71**	**243**	P	P	16 14 46.6	-0.3
	4.5nm,0.8s,baz=65,slow=8.3,SNR=19						
WRA	**Warramunga Arr**	**45.15**	**261**	P	P	16 15 37.0	-0.9
	3.6nm,0.7s,baz=97,slow=8.7,SNR=43						
ASAR	**Alice Springs**	**45.19**	**255**	P	P	16 15 38.2	0.0
	6.3nm,0.7s,baz=86,slow=8.2,SNR=132						
YBH	**Yreka Blue Hor**	**79.01**	**39**	P	P	16 19 18.3	+0.8
	1.6nm,0.5s,baz=205,slow=10,SNR=4.1						
NVAR	**Mina Array Bea**	**79.80**	**43**	P	P	16 19 22.1	+0.1
	0.4nm,0.6s,baz=225,slow=9.4,SNR=5.9						
TXAR	**Lajitas Array**	**86.03**	**57**	P	P	16 19 54.0	+0.7
	1.2nm,0.7s,baz=212,slow=6.5,SNR=8.0						
ILAR	**Eielson Array**	**86.91**	**13**	P	P	16 19 55.5	-1.1
	0.5nm,0.6s,baz=229,slow=5.4,SNR=11						
PDAR	**Pinedale Array**	**87.73**	**43**	P	P	16 20 01.1	-0.2
	0.8nm,0.9s,baz=151,slow=3.8,SNR=5.8						
ARCES	**ARCESS Array B**	**127.65**	**350**	PKP	PKPdf	16 26 12.1	-0.8
	5.9nm,1.0s,baz=16,slow=5.6,SNR=3.9						
GERES	**GERESS Array B**	**148.98**	**345**	PKPbc	PKPbc	16 26 55.9	-0.9
	0.4nm,0.5s,baz=70,slow=1.6,SNR=3.8						

IDC 25 16:09:50.1±1.4, 3.35N×125.15E, h0km, mb3.3/3, mb1 3.4/3, mb1mx3.3/21, mbtmp3.3/3, Error ellipse: s-maj=157.5km s-min=25.5km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.84**	**159**	P	P	16 15 14.4	-0.1
	1.1nm,0.6s,baz=335,slow=11,SNR=17						
SONM	**Songino Array**	**47.18**	**343**	P	P	16 18 23.3	-1.4
	0.1nm,0.5s,baz=169,slow=9.3,SNR=2.2						
MKAR	**Makanchi Array**	**56.98**	**326**	P	P	16 19 39.0	+1.4
	0.2nm,0.5s,baz=121,slow=8.5,SNR=4.4						

IDC 25 16:12:37.3±1.6, 42.35S×88.98E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.7/4, Error ellipse: s-maj=48.9km s-min=30.7km az=110.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.49**	**78**	P	P	16 20 25.9	-0.3
	1.4nm,0.9s,baz=228,slow=6.9,SNR=4.7						
WRA	**Warramunga Arr**	**44.15**	**74**	P	P	16 20 47.8	+0.1
	1.5nm,1.0s,baz=223,slow=7.7,SNR=4.7						
QSPA	**South Pole Qui**	**47.80**	**180**	P	P	16 21 16.5	+0.4
	1.8nm,1.0s,baz=294,slow=4.5,SNR=4.2						
CMAR	**Chiang Mai Arr**	**61.20**	**11**	P	P	16 22 55.0	+1.2
	0.5nm,0.9s,baz=222,slow=5.8,SNR=4.2						
INK	**Inuvik**	**145.72**	**26**	PKPbc	PKPdf	16 32 14.1	-2.3
	1.7nm,1.0s,baz=316,slow=2.3,SNR=2.3						

IDC 25 16:13:13.0±1.8, 41.79S×88.35E, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.8/19, mbtmp3.9/5, Error ellipse: s-maj=51.3km s-min=26.1km az=110.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.83**	**79**	P	P	16 21 04.7	0.0
	1.7nm,0.6s,baz=224,slow=7.3,SNR=9.8						
WRA	**Warramunga Arr**	**44.45**	**75**	P	P	16 21 25.5	-0.4
	2.4nm,0.7s,baz=233,slow=8.4,SNR=13						
VNDA	**Vanda**	**46.03**	**163**	P	P	16 21 38.0	+0.3
	4.3nm,1.0s,baz=326,slow=7.3,SNR=3.8						
QSPA	**South Pole Qui**	**48.36**	**180**	P	P	16 21 55.9	-0.4
	1.3nm,0.9s,baz=336,slow=7.3,SNR=2.5						
CMAR	**Chiang Mai Arr**	**60.74**	**12**	P	P	16 23 26.4	0.0
	0.2nm,0.4s,baz=204,slow=8.2,SNR=4.4						

MEX 25 16:15:19.0±0.8, 15°.41N×94°.72W, h16km±9km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.39**	**285**	*eP*	Pn	16 15 40.5	-3.3
HUIG				*i* S	Sn	16 15 55.6	-6.1
PCIG		**1.48**	**78**	*eP*	Pn	16 15 40.6	-4.3
PCIG				*i* S	Sn	16 15 58.9	-5.0
CMIG	**Matias Romero**	**1.68**	**355**	*eP*	Pn	16 15 44.4	-3.4
CMIG				*i* S	Sn	16 16 03.9	-5.2
TGIG		**2.05**	**48**	*i* P	Pn	16 15 49.9	-3.1
TGIG				*i* S	Sn	16 16 14.5	-3.9
THIG		**2.42**	**101**	*i* P	Pn	16 15 55.6	-2.3
THIG				*i* S	Sn	16 16 22.9	-4.3
VHO	**Vista Hermosa**	**2.55**	**311**	*i* P	Pn	16 15 56.2	-3.8
VHO				*i* S	Sn	16 16 26.6	-4.3
CCIG	**Comitan**	**2.63**	**70**	*i* P	Pn	16 15 58.9	-2.2
CCIG				*i* S	Sn	16 16 29.1	-3.8
PNIG	**Pinotepa**	**3.42**	**287**	*i* P	Pn	16 16 09.7	-2.1
PNIG				*i* S	Sn	16 16 48.0	-4.1
UTMO	**Huajuapan**	**3.82**	**310**	*i* P	Pn	16 16 14.1	-3.3
UTMO				*i* S	Sn	16 16 58.8	-3.4

IDC 25 16:20:52.6±1.8, 20°.13S×176°.82W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/20, mbtmp4.1/4, Error ellipse: s-maj=51.1km s-min=39.3km az=11.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.95**	**244**	P	P	16 28 20.4	-0.1
	3.5nm,0.9s,baz=80,slow=13,SNR=4.1						
ASAR	**Alice Springs**	**45.68**	**256**	P	P	16 29 15.6	0.0
	1.7nm,0.6s,baz=102,slow=7.7,SNR=17						
WRA	**Warramunga Arr**	**45.75**	**261**	P	P	16 29 15.8	-0.3
	1.1nm,0.6s,baz=97,slow=6.9,SNR=19						
QSPA	**South Pole Qui**	**69.94**	**180**	P	P	16 32 05.7	+0.2
	1.9nm,0.9s,baz=13,slow=4.0,SNR=6.8						
AKASG	**Malin Array Be**	**143.21**	**332**	PKP	PKPbc	16 40 27.0	+1.5
	1.1nm,0.4s,baz=43,slow=4.2,SNR=5.6						
GERES	**GERESS Array B**	**150.12**	**346**	PKPbc	PKPbc	16 40 45.2	-0.2
	0.3nm,0.6s,baz=358,slow=3.4,SNR=3.9						

IDC 25 16:21:32.9±1.0, 23°.11S×170°.53E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.2/20, mbtmp4.1/11, ML3.8/1, Error ellipse: s-maj=30.9km s-min=22.4km az=160.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.92**	**285**	*eP*	Pn	16 22 34.1	-0.4
DZM				*eS*	Sn	16 23 21.8	+0.5
DZM	**Mont Dzumac**	**3.92**	**285**	Pn	Pn	16 22 34.2	-0.3
	6.9nm,0.3s,baz=104,slow=17,SNR=64						
DZM				Sn	Sn	16 23 19.4	-2.0
	5.1nm,0.3s,baz=161,slow=22,SNR=5.6						
NOUC	**Port Laguerre**	**4.04**	**284**	*eP*	Pn	16 22 35.5	-0.5
NOUC				*eS*	Sn	16 23 23.2	-0.8
CTA	**Charters Tower**	**22.77**	**273**	P	P	16 26 38.2	+1.1
	4.4nm,0.9s,baz=86,slow=14,SNR=3.2						
STKA	**Stephens Creek**	**27.05**	**245**	P	P	16 27 17.4	+0.2
	1.6nm,0.8s,baz=96,slow=9.2,SNR=3.6						
ASAR	**Alice Springs**	**33.57**	**262**	P	P	16 28 14.6	-0.3
	4.5nm,1.0s,baz=96,slow=10,SNR=28						
WRA	**Warramunga Arr**	**33.76**	**268**	P	P	16 28 15.4	-1.2
	0.7nm,0.6s,baz=98,slow=8.4,SNR=11						
MJAR	**Matsushiro Arr**	**66.72**	**332**	P	P	16 32 25.9	0.0
	3.6nm,1.0s,baz=180,slow=8.8,SNR=5.4						
QSPA	**South Pole Qui**	**66.96**	**180**	P	P	16 32 27.1	-0.1
	3.9nm,1.1s,baz=7.6,slow=5.5,SNR=5.0						
CMAR	**Chiang Mai Arr**	**81.19**	**294**	P	P	16 33 52.0	+1.0
	1.9nm,1.0s,baz=132,slow=4.4,SNR=8.0						
NVAR	**Mina Array Bea**	**90.47**	**48**	P	P	16 34 37.0	+0.1
	0.6nm,0.8s,baz=216,slow=9.0,SNR=3.9						
SONM	**Songino Array**	**91.02**	**323**	P	P	16 34 37.6	-1.5
	1.3nm,1.0s,baz=150,slow=6.0,SNR=7.0						
ILAR	**Eielson Array**	**93.56**	**17**	P	P	16 34 49.2	-1.1
	0.4nm,0.8s,baz=250,slow=6.2,SNR=4.4						
GERES	**GERESS Array B**	**148.45**	**330**	PKPbc	PKPbc	16 41 22.1	+0.6
	2.3nm,0.8s,baz=36,slow=2.5,SNR=16						

*ISK **25** 16:34:51.7, 37°.93N×27°.55E, h5km, MD2.9*
*ISCJB **25** 16:34:52.5±0.5, 37°.95N±0°.02×27°.60E±0°.05, h0km, Error ellipse: s-maj=5.4km s-min=3.3km az=12.4*
*DDA **25** 16:34:52.7, 37°.93N×27°.61E, h7km, MD2.9*
*CSEM **25** 16:34:52.9±0.1, 37°.94N×27°.60E, h2km, MD2.9, Error ellipse: s-maj=3.9km s-min=2.3km az=99.0*

ISC 25 16:34:52.8±0.9, 37°.94N±0°.02×27°.60E±0°.03, h0km, n32, σ0s 42/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.36**	**142**	*i* P	**Pg**	**16 34 59.9**	**+0.2**
AYDN				*i* S	**Sg**	**16 35 04.8**	**+0.4**
AYDN	**Tasoluk**	**0.36**	**142**	*i* P	**Pg**	**16 34 59.9**	**+0.2**
AYDN				*i* S	**Sg**	**16 35 04.8**	**+0.4**
GCAM	**G?zelcaml?**	**0.38**	**230**	*i* P	**Pg**	**16 35 00.3**	**+0.3**
GCAM				*i* S	**Sg**	**16 35 05.1**	**+0.2**
GCAM	**G?zelcaml?**	**0.38**	**230**	*i* P	**Pg**	**16 35 00.3**	**+0.3**
GCAM				*i* S	**Sg**	**16 35 05.1**	**+0.2**
IZM	**Izmir**	**0.53**	**330**	*e*PG	**Pg**	**16 35 02.9**	**0.0**
IZM	**Izmir**	**0.53**	**330**	*e*Pg	**Pg**	**16 35 02.9**	**0.0**
MLSB	**Milas**	**0.66**	**168**	*e*PG	**Pg**	**16 35 05.6**	**+0.1**
MLSB				*e*SG	**Sb**	**16 35 16.0**	**-1.1**
MLSB	**Milas**	**0.66**	**168**	*e*Pg	**Pg**	**16 35 05.6**	**+0.1**
MLSB				*e*Sg	**Sb**	**16 35 16.0**	**-1.1**
BODT	**Bodrum**	**0.91**	**195**	*e*PG	**Pg**	**16 35 10.0**	**-0.2**
BODT	**Bodrum**	**0.91**	**195**	*e*Pg	**Pg**	**16 35 10.0**	**-0.2**
MANT	**Manisa**	**0.93**	**54**	*i* P	**Pg**	**16 35 10.6**	**-0.1**
MANT				*i* S	**Sg**	**16 35 22.2**	**-0.6**
MANT	**Manisa**	**0.93**	**54**	*i* P	**Pg**	**16 35 10.6**	**-0.1**
MANT				*i* S	**Sg**	**16 35 22.2**	**-0.6**
AKHS	**Akhisar**	**0.95**	**10**	*i* P	**Pg**	**16 35 11.3**	**+0.3**
AKHS				*i* S	**Sb**	**16 35 24.8**	**-0.5**
AKHS	**Akhisar**	**0.95**	**10**	*i* P	**Pg**	**16 35 11.3**	**+0.3**
AKHS				*i* S	**Sb**	**16 35 24.8**	**-0.5**
AKS	**Akhisar**	**0.95**	**10**	*e*PG	**Pg**	**16 35 11.4**	**+0.3**
AKS	**Akhisar**	**0.95**	**10**	*e*Pg	**Pg**	**16 35 11.4**	**+0.3**
YER	**Yerkesik**	**0.97**	**146**	*e*PG	**Pg**	**16 35 11.8**	**+0.3**
YER	**Yerkesik**	**0.97**	**146**	*e*Pg	**Pg**	**16 35 11.8**	**+0.3**
KULA	**Kula-Manisa**	**1.01**	**55**	*e*PG	**Pg**	**16 35 12.3**	**+0.1**
KULA	**Kula-Manisa**	**1.01**	**55**	*e*Pg	**Pg**	**16 35 12.4**	**+0.1**
DENT	**Denizli**	**1.15**	**99**	*e*PN	**Pb**	**16 35 15.7**	**0.0**
DENT	**Denizli**	**1.15**	**99**	*e*Pn	**Pb**	**16 35 15.7**	**0.0**
DAT	**Datca**	**1.21**	**181**	*e*PN	**Pg**	**16 35 15.8**	**-0.2**
DAT	**Datca**	**1.21**	**181**	*e*Pn	**Pg**	**16 35 15.9**	**-0.2**
DST	**Dursunbey**	**1.84**	**25**	*e*PN	**Pn**	**16 35 26.0**	**+0.3**
DST	**Dursunbey**	**1.84**	**25**	*e*Pn	**Pn**	**16 35 26.0**	**+0.3**
TVSB	**Tavsanli**	**2.10**	**44**	*e*PN	**Pn**	**16 35 29.8**	**+0.5**
TVSB	**Tavsanli**	**2.10**	**44**	*e*Pn	**Pn**	**16 35 29.8**	**+0.5**
GONE	**Gonen-Balikesi**	**2.10**	**2**	*e*PN	**Pn**	**16 35 29.6**	**+0.3**
GONE	**Gonen-Balikesi**	**2.10**	**2**	*e*Pn	**Pn**	**16 35 29.6**	**+0.3**
ALT	**Altintas**	**2.26**	**60**	*e*PN	**Pn**	**16 35 32.3**	**+0.7**
ALT	**Altintas**	**2.26**	**60**	*e*Pn	**Pn**	**16 35 32.3**	**+0.7**

IDC 25 16:37:33.0±1.3, 3°.78N×127°.01E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/22, mbtmp3.4/5, MS3.1/1, Ms1 3.1/1, ms1mx2.9/19, Error ellipse: s-maj=126.8km s-min=20.4km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.56**	**337**	LR	LR	16 39 48.8	
	comp=Z,248nm,20.2s,baz=232,slow=38						
WRA	**Warramunga Arr**	**24.65**	**163**	P	P	16 42 55.2	-0.4
	1.2nm,0.7s,baz=344,slow=10,SNR=9.5						
ASAR	**Alice Springs**	**28.10**	**166**	P	P	16 43 28.7	+2.0
	0.1nm,0.3s,baz=348,slow=12,SNR=5.0						
STKA	**Stephens Creek**	**38.08**	**160**	P	P	16 44 51.9	-1.7
	1.0nm,0.6s,baz=350,slow=11,SNR=3.1						
SONM	**Songino Array**	**47.34**	**341**	P	P	16 46 10.1	+1.3
	0.4nm,0.9s,baz=164,slow=6.5,SNR=3.7						
MKAR	**Makanchi Array**	**57.67**	**325**	P	P	16 47 24.3	-1.1
	0.1nm,0.4s,baz=116,slow=6.6,SNR=3.0						

*IDC **25** 17:16:25.2±2.8, 1°.59N×127°.58E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, Error ellipse: s-maj=249.4km s-min=25.9km az=67.0*
*ISCJB **25** 17:16:34.5±1.0, 1°.30N±0°.09×126°.91E±0°.05, h83km±8km, mb3.3/3, Error ellipse: s-maj=16.4km s-min=6.8km az=19.7*
*DJA **25** 17:16:36.9±0.6, 1°.N±6°×12°.7E±°, h19km±8km, M3.6/8, MLv3.6/8*

ISC 25 17:16:35.1±1.4, 1°.3N±0°.1×126°.94E±0°.07, h72km±12km, n11, σ1s 03/15, mb3.4/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.69**	**142**	P	**Pn**	**17 16 49.9**	**-0.2**
TNTI				S	**Sn**	**17 17 01.0**	**-0.2**
LBMI	**Labuha**	**2.03**	**164**	P	**Pn**	**17 17 07.3**	**+0.1**
LBMI				S	**Sn**	**17 17 33.3**	**+1.6**
MNI	**Manado**	**2.10**	**273**	P	**Pn**	**17 17 09.4**	**+1.2**
MNI				S	**Sn**	**17 17 33.3**	**-0.2**
KMSI	**Cibinong**	**3.05**	**256**	P	**Pn**	**17 17 21.6**	**+0.5**
KMSI				S	**Sn**	**17 17 56.5**	**0.0**
LUWI	**Luwuk**	**4.78**	**241**	P	**Pn**	**17 17 45.1**	**+0.4**
LUWI				S	**Sn**	**17 18 38.2**	**-0.7**
SWI	**Sorong**	**4.84**	**117**	P	Pn	17 17 49.8	+4.4
MSAI	**Masohi**	**5.05**	**157**	P	**Pn**	**17 17 49.6**	**+1.2**
MRSI	**Marisa**	**5.07**	**260**	P	**Pn**	**17 17 48.6**	**0.0**
WRA	**Warramunga Arr**	**22.35**	**161**	P	**P**	**17 21 25.1**	**-2.2**
	0.4nm,0.3s,baz=342,slow=11,SNR=18						
ASAR	**Alice Springs**	**25.75**	**165**	P	**P**	**17 21 59.0**	**-0.2**
	0.4nm,0.3s,baz=347,slow=13,SNR=20						
MKAR	**Makanchi Array**	**59.65**	**324**	P	**P**	**17 26 32.2**	**+0.3**
	0.2nm,0.5s,baz=120,slow=7.9,SNR=4.9						

IDC 25 17:25:48.1±3.9, 14°.30S×167°.24E, h248km±35km, mb3.6/11, mb1 3.7/12, mb1mx3.6/23, mbtmp3.6/12, Error ellipse: s-maj=24.4km s-min=23.8km az=170.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.76**	**185**	P	Pn	17 27 38.5	0.0
	0.3nm,0.3s,baz=49,slow=20,SNR=6.2						
CTA	**Charters Tower**	**20.85**	**251**	P	P	17 30 11.4	0.0
	3.8nm,0.8s,baz=114,slow=3.1,SNR=3.7						
STKA	**Stephens Creek**	**29.25**	**229**	P	P	17 31 28.6	+1.2
	3.5nm,0.5s,baz=49,slow=7.8,SNR=20						
WRA	**Warramunga Arr**	**31.91**	**255**	P	P	17 31 49.9	-0.9
	2.8nm,0.6s,baz=86,slow=9.5,SNR=46						
ASAR	**Alice Springs**	**32.80**	**248**	P	P	17 31 58.0	-0.7
	2.1nm,0.5s,baz=76,slow=9.4,SNR=102						
ASAR				PcP	PcP	17 34 36.2	-1.3
	0.3nm,0.7s,baz=72,slow=1.4,SNR=5.2						
NWAO	**Narrogin (SRO)**	**48.95**	**239**	P	P	17 34 08.7	-1.0
	7.5nm,0.8s,baz=70,slow=12,SNR=2.9						
CMAR	**Chiang Mai Arr**	**74.75**	**294**	P	P	17 37 02.9	+1.4
	0.8nm,0.8s,baz=122,slow=4.3,SNR=7.3						
QSPA	**South Pole Qui**	**75.72**	**180**	P	P	17 37 06.9	+0.6
	1.8nm,0.9s,baz=270,slow=2.1,SNR=7.8						
SONM	**Songino Array**	**82.14**	**324**	P	P	17 37 41.6	+0.3
	0.4nm,0.4s,baz=134,slow=4.8,SNR=6.8						
ILAR	**Eielson Array**	**86.13**	**18**	P	P	17 37 59.8	-1.0
	0.5nm,0.9s,baz=242,slow=6.1,SNR=5.5						
MKAR	**Makanchi Array**	**96.88**	**316**	P	P	17 38 52.0	+0.9
	0.9nm,0.7s,baz=98,slow=6.3,SNR=12						
ZALV	**Zalesovo Beam**	**97.03**	**324**	P	P	17 38 51.4	-0.1
	0.3nm,0.3s,baz=112,slow=3.6,SNR=5.1						
ARCES	**ARCESS Array B**	**119.83**	**345**	PKP	PKPdf	17 44 07.0	-1.3
	2.4nm,0.8s,baz=72,slow=1.9,SNR=6.0						

*THR **25** 17:28:49.8±0.3, 38°.84N×43°.59E, h54km, ML3.5*
*DDA **25** 17:28:50.3, 38°.61N×44°.50E, h5km, MD3.7*
*NSSP **25** 17:28:50.8, 38°.37N×44°.48E, h15km, Ms3.7*
*IDC **25** 17:28:53.7±1.5, 38°.66N×44°.35E, h0km, mb3.6/10, mb1 3.8/10, mb1mx3.6/24, mbtmp3.7/10, MS3.3/4, Ms1 3.3/4, ms1mx2.8/40, Error ellipse: s-maj=26.8km s-min=19.3km az=22.0*
*CSEM **25** 17:28:53.7±0.2, 38°.46N×44°.26E, h2km, MD3.6, Error ellipse: s-maj=5.2km s-min=3.9km az=1.0*
*TEH **25** 17:28:54.5, 38°.70N×44°.47E, h3km, ML3.7*
*ISK **25** 17:28:54.0, 38°.56N×44°.20E, h5km, MD3.6*
*AZER **25** 17:28:56.6, 38°.54N×44°.78E, h0km*

ISC 25 17:28:54.3±1.1, 38°.54N±0°.02×44°.28E±0°.02, h5km±8km, n140, σ1s 75/167, mb3.6/11, 29C-25D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.67**	**335**	*e*PG	**Pg**	**17 29 05.7**	**-1.6**
CLDR				*e*SG	**Sg**	**17 29 15.6**	**-0.4**
VANB	**Van**	**0.70**	**275**	*e*PG	**Pg**	**17 29 06.3**	**-1.5**
VANB	**Van**	**0.70**	**275**	*e*Pg	**Pg**	**17 29 06.3**	**-1.5**
VANT	**Van**	**0.81**	**262**	*e*PG	**Pg**	**17 29 09.1**	**-0.7**
VANT	**Van**	**0.81**	**262**	*e*Pg	**Pg**	**17 29 09.1**	**-0.7**
MAKU	**Maku**	**0.88**	**21**	*e*Pg	**Pg**	**17 29 08.5**	**-2.6**
MAKU	**Maku**	**0.88**	**21**	*e*Pg	**Pg**	**17 29 08.5**	**-2.6**
GEVA	**Gevas**	**0.99**	**257**	*i* P	**Pg**	**17 29 11.9**	**-1.4**
GEVA				*i* S	**Sn**	**17 29 29.7**	**+0.3**
GEVA	**Gevas**	**0.99**	**257**	*i* P	**Pg**	**17 29 11.9**	**-1.4**
HKR	**Hakkari**	**1.05**	**204**	*e*PG	**Pb**	**17 29 14.8**	**-0.2**
HKR				*e*SG	**Sb**	**17 29 28.8**	**-0.3**
HAKT	**HAKKARI**	**1.08**	**205**	*i* P	**Pg**	**17 29 14.0**	**-1.0**
HAKT				*i* S	**Sn**	**17 29 31.5**	**-0.2**
HAKT	**HAKKARI**	**1.08**	**205**	*i* P	**Pg**	**17 29 14.0**	**-1.0**
DYDN	**Diyadin**	**1.11**	**335**	*i* P	**Pg**	**17 29 13.2**	**-2.4**
DYDN				*i* S	**Sn**	**17 29 35.0**	**+2.5**
DYDN	**Diyadin**	**1.11**	**335**	*i* P	**Pg**	**17 29 13.2**	**-2.4**
DYDN				*i* S	**Sn**	**17 29 35.0**	**+2.5**
IMRD	**Marand**	**1.12**	**80**	*e*Pg	Pg	17 29 11.9	-4.0
IMRD				*e*Sg	Sg	17 29 24.1	-6.4
IMRD				*e*		17 29 36.6	
	comp=Z,57µm,0.3s						
IMRD	**Marand**	**1.12**	**80**	*e*Pg	Pg	17 29 11.9	-4.0
NAX	**Nakhchivan**	**1.14**	**56**	P	Pg	17 29 12.9	-3.3
	SNR=54						
NAX				S	**Sg**	**17 29 29.4**	**-1.6**
NAX	**Nakhchivan**	**1.14**	**56**	P	Pg	17 29 12.9	-3.3
	SNR=54						
NAX				S	**Sg**	**17 29 29.4**	**-1.6**
AGRB	**Hanur-Agry**	**1.45**	**316**	*e*PN	**Pb**	**17 29 20.6**	**-1.3**
AGRB	**Hanur-Agry**	**1.45**	**316**	*e*Pn	**Pb**	**17 29 20.6**	**-1.3**
ITBZ	**Tabriz**	**1.49**	**101**	*e*Pg	Pn	17 29 18.4	-3.6
ITBZ				*e*Sg	**Sn**	**17 29 38.6**	**-3.3**
ITBZ				*e*		17 29 44.1	
	comp=Z,5µm,0.3s						
ITBZ	**Tabriz**	**1.49**	**101**	*e*Pg	Pn	17 29 18.4	-3.6
ITBZ				*e*Sg	**Sn**	**17 29 38.6**	**-3.3**
VRNZ	**Vardanashen**	**1.51**	**357**	*i* P	**Pn**	**17 29 20.8**	**-1.4**
VRNZ				*i* S	**Sg**	**17 29 45.2**	**+2.2**
VRNZ	**Vardanashen**	**1.51**	**357**	*i* P	**Pn**	**17 29 20.8**	**-1.4**
VRNZ				S	**Sg**	**17 29 45.2**	**+2.2**
TATV	**Tatvan**	**1.58**	**270**	*i* P	**Pg**	**17 29 23.3**	**-1.4**
TATV				*i* S	Sg	17 29 50.2	+5.0
TATV	**Tatvan**	**1.58**	**270**	*i* P	**Pg**	**17 29 23.3**	**-1.4**
VNNZ	**Vanand**	**1.61**	**347**	*i* P	**Pg**	**17 29 24.4**	**-0.7**
VNNZ				*i* S	**Sg**	**17 29 47.5**	**+1.5**
VNNZ	**Vanand**	**1.61**	**347**	P	**Pg**	**17 29 24.4**	**-0.7**
VNNZ				S	**Sg**	**17 29 47.5**	**+1.5**
PAAR	**P'arak'ar**	**1.61**	**3**	*i* P	**Pb**	**17 29 23.8**	**-0.9**
PAAR				*i* S	**Sg**	**17 29 50.3**	**+4.1**
PAAR	**P'arak'ar**	**1.61**	**3**	P	**Pb**	**17 29 23.8**	**-0.9**
PAAR				S	**Sg**	**17 29 50.3**	**+4.1**
ERE	**Yerevan**	**1.64**	**5**	*e*P	**Pn**	**17 29 21.0**	**-2.9**
GNI	**Garni**	**1.65**	**12**	*i* P	**Pn**	**17 29 23.6**	**-0.5**
GNI				*i* S	**Sg**	**17 29 51.9**	**+4.4**
GNI	**Garni**	**1.65**	**12**	Pn	**Pn**	**17 29 23.7**	**-0.5**
	comp=Z,43nm,0.3s,baz=232,slow=2.4,SNR=115						
GNI				Lg	Lg	17 29 48.8	
	comp=Z,48nm,0.3s,baz=351,slow=14,SNR=3.6						
GNI	**Garni**	**1.65**	**12**	P	**Pn**	**17 29 23.6**	**-0.5**
GNI				S	**Sg**	**17 29 51.8**	**+4.4**
AKSZ	**Araks**	**1.68**	**350**	*i* P	**Pg**	**17 29 25.8**	**-0.8**
AKSZ				*i* S	Sg	17 29 53.4	+5.0
AKSZ	**Araks**	**1.68**	**350**	P	**Pg**	**17 29 25.8**	**-0.8**
AKSZ				S	Sg	17 29 53.4	+5.0
IFTB	**Fath-abad**	**1.74**	**107**	*e*Pn	**Pn**	**17 29 24.6**	**-0.8**
IFTB				*e*		17 30 18.1	
	comp=Z,95µm,0.4s						
IFTB	**Fath-abad**	**1.74**	**107**	*e*Pn	**Pn**	**17 29 24.6**	**-0.8**
ARUZ	**Aruch**	**1.75**	**355**	*i* P	**Pb**	**17 29 26.6**	**-0.4**
ARUZ				*i* S	**Sg**	**17 29 54.9**	**+4.3**
ARUZ	**Aruch**	**1.75**	**355**	P	**Pb**	**17 29 26.6**	**-0.4**
ARUZ				S	**Sg**	**17 29 54.9**	**+4.3**
SIRN	**S¨¨rnak**	**1.81**	**236**	*i* P	**Pg**	**17 29 28.4**	**-0.5**
SIRN				*i* S	**Sg**	**17 29 56.1**	**+3.8**
SIRN	**S¨¨rnak**	**1.81**	**236**	*i* P	**Pg**	**17 29 28.4**	**-0.5**
KAPZ	**Kaputan**	**1.81**	**10**	*i* P	**Pn**	**17 29 26.5**	**+0.1**
KAPZ				*i* S	**Sg**	**17 29 53.3**	**+0.7**
KAPZ	**Kaputan**	**1.81**	**10**	P	**Pn**	**17 29 26.5**	**+0.1**
KAPZ				S	**Sg**	**17 29 53.3**	**+0.7**
AMBZ	**Amberd**	**1.85**	**359**	*i* P	**Pb**	**17 29 27.8**	**-1.0**
AMBZ				*i* S	**Sg**	**17 29 56.5**	**+2.7**
AMBZ	**Amberd**	**1.85**	**359**	P	**Pb**	**17 29 27.8**	**-1.0**
AMBZ				S	**Sg**	**17 29 56.5**	**+2.7**
VADZ	**Vardenis**	**1.99**	**34**	*i* P	**Pn**	**17 29 28.0**	**-0.8**
VADZ				*i* S	**Sb**	**17 29 57.0**	**+0.7**
VADZ	**Vardenis**	**1.99**	**34**	P	**Pn**	**17 29 28.0**	**-0.8**
VADZ				S	**Sb**	**17 29 57.0**	**+0.7**
IHRS	**Heris**	**2.18**	**95**	*e*Pn	**Pn**	**17 29 30.3**	**-1.1**
IHRS				*e*		17 29 34.7	
	comp=Z,6µm,0.3s						
IHRS				*e*Sg	**Sn**	**17 29 58.3**	**-0.6**
IHRS	**Heris**	**2.18**	**95**	*e*Pn	**Pn**	**17 29 30.3**	**-1.1**
IBST	**Bostanabad**	**2.22**	**111**	*e*Pn	**Pn**	**17 29 31.0**	**-1.0**
IBST				*e*		17 29 38.7	
	comp=Z,2µm,0.2s						
IBST				*e*Sg	**Sn**	**17 30 01.6**	**+1.7**
IBST	**Bostanabad**	**2.22**	**111**	*e*Pn	**Pn**	**17 29 31.0**	**-1.0**
IBST				*e*Sg	**Sn**	**17 30 01.6**	**+1.7**
BTMT	**Batman**	**2.22**	**262**	*e*PN	**Pb**	**17 29 34.2**	**-0.8**
KARS	**Kars**	**2.29**	**336**	*e*PN	**Pn**	**17 29 33.1**	**+0.2**
KARS	**Kars**	**2.29**	**336**	*e*Pn	**Pn**	**17 29 33.1**	**+0.2**
VRTB	**Varto-Mus**	**2.29**	**287**	*e*PN	**Pn**	**17 29 32.7**	**-0.3**
VRTB	**Varto-Mus**	**2.29**	**287**	*e*Pn	**Pn**	**17 29 32.7**	**-0.3**
STKZ		**2.30**	**56**	*i* P	Pg	17 29 45.8	+7.3
STKZ				*i* S	Sg	17 30 19.9	+11
HOMI	**Horasan**	**2.38**	**310**	*i* P	**Pg**	**17 29 37.9**	**-2.1**
BEST	**Besiri**	**2.46**	**256**	*i* P	**Pb**	**17 29 37.2**	**-1.8**
BNGL	**BINGOL**	**2.49**	**281**	*i* P	**Pb**	**17 29 37.3**	**-2.3**
GANJ	**Ganja**	**2.63**	**36**	P	**Pn**	**17 29 38.4**	**+0.9**
	SNR=50						
GANJ				S	**Sb**	**17 30 14.6**	**0.0**
GANJ	**Ganja**	**2.63**	**36**	P	**Pn**	**17 29 38.4**	**+0.9**
	SNR=50						
GANJ				S	**Sb**	**17 30 14.6**	**0.0**
EZM	**Erzurum**	**2.65**	**302**	*e*PN	**Pn**	**17 29 37.8**	**-0.1**
ISRB	**Sarab**	**2.76**	**104**	*e*Pn	**Pn**	**17 29 38.4**	**-1.0**
ISRB				*e*		17 29 57.5	
	comp=Z,2µm,0.2s						
ISRB	**Sarab**	**2.76**	**104**	*e*Pn	**Pn**	**17 29 38.4**	**-1.0**
BRDA	**Brd**	**2.83**	**52**	S	**Sg**	**17 30 30.9**	**+5.7**
GRMI	**Germi**	**2.84**	**83**	*e*Pn	**Pn**	**17 29 39.5**	**-0.9**
GRMI				*e*Sg	**Sn**	**17 30 18.6**	**+3.6**
GRMI				AML	AML	17 30 24.0	
	comp=E,153nm,0.6s						
GRMI	**Germi**	**2.84**	**83**	*e*Pn	**Pn**	**17 29 39.5**	**-0.9**
BNGB	**Bing¶ll**	**2.85**	**280**	*e*PN	**Pn**	**17 29 40.8**	**+0.2**
AKH	**

comp=N,0.5nm,0.3s,baz=74,slow=15,SNR=3.1
EIL Elat 11.74 224 Lg Lg 17 35 12.4
EIL LR LR 17 36 27.8
comp=N,176nm,19.8s,baz=257,slow=38
VRI Vrincioaia 14.91 305 ǁ*i*P P 17 32 36.4 +4.8
MLR Muntele Rosu 15.28 303 ǁ*i*P P 17 32 40.0 +4.2
AKTO Aktyubinsk 15.38 35 Pn **Pn 17 32 30.3 -1.6**
comp=N,0.1nm,0.3s,baz=204,slow=15,SNR=2.9
AKTO LR LR 17 39 32.3
comp=N,92nm,18.1s,baz=214,slow=42
VOIR 15.86 302 ǁ*i*P **P 17 32 45.4 +3.3**
AKASG Malin Array Be 16.18 324 Pn **P 17 32 45.9 +0.5**
comp=N,0.3nm,0.3s,baz=133,slow=11,SNR=4.6
VTS Vitosha 16.51 291 ǁ*i*P P 17 32 57.4 +7.9
BURAR Bucovina Array 16.59 309 ǁ*i*P **P 17 32 52.5 +2.3**
BVAR Borovoye Array 23.09 43 P **P 17 34 01.0 +0.2**
comp=N,0.8nm,0.6s,baz=243,slow=13,SNR=5.7
AAK Ala-Archa 23.24 70 P **P 17 34 00.9 -1.7**
comp=N,1.0nm,0.9s,baz=295,slow=14,SNR=2.4
GERES GERESS Array B 24.25 305 P **P 17 34 12.9 +0.7**
comp=N,0.7nm,0.8s,baz=84,slow=3.1,SNR=4.3
FINES FINESS Array B 25.57 340 P **P 17 34 23.7 -0.2**
comp=N,2.8nm,0.9s,baz=107,slow=6.6,SNR=5.4
KURBB Kurchatov Arra 26.97 52 P **P 17 34 37.0 +0.2**
comp=N,1.5nm,0.6s,baz=262,slow=9.1,SNR=16
MKAR Makanchi Array 28.91 61 P **P 17 34 54.2 +0.1**
comp=N,0.3nm,0.6s,baz=276,slow=5.5,SNR=4.2
MKAR LR LR 17 48 09.3
comp=N,70nm,19.6s,baz=355,slow=40
HFS Hagfors 28.95 328 P P 17 34 57.2 +2.9
comp=N,1.4nm,0.7s,baz=146,slow=10,SNR=3.3
ZALV Zalesovo Beam 31.49 47 P **P 17 35 16.0 -0.8**
comp=N,0.5nm,0.6s,baz=251,slow=12,SNR=3.1
CMAR Chiang Mai Arr 51.26 97 P **P 17 37 58.3 -0.9**
comp=N,0.6nm,0.7s,baz=301,slow=9.2,SNR=5.7
FRB Frobisher Bay 65.14 333 P **P 17 39 35.6 -0.2**
comp=N,2.1nm,0.8s,baz=101,slow=7.7,SNR=4.5
YKA Yellowknife Ar 77.89 350 P **P 17 40 51.1 -1.5**
comp=N,0.2nm,0.4s,baz=19,slow=5.9,SNR=5.1

TAP 25 17:33:36.7,21.31N×122.10E,h170km±1km,ML3.9,D,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.89**	**325**	*e*P	Pn	17 33 59.0	-3.6
	baz=325						
LAY				*e*S	Sn	17 34 23.6	+0.9
	baz=325						
TSEB	**Hengchuen, Pin**	**1.26**	**298**	*e*P	Pn	17 34 05.8	+0.3
	baz=293						
TSEB				*e*S	Sn	17 34 28.5	+0.7
	baz=293						
TWK1	**Hengchun**	**1.36**	**298**	*e*P	Pn	17 34 06.0	-0.5
	baz=295						
TWK1				*e*S	Sn	17 34 28.6	-0.8
	baz=295						
HEN	**Hengchun**	**1.44**	**299**	*e*P	Pn	17 34 07.2	0.0
	baz=299						
HEN				*e*S	Sn	17 34 30.3	-0.5
	baz=299						
EAST	**Anshuo**	**1.58**	**313**	*e*P	Pn	17 34 08.6	0.0
	baz=313						
EAST				*e*S	Sn	17 34 32.1	-1.3
	baz=313						
ECL	**Taimali**	**1.66**	**321**	P	Pn	17 34 09.2	-0.3
	baz=316						
ECL				*e*S	Sn	17 34 32.9	-2.0
	baz=316						
SCZT	**Fangliau**	**1.73**	**308**	*e*P	Pn	17 34 10.5	+0.4
	baz=308						
SCZT				*e*S	Sn	17 34 34.6	-1.5
	baz=308						
TWG	**Pinlang**	**1.78**	**328**	*e*P	Pn	17 34 09.8	-0.8
	baz=322						
TWG				*e*S	Sn	17 34 35.2	-1.9
	baz=322						
CHKT	**Chengkung**	**1.91**	**339**	*e*P	Pn	17 34 12.2	+0.2
	baz=342						
CHKT				*e*S	Sn	17 34 38.2	-1.3
	baz=342						
TWP	**Hsiaoliuchiu**	**1.91**	**303**	*e*P	Pn	17 34 13.7	+1.6
	baz=303						
TWP				*e*S	Sn	17 34 41.7	+2.2
	baz=303						
SSD	**Sandimen**	**1.97**	**317**	*e*P	Pn	17 34 13.3	+0.5
	baz=317						
SSD				*e*S	Sn	17 34 39.4	-1.4
	baz=317						
SGLT	**Jiouru**	**2.05**	**314**	*e*P	Pn	17 34 14.1	+0.5
	baz=319						
SGLT				*e*S	Sn	17 34 42.5	+0.2
	baz=319						
ELDTW	**Lidau**	**2.12**	**332**	*e*P	Pn	17 34 15.0	+0.4
	baz=332						
ELDTW				*e*S	Sn	17 34 43.9	-0.2
	baz=332						
TWM1	**Shoushan**	**2.16**	**314**	*e*P	Pn	17 34 15.8	+0.9
	baz=321						
TWM1				*e*S	Sn	17 34 45.0	+0.4
	baz=321						
SGST	**Jiashian**	**2.25**	**322**	*e*P	Pn	17 34 16.3	+0.3
	baz=315						
SGST				*e*S	Sn	17 34 45.5	-1.0
	baz=315						
EHY	**Hungye**	**2.30**	**342**	*e*P	Pn	17 34 16.2	-0.3
	baz=337						
EHY				*e*S	Sn	17 34 45.2	-2.3
	baz=337						
CHN1	**Nanshi**	**2.37**	**322**	*e*P	Pn	17 34 17.6	+0.4
	baz=322						
CHN1				*e*S	Sn	17 34 47.5	-1.3
	baz=322						
WTP	**Ta-pu**	**2.37**	**325**	*e*P	Pn	17 34 17.6	+0.3
	baz=318						
WTP				*e*S	Sn	17 34 47.7	-1.3
	baz=318						
YUS	**Yu-Shan**	**2.41**	**334**	*e*P	Pn	17 34 18.6	+0.1
	baz=334						
YUS				*e*S	Sn	17 34 50.8	-0.1
	baz=334						
TWK	**Hsinying**	**2.45**	**323**	*e*P	Pn	17 34 19.2	+0.9
	baz=323						
TWK				*e*S	Sn	17 34 49.1	-1.6
	baz=323						
CHN4	**Tsaushan**	**2.46**	**326**	*e*P	Pn	17 34 18.5	+0.1
	baz=320						
CHN4				*e*S	Sn	17 34 49.8	-1.1
	baz=320						
ALS	**Alishan**	**2.50**	**332**	*e*P	Pn	17 34 19.1	-0.1
	baz=324						
ALS				*e*S	Sn	17 34 52.1	-0.1
	baz=324						
ESL	**Shilin**	**2.57**	**346**	*e*P	Pn	17 34 18.4	-1.2
	baz=339						
ESL				*e*S	Sn	17 34 51.6	-1.5
	baz=339						
CHN5	**Tsauling**	**2.63**	**330**	*e*P	Pn	17 34 20.6	+0.1
	baz=330						
CHN5				*e*S	Sn	17 34 53.5	-1.0
	baz=330						
SMLT	**Sun Moon Lake**	**2.79**	**337**	*e*P	Pn	17 34 22.2	-0.2
	baz=329						
SMLT				*e*S	Sn	17 34 58.0	-0.1
	baz=329						
TYC	**Yuchr**	**2.83**	**336**	*e*P	Pn	17 34 23.1	+0.3
	baz=329						
TYC				*e*S	Sn	17 34 58.5	-0.1
	baz=329						
WHF	**Hehuan Shan**	**2.92**	**345**	*e*P	Pn	17 34 25.7	+1.2
	baz=350						
WHF				*e*S	Sn	17 35 00.4	-1.4
	baz=350						
NNS	**Nan Shan**	**3.19**	**348**	*e*P	Pn	17 34 28.1	+0.7
	baz=354						
NNS				*e*S	Sn	17 35 07.0	+0.1
	baz=354						
NSK	**Sanguang**	**3.42**	**349**	*e*P	Pn	17 34 31.1	+0.9
	baz=354						
NSK				*e*S	Sn	17 35 09.5	-2.5
	baz=354						

*CSEM **25** 17:34:28.7±0.1,45.91N×1.17W,h2km,ML3.2/44,Error ellipse: s-maj=2.1km s-min=1.6km az=106.0*
*LDG **25** 17:34:30.6±0.1,45.91N×1.23W,h3km,Md3.4/3,Ml3.3/40,*

Error ellipse: s-maj=1.1km s-min=0.8km az=110.0
*STR **25** 17:34:32.7±0.2,45.76N×0.99W,h5km,Ml3.5,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 25 17:34:28.8±1.1,45.93N±0.01×1.18W±0.02,h7km±8km,
n163,σ18.27/281,France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHIF	**Chize**	**0.58**	**69**	Pg	**Pn**	**17 34 43.0**	**-0.5**
CHIF				Sg	**Sb**	**17 34 50.9**	**+1.2**
MFF	**Saint Martin d**	**0.99**	**46**	*e*Pn	**Pn**	**17 34 50.4**	**+1.3**
	SNR=1.0						
MFF				*e*Sg	**Sn**	**17 35 02.9**	**-0.5**
	341nm,0.3s,SNR=1.0						
MFF	**Saint Martin d**	**0.99**	**46**	*e*Pn	**Pn**	**17 34 50.4**	**+1.3**
	SNR=1.0						
MFF				*e*Sg	**Sn**	**17 35 02.9**	**-0.5**
	170nm,0.3s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.00**	**107**	*e*Pn	**Pn**	**17 35 03.8**	**+0.8**
	SNR=1.0						
RJF	**Les Rejaudoux**	**2.00**	**107**	*e*Pg	**Pg**	**17 35 07.9**	**+0.9**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**17 35 33.3**	**+0.5**
	71nm,0.2s,SNR=1.0						
RJF	**Les Rejaudoux**	**2.00**	**107**	*e*Pn	**Pn**	**17 35 03.8**	**+0.8**
	SNR=1.0						
RJF	**Les Rejaudoux**	**2.00**	**107**	*e*Pg	**Pg**	**17 35 07.9**	**+0.9**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**17 35 33.3**	**+0.5**
	36nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**2.39**	**80**	*e*Pn	**Pn**	**17 35 09.6**	**+1.2**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**2.39**	**80**	*e*Pg	**Pg**	**17 35 15.4**	**+0.9**
TCF				*e*Sg	**Sg**	**17 35 46.3**	**+0.8**
	35nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**2.39**	**80**	*e*Pn	**Pn**	**17 35 09.6**	**+1.2**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**2.39**	**80**	*e*Pg	**Pg**	**17 35 15.4**	**+0.9**
TCF				*e*Sg	**Sg**	**17 35 46.3**	**+0.8**
	17nm,0.3s,SNR=1.0						
QUIF	**Quistinic**	**2.41**	**326**	*e*Pn	**Pn**	**17 35 09.9**	**+1.3**
	SNR=1.0						
QUIF	**Quistinic**	**2.41**	**326**	*e*Pg	**Pg**	**17 35 15.3**	**+0.4**
QUIF				*e*Sg	**Sg**	**17 35 45.6**	**-0.5**
	27nm,0.3s,SNR=1.0						
QUIF	**Quistinic**	**2.41**	**326**	*e*Pn	**Pn**	**17 35 09.9**	**+1.3**
	SNR=1.0						
QUIF	**Quistinic**	**2.41**	**326**	*e*Pg	**Pg**	**17 35 15.3**	**+0.4**
QUIF				*e*Sg	**Sg**	**17 35 45.6**	**-0.5**
	14nm,0.3s,SNR=1.0						
GRR	**Gorron**	**2.47**	**5**	*e*Pn	**Pn**	**17 35 09.8**	**+0.3**
	SNR=1.0						
GRR	**Gorron**	**2.47**	**5**	*e*Pg	**Pg**	**17 35 16.6**	**+0.5**
GRR				*e*Sg	**Sg**	**17 35 48.6**	**+0.4**
	53nm,0.3s						
GRR	**Gorron**	**2.47**	**5**	*e*Pn	**Pn**	**17 35 09.8**	**+0.3**
	SNR=1.0						
GRR	**Gorron**	**2.47**	**5**	*e*Pg	**Pg**	**17 35 16.6**	**+0.5**
GRR				*e*Sg	**Sg**	**17 35 48.6**	**+0.4**
	27nm,0.3s						
CAF	**Calviac**	**2.50**	**112**	*e*Pn	**Pn**	**17 35 11.0**	**+1.1**
	SNR=1.0						
CAF	**Calviac**	**2.50**	**112**	*e*Pg	**Pg**	**17 35 17.5**	**+0.9**
CAF				*e*Sn	**Sn**	**17 35 40.3**	**-0.3**
CAF				*e*Sg	**Sg**	**17 35 49.4**	**+0.5**
	39nm,0.2s,SNR=1.0						
CAF	**Calviac**	**2.50**	**112**	*e*Pn	**Pn**	**17 35 11.0**	**+1.1**
	SNR=1.0						
CAF	**Calviac**	**2.50**	**112**	*e*Pg	**Pg**	**17 35 17.5**	**+0.9**
CAF				*e*Sn	**Sn**	**17 35 40.3**	**-0.3**
CAF				*e*Sg	**Sg**	**17 35 49.4**	**+0.5**
	19nm,0.2s,SNR=1.0						
SGMF	**Saint Gilles**	**2.51**	**339**	*e*Pn	**Pn**	**17 35 11.4**	**+1.4**
	SNR=1.0						
SGMF	**Saint Gilles**	**2.51**	**339**	*e*Pg	**Pg**	**17 35 17.4**	**+0.5**
SGMF				*e*Sg	**Sg**	**17 35 49.1**	**-0.3**
	34nm,0.4s,SNR=1.0						
SGMF	**Saint Gilles**	**2.51**	**339**	*e*Pn	**Pn**	**17 35 11.4**	**+1.4**
	SNR=1.0						
SGMF	**Saint Gilles**	**2.51**	**339**	*e*Pg	**Pg**	**17 35 17.4**	**+0.5**
SGMF				*e*Sg	**Sg**	**17 35 49.1**	**-0.3**
	17nm,0.4s,SNR=1.0						
OSSF	**Osses**	**2.67**	**181**	Pn	**Pn**	**17 35 12.5**	**+0.3**
OSSF	**Osses**	**2.67**	**181**	Pn	**Pn**	**17 35 12.5**	**+0.3**
ORDF	**Ordiarp**	**2.72**	**176**	Pg	**Pg**	**17 35 20.5**	**-0.3**
ORDF				Sg	**Sg**	**17 35 56.6**	**+0.5**
ORDF	**Ordiarp**	**2.72**	**176**	Pg	**Pg**	**17 35 20.5**	**-0.3**
ORDF				Sg	**Sg**	**17 35 56.6**	**+0.5**
LDF	**La Druitiere**	**2.76**	**15**	*e*Pn	**Pn**	**17 35 14.4**	**+0.9**
	SNR=1.0						
LDF	**La Druitiere**	**2.76**	**15**	*e*Pg	**Pg**	**17 35 21.9**	**+0.2**
LDF				*e*Sn	**Sn**	**17 35 46.3**	**-0.9**
LDF				*e*Sg	**Sg**	**17 35 57.6**	**+0.1**
	34nm,0.3s,SNR=1.0						
LDF	**La Druitiere**	**2.76**	**15**	*e*Pn	**Pn**	**17 35 14.4**	**+0.9**
	SNR=1.0						
LDF	**La Druitiere**	**2.76**	**15**	*e*Pg	**Pg**	**17 35 21.9**	**+0.2**
LDF				*e*Sn	**Sn**	**17 35 46.3**	**-0.9**
LDF				*e*Sg	**Sg**	**17 35 57.6**	**+0.1**
	17nm,0.3s,SNR=1.0						
ELIZ	**Elizondo**	**2.77**	**185**	Pn	**Pn**	**17 35 14.4**	**+0.7**
	2.7nm,0.2s,SNR=8.7						
ELIZ				Sn	**Sn**	**17 35 44.3**	**-3.1**
	7.8nm,0.4s,SNR=7.9						
ELIZ				Lg	Lg	17 35 56.5	
	14nm,0.2s,SNR=7.9						
ROSF	**Rostrenen**	**2.80**	**330**	*e*Pn	**Pn**	**17 35 15.0**	**+1.0**
	SNR=1.0						
ROSF	**Rostrenen**	**2.80**	**330**	*e*Pg	**Pg**	**17 35 22.5**	**+0.1**
ROSF				*e*Sg	**Sg**	**17 35 58.2**	**-0.5**
	16nm,0.2s,SNR=1.0						
ROSF	**Rostrenen**	**2.80**	**330**	*e*Pn	**Pn**	**17 35 15.0**	**+1.0**
	SNR=1.0						
ROSF	**Rostrenen**	**2.80**	**330**	*e*Pg	**Pg**	**17 35 22.5**	**+0.1**
ROSF				*e*Sg	**Sg**	**17 35 58.2**	**-0.5**
	8.1nm,0.2s,SNR=1.0						
SJPF	**Ste Jean**	**2.81**	**181**	*e*Pn	**Pn**	**17 35 14.0**	**-0.2**
	SNR=1.0						
SJPF	**Ste Jean**	**2.81**	**181**	*e*Pg	**Pg**	**17 35 21.9**	**-0.8**
SJPF				*e*Sn	**Sn**	**17 35 46.3**	**-2.1**
SJPF				*e*Sg	**Sg**	**17 35 58.1**	**-1.0**
	19nm,0.2s,SNR=1.0						
SJPF	**Ste Jean**	**2.81**	**181**	*e*Pn	**Pn**	**17 35 14.0**	**-0.2**
	SNR=1.0						
SJPF	**Ste Jean**	**2.81**	**181**	*e*Pg	**Pg**	**17 35 21.9**	**-0.8**
SJPF				*e*Sn	**Sn**	**17 35 46.3**	**-2.1**
SJPF				*e*Sg	**Sg**	**17 35 58.1**	**-1.0**
	9.4nm,0.2s,SNR=1.0						
BGF	**Bois d'Agland**	**2.87**	**76**	*e*Pn	**Pn**	**17 35 16.0**	**+1.0**
	SNR=1.0						
BGF	**Bois d'Agland**	**2.87**	**76**	*e*Pg	**Pg**	**17 35 24.5**	**+0.8**
BGF				*e*Sn	**Sn**	**17 35 48.2**	**-1.5**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**17 36 01.5**	**+0.7**
	157nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**2.87**	**76**	*e*Pg	**Pg**	**17 35 24.5**	**+0.8**
BGF				*e*Sn	**Sn**	**17 35 48.2**	**-1.5**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**17 36 01.5**	**+0.7**
	79nm,0.3s,SNR=1.0						
FLN	**La Foliniere**	**2.88**	**9**	*e*Pn	**Pn**	**17 35 15.5**	**+0.4**
	baz=187,SNR=1.0						
FLN	**La Foliniere**	**2.88**	**9**	*e*Pg	**Pg**	**17 35 24.1**	**+0.2**
	baz=188						
FLN				*e*Sn	**Sn**	**17 35 48.7**	**-1.2**
FLN				*e*Sg	**Sg**	**17 36 00.3**	**-0.8**
	50nm,0.3s,baz=195,SNR=1.0						
FLN	**La Foliniere**	**2.88**	**9**	*e*Pn	**Pn**	**17 35 15.5**	**+0.4**
	baz=187,SNR=1.0						
FLN	**La Foliniere**	**2.88**	**9**	*e*Pg	**Pg**	**17 35 24.1**	**+0.2**
	baz=188						
FLN				*e*Sn	**Sn**	**17 35 48.7**	**-1.2**
FLN				*e*Sg	**Sg**	**17 36 00.3**	**-0.8**
	25nm,0.3s,baz=195,SNR=1.0						
LARF	**Larrau**	**2.89**	**177**	Pn	**Pn**	**17 35 14.5**	**-0.8**
LARF	**Larrau**	**2.89**	**177**	Pg	**Pg**	**17 35 24.4**	**+0.2**
LARF	**Larrau**	**2.89**	**177**	Pn	**Pn**	**17 35 14.5**	**-0.8**
LARF	**Larrau**	**2.89**	**177**	Pg	**Pg**	**17 35 24.4**	**+0.2**
REYF	**Montagne du Re**	**2.91**	**169**	Sg	**Sg**	**17 36 01.1**	**-1.2**
REYF	**Montagne du Re**	**2.91**	**169**	Sg	**Sg**	**17 36 01.1**	**-1.2**
PYM	**Petit Puy Mans**	**2.94**	**92**	Pn	**Pn**	**17 35 16.7**	**+0.7**
PYM	**Petit Puy Mans**	**2.94**	**92**	Pg	**Pg**	**17 35 26.1**	**+1.1**
PYM				Sg	**Sg**	**17 36 04.7**	**+1.7**
PYM	**Petit Puy Mans**	**2.94**	**92**	Pn	**Pn**	**17 35 16.7**	**+0.7**
PYM	**Petit Puy Mans**	**2.94**	**92**	Pg	**Pg**	**17 35 26.1**	**+1.1**
PYM				Sg	**Sg**	**17 36 04.7**	**+1.7**

HYF	**Humbligny**	**2.96**	**62**	*e*Pg	**Pg**	**17 35 25.8**	**+0.4**
HYF				*e*Sg	**Sg**	**17 36 04.4**	**+0.7**
HYF	**Humbligny**	**2.96**	**62**	*e*Pg	**Pg**	**17 35 25.8**	**+0.4**
HYF				*e*Sg	**Sg**	**17 36 04.4**	**+0.7**
AGO	**Saint Agoulin**	**3.01**	**86**	Pn	**Pn**	**17 35 18.2**	**+1.3**
AGO				Sg	**Sg**	**17 36 06.2**	**+0.8**
AGO	**Saint Agoulin**	**3.01**	**86**	Pn	**Pn**	**17 35 18.2**	**+1.3**
AGO				Sg	**Sg**	**17 36 06.2**	**+0.8**
LABF	**Labassere**	**3.02**	**162**	Pg	**Pg**	**17 35 25.7**	**-0.8**
LABF				Sg	**Sg**	**17 36 05.0**	**-0.6**
LABF	**Labassere**	**3.02**	**162**	Pg	**Pg**	**17 35 25.7**	**-0.8**
LABF				Sg	**Sg**	**17 36 05.0**	**-0.6**
EORO	**Oroz-Betelu**	**3.04**	**182**	Pn	**Pn**	**17 35 19.3**	**+2.0**
	0.4nm,0.1s,SNR=9.3						
EORO	**Oroz-Betelu**	**3.04**	**182**	Pg	**Pg**	**17 35 26.4**	**-0.5**
	6.0nm,0.4s,SNR=6.2						
EORO				Sn	**Sn**	**17 35 52.0**	**-2.0**
	3.7nm,0.3s,SNR=5.6						
EORO				Lg	Lg	17 36 06.0	
	8.7nm,0.2s,SNR=6.7						
ETSF	**Etsaut**	**3.06**	**171**	*e*Pn	**Pn**	**17 35 17.3**	**-0.4**
	SNR=1.0						
ETSF	**Etsaut**	**3.06**	**171**	*e*Pg	**Pg**	**17 35 26.8**	**-0.6**
ETSF				*e*Sn	**Sn**	**17 35 52.4**	**-2.2**
ETSF				*e*Sg	**Sg**	**17 36 05.5**	**-1.5**
	11nm,0.2s,SNR=1.0						
ETSF	**Etsaut**	**3.06**	**171**	*e*Pn	**Pn**	**17 35 17.3**	**-0.4**
	SNR=1.0						
ETSF	**Etsaut**	**3.06**	**171**	*e*Pg	**Pg**	**17 35 26.8**	**-0.6**
ETSF				*e*Sn	**Sn**	**17 35 52.4**	**-2.2**
ETSF				*e*Sg	**Sg**	**17 36 05.5**	**-1.5**
	5.5nm,0.2s,SNR=1.0						
IZUN	**Zunzarren**	**3.07**	**184**	Pn	**Pn**	**17 35 18.0**	**+0.2**
	0.1nm,0.1s,SNR=5.0						
IZUN	**Zunzarren**	**3.07**	**184**	Pg	**Pg**	**17 35 26.7**	**-0.9**
	0.8nm,0.1s,SNR=7.9						
IZUN				Sn	**Sn**	**17 35 53.8**	**-1.0**
	3.1nm,0.3s,SNR=5.2						
IZUN				Lg	Lg	17 36 06.9	
	5.6nm,0.2s,SNR=5.0						
IELO	**Elcoad**	**3.08**	**181**	Pn	**Pn**	**17 35 20.0**	**+2.0**
	0.2nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**3.08**	**181**	Pg	**Pb**	**17 35 26.5**	**+2.5**
	0.4nm,0.1s,SNR=7.9						
IELO				Sn	**Sn**	**17 35 55.7**	**+0.6**
	1.5nm,0.3s,SNR=7.9						
BST	**Brest**	**3.08**	**321**	Pn	**Pb**	**17 35 22.8**	**-1.2**
EPF	**Esparros**	**3.09**	**159**	*e*Pn	**Pn**	**17 35 18.2**	**+0.1**
	SNR=1.0						
EPF	**Esparros**	**3.09**	**159**	*e*Pg	**Pg**	**17 35 27.3**	**-0.7**
EPF				*e*Sg	**Sg**	**17 36 06.8**	**-1.3**
	46nm,0.3s,SNR=1.0						
EPF	**Esparros**	**3.09**	**159**	*e*Pn	**Pn**	**17 35 18.2**	**+0.1**
	SNR=1.0						
EPF	**Esparros**	**3.09**	**159**	*e*Pg	**Pg**	**17 35 27.3**	**-0.7**
EPF				*e*Sg	**Sg**	**17 36 06.8**	**-1.3**
	23nm,0.3s,SNR=1.0						
ELAN	**Lanestosa**	**3.14**	**212**	Pn	**Pn**	**17 35 18.9**	**+0.3**
	0.6nm,0.1s,SNR=8.1						
ELAN				Sn	**Sn**	**17 35 52.8**	**-3.5**
	0.1nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**3.15**	**181**	Pn	Pn	17 35 21.7	+2.8
	0.3nm,0.1s,SNR=7.9						
IEPA				Sn	**Sn**	**17 35 56.8**	**+0.1**
	1.3nm,0.2s,SNR=7.9						
IEPA				Lg	Lg	17 36 10.5	
	8.0nm,0.2s,SNR=7.9						
VIEF	**Viey**	**3.16**	**164**	Pn	**Pn**	**17 35 19.7**	**+0.6**
VIEF	**Viey**	**3.16**	**164**	Pg	**Pg**	**17 35 28.6**	**-0.8**
VIEF				Sg	**Sg**	**17 36 09.1**	**-1.2**
VIEF	**Viey**	**3.16**	**164**	Pn	**Pn**	**17 35 19.7**	**+0.6**
VIEF	**Viey**	**3.16**	**164**	Pg	**Pg**	**17 35 28.6**	**-0.8**
VIEF				Sg	**Sg**	**17 36 09.1**	**-1.2**
IUNC	**Unciti**	**3.18**	**184**	Sn	**Sn**	**17 35 56.6**	**-0.9**
	2.0nm,0.2s,SNR=7.9						
IUNC				Lg	Lg	17 36 11.3	
	5.1nm,0.3s,SNR=7.9						
LBL	**Lubilhac**	**3.19**	**101**	Pn	**Pn**	**17 35 20.7**	**+1.3**
LBL				Sg	**Sg**	**17 36 10.6**	**-0.5**
LBL	**Lubilhac**	**3.19**	**101**	Pn	**Pn**	**17 35 20.7**	**+1.3**
LBL				Sg	**Sg**	**17 36 10.6**	**-0.5**
AVF	**Avril sur Loir**	**3.26**	**73**	*e*Pn	**Pn**	**17 35 21.2**	**+0.9**
	SNR=1.0						
AVF	**Avril sur Loir**	**3.26**	**73**	*e*Pg	**Pg**	**17 35 31.6**	**+0.4**
AVF				*e*Sn	**Sn**	**17 35 57.8**	**-1.5**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**17 36 12.3**	**-1.1**
	12nm,0.3s						
AVF	**Avril sur Loir**	**3.26**	**73**	*e*Pn	**Pn**	**17 35 21.2**	**+0.9**
	SNR=1.0						
AVF	**Avril sur Loir**	**3.26**	**73**	*e*Pg	**Pg**	**17 35 31.6**	**+0.4**
AVF				*e*Sn	**Sn**	**17 35 57.8**	**-1.5**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**17 36 12.3**	**-1.1**
	6.2nm,0.3s						
RESF	**Ens**	**3.30**	**160**	Pg	**Pg**	**17 35 31.3**	**-0.8**
RESF				Sg	**Sg**	**17 36 14.8**	**-0.1**
RESF	**Ens**	**3.30**	**160**	Pg	**Pg**	**17 35 31.3**	**-0.8**
RESF				Sg	**Sg**	**17 36 14.8**	**-0.1**
PLDF	**La Plantade**	**3.35**	**88**	Pn	**Pn**	**17 35 22.8**	**+1.1**
PLDF	**La Plantade**	**3.35**	**88**	Pn	**Pn**	**17 35 22.8**	**+1.1**
SSF	**Saint Saulge**	**3.43**	**69**	*e*Pn	**Pn**	**17 35 23.9**	**+1.2**
	SNR=1.0						
SSF	**Saint Saulge**	**3.43**	**69**	*e*Pg	**Pg**	**17 35 34.6**	**+0.1**
SSF				*e*Sn	**Sn**	**17 36 02.4**	**-1.3**
SSF				*e*Sg	**Sg**	**17 36 17.6**	**-1.4**
	16nm,0.4s,SNR=1.0						
SSF	**Saint Saulge**	**3.43**	**69**	*e*Pn	**Pn**	**17 35 23.9**	**+1.2**
	SNR=1.0						
SSF	**Saint Saulge**	**3.43**	**69

	5.2nm,0.3s,SNR=7.9								
ESAC	**San Caprasio**	**4.24**	**173**		Pn	**Pn**	17 35 34.6	**+0.8**	
	2.0nm,0.2s,SNR=7.9								
ESAC					Sn	**Sn**	**17 36 23.7**	**+0.1**	
	11nm,0.2s,SNR=7.9								
VIVF	**Saint-Julien-l**	**4.26**	**102**	*e*	Pn	**Pn**	17 35 34.9	**+0.7**	
	SNR=1.0								
VIVF	**Saint-Julien-l**	**4.26**	**102**	*e*	Pg	**Pg**	17 35 49.9	**-0.5**	
VIVF					eSg	**Sg**	**17 36 43.6**	**-2.0**	
	15nm,0.4s,SNR=1.0								
VIVF	**Saint-Julien-l**	**4.26**	**102**	*e*	Pn	**Pn**	17 35 34.9	**+0.7**	
	SNR=1.0								
VIVF	**Saint-Julien-l**	**4.26**	**102**	*e*	Pg	**Pg**	17 35 49.9	**-0.5**	
VIVF					eSg	**Sg**	**17 36 43.6**	**-2.0**	
	7.3nm,0.4s,SNR=1.0								
EMIR	**Miracle**	**4.46**	**153**		Pn	**Pn**	17 35 38.3	**+1.4**	
	SNR=7.9								
EMIR					Sn	**Sn**	**17 36 30.9**	**+1.7**	
	2.1nm,0.1s,SNR=7.9								
EJON	**La Jonquera**	**4.55**	**138**		Pn	**Pn**	17 35 39.7	**+1.6**	
	1.9nm,0.1s,SNR=7.9								
EJON					Sn	**Sn**	**17 36 29.0**	**-2.2**	
	1.1nm,0.2s,SNR=7.9								
SFTF	**Sexfontaines**	**4.82**	**60**	*e*	P	Pn	17 35 46.4	+4.6	
SFTF					eSn	**Sn**	**17 36 35.9**	**-2.1**	
SFTF					eSg	**Sg**	**17 37 02.9**	**-0.7**	
	6.0nm,0.3s								
SFTF	**Sexfontaines**	**4.82**	**60**	*e*	P	Pn	17 35 46.4	+4.6	
SFTF					eSn	**Sn**	**17 36 35.9**	**-2.1**	
SFTF					eSg	**Sg**	**17 37 02.9**	**-0.7**	
	3.0nm,0.3s								
EPOB	**Poblet**	**4.86**	**159**		Pn	**Pn**	17 35 43.7	**+1.3**	
	0.5nm,0.1s,SNR=7.9								
EPOB					Sn	**Sn**	**17 36 39.3**	**+0.4**	
	1.2nm,0.3s,SNR=7.9								
CFON	**Fontmartina**	**4.92**	**147**		Pn	**Pn**	17 35 45.3	**+2.1**	
	0.8nm,0.1s,SNR=7.9								
CFON					Sn	**Sn**	**17 36 42.2**	**+1.8**	
	5.7nm,0.3s,SNR=7.9								
CFON					Lg	Lg	17 37 09.7		
	3.5nm,0.4s,SNR=7.9								
MEZF	**Maizieres J'vi**	**4.97**	**57**	*e*	Pn	**Pn**	17 35 44.9	**+1.1**	
	baz=242								
MEZF	**Maizieres J'vi**	**4.97**	**57**	*e*	Pg	**Pg**	**17 36 02.8**	**-1.1**	
	baz=239								
MEZF					eSn	**Sn**	**17 36 39.2**	**-2.3**	
MEZF					eSg	**Sg**	**17 37 07.0**	**-1.2**	
	14nm,0.4s								
MEZF	**Maizieres J'vi**	**4.97**	**57**	*e*	Pn	**Pn**	17 35 44.9	**+1.1**	
	baz=242								
MEZF	**Maizieres J'vi**	**4.97**	**57**	*e*	Pg	**Pg**	**17 36 02.8**	**-1.1**	
	baz=239								
MEZF					eSn	**Sn**	**17 36 39.2**	**-2.3**	
MEZF					eSg	**Sg**	**17 37 07.0**	**-1.2**	
	6.9nm,0.4s								
EPON	**Pontenova**	**4.99**	**241**		Pn	**Pn**	17 35 43.6	**-0.5**	
	0.4nm,0.1s,SNR=7.9								
ORIF	**Oris-en-Rattie**	**5.07**	**99**	*e*	Pn	**Pn**	17 35 43.6	**-1.8**	
	SNR=1.0								
ORIF	**Oris-en-Rattie**	**5.07**	**99**	*e*	Pg	**Pg**	**17 36 05.0**	**-0.9**	
ORIF					eSg	**Sg**	**17 37 10.2**	**-1.5**	
	5.9nm,0.5s,SNR=1.0								
ORIF	**Oris-en-Rattie**	**5.07**	**99**	*e*	Pn	**Pn**	17 35 43.6	**-1.8**	
	SNR=1.0								
ORIF	**Oris-en-Rattie**	**5.07**	**99**	*e*	Pg	**Pg**	**17 36 05.0**	**-0.9**	
ORIF					eSg	**Sg**	**17 37 10.2**	**-1.5**	
	3.0nm,0.5s,SNR=1.0								
CABF	**La Chapelle**	**5.09**	**80**	*e*	Pn	**Pn**	17 35 46.5	**+0.9**	
	SNR=1.0								
CABF					eSg	**Sg**	**17 37 10.5**	**-1.6**	
	9.8nm,0.6s,SNR=1.0								
CABF	**La Chapelle**	**5.09**	**80**	*e*	Pn	**Pn**	17 35 46.5	**+0.9**	
	SNR=1.0								
CABF					eSg	**Sg**	**17 37 10.5**	**-1.6**	
	4.9nm,0.6s,SNR=1.0								
ETOR	**Torete**	**5.14**	**187**		Pn	**Pn**	17 35 47.8	**+1.5**	
	0.7nm,0.1s,SNR=7.9								
ETOR					Sn	**Sn**	**17 36 43.5**	**-2.5**	
	0.8nm,0.2s,SNR=7.9								
SMRF	**Simiane la Rot**	**5.18**	**110**	*e*	Pn	**Pn**	17 35 47.9	**+1.1**	
	SNR=1.0								
SMRF					eSn	**Sn**	**17 36 44.0**	**-2.8**	
SMRF					eSg	**Sg**	**17 37 13.7**	**-1.3**	
	4.3nm,0.4s								
SMRF	**Simiane la Rot**	**5.18**	**110**	*e*	Pn	**Pn**	17 35 47.9	**+1.1**	
	SNR=1.0								
SMRF					eSn	**Sn**	**17 36 44.0**	**-2.8**	
SMRF					eSg	**Sg**	**17 37 13.7**	**-1.3**	
	2.2nm,0.4s								
PAGF	**Fort de Pagny**	**5.39**	**58**	*e*	Pn	**Pn**	17 35 50.3	**+0.7**	
PAGF					eSg	**Sg**	**17 37 20.8**	**-0.9**	
	2.3nm,0.5s								
PAGF	**Fort de Pagny**	**5.39**	**58**	*e*	Pn	**Pn**	17 35 50.3	**+0.7**	
PAGF					eSg	**Sg**	**17 37 20.8**	**-0.9**	
	1.1nm,0.5s								
BAIF	**Baives**	**5.49**	**39**	*e*	Pn	**Pn**	17 35 51.9	**+0.9**	
BAIF					eSn	**Sn**	**17 36 51.7**	**-2.7**	
BAIF					eSg	**Sg**	**17 37 22.9**	**-2.2**	
	2.3nm,0.2s								
BAIF	**Baives**	**5.49**	**39**	*e*	Pn	**Pn**	17 35 51.9	**+0.9**	
HAU	**Haudompre**	**5.56**	**65**	eSg		**Sg**	**17 37 25.5**	**-1.7**	
	9.1nm,0.3s								
HAU	**Haudompre**	**5.56**	**65**	eSg		**Sg**	**17 37 25.5**	**-1.7**	
	4.6nm,0.3s								
LPL	**La Plagne**	**5.56**	**91**	eSg		**Sg**	**17 37 25.9**	**-1.3**	
	2.0nm,0.3s								
LPL	**La Plagne**	**5.56**	**91**	eSg		**Sg**	**17 37 25.9**	**-1.3**	
	1.0nm,0.3s								
LPG	**La Plagne**	**5.57**	**92**	*e*	Pg	**Pg**	**17 36 14.3**	**-1.2**	
LPG					eSg	**Sg**	**17 37 26.9**	**-0.8**	
	3.1nm,0.4s								
LPG	**La Plagne**	**5.57**	**92**	*e*	Pg	**Pg**	**17 36 14.3**	**-1.2**	
LPG					eSg	**Sg**	**17 37 26.9**	**-0.8**	
	1.5nm,0.4s								
ECAL	**Calabor**	**5.65**	**227**		Pn	**Pn**	17 35 53.0	**-0.3**	
	0.1nm,0.2s,SNR=7.9								
MBDF	**Montbardon**	**5.74**	**99**	eSg		**Sg**	**17 37 31.3**	**-1.6**	
	3.2nm,0.5s								
MBDF	**Montbardon**	**5.74**	**99**	eSg		**Sg**	**17 37 31.3**	**-1.6**	
	1.6nm,0.5s								
GIVF	**Givet**	**5.80**	**42**	eSg		**Sg**	**17 37 33.2**	**-1.8**	
	8.0nm,0.4s								
GIVF	**Givet**	**5.80**	**42**	eSg		**Sg**	**17 37 33.2**	**-1.8**	
	4.0nm,0.4s								
HINF	**Hinteralfeld**	**5.83**	**68**	*e*	Pg	**Pg**	**17 36 18.9**	**-1.4**	
HINF					eSn	**Sn**	**17 36 59.3**	**-3.4**	
	SNR=1.0								
HINF					eSg	**Sg**	**17 37 33.8**	**-1.9**	
	5.8nm,0.3s,SNR=1.0								
HINF	**Hinteralfeld**	**5.83**	**68**	*e*	Pg	**Pg**	**17 36 18.9**	**-1.4**	
HINF					eSg	**Sg**	**17 37 33.8**	**-1.9**	
	2.9nm,0.3s,SNR=1.0								
FRF	**La Foret Royal**	**6.06**	**110**	*e*	Pn	**Pn**	17 35 59.7	**+0.9**	
FRF					eSn	**Sn**	**17 37 04.8**	**-3.6**	
	0.8nm,0.2s								
FRF	**La Foret Royal**	**6.06**	**110**	*e*	Pn	**Pn**	17 35 59.7	**+0.9**	
CDF	**Champ du Feu**	**6.28**	**64**	*e*	Pn	**Pn**	**17 36 02.4**	**+0.5**	
CDF					eSn	**Sn**	**17 37 10.3**	**-3.7**	
	SNR=1.0								
CDF					eSg	**Sg**	**17 37 48.8**	**-1.5**	
	3.9nm,0.4s								
CDF	**Champ du Feu**	**6.28**	**64**	*e*	Pn	**Pn**	**17 36 02.4**	**+0.5**	
CDF					eSg	**Sg**	**17 37 48.8**	**-1.5**	
	2.0nm,0.4s								

PRE 25 17:51:57.6±0.8, 26°37S×27°44E, h2km, ML1.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.16**	**82**	*e*P	Pg	17 52 00.7	-0.2
KLOF				eS	Sg	17 52 02.6	-0.5
KLOF				AML	AML	17 52 04.2	
	comp=Z,358nm,0.1s						
PRYS	**Parys**	**0.56**	**187**	*e*P	Pg	17 52 08.9	+0.4
PRYS				eS	Sg	17 52 15.5	-0.4
PRYS				AML	AML	17 52 18.2	
	comp=Z,14nm,0.5s						
KSR	**Koster**	**0.71**	**317**	*e*P	Pg	17 52 11.0	-0.5
KSR				eS	Sg	17 52 20.9	0.0
KSR				AML	AML	17 52 30.9	
	comp=Z,21nm,0.3s						
ERPM	**east rand prop**	**0.72**	**88**	*e*P	Pg	17 52 11.9	+0.2
ERPM				eS	Sg	17 52 21.5	+0.2
ERPM				AML	AML	17 52 29.2	
	comp=Z,7.8nm,0.5s						

SLR	**Silverton**	**0.99**	**50**	*e*P		Pg	17 52 17.1	+0.3	
SLR				eS		Sg	17 52 30.3	+0.5	
SLR				AML		AML	17 52 34.9		
	comp=Z,14nm,0.3s								
SWZ	**Schweizer**	**2.05**	**246**	*e*P		Pn	17 52 34.2	+0.9	
SWZ				eS		Sn	17 52 59.9	+0.3	
SWZ				AML		AML	17 53 07.7		
	comp=Z,3.9nm,0.3s								
LBTB	**Lobatse**	**2.14**	**309**	*e*P		Pn	17 52 35.2	+0.6	
LBTB				eS		Sn	17 53 02.6	+0.8	
LBTB				AML		AML	17 53 08.6		
	comp=Z,7.2nm,0.3s								
BOSA	**Boshof**	**2.96**	**220**	*e*P		Pn	17 52 46.4	+0.6	
BOSA				eS		Sn	17 53 22.4	+0.5	
BOSA				AML		AML	17 53 26.9		
	comp=Z,1.6nm,0.7s								

WEL 25 17:59:26.7±0.1, 43°50S×171°54E, h12km, ML3.5/15, 1C-3D, Error ellipse: s-maj=1.5km s-min=1.2km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**0.41**	**239**	⇑P*	Pg	17 59 34.9	-0.1
RPZ				S*	Sg	17 59 41.0	+0.4
WVZ	**Waitaha Valley**	**0.73**	**306**	P*	Pg	17 59 39.8	-1.0
WVZ				S*	Sg	17 59 50.5	+0.2
CRLZ	**Canterbury Las**	**0.79**	**96**	P*	Pg	17 59 41.6	-0.3
MQZ	**McQueen's Vall**	**0.83**	**105**	⇓P*	Pg	17 59 42.1	-0.6
LTZ	**Lake Taylor**	**0.90**	**37**	P*	Pg	17 59 42.9	-1.2
LTZ				S*	Sg	17 59 54.7	-1.1
LBZ	**Lake Benmore**	**1.32**	**228**	PN	Pn	17 59 49.7	-1.3
FOZ	**Fox Glacier**	**1.35**	**267**	P*	Pn	17 59 50.0	-1.3
ODZ	**Otahua Downs**	**1.67**	**202**	⇓PN	Pn	17 59 54.1	-1.7
KHZ	**Kahutara**	**1.82**	**54**	PN	Pn	17 59 55.9	-2.0
THZ	**Tophouse**	**2.01**	**30**	⇓PN	Pn	17 59 59.3	-1.2
JCZ	**Jackson Bay**	**2.10**	**253**	PN	Pn	18 00 00.6	-1.2
WKZ	**Wanaka**	**2.25**	**233**	PN	Pn	18 00 02.1	-1.7
EAZ	**Earnscleugh**	**2.36**	**222**	PN	Pn	18 00 03.5	-1.7
BSWZ	**Blackbirch Sta**	**2.48**	**45**	*e*PN	Pn	18 00 05.8	-1.1
NNZ	**Nelson**	**2.66**	**31**	PN	Pn	18 00 09.0	-0.4
TUWZ	**Tuamarina**	**2.73**	**41**	PN	Pn	18 00 09.9	-0.4
QRZ	**Quartz Range**	**2.77**	**16**	PN	Pn	18 00 09.5	-1.4
TUZ	**Tuapeka**	**2.81**	**208**	PN	Pn	18 00 10.0	-1.3
SYZ	**Scrubby Hill**	**3.48**	**208**	PN	Pn	18 00 18.9	-1.7
HOWZ	**Holdsworth Sta**	**3.93**	**50**	SN	Sn	18 01 07.4	-5.7
MRZ	**Mangatainoka R**	**4.13**	**48**	*e*PN	Pn	18 00 26.3	-3.3
APZ	**The Paps**	**4.17**	**216**	PN	Pn	18 00 27.3	-2.9
PKE	**Pukeiti**	**4.68**	**24**	PN	Pn	18 00 36.5	-0.7

IDC 25 18:02:27.0±2.5, 3°83N×126°83E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/22, mbtmp3.3/3, Error ellipse: s-maj=212.6km s-min=26.5km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.75**	**163**	P	P	18 07 50.0	-0.5
	0.2nm,0.5s,baz=343,slow=10,SNR=5.4						
ASAR	**Alice Springs**	**28.19**	**166**	P	P	18 08 21.9	+0.4
	0.3nm,1.0s,baz=345,slow=11,SNR=2.8						
MKAR	**Makanchi Array**	**57.53**	**325**	P	P	18 12 18.2	-0.1
	0.2nm,0.4s,baz=120,slow=7.8,SNR=6.4						

IDC 25 18:02:49.8±1.6, 54°69N×157°36W, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.5/28, mbtmp3.6/6, ML3.9/1, Error ellipse: s-maj=39.1km s-min=28.4km az=20.0, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**11.39**	**23**	Pn	Pn	18 05 28.4	-5.0
	0.3nm,0.3s,baz=216,slow=12,SNR=23						
TXAR	**Lajitas Array**	**45.81**	**101**	P	P	18 11 13.5	+0.2
	0.2nm,0.7s,baz=334,slow=7.5,SNR=2.5						
SONM	**Songino Array**	**56.01**	**306**	P	P	18 12 30.4	+0.5
	1.0nm,1.1s,baz=36,slow=6.5,SNR=5.6						
FINES	**FINESS Array B**	**64.18**	**358**	P	P	18 13 24.5	-1.0
	2.0nm,0.9s,baz=18,slow=6.8,SNR=5.6						
MKAR	**Makanchi Array**	**67.04**	**320**	P	P	18 13 45.1	+0.7
	0.3nm,0.8s,baz=52,slow=6.2,SNR=3.2						
AKASG	**Malin Array Be**	**74.83**	**356**	P	P	18 14 30.4	-1.1
	0.4nm,0.4s,baz=3.3,slow=5.0,SNR=3.2						

IDC 25 18:05:39.3±10.0, 20°50S×177°77W, h514km±96km, mb3.4/7, mb1 3.6/7, mb1mx3.2/20, mbtmp3.4/7, Error ellipse: s-maj=90.8km s-min=45.6km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.70**	**264**	P	P	18 11 37.6	0.0
	4.3nm,0.5s,baz=99,slow=10,SNR=11						
STKA	**Stephens Creek**	**37.98**	**244**	P	P	18 12 13.5	+0.5
	2.7nm,0.7s,baz=97,slow=7.9,SNR=9.5						
ASAR	**Alice Springs**	**44.72**	**257**	P	P	18 13 06.5	-0.2
	5.2nm,0.5s,baz=88,slow=8.4,SNR=2.4						
ASAR				PcP	PcP	18 14 38.4	+0.3
	0.6nm,0.7s,baz=92,slow=5.5,SNR=5.0						
WRA	**Warramunga Arr**	**44.81**	**262**	P	P	18 13 06.3	-1.1
	3.5nm,0.3s,baz=96,slow=7.6,SNR=268						
FITZ	**Fitzroy Crossi**	**53.24**	**262**	P	P	18 14 09.6	-0.2
	1.1nm,0.5s,baz=268,slow=23,SNR=9.3						
ILAR	**Eielson Array**	**88.27**	**13**	P	P	18 17 35.9	+0.8
	0.2nm,0.4s,baz=217,slow=5.1,SNR=4.5						
CMAR	**Chiang Mai Arr**	**90.32**	**289**	P	P	18 17 47.4	+1.7
	1.0nm,1.0s,baz=90,slow=2.8,SNR=6.2						
AKASG	**Malin Array Be**	**143.12**	**331**	PKP	PKPab	18 24 11.7	-0.3
	1.7nm,0.5s,baz=49,slow=4.7,SNR=7.3						
BRTR	**Keskin Array B**	**147.00**	**312**	PKPbc	PKPbc	18 24 24.2	-0.3
	0.8nm,0.7s,baz=122,slow=4.3,SNR=3.9						
GERES	**GERESS Array B**	**150.26**	**345**	PKPbc	PKPbc	18 24 30.7	-1.4
	0.1nm,0.2s,baz=9.5,slow=3.2,SNR=3.6						

IDC 25 18:16:20.6±2.7, 10°80S×163°41E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.7/19, mbtmp3.7/5, ML3.7/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/28, Error ellipse: s-maj=60.3km s-min=37.7km az=79.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.58**	**166**	Pn	Pn	18 19 08.4	+1.0
	0.5nm,0.3s,baz=337,slow=20,SNR=9.1						
DZM				Sn	Sn	18 21 13.2	-4.5
	0.1nm,0.3s,baz=240,slow=15,SNR=1.9						
DZM				LR	LR	18 22 22.7	
	comp=Z,229nm,21.9s,baz=16,slow=31						
CTA	**Charters Tower**	**18.93**	**239**	P	Pn	18 20 48.4	+4.6
	0.2nm,0.3s,baz=335,slow=16,SNR=2.0						
STKA	**Stephens Creek**	**29.09**	**221**	LR	LR	18 32 32.3	
	comp=Z,88nm,20.4s,baz=26,slow=33						
WRA	**Warramunga Arr**	**29.43**	**248**	P	P	18 22 25.7	-0.5
	0.6nm,0.7s,baz=80,slow=8.9,SNR=3.4						
ASAR	**Alice Springs**	**30.87**	**242**	P	P	18 22 38.9	-0.1
	0.5nm,0.8s,baz=65,slow=10,SNR=4.5						
PETK	**Petropavlovsk-**	**63.84**	**356**	LR	LR	18 54 32.0	
	comp=Z,36nm,18.8s,baz=325,slow=36						
CMAR	**Chiang Mai Arr**	**69.92**	**294**	P	P	18 27 35.1	+1.0
	3.3nm,1.0s,baz=108,slow=4.4,SNR=5.8						
CMAR				LR	LR	18 56 05.7	
	comp=Z,25nm,19.3s,baz=30,slow=34						
SONM	**Songino Array**	**77.12**	**325**	P	P	18 28 19.8	+3.7
	1.0nm,0.8s,baz=140,slow=5.8,SNR=7.1						
MKAR	**Makanchi Array**	**91.78**	**317**	P	P	18 29 29.0	-1.4
	0.3nm,0.7s,baz=117,slow=5.0,SNR=2.6						

*IDC **25** 18:19:11.7±5.7, 36°61N×43°38E, h0km, mb3.7/2, mb1 3.6/3, mb1mx3.3/23, mbtmp3.5/3, ML2.9/1, Error ellipse: s-maj=98.0km s-min=40.3km az=38.0*
*NSSP **25** 18:19:20.5, 38°40N×44°45E, h1km, Ms3.5*
*ISK **25** 18:19:23.2, 38°56N×44°31E, h4km, MD3.7*
*DDA **25** 18:19:23.4, 38°59N×44°25E, h5km, MD3.6*
*AZER **25** 18:19:23.8, 38°37N×44°46E, h1km*
*CSEM **25** 18:19:24.5±0.2, 38°52N×44°24E, h2km, MD3.7, Error ellipse: s-maj=5.2km s-min=4.6km az=167.0*
*TEH **25** 18:19:26.3, 38°64N×44°56E, h4km, ML3.5*
ISC 25 18:19:24.3±0.9, **38°54N**±0°02×**44°37E**±0°01, **h5**km±8km,

n108, σ1s74/127, 21C-20D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CLDR	**Caldiran**	**0.69**	**330**	*e*PG	Pg	**18 19 35.9**	**-1.8**
CLDR				eSG	Sb	**18 19 46.6**	**-2.3**
CLDR	**Caldiran**	**0.69**	**330**	*e*Pg	Pg	**18 19 35.9**	**-1.8**
CLDR				eSg	Sb	**18 19 46.7**	**-2.3**
VANB	**Van**	**0.77**	**274**	*e*PG	Pb	**18 19 37.7**	**-2.4**
VANB	**Van**	**0.77**	**274**	*e*Pg	Pb	**18 19 37.7**	**-2.4**
MAKU	**Maku**	**0.85**	**17**	*e*Pg	Pg	**18 19 39.4**	**-1.2**
MAKU				eSg	Sg	**18 19 50.9**	**-0.7**
VANT	**Van**	**0.87**	**262**	*e*PG	Pb	**18 19 39.8**	**-2.2**
VANT	**Van**	**0.87**	**262**	*e*Pg	Pb	**18 19 39.8**	**-2.2**
GEVA	**Gevas**	**1.05**	**258**	*i* P	Pg	**18 19 42.5**	**-2.0**
GEVA				*i* S	Sn	**18 20 01.0**	**+0.1**
GEVA	**Gevas**	**1.05**	**258**	*i* P	Pg	**18 19 42.5**	**-2.0**
IMRD	**Marand**	**1.06**	**80**	*e*Pg	Pg	**18 19 42.5**	**-2.1**
IMRD				eSg	Sg	**18 19 54.3**	**-4.1**
IMRD				*e*		18 20 09.7	
	comp=Z,59μm,0.3s						
IMRD	**Marand**	**1.06**	**80**	*e*Pg	Pg	**18 19 42.5**	**-2.1**
HKR	**Hakkari**	**1.08**	**207**	*e*PG	Pb	**18 19 44.5**	**-1.0**
HKR				eSG	Sb	**18 19 59.5**	**-0.4**
HKR	**Hakkari**	**1.08**	**207**	*e*Pg	Pb	**18 19 44.5**	**-1.0**
HKR				eSg	Sb	**18 19 59.6**	**-0.4**
NAX	**Nakhchivan**	**1.08**	**54**	⇑S	Sn	**18 20 01.3**	**-0.3**
NAX	**Nakhchivan**	**1.08**	**54**	S	Sn	**18 20 01.3**	**-0.3**
HAKT	**HAKKARI**	**1.11**	**208**	*i* P	Pb	**18 19 45.1**	**-1.0**
HAKT				*i* S	Sn	**18 20 03.6**	**+1.1**
HAKT	**HAKKARI**	**1.11**	**208**	*i* P	Pb	**18 19 45.1**	**-1.0**
DYDN	**Diyadin**	**1.13**	**332**	*i* P	Pg	**18 19 44.1**	**-1.9**
DYDN				*i* S	Sn	**18 20 05.7**	**+2.7**
DYDN	**Diyadin**	**1.13**	**332**	*i* P	Pg	**18 19 44.1**	**-1.9**
CUKT	**Cukurca**	**1.43**	**205**	*e*PN	Pg	**18 19 50.7**	**-0.9**
CUKT	**Cukurca**	**1.43**	**205**	*e*Pn	Pg	**18 19 50.7**	**-0.9**
ITBZ	**Tabriz**	**1.43**	**102**	*e*Pg	Pn	**18 19 49.1**	**-1.9**
ITBZ				*e*		18 20 25.4	
	comp=Z,4μm,0.2s						
ITBZ	**Tabriz**	**1.43**	**102**	*e*Pg	Pn	**18 19 49.1**	**-1.9**
AGRB	**Hanur-Agry**	**1.49**	**314**	*e*PN	Pg	**18 19 51.0**	**-1.7**
AGRB	**Hanur-Agry**	**1.49**	**314**	*e*Pn	Pg	**18 19 51.1**	**-1.7**
VRNZ	**Vardanashen**	**1.51**	**355**	⇓*i*P	Pg	**18 19 54.6**	**+1.3**
VRNZ				⇓*i*S	Sg	**18 20 17.1**	**+4.2**
VRNZ	**Vardanashen**	**1.51**	**355**	⇓P	Pg	**18 19 54.6**	**+1.3**
VRNZ				S	Sg	**18 20 17.0**	**+4.2**
PAAR	**P'arak'ar**	**1.61**	**0**	⇓*i*P	Pg	**18 19 55.6**	**+0.5**
PAAR				⇓*i*S	Sg	18 20 20.6	+4.6
PAAR	**P'arak'ar**	**1.61**	**0**	⇓P	Pg	**18 19 55.6**	**+0.5**
PAAR				S	Sg	18 20 20.5	+4.6
VNNZ	**Vanand**	**1.61**	**345**	*i* P	Pg	**18 19 54.6**	**-0.6**
VNNZ				⇑*i*S	Sg	18 20 23.6	+7.4
ERE	**Yerevan**	**1.63**	**3**	*e*P	Pn	**18 19 52.0**	**-1.6**
GNI	**Garni**	**1.63**	**10**	⇓*i*P	Pg	**18 19 55.0**	**-0.6**
GNI				⇑*i*S	Sg	18 20 24.8	+8.1
GNI	**Garni**	**1.63**	**10**	⇓P	Pg	**18 19 55.0**	**-0.6**
TATV	**Tatvan**	**1.65**	**269**	*i* P	Pb	**18 19 53.2**	**-2.0**
TATV				*i* S	Sb	**18 20 14.2**	**-2.1**
TATV	**Tatvan**	**1.65**	**269**	*i* P	Pb	**18 19 53.2**	**-2.0**
TATV				*i* S	Sb	**18 20 14.2**	**-2.1**
IFTB	**Fath-abad**	**1.68**	**108**	*e*Pn	Pb	**18 19 55.1**	**-0.7**
IFTB				*e*		18 20 02.2	
	comp=Z,89μm,0.3s						
IFTB	**Fath-abad**	**1.68**	**108**	*e*Pn	Pb	**18 19 55.1**	**-0.7**
AKSZ	**Araks**	**1.69**	**347**	⇑*i*P	Pg	**18 19 56.4**	**-0.3**
AKSZ				⇓*i*S	Sg	**18 20 21.8**	**+3.2**
AKSZ	**Araks**	**1.69**	**347**	⇑P	Pg	**18 19 56.4**	**-0.3**
AKSZ				S	Sg	**18 20 21.8**	**+3.2**
ARUZ	**Aruch**	**1.75**	**353**	⇓*i*P	Pg	**18 19 57.3**	**-0.6**
ARUZ				⇓*i*S	Sg	18 20 26.5	+5.9
ARUZ	**Aruch**	**1.75**	**353**	⇓P	Pg	**18 19 57.3**	**-0.6**
KAPZ	**Kaputan**	**1.80**	**8**	⇑*i*P	Pg	**18 19 58.4**	**-0.3**
KAPZ				⇑*i*S	Sg	18 20 29.7	+7.7
KAPZ	**Kaputan**	**1.80**	**8**	⇑P	Pg	**18 19 58.4**	**-0.3**
AMBZ	**Amberd**	**1.85**	**357**	⇓*i*P	Pg	**18 19 58.2**	**-1.5**
AMBZ				⇑*i*S	Sg	**18 20 27.5**	**+3.9**
AMBZ	**Amberd**	**

BAYT	**Ayd˜–ntepe-Bay**	**3.76**	**301**	*e*PN		**Pn**	**18 20 23.4**	**+0.5**
BAYT	**Ayd˜–ntepe-Bay**	**3.76**	**301**	*e*Pn		**Pn**	**18 20 23.5**	**+0.5**
ERZN	**Erzincan**	**3.76**	**288**	*e*PN		**Pn**	**18 20 23.4**	**+0.4**
ALIB	**Äli-Bayra**	**3.87**	**67**	⇑S		Sg	18 21 37.9	+9.3
ZNJK	**Zanjan**	**3.91**	**117**	*e*P		**Pn**	**18 20 26.7**	**+1.6**
PQL	**Pirkuli** SNR=4.1	**3.96**	**54**	⇑P		Pn	18 20 28.7	+3.0
PQL				⇓S		**Sg**	**18 21 31.8**	**+0.3**
PQL	**Pirkuli** SNR=4.1	**3.96**	**54**	P		Pn	18 20 28.7	+3.0
ONI	**Oni**	**4.10**	**351**	P		**Pg**	**18 20 42.7**	**-0.2**
ONI				S		Sg	18 21 41.9	+5.9
SNGE	**Sanandaj**	**4.19**	**144**	*e*Pn		**Pn**	**18 20 31.3**	**+2.3**
SIZA	**Siyzn** SNR=4.8	**4.31**	**53**	⇑P		Pb	18 20 36.1	-4.5
SIZA	**Siyzn** SNR=4.8	**4.31**	**53**	P		Pb	18 20 36.1	-4.5
URFA	**Urfa**	**4.52**	**258**	*e*PN		**Pn**	**18 20 34.1**	**+0.8**
URFA	**Urfa**	**4.52**	**258**	*e*Pn		**Pn**	**18 20 34.1**	**+0.8**
BHD	**Baghdad**	**5.26**	**180**	*ex*		x	18 20 52.0	
BHD				*ex*		x	18 22 02.8	
BHD				*i x*		x	18 22 22.6	
KBZ	**Khabaz** comp=Z,0.1nm,0.3s,baz=220,slow=18,SNR=2.5	**5.30**	**348**	Pn		Pb	18 20 59.4	+2.1
FINES	**FINESS Array B** comp=Z,1.2nm,0.8s,baz=161,slow=8.1,SNR=4.9	**25.58**	**340**	P		**P**	**18 24 56.3**	**+2.4**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.7s,baz=264,slow=7.6,SNR=5.9	**28.85**	**61**	P		P	18 25 26.4	+2.9

IDC ***25*** *18:40:28.9±0.7,5.°99S×103.°83E, h0km, mb4.2/17, mb1 4.3/17, mb1mx4.2/25, mbtmp4.2/17, Error ellipse: s-maj=29.3km s-min=13.0km az=53.0*

ISCJB ***25*** *18:40:37.1±0.9,5.°94S±0.°08×104.°05E±0.°08, h76km±6km, mb4.1/17, Error ellipse: s-maj=17.4km s-min=4.9km az=43.8*

DJA ***25*** *18:40:38,5.°97S×104.°10E, h10km, MLv4.3/7*

ISC 25 18:40:37.0±1.5,6.°03S±0.°10×103.°99E±0.°10, h60km±12km, n49,σ1§16/57, mb4.5/29, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.71**	**45**	P	**Pn**	**18 40 50.0**	**-1.4**
KASI				S	**Sn**	**18 41 00.4**	**-1.5**
LWLI	**Liwa**	**1.00**	**4**	P	**Pn**	**18 40 54.3**	**-0.9**
LWLI				S	**Sn**	**18 41 08.7**	**0.0**
BLSI	**Bandar Lampung**	**1.41**	**62**	P	**Pn**	**18 41 00.7**	**+0.2**
CGJI	**Cibinong**	**1.79**	**109**	P	**Pn**	**18 41 06.5**	**+0.8**
CGJI				S	**Sn**	**18 41 30.3**	**+2.9**
MNAI	**Manna**	**1.95**	**328**	P	**Pn**	**18 41 07.2**	**-0.6**
MNAI				S	**Sn**	**18 41 33.1**	**+1.9**
SKJI	**Sukabumi**	**2.73**	**111**	P	**Pn**	**18 41 19.3**	**+0.8**
KSI	**Kapahiang**	**2.74**	**329**	P	**Pn**	**18 41 18.4**	**-0.2**
KSI				S	**Sn**	**18 41 52.9**	**+2.3**
DBJI	**Dramaga**	**2.80**	**101**	P	**Pn**	**18 41 20.7**	**+1.3**
PMBI	**Palembang**	**3.18**	**14**	P	**Pn**	**18 41 25.5**	**+0.9**
LEM	**Lembang**	**3.69**	**103**	P	Pn	18 41 35.9	+4.1
CISI	**Cisompet, Garu**	**4.09**	**112**	P	**Sn**	**18 41 37.6**	**+0.4**
CISI				S	**Sn**	**18 42 20.9**	**-3.0**
PPBI	**Pangkal Pinang**	**4.40**	**29**	P	**Pn**	**18 41 42.1**	**+0.8**
PCJI	**Pacitan** 51nm,2.2s,0.2nm	**7.45**	**107**	P	**Pn**	**18 42 24.4**	**+1.2**
MYKOM	**Kota Tinggi** 10.0nm,1.1s,0.1nm	**7.77**	**359**	P	**Pn**	**18 42 29.9**	**+2.5**
PWJI	**Pagerwojo** 25nm,0.9s	**8.01**	**105**	P	**Pn**	**18 42 32.7**	**+1.9**
JAGI	**Jajag, Banyuwa** 23nm,1.1s	**10.37**	**104**	P	**Pn**	**18 43 03.6**	**+0.5**
MRSI	**Marisa**	**19.05**	**71**	P	**Pn**	**18 44 56.0**	**+0.1**
FITZ	**Fitzroy Crossi** 2.6nm,1.2s,baz=315,slow=11,SNR=2.8	**24.30**	**121**	P	**P**	**18 45 49.7**	**+0.6**
CMAR	**Chiang Mai Arr** 3.0nm,0.4s,baz=181,slow=9.3,SNR=32	**24.83**	**349**	P	**P**	**18 45 52.7**	**-1.2**
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=287,slow=10.0,SNR=11	**32.57**	**118**	P	**P**	**18 47 03.1**	**+0.2**
WRA				PcP	**PcP**	**18 49 49.3**	**+0.9**
ASAR	**Alice Springs** 0.9nm,0.8s,baz=302,slow=7.8,SNR=20	**33.70**	**124**	P	**P**	**18 47 13.4**	**+0.7**
ASAR				PcP	**PcP**	**18 49 52.9**	**+1.3**
ODAN	**Odare** 7.8nm,0.6s	**36.43**	**335**	*e*P	**P**	**18 47 35.4**	**-1.0**
TAPN	**Taplejung** 7.9nm,0.7s	**36.73**	**335**	*e*P	**P**	**18 47 38.3**	**-0.7**
RAMN	**Ramite** 4.9nm,0.4s	**36.85**	**334**	*e*P	**P**	**18 47 39.6**	**-0.4**
JIRN	**Jiri** 3.3nm,0.5s	**37.65**	**334**	*e*P	**P**	**18 47 46.1**	**-0.8**
PKI	**Pulchoki** 5.6nm,0.5s	**37.92**	**333**	*e*P	**P**	**18 47 48.1**	**-1.0**
GUN	**Gumba** 18nm,0.5s	**38.00**	**333**	*e*P	**P**	**18 47 49.1**	**-0.7**
DMN	**Daman** 3.4nm,0.3s	**38.09**	**332**	*e*P	**P**	**18 47 49.7**	**-0.8**
KKN	**Kakani** 6.9nm,0.4s	**38.17**	**333**	*e*P	**P**	**18 47 50.2**	**-0.9**
GKN	**Gorkha** 12nm,0.3s	**38.65**	**332**	*e*P	**P**	**18 47 54.2**	**-0.8**
KOLN	**Koldanda** 4.2nm,0.2s	**38.95**	**331**	*e*P	**P**	**18 47 57.2**	**-0.4**
DANN	**Dangsing** 20nm,0.4s	**39.35**	**331**	*e*P	**P**	**18 48 00.5**	**-0.6**
PYUN	**Piuthan** 11nm,0.4s	**39.52**	**330**	*e*P	**P**	**18 48 02.0**	**-0.4**
STKA	**Stephens Creek** 2.9nm,0.4s,baz=308,slow=10,SNR=27	**43.52**	**131**	P	**P**	**18 48 36.1**	**+1.2**
KSRS	**Korea Array** 2.5nm,0.7s,baz=223,slow=8.1,SNR=6.7	**48.68**	**25**	P	**P**	**18 49 15.7**	**+0.4**
MJAR	**Matsushiro Arr** 0.8nm,0.4s,baz=200,slow=8.6,SNR=5.4	**53.10**	**34**	P	**P**	**18 49 46.9**	**-1.7**
SONM	**Songino Array** 2.7nm,0.6s,baz=180,slow=8.2,SNR=36	**53.67**	**2**	P	**P**	**18 49 52.9**	**+0.2**
SONM				PcP	**PcP**	**18 50 58.3**	**0.0**
MKAR	**Makanchi Array** 3.5nm,0.6s,baz=149,slow=8.9,SNR=74	**56.00**	**342**	P	**P**	**18 50 08.7**	**-0.8**
USRK	**Ussuriysk Arra** 5.2nm,0.6s,baz=219,slow=5.9,SNR=16	**56.01**	**24**	P	**P**	**18 50 09.2**	**-0.3**
ZALV	**Zalesovo Beam** 4.4nm,0.6s,baz=147,slow=4.7,SNR=33	**61.89**	**347**	P	**P**	**18 50 49.0**	**-1.1**
BVAR	**Borovoye Array** 2.4nm,0.4s,baz=144,slow=9.2,SNR=18	**65.34**	**338**	P	**P**	**18 51 12.0**	**-0.8**
AKTO	**Aktyubinsk** 1.1nm,0.5s,baz=123,slow=11,SNR=9.2	**68.78**	**330**	P	**P**	**18 51 34.0**	**-0.8**
KBZ	**Khabaz** 0.8nm,0.7s,baz=136,slow=11,SNR=3.3	**73.94**	**319**	P	**P**	**18 52 05.9**	**-0.1**
BRTR	**Keskin Array B** 0.4nm,0.5s,baz=131,slow=6.5,SNR=6.6	**78.96**	**312**	P	**P**	**18 52 34.5**	**-0.1**
FINES	**FINESS Array B** 1.0nm,0.5s,baz=106,slow=5.5,SNR=13	**89.51**	**332**	P	**P**	**18 53 27.5**	**+0.1**
ARCES	**ARCESS Array B** 1.8nm,0.8s,baz=99,slow=3.9,SNR=4.1	**91.59**	**340**	P	**P**	**18 53 36.6**	**-0.4**
TXAR	**Lajitas Array** 1.9nm,0.4s,baz=263,slow=1.2,SNR=30	**145.09**	**45**	PKPbc	**PKPdf**	**19 00 09.1**	**+0.6**
TKL	**Tuckaleechee C** 1.8nm,0.5s,baz=18,slow=6.4,SNR=3.3	**149.66**	**13**	PKPbc	**PKPbc**	**19 00 20.5**	**0.0**
LPAZ	**La Paz** 0.8nm,0.5s,baz=202,slow=2.2,SNR=3.6	**156.50**	**199**	PKPab	**PKPab**	**19 00 53.8**	**-1.8**

PRE 25 18:40:51.2±0.8,26.°94S×26.°77E, h2km, ML1.1, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOAB	**Moab Khotsong**	**0.06**	**153**	*e*P	Pg	18 40 52.4	-0.2
MOAB				*e*S	Sg	18 40 53.5	0.0
MOAB	comp=Z,124nm,0.2s			AML	AML	18 40 55.4	
BFSD	**Buffelsfontein**	**0.07**	**11**	*e*P	Pg	18 40 53.2	+0.3
BFSD				*e*S	Sg	18 40 54.0	0.0
BFSD	comp=Z,57nm,0.3s			AML	AML	18 40 55.1	
TLEK	**Tau Lekoa**	**0.09**	**254**	*e*P	Pg	18 40 53.4	+0.1
TLEK				*e*S	Sg	18 40 54.0	-0.6
PRYS	**Parys**	**0.53**	**89**	*e*P	Pg	18 41 01.6	+0.1
PRYS				*e*S	Sg	18 41 08.2	-0.3
PRYS	comp=Z,5.3nm,0.5s			AML	AML	18 41 11.3	
LBTB	**Lobatse**	**2.19**	**331**	*e*P	Pn	18 41 29.4	+0.7
LBTB				*e*S	Sn	18 41 56.7	+0.2
LBTB	comp=Z,1.7nm,0.7s			AML	AML	18 41 58.7	

ISCJB ***25*** *18:57:49.8±1.0,5.°67S±0.°09×145.°9E±0.°1, h69km, mb3.5/6, Error ellipse: s-maj=22.1km s-min=10.1km az=157.3*

IDC ***25*** *18:57:50.8±4.8,5.°64S×145.°89E, h63km±48km, mb3.4/6, mb1 3.7/8, mb1mx3.5/19, mbtmp3.5/8, ML3.0/2, MS3.3/4, Ms1 3.3/4, ms1mx2.9/22, Error ellipse: s-maj=31.9km s-min=29.2km az=113.0*

ISC 25 18:57:51.3±1.1,5.°7S±0.°1×145.°9E±0.°2, h69km, n11, σ0§82/10, mb3.6/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 4.7nm,0.3s,baz=329,slow=6.1,SNR=21	**3.93**	**162**	P	**Pn**	**18 58 48.8**	**-0.4**
PMG				S	**Sn**	**18 59 35.0**	**+0.9**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=41,slow=12,SNR=18	**18.11**	**217**	P	**P**	**19 01 56.9**	**-1.1**
ASAR	**Alice Springs** 1.8nm,0.9s,baz=36,slow=11,SNR=11	**21.31**	**212**	P	**P**	**19 02 31.9**	**-0.8**
ASAR				LR	LR	19 11 35.3	
FITZ	**Fitzroy Crossi** 1.8nm,1.0s,baz=211,slow=18,SNR=2.2	**23.34**	**236**	P	**P**	**19 02 53.6**	**-0.2**
FITZ				LR	LR	19 12 11.1	
STKA	**Stephens Creek** 4.1nm,0.8s,baz=356,slow=4.8,SNR=5.9	**26.40**	**188**	P	**P**	**19 03 21.8**	**+0.4**
AFI	**Afiamalu** comp=Z,78nm,20.9s,baz=107,slow=30	**42.44**	**104**	LR	LR	19 19 16.2	
KSRS	**Korea Array** comp=Z,14nm,20.0s,baz=162,slow=34	**46.05**	**340**	LR	LR	19 23 35.2	
CMAR	**Chiang Mai Arr** 0.7nm,0.8s,baz=120,slow=5.8,SNR=5.7	**52.13**	**298**	P	**P**	**19 06 55.6**	**+0.5**
MKAR	**Makanchi Array** 0.5nm,1.0s,baz=106,slow=5.1,SNR=2.9	**76.54**	**321**	P	**P**	**19 09 34.8**	**+0.5**
ILAR	**Eielson Array** 0.7nm,0.8s,baz=245,slow=5.5,SNR=5.9	**85.60**	**23**	P	**P**	**19 10 21.1**	**-0.8**
DBIC	**Dimbokro** 3.4nm,1.0s,baz=34,slow=3.6,SNR=3.6	**150.91**	**274**	PKPbc	**PKPbc**	**19 17 38.0**	**+0.7**

IDC 25 19:03:57.0±4.7,1.°45S×137.°18E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=206.5km s-min=30.0km az=83.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=12,slow=12,SNR=7.8	**18.59**	**188**	P	P	19 08 15.6	-0.2
ASAR	**Alice Springs** 0.8nm,0.6s,baz=9.4,slow=11,SNR=12	**22.31**	**188**	P	P	19 08 56.8	+0.5
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=124,slow=7.5,SNR=2.0	**67.86**	**323**	P	P	19 14 56.9	-0.4

IDC 25 19:15:27.1±1.0,13.°53N×145.°92E, h0km, mb3.5/8, mb1 3.7/8, mb1mx3.6/26, mbtmp3.5/8, Error ellipse: s-maj=46.2km s-min=18.9km az=100.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.7nm,0.8s,baz=23,slow=9.6,SNR=7.6	**35.16**	**199**	P	P	19 22 22.7	-0.2
FITZ	**Fitzroy Crossi** 1.5nm,0.7s,baz=41,slow=9.3,SNR=2.6	**37.26**	**213**	P	P	19 22 40.9	+0.1
ASAR	**Alice Springs** 0.3nm,0.7s,baz=15,slow=11,SNR=6.9	**38.79**	**198**	P	P	19 22 53.6	-0.1
STKA	**Stephens Creek** 1.6nm,0.8s,baz=14,slow=8.3,SNR=3.2	**45.34**	**185**	P	P	19 23 46.8	-0.3
SONM	**Songino Array** 0.2nm,0.6s,baz=131,slow=7.9,SNR=3.1	**47.37**	**324**	P	P	19 24 03.4	+0.2
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=90,slow=9.2,SNR=4.1	**62.24**	**316**	P	P	19 25 50.5	-0.4
ILAR	**Eielson Array** 0.4nm,0.5s,baz=251,slow=5.8,SNR=7.9	**68.19**	**25**	P	P	19 26 28.4	-0.7
YKA	**Yellowknife Ar** 0.1nm,0.3s,baz=288,slow=5.9,SNR=3.5	**82.44**	**28**	P	P	19 27 52.5	+1.4

IDC 25 19:43:05.8±20.0,3.°98N×126.°57E, h105km±201km, mb3.2/6, mb1 3.3/6, mb1mx3.2/23, mbtmp3.2/6, 1C, Error ellipse: s-maj=103.8km s-min=25.5km az=63.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**3.96**	**325**	⇑*i* P	Pn	19 44 00.8	-3.8
FITZ	**Fitzroy Crossi** 2.2nm,0.8s,baz=4.8,slow=12,SNR=4.1	**21.96**	**182**	P	P	19 47 51.1	-0.1
WRA	**Warramunga Arr** 0.9nm,0.6s,baz=343,slow=10,SNR=15	**24.97**	**162**	P	P	19 48 19.4	-0.4
ASAR	**Alice Springs** 0.2nm,0.3s,baz=344,slow=11,SNR=5.1	**28.39**	**166**	P	P	19 48 51.1	+0.6
STKA	**Stephens Creek** 1.2nm,0.7s,baz=338,slow=11,SNR=2.3	**38.42**	**159**	P	P	19 50 17.1	-0.1
SONM	**Songino Array** 0.1nm,0.5s,baz=157,slow=9.0,SNR=5.1	**47.01**	**341**	P	P	19 51 27.1	+0.4
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=115,slow=7.9,SNR=12	**57.26**	**325**	P	P	19 52 42.1	-0.4

IDC 25 19:46:09.3±1.4,13.°53N×146.°03E, h0km, mb3.3/5, mb1 3.6/5, mb1mx3.4/25, mbtmp3.3/5, Error ellipse: s-maj=54.1km s-min=23.5km az=92.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=24,slow=9.5,SNR=4.2	**35.20**	**199**	P	P	19 53 05.1	-0.3
ASAR	**Alice Springs** 0.5nm,1.0s,baz=25,slow=8.9,SNR=2.4	**38.82**	**198**	P	P	19 53 36.5	+0.3
SONM	**Songino Array** 0.2nm,0.8s,baz=140,slow=7.9,SNR=2.1	**47.43**	**324**	P	P	19 54 46.4	+0.6
MKAR	**Makanchi Array** 0.2nm,0.8s,baz=96,slow=7.5,SNR=2.5	**62.31**	**316**	P	P	19 56 32.9	-0.7
ILAR	**Eielson Array** 0.3nm,0.6s,baz=256,slow=5.9,SNR=4.6	**68.14**	**25**	P	P	19 57 11.0	0.0

KRSC 25 20:08:01.2±0.3,53.°09N×160.°54E, h38km±38km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.31**	**272**	*i* P	Pn	20 08 09.7	+0.2
SPN				*i* S	Sn	20 08 15.3	-1.0
NLC	**Nalytchevo**	**0.72**	**277**	*i* P	Pn	20 08 15.3	+0.4
NLC				*e*S	Sn	20 08 25.2	+0.5
SDLR	**Sedlovina**	**1.01**	**281**	*i* P	Pn	20 08 20.0	+1.0
SDLR				*e*S	Sn	20 08 33.5	+1.3
UGLR	**Uglovaya**	**1.04**	**277**	*i* P	Pn	20 08 20.6	+1.2
UGLR				*e*S	Sn	20 08 33.9	+1.1
SMAR	**Somma**	**1.06**	**280**	P	Pn	20 08 20.8	+1.0
SMAR				S	Sn	20 08 34.5	+1.0
AVH	**Avacha**	**1.10**	**280**	*i* P	Pn	20 08 21.5	+1.4
AVH				*e*S	Sn	20 08 35.9	+1.8
KRER	**Koryakskii**	**1.10**	**282**	*i* P	Pn	20 08 21.5	+1.2
KRER				*e*S	Sn	20 08 35.3	+0.9
PET	**Petropavlovsk**	**1.14**	**267**	*e*P	Pn	20 08 21.3	+0.7
PET				*e*S	Sn	20 08 35.4	+0.5
KII	**Karymskiy**	**1.15**	**326**	S	Sn	20 08 36.5	+1.1
KOK	**Koryaka**	**1.16**	**281**	*i* P	Pn	20 08 22.2	+1.2
KOK				*e*S	Sn	20 08 36.7	+0.9
RUS	**Russkaya**	**1.40**	**243**	*i* P	Pn	20 08 24.9	+0.8
RUS				*e*S	Sn	20 08 41.6	+0.4
MTVR	**Mutnovka**	**1.56**	**248**	*e*P	Pn	20 08 27.6	+1.1
MTVR				*e*S	Sn	20 08 46.4	+0.9
MKZ	**Mys Kozlova**	**1.63**	**25**	P	Pn	20 08 27.0	-0.3
MKZ				*e*S	Sn	20 08 45.9	-1.1
ASAK	**Asacha**	**1.75**	**247**	*i* P	Pn	20 08 31.1	+2.0
ASAK				*e*S	Sn	20 08 53.0	+2.7
TUMR	**Tumrok**	**2.21**	**354**	P	Pn	20 08 37.1	+1.6
TUMR				S	Sn	20 09 03.2	+1.6
MIPR	**Malaya Ipel'ka**	**2.44**	**252**	P	Pn	20 08 41.4	+2.9
KMNR	**Kamenistaya**	**2.68**	**356**	P	Pn	20 08 44.2	+2.3
KMNR				*e*S	Sn	20 09 16.7	+3.6
KOZ	**Kozyrevsk**	**3.00**	**353**	S	Sn	20 09 23.7	+2.9
KRSR	**Krestovskiy**	**3.13**	**0**	P	Pn	20 08 50.9	+2.8
KRSR				S	Sn	20 09 27.3	+3.0
KLY	**Klyuchi**	**3.23**	**1**	S	Sn	20 09 29.5	+3.1
SRDR	**Sredinnyy**	**3.27**	**352**	P	Pn	20 08 53.4	+3.5
KBTR	**Krutoberegovo**	**3.39**	**22**	P	Pn	20 08 54.0	+2.5
KBTR				*e*S	Sn	20 09 32.5	+2.0

NIED ***25*** *20:52:00,36.°40N×141.°00E, h44km, Mw3.9 Best double couple: M0 9.05000×10^14 NP1:φ=41.00000°,δ54.00000°, λ,92.00000°. NP2:φ=218.00000°,δ36.00000°,λ,87.00000°.*

ISCJB ***25*** *20:52:42.9±0.8,36.°42N±0.°03×141.°10E±0.°06, h41km±7km, mb3.9/13, Error ellipse: s-maj=9.1km s-min=5.0km az=22.3*

JMA ***25*** *20:52:43.7±0.1,36.°41N×141.°01E, h47km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φ=54.00000°,δ78.00000°,λ,95.00000°. NP2:φ=211.00000°, δ13.00000°,λ,67.00000°. Principal axes: T Plg57.0000°, Azm331.0000°; N Plg5.0000°, Azm233.0000°; P Plg33.0000°, Azm140.0000°;*

JMA Felt II J1.

IDC ***25*** *20:52:45.8±0.6,36.°35N×140.°98E, h53km±4km, mb3.7/13, mb1 3.9/15, mb1mx3.7/29, mbtmp3.7/15, MS2.9/1, Ms1 2.9/1, ms1mx2.0/55 Error ellipse: s-maj=16.3km s-min=9.4km az=100.0*

ISC 25 20:52:44.7±0.6,36.°40N±0.°04×141.°08E±0.°06, h43km±6km, n29,σ1§48/46, mb4.0/13, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.46**	**297**	⇓P	**Pn**	**20 52 53.5**	**-1.6**
JHO				S	**Sn**	**20 53 00.1**	**-2.4**
ONAJ	**Iwakimizuishiy**	**0.73**	**342**	⇓P	**Pn**	**20 52 57.1**	**-1.7**
ONAJ				S	**Sn**	**20 53 06.3**	**-2.6**
JYT	**Yasato**	**0.74**	**257**	⇓P	**Pn**	**20 52 57.1**	**-1.6**
JYT				S	**Sn**	**20 53 06.0**	**-2.8**
JFK	**Kawauchi**	**0.98**	**350**	⇓P	**Pn**	**20 53 00.4**	**-1.6**
JFK				S	**Sn**	**20 53 12.1**	**-2.6**
JFT	**Otama**	**1.26**	**332**	⇓P	**Pn**	**20 53 05.7**	**-0.2**
JFT				S	**Sn**	**20 53 20.8**	**-0.9**
JAG	**Ashikaga**	**1.31**	**271**	⇓P	**Pn**	**20 53 05.2**	**-1.4**
JAG				S	**Sn**	**20 53 20.2**	**-2.1**
JMM	**Marumori**	**1.48**	**351**	⇓P	**Pn**	**20 53 07.7**	**-1.2**
JMM				S	**Sn**	**20 53 25.5**	**-1.5**
JFY	**Yanaizu**	**1.49**	**313**	⇓P	**Pn**	**20 53 08.4**	**-0.7**
JKT	**Katashina**	**1.52**	**284**	⇓P	**Pn**	**20 53 08.8**	**-0.7**
MJAR	**Matsushiro Arr** 23nm,0.3s,baz=105,slow=8.5,SNR=345	**2.32**	**274**	P	**Pn**	**20 53 19.8**	**-0.6**
MJAR				S	**Sn**	**20 53 48.8**	**+1.1**
MAT	**Matsushiro** 22nm,0.3s,baz=92,slow=28,SNR=12	**2.32**	**274**	P	**Pn**	**20 53 20.2**	**-0.3**
MAT				S	**Sn**	**20 53 46.5**	**-1.3**
JHJ	**Hachijo jima 2** 24nm,0.3s,baz=131,slow=5.0,SNR=7.3	**3.45**	**198**	P	**Pn**	**20 53 36.5**	**+0.7**
JHJ				S	**Sn**	**20 54 16.4**	**+0.9**
ASAJ	**Asahikawa** 1.4nm,0.3s,baz=233,slow=9.1,SNR=8.9	**7.79**	**8**	P	**Pn**	**20 54 34.1**	**-1.4**
ASAJ				S	**Sn**	**20 56 02.6**	**+0.2**
CBIJ	**Chichi jima** 9.9nm,0.3s,baz=302,slow=17,SNR=4.5	**9.33**	**174**	P	**Pn**	**20 54 54.4**	**-2.2**
CBIJ				S	**Sn**	**20 56 38.6**	**-1.6**
USRK	**Ussuriysk Arra** 0.7nm,0.3s,baz=136,slow=13,SNR=14	**10.42**	**321**	P	Pn	20 55 17.1	+5.6
KSRS	**Korea Array** 0.2nm,0.3s,baz=96,slow=13,SNR=5.7	**10.59**	**280**	P	Pn	20 55 17.6	+3.8
KSRS	comp=Z,60nm,19.1s,baz=90,slow=37			LR	LR	20 59 12.2	
SONM	**Songino Array** 2.2nm,0.6s,baz=104,slow=8.6,SNR=16	**27.92**	**305**	P	**P**	**20 58 30.3**	**-0.5**
ZALV	**Zalesovo Beam** 2.4nm,0.7s,baz=88,slow=6.5,SNR=16	**42.15**	**313**	P	**P**	**21 00 32.0**	**-0.7**
ZALV				PcP	**PcP**	**21 02 25.4**	**-1.0**
MKAR	**Makanchi Array** 0.6nm,0.4s,baz=103,slow=4.6,SNR=3.1	**44.23**	**303**	P	**P**	**21 00 49.8**	**+0.1**
MKAR				pP	**pP**	**21 01 02.9**	**+1.2**
KDAK	**Kodiak Island** 0.5nm,0.5s,baz=82,slow=11,SNR=13	**47.75**	**42**	P	**P**	**21 01 17.8**	**+0.7**
ILAR	**Eielson Array** 0.4nm,0.8s,baz=84,slow=11,SNR=3.3	**50.17**	**32**	P	**P**	**21 01 36.4**	**+0.7**
ILAR				pP	**pP**	**21 01 49.5**	**+1.8**
INK	**Inuvik** 4.2nm,0.7s,baz=285,slow=5.8,SNR=26	**55.07**	**27**	P	**P**	**21 02 12.7**	**+1.0**
WRA	**Warramunga Arr** 1.9nm,0.7s,baz=266,slow=5.8,SNR=3.6	**56.40**	**188**	P	**P**	**21 02 21.1**	**-0.7**
WRA				pP	**pP**	**21 02 34.1**	**0.0**
ASAR	**Alice Springs** 0.6nm,0.8s,baz=303,slow=6.5,SNR=10	**60.13**	**188**	P	**P**	**21 02 47.5**	**-0.3**
ASAR				pP	**pP**	**21 03 00.5**	**+0.3**
FINES	**FINESS Array B** 0.9nm,0.8s,baz=66,slow=9.2,SNR=3.9	**69.25**	**332**	P	**P**	**21 03 46.5**	**-0.3**
FINES				pP	**pP**	**21 04 02.9**	**+3.4**
KBZ	**Khabaz** 1.6nm,0.8s,baz=143,slow=8.6,SNR=2.6	**71.11**	**311**	P	**P**	**21 03 58.3**	**-0.3**
NOA	**NORSAR Array B** 0.7nm,0.7s,baz=39,slow=5.7,SNR=2.8	**74.66**	**337**	P	**P**	**21 04 19.9**	**+0.5**
NOA				pP	**PcP**	**21 04 35.8**	**+2.3**
NVAR	**Mina Array Bea** 0.6nm,0.6s,baz=287,slow=5.6,SNR=5.0	**75.58**	**53**	P	**P**	**21 04 26.4**	**+1.1**
PDAR	**Pinedale Array** 0.6nm,0.6s,baz=222,slow=2.0,SNR=4.6	**78.30**	**45**	P	**P**	**21 04 41.2**	**+0.7**

IDC 25 20:55:05.3±1.3,3.°41N×126.°80E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, Error ellipse: s-maj=132.8km s-min=21.6km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=343,slow=11,SNR=10.0	**24.36**	**163**	P	P	21 00 24.9	-0.4
ASAR	**Alice Springs** 0.2nm,0.6s,baz=344,slow=13,SNR=2.8	**27.79**	**166**	P	P	21 01 00.9	+4.7
STKA	**Stephens Creek** 1.6nm,0.8s,baz=7.5,slow=14,SNR=6.1	**37.81**	**159**	P	P	21 02 24.0	+0.4
SONM	**Songino Array** 0.1nm,0.5s,baz=168,slow=8.7,SNR=3.0	**47.62**	**341**	P	P	21 03 43.2	0.0
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=115,sl

SONM	**Songino Array**	**26.57**	**285**	P		P	21 24 43.9	+1.8	
	0.5nm,0.5s,baz=81,slow=9.0,SNR=9.8								
ILAR	**Eielson Array**	**38.65**	**39**	P		P	21 26 25.8	+0.8	
	0.3nm,0.5s,baz=249,slow=6.0,SNR=10								
MKAR	**Makanchi Array**	**42.28**	**293**	P		P	21 26 52.8	-1.7	
	0.3nm,0.7s,baz=76,slow=9.4,SNR=5.5								
INK	**Inuvik**	**43.26**	**32**	P		P	21 27 00.8	-1.1	
	0.6nm,0.6s,baz=302,slow=5.7,SNR=4.3								
RES	**Resolute Bay**	**51.27**	**17**	P		P	21 28 01.8	-0.7	
	0.6nm,0.5s,baz=313,slow=7.1,SNR=4.9								
WRA	**Warramunga Arr**	**68.28**	**192**	P		P	21 29 57.4	0.0	
	0.5nm,0.8s,baz=7.6,slow=6.4,SNR=4.8								

MAN 25 21:21:08,10.46N×123.33E,h3km,mb4.0,ML2.8,MS2.5, Cebu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.64**	**102**	*eP*	Pb	21 21 21.6	-0.2
LLP				*eS*	Sb	21 21 30.2	-0.9
TBP	**Tagbilaran**	**0.92**	**146**	*eP*	Pb	21 21 26.9	+0.2
MSLP	**Maasin**	**1.53**	**102**	*eP*	Pg	21 21 37.9	+0.4
MSLP				*eS*	Sb	21 21 56.9	0.0

IDC 25 21:36:16.2±1.0,26.65N×141.91E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/23,mbtmp3.6/4,Error ellipse: s-maj=37.0km s-min=12.9km az=115.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.51**	**29**	Pn	Pn	21 36 30.6	-0.1
	185nm,0.3s,baz=262,slow=23,SNR=127						
CBIJ				Sn	Sn	21 36 41.3	+1.1
	318nm,0.3s,baz=296,slow=23,SNR=11						
WRA	**Warramunga Arr**	**46.90**	**190**	P	P	21 44 48.3	-0.2
	1.0nm,0.4s,baz=12,slow=8.7,SNR=24						
MKAR	**Makanchi Array**	**50.57**	**310**	P	P	21 45 16.2	-0.4
	0.1nm,0.4s,baz=88,slow=9.6,SNR=4.1						
ASAR	**Alice Springs**	**50.62**	**190**	P	P	21 45 17.2	+0.1
	0.2nm,0.6s,baz=23,slow=12,SNR=2.9						
FINES	**FINESS Array B**	**78.23**	**334**	P	P	21 48 17.8	+0.3
	1.9nm,1.0s,baz=50,slow=3.0,SNR=3.5						

*ISCJB **25** 21:36:30.6±0.7,36.22N±0.04×28.35E±0.05,h63km±8km, Error ellipse: s-maj=7.8km s-min=5.9km az=41.3*
*ISK **25** 21:36:30.3,36.25N×28.36E,h22km, MD3.0*
*ATH **25** 21:36:30.6,35.88N×28.44E,h36km±8km, MD2.8/4*
*CSEM **25** 21:36:31.1±0.2,36.21N×28.35E,h60km, MD2.9, Error ellipse: s-maj=4.8km s-min=3.7km az=143.0*
*DDA **25** 21:36:36.4,36.91N×28.84E,h7km, MD2.9*

ISC 25 21:36:31.6±1.9,36.19N±0.04×28.35E±0.03,h36km±1km, n32,σ9♯41/46,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.19**	**279**	*ePB*	**Pn**	**21 36 40.8**	**+0.5**
ARG				*eSB*	**Sn**	**21 36 47.7**	**-0.6**
ARG	**Arkhangelos**	**0.19**	**279**	*ePb*	**Pn**	**21 36 40.8**	**+0.5**
ARG				*eSb*	**Sn**	**21 36 47.7**	**-0.6**
TURN	**Turunc**	**0.71**	**16**	*i P*	**Pn**	**21 36 44.6**	**-0.5**
TURN				*i S*	**Sn**	**21 36 54.6**	**-0.2**
TURN	**Turunc**	**0.71**	**16**	*i P*	**Pn**	**21 36 44.6**	**-0.5**
TURN				*i S*	**Sn**	**21 36 54.6**	**-0.2**
DAT	**Datca**	**0.83**	**311**	*ePG*	**Pn**	**21 36 46.7**	**-0.1**
DAT				*eSG*	**Sn**	**21 36 57.8**	**-0.1**
DAT	**Datca**	**0.83**	**311**	*ePg*	**Pn**	**21 36 46.7**	**-0.1**
DAT				*eSg*	**Sn**	**21 36 57.8**	**-0.1**
YER	**Yerkesik**	**0.95**	**357**	*ePG*	**Pn**	**21 36 48.0**	**-0.4**
YER				*eSG*	**Sn**	**21 37 01.0**	**+0.3**
YER	**Yerkesik**	**0.95**	**357**	*ePg*	**Pn**	**21 36 48.0**	**-0.4**
YER				*eSg*	**Sn**	**21 37 01.0**	**+0.3**
KSL	**Kastellorizon**	**0.99**	**92**	*ePN*	**Pn**	**21 36 49.1**	**+0.1**
KSL	**Kastellorizon**	**0.99**	**92**	*ePn*	**Pn**	**21 36 49.1**	**+0.1**
KARP	**Karpathos**	**1.16**	**237**	*ePN*	**Pn**	**21 36 51.4**	**+0.1**
KARP				*eSN*	**Sn**	**21 37 06.0**	**+0.1**
KARP	**Karpathos**	**1.16**	**237**	*ePn*	**Pn**	**21 36 51.4**	**+0.1**
KARP				*eSn*	**Sn**	**21 37 06.0**	**+0.1**
MLSB	**Milas**	**1.20**	**337**	*ePN*	**Pn**	**21 36 51.5**	**-0.3**
MLSB				*eSN*	**Sn**	**21 37 07.0**	**+0.1**
MLSB	**Milas**	**1.20**	**337**	*ePn*	**Pn**	**21 36 51.5**	**-0.3**
MLSB				*eSn*	**Sn**	**21 37 07.0**	**+0.1**
BODT	**Bodrum**	**1.21**	**316**	*ePN*	**Pn**	**21 36 51.6**	**-0.3**
BODT	**Bodrum**	**1.21**	**316**	*ePn*	**Pn**	**21 36 51.7**	**-0.3**
AYDN	**Tasoluk**	**1.52**	**346**	*i P*	**Pn**	**21 36 57.2**	**+0.9**
AYDN				*i S*	**Sn**	**21 37 15.6**	**+0.8**
AYDN	**Tasoluk**	**1.52**	**346**	*i P*	**Pn**	**21 36 57.2**	**+0.9**
AYDN				*i S*	**Sn**	**21 37 15.6**	**+0.8**
DNZL	**Cakiroluk**	**1.60**	**20**	*i P*	**Pn**	**21 36 57.2**	**-0.3**
DNZL				*i S*	Sn	21 37 15.1	-1.9
DNZL	**Cakiroluk**	**1.60**	**20**	*i P*	**Pn**	**21 36 57.2**	**-0.3**
DNZL				*i S*	Sn	21 37 15.1	-1.9
KORT	**Korkueli**	**1.80**	**63**	*i P*	**Pn**	**21 36 60.0**	**-0.2**
KORT				*i S*	**Sn**	**21 37 21.7**	**-0.1**
KORT	**Korkueli**	**1.80**	**63**	*i P*	**Pn**	**21 37 00.0**	**-0.2**
KORT				*i S*	**Sn**	**21 37 21.7**	**-0.1**
BCK	**Bucak**	**2.20**	**54**	*ePN*	**Pn**	**21 37 06.1**	**+0.5**
BCK	**Bucak**	**2.20**	**54**	*ePn*	**Pn**	**21 37 06.1**	**+0.5**
MANT	**Manisa**	**2.30**	**4**	*i P*	Pn	21 37 05.8	-1.4
MANT				*i S*	Sn	21 37 32.3	-2.1
MANT	**Manisa**	**2.30**	**4**	*i P*	Pn	21 37 05.8	-1.4
MANT				*i S*	Sn	21 37 32.3	-2.1
KHL	**Karahalli**	**2.33**	**23**	*ePN*	**Pn**	**21 37 07.3**	**-0.1**
KHL	**Karahalli**	**2.33**	**23**	*ePn*	**Pn**	**21 37 07.3**	**-0.1**
IZM	**Izmir**	**2.37**	**339**	*ePN*	**Pn**	**21 37 07.6**	**-0.4**
IZM	**Izmir**	**2.37**	**339**	*ePn*	**Pn**	**21 37 07.6**	**-0.4**
NPS	**Neapolis**	**2.41**	**248**	*ePN*	**Pn**	**21 37 08.2**	**-0.3**
NPS	**Neapolis**	**2.41**	**248**	*ePn*	**Pn**	**21 37 08.2**	**-0.3**

*ISCJB **25** 21:56:01.0±1.7,10.86S±0.08×161.7E±0.1,h44km±15km, mb3.8/10,MS3.7/7, Error ellipse: s-maj=19.0km s-min=10.7km az=149.8*
*IDC **25** 21:56:01.0±1.2,10.71S×161.66E,h28km±5km,mb3.6/7, mb1 3.9/8,mb1mx3.7/20,mbtmp3.7/8,ML3.9/1,MS3.6/9, Ms1 3.6/9,ms1mx3.3/30,Error ellipse: s-maj=37.2km s-min=23.8km az=138.0*
*NEIC **25** 21:56:03.4±1.1,10.80S×161.66E,h51km±10km,mb4.3/5, Error ellipse: s-maj=11.2km s-min=10.3km az=64.0*
NEIC Felt on San Cristobal.

ISC 25 21:56:00.8±0.8,10.76S±0.08×161.76E±0.10,h29km±5km, h28km:pP-P,n30,σ1♯35/32,mb3.8/10,MS3.7/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.22**	**306**	*ePn*	**Pn**	**21 56 37.0**	**+1.3**
HNR				*eSn*	**Sn**	**21 57 00.8**	**-1.4**
DZM	**Mont Dzumac**	**12.11**	**159**	*eLR*	LR	22 01 44.5	
	388nm,24.6s						
DZM	**Mont Dzumac**	**12.11**	**159**	Pn	**Pn**	**21 58 53.2**	**+1.7**
DZM				Sn	**Sn**	**22 01 03.5**	**-2.3**
DZM	**Mont Dzumac**	**12.11**	**159**	Pn	**Pn**	**21 58 53.2**	**+1.7**
	0.7nm,0.3s,baz=320,slow=20,SNR=4.0						
DZM				Sn	**Sn**	**22 01 03.5**	**-2.3**
	0.4nm,0.3s,baz=140,slow=20,SNR=3.2						
DZM				LR	LR	22 02 47.4	
	comp=Z,221nm,19.1s,baz=22,slow=33						
CTA	**Charters Tower**	**17.57**	**236**	P	**P**	**22 00 07.9**	**+3.3**
CTA	**Charters Tower**	**17.57**	**236**	P	**P**	**22 00 07.9**	**+3.3**
	0.5nm,0.3s,baz=67,slow=12,SNR=13						
CTA				LR	LR	22 04 42.6	
	comp=Z,31nm,18.3s,baz=54,slow=30						
CTAO	**Charters Tower**	**17.57**	**236**	*ePn*	**Pn**	**22 00 03.7**	**0.0**
	19nm,0.9s						
COEN	**Coen**	**18.42**	**258**	*eP*	**P**	**22 00 14.0**	**0.0**
	293nm,1.7s						
AFI	**Afiamalu**	**26.04**	**100**	LR	LR	22 09 30.1	
	comp=Z,291nm,21.6s,baz=81,slow=31						
WRA	**Warramunga Arr**	**27.93**	**248**	P	**P**	**22 01 48.8**	**-0.1**
WRA	**Warramunga Arr**	**27.93**	**248**	P	**P**	**22 01 48.8**	**-0.1**
	1.8nm,1.0s,baz=77,slow=9.0,SNR=5.3						
WRA				LR	LR	22 12 33.7	
	comp=Z,149nm,18.4s,baz=65,slow=36						
STKA	**Stephens Creek**	**28.08**	**219**	LR	LR	22 13 04.0	
	comp=Z,242nm,18.5s,baz=205,slow=36						
ASAR	**Alice Springs**	**29.46**	**241**	P	**P**	**22 02 01.7**	**-0.8**
ASAR	**Alice Springs**	**29.46**	**241**	P	**P**	**22 02 01.7**	**-0.8**
	0.6nm,0.7s,baz=61,slow=9.6,SNR=5.4						
ASAR				LR	LR	22 13 15.6	
	comp=Z,194nm,20.9s,baz=138,slow=35						
FITZ	**Fitzroy Crossi**	**35.68**	**254**	*eP*	**P**	**22 02 55.1**	**-1.8**
	3.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**35.68**	**254**	P	**P**	**22 02 56.8**	**-0.1**
	2.0nm,0.8s,baz=132,slow=11,SNR=3.3						
KSRS	**Korea Array**	**57.51**	**328**	LR	LR	22 31 06.4	
	comp=Z,42nm,18.1s,baz=149,slow=37						
PETK	**Petropavlovsk-**	**63.71**	**357**	LR	LR	22 32 57.4	
	comp=Z,45nm,18.8s,baz=328,slow=35						
CMAR	**Chiang Mai Arr**	**68.42**	**295**	P	P	22 07 04.0	+3.4
CMAR	**Chiang Mai Arr**	**68.42**	**295**	P	P	22 07 04.0	+3.4
	0.5nm,0.7s,baz=136,slow=4.2,SNR=4.4						
SONM	**Songino Array**	**76.16**	**325**	P	**P**	**22 07 46.5**	**+0.2**
SONM				pP	**pP**	**22 07 55.7**	**+0.2**
SONM	**Songino Array**	**76.16**	**325**	P	**P**	**22 07 46.5**	**+0.2**
	0.5nm,0.9s,baz=143,slow=5.4,SNR=4.7						
SONM				pP	**pP**	**22 07 55.7**	**+0.2**
	1.4nm,0.7s,baz=149,slow=6.2,SNR=10						
SONM				LR	LR	22 36 39.2	
	comp=Z,42nm,19.9s,baz=168,slow=32						
BILL	**Bilibino**	**78.67**	**2**	*eP*	**P**	**22 07 59.5**	**-0.2**
	3.5nm,0.9s						
ILAR	**Eielson Array**	**84.53**	**20**	P	**P**	**22 08 30.4**	**-0.3**
ILAR				pP	**pP**	**22 08 40.1**	**+0.2**
ILAR	**Eielson Array**	**84.53**	**20**	P	**P**	**22 08 30.4**	**-0.3**
	0.2nm,0.6s,baz=226,slow=4.9,SNR=3.9						
ILAR				pP	**pP**	**22 08 40.1**	**+0.2**
	2.3nm,1.1s,baz=245,slow=4.5,SNR=7.1						
NVAR	**Mina Array Bea**	**88.86**	**51**	P	**P**	**22 08 53.7**	**+0.8**
NVAR	**Mina Array Bea**	**88.86**	**51**	P	**P**	**22 08 53.7**	**+0.8**
	0.5nm,0.7s,baz=238,slow=5.2,SNR=3.1						
MKAR	**Makanchi Array**	**90.65**	**318**	P	**P**	**22 09 00.0**	**-0.8**
MKAR				pP	**pP**	**22 09 08.8**	**-1.2**
MKAR	**Makanchi Array**	**90.65**	**318**	P	**P**	**22 09 00.0**	**-0.8**
	0.2nm,0.5s,baz=107,slow=5.5,SNR=2.9						
MKAR				pP	**pP**	**22 09 08.8**	**-1.2**
	0.5nm,0.5s,baz=107,slow=5.2,SNR=6.6						
KURK	**Kurchatov**	**93.93**	**321**	*eP*	**P**	**22 09 15.5**	**-0.3**
	0.3nm,0.4s						

*ISCJB **25** 22:01:29.2±3.4,6.4S±0.1×155.0E±0.1,h39km±29km, mb4.2/17, Error ellipse: s-maj=22.1km s-min=17.5km az=43.8*
*IDC **25** 22:01:31.2±1.0,6.47S×155.01E,h42km±8km,mb3.9/12, mb1 4.1/14,mb1mx4.0/20,mbtmp3.9/14,ML3.9/2, Error ellipse: s-maj=26.4km s-min=14.5km az=135.0*
*NEIC **25** 22:01:32.9±2.1,6.50S×154.95E,h59km±18km,mb4.3/7, Error ellipse: s-maj=16.3km s-min=11.8km az=103.0*

ISC 25 22:01:31.1±0.9,6.5S±0.1×155.1E±0.1,h45km±7km, h44km:pP-P,n51,σ0♯84/66,mb4.6/26,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.35**	**249**	P	**Pn**	**22 03 29.1**	**-0.5**
PMG				S	**Sn**	**22 05 04.6**	**+2.0**
PMG	**Port Moresby**	**8.35**	**249**	P	**Pn**	**22 03 29.1**	**-0.5**
	8.4nm,0.3s,baz=45,slow=7.5,SNR=16						
PMG				S	**Sn**	**22 05 04.6**	**+2.0**
	1.2nm,0.3s,baz=78,slow=16,SNR=4.6						
CTA	**Charters Tower**	**15.99**	**212**	P	**Pn**	**22 05 14.2**	**+1.2**
CTA	**Charters Tower**	**15.99**	**212**	P	**Pn**	**22 05 14.2**	**+1.2**
	0.2nm,0.3s,baz=32,slow=13,SNR=3.4						
CTAO	**Charters Tower**	**15.99**	**212**	*ePn*	**Pn**	**22 05 12.7**	**-0.3**
	17nm,1.3s						
WRAB	**Tennant Creek**	**24.14**	**234**	*eP*	**P**	**22 06 43.3**	**+0.1**
	4.8nm,0.7s						
WRA	**Warramunga Arr**	**24.16**	**234**	P	**P**	**22 06 43.2**	**-0.1**
WRA				pP	**pP**	**22 06 53.9**	**-1.3**
WRA				PcP	**PcP**	**22 10 24.1**	**+0.6**
WRA				pPcP		22 10 35.2	
WRA	**Warramunga Arr**	**24.16**	**234**	P	**P**	**22 06 43.2**	**-0.1**
	2.8nm,0.8s,baz=50,slow=8.9,SNR=14						
WRA				pP	**pP**	**22 06 53.9**	**-1.3**
	2.6nm,0.6s,baz=56,slow=9.7,SNR=8.8						
WRA				PcP	**PcP**	**22 10 24.1**	**+0.6**
	1.3nm,0.5s,baz=61,slow=2.3,SNR=15						
WRA				pPcP		22 10 35.2	
	1.1nm,0.9s,baz=59,slow=2.1,SNR=4.8						
AS31	**Alice Springs**	**26.55**	**228**	*eP*	**P**	**22 07 04.2**	**-0.9**
ASAR	**Alice Springs**	**26.55**	**228**	P	**P**	**22 07 05.0**	**-0.1**
ASAR				pP	**pP**	**22 07 16.4**	**-0.4**
ASAR				PcP	**PcP**	**22 10 29.6**	**+0.6**
ASAR	**Alice Springs**	**26.55**	**228**	P	**P**	**22 07 05.0**	**-0.1**
	0.3nm,0.3s,baz=59,slow=9.3,SNR=6.7						
ASAR				pP	**pP**	**22 07 16.4**	**-0.4**
	1.6nm,0.3s,baz=58,slow=9.3,SNR=9.8						
ASAR				PcP	**PcP**	**22 10 29.6**	**+0.6**
	1.2nm,0.7s,baz=66,slow=2.5,SNR=9.5						
STKA	**Stephens Creek**	**28.21**	**205**	pP	pP	22 07 31.8	+0.2
	3.1nm,1.0s,baz=21,slow=13,SNR=2.2						
FITZ	**Fitzroy Crossi**	**30.92**	**245**	*eP*	**P**	**22 07 43.1**	**-0.8**
	2.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**30.92**	**245**	P	**P**	**22 07 43.4**	**-0.5**
	2.5nm,0.9s,baz=54,slow=8.7,SNR=2.8						
USRK	**Ussuriysk Arra**	**54.59**	**340**	P	**P**	**22 10 55.4**	**+0.4**
	0.4nm,0.5s,baz=140,slow=4.8,SNR=4.3						
ENH	**Enshi**	**56.96**	**313**	*eP*	**P**	**22 11 12.6**	**+0.2**
	5.5nm,0.4s						
PETK	**Petropavlovsk-**	**59.42**	**2**	P	**P**	**22 11 30.0**	**+1.0**
PETK	**Petropavlovsk-**	**59.42**	**2**	P	**P**	**22 11 30.0**	**+1.0**
	4.9nm,0.8s,baz=176,slow=8.0,SNR=4.8						
CM31	**Chiang Mai Arr**	**60.64**	**295**	*eP*	**P**	**22 11 37.7**	**-0.4**
	6.8nm,0.7s						
CMAR	**Chiang Mai Arr**	**60.64**	**295**	P	**P**	**22 11 38.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**60.64**	**295**	P	**P**	**22 11 38.8**	**+0.8**
	6.8nm,0.8s,baz=121,slow=5.2,SNR=50						
CHTO	**Chiang Mai**	**60.76**	**296**	*eP*	**P**	**22 11 38.4**	**-0.4**
	4.7nm,1.0s						
SONM	**Songino Array**	**68.97**	**327**	P	**P**	**22 12 32.0**	**+0.1**
SONM	**Songino Array**	**68.97**	**327**	P	**P**	**22 12 32.0**	**+0.1**
	1.1nm,0.5s,baz=143,slow=5.3,SNR=31						
TAPN	**Taplejung**	**73.21**	**301**	*eP*	**P**	**22 12 58.3**	**+0.1**
	2.9nm,0.4s						
ODAN	**Odare**	**73.35**	**300**	*eP*	**P**	**22 12 58.9**	**-0.1**
	12nm,0.6s						
RAMN	**Ramite**	**74.05**	**300**	*eP*	**P**	**22 13 03.1**	**0.0**
	5.3nm,0.6s						
JIRN	**Jiri**	**74.60**	**301**	*eP*	**P**	**22 13 06.6**	**+0.2**
GUN	**Gunnba**	**74.93**	**301**	*eP*	**P**	**22 13 08.1**	**-0.2**
	11nm,0.6s						
PKI	**Pulchoki**	**75.24**	**301**	*eP*	**P**	**22 13 10.1**	**0.0**
KKN	**Kakani**	**75.41**	**301**	*eP*	**P**	**22 13 11.0**	**+0.1**
	5.8nm,0.5s						
DMN	**Daman**	**75.51**	**301**	*eP*	**P**	**22 13 11.4**	**-0.1**
	13nm,0.7s						
GKN	**Gorkha**	**76.01**	**301**	*eP*	**P**	**22 13 14.4**	**+0.1**
	8.3nm,0.7s						
KOLN	**Koldanda**	**76.84**	**300**	*eP*	**P**	**22 13 18.3**	**-0.7**
	5.7nm,0.6s						
DANN	**Dagsing**	**76.85**	**301**	*eP*	**P**	**22 13 18.6**	**-0.6**
	5.9nm,0.6s						
ILAR	**Eielson Array**	**82.89**	**21**	P	**P**	**22 13 50.2**	**-0.5**
ILAR	**Eielson Array**	**82.89**	**21**	P	**P**	**22 13 50.2**	**-0.5**
	0.3nm,0.5s,baz=227,slow=5.7,SNR=6.5						
MK31	**Makanchi Array**	**83.09**	**319**	*eP*	**P**	**22 13 51.4**	**-0.8**
MKAR	**Makanchi Array**	**83.09**	**319**	P	**P**	**22 13 51.5**	**-0.7**
MKAR	**Makanchi Array**	**83.09**	**319**	P	**P**	**22 13 51.5**	**-0.7**
	1.9nm,0.8s,baz=98,slow=5.8,SNR=19						
ZALV	**Zalesovo Beam**	**83.82**	**326**	P	**P**	**22 13 54.2**	**-1.5**
ZALV	**Zalesovo Beam**	**83.82**	**326**	P	**P**	**22 13 54.2**	**-1.5**
	1.6nm,0.8s,baz=109,slow=5.6,SNR=9.8						
KURK	**Kurchatov**	**86.49**	**322**	*eP*	**P**	**22 14 07.8**	**-1.4**
	0.7nm,0.4s						
NVAR	**Mina Array Bea**	**91.36**	**52**	P	**P**	**22 14 34.7**	**+1.9**
NVAR				pP	**pP**	**22 14 46.6**	**+0.4**
NVAR	**Mina Array Bea**	**91.36**	**52**	P	**P**	**22 14 34.7**	**+1.9**
	1.7nm,0.9s,baz=251,slow=6.2,SNR=6.1						
NVAR				pP	**pP**	**22 14 46.6**	**+0.4**
	0.4nm,0.4s,baz=244,slow=9.4,SNR=2.9						
YKA	**Yellowknife Ar**	**95.87**	**28**	P	**P**	**22 14 53.0**	**+0.4**
YKA	**Yellowknife Ar**	**95.87**	**28**	P	**P**	**22 14 53.0**	**+0.4**
	0.6nm,0.7s,baz=269,slow=4.4,SNR=7.1						
BDFB	**Brasilia**	**148.27**	**134**	PKPbc	**PKPbc**	**22 21 13.2**	**-0.3**
BDFB	**Brasilia**	**148.27**	**134**	PKPbc	**PKPbc**	**22 21 13.2**	**-0.3**
	1.5nm,0.6s,baz=135,slow=9.5,SNR=3.2						
TORD	**Torodi Ar. Bea**	**152.96**	**286**	PKP	**PKPdf**	**22 21 16.7**	**-0.6**
TORD				PKPbc	**PKPbc**	**22 21 23.6**	**-1.0**
TORD				PKPab	**PKPab**	**22 21 35.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**152.96**	**286**	PKP	**PKPdf**	**22 21 16.7**	**-0.6**
	0.3nm,0.7s,baz=73,slow=2.0,SNR=2.7						
TORD				PKPbc	**PKPbc**	**22 21 23.6**	**-1.0**
	1.3nm,0.6s,baz=70,slow=1.7,SNR=20						
TORD				PKPab	**PKPab**	**22 21 35.0**	**-0.9**
	1.1nm,0.6s,baz=83,slow=3.4,SNR=8.7						

IDC 25 22:11:02.4±4.1,8.21S×123.98E,h181km±41km,mb3.2/2, mb1 3.5/5,mb1mx3.2/20,mbtmp3.4/5,Error ellipse: s-maj=94.6km s-min=15.2km az=59.0,Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.97**	**171**	P	Pn	22 13 19.9	-1.6
	0.4nm,0.3s,baz=349,slow=12,SNR=12						
FITZ				S	Sn	22 15 06.1	-6.5
	2.1nm,0.3s,baz=270,slow=4.6,SNR=12						
WRA	**Warramunga Arr**	**15.38**	**140**	P	Pn	22 14 29.8	-0.5
	1.1nm,0.3s,baz=317,slow=12,SNR=73						
WRA				S	Sn	22 17 13.6	-8.8
	0.3nm,0.3s,baz=319,slow=25,SNR=5.9						
ASAR	**Alice Springs**	**18.07**	**149**	P	Pn	22 15 01.9	-0.6
	0.8nm,0.3s,baz=331,slow=12,SNR=44						
ASAR				S	S	22 18 17.6	-0.7
	0.1nm,0.3s,baz=317,slow=22,SNR=2.8						
STKA	**Stephens Creek**	**28.69**	**148**	P	P	22 16 44.2	+1.7
	1.0nm,0.6s,baz=338,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**66.12**	**330**	P	P	22 21 29.9	-0.3
	0.2nm,0.4s,baz=127,slow=7.5,SNR=9.3						

IDC 25 22:14:59.6±1.3,3.59N×126.80E,h0km,mb3.6/6, mb1 3.8/6,mb1mx3.6/23,mbtmp3.6/6,MS2.9/1,Ms1 2.9/1, ms1mx2.1/34,Error ellipse: s-maj=97.0km s-min=18.5km az=71.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.67**	**341**	LR	LR	22 16 44.4	
	comp=Z,171nm,20.5s,baz=70,slow=29						
FITZ	**Fitzroy Crossi**	**21.59**	**183**	P	P	22 19 51.1	0.0
	2.5nm,1.0s,baz=10,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**24.53**	**163**	P	P	22 20 20.9	-0.3
	1.3nm,0.6s,baz=343,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**27.96**	**166**	P	P	22 20 51.9	-0.3
	0.2nm,0.4s,baz=337,slow=9.2,SNR=2.5						
STKA	**Stephens Creek**	**37.97**	**159**	P	P	22 22 19.7	+0.4
	2.0nm,0.8s,baz=348,slow=9.5,SNR=4.7						
SONM	**Songino Array**	**47.45**	**341**	P	P	22 23 36.0	-0.3
	0.2nm,0.4s,baz=160,slow=7.9,SNR=4.9						
MKAR	**Makanchi Array**	**57.71**	**325**	P	P	22 24 52.2	-0.1
	0.6nm,0.5s,baz=122,slow=8.3,SNR=13						

PRE 25 22:15:58.3±1.3,26.42S×27.54E,h2km,ML1.4,South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.09**	**44**	*eP*	Pg	22 16 00.3	-0.1
KLOF				*eS*	Sg	22 16 01.3	-0.6
KLOF				AML	AML	22 16 03.0	
	comp=Z,201nm,0.1s						
PRYS	**Parys**	**0.53**	**197**	*eP*	Pg	22 16 09.5	+0.8
PRYS				*eS*	Sg	22 16 15.2	-0.6
PRYS				AML	AML	22 16 20.0	
	comp=Z,8.0nm,0.4s						
KSR	**Koster**	**0.81**	**314**	*eP*	Pg	22 16 14.3	+0.2
KSR				*eS*	Sg	22 16 24.6	-0.1
KSR				AML	AML	22 16 32.7	
	comp=Z,8.6nm,0.2s						

IDC 25 22:23:11.2±2.1,3.50N×126.63E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.4/22,mbtmp3.4/4,Error ellipse: s-maj=203.5km s-min=24.6km az=65.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.50**	**162**	P	P	22 28 32.2	-0.2
	2.2nm,1.1s,baz=342,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**27.92**	**166**	P	P	22 29 03.9	+0.6
	0.1nm,0.3s,baz=336,slow=11,SNR=2.9						
STKA	**Stephens Creek**	**37.95**	**159**	P	P	22 30 30.5	-0.3
	1.6nm,1.0s,baz=321,slow=13,SNR=2.3						
MKAR	**Makanchi Array**	**57.69**	**325**	P	P	22 33 03.6	-0.1
	0.3nm,0.6s,baz=119,

TBLG	**Delisi**	**2.39**	**349**	P	**Pb**	**22 26 27.0 -1.8**
TBLG				S	**Sb**	**22 26 59.1 +0.8**
AKH	**Akhalkalaki**	**2.46**	**326**	P	**Pb**	**22 26 30.0 -0.1**
AKH				S	**Sg**	**22 27 02.9 -1.8**
CUKT	**Cukurca**	**2.52**	**213**	*e*Pn	**Pb**	**22 26 31.3 +0.2**
CUKT	**Cukurca**	**2.52**	**213**	*e*Pn	**Pb**	**22 26 31.3 +0.2**
IML	**Ismayilli** SNR=6.5	**2.61**	**56**	⇑P	**Pn**	**22 26 29.2 +1.2**
IML				⇑S	**Sb**	**22 27 07.1 +2.4**
IML	**Ismayilli** SNR=6.5	**2.61**	**56**	P	**Pn**	**22 26 29.2 +1.2**
GOR	**Gori**	**2.76**	**341**	P	Pg	22 26 43.5 +4.9
GOR				S	**Sg**	**22 27 17.8 +3.5**
LKRN	**Lenkeran, Azer** SNR=15	**2.78**	**103**	⇑P	**Pb**	**22 26 32.7 -2.6**
LKRN				⇑S	**Sb**	**22 27 10.3 +0.9**
LKRN	**Lenkeran, Azer** SNR=15	**2.78**	**103**	P	**Pb**	**22 26 32.7 -2.6**
PQL	**Pirkuli** SNR=5.1	**2.88**	**60**	⇑P	**Pn**	**22 26 33.4 +1.7**
PQL				⇑S	**Sb**	**22 27 14.2 +1.7**
PQL	**Pirkuli** SNR=5.1	**2.88**	**60**	P	**Pn**	**22 26 33.4 +1.7**
VRTB	**Varto-Mus**	**3.01**	**267**	*e*PN	**Pn**	**22 26 35.7 +2.2**
VRTB	**Varto-Mus**	**3.01**	**267**	*e*Pn	**Pn**	**22 26 35.7 +2.2**
ERZM	**Erzurum**	**3.10**	**281**	*e*P	**Pg**	**22 26 44.8 -0.3**
EZM	**Erzurum**	**3.10**	**281**	*e*PN	**Pn**	**22 26 37.0 +2.2**
QUBA	**Quba, Azerbaij** SNR=5.0	**3.12**	**50**	⇓P	**Pn**	**22 26 35.3 +0.3**
QUBA	**Quba, Azerbaij** SNR=5.0	**3.12**	**50**	P	**Pn**	**22 26 35.3 +0.3**
SIZA	**Siyzn** SNR=12	**3.22**	**57**	⇑P	**Pn**	**22 26 36.5 +0.1**
SIZA	**Siyzn** SNR=12	**3.22**	**57**	P	**Pn**	**22 26 36.5 +0.1**
BTMT	**Batman**	**3.22**	**250**	*e*PN	**Pb**	**22 26 41.6 -1.4**
BTMT	**Batman**	**3.22**	**250**	*e*Pn	**Pb**	**22 26 41.6 -1.4**
ONI	**Oni**	**3.50**	**337**	P	**Pb**	**22 26 47.6 -0.1**
ONI				S	**Sb**	**22 27 32.6 +2.2**
BNGB	**Bing¯¶l**	**3.63**	**265**	*e*PN	**Pn**	**22 26 44.4 +2.4**
BINT	**Bingol**	**3.79**	**264**	*e*Pn	**Pn**	**22 26 44.4 +0.1**

IDC 25 22:32:56.9±24.0, 18°15S×173°21W, h0km, mb4.6/4, mb1 4.7/4, mb1mx4.0/22, mbtmp4.6/4, Error ellipse: s-maj=452.4km s-min=148.3km az=73.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower** 4.6nm,0.3s	**38.28**	**260**	*e*P	P	22 40 20.0	+0.6
CTA	**Charters Tower** 6.3nm,0.3s,baz=90,slow=9.8,SNR=12	**38.28**	**260**	P	P	22 40 20.2	+0.9
CMSA	**Cobar Meteorol** 16nm,0.6s	**39.37**	**242**	*e*P	P	22 40 28.7	+0.3
QLP	**Quilpie**	**40.09**	**250**	*e*P	P	22 40 34.1	-0.3
STKA	**Stephens Creek** 2.7nm,0.8s	**42.88**	**243**	*e*P	P	22 40 57.1	-0.2
STKA	**Stephens Creek** 1.8nm,0.5s,baz=86,slow=9.9,SNR=7.3	**42.88**	**243**	P	P	22 40 57.2	-0.1
BBOO	**Buckleboo** 45nm,0.6s	**47.63**	**242**	*e*P	P	22 41 34.9	-0.2
WRA	**Warramunga Arr** 2.5nm,0.3s,baz=97,slow=7.7,SNR=52	**49.45**	**259**	P	P	22 41 48.5	-0.7
ASAR	**Alice Springs** 6.0nm,0.8s,baz=86,slow=8.2,SNR=50	**49.48**	**255**	P	P	22 41 49.0	-0.5

IDC 25 22:37:24.5±2.0, 6°96S×129°04E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=118.9km s-min=31.6km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=338,slow=14,SNR=11	**13.90**	**159**	Pn	Pn	22 40 42.9	0.0
WRA				Sn	Sn	22 43 04.5	-14
ASAR	**Alice Springs** 0.1nm,0.3s,baz=332,slow=9.5,SNR=2.7	**17.26**	**165**	P	Pn	22 41 27.2	0.0
MKAR	**Makanchi Array** 0.3nm,0.5s,baz=119,slow=8.1,SNR=12	**67.67**	**327**	P	P	22 48 23.6	0.0

*PGC **25** 22:46:43.8±4.1, 58°.39N×137°.06W, h5km, ML2.7/3, 132km Wsw of Haines, Ak Southeastern Alaska*
NEIC 25 22:46:42.6, 58°.35N×137°.32W, h3km, ML2.5(AEIC)**, 5D, After AEIC., Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKAG	**Skagway**	**1.52**	**42**	P	Pn	22 47 09.0	-1.8
SKAG				S	Sn	22 47 29.3	-1.8
SIT	**Sitka**	**1.68**	**140**	P	Pn	22 47 10.9	-1.9
SIT				S	Sn	22 47 33.2	-1.7
PNL	**Peninsula**	**1.71**	**322**	P	Pn	22 47 10.6	-2.7
HYT	**Haines Junctio**	**2.49**	**358**	P	Pn	22 47 22.8	-1.4
HYT	**Haines Junctio**	**2.49**	**358**	⇓Pn	Pn	22 47 23.0	-1.2
HYT				⇓Sg	Sn	22 47 57.1	+1.9
WHY	**Whitehorse**	**2.63**	**27**	P	Pn	22 47 24.5	-1.7
WHY				S	Sn	22 47 56.5	-2.2
WHY	**Whitehorse**	**2.63**	**27**	⇓Pn	Pn	22 47 24.5	-1.7
WHY				⇓Pg	Pb	22 47 28.9	-1.7
WHY				⇑Sg	Sb	22 48 03.2	-0.3
TABL	**Table Mountain**	**2.87**	**319**	P	Pn	22 47 29.1	-0.5
DLBC	**Dease Lake**	**3.84**	**86**	P	Pn	22 47 41.1	-1.7
DLBC	**Dease Lake**	**3.84**	**86**	⇓Pn	Pn	22 47 40.6	-2.1
DLBC				⇑Sg	Sb	22 48 41.0	+2.9
DAWY	**Dawson**	**5.83**	**351**	⇑Pn	Pn	22 48 10.7	+0.7

IDC 25 23:33:21.4±1.1, 3°37N×126°63E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/25, mbtmp3.8/8, Error ellipse: s-maj=92.9km s-min=15.3km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 1.8nm,0.8s,baz=354,slow=9.2,SNR=2.1	**21.35**	**183**	P	P	23 38 11.2	+0.8
WRA	**Warramunga Arr** 3.3nm,0.6s,baz=340,slow=9.9,SNR=35	**24.37**	**162**	P	P	23 38 40.9	-0.5
ASAR	**Alice Springs** 0.3nm,0.3s,baz=340,slow=7.1,SNR=4.3	**27.79**	**166**	P	P	23 39 12.6	+0.2
STKA	**Stephens Creek** 6.6nm,0.7s,baz=347,slow=9.0,SNR=12	**37.83**	**159**	P	P	23 40 39.6	-0.2
SONM	**Songino Array** 0.2nm,0.4s,baz=169,slow=8.7,SNR=4.7	**47.61**	**342**	P	P	23 41 58.9	-0.4
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=124,slow=7.2,SNR=8.7	**57.80**	**325**	P	P	23 43 15.2	+0.6
KURBB	**Kurchatov Arra** 0.6nm,0.6s,baz=129,slow=6.0,SNR=9.4	**61.99**	**328**	P	P	23 43 43.3	0.0
BVAR	**Borovoye Array** 0.2nm,0.4s,baz=139,slow=7.7,SNR=4.2	**67.57**	**327**	P	P	23 44 19.0	-0.7

IDC 25 23:35:20.9±1.2, 3°44N×126°78E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/23, mbtmp3.5/6, Error ellipse: s-maj=134.8km s-min=17.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.6nm,0.5s,baz=341,slow=9.6,SNR=6.1	**24.39**	**163**	P	P	23 40 40.7	-0.5
ASAR	**Alice Springs** 0.3nm,0.3s,baz=344,slow=10.0,SNR=3.1	**27.82**	**166**	P	P	23 41 11.8	-0.3
STKA	**Stephens Creek** 2.1nm,0.7s,baz=341,slow=9.6,SNR=5.7	**37.84**	**159**	P	P	23 42 39.8	+0.3
SONM	**Songino Array** 0.2nm,0.8s,baz=158,slow=6.5,SNR=3.4	**47.58**	**341**	P	P	23 43 58.0	-0.7
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=120,slow=6.9,SNR=3.7	**57.82**	**325**	P	P	23 45 15.4	+1.0
KURBB	**Kurchatov Arra** 0.3nm,0.7s,baz=128,slow=7.4,SNR=4.3	**62.01**	**327**	P	P	23 45 42.6	-0.4

IDC 25 23:37:03.7±1.3, 3°68N×126°60E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/24, mbtmp3.7/6, MS3.0/1, Ms1 3.0/1, ms1mx2.5/34, Error ellipse: s-maj=132.8km s-min=18.9km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** comp=Z,35nm,18.7s,baz=35,slow=39	**21.67**	**182**	LR	LR	23 51 15.0	
WRA	**Warramunga Arr** 1.3nm,0.5s,baz=343,slow=10,SNR=9.0	**24.68**	**162**	P	P	23 42 25.8	-0.9
ASAR	**Alice Springs** 0.2nm,0.3s,baz=340,slow=10,SNR=3.6	**28.10**	**166**	P	P	23 42 58.4	+0.9
SONM	**Songino Array** 0.3nm,0.7s,baz=154,slow=7.3,SNR=3.6	**47.30**	**342**	P	P	23 45 39.7	+0.5
MKAR	**Makanchi Array** 0.4nm,0.4s,baz=122,slow=6.7,SNR=9.0	**57.52**	**325**	P	P	23 46 54.8	-0.2
KURBB	**Kurchatov Arra** 1.0nm,0.6s,baz=129,slow=6.2,SNR=18	**61.71**	**327**	P	P	23 47 23.2	-0.5
BVAR	**Borovoye Array** 1.2nm,1.0s,baz=133,slow=8.1,SNR=4.6	**67.29**	**327**	P	P	23 48 00.5	+0.3

*LDG **25** 23:38:53.4±0.1, 46°.03N×6°.90E, h4km, Md1.6/2, Ml1.5/3, Error ellipse: s-maj=2.1km s-min=0.8km az=118.0*
*ZUR **25** 23:38:53.6, 46°.04N×6°.90E, h4km±2km, ML1.0/4*
*CSEM **25** 23:38:53.2±0.1, 46°.03N×6°.86E, h5km, ML1.6/9, Error ellipse: s-maj=4.3km s-min=1.6km az=120.0*
ISC 25 23:38:53.5±0.9, 46°03N±0°.03×6°89E±0°.04, h7km±10km, n20, σ0°51/40, 8C, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SALAN	**Lac Salanfe** 58nm,0.1s	**0.13**	**28**	⇑*i*Pg	**Pg**	**23 38 56.4**	**0.0**
SALAN				*e*Sg	**Sg**	**23 38 58.3**	**-0.1**
SALAN	**Lac Salanfe** 58nm,0.1s	**0.13**	**28**	⇑*i*Pg	**Pg**	**23 38 56.4**	**0.0**
SALAN				*e*Sg	**Sg**	**23 38 58.3**	**-0.1**
AIGLE	**Aigle** 45nm,0.5s	**0.32**	**8**	⇑*i*Pg	**Pg**	**23 38 59.7**	**0.0**
AIGLE				*i* Sg	**Sg**	**23 39 03.7**	**-0.2**
AIGLE	**Aigle** 45nm,0.5s	**0.32**	**8**	⇑*i*Pg	**Pg**	**23 38 59.7**	**0.0**
AIGLE				*i* Sg	**Sg**	**23 39 03.7**	**-0.2**
DIX	**Grande Dixence** 67nm,0.2s	**0.37**	**82**	⇑*i*Pg	**Pg**	**23 39 01.0**	**+0.2**
DIX				*i* Sg	**Sg**	**23 39 05.9**	**+0.3**
DIX	**Grande Dixence** 67nm,0.2s	**0.37**	**82**	⇑*i*Pg	**Pg**	**23 39 01.0**	**+0.2**
DIX				*i* Sg	**Sg**	**23 39 05.9**	**+0.3**
RSL	**Roselend**	**0.39**	**208**	Pg	**Pb**	**23 39 01.9**	**-0.9**
RSL				Sg	**Sg**	**23 39 06.7**	**+0.5**
RSL	**Roselend**	**0.39**	**208**	Pg	**Pb**	**23 39 01.9**	**-0.9**
RSL				Sg	**Sg**	**23 39 06.7**	**+0.5**
SENIN	**Lac Senin/Sane** 8.9nm,0.1s	**0.44**	**41**	⇑*i*Pg	**Pg**	**23 39 02.0**	**-0.1**
SENIN				*e*Sg	**Sg**	**23 39 07.8**	**-0.1**
SENIN	**Lac Senin/Sane** 8.9nm,0.1s	**0.44**	**41**	⇑*i*Pg	**Pg**	**23 39 02.0**	**-0.1**
SENIN				*e*Sg	**Sg**	**23 39 07.8**	**-0.1**
LPL	**La Plagne** 2.3nm,0.2s	**0.52**	**192**	*e*Pg	**Pg**	**23 39 03.5**	**-0.2**
LPL				*e*Sg	**Sg**	**23 39 10.9**	**+0.4**
LPL	**La Plagne** 1.1nm,0.2s	**0.52**	**192**	*e*Pg	**Pg**	**23 39 03.5**	**-0.2**
LPL				*e*Sg	**Sg**	**23 39 10.9**	**+0.4**
LPG	**La Plagne** 2.8nm,0.2s	**0.54**	**190**	*e*Pg	**Pg**	**23 39 04.1**	**+0.1**
LPG				*e*Sg	**Sg**	**23 39 11.1**	**0.0**
LPG	**La Plagne** 1.4nm,0.2s	**0.54**	**190**	*e*Pg	**Pg**	**23 39 04.1**	**+0.1**
LPG				*e*Sg	**Sg**	**23 39 11.1**	**0.0**
MBDF	**Montbardon** 0.9nm,0.2s	**1.30**	**184**	*e*Pg	**Pn**	**23 39 18.0**	**-0.3**
MBDF				*e*Sg	**Sg**	**23 39 34.9**	**-0.6**
MBDF	**Montbardon** 0.4nm,0.2s	**1.30**	**184**	*e*Pg	**Pn**	**23 39 18.0**	**-0.3**
MBDF				*e*Sg	**Sg**	**23 39 34.9**	**-0.6**
ORIF	**Oris-en-Rattie** 0.8nm,0.3s	**1.32**	**213**	*e*Pg	**Pn**	**23 39 18.2**	**-0.2**
ORIF				*e*Sg	**Sg**	**23 39 34.8**	**-1.0**
ORIF	**Oris-en-Rattie** 0.4nm,0.3s	**1.32**	**213**	*e*Pg	**Pn**	**23 39 18.2**	**-0.2**
ORIF				*e*Sg	**Sg**	**23 39 34.8**	**-1.0**
VIVF	**Saint-Julien-l** 0.6nm,0.2s	**1.95**	**234**	*e*Pg	**Pb**	**23 39 29.8**	**+0.4**
VIVF				*e*Sg	**Sb**	**23 39 55.1**	**+1.2**
VIVF	**Saint-Julien-l** 0.3nm,0.2s	**1.95**	**234**	*e*Pg	**Pb**	**23 39 29.8**	**+0.4**
VIVF				*e*Sg	**Sb**	**23 39 55.1**	**+1.2**

*ISCJB **25** 23:51:33.0±0.7, 23°.25N±0°.06×92°.81E±0°.06, h37km±8km, mb4.3/25, MS3.6/6, Error ellipse: s-maj=13.4km s-min=4.8km az=42.6*
*NEIC **25** 23:51:35.5±0.3, 23°.29N×92°.82E, h35km, mb4.5/7, Error ellipse: s-maj=10.8km s-min=4.8km az=52.0*
*IDC **25** 23:51:35.5±0.6, 23°.27N×92°.83E, h41km±5km, mb3.9/19, mb1 4.0/20, mb1mx3.9/31, mbtmp3.9/20, ML4.0/1, MS3.7/6, Ms1 3.7/6, ms1mx3.1/37, Error ellipse: s-maj=28.6km s-min=10.2km az=57.0*
ISC 25 23:51:35.3±0.6, 23°23N±0°08×92°72E±0°08, h41km±4km, h41km:pP-P, n86, σ1s39/116, mb4.3/25, MS3.6/6, 1D, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**2.45**	**342**	⇓*i*PN	Pn	23 52 23.0	+10
SHL				*i* SN	**Sn**	**23 52 40.0**	**-1.7**
ODAN	**Odare**	**6.03**	**308**	*e*Pn	**Pn**	**23 53 04.4**	**+2.2**
ODAN				*e*Sn	**Sn**	**23 54 09.6**	**-0.6**
ODAN	**Odare** 266nm,0.6s	**6.03**	**308**	*e*Pn	**Pn**	**23 53 04.4**	**+2.2**
ODAN				*e*Sn	**Sn**	**23 54 09.6**	**-0.6**
TAPN	**Taplejung** 145nm,0.4s	**6.11**	**313**	*e*Pn	**Pn**	**23 53 05.4**	**+2.0**
TAPN				*e*Sn	**Sn**	**23 54 10.7**	**-1.5**
TAPN	**Taplejung**	**6.11**	**313**	*e*Pn	**Pn**	**23 53 05.4**	**+2.0**
TAPN				*e*Sn	**Sn**	**23 54 10.7**	**-1.5**
RAMN	**Ramite**	**6.67**	**305**	*e*Pn	**Pn**	**23 53 13.3**	**+2.3**
RAMN	**Ramite**	**6.67**	**305**	*e*Pn	**Pn**	**23 53 13.3**	**+2.3**
CHTO	**Chiang Mai** 7.4nm,0.8s	**7.29**	**126**	*e*Pn	**Pn**	**23 53 18.9**	**-0.4**
CHTO				*e*Sn	**Sn**	**23 54 39.5**	**-1.3**
JIRN	**Jiri** 32nm,0.4s	**7.37**	**308**	*e*Pn	**Pn**	**23 53 22.5**	**+1.8**
JIRN				*e*Sn	**Sn**	**23 54 41.6**	**-1.6**
JIRN	**Jiri**	**7.37**	**308**	*e*Pn	**Pn**	**23 53 22.5**	**+1.8**
JIRN				*e*Sn	**Sn**	**23 54 41.6**	**-1.6**
CM31	**Chiang Mai Arr**	**7.51**	**128**	*e*Pn	**Pn**	**23 53 21.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**7.51**	**128**	P	**Pn**	**23 53 22.6**	**+0.2**
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=307,slow=14,SNR=24	**7.51**	**128**	P	**Pn**	**23 53 22.6**	**+0.2**
GUN	**Gumba**	**7.73**	**308**	*e*Pn	**Pn**	**23 53 27.3**	**+1.6**
GUN				*e*Sn	**Sn**	**23 54 50.4**	**-1.8**
GUN	**Gumba** 229nm,0.7s	**7.73**	**308**	*e*Pn	**Pn**	**23 53 27.3**	**+1.6**
GUN				*e*Sn	**Sn**	**23 54 50.4**	**-1.8**
PKI	**Pulchoki**	**7.89**	**305**	*e*Pn	**Pn**	**23 53 29.5**	**+1.6**
PKI	**Pulchoki**	**7.89**	**305**	*e*Pn	**Pn**	**23 53 29.5**	**+1.6**
KKN	**Kakani** 52nm,0.4s	**8.11**	**306**	*e*Pn	**Pn**	**23 53 32.2**	**+1.5**
KKN				*e*Sn	**Sn**	**23 54 59.0**	**-2.2**
KKN	**Kakani**	**8.11**	**306**	*e*Pn	**Pn**	**23 53 32.2**	**+1.5**
KKN				*e*Sn	**Sn**	**23 54 59.0**	**-2.2**
DMN	**Daman**	**8.14**	**304**	*e*Pn	**Pn**	**23 53 33.2**	**+2.0**
DMN	**Daman**	**8.14**	**304**	*e*Pn	**Pn**	**23 53 33.2**	**+2.0**
GKN	**Gorkha**	**8.70**	**305**	*e*Pn	**Pn**	**23 53 40.5**	**+1.7**
GKN				*e*Sn	**Sn**	**23 55 12.3**	**-3.4**
GKN	**Gorkha** 101nm,0.4s	**8.70**	**305**	*e*Pn	**Pn**	**23 53 40.5**	**+1.7**
GKN				*e*Sn	**Sn**	**23 55 12.3**	**-3.4**
KOLN	**Koldanda** 88nm,0.4s	**9.39**	**301**	*e*Pn	**Pn**	**23 53 49.0**	**+0.7**
KOLN				*e*Sn	**Sn**	**23 55 28.5**	**-4.3**
KOLN	**Koldanda**	**9.39**	**301**	*e*Pn	**Pn**	**23 53 49.0**	**+0.7**
KOLN				*e*Sn	**Sn**	**23 55 28.5**	**-4.3**
DANN	**Dangsing**	**9.54**	**304**	*e*Pn	**Pn**	**23 53 50.6**	**+0.1**
DANN	**Dangsing**	**9.54**	**304**	*e*Pn	**Pn**	**23 53 50.6**	**+0.1**
PYUN	**Piuthan**	**10.02**	**301**	*e*Pn	**Pn**	**23 53 56.9**	**-0.1**
PYUN	**Piuthan** 12nm,0.7s	**10.02**	**301**	*e*Pn	**Pn**	**23 53 56.9**	**-0.1**
ENH	**Enshi**	**16.53**	**61**	*e*Pn	**Pn**	**23 55 23.4**	**-0.8**
PSI	**Prapat**	**21.18**	**163**	P	**P**	**23 56 18.3**	**+0.8**
PSI	**Prapat** 4.0nm,0.4s,baz=338,slow=14,SNR=5.4	**21.18**	**163**	P	**P**	**23 56 18.3**	**+0.8**
TKM2	**Tokmak 2** 11nm,0.7s	**24.23**	**328**	*e*P	**P**	**23 56 49.8**	**+1.3**
TKM2	**Tokmak 2** SNR=19	**24.23**	**328**	P	**P**	**23 56 50.6**	**+2.1**
KBK	**Karagaybulak** SNR=7.9	**24.36**	**327**	P	**P**	**23 56 51.9**	**+2.3**
AAK	**Ala-Archa** 22nm,0.8s	**24.57**	**326**	*e*P	**P**	**23 56 53.1**	**+1.6**
AAK	**Ala-Archa** SNR=8.1	**24.57**	**326**	P	**P**	**23 56 53.9**	**+2.4**
AAK	**Ala-Archa** 4.8nm,0.8s,baz=130,slow=6.7,SNR=22	**24.57**	**326**	P	**P**	**23 56 53.5**	**+1.9**
AML	**Almayashu** SNR=6.2	**24.63**	**324**	P	pP	23 57 05.5	+2.0
EKS2	**Erkin-Say** SNR=17	**24.96**	**325**	P	**P**	**23 56 57.2**	**+2.2**
MK31	**Makanchi Array**	**24.97**	**343**	*e*P	**P**	**23 56 55.1**	**+0.2**
MKAR	**Makanchi Array**	**24.97**	**343**	P	**P**	**23 56 55.0**	**+0.1**
MKAR	**Makanchi Array** 12nm,0.8s,baz=156,slow=8.5,SNR=147	**24.97**	**343**	P	**P**	**23 56 55.0**	**+0.1**
MKAR				LR	LR	00 08 23.2	
USP	**Ospenovka** SNR=9.9	**25.03**	**327**	P	**P**	**23 56 58.1**	**+2.5**
SONM	**Songino Array**	**26.87**	**21**	P	**P**	**23 57 10.8**	**-1.5**
SONM				ScP	**ScP**	**00 04 10.3**	**-0.6**
SONM	**Songino Array** 2.8nm,0.9s,baz=207,slow=8.6,SNR=14	**26.87**	**21**	P	**P**	**23 57 10.8**	**-1.5**
SONM				ScP	**ScP**	**00 04 10.3**	**-0.6**
ULN	**Ulaanbaatar** 102nm,0.6s	**27.12**	**21**	*e*P	**P**	**23 57 13.3**	**-1.3**
KURBB	**Kurchatov Arra** 3.8nm,0.7s,baz=156,slow=8.3,SNR=41	**29.49**	**342**	P	**P**	**23 57 35.4**	**0.0**
KURBB				pP	**pP**	**23 57 46.8**	**+0.1**
KURK	**Kurchatov** 6.6nm,1.1s	**29.55**	**342**	*e*P	**P**	**23 57 35.7**	**-0.2**
KURK				pP	**pP**	**23 57 46.8**	**-0.4**
ZAA0	**Zalesovo Array** ZAA0	**31.25**	**351**	*e*P	**P**	**23 57 50.2**	**-0.6**
				e		23 58 01.2	
ZALV	**Zalesovo Beam** ZALV	**31.25**	**351**	P	**P**	**23 57 50.6**	**-0.2**
				pP	**pP**	**23 58 02.2**	**+0.1**
ZALV	**Zalesovo Beam** 6.1nm,0.7s,baz=172,slow=8.6,SNR=38	**31.25**	**351**	P	**P**	**23 57 50.6**	**-0.2**
ZALV				pP	**pP**	**23 58 02.2**	**+0.1**
KSRS	**Korea Array** comp=Z,35nm,19.5s,baz=286,slow=41	**33.32**	**57**	LR	LR	00 14 06.4	
ABKAR	**Akbulak array** 4.8nm,0.7s	**36.58**	**323**	*e*P	**P**	**23 58 38.6**	**+1.4**
AKTO	**Aktyubinsk**	**38.27**	**324**	P	**P**	**23 58 52.5**	**+1.0**
AKTO	**Aktyubinsk** 2.6nm,0.7s,baz=122,slow=9.7,SNR=13	**38.27**	**324**	P	**P**	**23 58 52.5**	**+1.0**
FITZ	**Fitzroy Crossi** 2.1nm,0.8s,baz=342,slow=6.4,SNR=4.1	**52.17**	**139**	P	**P**	**00 00 41.3**	**-0.8**
AKASG	**Malin Array Be** AKASG	**55.68**	**316**	P	**P**	**00 01 06.9**	**-0.4**
				pP	**pP**	**00 01 19.2**	**0.0**
AKASG	**Malin Array Be** 1.6nm,0.6s,baz=83,slow=6.4,SNR=6.1	**55.68**	**316**	P	**P**	**00 01 06.9**	**-0.4**
AKASG				pP	**pP**	**00 01 19.2**	**0.0**
FINES	**FINESS Array B** 1.9nm,0.6s,baz=86,slow=6.2,SNR=5.1	**58.72**	**329**	P	**P**	**00 01 28.6**	**0.0**
FINES				pP	**pP**	**00 01 40.9**	**+0.3**
FINES	**FINESS Array B** 1.4nm,0.7s,baz=96,slow=8.4,SNR=4.9	**58.72**	**329**	P	**P**	**00 01 28.6**	**0.0**
FINES				pP	**pP**	**00 01 40.9**	**+0.3**
WRA	**Warramunga Arr** 1.8nm,0.7s,baz=111,slow=10,SNR=3.3	**59.07**	**133**	P	**P**	**00 01 31.4**	**-0.2**
WRA				PcP	**PcP**	**00 02 19.7**	**-0.5**
WRA	**Warramunga Arr** 2.1nm,0.5s,baz=322,slow=7.4,SNR=48	**59.07**	**133**	P	**P**	**00 01 31.4**	**-0.2**
WRA				PcP	**PcP**	**00 02 19.7**	**-0.5**
WRA	1.8nm,0.7s,baz=328,slow=3.6,SNR=11			LR	LR	00 27 49.8	
WRAB	**Tennant Creek** comp=Z,112nm,20.0s,baz=300,slow=37	**59.07**	**133**	*e*P	**P**	**00 01 31.0**	**-0.7**
WRAB	2.0nm,0.5s			*e*PcP	**PcP**	**00 02 20.1**	**-0.1**
ARCES	**ARCESS Array B**	**60.50**	**338**	P	**P**	**00 01 40.9**	**+0.1**
ARCES	**ARCESS Array B** 4.2nm,1.0s,baz=96,slow=6.5,SNR=4.0	**60.50**	**338**	P	**P**	**00 01 40.9**	**+0.1**
ASAR	**Alice Springs**	**61.43**	**137**	P	**P**	**00 01 48.2**	**+0.5**
ASAR	**Alice Springs** 3.2nm,0.5s,baz=318,slow=6.2,SNR=34	**61.43**	**137**	P	**P**	**00 01 48.2**	**+0.5**
HFS	**Hagfors**	**64.71**	**327**	P	**P**	**00 02 08.5**	**-0.5**
HFS	**Hagfors** 2.4nm,0.7s,baz=104,slow=6.3,SNR=6.6	**64.71**	**327**	P	**P**	**00 02 08.5**	**-0.5**
GERES	**GERESS Array B**	**65.78**	**315**	P	**P**	**00 02 15.9**	**-0.4**
GERES				pP	**pP**	**00 02 29.4**	**+1.0**
GERES	**GERESS Array B** 0.9nm,0.6s,baz=64,slow=6.2,SNR=5.2	**65.78**	**315**	P	**P**	**00 02 15.9**	**-0.4**
GERES	1.5nm,0.7s,baz=69,slow=7.3,SNR=6.8			pP	**pP**	**00 02 29.4**	**+1.0**
GERES				LR	LR	00 36 12.0	
NOA	**NORSAR Array B**	**65.87**	**328**	P	**P**	**00 02 16.6**	**0.0**
NOA	**NORSAR Array B** 1.3nm,0.8s,baz=86,slow=6.2,SNR=3.3	**65.87**	**328**	P	**P**	**00 02 16.6**	**0.0**
STKA	**Stephens Creek** 1.8nm,0.6s,baz=340,slow=11,SNR=6.7	**72.03**	**138**	P	**P**	**00 02 54.6**	**-0.5**
STKA				LR	LR	00 37 32.9	
ILAR	**Eielson Array** comp=Z,164nm,18.5s,baz=271,slow=38	**81.09**	**22**	P	**P**	**00 03 46.0**	**+0.1**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=286,slow=4.1,SNR=5.2	**81.09**	**22**	P	**P**	**00 03 46.0**	**+0.1**
INK	**Inuvik** 6.8nm,1.0s	**82.67**	**16**	*e*P	**P**	**00 03 53.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**85.83**	**282**	pP	pP	00 04 24.3	+0.7
TORD	**Torodi Ar. Bea** 0.9nm,0.8s,baz=67,slow=3.5,SNR=5.1	**85.83**	**282**	pP	pP	00 04 24.3	+0.7
YKA	**Yellowknife Ar**	**91.84**	**12**	P	**P**	**00 04 39.9**	**+1.1**
YKA				pP	**pP**	**00 04 51.0**	**-0.4**
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=332,slow=3.9,SNR=2.7	**91.84**	**12**	P	**P**	**00 04 39.9**	**+1.1**
YKA				pP	**pP**	**00 04 50.9**	**-0.4**
TXAR	**Lajitas Array**

JIH				*e*S		**Sn**	23 57 11.8	-1.0
YOJ	**Yonaguni jima**	**2.60**	**234**	P		**Pn**	23 56 41.2	-0.6
JOW	**Kunigami**	**2.78**	**73**	P		**Pn**	23 56 44.1	0.0
JOW	**Kunigami**	**2.78**	**73**	P		**Pn**	23 56 43.9	-0.2
	9.3nm,0.3s,baz=262,slow=14,SNR=10.0							
JOW				S		**Sn**	23 57 14.8	-2.6
	15nm,0.3s,baz=312,slow=18,SNR=9.2							
JTK	**Tokunoshima**	**3.69**	**61**	P		**Pn**	23 56 56.1	-0.1
JTK				*e*S		**Sn**	23 57 37.2	-1.8
JAM	**Amami Oshima**	**4.50**	**57**	P		**Pn**	23 57 06.9	-0.1
JMZ	**Minamidaito 2**	**5.33**	**91**	*e*S		Sn	23 58 09.5	-8.9
SONM	**Songino Array**	**26.36**	**331**	P		**P**	**00 01 27.1**	**+0.8**
	0.5nm,0.6s,baz=153,slow=9.3,SNR=4.5							
MKAR	**Makanchi Array**	**39.72**	**313**	P		**P**	**00 03 22.5**	**+0.5**
	0.6nm,0.4s,baz=99,slow=9.9,SNR=18							
ZALV	**Zalesovo Beam**	**40.84**	**324**	P		**P**	**00 03 30.4**	**-0.6**
	1.1nm,0.7s,baz=106,slow=8.6,SNR=6.9							
KURBB	**Kurchatov Arra**	**43.20**	**317**	P		**P**	**00 03 50.5**	**+0.2**
	0.7nm,0.4s,baz=107,slow=8.9,SNR=14							
WRA	**Warramunga Arr**	**46.53**	**168**	P		**P**	**00 04 16.4**	**-0.6**
	0.8nm,0.6s,baz=351,slow=8.5,SNR=8.0							
ASAR	**Alice Springs**	**50.10**	**170**	P		**P**	**00 04 43.8**	**-0.5**
	0.6nm,0.7s,baz=355,slow=9.3,SNR=4.4							
ILAR	**Eielson Array**	**65.85**	**28**	P		**P**	**00 06 34.5**	**+0.8**
	0.3nm,0.5s,baz=294,slow=8.8,SNR=7.4							
YKA	**Yellowknife Ar**	**79.79**	**24**	P		**P**	**00 07 56.5**	**+0.5**
	0.7nm,0.6s,baz=306,slow=5.0,SNR=12							

IDC 25 23:57:03.1±2.9,30°37N×140°97E,h0km,mb3.3/4,
mb1 3.5/5,mb1mx3.2/35,mbtmp3.3/5,ML3.3/1,MS2.9/1,
Ms1 2.9/1,ms1mx2.2/17,Error ellipse: s-maj=82.3km
s-min=28.7km az=75.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MJAR	**Matsushiro Arr**	**6.58**	**340**	Pn	Pn		23 58 40.6	-0.5
	0.6nm,0.3s,baz=147,slow=11,SNR=3.5							
USRK	**Ussuriysk Arra**	**15.53**	**335**	LR	LR		00 06 38.0	
	comp=Z,46nm,20.6s,baz=184,slow=37							
CMAR	**Chiang Mai Arr**	**39.86**	**263**	P		P	00 04 38.3	-0.3
	0.3nm,0.4s,baz=54,slow=9.1,SNR=3.5							
MKAR	**Makanchi Array**	**47.61**	**307**	P		P	00 05 41.4	+0.6
	0.1nm,0.5s,baz=90,slow=8.8,SNR=3.5							
KURBB	**Kurchatov Arra**	**50.03**	**313**	P		P	00 05 58.6	-0.6
	0.2nm,0.4s,baz=82,slow=6.6,SNR=2.6							
WRA	**Warramunga Arr**	**50.42**	**188**	P		P	00 06 02.4	-0.1
	0.2nm,0.4s,baz=6.9,slow=7.7,SNR=6.2							

*DDA **26** 00:00:35.7,36°.70N×27°.11E,h9km,MD3.6*
*IDC **26** 00:00:36.2±1.0,36°.71N×27°.13E,h0km,mb3.6/8,*
mb1 3.7/12,mb1mx3.6/30,mbtmp3.7/12,ML3.7/4,MS3.5/1,
Ms1 3.5/1,ms1mx2.3/47,Error ellipse: s-maj=24.3km
s-min=18.2km az=164.0
*ISK **26** 00:00:36.8,36°.67N×27°.19E,h10km,ML3.7*
*ATH **26** 00:00:37.7,36°.72N×27°.43E,h78km±2km,ML3.9*
*ISCJB **26** 00:00:37.7±0.6,36°.68N±0°.02×27°.25E±0°.02,h12km±4km,*
mb3.6/8,Error ellipse: s-maj=3.5km s-min=3.2km az=2.1
*CSEM **26** 00:00:37.7±0.1,36°.68N×27°.24E,h2km,ML3.7,Error*
ellipse: s-maj=2.8km s-min=2.7km az=8.0
ISC 26 00:00:37.9±0.9,36°.70N±0°.02×27°.22E±0°.02,h12km±7km,
n151,σ1§35/175,mb3.6/8,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
DAT	**Datca**	**0.29**	**84**	PG		**Pg**	**00 00 43.5**	**-0.4**
DAT				*e*SG		**Sg**	**00 00 48.5**	**+0.6**
DAT	**Datca**	**0.29**	**84**	*i* Pg		**Pg**	00 00 43.5	-0.4
DAT				*e*Sg		**Sg**	**00 00 48.5**	**+0.6**
BODT	**Bodrum**	**0.37**	**11**	*e*PG		**Pg**	**00 00 44.7**	**-0.6**
BODT	**Bodrum**	**0.37**	**11**	*e*Pg		**Pg**	**00 00 44.7**	**-0.6**
MLSB	**Milas**	**0.74**	**37**	*e*PG		**Pg**	**00 00 52.4**	**+0.1**
MLSB	**Milas**	**0.74**	**37**	*e*Pg		**Pg**	**00 00 52.4**	**+0.1**
ARG	**Arkhangelos**	**0.88**	**123**	*e*P		**Pg**	**00 00 54.4**	**-0.5**
ARG				*e*S		**Sb**	**00 01 07.1**	**+0.3**
ARG	**Arkhangelos**	**0.88**	**123**	*e*P		**Pg**	**00 00 54.4**	**-0.5**
ARG				*e*S		**Sb**	**00 01 07.1**	**+0.3**
YER	**Yerkesik**	**0.96**	**63**	*e*PG		**Pg**	**00 00 56.3**	**-0.1**
YER	**Yerkesik**	**0.96**	**63**	*e*Pg		**Pg**	**00 00 56.3**	**-0.1**
GCAM	**G?zelcaml?**	**1.00**	**1**	*i* P		**Pg**	**00 00 56.3**	**-0.9**
GCAM				*i* S		**Sb**	**00 01 11.4**	**+1.2**
GCAM	**G?zelcaml?**	**1.00**	**1**	*i* P		**Pg**	**00 00 56.3**	**-0.9**
GCAM				*i* S		**Sb**	**00 01 11.4**	**+1.2**
AYDN	**Tasoluk**	**1.09**	**29**	*i* P		**Pb**	**00 00 58.2**	**-0.6**
AYDN				*i* S		**Sb**	**00 01 12.2**	**-0.9**
AYDN	**Tasoluk**	**1.09**	**29**	*i* P		**Pb**	**00 00 58.2**	**-0.6**
AYDN				*i* S		**Sb**	**00 01 12.2**	**-0.9**
TURN	**Turunc**	**1.12**	**81**	*i* P		Pb	00 00 52.9	-6.4
TURN				*i* S		Sb	00 01 04.1	-10
KARP	**Karpathos**	**1.15**	**182**	*e*P		**Pb**	**00 00 59.3**	**-0.5**
KARP				*e*S		**Sn**	**00 01 15.7**	**+0.1**
KARP	**Karpathos**	**1.15**	**182**	*e*P		**Pb**	**00 00 59.3**	**-0.5**
KARP				*e*S		**Sn**	**00 01 15.7**	**+0.1**
APE	**Apeiranthos**	**1.40**	**286**	*e*P		**Pg**	**00 01 04.8**	**-0.1**
APE				*e*S		**Sg**	**00 01 24.8**	**+1.7**
APE	**Apeiranthos**	**1.40**	**286**	*e*P		**Pg**	**00 01 04.8**	**-0.1**
APE				*e*S		**Sg**	**00 01 24.8**	**+1.7**
FETY	**Fethiye**	**1.50**	**92**	*e*PN		**Pn**	**00 01 04.8**	**+0.1**
FETY	**Fethiye**	**1.50**	**92**	*e*Pn		**Pn**	**00 01 04.8**	**+0.1**
IZM	**Izmir**	**1.69**	**1**	*e*PN		**Pn**	**00 01 07.9**	**+0.5**
IZM	**Izmir**	**1.69**	**1**	*e*Pn		**Pn**	**00 01 07.9**	**+0.5**
DNZL	**Cakiroluk**	**1.76**	**55**	*i* P		**Pn**	**00 01 09.3**	**+0.9**
DNZL				*i* S		**Sg**	**00 01 36.9**	**+2.3**
DNZL	**Cakiroluk**	**1.76**	**55**	*i* P		**Pn**	**00 01 09.3**	**+0.9**
DNZL				*i* S		**Sg**	**00 01 36.9**	**+2.3**
ZKR	**Zakros**	**1.78**	**207**	*e*P		**Pb**	**00 01 09.5**	**-1.0**
ZKR				*e*S		**Sb**	**00 01 32.6**	**-0.2**
ZKR	**Zakros**	**1.78**	**207**	*e*P		**Pb**	**00 01 09.5**	**-1.0**
ZKR				*e*S		**Sb**	**00 01 32.6**	**-0.2**
CHOS	**Chios island**	**1.92**	**332**	*e*P		**Pn**	**00 01 10.7**	**+0.2**
CHOS	**Chios island**	**1.92**	**332**	*e*P		**Pn**	**00 01 10.7**	**+0.2**
NPS	**Neapolis**	**1.94**	**223**	*e*P		**Pn**	**00 01 11.5**	**+0.8**
NPS	**Neapolis**	**1.94**	**223**	*e*P		**Pn**	**00 01 11.5**	**+0.8**
GOLH	**Golhisar**	**1.95**	**73**	*i* P		**Pb**	**00 01 12.8**	**-0.7**
GOLH				*e*S		**Sg**	**00 01 40.8**	**+0.2**
GOLH	**Golhisar**	**1.95**	**73**	*i* P		**Pb**	**00 01 12.8**	**-0.7**
GOLH				*e*S		**Sg**	**00 01 40.8**	**+0.2**
LAST	**Lasithi**	**2.09**	**223**	*e*P		**Pn**	**00 01 14.0**	**+1.2**
LAST	**Lasithi**	**2.09**	**223**	*e*P		**Pn**	**00 01 14.0**	**+1.2**
KULA	**Kula-Manisa**	**2.14**	**32**	*e*PN		**Pn**	**00 01 14.1**	**+0.5**
KULA	**Kula-Manisa**	**2.14**	**32**	*e*Pn		**Pn**	**00 01 14.1**	**+0.5**
AKHS	**Akhisar**	**2.22**	**12**	*e*P		**Pn**	**00 01 13.6**	**-1.0**
AKHS				*i* S		**Sg**	**00 01 50.0**	**+0.5**
AKHS	**Akhisar**	**2.22**	**12**	*e*P		**Pn**	**00 01 13.6**	**-1.0**
AKS	**Akhisar**	**2.22**	**12**	*e*PN		**Pn**	**00 01 15.5**	**+0.9**
AKS	**Akhisar**	**2.22**	**12**	*e*Pn		**Pn**	**00 01 15.5**	**+0.9**
KHL	**Karahalli**	**2.44**	**48**	*e*PN		**Pn**	**00 01 18.6**	**+0.8**
KHL	**Karahalli**	**2.44**	**48**	*e*Pn		**Pn**	**00 01 18.6**	**+0.8**
KORT	**Korkueli**	**2.53**	**82**	*i* P		**Pb**	**00 01 22.1**	**-1.2**
KORT				*i* S		**Sn**	**00 01 51.9**	**+2.1**
KORT	**Korkueli**	**2.53**	**82**	*i* P		**Pb**	**00 01 22.1**	**-1.2**
KORT				*i* S		**Sn**	**00 01 51.9**	**+2.1**
SIVA	**Sivas**	**2.58**	**230**	*e*P		**Pn**	**00 01 21.0**	**+1.5**
SIVA	**Sivas**	**2.58**	**230**	*e*P		**Pn**	**00 01 21.0**	**+1.5**
PRK	**Paraskevi**	**2.65**	**344**	*e*P		**Pn**	**00 01 19.9**	**-0.5**
PRK	**Paraskevi**	**2.65**	**344**	*e*P		**Pn**	**00 01 19.9**	**-0.5**
BCK	**Bucak**	**2.80**	**73**	*e*PN		**Pn**	**00 01 23.6**	**+1.0**
BCK	**Bucak**	**2.80**	**73**	*e*Pn		**Pn**	**00 01 23.6**	**+1.0**
KARN	**Karanos**	**2.97**	**245**	*e*P		**Pn**	**00 01 27.2**	**+2.3**
KARN	**Karanos**	**2.97**	**245**	*e*P		**Pn**	**00 01 27.2**	**+2.3**
BALB	**Balikesir**	**2.98**	**10**	*e*PN		**Pn**	**00 01 26.2**	**+1.2**
BALB	**Balikesir**	**2.98**	**10**	*e*Pn		**Pn**	**00 01 26.2**	**+1.2**
PTL	**Penteli**	**2.99**	**298**	*e*P		**Pn**	**00 01 26.3**	**+1.1**
PTL	**Penteli**	**2.99**	**298**	*e*P		**Pn**	**00 01 26.3**	**+1.1**
BALY	**Balya**	**3.05**	**6**	*i* P		**Pg**	**00 01 35.6**	**-0.8**
BALY				*i* S		**Sg**	**00 02 13.8**	**-2.1**
ATH	**Athens Observa**	**3.07**	**295**	*e*P		**Pn**	**00 01 27.6**	**+1.4**
ATH	**Athens Observa**	**3.07**	**295**	*e*P		**Pn**	**00 01 27.6**	**+1.4**
DST	**Dursunbey**	**3.10**	**20**	*e*PN		**Pn**	**00 01 28.1**	**+1.4**
DST	**Dursunbey**	**3.10**	**20**	*e*Pn		**Pn**	**00 01 28.1**	**+1.4**
NAIG	**Nisos Aigina**	**3.16**	**291**	*e*P		**Pn**	**00 01 29.2**	**+1.7**
NAIG	**Nisos Aigina**	**3.16**	**291**	*e*P		**Pn**	**00 01 29.2**	**+1.7**
SHUT	**Suhut-Afyon**	**3.23**	**54**	*e*PN		**Pn**	**00 01 29.6**	**+1.0**
SHUT	**Suhut-Afyon**	**3.23**	**54**	*e*Pn		**Pn**	**00 01 29.6**	**+1.0**
TVSB	**Tavsanli**	**3.27**	**32**	*e*PN		**Pn**	**00 01 30.2**	**+1.1**
TVSB	**Tavsanli**	**3.27**	**32**	*e*Pn		**Pn**	**00 01 30.2**	**+1.1**
ALT	**Altintas**	**3.28**	**43**	*e*PN		**Pn**	**00 01 30.4**	**+1.2**
ALT	**Altintas**	**3.28**	**43**	*e*Pn		**Pn**	**00 01 30.5**	**+1.2**
DID	**Didima**	**3.28**	**285**	*e*P		**Pn**	**00 01 30.9**	**+1.7**
DID	**Didima**	**3.28**	**285**	*e*P		**Pn**	**00 01 30.9**	**+1.7**
GONE	**Gonen-Balikesi**	**3.36**	**6**	*e*PN		**Pn**	**00 01 31.5**	**+1.3**
GONE	**Gonen-Balikesi**	**3.36**	**6**	*e*Pn		**Pn**	**00 01 31.5**	**+1.3**
VLI	**Veliai**	**3.44**	**272**	*e*P		**Pn**	**00 01 33.2**	**+1.9**
VLI	**Veliai**	**3.44**	**272**	*e*P		**Pn**	**00 01 33.2**	**+1.9**
LIA	**Limnos Island**	**3.57**	**334**	*e*P		**Pn**	**00 01 34.0**	**+0.9**
LIA	**Limnos Island**	**3.57**	**334**	*e*P		**Pn**	**00 01 34.0**	**+0.9**
ORLT	**Orhaneli**	**3.59**	**21**	*e*PN		**Pn**	**00 01 34.9**	**+1.5**
ORLT	**Orhaneli**	**3.59**	**21**	*e*Pn		**Pn**	**00 01 34.9**	**+1.5**
LTK	**Loutraki**	**3.63**	**293**	*e*P		**Pn**	**00 01 35.2**	**+1.2**
LTK	**Loutraki**	**3.63**	**293**	*e*P		**Pn**	**00 01 35.2**	**+1.2**
KCTX	**Karacabey (Bur**	**3.67**	**14**	*e*PN		**Pn**	**00 01 36.0**	**+1.5**
KCTX	**Karacabey (Bur**	**3.67**	**14**	*e*Pn		**Pn**	**00 01 36.0**	**+1.5**
EDC	**Edincik**	**3.67**	**8**	*e*PN		**Pn**	**00 01 35.9**	**+1.3**
EDC	**Edincik**	**3.67**	**8**	*e*Pn		**Pn**	**00 01 35.9**	**+1.3**
GELI	**Tayfur-Gelibol**	**3.74**	**351**	*e*PN		**Pn**	**00 01 36.7**	**+1.3**
GELI	**Tayfur-Gelibol**	**3.74**	**351**	*e*Pn		**Pn**	**00 01 36.7**	**+1.3**
LKR	**Lokris**	**3.87**	**301**	*e*P		**Pn**	**00 01 38.6**	**+1.3**
LKR	**Lokris**	**3.87**	**301**	*e*P		**Pn**	**00 01 38.6**	**+1.3**
VLX	**Vlachokerasia**	**3.93**	**281**	*e*P		**Pn**	**00 01 40.4**	**+2.2**
VLX	**Vlachokerasia**	**3.93**	**281**	*e*P		**Pn**	**00 01 40.4**	**+2.2**
RKY	**Sarkoy-Tekirda**	**3.98**	**360**	*e*PN		**Pn**	**00 01 40.5**	**+1.7**
RKY	**Sarkoy-Tekirda**	**3.98**	**360**	*e*Pn		**Pn**	**00 01 40.5**	**+1.7**
ERIK	**Erikli-Kesan**	**4.00**	**352**	*e*PN		**Pn**	**00 01 40.7**	**+1.7**
ERIK	**Erikli-Kesan**	**4.00**	**352**	*e*Pn		**Pn**	**00 01 40.7**	**+1.7**
ESKT	**Eskisehir**	**4.01**	**44**	*e*PN		**Pn**	**00 01 41.0**	**+1.7**
ESKT	**Eskisehir**	**4.01**	**44**	*e*Pn		**Pn**	**00 01 41.0**	**+1.7**
CAVI	**Cavuskoy**	**4.06**	**30**	*e*PN		**Pn**	**00 01 41.6**	**+1.8**
CAVI	**Cavuskoy**	**4.06**	**30**	*e*Pn		**Pn**	**00 01 41.6**	**+1.8**
GUR	**Goura**	**4.08**	**289**	*e*P		**Pn**	**00 01 42.0**	**+1.8**
GUR	**Goura**	**4.08**	**289**	*e*P		**Pn**	**00 01 42.0**	**+1.8**
NEO	**Neokhori**	**4.09**	**311**	*e*P		**Pn**	**00 01 40.8**	**+0.5**
NEO	**Neokhori**	**4.09**	**311**	*e*P		**Pn**	**00 01 40.8**	**+0.5**
ENEZ	**Enez**	**4.11**	**349**	*e*PN		**Pn**	**00 01 42.3**	**+1.7**
ENEZ	**Enez**	**4.11**	**349**	*e*Pn		**Pn**	**00 01 42.3**	**+1.7**
ADVT	**Abdulvahap**	**4.22**	**27**	*e*PN		**Pn**	**00 01 43.9**	**+1.9**
ADVT	**Abdulvahap**	**4.22**	**27**	*e*Pn		**Pn**	**00 01 43.9**	**+1.9**
ITM	**Ithomi**	**4.27**	**278**	*e*P		**Pn**	**00 01 44.6**	**+1.9**
ITM	**Ithomi**	**4.27**	**278**	*e*P		**Pn**	**00 01 44.6**	**+1.9**
KONT	**Konya--Tatoy**	**4.28**	**72**	*e*PN		**Pn**	**00 01 44.6**	**+1.7**
KONT	**Konya--Tatoy**	**4.28**	**72**	*e*Pn		**Pn**	**00 01 44.7**	**+1.7**
KIZT	**Kizilcal**	**4.29**	**58**	*e*PN		**Pn**	**00 01 44.7**	**+1.7**
KIZT	**Kizilcal**	**4.29**	**58**	*e*Pn		**Pn**	**00 01 44.7**	**+1.7**
ALN	**Alexandroupoli**	**4.29**	**348**	*e*P		**Pn**	**00 01 42.9**	**-0.1**
ALN	**Alexandroupoli**	**4.29**	**348**	*e*P		**Pn**	**00 01 42.9**	**-0.1**
LADK	**Ladik-KONYA**	**4.36**	**68**	*e*PN		**Pn**	**00 01 45.9**	**+1.8**
LADK	**Ladik-KONYA**	**4.36**	**68**	*e*Pn		**Pn**	**00 01 45.9**	**+1.8**
GULT	**Gulveren**	**4.53**	**34**	*e*PN		**Pn**	**00 01 48.4**	**+2.0**
GULT	**Gulveren**	**4.53**	**34**	*e*Pn		**Pn**	**00 01 48.4**	**+2.0**
HRT	**Hereke**	**4.54**	**24**	*e*PN		**Pn**	**00 01 48.4**	**+1.9**
HRT	**Hereke**	**4.54**	**24**	*e*Pn		**Pn**	**00 01 48.4**	**+1.9**
EFP	**Efpalio**	**4.56**	**294**	*e*P		**Pn**	**00 01 48.7**	**+2.0**
EFP	**Efpalio**	**4.56**	**294**	*e*P		**Pn**	**00 01 48.7**	**+2.0**
ERMK	**Ermenek**	**4.58**	**89**	*i* P		**Pn**	**00 01 50.2**	**+3.0**
ERMK				*i* S		**Sn**	**00 02 41.7**	**+1.3**
ERMK	**Ermenek**	**4.58**	**89**	*i* P		**Pn**	**00 01 50.2**	**+3.0**
ERMK				*i* S		**Sn**	**00 02 41.7**	**+1.3**
THL	**Klokotos Trika**	**5.00**	**306**	*e*P		**Pn**	**00 01 54.1**	**+1.3**
THL	**Klokotos Trika**	**5.00**	**306**	*e*P		**Pn**	**00 01 54.1**	**+1.3**
NVR	**Nevrokopi**	**5.33**	**332**	*e*P		**Pn**	**00 01 58.2**	**+0.9**
NVR	**Nevrokopi**	**5.33**	**332**	*e*P		**Pn**	**00 01 58.2**	**+0.9**
BRTR	**Keskin Array B**	**5.89**	**57**	Pn		**Pn**	**00 02 06.9**	**+1.8**
	0.8nm,0.3s,baz=237,slow=16,SNR=47							
MMAI	**Mount Meron Ar**	**7.67**	**116**	Pn		**Pn**	**00 02 29.6**	**+0.1**
	3.5nm,0.3s,baz=305,slow=12,SNR=26							
MMAI				Sn		**Sn**	**00 03 51.3**	**-5.0**
	4.2nm,0.3s,baz=319,slow=22,SNR=7.3							
AMAG	**Maghara**	**7.84**	**139**	P		**Pn**	**00 02 30.7**	**-1.1**
RSH		**7.88**	**135**	P		**Pn**	**00 02 31.6**	**-0.7**
SUZ		**8.30**	**144**	P		**Pn**	**00 02 38.4**	**+0.3**
HNKL	**Nakhl**	**8.81**	**138**	P		**Pn**	**00 02 44.6**	**-0.5**
ASF	**Jabal al Asfar**	**9.18**	**117**	Pn		**Pn**	**00 02 52.2**	**+2.0**
	0.3nm,0.3s,baz=300,slow=14,SNR=5.2							
ASF				Sn		**Sn**	**00 04 31.2**	**-2.3**
	0.2nm,0.3s,baz=16,slow=20,SNR=2.8							
EIL	**Elat**	**9.54**	**135**	Pn		**Pn**	**00 02 55.0**	**-0.2**
	1.2nm,0.3s,baz=310,slow=14,SNR=6.5							
EIL				Sn		Sn	00 04 35.1	-7.2
	0.5nm,0.3s,baz=335,slow=14,SNR=3.8							
TR2		**9.94**	**145**	P		**Pn**	**00 02 59.5**	**-1.1**
HKAT	**Jabal Katrina**	**9.95**	**143**	P		**Pn**	**00 03 00.4**	**-0.6**
HDHB	**Dhahab**	**10.10**	**140**	P		**Pn**	**00 03 02.7**	**-0.1**
TR1		**10.37**	**145**	P		**Pn**	**00 03 06.6**	**+0.1**
DAVOX	**Davos/Dischmat**	**16.36**	**313**	LR		LR	00 10 25.2	
	comp=Z,144nm,18.1s,baz=2.3,slow=36							
ESDC	**Sonseca Array**	**24.63**	**286**	P		**P**	**00 05 57.8**	**-0.4**
	0.8nm,0.7s,baz=78,slow=9.4,SNR=6.0							
FINES	**FINESS Array B**	**24.77**	**359**	P		**P**	**00 05 59.5**	**+0.2**
	3.7nm,1.1s,baz=161,slow=10,SNR=3.2							
AKTO	**Aktyubinsk**	**25.98**	**48**	P		**P**	**00 06 10.4**	**+0.1**
	1.0nm,0.8s,baz=253,slow=11,SNR=4.7							
TORD	**Torodi Ar. Bea**	**32.76**	**231**	P		**P**	**00 07 10.6**	**-0.3**
	0.8nm,0.6s,baz=39,slow=8.8,SNR=6.9							
KURBB	**Kurchatov Arra**	**38.86**	**52**	P		**P**	**00 08 03.5**	**+0.7**
	0.8nm,0.6s,baz=275,slow=8.7,SNR=16							
MKAR	**Makanchi Array**	**41.54**	**58**	P		**P**	**00 08 25.7**	**+0.5**
	1.4nm,0.6s,baz=282,slow=6.6,SNR=24							
ZALV	**Zalesovo Beam**	**42.73**	**47**	P		**P**	**00 08 34.5**	**-0.3**
	0.3nm,0.4s,baz=280,slow=8.6,SNR=2.7							
SONM	**Songino Array**	**57.22**	**52**	P		**P**	**00 10 25.5**	**+0.4**
	0.3nm,0.8s,baz=292,slow=7.3,SNR=5.2							

*DJA **26** 00:03:27,1°.12N×96°.68E,h10km,MLv4.9/11*
*BJI **26** 00:03:27.4,0°.40N×97°.16E,h41km,mB5.0/36,mb4.8/45,*
Ms4.7/38,Ms7 4.3/37
*MOS **26** 00:03:31.8±0.9,1°.12N×97°.10E,h33km,mb4.7/15,Error*
ellipse: s-maj=11.5km s-min=6.2km az=103.7
*ISCJB **26** 00:03:32.7±0.7,1°.08N±0°.04×97°.08E±0°.04,h40km±5km,*
mb4.6/77,MS4.1/20,Error ellipse: s-maj=6.9km
s-min=5.4km az=148.5
*IDC **26** 00:03:32.5±3.5,1°.01N×97°.02E,h26km±23km,mb4.2/28,*
mb1 4.2/30,mb1mx4.1/39,mbtmp4.2/30,ML4.0/2,MS3.7/7,
Ms1 3.7/7,ms1mx3.3/34,Error ellipse: s-maj=16.1km
s-min=10.8km az=51.0
*NEIC **26** 00:03:34.0±0.3,1°.06N×97°.16E,h35km,mb4.9/23,Error*
ellipse: s-maj=7.0km s-min=4.9km az=46.0
ISC 26 00:03:32.5±0.8,1°.12N±0°.04×96°.92E±0°.05,h32km±4km,
n199,σ1§84/136,mb4.6/77,MS4.1/21,6C-3D,Off west
coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GSI	**Gunungsitoli**	**0.68**	**74**	P		**Pb**	**00 03 44.2**	**-1.8**
GSI				S		**Sb**	**00 03 53.6**	**-1.6**
PBSI	**Pulau Batu**	**1.79**	**131**	P		**Pn**	**00 04 02.0**	**+0.8**
TPTI		**2.14**	**7**	P		Pn	00 04 01.2	-4.9
PSI	**Prapat**	**2.61**	**50**	Pn		**Pn**	**00 04 11.2**	**-1.4**
PSI				Pg		**Pb**	**00 04 19.1**	**+0.5**
PSI				Sn		**Sn**	**00 04 44.6**	**+1.3**
PSI				Lg		Lg	00 04 54.3	
PSI	**Prapat**	**2.61**	**50**	P		**Pn**	**00 04 11.5**	**-1.1**
PSI	**Prapat**	**2.61**	**50**	Pn		**Pn**	**00 04 11.2**	**-1.4**
	8.8nm,0.3s,baz=204,slow=10,SNR=87							
PSI				Pg		**Pb**	**00 04 19.1**	**+0.5**
	13nm,0.3s,baz=217,slow=13,SNR=33							
PSI				Sn		**Sn**	**00 04 44.6**	**+1.3**
	34nm,0.3s,baz=222,slow=12,SNR=5.4							
PSI				Lg		Lg	00 04 54.3	
	22nm,0.3s,baz=356,slow=23,SNR=6.4							
PSI				LR		LR	00 05 01.2	
	comp=Z,1µm,19.8s,baz=312,slow=35							
MNSI	**Mandailing Nat**	**2.68**	**97**	P		**Pn**	**00 04 12.2**	**-1.2**
TSI	**Tuntungan**	**2.88**	**35**	P		**Pn**	**00 04 17.0**	**+0.8**
SISI	**Saibi**	**3.26**	**138**	P		**Pn**	**00 04 23.2**	**+1.8**
PPI	**Padang Panjang**	**3.81**	**114**	P		**Pn**	**00 04 28.2**	**-0.8**
LHMI	**Lhok Sumawe**	**4.08**	**0**	P		**Pn**	**00 04 32.6**	**-0.1**
BKNI	**Bangkinang**	**4.20**	**101**	P		**Pn**	**00 04 34.2**	**-0.1**
BSI	**Banda Aceh**	**4.64**	**340**	P		Pn	00 04 39.7	-0.7
BSI				S		**Sn**	**00 05 29.1**	**-4.2**
FRIM	**Kepong**	**5.15**	**66**	P		**Pn**	**00 04 46.8**	**-0.7**
IPM	**Ipoh**	**5.29**	**51**	*e*Pn		**Pn**	**00 04 49.0**	**-0.4**
IPM				*e*Sn		**Sn**	**00 05 46.9**	**-2.4**
IPM	**Ipoh**	**5.29**	**51**	P		**Pn**	**00 04 49.6**	**+0.3**
IPM	**Ipoh**	**5.29**	**51**	P		**Pn**	**00 04 49.2**	**-0.2**
	128nm,0.9s,1µm0.4nm							
KULM	**Kulim**	**5.57**	**42**	*e*Pn		**Pn**	**00 04 52.1**	**-1.1**
KULM	**Kulim**	**5.57**	**42**	P		**Pn**	**00 04 52.7**	**-0.5**
KULM	**Kulim**	**5.57**	**42**	P		**Pn**	**00 04 52.3**	**-0.9**
	171nm,1.0s,1µm0.6nm							
RGRI	**Rengat**	**5.61**	**105**	P		**Pn**	**00 04 54.4**	**+0.7**
	284nm,0.4s,60µm8.6nm							

KGM	**Kluang**	**6.46**	**82**	P		**Pn**	**00 05 05.1**	**-0.4**
MYKOM	**Kota Tinggi**	**6.96**	**84**	P		**Pn**	**00 05 12.1**	**-0.2**
MYKOM	**Kota Tinggi**	**6.96**	**84**	P		**Pn**	**00 05 11.9**	**-0.4**
	38nm,1.1s							
KSI	**Kapahiang**	**7.39**	**130**	P		**Pn**	**00 05 19.9**	**+1.6**
KSM	**Kuching**	**13.39**	**88**	P		Pn	00 06 42.8	+2.3
SBUM	**Sibu**	**15.35**	**85**	P		**Pn**	**00 07 06.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**17.35**	**6**	P		**P**	**00 07 32.3**	**-1.2**
CMAR	**Chiang Mai Arr**	**17.35**	**6**	P		**P**	**00 07 32.3**	**-1.2**
	0.4nm,0.3s,baz=195,slow=12,SNR=25							
CMAR				LR		LR	00 14 10.7	
	comp=Z,213nm,20.8s,baz=185,slow=37							
CHTO	**Chiang Mai**	**17.70**

LZH					LR	LR			
	comp=E,350nm,16.5s								
LZH					LR	LR			
	comp=Z,490nm,19.1s								
NJ2	**Nanjing**	**37.08**	**32**	*e*P	**P**		**00 10 39.5**	**-0.4**
NJ2				pP	pP		00 10 55.3	+6.1
NJ2				PP	**PnPn**		**00 12 05.5**	**+0.2**
NJ2				S	**S**		**00 16 20.5**	**-3.6**
NJ2				sS	**ScP**		**00 16 44.0**	**-1.1**
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
NJ2				pmax	pmax				
	comp=Z,250nm,4.5s								
NJ2				LR	LR				
	comp=N,350nm,25.0s								
NJ2				LR	LR				
	comp=E,540nm,22.7s								
NJ2				LR	LR				
	comp=Z,410nm,21.6s								
GTA	**Gaotai**	**38.20**	**4**	*e*P	P		00 10 51.0	+1.5
GTA				pP	pP		00 11 00.5	+1.7
GTA				sP	sP		00 11 04.5	+1.9
GTA				S	**S**		**00 16 42.0**	**+0.8**
GTA				pmax	pmax				
	comp=Z,19nm,0.9s								
GTA				pmax	pmax				
	comp=Z,88nm,7.6s								
GTA				LR	LR				
	comp=N,270nm,15.9s								
GTA				LR	LR				
	comp=E,190nm,13.3s								
GTA				LR	LR				
	comp=Z,170nm,14.5s								
NWAO	**Narrogin (SRO)**	**38.92**	**152**	P	**P**		**00 10 53.7**	**-1.7**
NWAO	**Narrogin (SRO)**	**38.92**	**152**	P	**P**		**00 10 53.7**	**-1.7**
	comp=Z,7.8nm,0.8s,baz=343,slow=11,SNR=2.1								
JOW	**Kunigami**	**39.50**	**47**	P	**P**		**00 11 00.7**	**+0.3**
JOW	**Kunigami**	**39.50**	**47**	P	**P**		**00 11 00.7**	**+0.3**
	comp=Z,4.9nm,0.4s,baz=162,slow=9.6,SNR=4.3								
HHC	**Hu-ho-hao-te**	**41.72**	**17**	*e*P	P		00 11 22.3	+3.7
HHC				pP	pP		00 11 32.3	+4.3
HHC				sP	sP		00 11 37.0	+5.2
HHC				PP	**PnPn**		**00 13 02.5**	**+2.0**
HHC				S	**S**		**00 17 37.3**	**+3.6**
HHC				sS	sS		00 17 54.0	+4.8
HHC				SS	**SS**		**00 20 38.3**	**-1.9**
HHC				pmax	pmax				
	comp=Z,17nm,0.7s								
HHC				pmax	pmax				
	comp=Z,100nm,4.2s								
HHC				LR	LR				
	comp=N,310nm,15.5s								
HHC				LR	LR				
	comp=E,300nm,15.5s								
HHC				LR	LR				
	comp=Z,330nm,14.3s								
WRA	**Warramunga Arr**	**42.23**	**122**	P	**P**		**00 11 22.4**	**-0.7**
WRA	**Warramunga Arr**	**42.23**	**122**	P	**P**		**00 11 22.4**	**-0.7**
	comp=Z,4.0nm,0.7s,baz=300,slow=9.1,SNR=51								
WRAB	**Tennant Creek**	**42.24**	**122**	*e*P	**P**		**00 11 23.3**	**+0.2**
WRAB				pmax	pmax				
	comp=Z,194nm,2.9s								
WRAB	**Tennant Creek**	**42.24**	**122**	*e*P	**P**		**00 11 23.3**	**+0.2**
	comp=Z,194nm,2.9s								
BJI	**Beijing**	**42.52**	**22**	P	P		00 11 27.0	+2.0
BJI				pmax	pmax				
	comp=Z,24nm,0.8s								
BJI				LR	LR				
	comp=N,220nm,13.8s								
BJI				LR	LR				
	comp=E,170nm,13.4s								
KSH	**Kashi**	**42.73**	**336**	*e*P	P		00 11 28.0	+1.1
KSH				pP	pP		00 11 38.0	+1.7
KSH				sP	sP		00 11 42.0	+1.9
KSH				PP	PP		00 13 11.3	+4.8
KSH				PcP	**PcP**		**00 13 19.8**	**+1.5**
KSH				ScP	**ScP**		**00 17 07.0**	**-0.1**
KSH				PcS	**PcS**		**00 17 11.3**	**+0.8**
KSH				S	**S**		**00 17 50.5**	**+1.8**
KSH				SS	**SS**		**00 20 55.0**	**-5.2**
KSH				ScS	**ScS**		**00 21 24.0**	**-2.1**
KSH				pmax	pmax				
	comp=Z,5.0nm,1.0s								
KSH				pmax	pmax				
	comp=Z,12nm,4.3s								
KSH				LR	LR				
	comp=N,160nm,5.0s								
KSH				LR	LR				
	comp=E,190nm,5.4s								
KSH				LR	LR				
	comp=Z,200nm,7.4s								
WMQ	**Urumqi**	**43.31**	**350**	P	P		00 11 34.0	+2.5
WMQ				pP	pP		00 11 42.8	+1.9
WMQ				sP	sP		00 11 46.3	+1.6
WMQ				PP	**PcP**		**00 13 16.0**	**-4.0**
WMQ				*e*S	**S**		**00 17 59.0**	**+2.1**
WMQ				pmax	pmax				
	comp=Z,14nm,0.9s								
WMQ				pmax	pmax				
	comp=Z,260nm,5.6s								
WMQ				LR	LR				
	comp=N,370nm,18.0s								
WMQ				LR	LR				
	comp=E,450nm,23.6s								
WMQ				LR	LR				
	comp=Z,240nm,27.0s								
ASAR	**Alice Springs**	**43.57**	**127**	P	**P**		**00 11 34.2**	**+0.3**
ASAR	**Alice Springs**	**43.57**	**127**	P	**P**		**00 11 34.2**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=294,slow=6.7,SNR=12								
AS31	**Alice Springs**	**43.57**	**127**	*e*P	**P**		**00 11 33.7**	**-0.2**
JNU	**Nakatsue**	**45.05**	**41**	P	**P**		**00 11 46.0**	**+0.4**
JNU	**Nakatsue**	**45.05**	**41**	P	**P**		**00 11 46.0**	**+0.4**
	comp=Z,3.3nm,0.5s,baz=282,slow=21,SNR=2.2								
JNU				LR	LR		00 33 27.2		
	comp=Z,106nm,18.9s,baz=61,slow=40								
TKM2	**Tokmak 2**	**45.79**	**338**	*i* P	P		00 11 54.4	+3.0
TKM2	**Tokmak 2**	**45.79**	**338**	*e*P	P		00 11 53.0	+1.5
	comp=Z,6.9nm,1.0s								
TKM2	**Tokmak 2**	**45.79**	**338**	P	P		00 11 54.5	+3.0
	SNR=5.2								
KBK	**Karagaybulak**	**45.81**	**337**	P	P		00 11 55.6	+4.1
	SNR=7.2								
AML	**Almayashu**	**45.86**	**336**	P	P		00 11 55.6	+3.3
	SNR=6.9								
AAK	**Ala-Archa**	**45.96**	**337**	⇓*e*P	P		00 11 55.5	+2.7
AAK	**Ala-Archa**	**45.96**	**337**	*e*P	P		00 11 54.8	+2.0
	comp=Z,12nm,0.8s								
AAK	**Ala-Archa**	**45.96**	**337**	P	P		00 11 55.4	+2.7
	comp=Z,2.2nm,0.9s,baz=156,slow=7.4,SNR=5.7								
AAK				LR	LR		00 34 57.3		
	comp=Z,75nm,19.0s,baz=149,slow=41								
KSAR	**Wonju Array Be**	**46.05**	**35**	P	**P**		**00 11 54.0**	**+0.7**
KSRS	**Korea Array**	**46.08**	**35**	P	**P**		**00 11 54.0**	**+0.5**
	comp=Z,14nm,0.8s,baz=222,slow=8.9,SNR=29								
KSRS				LR	LR		00 31 06.2		
	comp=Z,59nm,19.7s,baz=15,slow=36								
EKS2	**Erkin-Say**	**46.27**	**336**	*e*P	P		00 11 58.7	+3.5
EKS2				pmax	pmax				
	comp=Z,5.0nm,0.8s								
EKS2	**Erkin-Say**	**46.27**	**336**	*e*P	P		00 11 58.7	+3.5
	comp=Z,4.8nm,0.8s								
EKS2	**Erkin-Say**	**46.27**	**336**	P	P		00 11 58.7	+3.5
	SNR=5.8								
USP	**Ospenovka**	**46.50**	**337**	P	P		00 11 59.8	+2.9
	SNR=16								
SNY	**Shenyang**	**47.10**	**27**	⇓P	**P**		**00 12 02.0**	**+0.5**
SNY				S	**S**		**00 18 50.3**	**-1.4**
SNY				pmax	pmax				
	comp=Z,12nm,1.0s								
SNY				pmax	pmax				
	comp=Z,260nm,4.5s								
SNY				LR	LR				
	comp=N,220nm,12.8s								
SNY				LR	LR				
	comp=E,310nm,4.5s								
SNY				LR	LR				
	comp=Z,270nm,15.3s								
MK31	**Makanchi Array**	**47.25**	**346**	*e*P	P		00 12 04.7	+2.0
MK31	**Makanchi Array**	**47.25**	**346**	*e*P	P		00 12 04.7	+2.0
MKAR	**Makanchi Array**	**47.25**	**346**	P	P		00 12 04.8	+2.1
MKAR							00 13 36.4		
MKAR	**Makanchi Array**	**47.25**	**346**	P	P		00 12 04.8	+2.1
MKAR				PcP	**PcP**		**00 13 36.4**	**+2.8**
MKAR	**Makanchi Array**	**47.25**	**346**	P	P		00 12 04.8	+2.1
	comp=Z,4.8nm,0.6s,baz=160,slow=8.3,SNR=62								
MKAR				PcP	**PcP**		**00 13 36.4**	**+2.8**
	comp=Z,0.7nm,0.7s,baz=168,slow=4.0,SNR=1.4								
MKAR				LR	LR		00 36 43.3		
	comp=Z,46nm,18.1s,baz=157,slow=42								
SONM	**Songino Array**	**47.25**	**9**	P	P		00 12 04.2	+1.4
SONM				PcP	**PcP**		**00 13 35.6**	**+1.9**
SONM	**Songino Array**	**47.25**	**9**	P	P		00 12 04.2	+1.4
	comp=Z,4.7nm,0.8s,baz=188,slow=9.4,SNR=47								
SONM				PcP	**PcP**		**00 13 35.6**	**+1.9**
	comp=Z,1.5nm,0.8s,baz=192,slow=3.6,SNR=5.8								
ULN	**Ulaanbaatar**	**47.39**	**9**	*e*P	**P**		**00 12 05.0**	**+1.1**
	comp=Z,3.5nm,0.8s								
KKAR	**Karatay Array**	**48.01**	**334**	*e*P	P		00 12 11.5	+2.9
KKAR	**Karatay Array**	**48.01**	**334**	*e*P	P		00 12 11.5	+2.9
COEN	**Coen**	**48.20**	**110**	*e*P	**P**		**00 12 09.4**	**-1.1**
	comp=Z,68nm,0.9s								
ZAK	**Zakamensk**	**49.38**	**5**	*e*P	**P**		**00 12 19.8**	**+0.7**
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.4s								
CN2	**Changchun**	**49.50**	**27**	*e*P	**P**		**00 12 20.0**	**0.0**
CN2				pmax	pmax				
	comp=Z,20nm,0.8s								
CN2				pmax	pmax				
	comp=Z,100nm,3.0s								
CN2				LR	LR				
	comp=N,400nm,14.0s								
CN2				LR	LR				
	comp=E,300nm,14.0s								
CN2				LR	LR				
	comp=Z,300nm,14.0s								
TLY	**Talaya**	**50.70**	**5**	*e*P	**P**		**00 12 29.9**	**+0.9**
TLY				pmax	pmax				
	comp=Z,3.0nm,0.9s								
TLY				MLR	MLR				
	comp=Z,113nm,18.0s								
PMG	**Port Moresby**	**51.11**	**103**	P	**P**		**00 12 32.3**	**-0.4**
PMG	**Port Moresby**	**51.11**	**103**	P	**P**		**00 12 32.3**	**-0.4**
	comp=Z,4.9nm,0.8s,baz=256,slow=8.3,SNR=1.9								
KURBB	**Kurchatov Arra**	**51.74**	**345**	P	P		00 12 38.9	+2.1
	comp=Z,4.5nm,0.8s,baz=168,slow=7.0,SNR=60								
KURK	**Kurchatov**	**51.80**	**345**	*e*P	P		00 12 39.0	+1.8
KURK				pmax	pmax				
	comp=Z,9.0nm,1.0s								
KURK	**Kurchatov**	**51.80**	**345**	*e*P	P		00 12 39.0	+1.8
	comp=Z,9.1nm,1.0s								
HIA	**Hailar**	**51.81**	**19**	*e*P	**P**		**00 12 38.2**	**+0.8**
	comp=Z,10nm,1.0s								
MJAR	**Matsushiro Arr**	**51.94**	**42**	P	**P**		**00 12 38.4**	**-0.2**
MJAR	**Matsushiro Arr**	**51.94**	**42**	P	**P**		**00 12 38.4**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=228,slow=5.3,SNR=3.8								
MDJ	**Mudanjiang**	**52.08**	**29**	P	**P**		**00 12 38.5**	**-0.9**
MDJ				pP	pP		00 12 47.5	-1.5
MDJ				sP	sP		00 12 51.3	-1.5
MDJ				PcP	PcP		00 13 45.5	-5.7
MDJ				PP	**PP**		**00 14 37.5**	**-0.4**
MDJ				ScP	**ScP**		**00 17 41.0**	**-5.1**
MDJ				PcS	PcS		00 17 44.0	-5.3
MDJ				S	**S**		**00 20 03.8**	**+2.5**
MDJ				ScS	**ScS**		**00 22 26.3**	**-0.9**
MDJ				pmax	pmax				
	comp=Z,13nm,1.6s								
MDJ				pmax	pmax				
	comp=Z,150nm,4.5s								
MDJ				LR	LR				
	comp=N,48nm,18.4s								
MDJ				LR	LR				
	comp=E,58nm,16.3s								
MDJ				LR	LR				
	comp=Z,100nm,18.4s								
OPO	**Ambohidratompo**	**52.63**	**246**	P	P		00 12 45.8	+1.6
OPO	**Ambohidratompo**	**52.63**	**246**	P	P		00 12 45.8	+1.6
	comp=Z,2.1nm,0.8s,baz=117,slow=4.5,SNR=2.8								
ABPO	**Ambohimpanom**	**52.73**	**245**	*e*P	P		00 12 46.9	+2.0
ABPO	**Ambohimpanom**	**52.73**	**245**	*e*P	P		00 12 46.9	+2.0
USRK	**Ussuriysk Arra**	**52.99**	**31**	P	**P**		**00 12 47.1**	**+1.0**
	comp=Z,17nm,0.9s,baz=237,slow=5.6,SNR=28								
STKA	**Stephens Creek**	**53.51**	**132**	*e*P	**P**		**00 12 51.2**	**+1.0**
	comp=Z,2.3nm,1.3s								
STKA	**Stephens Creek**	**53.51**	**132**	P	**P**		**00 12 50.9**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=311,slow=5.2,SNR=7.4								
ZAA0	**Zalesovo Array**	**53.59**	**351**	*e*P	P		00 12 51.8	+1.4
ZALV	**Zalesovo Beam**	**53.59**	**351**	P	P		00 12 52.2	+1.8
ZALV	**Zalesovo Beam**	**53.59**	**351**	P	P		00 12 52.2	+1.8
ZALV	**Zalesovo Beam**	**53.59**	**351**	P	P		00 12 52.2	+1.8
	comp=Z,16nm,0.8s,baz=178,slow=5.8,SNR=74								
NVS	**Novosibirsk**	**54.71**	**350**	*i* P	**P**		**00 12 58.2**	**-0.3**
VOSK	**Vostochnaya**	**55.79**	**341**	P	P		00 13 07.5	+1.1
VOSK				pmax	pmax				
	comp=Z,8.0nm,1.0s								
BVA0	**Borovoye Array**	**56.23**	**341**	*i* P	P		00 13 10.8	+1.2
BVA0				pmax	pmax				
	comp=Z,1.0nm,1.0s								
BVAR	**Borovoye Array**	**56.23**	**341**	P	P		00 13 11.0	+1.4
BVAR	**Borovoye Array**	**56.23**	**341**	P	P		00 13 11.0	+1.4
BVAR	**Borovoye Array**	**56.23**	**341**	P	P		00 13 11.0	+1.4
	comp=Z,4.0nm,0.7s,baz=139,slow=8.5,SNR=41								
BRVK	**Borovoye**	**56.30**	**341**	⇑*i*P	P		00 13 11.5	+1.5
BRVK				pmax	pmax				
	comp=Z,6.0nm,1.0s								
BRVK	**Borovoye**	**56.30**	**341**	*e*P	P		00 13 11.2	+1.2
	comp=Z,6.2nm,1.0s								
KLR	**Kul'dur**	**56.45**	**27**	*e*P	**P**		**00 13 08.2**	**-3.0**
ZRNK	**Zerenda**	**56.63**	**340**	P	P		00 13 13.4	+1.0
ZRNK				pmax	pmax				
	comp=Z,6.0nm,1.1s								
AB31	**Akbulak array**	**57.45**	**332**	P	P		00 13 19.8	+1.5
AB31				pmax	pmax				
	comp=Z,5.0nm,0.6s								
ABKAR	**Akbulak array**	**57.45**	**332**	*e*P	P		00 13 20.1	+1.8
HABR	**Khabarovsk**	**57.47**	**29**	P	**P**		**00 13 16.6**	**-1.8**
HABR				*e*			00 14 09.7		
HABR				*e*			00 23 03.0		
HABR				*e*SS	**SS**		**00 25 03.0**	**-0.7**
HABR				pmax	pmax				
	comp=N,32nm,1.0s								
HABR				pmax	pmax				
	comp=Z,70nm,1.0s								
HABR				pmax	pmax				
	comp=E,17nm,0.7s								
HABR				MLR	MLR				
	comp=Z,94nm,17.0s								
BOD	**Bodaibo**	**58.14**	**11**	*e*P	**P**		**00 13 23.8**	**+0.9**
BOD				pmax	pmax				
	comp=Z,9.0nm,0.9s								
EIDS	**Eidsvold**	**58.58**	**121**	*e*P	**P**		**00 13 25.8**	**-0.8**
	comp=Z,11nm,0.8s								
AKTO	**Aktyubinsk**	**59.17**	**332**	P	P		00 13 31.4	+1.1
AKTO	**Aktyubinsk**	**59.17**	**332**	P	P		00 13 31.4	+1.1
AKTO	**Aktyubinsk**	**59.17**	**332**	P	P		00 13 31.4	+1.1
	comp=Z,2.5nm,0.8s,baz=152,slow=6.0,SNR=11								
ARMA	**Armidale**	**60.71**	**126**	*e*P	**P**		**00 13 40.4**	**-1.0**
	comp=Z,103nm,2.1s								
GNI	**Garni**	**61.16**	**316**	P	P		00 13 45.0	+0.6
GNI	**Garni**	**61.16**	**316**	P	P		00 13 45.0	+0.6
	comp=Z,1.0nm,0.5s,baz=111,slow=8.6,SNR=3.3								
SVE	**Sverdlovsk**	**62.66**	**339**	⇑*i*P	P		00 13 55.9	+2.1
SVE				pmax	pmax				
	comp=Z,12nm,1.0s								
ARU	**Arti**	**63.15**	**337**	*d i*P	P		00 13 58.6	+1.5
ARU							00 16 14.9		
ARU				S	**S**		**00 22 30.6**	**+4.5**
ARU				SS	**SS**		**00 26 28.1**	**-4.5**
ARU				pmax	pmax				
	comp=Z,12nm,2.5s								
ARU	**Arti**	**63.15**	**337**	*e*P	**P**		**00 13 57.4**	**+0.3**
	comp=Z,5.6nm,1.0s								
KBZ	**Khabaz**	**63.95**	**319**	P	P		00 14 05.0	+2.4
KBZ	**Khabaz**	**63.95**	**319**	P	P		00 14 05.0	+2.4
KBZ	**Khabaz**	**63.95**	**319**	P	P		00 14 05.0	+2.4
	comp=Z,2.0nm,0.7s,baz=129,slow=8.9,SNR=6.6								
KIV	**Kislovodsk**	**64.19**	**319**	*e*P	P		00 14 05.1	+0.8
KIV				pmax	pmax				
	comp=Z,4.0nm,1.0s								
ASF	**Jabal al Asfar**	**64.28**	**305**	P	P		00 14 06.5	+1.3
ASF	**Jabal al Asfar**	**64.28**	**305**	P	P		00 14 06.5	+1.3
	comp=Z,0.5nm,0.3s,baz=108,slow=6.4,SNR=2.5								
YAK	**Yakutsk**	**65.58**	**16**	*e*P	**P**		**00 14 12.3**	**-0.6**
YAK				pmax	pmax				
	comp=Z,22nm,1.0s								
YAK				pmax	pmax				
	comp=N,7.0nm,1.1s								
YAK				pmax	pmax				
	comp=E,5.0nm,1.1s								
YAK	**Yakutsk**	**65.58**	**16**	*e*P	**P**		**00 14 13.1**	**+0.2**
BRTR	**Keskin Array B**	**68.96**	**312**	P	P		00 14 36.6	+1.6
BRTR	**Keskin Array B**	**68.96**	**312**	P	P		00 14 36.6	+1.6
	comp=E,1.1nm,0.8s,baz=126,slow=7.0,SNR=7.5								
OBN	**Obninsk**	**72.54**	**328**	⇑*e*P	P		00 14 57.0	+0.8
OBN				pmax	pmax				
	comp=Z,17nm,2.5s								
SEY	**Seymchan**	**73.95**	**23**	*ce*P	**P**		**00 15 05.2**	**+0.8**
BOSA	**Boshof**	**74.50**	**240**	LR	LR		00 44 44.8		
	comp=Z,76nm,18.0s,baz=339,slow=33								
AKASG	**Malin Array Be**	**75.15**	**323**	P	P		00 15 12.9	+1.3
AKASG	**Malin Array Be**	**75.15**	**323**	P	P		00 15 12.9	+1.3
AKASG	**Malin Array Be**	**75.15**	**323**	P	P		00 15 12.9	+1.3
	comp=Z,0.5nm,0.4s,baz=90,slow=4.8,SNR=4.2								
BUR08	**Bucovina Ar. S**	**76.92**	**319**	*e*P	P		00 15 24.4	+2.4
KOLS	**Kolonicke sedl**	**79.10**	**320**	*e*P	P		00 15 36.5	+2.6
KOLS	**Kolonicke sedl**	**79.10**	**320**	*e*P	P		00 15 36.5	+2.6
FINES	**FINESS Array B**	**79.94**	**333**	P	P		00 15 39.8	+1.6
FINES	**FINESS Array B**	**79.94**	**333**	P	P		00 15 39.8	+1.6
	comp=Z,1.3nm,0.7s,baz=100,slow=6.6,SNR=6.9								
BILL	**Bilibino**	**81.34**	**21**	⇑*e*P	**P**		**00 15 45.0**	**-0.6**
BILL				pmax	pmax				
	comp=Z,3.0nm,1.3s								
ARCES	**ARCESS Array B**	**82.52**	**340**	P	P		00 15 53.4	+1.6
ARCES	**ARCESS Array B**	**82.52**	**340**	P	P		00 15 53.4	+1.6
	comp=Z,2.8nm,0.9s,baz=97,slow=7.4,SNR=4.3								
WDD	**Wield Dalam**	**83.18**	**306**	*e*P	P		00 15 59.5	+3.7
	comp=Z,264nm,1.1s								
GERES	**GERESS Array B**	**84.69**	**319**	P	P		00 16 05.8	+2.4
GERES	**GERESS Array B**	**84.69**	**319**	P	P		00 16 05.8	+2.4
	comp=Z,0.9nm,0.7s,baz=102,slow=5.6,SNR=5.6								
HFS	**Hagfors**	**85.65**	**330**	P	P		00 16 10.5	+2.7
HFS	**Hagfors**	**85.65**	**330**	P	P		00 16 10.5	+2.7
	comp=Z,3.5nm,1.1s,baz=78,slow=7.7,SNR=1.9								
NVAR	**Mina Array Bea**	**129.01**	**36**	PKP	**PKPdf**		**00 22 38.3**	**+0.3**
NVAR	**Mina Array Bea**	**129.01**	**36**	PKP	**PKPdf**		**00 22 38.3**	**+0.3**
	comp=Z,0.8nm,0.9s,baz=274,slow=2.4,SNR=3.7								
TXAR	**Lajitas Array**	**143.88**	**31**	PKP	**PKPdf**		**00 23 04.3**	**-1.2**
TXAR	**Lajitas Array**	**143.88**	**31**	PKP	**PKPdf**		**00 23 04.3**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=349,slow=3.7,SNR=5.0								
CPUP	**Villa Florida**	**144.75**	**223**	PKP	**PKPdf**		**00 23 07.3**	**+0.3**
CPUP	**Villa Florida**	**144.75**	**223**	PKP	**PKPdf**		**00 23 07.3**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=117,slow=4.5,SNR=3.2								

BEO ***26*** *00:07:13.5±0.8, 40.89°N×20.22°E, h0km, ML2.5/3*
ATH ***26*** *00:07:14.8, 41.18°N×20.22°E, h28km±4km, MD3.2/5*
CSEM ***26*** *00:07:15.1±0.1, 41.07°N×20.22°E, h2km, MD3.2, Error ellipse: s-maj=4.0km s-min=3.1km az=61.0*
SKO ***26*** *00:07:15.0, 41.05°N×20.20°E, h14km, M1.7, ML2.2*

ISC 26 00:07:15.1±1.0, 41.08N±0.02×20.25E±0.02, h9km±9km, n48, σ1.1 s27/84, Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
TIR	**Tirane**	**0.39**	**313**	*e*Pg	**Pg**		**00 07 22.0**	**-0.9**	
TIR				*e*Sg	**Sb**		**00 07 30.4**	**0.0**	
TIR	**Tirane**	**0.39**	**313**	*e*Pb	**Pg**		**00 07 21.8**	**-1.1**	
TIR				*e*Sb	**Sg**		**00 07 27.1**	**-1.0**	
TIR				*e*Sg	**Sb**		**00 07 30.4**	**0.0**	
BIA	**Bitola**	**0.82**	**94**	*i* Pg	**Pg**		**00 07 29.9**	**-1.0**	
BIA				*i* Sg	**Sg**		**00 07 41.8**	**+0.3**	
BIA				*e*Lg	Lg		00 07 42.4		
	comp=N,54nm,0.2s								
BIA				*e*Lg	Lg		00 07 43.1		
	comp=E,61nm,0.3s								
BIA	**Bitola**	**0.82**	**94**	*i* Pg	**Pg**		**00 07 29.9**	**-1.0**	
BIA				*i* Sg	**Sg**		**00 07 41.8**	**+0.3**	
BIA				*e*Lg	Lg		00 07 43.0		
	comp=E,61nm,0.3s								
SKO	**Skopje**	**1.26**	**45**	*e*Pg	**Pn**		**00 07 38.2**	**-0.7**	
SKO				*i* Sg	**Sg**		**00 07 57.1**	**+1.3**	
SKO	**Skopje**	**1.26**	**45**	*e*Pg	**Pb**		**00 07 39.4**	**+0.3**	
SKO				*e*Sg	**Sg**		**00 07 57.4**	**+1.6**	
SKO	**Skopje**	**1.26**	**45**	*e*Pg	**Pb**		**00 07 39.4**	**+0.3**	
SKO				*e*Sg	**Sg**		**00 07 57.4**	**+1.6**	
KZN	**Kozani**	**1.39**	**123**	*e*PN	**Pg**		**00 07 41.9**	**0.0**	
KZN				*e*SN	**Sg**		**00 08 01.2**	**+1.2**	
KZN	**Kozani**	**1.39**	**123**	*e*Pn	**Pg**		**00 07 41.9**	**0.0**	
KZN				*e*Sn	**Sg**		**00 08 01.2**	**+1.2**	
KEK	**Kerkira**	**1.41**	**194**	*e*PN	**Pg**		**00 07 42.3**	**+0.2**	
KEK				*e*SN	**Sg**		**00 08 01.5**	**+1.1**	
KEK	**Kerkira**	**1.41**	**194**	*e*Pn	**Pg**		**00 07 42.3**	**+0.2**	
KEK				*e*Sn	**Sg**		**00 08 01.5**	**+1.1**	
JAN	**Janina**	**1.50**	**162**	*e*PN	**Pb**		**00 07 42.8**	**-0.2**	
JAN				*e*SN	**Sg**		**00 08 03.9**	**+0.7**	
JAN	**Janina**	**1.50**	**162**	*e*Pn	**Pb**		**00 07 42.8**	**-0.2**	
JAN				*e*Sn	**Sg**		**00 08 03.9**	**+0.7**	
PDG	**Podgorica**	**1.54**	**332**	*e*Pn	**Pb**		**00 07 44.0**	**+0.2**	
PDG				*e*Sg	**Sg**		**00 08 07.5**	**+2.9**	
PDG	**Podgorica**	**1.54**	**332**	*e*Pn	**Pb**		**00 07 44.0**	**+0.2**	
PDG				*e*Sg	**Sg**		**00 08 07.5**	**+2.9**	
SCTE	**Santa Cesarea**	**1.69**	**234**	*e*Pn	**Pn**		**00 07 45.0**	**+0.3**	
VAY	**Valandovo**	**1.77**	**81**	*e*Pn	**Pn**		**00 07 45.7**	**-0.1**	
VAY				*e*Lg	Lg		00 08 15.5		
	comp=N,25n

IGUA	Igualata	2.63	93	S		Sb	00 09 33.5	-1.8
GOLV	Golondrinas	2.63	54	P		Pn	00 08 58.5	+1.3
BIL2	Estacion Bilba	2.76	92	P		Pb	00 09 02.1	-2.4
BBIL	Ulba Tungurahu	2.78	92	⇓P		Pn	00 09 02.0	+2.4
BMAS	Trigal station	2.79	93	⇓S		Sn	00 09 33.7	+0.1
BMAS	Trigal station	2.79	93	⇓P		Pn	00 09 00.9	+1.1
JUI6	Juive	2.79	92	P		Pn	00 09 01.1	+1.3
ARRY	Arrayan	2.81	93	S		Sn	00 09 33.3	-0.9
ARRY	Arrayan	2.81	93	P		Pn	00 09 00.8	+0.8
RETU	Refugio	2.82	92	P		Pn	00 09 02.8	+2.5
PAT1	Patacocha	2.83	93	⇓S		Sn	00 09 35.1	+0.2
PAT1	Patacocha	2.83	93	⇓P		Pn	00 09 01.8	+1.3
RUN5	Runtun	2.84	91	⇑P		Pn	00 09 02.7	+2.3
BRUN	Tungurahua Vol	2.85	91	⇓P		Pn	00 09 01.5	+0.9
ULBA	Ulba	2.86	92	P		Pn	00 09 02.3	+1.6
BMOR	Cotopaxi Volca	2.87	78	⇓P		Pn	00 09 01.7	+0.6
NAS2	Nasa	2.88	76	P		Pn	00 09 02.5	+1.3
JUA2	San Juan 2	2.89	67	⇑P		Pn	00 09 03.0	+1.8
PISA	Pisayambo	2.89	84	S		Sb	00 09 40.6	-2.3
PISA	Pisayambo	2.89	84	P		Pn	00 09 03.3	+1.9
MOV1	Cotopaxi Vol s	2.89	77	P		Pn	00 09 02.0	+0.5
BREF	Cotopaxi Volca	2.90	77	⇓P		Pn	00 09 02.8	+1.1
TERV	Terraza Guagua	2.90	66	P		Pn	00 09 03.7	+2.2
TERV	Terraza Guagua	2.90	66	S		Sb	00 09 41.3	-2.0
PINO	Pino	2.91	66	P		Pn	00 09 02.2	+0.5
GGP	Refugio Guagua	2.91	66	⇑P		Pn	00 09 02.5	+0.8
BVC2	Cotopaxi Volca	2.93	76	⇓P		Pn	00 09 03.0	+1.0
PITA	Cotopaxi Volc	2.94	75	P		Pn	00 09 03.2	+1.3
BTAM	Cotopaxi Volca	2.94	77	P		Pn	00 09 03.0	+0.9
VC1	Cotopaxi 1	2.94	76	⇑P		Pn	00 09 03.9	+1.8
YANA	Yana	2.96	66	P		Pn	00 09 03.8	+1.6
TAMB	Tambo	2.97	77	⇓P		Pn	00 09 04.2	+1.8
COV1	Cotopaxi Volc	3.00	77	⇓P		Pn	00 09 03.0	0.0
CATE	Catamayo	3.21	144	P		Pb	00 09 09.1	-3.0
OTAV	Otavalo	3.22	61	⇓P		Pn	00 09 08.0	+2.1
ANTI	Antisana	3.23	74	⇑S		Sb	00 09 49.9	-2.8
ANTI	Antisana	3.23	74	⇑P		Pn	00 09 08.1	+2.0
COTA	Cotacachi	3.37	60	⇑P		Pn	00 09 10.3	+2.3
COTA	Cotacachi	3.37	60	⇑S		Sb	00 09 53.0	-3.6
CAYR	Refugio Cayamb	3.53	67	P		Pb	00 09 14.5	-3.5
CHAR	Charly	3.81	71	P		Pb	00 09 18.6	-3.9
CONE	Cono NE Rev Vo	3.84	71	P		Pb	00 09 19.9	-3.1
LAV4	Lava4-Reventad	3.84	71	P		Pb	00 09 20.3	-2.7

*ISCJB **26** 00:16:10.4±0.6,41°.90N±0°.03×19°.63E±0°.05,h12km,Error ellipse: s-maj=5.7km s-min=4.4km az=145.7*
*TIR **26** 00:16:10.6±1.3,41°.89N×19°.76E,h23km±6km,ML2.8*
*CSEM **26** 00:16:10.3±0.3,41°.90N×19°.61E,h5km,ML2.8,Error ellipse: s-maj=7.6km s-min=5.8km az=46.0*

ISC 26 00:16:10.3±0.8,41°.87N±0°.03×19°.64E±0°.04,h12km,n14, σ0$80/28,Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUK	**Puka**	**0.25**	**47**	*i* PG	**Pg**	**00 16 15.8**	**+0.2**
PUK				*i* SG	**Sg**	**00 16 20.9**	**+1.7**
PUK	**Puka**	**0.25**	**47**	*i* Pg	**Pg**	**00 16 15.8**	**+0.2**
	SNR=134						
PUK				*i* Sg	**Sg**	**00 16 20.9**	**+1.7**
	SNR=134						
TIR	**Tirane**	**0.55**	**162**	*i* PG	**Pb**	**00 16 21.9**	**+0.1**
TIR				*i* SG	**Sb**	**00 16 30.2**	**+0.6**
TIR	**Tirane**	**0.55**	**162**	*i* Pg	**Pb**	**00 16 21.9**	**+0.1**
	SNR=98						
TIR				*i* Sg	**Sb**	**00 16 30.2**	**+0.6**
	SNR=98						
BCI	**Bajram Curri**	**0.59**	**32**	*i* PG	**Pg**	**00 16 21.3**	**-0.4**
BCI				*i* SG	**Sb**	**00 16 29.9**	**-0.9**
BCI	**Bajram Curri**	**0.59**	**32**	*i* Pg	**Pg**	**00 16 21.3**	**-0.4**
	SNR=99						
BCI				*i* Sg	**Sb**	**00 16 29.9**	**-0.9**
	SNR=99						
PHP	**Peshkopia**	**0.63**	**107**	*i* PG	**Pg**	**00 16 21.4**	**-1.1**
PHP				*i* SG	**Sg**	**00 16 30.6**	**-0.1**
PHP	**Peshkopia**	**0.63**	**107**	*i* Pg	**Pg**	**00 16 21.4**	**-1.1**
	SNR=99						
PHP				*i* Sg	**Sg**	**00 16 30.6**	**-0.1**
	SNR=99						
FNA	**Florina**	**1.70**	**129**	*i* PN	**Pg**	**00 16 42.4**	**-0.5**
FNA				*i* SN	**Sb**	**00 17 03.8**	**+1.0**
FNA	**Florina**	**1.70**	**129**	*i* Pn	**Pg**	**00 16 42.4**	**-0.5**
	SNR=63						
FNA				*i* Sn	**Sb**	**00 17 03.8**	**+1.0**
	SNR=63						
STON	**Ston**	**1.75**	**305**	*e*Pn	**Pn**	**00 16 41.1**	**+0.6**
STON				Sn	**Sb**	**00 17 04.6**	**+0.4**
STON	**Ston**	**1.75**	**305**	*e*Pn	**Pn**	**00 16 41.0**	**+0.6**
STON				Sn	**Sb**	**00 17 04.6**	**+0.4**
NVLJ	**Novalja**	**4.40**	**309**	*e*Pn	**Pn**	**00 17 16.6**	**-0.3**
NVLJ				Sn	**Sn**	**00 18 07.1**	**-1.0**
NVLJ	**Novalja**	**4.40**	**309**	*e*Pn	**Pn**	**00 17 16.6**	**-0.3**
NVLJ				Sn	**Sn**	**00 18 07.0**	**-1.0**

DJA 26 00:16:27.1±1.1,1°N±5°×122°.2E±°,h10km,M3.8/4,MLv3.8/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.88**	**188**	P	Pg	00 16 42.0	-2.0
MRSI				S	Sb	00 16 56.4	+0.2
KMSI	**Cibinong**	**2.06**	**112**	P	Pb	00 17 05.2	+0.6
KMSI				S	Sn	00 17 28.3	+0.7
LUWI	**Luwuk**	**2.48**	**164**	P	Pn	00 17 06.9	-0.6
LUWI				S	Sb	00 17 41.1	-1.2
MNI	**Manado**	**2.77**	**88**	P	Pn	00 17 12.1	+0.5
MNI				S	Sn	00 17 34.2	-11
TTSI	**Tana Toraja**	**4.91**	**207**	P	Pn	00 17 41.8	+0.8

*ISCJB **26** 00:40:15.6±0.4,39°.12N±0°.03×29°.04E±0°.03,h4km±5km, Error ellipse: s-maj=4.5km s-min=3.2km az=165.1*
*ISK **26** 00:40:15.6,39°.13N×29°.06E,h5km, MD2.9*
*DDA **26** 00:40:15.2,39°.12N×29°.03E,h7km,MD3.0*
*CSEM **26** 00:40:16.0±0.1,39°.12N×29°.05E,h5km, MD3.0,Error ellipse: s-maj=1.3km s-min=1.2km az=160.0*

ISC 26 00:40:16.0±0.9,39°.12N±0°.02×29°.04E±0°.02,h10km±10km, n58,σ0$50/78,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.27**	**253**	*i* P	**Pg**	**00 40 21.6**	**+0.2**
DEMI				*i* S	**Sg**	**00 40 25.0**	**0.0**
DEMI	**Demirci**	**0.27**	**253**	*i* P	**Pg**	**00 40 21.6**	**+0.2**
DEMI				*i* S	**Sg**	**00 40 25.0**	**0.0**
GDZ	**Gediz**	**0.34**	**95**	*i* P	**Pg**	**00 40 22.9**	**0.0**
GDZ				*i* S	**Sg**	**00 40 27.6**	**+0.1**
GDZ	**Gediz**	**0.34**	**95**	*i* P	**Pg**	**00 40 22.9**	**0.0**
GDZ				*i* S	**Sg**	**00 40 27.6**	**+0.1**
TVSB	**Tavsanli**	**0.46**	**45**	*e*PG	**Pg**	**00 40 24.9**	**-0.2**
TVSB				*e*SG	**Sg**	**00 40 31.1**	**0.0**
TVSB	**Tavsanli**	**0.46**	**45**	*e*Pg	**Pg**	**00 40 24.9**	**-0.2**
TVSB				*e*Sg	**Sg**	**00 40 31.2**	**0.0**
DST	**Dursunbey**	**0.58**	**326**	*e*PG	**Pg**	**00 40 27.5**	**+0.2**
DST	**Dursunbey**	**0.58**	**326**	*e*Pg	**Pg**	**00 40 27.5**	**+0.2**
KULA	**Kula-Manisa**	**0.68**	**206**	*e*PG	**Pg**	**00 40 29.1**	**0.0**
KULA	**Kula-Manisa**	**0.68**	**206**	*e*Pg	**Pg**	**00 40 29.1**	**0.0**
MANT	**Manisa**	**0.73**	**211**	*i* P	**Pg**	**00 40 30.1**	**-0.1**
MANT				*i* S	**Sg**	**00 40 38.5**	**-1.3**
MANT	**Manisa**	**0.73**	**211**	*i* P	**Pg**	**00 40 30.1**	**-0.1**
MANT				*i* S	**Sg**	**00 40 38.5**	**-1.3**
KHAL	**Karahalli**	**0.83**	**155**	*e*P	**Pb**	**00 40 32.6**	**+0.1**
KHAL				*i* S	**Sg**	**00 40 42.6**	**-0.2**
KHAL	**Karahalli**	**0.83**	**155**	*e*P	**Pb**	**00 40 32.7**	**+0.1**
KHAL				*i* S	**Sg**	**00 40 42.6**	**-0.2**
ALT	**Altintas**	**0.83**	**94**	*e*PG	**Pg**	**00 40 31.9**	**-0.2**
ALT				*e*SG	**Sg**	**00 40 43.5**	**+0.5**
ALT	**Altintas**	**0.83**	**94**	*e*Pg	**Pg**	**00 40 31.9**	**-0.2**
ALT				*e*Sg	**Sg**	**00 40 43.5**	**+0.5**
KHL	**Karahalli**	**0.88**	**155**	*e*PG	**Pg**	**00 40 33.0**	**0.0**
KHL	**Karahalli**	**0.88**	**155**	*e*Pg	**Pg**	**00 40 33.0**	**0.0**
ORLT	**Orhaneli**	**0.93**	**353**	*e*PG	**Pg**	**00 40 33.8**	**-0.1**
ORLT	**Orhaneli**	**0.93**	**353**	*e*Pg	**Pg**	**00 40 33.8**	**-0.1**
AKHS	**Akhisar**	**0.99**	**256**	*i* P	**Pg**	**00 40 35.1**	**+0.1**
AKHS				*i* S	**Sg**	**00 40 47.6**	**-0.2**
AKHS	**Akhisar**	**0.99**	**256**	*i* P	**Pg**	**00 40 35.1**	**+0.1**
AKHS				*i* S	**Sg**	**00 40 47.6**	**-0.2**
AKS	**Akhisar**	**0.99**	**256**	*e*PG	**Pg**	**00 40 35.2**	**+0.2**
AKS	**Akhisar**	**0.99**	**256**	*e*Pg	**Pg**	**00 40 35.2**	**+0.2**
ULDT	**Uludag**	**1.02**	**4**	*i* P	**Pg**	**00 40 35.6**	**-0.1**
ULDT				*i* S	**Sg**	**00 40 48.0**	**-1.0**
ULDT	**Uludag**	**1.02**	**4**	*i* P	**Pg**	**00 40 35.6**	**-0.1**
ULDT				*i* S	**Sg**	**00 40 48.0**	**-1.0**
BALB	**Balikesir**	**1.04**	**300**	*e*PG	**Pg**	**00 40 36.2**	**+0.3**
BALB	**Balikesir**	**1.04**	**300**	*e*Pg	**Pg**	**00 40 36.2**	**+0.3**
CAVI	**Cavuskoy**	**1.24**	**30**	*e*PN	**Pb**	**00 40 39.7**	**+0.1**
CAVI	**Cavuskoy**	**1.24**	**30**	*e*PN	**Pb**	**00 40 39.7**	**+0.1**
KCTX	**Karacabey (Bur**	**1.26**	**335**	*e*PN	**Pn**	**00 40 39.9**	**+0.2**
KCTX	**Karacabey (Bur**	**1.26**	**335**	*e*Pn	**Pn**	**00 40 39.9**	**+0.2**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pn**	**00 40 40.2**	**+0.4**
BALY				*i* S	**Sg**	**00 40 55.9**	**-0.7**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pn**	**00 40 40.2**	**+0.4**
BALY				*i* S	**Sg**	**00 40 55.9**	**-0.7**
SHUT	**Suhut-Afyon**	**1.31**	**115**	*e*PN	**Pb**	**00 40 40.8**	**0.0**
SHUT	**Suhut-Afyon**	**1.31**	**115**	*e*Pn	**Pb**	**00 40 40.8**	**0.0**
BORA	**Eskisehir**	**1.33**	**55**	*i* P	**Pn**	**00 40 40.5**	**-0.2**
BORA				*i* S	**Sb**	**00 40 57.4**	**-0.8**
BORA	**Eskisehir**	**1.33**	**55**	*i* P	**Pn**	**00 40 40.5**	**-0.2**
BORA				*i* S	**Sb**	**00 40 57.4**	**-0.8**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*PN	**Pb**	**00 40 42.4**	**+0.2**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*PN	**Pb**	**00 40 42.4**	**+0.2**
ADVT	**Abdulvahap**	**1.42**	**22**	*e*PN	**Pb**	**00 40 42.5**	**0.0**
ADVT	**Abdulvahap**	**1.42**	**22**	*e*Pn	**Pb**	**00 40 42.5**	**0.0**
ARMT	**Armutlu**	**1.45**	**355**	*e*PN	**Pb**	**00 40 43.1**	**0.0**
ARMT	**Armutlu**	**1.45**	**355**	*e*Pn	**Pb**	**00 40 43.1**	**0.0**
ESKT	**Eskisehir**	**1.46**	**74**	*e*PN	**Pn**	**00 40 43.0**	**+0.4**
ESKT	**Eskisehir**	**1.46**	**74**	*e*Pn	**Pn**	**00 40 43.0**	**+0.4**
GPA	**Golpazari**	**1.52**	**40**	*e*PN	**Pn**	**00 40 43.9**	**+0.6**
GPA	**Golpazari**	**1.52**	**40**	*e*Pn	**Pn**	**00 40 43.9**	**+0.6**
EDC	**Edincik**	**1.52**	**324**	*e*PN	**Pn**	**00 40 44.2**	**+0.9**
EDC	**Edincik**	**1.52**	**324**	*e*Pn	**Pn**	**00 40 44.2**	**+0.9**
GULT	**Gulveren**	**1.73**	**41**	*e*PN	**Pn**	**00 40 46.9**	**+0.6**
GULT	**Gulveren**	**1.73**	**41**	*e*Pn	**Pn**	**00 40 46.9**	**+0.6**
ISK	**Istanbul-Kandi**	**1.94**	**0**	*e*PN	**Pn**	**00 40 50.1**	**+1.1**
ISK	**Istanbul-Kandi**	**1.94**	**0**	*e*Pn	**Pn**	**00 40 50.1**	**+1.1**
SVRH	**Sivrihisar-ESK**	**1.95**	**80**	*e*PN	**Pn**	**00 40 50.1**	**+0.8**
SVRH	**Sivrihisar-ESK**	**1.95**	**80**	*e*Pn	**Pn**	**00 40 50.1**	**+0.8**
MDUB	**Mudurnu**	**2.14**	**50**	*e*PN	**Pn**	**00 40 52.7**	**+0.8**
MDUB	**Mudurnu**	**2.14**	**50**	*e*Pn	**Pn**	**00 40 52.7**	**+0.8**

FUNV 26 00:46:40.0,6°.80N×73°.09W,h169km,MW3.8,1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.30**	**36**	⇓*i* P	Pn	00 47 08.5	-1.0
CAPV				*e*S	Sn	00 47 29.8	-2.4
VIGV	**El Vigia**	**2.65**	**40**	*e*P	Pn	00 47 23.5	-0.4
VIGV				*e*S	Sn	00 47 54.1	-3.9
SOCV	**Socops**	**2.66**	**56**	*e*P	Pn	00 47 23.1	-0.9
SOCV				*e*S	Sn	00 47 54.5	-3.7
ELOV	**Elorza**	**3.58**	**87**	*e*P	Pn	00 47 34.5	-0.9
VIRV	**Villa del Rosa**	**3.74**	**10**	*e*P	Pn	00 47 35.3	-2.1
VIRV				*e*S	Sn	00 48 17.4	-4.9
QARV	**Quebrada Arrib**	**4.23**	**37**	*e*P	Pn	00 47 42.6	-1.2
QARV				*e*S	Sn	00 48 29.2	-4.5
CURV	**Curarigua**	**4.44**	**44**	*e*P	Pn	00 47 45.2	-1.4
DABV	**Dabajuro**	**4.75**	**30**	*e*P	Pn	00 47 49.4	-1.2
TEPV	**Terepaima**	**4.97**	**51**	*e*P	Pn	00 47 52.1	-1.3
TEPV				*e*S	Sn	00 48 44.9	-6.1
SIQV	**Siquisique**	**5.01**	**40**	*e*P	Pn	00 47 52.5	-1.5
BAUV	**El Baul**	**5.43**	**67**	*e*P	Pn	00 47 56.7	-2.8
BAUV				*e*S	Sn	00 48 54.7	-7.0
MAPV	**Macapo**	**5.48**	**56**	*e*P	Pn	00 47 58.5	-1.6
IMOV	**Isla Los Monje**	**5.92**	**21**	*e*P	Pn	00 48 03.7	-2.3
MONV	**Montecano**	**5.97**	**31**	*e*P	Pn	00 48 04.5	-2.0
TURV	**Turiamo**	**6.33**	**55**	*e*P	Pn	00 48 08.5	-2.7
BIRV	**Birongo**	**7.66**	**61**	*e*P	Pn	00 48 26.3	-2.7
CUPV	**Cœpira**	**7.91**	**65**	*e*P	Pn	00 48 29.9	-2.4

IDC 26 00:46:47.4±3.0,23°.44S×179°.99W,h611km±32km, mb3.2/5,mb1 3.3/5,mb1mx3.1/19,mbtmp3.2/5,Error ellipse: s-maj=31.9km s-min=15.1km az=19.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.90**	**247**	P	P	00 52 49.9	0.0
	2.2nm,0.4s,baz=91,slow=9.4,SNR=10						
ASAR	**Alice Springs**	**42.12**	**260**	P	P	00 53 48.4	+0.3
	0.8nm,0.4s,baz=99,slow=6.1,SNR=5.9						
ASAR				S	S	00 59 24.6	-0.7
	0.6nm,0.2s,baz=81,slow=17,SNR=4.8						
WRA	**Warramunga Arr**	**42.45**	**266**	P	P	00 53 50.3	-0.4
	0.5nm,0.3s,baz=93,slow=8.5,SNR=28						
WRA				S	S	00 59 31.4	+1.4
	0.7nm,0.9s,baz=101,slow=13,SNR=3.4						
VNDA	**Vanda**	**54.84**	**185**	P	P	00 55 21.2	+0.2
	2.4nm,0.8s,baz=28,slow=6.5,SNR=6.5						
QSPA	**South Pole Qui**	**66.64**	**180**	P	P	00 56 38.6	0.0
	5.6nm,0.7s,baz=3.2,slow=0.4,SNR=24						
MKAR	**Makanchi Array**	**111.85**	**313**	PKiKP	PKiKP	01 04 14.5	+0.5
	0.1nm,0.4s,baz=112,slow=1.6,SNR=2.5						
BRTR	**Keskin Array B**	**147.31**	**308**	PKPbc	PKPbc	01 05 22.7	-1.1
	0.6nm,0.7s,baz=166,slow=2.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**169.64**	**189**	PKP	PKPdf	01 05 46.5	-0.2
	0.4nm,0.9s,baz=119,slow=1.8,SNR=2.5						
TORD				PKPab	PKPab	01 07 04.1	-0.6
	0.9nm,0.7s,baz=170,slow=5.5,SNR=7.5						

*ISK **26** 00:47:30.6,36°.94N×35°.93E,h17km,MD2.8*
*ISCJB **26** 00:47:31.4±0.5,36°.92N±0°.03×35°.88E±0°.04,h21km±7km, Error ellipse: s-maj=6.1km s-min=5.4km az=38.1*
*DDA **26** 00:47:31.2,36°.85N×35°.87E,h7km,MD3.3*
*CSEM **26** 00:47:31.2±0.2,36°.92N×35°.87E,h20km,MD2.8, Error ellipse: s-maj=4.3km s-min=4.1km az=52.0*

ISC 26 00:47:30.5±1.2,36°.91N±0°.03×35°.91E±0°.03,h14km±11km, n23,σ0$96/35,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEYT	**Ceyhan**	**0.17**	**307**	PG	**Pb**	**00 47 35.3**	**0.0**
CEYT				*e*SG	**Sb**	**00 47 38.7**	**+0.2**
CEYT	**Ceyhan**	**0.17**	**307**	*i* Pg	**Pb**	**00 47 35.3**	**0.0**
CEYT				*e*Sg	**Sb**	**00 47 38.7**	**+0.2**
KRTS	**Karatas**	**0.55**	**232**	*e*PG	**Pb**	**00 47 42.0**	**+0.2**
KRTS	**Karatas**	**0.55**	**232**	*e*Pg	**Pb**	**00 47 42.0**	**+0.2**
KOZT	**Kozan**	**0.57**	**353**	*e*PG	**Pb**	**00 47 42.0**	**-0.3**
KOZT				*e*SG	**Sb**	**00 47 50.8**	**-0.2**
KOZT	**Kozan**	**0.57**	**353**	*e*Pg	**Pb**	**00 47 42.0**	**-0.3**
KOZT				*e*Sg	**Sb**	**00 47 50.2**	**-0.2**
ANDN	**Andirin**	**0.75**	**27**	*i* P	**Pn**	**00 47 47.7**	**+0.9**
ANDN				*e*S	**Sn**	**00 48 02.0**	**+4.0**
ANDN	**Andirin**	**0.75**	**27**	*i* P	**Pn**	**00 47 47.7**	**+0.9**
HTY	**Hatay**	**0.81**	**167**	*e*PG	**Pn**	**00 47 47.4**	**+0.1**
HTY	**Hatay**	**0.81**	**167**	*e*Pg	**Pn**	**00 47 47.4**	**+0.1**
YAYL	**Yayladag**	**0.89**	**170**	*i* P	**Pg**	**00 47 48.0**	**+0.3**
YAYL				*i* S	**Sg**	**00 48 00.0**	**+0.7**
YAYL	**Yayladag**	**0.89**	**170**	*i* P	**Pg**	**00 47 48.0**	**+0.3**
YAYL				*i* S	**Sg**	**00 48 00.0**	**+0.7**
KUZU	**Kuzuini**	**0.94**	**98**	*i* P	**Pn**	**00 47 49.2**	**-0.1**
KUZU				*i* S	**Sn**	**00 48 01.6**	**-1.0**
KUZU	**Kuzuini**	**0.94**	**98**	*i* P	**Pn**	**00 47 49.2**	**-0.1**
KUZU				*i* S	**Sn**	**00 48 01.6**	**-1.0**
GULE	**Gulek**	**0.98**	**293**	*i* P	**Pn**	**00 47 49.1**	**-0.9**
GULE				*i* S	**Sb**	**00 48 00.8**	**-1.4**
GULE	**Gulek**	**0.98**	**293**	*i* P	**Pn**	**00 47 49.1**	**-0.9**
GULE				*i* S	**Sb**	**00 48 00.8**	**-1.4**
KMRS	**Kahramanmaras**	**0.99**	**53**	*e*PG	**Pn**	**00 47 49.4**	**-0.5**
KMRS	**Kahramanmaras**	**0.99**	**53**	*e*Pg	**Pn**	**00 47 49.4**	**-0.5**
GAZ	**Gaziantep**	**1.07**	**75**	*e*PG	**Pg**	**00 47 51.1**	**-0.1**
GAZ	**Gaziantep**	**1.07**	**75**	*e*Pg	**Pg**	**00 47 51.1**	**-0.1**
MERS	**Mersin**	**1.12**	**268**	*e*PN	**Pb**	**00 47 51.4**	**-0.2**
MERS	**Mersin**	**1.12**	**268**	*e*Pn	**Pb**	**00 47 51.4**	**-0.2**
GZT	**Gaziantep**	**1.39**	**71**	*i* P	**Pb**	**00 47 56.0**	**-0.3**
GZT				*i* S	**Sg**	**00 48 14.5**	**-1.0**

IDC 26 00:50:44.9±30.0,1°.84N×101°.17W,h0km,mb3.4/3, mb1 3.8/3,mb1mx3.6/18,mbtmp3.4/3,MS3.1/2,Ms1 3.1/2, ms1mx2.8/17,Error ellipse: s-maj=1134.0km s-min=139.8km az=110.0,Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**16.37**	**22**	LR	LR	00 58 58.7	
	comp=Z,54nm,19.6s,baz=172,slow=30						

TEIG	**Tepich**	**22.19**	**34**	LR	LR	01 03 03.7	
	comp=Z,52nm,18.3s,baz=318,slow=33						
TXAR	**Lajitas Array**	**27.44**	**355**	P	P	00 56 32.3	-0.4
	0.2nm,0.7s,baz=176,slow=10.0,SNR=3.5						
PDAR	**Pinedale Array**	**41.43**	**351**	P	P	00 58 34.1	+0.5
	0.4nm,0.7s,baz=160,slow=8.3,SNR=3.5						
ILAR	**Eielson Array**	**70.86**	**341**	P	P	01 02 03.2	-0.1
	0.6nm,0.8s,baz=154,slow=5.7,SNR=6.2						

*IDC **26** 00:59:06.0±0.6,11°.36S×118°.44E,h0km,mb4.2/11, mb1 4.3/15,mb1mx4.2/22,mbtmp4.3/15,ML4.1/4,MS3.1/7, Ms1 3.1/7,ms1mx2.9/33,Error ellipse: s-maj=25.8km s-min=13.8km az=66.0*
*DJA **26** 00:59:05,11°.85S×118°.36E,h10km,MLv5.1/8*
*NEIC **26** 00:59:10.8±0.4,11°.44S×118°.50E,h35km,mb4.0/5,Error ellipse: s-maj=15.6km s-min=7.3km az=61.0*

ISC 26 00:59:04.3±0.5,11°.93S±0°.06×118°.30E±0°.06,h10km,n81, σ1$94/73,mb4.3/13,MS3.1/4,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**2.99**	**41**	P	**Pn**	**00 59 53.4**	**+1.6**
IGBI	**Denpasar**	**4.38**	**315**	P	**Pn**	**01 00 09.7**	**-1.2**
IGBI				S	Sn	01 00 52.9	-9.2
KHKI	**Kahang-Kahang**	**4.42**	**323**	P	**Pn**	**01 00 10.5**	**-1.1**
DNP	**Denpasar**	**4.44**	**317**	P	**Pn**	**01 00 11.1**	**-0.6**
DNP				S	Sn	01 00 54.9	-8.6
MMRI	**Maumere**	**5.08**	**50**	P	**Pn**	**01 00 18.8**	**-1.8**
JAGI	**Jajag, Banyuwa**	**5.33**	**310**	P	**Pn**	**01 00 21.8**	**-2.3**
GMJI	**Gumukmas**	**6.00**	**307**	P	**Pn**	**01 00 33.4**	**+0.1**
	98nm,0.4s,4μm0.8nm						
GMJI				S	Sn	01 01 33.5	-8.6
	98nm,0.4s,4μm0.8nm						
KMMI	**Kalianget**	**6.46**	**318**	P	**Pn**	**01 00 39.6**	**0.0**
	51nm,1.7s,0.2nm						
BKSI	**Bulukumba**	**6.81**	**16**	P	**Pn**	**01 00 43.1**	**-1.3**
	101nm,0.5s,1μm0.4nm						
BKSI				S	Sn	01 01 49.3	-13
	101nm,0.5s,1μm0.4nm						
KRKI	**Karangkates**	**6.87**	**303**	P	**Pn**	**01 00 45.4**	**+0.2**
	329nm,0.6s,1.8nm						
KAPI	**Kappang**	**7.02**	**12**	Pn	Pn	01 00 43.7	-3.6
KAPI					Sn	01 01 52.9	-14
KAPI	**Kappang**	**7.02**	**12**	Pn	Pn	01 00 43.7	-3.6
	4.0nm,0.3s,baz=206,slow=9.0,SNR=18						
KAPI					Sn	01 01 52.9	-14
	5.0nm,0.3s,baz=31,slow=22,SNR=8.5						
KAPI					LR	01 03 00.7	
	comp=Z,59nm,18.8s,baz=188,slow=36						
PWJI	**Pagerwojo**	**7.48**	**301**	P	**Pn**	**01 00 53.0**	**-0.6**
	101nm,0.8s,4μm0.8nm						
PWJI				S	Sn	01 02 10.7	-7.9
	101nm,0.8s,4μm0.8nm						
SJI	**Sawahan**	**7.67**	**302**	P	**Pn**	**01 00 56.0**	**-0.2**
	116nm,0.5s,7μm						
PCJI	**Pacitan**	**7.93**	**297**	P	**Pn**	**01 00 59.4**	**-0.4**
	149nm,0.7s,3μm0.9nm						
UGM	**Wanagama**	**8.63**	**297**	P	**Pn**	**01 01 09.2**	**-0.3**
	180nm,1.3s						
UGM				S	Sn	01

MKAR Makanchi Array 66.75 334 P **P** **01 09 55.7 -0.2**
MKAR Makanchi Array 66.75 334 P **P** **01 09 55.7 -0.2**
1.5nm,0.5s,baz=147,slow=6.5,SNR=29
KURK Kurchatov 71.32 335 *eP* **P** **01 10 24.1 0.0**
ZAA0 Zalesovo Array 71.53 340 *eP* **P** **01 10 24.2 -1.0**
ZALV Zalesovo Beam 71.53 340 P **P** **01 10 24.4 -0.9**
ZALV Zalesovo Beam 71.53 340 P **P** **01 10 24.4 -0.9**
2.1nm,0.7s,baz=146,slow=4.8,SNR=13
PETK Petropavlovsk- 73.02 24 P **P** **01 10 35.5 +1.2**
PETK Petropavlovsk- 73.02 24 P **P** **01 10 35.5 +1.2**
7.2nm,1.1s,baz=201,slow=5.2,SNR=2.9
ABKAR Akbulak array 79.56 325 *eP* **P** **01 11 11.8 +0.4**
0.9nm,0.5s
BOSA Boshof 87.00 242 P P 01 11 56.0 +5.4
BOSA Boshof 87.00 242 P P 01 11 56.0 +5.4
1.5nm,0.8s,baz=225,slow=4.3,SNR=4.9
YKA Yellowknife Ar 117.13 25 PKP **PKPdf** **01 17 51.6 +2.3**
YKA Yellowknife Ar 117.13 25 PKP **PKPdf** **01 17 51.6 +2.3**
0.2nm,0.5s,baz=301,slow=2.0,SNR=3.3
TORD Torodi Ar. Bea 118.25 279 PKP **PKPdf** **01 17 56.0 +3.1**
TORD Torodi Ar. Bea 118.25 279 PKP **PKPdf** **01 17 56.0 +3.1**
0.7nm,1.1s,baz=84,slow=2.3,SNR=2.7
BDFB Brasilia 149.44 207 PKPbc **PKPab** **01 19 00.3 +0.8**
BDFB Brasilia 149.44 207 PKPbc **PKPab** **01 19 00.3 +0.8**
3.3nm,0.6s,baz=146,slow=3.6,SNR=7.0
LPAZ La Paz 151.25 167 PKPbc **PKPab** **01 19 05.5 -2.1**
LPAZ La Paz 151.25 167 PKPbc **PKPab** **01 19 05.5 -2.1**
1.1nm,0.6s,baz=117,slow=4.5,SNR=3.1

IDC 26 01:04:53.7±16.0, 18.43N×144.95E, h429km±178km, mb3.0/5, mb1 3.2/5, mb1mx2.9/25, mbtmp3.0/5, Error ellipse: s-maj=139.4km s-min=22.6km az=79.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.53**	**196**	P		P		01 11 45.2	-0.7
	1.2nm,0.3s,baz=13,slow=8.6,SNR=28								
FITZ	**Fitzroy Crossi**	**40.97**	**209**	P		P		01 11 57.9	+0.4
	1.1nm,0.3s,baz=31,slow=10,SNR=12								
SONM	**Songino Array**	**42.91**	**322**	P		P		01 12 12.3	-0.4
	0.3nm,0.6s,baz=133,slow=8.0,SNR=4.3								
MKAR	**Makanchi Array**	**58.13**	**314**	P		P		01 14 05.2	+0.5
	0.2nm,0.7s,baz=90,slow=8.6,SNR=2.9								
FINES	**FINESS Array B**	**86.82**	**335**	P		P		01 16 50.6	-0.4
	0.9nm,0.8s,baz=79,slow=7.2,SNR=3.6								

IDC 26 01:11:02.6±1.9, 4.24N×127.39E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/23, mbtmp3.6/4, Error ellipse: s-maj=114.6km s-min=25.8km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.26**	**184**	P		P		01 16 01.4	+0.1
	1.6nm,0.9s,baz=4.8,slow=12,SNR=2.5								
WRA	**Warramunga Arr**	**24.98**	**164**	P		P		01 16 29.4	+1.2
	1.0nm,0.7s,baz=342,slow=11,SNR=8.8								
STKA	**Stephens Creek**	**38.37**	**160**	P		P		01 18 24.2	-1.5
	1.9nm,1.0s,baz=333,slow=16,SNR=2.4								
MKAR	**Makanchi Array**	**57.52**	**325**	P		P		01 20 54.0	+0.1
	0.2nm,0.4s,baz=123,slow=8.1,SNR=5.0								

IDC 26 01:13:60.0±1.5, 13.65N×146.54E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/25, mbtmp3.6/5, Error ellipse: s-maj=50.3km s-min=30.8km az=98.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.48**	**200**	P		P		01 20 58.5	0.0
	0.7nm,0.8s,baz=21,slow=9.5,SNR=4.1								
SONM	**Songino Array**	**47.63**	**324**	P		P		01 22 38.6	+0.6
	0.5nm,0.8s,baz=141,slow=7.2,SNR=4.7								
MKAR	**Makanchi Array**	**62.58**	**316**	P		P		01 24 25.8	-0.2
	0.5nm,0.3s,baz=97,slow=8.1,SNR=11								
ILAR	**Eielson Array**	**67.82**	**25**	P		P		01 24 59.6	-0.1
	0.2nm,0.6s,baz=248,slow=4.8,SNR=2.9								
FINES	**FINESS Array B**	**91.79**	**336**	P		P		01 27 08.9	-0.6
	1.8nm,1.0s,baz=38,slow=9.6,SNR=3.4								

*IDC **26** 01:39:09.2±1.9, 23.08S×170.42E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/18, mbtmp3.7/6, ML3.3/1, Error ellipse: s-maj=61.0km s-min=28.3km az=159.0*
*ISCJB **26** 01:39:12.2±1.2, 23.1S±0.2×170.3E±0.1, h28km, mb3.7/5, Error ellipse: s-maj=32.8km s-min=11.6km az=12.2*
ISC 26 01:39:13.7±1.4, 23.1S±0.3×170.4E±0.1, h28km, n9, σ1§09/12, mb3.8/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.75**	**284**	*eP*		**Pn**		**01 40 09.4**	**-0.3**
DZM				*eS*		**Sn**		**01 40 51.6**	**-1.5**
DZM	**Mont Dzumac**	**3.75**	**284**	Pn		**Pn**		**01 40 09.7**	**-0.1**
	2.1nm,0.3s,baz=80,slow=17,SNR=48								
DZM				Sn		**Sn**		**01 40 55.0**	**+1.9**
	6.2nm,0.3s,baz=64,slow=17,SNR=11								
NOUC	**Port Laguerre**	**3.87**	**283**	*eP*		**Pn**		**01 40 10.8**	**-0.6**
NOUC				*eS*		**Sn**		**01 40 56.0**	**+0.2**
STKA	**Stephens Creek**	**26.94**	**245**	P		**P**		**01 44 53.2**	**+0.5**
	1.7nm,0.9s,baz=89,slow=12,SNR=4.0								
ASAR	**Alice Springs**	**33.42**	**262**	P		**P**		**01 45 50.4**	**+0.1**
	0.4nm,0.3s,baz=102,slow=9.3,SNR=4.3								
WRA	**Warramunga Arr**	**33.61**	**268**	P		**P**		**01 45 51.0**	**-0.9**
	0.3nm,0.6s,baz=97,slow=8.4,SNR=4.6								
SONM	**Songino Array**	**90.88**	**323**	P		**P**		**01 52 16.2**	**+1.5**
	0.5nm,0.9s,baz=132,slow=6.0,SNR=3.6								
ILAR	**Eielson Array**	**93.54**	**17**	P		**P**		**01 52 25.9**	**-0.5**
	0.4nm,0.9s,baz=235,slow=6.3,SNR=3.6								
GERES	**GERESS Array B**	**148.31**	**330**	PKPbc		**PKPbc**		**01 58 56.6**	**-0.7**
	0.4nm,0.6s,baz=31,slow=2.6,SNR=4.2								

*IDC **26** 01:46:21.6±1.7, 9.23S×116.47E, h0km, mb3.2/3, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=42.4km s-min=23.2km az=59.0*
*ISCJB **26** 01:46:27.4±0.6, 9.67S±0.07×116.47E±0.05, h33km, mb3.4/2, Error ellipse: s-maj=11.3km s-min=5.0km az=24.8*
*DJA **26** 01:46:29, 9.54S×116.43E, h15km, MLv4.2/4*
ISC 26 01:46:28.4±1.0, 9.56S±0.10×116.48E±0.07, h33km, n18, σ1§86/25, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KHKI	**Kahang-Kahang**	**1.47**	**324**	P		**Pn**		**01 46 53.1**	**+0.5**
KHKI				S		**Sn**		**01 47 11.3**	**+0.6**
IGBI	**Denpasar**	**1.51**	**299**	P		**Pn**		**01 46 53.7**	**+0.5**
IGBI				S		**Sn**		**01 47 12.3**	**+0.5**
DNP	**Denpasar**	**1.53**	**305**	P		**Pb**		**01 46 54.9**	**-1.3**
DNP				S		**Sn**		**01 47 12.3**	**0.0**
NBBI	**Negara**	**2.19**	**303**	P		**Pn**		**01 47 00.1**	**-2.4**
NBBI				S		**Sn**		**01 47 23.1**	**-5.3**
BYJI	**Banyuwangi**	**2.49**	**302**	P		**Pn**		**01 47 07.8**	**+1.1**
BYJI				S		**Sn**		**01 47 37.0**	**+1.1**
JAGI	**Jajag, Banyuwa**	**2.54**	**295**	P		**Pn**		**01 47 08.8**	**+1.4**
JAGI				S		**Sn**		**01 47 38.0**	**+0.7**
GMJI	**Gumukmas**	**3.26**	**293**	P		**Pn**		**01 47 18.9**	**+1.6**
GMJI				S		**Sn**		**01 47 55.8**	**+0.8**
BLJI	**Banyuglugur**	**3.38**	**302**	P		**Pn**		**01 47 20.2**	**+1.3**
BLJI				S		**Sn**		**01 47 58.5**	**+0.7**
KRKI	**Karangkates**	**4.22**	**289**	P		**Pn**		**01 47 32.3**	**+1.9**
PWJI	**Pagerwojo**	**4.87**	**288**	P		**Pn**		**01 47 41.2**	**+1.8**
PCJI	**Pacitan**	**5.42**	**284**	P		**Pn**		**01 47 48.6**	**+1.7**
	78nm,0.9s,0.3nm								
PCJI				S		**Sn**		**01 48 49.6**	**+1.5**
	78nm,0.9s,0.3nm								
BKSI	**Bulukumba**	**5.54**	**41**	P		**Pn**		**01 47 51.3**	**+2.6**
	19nm,0.6s,0.1nm								
KAPI	**Kappang**	**5.56**	**36**	P		**Pn**		**01 47 51.3**	**+2.4**
KAPI	**Kappang**	**5.56**	**36**	Pn		Pn		01 47 41.8	-7.1
	0.8nm,0.3s,baz=203,slow=15,SNR=1.6								
KAPI				Sn		Sn		01 48 46.1	-5.6
	1.6nm,0.3s,baz=59,slow=23,SNR=6.1								
FITZ	**Fitzroy Crossi**	**12.29**	**135**	Pn		**Pn**		**01 49 19.5**	**-1.7**
	0.4nm,0.3s,baz=322,slow=12,SNR=9.7								
FITZ				Sn		Sx		01 51 28.0	
	0.2nm,0.3s,baz=202,slow=19,SNR=2.7								
WRA	**Warramunga Arr**	**20.10**	**123**	P		**P**		**01 50 59.3**	**-0.2**
	0.7nm,0.8s,baz=302,slow=12,SNR=10								
WRA				S		Sx		01 54 34.0	
	0.4nm,0.7s,baz=305,slow=25,SNR=2.8								
ASAR	**Alice Springs**	**21.77**	**132**	P		**P**		**01 51 18.6**	**+1.0**
	0.8nm,0.4s,baz=307,slow=12,SNR=6.4								
MKAR	**Makanchi Array**	**63.85**	**335**	P		P		01 56 53.9	-3.8
	0.1nm,0.3s,baz=138,slow=7.1,SNR=2.2								

*ISCJB **26** 01:53:47.1±1.0, 16.25N±0.06×98.16W±0.03, h20km±5km, Error ellipse: s-maj=9.9km s-min=5.0km az=178.0*
*MEX **26** 01:53:49.4±0.6, 16.26N×98.18W, h5km, MD3.9*
ISC 26 01:53:47.5±1.8, 16.25N±0.08×98.15W±0.04, h17km±8km, n14, σ0§56/27, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**10**	*eP*		**Pb**		**01 53 51.8**	**0.0**
PNIG				*i S*		**Sg**		**01 53 54.4**	**0.0**
VHO	**Vista Hermosa**	**1.59**	**59**	*i P*		**Pn**		**01 54 15.1**	**0.0**
VHO				*i S*		**Sn**		**01 54 35.2**	**-0.1**
UTMO	**Huajuapan**	**1.61**	**12**	*eP*		**Pn**		**01 54 15.1**	**-0.3**
UTMO				*i S*		**Sn**		**01 54 34.7**	**-1.1**
ACX	**Acapulco**	**1.75**	**291**	*i P*		**Pn**		**01 54 16.7**	**-0.4**
ACX				*i S*		**Sn**		**01 54 38.2**	**-0.8**
CAIG	**El Cayaco**	**2.18**	**292**	*eP*		**Pn**		**01 54 23.6**	**+0.6**
CAIG				*i S*		**Sn**		**01 54 49.5**	**0.0**
MEIG	**Mezcala**	**2.18**	**320**	*eP*		**Pn**		**01 54 23.2**	**+0.2**
MEIG				*i S*		**Sn**		**01 54 49.8**	**+0.1**
TPIG	**Tehuac#an**	**2.29**	**19**	*i P*		**Pn**		**01 54 25.1**	**+0.4**
TPIG				*i S*		**Sn**		**01 54 52.8**	**+0.3**
PLIG	**Platanillo**	**2.49**	**329**	*i P*		**Pn**		**01 54 27.8**	**+0.5**
PLIG				*i S*		**Sn**		**01 54 57.4**	**-0.1**
YAIG	**Yautepec**	**2.74**	**342**	*eP*		**Pn**		**01 54 31.9**	**+1.0**
YAIG				*i S*		**Sn**		**01 55 03.7**	**0.0**
PPM	**Popocatepetl**	**2.84**	**351**	*i P*		**Pn**		**01 54 32.5**	**-0.1**
PPM				*i S*		**Sn**		**01 55 06.1**	**-0.5**
ARIG	**Puente Sto Nin**	**2.91**	**314**	*i P*		**Pn**		**01 54 33.2**	**+0.1**
ARIG				*i S*		**Sn**		**01 55 08.1**	**+0.4**
CMIG	**Matias Romero**	**3.24**	**75**	*i P*		**Pn**		**01 54 37.9**	**+0.2**
CMIG				*i S*		**Sn**		**01 55 16.0**	**+0.1**
ZIIG	**Zihuatanejo**	**3.44**	**294**	*i P*		**Pn**		**01 54 41.2**	**+0.8**
ZIIG				*i S*		**Sn**		**01 55 21.6**	**+0.8**
MMIG	**Aquila**	**5.36**	**293**	*i P*		**Pn**		**01 55 05.5**	**-1.3**

IDC 26 01:56:52.1±4.8, 19.95S×176.48W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.7/19, mbtmp4.1/2, Error ellipse: s-maj=273.9km s-min=51.6km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.04**	**256**	P		P		02 05 17.8	-0.1
	1.4nm,0.5s,baz=101,slow=7.2,SNR=13								
WRA	**Warramunga Arr**	**46.09**	**261**	P		P		02 05 18.1	-0.2
	1.2nm,0.3s,baz=97,slow=7.8,SNR=56								
MKAR	**Makanchi Array**	**111.86**	**313**	PKiKP		PKiKP		02 15 27.6	-1.5
	0.2nm,0.6s,baz=90,slow=2.9,SNR=2.4								
AKASG	**Malin Array Be**	**143.21**	**333**	PKP		PKPdf		02 16 26.6	-1.5
	0.7nm,0.4s,baz=43,slow=4.9,SNR=6.0								
BRTR	**Keskin Array B**	**147.51**	**314**	PKPbc		PKPbc		02 16 38.9	+0.3
	0.5nm,0.7s,baz=147,slow=4.1,SNR=4.2								

*ISCJB **26** 02:00:52.8±0.6, 6.87N±0.06×72.97W±0.07, h174km±5km, mb3.2/5, Error ellipse: s-maj=14.5km s-min=6.5km az=39.7*
*FUNV **26** 02:00:52.9, 6.68N×73.12W, h162km, MW3.5*
*IDC **26** 02:00:52.2±3.0, 6.83N×72.82W, h156km±34km, mb3.1/5, mb1 3.4/6, mb1mx3.2/23, mbtmp3.2/6, Error ellipse: s-maj=40.5km s-min=24.8km az=41.0*
ISC 26 02:00:53.5±0.9, 6.85N±0.08×72.96W±0.08, h168km±8km, n21, σ0§85/29, mb3.1/5, 6C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.20**	**32**	*i P*		**Pn**		**02 01 22.4**	**+0.5**
CAPV				*eS*		**Sn**		**02 01 43.6**	**-0.3**
ROSC	**El Rosal**	**2.40**	**215**	P		**Pn**		**02 01 34.0**	**-0.8**
	29nm,0.3s,baz=264,slow=13,SNR=118								
ROSC				S		**Sn**		**02 02 06.2**	**-0.6**
	72nm,0.3s,baz=84,slow=19,SNR=21								
SOCV	**Socops**	**2.53**	**55**	*i P*		**Pn**		**02 01 37.2**	**+1.3**
SOCV				*eS*		**Sn**		**02 02 08.6**	**-0.2**
VIGV	**El Vigia**	**2.53**	**38**	*eP*		**Pn**		**02 01 36.6**	**+0.6**
VIGV				*eS*		**Sn**		**02 02 08.9**	**-0.1**
VIRV	**Villa del Rosa**	**3.67**	**8**	*eP*		**Pn**		**02 01 49.8**	**-0.3**
VIRV				*eS*		**Sn**		**02 02 32.9**	**-1.5**
QARV	**Quebrada Arrib**	**4.12**	**36**	*eP*		**Pn**		**02 01 57.4**	**+1.5**
QARV				*eS*		**Sn**		**02 02 44.0**	**-0.5**
CURV	**Curarigua**	**4.32**	**43**	*i P*		**Pn**		**02 01 59.1**	**+0.6**
CURV				*eS*		**Sn**		**02 02 48.7**	**-0.7**
DABV	**Dabajuro**	**4.65**	**29**	*eP*		**Pn**		**02 02 04.0**	**+1.2**
TEPV	**Terepaima**	**4.84**	**50**	*i P*		**Pn**		**02 02 06.1**	**+0.8**
SIQV	**Siquisique**	**4.89**	**39**	*i P*		**Pn**		**02 02 06.4**	**+0.4**
SIQV				*eS*		**Sn**		**02 03 00.8**	**-1.9**
BAUV	**El Baul**	**5.30**	**67**	*eP*		**Pn**		**02 02 10.8**	**-0.4**
MAPV	**Macapo**	**5.35**	**56**	*i P*		**Pn**		**02 02 12.3**	**+0.4**
MONV	**Montecano**	**5.87**	**30**	*eP*		**Pn**		**02 02 18.2**	**-0.6**
TURV	**Turiamo**	**6.20**	**54**	*eP*		**Pn**		**02 02 22.9**	**-0.2**
CUPV	**Cœpira**	**7.78**	**65**	*eP*		**Pn**		**02 02 43.8**	**-0.3**
TXAR	**Lajitas Array**	**36.57**	**312**	P		**P**		**02 07 43.5**	**0.0**
	0.3nm,0.7s,baz=129,slow=9.4,SNR=3.8								
ULM	**Lac du Bonnet**	**47.32**	**340**	P		**P**		**02 09 09.9**	**-0.2**
	1.0nm,0.8s,baz=133,slow=9.7,SNR=3.7								
PDAR	**Pinedale Array**	**48.15**	**324**	P		**P**		**02 09 17.7**	**+0.7**
	0.2nm,0.5s,baz=122,slow=9.6,SNR=2.8								
YKA	**Yellowknife Ar**	**63.30**	**340**	P		**P**		**02 11 05.1**	**+1.0**
	0.6nm,0.6s,baz=131,slow=6.7,SNR=12								
TORD	**Torodi Ar. Bea**	**73.57**	**78**	P		**P**		**02 12 08.0**	**-0.9**
	0.3nm,1.0s,baz=292,slow=7.6,SNR=2.9								
WRA	**Warramunga Arr**	**150.49**	**241**	PKPbc		**PKPbc**		**02 20 26.5**	**+0.2**
	0.4nm,1.0s,baz=106,slow=2.7,SNR=3.8								

MEX 26 02:03:19.9±0.7, 15.50N×93.46W, h94km±6km, MD3.7, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCIG		**0.31**	**49**	*eP*		Pn		02 03 32.5	-1.3
PCIG				*i S*		Sn		02 03 42.5	-1.8
TGIG		**1.31**	**14**	*i P*		Pn		02 03 42.6	-1.1
TGIG				*i S*		Sn		02 03 59.4	-2.2
CCIG	**Comitan**	**1.50**	**58**	*eP*		Pn		02 03 44.6	-1.4
CCIG				*i S*		Sn		02 04 04.6	-1.2
CMIG	**Matias Romero**	**2.09**	**319**	*eP*		Pn		02 03 52.0	-1.4
CMIG				*i S*		Sn		02 04 18.1	-1.0

*FUNV **26** 02:30:27.9, 6.69N×73.23W, h171km, MW3.5*
*ISCJB **26** 02:30:28.9±0.6, 6.85N±0.06×72.99W±0.06, h173km±6km, mb3.4/3, Error ellipse: s-maj=12.2km s-min=7.0km az=43.0*
*IDC **26** 02:30:29.7±4.5, 6.77N×72.97W, h164km±33km, mb3.1/3, mb1 3.4/4, mb1mx3.0/23, mbtmp3.1/4, Error ellipse: s-maj=79.8km s-min=32.4km az=89.0*
ISC 26 02:30:29.9±1.0, 6.84N±0.07×72.99W±0.07, h168km±8km, n19, σ0§90/26, mb3.5/3, 6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**34**	*i P*		**Pn**		**02 30 58.8**	**+0.3**
CAPV				*eS*		**Sn**		**02 31 20.5**	**0.0**
ROSC	**El Rosal**	**2.38**	**214**	P		**Pn**		**02 31 10.6**	**-0.4**
	21nm,0.3s,baz=341,slow=4.4,SNR=97								
ROSC				S		**Sn**		**02 31 41.5**	**-1.1**
	10nm,0.3s,baz=96,slow=19,SNR=5.3								
SOCV	**Socops**	**2.56**	**56**	*eP*		**Pn**		**02 31 13.3**	**+0.6**
SOCV				*eS*		**Sn**		**02 31 45.8**	**-0.1**
VIGV	**El Vigia**	**2.56**	**39**	*eP*		**Pn**		**02 31 13.7**	**+0.9**
VIGV				*eS*		**Sn**		**02 31 46.5**	**+0.5**
ELOV	**Elorza**	**3.49**	**87**	*eP*		**Pn**		**02 31 23.4**	**-0.8**
ELOV				*eS*		**Sn**		**02 32 06.4**	**0.0**
VIRV	**Villa del Rosa**	**3.68**	**9**	*eP*		**Pn**		**02 31 25.6**	**-1.1**
VIRV				*eS*		**Sn**		**02 32 08.4**	**-2.5**
CURV	**Curarigua**	**4.35**	**43**	*eP*		**Pn**		**02 31 35.4**	**+0.1**
CURV				*eS*		**Sn**		**02 32 25.5**	**-0.9**
DABV	**Dabajuro**	**4.67**	**30**	*eP*		**Pn**		**02 31 39.7**	**+0.3**
TEPV	**Terepaima**	**4.88**	**50**	*eP*		**Pn**		**02 31 42.4**	**+0.3**
SIQV	**Siquisique**	**4.92**	**40**	*eP*		**Pn**		**02 31 42.5**	**-0.2**
BAUV	**El Baul**	**5.33**	**67**	*eP*		**Pn**		**02 31 46.9**	**-1.2**
MAPV	**Macapo**	**5.38**	**56**	*eP*		**Pn**		**02 31 48.6**	**-0.1**
MONV	**Montecano**	**5.89**	**30**	*eP*		**Pn**		**02 31 54.6**	**-0.8**
TURV	**Turiamo**	**6.23**	**55**	*eP*		**Pn**		**02 31 59.0**	**-0.9**
CUPV	**Cœpira**	**7.81**	**65**	*eP*		**Pn**		**02 32 19.8**	**-1.1**
TXAR	**Lajitas Array**	**36.54**	**312**	P		**P**		**02 37 20.7**	**+1.0**
	0.2nm,0.5s,baz=132,slow=9.1,SNR=4.4								
ULM	**Lac du Bonnet**	**47.31**	**340**	P		**P**		**02 38 46.8**	**+0.3**
	0.6nm,0.3s,baz=139,slow=9.3,SNR=2.2								
YKA	**Yellowknife Ar**	**63.29**	**340**	P		**P**		**02 40 40.9**	**+0.4**
	0.4nm,0.6s,baz=134,slow=7.0,SNR=7.9								
WRA	**Warramunga Arr**	**150.46**	**241**	PKPbc		**PKPbc**		**02 50 02.5**	**-0.2**
	0.4nm,0.8s,baz=104,slow=3.2,SNR=3.1								

IDC 26 02:39:21.4±0.8, 23.37S×175.89W, h0km, mb4.2/10, mb1 4.4/10, mb1mx4.2/22, mbtmp4.2/10, MS3.7/2, Ms1 3.6/2, ms1mx3.0/34, Error ellipse: s-maj=30.1km s-min=21.9km az=160.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.18**	**23**	Sn		Sn		02 43 31.8	-12
	3.5nm,0.3s,baz=25,slow=22,SNR=2.3								
RAR	**Rarotonga**	**15.07**	**85**	Pn		Pn		02 42 46.8	-8.8
	2.0nm,0.3s,baz=288,slow=4.3,SNR=3.8								
DZM	**Mont Dzumac**	**16.36**	**271**	eLR		LR		02 46 50.7	
	150nm,22.8s								
TBI	**Tubuai**	**24.25**	**95**	eLR		LR		02 50 26.4	
	134nm,29.0s								
PPT2	**Papeete2**	**25.29**	**82**	eLR		LR		02 51 07.5	
	160nm,25.2s								
CTA	**Charters Tower**	**35.26**	**268**	P		P		02 46 18.2	+0.2
	2.9nm,0.4s,baz=88,slow=11,SNR=5.8								
PMG	**Port Moresby**	**37.94**	**285**	P		P		02 46 41.8	+0.9
	13nm,1.1s,baz=68,slow=3.8,SNR=3.7								
STKA	**Stephens Creek**	**38.42**	**248**	P		P		02 46 44.8	0.0
	0.9nm,0.5s,baz=159,slow=13,SNR=4.0								
STKA				LR		LR		03 00 14.3	
	comp=Z,85nm,18.5s,baz=25,slow=33								
ASAR	**Alice Springs**	**45.84**	**259**	P		P		02 47 45.9	+0.2
	1.5nm,0.8s,baz=87,slow=6.4,SNR=6.5								
WRA	**Warramunga Arr**	**46.21**	**264**	P		P		02 47 47.0	-1.6
	1.3nm,0.3s,baz=90,slow=5.8,SNR=127								
QSPA	**South Pole Qui**	**66.72**	**180**	P		P		02 50 14.0	-0.1
	0.7nm,0.2s,baz=294,slow=4.2,SNR=3.8								
PETK	**Petropavlovsk-**	**79.54**	**344**	P		P		02 51 27.9	-1.9
	9.6nm,1.0s,baz=111,slow=8.1,SNR=3.6								
USRK	**Ussuriysk Arra**	**82.42**	**325**	LR		LR		03 24 22.2	
	comp=Z,44nm,21.9s,baz=198,slow=33								
TXAR	**Lajitas Array**	**86.97**	**56**	P		P		02 52 09.2	+0.4
	0.8nm,0.8s,baz=215,slow=8.7,SNR=12								
ILAR	**Eielson Array**	**90.68**	**12**	P		P		02 52 25.8	+0.4
	0.5nm,0.9s,baz=221,slow=3.6,SNR=3.5								
CMAR	**Chiang Mai Arr**	**92.91**	**289**	P		P		02 52 38.1	+1.3
	0.9nm,0.3s,baz=138,slow=2.4,SNR=6.3								
MKAR	**Makanchi Array**	**114.58**	**312**	PKP		PKPdf		02 58 02.7	-0.8
	0.1nm,0.5s,baz=149,slow=1.4,SNR=3.2								
AKASG	**Malin Array Be**	**146.46**	**331**	PKP		PKPdf		02 59 01.3	-1.6
	1.9nm,0.6s,baz=39,slow=4.1,SNR=6.6								
AKASG				PKPbc		PKPbc		02 59 03.7	-0.6
	2.0nm,0.6s,baz=41,slow=4.2,SNR=9.0								
BRTR	**Keskin Array B**	**150.19**	**310**	PKPbc		PKPbc		02 59 14.1	-0.6
	0.7nm,0.6s,baz=128,slow=3.2,SNR=5.3								
BRTR				PKPab		PKPab		02 59 21.6	+0.8
	1.3nm,0.8s,baz=103,slow=3.9,SNR=7.0								
TORD	**Torodi Ar. Bea**	**169.58**	**167**	PKPab		PKPab		03 00 44.5	-0.2
	0.9nm,1.1s,baz=219,slow=1.8,SNR=2.8								

*ISCJB **26** 02:44:03.8±1.3, 37.03N±0.08×71.3E±0.2, h106km, Error ellipse: s-maj=23.7km s-min=7.1km az=158.4*
*NNC **26** 02:44:10.2±5.6, 37.50N×71.43E, h104km±124km, mb2.9, mpv3.5, Error ellipse: s-maj=46.6km s-min=34.0km az=9.0*
ISC 26 02:44:05.4±1.4, 37.14N±0.09×71.5E±0.1, h106km, n15, σ1§69/17, 1C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.27**	**18**	P		**Pn**		**02 45 23.5**	**+1.4**

ZALV	**Zalesovo Beam**	**61.01**	**333**	P		**P**	**03 11 56.3**	**-0.2**
	0.3nm,0.4s,baz=134,slow=4.2,SNR=2.7							
KURBB	**Kurchatov Arra**	**62.17**	**327**	P		**P**	**03 12 04.2**	**-0.3**
	1.9nm,0.9s,baz=126,slow=6.0,SNR=17							
KURK	**Kurchatov**	**62.17**	**327**	*eP*		**P**	**03 12 04.1**	**-0.4**
	2.2nm,0.8s							
KKAR	**Karatay Array**	**63.68**	**317**	*eP*		**P**	**03 12 14.1**	**-0.6**
	0.5nm,0.5s							
ABKAR	**Akbulak array**	**72.59**	**321**	*eP*		**P**	**03 13 10.6**	**+0.2**
	0.9nm,0.7s							
AKTO	**Aktyubinsk**	**74.10**	**322**	P		**P**	**03 13 20.1**	**+0.8**
AKTO	**Aktyubinsk**	**74.10**	**322**	P		**P**	**03 13 20.1**	**+0.8**
	0.7nm,0.7s,baz=95,slow=10.0,SNR=4.8							
VNDA	**Vanda**	**83.09**	**173**	*eP*		**P**	**03 14 08.3**	**+0.2**
	9.9nm,1.5s							
COLD	**Coldfoot**	**84.04**	**23**	*eP*		**P**	**03 14 13.4**	**+0.1**
	2.3nm,0.9s							
BUR08	**Bucovina Ar. S**	**95.45**	**318**	*eP*		**P**	**03 15 10.0**	**+2.1**
TORD	**Torodi Ar. Bea**	**123.33**	**288**	PKP		**PKPdf**	**03 20 40.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**123.33**	**288**	PKP		**PKPdf**	**03 20 40.6**	**-0.3**
	0.9nm,1.2s,baz=50,slow=2.3,SNR=2.5							

*ISCJB **26** 03:09:20.7±0.6,38°.32N±0°.03×22°.60E±0°.03,h13km±5km, Error ellipse: s-maj=4.4km s-min=3.8km az=21.5*
*ATH **26** 03:09:20.2,38°.34N×22°.63E,h28km±3km,ML2.5*
*CSEM **26** 03:09:20.6±0.1,38°.32N×22°.60E,h20km,ML2.2/3, Error ellipse: s-maj=2.6km s-min=2.3km az=178.0*
*THE **26** 03:09:21.4,38°.32N×22°.58E,h8km±6km,ML2.2/3, Error ellipse: s-maj=6.2km s-min=0.4km az=219.0*

ISC 26 03:09:20.7±1.2,38°.32N±0°.02×22°.59E±0°.02,h22km±3km, n33,σ0°.44/56,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KALE	**Kalithea**	**0.36**	**282**	P	**Pb**	**03 09 28.2**	**-0.2**
KALE				S	**Sb**	**03 09 33.6**	**-0.1**
KALE	**Kalithea**	**0.36**	**282**	P	**Pb**	**03 09 28.2**	**-0.2**
KALE				S	**Sb**	**03 09 33.6**	**-0.1**
TRIZ	**Trizonia**	**0.41**	**277**	P	**Pb**	**03 09 29.1**	**-0.1**
TRIZ				S	**Sb**	**03 09 34.9**	**0.0**
TRIZ	**Trizonia**	**0.41**	**277**	P	**Pb**	**03 09 29.1**	**-0.1**
TRIZ				S	**Sb**	**03 09 34.9**	**0.0**
LTK	**Loutraki**	**0.42**	**135**	*e*PB	**Pb**	**03 09 29.7**	**+0.4**
LTK				S	**Sb**	**03 09 36.1**	**+0.9**
LTK	**Loutraki**	**0.42**	**135**	*e*PB	**Pb**	**03 09 29.5**	**+0.2**
LTK				*e*SB	**Sb**	**03 09 35.9**	**+0.7**
LTK	**Loutraki**	**0.42**	**135**	*e*Pb	**Pb**	**03 09 29.5**	**+0.2**
LTK				*e*Sb	**Sb**	**03 09 35.9**	**+0.7**
GUR	**Goura**	**0.43**	**207**	P	**Pb**	**03 09 29.6**	**0.0**
GUR				S	**Sb**	**03 09 35.5**	**-0.1**
GUR	**Goura**	**0.43**	**207**	*e*PB	**Pb**	**03 09 29.6**	**0.0**
GUR				*e*SB	**Sn**	**03 09 38.0**	**-0.9**
GUR	**Goura**	**0.43**	**207**	P	**Sb**	**03 09 29.6**	**0.0**
GUR				S	**Sb**	**03 09 35.5**	**-0.1**
GUR				*e*Sb	**Sn**	**03 09 38.0**	**-0.9**
AXAR	**Agios Charalam**	**0.45**	**7**	P	**Pb**	**03 09 29.9**	**-0.1**
AXAR				S	**Sb**	**03 09 36.9**	**+0.6**
AXAR	**Agios Charalam**	**0.45**	**7**	P	**Pb**	**03 09 29.9**	**-0.1**
AXAR				S	**Sb**	**03 09 36.9**	**+0.6**
LKR	**Lokris**	**0.46**	**44**	*e*PB	**Pb**	**03 09 29.7**	**-0.4**
LKR				*e*SB	**Sb**	**03 09 36.4**	**-0.1**
LKR	**Lokris**	**0.46**	**44**	*e*Pb	**Pb**	**03 09 29.7**	**-0.4**
LKR				*e*Sb	**Sb**	**03 09 36.4**	**-0.1**
LAKA	**Lakka**	**0.49**	**261**	P	**Pb**	**03 09 30.5**	**-0.1**
LAKA				S	**Sb**	**03 09 37.4**	**+0.1**
LAKA	**Lakka**	**0.49**	**261**	P	**Pb**	**03 09 30.5**	**-0.1**
LAKA				S	**Sb**	**03 09 37.4**	**+0.1**
ATAL	**Atalanti**	**0.51**	**42**	P	**Pb**	**03 09 30.7**	**-0.2**
ATAL				S	**Sb**	**03 09 38.7**	**+0.9**
ATAL	**Atalanti**	**0.51**	**42**	P	**Pb**	**03 09 30.7**	**-0.2**
ATAL				S	**Sb**	**03 09 38.7**	**+0.9**
EFP	**Efpalio**	**0.55**	**282**	P	**Pb**	**03 09 31.7**	**0.0**
EFP				S	**Sb**	**03 09 40.0**	**+0.8**
EFP	**Efpalio**	**0.55**	**282**	*e*PN	**Pb**	**03 09 31.6**	**-0.1**
EFP	**Efpalio**	**0.55**	**282**	P	**Pb**	**03 09 31.7**	**0.0**
EFP				S	**Sb**	**03 09 40.0**	**+0.8**
MAKR	**Makrakomi, Fth**	**0.78**	**333**	P	**Pn**	**03 09 36.4**	**-0.1**
MAKR				S	**Sn**	**03 09 47.3**	**-0.3**
MAKR	**Makrakomi, Fth**	**0.78**	**333**	P	**Pn**	**03 09 36.4**	**-0.1**
MAKR				S	**Sn**	**03 09 47.3**	**-0.3**
EVR	**Evrytania**	**0.86**	**315**	*e*PN	**Pb**	**03 09 37.2**	**+0.3**
EVR	**Evrytania**	**0.86**	**315**	*e*Pn	**Pb**	**03 09 37.2**	**+0.3**
NAIG	**Nisos Aigina**	**0.90**	**128**	*e*PN	**Pn**	**03 09 38.1**	**0.0**
NAIG	**Nisos Aigina**	**0.90**	**128**	*e*Pn	**Pn**	**03 09 38.1**	**0.0**
RLS	**Riolos of Patr**	**0.92**	**254**	*e*PN	**Pn**	**03 09 39.2**	**+0.9**
RLS	**Riolos of Patr**	**0.92**	**254**	*e*Pn	**Pn**	**03 09 39.3**	**+0.9**
ATH	**Athens Observa**	**0.95**	**111**	*e*PN	**Pb**	**03 09 38.4**	**-0.1**
ATH	**Athens Observa**	**0.95**	**111**	*e*Pn	**Pb**	**03 09 38.4**	**-0.1**
DID	**Didima**	**0.96**	**148**	*e*PN	**Pn**	**03 09 38.7**	**-0.2**
DID	**Didima**	**0.96**	**148**	*e*Pn	**Pn**	**03 09 38.7**	**-0.2**

*ISCJB **26** 03:14:08.9±0.4,41°.82S±0°.09×88°.5E±0°.1,h15km, mb4.4/21,MS4.3/16, Error ellipse: s-maj=13.6km s-min=11.1km az=166.5*
*IDC **26** 03:14:08.5±0.6,41°.80S×88°.52E,h0km,mb4.2/11, mb1 4.3/11,mb1mx4.1/21,mbtmp4.2/11,MS4.3/16, Ms1 4.2/16,ms1mx4.1/22, Error ellipse: s-maj=20.4km s-min=19.3km az=169.0*
*NEIC **26** 03:14:09.8±0.3,41°.78S×88°.48E,h10km,mb4.5/11, Error ellipse: s-maj=10.5km s-min=8.0km az=179.0*

ISC 26 03:14:10.7±0.5,41°.8S±0°.1×88°.45E±0°.1,h15km,n60, σ1°.11/56,mb4.4/21,MS4.3/16,1C,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**24.45**	**78**	LR	LR	03 26 43.9	
	comp=Z,754nm,20.8s,baz=216,slow=31						
MAW	**Mawson**	**29.32**	**200**	LR	LR	03 29 55.4	
	comp=Z,578nm,18.2s,baz=38,slow=32						
FORT	**Forrest**	**33.50**	**84**	*e*P	P	03 20 54.5	+4.9
	25nm,1.0s						
SYO	**Syowa Base**	**37.17**	**207**	↑*e*P	**P**	**03 21 19.4**	**-1.2**
ASAR	**Alice Springs**	**41.76**	**79**	P	**P**	**03 21 58.5**	**-1.0**
ASAR				PcP	**PcP**	**03 23 56.4**	**+0.6**
ASAR	**Alice Springs**	**41.76**	**79**	P	**P**	**03 21 58.5**	**-1.0**
	2.5nm,0.7s,baz=226,slow=7.9,SNR=25						
ASAR				PcP	**PcP**	**03 23 56.4**	**+0.6**
	3.2nm,0.8s,baz=220,slow=3.4,SNR=4.9						
ASAR				LR	LR	03 37 20.0	
	comp=Z,821nm,20.5s,baz=233,slow=33						
AS31	**Alice Springs**	**41.77**	**79**	*e*P	**P**	**03 21 58.9**	**-0.7**
STKA	**Stephens Creek**	**43.07**	**95**	PcP	**PcP**	**03 24 03.6**	**+3.6**
STKA	**Stephens Creek**	**43.07**	**95**	PcP	**PcP**	**03 24 03.6**	**+3.6**
	0.8nm,0.7s,baz=166,slow=19,SNR=4.2						
STKA				LR	LR	03 37 35.2	
	comp=Z,349nm,18.1s,baz=208,slow=33						
WRA	**Warramunga Arr**	**44.38**	**75**	P	**P**	**03 22 19.8**	**-1.0**
WRA				PcP	**PcP**	**03 24 06.2**	**+1.6**
WRA	**Warramunga Arr**	**44.38**	**75**	P	**P**	**03 22 19.8**	**-1.0**
	15nm,1.0s,baz=230,slow=7.9,SNR=20						
WRA				PcP	**PcP**	**03 24 06.1**	**+1.6**
	0.5nm,0.6s,baz=226,slow=2.8,SNR=5.8						
WRA				LR	LR	03 39 07.3	
	comp=Z,390nm,19.6s,baz=240,slow=34						
WRAB	**Tennant Creek**	**44.40**	**75**	*e*P	**P**	**03 22 20.9**	**0.0**
	14nm,0.9s						
VNDA	**Vanda**	**45.99**	**163**	*e*P	**P**	**03 22 32.9**	**+0.1**
	5.1nm,1.1s						
VNDA	**Vanda**	**45.99**	**163**	P	**P**	**03 22 33.0**	**+0.2**
	2.4nm,1.0s,baz=37,slow=0.7,SNR=4.2						
VNDA				LR	LR	03 38 48.7	
	comp=Z,296nm,21.8s,baz=261,slow=32						
QSPA	**South Pole Qui**	**48.34**	**180**	P	**P**	**03 22 51.5**	**+0.1**
QSPA	**South Pole Qui**	**48.34**	**180**	P	**P**	**03 22 51.5**	**+0.1**
	3.7nm,0.7s,baz=302,slow=2.9,SNR=16						
BOSA	**Boshof**	**52.20**	**263**	P	**P**	**03 23 21.3**	**+0.2**
BOSA	**Boshof**	**52.20**	**263**	P	**P**	**03 23 21.3**	**+0.2**
	3.5nm,0.9s,baz=161,slow=7.2,SNR=4.5						
BOSA				LR	LR	03 41 03.1	
	comp=Z,441nm,19.2s,baz=154,slow=31						
CTAO	**Charters Tower**	**53.05**	**84**	*e*P	**P**	**03 23 28.9**	**+1.5**
	4.0nm,0.7s						
SUR	**Sutherland**	**53.51**	**257**	P	**P**	**03 23 31.4**	**+0.5**
SUR	**Sutherland**	**53.51**	**257**	P	**P**	**03 23 31.4**	**+0.5**
	3.0nm,0.8s,baz=143,slow=10,SNR=2.5						
LSZ	**Lusaka**	**57.87**	**278**	*e*P	**P**	**03 24 02.2**	**0.0**
	6.2nm,1.3s						
CMAR	**Chiang Mai Arr**	**60.75**	**11**	P	**P**	**03 24 21.9**	**+0.2**
CMAR	**Chiang Mai Arr**	**60.75**	**11**	P	**P**	**03 24 21.9**	**+0.2**
	0.8nm,0.3s,baz=208,slow=6.4,SNR=5.2						
CMAR				LR	LR	03 47 20.8	
	comp=Z,106nm,18.5s,baz=197,slow=33						
KMBO	**Kilima Mbogo**	**61.23**	**297**	*e*P	**P**	**03 24 25.2**	**-0.4**
	1.4nm,0.6s						
TSUM	**Tsumeb**	**63.34**	**268**	*e*P	**P**	**03 24 40.5**	**+0.9**
	3.0nm,0.9s						
DZM	**Mont Dzumac**	**66.90**	**99**	*e*S	**S**	**03 33 54.0**	**-1.2**
	56nm,27.4s						
DZM				*e*LR	LR	03 45 10.4	
	230nm,22.9s						
WSAR	**Wadi Sarin**	**70.37**	**331**	P	**P**	**03 25 24.3**	**+0.4**
WSAR	**Wadi Sarin**	**70.37**	**331**	P	**P**	**03 25 24.3**	**+0.4**
	2.3nm,0.6s,baz=180,slow=5.1,SNR=2.7						
AAK	**Ala-Archa**	**85.00**	**350**	P	**P**	**03 26 45.4**	**+0.1**
AAK	**Ala-Archa**	**85.00**	**350**	P	**P**	**03 26 45.4**	**+0.1**
	baz=207,slow=2.3						
EKS2	**Erkin-Say**	**85.12**	**349**	*e*P	**P**	**03 26 46.0**	**+0.2**
	2.8nm,0.9s						
KKAR	**Karatay Array**	**86.06**	**347**	*e*P	**P**	**03 26 50.6**	**+0.2**
	3.7nm,0.9s						
MK31	**Makanchi Array**	**88.39**	**356**	*e*P	**P**	**03 27 00.9**	**-0.7**
MKAR	**Makanchi Array**	**88.39**	**356**	P	**P**	**03 27 00.9**	**-0.6**
MKAR	**Makanchi Array**	**88.39**	**356**	P	**P**	**03 27 00.9**	**-0.6**
	1.1nm,0.9s,baz=134,slow=6.9,SNR=7.3						
MKAR				LR	LR	04 03 06.1	
	comp=Z,107nm,20.6s,baz=357,slow=33						
SONM	**Songino Array**	**90.67**	**12**	P	**P**	**03 27 12.5**	**+0.2**
SONM	**Songino Array**	**90.67**	**12**	P	**P**	**03 27 12.5**	**+0.2**
	0.4nm,0.7s,baz=212,slow=6.2,SNR=4.1						
SONM				LR	LR	04 05 46.3	
	comp=Z,116nm,20.4s,baz=74,slow=34						
ULN	**Ulaanbaatar**	**90.80**	**12**	*e*P	**P**	**03 27 12.2**	**-0.8**
	0.7nm,0.6s						
KURK	**Kurchatov**	**92.55**	**354**	*e*P	**P**	**03 27 20.1**	**-0.7**
	1.4nm,0.9s						
ABKAR	**Akbulak array**	**94.09**	**342**	*e*P	**P**	**03 27 26.8**	**-1.1**
KBZ	**Khabaz**	**94.47**	**329**	LR	LR	04 06 19.9	
	comp=Z,99nm,19.3s,baz=188,slow=33						
BRTR	**Keskin Array B**	**95.19**	**321**	LR	LR	04 06 50.8	
	comp=Z,70nm,19.8s,baz=103,slow=33						
ZALV	**Zalesovo Beam**	**95.44**	**358**	LR	LR	04 04 51.9	
	comp=Z,67nm,20.2s,baz=237,slow=32						
AKTO	**Aktyubinsk**	**95.65**	**341**	P	**P**	**03 27 34.4**	**-0.7**
AKTO	**Aktyubinsk**	**95.65**	**341**	P	**P**	**03 27 34.4**	**-0.7**
	1.2nm,0.8s,baz=217,slow=5.1,SNR=2.9						
PLCA	**Paso Flores**	**95.66**	**196**	LR	LR	04 11 38.6	
	comp=Z,183nm,18.8s,baz=140,slow=36						
TBI	**Tubuai**	**95.93**	**128**	*e*LR	LR	03 58 29.2	
	88nm,23.0s						
TORD	**Torodi Ar. Bea**	**96.25**	**282**	LR	LR	04 10 12.4	
	comp=Z,119nm,18.2s,baz=125,slow=35						
DBIC	**Dimbokro**	**96.86**	**273**	LR	LR	04 05 02.8	
	comp=Z,127nm,20.9s,baz=117,slow=32						
PPT2	**Papeete2**	**100.26**	**125**	*e*LR	LR	04 00 39.7	
	130nm,28.2s						
INK	**Inuvik**	**145.41**	**26**	*e*PKPbc	**PKPbc**	**03 33 46.5**	**-0.3**
INK	**Inuvik**	**145.41**	**26**	PKPbc	**PKPbc**	**03 33 46.4**	**-0.3**
	5.0nm,1.0s,baz=290,slow=3.6,SNR=11						
RES	**Resolute Bay**	**147.00**	**2**	*e*PKPbc	**PKPbc**	**03 33 51.4**	**0.0**
RES	**Resolute Bay**	**147.00**	**2**	PKPbc	**PKPab**	**03 33 52.1**	**-0.8**
	5.2nm,0.7s,baz=356,slow=5.7,SNR=12						
JTS	**JuntasAbangare**	**148.07**	**192**	*e*PKPdf	**PKPdf**	**03 33 53.0**	**0.0**
JTS				*e*PKPbc	**PKPbc**	**03 33 56.6**	**+0.5**
NVAR	**Mina Array Bea**	**159.30**	**91**	PKP	**PKPdf**	**03 34 06.4**	**-2.1**
NVAR				PKPab	**PKPab**	**03 34 44.2**	**-1.9**
NVAR	**Mina Array Bea**	**159.30**	**91**	PKP	**PKPdf**	**03 34 06.4**	**-2.1**
	0.2nm,0.4s,baz=258,slow=4.2,SNR=2.7						
NVAR				PKPab	**PKPab**	**03 34 44.2**	**-1.9**
	0.9nm,0.9s,baz=217,slow=7.1,SNR=3.8						
PDAR	**Pinedale Array**	**166.63**	**80**	PKPab	**PKPab**	**03 35 18.5**	**+0.4**
PDAR	**Pinedale Array**	**166.63**	**80**	PKPab	**PKPab**	**03 35 18.5**	**+0.4**
	1.3nm,0.9s,baz=223,slow=2.2,SNR=8.1						

IDC 26 03:14:14.6±1.6,2°.63N×123°.99E,h0km,mb3.5/4, mb1 3.6/4,mb1mx3.4/23,mbtmp3.5/4,Error ellipse: s-maj=281.2km s-min=22.4km az=62.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.62**	**156**	P	P	03 19 37.1	+0.1
	0.5nm,0.3s,baz=335,slow=11,SNR=9.3						
STKA	**Stephens Creek**	**38.17**	**155**	P	P	03 21 35.9	-0.1
	1.9nm,0.9s,baz=343,slow=14,SNR=3.6						
MKAR	**Makanchi Array**	**56.94**	**327**	P	P	03 24 02.0	+0.2
	0.2nm,0.5s,baz=118,slow=7.8,SNR=5.7						
KURBB	**Kurchatov Arra**	**61.22**	**329**	P	P	03 24 30.9	-0.4
	0.4nm,0.5s,baz=130,slow=5.5,SNR=5.9						

*ATH **26** 03:45:34.2,41°.38N×20°.11E,h19km±13km,MD3.5/8*
*BEO **26** 03:45:36.5±0.7,40°.95N×20°.25E,h0km,ML2.5/7*
*TIR **26** 03:45:36.7±2.4,41°.07N×20°.26E,h14km±39km,ML3.1*
*SKO **26** 03:45:38.3,41°.12N×20°.25E,h10km,M1.8,ML2.3*
*CSEM **26** 03:45:38.0±0.2,41°.09N×20°.25E,h2km,ML3.1, Error ellipse: s-maj=4.8km s-min=3.1km az=56.0*
*PDG **26** 03:45:40.5±0.3,41°.10N×19°.93E,h2km,ML2.6/10, Error ellipse: s-maj=0.9km s-min=1.8km az=0.0*

ISC 26 03:45:38.4±1.0,41°.10N±0°.02×20°.26E±0°.02,h6km±9km, n80,σ1°.38/141,6C-11D,Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.39**	**310**	*i* PG	**Pg**	**03 45 44.9**	**-1.0**
TIR				*i* SG	**Sb**	**03 45 52.5**	**-1.3**
TIR	**Tirane**	**0.39**	**310**	*e*Pg	**Pg**	**03 45 44.8**	**-1.1**
TIR				*e*Sg	**Sg**	**03 45 52.1**	**+1.1**
TIR	**Tirane**	**0.39**	**310**	*e*Pg	**Pg**	**03 45 44.8**	**-1.1**
TIR				*e*Sg	**Sg**	**03 45 52.1**	**+1.1**
PHP	**Peshkopia**	**0.60**	**13**	*i* PG	**Pg**	**03 45 49.2**	**-0.7**
PHP				*i* SG	**Sb**	**03 45 59.5**	**-0.5**
PHP	**Peshkopia**	**0.60**	**13**	*i* Pg	**Pg**	**03 45 49.2**	**-0.7**
	SNR=99						
PHP				*i* Sg	**Sb**	**03 45 59.5**	**-0.5**
	SNR=99						
BIA	**Bitola**	**0.81**	**95**	*i* Pg	**Pg**	**03 45 52.2**	**-1.7**
BIA				*i* Sg	**Sg**	**03 46 05.0**	**+0.6**
BIA				*e*Lg	Lg	03 46 05.7	
	comp=N,45nm,0.2s						
BIA				*e*Lg	Lg	03 46 06.9	
	comp=E,69nm,0.3s						
BIA	**Bitola**	**0.81**	**95**	*i* Pg	**Pg**	**03 45 52.2**	**-1.7**
BIA				*i* Sg	**Sg**	**03 46 05.0**	**+0.6**
BIA				*e*Lg	Lg	03 46 06.9	
	comp=E,69nm,0.3s						
VLO	**Vlora**	**0.86**	**223**	*i* PG	**Pg**	**03 45 53.7**	**-1.1**
VLO				*i* SG	**Sb**	**03 46 08.1**	**+0.8**
VLO	**Vlora**	**0.86**	**223**	*i* Pg	**Pg**	**03 45 53.7**	**-1.1**
	SNR=95						
FNA	**Florina**	**0.90**	**110**	*i* PG	**Pg**	**03 45 54.2**	**-1.5**
FNA				*i* SG	**Sg**	**03 46 07.6**	**+0.2**
FNA	**Florina**	**0.90**	**110**	*i* Pg	**Pg**	**03 45 54.2**	**-1.5**
	SNR=95						
FNA				*i* Sg	**Sg**	**03 46 07.6**	**+0.2**
	SNR=95						
PUK	**Puka**	**0.98**	**344**	*i* PG	**Pg**	**03 45 56.4**	**-0.8**
PUK				*i* SG	**Sb**	**03 46 10.8**	**-0.2**
PUK	**Puka**	**0.98**	**344**	*i* Pg	**Pg**	**03 45 56.4**	**-0.8**
	SNR=94						
PUK				*i* Sg	**Sb**	**03 46 10.8**	**-0.2**
	SNR=94						
LSK	**Leskovik**	**0.98**	**165**	*i* PG	Pg	03 45 53.9	-3.4
LSK				*i* SG	**Sg**	**03 46 09.5**	**-0.5**
ULC	**Ulcinj**	**1.15**	**319**	↑*i* PG	**Pg**	**03 45 59.0**	**-1.5**
ULC				*e*Sg	**Sg**	**03 46 15.4**	**0.0**
ULC	**Ulcinj**	**1.15**	**319**	↑*i* Pg	**Pg**	**03 45 59.0**	**-1.5**
ULC				*e*Sg	**Sg**	**03 46 15.4**	**0.0**
SKO	**Skopje**	**1.24**	**45**	*i* Pg	**Pn**	**03 46 00.3**	**-1.9**
SKO				*i* Sg	**Sn**	**03 46 19.4**	**+0.1**
SKO	**Skopje**	**1.24**	**45**	*e*Pg	**Pn**	**03 46 01.4**	**-0.9**
SKO				*e*Sg	**Sn**	**03 46 18.9**	**-0.4**
SKO	**Skopje**	**1.24**	**45**	*e*Pg	**Pn**	**03 46 01.4**	**-0.9**
SKO				*e*Sg	**Sn**	**03 46 18.9**	**-0.4**
BCI	**Bajram Curri**	**1.27**	**354**	*i* PG	**Pn**	**03 46 02.0**	**-0.7**
BCI				*i* SG	**Sn**	**03 46 22.9**	**+2.8**
BCI	**Bajram Curri**	**1.27**	**354**	*i* Pg	**Pn**	**03 46 02.0**	**-0.7**
	SNR=93						
KZN	**Kozani**	**1.40**	**124**	*e*PN	**Pn**	**03 46 04.1**	**-0.3**
KZN				*e*SN	**Sg**	**03 46 26.0**	**+2.8**
KZN	**Kozani**	**1.40**	**124**	*e*Pn	**Pn**	**03 46 04.1**	**-0.3**
KZN				*e*Sn	**Sg**	**03 46 26.0**	**+2.8**
KEK	**Kerkira**	**1.43**	**194**	*e*PN	**Pn**	**03 46 04.8**	**0.0**
KEK				*e*SN	**Sg**	**03 46 26.9**	**+2.6**
KEK	**Kerkira**	**1.43**	**194**	*e*Pn	**Pn**	**03 46 04.8**	**0.0**
KEK				*e*Sn	**Sg**	**03 46 26.9**	**+2.6**
PVY	**Plav**	**1.51**	**352**	↓*i* Pg	**Pg**	**03 46 08.3**	**+1.0**
PVY				*e*Sg	**Sg**	**03 46 30.9**	**+4.0**
PVY	**Plav**	**1.51**	**352**	↓*i* Pg	**Pg**	**03 46 08.3**	**+1.0**
PVY				*e*Sg	**Sg**	**03 46 30.9**	**+4.0**
JAN	**Janina**	**1.51**	**162**	*e*PN	**Pb**	**03 46 06.4**	**-0.4**
JAN				*e*SN	**Sg**	**03 46 30.5**	**+3.6**
JAN	**Janina**	**1.51**	**162**	*e*Pn	**Pb**	**03 46 06.4**	**-0.4**
JAN				*e*Sn	**Sg**	**03 46 30.5**	**+3.6**
TTG	**Podgorica**	**1.52**	**331**	↓*i* Pg	**Pn**	**03 46 06.3**	**+0.1**
TTG				*e*Sg	**Sg**	**03 46 29.6**	**+2.2**
PDG	**Podgorica**	**1.53**	**331**	*e*Pn	**Pn**	**03 46 06.2**	**+0.1**
PDG				*e*Sg	**Sg**	**03 46 29.7**	**+2.3**
PDG	**Podgorica**	**1.53**	**331**	*e*Pn	**Pn**	**03 46 06.2**	**+0.1**
PDG				*e*Sg	**Sg**	**03 46 29.6**	**+2.2**
BUM	**Brajici-Budva**	**1.58**	**320**	↓*i* Pg	**Pn**	**03 46 07.0**	**+0.1**
BUM				*e*Sg	**Sg**	**03 46 29.5**	**+0.4**
BUM	**Brajici-Budva**	**1.58**	**320**	↓*i* Pg	**Pn**	**03 46 07.0**	**+0.1**
BUM				*e*Sg	**Sg**	**03 46 29.5**	**+0.4**
VAY	**Valandovo**	**1.76**	**82**	*e*Pg	**Pn**	**03 46 09.1**	**-0.2**
VAY				*e*Sg	**Sb**	**03 46 33.9**	**+0.6**
VAY				*e*Lg	Lg	03 46 41.3	
	comp=E,13nm,0.6s						
VAY				*e*Lg	Lg	03 46 43.2	
	comp=N,56nm,1.2s						
VAY	**Valandovo**	**1.76**	**82**	*e*Sg	**Sg**	**03 46 34.3**	**-0.5**
VAY				*e*Lg	Lg	03 46 43.7	
	comp=N,56nm,1.2s						
BEY	**Berane**	**1.79**	**351**	↓*i* Pn	**Pg**	**03 46 13.1**	**+0.4**
IVA	**Berane**	**1.79**	**351**	↓*i* Pn	**Pg**	**03 46 13.1**	**+0.4**
IVA				*e*Sn	**Sg**	**03 46 39.4**	**+3.5**
HCY	**Herceg Novi**	**1.89**	**316**	↑*i* Pn	**Pn**	**03 46 11.6**	**+0.5**
HCY				*e*Sn	**Sg**	**03 46 38.4**	**-0.6**
HCY	**Herceg Novi**	**1.89**	**316**	↑*i* Pn	**Pn**	**03 46 11.6**	**+0.5**
HCY				*e*Sn	**Sg**	**03 46 38.4**	**-0.6**
NKY	**Niksic**	**1.96**	**332**	↓*i* Pn	**Pb**	**03 46 14.5**	**+0.1**
NKY				*e*Sn	**Sg**	**03 46 40.9**	**-0.3**
NKY	**Niksic**	**1.96**	**332**	↓*i* Pn	**Pb**	**03 46 14.5**	**+0.1**
NKY				*e*Sn	**Sg**	**03 46 40.9**	**-0.3**
THL	**Klokotos Trika**	**2.04**	**138**	*e*PB	**Pn**	**03 46 13.6**	**+0.5**
THL				*e*SN	**Sg**	**03 46 43.1**	**-0.7**
THL	**Klokotos Trika**	**2.04**	**138**	*e*Pb	**Pn**	**03 46 13.6**	**+0.5**
THL				*e*Sn	**Sg**	**03 46 43.1**	**-0.7**
BARS	**Barje**	**2.07**	**34**	*e*Pn	**Pn**	**03 46 14.2**	**+0.6**
BARS				*e*Sn	**Sb**	**03 46 42.7**	**+0.4**
BARS	**Barje**	**2.07**	**34**	*e*Pn	**Pn**	**03 46 14.2**	**+0.6**
BARS				*e*Sn	**Sb**	**03 46 42.7**	**+0.4**
BRY	**Bratogost**	**2.21**	**325**	*e*Pn	**Pb**	**03 46 17.9**	**-0.9**
BRY				*e*Sn	**Sb**	**03 46 46.8**	**+0.3**
BRY	**Bratogost**	**2.21**	**325**	*e*Pn	**Pb**	**03 46 17.9**	**-0.9**
BRY				*e*Sn	**Sb**	**03 46 46.8**	**+0.3**
PLE	**Pljevlja**	**2.32**	**344**	↓*i* Pn	**Pb**	**03 46 20.0**	**-0.7**
PLE				*e*Sn	**Sb**	**03 46 50.6**	**+1.0**
PLE	**Pljevlja**	**2.32**	**344**	↓*i* Pn	**Pb**	**03 46 20.0**	**-0.7**
PLE				*e*Sn	**Sb**	**03 46 50.6**	**+1.0**
UPM	**Unac-Piva**	**2.33**	**335**	↑*i* Pn	**Pn**	**03 46 19.0**	**+1.6**
UPM				*e*Sn	**Sb**	**03 46 50.7**	**+0.7**
UPM	**

WRA	**Warramunga Arr**	**43.56**	**271**	P	P	04 42 09.1	-0.4
	0.4nm,0.3s,baz=110,slow=8.0,SNR=12						
FINES	**FINESS Array B**	**143.94**	**340**	PKP	PKPdf	04 53 39.7	-0.5
	0.7nm,0.5s,baz=74,slow=6.9,SNR=6.3						

IDC 26 04:41:05.5±1.4, 5.91S×152.22E, h45km±6km, mb3.6/8, mb1 3.8/9, mb1mx3.6/21, mbtmp3.6/9, ML2.9/1, MS3.8/1, Ms1 3.8/1, ms1mx2.8/22, Error ellipse: s-maj=46.8km s-min=13.5km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.10**	**235**	P	Pn	04 42 33.5	+0.4
	1.8nm,0.3s,baz=47,slow=8.6,SNR=4.4						
PMG				S	Sn	04 43 42.1	+0.4
	2.7nm,0.3s,baz=28,slow=13,SNR=5.5						
PMG				LR	LR	04 44 57.9	
	comp=Z,760nm,18.6s,baz=198,slow=38						
WRA	**Warramunga Arr**	**22.29**	**230**	P	P	04 45 59.5	+0.3
	1.2nm,0.7s,baz=55,slow=10.0,SNR=9.4						
WRA				pP	pP	04 46 10.2	+0.2
	1.0nm,0.7s,baz=55,slow=10.0,SNR=4.7						
ASAR	**Alice Springs**	**24.95**	**223**	P	P	04 46 24.5	-0.4
	1.4nm,0.8s,baz=54,slow=9.0,SNR=10						
ASAR				pP	pP	04 46 37.7	+1.0
	0.9nm,0.6s,baz=56,slow=8.8,SNR=4.1						
FITZ	**Fitzroy Crossi**	**28.64**	**243**	P	P	04 46 57.6	-0.4
	2.4nm,0.6s,baz=152,slow=13,SNR=8.6						
SONM	**Songino Array**	**66.96**	**328**	P	P	04 51 53.8	+0.1
	0.2nm,0.5s,baz=133,slow=5.8,SNR=3.8						
SONM				pP	pP	04 52 07.6	+1.0
	0.4nm,0.9s,baz=144,slow=5.2,SNR=2.5						
MKAR	**Makanchi Array**	**80.78**	**319**	P	P	04 53 15.5	+1.1
	0.2nm,0.6s,baz=97,slow=6.7,SNR=4.7						
ILAR	**Eielson Array**	**83.40**	**22**	P	P	04 53 27.8	+0.1
	1.0nm,0.7s,baz=241,slow=5.3,SNR=12						
ILAR				pP	pP	04 53 40.8	-0.2
	0.7nm,0.7s,baz=252,slow=5.0,SNR=5.3						
KURBB	**Kurchatov Arra**	**84.32**	**322**	P	P	04 53 32.0	-0.6
	1.0nm,0.9s,baz=113,slow=4.3,SNR=7.8						
KURBB				pP	pP	04 53 44.7	-1.3
	0.4nm,0.4s,baz=187,slow=29,SNR=4.3						
BVAR	**Borovoye Array**	**89.78**	**323**	P	P	04 53 59.1	-0.1
	1.6nm,0.8s,baz=100,slow=7.7,SNR=7.8						
TORD	**Torodi Ar. Bea**	**150.08**	**286**	PKPbc	PKPbc	05 00 51.8	-0.6
	1.2nm,0.8s,baz=68,slow=2.0,SNR=7.6						

*ISCJB **26** 04:52:29.2±0.4, 24.39N±0.02×122.07E±0.02, h4km±3km, Error ellipse: s-maj=3.6km s-min=2.5km az=162.6*
*TAP **26** 04:52:30.4, 24.40N×121.95E, h20km, ML3.5, B*
*JMA **26** 04:52:30.4±0.2, 24.92N×122.13E, h27km, M2.8*

ISC 26 04:52:29.0±1.0, 24.44N±0.03×122.07E±0.02, h13km±8km, n46, σ0972/76, 7C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.26**	**310**	⇑*i* P	**Pb**	**04 52 36.0**	**+0.5**
	baz=342						
TWC				S	**Sb**	**04 52 39.4**	**-0.5**
	baz=342						
ENA	**Nanau**	**0.30**	**267**	⇑*i* P	**Pg**	**04 52 35.6**	**+0.5**
	baz=284						
ENA				*e*S	**Sg**	**04 52 39.1**	**-0.1**
	baz=284						
EHP	**Heping Village**	**0.33**	**246**	P	**Pg**	**04 52 35.5**	**-0.1**
	baz=251						
EHP				S	**Sg**	**04 52 39.8**	**-0.2**
	baz=251						
ILA	**Ilan**	**0.43**	**318**	⇑P	**Pn**	**04 52 39.5**	**-1.4**
	baz=330						
ILA				S	**Sb**	**04 52 45.7**	**+0.8**
	baz=330						
TWE	**Neicheng**	**0.46**	**307**	⇑P	**Pb**	**04 52 39.3**	**+0.4**
	baz=322						
TWE				*e*S	**Sb**	**04 52 44.7**	**-0.9**
	baz=322						
ENTT	**Nioudou**	**0.49**	**293**	⇑P	**Pb**	**04 52 39.6**	**0.0**
	baz=305						
ENTT				*e*S	**Sb**	**04 52 45.6**	**-1.2**
	baz=305						
TWD	**Chiawan**	**0.56**	**230**	*e*P	**Pg**	**04 52 39.4**	**-0.6**
	baz=229						
TWB1	**Santiao Chiao**	**0.57**	**353**	*e*P	**Pn**	**04 52 42.4**	**-0.4**
	baz=357						
TWB1				S	**Sn**	**04 52 50.3**	**-1.8**
	baz=357						
HWA	**Hwalien**	**0.63**	**222**	*e*P	**Pb**	**04 52 42.4**	**+0.6**
	baz=216						
NNS	**Nan Shan**	**0.63**	**270**	*e*P	**Pg**	**04 52 41.2**	**-0.1**
	baz=283						
NWF	**Wu-fen Shan**	**0.68**	**338**	*e*P	**Pn**	**04 52 44.6**	**+0.2**
	baz=338						
NWF				*e*S	**Sn**	**04 52 53.3**	**-1.6**
	baz=338						
NSK	**Sanguang**	**0.69**	**290**	*e*P	**Pb**	**04 52 42.6**	**-0.3**
	baz=298						
NSK				S	**Sg**	**04 52 50.8**	**-0.5**
	baz=298						
TAP1	**Taipei**	**0.77**	**320**	*e*P	**Pn**	**04 52 45.8**	**+0.2**
	baz=318						
WHF	**Hehuan Shan**	**0.79**	**248**	⇑P	**Pg**	**04 52 43.8**	**-0.6**
	baz=255						
WHF				*e*S	**Sg**	**04 52 54.7**	**-0.1**
	baz=255						
TWT	**Tachien**	**0.83**	**257**	*e*P	**Pg**	**04 52 45.2**	**0.0**
	baz=259						
ESL	**Shilin**	**0.85**	**223**	*e*P	**Pg**	**04 52 44.8**	**-0.7**
	baz=218						
YOJ	**Yonaguni jima**	**0.86**	**89**	*e*P	**Pn**	**04 52 47.1**	**+0.2**
	baz=78						
YOJ				*e*S	**Sn**	**04 52 59.9**	**+0.6**
	baz=78						
YOJ	**Yonaguni jima**	**0.86**	**89**	P	**Pn**	**04 52 47.1**	**+0.2**
YOJ				*e*S	**Sn**	**04 52 59.1**	**-0.2**
TWS1	**Kuangyinshan**	**0.88**	**318**	P	**Pn**	**04 52 48.2**	**+1.1**
	baz=319						
TWS1				*e*S	**Sn**	**04 53 00.7**	**+0.9**
	baz=319						
TWY	**Chenhua**	**0.93**	**333**	*e*P	**Pn**	**04 52 49.3**	**+1.5**
	baz=340						
TWY				*e*S	**Sn**	**04 53 00.8**	**-0.2**
	baz=340						
NSTT	**Nanjuang**	**0.99**	**281**	P	**Pn**	**04 52 48.2**	**-0.4**
	baz=291						
NSTT				*e*S	**Sb**	**04 53 00.3**	**-0.6**
	baz=291						
EHY	**Hungye**	**1.16**	**216**	*e*P	**Pn**	**04 52 49.2**	**-1.7**
	baz=212						
TWQ1	**Liyutan**	**1.18**	**266**	*e*P	**Pg**	**04 52 52.5**	**+0.7**
	baz=269						
TWQ1				*e*S	**Sg**	**04 53 07.8**	**+0.6**
	baz=269						
NSY	**Sanyi**	**1.19**	**269**	*e*P	**Pg**	**04 52 52.7**	**+0.8**
	baz=279						
SMLT	**Sun Moon Lake**	**1.20**	**243**	⇑P	**Pn**	**04 52 51.8**	**+0.1**
	baz=243						
TYC	**Yuchr**	**1.23**	**244**	*e*P	**Pn**	**04 52 51.6**	**-0.2**
	baz=238						
TYC				*e*S	**Sb**	**04 53 07.6**	**-0.2**
	baz=238						
TCU	**Taichung**	**1.30**	**257**	*e*P	**Pg**	**04 52 54.0**	**-0.1**
	baz=260						
WNT	**Mingjian**	**1.38**	**246**	*e*P	**Pb**	**04 52 55.3**	**+0.6**
	baz=251						
WNT				*e*S	**Sg**	**04 53 14.6**	**+1.0**
	baz=251						
YUS	**Yu-Shan**	**1.39**	**227**	*e*P	**Pn**	**04 52 54.2**	**-0.4**
	baz=226						
YUS				*e*S	**Sn**	**04 53 12.8**	**-0.4**
	baz=226						
ALS	**Alishan**	**1.48**	**231**	*e*P	**Pn**	**04 52 55.8**	**+0.1**
	baz=231						
ALS				*e*S	**Sn**	**04 53 15.2**	**+0.2**
	baz=231						
IRIF	**Iriomote-Funau**	**1.52**	**94**	P	**Pb**	**04 52 56.7**	**-0.4**
IRIF				*e*S	**Sb**	**04 53 16.3**	**0.0**
CHN5	**Tsauling**	**1.52**	**237**	*e*P	**Pb**	**04 52 57.1**	**-0.1**
	baz=236						
CHN5				*e*S	**Sb**	**04 53 17.1**	**+0.6**
	baz=236						
ELDTW	**Lidau**	**1.58**	**218**	*e*P	**Pn**	**04 52 56.1**	**-0.7**
	baz=201						
HATJ	**Hateruma jima**	**1.63**	**103**	P	**Pg**	**04 53 00.1**	**-0.3**
HATJ				*e*S	**Sg**	**04 53 21.7**	**+0.1**
CHN4	**Tsaushan**	**1.73**	**231**	*e*P	**Pb**	**04 53 00.6**	**-0.1**
	baz=231						
CHN4				*e*S	**Sb**	**04 53 23.3**	**+0.9**
	baz=231						
JKRS	**Kuro-shima**	**1.78**	**96**	P	**Pb**	**04 53 00.9**	**-0.7**
JKRS				*e*S	**Sb**	**04 53 23.3**	**-0.6**
WTP	**Ta-pu**	**1.79**	**228**	*e*P	**Pn**	**04 53 00.8**	**+1.2**
	baz=227						
WTP				*e*S	**Sb**	**04 53 24.3**	**+0.3**
	baz=227						
TWG	**Pinlang**	**1.85**	**210**	*e*P	**Pn**	**04 52 59.6**	**-0.9**
	baz=192						
TWK	**Hsinying**	**1.86**	**231**	*e*P	**Pb**	**04 53 02.3**	**-0.6**
	baz=230						
CHN1	**Nanshi**	**1.89**	**229**	*e*P	**Pb**	**04 53 02.7**	**-0.6**
	baz=228						
CHN1				*e*S	**Sb**	**04 53 27.2**	**+0.4**
	baz=228						
JIJ	**Ishigaki jima**	**1.90**	**92**	P	**Pn**	**04 53 02.0**	**+0.9**
JIJ				*e*S	**Sn**	**04 53 24.4**	**-0.5**
SGST	**Jiashian**	**1.92**	**225**	*e*P	**Pb**	**04 53 03.1**	**-0.7**
	baz=206						
SGST				*e*S	**Sb**	**04 53 28.3**	**+0.5**
	baz=206						
SSD	**Sandimen**	**2.14**	**218**	*e*P	**Pn**	**04 53 05.8**	**+1.4**
	baz=216						
EAST	**Anshuo**	**2.34**	**209**	*e*P	**Pn**	**04 53 07.7**	**+0.5**
	baz=194						
JTJ	**Tarama**	**2.41**	**85**	P	**Pn**	**04 53 09.1**	**+1.0**
JTJ				*e*S	**Sn**	**04 53 38.4**	**+0.9**
SCZT	**Fangliau**	**2.45**	**213**	*e*P	**Pn**	**04 53 09.5**	**+0.8**
	baz=196						

IDC 26 05:06:35.8±1.6, 9.08S×118.90E, h0km, mb3.5/3, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=56.9km s-min=23.4km az=62.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**4.13**	**12**	Pn	Pn	05 07 40.9	+0.8
	0.5nm,0.3s,baz=260,slow=23,SNR=1.5						
KAPI				Sn	Sn	05 08 29.8	+0.7
	3.4nm,0.3s,baz=204,slow=23,SNR=11						
WRA	**Warramunga Arr**	**18.42**	**128**	P	Pn	05 10 52.1	-0.7
	0.2nm,0.3s,baz=301,slow=13,SNR=7.0						
ASAR	**Alice Springs**	**20.40**	**137**	P	P	05 11 15.1	+0.6
	0.4nm,0.3s,baz=316,slow=10,SNR=5.6						
MKAR	**Makanchi Array**	**64.48**	**333**	P	P	05 17 14.7	+0.4
	0.4nm,0.6s,baz=133,slow=6.8,SNR=4.4						
ZALV	**Zalesovo Beam**	**69.08**	**339**	P	P	05 17 42.9	-0.5
	0.4nm,0.3s,baz=141,slow=4.1,SNR=2.4						

*BEO **26** 05:09:50.8±1.0, 40.86N×20.26E, h0km, ML2.2/4*
*ISCJB **26** 05:09:51.4±1.1, 40.90N±0.06×20.08E±0.06, h23km±6km, Error ellipse: s-maj=10.9km s-min=5.3km az=28.5*
*TIR **26** 05:09:51.9±1.5, 41.04N×20.21E, h34km±14km, ML3.3*
*CSEM **26** 05:09:52.7±0.6, 40.98N×20.19E, h20km, ML3.3, Error ellipse: s-maj=14.4km s-min=6.5km az=29.0*
*SKO **26** 05:09:54.0, 41.18N×20.27E, h17km*

ISC 26 05:09:52.2±1.6, 40.98N±0.06×20.19E±0.04, h14km±10km, n23, σ1903/43, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.44**	**326**	*e*PG	**Pb**	**05 10 02.3**	**+0.6**
TIR				*e*SG	**Sb**	**05 10 08.3**	**+0.1**
TIR	**Tirane**	**0.44**	**326**	*e*Pg	**Pb**	**05 10 01.2**	**-0.5**
TIR				*e*Sg	**Sb**	**05 10 08.5**	**+0.3**
TIR	**Tirane**	**0.44**	**326**	*e*Pg	**Pb**	**05 10 01.2**	**-0.5**
TIR				*e*Sg	**Sb**	**05 10 08.3**	**+0.1**
	SNR=121						
PHP	**Peshkopia**	**0.72**	**15**	*e*PG	**Pg**	**05 10 04.9**	**-1.4**
PHP				*e*SG	**Sb**	**05 10 16.5**	**0.0**
PHP	**Peshkopia**	**0.72**	**15**	*e*Pg	**Pg**	**05 10 04.9**	**-1.4**
	SNR=106						
PHP				*e*Sg	**Sb**	**05 10 16.5**	**0.0**
	SNR=106						
BIA	**Bitola**	**0.86**	**87**	*i* Pg	**Pb**	**05 10 08.3**	**-0.6**
BIA				*i* Sg	**Sb**	**05 10 20.9**	**+0.7**
BIA				*e*Lg	Lg	05 10 21.5	
	comp=E,23nm,0.3s						
BIA				*e*Lg	Lg	05 10 22.0	
	comp=N,14nm,0.2s						
BIA	**Bitola**	**0.86**	**87**	*i* Pg	**Pb**	**05 10 08.3**	**-0.6**
BIA				*e*Lg	Lg	05 10 21.9	
	comp=N,14nm,0.2s						
FNA	**Florina**	**0.92**	**102**	*e*PG	**Pb**	**05 10 09.9**	**0.0**
FNA				*e*SG	**Sn**	**05 10 23.8**	**0.0**
FNA	**Florina**	**0.92**	**102**	*e*Pg	**Pb**	**05 10 09.9**	**0.0**
	SNR=98						
FNA				*e*Sg	**Sn**	**05 10 23.8**	**0.0**
	SNR=98						
PUK	**Puka**	**1.08**	**348**	*e*PG	**Pb**	**05 10 12.4**	**-0.3**
PUK				*e*SG	**Sn**	**05 10 27.8**	**-0.1**
PUK	**Puka**	**1.08**	**348**	*e*Pg	**Pb**	**05 10 12.4**	**-0.3**
	SNR=96						
PUK				*e*Sg	**Sn**	**05 10 27.8**	**-0.1**
	SNR=96						
SKO	**Skopje**	**1.36**	**43**	*e*Sg	**Sn**	**05 10 35.0**	**+0.3**
SKO	**Skopje**	**1.36**	**43**	*e*Sg	**Sn**	**05 10 35.0**	**+0.3**
BCI	**Bajram Curri**	**1.39**	**356**	*e*PG	**Pn**	**05 10 16.5**	**-0.6**
BCI				*i* SG	**Sn**	**05 10 35.5**	**+0.2**
BCI	**Bajram Curri**	**1.39**	**356**	*e*Pg	**Pn**	**05 10 16.5**	**-0.6**
	SNR=94						
BCI				*i* Sg	**Sn**	**05 10 35.5**	**+0.2**
	SNR=94						
PDG	**Podgorica**	**1.61**	**334**	*e*Pn	**Pg**	**05 10 22.1**	**-0.9**
PDG				*e*Sg	**Sg**	**05 10 46.5**	**+2.6**
PDG	**Podgorica**	**1.61**	**334**	*e*Pn	**Pg**	**05 10 22.1**	**-0.9**
PDG				*e*Sg	**Sg**	**05 10 46.5**	**+2.6**
VTS	**Vitosha**	**2.77**	**54**	*e*Pn	**Pn**	**05 10 36.5**	**+0.2**
VTS				*e*Sn	**Sn**	**05 11 11.6**	**+2.0**
VTS	**Vitosha**	**2.77**	**54**	*e*Pn	**Pn**	**05 10 36.5**	**+0.2**
VTS				*e*Sn	**Sn**	**05 11 11.6**	**+2.0**
ZAPS	**Zavoj**	**2.92**	**38**	*e*Pn	**Pn**	**05 10 39.0**	**+0.7**
ZAPS				*e*Sn	**Sb**	**05 11 17.6**	**-2.1**
ZAPS	**Zavoj**	**2.92**	**38**	*e*Pn	**Pn**	**05 10 39.0**	**+0.7**
ZAPS				*e*Sn	**Sb**	**05 11 17.6**	**-2.1**
NVLJ	**Novalja**	**5.30**	**314**	*e*Pn	**Pn**	**05 11 11.2**	**+0.2**
NVLJ				Sn	**Sn**	**05 12 11.0**	**-0.8**
NVLJ	**Novalja**	**5.30**	**314**	*e*Pn	**Pn**	**05 11 11.1**	**+0.2**
NVLJ				Sn	**Sn**	**05 12 11.0**	**-0.8**

MAN 26 05:28:38, 9.14N×126.30E, h29km, mb4.0, ML2.8, MS2.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.69**	**256**	*i* P	Pb	05 28 51.5	-0.1
BUTP				*i* S	Sn	05 29 02.4	+0.8
BUTP	**Butuan**	**0.69**	**256**	*e*P	Pb	05 28 51.5	-0.1
BUTP				*e*S	Sn	05 29 02.4	+0.8
MSLP	**Maasin**	**1.73**	**305**	*e*P	Pb	05 29 09.0	-0.1
MSLP	**Maasin**	**1.73**	**305**	*e*P	Pb	05 29 09.0	-0.1
BUKP	**Musuan**	**1.75**	**224**	*i* P	Pn	05 29 06.6	+0.1
BUKP	**Musuan**	**1.75**	**224**	*e*P	Pn	05 29 06.6	+0.1
TBP	**Tagbilaran**	**2.47**	**283**	*e*P	Pb	05 29 19.7	-2.0
TBP				*i* S	Sn	05 29 47.9	+2.4
PAGZ	**Pagadian**	**3.16**	**246**	*i* P	Pn	05 29 26.9	+1.1
PAGZ	**Pagadian**	**3.16**	**246**	*e*P	Pn	05 29 26.9	+1.1

DDA 26 05:37:00.8, 39.08N×29.03E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.25**	**262**	*i* P	Pg	05 37 06.0	+0.2
DEMI				*i* S	Sg	05 37 09.9	+0.6
GDZ	**Gediz**	**0.35**	**88**	*i* P	Pg	05 37 08.0	+0.2
GDZ				*i* S	Sg	05 37 13.1	+0.5
TVSB	**Tavsanli**	**0.50**	**42**	*e*PG	Pg	05 37 09.6	-1.0
TVSB				*e*SG	Sg	05 37 15.6	-1.7
MANT	**Manisa**	**0.69**	**212**	*i* P	Pg	05 37 14.8	+0.3
MANT				*i* S	Sg	05 37 24.1	+0.4
ALT	**Altintas**	**0.84**	**91**	*e*PG	Pb	05 37 17.7	-0.2
KHL	**Karahalli**	**0.85**	**153**	*e*PG	Pg	05 37 17.0	-0.2

*JMA **26** 06:03:54.6±0.1, 34.99N×129.71E, h8km±3km, M3.2*
*KMA **26** 06:03:55.5, 35.03N×129.59E, ML2.6*

ISC 26 06:03:53.7±1.2, 35.00N±0.03×129.71E±0.04, h6km±12km, n18, σ0957/28, 2C, South Korea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JTU	**Tsushima**	**0.54**	**208**	⇑P	**Pb**	**06 04 04.9**	**-0.7**
JTU				*e*S	**Sg**	**06 04 11.8**	**+0.6**
KSBUS	**Busan**	**0.54**	**297**	P	**Pg**	**06 04 04.8**	**+0.6**
KSBSA	**Busan_acc**	**0.56**	**281**	P	**Pg**	**06 04 05.0**	**+0.5**
KSUSN	**Ulsan**	**0.84**	**326**	P	**Pg**	**06 04 10.1**	**+0.2**
KSUSN				S	**Sg**	**06 04 21.1**	**+0.2**
KSMAS	**Masan**	**0.94**	**280**	P	**Pg**	**06 04 11.7**	**-0.1**
KSDAG	**Daegu**	**1.01**	**319**	P	**Pg**	**06 04 13.0**	**-0.1**
KSDAG				S	**Sg**	**06 04 26.0**	**-0.2**
KSTOY	**TONGYEONG**	**1.05**	**262**	P	**Pg**	**06 04 13.7**	**-0.3**
JII	**Iki**	**1.21**	**179**	⇑P	**Pg**	**06 04 16.9**	**+0.1**
JII				S	**Sb**	**06 04 33.3**	**+0.5**
KSPHA	**Pohang**	**1.22**	**347**	P	**Pg**	**06 04 16.3**	**-0.8**
KSPHA				S	**Sg**	**06 04 32.7**	**-0.2**
JTY	**Toyota**	**1.34**	**123**	P	**Pn**	**06 04 18.9**	**-0.1**
JTY				*e*S	**Sb**	**06 04 37.3**	**+0.5**
KSJIN	**Jinju**	**1.38**	**277**	P	**Pn**	**06 04 19.2**	**-0.4**
KSJIN				S	**Sb**	**06 04 36.8**	**-1.1**
JFA	**Akaike**	**1.57**	**145**	*e*S	**Sn**	**06 04 43.1**	**+0.2**
KSKCH	**Geochang**	**1.58**	**293**	P	**Pn**	**06 04 22.5**	**+0.2**
JFI	**Itaya**	**1.67**	**160**	S	**Sg**	**06 04 47.2**	**-0.2**
KSULJ	**Uljin**	**1.71**	**352**	P	**Pn**	**06 04 24.9**	**+0.8**
KSMGY	**Mungyeong**	**2.12**	**321**	P	**Pb**	**06 04 31.8**	**-0.8**
KSMGY				S	**Sb**	**06 04 59.3**	**+0.1**
KSBON	**Boeun**	**2.15**	**314**	P	**Pb**	**06 04 33.1**	**0.0**
KSBON				S	**Sb**	**06 05 01.4**	**+1.3**
KSKWJ	**Gwangju**	**2.23**	**275**	P	**Pn**	**06 04 32.0**	**+0.7**
KSKWJ				S	**Sb**	**06 05 02.1**	**-0.2**

*IDC **26** 06:07:44.2±1.1, 1.22N×126.91E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.8/22, mbtmp3.8/7, ML4.0/2, Error ellipse: s-maj=49.8km s-min=17.7km az=72.0*
*ISCJB **26** 06:07:52.1±0.8, 1.15N±0.07×126.92E±0.06, h72km, mb3.7/5, Error ellipse: s-maj=11.5km s-min=6.5km az=29.2*
*DJA **26** 06:07:55.7±0.6, 1.1N±12.2×12.7E±1.1, h17km±25km, M4.1/4, MLv4.1/4*

ISC 26 06:07:53.9±0.8, 1.02N±0.07×126.81E±0.06, h72km, n12, σ1987/18, mb3.8/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.61**	**114**	P	**Pn**	**06 08 07.8**	**-0.2**
TNTI				S	**Sn**	**06 08 19.1**	**+0.7**
LBMI	**Labuha**	**1.79**	**157**	P	**Pn**	**06 08 25.0**	**+2.2**
MNI	**Manado**	**2.01**	**282**	S	**Sn**	**06 08 51.4**	**+1.4**
KMSI	**Cibinong**	**2.86**	**261**	P	**Pn**	**06 08 39.1**	**+1.9**
KMSI				S	**Sn**	**06 09 13.9**	**+3.3**
NLAI	**Namlea**	**4.24**	**176**	P	**Pn**	**06 08 57.8**	**+1.7**
NLAI				S	**Sn**	**06 09 45.7**	**+1.4**
KAPI	**Kappang**	**9.25**	**230**	Pn	**Pn**	**06 10 02.2**	**-2.4**
	3.2nm,0.3s,baz=326,slow=2.9,SNR=7.0						
KAPI				Sn	**Sn**	**06 11 43.6**	**-3.6**
	0.5nm,0.3s,baz=119,slow=19,SNR=2.4						
FITZ	**Fitzroy Crossi**	**19.04**	**183**	P	**P**	**06 12 11.1**	**+0.8**
	0.2nm,0.3s,baz=25,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**22.10**	**161**	P	**P**	**06 12 42.9**	**-0.5**
	1.9nm,0.6s,baz=338,slow=11,SNR=34						
ASAR	**Alice Springs**	**25.49**	**165**	P	**P**	**06 13 15.6**	**-0.1**
	1.2nm,0.4s,baz=349,slow=14,SNR=20						
STKA	**Stephens Creek**	**35.59**	**158**	P	**P**	**06 14 44.6**	**0.0**
	1.1nm,0.4s,baz=324,slow=10,SNR=4.7						
SONM	**Songino Array**	**49.88**	**342**	P	**P**	**06 16 38.6**	**-1.6**
	0.1nm,0.3s,baz=147,slow=8.6,SNR=2.6						
SONM				pP	**pP**	**06 16 58.5**	**+0.2**
	0.4nm,0.8s,baz=152,slow=6.8,SNR=3.9						
MKAR	**Makanchi Array**	**59.82**	**326**	P	**P**	**06 17 50.4**	**-1.5**
	0.4nm,0.4s,baz=121,slow=7.8,SNR=12						
MKAR				pP	**pP**	**06 18 11.9**	**+1.4**
	0.3nm,0.5s,baz=122,slow=8.3,SNR=2.9						

IDC 26 06:12:58.4±31.0, 12.47S×166.52E, h221km±258km, mb2.8/3, mb1 3.1/3, mb1mx2.9/19, mbtmp2.8/3, Error ellipse: s-maj=292.8km s-min=66.9km az=133.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.74**	**252**	P	P	06 19 01.9	-0.1
	0.2nm,0.6s,baz=83,slow=9.1,SNR=2.4						
ASAR	**Alice Springs**	**32.86**	**246**	P	P	06 19 11.8	0.0
	0.2nm,0.5s,baz=73,slow=9.2,SNR=4.5						
ILAR	**Eielson Array**	**84.62**	**18**	P	P	06 25 06.6	0.0
	0.4nm,0.8s,baz=240,slow=4.6,SNR=5.1						
ARCES	**ARCESS Array B**	**117.89**	**346**	PKP	PKPdf	06 31 17.8	-0.2
	3.1nm,0.9s,baz=34,slow=0.3,SNR=5.7						

WEL 26 06:16:34.8±0.4, 38.94S×175.16E, h221km±2km, ML3.6/6, 4C-5D, Error ellipse: s-maj=3.7km s-min=3.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WPVZ	**Whakapapa**	**0.40**	**132**	PN	Pn	06 17 04.0	-0.2
WPVZ				SN	S	06 17 26.2	-1.0
FWVZ	**Far West T-bar**	**0.44**	**137**	PN	Pn	06 17 04.2	-0.3
FWVZ				SN	S	06 17 26.4	-1.3
TUVZ	**Tukino**	**0.51**	**131**	PN	Pn	06 17 04.4	-0.2
WNVZ	**Wahianoa**	**0.52**	**139**	PN	Pn	06 17 04.2	-0.4
MOVZ	**Moawhango**	**0.66**	**136**	PN	Pn	06 17 04.5	-0.5
MOVZ				SN	S	06 17 26.6	-2.1
WAZ	**Wanganui**	**0.83**	**189**	PN	Pn	06 17 05.9	+0.1
WAZ				SN	S	06 17 29.4	-0.7
BKZ	**Black Stump Fm**	**1.06**	**103**	PN	Pn	06 17 06.5	-0.8
BKZ				SN	S	06 17 30.7	-1.8
PNHZ	**Pukenui**	**1.27**	**141**	PN	Pn	06 17 08.7	+0.1
TSZ	**Takapari Road**	**1.28**

USRK	**Ussuriysk Arra**	**3.41**	**307**	P		**Pn**	**06 32 01.1**	**+2.2**
	4.4nm,0.3s,baz=114,slow=9.0,SNR=64							
USRK				S		**S**	**06 32 51.7**	**+2.0**
	baz=102,slow=16,SNR=3.2							
JSK	**Shakotan**	**3.64**	**70**	P		Pn	06 32 05.1	+3.9
JKB	**Kayabe**	**3.92**	**93**	P		**Pn**	**06 32 06.7**	**+2.7**
JOT	**Ohata**	**4.02**	**100**	P		**Pn**	**06 32 07.7**	**+2.6**
JTM	**Tenmabayashi**	**4.21**	**108**	P		**Pn**	**06 32 09.8**	**+2.7**
JHR	**Hokuryu**	**4.62**	**69**	P		**Pn**	**06 32 14.2**	**+2.9**
JRG	**Rokugo**	**4.63**	**126**	P		**Pn**	**06 32 14.4**	**+2.9**
JMK	**Ichinoseki**	**5.26**	**126**	P		**Pn**	**06 32 20.2**	**+1.8**
ASAJ	**Asahikawa**	**5.33**	**67**	P		**Pn**	**06 32 21.2**	**+2.1**
	0.8nm,0.3s,baz=230,slow=14,SNR=4.1							
JWK2	**Keihoku**	**5.41**	**53**	P		**Pn**	**06 32 22.8**	**+2.9**
JCH	**Churui**	**5.62**	**83**	P		**Pn**	**06 32 23.4**	**+1.0**
JCH				*e*S		**S**	**06 33 29.8**	**-2.6**
JTKR	**Abashiri--Toko**	**6.20**	**71**	P		**Pn**	**06 32 30.5**	**+1.6**
SONM	**Songino Array**	**21.45**	**295**	P		**P**	**06 35 15.9**	**-1.2**
	0.6nm,0.6s,baz=92,slow=8.3,SNR=6.3							
ZALV	**Zalesovo Beam**	**35.27**	**307**	P		**P**	**06 37 16.4**	**-2.0**
	0.7nm,0.5s,baz=95,slow=9.1,SNR=4.9							
MKAR	**Makanchi Array**	**37.81**	**296**	P		**P**	**06 37 38.2**	**-1.7**
	0.5nm,0.8s,baz=86,slow=8.5,SNR=5.7							
KURBB	**Kurchatov Arra**	**39.47**	**303**	P		**P**	**06 37 51.6**	**-1.8**
	2.5nm,0.6s,baz=82,slow=9.1,SNR=22							
BVAR	**Borovoye Array**	**43.92**	**308**	P		**P**	**06 38 27.4**	**-1.6**
	0.5nm,0.4s,baz=77,slow=6.2,SNR=4.3							
ILAR	**Eielson Array**	**47.58**	**35**	P		**P**	**06 38 57.1**	**0.0**
	0.2nm,0.7s,baz=277,slow=7.1,SNR=4.8							
WRA	**Warramunga Arr**	**61.85**	**182**	P		**P**	**06 40 38.5**	**-0.5**
	0.3nm,0.6s,baz=0.0,slow=7.5,SNR=3.8							
ASAR	**Alice Springs**	**65.57**	**182**	P		**P**	**06 41 03.2**	**+0.2**
	0.4nm,0.6s,baz=359,slow=5.6,SNR=3.9							
PDAR	**Pinedale Array**	**77.02**	**43**	P		**P**	**06 42 11.3**	**+0.2**
	0.1nm,0.3s,baz=309,slow=0.6,SNR=3.8							

IDC 26 06:38:38.3±1.6,3°.14N×126°.01E,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.6/21,mbtmp3.7/3,Error ellipse: s-maj=151.7km s-min=27.0km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.36**	**161**	P	P	06 43 58.6	+0.3
	1.5nm,0.7s,baz=338,slow=11,SNR=6.6						
SONM	**Songino Array**	**47.63**	**342**	P	P	06 47 15.4	-1.0
	0.2nm,0.4s,baz=152,slow=9.2,SNR=3.0						
MKAR	**Makanchi Array**	**57.63**	**326**	P	P	06 48 30.9	+0.5
	0.3nm,0.5s,baz=116,slow=6.6,SNR=7.1						

*ISCJB **26** 06:52:37.1±1.3,30°.40S±0°.08×177°.9W±0°.2, h50km, mb4.6/7, Error ellipse: s-maj=25.4km s-min=11.3km az=1.3*
*IDC **26** 06:53:08.5±8.6,30°.26S×178°.62W,h305km±75km, mb3.9/7, mb1 3.9/8,mb1mx3.7/21,mbtmp3.8/8, Error ellipse: s-maj=43.1km s-min=19.4km az=63.0*
ISC 26 06:52:37.4±0.8,30°.25S±0°.10×178°.0W±0°.2,h50km,n31, σ1ᵍ59/20,mb4.6/7,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MWZ	**Matawai**	**8.89**	**204**	PN	**Pn**	**06 54 41.0**	**-2.2**
MCHZ	**McNeill Hill**	**10.17**	**204**	SN	**Sn**	**06 56 54.5**	**+1.3**
CTZ	**Chatham Island**	**13.51**	**176**	PN	**Pn**	**06 55 46.0**	**-0.3**
KHZ	**Kahutara**	**13.93**	**207**	SN	Sn	06 58 17.5	-7.5
DZM	**Mont Dzumac**	**16.18**	**297**	*e*LR	LR	06 59 52.0	
	251nm,25.1s						
DZM	**Mont Dzumac**	**16.18**	**297**	P	P	06 56 33.0	+9.0
	0.7nm,0.3s,baz=314,slow=19,SNR=11						
TBI	**Tubuai**	**26.31**	**82**	*e*LR	LR	07 04 45.0	
	135nm,27.2s						
TBI				*e*T	T	07 25 20.1	
	9.0nm,0.3s						
PAE	**Paea**	**28.72**	**71**	*e*T	T	07 28 02.4	
	2.3nm,0.3s						
PPT2	**Papeete2**	**28.76**	**70**	*e*LR	LR	07 05 47.8	
	103nm,26.5s						
PPT2				*e*T	T	07 28 06.1	
	1.3nm,0.2s						
CTA	**Charters Tower**	**33.80**	**279**	P	P	06 59 18.3	+3.5
	8.4nm,0.5s,baz=99,slow=11,SNR=17						
STKA	**Stephens Creek**	**34.54**	**257**	P	P	06 59 24.8	+3.6
	4.0nm,0.5s,baz=100,slow=12,SNR=8.4						
RKT	**Rikitea**	**38.89**	**90**	*e*T	T	07 41 14.9	
	1.0nm,0.2s						
ASAR	**Alice Springs**	**43.14**	**267**	P	**P**	**07 00 35.0**	**+1.7**
	2.5nm,0.5s,baz=105,slow=7.1,SNR=36						
WRA	**Warramunga Arr**	**44.12**	**272**	P	**P**	**07 00 42.5**	**+1.4**
	8.5nm,0.5s,baz=111,slow=8.0,SNR=63						
FITZ	**Fitzroy Crossi**	**52.38**	**270**	P	**P**	**07 01 45.2**	**+0.4**
	3.6nm,0.8s,baz=146,slow=4.8,SNR=3.7						
QSPA	**South Pole Qui**	**59.86**	**180**	P	P	07 02 42.0	+4.3
	1.1nm,0.4s,baz=60,slow=0.9,SNR=15						
PETK	**Petropavlovsk-**	**85.67**	**346**	P	**P**	**07 05 12.2**	**+1.9**
	8.7nm,1.0s,baz=117,slow=6.8,SNR=6.1						
MKAR	**Makanchi Array**	**117.69**	**310**	PKP	**PKPdf**	**07 11 17.2**	**-0.5**
	0.4nm,0.6s,baz=82,slow=0.7,SNR=4.6						
KURBB	**Kurchatov Arra**	**121.00**	**314**	PKP	**PKPdf**	**07 11 22.9**	**-1.0**
	0.8nm,0.4s,baz=99,slow=1.9,SNR=11						
BVAR	**Borovoye Array**	**126.31**	**316**	PKP	**PKPdf**	**07 11 34.1**	**+0.1**
	1.1nm,0.4s,baz=156,slow=2.0,SNR=9.2						
AKTO	**Aktyubinsk**	**134.02**	**313**	PKP	**PKPdf**	**07 11 49.1**	**+0.4**
	0.5nm,0.3s,baz=27,slow=9.0,SNR=3.1						
ARCES	**ARCESS Array B**	**138.44**	**348**	PKhKP	PKPpre	07 11 48.2	
	7.4nm,1.1s,baz=124,slow=1.3,SNR=4.8						
JOF	**Joensuu**	**142.28**	**339**	*ep*	PKPdf	07 11 57.6	-5.9
KAF	**Kangasniemi**	**144.41**	**341**	*ep*	**PKPab**	**07 12 04.4**	**-1.2**
	2.1nm,0.6s						
FINES	**FINESS Array B**	**145.01**	**340**	PKP	**PKPdf**	**07 12 07.2**	**-1.1**
	6.9nm,0.3s,baz=51,slow=4.5,SNR=94						
NB2	**NORSAR Subarra**	**148.60**	**351**	PKP	**PKPbc**	**07 12 18.2**	**0.0**
	comp=Z,1.2nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.60**	**351**	PKPbc	**PKPbc**	**07 12 18.0**	**-0.2**
	comp=Z,2.8nm,0.7s,baz=13,slow=4.3,SNR=6.8						
AKASG	**Malin Array Be**	**151.19**	**323**	PKPbc	**PKPbc**	**07 12 24.4**	**-0.3**
	comp=Z,2.3nm,0.4s,baz=48,slow=3.0,SNR=10						
AKASG				PKPab	**PKPab**	**07 12 32.6**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=47,slow=4.0,SNR=3.2						
EIL	**Elat**	**151.52**	**277**	PKPab	**PKPab**	**07 12 30.6**	**-4.3**
	comp=Z,3.9nm,0.7s,baz=41,slow=9.3,SNR=3.4						
BRTR	**Keskin Array B**	**152.55**	**299**	PKPbc	**PKPbc**	**07 12 28.6**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=124,slow=3.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**162.38**	**179**	PKPab	**PKPab**	**07 13 26.6**	**+2.4**
	comp=Z,0.7nm,0.5s,baz=180,slow=5.4,SNR=3.0						

*IDC **26** 06:54:18.8±1.8,0°.87N×97°.16E,h0km,mb3.8/6,mb1 3.9/8, mb1mx3.7/26,mbtmp3.7/8,ML3.8/2,MS3.4/1,Ms1 3.4/1, ms1mx2.5/42,Error ellipse: s-maj=44.9km s-min=25.5km az=55.0*
*ISCJB **26** 06:54:20.2±1.1,0°.9N±0°.1×97°.03E±0°.08,h25km,mb3.8/6, MS3.5/1,Error ellipse: s-maj=16.1km s-min=11.1km az=163.0*
*DJA **26** 06:54:27,1°.43N×97°.35E,h5km,MLv3.8/7*
ISC 26 06:54:23.1±1.3,1°.0N±0°.1×97°.2E±0°.1,h25km,n11, σ0ᵍ60/13,mb3.9/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.48**	**53**	P	**Pn**	**06 54 34.2**	**-0.3**
GSI				S	**Sn**	**06 54 42.8**	**+0.6**
MNSI	**Mandailing Nat**	**2.40**	**95**	P	**Pn**	**06 55 01.2**	**+0.4**
PSI	**Prapat**	**2.48**	**44**	P	**Pn**	**06 55 01.5**	**-0.6**
PSI	**Prapat**	**2.48**	**44**	Pn	**Pn**	**06 55 01.6**	**-0.6**
	2.7nm,0.3s,baz=208,slow=15,SNR=7.3						
PSI				Lg	Lg	06 55 44.0	
	4.1nm,0.3s,baz=143,slow=23,SNR=4.0						
CMAR	**Chiang Mai Arr**	**17.43**	**6**	P	**Pn**	**06 58 24.4**	**-0.3**
	0.5nm,0.3s,baz=199,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**41.94**	**122**	P	**P**	**07 02 11.1**	**-1.1**
	0.6nm,1.0s,baz=303,slow=9.2,SNR=2.2						
KSRS	**Korea Array**	**46.01**	**34**	P	**P**	**07 02 45.1**	**+0.4**
	1.1nm,0.6s,baz=227,slow=9.1,SNR=3.8						
SONM	**Songino Array**	**47.32**	**8**	P	**P**	**07 02 55.1**	**+0.2**
	0.8nm,0.4s,baz=187,slow=9.4,SNR=10						
SONM				PcP	**PcP**	**07 04 25.9**	**+0.3**
	0.2nm,0.5s,baz=208,slow=3.1,SNR=3.0						
MKAR	**Makanchi Array**	**47.43**	**346**	P	**P**	**07 02 56.1**	**+0.5**
	0.8nm,0.7s,baz=159,slow=8.5,SNR=10						
MKAR				LR	LR	07 28 08.3	
	comp=Z,44nm,18.8s,baz=170,slow=43						
KURBB	**Kurchatov Arra**	**51.91**	**345**	P	**P**	**07 03 30.1**	**+0.5**
	0.6nm,0.8s,baz=166,slow=7.5,SNR=7.4						
ZALV	**Zalesovo Beam**	**53.75**	**351**	P	**P**	**07 03 43.4**	**+0.2**
	1.3nm,0.5s,baz=183,slow=7.3,SNR=8.2						

*DJA **26** 06:58:34.6±1.8,1°.N±12°.×9°.7E±°.,h18km±10km,M3.6/3, MLv3.6/3*
*IDC **26** 06:58:35.3±2.0,1°.41N×97°.04E,h0km,mb3.6/5,mb1 3.8/6, mb1mx3.6/26,mbtmp3.6/6,ML4.2/1,Error ellipse: s-maj=50.2km s-min=25.5km az=52.0*
ISC 26 06:58:35.9±1.8,1°.0N±0°.1×97°.2E±0°.1,h25km,n10, σ0ᵍ50/11,mb3.8/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.48**	**57**	P	**Pn**	**06 58 46.0**	**+0.2**
GSI				S	**Sn**	**06 58 55.2**	**+0.3**
MNSI	**Mandailing Nat**	**2.42**	**96**	P	**Pn**	**06 59 13.3**	**-0.6**
MNSI				S	**Sn**	**06 59 43.2**	**+0.5**
PSI	**Prapat**	**2.48**	**45**	P	**Pn**	**06 59 14.5**	**-0.3**
PSI	**Prapat**	**2.48**	**45**	Pn	**Pn**	**06 59 13.8**	**-1.0**
	1.0nm,0.3s,baz=305,slow=17,SNR=4.8						
CMAR	**Chiang Mai Arr**	**17.40**	**6**	P	**Pn**	**07 02 37.1**	**0.0**
	0.3nm,0.3s,baz=201,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**41.98**	**122**	P	P	07 06 31.0	+5.7
	0.3nm,0.7s,baz=299,slow=8.8,SNR=2.6						
SONM	**Songino Array**	**47.29**	**8**	P	**P**	**07 07 07.5**	**+0.1**
	0.7nm,0.7s,baz=192,slow=8.1,SNR=6.3						
MKAR	**Makanchi Array**	**47.39**	**346**	P	**P**	**07 07 08.1**	**0.0**
	1.4nm,0.9s,baz=159,slow=7.6,SNR=10.0						
KURBB	**Kurchatov Arra**	**51.88**	**345**	P	**P**	**07 07 42.4**	**+0.2**
	0.3nm,0.5s,baz=165,slow=7.9,SNR=4.4						
ZALV	**Zalesovo Beam**	**53.71**	**351**	P	**P**	**07 07 56.0**	**+0.3**
	1.2nm,0.7s,baz=177,slow=7.6,SNR=6.1						

*ISK **26** 07:00:59.8,38°.57N×35°.88E,h6km,MD2.8*
*DDA **26** 07:00:60.0,38°.56N×35°.85E,h7km,MD3.0*
*CSEM **26** 07:01:01.5±0.4,38°.65N×35°.84E,h2km,MD2.8,Error ellipse: s-maj=10.4km s-min=6.7km az=37.0*
ISC 26 07:00:59.9±1.2,38°.58N±0°.03×35°.87E±0°.02,h7km±11km, n23,σ1ᵍ28/35,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNN	**Bunyan**	**0.27**	**357**	*e*PG	**Pg**	**07 01 05.7**	**+0.4**
BNN				*e*SG	**Sb**	**07 01 10.4**	**-1.8**
BNN	**Bunyan**	**0.27**	**357**	*e*Pg	**Pg**	**07 01 05.7**	**+0.4**
BNN				*e*Sg	**Sb**	**07 01 10.4**	**-1.8**
PINB	**Pinarbasi**	**0.43**	**77**	*i* P	**Pg**	**07 01 08.2**	**-0.1**
PINB				*i* S	**Sb**	**07 01 15.6**	**-1.2**
PINB	**Pinarbasi**	**0.43**	**77**	*i* P	**Pg**	**07 01 08.2**	**-0.1**
PINB				*i* S	**Sb**	**07 01 15.6**	**-1.2**
AVNT	**Avonos**	**0.82**	**285**	*i* P	**Pg**	**07 01 15.5**	**-0.1**
AVNT				*i* S	**Sb**	**07 01 27.1**	**-0.7**
AVNT	**Avonos**	**0.82**	**285**	*i* P	**Pg**	**07 01 15.5**	**-0.1**
AVNT				*i* S	**Sb**	**07 01 27.1**	**-0.7**
ANDN	**Andirin**	**1.06**	**159**	*i* P	Pn	07 01 24.1	+2.8
ANDN				*i* S	**Sn**	**07 01 40.2**	**+3.8**
ANDN	**Andirin**	**1.06**	**159**	*i* P	Pn	07 01 24.1	+2.8
ANDN				*i* S	**Sn**	**07 01 40.2**	**+3.8**
KOZT	**Kozan**	**1.10**	**182**	*e*PN	**Pn**	**07 01 21.0**	**-0.6**
KOZT				*e*SN	**Sn**	**07 01 36.4**	**-0.7**
YOZ	**Yozgat**	**1.14**	**338**	*e*PN	**Pn**	**07 01 22.5**	**+0.1**
YOZ	**Yozgat**	**1.14**	**338**	*e*Pn	**Pn**	**07 01 22.5**	**+0.1**
KMRS	**Kahramanmaras**	**1.35**	**142**	*e*PN	**Pg**	**07 01 25.4**	**-0.3**
DARE	**Darende-Malaty**	**1.56**	**76**	*e*PN	Pn	07 01 24.2	-3.9
CDAG	**Cicekdag**	**1.56**	**312**	*i* P	**Pg**	**07 01 29.8**	**0.0**
CDAG				*i* S	**Sg**	**07 01 51.4**	**+1.3**
CDAG	**Cicekdag**	**1.56**	**312**	*i* P	**Pg**	**07 01 29.8**	**0.0**
CDAG				*i* S	**Sg**	**07 01 51.4**	**+1.3**
AKCD	**Akcadag**	**1.64**	**99**	*i* P	**Pg**	**07 01 31.5**	**+0.2**
AKCD				*i* S	**Sg**	**07 01 53.9**	**+1.4**
AKCD	**Akcadag**	**1.64**	**99**	*i* P	**Pg**	**07 01 31.5**	**+0.2**
AKCD				*i* S	**Sg**	**07 01 53.9**	**+1.4**
CORM	**Corum**	**1.86**	**329**	*e*PN	**Pb**	**07 01 33.3**	**-1.0**
CORM	**Corum**	**1.86**	**329**	*e*Pn	**Pb**	**07 01 33.3**	**-1.0**
KUZU	**Kuzuini**	**2.04**	**152**	*i* P	**Pg**	**07 01 37.9**	**-1.0**
KUZU	**Kuzuini**	**2.04**	**152**	*i* P	**Pg**	**07 01 37.9**	**-1.0**
KEMA	**Kemaliye**	**2.16**	**71**	*i* P	**Pg**	**07 01 41.1**	**-0.2**
KEMA				*i* S	**Sg**	**07 02 09.4**	**+0.1**
KEMA	**Kemaliye**	**2.16**	**71**	*i* P	**Pg**	**07 01 41.1**	**-0.2**
KEMA				*i* S	**Sg**	**07 02 09.4**	**+0.1**

*IDC **26** 07:02:57.0±1.3,0°.94N×97°.17E,h0km,mb3.9/9, mb1 4.0/11,mb1mx3.8/28,mbtmp3.9/11,ML3.9/2,MS3.2/1, Ms1 3.2/1,ms1mx2.4/41,Error ellipse: s-maj=39.6km s-min=19.6km az=56.0*
*ISCJB **26** 07:02:58.6±0.8,0°.95N±0°.07×97°.03E±0°.06,h25km, mb3.9/9,MS3.1/1,Error ellipse: s-maj=10.7km s-min=9.2km az=7.9*
*DJA **26** 07:02:59.2±2.2,1°.N±8°.×9°.7E±1°.1,h14km±10km,M4.2/3, mb4.4/1,MLv4.2/3*
ISC 26 07:03:01.0±1.0,1°.04N±0°.09×97°.15E±0°.10,h25km,n20, σ0ᵍ72/21,mb4.1/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.50**	**58**	P	**Pn**	**07 03 12.0**	**-0.6**
GSI				S	**Sn**	**07 03 20.4**	**-0.1**
TPTI		**2.21**	**1**	P	**Pn**	**07 03 35.2**	**-0.9**
MNSI	**Mandailing Nat**	**2.44**	**96**	P	**Pn**	**07 03 39.3**	**0.0**
PSI	**Prapat**	**2.49**	**45**	P	**Pn**	**07 03 40.1**	**0.0**
PSI	**Prapat**	**2.49**	**45**	Pn	**Pn**	**07 03 39.5**	**-0.7**
	5.0nm,0.3s,baz=140,slow=7.9,SNR=8.4						
PSI				Lg	Lg	07 04 21.7	
	5.5nm,0.3s,baz=320,slow=20,SNR=3.6						
TSI	**Tuntungan**	**2.82**	**30**	P	**Pn**	**07 03 45.6**	**+1.0**
PPI	**Padang Panjang**	**3.57**	**115**	P	**Pn**	**07 03 55.4**	**+0.5**
IPM	**Ipoh**	**5.16**	**48**	P	**Pn**	**07 04 17.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**17.40**	**6**	P	**Pn**	**07 07 01.8**	**-0.5**
	0.6nm,0.3s,baz=199,slow=12,SNR=5.5						
FITZ	**Fitzroy Crossi**	**33.88**	**126**	LR	LR	07 21 58.0	
	comp=Z,43nm,21.2s,baz=34,slow=34						
WRA	**Warramunga Arr**	**41.99**	**122**	P	**P**	**07 10 49.6**	**-1.0**
	0.3nm,0.5s,baz=300,slow=9.1,SNR=5.8						
ASAR	**Alice Springs**	**43.34**	**127**	P	**P**	**07 11 00.8**	**-0.7**
	0.5nm,0.6s,baz=300,slow=6.9,SNR=5.6						
KSRS	**Korea Array**	**46.01**	**34**	P	**P**	**07 11 22.1**	**-0.5**
	2.0nm,0.7s,baz=218,slow=9.1,SNR=7.2						
SONM	**Songino Array**	**47.30**	**8**	P	**P**	**07 11 33.0**	**+0.4**
	1.6nm,0.5s,baz=189,slow=9.7,SNR=18						
SONM				PcP	**PcP**	**07 13 03.8**	**+0.4**
	0.5nm,0.5s,baz=192,slow=3.2,SNR=6.0						
MKAR	**Makanchi Array**	**47.38**	**346**	P	**P**	**07 11 34.1**	**+0.9**
	1.2nm,0.6s,baz=158,slow=7.9,SNR=11						
KURBB	**Kurchatov Arra**	**51.87**	**345**	P	**P**	**07 12 08.1**	**+0.9**
	0.9nm,0.6s,baz=168,slow=7.2,SNR=7.7						
ZALV	**Zalesovo Beam**	**53.71**	**351**	P	**P**	**07 12 21.4**	**+0.7**
	2.3nm,0.4s,baz=175,slow=7.2,SNR=15						
BVAR	**Borovoye Array**	**56.38**	**341**	P	**P**	**07 12 40.2**	**0.0**
	0.6nm,0.6s,baz=155,slow=7.9,SNR=3.8						
ARCES	**ARCESS Array B**	**82.67**	**340**	P	**P**	**07 15 22.7**	**+0.6**
	1.3nm,0.8s,baz=76,slow=5.5,SNR=3.9						
TXAR	**Lajitas Array**	**143.83**	**32**	PKP	**PKPdf**	**07 22 34.2**	**-0.8**
	0.2nm,0.8s,baz=11,slow=0.9,SNR=2.8						

IDC 26 07:13:44.1±1.1,26°.61N×142°.42E,h0km,mb3.5/5, mb1 3.7/5,mb1mx3.5/24,mbtmp3.5/5,Error ellipse: s-maj=43.6km s-min=13.5km az=76.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.53**	**337**	Pn	Pn	07 13 59.6	+0.7
	277nm,0.3s,baz=284,slow=20,SNR=65						
CBIJ				Sn	Sn	07 14 10.4	+1.8
	351nm,0.3s,baz=287,slow=19,SNR=22						
SONM	**Songino Array**	**35.21**	**317**	P	P	07 20 39.0	-1.2
	0.1nm,0.5s,baz=101,slow=9.9,SNR=2.4						
WRA	**Warramunga Arr**	**46.93**	**190**	P	P	07 22 17.4	+0.8
	1.0nm,0.5s,baz=12,slow=8.7,SNR=13						
ASAR	**Alice Springs**	**50.65**	**190**	P	P	07 22 45.4	+0.1
	0.3nm,0.7s,baz=17,slow=9.7,SNR=3.2						
BVAR	**Borovoye Array**	**58.54**	**318**	P	P	07 23 40.6	-1.7
	0.8nm,0.5s,baz=88,slow=5.6,SNR=5.1						
YKA	**Yellowknife Ar**	**72.47**	**28**	P	P	07 25 12.1	-0.1
	0.2nm,0.7s,baz=289,slow=6.0,SNR=3.7						

IDC 26 07:14:19.9±19.0,12°.27S×167°.09E,h170km±179km, mb3.7/5,mb1 3.9/5,mb1mx3.5/20,mbtmp3.7/5,Error ellipse: s-maj=76.6km s-min=51.2km az=127.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**30.51**	**226**	P	P	07 20 17.5	+0.4
	1.9nm,0.8s,baz=59,slow=5.9,SNR=3.2						
WRA	**Warramunga Arr**	**32.33**	**252**	P	P	07 20 32.6	-0.7
	1.4nm,0.4s,baz=84,slow=9.0,SNR=22						
ASAR	**Alice Springs**	**33.45**	**246**	P	P	07 20 42.5	-0.5
	1.4nm,0.6s,baz=70,slow=9.4,SNR=17						
FITZ	**Fitzroy Crossi**	**40.35**	**256**	P	P	07 21 42.1	+0.8
	2.9nm,0.9s,baz=98,slow=10,SNR=10						
ILAR	**Eielson Array**	**84.25**	**18**	P	P	07 26 32.2	+0.2
	1.8nm,0.6s,baz=227,slow=5.1,SNR=35						
ARCES	**ARCESS Array B**	**117.84**	**346**	PKP	PKPdf	07 32 44.6	-0.9
	7.7nm,1.1s,baz=48,slow=1.3,SNR=11						

*IDC **26** 07:18:25.2±2.6,35°.58N×67°.20E,h0km,mb3.4/3, mb1 3.6/8,mb1mx3.4/31,mbtmp3.5/8,ML3.4/4,Error ellipse: s-maj=58.9km s-min=22.6km az=141.0*
*NNC **26** 07:18:31.0±4.4,36°.40N×66°.75E,h0km,mb3.7,mpv3.2, Error ellipse: s-maj=56.1km s-min=36.3km az=130.0*
ISC 26 07:18:30.1±3.3,36°.1N±0°.3×66°.6E±0°.2,h35km,n14, σ1ᵍ30/14,mb3.5/3,5C-1D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**7.63**	**22**	⇓Pn	**Pn**	**07 20 20.6**	**+1.8**
	0.4nm,0.2s,baz=210,slow=15,SNR=22						
KK31				⇑Sn	**Sn**	**07 21 42.7**	**-1.4**
	1.5nm,0.5s,baz=118,slow=44,SNR=4.6						
KK31				⇑Lg	Lg	07 22 25.4	
	3.1nm,0.6s						
AAK	**Ala-Archa**	**8.96**	**41**	Pn	**Pn**	**07 20 38.2**	**+1.0**
	0.7nm,0.3s,baz=198,slow=10.0,SNR=6.3						
AAK				Sn	**Sn**	**07 22 17.7**	**+0.7**
	0.2nm,0.3s,baz=23,slow=23,SNR=2.9						
TKM2	**Tokmak 2**	**9.76**	**43**	⇑P	**Pn**	**07 20 46.8**	**-1.3**
	1.6nm,0.6s						
AB31	**Akbulak array**	**14.01**	**342**	P	**Pn**	**07 21 46.1**	**+0.1**
	0.2nm,0.4s,baz=165,slow=14,SNR=20						
AKTO	**Aktyubinsk**	**15.61**	**339**	Pn	**P**	**07 22 10.8**	**-0.4**
	0.1nm,0.3s,baz=163,slow=10,SNR=3.5						
MKAR	**Makanchi Array**	**15.89**	**43**	Pn	**Pn**	**07 22 08.9**	**-2.1**
	0.0nm,0.3s,baz=229,slow=12,SNR=2.6						
KURBB	**Kurchatov Arra**	**16.90**	**27**	Pn	**Pn**	**07 22 22.0**	**-1.7**
	0.1nm,0.3s,baz=219,slow=10,SNR=2.9						
ZRNK	**Zerenda**	**16.94**	**5**	⇑P	**Pn**	**07 22 24.6**	**+0.3**
	1.8nm,0.8s						
BVA0	**Borovoye Array**	**17.14**	**8**	P	**P**	**07 22 27.3**	**-0.8**
	0.2nm,0.5s,baz=182,slow=13,SNR=18						
BVAR	**Borovoye Array**	**17.14**	**8**	Pn	**Pn**	**07 22 27.0**	**+0.3**
	0.6nm,0.3s,baz=181,slow=11,SNR=13						
BRVK	**Borovoye**	**17.16**	**8**	⇑P	**P**	**07 22 29.7**	**+1.4**
	9.4nm,0.9s						
ZALV	**Zalesovo Beam**	**21.91**	**30**	P	**P**	**07 23 20.5**	**+0.4**
	0.9nm,0.4s,baz=224,slow=8.3,SNR=6.1						
TORD	**Torodi Ar. Bea**	**62.11**	**266**	P	P	07 28 51.3	+3.4
	0.3nm,0.6s,baz=59,slow=6.9,SNR=2.6						
YKA	**Yellowknife Ar**	**81.75**	**1**	P	P	07 30 48.7	+4.0
	0.2nm,0.7s,baz=343,slow=5.9,SNR=3.0						

*IDC **26** 07:34:38.9±1.2,43°.08S×72°.20W,h0km,mb3.7/5, mb1 4.0/6,mb1mx3.8/18,mbtmp3.7/6,ML4.0/1,Error ellipse: s-maj=46.9km s-min=18.2km az=119.0*
*GUC **26** 07:34:39.1±0.7,42°.83S×72°.66W,h4

NB2	**NORSAR Subarra**	**44.24**	**323**	P	P	07 50 49.4	+7.7
	comp=Z,1.1nm,0.5s,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.24**	**323**	P	P	07 50 49.2	+7.5
	comp=Z,1.2nm,0.7s,baz=96,slow=8.1,SNR=3.7						
TORD	**Torodi Ar. Bea**	**65.72**	**269**	P	P	07 53 22.9	+6.8
	comp=Z,0.1nm,0.3s,baz=66,slow=7.0,SNR=2.3						
YKA	**Yellowknife Ar**	**81.07**	**3**	P	P	07 54 51.3	+6.4
	comp=Z,0.2nm,0.4s,baz=352,slow=5.2,SNR=4.2						

DJA **26** *07:50:42,38°.03N×74°.94E,h10km,mb5.1/9*
MOS **26** *07:50:46.3s 1.2,38°.27N×74°.13E,h120km,mb4.7/22,Error ellipse: s-maj=7.1km s-min=4.4km az=103.1*
ISCJB **26** *07:50:48.3s 0.1,38°.32N±0°.02×74°.14E±0°.03,h140km, mb4.5/92,Error ellipse: s-maj=3.0km s-min=2.6km az=141.7*
BJI **26** *07:50:48.6,38°.51N×74°.10E,h133km,mB5.0/24,mb4.8/38*
IDC **26** *07:50:49.9s 0.6,38°.31N×74°.08E,h140km±4km,mb4.2/34, mb1 4.3/37,mb1mx4.3/37,mbtmp4.3/37,MS3.7/8, Ms1 3.7/8,ms1mx3.2/36,Error ellipse: s-maj=9.6km s-min=7.5km az=13.0*
NEIC **26** *07:50:49.6s 0.2,38°.24N×74°.19E,mb4.8/19,Error ellipse: s-maj=7.3km s-min=4.6km az=50.0*
NNC **26** *07:50:54.6s 1.5,38°.91N×73°.85E,h184km±15km,mb4.4, mpv5.2,Error ellipse: s-maj=15.5km s-min=6.6km az=3.0*
SZGRF **26** *07:51:10.8,38°.88N×74°.26E,h33km,mb5.0, Tajikistan-Xinjiang border region*

ISC 26 07:50:50.1±0.2,38°.39N±0°.03×74°.16E±0°.03,h139km, h139km;pP-P,n372,o1s42/419,mb4.6/91,28C-17D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.81**	**51**	P		Pn	07 51 17.5	-4.9
KSH				S		Sn	07 51 36.0	-11
KSH				smax		smax		
	comp=N,24μm,0.7s							
KSH				smax		smax		
	comp=E,11μm,0.3s							
AML	**Almayashu**	**3.75**	**355**	P		**Pn**	**07 51 46.1**	**-1.0**
	SNR=988							
KZA	**Kyzart**	**3.78**	**12**	P		**Pn**	**07 51 46.9**	**-0.5**
	SNR=359							
UCH	**Uchtor**	**3.84**	**4**	P		**Pn**	**07 51 48.0**	**-0.4**
	SNR=129							
ULHL	**Ulahol**	**4.17**	**22**	P		**Pn**	**07 51 52.1**	**-0.3**
	SNR=105							
AAK	**Ala-Archa**	**4.25**	**3**	PN		**Pn**	**07 51 53.1**	**-0.3**
AAK				S		**Sn**	**07 52 42.6**	**-0.1**
AAK				pmax		pmax		
	comp=Z,63nm,0.3s							
AAK				smax		smax		
	comp=N,104nm,0.3s							
AAK	**Ala-Archa**	**4.25**	**3**	*e*Pn		**Pn**	**07 51 53.2**	**-0.2**
AAK				S		**Sn**	**07 52 42.6**	**-0.1**
AAK	**Ala-Archa**	**4.25**	**3**	P		**Pn**	**07 51 53.2**	**-0.2**
	SNR=137							
AAK	**Ala-Archa**	**4.25**	**3**	P		**Pn**	**07 51 53.1**	**-0.2**
	comp=N,63nm,0.3s,baz=149,slow=7.3,SNR=402							
AAK				S		**Sn**	**07 52 42.6**	**-0.1**
	comp=N,104nm,0.3s,baz=19,slow=20,SNR=11							
EKS2	**Erkin-Say**	**4.28**	**356**	*e*PN		**Pn**	**07 51 53.3**	**-0.5**
EKS2	**Erkin-Say**	**4.28**	**356**	*e*Pn		**Pn**	**07 51 53.3**	**-0.5**
EKS2	**Erkin-Say**	**4.28**	**356**	P		**Pn**	**07 51 53.2**	**-0.5**
	SNR=183							
KBK	**Karagaybulak**	**4.30**	**8**	P		**Pn**	**07 51 54.2**	**+0.1**
	SNR=123							
FRU	**Bishkek**	**4.45**	**4**	⇓*i*PN		**Pn**	**07 51 55.0**	**-1.0**
FRU				*i*			07 52 50.0	
FRU				pmax		pmax		
	comp=Z,612nm,2.0s							
FRU				pmax		pmax		
	comp=E,2μm,1.8s							
CHMS	**Chumysh**	**4.63**	**5**	P		**Pn**	**07 51 58.1**	**-0.2**
	SNR=113							
TKM2	**Tokmak 2**	**4.66**	**13**	⇑P		**Pn**	**07 51 58.5**	**-0.3**
	comp=E,342nm,0.9s							
TKM2				⇑S		**Sn**	**07 52 49.6**	**-2.8**
	comp=E,483nm,1.1s							
TKM2	**Tokmak 2**	**4.66**	**13**	PN		**Pn**	**07 51 58.5**	**-0.3**
TKM2				pmax		pmax		
	comp=Z,342nm,0.9s							
TKM2	**Tokmak 2**	**4.66**	**13**	*e*Pn		**Pn**	**07 51 58.8**	**-0.1**
TKM2	**Tokmak 2**	**4.66**	**13**	P		**Pn**	**07 51 58.7**	**-0.1**
	SNR=203							
CHCP	**Chirah Chowk**	**4.78**	**189**	⇓P		**Pn**	**07 52 00.0**	**-0.4**
USP	**Ospenovka**	**4.88**	**3**	P		**Pn**	**07 52 01.2**	**-0.5**
	SNR=39							
CEP	**Cherat**	**4.91**	**202**	⇓P		**Pn**	**07 52 00.6**	**-1.6**
KNDC	**Almaty**	**5.27**	**23**	⇓P		**Pn**	**07 52 07.4**	**+0.5**
	comp=Z,342nm,0.8s							
KNDC				⇑S		**Sn**	**07 53 05.0**	**-1.8**
	comp=Z,1μm,1.6s							
AAA	**Alma-Ata**	**5.32**	**23**	*e*PN		**Pn**	**07 52 07.9**	**+0.4**
AAA				pmax		pmax		
	comp=Z,454nm,0.8s							
KK31	**Karatay Array**	**5.46**	**331**	P		**Pn**	**07 52 07.3**	**-2.1**
	comp=Z,128nm,0.3s,baz=130,slow=12,SNR=7670							
KK31				⇓S		Sn	07 53 04.7	-6.7
	comp=Z,334nm,0.4s,baz=152,slow=24,SNR=12							
KK31	**Karatay Array**	**5.46**	**331**	*e*PN		**Pn**	**07 52 07.3**	**-2.1**
KK31				pmax		pmax		
	comp=Z,243nm,0.2s							
KKAR	**Karatay Array**	**5.46**	**331**	*e*PN		**Pn**	**07 52 07.3**	**-2.1**
KKAR	**Karatay Array**	**5.46**	**331**	*e*Pn		**Pn**	**07 52 07.3**	**-2.1**
KKAR				*e*Sn		Sn	07 53 04.2	-7.2
THW	**Thamme Wali**	**5.92**	**200**	P		**Pn**	**07 52 13.9**	**-1.7**
THN	**Thein Dam**	**6.08**	**167**	*e*PKP		**Pn**	**07 52 15.0**	**-2.7**
THN				*e*S		Sn	07 53 19.8	-6.3
DHRM	**DHARAMSHALA**	**6.37**	**163**	*ex*		P	07 52 35.8	
SARP	**Sargodha**	**6.57**	**191**	P		**Pn**	**07 52 23.6**	**-0.6**
SDNR	**Sundarnagar**	**7.25**	**161**	*e*PKP		Pn	07 52 30.0	-3.4
SDNR				*e*S		Sn	07 53 45.0	-9.4
SMLA	**Simla**	**7.65**	**160**	*i* P		**Pn**	**07 52 35.9**	**-3.0**
SMLA				*i* S		Sn	07 53 54.6	-9.4
DDI	**Dehra Dun**	**8.66**	**157**	*e*PKP		**Pn**	**07 52 50.0**	**-2.5**
PTH	**Pithoragarh**	**10.14**	**149**	*e*PKP		**Pn**	**07 53 09.7**	**-2.7**
PTH				*ex*		x	07 54 36.4	
LGTI	**Lohaghat**	**10.25**	**149**	*e*PKP		**Pn**	**07 53 14.2**	**+0.7**
LGTI				*e*S		**Sn**	**07 55 01.2**	**-5.5**
MK31	**Makanchi Array**	**10.31**	**33**	P		**Pn**	**07 53 13.8**	**-0.5**
	comp=Z,69nm,0.7s,baz=212,slow=11,SNR=764							
MK31	**Makanchi Array**	**10.31**	**33**	*e*P		**Pn**	**07 53 14.2**	**-0.1**
MK31	**Makanchi Array**	**10.31**	**33**	*e*Pn		**Pn**	**07 53 14.2**	**-0.1**
MKAR	**Makanchi Array**	**10.31**	**33**	P		**Pn**	**07 53 13.7**	**-0.6**
MKAR	**Makanchi Array**	**10.31**	**33**	P		**Pn**	**07 53 13.7**	**-0.6**
MKAR	**Makanchi Array**	**10.31**	**33**	P		**Pn**	**07 53 13.7**	**-0.6**
	comp=Z,3.2nm,0.3s,baz=206,slow=11,SNR=555							
WMQ	**Urumqi**	**11.56**	**58**	P		**Pn**	**07 53 30.3**	**-0.5**
WMQ				sP			07 54 05.5	
WMQ				*e*S		**Sn**	**07 55 37.5**	**-0.8**
WMQ				pmax		pmax		
	comp=Z,18nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,180nm,4.0s							
WMQ				LR		LR		
	comp=N,620nm,4.2s							
WMQ				LR		LR		
	comp=E,680nm,4.1s							
KURBB	**Kurchatov Arra**	**12.62**	**13**	P		Pn	07 53 41.5	-3.0
	comp=E,0.9nm,0.3s,baz=201,slow=12,SNR=191							
KURBB				S		**S**	**07 56 15.8**	**-4.3**
	baz=204,slow=20,SNR=7.7							
KURBB				Lg		Lg	07 57 25.0	
	comp=E,0.3nm,0.3s,baz=209,slow=30,SNR=4.3							
KURBB				LR		LR	07 59 19.1	
	comp=E,81nm,19.7s,baz=210,slow=40							
PYUN	**Piuthan**	**12.64**	**142**	*e*P		Pn	07 53 40.4	-4.7
	comp=E,458nm,0.4s							
PYUN	**Piuthan**	**12.64**	**142**	*e*P		Pn	07 53 40.4	-4.7
	comp=E,458nm,0.4s							
KURK	**Kurchatov**	**12.72**	**13**	⇑P		Pn	07 53 42.4	-3.5
	comp=E,113nm,0.6s							
KURK	**Kurchatov**	**12.72**	**13**	*e*P		Pn	07 53 42.8	-3.1
KURK				S		S	07 56 15.8	-6.4
KURK				pmax		pmax		
	comp=Z,171nm,0.8s							
KURK	**Kurchatov**	**12.72**	**13**	*e*Pn		Pn	07 53 42.8	-3.1
	comp=Z,171nm,0.8s							
KURK				S		S	07 56 15.8	-6.4
KURK				Lg		Lg	07 57 25.0	
DANN	**Dangsing**	**12.82**	**139**	*e*P		Pn	07 53 42.4	-5.2
	comp=Z,278nm,0.3s							
DANN	**Dangsing**	**12.82**	**139**	*e*P		Pn	07 53 42.4	-5.2
	comp=Z,278nm,0.3s							
KOLN	**Koldanda**	**13.21**	**141**	*e*P		Pn	07 53 48.2	-4.3
	comp=Z,126nm,0.3s							
KOLN	**Koldanda**	**13.21**	**141**	*e*P		Pn	07 53 48.2	-4.3
	comp=Z,126nm,0.3s							
GKN	**Gorkha**	**13.56**	**137**	*e*P		Pn	07 53 52.8	-4.2
	comp=Z,560nm,0.4s							
GKN	**Gorkha**	**13.56**	**137**	*e*P		Pn	07 53 52.8	-4.2
	comp=Z,560nm,0.4s							
KKN	**Kakani**	**14.08**	**135**	*e*P		Pn	07 53 58.8	-4.8
	comp=Z,160nm,0.4s							
KKN	**Kakani**	**14.08**	**135**	*e*P		Pn	07 53 58.8	-4.8
KKN				pmax		pmax		
	comp=Z,160nm,0.4s							
KKN	**Kakani**	**14.08**	**135**	*e*P		Pn	07 53 58.8	-4.8
	comp=Z,160nm,0.4s							
DMN	**Daman**	**14.12**	**136**	*e*P		Pn	07 54 00.0	-4.2
	comp=Z,201nm,0.6s							
DMN	**Daman**	**14.12**	**136**	*e*P		Pn	07 54 00.0	-4.2
	comp=Z,201nm,0.6s							
PKI	**Pulchoki**	**14.32**	**136**	*e*P		Pn	07 54 02.6	-4.2
	comp=Z,150nm,0.3s							
PKI	**Pulchoki**	**14.32**	**136**	*e*P		Pn	07 54 02.6	-4.2
PKI				pmax		pmax		
	comp=Z,150nm,0.3s							
PKI	**Pulchoki**	**14.32**	**136**	*e*P		Pn	07 54 02.6	-4.2
	comp=Z,150nm,0.3s							
GUN	**Gumba**	**14.32**	**133**	*e*P		Pn	07 54 02.1	-4.7
GUN	**Gumba**	**14.32**	**133**	*e*P		Pn	07 54 02.1	-4.7
VOSK	**Vostochnaya**	**14.51**	**352**	⇓P		Pn	07 54 05.3	-3.3
	comp=Z,108nm,1.1s							
JIRN	**Jiri**	**14.69**	**133**	*e*P		Pn	07 54 07.6	-3.9
	comp=Z,49nm,0.4s							
JIRN	**Jiri**	**14.69**	**133**	*e*P		Pn	07 54 07.6	-3.9
	comp=Z,49nm,0.4s							
BVA0	**Borovoye Array**	**14.87**	**351**	⇑P		Pn	07 54 10.0	-3.2
	comp=Z,26nm,0.8s,baz=0.0,slow=0.1,SNR=57							
BVAR	**Borovoye Array**	**14.87**	**351**	P		**Pn**	**07 54 10.7**	**-2.5**
BVAR	**Borovoye Array**	**14.87**	**351**	P		**Pn**	**07 54 10.7**	**-2.5**
BVAR				S		**S**	**07 57 08.4**	**+2.5**
BVAR	**Borovoye Array**	**14.87**	**351**	P		**Pn**	**07 54 10.7**	**-2.5**
	comp=Z,2.1nm,0.3s,baz=165,slow=12,SNR=115							
BVAR				S		**S**	**07 57 08.4**	**+2.5**
	comp=Z,1.0nm,0.3s,baz=158,slow=20,SNR=3.5							
BVAR				LR		LR	07 59 50.8	
	comp=Z,215nm,18.2s,baz=170,slow=36							
AB31	**Akbulak array**	**14.91**	**321**	P		Pn	07 54 09.4	-4.4
	comp=Z,14nm,0.3s,baz=130,slow=11,SNR=600							
AB31				S		Sn	07 56 46.9	-12
	comp=Z,30nm,0.5s,baz=145,slow=22,SNR=15							
AB31	**Akbulak array**	**14.91**	**321**	*i* P		Pn	07 54 09.3	-4.4
AB31				pmax		pmax		
	comp=Z,14nm,0.3s							
ABKAR	**Akbulak array**	**14.91**	**321**	*e*Pn		Pn	07 54 09.7	-4.0
ABKAR				*e*Sn		Sn	07 56 39.8	-19
BRVK	**Borovoye**	**14.91**	**351**	*d i*P		Pn	07 54 10.6	-3.1
BRVK				pmax		pmax		
	comp=Z,67nm,1.2s							
BRVK	**Borovoye**	**14.91**	**351**	*e*Pn		**Pn**	**07 54 11.6**	**-2.1**
ZRNK	**Zerenda**	**15.00**	**348**	⇑P		Pn	07 54 11.4	-3.3
	comp=Z,144nm,0.9s							
BHPL	**Bhopal**	**15.36**	**169**	*e*PKP		Pn	07 54 14.3	-5.1
RAMN	**Ramite**	**15.47**	**134**	*e*P		**Pn**	**07 54 16.6**	**-4.4**
	comp=Z,172nm,0.4s							
TAPN	**Taplejung**	**15.81**	**130**	*e*P		**Pn**	**07 54 21.5**	**-3.9**
	comp=Z,54nm,0.3s							
ODAN	**Odare**	**15.99**	**132**	*e*P		**Pn**	**07 54 24.8**	**-2.7**
ODAN	**Odare**	**15.99**	**132**	*e*P		**Pn**	**07 54 24.8**	**-2.7**
LSA	**Lhasa**	**16.52**	**117**	P		**Pn**	**07 54 34.5**	**+0.2**
LSA				pmax		pmax		
	comp=Z,10.0nm,1.2s							
AKTO	**Aktyubinsk**	**16.63**	**322**	P		**Pn**	**07 54 32.0**	**-2.9**
AKTO				S		Sn	07 57 27.6	-13
AKTO	**Aktyubinsk**	**16.63**	**322**	P		**Pn**	**07 54 31.9**	**-2.9**
AKTO				S		Sn	07 57 27.6	-13
AKTO	**Aktyubinsk**	**16.63**	**322**	P		**Pn**	**07 54 31.9**	**-2.9**
	comp=Z,3.2nm,0.3s,baz=126,slow=11,SNR=134							
AKTO				S		Sn	07 57 27.6	-13
	comp=Z,2.3nm,0.3s,baz=180,slow=19,SNR=5.2							
AKTO				LR		LR	08 00 51.1	
	comp=Z,162nm,21.5s,baz=138,slow=36							
ZAA0	**Zalesovo Array**	**17.19**	**22**	*e*P		**P**	**07 54 40.4**	**-0.5**
ZAA0				*e*S		**S**	**07 57 47.4**	**-5.4**
ZALV	**Zalesovo Beam**	**17.19**	**22**	P		**P**	**07 54 40.8**	**-0.2**
ZALV				S		**S**	**07 57 52.4**	**-0.4**
ZALV	**Zalesovo Beam**	**17.19**	**22**	P		**P**	**07 54 40.8**	**-0.2**
ZALV				S		**S**	**07 57 52.4**	**-0.4**
ZALV	**Zalesovo Beam**	**17.19**	**22**	P		**P**	**07 54 40.8**	**-0.2**
	comp=Z,11nm,0.3s,baz=214,slow=11,SNR=308							
ZALV				S		**S**	**07 57 52.4**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=211,slow=22,SNR=3.9							
NVS	**Novosibirsk**	**17.57**	**18**	⇑*i*P		**P**	**07 54 43.8**	**-1.3**
NVS				*e*S		**S**	**07 57 57.1**	**-3.5**
NVS				pmax		pmax		
	comp=Z,84nm,0.8s							
NVS				pmax		pmax		
	comp=N,49nm,0.6s							
NVS				pmax		pmax		
	comp=E,17nm,0.6s							
NVS				smax		smax		
	comp=N,192nm,2.3s							
NVS				smax		smax		
	comp=E,14nm,1.0s							
BOK	**Bokaro**	**17.65**	**142**	*e*PKP		**P**	**07 54 43.7**	**-2.6**
NGP	**Nagpur**	**17.69**	**165**	*e*PKP		**P**	**07 54 43.0**	**-3.7**
NGP				*ex*		x	07 57 47.5	
SHL	**Shillong**	**19.69**	**125**	*ex*		**P**	**07 55 08.9**	**+0.2**
POO	**Poona**	**19.79**	**181**	*ex*		**P**	**07 55 07.0**	**-2.6**
POO				*i* PP		pP	07 55 23.5	-11
PQL	**Pirkuli**	**19.83**	**285**	P		**P**	**07 55 11.1**	**+1.1**
	SNR=5.1							
PQL	**Pirkuli**	**19.83**	**285**	P		**P**	**07 55 11.1**	**+1.1**
	SNR=5.1							
LKRN	**Lenkeran, Azer**	**19.84**	**279**	P		**Pn**	**07 55 12.1**	**-0.8**
	SNR=3.7							
LKRN	**Lenkeran, Azer**	**19.84**	**279**	P		**Pn**	**07 55 12.1**	**-0.8**
	SNR=3.7							
GTA	**Gaotai**	**19.98**	**79**	P		**Pn**	**07 55 13.5**	**-1.2**
GTA				pP		**pP**	**07 55 38.0**	**+1.7**
GTA				sP		**sP**	**07 55 57.3**	**+3.5**
GTA				S		**S**	**07 58 49.5**	**+0.8**
GTA				SS		Sn	07 59 25.8	+25
GTA				pmax		pmax		
	comp=Z,53nm,0.9s							
GTA				pmax		pmax		
	comp=Z,140nm,4.5s							
GTA				LR		LR		
	comp=N,210nm,8.8s							
GTA				LR		LR		
	comp=E,340nm,10.5s							
GTA				LR		LR		
	comp=Z,95nm,6.2s							
LATR	**Latur**	**20.01**	**173**	*ex*		**P**	**07 55 10.4**	**-1.5**
LATR				*ex*		x	07 58 42.1	
GLBA	**Cilabad**	**20.08**	**281**	P		Pn	07 55 14.5	-1.3
	SNR=6.0							
GLBA	**Cilabad**	**20.08**	**281**	P		Pn	07 55 14.5	-1.3
	SNR=6.0							
SVE	**Sverdlovsk**	**20.51**	**338**	⇑P		**P**	**07 55 16.2**	**-0.7**
SVE				pmax		pmax		
	comp=Z,79nm,1.0s							
BWNR	**Bhubaneshwar**	**20.66**	**148**	*e*PKP		P	07 55 14.0	-4.8
ARU	**Arti**	**20.82**	**335**	*d i*P		**P**	**07 55 19.5**	**-0.8**
ARU							07 55 47.7	
ARU				S		**S**	**07 59 05.4**	**+0.7**
ARU				pmax		pmax		
	comp=Z,92nm,1.0s							
ARU	**Arti**	**20.82**	**335**	*e*P		**P**	**07 55 20.1**	**-0.1**
	comp=Z,74nm,0.9s							
KAD	**Karad**	**21.00**	**180**	*ex*		x	07 55 24.0	
HYB	**Hyderabad**	**21.25**	**168**	P		**P**	**07 55 23.5**	**-1.7**
HYB				S		**S**	**07 59 14.0**	**+0.7**
HYB	**Hyderabad**	**21.25**	**168**	P		**P**	**07 55 23.5**	**-1.7**
HYB				S		**S**	**07 59 14.0**	**+0.7**
HYB	**Hyderabad**	**21.25**	**168**	*i* P		**P**	**07 55 23.5**	**-1.7**
HYB				*e*S		**S**	**07 59 14.0**	**+0.7**
GANJ	**Ganja**	**21.56**	**285**	P		**P**	**07 55 31.5**	**+3.1**
	SNR=3.7							
GANJ	**Ganja**	**21.56**	**285**	P		**P**	**07 55 31.5**	**+3.1**
	SNR=3.7							
ORY	**Orie**	**21.83**	**34**	⇑*e*P		**P**	**07 55 30.5**	**-0.6**
ORY				*i* S		**S**	**07 59 25.1**	**+2.1**
VIS	**Vishakhapatnam**	**22.10**	**156**	*i* x		x	07 55 21.2	
VIS				*i* x		x	07 59 17.7	
DGRG	**David-gareji**	**22.25**	**287**	P		**P**	**07 55 35.1**	**-0.4**
TBLG	**Delisi**	**22.71**	**288**	*e*P		P	07 55 44.7	+4.7
TBLG	**Delisi**	**22.71**	**288**	P		P	07 55 44.7	+4.7
GNI	**Garni**	**22.80**	**284**	P		**P**	**07 55 44.5**	**+3.5**
GNI	**Garni**	**22.80**	**284**	P		**P**	**07 55 44.5**	**+3.5**
	comp=Z,5.0nm,0.3s,baz=48,slow=16,SNR=1.9							
MOY	**Mondy**	**22.99**	**46**	*e*P		**P**	**07 55 45.3**	**+2.7**
MOY				*e*			07 59 22.8	
ZEI	**Tsey**	**23.33**	**290**	*e*P		**P**	**07 55 47.6**	**+1.6**
ZEI				pmax		pmax		
	comp=Z,6.0nm,0.6s							
AKH	**Akhalkalaki**	**23.66**	**287**	P		**P**	**07 55 51.7**	**+2.8**
LZH	**Lanzhou**	**23.70**	**86**	*e*P		**P**	**07 55 52.0**	**+2.7**
LZH				S		**S**	**07 59 53.0**	**-1.1**
LZH				sS		**sS**	**08 00 43.0**	**-1.3**
LZH				pmax		pmax		
	comp=Z,51nm,1.0s							
LZH				pmax		pmax		
	comp=Z,190nm,5.6s							
MIB	**Mutribah**	**23.74**	**257**	*e*P		**P**	**07 55 49.5**	**-0.1**
MIB				AMb		AMB	07 55 50.3	
	comp=Z,78nm,1.0s							
ZAK	**Zakamensk**	**23.85**	**50**	⇑*i*P		**P**	**07 55 52.6**	**+2.1**
ZAK				*e*			07 56 21.4	
ZAK				pmax		pmax		
	comp=Z,9.0nm,1.2s							
RDF	**Al-Radifah**	**24.01**	**255**	*e*P		**P**	**07 55 51.4**	**-0.6**
RDF				AMb		AMB	07 55 54.7	
	comp=Z,58nm,1.1s							
NAY	**Al-Naaiem**	**24.08**	**256**	*e*P		**P**	**07 55 51.8**	**-0.8**
NAY				AMb		AMB	07 55 53.9	
	comp=Z,17nm,1.0s							
KBZ	**Khabaz**	**24.08**	**293**	P		**P**	**07 55 52.7**	**+0.2**
KBZ	**Khabaz**	**24.08**	**293**	P		**P**	**07 55 52.6**	**+0.2**
KBZ	**Khabaz**	**24.08**	**293**	P		**P**	**07 55 52.6**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=119,slow=11,SNR=5.4							
KIV	**Kislovodsk**	**24.25**	**293**	*e*P		**P**	**07 55 53.6**	**-0.5**
KIV				*e**PP		pP	07 56 16.4	-6.0
KIV				*e**SP		**sP**	**07 56 36.9**	**-2.5**
KIV				*e*S		**S**	**08 00 03.7**	**+1.1**
KIV				pmax		pmax		
	comp=Z,10.0nm,0.9s							
TLY	**Talaya**	**24.52**	**48**	*e*P		**P**	**07 55 57.9**	**+1.5**
TLY				*e*			08 00 06.5	
TLY				pmax		pmax		
	comp=Z,6.0nm,0.9s							
BHD	**Baghdad**	**24.62**	**267**	*ex*		x	07 55 52.0	
BHD				*ex*		x	08 00 02.0	
SONM	**Songino Array**	**25.20**	**58**	P		**P**	**07 56 04.9**	**+2.2**
SONM				PcP		**PcP**	**07 59 33.2**	**+0.7**
SONM	**Songino Array**	**25.20**	**58**	P		**P**	**07 56 04.9**	**+2.2**
	comp=Z,23nm,0.8s,baz=256,slow=9.9,SNR=225							
SONM				PcP		**PcP**	**07 59 33.2**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=235,slow=3.0,SNR=3.5							
ULN	**Ulaanbaatar**	**25.64**	**58**	*e*P		**P**	**07 56 08.6**	**+1.9**
	comp=Z,19nm,0.8s							
ULN				*e*pP		**pP**	**07 56 41.1**	**+5.0**
ULN	**Ulaanbaatar**	**25.64**	**58**	P		**P**	**07 56 08.4**	**+1.7**
	comp=Z,25nm,1.1s							
VRHR	**Novokhopersk**	**26.14**	**310**	*e*P		**P**	**07 56 12.8**	**+1.8**
VRHR				pmax		pmax		
	comp=N,2.0nm,0.3s							
VRHR				pmax		pmax		
	comp=E,3.0nm,0.3s							
VRHR				pmax		pmax		
	comp=Z,6.0nm,0.3s							
KMI	**Kunming**	**27.54**	**110**	P		**P**	**07 56 26.0**	**+1.9**
KMI				pmax		pmax		
	comp=Z,18nm,1.1s							
VSR	**Storozhevoye**	**27.66**	**309**	*e*P		**P**	**07 56 26.8**	**+2.2**
VSR				*e**PP		**pP**	**07 56 54.2**	**+0.1**
VSR				*e*S		**S**	**08 00 54.4**	**-1.8**
VSR				pmax		pmax		
	comp=N,4.0nm,0.4s							
VSR				pmax		pmax		
	comp=E,3.0nm,0.4s							
VSR				pmax		pmax		
	comp=Z,3.0nm,0.4s							
VSR				smax		smax		
	comp=N,200nm,2.6s							
VSR				smax		smax		
	comp=E,90nm,2.6s							
VSR				smax		smax		
	comp=Z,60nm,2.6s							
ANN	**Anapa**	**28.03**	**295**	*e*P		P	07 56 18.9	-9.0
ANN				pmax		pmax		
	comp=Z,34nm,1.0s							
XAN	**Xi'an**	**28.28**	**88**	P		**P**	**07 56 31.5**	**+1.2**
XAN				pP		**pP**	**07 57 01.5**	**+1.6**
XAN				S		**S**	**08 01 05.3**	**-1.0**
XAN				sS		**sS**	**08 01 57.5**	**-0.8**
XAN				pmax		pmax		
	comp=Z,6.0nm,0.6s							
HHC	**Hu-ho-hao-te**	**28.78**	**73**	*e*P		**P**	**07 56 37.0**	**+2.2**
HHC				pP		**pP**	**07 57 06.5**	**+2.1**
HHC				sP		**sP**	**07 57 23.0**	**+2.6**
HHC				PP		**PnPn**	**07 57 36.3**	**+3.3**
HHC				PcP		**PcP**	**07 59 43.5**	**+2.3**
HHC				S		**S**	**08 01 15.0**	**+0.8**
HHC				sS		**sS**	**08 02 07.3**	**+1.2**
HHC				SS		**SnSn**	**08 02

AKASG **Malin Array Be** 33.80 306 P **P** 07 57 17.9 -0.6
comp=Z,2.3nm,0.4s,baz=78,slow=8.4,SNR=10.0
AKASG pP **pP** 07 57 48.7 +0.2
comp=Z,2.4nm,0.5s,baz=77,slow=7.9,SNR=4.3
AKASG PcP **PcP** 07 59 53.5 -0.8
comp=Z,0.3nm,0.4s,baz=70,slow=3.1,SNR=4.0
KIEV Kiev 33.80 306 *e*P **P** 07 57 19.1 +0.6
KIEV *e**PP **pP** 07 57 49.2 +0.7
KIEV Kiev 33.80 306 *e*P **P** 07 57 19.1 +0.6
KIEV *e*pP **pP** 07 57 49.2 +0.7
WHN Wuhan 33.84 91 P **P** 07 57 21.0 +1.9
TIRR Tirgusor 34.48 295 ⇑P P 07 57 33.8 +9.4
TIRR Tirgusor 34.48 295 ⇑*i*P P 07 57 33.8 +9.4
CFR Carcaliu 34.60 296 ⇓P **P** 07 57 25.9 +0.4
CFR Carcaliu 34.60 296 ⇓*i*P **P** 07 57 25.9 +0.4
VRI Vrincioaia 35.53 298 ⇑P **P** 07 57 34.9 +1.4
VRI Vrincioaia 35.53 298 ⇑*i*P **P** 07 57 34.9 +1.4
JOF Joensuu 35.56 328 *e*P **P** 07 57 32.3 -1.1
JOF pmax pmax
comp=Z,10.0nm,0.5s
JOF Joensuu 35.56 328 *e*p **P** 07 57 32.3 -1.1
comp=Z,9.9nm,0.5s
PLOR Plostina 35.58 298 ⇑P **P** 07 57 35.5 +1.5
PLOR Plostina 35.58 298 ⇑*i*P **P** 07 57 35.5 +1.5
MLR Muntele Rosu 36.11 297 ⇑*i*P **P** 07 57 40.6 +2.0
BURAR **Bucovina Array** 36.43 301 ⇓*i*P pP 07 58 13.7 +2.2
VOIR 36.74 297 ⇑P **P** 07 57 42.8 -1.1
VOIR 36.74 297 ⇑*i*P **P** 07 57 42.8 -1.1
NJ2 Nanjing 36.78 86 *e*P **P** 07 57 46.5 +2.3
NJ2 pP **pP** 07 58 14.5 0.0
NJ2 sP **sP** 07 58 29.0 -1.4
NJ2 S **S** 08 03 21.0 +3.2
NJ2 pmax pmax
comp=Z,20nm,0.7s
NJ2 pmax pmax
comp=Z,210nm,5.0s
NJ2 LR LR
comp=N,380nm,24.0s
NJ2 LR LR
comp=E,320nm,18.3s
NJ2 LR LR
comp=Z,550nm,24.4s
FINES FINESS Array B 37.38 324 P **P** 07 57 48.8 -0.2
FINES pP **pP** 07 58 20.1 +0.8
FINES FINESS Array B 37.38 324 P **P** 07 57 48.8 -0.2
comp=Z,7.1nm,0.5s,baz=111,slow=9.7,SNR=51
FINES pP **pP** 07 58 20.1 +0.8
comp=Z,3.8nm,0.5s,baz=116,slow=8.7,SNR=2.7
FINES LR LR 08 16 15.8
comp=Z,121nm,19.8s,baz=317,slow=41
KAF Kangasniemi 37.46 325 *e*P **P** 07 57 48.6 -1.0
KAF pmax pmax
comp=Z,2.0nm,0.5s
KAF Kangasniemi 37.46 325 *e*p **P** 07 57 48.6 -1.0
comp=Z,1.9nm,0.5s
KWP Kalwaria Pacla 37.98 304 *e*P **P** 07 57 54.8 +0.6
KWP *e* 07 58 27.2
KWP Kalwaria Pacla 37.98 304 *e*P **P** 07 57 54.8 +0.6
KWP *e* 07 58 27.2
TRPA Tarpa 38.19 302 ⇑*i*P **P** 07 57 57.3 +1.4
KOLS Kolonicke sedl 38.30 303 *e*P **P** 07 57 58.0 +1.1
KOLS *e* 07 58 28.7
KOLS Kolonicke sedl 38.30 303 *e*P **P** 07 57 58.0 +1.1
KOLS *e*pP **pP** 07 58 28.7 +1.3
GZR Gura Zlata 38.33 297 ⇓P **P** 07 57 57.8 +0.5
GZR Gura Zlata 38.33 297 ⇓*i*P **P** 07 57 57.8 +0.5
VTS Vitosha 38.50 293 ⇑P **P** 07 58 00.3 +1.5
VTS Vitosha 38.50 293 ⇑*i*P **P** 07 58 00.3 +1.5
CN2 Changchun 38.52 65 *e*P **P** 07 58 00.0 +1.3
CN2 *e*pP **pP** 07 58 31.3 +2.0
CN2 PcP PcP 08 00 14.0 +5.4
CN2 *e*S **S** 08 03 44.3 +0.4
CN2 SS **SS** 08 06 32.0 -7.0
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CRVS Cervenica-Dubn 38.84 303 *e*pP pP 07 58 34.1 +2.2
BZS Buzias 39.11 298 ⇑P **P** 07 58 05.4 +1.8
BZS Buzias 39.11 298 ⇑*i*P **P** 07 58 05.4 +1.8
NIE Niedzica 39.55 304 *e*P **P** 07 58 08.0 +0.8
NIE Niedzica 39.55 304 *e*P pP 07 58 40.0 +2.1
NIE Niedzica 39.55 304 *e*P **P** 07 58 08.4 +1.1
OJC Ojcow 39.82 305 *e*P **P** 07 58 09.1 -0.4
OJC Ojcow 39.82 305 *e*P pP 07 58 41.0 +0.9
OJC Ojcow 39.82 305 *e*P **P** 07 58 09.8 +0.4
OJC Ojcow 39.82 305 *e*pP pP 07 58 41.5 +1.4
KEV Kevo 40.02 337 *e*P **P** 07 58 09.8 -1.1
KEV pmax pmax
comp=Z,7.0nm,0.6s
KEV Kevo 40.02 337 *e*p **P** 07 58 09.8 -1.1
comp=Z,7.0nm,0.6s
ARCES ARCESS Array B 40.40 336 P **P** 07 58 14.4 +0.4
ARCES ARCESS Array B 40.40 336 P **P** 07 58 14.4 +0.4
comp=Z,12nm,0.5s,baz=112,slow=9.2,SNR=120
ARCES LR LR 08 16 25.9
comp=Z,70nm,20.2s,baz=170,slow=38
ARE0 ARCESS Array S 40.40 336 *e*P **P** 07 58 14.3 +0.3
ARE0 ARCESS Array S 40.40 336 *e*P **P** 07 58 14.4 +0.4
ARE0 *e*pP **pP** 07 58 43.6 -1.2
VYHS Vyhne 40.61 303 *e*pP pP 07 58 48.3 +1.5
KULM Kulim 40.80 137 *e*P **P** 07 58 17.9 +0.1
comp=Z,32nm,1.5s
KULM Kulim 40.80 137 P **P** 07 58 19.7 +1.9
comp=Z,15nm,1.6s,comp=Z,373nm
MDJ Mudanjiang 41.30 63 P **P** 07 58 21.0 -0.6
MDJ pmax pmax
comp=Z,10.0nm,0.8s
MDJ pmax pmax
comp=Z,78nm,5.7s
MORC Moravsky Berou 41.31 305 ⇓P **P** 07 58 21.8 +0.1
MORC Moravsky Berou 41.31 305 *e*P **P** 07 58 22.0 +0.3
MORC *e*pP **pP** 07 58 54.4 +1.8
MORC Moravsky Berou 41.31 305 ⇓*i*P **P** 07 58 21.8 +0.1
IPM Ipoh 41.68 137 *e*P **P** 07 58 25.0 -0.1
IPM Ipoh 41.68 137 P **P** 07 58 24.9 -0.1
comp=Z,24nm,0.8s
KSAR Wonju Array Be 41.89 74 P **P** 07 58 27.2 +0.7
KSAR PcP **PcP** 08 00 19.7 +0.1
KSAR ScP **ScP** 08 03 56.9 0.0
KSRS Korea Array 41.91 74 P **P** 07 58 27.2 +0.5
comp=Z,8.0nm,0.9s,baz=284,slow=7.6,SNR=18
KSRS PcP **PcP** 08 00 19.7 0.0
comp=Z,3.5nm,0.8s,baz=282,slow=3.4,SNR=6.6
KSRS ScP **ScP** 08 03 56.9 -0.1
comp=Z,0.5nm,0.4s,baz=305,slow=4.2,SNR=4.8
KLR Kul'dur 42.00 56 *e*P P 07 58 24.2 -3.1
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,56nm,1.8s
DPC Dobruska-Polom 42.03 306 *e*P **P** 07 58 28.0 +0.4
DPC *e**PP **pP** 07 59 00.0 +1.5
DPC Dobruska-Polom 42.03 306 *e*P **P** 07 58 27.9 +0.4
DPC *e*pP **pP** 07 58 60.0 +1.5
DPC Dobruska-Polom 42.03 306 *e*pP pP 07 59 00.5 +2.0
PSI Prapat 42.03 141 P **P** 07 58 26.6 -1.4
PSI PcP **PcP** 08 00 20.2 -0.3
PSI Prapat 42.03 141 P **P** 07 58 26.9 -1.2
comp=Z,8.6nm,0.9s
PSI Prapat 42.03 141 P **P** 07 58 26.6 -1.4
comp=Z,5.6nm,0.6s,baz=330,slow=12,SNR=7.4
PSI PcP **PcP** 08 00 20.2 -0.3
comp=Z,5.5nm,0.7s,baz=267,slow=4.8,SNR=5.0
UPC Upice 42.20 306 *e*pP pP 07 59 01.8 +1.9
TRO Tromso 42.59 335 *e*P **P** 07 58 32.2 +0.4
TRO AMB AMB 07 58 33.7
comp=Z,138nm,1.9s
CONA Conrad Observa 42.66 302 ⇓*i*P **P** 07 58 33.4 +0.6
comp=Z,8.1nm,1.0s
CONA ⇑*i*pP **pP** 07 59 05.9 +2.1
comp=Z,19nm,1.1s
USRK Ussuriysk Arra 43.07 63 P **P** 07 58 36.8 +0.8
comp=Z,4.4nm,0.6s,baz=266,slow=8.0,SNR=17
PRU Pruhonice 43.21 306 *e*pP pP 07 59 09.8 +1.7
VLA Vladivostok 43.25 65 *e*P **P** 07 58 38.6 +1.2
VLA pmax pmax
comp=Z,21nm,0.8s
SOKA Soboth 43.44 301 ⇓*i*P **P** 07 58 39.5 +0.4
comp=Z,7.9nm,0.9s
SOKA ⇑*i*pP **pP** 07 59 11.8 +1.6
comp=Z,20nm,1.3s
MOR8 Moi Rana 43.44 329 *e*P **P** 07 58 37.6 -1.1
MOR8 AMB AMB 07 58 38.8
comp=Z,25nm,0.8s
BRG Berggiesshubel 43.47 307 *i*P **P** 07 58 39.5 +0.4
comp=Z,5.7nm,0.6s
BRG *i*pP **pP** 07 59 11.9 +1.7
comp=Z,13nm,0.9s
BRG *es*P **sP** 07 59 25.2 -0.7
comp=Z,8.6nm,1.1s
BRG *e*PP PP 08 00 16.5 -6.2
comp=Z,8.2nm,1.3s
HOPEN Hopen 43.80 345 *e*P **P** 07 58 42.4 +1.0
GERES GERESS Array B 43.93 304 P **P** 07 58 43.6 +0.7
GERES pP **pP** 07 59 15.1 +1.0
GERES sP **sP** 07 59 29.9 +0.1
GERES GERESS Array B 43.93 304 P **P** 07 58 43.6 +0.7
comp=Z,2.3nm,0.8s,baz=62,slow=6.2,SNR=9.9
GERES pP **pP** 07 59 15.1 +1.0
comp=Z,6.0nm,1.0s,baz=74,slow=7.1,SNR=8.2
GERES sP **sP** 07 59 29.9 +0.1
comp=Z,1.5nm,0.7s,baz=61,slow=9.3,SNR=3.2
GERES LR LR 08 18 55.7
comp=Z,99nm,18.5s,baz=153,slow=38
KHC Kasperske Hory 43.96 304 *e*P **P** 07 58 43.5 +0.4
KHC *e**PP **pP** 07 59 15.6 +1.3
KHC Kasperske Hory 43.96 304 *e*P **P** 07 58 43.5 +0.4
KHC *e*pP **pP** 07 59 15.6 +1.3
CLL Collm 44.00 308 *e*P **P** 07 58 43.0 -0.3
CLL *i* *PP **pP** 07 59 15.6 +1.1
CLL Collm 44.00 308 *e*P **P** 07 58 43.0 -0.3
CLL *i* pP **pP** 07 59 15.6 +1.1
BJO Bjornoya 44.20 342 *e*P **P** 07 58 43.2 -1.4
NB2 NORSAR Subarra 44.42 322 P **P** 07 58 46.1 -0.6
baz=91,slow=7.9
NB2 NORSAR Subarra 44.42 322 P **P** 07 58 46.1 -0.6
comp=Z,5.0nm,0.6s,baz=91,slow=7.9
NOA NORSAR Array B 44.42 322 P **P** 07 58 46.0 -0.6
NOA pP **pP** 07 59 17.9 +0.1
NOA NORSAR Array B 44.42 322 P **P** 07 58 46.0 -0.6
comp=Z,7.5nm,0.7s,baz=92,slow=7.8,SNR=22
NOA pP **pP** 07 59 17.9 +0.1
comp=Z,9.0nm,0.8s,baz=92,slow=8.0,SNR=6.6
NOA LR LR 08 17 51.1
comp=Z,191nm,18.1s,baz=285,slow=36
GRF Grafenberg Arr 45.38 306 *e*P pP 07 59 27.2 +1.5
comp=Z,25nm,1.1s
JNU Nakatsue 45.72 79 *e*P **P** 07 58 58.5 +1.3
comp=Z,40nm,1.1s
JNU Nakatsue 45.72 79 P **P** 07 58 58.6 +1.4
comp=Z,18nm,0.7s,baz=334,slow=2.6,SNR=11
SPA0 Spitsbergen Ar 46.25 346 *e*P **P** 07 59 02.6 +1.8
SPITS Spitsbergen Ar 46.25 346 P **P** 07 59 01.8 +1.0
SPITS Spitsbergen Ar 46.25 346 P **P** 07 59 01.8 +1.0
comp=Z,8.3nm,0.9s,baz=116,slow=12,SNR=7.9
JOW Kunigami 46.43 88 *e*P **P** 07 59 03.6 +0.7
comp=Z,486nm,2.7s
JOW Kunigami 46.43 88 P **P** 07 59 03.5 +0.7
comp=Z,20nm,0.4s,baz=221,slow=8.2
DAVA Damuels 46.75 303 ⇑*i*P **P** 07 59 04.9 -0.4
comp=Z,12nm,0.7s
DAVOX **Davos/Dischmat** 46.87 302 P **P** 07 59 05.9 -0.4
DAVOX **Davos/Dischmat** 46.87 302 P **P** 07 59 05.9 -0.4
comp=Z,7.9nm,0.7s,baz=95,slow=5.7,SNR=12
KBS Kingsbay 47.35 347 *e*P **P** 07 59 10.6 +1.3
CDF Champ du Feu 48.19 305 *e*P **P** 07 59 15.9 -0.4
HINF Hinteralfeld 48.61 304 *e*P **P** 07 59 19.3 -0.2
PGF Pioggiola 48.65 297 *e*P **P** 07 59 19.2 -0.8
comp=Z,54nm,1.4s
SENIN Lac Senin/Sane 48.70 302 *e*P **P** 07 59 20.0 -0.4
comp=Z,75nm,2.4s
HAU Haudompre 48.89 304 *e*P **P** 07 59 21.1 -0.5
LPG La Plagne 49.31 301 *e*P **P** 07 59 23.9 -1.2
comp=Z,11nm,0.9s
LPG *e*pP **pP** 07 59 57.0 0.0
LPL La Plagne 49.32 301 *e*P **P** 07 59 24.2 -0.9
GIVF Givet 49.33 307 *e*P **P** 07 59 25.5 +0.7
SBF Sospel 49.34 299 *e*P **P** 07 59 25.0 -0.1
comp=Z,71nm,1.0s
CABF La Chapelle 49.44 303 *e*P **P** 07 59 25.3 -0.5
KSM Kuching 49.45 129 *e*P **P** 07 59 26.0 -0.1
comp=Z,15nm,0.8s
KSM Kuching 49.45 129 P **P** 07 59 27.3 +1.2
comp=Z,24nm,0.8s
MBDF Montbardon 49.53 300 *e*P **P** 07 59 25.7 -0.9
YSS Yuzh-Sakhalins 49.68 57 P **P** 07 59 29.0 +1.4
KKM Kota Kinabalu 49.84 119 *e*P **P** 07 59 30.6 +1.3
comp=Z,52nm,1.2s
KKM Kota Kinabalu 49.84 119 P **P** 07 59 30.7 +1.5
SBUM Sibu 49.88 126 P **P** 07 59 31.0 +1.6
comp=Z,18nm,1.1s
MAJO Matsushiro 49.94 71 *e*P **P** 07 59 30.5 +0.8
MAJO pmax pmax
comp=Z,23nm,0.7s
MAJO Matsushiro 49.94 71 *e*P **P** 07 59 30.5 +0.8
comp=Z,23nm,0.7s
MAT Matsushiro 49.94 71 P **P** 07 59 30.3 +0.6
MJAR Matsushiro Arr 49.94 71 P **P** 07 59 30.8 +1.0
MJAR Matsushiro Arr 49.94 71 P **P** 07 59 30.8 +1.0
comp=Z,15nm,0.7s,baz=285,slow=10,SNR=45
FRF La Foret Royal 49.97 299 *e*P **P** 07 59 28.3 -1.5
KEST Kesra 50.83 288 P **P** 07 59 36.2 -0.2
KEST Kesra 50.83 288 P **P** 07 59 36.2 -0.2
comp=Z,2.2nm,1.0s,baz=50,slow=22,SNR=4.1
VIVF Saint-Julien-l 50.91 301 *e*P **P** 07 59 37.0 +0.1
VIVF *e*pP **pP** 08 00 08.8 -0.1
SSF Saint Saulge 51.00 304 *e*P **P** 07 59 36.7 -0.8
comp=Z,7.2nm,0.8s
AVF Avril sur Loir 51.18 304 *e*P **P** 07 59 38.7 -0.1
comp=Z,9.9nm,0.7s
AVF *e*pP **pP** 08 00 10.4 -0.5
LASF Ste Croix 51.71 300 *e*P **P** 07 59 42.8 -0.1
TCF Toulx Ste Croi 52.09 303 *e*P **P** 07 59 44.9 -0.7
TCF *e*pP **pP** 08 00 17.5 -0.3
CAF Calviac 52.64 302 *e*P **P** 07 59 50.2 +0.5
LDF La Druitiere 52.86 307 *e*P **P** 07 59 50.4 -0.8
comp=Z,9.2nm,0.6s
RJF Les Rejaudoux 52.87 302 *e*P **P** 07 59 52.3 +0.9
GRR Gorron 53.39 307 *e*P **P** 07 59 54.2 -0.9
GRR *e*pP **pP** 08 00 26.4 -0.9
DAG Danmarks Havn 53.64 343 *i*P **P** 07 59 57.1 +0.6
comp=Z,42nm,0.8s
SGMF Saint Gilles 54.50 307 *e*P **P** 08 00 02.6 -0.5
ROSF Rostrenen 54.92 307 *e*P **P** 08 00 05.4 -0.8
ETSF Etsaut 55.14 300 *e*P **P** 08 00 07.6 -0.3
BILL Bilibino 55.80 27 *e*P **P** 08 00 12.9 +0.8
BILL pmax pmax
comp=Z,17nm,2.5s
PETK Petropavlovsk- 56.86 46 P **P** 08 00 20.6 +0.7
PETK Petropavlovsk- 56.86 46 P **P** 08 00 20.6 +0.7
PETK Petropavlovsk- 56.86 46 P **P** 08 00 20.6 +0.7
comp=Z,4.0nm,0.7s,baz=258,slow=4.4,SNR=6.1
ESDC Sonseca Array 58.80 298 P **P** 08 00 32.9 -0.9
ESDC Sonseca Array 58.80 298 P **P** 08 00 32.9 -0.9
comp=Z,0.8nm,0.4s,baz=69,slow=6.5,SNR=6.2
SUMG Summit 60.09 341 *e*P **P** 08 00 43.8 +1.3
SUMG pmax pmax
comp=Z,253nm,2.9s
SUMG Summit 60.09 341 *e*P **P** 08 00 43.8 +1.3
comp=Z,253nm,2.9s
SUMG Summit 60.09 341 *i*P **P** 08 00 43.5 +1.0
comp=Z,9.2nm,0.9s
TOA0 Torodi Ar. Sit 68.26 270 *e*P **P** 08 01 34.2 -1.9
TORD Torodi Ar. Bea 68.26 270 P **P** 08 01 34.2 -1.9
TORD sP **sP** 08 02 24.4 -0.4
TORD Torodi Ar. Bea 68.26 270 P **P** 08 01 34.2 -1.9
comp=Z,12nm,0.4s,baz=46,slow=5.5,SNR=174
TORD sP **sP** 08 02 24.4 -0.4
comp=Z,6.4nm,1.0s,baz=45,slow=5.3,SNR=2.9
COLD Coldfoot 69.46 17 *e*P **P** 08 01 43.4 +0.7
comp=Z,8.3nm,1.1s
INK Inuvik 71.62 10 *e*P **P** 08 01 56.3 +0.6
comp=Z,6.9nm,0.8s
COLA College 71.94 17 *e*P **P** 08 01 58.3 +0.6
COLA pmax pmax
comp=Z,9.0nm,0.9s
COLA College 71.94 17 *e*P **P** 08 01 58.3 +0.6
comp=Z,8.9nm,0.9s
ILAR Eielson Array 72.26 17 P **P** 08 01 59.4 -0.3
ILAR Eielson Array 72.26 17 P **P** 08 01 59.4 -0.3
comp=Z,3.8nm,0.9s,baz=318,slow=5.4,SNR=37
PAX Paxson 74.12 18 *e*P **P** 08 02 11.3 +0.5
PAX Paxson 74.12 18 *e*P **P** 08 02 11.2 +0.5
DAWY Dawson 74.49 15 *e*P **P** 08 02 13.4 +0.6
KDAK Kodiak Island 76.48 24 P **P** 08 02 24.5 +0.3
KDAK Kodiak Island 76.48 24 P **P** 08 02 24.5 +0.3
comp=Z,15nm,0.9s,baz=331,slow=10,SNR=3.1
DBIC Dimbokro 77.29 268 P **P** 08 02 28.0 -1.4
DBIC Dimbokro 77.29 268 P **P** 08 02 28.0 -1.4
comp=Z,9.3nm,0.9s,baz=5.9,slow=9.1,SNR=9.8
LIC Lamto 77.69 268 *e*P **P** 08 02 30.4 -1.3
comp=Z,14nm,0.5s
LBTB Lobatse 77.77 224 *e*P **P** 08 02 30.8 -1.1
comp=Z,11nm,1.0s
YKA Yellowknife Ar 79.22 4 P **P** 08 02 39.5 +0.3
YKA pP **pP** 08 03 14.4 +0.6
YKA PKKPbc **PKKPbc** 08 21 27.0 -1.7
YKA Yellowknife Ar 79.22 4 P **P** 08 02 39.5 +0.3
comp=Z,4.1nm,0.6s,baz=347,slow=5.5,SNR=86
YKA pP **pP** 08 03 14.4 +0.6
comp=Z,2.5nm,0.8s,baz=348,slow=5.4,SNR=3.9
YKA PKKPbc **PKKPbc** 08 21 27.0 -1.7
comp=Z,0.1nm,0.5s,baz=148,slow=3.6,SNR=4.1
SKAG Skagway 79.49 15 *e*P **P** 08 02 42.1 +1.4
BOSA Boshof 80.82 222 *e*P **P** 08 02 47.0 -1.4
BOSA Boshof 80.82 222 P **P** 08 02 46.8 -1.6
comp=Z,7.0nm,0.8s,baz=52,slow=5.5,SNR=12
WRA Warramunga Arr 80.91 124 P **P** 08 02 48.1 -0.8
WRA PKKPbc **PKKPbc** 08 21 25.9 +0.5
WRA Warramunga Arr 80.91 124 P **P** 08 02 48.1 -0.8
comp=Z,14nm,0.8s,baz=324,slow=5.1,SNR=87
WRA PKKPbc **PKKPbc** 08 21 25.9 +0.5
comp=Z,0.3nm,0.7s,baz=136,slow=2.1,SNR=4.9
WRAB Tennant Creek 80.91 124 *e*P **P** 08 02 48.2 -0.7
WRAB pmax pmax
comp=Z,22nm,0.9s
WRAB Tennant Creek 80.91 124 *e*P **P** 08 02 48.2 -0.7
comp=Z,22nm,0.9s
SCHQ Schefferville 81.31 338 P **P** 08 02 50.3 -0.3
SCHQ Schefferville 81.31 338 P **P** 08 02 50.3 -0.3
comp=Z,1.7nm,0.7s,baz=41,slow=11,SNR=5.4
AS31 Alice Springs 83.33 127 *e*P **P** 08 03 00.8 -0.6
ASAR Alice Springs 83.33 127 P **P** 08 03 00.3 -1.1
ASAR Alice Springs 83.33 127 P **P** 08 03 00.3 -1.1
comp=Z,6.9nm,0.8s,baz=323,slow=5.6,SNR=48
FFC Flin Flon 87.20 358 *e*P **P** 08 03 20.8 +0.5
FFC *e**PP **pP** 08 03 55.8 +0.3
FFC Flin Flon 87.20 358 *e*P **P** 08 03 20.8 +0.5
FFC *e*pP **pP** 08 03 55.8 +0.3
CTA Charters Tower 89.09 117 P **P** 08 03 29.2 -0.5
CTA Charters Tower 89.09 117 P **P** 08 03 29.2 -0.5
comp=Z,4.2nm,0.7s,baz=345,slow=6.8,SNR=5.2
ULM Lac du Bonnet 91.30 354 P **P** 08 03 38.6 -1.0
ULM Lac du Bonnet 91.30 354 P **P** 08 03 38.6 -1.0
comp=Z,2.3nm,0.8s,baz=56,slow=6.6,SNR=4.2
EYMN Ely 93.10 350 *e*P **P** 08 03 48.4 +0.4
STKA Stephens Creek 93.92 128 P **P** 08 03 50.6 -1.3
STKA Stephens Creek 93.92 128 P **P** 08 03 50.6 -1.3
comp=Z,0.7nm,0.5s,baz=294,slow=17,SNR=3.3
SLMT Seeley Lake 94.47 5 *e*P **P** 08 03 54.6 +0.1
comp=Z,2.4nm,0.7s
CHMT Chamberlain Mo 94.82 5 *e*P **P** 08 03 55.9 -0.3
TPAW Teton Pass 98.37 4 *e*P Pdif 08 04 13.0 +0.6
PDAR Pinedale Array 99.15 3 P **Pdif** 08 04 16.2 +0.4
PDAR Pinedale Array 99.15 3 P **Pdif** 08 04 16.2 +0.4
comp=Z,0.3nm,0.7s,baz=30,slow=4.2,SNR=2.8
PDAR LR LR 08 56 28.6
comp=Z,71nm,20.7s,baz=265,slow=40
TXAR Lajitas Array 112.60 358 PKKPbc PKKPbc 08 19 57.6 -1.0
TXAR Lajitas Array 112.60 358 PKKPbc PKKPbc 08 19 57.6 -1.0
comp=Z,0.4nm,0.8s,baz=212,slow=3.2,SNR=4.9
VNA2 Neumayer--Watz 123.10 203 *e*P **PKPdf** 08 09 29.3 +0.5
baz=20,slow=2.0
ROSC El Rosal 128.00 319 PKP **PKPdf** 08 09 41.3 +0.8
ROSC El Rosal 128.00 319 PKP **PKPdf** 08 09 41.3 +0.8
comp=Z,3.2nm,0.4s,baz=95,slow=20,SNR=4.9
QSPA South Pole Qui 128.18 180 PKP **PKPdf** 08 09 38.5 -0.3
QSPA South Pole Qui 128.18 180 PKP **PKPdf** 08 09 38.4 -0.3
comp=Z,3.4nm,0.9s,baz=287,slow=4.5,SNR=6.3
CPUP Villa Florida 137.73 272 PKP **PKPdf** 08 09 57.2 -0.6
CPUP Villa Florida 137.73 272 PKP **PKPdf** 08 09 57.2 -0.6
comp=Z,3.9nm,0.7s,baz=30,slow=2.4,SNR=12
TRQA Tornquist 145.78 257 *e*PKPbc **PKPbc** 08 10 12.6 -0.1
LCO Las Campanas 149.46 277 *e*PKPbc **PKPbc** 08 10 23.3 0.0
USHA Ushuaia 149.95 225 PKPbc **PKPbc** 08 10 24.0 +0.8
USHA Ushuaia 149.95 225 PKPbc **PKPbc** 08 10 24.0 +0.8
comp=Z,10nm,0.8s,baz=17,slow=2.5,SNR=4.4
PLCA Paso Flores 152.80 254 PKPbc **PKPbc** 08 10 30.6 +0.2
PLCA Paso Flores 152.80 254 PKPbc **PKPbc** 08 10 30.6 +0.2
comp=Z,5.6nm,0.6s,baz=92,slow=1.8,SNR=22

IDC 26 07:55:22.2±58.0, 14.83S×175.73W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/19, mbtmp4.1/3, Error ellipse: s-maj=1086.0km s-min=177.9km az=76.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**42.39**	**239**	P	P	08 03 18.9	+0.3
	0.5nm,0.3s,baz=73,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**47.79**	**256**	P	P	08 04 01.6	-0.2
	1.3nm,0.7s,baz=90,slow=8.1,SNR=8.1						
ASAR	**Alice Springs**	**48.16**	**251**	P	P	08 04 04.3	-0.3
	3.7nm,0.4s,baz=90,slow=7.8,SNR=59						

IDC 26 08:11:50.2±8.8, 23.27N×69.13E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/27, mbtmp3.4/3, Error ellipse: s-maj=254.8km s-min=43.1km az=85.0, Southern India

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**25.75**	**21**	P	P	08 17 22.5	0.0
	0.6nm,0.8s,baz=217,slow=8.9,SNR=6.8						
SONM	**Songino Array**	**38.43**	**41**	P	P	08 19 13.5	-0.2
	0.3nm,0.7s,baz=248,slow=7.6,SNR=3.4						
WRA	**Warramunga Arr**	**76.73**	**119**	P	P	08 23 43.9	+0.1
	0.2nm,0.3s,baz=302,slow=5.5,SNR=3.2						

IDC 26 08:28:23.3±1.4, 2.89S×145.69E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/19, mbtmp3.8/5, Error ellipse: s-maj=49.5km s-min=23.6km az=106.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.63**	**167**	Pn	Pn	08 30 03.3	+1.2
	0.8nm,0.3s,baz=333,slow=6.8,SNR=4.6						
WRA	**Warramunga Arr**	**20.25**	**212**	P	P	08 32 59.4	-1.0
	1.4nm,0.5s,baz=34,slow=12,SNR=24						
ASAR	**Alice Springs**	**23.59**	**208**	P	P	08 33 35.1	-0.8
	0.6nm,0.7s,baz=47,slow=7.0,SNR=9.3						
FITZ	**Fitzroy Crossi**	**24.79**	**231**	P	P	08 33 48.2	+1.0
	3.1nm,0.9s,baz=66,slow=10.0,SNR=3.1						
ILAR	**Eielson Array**	**83.16**	**23**	P	P	08 40 51.2	+0.2
	0.6nm,1.1s,baz=238,slow=5.9,SNR=4.2						
BVAR	**Borovoye Array**	**83.50**	**324**	P	P	08 40 52.8	-0.2
	0.5nm,0.6s,baz=104,slow=6.1,SNR=3.4						

*ISCJB **26** 08:38:19.0±0.3, 39.64N±0.03×73.84E±0.06, h10km, mb3.9/16, MS3.5/3, Error ellipse: s-maj=6.1km s-min=4.1km az=177.8*
*IDC **26** 08:38:18.0±0.7, 39.43N×73.79E, h0km, mb4.0/14, mb1 4.2/19, mb1mx4.0/32, mbtmp4.0/19, ML3.7/5, MS3.4/5, Ms1 3.4/5, ms1mx2.8/48, Error ellipse: s-maj=14.4km s-min=10.0km az=111.0*
*NNC **26** 08:38:19.3±2.2, 39.45N×73.80E, h0km, mb4.4, mpv4.3, Error ellipse: s-maj=19.1km s-min=10.0km az=5.0*
*BJI **26** 08:38:21.2, 39.69N×73.81E, h8km, mB4.6/2, mb4.1/6, ML3.9/6*

ISC 26 08:38:21.5±0.5, 39.54N±0.05×73.76E±0.05, h10km, n56, σ1§87/48, mb4.0/16, MS3.5/3, 10C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.71**	**90**	Pg	Pn	08 38 43.8	-7.7
KSH				Sg	Sn	08 39 03.0	-11
KSH				smax	smax		
	comp=N,1μm,0.5s						
KSH				smax	smax		
	comp=E,910nm,0.6s						
AML	**Almayashu**	**2.58**	**359**	P	**Pn**	**08 39 04.8**	**+1.0**
	SNR=587						
UCH	**Uchtor**	**2.74**	**12**	P	**Pn**	**08 39 09.0**	**+3.0**
	SNR=33						
KZA	**Kyzart**	**2.77**	**24**	P	**Pn**	**08 39 08.6**	**+2.3**
	SNR=32						
EKS2	**Erkin-Say**	**3.12**	**0**	P	**Pn**	**08 39 12.5**	**+1.6**
	SNR=60						
AAK	**Ala-Archa**	**3.14**	**10**	P	**Pn**	**08 39 13.3**	**+2.1**

	SNR=65								
AAK	**Ala-Archa**	**3.14**	**10**	Pn		**Pn**	**08 39 12.8**	**+1.6**
	comp=E,12nm,0.3s,baz=168,slow=7.4,SNR=79								
AAK				Pg		**Pb**	**08 39 17.8**	**+0.3**
	comp=E,27nm,0.3s,baz=184,slow=15,SNR=37								
AAK				Sn		**Sb**	**08 39 55.3**	**-0.5**
	comp=E,13nm,0.3s,baz=262,slow=22,SNR=8.1								
AAK				Lg		Lg	08 40 00.5		
	comp=E,30nm,0.3s,baz=336,slow=19,SNR=10								
KBK	**Karagaybulak**	**3.24**	**16**	P		**Pn**	**08 39 14.6**	**+2.1**
	SNR=85								
ULHL	**Ulahol**	**3.29**	**34**	P		**Pn**	**08 39 15.2**	**+1.8**
	SNR=19								
CHMS	**Chumysh**	**3.53**	**12**	P		**Pn**	**08 39 18.4**	**+1.9**
	SNR=26								
TKM2	**Tokmak 2**	**3.65**	**22**	Pn		**Pn**	**08 39 19.8**	**+1.6**
	comp=E,45nm,0.5s								
TKM2				⇑Pg		**Pb**	**08 39 28.1**	**+1.9**
TKM2				⇓Lg		Lg	08 40 16.0		
	comp=E,213nm,0.9s								
TKM2	**Tokmak 2**	**3.65**	**22**	P		**Pn**	**08 39 20.9**	**+2.7**
	SNR=12								
USP	**Ospenovka**	**3.76**	**8**	P		**Pn**	**08 39 21.6**	**+2.0**
	SNR=14								
KK31	**Karatay Array**	**4.32**	**327**	Pn		**Pn**	**08 39 27.7**	**+0.5**
	comp=E,10.0nm,0.4s,baz=134,slow=12,SNR=279								
KK31				⇑Pg		**Pb**	**08 39 38.3**	**+0.8**
	comp=E,38nm,0.6s,baz=138,slow=16,SNR=8.1								
KK31				⇑Sn		**Sn**	**08 40 21.9**	**+4.2**
	comp=E,17nm,0.4s,baz=165,slow=29,SNR=4.4								
KK31				⇑Lg		Lg	08 40 38.9		
	comp=E,54nm,0.6s								
KNDC	**Almaty**	**4.39**	**32**	⇑Pg		**Pb**	**08 39 40.3**	**+1.5**
	comp=E,109nm,0.6s								
KNDC				⇓Lg		Lg	08 40 39.1		
	comp=E,312nm,0.6s								
CHCP	**Chirah Chowk**	**5.89**	**184**	P		Pn	08 39 51.6	+2.7	
CEP	**Cherat**	**5.90**	**195**	P		Pn	08 39 51.6	+2.5	
CEP				S		**Sn**	**08 41 01.0**	**+4.1**	
THW	**Thamme Wali**	**6.93**	**194**	P		**Pn**	**08 40 04.4**	**+1.2**	
SDNR	**Sundarnagar**	**8.44**	**161**	*e*PKP		**Pn**	**08 40 25.0**	**+1.1**	
SDNR				*e*S		**Sn**	**08 42 01.0**	**+1.7**	
MK31	**Makanchi Array**	**9.55**	**38**	⇓Pn		**Pn**	**08 40 38.9**	**-0.2**	
	comp=E,2.1nm,0.6s,baz=214,slow=15,SNR=8.4								
MK31				⇑Lg		Lg	08 43 25.6		
	comp=E,18nm,1.2s,baz=224,slow=24,SNR=3.6								
MKAR	**Makanchi Array**	**9.55**	**38**	Pn		**Pn**	**08 40 39.6**	**+0.5**	
	comp=E,0.0nm,0.3s,baz=217,slow=15,SNR=3.6								
MKAR				Lg		Lg	08 43 18.5		
	comp=E,0.3nm,0.3s,baz=227,slow=27,SNR=4.0								
MKAR				LR		LR	08 44 29.9		
	comp=E,111nm,18.1s,baz=129,slow=39								
WMQ	**Urumqi**	**11.26**	**63**	*e*P		**Pn**	**08 41 01.3**	**-1.2**	
WMQ				*e*S		**Sn**	**08 43 10.0**	**+1.6**	
WMQ				pmax		pmax			
	comp=Z,9.0nm,0.7s								
KURBB	**Kurchatov Arra**	**11.58**	**15**	Pn		**Pn**	**08 41 06.5**	**-0.3**	
	comp=Z,0.1nm,0.3s,baz=204,slow=12,SNR=12								
KURBB				Lg		Lg	08 44 25.1		
	comp=Z,0.1nm,0.3s,baz=198,slow=28,SNR=11								
KURK	**Kurchatov**	**11.68**	**15**	⇑Lg		Lg	08 44 33.8		
	comp=Z,67nm,1.3s								
VOSK	**Vostochnaya**	**13.32**	**353**	⇓Pn		Pn	08 41 28.9	-1.6	
	comp=Z,3.5nm,0.7s								
VOSK				⇓Lg		Lg	08 45 25.1		
	comp=Z,22nm,1.1s								
BVA0	**Borovoye Array**	**13.68**	**351**	Pn		Pn	08 41 33.5	-1.9	
	comp=Z,1.1nm,0.6s,baz=156,slow=16,SNR=31								
BVA0				⇑Lg		Lg	08 45 36.8		
	comp=Z,1.9nm,1.1s,baz=154,slow=29,SNR=4.5								
BVAR	**Borovoye Array**	**13.68**	**351**	Pn		Pn	08 41 32.8	-2.6	
	comp=Z,0.6nm,0.3s,baz=166,slow=13,SNR=26								
BVAR				Sn		**Sn**	**08 44 06.0**	**-1.5**	
	comp=Z,0.1nm,0.3s,baz=160,slow=22,SNR=3.0								
BVAR				Lg		Lg	08 45 33.0		
	comp=Z,0.2nm,0.3s,baz=166,slow=26,SNR=3.8								
PYUN	**Piuthan**	**13.74**	**143**	*e*P		Pn	08 41 30.6	-6.0	
	comp=Z,25nm,0.4s								
ZRNK	**Zerenda**	**13.80**	**348**	⇑Pn		Pn	08 41 35.1	-2.0	
	comp=Z,4.9nm,0.8s								
ZRNK				⇓Lg		Lg	08 45 41.2		
	comp=Z,11nm,1.2s								
AB31	**Akbulak array**	**13.83**	**319**	Pn		Pn	08 41 35.1	-2.3	
	comp=Z,6.8nm,0.9s,baz=126,slow=13,SNR=62								
AB31				⇑Sn		**Sn**	**08 44 14.1**	**+3.0**	
	comp=Z,2.8nm,0.8s,baz=133,slow=22,SNR=4.2								
DANN	**Dangsing**	**13.90**	**140**	*e*P		Pn	08 41 32.9	-6.0	
	comp=Z,26nm,0.6s								
KOLN	**Koldanda**	**14.31**	**142**	*e*P		Pn	08 41 38.9	-5.4	
	comp=Z,22nm,0.5s								
KKN	**Kakani**	**15.13**	**137**	*e*P		Pn	08 41 49.3	-6.2	
AKTO	**Aktyubinsk**	**15.54**	**320**	Pn		**Pn**	**08 41 58.5**	**-2.1**	
	comp=Z,0.4nm,0.3s,baz=127,slow=14,SNR=19								
AKTO				Sn		Sn	08 44 48.1	-4.6	
	comp=Z,0.1nm,0.3s,baz=30,slow=16,SNR=2.3								
AKTO				LR		LR	08 48 32.4		
	comp=Z,82nm,18.3s,baz=201,slow=39								
JIRN	**Jiri**	**15.72**	**135**	*e*P		Pn	08 41 57.8	-5.6	
ZALV	**Zalesovo Beam**	**16.25**	**24**	Pn		**Pn**	**08 42 08.6**	**-1.1**	
	comp=Z,0.4nm,0.3s,baz=212,slow=12,SNR=11								
ZALV				Lg		Lg	08 46 50.5		
	comp=Z,0.1nm,0.3s,baz=200,slow=20,SNR=4.2								
TAPN	**Taplejung**	**16.81**	**132**	*e*P		Pn	08 42 10.7	-6.6	
GTA	**Gaotai**	**20.09**	**82**	*e*P		**P**	**08 42 54.8**	**-0.6**	
GTA				pP		**pP**	**08 42 59.0**	**+0.8**	
GTA				sP		**sP**	**08 43 02.3**	**+2.8**	
GTA				pmax		pmax			
	comp=Z,6.0nm,1.0s								
GNI	**Garni**	**22.25**	**281**	P		**P**	**08 43 20.1**	**+1.4**	
	comp=Z,6.2nm,0.5s,baz=158,slow=20,SNR=5.0								
KBZ	**Khabaz**	**23.37**	**290**	P		**P**	**08 43 29.3**	**-0.8**	
	comp=Z,1.4nm,0.8s,baz=107,slow=12,SNR=3.2								
SONM	**Songino Array**	**24.86**	**60**	P		**P**	**08 43 43.9**	**-0.4**	
	comp=Z,1.9nm,1.1s,baz=258,slow=9.8,SNR=11								
SONM				LR		LR	08 54 21.5		
	comp=Z,151nm,20.2s,baz=245,slow=39								
BRTR	**Keskin Array B**	**30.72**	**283**	P		**P**	**08 44 36.5**	**-0.3**	
	comp=Z,1.8nm,0.7s,baz=86,slow=7.4,SNR=9.8								
MLR	**Muntele Rosu**	**35.32**	**296**	P		**P**	**08 45 17.2**	**+0.3**	
	comp=Z,1.1nm,0.7s,baz=157,slow=12,SNR=4.8								
FINES	**FINESS Array B**	**36.27**	**323**	P		**P**	**08 45 23.5**	**-1.2**	
	comp=Z,1.8nm,0.5s,baz=111,slow=10,SNR=8.1								
ARCES	**ARCESS Array B**	**39.22**	**335**	P		**P**	**08 45 48.1**	**-1.5**	
	comp=Z,2.2nm,0.5s,baz=111,slow=9.0,SNR=26								
KSRS	**Korea Array**	**41.90**	**75**	LR		LR	09 05 35.2		
	comp=Z,34nm,19.4s,baz=295,slow=39								
HFS	**Hagfors**	**42.09**	**320**	P		P	08 46 10.8	-2.5	
	comp=Z,2.8nm,0.6s,baz=96,slow=11,SNR=11								
GERES	**GERESS Array B**	**43.03**	**303**	P		**P**	**08 46 20.1**	**-1.2**	
	comp=Z,1.0nm,0.6s,baz=65,slow=6.9,SNR=3.8								
NB2	**NORSAR Subarra**	**43.33**	**321**	P		P	08 46 21.4	-2.0	
	comp=Z,1.0nm,0.5s,baz=91,slow=8.6								
NOA	**NORSAR Array B**	**43.33**	**321**	P		P	08 46 21.5	-2.0	
	comp=Z,1.5nm,0.6s,baz=91,slow=8.1,SNR=4.9								
NOA				LR		LR	09 07 55.3		
	comp=Z,75nm,18.5s,baz=280,slow=41								
TORD	**Torodi Ar. Bea**	**67.96**	**269**	P		P	08 49 18.0	-3.0	
	comp=Z,1.2nm,0.7s,baz=54,slow=5.3,SNR=14								
ILAR	**Eielson Array**	**71.25**	**17**	P		**P**	**08 49 37.9**	**-2.6**	
	comp=Z,0.9nm,1.0s,baz=298,slow=3.6,SNR=7.6								
YKA	**Yellowknife Ar**	**78.09**	**4**	P		**P**	**08 50 18.2**	**-1.9**	
	comp=Z,0.8nm,0.6s,baz=350,slow=5.8,SNR=17								
BOSA	**Boshof**	**81.47**	**222**	P		**P**	**08 50 37.8**	**-1.2**	
	comp=Z,2.8nm,1.0s,baz=32,slow=5.8,SNR=4.1								
WRA	**Warramunga Arr**	**81.82**	**124**	P		**P**	**08 50 38.8**	**-2.1**	
	comp=Z,0.8nm,0.6s,baz=310,slow=3.8,SNR=17								
ASAR	**Alice Springs**	**84.27**	**127**	P		**P**	**08 50 51.2**	**-2.4**	
	comp=Z,0.6nm,0.6s,baz=308,slow=5.0,SNR=11								

*ISK **26** 08:53:41.8, 37.˚18N×36.˚92E, h7km, MD3.7, ML3.8*
*ISCJB **26** 08:53:42.4±0.5, 37.˚20N±0.˚02×36.˚89E±0.˚03, h6km±4km, mb3.4/6, MS3.1/1, Error ellipse: s-maj=3.6km s-min=2.8km az=29.8*
*CSEM **26** 08:53:42.9±0.1, 37.˚19N×36.˚93E, h8km, ML3.9, Error ellipse: s-maj=3.1km s-min=2.5km az=119.0*
*DDA **26** 08:53:42.2, 37.˚21N×36.˚91E, h14km, ML3.9*
*IDC **26** 08:53:43.3±0.9, 37.˚17N×36.˚78E, h0km, mb3.3/8, mb1 3.5/11, mb1mx3.4/27, mbtmp3.4/11, ML3.1/3, MS3.0/2, Ms1 3.0/2, ms1mx2.6/26, Error ellipse: s-maj=18.3km s-min=11.9km az=86.0*
ISC 26 08:53:43.1±1.1, 37.˚20N±0.˚02×36.˚92E±0.˚02, h3km±8km, n100, σ1§16/125, mb3.4/6, 2C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.24**	**96**	PG		**Pg**		**08 53 46.9**	**-0.8**
GAZ				*e*SG		**Sg**		**08 53 50.7**	**-0.1**
GAZ	**Gaziantep**	**0.24**	**96**	*i* Pg		**Pg**		**08 53 46.9**	**-0.8**
GAZ				*e*Sg		**Sg**		**08 53 50.7**	**-0.1**
KMRS	**Kahramanmaras**	**0.31**	**358**	PG		**Pg**		**08 53 48.3**	**-0.8**
KMRS				*e*SG		**Sg**		**08 53 53.8**	**+0.7**
KMRS	**Kahramanmaras**	**0.31**	**358**	*i* Pg		**Pg**		**08 53 48.3**	**-0.8**
KMRS				*e*Sg		**Sg**		**08 53 53.8**	**+0.7**
KUZU	**Kuzuini**	**0.44**	**163**	*i* P		**Pg**		**08 53 51.6**	**-0.1**
KUZU				*i* S		**Sg**		**08 53 58.4**	**+1.0**
KUZU	**Kuzuini**	**0.44**	**163**	*i* P		**Pg**		**08 53 51.6**	**-0.1**
KUZU				*i* S		**Sg**		**08 53 58.4**	**+1.0**
GZT	**Gaziantep**	**0.54**	**73**	*i* P		**Pg**		**08 53 53.4**	**-0.1**
ANDN	**Andirin**	**0.59**	**310**	*i* P		**Pn**		**08 53 58.1**	**-0.5**
ANDN				*i* S		**Sb**		**08 54 06.2**	**+1.1**
COBT	**Iskenderun**	**0.86**	**218**	*i* P		**Pg**		**08 53 59.1**	**-0.5**
COBT				*i* S		**Sg**		**08 54 10.5**	**-0.3**
COBT	**Iskenderun**	**0.86**	**218**	*i* P		**Pg**		**08 53 59.1**	**-0.5**
COBT				*i* S		**Sg**		**08 54 10.5**	**-0.3**
KOZT	**Kozan**	**0.91**	**288**	*e*PG		**Pg**		**08 54 00.2**	**-0.4**
KOZT	**Kozan**	**0.91**	**288**	*e*Pg		**Pg**		**08 54 00.3**	**-0.4**
CEYT	**Ceyhan**	**0.95**	**259**	*e*PG		**Pg**		**08 54 00.6**	**-0.8**
CEYT	**Ceyhan**	**0.95**	**259**	*e*Pg		**Pg**		**08 54 00.6**	**-0.8**
ATAB	**Bozova**	**1.13**	**76**	*i* P		**Pg**		**08 54 04.3**	**-0.5**
ATAB				*i* S		**Sg**		**08 54 19.4**	**-0.2**
ATAB	**Bozova**	**1.13**	**76**	*i* P		**Pg**		**08 54 04.3**	**-0.5**
ATAB				*i* S		**Sg**		**08 54 19.4**	**-0.2**
HTY	**Hatay**	**1.24**	**210**	*e*PN		**Pg**		**08 54 05.6**	**-1.4**
HTY	**Hatay**	**1.24**	**210**	*e*Pn		**Pg**		**08 54 05.6**	**-1.4**
YAYL	**Yayladag**	**1.33**	**209**	*i* P		Pn		**08 54 08.4**	**-0.3**
YAYL				*i* S		**Sb**		**08 54 26.6**	**+0.3**
YAYL	**Yayladag**	**1.33**	**209**	*i* P		**Pn**		**08 54 08.4**	**-0.3**
YAYL				*i* S		**Sb**		**08 54 26.6**	**+0.3**
AKCD	**Akcadag**	**1.35**	**36**	*i* P		Pn		**08 54 08.5**	**-0.6**
AKCD				*i* S		**Sn**		**08 54 27.5**	**-0.1**
AKCD	**Akcadag**	**1.35**	**36**	*i* P		Pn		**08 54 08.5**	**-0.6**
AKCD				*i* S		**Sn**		**08 54 27.5**	**-0.1**
KRTS	**Karatas**	**1.38**	**244**	*e*PN		**Pn**		**08 54 08.2**	**-1.1**
KRTS	**Karatas**	**1.38**	**244**	*e*Pn		**Pn**		**08 54 08.2**	**-1.1**
PINB	**Pinarbasi**	**1.53**	**345**	*i* P		Pn		**08 54 11.2**	**-0.4**
PINB				*i* S		**Sn**		**08 54 29.4**	**-2.8**
PINB	**Pinarbasi**	**1.53**	**345**	*i* P		**Pn**		**08 54 11.2**	**-0.4**
PINB				*i* S		**Sn**		**08 54 29.4**	**-2.8**
URFA	**Urfa**	**1.54**	**80**	*e*PN		**Pn**		**08 54 09.6**	**-2.0**
URFA	**Urfa**	**1.54**	**80**	*e*Pn		**Pn**		**08 54 09.6**	**-2.0**
MYA	**Malataya**	**1.64**	**46**	*e*PN		**Pn**		**08 54 12.0**	**-1.0**
MYA	**Malataya**	**1.64**	**46**	*e*Pn		**Pn**		**08 54 12.0**	**-1.0**
GULE	**Gulek**	**1.71**	**274**	*i* P		**Pn**		**08 54 12.8**	**-1.2**
GULE				*i* S		**Sn**		**08 54 33.6**	**-2.8**
GULE	**Gulek**	**1.71**	**274**	*i* P		**Pn**		**08 54 12.8**	**-1.2**
GULE				*i* S		**Sn**		**08 54 33.6**	**-2.8**
WRDH	**Warideh**	**1.73**	**194**	*e*P		**Pn**		**08 54 13.4**	**-0.8**
	SNR=92								
WRDH				*e*S		**Sn**		**08 54 36.0**	**-0.9**
	2μm,0.5s,SNR=92								
BNN	**Bunyan**	**1.85**	**333**	*e*PN		**Pn**		**08 54 15.1**	**-0.8**
BNN	**Bunyan**	**1.85**	**333**	*e*Pn		**Pn**		**08 54 15.1**	**-0.8**
DARE	**Darende-Malaty**	**1.89**	**22**	*e*PN		Pn	08 54 09.1	-7.2	
MERS	**Mersin**	**1.94**	**261**	*e*PN		**Pn**	**08 54 15.7**	**-1.4**	
MERS	**Mersin**	**1.94**	**261**	*e*Pn		**Pn**	**08 54 15.7**	**-1.4**	
JHLN	**Al Jahlan**	**1.96**	**141**	⇑*e*P		**Pn**	**08 54 16.4**	**-0.9**	
	SNR=92								
NIG	**Nigde**	**2.04**	**297**	*e*PN		**Pn**	**08 54 17.8**	**-0.9**	
NIG	**Nigde**	**2.04**	**297**	*e*Pn		**Pn**	**08 54 17.8**	**-0.9**	
ELZG	**Elazig**	**2.09**	**51**	*i* P		Pn	**08 54 18.6**	**-0.6**	
ELZG				*i* S		**Sb**	**08 54 49.2**	**+1.0**	
ELZG	**Elazig**	**2.09**	**51**	*i* P		**Pn**	**08 54 18.6**	**-0.6**	
BIDA	**Albida**	**2.23**	**193**	⇓*e*P		**Pn**	**08 54 20.7**	**-0.4**	
	SNR=91								
KEMA	**Kemaliye**	**2.41**	**31**	*i* P		**Pn**	**08 54 23.0**	**-0.6**	
KEMA				*e*S		**Sb**	**08 54 56.9**	**-0.5**	
KEMA	**Kemaliye**	**2.41**	**31**	*i* P		**Pn**	**08 54 23.0**	**-0.6**	
DIYA	**Diyarbakir**	**2.65**	**73**	*e*P		**Pn**	**08 54 26.2**	**-0.6**	
DIYA				*e*S		**Sb**	**08 55 04.6**	**+0.4**	
DIYA	**Diyarbakir**	**2.65**	**73**	*e*P		**Pn**	**08 54 26.2**	**-0.6**	
HAWK	**Haweek**	**2.70**	**189**	⇓*e*P		**Pn**	**08 54 27.4**	**-0.2**	
	SNR=91								
HAWK				*e*S		**Sn**	**08 55 00.8**	**-0.1**	
	SNR=91								
DIY	**Diyarbakir**	**2.72**	**74**	*e*PN		**Pn**	**08 54 27.1**	**-0.7**	
DIY	**Diyarbakir**	**2.72**	**74**	*e*Pn		**Pn**	**08 54 27.1**	**-0.7**	
YOZ	**Yozgat**	**2.74**	**333**	*e*PN		**Pn**	**08 54 27.8**	**-0.3**	
YOZ	**Yozgat**	**2.74**	**333**	*e*Pn		**Pn**	**08 54 27.8**	**-0.3**	
EREN	**Erenkoy**	**2.77**	**234**	*e*PN		**Pn**	**08 54 27.7**	**-0.7**	
EREN	**Erenkoy**	**2.77**	**234**	*e*Pn		**Pn**	**08 54 27.7**	**-0.7**	
SULT	**Sultanhani-AKS**	**2.88**	**291**	*e*PN		**Pn**	**08 54 29.7**	**-0.3**	
SULT	**Sultanhani-AKS**	**2.88**	**291**	*e*Pn		**Pn**	**08 54 29.7**	**-0.3**	
FKH	**Fakeheh**	**2.98**	**188**	*e*P		**Pn**	**08 54 31.1**	**-0.2**	
FKH	**Fakeheh**	**2.98**	**188**	*e*P		**Pn**	**08 54 31.1**	**-0.2**	
HWQ	**Hawqa**	**3.02**	**195**	*e*P		**Pn**	**08 54 32.1**	**+0.2**	
HWQ	**Hawqa**	**3.02**	**195**	*e*P		**Pn**	**08 54 32.1**	**+0.2**	
MARD	**Mardin**	**3.08**	**87**	*i* P		**Pn**	**08 54 30.8**	**-2.0**	
MARD				*e*S		**Sb**	**08 55 16.1**	**-0.7**	
TOKT	**Tokat**	**3.13**	**355**	*e*PN		**Pn**	**08 54 33.2**	**-0.2**	
TOKT	**Tokat**	**3.13**	**355**	*e*Pn		**Pn**	**08 54 33.2**	**-0.2**	
CDAG	**Cicekdag**	**3.14**	**321**	*i* P		**Pn**	**08 54 33.3**	**-0.3**	
CDAG	**Cicekdag**	**3.14**	**321**	*i* P		**Pn**	**08 54 33.3**	**-0.3**	
EZC	**Erzincan**	**3.19**	**36**	*e*PN		**Pn**	**08 54 34.0**	**-0.2**	
EZC	**Erzincan**	**3.19**	**36**	*e*Pn		**Pn**	**08 54 34.1**	**-0.2**	
RSDY	**Resadiye-TOKAT**	**3.21**	**6**	*e*PN		**Pn**	**08 54 34.4**	**-0.1**	
RSDY	**Resadiye-TOKAT**	**3.21**	**6**	*e*Pn		**Pn**	**08 54 34.4**	**-0.1**	
ERZN	**Erzincan**	**3.25**	**42**	*e*PN		**Pn**	**08 54 34.8**	**-0.3**	
ERMK	**Ermenek**	**3.26**	**261**	*i* P		**Pn**	**08 54 36.3**	**+1.0**	
ERMK	**Ermenek**	**3.26**	**261**	*i* P		**Pn**	**08 54 36.3**	**+1.0**	
BINT	**Bingol**	**3.28**	**58**	*e*Pn		**Pn**	**08 54 38.0**	**+2.4**	
MZRK	**Al-Mazaregh**	**3.31**	**113**	⇑*e*P		Pn	08 54 32.5	-3.3	
	SNR=91								
KAMT	**Kaman**	**3.32**	**312**	*e*PN		**Pn**	**08 54 36.1**	**0.0**	
KAMT	**Kaman**	**3.32**	**312**	*e*Pn		**Pn**	**08 54 36.1**	**0.0**	
LFK	**Lefkose**	**3.34**	**236**	*e*PN		**Pn**	**08 54 35.8**	**-0.5**	
LFK	**Lefkose**	**3.34**	**236**	*e*Pn		**Pn**	**08 54 35.8**	**-0.5**	
BHL	**Bhannes**	**3.44**	**198**	*e*P		**Pn**	**08 54 37.3**	**-0.5**	
BHL	**Bhannes**	**3.44**	**198**	*e*P		**Pn**	**08 54 37.3**	**-0.5**	
BNGB	**Bing¶‖**	**3.47**	**58**	*e*Pn		**Pn**	**08 54 38.0**	**-0.1**	
BRTR	**Keskin Array B**	**3.60**	**315**	Pn		Pn	**08 54 40.5**	**+0.5**	
	0.9nm,0.3s,baz=136,slow=18,SNR=20								
BRTR				Pg		**Pb**	**08 54 49.5**	**+1.9**	
	3.0nm,0.3s,baz=141,slow=20,SNR=41								
BRTR				Sn		**Sn**	**08 55 19.5**	**-3.6**	
	1.8nm,0.3s,baz=130,slow=19,SNR=3.8								
BRTR				Lg		Lg	08 55 36.1		
	1.4nm,0.3s,baz=128,slow=32,SNR=3.7								
BTMT	**Batman**	**3.76**	**73**	*e*PN		**Pn**	**08 54 39.6**	**-2.5**	
BTMT	**Batman**	**3.76**	**73**	*e*Pn		**Pn**	**08 54 39.6**	**-2.5**	
BNGL	**BINGOL**	**3.77**	**61**	*i* P		**Pg**	**08 54 53.5**	**-2.0**	
BNGL				*e*S		**Sg**	**08 55 42.4**	**-2.0**	
RCY	**Rachaya**	**3.80**	**194**	*e*P		**Pn**	**08 54 42.8**	**+0.1**	
MMAI	**Mount Meron Ar**	**4.35**	**197**	Pn		**Pn**	**08 54 50.5**	**+0.3**	
	3.5nm,0.3s,baz=1.0,slow=16,SNR=8.4								
MMAI				Pg		**Pb**	**08 55 02.5**	**+2.2**	
	9.3nm,0.3s,baz=17,slow=12,SNR=9.0								
MMAI				Lg		Lg	08 55 58.0		
	16nm,0.3s,baz=17,slow=26,SNR=5.7								
ASF	**Jabal al Asfar**	**5.01**	**180**	Pn		**Pn**	**08 55 00.6**	**+1.3**	
	0.3nm,0.3s,baz=98,slow=5.8,SNR=4.4								
ASF				Pg		**Pg**	**08 55 16.2**	**-3.0**	
	5.3nm,0.3s,baz=42,slow=23,SNR=27								
ASF				Lg		Lg	08 56 20.4		
	4.7nm,0.3s,baz=357,slow=17,SNR=4.0								
ASF				LR		LR	08 57 05.2		
	comp=Z,94nm,21.2s,baz=115,slow=40								
BHD	**Baghdad**	**7.26**	**120**	*ex*		Pn	08 55 36.0	+6.0	
BHD				*ex*		x	08 57 06.1		
BHD				*i* x		x	08 57 36.1		
BHD				*i* x		x	08 57 56.9		
EIL	**Elat**	**7.69**	**193**	Pn		Pn	08 55 43.0	+7.0	
	0.3nm,0.3s,baz=12,slow=11,SNR=2.2								
EIL				Pg		**Pg**	**08 56 07.2**	**-3.1**	
	0.7nm,0.3s,baz=355,slow=6.9,SNR=5.4								
EIL				Lg		Lg	08 57 49.0		
	0.8nm,0.3s,baz=0.0,slow=16,SNR=2.8								
AKTO	**Aktyubinsk**	**20.08**	**42**	P		Pn	08 58 18.7	-0.6	
	0.6nm,0.5s,baz=210,slow=14,SNR=3.0								
GERES	**GERESS Array B**	**20.49**	**312**	P		**P**	**08 58 22.5**	**+0.3**	
	0.3nm,0.4s,baz=119,slow=8.0,SNR=2.6								
KEST	**Kesra**	**22.20**	**275**	P		**P**	**08 58 39.5**	**-1.1**	
	2.4nm,1.0s,baz=63,slow=2.3,SNR=2.5								
FINES	**FINESS Array B**	**25.21**	**348**	P		**P**	**08 59 09.3**	**-0.4**	
	1.8nm,0.7s,baz=144,slow=12,SNR=3.9								
KURBB	**Kurchatov Arra**	**32.40**	**52**	LR		LR	09 15 42.9		
	comp=Z,36nm,18.4s,baz=270,slow=41								
MKAR	**Makanchi Array**	**34.63**	**59**	P		**P**	**09 00 34.6**	**+1.1**	
	0.5nm,0.9s,baz=283,slow=7.0,SNR=3.6								
TORD	**Torodi Ar. Bea**	**39.51**	**242**	P		**P**	**09 01 14.5**	**-0.8**	
	0.7nm,0.9s,baz=31,slow=8.5,SNR=3.4								
SONM	**Songino Array**	**50.70**	**55**	P		**P**	**09 02 46.3**	**+2.3**	
	0.1nm,0.4s,baz=282,slow=6.8,SNR=3.0								
YKA	**Yellowknife Ar**	**78.04**	**347**	P		**P**	**09 05 43.5**	**+0.8**	
	0.2nm,0.7s,baz=31,slow=5.6,SNR=3.3								

*IDC **26** 08:59:16.6±1.1, 32.˚25N×105.˚27E, h0km, mb3.3/5, mb1 3.5/7, mb1mx3.3/28, mbtmp3.3/7, ML3.1/1, Error ellipse: s-maj=39.5km s-min=20.1km az=56.0*
*ISCJB **26** 08:59:18.3±0.5, 32.˚35N×105.˚26E±0.˚06, h15km, mb3.2/5, Error ellipse: s-maj=8.1km s-min=4.7km az=32.3*
*BJI **26** 08:59:19.8, 32.˚49N×105.˚21E, h12km, ML3.4/11*
ISC 26 08:59:19.5±0.6, 32.˚42N±0.˚04×105.˚20E±0.˚05, h15km, n12, σ2§16/22, mb3.3/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.94**	**220**	Pn		**Pb**		**08 59 53.5**	**-1.2**
CD2				Pg		**Pg**		**08 59 57.0**	**+0.1**
CD2				Sn		**Sn**		**09 00 16.5**	**+0.2**
CD2				Sg		**Sg**		**09 00 21.3**	**-0.8**
CD2				smax		smax			
	comp=N,2μm,0.5s								
CD2				smax		smax			
	comp=E,2μm,0.7s								
XAN	**Xi'an**	**3.51**	**62**	Pn		**Pn**		**09 00 13.8**	**+0.2**
XA

KUDL					AML	AML	09 09 55.9	
	comp=N,7.3nm,0.5s							
KURK	**Kurchatov**	**11.62**	**14**	⇑Lg	Lg	Lg	09 11 10.3	
VOSK	**Vostochnaya**	**13.38**	**352**	⇓Pn	Pn	Pn	09 08 05.2	-1.0
	comp=N,5.3nm,1.1s							
DANN	**Dangsing**	**13.69**	**142**	*e*P		**Pn**	**09 08 10.4**	**-0.5**
BVA0	**Borovoye Array**	**13.75**	**350**	⇓Pn	Pn	Pn	09 08 09.7	-1.6
	comp=N,0.8nm,0.6s,baz=165,slow=12,SNR=15							
BVA0				Lg	Lg	Lg	09 12 11.9	
	comp=N,1.6nm,1.1s,baz=162,slow=26,SNR=4.2							
BVAR	**Borovoye Array**	**13.75**	**350**	Pn	Pn	Pn	09 08 10.1	-1.2
	comp=N,0.4nm,0.3s,baz=162,slow=14,SNR=13							
BVAR				Lg	Lg	Lg	09 12 10.9	
	comp=N,0.2nm,0.3s,baz=164,slow=23,SNR=2.8							
BRVK	**Borovoye**	**13.79**	**350**	⇑Lg	Lg	Lg	09 12 14.5	
	comp=N,23nm,1.2s							
ZRNK	**Zerenda**	**13.89**	**347**	⇑Pn	Pn	Pn	09 08 11.2	-2.0
	comp=N,3.3nm,0.6s							
ZRNK				⇑Lg	Lg	Lg	09 12 17.2	
	comp=N,19nm,1.4s							
AB31	**Akbulak array**	**14.04**	**318**	Pn	Pn	Pn	09 08 11.6	-3.8
	comp=N,1.8nm,0.5s,baz=127,slow=13,SNR=61							
KOLN	**Koldanda**	**14.11**	**143**	*e*P		**Pn**	**09 08 17.0**	**+0.5**
GKN	**Gorkha**	**14.41**	**140**	*e*P		**Pn**	**09 08 19.5**	**-1.1**
DMN	**Daman**	**14.97**	**139**	*e*P		**Pn**	**09 08 27.9**	**-0.4**
GUN	**Gumba**	**15.13**	**136**	*e*P		**Pn**	**09 08 29.7**	**-0.8**
JIRN	**Jiri**	**15.49**	**136**	*e*P		**Pn**	**09 08 34.5**	**-0.8**
AKTO	**Aktyubinsk**	**15.75**	**319**	Pn		**Pn**	**09 08 35.5**	**-2.7**
	comp=N,0.5nm,0.3s,baz=128,slow=14,SNR=13							
AKTO				LR		LR	09 15 14.0	
	comp=N,106nm,18.5s,baz=3.8,slow=39							
ZALV	**Zalesovo Beam**	**16.14**	**23**	Pn		**P**	**09 08 47.5**	**+1.1**
	comp=N,0.4nm,0.3s,baz=215,slow=12,SNR=8.7							
GTA	**Gaotai**	**19.79**	**82**	*e*P		**Pn**	**09 09 32.5**	**+4.0**
GTA				pP		pP	09 09 37.0	+7.2
GTA				sP		sP	09 09 40.0	+8.9
GTA				pmax		pmax		
	comp=Z,7.0nm,1.4s							
SHL	**Shillong**	**20.37**	**128**	*ex*		x	09 09 37.9	
KBZ	**Khabaz**	**23.66**	**290**	P		**P**	**09 10 07.3**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=73,slow=6.9,SNR=3.6							
MIB	**Mutribah**	**24.02**	**254**	*e*P		**P**	**09 10 10.7**	**-0.8**
MIB				AMb		AMB	09 10 19.0	
	comp=Z,24nm,0.7s							
NAY	**Al-Naaiem**	**24.38**	**253**	*e*P		**P**	**09 10 11.6**	**-3.3**
NAY				AMb		AMB	09 10 15.5	
	comp=Z,17nm,1.1s							
SONM	**Songino Array**	**24.61**	**60**	P		**P**	**09 10 20.8**	**+4.0**
	comp=Z,1.0nm,0.8s,baz=267,slow=10,SNR=9.4							
SONM				LR		LR	09 20 47.1	
	comp=Z,88nm,18.2s,baz=168,slow=38							
BRTR	**Keskin Array B**	**31.02**	**284**	P		**P**	**09 11 12.5**	**-1.9**
	comp=Z,2.0nm,0.9s,baz=102,slow=7.4,SNR=5.7							
FINES	**FINESS Array B**	**36.47**	**323**	P		**P**	**09 12 00.7**	**-0.5**
	comp=Z,2.3nm,0.5s,baz=110,slow=10,SNR=13							
ARCES	**ARCESS Array B**	**39.37**	**335**	P		**P**	**09 12 25.6**	**0.0**
	comp=Z,2.1nm,0.5s,baz=108,slow=9.0,SNR=20							
HFS	**Hagfors**	**42.30**	**320**	P		**P**	**09 12 49.1**	**-0.8**
	comp=Z,3.9nm,0.6s,baz=104,slow=12,SNR=10							
GERES	**GERESS Array B**	**43.30**	**303**	P		**P**	**09 12 57.6**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=69,slow=8.7,SNR=5.5							
NB2	**NORSAR Subarra**	**43.53**	**321**	P		**P**	**09 12 58.7**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=90,slow=7.9							
NOA	**NORSAR Array B**	**43.53**	**321**	P		**P**	**09 12 58.8**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=92,slow=7.9,SNR=8.1							
TORD	**Torodi Ar. Bea**	**68.27**	**269**	P		P	09 15 54.5	-3.2
	comp=Z,1.8nm,0.6s,baz=44,slow=5.3,SNR=19							
ILAR	**Eielson Array**	**71.17**	**17**	P		**P**	**09 16 15.6**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=332,slow=4.9,SNR=7.0							
DBIC	**Dimbokro**	**77.32**	**268**	P		P	09 16 48.6	-2.9
	comp=Z,3.2nm,0.8s,baz=22,slow=11,SNR=3.3							
YKA	**Yellowknife Ar**	**78.08**	**4**	P		**P**	**09 16 55.6**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=348,slow=5.7,SNR=12							
WRA	**Warramunga Arr**	**81.55**	**124**	P		**P**	**09 17 14.2**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=324,slow=4.8,SNR=21							
ASAR	**Alice Springs**	**84.02**	**127**	P		**P**	**09 17 26.4**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=312,slow=4.6,SNR=11							

*BJI **26** 09:52:43.4, 42˚.26N×124˚.03W, h30km, mB4.8/3, mb4.8/5*
*IDC **26** 09:52:43.7±1.1, 42˚.64N×123˚.71W, h0km, mb3.9/7, mb1 4.2/10, mb1mx3.9/30, mbtmp3.9/10, ML3.6/3, MS3.3/2, Ms1 3.2/2, ms1mx2.8/39, Error ellipse: s-maj=23.4km s-min=9.5km az=61.0*
*ISCJB **26** 09:52:47.3±0.3, 42˚.57N±0˚.02×123˚.88W±0˚.04, h51km±3km, mb4.0/5, MS3.1/2, Error ellipse: s-maj=4.8km s-min=2.8km az=178.0*
*PNSN **26** 09:52:47.6, 42˚.54N×123˚.90W, h39km, MD4.1, Fault plane solution: NP1:ϕs120.00000°, δ50.00000°, NP2: ϕs330.00000°, δ44.00000°, Principal axes: T Plg3.0000°, Azm224.0000°; P Plg74.0000°, Azm325.0000°; Fault plane solution: NP1:ϕs350.00000°, δ65.00000°, NP2: ϕs100.00000°, δ54.00000°, Principal axes: T Plg6.0000°, Azm47.0000°; P Plg45.0000°, Azm310.0000°;*
*NEIC **26** 09:52:47.6, 42˚.54N×123˚.90W, h39km, mb4.0/2, MD4.1(SEA), MW4.2(SLM), After SEA.*
NEIC Felt [IV] at Agness; [III] at Glendale and Gold Beach; [II] at Azalea, Grants Pass, Merlin and Rogue River. Also felt at Ashland, Brookings, Canyonville, Cave Junction, Coos Bay, Coquille, Eugene, Gold Hill, Jacksonville, Medford, Murphy, Ophir, Port Orford, Riddle, Selma, Trail, Wilderville, Williams and Wolf Creek.

ISC 26 09:52:48.5±0.6, 42˚.58N±0˚.03×123˚.87W±0˚.05, h44km±6km, n194, σ1s37/205, mb3.6/5, 56C-40D, Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**0.45**	**216**	⇑P	**Pn**	**09 52 57.3**	**-1.6**
KEBM	**Edson Butte**	**0.45**	**311**	*e*Pn	**Pn**	**09 52 57.3**	**-1.6**
KEBM				*e*Sn	**Sn**	**09 53 05.1**	**-1.1**
HUMO	**Hull Mountain**	**0.68**	**87**	*e*Pn	**Pn**	**09 53 00.7**	**-1.1**
HUMO				*e*Sg	**Sn**	**09 53 10.8**	**-0.5**
DBO	**Dodson Butte**	**0.71**	**40**	⇑P	**Pn**	**09 53 01.9**	**-0.4**
KSXB	**Camp Six Broad**	**0.75**	**180**	⇑P	**Pn**	**09 53 01.1**	**-1.7**
KTRM	**Thompson Ridge**	**0.76**	**151**	⇓P	**Pn**	**09 53 01.5**	**-1.5**
BBOR	**Butler Butte**	**0.93**	**70**	⇓P	**Pn**	**09 53 05.1**	**-0.3**
KRMB	**Red Mountain**	**1.05**	**181**	*e*Pg	**Pn**	**09 53 05.5**	**-1.5**
KRMB				*e*Sn	**Sn**	**09 53 19.2**	**-1.4**
HSO	**Harness Mounta**	**1.11**	**31**	⇑P	**Pn**	**09 53 07.9**	**+0.2**
YBH	**Yreka Blue Hor**	**1.21**	**134**	*e*Pn	**Pn**	**09 53 08.3**	**-0.8**
YBH				*e*Sn	**Sn**	**09 53 23.1**	**-1.2**
YBH				Sn	Sn	09 53 23.9	-0.5
YBH	**Yreka Blue Hor**	**1.21**	**134**	Pn	**Pn**	**09 53 08.3**	**-0.8**
	51nm,0.3s,baz=318,slow=14,SNR=1999						
YBH				Sn	**Sn**	**09 53 23.9**	**-0.4**
	308nm,0.3s,baz=114,slow=15,SNR=19						
BUOR	**Burton Butte**	**1.24**	**103**	⇓P	**Pn**	**09 53 09.7**	**+0.1**
RNO	**Roman Nose**	**1.34**	**4**	⇑P	**Pn**	**09 53 11.0**	**+0.2**
LAMM	**Antelope Mount**	**1.34**	**136**	⇓P	**Pn**	**09 53 10.8**	**-0.2**
LAB	**Little Aspen B**	**1.38**	**102**	P	**Pn**	**09 53 11.6**	**+0.2**
VSP	**Spence Mountai**	**1.44**	**99**	⇑P	**Pn**	**09 53 12.3**	**0.0**
LHEM	**Herd Peak**	**1.55**	**127**	P	**Pn**	**09 53 14.0**	**+0.1**
EUO	**Eugene**	**1.56**	**22**	⇑P	**Pn**	**09 53 14.1**	**+0.3**
HOG	**Hogback Mounta**	**1.64**	**101**	⇑P	**Pn**	**09 53 14.8**	**-0.2**
KHMM	**Horse Mountain**	**1.71**	**176**	*e*Pn	**Pn**	**09 53 14.5**	**-1.4**
KHMM				*e*Sn	**Sn**	**09 53 35.7**	**-0.9**
IRO	**Indian Ridge**	**1.85**	**39**	⇑P	**Pn**	**09 53 18.5**	**+0.5**
BROR	**Big Rock Looko**	**1.98**	**31**	⇑P	**Pn**	**09 53 20.2**	**+0.7**
COR	**Corvallis**	**2.05**	**11**	*e*Pn	**Pn**	**09 53 21.1**	**+0.7**
COR				*e*Sn	**Sn**	**09 53 44.2**	**-0.6**
FRIS	**Frissel Point**	**2.08**	**38**	⇑P	**Pn**	**09 53 21.7**	**+0.6**
HUOR	**Husband**	**2.13**	**43**	⇑P	**Pn**	**09 53 22.3**	**+0.4**
MOON	**Moon Mountain**	**2.18**	**47**	P	**Pn**	**09 53 23.0**	**+0.7**
WDC	**Whiskeytown Da**	**2.23**	**153**	*e*Pn	**Pn**	**09 53 22.9**	**-0.1**
WDC				*e*Sn	**Sn**	**09 53 50.2**	**+0.9**
BKCOR	**Black Crater**	**2.34**	**42**	⇑P	**Pn**	**09 53 25.1**	**+0.6**
BEND	**Bend**	**2.38**	**50**	⇑P	**Pn**	**09 53 25.7**	**+0.6**
PINOR	**Pine Mountain**	**2.52**	**60**	⇑P	**Pn**	**09 53 27.5**	**+0.7**
MOD	**Modoc**	**2.74**	**103**	*e*Pn	**Pn**	**09 53 29.3**	**-0.7**
MOD				*e*Sn	**Sn**	**09 54 01.8**	**-0.2**
GMO	**Grizzlie Mount**	**2.82**	**48**	P	**Pn**	**09 53 31.5**	**+0.3**
GT2	**Goat Mountain**	**2.83**	**24**	P	**Pn**	**09 53 32.5**	**+1.3**
KCPM	**Cahto Peak**	**2.90**	**176**	*e*Pn	**Pn**	**09 53 31.3**	**-1.0**
VBEM	**Beaver Butte**	**2.98**	**33**	⇑P	**Pn**	**09 53 34.1**	**+0.7**
VIPM	**Ingram Point**	**3.05**	**50**	⇑P	**Pn**	**09 53 35.0**	**+0.6**
CROR	**Criterion Ridg**	**3.19**	**40**	⇓P	**Pn**	**09 53 36.6**	**+0.5**
VFP	**Flag Point**	**3.24**	**32**	⇑P	**Pn**	**09 53 37.6**	**+0.6**
VLL	**Laurance Lake**	**3.29**	**28**	P	**Pn**	**09 53 38.7**	**+1.1**
VTHM	**Trough**	**3.54**	**41**	P	**Pn**	**09 53 41.8**	**+0.9**
HOPS	**Hopland**	**3.63**	**170**	*e*Pn	**Pn**	**09 53 41.7**	**-0.5**
HOPS				*e*Sn	**Sn**	**09 54 23.2**	**-0.6**
LVP	**Lakeview Peak**	**3.64**	**16**	⇑P	**Pn**	**09 53 42.9**	**+0.4**
VGB	**Gordon Butte**	**3.69**	**36**	P	**Pn**	**09 53 44.0**	**+1.0**
GULW	**Guler Mountain**	**3.72**	**25**	P	**Pn**	**09 53 44.8**	**+1.2**
FL2	**Flat Top 2**	**3.78**	**16**	⇓P	**Pn**	**09 53 44.8**	**+0.5**
WVOR	**Wild Horse Val**	**3.87**	**90**	*e*Pn	**Pn**	**09 53 44.5**	**-1.2**
WVOR				*e*Sn	**Sn**	**09 54 26.7**	**-3.2**
GL2	**New Goldendale**	**4.03**	**32**	⇑P	**Pn**	**09 53 48.8**	**+1.1**
JBO	**Jordan Butte**	**4.10**	**44**	⇑P	**Pn**	**09 53 49.9**	**+1.3**
LON	**Longmire**	**4.42**	**19**	*e*Pn	**Pn**	**09 53 53.6**	**+0.5**
LON				*e*Sn	**Sn**	**09 54 44.2**	**+0.9**
REDWA	**Red Mountain**	**4.89**	**39**	P	**Pn**	**09 54 00.4**	**+1.0**
HAWA	**Hanford**	**4.92**	**38**	*e*Pn	**Pn**	**09 54 00.7**	**+0.8**
H2OWA	**Water**	**4.97**	**38**	P	**Pn**	**09 54 01.5**	**+1.0**
OT3	**Othello 3**	**5.26**	**37**	P	**Pn**	**09 54 05.5**	**+1.0**
CMB	**Columbia Colle**	**5.26**	**148**	Pn	**Pn**	**09 54 02.7**	**-1.9**
	11nm,0.6s						
BMO	**Blue Mountains**	**5.28**	**62**	*e*Pn	**Pn**	**09 54 05.7**	**+0.8**
BMN	**Battle Mountai**	**5.43**	**111**	*e*Pn	**Pn**	**09 54 04.5**	**-2.6**
NVAR	**Mina Array Bea**	**5.93**	**132**	Pn	**Pn**	**09 54 15.3**	**+1.3**
NVAR	**Mina Array Bea**	**5.93**	**132**	Pn	**Pn**	**09 54 15.3**	**+1.3**
	1.0nm,0.3s,baz=301,slow=14,SNR=21						
MFID	**Camas Ranch**	**5.96**	**79**	*e*Pn	**Pn**	**09 54 13.4**	**-0.9**
MFID	**Camas Ranch**	**5.96**	**79**	⇑P	**Pn**	**09 54 13.3**	**-0.9**
	baz=6.0						
PGC	**Sidney**	**6.08**	**3**	*e*Pn	**Pn**	**09 54 16.0**	**+0.3**
PGC				*e*Sn	**Sn**	**09 55 20.0**	**-4.0**
SAO	**San Andreas Ge**	**6.10**	**161**	*e*Pn	**Pn**	**09 54 16.0**	**-0.1**
	6.9nm,0.7s						
I12A	**Atlanta**	**6.50**	**76**	⇓P	**Pn**	**09 54 21.5**	**-0.3**
	baz=6.5						
G12A	**Big Creek, Yel**	**6.68**	**65**	⇑P	**Pn**	**09 54 25.4**	**+1.2**
	baz=6.7						
ELK	**Elko**	**6.72**	**103**	*e*Pn	**Pn**	**09 54 27.7**	**+2.9**
H12A	**Diamond D Ranc**	**6.84**	**70**	⇓P	**Pn**	**09 54 27.4**	**+1.0**
	baz=6.8						
HLID	**Hailey**	**7.00**	**79**	*e*P	**Pn**	**09 54 28.6**	**0.0**
HLID	**Hailey**	**7.00**	**79**	⇑P	**Pn**	**09 54 27.9**	**-0.6**
	baz=7.0						
E12A	**Beaver Dam Sad**	**7.07**	**54**	⇓P	**Pn**	**09 54 30.4**	**+0.9**
	baz=7.1						
I13A	**Wildhorse Cree**	**7.25**	**76**	⇑P	**Pn**	**09 54 32.2**	**+0.1**
	baz=7.3						
H13A	**Challis**	**7.26**	**71**	⇑P	**Pn**	**09 54 33.6**	**+1.4**
	baz=7.3						
NEW	**Newport**	**7.41**	**38**	*e*Pn	**Pn**	**09 54 35.0**	**+1.0**
NEW				*e*Sn	**Sn**	**09 55 54.2**	**-2.4**
G13A	**Cobalt**	**7.41**	**67**	⇓P	**Pn**	**09 54 36.0**	**+1.8**
	baz=7.4						
PTRM	**Twissleman Ran**	**7.48**	**156**	*e*Pn	Pn	09 54 38.4	+3.4
C11A	**Tepee Creek (N**	**7.52**	**43**	⇑P	**Pn**	**09 54 36.0**	**+0.4**
	baz=7.5						
D12A	**Red Ives Fores**	**7.53**	**51**	⇑P	**Pn**	**09 54 36.7**	**+0.9**
	baz=7.5						
F13A	**Darby**	**7.57**	**62**	⇑P	**Pn**	**09 54 38.1**	**+1.7**
	baz=7.6						
J14A	**Carey**	**7.63**	**81**	⇓P	**Pn**	**09 54 39.3**	**+2.1**
	baz=7.6						
I14A	**Mackay**	**7.73**	**76**	⇑P	**Pn**	**09 54 39.2**	**+0.7**
	baz=7.7						
C12B	**Naegeli Ranch,**	**7.84**	**46**	⇑P	**Pn**	**09 54 40.6**	**+0.6**
	baz=7.9						
H14A	**Leadore**	**7.89**	**71**	⇓P	**Pn**	**09 54 42.2**	**+1.4**
	baz=7.9						
E13A	**Victor**	**7.93**	**58**	⇑P	**Pn**	**09 54 42.6**	**+1.4**
	baz=7.9						
G14A	**Jackson**	**7.98**	**67**	⇓P	**Pn**	**09 54 43.1**	**+1.1**
	baz=8.0						
D13A	**Huson**	**8.07**	**53**	⇑P	**Pn**	**09 54 43.9**	**+0.7**
	baz=8.1						
MSO	**Missoula**	**8.25**	**56**	*e*Pn	**Pn**	**09 54 46.8**	**+1.1**
MSO	**Missoula**	**8.25**	**56**	⇑P	**Pn**	**09 54 46.8**	**+1.1**
	baz=8.3						
B12A	**Libby**	**8.28**	**42**	⇓P	**Pn**	**09 54 47.3**	**+1.4**
	baz=8.3						
MCMT	**McKenzie Canyo**	**8.30**	**71**	*e*Pn	**Pn**	**09 54 48.4**	**+2.0**
	5.6nm,0.8s						
BSMT	**Bassoo Peak**	**8.30**	**47**	*e*Pn	**Pn**	**09 54 47.5**	**+1.1**
C13A	**Hot Springs**	**8.32**	**49**	⇑P	**Pn**	**09 54 47.3**	**+0.7**
	baz=8.3						
E14A	**Clinton**	**8.35**	**59**	⇓P	**Pn**	**09 54 48.9**	**+1.8**
	baz=8.4						
H15A	**Lima**	**8.40**	**72**	⇓P	**Pn**	**09 54 49.5**	**+1.7**
	baz=8.4						
J15A	**Blackfoot**	**8.43**	**81**	⇓P	**Pn**	**09 54 50.2**	**+2.1**
	baz=8.4						
SWMT	**Swan Lake**	**8.55**	**51**	*e*Pn	**Pn**	**09 54 50.5**	**+0.8**
M15A	**Larsen Ranch,**	**8.58**	**94**	⇑P	**Pn**	**09 54 52.2**	**+2.0**
	baz=8.6						
DLMT	**Dillon**	**8.60**	**67**	*e*Pn	**Pn**	**09 54 52.5**	**+2.1**
G15A	**Dillon**	**8.62**	**69**	⇓P	**Pn**	**09 54 51.9**	**+1.1**
	baz=8.6						
BLMT	**Blacktail Moun**	**8.62**	**48**	*e*Pn	**Pn**	**09 54 51.9**	**+1.1**
	16nm,0.9s						
D14A	**Greenough**	**8.63**	**55**	⇑P	**Pn**	**09 54 51.8**	**+1.0**
	baz=8.6						
DUG	**Dugway**	**8.65**	**102**	*e*Pn	**Pn**	**09 54 53.6**	**+2.4**
DUG	**Dugway**	**8.65**	**102**	⇑P	**Pn**	**09 54 53.2**	**+2.0**
	baz=8.6						
N15A	**Stansbury Isla**	**8.66**	**97**	⇑P	**Pn**	**09 54 53.1**	**+1.8**
	baz=8.6						
CHMT	**Chamberlain Mo**	**8.71**	**57**	*e*Pn	**Pn**	**09 54 53.5**	**+1.4**
SLMT	**Seeley Lake**	**8.71**	**54**	*e*Pn	**Pn**	**09 54 53.0**	**+1.0**
B13A	**Whitefish**	**8.79**	**46**	⇓P	**Pn**	**09 54 53.3**	**+0.4**
	baz=8.8						
F15A	**Butte**	**8.80**	**64**	⇑P	**Pn**	**09 54 55.1**	**+1.8**
	baz=8.8						
LRM	**Limekiln Ridge**	**8.82**	**65**	*e*Pn	**Pn**	**09 54 52.2**	**-1.4**
C14A	**Swan Lake**	**8.83**	**51**	⇓P	**Pn**	**09 54 54.0**	**+0.4**
	baz=8.9						
E15A	**Deer Lodge**	**8.90**	**61**	⇓P	**Pn**	**09 54 55.9**	**+1.3**
	baz=8.9						
J16A	**Bone**	**9.03**	**81**	⇓P	**Pn**	**09 54 59.4**	**+3.0**
	baz=9.0						
A13A	**Flathead Natio**	**9.17**	**43**	⇓P	**Pn**	**09 54 58.9**	**+0.7**
	baz=9.2						
HWUT	**Hardware Ranch**	**9.20**	**92**	*e*Pn	**Pn**	**09 54 56.2**	**-2.6**
M16A	**Huntsville**	**9.21**	**94**	⇑P	**Pn**	**09 55 01.0**	**+2.1**
	baz=9.2						
D15A	**Lincoln**	**9.22**	**57**	⇑P	**Pn**	**09 54 60.0**	**+1.0**
	baz=9.2						
ARUT	**Antelope Range**	**9.31**	**117**	*e*Pn	**Pn**	**09 54 57.2**	**-3.0**
	14nm,1.0s						
BOZ	**Bozeman (W)**	**9.33**	**67**	*e*Pn	**Pn**	**09 55 01.5**	**+1.1**
BOZ	**Bozeman (W)**	**9.33**	**67**	⇑P	**Pn**	**09 55 01.5**	**+1.1**
	baz=9.3						
F16A	**Kennard Place,**	**9.37**	**66**	⇓P	**Pn**	**09 55 02.4**	**+1.5**
	baz=9.4						
H16A	**Russell Place,**	**9.40**	**73**	⇑P	**Pn**	**09 55 03.1**	**+1.7**
	baz=9.4						
AHID	**Auburn Hatcher**	**9.41**	**85**	*e*Pn	**Pn**	**09 55 00.7**	**-0.9**
	2.7nm,0.5s						
B14A	**Marquette Ranc**	**9.42**	**49**	⇑P	**Pn**	**09 55 02.5**	**+0.8**
	baz=9.4						
CCUT	**Cedar City**	**9.49**	**118**	*e*Pn	Pn	09 55 07.4	+4.6
C15A	**Salmond Ranch,**	**9.50**	**53**	⇓P	**Pn**	**09 55 04.1**	**+1.4**
	baz=9.5						
WALA	**Waterton Lakes**	**9.50**	**44**	*e*Pn	**Pn**	**09 55 03.8**	**+1.0**
	0.1nm,0.7s						
TPAW	**Teton Pass**	**9.51**	**80**	*e*Pn	**Pn**	**09 55 06.0**	**+3.0**
JLU	**Jordanelle**	**9.52**	**98**	*e*Pn	**Pn**	**09 55 05.6**	**+2.5**
HRY	**Holter Researc**	**9.52**	**60**	*e*Pn	Pn	09 54 59.2	-3.9
	11nm,0.6s						
K17A	**Gardner Place,**	**9.55**	**85**	⇓P	**Pn**	**09 55 05.2**	**+1.7**
	baz=9.5						
E16A	**East Helena**	**9.56**	**61**	⇑P	**Pn**	**09 55 05.2**	**+1.6**
	baz=9.6						
REDW	**Red Top Meadow**	**9.58**	**81**	*e*Pn	**Pn**	**09 55 02.9**	**-1.1**
YMR	**Madison River**	**9.59**	**73**	*e*Pn	**Pn**	**09 55 04.5**	**+0.4**
	6.1nm,0.8s						
SNOW	**Snow King Moun**	**9.65**	**80**	*e*Pn	**Pn**	**09 55 06.2**	**+1.2**
MOOW	**Moose Ponds**	**9.67**	**79**	*e*Pn	**Pn**	**09 55 07.8**	**+2.7**
A14A	**Double T Ranch**	**9.70**	**45**	⇑P	**Pn**	**09 55 06.8**	**+1.3**
	baz=9.7						
DAU	**Daniels Canyon**	**9.71**	**99**	*e*Pn	**Pn**	**09 55 08.6**	**+2.7**
FLWY	**Flagg Ranch**	**9.72**	**77**	*e*Pn	**Pn**	**09 55 08.1**	**+2.2**
MVU	**Marysvale**	**9.76**	**111**	*e*Pn	Pn	09 55 02.9	-3.7
LOHW	**Long Hollow**	**9.76**	**79**	*e*Pn	**Pn**	**09 55 04.5**	**-2.0**
B15A	**Bradely Ranch,**	**9.80**	**50**	⇓P	**Pn**	**09 55 07.7**	**+0.9**
	baz=9.8						
D16A	**Dana Ranch, Ca**	**9.82**	**59**	⇓P	**Pn**	**09 55 08.2**	**+1.0**
	baz=9.8						
C16A	**Fuhringer Banc**	**10.02**	**54**	⇑P	**Pn**	**09 55 10.7**	**+0.8**
	baz=10.0						
BBB	**Bella Bella**	**10.03**	**345**	Pn	Pn	09 55 14.8	+5.0
BBB	**Bella Bella**	**10.03**	**345**	Pn	Pn	09 55 14.8	+5.0
	0.4nm,0.3s,baz=170,slow=16,SNR=9.6						
F17A	**Fitzpatrick Pl**	**10.05**	**66**	⇑P	**Pn**	**09 55 11.6**	**+1.3**
	baz=10						
A15A	**Johnson Ranch,**	**10.07**	**47**	⇓P	**Pn**	**09 55 11.4**	**+0.8**
	baz=10						
E17A	**Martinsdale**	**10.07**	**63**	⇓P	**Pn**	**09 55 11.9**	**+1.2**
	baz=10						
D17A	**Six Diamond Ra**	**10.41**	**59**	⇑P	**Pn**	**09 55 16.2**	**+1.0**
	baz=10						
BW06	**Boulder Array**	**10.55**	**84**	*e*Pn	**Pn**	**09 55 20.0**	**+2.8**
PDAR	**Pinedale Array**	**10.55**	**84**	Pn	**Pn**	**09 55 19.4**	**+2.2**
PDAR	**Pinedale Array**	**10.55**	**84**	Pn	**Pn**	**09 55 19.4**	**+2.2**
	0.1nm,0.3s,baz=271,slow=13,SNR=10						
C17A	**Wharram Farm,**	**10.55**	**57**	⇓P	**Pn**	**09 55 18.0**	**+0.8**
	baz=11						
A16A	**West Butte Ran**	**10.68**	**49**	⇓P	**Pn**	**09 55 19.6**	**+0.8**
	baz=11						
G18A	**Lazy EL Ranch,**	**10.68**	**70**	⇑P	**Pn**	**09 55 19.9**	**+1.0**
	baz=11						
F18A	**Big Timber**	**10.69**	**67**	⇓P	**Pn**	**09 55 20.4**	**+1.4**
	baz=11						
GCMT	**Greycliff**	**10.70**	**68**	*e*Pn	**Pn**	**09 55 17.9**	**-1.2**
	2.7nm,0.8s						
E18A	**Harlowton**	**10.73**	**63**	⇓P	**Pn**	**09 55 20.7**	**+1.1**
	baz=11						
B17A	**L&G Farms, Che**	**10.81**	**54**	⇑P	**Pn**	**09 55 21.6**	**+0.9**
	baz=11						
A17A	**Triple J Farms**	**11.18**	**51**	⇓P	**Pn**	**09 55 27.3**	**+1.6**
	baz=11						
EGMT	**Eagleton**	**11.33**	**56**	*e*Pn	**Pn**	**09 55 28.4**	**+0.7**
EGMT	**Eagleton**	**11.33**	**56**	⇓P	**Pn**	**09 55 28.2**	**+0.4**
	baz=11						
E20A	**Meyer Farm, Mu**	**11.90**	**65**	⇑P	**Pn**	**09 55 36.3**	**+0.8**
	baz=12						
D20A	**Manuel Ranch,**	**12.04**	**63**	⇓P	**Pn**	**09 55 37.5**	**0.0**
	baz=12						
PV01	**Paradox Valley**	**12.49**	**106**	*e*Pn	**Pn**	**09 55 45.2**	**+1.4**
	266nm,0.9s						
PV01				*e*Sn	**Sn**	**09 58 05.0**	**+3.5**
MVCO	**Mesa Verde**	**12.96**	**109**	Pn	**Pn**	**09 55 49.5**	**-0.7**
	11nm,1.3s						
D22A	**Cohagen**	**13.35**	**64**	⇑P	**Pn**	**09 55 54.6**	**-0.7**
	baz=13						
PHWY	**Pilot Hill**	**13.77**	**89**	*e*Pn	**Pn**	**09 56 01.1**	**-0.2**
	2.5nm,0.6s						
D23A	**Lindsay**	**14.00**	**64**	⇑P	**Pn**	**09 56

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.45**	**54**	*i* P	Pb	10 55 17.7	0.0
OVCH				*i* S	Sb	10 55 24.3	+0.2
OVCH				AML	AML	10 55 25.4	
	comp=N,27μm,0.3s						
CMCH	**Combarbala**	**0.61**	**120**	*i* P	Pb	10 55 20.0	-0.6
CMCH				*i* S	Sb	10 55 29.2	+0.3
CMCH				AML	AML	10 55 29.6	
	comp=N,25μm,0.2s						
CHNG	**Los Chungos**	**1.01**	**174**	*e*P	Pn	10 55 26.0	-0.5
CHNG				*i* S	Sn	10 55 39.8	0.0
CHNG				AML	AML	10 55 42.0	
	comp=E,3μm,0.3s						
ROCH	**El Roble**	**2.16**	**166**	AML	AML	10 56 26.3	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**2.40**	**161**	*i* P	Pn	10 55 46.9	+1.2
PEL				*i* S	Sb	10 56 17.8	-2.3
PEL				AML	AML	10 56 27.8	
	comp=E,2μm,0.3s						
VACH	**Vallenar**	**2.41**	**18**	*i* P	Pn	10 55 42.3	-3.4
VACH				*i* S	Sn	10 56 11.7	-2.6
CLCH	**Cerro Calan**	**2.68**	**160**	*e*P	Pn	10 55 51.3	+1.7
CLCH				AML	AML	10 56 35.5	
	comp=E,897nm,0.6s						
CLCH				AML	AML	10 56 36.1	
	comp=E,1μm,0.5s						
FCH	**Farellones**	**2.70**	**156**	AML	AML	10 56 22.5	
	comp=E,864nm,0.4s						
SAN	**Santiago**	**2.70**	**163**	AML	AML	10 56 34.9	
	comp=N,471nm,0.7s						
ANTU	**Antumapu**	**2.82**	**163**	AML	AML	10 56 38.0	
	comp=E,654nm,0.5s						
CHCH	**Chadas Angostu**	**3.16**	**165**	*e*P	Pn	10 55 57.5	+1.4
CACH	**El Canelo**	**3.35**	**165**	*e*P	Pn	10 56 00.2	+1.4
CPUP	**Villa Florida**	**13.34**	**74**	Pn	Pn	10 58 11.3	-4.3
	comp=E,0.4nm,0.3s,baz=246,slow=9.3,SNR=3.1						
DBIC	**Dimbokro**	**73.86**	**72**	P	P	11 06 39.8	-0.9
	comp=E,2.5nm,0.9s,baz=246,slow=12,SNR=3.7						
TORD	**Torodi Ar. Bea**	**82.81**	**70**	P	P	11 07 29.4	-0.7
	comp=E,0.5nm,0.4s,baz=273,slow=6.0,SNR=12						
BVAR	**Borovoye Array**	**144.71**	**40**	PKPbc	PKPdf	11 14 49.8	+8.1
	comp=E,0.6nm,0.5s,baz=298,slow=2.3,SNR=4.8						
ZALV	**Zalesovo Beam**	**151.37**	**30**	PKPbc	PKPab	11 15 05.8	-1.0
	comp=E,0.7nm,0.4s,baz=318,slow=2.0,SNR=5.1						
MKAR	**Makanchi Array**	**154.36**	**44**	PKPbc	PKPab	11 15 13.2	-6.7
	comp=E,0.1nm,0.4s,baz=270,slow=1.4,SNR=2.4						

IDC 26 11:11:20.0±2.8, 0.76S×133.21E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=139.1km s-min=28.1km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.09**	**177**	P	P	11 15 44.0	-0.5
	0.1nm,0.3s,baz=356,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**22.78**	**178**	P	P	11 16 24.9	+0.5
	0.5nm,0.6s,baz=359,slow=10,SNR=9.0						
MKAR	**Makanchi Array**	**64.94**	**324**	P	P	11 22 01.5	-0.1
	0.3nm,0.6s,baz=108,slow=7.8,SNR=4.1						

LJU 26 11:17:15.9, 46.11N×14.18E, h13km, ML0.7, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRNS	**Crni Vrh**	**0.07**	**118**	*i* Pg	Pg	11 17 18.6	+0.1
CRNS				*i* Sg	Sg	11 17 20.5	0.0
CRNS							
	comp=Z,5.0nm,0.1s						
CRNS	**Crni Vrh**	**0.07**	**118**	*i* Pg	Pg	11 17 20.1	+1.6
CRNS				*i* Sg	Sg	11 17 22.2	+1.8
CRNS							
	comp=Z,10.0nm,0.1s						
VOJS	**Vojsko**	**0.22**	**249**	*e*Sg	Sg	11 17 24.3	+0.2
JAVS	**Javornik**	**0.23**	**200**	*i* Pg	Pg	11 17 20.9	-0.1
JAVS				*i* Sg	Sg	11 17 24.8	+0.3
JAVS	**Javornik**	**0.23**	**200**	*i* Pg	Pb	11 17 22.7	+0.6
JAVS				*i* Sg	Sb	11 17 26.6	+0.3
GORS	**Gorjuse**	**0.24**	**328**	*i* Pg	Pg	11 17 21.1	-0.1
GORS				*i* Sg	Sg	11 17 25.0	+0.2
GORS							
	comp=Z,6.0nm,0.1s						
GORS	**Gorjuse**	**0.24**	**328**	*i* Pg	Pb	11 17 22.8	+0.4
GORS				*i* Sg	Sb	11 17 26.8	+0.1

IDC 26 11:18:48.4±2.3, 3.94S×128.73E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.3/21, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=176.0km s-min=28.1km az=68.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.82**	**161**	Pn	Pn	11 22 44.3	-1.2
	0.1nm,0.3s,baz=343,slow=12,SNR=2.6						
ASAR	**Alice Springs**	**20.23**	**166**	P	P	11 23 25.9	+0.4
	0.7nm,0.5s,baz=348,slow=12,SNR=15						
MKAR	**Makanchi Array**	**64.99**	**327**	P	P	11 29 30.3	0.0
	0.1nm,0.7s,baz=126,slow=7.3,SNR=2.0						

IDC 26 11:21:23.9±1.2, 18.08S×167.63E, h0km, mb3.8/4, mb1 4.2/5, mb1mx3.8/17, mbtmp3.9/5, ML4.2/1, Error ellipse: s-maj=35.2km s-min=26.8km az=133.0
ISCJB 26 11:21:26.1±1.0, 18.27S±0.08×167.5E±0.2, h23km, mb3.8/5, Error ellipse: s-maj=27.1km s-min=9.3km az=13.2
ISC 26 11:21:27.7±1.1, 18.2S±0.1×167.6E±0.2, h23km, n8, σ1§30/11, mb3.9/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.96**	**196**	*e*P	**Pn**	**11 22 28.1**	**+1.0**
DZM				*e*S	**Sn**	**11 23 11.1**	**-1.8**
DZM	**Mont Dzumac**	**3.96**	**196**	Pn	**Pn**	**11 22 28.4**	**+1.3**
	16nm,0.3s,baz=20,slow=23,SNR=283						
DZM				Sn	**Sn**	**11 23 12.0**	**-0.9**
	14nm,0.3s,baz=129,slow=20,SNR=14						
NOUC	**Port Laguerre**	**4.03**	**197**	*e*P	**Pn**	**11 22 29.0**	**+1.1**
NOUC				*e*S	**Sn**	**11 23 12.6**	**-1.7**
WRA	**Warramunga Arr**	**31.45**	**261**	P	**P**	**11 27 47.5**	**-0.1**
	0.3nm,1.0s,baz=80,slow=6.1,SNR=2.9						
ASAR	**Alice Springs**	**31.88**	**254**	P	**P**	**11 27 51.9**	**+0.5**
	0.7nm,0.4s,baz=84,slow=8.4,SNR=18						
VNDA	**Vanda**	**59.37**	**181**	P	**P**	**11 31 28.6**	**+1.0**
	1.3nm,0.4s,baz=0.0,slow=5.1,SNR=10						
NVAR	**Mina Array Bea**	**89.32**	**49**	P	**P**	**11 34 22.5**	**-0.1**
	0.7nm,0.8s,baz=218,slow=7.0,SNR=3.9						
ILAR	**Eielson Array**	**89.76**	**18**	P	**P**	**11 34 22.5**	**-1.2**
	0.3nm,0.6s,baz=240,slow=5.6,SNR=5.0						

IDC 26 11:23:58.8±3.7, 6.04S×150.59E, h0km, mb3.2/2, mb1 3.6/2, mb1mx3.3/17, mbtmp3.3/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/14, Error ellipse: s-maj=150.3km s-min=47.5km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.98**	**227**	P	P	11 28 44.2	+0.3
	0.4nm,0.6s,baz=53,slow=11,SNR=4.8						
ASAR	**Alice Springs**	**23.77**	**221**	P	P	11 29 12.9	-0.3
	1.1nm,0.8s,baz=56,slow=9.3,SNR=8.8						
CBIJ	**Chichi jima**	**33.93**	**346**	LR	LR	11 44 18.0	
	comp=Z,42nm,18.5s,baz=110,slow=36						
TORD	**Torodi Ar. Bea**	**148.56**	**285**	PKPbc	PKPbc	11 43 48.2	-0.6
	0.3nm,0.6s,baz=60,slow=3.6,SNR=3.8						

IDC 26 11:27:07.9±18.0, 21.51S×175.47W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.8/22, mbtmp4.0/5, Error ellipse: s-maj=333.6km s-min=152.9km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.76**	**265**	P	P	11 34 10.3	+1.5
	3.3nm,0.3s,baz=87,slow=9.6,SNR=7.5						
STKA	**Stephens Creek**	**39.51**	**246**	P	P	11 34 38.5	-2.0
	1.0nm,0.5s,baz=90,slow=5.7,SNR=3.0						
ASAR	**Alice Springs**	**46.60**	**257**	P	P	11 35 37.1	-1.0
	0.5nm,0.4s,baz=96,slow=7.2,SNR=27						
WRA	**Warramunga Arr**	**46.81**	**262**	P	P	11 35 39.4	-0.4
	0.8nm,0.3s,baz=91,slow=8.4,SNR=85						
FITZ	**Fitzroy Crossi**	**55.24**	**262**	P	P	11 36 44.2	+0.9
	1.4nm,0.7s,baz=119,slow=10,SNR=5.8						

NIED 26 11:44:00.41.60N×144.70E, h8km, Mw4.2 Best double couple: M0 2.38000×10^15 NP1:φs192.00000°, δ79.00000°, λ66.00000°. NP2:φs79.00000°, δ27.00000°, λ155.00000°.
IDC 26 11:44:02.8±0.9, 41.66N×144.64E, h0km, mb4.0/13, mb1 4.1/16, mb1mx3.9/28, mbtmp3.9/16, ML3.0/4, MS3.1/1, Ms1 3.1/1, ms1mx2.3/36, Error ellipse: s-maj=22.7km s-min=15.9km az=150.0
ISCJB 26 11:44:04.0±0.6, 41.61N±0.05×144.67E±0.07, h25km, mb4.0/18, Error ellipse: s-maj=8.6km s-min=6.4km az=34.8
NEIC 26 11:44:05.1, 41.64N×144.73E, h38km, mb4.4/3, After JMA.
JMA 26 11:44:05.0±0.4, 41.64N×144.73E, h38km±3km, M4.1
ISC 26 11:44:06.5±0.7, 41.72N±0.08×144.58E±0.07, h25km, n51, σ0§95/52, mb4.1/18, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**1.11**	**286**	*e*Pn	**Pb**	**11 44 27.4**	**+0.5**
ERM				*e*Sn	**Sn**	**11 44 40.3**	**-0.5**
JEM	**Erimo**	**1.11**	**286**	P	**Pb**	**11 44 27.3**	**+0.3**
JCH	**Churui**	**1.28**	**315**	P	**Pn**	**11 44 28.9**	**+0.2**
JAK	**Akkeshi**	**1.28**	**4**	P	**Pn**	**11 44 27.6**	**-1.2**
JAK				*e*S	**Sn**	**11 44 44.7**	**-0.5**
JOB	**Onbets**	**1.31**	**335**	P	**Pn**	**11 44 29.1**	**-0.1**
JNBK	**Urakawa-nobuka**	**1.48**	**293**	P	**Pb**	**11 44 32.9**	**-0.4**
ASAJ	**Asahikawa**	**2.81**	**329**	Pn	**Pn**	**11 44 51.9**	**+2.1**
ASAJ	**Asahikawa**	**2.81**	**329**	Pn	**Pn**	**11 44 51.9**	**+2.1**
	2.4nm,0.3s,baz=204,slow=14,SNR=9.7						
YSS	**Yuzh-Sakhalins**	**5.40**	**347**	Pn	**Pn**	**11 45 23.9**	**-1.4**
MJAR	**Matsushiro Arr**	**7.16**	**226**	Pn	**Pn**	**11 45 50.3**	**+0.8**
MJAR	**Matsushiro Arr**	**7.16**	**226**	Pn	**Pn**	**11 45 50.3**	**+0.8**
	0.7nm,0.3s,baz=30,slow=14,SNR=9.1						
MAJO	**Matsushiro**	**7.16**	**226**	*e*Pn	**Pn**	**11 45 48.2**	**-1.3**
	11nm,0.6s						
USRK	**Ussurisk Arra**	**9.55**	**289**	Pn	**Pn**	**11 46 23.8**	**+1.4**
	0.3nm,0.3s,baz=93,slow=13,SNR=5.0						
KSRS	**Korea Array**	**13.54**	**257**	Pn	**Pn**	**11 47 17.6**	**+0.7**
	0.1nm,0.3s,baz=69,slow=14,SNR=4.7						
KSAR	**Wonju Array Be**	**13.57**	**257**	Pn	**Pn**	**11 47 17.6**	**+0.3**
JNU	**Nakatsue**	**13.85**	**236**	*e*Pn	**Pn**	**11 47 18.7**	**-2.5**
JNU	**Nakatsue**	**13.85**	**236**	LR	LR	11 53 20.3	
	comp=Z,78nm,19.4s,baz=60,slow=40						
ULN	**Ulaanbaatar**	**27.14**	**296**	*e*Pn	**P**	**11 49 45.1**	**-2.5**
	13nm,1.4s						
SONM	**Songino Array**	**27.58**	**296**	P	**P**	**11 49 52.3**	**+0.7**
SONM	**Songino Array**	**27.58**	**296**	P	**P**	**11 49 52.3**	**+0.7**
	2.3nm,0.7s,baz=83,slow=9.0,SNR=19						
ZAA0	**Zalesovo Array**	**40.75**	**309**	*e*P	**P**	**11 51 43.9**	**-1.2**
ZALV	**Zalesovo Beam**	**40.75**	**309**	P	**P**	**11 51 44.9**	**-0.3**
ZALV	**Zalesovo Beam**	**40.75**	**309**	P	**P**	**11 51 44.9**	**-0.3**
	2.2nm,0.7s,baz=96,slow=7.7,SNR=15						
MK31	**Makanchi Array**	**43.88**	**299**	*e*P	**P**	**11 52 10.7**	**0.0**
MKAR	**Makanchi Array**	**43.88**	**299**	P	**P**	**11 52 11.4**	**+0.7**
MKAR	**Makanchi Array**	**43.88**	**299**	P	**P**	**11 52 11.4**	**+0.7**
	2.2nm,0.9s,baz=82,slow=9.5,SNR=18						
ILAR	**Eielson Array**	**44.24**	**35**	P	**P**	**11 52 13.7**	**+0.3**
ILAR	**Eielson Array**	**44.24**	**35**	P	**P**	**11 52 13.7**	**+0.3**
	0.7nm,1.0s,baz=272,slow=7.1,SNR=3.9						
KURK	**Kurchatov**	**45.12**	**305**	*e*P	**P**	**11 52 19.7**	**-0.8**
	3.8nm,1.0s						
CMAR	**Chiang Mai Arr**	**45.13**	**253**	P	**P**	**11 52 21.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**45.13**	**253**	P	**P**	**11 52 21.1**	**+0.1**
	0.5nm,0.4s,baz=48,slow=8.6,SNR=3.9						
INK	**Inuvik**	**49.11**	**29**	P	**P**	**11 52 52.5**	**+1.1**
INK	**Inuvik**	**49.11**	**29**	P	**P**	**11 52 52.5**	**+1.1**
	2.9nm,0.8s,baz=310,slow=7.4,SNR=16						
TKM2	**Tokmak 2**	**49.68**	**296**	*e*P	**P**	**11 52 56.6**	**+0.1**
	5.4nm,1.0s						
RES	**Resolute Bay**	**57.45**	**16**	P	**P**	**11 53 52.0**	**-0.5**
RES	**Resolute Bay**	**57.45**	**16**	P	**P**	**11 53 52.0**	**-0.5**
	2.1nm,0.9s,baz=332,slow=6.5,SNR=11						
YKA	**Yellowknife Ar**	**58.54**	**32**	P	**P**	**11 54 00.9**	**+0.6**
YKA	**Yellowknife Ar**	**58.54**	**32**	P	**P**	**11 54 00.9**	**+0.6**
	0.2nm,0.8s,baz=300,slow=6.0,SNR=3.0						
ARCES	**ARCESS Array B**	**60.49**	**339**	P	**P**	**11 54 14.4**	**+0.7**
ARCES	**ARCESS Array B**	**60.49**	**339**	P	**P**	**11 54 14.4**	**+0.7**
	3.7nm,0.9s,baz=22,slow=7.8,SNR=3.7						
WRA	**Warramunga Arr**	**62.08**	**191**	P	**P**	**11 54 24.5**	**-0.5**
WRA	**Warramunga Arr**	**62.08**	**191**	P	**P**	**11 54 24.5**	**-0.5**
	0.3nm,0.5s,baz=8.6,slow=6.8,SNR=5.0						
JOF	**Joensuu**	**63.00**	**332**	*e*p	**P**	**11 54 29.9**	**-0.8**
	1.5nm,0.6s						
FINES	**FINESS Array B**	**65.81**	**332**	P	**P**	**11 54 49.4**	**+0.2**
FINES	**FINESS Array B**	**65.81**	**332**	P	**P**	**11 54 49.4**	**+0.2**
	2.1nm,0.5s,baz=45,slow=8.2,SNR=13						
KBZ	**Khabaz**	**69.71**	**311**	P	**P**	**11 55 14.7**	**+0.6**
KBZ	**Khabaz**	**69.71**	**311**	P	**P**	**11 55 14.7**	**+0.6**
	3.7nm,0.8s,baz=47,slow=4.1,SNR=11						
AKASG	**Malin Array Be**	**72.08**	**323**	P	**P**	**11 55 28.3**	**0.0**
AKASG	**Malin Array Be**	**72.08**	**323**	P	**P**	**11 55 28.3**	**0.0**
	0.8nm,0.4s,baz=44,slow=5.2,SNR=4.7						
TXAR	**Lajitas Array**	**85.36**	**54**	P	**P**	**11 56 42.7**	**+0.8**
TXAR	**Lajitas Array**	**85.36**	**54**	P	**P**	**11 56 42.7**	**+0.8**
	0.2nm,0.8s,baz=288,slow=3.7,SNR=3.0						

NIED 26 11:49:00.41.60N×144.70E, h11km, Mw3.8 Best double couple: M0 6.23000×10^14 NP1:φs8.00000°, δ73.00000°, λ58.00000°. NP2:φs253.00000°, δ35.00000°, λ150.00000°.
IDC 26 11:49:01.0±3.6, 41.39N×144.62E, h0km, mb3.8/5, mb1 3.8/5, mb1mx3.5/24, mbtmp3.8/5, ML2.9/1, Error ellipse: s-maj=80.8km s-min=28.7km az=171.0
JMA 26 11:49:04.1±0.4, 41.64N×144.74E, h38km±2km, M3.7
ISC 26 11:49:06.7±1.8, 41.8N±0.2×144.6E±0.1, h25km, n12, σ1§23/13, mb3.6/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.10**	**283**	P	**Pb**	**11 49 26.6**	**-0.4**
JAK	**Akkeshi**	**1.22**	**3**	P	**Pn**	**11 49 26.7**	**-1.4**
JAK				*e*S	**Sn**	**11 49 44.3**	**+0.5**
JCH	**Churui**	**1.24**	**313**	P	**Pn**	**11 49 28.0**	**-0.4**
JOB	**Onbets**	**1.26**	**334**	P	**Pn**	**11 49 28.2**	**-0.5**
JNBK	**Urakawa-nobuka**	**1.46**	**291**	P	**Pb**	**11 49 31.9**	**-1.3**
ASAJ	**Asahikawa**	**2.76**	**329**	Pn	**Pn**	**11 49 51.8**	**+2.4**
	1.0nm,0.3s,baz=283,slow=9.4,SNR=2.8						
SONM	**Songino Array**	**27.57**	**296**	P	**P**	**11 54 52.5**	**+0.9**
	0.7nm,0.7s,baz=80,slow=8.8,SNR=5.7						
ZALV	**Zalesovo Beam**	**40.72**	**308**	P	**P**	**11 56 44.8**	**-0.2**
	0.4nm,0.4s,baz=88,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**43.86**	**299**	P	**P**	**11 57 10.2**	**-0.5**
	1.0nm,0.8s,baz=81,slow=7.5,SNR=5.4						
ILAR	**Eielson Array**	**44.19**	**35**	P	**P**	**11 57 14.9**	**+1.8**
	0.3nm,0.8s,baz=272,slow=7.0,SNR=4.1						
INK	**Inuvik**	**49.05**	**29**	P	**P**	**11 57 51.0**	**-0.1**
	0.6nm,0.6s,baz=271,slow=6.2,SNR=5.8						
FINES	**FINESS Array B**	**65.77**	**332**	P	**P**	**11 59 48.3**	**-0.7**
	3.2nm,0.9s,baz=29,slow=8.7,SNR=6.3						

IDC 26 11:54:46.9±1.4, 3.70N×126.86E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/22, mbtmp3.5/4, Error ellipse: s-maj=136.3km s-min=21.2km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.62**	**163**	P	P	12 00 09.2	-0.1
	0.8nm,0.5s,baz=343,slow=10.0,SNR=16						
ASAR	**Alice Springs**	**28.05**	**166**	P	P	12 00 40.3	+0.1
	0.3nm,0.7s,baz=352,slow=7.3,SNR=4.4						
SONM	**Songino Array**	**47.37**	**341**	P	P	12 03 23.0	+0.1
	0.2nm,0.5s,baz=155,slow=7.4,SNR=3.4						
MKAR	**Makanchi Array**	**57.65**	**325**	P	P	12 04 38.9	-0.3
	0.5nm,0.5s,baz=116,slow=7.7,SNR=10.0						

IDC 26 12:11:08.2±2.7, 9.49S×112.26E, h0km, mb3.0/3, mb1 3.2/3, mb1mx3.1/20, mbtmp3.0/3, Error ellipse: s-maj=139.6km s-min=27.1km az=47.0
DJA 26 12:10:50.0±0.7, 8.5±5.5×10.9E±, h39km±8km, M3.6/10, MLv3.6/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLJI	**Cilicap**	**0.76**	**327**	P	Pn	12 11 04.6	+0.4
CLJI				S	Sn	12 11 15.7	+1.2
BJII	**Banjamegara**	**1.06**	**15**	P	Pn	12 11 09.2	+0.8
BJII				S	Sn	12 11 23.4	+1.4
UGM	**Wanagama**	**1.17**	**68**	P	Pn	12 11 08.8	-1.1
UGM				S	Sn	12 11 25.0	+0.3
TGJI	**Tegal**	**1.51**	**348**	P	Pn	12 11 13.4	-1.2
TGJI				S	Sn	12 11 32.7	-0.4
SMRI	**Semarang**	**1.64**	**38**	P	Pn	12 11 17.5	+1.1
PCJI	**Pacitan**	**1.74**	**85**	P	Pn	12 11 18.0	+0.3
PCJI				S	Sn	12 11 38.7	+0.1
CISI	**Cisompet, Garu**	**1.79**	**296**	P	Pn	12 11 19.0	+0.5
CISI				S	Sn	12 11 39.3	-0.7
LEM	**Lembang**	**2.36**	**310**	P	Pn	12 11 28.4	+2.0
PWJI	**Pagerwojo**	**2.37**	**82**	P	Pn	12 11 26.4	0.0
SJI	**Sawahan**	**2.40**	**75**	P	Pn	12 11 26.8	0.0
KRKI	**Karangkates**	**3.00**	**86**	P	Sn	12 12 05.2	-4.5
WRA	**Warramunga Arr**	**26.71**	**118**	P	P	12 16 22.3	-3.6
	0.4nm,1.0s,baz=292,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**27.94**	**126**	P	P	12 16 34.1	-2.8
	0.3nm,0.8s,baz=304,slow=8.8,SNR=4.2						
MKAR	**Makanchi Array**	**60.00**	**339**	P	PcP	12 21 30.7	-7.7
	0.1nm,0.3s,baz=134,slow=8.3,SNR=5.7						

ISCJB 26 12:32:49.4±0.8, 19.10N±0.02×121.24E±0.03, h25km±5km, mb4.8/126, MS4.8/57, Error ellipse: s-maj=4.3km s-min=2.9km az=4.8
MOS 26 12:32:50.0±1.0, 19.04N×121.29E, h33km, mb5.1/45, MS5.0/13, Error ellipse: s-maj=8.3km s-min=4.8km az=112.0
IDC 26 12:32:53.0±2.4, 19.00N×121.31E, h46km±23km, mb4.3/30, mb1 4.5/33, mb1mx4.4/37, mbtmp4.4/33, ML4.3/3, MS4.8/32, Ms1 4.8/32, ms1mx4.6/43, Error ellipse: s-maj=13.2km s-min=9.3km az=77.0
NEIC 26 12:32:52.4±0.5, 19.02N×121.27E, h38km±4km, mb5.0/44, Error ellipse: s-maj=4.2km s-min=3.7km az=136.0
NEIC Felt [II PIVS] at Laoag and Pasuquin, Luzon.
MAN 26 12:32:53, 19.03N×121.16E, h22km, mb5.4, ML4.4, MS4.7
MAN INTENSITY II - PASUQUIN ILOCOS NORTE; LAOAG CITY.
BJI 26 12:32:53.2, 19.40N×121.03E, h29km, mB5.2/45, mb4.6/51, Ms5.0/67, Ms7 4.9/61
TEH 26 12:32:53.0, 19.06N×121.19E, h35km, ML4.9
DJA 26 12:32:55, 19.05N×120.66E, h10km, mb4.9/17
ISC 26 12:32:52.6±0.2, 19.08N±0.02×121.24E±0.03, h39km±2km, h39km:pP-P, n396, σ1§50/464, mb4.8/126, MS4.8/57, 27C-29D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.95**	**218**	*i* P	**Pn**	**12 33 08.0**	**-1.6**
SIPP	**Brgy, Tapao**	**1.37**	**213**	*e*P	**Pn**	**12 33 16.2**	**+1.0**
CVP	**Callao Caves**	**1.48**	**158**	*i* P	**Pn**	**12 33 18.7**	**+1.9**
CVP				*i* S	**Sn**	**12 33 38.0**	**+3.2**
ABRA	**Dolores**	**1.51**	**199**	*e*P	**Pn**	**12 33 18.5**	**+1.4**
ABRA				*e*S	**Sn**	**12 33 37.2**	**+1.6**
PCPH	**Palayan**	**3.50**	**182**	*i* P	Pn	12 33 49.5	+4.9
PCPH				*i* S	Sn	12 34 32.6	+7.9
TWG	**Pinlang**	**3.72**	**358**	*e*Pn	**Pn**	**12 33 47.3**	**-0.3**
TWG				*e*Sn	**Sn**	**12 34 30.6**	**+0.3**
TPUB	**Ta-pu**	**4.24**	**352**	*e*Pn	**Pn**	**12 33 53.7**	**-1.0**
TPUB				*e*Sn	**Sn**	**12 34 38.7**	**-4.2**
YULB	**Yu-li**	**4.29**	**1**	*e*Pn	**Pn**	**12 33 55.5**	**+0.1**
YULB				*e*Sn	**Sn**	**12 34 43.3**	**-0.9**
SSLB	**Suanglung**	**4.69**	**357**	*e*Pn	**Pn**	**12 34 01.3**	**+0.3**
SSLB				*e*Sn	**Sn**	**12 34 51.1**	**-3.0**
TGY	**Tagaytay City**	**4.96**	**183**	P	Pn	12 34 09.4	+4.7
TGY	**Tagaytay City**	**4.96**	**183**	P	Pn	12 34 09.4	+4.7
	40nm,0.3s,baz=214,slow=18,SNR=8.4						
NACB	**Ninganchiao**	**5.08**	**4**	*e*Pn	**Pn**	**12 34 06.5**	**+0.2**
GQP	**Guinayangan**	**5.28**	**167**	*e*P	Pn	12 34 12.4	+3.5
GQP				*e*S	**Sn**	**12 35 12.5**	**+3.9**
YHNB	**Yeheng**	**5.56**	**1**	*e*Pn	**Pn**	**12 34 14.3**	**+1.4**
	246nm,0.6s						
YHNB				*e*Sn	**Sn**	**12 35 16.8**	**+1.0**
TATO	**Taipei**	**5.87**	**2**	*e*Pn	**Pn**	**12 34 19.5**	**+2.4**
TATO				*e*Sn	**Sn**	**12 35 23.8**	**+0.6**
QZH	**Quanzhou**	**6.33**	**338**	P	**Pn**	**12 34 21.8**	**-1.6**
QZH				S	Sn	12 35 28.0	-6.4
QZH				LR	LR		
	comp=N,8μm,10.3s						
QZH				LR	LR		
	comp=E,11μm,18.4s						
QZH				LR	LR		
	comp=Z,20μm,18.4s						
HKC	**Hong Kong Obse**	**7.35**	**297**	P	**Pn**	**12 34 36.0**	**-1.4**
JOW	**Kunigami**	**10.07**	**39**	*e*Pn	**Pn**	**12 35 15.8**	**+1.0**
JOW				S	**Sn**	**12 37 04.8**	**-1.8**
JOW	**Kunigami**	**10.07**	**39**	P	**Pn**	**12 35 15.7**	**+0.9**
	comp=Z,5.0nm,0.3s,baz=231,slow=11,SNR=19						
JOW				S	**Sn**	**12 37 04.8**	**-1.8**
	comp=Z,1.7nm,0.3s,baz=255,slow=15,SNR=2.3						
JOW				LR	LR	12 39 27.3	
	comp=Z,6μm,18.5s,baz=223,slow=39						
QIZ	**Qiongzhong**	**10.78**	**272**	P	Pn	12 35 21.8	-2.6
QIZ				S	**Sn**	**12 37 24.3**	**+0.5**

comp=Z,20nm,0.9s
TIA pmax pmax
comp=Z,810nm,8.8s
TIA LR LR
comp=N,3µm,16.2s
TIA LR LR
comp=E,4µm,14.2s
TIA LR LR
comp=Z,5µm,17.2s
KMI Kunming 18.16 293 ⇓P **P 12 37 02.0 0.0**
KMI pP **pP 12 37 11.5 -0.4**
KMI sP **sP 12 37 16.5 -0.3**
KMI PP **PnPn 12 37 19.0 +5.2**
KMI S **Sn 12 40 21.5 -2.4**
KMI sS **S 12 40 33.3 +5.1**
KMI SS **SnSn 12 40 42.5 +4.7**
KMI pmax pmax
comp=Z,19nm,2.0s
KMI pmax pmax
comp=Z,1µm,6.5s
KMI LR LR
comp=N,4µm,11.2s
KMI LR LR
comp=E,7µm,14.3s
KMI LR LR
comp=Z,8µm,13.5s
MRSI Marisa 18.50 178 P Pn 12 37 10.9 +4.9
comp=Z,48nm,0.7s,comp=Z,689nm
XAN Xi'an 18.50 326 P **Pn 12 37 06.3 +0.3**
XAN pP **pP 12 37 14.3 -1.1**
XAN sP **sP 12 37 19.0 -1.4**
XAN S **Sn 12 40 32.0 +0.2**
XAN pmax pmax
comp=Z,350nm,8.0s
XAN LR LR
comp=N,3µm,15.1s
XAN LR LR
comp=E,900nm,15.1s
XAN LR LR
comp=Z,1µm,14.7s
SBUM Sibu 18.74 209 P **P 12 37 08.5 +0.3**
SBUM Sibu 18.74 209 P **Pn 12 37 09.2 +0.3**
comp=Z,32nm,1.3s,comp=Z,817nm
KSAR Wonju Array Be 19.20 16 P **P 12 37 13.3 +0.3**
KSAR PcP **PcP 12 41 35.1 -0.4**
KSRS Korea Array 19.22 16 P **P 12 37 13.3 +0.1**
comp=Z,1.8nm,0.3s,baz=197,slow=11,SNR=68
KSRS PcP **PcP 12 41 35.1 -0.5**
comp=Z,0.2nm,0.3s,baz=156,slow=2.5,SNR=5.8
KSRS LR LR 12 45 30.3
comp=Z,3µm,19.5s,baz=201,slow=39
CD2 Chengdu 19.71 310 ⇓P **P 12 37 19.8 +1.0**
CD2 pP **pP 12 37 28.3 -0.4**
CD2 sP **sP 12 37 32.8 -0.9**
CD2 PP **PnPn 12 37 38.8 +3.9**
CD2 S **S 12 40 55.8 -3.3**
CD2 sS sS 12 41 08.5 -6.3
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,2µm,5.0s
CD2 LR LR
comp=N,6µm,13.2s
CD2 LR LR
comp=E,7µm,15.2s
CD2 LR LR
comp=Z,7µm,16.6s
DL2 Dalian 19.76 1 ⇑P **P 12 37 19.5 +0.3**
DL2 S **S 12 40 56.5 -3.3**
DL2 pmax pmax
comp=Z,20nm,0.8s
DL2 pmax pmax
comp=Z,270nm,7.2s
DL2 LR LR
comp=N,1µm,15.7s
DL2 LR LR
comp=E,1µm,15.4s
DL2 LR LR
comp=Z,1µm,14.9s
LUWI Luwuk 20.05 176 P Pn 12 37 26.9 +2.3
comp=Z,108nm,0.9s,comp=Z,1µm
KSM Kuching 20.52 213 *e*P **P 12 37 27.4 -0.2**
comp=Z,39nm,1.0s
KSM Kuching 20.52 213 P **P 12 37 28.1 +0.5**
KSM Kuching 20.52 213 P **P 12 37 28.1 +0.5**
comp=Z,40nm,1.0s,comp=Z,586nm
CBIJ Chichi jima 20.84 64 P **P 12 37 31.6 +0.6**
CBIJ Chichi jima 20.84 64 P **P 12 37 31.6 +0.6**
comp=Z,55nm,0.7s,baz=270,slow=13,SNR=7.5
CBIJ LR LR 12 43 49.9
comp=Z,3µm,21.3s,baz=247,slow=32
CHTO Chiang Mai 21.09 273 *e*P **P 12 37 34.6 +0.8**
CHTO pmax pmax
comp=Z,42nm,1.2s
CHTO Chiang Mai 21.09 273 *e*P **P 12 37 34.6 +0.8**
comp=Z,42nm,1.2s
CHTO Chiang Mai 21.09 273 P **P 12 37 34.1 +0.3**
comp=Z,36nm,1.5s,comp=Z,656nmcomp=Z,6µm
CM31 Chiang Mai Arr 21.12 272 *e*P **P 12 37 35.3 +1.1**
comp=Z,8.6nm,0.8s
CMAR Chiang Mai Arr 21.12 272 P **P 12 37 34.3 +0.1**
CMAR PcP **PcP 12 41 39.3 -0.1**
CMAR Chiang Mai Arr 21.12 272 P **P 12 37 34.3 +0.1**
comp=Z,12nm,1.1s,baz=86,slow=8.3,SNR=29
CMAR PcP **PcP 12 41 39.3 -0.1**
comp=Z,3.1nm,0.8s,baz=70,slow=1.1,SNR=11
CMAR LR LR 12 46 32.3
comp=Z,3µm,18.1s,baz=63,slow=39
BJI Beijing 21.34 349 P **P 12 37 37.5 +1.2**
BJI pP **pP 12 37 46.5 +0.2**
BJI sP **sP 12 37 50.8 -0.4**
BJI S **S 12 41 31.5 +0.4**
BJI pmax pmax
comp=Z,26nm,0.8s
BJI pmax pmax
comp=Z,310nm,6.5s
BJI LR LR
comp=N,3µm,16.4s
BJI LR LR
comp=E,3µm,16.9s
BJI LR LR
comp=Z,2µm,18.6s
JHJ Hachijo jima 2 21.70 46 LR LR 12 44 38.2
comp=Z,3µm,21.5s,baz=261,slow=32
PLKI Palangkaraya 22.36 199 P P 12 37 53.4 +6.0
comp=Z,307nm,0.7s,comp=Z,3µm
SNY Shenyang 22.76 5 ⇓P **P 12 37 51.5 0.0**
SNY S **S 12 41 56.0 -1.6**
SNY pmax pmax
comp=Z,18nm,0.7s
SNY pmax pmax
comp=Z,490nm,4.7s
SNY LR LR
comp=N,1µm,17.2s
SNY LR LR
comp=E,2µm,15.7s
SNY LR LR
comp=Z,2µm,15.3s
LZH Lanzhou 22.84 321 ⇓P **P 12 37 53.8 +1.2**
LZH pP **pP 12 38 02.5 -0.1**
LZH sP **sP 12 38 07.0 -0.6**
LZH PP **PnPn 12 38 24.0 +6.2**
LZH S **S 12 42 00.5 +1.0**
LZH pmax pmax
comp=Z,76nm,1.4s
LZH pmax pmax
comp=Z,320nm,4.4s
LZH LR LR
comp=N,4µm,14.7s
LZH LR LR
comp=E,3µm,15.0s
LZH LR LR
comp=Z,5µm,16.2s
MAJO Matsushiro 22.91 37 *e*P **P 12 37 53.4 +0.2**
MAJO pmax pmax
comp=Z,58nm,1.2s
MAJO Matsushiro 22.91 37 *e*P **P 12 37 53.4 +0.2**
comp=Z,58nm,1.2s
MAT Matsushiro 22.91 37 P **P 12 37 53.0 -0.2**
MAT S **S 12 42 00.0 -0.4**
MJAR Matsushiro Arr 22.91 37 P **P 12 37 53.3 +0.1**
MJAR Matsushiro Arr 22.91 37 P **P 12 37 53.3 +0.1**
comp=Z,6.7nm,0.6s,baz=223,slow=9.8,SNR=32
MJAR LR LR 12 46 01.8
comp=Z,2µm,21.5s,baz=225,slow=34
KDI Kendari 22.93 176 P P 12 38 01.6 +8.1
comp=Z,13nm,1.1s
HHC Hu-ho-hao-te 23.23 341 *e*P **P 12 38 00.5 +4.1**
HHC PcP **PcP 12 41 47.5 +4.1**
HHC S **S 12 42 07.5 +1.8**
HHC pmax pmax
comp=Z,30nm,1.2s
HHC pmax pmax
comp=Z,110nm,4.8s
HHC LR LR
comp=N,5µm,16.6s
HHC LR LR
comp=E,2µm,17.8s
HHC LR LR
comp=Z,5µm,15.5s
BBKI Banjar Baru 23.27 196 P **P 12 37 58.4 +1.5**
comp=Z,116nm,1.2s,comp=Z,2µm
BTO Baotou 23.51 338 *e*P **P 12 37 56.3 -2.9**
KAPI Kappang 23.99 184 LR LR 12 48 02.0
comp=Z,2µm,19.0s,baz=9.9,slow=38
MYKOM **Kota Tinggi 24.19 227** P **P 12 38 06.7 +1.1**
KULM Kulim 24.30 238 *e*P **P 12 38 06.6 -0.1**
comp=Z,51nm,1.3s
KULM Kulim 24.30 238 P **P 12 38 08.4 +1.7**
KULM Kulim 24.30 238 P **P 12 38 07.1 +0.5**
comp=Z,34nm,1.1s,comp=Z,734nm
FAKI Fak Fak 24.40 152 P **P 12 38 09.0 +1.5**
comp=Z,27nm,0.9s,comp=Z,733nm
KGM Kluang 24.40 228 P **P 12 38 08.6 +1.1**
IPM Ipoh 24.49 236 *e*P **P 12 38 07.7 -0.7**
comp=Z,222nm,2.1s
IPM Ipoh 24.49 236 P **P 12 38 10.0 +1.7**
IPM Ipoh 24.49 236 P **P 12 38 09.3 +0.9**
comp=Z,33nm,1.5s,comp=Z,594nm
FRIM Kepong 24.81 233 P **P 12 38 12.8 +1.6**
CN2 Changchun 24.90 7 *e*P **P 12 38 12.5 +0.7**
CN2 *es*P **sP 12 38 26.0 -1.4**
CN2 *eS* **S 12 42 31.8 -0.5**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,400nm,5.0s
CN2 LR LR
comp=N,2µm,18.0s
CN2 LR LR
comp=E,2µm,18.0s
CN2 LR LR
comp=Z,3µm,21.0s
VLA Vladivostok 25.60 18 *e*P **P 12 38 19.0 +0.9**
VLA pmax pmax
comp=Z,9.0nm,0.8s
MDJ Mudanjiang 26.40 13 P **P 12 38 27.8 +2.4**
MDJ pP **pP 12 38 36.3 +0.1**
MDJ sP **sP 12 38 40.5 -0.5**
MDJ PcP **PcP 12 41 51.5 +1.3**
MDJ S **S 12 43 00.8 +4.7**
MDJ ScP **ScP 12 45 29.5 +2.4**
MDJ PcS **PcS 12 45 32.5 +1.3**
MDJ ScS **ScS 12 49 20.8 +3.6**
MDJ pmax pmax
comp=Z,9.0nm,0.9s
MDJ pmax pmax
comp=Z,230nm,6.0s
MDJ LR LR
comp=N,830nm,20.2s
MDJ LR LR
comp=E,3µm,22.9s
MDJ LR LR
comp=Z,2µm,22.9s
USRK Ussuriysk Arra 26.62 17 P **P 12 38 27.9 +0.6**
comp=Z,10nm,0.7s,baz=203,slow=8.8,SNR=18
USRK LR LR 12 49 03.7
comp=Z,1µm,20.6s,baz=186,slow=36
PSI Prapat 27.17 236 P **P 12 38 33.8 +1.0**
PSI Prapat 27.17 236 P **P 12 38 33.2 +0.5**
comp=Z,24nm,1.8s,comp=Z,355nm
PSI Prapat 27.17 236 P **P 12 38 33.8 +1.0**
comp=Z,7.2nm,0.7s,baz=31,slow=7.1,SNR=8.9
PSI LR LR 12 48 57.9
comp=Z,2µm,19.4s,baz=236,slow=35
GTA Gaotai 27.44 322 *e*P **P 12 38 36.0 +1.1**
GTA pP **pP 12 38 45.3 -0.5**
GTA sP **sP 12 38 50.0 -0.5**
GTA S **S 12 43 14.8 +1.9**
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,100nm,6.2s
GTA LR LR
comp=N,2µm,17.6s
GTA LR LR
comp=E,2µm,16.1s
GTA LR LR
comp=Z,2µm,15.7s
BLJI Banyuglugur 27.70 196 P **P 12 38 37.6 +0.3**
comp=Z,49nm,0.8s
KHKI Kahang-Kahang 27.83 192 P P 12 38 43.8 +5.4
comp=Z,48nm,0.9s
PPI Padang Panjang 28.20 229 P **P 12 38 44.6 +2.8**
comp=Z,28nm,1.4s
LSA Lhasa 29.29 297 P **P 12 38 53.3 +1.4**
LSA S S 12 43 34.0 -8.9
LSA LR LR
comp=N,660nm,23.4s
LSA LR LR
comp=E,2µm,23.4s
LSA LR LR
comp=Z,2µm,20.1s
ASAJ Asahikawa 30.71 31 *e*P **P 12 39 05.2 +1.4**
ASAJ Asahikawa 30.71 31 P **P 12 39 03.9 +0.2**
comp=Z,4.6nm,0.5s,baz=236,slow=9.1,SNR=12
ULN Ulaanbaatar 30.95 341 *e*P **P 12 39 06.9 +0.9**
comp=Z,15nm,0.9s
ULN Ulaanbaatar 30.95 341 P **P 12 39 08.2 +2.2**
SONM Songino Array 31.12 340 P **P 12 39 08.7 +1.2**
SONM PcP **PcP 12 42 02.1 0.0**
SONM Songino Array 31.12 340 P **P 12 39 08.7 +1.2**
comp=Z,5.9nm,0.8s,baz=160,slow=8.0,SNR=38
SONM PcP **PcP 12 42 02.1 0.0**
comp=Z,1.4nm,0.8s,baz=162,slow=2.4,SNR=5.2
SONM LR LR 12 52 55.3
comp=Z,4µm,18.1s,baz=48,slow=38
KLR Kul'dur 31.25 13 *e*P P 12 39 04.8 -3.6
KLR *eS* **S 12 44 10.0 -2.2**
HABR Khabarovsk 31.38 18 P **P 12 39 08.4 -1.2**
HABR *e**SP **sP 12 39 21.4 -3.9**
HABR *e* 12 40 11.3
HABR S **S 12 44 15.4 +1.1**
HABR *e**SS **sS 12 44 30.7 -1.8**
HABR *eSS **SnSn 12 46 02.3 +1.8**
HABR *eSSS SSS 12 46 18.4
HABR *e* 12 49 39.5
HABR pmax pmax
comp=N,3.0nm,0.8s
HABR pmax pmax
comp=Z,5.0nm,0.8s
HABR pmax pmax
comp=E,7.0nm,0.8s
HABR MLR MLR
comp=Z,1µm,21.0s
TAPN Taplejung 31.82 291 *e*P **P 12 39 14.0 -0.1**
comp=Z,58nm,1.0s
TAPN Taplejung 31.82 291 *e*P **P 12 39 14.0 -0.1**
comp=Z,58nm,1.0s
ODAN Odare 32.04 290 *e*P **P 12 39 15.6 -0.4**
comp=Z,113nm,1.1s
ODAN Odare 32.04 290 *e*P **P 12 39 15.6 -0.4**
comp=Z,113nm,1.1s
YUK Yuzh-Kuril'sk 32.31 34*c* *i*P **P 12 39 16.8 -1.0**
YUK *i* 12 40 27.7
YUK *i* S **S 12 44 31.1 +2.2**
YUK pmax pmax
comp=N,17nm,0.5s
YUK pmax pmax
comp=Z,86nm,1.0s
YUK pmax pmax
comp=E,56nm,1.0s
YUK pmax pmax
comp=Z,260nm,2.1s
YUK MLR MLR
comp=E,148nm,22.0s
YUK MLR MLR
comp=Z,978nm,22.0s
YUK MLR MLR
comp=N,592nm,22.0s
RAMN Ramite 32.75 290 *e*P **P 12 39 23.1 +0.9**
comp=N,53nm,0.7s
RAMN Ramite 32.75 290 *e*P **P 12 39 23.1 +0.9**
comp=N,53nm,0.7s
YSS Yuzh-Sakhalins 32.92 28 *e*P **P 12 39 24.2 +1.1**
YSS *e**PP **pP 12 39 34.2 +0.1**
YSS *eS* **S 12 44 39.0 +0.7**
YSS 12 49 48.0
YSS MLR MLR
comp=N,500nm,18.0s
YSS MLR MLR
comp=E,500nm,18.0s
YSS MLR MLR
comp=Z,700nm,18.0s
YSS Yuzh-Sakhalins 32.92 28 *e*P **P 12 39 23.7 +0.6**
comp=Z,28nm,0.7s
GUN Gumba 33.50 292 *e*P **P 12 39 30.0 +1.1**
comp=Z,113nm,1.0s
GUN Gumba 33.50 292 *e*P **P 12 39 30.0 +1.1**
comp=Z,113nm,1.0s
PKI Pulchoki 33.87 291 *e*P **P 12 39 31.9 -0.2**
PKI Pulchoki 33.87 291 *e*P **P 12 39 31.9 -0.2**
PKI Pulchoki 33.87 291 *e*P **P 12 39 31.9 -0.2**
KKN Kakani 34.01 292 *e*P **P 12 39 34.4 +1.2**
KKN Kakani 34.01 292 *e*P **P 12 39 34.4 +1.2**
KKN Kakani 34.01 292 *e*P **P 12 39 34.4 +1.2**
DMN Daman 34.14 291 *e*P **P 12 39 35.2 +0.8**
comp=Z,66nm,1.1s
DMN Daman 34.14 291 *e*P **P 12 39 35.2 +0.8**
comp=Z,66nm,1.1s
GKN Gorkha 34.60 292 *e*P **P 12 39 39.1 +0.9**
GKN Gorkha 34.60 292 *e*P **P 12 39 39.1 +0.9**
TLY Talaya 35.36 341 *e*P **P 12 39 45.4 +1.1**
TLY *eS* **S 12 45 17.8 +1.9**
TLY pmax pmax
comp=Z,2.0nm,1.0s
TLY MLR MLR
comp=Z,2µm,18.0s
TLY Talaya 35.36 341 *e*P **P 12 39 44.8 +0.6**
comp=Z,20nm,1.1s
DANN Dangsing 35.41 292 *e*P **P 12 39 45.8 +0.4**
DANN Dangsing 35.41 292 *e*P **P 12 39 45.8 +0.4**
KOLN Koldanda 35.49 291 *e*P **P 12 39 46.6 +0.7**
KOLN Koldanda 35.49 291 *e*P **P 12 39 46.6 +0.7**
IRK Irkutsk 35.66 342 *e*P **P 12 39 49.3 +2.4**
IRK pmax pmax
comp=Z,17nm,1.2s
MOY Mondy 36.21 339 *e*P **P 12 39 53.1 +1.4**
MOY pmax pmax
comp=Z,26nm,2.2s
FITZ Fitzroy Crossi 37.20 173 P **P 12 39 58.8 -1.5**
FITZ PcP **PcP 12 42 19.7 0.0**
FITZ Fitzroy Crossi 37.20 173 *e*P **P 12 39 58.7 -1.5**
FITZ Fitzroy Crossi 37.20 173 P **P 12 39 58.8 -1.5**
comp=Z,3.7nm,0.7s,baz=354,slow=8.5,SNR=9.9
FITZ PcP **PcP 12 42 19.7 0.0**
comp=Z,1.8nm,0.5s,baz=333,slow=6.5,SNR=4.6
WMQ Urumqi 37.37 319 *e*P P 12 40 04.8 +3.2
WMQ pP pP 12 40 14.5 +1.8
WMQ sP sP 12 40 19.0 +1.6
WMQ PP **PnPn 12 41 31.0 +2.8**
WMQ S **S 12 45 50.0 +3.0**
WMQ pmax pmax
comp=Z,13nm,1.2s
WMQ pmax pmax
comp=Z,180nm,6.0s
WMQ LR LR
comp=N,3µm,14.0s
WMQ LR LR
comp=E,3µm,16.3s
WMQ LR LR
comp=Z,2µm,17.8s
CLNS Chul'man 37.80 3 *e*P **P 12 40 03.5 -1.5**
CLNS pmax pmax
comp=Z,10.0nm,0.7s
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,5.0nm,0.8s
BOD Bodaibo 39.05 354 *e*P **P 12 40 15.0 -0.4**
BOD pmax pmax
comp=Z,9.0nm,1.6s
HYB Hyderabad 40.50 275 *i* P **P 12 40 27.0 -1.1**
WRAB Tennant Creek 40.85 161 *e*P **P 12 40 29.7 -1.1**
WRAB pmax pmax
comp=Z,17nm,1.1s
WRAB Tennant Creek 40.85 161 *e*P **P 12 40 29.6 -1.1**
comp=Z,17nm,1.1s
WRA Warramunga Arr 40.85 161 P **P 12 40 28.4 -2.4**
WRA PcP **PcP 12 42 30.1 -1.1**
WRA Warramunga Arr 40.85 161 P **P 12 40 28.4 -2.4**
comp=Z,3.1nm,0.4s,baz=342,slow=9.2,SNR=46
WRA PcP **PcP 12 42 30.1 -1.1**
comp=Z,2.3nm,0.5s,baz=342,slow=3.1,SNR=6.6
MK31 Makanchi Array 42.14 320 P **P 12 40 42.2 +1.0**
MK31 pmax pmax
comp=Z,14nm,0.7s
MK31 Makanchi Array 42.14 320 *e*P **P 12 40 42.4 +1.2**
MKAR Makanchi Array 42.14 320 P **P 12 40 42.4 +1.1**
MKAR 12 42 35.1
MKAR Makanchi Array 42.14 320 P **P 12 40 42.4 +1.1**
MKAR PcP **PcP 12 42 35.1 0.0**
MKAR Makanchi Array 42.14 320 P **P 12 40 42.4 +1.1**
comp=Z,7.1nm,0.7s,baz=114,slow=8.0,SNR=81
MKAR PcP **PcP 12 42 35.1 0.0**
comp=Z,5.8nm,0.8s,baz=108,slow=4.7,SNR=3.7
MKAR LR LR 12 59 23.1
comp=Z,1µm,19.2s,baz=124,slow=38
QIS Mount Isa 43.31 155 *e*P **P 12 40 51.0 +0.1**
YAK Yakutsk 43.31 6 *e*P **P 12 40 48.2 -2.2**
YAK *e**PP **pP 12 40 57.8 -3.8**
YAK *e* 12 42 33.2
YAK *e* 12 42 38.1
YAK *eS* **S 12 47 11.5 -3.5**
YAK *eSS **SS 12 50 26.7 -2.6**
YAK *e* 12 50 48.4
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.2s
YAK pmax pmax
comp=Z,17nm,1.7s
YAK pmax pmax
comp=E,9.0nm,1.6s
YAK pmax pmax
comp=N,23nm,1.9s
YAK smax smax
comp=N,117nm,3.0s
YAK smax smax
comp=E,176nm,4.2s
YAK MLR MLR
comp=N,736nm,19.0s
YAK MLR MLR
comp=Z,1µm,19.0s
YAK MLR MLR
comp=E,591nm,17.0s
YAK smax smax
comp=N,1.0nm,0.2s
YAK smax smax
comp=N,16nm,0.8s
YAK smax smax
comp=E,6.0nm,0.6s
YAK Yakutsk 43.31 6 *e*P **P 12 40 49.5 -0.9**
comp=E,17nm,0.6s
KSH Kashi 43.88 308 P P 12 40 59.3 +3.8
KSH pP pP 12 41 08.8 +2.1
KSH sP sP 12 41 13.0 +1.6
KSH PP **PcP 12 42 42.5 +1.2**
KSH PcP PP 12 42 45.3 +7.2
KSH ScP **ScP 12 46 32.8 +2.8**
KSH PcS **PcS 12 46 37.0 +2.7**
KSH S **S 12 47 28.3 +4.1**
KSH sS sS 12 47 45.3 +2.5
KSH SS **SS 12 50 37.0 -4.3**
KSH ScS **ScS 12 50 53.5 +1.9**
KSH pmax pmax
comp=Z,12nm,1.0s
KSH pmax pmax
comp=Z,160nm,5.7s
KSH LR LR
comp=N,410nm,16.1s
KSH LR LR
comp=E,630nm,12.5s
KSH LR LR
comp=Z,1µm,21.6s
PETK Petropavlovsk- 44.13 31 P **P 12 40 56.8 -0.3**
PETK Petropavlovsk- 44.13 31 P **P 12 40 56.8 -0.3**

PETK Petropavlovsk- 44.13 31 P **P 12 40 56.8 -0.3**
comp=Z,9.4nm,0.7s,baz=215,slow=6.5,SNR=8.2
PETK LR LR 12 59 13.2
comp=Z,607nm,20.8s,baz=223,slow=36
AS31 Alice Springs 44.25 163 *eP* **P 12 40 57.7 -0.7**
ASAR Alice Springs 44.25 163 P **P 12 40 56.7 -1.7**
ASAR PcP **PP 12 42 41.8 -0.4**
ASAR Alice Springs 44.25 163 P **P 12 40 56.7 -1.7**
comp=Z,4.7nm,0.3s,baz=340,slow=6.8,SNR=94
ASAR PcP **PP 12 42 41.8 -0.4**
comp=Z,0.8nm,0.4s,baz=347,slow=3.8,SNR=2.0
PET Petropavlovsk 44.55 32 *eP* **P 12 40 57.8 -2.6**
PET *eS* **S 12 47 33.6 +0.4**
PET pmax pmax
comp=Z,38nm,1.2s
PET MLR MLR
comp=Z,1μm,13.0s
ZAA0 Zalesovo Array 44.61 330 *eP* **P 12 41 01.0 +0.1**
ZALV Zalesovo Beam 44.61 330 P **P 12 41 01.2 +0.3**
ZALV Zalesovo Beam 44.61 330 P **P 12 41 01.2 +0.3**
ZALV Zalesovo Beam 44.61 330 P **P 12 41 01.2 +0.3**
comp=Z,7.0nm,0.8s,baz=115,slow=7.7,SNR=45
ZALV LR LR 13 00 46.5
comp=Z,2μm,18.9s,baz=125,slow=37
TKM2 Tokmak 2 45.07 312 P **P 12 41 06.6 +1.5**
TKM2 pmax pmax
comp=Z,28nm,1.1s
FRU Bishkek 45.74 312 *eP* **P 12 41 10.0 -0.1**
FRU MLR MLR
comp=Z,3μm,16.0s
AAK Ala-Archa 45.77 311 *eP* **P 12 41 12.1 +1.5**
AAK Ala-Archa 45.77 311 *eP* **P 12 41 12.1 +1.5**
AAK Ala-Archa 45.77 311 P **P 12 41 12.0 +1.4**
comp=Z,1.2nm,0.8s,baz=135,slow=8.6,SNR=6.2
NVS Novosibirsk 45.88 330 *eP* **P 12 41 10.1 -0.9**
NVS *e* 12 42 44.7
NVS *eS* **S 12 47 56.1 +3.6**
NVS pmax pmax
comp=Z,23nm,1.4s
NVS pmax pmax
comp=N,14nm,1.5s
NVS pmax pmax
comp=E,12nm,1.3s
NVS smax smax
comp=E,47nm,3.0s
CTA Charters Tower 46.01 146 P **P 12 41 12.7 +0.3**
CTA Charters Tower 46.01 146 P **P 12 41 12.7 +0.3**
comp=E,3.5nm,0.6s,baz=337,slow=12,SNR=2.9
KURK Kurchatov 46.11 323 *eP* **P 12 41 13.6 +0.7**
KURK pmax pmax
comp=Z,43nm,1.1s
KURK Kurchatov 46.11 323 *eP* **P 12 41 13.6 +0.7**
comp=Z,43nm,1.1s
KURBB Kurchatov Arra 46.12 323 P **P 12 41 13.8 +0.9**
comp=Z,10nm,0.7s,baz=121,slow=7.9,SNR=86
HNR Honiara 47.53 123 LR LR 13 01 08.3
comp=Z,1μm,18.5s,baz=293,slow=36
KK31 Karatay Array 48.72 311 *i* P **P 12 41 34.6 +1.2**
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 48.72 311 *eP* **P 12 41 34.8 +1.4**
KKAR Karatay Array 48.72 311 *eP* **P 12 41 34.8 +1.4**
SEY Seymchan 48.76 18 ⇑*i*P **P 12 41 33.9 +0.6**
FORT Forrest 50.01 172 *eP* **P 12 41 44.1 +1.0**
VOSK Vostochnaya 51.27 323 P **P 12 41 52.6 +0.1**
VOSK pmax pmax
comp=Z,10.0nm,0.9s
BVA0 Borovoye Array 51.71 323 *i* P **P 12 41 56.4 +0.6**
BVA0 pmax pmax
comp=Z,2.0nm,1.1s
BVAR Borovoye Array 51.71 323 P **P 12 41 56.5 +0.7**
BVAR 12 43 08.4
BVAR Borovoye Array 51.71 323 P **P 12 41 56.5 +0.7**
BVAR PcP **PcP 12 43 08.4 -0.4**
BVAR Borovoye Array 51.71 323 P **P 12 41 56.5 +0.7**
comp=Z,6.2nm,0.8s,baz=115,slow=8.3,SNR=21
BVAR PcP **PcP 12 43 08.4 -0.4**
comp=Z,4.5nm,0.7s,baz=156,slow=4.0,SNR=5.6
BRVK Borovoye 51.78 323 *eP* **P 12 41 57.1 +0.8**
BRVK pmax pmax
comp=Z,23nm,1.0s
BRVK Borovoye 51.78 323 *eP* **P 12 41 57.1 +0.8**
comp=Z,23nm,1.0s
NWAO Narrogin (SRO) 51.86 184 P **P 12 41 56.7 -0.3**
NWAO Narrogin (SRO) 51.86 184 P **P 12 41 56.7 -0.3**
comp=Z,14nm,0.8s,baz=24,slow=7.0,SNR=7.3
ZRNK Zerenda 52.47 323 P **P 12 42 01.6 +0.2**
ZRNK pmax pmax
comp=Z,16nm,0.9s
BBOO Buckleboo 53.51 164 *eP* **P 12 42 09.1 -0.1**
comp=Z,1μm,1.4s
STKA Stephens Creek 54.30 159 *eP* **P 12 42 14.2 -0.8**
STKA Stephens Creek 54.30 159 *eP* **P 12 42 14.7 -0.3**
STKA Stephens Creek 54.30 159 P **P 12 42 13.4 -1.7**
comp=Z,4.4nm,0.7s,baz=335,slow=6.3,SNR=12
STKA LR LR 13 07 16.1
comp=Z,500nm,19.1s,baz=123,slow=38
IMYA Miami 55.92 301 *eP* **P 12 42 29.4 +2.3**
BILL Bilibino 56.46 19 *c i*P **P 12 42 30.3 +0.1**
BILL *i* 12 42 40.5
BILL *eS* **S 12 50 19.9 +1.6**
BILL pmax pmax
comp=Z,18nm,0.8s
BILL MLR MLR
comp=Z,300nm,16.0s
BILL Bilibino 56.46 19 *eP* **P 12 42 30.2 +0.1**
comp=Z,19nm,0.8s
IMOG Moghan 56.54 301 *eP* pP 12 42 44.6 +1.4
IAKL Akhelmad 57.01 302 *eP* P 12 42 42.3 +7.3
IEMG Emamgholi 57.09 303 *eP* **P 12 42 36.9 +1.4**
ITEG Tejag 57.10 297 *eP* P 12 42 31.2 -4.4
AB31 Akbulak array 57.10 317 *i* P **P 12 42 35.8 +0.8**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 57.10 317 *eP* **P 12 42 35.8 +0.8**
IKRD Kardeh 57.20 302 *eP* P 12 42 32.5 -3.8
ISFR Sfrayin 57.61 302 *eP* pP 12 42 50.2 -0.6
ISHV Shirvan 57.85 303 *eP* P 12 42 49.0 +8.2
WSAR Wadi Sarin 58.15 286 P **P 12 42 43.0 +0.1**
WSAR Wadi Sarin 58.15 286 P **P 12 42 43.0 +0.1**
comp=Z,1.7nm,0.4s,baz=84,slow=10,SNR=2.4
SVE Sverdlovsk 58.22 326 ⇓*i*P **P 12 42 43.6 +0.8**
SVE *e* 12 44 51.2
SVE *ePPP* PPP 12 46 17.5
SVE *eS* S 12 50 47.9 +6.2
SVE pmax pmax
comp=Z,56nm,1.0s
SVE MLR MLR
comp=Z,1μm,17.0s
AKTO Aktyubinsk 58.51 318 P **P 12 42 45.1 +0.2**
AKTO Aktyubinsk 58.51 318 P **P 12 42 45.1 +0.2**
AKTO Aktyubinsk 58.51 318 P **P 12 42 45.1 +0.2**
comp=Z,3.3nm,0.5s,baz=88,slow=7.7,SNR=26
ARU Arti 59.24 325 *eP* **P 12 42 50.0 +0.1**
ARU pmax pmax
comp=Z,36nm,1.1s
ARU Arti 59.24 325 *eP* **P 12 42 50.0 +0.1**
comp=Z,36nm,1.1s
ARU Arti 59.24 325 P **P 12 42 50.3 +0.4**
comp=Z,182nm,0.5s,SNR=9.4
DZM Mont Dzumac 60.22 131 *eS* **S 12 51 09.5 +0.9**
comp=Z,1μm,29.0s
DZM *eLR* LR 13 00 54.5
comp=Z,2μm,21.9s
CNB Canberra Magne 60.32 154 *eP* **P 12 42 58.4 +0.8**
TOO Toolangi 60.80 158 *eP* **P 12 43 02.6 +1.8**
IANJ Anjilo 60.97 301 *eP* **P 12 43 01.1 -1.3**
IKIA Kiasar 61.11 301 *eP* **P 12 43 03.6 +0.3**
IPAR Pars 62.21 294 *eP* **P 12 43 11.1 +0.1**
TNA Tin City 64.87 26 *eP* **P 12 43 29.3 +1.9**
comp=Z,4.5nm,0.8s
MAK Makhachkala 65.47 309 *eP* P 12 43 28.2 -3.6
MAK *e* 12 44 04.0
MAK *e* 12 45 55.9
MAK *ePPP* PPP 12 47 26.6
MAK *eS* **S 12 52 10.9 -2.9**
MAK *e* 12 53 21.7
MAK *eSS* **SS 12 56 23.2 -4.3**
MAK pmax pmax
comp=Z,147nm,1.8s
MAK MLR MLR
comp=Z,1μm,16.0s
MSVF Nonsavu 66.73 120 *eP* **P 12 43 40.9 +0.6**
MSVF Nonsavu 66.73 120 *eP* **P 12 43 40.9 +0.6**

MIB Mutribah 67.13 295 *eP* **P 12 43 41.3 -1.3**
MIB AMb AMB 12 43 44.0
comp=Z,14nm,0.6s
NAY Al-Naaiem 67.30 294 *eP* **P 12 43 42.2 -1.6**
NAY AMb AMB 12 43 45.1
comp=Z,17nm,1.4s
GNI Garni 67.79 306 LR LR 13 18 13.6
comp=Z,435nm,21.9s,baz=97,slow=40
ZEI Tsey 68.13 309 *eP* **P 12 43 48.0 -1.0**
ZEI *e* 12 44 02.4
ZEI pmax pmax
comp=Z,7.0nm,0.9s
KBZ Khabaz 68.75 310 P **P 12 43 52.8 +0.2**
KBZ Khabaz 68.75 310 P **P 12 43 52.8 +0.2**
KBZ Khabaz 68.75 310 P **P 12 43 52.8 +0.2**
comp=Z,5.9nm,0.9s,baz=79,slow=5.2,SNR=13
KBZ LR LR 13 18 01.5
comp=Z,1μm,18.4s,baz=70,slow=39
KIV Kislovodsk 68.88 311 *eP* **P 12 43 53.8 +0.3**
KIV *e* 12 44 17.3
KIV *eS* **S 12 52 56.8 +1.7**
KIV *eSS* **SS 12 57 25.4 +4.9**
KIV pmax pmax
comp=Z,16nm,1.0s
KIV MLR MLR
comp=Z,973nm,19.0s
KIV Kislovodsk 68.88 311 *eP* **P 12 43 53.7 +0.2**
comp=Z,15nm,0.8s
VRHR Novokhopersk 68.92 318 *eP* **P 12 43 52.8 -0.7**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=Z,10.0nm,0.8s
VRHR pmax pmax
comp=E,4.0nm,0.4s
BHD Baghdad 69.05 299 *ex* **P 12 43 56.0 +1.4**
BHD *ex* x 12 52 58.3
KLMR Klimovskoe 69.51 329 *eP* **P 12 43 56.2 -0.7**
KLMR pmax pmax
comp=Z,40nm,1.3s
KLMR MLR MLR
comp=Z,2μm,15.0s
RAYN Ar Rayn 69.95 289 P **P 12 44 00.4 0.0**
comp=Z,76nm,0.7s,SNR=5.8
VORD Divnogorie 70.39 318 *eP* **P 12 44 01.8 -0.8**
VORD pmax pmax
comp=N,7.0nm,0.4s
VORD pmax pmax
comp=E,50nm,0.4s
VORD pmax pmax
comp=Z,8.0nm,0.4s
VSR Storozhevoye 70.45 319 *eP* **P 12 44 02.2 -0.7**
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,8.0nm,0.6s
VSR pmax pmax
comp=Z,6.0nm,0.6s
MOS Moscow 70.88 323 *eP* **pP 12 44 16.4 -0.9**
MOS *e* 12 44 33.0
MOS pmax pmax
comp=Z,44nm,0.8s
OBN Obninsk 71.55 323 *eP* **P 12 44 09.3 -0.2**
OBN *e* 12 44 19.0
OBN *i* 12 44 31.9
OBN *e* 12 46 51.0
OBN *i S* **S 12 53 29.2 +3.6**
OBN *eSS* **SS 12 58 06.5 +5.8**
OBN pmax pmax
comp=Z,49nm,2.3s
OBN MLR MLR
comp=Z,500nm,17.0s
RSO Redoubt South 71.65 31 *eP* **P 12 44 11.8 +1.6**
comp=Z,58nm,0.9s
APA Apatity 71.71 336 ⇑*i*P **P 12 44 10.6 +0.4**
APA *i* 12 44 23.0
APA MLR MLR
comp=Z,2μm,17.0s
COLD Coldfoot 72.03 24 *eP* **P 12 44 12.8 +0.6**
comp=Z,9.4nm,0.9s
TRF Thorofare Moun 72.45 28 *eP* **P 12 44 16.5 +1.6**
comp=Z,6.0nm,0.7s
ANN Anapa 72.49 312 *eP* **P 12 44 13.6 -1.7**
ANN *eS* **S 12 53 34.4 -2.4**
ANN pmax pmax
comp=Z,27nm,1.0s
ANN MLR MLR
comp=N,1μm,20.0s
ANN MLR MLR
comp=E,997nm,20.0s
ANN MLR MLR
comp=Z,1μm,20.0s
MCK McKinley 73.01 28 *eP* **P 12 44 18.1 0.0**
MCK pmax pmax
comp=Z,23nm,1.0s
MCK McKinley 73.01 28 *eP* **P 12 44 18.1 0.0**
comp=Z,23nm,1.0s
JOF Joensuu 73.17 331 *eP* **P 12 44 17.4 -1.6**
JOF pmax pmax
comp=Z,4.0nm,0.5s
JOF Joensuu 73.17 331 *ep* **P 12 44 17.4 -1.6**
comp=Z,3.6nm,0.5s
PMR Palmer 73.25 30 *eP* **P 12 44 19.1 -0.4**
PMR pmax pmax
comp=Z,19nm,0.9s
PMR Palmer 73.25 30 *eP* **P 12 44 19.1 -0.4**
comp=Z,19nm,0.9s
COLA College 73.30 26 *eP* **P 12 44 20.0 +0.3**
COLA pmax pmax
comp=Z,6.0nm,0.8s
COLA College 73.30 26 *eP* **P 12 44 20.0 +0.3**
comp=Z,5.7nm,0.8s
SML Sawmill 73.58 30 *eP* **P 12 44 21.6 0.0**
SML pmax pmax
comp=Z,7.0nm,1.0s
SML Sawmill 73.58 30 *eP* **P 12 44 21.6 0.0**
comp=Z,7.3nm,1.0s
AFI Afiamalu 73.66 111 LR LR 13 09 32.1
comp=Z,585nm,21.7s,baz=289,slow=30
KEV Kevo 73.72 339 *eP* **P 12 44 21.5 -0.6**
KEV pmax pmax
comp=Z,7.0nm,0.5s
KEV Kevo 73.72 339 *ep* **P 12 44 21.5 -0.6**
comp=Z,7.3nm,0.5s
ILAR Eielson Array 73.72 27 P **P 12 44 21.4 -0.8**
ILAR Eielson Array 73.72 27 P **P 12 44 21.4 -0.8**
comp=Z,3.8nm,0.9s,baz=296,slow=5.8,SNR=25
ARCES ARCESS Array B 74.28 339 P **P 12 44 25.6 +0.1**
ARCES ARCESS Array B 74.28 339 P **P 12 44 25.6 +0.1**
comp=Z,7.2nm,0.7s,baz=79,slow=7.8,SNR=16
ARCES LR LR 13 21 04.4
comp=Z,917nm,18.4s,baz=73,slow=39
SPB4 Spitsbergen Ar 74.46 348 *eP* **P 12 44 26.4 0.0**
PAX Paxson 74.68 28 *eP* **P 12 44 28.3 +0.3**
PAX pmax pmax
comp=Z,9.0nm,0.9s
PAX Paxson 74.68 28 *eP* **P 12 44 28.3 +0.3**
comp=Z,8.6nm,0.9s
DOT Dot Lake 75.16 27 *eP* **P 12 44 29.8 -0.9**
comp=Z,4.2nm,0.8s
MENT Mentasta 75.47 28 *eP* **P 12 44 33.2 +0.8**
KAF Kangasniemi 75.61 331 *eP* **P 12 44 31.4 -1.8**
KAF pmax pmax
comp=Z,5.0nm,0.8s
KAF Kangasniemi 75.61 331 *ep* **P 12 44 31.4 -1.8**
comp=Z,4.7nm,0.8s
FINES FINESS Array B 75.87 330 P **P 12 44 34.7 0.0**
FINES FINESS Array B 75.87 330 P **P 12 44 34.7 0.0**
comp=Z,5.0nm,0.8s,baz=82,slow=4.9,SNR=9.2
FINES LR LR 13 22 20.8
comp=Z,904nm,18.6s,baz=80,slow=39
EGAK Eagle 76.11 26 *eP* **P 12 44 35.8 -0.3**
comp=Z,13nm,0.8s
BRTR Keskin Array B 76.27 308 P **P 12 44 36.5 -1.1**
BRTR Keskin Array B 76.27 308 P **P 12 44 36.5 -1.1**
comp=Z,0.8nm,0.5s,baz=99,slow=4.5,SNR=5.3
VSU Vasula 76.27 327 *eP* **P 12 44 37.2 +0.2**
VSU pmax pmax
comp=Z,42nm,1.6s
AKASG Malin Array Be 76.72 319 P **P 12 44 38.7 -1.1**
AKASG Malin Array Be 76.72 319 P **P 12 44 38.7 -1.1**
AKASG Malin Array Be 76.72 319 P **P 12 44 38.7 -1.1**
comp=Z,6.7nm,0.9s,baz=62,slow=5.6,SNR=8.9
AKASG LR LR 13 23 07.9
comp=Z,539nm,18.5s,baz=85,slow=39
KIEV Kiev 76.73 319 *eP* **P 12 44 38.5 -1.3**

KIEV pmax pmax
comp=Z,5.0nm,0.9s
KIEV Kiev 76.73 319 *eP* **P 12 44 38.5 -1.3**
comp=Z,4.8nm,0.9s
DAWY Dawson 77.05 26 *eP* **P 12 44 41.7 +0.2**
INK Inuvik 77.92 22 *eP* **P 12 44 45.2 -0.9**
comp=Z,15nm,1.1s
INK Inuvik 77.92 22 LR LR 13 21 00.5
comp=Z,354nm,21.1s,baz=164,slow=37
EFOR EFORIE 78.80 313 ⇓*i*P P 12 44 59.8 +8.4
SUW Suwalki 79.39 324 *eP* **P 12 44 54.5 0.0**
SUW Suwalki 79.39 324 *eP* **P 12 44 54.5 0.0**
SUW Suwalki 79.39 324 P **P 12 44 54.4 0.0**
SUW Suwalki 79.39 324 P **P 12 44 54.4 -0.1**
VRI Vrincioaia 79.60 315 ⇑P **P 12 44 57.0 +1.1**
VRI Vrincioaia 79.60 315 ⇑*i*P **P 12 44 57.0 +1.1**
PLOR Plostina 79.66 315 ⇑P **P 12 44 57.0 +0.8**
PLOR Plostina 79.66 315 ⇑*i*P **P 12 44 57.0 +0.8**
BURAR Bucovina Array 80.09 317 ⇑*i*P **P 12 44 58.4 -0.2**
BUR08 Bucovina Ar. S 80.09 317 *eP* **P 12 44 58.6 0.0**
MLR Muntele Rosu 80.23 315 ⇑*i*P **P 12 44 59.4 0.0**
SKAG Skagway 80.38 30 *eP* **P 12 45 00.7 +0.9**
comp=Z,14nm,0.8s
VOIR 80.85 315 ⇑P **P 12 45 02.2 -0.5**
VOIR 80.85 315 ⇑*i*P **P 12 45 02.2 -0.5**
SIT Sitka 81.25 33 *eP* **P 12 45 05.2 +0.8**
SIT pmax pmax
comp=Z,25nm,0.9s
SIT Sitka 81.25 33 *eP* **P 12 45 05.2 +0.8**
comp=Z,26nm,0.9s
DAG Danmarks Havn 81.39 351 *i* P **P 12 45 04.2 -0.7**
comp=Z,54nm,0.9s
UZH Uzhgorod 81.63 319 *eP* P 12 45 13.3 +6.7
TRPA Tarpa 81.64 318 ⇑*i*P **P 12 45 06.8 +0.1**
CRVS Cervenica-Dubn 82.06 319 *eP* **P 12 45 09.9 +1.0**
CRVS pmax pmax
comp=Z,2.0nm,1.1s
CRVS Cervenica-Dubn 82.06 319 *eP* **P 12 45 09.9 +1.0**
OJC Ojcow 82.61 321 *eP* **P 12 45 12.0 +0.2**
OJC Ojcow 82.61 321 *eP* **P 12 45 12.0 +0.2**
NB2 NORSAR Subarra 82.75 333 P **P 12 45 11.4 -0.9**
comp=Z,7.3nm,1.0s,baz=64,slow=4.8
NOA NORSAR Array B 82.75 333 P **P 12 45 11.5 -0.8**
NOA NORSAR Array B 82.75 333 P **P 12 45 11.5 -0.8**
comp=Z,3.3nm,0.9s,baz=64,slow=5.0,SNR=7.7
NOA LR LR 13 25 07.3
comp=Z,2μm,19.2s,baz=65,slow=38
VTS Vitosha 83.02 313 ⇑P **P 12 45 14.8 +0.6**
VTS Vitosha 83.02 313 ⇑*i*P **P 12 45 14.8 +0.6**
DLBC Dease Lake 83.31 30 *eP* **P 12 45 16.3 +1.0**
DLBC Dease Lake 83.31 30 LR LR 13 20 30.1
comp=Z,241nm,21.4s,baz=152,slow=34
RES Resolute Bay 83.67 9 *eP* **P 12 45 16.6 -0.1**
comp=Z,23nm,1.0s
RES Resolute Bay 83.67 9 LR LR 13 23 59.3
comp=Z,325nm,20.6s,baz=200,slow=37
VYHS Vyhne 83.83 319 *eP* **P 12 45 18.4 +0.3**
VYHS pmax pmax
comp=Z,2.0nm,1.0s
VYHS Vyhne 83.83 319 *eP* **P 12 45 18.4 +0.3**
KSP Ksiaz 84.45 322 *eP* **P 12 45 21.9 +0.7**
KSP Ksiaz 84.45 322 *eP* **P 12 45 21.9 +0.7**
KSP Ksiaz 84.45 322 *eP* **P 12 45 21.4 +0.2**
DPC Dobruska-Polom 84.63 322 *eP* **P 12 45 22.4 +0.2**
DPC *e* 12 45 33.5
DPC MLR MLR
comp=Z,1μm,18.7s
DPC Dobruska-Polom 84.63 322 *eP* **P 12 45 22.4 +0.2**
DPC *epP* **pP 12 45 33.5 -0.8**
DPC *ex* x 12 45 46.4
DPC AMS AMS 13 28 30.0
comp=Z,1μm,18.7s
KMBO Kilima Mbogo 84.68 267 *eP* **P 12 45 24.0 +0.7**
comp=Z,3.9nm,0.8s
UPC Upice 84.75 322 *eP* **P 12 45 22.8 +0.1**
UPC *e* 12 45 32.5
UPC Upice 84.75 322 *eP* **P 12 45 22.8 +0.1**
UPC *epP* **pP 12 45 32.5 -2.3**
VRAC Vranov 84.88 321 ⇑*i*P **P 12 45 24.5 +1.1**
PVCC Panska Ves 85.58 322 *eP* **P 12 45 25.9 -1.0**
PVCC Panska Ves 85.58 322 *eP* **P 12 45 25.9 -1.0**
PVCC *ex* x 12 45 50.1
BRG Berggiesshubel 85.80 323 *eP* **P 12 45 28.8 +0.9**
comp=Z,2.2nm,0.7s
BRG *e* 12 45 36.1
comp=Z,5.3nm,0.9s
BRG
comp=N,454nm,23.8s
BRG
comp=E,518nm,13.4s
BRG
comp=Z,769nm,16.0s
PRU Pruhonice 85.82 322 AMS AMS 13 29 20.0
comp=Z,800nm,17.7s
CLL Collm 86.15 323 *eP* P 12 45 36.0 +6.4
CLL *eS* **S 12 56 00.0 -1.4**
CLL MLR MLR
comp=Z,900nm,19.0s
CLL Collm 86.15 323 *epP* **pP 12 45 42.0 +0.3**
CLL *e*(PP) 12 49 01.0
CLL *eS* **S 12 56 00.0 -1.4**
CLL *eSP* **SPn 12 56 53.0 -4.2**
CLL *eSS* SS 13 01 53.0 +13
CLL *e* 13 06 12.0
CLL *eSSSS* 13 08 12.0
CLL Lm MLR 13 29 00.0
comp=Z,900nm,19.0s
GERES GERESS Array B 86.81 321 P **P 12 45 32.4 -0.7**
GERES GERESS Array B 86.81 321 P **P 12 45 32.4 -0.7**
comp=Z,1.0nm,0.7s,baz=69,slow=4.4,SNR=5.6
GERES LR LR 13 30 10.3
comp=Z,578nm,19.7s,baz=202,slow=40
NKC Novy Kostel 86.94 322 AMS AMS 13 27 40.0
comp=Z,1μm,18.9s
BBB Bella Bella 87.09 35 LR LR 13 19 23.6
comp=Z,136nm,20.9s,baz=39,slow=32
SUMG Summit 87.56 354 *i* P **P 12 45 36.8 +0.2**
comp=Z,7.0nm,0.9s
YKA Yellowknife Ar 87.64 23 P **P 12 45 37.0 +0.4**
YKA PKiKP **PKiKP 12 50 39.0 -0.7**
YKA PKKPbc **PKKPbc 13 03 23.2 -3.1**
YKA Yellowknife Ar 87.64 23 P **P 12 45 37.0 +0.4**
comp=Z,10nm,0.7s,baz=312,slow=4.6,SNR=208
YKA PKiKP **PKiKP 12 50 39.0 -0.7**
comp=Z,0.1nm,0.5s,baz=327,slow=1.8,SNR=3.3
YKA PKKPbc **PKKPbc 13 03 23.2 -3.1**
comp=Z,0.2nm,0.5s,baz=132,slow=2.5,SNR=5.5
LPG La Plagne 92.56 320 *eP* **P 12 46 00.2 -0.2**
comp=Z,17nm,0.8s
LPG La Plagne 92.56 320 *eP* **P 12 46 00.2 -0.2**
LPG pmax pmax
comp=Z,17nm,0.8s
LPG La Plagne 92.56 320 *eP* **P 12 46 00.2 -0.2**
comp=Z,17nm,0.8s
LPL La Plagne 92.56 320 *eP* **P 12 46 00.3 -0.1**
comp=Z,23nm,1.0s
LPL La Plagne 92.56 320 *eP* **P 12 46 00.3 -0.1**
LPL pmax pmax
comp=Z,23nm,1.0s
LPL La Plagne 92.56 320 *eP* **P 12 46 00.3 -0.1**
comp=Z,23nm,1.0s
PGF Pioggiola 92.61 317 *eP* **P 12 46 00.4 -0.1**
comp=Z,79nm,1.3s
PGF Pioggiola 92.61 317 *eP* **P 12 46 00.4 -0.1**
PGF pmax pmax
comp=Z,79nm,1.3s
PGF Pioggiola 92.61 317 *eP* **P 12 46 00.4 -0.1**
comp=Z,79nm,1.3s
MBDF Montbardon 92.94 319 *eP* **P 12 46 01.8 -0.2**
comp=Z,14nm,1.0s
MBDF Montbardon 92.94 319 *eP* **P 12 46 01.8 -0.2**
MBDF pmax pmax
comp=Z,14nm,1.0s
MBDF Montbardon 92.94 319 *eP* **P 12 46 01.8 -0.2**
comp=Z,14nm,1.0s
PPT Papeete 94.86 107 LR LR 13 26 08.9
comp=Z,369nm,18.5s,baz=353,slow=34
PPT2 Papeete2 94.86 107 *eS* **S 12 57 24.5 +1.7**
comp=Z,323nm,28.2s
PPT2 *eSS* **SS 13 03 44.9 -3.5**
comp=Z,383nm,33.2s
PPT2 *eLR* LR 13 16 51.7
comp=Z,937nm,24.8s,baz=288
NEW Newport 95.15 35 ⇑P **P 12 46 12.9 +0.9**
baz=95

YBH	**Yreka Blue Hor**	**95.47**	**42**	LR	LR	13 28 32.5		
	comp=Z,185nm,18.2s,baz=333,slow=35							
C11A	**Tepee Creek (N**	**95.87**	**35**	⇓P	**P**	**12 46 15.8**	**+0.6**	
	baz=96							
A13A	**Flathead Natio**	**96.18**	**33**	⇓P	**P**	**12 46 17.2**	**+0.5**	
	baz=96							
B13A	**Whitefish**	**96.50**	**34**	⇓P	**P**	**12 46 18.9**	**+0.8**	
	baz=96							
A14A	**Double T Ranch**	**96.66**	**33**	⇓P	**P**	**12 46 19.9**	**+1.0**	
	baz=96							
TBI	**Tubuai**	**96.75**	**112**	*e*LR	LR	13 17 41.8		
	comp=Z,622nm,25.5s,baz=300							
D12A	**Red Ives Fores**	**96.83**	**35**	⇓P	**P**	**12 46 20.5**	**+0.8**	
	baz=97							
F12A	**Elk City**	**97.67**	**36**	⇓P	**P**	**12 46 23.8**	**+0.2**	
	baz=98							
FFC	**Flin Flon**	**97.77**	**24**	*e*P	**P**	**12 46 23.2**	**-0.4**	
FFC				pmax	pmax			
	comp=Z,4.0nm,0.9s							
FFC	**Flin Flon**	**97.77**	**24**	*e*P	**P**	**12 46 23.2**	**-0.4**	
	comp=Z,3.7nm,0.9s							
G12A	**Big Creek, Yel**	**98.01**	**37**	⇑P	**P**	**12 46 24.6**	**-0.6**	
	baz=98							
C16A	**Fuhringer Ranc**	**98.27**	**33**	⇓P	**P**	**12 46 26.2**	**0.0**	
	baz=98							
B17A	**L&G Farms, Che**	**98.43**	**32**	⇓P	**P**	**12 46 26.7**	**-0.1**	
	baz=98							
H13A	**Challis**	**98.96**	**37**	⇓P	**P**	**12 46 29.1**	**-0.3**	
	baz=99							
A19A	**Klindworth Far**	**99.02**	**31**	⇑P	**Pdif**	**12 46 28.9**	**-0.5**	
	baz=99							
VNDA	**Vanda**	**99.27**	**172**	LR	LR	13 35 34.1		
	comp=Z,346nm,18.8s,baz=330,slow=38							
HLID	**Hailey**	**99.48**	**37**	⇓P	**Pdif**	**12 46 31.0**	**-0.7**	
	baz=99							
G15A	**Dillon**	**99.56**	**35**	⇓P	**Pdif**	**12 46 31.7**	**-0.4**	
	baz=99							
I14A	**Mackay**	**99.81**	**37**	⇓P	**Pdif**	**12 46 33.2**	**0.0**	
	baz=100							
A21A	**Bergtoll Ranch**	**99.85**	**30**	⇑P	**Pdif**	**12 46 33.0**	**-0.1**	
	baz=100							
NVAR	**Mina Array Bea**	**100.10**	**43**	P	**Pdif**	**12 46 34.0**	**-0.8**	
NVAR	**Mina Array Bea**	**100.10**	**43**	P	**Pdif**	**12 46 34.0**	**-0.8**	
	comp=Z,1.0nm,0.8s,baz=269,slow=5.3,SNR=6.0							
C20A	**Veseth Ranch,**	**100.21**	**31**	⇓P	**Pdif**	**12 46 34.2**	**-0.6**	
	baz=100							
TORD	**Torodi Ar. Bea**	**112.38**	**294**	PKiKP	**PKiKP**	**12 51 24.6**	**-0.7**	
TORD				PKKPbc	**PKKPbc**	**13 02 16.4**	**+1.7**	
TORD	**Torodi Ar. Bea**	**112.38**	**294**	PKiKP	**PKiKP**	**12 51 24.6**	**-0.7**	
	comp=Z,1.0nm,0.8s,baz=75,slow=1.0,SNR=5.9							
TORD				PKKPbc	**PKKPbc**	**13 02 16.4**	**+1.7**	
	comp=Z,0.5nm,0.6s,baz=240,slow=2.9,SNR=5.0							
427A	**Hayter Ranch,**	**114.39**	**42**	⇓P	PKPdf	12 51 28.9	-0.1	
	baz=114							
526A	**Mary Lane Ranc**	**114.49**	**43**	⇑P	PKPdf	12 51 28.9	-0.3	
	baz=114							
527A	**Woodward Ranch**	**114.73**	**42**	⇓P	PKPdf	12 51 29.4	-0.3	
	baz=115							
626A	**Big Bend Ranch**	**114.80**	**43**	⇓P	PKPdf	12 51 29.5	-0.3	
	baz=115							
428A	**Kincaid Ranch,**	**114.92**	**41**	⇑P	PKPdf	12 51 29.5	-0.5	
	baz=115							
528A	**Cox Ranch, San**	**115.25**	**42**	⇓P	**PKPdf**	**12 51 30.0**	**-0.6**	
	baz=115							
TXAR	**Lajitas Array**	**115.25**	**43**	PKP	**PKPdf**	**12 51 30.8**	**+0.1**	
TXAR	**Lajitas Array**	**115.25**	**43**	PKP	**PKPdf**	**12 51 30.8**	**+0.1**	
	comp=Z,1.3nm,0.5s,baz=194,slow=1.1,SNR=38							
627A	**Terlingua Ranc**	**115.35**	**43**	⇓P	**PKPdf**	**12 51 30.6**	**-0.2**	
	baz=115							
429A	**Davenport Ranc**	**115.48**	**41**	⇑P	**PKPdf**	**12 51 30.5**	**-0.5**	
	baz=115							
628A	**Black Gap, Mar**	**115.64**	**42**	⇓P	**PKPdf**	**12 51 30.9**	**-0.4**	
	baz=116							
530A	**J-C Ranch, Com**	**116.16**	**41**	⇑P	**PKPdf**	**12 51 31.9**	**-0.3**	
	baz=116							
JCT	**Junction City**	**116.86**	**39**	*e*PKIKP	**PKPdf**	**12 51 33.8**	**+0.2**	
JCT	**Junction City**	**116.86**	**39**	*e*PKPdf	**PKPdf**	**12 51 33.8**	**+0.2**	
SDV	**Santo Domingo**	**149.85**	**24**	*e*PKPdf	**PKPdf**	**12 52 34.8**	**-0.1**	
ROSC	**El Rosal**	**151.70**	**34**	*e*PKPdf	**PKPdf**	**12 52 39.3**	**+1.2**	
OTAV	**Otavalo**	**152.76**	**47**	*e*PKPbc	**PKPbc**	**12 52 47.3**	**+0.4**	

*IDC **26** 12:42:50.4±0.9,2°.24N×96°.50E, h0km, mb4.0/12, mb1 4.1/14, mb1mx3.9/30, mbtmp4.0/14, ML3.8/2, Error ellipse: s-maj=23.2km s-min=13.6km az=35.0*
*ISCJB **26** 12:42:52.8±0.7,2°.26N±0°.09×96°.54E±0°.08, h30km, mb4.1/14, Error ellipse: s-maj=15.1km s-min=9.8km az=37.0*
*NEIC **26** 12:42:55.6±0.4,2°.28N×96°.60E, h35km, mb4.3/2, Error ellipse: s-maj=10.1km s-min=6.5km az=219.0*

ISC 26 12:42:55.0±1.0,2°.3N±0°.1×96°.6E±0°.1, h30km, n34, σ0$44/38, mb4.2/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.39**	**77**	Pn	**Pn**	**12 43 32.3**	**+0.1**
PSI				Lg	Lg	12 44 09.2	
PSI	**Prapat**	**2.39**	**77**	Pn	**Pn**	**12 43 32.3**	**+0.1**
	3.2nm,0.3s,baz=312,slow=15,SNR=12						
PSI				Lg	Lg	12 44 09.2	
	5.5nm,0.3s,baz=200,slow=21,SNR=8.6						
IPM	**Ipoh**	**4.94**	**64**	*e*Pn	**Pn**	**12 44 07.9**	**+0.7**
KULM	**Kulim**	**5.03**	**53**	*e*Pn	**Pn**	**12 44 08.9**	**+0.4**
	26nm,0.6s						
CMAR	**Chiang Mai Arr**	**16.24**	**8**	Pn	**Pn**	**12 46 40.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**16.24**	**8**	Pn	**Pn**	**12 46 40.6**	**-0.5**
	0.4nm,0.3s,baz=198,slow=11,SNR=18						
FITZ	**Fitzroy Crossi**	**35.05**	**126**	P	**P**	**12 49 45.2**	**-0.3**
FITZ	**Fitzroy Crossi**	**35.05**	**126**	P	**P**	**12 49 45.2**	**-0.3**
	3.7nm,1.1s,baz=312,slow=16,SNR=3.5						
WRA	**Warramunga Arr**	**43.12**	**123**	P	**P**	**12 50 53.3**	**+0.3**
WRA				PcP	**PcP**	**12 52 42.7**	**+0.1**
WRA	**Warramunga Arr**	**43.12**	**123**	P	**P**	**12 50 53.3**	**+0.3**
	1.2nm,0.5s,baz=301,slow=9.1,SNR=14						
WRA				PcP	**PcP**	**12 52 42.7**	**+0.1**
	0.3nm,0.7s,baz=302,slow=4.8,SNR=4.3						
WRAB	**Tennant Creek**	**43.13**	**123**	P	**P**	**12 50 51.7**	**-1.4**
	15nm,1.5s						
ASAR	**Alice Springs**	**44.53**	**128**	P	**P**	**12 51 04.7**	**+0.3**
ASAR	**Alice Springs**	**44.53**	**128**	P	**P**	**12 51 04.7**	**+0.3**
	0.5nm,0.7s,baz=302,slow=8.0,SNR=8.3						
KSAR	**Wonju Array Be**	**45.29**	**36**	P	**P**	**12 51 09.9**	**-0.2**
KSRS	**Korea Array**	**45.32**	**36**	P	**P**	**12 51 09.9**	**-0.4**
	0.6nm,0.6s,baz=233,slow=8.5,SNR=4.6						
MK31	**Makanchi Array**	**46.05**	**346**	*e*P	**P**	**12 51 16.2**	**+0.1**
MKAR	**Makanchi Array**	**46.05**	**346**	P	**P**	**12 51 16.3**	**+0.2**
MKAR	**Makanchi Array**	**46.05**	**346**	P	**P**	**12 51 16.3**	**+0.2**
	3.4nm,0.6s,baz=164,slow=7.3,SNR=53						
SONM	**Songino Array**	**46.16**	**9**	P	**P**	**12 51 17.0**	**0.0**
SONM				PcP	**PcP**	**12 52 53.0**	**+0.4**
SONM	**Songino Array**	**46.16**	**9**	P	**P**	**12 51 17.0**	**0.0**
	2.1nm,0.6s,baz=191,slow=9.8,SNR=33						
SONM				PcP	**PcP**	**12 52 53.1**	**+0.4**
	0.3nm,0.6s,baz=201,slow=4.1,SNR=4.4						
KURBB	**Kurchatov Arra**	**50.54**	**345**	P	**P**	**12 51 50.8**	**+0.3**
	2.1nm,0.5s,baz=163,slow=6.8,SNR=18						
KURK	**Kurchatov**	**50.60**	**345**	P	**P**	**12 51 50.8**	**-0.2**
ZALV	**Zalesovo Beam**	**52.40**	**351**	P	**P**	**12 52 04.4**	**0.0**
ZALV	**Zalesovo Beam**	**52.40**	**351**	P	**P**	**12 52 04.4**	**0.0**
	1.8nm,0.5s,baz=174,slow=6.9,SNR=15						
BVAR	**Borovoye Array**	**55.04**	**341**	P	**P**	**12 52 23.7**	**0.0**
BVAR	**Borovoye Array**	**55.04**	**341**	P	**P**	**12 52 23.7**	**0.0**
	1.1nm,0.7s,baz=132,slow=6.4,SNR=5.0						
ABKAR	**Akbulak array**	**56.28**	**332**	*e*P	**P**	**12 52 32.5**	**-0.3**
	1.7nm,0.7s						
AKTO	**Aktyubinsk**	**58.00**	**332**	P	**P**	**12 52 44.9**	**0.0**
AKTO	**Aktyubinsk**	**58.00**	**332**	P	**P**	**12 52 44.9**	**0.0**
	0.6nm,0.4s,baz=124,slow=7.3,SNR=4.4						
FINES	**FINESS Array B**	**78.77**	**332**	P	**P**	**12 54 55.2**	**+0.7**
FINES	**FINESS Array B**	**78.77**	**332**	P	**P**	**12 54 55.2**	**+0.7**
	0.5nm,0.5s,baz=101,slow=7.5,SNR=2.6						
ARCES	**ARCESS Array B**	**81.32**	**340**	P	**P**	**12 55 07.5**	**-0.7**
ARCES	**ARCESS Array B**	**81.32**	**340**	P	**P**	**12 55 07.5**	**-0.7**
	5.0nm,1.1s,baz=107,slow=5.8,SNR=4.2						
VBMS	**Vicksburg**	**145.03**	**11**	*e*PKPbc	**PKPdf**	**13 02 30.2**	**+0.1**

IDC 26 12:44:50.5±2.3,1°.32S×128°.08E, h0km, mb3.0/2, mb1 3.2/3, mb1mx3.1/20, mbtmp3.0/3, ML2.9/1, Error ellipse: s-maj=167.4km s-min=27.4km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.50**	**162**	P	P	12 49 19.6	+0.2
	0.0nm,0.3s,baz=341,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**22.92**	**166**	P	P	12 49 56.3	-0.1
	0.1nm,0.5s,baz=346,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**62.46**	**326**	P	P	12 55 15.7	-0.1
	0.1nm,0.3s,baz=118,slow=8.4,SNR=4.1						

*CSEM **26** 12:49:06.4±0.1, 76°.86N×18°.46E, h2km, ML2.9, Error ellipse: s-maj=5.7km s-min=2.2km az=65.0*
*NAO **26** 12:49:08.3±1.9, 77°.06N×19°.71E, h19km±20km, ML2.9*
*BER **26** 12:49:11.2, 76°.87N×18°.66E, h21km, MD2.4, ML2.9, ML2.9(NAO)*

ISC 26 12:49:08.3±0.8, 76°.99N±0°.05×19°.14E±0°.04, h10km, n16, σ1$12/27, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**0.81**	**273**	*e*P	**Pg**	**12 49 24.0**	**0.0**
HSP				*e*S	**Sg**	**12 49 33.5**	**-1.0**
SPA0	**Spitsbergen Ar**	**1.34**	**335**	Pg	**Pb**	**12 49 33.1**	**-0.4**
	baz=150,slow=22						
SPA0				Lg	Lg	12 49 50.4	
	baz=142,slow=37						
SPA0	**Spitsbergen Ar**	**1.34**	**335**	*e*P	**Pb**	**12 49 33.3**	**-0.2**
SPA0				*e*S	**Sg**	**12 49 52.0**	**+0.6**
SPA0	**Spitsbergen Ar**	**1.34**	**335**	Pg	**Pb**	**12 49 33.1**	**-0.4**
	baz=150,slow=19,SNR=60						
SPA0				Lg	Lg	12 49 50.4	
	baz=142,slow=31,SNR=9.1						
SPA0				*e*S	**Sg**	**12 49 52.0**	**+0.6**
	SNR=55						
HOPEN	**Hopen**	**1.44**	**107**	*e*P	**Pg**	**12 49 35.4**	**-0.4**
HOPEN				*e*S	**Sg**	**12 49 54.3**	**-0.2**
HOPEN				AML	AML	12 49 59.8	
	comp=Z,293nm,0.3s						
HOPEN	**Hopen**	**1.44**	**107**	*e*P	**Pg**	**12 49 35.4**	**-0.4**
	SNR=55						
HOPEN				*e*S	**Sg**	**12 49 54.3**	**-0.2**
	comp=Z,293nm,0.3s,SNR=55						
KBS	**Kingsbay**	**2.46**	**326**	Pn	**Pn**	**12 49 48.0**	**-0.5**
KBS				Pg	**Pb**	**12 49 53.9**	**+1.2**
KBS				Lg	Lg	12 50 25.8	
KBS	**Kingsbay**	**2.46**	**326**	*e*P	**Pn**	**12 49 48.0**	**-0.5**
KBS				Pg	**Pb**	**12 49 53.9**	**+1.2**
KBS				*e*Sg	**Sg**	**12 50 25.9**	**-1.5**
KBS				AML	AML	12 50 33.0	
	comp=Z,133nm,0.6s						
KBS	**Kingsbay**	**2.46**	**326**	*e*P	**Pn**	**12 49 48.0**	**-0.5**
	SNR=55						
KBS	**Kingsbay**	**2.46**	**326**	Pg	**Pb**	**12 49 53.9**	**+1.2**
KBS				Lg	Lg	12 50 25.8	
KBS				*e*Sg	**Sg**	**12 50 25.9**	**-1.5**
	comp=Z,133nm,0.6s,SNR=92						
BJO	**Bjornoya**	**2.49**	**180**	*e*Pg	**Pn**	**12 49 51.4**	**+2.5**
BJO				*e*Sg	**Sb**	**12 50 23.4**	**-0.4**
BJO				*e*		12 50 47.3	
BJO	**Bjornoya**	**2.49**	**180**	*e*Pg	**Pn**	**12 49 51.4**	**+2.5**
	SNR=92						
BJO				*e*Sg	**Sb**	**12 50 23.4**	**-0.4**
	SNR=92						
KEV	**Kevo**	**7.60**	**159**	*e*p	**Pn**	**12 51 00.0**	**+1.1**
	comp=Z,0.4nm,0.2s						
ARA0	**ARCESS Array S**	**7.71**	**163**	Pn	**Pn**	**12 50 59.4**	**-1.1**
	baz=359,slow=11						
ARA0				Sn	Sn	12 52 20.0	-7.6
	baz=2.8,slow=22						
ARA0	**ARCESS Array S**	**7.71**	**163**	Pn	**Pn**	**12 50 59.4**	**-1.1**
	baz=359,slow=11						
ARA0				Sn	Sn	12 52 20.0	-7.6
	baz=2.8,slow=22						
ARA0	**ARCESS Array S**	**7.71**	**163**	Pn	**Pn**	**12 50 59.3**	**-1.1**
	baz=359,slow=11,SNR=9.3						

IDC 26 13:10:47.1±1.0, 26°.88N×142°.88E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/26, mbtmp3.7/7, Error ellipse: s-maj=23.6km s-min=15.8km az=45.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.66**	**289**	Pn	Pn	13 11 04.5	+0.8
	172nm,0.3s,baz=276,slow=22,SNR=112						
CBIJ				Sn	Sn	13 11 15.4	+0.7
	456nm,0.3s,baz=287,slow=19,SNR=26						
WRA	**Warramunga Arr**	**47.28**	**191**	P	P	13 19 22.4	+0.1
	1.5nm,0.4s,baz=12,slow=8.7,SNR=25						
FITZ	**Fitzroy Crossi**	**47.74**	**202**	P	P	13 19 25.8	-0.2
	4.6nm,1.2s,baz=24,slow=10.0,SNR=3.3						
ASAR	**Alice Springs**	**51.00**	**191**	P	P	13 19 50.5	-0.3
	0.3nm,0.7s,baz=8.3,slow=7.0,SNR=5.5						
MKAR	**Makanchi Array**	**51.09**	**310**	P	P	13 19 50.5	-0.9
	0.1nm,0.4s,baz=96,slow=7.2,SNR=2.9						
KURBB	**Kurchatov Arra**	**53.63**	**315**	P	P	13 20 09.3	-0.8
	0.6nm,0.4s,baz=90,slow=8.2,SNR=4.8						
BVAR	**Borovoye Array**	**58.62**	**318**	P	P	13 20 45.1	-0.8
	1.2nm,0.4s,baz=90,slow=7.4,SNR=8.6						
YKA	**Yellowknife Ar**	**72.03**	**28**	P	P	13 22 13.4	+0.8
	0.2nm,0.6s,baz=291,slow=6.0,SNR=2.4						

*IDC **26** 13:19:54.8±0.7, 19°.15N×121°.47E, h0km, mb3.6/10, mb1 3.8/11, mb1mx3.7/26, mbtmp3.6/11, ML3.4/1, Error ellipse: s-maj=31.7km s-min=15.6km az=74.0*
*ISCJB **26** 13:19:59.1±0.5, 19°.21N±0°.05×121°.28E±0°.10, h39km, mb3.6/10, Error ellipse: s-maj=13.2km s-min=6.4km az=174.8*
*MAN **26** 13:20:03, 18°.75N×121°.16E, h1km, mb4.7, ML3.6, MS3.5*

ISC 26 13:20:00.8±0.7, 19°.13N±0°.07×121°.13E±0°.09, h39km, n18, σ1$35/20, mb3.5/10, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.94**	**211**	*i*P	**Pn**	**13 20 16.2**	**-1.2**
SIPP	**Brgy, Tapao**	**1.36**	**208**	*e*P	**Pn**	**13 20 24.3**	**+1.1**
ABRA	**Dolores**	**1.53**	**195**	*e*P	**Pn**	**13 20 26.2**	**+0.7**
ABRA				*e*S	**Sn**	**13 20 42.9**	**-1.2**
CVP	**Callao Caves**	**1.57**	**155**	*e*P	**Pn**	**13 20 25.6**	**-0.5**
CVP				*i* S	**Sn**	**13 20 45.6**	**+0.5**
PALP	**Palanan**	**2.40**	**149**	*e*P	**Pn**	**13 20 40.0**	**+2.4**
BOLP	**Bolinao**	**2.97**	**203**	*e*P	Pn	13 20 49.4	+4.0
BALP	**Baler**	**3.40**	**173**	*e*P	**Pn**	**13 20 52.6**	**+1.3**
KSRS	**Korea Array**	**19.20**	**17**	P	**P**	**13 24 20.4**	**-0.8**
	0.1nm,0.3s,baz=197,slow=12,SNR=4.0						
CMAR	**Chiang Mai Arr**	**21.01**	**272**	P	**P**	**13 24 44.2**	**+3.1**
	0.5nm,0.6s,baz=64,slow=9.7,SNR=4.0						
SONM	**Songino Array**	**31.04**	**341**	P	**P**	**13 26 15.5**	**+0.5**
	0.3nm,0.6s,baz=162,slow=8.8,SNR=3.2						
FITZ	**Fitzroy Crossi**	**37.27**	**173**	P	**P**	**13 27 08.3**	**-0.7**
	0.9nm,0.3s,baz=351,slow=13,SNR=4.9						
WRA	**Warramunga Arr**	**40.94**	**161**	P	**P**	**13 27 38.5**	**-1.1**
	0.4nm,0.4s,baz=342,slow=9.0,SNR=6.6						
MKAR	**Makanchi Array**	**42.04**	**320**	P	**P**	**13 27 49.5**	**+0.9**
	0.5nm,0.7s,baz=114,slow=9.7,SNR=6.5						
MKAR				PcP	**PcP**	**13 29 43.2**	**+0.2**
	0.3nm,0.7s,baz=93,slow=3.2,SNR=3.4						
ASAR	**Alice Springs**	**44.33**	**163**	P	**P**	**13 28 06.1**	**-1.1**
	0.3nm,0.3s,baz=343,slow=7.2,SNR=16						
KURBB	**Kurchatov Arra**	**46.02**	**323**	P	**P**	**13 28 21.3**	**+1.0**
	0.6nm,0.5s,baz=120,slow=8.1,SNR=6.5						
ILAR	**Eielson Array**	**73.72**	**27**	P	**P**	**13 31 28.9**	**-1.6**
	0.3nm,0.8s,baz=260,slow=5.4,SNR=4.4						
ARCES	**ARCESS Array B**	**74.19**	**339**	P	**P**	**13 31 32.5**	**-0.6**
	3.3nm,1.0s,baz=79,slow=4.9,SNR=4.3						
YKA	**Yellowknife Ar**	**87.63**	**23**	P	**P**	**13 32 44.3**	**-0.5**
	0.9nm,0.7s,baz=310,slow=4.6,SNR=16						

IDC 26 13:39:20.2±2.2, 7°.30S×147°.50E, h0km, mb3.6/3, mb1 3.9/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=66.2km s-min=23.6km az=91.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.12**	**189**	Pn	Pn	13 39 58.1	+1.1
	32nm,0.3s,baz=13,slow=14,SNR=82						
PMG				Sn	Sb	13 40 26.3	-0.1
	93nm,0.3s,baz=6.9,slow=20,SNR=7.7						
WRA	**Warramunga Arr**	**17.91**	**224**	P	Pn	13 43 30.7	-0.3
	0.5nm,0.3s,baz=48,slow=12,SNR=23						
ASAR	**Alice Springs**	**20.86**	**217**	P	P	13 44 04.5	+0.4
	1.8nm,0.3s,baz=47,slow=8.6,SNR=69						
STKA	**Stephens Creek**	**25.07**	**192**	P	P	13 44 44.8	-1.7
	1.9nm,0.9s,baz=48,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**78.81**	**321**	P	P	13 51 25.7	+0.6
	0.1nm,0.5s,baz=108,slow=4.7,SNR=4.1						
TORD	**Torodi Ar. Bea**	**145.88**	**283**	PKPbc	PKPdf	13 59 01.7	-0.4
	0.2nm,0.4s,baz=86,slow=3.6,SNR=4.5						

IDC 26 13:53:30.3±1.7, 9°.53S×120°.85E, h0km, mb3.9/2, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, ML3.3/3, Error ellipse: s-maj=172.4km s-min=23.1km az=56.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.71**	**152**	Pn	Pn	13 55 53.2	+1.9
	0.1nm,0.3s,baz=338,slow=11,SNR=9.7						
FITZ				Sn	Sn	13 57 31.0	-10
	0.4nm,0.3s,baz=210,slow=20,SNR=7.7						
WRA	**Warramunga Arr**	**16.64**	**130**	Pn	Pn	13 57 24.2	-0.9
	0.2nm,0.3s,baz=300,slow=13,SNR=12						
WRA				Sn	Sn	14 00 13.0	-18
	0.2nm,0.3s,baz=305,slow=24,SNR=7.7						
ASAR	**Alice Springs**	**18.80**	**140**	P	P	13 57 51.4	-0.1
	0.1nm,0.3s,baz=313,slow=10.0,SNR=13						
ASAR				S	Sn	14 01 09.5	-13
	0.1nm,0.3s,baz=307,slow=23,SNR=4.1						
STKA	**Stephens Creek**	**29.40**	**142**	P	P	13 59 34.8	-0.7
	3.0nm,1.0s,baz=332,slow=13,SNR=2.9						
MKAR	**Makanchi Array**	**65.77**	**332**	P	P	14 04 17.2	+0.1
	0.3nm,0.5s,baz=145,slow=7.2,SNR=8.0						

*ISCJB **26** 14:09:26.8±1.2, 36°.46N±0°.07×70°.5E±0°.2, h200km, Error ellipse: s-maj=21.6km s-min=6.0km az=155.7*
*NNC **26** 14:09:33.8±3.3, 36°.96N×70°.71E, h205km±27km, mb2.6, mpv3.7, Error ellipse: s-maj=34.5km s-min=19.4km az=37.0*

ISC 26 14:09:25.7±3.1, 36°.5N±0°.2×70°.4E±0°.4, h200km, n24, σ1$41/21, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.24**	**24**	P	**Pn**	**14 10 57.7**	**+1.3**
	SNR=55						
UCH	**Uchtor**	**6.61**	**28**	P	Sn	14 12 14.5	-2.5
	SNR=10						
KK31	**Karatay Array**	**6.65**	**1**	P	Pn	14 11 02.9	+1.5
	0.8nm,0.2s,baz=193,slow=24,SNR=17						
KK31				⇑S	**Sn**	**14 12 14.0**	**-3.2**
	2.2nm,0.4s,baz=154,slow=14,SNR=8.4						
EKS2	**Erkin-Say**	**6.75**	**22**	P	**Pn**	**14 11 04.4**	**+1.7**
	SNR=23						
KZA	**Kyzart**	**6.79**	**33**	P	**Pn**	**14 11 04.2**	**+0.7**
	SNR=7.4						
AAK	**Ala-Archa**	**6.96**	**26**	P	**Pn**	**14 11 06.9**	**+1.4**
	SNR=11						
ULHL	**Ulahol**	**7.37**	**36**	P	**Pn**	**14 11 11.6**	**+0.7**
	SNR=6.9						
TKM2	**Tokmak 2**	**7.63**	**30**	⇑P	**Pn**	**14 11 14.8**	**+0.6**
	7.7nm,0.6s						
TKM2	**Tokmak 2**	**7.63**	**30**	P	**Pn**	**14 11 15.5**	**+1.3**
	SNR=10.0						
PYUN	**Piuthan**	**13.54**	**124**	*e*P	**Pn**	**14 12 28.8**	**-1.4**
MK31	**Makanchi Array**	**13.64**	**37**	⇓P	**Pn**	**14 12 31.5**	**+0.4**
	2.1nm,1.0s,baz=222,slow=13,SNR=11						
DANN	**Dangsing**	**13.90**	**122**	*e*P	**P**	**14 12 35.3**	**-1.5**
KOLN	**Koldanda**	**14.16**	**124**	*e*P	**Pn**	**14 12 37.1**	**-0.8**
	5.8nm,0.3s						
GKN	**Gorkha**	**14.72**	**121**	*e*P	**P**	**14 12 45.8**	**+0.1**
AB31	**Akbulak array**	**14.89**	**333**	⇓P	P	14 12 50.2	+3.0
	0.6nm,0.5s,baz=140,slow=12,SNR=8.7						
DMN	**Daman**	**15.29**	**121**	*e*P	**Pn**	**14 12 52.1**	**+0.3**
KKN	**Kakani**	**15.30**	**120**	*e*P	**Pn**	**14 12 52.7**	**+0.9**
GUN	**Gumba**	**15.65**	**119**	*e*P	**Pn**	**14 12 57.3**	**+1.1**
	6.4nm,0.3s						
JIRN	**Jiri**	**16.02**	**119**	*e*P	**Pn**	**14 13 02.2**	**+1.5**
VOSK	**Vostochnaya**	**16.28**	**1**	⇑P	**Pn**	**14 13 04.1**	**+0.9**
	2.4nm,1.4s						
ZRNK	**Zerenda**	**16.53**	**357**	⇓P	**Pn**	**14 13 06.7**	**+0.5**
	1.1nm,0.6s						
BVA0	**Borovoye Array**	**16.58**	**0**	⇑P	Pn	14 13 09.8	+3.0
	0.4nm,1.4s,baz=167,slow=12,SNR=6.5						
RAMN	**Ramite**	**16.74**	**120**	*e*P	**Pn**	**14 13 11.0**	**+1.8**
TAPN	**Taplejung**	**17.29**	**117**	*e*P	**Pn**	**14 13 17.1**	**+1.4**
	5.5nm,0.4s						

**IDC 26 14:17:31.5±1.7, 2°.96N×126°.99E, h0km, mb3.6/5, mb1 3.8/5, m

SLR			*e*S	Sb	14 31 05.2	-0.1
SLR			AML	AML	14 31 10.2	
	comp=Z,33nm,0.3s					
SWZ	**Schweizer**	**2.05 247**	*e*P	Pn	14 31 07.9	+0.7
SWZ			*e*S	Sn	14 31 34.3	+0.8
SWZ			AML	AML	14 31 40.0	
	comp=Z,31nm,0.2s					
LBTB	**Lobatse**	**2.15 309**	*e*P	Pn	14 31 09.4	+0.9
LBTB			*e*S	Sn	14 31 35.9	0.0
LBTB			AML	AML	14 31 43.9	
	comp=Z,37nm,0.3s					
BOSA	**Boshof**	**2.95 221**	*e*P	Pn	14 31 20.7	+1.1
BOSA			*e*S	Sn	14 31 55.0	-0.8
BOSA			AML	AML	14 32 07.5	
	comp=Z,4.1nm,0.8s					

*ISCJB **26** 14:31:23.4±0.8, 21°.88N±0°.04×121°.77E±0°.02, h12km±5km, Error ellipse: s-maj=7.1km s-min=3.5km az=173.1*
*TAP **26** 14:31:25.7, 21°.93N×121°.47E, h3km, ML3.3, D*
*JMA **26** 14:31:25.5±0.3, 21°.86N×121°.84E, h70km*
ISC 26 14:31:21.9±1.6, **21°.85N**±0°.06×**121°.78E**±0°.04, **h5**km±10km, **n41**, σ1**8**37/70, **1C**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.29**	**312**	*i*P	**Pg**	**14 31 29.2**	**+1.6**
	baz=39						
LAY				*e*S	**Sg**	**14 31 31.3**	**-0.1**
	baz=39						
TSEB	**Hengchuen, Pin**	**0.82**	**274**	*e*P	**Pb**	**14 31 39.4**	**+0.7**
	baz=269						
TSEB				*e*S	**Sb**	**14 31 49.8**	**-0.4**
	baz=269						
TWK1	**Hengchun**	**0.91**	**276**	P	**Pg**	**14 31 40.1**	**+0.6**
	baz=272						
TWK1				*e*S	**Sg**	**14 31 50.8**	**-0.6**
	baz=272						
TAW	**Tawu**	**0.97**	**302**	*e*P	**Pg**	**14 31 40.4**	**-0.1**
	baz=311						
TAW				*e*S	**Sg**	**14 31 51.2**	**-1.9**
	baz=311						
HEN	**Hengchun**	**0.98**	**279**	P	**Pg**	**14 31 41.1**	**+0.2**
	baz=278						
HEN				*e*S	**Sg**	**14 31 52.6**	**-1.1**
	baz=278						
EAST	**Anshuo**	**1.02**	**302**	*e*P	**Pg**	**14 31 41.5**	**0.0**
	baz=311						
EAST				*e*S	**Sg**	**14 31 52.5**	**-2.2**
	baz=311						
ECL	**Taimali**	**1.07**	**314**	*e*P	**Pg**	**14 31 41.6**	**-0.9**
	baz=328						
ECL				S	**Sg**	**14 31 54.7**	**-1.8**
	baz=328						
TTN	**Taitung**	**1.08**	**327**	*e*P	**Pg**	**14 31 43.6**	**+1.0**
	baz=355						
TTN				*e*S	**Sg**	**14 31 57.0**	**+0.3**
	baz=355						
TWG	**Pinlang**	**1.17**	**326**	*e*P	**Pb**	**14 31 44.2**	**-0.5**
	baz=321						
TWG				*e*S	**Sb**	**14 31 58.9**	**-1.4**
	baz=321						
SCZT	**Fangliau**	**1.20**	**296**	*e*P	**Pb**	**14 31 45.1**	**-0.1**
	baz=318						
SCZT				*e*S	**Sg**	**14 31 59.2**	**-1.4**
	baz=318						
CHKT	**Chengkung**	**1.31**	**343**	*e*P	**Pn**	**14 31 45.2**	**-1.7**
	baz=12						
CHKT				*e*S	**Sb**	**14 32 01.3**	**-2.8**
	baz=12						
SSD	**Sandimen**	**1.39**	**310**	*e*P	**Pn**	**14 31 48.4**	**+0.3**
	baz=333						
SSD				*e*S	**Sn**	**14 32 04.2**	**-2.7**
	baz=333						
TWP	**Hsiaoliuchiu**	**1.41**	**291**	*e*P	**Pn**	**14 31 48.4**	**0.0**
	baz=315						
ELDTW	**Lidau**	**1.51**	**332**	*e*P	**Pn**	**14 31 49.1**	**-0.8**
	baz=346						
TWM1	**Shoushan**	**1.59**	**308**	*e*P	**Pn**	**14 31 51.8**	**+0.9**
	baz=331						
TWM1				*e*S	**Sn**	**14 32 10.9**	**-0.9**
	baz=331						
SGST	**Jiashian**	**1.66**	**318**	*e*P	**Pn**	**14 31 52.7**	**+0.9**
	baz=336						
SGST				*e*S	**Sn**	**14 32 12.8**	**-0.7**
	baz=336						
EHY	**Hungye**	**1.71**	**346**	*e*P	**Pn**	**14 31 52.0**	**-0.4**
	baz=10.0						
EHY				*e*S	**Sn**	**14 32 14.6**	**-0.1**
	baz=10.0						
WTP	**Ta-pu**	**1.76**	**322**	*e*P	**Pn**	**14 31 54.6**	**+1.3**
	baz=346						
WTP				*e*S	**Sn**	**14 32 16.6**	**+0.5**
	baz=346						
CHN1	**Nanshi**	**1.77**	**319**	*e*P	**Pn**	**14 31 54.1**	**+0.8**
	baz=346						
CHN1				*e*S	**Sn**	**14 32 15.8**	**-0.4**
	baz=346						
TWK	**Hsinying**	**1.85**	**320**	*e*P	**Pn**	**14 31 56.0**	**+1.6**
	baz=333						
TWK				*e*S	**Sn**	**14 32 18.7**	**+0.3**
	baz=333						
CHN4	**Tsaushan**	**1.86**	**324**	*e*P	**Pb**	**14 31 56.8**	**+0.3**
	baz=350						
CHN4				*e*S	**Sn**	**14 32 20.5**	**+2.1**
	baz=350						
ESL	**Shilin**	**1.99**	**351**	*e*P	**Pn**	**14 31 55.9**	**-0.4**
	baz=14						
CHN5	**Tsauling**	**2.02**	**330**	*e*P	**Pn**	**14 31 58.8**	**+2.0**
	baz=342						
CHN5				*e*S	**Sb**	**14 32 26.0**	**+1.3**
	baz=342						
SMLT	**Sun Moon Lake**	**2.19**	**338**	*e*P	**Pn**	**14 32 00.7**	**+1.6**
	baz=3.0						
TYC	**Yuchr**	**2.22**	**338**	*e*P	**Pn**	**14 32 01.9**	**+2.4**
	baz=352						
TYC				*e*S	**Sn**	**14 32 30.1**	**+2.8**
	baz=352						
WNT	**Mingjian**	**2.26**	**334**	*e*P	**Pn**	**14 32 02.0**	**+2.0**
	baz=348						
WNT				*e*S	**Sn**	**14 32 28.8**	**+0.4**
	baz=348						
WHF	**Hehuan Shan**	**2.34**	**348**	*e*P	**Pn**	**14 32 04.3**	**+2.8**
	baz=1.0						
WHF				*e*S	**Sn**	**14 32 30.5**	**-0.4**
	baz=1.0						
TWT	**Tachien**	**2.46**	**347**	*e*P	**Pn**	**14 32 05.7**	**+2.8**
	baz=12						
ENA	**Nanau**	**2.57**	**359**	*e*P	**Pn**	**14 32 04.7**	**+0.3**
	baz=21						
NNS	**Nan Shan**	**2.61**	**352**	*e*P	Pn	14 32 08.6	+3.7
	baz=5.0						
NNS				*e*S	**Sn**	**14 32 39.1**	**+2.0**
	baz=5.0						
TWQ1	**Liyutan**	**2.66**	**340**	P	Pn	14 32 08.3	+2.8
	baz=354						
TWQ1				*e*S	**Sn**	**14 32 39.5**	**+1.3**
	baz=354						
TWC	**Suao**	**2.75**	**1**	*e*P	Pn	14 32 09.7	+3.0
	baz=24						
ENTT	**Nioudou**	**2.79**	**356**	*e*P	**Pn**	**14 32 07.8**	**+0.5**
	baz=9.0						
YOJ	**Yonaguni jima**	**2.84**	**23**	P	**Pn**	**14 32 09.0**	**+1.0**
YOJ				*e*S	**Sn**	**14 32 42.2**	**-0.4**
NSK	**Sanguang**	**2.84**	**352**	*e*P	**Pn**	**14 32 09.9**	**+1.8**
	baz=16						
TWE	**Neicheng**	**2.86**	**358**	*e*P	**Pn**	**14 32 10.5**	**+2.2**
	baz=21						
TWE				*e*S	**Sn**	**14 32 43.8**	**+0.5**
	baz=21						
HATJ	**Hateruma jima**	**2.88**	**40**	P	**Pn**	**14 32 09.6**	**+1.0**
HATJ				*e*S	**Sn**	**14 32 42.4**	**-1.3**
IRIF	**Iriomote-Funau**	**3.06**	**35**	P	**Pn**	**14 32 11.9**	**+0.9**
IRIF				*e*S	**Sn**	**14 32 47.1**	**-0.9**
JKRS	**Kuro-shima**	**3.14**	**40**	P	**Pn**	**14 32 13.3**	**+1.2**
JKRS				*e*S	**Sn**	**14 32 49.1**	**-1.0**
JIJ	**Ishigaki jima**	**3.32**	**40**	P	**Pn**	**14 32 15.3**	**+0.8**
JIJ				*e*S	**Sn**	**14 32 52.5**	**-1.9**
JTJ	**Tarama**	**3.87**	**43**	P	**Pn**	**14 32 23.3**	**+1.2**
JTJ				*e*S	**Sn**	**14 33 07.7**	**-0.2**

*ATH **26** 14:44:27.6, 38°.21N×22°.08E, h30km, MD2.7/4*
*CSEM **26** 14:44:28.6±0.5, 38°.21N±22°.09E, h29km±2km, ML1.5/2, Error ellipse: s-maj=22.1km s-min=7.5km az=151.0*
*THE **26** 14:44:31.3, 38°.28N×21°.90E, h18km±2km, ML1.5/2, Error ellipse: s-maj=3.8km s-min=0.5km az=134.0*
ISC 26 14:44:28.4±1.5, **38°.17N**±0°.10×**22°.11E**±0°.07, **h28**km±8km, **n16**, σ0**864**/26, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAKA	**Lakka**	**0.12**	**305**	P	**Pn**	**14 44 34.6**	**0.0**
LAKA				S	**Sb**	**14 44 37.1**	**-0.1**
LAKA	**Lakka**	**0.12**	**305**	P	**Pn**	**14 44 34.6**	**0.0**
LAKA				S	**Sb**	**14 44 37.1**	**-0.1**
TRIZ	**Trizonia**	**0.20**	**352**	P	**Pn**	**14 44 35.5**	**-0.1**
TRIZ				S	**Sb**	**14 44 38.8**	**+0.5**
TRIZ	**Trizonia**	**0.20**	**352**	P	**Pn**	**14 44 35.5**	**-0.1**
TRIZ				S	**Sb**	**14 44 38.8**	**+0.5**
KALE	**Kalithea**	**0.22**	**7**	P	**Pn**	**14 44 36.4**	**+0.4**
KALE				S	**Sb**	**14 44 40.0**	**+1.0**
KALE	**Kalithea**	**0.22**	**7**	P	**Pn**	**14 44 36.4**	**+0.4**
KALE				S	**Sb**	**14 44 40.0**	**+1.0**
RLS	**Riolos of Patr**	**0.52**	**258**	P	**Pn**	**14 44 39.6**	**-0.4**
RLS	**Riolos of Patr**	**0.52**	**258**	*e*PN	**Pb**	**14 44 38.6**	**-0.4**
RLS				*e*SN	**Sb**	**14 44 46.5**	**+0.3**
RLS	**Riolos of Patr**	**0.52**	**258**	*e*Pn	**Pb**	**14 44 38.6**	**-0.4**
RLS	**Riolos of Patr**	**0.52**	**258**	P	**Pn**	**14 44 39.6**	**-0.4**
RLS				*e*Sn	**Sb**	**14 44 46.5**	**+0.3**
EVR	**Evrytania**	**0.78**	**343**	*e*PN	**Pn**	**14 44 42.5**	**-1.2**
EVR	**Evrytania**	**0.78**	**343**	*e*Pn	**Pn**	**14 44 42.5**	**-1.2**
LKR	**Lokris**	**0.85**	**55**	*e*PN	**Pb**	**14 44 44.3**	**-0.3**
LKR	**Lokris**	**0.85**	**55**	*e*Pn	**Pb**	**14 44 44.3**	**-0.3**
VLS	**Valsamata**	**1.20**	**271**	*e*PN	**Pn**	**14 44 49.7**	**+0.4**
VLS				*e*SN	**Sb**	**14 45 06.5**	**+1.0**
VLS	**Valsamata**	**1.20**	**271**	*e*Pn	**Pn**	**14 44 49.7**	**+0.4**
VLS				*e*Sn	**Sb**	**14 45 06.5**	**+1.0**

*IDC **26** 14:43:56.2±39.0, 22°.51S×174°.66W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/19, mbtmp3.7/3, Error ellipse: s-maj=731.4km s-min=155.7km az=87.0*
ISC 26 14:45:29.7±8.8, **25°.7S**±0°.7×**179°.1E**±0°.9, **h450**km, **n11**, σ1**9**39/10, **mb3.3**/3, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**12.35**	**183**	*e*PN	**P**	**14 48 12.9**	**+0.7**
MWZ	**Matawai**	**12.66**	**186**	PN	**P**	**14 48 15.7**	**+0.2**
BKZ	**Black Stump Fm**	**13.60**	**189**	*e*PN	**P**	**14 48 25.2**	**-0.6**
TSZ	**Takapari Road**	**14.55**	**190**	PN	**P**	**14 48 35.3**	**-0.6**
QRZ	**Quartz Range**	**16.03**	**198**	PN	**P**	**14 48 52.8**	**+1.2**
NNZ	**Nelson**	**16.18**	**196**	PN	**P**	**14 48 52.2**	**-0.9**
THZ	**Tophouse**	**16.81**	**196**	PN	**P**	**14 48 58.5**	**-1.3**
LTZ	**Lake Taylor**	**17.93**	**196**	PN	**P**	**14 49 10.0**	**-1.5**
STKA	**Stephens Creek**	**33.30**	**251**	P	**P**	**14 51 30.5**	**+2.0**
	1.1nm,0.7s,baz=105,slow=12,SNR=2.5						
ASAR	**Alice Springs**	**40.94**	**263**	P	**P**	**14 52 30.4**	**-1.5**
	0.2nm,0.3s,baz=98,slow=6.9,SNR=21						
WRA	**Warramunga Arr**	**41.48**	**268**	P	P	14 52 33.2	-3.0
	0.4nm,0.3s,baz=101,slow=7.8,SNR=32						

*ISCJB **26** 14:49:36.3±0.9, 11°.7S±0°.1×12°.9W±0°.2, h10km, mb4.3/10, MS3.8/22, Error ellipse: s-maj=23.2km s-min=14.1km az=152.8*
*IDC **26** 14:49:36.6±5.1, 11°.64S×13°.23W, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.8/22, mbtmp4.0/6, MS3.7/23, Ms1 3.7/23, ms1mx3.6/44, Error ellipse: s-maj=99.2km s-min=74.3km az=30.0*
*NEIC **26** 14:49:37.8±0.8, 11°.80S×12°.98W, h10km, mb4.6/4, Error ellipse: s-maj=20.3km s-min=12.5km az=63.0*
ISC 26 14:49:37.9±1.1, **11°.8S**±0°.1×**13°.0W**±0°.2, **h10**km, **n37**, σ0**891**/17, **mb4.2**/10, **MS3.8**/23, **Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEL	**Horse Pasture**	**8.14**	**121**	*e*Pn	**Pn**	**14 51 36.1**	**-0.3**
	63nm,1.0s						
DBIC	**Dimbokro**	**20.03**	**24**	P	Pn	14 54 11.6	-1.4
DBIC	**Dimbokro**	**20.03**	**24**	P	Pn	14 54 11.6	-1.4
	5.0nm,0.8s,baz=191,slow=14,SNR=4.2						
DBIC				LR	LR	14 59 53.5	
	comp=Z,146nm,19.0s,baz=188,slow=31						
RCBR	**Riachuelo**	**23.42**	**283**	LR	LR	15 01 15.5	
	comp=Z,225nm,21.6s,baz=93,slow=30						
BBTS	**Babate**	**26.52**	**352**	P	**P**	**14 55 14.5**	**-1.3**
BBTS	**Babate**	**26.52**	**352**	P	**P**	**14 55 14.5**	**-1.3**
	53nm,1.0s,baz=120,slow=2.9,SNR=5.2						
SACV	**Santiago Islan**	**28.60**	**338**	*e*P	**P**	**14 55 35.6**	**+1.0**
	27nm,0.9s						
TORD	**Torodi Ar. Bea**	**28.73**	**31**	P	**P**	**14 55 35.5**	**-0.2**
TORD	**Torodi Ar. Bea**	**28.73**	**31**	P	**P**	**14 55 35.5**	**-0.2**
	2.4nm,0.6s,baz=219,slow=8.6,SNR=15						
TORD				LR	LR	15 04 49.4	
	comp=Z,166nm,20.5s,baz=195,slow=32						
TSUM	**Tsumeb**	**30.31**	**108**	LR	LR	15 05 26.0	
	comp=Z,146nm,21.2s,baz=155,slow=31						
BDFB	**Brasilia**	**34.24**	**260**	LR	LR	15 07 50.1	
	comp=Z,174nm,18.5s,baz=48,slow=32						
BOSA	**Boshof**	**39.37**	**121**	LR	LR	15 11 53.2	
	comp=Z,54nm,18.1s,baz=112,slow=34						
CPUP	**Villa Florida**	**44.13**	**244**	LR	LR	15 13 44.5	
	comp=Z,126nm,18.2s,baz=258,slow=33						
MDT	**Midelt**	**45.06**	**10**	LR	LR	15 15 32.5	
	comp=Z,141nm,18.8s,baz=139,slow=35						
KEST	**Kesra**	**51.72**	**23**	P	**P**	**14 58 45.8**	**-0.1**
KEST	**Kesra**	**51.76**	**23**	P	**P**	**14 58 45.8**	**-0.1**
	4.4nm,1.0s,baz=210,slow=8.1,SNR=6.1						
KEST				LR	LR	15 19 56.7	
	comp=Z,35nm,18.8s,baz=296,slow=35						
ESDC	**Sonseca Array**	**51.88**	**9**	LR	LR	15 17 58.8	
	comp=Z,45nm,20.3s,baz=110,slow=33						
LPAZ	**La Paz**	**53.58**	**258**	LR	LR	15 21 52.0	
	comp=Z,53nm,19.7s,baz=243,slow=36						
PLCA	**Paso Flores**	**57.84**	**229**	LR	LR	15 21 48.5	
	comp=Z,89nm,19.3s,baz=129,slow=33						
DAVOX	**Davos/Dischmat**	**61.79**	**18**	LR	LR	15 25 57.6	
	comp=Z,105nm,18.0s,baz=255,slow=35						
EIL	**Elat**	**61.89**	**47**	LR	LR	15 25 31.3	
	comp=Z,58nm,21.2s,baz=41,slow=35						
ROSC	**El Rosal**	**63.22**	**282**	LR	LR	15 26 52.0	
	comp=Z,69nm,18.6s,baz=129,slow=36						
MMAI	**Mount Meron Ar**	**64.12**	**44**	LR	LR	15 25 09.8	
	comp=Z,34nm,19.6s,baz=250,slow=33						
ASF	**Jal al Asfar**	**64.67**	**46**	LR	LR	15 26 30.3	
	comp=Z,56nm,18.3s,baz=80,slow=34						
GERES	**GERESS Array B**	**64.81**	**19**	P	**P**	**15 00 17.3**	**+0.4**
GERES	**GERESS Array B**	**64.81**	**19**	P	**P**	**15 00 17.3**	**+0.4**
	0.4nm,0.5s,baz=210,slow=5.7,SNR=6.5						
GERES				LR	LR	15 28 01.1	
	comp=Z,86nm,19.1s,baz=231,slow=36						
VRAC	**Vranov**	**66.17**	**21**	LR	LR	15 31 04.5	
	comp=Z,54nm,19.4s,baz=206,slow=38						
BRTR	**Keskin Array B**	**67.07**	**37**	P	**P**	**15 00 33.4**	**+1.6**
BRTR	**Keskin Array B**	**67.07**	**37**	P	**P**	**15 00 33.4**	**+1.6**
	0.4nm,0.7s,baz=269,slow=5.8,SNR=2.2						
BRTR				LR	LR	15 27 02.6	
	comp=Z,42nm,20.8s,baz=277,slow=34						
AKASG	**Malin Array Be**	**72.26**	**27**	P	**P**	**15 01 02.7**	**-0.6**
AKASG	**Malin Array Be**	**72.26**	**27**	P	**P**	**15 01 02.7**	**-0.6**
	2.4nm,0.8s,baz=225,slow=6.7,SNR=5.8						
HFS	**Hagfors**	**74.80**	**13**	LR	LR	15 35 51.4	
	comp=Z,136nm,19.7s,baz=200,slow=37						
NOA	**NORSAR Array B**	**75.08**	**12**	LR	LR	15 33 46.6	
	comp=Z,60nm,19.2s,baz=0.0,slow=35						
QSPA	**South Pole Qui**	**78.36**	**180**	*e*P	**P**	**15 01 38.7**	**+0.2**
	0.6nm,0.6s						
ARCES	**ARCESS Array B**	**85.43**	**13**	LR	LR	15 40 17.6	
	comp=Z,67nm,18.4s,baz=331,slow=36						
SIUC	**Southern Illin**	**86.51**	**309**	*e*P	**P**	**15 02 20.6**	**-0.8**
	16nm,0.7s						
ABKAR	**Akbulak array**	**87.98**	**39**	*e*P	**P**	**15 02 28.0**	**-0.2**
	0.7nm,0.8s						

MAN 26 14:52:18, 18°.83N×121°.19E, h14km, mb4.4, ML3.3, MS3.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.26**	**201**	*e*P	Pn	14 52 41.2	-0.1
ABRA				*e*S	Sg	14 53 05.6	+6.8
CVP	**Callao Caves**	**1.28**	**152**	*e*P	Pn	14 52 41.5	+0.1
CAUP	**Cauayan**	**1.98**	**162**	*e*P	Pb	14 52 54.4	+0.7

*IDC **26** 15:10:32.3±1.0, 37°.27N×20°.88E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.6/27, mbtmp3.6/9, ML2.8/1, Error ellipse: s-maj=28.4km s-min=21.5km az=140.0*
*ISCJB **26** 15:10:33.8±0.7, 37°.10N±0°.03×20°.63E±0°.04, h24km±5km, mb3.6/8, Error ellipse: s-maj=6.0km s-min=4.2km az=31.7*
*ATH **26** 15:10:34.2, 37°.19N×20°.78E, h12km±1km, MD3.3/16*
*THE **26** 15:10:35.7, 37°.04N×20°.75E, h23km±2km, ML3.6/6, Error ellipse: s-maj=2.7km s-min=0.7km az=215.0*
*CSEM **26** 15:10:35.4±0.4, 37°.10N×20°.73E, h20km, ML3.6/6, Error ellipse: s-maj=9.3km s-min=4.2km az=37.0*
*BEO **26** 15:10:36.4±1.0, 37°.34N×20°.47E, h0km, ML3.3/4*
ISC 26 15:10:34.0±1.2, **37°.16N**±0°.03×**20°.73E**±0°.03, **h15**km±8km, **n109**, σ1**927**/153, **mb3.6**/8, **Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.85**	**107**	P	**Pb**	**15 10 50.3**	**-0.2**
PYL				S	**Sb**	**15 11 02.2**	**+0.4**
PYL	**PYLOS**	**0.85**	**107**	*e*PB	**Pb**	**15 10 50.0**	**-0.5**
PYL				*e*SB	**Sg**	**15 11 01.7**	**0.0**
PYL	**PYLOS**	**0.85**	**107**	*e*Pb	**Pb**	**15 10 50.0**	**-0.5**
PYL	**PYLOS**	**0.85**	**107**	P	**Pb**	**15 10 50.3**	**-0.2**
PYL				S	**Sg**	**15 11 00.2**	**-1.5**
PYL				*e*Sb	**Sg**	**15 11 01.7**	**0.0**
AMT	**Artemida-Makis**	**0.87**	**64**	P	**Pn**	**15 10 52.0**	**+0.2**
AMT				S	**Sn**	**15 11 05.7**	**+1.5**
AMT	**Artemida-Makis**	**0.87**	**64**	P	**Pn**	**15 10 52.0**	**+0.2**
AMT				S	**Sn**	**15 11 03.9**	**-0.3**
KFL	**Anninata**	**0.95**	**3**	P	**Pb**	**15 10 52.2**	**-0.1**
KFL				S	**Sn**	**15 11 05.9**	**-0.4**
ITM	**Ithomi**	**0.96**	**88**	P	**Pg**	**15 10 52.6**	**+0.1**
ITM				S	**Sn**	**15 11 05.9**	**-0.5**
ITM	**Ithomi**	**0.96**	**88**	*e*PB	**Pb**	**15 10 51.7**	**-0.6**
ITM				*e*SB	**Sb**	**15 11 04.9**	**0.0**
ITM	**Ithomi**	**0.96**	**88**	*e*Pb	**Pb**	**15 10 51.7**	**-0.6**
ITM	**Ithomi**	**0.96**	**88**	P	**Pg**	**15 10 52.6**	**+0.1**
ITM				*e*Sb	**Sb**	**15 11 04.9**	**0.0**
ITM				S	**Sn**	**15 11 05.9**	**-0.5**
VLS	**Valsamata**	**1.03**	**354**	P	**Pn**	**15 10 55.0**	**+1.1**
VLS				S	**Sn**	**15 11 10.5**	**+2.4**
VLS	**Valsamata**	**1.03**	**354**	*e*PN	**Pb**	**15 10 53.8**	**+0.3**
VLS				*e*SB	**Sg**	**15 11 07.4**	**+0.1**
VLS	**Valsamata**	**1.03**	**354**	*e*Pn	**Pb**	**15 10 53.8**	**+0.3**
VLS	**Valsamata**	**1.03**	**354**	P	**Pn**	**15 10 55.0**	**+1.1**
VLS				*e*Sb	**Sg**	**15 11 07.4**	**+0.1**
VLS				S	**Sn**	**15 11 10.5**	**+2.4**
RLS	**Riolos of Patr**	**1.08**	**33**	P	**Pb**	**15 10 54.2**	**-0.1**
VLX	**Vlachokerasia**	**1.34**	**80**	P	**Pn**	**15 10 58.5**	**+0.3**
VLX				S	**Sn**	**15 11 16.1**	**+0.3**
VLX	**Vlachokerasia**	**1.34**	**80**	*e*PG	**Pn**	**15 10 58.1**	**-0.1**
VLX	**Vlachokerasia**	**1.34**	**80**	P	**Pn**	**15 10 58.5**	**+0.3**
VLX				S	**Sn**	**15 11 16.1**	**+0.3**
DYR	**Agios Nikonas**	**1.34**	**106**	P	**Pn**	**15 10 58.1**	**-0.2**
DYR				S	**Sn**	**15 11 14.7**	**-1.3**
DYR	**Agios Nikonas**	**1.34**	**106**	P	**Pn**	**15 10 58.1**	**-0.2**
DYR				S	**Sn**	**15 11 14.7**	**-1.3**
UPR	**University Cam**	**1.41**	**36**	*e*PG	**Pn**	**15 10 59.5**	**+0.4**
UPR				*e*SB	**Sg**	**15 11 18.8**	**-0.5**
UPR	**University Cam**	**1.41**	**36**	*e*Pg	**Pn**	**15 10 59.5**	**+0.4**
UPR				*e*Sb	**Sg**	**15 11 18.8**	**-0.5**
LAKA	**Lakka**	**1.47**	**42**	P	**Pb**	**15 11 01.5**	**+0.4**
LAKA				S	**Sg**	**15 11 20.9**	**-0.5**
LAKA	**Lakka**	**1.47**	**42**	P	**Pb**	**15 11 01.5**	**+0.4**
LAKA				S	**Sg**	**15 11 20.9**	**-0.5**
GUR	**Goura**	**1.50**	**58**	P	**Pb**	**15 11 01.3**	**-0.4**
GUR				S	**Sb**	**15 11 21.0**	**+0.4**
GUR	**Goura**	**1.50**	**58**	*e*PG	**Pn**	**15 11 01.0**	**+0.5**
GUR				*e*SB	**Sb**	**15 11 21.1**	**+0.4**
GUR	**Goura**	**1.50**	**58**	*e*Pg	**Pn**	**15 11 01.0**	**+0.5**
GUR	**Goura**	**1.50**	**58**	P	**Pb**	**15 11 01.3**	**-0.4**
GUR				*e*Sb	**Sb**	**15 11 21.1**	**+0.4**
EFP	**Efpalio**	**1.58**	**36**	P	**Pb**	**15 11 03.0**	**+0.1**
EFP				S	**Sg**	**15 11 24.2**	**-0.6**
EFP	**Efpalio**	**1.58**	**36**	*e*PG	**Pb**	**15 11 02.6**	**-0.3**
EFP	**Efpalio**	**1.58**	**36**	P	**Pb**	**15 11 03.0**	**+0.1**
EFP				S	**Sg**	**15 11 24.2**	**-0.6**
TRIZ	**Trizonia**	**1.61**	**41**	P	**Pb**	**15 11 03.8**	**+0.3**
TRIZ	**Trizonia**	**1.61**	**41**	P	**Pb**	**15 11 03.8**	**+0.3**
LKD2	**Lefkada island**	**1.63**	**358**	P	**Pb**	**15 11 04.4**	**+0.5**
LKD2				S	**Sg**	**15 11 26.3**	**-0.3**
LKD2	**Lefkada island**	**1.63**	**358**	*e*PB	**Pb**	**15 11 04.4**	**+0.5**
LKD2	**Lefkada island**	**1.63**	**358**	P	**Pb**	**15 11 04.4**	**+0.5**
LKD2				S	**Sg**	**15 11 26.3**	**-0.3**
KALE	**Kalithea**	**1.67**	**42**	P	**Pb**	**15 11 04.6**	**+0.2**
KALE				S	**Sb**	**15 11 25.8**	**+0.5**
KALE	**Kalithea**	**1.67**	**42**	P	**Pb**	**15 11 04.6**	**+0.2**
KALE				S	**Sb**	**15 11 25.8**	**+0.5**
VLI	**Veliai**	**1.82**	**103**	*e*PN	**Pb**	**15 11 07.3**	**+0.2**
VLI				*e*SN	**Sg**	**15 11 32.1**	**-0.6**
VLI	**Veliai**	**1.82**	**103**	*e*Pn	**Pb**	**15 11 07.3**	**+0.2**
EVR	**Evrytania**	**1.96**	**26**	*e*PN	**Pb**	**15 11 08.6**	**-0.8**
EVR	**Evrytania**	**1.96**	**26**	*e*Pn	**Pb**	**15 11 08.6**	**-0.8**
LTK	**Loutraki**	**1.98**	**63**	*e*PN	**Pb**	**15 11 09.0**	**-0.8**
LTK	**Loutraki**	**1.98**	**63**	*e*Pn	**Pb**	**15 11 09.0**	**-0.8**
DID	**Didima**	**2.03**	**79**	P	**Pn**	**15 11 08.4**	**+0.7**
DID				S	**Sn**	**15 11 33.6**	**+0.7**
DID	**Didima**	**2.03**	**79**	*e*PN	**Pn**	**15 11 09.1**	**+1.4**
DID	**Didima**	**2.03**	**79**	P	**Pn**	**15 11 08.4**	**+0.7**
DID	**Didima**	**2.03**	**79

HFS	**Hagfors**	**23.43**	**351**	P		**P**	**15 15 41.7**	**-0.7**
	2.0nm,0.6s,baz=155,slow=11,SNR=6.7								
FINES	**FINESS Array B**	**24.54**	**6**	P		**P**	**15 15 51.8**	**-1.1**
	2.5nm,0.8s,baz=172,slow=5.8,SNR=4.8								
NB2	**NORSAR Subarra**	**24.65**	**349**	P		**P**	**15 15 54.2**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=156,slow=9.3								
NB2	**NORSAR Subarra**	**24.65**	**349**	P		**P**	**15 15 54.2**	**+0.3**
	comp=Z,1.1nm,0.8s,SNR=4.0								
NOA	**NORSAR Array B**	**24.65**	**349**	P		**P**	**15 15 54.2**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=157,slow=9.0,SNR=4.4								
TORD	**Torodi Ar. Bea**	**29.35**	**220**	P		**P**	**15 16 38.4**	**+1.9**
	comp=Z,0.6nm,0.7s,baz=32,slow=9.0,SNR=4.5								
MKAR	**Makanchi Array**	**45.70**	**58**	P		**P**	**15 18 53.9**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=273,slow=7.7,SNR=9.5								
MKAR				PcP		**PcP**	**15 20 33.5**	**+1.4**
	comp=Z,0.3nm,0.9s,baz=273,slow=2.5,SNR=2.3								
ZALV	**Zalesovo Beam**	**46.26**	**47**	P		**P**	**15 18 57.9**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=262,slow=8.8,SNR=3.8								
SONM	**Songino Array**	**60.98**	**50**	P		**P**	**15 20 45.2**	**-1.6**
	comp=Z,0.2nm,0.9s,baz=308,slow=7.2,SNR=2.7								
CMAR	**Chiang Mai Arr**	**69.87**	**82**	P		**P**	**15 21 44.1**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=291,slow=5.7,SNR=3.7								

ISK ***26*** *15:10:47.5,39.˙18N×28.˙97E,h9km,MD2.3*
DDA ***26*** *15:10:48.0,39.˙11N×29.˙08E,h7km,MD2.6*
CSEM ***26*** *15:10:48.0±0.2,39.˙15N×29.˙00E,h15km,MD2.3, Error ellipse: s-maj=6.4km s-min=5.4km az=122.0*

ISC 26 15:10:46.9±1.6, 39.˙12N±0.˙05×29.˙05E±0.˙04, h7km±16km, n16, σ0°60/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DEMI	**Demirci**	**0.27**	**253**	*i* P			**Pb**	**15 10 54.7**	**+0.5**
DEMI				*i* S			**Sb**	**15 10 58.8**	**-0.3**
DEMI	**Demirci**	**0.27**	**253**	*i* P			**Pb**	**15 10 54.7**	**+0.5**
DEMI				*i* S			**Sb**	**15 10 58.8**	**-0.3**
TVSB	**Tavsanli**	**0.46**	**44**	*e*PG			**Pb**	**15 10 57.2**	**-0.2**
TVSB	**Tavsanli**	**0.46**	**44**	*e*Pg			**Pb**	**15 10 57.2**	**-0.2**
DST	**Dursunbey**	**0.58**	**325**	*e*PG			**Pg**	**15 10 57.9**	**-0.4**
DST	**Dursunbey**	**0.58**	**325**	*e*Pg			**Pg**	**15 10 57.9**	**-0.4**
KULA	**Kula-Manisa**	**0.68**	**207**	*e*PG			**Pb**	**15 11 01.5**	**+0.3**
KULA	**Kula-Manisa**	**0.68**	**207**	*e*Pg			**Pb**	**15 11 01.5**	**+0.3**
MANT	**Manisa**	**0.74**	**211**	*i* P			**Pb**	**15 11 03.0**	**+0.7**
MANT	**Manisa**	**0.74**	**211**	*i* P			**Pb**	**15 11 03.0**	**+0.7**
ALT	**Altintas**	**0.83**	**94**	*e*PG			**Pn**	**15 11 05.1**	**0.0**
ALT				*e*SG			**Sn**	**15 11 18.3**	**+0.6**
ALT	**Altintas**	**0.83**	**94**	*e*Pg			**Pn**	**15 11 05.1**	**0.0**
ALT				*e*Sg			**Sn**	**15 11 18.3**	**+0.6**
KHAL	**Karahalli**	**0.83**	**155**	*i* P			**Pn**	**15 11 04.4**	**-0.7**
KHAL				*i* S			**Sb**	**15 11 14.2**	**-0.9**
KHAL	**Karahalli**	**0.83**	**155**	*i* P			**Pn**	**15 11 04.4**	**-0.7**
KHAL				*i* S			**Sb**	**15 11 14.2**	**-0.9**
CAVI	**Cavuskoy**	**1.24**	**29**	*e*PN			**Pg**	**15 11 11.4**	**+0.7**
CAVI	**Cavuskoy**	**1.24**	**29**	*e*Pn			**Pg**	**15 11 11.4**	**+0.7**

BJI ***26*** *15:21:21.9,3.˙79S×100.˙60E,h31km,mB5.1/13,mb4.8/24, Ms4.9/8,Ms7 4.6/8*
IDC ***26*** *15:21:23.3±0.8,3.˙27S×100.˙42E,h0km,mb4.4/18, mb1 4.5/20,mb1mx4.4/28,mbtmp4.4/20,ML3.9/2,MS4.2/12, Ms1 4.2/12,ms1mx3.8/43,Error ellipse: s-maj=29.1km s-min=12.5km az=50.0*
NEIC ***26*** *15:21:23.1±3.3,3.˙41S×100.˙35E,h3km±21km,mb4.9/17, Error ellipse: s-maj=11.3km s-min=6.0km az=55.0*
ISCJB ***26*** *15:21:25.1±0.3,3.˙40S±0.˙04×100.˙35E±0.˙04,h29km, mb4.6/51,MS4.4/16,Error ellipse: s-maj=7.8km s-min=3.3km az=41.3*
MOS ***26*** *15:21:27.0±1.3,3.˙12S×100.˙58E,h34km,mb5.0/21,Error ellipse: s-maj=15.8km s-min=6.9km az=110.4*
DJA ***26*** *15:21:34,3.˙38S×100.˙99E,h10km,MLv4.9/9*

ISC 26 15:21:26.8±0.4, 3.˙42S±0.˙05×100.˙30E±0.˙05, h29km, n198, σ1.9/15/189, mb4.8/51, MS4.3/16, 11C-10D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**1.75**	**42**	P			**Pn**	**15 21 54.4**	**-1.0**
KRJI				S			**Sb**	**15 22 21.9**	**+1.8**
MBSI	**MBSI**	**2.00**	**100**	P			**Pn**	**15 21 59.7**	**+1.1**
MBSI				S			**Sb**	**15 22 24.1**	**-2.9**
KSI	**Kapahiang**	**2.30**	**96**	P			**Pn**	**15 22 02.3**	**-0.6**
SISI	**Saibi**	**2.40**	**330**	P			**Pn**	**15 22 04.6**	**+0.4**
MNAI	**Manna**	**2.81**	**110**	P			**Pn**	**15 22 09.0**	**-0.9**
MNAI				S			**Sn**	**15 22 43.5**	**+0.7**
PPI	**Padang Panjang**	**2.94**	**2**	P			**Pn**	**15 22 09.5**	**-2.1**
RGRI	**Rengat**	**3.66**	**34**	P			**Pn**	**15 22 21.0**	**-0.5**
BKNI	**Bangkinang**	**3.79**	**11**	P			**Pn**	**15 22 24.2**	**+0.9**
LWLI	**Liwa**	**4.07**	**113**	P			**Pn**	**15 22 28.0**	**+0.7**
MNSI	**Mandailing Nat**	**4.24**	**350**	P			**Pn**	**15 22 29.0**	**-0.5**
KASI	**Kota Agung**	**4.68**	**117**	P			**Pn**	**15 22 35.7**	**+0.2**
GSI	**Gunungsitoli**	**5.42**	**330**	P			**Pn**	**15 22 46.4**	**+0.7**
	53nm,1.2s,1µm0.5nm								
PPBI	**Pangkal Pinang**	**5.96**	**78**	P			Pb	15 23 16.1	+6.1
CGJI	**Cibinong**	**6.24**	**121**	P			**Pn**	**15 22 56.1**	**-0.9**
	124nm,1.0s,2µm0.5nm								
MYKOM	**Kota Tinggi**	**6.27**	**35**	P			**Pn**	**15 22 55.3**	**-2.1**
	64nm,0.7s,739nm0.3nm								
PSI	**Prapat**	**6.33**	**347**	Pn			**Pn**	**15 22 56.1**	**-2.2**
PSI	**Prapat**	**6.33**	**347**	P			**Pn**	**15 22 56.0**	**-2.3**
	51nm,1.2s,574nm0.2nm								
PSI	**Prapat**	**6.33**	**347**	Pn			**Pn**	**15 22 56.1**	**-2.2**
	0.9nm,0.3s,baz=193,slow=14,SNR=2.7								
TSI	**Tuntungan**	**7.08**	**346**	P			**Pn**	**15 23 10.3**	**+1.7**
	93nm,1.2s,2µm0.6nm								
DBJI	**Dramaga**	**7.14**	**116**	P			**Pn**	**15 23 09.2**	**-0.2**
	97nm,1.3s,0.6nm								
SKJI	**Sukabumi**	**7.18**	**120**	P			**Pn**	**15 23 09.2**	**-0.7**
	129nm,0.7s,2µm0.7nm								
TPTI		**7.33**	**335**	P			**Pn**	**15 23 12.6**	**+0.7**
	17nm,0.8s,0.7nm								
IPM	**Ipoh**	**7.88**	**5**	*e*Pn			**Pn**	**15 23 20.3**	**+0.9**
	15nm,0.6s								
IPM	**Ipoh**	**7.88**	**5**	P			**Pn**	**15 23 19.5**	**0.0**
	29nm,1.4s,373nm0.2nm								
LEM	**Lembang**	**8.04**	**115**	P			**Pn**	**15 23 23.0**	**+1.1**
	79nm,0.7s,1µm								
CISI	**Cisompet, Garu**	**8.54**	**119**	P			**Pn**	**15 23 26.9**	**-1.7**
	205nm,0.7s,2µm								
KULM	**Kulim**	**8.65**	**2**	P			**Pn**	**15 23 32.1**	**+1.9**
	31nm,1.2s								
COCO	**West Island**	**9.37**	**201**	*e*P			**Pn**	**15 23 38.0**	**-2.0**
COCO	**West Island**	**9.37**	**201**	*e*Pn			**Pn**	**15 23 38.0**	**-2.0**
UGM	**Wanagama**	**11.11**	**114**	P			**Pn**	**15 24 04.1**	**+0.2**
	172nm,2.4s								
KSM	**Kuching**	**11.12**	**64**	P			**Pn**	**15 24 05.2**	**+1.2**
	9.2nm,1.2s								
STKI	**Sintang**	**11.70**	**73**	P			**Pn**	**15 24 13.0**	**+1.1**
	19nm,1.2s,6µm								
PCJI	**Pacitan**	**11.82**	**114**	P			**Pn**	**15 24 13.0**	**-0.5**
	59nm,1.4s								
PWJI	**Pagerwojo**	**12.33**	**112**	P			**Pn**	**15 24 19.8**	**-0.7**
	33nm,1.8s								
SBUM	**Sibu**	**13.26**	**64**	P			**Pn**	**15 24 34.2**	**+0.9**
	21nm,1.4s,450nm								
KKM	**Kota Kinabalu**	**18.46**	**59**	*e*Pn			**P**	**15 25 40.1**	**-0.5**
	11nm,0.6s								
KKM	**Kota Kinabalu**	**18.46**	**59**	P			**P**	**15 25 39.9**	**-0.7**
	22nm,1.0s,493nm								
KAPI	**Kappang**	**19.46**	**95**	P			**P**	**15 25 51.6**	**+0.1**
KAPI	**Kappang**	**19.46**	**95**	P			**P**	**15 25 51.8**	**+0.3**
	52nm,1.4s,740nm								
KAPI	**Kappang**	**19.46**	**95**	P			**P**	**15 25 51.6**	**+0.1**
	1.5nm,0.3s,baz=276,slow=12,SNR=6.7								
TTSI	**Tana Toraja**	**19.49**	**89**	P			**P**	**15 25 51.0**	**-0.8**
	26nm,1.6s,512nm								
BKSI	**Bulukumba**	**19.86**	**96**	P			**Pn**	**15 25 56.4**	**-1.1**
	61nm,1.3s,806nm								
MYLDM	**Lahad Datu**	**20.09**	**65**	P			Pn	15 26 00.1	-0.1
	42nm,1.6s								
CMAR	**Chiang Mai Arr**	**21.77**	**357**	P			**P**	**15 26 13.7**	**-2.8**
CMAR				PcP			**PcP**	**15 30 18.4**	**+1.9**
CMAR	**Chiang Mai Arr**	**21.77**	**357**	P			**P**	**15 26 13.7**	**-2.8**
	2.8nm,0.6s,baz=186,slow=9.9,SNR=24								
CMAR				PcP			**PcP**	**15 30 18.4**	**+1.9**
	0.6nm,0.7s,baz=210,slow=3.2,SNR=4.2								
CMAR				LR			LR	15 36 20.2	
	comp=Z,616nm,18.9s,baz=175,slow=42								
CHTO	**Chiang Mai**	**22.13**	**357**	*e*P			**P**	**15 26 18.0**	**-2.2**
CHTO				pmax			pmax		
	comp=Z,7.0nm,1.1s								
CHTO	**Chiang Mai**	**22.13**	**357**	*e*P			**P**	**15 26 18.0**	**-2.2**
	comp=Z,6.7nm,1.1s								
CHTO	**Chiang Mai**	**22.13**	**357**	P			**P**	**15 26 19.2**	**-1.0**
	comp=Z,8.3nm,1.2s								
KDI	**Kendari**	**22.28**	**92**	P			**P**	**15 26 21.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**28.79**	**122**	P			**P**	**15 27 22.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**28.79**	**122**	*e*P			**P**	**15 27 22.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**28.79**	**122**	P			**P**	**15 27 22.6**	**+0.1**
	comp=Z,4.8nm,0.7s,baz=284,slow=6.4,SNR=6.7								
ODAN	**Odare**	**32.58**	**338**	*e*P			**P**	**15 27 57.4**	**+1.3**
ODAN	**Odare**	**32.58**	**338**	*e*P			**P**	**15 27 57.4**	**+1.3**
TAPN	**Taplejung**	**32.91**	**339**	*e*P			**P**	**15 28 00.2**	**+1.1**
	comp=Z,55nm,1.2s								
TAPN	**Taplejung**	**32.91**	**339**	*e*P			**P**	**15 28 00.2**	**+1.1**
	comp=Z,55nm,1.2s								
RAMN	**Ramite**	**32.96**	**337**	*e*P			**P**	**15 28 00.6**	**+1.2**
RAMN	**Ramite**	**32.96**	**337**	*e*P			**P**	**15 28 00.6**	**+1.2**
NWAO	**Narrogin (SRO)**	**33.37**	**154**	LR			LR	15 40 43.0	
	comp=Z,569nm,19.3s,baz=339,slow=35								
JIRN	**Jiri**	**33.76**	**337**	*e*P			**P**	**15 28 07.5**	**+1.0**
JIRN	**Jiri**	**33.76**	**337**	*e*P			**P**	**15 28 07.5**	**+1.0**
LSA	**Lhasa**	**34.07**	**346**	P			**P**	**15 28 09.8**	**+0.4**
LSA	**Lhasa**	**34.07**	**346**	*e*P			**P**	**15 28 09.5**	**+0.2**
LSA				pmax			pmax		
	comp=Z,36nm,0.6s								
LSA	**Lhasa**	**34.07**	**346**	*e*P			**P**	**15 28 09.5**	**+0.2**
	comp=Z,36nm,0.6s								
GUN	**Gumba**	**34.10**	**337**	*e*P			**P**	**15 28 10.4**	**+0.9**
	comp=Z,51nm,0.7s								
GUN	**Gumba**	**34.10**	**337**	*e*P			**P**	**15 28 10.4**	**+0.9**
	comp=Z,51nm,0.7s								
DMN	**Daman**	**34.15**	**336**	*e*P			**P**	**15 28 11.9**	**+2.1**
DMN	**Daman**	**34.15**	**336**	*e*P			**P**	**15 28 11.9**	**+2.1**
KKN	**Kakani**	**34.23**	**336**	*e*P			**P**	**15 28 11.7**	**+1.2**
KKN	**Kakani**	**34.23**	**336**	*e*P			**P**	**15 28 11.7**	**+1.2**
KKN	**Kakani**	**34.23**	**336**	*e*P			**P**	**15 28 11.7**	**+1.2**
GKN	**Gorkha**	**34.69**	**335**	*e*P			**P**	**15 28 15.9**	**+1.6**
GKN	**Gorkha**	**34.69**	**335**	*e*P			**P**	**15 28 15.9**	**+1.6**
KOLN	**Koldanda**	**34.93**	**334**	*e*P			**P**	**15 28 18.4**	**+1.9**
KOLN	**Koldanda**	**34.93**	**334**	*e*P			**P**	**15 28 18.4**	**+1.9**
DANN	**Dangsing**	**35.36**	**334**	*e*P			**P**	**15 28 21.8**	**+1.5**
	comp=Z,31nm,0.7s								
DANN	**Dangsing**	**35.36**	**334**	*e*P			**P**	**15 28 21.8**	**+1.5**
	comp=Z,31nm,0.7s								
WRA	**Warramunga Arr**	**37.04**	**119**	P			**P**	**15 28 33.9**	**-0.6**
WRA	**Warramunga Arr**	**37.04**	**119**	P			**P**	**15 28 33.9**	**-0.6**
	comp=Z,1.9nm,0.4s,baz=299,slow=11,SNR=81								
WRAB	**Tennant Creek**	**37.04**	**119**	*e*P			**P**	**15 28 33.8**	**-0.7**
WRAB				pmax			pmax		
	comp=Z,4.0nm,0.6s								
WRAB	**Tennant Creek**	**37.04**	**119**	*e*P			**P**	**15 28 33.8**	**-0.7**
	comp=Z,3.9nm,0.6s								
XAN	**Xi'an**	**38.13**	**12**	P			**P**	**15 28 42.0**	**-1.5**
XAN				pmax			pmax		
	comp=Z,5.0nm,0.6s								
XAN				pmax			pmax		
	comp=Z,25nm,5.3s								
ASAR	**Alice Springs**	**38.19**	**125**	P			**P**	**15 28 44.7**	**+0.4**
ASAR	**Alice Springs**	**38.19**	**125**	P			**P**	**15 28 44.7**	**+0.4**
	comp=Z,3.7nm,0.5s,baz=299,slow=7.3,SNR=62								
NJ2	**Nanjing**	**39.43**	**25**	*e*P			**P**	**15 28 54.0**	**-0.4**
NJ2				pmax			pmax		
	comp=Z,20nm,1.1s								
LZH	**Lanzhou**	**39.44**	**5**	*e*P			**P**	**15 28 55.8**	**+1.2**
LZH				pmax			pmax		
	comp=Z,32nm,1.4s								
QIS	**Mount Isa**	**41.89**	**117**	*e*P			**P**	**15 29 14.4**	**-0.5**
GTA	**Gaotai**	**42.62**	**359**	*e*P			**P**	**15 29 20.3**	**-0.4**
GTA				pmax			pmax		
	comp=Z,3.0nm,0.6s								
CTA	**Charters Tower**	**47.74**	**114**	P			**P**	**15 30 01.9**	**+0.2**
CTA	**Charters Tower**	**47.74**	**114**	P			**P**	**15 30 01.9**	**+0.2**
	comp=Z,5.8nm,0.9s,baz=286,slow=7.4,SNR=3.8								
CTAO	**Charters Tower**	**47.74**	**114**	*e*P			**P**	**15 30 01.3**	**-0.3**
CTAO				pmax			pmax		
	comp=Z,18nm,1.3s								
CTAO	**Charters Tower**	**47.74**	**114**	*e*P			**P**	**15 30 01.3**	**-0.3**
	comp=Z,18nm,1.3s								
QLP	**Quilpie**	**47.93**	**123**	*e*P			**P**	**15 30 04.1**	**+1.1**
STKA	**Stephens Creek**	**48.00**	**131**	P			**P**	**15 30 04.8**	**+1.3**
STKA	**Stephens Creek**	**48.00**	**131**	*e*P			**P**	**15 30 04.2**	**+0.8**
STKA	**Stephens Creek**	**48.00**	**131**	P			**P**	**15 30 04.8**	**+1.3**
	comp=Z,3.2nm,0.8s,baz=306,slow=6.7,SNR=7.3								
STKA				LR			LR	15 51 50.2	
	comp=Z,386nm,21.8s,baz=116,slow=38								
KSAR	**Wonju Array Be**	**48.06**	**30**	P			**P**	**15 30 03.3**	**-0.4**
KSRS	**Korea Array**	**48.09**	**30**	P			**P**	**15 30 03.3**	**-0.6**
	comp=Z,6.6nm,1.0s,baz=221,slow=8.6,SNR=16								
WMQ	**Urumqi**	**48.37**	**348**	P			**P**	**15 30 07.0**	**+0.9**
WMQ				pP			**pP**	**15 30 15.5**	**+0.6**
WMQ				sP			**sP**	**15 30 18.8**	**+0.4**
WMQ				S			S	15 36 55.8	-8.9
WMQ				pmax			pmax		
	comp=Z,13nm,1.0s								
WMQ				pmax			pmax		
	comp=Z,120nm,4.8s								
WMQ				LR			LR		
	comp=N,330nm,24.5s								
WMQ				LR			LR		
	comp=E,370nm,24.5s								
WMQ				LR			LR		
	comp=Z,320nm,20.9s								
WSAR	**Wadi Sarin**	**48.49**	**305**	LR			LR	15 49 01.8	
	comp=Z,245nm,19.8s,baz=32,slow=34								
CMSA	**Cobar Meteorol**	**51.00**	**129**	*e*P			**P**	**15 30 27.6**	**+1.3**
TKM2	**Tokmak 2**	**51.24**	**337**	*e*P			**P**	**15 30 28.7**	**+0.5**
TKM2				pmax			pmax		
	comp=Z,14nm,1.1s								
TKM2	**Tokmak 2**	**51.24**	**337**	*e*P			**P**	**15 30 28.7**	**+0.5**
	comp=Z,14nm,1.1s								
SONM	**Songino Array**	**51.31**	**5**	P			**P**	**15 30 29.0**	**+0.5**
SONM				PcP			**PcP**	**15 31 43.8**	**+0.7**
SONM	**Songino Array**	**51.31**	**5**	P			**P**	**15 30 29.0**	**+0.5**
	comp=Z,9.5nm,0.5s,baz=190,slow=8.9,SNR=111								
SONM				PcP			**PcP**	**15 31 43.8**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=180,slow=3.7,SNR=6.2								
ULN	**Ulaanbaatar**	**51.41**	**6**	*e*P			**P**	**15 30 29.5**	**+0.3**
	comp=Z,26nm,1.1s								
AAK	**Ala-Archa**	**51.44**	**336**	*e*P			**P**	**15 30 29.9**	**+0.3**
AAK				pmax			pmax		
	comp=Z,37nm,1.4s								
AAK	**Ala-Archa**	**51.44**	**336**	*e*P			**P**	**15 30 29.9**	**+0.3**
	comp=Z,37nm,1.4s								
EKS2	**Erkin-Say**	**51.76**	**335**	*e*P			**P**	**15 30 32.2**	**+0.2**
EKS2				pmax			pmax		
	comp=Z,8.0nm,0.9s								
EKS2	**Erkin-Say**	**51.76**	**335**	*e*P			**P**	**15 30 32.2**	**+0.2**
	comp=Z,8.3nm,0.9s								
CN2	**Changchun**	**52.16**	**23**	*e*P			**P**	**15 30 33.3**	**-1.4**
CN2				pmax			pmax		
	comp=Z,30nm,1.0s								
CN2				pmax			pmax		
	comp=Z,100nm,3.0s								
CN2				LR			LR		
	comp=N,500nm,14.0s								
CN2				LR			LR		
	comp=E,400nm,14.0s								
CN2				LR			LR		
	comp=Z,500nm,17.0s								
MK31	**Makanchi Array**	**52.46**	**344**	*i* P			**P**	**15 30 36.9**	**-0.1**
MK31				pmax			pmax		
	comp=Z,9.0nm,0.6s								
MKAR	**Makanchi Array**	**52.46**	**344**	P			**P**	**15 30 37.1**	**+0.1**
MKAR	**Makanchi Array**	**52.46**	**344**	P			**P**	**15 30 37.1**	**+0.1**
MKAR	**Makanchi Array**	**52.46**	**344**	P			**P**	**15 30 37.1**	**+0.1**
	comp=Z,9.1nm,0.6s,baz=149,slow=7.6,SNR=103								
MKAR				LR			LR	15 55 35.2	
	comp=Z,90nm,21.8s,baz=353,slow=39								
MJAR	**Matsushiro Arr**	**53.19**	**38**	P			**P**	**15 30 40.7**	**-1.8**
MJAR	**Matsushiro Arr**	**53.19**	**38**	P			**P**	**15 30 40.7**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=219,slow=9.2,SNR=7.4								
ZAK	**Zakamensk**	**53.65**	**2**	*e*P			**P**	**15 30 45.7**	**0.0**
ZAK				*e*				15 31 51.3	
ZAK				pmax			pmax		
	comp=Z,2.0nm,1.1s								
OPO	**Ambohidratompo**	**54.05**	**250**	LR			LR	15 48 54.8	
	comp=Z,291nm,19.4s,baz=3.0,slow=30								
TLY	**Talaya**	**54.96**	**3**	*e*P			**P**	**15 30 55.4**	**+0.3**
TLY				pmax			pmax		
	comp=Z,3.0nm,0.7s								
TLY	**Talaya**	**54.96**	**3**	*e*P			**P**	**15 30 55.4**	**+0.3**
	comp=Z,2.8nm,0.7s								
USRK	**Ussuriysk Arra**	**55.27**	**27**	P			**P**	**15 30 57.0**	**-0.4**
	comp=Z,10nm,0.6s,baz=220,slow=4.7,SNR=26								
KURK	**Kurchatov**	**57.04**	**344**	*e*P			**P**	**15 31 09.5**	**-0.5**
KURK				pmax			pmax		
	comp=Z,16nm,1.0s								
KURK	**Kurchatov**	**57.04**	**344**	*e*P			**P**	**15 31 09.5**	**-0.5**
	comp=Z,16nm,1.0s								
ZALV	**Zalesovo Beam**	**58.60**	**349**	P			**P**	**15 31 20.7**	**-0.2**
ZALV	**Zalesovo Beam**	**58.60**	**349**	P			**P**	**15 31 20.7**	**-0.2**
ZALV	**Zalesovo Beam**	**58.60**	**349**	P			**P**	**15 31 20.7**	**-0.2**
	comp=Z,14nm,0.9s,baz=175,slow=5.8,SNR=44								
KLR	**Kul'dur**	**59.10**	**23**	*e*P			P	15 31 19.0	-5.5
KLR				MLR			MLR		
	comp=E,500nm,13.0s								
KLR				MLR			MLR		
	comp=Z,1µm,13.0s								
NVS	**Novosibirsk**	**59.75**	**349**	*e*P			P	15 31 25.4	-3.4
BRVK	**Borovoye**	**61.67**	**340**	*e*P			**P**	**15 31 41.1**	**-0.9**
BRVK				pmax			pmax		
	comp=Z,2.0nm,0.5s								
BRVK	**Borovoye**	**61.67**	**340**	*e*P			**P**	**15 31 41.1**	**-0.9**
	comp=Z,1.8nm,0.5s								
BOD	**Bodaibo**	**62.03**	**8**	*e*P			**P**	**15 31 41.3**	**-3.0**
AB31	**Akbulak array**	**63.02**	**332**	*i* P			**P**	**15 31 50.1**	**-1.0**
AB31				pmax			pmax		
	comp=Z,4.0nm,0.5s								
ABKAR	**Akbulak array**	**63.02**	**332**	*e*P			**P**	**15 31 50.5**	**-0.6**
	comp=Z,5.5nm,0.6s								
AKTO	**Aktyubinsk**	**64.73**	**332**	P			**P**	**15 32 01.8**	**-0.6**
AKTO	**Aktyubinsk**	**64.73**	**332**	P			**P**	**15 32 01.8**	**-0.6**
AKTO	**Aktyubinsk**	**64.73**	**332**	P			**P**	**15 32 01.8**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=124,slow=7.5,SNR=6.8								
DZM	**Mont Dzumac**	**66.64**	**112**	LR			LR	16 01 23.1	
	comp=Z,116nm,19.7s,baz=239,slow=36								
SVE	**Sverdlovsk**	**68.10**	**338**	⇓*i* P			**P**	**15 32 24.4**	**+0.7**
SVE				pmax			pmax		
	comp=Z,14nm,1.2s								
ZEI	**Tsey**	**68.48**	**319**	*e*P			**P**	**15 32 28.4**	**+1.6**
ZEI				pmax			pmax		
	comp=Z,3.0nm,0.9s								
ARU	**Arti**	**68.61**	**337**	*d i*P			P	15 32 31.9	+4.9
ARU								15 34 57.0	
ARU				S			**S**	**15 41 23.0**	**-4.7**
ARU				pmax			pmax		
	comp=Z,5.0nm,1.0s								
MAW	**Mawson**	**69.00**	**194**	LR			LR	15 56 04.2	
	comp=Z,416nm,18.9s,baz=206,slow=30								
YAK	**Yakutsk**	**69.03**	**14**	*e*P			**P**	**15 32 27.8**	**-1.7**
YAK				pmax			pmax		
	comp=Z,17nm,1.1s								
YAK				pmax			pmax		
	comp=E,5.0nm,1.2s								
YAK				pmax			pmax		
	comp=N,7.0nm,1.1s								
YAK				MLR			MLR		
	comp=Z,470nm,16.0s								
YAK				MLR			MLR		
	comp=N,336nm,15.0s								
YAK				MLR			MLR		
	comp=E,202nm,21.0s								
YAK	**Yakutsk**	**69.03**	**14**	*e*P			**P**	**15 32 27.7**	**-1.7**
	comp=E,22nm,1.0s								
KBZ	**Khabaz**	**69.57**	**319**	P			**P**	**15 32 33.0**	**-0.1**
KBZ	**Khabaz**	**69.57**	**319**	P			**P**	**15 32 33.0**	**-0.1**
KBZ	**Khabaz**	**69.57**	**319**	P			**P**	**15 32 33.0**	**-0.1**
	comp=E,0.9nm,0.7s,baz=168,slow=7.1,SNR=3.5								
KIV	**

IDC 26 15:30:01.6±6.8, 10.85N×93.46E, h110km±60km, mb3.5/11, mb1 3.6/12, mb1mx3.4/29, mbtmp3.5/12, Error ellipse: s-maj=52.9km s-min=15.4km az=54.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**9.24**	**34**	P	Pn	15 32 12.2	+0.3
	0.6nm,0.3s,baz=226,slow=14,SNR=27						
MKAR	**Makanchi Array**	**37.06**	**347**	P	P	15 37 00.7	-0.2
	0.4nm,0.3s,baz=165,slow=9.0,SNR=8.4						
SONM	**Songino Array**	**38.44**	**14**	P	P	15 37 12.2	-0.5
	0.2nm,0.5s,baz=198,slow=7.5,SNR=4.6						
KURBB	**Kurchatov Arra**	**41.52**	**346**	P	P	15 37 37.2	-0.6
	0.6nm,0.7s,baz=164,slow=7.0,SNR=6.2						
ZALV	**Zalesovo Beam**	**43.54**	**353**	P	P	15 37 54.4	+0.2
	2.6nm,0.4s,baz=178,slow=8.4,SNR=19						
BVAR	**Borovoye Array**	**45.98**	**341**	P	P	15 38 13.2	-0.3
	0.4nm,0.4s,baz=140,slow=5.0,SNR=3.7						
AKTO	**Aktyubinsk**	**49.04**	**331**	P	P	15 38 37.5	+0.2
	0.5nm,0.3s,baz=122,slow=7.8,SNR=4.1						
WRA	**Warramunga Arr**	**50.55**	**127**	P	P	15 38 48.7	-0.5
	0.6nm,0.4s,baz=302,slow=10,SNR=9.8						
ASAR	**Alice Springs**	**52.35**	**131**	P	P	15 39 02.9	+0.3
	0.6nm,0.8s,baz=298,slow=7.4,SNR=6.7						
BRTR	**Keskin Array B**	**60.01**	**310**	P	P	15 39 56.7	-0.3
	0.5nm,0.6s,baz=123,slow=6.9,SNR=3.4						
FINES	**FINESS Array B**	**69.79**	**332**	P	P	15 40 59.7	0.0
	4.1nm,1.0s,baz=72,slow=6.2,SNR=5.3						
ARCES	**ARCESS Array B**	**72.26**	**340**	P	P	15 41 14.9	+0.4
	4.8nm,1.1s,baz=112,slow=7.2,SNR=2.4						

IDC 26 15:32:06.5±1.4, 4.05N×126.96E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/24, mbtmp3.5/6, Error ellipse: s-maj=104.0km s-min=18.1km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.05**	**183**	P	P	15 37 02.7	-0.2
	1.8nm,0.9s,baz=9.5,slow=6.1,SNR=2.9						
WRA	**Warramunga Arr**	**24.92**	**163**	P	P	15 37 30.4	-1.1
	0.9nm,0.7s,baz=343,slow=10.0,SNR=12						
ASAR	**Alice Springs**	**28.36**	**167**	P	P	15 38 03.3	+0.7
	0.1nm,0.3s,baz=340,slow=9.2,SNR=8.8						
STKA	**Stephens Creek**	**38.34**	**160**	P	P	15 39 29.6	+0.3
	2.0nm,1.0s,baz=334,slow=8.8,SNR=4.0						
MKAR	**Makanchi Array**	**57.43**	**325**	P	P	15 41 57.9	+0.8
	0.1nm,0.4s,baz=111,slow=6.9,SNR=2.9						
KURBB	**Kurchatov Arra**	**61.60**	**327**	P	P	15 42 25.0	-0.8
	0.2nm,0.5s,baz=126,slow=7.6,SNR=2.7						

*IDC **26** 15:32:30.6±0.5, 13.01N×92.26E, h30km±3km, mb3.8/18, mb1 3.9/18, mb1mx3.8/30, mbtmp3.8/18, Error ellipse: s-maj=20.3km s-min=10.1km az=58.0*

*NEIC **26** 15:32:30.9±0.5, 13.18N×92.29E, h35km, mb4.4/6, Error ellipse: s-maj=12.6km s-min=6.9km az=56.0*

ISC 26 15:32:30.6±0.6, 13.11N±0.07×92.34E±0.06, h31km±3km, h31km:pP-P, n75, σ1s27/89, mb4.0/21, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**8.29**	**49**	*e*Pn	**Pn**	**15 34 29.0**	**+0.3**
CM31				*e*Sn	**Sn**	**15 35 57.5**	**-3.8**
CMAR	**Chiang Mai Arr**	**8.29**	**49**	Pn	Pn	15 34 33.0	+4.3
CMAR	**Chiang Mai Arr**	**8.29**	**49**	Pn	Pn	15 34 33.0	+4.3
	0.2nm,0.3s,baz=245,slow=15,SNR=4.3						
CHTO	**Chiang Mai**	**8.51**	**47**	*e*Pn	**Pn**	**15 34 32.2**	**+0.4**
BWNR	**Bhubaneshwar**	**9.50**	**320**	*e*PKP	**Pn**	**15 34 46.0**	**+0.6**
BWNR				*ex*	x	15 36 10.0	
AGT	**Agartala**	**10.77**	**355**	*ex*	x	15 35 48.0	
SHL	**Shillong**	**12.40**	**358**	*e*PKP	**P**	**15 35 40.0**	**+3.1**
SHL				*i* x	x	15 36 34.0	
HYB	**Hyderabad**	**13.98**	**290**	*i* P	**P**	**15 35 54.5**	**+0.2**
HYB				*e*S	**Sn**	**15 38 18.0**	**-2.9**
ODAN	**Odare**	**14.45**	**342**	*e*P	**Pn**	**15 35 51.2**	**-2.1**
ODAN	**Odare**	**14.45**	**342**	*e*P	**Pn**	**15 35 51.2**	**-2.1**
RAMN	**Ramite**	**14.79**	**340**	*e*P	**Pn**	**15 35 55.6**	**-2.3**
	38nm,0.4s						
RAMN	**Ramite**	**14.79**	**340**	*e*P	**Pn**	**15 35 55.6**	**-2.3**
	38nm,0.4s						
TAPN	**Taplejung**	**14.82**	**344**	*e*P	Pn	15 35 54.5	-3.8
TAPN	**Taplejung**	**14.82**	**344**	*e*P	Pn	15 35 54.5	-3.8
NGP	**Nagpur**	**15.01**	**304**	*e*S	Sn	15 38 34.3	-12
JIRN	**Jiri**	**15.58**	**339**	*e*P	**Pn**	**15 36 06.2**	**-2.2**
	8.2nm,0.5s						
JIRN	**Jiri**	**15.58**	**339**	*e*P	**Pn**	**15 36 06.2**	**-2.2**
	8.2nm,0.5s						
PKI	**Pulchoki**	**15.78**	**337**	*e*P	**Pn**	**15 36 09.0**	**-2.0**
	36nm,0.5s						
PKI	**Pulchoki**	**15.78**	**337**	*e*P	**Pn**	**15 36 09.0**	**-2.0**
	36nm,0.5s						
GUN	**Gumba**	**15.92**	**339**	*e*P	**Pn**	**15 36 10.5**	**-2.3**
GUN	**Gumba**	**15.92**	**339**	*e*P	**Pn**	**15 36 10.5**	**-2.3**
DMN	**Daman**	**15.94**	**336**	*e*P	**Pn**	**15 36 11.6**	**-1.3**
DMN	**Daman**	**15.94**	**336**	*e*P	**Pn**	**15 36 11.6**	**-1.3**
LATR	**Latur**	**16.08**	**291**	*e*S	Sn	15 38 53.0	-19
GKN	**Gorkha**	**16.48**	**335**	*e*P	**Pn**	**15 36 18.7**	**-1.0**
GKN	**Gorkha**	**16.48**	**335**	*e*P	**Pn**	**15 36 18.7**	**-1.0**
AKL	**Akola**	**16.49**	**299**	*e*S	Sn	15 39 07.4	-15
KOLN	**Koldanda**	**16.72**	**332**	*e*P	**Pn**	**15 36 22.1**	**-0.7**
	52nm,0.6s						
KOLN	**Koldanda**	**16.72**	**332**	*e*P	**Pn**	**15 36 22.1**	**-0.7**
	52nm,0.6s						
DANN	**Dangsing**	**17.15**	**334**	*e*P	**Pn**	**15 36 27.0**	**-1.3**
DANN	**Dangsing**	**17.15**	**334**	*e*P	**Pn**	**15 36 27.0**	**-1.3**
PYUN	**Piuthan**	**17.28**	**331**	*e*P	**Pn**	**15 36 29.2**	**-0.7**
PYUN	**Piuthan**	**17.28**	**331**	*e*P	**Pn**	**15 36 29.2**	**-0.7**
KKM	**Kota Kinabalu**	**24.55**	**104**	P	**P**	**15 37 46.0**	**-1.9**
	24nm,1.2s						
EKS2	**Erkin-Say**	**33.55**	**335**	*e*P	**P**	**15 39 08.2**	**+0.4**
	1.8nm,0.6s						
MKAR	**Makanchi Array**	**34.63**	**348**	P	**P**	**15 39 17.2**	**+0.2**
MKAR	**Makanchi Array**	**34.63**	**348**	P	**P**	**15 39 17.2**	**+0.2**
	1.1nm,0.8s,baz=160,slow=8.9,SNR=11						
SONM	**Songino Array**	**36.55**	**16**	P	**P**	**15 39 34.5**	**+0.8**
SONM				pP	**pP**	**15 39 43.9**	**+1.1**
SONM	**Songino Array**	**36.55**	**16**	P	**P**	**15 39 34.5**	**+0.8**
	0.5nm,0.7s,baz=193,slow=6.3,SNR=5.7						
SONM				pP	**pP**	**15 39 43.9**	**+1.1**
	1.3nm,0.6s,baz=201,slow=6.8,SNR=10						
KURBB	**Kurchatov Arra**	**39.07**	**346**	P	**P**	**15 39 55.2**	**+0.5**
	1.1nm,0.8s,baz=163,slow=7.6,SNR=11						
KURBB				pP	**pP**	**15 40 05.1**	**+1.2**
	1.7nm,0.8s,baz=162,slow=8.1,SNR=11						
KURK	**Kurchatov**	**39.14**	**346**	P	**P**	**15 39 52.6**	**-2.6**
	1.6nm,0.7s						
KURK				pP	**pP**	**15 40 05.1**	**+0.6**
KSAR	**Wonju Array Be**	**39.88**	**46**	P	**P**	**15 40 04.0**	**+2.4**
KSRS	**Korea Array**	**39.91**	**46**	P	**P**	**15 40 04.0**	**+2.2**
	0.6nm,0.8s,baz=246,slow=8.7,SNR=2.8						
ZALV	**Zalesovo Beam**	**41.18**	**353**	P	**P**	**15 40 12.2**	**+0.1**
ZALV				pP	**pP**	**15 40 22.4**	**+1.1**
ZALV	**Zalesovo Beam**	**41.18**	**353**	P	**P**	**15 40 12.2**	**+0.1**
	1.1nm,0.7s,baz=171,slow=11,SNR=6.7						
ZALV				pP	**pP**	**15 40 22.4**	**+1.1**
	1.3nm,0.6s,baz=170,slow=8.2,SNR=5.6						
BVAR	**Borovoye Array**	**43.50**	**341**	P	**P**	**15 40 31.3**	**+0.2**
BVAR	**Borovoye Array**	**43.50**	**341**	P	**P**	**15 40 31.3**	**+0.2**
	0.3nm,0.5s,baz=140,slow=7.0,SNR=3.0						
FITZ	**Fitzroy Crossi**	**45.17**	**133**	P	**P**	**15 40 44.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**45.17**	**133**	P	**P**	**15 40 44.2**	**-0.6**
	3.1nm,0.9s,baz=322,slow=12,SNR=3.4						
AKTO	**Aktyubinsk**	**46.55**	**330**	P	**P**	**15 40 54.6**	**-0.7**
AKTO	**Aktyubinsk**	**46.55**	**330**	P	**P**	**15 40 54.6**	**-0.7**
	0.5nm,0.5s,baz=95,slow=8.5,SNR=3.1						
NWAO	**Narrogin (SRO)**	**51.58**	**153**	P	**P**	**15 41 33.8**	**-0.2**
NWAO	**Narrogin (SRO)**	**51.58**	**153**	P	**P**	**15 41 33.8**	**-0.2**
	9.6nm,1.0s,baz=307,slow=10,SNR=3.6						
WRA	**Warramunga Arr**	**52.78**	**128**	P	**P**	**15 41 42.5**	**-0.7**
WRA				pP	**pP**	**15 41 51.6**	**-1.1**
WRA				PcP	**PcP**	**15 42 52.8**	**+0.3**
WRA				pPcP		15 43 02.5	
WRA	**Warramunga Arr**	**52.78**	**128**	P	**P**	**15 41 42.5**	**-0.7**
	0.8nm,0.7s,baz=306,slow=8.3,SNR=12						
WRA				pP	**pP**	**15 41 51.6**	**-1.1**
	1.1nm,0.6s,baz=307,slow=8.2,SNR=7.1						
WRA				PcP	**PcP**	**15 42 52.8**	**+0.3**
	0.7nm,0.7s,baz=322,slow=3.1,SNR=5.3						
WRA				pPcP		15 43 02.5	
	0.5nm,0.5s,baz=320,slow=3.1,SNR=9.2						
ASAR	**Alice Springs**	**54.66**	**132**	P	**P**	**15 41 56.6**	**-0.3**
ASAR				pP	**pP**	**15 42 05.2**	**-1.2**
ASAR				PcP	**PcP**	**15 43 00.2**	**+0.6**
ASAR				pPcP		15 43 09.6	
ASAR	**Alice Springs**	**54.66**	**132**	P	**P**	**15 41 56.6**	**-0.3**
	0.6nm,0.6s,baz=310,slow=6.7,SNR=11						
ASAR				pP	**pP**	**15 42 05.2**	**-1.2**
	1.0nm,0.8s,baz=308,slow=6.8,SNR=6.4						
ASAR				PcP	**PcP**	**15 43 00.2**	**+0.6**
	0.7nm,1.0s,baz=303,slow=5.2,SNR=3.3						
ASAR				pPcP		15 43 09.6	
	0.3nm,0.5s,baz=310,slow=3.2,SNR=4.3						
BRTR	**Keskin Array B**	**57.74**	**309**	P	**P**	**15 42 18.1**	**-0.8**
BRTR				pP	**pP**	**15 42 28.2**	**-0.3**
BRTR	**Keskin Array B**	**57.74**	**309**	P	**P**	**15 42 18.1**	**-0.8**
	2.0nm,0.8s,baz=133,slow=5.2,SNR=8.1						
BRTR				pP	**pP**	**15 42 28.2**	**-0.3**
	2.0nm,0.8s,baz=114,slow=7.8,SNR=6.4						
STKA	**Stephens Creek**	**65.00**	**135**	P	**P**	**15 43 08.5**	**+0.7**
STKA	**Stephens Creek**	**65.00**	**135**	P	**P**	**15 43 08.5**	**+0.7**
	1.2nm,0.6s,baz=307,slow=10,SNR=3.2						
FINES	**FINESS Array B**	**67.29**	**332**	P	**P**	**15 43 21.4**	**-0.7**
FINES	**FINESS Array B**	**67.29**	**332**	P	**P**	**15 43 21.4**	**-0.7**
	1.0nm,0.6s,baz=92,slow=5.7,SNR=4.3						
ARCES	**ARCESS Array B**	**69.78**	**340**	P	**P**	**15 43 37.6**	**+0.1**
ARCES	**ARCESS Array B**	**69.78**	**340**	P	**P**	**15 43 37.6**	**+0.1**
	3.4nm,1.0s,baz=97,slow=6.5,SNR=5.1						
GERES	**GERESS Array B**	**72.79**	**317**	P	**P**	**15 43 56.3**	**+0.1**
GERES				pP	**pP**	**15 44 06.8**	**+0.7**
GERES	**GERESS Array B**	**72.79**	**317**	P	**P**	**15 43 56.3**	**+0.1**
	1.2nm,0.8s,baz=76,slow=5.6,SNR=7.4						
GERES				pP	**pP**	**15 44 06.8**	**+0.7**
	1.4nm,0.7s,baz=86,slow=5.8,SNR=5.9						
BOSA	**Boshof**	**76.93**	**236**	P	**P**	**15 44 21.1**	**+0.5**
BOSA	**Boshof**	**76.93**	**236**	P	**P**	**15 44 21.1**	**+0.5**
	1.7nm,0.7s,baz=62,slow=6.9,SNR=4.0						
TORD	**Torodi Ar. Bea**	**87.70**	**283**	P	**P**	**15 45 17.1**	**+0.2**
TORD				pP	**pP**	**15 45 25.9**	**-1.1**
TORD	**Torodi Ar. Bea**	**87.70**	**283**	P	**P**	**15 45 17.1**	**+0.2**
	1.3nm,0.7s,baz=93,slow=4.8,SNR=7.9						
TORD				pP	**pP**	**15 45 25.9**	**-1.1**
	0.9nm,0.7s,baz=77,slow=4.7,SNR=4.7						
PLCA	**Paso Flores**	**148.66**	**205**	PKPbc	**PKPbc**	**15 52 15.7**	**+0.6**
PLCA	**Paso Flores**	**148.66**	**205**	PKPbc	**PKPbc**	**15 52 15.7**	**+0.6**
	1.6nm,0.8s,baz=166,slow=4.2,SNR=3.3						
CPUP	**Villa Florida**	**148.66**	**241**	PKPbc	**PKPab**	**15 52 18.9**	**-0.1**
CPUP	**Villa Florida**	**148.66**	**241**	PKPbc	**PKPab**	**15 52 18.9**	**-0.1**
	1.1nm,0.6s,baz=72,slow=3.4,SNR=4.6						

*DDA **26** 15:33:21.9, 38.93N×27.91E, h10km, MD2.8*

*ISCJB **26** 15:33:22.4±0.4, 38.92N±0.02×27.90E±0.03, h6km±3km, Error ellipse: s-maj=4.0km s-min=3.7km az=142.9*

*ISK **26** 15:33:22.1, 38.91N×27.91E, h6km, MD2.8*

*CSEM **26** 15:33:22.4±0.1, 38.92N×27.89E, h5km, MD2.8, Error ellipse: s-maj=2.9km s-min=2.4km az=71.0*

ISC 26 15:33:22.5±0.8, 38.92N±0.02×27.88E±0.02, h9km±5km, n41, σ0s52/61, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.07**	**230**	*i* P	**Pg**	**15 33 24.4**	**-0.2**
AKHS				*i* S	**Sg**	**15 33 26.0**	**-0.1**
AKHS	**Akhisar**	**0.07**	**230**	*i* P	**Pg**	**15 33 24.4**	**-0.2**
AKHS				*i* S	**Sg**	**15 33 26.0**	**-0.1**
AKS	**Akhisar**	**0.07**	**230**	PG	**Pg**	**15 33 24.2**	**-0.4**
AKS				*e*SG	**Sg**	**15 33 26.6**	**+0.5**
AKS	**Akhisar**	**0.07**	**230**	*i* Pg	**Pg**	**15 33 24.2**	**-0.4**
AKS				*e*Sg	**Sg**	**15 33 26.6**	**+0.5**
DEMI	**Demirci**	**0.66**	**79**	*i* P	**Pg**	**15 33 35.2**	**-0.1**
DEMI				*i* S	**Sg**	**15 33 43.2**	**-0.8**
DEMI	**Demirci**	**0.66**	**79**	*i* P	**Pg**	**15 33 35.2**	**-0.1**
DEMI				*i* S	**Sg**	**15 33 43.2**	**-0.8**
MANT	**Manisa**	**0.68**	**129**	*i* P	**Pg**	**15 33 35.6**	**-0.1**
MANT				*i* S	**Sg**	**15 33 43.6**	**-1.1**
MANT	**Manisa**	**0.68**	**129**	*i* P	**Pg**	**15 33 35.6**	**-0.1**
MANT				*i* S	**Sg**	**15 33 43.6**	**-1.1**
IZM	**Izmir**	**0.71**	**223**	*e*PG	**Pg**	**15 33 36.5**	**+0.2**
IZM	**Izmir**	**0.71**	**223**	*e*Pg	**Pg**	**15 33 36.5**	**+0.2**
BALB	**Balikesir**	**0.72**	**0**	*e*PG	**Pg**	**15 33 36.8**	**+0.5**
BALB				*e*SG	**Sb**	**15 33 46.7**	**-0.4**
BALB	**Balikesir**	**0.72**	**0**	*e*Pg	**Pg**	**15 33 36.8**	**+0.5**
BALB				*e*Sg	**Sb**	**15 33 46.7**	**-0.4**
KULA	**Kula-Manisa**	**0.73**	**123**	PG	**Pg**	**15 33 36.3**	**-0.4**
KULA				*e*SG	**Sg**	**15 33 46.2**	**-0.1**
KULA	**Kula-Manisa**	**0.73**	**123**	*i* Pg	**Pg**	**15 33 36.3**	**-0.4**
KULA				*e*Sg	**Sg**	**15 33 46.2**	**-0.1**
BALY	**Balya**	**0.84**	**346**	*i* P	**Pg**	**15 33 37.2**	**-1.5**
BALY				*i* S	**Sg**	**15 33 50.3**	**+0.6**
BALY	**Balya**	**0.84**	**346**	*i* P	**Pg**	**15 33 37.2**	**-1.5**
BALY				*i* S	**Sg**	**15 33 50.3**	**+0.6**
DST	**Dursunbey**	**0.89**	**40**	*e*PG	**Pg**	**15 33 39.7**	**+0.1**
DST				*e*SG	**Sb**	**15 33 52.6**	**+0.5**
DST	**Dursunbey**	**0.89**	**40**	*e*Pg	**Pg**	**15 33 39.7**	**+0.1**
DST				*e*Sg	**Sb**	**15 33 52.6**	**+0.5**
AYVA	**Ayvalik**	**1.00**	**293**	*i* P	Pg	15 33 31.6	-10
AYVA				*i* S	**Sg**	**15 33 54.2**	**-0.6**
GONE	**Gonen-Balikesi**	**1.13**	**352**	*e*PN	**Pb**	**15 33 44.3**	**+0.1**
GONE	**Gonen-Balikesi**	**1.13**	**352**	*e*Pn	**Pb**	**15 33 44.3**	**+0.1**
AYDN	**Tasoluk**	**1.26**	**180**	*i* P	**Pn**	**15 33 45.4**	**-0.9**
AYDN				*i* S	**Sb**	**15 34 02.7**	**0.0**
AYDN	**Tasoluk**	**1.26**	**180**	*i* P	**Pn**	**15 33 45.4**	**-0.9**
AYDN				*i* S	**Sb**	**15 34 02.7**	**0.0**
TVSB	**Tavsanli**	**1.34**	**66**	*e*PN	**Pb**	**15 33 48.0**	**+0.2**
TVSB	**Tavsanli**	**1.34**	**66**	*e*Pn	**Pb**	**15 33 48.0**	**+0.2**
ORLT	**Orhaneli**	**1.37**	**35**	*e*PN	**Pb**	**15 33 48.5**	**+0.2**
ORLT	**Orhaneli**	**1.37**	**35**	*e*Pn	**Pb**	**15 33 48.5**	**+0.2**
KHAL	**Karahalli**	**1.38**	**113**	*i* P	**Pn**	**15 33 48.1**	**+0.1**
KHAL				*i* S	**Sb**	**15 34 06.1**	**-0.1**
KHAL	**Karahalli**	**1.38**	**113**	*i* P	**Pn**	**15 33 48.1**	**+0.1**
KHAL				*i* S	**Sb**	**15 34 06.1**	**-0.1**
KCTX	**Karacabey (Bur**	**1.39**	**15**	*e*PN	**Pn**	**15 33 48.2**	**+0.1**
KCTX	**Karacabey (Bur**	**1.39**	**15**	*e*Pn	**Pn**	**15 33 48.2**	**+0.1**
KHL	**Karahalli**	**1.42**	**114**	*e*PN	**Pn**	**15 33 48.8**	**+0.3**
KHL	**Karahalli**	**1.42**	**114**	*e*Pn	**Pn**	**15 33 48.8**	**+0.3**
EZN	**Ezine**	**1.50**	**307**	*e*PN	**Pb**	**15 33 50.8**	**+0.2**
EZN	**Ezine**	**1.50**	**307**	*e*Pn	**Pb**	**15 33 50.8**	**+0.2**
DNZL	**Cakiroluk**	**1.54**	**143**	*i* P	**Pb**	**15 33 51.8**	**+0.6**
DNZL	**Cakiroluk**	**1.54**	**143**	*i* P	**Pb**	**15 33 51.8**	**+0.6**
MLSB	**Milas**	**1.63**	**183**	*e*PN	**Pn**	**15 33 51.7**	**+0.4**
MLSB	**Milas**	**1.63**	**183**	*e*Pn	**Pn**	**15 33 51.7**	**+0.4**
ALT	**Altintas**	**1.74**	**85**	*e*PN	**Pn**	**15 33 53.5**	**+0.5**
ALT	**Altintas**	**1.74**	**85**	*e*Pn	**Pn**	**15 33 53.5**	**+0.5**

IDC 26 15:34:37.0±2.3, 21.68N×94.67E, h104km±19km, mb3.8/8, mb1 3.8/9, mb1mx3.4/30, mbtmp3.7/9, Error ellipse: s-maj=58.9km s-min=12.4km az=60.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**5.14**	**128**	P	Pn	15 35 52.2	+0.5
	0.3nm,0.3s,baz=304,slow=13,SNR=11						
MKAR	**Makanchi Array**	**26.99**	**341**	P	P	15 40 07.2	-1.9
	0.8nm,0.5s,baz=152,slow=9.9,SNR=5.6						
MKAR				PcP	PcP	15 43 28.1	+0.1
	0.1nm,0.3s,baz=150,slow=1.3,SNR=4.2						
MKAR				ScP	ScP	15 46 58.2	-0.6
	0.5nm,0.7s,baz=141,slow=2.4,SNR=6.3						
KURBB	**Kurchatov Arra**	**31.54**	**340**	P	P	15 40 49.4	+0.2
	1.1nm,0.6s,baz=150,slow=8.7,SNR=8.0						
KURBB				PcP	PcP	15 43 39.4	0.0
	0.6nm,0.4s,baz=161,slow=2.4,SNR=9.0						
KURBB				ScP	ScP	15 47 12.6	-0.6
	0.6nm,0.5s,baz=148,slow=2.9,SNR=12						
ZALV	**Zalesovo Beam**	**33.08**	**349**	P	P	15 41 02.6	0.0
	2.3nm,0.3s,baz=166,slow=8.8,SNR=12						
BVAR	**Borovoye Array**	**36.40**	**335**	P	P	15 41 31.4	+0.1
	0.4nm,0.4s,baz=123,slow=7.7,SNR=3.3						
AKTO	**Aktyubinsk**	**40.57**	**324**	P	P	15 42 06.6	+0.4
	2.1nm,0.3s,baz=121,slow=7.6,SNR=11						
WRA	**Warramunga Arr**	**56.70**	**134**	P	P	15 44 09.9	-0.1
	1.2nm,0.6s,baz=320,slow=7.5,SNR=12						
NWAO	**Narrogin (SRO)**	**58.42**	**158**	P	P	15 44 21.1	-0.7
	7.8nm,0.7s,baz=358,slow=5.4,SNR=4.7						
ASAR	**Alice Springs**	**59.08**	**137**	P	P	15 44 26.8	+0.2
	0.8nm,0.7s,baz=318,slow=6.7,SNR=6.8						

IDC 26 15:44:53.0±3.2, 20.81S×178.81W, h593km±34km, mb3.1/8, mb1 3.3/8, mb1mx3.0/21, mbtmp3.1/8, Error ellipse: s-maj=25.1km s-min=21.7km az=88.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**32.71**	**265**	P	P	15 50 38.5	+0.2
	4.7nm,0.9s,baz=165,slow=18,SNR=5.9						
ASAR	**Alice Springs**	**43.71**	**257**	P	P	15 52 07.3	+0.1
	1.3nm,0.5s,baz=92,slow=8.1,SNR=57						
ASAR				ScP	ScP	15 56 36.6	+0.1
	0.4nm,0.6s,baz=95,slow=4.3,SNR=6.3						
WRA	**Warramunga Arr**	**43.81**	**263**	P	P	15 52 07.3	-0.7
	0.7nm,0.3s,baz=97,slow=7.6,SNR=56						
FITZ	**Fitzroy Crossi**	**52.24**	**263**	P	P	15 53 10.3	-0.3
	2.2nm,1.0s,baz=56,slow=7.3,SNR=4.8						
QSPA	**South Pole Qui**	**69.26**	**180**	P	P	15 55 01.7	+0.3
	1.1nm,0.6s,baz=67,slow=3.0,SNR=17						
PETK	**Petropavlovsk-**	**76.38**	**346**	P	P	15 55 42.8	+0.7
	2.1nm,0.8s,baz=162,slow=9.8,SNR=2.4						
ILAR	**Eielson Array**	**88.79**	**13**	P	P	15 56 43.7	-0.4
	0.4nm,0.6s,baz=222,slow=5.4,SNR=4.9						
CMAR	**Chiang Mai Arr**	**89.51**	**290**	P	P	15 56 49.3	+0.8
	0.2nm,0.3s,baz=133,slow=4.0,SNR=4.0						
AKASG	**Malin Array Be**	**142.92**	**330**	PKP	PKPdf	16 03 16.7	-3.1
	1.8nm,0.4s,baz=43,slow=4.2,SNR=11						
BRTR	**Keskin Array B**	**146.49**	**311**	PKPbc	PKPbc	16 03 28.3	-0.8
	0.6nm,0.6s,baz=129,slow=4.4,SNR=3.1						

IDC 26 15:51:51.4±2.2, 4.03N×127.17E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/22, mbtmp3.2/3, Error ellipse: s-maj=172.5km s-min=25.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.84**	**164**	P	P	15 57 13.9	-1.8
	0.5nm,0.7s,baz=343,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**28.30**	**167**	P	P	15 57 48.5	+1.6
	0.1nm,0.7s,baz=349,slow=12,SNR=3.8						
MKAR	**Makanchi Array**	**57.56**	**325**	P	P	16 01 42.9	-0.1
	0.2nm,0.7s,baz=106,slow=8.5,SNR=3.5						

*IDC **26** 16:15:48.1±2.6, 3.66N×126.52E, h9km±15km, mb4.9/34, mb1 4.9/34, mb1mx4.9/36, mbtmp4.8/34, MS4.2/21, Ms1 4.2/21, ms1mx4.0/38, Error ellipse: s-maj=17.1km s-min=9.8km az=78.0*

*MOS **26** 16:15:49.9±0.9, 3.69N×126.54E, h33km, mb5.3/40, MS4.0/5, Error ellipse: s-maj=10.6km s-min=5.1km az=113.7*

*NEIC **26** 16:15:53.6±0.9, 3.69N×126.64E, h53km±8km, mb5.2/59, Error ellipse: s-maj=6.7km s-min=4.2km az=72.0*

NEIC Felt [III] in the Kepulauan Talaud.

*BJI **26** 16:15:53.2, 3.48N×126.70E, h80km, mB5.0/37, mb5.0/58, Ms4.6/44, Ms7 4.4/48*

*ISCJB **26** 16:15:54.1±0.4, 3.68N±0.02×126.75E±0.03, h72km±3km, mb5.0/151, Error ellipse: s-maj=4.4km s-min=3.1km az=165.0*

*TEH **26** 16:15:56.0, 3.70N×126.76E, h81km, ML5.0*

*DJA **26** 16:15:58, 3.55N×126.83E, h79km, Mw4.7/31*

ISC 26 16:15:56.5±0.3, 3.63N±0.03×126.69E±0.04, h78km±2km, n482, σ1s58/561, mb5.1/149, 38C-28D, Talaud Islands

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

116nm,0.9s
GMJI Gumukmas 17.73 228 P **Pn** **16 20 01.6 +3.2**
109nm,1.1s
KRKI Karangkates 18.41 230 P **Pn** **16 20 10.9 +4.3**
194nm,1.1s,9µm
SJI Sawahan 18.69 233 P **P** **16 20 08.0 -0.8**
73nm,0.8s,2µm
PWJI Pagerwojo 18.83 232 P **P** **16 20 10.4 +0.2**
65nm,0.8s
PCJI Pacitan 19.43 233 P **Pn** **16 20 18.7 0.0**
107nm,0.9s
TWG Pinlang 19.84 345 *e*P P 16 20 14.3 -6.8
118nm,0.5s
BJII Banjamegara 20.14 237 P Pn 16 20 28.3 +1.1
51nm,1.1s,898nm
YULB Yu-li 20.32 346 *e*P **P** **16 20 22.2 -4.2**
18nm,0.4s
TPUB Ta-pu 20.41 344 *e*P **P** **16 20 23.5 -4.0**
60nm,0.7s
SSLB Suanglung 20.79 345 *e*P **P** **16 20 27.4 -4.1**
36nm,0.6s
NACB Ninganchiao 21.01 347 P **P** **16 20 31.2 -2.6**
17nm,0.7s
PPBI Pangkai Pinang 21.33 255 P **P** **16 20 41.8 +4.4**
55nm,1.1s,580nm
YHNB Yeheng 21.53 347 *e*P **P** **16 20 37.5 -2.0**
43nm,0.7s
FITZ Fitzroy Crossi 21.62 183 *e*P **P** **16 20 37.6 -2.7**
72nm,1.0s
FITZ *e*S **S** **16 24 31.8 -4.0**
FITZ S Sn 16 24 33.2 -16
FITZ Fitzroy Crossi 21.62 183 *e*P **P** **16 20 37.8 -2.6**
FITZ *e*S **S** **16 24 33.4 -2.3**
FITZ Fitzroy Crossi 21.62 183 P **P** **16 20 38.8 -1.5**
77nm,1.1s,baz=19,slow=10,SNR=44
FITZ S **S** **16 24 33.2 -2.6**
7.7nm,0.9s,baz=184,slow=18,SNR=3.7
LEM Lembang 21.69 241 P **P** **16 20 42.8 +1.4**
99nm,1.0s
CISI Cisompet, Garu 21.87 239 P **P** **16 20 46.9 +3.7**
71nm,1.2s
DBJI Dramaga 22.33 243 P **P** **16 20 48.6 +0.5**
77nm,1.3s
QIZ Qiongzhong 22.48 314 P **P** **16 20 48.5 -1.1**
QIZ S **S** **16 24 51.0 -0.2**
QIZ sS **sS** **16 25 17.5 -1.6**
QIZ pmax pmax
comp=Z,12nm,1.0s
QIZ LR LR
comp=N,250nm,19.0s
QIZ LR LR
comp=E,190nm,16.4s
QIZ LR LR
comp=Z,630nm,18.7s
MYKOM **Kota Tinggi 22.89 266** P **P** **16 20 56.0 +2.1**
MYKOM **Kota Tinggi 22.89 266** P **P** **16 20 54.5 +0.6**
comp=Z,69nm,0.9s,comp=Z,646nm
JOW Kunigami 23.12 4 P **P** **16 20 54.6 -1.4**
JOW Kunigami 23.12 4 P **P** **16 20 54.6 -1.4**
comp=Z,35nm,0.8s,baz=146,slow=4.4,SNR=9.5
CGJI Cibinong 23.30 244 P **P** **16 20 57.4 -0.5**
comp=Z,198nm,0.9s
KGM Kluang 23.40 267 P **P** **16 21 00.7 +1.8**
COEN Coen 23.93 137 *e*P **P** **16 21 01.6 -2.0**
comp=Z,96nm,0.8s
COEN Coen 23.93 137 *e*P **P** **16 21 01.8 -1.8**
KASI Kota Agung 23.96 248 P **P** **16 21 06.3 +2.5**
comp=Z,98nm,1.0s
PMG Port Moresby 24.16 123 *e*P **P** **16 21 02.4 -3.3**
comp=Z,14nm,0.9s
PMG Port Moresby 24.16 123 P **P** **16 21 03.5 -2.2**
comp=Z,9.3nm,0.8s,baz=318,slow=12,SNR=3.1
LWLI Liwa 24.18 249 P **P** **16 21 07.0 +1.0**
comp=Z,152nm,0.9s,comp=Z,1µm
WRAB Tennant Creek 24.60 162 *e*P **P** **16 21 07.7 -1.9**
WRAB *e*S **S** **16 25 28.1 +2.8**
WRAB pmax pmax
comp=Z,366nm,0.8s
WRAB Tennant Creek 24.60 162 *e*P **P** **16 21 07.7 -1.9**
comp=Z,366nm,0.8s
WRAB *e*S **S** **16 25 28.1 +2.8**
WRAB Tennant Creek 24.60 162 P **P** **16 21 08.0 -1.6**
comp=Z,3µm,0.8s
WRA Warramunga Arr 24.60 162 P **P** **16 21 08.5 -1.1**
WRA S **S** **16 25 22.8 -2.6**
WRA Warramunga Arr 24.60 162 P **P** **16 21 08.5 -1.1**
comp=Z,287nm,0.8s,baz=344,slow=10,SNR=454
WRA S **S** **16 25 22.8 -2.6**
comp=Z,1.0nm,0.7s,baz=322,slow=51,SNR=4.2
FRIM Kepong 25.02 270 P **P** **16 21 16.1 +2.5**
IPM Ipoh 25.61 273 *e*P **P** **16 21 18.0 -0.9**
comp=Z,43nm,1.1s
IPM Ipoh 25.61 273 P **P** **16 21 21.7 +2.7**
IPM Ipoh 25.61 273 P P 16 21 25.5 +6.6
comp=Z,37nm,1.2s,comp=Z,448nm
BKNI Bangkinang 25.84 263 P **P** **16 21 21.4 +0.4**
comp=Z,156nm,0.9s,comp=Z,1µm
KULM Kulim 26.01 275 *e*P **P** **16 21 20.9 -1.6**
comp=Z,34nm,1.0s
KULM Kulim 26.01 275 P **P** **16 21 24.7 +2.1**
KULM Kulim 26.01 275 P P 16 21 29.5 +7.0
comp=Z,35nm,1.1s
PPI Padang Panjang 26.59 262 P **P** **16 21 32.3 +4.6**
comp=Z,26nm,0.8s
QIS Mount Isa 27.18 153 *e*P **P** **16 21 31.8 -1.1**
MNSI Mandailing Nat 27.23 265 P P 16 21 38.8 +5.3
comp=Z,42nm,1.0s
CBIJ Chichi jima 27.64 31 LR LR 16 30 20.1
comp=Z,509nm,20.8s,baz=286,slow=32
PSI Prapat 27.73 269 P **P** **16 21 37.0 -1.1**
PSI Prapat 27.73 269 P **P** **16 21 37.8 -0.3**
comp=Z,36nm,1.0s
PSI Prapat 27.73 269 P **P** **16 21 37.0 -1.1**
comp=Z,24nm,0.9s,baz=62,slow=3.1,SNR=18
SSE Sheshan 27.81 350 P **P** **16 21 39.5 +1.1**
SSE S **S** **16 26 16.3 +0.5**
SSE pmax pmax
comp=Z,26nm,0.6s
SSE pmax pmax
comp=Z,100nm,3.7s
SSE LR LR
comp=N,230nm,21.8s
SSE LR LR
comp=E,110nm,21.8s
SSE LR LR
comp=Z,280nm,22.8s
ASAR Alice Springs 28.03 166 P **P** **16 21 39.4 -1.1**
ASAR PcP **PcP** **16 24 54.6 +0.8**
ASAR S S 16 26 30.2 +11
ASAR Alice Springs 28.03 166 P **P** **16 21 39.4 -1.1**
comp=Z,7.2nm,0.6s,baz=351,slow=7.6,SNR=148
ASAR PcP **PcP** **16 24 54.6 +0.8**
comp=Z,8.5nm,0.8s,baz=337,slow=2.0,SNR=8.8
ASAR S S 16 26 30.2 +11
comp=Z,5.0nm,0.9s,baz=347,slow=16,SNR=5.4
WHN Wuhan 29.20 338 P **P** **16 21 50.3 -0.5**
WHN *e*S S 16 26 46.3 +8.6
WHN LR LR
comp=Z,2µm,24.5s
NJ2 Nanjing 29.21 346 *e*P **P** **16 21 51.0 +0.1**
NJ2 pP **pP** **16 22 08.5 -0.6**
NJ2 sP **sP** **16 22 19.0 +0.8**
NJ2 PP **PnPn** **16 22 47.8 +0.2**
NJ2 S **S** **16 26 39.5 +1.6**
NJ2 pmax pmax
comp=Z,20nm,1.2s
NJ2 pmax pmax
comp=Z,270nm,3.8s
NJ2 LR LR
comp=N,250nm,22.0s
NJ2 LR LR
comp=E,260nm,24.6s
NJ2 LR LR
comp=Z,320nm,22.8s
JNU Nakatsue 29.60 7 P **P** **16 21 52.9 -1.4**
JNU Nakatsue 29.60 7 P **P** **16 21 52.9 -1.4**
comp=Z,26nm,0.9s,baz=173,slow=3.8,SNR=12
JNU LR LR 16 32 29.4
comp=Z,250nm,22.0s,baz=331,slow=34
GYA Guiyang 29.72 322 P **P** **16 21 56.8 +1.2**
GYA pP **pP** **16 22 15.8 +2.0**
GYA sP **sP** **16 22 25.0 +2.1**
GYA PP **PnPn** **16 22 57.5 +3.1**
GYA S **S** **16 26 45.3 -1.0**
GYA sS **sS** **16 27 19.0 +1.3**
GYA SS **SnSn** **16 28 27.3 +3.8**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,610nm,16.8s
GYA LR LR
comp=E,510nm,17.0s
GYA LR LR
comp=Z,750nm,18.6s
CTAO Charters Tower 30.41 142 *e*P **P** **16 22 01.8 +0.1**
CTAO Charters Tower 30.41 142 *e*P **P** **16 22 01.8 +0.1**
CMAR Chiang Mai Arr 30.89 301 P **P** **16 22 04.6 -1.3**
CMAR ScP **ScP** **16 28 43.1 +5.9**
CMAR Chiang Mai Arr 30.89 301 P **P** **16 22 04.6 -1.3**
comp=Z,6.4nm,0.8s,baz=118,slow=7.3,SNR=60
CMAR ScP **ScP** **16 28 43.1 +5.9**
comp=Z,1.3nm,0.9s,baz=177,slow=1.9,SNR=4.3
CMAR LR LR 16 36 16.4
comp=Z,278nm,19.4s,baz=105,slow=40
CHTO Chiang Mai 31.04 301 *e*P **P** **16 22 06.5 -0.7**
CHTO *e* 16 25 02.4
CHTO pmax pmax
comp=Z,20nm,1.0s
CHTO Chiang Mai 31.04 301 *e*P **P** **16 22 06.5 -0.7**
comp=Z,20nm,1.0s
CHTO *e*PcP **PcP** **16 25 02.4 +0.9**
CHTO Chiang Mai 31.04 301 P **P** **16 22 07.2 0.0**
SNR=9.4
CHTO Chiang Mai 31.04 301 P **P** **16 22 06.8 -0.4**
comp=Z,25nm,1.1s
KMI Kunming 31.42 315 P **P** **16 22 12.5 +1.7**
KMI pP **pP** **16 22 31.5 +2.5**
KMI sP **sP** **16 22 41.3 +3.2**
KMI S **S** **16 27 14.3 +1.1**
KMI pmax pmax
comp=Z,9.0nm,0.7s
KMI pmax pmax
comp=Z,110nm,3.9s
KMI LR LR
comp=N,530nm,17.5s
KMI LR LR
comp=E,330nm,20.6s
KMI LR LR
comp=Z,420nm,23.7s
JHJ Hachijo jima 2 31.79 21 LR LR 16 33 43.4
comp=Z,444nm,19.5s,baz=237,slow=34
KSAR Wonju Array Be 33.67 2 P **P** **16 22 30.1 +0.2**
KSAR PcP **PcP** **16 25 09.8 +1.4**
KSRS Korea Array 33.68 2 P **P** **16 22 30.1 +0.1**
comp=Z,15nm,0.7s,baz=182,slow=9.7,SNR=66
KSRS PcP **PcP** **16 25 09.8 +1.4**
comp=Z,3.9nm,0.8s,baz=181,slow=2.7,SNR=8.8
KSRS LR LR 16 37 35.1
comp=Z,174nm,19.4s,baz=185,slow=39
INCN Inchon 33.69 360 *e*P **P** **16 22 29.7 -0.5**
comp=Z,16nm,0.7s
FORT Forrest 34.24 178 *e*P **P** **16 22 34.4 -0.6**
comp=Z,156nm,0.8s
FORT Forrest 34.24 178 *e*P **P** **16 22 34.5 -0.6**
MJAR Matsushiro Arr 34.43 17 P **P** **16 22 34.7 -1.9**
MJAR PcP **PcP** **16 25 12.2 +1.6**
MJAR Matsushiro Arr 34.43 17 P **P** **16 22 34.7 -1.9**
comp=Z,3.0nm,0.7s,baz=185,slow=10,SNR=11
MJAR PcP **PcP** **16 25 12.2 +1.6**
comp=Z,3.3nm,0.8s,baz=181,slow=3.0,SNR=5.4
MJAR LR LR 16 34 04.5
comp=Z,240nm,21.9s,baz=195,slow=32
MAJO Matsushiro 34.43 17 *e*P P 16 22 33.2 -3.4
MAJO Matsushiro 34.43 17 *e*P P 16 22 33.2 -3.4
MAT Matsushiro 34.43 17 P P 16 22 32.5 -4.1
XAN Xi'an 34.48 333 P **P** **16 22 35.0 -2.2**
XAN pP **pP** **16 22 54.3 -1.3**
XAN S **S** **16 27 54.3 -5.9**
XAN pmax pmax
comp=Z,9.0nm,0.8s
XAN pmax pmax
comp=Z,14nm,4.2s
XAN LR LR
comp=N,260nm,16.9s
XAN LR LR
comp=E,170nm,19.6s
XAN LR LR
comp=Z,210nm,19.6s
QLP Quilpie 34.50 152 *e*P **P** **16 22 36.2 -1.1**
CD2 Chengdu 34.70 324 P **P** **16 22 39.5 +0.4**
CD2 pP **pP** **16 22 58.8 +1.3**
CD2 sP **sP** **16 23 08.5 +2.0**
CD2 PP **PP** **16 23 59.0 -0.1**
CD2 PcP **PcP** **16 25 11.5 -0.1**
CD2 S **S** **16 28 03.3 -0.3**
CD2 sS **sS** **16 28 36.3 +1.1**
CD2 PcS **PcS** **16 28 57.0 -1.3**
CD2 SS **SnSn** **16 30 21.0 -3.0**
CD2 pmax pmax
comp=Z,30nm,0.4s
CD2 pmax pmax
comp=Z,110nm,5.1s
CD2 LR LR
comp=N,530nm,19.1s
CD2 LR LR
comp=E,590nm,19.6s
CD2 LR LR
comp=Z,530nm,21.1s
KMBL Kambalda 35.10 187 *e*P **P** **16 22 42.0 -0.5**
DL2 Dalian 35.41 353 P **P** **16 22 45.0 0.0**
DL2 pP **pP** **16 23 05.3 +1.8**
DL2 S **S** **16 28 16.3 +2.1**
DL2 pmax pmax
comp=Z,30nm,1.1s
DL2 pmax pmax
comp=Z,130nm,3.8s
DL2 LR LR
comp=N,150nm,17.7s
DL2 LR LR
comp=E,130nm,19.7s
DL2 LR LR
comp=Z,220nm,18.7s
HNR Honiara 35.59 112 LR LR 16 36 21.0
comp=Z,270nm,19.4s,baz=280,slow=34
KLBR Kellerberrin 36.05 193 *e*P **P** **16 22 50.0 -0.5**
EIDS Eidsvold 37.30 142 *e*P **P** **16 23 00.4 -0.9**
comp=Z,24nm,0.9s
BBOO Buckleboo 37.32 167 *e*P **P** **16 23 00.4 -0.9**
comp=Z,636nm,0.9s
BBOO *e*PcP **PcP** **16 25 18.1 -1.1**
NWAO Narrogin (SRO) 37.45 193 *e*P **P** **16 23 02.5 +0.1**
comp=Z,52nm,1.3s
BJT Baijiatuan 37.45 347 *e*P **P** **16 23 02.2 -0.2**
comp=Z,116nm,0.8s
BJI Beijing 37.47 347 P **P** **16 23 02.8 +0.3**
BJI S **S** **16 28 46.3 +0.8**
BJI pmax pmax
comp=Z,140nm,0.9s
BJI LR LR
comp=N,220nm,18.1s
BJI LR LR
comp=E,270nm,27.7s
BJI LR LR
comp=Z,140nm,21.0s
STKA Stephens Creek 38.05 159 P **P** **16 23 07.1 -0.5**
STKA PcP **PcP** **16 25 22.4 +0.9**
STKA Stephens Creek 38.05 159 *e*P **P** **16 23 06.9 -0.6**
STKA *e* 16 25 22.4
STKA Stephens Creek 38.05 159 P **P** **16 23 07.1 -0.5**
comp=Z,72nm,0.6s,baz=332,slow=8.2,SNR=194
STKA PcP **PcP** **16 25 22.4 +0.9**
comp=Z,17nm,0.7s,baz=320,slow=4.0,SNR=4.5
STKA LR LR 16 39 49.9
comp=Z,200nm,18.9s,baz=206,slow=38
SNY Shenyang 38.13 356 ⇑P **P** **16 23 08.5 +0.5**
SNY S **S** **16 28 55.5 0.0**
SNY pmax pmax
comp=Z,22nm,0.8s
SNY pmax pmax
comp=Z,120nm,3.5s
SNY LR LR
comp=N,160nm,15.1s
SNY LR LR
comp=E,290nm,15.1s
SNY LR LR
comp=Z,290nm,22.1s
LZH Lanzhou 38.57 330 *e*P **P** **16 23 12.3 +0.3**
LZH PP **PP** **16 24 41.0 -0.7**
LZH S **S** **16 29 07.0 +4.4**
LZH sS **sS** **16 29 38.8 +4.2**
LZH pmax pmax
comp=Z,35nm,1.1s
LZH pmax pmax
comp=Z,120nm,5.4s
LZH LR LR
comp=N,410nm,14.2s
LZH LR LR
comp=E,630nm,17.0s
LZH LR LR
comp=Z,580nm,17.6s
HHC Hu-ho-hao-te 39.48 342 *e*P **P** **16 23 20.8 +1.3**
HHC pP **pP** **16 23 39.0 +0.8**
HHC sP **sP** **16 23 48.5 +1.3**
HHC PP **PnPn** **16 24 57.5 +2.3**
HHC PcP **PcP** **16 25 24.8 -1.2**
HHC S **S** **16 29 17.8 +1.7**
HHC sS **sS** **16 29 51.0 +2.9**
HHC SS **SS** **16 32 11.5 -1.9**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,170nm,5.1s
HHC LR LR
comp=N,370nm,19.0s
HHC LR LR
comp=E,310nm,17.8s
HHC LR LR
comp=Z,390nm,17.8s
VLA Vladivostok 39.59 6*d i*P **P** **16 23 20.9 +0.7**
VLA pmax pmax
comp=Z,14nm,0.8s
SHL Shillong 39.90 307 *i* P **P** **16 23 25.0 +1.7**
SHL *i* S **S** **16 29 25.0 +2.0**
CN2 Changchun 40.02 359 *e*P **P** **16 23 23.5 -0.3**
CN2 *e*S **S** **16 29 24.0 +0.2**
CN2 SS **SS** **16 32 17.8 -6.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,80nm,5.0s
CN2 LR LR
comp=N,200nm,15.0s
CN2 LR LR
comp=E,300nm,15.0s
CN2 LR LR
comp=Z,400nm,14.0s
USRK Ussuriysk Arra 40.67 6 P **P** **16 23 29.2 0.0**
comp=Z,14nm,0.7s,baz=186,slow=7.8,SNR=32
MDJ Mudanjiang 40.90 3 P **P** **16 23 31.0 0.0**
MDJ pP **pP** **16 23 47.8 -2.0**
MDJ sP **sP** **16 23 59.8 +1.0**
MDJ PP **PP** **16 25 06.0 -0.8**
MDJ PcP **PcP** **16 25 30.0 -0.3**
MDJ S **S** **16 29 36.8 -0.1**
MDJ pmax pmax
comp=Z,54nm,1.0s
MDJ pmax pmax
comp=Z,41nm,3.5s
MDJ LR LR
comp=N,65nm,33.2s
MDJ LR LR
comp=E,200nm,31.9s
MDJ LR LR
comp=Z,230nm,29.2s
ARMA Armidale 41.41 147 *e*P **P** **16 23 35.9 +0.3**
comp=Z,33nm,0.8s
ARMA Armidale 41.41 147 *e*P **P** **16 23 35.9 +0.3**
LSA Lhasa 42.47 312 P **P** **16 23 44.3 -0.4**
ASAJ Asahikawa 42.70 17 P **P** **16 23 46.7 +1.0**
ASAJ Asahikawa 42.70 17 P **P** **16 23 46.7 +1.0**
comp=Z,26nm,0.7s,baz=236,slow=14,SNR=23
ASAJ LR LR 16 43 24.7
comp=Z,311nm,18.3s,baz=48,slow=39
YNG Young 42.92 153 *e*P **P** **16 23 48.3 +0.6**
GTA Gaotai 43.16 329 *e*P **P** **16 23 48.5 -1.2**
GTA pP **pP** **16 24 06.8 -1.9**
GTA sP **sP** **16 24 16.3 -1.3**
GTA PcP **PcP** **16 25 40.0 +1.9**
GTA S **S** **16 30 08.3 -2.4**
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA pmax pmax
comp=Z,110nm,5.7s
GTA LR LR
comp=N,270nm,19.5s
GTA LR LR
comp=E,630nm,19.7s
GTA LR LR
comp=Z,770nm,22.6s
TAPN Taplejung 44.04 306 *e*P **P** **16 23 56.2 -1.0**
comp=Z,45nm,0.9s
TAPN Taplejung 44.04 306 *e*P **P** **16 23 56.2 -1.0**
comp=Z,45nm,0.9s
CAN Canberra 44.04 153 *e*P **P** **16 23 57.6 +0.8**
CAN pmax pmax
comp=Z,26nm,0.8s
CAN Canberra 44.04 153 *e*P **P** **16 23 57.6 +0.8**
comp=Z,26nm,0.8s
CAN Canberra 44.04 153 *e*P **P** **16 23 57.5 +0.8**
ODAN Odare 44.09 306 *e*P **P** **16 23 56.4 -1.1**
comp=Z,37nm,0.7s
ODAN Odare 44.09 306 *e*P **P** **16 23 56.4 -1.1**
comp=Z,37nm,0.7s
TOO Toolangi 44.56 159 *e*P **P** **16 24 01.9 +1.1**
RAMN Ramite 44.77 305 *e*P **P** **16 24 02.3 -0.7**
RAMN Ramite 44.77 305 *e*P **P** **16 24 02.3 -0.7**
HABR Khabarovsk 45.25 8*ce*P **P** **16 24 04.0 -2.0**
HABR *e*S **S** **16 30 39.6 -0.8**
HABR *e* 16 33 52.4
HABR *e*SSS SSS 16 34 58.4
HABR pmax pmax
comp=Z,58nm,1.5s
HABR pmax pmax
comp=N,13nm,1.0s
HABR pmax pmax
comp=E,24nm,1.9s
HABR MLR MLR
comp=Z,173nm,17.0s
YSS Yuzh-Sakhalins 45.35 15⇑ *i*P **P** **16 24 07.0 +0.1**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 45.35 15 *e*P **P** **16 24 06.0 -0.9**
comp=Z,25nm,0.8s
JIRN Jiri 45.40 306 *e*P **P** **16 24 07.1 -1.0**
comp=Z,15nm,0.9s
JIRN Jiri 45.40 306 *e*P **P** **16 24 07.1 -1.0**
comp=Z,15nm,0.9s
KLR Kul'dur 45.64 5 *e*P P 16 24 04.8 -4.3
KLR pmax pmax
comp=Z,68nm,1.6s
GUN Gumba 45.75 306 *e*P **P** **16 24 09.9 -0.9**
comp=Z,78nm,0.8s
GUN Gumba 45.75 306 *e*P **P** **16 24 09.9 -0.9**
comp=Z,78nm,0.8s
PKI Pulchoki 45.99 305 *e*P **P** **16 24 10.7 -2.0**
PKI Pulchoki 45.99 305 *e*P **P** **16 24 10.7 -2.0**
PKI Pulchoki 45.99 305 *e*P **P** **16 24 10.7 -2.0**
KKN Kakani 46.19 306 *e*P **P** **16 24 12.7 -1.4**
KKN Kakani 46.19 306 *e*P **P** **16 24 12.7 -1.4**
KKN Kakani 46.19 306 *e*P **P** **16 24 12.7 -1.4**
DMN Daman 46.25 305 *e*P **P** **16 24 13.6 -1.1**
comp=Z,29nm,0.9s
DMN Daman 46.25 305 *e*P **P** **16 24 13.6 -1.1**
comp=Z,29nm,0.9s
DZM Mont Dzumac 46.51 125 *e*P **P** **16 24 17.8 +1.2**
comp=Z,66nm,1.1s
DZM Mont Dzumac 46.51 125 *e*P **P** **16 24 16.7 +0.2**
DZM Mont Dzumac 46.51 125 *e*P **P** **16 24 17.4 +0.8**
comp=Z,32nm,0.9s
GKN Gorkha 46.79 306 *e*P **P** **16 24 17.2 -1.6**
GKN Gorkha 46.79 306 *e*P **P** **16 24 17.2 -1.6**
ULN Ulaanbaatar 47.20 342 *e*P **P** **16 24 20.6 -1.0**
comp=Z,22nm,1.1s
ULN *e*PcP **PcP** **16 25 52.5 +0.5**
ULN Ulaanbaatar 47.20 342 P **P** **16 24 22.8 +1.2**
SNR=9.8
ULN Ulaanbaatar 47.20 342 P **P** **16 24 21.3 -0.3**
comp=Z,18nm,1.2s
SONM Songino Array 47.38 341 P **P** **16 24 22.3 -0.6**
SONM PcP **PcP** **16 25 53.1 +0.6**
SONM ScP **ScP** **16 29 46.4 +6.6**
SONM Songino Array 47.38 341 P **P** **16 24 22.3 -0.6**
comp=Z,5.4nm,0.6s,baz=157,slow=8.2,SNR=54
SONM PcP **PcP** **16 25 53.1 +0.6**
comp=Z,6.3nm,0.8s,baz=157,slow=3.0,SNR=6.5

SONM ScP **ScP** **16 29 46.4 +6.6**
comp=Z,0.5nm,0.9s,baz=151,slow=3.3,SNR=2.8
SONM LR LR 16 46 00.7
comp=Z,176nm,19.8s,baz=158,slow=38
KOLN Koldanda 47.55 305 *e*P **P** **16 24 23.1 -1.6**
comp=Z,50nm,0.6s
KOLN Koldanda 47.55 305 *e*P **P** **16 24 23.1 -1.6**
comp=Z,50nm,0.6s
DANN Dangsing 47.64 306 *e*P **P** **16 24 24.1 -1.4**
comp=Z,72nm,0.7s
DANN Dangsing 47.64 306 *e*P **P** **16 24 24.1 -1.4**
comp=Z,72nm,0.7s
PYUN Piuthan 48.17 305 *e*P **P** **16 24 28.7 -0.8**
PYUN Piuthan 48.17 305 *e*P **P** **16 24 28.7 -0.8**
HYB Hyderabad 49.11 290 *i* P **P** **16 24 35.0 -1.7**
CIT Chita 49.45 349 *e*P **P** **16 24 38.3 -0.4**
CIT *e* 16 24 46.7
CIT pmax pmax
comp=Z,86nm,1.4s
ZAK Zakamensk 50.60 341 *e*P **P** **16 24 46.9 -0.6**
ZAK *e* 16 26 05.4
ZAK pmax pmax
comp=Z,3.0nm,1.2s
LATR Latur 51.16 291 *ex* x 16 24 51.5
TLY Talaya 51.61 342 *e*P **P** **16 24 53.8 -1.1**
TLY *e*S **S** **16 32 06.5 -3.6**
TLY pmax pmax
comp=Z,15nm,1.0s
TLY MLR MLR
comp=Z,148nm,20.0s
TLY Talaya 51.61 342 *e*P **P** **16 24 54.5 -0.5**
comp=Z,6.1nm,0.8s
TLY *e* 16 25 04.8
TLY Talaya 51.61 342 P **P** **16 24 55.9 +0.9**
SNR=9.0
IRK Irkutsk 51.91 343 *e*P **P** **16 24 56.3 -0.9**
IRK *e* 16 26 53.1
IRK pmax pmax
comp=Z,23nm,2.0s
MOY Mondy 52.46 340 *e*P **P** **16 25 01.2 -0.2**
MOY pmax pmax
comp=Z,21nm,2.2s
WMQ Urumqi 52.78 325 P **P** **16 25 03.5 -0.3**
WMQ sP **sP** **16 25 29.0 -3.1**
WMQ S **S** **16 32 26.0 -0.5**
WMQ sS **sS** **16 32 56.0 -3.7**
WMQ ScS **ScS** **16 34 46.0 -0.4**
WMQ pmax pmax
comp=Z,15nm,1.5s
WMQ pmax pmax
comp=Z,190nm,5.3s
WMQ LR LR
comp=N,1μm,14.8s
WMQ LR LR
comp=E,680nm,17.2s
WMQ LR LR
comp=Z,810nm,21.2s
DDI Dehra Dun 52.99 306 *ex* **P** **16 25 04.0 -1.6**
CLNS Chul'man 53.07 359 *e*P **P** **16 25 06.1 +0.4**
CLNS *e**PP pP 16 25 19.8 -5.4
CLNS *e* 16 26 10.3
CLNS *e* 16 27 14.1
CLNS *e*PPP PPP 16 28 15.5
CLNS *e*S S 16 32 46.0 +16
CLNS *e* 16 34 56.2
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=N,18nm,0.8s
CLNS pmax pmax
comp=Z,14nm,0.9s
CLNS pmax pmax
comp=Z,5.0nm,1.0s
KAAM Kaadhehdhoo 53.74 268 P **P** **16 25 10.5 -0.8**
comp=Z,29nm,1.9s
MSVF Nonsavu 54.91 115 *e*P **P** **16 25 21.3 +1.5**
MSVF pmax pmax
comp=Z,38nm,1.0s
MSVF Nonsavu 54.91 115 *e*P **P** **16 25 21.3 +1.5**
comp=Z,38nm,1.0s
MSVF Nonsavu 54.91 115 P **P** **16 25 22.0 +2.2**
comp=Z,213nm,0.8s,SNR=7.6
BOD Bodaibo 54.95 352 *e*P **P** **16 25 18.9 -0.4**
BOD *e* 16 36 43.5
BOD pmax pmax
comp=Z,17nm,1.3s
PETK Petropavlovsk- 55.54 22 P **P** **16 25 24.4 +0.8**
PETK Petropavlovsk- 55.54 22 P **P** **16 25 24.4 +0.8**
PETK Petropavlovsk- 55.54 22 P **P** **16 25 24.4 +0.8**
comp=Z,27nm,0.7s,baz=193,slow=3.6,SNR=25
PETK LR LR 16 49 48.8
comp=Z,135nm,18.1s,baz=69,slow=37
PET Petropavlovsk 55.83 23 *e*P **P** **16 25 25.5 -0.2**
PET *e*S **S** **16 33 04.8 -2.2**
PET pmax pmax
comp=Z,64nm,1.7s
PET MLR MLR
comp=Z,100nm,16.0s
MK31 Makanchi Array 57.61 325 *e*P **P** **16 25 37.2 -1.3**
MK31 pmax pmax
comp=Z,28nm,0.9s
MKAR Makanchi Array 57.61 325 P **P** **16 25 37.5 -1.0**
MKAR S **S** **16 33 31.5 +0.7**
MKAR Makanchi Array 57.61 325 P **P** **16 25 37.5 -1.0**
MKAR ScP ScP 16 30 33.4 +9.2
MKAR S **S** **16 33 31.5 +0.7**
comp=Z,11nm,0.6s,baz=120,slow=7.1,SNR=98
MKAR ScP ScP 16 30 33.4 +9.2
comp=Z,1.4nm,0.8s,baz=128,slow=4.6,SNR=4.8
MKAR S **S** **16 33 31.5 +0.7**
comp=Z,1.4nm,1.1s,baz=122,slow=14,SNR=3.6
MKAR LR LR 16 52 08.4
comp=Z,368nm,19.6s,baz=259,slow=38
KSH Kashi 58.08 315 P **P** **16 25 42.5 +0.4**
KSH pP **pP** **16 26 01.8 -0.1**
KSH sP **sP** **16 26 10.3 -0.3**
KSH PcP **PcP** **16 26 32.5 -0.6**
KSH PP **PP** **16 27 53.8 +2.3**
KSH ScP **ScP** **16 30 24.3 -2.2**
KSH PcS **PcS** **16 30 32.5 -2.2**
KSH S **S** **16 33 36.8 -0.6**
KSH sS **sS** **16 34 09.0 -2.2**
KSH ScS **ScS** **16 35 20.3 -4.6**
KSH SS **SS** **16 37 30.0 0.0**
KSH pmax pmax
comp=Z,28nm,1.3s
KSH pmax pmax
comp=Z,100nm,4.2s
KSH LR LR
comp=N,140nm,5.1s
KSH LR LR
comp=E,150nm,5.5s
KSH LR LR
comp=Z,230nm,5.7s
YAK Yakutsk 58.31 2 *e*P **P** **16 25 42.9 -0.1**
YAK pmax pmax
comp=Z,64nm,0.8s
YAK Yakutsk 58.31 2 *e*P **P** **16 25 42.9 -0.1**
comp=Z,64nm,0.8s
KZA Kyzart 59.66 318 P **P** **16 25 54.5 +1.2**
SNR=13
TKM2 Tokmak 2 59.79 319 P **P** **16 25 53.2 -0.8**
TKM2 pmax pmax
comp=Z,17nm,0.9s
TKM2 Tokmak 2 59.79 319 *e*P **P** **16 25 53.3 -0.6**
comp=Z,31nm,1.3s
TKM2 Tokmak 2 59.79 319 P **P** **16 25 53.6 -0.4**
SNR=12
KBK Karagaybulak 60.11 318 P **P** **16 25 57.1 +1.0**
SNR=12
UCH Uchtor 60.22 317 P **P** **16 25 58.4 +1.2**
SNR=5.6
CHMS Chumysh 60.38 318 P **P** **16 25 58.0 +0.2**
SNR=7.5
AAK Ala-Archa 60.40 318 *i* P **P** **16 25 58.1 0.0**
AAK pmax pmax
comp=Z,29nm,1.6s
AAK Ala-Archa 60.40 318 P **P** **16 25 58.5 +0.4**
AAK ⇑*e* 16 55 29.1
AAK Ala-Archa 60.40 318 P **P** **16 25 58.9 +0.8**
comp=Z,53nm,0.9s,SNR=7.8
AAK Ala-Archa 60.40 318 P **P** **16 25 58.5 +0.4**
SNR=7.8
AAK Ala-Archa 60.40 318 P **P** **16 25 58.9 +0.8**
SNR=7.9
AAK Ala-Archa 60.40 318 P **P** **16 25 58.5 +0.4**
comp=Z,5.2nm,0.8s,baz=109,slow=3.4,SNR=18
AAK PKP2bc
comp=Z,0.6nm,0.6s,baz=84,slow=0.9,SNR=3.7
AAK LR LR 16 56 06.7
comp=Z,188nm,21.3s,baz=87,slow=40
ZALV Zalesovo Beam 60.66 333 P **P** **16 25 57.8 -1.5**
ZALV Zalesovo Beam 60.66 333 P **P** **16 25 57.8 -1.5**
ZALV ⇑*e* 16 55 28.1
ZALV Zalesovo Beam 60.66 333 P **P** **16 25 57.8 -1.5**
comp=Z,7.2nm,0.8s,baz=114,slow=6.8,SNR=31
ZALV LR LR 16 53 57.8
comp=Z,143nm,19.2s,baz=252,slow=38
ZALV PKP2bc 16 55 28.1
comp=Z,2.4nm,1.0s,baz=279,slow=2.9,SNR=8.7
USP Ospenovka 60.67 319 P **P** **16 25 58.9 -0.8**
SNR=26
AML Almayashu 60.73 317 P **P** **16 26 01.7 +1.1**
SNR=23
EKS2 Erkin-Say 60.89 318 *e*P **P** **16 26 00.8 -0.6**
EKS2 pmax pmax
comp=Z,19nm,0.8s
EKS2 Erkin-Say 60.89 318 *e*P **P** **16 26 00.8 -0.6**
comp=Z,19nm,0.8s
EKS2 Erkin-Say 60.89 318 P **P** **16 26 02.2 +0.9**
SNR=20
RPZ Rata Peaks 61.70 145 *e*P **P** **16 26 07.1 +0.4**
comp=Z,38nm,0.9s
KURBB Kurchatov Arra 61.80 327 P **P** **16 26 06.1 -1.0**
comp=Z,30nm,0.8s,baz=127,slow=6.0,SNR=114
KURK Kurchatov 61.80 328 P **P** **16 26 06.1 -1.0**
KURK Kurchatov 61.80 328 P **P** **16 26 06.1 -1.0**
KURK Kurchatov 61.80 328 P **P** **16 26 06.5 -0.6**
comp=Z,341nm,0.7s,SNR=42
NVS Novosibirsk 61.94 333⇑ *i* P P 16 26 04.6 -3.4
NVS *e*S **S** **16 34 24.1 -1.9**
NVS pmax pmax
comp=Z,12nm,1.0s
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=E,5.0nm,1.0s
NVS smax smax
comp=E,17nm,1.8s
SEY Seymchan 62.14 13 *e*P **P** **16 26 09.0 -0.1**
KK31 Karatay Array 63.27 317 P **P** **16 26 16.4 -0.8**
KK31 pmax pmax
comp=Z,16nm,0.8s
KKAR Karatay Array 63.27 317 *e*P **P** **16 26 16.5 -0.7**
KKAR pmax pmax
comp=Z,21nm,0.9s
KKAR Karatay Array 63.27 317 *e*P **P** **16 26 16.5 -0.7**
comp=Z,21nm,0.9s
AFI Afiamalu 63.46 107 LR LR 16 48 48.9
comp=Z,179nm,20.6s,baz=16,slow=31
BVA0 Borovoye Array 67.38 327 *i* P **P** **16 26 42.9 -0.6**
BVA0 pmax pmax
comp=Z,7.0nm,1.1s
BVAR Borovoye Array 67.38 327 P **P** **16 26 42.3 -1.2**
BVAR Borovoye Array 67.38 327 P **P** **16 26 42.3 -1.2**
BVAR Borovoye Array 67.38 327 P **P** **16 26 42.3 -1.2**
comp=Z,30nm,1.0s,baz=131,slow=6.8,SNR=82
BRVK Borovoye 67.45 327 P **P** **16 26 43.0 -0.9**
BRVK pmax pmax
comp=Z,89nm,1.1s
BRVK Borovoye 67.45 327 *e*P **P** **16 26 42.8 -1.1**
comp=Z,62nm,1.1s
BRVK Borovoye 67.45 327 P **P** **16 26 43.5 -0.5**
comp=Z,284nm,1.1s,SNR=43
BRVK Borovoye 67.45 327 P **P** **16 26 43.4 -0.5**
SNR=25
ZRNK Zerenda 68.11 327 P **P** **16 26 47.1 -0.9**
ZRNK pmax pmax
comp=Z,47nm,1.1s
IDAH Dahanechah 68.60 304 *e*P **P** **16 26 52.0 +0.2**
JMDO Jabal Madar 68.83 292 P **P** **16 26 52.1 -1.1**
SNR=5.5
IMYA Miami 69.06 308 *e*P **P** **16 26 54.4 -0.2**
IKOO Kooshah 69.26 303 *e*P **P** **16 26 55.4 -0.6**
IMOG Moghan 69.63 307 *e*P **P** **16 26 57.9 -0.3**
BILL Bilibino 69.66 15⇑ *e*P **P** **16 26 56.6 -0.8**
BILL pmax pmax
comp=Z,8.0nm,1.4s
BILL MLR MLR
comp=Z,100nm,19.0s
BILL Bilibino 69.66 15 *e*P **P** **16 26 56.9 -0.5**
comp=Z,10nm,1.3s
IPAY Payeh 69.96 307 *e*P **P** **16 27 00.0 -0.2**
IAKL Akhelmad 70.18 308 *e*P **P** **16 27 01.3 -0.3**
IKRD Kardeh 70.40 308 *e*P P 16 26 58.0 -4.9
DRV Dumont d'Urvil 70.78 174 PP PP 16 29 17.0 -25
DRV S **S** **16 36 08.0 -4.6**
IBAF Bafgh 72.04 302 *e*P **P** **16 27 11.5 -1.3**
AB31 Akbulak array 72.20 321 *i* P **P** **16 27 12.0 -1.1**
AB31 pmax pmax
comp=Z,20nm,0.9s
ABKAR Akbulak array 72.20 321 *e*P **P** **16 27 11.7 -1.4**
comp=Z,15nm,0.8s
IMEH Mehriz 72.83 302 *e*P **P** **16 27 15.9 -1.7**
AKTO Aktyubinsk 73.71 322 P **P** **16 27 21.7 -0.4**
AKTO Aktyubinsk 73.71 322 P **P** **16 27 21.6 -0.4**
AKTO Aktyubinsk 73.71 322 P **P** **16 27 21.6 -0.4**
comp=Z,10nm,0.8s,baz=104,slow=6.8,SNR=42
SVE Sverdlovsk 74.02 328⇑ *i*P **P** **16 27 23.5 -0.2**
SVE pmax pmax
comp=Z,32nm,1.1s
GAMB Gambell 74.50 24 *e*P **P** **16 27 26.2 -0.2**
comp=Z,36nm,1.3s
ARU Arti 75.00 328*d i*P **P** **16 27 28.6 -0.8**
ARU S **S** **16 37 01.7 +0.8**
ARU pmax pmax
comp=Z,26nm,1.0s
ARU Arti 75.00 328 *e*P **P** **16 27 28.0 -1.4**
comp=Z,13nm,0.6s
ARU Arti 75.00 328 P **P** **16 27 28.8 -0.6**
comp=Z,144nm,1.2s,SNR=7.5
IPIR Pirpir 76.09 303 *e*P **P** **16 27 36.1 -0.5**
KBD Kabd 78.63 299 *e*P **P** **16 27 49.3 -1.1**
RDF Al-Radifah 78.75 299 *e*P **P** **16 27 50.5 -0.6**
RDF AMb AMB 16 27 52.3
comp=Z,44nm,1.0s
MIB Mutribah 78.96 300 *e*P **P** **16 27 51.0 -1.2**
MIB AMb AMB 16 27 52.8
comp=Z,46nm,0.9s
NAY Al-Naaiem 79.03 299 *e*P **P** **16 27 51.1 -1.5**
NAY AMb AMB 16 27 53.0
comp=Z,26nm,0.9s
IHRS Heris 79.63 308 *e*P **P** **16 27 55.4 -0.6**
IGHG Ghaleghazi 79.80 304 *e*P **P** **16 27 55.9 -1.1**
RAYN Ar Rayn 80.48 293 P **P** **16 28 00.0 -0.6**
comp=Z,98nm,1.2s,SNR=14
IMRD Marand 80.70 308 *e*P **P** **16 28 01.9 +0.2**
ABPO Ambohimpanom 81.24 250 *e*P **P** **16 28 04.6 -0.3**
ABPO pmax pmax
comp=Z,15nm,0.8s
ABPO Ambohimpanom 81.24 250 *e*P **P** **16 28 04.5 -0.3**
comp=Z,15nm,0.8s
GNI Garni 81.51 310 P **P** **16 28 07.3 +1.3**
GNI Garni 81.51 310 P **P** **16 28 07.3 +1.3**
comp=Z,1.0nm,0.3s,baz=167,slow=17,SNR=4.8
KDAK Kodiak Island 81.99 32 P **P** **16 28 08.9 +1.1**
KDAK Kodiak Island 81.99 32 P **P** **16 28 08.9 +1.1**
comp=Z,8.2nm,0.6s,baz=171,slow=19,SNR=7.0
ZEI Tsey 82.25 313 *e*P **P** **16 28 09.0 -0.9**
ZEI pmax pmax
comp=Z,15nm,1.4s
KBZ Khabaz 83.02 313 P **P** **16 28 12.8 -0.6**
KBZ Khabaz 83.02 313 P **P** **16 28 12.8 -0.6**
KBZ Khabaz 83.02 313 P **P** **16 28 12.8 -0.6**
comp=Z,1.2nm,0.8s,baz=140,slow=5.3,SNR=4.0
KBZ LR LR 17 07 36.6
comp=Z,139nm,21.4s,baz=161,slow=38
KIV Kislovodsk 83.18 314 *e*P **P** **16 28 13.2 -1.2**
KIV pmax pmax
comp=Z,4.0nm,0.7s
KIV MLR MLR
comp=Z,113nm,19.0s
VNDA Vanda 83.33 173 P **P** **16 28 15.6 +1.2**
VNDA Vanda 83.33 173 P **P** **16 28 15.6 +1.2**
comp=Z,12nm,0.9s,baz=308,slow=5.8,SNR=18
TRF Thorofare Moun 83.65 27 *e*P **P** **16 28 15.9 -0.6**
comp=Z,18nm,1.0s
SEW Seward 83.81 30 *e*P **P** **16 28 17.1 0.0**
comp=Z,37nm,1.0s
COLD Coldfoot 84.00 23 *e*P **P** **16 28 16.9 -1.1**
comp=Z,21nm,1.0s
PMR Palmer 84.05 29 *e*P **P** **16 28 18.9 +0.5**
PMR pmax pmax
comp=Z,27nm,0.9s
PMR Palmer 84.05 29 *e*P **P** **16 28 18.9 +0.5**
comp=Z,27nm,0.9s
VRHR Novokhopersk 84.09 321 *e*P **P** **16 28 17.9 -0.9**
VRHR pmax pmax
comp=N,3.0nm,0.7s
VRHR pmax pmax
comp=E,6.0nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s
MCK McKinley 84.27 26 *e*P **P** **16 28 19.8 +0.3**
MCK pmax pmax
comp=Z,22nm,1.0s
MCK McKinley 84.27 26 *e*P **P** **16 28 19.8 +0.3**
comp=Z,22nm,1.0s
SML Sawmill 84.44 28 *e*P **P** **16 28 21.2 +0.8**
SML pmax pmax
comp=Z,12nm,1.0s
SML Sawmill 84.44 28 *e*P **P** **16 28 21.2 +0.8**
comp=Z,12nm,1.0s
COLA College 84.80 25 P **P** **16 28 22.6 +0.5**
COLA College 84.80 25 P **P** **16 28 22.6 +0.5**
PPT2 Papeete2 85.12 108 *e*LR LR 16 55 16.6
comp=Z,127nm,25.0s
ILAR Eielson Array 85.21 25 P **P** **16 28 24.1 -0.1**
ILAR Eielson Array 85.21 25 P **P** **16 28 24.1 -0.1**
comp=Z,3.1nm,0.9s,baz=270,slow=4.1,SNR=21
KLMR Klimovskoe 85.47 331 *e*P **P** **16 28 24.3 -1.2**
KLMR pmax pmax
comp=Z,90nm,1.2s
VORD Divnogorie 85.56 321 *e*P **P** **16 28 25.2 -1.0**
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,20nm,0.7s
VORD pmax pmax
comp=Z,20nm,0.7s
VSR Storozhevoye 85.64 321 *e*P **P** **16 28 26.0 -0.6**
VSR pmax pmax
comp=Z,30nm,0.9s
VSR pmax pmax
comp=N,2.0nm,0.5s
VSR pmax pmax
comp=E,10.0nm,0.9s
DIV Divide 85.65 29 *e*P **P** **16 28 26.6 0.0**
comp=E,37nm,1.1s
TBI Tubuai 85.79 114 *e*LR LR 16 55 23.8
comp=E,183nm,25.5s
BMRM Bremner River 86.22 29 *e*P **P** **16 28 30.6 +1.3**
comp=E,24nm,1.0s
MOS Moscow 86.50 325 *e*P **P** **16 28 29.6 -1.1**
MOS *e* 16 28 47.6
MOS *e* 16 31 59.1
MOS pmax pmax
comp=Z,76nm,1.3s
ANN Anapa 86.94 315 *e*P **P** **16 28 31.7 -1.4**
ANN *e* 16 38 51.6
ANN pmax pmax
comp=Z,94nm,1.4s
ANN Anapa 86.94 315 *e*P **P** **16 28 31.9 -1.2**
OBN Obninsk 87.12 325⇑ *i*P **P** **16 28 33.1 -0.6**
OBN *i* 16 28 41.9
OBN pmax pmax
comp=Z,76nm,1.4s
OBN MLR MLR
comp=Z,100nm,16.0s
OBN Obninsk 87.12 325 *e*P **P** **16 28 33.1 -0.6**
comp=Z,40nm,1.0s
APA Apatity 87.93 337⇓ *e*P **P** **16 28 38.6 +1.2**
APA MLR MLR
comp=Z,1μm,19.0s
KMBO Kilima Mbogo 89.51 269 *e*P **P** **16 28 46.7 +0.4**
comp=Z,29nm,1.2s
KMBO Kilima Mbogo 89.51 269 P **P** **16 28 47.6 +1.3**
SNR=9.8
BRTR Keskin Array B 90.05 310 P **P** **16 28 47.0 -1.1**
BRTR Keskin Array B 90.05 310 P **P** **16 28 47.0 -1.1**
comp=Z,7.6nm,0.9s,baz=111,slow=4.9,SNR=24
INK Inuvik 90.27 21 *e*P **P** **16 28 47.7 -0.6**
comp=Z,8.5nm,1.2s
ARCES ARCESS Array B 90.53 340 P **P** **16 28 49.1 -0.4**
ARCES ARCESS Array B 90.53 340 P **P** **16 28 49.1 -0.4**
comp=Z,8.8nm,0.6s,baz=80,slow=6.8,SNR=36
ARCES LR LR 17 12 13.0
comp=Z,274nm,19.4s,baz=272,slow=37
SPITS Spitsbergen Ar 90.57 349 P **P** **16 28 49.0 -0.7**
SPITS Spitsbergen Ar 90.57 349 P **P** **16 28 49.0 -0.7**
comp=Z,16nm,1.0s,baz=90,slow=16,SNR=3.7
FINES FINESS Array B 91.90 332 P **P** **16 28 54.4 -1.7**
FINES FINESS Array B 91.90 332 P **P** **16 28 54.4 -1.7**
comp=Z,3.1nm,0.8s,baz=45,slow=0.4,SNR=5.9
FINES LR LR 17 15 21.3
comp=Z,142nm,18.2s,baz=90,slow=39
AKASG Malin Array Be 91.94 321 *i* P **P** **16 28 55.5 -1.0**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKASG Malin Array Be 91.94 321 P **P** **16 28 55.2 -1.3**
AKASG Malin Array Be 91.94 321 P **P** **16 28 55.2 -1.3**
comp=Z,6.6nm,0.7s,baz=71,slow=4.6,SNR=20
SYO Syowa Base 92.32 201⇑ *i*P **P** **16 28 58.2 +0.4**
WRAK Wrangell Islan 93.05 33 *e*P **P** **16 29 01.9 +0.4**
comp=Z,13nm,0.9s
TIRR Tirgusor 93.38 315 P **P** **16 29 02.4 -0.8**
TIRR Tirgusor 93.38 315⇓ *i*P **P** **16 29 02.4 -0.8**
CFR Carcaliu 93.47 316 P **P** **16 29 02.0 -1.6**
CFR Carcaliu 93.47 316⇓ *i*P **P** **16 29 02.0 -1.6**
QSPA South Pole Qui 93.54 180 *e*P **P** **16 29 04.5 +0.8**
comp=Z,9.2nm,1.1s
DLBC Dease Lake 93.85 31 P **P** **16 29 06.5 +1.3**
DLBC Dease Lake 93.85 31 P **P** **16 29 06.5 +1.3**
comp=Z,2.6nm,0.8s,baz=6.5,slow=25,SNR=5.6
TESR 94.28 317⇓ *i*P **P** **16 29 07.2 -0.2**
VRI Vrincioaia 94.34 316 P **P** **16 29 08.3 +0.6**
VRI Vrincioaia 94.34 316⇓ *i*P **P** **16 29 08.3 +0.6**
PLOR Plostina 94.39 316 P **P** **16 29 08.5 +0.5**
PLOR Plostina 94.39 316⇓ *i*P **P** **16 29 08.5 +0.5**
MLR Muntele Rosu 94.94 316 P **P** **16 29 10.3 -0.3**
MLR Muntele Rosu 94.94 316⇑ *i*P **P** **16 29 10.3 -0.3**
MLR Muntele Rosu 94.94 316 P **P** **16 29 10.3 -0.3**
comp=Z,2.1nm,0.8s,baz=52,slow=5.7,SNR=16
SUW Suwalki 94.98 325 *e*P **P** **16 29 10.4 0.0**
SUW Suwalki 94.98 325 *e*P **P** **16 29 10.4 0.0**
BURAR Bucovina Array 95.05 318 *i*P **P** **16 29 10.9 -0.1**
VOIR 95.57 316 P **P** **16 29 12.5 -0.9**
VOIR 95.57 316⇓ *i*P **P** **16 29 12.5 -0.9**
KOLS Kolonicke sedl 96.69 320 *e*P **P** **16 29 18.7 +0.4**
KOLS pmax pmax
comp=Z,6.0nm,1.2s
KOLS Kolonicke sedl 96.69 320 *e*P **P** **16 29 18.7 +0.4**
UZH Uzhgorod 96.75 320⇑ *i*P **P** **16 29 19.1 +0.6**
UZH *e* 16 29 25.3
UZH *e* 16 29 36.7
GZR Gura Zlata 97.15 316⇓ *i*P **P** **16 29 19.3 -1.2**
GZR Gura Zlata 97.15 316⇓ *i*P **P** **16 29 19.3 -1.2**
CRVS Cervenica-Dubn 97.22 320 *e*P Pdif 16 29 20.9 +0.1
CRVS pmax pmax
comp=Z,13nm,1.0s
CRVS Cervenica-Dubn 97.22 320 *e*P Pdif 16 29 20.9 +0.1
DAG Danmarks Havn 97.34 352 *i* P **P** **16 29 20.3 -0.4**
comp=Z,79nm,0.9s
VTS Vitosha 97.43 314⇑ *i*P **P** **16 29 21.3 -0.7**
VTS Vitosha 97.43 314⇑ *i*P **P** **16 29 21.3 -0.7**
BZS Buzias 97.89 317⇑ *i*P **P** **16 29 23.0 -0.8**
BZS Buzias 97.89 317⇑ *i*P **P** **16 29 23.0 -0.8**
RES Resolute Bay 97.92 10 *e*P Pdif 16 29 23.6 +0.3
comp=Z,4.2nm,0.8s
HFS Hagfors 98.09 332 P **P** **16 29 22.7 -1.7**
HFS Hagfors 98.09 332 P **P** **16 29 22.7 -1.7**
comp=Z,1.9nm,0.6s,baz=96,slow=6.0,SNR=4.2
HFS LR LR 17 15 03.0
comp=Z,207nm,19.6s,baz=67,slow=36
NB2 NORSAR Subarra 98.86 334 P **P** **16 29 26.6 -1.2**
baz=66,slow=4.6
NB2 NORSAR Subarra 98.86 334 P **P** **16 29 26.6 -1.2**
comp=Z,4.1nm,0.8s,baz=66,slow=4.6
NOA NORSAR Array B 98.86 334 P **P** **16 29 26.8 -1.1**
NOA NORSAR Array B 98.86 334 P **P** **16 29 26.8 -1.1**
comp=Z,4.1nm,0.8s,baz=67,slow=4.5,SNR=8.4
NOA LR LR 17 18 57.2
comp=Z,209nm,19.6s,baz=60,slow=38
VYHS Vyhne 99.01 320 *e*P **Pdif** **16 29 28.9 +0.1**
VYHS pmax pmax

comp=Z,10.0nm,2.1s

VYHS	**Vyhne**	**99.01**	**320**	PDIF	**Pdif**	**16 29 28.9**	**+0.1**
LSZ	**Lusaka**	**99.14**	**255**	*e*P	**Pdif**	**16 29 29.1**	**-1.0**
	comp=Z,6.7nm,0.8s						
YKA	**Yellowknife Ar**	**99.60**	**24**	P	**Pdif**	**16 29 31.6**	**+0.5**
YKA				PKiKP	**PKiKP**	**16 34 01.4**	**+1.8**
YKA				PKKPbc	**PKKPbc**	**16 45 51.0**	**-4.2**
YKA	**Yellowknife Ar**	**99.60**	**24**	P	**Pdif**	**16 29 31.5**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=300,slow=4.5,SNR=12						
YKA				PKiKP	**PKiKP**	**16 34 01.4**	**+1.8**
	comp=Z,0.1nm,0.6s,baz=304,slow=1.7,SNR=4.9						
YKA				PKKPbc	**PKKPbc**	**16 45 51.0**	**-4.2**
	comp=Z,0.5nm,0.9s,baz=118,slow=2.1,SNR=3.8						
BRG	**Berggiesshubel**	**101.29**	**323**	*e*PDIF	**Pdif**	**16 29 39.0**	**+0.1**
	comp=Z,8.3nm,1.3s						
GERES	**GERESS Array B**	**102.14**	**322**	P	**Pdif**	**16 29 42.3**	**-0.5**
GERES	**GERESS Array B**	**102.14**	**322**	P	**Pdif**	**16 29 42.3**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=77,slow=6.0,SNR=7.1						
NVAR	**Mina Array Bea**	**107.00**	**48**	PKKPab	PKKPab	16 45 48.0	+0.2
NVAR	**Mina Array Bea**	**107.00**	**48**	PKKPab	PKKPab	16 45 48.0	+0.2
	comp=Z,1.1nm,0.7s,baz=133,slow=5.1,SNR=5.7						
C16A	**Fuhringer Ranc**	**107.80**	**37**	⇓P	**PKiKP**	**16 34 16.0**	**+0.8**
	baz=108						
A17A	**Triple J Farms**	**107.90**	**36**	⇓P	**PKiKP**	**16 34 16.8**	**+1.4**
	baz=108						
PDAR	**Pinedale Array**	**111.45**	**41**	PKiKP	**PKiKP**	**16 34 23.0**	**+0.5**
PDAR				PKKPbc	**PKKPbc**	**16 45 16.9**	**-1.9**
PDAR				PKKPab	**PKKPab**	**16 45 27.2**	**-0.8**
PDAR	**Pinedale Array**	**111.45**	**41**	PKiKP	**PKiKP**	**16 34 23.0**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=104,slow=1.9,SNR=2.9						
PDAR				PKKPbc	**PKKPbc**	**16 45 16.9**	**-1.9**
	comp=Z,0.9nm,1.0s,baz=104,slow=4.7,SNR=4.8						
PDAR				PKKPab	**PKKPab**	**16 45 27.2**	**-0.8**
	comp=Z,2.4nm,0.9s,baz=130,slow=5.2,SNR=13						
J22A	**Midwest**	**113.14**	**39**	⇑P	**PKiKP**	**16 34 25.9**	**+0.4**
	baz=113						
M21A	**Separation Pea**	**113.44**	**41**	⇓P	**PKiKP**	**16 34 26.6**	**+0.4**
	baz=113						
S21A	**Coal Bank Pass**	**114.95**	**45**	⇑P	PKPdf	16 34 31.5	+2.1
	baz=115						
X21A	**Alamocita Cree**	**116.35**	**49**	⇓P	**PKPdf**	**16 34 33.6**	**+1.5**
	baz=116						
Z22A	**Elephant Butte**	**117.47**	**50**	⇓P	**PKPdf**	**16 34 35.5**	**+1.4**
	baz=117						
S26A	**Kim**	**118.00**	**44**	⇑P	**PKPdf**	**16 34 36.1**	**+1.1**
	baz=118						
V25A	**Rancho No Teng**	**118.05**	**46**	⇑P	**PKPdf**	**16 34 37.1**	**+1.9**
	baz=118						
V26A	**Tequesquite Ra**	**118.67**	**46**	⇑P	**PKPdf**	**16 34 37.2**	**+0.9**
	baz=119						
Y25A	**Mesa, Roswell**	**118.88**	**48**	⇑P	**PKPdf**	**16 34 37.4**	**+0.6**
	baz=119						
224A	**Cornudas Mount**	**119.07**	**50**	⇓P	**PKPdf**	**16 34 37.7**	**+0.4**
	baz=119						
X26A	**CR and CF Fran**	**119.24**	**47**	⇑P	**PKPdf**	**16 34 38.7**	**+1.2**
	baz=119						
MNTX	**Cornudas Mount**	**119.34**	**50**	⇓P	**PKPdf**	**16 34 38.9**	**+1.3**
	baz=119						
324A	**Moseley Ranch,**	**119.37**	**51**	⇑P	**PKPdf**	**16 34 39.1**	**+1.2**
	baz=119						
425A	**Indio Mountain**	**120.04**	**51**	⇓P	**PKPdf**	**16 34 40.4**	**+1.2**
	baz=120						
Z27A	**Tatum**	**120.25**	**48**	⇑P	**PKPdf**	**16 34 40.6**	**+1.2**
	baz=120						
SCHQ	**Schefferville**	**120.67**	**9**	PKP	**PKPdf**	**16 34 40.3**	**+0.8**
SCHQ	**Schefferville**	**120.67**	**9**	PKP	**PKPdf**	**16 34 40.3**	**+0.8**
	comp=Z,2.1nm,0.9s,baz=53,slow=5.1,SNR=2.7						
526A	**Mary Lane Ranc**	**121.05**	**52**	⇓P	**PKPdf**	**16 34 42.6**	**+1.5**
	baz=121						
626A	**Big Bend Ranch**	**121.23**	**52**	⇑P	**PKPdf**	**16 34 42.6**	**+1.2**
	baz=121						
427A	**Hayter Ranch,**	**121.24**	**50**	⇑P	**PKPdf**	**16 34 43.1**	**+1.7**
	baz=121						
527A	**Woodward Ranch**	**121.38**	**51**	⇓P	**PKPdf**	**16 34 43.2**	**+1.5**
	baz=121						
Z29A	**Hungry Hill Ra**	**121.39**	**47**	⇑P	**PKPdf**	**16 34 43.0**	**+1.4**
	baz=121						
328A	**Wristen Ranch,**	**121.45**	**50**	⇓P	**PKPdf**	**16 34 43.1**	**+1.4**
	baz=121						
TXAR	**Lajitas Array**	**121.69**	**52**	PKP	**PKPdf**	**16 34 43.3**	**+1.0**
TXAR	**Lajitas Array**	**121.69**	**52**	PKP	**PKPdf**	**16 34 43.3**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=270,slow=1.9,SNR=9.4						
428A	**Kincaid Ranch,**	**121.84**	**50**	⇑P	**PKPdf**	**16 34 44.1**	**+1.5**
	baz=122						
627A	**Terlingua Ranc**	**121.86**	**52**	⇓P	**PKPdf**	**16 34 44.1**	**+1.5**
	baz=122						
528A	**Cox Ranch, San**	**122.02**	**51**	⇑P	**PKPdf**	**16 34 44.2**	**+1.3**
	baz=122						
628A	**Black Gap, Mar**	**122.24**	**52**	⇑P	**PKPdf**	**16 34 44.3**	**+1.0**
	baz=122						
529A	**Stev Forest Ra**	**122.47**	**51**	⇑P	**PKPdf**	**16 34 45.1**	**+1.4**
	baz=122						
429A	**Davenport Ranc**	**122.50**	**50**	⇑P	**PKPdf**	**16 34 45.0**	**+1.3**
	baz=122						
TORD	**Torodi Ar. Bea**	**122.91**	**288**	PKP	**PKPdf**	**16 34 44.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**122.91**	**288**	PKP	**PKPdf**	**16 34 44.9**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=50,slow=1.9,SNR=19						
430A	**Baggett Ranch,**	**122.92**	**50**	⇑P	**PKPdf**	**16 34 46.0**	**+1.4**
	baz=123						
530A	**J-C Ranch, Com**	**123.14**	**50**	⇓P	**PKPdf**	**16 34 46.5**	**+1.5**
	baz=123						
431A	**Sonora**	**123.45**	**49**	⇓P	**PKPdf**	**16 34 46.7**	**+1.1**
	baz=123						
531A	**Rocksprings**	**123.74**	**50**	⇓P	**PKPdf**	**16 34 47.2**	**+1.1**
	baz=124						
JCT	**Junction City**	**124.15**	**49**	*e*PKiKP	**PKPdf**	**16 34 48.0**	**+1.1**
JCT	**Junction City**	**124.15**	**49**	*e*PKPdf	**PKPdf**	**16 34 48.0**	**+1.1**
JCT	**Junction City**	**124.15**	**49**	⇓P	**PKPdf**	**16 34 48.2**	**+1.3**
	baz=124						
532A	**Rocksprings**	**124.25**	**50**	⇑P	**PKPdf**	**16 34 48.0**	**+0.8**
	baz=124						
632A	**Uvalde**	**124.63**	**50**	⇑P	**PKPdf**	**16 34 49.0**	**+1.2**
	baz=124						
MIAR	**Mount Ida**	**126.38**	**41**	PKiKP	**PKPdf**	**16 34 51.0**	**0.0**
MIAR	**Mount Ida**	**126.38**	**41**	PKPdf	**PKPdf**	**16 34 51.0**	**0.0**
DBIC	**Dimbokro**	**130.56**	**282**	PKP	**PKPdf**	**16 35 00.2**	**+0.7**
DBIC	**Dimbokro**	**130.56**	**282**	PKP	**PKPdf**	**16 35 00.2**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=121,slow=5.9,SNR=3.4						
TKL	**Tuckaleechee C**	**131.61**	**34**	PKP	**PKPdf**	**16 35 02.4**	**+1.5**
TKL	**Tuckaleechee C**	**131.61**	**34**	PKP	**PKPdf**	**16 35 02.4**	**+1.5**
	comp=Z,5.6nm,0.7s,baz=170,slow=2.6,SNR=6.4						
CMIG	**Matias Romero**	**134.08**	**62**	PKP	**PKPdf**	**16 35 08.0**	**+1.9**
CMIG	**Matias Romero**	**134.08**	**62**	PKP	**PKPdf**	**16 35 08.0**	**+1.9**
	comp=Z,1.9nm,0.5s,baz=68,slow=3.1,SNR=4.3						
PLCA	**Paso Flores**	**139.93**	**160**	PKP	**PKPdf**	**16 35 18.7**	**+2.3**
PLCA	**Paso Flores**	**139.93**	**160**	PKP	**PKPdf**	**16 35 18.7**	**+2.3**
	comp=Z,9.6nm,1.1s,baz=198,slow=5.4,SNR=12						
TRQA	**Tornquist**	**144.83**	**168**	*e*PKPdf	**PKPdf**	**16 35 25.1**	**0.0**
JTS	**JuntasAbangare**	**145.59**	**66**	*e*PKPdf	**PKPab**	**16 35 28.4**	**+0.7**
LCO	**Las Campanas**	**149.83**	**149**	*e*PKPdf	**PKPbc**	**16 35 40.1**	**+1.4**
CPUP	**Villa Florida**	**157.10**	**171**	PKP	**PKPdf**	**16 35 44.9**	**+0.9**
CPUP				PKPab	**PKPab**	**16 36 16.1**	**+1.5**
CPUP	**Villa Florida**	**157.10**	**171**	PKP	**PKPdf**	**16 35 44.9**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=77,slow=4.1,SNR=4.8						
CPUP				PKPab	**PKPab**	**16 36 16.1**	**+1.5**
	comp=Z,8.1nm,0.8s,baz=153,slow=4.5,SNR=10						
SDV	**Santo Domingo**	**158.72**	**54**	*e*PKPdf	**PKPdf**	**16 35 46.4**	**-0.3**
LPAZ	**La Paz**	**160.75**	**132**	PKP	**PKPdf**	**16 35 51.2**	**+1.8**
LPAZ				PKPab	**PKPab**	**16 36 33.6**	**+2.0**
LPAZ	**La Paz**	**160.75**	**132**	PKP	**PKPdf**	**16 35 51.2**	**+1.8**
	comp=Z,2.9nm,0.8s,baz=68,slow=1.2,SNR=8.5						
LPAZ				PKPab	**PKPab**	**16 36 33.6**	**+2.0**
	comp=Z,4.0nm,1.0s,baz=223,slow=5.4,SNR=5.2						
BDFB	**Brasilia**	**166.98**	**203**	PKPab	**PKPab**	**16 36 59.4**	**+1.2**
BDFB	**Brasilia**	**166.98**	**203**	PKPab	**PKPab**	**16 36 59.4**	**+1.2**
	comp=Z,5.7nm,1.0s,baz=347,slow=2.5,SNR=4.1						

MAN 26 16:18:09,18.87N×121.17E,h8km,mb4.6,ML3.5,MS3.4, 2C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.75**	**224**	⇑*i*P	Pg	16 18 23.3	-0.2
SIPP	**Brgy, Tapao**	**1.16**	**216**	⇑*e*P	Pg	16 18 30.8	-0.5
ABRA	**Dolores**	**1.29**	**200**	*e*P	Pg	16 18 33.8	+0.1
ABRA				*e*S	Sn	16 18 55.3	+4.5
CVP	**Callao Caves**	**1.31**	**152**	*e*P	Pn	16 18 33.2	-0.5
CAUP	**Cauayan**	**2.01**	**162**	*e*P	Pb	16 18 46.2	+0.3
PALP	**Palanan**	**2.16**	**146**	*e*P	Pn	16 18 46.6	+1.4

IDC 26 16:32:40.0±1.9,2.50N×127.66E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/20,mbtmp3.5/4,MS2.7/1,Ms1 2.7/1, ms1mx2.5/27,Error ellipse: s-maj=163.0km s-min=22.1km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**5.00**	**336**	LR	LR	16 35 54.0	
	comp=Z,83nm,20.7s,baz=243,slow=39						
WRA	**Warramunga Arr**	**23.24**	**164**	P	P	16 37 48.6	-0.5
	0.9nm,0.4s,baz=339,slow=9.6,SNR=15						
ASAR	**Alice Springs**	**26.71**	**167**	P	P	16 38 21.0	-0.2
	0.5nm,0.3s,baz=347,slow=12,SNR=29						
STKA	**Stephens Creek**	**36.66**	**160**	P	P	16 39 46.8	-1.7
	1.2nm,0.8s,baz=324,slow=9.3,SNR=3.1						
MKAR	**Makanchi Array**	**59.09**	**325**	P	P	16 42 43.9	+1.7
	0.1nm,0.4s,baz=116,slow=7.8,SNR=2.5						

IDC 26 16:34:24.7±7.9,3.36N×127.40E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.3/22,mbtmp3.6/3,Error ellipse: s-maj=154.3km s-min=125.9km az=79.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.14**	**164**	P	P	16 39 41.1	-1.5
	1.6nm,0.7s,baz=343,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**27.60**	**167**	P	P	16 40 15.9	+2.0
	0.1nm,0.3s,baz=339,slow=9.9,SNR=4.8						
STKA	**Stephens Creek**	**37.55**	**160**	P	P	16 41 40.3	-0.5
	1.7nm,0.9s,baz=319,slow=10.0,SNR=4.0						

PRE 26 17:03:49.4±1.2,26.40S×27.45E,h2km,ML2.0,South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.53**	**188**	*e*P	Pg	17 04 00.3	+0.4
PRYS				*e*S	Sg	17 04 07.6	+0.6
PRYS				AML	AML	17 04 08.7	
	comp=Z,39nm,0.3s						
ERPM	**east rand prop**	**0.72**	**86**	*e*P	Pg	17 04 03.2	-0.3
ERPM				*e*S	Sg	17 04 13.0	+0.1
ERPM				AML	AML	17 04 16.0	
	comp=Z,15nm,0.2s						
KSR	**Koster**	**0.73**	**318**	*e*P	Pg	17 04 04.1	+0.3
KSR				*e*S	Sg	17 04 13.8	+0.4
KSR				AML	AML	17 04 22.9	
	comp=Z,32nm,0.1s						
BFSD	**Buffelsfontein**	**0.75**	**231**	*e*P	Pg	17 04 04.2	+0.1
BFSD				*e*S	Sg	17 04 14.6	+0.5
BFSD				AML	AML	17 04 21.3	
	comp=Z,46nm,0.1s						
SLR	**Silverton**	**1.00**	**49**	*e*P	Pg	17 04 09.2	+0.4
SLR				*e*S	Sb	17 04 23.0	-0.4
SLR				AML	AML	17 04 31.0	
	comp=Z,32nm,0.2s						
SWZ	**Schweizer**	**2.04**	**247**	*e*P	Pn	17 04 25.8	+0.7
SWZ				*e*S	Sn	17 04 51.3	0.0
SWZ				AML	AML	17 04 55.3	
	comp=Z,26nm,0.3s						
LBTB	**Lobatse**	**2.16**	**309**	*e*P	Pn	17 04 26.2	-0.4
LBTB				*e*S	Sn	17 04 55.0	+0.9
LBTB				AML	AML	17 04 59.7	
	comp=Z,20nm,0.2s						
BOSA	**Boshof**	**2.94**	**221**	*e*P	Pn	17 04 37.5	+0.1
BOSA				*e*S	Sn	17 05 13.7	+0.3
BOSA				AML	AML	17 05 24.9	
	comp=Z,3.8nm,0.5s						

PRE 26 17:10:00.5±0.7,26.85S×26.77E,h2km,ML1.6,South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOAB	**Moab Khotsong**	**0.14**	**169**	*e*P	Pg	17 10 03.7	+0.3
MOAB				*e*S	Sg	17 10 04.7	-0.7
MOAB				AML	AML	17 10 05.1	
	comp=Z,206nm,0.2s						
PRYS	**Parys**	**0.53**	**98**	*e*P	Pg	17 10 10.6	-0.3
PRYS				*e*S	Sg	17 10 18.5	+0.4
PRYS				AML	AML	17 10 19.7	
	comp=Z,9.5nm,0.3s						
LBTB	**Lobatse**	**2.11**	**330**	*e*P	Pn	17 10 37.6	+0.6
LBTB				*e*S	Sn	17 11 04.7	+0.7
LBTB				AML	AML	17 11 09.7	
	comp=Z,5.5nm,0.2s						

IDC 26 17:26:22.2±1.1,0.68N×97.20E,h21km±5km,mb3.8/7, mb1 3.8/9,mb1mx3.6/26,mbtmp3.7/9,ML3.2/2,Error ellipse: s-maj=34.3km s-min=16.6km az=64.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.72**	**39**	Pn	Pn	17 27 03.5	-1.4
	1.2nm,0.3s,baz=313,slow=19,SNR=2.9						
PSI				Sn	Sn	17 27 37.1	-0.1
	2.4nm,0.3s,baz=286,slow=7.1,SNR=4.0						
CMAR	**Chiang Mai Arr**	**17.75**	**5**	P	Pn	17 30 26.5	-1.7
	0.1nm,0.3s,baz=194,slow=13,SNR=11						
WRA	**Warramunga Arr**	**41.76**	**121**	P	P	17 34 09.9	-0.4
	0.4nm,0.4s,baz=302,slow=8.9,SNR=12						
ASAR	**Alice Springs**	**43.09**	**127**	P	P	17 34 21.4	+0.2
	0.6nm,0.4s,baz=296,slow=7.7,SNR=34						
SONM	**Songino Array**	**47.64**	**8**	P	P	17 34 57.1	+0.1
	0.3nm,0.6s,baz=187,slow=7.4,SNR=3.8						
SONM				pP	pP	17 35 03.7	+0.1
	0.6nm,0.5s,baz=191,slow=9.8,SNR=6.1						
MKAR	**Makanchi Array**	**47.74**	**346**	P	P	17 34 57.5	-0.1
	1.5nm,0.6s,baz=159,slow=8.2,SNR=28						
MKAR				pP	pP	17 35 04.1	-0.2
	2.3nm,0.6s,baz=159,slow=8.4,SNR=17						
KURBB	**Kurchatov Arra**	**52.23**	**345**	P	P	17 35 31.9	+0.3
	0.5nm,0.3s,baz=166,slow=7.1,SNR=4.4						
KURBB				pP	pP	17 35 38.7	+0.4
	1.7nm,0.5s,baz=167,slow=6.8,SNR=2.4						
STKA	**Stephens Creek**	**53.01**	**132**	P	P	17 35 37.5	-0.3
	1.9nm,0.9s,baz=318,slow=12,SNR=3.8						
ZALV	**Zalesovo Beam**	**54.07**	**351**	P	P	17 35 45.0	-0.1
	2.2nm,0.7s,baz=179,slow=7.6,SNR=15						
ZALV				pP	pP	17 35 51.5	-0.4
	4.4nm,0.5s,baz=179,slow=6.8,SNR=16						
CPUP	**Villa Florida**	**144.62**	**222**	PKP	PKPbc	17 45 57.3	+0.5
	2.1nm,0.6s,baz=110,slow=3.2,SNR=7.0						

*CSEM **26** 17:28:30.9±0.3,39.55N×42.79E,h2km,MD2.8,Error ellipse: s-maj=11.7km s-min=6.6km az=10.0*
*ISK **26** 17:28:31.0,39.65N×42.84E,h5km,MD2.8*
*DDA **26** 17:28:31.2,39.61N×42.86E,h7km,MD2.8*
ISC 26 17:28:31.5±0.9,39.60N±0.05×42.84E±0.03,h9km±8km, n21,σ0.957/27,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGRB	**Hanur-Agry**	**0.12**	**100**	*e*PG	**Pg**	**17 28 34.3**	**-0.1**
AGRB				*e*SG	**Sg**	**17 28 37.0**	**+0.5**
AGRB	**Hanur-Agry**	**0.12**	**100**	*e*Pg	**Pg**	**17 28 34.3**	**-0.1**
AGRB				*e*Sg	**Sg**	**17 28 37.0**	**+0.5**
DYDN	**Diyadin**	**0.66**	**94**	*e*P	**Pg**	**17 28 43.6**	**-0.7**
DYDN				*i*S	**Sg**	**17 28 53.3**	**+0.3**
DYDN	**Diyadin**	**0.66**	**94**	*e*P	**Pg**	**17 28 43.6**	**-0.7**
DYDN				*i*S	**Sg**	**17 28 53.3**	**+0.3**
HOMI	**Horasan**	**0.85**	**302**	*i*P	**Pg**	**17 28 47.8**	**0.0**
CLDR	**Caldiran**	**0.95**	**118**	*e*PG	**Pg**	**17 28 49.8**	**0.0**
CLDR	**Caldiran**	**0.95**	**118**	*e*Pg	**Pg**	**17 28 49.8**	**0.0**
VANB	**Van**	**1.09**	**157**	*e*PN	**Pn**	**17 28 53.5**	**+0.5**
VANB				*e*SN	**Sn**	**17 29 09.0**	**+0.8**
VANB	**Van**	**1.09**	**157**	*e*Pn	**Pn**	**17 28 53.5**	**+0.5**
VANB				*e*Sn	**Sn**	**17 29 09.0**	**+0.8**
VRTB	**Varto-Mus**	**1.16**	**248**	*e*PN	**Pg**	**17 28 54.1**	**+0.4**
VRTB	**Varto-Mus**	**1.16**	**248**	*e*Pn	**Pg**	**17 28 54.1**	**+0.4**
ERZM	**Erzurum**	**1.18**	**286**	*e*P	**Pn**	**17 28 54.1**	**-0.3**
ERZM	**Erzurum**	**1.18**	**286**	*e*P	**Pn**	**17 28 54.1**	**-0.3**
EZM	**Erzurum**	**1.18**	**286**	*e*PN	**Pb**	**17 28 53.6**	**-0.5**
GEVA	**Gevas**	**1.29**	**172**	*i*P	**Pn**	**17 28 55.7**	**-0.2**
GEVA	**Gevas**	**1.29**	**172**	*i*P	**Pn**	**17 28 55.7**	**-0.2**
DDEM	**Demirkent**	**1.54**	**328**	*e*P	**Pg**	**17 29 01.5**	**+0.5**
DDEM	**Demirkent**	**1.54**	**328**	*e*P	**Pg**	**17 29 01.5**	**+0.5**
DAGI	**Agillar**	**1.64**	**335**	*i*P	**Pb**	**17 29 01.8**	**-0.1**
BNGB	**Bing ¶ll**	**1.78**	**251**	*e*PN	**Pb**	**17 29 03.5**	**-0.8**
BINT	**Bingol**	**1.96**	**249**	*e*Pn	**Pn**	**17 29 03.5**	**-1.5**

IDC 26 17:41:37.4±24.0,18.40S×177.26W,h521km±215km, mb2.6/3,mb1 2.9/3,mb1mx2.7/19,mbtmp2.6/3,Error ellipse: s-maj=286.9km s-min=43.3km az=132.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.62**	**260**	P	P	17 49 10.7	-0.5
	0.2nm,0.3s,baz=96,slow=7.6,SNR=12						
WRA				PcP	PcP	17 50 38.5	-0.3
	0.1nm,0.4s,baz=96,slow=3.5,SNR=3.5						
ASAR	**Alice Springs**	**45.71**	**255**	P	P	17 49 12.2	+0.2
	0.4nm,0.4s,baz=91,slow=7.9,SNR=18						
ASAR				PcP	PcP	17 50 38.6	-0.5
	0.1nm,0.4s,baz=110,slow=4.0,SNR=6.8						
ILAR	**Eielson Array**	**86.12**	**13**	P	P	17 53 22.5	0.0
	0.1nm,0.4s,baz=215,slow=5.4,SNR=5.3						

MEX 26 17:44:40.7±0.4,16.12N×95.67W,h59km±6km,MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.54**	**231**	*e*P	Pn	17 44 51.6	-1.5
HUIG				*i*S	Sn	17 45 00.3	-1.8
CMIG	**Matias Romero**	**1.23**	**38**	*e*P	Pn	17 45 00.3	-1.5
CMIG				*i*S	Sn	17 45 15.5	-2.0
OXX	**Oaxaca**	**1.39**	**314**	*i*P	Pn	17 45 03.5	-0.7
OXX				*i*S	Sn	17 45 20.3	-1.6
VHO	**Vista Hermosa**	**1.39**	**313**	*e*P	Pn	17 45 03.0	-1.2
VHO				*i*S	Sn	17 45 19.8	-2.0
PNIG	**Pinotepa**	**2.37**	**277**	*e*P	Pn	17 45 15.5	-1.8
PNIG				*i*S	Sn	17 45 43.2	-2.2
PCIG		**2.40**	**99**	*i*P	Pn	17 45 16.5	-1.0
PCIG				*i*S	Sn	17 45 44.3	-1.5
TGIG		**2.53**	**75**	*i*P	Pn	17 45 18.1	-1.5
TGIG				*i*S	Sn	17 45 47.3	-2.1
UTMO	**Huajuapan**	**2.66**	**310**	*i*P	Pn	17 45 20.3	-1.1
UTMO				*i*S	Sn	17 45 50.9	-1.8
TPIG	**Tehuac#an**	**2.80**	**325**	*i*P	Pn	17 45 22.9	-0.4
TPIG				*i*S	Sn	17 45 53.9	-2.3
CCIG	**Comitan**	**3.40**	**87**	*i*P	Pn	17 45 31.4	-0.1
CCIG				*i*S	Sn	17 46 08.9	-2.0

*VIE **26** 18:03:37.5,17.95S×177.89W,h498km,mb3.4 391 km E of Suva*
IDC 26 18:03:45.6±2.9,18.12S×178.03W,h598km±33km, mb3.3/12,mb1 3.6/12,mb1mx3.4/20,mbtmp3.3/12,2C, Error ellipse: s-maj=36.0km s-min=12.1km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.85**	**241**	P	P	18 10 20.9	-0.1
	2.9nm,1.0s,baz=83,slow=11,SNR=5.9						
WRA	**Warramunga Arr**	**44.95**	**260**	P	P	18 11 08.8	-0.2
	1.4nm,0.4s,baz=96,slow=6.9,SNR=50						
WRA				PcP	PcP	18 12 37.5	+0.2
	0.5nm,0.4s,baz=91,slow=3.7,SNR=6.7						
ASAR	**Alice Springs**	**45.09**	**254**	P	P	18 11 09.9	-0.2
	4.7nm,0.6s,baz=94,slow=7.5,SNR=105						
ASAR				PcP	PcP	18 12 37.6	-0.1
	1.0nm,0.5s,baz=104,slow=3.8,SNR=15						
ASAR				S	S	18 17 06.5	-0.5
	0.7nm,0.8s,baz=85,slow=13,SNR=8.8						
FITZ	**Fitzroy Crossi**	**53.35**	**261**	P	P	18 12 10.4	-0.4
	0.9nm,0.5s,baz=32,slow=13,SNR=3.7						
MJAR	**Matsushiro Arr**	**68.29**	**323**	P	P	18 13 48.4	+0.2
	1.2nm,0.5s,baz=156,slow=5.9,SNR=8.1						
PETK	**Petropavlovsk-**	**73.97**	**345**	P	P	18 14 20.8	-0.2
	3.0nm,0.8s,baz=115,slow=9.0,SNR=4.9						
NVAR	**Mina Array Bea**	**79.32**	**44**	P	P	18 14 50.0	-0.7
	1.7nm,0.7s,baz=230,slow=8.5,SNR=8.9						
TXAR	**Lajitas Array**	**85.80**	**57**	P	P	18 15 24.1	+0.9
	1.9nm,0.7s,baz=222,slow=6.1,SNR=22						
ILAR	**Eielson Array**	**86.01**	**13**	P	P	18 15 22.6	-0.7
	0.7nm,0.4s,baz=218,slow=5.0,SNR=23						
PDAR	**Pinedale Array**	**87.25**	**43**	P	P	18 15 29.6	-0.4
	1.0nm,0.7s,baz=207,slow=3.0,SNR=7.8						
CMAR	**Chiang Mai Arr**	**89.30**	**290**	P	P	18 15 41.5	+1.8
	0.6nm,0.6s,baz=116,slow

MSLP	**Maasin**	**2.43**	**71**	*e*P	Pn	18 36 20.6	+1.6
OCLP	**Ormoc**	**2.66**	**50**	*e*P	Pn	18 36 22.5	+0.4

MAN 26 18:40:01, 7.37N×124.02E, h1km, mb3.8, ML2.5, MS2.1, Mindanao

MAN 26 18:51:47, 16.19N×121.68E, h27km, mb4.1, ML2.9, MS2.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALP	**Baler**	**0.46**	**192**	*e*P	Pn	18 51 58.0	+0.3
BALP				*e*S	Sn	18 52 06.1	+1.1
CAUP	**Cauayan**	**0.76**	**10**	*e*P	Pb	18 52 00.6	-1.1
CAUP				*e*S	Sb	18 52 06.4	-5.4
PCPH	**Palayan**	**0.84**	**222**⇓	*e*P	Pn	18 52 03.2	+0.1
PCPH				*e*S	Sn	18 52 15.7	+1.2
PALP	**Palanan**	**1.13**	**39**	*e*P	Pn	18 52 07.4	+0.4
ABRA	**Dolores**	**1.72**	**328**	*e*P	Pn	18 52 15.7	+0.5

*CSEM **26** 19:02:23.4±0.3, 43.67N×8.40W, h15km, ML3.5/13, Error ellipse: s-maj=7.6km s-min=3.3km az=118.0*
*MDD **26** 19:02:24.7±0.7, 43.69N×8.47W, h20km±1km, mbLg2.6/12, Error ellipse: s-maj=8.3km s-min=3.8km az=129.0, PRXIMO*
MDD EMS: II INTENSIDAD MAXIMA.
*LDG **26** 19:02:25.2±0.3, 43.67N×8.43W, h16km, Ml3.2/22, Error ellipse: s-maj=7.3km s-min=3.6km az=119.0*
*INMG **26** 19:02:26.7±1.2, 43.48N×8.30W, h13km±4km, ML2.5, Error ellipse: s-maj=6.6km s-min=2.5km az=131.0*

ISC 26 19:02:21.5±1.3, 43.67N±0.05×8.44W±0.06, h10km, n141, α259/198, 3C-1D, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STS	**Santiago**	**0.79**	**186**	⇑Pg	**Pn**	**19 02 39.6**	**+1.0**
	38nm,0.1s,SNR=18						
STS				Lg	Lg	19 02 49.1	
	61nm,0.1s,SNR=13						
EMAZ	**Mazaricos**	**0.82**	**209**	⇑Pg	**Pn**	**19 02 40.0**	**+0.9**
	94nm,0.1s,SNR=18						
EMAZ				Lg	Lg	19 02 49.7	
	126nm,0.1s,SNR=15						
EPON	**Pontenova**	**1.00**	**110**	Pg	**Pn**	**19 02 42.7**	**+1.1**
	1.5nm,0.1s,SNR=52						
EPON				Lg	Lg	19 02 54.6	
	42nm,0.1s,SNR=22						
EPON	**Pontenova**	**1.00**	**110**	Pg	**Pn**	**19 02 42.7**	**+1.1**
	1.5nm,0.1s,SNR=52						
EPON				Lg	Lg	19 02 54.6	
	42nm,0.1s,SNR=22						
EZAM	**Zamans**	**1.53**	**187**	⇑Pn	**Pn**	**19 02 49.9**	**+1.0**
	SNR=18						
EZAM				Lg	Lg	19 03 06.8	
	20nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**1.53**	**187**	Pn	**Pn**	**19 02 49.9**	**+1.0**
	SNR=18						
EZAM				Lg	Lg	19 03 06.8	
	20nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**1.71**	**176**	*e*Pn	**Pn**	**19 02 52.4**	**+1.0**
PGAV				*e*Sn	**Sn**	**19 03 11.2**	**-2.1**
PGAV				A	A	19 03 24.3	
	66nm,0.3s						
ELOB	**Lobios**	**1.82**	**171**	Pn	**Pn**	**19 02 54.0**	**+1.1**
	2.2nm,0.6s,SNR=11						
ELOB				Pg	**Pg**	**19 02 58.1**	**+1.7**
	SNR=7.9						
ELOB				Sn	**Sn**	**19 03 14.2**	**-2.0**
	8.4nm,0.0s,SNR=5.8						
ELOB				Lg	Lg	19 03 18.6	
	9.3nm,0.1s,SNR=4.0						
ELOB	**Lobios**	**1.82**	**171**	Pn	**Pn**	**19 02 54.0**	**+1.1**
	2.2nm,0.6s,SNR=11						
ELOB				Sn	**Sn**	**19 03 14.2**	**-2.0**
	8.4nm,0.0s,SNR=5.8						
ELOB				Lg	Lg	19 03 18.6	
	9.3nm,0.1s,SNR=4.0						
PCAB	**Cabril**	**1.98**	**171**	*e*Sn	**Sn**	**19 03 18.4**	**-1.6**
PCAB				A	A	19 03 32.7	
	29nm,0.1s						
PCAB	**Cabril**	**1.98**	**171**	Sn	**Sn**	**19 03 18.4**	**-1.6**
	14nm,0.1s						
PCAB	**Cabril**	**1.98**	**171**	*e*Sn	**Sn**	**19 03 18.4**	**-1.6**
	29nm,0.1s						
ECAL	**Calabor**	**2.13**	**143**	Pn	**Pn**	**19 02 59.7**	**+2.5**
	1.7nm,0.1s,SNR=17						
ECAL				Pg	**Pg**	**19 03 04.5**	**+2.1**
	SNR=7.9						
ECAL				Sn	**Sn**	**19 03 23.6**	**-0.2**
	41nm,0.3s,SNR=5.0						
ECAL				Lg	Lg	19 03 33.6	
	41nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**2.13**	**143**	Pn	**Pn**	**19 02 59.7**	**+2.5**
	1.7nm,0.1s,SNR=17						
ECAL				Sn	**Sn**	**19 03 23.6**	**-0.2**
	41nm,0.3s,SNR=5.0						
ECAL				Lg	Lg	19 03 33.6	
	41nm,0.3s,SNR=7.9						
PBRG	**Braganca**	**2.25**	**146**	*e*Pn	**Pn**	**19 03 00.9**	**+2.2**
PBRG				A	A	19 03 39.6	
	18nm,0.3s						
PBRG	**Braganca**	**2.25**	**146**	Pn	**Pn**	**19 03 00.9**	**+2.2**
PBRG	**Braganca**	**2.25**	**146**	*e*Pn	**Pn**	**19 03 00.9**	**+2.2**
	18nm,0.3s						
POLO	**Lamas de Olo**	**2.34**	**168**	*e*Pn	**Pn**	**19 03 01.6**	**+1.5**
POLO				*e*Sn	**Sn**	**19 03 26.7**	**-2.3**
POLO				A	A	19 03 49.0	
	12nm,0.7s						
POLO	**Lamas de Olo**	**2.34**	**168**	*e*Pn	**Pn**	**19 03 01.6**	**+1.5**
POLO				*e*Sn	**Sn**	**19 03 26.7**	**-2.3**
	12nm,0.7s						
EARI	**Arriondas**	**2.38**	**98**	⇓Pn	**Pn**	**19 03 02.6**	**+2.0**
	0.7nm,0.2s,SNR=18						
EARI				Sn	**Sn**	**19 03 28.4**	**-1.4**
	6.4nm,0.1s,SNR=7.0						
EARI				Lg	Lg	19 03 43.2	
	9.0nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**2.38**	**98**	Pn	**Pn**	**19 03 02.6**	**+2.0**
	0.7nm,0.2s,SNR=18						
EARI				Sn	**Sn**	**19 03 28.4**	**-1.4**
	6.4nm,0.1s,SNR=7.0						
EARI				Lg	Lg	19 03 43.2	
	9.0nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**2.71**	**157**	*e*Pn	**Pn**	**19 03 07.0**	**+1.8**
MVO				*e*Sn	**Sn**	**19 03 35.8**	**-2.3**
MVO				A	A	19 03 54.0	
	17nm,0.3s						
MVO	**Moncorvo**	**2.71**	**157**	Pn	**Pn**	**19 03 07.1**	**+1.8**
	0.7nm,0.1s,SNR=6.0						
MVO				Sn	**Sn**	**19 03 35.8**	**-2.3**
	10.0nm,0.2s,SNR=8.2						
MVO				Lg	Lg	19 03 52.0	
	3.6nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**2.71**	**157**	*e*Pn	**Pn**	**19 03 07.0**	**+1.8**
MVO				*e*Sn	**Sn**	**19 03 35.8**	**-2.3**
	17nm,0.3s						
MVO				Lg	Lg	19 03 52.0	
	3.6nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**3.33**	**168**	*e*Sn	**Sn**	**19 03 50.9**	**-2.5**
MTE				A	A	19 04 16.3	
	20nm,0.5s						
MTE	**Manteigas**	**3.33**	**168**	Sn	**Sn**	**19 03 50.9**	**-2.5**
	9.9nm,0.5s						
MTE	**Manteigas**	**3.33**	**168**	*e*Sn	**Sn**	**19 03 50.9**	**-2.5**
	20nm,0.5s						
ELAN	**Lanestosa**	**3.67**	**95**	Pn	**Pn**	**19 03 20.7**	**+2.4**
	1.4nm,0.1s,SNR=22						
ELAN				Sn	**Sn**	**19 03 59.4**	**-2.2**
	9.8nm,0.2s,SNR=8.8						
ELAN	**Lanestosa**	**3.67**	**95**	Pn	**Pn**	**19 03 20.7**	**+2.4**
	1.4nm,0.1s,SNR=22						
ELAN				Sn	**Sn**	**19 03 59.4**	**-2.2**
	9.8nm,0.2s,SNR=8.8						
PCBR	**Castelo Branco**	**3.89**	**169**	*e*Sn	**Sn**	**19 04 03.3**	**-3.8**
PCBR				A	A	19 04 38.2	
	8.3nm,0.5s						
PCBR	**Castelo Branco**	**3.89**	**169**	Sn	**Sn**	**19 04 03.3**	**-3.8**
	4.2nm,0.5s						
PCBR	**Castelo Branco**	**3.89**	**169**	Sn	**Sn**	**19 04 03.3**	**-3.8**
	4.2nm,0.5s						
EPLA	**Plasencia**	**4.01**	**153**	Pn	**Pn**	**19 03 25.0**	**+2.0**
	0.6nm,0.1s,SNR=5.7						
EPLA				Sn	**Sn**	**19 04 07.1**	**-3.0**
	4.0nm,0.1s,SNR=5.0						
EPLA				Lg	Lg	19 04 34.6	
	1.3nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.01**	**153**	Pn	**Pn**	**19 03 25.0**	**+2.0**
	0.6nm,0.1s,SNR=5.7						
EPLA				Sn	**Sn**	**19 04 07.1**	**-3.0**
	4.0nm,0.1s,SNR=5.0						
EPLA				Lg	Lg	19 04 34.6	
	1.3nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**4.05**	**180**	*e*Sn	**Sn**	**19 04 08.8**	**-2.1**
PTOM				A	A	19 04 53.5	
	9.4nm,0.9s						
PTOM	**Tomar**	**4.05**	**180**	Sn	**Sn**	**19 04 08.8**	**-2.1**
	4.7nm,0.9s						
PTOM	**Tomar**	**4.05**	**180**	*e*Sn	**Sn**	**19 04 08.8**	**-2.1**
	9.4nm,0.9s						
PMRV	**Marv??o**	**4.31**	**169**	*e*Pn	**Pn**	**19 03 28.1**	**+1.0**
PMRV				*e*Sn	**Sn**	**19 04 14.5**	**-2.9**
PMRV				A	A	19 04 59.4	
	5.0nm,0.7s						
PMRV	**Marv??o**	**4.31**	**169**	Pn	**Pn**	**19 03 28.1**	**+1.0**
PMRV				Sn	**Sn**	**19 04 14.5**	**-2.9**
	5.0nm,0.7s						
PMRV	**Marv??o**	**4.31**	**169**	Pn	**Pn**	**19 03 28.1**	**+1.0**
PMRV				*e*Sn	**Sn**	**19 04 14.5**	**-2.9**
	5.0nm,0.7s						
GUD	**Guadarrama**	**4.39**	**132**	Pn	**Pn**	**19 03 29.9**	**+1.6**
	0.1nm,0.1s,SNR=7.9						
GUD				Sn	**Sn**	**19 04 16.0**	**-3.6**
	1.1nm,0.2s,SNR=7.9						
GUD				Lg	Lg	19 04 43.6	
	0.6nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**4.39**	**132**	Pn	**Pn**	**19 03 29.9**	**+1.6**
	0.1nm,0.1s,SNR=7.9						
GUD				Sn	**Sn**	**19 04 16.0**	**-3.6**
	1.1nm,0.2s,SNR=7.9						
GUD				Lg	Lg	19 04 43.6	
	0.6nm,0.2s,SNR=7.9						
PMTG	**Montargil**	**4.60**	**178**	*e*Pn	**Pn**	**19 03 32.6**	**+1.6**
PMTG				*e*Sn	**Sn**	**19 04 19.5**	**-5.0**
PMTG				A	A	19 05 04.0	
	3.3nm,0.6s						
PMTG	**Montargil**	**4.60**	**178**	*e*Pn	**Pn**	**19 03 32.6**	**+1.6**
PMTG				*e*Sn	**Sn**	**19 04 19.5**	**-5.0**
	3.3nm,0.6s						
PMAFR	**Mafra**	**4.75**	**188**	*e*Pn	**Pn**	**19 03 34.8**	**+1.6**
PMAFR				*e*Sn	**Sn**	**19 04 24.5**	**-3.8**
PMAFR				A	A	19 04 27.3	
	20nm,0.2s						
PMAFR	**Mafra**	**4.75**	**188**	Pn	**Pn**	**19 03 34.6**	**+1.4**
	5.2nm,0.1s,SNR=6.5						
PMAFR				Sn	**Sn**	**19 04 23.5**	**-4.8**
	19nm,0.2s,SNR=9.2						
PMAFR	**Mafra**	**4.75**	**188**	*e*Pn	**Pn**	**19 03 34.8**	**+1.6**
PMAFR				*e*Sn	**Sn**	**19 04 24.5**	**-3.8**
	20nm,0.2s						
PESTR	**Estremoz**	**4.84**	**172**	*e*Pn	**Pn**	**19 03 35.7**	**+1.3**
PESTR				*e*Sn	**Sn**	**19 04 28.6**	**-1.9**
PESTR				A	A	19 05 07.9	
	6.2nm,0.7s						
PESTR	**Estremoz**	**4.84**	**172**	Pn	**Pn**	**19 03 35.7**	**+1.3**
PESTR				Sn	**Sn**	**19 04 28.6**	**-1.9**
	6.2nm,0.7s						
PESTR	**Estremoz**	**4.84**	**172**	Pn	**Pn**	**19 03 35.7**	**+1.3**
PESTR				*e*Sn	**Sn**	**19 04 28.6**	**-1.9**
	6.2nm,0.7s						
EBAD	**Badajoz**	**5.03**	**167**	Pn	**Pn**	**19 03 38.2**	**+1.3**
	0.4nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**19 04 30.5**	**-4.6**
	5.6nm,0.2s,SNR=7.9						
EBAD				Lg	Lg	19 05 04.8	
	1.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**5.03**	**167**	Pn	**Pn**	**19 03 38.2**	**+1.3**
	0.4nm,0.1s,SNR=7.9						
EBAD				Lg	Lg	19 05 04.8	
	1.4nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**5.06**	**93**	Pn	**Pn**	**19 03 38.8**	**+1.4**
	1.0nm,0.1s,SNR=7.9						
ELIZ				Sn	**Sn**	**19 04 33.1**	**-2.8**
	4.3nm,0.1s,SNR=7.9						
ELIZ	**Elizondo**	**5.06**	**93**	Pn	**Pn**	**19 03 38.8**	**+1.4**
	1.0nm,0.1s,SNR=7.9						
ELIZ				Sn	**Sn**	**19 04 33.1**	**-2.8**
	4.3nm,0.1s,SNR=7.9						
EVO	**Evora**	**5.14**	**176**	*e*Pn	**Pn**	**19 03 39.5**	**+1.0**
EVO	**Evora**	**5.14**	**176**	*e*P	Pn	19 03 45.3	+6.8
EVO				*e*Sn	Sn	19 04 31.4	-6.5
	2.7nm,0.2s						
EVO	**Evora**	**5.14**	**176**	*e*Pn	**Pn**	**19 03 40.1**	**+1.6**
EVO				*e*Sn	**Sn**	**19 04 34.4**	**-3.5**
EVO	**Evora**	**5.14**	**176**	Pn	**Pn**	**19 03 40.1**	**+1.6**
EVO				Sn	**Sn**	**19 04 34.4**	**-3.5**
EVO	**Evora**	**5.14**	**176**	Pn	**Pn**	**19 03 40.1**	**+1.6**
EVO				Sn	**Sn**	**19 04 34.4**	**-3.5**
EVOP	**Sao Brissos**	**5.14**	**177**	*e*Pn	**Pn**	**19 03 39.5**	**+1.0**
IZUN	**Zunzarren**	**5.16**	**97**	Pn	**Pn**	**19 03 41.7**	**+2.9**
	0.7nm,0.1s,SNR=7.9						
IZUN				Sn	**Sn**	**19 04 36.1**	**-2.4**
	3.0nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**5.21**	**138**	Lg	Lg	19 05 11.6	
	0.5nm,0.3s,baz=317,slow=30,SNR=4.2						
ESDC	**Sonseca Array**	**5.21**	**138**	Lg	Lg	19 05 11.6	
	0.5nm,0.3s,slow=30,SNR=4.2						
EORO	**Oroz-Betelu**	**5.26**	**96**	Pn	**Pn**	**19 03 42.5**	**+2.3**
	0.2nm,0.1s,SNR=7.9						
EORO				Sn	**Sn**	**19 04 37.5**	**-3.5**
	3.4nm,0.2s,SNR=7.9						
EORO	**Oroz-Betelu**	**5.26**	**96**	Pn	**Pn**	**19 03 42.5**	**+2.3**
	0.2nm,0.1s,SNR=7.9						
EORO				Sn	**Sn**	**19 04 37.5**	**-3.5**
	3.4nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**5.29**	**94**	*e*Pn	**Pn**	**19 03 41.6**	**+1.1**
	SNR=1.0						
SJPF				*e*Sn	**Sn**	**19 04 37.7**	**-3.8**
	2.1nm,0.2s						
SJPF	**Ste Jean**	**5.29**	**94**	Pn	**Pn**	**19 03 41.6**	**+1.1**
SJPF				*e*Sn	**Sn**	**19 04 37.7**	**-3.8**
	1.0nm,0.2s						
IEPA	**Eparoz**	**5.32**	**97**	Pn	Pn	19 03 45.0	+4.0
	0.8nm,0.1s,SNR=7.9						
IEPA				Sn	**Sn**	**19 04 41.3**	**-0.9**
	4.5nm,0.3s,SNR=7.9						
IELO	**Elcoad**	**5.33**	**96**	Pn	**Pn**	**19 03 44.0**	**+2.9**
	0.5nm,0.1s,SNR=7.9						
IELO				Sn	**Sn**	**19 04 40.8**	**-1.7**
	3.8nm,0.2s,SNR=7.9						
ETOR	**Torete**	**5.53**	**119**	Pn	**Pn**	**19 03 45.5**	**+1.6**
	1.0nm,0.1s,SNR=7.9						
ETOR				Sn	**Sn**	**19 04 47.4**	**-0.2**
	1.5nm,0.2s,SNR=7.9						
ETOR				Lg	Lg	19 05 24.1	
	2.4nm,0.2s,SNR=7.9						
ETOR	**Torete**	**5.53**	**119**	Pn	**Pn**	**19 03 45.5**	**+1.6**
	1.0nm,0.1s,SNR=7.9						
ETOR				Lg	Lg	19 05 24.1	
	2.4nm,0.2s,SNR=7.9						
PNCL	**Nicolau / Gran**	**5.55**	**181**	*e*Pn	**Pn**	**19 03 45.6**	**+1.5**
PNCL				*e*Sn	Sn	19 04 42.7	-5.3
PNCL	**Nicolau / Gran**	**5.55**	**181**	*e*Pn	**Pn**	**19 03 45.6**	**+1.5**
PBAR	**Barrancos**	**5.59**	**169**	*e*Pn	**Pn**	**19 03 46.3**	**+1.6**
PBAR				*e*Sn	**Sn**	**19 04 44.6**	**-4.4**
PBAR				A	A	19 04 48.8	
	2.2nm,0.5s						
PBAR	**Barrancos**	**5.59**	**169**	Pn	**Pn**	**19 03 46.3**	**+1.6**
PBAR				Sn	**Sn**	**19 04 44.6**	**-4.4**
	2.2nm,0.5s						
PBAR	**Barrancos**	**5.59**	**169**	Pn	**Pn**	**19 03 46.3**	**+1.6**
QUIF	**Quistinic**	**5.62**	**39**	*e*Pn	**Pn**	**19 03 45.7**	**+0.6**
	SNR=1.0						
QUIF				*e*Sn	Sn	19 04 43.4	-6.3
	2.4nm,0.2s						
QUIF	**Quistinic**	**5.62**	**39**	Pn	**Pn**	**19 03 45.7**	**+0.6**
ETSF	**Etsaut**	**5.80**	**95**	*e*Pn	**Pn**	**19 03 49.9**	**+2.2**
	SNR=1.0						
ETSF				*e*Sn	**Sn**	**19 04 49.9**	**-4.4**
	3.0nm,0.3s,SNR=1.0						
ETSF	**Etsaut**	**5.80**	**95**	Pn	**Pn**	**19 03 49.9**	**+2.2**
ETSF				*e*Sn	**Sn**	**19 04 49.9**	**-4.4**
	1.5nm,0.3s,SNR=1.0						
ROSF	**Rostrenen**	**5.89**	**36**	*e*Pn	**Pn**	**19 03 49.0**	**+0.2**
	SNR=1.0						
ROSF				*e*Sn	Sn	19 04 48.9	-7.4
	2.3nm,0.2s,SNR=1.0						
ROSF	**Rostrenen**	**5.89**	**36**	Pn	**Pn**	**19 03 49.0**	**+0.2**
PCVE	**Castro Verde**	**6.04**	**177**	*e*Pn	**Pn**	**19 03 52.6**	**+1.8**
PCVE				*e*Sn	Sn	19 04 54.5	-5.5
PCVE	**Castro Verde**	**6.04**	**177**	Pn	**Pn**	**19 03 52.6**	**+1.8**
PCVE				Sn	Sn	19 04 54.5	-5.5
PCVE	**Castro Verde**	**6.04**	**177**	Pn	**Pn**	**19 03 52.6**	**+1.8**
EMIN	**Mina Concepcio**	**6.05**	**167**	Pn	**Pn**	**19 03 52.8**	**+1.9**
	0.2nm,0.2s,SNR=7.9						
EMIN				Sn	Sn	19 04 53.4	-6.8
	0.9nm,0.3s,SNR=4.0						
EMIN				Lg	Lg	19 05 38.4	
	0.5nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**6.05**	**167**	Pn	**Pn**	**19 03 52.8**	**+1.9**
	0.2nm,0.2s,SNR=7.9						
EMIN				Lg	Lg	19 05 38.4	
	0.5nm,0.3s,SNR=7.9						
SGMF	**Saint Gilles**	**6.15**	**40**	*e*Pn	**Pn**	**19 03 52.6**	**+0.3**
	SNR=1.0						
SGMF				*e*Sn	Sn	19 04 55.4	-7.3
	13nm,1.0s,SNR=1.0						
SGMF	**Saint Gilles**	**6.15**	**40**	Pn	**Pn**	**19 03 52.6**	**+0.3**
EGRO	**El Granado**	**6.17**	**173**	Sn	Sn	19 04 57.0	-6.3
	1.5nm,0.3s,SNR=4.0						
ESAC	**San Caprasio**	**6.19**	**106**	Pn	**Pn**	**19 03 54.4**	**+1.5**
	2.3nm,0.1s,SNR=7.9						
ESAC				Sn	**Sn**	**19 05 00.0**	**-3.7**
	23nm,0.4s,SNR=7.9						
ESAC	**San Caprasio**	**6.19**	**106**	Pn	**Pn**	**19 03 54.4**	**+1.5**
	2.3nm,0.1s,SNR=7.9						
ESAC				Sn	**Sn**	**19 05 00.0**	**-3.7**
	23nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**6.23**	**151**	Sn	**Sn**	**19 05 01.1**	**-3.6**
	SNR=7.9						
EADA				Lg	Lg	19 05 42.3	
	0.4nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**6.23**	**151**	Sn	**Sn**	**19 05 01.1**	**-3.6**
	SNR=7.9						
EADA				Lg	Lg	19 05 42.3	
	0.4nm,0.2s,SNR=4.0						
PVAQ	**Vaqueiros**	**6.28**	**175**	*e*Pn	**Pn**	**19 03 55.9**	**+1.7**
PVAQ				*e*Sn	**Sn**	**19 05 02.4**	**-3.6**
PVAQ				A	A	19 05 08.8	
	3.1nm,0.5s						
PVAQ	**Vaqueiros**	**6.28**	**175**	Pn	**Pn**	**19 03 55.9**	**+1.7**
PVAQ				Sn	**Sn**	**19 05 02.4**	**-3.6**
	3.1nm,0.5s						
PVAQ	**Vaqueiros**	**6.28**	**175**	Pn	**Pn**	**19 03 55.9**	**+1.7**
PVAQ				*e*Sn	**Sn**	**19 05 02.4**	**-3.6**
	3.1nm,0.5s						
MORF	**Marmelete**	**6.36**	**182**	*e*Pn	**Pn**	**19 03 56.7**	**+1.4**
MORF				*e*Sn	**Sn**	**19 05 04.3**	**-3.7**
MORF				A	A	19 05 08.4	
	2.9nm,0.6s						
MORF	**Marmelete**	**6.36**	**182**	Pn	**Pn**	**19 03 56.7**	**+1.4**
MORF				Sn	**Sn**	**19 05 04.3**	**-3.7**
	2.9nm,0.6s						
MORF	**Marmelete**	**6.36**	**182**	Pn	**Pn**	**19 03 56.7**	**+1.4**
PBDV	**Barranco-do-Ve**	**6.43**	**176**	*e*Pn	**Pn**	**19 03 57.1**	**+0.8**
PBDV				*e*Sn	**Sn**	**19 05 05.5**	**-4.2**
	4.3nm,1.0s						
PBDV	**Barranco-do-Ve**	**6.43**	**176**	Pn	**Pn**	**19 03 57.1**	**+0.8**
PBDV				Sn	**Sn**	**19 05 05.5**	**-4.2**
	4.3nm,1.0s						
PBDV	**Barranco-do-Ve**	**6.43**	**176**	Pn	**Pn**	**19 03 57.1**	**+0.8**
EPF	**Esparros**	**6.43**	**93**	*e*Pn	**Pn**	**19 03 58.1**	**+1.8**
	SNR=1.0						
EPF				*e*Sn	Sn	19 05 04.4	-5.4
	1.7nm,0.2s						
EPF	**Esparros**	**6.43**	**93**	Pn	**Pn**	**19 03 58.1**	**+1.8**
MFF	**Saint Martin d**	**6.56**	**61**	*e*Pn	**Pn**	**19 03 58.4**	**+0.5**
	SNR=1.0						
MFF				*e*Sn	Sn	19 05 07.3	-5.4
	3.9nm,0.2s						
MFF	**Saint Martin d**	**6.56**	**61**	Pn	**Pn**	**19 03 58.4**	**+0.5**
ERTA	**Horta de San J**	**7.04**	**110**	Pn	**Pn**	**19 04 06.7**	**+2.0**
	0.4nm,0.1s,SNR=4.0						
ERTA				Sn	Sn	19 05 19.1	-5.7
	1.0nm,0.2s,SNR=4.0						
ERTA	**Horta de San J**	**7.04**	**110**	Pn	**Pn**	**19 04 06.7**	**+2.0**
	0.4nm,0.1s,SNR=4.0						
ERTA				Sn	Sn	19 05 19.1	-5.7
	1.0nm,0.2s,SNR=4.0						
GRR	**Gorron**	**7.08**	**46**	*e*Pn	**Pn**	**19 04 04.9**	**-0.1**
	SNR=1.0						
GRR				*e*Sn	Sn	19 05 17.5	-8.0
	3.2nm,0.3s,SNR=1.0						
GRR	**Gorron**	**7.08**	**46**	Pn	**Pn**	**19 04 04.9**	**-0.1**
CSOR	**Sort**	**7.13**	**97**	Pn	**Pn**	**19 04 08.5**	**+2.5**
	0.0nm,0.1s,SNR=7.9						
CSOR				Sn	**Sn**	**19 05 22.4**	**-4.8**
	1.6nm,0.3s,SNR=7.9						
CSOR	**Sort**	**7.13**	**97**	Pn	**Pn**	**19 04 08.5**	**+2.5**
	SNR=7.9						
CSOR				Sn	**Sn**	**19 05 22.4**	**-4.8**
	1.6nm,0.3s,SNR=7.9						
RJF	**Les Rejaudoux**	**7.31**	**74**	*e*Sn	Sn	19 05 22.5	-8.7
	4.7nm,0.2s,SNR=1.0						
EPOB	**Poblet**	**7.40**	**105**	Pn	**Pn**	**19 04 10.5**	**+0.9**
	0.3nm,0.1s,SNR=7.9						
EPOB				Sn	**Sn**	**19 05 29.2**	**-4.5**
	1.1nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**7.40**	**105**	Pn	**Pn**	**19 04 10.5**	**+0.9**
	0.3nm,0.1s,SNR=7.9						
EPOB				Sn	**Sn**	**19 05 29.2**	**-4.5**
	1.1nm,0.2s,SNR=7.9						
FLN	**La Foliniere**	**7.51**	**45**	*e*Pn	**Pn**	**19 04 11.5**	**+0.5**
	baz=233,SNR=1.0						
FLN				*e*Sn	Sn	19 05 29.3	-6.8
	1.3nm,0.2s						
FLN	**La Foliniere**	**7.51**	**45**	Pn	**Pn**	**19 04 11.5**	**+0.5**
LDF	**La Druitiere**	**7.59**

IDC 26 19:05:26.4±1.4,5.80S×130.94E,h0km,mb3.7/4, mb1 3.8/7,mb1mx3.6/18,mbtmp3.7/7,ML3.5/3,Error ellipse: s-maj=70.0km s-min=19.4km az=70.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.28**	**202**	Pn	Pn	19 08 36.0	-0.4
	0.3nm,0.3s,baz=189,slow=11,SNR=26						
FITZ				Sn	Sn	19 10 51.2	-14
	0.8nm,0.3s,baz=79,slow=12,SNR=9.6						
WRA	**Warramunga Arr**	**14.45**	**167**	Pn	Pn	19 08 53.4	+1.0
	0.2nm,0.3s,baz=348,slow=13,SNR=18						
WRA				Sn	Sn	19 11 22.2	-11
	0.7nm,0.3s,baz=336,slow=23,SNR=8.7						
ASAR	**Alice Springs**	**18.00**	**171**	P	P	19 09 40.0	+1.2
	0.1nm,0.3s,baz=360,slow=8.1,SNR=8.9						
ASAR				S	Sn	19 12 47.4	-12
	0.1nm,0.3s,baz=354,slow=26,SNR=5.1						
STKA	**Stephens Creek**	**27.80**	**160**	P	P	19 11 16.5	-0.9
	1.3nm,0.6s,baz=330,slow=8.1,SNR=7.3						
CMAR	**Chiang Mai Arr**	**39.70**	**308**	P	P	19 13 00.7	-0.1
	0.3nm,0.5s,baz=134,slow=6.6,SNR=6.3						
SONM	**Songino Array**	**57.61**	**341**	P	P	19 15 19.0	+0.7
	0.1nm,0.6s,baz=170,slow=7.0,SNR=4.4						
MKAR	**Makanchi Array**	**67.74**	**326**	P	P	19 16 25.6	-0.3
	1.1nm,0.4s,baz=115,slow=8.4,SNR=39						

DDA 26 19:05:57.8,38.61N×38.98E,h15km,ML2.8,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.11**	**178**	*i* P	Pg	19 06 01.1	-0.5
ELZG				*i* S	Sb	19 06 04.3	-0.3
SVRC	**Sivrice-ELAZID**	**0.35**	**132**	*e*PG	Pg	19 05 59.9	-5.3
SVRC				*e*SG	Sg	19 06 02.2	-8.0
KEMA	**Kemaliye**	**0.76**	**330**	*i* P	Pn	19 06 15.0	+0.9
AKCD	**Akcadag**	**0.89**	**250**	*i* P	Pg	19 06 15.4	+0.1

WEL 26 19:11:59.6±0.3,38.58S×175.73E,h156km±3km,ML3.5/15, 1C-5D,Error ellipse: s-maj=2.4km s-min=1.7km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.55**	**205**	PN	Pn	19 12 21.8	-0.2
FWVZ	**Far West T-bar**	**0.69**	**192**	PN	Pn	19 12 22.8	-0.2
TUVZ	**Tukino**	**0.70**	**185**	PN	Pn	19 12 23.0	+0.1
TUVZ				SN	Sn	19 12 40.5	-0.4
TRVZ	**Turoa**	**0.74**	**191**	PN	Pn	19 12 23.4	0.0
WNVZ	**Wahianoa**	**0.76**	**188**	PN	Pn	19 12 23.5	+0.1
WNVZ				SN	Sn	19 12 41.4	-0.3
MOVZ	**Moawhango**	**0.83**	**179**	PN	Pn	19 12 23.5	-0.3
BKZ	**Black Stump Fm**	**0.84**	**135**	⇑PN	Pn	19 12 23.7	-0.1
BKZ				SN	Sn	19 12 41.2	-1.1
BHHZ	**Black Hill Sta**	**0.95**	**164**	PN	Pn	19 12 24.5	-0.1
NMHZ	**Naumai**	**0.99**	**122**	PN	Pn	19 12 25.6	+0.7
RAHZ	**Arahi**	**1.11**	**108**	PN	Pn	19 12 26.3	+0.3
MCHZ	**McNeill Hill**	**1.15**	**139**	PN	Pn	19 12 27.2	+0.9
MCHZ				SN	Sn	19 12 46.7	0.0
WAZ	**Wanganui**	**1.31**	**206**	PN	Pn	19 12 28.0	+0.2
PNHZ	**Pukenui**	**1.39**	**165**	PN	Pn	19 12 28.7	+0.1
MWZ	**Matawai**	**1.43**	**81**	⇓PN	Pn	19 12 28.2	-0.8
DFE	**Dawson Falls**	**1.48**	**239**	PN	Pn	19 12 29.4	-0.1
TSZ	**Takapari Road**	**1.49**	**173**	⇓PN	Pn	19 12 29.5	-0.1
TSZ				SN	Sn	19 12 50.5	-2.3
PKE	**Pukeiti**	**1.50**	**245**	PN	Pn	19 12 29.5	-0.2
CKHZ	**Cape Kidnapper**	**1.51**	**136**	PN	Pn	19 12 30.1	+0.4
KAHZ	**Kahuranaki**	**1.51**	**144**	PN	Pn	19 12 29.9	+0.1
KNZ	**Kokohu**	**1.58**	**107**	PN	Pn	19 12 30.4	-0.1
NWEZ	**Newall Road**	**1.61**	**244**	PN	Pn	19 12 30.6	-0.2
PRRZ	**Paritu Road**	**1.72**	**102**	PN	Pn	19 12 31.7	-0.3
DVHZ	**Dannevirke**	**1.76**	**169**	PN	Pn	19 12 31.9	-0.5
MHGZ	**Mahia Peninsul**	**1.79**	**109**	⇓PN	Pn	19 12 32.9	+0.2
POWZ	**Post Office Ro**	**1.82**	**179**	PN	Pn	19 12 32.4	-0.6
PRHZ	**Porangahau**	**1.83**	**158**	PN	Pn	19 12 33.2	0.0
CNGZ	**Carnagh Statio**	**1.94**	**88**	PN	Pn	19 12 34.5	0.0
PUZ	**Puketiti**	**2.05**	**77**	PN	Pn	19 12 34.5	-1.2
PUZ				SN	Sn	19 13 00.6	-2.9
MRZ	**Mangatainoka R**	**2.09**	**183**	⇓PN	Pn	19 12 35.1	-1.0
MRZ				SN	Sn	19 13 01.2	-3.1
BFZ	**Birch Farm**	**2.14**	**169**	PN	Pn	19 12 36.0	-0.8
TIWZ	**Tintock**	**2.20**	**177**	PN	Pn	19 12 36.6	-0.9
MXZ	**Matakaoa Point**	**2.27**	**64**	⇓PN	Pn	19 12 37.4	-0.8
OGWZ	**Otaki Gorge**	**2.28**	**191**	PN	Pn	19 12 37.3	-1.0
HOWZ	**Holdsworth Sta**	**2.33**	**184**	PN	Pn	19 12 37.6	-1.4
KIW	**Kapiti Island**	**2.37**	**195**	PN	Pn	19 12 37.9	-1.6
TMWZ	**Te Maipa**	**2.53**	**177**	PN	Pn	19 12 40.1	-1.4
CAW	**Cannon Point**	**2.58**	**191**	PN	Pn	19 12 40.4	-1.6
MTW	**Mount Morrison**	**2.59**	**184**	PN	Pn	19 12 40.3	-1.7
DUWZ	**D'Urville Isla**	**2.63**	**212**	PN	Pn	19 12 40.7	-1.9
PAWZ	**Paruwai Farm**	**2.81**	**185**	PN	Pn	19 12 42.9	-2.0
TRWZ	**Traveller**	**2.82**	**181**	PN	Pn	19 12 43.2	-1.7
SNZO	**South Karori**	**2.84**	**196**	PN	Pn	19 12 43.1	-2.1
MSWZ	**Moikau Station**	**2.86**	**187**	PN	Pn	19 12 43.4	-2.1
TCW	**Tory Channel**	**2.86**	**203**	PN	Pn	19 12 43.4	-2.0
BHW	**Baring Head**	**2.91**	**193**	PN	Pn	19 12 43.8	-2.2
PLWZ	**Palliser**	**3.02**	**187**	PN	Pn	19 12 45.0	-2.4
TUWZ	**Tuamarina**	**3.17**	**205**	PN	Pn	19 12 47.0	-2.3
NNZ	**Nelson**	**3.20**	**214**	PN	Pn	19 12 47.2	-2.5
QRZ	**Quartz Range**	**3.34**	**227**	PN	Pn	19 12 48.4	-3.1
THZ	**Tophouse**	**3.85**	**213**	PN	Pn	19 12 55.5	-2.7
KHZ	**Kahutara**	**4.19**	**203**	PN	Pn	19 12 59.6	-2.8
MQZ	**McQueen's Vall**	**5.63**	**203**	SN	Sn	19 14 16.7	-8.7

IDC 26 19:29:45.8±4.7,29.98S×177.33W,h0km,mb3.4/2, mb1 3.6/2,mb1mx3.5/18,mbtmp3.4/2,Error ellipse: s-maj=280.4km s-min=66.7km az=166.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.71**	**266**	P	P	19 37 51.9	-1.0
	0.2nm,0.5s,baz=104,slow=7.3,SNR=6.7						
WRA	**Warramunga Arr**	**44.66**	**271**	P	P	19 38 01.1	+0.6
	0.3nm,0.4s,baz=110,slow=8.1,SNR=13						
FINES	**FINESS Array B**	**144.95**	**341**	PKP	PKPbc	19 49 23.6	+0.1
	1.4nm,0.8s,baz=60,slow=3.9,SNR=5.2						

MAN 26 19:43:45,17.41N×119.87E,h6km,mb4.4,ML3.2,MS3.0, 2C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**0.76**	**48**	⇓*i*P	Pg	19 43 59.5	-0.1
ABRA	**Dolores**	**0.84**	**73**	*e*P	Pg	19 44 01.3	+0.2
ABRA				*e*S	Sn	19 44 16.1	+0.1
PIP	**Pasuquin**	**1.16**	**38**	⇑*i*P	Pg	19 44 06.6	-0.6
BCPH	**Baguio City Da**	**1.23**	**146**	⇑*i*P	Pg	19 43 58.8	-10
CAUP	**Cauayan**	**1.92**	**104**	*e*P	Pn	19 44 19.3	+1.0
BALP	**Baler**	**2.33**	**135**	*e*P	Pn	19 44 24.6	+0.7
PALP	**Palanan**	**2.46**	**98**	*e*P	Pn	19 44 25.5	-0.2

*ISCJB **26** 19:54:28.6±0.5,37.82N±0.04×29.10E±0.05,h7km±6km, Error ellipse: s-maj=7.9km s-min=5.1km az=33.3*
*ISK **26** 19:54:28.2,37.82N×29.11E,h6km,MD2.7*
*DDA **26** 19:54:28.4,37.84N×29.12E,h7km,MD2.8*
*CSEM **26** 19:54:28.6±0.1,37.81N×29.10E,h7km,MD2.7,Error ellipse: s-maj=1.9km s-min=1.5km az=107.0*

ISC 26 19:54:28.9±0.9,37.81N±0.03×29.09E±0.03,h9km±7km, n26,σ0.34/34,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.07**	**219**	*e*PG	**Pg**	**19 54 30.7**	**-0.3**
DENT	**Denizli**	**0.07**	**219**	*e*Pg	**Pg**	**19 54 30.7**	**-0.3**
DNZL	**Cakiroluk**	**0.13**	**196**	*i* P	**Pg**	**19 54 31.8**	**-0.1**
DNZL				*i* S	**Sg**	**19 54 34.4**	**+0.4**
DNZL	**Cakiroluk**	**0.13**	**196**	*i* P	**Pg**	**19 54 31.8**	**-0.1**
DNZL				*i* S	**Sg**	**19 54 34.4**	**+0.4**
KHL	**Karahalli**	**0.61**	**34**	*e*PG	**Pg**	**19 54 40.4**	**-0.4**
KHL				*e*SG	**Sg**	**19 54 49.2**	**+0.3**
KHL	**Karahalli**	**0.61**	**34**	*e*Pg	**Pg**	**19 54 40.4**	**-0.4**
KHL				*e*Sg	**Sg**	**19 54 49.2**	**+0.3**
GOLH	**Golhisar**	**0.68**	**147**	*e*P	**Pg**	**19 54 42.1**	**0.0**
GOLH	**Golhisar**	**0.68**	**147**	*e*P	**Pg**	**19 54 42.1**	**0.0**
KULA	**Kula-Manisa**	**0.78**	**334**	*e*PG	**Pg**	**19 54 43.6**	**-0.3**
KULA	**Kula-Manisa**	**0.78**	**334**	*e*Pg	**Pg**	**19 54 43.6**	**-0.3**
MANT	**Manisa**	**0.80**	**328**	*i* P	**Pg**	**19 54 44.2**	**-0.1**
MANT				*i* S	**Sg**	**19 54 55.7**	**+1.0**
MANT	**Manisa**	**0.80**	**328**	*i* P	**Pg**	**19 54 44.2**	**-0.1**
MANT				*i* S	**Sg**	**19 54 55.7**	**+1.0**
YER	**Yerkesik**	**0.93**	**224**	*e*PG	**Pg**	**19 54 46.8**	**0.0**
YER	**Yerkesik**	**0.93**	**224**	*e*Pg	**Pg**	**19 54 46.8**	**0.0**
AYDN	**Tasoluk**	**0.97**	**262**	*e*P	**Pb**	**19 54 47.8**	**-0.1**
AYDN				*i* S	**Sg**	**19 55 00.0**	**-0.2**
AYDN	**Tasoluk**	**0.97**	**262**	*e*P	**Pb**	**19 54 47.8**	**-0.1**
AYDN				*i* S	**Sg**	**19 55 00.0**	**-0.2**
MLSB	**Milas**	**1.16**	**244**	*e*PN	**Pn**	**19 54 51.3**	**-0.1**
MLSB	**Milas**	**1.16**	**244**	*e*Pn	**Pn**	**19 54 51.3**	**-0.1**
ELL	**Elmali**	**1.25**	**148**	*e*PN	**Pb**	**19 54 52.5**	**-0.1**
ELL	**Elmali**	**1.25**	**148**	*e*Pn	**Pb**	**19 54 52.5**	**-0.1**
SHUT	**Suhut-Afyon**	**1.37**	**57**	*e*PN	**Pn**	**19 54 54.2**	**-0.1**
SHUT	**Suhut-Afyon**	**1.37**	**57**	*e*Pn	**Pn**	**19 54 54.2**	**-0.1**
ALT	**Altintas**	**1.48**	**32**	*e*PN	**Pn**	**19 54 55.8**	**0.0**
ALT	**Altintas**	**1.48**	**32**	*e*Pn	**Pn**	**19 54 55.8**	**0.0**
TVSB	**Tavsanli**	**1.66**	**10**	*e*PN	**Pn**	**19 54 58.5**	**+0.2**
TVSB	**Tavsanli**	**1.66**	**10**	*e*Pn	**Pn**	**19 54 58.5**	**+0.2**

IDC 26 19:58:34.3±63.0,20.81S×178.22W,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.5/18,mbtmp3.5/3,Error ellipse: s-maj=1148.0km s-min=154.9km az=83.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.47**	**244**	P	P	20 05 49.4	-0.3
	2.3nm,1.0s,baz=99,slow=13,SNR=2.8						
ASAR	**Alice Springs**	**44.24**	**257**	P	P	20 06 45.4	-0.5
	0.3nm,0.7s,baz=112,slow=8.2,SNR=5.3						
WRA	**Warramunga Arr**	**44.35**	**262**	P	P	20 06 47.0	+0.3
	0.2nm,0.3s,baz=96,slow=8.3,SNR=28						

*BYKL **26** 20:07:27.0±0.2,56.46N×118.41E,h10km±4km*
MOS 26 20:07:26.6±1.4,56.55N×118.41E,h10km,mb4.3/1,2C-3D, Error ellipse: s-maj=65.2km s-min=30.5km az=175.0, East of Lake Baikal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRS	**Chara**	**0.36**	**348**	⇓*i*Pg	Pb	20 07 35.3	+0.1
CRS				*e*Sg	Sb	20 07 41.3	+0.3
CRS				Pmax			
	92nm,0.1s						
CRS				Smax			
	323nm,0.4s						
KHNR	**Khani**	**0.94**	**66**	⇑*i*Pg	Pb	20 07 45.2	+0.1
KHNR				*e*Sg	Sn	20 07 59.1	-0.4
NLYR	**Nelyaty**	**1.50**	**269**	*e*PG	Pn	20 07 53.2	-0.4
NLYR				*e*		20 08 12.8	
NLYR				pmax	pmax		
	comp=Z,126nm,0.6s						
NLYR				smax	smax		
	comp=E,452nm,0.7s						
NLYR	**Nelyaty**	**1.50**	**269**	⇓*i*Pg	Pn	20 07 53.2	-0.4
NLYR				*e*		20 07 54.8	
NLYR				*e*Sg	Sn	20 08 12.8	-0.5
NLYR				*e*		20 08 15.9	
NLYR				max			
	comp=E,127nm,0.3s						
NLYR				max			
	comp=E,457nm,0.6s						
TUP	**Tupik**	**2.30**	**157**	*e*Pn	Pn	20 08 04.9	+0.2
TUP				*e*Pg	Pb	20 08 06.5	-1.8
TUP				*e*Sn	Sn	20 08 30.5	-2.6
TUP				*e*Sg	Sb	20 08 35.3	-1.5
TUP				*e*LR	LR	20 08 48.6	
TUP				Pmax			
	comp=E,38nm,0.3s						
TUP				Smax			
	comp=E,114nm,0.5s						
BOD	**Bodaibo**	**2.71**	**300**	⇑*e*PN	Pn	20 08 10.9	+0.7
BOD				*i*		20 08 15.6	
BOD				*e*S	Sn	20 08 44.1	+1.0
BOD				*e*		20 08 51.1	
BOD				pmax	pmax		
	comp=Z,25nm,0.4s						
BOD				smax	smax		
	comp=N,177nm,0.5s						
BOD	**Bodaibo**	**2.71**	**300**	*e*Pg	Pb	20 08 15.9	+0.7
BOD				*e*PgPg	PbPb	20 08 18.3	-0.1
BOD				*e*Sg	Sg	20 08 51.3	-2.5
BOD				max			
	comp=N,25nm,0.4s						
BOD				Smax			
	comp=N,177nm,0.4s						
CLNS	**Chul'man**	**3.59**	**83**	*e*PN	Pn	20 08 24.6	+2.3
CLNS				*e*		20 09 05.0	
CLNS				pmax	pmax		
	comp=E,2.0nm,0.2s						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.3s						
CLNS				pmax	pmax		
	comp=Z,4.0nm,0.3s						
CLNS				smax	smax		
	comp=N,27nm,0.8s						
CLNS				smax	smax		
	comp=E,62nm,1.0s						
CLNS				smax	smax		
	comp=Z,92nm,1.1s						
CLNS	**Chul'man**	**3.59**	**83**	*e*Pn	Pn	20 08 24.2	+1.9
CLNS				*e*Pg	Pb	20 08 31.5	+1.3
CLNS				*e*Sg	Sg	20 09 18.6	-3.3
IENR	**Iengra**	**3.60**	**93**	*e*Pn	Pn	20 08 23.8	+1.3
IENR				*e*Pg	Pb	20 08 30.3	-0.1
IENR				*e*Sg	Sb	20 09 17.7	+3.5
YOA	**Uoyan**	**3.75**	**266**	*e*PN	Pb	20 08 34.4	+1.6
YOA				*i*		20 09 23.8	
YOA				pmax	pmax		
	comp=Z,35nm,0.3s						
YOA				smax	smax		
	comp=E,228nm,0.4s						
YOA	**Uoyan**	**3.75**	**266**	*e*Pg	Pb	20 08 34.1	+1.3
YOA				*e*Sg	Sg	20 09 22.6	-4.3
YOA				Pmax			
	comp=E,45nm,0.2s						
YOA				Smax			
	comp=E,230nm,0.6s						
TNDR	**Tynda**	**3.83**	**109**	*e*Pn	Pn	20 08 26.9	+1.4
TNDR				*e*Pg	Pb	20 08 34.6	+0.4
TNDR				*e*Sg	Sb	20 09 24.1	+3.5
KMO	**Kumora**	**4.08**	**264**	*e*PN	Pn	20 08 28.5	-0.5
KMO				*e*		20 08 38.8	
KMO				*e*S	Sn	20 09 15.7	-1.1
KMO				*e*		20 09 31.6	
KMO				pmax	pmax		
	comp=Z,15nm,0.4s						
KMO				smax	smax		
	comp=N,76nm,1.2s						
KMO	**Kumora**	**4.08**	**264**	*e*Pn	Pn	20 08 30.3	+1.3
KMO				*e*Pg	Pb	20 08 39.1	+0.6
KMO				*e*Sn	Sn	20 09 15.5	-1.3
KMO				*e*Sg	Sb	20 09 32.1	+4.2
KMO				*e*		20 09 42.0	
KMO				Pmax			
	comp=N,15nm,0.4s						
KMO				max			
	comp=N,78nm,1.2s						
VTMR	**Vitim**	**4.26**	**315**	*e*Pg	Pb	20 08 44.7	+3.2
VTMR				*e*Sg	Sg	20 09 41.1	-2.1
YLYR	**Ulyunkhan**	**4.43**	**251**	*e*Pn	Pn	20 08 34.7	+0.9
YLYR				*e*		20 08 46.9	
YLYR				*e*Sg	Sb	20 09 42.8	+4.9
YLYR				Smax			
	comp=N,47nm,1.0s						
NIZ	**Nizh Angarsk**	**5.02**	**265**	*e*Pn	Pn	20 08 43.4	+1.5
NIZ				*e*Pg	Pb	20 08 58.1	+3.6
NIZ				*e*Sn	Sn	20 09 39.4	-0.5
NIZ				*e*Sg	Sg	20 10 02.7	-5.0
NIZ				Pmax			
	comp=N,5.0nm,0.5s						
NIZ				Smax			
	comp=N,20nm,0.4s						
KROS	**Kirovskiy**	**5.31**	**110**	⇓*i*Pn	Pn	20 08 43.4	-2.5
KROS				*e*Sn	Sn	20 09 40.5	-6.6
KROS				*e*Sg	Sb	20 10 07.8	+4.6
KROS				Smax			
	comp=N,31nm,0.6s						
CIT	**Chita**	**5.36**	**214**	*e*Sg	Sb	20 10 09.7	+5.1
CIT				Smax			
	comp=N,59nm,0.5s						
SYVR	**Suvo**	**5.63**	**243**	*e*Pn	Pn	20 08 50.9	+0.6
SYVR				*e*Pg	Pb	20 09 07.1	+2.2
SYVR				*e*Sn	Sn	20 09 53.0	-2.0
SYVR				*e*Sg	Sg	20 10 20.0	-7.3
SYVR				Pmax			
	comp=N,2.0nm,0.1s						
SYVR				Smax			
	comp=N,33nm,0.8s						
ZEA	**Zeya**	**5.80**	**115**	*e*Sg	Sb	20 10 24.8	+7.6
ZEA				Smax			
	comp=N,59nm,0.6s						
MXMB	**Maximikha**	**6.47**	**243**	*e*	Pn	20 08 59.8	-2.1
MXMB				*e*Pn	Pb	20 09 02.2	-17
MXMB				*e*Sn	Sn	20 10 13.0	-2.8
MXMB				*e*Sg	Sg	20 10 47.3	-7.0
MXMB				Smax			
	comp=N,84nm,1.0s						
OGRR	**Ongureny**	**6.86**	**249**	*e*PN	Pn	20 09 07.8	+0.7
OGRR				*e*		20 09 29.2	
OGRR				*e*		20 10 55.8	
OGRR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
OGRR				smax	smax		
	comp=N,22nm,2.2s						
OGRR	**Ongureny**	**6.86**	**249**	*e*Pn	Pn	20 09 07.8	+0.7
OGRR				*e*Sn	Sn	20 10 23.5	-1.7
OGRR				*e*Sg	Sg	20 10 57.2	-9.4
OGRR				Smax			
	comp=N,22nm,1.6s						
KPC	**Khapcheranga**	**7.75**	**210**	*e*Pn	Pn	20 09 19.6	0.0
KPC				*e*Pg	Pb	20 09 46.3	+5.1
KPC				*e*Sg	Sg	20 11 24.8	-11
KPC				Pmax			
	comp=N,1.0nm,0.2s						
KPC				Smax			
	comp=N,25nm,1.6s						
ARS	**Arshan**	**10.44**	**250**	*e*Sg	Sn	20 12 48.2	+55
ARS				Smax			
	comp=N,19nm,1.2s						

IDC 26 20:24:52.6±1.0,8.75S×127.21E,h0km,mb3.6/5, mb1 3.7/8,mb1mx3.6/19,mbtmp3.6/8,ML3.7/3,Error ellipse: s-maj=69.3km s-min=18.1km az=66.0,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.42**	**189**	Pn	Pn	20 27 08.6	-1.1
	0.7nm,0.3s,baz=41,slow=11,SNR=29						
FITZ				Sn	Sn	20 28 45.2	-11
	1.0nm,0.3s,baz=4.8,slow=14,SNR=3.2						
WRA	**Warramunga Arr**	**13.09**	**149**	Pn	Pn	20 27 58.4	-1.6
	0.4nm,0.3s,baz=319,slow=14,SNR=33						
WRA				Sn	Sn	20 30 16.1	-10
	1.1nm,0.3s,baz=322,slow=26,SNR=8.4						
ASAR	**Alice Springs**	**16.16**	**157**	Pn	Pn	20 28 39.6	-1.7
	0.2nm,0.3s,baz=325,slow=11,SNR=10						
ASAR				Sn	Sn	20 31 32.5	-8.8
	0.2nm,0.3s,baz=195,slow=28,SNR=7.2						
STKA	**Stephens Creek**	**26.61**	**152**	P	P	20 30 34.1	+1.3
	1.3nm,0.8s,baz=337,slow=13,SNR=2.7						
CMAR	**Chiang Mai Arr**	**38.85**	**314**	P	P	20 32 20.4	+0.6
	0.5nm,0.6s,baz=152,slow=7.1,SNR=5.6						
SONM	**Songino Array**	**59.28**	**344**	P	P	20 34 55.8	-0.4
	0.2nm,0.7s,baz=150,slow=6.1,SNR=2.6						
MKAR	**Makanchi Array**	**68.22**	**329**	P	P	20 35 55.0	-0.1
	0.3nm,0.5s,baz=128,slow=7.3,SNR=11						
ZALV	**Zalesovo Beam**	**71.96**	**335**	P	P	20 36 17.5	-0.3
	0.6nm,0.4s,baz=130,slow=5.8,SNR=5.7						

IDC 26 20:36:56.8±3.0,6.52S×147.61E,h0km,mb3.2/2, mb1 3.4/4,mb1mx3.3/19,mbtmp3.2/4,ML3.0/2,Error ellipse: s-maj=65.0km s-min=32.6km az=95.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.90**	**189**	Pn	Pn	20 37 46.1	+1.8
	8.4nm,0.3s,baz=18,slow=9.6,SNR=20						
PMG				Sn	Sn	20 38 21.3	+1.4
	3.3nm,0.3s,baz=11,slow=19,SNR=6.6						
WRA	**Warramunga Arr**	**18.55**	**223**	P	P	20 41 15.0	-0.2
	0.1nm,0.3s,baz=52,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**21.55**	**216**	P	P	20 41 47.7	-0.2
	0.3nm,0.4s,baz=48,slow=8.2,SNR=7.6						
FITZ	**Fitzroy Crossi**	**24.32**	**240**	P	P	20 42 14.9	-1.5
	1.2nm,0.8s,baz=56,slow=11,SNR=4.3						
TORD	**Torodi Ar. Bea**	**145.80**	**284**	PKPbc	PKPbc	20 56 39.0	0.0
	0.3nm,0.4s,baz=74,slow=3.6,SNR=5.5						

WEL 26 20:37:07.6±0.7,36.77S×176.71E,h298km±5km,ML4.1/6, 3C-7D,Error ellipse: s-maj=5.7km s-min=5.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.50**	**122**	⇓PN	Pn	20 37 50.4	-0.1
MXZ				SN	S	20 38 23.9	-0.7
MWZ	**Matawai**	**1.69**	**158**	PN	Pn	20 37 51.8	0.0
PUZ	**Puketiti**	**1.79**	**137**	⇑PN	Pn	20 37 52.5	-0.1
PUZ				SN	S	20 38 27.3	-1.1
CNGZ	**Carnagh Statio**	**2.09**	**146**	PN	Pn	20 37 55.2	+0.5
RAHZ	**Arahi**	**2.17**	**172**	⇑PN	Pn	20 37 55.9	+0.4
NMHZ	**Naumai**	**2.33**	**178**	⇑PN	Pn	20 37 57.5	+0.6
PRGZ	**Paritu Road**	**2.34**	**157**	PN	Pn	20 37 57.3	+0.3
KKZ	**Kokohu**	**2.38**	**162**	PN	Pn	20 37 57.0	-0.2
BKZ	**Black Stump Fm**	**2.40**	**184**	PN	Pn	20 37 57.4	-0.1
OTVZ	**Oturere**	**2.53**	**199**	PN	Pn	20 37 59.4	+0.6
NGZ	**Ngauruhoe**	**2.56**	**200**	PN	Pn	20 37 60.0	+0.9
MHGZ	**Mahia Peninsul**	**2.56**	**159**	PN	Pn	20 37 59.3	+0.4
TUVZ	**Tukino**	**2.63**	**198**	⇓PN	Pn	20 38 00.0	+0.3
FWVZ	**Far West T-bar**	**2.65**	**200**	PN	Pn	20 37 59.9	-0.1

WRA	**Warramunga Arr**	**26.66 161**	P	P	20 43 05.6	-0.6
	0.3nm,0.3s,baz=336,slow=10,SNR=7.4					
ASAR	**Alice Springs**	**30.04 164**	P	P	20 43 36.5	+0.1
	0.2nm,0.4s,baz=338,slow=7.4,SNR=6.5					
MKAR	**Makanchi Array**	**55.42 325**	P	P	20 47 01.4	-0.3
	0.2nm,0.5s,baz=126,slow=8.0,SNR=4.3					
KURBB	**Kurchatov Array**	**59.62 327**	P	P	20 47 31.2	+0.1
	0.1nm,0.4s,baz=129,slow=6.8,SNR=6.0					

IDC 26 20:56:15.9±1.9, 4.08N×126.97E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/22, mbtmpg3.6/4, Error ellipse: s-maj=144.1km s-min=24.1km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.95 163**		P	P	21 01 40.3	-1.0
	1.8nm,0.8s,baz=343,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.40 167**		P	P	21 02 13.0	+0.7
	0.2nm,0.6s,baz=341,slow=11,SNR=3.9						
STKA	**Stephens Creek**	**38.38 160**		P	P	21 03 39.2	+0.2
	1.2nm,0.7s,baz=328,slow=9.5,SNR=3.5						
MKAR	**Makanchi Array**	**57.40 325**		P	P	21 06 06.3	-0.1
	0.1nm,0.5s,baz=116,slow=8.2,SNR=4.0						

*ISK **26** 21:00:27.4, 39.12N×28.99E, h5km, MD2.7*
*ISCJB **26** 21:00:28.2±0.5, 39.12N±0.03×29.03E±0.03, h4km±8km, Error ellipse: s-maj=5.0km s-min=4.1km az=140.1*
*CSEM **26** 21:00:28.4±0.1, 39.13N×29.01E, h8km, MD3.0, Error ellipse: s-maj=2.8km s-min=2.5km az=129.0*
*DDA **26** 21:00:29.5, 39.07N×29.01E, h7km, MD3.0*
ISC 26 21:00:28.7±0.9, 39.12N±0.03×29.01E±0.02, h14km±8km, n22, σ0 75/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.24**	**251**	*i* P	**Pg**	**21 00 34.4**	**+0.4**
DEMI				*i* S	**Sg**	**21 00 38.0**	**+0.3**
DEMI	**Demirci**	**0.24**	**251**	*i* P	**Pg**	**21 00 34.4**	**+0.4**
DEMI				*i* S	**Sg**	**21 00 38.0**	**+0.3**
TVSB	**Tavsanli**	**0.48**	**47**	*e*Pg	**Pg**	**21 00 37.7**	**-0.5**
TVSB				*e*Sg	**Sg**	**21 00 44.2**	**-0.4**
TVSB	**Tavsanli**	**0.48**	**47**	*e*PG	**Pg**	**21 00 37.7**	**-0.5**
TVSB				*e*SG	**Sg**	**21 00 44.2**	**-0.4**
DST	**Dursunbey**	**0.57**	**328**	*e*PG	**Pg**	**21 00 38.5**	**-1.4**
DST				*e*SG	**Sg**	**21 00 47.0**	**-0.5**
DST	**Dursunbey**	**0.57**	**328**	*e*Pg	**Pg**	**21 00 38.5**	**-1.4**
DST				*e*Sg	**Sg**	**21 00 47.0**	**-0.5**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*PG	**Pg**	**21 00 41.1**	**-0.6**
KULA				*e*SG	**Sg**	**21 00 49.1**	**-1.4**
KULA	**Kula-Manisa**	**0.67**	**205**	*e*Pg	**Pg**	**21 00 41.1**	**-0.6**
KULA				*e*Sg	**Sg**	**21 00 49.1**	**-1.4**
MANT	**Manisa**	**0.72**	**210**	*i* P	**Pb**	**21 00 43.0**	**-0.2**
MANT				*i* S	**Sb**	**21 00 52.5**	**-0.6**
MANT	**Manisa**	**0.72**	**210**	*i* P	**Pb**	**21 00 43.0**	**-0.2**
MANT				*i* S	**Sb**	**21 00 52.4**	**-0.6**
KHAL	**Karahalli**	**0.84**	**153**	*e*P	**Pb**	**21 00 45.1**	**0.0**
KHAL				*i* S	**Sb**	**21 00 55.9**	**-0.3**
KHAL	**Karahalli**	**0.84**	**153**	*e*P	**Pb**	**21 00 45.1**	**0.0**
KHAL				*i* S	**Sb**	**21 00 55.9**	**-0.3**
ALT	**Altintas**	**0.86**	**94**	*e*PG	**Pg**	**21 00 45.0**	**-0.3**
ALT				*e*SG	**Sg**	**21 00 57.2**	**+0.7**
ALT	**Altintas**	**0.86**	**94**	*e*Pg	**Pg**	**21 00 45.0**	**-0.3**
ALT				*e*Sg	**Sg**	**21 00 57.2**	**+0.7**
KHL	**Karahalli**	**0.89**	**153**	*e*PG	**Pg**	**21 00 45.4**	**-0.5**
KHL	**Karahalli**	**0.89**	**153**	*e*Pg	**Pg**	**21 00 45.4**	**-0.5**
AKHS	**Akhisar**	**0.97**	**256**	*e*P	**Pg**	**21 00 47.3**	**0.0**
AKHS				*i* S	**Sb**	**21 01 01.0**	**+1.2**
AKHS	**Akhisar**	**0.97**	**256**	*e*P	**Pg**	**21 00 47.3**	**0.0**
AKHS				*i* S	**Sb**	**21 01 01.0**	**+1.2**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*PN	**Pn**	**21 00 53.8**	**+0.3**
GONE	**Gonen-Balikesi**	**1.38**	**312**	*e*Pn	**Pn**	**21 00 53.8**	**+0.3**
GULT	**Gulveren**	**1.75**	**41**	*e*PN	**Pn**	**21 00 59.7**	**+1.1**
GULT	**Gulveren**	**1.75**	**41**	*e*Pn	**Pn**	**21 00 59.7**	**+1.1**

*VIE **26** 21:06:30.6, 16.66S×175.24W, h75km, mb3.8 490 km SW of Apia*
IDC 26 21:06:42.3±2.5, 17.82S×175.31W, h224km±23km, mb3.6/8, mb1 3.9/9, mb1mx3.8/22, mbtmpg3.7/9, 3C, Error ellipse: s-maj=29.3km s-min=13.9km az=118.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.16**	**42**	P	Pn	21 07 59.4	-0.1
	23nm,0.3s,baz=170,slow=2.9,SNR=16						
AFI				S	S	21 08 54.8	-5.8
	53nm,0.3s,baz=208,slow=23,SNR=11						
STKA	**Stephens Creek**	**41.27**	**242**	P	P	21 14 06.0	0.0
	4.7nm,0.6s,baz=71,slow=6.6,SNR=15						
VNDA	**Vanda**	**60.80**	**186**	P	P	21 16 30.1	-0.3
	2.1nm,0.8s,baz=51,slow=6.5,SNR=3.7						
QSPA	**South Pole Qui**	**72.24**	**180**	P	P	21 17 43.1	+0.1
	6.0nm,0.8s,baz=18,slow=1.2,SNR=25						
YBH	**Yreka Blue Hor**	**76.62**	**38**	P	P	21 18 08.7	+0.3
	1.9nm,0.6s,baz=244,slow=9.3,SNR=4.4						
NVAR	**Mina Array Bea**	**77.34**	**42**	P	P	21 18 13.4	+0.6
	1.4nm,0.7s,baz=220,slow=8.5,SNR=7.5						
ILAR	**Eielson Array**	**85.16**	**12**	P	P	21 18 52.4	-0.6
	1.6nm,0.9s,baz=226,slow=6.2,SNR=18						
PDAR	**Pinedale Array**	**85.28**	**42**	P	P	21 18 53.8	-0.6
	0.3nm,0.6s,baz=215,slow=4.9,SNR=3.5						
VNA3	**Neumayer Olymp**	**90.62**	**175**	*e*P	P	21 19 17.0	-2.0
VNA2	**Neumayer--Watz**	**91.09**	**176**	*e*P	P	21 19 20.8	-0.4
	baz=218,slow=4.0						
YKA	**Yellowknife Ar**	**93.03**	**24**	P	P	21 19 29.9	-0.1
	0.6nm,0.8s,baz=239,slow=4.5,SNR=9.9						
KOLS	**Kolonicke sedl**	**145.84**	**339**	*e*	PKPbc	21 25 55.1	-0.2
CLL	**Collm**	**145.94**	**351**	*i* P	PKPbc	21 25 55.4	0.0
	comp=Z,17nm,1.3s						
CRVS	**Cervenica-Dubn**	**146.14**	**340**	*e*	PKPab	21 25 57.6	+0.4
UPC	**Upice**	**146.15**	**347**	*e*P	PKPbc	21 25 56.3	+0.2
DPC	**Dobruska-Polom**	**146.23**	**347**	*e*P	PKPdf	21 25 54.3	-0.7
BRTR	**Keskin Array B**	**146.77**	**317**	PKPbc	PKPbc	21 25 57.6	-0.8
	comp=Z,3.3nm,0.8s,baz=96,slow=2.9,SNR=8.3						
PRU	**Pruhonice**	**146.94**	**348**	*e*P	PKPdf	21 25 53.2	-2.9
MLR	**Muntele Rosu**	**147.21**	**332**	PKPbc	PKPbc	21 25 59.1	-0.3
	comp=Z,1.3nm,1.0s,baz=92,slow=3.3,SNR=4.9						
VYHS	**Vyhne**	**147.30**	**342**	*e*	PKPbc	21 25 58.8	-0.6
KHC	**Kasperske Hory**	**147.94**	**349**	*e*P	PKPdf	21 25 57.6	-0.2
GERES	**GERESS Array B**	**148.20**	**349**	PKPbc	PKPbc	21 26 00.9	-1.0
	comp=Z,1.6nm,0.7s,baz=42,slow=2.2,SNR=11						
WTTA	**Wattenberg**	**150.08**	**350**	⇑*i*PKPdf	PKPbc	21 26 05.8	-1.0
	comp=Z,4.4nm,0.4s						
DAVA	**Damuels**	**150.30**	**353**	⇑*i*PKPdf	PKPbc	21 26 07.2	-0.1
	comp=Z,9.1nm,1.2s						
ABTA	**Abfaltersbach**	**150.43**	**349**	⇑*i*PKPdf	PKPbc	21 26 06.8	-0.7
	comp=Z,5.9nm,0.7s						
DAVOX	**Davos/Dischmat**	**150.80**	**353**	PKPbc	PKPbc	21 26 08.2	-0.2
	baz=194,slow=4.2						

*BJI **26** 21:09:19.9, 8.28S×128.35E, h128km, mB5.3/33, mb5.5/65*
*ISCJB **26** 21:09:28.1±0.1, 7.51S±0.02×127.78E±0.02, h139km, mb5.3/162, Error ellipse: s-maj=3.2km s-min=2.7km az=35.5*
*MOS **26** 21:09:28.5±0.9, 7.37S×127.71E, h137km, mb5.3/50, MS4.2/6, Error ellipse: s-maj=10.2km s-min=5.3km az=116.6*
*NEIC **26** 21:09:30.0±0.1, 7.47S×127.77E, mb5.4/65, MW5.5, MW5.4, Error ellipse: s-maj=5.3km s-min=3.3km az=53.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^17 Nm; Mrr 1.40; Mθθ -0.25; Mϕϕ -1.15; Mrθ -1.10; Mθϕ 0.00; Mϕr -0.56; Best double couple: M0 1.80000×10^17 NP1: ϕs 351.00000°, δ 32.00000°, λ 50.00000°. NP2: ϕs 215.00000°, δ 66.00000°, λ 112.00000°. Principal axes: T 2.0300, Plg62.0000°, Azm160.0000°; N -0.6800, Plg19.0000°, Azm25.0000°; P -1.3400, Plg17.0000°, Azm289.0000°;*
*IDC **26** 21:09:31.1±0.6, 7.47S×127.67E, h152km±4km, mb5.1/30, mb1 5.0/33, mb1mx5.0/33, mbtmp5.1/33, MS4.5/15, Ms1 4.4/15, ms1mx4.1/34 Error ellipse: s-maj=10.6km s-min=6.8km az=73.0*
*DJA **26** 21:09:33, 7.74S×127.81E, h158km, Mw5.2/59*
*NEIC **26** 21:09:37.4±0.0, 7.68S×128.51E, h120km, Moment Tensor Solution. s147 Moment tensor: Scale 10^17 Nm; Mrr 1.25; Mθθ -0.62; Mϕϕ -0.63; Mrθ -1.21; Mθϕ -0.78; Mϕr -0.77; Best double couple: M0 1.90000×10^17 NP1: ϕs 33.00000°, δ 23.00000°, λ 70.00000°. NP2: ϕs 234.00000°, δ 69.00000°, λ 98.00000°. Principal axes: T 1.9000, Plg65.0000°, Azm158.0000°; N 0.1200, Plg7.0000°, Azm51.0000°; P -2.0200, Plg23.0000°, Azm318.0000°;*
ISC 26 21:09:28.9±0.2, 7.53S±0.03×127.80E±0.03, h138km, h138km; pP-P, n1073, σ1 51/1274, mb5.4/161, 194C-210D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**3.65**	**35**	P	Pn	21 10 28.4	+4.1
BNDI				S	Sn	21 11 15.6	+8.5
AAI	**Ambon**	**3.83**	**6**	P	Pn	21 10 31.9	+5.2
AAI				S	Sn	21 11 20.1	+8.5
MSAI	**Masohi**	**4.30**	**15**	P	Pn	21 10 38.7	+5.8
MSAI				S	Sn	21 11 30.6	+7.9
TLE	**Tual**	**5.26**	**69**	P	Pn	21 10 48.8	+3.2
	5μm,1.2s,57μm15nm						
TLE				S	**Sn**	**21 11 46.7**	**+1.3**
	5μm,1.2s,57μm15nm						
BBSI	**Bau Bau**	**5.57**	**291**	P	Pn	21 10 56.0	+6.2
	3μm,1.7s,43μm14nm						
MMRI	**Maumere**	**5.61**	**258**	P	Pn	21 10 54.8	+4.4
MMRI				S	**Sn**	**21 11 59.5**	**+5.6**
MTN	**Manton Dam**	**6.22**	**148**	*e*P	**Pn**	**21 10 58.9**	**+0.4**
MTN				*e*S	**Sn**	**21 12 05.1**	**-3.5**
KDI	**Kendari**	**6.25**	**304**	P	Pn	21 11 03.9	+5.0
	2μm,0.9s,16μm4.6nm						
FAKI	**Fak Fak**	**6.37**	**44**	P	**Pn**	**21 11 03.3**	**+2.7**
	411nm,0.8s,10μm3.1nm						
FAKI				S	**Sn**	**21 12 13.6**	**+1.4**
	411nm,0.8s,10μm3.1nm						
LBMI	**Labuha**	**6.85**	**358**	P	Pn	21 11 12.9	+5.9
	806nm,1.5s,12μm3.3nm						
SWI	**Sorong**	**7.47**	**28**	P	**Pn**	**21 11 18.3**	**+3.1**
	483nm,1.1s,8μm2.3nm						
SWI				S	**Sn**	**21 12 43.1**	**+4.5**
	483nm,1.1s,8μm2.3nm						
WSI	**Waingapu**	**7.71**	**253**	P	**Pn**	**21 11 20.4**	**+1.8**
	21μm,0.5s,374μm29μm93nm						
BKSI	**Bulukumba**	**7.93**	**286**	P	Pn	21 11 26.0	+4.5
	969nm,0.8s,12μm						
LUWI	**Luwuk**	**8.16**	**322**	P	Pn	21 11 30.8	+6.3
KAPI	**Kappang**	**8.38**	**287**	*e*Pn	**Pn**	**21 11 27.9**	**+0.4**
KAPI	**Kappang**	**8.38**	**287**	P	Pn	21 11 31.4	+4.0
	SNR=50						
KAPI	**Kappang**	**8.38**	**287**	P	Pn	21 11 31.4	+4.0
	680nm,1.3s,9μm						
KAPI	**Kappang**	**8.38**	**287**	P	**Pn**	**21 11 27.5**	**+0.1**
	2.5nm,0.3s,baz=166,slow=16,SNR=6.8						
SPSI	**Sidrap Palu**	**8.73**	**293**	P	Pn	21 11 37.1	+4.8
	367nm,1.0s,6μm						
KMSI	**Cibinong**	**8.90**	**335**	P	Pn	21 11 40.8	+6.3
	2μm,1.0s,16μm						
TTSI	**Tana Toraja**	**9.10**	**299**	P	Pn	21 11 42.5	+5.3
	589nm,1.2s,6μm8μm						
MNI	**Manado**	**9.38**	**342**	P	Pn	21 11 47.1	+6.1
	3μm,1.1s,27μm						
MRSI	**Marisa**	**9.86**	**323**	P	Pn	21 11 53.3	+5.9
	391nm,1.5s,7μm						
BAKI	**Biak**	**10.40**	**53**	P	Pn	21 11 58.2	+3.6
	368nm,1.1s						
BAKI				S	**Sn**	**21 13 48.4**	**-1.2**
	368nm,1.1s						
FITZ	**Fitzroy Crossi**	**10.72**	**191**	*e*Pn	**Pn**	**21 11 57.5**	**-1.2**
FITZ				*e*Sn	Sn	21 13 50.8	-6.4
FITZ	**Fitzroy Crossi**	**10.72**	**191**	*e*P	**Pn**	**21 11 57.3**	**-1.4**
FITZ				*e*S	Sn	21 13 45.8	-11
FITZ	**Fitzroy Crossi**	**10.72**	**191**	P	**Pn**	**21 11 57.4**	**-1.4**
	27nm,0.3s,baz=23,slow=10,SNR=217						
FITZ				S	Sn	21 13 48.9	-8.3
	96nm,0.3s,baz=98,slow=23,SNR=9.1						
FITZ				LR	LR	21 17 01.8	
	comp=Z,2μm,20.3s,baz=18,slow=42						
WAMI	**Wamena**	**11.45**	**72**	P	**P**	**21 12 14.3**	**-2.2**
	696nm,0.9s,6μm						
KHKI	**Kahang-Kahang**	**12.10**	**265**	P	**Pn**	**21 12 16.0**	**-1.0**
	213nm,0.7s,2μm						
SMPI	**Sarmi**	**12.19**	**64**	P	**Pn**	**21 12 19.1**	**+1.0**
	134nm,1.1s,3μm						
KBKI	**Kotabaru**	**12.31**	**289**	P	**P**	**21 12 24.5**	**-1.7**
	113nm,1.7s,3μm						
MMPI	**Merauke**	**12.50**	**95**	P	**Pn**	**21 12 23.2**	**+1.0**
	960nm,1.0s						
IGBI	**Denpasar**	**12.59**	**263**	P	**Pn**	**21 12 22.6**	**-0.7**
	164nm,0.5s						
SMKI	**Samarinda**	**12.68**	**303**	P	**P**	**21 12 31.5**	**+1.2**
	237nm,1.1s,5μm						
BBKI	**Banjar Baru**	**13.51**	**287**	P	**P**	**21 12 40.8**	**+1.3**
	484nm,1.1s,6μm						
KMMI	**Kalianget**	**13.73**	**271**	P	**P**	**21 12 41.7**	**-0.2**
	142nm,1.0s,3μm						
JAY	**Jayapura**	**13.79**	**69**	P	**P**	**21 12 44.4**	**+1.8**
	126nm,0.9s,6μm						
GSPH	**General Santos**	**13.82**	**348**	*e*P	P	21 12 46.8	+3.7
WRAB	**Tennant Creek**	**13.88**	**153**	*e*P	**Pn**	**21 12 38.2**	**-1.7**
WRAB	**Tennant Creek**	**13.88**	**153**	*e*Pn	**Pn**	**21 12 38.1**	**-1.7**
WRAB				*e*Sn	Sn	21 15 04.3	-9.0
WRAB	**Tennant Creek**	**13.88**	**153**	Pn	**Pn**	**21 12 38.0**	**-1.8**
	15μm,0.7s						
WRA	**Warramunga Arr**	**13.88**	**153**	P	**Pn**	**21 12 37.1**	**-2.7**
WRA				S	Sn	21 15 04.0	-9.4
WRA	**Warramunga Arr**	**13.88**	**153**	P	**Pn**	**21 12 37.1**	**-2.7**
	36nm,0.3s,baz=327,slow=14,SNR=617						
WRA				S	Sn	21 15 04.0	-9.4
	113nm,0.3s,baz=326,slow=23,SNR=11						
WRA				LR	LR	21 18 39.9	
	comp=Z,3μm,18.9s,baz=335,slow=39						
BLJI	**Banyuglugur**	**14.08**	**268**	P	**Pn**	**21 12 43.7**	**+1.3**
	279nm,0.6s,3μm						
MATI	**Mati**	**14.46**	**354**	*e*P	P	21 12 54.8	+4.7
DAV	**Davao City (W)**	**14.67**	**351**	*e*P	**P**	**21 12 53.2**	**+0.8**
	433nm,0.6s						
DAV	**Davao City (W)**	**14.67**	**351**	P	P	21 12 57.0	+4.6
	647nm,0.8s,6μm						
DAV	**Davao City (W)**	**14.67**	**351**	P	**P**	**21 12 52.2**	**-0.2**
	27nm,0.3s,baz=250,slow=16,SNR=2.0						
KCP	**Kidapawan**	**14.69**	**349**	⇑*i*P	P	21 13 02.3	+10
CTBH	**Cotabato--PC H**	**15.07**	**346**	⇓*e*P	**P**	**21 12 59.8**	**+2.9**
KRKI	**Karangkates**	**15.21**	**267**	P	**P**	**21 13 00.0**	**+1.6**
	503nm,0.5s,10μm						
TSM	**Tawau**	**15.36**	**320**	P	**P**	**21 13 03.9**	**+3.9**
BUKP	**Musuan**	**15.54**	**350**	*e*P	**P**	**21 13 06.5**	**+4.3**
MYLDM	**Lahad Datu**	**15.66**	**323**	P	**P**	**21 13 07.3**	**+3.9**
MYLDM	**Lahad Datu**	**15.66**	**323**	P	**P**	**21 13 08.1**	**+4.7**
	434nm,1.2s,8μm						
PWJI	**Pagerwojo**	**15.85**	**267**	P	**Pn**	**21 13 05.1**	**+0.5**
	170nm,0.8s,3μm						
SJI	**Sawahan**	**15.89**	**268**	P	**P**	**21 13 07.9**	**+1.9**
	297nm,0.5s,8μm						
PAGZ	**Pagadian**	**15.89**	**344**	*e*P	**P**	**21 13 09.6**	**+3.6**
CGP	**Cagayan de Oro**	**16.17**	**349**	⇓*e*P	**P**	**21 13 13.2**	**+4.1**
COEN	**Coen**	**16.40**	**114**	*e*P	**Pn**	**21 13 11.4**	**+0.1**
	1μm,0.7s						
COEN				*e*S	Sn	21 16 00.1	-14
COEN	**Coen**	**16.40**	**114**	*e*P	**Pn**	**21 13 11.0**	**-0.3**
COEN				*e*S	Sn	21 15 59.6	-15
PCJI	**Pacitan**	**16.48**	**267**	P	**Pn**	**21 13 11.7**	**-0.5**
	637nm,0.5s,9μm						
PBKI	**Pangkalan Bun**	**16.76**	**286**	P	**Pn**	**21 13 20.4**	**+4.8**
	979nm,0.9s,9μm						
SDKM	**Sandakan**	**16.82**	**321**	P	**Pn**	**21 13 19.9**	**+3.4**
ASAR	**Alice Springs**	**17.09**	**161**	P	**P**	**21 13 19.5**	**+0.4**
ASAR				S	S	21 16 19.1	-11
ASAR				PKiKP	**PKiKP**	**21 25 48.5**	**-0.9**
ASAR	**Alice Springs**	**17.09**	**161**	P	**P**	**21 13 19.5**	**+0.4**
	68nm,0.3s,baz=337,slow=10.0,SNR=1414						
ASAR				S	S	21 16 19.1	-11
	8.2nm,0.3s,baz=321,slow=16,SNR=4.2						
ASAR				PKiKP	**PKiKP**	**21 25 48.5**	**-0.9**
	0.5nm,0.3s,baz=355,slow=1.0,SNR=5.8						
UGM	**Wanagama**	**17.12**	**268**	*e*P	**P**	**21 13 19.7**	**+0.1**
	155nm,0.8s						
UGM	**Wanagama**	**17.12**	**268**	P	**Pn**	**21 13 20.6**	**+0.5**
	219nm,0.9s						
SMRI	**Semarang**	**17.22**	**270**	P	**Pn**	**21 13 24.1**	**+2.8**
	162nm,0.8s						
TBP	**Tagbilaran**	**17.55**	**347**	*e*P	**Pn**	**21 13 28.9**	**+3.7**
KKM	**Kota Kinabalu**	**17.75**	**319**	*e*Pn	**Pn**	**21 13 29.9**	**+2.1**
	837nm,1.6s						
KKM	**Kota Kinabalu**	**17.75**	**319**	P	**Pn**	**21 13 30.1**	**+2.3**
KKM	**Kota Kinabalu**	**17.75**	**319**	P	**Pn**	**21 13 31.0**	**+3.3**
	321nm,1.3s,5μm						
MSLP	**Maasin**	**17.79**	**350**	*e*P	**Pn**	**21 13 31.0**	**+3.0**
STKI	**Sintang**	**17.93**	**294**	P	**Pn**	**21 13 32.7**	**+2.9**
	254nm,1.5s,6μm						
KDM	**Kudat**	**18.04**	**322**	P	**Pn**	**21 13 33.3**	**+2.3**
LLP	**Lapu-Lapu**	**18.13**	**348**	*e*P	**Pn**	**21 13 32.6**	**+0.5**
BTM	**Bintulu**	**18.14**	**305**	P	**Pn**	**21 13 35.0**	**+2.8**
SBUM	**Sibu**	**18.43**	**302**	P	**Pn**	**21 13 38.5**	**+2.9**
SBUM	**Sibu**	**18.43**	**302**	P	**Pn**	**21 13 38.8**	**+3.1**
	230nm,1.2s,3μm						
TGJI	**Tegal**	**18.54**	**271**	P	**Pn**	**21 13 36.7**	**-0.2**
	99nm,1.3s						
CLJI	**Cilicap**	**18.62**	**268**	P	**P**	**21 13 34.1**	**-1.8**
	96nm,0.8s,1μm						
OCLP	**Ormoc**	**18.73**	**350**	*e*P	**Pn**	**21 13 41.0**	**+1.9**
GUIM	**Jordan**	**18.76**	**344**	*e*P	**Pn**	**21 13 41.0**	**+1.5**
PMG	**Port Moresby**	**19.24**	**97**	*e*P	**Pn**	**21 13 44.3**	**-0.9**
	406nm,0.9s						
PMG				*e*S	**S**	**21 17 12.4**	**-1.1**
PMG	**Port Moresby**	**19.24**	**97**	P	**Pn**	**21 13 47.8**	**+2.6**
	481nm,0.8s,4μm						
PMG	**Port Moresby**	**19.24**	**97**	P	**Pn**	**21 13 47.5**	**+2.3**
	17nm,0.3s,baz=279,slow=8.3,SNR=88						
KSM	**Kuching**	**19.60**	**296**	*e*P	**Pn**	**21 13 49.5**	**+0.1**
KSM				*e*S	**S**	**21 17 22.0**	**+1.4**
KSM	**Kuching**	**19.60**	**296**	P	**Pn**	**21 13 50.2**	**+0.8**
KSM	**Kuching**	**19.60**	**296**	P	**Pn**	**21 13 49.7**	**+0.3**
	200nm,1.0s,2μm						
CISI	**Cisompet, Garu**	**19.81**	**269**	P	**P**	**21 13 47.5**	**-1.4**
	240nm,0.6s,6μm						
GIRL	**Giralia**	**19.91**	**220**	*e*P	**Pn**	**21 13 52.9**	**0.0**
LEM	**Lembang**	**20.03**	**271**	P	**P**	**21 13 52.1**	**+0.6**
	148nm,0.8s,2μm						
DBJI	**Dramaga**	**20.91**	**271**	P	**P**	**21 14 01.1**	**+0.4**
	139nm,0.4s,3μm						
SKJI	**Sukabumi**	**21.07**	**270**	P	**P**	**21 14 03.4**	**+0.9**
	274nm,0.4s,4μm						
CTA	**Charters Tower**	**21.81**	**127**	P	**P**	**21 14 12.2**	**+1.9**
CTA				*S*	**S**	**21 18 02.5**	**-0.1**
CTA	**Charters Tower**	**21.81**	**127**	*e*P	**P**	**21 14 11.9**	**+1.6**
CTA				*e*S	**S**	**21 18 00.7**	**-2.0**
CTA	**Charters Tower**	**21.81**	**127**	P	**P**	**21 14 12.2**	**+1.9**
	140nm,0.9s,baz=302,slow=12,SNR=58						
CTA				S	**S**	**21 18 02.5**	**-0.1**
	28nm,0.8s,baz=325,slow=21,SNR=3.6						
CTA				LR	LR	21 23 41.7	
	comp=Z,4μm,18.8s,baz=306,slow=39						
CTAO	**Charters Tower**	**21.81**	**127**	*e*P	**P**	**21 14 12.0**	**+1.6**
CTAO				*e*S	**S**	**21 18 03.5**	**+0.9**
CTAO				pmax	pmax		
	comp=Z,221nm,1.0s						
CTAO	**Charters Tower**	**21.81**	**127**	*e*P	**P**	**21 14 12.0**	**+1.6**
	comp=Z,221nm,1.0s						
CTAO				*e*S	**S**	**21 18 03.5**	**+0.9**
CGJI	**Cibinong**	**21.95**	**271**	P	**P**	**21 14 10.2**	**-1.6**
	comp=Z,281nm,0.6s,comp=Z,4μm						
XMIS	**Christmas Isla**	**22.06**	**261**	*e*P	**P**	**21 14 11.8**	**-1.2**
	comp=Z,788nm,1.3s						
PPBI	**Pangkal Pinang**	**22.22**	**283**	P	**P**	**21 14 16.7**	**+2.2**
	comp=Z,140nm,1.6s,comp=Z,3μm						
TGY	**Tagaytay City**	**22.54**	**342**	P	**P**	**21 14 19.5**	**+1.9**
TGY	**Tagaytay City**	**22.54**	**342**	P	**P**	**21 14 19.5**	**+1.9**
	comp=Z,2μm,0.7s,baz=217,slow=2.6,SNR=57						
FORT	**Forrest**	**23.14**	**179**	*e*P	**P**	**21 14 24.4**	**+1.4**
	comp=Z,353nm,0.7s						
FORT				*e*S	Sn	21 18 40.3	-15
FORT	**Forrest**	**23.14**	**179**	*e*P	**P**	**21 14 24.2**	**+1.2**
PMBI	**Palembang**	**23.37**	**280**	P	**P**	**21 14 27.6**	**+2.2**
	comp=Z,272nm,1.1s,comp=Z,8μm						
MYKOM	**Kota Tinggi**	**25.62**	**290**	P	**P**	**21 14 47.7**	**+1.9**
MYKOM	**Kota Tinggi**	**25.62**	**290**	P	**P**	**21 14 48.0**	**+2.2**
	comp=Z,80nm,1.5s,comp=Z,1μm						
KLBR	**Kellerberrin**	**25.71**	**200**	*e*P	**P**	**21 14 47.3**	**+0.9**
KGM	**Kluang**	**26.20**	**290**	P	**P**	**21 14 53.3**	**+2.3**
BBOO	**Buckleboo**	**26.30**	**164**	*e*P	**P**	**21 14 53.0**	**+1.2**
NWAO	**Narrogin (SRO)**	**27.11**	**200**	*e*P	**P**	**21 14 59.7**	**+0.8**
	comp=Z,106nm,1.1s						
NWAO				*e*S	sS	21 20 04.7	-14
NWAO	**Narrogin (SRO)**	**27.11**	**200**	P	**P**	**21 15 00.1**	**+1.1**
	comp=Z,47nm,0.7s,baz

JOW **Kunigami** 34.16 1 *e*P **P** 21 16 01.9 +1.0
comp=Z,76nm,0.8s
JOW *es*P sP 21 16 41.2 -5.5
JOW Kunigami 34.16 1 P **P** 21 16 02.1 +1.1
comp=Z,178nm,0.7s,baz=184,slow=7.5,SNR=37
CBIJ Chichi jima 37.13 22 P **P** 21 16 26.0 -0.4
CBIJ Chichi jima 37.13 22 P **P** 21 16 26.0 -0.4
comp=Z,49nm,0.3s,baz=300,slow=21,SNR=9.7
CBIJ LR LR 21 30 50.3
comp=Z,144nm,19.1s,baz=10,slow=34
CM31 Chiang Mai Arr 38.43 313 *e*P **P** 21 16 38.9 +1.5
comp=Z,17nm,0.5s
CM31 *e*PcP **PcP** 21 18 49.0 +1.0
CM31 *e*S **S** 21 22 20.4 -2.1
CMAR Chiang Mai Arr 38.43 313 P **P** 21 16 38.1 +0.7
CMAR PcP **PcP** 21 18 49.4 +1.3
CMAR ScP **S** 21 22 20.7 -1.8
CMAR PKiKP **PKiKP** 21 26 01.9 -0.5
CMAR Chiang Mai Arr 38.43 313 P **P** 21 16 38.1 +0.7
comp=Z,18nm,0.5s,baz=141,slow=6.9,SNR=116
CMAR PcP **PcP** 21 18 49.4 +1.3
comp=Z,20nm,0.5s,baz=173,slow=2.5,SNR=47
CMAR ScP **S** 21 22 20.7 -1.8
comp=Z,5.2nm,0.8s,baz=154,slow=3.0,SNR=9.9
CMAR PKiKP **PKiKP** 21 26 01.9 -0.5
comp=Z,0.7nm,0.6s,baz=195,slow=1.2,SNR=4.7
CHTO Chiang Mai 38.66 313 *e*P **P** 21 16 40.3 +1.0
CHTO *e* 21 18 49.3
CHTO *e* 21 22 21.4
CHTO pmax pmax
comp=Z,21nm,0.7s
CHTO Chiang Mai 38.66 313 *e*P **P** 21 16 40.3 +1.0
comp=Z,21nm,0.7s
CHTO *e*PcP **PcP** 21 18 49.3 +0.5
CHTO *e*ScP **ScP** 21 22 21.4 -2.8
CHTO Chiang Mai 38.66 313 P **P** 21 16 40.9 +1.6
SNR=14
CHTO Chiang Mai 38.66 313 P **P** 21 16 40.9 +1.6
comp=Z,36nm,0.7s,comp=Z,454nm
MOO Moorlands 38.76 157 *e*P **P** 21 16 42.1 +2.2
SSE Sheshan 38.92 351 P **P** 21 16 42.0 +0.7
SSE pP **pP** 21 17 14.5 +2.8
SSE pmax pmax
comp=Z,55nm,0.8s
SSE pmax pmax
comp=Z,71nm,3.8s
SSE LR LR
comp=N,110nm,29.7s
SSE LR LR
comp=E,340nm,28.8s
SSE LR LR
comp=Z,280nm,24.4s
TAU Tasmania Unive 39.21 157 *e*P **P** 21 16 46.7 +3.1
TAU *e**SP **sP** 21 17 29.5 -0.3
TAU pmax pmax
comp=Z,154nm,1.5s
TAU Tasmania Unive 39.21 157 *e*P **P** 21 16 46.7 +3.1
comp=Z,154nm,1.5s
TAU *es*P **sP** 21 17 29.5 -0.3
GYA Guiyang 39.52 329⇑ *i*P **P** 21 16 48.0 +1.5
GYA pP **pP** 21 17 18.0 +1.0
GYA sP **sP** 21 17 33.5 +0.8
GYA PP **PnPn** 21 18 26.3 +1.7
GYA PcP **PcP** 21 18 52.0 +0.5
GYA S **S** 21 22 42.0 +3.1
GYA sS **sS** 21 23 33.0 +1.0
GYA ScS **ScS** 21 26 41.3 +0.9
GYA pmax pmax
comp=Z,80nm,1.0s
GYA pmax pmax
comp=Z,100nm,5.6s
GYA LR LR
comp=N,710nm,22.6s
GYA LR LR
comp=E,630nm,21.1s
GYA LR LR
comp=Z,940nm,19.8s
NOUC Port Laguerre 39.81 116 *e*P **P** 21 16 49.5 +0.7
DZM Mont Dzumac 39.92 115 *e*P **P** 21 16 51.3 +1.3
comp=Z,243nm,0.9s
DZM Mont Dzumac 39.92 115 *i* P **P** 21 16 51.2 +1.3
DZM Mont Dzumac 39.92 115 *e*P **P** 21 16 51.2 +1.3
comp=Z,109nm,0.8s
DZM Mont Dzumac 39.92 115 P **P** 21 16 51.8 +1.8
comp=Z,113nm,0.7s,baz=275,slow=8.3,SNR=56
WHN Wuhan 39.99 342 P **P** 21 16 51.8 +1.6
WHN pP **pP** 21 17 23.5 +2.8
WHN pmax pmax
comp=Z,290nm,0.8s
WHN LR LR
comp=N,990nm,5.8s
WHN LR LR
comp=E,1μm,12.6s
WHN LR LR
comp=Z,2μm,20.9s
NJ2 Nanjing 40.27 348 *e*P **P** 21 16 53.8 +1.4
NJ2 PP **PnPn** 21 18 32.5 -0.6
NJ2 sS sS 21 23 51.5 +8.7
NJ2 pmax pmax
comp=Z,140nm,0.7s
NJ2 pmax pmax
comp=Z,280nm,5.0s
NJ2 LR LR
comp=N,420nm,22.5s
NJ2 LR LR
comp=E,480nm,21.5s
NJ2 LR LR
comp=Z,500nm,21.8s
JNU Nakatsue 40.53 4 *e*P **P** 21 16 54.9 +0.4
comp=Z,37nm,0.9s
JNU *es*P sP 21 17 34.9 -6.0
JNU Nakatsue 40.53 4 P **P** 21 16 55.0 +0.4
comp=Z,64nm,0.8s,baz=198,slow=2.2,SNR=34
KMI Kunming 40.60 324 P **pP** 21 17 30.3 +4.1
KMI pmax pmax
comp=Z,58nm,1.7s
KMI Kunming 40.60 324 ⇑P **P** 21 16 58.3 +2.7
KMI pP **pP** 21 17 27.8 +1.6
KMI sP **sP** 21 17 42.8 +0.9
KMI PP **PnPn** 21 18 37.3 0.0
KMI PcP **PcP** 21 18 56.5 +1.4
KMI S **S** 21 22 55.3 +0.1
KMI sS **sS** 21 23 50.0 +1.5
KMI ScS **ScS** 21 26 47.8 +0.7
KMI pmax pmax
comp=Z,100nm,1.1s
KMI pmax pmax
comp=Z,260nm,3.1s
KMI LR LR
comp=N,370nm,15.0s
KMI LR LR
comp=E,410nm,10.8s
KMI LR LR
comp=Z,700nm,26.1s
ENH Enshi 41.49 336 *e*P **P** 21 17 03.0 +0.4
comp=Z,59nm,0.7s
ENH *e*S **S** 21 23 04.4 -3.4
JHJ Hachijo jima 2 42.00 15 LR LR 21 33 26.0
comp=Z,320nm,18.0s,baz=31,slow=34
CD2 Chengdu 44.62 330 P **P** 21 17 28.5 +0.8
CD2 pP **pP** 21 17 58.0 -0.9
CD2 sP **sP** 21 18 13.3 -1.1
CD2 PP **PP** 21 19 16.0 +1.2
CD2 PcS **PcS** 21 23 01.0 -1.0
CD2 S **S** 21 23 55.5 +1.9
CD2 sS **sS** 21 24 47.5 -0.1
CD2 ScS **ScS** 21 27 09.5 -1.9
CD2 pmax pmax
comp=Z,120nm,0.8s
CD2 pmax pmax
comp=Z,210nm,4.5s
CD2 LR LR
comp=N,440nm,20.1s
CD2 LR LR
comp=E,470nm,17.1s
CD2 LR LR
comp=Z,510nm,16.8s
KSAR Wonju Array Be 44.73 0 P **P** 21 17 29.6 +1.2
KSAR pP **pP** 21 18 02.1 +2.5
KSAR PcP **PcP** 21 19 09.1 +0.7
KSAR ScP **ScP** 22 45.2 -2.7
KSRS Korea Array 44.74 0 P **P** 21 17 29.6 +1.1
comp=Z,53nm,0.7s,baz=176,slow=10.0,SNR=143
KSRS pP **pP** 21 18 02.1 +2.4
comp=Z,11nm,1.0s,baz=177,slow=9.6,SNR=1.8
KSRS PcP **PcP** 21 19 09.1 +0.6
comp=Z,11nm,0.8s,baz=186,slow=3.3,SNR=7.8
KSRS ScP **ScP** 21 22 45.2 -2.7
comp=Z,2.3nm,0.7s,baz=174,slow=4.0,SNR=4.5
INCN Inchon 44.79 359 *e*P **P** 21 17 30.5 +1.6
comp=Z,65nm,1.1s
MJAR Matsushiro Arr 44.91 12 P **P** 21 17 29.1 -0.9
MJAR pP **pP** 21 18 03.1 +2.1
MJAR ScP **ScP** 21 22 45.6 -3.2
MJAR Matsushiro Arr 44.91 12 P **P** 21 17 29.1 -0.9
comp=Z,23nm,0.6s,baz=191,slow=9.8,SNR=59
MJAR pP **pP** 21 18 03.1 +2.1
comp=Z,21nm,1.1s,baz=195,slow=10,SNR=3.7
MJAR ScP **ScP** 21 22 45.6 -3.2
comp=Z,2.0nm,0.6s,baz=196,slow=5.9,SNR=4.5
MAJO Matsushiro 44.91 12 *e*P **P** 21 17 28.1 -1.8
MAJO pmax pmax
comp=Z,38nm,0.7s
MAJO Matsushiro 44.91 12 *e*P **P** 21 17 28.1 -1.8
comp=Z,38nm,0.7s
MAJO *es*P sP 21 18 09.8 -6.8
XAN Xi'an 45.04 338 P **P** 21 17 31.3 +0.3
XAN pP **pP** 21 17 59.8 -2.4
XAN sP **sP** 21 18 14.3 -3.4
XAN pmax pmax
comp=Z,29nm,0.8s
XAN pmax pmax
comp=Z,36nm,3.0s
DL2 Dalian 46.55 353 ⇓P **P** 21 17 44.0 +1.3
DL2 pP **pP** 21 18 15.5 +1.5
DL2 PP **PP** 21 19 37.5 +3.3
DL2 S **S** 21 24 16.8 -4.0
DL2 pmax pmax
comp=Z,30nm,0.8s
DL2 pmax pmax
comp=Z,140nm,7.1s
SHL Shillong 47.97 315 *i* P P 21 17 58.0 +3.8
SHL *i* S **S** 21 24 45.0 +3.1
BJT Baijiatuau 48.51 348 *e*P **P** 21 17 58.4 +0.5
comp=Z,71nm,0.8s
BJI Beijing 48.53 348 P **P** 21 17 58.3 +0.3
BJI PcP **PcP** 21 19 22.8 +1.1
BJI pmax pmax
comp=Z,87nm,1.2s
BJI LR LR
comp=N,150nm,20.6s
BJI LR LR
comp=E,220nm,19.1s
BJI LR LR
comp=Z,390nm,33.2s
LZH Lanzhou 48.88 334 ⇑P **P** 21 18 02.5 +1.6
LZH pP **pP** 21 18 34.8 +2.2
LZH sP **sP** 21 18 46.3 -1.6
LZH PP **PP** 21 19 59.3 +3.6
LZH S **S** 21 24 52.0 -2.2
LZH pmax pmax
comp=Z,230nm,1.5s
LZH pmax pmax
comp=Z,490nm,4.0s
LZH LR LR
comp=N,360nm,12.6s
LZH LR LR
comp=E,420nm,15.1s
LZH LR LR
comp=Z,730nm,16.5s
SNY Shenyang 49.26 356 ⇑P **P** 21 18 03.8 +0.3
SNY pP **pP** 21 18 35.5 +0.3
SNY S **S** 21 24 55.0 -4.0
SNY pmax pmax
comp=Z,34nm,1.0s
SNY pmax pmax
comp=Z,340nm,3.5s
SNY LR LR
comp=N,200nm,16.3s
SNY LR LR
comp=E,400nm,19.0s
SNY LR LR
comp=Z,380nm,23.5s
MSVF Nonsavu 49.94 107 *e*P **P** 21 18 10.6 +1.3
MSVF pmax pmax
comp=Z,78nm,0.9s
MSVF Nonsavu 49.94 107 *e*P **P** 21 18 10.6 +1.3
comp=Z,78nm,0.9s
MSVF Nonsavu 49.94 107 P **P** 21 18 11.9 +2.7
comp=Z,539nm,0.9s,SNR=16
OUZ Omahuta 50.16 130 *e*P P 21 18 13.9 +3.4
comp=Z,112nm,1.3s
HHC Hu-ho-hao-te 50.40 344 *e*P **P** 21 18 13.0 +0.7
HHC pP **pP** 21 18 42.8 -1.3
HHC sP **sP** 21 18 57.0 -2.5
HHC PP **PP** 21 20 12.0 +2.6
HHC S **S** 21 25 15.3 +0.1
HHC ScS **ScS** 21 27 48.8 -0.7
HHC pmax pmax
comp=Z,41nm,1.0s
HHC pmax pmax
comp=Z,230nm,4.1s
HHC LR LR
comp=Z,210nm,20.2s
VLA Vladivostok 50.54 4*c* *i*P **P** 21 18 13.7 +0.6
VLA pmax pmax
comp=Z,41nm,0.8s
BTO Baotou 50.62 342 *e*P **P** 21 18 12.3 -1.6
LSA Lhasa 51.10 318 *e*P **P** 21 18 19.3 +1.1
LSA pmax pmax
comp=Z,50nm,0.7s
LSA Lhasa 51.10 318 *e*P **P** 21 18 19.3 +1.1
comp=Z,50nm,0.7s
CN2 Changchun 51.13 358 *e*P **P** 21 18 17.5 -0.1
CN2 PcP **PcP** 21 19 31.0 -0.2
CN2 pmax pmax
comp=Z,40nm,0.6s
CN2 pmax pmax
comp=Z,200nm,3.0s
USRK Ussuriysk Arra 51.62 4 P **P** 21 18 21.8 +0.6
comp=Z,24nm,0.5s,baz=190,slow=7.2,SNR=103
USRK pP **pP** 21 18 55.0 +1.8
comp=Z,6.8nm,0.8s,baz=177,slow=9.5,SNR=1.5
MDJ Mudanjiang 51.92 2 P **P** 21 18 24.0 +0.5
MDJ pP **pP** 21 18 51.5 -3.9
MDJ sP sP 21 19 04.5 -6.2
MDJ PcP **PcP** 21 19 33.3 -0.9
MDJ PP **PP** 21 20 21.8 -1.2
MDJ PcS **PcS** 21 23 30.3 -2.0
MDJ S **S** 21 25 34.8 -0.9
MDJ ScS **ScS** 21 28 01.5 +1.9
MDJ SS **SS** 21 29 16.0 +1.3
MDJ pmax pmax
comp=Z,55nm,1.6s
MDJ LR LR
comp=N,190nm,20.8s
MDJ LR LR
comp=E,240nm,31.2s
MDJ Mudanjiang 51.92 2 *e*P **P** 21 18 23.9 +0.5
comp=E,125nm,1.4s
MDJ *es*P **sP** 21 19 06.4 -4.3
ODAN Odare 51.98 313 *e*P **P** 21 18 24.9 +0.4
comp=E,112nm,0.5s
ODAN Odare 51.98 313 *e*P **P** 21 18 24.9 +0.4
comp=E,112nm,0.5s
TAPN Taplejung 52.03 313 *e*P **P** 21 18 25.5 +0.6
comp=E,74nm,0.3s
RPZ Rata Peaks 52.18 141 *e*P **P** 21 18 27.4 +1.9
comp=E,370nm,1.0s
RAMN Ramite 52.60 312 *e*P **P** 21 18 30.3 +1.2
comp=E,200nm,0.6s
RAMN Ramite 52.60 312 *e*P **P** 21 18 30.3 +1.2
comp=E,200nm,0.6s
ODZ Otahua Downs 52.62 143 *e*P **P** 21 18 30.3 +1.6
comp=E,41nm,1.0s
ASAJ Asahikawa 53.12 13 *e*P **P** 21 18 32.5 +0.2
comp=E,48nm,1.7s
ASAJ Asahikawa 53.12 13 P **P** 21 18 33.0 +0.8
comp=E,23nm,0.6s,baz=216,slow=10.0,SNR=14
ASAJ LR LR 21 39 29.7
comp=E,360nm,20.0s,baz=13,slow=34
KHZ Kahutara 53.14 138 *e*P **P** 21 18 33.6 +1.1
comp=E,221nm,0.7s
KHZ *es*P sP 21 19 12.6 -7.4
JIRN Jiri 53.31 313 *e*P **P** 21 18 35.2 +0.8
comp=E,28nm,0.6s
JIRN Jiri 53.31 313 *e*P **P** 21 18 35.2 +0.8
comp=E,28nm,0.6s
GTA Gaotai 53.41 333 P **P** 21 18 36.0 +1.3
GTA pP **pP** 21 19 05.5 -1.3
GTA sP **sP** 21 19 19.5 -2.6
GTA PcP **PcP** 21 19 41.8 +1.7
GTA S **S** 21 25 58.0 +1.6
GTA ScS **ScS** 21 28 07.3 -3.3
GTA SS **SS** 21 29 39.8 +1.1
GTA pmax pmax
comp=Z,280nm,6.2s
GTA LR LR
comp=N,220nm,18.5s
GTA LR LR
comp=E,410nm,17.6s
GTA LR LR
comp=Z,620nm,16.9s
SNZO South Karori 53.43 137 *e*P **P** 21 18 34.8 +0.1
comp=Z,131nm,0.7s
SNZO *es*P sP 21 19 15.5 -6.6
GUN Gumba 53.68 313 *e*P **P** 21 18 37.4 +0.3
GUN Gumba 53.68 313 *e*P **P** 21 18 37.4 +0.3
PKI Pulchoki 53.83 312 *e*P **P** 21 18 38.5 +0.3
comp=Z,111nm,0.7s
PKI Pulchoki 53.83 312 *e*P **P** 21 18 38.5 +0.3
PKI pmax pmax
comp=Z,111nm,0.7s
PKI Pulchoki 53.83 312 *e*P **P** 21 18 38.5 +0.3
comp=Z,111nm,0.7s
YUK Yuzh-Kuril'sk 53.86 16 *e*P **P** 21 18 39.1 +1.4
YUK *e**PP **pP** 21 19 10.8 +1.0
YUK *e* 21 20 37.2
YUK *es*S **S** 21 26 01.4 -0.6
YUK *i* SS **SS** 21 29 47.7 +2.4
YUK MLR MLR
comp=E,148nm,24.0s
YUK MLR MLR
comp=N,68nm,20.0s
YUK MLR MLR
comp=Z,146nm,20.0s
KKN Kakani 54.05 312 *e*P **P** 21 18 40.0 +0.4
comp=Z,116nm,0.6s
KKN Kakani 54.05 312 *e*P **P** 21 18 40.0 +0.4
KKN pmax pmax
comp=Z,116nm,0.6s
KKN Kakani 54.05 312 *e*P **P** 21 18 40.0 +0.4
comp=Z,116nm,0.6s
DMN Daman 54.07 312 *e*P **P** 21 18 40.2 +0.3
DMN Daman 54.07 312 *e*P **P** 21 18 40.2 +0.3
BFZ Birch Farm 54.23 135 PN **P** 21 18 41.3 +0.8
MWZ Matawai 54.24 132 PN **P** 21 18 41.5 +0.8
MWZ SN **S** 21 26 04.6 -3.1
MWZ SN 21 26 05.5
HYB Hyderabad 54.60 297 *i* P **P** 21 18 42.0 -1.6
HYB *ep*P **pP** 21 19 17.0 +1.2
HYB *es*ScP **ScP** 21 23 27.0 -3.7
HYB *es*S S 21 26 06.0 -6.9
HYB *e* 21 27 06.0
GKN Gorkha 54.64 312 *e*P **P** 21 18 44.0 +0.2
comp=Z,160nm,0.5s
GKN Gorkha 54.64 312 *e*P **P** 21 18 44.0 +0.2
comp=Z,160nm,0.4s
PUZ Puketiti 54.69 132 PN **P** 21 18 44.9 +1.0
KAAM Kaadhehdhoo 55.22 276 P **P** 21 18 49.0 +0.9
comp=Z,61nm,1.3s
KOLN Koldanda 55.28 311 *e*P **P** 21 18 49.2 +0.7
KOLN Koldanda 55.28 311 *e*P **P** 21 18 49.2 +0.7
DANN Dangsing 55.47 312 *e*P **P** 21 18 50.2 +0.2
comp=Z,327nm,1.0s
DANN Dangsing 55.47 312 *e*P **P** 21 18 50.2 +0.2
comp=Z,327nm,1.0s
YSS Yuzh-Sakhalins 55.85 12 *e*P **P** 21 18 53.0 +1.1
YSS pmax pmax
comp=Z,40nm,0.7s
YSS Yuzh-Sakhalins 55.85 12 *e*P **P** 21 18 51.7 -0.2
comp=Z,35nm,0.6s
PYUN Piuthan 55.91 311 *e*P **P** 21 18 53.2 +0.2
comp=Z,481nm,0.8s
PYUN Piuthan 55.91 311 *e*P **P** 21 18 53.2 +0.2
comp=Z,481nm,0.8s
HABR Khabarovsk 56.12 6*de*P **P** 21 18 52.1 -1.7
HABR *PP **pP** 21 19 23.5 -2.8
HABR *e*SP **sP** 21 19 37.2 -4.2
HABR *e* 21 19 47.9
HABR *e* 21 20 58.6
HABR PPP PPP 21 22 15.8
HABR *e*S **S** 21 26 31.9 -0.1
HABR *e* 21 28 27.9
HABR *e*SS **SS** 21 30 21.5 +0.7
HABR pmax pmax
comp=N,36nm,1.9s
HABR pmax pmax
comp=Z,121nm,1.6s
HABR pmax pmax
comp=E,53nm,1.6s
HABR MLR MLR
comp=Z,93nm,17.0s
KLR Kul'dur 56.62 3 *e*P P 21 18 53.3 -4.1
KLR *e* 21 19 26.8
KLR *e*S **S** 21 26 33.0 -5.6
KLR *e* 21 28 23.5
KLR pmax pmax
comp=Z,110nm,1.6s
HIA Hailar 56.99 354 *e*P **P** 21 19 00.3 +0.3
comp=Z,31nm,1.2s
ULN Ulaanbaatar 58.12 344 *e*P **P** 21 19 09.2 +1.1
comp=Z,50nm,1.0s
ULN Ulaanbaatar 58.12 344 P **P** 21 19 09.7 +1.6
SNR=24
ULN Ulaanbaatar 58.12 344 P **P** 21 19 09.1 +1.0
comp=Z,50nm,1.0s,comp=Z,896nm
SONM Songino Array 58.28 343 P **P** 21 19 10.2 +1.0
SONM pP **pP** 21 19 43.5 +1.7
SONM P'P' 21 48 49.0
SONM ⇑*e* 21 48 57.6
SONM Songino Array 58.28 343 P **P** 21 19 10.2 +1.0
comp=Z,26nm,0.7s,baz=159,slow=6.8,SNR=319
SONM pP **pP** 21 19 43.5 +1.7
comp=Z,20nm,1.1s,baz=170,slow=6.8,SNR=3.1
SONM PKPPKP **P'P'df** 21 48 49.0 +2.3
comp=Z,0.7nm,0.9s,baz=304,slow=0.6,SNR=4.6
SONM PKP2bc 21 48 57.6
comp=Z,3.2nm,1.0s,baz=272,slow=1.6,SNR=13
POO Poona 59.16 297⇑ *i*P **P** 21 19 13.0 -2.8
comp=Z,60nm,1.0s
AGRA Agra 59.34 308 *e*PKP **P** 21 19 15.8 -0.9
AGRA AMb AMB 21 19 16.5
comp=Z,80nm,0.2s
AFI Afiamalu 59.59 102 P **P** 21 19 19.9 +1.1
AFI Afiamalu 59.59 102 P **P** 21 19 19.9 +1.1
comp=Z,90nm,1.0s,baz=167,slow=2.6,SNR=6.2
DRV Dumont d'Urvil 59.64 174 P P 21 19 10.0 -8.1
DRV Dumont d'Urvil 59.64 174 PP PP 21 21 38.0 +6.7
DRV S S 21 27 43.0 +26
DRV SS SS 21 31 23.0 +7.7
DRV L L 21 33 00.0
DRV R 21 37 00.0
CIT Chita 60.56 350 *e*P **P** 21 19 25.4 +0.8
CIT *e* 21 19 57.7
CIT pmax pmax
comp=Z,134nm,1.5s
AYAN Aya Nagar 60.56 309 *e*PKP **P** 21 19 23.6 -1.4
AYAN AMb AMB 21 19 26.6
comp=Z,96nm,1.0s
NDI New Delhi 60.59 309 *ex* x 21 19 14.0
DDI Dehra Dun 60.74 311 *e*PKP **P** 21 19 26.0 -0.4
BHGR Bahadurgarh 60.80 309 *e*PKP **P** 21 19 26.3 -0.4
KUDL Kundal 60.90 308 *e*PKP **P** 21 19 26.3 -1.0
KUDL AMb AMB 21 19 28.9
comp=Z,131nm,1.0s
KHET Khetri 61.40 308 *e*PKP **P** 21 19 29.9 -0.9
KHET AMb AMB 21 19 31.9
comp=Z,69nm,1.1s
ZAK Zakamensk 61.47 342⇑ *i*P **P** 21 19 31.8 +0.9
ZAK *e* 21 20 05.3
ZAK pmax pmax
comp=Z,7.0nm,1.2s
KKR Kurukshetra 61.50 310 *e*PKP **P** 21 19 31.2 -0.2
KKR AMb AMB 21 19 32.2
comp=Z,210nm,0.2s
SMLA Simla 61.81 311 *i* P **P** 21 19 34.1 +0.7
SMLA *i* x x 21 27 40.5
TLY Talaya 62.52 343 *e*P **P** 21 19 37.6 -0.2
TLY *e* 21 20 14.4
TLY *e* 21 20 20.9
TLY *e* 21 29 15.0
TLY *e*SS SS 21 31 58.2 -3.0
TLY pmax pmax
comp=Z,12nm,0.8s

TLY MLR MLR
comp=Z,140nm,21.0s
TLY Talaya 62.52 343 *e*P **P** **21 19 39.2 +1.4**
comp=Z,70nm,1.5s
TLY *e*PcP **PcP** **21 20 14.4 -1.2**
TLY *es*P **sP** **21 20 21.0 -4.9**
TLY Talaya 62.52 343 P **P** **21 19 39.4 +1.6**
SNR=8.2
WMQ Urumqi 62.66 328⇑ *i*P **P** **21 19 39.3 +0.3**
WMQ PP **PP** **21 22 01.0 +2.3**
WMQ ScP **ScP** **21 24 01.5 -4.3**
WMQ S **S** **21 27 53.0 -3.6**
WMQ sS **sS** **21 28 56.0 +2.4**
WMQ pmax pmax
comp=Z,61nm,0.7s
WMQ pmax pmax
comp=Z,210nm,4.0s
WMQ LR LR
comp=N,310nm,22.0s
WMQ LR LR
comp=E,320nm,27.8s
WMQ LR LR
comp=Z,240nm,28.4s
IRK Irkutsk 62.85 344 *e*P **P** **21 19 40.5 +0.6**
IRK *e* 21 20 14.5
IRK pmax pmax
comp=Z,60nm,1.6s
MOY Mondy 63.30 342 *e*P **P** **21 19 44.5 +1.4**
MOY *e* 21 20 18.1
MOY pmax pmax
comp=Z,49nm,3.1s
PETK Petropavlovsk- 65.52 19 P **P** **21 19 57.9 +0.5**
PETK 21 20 27.7
PETK Petropavlovsk- 65.52 19 P **P** **21 19 57.9 +0.5**
PETK PcP **PcP** **21 20 27.7 -0.3**
PETK Petropavlovsk- 65.52 19 P **P** **21 19 57.9 +0.5**
comp=Z,27nm,0.6s,baz=183,slow=3.1,SNR=34
PETK PcP **PcP** **21 20 27.7 -0.3**
comp=Z,10nm,0.6s,baz=182,slow=5.8,SNR=5.8
PETK LR LR 21 44 17.0
comp=Z,192nm,20.3s,baz=93,slow=32
PET Petropavlovsk 65.77 20 *e*P **P** **21 19 59.8 +0.9**
PET pmax pmax
comp=Z,15nm,0.4s
BOD Bodaibo 66.08 352 *e*P **P** **21 20 01.0 +0.2**
BOD *e* 21 20 37.2
BOD pmax pmax
comp=Z,29nm,1.1s
BOD pmax pmax
comp=Z,69nm,1.3s
KSH Kashi 66.95 319 P **P** **21 20 08.3 +1.4**
KSH PcP **PcP** **21 20 34.8 +0.4**
KSH PP **PP** **21 22 40.5 +4.2**
KSH ScP 21 24 21.0
KSH PcS 21 24 37.8
KSH S **S** **21 28 48.8 -0.5**
KSH ScS **SKSac** **21 29 46.0 -5.1**
KSH pmax pmax
comp=Z,41nm,0.7s
KSH pmax pmax
comp=Z,190nm,4.4s
KSH LR LR
comp=N,230nm,6.3s
KSH LR LR
comp=E,170nm,6.2s
KSH LR LR
comp=Z,180nm,5.7s
MK31 Makanchi Array 67.49 328*ce*P **P** **21 20 10.5 +0.5**
MK31 pmax pmax
comp=Z,20nm,0.5s
MKAR Makanchi Array 67.49 328 P **P** **21 20 10.3 +0.3**
MKAR 21 20 36.9
MKAR S **S** **21 28 50.8 -4.5**
MKAR Makanchi Array 67.49 328 P **P** **21 20 10.3 +0.3**
MKAR PcP **PcP** **21 20 36.9 +0.5**
MKAR S **S** **21 28 50.8 -4.5**
MKAR ⇑*e* 21 48 27.1
MKAR Makanchi Array 67.49 328 P **P** **21 20 10.3 +0.3**
comp=Z,28nm,0.5s,baz=122,slow=7.9,SNR=937
MKAR PcP **PcP** **21 20 36.9 +0.5**
comp=Z,20nm,0.7s,baz=113,slow=5.9,SNR=13
MKAR S **S** **21 28 50.8 -4.5**
comp=Z,0.3nm,0.4s,baz=188,slow=24,SNR=6.6
MKAR PKP2bc 21 48 27.1
comp=Z,0.4nm,0.7s,baz=285,slow=2.6,SNR=5.8
KZA Kyzart 68.78 321 P **P** **21 20 20.3 +1.6**
SNR=17
TKM2 Tokmak 2 69.02 322 *i*P **P** **21 20 18.3 -1.6**
TKM2 pmax pmax
comp=Z,35nm,0.8s
TKM2 Tokmak 2 69.02 322 *e*P **P** **21 20 20.2 +0.3**
comp=Z,22nm,0.6s
TKM2 *e*PcP **PcP** **21 20 43.4 +0.2**
TKM2 *es*P sP 21 21 02.5 -5.9
TKM2 Tokmak 2 69.02 322 P **P** **21 20 20.4 +0.5**
SNR=43
KBK Karagaybulak 69.27 321 P **P** **21 20 23.0 +1.6**
SNR=21
YAK Yakutsk 69.36 1 *e*P **P** **21 20 21.1 -0.2**
YAK pmax pmax
comp=Z,230nm,0.8s
YAK Yakutsk 69.36 1 *e*P **P** **21 20 21.1 -0.2**
comp=Z,230nm,0.8s
YAK *es*P sP 21 21 04.4 -5.4
AAK Ala-Archa 69.55 321 *i*P **P** **21 20 23.8 +0.7**
AAK pmax pmax
comp=Z,110nm,1.2s
AAK Ala-Archa 69.55 321 *e*P **P** **21 20 23.9 +0.8**
comp=Z,231nm,0.9s
AAK *es*P **sP** **21 21 06.9 -4.8**
AAK ⇑*e* 21 48 28.2
AAK Ala-Archa 69.55 321 P **P** **21 20 24.2 +1.2**
comp=Z,280nm,0.8s,SNR=24
AAK Ala-Archa 69.55 321 P **P** **21 20 24.6 +1.5**
SNR=16
AAK Ala-Archa 69.55 321 P **P** **21 20 24.3 +1.2**
SNR=35
AAK Ala-Archa 69.55 321 PKP2bc 21 48 28.2
comp=Z,5.6nm,1.1s,baz=238,slow=5.1,SNR=14
CHMS Chumnysh 69.58 321 P **P** **21 20 24.0 +0.9**
SNR=16
AML Almayashu 69.79 320 P **P** **21 20 26.2 +1.3**
SNR=34
USP Ospenovka 69.88 321 P **P** **21 20 25.8 +0.8**
SNR=49
EKS2 Erkin-Say 70.01 321 *e*P **P** **21 20 27.3 +1.4**
EKS2 *e* 21 20 48.1
EKS2 pmax pmax
comp=Z,76nm,1.2s
EKS2 Erkin-Say 70.01 321 *e*P **P** **21 20 27.2 +1.4**
comp=Z,76nm,1.2s
EKS2 *e*PcP **PcP** **21 20 48.1 +0.8**
EKS2 *es*P **sP** **21 21 09.7 -4.8**
EKS2 Erkin-Say 70.01 321 P **P** **21 20 27.1 +1.3**
SNR=22
RAR Rarotonga 70.97 110 P **P** **21 20 33.7 +1.7**
RAR Rarotonga 70.97 110 P **P** **21 20 33.7 +1.7**
comp=Z,24nm,0.5s,baz=240,slow=5.6,SNR=3.6
ZALV Zalesovo Beam 71.10 335 P **P** **21 20 31.9 -0.2**
ZALV *PP **pP** **21 21 07.5 +1.6**
ZALV S **S** **21 29 35.7 -1.7**
ZALV Zalesovo Beam 71.10 335 P **P** **21 20 31.9 -0.2**
ZALV pP **pP** **21 21 07.5 +1.6**
ZALV S **S** **21 29 35.6 -1.7**
ZALV ⇑*e* 21 48 20.7
ZALV Zalesovo Beam 71.10 335 P **P** **21 20 31.9 -0.2**
comp=Z,49nm,0.7s,baz=130,slow=4.9,SNR=268
ZALV pP **pP** **21 21 07.5 +1.6**
comp=Z,10nm,0.7s,baz=126,slow=4.2,SNR=1.8
ZALV S **S** **21 29 35.6 -1.7**
comp=Z,1.5nm,0.7s,baz=162,slow=10,SNR=6.0
ZALV PKP2bc 21 48 20.7
comp=Z,1.7nm,0.8s,baz=45,slow=2.3,SNR=6.2
KURBB Kurchatov Arra 71.83 329 S **S** **21 29 42.0 -3.8**
comp=Z,0.9nm,1.1s,baz=133,slow=8.0,SNR=4.4
KURK Kurchatov 71.84 330*c* *i*P **P** **21 20 36.8 +0.2**
KURK pmax pmax
comp=Z,81nm,0.8s
KURK Kurchatov 71.84 330 *e*P **P** **21 20 36.6 0.0**
comp=Z,115nm,0.9s
KURK *es*P **sP** **21 21 21.8 -3.5**
KURK S **S** **21 29 42.0 -3.9**
VNDA Vanda 72.20 173 P **P** **21 20 39.4 +1.0**
VNDA Vanda 72.20 173 P **P** **21 20 39.4 +1.0**
comp=Z,29nm,0.4s,baz=321,slow=6.4,SNR=123

VNDA LR LR 21 50 55.2
comp=Z,775nm,19.5s,baz=330,slow=34
KK31 Karatay Array 72.31 320 *i*P **P** **21 20 40.2 +0.6**
KK31 pmax pmax
comp=Z,14nm,0.7s
KKAR Karatay Array 72.31 320 *e*P **P** **21 20 40.3 +0.7**
KKAR Karatay Array 72.31 320 *e*P **P** **21 20 40.2 +0.7**
KKAR *es*P **sP** **21 21 23.8 -4.5**
NVS Novosibirsk 72.39 335⇑ *i*P **P** **21 20 38.4 -1.3**
NVS *i* *PP **pP** **21 21 12.6 -1.1**
NVS *eS* S 21 29 41.4 -11
NVS *e*SS SKSac 21 30 20.7 -11
NVS pmax pmax
comp=Z,107nm,1.4s
NVS pmax pmax
comp=N,50nm,1.6s
NVS pmax pmax
comp=E,63nm,1.7s
NVS smax smax
comp=N,39nm,1.9s
NVS smax smax
comp=E,52nm,1.9s
SEY Seymchan 72.74 11⇑ *i*P **P** **21 20 42.1 +0.5**
SBA Scott Base 73.11 172 *e*P **P** **21 20 46.6 +2.9**
SBA pmax pmax
comp=Z,100nm,1.2s
SBA Scott Base 73.11 172 *e*P **P** **21 20 46.6 +2.9**
comp=Z,100nm,1.2s
MAW Mawson 73.67 201 P **P** **21 20 47.8 +0.7**
MAW Mawson 73.67 201 P **P** **21 20 47.8 +0.7**
comp=Z,56nm,1.0s,baz=64,slow=6.2,SNR=8.6
MAW LR LR 21 50 41.9
comp=Z,408nm,18.5s,baz=244,slow=34
WBK Wadi Bani Khal 73.67 296 P **P** **21 20 48.9 +0.9**
SNR=10.0
JMDO Jabal Madar 74.38 296 P **P** **21 20 52.6 +0.5**
SNR=10
SMDO Samad 74.61 296 P **P** **21 20 54.1 +0.5**
SNR=16
XMAS Kiritimati 75.17 86 *e*P **P** **21 20 58.1 +1.2**
comp=Z,79nm,0.9s
BSY Bisya 75.28 296 P **P** **21 20 57.7 +0.3**
SNR=16
HOQ Hoqain 75.40 297 P **P** **21 20 58.7 +0.7**
SNR=23
ARQ Araqi 76.03 296 P **P** **21 21 02.0 +0.4**
SNR=12
HATD Hatta, Dubai 76.75 298 P **P** **21 21 06.1 +0.4**
SNR=22
ASHO Ashiyiah 76.78 297 P **P** **21 21 06.3 +0.4**
SNR=19
BANOM Banah 76.89 299 P **P** **21 21 07.6 +1.2**
SNR=24
NAZ Nazwa, Dubai 77.21 298 P **P** **21 21 07.8 -0.3**
SNR=17
BVAR Borovoye Array 77.35 329 P **P** **21 21 08.2 -0.2**
BVAR *PP **pP** **21 21 44.4 +1.7**
BVAR Borovoye Array 77.35 329 P **P** **21 21 08.2 -0.2**
BVAR pP **pP** **21 21 44.4 +1.7**
BVAR Borovoye Array 77.35 329 P **P** **21 21 08.2 -0.2**
comp=Z,11nm,0.4s,baz=124,slow=10.0,SNR=31
BVAR pP **pP** **21 21 44.4 +1.7**
comp=Z,21nm,1.0s,baz=126,slow=7.5,SNR=3.4
ASUD Al Ashush, Dub 77.41 297 P **P** **21 21 10.5 +1.2**
SNR=8.7
BRVK Borovoye 77.43 329*ce*P **P** **21 21 08.2 -0.5**
BRVK pmax pmax
comp=Z,69nm,0.9s
BRVK Borovoye 77.43 329 *e*P **P** **21 21 08.8 +0.1**
comp=Z,91nm,1.2s
BRVK *es*P **sP** **21 21 52.7 -5.1**
BRVK Borovoye 77.43 329 P **P** **21 21 09.3 +0.6**
SNR=28
ABTO Aybut 77.61 290 P **P** **21 21 10.9 +0.3**
SNR=8.3
ZRNK Zerenda 78.04 328 *i*P **P** **21 21 12.2 +0.1**
ZRNK pmax pmax
comp=Z,50nm,0.8s
OPO Ambohidratompo 78.77 253 P **P** **21 21 17.5 +0.3**
OPO Ambohidratompo 78.77 253 P **P** **21 21 17.5 +0.3**
comp=Z,3.9nm,0.6s,baz=84,slow=2.6,SNR=15
ABKT Ailbek 78.89 311 P **P** **21 21 18.5 +1.3**
comp=Z,230nm,0.8s,SNR=20
POHA Pohakuloa 80.12 68 *e*P **P** **21 21 26.2 +1.7**
comp=Z,117nm,0.7s
BILL Bilibino 80.13 14 *e*P **P** **21 21 23.5 +0.3**
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL Bilibino 80.13 14 *e*P **P** **21 21 22.9 -0.3**
comp=Z,5.1nm,0.4s
PAE Paea 80.76 107 *e*P **P** **21 21 28.4 +0.8**
comp=Z,9.0nm,0.9s
PPT2 Papeete2 80.77 107 *e*P **P** **21 21 28.9 +1.1**
comp=Z,88nm,1.1s
PPT Papeete 80.77 107 P **P** **21 21 30.8 +3.0**
PPT Papeete 80.77 107 P **P** **21 21 30.8 +3.0**
comp=Z,76nm,0.8s,baz=275,slow=12,SNR=6.8
AB31 Akbulak array 81.57 322*ce*P **P** **21 21 31.3 +0.1**
AB31 pmax pmax
comp=Z,24nm,0.7s
ABKAR Akbulak array 81.57 322 *e*P **P** **21 21 31.2 -0.1**
comp=Z,18nm,0.7s
UNV Unalaska Valle 82.13 33 *e*P **P** **21 21 34.2 +0.2**
SYO Syowa Base 82.38 201⇑ *e*P **P** **21 21 34.3 -0.8**
QSPA South Pole Qui 82.45 180 P **P** **21 21 36.5 +0.7**
QSPA S **S** **21 31 38.6 -2.0**
QSPA South Pole Qui 82.45 180 P **P** **21 21 36.5 +0.7**
comp=Z,153nm,0.7s,baz=317,slow=0.8,SNR=458
QSPA S **S** **21 31 38.6 -2.0**
comp=Z,2.7nm,0.9s,baz=95,slow=23,SNR=6.2
PMOR Pomariorio Ree 82.62 104 *e*P **P** **21 21 38.3 +0.9**
comp=Z,152nm,0.9s
AKUT Akutan 82.64 33 *e*P **P** **21 21 35.5 -1.2**
AKTO Aktyubinsk 83.16 323 P **P** **21 21 39.7 +0.2**
AKTO S **S** **21 31 43.1 -4.9**
AKTO Aktyubinsk 83.16 323 P **P** **21 21 39.7 +0.2**
AKTO S **S** **21 31 43.1 -4.9**
AKTO Aktyubinsk 83.16 323 P **P** **21 21 39.7 +0.2**
comp=Z,52nm,0.8s,baz=102,slow=5.7,SNR=129
AKTO S **S** **21 31 43.1 -4.9**
comp=Z,0.9nm,0.8s,baz=209,slow=23,SNR=6.5
SVE Sverdlovsk 84.09 329*d* *i*P **P** **21 21 44.2 +0.1**
SVE *e* 21 22 21.2
SVE *eS* S 21 31 43.9 -13
SVE pmax pmax
comp=Z,111nm,1.4s
GAMB Gambell 84.24 23 *e*P **P** **21 21 44.5 -0.1**
comp=Z,23nm,0.7s
GAMB *ep*P **pP** **21 22 20.4 +0.9**
QRN Al-Qurain 84.79 300 *e*P **P** **21 21 48.0 -0.2**
QRN AMb AMB 21 21 49.7
comp=Z,44nm,0.7s
ARU Arti 85.00 329*d* *i*P **P** **21 21 48.3 -0.4**
ARU *PP **pP** **21 22 22.6 -1.0**
ARU **21 25 08.2**
ARU S **S** **21 32 00.4 -5.7**
ARU pmax pmax
comp=Z,99nm,1.7s
ARU Arti 85.00 329 *e*P **P** **21 21 47.8 -0.9**
comp=Z,27nm,0.6s
ARU *ep*P **pP** **21 22 21.5 -2.1**
ARU Arti 85.00 329 P **P** **21 21 48.7 0.0**
comp=Z,323nm,0.5s,SNR=24
KBD Kabd 85.07 300 *e*P **P** **21 21 49.0 -0.6**
UMR Umm Al-Rimmam 85.12 301 *e*P **P** **21 21 49.5 -0.4**
RDF Al-Radifah 85.14 300 *e*P **P** **21 21 50.4 +0.3**
RDF AMb AMB 21 21 51.5
comp=Z,90nm,1.6s
NAY Al-Naaiem 85.47 300 *e*P **P** **21 21 51.0 -0.6**
NAY AMb AMB 21 21 53.0
comp=Z,55nm,0.9s
MIB Mutribah 85.50 301 *e*P **P** **21 21 51.1 -0.7**
MIB AMb AMB 21 21 53.3
comp=Z,123nm,1.2s
RAYN Ar Rayn 85.96 294 P **P** **21 21 54.2 -0.1**
comp=Z,356nm,0.7s,SNR=31
TNA Tin City 86.52 22 *e*P **P** **21 21 56.2 +0.3**
comp=Z,4.3nm,0.5s
MAK Makhachkala 88.03 314 P **P** **21 22 06.0 +2.3**
MAK *e* 21 25 40.7
MAK *eS* S 21 32 27.2 -8.7
MAK *eSS* **SS** **21 38 27.9 +0.6**
MAK pmax pmax
comp=Z,20nm,0.8s
MAK MLR MLR
comp=Z,238nm,16.0s

BHD Baghdad 88.61 304 *ex* P 21 22 03.0 -3.7
BHD *i* x S 21 32 18.0 -24
BHD *i* x x 21 32 36.8
DGRG David-gareji 89.28 312 P **P** **21 22 10.7 +0.9**
GNI Garni 89.52 310 *e*P **P** **21 22 11.1 +0.1**
comp=Z,18nm,0.9s
GNI *ep*P **pP** **21 22 47.3 +1.0**
TBLG Delisi 89.80 312 *i* P **P** **21 22 12.3 +0.2**
TBLG Delisi 89.80 312 P **P** **21 22 12.3 +0.2**
GOR Gori 90.31 312 P **P** **21 22 14.9 +0.3**
KMBO Kilima Mbogo 90.39 269 *e*P **P** **21 22 16.4 +0.6**
comp=Z,8.7nm,1.3s
KMBO Kilima Mbogo 90.39 269 P **P** **21 22 16.4 +0.6**
SNR=5.3
ZEI Tsey 90.60 313 *e*P **P** **21 22 16.8 +0.7**
ZEI pmax pmax
comp=Z,21nm,1.0s
AKH Akhalkalaki 90.67 312 P **P** **21 22 16.5 +0.1**
KDAK Kodiak Island 90.81 32 P **P** **21 22 17.0 +0.6**
KDAK Kodiak Island 90.81 32 P **P** **21 22 17.0 +0.6**
comp=Z,14nm,0.7s,baz=320,slow=8.3,SNR=9.0
ONI Oni 90.89 313 P **P** **21 22 14.2 -3.1**
NVL N'lazarevskaya 91.21 197 *i* P P 21 22 10.4 -7.6
NVL pmax pmax
comp=Z,79nm,1.6s
MAIT Maitri 91.23 197 *e*P **P** **21 22 21.1 +3.0**
KBZ Khabaz 91.47 314 P **P** **21 22 19.9 +0.2**
KBZ Khabaz 91.47 314 P **P** **21 22 19.9 +0.2**
KBZ PKKPbc **PKKPbc** **21 39 40.8 -0.8**
KBZ Khabaz 91.47 314 P **P** **21 22 19.9 +0.2**
comp=Z,7.6nm,0.8s,baz=107,slow=4.7,SNR=25
KBZ PKKPbc **PKKPbc** **21 39 40.8 -0.8**
comp=Z,1.8nm,1.1s,baz=301,slow=3.7,SNR=3.7
KIV Kislovodsk 91.66 314 *e*P **P** **21 22 19.5 -1.3**
KIV *e*PP **pP** **21 22 51.6 -4.4**
KIV *e* 21 32 38.5
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,108nm,19.0s
KIV Kislovodsk 91.66 314 *e*P **P** **21 22 20.4 -0.4**
KIV pmax pmax
comp=Z,8.0nm,0.9s
KIV Kislovodsk 91.66 314 *e*P **P** **21 22 20.4 -0.4**
comp=Z,7.8nm,0.9s
SLKM Skilak Lake 92.56 29 *e*P **P** **21 22 23.6 -0.9**
SLKM Skilak Lake 92.56 29 *e*P **P** **21 22 23.6 -0.9**
VRHR Novokhopersk 93.39 321 *e*P **P** **21 22 27.4 -1.1**
VRHR *e*SP **sP** **21 23 13.3 -4.9**
VRHR *e* 21 32 44.7
VRHR pmax pmax
comp=N,2.0nm,0.6s
VRHR pmax pmax
comp=E,8.0nm,0.6s
VRHR pmax pmax
comp=Z,30nm,0.6s
RKT Rikitea 93.67 114 *e*P **P** **21 22 31.8 +1.4**
comp=Z,60nm,1.3s
SML Sawmill 93.68 28 *e*P **P** **21 22 28.5 -1.1**
SML *e* 21 26 11.8
SML pmax pmax
comp=Z,8.0nm,0.6s
SML Sawmill 93.68 28 *e*P **P** **21 22 28.5 -1.1**
comp=Z,8.0nm,0.6s
SML *e*PP **PP** **21 26 11.8 -4.7**
MCK McKinley 93.72 26 *e*P **P** **21 22 28.1 -1.6**
MCK *e*PP **pP** **21 23 04.0 -1.0**
MCK pmax pmax
comp=Z,5.0nm,0.7s
MCK McKinley 93.72 26 *e*P **P** **21 22 28.1 -1.6**
comp=Z,5.3nm,0.7s
MCK *ep*P **pP** **21 23 04.0 -1.0**
COLD Coldfoot 93.79 23⇑ *e*P **P** **21 22 29.5 -0.5**
comp=Z,17nm,0.4s
COLD *ep*P **pP** **21 23 03.3 -2.0**
ILAR Eielson Array 94.75 25 P **P** **21 22 31.9 -2.5**
ILAR pP **pP** **21 23 10.7 +0.9**
ILAR PKKPbc **PKKPdf** **21 39 31.6 -1.5**
ILAR Eielson Array 94.75 25 P **P** **21 22 31.9 -2.5**
comp=Z,1.9nm,0.6s,baz=260,slow=4.5,SNR=24
ILAR pP **pP** **21 23 10.7 +0.9**
comp=Z,2.4nm,1.0s,baz=263,slow=4.8,SNR=3.1
ILAR PKKPbc **PKKPdf** **21 39 31.6 -1.5**
comp=Z,3.3nm,0.8s,baz=54,slow=1.6,SNR=24
ILAR LR LR 21 59 57.8
comp=Z,126nm,19.9s,baz=280,slow=32
VORD Divnogorie 94.84 321 *e*P **P** **21 22 33.9 -1.2**
VORD pmax pmax
comp=N,8.0nm,0.7s
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD pmax pmax
comp=Z,20nm,0.7s
VSR Storozhevoye 94.95 321 *e*P **P** **21 22 34.5 -1.1**
VSR pmax pmax
comp=N,4.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s
ANN Anapa 95.50 314 *e*P **P** **21 22 36.8 -1.4**
ANN pmax pmax
comp=Z,39nm,1.1s
KLMR Klimovskoe 95.67 331 *e*P **P** **21 22 35.5 -3.2**
KLMR pmax pmax
comp=Z,34nm,1.4s
MENT Mentasta 95.95 27 *e*P **P** **21 22 39.5 -0.5**
VNA2 Neumayer--Watz 96.22 193 *e*P **P** **21 22 43.4 +2.3**
VNA2 Neumayer--Watz 96.22 193 *e*PKiKP **PKiKP** **21 27 19.9 +1.5**
VNA2 Neumayer--Watz 96.22 193 *ep*PKiKP pPKiKP 21 28 00.4 +5.1
VNA2 Neumayer--Watz 96.22 193 *eS* **S** **21 33 45.9 -2.5**
VNA3 Neumayer Olymp 96.50 193 *e*P **P** **21 22 44.3 +1.9**
OBN Obninsk 96.82 325*c* *i*P **P** **21 22 42.6 -1.4**
OBN *e* 21 23 20.9
OBN pmax pmax
comp=Z,31nm,1.2s
EGAK Eagle 97.20 26 *e*P **P** **21 22 44.6 -0.9**
comp=Z,4.6nm,0.9s
LSZ Lusaka 97.22 254 *e*P **P** **21 22 46.7 -0.2**
comp=Z,2.1nm,0.7s
BOSA Boshof 97.31 240 P Pdif 21 22 47.8 +0.6
BOSA Boshof 97.31 240 P Pdif 21 22 47.8 +0.6
comp=Z,4.4nm,0.5s,baz=117,slow=5.0,SNR=21
BOSA LR LR 21 57 24.3
comp=Z,92nm,20.5s,baz=311,slow=30
BRTR Keskin Array B 97.95 309 P **P** **21 22 48.6 -1.1**
BRTR PKKPbc **PKKPbc** **21 39 24.1 -0.3**
BRTR Keskin Array B 97.95 309 P **P** **21 22 48.6 -1.1**
comp=Z,4.3nm,0.9s,baz=134,slow=6.9,SNR=16
BRTR PKKPbc **PKKPbc** **21 39 24.1 -0.3**
comp=Z,0.8nm,1.0s,baz=86,slow=4.1,SNR=4.0
DAWY Dawson 97.95 26 *e*P **P** **21 22 48.5 -0.4**
JOF Joensuu 99.61 333 *e*P **Pdif** **21 22 53.7 -2.6**
JOF pmax pmax
comp=Z,5.0nm,0.6s
JOF Joensuu 99.61 333 *ep* **Pdif** **21 22 53.7 -2.6**
comp=Z,5.0nm,0.6s
JOF Joensuu 99.61 333 *epkp* 21 27 24.2
INK Inuvik 100.16 22 PKiKP **PKiKP** **21 27 24.9 -0.4**
INK Inuvik 100.16 22 PKiKP **PKiKP** **21 27 24.9 -0.4**
comp=Z,1.6nm,0.6s,baz=293,slow=4.5,SNR=10
KEV Kevo 100.75 340 *e*P **Pdif** **21 22 58.1 -3.2**
KEV pmax pmax
comp=Z,5.0nm,0.8s
KEV Kevo 100.75 340 *ep* **Pdif** **21 22 58.1 -3.2**
comp=Z,4.6nm,0.8s
KEV Kevo 100.75 340 *epkp* 21 27 26.2
AKASG Malin Array Be 101.21 320 P **Pdif** **21 23 02.8 -1.0**
AKASG 21 27 18.8
AKASG Malin Array Be 101.21 320 P **Pdif** **21 23 02.8 -1.0**
AKASG PP **PP** **21 27 18.8 +4.5**
AKASG Malin Array Be 101.21 320 P **Pdif** **21 23 02.8 -1.0**
comp=Z,2.9nm,0.7s,baz=74,slow=4.4,SNR=9.8
AKASG PP **PP** **21 27 18.8 +4.5**
comp=Z,2.4nm,0.8s,baz=82,slow=6.8,SNR=6.5
ARCES ARCESS Array B 101.30 339 P **Pdif** **21 23 02.8 -1.0**
ARCES PKiKP **PKiKP** **21 27 27.6 +0.2**
ARCES PKKPbc **PKKPbc** **21 39 12.8 -3.0**
ARCES ARCESS Array B 101.30 339 P **Pdif** **21 23 02.8 -1.0**
comp=Z,9.3nm,0.8s,baz=79,slow=6.1,SNR=17
ARCES PKiKP **PKiKP** **21 27 27.6 +0.2**
comp=Z,1.4nm,0.3s,baz=90,slow=0.8,SNR=55
ARCES PKKPbc **PKKPbc** **21 39 12.8 -3.0**
comp=Z,2.1nm,0.5s,baz=268,slow=3.3,SNR=25
TLCR 101.62 315⇑ P **Pdif** **21 23 05.4 -0.3**

TLCR 101.62 315 ⇑ iP Pdif 21 23 05.4 -0.3
SPITS Spitsbergen Ar 101.65 349 P Pdif 21 23 04.7 -0.5
SPITS Spitsbergen Ar 101.65 349 P Pdif 21 23 04.7 -0.5
comp=Z,14nm,0.7s,baz=77,slow=5.3,SNR=8.7
TIRR Tirgusor 101.92 314 ⇑ iP Pdif 21 23 06.1 -0.9
TIRR Tirgusor 101.92 314 ⇑ iP Pdif 21 23 06.1 -0.9
KAF Kangasniemi 101.99 332 eP Pdif 21 23 04.3 -2.6
KAF pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 101.99 332 ep Pdif 21 23 04.3 -2.6
comp=Z,2.6nm,0.6s
KAF Kangasniemi 101.99 332 epkp PKiKP 21 27 26.4 -2.5
CFR Carcaliu 102.10 315 ⇓ P Pdif 21 23 07.4 -0.4
CFR Carcaliu 102.10 315 ⇓ iP Pdif 21 23 07.4 -0.4
FINES FINESS Array B 102.17 331 P Pdif 21 23 06.3 -1.4
FINES PKiKP PKiKP 21 27 29.2 0.0
FINES PKKPbc PKKPbc 21 39 09.9 -3.1
FINES FINESS Array B 102.17 331 P Pdif 21 23 06.3 -1.4
comp=Z,3.4nm,0.9s,baz=59,slow=5.1,SNR=9.9
FINES PKiKP PKiKP 21 27 29.2 0.0
comp=Z,1.2nm,0.3s,baz=52,slow=2.4,SNR=17
FINES PKKPbc PKKPbc 21 39 09.9 -3.1
comp=Z,3.3nm,1.1s,baz=242,slow=4.1,SNR=3.8
VRI Vrincioaia 103.07 315 ⇓ P Pdif 21 23 12.4 +0.2
VRI Vrincioaia 103.07 315 ⇓ iP Pdif 21 23 12.4 +0.2
TESR 103.09 316 ⇓ iP Pdif 21 23 12.1 -0.1
PLOR Plostina 103.12 315 ⇓ P Pdif 21 23 12.6 +0.2
PLOR Plostina 103.12 315 ⇓ iP Pdif 21 23 12.6 +0.2
SULR 103.45 314 ⇑ iP Pdif 21 23 12.7 -1.2
MLR Muntele Rosu 103.63 315 PP PP 21 27 28.6 -4.3
MLR Muntele Rosu 103.63 315 ⇓ iP Pdif 21 23 14.6 -0.2
MLR Muntele Rosu 103.63 315 PP PP 21 27 28.6 -4.3
comp=Z,0.9nm,1.0s,baz=33,slow=9.5,SNR=3.0
BURAR Bucovina Array 104.00 317 ⇑ iP Pdif 21 23 17.2 +0.8
VOIR 104.27 315 ⇓ P Pdif 21 23 17.3 -0.3
VOIR 104.27 315 ⇓ iP Pdif 21 23 17.3 -0.3
HUMR Humele 104.37 314 ⇓ iP Pdif 21 23 17.6 -0.4
TRPA Tarpa 105.75 318 ⇓ iP Pdif 21 23 25.0 +1.0
DRGR 105.77 316 ⇑ P Pdif 21 23 28.4 +4.2
DRGR 105.77 316 ⇑ iP Pdif 21 23 28.4 +4.2
KOLS Kolonicke sedl 105.83 319 ePP PP 21 27 37.4 -11
GZR Gura Zlata 105.86 315 ⇑ P Pdif 21 23 25.2 +0.5
GZR Gura Zlata 105.86 315 ⇑ iP Pdif 21 23 25.2 +0.5
BZS Buzias 106.65 315 ⇓ P Pdif 21 23 27.6 -0.5
BZS Buzias 106.65 315 ⇓ iP Pdif 21 23 27.6 -0.5
PSZ Piszkesteto 107.53 318 ⇑ P Pdif 21 23 27.2 -4.9
PSZ Piszkesteto 107.53 318 ⇑ iP Pdif 21 23 27.2 -4.9
VYHS Vyhne 108.14 319 ePP PP 21 28 05.8 0.0
HFS Hagfors 108.38 331 Pdif Pdif 21 23 33.9 -1.5
HFS PKiKP PKiKP 21 27 39.4 -1.3
HFS PKKPbc PKKPbc 21 38 53.2 -0.9
HFS Hagfors 108.38 331 Pdiff Pdif 21 23 33.9 -1.5
comp=Z,1.6nm,0.4s,baz=108,slow=4.8,SNR=16
HFS PKiKP PKiKP 21 27 39.4 -1.3
comp=Z,1.4nm,0.7s,baz=122,slow=5.6,SNR=8.6
HFS PKKPbc PKKPbc 21 38 53.2 -0.9
comp=Z,2.9nm,0.9s,baz=255,slow=4.0,SNR=4.4
RES Resolute Bay 108.61 11 Pdif Pdif 21 23 35.7 -0.4
RES ePKPdf PKiKP 21 27 40.3 -0.5
RES Resolute Bay 108.61 11 Pdiff Pdif 21 23 35.7 -0.4
comp=Z,1.2nm,0.6s,baz=312,slow=6.0,SNR=7.2
RES PKiKP PKiKP 21 27 40.2 -0.5
comp=Z,2.2nm,0.5s,baz=222,slow=6.1,SNR=20
YKA Yellowknife Ar 109.18 26 Pdif Pdif 21 23 39.9 +1.0
YKA PKiKP PKiKP 21 27 41.6 -0.5
YKA PKKPbc PKKPbc 21 38 49.4 -2.2
YKA PKKPab PKKPab 21 39 00.8 -0.9
YKA Yellowknife Ar 109.18 26 Pdiff Pdif 21 23 39.9 +1.0
comp=Z,0.4nm,0.6s,baz=290,slow=4.9,SNR=6.0
YKA PKiKP PKiKP 21 27 41.6 -0.5
comp=Z,2.5nm,0.4s,baz=298,slow=1.9,SNR=51
YKA PKKPbc PKKPbc 21 38 49.4 -2.2
comp=Z,2.4nm,0.5s,baz=107,slow=3.1,SNR=35
YKA PKKPab PKKPab 21 39 00.8 -0.9
comp=Z,0.8nm,0.5s,baz=108,slow=5.3,SNR=7.5
NB2 NORSAR Subarra 109.24 333 P Pdif 21 23 37.9 -1.4
comp=Z,4.7nm,1.1s,baz=69,slow=4.8
NOA NORSAR Array B 109.24 333 Pdif Pdif 21 23 37.0 -2.3
NOA PKiKP PKiKP 21 27 41.9 -0.5
NOA PKKPab PKKPab 21 39 03.0 +1.6
NOA NORSAR Array B 109.24 333 Pdiff Pdif 21 23 37.0 -2.3
comp=Z,1.4nm,0.8s,baz=69,slow=4.7,SNR=4.4
NOA PKiKP PKiKP 21 27 41.9 -0.5
comp=Z,1.0nm,0.5s,baz=261,slow=3.3,SNR=7.5
NOA PKKPab PKKPab 21 39 03.0 +1.6
comp=Z,2.5nm,0.9s,baz=250,slow=4.1,SNR=3.7
DPC Dobruska-Polom 109.42 321 ePKP PKiKP 21 27 43.7 +0.7
DPC ePP PP 21 28 17.3 +2.3
DPC ex x 21 28 53.4
PRU Pruhonice 110.61 321 ePKiKP PKiKP 21 27 45.2 0.0
PRU e 21 28 29.5
PRU Pruhonice 110.61 321 ePKP PKiKP 21 27 45.2 0.0
PRU ex x 21 28 29.5
BRG Berggiesshubel 110.78 322 e PKiKP 21 27 45.5 0.0
comp=Z,3.5nm,0.8s
BRG e 21 27 55.0
comp=Z,4.0nm,0.8s
BRG e 21 30 12.8
comp=Z,19nm,1.8s
BRG e 21 38 57.0
comp=Z,5.7nm,1.0s
BRG ePKPPKP 21 50 21.2
comp=Z,6.0nm,1.3s
GERES GERESS Array B 111.41 320 PKiKP PKiKP 21 27 46.6 -0.3
GERES PKKPbc PKKPbc 21 38 43.6 -0.4
GERES PKKPab PKKPab 21 38 54.0 +1.9
GERES GERESS Array B 111.41 320 PKiKP PKiKP 21 27 46.6 -0.3
comp=Z,3.0nm,0.5s,baz=61,slow=1.3,SNR=28
GERES PKKPbc PKKPbc 21 38 43.6 -0.4
comp=Z,1.5nm,0.7s,baz=242,slow=2.9,SNR=9.6
GERES PKKPab PKKPab 21 38 54.0 +1.9
comp=Z,2.0nm,0.8s,baz=266,slow=3.6,SNR=9.0
KHC Kasperske Hory 111.42 320 ePKiKP PKiKP 21 27 46.7 -0.2
KHC Kasperske Hory 111.42 320 ePKP PKiKP 21 27 46.7 -0.2
KBA Koelnbreinsper 112.05 318 ⇑ iPKiKP PKiKP 21 27 47.2 -1.1
comp=Z,6.2nm,1.0s
NEW Newport 112.19 41 ⇓ P PKiKP 21 27 49.3 +0.9
baz=112
PKM Peak Mountain 112.61 55 ⇑ P PKiKP 21 27 50.6 +0.9
baz=113
ABTA Abfaltersbach 112.69 318 ⇑ iPKiKP PKiKP 21 27 48.6 -0.8
comp=Z,4.1nm,0.6s
GRF Grafenberg Arr 112.77 321 ePKiKP PKiKP 21 27 48.4 -1.0
C11A Tepee Creek (N 112.86 41 ⇑ P PKiKP 21 27 50.4 +0.8
baz=113
WTTA Wattenberg 113.14 318 i PKiKP PKiKP 21 27 50.1 -0.3
comp=Z,15nm,0.4s,SNR=14
BLG Laguna Peak 113.32 56 ⇑ P PKiKP 21 27 50.8 -0.2
baz=113
NVAR Mina Array Bea 113.33 51 Pdif Pdif 21 24 06.8 +8.5
NVAR PKiKP PKiKP 21 27 52.3 +1.2
NVAR PP PP 21 28 39.1 -4.5
NVAR PKKPbc PKKPab 21 38 41.9 -2.1
NVAR Mina Array Bea 113.33 51 Pdiff Pdif 21 24 06.8 +8.5
comp=Z,1.3nm,1.0s,baz=255,slow=6.9,SNR=3.8
NVAR PKiKP PKiKP 21 27 52.3 +1.2
comp=Z,3.8nm,0.9s,baz=255,slow=1.9,SNR=12
NVAR PP PP 21 28 39.1 -4.5
comp=Z,1.7nm,0.8s,baz=299,slow=3.1,SNR=3.7
NVAR PKKPbc PKKPab 21 38 41.9 -2.1
comp=Z,1.3nm,0.7s,baz=112,slow=6.3,SNR=6.1
D12A Red Ives Fores 113.65 42 ⇓ P PKiKP 21 27 51.1 -0.2
baz=114
A13A Flathead Natio 113.75 40 ⇓ P PKiKP 21 27 52.1 +0.7
baz=114
FETA Feichten 113.80 318 ⇑ iPKPdf PKiKP 21 27 51.1 -0.6
comp=Z,5.6nm,0.8s,SNR=7.1
BSMT Basson Peak 113.81 41 ePKPdf PKiKP 21 27 51.2 -0.4
B13A Whitefish 113.87 40 ⇓ P PKiKP 21 27 51.8 +0.3
baz=114
CIS Catalina Islan 113.95 57 ⇓ P PKiKP 21 27 52.3 +0.2
baz=114
C13A Hot Springs 113.99 41 ⇓ P PKiKP 21 27 51.6 -0.3
baz=114
F12A Elk City 114.05 43 ⇑ P PKPdf 21 27 52.6 +0.5
baz=114
EDW2 Edwards Air Fo 114.11 55 ⇑ P PKPdf 21 27 53.0 +0.5
baz=114
G12A Big Creek, Yel 114.16 44 ⇓ P PKPdf 21 27 52.7 +0.3
baz=114,SNR=5.8
MFID Camas Ranch 114.21 46 ⇓ P PKPdf 21 27 52.9 +0.4
baz=114
D13A Huson 114.23 42 ⇓ P PKPdf 21 27 52.7 +0.3
baz=114
DAVA Damuels 114.29 319 ⇑ iPKPdf PKPdf 21 27 52.0 -0.5
comp=Z,8.3nm,0.4s,SNR=13
MPMC Manual Prospec 114.34 54 ⇓ P PKPdf 21 27 53.3 +0.3
baz=114
DAVOX Davos/Dischmat 114.43 318 PKP PKPdf 21 27 52.9 0.0
DAVOX PKKPbc PKKPbc 21 38 34.9 +0.9
DAVOX Davos/Dischmat 114.43 318 PKP PKPdf 21 27 52.9 0.0
comp=Z,5.3nm,0.3s,baz=199,slow=0.7,SNR=20
DAVOX PKKPbc PKKPbc 21 38 34.9 +0.9
comp=Z,2.9nm,0.5s,baz=279,slow=9.4,SNR=5.5
BFSC Mount Baldy Ra 114.46 56 ⇓ P PKPdf 21 27 53.8 +0.5
baz=114
C14A Swan Lake 114.50 41 ⇓ P PKPdf 21 27 53.1 +0.2
baz=114
E13A Victor 114.58 42 ⇓ P PKPdf 21 27 53.5 +0.4
baz=114
I12A Atlanta 114.61 45 ⇓ P PKPdf 21 27 54.0 +0.7
baz=115
H12A Diamond D Ranc 114.62 44 ⇓ P PKPdf 21 27 53.8 +0.5
baz=115,SNR=6.3
B14A Marquette Ranc 114.64 40 ⇑ P PKPdf 21 27 53.2 0.0
baz=115
MSO Missoula 114.64 42 ⇑ P PKPdf 21 27 53.1 -0.1
baz=115
F13A Darby 114.66 43 ⇑ P PKPdf 21 27 53.2 -0.1
baz=115
FURC Furnace Creek, 114.78 53 ⇓ P PKPdf 21 27 54.0 +0.5
baz=115
A15A Johnson Ranch, 114.79 39 ⇓ P PKPdf 21 27 53.0 -0.3
baz=115
SLMT Seeley Lake 114.82 41 ePKPdf PKPdf 21 27 53.2 -0.4
D14A Greenough 114.86 41 ⇓ P PKPdf 21 27 53.3 -0.3
baz=115
G13A Cobalt 114.91 44 ⇓ P PKPdf 21 27 54.3 +0.5
baz=115
GSC Goldstone 115.00 55 ⇑ P PKPdf 21 27 54.8 +0.6
baz=115
H13A Challis 115.03 44 ⇑ P PKPdf 21 27 54.3 +0.3
baz=115
E14A Clinton 115.06 42 ⇓ P PKPdf 21 27 54.1 0.0
baz=115
CHMT Chamberlain Mo 115.07 41 ePKPdf PKPdf 21 27 53.9 -0.2
B15A Bradely Ranch, 115.10 40 ⇓ P PKPdf 21 27 53.7 -0.3
baz=115
HLID Hailey 115.18 45 ePKPdf PKPdf 21 27 54.9 +0.5
HLID Hailey 115.18 45 ⇓ P PKPdf 21 27 55.2 +0.8
baz=115
C15A Salmond Ranch, 115.24 40 ⇓ P PKPdf 21 27 54.2 -0.1
baz=115
I13A Wildhorse Cree 115.30 45 ⇑ P PKPdf 21 27 55.1 +0.5
baz=115,SNR=11
F14A Wisdom 115.31 43 ⇑ P PKPdf 21 27 54.6 0.0
baz=115
SHOC Shoshone 115.33 54 ⇓ P PKPdf 21 27 56.0 +1.3
baz=115
J13A Cove Ranch, Pi 115.39 45 ⇓ P PKPdf 21 27 55.2 +0.5
baz=115
G14A Jackson 115.40 43 ⇓ P PKPdf 21 27 54.8 0.0
baz=115
R11A Troy Canyon, C 115.45 51 ⇓ P PKPdf 21 27 55.9 +0.9
baz=115
HEC Hector,Ludlow 115.46 55 ⇑ P PKPdf 21 27 55.8 +0.7
baz=115
A16A West Butte Ran 115.51 39 ⇓ P PKPdf 21 27 55.3 +0.5
baz=116
D15A Lincoln 115.51 41 ⇓ P PKPdf 21 27 54.8 -0.1
baz=116
PFO Pinyon Flat Ob 115.54 56 ePKPdf PKPdf 21 27 56.4 +1.0
PFO Pinyon Flat Ob 115.54 56 ⇓ P PKPdf 21 27 56.2 +0.9
baz=116,SNR=5.7
B16A M & M Farms, S 115.61 40 ⇓ P PKPdf 21 27 54.6 -0.3
baz=116
E15A Deer Lodge 115.62 42 ⇓ P PKPdf 21 27 55.2 0.0
baz=116
CDF Champ du Feu 115.63 320 ePKIKP PKPdf 21 27 52.9 -2.1
comp=Z,3.3nm,0.5s
CDF Champ du Feu 115.63 320 ePKIKP PKPdf 21 27 52.9 -2.1
CDF Champ du Feu 115.63 320 ePKPdf PKPdf 21 27 52.9 -2.1
H14A Leadore 115.63 44 ⇓ P PKPdf 21 27 55.6 +0.3
baz=116
MONP Monument Peak 115.67 57 ⇑ P PKPdf 21 27 56.7 +1.0
baz=116,SNR=5.5
TUQ Turquoise Moun 115.70 54 ⇓ P PKPdf 21 27 56.2 +0.6
baz=116
I14A Mackay 115.76 45 ⇓ P PKPdf 21 27 56.4 +0.8
baz=116
C16A Fuhringer Ranc 115.78 40 ⇑ P PKPdf 21 27 54.9 -0.5
baz=116
BELC Belle Mtn. Jos 115.86 56 ⇑ P PKPdf 21 27 57.2 +1.2
baz=116,SNR=11
J14A Carey 115.87 45 ⇑ P PKPdf 21 27 56.6 +0.8
baz=116
F15A Butte 115.89 42 ⇓ P PKPdf 21 27 56.1 +0.3
baz=116
DVTC Desert V Tower 115.97 57 ⇓ P PKPdf 21 27 56.7 +0.6
baz=116
GMRC Granite Mounta 116.02 55 ⇓ P PKPdf 21 27 57.1 +0.9
baz=116,SNR=11
A17A Triple J Farms 116.07 39 ⇓ P PKPdf 21 27 55.9 +0.1
baz=116,SNR=9.9
G15A Dillon 116.08 43 ⇑ P PKPdf 21 27 56.1 0.0
baz=116
HINF Hinteralfeld 116.09 320 ePKIKP PKPdf 21 27 54.8 -1.0
comp=Z,17nm,0.5s
HINF Hinteralfeld 116.09 320 ePKIKP PKPdf 21 27 54.8 -1.0
HINF Hinteralfeld 116.09 320 ePKPdf PKPdf 21 27 54.8 -1.0
H15A Lima 116.13 44 ⇑ P PKPdf 21 27 56.5 +0.3
baz=116
PGF Pioggiola 116.14 314 ePKIKP PKPdf 21 27 55.6 -0.6
PGF Pioggiola 116.14 314 ePKIKP PKPdf 21 27 55.6 -0.6
PGF Pioggiola 116.14 314 ePKPdf PKPdf 21 27 55.6 -0.6
D16A Dana Ranch, Ca 116.15 41 ⇓ P PKPdf 21 27 56.4 +0.3
baz=116
SWSC Sam W. Stewart 116.18 57 ⇑ P PKPdf 21 27 57.1 +0.7
baz=116
E16A East Helena 116.22 42 ⇓ P PKPdf 21 27 56.3 0.0
baz=116
B17A L&G Farms, Che 116.22 39 ⇑ P PKPdf 21 27 56.2 0.0
baz=116
K14A Jones Ranch, D 116.31 46 ⇑ P PKPdf 21 27 56.8 +0.2
baz=116
HAU Haudompre 116.34 320 ePKIKP PKPdf 21 27 55.5 -0.8
HAU eR
comp=Z,127nm,20.0s
HAU Haudompre 116.34 320 ePKIKP PKPdf 21 27 55.5 -0.8
HAU Haudompre 116.34 320 ePKPdf PKPdf 21 27 55.5 -0.8
BC3 Big Chuckawall 116.36 56 ⇑ P PKPdf 21 27 58.0 +1.2
baz=116,SNR=8.7
C17A Wharram Farm, 116.47 40 ⇑ P PKPdf 21 27 56.3 -0.4
baz=116,SNR=5.6
F16A Kennard Place, 116.48 42 ⇓ P PKPdf 21 27 57.1 +0.3
baz=116
BOZ Bozeman (W) 116.52 42 ⇓ P PKPdf 21 27 57.3 +0.4
baz=116
G16A Moss Hill, Enn 116.53 43 ⇓ P PKPdf 21 27 57.3 +0.4
baz=116
IRM Iron Mountain 116.53 56 ⇑ P PKPdf 21 27 58.1 +1.0
baz=116,SNR=7.7
PAGF Fort de Pagny 116.55 321 ePKIKP PKPdf 21 27 56.0 -0.7
comp=Z,1.7nm,0.4s
PAGF Fort de Pagny 116.55 321 ePKPdf PKPdf 21 27 56.0 -0.7
GIVF Givet 116.55 323 ePKIKP PKPdf 21 27 56.3 -0.3
GIVF Givet 116.55 323 ePKIKP PKPdf 21 27 56.3 -0.3
GIVF Givet 116.55 323 ePKPdf PKPdf 21 27 56.3 -0.3
A18A Metzger Ranch, 116.61 39 ⇑ P PKPdf 21 27 57.4 +0.6
baz=116
J15A Blackfoot 116.61 45 ⇓ P PKPdf 21 27 57.4 +0.3
baz=117,SNR=6.7
D17A Six Diamond Ra 116.67 41 ⇑ P PKPdf 21 27 57.2 +0.1
baz=117
K15A Arbon 116.73 46 ⇑ P PKPdf 21 27 58.2 +0.8
baz=117
E17A Martinsdale 116.78 41 ⇑ P PKPdf 21 27 57.3 -0.1
baz=117
B18A Beardsley Farm 116.83 39 ⇓ P PKPdf 21 27 57.2 -0.1
baz=116
LPG La Plagne 116.88 318 ePKIKP PKPdf 21 27 57.3 -0.5
comp=Z,9.8nm,0.6s
LPG La Plagne 116.88 318 ePKIKP PKPdf 21 27 57.3 -0.5
LPG La Plagne 116.88 318 ePKPdf PKPdf 21 27 57.3 -0.5
LPL La Plagne 116.89 318 ePKIKP PKPdf 21 27 57.2 -0.5
comp=Z,13nm,0.4s
LPL La Plagne 116.89 318 ePKIKP PKPdf 21 27 57.2 -0.5
LPL La Plagne 116.89 318 ePKPdf PKPdf 21 27 57.2 -0.5
SBF Sospel 116.89 316 ePKIKP PKPdf 21 27 56.8 -0.7
comp=Z,26nm,0.7s
SBF Sospel 116.89 316 ePKIKP PKPdf 21 27 56.8 -0.7
SBF Sospel 116.89 316 ePKPdf PKPdf 21 27 56.8 -0.7
BAIF Baives 116.94 323 ePKIKP PKPdf 21 27 57.1 -0.2
comp=Z,7.9nm,0.8s
BAIF Baives 116.94 323 ePKIKP PKPdf 21 27 57.1 -0.2
BAIF Baives 116.94 323 ePKPdf PKPdf 21 27 57.1 -0.2
CABF La Chapelle 116.97 319 ePKIKP PKPdf 21 27 57.4 -0.2
comp=Z,25nm,0.5s
CABF La Chapelle 116.97 319 ePKIKP PKPdf 21 27 57.4 -0.2
CABF La Chapelle 116.97 319 ePKPdf PKPdf 21 27 57.4 -0.2
GLA Glamis 116.97 57 ⇓ P PKPdf 21 27 58.1 +0.1
baz=117
EGMT Eagleton 116.97 39 ⇑ P PKPdf 21 27 57.6 0.0
baz=117,SNR=6.0
MEZF Maizieres J'vi 116.99 321 ePKIKP PKPdf 21 27 57.0 -0.5
comp=Z,5.8nm,0.4s
MEZF Maizieres J'vi 116.99 321 ePKPdf PKPdf 21 27 57.0 -0.5
L15A Malad City 117.01 47 ⇑ P PKPdf 21 27 58.3 +0.3
baz=117
F17A Fitzpatrick Pl 117.09 42 ⇓ P PKPdf 21 27 58.2 +0.2
baz=117,SNR=9.8
MBDF Montbardon 117.10 317 ePKIKP PKPdf 21 27 57.1 -0.9
comp=Z,6.9nm,0.6s
MBDF Montbardon 117.10 317 ePKIKP PKPdf 21 27 57.1 -0.9
MBDF Montbardon 117.10 317 ePKPdf PKPdf 21 27 57.1 -0.9
Y12C Blythe 117.11 56 ⇓ P PKPdf 21 27 59.0 +0.8
baz=117
DUG Dugway 117.15 49 ePKIKP PKPdf 21 27 59.0 +0.7
DUG Dugway 117.15 49 ePKPdf PKPdf 21 27 59.0 +0.7
DUG Dugway 117.15 49 ⇑ P PKPdf 21 27 58.8 +0.6
baz=117
J16A Bone 117.22 45 ⇓ P PKPdf 21 27 58.8 +0.4
baz=117
D18A Linhart Farms, 117.22 40 ⇑ P PKPdf 21 27 58.1 0.0
baz=117
A19A Klindworth Far 117.28 38 ⇓ P PKPdf 21 27 58.1 -0.1
baz=117
B19A Brinkman Farms 117.33 39 ⇑ P PKPdf 21 27 58.3 +0.1
baz=117
PDMCI Parker Dam,Lak 117.33 55 ⇑ P PKPdf 21 27 59.2 +0.6
baz=117
K16A Soda Springs 117.36 45 ⇑ P PKPdf 21 27 58.8 +0.1
baz=117
E18A Harlowton 117.36 41 ⇑ P PKPdf 21 27 58.7 +0.2
baz=117
KEST Kesra 117.38 306 PKP PKPdf 21 27 59.2 +0.4
KEST PKKPbc PKKPab 21 38 24.8 -1.2
KEST Kesra 117.38 306 PKP PKPdf 21 27 59.2 +0.4
comp=Z,4.0nm,0.8s,baz=304,slow=2.4,SNR=17
KEST PKKPbc PKKPab 21 38 24.8 -1.2
comp=Z,1.4nm,0.7s,baz=248,slow=14,SNR=4.1
O15A The Old Anders 117.39 48 ⇓ P PKPdf 21 27 59.2 +0.4
baz=117
W13A Hualapai Mount 117.40 54 ⇓ P PKPdf 21 27 59.6 +0.7
baz=117,SNR=9.8
C19A Slack Wire Ran 117.52 40 ⇑ P PKPdf 21 27 58.9 +0.2
baz=118
FRF La Foret Royal 117.53 315 ePKIKP PKPdf 21 27 58.1 -0.6
comp=Z,5.8nm,0.4s
FRF La Foret Royal 117.53 315 ePKIKP PKPdf 21 27 58.1 -0.6
FRF La Foret Royal 117.53 315 ePKPdf PKPdf 21 27 58.1 -0.6
ORIF Oris-en-Rattie 117.64 317 ePKIKP PKPdf 21 27 58.4 -0.6
comp=Z,13nm,0.5s
ORIF eR
comp=Z,185nm,20.5s
ORIF Oris-en-Rattie 117.64 317 ePKIKP PKPdf 21 27 58.4 -0.6
ORIF Oris-en-Rattie 117.64 317 ePKPdf PKPdf 21 27 58.4 -0.6
MOOW Moose Ponds 117.69 44 ePKPdf PKPdf 21 27 59.9 +0.6
LMR La Mourre 117.69 315 ePKIKP PKPdf 21 27 58.4 -0.6
LMR La Mourre 117.69 315 ePKIKP PKPdf 21 27 58.4 -0.6
LMR La Mourre 117.69 315 ePKPdf PKPdf 21 27 58.4 -0.6
L16A Fish Haven 117.70 46 ⇓ P PKPdf 21 27 59.4 +0.1
baz=118
P15A Leamington 117.70 49 ⇑ P PKPdf 21 27 59.9 +0.6
baz=118
F18A Big Timber 117.71 42 ⇓ P PKPdf 21 27 59.4 +0.3
baz=118,SNR=7.0
HWUT Hardware Ranch 117.71 47 ePKPdf PKPdf 21 27 59.2 -0.1
REDW Red Top Meadow 117.73 45 ePKPdf PKPdf 21 28 00.1 +0.7
M16A Huntsville 117.74 47 ⇑ P PKPdf 21 27 59.6 +0.2
baz=118
I17A Pilgrim Ck. 117.75 44 ⇓ P PKPdf 21 28 00.4 +1.0
baz=118
SNOW Snow King Moun 117.77 45 ePKPdf PKPdf 21 28 00.5 +1.0
A20A Cobblestone Ra 117.80 38 ⇓ P PKPdf 21 27 59.1 -0.1
baz=118
J17A Brown Place, J 117.83 45 ⇑ P PKPdf 21 28 00.6 +1.0
baz=118
LOHW Long Hollow 117.83 44 ePKPdf PKPdf 21 28 00.2 +0.6
D19A Cripps Ranch, 117.83 40 ⇑ P PKPdf 21 27 59.7 +0.5
baz=118
113A Mohawk Valley, 117.90 57 ⇓ P PKPdf 21 28 00.6 +0.9
baz=118
B20A Solberg Farm, 117.91 39 ⇑ P PKPdf 21 27 59.7 +0.3
baz=118
MSU Marysvale 118.03 50 ePKIKP PKPdf 21 28 01.7 +1.6
MSU Marysvale 118.03 50 ePKPdf PKPdf 21 28 01.6 +1.6
L17A Cokeville 118.07 46 ⇓ P PKPdf 21 28 00.3 +0.2
baz=118
E19A Rath Farm, Rou 118.13 41 ⇑ P PKPdf 21 28 00.0 +0.1
baz=118
SMRF Simiane la Rot 118.14 316 ePKIKP PKPdf 21 27 59.8 -0.1
comp=Z,17nm,0.8s
SMRF Simiane la Rot 118.14 316 ePKPdf PKPdf 21 27 59.8 -0.1
LOR Lormes 118.18 320 ePKIKP PKPdf 21 27 59.3 -0.6
comp=Z,7.0nm,0.4s
LOR eR
comp=Z,107nm,21.8s
LOR Lormes 118.18 320 ePKPdf PKPdf 21 27 59.3 -0.6
F19A Roth Farm, Mol 118.24 42 ⇑ P PKPdf 21 28 00.4 +0.2
baz=118
D20A Manuel Ranch, 118.33 40 ⇓ P PKPdf 21 28 00.6 +0.4
baz=118
J18A Kendall Valley 118.35 45 ⇓ P PKPdf 21 28 00.8 +0.2
baz=118,SNR=5.1
A21A Bergtoll Ranch 118.37 38 ⇓ P PKPdf 21 28 00.3 +0.1
baz=118
M17A Scullys Gap (B 118.40 47 ⇑ P PKPdf 21 28 00.4 -0.3
baz=118
U15A North Rim 118.41 53 ⇓ P PKPdf 21 28 02.1 +1.1
baz=118,SNR=17
N17A Moffit Pass 118.42 47 ⇓ P PKPdf 21 28 01.0 +0.2
baz=118
VIVF Saint-Julien-I 118.48 317 ePKIKP PKPdf 21 27 59.9 -0.6
comp=Z,10nm,0.6s
VIVF Saint-Julien-I 118.48 317 ePKIKP PKPdf 21 27 59.9 -0.6
VIVF Saint-Julien-I 118.48 317 ePKPdf PKPdf 21 27 59.9 -0.6
SSF Saint Saulge 118.48 320 ePKIKP PKPdf 21 28 00.0 -0.4
comp=Z,20nm,0.6s
SSF Saint Saulge 118.48 320 ePKIKP PKPdf 21 28 00.0 -0.4
SSF Saint Saulge 118.48 320 ePKPdf PKPdf 21 28 00.0 -0.4
K18A Toltan Ranch, 118.51 45 ⇓ P PKPdf 21 28 01.4 +0.5
baz=118,SNR=9.1
FFC Flin Flon 118.52 30 ePKIKP PKPdf 21 27 59.9 -0.3
FFC Flin Flon 118.52 30 ePKPdf PKPdf 21 27 59.9 -0.3
B21A Ellsworth Farm 118.53 38 ⇓ P PKPdf 21 28 00.6 +0.1
baz=118
E20A Meyer Farm, Mu 118.54 41 ⇓ P PKPdf 21 28 00.5 -0.1
baz=118
TMUT Trail Mountain 118.57 49 ePKPdf PKPdf 21 28 01.9 +0.7
H19A Powell 118.60 43 ⇑ P PKPdf 21 28 01.5 +0.6
baz=118
R16A Teasdale 118.61 50 ⇓ P PKPdf 21 28 02.3 +1.0
baz=119
S16A Weppner Ranch, 118.66 51 ⇑ P PKPdf 21 28 02.2 +0.9
baz=119,SNR=6.0
AVF Avril sur Loir 118.67 320 ePKIKP PKPdf 21 28 00.0 -0.8
comp=Z,8.6nm,0.4s
AVF Avril sur Loir 118.67 320 ePKIKP PKPdf 21 28 00.0 -0.8
AVF Avril sur Loir 118.67 320 ePKPdf PKPdf 21 28 00.0 -0.8
O17A Robinson Place 118.69 48 ⇑ P PKPdf 21 28 02.5 +1.2
baz=119
Q16A Castle Valley 118.70 50 ⇓ P PKPdf 21 28 02.5 +1.1
baz=119
C21A Desert Coulee 118.71 39 ⇓ P PKPdf 21 28 00.7 -0.2
baz=119,SNR=5.9
L18A Fontenelle, Gr 118.72 46 ⇓ P PKPdf 21 28 01.9 +0.6
baz=119
F20A Billings 118.78 41 ⇓ P PKPdf 21 28 02.2 +1.0
baz=119
BW06 Boulder Array 118.81 45 ⇓ P PKPdf 21 28 01.5 0.0
baz=119
PDAR Pinedale Array 118.81 45 PKP PKPdf 21 28 01.5 0.0
PDAR PKKPbc PKKPbc 21 38 18.4 0.0
PDAR Pinedale Array 118.81 45 PKP PKPdf 21 28 01.5 0.0
comp=Z,2.2nm,0.4s,baz=55,slow=1.1,SNR=28
PDAR PKKPbc PKKPbc 21 38 18.4 0.0
comp=Z,3.1nm,0.8s,baz=118,slow=7.3,SNR=14

214A	Organ Pipe Nat	118.83	58	⇑P		PKPdf	21 28 02.7	+1.1		
	baz=119									
P17A	Butcher Ranch,	118.88	49	⇓P		PKPdf	21 28 02.3	+0.6		
	baz=119									
G20A	Bridger	118.94	42	⇑P		PKPdf	21 28 01.6	+0.1		
	baz=119,SNR=8.4									
HYF	Humbligny	118.95	320	ePKIKP		PKPdf	21 28 01.2	-0.1		
HYF	Humbligny	118.95	320	ePKPdf		PKPdf	21 28 01.2	-0.1		
A22A	Carney Farms,	118.97	37	⇓P		PKPdf	21 28 01.5	+0.1		
	baz=119									
J19A	Crowheart	119.01	44	⇓P		PKPdf	21 28 02.2	+0.4		
	baz=119,SNR=5.3									
BGF	Bois d'Agland	119.08	320	ePKIKP		PKPdf	21 28 01.4	-0.2		
	comp=Z,34nm,0.5s									
BGF	Bois d'Agland	119.08	320	ePKIKP		PKPdf	21 28 01.4	-0.2		
BGF	Bois d'Agland	119.08	320	ePKPdf		PKPdf	21 28 01.4	-0.2		
SRU	San Rafael	119.14	49	ePKIKP		PKPdf	21 28 02.8	+0.6		
SRU	San Rafael	119.14	49	ePKPdf		PKPdf	21 28 02.8	+0.6		
SRU	San Rafael	119.14	49	⇑P		PKPdf	21 28 02.9	+0.8		
	baz=119									
L19A	Farson	119.15	46	⇑P		PKPdf	21 28 02.7	+0.5		
	baz=119									
R17A	Hanksville Air	119.17	50	⇑P		PKPdf	21 28 03.1	+0.9		
	baz=119									
B22A	Reddig Ranch S	119.20	38	⇓P		PKPdf	21 28 02.8	+0.9		
	baz=119									
E21A	Keefer Ranch,	119.21	40	⇓P		PKPdf	21 28 02.5	+0.6		
	baz=119									
P18A	Preston Nutter	119.21	49	⇑P		PKPdf	21 28 03.1	+0.7		
	baz=119									
O18A	Roosevelt	119.21	48	⇓P		PKPdf	21 28 03.0	+0.7		
	baz=119									
N18A	Larsen Ranch,	119.25	47	⇑P		PKPdf	21 28 02.5	+0.1		
	baz=119									
LASF	Ste Croix	119.29	317	ePKIKP		PKPdf	21 28 01.9	-0.2		
LASF	Ste Croix	119.29	317	ePKPdf		PKPdf	21 28 01.9	-0.2		
K19A	Absolon Red Bu	119.29	45	⇑P		PKPdf	21 28 02.4	0.0		
	baz=119,SNR=10									
S17A	Black Ridge (B	119.29	51	⇑P		PKPdf	21 28 03.1	+0.7		
	baz=119									
WUAZ	Wupatki	119.33	53	ePKPdf		PKPdf	21 28 03.5	+0.9		
WUAZ	Wupatki	119.33	53	⇓P		PKPdf	21 28 03.7	+1.1		
	baz=119,SNR=7.4									
H20A	Greybull	119.33	43	⇑P		PKPdf	21 28 02.4	+0.1		
	baz=119									
I20A	Worland	119.42	43	⇓P		PKPdf	21 28 02.6	+0.2		
	baz=119,SNR=9.3									
Q18A	Rafter H Ranch	119.43	49	⇓P		PKPdf	21 28 03.0	+0.3		
	baz=119,SNR=5.7									
F21A	Absaloka Mine,	119.44	41	⇓P		PKPdf	21 28 02.5	+0.1		
	baz=119									
T17A	Navajo Res., N	119.44	52	⇓P		PKPdf	21 28 04.1	+1.3		
	baz=119,SNR=8.2									
M19A	Rock Springs	119.47	46	⇓P		PKPdf	21 28 03.2	+0.4		
	baz=119									
C22A	Vida	119.50	39	⇑P		PKPdf	21 28 02.6	+0.2		
	baz=119									
X16A	Lo Mia Camp, P	119.50	55	⇑P		PKPdf	21 28 04.1	+1.1		
	baz=120									
D22A	Cohagen	119.55	39	⇓P		PKPdf	21 28 02.9	+0.3		
	baz=120,SNR=9.9									
TCF	Toulx Ste Croi	119.59	320	ePKIKP		PKPdf	21 28 02.2	-0.4		
	comp=Z,14nm,0.7s									
TCF	Toulx Ste Croi	119.59	320	ePKIKP		PKPdf	21 28 02.2	-0.4		
TCF	Toulx Ste Croi	119.59	320	ePKPdf		PKPdf	21 28 02.2	-0.4		
N19A	John Jarvie Ra	119.64	47	⇑P		PKPdf	21 28 03.7	+0.6		
	baz=120									
J20A	Shoshoni	119.65	44	⇑P		PKPdf	21 28 03.4	+0.4		
	baz=120,SNR=8.4									
K20A	Yellowstone Ra	119.69	45	⇓P		PKPdf	21 28 03.6	+0.5		
	baz=120									
B23A	Brockton	119.75	38	⇓P		PKPdf	21 28 03.3	+0.4		
	baz=120									
R18A	Canyonlands Na	119.80	50	⇑P		PKPdf	21 28 03.8	+0.3		
	baz=120,SNR=5.9									
O19A	Miners Draw (B	119.85	48	⇑P		PKPdf	21 28 03.8	+0.3		
	baz=120									
S18A	Hurst Farm, Bl	119.90	51	⇓P		PKPdf	21 28 04.4	+0.6		
	baz=120,SNR=9.6									
C23A	Lambert	119.91	38	⇓P		PKPdf	21 28 03.9	+0.7		
	baz=120,SNR=8.6									
H21A	Big Horn, Sher	119.92	42	⇑P		PKPdf	21 28 03.8	+0.3		
	baz=120									
E22A	Miles City	119.97	40	⇓P		PKPdf	21 28 04.0	+0.6		
	baz=120									
F22A	Rosebud	120.02	41	⇑P		PKPdf	21 28 03.9	+0.4		
	baz=120									
I21A	Big Trails, Te	120.04	43	⇑P		PKPdf	21 28 03.6	-0.2		
	baz=120,SNR=7.7									
J21A	Lysite	120.09	44	⇑P		PKPdf	21 28 04.3	+0.4		
	baz=120									
LDF	La Druitiere	120.12	323	ePKIKP		PKPdf	21 28 02.8	-0.7		
LDF	La Druitiere	120.12	323	ePKIKP		PKPdf	21 28 02.8	-0.7		
LDF	La Druitiere	120.12	323	ePKPdf		PKPdf	21 28 02.8	-0.7		
Q19A	Hogan Spring (	120.12	49	⇑P		PKPdf	21 28 04.4	+0.4		
	baz=120,SNR=5.1									
T18A	Mexican Hat	120.13	51	⇓P		PKPdf	21 28 04.9	+0.8		
	baz=120,SNR=16									
D23A	Lindsay	120.14	39	⇓P		PKPdf	21 28 04.4	+0.7		
	baz=120,SNR=5.2									
P19A	Cripple Cowboy	120.14	48	⇑P		PKPdf	21 28 05.0	+0.9		
	baz=120,SNR=5.7									
A24A	Westby	120.15	37	⇓P		PKPdf	21 28 03.9	+0.2		
	baz=120									
M20A	Sweetwater, Wa	120.17	46	⇑P		PKPdf	21 28 04.5	+0.3		
	baz=120									
CAF	Calviac	120.19	318	ePKIKP		PKPdf	21 28 03.8	0.0		
CAF	Calviac	120.19	318	ePKIKP		PKPdf	21 28 03.8	0.0		
CAF	Calviac	120.19	318	ePKPdf		PKPdf	21 28 03.8	0.0		
G22A	Birney	120.20	41	⇑P		PKPdf	21 28 04.5	+0.6		
	baz=120									
FLN	La Foliniere	120.26	323	ePKIKP		PKPdf	21 28 03.3	-0.5		
	comp=Z,7.8nm,0.5s									
FLN				eR						
	comp=Z,217nm,20.5s									
FLN	La Foliniere	120.26	323	ePKIKP		PKPdf	21 28 03.3	-0.5		
FLN	La Foliniere	120.26	323	ePKPdf		PKPdf	21 28 03.3	-0.5		
N20A	Spence Gulch,	120.32	47	⇓P		PKPdf	21 28 05.1	+0.7		
	baz=120,SNR=11									
H22A	Clearmont	120.39	42	⇑P		PKPdf	21 28 04.7	+0.3		
	baz=120									
RJF	Les Rejaudoux	120.41	319	ePKIKP		PKPdf	21 28 04.0	-0.2		
RJF				eR						
	comp=Z,116nm,21.5s									
RJF	Les Rejaudoux	120.41	319	ePKIKP		PKPdf	21 28 04.0	-0.2		
RJF	Les Rejaudoux	120.41	319	ePKPdf		PKPdf	21 28 04.0	-0.2		
K21A	Alcova	120.46	45	⇓P		PKPdf	21 28 05.0	+0.3		
	baz=120,SNR=11									
C24A	Savage	120.48	38	⇓P		PKPdf	21 28 05.0	+0.7		
	baz=120									
S19A	Harvey Farm, M	120.54	50	⇑P		PKPdf	21 28 05.3	+0.3		
	baz=120									
O20A	White River Ci	120.54	48	⇓P		PKPdf	21 28 05.6	+0.7		
	baz=120,SNR=11									
I22A	9 Mile Ranch,	120.56	43	⇑P		PKPdf	21 28 04.7	0.0		
	baz=120									
L21A	Rawlins	120.60	45	⇓P		PKPdf	21 28 05.2	+0.2		
	baz=120,SNR=11									
P20A	De Beque	120.62	48	⇑P		PKPdf	21 28 05.8	+0.8		
	baz=121,SNR=6.3									
GRR	Gorron	120.65	323	ePKIKP		PKPdf	21 28 03.9	-0.6		
	comp=Z,10nm,0.5s									
GRR	Gorron	120.65	323	ePKIKP		PKPdf	21 28 03.9	-0.6		
GRR	Gorron	120.65	323	ePKPdf		PKPdf	21 28 03.9	-0.6		
X18A	Snowflake	120.68	54	⇑P		PKPdf	21 28 06.5	+1.2		
	baz=121									
D24A	Glendive	120.72	39	⇑P		PKPdf	21 28 05.2	+0.4		
	baz=121									
W18A	Petrified Fore	120.72	54	⇑P		PKPdf	21 28 06.5	+1.1		
	baz=121									
M21A	Separation Pea	120.72	46	⇑P		PKPdf	21 28 05.4	+0.2		
	baz=121,SNR=7.6									
J22A	Midwest	120.73	43	⇑P		PKPdf	21 28 04.5	-0.5		
	baz=121,SNR=13									
G23A	Biddle	120.80	41	⇑P		PKPdf	21 28 05.2	+0.2		
	baz=121									
Q20A	Ridgley Place,	120.85	49	⇑P		PKPdf	21 28 06.3	+0.8		
	baz=121,SNR=8.1									
U19A	Dine' College,	120.86	52	⇓P		PKPdf	21 28 06.7	+1.1		
	baz=121									
T19A	Beclabito	120.86	51	⇑P		PKPdf	21 28 06.6	+1.0		
	baz=121									
PV01	Paradox Valley	120.87	50	ePKPdf		PKPdf	21 28 06.2	+0.6		
PV01				esPKPdf		sPKPdf	21 28 53.9	-2.7		
N21A	Black Mountain	120.88	47	⇓P		PKPdf	21 28 06.0	+0.5		
	baz=121,SNR=12									
E24A	Baker	120.96	39	⇓P		PKPdf	21 28 05.2	-0.1		
	baz=121									
MFF	Saint Martin d	120.97	321	ePKIKP		PKPdf	21 28 04.7	-0.5		
	comp=Z,18nm,0.4s									
MFF	Saint Martin d	120.97	321	ePKIKP		PKPdf	21 28 04.7	-0.5		
MFF	Saint Martin d	120.97	321	ePKPdf		PKPdf	21 28 04.7	-0.5		
R20A	Redvale	121.00	50	⇓P		PKPdf	21 28 06.7	+0.8		
	baz=121,SNR=5.6									
LFF	La Frestale	121.06	319	ePKIKP		PKPdf	21 28 05.5	+0.1		
	comp=Z,34nm,0.9s									
LFF	La Frestale	121.06	319	ePKIKP		PKPdf	21 28 05.5	+0.1		
LFF	La Frestale	121.06	319	ePKPdf		PKPdf	21 28 05.5	+0.1		
O21A	Pagoda	121.08	47	⇓P		PKPdf	21 28 06.6	+0.6		
	baz=121,SNR=5.7									
S20A	Disappointment	121.11	50	⇑P		PKPdf	21 28 07.0	+0.9		
	baz=121,SNR=8.5									
MVCO	Mesa Verde	121.17	51	ePKPdf		PKPdf	21 28 07.5	+1.2		
MVCO	Mesa Verde	121.17	51	⇓P		PKPdf	21 28 07.3	+1.1		
	baz=121,SNR=14									
L22A	Ellis Ranch, M	121.24	45	⇓P		PKPdf	21 28 06.8	+0.7		
	baz=121									
P21A	Newcastle	121.31	48	⇑P		PKPdf	21 28 06.5	+0.1		
	baz=121									
M22A	Cedar Creek Ra	121.33	46	⇓P		PKPdf	21 28 06.6	+0.2		
	baz=121,SNR=5.1									
U20A	Newcomb	121.37	52	⇓P		PKPdf	21 28 07.4	+0.9		
	baz=121									
G24A	Alzada	121.39	41	⇓P		PKPdf	21 28 06.7	+0.5		
	baz=121									
Q21A	Lamborn Mesa,	121.42	49	⇑P		PKPdf	21 28 07.2	+0.6		
	baz=121									
H24A	Dirks Ranch, A	121.53	41	⇑P		PKPdf	21 28 06.3	-0.2		
	baz=122									
K23A	Bowen Ranch, D	121.55	44	⇓P		PKPdf	21 28 07.0	+0.3		
	baz=122									
V20A	Brimhall	121.56	53	⇓P		PKPdf	21 28 08.0	+1.0		
	baz=122									
R21A	Cimarron	121.57	49	⇓P		PKPdf	21 28 08.3	+1.4		
	baz=122									
S21A	Coal Bank Pass	121.59	50	⇓P		PKPdf	21 28 08.4	+1.3		
	baz=122,SNR=30									
N22A	Wattenberg Ran	121.63	46	⇓P		PKPdf	21 28 07.8	+0.8		
	baz=122,SNR=6.8									
W20A	Ramah	121.70	53	⇑P		PKPdf	21 28 08.6	+1.3		
	baz=122,SNR=9.5									
SGMF	Saint Gilles	121.72	323	ePKIKP		PKPdf	21 28 05.9	-0.7		
	comp=Z,11nm,0.5s									
SGMF	Saint Gilles	121.72	323	ePKIKP		PKPdf	21 28 05.9	-0.7		
SGMF	Saint Gilles	121.72	323	ePKPdf		PKPdf	21 28 05.9	-0.7		
SMCO	Snowmass	121.77	48	ePKPdf		PKPdf	21 28 08.4	+0.9		
O22A	Kremmling	121.77	47	⇑P		PKPdf	21 28 07.9	+0.5		
	baz=122									
P22A	Eagle	121.80	48	⇑P		PKPdf	21 28 08.9	+1.5		
	baz=122									
I24A	Kuemmerle Ranc	121.82	42	⇓P		PKPdf	21 28 07.0	-0.1		
	baz=122									
X20A	Quemado	121.85	54	⇓P		PKPdf	21 28 09.2	+1.6		
	baz=122									
319A	Douglas	121.89	58	⇑P		PKPdf	21 28 08.4	+0.8		
	baz=122,SNR=5.3									
Q22A	Crested Butte,	121.91	49	⇓P		PKPdf	21 28 08.9	+1.2		
	baz=122,SNR=8.5									
M23A	Laramie	121.93	45	⇑P		PKPdf	21 28 08.2	+0.7		
	baz=122									
N23A	Red Feather La	121.97	46	⇑P		PKPdf	21 28 08.6	+0.9		
	baz=122									
T21A	Navajo Lake	121.97	51	⇓P		PKPdf	21 28 09.1	+1.4		
	baz=122,SNR=6.5									
J24A	Dixon Ranch, L	122.00	43	⇑P		PKPdf	21 28 07.5	0.0		
	baz=122									
U21A	Nageezi	122.03	52	⇓P		PKPdf	21 28 09.2	+1.3		
	baz=122,SNR=15									
EPF	Esparros	122.05	317	ePKIKP		PKPdf	21 28 07.2	-0.3		
	comp=Z,12nm,0.5s									
EPF	Esparros	122.05	317	ePKIKP		PKPdf	21 28 07.2	-0.3		
EPF	Esparros	122.05	317	ePKPdf		PKPdf	21 28 07.2	-0.3		
Y20A	Horse Springs,	122.09	55	⇓P		PKPdf	21 28 09.2	+1.1		
	baz=122									
Z20A	Nine Sixteen R	122.10	56	⇑P		PKPdf	21 28 09.3	+1.3		
	baz=122,SNR=9.5									
ROSF	Rostrenen	122.11	324	ePKIKP		PKPdf	21 28 06.7	-0.6		
	comp=Z,10nm,0.6s									
ROSF	Rostrenen	122.11	324	ePKIKP		PKPdf	21 28 06.7	-0.6		
ROSF	Rostrenen	122.11	324	ePKPdf		PKPdf	21 28 06.7	-0.6		
RSSD	Black Hills	122.11	42	ePKIKP		PKPdf	21 28 07.2	-0.6		
RSSD	Black Hills	122.11	42	ePKPdf		PKPdf	21 28 07.2	-0.6		
K24A	Anderson Ranch	122.11	44	⇑P		PKPdf	21 28 07.6	-0.2		
	baz=122									
120A	U Bar Ranch, L	122.19	56	⇓P		PKPdf	21 28 09.4	+1.2		
	baz=122,SNR=8.5									
O23A	Lake Granby, G	122.21	47	⇓P		PKPdf	21 28 09.0	+0.8		
	baz=122									
R22A	Saguache, Gunn	122.21	49	⇑P		PKPdf	21 28 09.7	+1.4		
	baz=122,SNR=14									
V21A	Milan	122.21	52	⇓P		PKPdf	21 28 09.7	+1.5		
	baz=122									
QUIF	Quistinic	122.24	323	ePKIKP		PKPdf	21 28 06.9	-0.7		
	comp=Z,12nm,0.7s									
QUIF	Quistinic	122.24	323	ePKIKP		PKPdf	21 28 06.9	-0.7		
QUIF	Quistinic	122.24	323	ePKPdf		PKPdf	21 28 06.9	-0.7		
S22A	4UR Ranch, Cre	122.30	50	⇓P		PKPdf	21 28 09.6	+1.2		
	baz=122,SNR=16									
W21A	San Fidel	122.38	53	⇑P		PKPdf	21 28 09.8	+1.3		
	baz=122									
220A	Playas Peak, P	122.42	57	⇓P		PKPdf	21 28 10.0	+1.4		
	baz=122,SNR=6.9									
X21A	Alamocita Cree	122.44	54	⇓P		PKPdf	21 28 10.0	+1.3		
	baz=122,SNR=11									
T22A	Edith	122.45	51	⇑P		PKPdf	21 28 09.9	+1.2		
	baz=122,SNR=8.3									
320A	Kipp Ranch, An	122.53	58	⇑P		PKPdf	21 28 10.3	+1.4		
	baz=122,SNR=10									
P23A	Jefferson	122.54	48	⇓P		PKPdf	21 28 09.6	+0.6		
	baz=122									
ISCO	Idaho Springs	122.57	47	ePKIKP		PKPdf	21 28 09.2	+0.3		
ISCO	Idaho Springs	122.57	47	ePKPdf		PKPdf	21 28 09.2	+0.3		
ISCO	Idaho Springs	122.57	47	⇓P		PKPdf	21 28 09.4	+0.5		
	baz=122,SNR=6.6									
TAM	Tamanrasset	122.59	292	ePKIKP		PKPdf	21 28 10.1	+0.9		
TAM	Tamanrasset	122.59	292	ePKPdf		PKPdf	21 28 10.1	+0.9		
Y21A	Point of Rocks	122.64	54	⇑P		PKPdf	21 28 10.6	+1.4		
	baz=123									
FRB	Frobisher Bay	122.66	9	PKP		PKPdf	21 28 07.4	-0.5		
FRB	Frobisher Bay	122.66	9	PKP		PKPdf	21 28 07.4	-0.5		
	comp=Z,12nm,0.5s,baz=341,slow=2.4,SNR=36									
U22A	Llaves	122.67	51	⇑P		PKPdf	21 28 10.6	+1.5		
	baz=123,SNR=8.7									
Q23A	Hartsel	122.69	48	⇓P		PKPdf	21 28 10.3	+1.1		
	baz=123									
ETSF	Etsaut	122.71	317	ePKIKP		PKPdf	21 28 09.2	+0.4		
	comp=Z,15nm,0.8s									
ETSF	Etsaut	122.71	317	ePKIKP		PKPdf	21 28 09.2	+0.4		
ETSF	Etsaut	122.71	317	ePKPdf		PKPdf	21 28 09.2	+0.4		
V22A	San Miguel Ran	122.75	52	⇓P		PKPdf	21 28 11.3	+2.0		
	baz=123,SNR=9.2									
Z21A	St. Cloud Mine	122.81	55	⇑P		PKPdf	21 28 11.3	+1.9		
	baz=123									
121A	Cookes Peak, D	122.89	56	⇓P		PKPdf	21 28 11.1	+1.5		
	baz=123,SNR=10									
L25A	Engebretsen Ra	122.91	44	⇓P		PKPdf	21 28 09.6	+0.3		
	baz=123									
R23A	Moffat	122.92	49	⇓P		PKPdf	21 28 11.0	+1.4		
	baz=123,SNR=11									
LAZ	Ladron	122.97	54	ePKPdf		PKPdf	21 28 10.7	+0.9		
W22A	Albuquerque	123.01	53	⇓P		PKPdf	21 28 11.3	+1.5		
	baz=123									
X22A	Bernardo	123.05	54	⇓P		PKPdf	21 28 11.7	+1.9		
	baz=123									
SJPF	Ste Jean	123.08	317	ePKIKP		PKPdf	21 28 09.7	+0.3		
	comp=Z,10nm,0.6s									
SJPF	Ste Jean	123.08	317	ePKIKP		PKPdf	21 28 09.7	+0.3		
SJPF	Ste Jean	123.08	317	ePKPdf		PKPdf	21 28 09.7	+0.3		
T23A	Casias Ranch,	123.11	50	⇓P		PKPdf	21 28 11.4	+1.4		
	baz=123,SNR=6.0									
M25A	Palm-Egli Farm	123.11	45	⇑P		PKPdf	21 28 10.7	+0.9		
	baz=123									
LENM	Lemitar	123.16	54	ePKPdf		PKPdf	21 28 10.7	+0.7		
Y22A	Socorro	123.22	54	⇓P		PKPdf	21 28 11.6	+1.4		
	baz=123									
K26A	Motz Farm, Whi	123.24	43	⇓P		PKPdf	21 28 09.9	+0.1		
	baz=123									
SDCO	Great Sand Dun	123.30	50	ePKPdf		PKPdf	21 28 11.2	+0.9		
SDCO	Great Sand Dun	123.30	50	⇓P		PKPdf	21 28 11.3	+0.9		
	baz=123,SNR=14									
V23A	Ortiz Mt. (NFS	123.37	52	⇓P		PKPdf	21 28 12.4	+1.9		
	baz=123									
ANMO	Albuquerque	123.37	53	ePKPdf		PKPdf	21 28 11.3	+0.8		
ANMO				esPKPdf		sPKPdf	21 28 57.1	-4.3		
Z22A	Elephant Butte	123.39	55	⇓P		PKPdf	21 28 11.6	+1.1		
	baz=123,SNR=7.4									
LPM	Los Pinos Moun	123.40	54	ePKPdf		PKPdf	21 28 11.5	+1.0		
BNM	Barren Site	123.44	54	ePKPdf		PKPdf	21 28 11.5	+0.8		
R24A	Sanders Place,	123.45	49	⇑P		PKPdf	21 28 11.5	+1.0		
	baz=123									
222A	Williams Famil	123.55	56	⇓P		PKPdf	21 28 11.5	+0.7		
	baz=124									
S24A	Houghin Ranch,	123.55	50	⇑P		PKPdf	21 28 12.0	+1.1		
	baz=124,SNR=7.3									
W23A	Werner Place,	123.55	53	⇑P		PKPdf	21 28 11.9	+1.1		
	baz=124									
X23A	Hourglass Bar	123.68	53	⇑P		PKPdf	21 28 12.3	+1.3		
	baz=124									
P25A	Willow Gulch B	123.71	47	⇓P		PKPdf	21 28 12.0	+1.0		
	baz=124									
T24A	Torres, Weston	123.85	50	⇑P		PKPdf	21 28 12.5	+1.1		
	baz=124									
Q25A	Bedland, Calha	123.86	48	⇑P		PKPdf	21 28 12.3	+1.0		
	baz=124									
K27A	Flueckinger Fa	123.88	43	⇓P		PKPdf	21 28 11.0	-0.1		
	baz=124									
Y23A	Lovelace Mesa,	123.96	54	⇑P		PKPdf	21 28 12.7	+1.1		
	baz=124									
Z23A	Rita Site, Whi	123.99	55	⇑P		PKPdf	21 28 12.9	+1.4		
	baz=124									
ULM	Lac du Bonnet	124.07	32	PKP		PKPdf	21 28 10.5	-0.6		
ULM	Lac du Bonnet	124.07	32	PKP		PKPdf	21 28 10.5	-0.6		
	comp=Z,7.3nm,0.8s,baz=314,slow=1.9,SNR=14									
O26A	Horse Wrangler	124.07	46	⇑P		PKPdf	21 28 12.2	+0.6		
	baz=124									
V24A	Rampart Ranch,	124.08	52	⇑P		PKPdf	21 28 13.1	+1.2		
	baz=124									
R25A	Fountain Ranch	124.09	49	⇑P		PKPdf	21 28 12.3	+0.7		
	baz=124,SNR=5.6									
W24A	Lazy 6 Ranch,	124.12	52	⇑P		PKPdf	21 28 13.1	+1.2		
	baz=124,SNR=18									
S25A	Robets Cordova	124.13	49	⇑P		PKPdf	21 28 12.7	+0.9		
	baz=124,SNR=10									
M27A	Reverse DX Ran	124.24	44	⇑P		PKPdf	21 28 12.0	+0.2		
	baz=124									
X24A	Lazy VL Ranch,	124.28	53	⇓P		PKPdf	21 28 12.9	+0.7		
	baz=124									
P26A	Davis Ranch, A	124.29	47	⇑P		PKPdf	21 28 12.8	+0.8		
	baz=124									
T25A	Trinidad	124.32	50	⇓P		PKPdf	21 28 13.1	+0.9		
	baz=124,SNR=9.2									
Q26A	Hugo	124.39	48	⇓P		PKPdf	21 28 13.1	+0.8		
	baz=124									
N27A	Anderson Farm,	124.41	45	⇓P		PKPdf	21 28 12.8	+0.6		
	baz=124									
Y24A	Capitan	124.46	54	⇓P		PKPdf	21 28 13.5	+0.9		
	baz=124									
U25A	Circle Dot Ran	124.55	51	⇓P		PKPdf	21 28 12.9	+0.2		
	baz=124									
V25A	Rancho No Teng	124.56	51	⇓P		PKPdf	21 28 13.3	+0.6		
	baz=124,S

	baz=127								
BGNE	**Belgrade**	**127.18**	**43**	⇓P		**PKPdf**	**21 28 17.9**	**+0.5**
	baz=127								
128A	**Castleberry Fa**	**127.19**	**55**	⇓P		**PKPdf**	**21 28 18.8**	**+1.1**
	baz=127								
228A	**UT Block 9, Go**	**127.25**	**55**	⇑P		**PKPdf**	**21 28 19.3**	**+1.5**
	baz=127								
328A	**Wristen Ranch,**	**127.27**	**56**	⇓P		**PKPdf**	**21 28 18.6**	**+0.7**
	baz=127,SNR=8.1								
627A	**Terlingua Ranc**	**127.28**	**59**	⇑P		**PKPdf**	**21 28 19.0**	**+1.0**
	baz=127,SNR=12								
PBRG	**Braganca**	**127.32**	**318**	*e*PKPdf		**PKPdf**	**21 28 15.9**	**-1.7**
Y29A	**Porterfield Fa**	**127.47**	**53**	⇓P		**PKPdf**	**21 28 19.2**	**+1.0**
	baz=127								
428A	**Kincaid Ranch,**	**127.55**	**57**	⇓P		**PKPdf**	**21 28 19.7**	**+1.2**
	baz=128,SNR=7.1								
528A	**Cox Ranch, San**	**127.61**	**58**	⇓P		**PKPdf**	**21 28 19.6**	**+1.0**
	baz=128								
Z29A	**Hungry Hill Ra**	**127.63**	**54**	⇑P		**PKPdf**	**21 28 19.4**	**+0.9**
	baz=128								
129A	**Stewart Farms,**	**127.69**	**54**	⇓P		**PKPdf**	**21 28 19.6**	**+0.9**
	baz=128								
628A	**Black Gap, Mar**	**127.69**	**58**	⇓P		**PKPdf**	**21 28 19.9**	**+1.2**
	baz=128,SNR=9.3								
EYMN	**Ely**	**127.75**	**33**	*e*PKPdf		**PKPdf**	**21 28 17.8**	**-0.4**
MVO	**Moncorvo**	**127.81**	**317**	*e*PKPdf		**PKPdf**	**21 28 18.4**	**-0.2**
329A	**Wagon Wheel Ra**	**127.92**	**56**	⇑P		**PKPdf**	**21 28 19.6**	**+0.5**
	baz=128,SNR=8.2								
229A	**Bryant Ranch,**	**127.93**	**55**	⇓P		**PKPdf**	**21 28 19.7**	**+0.6**
	baz=128								
529A	**Stev Forest Ra**	**128.09**	**58**	⇓P		**PKPdf**	**21 28 20.4**	**+0.9**
	baz=128,SNR=14								
PCAB	**Cabril**	**128.22**	**318**	*e*PKPdf		**PKPdf**	**21 28 20.4**	**+1.1**
POLO	**Lamas de Olo**	**128.22**	**318**	*e*PKPdf		**PKPdf**	**21 28 19.6**	**+0.2**
429A	**Davenport Ranc**	**128.23**	**57**	⇑P		**PKPdf**	**21 28 20.5**	**+0.7**
	baz=128,SNR=10								
PGAV	**Gavieira, Arco**	**128.25**	**319**	*e*PKPdf		**PKPdf**	**21 28 18.9**	**-0.6**
MTE	**Manteigas**	**128.50**	**317**	*e*PKPdf		**PKPdf**	**21 28 20.5**	**+0.6**
PVIS	**Viseu**	**128.60**	**317**	*e*PKPdf		**PKPdf**	**21 28 20.5**	**+0.4**
SPMN	**St. Paul**	**128.62**	**36**	⇑P		**PKPdf**	**21 28 20.5**	**+0.6**
	baz=128								
PCBR	**Castelo Branco**	**128.71**	**316**	*e*PKPdf		**PKPdf**	**21 28 21.2**	**+1.0**
430A	**Baggett Ranch,**	**128.73**	**56**	⇑P		**PKPdf**	**21 28 21.5**	**+0.8**
	baz=129,SNR=15								
530A	**J-C Ranch, Com**	**128.82**	**57**	⇑P		**PKPdf**	**21 28 21.4**	**+0.6**
	baz=129								
PMRV	**Marv??o**	**128.84**	**316**	*e*PKPdf		**PKPdf**	**21 28 21.3**	**+0.8**
PLCA	**Paso Flores**	**129.09**	**162**	PKP		**PKPdf**	**21 28 22.3**	**+1.2**
PLCA	**Paso Flores**	**129.09**	**162**	PKP		**PKPdf**	**21 28 22.3**	**+1.2**
	comp=Z,12nm,0.9s,baz=222,slow=2.0,SNR=15								
PBAR	**Barrancos**	**129.13**	**314**	*e*PKPdf		**PKPdf**	**21 28 22.4**	**+1.3**
PESTR	**Estremoz**	**129.22**	**315**	*e*PKPdf		**PKPdf**	**21 28 21.7**	**+0.4**
KSU1	**Kansas State U**	**129.26**	**45**	*e*PKPdf		**PKPdf**	**21 28 22.0**	**+0.7**
431A	**Sonora**	**129.28**	**56**	⇓P		**PKPdf**	**21 28 22.6**	**+1.0**
	baz=129								
ABTX	**Abilene, Hawle**	**129.47**	**54**	⇑P		**PKPdf**	**21 28 22.7**	**+0.8**
	baz=129								
531A	**Rocksprings**	**129.48**	**57**	⇓P		**PKPdf**	**21 28 23.1**	**+1.0**
	baz=129								
PMTG	**Montargil**	**129.57**	**315**	*e*PKPdf		**PKPdf**	**21 28 22.5**	**+0.6**
631A	**Perdido Creek**	**129.66**	**58**	⇓P		**PKPdf**	**21 28 23.2**	**+0.8**
	baz=130								
EVO	**Evora**	**129.66**	**315**	*e*PKPdf		**PKPdf**	**21 28 23.5**	**+1.4**
EVO	**Evora**	**129.66**	**315**	*e*PKIKP		**PKPdf**	**21 28 22.4**	**+0.3**
	comp=Z,11nm,0.6s								
EVO				*e*R					
	comp=Z,135nm,21.0s								
EVOP	**Sao Brissos**	**129.74**	**315**	*e*PKIKP		**PKPdf**	**21 28 22.4**	**+0.2**
EVOP	**Sao Brissos**	**129.74**	**315**	*e*PKPdf		**PKPdf**	**21 28 22.4**	**+0.2**
432A	**Menard**	**129.90**	**56**	⇑P		**PKPdf**	**21 28 24.1**	**+1.3**
	baz=130								
JCT	**Junction City**	**130.01**	**56**	⇓P		**PKPdf**	**21 28 23.6**	**+0.6**
	baz=130								
532A	**Rocksprings**	**130.02**	**57**	⇑P		**PKPdf**	**21 28 23.9**	**+0.8**
	baz=130								
PNCL	**Nicolau / Gran**	**130.21**	**314**	*e*PKPdf		**PKPdf**	**21 28 23.3**	**+0.2**
632A	**Uvalde**	**130.30**	**58**	⇓P		**PKPdf**	**21 28 24.5**	**+0.9**
	baz=130								
732A	**Laxson Ranch,**	**130.36**	**59**	⇑P		**PKPdf**	**21 28 24.9**	**+1.2**
	baz=130								
TUL1	**Tulsa**	**131.22**	**48**	⇑P		**PKPdf**	**21 28 26.5**	**+1.3**
	baz=131								
SCHQ	**Schefferville**	**131.39**	**11**	PKP		**PKPdf**	**21 28 25.1**	**+0.3**
SCHQ				SKPbc		**SKPbc**	**21 31 34.1**	**-3.3**
SCHQ	**Schefferville**	**131.39**	**11**	PKP		**PKPdf**	**21 28 25.1**	**+0.3**
	comp=Z,12nm,0.4s,baz=276,slow=2.7,SNR=78								
SCHQ				SKPbc		**SKPbc**	**21 31 34.1**	**-3.3**
	comp=Z,12nm,0.6s,baz=12,slow=2.9,SNR=15								
WHTX	**Lake Whitney**	**131.43**	**54**	⇑P		**PKPdf**	**21 28 26.8**	**+1.1**
	baz=131								
DBIC	**Dimbokro**	**133.02**	**272**	PKPpre	PKPpre		21 28 17.8		
DBIC				PKP		**PKPdf**	**21 28 29.4**	**+0.3**
DBIC				SKPbc		**SKPbc**	**21 31 40.7**	**-3.7**
DBIC				PKKP		**PKKPdf**	**21 38 18.1**	**-2.1**
DBIC	**Dimbokro**	**133.02**	**272**	PKhKP	PKPpre		21 28 17.8		
	comp=Z,1.8nm,0.4s,baz=43,slow=3.2,SNR=13								
DBIC				PKP		**PKPdf**	**21 28 29.4**	**+0.3**
	comp=Z,15nm,0.5s,baz=88,slow=2.2,SNR=34								
DBIC				SKPbc		**SKPbc**	**21 31 40.7**	**-3.7**
	comp=Z,24nm,0.9s,baz=88,slow=3.4,SNR=16								
DBIC				PKKP		**PKKPdf**	**21 38 18.1**	**-2.1**
	comp=Z,2.5nm,0.9s,baz=187,slow=8.4,SNR=3.1								
LIC	**Lamto**	**133.16**	**271**	*e*PKIKP		**PKPdf**	**21 28 29.3**	**-0.1**
	comp=Z,29nm,0.7s								
LIC				*e*R					
	comp=Z,65nm,17.1s								
LIC	**Lamto**	**133.16**	**271**	*e*PKPdf		**PKPdf**	**21 28 29.3**	**-0.1**
MIAR	**Mount Ida**	**133.44**	**49**	*e*PKIKP		**PKPdf**	**21 28 29.9**	**+0.6**
MIAR	**Mount Ida**	**133.44**	**49**	*e*PKPdf		**PKPdf**	**21 28 29.9**	**+0.6**
TRQA	**Tornquist**	**133.75**	**169**	*e*PKPdf		**PKPdf**	**21 28 29.8**	**-0.1**
TRQA				*e*SKPbc		**SKPbc**	**21 31 45.2**	**-1.0**
SADO	**Sadowa**	**136.13**	**28**	PKPpre	PKPpre		21 28 23.6		
SADO				PKP		**PKPdf**	**21 28 34.1**	**0.0**
SADO				SKPbc		**SKPbc**	**21 31 49.8**	**-3.6**
SADO	**Sadowa**	**136.13**	**28**	PKhKP	PKPpre		21 28 23.6		
	comp=Z,2.0nm,0.4s,baz=284,slow=5.7,SNR=5.4								
SADO				PKP		**PKPdf**	**21 28 34.1**	**0.0**
	comp=Z,6.5nm,0.6s,baz=313,slow=3.7,SNR=9.2								
SADO				SKPbc		**SKPbc**	**21 31 49.8**	**-3.6**
	comp=Z,5.0nm,0.6s,baz=315,slow=6.1,SNR=4.9								
CFAA	**Coronel Fontan**	**138.18**	**159**	PKPpre	PKPpre		21 28 29.2		
CFAA				PKP		**PKiKP**	**21 28 40.2**	**-0.3**
CFAA				SKPbc		**SKPbc**	**21 31 56.6**	**-3.4**
CFAA	**Coronel Fontan**	**138.18**	**159**	PKhKP	PKPpre		21 28 29.2		
	comp=Z,0.8nm,0.5s,baz=230,slow=3.6,SNR=8.4								
CFAA				PKP		**PKiKP**	**21 28 40.2**	**-0.3**
	comp=Z,3.5nm,0.9s,baz=247,slow=3.2,SNR=11								
CFAA				SKPbc		**SKPbc**	**21 31 56.6**	**-3.4**
	comp=Z,0.2nm,0.4s,baz=180,slow=5.5,SNR=3.8								
TEIG	**Tepich**	**142.87**	**66**	*e*PKPdf		**PKPdf**	**21 28 44.4**	**-2.6**
TEIG				PKP		**PKPdf**	**21 28 45.0**	**-2.0**
TEIG	**Tepich**	**142.87**	**66**	PKP		**PKPdf**	**21 28 45.0**	**-2.0**
	comp=Z,39nm,0.7s,baz=317,slow=6.5,SNR=12								
LVC	**Limon Verde**	**145.87**	**152**	*e*PKPbc		**PKPab**	**21 28 54.5**	**+0.6**
CPUP	**Villa Florida**	**145.98**	**172**	PKPbc		**PKPbc**	**21 28 53.2**	**0.0**
CPUP	**Villa Florida**	**145.98**	**172**	PKPbc		**PKPbc**	**21 28 53.2**	**0.0**
	comp=Z,48nm,0.5s,baz=184,slow=1.7,SNR=163								
JTS	**JuntasAbangare**	**147.54**	**83**	*e*PKPdf		**PKPdf**	**21 28 56.1**	**+0.9**
JTS				*e*PKPbc		**PKPbc**	**21 28 58.9**	**+0.8**
JTS				PKPbc		**PKPbc**	**21 28 59.2**	**+1.2**
JTS				*es*PKPdf		**sPKPdf**	**21 29 45.2**	**-1.0**
JTS	**JuntasAbangare**	**147.54**	**83**	PKPbc		**PKPbc**	**21 28 59.2**	**+1.2**
	comp=Z,204nm,0.6s,baz=297,slow=1.9,SNR=108								
SPB	**Sao Paulo**	**148.72**	**188**	*e*PKPbc		**PKPbc**	**21 29 02.2**	**+1.4**
NNA	**Nana**	**148.76**	**128**	*e*PKPdf		**PKPdf**	**21 28 57.9**	**+0.7**
NNA				*e*PKPbc		**PKiKP**	**21 29 02.4**	**-0.2**
CAM4	**Nova Friburgo**	**148.84**	**197**	*i*		PKPpre	21 28 50.8		
CAM4				*i*		**PKPdf**	**21 28 54.7**	**-2.8**
CAM4				*i*			21 29 09.9		
CAM4				*i*			21 29 19.8		
CAM4				*i*			21 29 41.0		
CAM4				*i*			21 29 45.2		
CAM4				*i*			21 29 55.4		
CAM4				*i*			21 30 14.5		
CAM4				*i*			21 30 15.2		
ATAH	**Atahualpa**	**150.09**	**119**	PKP		**PKPdf**	**21 29 01.3**	**+1.4**
ATAH				PKPbc		**PKiKP**	**21 29 06.3**	**+0.4**
ATAH	**Atahualpa**	**150.09**	**119**	PKP		**PKPdf**	**21 29 01.3**	**+1.4**
	comp=Z,18nm,1.0s,baz=242,slow=1.8,SNR=15								
ATAH				PKPbc		**PKiKP**	**21 29 06.3**	**+0.4**
	comp=Z,139nm,0.9s,baz=314,slow=1.5,SNR=57								
SACV	**Santiago Islan**	**151.02**	**287**	*e*PKPbc		**PKPbc**	**21 29 07.0**	**+0.4**
LPAZ	**La Paz**	**151.57**	**146**	PKP		**PKPdf**	**21 29 03.6**	**+1.3**
LPAZ				PKPbc		**PKiKP**	**21 29 09.7**	**+0.6**
LPAZ				PKPab		**PKPab**	**21 29 19.0**	**+1.5**
LPAZ	**La Paz**	**151.57**	**146**	PKP		**PKPdf**	**21 29 03.6**	**+1.3**
	comp=Z,10nm,1.0s,baz=1.5,slow=2.5,SNR=22								
LPAZ				PKPbc		**PKiKP**	**21 29 09.7**	**+0.6**
	comp=Z,37nm,0.5s,baz=25,slow=1.7,SNR=85								
LPAZ				PKPab		**PKPab**	**21 29 19.0**	**+1.5**
	comp=Z,147nm,0.6s,baz=208,slow=4.1,SNR=52								
BCIP	**Isla Barro Col**	**152.61**	**85**	*e*PKPdf		**PKPdf**	**21 29 03.1**	**-0.1**
BCIP				*e*PKPbc		**PKPbc**	**21 29 10.1**	**-0.2**
OTAV	**Otavalo**	**152.85**	**104**	*e*PKPdf		**PKPdf**	**21 29 05.1**	**+1.0**
OTAV				*e*PKPbc		**PKiKP**	**21 29 12.5**	**+0.9**
BDFB	**Brasilia**	**156.61**	**190**	PKP		**PKPdf**	**21 29 09.7**	**+0.9**
BDFB				PKPab		**PKPab**	**21 29 39.6**	**+1.5**
BDFB				PP		**PP**	**21 33 14.5**	**-0.4**
BDFB	**Brasilia**	**156.61**	**190**	PKP		**PKPdf**	**21 29 09.7**	**+0.9**
	comp=Z,8.0nm,0.8s,baz=136,slow=4.3,SNR=11								
BDFB				PKPab		**PKPab**	**21 29 39.6**	**+1.5**
	comp=Z,15nm,0.9s,baz=168,slow=2.8,SNR=9.3								
BDFB				PP		**PP**	**21 33 14.5**	**-0.4**
	comp=Z,9.8nm,1.1s,baz=148,slow=6.7,SNR=3.9								
ROSC	**El Rosal**	**157.85**	**96**	PKP		**PKPdf**	**21 29 10.0**	**-0.8**
ROSC				PKPab		**PKPab**	**21 29 46.6**	**+2.3**
ROSC	**El Rosal**	**157.85**	**96**	PKP		**PKPdf**	**21 29 10.0**	**-0.8**
	comp=Z,22nm,0.7s,baz=102,slow=5.3,SNR=10								
ROSC				PKPab		**PKPab**	**21 29 46.6**	**+2.3**
	comp=Z,20nm,0.6s,baz=271,slow=21,SNR=11								
SAML	**Samuel**	**160.31**	**146**	*e*PKPdf		**PKPdf**	**21 29 14.0**	**+0.9**
SAML				*e*PKPab		**PKPab**	**21 29 54.1**	**-0.1**
SDV	**Santo Domingo**	**161.71**	**84**	*e*PKPdf		**PKPdf**	**21 29 14.9**	**0.0**
SDV				*e*PKPab		**PKPab**	**21 30 01.3**	**+0.5**
CELP	**Cerrillos**	**162.51**	**52**	*e*PKPdf		**PKPdf**	**21 29 15.3**	**0.0**
SJG	**San Juan**	**162.82**	**51**	*e*PKPdf		**PKPdf**	**21 29 15.2**	**-0.4**

KRSC 26 21:10:00.0±0.6, 53.08N×162.49E, h43km±42km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.49**	**272**	P		Pn	21 10 25.4	+1.2
SPN				*e*S		Sn	21 10 43.9	+1.5
NLC	**Nalytchevo**	**1.90**	**274**	P		Pn	21 10 32.2	+2.4
NLC				*e*S		Sn	21 10 55.2	+2.7
SDLR	**Sedlovina**	**2.18**	**277**	*e*P		Pn	21 10 35.8	+1.9
SDLR				*e*S		Sn	21 11 02.2	+2.4
UGLR	**Uglovaya**	**2.21**	**275**	*e*P		Pn	21 10 36.7	+2.4
UGLR				S		Sn	21 11 03.2	+2.7
SMAR	**Somma**	**2.23**	**276**	P		Pn	21 10 36.6	+1.9
SMAR				*e*S		Sn	21 11 03.6	+2.4
KRER	**Koryakskii**	**2.26**	**277**	*i* P		Pn	21 10 37.5	+2.4
KRER				*e*S		Sn	21 11 05.5	+3.5
AVH	**Avacha**	**2.27**	**276**	*i* P		Pn	21 10 37.5	+2.5
AVH				*e*S		Sn	21 11 05.2	+3.4
PET	**Petropavlovsk**	**2.32**	**270**	*e*S		Sn	21 11 06.4	+3.6
KOK	**Koryaka**	**2.33**	**277**	*e*P		Pn	21 10 38.1	+2.2
KOK				S		Sn	21 11 06.5	+3.1
RUS	**Russkaya**	**2.50**	**257**	*e*P		Pn	21 10 39.0	+0.9
RUS				*e*S		Sn	21 11 07.8	+0.4
MTVR	**Mutnovka**	**2.68**	**259**	*e*P		Pn	21 10 41.8	+1.0
MTVR				*e*S		Sn	21 11 12.9	+0.7
ASAK	**Asacha**	**2.88**	**258**	*i* P		Pn	21 10 45.0	+1.6
ASAK				*e*S		Sn	21 11 17.9	+1.1
KMNR	**Kamenistaya**	**2.99**	**335**	*e*P		Pn	21 10 47	+2.7
KMNR				S		Sn	21 11 22.7	+3.1
BZGR	**Bezymyannyi-Gr**	**3.05**	**341**	P		Pn	21 10 47.9	+2.1
ZLN	**Zelenaya**	**3.10**	**342**	P		Pn	21 10 49.7	+3.2
KBTR	**Krutoberegovo**	**3.14**	**3**	*e*P		Pn	21 10 46.3	-0.6
KBTR				S		Sn	21 11 20.3	-2.8
APC	**Apacha**	**3.23**	**269**	P		Pn	21 10 51.3	+3.2
APC				S		Sn	21 11 29.7	+4.5
SRDR	**Sredinnyy**	**3.62**	**335**	P		Pn	21 10 55.8	+2.2

KRSC 26 21:12:37.4±1.0, 55.49N×166.09E, h34km±36km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.29**	**193**	*i* P		Pn	21 12 45.1	0.0
BKI				*i* S		Sb	21 12 50.6	+0.2
KBTR	**Krutoberegovo**	**1.98**	**293**	*e*P		Pn	21 13 08.5	0.0
KBTR				S		Sn	21 13 31.4	-0.7
SMKR	**Semkarok**	**2.81**	**295**	P		Pn	21 13 22.7	+2.6
SMKR				S		Sn	21 13 55.2	+2.3
BDR	**Baidarnaya**	**2.94**	**294**	P		Pn	21 13 24.2	+2.4
BDR				S		Sn	21 13 57.7	+1.6
SRKR	**Sorokina**	**3.00**	**295**	P		Pn	21 13 24.4	+1.9
SRKR				S		Sn	21 13 58.2	+0.9
ZLN	**Zelenaya**	**3.03**	**282**	P		Pn	21 13 25.9	+2.8
ZLN				S		Sn	21 14 01.0	+2.7
BZGR	**Bezymyannyi-Gr**	**3.08**	**281**	P		Pn	21 13 26.8	+3.0
BZGR				S		Sn	21 14 03.1	+3.5
KLY	**Klyuchi**	**3.17**	**287**	S		Sn	21 14 02.1	+0.7
BZWR	**Bezymyannyi-We**	**3.20**	**281**	P		Pn	21 13 28.3	+2.8
BZWR				S		Sn	21 14 05.2	+2.7
BZMR	**Bezymyannaya**	**3.20**	**280**	P		Pn	21 13 28.5	+3.1
BZMR				S		Sn	21 14 05.9	+3.4
KMNR	**Kamenistaya**	**3.33**	**277**	*e*P		Pn	21 13 30.5	+3.3
KMNR				S		Sn	21 14 08.8	+3.2
KPT	**Kopyto**	**3.35**	**281**	P		Pn	21 13 29.6	+2.1
KPT				S		Sn	21 14 07.3	+1.2
SPN	**Mys Shipunski**	**4.29**	**239**	S		Sn	21 14 30.2	+1.3
NLC	**Nalytchevo**	**4.58**	**242**	S		Sn	21 14 38.6	+2.5
SDLR	**Sedlovina**	**4.76**	**245**	*e*P		Pn	21 13 50.3	+3.5
SDLR				S		Sn	21 14 43.4	+2.5
SMAR	**Somma**	**4.81**	**245**	*e*P		Pn	21 13 51.3	+3.7
UGLR	**Uglovaya**	**4.83**	**245**	*e*P		Pn	21 13 51.6	+3.9
AVH	**Avacha**	**4.84**	**246**	*e*P		Pn	21 13 51.6	+3.7
AVH				S		Sn	21 14 45.0	+2.2
RUS	**Russkaya**	**5.42**	**239**	*e*P		Pn	21 13 58.7	+3.0
RUS				S		Sn	21 14 56.7	-0.1
MTVR	**Mutnovka**	**5.55**	**240**	P		Pn	21 14 00.7	+3.0
MTVR				S		Sn	21 15 02.4	+1.9
ASAK	**Asacha**	**5.75**	**241**	P		Pn	21 14 04.5	+4.1
APC	**Apacha**	**5.84**	**248**	P		Pn	21 14 06.4	+5.0

IDC 26 21:23:35.8±3.9, 18.06N×147.53E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/27, mbtmpg3.7/6, Error ellipse: s-maj=153.1km s-min=28.0km az=83.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.92**	**200**	P	P	21 31 11.8	-0.1
	1.0nm,1.0s,baz=32,slow=8.8,SNR=2.2						
SONM	**Songino Array**	**44.73**	**321**	P	P	21 31 51.1	0.0
	0.3nm,0.7s,baz=122,slow=6.3,SNR=3.9						
MKAR	**Makanchi Array**	**60.16**	**314**	P	P	21 33 44.8	-0.7
	0.5nm,0.8s,baz=86,slow=8.4,SNR=4.0						
KURBB	**Kurchatov Arra**	**62.96**	**318**	P	P	21 34 03.9	-0.2
	0.9nm,0.5s,baz=92,slow=7.6,SNR=18						
BVAR	**Borovoye Array**	**68.07**	**321**	P	P	21 34 37.8	+0.5
	0.9nm,0.4s,baz=92,slow=7.3,SNR=12						
FINES	**FINESS Array B**	**88.18**	**336**	P	P	21 36 28.4	-0.1
	1.0nm,0.7s,baz=46,slow=8.0,SNR=3.5						

DDA 26 21:27:20.3, 37.38N×38.60E, h7km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GZT	**Gaziantep**	**0.83**	**269**	*e*P		Pg	21 27 36.6	+0.1
AKCD	**Akcadag**	**1.06**	**330**	*e*P		Pg	21 27 40.0	-0.8
AKCD				*i* S		Sn	21 27 56.4	-0.5

ISCJB 26 21:27:45.3±0.7, 39.12N±0.04×29.06E±0.06, h1km±16km, Error ellipse: s-maj=8.2km s-min=6.3km az=138.5
DDA 26 21:27:45.8, 39.09N×29.02E, h7km, MD2.6
CSEM 26 21:27:45.8, 39.09N×29.02E, h7km, MD2.6, After DDA

ISC 26 21:27:45.6±1.1, 39.12N±0.03×29.05E±0.05, h11km±18km, n10, σ0°43/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.27**	**254**	*i* P		**Pg**	**21 27 51.1**	**0.0**
DEMI				*i* S		**Sg**	**21 27 54.7**	**0.0**
DEMI	**Demirci**	**0.27**	**254**	*i* P		**Pg**	**21 27 51.1**	**0.0**
DEMI				*i* S		**Sg**	**21 27 54.7**	**0.0**
TVSB	**Tavsanli**	**0.46**	**44**	*e*PG		**Pg**	**21 27 54.4**	**-0.2**
TVSB				*e*SG		**Sg**	**21 28 00.1**	**-0.7**
MANT	**Manisa**	**0.73**	**211**	*i* P		**Pg**	**21 27 59.7**	**-0.1**
MANT	**Manisa**	**0.73**	**211**	*i* P		**Pg**	**21 27 59.7**	**-0.1**
KHAL	**Karahalli**	**0.82**	**155**	*e*P		**Pb**	**21 28 01.7**	**-0.3**
KHAL				*i* S		**Sg**	**21 28 13.0**	**+0.7**
KHAL	**Karahalli**	**0.82**	**155**	*e*P		**Pb**	**21 28 01.7**	**-0.3**
KHAL				*i* S		**Sg**	**21 28 13.0**	**+0.7**
KHL	**Karahalli**	**0.88**	**155**	*e*PG		**Pb**	**21 28 02.6**	**-0.3**
ULDT	**Uludag**	**1.02**	**4**	*i* P		**Pg**	**21 28 05.8**	**+0.5**
ULDT				*i* S		**Sg**	**21 28 18.9**	**+0.2**
ULDT	**Uludag**	**1.02**	**4**	*i* P		**Pg**	**21 28 05.8**	**+0.5**
ULDT				*i* S		**Sg**	**21 28 18.9**	**+0.2**

ISCJB 26 21:28:30.2±0.3, 35.79N±0.03×27.79E±0.03, h71km±7km, Error ellipse: s-maj=5.0km s-min=3.7km az=148.2
ATH 26 21:28:31.5, 35.90N×27.70E, h50km±1km, MD3.3/10
CSEM 26 21:28:31.6±0.1, 35.78N×27.80E, h52km±6km, MD3.3, Error ellipse: s-maj=4.1km s-min=3.5km az=150.0
ISK 26 21:28:32.3, 35.98N×27.70E, h28km, MD3.3
DDA 26 21:28:32.3, 36.23N×27.24E, h12km, MD3.2

ISC 26 21:28:31.6±1.1, 35.88N±0.04×27.73E±0.03, h48km±11km, n60, σ1°30/90, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.47**	**44**	*e*P		**Pn**	**21 28 43.0**	**+0.6**
ARG				*e*S		**Sn**	**21 28 51.4**	**+1.3**
ARG	**Arkhangelos**	**0.47**	**44**	*e*P		**Pn**	**21 28 43.0**	**+0.6**
ARG				*e*S		**Sn**	**21 28 51.4**	**+1.3**
KARP	**Karpathos**	**0.56**	**235**	*e*P		**Pn**	**21 28 44.0**	**+0.4**
KARP				*e*S		**Sn**	**21 28 53.2**	**+1.0**
KARP	**Karpathos**	**0.56**	**235**	*e*P		**Pn**	**21 28 44.0**	**+0.4**
KARP				*e*S		**Sn**	**21 28 53.2**	**+1.0**
DAT	**Datca**	**0.86**	**352**	*e*PG		**Pn**	**21 28 47.3**	**-0.2**
DAT				*e*SG		**Sn**	**21 28 58.3**	**-0.9**
DAT	**Datca**	**0.86**	**352**	*e*Pg		**Pn**	**21 28 47.3**	**-0.2**
BODT	**Bodrum**	**1.23**	**344**	*e*PN		**Pn**	**21 28 52.5**	**0.0**
BODT				*e*SN		**Sn**	**21 29 07.2**	**-0.8**
FETY	**Fethiye**	**1.33**	**55**	*e*PN		**Pn**	**21 28 55.5**	**+1.6**
FETY	**Fethiye**	**1.33**	**55**	*e*Pn		**Pn**	**21 28 55.5**	**+1.6**
YER	**Yerkesik**	**1.33**	**19**	*e*PN		**Pn**	**21 28 54.5**	**+0.6**
YER	**Yerkesik**	**1.33**	**19**	*e*Pn		**Pn**	**21 28 54.5**	**+0.6**
MLSB	**Milas**	**1.42**	**2**	*e*PN		**Pn**	**21 28 55.4**	**+0.4**
ZKR	**Zakros**	**1.45**	**239**	*e*P		**Pn**	**21 28 56.8**	**+1.4**
ZKR				*e*S		**Sn**	**21 29 14.7**	**+1.5**
ZKR	**Zakros**	**1.45**	**239**	*e*P		**Pn**	**21 28 56.8**	**+1.4**
ZKR				*e*S		**Sn**	**21 29 14.7**	**+1.5**

SNZO	South Karori	2.91	196	PN	Pn	21 29 51.0	-2.1
MSWZ	Moikau Station	2.92	188	PN	Pn	21 29 51.2	-2.1
TCW	Tory Channel	2.93	203	PN	Pn	21 29 51.4	-2.0
BHW	Baring Head	2.97	194	PN	Pn	21 29 51.6	-2.2
PLWZ	Palliser	3.07	188	PN	Pn	21 29 52.8	-2.5
TUWZ	Tuamarina	3.23	206	PN	Pn	21 29 54.8	-2.4
NNZ	Nelson	3.27	214	SN	Sn	21 30 34.8	-3.3
QRZ	Quartz Range	3.41	227	SN	Sn	21 30 36.7	-4.6
BSWZ	Blackbirch Sta	3.51	204	PN	Pn	21 29 58.1	-2.5
THZ	Tophouse	3.92	214	PN	Pn	21 30 03.7	-2.2
KHZ	Kahutara	4.25	203	⇑PN	Pn	21 30 07.4	-2.5
LTZ	Lake Taylor	5.03	211	PN	Pn	21 30 16.4	-3.7
MQZ	McQueen's Vall	5.70	204	SN	Sn	21 31 25.6	-8.3

IDC 26 21:42:52.4±0.9, 3°64'N×126°46'E, h0km, mb3.7/8, mb1 3.8/8, mb1mx3.7/23, mbtmp3.7/8, Error ellipse: s-maj=51.9km s-min=18.4km az=73.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.68	162	P	P	21 48 13.8	-1.5
	0.8nm,0.4s,baz=334,slow=11,SNR=10						
ASAR	Alice Springs	28.09	165	P	P	21 48 48.0	+1.9
	0.2nm,0.3s,baz=347,slow=12,SNR=5.2						
USRK	Ussuriysk Arra	40.69	6	P	P	21 50 35.6	+1.0
	0.9nm,0.6s,baz=194,slow=11,SNR=3.7						
SONM	Songino Array	47.30	342	P	P	21 51 27.5	-0.4
	0.4nm,0.7s,baz=166,slow=7.8,SNR=5.3						
PETK	Petropavlovsk-	55.62	22	P	P	21 52 29.2	-0.8
	3.8nm,0.9s,baz=195,slow=5.4,SNR=4.8						
MKAR	Makanchi Array	57.48	325	P	P	21 52 43.6	+0.2
	0.8nm,0.5s,baz=118,slow=7.3,SNR=22						
ZALV	Zalesovo Beam	60.55	333	P	P	21 53 04.0	-0.5
	0.3nm,0.3s,baz=127,slow=6.3,SNR=3.6						
KURBB	Kurchatov Arra	61.67	328	P	P	21 53 12.1	-0.1
	0.6nm,0.5s,baz=131,slow=5.6,SNR=9.3						

PRE 26 22:05:39.3±1.4, 4°14'S×34°93'E, h10km, ML3.5, Tanzania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	3.79	38	eP	Pn	22 06 39.8	+1.6
KMBO				eS	Sn	22 07 21.8	-1.3
KIG	Kigali	5.31	294	eP	Pn	22 07 00.2	+1.2
KIG				eS	Sn	22 07 59.8	-0.7
KIG				AML	AML	22 08 30.5	
	comp=Z,66nm,0.7s						
MBAR	Mbarara	5.46	310	eP	Pn	22 07 01.2	+0.2
MBAR				eS	Sn	22 08 01.6	-2.6
LSZ	Lusaka	12.90	210	eS	Sn	22 10 59.2	-7.8

NNC 26 22:10:23.1±4.5, 47°49'N×89°26'E, h32km±33km, mb3.2, mpv2.8, 4C-4D, Error ellipse: s-maj=40.5km s-min=24.2km az=39.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	3.83	197	ePn	Pn	22 11 16.3	-3.6
WMQ				Sn	Sn	22 12 02.5	-1.3
WMQ				smax	smax		
	comp=N,38nm,0.7s						
WMQ				smax	smax		
	comp=E,26nm,0.5s						
MK31	Makanchi Array	4.80	264	Pn	Pn	22 11 33.9	+0.7
	comp=E,0.1nm,0.2s,baz=90,slow=14,SNR=16						
MK31				⇓Pg	Pb	22 11 50.4	+3.8
	comp=E,0.4nm,0.4s,baz=89,slow=16,SNR=2.9						
MK31				⇑Lg	Lg	22 12 55.9	
	comp=E,6.3nm,0.8s,baz=83,slow=26,SNR=9.5						
KURK	Kurchatov	7.69	299	⇓Pn	Pn	22 12 11.8	-0.9
	comp=E,2.0nm,0.7s						
KURK				⇓Sn	Sn	22 13 38.3	-0.4
	comp=E,0.7nm,0.5s						
KURK				⇑Lg	Lg	22 14 28.6	
	comp=E,7.7nm,1.1s						
KURBB	Kurchatov Arra	7.71	298	⇑Pn	Pn	22 12 12.9	-0.1
	comp=E,0.2nm,0.3s						
KURBB				⇑Sn	Sn	22 13 40.6	+1.3
	comp=E,0.5nm,0.8s						
KURBB				⇓Lg	Lg	22 14 29.1	
	comp=E,1.4nm,0.7s						

ISK 26 22:14:43.7, 38°99N×41°05E, h5km, MD3.1
ISCJB 26 22:14:45.2±0.5, 39°02N±0°04×41°04E±0°04, h6km±4km, Error ellipse: s-maj=6.2km s-min=4.8km az=10.7
DDA 26 22:14:45.6, 38°90N×41°07E, h7km, MD3.3
CSEM 26 22:14:45.1±0.2, 39°00N×41°05E, h2km, MD3.1, Error ellipse: s-maj=4.3km s-min=4.0km az=33.0

ISC 26 22:14:45.5±1.0, 39°00N±0°03×41°05E±0°03, h7km±8km, n28, σ0°61/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	BINGOL	0.09	121	iP	Pg	22 14 47.6	-0.3
BNGL				iS	Sg	22 14 49.8	+0.2
BNGB	Bing^¶l	0.29	268	ePG	Pg	22 14 50.7	-0.6
BNGB				eSG	Sg	22 14 55.8	+0.7
VRTB	Varto-Mus	0.35	63	ePG	Pg	22 14 52.0	-0.5
VRTB				eSG	Sg	22 14 58.0	+0.7
VRTB	Varto-Mus	0.35	63	ePg	Pg	22 14 52.0	-0.5
VRTB				eSg	Sg	22 14 58.0	+0.7
BTMT	Batman	0.88	157	ePG	Pg	22 15 01.8	-0.6
BTMT	Batman	0.88	157	ePg	Pg	22 15 01.8	-0.6
EZM	Erzurum	0.94	15	ePG	Pg	22 15 03.2	-0.4
TATV	Tatvan	1.07	117	eP	Pg	22 15 04.7	-1.4
TATV	Tatvan	1.07	117	eP	Pg	22 15 04.7	-1.4
BEST	Besiri	1.12	171	iP	Pg	22 15 06.3	-0.8
ERZN	Erzincan	1.18	300	ePN	Pg	22 15 07.4	-0.9
SVRC	Sivrice-ELAZID	1.50	246	ePN	Pn	22 15 13.4	+0.5
SVRC	Sivrice-ELAZID	1.50	246	ePn	Pn	22 15 13.4	+0.5
EZC	Erzincan	1.51	300	ePN	Pn	22 15 13.0	-0.1
EZC	Erzincan	1.51	300	ePn	Pn	22 15 13.0	-0.1
BAYT	Ayd¨¨ntepe-Bay	1.56	334	ePN	Pn	22 15 13.9	+0.1
BAYT	Ayd¨¨ntepe-Bay	1.56	334	ePn	Pn	22 15 13.9	+0.1
AGRB	Hanur-Agry	1.61	69	ePN	Pn	22 15 14.6	0.0
AGRB	Hanur-Agry	1.61	69	ePn	Pn	22 15 14.6	0.0
MARD	Mardin	1.70	187	iP	Pn	22 15 15.4	-0.2
MARD				iS	Sb	22 15 38.8	+0.1
SIRN	S¨¨rnak	1.85	144	eP	Pn	22 15 18.5	+0.8
SIRN				iS	Sb	22 15 43.1	+0.2
SIRN	S¨¨rnak	1.85	144	eP	Pn	22 15 18.5	+0.8
SIRN				iS	Sb	22 15 43.1	+0.2
CLDR	Caldiran	2.24	85	ePN	Pn	22 15 23.5	+0.3
CLDR	Caldiran	2.24	85	ePn	Pn	22 15 23.5	+0.3
URFA	Urfa	2.34	229	ePN	Pn	22 15 24.9	+0.4
URFA	Urfa	2.34	229	ePn	Pn	22 15 24.9	+0.4
CUKT	Cukurca	2.67	130	ePN	Pn	22 15 29.4	+0.4
CUKT	Cukurca	2.67	130	ePn	Pn	22 15 29.4	+0.4

TRN 26 23:14:58.0, 11°03N×62°02W, h59km, MD3.2

FUNV 26 23:14:58.6, 10°82N×62°18W, h62km, MW3.1, 3C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.18	194	⇑iP	Pn	23 15 07.8	-0.5
GUIV				eS	Sn	23 15 15.1	-0.1
TRN	Trinidad (W)	0.78	103	⇑iP	Pn	23 15 12.7	-1.3
TRN				eS	Sn	23 15 22.9	-2.4
GUNV	Guanoco	0.99	229	⇑iP	Pn	23 15 16.7	0.0
GUNV				eS	Sn	23 15 30.1	0.0
CRUV	Carupano	1.05	262	⇓eP	Pn	23 15 16.5	-0.9
CRUV				eS	Sn	23 15 30.0	-1.3
TBH	Brigand Hill	1.14	107	eP	Pn	23 15 17.3	-1.3
GRW	Mount Saint Ca	1.43	21	eP	Pn	23 15 19.3	-3.2
GRW				eS	Sn	23 15 33.4	-7.1
TOSP	Speyside	1.68	73	eP	Pn	23 15 23.0	-2.8
TOSP				eS	Sn	23 15 42.2	-4.2
ORIV	Oritupano	2.12	215	eP	Pn	23 15 31.5	-0.3
ORIV				eS	Sn	23 15 54.9	-2.1
PCRV	Puerto La Cruz	2.50	255	eP	Pn	23 15 36.3	-0.7
PCRV				eS	Sn	23 16 02.8	-3.6
SVB	Belmont	2.60	20	eP	Pn	23 15 33.6	-4.7
SVB				eS	Sn	23 16 01.6	-7.3
RIOV	Rio Grande	2.76	172	eP	Pn	23 15 40.1	-0.4
RIOV				eS	Sn	23 16 10.6	-2.1
GURV	El Guri	3.17	196	eP	Pn	23 15 44.6	-1.5
CUPV	Cœpira	3.63	258	eP	Pn	23 15 51.4	-1.1
CUPV				eS	Sn	23 16 29.4	-4.8
BIRV	Birongo	4.03	266	eP	Pn	23 15 57.2	-0.7
MERV	Las Mercedes	4.34	249	eP	Pn	23 15 59.9	-2.3
MERV				eS	Sn	23 16 47.2	-4.3
LUEV	Luepa	5.00	172	eP	Pn	23 16 08.7	-2.6
TURV	Turiamo	5.58	267	eP	Pn	23 16 17.4	-1.6
BAUV	El Baul	6.07	253	eP	Pn	23 16 24.3	-1.5
MONV	Montecano	7.72	279	eP	Pn	23 16 46.1	-2.3

TIR 26 23:35:12.0±4.0, 41°90N×19°26E, h6km±999km, ML2.7

CSEM 26 23:35:09.8±0.4, 41°84N×19°16E, h2km, ML2.7, Error ellipse: s-maj=13.7km s-min=5.6km az=10.0, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	Puka	0.58	69	ePG	Pg	23 35 20.8	-0.4
PUK				iSG	Sg	23 35 30.1	+1.2
PUK	Puka	0.58	69	ePg	Pg	23 35 20.8	-0.4
	SNR=90						
PUK				iSg	Sg	23 35 30.1	+1.2
	SNR=90						
BCI	Bajram Curri	0.86	52	ePG	Pn	23 35 30.0	+1.0
BCI				iSG	Sg	23 35 37.2	-0.4
PHP	Peshkopia	0.97	98	ePG	Pg	23 35 28.6	+0.1
PHP				iSG	Sn	23 35 44.6	-0.4
PHP	Peshkopia	0.97	98	ePg	Pg	23 35 28.6	+0.1
	SNR=90						
STON	Ston	1.50	314	ePn	Pn	23 35 38.0	+0.3
STON				Sn	Sb	23 35 57.7	-0.1
STON	Ston	1.50	314	ePn	Pn	23 35 37.9	+0.2
STON				Sn	Sb	23 35 57.6	-0.2

ISCJB 27 00:01:18.1±0.5, 28°40S±0°04×69°39W±0°08, h109km±7km, mb3.7/5, Error ellipse: s-maj=12.2km s-min=5.8km az=176.3
GUC 27 00:01:19.7±0.7, 28°42S×69°46W, h93km, ML4.2
IDC 27 00:01:21.6±0.7, 28°38S×68°95W, h115km±5km, mb3.6/4, mb1 3.7/7, mb1mx3.6/17, mbtmp3.5/7, Error ellipse: s-maj=26.4km s-min=10.8km az=84.0

ISC 27 00:01:19.7±0.6, 28°38S±0°04×69°42W±0°08, h112km±6km, n22, σ1°54/30, mb3.6/4, 3C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	1.31	321	⇑iP	Pn	00 01 43.6	-0.9
CPCH				iS	Sn	00 02 01.7	-1.6
CDCH	Caldera	1.81	316	eP	Pn	00 01 50.6	+0.2
CDCH				iS	Sn	00 02 12.5	-1.2
CDCH				AML	AML	00 02 18.3	
	comp=N,3μm,0.4s						
OVCH	Ovalle	2.71	215	⇑iP	Pn	00 02 01.4	-0.6
OVCH				iS	Sn	00 02 32.2	-2.3
OVCH				AML	AML	00 02 32.8	
	comp=N,1μm,0.3s						
CMCH	Combarbala	3.11	206	⇑iP	Pn	00 02 06.7	-0.5
CFAA	Coronel Fontan	3.37	163	eP	Pn	00 02 11.8	+1.0
	comp=N,1.0nm,0.3s,baz=336,slow=13,SNR=62						
CFAA				S	Sn	00 02 50.3	+0.1
	comp=N,5.7nm,0.3s,baz=222,slow=9.6,SNR=17						
CHNG	Los Chungos	3.93	207	⇓iP	Pn	00 02 17.2	-0.9
CHNG				iS	Sn	00 03 01.6	-1.8
PEL	Peldehue	4.87	193	iP	Pn	00 02 30.1	-0.7
FCH	Farellones	4.99	188	eP	Pn	00 02 32.6	-0.1
CPUP	Villa Florida	10.94	82	P	Pn	00 03 50.4	-2.6
	comp=N,1.9nm,0.3s,baz=234,slow=10,SNR=12						
LPAZ	La Paz	12.09	6	P	Pn	00 04 09.2	+0.2
	comp=N,0.2nm,0.3s,baz=196,slow=5.6,SNR=3.8						
SIV	San Ignacio	14.54	34	P	Pn	00 04 38.2	-2.1
	comp=N,0.3nm,0.3s,baz=231,slow=18,SNR=4.6						
TXAR	Lajitas Array	66.08	327	P	P	00 11 57.2	+2.3
	comp=N,0.3nm,0.6s,baz=144,slow=8.8,SNR=4.9						
SYO	Syowa Base	70.27	159	⇓eP	P	00 12 20.6	+0.2
PDAR	Pinedale Array	79.86	331	P	P	00 13 16.1	+0.1
	comp=N,0.4nm,0.7s,baz=148,slow=5.3,SNR=3.3						
TORD	Torodi Ar. Bea	80.15	69	P	P	00 13 16.5	-1.5
	comp=N,1.3nm,0.6s,baz=275,slow=5.1,SNR=17						
TORD				pP	pP	00 13 49.7	+3.1
	comp=N,1.5nm,0.8s,baz=246,slow=4.5,SNR=4.5						
BOSA	Boshof	80.67	117	P	P	00 13 19.8	-1.0
	comp=N,1.2nm,0.5s,baz=252,slow=6.4,SNR=5.9						
YKA	Yellowknife Ar	97.50	341	P	Pdif	00 14 41.4	+1.1
	comp=N,0.2nm,0.5s,baz=145,slow=4.1,SNR=3.8						
ASAR	Alice Springs	123.58	206	PKP	PKPdf	00 20 05.8	+1.2
	comp=N,0.8nm,0.5s,baz=135,slow=1.8,SNR=4.9						
WRA	Warramunga Arr	126.75	208	PKP	PKPdf	00 20 12.2	+1.4
	comp=N,2.5nm,0.8s,baz=165,slow=1.6,SNR=12						
WRA				pPKP	pPKPdf	00 20 42.5	+1.3
	comp=N,0.7nm,0.7s,baz=154,slow=1.6,SNR=3.3						
KAPI	Kappang	145.64	196	PKPbc	PKPab	00 20 47.6	+1.1
	comp=N,3.4nm,0.3s,baz=139,slow=18,SNR=4.9						
ZALV	Zalesovo Beam	148.26	29	PKPbc	PKPab	00 20 54.5	-1.1
	comp=N,4.0nm,0.5s,baz=310,slow=3.4,SNR=27						
ZALV				pPKPbc	pPKPbc	00 21 23.2	+0.7
	comp=N,2.7nm,0.7s,baz=310,slow=3.3,SNR=5.1						
MKAR	Makanchi Array	151.24	43	PKPbc	PKPbc	00 21 01.7	+1.9
	comp=N,2.7nm,0.6s,baz=304,slow=2.0,SNR=29						
MKAR				pPKPbc	pPKPbc	00 21 32.0	+1.9
	comp=N,1.8nm,0.6s,baz=320,slow=1.8,SNR=9.3						

IDC 27 00:09:34.1±9.4, 7°09S×129°48E, h135km±95km, mb3.5/5, mb1 3.7/8, mb1mx3.5/19, mbtmp3.5/8, ML3.7/3, Error ellipse: s-maj=89.3km s-min=25.7km az=53.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.57	199	P	Pn	00 12 15.4	+0.1
	0.5nm,0.3s,baz=42,slow=10,SNR=10						
FITZ				S	Sn	00 14 16.0	-6.9
	0.4nm,0.3s,baz=86,slow=19,SNR=4.0						
WRA	Warramunga Arr	13.62	160	P	Pn	00 12 41.1	-0.8
	0.2nm,0.3s,baz=335,slow=14,SNR=15						
WRA				S	Sn	00 15 03.1	-9.4
	0.6nm,0.3s,baz=340,slow=23,SNR=11						
ASAR	Alice Springs	17.03	166	P	Pn	00 13 25.5	+1.3
	0.7nm,0.3s,baz=344,slow=9.9,SNR=56						
ASAR				S	Sn	00 16 25.6	-8.8
	0.1nm,0.3s,baz=354,slow=27,SNR=3.8						
STKA	Stephens Creek	27.13	157	P	P	00 15 04.1	-0.5
	1.8nm,0.6s,baz=318,slow=14,SNR=3.8						
CMAR	Chiang Mai Ar	39.39	311	P	P	00 16 50.3	-0.6
	0.9nm,0.4s,baz=133,slow=7.5,SNR=5.1						
SONM	Songino Array	58.36	342	P	P	00 19 15.6	+0.3
	0.2nm,0.4s,baz=158,slow=5.2,SNR=5.5						
MKAR	Makanchi Array	68.01	327	P	P	00 20 19.4	+0.5
	1.5nm,0.4s,baz=118,slow=8.1,SNR=48						
ZALV	Zalesovo Beam	71.43	334	P	P	00 20 38.7	-0.9
	0.4nm,0.4s,baz=125,slow=5.0,SNR=4.7						

NEIC 27 00:11:25.9±0.4, 57°83S×25°90W, h35km, mb4.6/1, Error ellipse: s-maj=16.3km s-min=11.6km az=63.0
ISCJB 27 00:11:26.6±0.7, 58°05S±0°1×25°8W±0°3, h64km, mb4.2/9, Error ellipse: s-maj=24.2km s-min=10.5km az=153.2
IDC 27 00:11:27.1±2.7, 57°84S×25°94W, h44km±22km, mb3.9/8, mb1 4.0/8, mb1mx3.9/17, mbtmp3.9/8, MS3.5/1, Ms1 3.4/1, ms1mx3.0/19, Error ellipse: s-maj=23.3km s-min=18.7km az=64.0

ISC 27 00:11:28.9±0.5, 58°0S±0°1×25°9W±0°1, h64km, n42, σ1°01/45, mb4.2/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	14.95	160	ePn	Pn	00 14 54.0	-2.2
VNA2	Neumayer--Watz	15.15	156	ePn	Pn	00 14 56.2	-2.6
	baz=321,slow=13						

DDA 27 00:10:27.3, 39°12N×29°40E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	Tavsanli	0.33	9	ePG	Pg	00 10 31.7	-2.3
TVSB				eSG	Sg	00 10 35.6	-2.9
DEMI	Demirci	0.53	262	iP	Pg	00 10 37.9	+0.1
DEMI				iS	Sg	00 10 45.7	+0.9
KHAL	Karahalli	0.76	174	iP	Pg	00 10 42.1	+0.1
KHAL				iS	Sg	00 10 52.7	+0.8
KULA	Kula-Manisa	0.83	224	ePG	Pg	00 10 42.6	-0.9
MANT	Manisa	0.91	226	eP	Pg	00 10 44.8	-0.3

MOS 27 00:11:39.4±1.2, 52°44N×172°59W, h10km, mb4.9/27, Error ellipse: s-maj=11.0km s-min=8.0km az=84.8
BJI 27 00:11:41.0, 52°61N×172°91W, h14km, mB5.0/14, mb4.7/19, Ms4.7/8, Ms7 4.4/8
ISCJB 27 00:11:43.5±0.5, 52°48N±0°05×172°55W±0°03, h41km±4km, mb4.5/83, MS3.7/17, Error ellipse: s-maj=7.9km s-min=3.3km az=3.2
NEIC 27 00:11:44.8±0.6, 52°48N×172°65W, h39km±5km, mb4.7/41, ML4.3(AEIC), Error ellipse: s-maj=8.8km s-min=4.5km az=179.0
IDC 27 00:11:47.8±3.8, 52°60N×172°54W, h65km±32km, mb4.0/23, mb1 4.2/26, mb1mx4.1/32, mbtmp4.0/26, ML4.0/3, MS3.5/13, Ms1 3.6/13, ms1mx3.3/43, Error ellipse: s-maj=17.8km s-min=12.3km az=175.0

ISC 27 00:11:46.2±0.9, 52°42N±0°08×172°59W±0°03, h53km±7km, n439, σ0°97/458, mb4.6/83, MS3.7/17, 116C-132D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOKV	Korovin Volcan	0.97	267	P	Pn	00 11 59.1	-4.5
KOKV				S	Sn	00 12 14.2	-2.3
NIKO	Nikolski	2.34	75	P	Pn	00 12 19.4	-2.7
OKCE	Okmok Cone E	2.86	68	P	Pn	00 12 27.9	-1.5
OKCE				S	Sn	00 13 07.1	+4.5
OKRE	Okmok R¨deer P	2.89	66	P	Pn	00 12 29.4	-0.4
OKFG	Magazine Ridge	3.00	69	P	Pn	00 12 29.7	-1.5
OKFG				S	Sn	00 13 09.8	+3.8
MSOM	Makushin Julie	3.67	65	P	Pn	00 12 38.8	-1.7
MSOM	Makushin Julie	3.67	65	P	Pn	00 12 38.8	-1.7
MCIR	Makushin Cirqu	3.75	64	P	Pn	00 12 40.3	-1.4
UNV	Unalaska Valle	3.94	66	P	Pn	00 12 42.0	-2.0
UNV				S	Sn	00 13 33.3	+4.5
AKRB	Akutan Reef Bi	4.27	64	P	Pn	00 12 47.7	-1.0
ZRO	Akutan Zero	4.31	64	P	Pn	00 12 47.8	-1.4
AKGG	Akutan Green G	4.34	63	P	Pn	00 12 48.2	-1.4
AKUT	Akutan	4.44	64	P	Pn	00 12 50.1	-0.8
SPIA	Saint Paul Isl	4.96	15	ePn	Pn	00 12 56.2	-1.8
AMKA	Amchitka	5.13	262	ePn	Pn	00 12 57.8	-2.6
AMKA				eSn	Sn	00 13 57.5	-0.7
KDAK	Kodiak Island	12.63	57	P	Pn	00 14 43.1	+0.2
KDAK	Kodiak Island	12.63	57	P	Pn	00 14 43.1	+0.2
	0.7nm,0.3s,baz=258,slow=9.3,SNR=3.8						
TNA	Tin City	13.40	8	ePn	Pn	00 14 52.0	-1.3
COLA	College	17.77	36	eP	P	00 15 49.9	+0.3
COLA				pmax	pmax		
	comp=Z,38nm,1.4s						
COLA	College	17.77	36	ePn	P	00 15 49.9	+0.3
	comp=Z,38nm,1.4s						
PETK	Petropavlovsk-	17.94	284	P	Pn	00 15 52.7	+1.1
PETK	Petropavlovsk-	17.94	284	P	Pn	00 15 52.7	+1.1
PETK	Petropavlovsk-	17.94	284	P	Pn	00 15 52.7	+1.1
	comp=Z,0.4nm,0.3s,baz=94,slow=14,SNR=9.3						
ILAR	Eielson Array	18.06	37	P	Pn	00 15 51.2	-1.8
ILAR				PcP	PcP	00 20 23.5	-1.1
ILAR	Eielson Array	18.06	37	P	Pn	00 15 51.2	-1.8
	comp=Z,0.2nm,0.3s,baz=230,slow=9.2,SNR=16						
ILAR				PcP	PcP	00 20 23.5	-1.1
	comp=Z,0.1nm,0.3s,baz=293,slow=3.3,SNR=4.9						
COLD	Coldfoot	18.45	28	eP	Pn	00 15 58.0	+0.2
	comp=Z,24nm,1.2s						
BILL	Bilibino	18.68	335	⇑iP	Pn	00 16 01.0	+0.5
BILL				pmax	pmax		
	comp=Z,55nm,1.2s						
BILL				MLR	MLR		
	comp=Z,200nm,18.0s						
BILL	Bilibino	18.68	335	eP	Pn	00 16 00.3	-0.2
	comp=Z,90nm,1.2s						
EGAK	Eagle	20.25	40	eP	P	00 16 16.1	-0.7
	comp=Z,14nm,0.8s						
SEY	Seymchan	21.20	313	eP	P	00 16 29.0	+2.0
INK	Inuvik	24.41	35	eP	P	00 16 58.2	-1.0
	comp=Z,11nm,0.8s						
INK				ePcP	PcP	00 20 37.9	+1.2
INK	Inuvik	24.41	35	P	P	00 16 58.1	-1.0
	comp=Z,8.8nm,0.7s,baz=246,slow=9.7,SNR=22						
INK				PcP	PcP	00 20 36.3	-0.4
	comp=Z,3.4nm,0.9s,baz=210,slow=2.5,SNR=5.9						
INK				LR	LR	00 28 38.5	
	comp=Z,144nm,18.3s,baz=57,slow=42						
DLBC	Dease Lake	24.55	59	P	P	00 17 01.5	+0.7
DLBC	Dease Lake	24.55	59	P	P	00 17 01.5	+0.7
	comp=Z,5.4nm,0.8s,baz=288,slow=9.7,SNR=14						
DLBC				LR	LR	00 27 57.3	
	comp=Z,170nm,18.4s,baz=332,slow=40						
BBB	Bella Bella	26.88	73	LR	LR	00 26 52.2	
	comp=Z,60nm,20.7s,baz=81,slow=34						
YKA	Yellowknife Ar	31.69	49	P	P	00 18 02.4	-1.9
YKA				PcP	PcP	00 20 54.4	-0.3

YKA **Yellowknife Ar** 31.69 49 P P 00 18 02.3 -1.9
comp=Z,1.4nm,0.8s,baz=276,slow=8.5,SNR=12
YKA PcP PcP 00 20 54.3 -0.3
comp=Z,0.9nm,0.9s,baz=290,slow=2.5,SNR=8.5
LON **Longmire** 32.83 79 eP P 00 18 16.5 +1.9
LON pmax pmax
comp=Z,103nm,2.6s
LON **Longmire** 32.83 79 eP P 00 18 16.4 +1.9
comp=Z,103nm,2.6s
HAWA **Hanford** 34.38 78 eP P 00 18 27.1 -0.8
comp=Z,7.3nm,0.7s
NEW **Newport** 34.90 74 eP P 00 18 32.5 0.0
comp=Z,11nm,0.8s
NEW **Newport** 34.90 74 ⇓P P 00 18 32.2 -0.3
baz=35,SNR=11
A12A **Yaak River Ran** 35.45 72 ⇓P P 00 18 37.9 +0.7
baz=35
C11A **Tepee Creek (N** 35.62 74 ⇑P P 00 18 38.0 -0.7
baz=36
C12B **Naegeli Ranch,** 36.14 74 ⇓P P 00 18 43.3 +0.2
baz=36
A13A **Flathead Natio** 36.17 72 ⇓P P 00 18 42.8 -0.6
baz=36
MOD **Modoc** 36.32 85 eP P 00 18 45.7 +0.8
comp=Z,37nm,1.9s
B13A **Whitefish** 36.41 73 ⇓P P 00 18 45.1 -0.3
baz=36
BSMT **Bassoo Peak** 36.48 73 eP P 00 18 45.6 -0.5
BSMT ePcP PcP 00 21 08.5 -0.4
BSMT eScP ScP 00 24 47.4 -3.3
D12A **Red Ives Fores** 36.54 75 ⇓P P 00 18 45.9 -0.7
baz=36
C13A **Hot Springs** 36.69 74 ⇓P P 00 18 47.4 -0.4
baz=37,SNR=8.4
A14A **Double T Ranch** 36.73 71 ⇓P P 00 18 47.4 -0.8
baz=37,SNR=9.2
E12A **Beaver Dam Sad** 36.73 76 ⇑P P 00 18 47.5 -0.7
baz=37
JTMT **Jette** 36.82 73 eP P 00 18 48.0 -1.0
USRK **Ussuriysk Arra** 36.94 280 PcP PcP 00 21 11.0 +0.9
comp=Z,2.0nm,0.7s,baz=68,slow=5.2,SNR=4.4
D13A **Huson** 37.05 74 ⇑P P 00 18 50.5 -0.3
baz=37
B14A **Marquette Ranc** 37.11 72 ⇓P P 00 18 51.0 -0.4
baz=37
A15A **Johnson Ranch,** 37.13 71 ⇑P P 00 18 51.3 -0.3
baz=37
C14A **Swan Lake** 37.13 73 ⇓P P 00 18 50.9 -0.6
baz=37
RES **Resolute Bay** 37.18 25 eP P 00 18 52.4 +0.9
comp=Z,5.2nm,1.2s
F12A **Elk City** 37.26 77 ⇑P P 00 18 51.9 -0.8
baz=37
MSO **Missoula** 37.48 74 eP P 00 18 53.9 -0.7
comp=Z,5.9nm,1.0s
MSO ePcP PcP 00 21 10.6 -1.3
MSO eScP ScP 00 24 59.7 +5.3
MSO **Missoula** 37.48 74 ⇑P P 00 18 54.8 +0.2
baz=37
E13A **Victor** 37.54 75 ⇑P P 00 18 54.7 -0.3
baz=37
SLMT **Seeley Lake** 37.54 74 eP P 00 18 54.3 -0.8
B15A **Bradely Ranch,** 37.55 72 ⇑P P 00 18 54.5 -0.6
baz=37
G12A **Big Creek, Yel** 37.55 78 ⇑P P 00 18 55.4 +0.2
baz=37
D14A **Greenough** 37.61 74 ⇑P P 00 18 55.2 -0.5
baz=38,SNR=9.5
MJAR **Matsushiro Arr** 37.73 265 PcP PcP 00 21 13.3 +0.6
MJAR **Matsushiro Arr** 37.73 265 PcP PcP 00 21 13.3 +0.6
comp=Z,5.4nm,0.8s,baz=50,slow=1.3,SNR=10
C15A **Salmond Ranch,** 37.79 72 ⇓P P 00 18 56.7 -0.5
baz=38,SNR=20
F13A **Darby** 37.79 76 ⇓P P 00 18 57.0 -0.3
baz=38
A16A **West Butte Ran** 37.80 70 ⇓P P 00 18 56.3 -0.9
baz=38
CHMT **Chamberlain Mo** 37.85 74 eP P 00 18 56.9 -0.9
CHMT ePcP PcP 00 21 14.3 +1.2
E14A **Clinton** 37.96 75 ⇑P P 00 18 58.6 -0.1
baz=38
B16A **M & M Farms, S** 37.99 71 ⇓P P 00 18 58.1 -0.8
baz=38
H12A **Diamond D Ranc** 38.15 78 ⇑P P 00 18 59.7 -0.5
baz=38
MDJ **Mudanjiang** 38.16 282 P P 00 18 57.0 -3.2
MDJ pmax pmax
comp=Z,7.0nm,2.0s
MDJ pmax pmax
comp=Z,73nm,5.7s
MFID **Camas Ranch** 38.19 80 ⇑P P 00 18 59.9 -0.6
baz=38
D15A **Lincoln** 38.21 73 ⇑P P 00 19 00.3 -0.5
baz=38
G13A **Cobalt** 38.22 77 ⇓P P 00 19 00.8 -0.1
baz=38
C16A **Fuhringer Ranc** 38.28 72 ⇓P P 00 19 00.7 -0.6
baz=38,SNR=16
A17A **Triple J Farms** 38.31 70 ⇓P P 00 19 00.6 -0.9
baz=38,SNR=8.9
F14A **Wisdom** 38.35 76 ⇓P P 00 19 01.8 -0.2
baz=38
I12A **Atlanta** 38.39 79 ⇓P P 00 19 02.0 -0.4
baz=38
E15A **Deer Lodge** 38.46 74 ⇓P P 00 19 02.2 -0.7
baz=38
H13A **Challis** 38.50 78 ⇓P P 00 19 02.6 -0.6
baz=38
B17A **L&G Farms, Che** 38.58 71 ⇓P P 00 19 02.8 -1.0
baz=38,SNR=6.4
D16A **Dana Ranch, Ca** 38.79 73 ⇓P P 00 19 04.8 -0.7
baz=39
A18A **Metzger Ranch,** 38.82 69 ⇑P P 00 19 04.4 -1.3
baz=39
LRM **Limekiln Ridge** 38.89 75 eP P 00 19 09.8 +3.2
C17A **Wharram Farm,** 38.94 72 ⇓P P 00 19 06.4 -0.4
baz=39,SNR=5.3
I13A **Wildhorse Cree** 38.94 79 ⇓P P 00 19 06.9 0.0
baz=39
HLID **Hailey** 38.96 79 eP P 00 19 07.7 +0.6
comp=Z,11nm,1.4s
HLID **Hailey** 38.96 79 ⇑P P 00 19 06.8 -0.3
baz=39
E16A **East Helena** 38.97 74 ⇑P P 00 19 06.8 -0.3
baz=39
H14A **Leadore** 39.00 77 ⇑P P 00 19 06.9 -0.6
baz=39
B18A **Beardsley Farm** 39.12 70 ⇓P P 00 19 07.4 -0.9
baz=39
MCMT **McKenzie Canyo** 39.19 77 eP P 00 19 08.5 -0.6
MCMT ePcP PcP 00 21 16.9 -0.5
J13A **Cove Ranch, Pi** 39.19 79 ⇓P P 00 19 08.9 -0.1
baz=39
G15A **Dillon** 39.22 76 ⇓P P 00 19 09.1 -0.2
baz=39
D17A **Six Diamond Ra** 39.23 72 ⇑P P 00 19 08.8 -0.4
baz=39
EGMT **Eagleton** 39.32 70 eS S 00 25 13.0 +6.0
EGMT **Eagleton** 39.32 70 ⇑P P 00 19 09.3 -0.7
baz=39
I14A **Mackay** 39.33 78 ⇓P P 00 19 09.8 -0.4
baz=39
F16A **Kennard Place,** 39.40 75 ⇓P P 00 19 10.1 -0.6
baz=39
H15A **Lima** 39.43 77 ⇑P P 00 19 10.7 -0.4
baz=39
A19A **Klindworth Far** 39.44 69 ⇓P P 00 19 10.2 -0.8
baz=39
BOZ **Bozeman (W)** 39.47 75 ⇑P P 00 19 10.8 -0.5
baz=39,SNR=9.6
E17A **Martinsdale** 39.49 73 ⇓P P 00 19 11.2 -0.3
baz=39,SNR=9.7
B19A **Brinkman Farms** 39.57 69 ⇑P P 00 19 11.4 -0.6
baz=39,SNR=7.2
G16A **Moss Hill, Enn** 39.59 75 ⇓P P 00 19 11.8 -0.6
baz=40,SNR=9.3
J14A **Carey** 39.63 79 ⇑P P 00 19 11.3 -1.4
baz=40
NVAR **Mina Array Bea** 39.63 88 P P 00 19 13.2 +0.4
NVAR PcP PcP 00 21 19.3 +0.4
NVAR **Mina Array Bea** 39.63 88 P P 00 19 13.2 +0.4
comp=Z,3.0nm,0.7s,baz=294,slow=7.4,SNR=17
NVAR PcP PcP 00 21 19.3 +0.4
comp=Z,1.7nm,0.8s,baz=288,slow=3.3,SNR=5.2
C19A **Slack Wire Ran** 39.88 70 ⇓P P 00 19 14.3 -0.3
baz=40,SNR=18
F17A **Fitzpatrick Pl** 39.90 74 ⇓P P 00 19 14.7 -0.2
baz=40,SNR=7.5
A20A **Cobblestone Ra** 39.93 68 ⇓P P 00 19 14.0 -1.0
baz=40
E18A **Harlowton** 39.99 73 ⇑P P 00 19 15.2 -0.3
baz=40,SNR=5.6
ELK **Elko** 40.09 83 eP P 00 19 16.3 -0.3
ELK ePcP PcP 00 21 23.1 +2.8
B20A **Solberg Farm,** 40.10 69 ⇓P P 00 19 15.8 -0.6
baz=40
G17A **Pierce Place,** 40.17 75 ⇑P P 00 19 16.9 -0.3
baz=40
H16A **Russell Place,** 40.21 76 ⇓P P 00 19 17.5 -0.1
baz=40
D19A **Cripps Ranch,** 40.27 71 ⇓P P 00 19 17.2 -0.6
baz=40
FFC **Flin Flon** 40.37 58 eP P 00 19 16.8 -1.7
FFC e 00 21 22.0
FFC pmax pmax
comp=Z,5.0nm,1.0s
FFC **Flin Flon** 40.37 58 eP P 00 19 16.8 -1.7
comp=Z,4.7nm,1.0s
FFC ePcP PcP 00 21 22.0 +1.3
BOD **Bodaibo** 40.42 308 eP P 00 19 18.4 -0.4
BOD pmax pmax
comp=Z,15nm,1.1s
A21A **Bergtoll Ranch** 40.44 68 ⇓P P 00 19 18.4 -0.8
baz=40
C20A **Veseth Ranch,** 40.49 70 ⇓P P 00 19 19.1 -0.5
baz=40
GCMT **Greycliff** 40.55 73 eP P 00 19 21.6 +1.3
E19A **Rath Farm, Rou** 40.70 72 ⇑P P 00 19 21.2 -0.2
baz=41,SNR=5.7
D20A **Manuel Ranch,** 40.74 71 ⇓P P 00 19 21.1 -0.7
baz=41
H17A **Grant Village** 40.78 76 ⇓P P 00 19 21.7 -0.7
baz=41
J16A **Bone** 40.80 78 ⇓P P 00 19 22.1 -0.3
baz=41
G18A **Lazy EL Ranch,** 40.87 74 ⇓P P 00 19 22.2 -0.7
baz=41
F19A **Roth Farm, Mol** 40.94 73 ⇑P P 00 19 22.7 -0.7
baz=41
C21A **Desert Coulee** 40.95 69 ⇓P P 00 19 21.9 -1.5
baz=41
PKM **Peak Mountain** 40.99 94 ⇓P P 00 19 24.1 0.0
baz=41
A22A **Carney Farms,** 41.02 67 ⇑P P 00 19 23.6 -0.4
baz=41
CWC **Cottonwood Cre** 41.04 91 ⇓P P 00 19 24.2 -0.2
baz=41
E20A **Meyer Farm, Mu** 41.06 72 ⇑P P 00 19 24.0 -0.4
baz=41
K16A **Soda Springs** 41.07 78 ⇓P P 00 19 24.5 -0.2
baz=41
CN2 **Changchun** 41.09 284 eP P 00 19 25.0 +0.5
CN2 eS S 00 25 34.5 +1.1
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,12.0s
CN2 LR LR
comp=E,200nm,12.0s
CN2 LR LR
comp=Z,200nm,14.0s
GRAC **Grapevine Rang** 41.11 89 ⇓P P 00 19 26.6 +1.7
baz=41
RLMT **Red Lodge** 41.15 74 eP P 00 19 24.9 -0.4
comp=Z,6.8nm,0.8s
RLMT **Red Lodge** 41.15 74 ⇑P P 00 19 24.8 -0.5
baz=41,SNR=14
H18A **Shoshone NF, C** 41.17 75 ⇑P P 00 19 25.2 -0.2
baz=41
J17A **Brown Place, J** 41.29 77 ⇓P P 00 19 26.3 -0.1
baz=41
R11A **Troy Canyon, C** 41.35 87 ⇑P P 00 19 26.7 -0.2
baz=41,SNR=6.2
H19A **Powell** 41.57 74 ⇑P P 00 19 27.8 -0.8
baz=41,SNR=5.2
A23A **Redstone** 41.62 67 ⇑P P 00 19 27.9 -0.9
baz=42
MPMC **Manual Prospec** 41.65 91 ⇑P P 00 19 29.5 0.0
baz=42
G20A **Bridger** 41.72 73 ⇑P P 00 19 29.4 -0.5
baz=42,SNR=7.7
FURC **Furnace Creek,** 41.77 90 ⇓P P 00 19 30.4 +0.3
baz=42
J18A **Kendall Valley** 41.79 77 ⇓P P 00 19 29.9 -0.6
baz=42
B23A **Brockton** 41.81 67 ⇓P P 00 19 29.8 -0.7
baz=42
D22A **Cohagen** 41.84 70 ⇑P P 00 19 30.3 -0.4
baz=42,SNR=8.5
DUG **Dugway** 41.90 82 eP P 00 19 31.5 +0.1
DUG pmax pmax
comp=Z,5.0nm,0.8s
DUG **Dugway** 41.90 82 eP P 00 19 31.5 +0.1
comp=Z,4.9nm,0.8s
DUG **Dugway** 41.90 82 ⇓P P 00 19 31.8 +0.4
baz=42,SNR=5.6
I19A **Meeteetse** 41.92 75 ⇑P P 00 19 31.3 -0.3
baz=42
M16A **Huntsville** 41.94 80 ⇓P P 00 19 31.1 -0.6
baz=42
CBIJ **Chichi jima** 42.04 251 LR LR 00 32 59.1
comp=Z,50nm,20.5s,baz=237,slow=30
C23A **Lambert** 42.05 68 ⇓P P 00 19 32.0 -0.5
baz=42,SNR=10
K18A **Toltan Ranch,** 42.11 78 ⇓P P 00 19 33.2 0.0
baz=42
A24A **Westby** 42.13 66 ⇑P P 00 19 32.5 -0.5
baz=42,SNR=6.0
G21A **Lodge Grass** 42.30 73 ⇓P P 00 19 34.5 -0.1
baz=42
BW06 **Boulder Array** 42.32 77 eP P 00 19 34.3 -0.6
comp=Z,6.3nm,0.9s
BW06 **Boulder Array** 42.32 77 ⇑P P 00 19 34.5 -0.4
baz=42,SNR=8.4
PDAR **Pinedale Array** 42.32 77 P P 00 19 34.3 -0.6
PDAR PcP PcP 00 21 27.9 +0.3
PDAR **Pinedale Array** 42.32 77 P P 00 19 34.3 -0.6
comp=Z,4.0nm,0.7s,baz=307,slow=3.4,SNR=27
PDAR PcP PcP 00 21 27.9 +0.3
comp=Z,0.3nm,0.6s,baz=274,slow=4.1,SNR=4.0
R13A **O'Grain Ranch,** 42.44 86 ⇑P P 00 19 35.6 -0.3
baz=42
JLU **Jordanelle** 42.48 81 eP P 00 19 38.0 +1.8
comp=Z,15nm,1.6s
I20A **Worland** 42.49 75 ⇑P P 00 19 36.0 -0.1
baz=42
GSC **Goldstone** 42.57 91 eP P 00 19 38.5 +1.7
GSC pmax pmax
comp=Z,9.0nm,0.8s
GSC **Goldstone** 42.57 91 eP P 00 19 38.5 +1.7
comp=Z,8.9nm,0.8s
GSC **Goldstone** 42.57 91 ⇑P P 00 19 36.6 -0.2
baz=42,SNR=6.5
C24A **Savage** 42.63 68 ⇑P P 00 19 36.6 -0.5
baz=42
K19A **Absolon Red Bu** 42.71 77 ⇓P P 00 19 37.6 -0.4
baz=43,SNR=8.7
H21A **Big Horn, Sher** 42.74 73 ⇑P P 00 19 37.2 -1.0
baz=43
BFSC **Mount Baldy Ra** 42.75 93 ⇓P P 00 19 38.3 -0.1
baz=43
G22A **Birney** 42.84 72 ⇓P P 00 19 38.5 -0.5
baz=43
J20A **Shoshoni** 42.86 75 ⇓P P 00 19 38.7 -0.4
baz=43
D24A **Glendive** 42.92 69 ⇓P P 00 19 38.8 -0.6
baz=43
I21A **Big Trails, Te** 43.06 74 ⇑P P 00 19 40.1 -0.7
baz=43,SNR=5.1
K20A **Yellowstone Ra** 43.11 76 ⇑P P 00 19 40.6 -0.7
baz=43
H22A **Clearmont** 43.16 73 ⇓P P 00 19 41.1 -0.4
baz=43
HEC **Hector,Ludlow** 43.17 91 ⇓P P 00 19 41.4 -0.2
baz=43
E24A **Baker** 43.23 69 ⇑P P 00 19 40.9 -1.2
baz=43
N18A **Larsen Ranch,** 43.32 79 ⇓P P 00 19 42.4 -0.5
baz=43
MSU **Marysvale** 43.33 84 eP P 00 19 44.9 +1.8
MSU e 00 21 30.7
MSU **Marysvale** 43.33 84 eP P 00 19 44.9 +1.8
MSU ePcP PcP 00 21 30.6 -0.4
TMUT **Trail Mountain** 43.42 82 eP P 00 19 46.0 +2.1
comp=Z,8.3nm,0.8s
KSRS **Korea Array** 43.44 274 LR LR 00 38 44.6
comp=Z,22nm,18.4s,baz=353,slow=37
I22A **9 Mile Ranch,** 43.49 74 ⇓P P 00 19 44.0 -0.2
baz=43
L20A **Wamsutter** 43.50 77 ⇓P P 00 19 43.5 -1.0
baz=43
Q16A **Castle Valley** 43.68 83 ⇑P P 00 19 46.0 +0.1
baz=44
LDFC **Landfair** 43.75 90 eP P 00 19 48.0 +1.6
comp=Z,12nm,0.9s
J22A **Midwest** 43.77 74 ⇓P P 00 19 45.6 -0.9
baz=44,SNR=6.2
K21A **Alcova** 43.77 76 ⇓P P 00 19 45.4 -1.2
baz=44
P18A **Preston Nutter** 43.80 81 ⇑P P 00 19 46.8 -0.2
baz=44
R16A **Teasdale** 43.89 84 ⇑P P 00 19 48.5 +0.8
baz=44
M20A **Sweetwater, Wa** 43.90 78 ⇑P P 00 19 47.8 +0.2
baz=44
PFO **Pinyon Flat Ob** 43.91 92 ⇓P P 00 19 48.4 +0.7
baz=44
BELC **Belle Mtn. Jos** 43.93 92 ⇑P P 00 19 49.4 +1.5
baz=44
SRU **San Rafael** 43.95 82 ⇓P P 00 19 48.1 0.0
baz=44,SNR=7.4
O19A **Miners Draw (B** 44.06 80 ⇑P P 00 19 48.7 -0.2
baz=44
L21A **Rawlins** 44.10 77 ⇓P P 00 19 49.2 -0.1
baz=44
H24A **Dirks Ranch, A** 44.12 72 ⇑P P 00 19 48.6 -0.7
baz=44
S16A **Weppner Ranch,** 44.18 84 ⇓P P 00 19 49.5 -0.4
baz=44
K22A **Casper** 44.20 75 ⇑P P 00 19 49.6 -0.3
baz=44
Q18A **Rafter H Ranch** 44.20 82 ⇓P P 00 19 49.3 -0.6
baz=44
N20A **Spence Gulch,** 44.26 79 ⇑P P 00 19 50.2 -0.3
baz=44
R17A **Hanksville Air** 44.28 83 ⇓P P 00 19 50.7 +0.1
baz=44,SNR=5.6
IRM **Iron Mountain** 44.34 91 ⇑P P 00 19 50.9 -0.1
baz=44
MONP **Monument Peak** 44.43 93 ⇓P P 00 19 52.2 +0.3
baz=44
W13A **Hualapai Mount** 44.49 89 ⇑P P 00 19 52.2 -0.2
baz=44,SNR=5.6
BC3 **Big Chuckawall** 44.50 92 ⇓P P 00 19 52.1 -0.2
baz=44
P19A **Cripple Cowboy** 44.56 80 ⇑P P 00 19 52.9 0.0
baz=44,SNR=8.6
U15A **North Rim** 44.59 86 ⇑P P 00 19 53.2 -0.1
baz=44,SNR=14
I24A **Kuemmerle Ranc** 44.60 73 ⇑P P 00 19 51.9 -1.1
baz=44
O20A **White River Ci** 44.70 79 ⇓P P 00 19 53.8 -0.2
baz=45
S17A **Black Ridge (B** 44.72 84 ⇓P P 00 19 54.6 +0.4
baz=45,SNR=5.5
N21A **Black Mountain** 44.75 78 ⇓P P 00 19 54.1 -0.4
baz=45
Q19A **Hogan Spring (** 44.82 81 ⇑P P 00 19 54.4 -0.5
baz=45
PDMCI **Parker Dam,Lak** 44.87 90 ⇑P P 00 19 55.4 +0.2
baz=45
M22A **Cedar Creek Ra** 44.91 77 ⇑P P 00 19 55.6 -0.1
baz=45
Y12C **Blythe** 45.00 91 ⇑P P 00 19 56.5 +0.3
baz=45
O21A **Pagoda** 45.11 79 ⇑P P 00 19 56.9 -0.5
baz=45
T17A **Navajo Res., N** 45.13 85 ⇑P P 00 19 57.5 0.0
baz=45
S18A **Hurst Farm, Bl** 45.18 83 ⇑P P 00 19 57.9 0.0
baz=45,SNR=12
PV10 **Paradox Valley** 45.32 82 eP P 00 19 59.8 +0.8
PV10 ePP PP 00 21 41.1 -4.4
N22A **Wattenberg Ran** 45.36 77 ⇓P P 00 19 58.9 -0.5
baz=45
Q20A **Ridgley Place,** 45.40 81 ⇑P P 00 19 59.3 -0.3
baz=45
N23A **Red Feather La** 45.60 77 ⇓P P 00 20 01.2 -0.1
baz=46
T18A **Mexican Hat** 45.61 84 ⇓P P 00 20 01.4 +0.3
baz=46,SNR=6.7
S19A **Harvey Farm, M** 45.66 83 ⇑P P 00 20 01.4 -0.3
baz=46
WUAZ **Wupatki** 45.75 87 eP P 00 20 02.2 -0.2
comp=Z,5.7nm,0.7s
WUAZ **Wupatki** 45.75 87 ⇑P P 00 20 02.8 +0.5
baz=46,SNR=6.4
PV01 **Paradox Valley** 45.76 82 eP P 00 20 03.8 +1.3
Y14A **Wickenburg** 45.80 89 ⇑P P 00 20 03.1 +0.4
baz=46
R20A **Redvale** 45.84 81 ⇑P P 00 20 02.7 -0.4
baz=46
ULM **Lac du Bonnet** 45.86 61 P P 00 20 01.8 -1.0
ULM **Lac du Bonnet** 45.86 61 P P 00 20 01.8 -1.0
comp=Z,3.9nm,0.9s,baz=309,slow=9.5,SNR=5.8
O23A **Lake Granby, G** 46.05 78 ⇓P P 00 20 04.0 -0.8
baz=46
S20A **Disappointment** 46.08 82 ⇓P P 00 20 04.4 -0.6
baz=46,SNR=7.5
113A **Mohawk Valley,** 46.13 91 ⇓P P 00 20 05.5 +0.3
baz=46
Q22A **Crested Butte,** 46.30 80 ⇓P P 00 20 06.2 -0.6
baz=46
T19A **Beclabito** 46.32 83 ⇓P P 00 20 06.8 -0.1
baz=46,SNR=12
MVCO **Mesa Verde** 46.40 83 eP P 00 20 07.5 0.0
comp=Z,24nm,1.6s
MVCO **Mesa Verde** 46.40 83 ⇑P P 00 20 07.2 -0.3
baz=46
X16A **Lo Mia Camp, P** 46.44 88 ⇓P P 00 20 08.0 +0.2
baz=46
ISCO **Idaho Springs** 46.48 78 ⇑P P 00 20 08.2 0.0
baz=46
S21A **Coal Bank Pass** 46.53 82 ⇑P P 00 20 08.7 0.0
baz=46
U19A **Dine' College,** 46.56 84 ⇓P P 00 20 09.2 +0.4
baz=46
AGMN **Agassiz Nation** 46.97 63 eP P 00 20 10.3 -1.2
comp=Z,13nm,0.8s
S22A **4UR Ranch, Cre** 47.06 81 ⇓P P 00 20 12.6 -0.2
baz=47
T21A **Navajo Lake** 47.12 82 ⇑P P 00 20 13.5 +0.4
baz=47
X18A **Snowflake** 47.28 86 ⇓P P 00 20 14.7 +0.3
baz=47
214A **Organ Pipe Nat** 47.28 91 ⇓P P 00 20 14.1 -0.1
baz=47
U21A **Nageezi** 47.42 83 ⇓P P 00 20 15.5 +0.1
baz=47,SNR=12
T22A **Edith** 47.49 82 ⇑P P 00 20 15.9 -0.1
baz=47
W20A **Ramah** 47.76 85 ⇓P P 00 20 18.0 -0.1
baz=48
SDCO **Great Sand Dun** 47.86 80 eP P 00 20 20.8 +1.8
comp=Z,4.4nm,1.0s
U22A **Llaves** 47.94 82 ⇓P P 00 20 19.9 +0.4
baz=48
P26A **Davis Ranch, A** 47.99 77 ⇓P P 00 20 19.8 0.0
baz=48
S24A **Houchin Ranch,** 48.10 80 ⇑P P 00 20 20.9 0.0
baz=48
X20A **Quemado** 48.16 85 ⇓P P 00 20 21.8 +0.6
baz=48
V22A **San Miguel Ran** 48.21 83 ⇑P P 00 20 21.7 +0.1
baz=48
TUC **Tucson** 48.27 89 eP P 00 20 23.4 +1.4
TUC pmax pmax
comp=Z,5.0nm,1.0s
TUC **Tucson** 48.27 89 eP P 00 20 23.4 +1.4
comp=Z,4.9nm,1.0s
U23A **El Rito** 48.37 82 ⇓P P 00 20 23.2 +0.3
baz=48
S25A **Robets Cordova** 48.56 79 ⇑P P 00 20 24.6 +0.3
baz=48
T24A **Torres, Weston** 48.57 80 ⇑P P 00 20 24.2 -0.2
baz=48
X21A **Alamocita Cree** 48.66 85 ⇑P P 00 20 25.2 +0.2
baz=48,SNR=5.5
Y20A **Horse Springs,** 48.66 86 ⇑P P 00 20 25.9 +0.8
baz=49
TLY **Talaya** 48.70 305 eP P 00 20 26.4 +1.5

TLY					*e*S	**S**	**00 27 22.8**	**-0.5**	
TLY					*e*SS	**SS**	**00 30 51.1**	**-2.4**	
TLY					pmax	pmax			
	comp=Z,6.0nm,0.9s								
TLY					MLR	MLR			
	comp=Z,60nm,19.0s								
R26A	**Arlington**	**48.74**	**78**	⇓P	**P**		**00 20 25.5**	**0.0**	
	baz=49								
V23A	**Ortiz Mt. (NFS**	**48.76**	**82**	⇓P	**P**		**00 20 25.9**	**+0.1**	
	baz=49								
T25A	**Trinidad**	**48.92**	**80**	⇑P	**P**		**00 20 27.4**	**+0.4**	
	baz=49								
Z20A	**Nine Sixteen R**	**49.07**	**87**	⇑P	**P**		**00 20 28.9**	**+0.8**	
	baz=49								
LAZ	**Ladron**	**49.08**	**84**	*e*P	**P**		**00 20 28.4**	**+0.1**	
ANMO	**Albuquerque**	**49.12**	**83**	*e*P	P		00 20 31.5	+2.9	
ANMO				*e*PcP	**PcP**		**00 21 52.6**	**+1.2**	
R27A	**Eads**	**49.14**	**78**	⇓P	**P**		**00 20 28.6**	**+0.1**	
	baz=49								
S26A	**Kim**	**49.16**	**79**	⇓P	**P**		**00 20 28.5**	**-0.3**	
	baz=49								
W23A	**Werner Place,**	**49.17**	**83**	⇑P	**P**		**00 20 28.8**	**-0.1**	
	baz=49								
ULN	**Ulaanbaatar**	**49.20**	**299**	*e*P	**P**		**00 20 28.4**	**-0.6**	
	comp=Z,1.8nm,0.9s								
ECSD	**EROS Data Cent**	**49.30**	**68**	*e*P	**P**		**00 20 27.9**	**-1.7**	
	comp=Z,3.8nm,0.8s								
V24A	**Rampart Ranch,**	**49.33**	**82**	⇓P	**P**		**00 20 29.9**	**-0.3**	
	baz=49								
T26A	**Comanche Natio**	**49.38**	**79**	⇓P	**P**		**00 20 30.3**	**-0.2**	
	baz=49								
U25A	**Circle Dot Ran**	**49.40**	**81**	⇑P	**P**		**00 20 30.5**	**-0.2**	
	baz=49								
LPM	**Los Pinos Moun**	**49.45**	**84**	*e*P	P		00 20 34.6	+3.5	
X23A	**Hourglass Bar**	**49.54**	**84**	⇓P	**P**		**00 20 31.7**	**-0.1**	
	baz=49								
EYMN	**Ely**	**49.54**	**61**	*e*P	**P**		**00 20 30.0**	**-1.4**	
	comp=Z,18nm,1.4s								
BNM	**Barren Site**	**49.56**	**84**	*e*P	**P**		**00 20 33.7**	**+1.8**	
SONM	**Songino Array**	**49.57**	**299**	P	**P**		**00 20 32.7**	**+1.0**	
SONM				PcP	**PcP**		**00 21 53.6**	**+0.9**	
SONM	**Songino Array**	**49.57**	**299**	P	**P**		**00 20 32.7**	**+1.0**	
	comp=Z,0.8nm,0.8s,baz=60,slow=5.9,SNR=8.3								
SONM				PcP	**PcP**		**00 21 53.6**	**+0.9**	
	comp=Z,0.6nm,0.9s,baz=56,slow=3.6,SNR=3.8								
SONM				LR	LR		00 41 35.5		
	comp=Z,87nm,18.7s,baz=338,slow=36								
W24A	**Lazy 6 Ranch,**	**49.59**	**82**	⇓P	**P**		**00 20 32.7**	**+0.6**	
	baz=50								
V25A	**Rancho No Teng**	**49.65**	**81**	⇑P	**P**		**00 20 32.7**	**+0.1**	
	baz=50								
ZAK	**Zakamensk**	**49.66**	**303**	*e*P	**P**		**00 20 33.9**	**+1.5**	
ZAK				*e*			00 21 53.1		
ZAK				pmax	pmax				
	comp=Z,4.0nm,1.4s								
220A	**Playas Peak, P**	**49.94**	**88**	⇑P	**P**		**00 20 35.2**	**+0.5**	
	baz=50								
121A	**Cookes Peak, D**	**49.96**	**87**	⇓P	**P**		**00 20 35.8**	**+0.8**	
	baz=50								
T27A	**Campo**	**49.98**	**79**	⇑P	**P**		**00 20 35.1**	**+0.1**	
	baz=50								
Y23A	**Lovelace Mesa,**	**50.06**	**84**	⇓P	**P**		**00 20 35.9**	**+0.2**	
	baz=50								
W25A	**X Bar L Ranch,**	**50.16**	**82**	⇓P	**P**		**00 20 36.6**	**+0.2**	
	baz=50								
V26A	**Tequesquite Ra**	**50.18**	**81**	⇓P	**P**		**00 20 36.4**	**-0.1**	
	baz=50,SNR=5.6								
T28A	**Walsh**	**50.31**	**78**	⇑P	**P**		**00 20 37.3**	**-0.2**	
	baz=50								
320A	**Kipp Ranch, An**	**50.33**	**88**	⇓P	**P**		**00 20 37.8**	**+0.1**	
	baz=50								
Y24A	**Capitan**	**50.44**	**84**	⇓P	**P**		**00 20 38.7**	**+0.1**	
	baz=50,SNR=8.4								
Z24A	**Sheeppen Canyo**	**50.89**	**84**	⇑P	**P**		**00 20 42.2**	**+0.2**	
	baz=51								
Y25A	**Mesa, Roswell**	**50.89**	**83**	⇓P	**P**		**00 20 42.1**	**+0.1**	
	baz=51								
HHC	**Hu-ho-hao-te**	**51.05**	**289**	*e*P	**P**		**00 20 44.0**	**+1.0**	
HHC				pP	pP		00 20 52.3	-4.9	
HHC				sP	sP		00 20 55.8	-7.4	
HHC				PP	**PP**		**00 22 41.5**	**+1.8**	
HHC				S	**S**		**00 27 58.0**	**+1.5**	
HHC				sS	sS		00 28 09.8	-10	
HHC				ScS	**ScS**		**00 30 30.3**	**+1.6**	
HHC				pmax	pmax				
	comp=Z,9.0nm,0.5s								
HHC				pmax	pmax				
	comp=Z,120nm,4.9s								
HHC				LR	LR				
	comp=N,390nm,15.5s								
HHC				LR	LR				
	comp=E,130nm,15.5s								
HHC				LR	LR				
	comp=Z,110nm,19.0s								
124A	**Stringfield Ra**	**51.27**	**85**	⇓P	**P**		**00 20 44.9**	**+0.1**	
	baz=51								
224A	**Cornudas Mount**	**51.66**	**85**	⇑P	**P**		**00 20 48.0**	**+0.3**	
	baz=52								
Z26A	**Caprock**	**51.77**	**83**	⇑P	**P**		**00 20 48.7**	**+0.2**	
	baz=52								
125A	**Gardner Draw,**	**51.78**	**84**	⇓P	**P**		**00 20 49.4**	**+0.9**	
	baz=52								
Y27A	**Causey**	**51.85**	**82**	⇓P	**P**		**00 20 49.3**	**+0.2**	
	baz=52								
MSTX	**Muleshoe**	**52.03**	**82**	⇓P	**P**		**00 20 50.9**	**+0.5**	
	baz=52								
225A	**Deer Hill, Car**	**52.06**	**85**	⇓P	**P**		**00 20 51.8**	**+1.0**	
	baz=52								
AMTX	**Amarillo**	**52.07**	**80**	⇑P	**P**		**00 20 50.8**	**+0.2**	
	baz=52								
324A	**Moseley Ranch,**	**52.12**	**86**	⇑P	**P**		**00 20 51.2**	**+0.1**	
	baz=52								
Z27A	**Tatum**	**52.21**	**83**	⇓P	**P**		**00 20 52.1**	**+0.4**	
	baz=52								
325A	**Bean Ranch, Si**	**52.48**	**86**	⇑P	**P**		**00 20 54.3**	**+0.4**	
	baz=52								
NJ2	**Nanjing**	**52.59**	**276**	*e*P	**P**		**00 20 55.8**	**+1.4**	
NJ2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
425A	**Indio Mountain**	**52.88**	**86**	⇑P	**P**		**00 20 57.2**	**+0.4**	
	baz=53,SNR=8.8								
326A	**Caldwell Ranch**	**53.13**	**85**	⇓P	**P**		**00 20 58.8**	**+0.3**	
	baz=53								
128A	**Castleberry Fa**	**53.13**	**83**	⇓P	**P**		**00 20 58.7**	**+0.2**	
	baz=53								
426A	**McDonald Obser**	**53.55**	**86**	⇓P	**P**		**00 21 01.9**	**+0.2**	
	baz=53								
328A	**Wristen Ranch,**	**53.79**	**84**	⇑P	**P**		**00 21 03.6**	**+0.2**	
	baz=54								
WMOK	**Wichita Mounta**	**53.91**	**78**	*e*P	**P**		**00 21 05.2**	**+1.1**	
WMOK				pmax	pmax				
	comp=Z,23nm,2.1s								
WMOK	**Wichita Mounta**	**53.91**	**78**	*e*P	**P**		**00 21 05.2**	**+1.1**	
	comp=Z,23nm,2.1s								
WMOK				*e*ScP	ScP		00 26 09.2	+6.9	
526A	**Mary Lane Ranc**	**53.94**	**86**	⇑P	**P**		**00 21 04.8**	**+0.2**	
	baz=54,SNR=6.0								
527A	**Woodward Ranch**	**54.17**	**86**	⇓P	**P**		**00 21 05.9**	**-0.4**	
	baz=54								
329A	**Wagon Wheel Ra**	**54.22**	**83**	⇑P	**P**		**00 21 06.8**	**+0.3**	
	baz=54								
626A	**Big Bend Ranch**	**54.27**	**87**	⇑P	**P**		**00 21 06.8**	**-0.1**	
	baz=54,SNR=12								
428A	**Kincaid Ranch,**	**54.33**	**85**	⇑P	**P**		**00 21 06.9**	**-0.4**	
	baz=54,SNR=6.8								
TXAR	**Lajitas Array**	**54.72**	**86**	P	**P**		**00 21 09.6**	**-0.6**	
TXAR				PcP	**PcP**		**00 22 12.8**	**+0.5**	
TXAR	**Lajitas Array**	**54.72**	**86**	P	**P**		**00 21 09.6**	**-0.6**	
	comp=Z,5.8nm,0.8s,baz=298,slow=5.2,SNR=42								
TXAR				PcP	**PcP**		**00 22 12.8**	**+0.5**	
	comp=Z,0.6nm,0.6s,baz=217,slow=1.7,SNR=4.4								
627A	**Terlingua Ranc**	**54.80**	**86**	⇑P	**P**		**00 21 10.9**	**+0.2**	
	baz=55								
ABTX	**Abilene, Hawle**	**54.85**	**81**	⇑P	**P**		**00 21 11.1**	**+0.2**	
	baz=55								
429A	**Davenport Ranc**	**54.88**	**84**	⇑P	**P**		**00 21 11.4**	**+0.1**	
	baz=55								
628A	**Black Gap, Mar**	**55.08**	**86**	⇑P	**P**		**00 21 12.2**	**-0.5**	
	baz=55,SNR=12								
430A	**Baggett Ranch,**	**55.17**	**83**	⇓P	**P**		**00 21 13.0**	**-0.3**	
	baz=55,SNR=6.3								
431A	**Sonora**	**55.62**	**83**	⇓P	**P**		**00 21 15.6**	**-1.0**	
	baz=56,SNR=8.0								
531A	**Rocksprings**	**56.03**	**83**	⇑P	**P**		**00 21 19.5**	**0.0**	
	baz=56								
ZALV	**Zalesovo Beam**	**56.04**	**316**	LR	LR		00 47 01.5		
	comp=Z,36nm,20.2s,baz=57,slow=38								
JCT	**Junction City**	**56.26**	**83**	*e*P	**P**		**00 21 21.8**	**+0.6**	
JCT				pmax	pmax				
	comp=Z,20nm,1.4s								
JCT	**Junction City**	**56.26**	**83**	*e*P	**P**		**00 21 21.8**	**+0.6**	
	comp=Z,20nm,1.4s								
JCT	**Junction City**	**56.26**	**83**	⇑P	**P**		**00 21 21.1**	**0.0**	
	baz=56								
532A	**Rocksprings**	**56.45**	**83**	⇑P	**P**		**00 21 22.2**	**-0.3**	
	baz=56								
SCHQ	**Schefferville**	**56.73**	**42**	P	**P**		**00 21 23.0**	**-1.1**	
SCHQ	**Schefferville**	**56.73**	**42**	P	**P**		**00 21 23.0**	**-1.1**	
	comp=Z,3.3nm,0.9s,baz=303,slow=9.4,SNR=6.7								
632A	**Uvalde**	**56.96**	**83**	⇓P	**P**		**00 21 25.9**	**-0.2**	
	baz=57								
732A	**Laxson Ranch,**	**57.40**	**84**	⇓P	**P**		**00 21 29.3**	**+0.1**	
	baz=57								
ARCES	**ARCESS Array B**	**57.64**	**353**	LR	LR		00 45 07.1		
	comp=Z,69nm,20.2s,baz=169,slow=35								
LZH	**Lanzhou**	**58.73**	**290**	*e*P	**P**		**00 21 41.0**	**+2.4**	
LZH				pP	pP		00 21 48.5	-4.5	
LZH				sP	sP		00 21 52.0	-7.0	
LZH				pmax	pmax				
	comp=Z,20nm,1.2s								
ALLY	**Alegheny Colle**	**59.75**	**60**	*e*P	**P**		**00 21 44.8**	**-0.6**	
	comp=Z,28nm,0.8s								
MSNY	**Massena**	**60.09**	**54**	*e*P	**P**		**00 21 45.1**	**-2.5**	
KURK	**Kurchatov**	**61.01**	**317**	*e*P	**P**		**00 21 54.3**	**+0.5**	
KURK				pmax	pmax				
	comp=Z,6.0nm,0.9s								
BINY	**Binghamton**	**61.53**	**57**	*e*P	**P**		**00 21 58.7**	**+1.2**	
	comp=Z,16nm,1.0s								
SSPA	**Standing Stone**	**61.67**	**60**	*e*P	**P**		**00 21 57.0**	**-1.4**	
	comp=Z,8.9nm,0.9s								
WMQ	**Urumqi**	**61.93**	**306**	*e*P	P		00 22 02.8	+2.6	
WMQ				pP	pP		00 22 10.5	-4.3	
WMQ				*e*S	S		00 30 24.0	+3.9	
WMQ				pmax	pmax				
	comp=Z,7.0nm,0.6s								
WMQ				pmax	pmax				
	comp=Z,120nm,5.7s								
WMQ				LR	LR				
	comp=N,160nm,22.8s								
WMQ				LR	LR				
	comp=E,170nm,22.8s								
WMQ				LR	LR				
	comp=Z,170nm,20.4s								
MKAR	**Makanchi Array**	**62.32**	**311**	P	**P**		**00 22 03.2**	**+0.4**	
MKAR	**Makanchi Array**	**62.32**	**311**	P	**P**		**00 22 03.1**	**+0.4**	
MKAR	**Makanchi Array**	**62.32**	**311**	P	**P**		**00 22 03.1**	**+0.4**	
	comp=Z,1.7nm,0.8s,baz=53,slow=4.7,SNR=7.9								
BRVK	**Borovoye**	**62.51**	**323**	*e*P	**P**		**00 22 04.3**	**+0.5**	
BRVK				pmax	pmax				
	comp=Z,6.0nm,0.8s								
BRVK	**Borovoye**	**62.51**	**323**	*e*P	**P**		**00 22 04.3**	**+0.5**	
	comp=Z,5.9nm,0.8s								
SVE	**Sverdlovsk**	**62.70**	**330**	⇓*e*P	P		00 22 07.8	+2.8	
SVE				pmax	pmax				
	comp=Z,7.0nm,1.0s								
BLA	**Blacksburg**	**62.77**	**64**	*e*P	**P**		**00 22 05.0**	**-0.9**	
BLA				pmax	pmax				
	comp=Z,24nm,1.0s								
BLA	**Blacksburg**	**62.77**	**64**	*e*P	**P**		**00 22 05.0**	**-0.9**	
	comp=Z,24nm,1.0s								
MVL	**Millersville**	**62.94**	**59**	*e*P	**P**		**00 22 06.0**	**-0.9**	
	comp=Z,9.2nm,0.9s								
ARU	**Arti**	**63.65**	**331**	*c i*P	**P**		**00 22 11.8**	**+0.4**	
ARU				S	S		00 30 48.8	+7.7	
ARU				SS	SS		00 34 56.5	+8.2	
ARU				pmax	pmax				
	comp=Z,13nm,1.7s								
ARU	**Arti**	**63.65**	**331**	*e*P	**P**		**00 22 11.5**	**+0.1**	
	comp=Z,24nm,1.7s								
KMSC	**Kings Mountain**	**63.77**	**66**	⇓P	**P**		**00 22 11.4**	**-1.1**	
	baz=64								
GYA	**Guiyang**	**63.99**	**280**	*e*P	**P**		**00 22 16.0**	**+1.8**	
GYA				pmax	pmax				
	comp=Z,10.0nm,1.0s								
KLMR	**Klimovskoe**	**64.20**	**343**	*e*P	P		00 22 11.4	-3.4	
KLMR				pmax	pmax				
	comp=Z,31nm,1.6s								
FINES	**FINESS Array B**	**65.52**	**350**	P	**P**		**00 22 22.3**	**-1.1**	
FINES	**FINESS Array B**	**65.52**	**350**	P	**P**		**00 22 22.3**	**-1.1**	
	comp=Z,3.1nm,0.9s,baz=8.9,slow=9.8,SNR=4.2								
NB2	**NORSAR Subarra**	**66.85**	**358**	P	**P**		**00 22 31.3**	**-0.8**	
	comp=Z,1.4nm,0.8s,baz=3.5,slow=6.5								
NOA	**NORSAR Array B**	**66.85**	**358**	P	**P**		**00 22 29.9**	**-2.2**	
NOA	**NORSAR Array B**	**66.85**	**358**	P	**P**		**00 22 29.9**	**-2.2**	
	comp=Z,1.5nm,0.8s,baz=1.7,slow=6.0,SNR=4.5								
NOA				LR	LR		00 53 37.1		
	comp=Z,47nm,18.9s,baz=60,slow=38								
KMI	**Kunming**	**67.34**	**282**	P	**P**		**00 22 37.5**	**+1.6**	
KMI				pP	pP		00 22 45.5	-5.1	
KMI				sP	sP		00 22 49.5	-7.1	
KMI				pmax	pmax				
	comp=Z,6.0nm,1.0s								
VSU	**Vasula**	**68.37**	**349**	*e*P	P		00 22 43.3	+1.8	
VSU				pmax	pmax				
	comp=Z,21nm,1.2s								
AAK	**Ala-Archa**	**69.06**	**313**	*e*P	**P**		**00 22 46.7**	**+0.4**	
AAK				pmax	pmax				
	comp=Z,20nm,1.7s								
AAK	**Ala-Archa**	**69.06**	**313**	*e*P	**P**		**00 22 46.8**	**+0.4**	
	comp=Z,18nm,0.9s								
ABKAR	**Akbulak array**	**69.33**	**326**	*e*P	**P**		**00 22 48.1**	**+0.4**	
OBN	**Obninsk**	**70.14**	**343**	*e*P	**P**		**00 22 53.8**	**+1.2**	
OBN				pmax	pmax				
	comp=Z,15nm,1.7s								
KSH	**Kashi**	**70.87**	**310**	*e*P	P		00 23 01.3	+3.8	
KSH				pP	pP		00 23 12.0	-0.3	
KSH				sP	sP		00 23 15.3	-2.9	
KSH				PcP	PcP		00 23 22.0	+4.2	
KSH				PP	PP		00 25 40.5	+6.1	
KSH				S	S		00 32 13.8	+5.2	
KSH				sS	**SKiKP**		**00 32 30.5**	**-4.1**	
KSH				SKS	**ScS**		**00 32 57.0**	**+0.2**	
KSH				ScS	**SKKSac**		**00 32 58.8**	**+3.4**	
KSH				SS	SS		00 36 48.8	+7.8	
KSH				pmax	pmax				
	comp=Z,6.0nm,1.3s								
KSH				pmax	pmax				
	comp=Z,50nm,4.9s								
KSH				LR	LR				
	comp=N,120nm,5.0s								
KSH				LR	LR				
	comp=E,120nm,5.4s								
KSH				LR	LR				
	comp=Z,220nm,5.4s								
VRHR	**Novokhopersk**	**72.90**	**338**	*e*P	**P**		**00 23 08.2**	**-1.0**	
VRHR				pmax	pmax				
	comp=N,10.0nm,0.9s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.9s								
VRHR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
VSR	**Storozhevoye**	**73.32**	**340**	*e*P	**P**		**00 23 11.0**	**-0.7**	
VSR				pmax	pmax				
	comp=N,9.0nm,1.1s								
VSR				pmax	pmax				
	comp=E,7.0nm,1.1s								
VSR				pmax	pmax				
	comp=Z,10.0nm,1.1s								
VORD	**Divnogorie**	**73.53**	**340**	*e*P	**P**		**00 23 12.6**	**-0.4**	
VORD				pmax	pmax				
	comp=N,10.0nm,1.0s								
VORD				pmax	pmax				
	comp=E,10.0nm,1.0s								
VORD				pmax	pmax				
	comp=Z,9.0nm,1.0s								
CMAR	**Chiang Mai Arr**	**74.68**	**280**	P	**P**		**00 23 19.4**	**-0.7**	
CMAR	**Chiang Mai Arr**	**74.68**	**280**	P	**P**		**00 23 19.4**	**-0.7**	
	comp=Z,2.0nm,0.9s,baz=25,slow=7.0,SNR=9.1								
CMAR				LR	LR		00 58 41.2		
	comp=Z,17nm,21.3s,baz=40,slow=38								
AKASG	**Malin Array Be**	**75.61**	**346**	P	**P**		**00 23 23.7**	**-1.3**	
AKASG	**Malin Array Be**	**75.61**	**346**	P	**P**		**00 23 23.7**	**-1.3**	
AKASG	**Malin Array Be**	**75.61**	**346**	P	**P**		**00 23 23.7**	**-1.3**	
	comp=Z,1.9nm,0.8s,baz=4.9,slow=5.3,SNR=5.5								
AKASG				LR	LR		00 58 47.0		
	comp=Z,49nm,18.1s,baz=345,slow=37								
CLL	**Collm**	**76.54**	**356**	*i* P	**P**		**00 23 30.9**	**+0.6**	
	comp=Z,3.0nm,1.1s								
LVV	**L'vov**	**77.17**	**349**	*e*P	P		00 23 24.0	-10	
GERES	**GERESS Array B**	**78.97**	**356**	P	**P**		**00 23 42.2**	**-1.8**	
GERES	**GERESS Array B**	**78.97**	**356**	P	**P**		**00 23 42.2**	**-1.8**	
	comp=Z,0.3nm,0.3s,baz=12,slow=6.8,SNR=5.3								
KIV	**Kislovodsk**	**79.30**	**335**	*e*P	**P**		**00 23 46.7**	**+0.8**	
KIV				*e*			00 26 49.4		
KIV				*e*SS	SS		00 38 58.3	+10	
KIV				pmax	pmax				
	comp=Z,4.0nm,1.0s								
PAGF	**Fort de Pagny**	**79.40**	**1**	*e*P	**P**		**00 23 46.5**	**+0.3**	
	comp=Z,5.4nm,1.1s								
PAGF	**Fort de Pagny**	**79.40**	**1**	*e*P	**P**		**00 23 46.5**	**+0.3**	
	comp=Z,5.4nm,1.1s								
KBZ	**Khabaz**	**79.46**	**335**	P	**P**		**00 23 47.3**	**+0.7**	
KBZ	**Khabaz**	**79.46**	**335**	P	**P**		**00 23 47.2**	**+0.7**	
KBZ	**Khabaz**	**79.46**	**335**	P	**P**		**00 23 47.2**	**+0.7**	
	comp=Z,2.8nm,0.9s,baz=167,slow=2.1,SNR=7.1								
KBZ				LR	LR		01 00 39.6		
	comp=Z,45nm,19.5s,baz=186,slow=37								
CONA	**Conrad Observa**	**79.77**	**354**	⇑*i*P	**P**		**00 23 49.6**	**+1.2**	
	comp=Z,3.8nm,0.9s								
ZEI	**Tsey**	**80.08**	**334**	*e*P	**P**		**00 23 50.5**	**+0.2**	
ZEI				pmax	pmax				
	comp=Z,4.0nm,1.1s								
CTA	**Charters Tower**	**80.59**	**219**	P	**P**		**00 23 54.7**	**+1.8**	
CTA	**Charters Tower**	**80.59**	**219**	P	**P**		**00 23 54.7**	**+1.8**	
	comp=Z,5.9nm,0.9s,baz=24,slow=10.0,SNR=3.0								
LOR	**Lormes**	**80.65**	**2**	*e*P	**P**		**00 23 52.3**	**-0.7**	
	comp=Z,11nm,1.1s								
LOR	**Lormes**	**80.65**	**2**	*e*P	**P**		**00 23 52.3**	**-0.7**	
	comp=Z,11nm,1.1s								
SSF	**Saint Saulge**	**80.84**	**3**	*e*P	**P**		**00 23 54.0**	**-0.1**	
	comp=Z,26nm,1.5s								
SSF	**Saint Saulge**	**80.84**	**3**	*e*P	**P**		**00 23 54.0**	**-0.1**	
SSF				pmax	pmax				
	comp=Z,26nm,1.5s								
SSF	**Saint Saulge**	**80.84**	**3**	*e*P	**P**		**00 23 54.0**	**-0.1**	
	comp=Z,26nm,1.5s								
BRTR	**Keskin Array B**	**85.44**	**340**	P	**P**		**00 24 17.6**	**-0.5**	
BRTR				PP	**PP**		**00 27 35.4**	**-0.5**	
BRTR	**Keskin Array B**	**85.44**	**340**	P	**P**		**00 24 17.6**	**-0.5**	
	comp=Z,2.3nm,0.9s,baz=40,slow=2.8,SNR=7.4								
BRTR				PP	**PP**		**00 27 35.4**	**-0.5**	
	comp=Z,0.7nm,0.9s,baz=20,slow=4.7,SNR=2.5								
BRTR				LR	LR		01 09 11.6		
	comp=Z,36nm,18.2s,baz=162,slow=40								
WRA	**Warramunga Arr**	**85.52**	**229**	P	**P**		**00 24 17.7**	**-0.6**	
WRA	**Warramunga Arr**	**85.52**	**229**	P	**P**		**00 24 17.7**	**-0.6**	
	comp=Z,3.5nm,0.9s,baz=32,slow=5.9,SNR=20								
ESDC	**Sonseca Array**	**87.75**	**9**	P	**P**		**00 24 28.3**	**-1.0**	
ESDC	**Sonseca Array**	**87.75**	**9**	P	**P**		**00 24 28.3**	**-1.0**	
	comp=Z,0.2nm,0.5s,baz=345,slow=5.0,SNR=4.0								
FITZ	**Fitzroy Crossi**	**88.20**	**237**	P	**P**		**00 24 31.6**	**+0.2**	
FITZ	**Fitzroy Crossi**	**88.20**	**237**	P	**P**		**00 24 31.6**	**+0.2**	
	comp=Z,3.7nm,0.7s,baz=37,slow=4.7,SNR=4.7								
ASAR	**Alice Springs**	**88.94**	**227**	P	**P**		**00 24 35.1**	**+0.3**	
ASAR	**Alice Springs**	**88.94**	**227**	P	**P**		**00 24 35.1**	**+0.3**	
	comp=Z,7.7nm,0.7s,baz=30,slow=4.7,SNR=55								
STKA	**Stephens Creek**	**93.00**	**218**	P	**P**		**00 24 54.1**	**+0.7**	
STKA	**Stephens Creek**	**93.00**	**218**	P	**P**		**00 24 54.1**	**+0.7**	
	comp=Z,3.3nm,0.8s,baz=350,slow=5.9,SNR=3.8								
TORD	**Torodi Ar. Bea**	**114.52**	**6**	PKP	PKPdf		00 30 19.5	-0.9	
TORD	**Torodi Ar. Bea**	**114.52**	**6**	PKP	PKPdf		00 30 19.5	-0.9	
	comp=Z,0.4nm,0.8s,baz=0.2,slow=1.8								
DBIC	**Dimbokro**	**120.22**	**14**	PKP	**PKPdf**		**00 30 31.1**	**-0.3**	
DBIC	**Dimbokro**	**120.22**	**14**	PKP	**PKPdf**		**00 30 31.1**	**-0.3**	
	comp=Z,3.1nm,1.0s,baz=327,slow=0.6,SNR=2.7								
CPUP	**Villa Florida**	**125.68**	**88**	PKP	**PKPdf**		**00 30 41.7**	**+0.3**	
CPUP	**Villa Florida**	**125.68**	**88**	PKP	**PKPdf**		**00 30 41.7**	**+0.3**	
	comp=Z,0.4nm,0.3s,baz=314,slow=3.0,SNR=4.0								
PLCA	**Paso Flores**	**127.65**	**110**	PKP	**PKPdf**		**00 30 45.1**	**+0.2**	
PLCA	**Paso Flores**	**127.65**	**110**	PKP	**PKPdf**		**00 30 45.1**	**+0.2**	
	comp=Z,2.4nm,0.7s,baz=274,slow=2.2,SNR=5.7								
LBTB	**Lobatse**	**149.36**	**326**	PKPbc	**PKPbc**		**00 31 28.7**	**-0.4**	
LBTB	**Lobatse**	**149.36**	**326**	PKPbc	**PKPbc**		**00 31 28.7**	**-0.4**	
	comp=Z,15nm,0.8s,baz=34,slow=2.8,SNR=36								
BOSA	**Boshof**	**152.78**	**324**	PKPbc	**PKPbc**		**00 31 36.2**	**-0.8**	
BOSA	**Boshof**	**152.78**	**324**	PKPbc	**PKPbc**		**00 31 36.2**	**-0.8**	
	comp=Z,5.0nm,0.8s,baz=20,slow=12,SNR=15								

BJI ***27*** *00:17:38.8,52˚.20N×172˚.60W,h10km,mB4.7/5,mb4.8/10, Ms4.4/2,Ms7 4.1/2*

NEIC ***27*** *00:17:44.0±1.7,52˚.33N×172˚.60W,h16km±11km,mb4

4.4nm,0.8s,baz=306,slow=4.6,SNR=19
PASC Pasadena Art C 42.49 93 *e*P **P 00 25 35.5 -2.6**
PV10 Paradox Valley 45.34 82 *e*P **P 00 26 01.7 +0.4**
ULM Lac du Bonnet 45.88 61 P **P 00 26 03.9 -1.2**
ULM Lac du Bonnet 45.88 61 P **P 00 26 03.9 -1.2**
1.4nm,0.5s,baz=298,slow=4.5,SNR=3.4
SONM Songino Array 49.57 299 P **P 00 26 33.4 -0.5**
SONM Songino Array 49.57 299 P **P 00 26 33.4 -0.5**
0.7nm,1.0s,baz=64,slow=6.8,SNR=5.3
HHC Hu-ho-hao-te 51.05 289 *e*P **P 00 26 45.5 +0.3**
HHC sP **sP 00 26 51.5 -0.3**
HHC PP **PP 00 28 43.5 +2.0**
HHC S **S 00 34 01.0 -0.9**
HHC sS **sS 00 34 08.0 -1.7**
HHC ScS **ScS 00 36 33.3 -1.8**
HHC SS **SS 00 37 33.8 -2.7**
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,86nm,6.1s
HHC LR LR
comp=N,56nm,15.5s
HHC LR LR
comp=E,120nm,15.5s
HHC LR LR
comp=Z,100nm,17.8s
NJ2 Nanjing 52.57 276 *e*P **P 00 26 54.8 -1.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
TXAR Lajitas Array 54.73 86 P **P 00 27 12.0 -0.5**
TXAR Lajitas Array 54.73 86 P **P 00 27 12.0 -0.5**
comp=Z,1.1nm,0.4s,baz=305,slow=6.1,SNR=18
ZALV Zalesovo Beam 56.05 316 P **P 00 27 23.1 +1.6**
ZALV PcP **PcP 00 28 18.9 -0.6**
ZALV Zalesovo Beam 56.05 316 P **P 00 27 23.1 +1.6**
comp=Z,0.3nm,0.5s,baz=45,slow=2.2,SNR=3.9
ZALV PcP **PcP 00 28 18.9 -0.6**
comp=Z,0.2nm,0.3s,baz=39,slow=5.5,SNR=2.4
SCHQ Schefferville 56.76 42 P **P 00 27 26.0 -0.6**
SCHQ Schefferville 56.76 42 P **P 00 27 26.0 -0.6**
comp=Z,3.1nm,0.9s,baz=327,slow=8.3,SNR=5.3
LZH Lanzhou 58.72 290 *e*P **P 00 27 40.8 -0.1**
LZH pP **pP 00 27 48.5 +2.8**
LZH sP **sP 00 27 51.5 +4.0**
LZH pmax pmax
comp=Z,18nm,1.0s
MKAR Makanchi Array 62.32 311 *e*P **P 00 28 05.4 +0.3**
MKAR Makanchi Array 62.32 311 P **P 00 28 04.7 -0.4**
comp=Z,1.1nm,0.8s,baz=52,slow=5.5,SNR=11
BRVK Borovoye 62.52 323 *e*P **P 00 28 07.7 +1.5**
comp=Z,4.6nm,1.0s
FINES FINESS Array B 65.54 350 P **P 00 28 27.1 +1.2**
FINES FINESS Array B 65.54 350 P **P 00 28 27.1 +1.2**
comp=Z,2.9nm,1.0s,baz=1.9,slow=8.3,SNR=3.5
NOA NORSAR Array B 66.88 358 P **P 00 28 33.5 -1.2**
NOA NORSAR Array B 66.88 358 P **P 00 28 33.5 -1.2**
comp=Z,1.0nm,0.8s,baz=360,slow=6.2,SNR=3.7
KMI Kunming 67.33 282 P **P 00 28 37.8 -0.5**
KMI pP **pP 00 28 40.5 -2.7**
KMI sP **sP 00 28 42.3 -2.7**
KMI pmax pmax
comp=Z,10.0nm,0.7s
ABKAR Akbulak array 69.34 326 *e*P **P 00 28 51.2 +1.0**
CMAR Chiang Mai Arr 74.67 280 P **P 00 29 23.2 +0.6**
CMAR Chiang Mai Arr 74.67 280 P **P 00 29 23.2 +0.6**
comp=Z,0.7nm,0.3s,baz=28,slow=6.1,SNR=4.5
AKASG Malin Array Be 75.63 346 P **P 00 29 27.2 -0.5**
AKASG Malin Array Be 75.63 346 P **P 00 29 27.2 -0.5**
comp=Z,0.3nm,0.3s,baz=5.4,slow=5.2,SNR=3.4
KBZ Khabaz 79.47 335 P **P 00 29 49.4 +0.2**
KBZ Khabaz 79.47 335 P **P 00 29 49.4 +0.2**
comp=Z,1.7nm,0.9s,baz=33,slow=9.9,SNR=5.2
CTA Charters Tower 80.56 219 P **P 00 29 58.0 +2.7**
CTA Charters Tower 80.56 219 P **P 00 29 58.0 +2.7**
comp=Z,1.7nm,0.3s,baz=9.5,slow=12,SNR=2.7
BRTR Keskin Array B 85.46 340 P **P 00 30 21.1 +0.3**
BRTR Keskin Array B 85.46 340 P **P 00 30 21.0 +0.3**
comp=Z,1.5nm,1.0s,baz=31,slow=8.7,SNR=3.5
WRA Warramunga Arr 85.49 229 P **P 00 30 19.6 -1.2**
WRA Warramunga Arr 85.49 229 P **P 00 30 19.6 -1.2**
comp=Z,1.4nm,0.8s,baz=32,slow=5.6,SNR=10
ASAR Alice Springs 88.92 227 P **P 00 30 37.3 0.0**
ASAR Alice Springs 88.92 227 P **P 00 30 37.3 0.0**
comp=Z,4.5nm,0.8s,baz=31,slow=4.6,SNR=36
BOSA Boshof 152.79 324 PKPbc **PKPbc 00 37 38.4 -1.4**
BOSA Boshof 152.79 324 PKPbc **PKPbc 00 37 38.4 -1.4**
comp=Z,2.0nm,0.5s,baz=15,slow=3.7,SNR=8.6

*ISCJB **27** 00:25:09.5±0.5, 38.89N±0.03×29.19E±0.04, h8km±7km, Error ellipse: s-maj=5.1km s-min=4.6km az=169.1*
*ISK **27** 00:25:09.1, 38.88N×29.18E, h8km, MD2.6*
*CSEM **27** 00:25:09.7±0.1, 38.89N×29.19E, h10km, MD2.9, Error ellipse: s-maj=1.7km s-min=1.6km az=25.0*
*DDA **27** 00:25:10, 38.86N×29.14E, h7km, MD2.9*
ISC 27 00:25:09.9±1.0, 38.89N±0.03×29.18E±0.02, h12km±11km, n24, σ0 s33/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.39**	**293**	*i* P	**Pg**	**00 25 17.9**	**+0.1**
DEMI				*i* S	**Sg**	**00 25 23.2**	**+0.1**
DEMI	**Demirci**	**0.39**	**293**	*i* P	**Pg**	**00 25 17.9**	**+0.1**
DEMI				*i* S	**Sg**	**00 25 23.2**	**+0.1**
KULA	**Kula-Manisa**	**0.55**	**227**	*e*PG	**Pg**	**00 25 20.6**	**-0.2**
KULA				*e*SG	**Sg**	**00 25 27.9**	**-0.2**
KULA	**Kula-Manisa**	**0.55**	**227**	*e*Pg	**Pg**	**00 25 20.6**	**-0.2**
KULA				*e*Sg	**Sg**	**00 25 27.9**	**-0.2**
KHAL	**Karahalli**	**0.57**	**155**	*i* P	**Pg**	**00 25 21.3**	**+0.2**
KHAL				*i* S	**Sg**	**00 25 28.9**	**+0.1**
KHAL	**Karahalli**	**0.57**	**155**	*i* P	**Pg**	**00 25 21.3**	**+0.2**
KHAL				*i* S	**Sg**	**00 25 28.9**	**+0.1**
TVSB	**Tavsanli**	**0.60**	**21**	*e*PG	**Pg**	**00 25 21.3**	**-0.4**
TVSB				*e*SG	**Sg**	**00 25 30.1**	**+0.5**
TVSB	**Tavsanli**	**0.60**	**21**	*e*Pg	**Pg**	**00 25 21.3**	**-0.4**
TVSB				*e*Sg	**Sg**	**00 25 30.1**	**+0.5**
KHL	**Karahalli**	**0.63**	**155**	*e*PG	**Pg**	**00 25 21.8**	**-0.3**
KHL	**Karahalli**	**0.63**	**155**	*e*Pg	**Pg**	**00 25 21.8**	**-0.3**
MANT	**Manisa**	**0.63**	**231**	*e*P	**Pg**	**00 25 22.1**	**-0.2**
MANT	**Manisa**	**0.63**	**231**	*e*P	**Pg**	**00 25 22.1**	**-0.2**
ALT	**Altintas**	**0.74**	**77**	*e*PG	**Pg**	**00 25 24.1**	**-0.3**
ALT				*e*SG	**Sg**	**00 25 34.3**	**+0.2**
ALT	**Altintas**	**0.74**	**77**	*e*Pg	**Pg**	**00 25 24.1**	**-0.3**
ALT				*e*Sg	**Sg**	**00 25 34.3**	**+0.2**
DST	**Dursunbey**	**0.84**	**329**	*e*PG	**Pg**	**00 25 25.8**	**-0.3**
DST	**Dursunbey**	**0.84**	**329**	*e*Pg	**Pg**	**00 25 25.8**	**-0.3**
DURS	**Dursunbey**	**0.90**	**323**	*i* P	**Pg**	**00 25 26.7**	**-0.6**
DURS	**Dursunbey**	**0.90**	**323**	*i* P	**Pg**	**00 25 26.7**	**-0.6**
AKHS	**Akhisar**	**1.07**	**270**	*i* P	**Pb**	**00 25 30.3**	**0.0**
AKHS				*i* S	**Sb**	**00 25 43.9**	**-0.3**
AKHS	**Akhisar**	**1.07**	**270**	*i* P	**Pb**	**00 25 30.3**	**0.0**
AKHS				*i* S	**Sb**	**00 25 43.9**	**-0.3**
SHUT	**Suhut-Afyon**	**1.12**	**107**	*e*PN	**Pg**	**00 25 31.1**	**-0.5**
SHUT	**Suhut-Afyon**	**1.12**	**107**	*e*Pn	**Pg**	**00 25 31.1**	**-0.5**
BALB	**Balikesir**	**1.26**	**307**	*e*PN	**Pn**	**00 25 33.8**	**+0.5**
BALB	**Balikesir**	**1.26**	**307**	*e*Pn	**Pn**	**00 25 33.8**	**+0.5**

*IDC **27** 00:33:07.0±0.8, 52.47N×172.80W, h0km, mb3.7/12, mb1 3.9/13, mb1mx3.8/31, mbtmp3.7/13, ML3.2/1, Error ellipse: s-maj=27.0km s-min=16.4km az=166.0*
*NEIC **27** 00:33:07.9, 51.97N×172.50W, h14km, mb4.0/2, ML3.6(AEIC), After AEIC.*
*ISCJB **27** 00:33:10.6±0.7, 52.4N±0.1×172.76W±0.09, h35km, mb3.7/12, Error ellipse: s-maj=18.2km s-min=7.4km az=168.4*
ISC 27 00:33:11.8±1.4, 52.3N±0.2×172.76W±0.09, h35km, n26, σ1 s47/25, mb3.8/12, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKSO	**Okmok South**	**2.98**	**68**	P	**Pn**	**00 33 56.1**	**-0.5**
OKSO				S	**Sn**	**00 34 32.6**	**+1.5**
OKFG	**Magazine Ridge**	**3.14**	**68**	P	**Pn**	**00 33 58.5**	**-0.2**
OKFG				S	**Sn**	**00 34 37.8**	**+2.9**
MSOM	**Makushin Julie**	**3.82**	**64**	P	**Pn**	**00 34 07.1**	**-0.9**
MCIR	**Makushin Cirqu**	**3.90**	**63**	P	**Pn**	**00 34 08.2**	**-1.1**
MREP	**Makushin Rep't**	**3.93**	**65**	P	**Pn**	**00 34 08.8**	**-0.8**
MSW	**Makushin Switc**	**3.94**	**64**	P	**Pn**	**00 34 09.0**	**-0.8**
UNV	**Unalaska Valle**	**4.08**	**65**	*e*Pn	**Pn**	**00 34 10.5**	**-1.1**
ZRO	**Akutan Zero**	**4.45**	**64**	P	**Pn**	**00 34 16.5**	**-0.3**
AKGG	**Akutan Green G**	**4.48**	**62**	P	**Pn**	**00 34 17.4**	**+0.2**
ILAR	**Eielson Array**	**18.21**	**37**	P	**P**	**00 37 19.4**	**-2.0**
0.0nm,0.3s,baz=243,slow=12,SNR=2.9							
BILL	**Bilibino**	**18.73**	**335**	*e*P	**P**	**00 37 29.5**	**+2.4**
18nm,1.1s							
INK	**Inuvik**	**24.56**	**34**	*e*P	**P**	**00 38 26.1**	**-1.8**
1.6nm,0.7s							
INK	**Inuvik**	**24.56**	**34**	P	**P**	**00 38 26.8**	**-1.0**
4.4nm,0.9s,baz=247,slow=9.1,SNR=14							
DLBC	**Dease Lake**	**24.70**	**59**	P	**P**	**00 38 30.0**	**+0.7**
1.8nm,0.7s,baz=269,slow=7.8,SNR=5.5							
YKA	**Yellowknife Ar**	**31.84**	**48**	P	**P**	**00 39 31.5**	**-1.4**
0.2nm,0.7s,baz=259,slow=7.8,SNR=4.7							
RES	**Resolute Bay**	**37.32**	**25**	P	**P**	**00 40 19.5**	**-0.6**
0.6nm,0.9s,baz=283,slow=14,SNR=3.7							
NVAR	**Mina Array Bea**	**39.75**	**88**	P	P	00 40 42.0	+0.9
0.4nm,0.7s,baz=310,slow=7.0,SNR=2.9							
PDAR	**Pinedale Array**	**42.45**	**77**	P	**P**	**00 41 02.8**	**-0.6**
1.1nm,0.5s,baz=305,slow=2.3,SNR=11							
SONM	**Songino Array**	**49.52**	**299**	P	**P**	**00 41 59.3**	**+0.4**
0.5nm,1.0s,baz=68,slow=5.4,SNR=3.1							
SONM				ScP	**ScP**	**00 47 15.9**	**+3.2**
0.6nm,1.1s,baz=36,slow=2.7,SNR=3.6							
TXAR	**Lajitas Array**	**54.83**	**86**	P	P	00 42 38.3	-0.2
0.5nm,0.4s,baz=313,slow=5.5,SNR=20							
TXAR				PcP	**PcP**	**00 43 41.5**	**+1.1**
0.5nm,0.6s,baz=280,slow=5.4,SNR=2.6							
MKAR	**Makanchi Array**	**62.31**	**311**	P	**P**	**00 43 28.5**	**-1.7**
0.4nm,0.9s,baz=54,slow=6.2,SNR=4.7							
PPT2	**Papeete2**	**72.47**	**157**	*e*LR	LR	00 44 47.9	
59nm,22.5s							
WRA	**Warramunga Arr**	**85.37**	**229**	P	P	00 45 45.4	+0.1
1.0nm,1.0s,baz=34,slow=5.8,SNR=3.7							
BRTR	**Keskin Array B**	**85.50**	**340**	P	**P**	**00 45 46.7**	**+0.6**
0.5nm,0.8s,baz=17,slow=5.6,SNR=3.6							
ASAR	**Alice Springs**	**88.79**	**227**	P	P	00 46 03.8	+2.0
1.8nm,0.7s,baz=35,slow=6.5,SNR=17							
BOSA	**Boshof**	**152.79**	**323**	PKPbc	**PKPbc**	**00 53 05.0**	**+0.2**
1.4nm,0.5s,baz=276,slow=2.0,SNR=5.4							

IDC 27 00:41:48.8±2.5, 45.61N×151.95E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.7/25, mbtmp3.8/9, ML3.0/1, MS2.6/1, Ms1 2.6/1, ms1mx1.7/54, Error ellipse: s-maj=64.6km s-min=26.7km az=173.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**6.81**	**261**	LR	LR	00 46 12.8	
comp=Z,47nm,20.1s,baz=4.5,slow=39							
PETK	**Petropavlovsk-**	**8.39**	**24**	Pn	Pn	00 43 52.9	+1.3
0.2nm,0.3s,baz=188,slow=14,SNR=3.9							
SONM	**Songino Array**	**30.97**	**291**	P	P	00 48 08.7	+1.1
0.4nm,0.8s,baz=85,slow=7.4,SNR=4.3							
MKAR	**Makanchi Array**	**46.75**	**298**	P	P	00 50 19.4	-0.2
0.3nm,0.6s,baz=68,slow=9.7,SNR=4.1							
YKA	**Yellowknife Ar**	**52.32**	**36**	P	P	00 51 02.4	+0.6
0.3nm,0.7s,baz=292,slow=6.7,SNR=5.0							
ARCES	**ARCESS Array B**	**58.66**	**341**	P	P	00 51 47.0	-0.3
6.6nm,1.1s,baz=44,slow=8.0,SNR=3.7							
FINES	**FINESS Array B**	**64.73**	**334**	P	P	00 52 27.1	-1.1
2.4nm,0.7s,baz=27,slow=7.7,SNR=16							
NOA	**NORSAR Array B**	**69.04**	**341**	P	P	00 52 55.9	0.0
0.9nm,0.8s,baz=42,slow=4.8,SNR=4.8							
KBZ	**Khabaz**	**71.07**	**314**	P	P	00 53 09.2	+0.8
1.8nm,1.0s,baz=45,slow=2.9,SNR=3.6							
TXAR	**Lajitas Array**	**78.76**	**60**	P	P	00 53 53.2	-0.2
0.3nm,0.6s,baz=297,slow=4.1,SNR=6.0							

IDC 27 00:54:30.7±0.7, 3.44N×126.19E, h0km, mb4.0/9, mb1 4.1/9, mb1mx4.0/23, mbtmp4.0/9, MS3.2/2, Ms1 3.2/2, ms1mx2.5/33, Error ellipse: s-maj=73.4km s-min=12.0km az=72.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.41**	**181**	P	P	00 59 19.9	-0.4
4.0nm,1.0s,baz=0.0,slow=13,SNR=2.9							
WRA	**Warramunga Arr**	**24.58**	**161**	P	P	00 59 52.1	-0.5
8.9nm,0.7s,baz=344,slow=10,SNR=61							
WRA				S	S	01 04 15.3	+0.6
0.8nm,1.0s,baz=334,slow=20,SNR=4.3							
ASAR	**Alice Springs**	**27.97**	**165**	P	P	01 00 24.3	+1.0
0.4nm,0.3s,baz=347,slow=10,SNR=7.0							
CMAR	**Chiang Mai Arr**	**30.55**	**301**	LR	LR	01 12 39.0	
comp=Z,18nm,19.1s,baz=180,slow=36							
KSRS	**Korea Array**	**33.89**	**2**	P	P	01 01 14.8	-0.5
1.3nm,0.6s,baz=181,slow=9.4,SNR=6.2							
STKA	**Stephens Creek**	**38.05**	**158**	P	P	01 01 51.8	+0.7
1.2nm,0.3s,baz=343,slow=5.7,SNR=8.8							
SONM	**Songino Array**	**47.40**	**342**	P	P	01 03 07.6	+0.6
0.6nm,0.7s,baz=155,slow=7.6,SNR=6.1							
SONM				PcP	PcP	01 04 37.9	+0.3
0.5nm,0.8s,baz=149,slow=4.9,SNR=3.0							
MKAR	**Makanchi Array**	**57.49**	**326**	P	P	01 04 22.0	+0.3
1.1nm,0.6s,baz=116,slow=7.2,SNR=16							
MKAR				LR	LR	01 30 48.3	
comp=Z,37nm,18.5s,baz=259,slow=38							
ZALV	**Zalesovo Beam**	**60.60**	**333**	P	P	01 04 42.4	-0.8
0.2nm,0.3s,baz=132,slow=8.4,SNR=2.9							
ARCES	**ARCESS Array B**	**90.53**	**340**	P	P	01 07 33.3	-1.1
2.8nm,0.9s,baz=64,slow=5.5,SNR=5.0							

*ISCJB **27** 00:56:17.3±1.3, 10.53N±0.04×72.91W±0.06, h28km±7km, mb3.4/2, Error ellipse: s-maj=10.1km s-min=6.4km az=22.2*
*FUNV **27** 00:56:18.8, 10.50N×72.87W, h11km, MW3.5*
*IDC **27** 00:56:21.3±5.6, 10.44N×72.72W, h57km±53km, mb3.2/2, mb1 3.4/3, mb1mx3.1/23, mbtmp3.4/3, ML2.5/1, Error ellipse: s-maj=47.0km s-min=43.2km az=27.0*
ISC 27 00:56:18.0±1.2, 10.51N±0.05×72.89W±0.09, h20km±7km, n21, σ0 s94/28, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VIRV	**Villa del Rosa**	**0.47**	**91**	*e*P	**Pb**	**00 56 27.4**	**-0.2**
VIRV				*e*S	**Sb**	**00 56 33.8**	**-0.3**
VIGV	**El Vigia**	**2.24**	**138**	*e*P	**Pn**	**00 56 55.0**	**+1.1**
VIGV				*e*S	**Sn**	**00 57 21.7**	**+0.8**
DABV	**Dabajuro**	**2.25**	**79**	*e*P	**Pn**	**00 56 55.8**	**+1.7**
DABV				*e*S	**Sn**	**00 57 21.4**	**+0.2**
QARV	**Quebrada Arrib**	**2.34**	**97**	*e*P	**Pn**	**00 56 57.0**	**+1.7**
QARV				*e*S	**Sn**	**00 57 24.4**	**+0.8**
IMOV	**Isla Los Monje**	**2.68**	**46**	*e*P	**Pn**	**00 57 00.8**	**+0.9**
IMOV				*e*S	**Sn**	**00 57 32.3**	**+0.5**
CAPV	**Capacho**	**2.69**	**168**	*e*P	**Pn**	**00 57 01.6**	**+1.4**
CAPV				*e*S	**Sn**	**00 57 32.0**	**-0.3**
CURV	**Curarigua**	**2.92**	**99**	*e*P	**Pn**	**00 57 03.9**	**+0.6**
SOCV	**Socops**	**2.98**	**138**	*e*P	**Pn**	**00 57 04.0**	**-0.1**
SOCV				*e*S	**Sn**	**00 57 39.7**	**+0.3**
SIQV	**Siquisique**	**3.03**	**87**	*e*P	**Pn**	**00 57 05.6**	**+0.8**
MONV	**Montecano**	**3.20**	**63**	*e*P	**Pn**	**00 57 07.8**	**+0.7**
MONV				*e*S	**Sn**	**00 57 44.1**	**-0.6**
TEPV	**Terepaima**	**3.68**	**98**	*e*P	**Pn**	**00 57 14.4**	**+0.7**
MAPV	**Macapo**	**4.41**	**98**	*e*P	**Pn**	**00 57 24.4**	**+0.6**
ELOV	**Elorza**	**4.84**	**136**	*e*P	**Pn**	**00 57 29.4**	**-0.3**
TURV	**Turiamo**	**4.96**	**90**	*e*P	**Pn**	**00 57 31.6**	**+0.3**
BAUV	**El Baul**	**5.02**	**108**	*e*P	**Pn**	**00 57 32.0**	**-0.1**
ROSC	**El Rosal**	**5.79**	**194**	P	**Pn**	**00 57 44.9**	**+1.7**
2.5nm,0.3s,baz=105,slow=19,SNR=3.1							
MERV	**Las Mercedes**	**6.61**	**100**	*e*P	**Pn**	**00 57 52.8**	**-1.2**
CUPV	**Cepira**	**7.00**	**93**	*e*P	**Pn**	**00 57 59.8**	**+0.4**
YKA	**Yellowknife Ar**	**59.91**	**339**	P	**P**	**01 06 22.0**	**-0.3**
0.1nm,0.4s,baz=126,slow=7.0,SNR=4.7							
TORD	**Torodi Ar. Bea**	**72.80**	**79**	P	P	01 07 43.6	-2.1
0.4nm,0.5s,baz=287,slow=5.9,SNR=5.6							
WRA	**Warramunga Arr**	**152.15**	**247**	PKPbc	**PKPbc**	**01 16 11.5**	**-1.4**
0.9nm,0.5s,baz=103,slow=2.8,SNR=11							

PRE 27 00:56:51.3±0.5, 26.49S×27.27E, h2km, ML1.5, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.44**	**170**	*e*P	Pg	00 57 00.0	0.0
PRYS				*e*S	Sg	00 57 06.3	+0.3
PRYS				AML	AML	00 57 09.2	
comp=Z,18nm,0.1s							
KSR	**Koster**	**0.72**	**332**	*e*P	Pg	00 57 04.7	-0.7
KSR				*e*S	Sg	00 57 15.4	+0.5
KSR				AML	AML	00 57 21.0	
comp=Z,15nm,0.1s							
SWZ	**Schweizer**	**1.87**	**248**	*e*P	Pn	00 57 25.3	+0.8
SWZ				*e*S	Sb	00 57 49.6	-0.7
SWZ				AML	AML	00 57 55.8	
comp=Z,3.0nm,0.2s							
LBTB	**Lobatse**	**2.10**	**314**	*e*P	Pn	00 57 28.4	+0.7
LBTB				*e*S	Sn	00 57 55.5	+0.9
LBTB				AML	AML	00 57 59.8	
comp=Z,4.3nm,0.3s							
BOSA	**Boshof**	**2.77**	**220**	*e*P	Pn	00 57 37.4	+0.5
BOSA				*e*S	Sn	00 58 11.5	+0.4
BOSA				AML	AML	00 58 23.8	
comp=Z,1.2nm,0.4s							

*ISCJB **27** 00:59:43.7±0.6, 37.93N±0.04×27.62E±0.05, h10km±9km, Error ellipse: s-maj=7.4km s-min=6.1km az=150.9*
*ISK **27** 00:59:43.5, 37.93N×27.63E, h5km, MD2.8*
*DDA **27** 00:59:43.6, 37.93N×27.61E, h7km, ML3.0*
*CSEM **27** 00:59:44.0±0.3, 37.93N×27.64E, h10km, ML3.0, Error ellipse: s-maj=7.2km s-min=5.0km az=97.0*
ISC 27 00:59:43.3±1.1, 37.94N±0.03×27.62E±0.04, h14km±12km, n24, σ0 s65/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AYDN	**Tasoluk**	**0.35**	**143**	*i* P	**Pb**	**00 59 50.9**	**-0.4**
AYDN				*i* S	**Sb**	**00 59 56.0**	**-0.7**
AYDN	**Tasoluk**	**0.35**	**143**	*i* P	**Pb**	**00 59 50.9**	**-0.4**
AYDN				*i* S	**Sb**	**00 59 56.0**	**-0.7**
GCAM	**G?zelcaml?**	**0.39**	**232**	*i* P	**Pb**	**00 59 51.5**	**-0.5**
GCAM				*i* S	**Sg**	**00 59 56.6**	**+0.2**
GCAM	**G?zelcaml?**	**0.39**	**232**	*i* P	**Pb**	**00 59 51.5**	**-0.5**
GCAM				*i* S	**Sg**	**00 59 56.6**	**+0.2**
IZM	**Izmir**	**0.54**	**329**	*e*PG	**Pb**	**00 59 54.2**	**-0.4**
IZM	**Izmir**	**0.54**	**329**	*e*Pg	**Pb**	**00 59 54.2**	**-0.4**
MLSB	**Milas**	**0.66**	**169**	*e*PG	**Pb**	**00 59 56.4**	**-0.2**
MLSB				*e*SG	**Sb**	**01 00 06.1**	**+0.5**
MLSB	**Milas**	**0.66**	**169**	*e*Pg	**Pb**	**00 59 56.4**	**-0.2**
MLSB				*e*Sg	**Sb**	**01 00 06.1**	**+0.5**
BODT	**Bodrum**	**0.91**	**196**	*e*PG	**Pn**	**01 00 02.2**	**+0.5**
BODT	**Bodrum**	**0.91**	**196**	*e*Pg	**Pn**	**01 00 02.2**	**+0.5**
MANT	**Manisa**	**0.92**	**53**	*e*P	**Pg**	**01 00 01.0**	**-0.2**
MANT	**Manisa**	**0.92**	**53**	*e*P	**Pg**	**01 00 01.0**	**-0.2**
YER	**Yerkesik**	**0.96**	**147**	*e*PG	**Pb**	**01 00 02.3**	**+0.5**
YER				*e*SG	**Sb**	**01 00 15.3**	**+0.9**
YER	**Yerkesik**	**0.96**	**147**	*e*Pg	**Pb**	**01 00 02.3**	**+0.5**
YER				*e*Sg	**Sb**	**01 00 15.3**	**+0.9**
KULA	**Kula-Manisa**	**1.00**	**55**	*e*PG	**Pb**	**01 00 03.4**	**+0.8**
KULA	**Kula-Manisa**	**1.00**	**55**	*e*Pg	**Pb**	**01 00 03.4**	**+0.8**
DAT	**Datca**	**1.21**	**182**	*e*PN	**Pn**	**01 00 06.6**	**+0.6**
DAT	**Datca**	**1.21**	**182**	*e*Pn	**Pn**	**01 00 06.6**	**+0.6**
TURN	**Turunc**	**1.32**	**143**	*e*P	**Pn**	**01 00 06.1**	**-1.3**
TURN	**Turunc**	**1.32**	**143**	*e*P	**Pn**	**01 00 06.1**	**-1.3**
BALB	**Balikesir**	**1.71**	**7**	*e*PN	**Pb**	**01 00 15.0**	**+0.4**
BALB	**Balikesir**	**1.71**	**7**	*e*Pn	**Pb**	**01 00 15.0**	**+0.4**
TVSB	**Tavsanli**	**2.09**	**43**	*e*PN	**Pb**	**01 00 20.4**	**-0.7**
TVSB	**Tavsanli**	**2.09**	**43**	*e*Pn	**Pb**	**01 00 20.4**	**-0.7**

NNC 27 01:04:20.9±3.0, 46.69N×84.40E, h0km, mb3.4, mpv3.3, 3C-1D, Error ellipse: s-maj=22.2km s-min=11.1km az=92.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**1.46**	**275**	P	Pn	01 04 47.9	-0.5
6.9nm,0.2s,baz=94,slow=17,SNR=1263							
MK31				⇑S	Sg	01 05 07.7	0.0
41nm,0.2s,baz=93,slow=29,SNR=29							
WMQ	**Urumqi**	**3.69**	**140**	Pn	Pb	01 05 27.3	+0.3
WMQ				Sn	Sn	01 06 04.3	+0.8
WMQ				smax	smax		
comp=N,70nm,0.9s							
WMQ				smax	smax		
comp=E,68nm,0.6s							
KURK	**Kurchatov**	**5.55**	**319**	⇑Lg	Lg	01 07 13.0	
comp=E,25nm,0.5s							
TKM2	**Tokmak 2**	**7.31**	**242**	⇓P	Pn	01 06 07.7	-1.3
comp=E,0.6nm,0.3s							
TKM2				⇑Lg	Lg	01 08 13.1	
comp=E,3.8nm,0.6s							

IDC 27 01:08:38.3±9.5, 22.24N×109.18W, h0km, mb3.1/1, mb1 3.6/3, mb1mx3.3/23, mbtmp3.1/3, Error ellipse: s-maj=152.2km s-min=60.7km az=167.0, Off west coast of Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**8.64**	**34**	P	Pn	01 10 46.2	+1.5
0.0nm,0.3s,baz=212,slow=16,SNR=4.1							
NVAR	**Mina Array Bea**	**17.94**	**336**	P	Pn	01 12 49.6	+0.1
0.4nm,0.3s,baz=156,slow=15,SNR=5.6							
ILAR	**Eielson Array**	**49.14**	**340**	P	P	01 17 27.4	-0.2
0.2nm,0.6s,baz=143,slow=6.5,SNR=4.3							

IDC 27 01:09:34.0±9.1, 1.27N×126.94E, h49km±90km, mb3.6/8, mb1 3.7/10, mb1mx3.6/24, mbtmp3.6/10, ML3.7/2, Error ellipse: s-maj=94.3km s-min=16.6km az=60.0, Northern Molucca Sea

TWS1				*e*S		Sn	01 24 38.8 +0.6
	baz=285						
NSK	**Sanguang**	**0.93**	**258**	*e*P		Pn	01 24 21.7 -0.1
	baz=258						
NSK				*e*S		Sn	01 24 38.5 -0.6
	baz=258						
NNS	**Nan Shan**	**1.00**	**244**	*e*P		Pn	01 24 22.7 +0.3
	baz=244						
NNS				*e*S		Sn	01 24 40.6 +0.3
	baz=244						
TWD	**Chiawan**	**1.06**	**221**	*i* P		Pn	01 24 22.9 0.0
	baz=220						
TWD				S		Sn	01 24 40.9 -0.1
	baz=220						
NCU	**National Centr**	**1.07**	**275**	*e*P		Pn	01 24 22.9 0.0
	baz=267						
HWA	**Hwalien**	**1.13**	**218**	*e*P		Pn	01 24 23.9 +0.4
	baz=217						
HWA				*e*S		Sn	01 24 42.8 +0.6
	baz=217						
WHF	**Hehuan Shan**	**1.24**	**234**	⇓P		Pn	01 24 25.3 +0.2
	baz=239						
WHF				*e*S		Sn	01 24 44.5 -0.4
	baz=239						
TWT	**Tachien**	**1.25**	**240**	*e*P		Pn	01 24 25.5 +0.6
	baz=236						
TWT				S		Sn	01 24 45.2 +0.6
	baz=236						
NSTT	**Nanjuang**	**1.26**	**259**	P		Pn	01 24 24.7 -0.1
	baz=259						
NSTT				*e*S		Sn	01 24 43.9 -0.6
	baz=259						
IRIF	**Iriomote-Funau**	**1.36**	**113**	P		Pn	01 24 25.6 -0.2
IRIF				*e*S		Sn	01 24 45.7 -0.6
NSY	**Sanyi**	**1.53**	**253**	*e*P		Pn	01 24 27.9 +0.2
	baz=253						
TWQ1	**Liyutan**	**1.54**	**250**	*e*P		Pn	01 24 27.6 -0.2
	baz=250						
TWQ1				*e*S		Sn	01 24 49.2 -0.6
	baz=250						
HATJ	**Hateruma jima**	**1.55**	**122**	P		Pn	01 24 28.3 +0.4
HATJ				*e*S		Sn	01 24 50.9 +0.9
JKRS	**Kuro-shima**	**1.63**	**113**	P		Pn	01 24 29.0 +0.2
JKRS				*e*S		Sn	01 24 51.8 +0.1
SMLT	**Sun Moon Lake**	**1.66**	**234**	P		Pn	01 24 30.0 +0.7
	baz=233						
SMLT				*e*S		Sn	01 24 53.1 +0.6
	baz=233						
EHY	**Hungye**	**1.66**	**215**	*e*P		Pn	01 24 29.7 +0.5
	baz=220						
EHY				*e*S		Sn	01 24 51.1 -1.3
	baz=220						
TYC	**Yuchr**	**1.68**	**235**	P		Pn	01 24 29.9 +0.5
	baz=235						
TYC				S		Sn	01 24 52.9 +0.2
	baz=235						
TCU	**Taichung**	**1.70**	**245**	*e*P		Pn	01 24 29.9 +0.3
	baz=245						
TCU				*e*S		Sn	01 24 53.0 -0.1
	baz=245						
JIJ	**Ishigaki jima**	**1.70**	**107**	P		Pn	01 24 29.3 -0.3
JIJ				*e*S		Sn	01 24 52.7 -0.4
YUS	**Yu-Shan**	**1.89**	**223**	*e*P		Pn	01 24 32.9 +0.6
	baz=223						
YUS				*e*S		Sn	01 24 57.9 +0.1
	baz=223						
ALS	**Alishan**	**1.97**	**227**	*e*P		Pn	01 24 33.2 +0.1
	baz=220						
ALS				*e*S		Sn	01 24 59.7 +0.5
	baz=220						
CHKT	**Chengkung**	**1.99**	**207**	*e*P		Pn	01 24 32.4 -0.7
	baz=200						
CHKT				*e*S		Sn	01 24 58.0 -1.2
	baz=200						
CHN5	**Tsauling**	**2.00**	**231**	*e*P		Pn	01 24 33.3 +0.1
	baz=238						
CHN5				*e*S		Sn	01 24 59.8 +0.3
	baz=238						
JTJ	**Tarama**	**2.14**	**96**	P		Pn	01 24 35.0 +0.1
JTJ				*e*S		Sn	01 25 02.7 +0.3
CHN4	**Tsaushan**	**2.22**	**227**	*e*P		Pn	01 24 35.7 -0.2
	baz=234						
CHN4				*e*S		Sn	01 25 03.6 -0.6
	baz=234						
CHY	**Chiayi**	**2.24**	**233**	*e*P		Pn	01 24 36.5 +0.5
	baz=239						
CHY				*e*S		Sn	01 25 04.8 +0.2
	baz=239						
TWK	**Hsinying**	**2.34**	**227**	*e*P		Pn	01 24 37.5 0.0
	baz=227						
TWK				*e*S		Sn	01 25 06.3 -0.8
	baz=227						
CHN1	**Nanshi**	**2.38**	**225**	*e*P		Pn	01 24 37.9 +0.1
	baz=232						
CHN1				*e*S		Sn	01 25 07.6 -0.1
	baz=232						

ISK ***27*** *01:24:20.8, 39.10N×29.03E, h5km, MD3.0*
DDA ***27*** *01:24:22.1, 39.11N×29.01E, h7km, ML3.2*
CSEM ***27*** *01:24:22.1±0.1, 39.11N×29.03E, h2km, ML3.2, Error ellipse: s-maj=2.2km s-min=2.1km az=132.0*

ISC 27 01:24:22.3±1.1, 39.11N±0.02×29.03E±0.02, h5km±11km, n78, σ0.947/93, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.26**	**255**	*i* P	**Pg**	**01 24 27.3**	**0.0**
DEMI				*i* S	**Sg**	**01 24 30.9**	**+0.2**
DEMI	**Demirci**	**0.26**	**255**	*i* P	**Pg**	**01 24 27.3**	**0.0**
DEMI				*i* S	**Sg**	**01 24 30.9**	**+0.2**
TVSB	**Tavsanli**	**0.47**	**44**	*e*Pg	**Pg**	**01 24 31.3**	**-0.2**
TVSB	**Tavsanli**	**0.47**	**44**	*e*PG	**Pg**	**01 24 31.2**	**-0.2**
DST	**Dursunbey**	**0.59**	**327**	*e*PG	**Pg**	**01 24 33.0**	**-0.6**
DST	**Dursunbey**	**0.59**	**327**	*e*Pg	**Pg**	**01 24 33.0**	**-0.6**
DURS	**Dursunbey**	**0.66**	**319**	*i* P	**Pg**	**01 24 34.4**	**-0.5**
DURS				*i* S	**Sg**	**01 24 43.9**	**+0.5**
DURS	**Dursunbey**	**0.66**	**319**	*i* P	**Pg**	**01 24 34.4**	**-0.5**
DURS				*i* S	**Sg**	**01 24 43.9**	**+0.5**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*PG	**Pg**	**01 24 34.4**	**-0.6**
KULA	**Kula-Manisa**	**0.66**	**206**	*e*Pg	**Pg**	**01 24 34.4**	**-0.6**
MANT	**Manisa**	**0.72**	**211**	*e*P	**Pg**	**01 24 35.6**	**-0.5**
MANT	**Manisa**	**0.72**	**211**	*e*P	**Pg**	**01 24 35.6**	**-0.5**
KHAL	**Karahalli**	**0.82**	**154**	*i* P	**Pg**	**01 24 37.7**	**-0.3**
KHAL				*i* S	**Sn**	**01 24 53.2**	**0.0**
KHAL	**Karahalli**	**0.82**	**154**	*i* P	**Pg**	**01 24 37.7**	**-0.3**
ALT	**Altintas**	**0.84**	**93**	*e*PG	**Pg**	**01 24 38.6**	**+0.2**
ALT				*e*SG	**Sb**	**01 24 50.6**	**-0.5**
ALT	**Altintas**	**0.84**	**93**	*e*Pg	**Pg**	**01 24 38.6**	**+0.2**
ALT				*e*Sg	**Sb**	**01 24 50.6**	**-0.5**
KHL	**Karahalli**	**0.87**	**154**	*e*PG	**Pg**	**01 24 38.6**	**-0.4**
KHL	**Karahalli**	**0.87**	**154**	*e*Pg	**Pg**	**01 24 38.6**	**-0.4**
ORLT	**Orhaneli**	**0.94**	**354**	*e*PG	**Pg**	**01 24 40.0**	**-0.4**
ORLT	**Orhaneli**	**0.94**	**354**	*e*Pg	**Pg**	**01 24 40.0**	**-0.4**
AKHS	**Akhisar**	**0.98**	**257**	*e*P	**Pg**	**01 24 40.8**	**-0.2**
AKHS				*i* S	**Sb**	**01 24 54.3**	**-0.6**
AKHS	**Akhisar**	**0.98**	**257**	*e*P	**Pg**	**01 24 40.8**	**-0.2**
AKHS				*i* S	**Sb**	**01 24 54.3**	**-0.6**
AKS	**Akhisar**	**0.98**	**257**	*e*PG	**Pg**	**01 24 41.0**	**-0.1**
AKS				*e*SG	**Sb**	**01 24 54.7**	**-0.2**
AKS	**Akhisar**	**0.98**	**257**	*e*Pg	**Pg**	**01 24 41.0**	**-0.1**
AKS				*e*Sg	**Sb**	**01 24 54.7**	**-0.2**
ULDT	**Uludag**	**1.03**	**4**	*i* P	**Pg**	**01 24 41.3**	**-0.8**
ULDT	**Uludag**	**1.03**	**4**	*i* P	**Pg**	**01 24 41.3**	**-0.8**
BALB	**Balikesir**	**1.04**	**301**	*e*PG	**Pg**	**01 24 42.0**	**-0.2**
BALB	**Balikesir**	**1.04**	**301**	*e*Pg	**Pg**	**01 24 42.0**	**-0.2**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*PN	**Pg**	**01 24 46.2**	**-0.2**
CAVI	**Cavuskoy**	**1.26**	**30**	*e*Pn	**Pg**	**01 24 46.2**	**-0.2**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pg**	**01 24 46.2**	**-0.3**
BALY				*i* S	**Sb**	**01 25 03.3**	**+0.1**
BALY	**Balya**	**1.26**	**300**	*i* P	**Pg**	**01 24 46.2**	**-0.3**
BALY				*i* S	**Sb**	**01 25 03.3**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*PN	**Pg**	**01 24 46.0**	**-0.5**
MDNY	**Mudanya-Bursa**	**1.26**	**355**	*e*Pn	**Pg**	**01 24 46.0**	**-0.5**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*PN	**Pg**	**01 24 46.1**	**-0.5**
KCTX	**Karacabey (Bur**	**1.27**	**336**	*e*Pn	**Pg**	**01 24 46.1**	**-0.5**
SHUT	**Suhut-Afyon**	**1.31**	**115**	*e*PN	**Pn**	**01 24 46.4**	**-1.0**
SHUT	**Suhut-Afyon**	**1.31**	**115**	*e*Pn	**Pn**	**01 24 46.4**	**-1.0**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pb**	**01 24 47.9**	**-0.1**
BORA	**Eskisehir**	**1.34**	**55**	*i* P	**Pb**	**01 24 47.9**	**-0.1**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*PN	**Pn**	**01 24 48.4**	**-0.1**
GONE	**Gonen-Balikesi**	**1.40**	**312**	*e*Pn	**Pn**	**01 24 48.4**	**-0.1**
DNZL	**Cakiroluk**	**1.42**	**180**	*i* P	**Pg**	**01 24 49.7**	**+0.3**
DNZL	**Cakiroluk**	**1.42**	**180**	*i* P	**Pg**	**01 24 49.7**	**+0.3**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*PN	**Pb**	**01 24 49.1**	**-0.3**
ADVT	**Abdulvahap**	**1.43**	**22**	*e*Pn	**Pb**	**01 24 49.1**	**-0.3**
ARMT	**Armutlu**	**1.46**	**355**	*e*PN	**Pb**	**01 24 49.9**	**0.0**
ARMT	**Armutlu**	**1.46**	**355**	*e*Pn	**Pb**	**01 24 49.9**	**0.0**
ESKT	**Eskisehir**	**1.47**	**73**	*e*PN	**Pn**	**01 24 49.6**	**+0.1**
ESKT	**Eskisehir**	**1.47**	**73**	*e*Pn	**Pn**	**01 24 49.6**	**+0.1**
YLV	**Yalova**	**1.48**	**10**	*e*PN	**Pn**	**01 24 49.4**	**-0.3**
YLV	**Yalova**	**1.48**	**10**	*e*Pn	**Pn**	**01 24 49.4**	**-0.3**
BNT	**Bandirma**	**1.51**	**326**	*e*PN	**Pb**	**01 24 50.6**	**-0.2**
BNT	**Bandirma**	**1.51**	**326**	*e*Pn	**Pb**	**01 24 50.6**	**-0.2**
EDC	**Edincik**	**1.53**	**324**	*e*PN	**Pb**	**01 24 50.7**	**-0.4**
EDC	**Edincik**	**1.53**	**324**	*e*Pn	**Pb**	**01 24 50.7**	**-0.4**
GPA	**Golpazari**	**1.54**	**39**	*e*PN	**Pb**	**01 24 51.0**	**-0.2**
GPA	**Golpazari**	**1.54**	**39**	*e*Pn	**Pb**	**01 24 51.0**	**-0.2**
IZM	**Izmir**	**1.56**	**243**	*e*PN	**Pn**	**01 24 50.4**	**-0.3**
IZM	**Izmir**	**1.56**	**243**	*e*Pn	**Pn**	**01 24 50.4**	**-0.3**
AYDN	**Tasoluk**	**1.71**	**212**	*i* P	**Pb**	**01 24 54.4**	**+0.2**
AYDN				*i* S	**Sb**	**01 25 16.5**	**+0.5**
AYDN	**Tasoluk**	**1.71**	**212**	*i* P	**Pb**	**01 24 54.4**	**+0.2**
AYDN				*i* S	**Sb**	**01 25 16.5**	**+0.5**
GULT	**Gulveren**	**1.75**	**40**	*e*PN	**Pn**	**01 24 54.0**	**+0.7**
GULT	**Gulveren**	**1.75**	**40**	*e*Pn	**Pn**	**01 24 54.0**	**+0.7**
HRT	**Hereke**	**1.78**	**16**	*e*PN	**Pn**	**01 24 54.5**	**+0.8**
HRT	**Hereke**	**1.78**	**16**	*e*Pn	**Pn**	**01 24 54.5**	**+0.8**
ISK	**Istanbul-Kandi**	**1.95**	**1**	*e*PN	**Pn**	**01 24 57.0**	**+0.9**
ISK	**Istanbul-Kandi**	**1.95**	**1**	*e*Pn	**Pn**	**01 24 57.0**	**+0.9**
SVRH	**Sivrihisar-ESK**	**1.96**	**79**	*e*PN	**Pn**	**01 24 56.8**	**+0.5**
SVRH	**Sivrihisar-ESK**	**1.96**	**79**	*e*Pn	**Pn**	**01 24 56.8**	**+0.5**
BGKT	**Bogazkoy**	**2.08**	**355**	*e*PN	**Pn**	**01 24 58.3**	**+0.5**
BGKT	**Bogazkoy**	**2.08**	**355**	*e*Pn	**Pn**	**01 24 58.3**	**+0.5**
MFT	**Murefte**	**2.15**	**322**	*e*PN	**Pn**	**01 24 59.6**	**+0.8**
MFT	**Murefte**	**2.15**	**322**	*e*Pn	**Pn**	**01 24 59.6**	**+0.8**
MDUB	**Mudurnu**	**2.15**	**50**	*e*PN	**Pn**	**01 24 59.8**	**+0.9**
MDUB	**Mudurnu**	**2.15**	**50**	*e*Pn	**Pn**	**01 24 59.8**	**+0.9**
SLVT	**Silivri**	**2.21**	**344**	*e*PN	**Pn**	**01 24 59.8**	**+0.2**
SLVT	**Silivri**	**2.21**	**344**	*e*Pn	**Pn**	**01 24 59.8**	**+0.2**

PRE 27 01:29:44.0±0.6, 26.43S×27.54E, h2km, ML1.7, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.52**	**198**	*e*P	Pg	01 29 54.3	+0.1
PRYS				*e*S	Sg	01 30 01.3	+0.2
PRYS				AML	AML	01 30 04.3	
	comp=Z,22nm,0.2s						
ERPM	**east rand prop**	**0.64**	**82**	*e*P	Pg	01 29 57.0	+0.5
ERPM				*e*S	Sg	01 30 05.8	+0.9
ERPM				AML	AML	01 30 08.7	
	comp=Z,11nm,0.4s						
SLR	**Silverton**	**0.96**	**44**	*e*P	Pg	01 30 02.1	-0.6
SLR				*e*S	Sg	01 30 15.8	+0.5
SLR				AML	AML	01 30 22.3	
	comp=Z,9.5nm,0.1s						
SWZ	**Schweizer**	**2.11**	**249**	*e*P	Pn	01 30 21.5	+0.9
SWZ				*e*S	Sn	01 30 48.3	+0.8
SWZ				AML	AML	01 30 50.6	
	comp=Z,8.6nm,0.3s						
LBTB	**Lobatse**	**2.25**	**308**	*e*P	Pn	01 30 23.2	+0.8
LBTB				*e*S	Sn	01 30 51.6	+0.8
LBTB				AML	AML	01 30 55.8	
	comp=Z,15nm,0.5s						
BOSA	**Boshof**	**2.97**	**222**	*e*P	Pn	01 30 32.8	+0.3
BOSA				*e*S	Sn	01 31 08.7	-0.1
BOSA				AML	AML	01 31 23.8	
	comp=Z,1.3nm,0.3s						

TIR ***27*** *01:46:21.3, 1.6, 41.87N×19.37E, h22km, 28km, ML2.5*
BEO ***27*** *01:46:24.5±1.3, 41.85N×19.67E, h24km±14km, ML1.6/4*
ISCJB ***27*** *01:46:25.1±0.7, 41.90N±0.04×19.77E±0.07, h10km±9km, Error ellipse: s-maj=8.6km s-min=5.9km az=166.6*
CSEM ***27*** *01:46:25.2±0.3, 41.88N×19.72E, h10km, ML2.5, Error ellipse: s-maj=8.6km s-min=6.0km az=65.0*

ISC 27 01:46:23.8±1.3, 41.83N±0.03×19.63E±0.04, h5km±13km, n17, σ0.985/27, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUK	**Puka**	**0.29**	**43**	*e*PG	**Pg**	**01 46 30.2**	**+0.8**
PUK				*i* SG	**Sb**	**01 46 37.4**	**+0.7**
PUK	**Puka**	**0.29**	**43**	*e*Pg	**Pg**	**01 46 30.2**	**+0.8**
	SNR=109						
TIR	**Tirane**	**0.52**	**160**	*e*PG	**Pb**	**01 46 34.5**	**-0.9**
TIR				*i* SG	**Sb**	**01 46 44.6**	**+1.4**
TIR	**Tirane**	**0.52**	**160**	*e*Pg	**Pb**	**01 46 34.9**	**-0.5**
TIR				*e*Sg	**Sb**	**01 46 44.0**	**+0.8**
TIR	**Tirane**	**0.52**	**160**	*e*Pg	**Pb**	**01 46 34.9**	**-0.5**
TIR				*e*Sg	**Sb**	**01 46 44.0**	**+0.8**
BCI	**Bajram Curri**	**0.62**	**31**	*e*PG	**Pg**	**01 46 35.1**	**-0.7**
BCI				*i* SG	**Sb**	**01 46 47.6**	**+1.2**
BCI	**Bajram Curri**	**0.62**	**31**	*e*Pg	**Pg**	**01 46 35.1**	**-0.7**
	SNR=97						
PHP	**Peshkopia**	**0.62**	**104**	*e*PG	**Pb**	**01 46 37.2**	**-0.1**
PHP				*i* SG	**Sn**	**01 46 49.2**	**-0.7**
PHP	**Peshkopia**	**0.62**	**104**	*e*Pg	**Pb**	**01 46 37.2**	**-0.1**
	SNR=96						
PDG	**Podgorica**	**0.66**	**335**	*e*Pg	**Pb**	**01 46 37.1**	**-0.8**
PDG				*e*Sg	**Sb**	**01 46 48.1**	**+0.8**
PDG	**Podgorica**	**0.66**	**335**	*e*Pg	**Pb**	**01 46 37.1**	**-0.8**
PDG				*e*Sg	**Sb**	**01 46 48.1**	**+0.8**
STON	**Ston**	**1.77**	**307**	*i* Pn	**Pb**	**01 46 56.2**	**-0.6**
STON				Sn	**Sg**	**01 47 21.0**	**+0.4**
STON	**Ston**	**1.77**	**307**	*i* Pn	**Pb**	**01 46 56.2**	**-0.6**
STON				Sn	**Sg**	**01 47 21.0**	**+0.4**
BARS	**Barje**	**1.89**	**58**	*e*Sg	**Sg**	**01 47 24.0**	**-0.7**
BARS	**Barje**	**1.89**	**58**	*e*Sg	**Sg**	**01 47 24.0**	**-0.7**
DIVS	**Divibare**	**2.28**	**7**	*e*Sg	**Sb**	**01 47 35.4**	**+1.3**
DIVS	**Divibare**	**2.28**	**7**	*e*Sg	**Sb**	**01 47 35.4**	**+1.3**

IDC 27 01:48:46.7±1.9, 4.02N×126.86E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/22, mbtmp3.8/3, Error ellipse: s-maj=153.1km s-min=25.8km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.92**	**163**	P	P	01 54 11.3	-0.5
	2.7nm,0.7s,baz=343,slow=10,SNR=21						
STKA	**Stephens Creek**	**38.35**	**160**	P	P	01 56 10.1	+0.5
	1.3nm,0.6s,baz=340,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**57.39**	**325**	P	P	01 58 37.0	-0.1
	0.2nm,0.4s,baz=114,slow=8.4,SNR=8.2						

GUC 27 02:08:35.5±0.6, 32.10S×71.86W, h29km±5km, MD3.7, ML2.7, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.37**	**56**	⇑*i*P	Pb	02 08 43.7	-0.2
CHNG				*i* S	Sb	02 08 50.0	+0.4
CHNG				AML	AML	02 08 50.2	
	comp=N,308nm,0.4s						
ROCH	**El Roble**	**1.13**	**141**	⇓*i*P	Pn	02 08 55.0	-0.7
ROCH				*i* S	Sn	02 09 10.3	-0.2
ROCH				AML	AML	02 09 13.5	
	comp=N,364nm,0.4s						
CMCH	**Combarbala**	**1.18**	**39**	⇓*i*P	Pn	02 08 56.0	-0.1
CMCH				*i* S	Sb	02 09 11.9	-0.3
CMCH				AML	AML	02 09 18.7	
	comp=N,743nm,0.6s						
PEL	**Peldehue**	**1.44**	**137**	⇑*i*P	Pn	02 09 00.1	+0.4
PEL				*i* S	Sb	02 09 19.4	-0.5
PEL				AML	AML	02 09 23.9	
	comp=E,413nm,0.3s						
FCH	**Farellones**	**1.81**	**133**	⇑*i*P	Pn	02 09 05.1	0.0
FCH				*i* S	Sn	02 09 28.8	+1.4
FCH				AML	AML	02 09 30.2	
	comp=E,105nm,0.1s						
LNV	**Longovilo**	**1.89**	**169**	⇑*i*P	Pb	02 09 08.7	-0.7
CACH	**El Canelo**	**2.28**	**153**	*e*P	Pb	02 09 13.8	-2.3
CACH				*i* S	Sb	02 09 42.0	-2.0

MEX 27 02:12:29.2±1.0, 17.56N×95.10W, h135km±9km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.51**	**156**	*i* P	Pn	02 12 47.7	-1.3
CMIG				*i* S	Sn	02 13 01.5	-2.4
OXX	**Oaxaca**	**1.62**	**253**	*i* P	Pn	02 12 58.8	-0.5
OXX				*i* S	Sn	02 13 22.5	+0.2
VHO	**Vista Hermosa**	**1.64**	**253**	*e*P	Pn	02 12 58.4	-1.1
VHO				*i* S	Sn	02 13 21.5	-1.1
HUIG	**Huatulco**	**2.03**	**209**	*i* P	Pn	02 13 01.9	-1.9
HUIG				*i* S	Sn	02 13 28.9	-1.5
TGIG		**2.04**	**112**	*i* P	Pn	02 13 03.5	-0.6
TGIG				*i* S	Sn	02 13 28.9	-1.9
TPIG	**Tehuac#an**	**2.32**	**292**	*i* P	Pn	02 13 06.9	-0.7
TPIG				*i* S	Sn	02 13 34.2	-2.8
PCIG		**2.58**	**135**	*e*P	Pn	02 13 09.2	-1.4
PCIG				*i* S	Sn	02 13 41.2	-1.3
UTMO	**Huajuapan**	**2.59**	**276**	*e*P	Pn	02 13 09.8	-1.3
UTMO				*i* S	Sn	02 13 40.8	-2.5
CCIG	**Comitan**	**3.11**	**114**	*i* P	Pn	02 13 16.6	-1.0
CCIG				*i* S	Sn	02 13 53.6	-1.5
PNIG	**Pinotepa**	**3.12**	**249**	*e*P	Pn	02 13 14.4	-3.2
PNIG				*i* S	Sn	02 13 52.9	-2.1

MOS ***27*** *02:21:13.5±1.0, 18.07N×120.81E, h33km, mb4.6/20, Error ellipse: s-maj=13.4km s-min=6.8km az=117.8*
BJI ***27*** *02:21:15.7, 18.29N×120.66E, h28km, mB4.6/29, mb4.6/40, ML4.3/1, Ms4.2/34, Ms7 4.0/34*
ISCJB ***27*** *02:21:16.6±0.3, 18.27N±0.02×120.60E±0.03, h44km±3km, mb4.4/60, MS3.8/24, Error ellipse: s-maj=5.2km s-min=3.1km az=0.3*
TEH ***27*** *02:21:17.0, 18.24N×120.51E, h20km, ML4.7*
NEIC ***27*** *02:21:18.2±0.8, 18.20N×120.77E, h53km±7km, mb4.5/17, Error ellipse: s-maj=9.8km s-min=6.5km az=95.0*
NEIC Felt [IV PIVS] at Pasuquin and [II PIVS] at Baguio, Sinait and Vigan.
IDC ***27*** *02:21:18.4±3.1, 18.05N×120.81E, h60km±29km, mb3.9/27, mb1 4.1/29, mb1mx4.1/33, mbtmp4.0/29, ML4.1/2, MS3.6/14, Ms1 3.7/14, ms1mx3.5/41, Error ellipse: s-maj=15.9km s-min=11.1km az=77.0*
MAN ***27*** *02:21:19, 18.09N×120.66E, h26km, mb5.1, ML4.1, MS4.3*
MAN INTENSITY IV - PASUQUIN ILOCOS NORTE; INTENSITY II - VIGAN ILOCOS SUR.
DJA ***27*** *02:21:25, 17.65N×119.72E, h10km, mb4.7/16*

ISC 27 02:21:17.0±0.4, 18.23N±0.03×120.62E±0.04, h33km±1km, n174, σ1.992/216, mb4.3/60, MS3.7/24, 6C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.10**	**2**	⇑*i*P	**Pb**	**02 21 23.1**	**+0.4**
PIP				*e*S	**Sb**	**02 21 27.5**	**+0.8**
SIPP	**Brgy, Tapao**	**0.34**	**206**	⇓*e*P	**Pn**	**02 21 25.6**	**+0.1**
SIPP				*i* S	**Sb**	**02 21 33.2**	**+2.4**
ABRA	**Dolores**	**0.58**	**171**	*e*P	**Pn**	**02 21 29.0**	**+0.1**
ABRA				*e*S	**Sn**	**02 21 39.1**	**+1.8**
CVP	**Callao Caves**	**1.26**	**114**	*i* P	**Pn**	**02 21 38.7**	**+0.5**
CVP				*i* S	**Sn**	**02 21 53.9**	**-0.1**
CAUP	**Cauayan**	**1.72**	**138**	*e*P	**Pb**	**02 21 47.4**	**-0.5**
BCPH	**Baguio City Da**	**1.84**	**181**	*i* P	Pb	02 21 60.0	+10
BCPH				*i* S	**Sn**	**02 22 09.9**	**+1.4**
PALP	**Palanan**	**2.08**	**124**	⇓*e*P	**Pn**	**02 21 51.8**	**+2.3**
PALP				*i* S	**Sb**	**02 22 23.3**	**+3.8**
PALP	**Palanan**	**2.08**	**124**	*e*P	**Pb**	**02 21 51.9**	**-2.1**
BALP	**Baler**	**2.64**	**159**	*e*P	**Pn**	**02 21 59.1**	**+1.9**
TGY	**Tagaytay City**	**4.11**	**176**	P	Pn	02 22 21.2	+3.6
TGY	**Tagaytay City**	**4.11**	**176**	⇓*e*P	Pn	02 22 21.2	+3.6
TGY	**Tagaytay City**	**4.11**	**176**	P	Pn	02 22 21.2	+3.6
	154nm,0.3s,baz=14,slow=4.2,SNR=20						
TWG	**Pinlang**	**4.59**	**5**	*e*Pn	**Pn**	**02 22 24.5**	**+0.4**
TWG				*e*Sn	**Sn**	**02 23 16.5**	**+0.2**
GQP	**Guinayangan**	**4.64**	**157**	⇑*e*P	**Pn**	**02 22 26.6**	**+1.8**
GQP				*e*S	**Sn**	**02 23 19.9**	**+2.3**
TPUB	**Ta-pu**	**5.05**	**0**	*e*Pn	**Pn**	**02 22 29.1**	**-1.2**
YULB	**Yu-li**	**5.18**	**7**	*e*Pn	**Pn**	**02 22 33.3**	**+1.1**
	74nm,0.4s						
YULB				*e*Sn	**Sn**	**02 23 31.3**	**+0.5**
SSLB	**Suanglung**	**5.54**	**3**	*e*Pn	**Pn**	**02 22 37.4**	**+0.2**
SSLB				*e*Sn	**Sn**	**02 23 42.5**	**+2.7**
PVCP	**Virac**	**5.73**	**143**	⇑*e*P	**Pn**	**02 22 40.2**	**+0.5**
NACB	**Ninganchiao**	**5.99**	**9**	*e*Pn	**Pn**	**02 22 44.0**	**+0.8**
NACB				*e*Sn	**Sn**	**02 23 52.5**	**+1.8**
YHNB	**Yeheng**	**6.45**	**6**	*e*Pn	**Pn**	**02 22 51.4**	**+1.7**
	188nm,0.6s						
YHNB				*e*Sn	**Sn**	**02 24 03.0**	**+0.8**
TATO	**Taipei**	**6.76**	**7**	*e*Pn	**Pn**	**02 22 55.9**	**+1.9**
QIZ	**Qiongzhong**	**10.24**	**276**	P	**Pn**	**02 23 41.8

KSRS LR LR 02 34 09.1
comp=Z,117nm,19.7s,baz=17,slow=38
CHTO Chiang Mai 20.56 275 *e*P Pn 02 25 54.7 -0.7
CHTO pmax pmax
comp=Z,23nm,1.0s
CHTO Chiang Mai 20.56 275 *e*P Pn 02 25 54.7 -0.7
comp=Z,23nm,1.0s
CHTO Chiang Mai 20.56 275 *e*P Pn 02 25 54.4 -1.0
comp=Z,30nm,1.0s,comp=Z,394nm
CMAR Chiang Mai Arr 20.57 274 P Pn 02 25 55.6 0.0
CMAR S **S** **02 29 37.5 -4.2**
CMAR Chiang Mai Arr 20.57 274 P Pn 02 25 55.6 0.0
comp=Z,17nm,0.9s,baz=95,slow=9.6,SNR=44
CMAR S **S** **02 29 37.5 -4.2**
comp=Z,2.0nm,0.4s,baz=101,slow=12,SNR=4.3
CMAR LR LR 02 34 22.3
comp=Z,86nm,18.6s,baz=221,slow=38
TTSI Tana Toraja 21.15 182 P **P** **02 26 01.9 +2.5**
BJT Baijiatuau 22.05 351 *e*P **P** **02 26 09.2 +0.3**
comp=Z,29nm,0.8s
SPSI Sidrap Palu 22.07 182 P **P** **02 26 10.2 +1.0**
BJI Beijing 22.07 351 P **P** **02 26 09.5 +0.4**
BJI pmax pmax
comp=Z,42nm,1.0s
BJI LR LR
comp=N,210nm,18.4s
BJI LR LR
comp=E,220nm,19.1s
BJI LR LR
comp=Z,130nm,16.9s
BBKI Banjar Baru 22.29 195 P **P** **02 26 11.9 +0.3**
KAPI Kappang 23.11 182 LR LR 02 35 38.1
comp=Z,191nm,21.9s,baz=13,slow=38
LZH Lanzhou 23.16 324 *e*P **P** **02 26 22.3 +1.6**
LZH pP **pP** **02 26 29.8 +0.1**
LZH sP **sP** **02 26 33.5 -0.4**
LZH PP **PnPn** **02 26 53.3 +6.6**
LZH S **S** **02 30 29.0 -1.2**
LZH sS **sS** **02 30 44.0 -1.9**
LZH pmax pmax
comp=Z,28nm,1.2s
LZH pmax pmax
comp=Z,170nm,5.8s
LZH LR LR
comp=N,570nm,13.4s
LZH LR LR
comp=E,380nm,13.6s
LZH LR LR
comp=Z,730nm,14.8s
MYKOM Kota Tinggi 23.18 227 P **P** **02 26 20.9 -0.1**
KULM Kulim 23.36 239 *e*P **P** **02 26 23.1 +0.4**
comp=Z,71nm,1.1s
KULM Kulim 23.36 239 P **P** **02 26 22.8 +0.1**
comp=Z,64nm,1.3s,comp=Z,680nm
IPM Ipoh 23.53 237 *e*P **P** **02 26 23.9 -0.5**
comp=Z,46nm,0.8s
IPM Ipoh 23.53 237 P **P** **02 26 23.2 -1.2**
comp=Z,65nm,0.8s,comp=Z,658nm
SNY Shenyang 23.66 6 ⇑P **P** **02 26 25.3 -0.1**
SNY S **S** **02 30 36.8 -1.1**
SNY pmax pmax
comp=Z,32nm,1.0s
SNY pmax pmax
comp=Z,76nm,3.5s
SNY LR LR
comp=N,210nm,4.6s
SNY LR LR
comp=E,160nm,4.7s
SNY LR LR
comp=Z,160nm,18.9s
HHC Hu-ho-hao-te 23.85 343 *e*P **P** **02 26 28.0 +0.6**
HHC pP **pP** **02 26 38.8 +2.0**
HHC sP **sP** **02 26 42.3 +1.5**
HHC PP **PnPn** **02 27 01.5 +5.4**
HHC S **S** **02 30 39.0 -2.3**
HHC sS **sS** **02 30 54.5 -2.4**
HHC SS **SnSn** **02 31 29.0 +7.0**
HHC pmax pmax
comp=Z,27nm,1.2s
HHC pmax pmax
comp=Z,170nm,5.1s
HHC LR LR
comp=N,410nm,14.3s
HHC LR LR
comp=E,130nm,13.1s
HHC LR LR
comp=Z,56nm,14.3s
MJAR Matsushiro Arr 23.95 37 LR LR 02 35 50.5
comp=Z,95nm,20.8s,baz=140,slow=36
CN2 Changchun 25.82 8 ⇑P **P** **02 26 46.0 +0.9**
CN2 *e*pP **pP** **02 26 55.3 +0.7**
CN2 *e*sP **sP** **02 26 59.3 +0.6**
CN2 *e*S **S** **02 31 11.3 -1.1**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,12.0s
CN2 LR LR
comp=E,200nm,12.0s
CN2 LR LR
comp=Z,200nm,15.0s
BKNI Bangkinang 26.20 229 P **P** **02 26 48.3 -0.6**
PSI Prapat 26.21 237 P **P** **02 26 48.7 -0.4**
PSI Prapat 26.21 237 P **P** **02 26 48.7 -0.4**
comp=Z,29nm,1.2s
PSI Prapat 26.21 237 P **P** **02 26 48.7 -0.4**
comp=Z,22nm,1.0s,baz=37,slow=5.7,SNR=11
PSI LR LR 02 36 21.2
comp=Z,97nm,19.2s,baz=323,slow=34
MNSI Mandailing Nat 26.96 232 P **P** **02 26 55.1 -0.6**
MDJ Mudanjiang 27.37 14 P **P** **02 26 58.8 -0.3**
MDJ pP **pP** **02 27 07.8 -0.8**
MDJ S **S** **02 31 36.0 -0.8**
MDJ pmax pmax
comp=Z,12nm,1.0s
MDJ pmax pmax
comp=Z,38nm,4.5s
MDJ LR LR
comp=Z,78nm,38.9s
MDJ Mudanjiang 27.37 14 *e*P **P** **02 26 58.7 -0.4**
comp=Z,9.3nm,0.8s
USRK Ussuriysk Arra 27.61 18 P **P** **02 27 00.9 -0.3**
comp=Z,5.0nm,0.8s,baz=210,slow=9.2,SNR=18
GTA Gaotai 27.76 324 *e*P **P** **02 27 04.0 +1.2**
GTA pP **pP** **02 27 13.0 +0.6**
GTA sP **sP** **02 27 17.8 +1.4**
GTA S **S** **02 31 42.3 -1.2**
GTA SS **SnSn** **02 33 03.0 +5.5**
GTA pmax pmax
comp=Z,3.0nm,0.7s
GTA pmax pmax
comp=Z,160nm,5.2s
GTA LR LR
comp=N,260nm,12.4s
GTA LR LR
comp=E,230nm,14.7s
GTA LR LR
comp=Z,250nm,11.6s
LSA Lhasa 29.16 299 P **P** **02 27 17.0 +1.2**
LSA Lhasa 29.16 299 *e*P **P** **02 27 17.2 +1.4**
LSA pmax pmax
comp=Z,7.0nm,0.9s
LSA Lhasa 29.16 299 *e*P **P** **02 27 17.2 +1.4**
comp=Z,7.4nm,0.9s
ULN Ulaanbaatar 31.57 342 *e*P **P** **02 27 37.7 +1.2**
comp=Z,3.4nm,0.9s
ULN Ulaanbaatar 31.57 342 P pP 02 27 50.1 +4.0
SONM Songino Array 31.74 342 P **P** **02 27 38.4 +0.4**
SONM PcP **PcP** **02 30 26.5 -2.4**
SONM Songino Array 31.74 342 P **P** **02 27 38.4 +0.4**
comp=Z,1.3nm,0.6s,baz=157,slow=9.6,SNR=16
SONM PcP **PcP** **02 30 26.5 -2.4**
comp=Z,0.2nm,0.4s,baz=149,slow=3.7,SNR=4.8
KLR Kul'dur 32.21 14 *e*P P 02 27 37.3 -4.6
KLR pmax pmax
comp=Z,28nm,1.0s
ZAK Zakamensk 34.95 341 *e*P **P** **02 28 06.2 +0.3**
ZAK pmax pmax
comp=Z,2.0nm,1.1s
TLY Talaya 35.98 342 *e*P **P** **02 28 15.0 +0.4**
TLY *e* 02 28 28.2
TLY *e*S **S** **02 33 47.5 -3.4**
TLY *e*SSS SSS 02 36 38.1
TLY pmax pmax
comp=Z,4.0nm,1.1s
TLY MLR MLR
comp=Z,132nm,19.0s
FITZ Fitzroy Crossi 36.44 172 P **P** **02 28 16.0 -2.8**
FITZ Fitzroy Crossi 36.44 172 P **P** **02 28 16.0 -2.8**
comp=Z,2.1nm,0.7s,baz=349,slow=9.5,SNR=3.7
WMQ Urumqi 37.63 320 *e*P **P** **02 28 30.5 +1.7**
WMQ *e*S **S** **02 34 17.0 +0.6**
WMQ sS **sS** **02 34 35.0 +2.6**
WMQ SS **SnSn** **02 36 52.0 -4.8**
WMQ pmax pmax
comp=Z,5.0nm,0.6s
WMQ pmax pmax
comp=Z,99nm,4.6s
WMQ LR LR
comp=N,250nm,12.0s
WMQ LR LR
comp=E,210nm,10.8s
WMQ LR LR
comp=Z,230nm,19.4s
BOD Bodaibo 39.84 354 *e*P **P** **02 28 46.4 -0.6**
BOD pmax pmax
comp=Z,4.0nm,1.5s
HYB Hyderabad 39.99 276 *i* P **P** **02 28 47.0 -1.9**
WRA Warramunga Arr 40.25 160 P P 02 28 47.2 -3.7
WRA pPcP 02 31 08.3
WRA Warramunga Arr 40.25 160 P P 02 28 47.2 -3.7
comp=Z,1.3nm,0.4s,baz=341,slow=9.2,SNR=22
WRA pPcP 02 31 08.3
comp=Z,1.3nm,0.7s,baz=342,slow=3.7,SNR=5.0
MK31 Makanchi Array 42.42 321 *e*P **P** **02 29 09.5 +1.0**
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 42.42 321 *e*P **P** **02 29 10.3 +1.8**
MKAR 02 31 00.6
MKAR Makanchi Array 42.42 321 *e*P **P** **02 29 10.2 +1.8**
MKAR PcP **PcP** **02 31 00.6 -0.6**
MKAR pPcP 02 31 17.1
MKAR Makanchi Array 42.42 321 P **P** **02 29 10.1 +1.6**
comp=Z,3.5nm,0.7s,baz=112,slow=9.2,SNR=5.6
MKAR PcP **PcP** **02 31 00.6 -0.6**
comp=Z,1.5nm,0.8s,baz=86,slow=3.5,SNR=3.0
MKAR pPcP 02 31 17.1
comp=Z,2.3nm,0.8s,baz=113,slow=3.2,SNR=3.8
MKAR LR LR 02 47 19.8
comp=Z,66nm,20.4s,baz=135,slow=37
ASAR Alice Springs 43.61 162 P **P** **02 29 15.4 -2.9**
ASAR Alice Springs 43.61 162 P **P** **02 29 15.4 -2.9**
comp=Z,2.2nm,0.3s,baz=340,slow=7.0,SNR=25
KSH Kashi 43.94 308 *e*P P 02 29 24.5 +3.5
KSH pP pP 02 29 34.3 +3.5
KSH sP sP 02 29 38.3 +3.5
KSH PP **PcP** **02 31 08.8 +2.2**
KSH PcP PP 02 31 10.0 +6.4
KSH ScP **ScP** **02 34 58.0 +2.0**
KSH PcS **PcS** **02 35 00.5 +0.8**
KSH S **S** **02 35 55.0 +4.4**
KSH sS sS 02 36 11.8 +5.0
KSH SS **SS** **02 39 04.8 -3.0**
KSH ScS **ScS** **02 39 17.5 -0.2**
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH pmax pmax
comp=Z,130nm,5.6s
KSH LR LR
comp=N,110nm,5.0s
KSH LR LR
comp=E,89nm,5.4s
KSH LR LR
comp=Z,250nm,7.5s
ZALV Zalesovo Beam 45.05 331 P **P** **02 29 30.2 +0.7**
ZALV Zalesovo Beam 45.05 331 P **P** **02 29 30.2 +0.7**
ZALV Zalesovo Beam 45.05 331 P **P** **02 29 30.2 +0.7**
comp=Z,2.2nm,0.6s,baz=117,slow=8.1,SNR=12
ZALV LR LR 02 49 09.2
comp=Z,119nm,18.7s,baz=246,slow=37
PETK Petropavlovsk- 45.16 31 P **P** **02 29 30.2 -0.2**
PETK Petropavlovsk- 45.16 31 P **P** **02 29 30.2 -0.2**
PETK Petropavlovsk- 45.16 31 P **P** **02 29 30.2 -0.2**
comp=Z,3.4nm,0.9s,baz=227,slow=5.7,SNR=2.5
PETK LR LR 02 49 41.4
comp=Z,43nm,19.3s,baz=104,slow=38
TKM2 Tokmak 2 45.21 313 P **P** **02 29 32.7 +1.5**
TKM2 pmax pmax
comp=Z,4.0nm,1.2s
TKM2 Tokmak 2 45.21 313 *e*P **P** **02 29 32.5 +1.3**
comp=Z,4.3nm,1.0s
AAK Ala-Archa 45.90 312 *e*P P 02 29 32.4 -4.2
AAK pmax pmax
comp=Z,5.0nm,1.5s
AAK Ala-Archa 45.90 312 *e*P **P** **02 29 34.9 -1.7**
comp=Z,19nm,1.1s
AAK Ala-Archa 45.90 312 P **P** **02 29 38.7 +2.1**
comp=Z,0.6nm,0.4s,baz=153,slow=4.5,SNR=3.1
NVS Novosibirsk 46.33 331 *e*P **P** **02 29 40.0 +0.4**
EKS2 Erkin-Say 46.41 312 *e*P **P** **02 29 42.0 +1.4**
EKS2 pmax pmax
comp=Z,3.0nm,0.8s
EKS2 Erkin-Say 46.41 312 *e*P **P** **02 29 42.0 +1.4**
comp=Z,2.9nm,0.8s
KURK Kurchatov 46.45 324 P **P** **02 29 41.8 +1.3**
KURK Kurchatov 46.45 324 P **P** **02 29 41.8 +1.3**
KURBB Kurchatov Arra 46.45 324 P **P** **02 29 41.8 +1.2**
comp=Z,6.4nm,0.6s,baz=122,slow=8.4,SNR=22
KKAR Karatay Array 48.84 312 *e*P **P** **02 30 00.2 +0.9**
KKAR Karatay Array 48.84 312 *e*P **P** **02 30 00.1 +0.9**
VOSK Vostochnaya 51.60 324 P **P** **02 30 19.9 -0.1**
VOSK pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 52.04 324 P **P** **02 30 24.4 +1.1**
BVAR 02 31 34.2
BVAR Borovoye Array 52.04 324 P **P** **02 30 24.4 +1.1**
BVAR PcP **PcP** **02 31 34.2 -1.0**
BVAR Borovoye Array 52.04 324 P **P** **02 30 24.4 +1.1**
comp=Z,0.8nm,0.5s,baz=109,slow=8.4,SNR=6.4
BVAR PcP **PcP** **02 31 34.2 -1.0**
comp=Z,1.0nm,0.5s,baz=128,slow=4.2,SNR=4.9
STKA Stephens Creek 53.73 158 P P 02 30 32.3 -3.7
STKA Stephens Creek 53.73 158 P P 02 30 32.3 -3.7
comp=Z,1.5nm,0.4s,baz=340,slow=13,SNR=6.4
IMON Monamd 56.19 298 *e*P **P** **02 30 54.6 +0.4**
IMOG Moghan 56.48 302 *e*P **P** **02 30 57.1 +0.8**
ITEG Tejag 56.97 298 *e*P **P** **02 31 00.3 +0.6**
IKRD Kardeh 57.15 302 *e*P P 02 30 56.3 -4.7
AB31 Akbulak array 57.32 317 *i* P **P** **02 31 01.5 -0.2**
AB31 pmax pmax
comp=Z,2.0nm,0.4s
ABKAR Akbulak array 57.32 317 *e*P **P** **02 31 01.8 +0.1**
BILL Bilibino 57.46 19 *e*P **P** **02 31 01.7 -0.6**
BILL *e* 02 31 56.3
BILL pmax pmax
comp=Z,2.0nm,0.8s
BILL MLR MLR
comp=Z,700nm,17.0s
WSAR Wadi Sarin 57.82 286 P **P** **02 31 04.5 -1.1**
WSAR Wadi Sarin 57.82 286 P **P** **02 31 04.5 -1.1**
comp=Z,2.4nm,0.8s,baz=98,slow=7.1,SNR=2.9
SVE Sverdlovsk 58.59 326 *e*P **P** **02 31 11.0 +0.6**
SVE pmax pmax
comp=Z,17nm,1.2s
AKTO Aktyubinsk 58.75 318 P **P** **02 31 11.4 -0.3**
AKTO Aktyubinsk 58.75 318 P **P** **02 31 11.4 -0.3**
AKTO Aktyubinsk 58.75 318 P **P** **02 31 11.4 -0.3**
comp=Z,1.6nm,0.6s,baz=106,slow=8.4,SNR=7.6
ARU Arti 59.60 325 *c i*P **P** **02 31 16.0 -1.4**
ARU S S 02 39 17.8 -7.5
ARU pmax pmax
comp=Z,4.0nm,1.0s
ARU Arti 59.60 325 *e*P **P** **02 31 16.4 -1.1**
comp=Z,2.1nm,0.5s
ISRV Sarvestan 62.02 294 *e*P **P** **02 31 34.4 -0.4**
IPAR Pars 62.03 295 *e*P **P** **02 31 34.2 -0.6**
IKLH Kolahrood 62.95 299 *e*P **P** **02 31 40.2 -0.7**
IPIR Pirpir 63.59 298 *e*P **P** **02 31 45.7 +0.6**
RDF Al-Radifah 66.90 294 *e*P **P** **02 32 05.7 -0.7**
RDF AMb AMB 02 32 06.6
comp=Z,34nm,0.7s
MIB Mutribah 66.95 295 *e*P **P** **02 32 05.3 -1.3**
MIB AMb AMB 02 32 06.3
comp=Z,16nm,1.3s
NAY Al-Naaiem 67.12 295 *e*P **P** **02 32 06.3 -1.4**
NAY AMb AMB 02 32 07.1
comp=Z,12nm,0.7s
ZEI Tsey 68.21 309 *e*P **P** **02 32 13.9 -0.8**
ZEI pmax pmax
comp=Z,6.0nm,1.3s
KBZ Khabaz 68.86 311 P **P** **02 32 18.3 0.0**
KBZ Khabaz 68.86 311 P **P** **02 32 18.2 0.0**
KBZ Khabaz 68.86 311 P **P** **02 32 18.2 0.0**
comp=Z,2.4nm,0.8s,baz=86,slow=7.3,SNR=6.8
KBZ LR LR 03 05 52.9
comp=Z,91nm,18.7s,baz=291,slow=39
KIV Kislovodsk 68.99 311 *e*P **P** **02 32 16.9 -2.4**
KIV *e* 02 32 41.0
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,100nm,18.0s
KIV Kislovodsk 68.99 311 *e*P **P** **02 32 18.9 -0.4**
comp=Z,4.6nm,0.6s
OBN Obninsk 71.87 323 *e*P **P** **02 32 34.9 -1.6**
OBN *e* 02 32 47.0
OBN *e* 02 32 54.2
OBN *e*S S 02 41 48.0 -7.0
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,100nm,16.0s
ILAR Eielson Array 74.74 26 P **P** **02 32 51.5 -1.9**
ILAR Eielson Array 74.74 26 P **P** **02 32 51.5 -1.9**
comp=Z,0.4nm,0.5s,baz=264,slow=4.4,SNR=7.3
ARCES ARCESS Array B 74.86 339 P **P** **02 32 52.6 -1.3**
ARCES ARCESS Array B 74.86 339 P **P** **02 32 52.6 -1.3**
comp=Z,6.7nm,1.1s,baz=83,slow=9.9,SNR=5.7
BRTR Keskin Array B 76.32 308 P **P** **02 33 01.1 -1.9**
BRTR Keskin Array B 76.32 308 P **P** **02 33 01.1 -1.9**
comp=Z,0.7nm,0.6s,baz=142,slow=4.0,SNR=5.3
BRTR LR LR 03 11 15.0
comp=Z,31nm,20.4s,baz=255,slow=39
FINES FINESS Array B 76.32 330 P **P** **02 33 01.7 -0.7**
FINES FINESS Array B 76.32 330 P **P** **02 33 01.7 -0.7**
comp=Z,2.4nm,0.9s,baz=66,slow=7.1,SNR=7.6
VSU Vasula 76.66 327 *e*P **P** **02 33 02.9 -1.5**
VSU pmax pmax
comp=Z,17nm,1.2s
AKASG Malin Array Be 76.98 319 P **P** **02 33 04.8 -1.5**
AKASG Malin Array Be 76.98 319 P **P** **02 33 04.8 -1.5**
AKASG Malin Array Be 76.98 319 P **P** **02 33 04.8 -1.5**
comp=Z,0.3nm,0.4s,baz=64,slow=5.9,SNR=5.0
RPZ Rata Peaks 77.01 145 *e*P **P** **02 33 07.3 +0.8**
comp=Z,10nm,0.7s
INK Inuvik 78.93 21 *e*P **P** **02 33 16.1 -0.6**
comp=Z,4.1nm,1.0s
INK Inuvik 78.93 21 P **P** **02 33 16.2 -0.6**
comp=Z,1.2nm,0.6s,baz=297,slow=6.7,SNR=3.8
NB2 NORSAR Subarra 83.23 332 P **P** **02 33 38.0 -1.9**
comp=Z,3.3nm,1.0s,baz=64,slow=4.6
NOA NORSAR Array B 83.23 332 P **P** **02 33 38.4 -1.5**
NOA NORSAR Array B 83.23 332 P **P** **02 33 38.4 -1.5**
comp=Z,1.2nm,0.7s,baz=64,slow=4.9,SNR=6.3
NOA LR LR 03 12 57.8
comp=Z,92nm,18.6s,baz=20,slow=37
RES Resolute Bay 84.60 9 *e*P **P** **02 33 45.5 -1.1**
comp=Z,4.0nm,1.0s
GERES GERESS Array B 87.09 321 P **P** **02 33 58.6 -1.0**
GERES GERESS Array B 87.09 321 P **P** **02 33 58.6 -1.0**
comp=Z,0.5nm,0.6s,baz=80,slow=1.2,SNR=3.0
GERES LR LR 03 15 35.8
comp=Z,67nm,18.2s,baz=260,slow=37
YKA Yellowknife Ar 88.65 22 P **P** **02 34 06.6 0.0**
YKA Yellowknife Ar 88.65 22 P P **02 34 06.6 0.0**
comp=Z,0.7nm,0.6s,baz=310,slow=4.4,SNR=12
TXAR Lajitas Array 116.27 43 PKP **PKPdf** **02 39 56.6 -1.2**
TXAR Lajitas Array 116.27 43 PKP **PKPdf** **02 39 56.6 -1.2**
comp=Z,0.2nm,0.5s,baz=330,slow=2.0,SNR=5.1

ISC 27 02:23:59.5±1.8, 51.6N±0.2×6.3E±0.3, h8km, n5, σ1s 09/7, Germany

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WTSB	**Winterswijk**	**0.48**	**41**	*e*Pg	**Pb**		**02 24 09.9**	**-0.3**
WTSB				*e*Sg	**Sg**		**02 24 15.5**	**+0.4**
HGN	**Heimansgroeve** 14nm,0.3s	**0.87**	**195**	*e*Pg	**Pg**		**02 24 16.5**	**+0.2**
HGN				*e*Sg	**Sb**		**02 24 29.3**	**+0.7**
MEM	**Membach**	**1.01**	**190**	P	**Pg**		**02 24 17.1**	**-1.8**
BCLA	**Clavier**	**1.34**	**208**	P	**Pn**		**02 24 24.7**	**+0.2**
WLF	**Walferdange**	**1.94**	**183**	P	**Pn**		**02 24 33.7**	**+0.9**

IDC 27 02:28:58.9±11.0, 23.01S×179.78W, h547km±74km, mb3.3/5, mb1 3.5/6, mb1mx3.1/21, mbtmp3.3/6, Error ellipse: s-maj=176.4km s-min=25.7km az=39.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.8nm,0.3s,baz=94,slow=19,SNR=8.5	**12.77**	**272**	P	P		02 31 46.5	+0.9
ASAR	**Alice Springs** 1.2nm,0.8s,baz=96,slow=7.9,SNR=11	**42.38**	**260**	P	P		02 36 05.3	-0.6
WRA	**Warramunga Arr** 2.0nm,0.3s,baz=96,slow=8.4,SNR=33	**42.67**	**265**	P	P		02 36 07.9	-0.3
FITZ	**Fitzroy Crossi** 1.9nm,0.6s,baz=112,slow=11,SNR=3.0	**51.10**	**265**	P	P		02 37 12.1	+0.5
VNDA	**Vanda** 2.8nm,0.9s,baz=13,slow=8.1,SNR=5.9	**55.28**	**185**	P	P		02 37 39.7	-0.6
QSPA	**South Pole Qui** 4.9nm,0.6s,baz=310,slow=0.7,SNR=30	**67.07**	**180**	P	P		02 38 57.9	+0.1
TORD	**Torodi Ar. Bea** 1.3nm,0.9s,baz=161,slow=3.6,SNR=6.2	**170.09**	**188**	PKPab	PKPab		02 49 24.2	+0.2

SZGRF ***27*** *02:29:22.7, 23.03S×176.29W, h33km, South of Fiji Islands*
BJI ***27*** *02:29:24.1, 22.61S×175.57W, h35km, mB5.4/9, mb5.0/12, Ms5.1/7, Ms7 4.7/7*
ISCJB ***27*** *02:29:26.7±0.3, 21.81S±0.09×175.65W±0.07, h50km, mb4.8/47, MS4.3/8, Error ellipse: s-maj=14.1km s-min=7.8km az=153.0*
IDC ***27*** *02:29:27.9±3.8, 21.72S×175.79W, h50km±34km, mb4.1/16, mb1 4.3/17, mb1mx4.2/27, mbtmp4.1/17, ML2.9/1, MS3.9/7, Ms1 3.9/7, ms1mx3.4/34, Error ellipse: s-maj=26.5km s-min=14.6km az=144.0*
NEIC ***27*** *02:29:28.4±1.5, 21.78S×175.78W, h54km±12km, mb4.8/26, Error ellipse: s-maj=14.9km s-min=6.1km az=149.0*

ISC 27 02:29:27.7±0.4, 21.8S±0.1×175.72W±0.1, h50km, n309, σ0s 71/297, mb4.8/47, MS4.3/8, 100C-84D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.69**	**26**	P	**Pn**		**02 31 31.1**	**+0.2**
AFI				S	Sn		02 32 56.3	-11
AFI	**Afiamalu** 7.9nm,0.3s,baz=205,slow=14,SNR=2.9	**8.69**	**26**	P	**Pn**		**02 31 31.1**	**+0.2**
AFI				S	Sn		02 32 56.3	-11
	16nm,0.3s,baz=229,slow=19,SNR=4.3							
AFI				LR	LR		02 34 29.4	
	comp=Z,388nm,19.8s,baz=16,slow=35							
RAR	**Rarotonga**	**14.86**	**91**	*e*Pn	Pn		02 32 46.3	-8.5
RAR				S	Sn		02 35 14.5	-24
RAR	**Rarotonga** 1.0nm,0.3s,baz=263,slow=19,SNR=2.7	**14.86**	**91**	P	Pn		02 32 41.5	-13
RAR				S	Sn		02 35 14.5	-24
	1.4nm,0.3s,baz=270,slow=20,SNR=3.2							
RAR				T	T		02 47 32.3	
	57nm,0.3s,baz=216,slow=22,SNR=3.6							
DZM	**Mont Dzumac** 75nm,1.4s	**16.55**	**266**	*e*P	P		02 33 22.5	+4.0
DZM				*e*LR	LR		02 37 17.0	
	320nm,25.2s							
DZM	**Mont Dzumac**	**16.55**	**266**	P	P		02 33 22.9	+4.4
DZM	**Mont Dzumac** 0.1nm,0.3s,baz=94,slow=18,SNR=3.2	**16.55**	**266**	P	P		02 33 22.9	+4.4
DZM				LR	LR		02 37 24.0	
	comp=Z,154nm,18.2s,baz=186,slow=29							
TBI	**Tubuai** 180nm,26.5s	**24.29**	**99**	*e*LR	LR		02 40 23.4	
PPT2	**Papeete2** 500nm,24.8s	**24.95**	**85**	*e*LQ	LQ		02 39 29.6	
PPT2				*e*LR	LR		02 40 11.9	
	126nm,25.0s							
PPT	**Papeete** 87nm,0.4s,baz=62,slow=23,SNR=6.1	**24.96**	**85**	T	T		03 00 01.3	
CTA	**Charters Tower**	**35.50**	**266**	LR	LR		02 48 10.4	
	comp=Z,114nm,21.0s,baz=71,slow=32							
CTAO	**Charters Tower** 9.8nm,0.6s	**35.50**	**266**	*e*P	P		**02 36 21.0**	**+1.1**

PMG **Port Moresby** 37.70 283 *e*P P 02 36 40.9 +2.2
17nm,0.9s
PMG **Port Moresby** 37.70 283 P P 02 36 38.3 -0.4
6.0nm,0.6s,baz=124,slow=16,SNR=2.6
STKA **Stephens Creek** 39.18 246 P P 02 36 50.6 -0.3
STKA **Stephens Creek** 39.18 246 P P 02 36 50.6 -0.3
2.5nm,0.6s,baz=101,slow=17,SNR=5.4
STKA LR LR 02 50 51.8
comp=Z,185nm,19.0s,baz=196,slow=33
ASAR **Alice Springs** 46.31 258 P P 02 37 48.7 -0.2
ASAR **Alice Springs** 46.31 258 P P 02 37 48.7 -0.2
2.9nm,0.6s,baz=95,slow=7.9,SNR=25
WRA **Warramunga Arr** 46.54 263 P P 02 37 50.1 -0.6
WRA **Warramunga Arr** 46.54 263 P P 02 37 50.1 -0.6
1.7nm,0.5s,baz=100,slow=8.3,SNR=26
FORT **Forrest** 50.75 247 *e*P P 02 38 21.8 -1.2
21nm,0.8s
FITZ **Fitzroy Crossi** 54.97 263 P P 02 38 53.7 -0.5
FITZ **Fitzroy Crossi** 54.97 263 P P 02 38 53.7 -0.5
2.5nm,0.8s,baz=118,slow=7.6,SNR=5.3
QSPA **South Pole Qui** 68.29 180 P P 02 40 24.6 +1.2
QSPA **South Pole Qui** 68.29 180 P P 02 40 24.6 +1.2
9.1nm,0.9s,baz=36,slow=3.5,SNR=14
QSPA LR LR 03 08 40.5
comp=Z,127nm,18.1s,baz=105,slow=34
MURC **Murrieta** 78.36 47 ⇓P P 02 41 23.1 +0.1
baz=79
VES **Vestal, Richgr** 78.45 44 ⇓P P 02 41 23.9 +0.5
baz=79
EDW2 **Edwards Air Fo** 78.59 45 ⇑P P 02 41 24.5 +0.3
baz=79
ISA **Isabella** 78.74 44 *e*P P 02 41 25.1 0.0
10nm,1.0s
ISA **Isabella** 78.74 44 ⇓P P 02 41 25.4 +0.2
baz=79
CMB **Columbia Colle** 78.99 41 *e*P P 02 41 26.6 +0.2
5.9nm,0.9s
LRMC **Laurel Mountai** 79.14 45 ⇓P P 02 41 27.8 +0.4
baz=79
BELC **Belle Mtn. Jos** 79.40 47 ⇑P P 02 41 29.2 +0.3
baz=80
CWC **Cottonwood Cre** 79.46 44 ⇑P P 02 41 29.5 +0.3
baz=80
BC3 **Big Chuckawall** 79.58 47 ⇑P P 02 41 30.0 +0.2
baz=80
MPMC **Manual Prospec** 79.62 44 ⇓P P 02 41 29.8 -0.2
baz=80,SNR=5.4
GSC **Goldstone** 79.62 45 *e*P P 02 41 35.7 +5.7
7.3nm,1.1s
GSC **Goldstone** 79.62 45 ⇑P P 02 41 30.3 +0.4
baz=80
HEC **Hector,Ludlow** 79.66 46 ⇓P P 02 41 30.5 +0.4
baz=80
MTUM **Tungsten Hills** 79.70 43 *e*P P 02 41 31.3 +0.8
YBH **Yreka Blue Hor** 79.99 37 P P 02 41 32.7 +0.9
YBH **Yreka Blue Hor** 79.99 37 P P 02 41 32.7 +0.9
4.3nm,0.7s,baz=184,slow=5.0,SNR=5.4
IRM **Iron Mountain** 80.07 47 ⇓P P 02 41 32.6 +0.3
baz=80
GMRC **Granite Mounta** 80.08 46 ⇑P P 02 41 32.6 0.0
baz=80
GRAC **Grapevine Rang** 80.25 44 ⇑P P 02 41 33.8 +0.5
baz=80
Y12C **Blythe** 80.27 48 ⇓P P 02 41 33.8 +0.4
baz=80
214A **Organ Pipe Nat** 80.48 50 ⇓P P 02 41 34.9 +0.3
baz=81
NVAR **Mina Array Bea** 80.52 42 P P 02 41 34.8 -0.2
NVAR **Mina Array Bea** 80.52 42 P P 02 41 34.8 -0.2
1.5nm,0.7s,baz=224,slow=9.2,SNR=11
LDFC **Landfair** 80.62 46 *e*P P 02 41 36.7 +1.3
16nm,1.1s
PDMCI **Parker Dam,Lak** 80.84 48 ⇓P P 02 41 37.0 +0.6
baz=81
Z14A **Wintersburg** 81.15 49 ⇑P P 02 41 38.5 +0.4
baz=81
Y14A **Wickenburg** 81.42 48 ⇓P P 02 41 40.0 +0.3
baz=82
W13A **Hualapai Mount** 81.46 47 ⇑P P 02 41 40.4 +0.4
baz=82
MOD **Modoc** 81.47 38 *e*P P 02 41 40.8 +1.0
7.5nm,1.0s
KDAK **Kodiak Island** 81.59 12 LR LR 03 09 47.4
comp=Z,153nm,20.3s,baz=101,slow=30
TUC **Tucson** 82.12 51 *e*P P 02 41 44.2 +0.8
6.9nm,1.1s
R11A **Troy Canyon, C** 82.19 43 ⇑P P 02 41 44.2 +0.5
baz=82
NJ2 **Nanjing** 82.34 309 *e*P P 02 41 47.5 +3.1
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
319A **Douglas** 82.73 52 ⇑P P 02 41 47.0 +0.4
baz=83
X16A **Lo Mia Camp, P** 82.77 49 ⇑P P 02 41 46.9 0.0
baz=83,SNR=8.9
MDJ **Mudanjiang** 82.80 324 P P 02 41 50.5 +4.0
MDJ pmax pmax
comp=Z,5.0nm,1.3s
MDJ pmax pmax
comp=Z,87nm,4.8s
R13A **O'Grain Ranch,** 83.14 44 ⇑P P 02 41 48.7 0.0
baz=83
CCUT **Cedar City** 83.18 45 *e*P P 02 41 50.0 +1.1
comp=Z,7.6nm,1.0s
320A **Kipp Ranch, An** 83.26 53 ⇑P P 02 41 49.5 +0.1
baz=84
U15A **North Rim** 83.28 47 ⇑P P 02 41 50.3 +0.8
baz=84,SNR=13
WUAZ **Wupatki** 83.41 48 ⇑P P 02 41 50.3 +0.2
baz=84
220A **Playas Peak, P** 83.55 52 ⇓P P 02 41 50.7 -0.2
baz=84
120A **U Bar Ranch, L** 83.80 51 ⇑P P 02 41 52.2 0.0
baz=84
X18A **Snowflake** 83.88 49 ⇑P P 02 41 52.9 +0.3
baz=84
Z20A **Nine Sixteen R** 84.12 51 ⇑P P 02 41 53.7 0.0
baz=84
121A **Cookes Peak, D** 84.41 52 ⇓P P 02 41 55.6 +0.3
baz=85
S16A **Weppner Ranch,** 84.44 46 ⇓P P 02 41 55.6 +0.2
baz=85
MVU **Marysvale** 84.46 45 *e*P P 02 41 56.6 +1.1
MSU **Marysvale** 84.49 45 *e*P P 02 41 56.8 +1.2
BBB **Bella Bella** 84.55 27 P P 02 41 55.9 +0.6
BBB **Bella Bella** 84.55 27 P P 02 41 55.9 +0.6
comp=Z,5.7nm,0.9s,baz=195,slow=1.8,SNR=3.3
BBB LR LR 03 09 24.5
comp=Z,101nm,21.2s,baz=210,slow=28
T17A **Navajo Res., N** 84.59 47 ⇑P P 02 41 56.0 -0.1
baz=85
CN2 **Changchun** 84.62 322 *e*P P 02 41 58.3 +2.5
CN2 *e*S S 02 52 25.5 +6.3
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,16.0s
CN2 LR LR
comp=E,200nm,16.0s
CN2 LR LR
comp=Z,200nm,18.0s
Y20A **Horse Springs,** 84.67 50 ⇓P P 02 41 56.6 0.0
baz=85
HAWA **Hanford** 84.74 35 *e*P P 02 41 57.6 +1.3
comp=Z,45nm,1.9s
R16A **Teasdale** 84.82 45 ⇓P P 02 41 57.8 +0.5
baz=85
Z21A **St. Cloud Mine** 84.88 51 ⇑P P 02 41 57.8 +0.1
baz=85,SNR=9.8
X20A **Quemado** 84.91 50 ⇓P P 02 41 58.2 +0.3
baz=85
S17A **Black Ridge (B** 84.93 46 ⇑P P 02 41 58.2 +0.5
baz=85
P15A **Leamington** 85.01 44 ⇓P P 02 41 58.2 +0.1
baz=85
DUG **Dugway** 85.01 43 ⇓P P 02 41 58.5 +0.4
baz=85
MFID **Camas Ranch** 85.01 39 *e*P P 02 41 58.4 +0.4
comp=Z,8.0nm,1.1s
MFID **Camas Ranch** 85.01 39 ⇑P P 02 41 57.7 -0.2
baz=85
BMO **Blue Mountains** 85.02 37 *e*P P 02 41 58.0 0.0
comp=Z,44nm,2.3s
W20A **Ramah** 85.20 49 ⇑P P 02 41 59.8 +0.5
baz=85,SNR=13
Y21A **Point of Rocks** 85.23 51 ⇑P P 02 42 00.4 +1.0
baz=85,SNR=10
O15A **The Old Anders** 85.28 43 ⇓P P 02 41 58.8 -0.7
baz=86
T18A **Mexican Hat** 85.29 47 ⇑P P 02 41 59.9 +0.3
baz=86,SNR=9.3
U19A **Dine' College,** 85.31 48 ⇓P P 02 41 59.9 +0.1
baz=86
X21A **Alamocita Cree** 85.37 50 ⇓P P 02 42 00.8 +0.7
baz=86,SNR=8.7
Z22A **Elephant Butte** 85.37 52 ⇑P P 02 42 00.2 +0.1
baz=86
R17A **Hanksville Air** 85.41 46 ⇓P P 02 42 00.1 0.0
baz=86
TMUT **Trail Mountain** 85.55 45 *e*P P 02 42 02.4 +1.4
comp=Z,11nm,0.9s
324A **Moseley Ranch,** 85.58 54 ⇓P P 02 42 01.1 -0.1
baz=86
I12A **Atlanta** 85.64 39 ⇓P P 02 42 01.6 +0.4
baz=86
425A **Indio Mountain** 85.64 55 ⇑P P 02 42 01.2 -0.3
baz=86,SNR=8.0
Y22A **Socorro** 85.70 51 ⇑P P 02 42 02.0 +0.3
baz=86
626A **Big Bend Ranch** 85.72 56 ⇑P P 02 42 01.9 +0.1
baz=86,SNR=8.9
LAZ **Lazbon** 85.81 51 *e*P P 02 42 02.7 +0.5
comp=Z,7.4nm,1.4s
U20A **Newcomb** 85.83 48 ⇑P P 02 42 02.6 +0.3
baz=86
224A **Cornudas Mount** 85.86 53 ⇓P P 02 42 02.2 -0.4
baz=86,SNR=6.8
SRU **San Rafael** 85.90 45 *e*P P 02 42 03.0 +0.4
comp=Z,5.4nm,0.9s
SRU **San Rafael** 85.90 45 ⇓P P 02 42 02.3 -0.3
baz=86
Z23A **Rita Site, Whi** 85.91 52 ⇓P P 02 42 02.5 -0.2
baz=86
HLID **Hailey** 85.93 40 *e*P P 02 42 09.0 +6.3
comp=Z,3.1nm,0.9s
HLID **Hailey** 85.93 40 ⇑P P 02 42 03.1 +0.5
baz=86
325A **Bean Ranch, Si** 85.93 54 ⇑P P 02 42 02.8 -0.2
baz=86,SNR=9.4
R18A **Canyonlands Na** 85.94 46 ⇑P P 02 42 02.5 -0.3
baz=86
M15A **Larsen Ranch,** 85.94 42 ⇓P P 02 42 02.9 +0.2
baz=86
P17A **Butcher Ranch,** 85.95 45 ⇑P P 02 42 03.2 +0.3
baz=86
TXAR **Lajitas Array** 85.97 56 P P 02 42 03.1 0.0
TXAR **Lajitas Array** 85.97 56 P P 02 42 03.1 0.0
comp=Z,2.9nm,1.0s,baz=215,slow=9.5,SNR=16
J13A **Cove Ranch, Pi** 85.98 40 ⇓P P 02 42 02.8 0.0
baz=86
526A **Mary Lane Ranc** 85.99 56 ⇑P P 02 42 02.0 -1.2
baz=86,SNR=7.0
BNM **Barren Site** 86.05 51 *e*P P 02 42 04.0 +0.4
comp=Z,26nm,1.8s
LPM **Los Pinos Moun** 86.13 51 *e*P P 02 42 04.5 +0.7
Q18A **Rafter H Ranch** 86.15 45 ⇑P P 02 42 03.6 -0.1
baz=86
124A **Stringfield Ra** 86.21 53 ⇑P P 02 42 04.1 -0.2
baz=86
627A **Terlingua Ranc** 86.25 56 ⇓P P 02 42 04.1 -0.4
baz=86
MVCO **Mesa Verde** 86.27 48 ⇑P P 02 42 04.6 +0.1
baz=86
L15A **Malad City** 86.28 42 ⇑P P 02 42 04.5 +0.1
baz=86
G12A **Big Creek, Yel** 86.31 38 ⇓P P 02 42 04.3 -0.1
baz=87
426A **McDonald Obser** 86.32 55 ⇑P P 02 42 04.7 -0.2
baz=86,SNR=6.1
J14A **Carey** 86.33 40 ⇓P P 02 42 04.6 0.0
baz=87
O17A **Robinson Place** 86.34 44 ⇑P P 02 42 04.8 0.0
baz=87
P18A **Preston Nutter** 86.36 45 ⇑P P 02 42 04.9 -0.1
baz=87
Y23A **Lovelace Mesa,** 86.36 51 ⇑P P 02 42 04.6 -0.4
baz=87
527A **Woodward Ranch** 86.39 56 ⇓P P 02 42 05.0 -0.2
baz=87
225A **Deer Hill, Car** 86.39 53 ⇓P P 02 42 05.1 -0.1
baz=87
U21A **Nageezi** 86.45 49 ⇓P P 02 42 05.5 0.0
baz=87,SNR=7.0
ANMO **Albuquerque** 86.56 50 *e*P P 02 42 06.0 +0.1
comp=Z,5.5nm,1.0s
Z24A **Sheeppen Canyo** 86.57 52 ⇓P P 02 42 05.7 -0.4
baz=87
H13A **Challis** 86.60 39 ⇓P P 02 42 05.6 -0.2
baz=87
628A **Black Gap, Mar** 86.65 57 ⇑P P 02 42 06.2 -0.2
baz=87
S20A **Disappointment** 86.68 47 ⇓P P 02 42 06.8 +0.2
baz=87
VNA3 **Neumayer Olymp** 86.71 176 *e*P P 02 42 06.4 +0.5
F12A **Elk City** 86.72 38 ⇑P P 02 42 06.5 +0.1
baz=87
125A **Gardner Draw,** 86.78 53 ⇓P P 02 42 07.2 +0.2
baz=87
GDL2 **Guadalupe Moun** 86.78 54 *e*P P 02 42 07.7 +0.7
Y24A **Capitan** 86.81 52 ⇑P P 02 42 06.9 -0.3
baz=87,SNR=12
PLCA **Paso Flores** 86.84 133 P P 02 42 07.1 -0.2
PLCA **Paso Flores** 86.84 133 P P 02 42 07.1 -0.2
comp=Z,4.3nm,1.1s,baz=243,slow=9.0,SNR=3.6
427A **Hayter Ranch,** 86.88 55 ⇓P P 02 42 07.5 0.0
baz=87,SNR=12
W23A **Werner Place,** 86.89 50 ⇑P P 02 42 07.4 -0.2
baz=87
G13A **Cobalt** 86.92 39 ⇑P P 02 42 08.2 +0.8
baz=87
E12A **Beaver Dam Sad** 86.93 37 ⇑P P 02 42 07.5 +0.1
baz=87
S21A **Coal Bank Pass** 86.98 47 ⇓P P 02 42 08.1 0.0
baz=87
Z25A **Roswell** 87.03 52 ⇑P P 02 42 08.0 -0.2
baz=87
528A **Cox Ranch, San** 87.03 56 ⇑P P 02 42 08.1 -0.2
baz=87
VNA2 **Neumayer--Watz** 87.18 176 *e*P P 02 42 08.8 +0.6
P19A **Cripple Cowboy** 87.19 45 ⇑P P 02 42 08.9 -0.1
baz=87
126A **Clayton Basin,** 87.25 53 ⇑P P 02 42 09.1 -0.1
baz=87
TNA **Tin City** 87.28 3 *e*P P 02 42 09.4 +1.0
comp=Z,5.1nm,1.0s
TRF **Throfare Moun** 87.28 11 *e*P P 02 42 07.5 -1.2
comp=Z,15nm,0.7s
Y25A **Mesa, Roswell** 87.35 52 ⇓P P 02 42 08.5 -1.3
baz=88,SNR=8.3
428A **Kincaid Ranch,** 87.37 56 ⇑P P 02 42 09.7 -0.2
baz=88
C11A **Tepee Creek (N** 87.40 36 ⇓P P 02 42 09.5 0.0
baz=88
D12A **Red Ives Fores** 87.42 37 ⇑P P 02 42 10.1 +0.4
baz=88
U23A **El Rito** 87.43 49 ⇑P P 02 42 10.1 -0.1
baz=88
O19A **Miners Draw (B** 87.44 45 ⇓P P 02 42 10.0 -0.1
baz=88
W24A **Lazy 6 Ranch,** 87.45 51 ⇓P P 02 42 10.1 -0.2
baz=88
529A **Stev Forest Ra** 87.45 56 ⇓P P 02 42 09.8 -0.4
baz=88
R21A **Cimarron** 87.50 47 ⇑P P 02 42 10.5 0.0
baz=88
P20A **De Beque** 87.51 46 ⇑P P 02 42 10.3 -0.1
baz=88
Z26A **Caprock** 87.57 53 ⇑P P 02 42 09.9 -0.9
baz=88,SNR=7.8
328A **Wristen Ranch,** 87.57 55 ⇓P P 02 42 10.4 -0.4
baz=88
X25A **Clemmons Ranch** 87.66 51 ⇑P P 02 42 10.8 -0.4
baz=88
S22A **4UR Ranch, Cre** 87.69 48 ⇑P P 02 42 11.4 -0.1
baz=88
C12B **Naegeli Ranch,** 87.74 36 ⇓P P 02 42 11.2 0.0
baz=88
MCK **McKinley** 87.78 12 *e*P P 02 42 10.6 -0.3
comp=Z,159nm,2.6s
429A **Davenport Ranc** 87.93 56 ⇓P P 02 42 11.6 -0.9
baz=88,SNR=7.2
G15A **Dillon** 87.98 39 ⇑P P 02 42 12.3 -0.2
baz=88
K18A **Toltan Ranch,** 88.08 42 ⇑P P 02 42 13.1 -0.1
baz=88
W25A **X Bar L Ranch,** 88.13 51 ⇑P P 02 42 13.4 -0.1
baz=88
530A **J-C Ranch, Com** 88.15 57 ⇑P P 02 42 12.6 -0.9
baz=88
Z27A **Tatum** 88.15 53 ⇓P P 02 42 12.6 -1.0
baz=88
L19A **Farson** 88.23 43 ⇓P P 02 42 13.6 -0.2
baz=88
329A **Wagon Wheel Ra** 88.25 55 ⇓P P 02 42 13.8 -0.2
baz=88
N20A **Spence Gulch,** 88.28 45 ⇑P P 02 42 13.8 -0.4
baz=88
SMCO **Snowmass** 88.30 46 *e*P P 02 42 15.6 +1.1
comp=Z,44nm,2.8s
V25A **Rancho No Teng** 88.31 50 ⇑P P 02 42 14.2 -0.1
baz=88
128A **Castleberry Fa** 88.38 54 ⇓P P 02 42 14.6 -0.1
baz=89
J18A **Kendall Valley** 88.40 42 ⇑P P 02 42 14.4 -0.3
baz=89
DLBC **Dease Lake** 88.42 22 P P 02 42 14.8 +0.7
DLBC **Dease Lake** 88.42 22 P P 02 42 14.8 +0.7
comp=Z,2.7nm,0.9s,baz=175,slow=8.0,SNR=3.1
631A **Perdido Creek** 88.42 58 ⇓P P 02 42 14.1 -0.7
baz=89
Y27A **Causey** 88.45 53 ⇓P P 02 42 14.4 -0.6
baz=89
PDAR **Pinedale Array** 88.46 42 P P 02 42 14.4 -0.6
PDAR **Pinedale Array** 88.46 42 P P 02 42 14.4 -0.6
comp=Z,0.6nm,0.9s,baz=242,slow=3.9,SNR=3.2
B13A **Whitefish** 88.68 36 ⇑P P 02 42 15.1 -0.5
baz=89
U25A **Circle Dot Ran** 88.73 50 ⇑P P 02 42 16.2 -0.2
baz=89
C14A **Swan Lake** 88.73 37 ⇓P P 02 42 15.3 -0.6
baz=89
BOZ **Bozeman (W)** 88.75 39 ⇓P P 02 42 16.1 -0.1
baz=89
531A **Rocksprings** 88.77 57 ⇓P P 02 42 16.0 -0.5
baz=89
MSTX **Muleshoe** 88.78 53 ⇑P P 02 42 16.2 -0.3
baz=89
L20A **Wamsutter** 88.83 43 ⇓P P 02 42 16.5 -0.2
baz=89
V26A **Tequesquite Ra** 88.89 51 ⇓P P 02 42 16.0 -1.0
baz=89
D15A **Lincoln** 89.00 38 ⇓P P 02 42 17.5 +0.2
baz=89
O22A **Kremmling** 89.07 46 ⇓P P 02 42 17.8 -0.2
baz=89
632A **Uvalde** 89.08 58 ⇓P P 02 42 16.8 -1.1
baz=89
ILAR **Eielson Array** 89.11 12 P P 02 42 16.4 -0.8
ILAR **Eielson Array** 89.11 12 P P 02 42 16.4 -0.8
comp=Z,7.6nm,1.3s,baz=222,slow=5.9,SNR=9.3
GYA **Guiyang** 89.13 299 P P 02 42 20.8 +2.5
GYA pP pP 02 42 31.5 -1.4
GYA sP sP 02 42 38.5 +0.1
GYA PP PP 02 45 55.0 +5.7
GYA SKS **SKSac** **02 52 46.3 +1.8**
GYA S **ScS** **02 53 07.5 -1.2**
GYA SS SS 02 59 07.8 +8.9
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=N,520nm,19.7s
GYA LR LR
comp=E,470nm,20.7s
GYA LR LR
comp=Z,490nm,19.4s
U26A **Atchley Ranch,** 89.20 50 ⇓P P 02 42 18.3 -0.2
baz=89
B14A **Marquette Ranc** 89.33 36 ⇑P P 02 42 17.9 -0.9
baz=90
C15A **Salmond Ranch,** 89.37 37 ⇓P P 02 42 18.6 -0.3
baz=90
D16A **Dana Ranch, Ca** 89.55 38 ⇑P P 02 42 19.6 -0.2
baz=90
A14A **Double T Ranch** 89.59 36 ⇑P P 02 42 19.9 -0.1
baz=90
K21A **Alcova** 89.85 43 ⇓P P 02 42 21.3 -0.1
baz=90
C16A **Fuhringer Ranc** 89.86 37 ⇓P P 02 42 20.9 -0.3
baz=90
S26A **Kim** 89.96 49 ⇑P P 02 42 21.9 -0.1
baz=90
A15A **Johnson Ranch,** 89.97 36 ⇓P P 02 42 21.5 -0.2
baz=90
AMTX **Amarillo** 90.00 52 ⇓P P 02 42 21.7 -0.5
baz=90
D17A **Six Diamond Ra** 90.11 38 ⇑P P 02 42 22.1 -0.4
baz=90
DAWY **Dawson** 90.12 15 *e*P P 02 42 22.1 +0.1
B16A **M & M Farms, S** 90.22 37 ⇓P P 02 42 22.7 -0.2
baz=90
E18A **Harlowton** 90.25 39 ⇓P P 02 42 23.0 -0.1
baz=90
EGAK **Eagle** 90.31 14 *e*P P 02 42 27.4 +4.7
comp=Z,9.6nm,1.1s
C17A **Wharram Farm,** 90.33 38 ⇑P P 02 42 23.1 -0.3
baz=91
P25A **Willow Gulch B** 90.36 47 ⇓P P 02 42 24.3 +0.5
baz=91
I21A **Big Trails, Te** 90.41 42 ⇓P P 02 42 23.7 -0.3
baz=91
F19A **Roth Farm, Mol** 90.45 40 ⇓P P 02 42 24.4 +0.4
baz=91
Q26A **Hugo** 90.53 48 ⇑P P 02 42 24.0 -0.7
baz=91
A16A **West Butte Ran** 90.58 36 ⇑P P 02 42 24.4 -0.1
baz=91
J22A **Midwest** 90.73 43 ⇑P P 02 42 24.9 -0.5
baz=91
COLD **Coldfoot** 90.77 10 *e*P P 02 42 25.9 +1.0
comp=Z,4.1nm,0.9s
K23A **Bowen Ranch, D** 90.95 44 ⇑P P 02 42 26.4 -0.1
baz=91
A17A **Triple J Farms** 91.07 37 ⇑P P 02 42 27.0 +0.2
baz=91
D19A **Cripps Ranch,** 91.17 39 ⇓P P 02 42 27.6 +0.3
baz=91
C19A **Slack Wire Ran** 91.36 38 ⇑P P 02 42 28.4 +0.2
baz=92
D20A **Manuel Ranch,** 91.56 39 ⇓P P 02 42 29.3 +0.2
baz=92
HHC **Hu-ho-hao-te** 91.77 314 *e*P P 02 42 35.3 +5.0
HHC pP pP 02 42 46.3 +1.4
HHC sP sP 02 42 51.0 +0.6
HHC PP PP 02 46 20.5 +10
HHC SKS **SKSac** **02 53 04.5 +5.4**
HHC S ScS 02 53 35.8 +5.8
HHC sS sS 02 53 53.0 +0.9
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,120nm,5.9s
HHC LR LR
comp=N,110nm,15.5s
HHC LR LR
comp=E,76nm,14.3s
HHC LR LR
comp=Z,100nm,14.3s
KMI **Kunming** 91.82 296 P P 02 42 33.3 +2.2
KMI pmax pmax
comp=Z,9.0nm,0.8s
A19A **Klindworth Far** 92.16 37 ⇓P P 02 42 31.6 -0.2
baz=92
A20A **Cobblestone Ra** 92.60 38 ⇑P P 02 42 33.9 0.0
baz=93
A21A **Bergtoll Ranch** 93.22 38 ⇑P P 02 42 36.5 -0.3
baz=93
INK **Inuvik** 94.97 15 *e*P P 02 42 43.4 -0.7
comp=Z,2.5nm,0.9s
INK **Inuvik** 94.97 15 P P 02 42 43.2 -1.0
comp=Z,1.9nm,0.8s,baz=198,slow=6.4,SNR=4.8
LZH **Lanzhou** 95.24 307 *e*P P 02 42 50.5 +4.1
LZH pP pP 02 43 01.0 0.0
LZH sP sP 02 43 04.5 -2.0
LZH pmax pmax
comp=Z,20nm,1.0s
YKA **Yellowknife Ar** 96.80 24 P P 02 42 52.2 -0.4
YKA **Yellowknife Ar** 96.80 24 P P 02 42 52.2 -0.4
comp=Z,1.0nm,0.8s,baz=239,slow=4.4,SNR=18
WMQ **Urumqi** 109.38 310 *e*PKP 02 47 53.0

MKAR	**Makanchi Array**	**113.63**	**313**	PKiKP	**PKiKP**	**02 47 59.9**	**-0.6**
MKAR	**Makanchi Array**	**113.63**	**313**	PKiKP	**PKiKP**	**02 47 59.9**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=240,slow=1.5,SNR=6.9						
KSH	**Kashi**	**117.37**	**304**	*e*PKP	**PKPdf**	**02 48 08.8**	**+0.7**
KSH				sPKP		02 48 22.8	
KSH				PP	PP	02 49 28.5	+8.4
KSH				PKS	**PKSdf**	**02 51 43.8**	**-1.0**
KSH				SKS	**SKSdf**	**02 55 15.8**	**-0.4**
KSH				SKKS	**SKKSac**	**02 56 17.0**	**+0.5**
KSH				SS	SS	03 05 39.5	+12
KSH				AMB	AMB		
	comp=Z,90nm,4.4s						
KSH				LR	LR		
	comp=N,65nm,5.3s						
KSH				LR	LR		
	comp=E,94nm,6.1s						
KSH				LR	LR		
	comp=Z,310nm,5.4s						
ARCES	**ARCESS Array B**	**130.55**	**350**	PKP	**PKPdf**	**02 48 32.4**	**+0.1**
ARCES	**ARCESS Array B**	**130.55**	**350**	PKP	**PKPdf**	**02 48 32.4**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=41,slow=3.9,SNR=6.2						
FINES	**FINESS Array B**	**137.59**	**345**	PKP	**PKPdf**	**02 48 45.8**	**+0.2**
FINES	**FINESS Array B**	**137.59**	**345**	PKP	**PKPdf**	**02 48 45.8**	**+0.2**
	comp=Z,3.6nm,1.1s,baz=339,slow=1.9,SNR=3.2						
AKASG	**Malin Array Be**	**145.15**	**332**	PKPbc	**PKPdf**	**02 48 58.5**	**-1.1**
AKASG	**Malin Array Be**	**145.15**	**332**	PKPbc	**PKPdf**	**02 48 58.5**	**-1.1**
	comp=Z,2.0nm,0.5s,baz=42,slow=3.9,SNR=7.7						
KIEV	**Kiev**	**145.16**	**332**	*e*PKPbc	**PKPbc**	**02 48 58.1**	**-1.0**
KWP	**Kalwaria Pacla**	**148.62**	**337**	*e*PKP	**PKPab**	**02 49 10.6**	**-2.1**
KWP	**Kalwaria Pacla**	**148.62**	**337**	*e*PKP	**PKPab**	**02 49 10.6**	**-2.1**
KWP	**Kalwaria Pacla**	**148.62**	**337**	⇑*i*P	**PKPab**	**02 49 10.6**	**-2.1**
BURAR	**Bucovina Array**	**149.21**	**332**	⇑*i*P	**PKPab**	**02 49 12.4**	**-2.9**
BRTR	**Keskin Array B**	**149.27**	**312**	PKPbc	**PKPbc**	**02 49 11.4**	**+0.1**
BRTR	**Keskin Array B**	**149.27**	**312**	PKPbc	**PKPbc**	**02 49 11.4**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=139,slow=3.6,SNR=8.2						
GHRR		**149.32**	**328**	⇑*i*P	**PKPab**	**02 49 14.4**	**-1.3**
KOLS	**Kolonicke sedl**	**149.35**	**336**	*e*PKP	**PKPab**	**02 49 17.1**	**+1.3**
KSP	**Ksiaz**	**149.51**	**345**	*e*PKP	**PKPbc**	**02 49 12.3**	**+1.0**
KSP	**Ksiaz**	**149.51**	**345**	*e*PKP	**PKPbc**	**02 49 12.3**	**+1.0**
CFR	**Carcaliu**	**149.55**	**326**	⇑*i*P	**PKPbc**	**02 49 12.1**	**+0.5**
CLZ	**Clausthal**	**149.63**	**353**	*e*PKPbc	**PKPbc**	**02 49 12.0**	**+0.4**
CRVS	**Cervenica-Dubn**	**149.68**	**337**	*e*PKP	**PKPbc**	**02 49 13.2**	**+1.4**
CLL	**Collm**	**149.76**	**349**	*e*PKPbc	**PKPbc**	**02 49 11.9**	**+0.1**
CLL	**Collm**	**149.76**	**349**	*i* PKPbc	**PKPbc**	**02 49 12.0**	**+0.1**
	comp=Z,9.0nm,0.9s						
CLL				*i* PKPab	**PKPab**	**02 49 16.9**	**-0.4**
UPC	**Upice**	**149.89**	**345**	⇑*e*PKP	**PKPbc**	**02 49 11.8**	**-0.5**
UPC				*e*PKPAB	**PKPab**	**02 49 12.9**	**+1.3**
BMR	**Baia Mare**	**149.90**	**334**	⇑*i*P	**PKPbc**	**02 49 19.0**	**+1.0**
TRPA	**Tarpa**	**149.91**	**335**	⇑*i*P	**PKPbc**	**02 49 13.8**	**+1.4**
OKC	**Ostrava-Krasne**	**149.94**	**342**	⇑*e*PKP	**PKPbc**	**02 49 12.9**	**+0.5**
DPC	**Dobruska-Polom**	**149.96**	**345**	⇑*e*PKP	**PKPbc**	**02 49 13.3**	**+0.8**
DPC				*e*PKPAB	**PKPab**	**02 49 18.9**	**+0.7**
BRG	**Berggiesshubel**	**150.00**	**348**	*e*PKP	**PKPbc**	**02 49 13.1**	**+0.6**
	comp=Z,7.8nm,1.1s						
BRG				*e*		02 49 18.8	
	comp=Z,11nm,1.2s						
BRG	**Berggiesshubel**	**150.00**	**348**	*e*PKPbc	**PKPbc**	**02 49 12.7**	**+0.2**
FBE	**Freiberg**	**150.06**	**348**	*e*PKPbc	**PKPbc**	**02 49 13.6**	**+0.9**
MORC	**Moravsky Berou**	**150.16**	**343**	*e*PKPbc	**PKPbc**	**02 49 13.3**	**+0.2**
MORC	**Moravsky Berou**	**150.16**	**343**	⇓*i*P	PKPab	02 49 24.4	+5.3
DOPR	**Dopca**	**150.36**	**329**	⇑*i*P	**PKPab**	**02 49 20.4**	**+0.4**
MLR	**Muntele Rosu**	**150.44**	**328**	⇓*i*P	**PKPab**	**02 49 14.8**	**+0.7**
MOX	**Moxa**	**150.63**	**350**	*e*PKPbc	**PKPbc**	**02 49 14.3**	**+0.3**
WERD	**Werda**	**150.71**	**349**	*e*PKPbc	**PKPbc**	**02 49 14.7**	**+0.4**
PRU	**Pruhonice**	**150.71**	**346**	⇑*e*PKP	**PKPbc**	**02 49 14.4**	**+0.2**
TANN	**Tannenbergstha**	**150.71**	**349**	*e*PKPbc	**PKPbc**	**02 49 14.6**	**+0.3**
GUNZ	**Gunzen**	**150.78**	**349**	*e*PKPbc	**PKPbc**	**02 49 14.9**	**+0.4**
WERN	**Wernitzgruen**	**150.85**	**349**	*e*PKPbc	**PKPbc**	**02 49 15.1**	**+0.5**
NKC	**Novy Kostel**	**150.89**	**349**	*e*PKPAB	**PKPab**	**02 49 20.3**	**-1.7**
ROHR	**Rohrbach**	**150.91**	**349**	*e*PKPbc	**PKPbc**	**02 49 15.3**	**+0.5**
VOIR		**150.91**	**329**	⇑*i*P	**PKPbc**	**02 49 14.9**	**-0.1**
VYHS	**Vyhne**	**150.92**	**340**	*e*PKP	**PKPbc**	**02 49 15.0**	**+0.2**
DRGR		**150.92**	**333**	⇓*i*P	**PKPbc**	**02 49 15.9**	**+0.9**
GRF	**Grafenberg Arr**	**151.62**	**350**	*e*PKPbc	**PKPbc**	**02 49 16.3**	**-0.1**
KHC	**Kasperske Hory**	**151.73**	**347**	*e*PKPbc	**PKPbc**	**02 49 16.9**	**+0.1**
KHC	**Kasperske Hory**	**151.73**	**347**	⇑*e*PKP	**PKPbc**	**02 49 16.8**	**+0.1**
KHC				*ex*	x	02 49 22.1	
GERES	**GERESS Array B**	**151.97**	**347**	PKP	**PKPdf**	**02 49 09.8**	**-0.9**
GERES				PKPbc	**PKiKP**	**02 49 17.7**	**0.0**
GERES	**GERESS Array B**	**151.97**	**347**	PKP	**PKPdf**	**02 49 09.8**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=4.3,slow=3.9,SNR=3.2						
GERES				PKPbc	**PKiKP**	**02 49 17.7**	**0.0**
	comp=Z,1.3nm,0.8s,baz=300,slow=2.6,SNR=7.6						
GZR	**Gura Zlata**	**152.00**	**332**	⇓*i*P	**PKPbc**	**02 49 17.8**	**+0.3**
CSNA	**Conrad Observa**	**152.31**	**343**	⇑*i*PKPbc	**PKPbc**	**02 49 16.7**	**-1.4**
	comp=Z,5.4nm,1.3s						
BZS	**Buzias**	**152.32**	**333**	⇓*i*P	**PKPbc**	**02 49 17.5**	**-0.6**
VTS	**Vitosha**	**153.90**	**327**	⇓*i*P	**PKPbc**	**02 49 22.6**	**+0.7**
ESDC	**Sonseca Array**	**160.83**	**20**	PKPab	**PKPab**	**02 50 05.2**	**+0.3**
ESDC	**Sonseca Array**	**160.83**	**20**	PKPab	**PKPab**	**02 50 05.2**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=332,slow=1.7,SNR=6.0						
DBIC	**Dimbokro**	**162.57**	**148**	PKP	**PKPdf**	**02 49 24.5**	**-0.5**
DBIC	**Dimbokro**	**162.57**	**148**	PKP	**PKPdf**	**02 49 24.5**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=186,slow=3.9,SNR=3.7						

*ISCJB **27** 02:30:18.7±0.4,56°.26N±0°.09×161°.7W±0°.1, h186km±6km, mb3.5/7, Error ellipse: s-maj=17.7km s-min=5.7km az=149.2*

*IDC **27** 02:30:18.2±4.5,56°.34N×161°.85W, h167km±37km, mb3.3/6, mb1 3.7/7, mb1mx3.3/27, mbtmp3.4/7, Error ellipse: s-maj=37.8km s-min=18.1km az=38.0*

*NEIC **27** 02:30:20.3,56°.01N×161°.42W, h197km, MG3.5(AEIC), After AEIC.*

ISC 27 02:30:19.7±0.8, 56°.3N±0°.1×161°.66W±0°.08, h183km±8km, n33, σ1s21/39, mb3.5/7, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVV	**Pavlof Volcano**	**0.90**	**185**	P	**Pn**	**02 30 46.9**	**0.0**
PS4A	**Pavlof South-4**	**0.93**	**187**	P	**Pn**	**02 30 47.1**	**-0.1**
DOL	**Dolgoi Island**	**1.13**	**186**	P	**Pn**	**02 30 48.2**	**-0.5**
DOL				S	**Sn**	**02 31 10.6**	**-0.5**
SDPT	**Sand Point**	**1.14**	**144**	P	**Pn**	**02 30 47.8**	**-0.9**
SDPT				S	**Sn**	**02 31 09.3**	**-1.8**
DTNA	**Dutton South F**	**1.17**	**197**	P	**Pn**	**02 30 49.1**	**0.0**
VNFG	**Veniaminof 2**	**1.18**	**88**	P	**Pn**	**02 30 49.7**	**+0.5**
DT1	**Dutton Round H**	**1.21**	**197**	P	**Pn**	**02 30 49.1**	**-0.3**
DRIA	**Deer Island**	**1.35**	**195**	P	**Pn**	**02 30 49.9**	**-0.7**
DRIA				S	**Sn**	**02 31 13.3**	**-1.0**
VNHG	**Veniaminof 1**	**1.39**	**91**	P	**Pn**	**02 30 51.2**	**+0.2**
VNSG	**Veniaminof 6**	**1.45**	**95**	P	**Pn**	**02 30 51.6**	**+0.2**
VNSG				S	**Sn**	**02 31 15.9**	**-0.1**
FALS	**False Pass**	**1.73**	**216**	P	**Pn**	**02 30 54.0**	**-0.1**
FALS				S	**Sn**	**02 31 19.8**	**-0.9**
AZAC	**Aniakchak**	**2.00**	**70**	P	**Pn**	**02 30 57.5**	**+0.5**
ANNW	**Aniakchak Nort**	**2.03**	**68**	P	**Pn**	**02 30 58.3**	**+1.0**
ANPK	**Aniakchak Peak**	**2.04**	**72**	P	**Pn**	**02 30 57.6**	**+0.2**
WESE	**West Dahl East**	**2.45**	**224**	P	**Pn**	**02 31 01.8**	**-0.3**
ZRO	**Akutan Zero**	**3.30**	**230**	P	**Pn**	**02 31 12.2**	**+0.1**
UNV	**Unalaska Valle**	**3.69**	**231**	P	**Pn**	**02 31 16.4**	**-0.5**
UNV				S	**Sn**	**02 31 59.6**	**-2.0**
MREP	**Makushin Rep't**	**3.82**	**232**	P	Pn	02 31 19.2	+0.5
MSOM	**Makushin Julie**	**3.91**	**233**	P	**Pn**	**02 31 19.9**	**+0.2**
KDAK	**Kodiak Island**	**5.19**	**69**	P	**Pn**	**02 31 34.9**	**-1.1**
KDAK	**Kodiak Island**	**5.19**	**69**	P	**Pn**	**02 31 34.9**	**-1.1**
	20nm,0.3s,baz=250,slow=6.6,SNR=217						
KDAK				S	**Sn**	**02 32 31.2**	**-4.7**
	6.3nm,0.3s,baz=191,slow=23,SNR=7.1						
RSO	**Redoubt South**	**6.29**	**44**	P	**Pn**	**02 31 51.6**	**+0.9**
SEW	**Seward**	**7.51**	**54**	*e*Pn	**Pn**	**02 32 05.4**	**-1.0**
	51nm,0.4s						
BMRM	**Bremner River**	**10.05**	**55**	*e*Pn	**Pn**	**02 32 38.2**	**-1.5**
	19nm,0.8s						
BMRM				*e*Sn	Sn	02 34 21.7	-10
DLBC	**Dease Lake**	**17.12**	**70**	P	Pn	02 34 18.5	+10
	0.4nm,0.3s,baz=253,slow=8.6,SNR=6.6						
YKA	**Yellowknife Ar**	**24.29**	**56**	P	**P**	**02 35 19.8**	**+0.1**
	0.8nm,0.6s,baz=276,slow=9.4,SNR=10						
YKA				pP	**pP**	**02 35 57.5**	**+2.2**
	0.3nm,0.7s,baz=274,slow=9.7,SNR=4.3						
NVAR	**Mina Array Bea**	**33.66**	**103**	P	**P**	**02 36 44.5**	**+1.3**
	0.5nm,0.6s,baz=297,slow=8.0,SNR=3.6						
PDAR	**Pinedale Array**	**35.53**	**90**	P	**P**	**02 37 00.2**	**+1.0**
	0.9nm,0.6s,baz=315,slow=4.0,SNR=9.9						
TXAR	**Lajitas Array**	**48.49**	**99**	P	**P**	**02 38 44.8**	**+0.8**
	0.8nm,0.7s,baz=296,slow=5.8,SNR=9.5						
FINES	**FINESS Array B**	**62.47**	**356**	P	**P**	**02 40 22.5**	**-0.4**
	1.6nm,0.9s,baz=0.5,slow=6.7,SNR=7.1						
MKAR	**Makanchi Array**	**64.24**	**317**	P	**P**	**02 40 34.6**	**-0.2**
	0.1nm,0.5s,baz=31,slow=8.6,SNR=2.7						
AKASG	**Malin Array Be**	**73.02**	**353**	P	**P**	**02 41 28.4**	**-0.5**
	0.5nm,0.3s,baz=7.1,slow=5.6,SNR=3.2						
QSPA	**South Pole Qui**	**146.04**	**180**	PKPbc	**PKPdf**	**02 49 35.8**	**+0.5**
	1.3nm,0.4s,baz=41,slow=0.8,SNR=14						

*JMA **27** 02:46:23.4±0.2, 33°.38N×138°.20E, h351km, M3.4*

*ISCJB **27** 02:46:26.0±0.5, 33°.39N±0°.06×138°.08E±0°.09, h328km±4km, mb3.2/8, Error ellipse: s-maj=11.8km s-min=9.4km az=165.0*

*IDC **27** 02:46:26.7±0.7, 33°.36N×138°.20E, h324km±9km, mb3.0/8, mb1 3.2/10, mb1mx3.0/27, mbtmp3.0/10, Error ellipse: s-maj=32.2km s-min=11.0km az=67.0*

ISC 27 02:46:26.8±0.8, 33°.44N±0°.07×138°.17E±0°.08, h326km±7km, n32, σ1s18/40, mb3.2/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.61**	**326**	P	**Pn**	**02 47 08.3**	**-0.1**
TTO4	**TONANKAI O.B.S**	**0.77**	**317**	P	**Pn**	**02 47 08.5**	**-0.3**
TTO5	**TONANKAI O.B.S**	**0.89**	**335**	P	**Pn**	**02 47 09.4**	**0.0**
TTO5				X		02 47 10.8	
TK04	**Tokai 4**	**0.97**	**346**	P	**Pn**	**02 47 10.0**	**+0.3**
TK04				X		02 47 11.0	
TTO2	**TONANKAI O.B.S**	**0.99**	**287**	P	**Pn**	**02 47 09.4**	**-0.2**
TTO2				X		02 47 11.0	
JHJ	**Hachijo jima 2**	**1.39**	**103**	P	**Pn**	**02 47 13.1**	**+1.1**
	2.4nm,0.3s,baz=16,slow=19,SNR=2.5						
JHJ				S	**S**	**02 47 48.0**	**-0.1**
	12nm,0.3s,baz=260,slow=12,SNR=3.8						
JHJ2	**Mitsune**	**1.42**	**103**	P	**Pn**	**02 47 12.8**	**+0.6**
JHJ2				*e*S	**S**	**02 47 49.9**	**+1.5**
JIE	**Ise**	**1.54**	**308**	P	**Pn**	**02 47 12.1**	**-0.7**
JOD2	**Odawara 2**	**1.97**	**23**	P	**Pn**	**02 47 14.7**	**-1.0**
JOD2				*e*S	**S**	**02 47 56.6**	**+1.8**
JWZ	**Kozaga**	**2.05**	**273**	P	**Pn**	**02 47 14.7**	**-1.6**
JYN	**Shimob**	**2.08**	**9**	P	**Pn**	**02 47 17.0**	**+0.5**
JWY	**Kouya**	**2.28**	**291**	P	**Pn**	**02 47 17.5**	**-0.7**
JGM	**Miyama**	**2.55**	**332**	P	**Pn**	**02 47 20.4**	**0.0**
BSO1	**Boso 1**	**2.63**	**62**	P	**Pn**	**02 47 18.7**	**-1.7**
BSO1				*e*S	**S**	**02 48 00.5**	**-2.9**
JRY	**Ryogami san**	**2.64**	**13**	P	**Pn**	**02 47 21.4**	**+0.3**
JRY				*e*S	**S**	**02 48 04.4**	**-0.3**
JWT	**Wachi**	**2.93**	**310**	P	**Pn**	**02 47 23.1**	**-0.7**
MJAR	**Matsushiro Arr**	**3.09**	**1**	P	**Pn**	**02 47 25.2**	**-0.1**
	1.9nm,0.3s,baz=186,slow=11,SNR=16						
MJAR				S	**S**	**02 48 12.1**	**-0.1**
	0.5nm,0.3s,baz=150,slow=25,SNR=3.3						
MAT	**Matsushiro**	**3.10**	**1**	P	**Pn**	**02 47 25.0**	**-0.2**
MAT				S	**S**	**02 48 12.6**	**+0.4**
MAT	**Matsushiro**	**3.10**	**1**	P	**Pn**	**02 47 25.1**	**-0.2**
JAI	**Aioi**	**3.12**	**277**	P	**Pn**	**02 47 24.2**	**-1.3**
JAG	**Ashikaga**	**3.16**	**19**	P	**Pn**	**02 47 24.6**	**-1.3**
JAG				*e*S	**S**	**02 48 10.4**	**-2.9**
JKG	**Kaga**	**3.21**	**332**	P	**Pn**	**02 47 26.4**	**+0.1**
KSRS	**Korea Array**	**9.27**	**298**	P	**Pn**	**02 48 35.6**	**-0.2**
	0.3nm,0.3s,baz=105,slow=12,SNR=3.2						
SONM	**Songino Array**	**27.84**	**311**	P	**P**	**02 51 48.4**	**+1.2**
	0.1nm,0.5s,baz=110,slow=8.1,SNR=5.3						
ZALV	**Zalesovo Beam**	**42.48**	**315**	P	**P**	**02 53 50.8**	**+0.2**
	0.3nm,0.4s,baz=104,slow=6.1,SNR=3.1						
MKAR	**Makanchi Array**	**43.88**	**305**	P	**P**	**02 54 02.4**	**+0.5**
	0.3nm,0.6s,baz=88,slow=9.1,SNR=4.2						
WRA	**Warramunga Arr**	**53.21**	**184**	P	**P**	**02 55 11.4**	**-1.1**
	1.3nm,0.4s,baz=0.2,slow=7.6,SNR=23						
ASAR	**Alice Springs**	**56.93**	**185**	P	**P**	**02 55 38.6**	**-0.3**
	0.3nm,0.4s,baz=11,slow=10,SNR=5.4						
ARCES	**ARCESS Array B**	**66.41**	**339**	P	**P**	**02 56 42.4**	**+1.3**
	2.3nm,0.8s,baz=70,slow=7.8,SNR=2.9						
FINES	**FINESS Array B**	**70.73**	**332**	P	**P**	**02 57 08.7**	**+1.0**
	0.8nm,0.4s,baz=53,slow=7.1,SNR=8.6						
NOA	**NORSAR Array B**	**76.44**	**336**	P	**P**	**02 57 42.2**	**+1.5**
	0.6nm,0.9s,baz=51,slow=6.4,SNR=2.4						
PLCA	**Paso Flores**	**156.03**	**116**	PKPab	**PKPab**	**03 06 09.2**	**-2.4**
	1.3nm,0.9s,baz=223,slow=4.4,SNR=3.1						

*MOS **27** 02:57:36.3±1.1, 11°.86S×166°.37E, h33km, mb4.9/11, Error ellipse: s-maj=11.7km s-min=9.6km az=173.1*

*ISCJB **27** 02:57:37.5±1.8, 11°.84S±0°.05×166°.35E±0°.05, h42km±15km, mb4.9/72, MS4.1/29, Error ellipse: s-maj=9.2km s-min=7.5km az=154.4*

*IDC **27** 02:57:38.1±0.5, 11°.88S×166°.45E, h36km±3km, mb4.4/22, mb1 4.5/23, mb1mx4.5/24, mbtmp4.4/23, ML3.1/1, MS4.0/21, Ms1 4.0/21, ms1mx3.9/31, Error ellipse: s-maj=15.6km s-min=11.0km az=127.0*

*BJI **27** 02:57:42.0, 11°.33S×166°.51E, h70km, mB5.1/29, mb4.8/39, Ms5.1/15, Ms7 4.5/18*

*NEIC **27** 02:57:42.8±1.0, 11°.88S×166°.31E, h76km±9km, mb5.1/31, Error ellipse: s-maj=7.5km s-min=6.6km az=178.0*

*DJA **27** 02:57:59.0±6.8, 12°.S±14°×16°.6E±3°.4, h175km±52km, M4.9/13, mb4.9/13*

ISC 27 02:57:38.6±0.4, 11°.80S±0°.05×166°.43E±0°.06, h43km±2km, h42km:pP-P, n189, σ1s49/234, mb4.9/73, MS4.0/29, 11C-2D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.79**	**290**	*e*Pn	**Pn**	**02 59 17.0**	**+1.3**
HNR				*e*Sn	**Sn**	**03 00 31.7**	**-0.1**
DZM	**Mont Dzumac**	**10.22**	**180**	*e*Pn	**Pn**	**03 00 03.8**	**+0.9**
	25nm,0.3s						
DZM				*e*LR	LR	03 02 21.8	
	2μm,25.0s						
DZM	**Mont Dzumac**	**10.22**	**180**	*e*P	**Pn**	**03 00 04.0**	**+1.1**
DZM	**Mont Dzumac**	**10.22**	**180**	Pn	**Pn**	**03 00 03.7**	**+0.9**
DZM				Sn	**Sn**	**03 01 54.3**	**-1.9**
DZM	**Mont Dzumac**	**10.22**	**180**	Pn	**Pn**	**03 00 03.7**	**+0.9**
	3.7nm,0.3s,baz=36,slow=17,SNR=24						
DZM				Sn	**Sn**	**03 01 54.3**	**-1.9**
	1.6nm,0.3s,baz=0.0,slow=20,SNR=2.8						
MSVF	**Nonsavu**	**12.69**	**119**	*e*P	P	03 00 43.4	-3.7
MSVF	**Nonsavu**	**12.69**	**119**	*e*Pn	P	03 00 43.4	-3.7
PMG	**Port Moresby**	**19.09**	**275**	*e*P	**Pn**	**03 01 59.7**	**+0.7**
	38nm,1.0s						
PMG	**Port Moresby**	**19.09**	**275**	P	**Pn**	**03 01 60.0**	**+1.0**
	0.2nm,0.3s,baz=68,slow=7.1,SNR=6.2						
EIDS	**Eidsvold**	**19.82**	**225**	*e*P	**Pn**	**03 02 07.3**	**-0.2**
	30nm,1.0s						
CTA	**Charters Tower**	**21.06**	**244**	P	**P**	**03 02 19.7**	**+0.4**
CTA				S	**S**	**03 06 13.4**	**+1.9**
CTA	**Charters Tower**	**21.06**	**244**	*e*P	**P**	**03 02 23.3**	**+4.0**
CTA	**Charters Tower**	**21.06**	**244**	P	**P**	**03 02 19.7**	**+0.4**
	27nm,0.9s,baz=82,slow=12,SNR=16						
CTA				S	**S**	**03 06 13.4**	**+1.9**
	2.6nm,0.2s,baz=61,slow=19,SNR=2.3						
CTA				LR	LR	03 09 18.4	
	comp=Z,583nm,20.7s,baz=56,slow=33						
CTAO	**Charters Tower**	**21.06**	**244**	*e*P	**P**	**03 02 19.4**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,33nm,1.0s						
CTAO	**Charters Tower**	**21.06**	**244**	*e*P	**P**	**03 02 19.4**	**+0.1**
	comp=Z,33nm,1.0s						
AFI	**Afiamalu**	**21.35**	**98**	LR	LR	03 09 15.7	
	comp=Z,237nm,18.8s,baz=167,slow=33						
COEN	**Coen**	**22.77**	**262**	*e*P	**P**	**03 02 39.1**	**+1.5**
	comp=Z,245nm,1.1s						
ARMA	**Armidale**	**23.06**	**214**	*e*P	**P**	**03 02 41.5**	**+0.9**
	comp=Z,69nm,0.9s						
ARMA	**Armidale**	**23.06**	**214**	*e*P	**P**	**03 02 41.0**	**+0.4**
RIV	**Riverview**	**25.99**	**210**	*e*P	**P**	**03 03 08.8**	**+1.3**
URZ	**Urewera**	**28.03**	**162**	*e*P	**P**	**03 03 26.6**	**+0.9**
CNB	**Canberra Magne**	**28.07**	**211**	*e*P	**P**	**03 03 27.0**	**+0.8**
CAN	**Canberra**	**28.25**	**211**	*e*P	**P**	**03 03 28.3**	**+0.4**
CAN				pmax	pmax		
	comp=Z,23nm,1.0s						
CAN	**Canberra**	**28.25**	**211**	*e*P	**P**	**03 03 28.3**	**+0.4**
	comp=Z,23nm,1.0s						
STKA	**Stephens Creek**	**30.37**	**225**	P	**P**	**03 03 47.3**	**+0.7**
STKA	**Stephens Creek**	**30.37**	**225**	*e*P	**P**	**03 03 47.2**	**+0.5**
STKA	**Stephens Creek**	**30.37**	**225**	P	**P**	**03 03 47.3**	**+0.7**
	comp=Z,11nm,0.6s,baz=40,slow=8.7,SNR=34						
STKA				LR	LR	03 15 24.9	
	comp=Z,498nm,19.4s,baz=36,slow=35						
TOO	**Toolangi**	**31.79**	**213**	*e*P	**P**	**03 04 00.0**	**+0.8**
WRAB	**Tennant Creek**	**31.85**	**251**	*e*P	**P**	**03 03 58.9**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.6s						
WRAB	**Tennant Creek**	**31.85**	**251**	*e*P	**P**	**03 03 58.9**	**-1.0**
	comp=Z,6.4nm,0.6s						
WRA	**Warramunga Arr**	**31.86**	**251**	P	**P**	**03 03 59.3**	**-0.7**
WRA				PcP	**PcP**	**03 06 50.1**	**0.0**
WRA				ScP	**ScP**	**03 10 31.1**	**+0.8**
WRA	**Warramunga Arr**	**31.86**	**251**	P	**P**	**03 03 59.3**	**-0.7**
	comp=Z,14nm,0.6s,baz=84,slow=9.1,SNR=105						
WRA				PcP	**PcP**	**03 06 50.1**	**0.0**
	comp=Z,4.2nm,0.9s,baz=79,slow=3.2,SNR=8.7						
WRA				ScP	**ScP**	**03 10 31.1**	**+0.8**
	comp=Z,2.9nm,1.3s,baz=72,slow=3.8,SNR=4.6						
WRA				LR	LR	03 15 40.0	
	comp=Z,227nm,18.5s,baz=70,slow=34						
RPZ	**Rata Peaks**	**32.06**	**174**	*e*P	**P**	**03 04 01.7**	**+0.4**
	comp=Z,22nm,0.8s						
ASAR	**Alice Springs**	**33.06**	**245**	P	**P**	**03 04 09.4**	**-1.1**
ASAR				PcP	**PcP**	**03 06 53.2**	**-0.2**
ASAR				ScP	**ScP**	**03 10 32.5**	**-2.0**
ASAR	**Alice Springs**	**33.06**	**245**	P	**P**	**03 04 09.4**	**-1.1**
	comp=Z,23nm,0.7s,baz=72,slow=9.5,SNR=223						
ASAR				PcP	**PcP**	**03 06 53.2**	**-0.2**
	comp=Z,5.2nm,0.9s,baz=74,slow=2.7,SNR=10						
ASAR				ScP	**ScP**	**03 10 32.5**	**-2.0**
	comp=Z,0.7nm,0.8s,baz=73,slow=3.1,SNR=5.3						
ASAR				LR	LR	03 16 13.2	
	comp=Z,344nm,20.8s,baz=89,slow=34						
SWI	**Sorong**	**36.54**	**285**	P	**P**	**03 04 40.5**	**-0.1**
	comp=Z,46nm,1.2s						
BNDI	**Bandanaira**	**36.83**	**278**	P	**P**	**03 04 43.5**	**+0.5**
	comp=Z,220nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.84**	**256**	*e*P	**P**	**03 05 07.6**	**-0.7**
	comp=Z,20nm,0.9s						
FITZ	**Fitzroy Crossi**	**39.84**	**256**	*e*P	**P**	**03 05 07.7**	**-0.6**
NLAI	**Namlea**	**39.86**	**279**	P	**P**	**03 05 09.9**	**+1.4**
	comp=Z,88nm,0.9s						
FORT	**Forrest**	**40.17**	**236**	*e*P	**P**	**03 05 10.6**	**-0.3**
	comp=Z,36nm,0.8s						
FORT	**Forrest**	**40.17**	**236**	*e*P	**P**	**03 05 11.0**	**+0.1**
PPT2	**Papeete2**	**42.87**	**103**	*e*LR	LR	03 17 58.7	
	comp=Z,509nm,26.8s						
TBI	**Tubuai**	**43.44**	**111**	*e*LR	LR	03 18 15.5	
	comp=Z,504nm,28.8s						
CBIJ	**Chichi jima**	**45.26**	**329**	LR	LR	03 22 00.2	
	comp=Z,127nm,18.1s,baz=113,slow=32						
MBWA	**Marble Bar**	**45.59**	**252**	*e*P	**P**	**03 05 54.4**	**-0.5**
	comp=Z,38nm,1.1s						
KAPI	**Kappang**	**46.61**	**274**	*e*P	**P**	**03 06 02.9**	**-0.2**
	comp=Z,22nm,1.1s						
KLBR	**Kellerberrin**	**48.88**	**238**	*e*P	**P**	**03 06 19.8**	**-0.6**
NWAO	**Narrogin (SRO)**	**49.60**	**237**	P	**P**	**03 06 26.1**	**+0.2**
NWAO	**Narrogin (SRO)**	**49.60**	**237**	P	**P**	**03 06 26.1**	**+0.2**
	comp=Z,34nm,0.8s,baz=78,slow=7.4,SNR=19						
NWAO				LR	LR	03 27 32.1	
	comp=Z,456nm,18.0s,baz=156,slow=36						
JHJ	**Hachijo jima 2**	**51.39**	**331**	LR	LR	03 26 48.4	
	comp=Z,47nm,20.9s,baz=74,slow=34						
KKM	**Kota Kinabalu**	**52.99**	**287**	*e*P	**P**	**03 06

	comp=Z,96nm,15.5s							
CMAR	**Chiang Mai Arr**	**73.02**	**294**	P	**P**	**03 09 06.5**	**+1.8**
CMAR				pP	**pP**	**03 09 16.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**73.02**	**294**	P	**P**	**03 09 06.5**	**+1.8**
	comp=Z,12nm,1.0s,baz=114,slow=4.1,SNR=38							
CMAR				pP	**pP**	**03 09 16.4**	**-0.9**
	comp=Z,8.3nm,0.9s,baz=120,slow=4.1,SNR=5.3							
CMAR				LR	LR	03 38 59.0		
	comp=Z,49nm,20.5s,baz=331,slow=34							
CHTO	**Chiang Mai**	**73.14**	**294**	*e*P	**P**	**03 09 06.3**	**+1.0**
CHTO				pmax	pmax			
	comp=Z,17nm,1.0s							
CHTO	**Chiang Mai**	**73.14**	**294**	*e*P	**P**	**03 09 06.3**	**+1.0**
	comp=Z,17nm,1.0s							
CHTO	**Chiang Mai**	**73.14**	**294**	P	**P**	**03 09 06.6**	**+1.3**
LZH	**Lanzhou**	**75.75**	**312**	*e*P	**P**	**03 09 22.5**	**+2.1**
LZH				pP	pP	03 09 43.0	+10
LZH				sP	sP	03 09 50.3	+12
LZH				SS	**SS**	**03 23 47.3**	**-4.9**
LZH				pmax	pmax			
	comp=Z,39nm,1.1s							
LZH				pmax	pmax			
	comp=Z,95nm,4.0s							
LZH				LR	LR			
	comp=N,200nm,16.2s							
LZH				LR	LR			
	comp=E,170nm,14.9s							
LZH				LR	LR			
	comp=Z,330nm,17.0s							
QSPA	**South Pole Qui**	**78.21**	**180**	P	**P**	**03 09 33.1**	**-0.5**
QSPA				pP	**pP**	**03 09 45.3**	**-1.1**
QSPA	**South Pole Qui**	**78.21**	**180**	P	**P**	**03 09 33.1**	**-0.5**
	comp=Z,6.1nm,0.7s,baz=21,slow=1.5,SNR=19							
QSPA				pP	**pP**	**03 09 45.3**	**-1.1**
	comp=Z,18nm,0.9s,baz=351,slow=2.6,SNR=14							
ULN	**Ulaanbaatar**	**79.30**	**324**	*e*P	**P**	**03 09 40.5**	**+0.6**
	comp=Z,4.3nm,0.6s							
BILL	**Bilibino**	**79.62**	**360**	*e*P	**P**	**03 09 41.1**	**+0.1**
BILL				pmax	pmax			
	comp=Z,3.0nm,0.9s							
SONM	**Songino Array**	**79.66**	**324**	P	**P**	**03 09 42.6**	**+0.7**
SONM	**Songino Array**	**79.66**	**324**	P	**P**	**03 09 42.6**	**+0.7**
	comp=Z,3.4nm,1.0s,baz=130,slow=4.4,SNR=14							
SONM				LR	LR	03 44 10.6		
	comp=Z,54nm,18.1s,baz=109,slow=35							
GTA	**Gaotai**	**80.06**	**314**	P	**P**	**03 09 45.5**	**+1.3**
GTA				pP	pP	03 10 05.5	+8.5
GTA				sP	sP	03 10 14.5	+13
GTA				S	**S**	**03 19 42.0**	**-3.6**
GTA				sS	sS	03 20 17.3	+10
GTA				SS	**SS**	**03 24 55.5**	**-1.3**
GTA				pmax	pmax			
	comp=Z,17nm,1.2s							
GTA				pmax	pmax			
	comp=Z,73nm,5.5s							
GTA				LR	LR			
	comp=N,99nm,13.8s							
GTA				LR	LR			
	comp=E,100nm,16.9s							
GTA				LR	LR			
	comp=Z,140nm,13.5s							
BOD	**Bodaibo**	**81.49**	**335**	*e*P	**P**	**03 09 50.1**	**-1.1**
BOD				pmax	pmax			
	comp=Z,4.0nm,1.3s							
ZAK	**Zakamensk**	**82.69**	**325**	*e*P	**P**	**03 09 56.9**	**-1.0**
ZAK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
TLY	**Talaya**	**83.11**	**326**	*e*P	**P**	**03 09 59.0**	**-0.9**
TLY				pmax	pmax			
	comp=Z,5.0nm,0.8s							
LSA	**Lhasa**	**83.31**	**302**	P	**P**	**03 10 03.3**	**+1.3**
LSA	**Lhasa**	**83.31**	**302**	*e*P	**P**	**03 10 03.4**	**+1.4**
LSA				pmax	pmax			
	comp=Z,17nm,0.9s							
LSA	**Lhasa**	**83.31**	**302**	*e*P	**P**	**03 10 03.4**	**+1.4**
	comp=Z,17nm,0.9s							
COLA	**College**	**83.79**	**18**	*e*P	**P**	**03 10 04.9**	**+1.9**
COLA				pmax	pmax			
	comp=Z,4.0nm,0.6s							
COLA	**College**	**83.79**	**18**	*e*P	**P**	**03 10 04.9**	**+1.9**
	comp=Z,3.7nm,0.6s							
ILAR	**Eielson Array**	**84.01**	**18**	P	**P**	**03 10 06.8**	**+2.6**
ILAR	**Eielson Array**	**84.01**	**18**	P	**P**	**03 10 06.8**	**+2.6**
	comp=Z,2.8nm,0.5s,baz=255,slow=5.0,SNR=41							
ILAR				LR	LR	03 40 04.5		
	comp=Z,99nm,20.4s,baz=251,slow=30							
MAW	**Mawson**	**84.28**	**202**	P	**P**	**03 10 07.2**	**+1.6**
MAW	**Mawson**	**84.28**	**202**	P	**P**	**03 10 07.2**	**+1.6**
	comp=Z,14nm,0.9s,baz=174,slow=9.2,SNR=2.7							
ODAN	**Odare**	**85.69**	**298**	*e*P	**P**	**03 10 14.4**	**+0.6**
	comp=Z,82nm,0.9s							
ODAN	**Odare**	**85.69**	**298**	*e*P	**P**	**03 10 14.4**	**+0.6**
	comp=Z,82nm,0.9s							
EGAK	**Eagle**	**85.85**	**20**	*e*P	**P**	**03 10 16.3**	**+2.9**
	comp=Z,6.0nm,0.5s							
NVAR	**Mina Array Bea**	**86.00**	**50**	P	**P**	**03 10 15.8**	**+0.7**
NVAR				pP	**pP**	**03 10 27.6**	**-0.3**
NVAR	**Mina Array Bea**	**86.00**	**50**	P	**P**	**03 10 15.8**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=229,slow=8.5,SNR=6.1							
NVAR				pP	**pP**	**03 10 27.6**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=231,slow=6.9,SNR=4.4							
NVAR				LR	LR	03 40 38.7		
	comp=Z,206nm,20.3s,baz=149,slow=30							
RAMN	**Ramite**	**86.40**	**298**	*e*P	**P**	**03 10 17.8**	**+0.5**
RAMN	**Ramite**	**86.40**	**298**	*e*P	**P**	**03 10 17.8**	**+0.5**
JIRN	**Jiri**	**86.93**	**299**	*e*P	**P**	**03 10 20.5**	**+0.4**
JIRN	**Jiri**	**86.93**	**299**	*e*P	**P**	**03 10 20.5**	**+0.4**
GUN	**Gumba**	**87.26**	**299**	*e*P	**P**	**03 10 21.9**	**+0.3**
	comp=Z,32nm,0.8s							
GUN	**Gumba**	**87.26**	**299**	*e*P	**P**	**03 10 21.9**	**+0.3**
	comp=Z,32nm,0.8s							
LDFC	**Landfair**	**87.46**	**54**	*e*P	**P**	**03 10 23.2**	**+1.1**
	comp=Z,10.0nm,1.1s							
PKI	**Pulchoki**	**87.58**	**299**	*e*P	**P**	**03 10 23.0**	**-0.1**
	comp=Z,61nm,1.0s							
PKI	**Pulchoki**	**87.58**	**299**	*e*P	**P**	**03 10 23.0**	**-0.1**
PKI				pmax	pmax			
	comp=Z,61nm,1.0s							
PKI	**Pulchoki**	**87.58**	**299**	*e*P	**P**	**03 10 23.0**	**-0.1**
	comp=Z,61nm,1.0s							
KKN	**Kakani**	**87.75**	**299**	*e*P	**P**	**03 10 24.1**	**+0.3**
KKN	**Kakani**	**87.75**	**299**	*e*P	**P**	**03 10 24.1**	**+0.3**
KKN	**Kakani**	**87.75**	**299**	*e*P	**P**	**03 10 24.1**	**+0.3**
DMN	**Daman**	**87.85**	**299**	*e*P	**P**	**03 10 24.9**	**+0.6**
	comp=Z,91nm,0.8s							
DMN	**Daman**	**87.85**	**299**	*e*P	**P**	**03 10 24.9**	**+0.6**
	comp=Z,91nm,0.8s							
GKN	**Gorkha**	**88.35**	**299**	*e*P	**P**	**03 10 26.4**	**-0.2**
	comp=Z,66nm,0.8s							
GKN	**Gorkha**	**88.35**	**299**	*e*P	**P**	**03 10 26.4**	**-0.2**
	comp=Z,66nm,0.8s							
DANN	**Dangsing**	**89.19**	**299**	*e*P	**P**	**03 10 30.1**	**-0.6**
	comp=Z,47nm,0.7s							
DANN	**Dangsing**	**89.19**	**299**	*e*P	**P**	**03 10 30.1**	**-0.6**
	comp=Z,47nm,0.7s							
KOLN	**Koldanda**	**89.19**	**298**	*e*P	**P**	**03 10 30.2**	**-0.4**
	comp=Z,28nm,0.8s							
KOLN	**Koldanda**	**89.19**	**298**	*e*P	**P**	**03 10 30.2**	**-0.4**
	comp=Z,28nm,0.8s							
R13A	**O'Grain Ranch,**	**89.19**	**51**	⇓P	**P**	**03 10 31.2**	**+0.8**
	baz=89							
PYUN	**Piuthan**	**89.79**	**299**	*e*P	**P**	**03 10 32.8**	**-0.6**
	comp=Z,59nm,1.0s							
PYUN	**Piuthan**	**89.79**	**299**	*e*P	**P**	**03 10 32.8**	**-0.6**
	comp=Z,59nm,1.0s							
I12A	**Atlanta**	**89.89**	**45**	⇑P	**P**	**03 10 33.7**	**+0.2**
	baz=90							
U15A	**North Rim**	**90.02**	**53**	⇑P	**P**	**03 10 35.3**	**+0.9**
	baz=90							
WMQ	**Urumqi**	**90.09**	**315**	*e*P	**P**	**03 10 33.5**	**-0.8**
WMQ				pP	pP	03 10 54.0	+6.7
WMQ				SKS	**SKSac**	**03 20 56.0**	**-6.0**
WMQ				*e*S	**SKKSac**	**03 21 19.0**	**+3.5**
WMQ				pmax	pmax			
	comp=Z,6.0nm,0.9s							
WMQ				pmax	pmax			
	comp=Z,150nm,5.1s							
WMQ				LR	LR			
	comp=N,110nm,25.2s							
WMQ				LR	LR			
	comp=E,98nm,28.4s							
WMQ				LR	LR			
	comp=Z,180nm,25.2s							
G12A	**Big Creek, Yel**	**90.13**	**44**	⇑P	**P**	**03 10 34.8**	**+0.3**
	baz=90							
HLID	**Hailey**	**90.32**	**46**	⇑P	**P**	**03 10 35.5**	**-0.1**
	baz=91							
F12A	**Elk City**	**90.36**	**43**	⇑P	**P**	**03 10 35.6**	**+0.1**
	baz=91							
MSU	**Marysvale**	**90.63**	**51**	*e*P	**P**	**03 10 38.3**	**+1.2**
MSU				pmax	pmax			
	comp=Z,5.0nm,1.1s							
MSU	**Marysvale**	**90.63**	**51**	*e*P	**P**	**03 10 38.3**	**+1.2**
	comp=Z,5.2nm,1.1s							
D12A	**Red Ives Fores**	**90.66**	**42**	⇑P	**P**	**03 10 36.8**	**-0.1**
	baz=91							
G13A	**Cobalt**	**90.86**	**44**	⇑P	**P**	**03 10 38.1**	**+0.2**
	baz=91							
F13A	**Darby**	**90.99**	**43**	⇑P	**P**	**03 10 38.3**	**-0.2**
	baz=91							
BSMT	**Bassoo Peak**	**91.25**	**41**	*e*P	**P**	**03 10 39.4**	**-0.3**
	comp=Z,2.3nm,0.8s							
SYO	**Syowa Base**	**91.26**	**197**	⇓*e*P	P	03 10 30.6	-8.6
HYB	**Hyderabad**	**91.47**	**287**	⇑*i*P	**P**	**03 10 40.0**	**-1.2**
DLMT	**Dillon**	**92.05**	**44**	*e*P	**P**	**03 10 43.5**	**+0.1**
	comp=Z,1.3nm,0.7s							
S18A	**Hurst Farm, BI**	**92.11**	**52**	⇑P	**P**	**03 10 43.9**	**-0.1**
	baz=92							
PDAR	**Pinedale Array**	**93.57**	**47**	P	**P**	**03 10 51.0**	**+0.3**
PDAR				pP	**pP**	**03 11 02.6**	**-1.0**
PDAR	**Pinedale Array**	**93.57**	**47**	P	**P**	**03 10 51.0**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=269,slow=8.1,SNR=2.5							
PDAR				pP	**pP**	**03 11 02.6**	**-1.0**
	comp=Z,1.5nm,1.1s,baz=343,slow=2.6,SNR=3.9							
PDAR				LR	LR	03 44 33.0		
	comp=Z,82nm,20.2s,baz=100,slow=30							
MKAR	**Makanchi Array**	**94.52**	**317**	P	**P**	**03 10 54.9**	**+0.3**
MKAR				*PP	**pP**	**03 11 05.0**	**-2.7**
MKAR	**Makanchi Array**	**94.52**	**317**	P	**P**	**03 10 54.9**	**+0.3**
MKAR				pP	**pP**	**03 11 05.0**	**-2.7**
MKAR	**Makanchi Array**	**94.52**	**317**	P	**P**	**03 10 54.9**	**+0.3**
	comp=Z,5.2nm,0.6s,baz=93,slow=6.4,SNR=73							
MKAR				pP	**pP**	**03 11 05.0**	**-2.7**
	comp=Z,5.1nm,0.7s,baz=91,slow=6.6,SNR=14							
MKAR				LR	LR	03 50 49.2		
	comp=Z,42nm,19.2s,baz=174,slow=34							
ZALV	**Zalesovo Beam**	**94.55**	**324**	P	**P**	**03 10 53.6**	**-0.9**
ZALV	**Zalesovo Beam**	**94.55**	**324**	P	**P**	**03 10 53.6**	**-0.9**
ZALV	**Zalesovo Beam**	**94.55**	**324**	P	**P**	**03 10 53.6**	**-0.9**
	comp=Z,2.8nm,0.9s,baz=107,slow=5.0,SNR=8.4							
ZALV				LR	LR	03 50 29.4		
	comp=Z,64nm,21.6s,baz=74,slow=34							
PMSA	**Palmer Station**	**94.79**	**161**	P	P	03 11 00.5	+5.0
PMSA	**Palmer Station**	**94.79**	**161**	P	P	03 11 00.5	+5.0
	comp=Z,15nm,0.6s,baz=190,slow=11,SNR=5.1							
YKA	**Yellowknife Ar**	**95.33**	**27**	P	**P**	**03 10 56.8**	**-1.1**
YKA	**Yellowknife Ar**	**95.33**	**27**	P	**P**	**03 10 56.8**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=257,slow=4.7,SNR=18							
TXAR	**Lajitas Array**	**95.60**	**61**	P	**P**	**03 11 01.2**	**+1.1**
TXAR				pP	**pP**	**03 11 13.3**	**+0.2**
TXAR	**Lajitas Array**	**95.60**	**61**	P	**P**	**03 11 01.2**	**+1.1**
	comp=Z,0.2nm,0.7s,baz=247,slow=1.9,SNR=2.9							
TXAR				pP	**pP**	**03 11 13.3**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=261,slow=3.4,SNR=2.9							
TXAR				LR	LR	03 44 16.6		
	comp=Z,104nm,21.2s,baz=105,slow=29							
VNA3	**Neumayer Olymp**	**97.11**	**181**	*e*P	**P**	**03 11 05.4**	**-0.6**
VNA2	**Neumayer--Watz**	**97.37**	**182**	*e*P	**P**	**03 11 06.6**	**-0.6**
KURK	**Kurchatov**	**97.64**	**320**	P	**P**	**03 11 08.2**	**-0.5**
KURK	**Kurchatov**	**97.64**	**320**	P	**P**	**03 11 08.2**	**-0.5**
KURBB	**Kurchatov Arra**	**97.68**	**320**	P	**P**	**03 11 08.2**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=103,slow=3.6,SNR=2.9							
KURBB				LR	LR	03 54 10.5		
	comp=Z,45nm,20.2s,baz=255,slow=35							
KSH	**Kashi**	**97.74**	**309**	*e*P	Pdif	03 11 12.8	+3.1
KSH				pP	pP	03 11 33.8	+11
KSH				sP	sP	03 11 42.0	+15
KSH				PP	PP	03 15 14.3	+6.1
KSH				SKS	**SKSac**	**03 21 42.3**	**-1.7**
KSH				S	**S**	**03 22 29.5**	**-2.9**
KSH				sS	sS	03 23 05.8	+12
KSH				SS	**SS**	**03 29 16.8**	**+3.0**
KSH				pmax	pmax			
	comp=Z,59nm,5.5s							
KSH				LR	LR			
	comp=N,97nm,5.8s							
KSH				LR	LR			
	comp=E,80nm,6.3s							
KSH				LR	LR			
	comp=Z,190nm,6.4s							
ARCES	**ARCESS Array B**	**117.22**	**346**	PKP	**PKPdf**	**03 16 17.6**	**-1.2**
ARCES	**ARCESS Array B**	**117.22**	**346**	PKP	**PKPdf**	**03 16 17.6**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=67,slow=2.0,SNR=18							
FINES	**FINESS Array B**	**122.71**	**339**	PKP	**PKPdf**	**03 16 28.7**	**-0.7**
FINES	**FINESS Array B**	**122.71**	**339**	PKP	**PKPdf**	**03 16 28.7**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=70,slow=2.2,SNR=6.0							
BOSA	**Boshof**	**125.02**	**222**	PKP	**PKPdf**	**03 16 33.7**	**-1.4**
BOSA	**Boshof**	**125.02**	**222**	PKP	**PKPdf**	**03 16 33.7**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=311,slow=5.9,SNR=3.9							
NOA	**NORSAR Array B**	**127.59**	**345**	PKP	**PKPdf**	**03 16 39.0**	**+0.1**
NOA	**NORSAR Array B**	**127.59**	**345**	PKP	**PKPdf**	**03 16 39.0**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=48,slow=2.5,SNR=4.1							
AKASG	**Malin Array Be**	**127.85**	**327**	PP	PP	03 18 42.1	+0.3
AKASG	**Malin Array Be**	**127.85**	**327**	PP	PP	03 18 42.1	+0.3
	comp=Z,0.3nm,0.5s,baz=55,slow=7.3,SNR=3.8							
GERES	**GERESS Array B**	**136.67**	**334**	PKP	**PKPdf**	**03 16 57.6**	**+1.2**
GERES	**GERESS Array B**	**136.67**	**334**	PKP	**PKPdf**	**03 16 57.6**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=5.7,slow=3.0,SNR=2.4							
KEST	**Kesra**	**148.41**	**323**	PKPbc	**PKPbc**	**03 17 21.5**	**+0.4**
KEST	**Kesra**	**148.41**	**323**	PKPbc	**PKPbc**	**03 17 21.5**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=315,slow=3.5,SNR=7.4							
ESDC	**Sonseca Array**	**150.96**	**345**	PKPbc	**PKPbc**	**03 17 27.1**	**-0.2**
ESDC				PKPab	**PKPab**	**03 17 35.1**	**+0.5**
ESDC				pPKPbc	**pPKPbc**	**03 17 38.2**	**-2.4**
ESDC	**Sonseca Array**	**150.96**	**345**	PKPbc	**PKPbc**	**03 17 27.1**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=3.3,slow=4.0,SNR=3.9							
ESDC				PKPab	**PKPab**	**03 17 35.1**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=16,slow=4.0,SNR=5.3							
ESDC				pPKPbc	**pPKPbc**	**03 17 38.2**	**-2.4**
	comp=Z,0.8nm,0.6s,baz=9.6,slow=3.9,SNR=3.8							
TORD	**Torodi Ar. Bea**	**165.03**	**277**	PKP	**PKPdf**	**03 17 38.6**	**-0.6**
TORD				pPKP	**pPKPdf**	**03 17 50.8**	**-1.9**
TORD				PKPab	**PKPab**	**03 18 36.3**	**+0.3**
TORD				pPKPab	**pPKPab**	**03 18 47.8**	**-1.3**
TORD				PP	**PP**	**03 22 27.4**	**+4.4**
TORD	**Torodi Ar. Bea**	**165.03**	**277**	PKP	**PKPdf**	**03 17 38.6**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=200,slow=0.4,SNR=6.0							
TORD				pPKP	**pPKPdf**	**03 17 50.8**	**-1.9**
	comp=Z,1.0nm,0.9s,baz=19,slow=1.2,SNR=5.5							
TORD				PKPab	**PKPab**	**03 18 36.3**	**+0.3**
	comp=Z,2.9nm,0.9s,baz=82,slow=5.3,SNR=10							
TORD				pPKPab	**pPKPab**	**03 18 47.8**	**-1.3**
	comp=Z,1.5nm,0.8s,baz=83,slow=4.9,SNR=3.6							
TORD				PP	**PP**	**03 22 27.4**	**+4.4**
	comp=Z,2.2nm,1.1s,baz=134,slow=4.4,SNR=5.6							
DBIC	**Dimbokro**	**170.00**	**240**	PKPab	**PKPab**	**03 18 57.7**	**-0.3**
DBIC				pPKPab	**pPKPab**	**03 19 10.5**	**-0.5**
DBIC	**Dimbokro**	**170.00**	**240**	PKPab	**PKPab**	**03 18 57.7**	**-0.3**
	comp=Z,6.6nm,0.8s,baz=98,slow=5.0,SNR=11							
DBIC				pPKPab	**pPKPab**	**03 19 10.5**	**-0.5**
	comp=Z,3.3nm,0.8s,baz=134,slow=5.9,SNR=3.5							

KRSC 27 02:58:20.4±1.2, 52.86N×159.71E, h53km±33km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.30**	**38**	*i* P	Pn	02 58 29.9	+0.1
SPN				*i* S	Sn	02 58 36.8	+0.2
NLC	**Nalytchevo**	**0.38**	**325**	*i* P	Pn	02 58 30.5	0.0
NLC				*i* S	Sn	02 58 38.0	+0.2
UGLR	**Uglovaya**	**0.64**	**304**	*i* P	Pn	02 58 33.9	+0.2
UGLR				*i* S	Sn	02 58 43.5	+0.2
SDLR	**Sedlovina**	**0.65**	**310**	*i* P	Pn	02 58 33.8	0.0
SDLR				*i* S	Sn	02 58 43.6	0.0
PET	**Petropavlovsk**	**0.66**	**285**	*i* P	Pn	02 58 33.5	-0.2
PET				*i* S	Sn	02 58 43.0	-0.4
SMAR	**Somma**	**0.68**	**307**	*i* P	Pn	02 58 34.2	-0.1
AVH	**Avacha**	**0.71**	**305**	*i* P	Pn	02 58 34.9	+0.3
AVH				*i* S	Sn	02 58 45.7	+0.9
KRER	**Koryakskii**	**0.73**	**308**	*i* P	Pn	02 58 35.1	+0.2
KRER				*i* S	Sn	02 58 45.9	+0.4
KOK	**Koryaka**	**0.78**	**304**	*i* P	Pn	02 58 35.6	+0.2
KOK				*i* S	Sn	02 58 46.9	+0.5
RUS	**Russkaya**	**0.84**	**240**	*i* P	Pn	02 58 35.9	-0.2
RUS				*i* S	Sn	02 58 47.0	-0.6
MTVR	**Mutnovka**	**1.00**	**249**	*i* P	Pn	02 58 38.4	0.0
MTVR				*i* S	Sn	02 58 51.7	0.0
KII	**Karymskiy**	**1.19**	**353**	P	Pn	02 58 40.5	-0.3
KII				*i* S	Sn	02 58 55.1	-0.9
ASAK	**Asacha**	**1.20**	**247**	*i* P	Pn	02 58 41.5	+0.5
ASAK				*i* S	Sn	02 58 56.8	+0.4
APC	**Apacha**	**1.55**	**273**	*e*P	Pn	02 58 46.2	+0.7
APC				*i* S	Sn	02 59 05.0	+0.5
MKZ	**Mys Kozlova**	**2.08**	**34**	P	Pn	02 58 52.0	-0.8
MKZ				*i* S	Sn	02 59 14.9	-2.6
KMNR	**Kamenistaya**	**2.92**	**6**	P	Pn	02 59 06.7	+2.3
KBTR	**Krutoberegovo**	**3.81**	**27**	P	Pn	02 59 18.0	+1.5

*ISCJB **27** 03:13:52.0±0.3, 38.36N±0.03×73.61E±0.07, h107km, mb3.6/10, Error ellipse: s-maj=7.4km s-min=3.7km az=173.4*
*IDC **27** 03:13:54.6±2.7, 38.47N×73.44E, h113km±21km, mb3.4/10, mb1 3.6/16, mb1mx3.4/34, mbtmp3.5/16, MS3.3/1, Ms1 3.3/1, ms1mx2.4/33, Error ellipse: s-maj=25.1km s-min=14.4km az=148.0*
*NNC **27** 03:13:55.4±6.1, 38.88N×73.28E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=61.9km s-min=31.5km az=19.0*
ISC 27 03:13:53.0±0.6, 38.41N±0.06×73.67E±0.07, h107km, n54, σ2s03/55, mb3.7/10, 2C-5D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.11**	**58**	⇓*i*Pg	**Pn**	**03 14 26.3**	**-1.0**
KSH				Sg	**Sn**	**03 14 49.5**	**-4.0**
KSH				smax	smax		
	comp=N,4μm,0.4s						
KSH				smax	smax		
	comp=E,6μm,0.5s						
AML	**Almayashu**	**3.71**	**0**	P	**Pn**	**03 14 50.5**	**+1.7**
	SNR=805						
KZA	**Kyzart**	**3.85**	**18**	P	**Pn**	**03 14 52.9**	**+2.3**
	SNR=103						
UCH	**Uchtor**	**3.86**	**9**	P	**Pn**	**03 14 53.2**	**+2.4**
	SNR=29						
EKS2	**Erkin-Say**	**4.24**	**1**	P	**Pn**	**03 14 57.7**	**+2.1**
	SNR=260						
AAK	**Ala-Archa**	**4.26**	**8**	P	**Pn**	**03 14 58.3**	**+2.4**
	SNR=69						
AAK	**Ala-Archa**	**4.26**	**8**	P	**Pn**	**03 14 58.4**	**+2.5**
	comp=E,19nm,0.3s,baz=164,slow=8.1,SNR=120						
AAK				S	**Sn**	**03 15 46.0**	**+1.3**
	comp=E,6.9nm,0.3s,baz=319,slow=21,SNR=9.2						
ULHL	**Ulahol**	**4.30**	**26**	P	**Pn**	**03 14 59.1**	**+2.6**
	SNR=91						
KBK	**Karagaybulak**	**4.35**	**13**	P	**Pn**	**03 14 59.6**	**+2.6**
	SNR=39						
CHMS	**Chumysh**	**4.65**	**10**	P	**Pn**	**03 15 03.4**	**+2.4**
	SNR=16						
TKM2	**Tokmak 2**	**4.73**	**17**	⇓Pn	**Pn**	**03 15 04.8**	**+2.5**
	comp=E,13nm,0.4s						
TKM2	**Tokmak 2**	**4.73**	**17**	P	**Pn**	**03 15 04.8**	**+2.5**
	SNR=71						
CHCP	**Chirah Chowk**	**4.76**	**184**	P	**Pn**	**03 15 05.5**	**+3.0**
CEP	**Cherat**	**4.80**	**198**	P	**Pn**	**03 15 05.5**	**+2.3**
USP	**Ospenovka**	**4.89**	**7**	P	**Pn**	**03 15 06.9**	**+2.6**
	SNR=26						
KK31	**Karatay Array**	**5.26**	**334**	⇓Pn	**Pn**	**03 15 09.3**	**0.0**
	comp=E,11nm,0.4s,baz=146,slow=13,SNR=220						
KK31				Sn	**Sn**	**03 16 04.1**	**-4.6**
	comp=E,125nm,0.6s,baz=154,slow=23,SNR=36						
THW	**Thamme Wali**	**5.82**	**196**	P	**Pn**	**03 15 18.2**	**+1.2**
THN	**Thein Dam**	**6.20**	**164**	*e*PKP	**Pn**	**03 15 23.8**	**+1.8**
THN				*ex*	x	03 16 28.1	
DHRM	**DHARAMSHALA**	**6.51**	**160**	*e*PKP	**Pn**	**03 15 29.0**	**+2.5**
SARP	**Sargodha**	**6.53**	**187**	P	**Pn**	**03 15 26.9**	**+0.4**
SDNR	**Sundarnagar**	**7.41**	**158**	*e*PKP	**Pn**	**03 15 41.0**	**+2.5**
SMLA	**Simla**	**7.82**	**157**	*i* P	**Pn**	**03 15 45.0**	**+1.0**
SMLA				*i* S	Sn	03 17 04.2	-6.6
DDI	**Dehra Dun**	**8.85**	**155**	*ex*	x	03 17 10.0	
KHET	**Khetri**	**10.47**	**170**	*e*PKP	**Pn**	**03 16 17.3**	**-2.7**
KHET				*e*S	Sn	03 18 02.6	-13
KHET				AML	AML	03 18 12.3	
	comp=N,13nm,0.3s						
KHET				AML	AML	03 18 13.8	
	comp=E,14nm,0.4s						
MK31	**Makanchi Array**	**10.50**	**34**	⇑Pn	**Pn**	**03 16 22.5**	**+2.1**
	comp=E,1.8nm,0.6s,baz=211,slow=12,SNR=35						
MKAR	**Makanchi Array**	**10.50**	**34**	P	**Pn**	**03 16 22.2**	**+1.9**
	comp=E,0.3nm,0.3

ASAR	**Alice Springs**	**28.25**	**166**	P	**P**	**03**	**28**	**18.0 -0.3**
	0.8nm,0.5s,baz=335,slow=6.4,SNR=10							
ASAR				PcP	**PcP**	**03**	**31**	**31.6 +0.6**
	0.2nm,0.3s,baz=36,slow=1.7,SNR=4.1							
CMAR	**Chiang Mai Arr**	**30.74**	**300**	P	**P**	**03**	**28**	**41.4 +1.0**
CMAR	**Chiang Mai Arr**	**30.74**	**300**	P	**P**	**03**	**28**	**41.4 +1.0**
	1.5nm,0.3s,baz=118,slow=9.6,SNR=6.2							
CHTO	**Chiang Mai**	**30.89**	**301**	*e*P	**P**	**03**	**28**	**41.8 +0.1**
	2.3nm,0.6s							
FORT	**Forrest**	**34.46**	**178**	*e*P	**P**	**03**	**29**	**13.0 +0.2**
	37nm,1.1s							
EIDS	**Eidsvold**	**37.50**	**142**	*e*P	**P**	**03**	**29**	**38.2 -0.6**
	18nm,1.3s							
BBOO	**Buckleboo**	**37.54**	**167**	*e*P	**P**	**03**	**29**	**39.1 +0.1**
STKA	**Stephens Creek**	**38.27**	**159**	P	**P**	**03**	**29**	**45.1 -0.1**
STKA	**Stephens Creek**	**38.27**	**159**	P	**P**	**03**	**29**	**45.1 -0.1**
	13nm,0.7s,baz=330,slow=7.6,SNR=35							
ARMA	**Armidale**	**41.61**	**147**	*e*P	**P**	**03**	**30**	**13.6 +0.4**
	8.0nm,0.8s							
LSA	**Lhasa**	**42.30**	**311**	*e*P	**P**	**03**	**30**	**19.9 +0.7**
	3.8nm,0.5s							
CAN	**Canberra**	**44.26**	**154**	*e*P	**P**	**03**	**30**	**34.6 +0.2**
	11nm,1.0s							
ULN	**Ulaanbaatar**	**46.98**	**342**	*e*P	**P**	**03**	**30**	**55.1 -0.8**
	2.7nm,1.0s							
SONM	**Songino Array**	**47.16**	**341**	P	**P**	**03**	**30**	**58.0 +0.7**
SONM				PcP	**PcP**	**03**	**32**	**28.8 +0.5**
SONM	**Songino Array**	**47.16**	**341**	P	**P**	**03**	**30**	**58.0 +0.7**
	0.6nm,0.7s,baz=154,slow=6.7,SNR=5.9							
SONM				PcP	**PcP**	**03**	**32**	**28.8 +0.5**
	0.9nm,0.8s,baz=151,slow=3.6,SNR=5.5							
MKAR	**Makanchi Array**	**57.41**	**325**	P	**P**	**03**	**32**	**13.1 -0.2**
MKAR	**Makanchi Array**	**57.41**	**325**	P	**P**	**03**	**32**	**13.1 -0.2**
	1.0nm,0.6s,baz=121,slow=8.4,SNR=21							
TKM2	**Tokmak 2**	**59.60**	**319**	*e*P	**P**	**03**	**32**	**27.1 -1.8**
	7.2nm,1.3s							
ZALV	**Zalesovo Beam**	**60.45**	**333**	P	**P**	**03**	**32**	**32.9 -1.2**
ZALV	**Zalesovo Beam**	**60.45**	**333**	P	**P**	**03**	**32**	**32.9 -1.2**
	0.5nm,0.5s,baz=120,slow=8.5,SNR=4.1							
EKS2	**Erkin-Say**	**60.71**	**318**	*e*P	**P**	**03**	**32**	**36.1 -0.2**
	8.5nm,1.4s							
KURK	**Kurchatov**	**61.60**	**327**	*e*P	**P**	**03**	**32**	**41.4 -0.6**
	2.6nm,0.8s							
ABKAR	**Akbulak array**	**72.01**	**321**	*e*P	**P**	**03**	**33**	**48.5 +0.2**
	0.8nm,0.6s							
AKTO	**Aktyubinsk**	**73.52**	**322**	P	**P**	**03**	**33**	**56.8 -0.5**
AKTO	**Aktyubinsk**	**73.52**	**322**	P	**P**	**03**	**33**	**56.8 -0.5**
	1.1nm,0.6s,baz=98,slow=7.0,SNR=6.8							
MCK	**McKinley**	**84.09**	**26**	*e*P	**P**	**03**	**34**	**54.8 -0.3**
	4.7nm,0.9s							
ILAR	**Eielson Array**	**85.03**	**25**	P	**P**	**03**	**35**	**01.5 +1.8**
ILAR	**Eielson Array**	**85.03**	**25**	P	**P**	**03**	**35**	**01.5 +1.8**
	0.3nm,0.7s,baz=266,slow=5.3,SNR=3.0							
INK	**Inuvik**	**90.08**	**21**	*e*P	**P**	**03**	**35**	**23.7 -0.3**
	9.1nm,1.6s							
ARCES	**ARCESS Array B**	**90.31**	**340**	P	**P**	**03**	**35**	**24.4 -0.7**
ARCES	**ARCESS Array B**	**90.31**	**340**	P	**P**	**03**	**35**	**24.4 -0.7**
	5.1nm,1.1s,baz=83,slow=7.4,SNR=4.3							
AKASG	**Malin Array Be**	**91.75**	**321**	P	**P**	**03**	**35**	**30.9 -1.1**
AKASG	**Malin Array Be**	**91.75**	**321**	P	**P**	**03**	**35**	**30.9 -1.1**
	0.3nm,0.4s,baz=75,slow=4.4,SNR=3.7							
TRQA	**Tornquist**	**145.05**	**168**	*e*PKPdf	**PKPab**	**03**	**42**	**01.6 +0.1**
CPUP	**Villa Florida**	**157.32**	**171**	PKPab	**PKPab**	**03**	**42**	**53.4 +1.3**
CPUP	**Villa Florida**	**157.32**	**171**	PKPab	**PKPab**	**03**	**42**	**53.4 +1.3**
	0.2nm,0.4s,baz=229,slow=11,SNR=4.6							

KRSC 27 03:48:19.0±1.2, 50.27N×158.93E, h10km±10km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
RUS	**Russkaya**	**2.18**	**353**	*e*P	Pn	03	48	56.4 +1.1
RUS				*e*S	Sn	03	49	23.5 +1.1
ASAK	**Asacha**	**2.21**	**343**	P	Pn	03	48	57.0 +1.1
ASAK				S	Sn	03	49	24.6 +1.2
MTVR	**Mutnovka**	**2.27**	**348**	P	Pn	03	48	57.6 +0.9
MTVR				*e*S	Sn	03	49	26.0 +1.2
PET	**Petropavlovsk**	**2.76**	**357**	S	Sn	03	49	38.5 +1.8
APC	**Apacha**	**2.88**	**338**	P	Pn	03	49	05.4 +0.5
SPN	**Mys Shipunski**	**2.91**	**13**	S	Sn	03	49	41.4 +1.0
NLC	**Nalychevo**	**2.92**	**5**	S	Sn	03	49	40.8 +0.3
UGLR	**Uglovaya**	**2.94**	**359**	P	Pn	03	49	07.9 +1.9
SMAR	**Somma**	**3.00**	**359**	P	Pn	03	49	08.4 +1.5
AVH	**Avacha**	**3.00**	**358**	P	Pn	03	49	08.4 +1.7
SDLR	**Sedlovina**	**3.01**	**359**	P	Pn	03	49	08.1 +1.2
KOK	**Koryaka**	**3.03**	**357**	P	Pn	03	49	09.0 +1.8
KRER	**Koryakskii**	**3.04**	**358**	P	Pn	03	49	09.3 +1.9
MKZ	**Mys Kozlova**	**4.62**	**21**	P	Pn	03	49	30.2 +1.4
KBTR	**Krutoberegovo**	**6.39**	**20**	P	Pn	03	49	55.3 +2.2

IDC 27 03:48:28.8±21.0, 24.19S×179.96W, h514km±213km, mb3.3/6, mb1 3.5/6, mb1mx3.2/20, mbtmp3.3/6, Error ellipse: s-maj=153.1km s-min=41.3km az=49.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
CTA	**Charters Tower**	**31.51**	**271**	P	P	03	54	09.0 +0.5
	5.0nm,0.4s,baz=91,slow=12,SNR=10.0							
STKA	**Stephens Creek**	**34.65**	**248**	P	P	03	54	34.7 -0.2
	1.2nm,0.4s,baz=96,slow=8.0,SNR=9.4							
ASAR	**Alice Springs**	**42.02**	**261**	P	P	03	55	34.7 -0.4
	0.9nm,0.5s,baz=92,slow=7.3,SNR=11							
WRA	**Warramunga Arr**	**42.42**	**266**	P	P	03	55	37.5 -0.7
	2.8nm,0.4s,baz=103,slow=8.1,SNR=28							
FITZ	**Fitzroy Crossi**	**50.84**	**266**	P	P	03	56	42.5 +0.5
	3.0nm,0.6s,baz=124,slow=6.8,SNR=7.5							
QSPA	**South Pole Qui**	**65.90**	**180**	P	P	03	58	23.3 0.0
	1.8nm,1.0s,baz=148,slow=1.6,SNR=6.1							

IDC 27 04:05:28.1±1.4, 3.20N×127.07E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/23, mbtmp3.7/5, MS4.0/1, Ms1 4.0/1, ms1mx2.4/30, Error ellipse: s-maj=145.1km s-min=21.1km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
WRA	**Warramunga Arr**	**24.08**	**163**	P	P	04	10	46.6 +1.2
	0.9nm,0.4s,baz=343,slow=12,SNR=4.9							
STKA	**Stephens Creek**	**37.51**	**159**	P	P	04	12	43.5 -0.4
	1.2nm,0.7s,baz=346,slow=8.3,SNR=3.2							
STKA				LR	LR	04	29	23.7
	comp=Z,227nm,18.9s,baz=186,slow=38							
MKAR	**Makanchi Array**	**58.19**	**325**	P	P	04	15	24.2 +0.2
	0.5nm,0.5s,baz=119,slow=8.5,SNR=16							
ZALV	**Zalesovo Beam**	**61.21**	**333**	P	P	04	15	44.5 -0.2
	0.4nm,0.4s,baz=120,slow=5.2,SNR=2.6							
KURBB	**Kurchatov Arra**	**62.37**	**327**	P	P	04	15	51.8 -0.7
	0.6nm,0.5s,baz=125,slow=6.3,SNR=9.8							

ISK 27 04:08:36.1, 39.07N×29.05E, h2km, MD2.4
CSEM 27 04:08:37.2±0.3, 39.11N×29.06E, h10km, MD2.7, Error ellipse: s-maj=6.5km s-min=4.8km az=150.0
DDA 27 04:08:38.1, 39.11N×29.01E, h7km, MD2.7
ISC 27 04:08:37.2±1.1, 39.09N±0.04×29.06E±0.04, h11km±11km, n16, σ0s47/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
DEMI	**Demirci**	**0.27**	**260**	*i* P	**Pb**	**04**	**08**	**43.5 -0.7**
DEMI				*i* S	**Sg**	**04**	**08**	**46.9 +0.3**
DEMI	**Demirci**	**0.27**	**260**	*i* P	**Pb**	**04**	**08**	**43.5 -0.7**
DEMI				*i* S	**Sg**	**04**	**08**	**46.9 +0.3**
TVSB	**Tavsanli**	**0.48**	**41**	*e*PG	**Pg**	**04**	**08**	**46.7 +0.1**
TVSB	**Tavsanli**	**0.48**	**41**	*e*Pg	**Pg**	**04**	**08**	**46.7 +0.1**
KULA	**Kula-Manisa**	**0.65**	**209**	*e*PG	**Pg**	**04**	**08**	**49.3 -0.6**
KULA				*e*SG	**Sg**	**04**	**08**	**49.3 +0.4**
KULA	**Kula-Manisa**	**0.65**	**209**	*e*Pg	**Pg**	**04**	**08**	**49.3 -0.6**
KULA				*e*Sg	**Sg**	**04**	**08**	**58.9 +0.4**
MANT	**Manisa**	**0.71**	**213**	*i* P	**Pb**	**04**	**08**	**51.9 +0.1**
MANT				*i* S	**Sg**	**04**	**09**	**00.9 +0.4**
MANT	**Manisa**	**0.71**	**213**	*i* P	**Pb**	**04**	**08**	**51.9 +0.1**
MANT				*i* S	**Sg**	**04**	**09**	**00.9 +0.4**
KHAL	**Karahalli**	**0.79**	**155**	*i* P	**Pn**	**04**	**08**	**54.2 -0.2**
KHAL				*i* S	**Sb**	**04**	**09**	**04.6 +0.8**
KHAL	**Karahalli**	**0.79**	**155**	*i* P	**Pn**	**04**	**08**	**54.2 -0.2**
KHAL				*i* S	**Sb**	**04**	**09**	**04.6 +0.8**
ALT	**Altintas**	**0.82**	**92**	*e*PG	**Pg**	**04**	**08**	**52.5 -0.5**
ALT	**Altintas**	**0.82**	**92**	*e*Pg	**Pg**	**04**	**08**	**52.5 -0.5**
KHL	**Karahalli**	**0.85**	**155**	*e*PG	**Pg**	**04**	**08**	**53.4 -0.2**
KHL	**Karahalli**	**0.85**	**155**	*e*Pg	**Pg**	**04**	**08**	**53.4 -0.2**
AKHS	**Akhisar**	**0.99**	**258**	*i* P	**Pg**	**04**	**08**	**56.5 +0.1**
AKHS	**Akhisar**	**0.99**	**258**	*i* P	**Pg**	**04**	**08**	**56.5 +0.1**

IDC 27 04:08:33.8±1.1, 2.41S×139.75E, h0km, mb4.0/10, mb1 4.2/11, mb1mx4.1/20, mbtmp4.0/11, ML4.3/1, MS3.6/4, Ms1 3.7/4, ms1mx3.2/24, Error ellipse: s-maj=42.5km s-min=17.5km az=89.0
ISCJB 27 04:08:36.5±0.6, 2.55S±0.05×139.5E±0.1, h27km, mb4.0/12, MS3.6/4, Error ellipse: s-maj=17.1km s-min=6.8km az=1.6
NEIC 27 04:08:38.9±0.5, 2.50S×139.71E, h35km, mb4.2/6, Error ellipse: s-maj=16.9km s-min=7.8km az=86.0
ISC 27 04:08:38.1±0.8, 2.59S±0.07×139.5E±0.2, h27km, n32, σ1s65/32, mb4.1/12, MS3.5/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
COEN	**Coen**	**11.86**	**163**	*e*Pn	Pn	04	11	30.1 +4.6
WRAB	**Tennant Creek**	**17.97**	**196**	*e*P	**P**	**04**	**12**	**47.6 +1.1**
	10nm,0.8s							
WRAB				*e*Sn	**Sn**	**04**	**16**	**01.6 -4.3**
WRA	**Warramunga Arr**	**17.98**	**196**	P	**P**	**04**	**12**	**47.2 +0.6**
WRA				S	**Sn**	**04**	**16**	**03.1 -3.0**
WRA	**Warramunga Arr**	**17.98**	**196**	P	**P**	**04**	**12**	**47.2 +0.6**
	1.0nm,0.3s,baz=19,slow=12,SNR=15							
WRA				S	**Sn**	**04**	**16**	**03.1 -3.0**
	0.2nm,0.3s,baz=14,slow=23,SNR=4.9							
CTAO	**Charters Tower**	**18.59**	**160**	*e*P	**P**	**04**	**12**	**52.2 -1.2**
	11nm,0.8s							
KAPI	**Kappang**	**19.88**	**262**	*e*P	**P**	**04**	**13**	**08.3 +0.9**
	22nm,1.3s							
FITZ	**Fitzroy Crossi**	**20.57**	**221**	P	Pn	04	13	17.4 +0.1
FITZ				S	**S**	**04**	**17**	**02.9 -0.9**
FITZ	**Fitzroy Crossi**	**20.57**	**221**	P	Pn	04	13	17.4 +0.1
	5.2nm,0.6s,baz=54,slow=12,SNR=12							
FITZ				S	**S**	**04**	**17**	**02.9 -0.9**
	6.3nm,0.9s,baz=30,slow=20,SNR=4.2							
ASAR	**Alice Springs**	**21.65**	**194**	P	**P**	**04**	**13**	**28.8 +2.2**
ASAR				S	**S**	**04**	**17**	**27.9 +2.7**
ASAR	**Alice Springs**	**21.65**	**194**	P	**P**	**04**	**13**	**28.8 +2.2**
	4.8nm,0.8s,baz=25,slow=9.2,SNR=24							
ASAR				S	**S**	**04**	**17**	**27.9 +2.7**
	0.5nm,0.8s,baz=8.0,slow=27,SNR=2.6							
STKA	**Stephens Creek**	**29.20**	**176**	P	**P**	**04**	**14**	**39.0 +1.5**
STKA	**Stephens Creek**	**29.20**	**176**	P	**P**	**04**	**14**	**39.0 +1.5**
	1.3nm,0.5s,baz=335,slow=13,SNR=4.9							
KSRS	**Korea Array**	**41.27**	**346**	LR	LR	04	30	43.4
	comp=Z,42nm,20.9s,baz=343,slow=32							
CMAR	**Chiang Mai Arr**	**45.09**	**299**	P	**P**	**04**	**16**	**53.0 +0.8**
CMAR	**Chiang Mai Arr**	**45.09**	**299**	P	**P**	**04**	**16**	**53.0 +0.8**
	1.0nm,0.3s,baz=120,slow=7.0,SNR=6.7							
CMAR				LR	LR	04	34	01.6
	comp=Z,25nm,20.7s,baz=90,slow=34							
SONM	**Songino Array**	**57.96**	**334**	P	**P**	**04**	**18**	**27.1 -1.2**
SONM	**Songino Array**	**57.96**	**334**	P	**P**	**04**	**18**	**27.1 -1.2**
	0.2nm,0.6s,baz=156,slow=4.1,SNR=3.5							
MKAR	**Makanchi Array**	**70.19**	**322**	P	**P**	**04**	**19**	**48.6 +0.1**
MKAR	**Makanchi Array**	**70.19**	**322**	P	**P**	**04**	**19**	**48.6 +0.1**
	2.2nm,0.7s,baz=96,slow=8.7,SNR=25							
ZALV	**Zalesovo Beam**	**72.24**	**330**	P	**P**	**04**	**20**	**00.6 -0.1**
ZALV	**Zalesovo Beam**	**72.24**	**330**	P	**P**	**04**	**20**	**00.6 -0.1**
	0.4nm,0.4s,baz=99,slow=7.7,SNR=3.5							
ZALV				LR	LR	04	52	08.0
	comp=Z,38nm,18.8s,baz=65,slow=36							
KURK	**Kurchatov**	**74.09**	**325**	*e*P	**P**	**04**	**20**	**12.1 +0.4**
	5.0nm,1.3s							
KURBB	**Kurchatov Arra**	**74.10**	**325**	P	**P**	**04**	**20**	**12.3 +0.5**
	0.5nm,0.4s,baz=113,slow=5.6,SNR=7.4							
VNDA	**Vanda**	**75.83**	**175**	LR	LR	04	51	48.4
	comp=Z,164nm,18.4s,baz=130,slow=34							
BVAR	**Borovoye Array**	**79.68**	**325**	P	**P**	**04**	**20**	**43.5 +0.3**
BVAR	**Borovoye Array**	**79.68**	**325**	P	**P**	**04**	**20**	**43.5 +0.3**
	1.3nm,0.5s,baz=121,slow=7.1,SNR=9.2							
BRVK	**Borovoye**	**79.75**	**325**	*e*P	**P**	**04**	**20**	**44.4 +0.8**
	3.5nm,0.8s							
ABKAR	**Akbulak array**	**85.16**	**320**	*e*P	**P**	**04**	**21**	**11.3 -0.6**
	1.2nm,0.8s							
ILAR	**Eielson Array**	**85.38**	**24**	P	**P**	**04**	**21**	**11.7 -1.1**
ILAR	**Eielson Array**	**85.38**	**24**	P	**P**	**04**	**21**	**11.7 -1.1**
	0.5nm,0.7s,baz=262,slow=4.6,SNR=7.7							
DBIC	**Dimbokro**	**144.28**	**278**	PKP	PKPbc	04	28	11.6 +0.5
DBIC	**Dimbokro**	**144.28**	**278**	PKP	PKPbc	04	28	11.6 +0.5
	3.7nm,0.6s,baz=94,slow=8.9,SNR=9.7							

ISCJB 27 04:25:39.8±1.0, 37.88N±0.04×29.23E±0.08, h11km±6km, Error ellipse: s-maj=10.7km s-min=5.7km az=24.3
ISK 27 04:25:39.8, 37.89N×29.23E, h9km, MD2.6
DDA 27 04:25:39.6, 37.88N×29.18E, h7km, MD2.6
CSEM 27 04:25:39.7±0.3, 37.88N×29.25E, h2km, MD2.6, Error ellipse: s-maj=7.7km s-min=4.1km az=118.0
ISC 27 04:25:40.1±1.1, 37.87N±0.03×29.21E±0.05, h13km±7km, n16, σ0s77/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
DENT	**Denizli**	**0.18**	**231**	*e*PG	**Pg**	**04**	**25**	**44.8 +0.4**
DENT				*e*SG	**Sg**	**04**	**25**	**48.4 +1.1**
DENT	**Denizli**	**0.18**	**231**	*e*Pg	**Pg**	**04**	**25**	**44.8 +0.4**
DENT				*e*Sg	**Sg**	**04**	**25**	**48.4 +1.1**
DNZL	**Cakiroluk**	**0.22**	**216**	*i* P	**Pg**	**04**	**25**	**44.3 -0.8**
DNZL				*i* S	**Sg**	**04**	**25**	**47.2 -1.3**
DNZL	**Cakiroluk**	**0.22**	**216**	*i* P	**Pg**	**04**	**25**	**44.3 -0.8**
DNZL				*i* S	**Sg**	**04**	**25**	**47.2 -1.3**
KHAL	**Karahalli**	**0.55**	**24**	*i* P	**Pg**	**04**	**25**	**50.4 -0.5**
KHAL	**Karahalli**	**0.55**	**24**	*i* P	**Pg**	**04**	**25**	**50.4 -0.5**
KULA	**Kula-Manisa**	**0.78**	**326**	*e*PG	**Pg**	**04**	**25**	**55.2 0.0**
KULA				*e*SG	**Sg**	**04**	**26**	**05.9 +0.4**
KULA	**Kula-Manisa**	**0.78**	**326**	*e*Pg	**Pg**	**04**	**25**	**55.2 0.0**
KULA				*e*Sg	**Sg**	**04**	**26**	**05.9 +0.4**
MANT	**Manisa**	**0.81**	**320**	*i* P	**Pb**	**04**	**25**	**56.1 0.0**
MANT				*i* S	**Sg**	**04**	**26**	**05.3 -1.2**
MANT	**Manisa**	**0.81**	**320**	*i* P	**Pb**	**04**	**25**	**56.1 0.0**
MANT				*i* S	**Sg**	**04**	**26**	**05.3 -1.2**
YER	**Yerkesik**	**1.04**	**226**	*e*PG	**Pb**	**04**	**26**	**00.2 +0.2**
YER				*e*SG	**Sn**	**04**	**26**	**15.5 +0.6**
YER	**Yerkesik**	**1.04**	**226**	*e*Pg	**Pb**	**04**	**26**	**00.2 +0.2**
YER				*e*Sg	**Sn**	**04**	**26**	**15.5 +0.6**
AYDN	**Tasoluk**	**1.08**	**259**	*i* P	**Pg**	**04**	**26**	**00.3 -0.6**
AYDN				*i* S	**Sg**	**04**	**26**	**14.2 -0.8**
AYDN	**Tasoluk**	**1.08**	**259**	*i* P	**Pg**	**04**	**26**	**00.3 -0.6**
AYDN				*i* S	**Sg**	**04**	**26**	**14.2 -0.8**
ALT	**Altintas**	**1.38**	**30**	*e*PN	**Pn**	**04**	**26**	**05.5 +0.4**
ALT	**Altintas**	**1.38**	**30**	*e*Pn	**Pn**	**04**	**26**	**05.5 +0.4**

JMA 27 04:47:13.5±0.2, 36.75N×141.38E, h49km±2km, M3.3
IDC 27 04:47:13.4±7.7, 36.18N×141.67E, h54km±46km, mb3.0/2, mb1 3.2/4, mb1mx3.1/27, mbtmp3.2/4, ML2.1/1, MS2.5/1, Ms1 2.5/1, ms1mx2.0/7, Error ellipse: s-maj=84.6km s-min=42.5km az=163.0
ISC 27 04:47:12.7±2.4, 36.76N±0.08×141.6E±0.1, h33km, n13, σ1s53/20, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
ONAJ	**Iwakimizuishiy**	**0.72**	**298**	⇓P	**Pn**	**04**	**47**	**25.6 -1.0**
ONAJ				S	**Sn**	**04**	**47**	**34.6 -1.9**
JFK	**Kawauchi**	**0.83**	**317**	P	**Pn**	**04**	**47**	**27.5 -0.6**
JFK				*e*S	**Sn**	**04**	**47**	**37.8 -1.4**
JHO	**Hitachi**	**0.83**	**260**	⇓P	**Pn**	**04**	**47**	**26.6 -1.5**
JHO				S	**Sn**	**04**	**47**	**36.0 -3.2**
JFT	**Otama**	**1.25**	**307**	P	**Pn**	**04**	**47**	**34.6 +0.7**
JFT				*e*S	**Sn**	**04**	**47**	**49.6 0.0**
JMM	**Marumori**	**1.27**	**330**	⇓P	**Pn**	**04**	**47**	**33.8 -0.3**
JMM				*e*S	**Sn**	**04**	**47**	**49.5 -0.5**
JFY	**Yanaizu**	**1.64**	**294**	P	**Pn**	**04**	**47**	**40.2 +1.0**
JFY				S	**Sn**	**04**	**47**	**59.3 +0.2**
JAG	**Ashikaga**	**1.75**	**260**	P	**Pn**	**04**	**47**	**40.2 -0.5**
JAG				*e*S	**Sn**	**04**	**47**	**59.8 -2.1**
MJAR	**Matsushiro Arr**	**2.72**	**266**	P	**Pn**	**04**	**47**	**55.4 +1.2**
	3.6nm,0.3s,baz=90,slow=14,SNR=16							
MJAR				S	**Sn**	**04**	**48**	**28.6 +2.7**
	3.6nm,0.3s,baz=89,slow=15,SNR=5.5							
MAT	**Matsushiro**	**2.73**	**266**	P	**Pn**	**04**	**47**	**55.5 +1.3**
MAT				S	**Sn**	**04**	**48**	**27.8 +1.8**
USRK	**Ussuriysk Arra**	**10.41**	**318**	P	Pn	04	49	46.8 +7.3
	0.1nm,0.3s,baz=131,slow=11,SNR=4.2							
KSRS	**Korea Array**	**10.93**	**278**	LR	LR	04	54	03.7
	comp=Z,25nm,21.2s,baz=110,slow=37							
SONM	**Songino Array**	**28.05**	**304**	P	P	04	53	04.7 +3.7
	0.3nm,0.5s,baz=113,slow=7.1,SNR=3.7							
MKAR	**Makanchi Array**	**44.38**	**302**	P	**P**	**04**	**55**	**20.0 +0.1**
	0.1nm,0.6s,baz=102,slow=8.2,SNR=2.6							
MKAR				pP	**pP**	**04**	**55**	**30.6 +0.8**
	0.3nm,0.6s,baz=92,slow=9.5,SNR=5.9							

IDC 27 04:52:48.2±2.0, 6.95S×127.90E, h0km, mb3.2/1, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, ML3.8/3, Error ellipse: s-maj=103.8km s-min=27.1km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
FITZ	**Fitzroy Crossi**	**11.30**	**191**	Pn	Pn	04	55	32.4 +1.3
	0.2nm,0.3s,baz=20,slow=14,SNR=5.3							
FITZ				Sn	Sn	04	57	24.1 -14
	0.5nm,0.3s,baz=339,slow=14,SNR=5.6							
WRA	**Warramunga Arr**	**14.35**	**155**	Pn	Pn	04	56	12.1 -0.7
	0.9nm,0.3s,baz=324,slow=14,SNR=27							
WRA				Sn	Sn	04	58	36.5 -16
	0.7nm,0.3s,baz=324,slow=24,SNR=9.4							
ASAR	**Alice Springs**	**17.60**	**161**	P	Pn	04	56	54.5 -0.6
	0.4nm,0.3s,baz=341,slow=12,SNR=18							
ASAR				S	Sn	04	59	55.5 -16
	0.0nm,0.3s,baz=322,slow=16,SNR=3.0							
MKAR	**Makanchi Array**	**67.06**	**328**	P	P	05	03	43.3 0.0
	0.1nm,0.4s,baz=119,slow=7.4,SNR=2.9							

IDC 27 05:07:16.9±2.7, 6.32S×152.01E, h0km, mb3.2/3, mb1 3.6/3, mb1mx3.3/17, mbtmp3.3/3, Error ellipse: s-maj=197.5km s-min=31.2km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
PMG	**Port Moresby**	**5.70**	**237**	Sn	Sn	05	09	47.7 -1.4
	2.2nm,0.3s,baz=156,slow=18,SNR=3.3							
WRA	**Warramunga Arr**	**21.86**	**230**	P	P	05	12	12.1 +0.6
	0.2nm,0.4s,baz=55,slow=9.6,SNR=3.0							
ASAR	**Alice Springs**	**24.51**	**223**	P	P	05	12	38.1 -0.2
	0.1nm,0.3s,baz=58,slow=8.7,SNR=2.7							
ILAR	**Eielson Array**	**83.85**	**22**	P	P	05	19	48.5 +0.3
	0.8nm,0.8s,baz=251,slow=5.5,SNR=6.9							
TORD	**Torodi Ar. Bea**	**149.98**	**285**	PKPbc	PKPbc	05	27	09.6 -0.9
	0.7nm,0.7s,baz=82,slow=2.8,SNR=6.4							

GUC 27 05:16:48.7±0.7, 31.32S×69.03W, h131km±24km, MD3.4, ML3.7, 3C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m	s ISC
CMCH	**Combarbala**	**1.70**	**274**	⇓*i* P	Pn	05	17	19.6 +0.4
CMCH				*i* S	Sn	05	17	43.5 +0.9
CMCH				AML	AML	05	17	45.9
	comp=N,1μm,0.8s							
OVCH	**Ovalle**	**2.00**	**290**	⇓*i* P	Pn	05	17	23.3 +0.6
OVCH				*i* S	Sn	05	17	49.0 +0.3
OVCH				AML	AML	05	17	53.8
	comp=N,321nm,0.3s							
CHNG	**Los Chungos**	**2.18**	**254**	⇑*i* P	Pn	05	17	25.7 +0.7
CHNG				*i* S	Sn	05	17	52.6 -0.1
CHNG				AML	AML	05	18	03.5
	comp=E,106nm,

QIZ sP **sP** **05 30 47.0 +0.1**
QIZ S **S** **05 34 32.0 +2.2**
QIZ sS **sS** **05 34 45.5 +1.6**
QIZ pmax pmax
comp=Z,20nm,2.1s
QIZ LR LR
comp=N,610nm,13.2s
QIZ LR LR
comp=Z,590nm,15.2s
MYLDM Lahad Datu 21.72 80 P **P** **05 30 38.0 +1.0**
MYLDM Lahad Datu 21.72 80 P **P** **05 30 38.0 +1.0**
comp=Z,48nm,1.4s
TTSI Tana Toraja 23.23 101 P **P** **05 30 54.2 +1.3**
comp=Z,29nm,1.5s,comp=Z,580nm
KAPI Kappang 23.61 106 *e*P **P** **05 30 56.4 -0.3**
comp=Z,34nm,1.1s
KAPI Kappang 23.61 106 P **P** **05 30 55.8 -0.9**
comp=Z,5.1nm,0.5s,baz=276,slow=3.1,SNR=4.3
HYB Hyderabad 24.05 312 *i* P **P** **05 31 02.0 +1.2**
KMI Kunming 24.06 13 P **P** **05 31 02.3 +1.2**
KMI pP **pP** **05 31 11.3 +0.7**
KMI sP **sP** **05 31 15.0 +0.3**
KMI PP PnPn 05 31 41.5 +11
KMI S **S** **05 35 20.5 +3.9**
KMI pmax pmax
comp=Z,35nm,1.0s
KMI pmax pmax
comp=Z,270nm,3.6s
KMI LR LR
comp=N,1μm,16.3s
KMI LR LR
comp=E,890nm,14.8s
KMI LR LR
comp=Z,1μm,15.5s
KAAM Kaadhehdhoo 24.06 268 P **P** **05 31 03.3 +2.3**
comp=Z,38nm,1.3s
SHL Shillong 24.38 349 *e*PKP **P** **05 31 03.0 -0.9**
SHL *e*S **S** **05 35 24.0 +2.4**
MRSI Marisa 24.92 92 P **P** **05 31 07.9 -0.9**
GYA Guiyang 26.43 20 P **P** **05 31 21.5 -0.9**
GYA pP **pP** **05 31 31.0 -1.0**
GYA PP **PnPn** **05 32 03.0 0.0**
GYA S **S** **05 35 48.8 -5.3**
GYA pmax pmax
comp=Z,20nm,1.1s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,1μm,15.5s
GYA LR LR
comp=E,530nm,12.4s
GYA LR LR
comp=Z,2μm,16.1s
ODAN Odare 26.81 341 *e*P **P** **05 31 26.9 +0.9**
comp=Z,74nm,0.7s
ODAN Odare 26.81 341 *e*P **P** **05 31 26.9 +0.9**
comp=Z,74nm,0.7s
TAPN Taplejung 27.16 342 *e*P **P** **05 31 30.4 +1.2**
TAPN Taplejung 27.16 342 *e*P **P** **05 31 30.4 +1.2**
RAMN Ramite 27.16 339 *e*P **P** **05 31 30.7 +1.5**
comp=Z,67nm,0.8s
RAMN Ramite 27.16 339 *e*P **P** **05 31 30.7 +1.5**
comp=Z,67nm,0.8s
JIRN Jiri 27.95 339 *e*P **P** **05 31 37.6 +1.2**
comp=Z,21nm,0.8s
JIRN Jiri 27.95 339 *e*P **P** **05 31 37.6 +1.2**
comp=Z,21nm,0.8s
PKI Pulchoki 28.16 338 *e*P **P** **05 31 38.6 +0.4**
PKI Pulchoki 28.16 338 *e*P **P** **05 31 38.6 +0.4**
PKI Pulchoki 28.16 338 *e*P **P** **05 31 38.6 +0.4**
GUN Gumba 28.29 339 *e*P **P** **05 31 40.5 +1.1**
GUN Gumba 28.29 339 *e*P **P** **05 31 40.5 +1.1**
DMN Daman 28.31 337 *e*P **P** **05 31 40.6 +1.1**
DMN Daman 28.31 337 *e*P **P** **05 31 40.6 +1.1**
KKN Kakani 28.41 338 *e*P **P** **05 31 41.1 +0.8**
comp=Z,59nm,0.9s
KKN Kakani 28.41 338 *e*P **P** **05 31 41.1 +0.8**
KKN pmax pmax
comp=Z,59nm,0.9s
KKN Kakani 28.41 338 *e*P **P** **05 31 41.1 +0.8**
comp=Z,59nm,0.9s
LSA Lhasa 28.54 349 P **P** **05 31 42.3 +0.6**
LSA Lhasa 28.54 349 *e*P **P** **05 31 42.5 +0.8**
LSA pmax pmax
comp=Z,15nm,0.9s
LSA Lhasa 28.54 349 *e*P **P** **05 31 42.5 +0.8**
comp=Z,15nm,0.9s
GKN Gorkha 28.85 337 *e*P **P** **05 31 45.0 +0.9**
GKN Gorkha 28.85 337 *e*P **P** **05 31 45.0 +0.9**
KOLN Koldanda 29.06 335 *e*P **P** **05 31 47.3 +1.2**
comp=Z,35nm,0.6s
KOLN Koldanda 29.06 335 *e*P **P** **05 31 47.3 +1.2**
comp=Z,35nm,0.6s
DANN Dangsing 29.51 336 *e*P **P** **05 31 51.0 +0.9**
comp=Z,40nm,0.7s
DANN Dangsing 29.51 336 *e*P **P** **05 31 51.0 +0.9**
comp=Z,40nm,0.7s
PYUN Piuthan 29.61 334 *e*P **P** **05 31 52.2 +1.2**
comp=Z,73nm,1.0s
PYUN Piuthan 29.61 334 *e*P **P** **05 31 52.2 +1.2**
comp=Z,73nm,1.0s
CD2 Chengdu 29.88 12 P **P** **05 31 54.0 +0.9**
CD2 pP **pP** **05 32 03.5 +0.8**
CD2 sP **sP** **05 32 07.5 +0.7**
CD2 PP **PnPn** **05 32 52.0 +2.0**
CD2 PcP **PcP** **05 34 56.0 +0.3**
CD2 S **S** **05 36 48.3 +0.1**
CD2 sS **sS** **05 37 04.3 +0.2**
CD2 SS **SnSn** **05 38 26.0 +5.3**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,90nm,5.0s
CD2 LR LR
comp=N,710nm,19.0s
CD2 LR LR
comp=E,1μm,17.4s
CD2 LR LR
comp=Z,870nm,19.6s
ENH Enshi 30.90 21 *e*P **P** **05 32 01.0 -1.2**
XAN Xi'an 34.17 18 P **P** **05 32 29.5 -1.2**
XAN sP **sP** **05 32 43.5 -1.0**
XAN PP **PnPn** **05 33 42.8 -2.4**
XAN S **S** **05 37 49.5 -5.5**
XAN pmax pmax
comp=Z,16nm,1.0s
XAN pmax pmax
comp=Z,22nm,4.6s
XAN LR LR
comp=N,610nm,14.9s
XAN LR LR
comp=E,180nm,14.2s
XAN LR LR
comp=Z,380nm,14.2s
FITZ Fitzroy Crossi 34.27 126 P **P** **05 32 30.7 -1.1**
FITZ Fitzroy Crossi 34.27 126 P **P** **05 32 30.7 -1.1**
comp=Z,2.1nm,0.6s,baz=297,slow=9.0,SNR=4.0
LZH Lanzhou 34.93 10 *e*P **P** **05 32 37.5 +0.1**
LZH pP **pP** **05 32 46.5 -0.6**
LZH sP **sP** **05 32 50.5 -0.6**
LZH PP **PP** **05 33 56.5 -0.5**
LZH S S 05 38 13.3 +6.4
LZH sS sS 05 38 28.3 +5.3
LZH pmax pmax
comp=Z,14nm,1.0s
LZH pmax pmax
comp=Z,120nm,4.5s
LZH LR LR
comp=N,250nm,12.1s
LZH LR LR
comp=E,290nm,13.4s
LZH LR LR
comp=Z,570nm,15.8s
NJ2 Nanjing 36.64 32 *e*P **P** **05 32 51.8 -0.1**
NJ2 pP **pP** **05 33 01.5 -0.2**
NJ2 sP **sP** **05 33 05.8 +0.1**
NJ2 PP **PP** **05 34 16.3 +0.5**
NJ2 S **S** **05 38 34.0 +1.0**
NJ2 sS **sS** **05 38 49.0 -0.1**
NJ2 pmax pmax
comp=Z,10.0nm,0.9s
NJ2 pmax pmax
comp=Z,210nm,4.6s
NJ2 LR LR
comp=N,1μm,19.6s
NJ2 LR LR
comp=E,710nm,13.0s
NJ2 LR LR
comp=Z,960nm,17.2s
SSE Sheshan 37.21 35 P **P** **05 32 56.3 -0.5**
SSE S **S** **05 38 38.5 -3.2**
SSE pmax pmax
comp=Z,32nm,0.8s
SSE pmax pmax
comp=Z,160nm,4.3s
SSE LR LR
comp=N,310nm,18.8s
SSE LR LR
comp=E,110nm,19.0s
SSE LR LR
comp=Z,330nm,16.8s
GTA Gaotai 37.76 4 *e*P **P** **05 33 01.3 -0.2**
GTA pP **pP** **05 33 10.3 -0.9**
GTA sP **sP** **05 33 15.3 0.0**
GTA S **S** **05 38 48.0 -2.0**
GTA pmax pmax
comp=Z,22nm,1.4s
GTA pmax pmax
comp=Z,170nm,5.5s
GTA LR LR
comp=N,340nm,12.6s
GTA LR LR
comp=E,210nm,13.8s
GTA LR LR
comp=Z,350nm,14.5s
HHC Hu-ho-hao-te 41.26 17 *e*P **P** **05 33 31.5 +0.9**
HHC pP **pP** **05 33 43.3 +2.8**
HHC sP **sP** **05 33 45.5 +1.0**
HHC PP **PnPn** **05 35 11.3 +0.3**
HHC S **S** **05 39 43.5 +1.0**
HHC sS **sS** **05 40 00.3 +1.5**
HHC ScS **ScS** **05 43 32.0 -0.5**
HHC pmax pmax
comp=Z,24nm,0.5s
HHC pmax pmax
comp=Z,190nm,4.2s
HHC LR LR
comp=N,450nm,15.5s
HHC LR LR
comp=E,470nm,15.5s
HHC LR LR
comp=Z,720nm,15.8s
BJT Baijiatuau 42.04 22 *e*P **P** **05 33 36.8 -0.1**
comp=Z,72nm,1.0s
BJI Beijing 42.07 22 P **P** **05 33 38.3 +1.2**
BJI pP **pP** **05 33 46.3 -0.6**
BJI S **S** **05 39 58.0 +3.8**
BJI sS sS 05 40 16.5 +6.0
BJI pmax pmax
comp=Z,66nm,0.6s
BJI pmax pmax
comp=Z,130nm,4.9s
BJI LR LR
comp=N,310nm,14.7s
BJI LR LR
comp=E,270nm,13.2s
BJI LR LR
comp=Z,150nm,22.5s
WRA Warramunga Arr 42.36 122 P **P** **05 33 38.6 -1.2**
WRA Warramunga Arr 42.36 122 P **P** **05 33 38.6 -1.2**
comp=Z,2.5nm,0.5s,baz=299,slow=9.4,SNR=11
WRA LR LR 05 54 37.7
comp=Z,204nm,20.3s,baz=290,slow=41
WRAB Tennant Creek 42.37 122 *e*P **P** **05 33 39.4 -0.5**
WRAB pmax pmax
comp=Z,7.0nm,0.8s
WRAB Tennant Creek 42.37 122 *e*P **P** **05 33 39.4 -0.5**
comp=Z,6.6nm,0.8s
WRAB Tennant Creek 42.37 122 P **P** **05 33 40.0 +0.1**
comp=Z,40nm,0.7s,SNR=7.6
KSH Kashi 42.38 336 P **P** **05 33 39.3 -0.5**
KSH pP **pP** **05 33 50.3 +0.6**
KSH sP **sP** **05 33 53.5 -0.2**
KSH PP **PP** **05 35 21.0 +2.6**
KSH PcP **PcP** **05 35 32.3 -0.5**
KSH ScP **ScP** **05 39 19.5 -1.7**
KSH PcS **PcS** **05 39 23.8 -1.0**
KSH S **S** **05 39 58.5 -0.7**
KSH SS **SS** **05 43 02.8 -6.1**
KSH ScS **ScS** **05 43 36.5 -3.0**
KSH pmax pmax
comp=Z,9.0nm,0.9s
KSH pmax pmax
comp=Z,120nm,4.2s
KSH LR LR
comp=N,150nm,5.5s
KSH LR LR
comp=E,180nm,6.0s
KSH LR LR
comp=Z,250nm,6.1s
WMQ Urumqi 42.89 350 P **P** **05 33 45.5 +1.6**
WMQ pP **pP** **05 33 53.0 -0.7**
WMQ sP **sP** **05 33 57.0 -0.7**
WMQ PP **PP** **05 35 28.0 +4.1**
WMQ *e*S **S** **05 40 09.0 +2.5**
WMQ sS **sS** **05 40 25.0 +2.2**
WMQ SS **SS** **05 43 15.0 -3.8**
WMQ pmax pmax
comp=Z,29nm,1.4s
WMQ pmax pmax
comp=Z,150nm,4.1s
WMQ LR LR
comp=N,320nm,21.2s
WMQ LR LR
comp=E,530nm,24.0s
WMQ LR LR
comp=Z,360nm,23.2s
FORT Forrest 43.65 140 *e*P **P** **05 33 51.4 +1.3**
comp=Z,12nm,0.6s
ASAR Alice Springs 43.74 127 P **P** **05 33 50.8 -0.2**
ASAR ScP **ScP** **05 39 28.4 +1.5**
ASAR Alice Springs 43.74 127 P **P** **05 33 50.8 -0.2**
comp=Z,2.4nm,0.8s,baz=303,slow=7.7,SNR=16
ASAR ScP **ScP** **05 39 28.4 +1.5**
comp=Z,0.2nm,0.3s,baz=304,slow=2.3,SNR=5.8
JNU Nakatsue 44.64 42 *e*P **P** **05 33 57.4 -0.7**
comp=Z,16nm,1.1s
JNU Nakatsue 44.64 42 P **P** **05 33 57.8 -0.3**
comp=Z,23nm,1.0s,baz=35,slow=1.5,SNR=8.3
TKM2 Tokmak 2 45.42 338 *e*P **P** **05 34 06.1 +1.7**
TKM2 pmax pmax
comp=Z,21nm,1.1s
TKM2 Tokmak 2 45.42 338 *e*P **P** **05 34 06.1 +1.7**
comp=Z,21nm,1.1s
TKM2 Tokmak 2 45.42 338 P **P** **05 34 06.1 +1.7**
SNR=8.2
KBK Karagaybulak 45.45 337 P **P** **05 34 06.4 +1.9**
SNR=13
AML Almayashu 45.51 336 P **P** **05 34 07.2 +2.0**
SNR=9.6
AAK Ala-Archa 45.61 337 *i* P **P** **05 34 04.6 -1.1**
AAK Ala-Archa 45.61 337 *e*P **P** **05 34 07.1 +1.3**
comp=Z,79nm,1.2s
AAK Ala-Archa 45.61 337 P **P** **05 34 07.5 +1.7**
SNR=6.0
AAK Ala-Archa 45.61 337 P **P** **05 34 06.9 +1.2**
comp=Z,9.0nm,1.0s,baz=222,slow=8.1,SNR=12
KSAR Wonju Array Be 45.61 35 P **P** **05 34 05.5 -0.2**
KSRS Korea Array 45.64 35 P **P** **05 34 05.5 -0.4**
comp=Z,18nm,0.9s,baz=222,slow=9.1,SNR=42
KSRS LR LR 05 53 46.8
comp=Z,192nm,20.3s,baz=213,slow=37
FRU Bishkek 45.73 337 *e*P **P** **05 34 09.0 +2.5**
FRU *e* 05 34 16.0
EKS2 Erkin-Say 45.92 336 *e*P **P** **05 34 09.8 +1.6**
EKS2 pmax pmax
comp=Z,10.0nm,0.8s
EKS2 Erkin-Say 45.92 336 *e*P **P** **05 34 09.8 +1.6**
comp=Z,9.5nm,0.8s
EKS2 Erkin-Say 45.92 336 P **P** **05 34 10.3 +2.2**
SNR=8.5
USP Ospenovka 46.14 337 P **P** **05 34 11.0 +1.2**
SNR=20
IDAH Dahanechah 46.70 316 *e*P **P** **05 34 15.4 +0.8**
SONM Songino Array 46.80 9 P **P** **05 34 15.3 +0.3**
SONM PcP **PcP** **05 35 48.0 +0.2**
SONM Songino Array 46.80 9 P **P** **05 34 15.3 +0.3**
comp=Z,29nm,0.8s,baz=189,slow=8.9,SNR=182
SONM PcP **PcP** **05 35 48.1 +0.2**
comp=Z,2.4nm,0.8s,baz=197,slow=4.0,SNR=3.3
SONM LR LR 05 56 42.0
comp=Z,636nm,18.1s,baz=168,slow=40
MK31 Makanchi Array 46.85 346 *e*P **P** **05 34 15.6 +0.3**
MK31 pmax pmax
comp=Z,24nm,0.5s
MKAR Makanchi Array 46.85 346 *e*P **P** **05 34 15.9 +0.6**
MKAR Makanchi Array 46.85 346 *e*P **P** **05 34 15.9 +0.6**
MKAR Makanchi Array 46.85 346 P **P** **05 34 15.9 +0.6**
comp=Z,26nm,0.5s,baz=161,slow=8.8,SNR=380
MKAR LR LR 05 57 35.3
comp=Z,147nm,20.9s,baz=161,slow=41
ULN Ulaanbaatar 46.93 9 *e*P **P** **05 34 16.2 +0.1**
comp=Z,17nm,0.7s
ITEG Tejag 47.57 315 *e*P **P** **05 34 22.1 +0.8**
KK31 Karatay Array 47.66 334 *i* P **P** **05 34 22.3 +0.6**
KK31 pmax pmax
comp=Z,28nm,1.2s
KKAR Karatay Array 47.66 334 *e*P **P** **05 34 22.7 +1.0**
KKAR pmax pmax
comp=Z,22nm,1.1s
KKAR Karatay Array 47.66 334 *e*P **P** **05 34 22.7 +1.0**
comp=Z,22nm,1.1s
COEN Coen 48.24 110 *e*P **P** **05 34 25.0 -1.6**
comp=Z,54nm,0.9s
ZAK Zakamensk 48.93 5 *e*P **P** **05 34 30.4 -1.0**
ZAK pmax pmax
comp=Z,6.0nm,0.9s
CN2 Changchun 49.06 27 ⇓P **P** **05 34 32.0 -0.4**
CN2 *e*pP **pP** **05 34 42.0 -0.4**
CN2 *e*sP **sP** **05 34 46.0 -0.3**
CN2 *e*S **S** **05 41 33.8 -1.2**
CN2 pmax pmax
comp=Z,20nm,0.6s
CN2 LR LR
comp=N,400nm,16.0s
CN2 LR LR
comp=E,400nm,16.0s
CN2 LR LR
comp=Z,400nm,17.0s
IPAY Payeh 49.40 319 *e*P **P** **05 34 35.3 -0.1**
IAKL Akhelmad 49.65 319 *e*P **P** **05 34 37.8 +0.4**
IKRD Kardeh 49.91 319 *e*P P 05 34 34.9 -4.4
MOY Mondy 50.04 3 *e*P **P** **05 34 40.6 +0.7**
TLY Talaya 50.25 5 *e*P **P** **05 34 41.1 -0.3**
TLY *e* 05 34 56.6
TLY *e* 05 36 31.9
TLY *e*S **S** **05 41 51.3 -0.2**
TLY pmax pmax
comp=Z,11nm,0.8s
TLY MLR MLR
comp=Z,321nm,17.0s
TLY Talaya 50.25 5 *e*P **P** **05 34 42.5 +1.1**
comp=Z,13nm,0.8s
KURBB Kurchatov Arra 51.34 345 P **P** **05 34 50.0 +0.5**
comp=Z,5.5nm,0.4s,baz=163,slow=6.9,SNR=55
HIA Hailar 51.35 19 *e*P **P** **05 34 50.1 +0.4**
KURK Kurchatov 51.40 345 P **P** **05 34 50.0 0.0**
KURK pmax pmax
comp=Z,6.0nm,0.4s
KURK Kurchatov 51.40 345 *e*P **P** **05 34 50.4 +0.4**
comp=Z,42nm,1.1s
KURK Kurchatov 51.40 345 P **P** **05 34 50.9 +0.9**
comp=Z,174nm,1.1s,SNR=11
MAT Matsushiro 51.53 43 P **P** **05 34 50.4 -0.9**
MJAR Matsushiro Arr 51.53 43 P **P** **05 34 50.5 -0.8**
MJAR Matsushiro Arr 51.53 43 P **P** **05 34 50.5 -0.8**
comp=Z,2.4nm,0.6s,baz=228,slow=7.3,SNR=7.2
MDJ Mudanjiang 51.63 29 P **P** **05 34 52.3 +0.5**
MDJ pP **pP** **05 35 01.0 -0.9**
MDJ ScP **ScP** **05 39 59.0 -0.7**
MDJ S **S** **05 42 11.5 +0.7**
MDJ SS **SS** **05 45 47.8 +0.3**
MDJ pmax pmax
comp=Z,11nm,1.3s
MDJ pmax pmax
comp=Z,72nm,7.2s
MDJ LR LR
comp=N,200nm,19.3s
MDJ LR LR
comp=E,300nm,17.4s
MDJ LR LR
comp=Z,470nm,16.4s
MDJ Mudanjiang 51.63 29 *e*P **P** **05 34 52.4 +0.6**
IANJ Anjilo 52.32 315 *e*P **P** **05 34 57.8 +0.3**
USRK Ussuriysk Arra 52.55 31 P **P** **05 34 58.6 -0.1**
comp=Z,35nm,1.0s,baz=236,slow=5.3,SNR=37
ZALV Zalesovo Beam 53.18 351 P **P** **05 35 03.5 +0.4**
ZALV Zalesovo Beam 53.18 351 P **P** **05 35 03.5 +0.4**
ZALV Zalesovo Beam 53.18 351 P **P** **05 35 03.5 +0.4**
comp=Z,17nm,0.4s,baz=174,slow=6.3,SNR=99
ZALV LR LR 06 03 28.4
comp=Z,152nm,19.6s,baz=242,slow=42
STKA Stephens Creek 53.72 132 P **P** **05 35 07.3 -0.2**
STKA Stephens Creek 53.72 132 P **P** **05 35 07.3 -0.2**
comp=Z,2.1nm,0.5s,baz=350,slow=8.7,SNR=10
STKA LR LR 06 01 17.6
comp=Z,199nm,20.1s,baz=24,slow=40
NVS Novosibirsk 54.30 350 *e*P **P** **05 35 10.1 -1.2**
NVS *e*S **S** **05 42 43.7 -3.0**
NVS pmax pmax
comp=Z,40nm,1.2s
NVS pmax pmax
comp=N,27nm,1.3s
NVS pmax pmax
comp=E,11nm,1.1s
NVS smax smax
comp=E,37nm,2.7s
RAYN Ar Rayn 54.45 298 P **P** **05 35 14.4 +1.4**
comp=E,202nm,0.8s,SNR=5.9
NAY Al-Naaiem 54.76 305 *e*P **P** **05 35 15.5 +0.4**
NAY AMb AMB 05 35 25.4
comp=Z,21nm,0.9s
IRAZ Razeghan 55.15 313 *e*P **P** **05 35 18.8 +0.6**
VOSK Vostochnaya 55.41 341 P **P** **05 35 19.1 -0.3**
VOSK pmax pmax
comp=Z,17nm,0.9s
BVAR Borovoye Array 55.86 341 P **P** **05 35 22.4 -0.2**
BVAR Borovoye Array 55.86 341 P **P** **05 35 22.4 -0.2**
BVAR Borovoye Array 55.86 341 P **P** **05 35 22.4 -0.2**
comp=Z,6.2nm,0.7s,baz=142,slow=7.5,SNR=49
BRVK Borovoye 55.92 341 *e*P **P** **05 35 22.8 -0.2**
BRVK pmax pmax
comp=Z,16nm,1.0s
BRVK Borovoye 55.92 341 *e*P **P** **05 35 22.8 -0.2**
comp=Z,16nm,1.0s
BRVK Borovoye 55.92 341 P **P** **05 35 22.9 -0.2**
comp=Z,99nm,0.9s,SNR=7.5
KLR Kul'dur 56.01 27 *e*P P 05 35 19.0 -4.7
KLR pmax pmax
comp=E,20nm,1.2s
KLR pmax pmax
comp=Z,50nm,1.2s
KLR MLR MLR
comp=Z,2μm,12.5s
HABR Khabarovsk 57.02 29 *e*P **P** **05 35 29.2 -1.8**
HABR *e**PP **pP** **05 35 38.3 -2.8**
HABR *e* 05 36 23.7
HABR PPP PPP 05 38 51.7
HABR *e*S **S** **05 43 22.4 -0.8**
HABR *e* 05 43 33.7
HABR *e**SS **sS** **05 43 38.4 -1.6**
HABR *e* 05 45 14.5
HABR *e*SS **SS** **05 47 10.9 -1.4**
HABR pmax pmax
comp=E,41nm,2.0s
HABR pmax pmax
comp=N,19nm,2.0s
HABR pmax pmax
comp=Z,74nm,2.0s
HABR MLR MLR
comp=Z,291nm,20.0s
AB31 Akbulak array 57.12 332 P **P** **05 35 31.8 +0.1**
AB31 pmax pmax
comp=Z,19nm,0.8s
ABKAR Akbulak array 57.12 332 *e*P **P** **05 35 31.6 0.0**
comp=Z,21nm,0.9s
BOD Bodaibo 57.69 11 ⇑*i*P **P** **05 35 35.7 +0.2**
BOD pmax pmax
comp=Z,17nm,1.3s
EIDS Eidsvold 58.70 121 *e*P **P** **05 35 42.3 -0.9**
comp=Z,18nm,1.0s
CLNS Chul'man 59.45 17 *e*P **P** **05 35 47.5 -0.3**
CLNS pmax pmax
comp=E,3.0nm,0.8s
CLNS pmax pmax
comp=Z,10.0nm,0.8s

CLNS pmax pmax
comp=N,3.0nm,0.9s
CLNS MLR MLR
comp=Z,496nm,12.0s
CLNS MLR MLR
comp=E,582nm,16.0s
CLNS MLR MLR
comp=N,291nm,15.0s
YSS Yuzh-Sakhalins 60.14 34 *e*P **P 05 35 53.0 +0.3**
YSS pmax pmax
comp=Z,600nm,1.0s
YSS MLR MLR
comp=Z,400nm,17.0s
YSS MLR MLR
comp=E,500nm,18.0s
MAK Makhachkala 60.35 320 *e*P P 05 35 47.9 -6.4
MAK *e*S S 05 44 00.3 -6.5
MAK pmax pmax
comp=Z,161nm,1.3s
SVE Sverdlovsk 62.30 338⇑ *e*P **P 05 36 07.8 +0.7**
SVE pmax pmax
comp=Z,300nm,1.0s
ZEI Tsey 62.62 318 *e*P **P 05 36 10.2 +0.3**
ZEI pmax pmax
comp=Z,5.0nm,0.9s
ARU Arti 62.79 337 *d i*P **P 05 36 10.4 -0.1**
ARU 05 38 24.3
ARU S **S 05 44 40.1 +2.9**
ARU SS **SS 05 48 39.9 -2.7**
ARU pmax pmax
comp=Z,9.0nm,1.0s
ARU Arti 62.79 337 *e*P **P 05 36 09.8 -0.6**
comp=Z,16nm,1.1s
KBZ Khabaz 63.70 319 P **P 05 36 15.6 -1.1**
KBZ Khabaz 63.70 319 P **P 05 36 15.6 -1.1**
KBZ Khabaz 63.70 319 P **P 05 36 15.6 -1.1**
comp=Z,6.7nm,0.8s,baz=153,slow=4.2,SNR=16
KIV Kislovodsk 63.93 319⇑ *i*P **P 05 36 18.9 +0.5**
KIV *e**PP **pP 05 36 27.4 -1.3**
KIV *e* 05 38 39.3
KIV *e*S **S 05 44 53.1 +1.0**
KIV *e*SS **SS 05 49 00.6 -0.5**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV Kislovodsk 63.93 319 *e*P **P 05 36 19.1 +0.7**
comp=Z,36nm,1.2s
YAK Yakutsk 65.12 16 *e*P **P 05 36 24.4 -1.2**
YAK *e* 05 36 33.0
YAK pmax pmax
comp=Z,48nm,0.9s
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,15nm,1.1s
YAK MLR MLR
comp=Z,582nm,17.0s
YAK MLR MLR
comp=N,324nm,17.0s
YAK MLR MLR
comp=E,332nm,19.0s
VRHR Novokhopersk 67.74 326 *e*P **P 05 36 41.8 -0.8**
VRHR pmax pmax
comp=N,5.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR pmax pmax
comp=Z,10.0nm,0.9s
BRTR Keskin Array B 68.75 312 P **P 05 36 48.9 -0.6**
BRTR Keskin Array B 68.75 312 P **P 05 36 48.9 -0.6**
comp=Z,3.3nm,0.8s,baz=131,slow=7.4,SNR=16
VORD Divnogorie 69.00 325 *e*P **P 05 36 50.0 -0.6**
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=Z,10.0nm,0.9s
VORD pmax pmax
comp=E,5.0nm,0.5s
VSR Storozhevoye 69.18 325 *e*P **P 05 36 50.7 -1.0**
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,20nm,1.3s
VSR pmax pmax
comp=Z,20nm,1.3s
PETK Petropavlovsk- 71.52 34 LR LR 06 11 55.7
comp=Z,69nm,19.5s,baz=54,slow=39
MOS Moscow 71.94 329 *e*P P 05 37 16.0 +7.6
MOS pmax pmax
comp=Z,35nm,1.0s
OBN Obninsk 72.23 328 *e*P **P 05 37 09.5 -0.6**
OBN *e**PP **pP 05 37 19.4 -1.1**
OBN *e*S **S 05 46 30.7 +0.2**
OBN *e*SS **SS 05 51 10.9 +2.3**
OBN pmax pmax
comp=Z,42nm,2.5s
OBN MLR MLR
comp=Z,100nm,16.0s
KLMR Klimovskoe 73.36 334 *e*P **P 05 37 15.4 -1.3**
KLMR pmax pmax
comp=Z,17nm,1.2s
SEY Seymchan 73.49 23 *e*P **P 05 37 16.7 -0.8**
TIRR Tirgusor 73.75 316 *e*P **P 05 37 19.0 -0.4**
TIRR pmax pmax
comp=Z,11nm,0.9s
TIRR Tirgusor 73.75 316 *e*P **P 05 37 19.0 -0.4**
comp=Z,111nm,0.9s
BOSA Boshof 74.82 240 LR LR 06 04 55.3
comp=Z,69nm,20.2s,baz=264,slow=32
AKASG Malin Array Be 74.88 322 P **P 05 37 25.0 -0.8**
AKASG Malin Array Be 74.88 322 P **P 05 37 24.9 -0.8**
AKASG Malin Array Be 74.88 322 P **P 05 37 24.9 -0.8**
comp=Z,2.1nm,0.5s,baz=90,slow=5.6,SNR=9.3
KIEV Kiev 74.88 322 *e*P **P 05 37 25.7 -0.1**
KIEV pmax pmax
comp=Z,5.0nm,0.7s
KIEV Kiev 74.88 322 *e*P **P 05 37 25.7 -0.1**
comp=Z,5.3nm,0.7s
VRI Vrincioaia 75.25 317⇓ P **P 05 37 29.5 +1.4**
VRI Vrincioaia 75.25 317⇓ *i*P **P 05 37 29.5 +1.4**
PLOR Plostina 75.30 317⇓ P **P 05 37 30.0 +1.6**
PLOR Plostina 75.30 317⇓ *i*P **P 05 37 30.0 +1.6**
TESR 75.45 318⇓⇓ *i*P **P 05 37 29.6 +0.4**
MLR Muntele Rosu 75.70 317⇓⇓ *i*P **P 05 37 31.5 +0.7**
VOIR 76.30 316⇑⇑ P **P 05 37 34.4 +0.2**
VOIR 76.30 316⇑⇑ *i*P **P 05 37 34.4 +0.2**
BURAR Bucovina Array 76.65 319⇑⇑ *i*P **P 05 37 37.4 +1.2**
VTS Vitosha 77.07 313⇑⇑ P pP 05 37 47.4 -1.8
VTS Vitosha 77.07 313⇑⇑ *i*P pP 05 37 47.4 -1.8
DRGR 78.16 317⇓⇓ P **P 05 37 45.7 +1.1**
DRGR 78.16 317⇓⇓ *i*P **P 05 37 45.7 +1.1**
BZS Buzias 78.70 316⇑⇑ P **P 05 37 48.4 +0.9**
BZS Buzias 78.70 316⇑⇑ *i*P **P 05 37 48.4 +0.9**
KOLS Kolonicke sedl 78.84 320 *e*P **P 05 37 49.2 +1.0**
KOLS *e* 05 37 58.6
KOLS Kolonicke sedl 78.84 320 *e*P **P 05 37 49.2 +1.0**
KOLS *e*pP **pP 05 37 58.6 -0.1**
CRVS Cervenica-Dubn 79.36 319 *e*P pP 05 38 01.5 -0.1
CRVS Cervenica-Dubn 79.36 319 *e*pP pP 05 38 01.5 -0.1
FINES FINESS Array B 79.61 332 P **P 05 37 52.1 0.0**
FINES FINESS Array B 79.61 332 P **P 05 37 52.1 0.0**
comp=Z,3.1nm,0.4s,baz=103,slow=5.7,SNR=25
SYO Syowa Base 80.30 198⇓⇓ *e*PcP **PcP 05 38 01.4 -1.3**
PKSM Moragy 80.85 316⇑⇑ P **P 05 37 59.9 +0.8**
PKSM Moragy 80.85 316⇑⇑ *i*P **P 05 37 59.9 +0.8**
BILL Bilibino 80.89 21 *e*P **P 05 38 01.5 +2.6**
BILL *e* 05 41 05.7
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,300nm,18.0s
VYHS Vyhne 81.02 319 *e*P pP 05 38 11.0 +0.4
VYHS Vyhne 81.02 319 *e*pP pP 05 38 11.0 +0.4
OKC Ostrava-Krasne 81.64 320 *e*P P 05 38 08.0 +4.7
OKC *e* 05 38 13.1
OKC Ostrava-Krasne 81.64 320 *e*P P 05 38 08.0 +4.7
OKC *e*pP pP 05 38 13.1 -0.7
ARCES ARCESS Array B 82.14 340 P **P 05 38 06.0 +0.5**
ARCES ARCESS Array B 82.14 340 P **P 05 38 06.0 +0.5**
comp=Z,4.6nm,0.5s,baz=102,slow=5.3,SNR=34
ARCES LR LR 06 20 52.1
comp=Z,148nm,18.5s,baz=342,slow=40
DPC Dobruska-Polom 82.87 320 *e*P **P 05 38 11.0 +1.2**
DPC *e* 05 38 19.8
DPC Dobruska-Polom 82.87 320 *e*P **P 05 38 11.0 +1.2**
DPC *e*pP **pP 05 38 19.8 -0.5**
SOKA Soboth 83.38 317⇑ *i*P **P 05 38 13.3 +0.8**
comp=Z,6.1nm,1.2s
PRU Pruhonice 83.98 320 *e*P **P 05 38 17.0 +1.6**
PRU Pruhonice 83.98 320 *e*P **P 05 38 17.0 +1.6**
BRG Berggiesshubel 84.43 321 *e*P pP 05 38 27.4 -0.8
comp=Z,4.1nm,0.9s
BRG Berggiesshubel 84.43 321 *e*P **pP 05 38 27.4 -0.8**
BRG pmax pmax
comp=Z,4.0nm,0.9s
GERES GERESS Array B 84.44 319 P **P 05 38 18.0 +0.1**
GERES GERESS Array B 84.44 319 P **P 05 38 18.0 +0.1**
comp=Z,2.9nm,0.9s,baz=93,slow=5.9,SNR=16
KHC Kasperske Hory 84.54 319 *e*P **P 05 38 18.4 +0.1**
KHC *e* 05 38 28.6
KHC Kasperske Hory 84.54 319 *e*P **P 05 38 18.4 +0.1**
KHC *e*pP **pP 05 38 28.6 -0.3**
GRF Grafenberg Arr 86.11 320 *e*P **P 05 38 27.2 +1.1**
comp=Z,9.0nm,1.3s
GRF Grafenberg Arr 86.11 320 *e*P **P 05 38 27.2 +1.1**
GRF pmax pmax
comp=Z,9.0nm,1.3s
VNDA Vanda 86.21 169 LR LR 06 16 02.9
comp=Z,119nm,18.2s,baz=134,slow=35
FETA Feichten 86.34 317⇑ *i*P **P 05 38 26.9 -0.6**
comp=Z,6.6nm,1.2s
NB2 NORSAR Subarra 86.61 331 P **P 05 38 28.0 -0.4**
comp=Z,6.9nm,1.1s,baz=92,slow=5.3
NOA NORSAR Array B 86.61 331 P **P 05 38 26.4 -1.9**
NOA NORSAR Array B 86.61 331 P **P 05 38 26.4 -1.9**
comp=Z,3.3nm,0.9s,baz=94,slow=4.8,SNR=5.7
NOA LR LR 06 23 00.4
comp=Z,67nm,18.6s,baz=310,slow=40
LPG La Plagne 89.10 315 *e*P P 05 38 47.3 +6.3
comp=Z,13nm,1.1s
LPL La Plagne 89.11 315 *e*P P 05 38 47.5 +6.6
comp=Z,15nm,1.0s
SFTF Sexfontaines 90.19 318 *e*P P 05 38 52.2 +6.6
LOR Lormes 91.03 317 *e*P P 05 38 56.1 +6.5
comp=Z,24nm,1.1s
AVF Avril sur Loir 91.40 317 *e*P P 05 38 57.8 +6.5
comp=Z,17nm,1.2s
ILAR Eielson Array 99.43 23 PP PP 05 43 21.6 -9.1
ILAR Eielson Array 99.43 23 PP PP 05 43 21.6 -9.1
comp=Z,0.8nm,1.0s,baz=269,slow=5.7,SNR=4.6
YKA Yellowknife Ar 111.79 15 PP PP 05 44 56.3 -5.4
YKA Yellowknife Ar 111.79 15 PP PP 05 44 56.3 -5.4
comp=Z,0.5nm,0.9s,baz=333,slow=7.9,SNR=5.4
TXAR Lajitas Array 143.44 31 PKP PKPbc 05 45 18.0 +0.3
TXAR Lajitas Array 143.44 31 PKP PKPbc 05 45 18.0 +0.3
comp=Z,0.5nm,0.6s,baz=29,slow=0.7,SNR=6.4
JCT Junction City 144.32 25 *e*PKIKP PKPbc 05 45 20.9 +0.7
JCT Junction City 144.32 25 *e*PKPdf PKPbc 05 45 20.9 +0.7
CPUP Villa Florida 145.16 223 PKPbc **PKPbc 05 45 21.3 -1.6**
CPUP Villa Florida 145.16 223 PKPbc **PKPbc 05 45 21.3 -1.6**
comp=Z,0.5nm,0.4s,baz=45,slow=6.7,SNR=6.1

ISCJB ***27*** *06:12:02.4±0.6, 6.°90N±0.°06×73.°01W±0.°07, h167km±6km, mb3.4/3, Error ellipse: s-maj=13.8km s-min=7.3km az=37.5*
FUNV ***27*** *06:12:03.0, 6.°79N×73.°12W, h166km, MW3.4*
IDC ***27*** *06:12:04.3±3.5, 6.°27N×72.°87W, h208km±127km, mb3.1/3, mb1 3.4/4, mb1mx3.0/23, mbtmp3.2/4, Error ellipse: s-maj=275.6km s-min=70.3km az=162.0*
ISC 27 06:12:03.6±1.0, 6.°91N±0.°07×73.°01W±0.°08, h162km±9km, n21, σ0°87/26, mb3.4/3, 1C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
CAPV	**Capacho**	**1.18**	**36**	⇓ *i*P		**Pn**	**06 12 31.7 +0.5**
CAPV				*e*S		**Sn**	**06 12 52.6 +0.1**
ROSC	**El Rosal**	**2.42**	**213**	P		**Pn**	**06 12 43.8 -0.9**
	37nm,0.3s,baz=90,slow=20,SNR=364						
ROSC				S		**Sn**	**06 13 15.4 -1.2**
	43nm,0.3s,baz=81,slow=19,SNR=15						
VIGV	**El Vigia**	**2.52**	**40**	⇓ *e*P		**Pn**	**06 12 46.5 +0.8**
VIGV				*e*S		**Sn**	**06 13 17.9 -0.3**
SOCV	**Socops**	**2.54**	**57**	⇓ *e*P		**Pn**	**06 12 46.6 +0.8**
SOCV				*e*S		**Sn**	**06 13 18.2 -0.2**
ELOV	**Elorza**	**3.51**	**88**	⇓⇓ *e*P		**Pn**	**06 12 57.9 +0.1**
VIRV	**Villa del Rosa**	**3.62**	**9**	⇑⇑ *e*P		**Pn**	**06 12 58.5 -0.9**
VIRV				*e*S		**Sn**	**06 13 41.1 -1.7**
QARV	**Quebrada Arrib**	**4.10**	**37**	*e*P		**Pn**	**06 13 06.4 +0.9**
CURV	**Curarigua**	**4.32**	**44**	*e*P		**Pn**	**06 13 08.5 +0.1**
DABV	**Dabajuro**	**4.63**	**30**	*e*P		**Pn**	**06 13 12.5 +0.1**
TEPV	**Terepaima**	**4.85**	**51**	*e*P		**Pn**	**06 13 15.3 0.0**
SIQV	**Siquisique**	**4.89**	**40**	*e*P		**Pn**	**06 13 15.0 -0.7**
BAUV	**El Baul**	**5.33**	**67**	*e*P		**Pn**	**06 13 20.3 -1.2**
MAPV	**Macapo**	**5.36**	**57**	⇓⇓ *e*P		**Pn**	**06 13 21.8 -0.2**
IMOV	**Isla Los Monje**	**5.80**	**21**	*e*P		**Pn**	**06 13 27.4 -0.5**
MONV	**Montecano**	**5.85**	**31**	*e*P		**Pn**	**06 13 28.1 -0.3**
TURV	**Turiamo**	**6.21**	**55**	*e*P		**Pn**	**06 13 32.7 -0.5**
MERV	**Las Mercedes**	**7.05**	**70**	*e*P		**Pn**	**06 13 43.2 -1.1**
CUPV	**Cepira**	**7.80**	**66**	*e*P		**Pn**	**06 13 52.6 -1.8**
SCHQ	**Schefferville**	**48.05**	**5**	P		**P**	**06 20 27.2 +0.8**
	1.4nm,0.7s,baz=207,slow=11,SNR=3.7						
PDAR	**Pinedale Array**	**48.07**	**324**	P		**P**	**06 20 27.7 +0.6**
	0.2nm,0.4s,baz=126,slow=9.1,SNR=3.1						
YKA	**Yellowknife Ar**	**63.22**	**340**	P		**P**	**06 22 14.3 0.0**
	0.3nm,0.5s,baz=133,slow=6.9,SNR=10						

IDC 27 06:14:13.7±0.9, 9.°94S×120.°72E, h0km, mb3.9/8, mb1 4.1/11, mb1mx4.0/22, mbtmp4.0/11, ML4.0/3, MS3.2/4, Ms1 3.3/4, ms1mx2.7/37, Error ellipse: s-maj=43.5km s-min=16.2km az=69.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
KAPI	**Kappang**	**4.99**	**349**	Pn		Pb	06 15 35.9 -6.0
	3.6nm,0.3s,baz=187,slow=3.8,SNR=8.8						
KAPI				LR		LR	06 17 54.2
	comp=Z,319nm,20.5s,baz=181,slow=44						
FITZ	**Fitzroy Crossi**	**9.41**	**150**	Pn		Pn	06 16 28.7 -1.9
	1.4nm,0.3s,baz=339,slow=10,SNR=23						
FITZ				Sn		Sn	06 18 08.0 -9.3
	1.9nm,0.3s,baz=302,slow=18,SNR=7.2						
FITZ				LR		LR	06 20 04.4
	comp=Z,68nm,18.7s,baz=107,slow=37						
WRA	**Warramunga Arr**	**16.48**	**129**	Pn		Pn	06 18 05.2 -1.3
	0.4nm,0.3s,baz=300,slow=13,SNR=11						
WRA				Sn		Sn	06 21 00.6 -10
	0.4nm,0.3s,baz=295,slow=22,SNR=4.6						
ASAR	**Alice Springs**	**18.57**	**139**	P		Pn	06 18 33.5 +0.9
	0.7nm,0.3s,baz=314,slow=12,SNR=38						
ASAR				S		Sn	06 21 51.3 -10
	0.1nm,0.3s,baz=315,slow=24,SNR=4.5						
NWAO	**Narrogin (SRO)**	**23.10**	**187**	P		P	06 19 23.0 +1.7
	4.0nm,0.4s,baz=17,slow=11,SNR=5.3						
PSI	**Prapat**	**25.13**	**299**	LR		LR	06 31 43.5
	comp=Z,66nm,20.2s,baz=81,slow=42						
STKA	**Stephens Creek**	**29.16**	**142**	P		P	06 20 15.6 -1.1
	1.4nm,0.7s,baz=20,slow=11,SNR=3.6						
CMAR	**Chiang Mai Arr**	**35.47**	**323**	LR		LR	06 37 27.1
	comp=Z,42nm,18.9s,baz=180,slow=39						
MJAR	**Matsushiro Arr**	**49.08**	**19**	P		P	06 23 03.9 +1.1
	0.9nm,0.5s,baz=193,slow=8.9,SNR=3.0						
USRK	**Ussuriysk Arra**	**54.85**	**10**	P		P	06 23 46.6 +1.0
	0.6nm,0.5s,baz=192,slow=6.9,SNR=2.9						
SONM	**Songino Array**	**58.91**	**349**	P		P	06 24 15.2 +0.6
	1.4nm,0.9s,baz=167,slow=7.5,SNR=11						
MKAR	**Makanchi Array**	**66.06**	**332**	P		P	06 25 02.1 -0.3
	0.7nm,0.6s,baz=152,slow=7.5,SNR=10						
ZALV	**Zalesovo Beam**	**70.52**	**338**	P		P	06 25 28.5 -1.7
	0.8nm,0.5s,baz=131,slow=4.1,SNR=5.4						
KURBB	**Kurchatov Arra**	**70.56**	**333**	P		P	06 25 30.2 -0.3
	0.2nm,0.2s,baz=150,slow=5.5,SNR=4.4						

MAN ***27*** *06:26:19, 5.°97N×125.°80E, h118km, mb4.5, ML3.3, MS3.2*
IDC 27 06:26:16.3±1.9, 6.°17N×126.°32E, h155km±10km, mb3.4/7, mb1 3.5/7, mb1mx3.2/26, mbtmp3.4/7, 1D, Error ellipse: s-maj=99.6km s-min=13.1km az=67.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
MATI	**Mati**	**0.78**	**356**	*e*P		Pn	06 26 42.2 +2.3
MATI				*e*S		Sn	06 26 51.9 -6.2
DAV	**Davao City (W)**	**1.16**	**321**	P		Pn	06 26 43.0 0.0
	52nm,0.3s,baz=59,slow=18,SNR=3.3						
DAV				S		Sn	06 27 03.6 +0.1
	229nm,0.3s,baz=264,slow=22,SNR=14						
DMPH	**Davao City--Mi**	**1.22**	**319**	⇓ *e*P		Pn	06 26 43.2 -0.3
DMPH				*i* S		Sn	06 27 01.7 -2.7
BUKP	**Musuan**	**2.11**	**324**	*e*P		Pn	06 26 54.0 +0.9
BUKP				*e*S		Sn	06 27 19.2 -2.3
FITZ	**Fitzroy Crossi**	**24.12**	**182**	P		P	06 31 17.9 0.0
	1.2nm,0.4s,baz=355,slow=12,SNR=6.8						
WRA	**Warramunga Arr**	**27.12**	**163**	P		P	06 31 45.4 +0.4
	0.4nm,0.4s,baz=342,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**30.56**	**166**	P		P	06 32 15.9 +0.4
	0.8nm,0.5s,baz=346,slow=7.2,SNR=14						
STKA	**Stephens Creek**	**40.54**	**160**	P		P	06 33 38.8 -1.7
	1.8nm,0.6s,baz=324,slow=8.4,SNR=2.9						
MKAR	**Makanchi Array**	**55.34**	**325**	P		P	06 35 33.7 -0.3
	0.3nm,0.4s,baz=115,slow=6.5,SNR=6.0						
KURBB	**Kurchatov Arra**	**59.48**	**327**	P		P	06 36 02.7 -0.2
	0.3nm,0.4s,baz=121,slow=7.6,SNR=4.3						
BVAR	**Borovoye Array**	**65.07**	**327**	P		P	06 36 40.4 +0.3
	0.3nm,0.3s,baz=139,slow=2.9,SNR=2.2						

IDC 27 06:26:46.3±1.6, 3.°27N×126.°99E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/24, mbtmp3.8/5, Error ellipse: s-maj=101.5km s-min=20.7km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
FITZ	**Fitzroy Crossi**	**21.28**	**184**	P		P	06 31 35.0 +0.5
	2.4nm,0.7s,baz=16,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**24.17**	**163**	P		P	06 32 04.5 -0.1
	1.0nm,0.5s,baz=343,slow=11,SNR=5.7						
STKA	**Stephens Creek**	**37.61**	**159**	P		P	06 34 03.1 +0.2
	1.5nm,0.5s,baz=317,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**58.08**	**325**	P		P	06 36 41.6 +0.1
	0.5nm,0.5s,baz=120,slow=8.3,SNR=7.2						
KURBB	**Kurchatov Arra**	**62.26**	**327**	P		P	06 37 09.5 -0.6
	0.4nm,0.3s,baz=126,slow=6.1,SNR=5.1						

ISCJB ***27*** *06:38:13.5±0.6, 7.°51S±0.°05×128.°29E±0.°09, h151km, mb3.9/7, Error ellipse: s-maj=12.4km s-min=6.4km az=169.8*
DJA ***27*** *06:38:15.9±1.0, 7.°5S×12.°8E±1.°2, h152km±22km, M4.6/5, mB5.5/1, mb4.3/5, MLv4.7/3, Mw(mB)5.0/1*
IDC ***27*** *06:38:16.9±2.5, 7.°46S×128.°15E, h160km±23km, mb3.7/7, mb1 3.7/10, mb1mx3.6/21, mbtmp3.7/10, Error ellipse: s-maj=30.8km s-min=13.7km az=65.0*
ISC 27 06:38:15.2±0.7, 7.°58S±0.°06×128.°35E±0.°10, h151km, n22, σ2°03/29, mb4.0/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
TLE	**Tual**	**4.77**	**66**	P		**Pn**	**06 39 25.3 -0.3**
MTN	**Manton Dam**	**5.91**	**153**	*e*P		**Pn**	**06 39 42.6 +1.8**
MTN				*e*S		**Sn**	**06 40 46.3 -1.4**
FAKI	**Fak Fak**	**6.04**	**40**	P		**Pn**	**06 39 40.6 -1.9**
	23nm,0.7s,0.2nm						
FITZ	**Fitzroy Crossi**	**10.79**	**194**	*e*P		**Pn**	**06 40 48.0 +2.3**
FITZ				*e*S		**Sn**	**06 42 41.3 -3.9**
FITZ	**Fitzroy Crossi**	**10.79**	**194**	P		**Pn**	**06 40 47.0 +1.3**
	0.8nm,0.3s,baz=30,slow=9.6,SNR=19						
FITZ				S		**Sn**	**06 42 41.2 -3.9**
	3.6nm,0.3s,baz=111,slow=23,SNR=7.4						
WRA	**Warramunga Arr**	**13.60**	**155**	P		**Pn**	**06 41 20.8 -1.3**
	1.7nm,0.3s,baz=340,slow=10.0,SNR=29						
WRA				S		Sn	06 43 45.7 -7.1
	3.6nm,0.3s,baz=331,slow=22,SNR=11						
WRA				ScP		**ScP**	**06 49 53.8 -2.0**
	0.1nm,0.3s,baz=329,slow=1.7,SNR=5.4						
COEN	**Coen**	**15.88**	**115**	*e*P		**P**	**06 41 50.7 -0.6**
COEN				*e*S		Sn	06 44 29.8 -18
ASAR	**Alice Springs**	**16.86**	**162**	P		**Pn**	**06 42 05.5 +3.0**
	0.8nm,0.3s,baz=340,slow=9.8,SNR=49						
ASAR				S		**S**	**06 45 05.7 -4.4**
	0.9nm,0.3s,baz=341,slow=23,SNR=4.9						
ASAR				ScP		**ScP**	**06 50 00.1 -1.7**
	0.1nm,0.3s,baz=347,slow=1.8,SNR=6.6						
PMG	**Port Moresby**	**18.69**	**97**	P		**Pn**	**06 42 26.3 +2.0**
	0.4nm,0.3s,baz=270,slow=13,SNR=4.5						
STKA	**Stephens Creek**	**27.15**	**155**	*e*P		**P**	**06 43 46.1 +1.7**
STKA	**Stephens Creek**	**27.15**	**155**	P		**P**	**06 43 46.4 +1.9**
	3.8nm,0.6s,baz=335,slow=10,SNR=11						
CMSA	**Cobar Meteorol**	**28.81**	**148**	*e*P		**P**	**06 44 01.1 +1.9**
SONM	**Songino Array**	**58.48**	**343**	P		**P**	**06 47 55.0 -0.6**
	0.6nm,0.7s,baz=158,slow=7.2,SNR=5.9						
PETK	**Petropavlovsk-**	**65.39**	**19**	P		**P**	**06 48 40.8 -0.6**
	6.8nm,0.8s,baz=151,slow=6.4,SNR=3.6						
MKAR	**Makanchi Array**	**67.82**	**328**	P		**P**	**06 48 57.5 +0.4**
	0.9nm,0.5s,baz=124,slow=7.8,SNR=17						
ZALV	**Zalesovo Beam**	**71.38**	**335**	P		**P**	**06 49 16.8 -1.9**
	1.8nm,0.7s,baz=120,slow=6.0,SNR=7.2						
KURBB	**Kurchatov Arra**	**72.15**	**329**	P		**P**	**06 49 23.1 -0.2**
	1.6nm,0.6s,baz=130,slow=5.0,SNR=15						
BVAR	**Borovoye Array**	**77.68**	**328**	P		**P**	**06 49 55.1 0.0**
	0.5nm,0.4s,baz=132,slow=8.3,SNR=5.9						
TXAR	**Lajitas Array**	**126.63**	**59**	PKP		**PKPdf**	**06 57 01.6 +0.2**
	0.1nm,0.5s,baz=178,slow=1.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**127.31**	**281**	PKP		**PKPdf**	**06 57 02.8 -0.1**
	0.5nm,0.6s,baz=38,slow=0.7,SNR=4.0						
CPUP	**Villa Florida**	**145.85**	**171**	PKPbc		**PKPab**	**06 57 38.4 +0.3**
	0.5nm,0.4s,baz=188,slow=3.0,SNR=4.2						
LPAZ	**La Paz**	**151.22**	**146**	PKPbc		**PKPbc**	**06 57 54.0 +1.4**
	0.9nm,0.4s,baz=270,slow=3.0,SNR=4.4						
LPAZ				PKPab		**PKPab**	**06 58 02.9 +2.1**
	2.4nm,0.6s,baz=213,slow=4.4,SNR=8.7						

IDC ***27*** *08:06:41.6±1.7, 42.°98S×72.°40W, h0km, mb3.5/3, mb1 4.0/4, mb1mx3.7/17, mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=62.6km s-min=19.5km az=130.0*
GUC ***27*** *08:06:41.1±0.4, 42.°84S×72.°63W, h1km±4km, ML3.3*
ISCJB ***27*** *08:06:42.2±1.2, 42.°82S±0.°05×72.°6W±0.°1, h10km, mb3.5/2, Error ellipse: s-maj=14.7km s-min=5.5km az=157.3*
ISC 27 08:06:42.6±1.2, 42.°85S±0.°06×72.°5W±0.°1, h10km, n10, σ1°47/13, 1C-2D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
HUNY	**Huinay**	**0.47**	**4**	⇓⇓ *i*P		**Pg**	**08 06 50.6 -1.2**
HUNY				*e*S		**Sg**	**08 06 58.0 0.0**
HUNY				AML		AML	08 06 59.8
	comp=N,2μm,0.3s						
FUTA	**Futaleufœ**	**0.56**	**128**	⇓⇓ *i*P		**Pb**	**08 06 54.1 -0.3**
FUTA				*i* S		**Sn**	**08 07 04.0 -2.0**
ILCA	**Isla Las Cabra**	**0.79**	**356**	⇑⇑ *i*P		**Pg**	**08 06 55.7 -2.2**
ILCA				*i* S		**Sg**	**08 07 07.3 -0.9**
ILCA				AML		AML	08 07 08.7
	comp=E,816nm,0.5s						
PUEL	**Puelo Alto**	**1.19**	**6**	*e*P		**Pn**	**08 07 03.6 -1.6**
PLCA	**Paso Flores**	**2.55**	**35**	Pn		**Pn**	**08 07 25.8 +1.7**
	comp=E,6.7nm,0.3s,baz=219,slow=16,SNR=67						
PLCA				Pg		**Pb**	**08 07 29.4 +0.9**
	comp=E,6.7nm,0.3s,baz=218,slow=17,SNR=130						
PLCA				Lg		Lg	08 08 05.2
	comp=E,26nm,0.3s,baz=120,slow=6.7,SNR=26						
CPUP	**Villa Florida**	**20.60**	**42**	P		Pn	08 11 24.1 0.0
	comp=E,0.9nm,0.7s,baz=212,slow=9.5,SNR=3.6						
TXAR	**Lajitas Array**	**77.35**	**332**	P		**P**	**08 18 39.1 +1.6**
	comp=E,0.3nm,0.9s,baz=169,slow=5.1,SNR=3.9						
PDAR	**Pinedale Array**	**91.52**	**334**	P		**P**	**08 19 50.2 +1.0**
	comp=E,0.3nm,0.8s,baz=129,slow=8.2,SNR=3.7						
ILAR	**Eielson Array**	**121.85**	**331**	PKP		**PKPdf**	**08 25 36.5 +0.8**
	comp=E,0.2nm,0.8s,baz=174,slow=1.8,SNR=4.1						
MKAR	**Makanchi Array**	**161.69**	**69**	PKPab		**PKPab**	**08 27 28.6 0.0**
	comp=E,0.5nm,0.9s,baz=262,slow=4.4,SNR=4.1						

**IDC 27 08:15:09.3±1.7, 6.°25N×122.°63E, h0km, mb3.7/4, mb1 3.9/4, mb1m

ISCJB ***27*** *08:15:23.8±0.6, 1°.03S±0'.05×126°.89E±0'.07, h34km, mb3.7/4, Error ellipse: s-maj=10.4km s-min=6.2km az=26.1*

DJA ***27*** *08:15:25.1±0.7, 1°.3S±3'×12°.7E±°, h29km±9km, M4.0/4, mb4.9/1, mB4.9/1, MLv3.5/4, Mw(mB)4.2/1*

ISC 27 08:15:25.2±0.8, 1.02S±0°.07×126.97E±0.08, h34km, n12, σ0s82/14, mb3.6/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.66**	**54**	P	**Pb**	**08 15 38.2**	**-0.2**
LBMI				S	**Sn**	**08 15 46.1**	**-1.2**
TNTI	**Ternate**	**1.83**	**13**	P	**Pn**	**08 15 54.2**	**0.0**
TNTI				S	**Sn**	**08 16 17.1**	**+0.9**
NLAI	**Namlea**	**2.21**	**177**	P	**Pn**	**08 16 00.4**	**+1.0**
AAI	**Ambon**	**2.92**	**155**	P	**Pn**	**08 16 10.3**	**+1.1**
SPSI	**Sidrap Palu**	**7.76**	**248**	P	**Pn**	**08 17 16.2**	**+0.4**
KAPI	**Kappang**	**8.22**	**241**	Pn	**Pn**	**08 17 21.7**	**-0.4**
	0.6nm,0.3s,baz=67,slow=6.8,SNR=4.5						
FITZ	**Fitzroy Crossi**	**17.02**	**184**	P	**P**	**08 19 21.8**	**-0.5**
	0.1nm,0.3s,baz=5.7,slow=10,SNR=3.5						
FITZ				LR	LR	08 24 59.6	
	comp=Z,56nm,19.2s,baz=212,slow=34						
WRA	**Warramunga Arr**	**20.14**	**159**	P	**P**	**08 19 55.6**	**-0.9**
	1.9nm,0.8s,baz=339,slow=11,SNR=9.6						
ASAR	**Alice Springs**	**23.49**	**164**	P	**P**	**08 20 31.4**	**-0.7**
	2.1nm,0.8s,baz=342,slow=10,SNR=24						
STKA	**Stephens Creek**	**33.66**	**157**	P	**P**	**08 22 03.3**	**+0.4**
	2.7nm,0.7s,baz=332,slow=9.7,SNR=5.6						
MKAR	**Makanchi Array**	**61.60**	**327**	P	**P**	**08 25 38.8**	**-0.6**
	0.1nm,0.4s,baz=130,slow=6.6,SNR=4.3						
KURBB	**Kurchatov Arra**	**65.87**	**329**	P	**P**	**08 26 08.0**	**+0.7**
	0.2nm,0.4s,baz=132,slow=6.2,SNR=3.1						

NEIC ***27*** *08:19:52.0, 43°.06S×173°.36E, h26km, ML3.8(WEL), After WEL.*

NEIC Felt at Cheviot.

WEL 27 08:19:52.0±0.1, 43°.06S×173°.36E, h26km±1km, ML3.8/36, 3C-2D, Error ellipse: s-maj=1.7km s-min=0.8km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.66**	**12**	⇓P*	Pb	08 20 04.6	-0.3
KHZ				S*	Sb	08 20 13.2	-0.4
KHZ	**Kahutara**	**0.66**	**12**	*e*Pg	**Pb**	08 20 04.5	-0.4
KHZ				*e*Sg	Sb	08 20 12.8	-0.9
CRLZ	**Canterbury Las**	**0.75**	**226**	P*	Pb	08 20 06.1	-0.2
CRLZ				S*	Sn	08 20 17.3	-0.1
MQZ	**McQueen's Vall**	**0.83**	**219**	⇑PN	Pb	08 20 07.1	-0.7
MQZ				S*	Sb	08 20 18.2	-0.3
LTZ	**Lake Taylor**	**0.85**	**289**	PN	Pb	08 20 07.9	-0.3
LTZ				SN	Sb	08 20 18.9	-0.4
THZ	**Tophouse**	**1.34**	**345**	PN	Pn	08 20 14.5	-0.7
THZ				SN	Sn	08 20 31.6	-0.7
BSWZ	**Blackbirch Sta**	**1.40**	**16**	PN	Pn	08 20 15.6	-0.3
BSWZ				SN	Sn	08 20 32.8	-0.7
TUWZ	**Tuamarina**	**1.69**	**15**	PN	Pn	08 20 19.2	-0.6
DSZ	**Denniston Nort**	**1.75**	**318**	⇑PN	Pn	08 20 20.6	-0.2
RPZ	**Rata Peaks**	**1.81**	**248**	PN	Pn	08 20 21.1	-0.4
RPZ	**Rata Peaks**	**1.81**	**248**	*e*Pn	Pn	08 20 21.5	0.0
NNZ	**Nelson**	**1.84**	**0**	⇓PN	Pn	08 20 21.7	-0.2
WVZ	**Waitaha Valley**	**1.92**	**269**	PN	Pn	08 20 23.2	+0.1
TCW	**Tory Channel**	**1.97**	**21**	PN	Pn	08 20 22.8	-0.9
BHW	**Baring Head**	**2.00**	**35**	PN	Pn	08 20 23.0	-1.1
SNZO	**South Karori**	**2.02**	**30**	PN	Pn	08 20 23.4	-0.9
SNZO	**South Karori**	**2.02**	**30**	*e*Pn	Pn	08 20 23.2	-1.1
PLWZ	**Palliser**	**2.05**	**44**	PN	Pn	08 20 23.4	-1.4
WEL	**Wellington**	**2.06**	**31**	PN	Pn	08 20 24.2	-0.7
MSWZ	**Moikau Station**	**2.16**	**41**	PN	Pn	08 20 24.9	-1.5
DUWZ	**D'Urville Isla**	**2.30**	**11**	PN	Pn	08 20 27.9	-0.4
QRZ	**Quartz Range**	**2.32**	**344**	PN	Pn	08 20 29.0	+0.5
CAW	**Cannon Point**	**2.33**	**34**	PN	Pn	08 20 27.5	-1.2
TRWZ	**Traveller**	**2.40**	**47**	PN	Pn	08 20 28.0	-1.6
MTW	**Mount Morrison**	**2.48**	**41**	PN	Pn	08 20 29.0	-1.8
KIW	**Kapiti Island**	**2.48**	**28**	PN	Pn	08 20 30.0	-0.8
OGWZ	**Otaki Gorge**	**2.62**	**32**	PN	Pn	08 20 32.6	0.0
LBZ	**Lake Benmore**	**2.66**	**239**	PN	Pn	08 20 33.4	+0.2
HOWZ	**Holdsworth Sta**	**2.69**	**37**	PN	Pn	08 20 32.9	-0.8
FOZ	**Fox Glacier**	**2.73**	**258**	PN	Pn	08 20 33.8	-0.3
ODZ	**Otahua Downs**	**2.79**	**224**	PN	Pn	08 20 34.6	-0.3
ODZ	**Otahua Downs**	**2.79**	**224**	*e*Pn	Pn	08 20 34.9	-0.1
MRZ	**Mangatainoka R**	**2.92**	**35**	PN	Pn	08 20 36.7	0.0
POWZ	**Post Office Ro**	**3.22**	**35**	PN	Pn	08 20 40.6	-0.3
DVHZ	**Dannevirke**	**3.47**	**38**	PN	Pn	08 20 43.2	-1.2
WAZ	**Wanganui**	**3.52**	**21**	PN	Pn	08 20 46.3	+1.2
WKZ	**Wanaka**	**3.60**	**239**	PN	Pn	08 20 46.3	+0.2
EAZ	**Earnscleugh**	**3.63**	**232**	PN	Pn	08 20 46.4	-0.2
PNHZ	**Pukenui**	**3.80**	**35**	PN	Pn	08 20 48.4	-0.6
NWEZ	**Newall Road**	**3.80**	**6**	*e*PN	Pn	08 20 51.1	+2.1
NEZ	**North Egmont**	**3.83**	**9**	PN	Pn	08 20 52.0	+2.6
PKE	**Pukeiti**	**3.89**	**7**	PN	Pn	08 20 52.2	+2.0
DREZ	**Durham Road**	**3.92**	**10**	PN	Pn	08 20 51.5	+1.0
TUZ	**Tuapeka**	**3.94**	**221**	PN	Pn	08 20 50.5	-0.1
MOVZ	**Moawhango**	**4.07**	**27**	PN	Pn	08 20 53.0	+0.3
VRZ	**Vera Road**	**4.07**	**15**	PN	Pn	08 20 53.5	+0.9
WNVZ	**Wahianoa**	**4.09**	**25**	PN	Pn	08 20 54.7	+1.6
TRVZ	**Turoa**	**4.11**	**24**	PN	Pn	08 20 54.0	+0.6
BHZ	**Black Hill Sta**	**4.11**	**31**	PN	Pn	08 20 53.7	+0.5
FWVZ	**Far West T-bar**	**4.15**	**24**	PN	Pn	08 20 54.8	+0.8
TUVZ	**Tukino**	**4.17**	**25**	PN	Pn	08 20 55.1	+1.0
WPVZ	**Whakapapa**	**4.19**	**24**	PN	Pn	08 20 55.2	+0.8
KAHZ	**Kahuranaki**	**4.20**	**40**	PN	Pn	08 20 54.8	+0.4
NGZ	**Ngauruhoe**	**4.23**	**24**	PN	Pn	08 20 56.2	+1.1
OTVZ	**Oturere**	**4.26**	**25**	PN	Pn	08 20 55.3	-0.2
MCHZ	**McNeill Hill**	**4.40**	**36**	PN	Pn	08 20 57.1	-0.1
BKZ	**Black Stump Fm**	**4.55**	**32**	PN	Pn	08 20 57.6	-1.7
SYZ	**Scrubby Hill**	**4.59**	**219**	PN	Pn	08 21 00.9	+1.1
HIZ	**Hauiti**	**4.68**	**15**	⇑PN	Pn	08 21 01.5	+0.4
NMHZ	**Naumai**	**4.74**	**34**	PN	Pn	08 21 01.1	-0.8
WHZ	**Wether Hill Ro**	**4.80**	**232**	PN	Pn	08 21 02.0	-0.6
DCZ	**Deep Cove**	**5.07**	**239**	PN	Pn	08 21 06.0	-0.3
APZ	**The Paps**	**5.36**	**223**	PN	Pn	08 21 10.3	-0.1
URZ	**Urewera**	**5.58**	**32**	PN	Pn	08 21 11.5	-1.8
MWZ	**Matawai**	**5.68**	**35**	PN	Pn	08 21 12.4	-2.5
MKAZ	**Moumakai**	**6.10**	**14**	PN	Pn	08 21 20.0	-0.5

WEL 27 08:25:11.9±0.6, 36°.30S×177°.77E, h182km±6km, ML3.8/5, 2C-1D, Error ellipse: s-maj=9.9km s-min=7.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.33**	**161**	PN	Pn	08 25 42.6	+0.2
MXZ				SN	Sn	08 26 04.9	-1.3
PUZ	**Puketiti**	**1.81**	**168**	⇑PN	Pn	08 25 47.2	0.0
PUZ				SN	Sn	08 26 13.8	-0.8
URZ	**Urewera**	**2.03**	**195**	PN	Pn	08 25 50.3	+0.9
URZ				SN	Sn	08 26 18.8	+0.3
MWZ	**Matawai**	**2.04**	**185**	⇓PN	Pn	08 25 50.2	+0.6
MWZ				SN	Sn	08 26 18.4	-0.6
CNGZ	**Carnagh Statio**	**2.21**	**171**	⇑PN	Pn	08 25 51.9	+0.5
CNGZ				SN	Sn	08 26 22.2	0.0
PRGZ	**Paritu Road**	**2.62**	**178**	PN	Pn	08 25 56.1	-0.1
RAHZ	**Arahi**	**2.67**	**192**	PN	Pn	08 25 56.4	-0.3
KNZ	**Kokohu**	**2.72**	**182**	PN	Pn	08 25 56.9	-0.3
MHGZ	**Mahia Peninsul**	**2.85**	**178**	PN	Pn	08 25 58.8	0.0
NMHZ	**Naumai**	**2.90**	**195**	PN	Pn	08 26 00.4	+0.9
BKZ	**Black Stump Fm**	**3.04**	**199**	PN	Pn	08 26 01.5	+0.3
MCHZ	**McNeill Hill**	**3.25**	**195**	PN	Pn	08 26 04.4	+0.7
CKHZ	**Cape Kidnapper**	**3.40**	**189**	PN	Pn	08 26 05.4	-0.1
BHHZ	**Black Hill Sta**	**3.46**	**202**	PN	Pn	08 26 06.2	-0.2
KAHZ	**Kahuranaki**	**3.56**	**191**	PN	Pn	08 26 07.0	-0.6
PXZ	**Pawanui**	**3.79**	**191**	PN	Pn	08 26 09.4	-1.0
PNHZ	**Pukenui**	**3.82**	**198**	PN	Pn	08 26 10.2	-0.5
PRHZ	**Porangahau**	**4.06**	**192**	PN	Pn	08 26 12.8	-1.0
BFZ	**Birch Farm**	**4.54**	**195**	PN	Pn	08 26 18.3	-1.5
MRZ	**Mangatainoka R**	**4.68**	**201**	PN	Pn	08 26 20.3	-1.5
TIWZ	**Tintock**	**4.71**	**198**	PN	Pn	08 26 20.9	-1.3
HOWZ	**Holdsworth Sta**	**4.92**	**200**	PN	Pn	08 26 23.0	-1.8
OGWZ	**Otaki Gorge**	**4.95**	**204**	PN	Pn	08 26 23.7	-1.5
TMWZ	**Te Maipa**	**5.02**	**196**	PN	Pn	08 26 24.3	-1.9
KIW	**Kapiti Island**	**5.08**	**205**	PN	Pn	08 26 25.3	-1.6
MTW	**Mount Morrison**	**5.17**	**199**	PN	Pn	08 26 25.9	-2.1
CAW	**Cannon Point**	**5.25**	**203**	PN	Pn	08 26 27.0	-2.1
KHZ	**Kahutara**	**6.93**	**207**	PN	Pn	08 26 48.9	-2.2

IDC 27 08:35:02.5±27.0, 21.10S×173.27W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/21, mbtmp4.0/4, Error ellipse: s-maj=509.8km s-min=160.4km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.84**	**264**	P	P	08 42 22.2	+0.9
	5.6nm,0.8s,baz=79,slow=10,SNR=4.1						
STKA	**Stephens Creek**	**41.55**	**245**	P	P	08 42 50.5	-1.5
	1.7nm,0.8s,baz=90,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**48.69**	**257**	P	P	08 43 48.8	-0.3
	0.5nm,0.4s,baz=95,slow=7.3,SNR=8.1						
WRA	**Warramunga Arr**	**48.90**	**262**	P	P	08 43 50.6	0.0
	0.8nm,0.3s,baz=94,slow=8.5,SNR=28						

MOS ***27*** *08:47:27.8±1.8, 56°.48N×118°.40E, h10km, mb4.3/1, Error ellipse: s-maj=24.5km s-min=20.0km az=81.9*

BYKL ***27*** *08:47:28.5±0.2, 56°.46N×118°.42E, h14km±5km*

ISC 27 08:47:26.3±0.6, 56°.46N±0°.03×118°.49E±0°.02, h10km, n29, σ2s65/47, 1C-2D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**0.46**	**344**	*e*PG	**Pg**	**08 47 35.4**	**+0.1**
CRS				*e*		08 47 42.0	
CRS				pmax	pmax		
	comp=Z,300nm,0.3s						
CRS				smax	smax		
	comp=E,874nm,0.7s						
CRS	**Chara**	**0.46**	**344**	⇓*i*Pg	**Pb**	**08 47 36.7**	**+0.1**
CRS				*e*Sg	**Sb**	**08 47 42.7**	**-0.8**
CRS				Pmax			
	comp=E,264nm,0.1s						
CRS				Smax			
	comp=E,859nm,0.3s						
KHNR	**Khani**	**0.94**	**60**	⇑*i*Pg	**Pn**	**08 47 46.6**	**+0.9**
KHNR				*e*Sg	**Sn**	**08 48 00.3**	**+1.1**
KHNR				*e*		08 48 07.2	
TUP	**Tupik**	**2.20**	**157**	*e*PN	Pn	08 48 05.9	+3.0
TUP				*e*		08 48 07.9	
TUP				*e*S	**Sn**	**08 48 33.1**	**+2.9**
TUP				*e*		08 48 36.8	
TUP				pmax	pmax		
	comp=Z,90nm,0.6s						
TUP				smax	smax		
	comp=E,238nm,1.0s						
TUP	**Tupik**	**2.20**	**157**	*e*Pn	**Pb**	**08 48 06.1**	**-0.1**
TUP				*e*Pg	**Pg**	**08 48 07.9**	**-0.6**
TUP				*e*Sg	**Sb**	**08 48 36.6**	**+3.1**
TUP				*e*LR	LR	08 48 51.2	
TUP				Pmax			
	comp=E,91nm,0.4s						
TUP				Smax			
	comp=E,206nm,0.4s						
BOD	**Bodaibo**	**2.80**	**301**	*e*PN	**Pn**	**08 48 12.2**	**+1.0**
BOD				*e*		08 48 17.1	
BOD				*e*		08 48 52.6	
BOD				pmax	pmax		
	comp=Z,61nm,0.5s						
BOD				smax	smax		
	comp=N,471nm,0.4s						
BOD	**Bodaibo**	**2.80**	**301**	*e*Pn	**Pn**	**08 48 12.7**	**+1.5**
BOD				*e*Pg	**Pb**	**08 48 17.3**	**+0.9**
BOD				*e*Sg	**Sb**	**08 48 52.5**	**+1.8**
BOD				Pmax			
	comp=N,61nm,0.5s						
BOD				Smax			
	comp=N,471nm,0.4s						
IENR	**Iengra**	**3.55**	**91**	*e*Pn	Pn	08 48 25.0	+3.5
IENR				*e*Pg	**Pb**	**08 48 31.7**	**+2.5**
IENR				*e*Sg	**Sg**	**08 49 19.6**	**-0.6**
CLNS	**Chul'man**	**3.55**	**81**	*e*PN	**Pb**	**08 48 28.4**	**-0.9**
CLNS				*e*		08 49 19.7	
CLNS				pmax	pmax		
	comp=Z,84nm,0.7s						
CLNS				pmax	pmax		
	comp=N,13nm,0.3s						
CLNS				pmax	pmax		
	comp=E,21nm,0.4s						
CLNS				smax	smax		
	comp=N,313nm,0.9s						
CLNS				smax	smax		
	comp=Z,20nm,0.4s						
CLNS				smax	smax		
	comp=E,223nm,1.1s						
CLNS	**Chul'man**	**3.55**	**81**	*e*Pn	Pn	08 48 26.0	+4.5
CLNS				*e*Pg	Pb	08 48 33.2	+3.9
CLNS				*e*Sg	**Sg**	**08 49 20.2**	**-0.2**
YOA	**Uoyan**	**3.79**	**268**	*e*PN	**Pb**	**08 48 35.6**	**+2.4**
YOA				*e*		08 49 25.4	
YOA				pmax	pmax		
	comp=Z,94nm,0.3s						
YOA				smax	smax		
	comp=E,521nm,0.5s						
YOA	**Uoyan**	**3.79**	**268**	*e*Pg	**Pb**	**08 48 35.7**	**+2.5**
YOA				*e*Sn	**Sn**	**08 49 08.6**	**-0.7**
YOA				*e*Sg	**Sg**	**08 49 24.4**	**-3.4**
YOA				Pmax			
	comp=E,113nm,0.4s						
YOA				Smax			
	comp=E,522nm,0.6s						
KMO	**Kumora**	**4.12**	**265**	*e*PN	**Pn**	**08 48 30.2**	**+1.0**
KMO				*e*		08 48 40.2	
KMO				*e*S	**Sn**	**08 49 16.6**	**-0.8**
KMO				*e*		08 49 31.4	
KMO				pmax	pmax		
	comp=Z,34nm,0.4s						
KMO				smax	smax		
	comp=N,183nm,1.2s						
KMO	**Kumora**	**4.12**	**265**	*e*Pn	**Pn**	**08 48 31.8**	**+2.6**
KMO				*e*Pg	**Pb**	**08 48 40.7**	**+1.9**
KMO				*e*Sg	**Sg**	**08 49 33.2**	**-5.2**
KMO				*e*		08 49 43.3	
KMO				Pmax			
	comp=N,44nm,0.4s						
KMO				max			
	comp=N,182nm,1.2s						
VTMR	**Vitim**	**4.36**	**316**	*e*Sg	**Sg**	**08 49 43.1**	**-2.9**
YLYR	**Ulyunkhan**	**4.44**	**252**	*e*PN	**Pb**	**08 48 46.8**	**+2.4**
YLYR				*e*S	**Sn**	**08 49 25.5**	**0.0**
YLYR				*e*		08 49 43.2	
YLYR				pmax	pmax		
	comp=Z,1.0nm,0.1s						
YLYR				smax	smax		
	comp=N,103nm,1.1s						
YLYR	**Ulyunkhan**	**4.44**	**252**	*e*Pn	**Pn**	**08 48 36.4**	**+2.7**
YLYR				*e*		08 48 49.6	
YLYR				*e*Sg	**Sg**	**08 49 43.8**	**-5.1**
YLYR				Smax			
	comp=N,103nm,1.0s						
NIZ	**Nizh Angarsk**	**5.06**	**266**	*e*Pn	**Pn**	**08 48 44.5**	**+2.3**
NIZ				*e*Pg	Pg	08 48 59.5	-3.6
NIZ				*e*Sn	**Sn**	**08 49 40.0**	**-0.6**
NIZ				*e*Sg	**Sg**	**08 50 03.1**	**-5.4**
NIZ				Pmax			
	comp=N,17nm,0.5s						
NIZ				Smax			
	comp=N,45nm,0.8s						
KROS	**Kirovskiy**	**5.24**	**109**	⇓*i*Pn	**Pn**	**08 48 45.0**	**+0.4**
KROS				*e*Pg	**Pb**	**08 49 00.5**	**+2.6**
SYVR	**Suvo**	**5.63**	**244**	*e*PN	Pg	08 49 09.6	-4.5
SYVR				*e*		08 50 22.9	
SYVR				pmax	pmax		
	comp=Z,17nm,2.0s						
SYVR				smax	smax		
	comp=N,120nm,1.7s						
SYVR	**Suvo**	**5.63**	**244**	*e*Pn	**Pn**	**08 48 52.3**	**+2.3**
SYVR				*e*		08 49 00.6	
SYVR				*e*Pg	Pb	08 49 09.0	+4.4
SYVR				*e*Sg	**Sg**	**08 50 21.2**	**-5.7**
SYVR				Pmax			
	comp=N,14nm,1.1s						
SYVR				Smax			
	comp=N,98nm,1.3s						
ZEA	**Zeya**	**5.72**	**115**	*e*Sg	**Sg**	**08 50 26.6**	**-3.1**
ZEA				Smax			
	comp=N,130nm,0.6s						
MXMB	**Maximikha**	**6.47**	**244**	*e*Sn	**Sn**	**08 50 14.4**	**-1.1**
MXMB				*e*Sg	**Sg**	**08 50 48.8**	**-5.2**
MXMB				Smax			
	comp=N,177nm,0.8s						
OGRR	**Ongureny**	**6.87**	**250**	*e*Pn	**Pn**	**08 49 09.2**	**+2.2**
OGRR				*e*		08 49 30.6	
OGRR				*e*		08 50 57.5	
OGRR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
OGRR				smax	smax		
	comp=N,50nm,2.6s						
OGRR	**Ongureny**	**6.87**	**250**	*e*Pn	**Pn**	**08 49 09.1**	**+2.1**
OGRR				*e*Pg	Pg	08 49 32.6	-5.1
OGRR				*e*Sn	**Sn**	**08 50 24.9**	**-0.2**
OGRR				*e*Sg	**Sg**	**08 51 00.8**	**-5.7**
OGRR				Pmax			
	comp=N,7.0nm,1.1s						
OGRR				Smax			
	comp=N,50nm,1.1s						
ZRHB	**Zarechye**	**7.67**	**244**	*e*Sg	Sg	08 51 26.1	-6.2
ZRHB				Smax			
	comp=N,213nm,1.3s						
KPC	**Khapcheranga**	**7.70**	**211**	*e*Pn	**Pn**	**08 49 20.4**	**+1.9**
KPC				*e*Pg	Pg	08 49 48.0	-5.6
KPC				*e*Sg	Sg	08 51 26.1	-7.1
KPC				Pmax			
	comp=N,2.0nm,0.2s						
KPC				Smax			
	comp=N,44nm,0.8s						
TRG	**Tyrgan**	**7.96**	**247**	*e*Pn	**Pn**	**08 49 22.6**	**+0.5**
TRG				*e*		08 50 55.6	
TRG				*e*Sg	Sg	08 51 33.2	-8.5
TRG				Smax			
	comp=N,26nm,1.0s						
TLY	**Talaya**	**9.95**	**247**	*e*Sg	Sn	08 52 34.4	+54
TLY				Smax			
	comp=N,17nm,1.6s						

ISCJB ***27*** *08:47:48.6±0.8, 51°.48N±0°.04×16°.08E±0°.04, h0km, Error ellipse: s-maj=6.5km s-min=3.5km az=8.9*

CSEM ***27*** *08:47:49.7±0.6, 51°.52N×16°.06E, h2km, ML3.3/7, Error ellipse: s-maj=9.4km s-min=4.7km az=174.0*

PRU ***27*** *08:47:50.8, 51°.49N×16°.07E, h0km*

WAR ***27*** *08:47:50.6, 51°.54N×16°.06E*

VIE ***27*** *08:47:52.2±0.5, 51°.33N×16°.05E, h0km, mb2.4/3, ML2.7/4, Error ellipse: s-maj=3.0km s-min=2.5km az=0.0 71 km WNW of Wroclaw Suspected Mining induced.*

ISC 27 08:47:49.5±1.2, 51.56N±0°.05×16.07E±0°.03, h0km, n28, σ0s82/51, 4C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**169**	*e*Pg	**Pg**	**08 48 04.0**	**+0.5**
KSP				*e*Sg	**Sg**	**08 48 13.8**	**+0.9**
KSP	**Ksiaz**	**0.73**	**169**	*e*Pg	**Pg**	**08 48 04.0**	**+0.5**
KSP				*e*Sg	**Sg**	**08 48 13.8**	**+0.9**
KSP	**Ksiaz**	**0.73**	**169**	*e*	**Pb**	**08 48 06.0**	**+1.0**
KSP	**Ksiaz**	**0.73**	**169**	⇓*i*Pg	**Pg**	**08 48 04.0**	**+0.5**
KSP				*e*Sg	**Sg**	**08 48 13.7**	**+0.9**
UPC	**Upice**	**1.05**	**182**	*e*PG	**Pg**	**08 48 10.1**	**+0.4**
UPC	**Upice**	**1.05**	**182**	Pg	**Pg**	**08 48 10.1**	**+0.4**
DPC	**Dobruska-Polom**	**1.22**	**172**	*e*PG	**Pg**	**08 48 12.8**	**-0.1**
DPC				*e*SG	**Sg**	**08 48 27.3**	**-1.3**
	comp=Z,30nm,0.3s						
DPC	**Dobruska-Polom**	**1.22**	**172**	Pg	**Pg**	**08 48 12.8**	**-0.1**
DPC				Sg	**Sg**	**08 48 27.3**	**-1.3**
	30nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**223**	*e*PG	**Pg**	**08 48 16.5**	**+0.2**
PVCC				*e*SG	**Sb**	**08 48 35.0**	**+0.1**
	comp=Z,116nm,0.3s						
PVCC	**Panska Ves**	**1.40**	**223**	Pg	**Pg**	**08 48 16.5**	**+0.2**
PVCC				Sg	**Sb**	**08 48 35.0**	**+0.1**
	116nm,0.3s						
BRG	**Berggiesshubel**	**1.50**	**244**	PG	**Pn**	**08 48 18.0**	**+0.3**
BRG				SG	**Sn**	**08 48 38.3**	**+0.3**
	75nm,0.4s						
PRU	**Pruhonice**	**1.85**	**212**	*e*PN	**Pn**	**08 48 22.0**	**-0.5**
PRU				*e*PG	**Pb**	**08 48 23.9**	**-0.2**
PRU				*e*SG	**Sb**	**08 48 48.1**	**+0.3**
	comp=Z,21nm,0.3s						
PRU	**Pruhonice**	**1.85**	**212**	Pn	**Pn**	**08 48 22.0**	**-0.5**
CLL	**Collm**	**1.94**	**264**	*i* Pn	**Pn**	**08 48 22.7**	**-1.0**
	comp=Z,11nm,0.4s						
CLL				*i* Pg	**Pb**	**08 48 25.7**	**0.0**
CLL				*i*		08 48 29.9	
CLL				*e*Sg	**Sg**	**08 48 53.0**	**+1.2**
	comp=Z,15nm,0.6s						
OKC	**Ostrava-Krasne**	**2.17**	**142**	*e*PG	**Pb**	**08 48 30.4**	**+0.8**
OKC				*e*SG	**Sb**	**08 48 57.5**	**+0.5**
OKC	**Ostrava-Krasne**	**2.17**	**142**	Pg	**Pb**	**08 48 30.4**	**+0.8**
OKC				Sg	**Sb**	**08 48 57.5**	**+0.5**
NKC	**Novy Kostel**	**2.65**	**241**	*e*SG	**Sg**	**08 49 14.2**	**-0.4**
	comp=Z,26nm,0.4s						
NKC	**Novy Kostel**	**2.65**	**241**	Sg	**Sg**	**08 49 14.2**	**-0.4**
	comp=Z,26nm,0.4s						
OJC	**Ojcow**	**2.71**	**118**	*e*Pg	**Pg**	**08 48 41.0**	**-0.5**
OJC				*e*SG	**Sg**	**08 49 16.1**	**-0.5**
OJC	**Ojcow**	**2.71**	**118**	*e*Pg	**Pg**	**08 48 41.0**	**-0.5**
OJC				*e*SG	**Sg**	**08 49 16.8**	**+0.2**
KHC	**Kasperske Hory**	**2.91**	**214**	*e*PN	**Pn**	**08 48 36.8**	**-0.3**
KHC				*e*PG	**Pb**	**08 48 42.8**	**+0.6**
KHC				*e*SN	**Sn**	**08 49 11.0**	**-1.7**
KHC				*e*SG	**Sb**	**08 49 20.5**	**+2.2**
	comp=Z,12nm,0.7s						
KHC	**Kasperske Hory**	**2.91**	**214**	Pn	**Pn**	**08 48 36.8**	**-0.3**
VYHS	**Vyhne**	**3.54**	**149**	*e*PN	**Pn**	**08 48 45.5**	**-0.3**
VYHS	**Vyhne**	**3.54**	**149**	*e*Pn	**Pn**	**08 48 45.5**	**-0.3**
CONA	**Conrad Observa**	**3.63**	**182**	⇑*i*Pn	**Pn**	**08 48 46.9**	**-0.2**
CONA				⇑*i*Sg	**Sg**	**08 49 44.1**	**-2.1**
	comp=Z,11nm,

*ISCJB **27** 09:06:14.0±1.0,26.˝32N×103.˝83E±0.˝03,h30km±7km, mb3.7/10, Error ellipse: s-maj=6.1km s-min=4.6km az=148.9*

*JMA **27** 09:06:14.8±0.2,26.˝35N×128.˝84E,h35km±3km, M3.7*

*IDC **27** 09:06:16.9±0.8,26.˝35N×128.˝60E,h30km±5km, mb3.6/10, mb1 3.7/11,mb1mx3.6/25,mbtmp3.6/11, ML3.7/1, Error ellipse: s-maj=34.6km s-min=11.4km az=67.0*

ISC 27 09:06:16.0±0.7,26˚33N±0.˝04×128˚79E±0.˝04, h31km±5km, n26,σ1ᵎ55/44, mb3.9/10, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.68**	**317**	P	**Pb**	**09 06 28.1**	**-1.4**
JOW				eS	**Sb**	**09 06 37.6**	**-1.1**
JOW	**Kunigami**	**0.68**	**317**	Pn	**Pb**	**09 06 28.4**	**-1.1**
	baz=135,slow=19						
JOW				Sn	**Sb**	**09 06 37.6**	**-1.1**
	baz=322,slow=19						
JJT2	**Tamagusuku 2**	**0.95**	**259**	P	**Pn**	**09 06 32.9**	**-0.4**
JJT2				eS	**Sb**	**09 06 45.9**	**-0.4**
NAH1	**Naha**	**1.00**	**263**	P	**Pn**	**09 06 33.3**	**-0.6**
NAH1				eS	**Sn**	**09 06 46.5**	**-0.4**
JIH	**Iheya**	**1.02**	**314**	P	**Pn**	**09 06 33.5**	**-0.7**
JIH				eS	**Sn**	**09 06 46.5**	**-0.9**
JAGN	**Aguni-jima**	**1.41**	**281**	P	**Pn**	**09 06 39.5**	**-0.1**
JAGN				eS	**Sn**	**09 06 57.4**	**+0.3**
JTK	**Tokunoshima**	**1.46**	**6**	P	**Pn**	**09 06 39.6**	**-0.6**
JTK				eS	**Sn**	**09 06 58.4**	**-1.9**
JKE	**Kume jima 2**	**1.80**	**270**	P	**Pn**	**09 06 44.2**	**-0.7**
JAM	**Amami Oshima**	**2.20**	**19**	P	**Pn**	**09 06 49.5**	**-0.9**
JAM				eS	**Sn**	**09 07 15.1**	**-1.4**
JZK	**Kikaishima**	**2.24**	**28**	P	**Pn**	**09 06 50.7**	**-0.3**
JZK				eS	**Sn**	**09 07 17.3**	**-0.3**
JMZ	**Minamidaito 2**	**2.24**	**103**	P	**Pn**	**09 06 49.7**	**-1.3**
JMZ				eS	**Sn**	**09 07 13.9**	**-3.8**
JMJ	**Miyako jima 2**	**3.50**	**245**	P	**Pn**	**09 07 08.1**	**-0.2**
JTJ	**Tarama**	**4.06**	**246**	P	**Pn**	**09 07 14.7**	**-1.3**
JTJ				eS	**Sn**	**09 07 59.1**	**-3.4**
JIJ	**Ishigaki jima**	**4.64**	**246**	P	**Pn**	**09 07 22.1**	**-1.9**
JIJ				eS	**Sn**	**09 08 11.9**	**-4.9**
JKRS	**Kuro-shima**	**4.80**	**245**	P	**Pn**	**09 07 24.7**	**-1.5**
JKRS				eS	**Sn**	**09 08 19.4**	**-1.4**
JNU	**Nakatsue**	**7.01**	**15**	Pn	**Pn**	**09 07 57.2**	**+0.7**
	1.2nm,0.3s,baz=187,slow=17,SNR=19						
JNU				Sn	**Sn**	**09 09 13.8**	**-1.4**
	0.4nm,0.3s,baz=353,slow=19,SNR=2.0						
SONM	**Songino Array**	**27.75**	**327**	P	**P**	**09 12 03.6**	**+1.6**
	2.2nm,0.6s,baz=140,slow=10,SNR=22						
MKAR	**Makanchi Array**	**41.84**	**312**	P	**P**	**09 14 02.4**	**-0.8**
	0.5nm,0.7s,baz=94,slow=9.7,SNR=8.3						
ZALV	**Zalesovo Beam**	**42.47**	**323**	P	**P**	**09 14 06.6**	**-1.5**
	0.8nm,0.5s,baz=96,slow=11,SNR=4.2						
KURBB	**Kurchatov Arra**	**45.13**	**316**	P	**P**	**09 14 29.5**	**0.0**
	0.3nm,0.3s,baz=106,slow=9.3,SNR=3.2						
WRA	**Warramunga Arr**	**46.31**	**173**	P	**P**	**09 14 39.6**	**+0.5**
	1.1nm,0.6s,baz=352,slow=8.5,SNR=4.6						
WRA				pP	**pP**	**09 14 49.4**	**+1.1**
	0.6nm,0.4s,baz=352,slow=8.4,SNR=2.9						
ASAR	**Alice Springs**	**49.95**	**174**	P	**P**	**09 15 08.1**	**+1.0**
	0.5nm,0.6s,baz=9.1,slow=7.6,SNR=8.0						
STKA	**Stephens Creek**	**59.16**	**167**	P	**P**	**09 16 16.3**	**+2.4**
	1.2nm,0.6s,baz=0.0,slow=8.1,SNR=3.3						
FINES	**FINESS Array B**	**73.03**	**331**	P	**P**	**09 17 42.7**	**+0.1**
	0.9nm,0.6s,baz=60,slow=8.3,SNR=3.1						
FINES				pP	**pP**	**09 17 53.0**	**+0.8**
	2.6nm,0.8s,baz=180,slow=1.3,SNR=3.4						
AKASG	**Malin Array Be**	**75.78**	**320**	P	**P**	**09 17 58.7**	**-0.1**
	0.6nm,0.4s,baz=63,slow=6.6,SNR=3.1						
AKASG				pP	**pP**	**09 18 08.6**	**+0.1**
	0.5nm,0.4s,baz=64,slow=5.9,SNR=2.3						
YKA	**Yellowknife Ar**	**78.22**	**25**	P	**P**	**09 18 13.6**	**+1.3**
	0.1nm,0.4s,baz=300,slow=5.1,SNR=4.8						
YKA				pP	**pP**	**09 18 23.0**	**+1.0**
	0.1nm,0.6s,baz=331,slow=6.2,SNR=3.5						

IDC 27 09:07:05.5±7.6,3˚23N×127˚02E, h0km, mb3.9/3, mb1 4.1/3,mb1mx3.6/22,mbtmp3.9/3,MS3.1/1,Ms1 3.1/1, ms1mx2.2/41, Error ellipse: s-maj=145.8km s-min=121.0km az=78.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.08**	**339**	LR	LR	09 09 50.4	
	comp=Z,230nm,19.1s,baz=6.4,slow=40						
WRA	**Warramunga Arr**	**24.12**	**163**	P	P	09 12 23.0	-0.3
	5.0nm,0.8s,baz=343,slow=10,SNR=17						
ASAR	**Alice Springs**	**27.56**	**166**	P	P	09 12 55.0	+0.6
	0.3nm,0.6s,baz=343,slow=9.1,SNR=2.4						
STKA	**Stephens Creek**	**37.56**	**159**	P	P	09 14 21.2	-0.5
	2.3nm,0.7s,baz=347,slow=9.4,SNR=4.5						

MEX 27 09:18:37.2±0.9,15˚82N×94˚02W,h87km±13km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.78**	**99**	*e*P	Pn	09 18 53.0	-1.2
PCIG				eS	Sn	09 19 05.5	-1.4
TGIG		**1.28**	**42**	*i* P	Pn	09 18 59.0	-1.2
TGIG				*i* S	Sn	09 19 14.8	-2.6
CMIG	**Matias Romero**	**1.51**	**327**	*e*P	Pn	09 19 02.3	-0.6
CMIG				*i* S	Sn	09 19 21.8	-0.7
CCIG	**Comitan**	**1.87**	**76**	*e*P	Pn	09 19 06.5	-1.3
CCIG				*i* S	Sn	09 19 28.7	-2.3
HUIG	**Huatulco**	**2.01**	**269**	*i* P	Pn	09 19 07.5	-1.9
HUIG				*i* S	Sn	09 19 32.4	-1.7
VHO	**Vista Hermosa**	**2.89**	**296**	*i* P	Pn	09 19 20.3	-1.1
VHO				*i* S	Sn	09 19 53.7	-1.7
PNIG	**Pinotepa**	**3.99**	**279**	*i* P	Pn	09 19 35.7	-0.4
PNIG				*i* S	Sn	09 20 20.0	-1.8

*ISCJB **27** 09:19:09.5±0.5,37.˝16N±0.˝04×71.˝30E±0.˝07,h35km, mb3.7/10, Error ellipse: s-maj=8.8km s-min=4.0km az=154.7*

*IDC **27** 09:19:13.8±5.3,37.˝16N×71.˝58E,h68km±44km,mb3.5/10, mb1 3.7/15,mb1mx3.5/31,mbtmp3.6/15,ML4.1/4, Error ellipse: s-maj=34.7km s-min=21.6km az=7.0*

*NNC **27** 09:19:16.0±5.9,37.˝68N×71.˝10E,h0km, mb3.9,mpv3.7, Error ellipse: s-maj=49.6km s-min=35.9km az=169.0*

ISC 27 09:19:10.9±0.7,37˚19N±0.˝07×71˚29E±0.˝08, h35km, n47, σ1ᵎ53/38, mb3.9/10, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.40**	**171**	P	Pn	09 20 13.4	+12
CEP				S	Sn	09 20 59.0	+18
CHCP	**Chirah Chowk**	**3.87**	**155**	P	Pn	09 20 20.0	+12
THW	**Thamme Wali**	**4.40**	**175**	P	Pn	09 20 26.0	+11
AML	**Almayashu**	**5.27**	**20**	P	Pn	09 20 32.1	+4.5
	SNR=118						
SARP	**Sargodha**	**5.38**	**167**	P	Pn	09 20 37.8	+9.2
SARP				S	Sn	09 21 37.0	+7.7
KZA	**Kyzart**	**5.76**	**31**	P	Pn	09 20 38.5	+4.2
	SNR=10						
EKS2	**Erkin-Say**	**5.79**	**19**	P	Pn	09 20 39.2	+4.8
	SNR=10						
KK31	**Karatay Array**	**5.94**	**354**	Pn	Pn	09 20 41.0	+4.7
	3.3nm,0.3s,baz=171,slow=12,SNR=42						
KK31				⇓Sn	**Sn**	**09 21 42.8**	**-0.3**
	13nm,0.6s,baz=178,slow=24,SNR=7.1						
AAK	**Ala-Archa**	**5.97**	**23**	P	Pn	09 20 41.9	+5.0
	SNR=14						
AAK	**Ala-Archa**	**5.97**	**23**	P	Pn	09 20 41.7	+4.8
	4.2nm,0.3s,baz=175,slow=6.1,SNR=27						
AAK				S	**Sn**	**09 21 44.2**	**+0.1**
	1.7nm,0.3s,baz=346,slow=20,SNR=8.3						
THN	**Thein Dam**	**5.98**	**141**	*e*PKP	Pn	09 20 45.0	+8.1
THN				eS	Sn	09 21 48.3	+4.2
CHMS	**Chumysh**	**6.38**	**23**	P	Pn	09 20 47.0	+4.5
	SNR=9.4						
USP	**Ospenovka**	**6.55**	**21**	P	Pn	09 20 49.6	+4.9
	SNR=11						
TKM2	**Tokmak 2**	**6.61**	**29**	⇓Pn	Pn	09 20 49.7	+4.0
	3.4nm,0.5s						
TKM2				⇓Sn	**Sn**	**09 22 02.8**	**+2.8**
	13nm,1.1s						
SDNR	**Sundarnagar**	**7.37**	**139**	*e*PKP	Pn	09 21 04.0	+8.0
SDNR				*e*S	**Sn**	**09 22 22.2**	**+3.9**
MKAR	**Makanchi Array**	**12.60**	**37**	P	**Pn**	**09 22 09.5**	**+1.9**
	0.2nm,0.3s,baz=225,slow=16,SNR=5.8						
PYUN	**Piuthan**	**13.38**	**129**	*e*P	**Pn**	**09 22 19.1**	**+0.6**
	28nm,0.4s						
DANN	**Dangsing**	**13.69**	**126**	*e*P	**Pn**	**09 22 23.7**	**+0.9**
	18nm,0.3s						
KOLN	**Koldanda**	**13.99**	**129**	*e*P	**Pn**	**09 22 27.5**	**+0.6**
	14nm,0.3s						
KURBB	**Kurchatov Arra**	**14.40**	**19**	P	**Pn**	**09 22 31.6**	**-0.4**
	baz=207,slow=10,SNR=2.9						
GKN	**Gorkha**	**14.49**	**125**	*e*P	**Pn**	**09 22 32.8**	**-0.8**
	12nm,0.3s						
AB31	**Akbulak array**	**14.60**	**329**	P	**Pn**	**09 22 34.9**	**+0.1**
	0.6nm,0.3s,baz=153,slow=10,SNR=24						
KKN	**Kakani**	**15.06**	**124**	*e*P	**Pn**	**09 22 40.3**	**-1.0**
DMN	**Daman**	**15.07**	**125**	*e*P	**Pn**	**09 22 40.5**	**-0.9**
PKI	**Pulchoki**	**15.29**	**125**	*e*P	**Pn**	**09 22 43.2**	**-1.2**
GUN	**Gumba**	**15.38**	**123**	*e*P	**Pn**	**09 22 44.4**	**-1.2**
VOSK	**Vostochnaya**	**15.54**	**359**	⇑P	**Pn**	**09 22 45.4**	**-1.8**
	1.3nm,0.6s						
JIRN	**Jiri**	**15.75**	**123**	*e*P	**Pn**	**09 22 48.7**	**-1.7**
	6.0nm,0.4s						
ZRNK	**Zerenda**	**15.84**	**355**	⇑P	**P**	**09 22 54.3**	**-0.2**
	3.5nm,0.5s						
BVA0	**Borovoye Array**	**15.85**	**358**	⇑P	**Pn**	**09 22 52.7**	**+1.5**
	0.2nm,0.4s,baz=164,slow=14,SNR=22						
BVAR	**Borovoye Array**	**15.85**	**358**	P	**Pn**	**09 22 52.2**	**+1.0**
	1.4nm,0.3s,baz=163,slow=10,SNR=22						
AKTO	**Aktyubinsk**	**16.31**	**328**	P	**Pn**	**09 23 00.5**	**+3.4**
	2.2nm,0.3s,baz=124,slow=9.9,SNR=28						
AKTO				S	Sn	09 25 47.9	-8.9
	0.2nm,0.3s,baz=348,slow=20,SNR=4.7						
RAMN	**Ramite**	**16.49**	**124**	*e*P	**Pn**	**09 22 58.6**	**-1.2**
	8.2nm,0.3s						
TAPN	**Taplejung**	**16.98**	**121**	*e*P	**Pn**	**09 23 05.2**	**-0.8**
	14nm,0.4s						
ODAN	**Odare**	**17.08**	**122**	*e*P	**P**	**09 23 07.1**	**-1.5**
ZALV	**Zalesovo Beam**	**19.19**	**25**	P	**P**	**09 23 30.4**	**-1.1**
	0.6nm,0.3s,baz=226,slow=10.0,SNR=5.5						
SONM	**Songino Array**	**27.76**	**56**	P	**P**	**09 24 55.8**	**-0.5**
	0.2nm,0.5s,baz=273,slow=7.7,SNR=3.7						
FINES	**FINESS Array B**	**37.05**	**326**	P	**P**	**09 26 18.1**	**+1.0**
	0.9nm,0.3s,baz=117,slow=7.6,SNR=9.8						
FINES				pP	**pP**	**09 26 26.6**	**-0.7**
	0.9nm,0.3s,baz=122,slow=8.2,SNR=1.9						
ARCES	**ARCESS Array B**	**40.60**	**337**	P	**P**	**09 26 47.5**	**+0.7**
	1.3nm,0.6s,baz=113,slow=8.6,SNR=14						
NB2	**NORSAR Subarra**	**43.97**	**323**	P	**P**	**09 27 14.6**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=93,slow=7.9						
NOA	**NORSAR Array B**	**43.97**	**323**	P	**P**	**09 27 15.1**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=94,slow=7.8,SNR=7.1						
NOA				pP	**pP**	**09 27 22.2**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=104,slow=7.3,SNR=2.7						
SPITS	**Spitsbergen Ar**	**46.88**	**347**	P	**P**	**09 27 37.6**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=150,slow=9.0,SNR=3.7						
ESDC	**Sonseca Array**	**57.34**	**298**	P	**P**	**09 28 57.0**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=43,slow=8.4,SNR=4.9						
TORD	**Torodi Ar. Bea**	**65.97**	**268**	P	**P**	**09 29 54.5**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=46,slow=5.8,SNR=5.5						
ILAR	**Eielson Array**	**74.06**	**16**	P	**P**	**09 30 41.1**	**-1.7**
	comp=Z,0.3nm,0.8s,baz=297,slow=4.0,SNR=3.7						
YKA	**Yellowknife Ar**	**80.55**	**3**	P	**P**	**09 31 18.3**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=350,slow=5.5,SNR=23						
WRA	**Warramunga Arr**	**82.16**	**122**	P	**P**	**09 31 25.8**	**-2.5**
	comp=Z,0.3nm,0.8s,baz=306,slow=8.1,SNR=2.9						

*NIED **27** 09:23:00,37.˚40N×141.˚30E,h62km,Mw3.3 Best double couple: M0 1.04000×10^14 NP1:φs140.00000°,δ60.00000°, λ126.00000°. NP2:φs265.00000°,δ46.00000°,λ45.00000°.*

*ISCJB **27** 09:23:44.2±1.2,37.˚35N±0.˝05×141.˚30E±0.˝09, h52km±9km, Error ellipse: s-maj=12.6km s-min=6.9km az=21.3*

*JMA **27** 09:23:44.6±0.1,37.˚35N×141.˚26E,h54km±1km,M3.6*

JMA Felt I J1.

ISC 27 09:23:44.0±2.0,37˚34N±0.˝06×141˚4E±0.˝1, h48km±15km, n10,σ0ᵎ52/19, 7C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.39**	**275**	⇑P	**Pn**	**09 23 54.2**	**+0.2**
JFK				S	**Sn**	**09 24 00.9**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.51**	**243**	⇑P	**Pn**	**09 23 55.6**	**+0.3**
ONAJ				S	**Sn**	**09 24 03.4**	**0.0**
JMM	**Marumori**	**0.70**	**320**	⇑P	**Pn**	**09 23 57.7**	**0.0**
JMM				S	**Sn**	**09 24 07.1**	**-0.4**
JFT	**Otama**	**0.84**	**283**	⇑P	**Pn**	**09 24 00.0**	**+0.5**
JFT				S	**Sn**	**09 24 10.7**	**-0.1**
JHO	**Hitachi**	**0.96**	**222**	⇑P	**Pn**	**09 24 01.0**	**-0.2**
JHO				S	**Sn**	**09 24 12.9**	**-0.9**
JIO	**Ouri**	**1.12**	**359**	⇑P	**Pn**	**09 24 03.6**	**+0.3**
JIO				S	**Sn**	**09 24 17.5**	**-0.1**
JOU	**Okura**	**1.17**	**332**	P	**Pn**	**09 24 04.1**	**+0.1**
JFY	**Yanaizu**	**1.32**	**274**	⇑P	**Pn**	**09 24 06.0**	**-0.1**
JFY				S	**Sn**	**09 24 21.9**	**-0.7**
JYS	**Shirataka**	**1.35**	**311**	⇓P	**Pn**	**09 24 06.8**	**+0.2**
JYS				*e*S	**Sn**	**09 24 22.6**	**-0.8**
MAT	**Matsushiro**	**2.65**	**254**	P	**Pn**	**09 24 25.4**	**+1.1**
MAT				S	**Sn**	**09 24 55.3**	**+0.1**

*NIED **27** 09:53:00,42.˚90N×146.˚10E,h20km,Mw3.4 Best double couple: M0 1.44000×10^14 NP1:φs50.00000°,δ80.00000°, λ138.00000°. NP2:φs149.00000°,δ49.00000°,λ14.00000°.*

*IDC **27** 09:53:11.9±2.0,42.˚82N×146.˚41E,h0km,mb3.7/5, mb1 3.8/5,mb1mx3.5/24,mbtmp3.7/5,MS3.5/2,Ms1 3.5/2, ms1mx2.6/44, Error ellipse: s-maj=66.6km s-min=33.7km az=76.0*

*ISCJB **27** 09:53:16.6±1.2,42.˚86N±0.˚09×146.˚2E±0.˚2, h42km, mb3.6/5, MS3.5/2, Error ellipse: s-maj=17.5km s-min=12.2km az=163.9*

*JMA **27** 09:53:17.3±0.2,42.˚85N×146.˚13E,h37km±2km, M3.5*

ISC 27 09:53:18.8±1.5,42˚90N±0.˚09×146˚1E±0.˚2, h42km, n14, σ0ᵎ80/14, mb3.6/5, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.54**	**331**	P	**Pn**	**09 53 29.0**	**-1.1**
NEM2				eS	**Sn**	**09 53 36.8**	**-1.3**
JAK	**Akkeshi**	**1.04**	**276**	P	**Pn**	**09 53 35.9**	**-0.9**
JNK	**Nakash**	**1.22**	**305**	P	**Pn**	**09 53 38.9**	**-0.5**
JRA	**Rausu**	**1.26**	**326**	P	**Pn**	**09 53 40.1**	**+0.2**
JOB	**Onbets**	**1.67**	**271**	P	**Pn**	**09 53 44.8**	**-0.7**
JAR	**Ashorobuto**	**1.76**	**284**	P	**Pn**	**09 53 46.3**	**-0.4**
JTKR	**Abashiri--Toko**	**1.93**	**305**	P	**Pn**	**09 53 49.7**	**+0.7**
JCH	**Churui**	**2.04**	**263**	P	**Pn**	**09 53 50.8**	**+0.2**
SONM	**Songino Array**	**28.11**	**294**	P	**P**	**09 59 07.3**	**+0.7**
	0.4nm,0.5s,baz=90,slow=8.5,SNR=5.6						
SONM				LR	LR	10 10 57.5	
	comp=Z,24nm,19.0s,baz=127,slow=38						
MKAR	**Makanchi Array**	**44.31**	**298**	P	**P**	**10 01 25.3**	**+0.9**
	0.4nm,0.6s,baz=94,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**63.46**	**192**	P	**P**	**10 03 43.5**	**-0.8**
	0.5nm,0.8s,baz=26,slow=8.4,SNR=3.5						
FINES	**FINESS Array B**	**65.28**	**333**	P	**P**	**10 03 56.1**	**+0.3**
	0.5nm,0.4s,baz=46,slow=8.0,SNR=5.0						
NOA	**NORSAR Array B**	**70.12**	**338**	P	**P**	**10 04 26.5**	**+0.2**
	0.6nm,0.8s,baz=54,slow=7.5,SNR=3.6						
PPT	**Papeete**	**84.24**	**120**	LR	LR	10 38 04.6	
	comp=Z,96nm,18.8s,baz=132,slow=32						

IDC 27 09:55:59.9±1.3,5˚02S×151˚37E, h175km±10km, mb3.5/11, mb1 3.7/12,mb1mx3.6/21,mbtmp3.6/12, Error ellipse: s-maj=29.3km s-min=12.6km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.04**	**224**	P	Pn	09 57 26.9	-0.5
	4.3nm,0.3s,baz=31,slow=11,SNR=14						
PMG				S	Sn	09 58 36.2	0.0
	16nm,0.3s,baz=148,slow=19,SNR=17						
WRA	**Warramunga Arr**	**22.25**	**227**	P	P	10 00 42.2	-0.5
	1.4nm,0.3s,baz=49,slow=10,SNR=51						
WRA				pP	pP	10 01 13.8	0.0
	1.3nm,0.8s,baz=52,slow=9.6,SNR=2.5						
ASAR	**Alice Springs**	**25.05**	**221**	P	P	10 01 08.7	+0.5
	1.8nm,0.6s,baz=50,slow=8.9,SNR=20						
ASAR				pP	pP	10 01 43.8	0.0
	0.7nm,0.7s,baz=57,slow=11,SNR=2.4						
FITZ	**Fitzroy Crossi**	**28.31**	**241**	P	P	10 01 36.9	-0.4
	3.2nm,0.6s,baz=72,slow=5.8,SNR=6.0						
SONM	**Songino Array**	**65.76**	**329**	P	P	10 06 27.3	+1.2
	0.7nm,0.6s,baz=149,slow=5.0,SNR=8.0						
SONM				pP	pP	10 07 08.0	+0.4
	0.3nm,0.6s,baz=151,slow=7.0,SNR=2.7						
MKAR	**Makanchi Array**	**79.56**	**319**	P	P	10 07 47.8	+0.3
	0.3nm,0.6s,baz=101,slow=5.1,SNR=4.7						
ZALV	**Zalesovo Beam**	**80.55**	**327**	P	P	10 07 51.5	-1.0
	0.7nm,0.6s,baz=73,slow=5.0,SNR=4.6						
ILAR	**Eielson Array**	**82.90**	**22**	P	P	10 08 03.2	-1.4
	0.8nm,0.6s,baz=249,slow=5.3,SNR=18						
KURBB	**Kurchatov Arra**	**83.10**	**322**	P	P	10 08 05.7	-0.2
	0.4nm,0.2s,baz=116,slow=6.3,SNR=4.1						
QSPA	**South Pole Qui**	**84.94**	**180**	P	P	10 08 15.7	+0.5
	0.9nm,0.6s,baz=245,slow=10,SNR=11						
NVAR	**Mina Array Bea**	**93.34**	**52**	P	P	10 08 56.5	+1.0
	0.4nm,0.8s,baz=251,slow=5.6,SNR=3.7						
YKA	**Yellowknife Ar**	**96.28**	**28**	P	P	10 09 08.0	0.0
	0.1nm,0.3s,baz=279,slow=4.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**149.02**	**287**	PKPbc	PKPbc	10 15 28.0	-0.3
	0.8nm,0.5s,baz=107,slow=2.4,SNR=11						

IDC 27 10:00:40.7±0.8,51˚24N×37˚90E, h0km, mb3.3/3, mb1 3.6/8,mb1mx3.4/27,mbtmp3.5/8,ML3.4/5, Error ellipse: s-maj=15.5km s-min=9.1km az=51.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**5.51**	**268**	Pn	Pn	10 02 03.1	-0.9
	1.5nm,0.3s,baz=79,slow=14,SNR=5.8						
AKASG				Pg	Pb	10 02 12.3	-5.5
	1.7nm,0.3s,baz=76,slow=15,SNR=5.6						
AKASG				Sn	Sn	10 03 04.6	-3.5
	2.0nm,0.3s,baz=79,slow=26,SNR=5.2						
AKASG				Lg	Lg	10 03 20.6	
	1.9nm,0.3s,baz=74,slow=28,SNR=4.6						
KBZ	**Khabaz**	**8.24**	**154**	Pn	Pn	10 02 40.6	-0.8
	0.2nm,0.3s,baz=357,slow=13,SNR=3.6						
KBZ				Sn	Sn	10 04 09.4	-5.7
	0.1nm,0.3s,baz=143,slow=20,SNR=2.0						
KBZ				Lg	Lg	10 05 03.4	
	0.1nm,0.3s,baz=37,slow=20,SNR=2.0						
FINES	**FINESS Array B**	**12.13**	**332**	Pn	Pn	10 03 30.3	-4.3
	0.3nm,0.3s,baz=147,slow=11,SNR=6.5						
FINES				Sn	Sn	10 05 40.4	-10
	0.2nm,0.3s,baz=140,slow=16,SNR=3.4						
FINES				Lg	Lg	10 06 52.6	
	0.2nm,0.3s,baz=137,slow=29,SNR=5.7						
HFS	**Hagfors**	**16.21**	**313**	Pn	Pn	10 04 21.3	-8.3
	0.2nm,0.3s,baz=103,slow=16,SNR=3.7						
NOA	**NORSAR Array B**	**17.69**	**314**	Pn	Pn	10 04 39.3	-8.9
	0.2nm,0.3s,baz=105,slow=14,SNR=4.8						
SONM	**Songino Array**	**43.12**	**67**	P	P	10 08 42.7	+0.1
	0.2nm,0.6s,baz=285,slow=8.0,SNR=2.3						
TORD	**Torodi Ar. Bea**	**47.94**	**231**	P	P	10 09 19.1	-1.9
	0.5nm,0.7s,baz=36,slow=7.2,SNR=3.1						
YKA	**Yellowknife Ar**	**64.54**	**346**	P	P	10 11 17.0	-1.9
	0.1nm,0.6s,baz=8.2,slow=6.0,SNR=4.7						

*BJI **27** 10:02:02.7,0.˚10S×123.˚00E,h32km,mB4.8/5,mb4.7/12*

*ISCJB **27** 10:02:14.9±0.4,0.˚12S±0.˚04×123.˚01E±0.˚04, h132km±4km, mb4.4/36, Error ellipse: s-maj=6.8km s-min=5.9km az=159.9*

*NEIC **27** 10:02:15.8±1.5,0.˚12S×123.˚11E,h128km±14km,mb4.9/10, Error ellipse: s-maj=12.3km s-min=6.5km az=59.0*

*IDC **27** 10:02:15.5±0.8,0.˚11S×122.˚96E,h127km±7km, mb4.1/19, mb1 4.1/21,mb1mx4.0/28,mbtmp4.1/21,MS4.1/1, Ms1 4.1/1,ms1mx2.6/43, Error ellipse: s-maj=19.2km s-min=8.9km az=76.0*

*DJA **27** 10:02:16,0.˚17S×122.˚97E,h103km,MLv4.8/11*

ISC 27 10:02:15.5±0.6,0.˚16S±0.˚05×123˚02E±0.˚06, h127km±5km, h126km:pP-P,n117,σ1ᵎ03/138, mb4.5/35, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.91**	**195**	P	**Pn**	**10 02 36.2**	**-1.1**
KMSI	**Cibinong**	**1.21**	**53**	P	**Pn**	**10 02 40.3**	**+0.1**
MRSI	**Marisa**	**1.25**	**300**	P	**Pn**	**10 02 40.2**	**-0.3**
MNI	**Manado**	**2.42**	**49**	P	**Pn**	**10 02 55.0**	**+0.4**
KSI	**Kendari**	**3.79**	**186**	P	**Pn**	**10 03 10.6**	**-1.9**
TTSI	**Tana Toraja**	**4.29**	**228**	P	**Pn**	**10 03 19.5**	**+0.4**
TNTI	**Ternate**	**4.45**	**78**	P	**Pn**	**10 03 22.0**	**+0.8**
LBMI	**Labuha**	**4.51**	**96**	P	**Pn**	**10 03 23.9**	**+1.9**
SPSI	**Sidrap Palu**	**4.98**	**221**	P

LZH					pP	pP	10 09 42.8	-26	
LZH					pmax	pmax			
	comp=Z,16nm,1.3s								
ARMA	**Armidale**	**40.56**	**140**	*e*P	**P**		**10 09 44.9**	**+2.1**	
YNG	**Young**	**41.45**	**148**	*e*P	**P**		**10 09 51.3**	**+1.4**	
LSA	**Lhasa**	**42.48**	**317**	*e*P	**P**		**10 10 00.9**	**+2.0**	
	comp=Z,7.2nm,0.7s								
CAN	**Canberra**	**42.55**	**148**	*e*P	**P**		**10 10 01.0**	**+2.1**	
TAPN	**Taplejung**	**43.56**	**312**	*e*P	**P**		**10 10 08.1**	**+0.7**	
	comp=Z,12nm,0.5s								
TAPN	**Taplejung**	**43.56**	**312**	*e*P	**P**		**10 10 08.1**	**+0.7**	
	comp=Z,12nm,0.5s								
RAMN	**Ramite**	**44.19**	**311**	*e*P	**P**		**10 10 13.7**	**+1.3**	
RAMN	**Ramite**	**44.19**	**311**	*e*P	**P**		**10 10 13.7**	**+1.3**	
GTA	**Gaotai**	**44.74**	**334**	*e*P	**P**		**10 10 17.8**	**+1.4**	
GTA					pP	pP	10 10 22.5	-23	
GTA					sP	sP	10 10 25.5	-34	
GTA					pmax	pmax			
	comp=Z,6.0nm,1.1s								
JIRN	**Jiri**	**44.87**	**311**	*e*P	**P**		**10 10 18.0**	**+0.1**	
JIRN	**Jiri**	**44.87**	**311**	*e*P	**P**		**10 10 18.0**	**+0.1**	
USRK	**Ussuriysk Arra**	**44.89**	**9**	P	**P**		**10 10 17.1**	**-0.1**	
	comp=Z,5.9nm,0.6s,baz=199,slow=6.0,SNR=34								
MDJ	**Mudanjiang**	**44.96**	**7**	P	**P**		**10 10 17.5**	**-0.4**	
MDJ					pmax	pmax			
	comp=Z,16nm,1.3s								
MDJ					pmax	pmax			
	comp=Z,63nm,5.0s								
MDJ	**Mudanjiang**	**44.96**	**7**	*e*P	**P**		**10 10 18.1**	**+0.1**	
	comp=Z,74nm,1.9s								
GUN	**Gumba**	**45.23**	**311**	*e*P	**P**		**10 10 21.7**	**+0.9**	
	comp=Z,22nm,0.5s								
GUN	**Gumba**	**45.23**	**311**	*e*P	**P**		**10 10 21.7**	**+0.9**	
	comp=Z,22nm,0.5s								
KKN	**Kakani**	**45.62**	**311**	*e*P	**P**		**10 10 24.4**	**+0.7**	
KKN	**Kakani**	**45.62**	**311**	*e*P	**P**		**10 10 24.4**	**+0.7**	
DMN	**Daman**	**45.66**	**310**	*e*P	**P**		**10 10 24.3**	**+0.2**	
DMN	**Daman**	**45.66**	**310**	*e*P	**P**		**10 10 24.3**	**+0.2**	
GKN	**Gorkha**	**46.22**	**311**	*e*P	**P**		**10 10 28.9**	**+0.6**	
GKN	**Gorkha**	**46.22**	**311**	*e*P	**P**		**10 10 28.9**	**+0.6**	
KOLN	**Koldanda**	**46.90**	**310**	*e*P	**P**		**10 10 34.5**	**+0.8**	
	comp=Z,13nm,0.5s								
KOLN	**Koldanda**	**46.90**	**310**	*e*P	**P**		**10 10 34.5**	**+0.8**	
	comp=Z,13nm,0.5s								
DANN	**Dangsing**	**47.06**	**310**	*e*P	**P**		**10 10 35.8**	**+0.8**	
	comp=Z,17nm,0.5s								
DANN	**Dangsing**	**47.06**	**310**	*e*P	**P**		**10 10 35.8**	**+0.8**	
	comp=Z,17nm,0.5s								
ASAJ	**Asahikawa**	**47.41**	**19**	P	**P**		**10 10 37.2**	**+0.1**	
ASAJ	**Asahikawa**	**47.41**	**19**	P	**P**		**10 10 37.2**	**+0.1**	
	comp=Z,14nm,0.8s,baz=166,slow=8.2,SNR=11								
PYUN	**Piuthan**	**47.53**	**310**	*e*P	**P**		**10 10 39.6**	**+1.0**	
	comp=Z,20nm,0.4s								
PYUN	**Piuthan**	**47.53**	**310**	*e*P	**P**		**10 10 39.6**	**+1.0**	
	comp=Z,20nm,0.4s								
DZM	**Mont Dzumac**	**47.57**	**120**	P	**P**		**10 10 39.9**	**+1.1**	
DZM	**Mont Dzumac**	**47.57**	**120**	P	**P**		**10 10 39.9**	**+1.1**	
	comp=Z,3.2nm,0.6s,baz=253,slow=16,SNR=5.1								
ULN	**Ulaanbaatar**	**49.81**	**346**	*e*P	**P**		**10 10 56.0**	**+0.4**	
	comp=Z,7.3nm,0.6s								
SONM	**Songino Array**	**49.94**	**345**	P	**P**		**10 10 56.8**	**+0.3**	
SONM				PcP	**PcP**		**10 12 14.5**	**-0.4**	
SONM	**Songino Array**	**49.94**	**345**	P	**P**		**10 10 56.8**	**+0.3**	
	comp=Z,9.5nm,0.7s,baz=162,slow=8.3,SNR=78								
SONM				PcP	**PcP**		**10 12 14.5**	**-0.4**	
	comp=Z,1.4nm,0.6s,baz=158,slow=3.0,SNR=5.1								
MKAR	**Makanchi Array**	**58.76**	**328**	P	**P**		**10 12 00.2**	**0.0**	
MKAR				pP	**pP**		**10 12 30.9**	**+0.4**	
MKAR				PcP	**PcP**		**10 12 47.8**	**-0.8**	
MKAR				ScP	**ScP**		**10 16 35.9**	**-1.6**	
MKAR	**Makanchi Array**	**58.76**	**328**	P	**P**		**10 12 00.2**	**0.0**	
	comp=Z,3.8nm,0.7s,baz=125,slow=8.4,SNR=40								
MKAR				pP	**pP**		**10 12 30.9**	**+0.4**	
	comp=Z,0.4nm,0.4s,baz=124,slow=8.9,SNR=1.7								
MKAR				PcP	**PcP**		**10 12 47.8**	**-0.8**	
	comp=Z,0.9nm,0.4s,baz=155,slow=2.8,SNR=8.4								
MKAR				ScP	**ScP**		**10 16 35.9**	**-1.6**	
	comp=Z,0.4nm,0.8s,baz=130,slow=4.3,SNR=3.9								
PETK	**Petropavlovsk-**	**60.42**	**23**	P	**P**		**10 12 11.9**	**+0.4**	
PETK	**Petropavlovsk-**	**60.42**	**23**	P	**P**		**10 12 11.9**	**+0.4**	
	comp=Z,3.6nm,0.7s,baz=196,slow=5.0,SNR=16								
ZALV	**Zalesovo Beam**	**62.46**	**336**	P	**P**		**10 12 24.0**	**-1.2**	
ZALV	**Zalesovo Beam**	**62.46**	**336**	P	**P**		**10 12 24.0**	**-1.2**	
	comp=Z,0.8nm,0.4s,baz=125,slow=7.4,SNR=10								
KURBB	**Kurchatov Arra**	**63.11**	**330**	P	**P**		**10 12 28.8**	**-0.7**	
	comp=Z,1.8nm,0.5s,baz=127,slow=6.0,SNR=16								
KURBB				pP	**pP**		**10 13 00.1**	**-0.1**	
	comp=Z,1.1nm,0.7s,baz=128,slow=5.8,SNR=1.8								
KURK	**Kurchatov**	**63.12**	**330**	*e*P	**P**		**10 12 29.5**	**-0.1**	
	comp=Z,13nm,1.0s								
KURK				pP	**pP**		**10 13 00.1**	**-0.2**	
QSPA	**South Pole Qui**	**89.78**	**180**	P	**P**		**10 15 00.1**	**+0.6**	
QSPA	**South Pole Qui**	**89.78**	**180**	P	**P**		**10 15 00.1**	**+0.6**	
	comp=Z,2.1nm,0.8s,baz=224,slow=2.1,SNR=14								
ILAR	**Eielson Array**	**90.19**	**25**	P	**P**		**10 14 59.5**	**-1.9**	
ILAR	**Eielson Array**	**90.19**	**25**	P	**P**		**10 14 59.5**	**-1.9**	
	comp=Z,6.6nm,0.6s,baz=242,slow=4.4,SNR=15								
ARCES	**ARCESS Array B**	**92.78**	**340**	P	**P**		**10 15 11.8**	**-1.5**	
ARCES	**ARCESS Array B**	**92.78**	**340**	P	**P**		**10 15 11.8**	**-1.5**	
	comp=Z,2.5nm,0.8s,baz=64,slow=8.2,SNR=5.8								
FINES	**FINESS Array B**	**93.47**	**331**	P	**P**		**10 15 15.5**	**-1.0**	
FINES	**FINESS Array B**	**93.47**	**331**	P	**P**		**10 15 15.5**	**-1.0**	
	comp=Z,0.8nm,0.6s,baz=66,slow=11,SNR=2.7								
SPITS	**Spitsbergen Ar**	**93.54**	**349**	P	**P**		**10 15 15.3**	**-1.4**	
SPITS	**Spitsbergen Ar**	**93.54**	**349**	P	**P**		**10 15 15.3**	**-1.4**	
	comp=Z,5.9nm,0.7s,baz=90,slow=8.3,SNR=14								
HFS	**Hagfors**	**99.67**	**331**	P	**Pdif**		**10 15 42.5**	**-2.1**	
HFS	**Hagfors**	**99.67**	**331**	P	**Pdif**		**10 15 42.5**	**-2.1**	
	comp=Z,2.2nm,0.9s,baz=98,slow=9.1,SNR=5.1								
YKA	**Yellowknife Ar**	**104.54**	**24**	Pdif	**Pdif**		**10 16 06.9**	**+0.6**	
YKA	**Yellowknife Ar**	**104.54**	**24**	Pdiff	**Pdif**		**10 16 06.9**	**+0.6**	
	comp=Z,0.2nm,0.6s,baz=297,slow=4.6,SNR=4.4								
NVAR	**Mina Array Bea**	**112.25**	**48**	PKiKP	**PKiKP**		**10 20 36.9**	**-0.1**	
NVAR	**Mina Array Bea**	**112.25**	**48**	PKiKP	**PKiKP**		**10 20 36.9**	**-0.1**	
	comp=Z,0.5nm,0.6s,baz=243,slow=2.9,SNR=5.2								
PDAR	**Pinedale Array**	**116.71**	**41**	PKP	**PKPdf**		**10 20 45.6**	**+0.1**	
PDAR	**Pinedale Array**	**116.71**	**41**	PKP	**PKPdf**		**10 20 45.6**	**+0.1**	
	comp=Z,0.4nm,0.7s,baz=90,slow=1.5,SNR=3.8								
TORD	**Torodi Ar. Bea**	**120.46**	**285**	PKP	**PKPdf**		**10 20 52.5**	**-0.7**	
TORD	**Torodi Ar. Bea**	**120.46**	**285**	PKP	**PKPdf**		**10 20 52.5**	**-0.7**	
	comp=Z,0.9nm,0.7s,baz=62,slow=1.8,SNR=6.6								
ANMO	**Albuquerque**	**122.37**	**48**	PKP	**PKPdf**		**10 20 56.8**	**+0.2**	
ANMO	**Albuquerque**	**122.37**	**48**	PKP	**PKPdf**		**10 20 56.8**	**+0.2**	
	comp=Z,1.1nm,0.8s,baz=188,slow=5.1,SNR=6.1								
SCHQ	**Schefferville**	**124.91**	**7**	PKP	**PKPdf**		**10 21 00.6**	**0.0**	
SCHQ	**Schefferville**	**124.91**	**7**	PKP	**PKPdf**		**10 21 00.6**	**0.0**	
	comp=Z,1.1nm,0.5s,baz=335,slow=8.9,SNR=5.5								
TXAR	**Lajitas Array**	**126.90**	**53**	PKP	**PKPdf**		**10 21 05.0**	**-0.2**	
TXAR	**Lajitas Array**	**126.90**	**53**	PKP	**PKPdf**		**10 21 05.0**	**-0.2**	
	comp=Z,0.5nm,0.7s,baz=197,slow=1.2,SNR=7.4								
JCT	**Junction City**	**129.39**	**49**	*e*PKPdf	**PKPdf**		**10 21 11.0**	**+1.1**	
CPUP	**Villa Florida**	**153.66**	**179**	PKPbc	**PKPbc**		**10 22 00.3**	**+0.1**	
CPUP	**Villa Florida**	**153.66**	**179**	PKPbc	**PKPbc**		**10 22 00.3**	**+0.1**	
	comp=Z,0.5nm,0.4s,baz=112,slow=2.6,SNR=3.1								

CSEM ***27*** *10:09:03.5±0.2, 43.27N×46.19E, h2km, mb4.2, Error ellipse: s-maj=7.5km s-min=2.3km az=19.0*
MOS ***27*** *10:09:04.1±0.9, 43.25N×46.23E, h16km, mb4.2/1, Error ellipse: s-maj=10.1km s-min=6.1km az=25.6*

ISC 27 10:09:04.0±1.0, 43°23N±0.03°×46°18E±0.02, h9km±8km, n60, σ0.972/107, 5C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRO	**Groznyy**	**0.33**	**286**	*e*PG	**Pg**	**10 09 10.5**	**0.0**
GRO	**Groznyy**	**0.33**	**286**	*e*Pg	**Pg**	**10 09 10.5**	**0.0**
DLMR	**Dylym**	**0.36**	**116**	*i* PG	**Pg**	**10 09 11.0**	**-0.2**
DLMR				*e*S	**Sg**	**10 09 17.0**	**+1.0**
DLMR	**Dylym**	**0.36**	**116**	*i* Pg	**Pg**	**10 09 11.0**	**-0.2**
DLMR				*e*Sg	**Sg**	**10 09 17.0**	**+1.0**
DBC	**Dubki**	**0.52**	**113**	*i* PG	**Pg**	**10 09 13.6**	**-0.5**
DBC				*i* S	**Sg**	**10 09 21.2**	**+0.3**
DBC	**Dubki**	**0.52**	**113**	*i* Pg	**Pg**	**10 09 13.6**	**-0.5**
DBC				*i* Sg	**Sg**	**10 09 21.2**	**+0.3**
KRNR	**Karanay**	**0.67**	**127**	*e*PG	**Pg**	**10 09 16.2**	**-0.7**
KRNR				*i* S	**Sg**	**10 09 26.0**	**+0.4**
KRNR	**Karanay**	**0.67**	**127**	*e*Pg	**Pg**	**10 09 16.2**	**-0.7**
KRNR				*i* Sg	**Sg**	**10 09 26.0**	**+0.4**
UNCR	**Uncukul**	**0.68**	**139**	*i* PG	**Pg**	**10 09 16.5**	**-0.7**
UNCR				*i* S	**Sg**	**10 09 26.5**	**+0.4**
UNCR	**Uncukul**	**0.68**	**139**	*i* Pg	**Pg**	**10 09 16.5**	**-0.7**
UNCR				*i* Sg	**Sg**	**10 09 26.5**	**+0.4**
XNZR	**Khunzakh**	**0.79**	**151**	*e*PG	**Pg**	**10 09 18.7**	**-0.5**
XNZR				*e*S	**Sg**	**10 09 30.0**	**+0.6**
XNZR	**Khunzakh**	**0.79**	**151**	*e*Pg	**Pg**	**10 09 18.7**	**-0.5**
XNZR				*e*Sg	**Sg**	**10 09 30.0**	**+0.6**
BUJR	**Buynaksk**	**0.79**	**120**	*e*PG	**Pb**	**10 09 20.2**	**+0.3**
BUJR				*i* S	**Sb**	**10 09 31.0**	**+0.2**
BUJR	**Buynaksk**	**0.79**	**120**	*e*Pg	**Pb**	**10 09 20.2**	**+0.3**
BUJR				*i* Sg	**Sb**	**10 09 31.0**	**+0.2**
MAK	**Makhachkala**	**1.01**	**105**	*e*PG	**Pb**	**10 09 23.9**	**+0.3**
MAK				*i*		10 09 39.6	
MAK				pmax	pmax		
	comp=Z,314nm,0.4s						
MAK				smax	smax		
	comp=E,1μm,0.5s						
MAK				smax	smax		
	comp=N,2μm,0.7s						
MAK	**Makhachkala**	**1.01**	**105**	*e*Pg	**Pb**	**10 09 23.9**	**+0.3**
	comp=N,314nm,0.4s						
MAK				*i* Sg	**Sn**	**10 09 39.6**	**+1.0**
	comp=N,2μm,0.7s						
SNJR	**Sundja**	**1.01**	**261**	*e*PG	**Pg**	**10 09 23.3**	**-0.2**
SNJR				*e*S	**Sb**	**10 09 37.4**	**+0.1**
SNJR	**Sundja**	**1.01**	**261**	*e*Pg	**Pg**	**10 09 23.3**	**-0.2**
SNJR				*e*Sg	**Sb**	**10 09 37.4**	**+0.1**
VLKR	**Vladikavkaz**	**1.12**	**261**	*e*PG	**Pg**	**10 09 25.0**	**-0.4**
VLKR				*e*S	**Sb**	**10 09 40.4**	**+0.2**
VLKR	**Vladikavkaz**	**1.12**	**261**	*e*Pg	**Pg**	**10 09 25.0**	**-0.4**
VLKR				*e*Sg	**Sb**	**10 09 40.4**	**+0.2**
TRKR	**Terskaya**	**1.17**	**296**	*i* PG	**Pn**	**10 09 26.9**	**+0.4**
TRKR				*i* S	**Sn**	**10 09 43.8**	**+1.3**
TRKR	**Terskaya**	**1.17**	**296**	*i* Pg	**Pn**	**10 09 26.9**	**+0.4**
TRKR				*i* Sg	**Sn**	**10 09 43.8**	**+1.3**
BTKR	**Batakoyurt**	**1.21**	**277**	*e*PG	**Pb**	**10 09 27.0**	**0.0**
BTKR				*e*S	**Sn**	**10 09 43.9**	**+0.3**
BTKR	**Batakoyurt**	**1.21**	**277**	*e*Pg	**Pb**	**10 09 27.0**	**0.0**
BTKR				*e*Sg	**Sn**	**10 09 43.9**	**+0.3**
MNSR	**Manas**	**1.25**	**114**	*i* PG	**Pg**	**10 09 28.2**	**+0.3**
MNSR				*i* S	**Sn**	**10 09 46.2**	**+1.7**
MNSR	**Manas**	**1.25**	**114**	*i* Pg	**Pg**	**10 09 28.2**	**+0.3**
MNSR				*i* Sg	**Sn**	**10 09 46.2**	**+1.7**
KMKR	**Kumukh**	**1.29**	**148**	*i* PG	**Pn**	**10 09 28.0**	**-0.4**
KMKR				*e*S	**Sg**	**10 09 46.0**	**+0.5**
KMKR	**Kumukh**	**1.29**	**148**	*i* Pg	**Pn**	**10 09 28.0**	**-0.4**
KMKR				*e*Sg	**Sg**	**10 09 46.0**	**+0.5**
KMSR	**Komsomolskaya**	**1.39**	**277**	*e*PG	**Pn**	**10 09 29.8**	**+0.2**
KMSR				*e*S	**Sg**	**10 09 49.1**	**+0.5**
KMSR	**Komsomolskaya**	**1.39**	**277**	*e*Pg	**Pn**	**10 09 29.8**	**+0.2**
KMSR				*e*Sg	**Sg**	**10 09 49.1**	**+0.5**
ARNR	**Ardon**	**1.39**	**269**	*e*PG	**Pn**	**10 09 29.5**	**-0.1**
ARNR				*e*S	**Sg**	**10 09 48.8**	**+0.1**
ARNR	**Ardon**	**1.39**	**269**	*e*Pg	**Pn**	**10 09 29.5**	**-0.1**
ARNR				*e*Sg	**Sg**	**10 09 48.8**	**+0.1**
LACR	**Lac**	**1.44**	**254**	*i* PG	**Pn**	**10 09 30.0**	**-0.4**
LACR				*i* S	**Sn**	**10 09 49.3**	**-0.2**
LACR	**Lac**	**1.44**	**254**	*i* Pg	**Pn**	**10 09 30.0**	**-0.4**
LACR				*i* Sg	**Sn**	**10 09 49.3**	**-0.2**
PRTR	**Priterechnaya**	**1.48**	**291**	*i* PG	**Pb**	**10 09 31.5**	**-0.1**
PRTR				*i* S	**Sg**	**10 09 52.5**	**+1.0**
PRTR	**Priterechnaya**	**1.48**	**291**	*i* Pg	**Pb**	**10 09 31.5**	**-0.1**
PRTR				*i* Sg	**Sg**	**10 09 52.5**	**+1.0**
KORR	**Kora**	**1.55**	**265**	*e*PG	**Pb**	**10 09 33.5**	**+0.5**
KORR	**Kora**	**1.55**	**265**	*e*Pg	**Pb**	**10 09 33.5**	**+0.5**
LSNR	**Lesken**	**1.73**	**272**	*e*PN	**Pn**	**10 09 34.7**	**+0.4**
LSNR				*i* S	**Sb**	**10 09 58.2**	**+0.4**
LSNR	**Lesken**	**1.73**	**272**	*e*Pn	**Pn**	**10 09 34.7**	**+0.4**
LSNR				*i* Sg	**Sb**	**10 09 58.2**	**+0.4**
ZEI	**Tsey**	**1.74**	**255**	*i* PN	**Pn**	**10 09 34.4**	**-0.2**
ZEI	**Tsey**	**1.74**	**255**	*i* Pn	**Pn**	**10 09 34.4**	**-0.2**
TBLG	**Delisi**	**1.84**	**216**	PN	**Pb**	**10 09 37.7**	**-0.1**
TBLG				S	**Sg**	**10 10 03.5**	**+0.5**
TBLG	**Delisi**	**1.84**	**216**	P	**Pb**	**10 09 37.7**	**-0.1**
TBLG				S	**Sg**	**10 10 03.5**	**+0.5**
TBLG	**Delisi**	**1.84**	**216**	P	**Pb**	**10 09 37.7**	**-0.1**
TBLG				S	**Sg**	**10 10 03.5**	**+0.5**
DGRG	**David-gareji**	**1.88**	**199**	P	**Pb**	**10 09 39.2**	**+0.8**
DGRG				S	**Sg**	**10 10 06.5**	**+2.3**
DIGR	**Digorskoe uzhe**	**1.93**	**261**	*e*PN	**Pn**	**10 09 37.4**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.93**	**261**	*e*Pn	**Pn**	**10 09 37.4**	**+0.1**
GOR	**Gori**	**1.97**	**232**	P	**Sg**	**10 10 06.3**	**-1.0**
DRN	**Derbent**	**1.99**	**126**	*e*PN	**Pg**	**10 09 43.5**	**+1.4**
DRN				*i* S	**Sg**	**10 10 07.8**	**0.0**
DRN	**Derbent**	**1.99**	**126**	*e*Pn	**Pg**	**10 09 43.5**	**+1.4**
DRN				*i* Sg	**Sg**	**10 10 07.8**	**0.0**
AKT	**Akhty**	**2.09**	**146**	*i* PN	**Pb**	**10 09 42.0**	**-0.2**
AKT				*e*S	**Sg**	**10 10 11.0**	**-0.2**
AKT	**Akhty**	**2.09**	**146**	*i* Pn	**Pb**	**10 09 42.0**	**-0.2**
AKT				*e*Sb	**Sg**	**10 10 11.0**	**-0.2**
ONI	**Oni**	**2.10**	**253**	P	**Pn**	**10 09 40.1**	**+0.6**
ONI				S	**Sb**	**10 10 10.0**	**+1.4**
KSMR	**Kasumkent**	**2.17**	**138**	*e*PN	**Pg**	**10 09 45.0**	**-0.6**
KSMR				*e*S	**Sg**	**10 10 15.0**	**+1.2**
KSMR	**Kasumkent**	**2.17**	**138**	*e*Pn	**Pg**	**10 09 45.0**	**-0.6**
KSMR				*e*Sb	**Sg**	**10 10 15.0**	**+1.2**
AKH	**Akhalkalaki**	**2.70**	**229**	P	**Pb**	**10 10 26.6**	**-0.1**
AKH				S	**Sb**	**10 10 26.6**	**+0.7**
GNI	**Garni**	**3.26**	**200**	*e*Pn	**Pb**	**10 10 02.8**	**+0.7**
AB31	**Akbulak array**	**11.27**	**53**	*i* Pn	**Pn**	**10 11 42.8**	**-2.3**
	comp=N,0.3nm,0.4s,baz=252,slow=14,SNR=12						
AB31				*i* Sn	Sn	10 13 41.4	-10
	comp=N,1.0nm,0.5s,baz=249,slow=23,SNR=5.1						
AB31	**Akbulak array**	**11.27**	**53**	Pn	**Pn**	**10 11 42.8**	**-2.3**
	comp=N,0.3nm,0.4s,SNR=12						
AB31				Sn	Sn	10 13 41.4	-10
	comp=N,1.0nm,0.5s,SNR=5.1						

IDC 27 10:14:59.2±1.4, 55°44S×128°03W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.9/17, mbtmp4.0/4, MS3.7/3, Ms1 3.7/3, ms1mx3.0/25, Error ellipse: s-maj=50.9km s-min=29.3km az=36.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**31.84**	**133**	P	P	10 21 24.8	-0.4
	11nm,0.8s,baz=292,slow=5.4,SNR=3.1						
QSPA	**South Pole Qui**	**34.74**	**180**	P	P	10 21 51.2	+0.4
	1.0nm,0.8s,baz=90,slow=5.7,SNR=4.5						
QSPA				LR	LR	10 35 44.3	
	comp=Z,120nm,19.1s,baz=228,slow=36						
STKA	**Stephens Creek**	**64.61**	**250**	LR	LR	10 48 51.5	
	comp=Z,44nm,18.3s,baz=204,slow=32						
ASAR	**Alice Springs**	**75.24**	**250**	P	P	10 26 43.6	-0.2
	0.5nm,0.8s,baz=151,slow=6.1,SNR=3.6						
WRA	**Warramunga Arr**	**78.03**	**252**	P	P	10 26 59.9	+0.3
	0.7nm,0.7s,baz=143,slow=5.1,SNR=5.6						
PDAR	**Pinedale Array**	**99.08**	**14**	LR	LR	11 04 31.1	
	comp=Z,33nm,19.5s,baz=65,slow=30						
ILAR	**Eielson Array**	**120.75**	**351**	PKP	PKPdf	10 33 51.7	+0.1
	0.3nm,0.6s,baz=208,slow=1.8,SNR=5.4						
SONM	**Songino Array**	**146.16**	**280**	PKPbc	PKPbc	10 34 40.0	-0.5
	0.4nm,0.8s,baz=136,slow=3.2,SNR=2.3						
MKAR	**Makanchi Array**	**159.23**	**258**	PKPab	PKPab	10 35 34.6	-1.2
	0.1nm,0.3s,baz=144,slow=3.4,SNR=2.6						

GUC 27 10:18:41.0±0.9, 32°10S×71°89W, h27km±6km, MD4.0, ML3.7, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.39**	**57**	*i* P	Pb	10 18 49.6	0.0
CHNG				*i* S	Sb	10 18 55.7	+0.4
CHNG				AML	AML	10 18 56.2	
	comp=N,3μm,0.4s						
IHA	**Instituto Hidr**	**0.95**	**167**	*i* P	Pn	10 18 57.7	-0.9
ROCH	**El Roble**	**1.14**	**140**	*i* P	Pn	10 19 01.0	-0.6
ROCH				*i* S	Sn	10 19 15.9	-0.6
ROCH				AML	AML	10 19 19.6	
	comp=N,4μm,0.4s						
CMCH	**Combarbala**	**1.19**	**40**	*i* P	Pn	10 19 01.8	-0.2
CMCH				*i* S	Sb	10 19 18.0	-0.1
CMCH				AML	AML	10 19 24.3	
	comp=N,8μm,0.9s						
JACH	**Jahuel**	**1.24**	**118**	*i* P	Pn	10 19 02.7	0.0
JACH				*i* S	Sn	10 19 19.0	+0.3
PEL	**Peldehue**	**1.46**	**136**	*i* P	Pn	10 19 06.1	+0.4
PEL				*i* S	Sb	10 19 25.4	-0.3
PEL				AML	AML	10 19 29.9	
	comp=E,4μm,0.4s						
OVCH	**Ovalle**	**1.59**	**22**	*i* P	Pn	10 19 08.3	+0.9
OVCH				*i* S	Sb	10 19 28.9	-0.7
OVCH				AML	AML	10 19 38.8	
	comp=N,2μm,0.4s						
SAN	**Santiago**	**1.70**	**143**	*i* P	Pn	10 19 10.3	+1.3
SAN				*i* S	Sb	10 19 32.5	-0.2
SAN				AML	AML	10 19 36.5	
	comp=N,774nm,0.3s						
CLCH	**Cerro Calan**	**1.72**	**139**	AML	AML	10 19 39.9	
	comp=E,2μm,0.5s						
TACH	**Talagante**	**1.75**	**153**	*i* P	Pn	10 19 11.0	+1.4
TACH				*i* S	Sb	10 19 33.3	-0.7
ANTU	**Antumapu**	**1.81**	**145**	*e*P	Pn	10 19 11.2	+0.7
ANTU				*i* S	Sb	10 19 34.9	-0.9
ANTU				AML	AML	10 19 41.8	
	comp=E,908nm,0.7s						
FCH	**Farellones**	**1.82**	**133**	AML	AML	10 19 40.2	
	comp=E,2μm,0.4s						
LNV	**Longovilo**	**1.90**	**168**	*e*P	Pb	10 19 13.4	-1.5
SJCH	**San Jose de Ma**	**2.01**	**140**	AML	AML	10 19 48.5	
	comp=N,391nm,0.5s						
CHCH	**Chadas Angostu**	**2.10**	**151**	*e*P	Pn	10 19 16.0	+1.4
CACH	**El Canelo**	**2.29**	**152**	*e*P	Pn	10 19 18.9	+1.7
CACH				*e*S	Sb	10 19 48.1	-1.7

IDC 27 10:20:14.0±5.5, 39°10N×110°57E, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.3/25, mbtmp3.5/3, ML2.7/1, Error ellipse: s-maj=112.4km s-min=24.1km az=86.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTO	**Baotou**	**1.57**	**345**	*e*P	Pb	10 20 44.0	0.0
XAN	**Xi'an**	**5.22**	**195**	P	Pn	10 21 34.3	+1.0
XAN				pmax	pmax		
	comp=Z,2.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,10.0nm,5.2s						
SONM	**Songino Array**	**9.25**	**342**	Pn	Pn	10 22 30.0	+1.3
	comp=Z,0.1nm,0.3s,baz=165,slow=12,SNR=6.5						
SONM				Sn	Sn	10 24 16.7	+3.2
	comp=Z,0.1nm,0.3s,baz=157,slow=23,SNR=5.3						
SONM				Lg	Lg	10 25 04.8	
	comp=Z,0.1nm,0.3s,baz=155,slow=26,SNR=6.5						
MKAR	**Makanchi Array**	**22.00**	**300**	P	P	10 25 09.4	-0.3
	comp=Z,0.9nm,1.0s,baz=104,slow=9.5,SNR=6.2						
CMAR	**Chiang Mai Arr**	**22.91**	**209**	P	P	10 25 19.4	-0.1
	comp=Z,1.1nm,0.3s,baz=19,slow=9.1,SNR=4.6						

ISCJB ***27*** *10:24:33.6±0.4, 24.02N±0.03×122.87E±0.02, h22km±5km, Error ellipse: s-maj=5.9km s-min=3.0km az=175.8*
TAP ***27*** *10:24:34.8, 24

baz=247
CHN1 *e*S **Sn** **10 25 40.3 +1.8**
baz=247
TWK Hsinying 2.34 251 *e*P **Pn** **10 25 12.3 +1.4**
baz=249
TWK *e*S **Sn** **10 25 40.2 +1.6**
baz=249
SSD Sandimen 2.44 239 *e*P **Pn** **10 25 12.9 +0.5**
baz=233

MOS ***27*** *10:42:36.1±1.3,20˚.43N×89˚.12E,h10km,mb4.8/14,Error ellipse: s-maj=20.2km s-min=9.8km az=112.8*
ISCJB ***27*** *10:42:36.1±0.2,20˚.45N±0˚.03×89˚.05E±0˚.02,h10km, mb4.5/86,MS3.7/33,Error ellipse: s-maj=3.9km s-min=3.2km az=11.3*
IDC ***27*** *10:42:36.3±0.4,20˚.47N×89˚.16E,h0km,mb4.3/37, mb1 4.4/38,mb1mx4.4/39,mbtmp4.3/38,ML4.6/1,MS3.7/24, Ms1 3.7/24,ms1mx3.5/41,Error ellipse: s-maj=13.8km s-min=9.3km az=49.0*
BJI ***27*** *10:42:37.7,20˚.77N×89˚.19E,h10km,mB4.7/29,mb4.6/43, Ms4.1/36,Ms7 3.8/34*
NEIC ***27*** *10:42:38.0±0.2,20˚.47N×89˚.11E,h10km,mb4.8/27,Error ellipse: s-maj=5.3km s-min=3.3km az=50.0*
ISC 27 10:42:38.2±0.3,20˚.46N±0˚.04×89˚.09E±0˚.03,h10km,n263,
σ1§51/297,mb4.6/86,MS3.7/33,13C-11D,Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
CAL	**Calcutta**	**2.18**	**341**	*e*PKP		**Pn**	**10 43 14.2**	**-0.4**
CAL				*e*S		**Sn**	**10 43 40.8**	**-0.8**
SHL	**Shillong**	**5.69**	**26**	*e*PKP		**Pn**	**10 44 02.9**	**-0.1**
SHL				*e*S		**Sn**	**10 45 03.9**	**-4.7**
ODAN	**Odare**	**6.55**	**347**	*e*Pn		**Pn**	**10 44 14.9**	**0.0**
ODAN				*e*Sn		Sn	10 45 17.4	-13
	714nm,0.4s							
ODAN	**Odare**	**6.55**	**347**	*e*Pn		**Pn**	**10 44 14.9**	**0.0**
ODAN				*e*Sn		Sn	10 45 17.4	-13
RAMN	**Ramite**	**6.85**	**341**	*e*Pn		**Pn**	**10 44 18.6**	**-0.4**
RAMN				*e*Sn		Sn	10 45 23.2	-14
	338nm,0.4s							
RAMN	**Ramite**	**6.85**	**341**	*e*Pn		**Pn**	**10 44 18.6**	**-0.4**
RAMN				*e*Sn		Sn	10 45 23.2	-14
GTK	**Gangtok**	**6.85**	**356**	*e*PKP		**Pn**	**10 44 18.0**	**-1.0**
GTK				*e*S		Sn	10 45 30.0	-7.2
TAPN	**Taplejung**	**6.97**	**350**	*e*Pn		**Pn**	**10 44 20.1**	**-0.6**
TAPN				*e*Sn		Sn	10 45 26.7	-14
	1µm,0.8s							
TAPN	**Taplejung**	**6.97**	**350**	*e*Pn		**Pn**	**10 44 20.1**	**-0.6**
TAPN				*e*Sn		Sn	10 45 26.7	-14
JIRN	**Jiri**	**7.64**	**340**	*e*Pn		**Pn**	**10 44 29.4**	**-0.5**
JIRN				*e*Sn		Sn	10 45 42.8	-14
	88nm,0.4s							
JIRN	**Jiri**	**7.64**	**340**	*e*Pn		**Pn**	**10 44 29.4**	**-0.5**
JIRN				*e*Sn		Sn	10 45 42.8	-14
PKI	**Pulchoki**	**7.83**	**335**	*e*Pn		**Pn**	**10 44 32.0**	**-0.6**
PKI				*e*Sn		Sn	10 45 47.9	-14
	315nm,0.4s							
PKI	**Pulchoki**	**7.83**	**335**	*e*Pn		**Pn**	**10 44 32.0**	**-0.6**
PKI				*e*Sn		Sn	10 45 47.9	-14
GUN	**Gumba**	**7.97**	**339**	*e*Pn		**Pn**	**10 44 34.3**	**-0.2**
GUN	**Gumba**	**7.97**	**339**	*e*Pn		**Pn**	**10 44 34.3**	**-0.2**
DMN	**Daman**	**7.99**	**334**	*e*Pn		**Pn**	**10 44 34.2**	**-0.5**
DMN	**Daman**	**7.99**	**334**	*e*Pn		**Pn**	**10 44 34.2**	**-0.5**
KKN	**Kakani**	**8.08**	**335**	*e*Pn		**Pn**	**10 44 35.6**	**-0.2**
KKN	**Kakani**	**8.08**	**335**	*e*Pn		**Pn**	**10 44 35.6**	**-0.2**
GKN	**Gorkha**	**8.53**	**332**	*e*Pn		**Pn**	**10 44 42.2**	**+0.2**
GKN				*e*Sn		Sn	10 46 04.1	-15
	301nm,0.4s							
GKN	**Gorkha**	**8.53**	**332**	*e*Pn		**Pn**	**10 44 42.2**	**+0.2**
GKN				*e*Sn		Sn	10 46 04.1	-15
KOLN	**Koldanda**	**8.83**	**326**	*e*Pn		**Pn**	**10 44 45.5**	**-0.7**
KOLN	**Koldanda**	**8.83**	**326**	*e*Pn		**Pn**	**10 44 45.5**	**-0.7**
DANN	**Dangsing**	**9.23**	**329**	*e*Pn		**Pn**	**10 44 50.4**	**-1.3**
DANN	**Dangsing**	**9.23**	**329**	*e*Pn		**Pn**	**10 44 50.4**	**-1.3**
LSA	**Lhasa**	**9.38**	**11**	P		**Pn**	**10 44 52.3**	**-1.6**
LSA				S		**Sn**	**10 46 39.0**	**-0.8**
LSA				LR		LR		
	comp=N,240nm,17.3s							
LSA				LR		LR		
	comp=E,240nm,12.2s							
LSA	**Lhasa**	**9.38**	**11**	*e*Pn		**Pn**	**10 44 53.4**	**-0.5**
	comp=E,21nm,0.4s							
LSA				*e*Sn		Sn	10 46 33.2	-6.6
NGP	**Nagpur**	**9.42**	**276**	*e*PKP		**Pn**	**10 44 51.9**	**-2.1**
NGP				AMb		AMB	10 44 53.2	
	comp=Z,20nm,0.4s							
NGP				*e*S		Sn	10 46 31.1	-8.9
PYUN	**Piuthan**	**9.42**	**325**	*e*Pn		**Pn**	**10 44 52.9**	**-1.3**
PYUN	**Piuthan**	**9.42**	**325**	*e*Pn		**Pn**	**10 44 52.9**	**-1.3**
CHTO	**Chiang Mai**	**9.43**	**98**	*e*Pn		**Pn**	**10 44 53.0**	**-1.2**
CHTO				Sn		Sn	10 46 28.9	-12
CMAR	**Chiang Mai Arr**	**9.51**	**100**	Pn		**Pn**	**10 44 54.3**	**-1.0**
CMAR				Sn		Sn	10 46 28.1	-14
CMAR	**Chiang Mai Arr**	**9.51**	**100**	Pn		**Pn**	**10 44 54.3**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=281,slow=13,SNR=25							
CMAR				Sn		Sn	10 46 28.0	-14
	comp=Z,1.7nm,0.3s,baz=281,slow=17,SNR=5.0							
CMAR				LR		LR	10 49 21.8	
	comp=Z,137nm,21.3s,baz=275,slow=43							
HYB	**Hyderabad**	**10.42**	**255**	P		**Pn**	**10 45 07.0**	**-0.8**
HYB				S		**Sn**	**10 47 06.0**	**+1.2**
HYB	**Hyderabad**	**10.42**	**255**	*i* P		**Pn**	**10 45 07.0**	**-0.8**
HYB				*e*S		Sn	10 46 55.5	-9.3
AKL	**Akola**	**11.31**	**273**	*e*PKP		**Pn**	**10 45 18.0**	**-2.1**
AKL				AMb		AMB	10 45 20.7	
	comp=Z,13nm,0.0s							
LATR	**Latur**	**12.00**	**262**	*e*PKP		Pn	10 45 23.6	-5.7
LATR				*e*S		Sn	10 47 28.6	-15
PTH	**Pithoragarh**	**12.10**	**320**	*e*PKP		**Pn**	**10 45 29.3**	**-1.6**
PTH				*ex*		x	10 47 41.0	
AGRA	**Agra**	**12.22**	**306**	*e*PKP		**Pn**	**10 45 30.0**	**-2.3**
AGRA				*e*S		Sn	10 47 37.7	-11
KMI	**Kunming**	**13.41**	**67**	P		**Pn**	**10 45 49.8**	**+0.9**
KMI				pP		P	10 45 53.5	-5.0
KMI				sP			10 45 55.3	
KMI				PP		**PnPn**	**10 45 59.8**	**+3.0**
KMI				S		**Sn**	**10 48 21.5**	**+3.2**
KMI				sS		S	10 48 24.8	-18
KMI				pmax		pmax		
	comp=Z,12nm,1.4s							
KMI				pmax		pmax		
	comp=Z,110nm,3.9s							
KMI				LR		LR		
	comp=N,340nm,10.9s							
KMI				LR		LR		
	comp=E,130nm,11.4s							
KMI				LR		LR		
	comp=Z,300nm,15.6s							
AYAN	**Aya Nagar**	**13.50**	**309**	*e*PKP		**Pn**	**10 45 49.1**	**-0.7**
AYAN				AMb		AMB	10 45 54.3	
	comp=Z,15nm,0.3s							
NDI	**New Delhi**	**13.54**	**309**	*e*PKP		**Pn**	**10 45 51.0**	**+0.5**
NDI				*ex*		x	10 48 07.0	
DDI	**Dehra Dun**	**13.98**	**317**	*e*PKP		**Pn**	**10 45 56.0**	**-0.5**
DDI				*ex*		x	10 48 04.5	
KHET	**Khetri**	**14.28**	**305**	*ex*		P	10 45 56.9	-11
KHET				AMb		AMB	10 45 58.9	
	comp=Z,12nm,0.9s							
KHET				*ex*		x	10 48 25.9	
KAD	**Karad**	**14.45**	**260**	*ex*		x	10 48 27.7	
POO	**Poona**	**14.50**	**265**	*e*PKP		**Pn**	**10 46 03.0**	**-0.7**
POO				*e*PKP		P	10 46 04.4	-6.0
POO				*e*PP		**PnPn**	**10 46 13.0**	**+1.4**
POO				AMb		AMB	10 46 13.6	
	comp=Z,13nm,0.7s							
POO				*e*S		**Sn**	**10 48 45.2**	**+0.6**
AJM	**Ajmer**	**14.54**	**297**	*e*PKP		**Pn**	**10 46 02.6**	**-1.5**
AJM				AMb		AMB	10 46 08.7	
	comp=Z,16nm,0.7s							
AJM				*ex*		x	10 48 33.0	
CD2	**Chengdu**	**16.80**	**49**	P		**P**	**10 46 35.5**	**-0.4**
CD2				pP		**pP**	**10 46 39.0**	**+0.3**
CD2				sP		**sP**	**10 46 42.5**	**+2.5**
CD2				PP		**PnPn**	**10 46 49.8**	**+6.6**
CD2				S		**Sn**	**10 49 41.3**	**+0.8**
CD2				sS		**S**	**10 49 46.5**	**-4.9**
CD2				pmax		pmax		
	comp=Z,30nm,0.4s							
CD2				pmax		pmax		
	comp=Z,120nm,6.0s							
CD2				LR		LR		
	comp=N,550nm,21.5s							
CD2				LR		LR		
	comp=E,610nm,20.5s							
CD2				LR		LR		
	comp=Z,310nm,21.5s							
THN	**Thein Dam**	**16.88**	**318**	*e*PKP		**P**	**10 46 37.0**	**+0.4**
GYA	**Guiyang**	**17.18**	**66**	*i* P		**P**	**10 46 40.5**	**+0.3**
GYA				PP		**PnPn**	**10 46 54.3**	**+5.8**
GYA				S		**Sn**	**10 49 51.5**	**+1.6**
GYA				SS		**SnSn**	**10 50 10.5**	**+7.2**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
GYA				pmax		pmax		
	comp=Z,80nm,4.4s							
GYA				LR		LR		
	comp=N,310nm,11.0s							
GYA				LR		LR		
	comp=E,290nm,13.1s							
GYA				LR		LR		
	comp=Z,450nm,14.7s							
KULM	**Kulim**	**18.81**	**142**	*e*P		**Pn**	**10 46 58.4**	**-0.1**
	comp=Z,32nm,1.2s							
QIZ	**Qiongzhong**	**19.59**	**91**	P		**Pn**	**10 47 07.5**	**-0.4**
QIZ				pP		**pP**	**10 47 09.3**	**-0.1**
QIZ				S		**S**	**10 50 46.5**	**-1.4**
QIZ				sS		**sS**	**10 50 53.0**	**+0.6**
QIZ				pmax		pmax		
	comp=Z,15nm,1.8s							
QIZ				LR		LR		
	comp=N,190nm,19.5s							
QIZ				LR		LR		
	comp=E,94nm,23.9s							
QIZ				LR		LR		
	comp=Z,220nm,18.6s							
QIZ	**Qiongzhong**	**19.59**	**91**	*e*P		**Pn**	**10 47 08.6**	**+0.7**
	comp=Z,17nm,1.0s							
IPM	**Ipoh**	**19.68**	**142**	*e*P		**Pn**	**10 47 08.6**	**-0.4**
	comp=Z,12nm,0.9s							
PSI	**Prapat**	**20.00**	**150**	P		**P**	**10 47 11.4**	**+0.1**
PSI	**Prapat**	**20.00**	**150**	P		**P**	**10 47 11.4**	**+0.1**
	comp=Z,7.8nm,0.7s,baz=243,slow=1.7,SNR=8.0							
PSI				LR		LR	10 57 25.3	
	comp=Z,242nm,18.2s,baz=120,slow=44							
LZH	**Lanzhou**	**20.23**	**37**	*e*P		Pn	10 47 15.3	-0.4
LZH				PP		**PnPn**	**10 47 33.8**	**+3.4**
LZH				S		**S**	**10 50 58.5**	**-2.4**
LZH				sS		Sn	10 51 03.5	-0.2
LZH				pmax		pmax		
	comp=Z,36nm,1.3s							
LZH				pmax		pmax		
	comp=Z,130nm,4.5s							
LZH				LR		LR		
	comp=N,430nm,14.7s							
LZH				LR		LR		
	comp=E,540nm,12.7s							
LZH				LR		LR		
	comp=Z,730nm,15.3s							
ENH	**Enshi**	**20.83**	**58**	*e*P		**P**	**10 47 19.6**	**-0.5**
	comp=Z,32nm,0.7s							
ENH				*e*S		**S**	**10 51 11.3**	**-1.2**
GTA	**Gaotai**	**21.01**	**24**	*e*P		**P**	**10 47 22.5**	**+0.4**
GTA				pP		**pP**	**10 47 26.5**	**+1.5**
GTA				sP		**sP**	**10 47 30.0**	**+3.7**
GTA				S		**S**	**10 51 11.0**	**-5.2**
GTA				sS		**sS**	**10 51 18.0**	**-2.8**
GTA				SS		**SnSn**	**10 51 42.5**	**+5.1**
GTA				pmax		pmax		
	comp=Z,7.0nm,0.9s							
GTA				pmax		pmax		
	comp=Z,29nm,5.2s							
GTA				LR		LR		
	comp=N,230nm,16.9s							
GTA				LR		LR		
	comp=E,130nm,12.6s							
GTA				LR		LR		
	comp=Z,230nm,15.0s							
KSH	**Kashi**	**22.08**	**332**	P		**P**	**10 47 33.5**	**-0.1**
KSH				pP		**pP**	**10 47 38.0**	**+1.6**
KSH				sP		**sP**	**10 47 40.5**	**+2.8**
KSH				PP		**PnPn**	**10 47 59.0**	**+3.4**
KSH				S		**S**	**10 51 31.0**	**-6.2**
KSH				PcP		**PcP**	**10 51 32.3**	**+1.1**
KSH				sS		**sS**	**10 51 37.8**	**-4.0**
KSH				ScP		**ScP**	**10 55 08.5**	**-0.3**
KSH				PcS		**PcS**	**10 55 09.8**	**-0.1**
KSH				ScS		**ScS**	**10 58 51.8**	**-1.8**
KSH				pmax		pmax		
	comp=Z,12nm,1.0s							
KSH				pmax		pmax		
	comp=Z,47nm,5.1s							
KSH				LR		LR		
	comp=N,210nm,5.8s							
KSH				LR		LR		
	comp=E,140nm,5.3s							
KSH				LR		LR		
	comp=Z,250nm,6.7s							
XAN	**Xi'an**	**22.16**	**48**	P		**P**	**10 47 33.5**	**-0.9**
XAN				pP		**pP**	**10 47 37.5**	**+0.2**
XAN				S		**S**	**10 51 33.5**	**-5.2**
XAN				sS		**sS**	**10 51 41.5**	**-1.9**
XAN				pmax		pmax		
	comp=Z,17nm,0.9s							
XAN				pmax		pmax		
	comp=Z,17nm,4.0s							
XAN				LR		LR		
	comp=N,170nm,19.4s							
XAN				LR		LR		
	comp=E,62nm,21.1s							
XAN				LR		LR		
	comp=Z,73nm,18.9s							
WMQ	**Urumqi**	**23.32**	**357**	*e*P		**P**	**10 47 48.3**	**+1.8**
WMQ				pP		**pP**	**10 47 52.0**	**+2.6**
WMQ				sP		**sP**	**10 47 55.0**	**+4.3**
WMQ				S		**S**	**10 51 57.0**	**-2.2**
WMQ				pmax		pmax		
	comp=Z,26nm,1.0s							
WMQ				pmax		pmax		
	comp=Z,220nm,5.7s							
WMQ				LR		LR		
	comp=N,310nm,7.2s							
WMQ				LR		LR		
	comp=E,280nm,12.0s							
WMQ				LR		LR		
	comp=Z,260nm,16.6s							
WHN	**Wuhan**	**24.86**	**61**	*e*P		**P**	**10 48 00.5**	**-0.5**
AAK	**Ala-Archa**	**25.29**	**334**	*i* P		**P**	**10 48 05.7**	**+0.7**
AAK				pmax		pmax		
	comp=Z,10.0nm,0.9s							
AAK	**Ala-Archa**	**25.29**	**334**	*e*P		**P**	**10 48 05.9**	**+0.9**
	comp=Z,26nm,0.8s							
AAK	**Ala-Archa**	**25.29**	**334**	P		**P**	**10 48 05.3**	**+0.3**
	comp=Z,4.0nm,0.9s,baz=180,slow=6.7,SNR=11							
AAK				LR		LR	11 00 16.9	
	comp=Z,211nm,18.0s,baz=136,slow=42							
EKS2	**Erkin-Say**	**25.61**	**333**	*e*P		**P**	**10 48 08.9**	**+1.1**
	comp=Z,44nm,1.8s							
MK31	**Makanchi Array**	**26.84**	**350**	*i* P		**P**	**10 48 18.5**	**-0.4**
MK31				pmax		pmax		
	comp=Z,15nm,1.1s							
MKAR	**Makanchi Array**	**26.84**	**350**	*c i*P		**P**	**10 48 19.1**	**+0.2**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**26.84**	**350**	P		**P**	**10 48 18.8**	**-0.1**
MKAR	**Makanchi Array**	**26.84**	**350**	P		**P**	**10 48 18.8**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=171,slow=10.0,SNR=19							
MKAR				LR		LR	11 01 31.2	
	comp=Z,135nm,19.5s,baz=169,slow=42							
KKAR	**Karatay Array**	**27.43**	**330**	*e*P		**P**	**10 48 23.9**	**-0.2**
	comp=Z,0.8nm,0.6s							
HHC	**Hu-ho-hao-te**	**27.90**	**38**	*e*P		**P**	**10 48 30.5**	**+2.0**
HHC				sP		**sP**	**10 48 37.5**	**+4.7**
HHC				PcP		**PcP**	**10 51 47.0**	**+2.9**
HHC				S		**S**	**10 53 10.5**	**-1.7**
HHC				sS		**sS**	**10 53 18.8**	**+1.5**
HHC				pmax		pmax		
	comp=Z,10.0nm,0.8s							
HHC				pmax		pmax		
	comp=Z,58nm,5.4s							
HHC				LR		LR		
	comp=N,230nm,14.3s							
HHC				LR		LR		
	comp=E,160nm,16.7s							
HHC				LR		LR		
	comp=Z,230nm,17.8s							
WSAR	**Wadi Sarin**	**28.38**	**281**	LR		LR	11 00 20.8	
	comp=Z,141nm,18.7s,baz=186,slow=37							
NJ2	**Nanjing**	**28.98**	**60**	*e*P		P	10 48 34.5	-3.6
NJ2				pmax		pmax		
	comp=Z,50nm,0.7s							
NJ2				LR		LR		
	comp=N,220nm,24.2s							
NJ2				LR		LR		
	comp=E,170nm,18.3s							
NJ2				LR		LR		
	comp=Z,170nm,24.9s							
SONM	**Songino Array**	**30.68**	**23**	P		**P**	**10 48 54.0**	**+0.8**
SONM				PcP		**PcP**	**10 51 51.4**	**+0.3**
SONM	**Songino Array**	**30.68**	**23**	P		**P**	**10 48 54.0**	**+0.8**
	comp=Z,5.5nm,0.6s,baz=205,slow=10.0,SNR=51							
SONM				PcP		**PcP**	**10 51 51.4**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=217,slow=3.2,SNR=4.0							
ULN	**Ulaanbaatar**	**30.96**	**24**	*e*P		**P**	**10 48 56.1**	**+0.5**
	comp=Z,6.9nm,0.8s							
KURBB	**Kurchatov Arra**	**31.23**	**347**	P		**P**	**10 48 57.8**	**0.0**
	comp=Z,3.8nm,0.7s,baz=166,slow=8.2,SNR=14							
KURBB				PcP		**PcP**	**10 51 51.9**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=168,slow=1.9,SNR=7.5							
KURBB				LR		LR	11 04 00.0	
	comp=Z,152nm,19.7s,baz=160,slow=41							
KURK	**Kurchatov**	**31.30**	**347**	*i* P		**P**	**10 48 58.4**	**0.0**
KURK				pmax		pmax		
	comp=Z,7.0nm,1.0s							
KURK	**Kurchatov**	**31.30**	**347**	*e*P		**P**	**10 48 58.6**	**+0.3**
	comp=Z,2.1nm,0.5s							
KURK				PcP		**PcP**	**10 51 51.9**	**-0.5**
ZAK	**Zakamensk**	**31.90**	**17**	*e*P		**P**	**10 49 04.4**	**+0.6**
ZAK				pmax		pmax		
	comp=Z,8.0nm,0.9s							
TLY	**Talaya**	**33.17**	**17**	*e*P		P	10 49 22.5	+7.7
TLY				pmax		pmax		
	comp=Z,2.0nm,0.7s							
TLY				MLR		MLR		
	comp=Z,152nm,21.0s							
ZALV	**Zalesovo Beam**	**33.59**	**355**	P		**P**	**10 49 18.5**	**+0.1**
ZALV	**Zalesovo Beam**	**33.59**	**355**	P		**P**	**10 49 18.5**	**+0.1**
	comp=Z,6.0nm,0.7s,baz=181,slow=9.5,SNR=23							
ZALV				LR		LR	11 05 32.9	
	comp=Z,125nm,21.3s,baz=219,slow=41							
NVS	**Novosibirsk**	**34.61**	**354**	*e*P		P	10 49 33.1	+5.9
BVAR	**Borovoye Array**	**35.56**	**341**	P		**P**	**10 49 35.0**	**-0.5**
BVAR				PcP		**PcP**	**10 52 04.6**	**+0.2**
BVAR	**Borovoye Array**	**35.56**	**341**	P		**P**	**10 49 35.0**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=148,slow=9.5,SNR=8.1							
BVAR				PcP		**PcP**	**10 52 04.6**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=182,slow=4.3,SNR=3.0							
BVAR				LR		LR	11 05 41.5	
	comp=Z,60nm,19.9s,baz=6.0,slow=39							
BRVK	**Borovoye**	**35.62**	**340**	*e*P		**P**	**10 49 38.7**	**+2.6**
	comp=Z,6.6nm,1.2s							
AB31	**Akbulak array**	**36.95**	**328**	*i* P		**P**	**10 49 47.8**	**+0.4**
AB31				pmax		pmax		
	comp=Z,6.0nm,0.6s							
ABKAR	**Akbulak array**	**36.95**	**328**	*e*P		**P**	**10 49 47.8**	**+0.4**
	comp=Z,2.1nm,0.6s							
KSAR	**Wonju Array Be**	**37.62**	**55**	P		**P**	**10 49 51.3**	**-2.0**
KSRS	**Korea Array**	**37.65**	**55**	P		**P**	**10 49 51.3**	**-2.2**
	comp=Z,2.0nm,0.6s,baz=250,slow=7.0,SNR=9.5							
KSRS				LR		LR	11 07 31.7	
	comp=Z,74nm,19.0s,baz=255,slow=40							
HIA	**Hailar**	**37.72**	**33**	*e*P		**P**	**10 49 53.4**	**-0.6**
	comp=Z,9.1nm,0.8s							
DAV	**Davao City (W)**	**37.75**	**105**	LR		LR	11 06 50.3	
	comp=Z,90nm,19.1s,baz=303,slow=39							
CN2	**Changchun**	**38.14**	**44**	*e*P		**P**	**10 49 57.5**	**-0.1**
CN2				*e*pP		**pP**	**10 50 02.0**	**+1.3**
CN2				*e*sP		**sP**	**10 50 04.5**	**+2.6**
CN2				*e*S		**S**	**10 55 50.0**	**-0.7**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.9s							
CN2				pmax		pmax		
	comp=Z,200nm,4.0s							
CN2				LR		LR		
	comp=N,200nm,16.0s							
CN2				LR		LR		
	comp=E,200nm,16.0s							
CN2				LR		LR		
	comp=Z,200nm,18.0s							
AKTO	**Aktyubinsk**	**38.67**	**328**	P		**P**	**10 50 01.6**	**-0.3**
AKTO	**Aktyubinsk**	**38.67**	**328**	P		**P**	**10 50 01.6**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=160,slow=7.5,SNR=7.3							
AKTO				LR		LR	11 08 03.8	
	comp=Z,91nm,19.0s,baz=5.1,slow=40							
MIB	**Mutribah**	**38.75**	**292**	*e*P		**P**	**10 50 03.1**	**+0.2**
MIB				AMb		AMB	10 50 03.9	
	comp=Z,15nm,0.9s							
NAY	**Al-Naaiem**	**38.80**	**291**	*e*P		**P**	**10 50 02.8**	**-0.5**
NAY				AMb		AMB	10 50 04.3	
	comp=Z,6.9nm,0.8s							
KAPI	**Kappang**	**39.34**	**127**	LR		LR	11 10 50.1	
	comp=Z,43nm,18.6s,baz=15,slow=43							
MDJ	**Mudanjiang**	**41.19**	**45**	P		**P**	**10 50 22.5**	**-0.5**
MDJ				PP		**PP**	**10 51 56.8**	**-1.2**
MDJ				PcP		**PcP**	**10 52 21.5**	**-0.6**
MDJ				S		**S**	**10 56 32.0**	**-4.5**
MDJ				pmax		pmax		
	comp=Z,10.0nm,1.4s							
MDJ				pmax		pmax		
	comp=Z,79nm,6.1s							
MDJ				LR		LR		
	comp=N,67nm,21.7s							
MDJ				LR		LR		
	comp=E,32nm,24.3s							
MDJ				LR		LR		
	comp=Z,39nm,22.6s							
BOD	**Bodaibo**	**41.52**	**20**	*e*P		**P**	**10 50 25.7**	**+0.2**
BOD				pmax		pmax		
	comp=Z,3.0nm,1.4s							
SVE	**Sverdlovsk**	**41.97**	**337**	*e*P		P	10 50 39.0	+10
SVE				pmax		pmax		
	comp=Z,29nm,1.4s							
ARU	**Arti**	**42.47**	**335**	*e*P		P	10 50 38.2	+4.9
	comp=Z,5.9nm,0.6s							
GNI	**Garni**	**42.51**	**308**	LR		LR	11 11 20.4	
	comp=Z,48nm,18.7s,baz=265,slow=40							
USRK	**Ussuriysk Arra**	**42.66**	**46**	P		**P**	**10 50 34.4**	**-0.5**
	comp=Z,6.7nm,0.8s,baz=250,slow=7.7,SNR=17							
USRK				LR		LR	11 10 48.7	
	comp=Z,68nm,19.6s,baz=348,slow=40							
ZEI	**Tsey**	**43.80**	**311**	*e*P		**P**	**10 50 44.6**	**0.0**
ZEI				pmax		pmax		
	comp=Z,4.0nm,0.6s							
KLR	**Kul'dur**	**44.40**	**39**	*e*P		P	10 50 43.8	-5.2
KBZ	**Khabaz**	**44.77**	**312**	P		**P**	**10 50 52.6**	**+0.7**
KBZ	**Khabaz**	**44.77**	**312**	P		**P**	**10 50 52.6**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=114,slow=12,SNR=2.5							
KBZ				LR		LR	11 13 25.3	
	comp=Z,54nm,18.8s,baz=290,slow=41							
CLNS	**Chul'man**	**44.90**	**27**	*e*P		**P**	**10 50 53.7**	**+0.8**
CLNS				pmax		pmax		
	comp=Z,7.0nm,1.0s							
CLNS				pmax		pmax		
	comp=E,4

OBN					MLR	MLR		
	comp=Z,100nm,18.0s							
FITZ	**Fitzroy Crossi**	**52.47**	**134**	P	**P**	**10 51 50.4**	**-1.1**
FITZ	**Fitzroy Crossi**	**52.47**	**134**	P	**P**	**10 51 50.4**	**-1.1**
	comp=Z,5.8nm,1.0s,baz=350,slow=11,SNR=3.6							
FITZ				LR	LR	11 17 01.1		
	comp=Z,53nm,19.4s,baz=60,slow=39							
KLMR	**Klimovskoe**	**53.08**	**332**	*e*P	**P**	**10 51 57.1**	**+1.6**
KLMR				pmax	pmax			
	comp=Z,13nm,1.1s							
MEEK	**Meekatharra**	**54.88**	**147**	*e*P	**P**	**10 52 09.1**	**0.0**
CFR	**Carcaliu**	**55.41**	**311**	⇓*i*P	**P**	**10 52 13.3**	**+0.6**
CFR	**Carcaliu**	**55.41**	**311**	⇓*i*P	**P**	**10 52 13.3**	**+0.6**
AKASG	**Malin Array Be**	**55.42**	**318**	P	**P**	**10 52 11.4**	**-1.3**
AKASG	**Malin Array Be**	**55.42**	**318**	P	**P**	**10 52 11.4**	**-1.3**
	comp=Z,1.1nm,0.6s,baz=101,slow=6.0,SNR=2.8							
MORW	**Morawa**	**55.69**	**151**	*e*P	**P**	**10 52 14.6**	**-0.2**
VRI	**Vrincioaia**	**56.46**	**312**	⇓P	**P**	**10 52 21.1**	**+0.8**
VRI	**Vrincioaia**	**56.46**	**312**	⇓*i*P	**P**	**10 52 21.1**	**+0.8**
PLOR	**Plostina**	**56.51**	**312**	⇑P	**P**	**10 52 21.6**	**+0.9**
PLOR	**Plostina**	**56.51**	**312**	⇑*i*P	**P**	**10 52 21.6**	**+0.9**
MLR	**Muntele Rosu**	**56.98**	**312**	P	**P**	**10 52 25.1**	**+1.0**
MLR	**Muntele Rosu**	**56.98**	**312**	⇑*i*P	**P**	**10 52 25.1**	**+1.0**
MLR	**Muntele Rosu**	**56.98**	**312**	P	**P**	**10 52 25.1**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=130,slow=8.1,SNR=5.9							
VOIR		**57.60**	**311**	⇑P	P	10 52 37.2	+8.7	
VOIR		**57.60**	**311**	⇑*i*P	P	10 52 37.2	+8.7	
BURAR	**Bucovina Array**	**57.64**	**314**	⇑*i*P	**P**	**10 52 28.7**	**0.0**	
LVV	**L'vov**	**58.61**	**317**	*e*P	**P**	**10 52 32.8**	**-2.5**	
GZR	**Gura Zlata**	**59.20**	**311**	⇑P	P	10 52 48.1	+8.5	
GZR	**Gura Zlata**	**59.20**	**311**	⇑*i*P	P	10 52 48.1	+8.5	
DRGR		**59.29**	**313**	⇓P	P	10 52 43.5	+3.2	
DRGR		**59.29**	**313**	⇓*i*P	P	10 52 43.5	+3.2	
FINES	**FINESS Array B**	**59.39**	**330**	P	**P**	**10 52 40.7**	**+0.2**	
FINES	**FINESS Array B**	**59.39**	**330**	P	**P**	**10 52 40.7**	**+0.2**	
	comp=Z,2.4nm,0.9s,baz=131,slow=5.8,SNR=5.2							
NWAO	**Narrogin (SRO)**	**59.51**	**153**	P	**P**	**10 52 41.0**	**-0.8**	
NWAO	**Narrogin (SRO)**	**59.51**	**153**	P	**P**	**10 52 41.0**	**-0.8**	
	comp=Z,8.0nm,0.6s,baz=332,slow=7.5,SNR=7.4							
NWAO				LR	LR	11 21 58.0		
	comp=Z,60nm,19.4s,baz=295,slow=40							
UZH	**Uzhgorod**	**59.66**	**315**	*e*P	sP	10 52 54.0	+6.9	
WRA	**Warramunga Arr**	**59.79**	**129**	P	**P**	**10 52 43.5**	**-0.4**	
WRA				PcP	**PcP**	**10 53 30.3**	**-0.3**	
WRA	**Warramunga Arr**	**59.79**	**129**	P	**P**	**10 52 43.5**	**-0.4**	
	comp=Z,16nm,0.8s,baz=321,slow=7.1,SNR=43							
WRA				PcP	**PcP**	**10 53 30.3**	**-0.3**	
	comp=Z,2.2nm,0.6s,baz=320,slow=3.5,SNR=7.9							
WRAB	**Tennant Creek**	**59.79**	**129**	*e*P	**P**	**10 52 44.0**	**+0.1**	
	comp=Z,25nm,0.9s							
SEY	**Seymchan**	**59.88**	**28**	⇑*i*P	**P**	**10 52 42.3**	**-1.6**	
CRVS	**Cervenica-Dubn**	**60.22**	**315**	*e*P	sP	10 52 58.2	+7.2	
CRVS				pmax	pmax			
	comp=Z,12nm,1.4s							
CRVS	**Cervenica-Dubn**	**60.22**	**315**	*e*P	sP	10 52 58.2	+7.2	
PETK	**Petropavlovsk-**	**61.09**	**40**	P	**P**	**10 52 51.2**	**-1.1**	
PETK	**Petropavlovsk-**	**61.09**	**40**	P	**P**	**10 52 51.2**	**-1.1**	
	comp=Z,5.7nm,0.9s,baz=236,slow=3.4,SNR=5.6							
ARCES	**ARCESS Array B**	**61.83**	**339**	P	**P**	**10 52 56.7**	**-0.4**	
ARCES	**ARCESS Array B**	**61.83**	**339**	P	**P**	**10 52 56.7**	**-0.4**	
	comp=Z,3.2nm,0.8s,baz=77,slow=6.4,SNR=3.8							
ARCES				LR	LR	11 22 43.3		
	comp=Z,188nm,18.6s,baz=359,slow=39							
ASAR	**Alice Springs**	**61.89**	**133**	P	**P**	**10 52 58.0**	**-0.2**	
ASAR				PcP	**PcP**	**10 53 38.8**	**-0.3**	
ASAR	**Alice Springs**	**61.89**	**133**	P	**P**	**10 52 58.0**	**-0.2**	
	comp=Z,6.9nm,0.7s,baz=315,slow=6.9,SNR=50							
ASAR				PcP	**PcP**	**10 53 38.8**	**-0.3**	
	comp=Z,2.7nm,0.8s,baz=308,slow=4.1,SNR=6.3							
VYHS	**Vyhne**	**61.95**	**315**	*e*P	P	10 53 09.4	+11	
VYHS				pmax	pmax			
	comp=Z,3.0nm,1.0s							
VYHS	**Vyhne**	**61.95**	**315**	*e*P	P	10 53 09.4	+11	
OKC	**Ostrava-Krasne**	**62.41**	**316**	*e*P	P	10 53 11.0	+10	
OKC	**Ostrava-Krasne**	**62.41**	**316**	*e*pP	P	10 53 11.0	+10	
DPC	**Dobruska-Polom**	**63.59**	**317**	*e*P	P	10 53 20.4	+11	
DPC	**Dobruska-Polom**	**63.59**	**317**	*e*pP	pP	10 53 20.4	+7.9	
QIS	**Mount Isa**	**64.06**	**126**	*e*P	**P**	**10 53 12.6**	**-0.1**	
SOKA	**Soboth**	**64.57**	**313**	⇓*i*P	P	10 53 25.2	+9.4	
	comp=Z,6.8nm,0.8s							
PRU	**Pruhonice**	**64.74**	**317**	*e*P	P	10 53 26.4	+10	
PRU	**Pruhonice**	**64.74**	**317**	*e*pP	P	10 53 26.4	+10	
OBKA	**Obir**	**64.92**	**313**	⇓*i*P	P	10 53 27.7	+10	
	comp=Z,11nm,0.8s							
BRG	**Berggiesshubel**	**65.09**	**318**	*e*P	P	10 53 29.1	+10	
	comp=Z,6.0nm,0.7s							
BRG	**Berggiesshubel**	**65.09**	**318**	*e*P	P	10 53 29.1	+10	
BRG				pmax	pmax			
	comp=Z,6.0nm,0.7s							
HFS	**Hagfors**	**65.22**	**328**	P	**P**	**10 53 19.0**	**-0.6**	
HFS	**Hagfors**	**65.22**	**328**	P	**P**	**10 53 19.0**	**-0.6**	
	comp=Z,3.8nm,0.6s,baz=116,slow=5.1,SNR=14							
GERES	**GERESS Array B**	**65.34**	**315**	P	**P**	**10 53 20.6**	**-0.2**	
GERES	**GERESS Array B**	**65.34**	**315**	P	**P**	**10 53 20.6**	**-0.2**	
	comp=Z,1.5nm,0.3s,baz=93,slow=5.3,SNR=18							
KHC	**Kasperske Hory**	**65.41**	**316**	*e*P	P	10 53 30.6	+9.5	
KHC	**Kasperske Hory**	**65.41**	**316**	*e*pP	P	10 53 30.6	+9.5	
BILL	**Bilibino**	**66.40**	**24**	⇑*i*P	**P**	**10 53 27.1**	**0.0**	
BILL				*e**PP	pP	10 53 35.4	+5.0	
BILL				*e*		10 55 52.0		
BILL				pmax	pmax			
	comp=Z,10.0nm,1.0s							
BILL	**Bilibino**	**66.40**	**24**	*e*P	**P**	**10 53 27.3**	**+0.2**	
	comp=Z,13nm,1.1s							
NB2	**NORSAR Subarra**	**66.45**	**329**	P	**P**	**10 53 26.7**	**-1.0**	
	comp=Z,6.2nm,0.5s,baz=91,slow=6.5							
NOA	**NORSAR Array B**	**66.45**	**329**	P	**P**	**10 53 26.6**	**-1.1**	
NOA	**NORSAR Array B**	**66.45**	**329**	P	**P**	**10 53 26.6**	**-1.1**	
	comp=Z,2.2nm,0.6s,baz=91,slow=6.3,SNR=6.3							
NOA				LR	LR	11 25 33.8		
	comp=Z,80nm,18.9s,baz=20,slow=39							
FETA	**Feichten**	**67.49**	**313**	⇓*i*P	P	10 53 43.6	+9.0	
	comp=Z,11nm,1.3s							
CTA	**Charters Tower**	**68.95**	**122**	P	**P**	**10 53 44.0**	**0.0**	
CTA	**Charters Tower**	**68.95**	**122**	*e*P	**P**	**10 53 44.4**	**+0.4**	
CTA	**Charters Tower**	**68.95**	**122**	P	**P**	**10 53 44.0**	**0.0**	
	comp=Z,13nm,0.8s,baz=307,slow=11,SNR=7.1							
BBOO	**Buckleboo**	**69.43**	**139**	*e*P	**P**	**10 53 46.0**	**-0.7**	
LSZ	**Lusaka**	**69.57**	**244**	*e*P	**P**	**10 53 48.1**	**0.0**	
	comp=Z,4.1nm,0.6s							
LSZ				*e*		10 53 57.3		
CDF	**Champ du Feu**	**69.63**	**315**	*e*P	**P**	**10 53 48.3**	**+0.4**	
CDF	**Champ du Feu**	**69.63**	**315**	*e*P	**P**	**10 53 48.3**	**+0.4**	
KEST	**Kesra**	**70.25**	**302**	P	**P**	**10 53 53.0**	**+1.1**	
KEST	**Kesra**	**70.25**	**302**	P	**P**	**10 53 53.0**	**+1.1**	
	comp=Z,1.5nm,0.9s,baz=16,slow=15,SNR=2.3							
LPG	**La Plagne**	**70.43**	**312**	*e*P	**P**	**10 53 53.3**	**+0.2**	
	comp=Z,16nm,0.7s							
LPG	**La Plagne**	**70.43**	**312**	*e*P	**P**	**10 53 53.3**	**+0.2**	
	comp=Z,16nm,0.7s							
LPL	**La Plagne**	**70.44**	**312**	*e*P	**P**	**10 53 53.2**	**+0.1**	
LPL	**La Plagne**	**70.44**	**312**	*e*P	**P**	**10 53 53.2**	**+0.1**	
MBDF	**Montbardon**	**70.54**	**311**	*e*P	**P**	**10 53 54.0**	**+0.3**	
	comp=Z,13nm,0.7s							
MBDF	**Montbardon**	**70.54**	**311**	*e*P	**P**	**10 53 54.0**	**+0.3**	
	comp=Z,13nm,0.7s							
PAGF	**Fort de Pagny**	**70.63**	**316**	*e*P	**P**	**10 53 54.6**	**+0.7**	
	comp=Z,5.5nm,0.7s							
PAGF	**Fort de Pagny**	**70.63**	**316**	*e*P	**P**	**10 53 54.6**	**+0.7**	
	comp=Z,5.5nm,0.7s							
VIVF	**Saint-Julien-l**	**71.99**	**312**	*e*P	**P**	**10 54 02.2**	**-0.1**	
	comp=Z,16nm,0.9s							
VIVF	**Saint-Julien-l**	**71.99**	**312**	*e*P	**P**	**10 54 02.2**	**-0.1**	
	comp=Z,16nm,0.9s							
LOR	**Lormes**	**72.09**	**315**	*e*P	**P**	**10 54 02.7**	**-0.1**	
LOR	**Lormes**	**72.09**	**315**	*e*P	**P**	**10 54 02.7**	**-0.1**	
SSF	**Saint Saulge**	**72.36**	**314**	*e*P	**P**	**10 54 03.6**	**-0.8**	
	comp=Z,11nm,0.9s							
SSF	**Saint Saulge**	**72.36**	**314**	*e*P	**P**	**10 54 03.6**	**-0.8**	
	comp=Z,11nm,0.9s							
STKA	**Stephens Creek**	**72.37**	**135**	P	**P**	**10 54 03.6**	**-0.9**	
STKA	**Stephens Creek**	**72.37**	**135**	*e*P	**P**	**10 54 03.3**	**-1.3**	
STKA	**Stephens Creek**	**72.37**	**135**	P	**P**	**10 54 03.6**	**-0.9**	
	comp=Z,12nm,0.8s,baz=326,slow=7.5,SNR=22							
STKA				LR	LR	11 29 03.1		
	comp=Z,60nm,18.1s,baz=217,slow=38							
AVF	**Avril sur Loir**	**72.52**	**314**	*e*P	**P**	**10 54 05.5**	**+0.2**	
	comp=Z,6.9nm,0.5s							
AVF	**Avril sur Loir**	**72.52**	**314**	*e*P	**P**	**10 54 05.5**	**+0.2**	
	comp=Z,6.9nm,0.5s							
LASF	**Ste Croix**	**72.72**	**311**	*e*P	**P**	**10 54 06.3**	**-0.3**	
	comp=Z,54nm,1.3s							
LASF	**Ste Croix**	**72.72**	**311**	*e*P	**P**	**10 54 06.3**	**-0.3**	
	comp=Z,54nm,1.3s							
TCF	**Toulx Ste Croi**	**73.39**	**314**	*e*P	**P**	**10 54 10.3**	**-0.3**	
	comp=Z,10.0nm,0.7s							
TCF	**Toulx Ste Croi**	**73.39**	**314**	*e*P	**P**	**10 54 10.3**	**-0.3**	
	comp=Z,10.0nm,0.7s							
RJF	**Les Rejaudoux**	**74.08**	**313**	*e*P	**P**	**10 54 14.4**	**-0.2**	
	comp=Z,12nm,0.8s							
RJF	**Les Rejaudoux**	**74.08**	**313**	*e*P	**P**	**10 54 14.4**	**-0.2**	
	comp=Z,12nm,0.8s							
RMQ	**Roma**	**74.32**	**127**	*e*P	**P**	**10 54 17.4**	**+1.2**	
CMSA	**Cobar Meteorol**	**74.94**	**132**	*e*P	**P**	**10 54 19.7**	**0.0**	
ETSF	**Etsaut**	**76.12**	**311**	*e*P	**P**	**10 54 26.3**	**-0.2**	
ETSF	**Etsaut**	**76.12**	**311**	*e*P	**P**	**10 54 26.3**	**-0.2**	
LBTB	**Lobatse**	**76.50**	**237**	P	**P**	**10 54 29.3**	**+0.4**	
LBTB	**Lobatse**	**76.50**	**237**	P	**P**	**10 54 29.3**	**+0.4**	
	comp=Z,1.4nm,0.7s,baz=24,slow=4.0,SNR=3.1							
SJPF	**Ste Jean**	**76.53**	**311**	*e*P	**P**	**10 54 28.9**	**+0.1**	
SJPF	**Ste Jean**	**76.53**	**311**	*e*P	**P**	**10 54 28.9**	**+0.1**	
TNA	**Tin City**	**76.80**	**25**	*e*P	**P**	**10 54 30.5**	**+0.8**	
	comp=Z,2.5nm,0.8s							
BOSA	**Boshof**	**78.58**	**234**	P	**P**	**10 54 40.9**	**+0.4**	
BOSA	**Boshof**	**78.58**	**234**	P	**P**	**10 54 40.9**	**+0.4**	
	comp=Z,3.5nm,1.1s,baz=127,slow=10,SNR=3.1							
BOSA				LR	LR	11 25 02.0		
	comp=Z,63nm,19.6s,baz=348,slow=32							
ESDC	**Sonseca Array**	**79.49**	**308**	P	**P**	**10 54 45.3**	**0.0**	
ESDC	**Sonseca Array**	**79.49**	**308**	P	**P**	**10 54 45.3**	**0.0**	
	comp=Z,0.3nm,0.3s,baz=56,slow=5.7,SNR=3.6							
TORD	**Torodi Ar. Bea**	**83.11**	**281**	P	**P**	**10 55 04.2**	**-0.6**	
TORD	**Torodi Ar. Bea**	**83.11**	**281**	P	**P**	**10 55 04.2**	**-0.6**	
	comp=Z,0.4nm,0.6s,baz=59,slow=4.1,SNR=4.8							
ILAR	**Eielson Array**	**84.88**	**21**	P	**P**	**10 55 11.4**	**-1.6**	
ILAR	**Eielson Array**	**84.88**	**21**	P	**P**	**10 55 11.4**	**-1.6**	
	comp=Z,1.7nm,0.8s,baz=295,slow=5.2,SNR=21							
SML	**Sawmill**	**86.21**	**24**	*e*P	**P**	**10 55 19.6**	**-0.2**	
	comp=Z,1.8nm,0.8s							
INK	**Inuvik**	**86.21**	**15**	*e*P	**P**	**10 55 18.6**	**-0.9**	
	comp=Z,6.8nm,1.0s							
INK				*e*		10 55 28.5		
KDAK	**Kodiak Island**	**86.84**	**28**	P	**P**	**10 55 22.3**	**-0.5**	
KDAK	**Kodiak Island**	**86.84**	**28**	P	**P**	**10 55 22.3**	**-0.5**	
	comp=Z,9.5nm,0.7s,baz=42,slow=8.8,SNR=4.2							
DBIC	**Dimbokro**	**91.38**	**279**	P	**P**	**10 55 45.5**	**+0.4**	
DBIC	**Dimbokro**	**91.38**	**278**	P	**P**	**10 55 45.5**	**+0.4**	
	comp=Z,2.3nm,0.8s,baz=168,slow=3.4,SNR=4.0							
YKA	**Yellowknife Ar**	**95.21**	**11**	P	**P**	**10 56 01.0**	**-0.8**	
YKA				PP	**PP**	**10 59 49.3**	**-1.5**	
YKA				PKKPbc	**PKKPdf**	**11 12 53.5**	**-2.4**	
YKA	**Yellowknife Ar**	**95.21**	**11**	P	**P**	**10 56 01.0**	**-0.8**	
	comp=Z,0.9nm,0.9s,baz=332,slow=4.5,SNR=15							
YKA				PP	**PP**	**10 59 49.3**	**-1.5**	
	comp=Z,0.1nm,0.4s,baz=335,slow=8.0,SNR=4.0							
YKA				PKKPbc	**PKKPdf**	**11 12 53.5**	**-2.4**	
	comp=Z,0.3nm,0.7s,baz=156,slow=2.3,SNR=7.9							
PDAR	**Pinedale Array**	**114.78**	**15**	PKP	PKPdf	11 01 17.8	-1.9	
PDAR	**Pinedale Array**	**114.78**	**15**	PKP	PKPdf	11 01 17.8	-1.9	
	comp=Z,0.4nm,0.6s,baz=42,slow=2.4,SNR=3.7							
NVAR	**Mina Array Bea**	**116.02**	**24**	PKP	**PKPdf**	**11 01 22.5**	**+0.4**	
NVAR	**Mina Array Bea**	**116.02**	**24**	PKP	**PKPdf**	**11 01 22.5**	**+0.4**	
	comp=Z,0.8nm,0.7s,baz=318,slow=2.2,SNR=6.7							
GDL2	**Guadalupe Moun**	**126.07**	**14**	*e*PKPdf	**PKPdf**	**11 01 41.4**	**-0.1**	
TXAR	**Lajitas Array**	**128.99**	**14**	PKP	**PKPdf**	**11 01 47.0**	**-0.1**	
TXAR	**Lajitas Array**	**128.99**	**14**	PKP	**PKPdf**	**11 01 47.0**	**-0.1**	
	comp=Z,1.0nm,0.8s,baz=302,slow=0.9,SNR=11							
SDV	**Santo Domingo**	**144.67**	**324**	*e*PKPdf	**PKPab**	**11 02 14.6**	**-0.4**	
CPUP	**Villa Florida**	**148.69**	**253**	PKPbc	**PKPbc**	**11 02 25.5**	**-0.8**	
CPUP	**Villa Florida**	**148.69**	**253**	PKPbc	**PKPbc**	**11 02 25.5**	**-0.8**	
	comp=Z,0.9nm,0.5s,baz=330,slow=3.2,SNR=4.6							
TRQA	**Tornquist**	**149.45**	**229**	*e*PKPdf	**PKPdf**	**11 02 23.3**	**-0.2**	
TRQA				*e*PKPbc	**PKPbc**	**11 02 27.7**	**-0.2**	
TRQA				*e*PKPab	**PKPab**	**11 02 33.4**	**+0.6**	
ROSC	**El Rosal**	**150.03**	**325**	PKPbc	**PKPbc**	**11 02 30.7**	**+0.2**	
ROSC	**El Rosal**	**150.03**	**325**	PKPbc	**PKPbc**	**11 02 30.7**	**+0.2**	
	comp=Z,5.5nm,0.4s,baz=80,slow=21,SNR=5.2							
SAML	**Samuel**	**150.90**	**289**	*e*PKPdf	**PKPdf**	**11 02 26.2**	**-0.2**	
SAML				*e*PKPbc	**PKPbc**	**11 02 31.7**	**-0.3**	
SAML				*e*PKPab	**PKPab**	**11 02 40.2**	**+0.9**	
PLCA	**Paso Flores**	**153.38**	**216**	PKPbc	**PKPbc**	**11 02 36.7**	**-0.4**	
PLCA				PKPab	**PKPab**	**11 02 47.4**	**-1.6**	
PLCA	**Paso Flores**	**153.38**	**216**	PKPbc	**PKPbc**	**11 02 36.7**	**-0.4**	
	comp=Z,1.5nm,0.6s,baz=271,slow=1.0,SNR=6.0							
PLCA				PKPab	**PKPab**	**11 02 47.4**	**-1.6**	
	comp=Z,1.3nm,0.6s,baz=130,slow=7.5,SNR=3.4							

IDC 27 10:44:50.1±10.0, 6°.89S×129°.81E, h97km±97km, mb3.6/3, mb1 3.5/6, mb1mx3.3/20, mbtmpb3.4/6, ML3.7/2, Error ellipse: s-maj=109.3km s-min=29.6km az=53.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.87**	**200**	P	Pn	10 47 36.0	-0.1
	0.2nm,0.3s,baz=30,slow=12,SNR=14						
FITZ				S	Sn	10 49 36.1	-11
	0.4nm,0.3s,baz=338,slow=19,SNR=4.0						
WRA	**Warramunga Arr**	**13.70**	**162**	P	Pn	10 47 59.9	-0.5
	0.5nm,0.3s,baz=344,slow=13,SNR=25						
WRA				S	Sn	10 50 20.9	-10
	0.6nm,0.3s,baz=337,slow=22,SNR=9.6						
ASAR	**Alice Springs**	**17.14**	**167**	P	P	10 48 44.9	+1.0
	0.3nm,0.3s,baz=344,slow=9.4,SNR=15						
STKA	**Stephens Creek**	**27.19**	**158**	P	P	10 50 24.4	-0.2
	0.9nm,0.6s,baz=328,slow=10,SNR=5.6						
MKAR	**Makanchi Array**	**68.03**	**327**	P	P	10 55 39.5	+0.4
	0.9nm,0.4s,baz=133,slow=7.2,SNR=24						
KURBB	**Kurchatov Arra**	**72.32**	**329**	P	P	10 56 04.6	-0.6
	0.4nm,0.4s,baz=129,slow=5.3,SNR=4.6						

MEX 27 10:51:46.8±1.1, 16°.34N×94°.84W, h74km±16km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.75**	**357**	*e*P	Pn	10 52 00.8	-1.8
CMIG				*e*S	Sn	10 52 12.4	-1.8
HUIG	**Huatulco**	**1.35**	**245**	*e*P	Pn	10 52 07.8	-2.1
HUIG				*i* S	Sn	10 52 25.8	-1.5
PCIG		**1.68**	**112**	*e*P	Pn	10 52 13.6	-0.7
PCIG				*i* S	Sn	10 52 33.5	-1.7
TGIG		**1.70**	**75**	*e*P	Pn	10 52 13.0	-1.7
TGIG				*i* S	Sn	10 52 34.0	-1.9
OXX	**Oaxaca**	**1.95**	**292**	*i* P	Pn	10 52 20.3	+2.1
OXX				*i* S	Sn	10 52 41.2	-0.8
VHO	**Vista Hermosa**	**1.95**	**292**	*e*P	Pn	10 52 18.0	-0.3
VHO				*i* S	Sn	10 52 41.0	-1.1
CCIG	**Comitan**	**2.60**	**91**	*e*P	Pn	10 52 25.4	-1.4
CCIG				*i* S	Sn	10 52 56.1	-1.4
PNIG	**Pinotepa**	**3.16**	**271**	*e*P	Pn	10 52 32.4	-1.9
PNIG				*i* S	Sn	10 53 08.7	-2.1
TPIG	**Tehuac#an**	**3.17**	**311**	*e*P	Pn	10 52 34.2	-0.5
TPIG				*i* S	Sn	10 53 10.0	-1.6

IDC 27 11:01:51.0±3.6, 6°.44S×103°.66E, h50km±8km, mb3.3/6, mb1 3.5/6, mb1mx3.3/23, mbtmpb3.3/6, Error ellipse: s-maj=159.2km s-min=17.0km az=53.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**24.37**	**120**	P	P	11 07 04.4	-0.2
	2.0nm,0.7s,baz=303,slow=17,SNR=2.7						
CMAR	**Chiang Mai Arr**	**25.17**	**349**	P	P	11 07 10.7	-1.2
	1.1nm,0.5s,baz=179,slow=8.4,SNR=6.3						
WRA	**Warramunga Arr**	**32.67**	**117**	P	P	11 08 18.6	-0.1
	0.7nm,0.9s,baz=286,slow=12,SNR=4.8						
ASAR	**Alice Springs**	**33.74**	**124**	P	P	11 08 27.9	-0.1
	0.3nm,0.9s,baz=302,slow=7.7,SNR=3.7						
ASAR				pP	pP	11 08 39.1	-1.9
	0.1nm,0.4s,baz=300,slow=7.6,SNR=2.6						
SONM	**Songino Array**	**54.09**	**2**	P	P	11 11 10.8	0.0
	0.7nm,0.8s,baz=182,slow=10.0,SNR=7.8						
MKAR	**Makanchi Array**	**56.29**	**342**	P	P	11 11 26.1	-0.4
	0.4nm,0.6s,baz=145,slow=8.7,SNR=9.2						
MKAR				pP	pP	11 11 39.9	-0.4
	0.2nm,0.4s,baz=163,slow=8.9,SNR=2.7						
TXAR	**Lajitas Array**	**145.61**	**45**	PKPbc	PKPab	11 21 25.7	+0.5
	0.3nm,0.5s,baz=286,slow=1.3,SNR=7.0						
TXAR				pPKPbc	pPKPbc	11 21 40.6	+0.6
	0.3nm,0.7s,baz=242,slow=2.4,SNR=2.8						

PRE 27 11:01:59.2±0.5, 26°.13S×27°.72E, h2km, ML1.9, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.24**	**204**	*e*P	Pg	11 02 03.8	-0.4
KLOF				*e*S	Sg	11 02 07.3	-0.2
KLOF				AML	AML	11 02 09.2	
	comp=Z,504nm,0.1s						
ERPM	**east rand prop**	**0.52**	**115**	*e*P	Pg	11 02 08.8	-0.6
ERPM				*e*S	Sg	11 02 15.1	-1.2
ERPM				AML	AML	11 02 26.8	
	comp=Z,22nm,0.7s						
PRYS	**Parys**	**0.86**	**202**	*e*P	Pg	11 02 15.5	-0.4
PRYS				*e*S	Sg	11 02 27.9	+0.7
PRYS				AML	AML	11 02 51.9	
	comp=Z,15nm,0.7s						

IDC 27 11:21:26.0±38.0, 12°.76N×145°.18E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/25, mbtmpb3.5/3, Error ellipse: s-maj=683.8km s-min=162.9km az=4.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.21**	**198**	P	P	11 28 13.8	+0.2
	0.6nm,0.7s,baz=20,slow=9.8,SNR=10.0						
ASAR	**Alice Springs**	**37.85**	**197**	P	P	11 28 44.9	+0.2
	0.1nm,0.5s,baz=11,slow=9.8,SNR=4.0						
STKA	**Stephens Creek**	**44.52**	**184**	P	P	11 29 38.6	-0.8
	0.7nm,0.4s,baz=3.7,slow=10.0,SNR=6.4						

IDC 27 11:36:12.8±1.7, 4°.01N×126°.96E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/23, mbtmpb3.8/5, Error ellipse: s-maj=92.5km s-min=24.6km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.01**	**183**	P	P	11 41 08.9	0.0
	2.6nm,0.8s,baz=355,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**24.88**	**163**	P	P	11 41 37.1	-0.4
	4.7nm,0.7s,baz=344,slow=10,SNR=49						
ASAR	**Alice Springs**	**28.33**	**166**	P	P	11 42 08.5	-0.1
	0.4nm,0.8s,baz=340,slow=7.8,SNR=6.2						
STKA	**Stephens Creek**	**38.31**	**160**	P	P	11 43 35.6	+0.3
	2.5nm,0.6s,baz=330,slow=9.1,SNR=8.9						
MKAR	**Makanchi Array**	**57.46**	**325**	P	P	11 46 03.6	-0.1
	0.4nm,0.7s,baz=118,slow=7.4,SNR=4.9						

GUC 27 11:36:41.1±0.3, 42°.85S×72°.71W, h20km±3km, ML3.3
*ISCJB 27 11:36:42.2±1.2, 42°.82S±0°.05×72°.6W±0°.1, h10km, mb3.7/2, Error ellipse: s-maj=14.6

0.2nm,0.3s,baz=294,slow=12,SNR=13
MKAR Sn **Sn** **11 55 52.3 +3.6**
0.3nm,0.3s,baz=305,slow=25,SNR=2.6
MKAR Lg Lg 11 56 30.2
1.3nm,0.3s,baz=319,slow=50,SNR=8.9
ZALV Zalesovo Beam 7.55 61 Pn **Pn** **11 54 37.3 +0.5**
0.5nm,0.3s,baz=249,slow=13,SNR=12
ZALV Sn **Sn** **11 56 01.8 -1.0**
0.5nm,0.3s,baz=251,slow=24,SNR=6.5
ZALV Lg Lg 11 56 50.7
0.3nm,0.3s,baz=340,slow=14,SNR=2.5
AAK Ala-Archa 8.17 176 Pn **Pn** **11 54 46.5 +0.9**
1.1nm,0.3s,baz=13,slow=0.8,SNR=14
AAK Sn **Sn** **11 56 17.9 -0.5**
0.1nm,0.3s,baz=238,slow=22,SNR=1.5
AAK Lg Lg 11 57 08.9
0.5nm,0.3s,baz=233,slow=21,SNR=6.0
AKTO Aktyubinsk 9.94 274 Pn **Pn** **11 55 09.3 -0.3**
0.9nm,0.3s,baz=93,slow=10,SNR=10
AKTO Sn **Sn** **11 56 59.6 -1.9**
0.1nm,0.3s,baz=348,slow=16,SNR=1.3
AKTO Lg Lg 11 58 03.2
0.2nm,0.3s,baz=81,slow=5.6,SNR=4.6
ILAR Eielson Array 60.58 19 P **P** **12 02 56.8 -0.5**
0.5nm,0.5s,baz=327,slow=4.8,SNR=9.6
YKA Yellowknife Ar 66.89 4 P **P** **12 03 38.2 -0.6**
0.1nm,0.5s,baz=342,slow=7.3,SNR=2.9
TORD Torodi Ar. Bea 68.51 264 P **P** **12 03 49.5 -0.3**
0.2nm,0.6s,baz=64,slow=5.0,SNR=2.4

VIE 27 11:59:59.5±0.3, 50.21N×12.74E, h0km, mb2.1/2, ML2.6/4, 3C-3D, Error ellipse: s-maj=3.6km s-min=1.1km az=43.0
20 km E of Klingenthal Suspected Mining explosion., Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**2.35**	**73**	*e*Pg	Pg	12 00 45.0	+0.4
KSP				*e*Sg	Sg	12 01 17.0	+1.8
MOA	**Molln**	**2.57**	**156**	⇑*i*Pg	Pg	12 00 48.4	-0.4
MOA				⇑*i*Sg	Sg	12 01 23.7	+1.6
	12nm,0.4s						
CONA	**Conrad Observa**	**3.07**	**137**	⇓*i*Pn	Pn	12 00 49.2	-0.2
CONA				⇑*i*Sg	Sg	12 01 41.2	+2.7
	9.4nm,0.4s						
ABTA	**Abfaltersbach**	**3.47**	**183**	⇓*i*Sg	Sg	12 01 54.4	+3.1
	5.7nm,0.6s						
ARSA	**Arzberg**	**3.49**	**147**	⇓*i*Sg	Sg	12 01 55.2	+3.4
	9.7nm,0.6s						

IDC 27 12:00:35.8±4.6, 5.20S×103.90E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/22, mbtmp3.3/4, Error ellipse: s-maj=194.1km s-min=26.0km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.03**	**119**	P	P	12 07 12.2	-1.0
	0.2nm,0.6s,baz=289,slow=9.8,SNR=3.4						
ASAR	**Alice Springs**	**34.23**	**125**	P	P	12 07 24.2	+0.5
	0.1nm,0.3s,baz=300,slow=7.8,SNR=8.9						
SONM	**Songino Array**	**52.86**	**2**	P	P	12 09 54.0	+0.6
	0.6nm,0.9s,baz=186,slow=7.3,SNR=4.3						
MKAR	**Makanchi Array**	**55.20**	**342**	P	P	12 10 09.7	-0.8
	0.2nm,0.5s,baz=137,slow=9.2,SNR=2.6						

IDC 27 12:06:05.1±2.1, 3.97N×126.81E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.3/22, mbtmp3.2/3, Error ellipse: s-maj=165.3km s-min=25.8km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.89**	**163**	P	P	12 11 28.9	-0.9
	1.1nm,0.7s,baz=343,slow=10,SNR=10						
ASAR	**Alice Springs**	**28.32**	**166**	P	P	12 12 01.9	+1.1
	0.1nm,0.5s,baz=344,slow=11,SNR=4.6						
MKAR	**Makanchi Array**	**57.41**	**325**	P	P	12 15 55.5	-0.1
	0.1nm,0.5s,baz=113,slow=6.5,SNR=3.1						

IDC 27 12:11:02.6±2.8, 48.01N×153.97E, h79km±25km, mb3.5/12, mb1 3.7/15, mb1mx3.6/28, mbtmp3.5/15, MS3.2/1, Ms1 3.2/1, ms1mx2.2/33, Error ellipse: s-maj=25.6km s-min=12.3km az=141.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.63**	**24**	P	Pn	12 12 22.5	-1.1
	2.3nm,0.3s,baz=178,slow=12,SNR=144						
PETK				S	Sn	12 13 36.1	+9.3
	0.4nm,0.3s,baz=149,slow=20,SNR=2.4						
ASAJ	**Asahikawa**	**8.81**	**248**	P	Pn	12 13 08.5	+1.4
	1.1nm,0.3s,baz=81,slow=5,SNR=12						
FX1	**Attu Island--F**	**13.16**	**61**	P	Pn	12 14 02.3	-3.8
	1.5nm,0.3s,baz=85,slow=23,SNR=5.3						
FX1				S	Sn	12 16 17.8	-13
	2.3nm,0.3s,baz=66,slow=17,SNR=4.7						
USRK	**Ussuriysk Arra**	**15.69**	**264**	P	Pn	12 14 39.5	+0.6
	0.3nm,0.3s,baz=66,slow=9.9,SNR=4.8						
KSRS	**Korea Array**	**21.75**	**251**	P	P	12 15 47.5	0.0
	3.3nm,0.9s,baz=56,slow=10.0,SNR=8.4						
ILAR	**Eielson Array**	**35.20**	**40**	P	P	12 17 48.2	-0.5
	0.8nm,1.0s,baz=255,slow=6.3,SNR=6.5						
ZALV	**Zalesovo Beam**	**42.35**	**305**	LR	LR	12 38 35.5	
	comp=Z,25nm,18.3s,baz=62,slow=39						
MKAR	**Makanchi Array**	**46.88**	**297**	P	P	12 19 24.6	-0.1
	0.8nm,0.7s,baz=65,slow=8.4,SNR=10						
MKAR				PcP	PcP	12 20 56.0	-0.2
	0.1nm,0.4s,baz=74,slow=6.2,SNR=1.4						
YKA	**Yellowknife Ar**	**49.57**	**38**	P	P	12 19 45.1	+0.1
	0.4nm,0.7s,baz=296,slow=7.2,SNR=6.0						
CMAR	**Chiang Mai Arr**	**53.23**	**256**	P	P	12 20 13.3	+0.3
	1.1nm,0.8s,baz=29,slow=7.2,SNR=7.3						
NVAR	**Mina Array Bea**	**61.34**	**63**	P	P	12 21 10.6	+0.4
	0.7nm,0.6s,baz=291,slow=6.2,SNR=6.9						
FINES	**FINESS Array B**	**63.14**	**335**	P	P	12 21 20.6	-0.9
	1.2nm,0.8s,baz=52,slow=9.9,SNR=3.7						
PDAR	**Pinedale Array**	**63.54**	**55**	P	P	12 21 25.0	+0.2
	0.7nm,0.7s,baz=269,slow=2.2,SNR=7.4						
WRA	**Warramunga Arr**	**69.90**	**200**	P	P	12 22 04.0	-1.0
	0.4nm,0.6s,baz=16,slow=6.5,SNR=5.6						
WRA				PcP	PcP	12 22 26.6	-0.3
	0.6nm,0.6s,baz=14,slow=4.9,SNR=10						
SCHQ	**Schefferville**	**71.92**	**23**	P	P	12 22 17.4	+0.5
	2.0nm,1.0s,baz=304,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**73.59**	**199**	P	P	12 22 27.3	+0.2
	0.7nm,0.9s,baz=15,slow=5.8,SNR=8.8						
TXAR	**Lajitas Array**	**76.37**	**61**	P	P	12 22 43.4	0.0
	1.0nm,0.6s,baz=301,slow=4.4,SNR=17						

ISCJB 27 12:18:17.5±1.7, 36.03N±0.04×26.89E±0.05, h15km±12km, Error ellipse: s-maj=7.7km s-min=4.6km az=41.1
ATH 27 12:18:17.1, 36.08N×26.91E, h30km±2km, MD3.2/10
CSEM 27 12:18:17.1±0.3, 36.09N×26.81E, h8km, MD3.2, Error ellipse: s-maj=7.3km s-min=5.8km az=131.0
DDA 27 12:18:18.9, 36.04N×27.10E, h7km, MD3.2
ISC 27 12:18:17.8±1.1, 36.06N±0.03×26.93E±0.03, h15km±10km, n36, σ0s96/49, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.55**	**159**	*e*PN	**Pb**	**12 18 29.1**	**0.0**
KARP				*e*SN	**Sb**	**12 18 37.2**	**+0.4**
KARP	**Karpathos**	**0.55**	**159**	*e*Pn	**Pb**	**12 18 29.1**	**0.0**
KARP				*e*Sn	**Sb**	**12 18 37.2**	**+0.4**
ARG	**Arkhangelos**	**0.98**	**81**	*e*PN	**Pn**	**12 18 37.3**	**+0.2**
ARG				*e*SN	**Sg**	**12 18 49.8**	**0.0**
ARG	**Arkhangelos**	**0.98**	**81**	*e*Pn	**Pn**	**12 18 37.3**	**+0.2**
ARG				*e*Sn	**Sg**	**12 18 49.8**	**0.0**
BDRM	**Kayabasi**	**1.09**	**22**	*e*P	**Pn**	**12 18 38.5**	**-0.1**
BDRM				*i* S	**Sn**	**12 18 54.5**	**+1.1**
BDRM	**Kayabasi**	**1.09**	**22**	*e*P	**Pn**	**12 18 38.5**	**-0.1**
BDRM				*i* S	**Sn**	**12 18 54.5**	**+1.1**
ZKR	**Zakros**	**1.11**	**212**	*e*PN	**Pg**	**12 18 39.0**	**-0.2**
ZKR				*e*SN	**Sg**	**12 18 53.1**	**-0.5**
ZKR	**Zakros**	**1.11**	**212**	*e*Pn	**Pg**	**12 18 39.0**	**-0.2**
ZKR				*e*Sn	**Sg**	**12 18 53.1**	**-0.5**
NPS	**Neapolis**	**1.33**	**234**	*e*PN	**Pn**	**12 18 41.7**	**-0.2**
NPS				*e*SN	**Sn**	**12 18 58.1**	**-1.3**
NPS	**Neapolis**	**1.33**	**234**	*e*Pn	**Pn**	**12 18 41.7**	**-0.2**
NPS				*e*Sn	**Sn**	**12 18 58.1**	**-1.3**
LAST	**Lasithi**	**1.48**	**233**	*e*PN	**Pn**	**12 18 44.2**	**+0.2**
LAST	**Lasithi**	**1.48**	**233**	*e*Pn	**Pn**	**12 18 44.2**	**+0.2**
APE	**Apeiranthos**	**1.51**	**312**	*e*PB	**Pn**	**12 18 43.2**	**-1.2**
APE	**Apeiranthos**	**1.51**	**312**	*e*Pb	**Pn**	**12 18 43.2**	**-1.2**
XRY	**Khrisi**	**1.55**	**221**	*e*PN	**Pb**	**12 18 46.2**	**0.0**
XRY	**Khrisi**	**1.55**	**221**	*e*Pn	**Pb**	**12 18 46.2**	**0.0**
TURN	**Turunc**	**1.58**	**59**	*i* P	**Pn**	**12 18 42.2**	**-3.1**
TURN				*i* S	Sn	12 18 58.0	-7.4
TURN	**Turunc**	**1.58**	**59**	*i* P	**Pn**	**12 18 42.2**	**-3.1**
GCAM	**G?zelcaml?**	**1.66**	**9**	*e*P	**Pg**	**12 18 50.1**	**+0.5**
GCAM				*e*S	**Sg**	**12 19 12.5**	**+1.3**
GCAM	**G?zelcaml?**	**1.66**	**9**	*e*P	**Pg**	**12 18 50.1**	**+0.5**
AYDN	**Tasoluk**	**1.77**	**25**	*i* P	**Pg**	**12 18 51.4**	**-0.5**
AYDN				*e*S	**Sn**	**12 19 10.3**	**-0.1**
AYDN	**Tasoluk**	**1.77**	**25**	*i* P	**Pg**	**12 18 51.4**	**-0.5**
AYDN				*e*S	**Sn**	**12 19 10.3**	**-0.1**
SIVA	**Sivas**	**2.01**	**240**	*e*PB	**Pn**	**12 18 51.8**	**+0.5**
SIVA	**Sivas**	**2.01**	**240**	*e*Pb	**Pn**	**12 18 51.8**	**+0.5**
AKAS	**Kas**	**2.18**	**85**	*i* P	**Pn**	**12 18 54.8**	**+1.2**
AKAS	**Kas**	**2.18**	**85**	*i* P	**Pn**	**12 18 54.8**	**+1.2**
VAM	**Vamos**	**2.31**	**254**	*e*PB	**Pn**	**12 18 56.1**	**+0.7**
VAM	**Vamos**	**2.31**	**254**	*e*Pb	**Pn**	**12 18 56.1**	**+0.7**
CHOS	**Chios island**	**2.42**	**344**	*e*PN	**Pn**	**12 18 56.3**	**-0.7**
CHOS	**Chios island**	**2.42**	**344**	*e*Pn	**Pn**	**12 18 56.3**	**-0.7**
KARN	**Karanos**	**2.53**	**256**	*e*PB	**Pn**	**12 19 00.0**	**+1.5**
KARN	**Karanos**	**2.53**	**256**	*e*Pb	**Pn**	**12 19 00.0**	**+1.5**
KYTH	**Kithira**	**3.15**	**275**	*e*PN	**Pn**	**12 19 07.3**	**+0.3**
KYTH	**Kithira**	**3.15**	**275**	*e*Pn	**Pn**	**12 19 07.3**	**+0.3**
DID	**Didima**	**3.29**	**297**	*e*PN	**Pn**	**12 19 08.9**	**0.0**
DID	**Didima**	**3.29**	**297**	*e*Pn	**Pn**	**12 19 08.9**	**0.0**

ISCJB 27 12:23:39.0±1.8, 36.02N±0.04×26.89E±0.05, h7km±13km, Error ellipse: s-maj=8.0km s-min=4.8km az=139.3
ATH 27 12:23:39.8, 36.09N×26.90E, h29km±2km, MD3.1/9
CSEM 27 12:23:40.1±0.3, 36.05N×26.80E, h10km, MD3.1, Error ellipse: s-maj=8.7km s-min=6.9km az=147.0
DDA 27 12:23:41.9, 36.04N×27.14E, h13km, MD2.9
ISC 27 12:23:40.3±1.2, 36.08N±0.03×26.88E±0.03, h14km±10km, n38, σ0s90/48, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.58**	**157**	*e*PN	**Pb**	**12 23 52.0**	**-0.3**
KARP				*e*SN	**Sb**	**12 24 00.0**	**-0.4**
KARP	**Karpathos**	**0.58**	**157**	*e*Pn	**Pb**	**12 23 52.0**	**-0.3**
KARP				*e*Sn	**Sb**	**12 24 00.0**	**-0.4**
ARG	**Arkhangelos**	**1.02**	**82**	*e*PN	**Pn**	**12 24 00.1**	**-0.1**
ARG				*e*SN	**Sg**	**12 24 12.8**	**-0.5**
ARG	**Arkhangelos**	**1.02**	**82**	*e*Pn	**Pn**	**12 24 00.1**	**-0.1**
ARG				*e*Sn	**Sg**	**12 24 12.8**	**-0.5**
BDRM	**Kayabasi**	**1.08**	**25**	*i* P	**Pb**	**12 23 59.4**	**-1.5**
BDRM				*i* S	**Sn**	**12 24 17.0**	**+1.0**
BDRM	**Kayabasi**	**1.08**	**25**	*i* P	**Pb**	**12 23 59.4**	**-1.5**
BDRM				*i* S	**Sn**	**12 24 17.0**	**+1.0**
ZKR	**Zakros**	**1.10**	**209**	*e*PN	**Pg**	**12 24 02.0**	**+0.4**
ZKR				*e*SN	**Sn**	**12 24 16.2**	**-0.3**
ZKR	**Zakros**	**1.10**	**209**	*e*Pn	**Pg**	**12 24 02.0**	**+0.4**
ZKR				*e*Sn	**Sn**	**12 24 16.2**	**-0.3**
NPS	**Neapolis**	**1.32**	**232**	*e*PN	**Pn**	**12 24 04.3**	**0.0**
NPS				*e*SN	**Sb**	**12 24 20.8**	**-0.8**
NPS	**Neapolis**	**1.32**	**232**	*e*Pn	**Pn**	**12 24 04.3**	**0.0**
NPS				*e*Sn	**Sb**	**12 24 20.8**	**-0.8**
LAST	**Lasithi**	**1.47**	**232**	*e*PN	**Pn**	**12 24 06.7**	**+0.3**
LAST	**Lasithi**	**1.47**	**232**	*e*Pn	**Pn**	**12 24 06.7**	**+0.3**
APE	**Apeiranthos**	**1.47**	**313**	*e*PB	**Pn**	**12 24 05.9**	**-0.6**
APE	**Apeiranthos**	**1.47**	**313**	*e*Pb	**Pn**	**12 24 05.9**	**-0.6**
XRY	**Khrisi**	**1.54**	**219**	*e*PB	**Pn**	**12 24 06.7**	**-0.7**
XRY	**Khrisi**	**1.54**	**219**	*e*Pb	**Pn**	**12 24 06.7**	**-0.7**
TURN	**Turunc**	**1.60**	**60**	*i* P	Pn	12 24 04.4	-3.8
TURN				*i* S	Sn	12 24 20.1	-8.5
TURN	**Turunc**	**1.60**	**60**	*i* P	Pn	12 24 04.4	-3.8
AYDN	**Tasoluk**	**1.77**	**27**	*i* P	**Pg**	**12 24 14.0**	**-0.3**
AYDN				*i* S	**Sg**	**12 24 38.7**	**+1.4**
AYDN	**Tasoluk**	**1.77**	**27**	*i* P	**Pg**	**12 24 14.0**	**-0.3**
AYDN				*i* S	**Sg**	**12 24 38.7**	**+1.4**
SIVA	**Sivas**	**1.99**	**238**	*e*PB	**Pn**	**12 24 14.5**	**+0.9**
SIVA	**Sivas**	**1.99**	**238**	*e*Pb	**Pn**	**12 24 14.5**	**+0.9**
AKAS	**Kas**	**2.21**	**85**	*i* P	**Pn**	**12 24 17.3**	**+0.5**
AKAS	**Kas**	**2.21**	**85**	*i* P	**Pn**	**12 24 17.3**	**+0.5**
VAM	**Vamos**	**2.28**	**254**	*e*PB	**Pn**	**12 24 19.0**	**+1.4**
VAM	**Vamos**	**2.28**	**254**	*e*Pb	**Pn**	**12 24 19.0**	**+1.4**
DNZL	**Cakiroluk**	**2.37**	**47**	*e*P	**Pn**	**12 24 20.8**	**+1.9**
DNZL	**Cakiroluk**	**2.37**	**47**	*e*P	**Pn**	**12 24 20.8**	**+1.9**
CHOS	**Chios island**	**2.39**	**344**	*e*PN	**Pn**	**12 24 18.8**	**-0.4**
CHOS	**Chios island**	**2.39**	**344**	*e*Pn	**Pn**	**12 24 18.8**	**-0.4**
KARN	**Karanos**	**2.50**	**255**	*e*PB	**Pn**	**12 24 22.0**	**+1.3**
KARN	**Karanos**	**2.50**	**255**	*e*Pb	**Pn**	**12 24 22.0**	**+1.3**
KYTH	**Kithira**	**3.12**	**275**	*e*PN	**Pn**	**12 24 30.2**	**+1.1**
KYTH	**Kithira**	**3.12**	**275**	*e*Pn	**Pn**	**12 24 30.2**	**+1.1**
VLI	**Veliai**	**3.24**	**282**	*e*PN	**Pn**	**12 24 31.6**	**+0.8**
VLI	**Veliai**	**3.24**	**282**	*e*Pn	**Pn**	**12 24 31.6**	**+0.8**
DID	**Didima**	**3.25**	**297**	*e*PN	**Pn**	**12 24 31.3**	**+0.3**
DID	**Didima**	**3.25**	**297**	*e*Pn	**Pn**	**12 24 31.3**	**+0.3**

DJA 27 12:26:07, 7.59S×107.46E, h46km, MLv3.9/9
IDC 27 12:26:24.3±13.0, 6.09S×109.11E, h296km±140km, mb3.2/5, mb1 3.4/5, mb1mx3.1/22, mbtmp3.2/5, Error ellipse: s-maj=144.8km s-min=25.9km az=56.0
ISC 27 12:26:05.5±5.5, 7.3S±0.4×107.7E±0.3, h100km, n20, σ1s20/7, mb3.7/3, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.26**	**145**	P	Pn	12 26 17.5	-2.5
CISI				S	Sn	12 26 30.8	0.0
LEM	**Lembang**	**0.51**	**355**	P	Pn	12 26 21.7	+0.1
SKJI	**Sukabumi**	**1.15**	**287**	P	Pn	12 26 26.2	-1.4
SKJI				S	Sn	12 26 44.2	-0.1
DBJI	**Dramaga**	**1.20**	**311**	P	Pn	12 26 28.1	-0.1
DBJI				S	Sn	12 26 46.4	+1.1
CLJI	**Cilicap**	**1.39**	**106**	P	Pn	12 26 31.8	+1.4
CLJI				S	**Sn**	**12 26 48.4**	**-0.9**
SBJI	**Serang**	**1.95**	**308**	P	Pn	12 26 37.3	-0.1
BJII	**Banjamegara**	**2.03**	**90**	P	**Pn**	**12 26 39.0**	**+0.5**
BJII				S	**Sn**	**12 27 05.0**	**+1.3**
CGJI	**Cibinong**	**2.09**	**290**	P	Pn	12 26 38.4	-0.8
CGJI				S	Sn	12 27 03.9	-1.1
SMRI	**Semarang**	**2.77**	**84**	P	**Pn**	**12 26 47.0**	**-1.2**
UGM	**Wanagama**	**2.89**	**102**	P	Pn	12 26 48.6	-1.2
UGM				S	**Sn**	**12 27 23.1**	**-0.8**
PCJI	**Pacitan**	**3.58**	**104**	P	Pn	12 26 58.4	-0.6
KASI	**Kota Agung**	**3.63**	**300**	P	Pn	12 27 00.2	+0.5
NGJI	**Ngawi**	**3.76**	**91**	P	**Pn**	**12 27 01.5**	**0.0**
SJI	**Sawahan**	**4.08**	**96**	P	**Pn**	**12 27 06.9**	**+1.0**
PWJI	**Pagerwojo**	**4.16**	**100**	P	Pn	12 27 06.1	-0.7
FITZ	**Fitzroy Crossi**	**20.51**	**123**	P	P	12 30 35.7	-0.1
	4.9nm,0.9s,baz=320,slow=7.9,SNR=3.8						
WRA	**Warramunga Arr**	**28.73**	**119**	P	P	12 31 50.8	-2.9
	0.6nm,0.3s,baz=306,slow=8.9,SNR=17						
ASAR	**Alice Springs**	**29.95**	**126**	P	P	12 32 02.4	-2.2
	0.6nm,0.6s,baz=304,slow=9.4,SNR=16						
STKA	**Stephens Creek**	**39.92**	**132**	P	P	12 33 28.1	-2.0
	5.2nm,0.4s,baz=316,slow=7.7,SNR=28						
SONM	**Songino Array**	**54.95**	**359**	PcP	PcP	12 36 22.2	-4.8
	0.1nm,0.4s,baz=184,slow=5.3,SNR=4.7						

CSEM 27 12:27:35.3, 36.10N×26.84E, h23km, MD2.9, After ATH
ATH 27 12:27:35.3, 36.10N×26.84E, h23km±14km, MD2.9/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.61**	**155**	*e*PN	Pb	12 27 47.6	+0.2
KARP				*e*SN	Sb	12 27 55.4	-0.2
KARP	**Karpathos**	**0.61**	**155**	*e*Pn	Pb	12 27 47.6	+0.2
KARP				*e*Sn	Sb	12 27 55.4	-0.2
ARG	**Arkhangelos**	**1.05**	**83**	*e*PN	Pb	12 27 55.7	+0.9
ARG	**Arkhangelos**	**1.05**	**83**	*e*Pn	Pb	12 27 55.7	+0.9
ZKR	**Zakros**	**1.11**	**207**	*e*PN	Pb	12 27 57.0	+1.2
ZKR	**Zakros**	**1.11**	**207**	*e*Pn	Pb	12 27 57.0	+1.2
APE	**Apeiranthos**	**1.43**	**313**	*e*PN	Pb	12 28 01.5	+0.1
APE	**Apeiranthos**	**1.43**	**313**	*e*Pn	Pb	12 28 01.5	+0.1
LAST	**Lasithi**	**1.45**	**230**	*e*PN	Pb	12 28 02.8	+1.0
LAST	**Lasithi**	**1.45**	**230**	*e*Pn	Pb	12 28 02.8	+1.0

CSEM 27 12:47:21.6±0.5, 67.55N×33.93E, h1km, ML2.2, Error ellipse: s-maj=9.6km s-min=6.1km az=107.0, Mining explosion.
HEL 27 12:47:21.5±0.3, 67.63N×34.08E, h0km, ML1.8, ML2.2(NAO), Explosion
NAO 27 12:47:22.1±1.8, 67.63N×33.96E, ML2.2
ISC 27 12:47:22.2±2.2, 67.63N±0.05×34.0E±0.1, h0km, n21, σ0s88/39, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.37**	**267**	Pg	**Pg**	**12 47 29.2**	**0.0**
	baz=86,slow=16						
APA0				Lg	Lg	12 47 34.5	
	baz=84,slow=37						
APA0				Rg	Rg	12 47 36.4	
	baz=84,slow=37						
APA0	**Apatity Array**	**0.37**	**267**	Pg	**Pg**	**12 47 29.2**	**0.0**
	baz=86,slow=16						
APA0				Lg	Lg	12 47 34.5	
	baz=84,slow=37						
APA0				Rg	Rg	12 47 36.4	
	baz=84,slow=37						
APA0	**Apatity Array**	**0.37**	**267**	*i* P	**Pg**	**12 47 29.2**	**0.0**
APA0				*i* S	**Sg**	**12 47 34.5**	**+0.4**
APA0				*e*RG	Rg	12 47 36.4	
APA0	**Apatity Array**	**0.37**	**267**	P	**Pg**	**12 47 29.2**	**0.0**
APA0				S	**Sg**	**12 47 34.4**	**+0.4**
APA0				Lg	Lg	12 47 34.5	
	baz=84,slow=34,SNR=6.3						
VRF	**Varrio**	**1.67**	**276**	*e*PN	**Pn**	**12 47 52.4**	**-0.2**
VRF				MSG	**Sn**	**12 48 14.1**	**-0.5**
	comp=Z,4.4nm,0.2s						
VRF				*e*SG	**Sn**	**12 48 14.1**	**-0.5**
VRF	**Varrio**	**1.67**	**276**	Pn	**Pn**	**12 47 52.3**	**-0.2**
VRF				Sg	**Sn**	**12 48 14.1**	**-0.5**
KU6	**Riekki**	**2.28**	**227**	*e*PB	**Pn**	**12 48 01.7**	**+0.7**
KU6				MSG	**Sb**	**12 48 32.3**	**-0.4**
	comp=Z,1.8nm,0.4s						
KU6				*e*SG	**Sb**	**12 48 32.3**	**-0.4**
KU6	**Riekki**	**2.28**	**227**	Pb	**Pn**	**12 48 01.7**	**+0.7**
KU6				Sg	**Sb**	**12 48 32.3**	**-0.4**
MSF	**Maaselka**	**2.60**	**231**	*e*SG	**Sb**	**12 48 42.4**	**+0.2**
MSF	**Maaselka**	**2.60**	**231**	Sg	**Sb**	**12 48 42.4**	**+0.2**
SGF	**Sodankyl**	**2.86**	**270**	*e*PB	**Pn**	**12 48 10.6**	**+1.6**
SGF				MSG	**Sb**	**12 48 49.6**	**+0.1**
	comp=Z,1.8nm,0.4s						
SGF				*e*SB	**Sb**	**12 48 49.6**	**+0.1**
SGF	**Sodankyl**	**2.86**	**270**	Pb	**Pn**	**12 48 10.6**	**+1.6**
SGF				Sb	**Sb**	**12 48 49.6**	**+0.1**
RNF	**Rovaniemi**	**3.27**	**255**	*e*P	**Pn**	**12 48 14.8**	**+0.2**
RNF	**Rovaniemi**	**3.27**	**255**	P	**Pn**	**12 48 14.8**	**+0.2**
KEV	**Kevo**	**3.32**	**313**	*e*P	**Pn**	**12 48 15.6**	**+0.4**
KEV				*e*SG	**Sb**	**12 49 04.3**	**+1.7**
KEV				MSG		12 49 04.3	
	comp=Z,3.3nm,0.4s						
KEV	**Kevo**	**3.32**	**313**	P	**Pn**	**12 48 15.6**	**+0.4**
KEV				Sg	**Sb**	**12 49 04.3**	**+1.7**
ARA0	**ARCESS Array S**	**3.64**	**306**	Pn	**Pn**	**12 48 19.5**	**-0.3**
	baz=121,slow=16						
ARA0				Pg	**Pb**	**12 48 27.6**	**+0.3**
	baz=116,slow=16						
ARA0				Sn	**Sn**	**12 49 01.4**	**-2.0**
	baz=118,slow=28						
ARA0				Lg	Lg	12 49 12.4	
	baz=116,slow=37						
ARA0	**ARCESS Array S**	**3.64**	**306**	Pn	**Pn**	**12 48 19.5**	**-0.3**
	baz=121,slow=16						
ARA0				Pg	**Pb**	**12 48 27.6**	**+0.3**
	baz=116,slow=16						
ARA0				Sn	**Sn**	**12 49 01.4**	**-2.0**
	baz=118,slow=28						
ARA0				Lg	Lg	12 49 12.4	
	baz=116,slow=37						
ARA0	**ARCESS Array S**	**3.64**	**306**	*e*P	**Pn**	**12 48 19.0**	**-0.8**
ARA0				MSG		12 49 16.2	
	comp=Z,3.2nm,0.3s						
ARA0	**ARCESS Array S**	**3.64**	**306**	P	**Pn**	**12 48 19.0**	**-0.8**
ARA0	**ARCESS Array S**	**3.64**	**306**	Pn	**Pn**	**12 48 19.5**	**-0.3**
	baz=121,slow=14,SNR=50						
ARA0				Sn	**Sn**	**12 49 01.4**	**-2.0**
	baz=118,slow=23,SNR=50						
ARA0				Lg	Lg	12 49 12.4	
	baz=116,slow=28						

BJI 27 12:48:02.5, 5.92S×131.45E, h104km, mB4.9/26, mb4.8/37
*ISCJB 27 12:48:03.8±0.5, 5.41S±0.04×131.07E±0.03, h74km±4km, mb4.8/70,

9.7nm,0.3s,baz=160,slow=14,SNR=5.9
FITZ LR LR 12 57 03.4
comp=Z,228nm,20.4s,baz=27,slow=39
CTBH Cotabato--PC H 14.24 332⇑ *i*P **Pn 12 51 22.0 -2.8**
COEN Coen 14.68 126 *e*Pn Pn 12 51 25.3 -5.3
COEN *e*Sn Sn 12 53 56.8 -16
WRAB Tennant Creek 14.81 168 *e*P Pn 12 51 24.0 -8.2
WRAB *e* 12 54 06.4
WRAB pmax pmax
comp=Z,76nm,0.6s
WRAB Tennant Creek 14.81 168 *e*Pn Pn 12 51 24.0 -8.2
comp=Z,76nm,0.6s
WRAB *e*Sn Sn 12 54 06.4 -9.3
WRA Warramunga Arr 14.82 168 P Pn 12 51 23.9 -8.4
WRA S Sn 12 54 03.5 -12
WRA Warramunga Arr 14.82 168 P Pn 12 51 23.9 -8.4
comp=Z,13nm,0.3s,baz=349,slow=14,SNR=213
WRA S Sn 12 54 03.5 -12
comp=Z,18nm,0.3s,baz=342,slow=22,SNR=8.9
KBKI Kotabaru 14.97 277 P **P 12 51 38.1 +0.7**
comp=Z,30nm,0.9s,comp=Z,425nm
BBKI Banjar Baru 16.26 276 P **P 12 51 52.7 +1.0**
comp=Z,105nm,1.1s,comp=Z,1µm
MYLDM Lahad Datu 16.34 310 P **P 12 51 53.3 +0.8**
comp=Z,52nm,0.9s
PMG Port Moresby 16.48 105 P **P 12 51 51.8 -2.4**
PMG S Sn 12 54 44.4 -12
PMG Port Moresby 16.48 105 P **P 12 51 53.1 -1.0**
comp=Z,81nm,0.9s,comp=Z,741nm
PMG Port Moresby 16.48 105 P **P 12 51 51.8 -2.4**
comp=Z,4.4nm,0.3s,baz=313,slow=7.9,SNR=25
PMG S Sn 12 54 44.4 -12
comp=Z,2.3nm,0.3s,baz=59,slow=22,SNR=5.5
KMMI Kalianget 17.05 264 P P 12 52 05.9 +5.5
ASAR Alice Springs 18.38 172 P **P 12 52 11.4 -3.6**
ASAR S S 12 55 27.9 -12
ASAR Alice Springs 18.38 172 P **P 12 52 11.5 -3.6**
comp=Z,12nm,0.3s,baz=358,slow=14,SNR=337
ASAR S S 12 55 27.9 -12
comp=Z,4.4nm,0.3s,baz=358,slow=27,SNR=6.2
KKM Kota Kinabalu 18.65 307 *e*P **Pn 12 52 19.4 -0.1**
comp=Z,27nm,0.7s
MBWA Marble Bar 19.13 214 *e*P **P 12 52 22.3 -0.9**
comp=Z,32nm,0.5s
SJI Sawahan 19.28 262 P Pn 12 52 33.8 +6.8
CTA Charters Tower 20.80 136 P Pn 12 52 42.1 -2.5
CTA Charters Tower 20.80 136 *e*P Pn 12 52 41.8 -2.8
CTA *e*S **S 12 56 23.5 -4.8**
CTA Charters Tower 20.80 136 P Pn 12 52 42.1 -2.5
comp=Z,40nm,0.9s,baz=316,slow=14,SNR=11
CTA LR LR 13 00 49.2
comp=Z,217nm,18.7s,baz=156,slow=37
CTAO Charters Tower 20.80 136 *e*P Pn 12 52 43.9 -0.7
CTAO pmax pmax
comp=Z,41nm,0.9s
CTAO Charters Tower 20.80 136 *e*P Pn 12 52 43.9 -0.7
comp=Z,41nm,0.9s
KSM Kuching 21.80 288 P **P 12 52 50.7 -1.3**
FORT Forrest 25.41 186 *e*P **P 12 53 25.6 -0.6**
comp=Z,111nm,0.8s
FORT Forrest 25.41 186⇓ *i*P **P 12 53 25.5 -0.8**
BBOO Buckleboo 27.68 171 *e*P **P 12 53 46.2 -0.5**
comp=Z,2µm,1.6s
STKA Stephens Creek 28.15 161 P **P 12 53 50.4 -0.4**
STKA Stephens Creek 28.15 161⇓ *i*P **P 12 53 50.4 -0.4**
STKA Stephens Creek 28.15 161 P **P 12 53 50.4 -0.4**
comp=Z,11nm,0.4s,baz=336,slow=8.7,SNR=19
STKA pP **pP 12 54 14.4 +2.1**
comp=Z,41nm,0.9s,baz=344,slow=8.5,SNR=8.0
STKA LR LR 13 06 13.2
comp=Z,190nm,19.5s,baz=216,slow=38
KLBR Kellerberrin 28.89 204⇓ *i*P **P 12 53 56.7 -0.7**
NWAO Narrogin (SRO) 30.27 203 P **P 12 54 09.0 -0.7**
NWAO Narrogin (SRO) 30.27 203 P **P 12 54 09.0 -0.7**
comp=Z,8.2nm,0.6s,baz=29,slow=5.7,SNR=9.5
NWAO LR LR 13 06 39.3
comp=Z,133nm,20.9s,baz=284,slow=37
ARMA Armidale 31.56 145 *e*P **P 12 54 21.6 +0.4**
CBIJ Chichi jima 34.05 18 LR LR 13 07 02.2
comp=Z,113nm,18.1s,baz=129,slow=33
CAN Canberra 34.09 153⇓ *i*P **P 12 54 44.0 +0.9**
TOO Toolangi 34.65 160 *e*P P 12 54 49.1 +1.3
DZM Mont Dzumac 38.04 119 P **P 12 55 17.3 +0.3**
DZM Mont Dzumac 38.04 119 P **P 12 55 17.3 +0.3**
comp=Z,2.7nm,0.6s,baz=207,slow=23,SNR=10
NJ2 Nanjing 39.00 343 *e*P P 12 55 28.5 +3.8
NJ2 pmax pmax
comp=Z,10.0nm,1.0s
WHN Wuhan 39.14 337 *e*P P 12 55 27.5 +1.6
GYA Guiyang 39.49 324 *e*P **P 12 55 29.5 +0.4**
GYA pP **pP 12 55 54.3 +3.0**
GYA sP sP 12 56 07.3 +5.1
GYA PP **PnPn 12 57 10.0 +4.5**
GYA PcP **PcP 12 57 36.8 +1.6**
GYA ScP **ScP 13 01 16.3 +0.9**
GYA S S 13 01 32.0 +7.4
GYA sS sS 13 02 09.8 +7.0
GYA SS **SnSn 13 04 25.5 -4.8**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,110nm,4.8s
GYA LR LR
comp=N,510nm,17.0s
GYA LR LR
comp=E,490nm,18.1s
GYA LR LR
comp=Z,450nm,18.7s
CMAR Chiang Mai Arr 39.53 308 P **P 12 55 30.0 +0.6**
CMAR pP **pP 12 55 53.2 +1.7**
CMAR ScP S 13 01 18.9 -6.2
CMAR Chiang Mai Arr 39.53 308 P **P 12 55 30.0 +0.6**
comp=Z,1.6nm,0.5s,baz=139,slow=7.2,SNR=18
CMAR pP **pP 12 55 53.2 +1.7**
comp=Z,4.6nm,0.5s,baz=133,slow=6.8,SNR=7.0
CMAR ScP S 13 01 18.9 -6.2
comp=Z,0.9nm,0.7s,baz=151,slow=2.3,SNR=5.2
CHTO Chiang Mai 39.73 308 *e*P **P 12 55 31.3 +0.3**
CHTO pmax pmax
comp=Z,11nm,0.9s
CHTO Chiang Mai 39.73 308 *e*P **P 12 55 31.3 +0.3**
comp=Z,11nm,0.9s
KMI Kunming 40.95 319 P P 12 55 43.0 +1.7
KMI pP pP 12 56 05.5 +2.0
KMI sP sP 12 56 16.8 +2.4
KMI S S 13 01 53.5 +7.0
KMI SS **SS 13 04 54.5 +2.5**
KMI pmax pmax
comp=Z,14nm,1.0s
KMI pmax pmax
comp=Z,71nm,3.9s
KMI LR LR
comp=N,57nm,14.5s
KMI LR LR
comp=E,75nm,16.6s
KMI LR LR
comp=Z,60nm,15.5s
ENH Enshi 41.03 331 *e*P **P 12 55 41.8 +0.2**
comp=Z,8.0nm,0.6s
MJAR Matsushiro Arr 42.25 9 P **P 12 55 50.9 -0.6**
MJAR pP **pP 12 56 16.3 +2.5**
MJAR Matsushiro Arr 42.25 9 P **P 12 55 50.9 -0.6**
comp=Z,16nm,0.8s,baz=190,slow=9.9,SNR=48
MJAR pP **pP 12 56 16.3 +2.5**
comp=Z,9.5nm,0.7s,baz=181,slow=9.5,SNR=6.2
MJAR LR LR 13 10 36.6
comp=Z,79nm,18.6s,baz=135,slow=32
MAJO Matsushiro 42.25 9 *e*P **P 12 55 50.8 -0.6**
MAJO *e**PP **pP 12 56 16.5 +2.7**
MAJO pmax pmax
comp=Z,22nm,0.7s
MAJO Matsushiro 42.25 9 *e*P **P 12 55 50.8 -0.6**
comp=Z,22nm,0.7s
MAJO *ep*P **pP 12 56 16.5 +2.7**
MAT Matsushiro 42.25 9 P **P 12 55 50.8 -0.6**
KSAR Wonju Array Be 42.71 356 P P 12 55 56.1 +1.0
KSAR PcP **PcP 12 57 46.4 +1.2**
KSRS Korea Array 42.72 356 P P 12 55 56.1 +1.0
KSRS PcP **PcP 12 57 46.4 +1.2**
comp=Z,1.6nm,0.6s,baz=171,slow=9.2,SNR=8.9
comp=Z,2.4nm,0.8s,baz=180,slow=3.3,SNR=4.6
KSRS LR LR 13 14 49.0
comp=Z,24nm,19.4s,baz=170,slow=38
XAN Xi'an 44.44 333 P **P 12 56 09.0 -0.2**
XAN pmax pmax
comp=Z,2.0nm,0.7s
XAN pmax pmax
comp=Z,11nm,4.2s
CD2 Chengdu 44.53 326 P **P 12 56 10.5 +0.6**
CD2 PP **PP 12 57 56.3 +0.6**
CD2 PcS **PcS 13 01 44.8 -0.5**
CD2 S S 13 02 45.3 +6.8
CD2 SS **SS 13 05 58.0 -3.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,90nm,5.2s
BJI Beijing 47.23 344 P **P 12 56 31.5 +0.6**
BJI pmax pmax
comp=Z,27nm,0.7s
BJI LR LR
comp=Z,26nm,34.2s
LZH Lanzhou 48.50 330 *e*P P 12 56 42.3 +1.3
LZH pP pP 12 57 05.0 +1.1
LZH sP sP 12 57 16.8 +2.2
LZH S **S 13 03 38.3 +3.0**
LZH sS sS 13 04 19.3 +4.8
LZH pmax pmax
comp=Z,40nm,1.3s
LZH pmax pmax
comp=Z,180nm,4.5s
CN2 Changchun 49.22 355⇓ P **P 12 56 46.5 +0.3**
CN2 *ep*P **pP 12 57 09.8 +0.7**
CN2 *e*S S 13 03 48.3 +3.5
CN2 pmax pmax
comp=Z,20nm,0.7s
HHC Hu-ho-hao-te 49.36 341 *e*P P 12 56 51.5 +4.1
HHC pP pP 12 57 15.0 +4.6
HHC sP sP 12 57 27.0 +5.9
HHC PP PP 12 58 49.0 +6.6
HHC S S 13 03 52.3 +5.2
HHC sS sS 13 04 32.8 +6.4
HHC ScS **ScS 13 06 30.5 +0.4**
HHC SS **SS 13 07 22.5 +2.3**
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,81nm,4.6s
HHC LR LR
comp=N,170nm,16.7s
HHC LR LR
comp=E,230nm,17.8s
HHC LR LR
comp=Z,210nm,19.0s
USRK Ussuriysk Arra 49.37 1 P **P 12 56 48.0 +0.8**
comp=Z,4.1nm,0.5s,baz=185,slow=7.4,SNR=17
USRK pP **pP 12 57 10.2 0.0**
comp=Z,4.9nm,0.7s,baz=183,slow=6.6,SNR=3.2
MDJ Mudanjiang 49.79 359 P P 12 56 51.5 +1.0
MDJ pP pP 12 57 13.3 -0.2
MDJ PcP **PcP 12 58 10.3 +0.3**
MDJ S **S 13 03 54.3 +1.5**
MDJ SS **SS 13 07 30.0 +3.3**
MDJ pmax pmax
comp=Z,13nm,1.3s
MDJ LR LR
comp=N,14nm,28.7s
MDJ LR LR
comp=E,22nm,29.5s
MDJ LR LR
comp=Z,28nm,34.9s
ASAJ Asahikawa 50.37 11 LR LR 13 15 05.4
comp=Z,78nm,21.3s,baz=0.2,slow=32
LSA Lhasa 51.77 315 P **P 12 57 07.0 +0.7**
LSA Lhasa 51.77 315 *e*P **P 12 57 07.2 +0.9**
LSA pmax pmax
comp=Z,10.0nm,0.6s
LSA Lhasa 51.77 315 *e*P **P 12 57 07.2 +0.9**
comp=Z,10nm,0.6s
TAPN Taplejung 53.01 310 *e*P **P 12 57 15.4 +0.1**
comp=Z,31nm,0.4s
TAPN Taplejung 53.01 310 *e*P **P 12 57 15.4 +0.1**
comp=Z,31nm,0.4s
GTA Gaotai 53.08 330 *e*P P 12 57 16.3 +0.9
GTA pP pP 12 57 39.8 +1.2
GTA sP sP 12 57 50.3 +1.1
GTA pmax pmax
comp=Z,3.0nm,0.9s
YSS Yuzh-Sakhalins 53.14 10 *e*P P 12 57 16.9 +1.5
RAMN Ramite 53.66 309 *e*P **P 12 57 20.2 +0.2**
comp=Z,57nm,0.6s
RAMN Ramite 53.66 309 *e*P **P 12 57 20.2 +0.2**
comp=Z,57nm,0.6s
HABR Khabarovsk 53.75 3 *e*P **P 12 57 18.4 -1.4**
HABR *e* 12 58 23.6
HABR *e* 12 59 20.0
HABR *e*S S 13 04 52.7 +5.9
HABR *e* 13 05 04.7
HABR pmax pmax
comp=E,33nm,2.5s
HABR pmax pmax
comp=N,12nm,1.7s
HABR pmax pmax
comp=Z,47nm,1.7s
HABR MLR MLR
comp=Z,88nm,16.0s
JIRN Jiri 54.33 310 *e*P **P 12 57 25.1 +0.1**
JIRN Jiri 54.33 310 *e*P **P 12 57 25.1 +0.1**
KLR Kul'dur 54.39 1 *e*P P 12 57 20.0 -4.6
GUN Gumba 54.70 310 *e*P **P 12 57 27.5 -0.1**
comp=Z,41nm,0.5s
GUN Gumba 54.70 310 *e*P **P 12 57 27.5 -0.1**
comp=Z,41nm,0.5s
PKI Pulchoki 54.89 309 *e*P **P 12 57 28.6 -0.4**
PKI Pulchoki 54.89 309 *e*P **P 12 57 28.6 -0.4**
PKI Pulchoki 54.89 309 *e*P **P 12 57 28.6 -0.4**
KKN Kakani 55.09 309 *e*P **P 12 57 30.3 0.0**
KKN Kakani 55.09 309 *e*P **P 12 57 30.3 0.0**
KKN Kakani 55.09 309 *e*P **P 12 57 30.3 0.0**
DMN Daman 55.14 309 *e*P **P 12 57 30.7 0.0**
DMN Daman 55.14 309 *e*P **P 12 57 30.7 0.0**
GKN Gorkha 55.70 309 *e*P **P 12 57 34.4 -0.2**
comp=Z,48nm,0.6s
GKN Gorkha 55.70 309 *e*P **P 12 57 34.4 -0.2**
comp=Z,48nm,0.6s
KOLN Koldanda 56.39 308 *e*P **P 12 57 39.7 +0.1**
comp=Z,34nm,0.5s
KOLN Koldanda 56.39 308 *e*P **P 12 57 39.7 +0.1**
comp=Z,34nm,0.5s
DANN Dangsing 56.54 309 *e*P **P 12 57 40.7 0.0**
DANN Dangsing 56.54 309 *e*P **P 12 57 40.7 0.0**
PYUN Piuthan 57.02 308 *e*P **P 12 57 44.2 +0.2**
PYUN Piuthan 57.02 308 *e*P **P 12 57 44.2 +0.2**
ULN Ulaanbaatar 57.07 341 *e*P P 12 57 45.2 +1.2
comp=Z,8.6nm,0.7s
SONM Songino Array 57.26 340 P P 12 57 46.4 +1.2
SONM pP pP 12 58 10.3 +1.6
SONM Songino Array 57.26 340 P P 12 57 46.4 +1.2
comp=Z,4.4nm,0.5s,baz=160,slow=7.2,SNR=80
SONM pP pP 12 58 10.3 +1.6
comp=Z,3.0nm,0.6s,baz=158,slow=7.3,SNR=3.7
ZAK Zakamensk 60.50 340 *e*P **P 12 58 08.0 +0.4**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 61.48 341 *e*P **P 12 58 14.1 0.0**
TLY *e* 12 58 40.0
TLY pmax pmax
comp=Z,4.0nm,0.8s
TLY Talaya 61.48 341 *e*P P 12 58 15.9 +1.8
comp=Z,5.4nm,1.0s
MOY Mondy 62.37 339 *e*P P 12 58 22.0 +1.9
MOY pmax pmax
comp=Z,3.0nm,1.3s
PETK Petropavlovsk- 62.48 18 P P 12 58 22.2 +1.5
PETK *PP pP 12 58 47.0 +2.4
PETK Petropavlovsk- 62.48 18 P P 12 58 22.2 +1.5
PETK pP pP 12 58 47.0 +2.4
PETK Petropavlovsk- 62.48 18 P P 12 58 22.2 +1.5
comp=Z,9.5nm,0.7s,baz=185,slow=3.7,SNR=19
PETK pP pP 12 58 47.0 +2.4
comp=Z,6.1nm,0.7s,baz=174,slow=5.8,SNR=3.5
PETK LR LR 13 24 11.7
comp=Z,26nm,19.5s,baz=80,slow=35
WMQ Urumqi 62.63 326 P P 12 58 23.5 +1.5
WMQ pP pP 12 58 47.0 +1.2
WMQ sP sP 12 58 57.5 +1.2
WMQ PP PP 13 00 44.0 +3.1
WMQ *e*S **S 13 06 44.0 +1.2**
WMQ ScS **ScS 13 08 03.0 -2.7**
WMQ pmax pmax
comp=Z,40nm,0.9s
WMQ pmax pmax
comp=Z,190nm,4.6s
WMQ LR LR
comp=N,150nm,20.0s
WMQ LR LR
comp=E,140nm,21.0s
WMQ LR LR
comp=Z,120nm,21.0s
BOD Bodaibo 64.49 350 *e*P **P 12 58 34.6 +0.8**
BOD *e* 12 58 58.0
BOD pmax pmax
comp=Z,6.0nm,1.4s
BOD pmax pmax
comp=Z,8.0nm,1.1s
YAK Yakutsk 67.23 359 *e*P **P 12 58 51.4 +0.1**
YAK *e* 12 59 15.2
YAK pmax pmax
comp=Z,16nm,0.7s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK Yakutsk 67.23 359 *e*P P 12 58 52.1 +0.8
comp=N,20nm,0.6s
MK31 Makanchi Array 67.46 326 *e*P **P 12 58 53.9 +0.7**
MK31 pmax pmax
comp=Z,9.0nm,0.4s
MKAR Makanchi Array 67.46 326 P P 12 58 54.3 +1.1
MKAR *PP **PcP 12 59 19.0 -0.9**
MKAR Makanchi Array 67.46 326 P P 12 58 54.2 +1.1
MKAR pP **PcP 12 59 19.0 -0.9**
MKAR Makanchi Array 67.46 326 P P 12 58 54.2 +1.1
comp=Z,8.4nm,0.4s,baz=113,slow=7.9,SNR=149
MKAR pP **PcP 12 59 19.0 -0.9**
comp=Z,24nm,0.7s,baz=114,slow=8.1,SNR=11
KSH Kashi 67.54 317 P P 12 58 55.8 +1.8
KSH pP **PcP 12 59 20.8 +0.2**
KSH PcP **PcP 12 59 20.8 +0.2**
KSH sP sP 12 59 31.8 +3.2
KSH PP PP 13 01 29.3 +5.1
KSH ScP 13 03 13.5
KSH PcS 13 03 24.8
KSH S **S 13 07 46.0 +2.6**
KSH sS sS 13 08 29.3 +4.6
KSH ScS **ScS 13 08 41.8 -2.1**
KSH SS SS 13 12 12.3 +6.4
KSH pmax pmax
comp=Z,6.0nm,0.7s
KSH pmax pmax
comp=Z,68nm,6.0s
KSH LR LR
comp=N,110nm,7.2s
KSH LR LR
comp=E,120nm,4.5s
KSH LR LR
comp=Z,200nm,6.6s
FX1 Attu Island--F 68.08 26 P P 12 58 58.5 +1.6
FX1 Attu Island--F 68.08 26 P P 12 58 58.5 +1.6
comp=Z,16nm,0.7s,baz=270,slow=22,SNR=3.3
TKM2 Tokmak 2 69.41 320 *e*P P 12 59 06.8 +1.1
TKM2 *e**PP pP 12 59 31.3 +1.4
TKM2 pmax pmax
comp=Z,22nm,0.6s
TKM2 Tokmak 2 69.41 320 *e*P P 12 59 06.8 +1.1
comp=Z,22nm,0.6s
TKM2 *ep*P pP 12 59 31.3 +1.4
AAK Ala-Archa 69.99 319*ce*P P 12 59 10.3 +1.1
AAK pmax pmax
comp=Z,16nm,1.2s
AAK Ala-Archa 69.99 319 *e*P P 12 59 10.7 +1.5
comp=Z,63nm,1.2s
SEY Seymchan 70.04 10⇑ *i*P P 12 59 10.2 +1.4
EKS2 Erkin-Say 70.47 319 *e*P P 12 59 13.9 +1.8
EKS2 *e**PP pP 12 59 38.4 +2.0
EKS2 pmax pmax
comp=Z,13nm,1.0s
EKS2 Erkin-Say 70.47 319 *e*P P 12 59 13.9 +1.8
comp=Z,13nm,1.0s
EKS2 *ep*P pP 12 59 38.4 +2.0
ZALV Zalesovo Beam 70.61 333 P **P 12 59 12.5 0.0**
ZALV *PP **pP 12 59 37.5 +0.7**
ZALV Zalesovo Beam 70.61 333 P **P 12 59 12.5 0.0**
ZALV pP **pP 12 59 37.5 +0.7**
ZALV Zalesovo Beam 70.61 333 P **P 12 59 12.5 0.0**
comp=Z,5.4nm,0.5s,baz=112,slow=4.7,SNR=43
ZALV pP **pP 12 59 37.5 +0.7**
comp=Z,6.4nm,0.6s,baz=131,slow=6.1,SNR=7.7
KURK Kurchatov 71.69 328*c i*P **P 12 59 19.7 +0.6**
KURK pmax pmax
comp=Z,15nm,1.3s
KURK Kurchatov 71.69 328 *e*P **P 12 59 17.2 -1.8**
comp=Z,46nm,1.0s
KURK *ep*P **pP 12 59 43.0 -0.4**
NVS Novosibirsk 71.89 333 *e*P **P 12 59 18.4 -1.8**
NVS *e**PP **pP 12 59 44.0 -0.6**
NVS *e*S **S 13 08 31.5 -1.9**
NVS pmax pmax
comp=N,4.0nm,1.0s
NVS pmax pmax
comp=E,4.0nm,1.0s
NVS pmax pmax
comp=Z,10.0nm,1.0s
NVS smax smax
comp=N,6.0nm,1.6s
NVS smax smax
comp=E,15nm,1.6s
KK31 Karatay Array 72.82 318 *i* P **P 12 59 26.5 +0.5**
KK31 pmax pmax
comp=Z,8.0nm,1.0s
KKAR Karatay Array 72.82 318 *e*P **P 12 59 26.9 +0.9**
KKAR *e**PP **pP 12 59 51.7 +1.2**
KKAR Karatay Array 72.82 318 *e*P **P 12 59 26.9 +0.9**
KKAR *ep*P **pP 12 59 51.7 +1.2**
VNDA Vanda 73.92 173 P **P 12 59 32.4 +0.6**
VNDA pP **pP 12 59 57.4 +1.0**
VNDA Vanda 73.92 173 P **P 12 59 32.4 +0.6**
comp=Z,2.9nm,0.7s,baz=289,slow=8.2,SNR=12
VNDA pP **pP 12 59 57.4 +1.0**
comp=Z,4.4nm,0.8s,baz=315,slow=3.6,SNR=4.5
WSAR Wadi Sarin 76.10 295 P **P 12 59 46.1 +0.7**
WSAR Wadi Sarin 76.10 295 P **P 12 59 46.1 +0.7**
comp=Z,2.7nm,0.5s,baz=93,slow=4.4,SNR=8.2
VOSK Vostochnaya 76.81 327 P **P 12 59 48.5 -0.3**
VOSK pmax pmax
comp=Z,3.0nm,0.4s
BILL Bilibino 77.32 13 *e*P **P 12 59 52.0 +0.7**
BILL pmax pmax
comp=Z,2.0nm,0.8s
BRVK Borovoye 77.33 327 *e*P **P 12 59 52.2 +0.5**
BRVK *e**PP **pP 13 00 17.2 +0.8**
BRVK pmax pmax
comp=Z,12nm,1.1s
BRVK Borovoye 77.33 327 *e*P **P 12 59 52.2 +0.5**
comp=Z,12nm,1.1s
BRVK *ep*P **pP 13 00 16.4 +0.1**
BRVK *ep*P **pP 13 00 17.2 +0.8**
AB31 Akbulak array 81.90 321 *i* P **P 13 00 16.6 +0.1**
AB31 pmax pmax
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 81.90 321 *e*P **P 13 00 16.8 +0.3**
ABKAR *ep*P **pP 13 00 41.4 0.0**
TNA Tin City 83.35 21 *e*P P 13 00 25.9 +2.2
comp=Z,3.6nm,0.9s
AKTO Aktyubinsk 83.44 322 P **P 13 00 25.3 +0.8**
AKTO *PP **pP 13 00 50.3 +0.8**
AKTO Aktyubinsk 83.44 322 P **P 13 00 25.3 +0.8**
AKTO pP **pP 13 00 50.3 +0.8**
AKTO Aktyubinsk 83.44 322 P **P 13 00 25.3 +0.8**
comp=Z,0.9nm,0.4s,baz=110,slow=5.4,SNR=5.5
AKTO pP **pP 13 00 50.3 +0.8**
comp=Z,3.8nm,0.8s,baz=102,slow=7.2,SNR=4.3
SVE Sverdlovsk 83.93 329⇑ *i*P **P 13 00 27.6 +0.8**
SVE pmax pmax
comp=Z,20nm,1.4s
QSPA South Pole Qui 84.58 180 *e*P **P 13 00 30.2 +0.1**
comp=Z,12nm,0.8s
QSPA *ep*P **pP 13 00 55.8 +0.6**
QSPA *es*P **sP 13 01 05.7 +0.2**
ARU Arti 84.89 328*d i*P **P 13 00 31.5 -0.2**
ARU 13 03 50.1
ARU S **S 13 10 53.3 +1.0**
ARU SS SS 13 16 34.0 +7.0
ARU pmax pmax
comp=Z,6.0nm,1.0s
ARU Arti 84.89 328 *e*P **P 13 00 31.9 +0.2**

	comp=Z,5.2nm,0.7s							
ARU				*e*pP		**pP**	13 00 56.7	**0.0**
MIB	**Mutribah**	**87.20**	**300**	*e*P		**P**	13 00 42.8	**-0.8**
MIB				AMb		AMB	13 00 44.6	
	comp=Z,14nm,0.8s							
NAY	**Al-Naaiem**	**87.21**	**300**	*e*P		**P**	13 00 43.1	**-0.6**
NAY				AMb		AMB	13 00 44.1	
	comp=Z,14nm,0.7s							
KDAK	**Kodiak Island**	**87.31**	**31**	P		P	13 00 45.0	+1.4
KDAK	**Kodiak Island**	**87.31**	**31**	P		P	13 00 45.0	+1.4
RAYN	**Ar Rayn**	**88.04**	**294**	P		P	13 00 48.9	+1.0
	comp=Z,42nm,0.9s,SNR=6.1							
COLD	**Coldfoot**	**90.59**	**22**	*e*P		P	13 00 59.9	+1.1
	comp=Z,3.5nm,0.8s							
ILAR	**Eielson Array**	**91.46**	**25**	P		**P**	**13 01 01.8**	**-1.1**
ILAR				pP		**pP**	**13 01 27.6**	**-0.6**
ILAR	**Eielson Array**	**91.46**	**25**	P		**P**	**13 01 01.8**	**-1.1**
	comp=Z,3.0nm,0.7s,baz=265,slow=4.2,SNR=46							
ILAR				pP		**pP**	**13 01 27.6**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=269,slow=4.2,SNR=3.6							
ILAR				LR		LR	13 42 07.2	
	comp=Z,51nm,18.4s,baz=18,slow=35							
KIV	**Kislovodsk**	**92.51**	**314**	*e*P		P	13 01 10.6	+2.3
KIV				*e*PS		PnS	13 13 27.7	-2.4
KIV				pmax		pmax		
	comp=Z,4.0nm,0.8s							
EGAK	**Eagle**	**93.89**	**25**	*e*P		**P**	**13 01 14.7**	**+0.6**
	comp=Z,36nm,2.0s							
OBN	**Obninsk**	**96.94**	**325**	*e*P		**P**	**13 01 26.1**	**-2.0**
OBN				*e*			13 05 22.9	
OBN				*e*PS		**PS**	**13 14 17.4**	**+1.2**
OBN				pmax		pmax		
	comp=Z,4.0nm,0.9s							
INK	**Inuvik**	**96.99**	**22**	P		**P**	**13 01 27.7**	**-0.4**
INK	**Inuvik**	**96.99**	**22**	P		**P**	**13 01 27.7**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=280,slow=3.7,SNR=8.4							
ARCES	**ARCESS Array B**	**100.43**	**340**	P		**Pdif**	**13 01 44.0**	**+0.5**
ARCES	**ARCESS Array B**	**100.43**	**340**	P		**Pdif**	**13 01 44.0**	**+0.5**
	comp=Z,11nm,1.3s,baz=62,slow=4.9,SNR=7.9							
FINES	**FINESS Array B**	**101.84**	**332**	P		**Pdif**	**13 01 51.3**	**+1.4**
FINES	**FINESS Array B**	**101.84**	**332**	P		**Pdif**	**13 01 51.3**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=334,slow=36,SNR=3.0							
YKA	**Yellowknife Ar**	**105.86**	**26**	Pdif		**Pdif**	**13 02 08.2**	**+0.4**
YKA				PKiKP		**PKiKP**	**13 06 20.1**	**+0.2**
YKA				*e*			13 06 46.1	
YKA				PKKPbc		**PKKPbc**	**13 17 42.6**	**-3.1**
YKA	**Yellowknife Ar**	**105.86**	**26**	Pdiff		**Pdif**	**13 02 08.1**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=292,slow=4.7,SNR=7.1							
YKA				PKiKP		**PKiKP**	**13 06 20.0**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=291,slow=1.7,SNR=19							
YKA				pPKiKP		**pPKiKP**	**13 06 46.1**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=292,slow=1.7,SNR=5.8							
YKA				PKKPbc		**PKKPbc**	**13 17 42.6**	**-3.1**
	comp=Z,0.2nm,0.4s,baz=111,slow=2.9,SNR=3.7							
RES	**Resolute Bay**	**105.90**	**11**	Pdif		**Pdif**	**13 02 08.4**	**+0.7**
RES				*e*			13 02 34.5	
RES	**Resolute Bay**	**105.90**	**11**	Pdiff		**Pdif**	**13 02 08.4**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=310,slow=4.5,SNR=3.7							
RES				pPdiff		**pPdif**	**13 02 34.5**	**+1.4**
	comp=Z,0.8nm,0.7s,baz=247,slow=2.5,SNR=3.0							
NVAR	**Mina Array Bea**	**109.49**	**51**	Pdif		**Pdif**	**13 02 28.6**	**+3.7**
NVAR				PKiKP		**PKiKP**	**13 06 30.5**	**+2.8**
NVAR	**Mina Array Bea**	**109.49**	**51**	Pdiff		**Pdif**	**13 02 28.5**	**+3.7**
	comp=Z,1.2nm,1.1s,baz=261,slow=8.4,SNR=3.7							
NVAR				PKiKP		**PKiKP**	**13 06 30.5**	**+2.8**
	comp=Z,0.1nm,0.5s,baz=270,slow=2.4,SNR=2.4							
A17A	**Triple J Farms**	**112.39**	**39**	⇓P		**PKiKP**	**13 06 32.9**	**+0.3**
	baz=112							
C20A	**Veseth Ranch,**	**114.50**	**40**	⇑P		PKPdf	13 06 37.4	+0.8
	baz=115							
PDAR	**Pinedale Array**	**115.03**	**45**	PKP		**PKPdf**	**13 06 38.9**	**+0.8**
PDAR				PKKPbc		**PKKPbc**	**13 17 14.2**	**-1.3**
PDAR	**Pinedale Array**	**115.03**	**45**	PKP		**PKPdf**	**13 06 38.9**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=98,slow=3.4,SNR=4.2							
PDAR				PKKPbc		**PKKPbc**	**13 17 14.2**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=100,slow=7.7,SNR=3.6							
C21A	**Desert Coulee**	**115.03**	**39**	⇓P		**PKPdf**	**13 06 38.3**	**+0.6**
	baz=115							
D22A	**Cohagen**	**115.86**	**40**	⇓P		**PKPdf**	**13 06 39.9**	**+0.6**
	baz=116							
L20A	**Wamsutter**	**116.12**	**46**	⇓P		**PKPdf**	**13 06 40.5**	**+0.3**
	baz=116							
D23A	**Lindsay**	**116.46**	**39**	⇓P		**PKPdf**	**13 06 41.6**	**+1.1**
	baz=117							
O20A	**White River Ci**	**116.73**	**48**	⇑P		**PKPdf**	**13 06 41.8**	**+0.3**
	baz=117							
J22A	**Midwest**	**116.97**	**44**	⇑P		**PKPdf**	**13 06 41.9**	**+0.2**
	baz=117							
S21A	**Coal Bank Pass**	**117.76**	**50**	⇓P		**PKPdf**	**13 06 44.5**	**+0.9**
	baz=118							
H24A	**Dirks Ranch, A**	**117.80**	**42**	⇑P		**PKPdf**	**13 06 43.6**	**+0.4**
	baz=118							
S22A	**4UR Ranch, Cre**	**118.47**	**50**	⇑P		**PKPdf**	**13 06 45.3**	**+0.4**
	baz=119							
220A	**Playas Peak, P**	**118.56**	**57**	⇓P		**PKPdf**	**13 06 45.5**	**+0.4**
	baz=119							
X21A	**Alamocita Cree**	**118.59**	**54**	⇑P		**PKPdf**	**13 06 45.6**	**+0.4**
	baz=119							
U22A	**Llaves**	**118.83**	**51**	⇑P		**PKPdf**	**13 06 46.3**	**+0.7**
	baz=119							
R23A	**Moffat**	**119.10**	**49**	⇑P		**PKPdf**	**13 06 46.6**	**+0.5**
	baz=119							
P25A	**Willow Gulch B**	**119.91**	**47**	⇑P		**PKPdf**	**13 06 47.7**	**+0.2**
	baz=120							
FRB	**Frobisher Bay**	**120.05**	**10**	PKP		**PKPdf**	**13 06 47.1**	**+0.3**
FRB	**Frobisher Bay**	**120.05**	**10**	PKP		**PKPdf**	**13 06 47.1**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=296,slow=3.1,SNR=4.1							
V24A	**Rampart Ranch,**	**120.24**	**52**	⇑P		**PKPdf**	**13 06 48.5**	**+0.1**
	baz=120							
S25A	**Robets Cordova**	**120.31**	**49**	⇓P		**PKPdf**	**13 06 48.6**	**+0.2**
	baz=120							
P26A	**Davis Ranch, A**	**120.49**	**47**	⇓P		**PKPdf**	**13 06 48.9**	**+0.3**
	baz=121							
ULM	**Lac du Bonnet**	**120.54**	**33**	PKP		**PKPdf**	**13 06 48.2**	**+0.1**
ULM	**Lac du Bonnet**	**120.54**	**33**	PKP		**PKPdf**	**13 06 48.2**	**+0.1**
	comp=Z,1.9nm,0.4s,baz=316,slow=4.5,SNR=4.1							
Y24A	**Capitan**	**120.60**	**54**	⇑P		**PKPdf**	**13 06 49.1**	**+0.1**
	baz=121							
R26A	**Arlington**	**120.84**	**48**	⇓P		**PKPdf**	**13 06 49.9**	**+0.6**
	baz=121							
124A	**Stringfield Ra**	**120.90**	**55**	⇓P		**PKPdf**	**13 06 49.6**	**-0.1**
	baz=121							
Y25A	**Mesa, Roswell**	**121.20**	**53**	⇑P		**PKPdf**	**13 06 50.6**	**+0.5**
	baz=121							
MNTX	**Cornudas Mount**	**121.21**	**56**	⇓P		**PKPdf**	**13 06 50.4**	**+0.3**
	baz=121							
425A	**Indio Mountain**	**121.76**	**57**	⇓P		**PKPdf**	**13 06 51.6**	**+0.3**
	baz=122							
526A	**Mary Lane Ranc**	**122.69**	**58**	⇓P		**PKPdf**	**13 06 53.6**	**+0.5**
	baz=123							
427A	**Hayter Ranch,**	**123.06**	**57**	⇑P		**PKPdf**	**13 06 54.5**	**+0.8**
	baz=123							
527A	**Woodward Ranch**	**123.07**	**57**	⇑P		**PKPdf**	**13 06 54.4**	**+0.6**
	baz=123							
TXAR	**Lajitas Array**	**123.22**	**58**	PKP		**PKPdf**	**13 06 55.3**	**+1.2**
TXAR				pPKP		**pPKPdf**	**13 07 21.6**	**+1.2**
TXAR	**Lajitas Array**	**123.22**	**58**	PKP		**PKPdf**	**13 06 55.3**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=164,slow=2.6,SNR=10							
TXAR				pPKP		**pPKPdf**	**13 07 21.6**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=238,slow=1.2,SNR=4.4							
627A	**Terlingua Ranc**	**123.42**	**58**	⇑P		**PKPdf**	**13 06 55.0**	**+0.5**
	baz=124							
429A	**Davenport Ranc**	**124.38**	**56**	⇑P		**PKPdf**	**13 06 56.7**	**+0.5**
	baz=124							
430A	**Baggett Ranch,**	**124.88**	**56**	⇑P		**PKPdf**	**13 06 58.0**	**+0.9**
	baz=125							
530A	**J-C Ranch, Com**	**124.97**	**57**	⇑P		**PKPdf**	**13 06 58.1**	**+0.8**
	baz=125							
431A	**Sonora**	**125.42**	**56**	⇓P		**PKPdf**	**13 06 58.1**	**-0.1**
	baz=126							
JCT	**Junction City**	**126.15**	**56**	*e*PKIKP		**PKPdf**	**13 07 00.5**	**+0.9**
JCT	**Junction City**	**126.15**	**56**	*e*PKPdf		**PKPdf**	**13 07 00.5**	**+0.9**
JCT	**Junction City**	**126.15**	**56**	⇑P		**PKPdf**	**13 07 00.5**	**+0.9**
	baz=126							
SCHQ	**Schefferville**	**128.63**	**13**	PKP		**PKPdf**	**13 07 04.6**	**+1.1**
SCHQ	**Schefferville**	**128.63**	**13**	PKP		**PKPdf**	**13 07 04.6**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=145,slow=8.7,SNR=3.4							
TORD	**Torodi Ar. Bea**	**129.49**	**283**	PKP		**PKPdf**	**13 07 06.8**	**+0.6**
TORD				pPKP		**pPKPdf**	**13 07 30.9**	**-1.7**
TORD				SKPbc		SKPbc	13 10 21.2	+1.4
TORD	**Torodi Ar. Bea**	**129.49**	**283**	PKP		**PKPdf**	**13 07 06.8**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=70,slow=2.0,SNR=20							
TORD				pPKP		**pPKPdf**	**13 07 30.9**	**-1.7**
	comp=Z,1.2nm,0.6s,baz=82,slow=2.1,SNR=4.1							
TORD				SKPbc		SKPbc	13 10 21.2	+1.4
	comp=Z,2.1nm,0.8s,baz=70,slow=3.7,SNR=9.1							
MDT	**Midelt**	**130.53**	**309**	PKP		**PKPdf**	**13 07 09.8**	**+1.9**
MDT	**Midelt**	**130.53**	**309**	PKP		**PKPdf**	**13 07 09.8**	**+1.9**
	comp=Z,0.4nm,0.4s,baz=272,slow=22,SNR=2.7							
PARMO	**Parma**	**131.42**	**44**	*e*PKPdf		**PKPdf**	**13 07 10.2**	**+0.8**
DBIC	**Dimbokro**	**136.13**	**274**	PKP		**PKPdf**	**13 07 20.2**	**+1.4**
DBIC				pPKP		**pPKPdf**	**13 07 42.7**	**-2.5**
DBIC				SKPbc		**SKPab**	**13 10 43.8**	**-4.0**
DBIC	**Dimbokro**	**136.13**	**274**	PKP		**PKPdf**	**13 07 20.2**	**+1.4**
	comp=Z,1.2nm,0.5s,baz=79,slow=4.3,SNR=2.9							
DBIC				pPKP		**pPKPdf**	**13 07 42.7**	**-2.5**
	comp=Z,1.3nm,0.5s,baz=353,slow=3.9,SNR=2.4							
DBIC				SKPbc		**SKPab**	**13 10 43.8**	**-4.0**
	comp=Z,2.3nm,0.8s,baz=152,slow=3.6,SNR=3.7							
JTS	**JuntasAbangare**	**144.03**	**80**	*e*PKPdf		**PKPdf**	**13 07 33.0**	**-0.2**
CPUP	**Villa Florida**	**147.44**	**166**	PKP		**PKPbc**	**13 07 39.9**	**-1.3**
CPUP				PKPbc		**PKiKP**	**13 07 42.1**	**-1.3**
CPUP				pPKPbc		**pPKPbc**	**13 08 08.5**	**+1.2**
CPUP	**Villa Florida**	**147.44**	**166**	PKP		**PKPbc**	**13 07 39.9**	**-1.3**
	comp=Z,3.0nm,0.5s,baz=166,slow=2.3,SNR=12							
CPUP				PKPbc		**PKiKP**	**13 07 42.1**	**-1.3**
	comp=Z,3.0nm,0.5s,baz=161,slow=2.2,SNR=12							
CPUP				pPKPbc		**pPKPbc**	**13 08 08.5**	**+1.2**
	comp=Z,6.5nm,0.8s,baz=174,slow=1.5,SNR=4.8							
LPAZ	**La Paz**	**151.31**	**139**	PKPbc		**PKPbc**	**13 07 53.4**	**+1.6**
LPAZ				pPKPbc		**pPKPbc**	**13 08 20.7**	**+2.6**
LPAZ	**La Paz**	**151.31**	**139**	PKPbc		**PKPbc**	**13 07 53.4**	**+1.6**
	comp=Z,3.2nm,0.5s,baz=246,slow=2.1,SNR=13							
LPAZ				pPKPbc		**pPKPbc**	**13 08 20.7**	**+2.6**
	comp=Z,6.1nm,0.6s,baz=43,slow=1.4,SNR=6.5							

CSEM ***27*** *12:51:33.6±0.1, 36.05N×26.82E, h5km, MD3.4, Error ellipse: s-maj=4.0km s-min=2.6km az=147.0*
ATH ***27*** *12:51:33.3, 36.08N×26.90E, h29km±2km, MD3.4/13*
ISCJB ***27*** *12:51:34.7±0.5, 36.04N±0.02×26.86E±0.03, h26km±5km, mb3.7/7, Error ellipse: s-maj=4.2km s-min=3.0km az=144.4*
ISK ***27*** *12:51:34.7, 36.09N×26.98E, h8km, MD3.7*
DDA ***27*** *12:51:34.3, 36.00N×27.13E, h10km, MD3.4*
THE ***27*** *12:51:35.4, 36.07N×26.91E, h19km±1km, ML3.5/5, Error ellipse: s-maj=1.5km s-min=0.5km az=58.0*
IDC ***27*** *12:51:37.4±3.2, 35.95N×27.00E, h53km±38km, mb3.6/7, mb1 3.6/10, mb1mx3.4/27, mbtmp3.5/10, ML3.8/2, Error ellipse: s-maj=22.3km s-min=18.7km az=137.0*

ISC 27 12:51:35.1±0.9, 36.04N±0.02×26.93E±0.02, h29km±8km, n102, σ125/131, mb3.8/7, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
KARP	**Karpathos**	**0.52**	**159**	*e*Pn		**Pb**	**12 51 45.7**	**-0.2**
KARP				*e*SN		**Sb**	**12 51 53.3**	**0.0**
KARP	**Karpathos**	**0.52**	**159**	*e*Pn		**Pb**	**12 51 45.7**	**-0.2**
KARP				*e*Sn		**Sb**	**12 51 53.3**	**0.0**
NIS1	**Nisyros Isl.**	**0.60**	**20**	P		**Pb**	**12 51 46.4**	**-0.8**
NIS1				S		**Sb**	**12 51 55.6**	**+0.2**
NIS1	**Nisyros Isl.**	**0.60**	**20**	P		**Pb**	**12 51 46.4**	**-0.8**
NIS1				S		**Sb**	**12 51 55.6**	**+0.2**
DAT	**Datca**	**0.87**	**37**	*e*PG		**Pn**	**12 51 50.5**	**-0.9**
DAT				*e*SG		**Sn**	**12 52 02.1**	**-1.0**
DAT	**Datca**	**0.87**	**37**	*e*Pg		**Pn**	**12 51 50.5**	**-0.9**
DAT				*e*Sg		**Sn**	**12 52 02.1**	**-1.0**
ARG	**Arkhangelos**	**0.99**	**79**	P		**Pn**	**12 51 53.0**	**+0.1**
ARG				S		**Sb**	**12 52 06.5**	**+0.2**
ARG	**Arkhangelos**	**0.99**	**79**	*e*PN		**Pb**	**12 51 53.3**	**-0.3**
ARG				*e*SN		**Sb**	**12 52 06.4**	**+0.2**
ARG	**Arkhangelos**	**0.99**	**79**	P		**Pn**	**12 51 53.0**	**+0.1**
ARG	**Arkhangelos**	**0.99**	**79**	*e*Pn		**Pb**	**12 51 53.3**	**-0.3**
ARG				S		**Sb**	**12 52 06.5**	**+0.2**
BODT	**Bodrum**	**1.07**	**17**	*e*PG		**Pn**	**12 51 54.3**	**+0.2**
BODT				*e*SG		**Sb**	**12 52 08.9**	**+0.2**
BODT	**Bodrum**	**1.07**	**17**	*e*Pg		**Pn**	**12 51 54.3**	**+0.2**
BODT				*e*Sg		**Sb**	**12 52 08.9**	**+0.2**
ZKR	**Zakros**	**1.09**	**212**	P		**Pn**	**12 51 54.7**	**+0.4**
ZKR				S		**Sb**	**12 52 09.4**	**+0.3**
ZKR	**Zakros**	**1.09**	**212**	*e*PN		**Pb**	**12 51 55.2**	**-0.1**
ZKR				*e*SN		**Sb**	**12 52 09.6**	**+0.5**
ZKR	**Zakros**	**1.09**	**212**	P		**Pn**	**12 51 54.7**	**+0.4**
ZKR	**Zakros**	**1.09**	**212**	*e*Pn		**Pb**	**12 51 55.2**	**-0.1**
ZKR				*e*Sn		**Sb**	**12 52 09.6**	**+0.5**
BDRM	**Kayabasi**	**1.11**	**22**	*i* P		**Pn**	**12 51 54.5**	**-0.1**
BDRM				*i* S		**Sb**	**12 52 10.0**	**+0.3**
BDRM	**Kayabasi**	**1.11**	**22**	*i* P		**Pn**	**12 51 54.5**	**-0.1**
BDRM				*i* S		**Sb**	**12 52 10.0**	**+0.3**
NPS	**Neapolis**	**1.32**	**235**	P		**Pn**	**12 51 57.5**	**0.0**
NPS				S		**Sn**	**12 52 14.5**	**+0.3**
NPS	**Neapolis**	**1.32**	**235**	*e*PN		**Pn**	**12 51 57.3**	**-0.2**
NPS				*e*SN		**Sn**	**12 52 14.4**	**+0.3**
NPS	**Neapolis**	**1.32**	**235**	P		**Pn**	**12 51 57.5**	**0.0**
NPS				*e*Sn		**Sn**	**12 52 14.4**	**+0.3**
MLSB	**Milas**	**1.43**	**28**	*e*PN		**Pb**	**12 52 00.6**	**-0.5**
MLSB	**Milas**	**1.43**	**28**	*e*Pn		**Pb**	**12 52 00.6**	**-0.5**
LAST	**Lasithi**	**1.47**	**234**	*e*PN		**Pn**	**12 51 59.9**	**+0.3**
LAST	**Lasithi**	**1.47**	**234**	*e*Pn		**Pn**	**12 51 59.9**	**+0.3**
APE	**Apeiranthos**	**1.52**	**313**	P		**Pn**	**12 51 59.4**	**-1.0**
APE				S		**Sn**	**12 52 19.0**	**-0.3**
APE	**Apeiranthos**	**1.52**	**313**	*e*PB		**Pn**	**12 51 59.4**	**-1.0**
APE	**Apeiranthos**	**1.52**	**313**	P		**Pn**	**12 51 59.4**	**-1.0**
APE				S		**Sn**	**12 52 19.0**	**-0.3**
XRY	**Khrisi**	**1.54**	**221**	*e*PN		**Pb**	**12 52 02.0**	**-0.8**
XRY	**Khrisi**	**1.54**	**221**	*e*Pn		**Pb**	**12 52 02.0**	**-0.8**
YER	**Yerkesik**	**1.55**	**44**	*e*PN		**Pb**	**12 52 02.1**	**-1.0**
YER	**Yerkesik**	**1.55**	**44**	*e*Pn		**Pb**	**12 52 02.1**	**-1.0**
TURN	**Turunc**	**1.59**	**58**	*i* P		Pn	12 51 57.2	-4.0
TURN				*i* S		**Sn**	**12 52 16.4**	**-4.3**
GCAM	**G?zelcaml?**	**1.68**	**8**	*i* P		**Pb**	**12 52 07.0**	**+1.7**
GCAM				*i* S		**Sb**	**12 52 30.1**	**+4.0**
GCAM	**G?zelcaml?**	**1.68**	**8**	*i* P		**Pb**	**12 52 07.0**	**+1.7**
AYDN	**Tasoluk**	**1.79**	**25**	*i* P		**Pb**	**12 52 07.3**	**0.0**
AYDN				*e*S		**Sb**	**12 52 32.5**	**+3.2**
AYDN	**Tasoluk**	**1.79**	**25**	*i* P		**Pb**	**12 52 07.3**	**0.0**
FETY	**Fethiye**	**1.84**	**70**	*e*PN		**Pb**	**12 52 06.8**	**-1.3**
FETY	**Fethiye**	**1.84**	**70**	*e*Pn		**Pb**	**12 52 06.8**	**-1.3**
SIVA	**Sivas**	**2.00**	**240**	*e*PB		**Pn**	**12 52 08.1**	**+1.2**
SIVA	**Sivas**	**2.00**	**240**	*e*Pb		**Pn**	**12 52 08.1**	**+1.2**
AKAS	**Kas**	**2.18**	**84**	*i* P		**Pn**	**12 52 11.0**	**+1.6**
AKAS	**Kas**	**2.18**	**84**	*i* P		**Pn**	**12 52 11.0**	**+1.6**
VAM	**Vamos**	**2.31**	**255**	P		**Pn**	**12 52 11.2**	**+0.1**
VAM				S		**Sn**	**12 52 39.3**	**+0.8**
VAM	**Vamos**	**2.31**	**255**	*e*PB		**Pn**	**12 52 12.6**	**+1.5**
VAM	**Vamos**	**2.31**	**255**	P		**Pn**	**12 52 11.2**	**+0.1**
VAM	**Vamos**	**2.31**	**255**	*e*Pb		**Pn**	**12 52 12.6**	**+1.5**
VAM				S		**Sn**	**12 52 39.3**	**+0.8**
DNZL	**Cakiroluk**	**2.37**	**45**	*i* P		**Pb**	**12 52 18.8**	**+1.6**
IZM	**Izmir**	**2.37**	**6**	*e*PN		**Pb**	**12 52 14.9**	**-2.2**
IZM	**Izmir**	**2.37**	**6**	*e*Pn		**Pb**	**12 52 14.9**	**-2.2**
DENT	**Denizli**	**2.41**	**44**	*e*PN		**Pn**	**12 52 14.9**	**+2.4**
DENT	**Denizli**	**2.41**	**44**	*e*Pn		**Pn**	**12 52 14.9**	**+2.4**
GOLH	**Golhisar**	**2.43**	**60**	*i* P		**Pb**	**12 52 15.7**	**-2.5**
GOLH	**Golhisar**	**2.43**	**60**	*i* P		**Pb**	**12 52 15.7**	**-2.5**
CHOS	**Chios island**	**2.45**	**344**	P		**Pn**	**12 52 12.5**	**-0.6**
CHOS				S		**Sn**	**12 52 41.7**	**-0.4**
CHOS	**Chios island**	**2.45**	**344**	P		**Pn**	**12 52 12.5**	**-0.6**
CHOS				S		**Sn**	**12 52 41.7**	**-0.4**
ELL	**Elmali**	**2.51**	**73**	*e*PN		**Pn**	**12 52 16.3**	**+2.3**
ELL	**Elmali**	**2.51**	**73**	*e*Pn		**Pn**	**12 52 16.3**	**+2.3**
KARN	**Karanos**	**2.53**	**256**	*e*PN		**Pn**	**12 52 15.3**	**+1.1**
KARN	**Karanos**	**2.53**	**256**	*e*Pn		**Pn**	**12 52 15.3**	**+1.1**
KULA	**Kula-Manisa**	**2.83**	**29**	*e*PN		**Pn**	**12 52 20.4**	**+2.0**
KULA	**Kula-Manisa**	**2.83**	**29**	*e*Pn		**Pn**	**12 52 20.4**	**+2.0**
AKS	**Akhisar**	**2.92**	**14**	*e*PN		**Pn**	**12 52 22.2**	**+2.7**
AKS	**Akhisar**	**2.92**	**14**	*e*Pn		**Pn**	**12 52 22.3**	**+2.7**
KHL	**Karahalli**	**3.08**	**41**	*e*PN		**Pn**	**12 52 24.1**	**+2.3**
KHL	**Karahalli**	**3.08**	**41**	*e*Pn		**Pn**	**12 52 24.2**	**+2.3**
KYTH	**Kithira**	**3.16**	**276**	P		**Pn**	**12 52 23.0**	**+0.2**
KYTH	**Kithira**	**3.16**	**276**	*e*PN		**Pn**	**12 52 23.3**	**+0.5**
KYTH	**Kithira**	**3.16**	**276**	P		**Pn**	**12 52 23.0**	**+0.2**
KYTH	**Kithira**	**3.16**	**276**	*e*Pn		**Pn**	**12 52 23.3**	**+0.5**
BCK	**Bucak**	**3.27**	**63**	*e*PN		**Pn**	**12 52 26.8**	**+2.5**
BCK	**Bucak**	**3.27**	**63**	*e*Pn		**Pn**	**12 52 26.8**	**+2.5**
VLI	**Veliai**	**3.29**	**283**	P		**Pn**	**12 52 24.8**	**+0.2**
VLI	**Veliai**	**3.29**	**283**	*e*PN		**Pn**	**12 52 25.0**	**+0.4**
VLI	**Veliai**	**3.29**	**283**	P		**Pn**	**12 52 24.8**	**+0.2**
DID	**Didima**	**3.31**	**297**	P		**Pn**	**12 52 24.9**	**0.0**
DID				S		**Sn**	**12 53 03.5**	**+0.3**
DID	**Didima**	**3.31**	**297**	*e*PN		**Pn**	**12 52 24.8**	**-0.1**
DID	**Didima**	**3.31**	**297**	P		**Pn**	**12 52 24.9**	**0.0**
DID				S		**Sn**	**12 53 03.5**	**+0.3**
ERET	**Eretria**	**3.46**	**315**	P		**Pn**	**12 52 27.1**	**+0.1**
ERET	**Eretria**	**3.46**	**315**	P		**Pn**	**12 52 27.1**	**+0.1**
DYR	**Agios Nikonas**	**3.78**	**282**	P		**Pn**	**12 52 31.2**	**-0.1**
DYR	**Agios Nikonas**	**3.78**	**282**	P		**Pn**	**12 52 31.2**	**-0.1**
ALT	**Altintas**	**3.94**	**39**	*e*PN		**Pn**	**12 52 35.6**	**+2.0**
ALT	**Altintas**	**3.94**	**39**	*e*Pn		**Pn**	**12 52 35.6**	**+2.0**
GUR	**Goura**	**4.13**	**299**	P		**Pn**	**12 52 36.1**	**-0.2**
GUR				S		**Sn**	**12 53 23.9**	**+0.3**
GUR	**Goura**	**4.13**	**299**	P		**Pn**	**12 52 36.1**	**-0.2**
GUR				S		**Sn**	**12 53 23.9**	**+0.3**
DSF	**Desfina**	**4.24**	**305**	P		**Pn**	**12 52 37.4**	**-0.3**
DSF	**Desfina**	**4.24**	**305**	P		**Pn**	**12 52 37.4**	**-0.3**
LAKA	**Lakka**	**4.52**	**301**	P		**Pn**	**12 52 42.0**	**+0.4**
LAKA	**Lakka**	**4.52**	**301**	P		**Pn**	**12 52 42.0**	**+0.4**
KONT	**Konya--Tatoy**	**4.75**	**65**	*e*PN		**Pn**	12 52 47.9	+3.2
KONT	**Konya--Tatoy**	**4.75**	**65**	*e*Pn		Pn	12 52 47.9	+3.2
BRTR	**Keskin Array B**	**6.46**	**53**	P		Pn	12 53 11.5	+3.2
	0.1nm,0.3s,baz=214,slow=16,SNR=3.5							
MMAI	**Mount Meron Ar**	**7.62**	**111**	P		**Pn**	**12 53 24.9**	**+0.8**
	1.1nm,0.3s,baz=304,slow=12,SNR=6.6							
MMAI				S		**Sn**	**12 54 47.5**	**-2.0**
	2.5nm,0.3s,baz=307,slow=20,SNR=5.4							
GERES	**GERESS Array B**	**16.07**	**327**	P		**P**	**12 55 21.7**	**-0.2**
	0.2nm,0.3s,baz=146,slow=12,SNR=12							
ESDC	**Sonseca Array**	**24.60**	**288**	P		**P**	**12 56 52.5**	**-0.2**
	0.2nm,0.3s,baz=79,slow=10,SNR=6.2							
FINES	**FINESS Array B**	**25.43**	**359**	P		**P**	**12 57 00.8**	**+0.9**
	0.9nm,0.8s,baz=150,slow=9.6,SNR=3.0				

ISC 27 13:24:24.2±0.9, 40°24N±0°04×36°58E±0°04, h11km±6km, n22, σ0°69/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOKT	**Tokat**	**0.08**	**341**	PG	**Pg**	**13 24 26.6**	**-0.2**
TOKT				*e*SG	**Sg**	**13 24 28.2**	**-0.4**
TOKT	**Tokat**	**0.08**	**341**	*i* Pg	**Pg**	**13 24 26.6**	**-0.2**
TOKT				*e*Sg	**Sg**	**13 24 28.2**	**-0.4**
TOKA	**Tokat**	**0.11**	**316**	*i* P	**Pg**	**13 24 27.1**	**0.0**
TOKA				*i* S	**Sg**	**13 24 29.2**	**0.0**
TOKA	**Tokat**	**0.11**	**316**	*i* P	**Pg**	**13 24 27.1**	**0.0**
TOKA				*i* S	**Sg**	**13 24 29.2**	**0.0**
ERBA	**Erbaa**	**0.46**	**17**	*i* P	**Pb**	**13 24 34.8**	**+0.4**
ERBA				*i* S	**Sb**	**13 24 41.7**	**+0.4**
ERBA	**Erbaa**	**0.46**	**17**	*i* P	**Pb**	**13 24 34.8**	**+0.4**
RSDY	**Resadiye-TOKAT**	**0.59**	**75**	*e*PG	**Pb**	**13 24 37.0**	**+0.3**
RSDY				*e*SG	**Sn**	**13 24 47.9**	**-0.5**
RSDY	**Resadiye-TOKAT**	**0.59**	**75**	*e*Pg	**Pb**	**13 24 37.0**	**+0.3**
RSDY				*e*Sg	**Sn**	**13 24 47.9**	**-0.5**
YOZ	**Yozgat**	**1.14**	**239**	*e*PN	**Pn**	**13 24 45.9**	**-0.4**
YOZ	**Yozgat**	**1.14**	**239**	*e*Pn	**Pn**	**13 24 45.9**	**-0.4**
SUSE	**Susehri**	**1.24**	**91**	*i* P	**Pb**	**13 24 49.3**	**+1.5**
SUSE	**Susehri**	**1.24**	**91**	*i* P	**Pb**	**13 24 49.3**	**+1.5**
CTKT	**Corum**	**1.42**	**286**	*i* P	**Pg**	**13 24 52.1**	**+0.6**
CTKT				*i* S	Sn	13 25 14.0	+5.0
CTKT	**Corum**	**1.42**	**286**	*i* P	**Pg**	**13 24 52.1**	**+0.6**
CORM	**Corum**	**1.50**	**268**	*e*PN	**Pg**	**13 24 52.6**	**-0.3**
CORM	**Corum**	**1.50**	**268**	*e*Pn	**Pg**	**13 24 52.6**	**-0.3**
DIKM	**Dikmen**	**1.73**	**325**	*e*PN	**Pg**	**13 24 56.4**	**-0.9**
DIKM	**Dikmen**	**1.73**	**325**	*e*Pn	**Pg**	**13 24 56.4**	**-0.9**
CDAG	**Cicekdag**	**1.81**	**251**	*i* P	**Pg**	**13 24 58.5**	**-0.4**
CDAG				*i* S	**Sg**	**13 25 23.4**	**+1.1**
CDAG	**Cicekdag**	**1.81**	**251**	*i* P	**Pg**	**13 24 58.5**	**-0.4**
CDAG				*i* S	**Sg**	**13 25 23.4**	**+1.1**
AVNT	**Avonos**	**1.98**	**223**	*i* P	**Pg**	**13 25 01.3**	**-0.8**
AVNT				*i* S	**Sg**	**13 25 27.3**	**-0.5**
AVNT	**Avonos**	**1.98**	**223**	*i* P	**Pg**	**13 25 01.3**	**-0.8**
AVNT				*i* S	**Sg**	**13 25 27.3**	**-0.5**

*ISCJB **27** 13:33:03.0±0.6, 0°08S±0°07×123°04E±0°07, h162km, mb3.7/4, Error ellipse: s-maj=10.4km s-min=9.4km az=1.4*
*DJA **27** 13:33:04, 0°02S×123°00E, h153km, MLv3.7/3*
*IDC **27** 13:33:04.9±8.0, 0°01S×123°25E, h170km±81km, mb3.3/4, mb1 3.6/5, mb1mx3.2/22, mbtmp3.4/5, Error ellipse: s-maj=113.0km s-min=20.6km az=69.0*

ISC 27 13:33:03.7±0.9, 0°06S±0°08×123°04E±0°07, h162km, n10, σ0°60/14, mb3.8/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**1.01**	**196**	P	**Pn**	**13 33 30.5**	**+0.7**
LUWI				S	**Sn**	**13 33 50.2**	**+0.4**
KMSI	**Cibinong**	**1.13**	**56**	P	**Pn**	**13 33 31.1**	**+0.4**
KMSI				S	**Sn**	**13 33 52.5**	**+1.1**
MRSI	**Marisa**	**1.23**	**296**	P	**Pn**	**13 33 31.7**	**+0.2**
MRSI				S	**Sn**	**13 33 52.3**	**-0.6**
TNTI	**Ternate**	**4.40**	**79**	P	**Pn**	**13 34 09.1**	**-0.4**
LBMI	**Labuha**	**4.49**	**97**	P	**Pn**	**13 34 10.7**	**0.0**
FITZ	**Fitzroy Crossi**	**18.11**	**172**	P	**Pn**	**13 37 04.5**	**-0.8**
	0.6nm,0.3s,baz=5.2,slow=5.5,SNR=14						
WRA	**Warramunga Arr**	**22.65**	**151**	P	**P**	**13 37 50.7**	**-0.6**
	4.7nm,0.6s,baz=328,slow=11,SNR=80						
ASAR	**Alice Springs**	**25.73**	**157**	P	**P**	**13 38 19.4**	**+0.1**
	0.3nm,0.3s,baz=330,slow=8.9,SNR=24						
ASAR				PcP	**PcP**	**13 41 44.8**	**-0.5**
	0.1nm,0.5s,baz=344,slow=1.8,SNR=4.3						
STKA	**Stephens Creek**	**36.19**	**153**	P	**P**	**13 39 51.1**	**+0.2**
	2.3nm,0.5s,baz=332,slow=8.5,SNR=12						
SONM	**Songino Array**	**49.85**	**345**	P	**P**	**13 41 40.8**	**+0.3**
	0.3nm,0.7s,baz=160,slow=8.8,SNR=2.9						

*ISK **27** 13:38:29.7, 39°56N×33°51E, h8km, MD2.6*
*ISCJB **27** 13:38:31.3±0.6, 39°45N±0°06×33°48E±0°05, h11km±7km, Error ellipse: s-maj=10.8km s-min=5.1km az=18.8*
*DDA **27** 13:38:31.6, 39°49N×33°48E, h7km, MD2.6*
*CSEM **27** 13:38:31.0±0.2, 39°46N×33°48E, h12km, MD2.6, Error ellipse: s-maj=5.0km s-min=3.2km az=6.0*

ISC 27 13:38:31.0±0.9, 39°48N±0°05×33°50E±0°03, h13km±8km, n15, σ0°73/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAMT	**Kaman**	**0.20**	**123**	*e*PG	**Pg**	**13 38 35.2**	**-0.2**
KAMT				*e*SG	**Sg**	**13 38 39.1**	**+0.6**
KAMT	**Kaman**	**0.20**	**123**	*e*Pg	**Pg**	**13 38 35.2**	**-0.2**
KAMT				*e*Sg	**Sg**	**13 38 39.1**	**+0.6**
BBAL	**Bala**	**0.30**	**283**	*i* P	**Pg**	**13 38 37.3**	**+0.1**
BBAL				*i* S	**Sg**	**13 38 42.0**	**+0.6**
BBAL	**Bala**	**0.30**	**283**	*i* P	**Pg**	**13 38 37.3**	**+0.1**
BBAL				*i* S	**Sg**	**13 38 42.0**	**+0.6**
AFSR	**Afar-Bala (A**	**0.33**	**265**	*e*PG	**Pg**	**13 38 37.4**	**-0.4**
AFSR				*e*SG	**Sg**	**13 38 42.7**	**+0.4**
AFSR	**Afar-Bala (A**	**0.33**	**265**	*e*Pg	**Pg**	**13 38 37.4**	**-0.4**
AFSR				*e*Sg	**Sg**	**13 38 42.7**	**+0.4**
CDAG	**Cicekdag**	**0.69**	**77**	*i* P	**Pg**	**13 38 44.8**	**+0.4**
CDAG				*i* S	**Sb**	**13 38 55.6**	**+1.1**
CDAG	**Cicekdag**	**0.69**	**77**	*i* P	**Pg**	**13 38 44.8**	**+0.4**
CDAG				*i* S	**Sb**	**13 38 55.6**	**+1.1**
ELDT	**Eldivan**	**1.01**	**357**	*i* P	**Pg**	**13 38 50.9**	**+0.3**
ELDT				*e*S	**Sb**	**13 39 04.6**	**+0.7**
ELDT	**Eldivan**	**1.01**	**357**	*i* P	**Pg**	**13 38 50.9**	**+0.3**
ELDT				*e*S	**Sb**	**13 39 04.6**	**+0.7**
CORM	**Corum**	**1.12**	**51**	*e*PG	**Pb**	**13 38 50.3**	**-2.0**
SULT	**Sultanhani-AKS**	**1.27**	**179**	*e*PN	**Pn**	**13 38 55.2**	**+0.6**
SULT	**Sultanhani-AKS**	**1.27**	**179**	*e*Pn	**Pn**	**13 38 55.2**	**+0.6**
YOZ	**Yozgat**	**1.42**	**83**	*e*PN	**Pn**	**13 38 56.3**	**-0.3**
YOZ	**Yozgat**	**1.42**	**83**	*e*Pn	**Pn**	**13 38 56.3**	**-0.3**

*ISCJB **27** 13:39:25.4±1.0, 43°02N±0°05×75°91E±0°04, h10km±7km, Error ellipse: s-maj=8.2km s-min=4.8km az=171.4*
*KNET **27** 13:39:25.1±0.6, 42°99N×75°86E, h19km±2km, ml2.1, Error ellipse: s-maj=4.5km s-min=2.0km az=35.0*
*NNC **27** 13:39:26.2±1.0, 43°11N×75°90E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=20.1km s-min=5.3km az=177.0*

ISC 27 13:39:25.7±1.1, 43°01N±0°05×75°87E±0°03, h14km±9km, n13, σ0°77/19, 10C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.22**	**246**	⇑P	**Pg**	**13 39 30.6**	**-0.1**
	454nm,0.1s,SNR=3980						
TKM2				⇑S	**Sg**	**13 39 34.7**	**+0.6**
	940nm,0.1s						
KBK	**Karagaybulak**	**0.76**	**243**	P	**Pg**	**13 39 40.6**	**0.0**
	62nm,0.1s,SNR=224						
KBK				⇑S	**Sb**	**13 39 51.7**	**+0.4**
	119nm,0.2s						
ULHL	**Ulahol**	**0.81**	**160**	⇓P	**Pg**	**13 39 40.7**	**-0.8**
	12nm,0.1s,SNR=68						
ULHL				⇑S	**Sg**	**13 39 51.5**	**-0.7**
	37nm,0.2s						
CHMS	**Chumysh**	**0.82**	**270**	⇑P	**Pg**	**13 39 40.7**	**-1.0**
	28nm,0.1s,SNR=64						
CHMS				⇓S	**Sg**	**13 39 52.4**	**0.0**
	64nm,0.1s						
KNDC	**Almaty**	**0.83**	**75**	⇓P	**Pg**	**13 39 41.1**	**-0.7**
KNDC				⇑S	**Sg**	**13 39 52.7**	**+0.1**
USP	**Ospenovka**	**1.03**	**285**	⇓P	**Pg**	**13 39 45.0**	**-0.7**
	10nm,0.1s,SNR=9.5						
USP				⇑S	**Sg**	**13 39 59.4**	**+0.2**
	34nm,0.1s						
KZA	**Kyzart**	**1.04**	**206**	⇓P	**Pg**	**13 39 45.5**	**-0.3**
	10nm,0.1s,SNR=18						
AAK	**Ala-Archa**	**1.08**	**250**	⇓P	**Pg**	**13 39 45.9**	**-0.7**
	25nm,0.2s,SNR=86						
AAK				⇓S	**Sg**	**13 40 00.9**	**+0.2**
	36nm,0.2s						
UCH	**Uchtor**	**1.27**	**232**	⇓P	**Pn**	**13 39 49.5**	**0.0**
	9.8nm,0.1s,SNR=12						
UCH				⇑S	**Sb**	**13 40 06.7**	**+0.6**
	13nm,0.1s						
KK31	**Karatay Array**	**3.93**	**273**	Pg	**Pg**	**13 40 39.1**	**-1.8**
	0.9nm,0.4s,baz=89,slow=16,SNR=13						
KK31				⇑Lg	Lg	13 41 30.2	
	2.7nm,0.4s,baz=90,slow=30,SNR=18						
MK31	**Makanchi Array**	**5.92**	**48**	⇓Pn	**Pn**	**13 40 54.2**	**+1.1**
	0.5nm,0.5s,baz=224,slow=14,SNR=18						
MK31				⇓Lg	Lg	13 42 30.3	
	0.3nm,0.2s,baz=224,slow=15,SNR=5.7						
KURBB	**Kurchatov Arra**	**7.83**	**13**	⇓Lg	Lg	13 43 32.9	
	0.4nm,0.7s						
KURK	**Kurchatov**	**7.94**	**13**	⇑Lg	Lg	13 43 32.7	
	4.0nm,0.9s						

GUC 27 13:42:04.6±0.9, 32°11S×71°92W, h21km±10km, MD3.8, ML3.5, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.42**	**57**	⇓*i*P	Pb	13 42 13.2	0.0
CHNG				*i* S	Sb	13 42 18.3	-0.8
CHNG				AML	AML	13 42 20.0	
	comp=N,2μm,0.3s						
IHA	**Instituto Hidr**	**0.94**	**166**	*e*P	Pb	13 42 21.4	-0.8
IHA				*i* S	Sb	13 42 33.5	-0.7
ROCH	**El Roble**	**1.15**	**139**	⇓*i*P	Pn	13 42 24.7	-1.1
ROCH				*i* S	Sb	13 42 40.6	-0.1
ROCH				AML	AML	13 42 42.9	
	comp=N,2μm,0.3s						
CMCH	**Combarbala**	**1.22**	**40**	*e*P	Pn	13 42 25.9	-0.7
CMCH				*i* S	Sb	13 42 41.9	-0.5
CMCH				AML	AML	13 42 48.7	
	comp=N,4μm,0.6s						
JACH	**Jahuel**	**1.25**	**117**	⇑*i*P	Pn	13 42 26.5	-0.6
JACH				*i* S	Sn	13 42 43.0	-0.4
PEL	**Peldehue**	**1.46**	**135**	⇑*i*P	Pn	13 42 29.8	0.0
PEL				*i* S	Sb	13 42 49.1	-0.2
PEL				AML	AML	13 42 53.6	
	comp=E,2μm,0.3s						
OVCH	**Ovalle**	**1.62**	**22**	*e*P	Pn	13 42 31.5	-0.5
OVCH				*e*S	Sn	13 42 52.5	+0.3
OVCH				AML	AML	13 43 04.6	
	comp=N,1μm,0.5s						
SAN	**Santiago**	**1.70**	**142**	*e*P	Pn	13 42 33.9	+0.7
SAN				*i* S	Sb	13 42 55.4	-0.9
SAN				AML	AML	13 42 58.1	
	comp=N,476nm,0.3s						
CLCH	**Cerro Calan**	**1.73**	**138**	⇓*i*P	Pb	13 42 35.1	-0.6
CLCH				*i* S	Sb	13 42 57.8	+0.7
CLCH				AML	AML	13 43 07.1	
	comp=E,957nm,0.7s						
TACH	**Talagante**	**1.74**	**152**	⇓*i*P	Pn	13 42 34.4	+0.7
TACH				*i* S	Sn	13 42 56.3	+1.0
ANTU	**Antumapu**	**1.81**	**144**	*e*P	Pn	13 42 35.8	+1.2
ANTU				*e*S	Sb	13 42 58.9	-0.5
ANTU				AML	AML	13 43 04.9	
	comp=N,722nm,0.4s						
FCH	**Farellones**	**1.83**	**132**	AML	AML	13 43 04.3	
	comp=E,714nm,0.3s						
LNV	**Longovilo**	**1.89**	**167**	*e*P	Pn	13 42 36.5	+0.9
LNV				*i* S	Sn	13 43 00.1	+1.3
CHCH	**Chadas Angostu**	**2.10**	**150**	*e*P	Pn	13 42 40.4	+1.7
CACH	**El Canelo**	**2.28**	**151**	*e*P	Pn	13 42 42.6	+1.3

IDC 27 13:47:42.8±8.2, 16°41S×177°17W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/20, mbtmp4.0/4, Error ellipse: s-maj=213.5km s-min=43.7km az=26.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.39**	**240**	P	P	13 55 23.1	+0.3
	1.6nm,0.9s,baz=90,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**46.08**	**258**	P	P	13 56 08.6	-0.4
	0.7nm,0.5s,baz=94,slow=7.4,SNR=23						
ASAR	**Alice Springs**	**46.35**	**253**	P	P	13 56 10.8	-0.3
	7.2nm,0.6s,baz=90,slow=7.8,SNR=231						
QSPA	**South Pole Qui**	**73.63**	**180**	P	P	13 59 18.1	+0.1
	0.7nm,0.8s,baz=62,slow=4.4,SNR=6.1						

*MOS **27** 13:49:20.5±0.7, 42°98N×44°08E, h9km, mb3.9/1, Error ellipse: s-maj=12.3km s-min=9.7km az=100.1*
*CSEM **27** 13:49:20.0, 42°98N×44°08E, h9km, mb3.9, After OBN*
*ISCJB **27** 13:49:21.7±0.4, 43°02N±0°02×44°03E±0°03, h1km±10km, Error ellipse: s-maj=4.2km s-min=3.6km az=152.6*

ISC 27 13:49:21.2±0.9, 43°01N±0°02×44°08E±0°02, h13km±8km, n23, σ0°37/46, 3C-4D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNR	**Ardon**	**0.24**	**39**	⇑*i*PG	**Pb**	**13 49 26.8**	**-0.6**
ARNR				*i* S	**Sb**	**13 49 30.9**	**-0.6**
ARNR	**Ardon**	**0.24**	**39**	*i* Pg	**Pb**	**13 49 26.8**	**-0.6**
ARNR				*i* Sg	**Sb**	**13 49 30.9**	**-0.6**
LACR	**Lac**	**0.24**	**138**	⇓*i*PG	**Pg**	**13 49 26.9**	**+0.4**
LACR				*i* S	**Sb**	**13 49 31.4**	**-0.3**
LACR	**Lac**	**0.24**	**138**	*i* Pg	**Pg**	**13 49 26.9**	**+0.4**
LACR				*i* Sg	**Sb**	**13 49 31.4**	**-0.3**
ZEI	**Tsey**	**0.27**	**209**	⇓*i*PG	**Pg**	**13 49 26.7**	**-0.3**
ZEI				*i* S	**Sg**	**13 49 30.8**	**-0.1**
ZEI	**Tsey**	**0.27**	**209**	*i* Pg	**Pg**	**13 49 26.7**	**-0.3**
ZEI				*i* Sg	**Sg**	**13 49 30.8**	**-0.1**
LSNR	**Lesken**	**0.33**	**325**	⇑*i*PG	**Pg**	**13 49 28.0**	**0.0**
LSNR				*e*S	**Sg**	**13 49 32.7**	**+0.1**
LSNR	**Lesken**	**0.33**	**325**	*i* Pg	**Pg**	**13 49 28.0**	**0.0**
LSNR				*e*Sg	**Sg**	**13 49 32.7**	**+0.1**
DIGR	**Digorskoe uzhe**	**0.38**	**254**	⇓*i*PG	**Pg**	**13 49 28.6**	**-0.3**
DIGR				*i* S	**Sg**	**13 49 34.1**	**-0.1**
DIGR	**Digorskoe uzhe**	**0.38**	**254**	*i* Pg	**Pg**	**13 49 28.6**	**-0.3**
DIGR				*i* Sg	**Sg**	**13 49 34.1**	**-0.1**
KMSR	**Komsomolskaya**	**0.40**	**23**	*e*PG	**Pg**	**13 49 29.5**	**+0.3**
KMSR				*e*S	**Sb**	**13 49 35.6**	**-0.5**
KMSR	**Komsomolskaya**	**0.40**	**23**	*e*Pg	**Pg**	**13 49 29.5**	**+0.3**
KMSR				*e*Sg	**Sb**	**13 49 35.6**	**-0.5**
VLKR	**Vladikavkaz**	**0.44**	**84**	*e*PG	**Pb**	**13 49 30.7**	**-0.2**
VLKR				*e*S	**Sb**	**13 49 36.7**	**+0.1**
VLKR	**Vladikavkaz**	**0.44**	**84**	*e*Pg	**Pb**	**13 49 30.7**	**-0.2**
VLKR				*e*Sg	**Sb**	**13 49 37.5**	**+0.1**
SNJR	**Sundja**	**0.54**	**83**	*e*PG	**Pb**	**13 49 32.7**	**+0.1**
SNJR				*e*S	**Sb**	**13 49 40.9**	**+0.6**
SNJR	**Sundja**	**0.54**	**83**	*e*Pg	**Pb**	**13 49 32.7**	**+0.1**
SNJR				*e*Sg	**Sb**	**13 49 40.9**	**+0.6**
ONI	**Oni**	**0.62**	**228**	P	**Pg**	**13 49 33.6**	**+0.2**
ONI				S	**Sb**	**13 49 43.0**	**+0.5**
SHAR	**Shatzhatmas**	**1.26**	**306**	*e*PG	**Pn**	**13 49 44.7**	**-0.1**
SHAR				*e*S	**Sb**	**13 50 01.6**	**+0.3**
SHAR	**Shatzhatmas**	**1.26**	**306**	*e*Pg	**Pn**	**13 49 44.7**	**-0.1**
SHAR				*e*Sg	**Sb**	**13 50 01.6**	**+0.3**
PYA	**Pyatigorsk**	**1.27**	**325**	⇑*e*PG	**Pb**	**13 49 45.1**	**+0.2**
PYA				*e*S	**Sg**	**13 50 02.7**	**+0.6**
PYA	**Pyatigorsk**	**1.27**	**325**	*e*Pg	**Pb**	**13 49 45.1**	**+0.2**
PYA				*e*Sg	**Sg**	**13 50 02.7**	**+0.6**
KIV	**Kislovodsk**	**1.39**	**314**	⇓*e*PG	**Pb**	**13 49 47.4**	**+0.4**
KIV				*e*S	**Sg**	**13 50 05.6**	**-0.4**
KIV	**Kislovodsk**	**1.39**	**314**	*e*Pg	**Pb**	**13 49 47.4**	**+0.4**
KIV				*e*Sg	**Sg**	**13 50 05.6**	**-0.4**

PRE 27 13:50:51.3±2.0, 26°40S×27°66E, h2km, ML2.3, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLOF	**Kloof**	**0.07**	**320**	*e*P	Pg	13 50 53.6	+0.7
KLOF				*e*S	Sg	13 50 54.9	+0.8
KLOF				AML	AML	13 50 55.4	
	comp=Z,8μm,0.3s						
ERPM	**east rand prop**	**0.53**	**84**	*e*P	Pb	13 51 03.4	-0.1
ERPM				*e*S	Sb	13 51 10.6	-1.2
ERPM				AML	AML	13 51 10.7	
	comp=Z,49nm,0.2s						
PRYS	**Parys**	**0.58**	**207**	*e*P	Pg	13 51 02.4	-0.4
PRYS				*e*S	Sg	13 51 09.6	-0.9
PRYS				AML	AML	13 51 11.6	
	comp=Z,52nm,0.2s						
SLR	**Silverton**	**0.87**	**40**	*e*P	Pg	13 51 06.4	-1.8
SLR				*e*S	Sg	13 51 18.5	-1.2
SLR				AML	AML	13 51 28.3	
	comp=Z,25nm,0.2s						
KSR	**Koster**	**0.88**	**309**	*e*P	Pg	13 51 08.3	-0.1
KSR				*e*S	Sg	13 51 20.4	+0.4
KSR				AML	AML	13 51 27.2	
	comp=Z,52nm,0.4s						
BFSD	**Buffelsfontein**	**0.91**	**239**	*e*P	Pg	13 51 08.8	-0.1
BFSD				*e*S	Sg	13 51 21.0	+0.1
BFSD				AML	AML	13 51 26.2	
	comp=Z,104nm,0.3s						
TLEK	**Tau Lekoa**	**1.05**	**238**	*e*P	Pg	13 51 11.7	+0.1
TLEK				*e*S	Sb	13 51 26.6	0.0
SWZ	**Schweizer**	**2.22**	**249**	*e*P	Pn	13 51 30.1	+0.7
SWZ				*e*S	Sn	13 51 58.0	+0.5
SWZ				AML	AML	13 52 00.6	
	comp=Z,41nm,0.5s						
LBTB	**Lobatse**	**2.32**	**306**	*e*P	Pn	13 51 31.3	+0.7
LBTB				*e*S	Sn	13 51 59.8	-0.1
LBTB				AML	AML	13 52 03.9	
	comp=Z,16nm,0.7s						
BOSA	**Boshof**	**3.07**	**224**	*e*P	Pn	13 51 41.3	+0.3
BOSA				*e*S	Sn	13 52 19.5	+1.1
BOSA				AML	AML	13 52 31.8	
	comp=Z,3.5nm,0.6s						

IDC 27 14:03:52.1±1.0, 37°92S×49°65E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.6/24, mbtmp3.8/7, ML3.0/1, Error ellipse: s-maj=36.1km s-min=22.5km az=24.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**19.40**	**353**	P	Pn	14 08 21.1	+0.2
	0.1nm,0.3s,baz=129,slow=14,SNR=4.0						
BOSA	**Boshof**	**22.36**	**287**	P	P	14 08 50.4	-1.5
	1.8nm,0.9s,baz=129,slow=6.5,SNR=2.1						
SUR	**Sutherland**	**24.17**	**274**	P	P	14 09 10.7	+0.5
	2.8nm,0.7s,baz=190,slow=12,SNR=1.9						
QSPA	**South Pole Qui**	**52.27**	**180**	P	P	14 13 05.6	+0.6
	0.5nm,0.8s,baz=228,slow=6.9,SNR=6.2						
ASAR	**Alice Springs**	**71.53**	**106**	P	P	14 15 14.9	-0.1
	0.3nm,0.5s,baz=234,slow=6.3,SNR=9.0						
STKA	**Stephens Creek**	**72.61**	**117**	P	P	14 15 21.3	-0.1
	2.9nm,1.0s,baz=256,slow=4.2,SNR=3.6						
WRA	**Warramunga Arr**	**73.96**	**103**	P	P	14 15 29.4	-0.2
	1.2nm,1.2s,baz=229,slow=5.2,SNR=6.0						

IDC 27 14:16:17.9±2.1, 4°08N×127°17E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/22, mbtmp3.3/3, Error ellipse: s-maj=159.6km s-min=25.4km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.89**	**164**	P	P	14 21 40.9	-1.8
	0.7nm,0.7s,baz=343,slow=10,SNR=8.2						
ASAR	**Alice Springs**	**28.35**	**167**	P	P	14 22 15.7	+1.8
	0.1nm,0.3s,baz=348,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**57.52**	**325**	P	P	14 26 09.1	-0.1
	0.3nm,0.4s,baz=119,slow=7.5,SNR=8.7						

NNC 27 14:30:15.0±3.7, 38°81N×69°96E, h0km, mb3.6, mpv3.2, 3C-1D, Error ellipse: s-maj=34.6km s-min=18.9km az=174.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.31**	**5**	⇑Pn	Pn	14 31 23.2	+1.3
	2.9nm,0.8s,baz=186,slow=14,SNR=7.7						
KK31				⇓Lg	Lg	14 32 32.3	
	1.9nm,0.4s,baz=186,slow=28						
TKM2	**Tokmak 2**	**5.93**	**44**	⇑Pn	Pn	14 31 44.4	0.0
	1.8nm,0.6s						
TKM2				⇑Sn	Sn	14 32 53.5	+0.3
	2.7nm,0.7s						
AB31	**Akbulak array**	**12.67**	**329**	P	Pn	14 33 14.5	-1.9
	0.8nm,0.7s,baz=146,slow=9.5,SNR=10						

*CSEM **27** 14:31:25.2, 35°06N×58°80E, h14km±5km, ML3.5, After THR*

THR 27 14:31:25.2±0.3, 35°06N×58°80E, h14km±5km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHRT	**Shahrakht**	**1.87**	**138**	*e*Pg	Pb	14 31 59.3	0.0
SHRT				AML	AML	14 32 31.2	
	comp=N,505nm,0.6s						
SHRT	**Shahrakht**	**1.87**	**138**	*e*Pg	Pb	14 31 59.3	0.0
TABS	**Tabas**	**1.98**	**225**	*e*Pg	Pb	14 32 01.1	0.0
TABS				AML	AML	14 32 34.3	
	comp=E,266nm,0.6s						
TABS				AML	AML	14 32 40.8	
	comp=N,562nm,1.4s						
TABS	**Tabas**	**1.98**	**225**	*e*Pg	Pb	14 32 01.1	-0.1
BJRD	**Bojnurd**	**2.87**	**337**	*e*Pn	Pn	14 32 12.6	+1.9
BJRD	**Bojnurd**	**2.87**	**337**	*e*Pn	Pn	14 32 12.6	+1.9
MRVT	**Maraveh tapeh**	**3.40**	**321**	*e*Pn	Pn	14 32 19.8	+1.9
MRVT	**Maraveh tapeh**	**3.40**	**321**	*e*Pn	Pn	14 32 19.8	+1.9
KRBR	**Kerman**	**5.35**	**199**	*e*Pn	Pn	14 32 47.1	+2.1
KRBR	**Kerman**	**5.35**	**199**	*e*Pn	Pn	14 32 47.1	+2.1

*IDC **27** 14:34:24.3±1.3, 23°28S×170°60E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.8/20, mbtmp3.8/8, ML3.5/1, Error ellipse: s-maj=35.0km s-min=26.7km az=12.0*
*NEIC **27** 14:34:25.7±0.8, 23°25S×170°59E, h10km, mb4.7/3, Error ellipse: s-maj=22.2km s-min=16.2km az=182.0*
*ISCJB **27** 14:34:26.9±1.0, 23°35S±0°2×170°6E±0°1, h28km, mb4.0/9, Error ellipse: s-maj=26.5km s-min=11.8km az=21.5*

ISC 27 14:34:29.0±0.9, 23°35S±0°2×170°49E±0°10, h28km, n23, σ1°20/26, mb3.9/9, Southeast of Loyalty Islands

| Code | Station Name | Δ

IDC 27 14:45:17.9±5.5, 13°09'×72°38'W, h46km±55km, mb3.2/2, mb1 3.5/4, mb1mx3.4/21, mbtmp3.4/4, ML3.7/2, Error ellipse: s-maj=114.4km s-min=42.9km az=35.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.49**	**284**	P	Pn	14 46 27.3	+3.8
	2.9nm,0.3s,baz=144,slow=11,SNR=3.2						
NNA				S	Sn	14 47 15.1	+0.5
	4.4nm,0.3s,baz=226,slow=20,SNR=4.4						
LPAZ	**La Paz**	**5.20**	**128**	P	Pn	14 46 33.7	-0.3
	1.1nm,0.3s,baz=302,slow=8.7,SNR=16						
LPAZ				S	Sn	14 47 33.8	+0.6
	0.2nm,0.3s,baz=250,slow=22,SNR=1.6						
SIV	**San Ignacio**	**11.32**	**106**	P	Pn	14 47 56.3	-0.9
	0.3nm,0.3s,baz=247,slow=15,SNR=3.3						
TORD	**Torodi Ar. Bea**	**77.91**	**73**	P	P	14 57 11.7	+0.1
	0.3nm,0.8s,baz=251,slow=4.4,SNR=2.3						
TORD				pP	PcP	14 57 22.8	+1.5
	0.2nm,0.5s,baz=262,slow=6.9,SNR=2.9						
YKA	**Yellowknife Ar**	**82.20**	**342**	P	P	14 57 34.3	+0.7
	0.2nm,0.7s,baz=133,slow=4.6,SNR=4.5						
SONM	**Songino Array**	**145.34**	**1**	PKPbc	PKPbc	15 04 49.0	-1.8
	0.1nm,0.4s,baz=350,slow=1.8,SNR=4.7						

NIED 27 14:47:00, 43.60N×147.30E, h44km, Mw3.9 Best double couple: M0 8.21000×10^14 NP1:φ=254.00000°, δ=89.00000°, λ=-131.00000°. NP2:φ=163.00000°, δ=41.00000°, λ=-1.00000°.
ISCJB 27 14:47:25.5±1.0, 43.74N±0.08×147.47E±0.10, h57km±8km, mb3.9/13, MS3.0/2, Error ellipse: s-maj=16.5km s-min=6.6km az=141.3
JMA 27 14:47:26.0±0.3, 43.57N×147.32E, h20km±4km, M4.0
MOS 27 14:47:28.7±1.1, 44.14N×147.26E, h67km, mb4.3/9, Error ellipse: s-maj=18.0km s-min=12.8km az=77.0
IDC 27 14:47:31.0±3.9, 44.23N×147.29E, h62km±27km, mb3.6/11, mb1 3.8/13, mb1mx3.6/25, mbtmp3.6/13, ML3.5/2, MS2.9/4, Ms1 3.0/4, ms1mx2.6/44, Error ellipse: s-maj=68.9km s-min=17.2km az=166.0
ISC 27 14:47:26.0±1.0, 43°70'N±0°09'×147°51'E±0°07', h45km±8km, n37, σ1§16/41, mb4.0/13, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.24**	**286**	*i* PN	**Pn**	**14 47 46.7**	**-0.2**
YUK				*i* S	**Sn**	**14 48 02.0**	**-0.4**
YUK				pmax	pmax		
	comp=N,402nm,0.1s						
YUK				pmax	pmax		
	comp=E,324nm,0.1s						
YUK				pmax	pmax		
	comp=Z,1μm,0.1s						
YUK				smax	smax		
	comp=E,176nm,0.5s						
YUK				smax	smax		
	comp=N,3μm,0.5s						
NEM2	**Nemuro 2**	**1.33**	**256**	P	**Pn**	**14 47 47.1**	**-1.0**
NEM2				*e*S	**Sn**	**14 48 02.2**	**-2.4**
KUR	**Kuril'sk**	**1.56**	**9**	*i* PN	**Pn**	**14 47 51.0**	**-0.2**
KUR				*e*S	**Sn**	**14 48 09.2**	**-1.0**
KUR				pmax	pmax		
	comp=Z,410nm,1.0s						
KUR				pmax	pmax		
	comp=E,5μm,3.0s						
KUR				pmax	pmax		
	comp=N,2μm,1.0s						
KUR				smax	smax		
	comp=E,3μm,1.0s						
KUR				smax	smax		
	comp=N,600nm,0.5s						
JRA	**Rausu**	**1.75**	**279**	P	**Pn**	**14 47 54.2**	**+0.4**
JRA				*e*S	**Sn**	**14 48 14.8**	**-0.1**
JNK	**Nakash**	**2.03**	**268**	P	**Pn**	**14 47 57.5**	**-0.2**
JAK	**Akkeshi**	**2.17**	**252**	P	**Pn**	**14 47 59.5**	**-0.1**
JTKR	**Abashiri--Toko**	**2.62**	**277**	P	**Pn**	**14 48 07.1**	**+1.3**
JAR	**Ashorobuto**	**2.75**	**263**	P	**Pn**	**14 48 08.3**	**+0.7**
JAR				*e*S	**Sn**	**14 48 39.6**	**-0.1**
JOB	**Onbets**	**2.80**	**255**	P	**Pn**	**14 48 08.8**	**+0.5**
JCH	**Churui**	**3.23**	**252**	P	**Pn**	**14 48 14.6**	**+0.5**
JCH				*e*S	**Sn**	**14 48 50.5**	**-0.7**
JKK2	**Kamakawa 2**	**3.46**	**275**	P	**Pn**	**14 48 19.3**	**+2.0**
ASAJ	**Asahikawa**	**3.58**	**278**	P	**Pn**	**14 48 21.1**	**+2.2**
	comp=N,3.4nm,0.3s,baz=100,slow=15,SNR=29						
ASAJ				S	Sn	14 49 09.0	+9.1
	comp=N,1.9nm,0.3s,baz=179,slow=21,SNR=5.9						
JFR	**Furan**	**3.62**	**263**	P	**Pn**	**14 48 21.5**	**+1.9**
JNBK	**Urakawa-nobuka**	**3.77**	**250**	P	**Pn**	**14 48 22.2**	**+0.6**
PETK	**Petropavlovsk-**	**11.59**	**32**	PN	**Pn**	**14 50 08.3**	**-0.3**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,34nm,19.3s						
PETK	**Petropavlovsk-**	**11.59**	**32**	P	**Pn**	**14 50 08.3**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=205,slow=12,SNR=6.3						
PETK				LR	LR	14 55 04.2	
	comp=Z,34nm,19.3s,baz=286,slow=40						
CBIJ	**Chichi jima**	**17.12**	**196**	LR	LR	14 56 16.3	
	comp=Z,75nm,21.8s,baz=127,slow=30						
SONM	**Songino Array**	**28.73**	**293**	P	**P**	**14 53 19.8**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=84,slow=8.2,SNR=4.7						
ZALV	**Zalesovo Beam**	**41.24**	**307**	pPcP		14 57 16.2	
	comp=Z,0.9nm,0.6s,baz=88,slow=3.5,SNR=5.7						
ZALV				LR	LR	15 10 33.4	
	comp=Z,16nm,21.8s,baz=69,slow=34						
ILAR	**Eielson Array**	**41.37**	**36**	P	**P**	**14 55 07.7**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=259,slow=6.3,SNR=17						
MKAR	**Makanchi Array**	**44.84**	**298**	P	**P**	**14 55 35.7**	**+0.1**
MKAR						14 57 29.6	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**44.84**	**298**	P	**P**	**14 55 35.6**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=76,slow=8.3,SNR=9.3						
MKAR				pPcP		14 57 29.6	
	comp=Z,0.5nm,0.7s,baz=66,slow=6.0,SNR=4.6						
INK	**Inuvik**	**46.32**	**30**	P	**P**	**14 55 47.9**	**+1.1**
	comp=Z,3.0nm,0.6s,baz=293,slow=7.5,SNR=16						
CMAR	**Chiang Mai Arr**	**47.76**	**254**	LR	LR	15 17 00.3	
	comp=Z,18nm,19.6s,baz=70,slow=37						
RES	**Resolute Bay**	**54.94**	**17**	P	**P**	**14 56 51.0**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=338,slow=8.3,SNR=9.2						
YKA	**Yellowknife Ar**	**55.70**	**34**	P	**P**	**14 56 58.2**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=299,slow=7.1,SNR=11						
YKA				pP	**pP**	**14 57 09.7**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=301,slow=7.2,SNR=5.8						
ARCES	**ARCESS Array B**	**59.39**	**340**	P	**P**	**14 57 22.1**	**-1.1**
	comp=Z,9.8nm,1.2s,baz=51,slow=6.4,SNR=5.4						
JOF	**Joensuu**	**62.26**	**332**	*e*P	**P**	**14 57 41.5**	**-1.2**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s						
JOF	**Joensuu**	**62.26**	**332**	*e*p	**P**	**14 57 41.5**	**-1.2**
	comp=Z,0.9nm,0.4s						
FINES	**FINESS Array B**	**65.04**	**333**	P	**P**	**14 58 00.2**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=40,slow=8.0,SNR=21						
NVAR	**Mina Array Bea**	**67.38**	**58**	P	**P**	**14 58 18.2**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=308,slow=4.4,SNR=2.6						
NVAR				pP	**pP**	**14 58 30.8**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=283,slow=6.5,SNR=3.4						
NOA	**NORSAR Array B**	**69.75**	**339**	P	**P**	**14 58 30.4**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=29,slow=6.5,SNR=3.9						
KBZ	**Khabaz**	**70.03**	**312**	P	**P**	**14 58 33.9**	**+1.0**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KBZ	**Khabaz**	**70.03**	**312**	P	**P**	**14 58 33.9**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=19,slow=7.3,SNR=5.0						
AKASG	**Malin Array Be**	**71.78**	**324**	P	**P**	**14 58 41.0**	**-2.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**71.78**	**324**	P	**P**	**14 58 41.0**	**-2.4**
	comp=Z,1.4nm,0.6s,baz=36,slow=6.3,SNR=2.9						
TXAR	**Lajitas Array**	**82.46**	**56**	pP	pP	14 59 57.3	+0.2
	comp=Z,0.2nm,0.4s,baz=308,slow=4.6,SNR=3.4						

MEX 27 14:49:52.7±1.4, 16°64'N×95°36'W, h79km±13km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.64**	**45**	*e*P	Pn	14 50 06.0	-1.7
CMIG				*i* S	Sn	14 50 16.9	-2.0
HUIG	**Huatulco**	**1.12**	**220**	*i* P	Pn	14 50 10.9	-2.3
HUIG				*i* S	Sn	14 50 27.5	-1.0
VHO	**Vista Hermosa**	**1.38**	**288**	*i* P	Pn	14 50 16.1	-0.7
VHO				*i* S	Sn	14 50 33.9	-0.9
TGIG		**2.15**	**86**	*e*P	Pn	14 50 25.0	-1.7
TGIG				*i* S	Sn	14 50 51.2	-1.4
PCIG		**2.26**	**114**	*i* P	Pn	14 50 27.5	-0.5
PCIG				*i* S	Sn	14 50 53.9	-1.2
TPIG	**Tehuac#an**	**2.60**	**313**	*e*P	Pn	14 50 31.9	-1.1
TPIG				*i* S	Sn	14 51 01.6	-2.2
UTMO	**Huajuapan**	**2.62**	**297**	*i* P	Pn	14 50 32.6	-0.6
UTMO				*i* S	Sn	14 51 02.0	-2.2
PNIG	**Pinotepa**	**2.66**	**265**	*e*P	Pn	14 50 30.9	-2.6
PNIG				*i* S	Sn	14 51 03.7	-1.3
CCIG	**Comitan**	**3.12**	**96**	*e*P	Pn	14 50 38.9	-0.9
CCIG				*i* S	Sn	14 51 13.9	-2.3

IDC 27 14:50:17.0±0.7, 13.96N×146.54E, h0km, mb4.0/17, mb1 4.1/17, mb1mx4.1/28, mbtmp4.0/17, MS2.9/1, Ms1 2.9/1, ms1mx2.3/36, Error ellipse: s-maj=26.9km s-min=14.9km az=88.0
ISCJB 27 14:50:20.5±0.5, 13.88N±0.07×146.4E±0.1, h37km, mb4.1/24, MS2.8/1, Error ellipse: s-maj=20.1km s-min=9.3km az=177.3
NEIC 27 14:50:20.3±9.9, 13.90N×146.54E, h24km±69km, mb4.5/5, Error ellipse: s-maj=26.3km s-min=10.6km az=83.0
ISC 27 14:50:22.3±0.6, 13°89N±0°09'×146°6E±0°1, h37km, n46, σ1§23/48, mb4.1/24, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.67**	**260**	LR	LR	14 51 11.7	
	comp=Z,40μm,19.9s,baz=225,slow=33						
JOW	**Kunigami**	**21.40**	**310**	P	**P**	**14 55 09.0**	**+2.1**
JOW	**Kunigami**	**21.40**	**310**	P	**P**	**14 55 09.0**	**+2.1**
	13nm,0.5s,baz=184,slow=11,SNR=4.5						
MJAR	**Matsushiro Arr**	**23.76**	**343**	P	**P**	**14 55 28.5**	**-2.9**
MJAR	**Matsushiro Arr**	**23.76**	**343**	P	**P**	**14 55 28.5**	**-2.9**
	1.4nm,0.9s,baz=151,slow=1.5,SNR=4.3						
JNU	**Nakatsue**	**23.88**	**326**	P	**P**	**14 55 31.1**	**-1.4**
JNU	**Nakatsue**	**23.88**	**326**	P	**P**	**14 55 31.1**	**-1.4**
	11nm,1.0s,baz=54,slow=5.0,SNR=5.1						
COEN	**Coen**	**27.87**	**187**	*e*P	**P**	**14 56 08.5**	**-0.3**
	24nm,1.1s						
KSRS	**Korea Array**	**28.74**	**328**	P	**P**	**14 56 15.7**	**-0.6**
	3.5nm,0.9s,baz=144,slow=9.0,SNR=6.7						
KSAR	**Wonju Array Be**	**28.75**	**328**	P	**P**	**14 56 15.7**	**-0.7**
USRK	**Ussuriysk Arra**	**32.67**	**340**	LR	LR	15 09 02.3	
	comp=Z,19nm,18.2s,baz=41,slow=34						
WRAB	**Tennant Creek**	**35.69**	**200**	*e*P	**P**	**14 57 15.6**	**-1.8**
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**35.71**	**200**	P	**P**	**14 57 17.7**	**+0.2**
WRA				PcP	**PcP**	**14 59 46.3**	**+1.0**
WRA	**Warramunga Arr**	**35.71**	**200**	P	**P**	**14 57 17.7**	**+0.2**
	2.3nm,0.7s,baz=20,slow=9.4,SNR=24						
WRA				PcP	**PcP**	**14 59 46.3**	**+1.0**
	1.0nm,1.0s,baz=13,slow=3.9,SNR=4.7						
FITZ	**Fitzroy Crossi**	**37.90**	**214**	*e*P	**P**	**14 57 35.3**	**-0.8**
	20nm,1.6s						
ASAR	**Alice Springs**	**39.33**	**198**	P	**P**	**14 57 48.5**	**+0.4**
ASAR	**Alice Springs**	**39.33**	**198**	P	**P**	**14 57 48.5**	**+0.4**
	0.7nm,1.0s,baz=23,slow=6.8,SNR=9.0						
STKA	**Stephens Creek**	**45.76**	**186**	P	**P**	**14 58 39.7**	**-0.5**
STKA	**Stephens Creek**	**45.76**	**186**	P	**P**	**14 58 39.7**	**-0.5**
	1.7nm,0.9s,baz=171,slow=12,SNR=2.3						
CMAR	**Chiang Mai Arr**	**45.85**	**282**	P	**P**	**14 58 41.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**45.85**	**282**	P	**P**	**14 58 41.9**	**+0.6**
	1.0nm,0.4s,baz=79,slow=6.9,SNR=8.5						
SONM	**Songino Array**	**47.44**	**324**	P	**P**	**14 58 53.6**	**+0.1**
SONM				PcP	**PcP**	**15 00 24.2**	**+0.7**
SONM	**Songino Array**	**47.44**	**324**	P	**P**	**14 58 53.6**	**+0.1**
	1.0nm,0.6s,baz=139,slow=6.3,SNR=15						
SONM				PcP	**PcP**	**15 00 24.2**	**+0.7**
	0.5nm,0.6s,baz=138,slow=3.9,SNR=2.8						
ZALV	**Zalesovo Beam**	**62.34**	**324**	P	**P**	**15 00 40.4**	**-0.6**
ZALV	**Zalesovo Beam**	**62.34**	**324**	P	**P**	**15 00 40.4**	**-0.6**
	0.9nm,0.4s,baz=105,slow=6.4,SNR=7.5						
MKAR	**Makanchi Array**	**62.41**	**316**	P	**P**	**15 00 41.7**	**0.0**
MKAR	**Makanchi Array**	**62.41**	**316**	P	**P**	**15 00 41.7**	**0.0**
	0.8nm,0.4s,baz=93,slow=8.1,SNR=28						
KURK	**Kurchatov**	**65.41**	**320**	*e*P	**P**	**15 00 59.0**	**-2.2**
	8.8nm,1.1s						
ILAR	**Eielson Array**	**67.60**	**25**	P	**P**	**15 01 13.7**	**-1.3**
ILAR	**Eielson Array**	**67.60**	**25**	P	**P**	**15 01 13.7**	**-1.3**
	0.4nm,0.5s,baz=251,slow=6.0,SNR=4.5						
ABKAR	**Akbulak array**	**77.42**	**318**	*e*P	**P**	**15 02 12.4**	**-1.3**
	1.2nm,0.6s						
YKA	**Yellowknife Ar**	**81.84**	**28**	P	**P**	**15 02 39.2**	**+1.8**
YKA	**Yellowknife Ar**	**81.84**	**28**	P	**P**	**15 02 39.2**	**+1.8**
	0.3nm,0.8s,baz=286,slow=5.3,SNR=4.3						
RES	**Resolute Bay**	**83.88**	**14**	P	**P**	**15 02 48.8**	**+1.0**
RES	**Resolute Bay**	**83.88**	**14**	P	**P**	**15 02 48.8**	**+1.0**
	0.7nm,0.6s,baz=339,slow=4.4,SNR=4.1						
SPITS	**Spitsbergen Ar**	**84.02**	**351**	P	**P**	**15 02 48.7**	**+0.2**
SPITS	**Spitsbergen Ar**	**84.02**	**351**	P	**P**	**15 02 48.7**	**+0.2**
	2.0nm,0.7s,baz=115,slow=3.8,SNR=3.7						
NVAR	**Mina Array Bea**	**85.45**	**52**	P	**P**	**15 02 57.5**	**+0.8**
NVAR	**Mina Array Bea**	**85.45**	**52**	P	**P**	**15 02 57.5**	**+0.8**
	0.5nm,0.7s,baz=274,slow=5.7,SNR=4.2						
ARCES	**ARCESS Array B**	**87.30**	**342**	P	**P**	**15 03 05.0**	**+0.1**
ARCES	**ARCESS Array B**	**87.30**	**342**	P	**P**	**15 03 05.0**	**+0.1**
	5.4nm,1.0s,baz=64,slow=6.1,SNR=3.8						
JOF	**Joensuu**	**88.70**	**336**	*ep*	**P**	**15 03 09.3**	**-2.4**
	1.7nm,0.7s						
FINES	**FINESS Array B**	**91.57**	**336**	P	**P**	**15 03 23.8**	**-1.4**
FINES	**FINESS Array B**	**91.57**	**336**	P	**P**	**15 03 23.8**	**-1.4**
	0.9nm,0.4s,baz=62,slow=5.3,SNR=13						
DBIC	**Dimbokro**	**145.03**	**304**	PKP	**PKPdf**	**15 09 56.9**	**+0.1**
DBIC	**Dimbokro**	**145.03**	**304**	PKP	**PKPdf**	**15 09 56.9**	**+0.1**
	8.1nm,0.6s,baz=35,slow=3.2,SNR=17						

ISK 27 14:51:25.5, 38.31N×26.88E, h5km, MD3.5
DDA 27 14:51:25.9, 38.36N×26.87E, h25km, MD3.3
ISCJB 27 14:51:26.8±0.5, 38.34N±0.02×26.89E±0.03, h13km±3km, Error ellipse: s-maj=3.6km s-min=3.2km az=145.7
CSEM 27 14:51:26.8±0.1, 38.33N×26.88E, h10km, MD3.3, Error ellipse: s-maj=3.3km s-min=2.6km az=68.0
ATH 27 14:51:27.1, 38.34N×26.88E, h29km±1km, MD3.1/4
ISC 27 14:51:26.7±0.9, 38°33N±0°02'×26°89E±0°02, h13km±7km, n101, σ0§85/129, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.23**	**277**	*i* P	**Pg**	**14 51 31.8**	**+0.1**
URLA				*i* S	**Sb**	**14 51 36.2**	**-0.8**
URLA	**Izmir**	**0.23**	**277**	*i* P	**Pg**	**14 51 31.8**	**+0.1**
URLA				*i* S	**Sb**	**14 51 36.2**	**-0.8**
IZM	**Izmir**	**0.30**	**77**	*e*PG	**Pg**	**14 51 32.1**	**-0.8**
IZM				*e*SG	**Sg**	**14 51 37.0**	**+0.1**
IZM	**Izmir**	**0.30**	**77**	*e*Pg	**Pg**	**14 51 32.1**	**-0.8**
IZM				*e*Sg	**Sg**	**14 51 37.1**	**+0.1**
CHOS	**Chios island**	**0.66**	**275**	*e*PN	**Pb**	**14 51 40.1**	**-0.1**
CHOS				*e*SN	**Sb**	**14 51 50.2**	**+0.9**
CHOS	**Chios island**	**0.66**	**275**	*e*Pn	**Pb**	**14 51 40.1**	**-0.1**
CHOS				*e*Sn	**Sb**	**14 51 50.2**	**+0.9**
GCAM	**G?zelcaml?**	**0.69**	**157**	*i* P	**Pb**	**14 51 40.5**	**0.0**
GCAM				*i* S	**Sb**	**14 51 49.7**	**-0.2**
GCAM	**G?zelcaml?**	**0.69**	**157**	*i* P	**Pb**	**14 51 40.5**	**0.0**
GCAM				*i* S	**Sb**	**14 51 49.7**	**-0.2**
AKHS	**Akhisar**	**0.90**	**53**	*i* P	**Pg**	**14 51 44.0**	**-0.2**
AKHS				*i* S	**Sb**	**14 51 56.5**	**+0.3**
AKHS	**Akhisar**	**0.90**	**53**	*i* P	**Pg**	**14 51 44.0**	**-0.2**
AKHS				*i* S	**Sb**	**14 51 56.5**	**+0.3**
AKS	**Akhisar**	**0.90**	**53**	*e*PG	**Pg**	**14 51 43.9**	**-0.3**
AKS				*e*SG	**Sb**	**14 51 56.8**	**+0.6**
AKS	**Akhisar**	**0.90**	**53**	*e*Pg	**Pg**	**14 51 43.9**	**-0.3**
AKS				*e*Sg	**Sb**	**14 51 56.8**	**+0.6**
AYVA	**Ayvalik**	**0.99**	**351**	*i* P	**Pb**	**14 51 45.2**	**-0.5**
AYVA	**Ayvalik**	**0.99**	**351**	*i* P	**Pb**	**14 51 45.2**	**-0.5**
AYDN	**Tasoluk**	**1.03**	**130**	*i* P	**Pg**	**14 51 46.7**	**+0.1**
AYDN				*i* S	**Sb**	**14 51 59.2**	**-0.7**
AYDN	**Tasoluk**	**1.03**	**130**	*i* P	**Pg**	**14 51 46.7**	**+0.1**
AYDN				*i* S	**Sb**	**14 51 59.2**	**-0.7**
PRK	**Paraskevi**	**1.03**	**332**	*e*PN	**Pn**	**14 51 46.7**	**-0.2**
PRK				*e*SN	**Sn**	**14 52 01.2**	**0.0**
PRK	**Paraskevi**	**1.03**	**332**	*e*Pn	**Pn**	**14 51 46.7**	**-0.2**
PRK				*e*Sn	**Sn**	**14 52 01.2**	**0.0**
MLSB	**Milas**	**1.25**	**146**	*e*PN	**Pn**	**14 51 49.4**	**-0.6**
MLSB	**Milas**	**1.25**	**146**	*e*Pn	**Pn**	**14 51 49.4**	**-0.6**
BODT	**Bodrum**	**1.31**	**165**	*e*PN	**Pn**	**14 51 50.9**	**+0.1**
BODT	**Bodrum**	**1.31**	**165**	*e*Pn	**Pn**	**14 51 50.9**	**+0.1**
MANT	**Manisa**	**1.32**	**83**	*i* P	**Pn**	**14 51 50.4**	**-0.6**
MANT				*i* S	**Sb**	**14 52 07.8**	**-0.6**
MANT	**Manisa**	**1.32**	**83**	*i* P	**Pn**	**14 51 50.4**	**-0.6**
MANT				*i* S	**Sb**	**14 52 07.8**	**-0.6**
BDRM	**Kayabasi**	**1.34**	**161**	*i* P	**Pb**	**14 51 51.5**	**-0.2**
BDRM				*i* S	**Sn**	**14 52 08.9**	**0.0**
BDRM	**Kayabasi**	**1.34**	**161**	*i* P	**Pb**	**14 51 51.5**	**-0.2**
BDRM				*i* S	**Sn**	**14 52 08.9**	**0.0**
KULA	**Kula-Manisa**	**1.40**	**82**	*e*PN	**Pn**	**14 51 52.3**	**+0.2**
KULA	**Kula-Manisa**	**1.40**	**82**	*e*Pn	**Pn**	**14 51 52.3**	**+0.2**
BALY	**Balya**	**1.51**	**22**	*i* P	**Pn**	**14 51 53.1**	**-0.5**
BALY				*i* S	**Sn**	**14 52 13.0**	**-0.3**
BALY	**Balya**	**1.51**	**22**	*i* P	**Pn**	**14 51 53.1**	**-0.5**
BALY				*i* S	**Sn**	**14 52 13.0**	**-0.3**
BALB	**Balikesir**	**1.52**	**30**	*e*PN	**Pb**	**14 51 54.5**	**-0.2**
BALB	**Balikesir**	**1.52**	**30**	*e*Pn	**Pb**	**14 51 54.5**	**-0.2**
EZN	**Ezine**	**1.55**	**344**	*e*PN	**Pn**	**14 51 54.3**	**+0.2**
EZN	**Ezine**	**1.55**	**344**	*e*Pn	**Pn**	**14 51 54.3**	**+0.2**
DEMI	**Demirci**	**1.59**	**63**	*i* P	**Pb**	**14 51 56.2**	**+0.1**
DEMI				*i* S	**Sn**	**14 52 14.3**	**-0.9**
DEMI	**Demirci**	**1.59**	**63**	*i* P	**Pb**	**14 51 56.2**	**+0.1**
DEMI				*i* S	**Sn**	**14 52 14.3**	**-0.9**
YER	**Yerkesik**	**1.63**	**137**	*e*PN	**Pn**	**14 51 55.0**	**-0.1**
YER	**Yerkesik**	**1.63**	**137**	*e*Pn	**Pn**	**14 51 55.0**	**-0.1**
BOZC	**Bozcaada**	**1.64**	**337**	*i* P	**Pn**	**14 51 54.9**	**-0.4**
BOZC				*i* S	**Sb**	**14 52 17.5**	**+0.1**
APE	**Apeiranthos**	**1.66**	**221**	*e*PN	**Pb**	**14 51 56.6**	**-0.6**
APE	**Apeiranthos**	**1.66**	**221**	*e*Pn	**Pb**	**14 51 56.6**	**-0.6**
DAT	**Datca**	**1.69**	**161**	*e*PN	**Pn**	**14 51 56.6**	**+0.5**
DAT	**Datca**	**1.69**	**161**	*e*Pn	**Pn**	**14 51 56.6**	**+0.5**
DURS	**Dursunbey**	**1.77**	**44**	*i* P	**Pn**	**14 51 56.8**	**-0.3**
DURS				*i* S	**Sn**	**14 52 18.6**	**-0.9**
DURS	**Dursunbey**	**1.77**	**44**	*i* P	**Pn**	**14 51 56.8**	**-0.3**
DURS				*i* S	**Sn**	**14 52 18.6**	**-0.9**
DENT	**Denizli**	**1.79**	**108**	*e*PN	**Pn**	**14 51 57.8**	**+0.5**
DENT	**Denizli**	**1.79**	**108**	*e*Pn	**Pn**	**14 51 57.8**	**+0.5**
GONE	**Gonen-Balikesi**	**1.82**	**20**	*e*PN	**Pb**	**14 51 59.3**	**-0.6**
GONE	**Gonen-Balikesi**	**1.82**	**20**	*e*Pn	**Pb**	**14 51 59.3**	**-0.6**
DNZL	**Cakiroluk**	**1.82**	**110**	*i* P	**Pn**	**14 51 58.1**	**+0.2**
DNZL	**Cakiroluk**	**1.82**	**110**	*i* P	**Pn**	**14 51 58.1**	**+0.2**
DST	**Dursunbey**	**1.85**	**46**	*e*PN	**Pn**	**14 51 59.3**	**+1.1**
DST	**Dursunbey**	**1.85**	**46**	*e*Pn	**Pn**	**14 51 59.3**	**+1.1**
LPK	**Lapseki**	**2.04**	**357**	*e*PN	**Pn**	**14 52 01.8**	**+1.1**
LPK	**Lapseki**	**2.04**	**357**	*e*Pn	**Pn**	**14 52 01.8**	**+1.1**
KHAL	**Karahalli**	**2.04**	**88**	*i* P	Pn	14 51 56.9	-4.1
LIA	**Limnos Island**	**2.05**	**320**	*e*PN	**Pn**	**14 52 01.4**	**+0.5**
LIA	**Limnos Island**	**2.05**	**320**	*e*Pn	**Pn**	**14 52 01.4**	**+0.5**
KHL	**Karahalli**	**2.07**	**89**	*e*PN	**Pn**	**14 52 02.0**	**+0.8**
KHL	**Karahalli**	**2.07**	**89**	*e*Pn	**Pn**	**14 52 02.0**	**+0.8**
KRBG	**Karabiga-Canak**	**2.08**	**9**	*e*PN	**Pn**	**14 52 01.3**	**0.0**
KRBG	**Karabiga-Canak**	**2.08**	**9**	*e*Pn	**Pn**	**14 52 01.3**	**0.0**
GELI	**Tayfur-Gelibol**	**2.09**	**351**	*e*PN	**Pn**	**14 52 02.0**	**+0.6**
GELI	**Tayfur-Gelibol**	**2.09**	**351**	*e*Pn	**Pn**	**14 52 02.0**	**+0.6**
EDC	**Edincik**	**2.15**	**20**	*e*PN	**Pb**	**14 52 03.9**	**-1.5**
EDC	**Edincik**	**2.15**	**20**	*e*Pn	**Pb**	**14 52 03.9**	**-1.5**
GDZ	**Gediz**	**2.16**	**69**	*i* P	**Pb**	**14 52 06.9**	**+1.1**
KCTX	**Karacabey (Bur**	**2.24**	**30**	*e*PN	**Pn**	**14 52 05.1**	**+1.6**
KCTX	**Karacabey (Bur**	**2.24**	**30**	*e*Pn	**Pn**	**14 52 05.1**	**+1.6**
TVSB	**Tavsanli**	**2.

	368nm,0.5s						
MSRU	**Castanea**	**1.01**	**310**	Pg	**Pb**	**15 06 59.5**	**+0.8**
	368nm,0.5s						
MMME	**Mongiuffi-Meli**	**1.03**	**288**	Pg	**Pb**	**15 06 59.5**	**+0.4**
MMME				Sg	**Sn**	**15 07 12.5**	**+0.5**
	447nm,0.3s						
MMME	**Mongiuffi-Meli**	**1.03**	**288**	Pg	**Pb**	**15 06 59.5**	**+0.4**
MMME				Sg	**Sn**	**15 07 12.5**	**+0.5**
	447nm,0.3s						
AGST	**Augusta-Monte**	**1.07**	**251** ⇑	*i*Pg	**Pn**	**15 06 58.8**	**-0.1**
AGST				Sg	**Sb**	**15 07 11.9**	**-1.3**
	808nm,0.1s						
AGST	**Augusta-Monte**	**1.07**	**251** ⇑	*i*Pg	**Pn**	**15 06 58.8**	**-0.1**
AGST				Sg	**Sb**	**15 07 11.9**	**-1.3**
	808nm,0.1s						
JOPP	**Joppolo**	**1.09**	**334**	Pg	**Pb**	**15 07 00.1**	**-0.1**
	124nm,0.5s						
JOPP	**Joppolo**	**1.09**	**334**	Pg	**Pb**	**15 07 00.1**	**-0.1**
	124nm,0.5s						
HAGA	**Augusta**	**1.11**	**253** ⇑	*i*Pg	**Pn**	**15 06 59.5**	**-0.1**
HAGA				Sg	**Sn**	**15 07 13.0**	**-1.0**
	1µm,0.3s						
HAGA	**Augusta**	**1.11**	**253** ⇑	*i*Pg	**Pn**	**15 06 59.5**	**-0.1**
HAGA				Sg	**Sn**	**15 07 13.0**	**-1.0**
	1µm,0.3s						
MILZ	**Milazzo**	**1.19**	**304**	Pg	**Pb**	**15 07 01.9**	**+0.2**
MILZ				Sg	**Sb**	**15 07 17.8**	**+1.1**
	639nm,0.4s						
MILZ	**Milazzo**	**1.19**	**304**	Pg	**Pb**	**15 07 01.9**	**+0.2**
MILZ				Sg	**Sb**	**15 07 17.8**	**+1.1**
	639nm,0.4s						
HCRL	**Carlentini**	**1.21**	**254** ⇑	*i*Pg	**Pn**	**15 07 01.1**	**+0.2**
HCRL				Sg	**Sn**	**15 07 15.7**	**-0.6**
	5µm,0.3s						
HCRL	**Carlentini**	**1.21**	**254** ⇑	*i*Pg	**Pn**	**15 07 01.1**	**+0.2**
HCRL				Sg	**Sn**	**15 07 15.7**	**-0.6**
	5µm,0.3s						
SSY	**Sortino**	**1.22**	**248** ⇑	*i*Pg	**Pn**	**15 07 00.9**	**-0.2**
SSY				Sg	**Sn**	**15 07 15.8**	**-0.9**
	1µm,0.2s						
SSY	**Sortino**	**1.22**	**248** ⇑	*i*Pg	**Pn**	**15 07 00.9**	**-0.2**
SSY				Sg	**Sn**	**15 07 15.8**	**-0.9**
	1µm,0.2s						
HAVL	**Avola**	**1.27**	**239** ⇑	*i*Pg	**Pn**	**15 07 01.8**	**0.0**
HAVL				Sg	**Sn**	**15 07 17.6**	**-0.3**
	2µm,0.3s						
HAVL	**Avola**	**1.27**	**239** ⇑	*i*Pg	**Pn**	**15 07 01.8**	**0.0**
HAVL				Sg	**Sn**	**15 07 17.6**	**-0.3**
	2µm,0.3s						
VPL	**Vulcano Piano**	**1.41**	**303**	Pg	**Pn**	**15 07 04.5**	**+0.8**
VPL	**Vulcano Piano**	**1.41**	**303**	Pg	**Pn**	**15 07 04.5**	**+0.8**
SERS	**Sersale**	**1.42**	**6**	Pg	**Pn**	**15 07 04.3**	**+0.3**
	174nm,1.2s						
SERS	**Sersale**	**1.42**	**6**	Pg	**Pn**	**15 07 04.3**	**+0.3**
	174nm,1.2s						
MNO	**Monte Soro**	**1.46**	**283**	Pg	**Pb**	**15 07 06.4**	**0.0**
	121nm,0.2s						
MNO	**Monte Soro**	**1.46**	**283**	Pg	**Pb**	**15 07 06.4**	**0.0**
	121nm,0.2s						
HVZN	**Vizzini**	**1.48**	**253**	Pg	**Pn**	**15 07 04.9**	**+0.2**
HVZN				Sg	**Sn**	**15 07 23.1**	**0.0**
	2µm,0.7s						
HVZN	**Vizzini**	**1.48**	**253**	Pg	**Pn**	**15 07 04.9**	**+0.2**
HVZN				Sg	**Sn**	**15 07 23.1**	**0.0**
	2µm,0.7s						
HMDC	**Modica**	**1.51**	**245** ⇑	*i*Pg	**Pn**	**15 07 05.3**	**+0.2**
HMDC				Sg	**Sn**	**15 07 24.0**	**+0.1**
	1µm,0.3s						
HMDC	**Modica**	**1.51**	**245** ⇑	*i*Pg	**Pn**	**15 07 05.3**	**+0.2**
HMDC				Sg	**Sn**	**15 07 24.0**	**+0.1**
	1µm,0.3s						
GALF	**Gagliano Caste**	**1.53**	**274**	Pg	**Pb**	**15 07 06.9**	**-0.6**
	297nm,0.4s						
GALF	**Gagliano Caste**	**1.53**	**274**	Pg	**Pb**	**15 07 06.9**	**-0.6**
	297nm,0.4s						
TIP	**Timpagrande**	**1.57**	**8**	Pg	**Pn**	**15 07 06.5**	**+0.5**
	52nm,0.4s						
TIP	**Timpagrande**	**1.57**	**8**	Pg	**Pn**	**15 07 06.5**	**+0.5**
	52nm,0.4s						
CARO	**Carolei**	**1.65**	**353**	Pg	**Pn**	**15 07 08.0**	**+1.0**
CARO	**Carolei**	**1.65**	**353**	Pg	**Pn**	**15 07 08.0**	**+1.0**
RAFF	**Raffo Rosso**	**1.74**	**257** ⇑	*i*Pg	**Pn**	**15 07 09.1**	**+0.9**
RAFF				Sg	**Sb**	**15 07 31.2**	**-1.3**
	285nm,0.3s						
RAFF	**Raffo Rosso**	**1.74**	**257** ⇑	*i*Pg	**Pn**	**15 07 09.1**	**+0.9**
RAFF				Sg	**Sb**	**15 07 31.2**	**-1.3**
	285nm,0.3s						
IFIL	**Filicudi I Eol**	**1.79**	**302**	Pg	**Pn**	**15 07 09.5**	**+0.7**
	241nm,0.3s						
IFIL	**Filicudi I Eol**	**1.79**	**302**	Pg	**Pn**	**15 07 09.5**	**+0.7**
	241nm,0.3s						
PIPA	**Pietrapaola**	**1.88**	**8**	Pg	**Pn**	**15 07 11.1**	**+0.9**
	291nm,0.2s						
PIPA	**Pietrapaola**	**1.88**	**8**	Pg	**Pn**	**15 07 11.1**	**+0.9**
	291nm,0.2s						
IACL	**Alicudi**	**1.91**	**299**	Pg	**Pn**	**15 07 11.5**	**+0.9**
IACL	**Alicudi**	**1.91**	**299**	Pg	**Pn**	**15 07 11.5**	**+0.9**
WDD	**Wield Dalam**	**2.36**	**223**	Pg	**Pn**	**15 07 18.6**	**+1.9**
WDD	**Wield Dalam**	**2.36**	**223**	Pg	**Pn**	**15 07 18.6**	**+1.9**
SIRI	**Monte Sirino -**	**2.60**	**349**	Pg	**Pn**	**15 07 20.2**	**0.0**
SIRI	**Monte Sirino -**	**2.60**	**349**	Pg	**Pn**	**15 07 20.2**	**0.0**
CRAC	**Craco**	**2.74**	**359**	Pg	**Pn**	**15 07 23.2**	**+1.2**
CRAC	**Craco**	**2.74**	**359**	Pg	**Pn**	**15 07 23.2**	**+1.2**
CMPR	**Campora**	**2.85**	**341**	Pg	**Pn**	**15 07 24.1**	**+0.6**
CMPR	**Campora**	**2.85**	**341**	Pg	**Pn**	**15 07 24.1**	**+0.6**
SCTE	**Santa Cesarea**	**2.90**	**32**	Pg	**Pn**	**15 07 22.8**	**-1.3**
	72nm,0.2s						
SCTE	**Santa Cesarea**	**2.90**	**32**	*e*P	**Pn**	**15 07 22.7**	**-1.3**
SCTE	**Santa Cesarea**	**2.90**	**32**	Pg	**Pn**	**15 07 22.8**	**-1.3**
	72nm,0.2s						
MATE	**Matera**	**3.03**	**3**	Pg	**Pn**	**15 07 25.3**	**-0.6**
MATE	**Matera**	**3.03**	**3**	Pg	**Pn**	**15 07 25.3**	**-0.6**
NOCI	**Noci**	**3.20**	**8**	Pg	**Pn**	**15 07 27.0**	**-1.2**
	107nm,0.4s						
NOCI	**Noci**	**3.20**	**8**	Pg	**Pn**	**15 07 27.0**	**-1.2**
	107nm,0.4s						
SG1	**Sgolgore (BA)**	**3.22**	**3**	*e*Pn	**Pn**	**15 07 26.6**	**-2.0**
SG1				*e*Sn	Sn	15 08 01.8	-4.2
AMUR	**Altamura**	**3.28**	**2**	Pg	**Pn**	**15 07 28.8**	**-0.7**
	89nm,0.4s						
AMUR	**Altamura**	**3.28**	**2**	Pg	**Pn**	**15 07 28.8**	**-0.7**
	89nm,0.4s						
VLS	**Valsamata**	**3.29**	**79**	*e*P	**Pn**	**15 07 28.6**	**-0.9**
KEK	**Kerkira**	**3.33**	**50**	Pg	**Pn**	**15 07 28.5**	**-1.5**
	65nm,0.5s						
KEK	**Kerkira**	**3.33**	**50**	Pg	**Pn**	**15 07 28.5**	**-1.5**
	65nm,0.5s						
MRVN	**Minervino Murg**	**3.44**	**356**	Pg	**Pn**	**15 07 31.2**	**-0.5**
	30nm,0.3s						
MRVN	**Minervino Murg**	**3.44**	**356**	Pg	**Pn**	**15 07 31.2**	**-0.5**
	30nm,0.3s						
CDT	**Castel del Mon**	**3.46**	**357**	*e*Pn	**Pn**	**15 07 31.8**	**-0.1**
CDT				*e*Sn	**Sn**	**15 08 10.0**	**-2.0**
LKD2	**Lefkada island**	**3.48**	**69**	*e*P	**Pn**	**15 07 31.9**	**-0.3**
BAI	**Bari**	**3.50**	**5**	*e*Pn	**Pn**	**15 07 31.8**	**-0.5**
BAI				*e*Sn	**Sn**	**15 08 08.7**	**-4.0**
JAN	**Janina**	**3.98**	**58**	*e*P	**Pn**	**15 07 38.6**	**-0.4**
MS1	**Monte Sant'Ang**	**4.10**	**354**	*e*Pn	**Pn**	**15 07 39.6**	**-1.1**
MSAG	**Monte S. Angel**	**4.11**	**354**	Pg	**Pn**	**15 07 40.4**	**-0.5**
	42nm,0.4s						
MSAG	**Monte S. Angel**	**4.11**	**354**	Pg	**Pn**	**15 07 40.4**	**-0.5**
	42nm,0.4s						
SGRT	**San Giovanni R**	**4.17**	**352**	Pg	**Pn**	**15 07 41.0**	**-0.7**
	22nm,0.3s						
SGRT	**San Giovanni R**	**4.17**	**352**	Pg	**Pn**	**15 07 41.0**	**-0.7**
	22nm,0.3s						
PYL	**PYLOS**	**4.25**	**98**	*e*P	**Pn**	**15 07 42.8**	**0.0**
EFP	**Efpalio**	**4.35**	**78**	*e*P	**Pn**	**15 07 45.4**	**+1.3**
ITM	**Ithomi**	**4.35**	**94**	*e*P	**Pn**	**15 07 44.4**	**+0.3**
EVR	**Evrytania**	**4.38**	**71**	*e*P	**Pn**	**15 07 46.2**	**+1.6**
GUR	**Goura**	**4.65**	**84**	*e*P	**Pn**	**15 07 50.9**	**+2.6**
THL	**Klokotos Trika**	**4.74**	**64**	*e*P	**Pn**	**15 07 49.9**	**+0.4**
LTK	**Loutraki**	**5.14**	**84**	*e*P	**Pn**	**15 07 55.9**	**+0.9**
VLI	**Veliai**	**5.23**	**98**	*e*P	**Pn**	**15 07 57.7**	**+1.5**
LKR	**Lokris**	**5.24**	**77**	*e*P	**Pn**	**15 07 57.1**	**+0.9**
LIT	**Litokhoron**	**5.30**	**60**	*e*P	**Pn**	**15 07 56.6**	**-0.5**
STON	**Ston**	**5.33**	**10**	*e*Pn	**Pn**	**15 07 55.7**	**-1.8**
STON				Sn	Sn	15 08 49.4	-8.5
STON	**Ston**	**5.33**	**10**	*e*Pn	**Pn**	**15 07 55.7**	**-1.8**
DID	**Didima**	**5.36**	**89**	*e*P	**Pn**	**15 07 58.0**	**0.0**
KYTH	**Kithira**	**5.41**	**102**	*e*P	**Pn**	**15 08 00.1**	**+1.4**
NAIG	**Nisos Aigina**	**5.55**	**86**	*e*P	**Pn**	**15 08 02.6**	**+2.0**
KEST	**Kesra**	**6.04**	**254**	P	**Pn**	**15 08 09.0**	**+1.6**
	0.3nm,0.3s,baz=30,slow=4.6,SNR=6.2						
KEST				S	**Sn**	**15 09 14.6**	**-1.1**
	0.1nm,0.3s,baz=341,slow=18,SNR=2.7						
PLG	**Polygyros**	**6.08**	**61**	*e*P	**Pn**	**15 08 06.8**	**-1.0**
LIA	**Limnos Island**	**7.16**	**69**	*e*P	**Pn**	**15 08 22.0**	**-0.7**
AKASG	**Malin Array Be**	**15.92**	**31**	P	**P**	**15 10 24.5**	**-0.7**
	0.9nm,0.3s,baz=223,slow=11,SNR=7.9						
FINES	**FINESS Array B**	**24.59**	**11**	P	**P**	**15 11 57.0**	**-0.3**
	1.7nm,0.9s,baz=189,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**48.30**	**57**	P	**P**	**15 15 19.2**	**+0.7**
	0.1nm,0.4s,baz=294,slow=5.8,SNR=3.3						

*ISCJB **27** 15:07:54.2±0.5, 39.16N±0.07×15.7E±0.1, h253km±4km, mb3.5/6, Error ellipse: s-maj=17.7km s-min=11.7km az=7.5*
*ROM **27** 15:07:54.7±0.3, 39.12N×15.61E, h247km±4km, Ml3.2/6, Error ellipse: s-maj=8.7km s-min=3.9km az=102.0*
*CSEM **27** 15:07:54.7, 39.12N×15.61E, h247km, After ROM*
*IDC **27** 15:08:00.4±4.2, 39.53N×15.70E, h287km±51km, mb3.1/6, mb1 3.2/9, mb1mx2.9/31, mbtmp3.1/9, Error ellipse: s-maj=33.7km s-min=21.5km az=28.0*

ISC 27 15:07:54.8±0.8, 39.12N±0.07×15.68E±0.10, h248km±6km, n39, σ0$98/48, mb3.8/6, 18D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CARO	**Carolei**	**0.44**	**72** ⇓	*i*Pg	**Pn**	**15 08 27.6**	**+0.3**
CARO				Sg	**S**	**15 08 51.4**	**-1.5**
CARO	**Carolei**	**0.44**	**72** ⇓	*i*Pg	**Pn**	**15 08 27.6**	**+0.3**
CARO				Sg	**S**	**15 08 51.4**	**-1.5**
JOPP	**Joppolo**	**0.53**	**163** ⇓	*i*Pg	**Pn**	**15 08 27.9**	**+0.2**
JOPP				Sg	**S**	**15 08 52.4**	**-1.1**
JOPP	**Joppolo**	**0.53**	**163** ⇓	*i*Pg	**Pn**	**15 08 27.9**	**+0.2**
JOPP				Sg	**S**	**15 08 52.4**	**-1.1**
SERS	**Sersale**	**0.79**	**96** ⇓	*i*Pg	**Pn**	**15 08 29.5**	**+0.8**
SERS				Sg	**S**	**15 08 55.1**	**-0.2**
	70nm,0.6s						
SERS	**Sersale**	**0.79**	**96** ⇓	*i*Pg	**Pn**	**15 08 29.5**	**+0.8**
SERS				Sg	**S**	**15 08 55.1**	**-0.2**
	70nm,0.6s						
MSRU	**Castanea**	**0.86**	**189** ⇓	*i*Pg	**Pn**	**15 08 29.0**	**0.0**
MSRU				Sg	**S**	**15 08 54.8**	**-1.0**
MSRU	**Castanea**	**0.86**	**189** ⇓	*i*Pg	**Pn**	**15 08 29.0**	**0.0**
MSRU				Sg	**S**	**15 08 54.8**	**-1.0**
CUC	**Castrocucco**	**0.88**	**7**	Pg	**Pn**	**15 08 29.2**	**+0.2**
	56nm,0.8s						
CUC	**Castrocucco**	**0.88**	**7**	Pg	**Pn**	**15 08 29.2**	**+0.2**
	56nm,0.8s						
PLAC	**Placanica**	**0.89**	**138** ⇓	*i*Pg	**Pn**	**15 08 29.9**	**+0.8**
	90nm,0.5s						
PLAC	**Placanica**	**0.89**	**138** ⇓	*i*Pg	**Pn**	**15 08 29.9**	**+0.8**
	90nm,0.5s						
MILZ	**Milazzo**	**0.92**	**203** ⇓	*i*Pg	**Pn**	**15 08 29.4**	**+0.2**
MILZ	**Milazzo**	**0.92**	**203** ⇓	*i*Pg	**Pn**	**15 08 29.4**	**+0.2**
VPL	**Vulcano Piano**	**0.92**	**217**	Pg	**Pn**	**15 08 30.1**	**+0.8**
VPL	**Vulcano Piano**	**0.92**	**217**	Pg	**Pn**	**15 08 30.1**	**+0.8**
BULG	**Bulgheria - Ca**	**0.99**	**346**	Pg	**Pn**	**15 08 30.2**	**+0.6**
BULG	**Bulgheria - Ca**	**0.99**	**346**	Pg	**Pn**	**15 08 30.2**	**+0.6**
MTTG	**Motta San Giov**	**1.11**	**180** ⇓	*i*Pg	**Pn**	**15 08 31.0**	**+0.6**
MTTG	**Motta San Giov**	**1.11**	**180** ⇓	*i*Pg	**Pn**	**15 08 31.0**	**+0.6**
MPAZ	**Palizzi**	**1.19**	**168** ⇓	*i*Pg	**Pn**	**15 08 31.5**	**+0.6**
	228nm,0.3s						
MPAZ	**Palizzi**	**1.19**	**168** ⇓	*i*Pg	**Pn**	**15 08 31.5**	**+0.6**
	228nm,0.3s						
MCEL	**Monticello**	**1.21**	**4**	Pg	**Pn**	**15 08 32.1**	**+1.2**
	90nm,0.7s						
MCEL	**Monticello**	**1.21**	**4**	Pg	**Pn**	**15 08 32.1**	**+1.2**
	90nm,0.7s						
MMME	**Mongiuffi-Meli**	**1.23**	**196**	Pg	**Pn**	**15 08 31.8**	**+0.6**
	232nm,0.6s						
MMME	**Mongiuffi-Meli**	**1.23**	**196**	Pg	**Pn**	**15 08 31.8**	**+0.6**
	232nm,0.6s						
CRAC	**Craco**	**1.38**	**25** ⇓	*i*Pg	**Pn**	**15 08 32.6**	**+0.6**
CRAC				Sg	**S**	**15 09 02.1**	**+0.8**
CRAC	**Craco**	**1.38**	**25** ⇓	*i*Pg	**Pn**	**15 08 32.6**	**+0.6**
CRAC				Sg	**S**	**15 09 02.1**	**+0.8**
CDRU	**Civita di Ruta**	**1.40**	**348**	Pg	**Pn**	**15 08 32.7**	**+0.4**
CDRU	**Civita di Ruta**	**1.40**	**348**	Pg	**Pn**	**15 08 32.7**	**+0.4**
BRTR	**Keskin Array B**	**13.90**	**82**	P	P	15 11 06.5	+3.9
	0.1nm,0.3s,baz=256,slow=8.6,SNR=7.5						
ESDC	**Sonseca Array**	**15.20**	**278**	P	**Pn**	**15 11 20.8**	**+3.3**
	0.6nm,0.3s,baz=77,slow=11,SNR=7.8						
MMAI	**Mount Meron Ar**	**17.05**	**105**	P	**Pn**	**15 11 40.8**	**+1.5**
	0.7nm,0.3s,baz=301,slow=12,SNR=4.2						
HFS	**Hagfors**	**21.08**	**357**	P	**P**	**15 12 18.1**	**-1.8**
	1.6nm,0.5s,baz=180,slow=10,SNR=11						
FINES	**FINESS Array B**	**23.26**	**13**	P	**P**	**15 12 38.8**	**-1.1**
	1.7nm,0.5s,baz=194,slow=7.9,SNR=12						
ARCES	**ARCESS Array B**	**30.93**	**7**	P	**P**	**15 13 46.9**	**-1.3**
	3.1nm,0.9s,baz=186,slow=8.2,SNR=3.6						
SPITS	**Spitsbergen Ar**	**39.17**	**0**	P	**P**	**15 14 57.7**	**-0.5**
	4.6nm,0.9s,baz=153,slow=12,SNR=6.6						
MKAR	**Makanchi Array**	**48.03**	**58**	P	**P**	**15 16 09.7**	**+0.7**
	0.1nm,0.3s,baz=264,slow=6.7,SNR=3.3						
YKA	**Yellowknife Ar**	**71.16**	**338**	P	**P**	**15 18 45.1**	**-0.9**
	0.3nm,0.5s,baz=37,slow=5.6,SNR=6.0						

IDC 27 15:20:58.8±2.4, 5.00N×123.61E, h555km±30km, mb2.8/7, mb1 3.0/7, mb1mx2.7/25, mbtmp2.8/7, Error ellipse: s-maj=63.0km s-min=12.9km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.94**	**157**	P	P	15 25 55.9	-0.7
	2.5nm,0.4s,baz=337,slow=9.6,SNR=47						
WRA				S	S	15 29 52.8	-2.3
	0.4nm,0.8s,baz=333,slow=15,SNR=4.1						
ASAR	**Alice Springs**	**30.21**	**161**	P	P	15 26 24.9	-0.1
	1.3nm,0.4s,baz=338,slow=7.4,SNR=85						
ASAR				S	S	15 30 43.6	-2.3
	0.6nm,0.9s,baz=355,slow=19,SNR=4.9						
ASAR				ScP	ScP	15 31 58.4	-0.2
	0.3nm,0.8s,baz=343,slow=2.4,SNR=4.7						
STKA	**Stephens Creek**	**40.48**	**156**	P	P	15 27 50.7	+0.8
	1.0nm,0.6s,baz=320,slow=9.9,SNR=3.7						
SONM	**Songino Array**	**45.12**	**344**	P	P	15 28 26.9	+0.5
	0.1nm,0.5s,baz=146,slow=8.0,SNR=4.1						
MKAR	**Makanchi Array**	**54.76**	**326**	P	P	15 29 36.7	+0.1
	0.2nm,0.5s,baz=130,slow=8.6,SNR=5.3						
MKAR				PcP	PcP	15 30 29.7	-0.9
	0.6nm,0.8s,baz=118,slow=4.5,SNR=6.2						
KURBB	**Kurchatov Arra**	**59.01**	**328**	P	P	15 30 05.2	-0.3
	0.6nm,0.8s,baz=122,slow=7.0,SNR=9.1						
ILAR	**Eielson Array**	**85.30**	**25**	P	P	15 32 36.8	-0.3
	0.2nm,0.7s,baz=269,slow=5.3,SNR=4.0						

*CSEM **27** 15:36:34.7, 41.58N×14.30E, h7km, MD1.8/4, After ROM*
ROM 27 15:36:34.7±0.5, 41.58N×14.30E, h7km±7km, Md1.8/4, Ml1.3/4, Error ellipse: s-maj=4.5km s-min=2.2km az=70.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIDA	**Miranda**	**0.07**	**331**	Pg	Pg	15 36 36.5	-0.2
MIDA				Sg	Sg	15 36 38.8	+0.6
	188nm,1.2s						
MIDA	**Miranda**	**0.07**	**331**	Pg	Pg	15 36 36.5	-0.2
				Sg	Sg	15 36 38.8	+0.6
	188nm,1.2s						
RNI2	**Rionero Sannit**	**0.17**	**318**	Pg	Pg	15 36 38.5	+0.2
RNI2	**Rionero Sannit**	**0.17**	**318**	Pg	Pg	15 36 38.5	+0.2
VAGA	**Valle Agricola**	**0.17**	**197**	Pg	Pg	15 36 38.2	-0.1
VAGA				Sg	Sg	15 36 41.6	+0.9
	112nm,0.3s						
VAGA	**Valle Agricola**	**0.17**	**197**	Pg	Pg	15 36 38.2	-0.1
VAGA				Sg	Sg	15 36 41.6	+0.9
	112nm,0.3s						
SGG	**Gregorio Mates**	**0.20**	**163**	Pg	Pg	15 36 39.8	+0.9
SGG				Sg	Sg	15 36 43.1	+1.4
	89nm,1.1s						
SGG	**Gregorio Mates**	**0.20**	**163**	Pg	Pg	15 36 39.8	+0.9
SGG				Sg	Sg	15 36 43.1	+1.4
	89nm,1.1s						
CERA	**Filignano**	**0.21**	**275**	Pg	Pg	15 36 40.4	+1.3
CERA				Sg	Sg	15 36 43.2	+1.1
	65nm,0.7s						
CERA	**Filignano**	**0.21**	**275**	Pg	Pg	15 36 40.4	+1.3
CERA				Sg	Sg	15 36 43.2	+1.1
	65nm,0.7s						

*CSEM **27** 15:52:57.4, 40.64N×26.52E, h13km, MD2.2, After ISK*
ISK 27 15:52:57.4, 40.64N×26.52E, h13km, MD2.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERIK	**Erikli-Kesan**	**0.03**	**348**	*e*Pg	Pg	15 52 59.8	0.0
ERIK				*e*Sg	Sg	15 53 01.8	+0.4
ERIK	**Erikli-Kesan**	**0.03**	**348**	*e*Pg	Pg	15 52 59.8	+0.1
ERIK				*e*Sg	Sg	15 53 01.8	+0.4
GELI	**Tayfur-Gelibol**	**0.25**	**188**	*e*PG	Pg	15 53 02.9	+0.3
GELI				*e*SG	Sb	15 53 07.3	-0.7
GELI	**Tayfur-Gelibol**	**0.25**	**188**	*e*Pg	Pg	15 53 02.9	+0.3
GELI				*e*Sg	Sb	15 53 07.3	-0.6
ENEZ	**Enez**	**0.29**	**289**	*e*PG	Pg	15 53 03.7	+0.2
ENEZ				*e*SG	Sb	15 53 08.8	-0.6
ENEZ	**Enez**	**0.29**	**289**	*e*Pg	Pg	15 53 03.7	+0.2
ENEZ				*e*Sg	Sb	15 53 08.8	-0.6
RKY	**Sarkoy-Tekirda**	**0.50**	**85**	*e*PG	Pg	15 53 07.6	+0.2
RKY	**Sarkoy-Tekirda**	**0.50**	**85**	*e*Pg	Pg	15 53 07.6	+0.2
MFT	**Murefte**	**0.60**	**76**	*e*PG	Pb	15 53 10.2	+0.4
MFT	**Murefte**	**0.60**	**76**	*e*Pg	Pb	15 53 10.2	+0.4
KRBG	**Karabiga-Canak**	**0.64**	**113**	*e*PG	Pb	15 53 10.5	0.0
KRBG	**Karabiga-Canak**	**0.64**	**113**	*e*Pg	Pb	15 53 10.5	0.0

*IDC **27** 15:53:29.2±0.4, 3.59N×126.60E, h0km, mb4.5/29, mb1 4.5/29, mb1mx4.5/32, mbtmp4.5/29, MS3.9/23, Ms1 3.9/23, ms1mx3.7/44, Error ellipse: s-maj=19.4km s-min=8.5km az=78.0*
*MOS **27** 15:53:32.3±1.1, 3.75N×126.74E, h35km, mb5.0/23, MS4.1/5, Error ellipse: s-maj=15.2km s-min=6.8km az=113.5*
*NEIC **27** 15:53:34.0±0.4, 3.69N×126.78E, h35km, mb5.0/24, Error ellipse: s-maj=10.3km s-min=7.1km az=74.0*
*DJA **27** 15:53:36, 3.71N×126.94E, h10km, mb4.9/17*
*ISCJB **27** 15:53:36.3±0.4, 3.72N±0.02×126.74E±0.03, h73km±3km, mb4.6/85, Error ellipse: s-maj=6.0km s-min=3.4km az=159.2*
*BJI **27** 15:53:39.4, 3.94N×126.51E, h82km, mB4.9/30, mb4.7/39, Ms4.4/29, Ms7 4.1/29*

ISC 27 15:53:38.9±0.4, 3.71N±0.03×126.68E±0.05, h81km±3km, n219, σ1$73/262, mb4.7/83, 6C-4D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**2.91**	**219**	P	**Pn**	**15 54 21.7**	**-1.3**
MNI				S	**Sn**	**15 54 57.2**	**+0.2**
GSPH	**General Santos**	**2.92**	**324**	*e*P	**Pn**	**15 54 20.7**	**-2.7**
TNTI	**Ternate**	**3.00**	**167**	P	**Pn**	**15 54 21.6**	**-2.7**
TNTI				S	**Sn**	**15 54 55.0**	**-4.2**
MATI	**Mati**	**3.24**	**353**	*e*P	**Pn**	**15 54 26.2**	**-1.4**
DAV	**Davao City (W)**	**3.51**	**342**	*e*Pn	**Pn**	**15 54 30.7**	**-0.6**
DAV				Pn	Pn	15 54 31.2	-0.1
DAV	**Davao City (W)**	**3.51**	**342**	Pn	**Pn**	**15 54 31.2**	**-0.1**
	60nm,0.3s,baz=218,slow=3.8,SNR=4.6						
DAV				Sn	**Sn**	**15 55 12.4**	**+0.6**
	66nm,0.3s,baz=118,slow=23,SNR=6.1						
DMPH	**Davao City--Mi**	**3.55**	**341**	*e*P	**Pn**	**15 54 30.7**	**-1.1**
KMSI	**Cibinong**	**4.12**	**221**	P	Pn	15 54 42.0	+2.5
CTBH	**Cotabato--PC H**	**4.25**	**325** ⇑	*e*P	**Pn**	**15 54 40.1**	**-1.2**
LBMI	**Labuha**	**4.39**	**169**	P	**Pn**	**15 54 41.6**	**-1.7**
LBMI				S	**Sn**	**15 55 33.4**	**+0.1**
CGP	**Cagayan de Oro**	**5.11**	**337** ⇓	*e*P	**Pn**	**15 54 53.8**	**+0.7**
PAGZ	**Pagadian**	**5.26**	**322**	*e*P	**Pn**	**15 54 54.5**	**-0.5**
BUTP	**Butuan**	**5.33**	**349**	*e*P	**Pn**	**15 54 55.7**	**-0.3**
MRSI	**Marisa**	**5.72**	**236**	P	**Pn**	**15 55 01.3**	**-0.1**
	274nm,0.6s,3µm1.0nm						
IPIL

PSI LR LR 16 12 22.6
comp=Z,283nm,18.5s,baz=66,slow=41
ASAR Alice Springs 28.11 166 P **P** **15 59 23.5 +0.2**
ASAR PcP **PcP** **16 02 38.1 +2.2**
ASAR S **S** **16 04 03.6 +1.0**
ASAR Alice Springs 28.11 166 P **P** **15 59 23.5 +0.2**
comp=Z,1.8nm,0.5s,baz=352,slow=7.7,SNR=75
ASAR PcP **PcP** **16 02 38.1 +2.2**
comp=Z,1.0nm,0.5s,baz=345,slow=2.0,SNR=6.5
ASAR S **S** **16 04 03.6 +1.0**
comp=Z,0.6nm,0.8s,baz=179,slow=32,SNR=2.6
JNU Nakatsue 29.52 7 P **P** **15 59 36.5 +0.7**
JNU Nakatsue 29.52 7 P **P** **15 59 36.5 +0.7**
comp=Z,3.2nm,0.5s
GYA Guiyang 29.65 322 P **P** **15 59 36.8 -0.3**
GYA pP **pP** **15 59 58.3 +2.4**
GYA PP **PnPn** **16 00 36.8 +1.0**
GYA S **S** **16 04 25.5 -1.7**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,540nm,17.8s
GYA LR LR
comp=E,500nm,18.0s
GYA LR LR
comp=Z,550nm,18.4s
CMAR Chiang Mai Arr 30.84 300 P **P** **15 59 48.6 +1.0**
CMAR Chiang Mai Arr 30.84 300 P **P** **15 59 48.6 +1.0**
comp=Z,1.9nm,0.7s,baz=121,slow=7.3,SNR=18
CMAR LR LR 16 14 01.6
comp=Z,157nm,18.5s,baz=338,slow=40
KMI Kunming 31.36 315 P **P** **15 59 51.3 -1.0**
KMI pP **pP** **16 00 11.5 +0.3**
KMI PP **PnPn** **16 00 59.5 +1.5**
KMI S **S** **16 04 53.0 -1.1**
KMI pmax pmax
comp=Z,9.0nm,1.1s
KMI pmax pmax
comp=Z,84nm,7.2s
KMI LR LR
comp=N,83nm,27.1s
KMI LR LR
comp=E,260nm,26.4s
KMI LR LR
comp=Z,340nm,26.4s
KSAR Wonju Array Be 33.59 2 P **P** **16 00 12.7 +1.3**
KSRS Korea Array 33.60 2 P **P** **16 00 12.7 +1.2**
comp=Z,4.4nm,0.5s,baz=176,slow=9.8,SNR=42
MJAR Matsushiro Arr 34.36 17 P **P** **16 00 18.4 +0.3**
MJAR Matsushiro Arr 34.36 17 P **P** **16 00 18.4 +0.3**
comp=Z,1.0nm,0.8s,baz=188,slow=12,SNR=5.4
MJAR LR LR 16 12 20.0
comp=Z,204nm,21.3s,baz=200,slow=33
XAN Xi'an 34.41 333 P **P** **16 00 17.8 -0.8**
XAN pP **pP** **16 00 40.0 +2.3**
XAN sP sP 16 00 51.8 +4.7
XAN PP **PP** **16 01 37.0 -1.1**
XAN S **S** **16 05 39.0 -1.9**
XAN pmax pmax
comp=Z,3.0nm,0.7s
XAN pmax pmax
comp=Z,16nm,5.0s
XAN LR LR
comp=N,160nm,15.7s
XAN LR LR
comp=E,77nm,17.3s
XAN LR LR
comp=Z,75nm,18.8s
CD2 Chengdu 34.63 324 P **P** **16 00 20.3 -0.3**
CD2 pP **pP** **16 00 42.0 +2.4**
CD2 sP sP 16 00 53.3 +4.3
CD2 PP **PP** **16 01 40.8 +0.2**
CD2 PcP **PcP** **16 02 51.5 -1.9**
CD2 S **S** **16 05 43.8 -0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,120nm,5.2s
CD2 LR LR
comp=E,520nm,20.1s
CD2 LR LR
comp=Z,350nm,21.5s
EIDS Eidsvold 37.37 142 *e*P **P** **16 00 43.6 -0.3**
BJI Beijing 37.40 347 P **P** **16 00 45.8 +1.8**
BJI S S 16 06 32.5 +6.3
BJI pmax pmax
comp=Z,76nm,0.6s
BJI LR LR
comp=N,160nm,13.8s
BJI LR LR
comp=E,190nm,18.9s
BJI LR LR
comp=Z,100nm,24.0s
NWAO Narrogin (SRO) 37.52 193 P **P** **16 00 44.6 -0.5**
NWAO Narrogin (SRO) 37.52 193 P **P** **16 00 44.6 -0.5**
comp=Z,5.3nm,0.8s,baz=284,slow=12,SNR=7.0
STKA Stephens Creek 38.13 159 P **P** **16 00 51.0 +0.8**
STKA PcP **PcP** **16 03 06.1 +2.3**
STKA Stephens Creek 38.13 159 *e*P **P** **16 00 50.9 +0.6**
STKA Stephens Creek 38.13 159 P **P** **16 00 51.0 +0.8**
comp=Z,22nm,0.7s,baz=335,slow=8.6,SNR=72
STKA PcP **PcP** **16 03 06.1 +2.3**
comp=Z,2.2nm,0.6s,baz=330,slow=5.9,SNR=3.3
LZH Lanzhou 38.50 330 *e*P **P** **16 00 53.3 -0.2**
LZH pP **pP** **16 01 13.0 +0.2**
LZH sP **sP** **16 01 20.0 -2.1**
LZH PP **PnPn** **16 02 28.5 +2.7**
LZH pmax pmax
comp=Z,16nm,1.0s
LZH pmax pmax
comp=Z,78nm,7.6s
LZH LR LR
comp=N,410nm,15.5s
LZH LR LR
comp=E,500nm,16.3s
LZH LR LR
comp=Z,550nm,17.2s
HHC Hu-ho-hao-te 39.40 342 *e*P **P** **16 00 59.5 -1.5**
HHC pP **pP** **16 01 22.0 +1.7**
HHC sP sP 16 01 34.0 +4.4
HHC PP **PnPn** **16 02 35.8 -0.7**
HHC S **S** **16 06 54.0 -2.8**
HHC sS sS 16 07 34.3 +4.4
HHC SS **SS** **16 09 47.5 -6.4**
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,120nm,6.2s
HHC LR LR
comp=N,200nm,15.5s
HHC LR LR
comp=E,230nm,15.5s
HHC LR LR
comp=Z,210nm,15.5s
CN2 Changchun 39.94 359 *e*P **P** **16 01 02.8 -2.4**
CN2 PcP **PcP** **16 03 06.5 -2.7**
CN2 *e*S **S** **16 07 02.5 -2.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,200nm,21.0s
CN2 LR LR
comp=E,200nm,21.0s
CN2 LR LR
comp=Z,200nm,20.0s
USRK Ussuriysk Arra 40.60 6 P **P** **16 01 11.9 +1.3**
comp=Z,4.0nm,0.5s,baz=188,slow=8.0,SNR=21
MDJ Mudanjiang 40.82 3 P **P** **16 01 14.5 +2.0**
MDJ pP **pP** **16 01 34.8 +2.9**
MDJ PP **PnPn** **16 02 52.0 -0.9**
MDJ S S 16 07 11.8 -5.8
MDJ pmax pmax
comp=Z,11nm,1.0s
MDJ pmax pmax
comp=Z,85nm,5.8s
MDJ LR LR
comp=N,57nm,25.2s
MDJ LR LR
comp=E,70nm,28.2s
MDJ LR LR
comp=Z,92nm,23.7s
ARMA Armidale 41.48 147 *e*P **P** **16 01 15.9 -2.3**
comp=Z,14nm,0.7s

ARMA Armidale 41.48 147 *e*P **P** **16 01 19.8 +1.6**
LSA Lhasa 42.41 311 P **P** **16 01 27.0 +0.7**
ASAJ Asahikawa 42.63 17 *e*P **P** **16 01 26.6 -0.7**
ASAJ P **P** **16 01 29.0 +1.8**
ASAJ Asahikawa 42.63 17 P **P** **16 01 29.0 +1.8**
comp=Z,3.4nm,0.5s,baz=117,slow=30,SNR=7.1
ARPS Mount Arapiles 42.68 162 *e*P **P** **16 01 29.8 +2.0**
GTA Gaotai 43.09 329 *e*P **P** **16 01 31.5 +0.3**
GTA pP **pP** **16 01 54.0 +3.2**
GTA S **S** **16 07 50.8 -0.7**
GTA SS SS 16 10 59.0 -7.9
GTA pmax pmax
comp=Z,3.0nm,0.9s
GTA pmax pmax
comp=Z,76nm,5.5s
GTA LR LR
comp=N,140nm,15.9s
GTA LR LR
comp=E,370nm,20.7s
GTA LR LR
comp=Z,410nm,20.7s
YUK Yuzh-Kuril'sk 43.59 20*c* *i*P **P** **16 01 32.5 -2.5**
YUK *e* 16 03 16.7
YUK *e*PPP PPP 16 03 58.9
YUK *e*S **S** **16 07 56.0 -2.3**
YUK *e*SS **ScS** **16 11 22.6 -4.0**
YUK pmax pmax
comp=Z,106nm,4.4s
YUK MLR MLR
comp=E,101nm,22.0s
YUK MLR MLR
comp=Z,455nm,22.0s
TAPN Taplejung 43.99 306 *e*P **P** **16 01 39.0 +0.1**
comp=Z,18nm,0.7s
TAPN Taplejung 43.99 306 *e*P **P** **16 01 39.0 +0.1**
comp=Z,18nm,0.7s
ODAN Odare 44.04 306 *e*P **P** **16 01 39.5 +0.3**
comp=Z,23nm,0.6s
ODAN Odare 44.04 306 *e*P **P** **16 01 39.5 +0.3**
comp=Z,23nm,0.6s
RAMN Ramite 44.72 305 *e*P **P** **16 01 45.1 +0.4**
comp=Z,20nm,0.5s
RAMN Ramite 44.72 305 *e*P **P** **16 01 45.1 +0.4**
comp=Z,20nm,0.5s
HABR Khabarovsk 45.17 8 *e*P **P** **16 01 45.0 -2.5**
HABR *e* 16 03 23.5
HABR *e* 16 03 33.5
HABR *e*PPP PPP 16 04 15.5
HABR *e*S **S** **16 08 20.0 -1.2**
HABR *e* 16 11 32.9
HABR *e*SSS SSS 16 12 41.4
HABR pmax pmax
comp=Z,92nm,2.8s
HABR pmax pmax
comp=N,44nm,2.8s
HABR pmax pmax
comp=E,74nm,2.8s
HABR MLR MLR
comp=Z,150nm,17.0s
JIRN Jiri 45.34 306 *e*P **P** **16 01 49.8 +0.1**
comp=Z,4.8nm,0.5s
JIRN Jiri 45.34 306 *e*P **P** **16 01 49.8 +0.1**
comp=Z,4.8nm,0.5s
KLR Kul'dur 45.56 5 *e*P **P** **16 01 48.2 -2.4**
GUN Gumba 45.70 306 *e*P **P** **16 01 52.3 -0.2**
comp=Z,21nm,0.4s
PKI Pulchoki 45.94 305 *e*P **P** **16 01 53.9 -0.5**
PKI Pulchoki 45.94 305 *e*P **P** **16 01 53.9 -0.5**
PKI Pulchoki 45.94 305 *e*P **P** **16 01 53.9 -0.5**
KKN Kakani 46.13 306 *e*P **P** **16 01 55.7 -0.1**
comp=Z,12nm,0.4s
DMN Daman 46.20 305 *e*P **P** **16 01 56.4 0.0**
DMN Daman 46.20 305 *e*P **P** **16 01 56.4 0.0**
DZM Mont Dzumac 46.56 125 *e*P **P** **16 02 00.7 +1.7**
comp=Z,9.1nm,0.7s
GKN Gorkha 46.74 306 *e*P **P** **16 02 00.0 -0.4**
comp=Z,14nm,0.6s
GKN Gorkha 46.74 306 *e*P **P** **16 02 00.0 -0.4**
comp=Z,14nm,0.6s
SONM Songino Array 47.30 341 P **P** **16 02 04.8 +0.4**
SONM PcP **PcP** **16 03 36.4 +2.1**
SONM Songino Array 47.30 341 P **P** **16 02 04.8 +0.4**
comp=Z,3.3nm,0.6s,baz=161,slow=7.8,SNR=34
SONM PcP **PcP** **16 03 36.4 +2.1**
comp=Z,1.0nm,0.6s,baz=172,slow=3.2,SNR=3.6
SONM LR LR 16 23 36.0
comp=Z,112nm,19.1s,baz=160,slow=38
KOLN Koldanda 47.49 305 *e*P **P** **16 02 06.3 -0.1**
comp=Z,45nm,0.5s
KOLN Koldanda 47.49 305 *e*P **P** **16 02 06.3 -0.1**
comp=Z,45nm,0.5s
DANN Dangsing 47.59 306 *e*P **P** **16 02 06.7 -0.5**
comp=Z,63nm,0.5s
DANN Dangsing 47.59 306 *e*P **P** **16 02 06.7 -0.5**
comp=Z,63nm,0.5s
PYUN Piuhan 48.12 305 *e*P **P** **16 02 10.5 -0.7**
comp=Z,33nm,0.5s
PYUN Piuthan 48.12 305 *e*P **P** **16 02 10.5 -0.7**
comp=Z,33nm,0.5s
ZAK Zakamensk 50.53 341 *e*P **P** **16 02 30.5 +1.5**
ZAK *e* 16 03 46.0
ZAK pmax pmax
comp=Z,2.0nm,1.6s
TLY Talaya 51.53 342 *e*P **P** **16 02 36.7 +0.2**
TLY *e*S **S** **16 09 55.7 +4.9**
TLY pmax pmax
comp=Z,3.0nm,0.7s
TLY MLR MLR
comp=Z,119nm,21.0s
WMQ Urumqi 52.71 325 *e*P **P** **16 02 45.3 -0.1**
WMQ pP **pP** **16 03 05.0 -0.6**
WMQ PcP **PcP** **16 03 54.0 -0.2**
WMQ *e*S **S** **16 10 05.0 -2.4**
WMQ ScS **ScS** **16 12 26.0 -1.7**
WMQ pmax pmax
comp=Z,7.0nm,1.5s
WMQ pmax pmax
comp=Z,170nm,5.1s
WMQ LR LR
comp=N,500nm,25.7s
WMQ LR LR
comp=E,340nm,26.4s
WMQ LR LR
comp=Z,400nm,23.4s
POO Poona 53.68 290 *ex* x 16 02 50.0
BOD Bodaibo 54.88 352 *e*P **P** **16 03 02.3 +1.5**
BOD pmax pmax
comp=Z,8.0nm,1.6s
MSVF Nonsavu 54.95 115 *e*P **P** **16 03 00.1 -2.0**
MSVF pmax pmax
comp=Z,6.0nm,0.8s
MSVF Nonsavu 54.95 115 *e*P **P** **16 03 00.1 -2.0**
comp=Z,6.4nm,0.8s
PETK Petropavlovsk- 55.47 22 P **P** **16 03 07.2 +2.0**
PETK Petropavlovsk- 55.47 22 P **P** **16 03 07.2 +2.0**
PETK Petropavlovsk- 55.47 22 P **P** **16 03 07.2 +2.0**
comp=Z,5.3nm,0.5s,baz=184,slow=4.7,SNR=40
PETK LR LR 16 26 08.9
comp=Z,54nm,18.2s,baz=106,slow=35
MK31 Makanchi Array 57.54 325 P **P** **16 03 20.4 +0.3**
MK31 pmax pmax
comp=Z,5.0nm,0.4s
MKAR Makanchi Array 57.54 325 *i* P **P** **16 03 20.5 +0.4**
MKAR pmax pmax
comp=Z,8.0nm,0.4s
MKAR Makanchi Array 57.54 325 P **P** **16 03 20.3 +0.2**
MKAR ScP ScP 16 08 15.3 +10
MKAR Makanchi Array 57.54 325 P **P** **16 03 20.3 +0.2**
comp=Z,8.0nm,0.5s,baz=121,slow=7.4,SNR=98
MKAR ScP ScP 16 08 15.3 +10
comp=Z,0.4nm,0.6s,baz=128,slow=3.7,SNR=4.4
MKAR LR LR 16 30 02.2
comp=Z,146nm,18.2s,baz=120,slow=38
KSH Kashi 58.02 315 P **P** **16 03 26.0 +2.3**
KSH pP pP 16 03 50.0 +5.8
KSH PcP **PcP** **16 04 14.8 -0.1**
KSH PP **PP** **16 05 37.5 +4.4**
KSH ScP **ScP** **16 08 05.0 -3.0**
KSH PcS **PcS** **16 08 14.8 -1.7**
KSH S **S** **16 11 19.0 +0.5**
KSH ScS **ScS** **16 13 01.5 -4.6**
KSH SS **SS** **16 15 13.5 +2.6**
KSH pmax pmax
comp=Z,12nm,1.2s
KSH pmax pmax
comp=Z,110nm,4.6s
KSH LR LR
comp=N,140nm,5.0s
KSH LR LR
comp=E,140nm,5.0s
KSH LR LR
comp=Z,230nm,5.3s
YAK Yakutsk 58.23 2 *e*P P 16 03 28.3 +3.8
YAK pmax pmax
comp=Z,12nm,1.1s
YAK pmax pmax
comp=N,5.0nm,1.1s
KZA Kyzart 59.60 318 P **P** **16 03 37.3 +2.4**
SNR=7.9
TKM2 Tokmak 2 59.73 319 *i* P **P** **16 03 36.9 +1.3**
TKM2 Tokmak 2 59.73 319 P **P** **16 03 37.0 +1.3**
SNR=8.8
KBK Karagaybulak 60.05 318 P **P** **16 03 39.8 +2.1**
SNR=5.8
AAK Ala-Archa 60.34 318 P **P** **16 03 40.1 +0.4**
AAK Ala-Archa 60.34 318 P **P** **16 03 40.1 +0.4**
AAK Ala-Archa 60.34 318 P **P** **16 03 40.1 +0.4**
comp=N,2.2nm,0.5s,baz=94,slow=5.8,SNR=14
ZALV Zalesovo Beam 60.58 333 P **P** **16 03 40.6 -0.3**
ZALV Zalesovo Beam 60.58 333 P **P** **16 03 40.6 -0.3**
ZALV Zalesovo Beam 60.58 333 P **P** **16 03 40.6 -0.3**
comp=N,2.1nm,0.4s,baz=133,slow=6.3,SNR=13
ZALV LR LR 16 33 46.7
comp=N,91nm,18.4s,baz=249,slow=40
USP Ospenovka 60.60 319 P P 16 03 38.1 -3.2
SNR=7.2
AML Almayashu 60.67 317 P **P** **16 03 44.4 +2.1**
SNR=7.8
EKS2 Erkin-Say 60.83 318 *e*P **P** **16 03 41.7 -1.3**
EKS2 pmax pmax
comp=Z,6.0nm,0.7s
EKS2 Erkin-Say 60.83 318 *e*P **P** **16 03 41.7 -1.3**
comp=Z,5.9nm,0.7s
EKS2 Erkin-Say 60.83 318 P **P** **16 03 45.2 +2.2**
SNR=6.2
KURBB Kurchatov Arra 61.73 327 P **P** **16 03 49.3 +0.6**
comp=Z,14nm,0.5s,baz=130,slow=6.2,SNR=101
KURBB LR LR 16 31 25.6
comp=Z,41nm,20.0s,baz=60,slow=37
KURK Kurchatov 61.73 328*c* *e*P **P** **16 03 49.5 +0.8**
KURK pmax pmax
comp=Z,19nm,0.6s
KURK Kurchatov 61.73 328 *e*P **P** **16 03 47.8 -0.9**
comp=Z,23nm,0.6s
KURK P **P** **16 03 49.3 +0.6**
RPZ Rata Peaks 61.77 145 *e*P **P** **16 03 47.2 -2.0**
comp=Z,9.8nm,0.7s
NVS Novosibirsk 61.87 333 *e*P **P** **16 03 46.8 -2.8**
NVS *e*S **S** **16 12 06.7 -0.2**
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,2.0nm,0.5s
NVS pmax pmax
comp=Z,3.0nm,0.5s
NVS smax smax
comp=N,4.0nm,1.8s
NVS smax smax
comp=E,8.0nm,1.8s
FX1 Attu Island--F 62.12 30 LR LR 16 27 50.5
comp=E,125nm,21.7s,baz=117,slow=33
KKAR Karatay Array 63.21 317 *e*P **P** **16 03 58.7 -0.2**
KKAR pmax pmax
comp=Z,4.0nm,0.6s
KKAR Karatay Array 63.21 317 *e*P **P** **16 03 58.6 -0.2**
comp=Z,3.6nm,0.6s
BVA0 Borovoye Array 67.31 327 *i* P **P** **16 04 25.5 +0.4**
BVA0 pmax pmax
comp=Z,2.0nm,1.1s
BVAR Borovoye Array 67.31 327 P **P** **16 04 26.0 +0.9**
BVAR Borovoye Array 67.31 327 P **P** **16 04 26.0 +0.9**
BVAR Borovoye Array 67.31 327 P **P** **16 04 26.0 +0.9**
comp=Z,5.4nm,0.8s,baz=140,slow=7.8,SNR=28
BVAR LR LR 16 35 30.6
comp=Z,78nm,18.8s,baz=115,slow=37
BRVK Borovoye 67.38 327 *e*P **P** **16 04 25.1 -0.4**
BRVK pmax pmax
comp=Z,14nm,0.9s
BRVK Borovoye 67.38 327 *e*P **P** **16 04 25.1 -0.4**
comp=Z,14nm,0.9s
BILL Bilibino 69.59 15 *e*P **P** **16 04 40.7 +1.7**
BILL pmax pmax
comp=Z,2.0nm,1.3s
BILL MLR MLR
comp=Z,200nm,18.0s
AB31 Akbulak array 72.14 321 *e*P **P** **16 04 54.9 +0.1**
AB31 pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 72.14 321 *e*P **P** **16 04 54.6 -0.2**
comp=Z,6.5nm,0.6s
AKTO Aktyubinsk 73.64 322 P **P** **16 05 04.5 +0.8**
AKTO Aktyubinsk 73.64 322 P **P** **16 05 04.5 +0.8**
AKTO Aktyubinsk 73.64 322 P **P** **16 05 04.5 +0.8**
comp=Z,3.2nm,0.4s,baz=102,slow=8.7,SNR=18
SVE Sverdlovsk 73.95 326‖ *e*P **P** **16 05 05.3 -0.1**
SVE pmax pmax
comp=Z,15nm,1.1s
ARU Arti 74.93 328*d* *i*P **P** **16 05 11.3 +0.2**
ARU S **S** **16 14 44.6 +2.7**
ARU pmax pmax
comp=Z,12nm,1.2s
ARU Arti 74.93 328 *e*P **P** **16 05 09.7 -1.3**
comp=Z,7.8nm,0.6s
ARU Arti 74.93 328 P **P** **16 05 11.2 +0.2**
comp=Z,87nm,0.6s,SNR=5.5
KBD Kabd 78.59 299 *e*P **P** **16 05 32.1 -0.1**
KBD AMb AMB 16 05 42.5
comp=Z,17nm,1.3s
MIB Mutribah 78.92 299 *e*P **P** **16 05 33.7 -0.3**
MIB AMb AMB 16 05 35.2
comp=Z,19nm,0.5s
NAY Al-Naaiem 78.98 299 *e*P **P** **16 05 33.9 -0.5**
NAY AMb AMB 16 05 36.1
comp=Z,7.3nm,0.7s
KDAK Kodiak Island 81.93 32 LR LR 16 35 42.4
comp=Z,138nm,21.9s,baz=258,slow=31
KBZ Khabaz 82.96 313 P P 16 05 58.5 +3.3
KBZ Khabaz 82.96 313 P P 16 05 58.5 +3.3
KBZ Khabaz 82.96 313 P P 16 05 58.5 +3.3
comp=Z,0.5nm,0.4s,baz=225,slow=5.7,SNR=3.7
KBZ LR LR 16 44 22.7
comp=Z,81nm,18.2s,baz=284,slow=37
KIV Kislovodsk 83.12 314‖ *e*P **P** **16 05 57.1 +0.9**
KIV *e* 16 09 08.3
KIV pmax pmax
comp=Z,4.0nm,0.9s
ATD Arta Tunnel 83.23 281 LR LR 16 38 16.0
comp=Z,52nm,20.4s,baz=47,slow=32
COLD Coldfoot 83.93 23 *e*P **P** **16 05 59.7 0.0**
comp=Z,4.7nm,0.9s
VRHR Novokhopersk 84.02 321 *e*P **P** **16 06 00.6 +0.1**
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=E,3.0nm,0.3s
ILAR Eielson Array 85.14 25 P **P** **16 06 07.2 +1.3**
ILAR Eielson Array 85.14 25 P **P** **16 06 07.2 +1.3**
comp=E,0.4nm,0.5s,baz=239,slow=5.0,SNR=12
PPT Papeete 85.16 108 LR LR 16 38 12.6
comp=E,26nm,19.3s,baz=249,slow=32
PPT2 Papeete2 85.16 108 *e*LR LR 16 32 45.0
comp=E,116nm,26.2s
KLMR Klimovskoe 85.40 331 *e*P **P** **16 06 06.5 -0.7**
KLMR pmax pmax
comp=Z,52nm,1.5s
VORD Divnogorie 85.50 321 *e*P **P** **16 06 08.7 +0.8**
VORD pmax pmax
comp=N,4.0nm,0.7s
VORD pmax pmax
comp=E,6.0nm,0.7s
VORD pmax pmax
comp=Z,7.0nm,0.7s
VSR Storozhevoye 85.57 321 *e*P **P** **16 06 08.6 +0.3**
VSR pmax pmax
comp=Z,7.0nm,0.6s
VSR pmax pmax
comp=N,1.0nm,0.3s
VSR pmax pmax
comp=E,3.0nm,0.6s

TBI	**Tubuai**	**85.83 114**	*e*LR	LR	16 33 08.5	
	comp=E,136nm,26.0s					
OBN	**Obninsk**	**87.05 325**	*iP*	**P**	**16 06 16.7**	**+1.3**
OBN			pmax	pmax		
	comp=Z,35nm,1.4s					
OBN			MLR	MLR		
	comp=Z,100nm,18.0s					
JOF	**Joensuu**	**89.17 333**	*e*P	**P**	**16 06 25.3**	**-0.1**
JOF			pmax	pmax		
	comp=Z,6.0nm,0.6s					
JOF	**Joensuu**	**89.17 333**	*ep*	**P**	**16 06 25.3**	**-0.1**
	comp=Z,5.9nm,0.6s					
BRTR	**Keskin Array B**	**90.00 310**	P	**P**	**16 06 30.4**	**+0.5**
BRTR	**Keskin Array B**	**90.00 310**	P	**P**	**16 06 30.4**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=113,slow=4.0,SNR=7.0					
BRTR			LR	LR	16 51 41.9	
	comp=Z,27nm,21.0s,baz=228,slow=39					
ARCES	**ARCESS Array B**	**90.45 340**	P	**P**	**16 06 31.6**	**+0.4**
ARCES	**ARCESS Array B**	**90.45 340**	P	**P**	**16 06 31.6**	**+0.4**
	comp=Z,3.0nm,0.6s,baz=83,slow=6.3,SNR=28					
ARCES			LR	LR	16 50 00.3	
	comp=Z,98nm,19.5s,baz=168,slow=38					
SPITS	**Spitsbergen Ar**	**90.49 349**	LR	LR	16 52 24.5	
	comp=Z,128nm,19.4s,baz=85,slow=39					
KAF	**Kangasniemi**	**91.59 332**	*e*P	**P**	**16 06 36.4**	**-0.2**
KAF			pmax	pmax		
	comp=Z,2.0nm,0.5s					
KAF	**Kangasniemi**	**91.59 332**	*ep*	**P**	**16 06 36.4**	**-0.2**
	comp=Z,1.5nm,0.5s					
FINES	**FINESS Array B**	**91.83 332**	P	**P**	**16 06 38.4**	**+0.7**
FINES	**FINESS Array B**	**91.83 332**	P	**P**	**16 06 38.4**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=50,slow=4.5,SNR=14					
FINES			LR	LR	16 48 54.6	
	comp=Z,122nm,18.4s,baz=315,slow=36					
AKASG	**Malin Array Be**	**91.88 321**	*ce*P	**P**	**16 06 38.5**	**+0.3**
AKASG			pmax	pmax		
	comp=Z,2.0nm,0.6s					
AKASG	**Malin Array Be**	**91.88 321**	P	**P**	**16 06 38.2**	**0.0**
AKASG	**Malin Array Be**	**91.88 321**	P	**P**	**16 06 38.2**	**0.0**
	comp=Z,2.0nm,0.6s,baz=65,slow=5.5,SNR=7.1					
AKASG			LR	LR	16 53 54.7	
	comp=Z,83nm,20.3s,baz=60,slow=39					
MLR	**Muntele Rosu**	**94.88 316**	LR	LR	16 53 00.3	
	comp=Z,36nm,19.3s,baz=307,slow=38					
NOA	**NORSAR Array B**	**98.78 334**	P	Pdif	16 07 09.7	+0.2
NOA	**NORSAR Array B**	**98.78 334**	P	Pdif	16 07 09.7	+0.2
	comp=Z,0.7nm,0.8s,baz=146,slow=16,SNR=2.7					
NOA			LR	LR	16 56 32.4	
	comp=Z,106nm,18.0s,baz=340,slow=38					
YKA	**Yellowknife Ar**	**99.54 24**	P	**Pdif**	**16 07 15.4**	**+2.6**
YKA	**Yellowknife Ar**	**99.54 24**	P	**Pdif**	**16 07 15.4**	**+2.6**
	comp=Z,0.2nm,0.6s,baz=292,slow=4.3,SNR=3.2					
TORD	**Torodi Ar. Bea**	**122.88 288**	PKP	**PKPdf**	**16 12 28.0**	**+1.2**
TORD	**Torodi Ar. Bea**	**122.88 288**	PKP	**PKPdf**	**16 12 28.0**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=105,slow=1.1,SNR=7.1					
DBIC	**Dimbokro**	**130.53 282**	PKP	**PKPdf**	**16 12 42.6**	**+1.1**
DBIC	**Dimbokro**	**130.53 282**	PKP	**PKPdf**	**16 12 42.6**	**+1.1**
	comp=Z,1.2nm,0.6s,baz=78,slow=0.8,SNR=3.1					

IDC ***27*** *16:06:16.2±0.7, 3.64N×126.65E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.0/23, mbtmp4.1/11, MS3.1/1, Ms1 3.1/1, ms1mx2.2/38, Error ellipse: s-maj=51.4km s-min=14.0km az=79.0*

ISCJB ***27*** *16:06:21.5±0.5, 3.72N±0.05×126.89E±0.09, h48km, mb4.0/11, Error ellipse: s-maj=12.3km s-min=7.5km az=175.2*

DJA ***27*** *16:06:21.1±2.5, 4.4°N±25.4×12.7°E±.4°, h10km, M4.4/7, mb4.7/3, mB4.7/2, MLv4.3/7, Mw(mB)4.0/2*

ISC 27 16:06:23.2±0.7, 3.68N±0.07×126.8E±0.1, h48km, n20, σ1 s28/20, mb4.0/10, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.93**	**169**	P		**P**	**Pn**	**16 07 08.7**	**+1.4**
MNI	**Manado**	**2.97**	**222**	P		**P**	**Pn**	**16 07 08.9**	**+1.0**
DAV	**Davao City (W)**	**3.59**	**340**	LR		LR		16 08 47.6	
	comp=Z,242nm,19.5s,baz=272,slow=42								
KMSI	**Cibinong**	**4.19**	**223**	P		**P**	**Pn**	**16 07 26.8**	**+2.2**
LBMI	**Labuha**	**4.34**	**171**	P		**P**	**Pn**	**16 07 27.6**	**+1.0**
CTBH	**Cotabato--PC H**	**4.36**	**324**	*eP*		**P**	**Pn**	**16 07 28.9**	**+2.0**
MRSI	**Marisa**	**5.82**	**237**	P		**P**	**Pn**	**16 07 47.7**	**+0.7**
	57nm,0.7s,529nm0.2nm								
LUWI	**Luwuk**	**6.19**	**221**	P			Pn	16 07 57.8	+5.7
	84nm,1.1s,730nm0.3nm								
SWI	**Sorong**	**6.32**	**135**	P		**P**	**Pn**	**16 07 55.7**	**+1.9**
FITZ	**Fitzroy Crossi**	**21.67**	**183**	P		**P**	**P**	**16 11 08.7**	**-1.2**
	3.2nm,0.5s,baz=21,slow=11,SNR=9.2								
WRA	**Warramunga Arr**	**24.60**	**163**	P		**P**	**P**	**16 11 37.8**	**-1.3**
	13nm,0.7s,baz=343,slow=10,SNR=66								
WRA				S			**S**	**16 15 59.0**	**+1.9**
	0.4nm,0.7s,baz=351,slow=17,SNR=4.0								
ASAR	**Alice Springs**	**28.04**	**166**	P		**P**	**P**	**16 12 09.2**	**-0.8**
	0.9nm,0.7s,baz=343,slow=7.3,SNR=31								
ASAR				PcP			**PcP**	**16 15 24.7**	**+0.6**
	0.5nm,0.5s,baz=345,slow=1.9,SNR=6.9								
KSRS	**Korea Array**	**33.63**	**2**	P		**P**	**P**	**16 12 59.0**	**-0.2**
	1.1nm,0.7s,baz=178,slow=8.7,SNR=5.5								
STKA	**Stephens Creek**	**38.04**	**159**	P		**P**	**P**	**16 13 36.8**	**-0.2**
	3.5nm,0.6s,baz=334,slow=8.8,SNR=15								
USRK	**Ussuriysk Arra**	**40.62**	**6**	P		**P**	**P**	**16 13 57.2**	**-1.1**
	1.3nm,0.7s,baz=177,slow=6.8,SNR=3.3								
SONM	**Songino Array**	**47.38**	**341**	P		**P**	**P**	**16 14 52.5**	**-0.2**
	0.5nm,0.6s,baz=156,slow=8.6,SNR=6.1								
PETK	**Petropavlovsk-**	**55.45**	**22**	P		**P**	**P**	**16 15 53.7**	**+0.9**
	3.2nm,0.8s,baz=206,slow=9.6,SNR=4.9								
MKAR	**Makanchi Array**	**57.66**	**325**	P		**P**	**P**	**16 16 07.7**	**-0.9**
	1.0nm,0.6s,baz=124,slow=8.0,SNR=18								
ARCES	**ARCESS Array B**	**90.53**	**340**	P		**P**	**P**	**16 19 19.0**	**-0.7**
	1.8nm,0.8s,baz=76,slow=10,SNR=5.3								
YKA	**Yellowknife Ar**	**99.51**	**24**	P		**P**	**Pdif**	**16 20 01.2**	**+0.4**
	0.1nm,0.4s,baz=283,slow=5.6,SNR=4.0								

PRE 27 16:12:10.0±1.1, 28.10S×26.79E, h2km, ML1.6, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**1.27**	**24**	*e*P			Pg	16 12 34.7	+0.1
PRYS				*e*S			Sb	16 12 51.7	-0.1
PRYS				AML			AML	16 12 54.2	
	comp=Z,18nm,0.3s								
BOSA	**Boshof**	**1.45**	**249**	*e*P			Pg	16 12 38.2	+0.3
BOSA				*e*S			Sn	16 12 57.7	+0.6
BOSA				AML			AML	16 13 03.1	
	comp=Z,1.8nm,0.5s								
SWZ	**Schweizer**	**1.58**	**305**	*e*P			Pn	16 12 39.7	+0.4
SWZ				*e*S			Sg	16 13 01.4	+0.3
SWZ				AML			AML	16 13 05.9	
	comp=Z,4.6nm,0.1s								
LBTB	**Lobatse**	**3.25**	**341**	*e*P			Pn	16 13 02.0	-0.1
LBTB				*e*S			Sn	16 13 42.2	+0.7
LBTB				AML			AML	16 13 57.8	
	comp=Z,2.0nm,0.3s								

IDC ***27*** *16:16:09.0±0.9, 8.29S×128.12E, h0km, mb4.0/8, mb1 4.3/11, mb1mx4.1/21, mbtmp4.1/11, ML4.4/3, MS3.4/5, Ms1 3.3/5, ms1mx2.9/30, Error ellipse: s-maj=43.2km s-min=19.2km az=66.0*

ISCJB ***27*** *16:16:13.1±0.4, 8.73S±0.04×127.99E±0.05, h33km, mb3.9/9, MS3.3/4, Error ellipse: s-maj=7.7km s-min=4.7km az=155.5*

DJA ***27*** *16:16:24, 8.79S×128.16E, h185km, mb4.4/9*

ISC 27 16:16:15.3±0.6, 8.60S±0.06×128.05E±0.08, h35km, n32, σ2 s15/29, mb4.0/9, MS3.3/4, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**4.45**	**25**	P			Pn	**16 17 21.7**	**+1.4**
TLE	**Tual**	**5.51**	**58**	P			Pn	16 17 38.4	+3.6
	55nm,0.8s,0.3nm								
BBSI	**Bau Bau**	**6.26**	**299**	P			Pn	16 17 49.2	+4.0
	155nm,1.0s,1μm0.5nm								
KDI	**Kendari**	**7.10**	**310**	P			**Pn**	**16 17 58.1**	**+1.3**
	16nm,0.8s,0.1nm								
BKSI	**Bulukumba**	**8.52**	**292**	P			**Pn**	**16 18 17.3**	**+1.1**
	30nm,0.8s								
KAPI	**Kappang**	**8.98**	**293**	Pn			**Pn**	**16 18 25.3**	**+2.8**
	1.0nm,0.3s,baz=172,slow=9.9,SNR=5.3								
SPSI	**Sidrap Palu**	**9.43**	**299**	P			**Pn**	**16 18 31.6**	**+2.9**
	25nm,0.9s								
FITZ	**Fitzroy Crossi**	**9.73**	**194**	*e*P			**Pn**	**16 18 34.6**	**+1.8**
FITZ				*e*S			**Sn**	**16 20 18.9**	**-2.0**
FITZ	**Fitzroy Crossi**	**9.73**	**194**	Pn			**Pn**	**16 18 34.1**	**+1.4**
	1.2nm,0.3s,baz=30,slow=12,SNR=34								
FITZ				Sn			**Sn**	**16 20 19.1**	**-1.7**
	1.6nm,0.3s,baz=51,slow=14,SNR=5.6								
FITZ				LR			LR	16 23 08.0	
	comp=Z,180nm,19.9s,baz=15,slow=42								
TTSI	**Tana Toraja**	**9.87**	**304**	P			**Pn**	**16 18 37.4**	**+2.6**
	25nm,1.1s								
WRA	**Warramunga Arr**	**12.81**	**152**	Pn			**Pn**	**16 19 15.6**	**+0.6**
	4.4nm,0.3s,baz=321,slow=12,SNR=169								
WRA				Sn			**Sn**	**16 21 34.3**	**-2.2**
	2.2nm,0.3s,baz=332,slow=22,SNR=9.7								
ASAR	**Alice Springs**	**15.99**	**160**	Pn			**Pn**	**16 19 58.3**	**+0.5**
	1.3nm,0.3s,baz=332,slow=9.5,SNR=103								
ASAR				Sn			**Sn**	**16 22 51.4**	**-2.7**
	0.6nm,0.3s,baz=339,slow=24,SNR=4.2								
QIS	**Mount Isa**	**16.30**	**138**	*e*P			**Pn**	**16 20 00.8**	**-0.9**
PMG	**Port Moresby**	**18.89**	**94**	P			**Pn**	**16 20 35.1**	**+1.3**
	0.1nm,0.3s,baz=262,slow=14,SNR=2.6								
SBUM	**Sibu**	**19.23**	**304**	P			**Pn**	**16 20 37.4**	**-0.4**
	11nm,1.1s								
KSM	**Kuching**	**20.32**	**299**	P			**P**	**16 20 48.0**	**-0.6**
CTA	**Charters Tower**	**20.98**	**125**	P			**P**	**16 20 55.6**	**0.0**
	3.3nm,0.7s,baz=292,slow=5.4,SNR=2.5								
CTA				LR			LR	16 29 55.7	
	comp=Z,109nm,19.3s,baz=139,slow=39								
QLP	**Quilpie**	**23.57**	**141**	*e*P			P	16 21 28.3	+5.6
STKA	**Stephens Creek**	**26.36**	**153**	*e*P			**P**	**16 21 52.5**	**+4.3**
STKA	**Stephens Creek**	**26.36**	**153**	P			**P**	**16 21 52.5**	**+4.3**
	2.6nm,0.6s,baz=315,slow=9.6,SNR=9.2								
STKA				LR			LR	16 33 53.2	
	comp=Z,90nm,20.7s,baz=26,slow=40								
CMSA	**Cobar Meteorol**	**28.11**	**147**	*e*P			P	16 22 09.1	+5.1
CMAR	**Chiang Mai Arr**	**39.34**	**313**	P			**P**	**16 23 39.2**	**-2.3**
	1.6nm,0.6s,baz=138,slow=6.5,SNR=16								
KSRS	**Korea Array**	**45.82**	**360**	LR			LR	16 46 17.0	
	comp=Z,22nm,18.1s,baz=155,slow=40								
GTA	**Gaotai**	**54.48**	**333**	*e*P			**P**	**16 25 38.8**	**-0.8**
GTA				pP			pP	16 25 43.0	-7.2
GTA				sP			sP	16 25 46.5	-7.8
GTA				pmax			pmax		
	comp=Z,2.0nm,0.8s								
SONM	**Songino Array**	**59.38**	**343**	P			P	16 26 10.7	-3.5
	comp=Z,0.2nm,0.6s,baz=155,slow=4.8,SNR=3.2								
PETK	**Petropavlovsk-**	**66.45**	**19**	LR			LR	16 54 35.6	
	comp=Z,28nm,18.9s,baz=238,slow=35								
MKAR	**Makanchi Array**	**68.53**	**328**	P			**P**	**16 27 11.6**	**-2.6**
	comp=Z,0.7nm,0.8s,baz=123,slow=8.6,SNR=8.6								
ZALV	**Zalesovo Beam**	**72.18**	**335**	P			**P**	**16 27 34.0**	**-2.4**
	comp=Z,1.3nm,0.7s,baz=126,slow=2.6,SNR=8.2								
KURBB	**Kurchatov Arra**	**72.88**	**330**	P			**P**	**16 27 38.6**	**-2.1**
	comp=Z,2.4nm,0.7s,baz=132,slow=5.1,SNR=27								
BVAR	**Borovoye Array**	**78.40**	**329**	P			**P**	**16 28 10.0**	**-2.2**
	comp=Z,2.1nm,0.9s,baz=141,slow=7.3,SNR=10								
OPO	**Ambohidratompo**	**78.70**	**253**	P			**P**	**16 28 14.7**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=90,slow=6.1,SNR=3.6								
TORD	**Torodi Ar. Bea**	**127.20**	**280**	PKP			**PKPdf**	**16 35 17.8**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=80,slow=2.7,SNR=2.7								

ISCJB ***27*** *16:16:36.9±0.5, 47.1N±0.1×152.8E±0.1, h66km, mb3.6/12, Error ellipse: s-maj=18.6km s-min=4.6km az=143.8*

JMA ***27*** *16:16:36.0±0.7, 47.09N×153.04E, h30km, M4.0*

MOS ***27*** *16:16:38.5±1.2, 47.20N×152.87E, h80km, mb3.9/6, Error ellipse: s-maj=19.9km s-min=11.1km az=52.3*

IDC ***27*** *16:16:39.1±0.8, 47.16N×152.82E, h66km±6km, mb3.4/12, mb1 3.7/15, mb1mx3.6/28, mbtmp3.5/15, MS2.8/1, Ms1 2.8/1, ms1mx2.2/27, Error ellipse: s-maj=28.7km s-min=13.6km az=153.0*

ISC 27 16:16:38.1±0.6, 47.0N±0.1×152.89E±0.09, h66km, n37, σ1 s74/43, mb3.7/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.90**	**245**	*e*PN			**Pn**	**16 17 38.5**	**+3.0**
KUR				pmax			pmax		
	comp=Z,170nm,0.9s								
SKR	**Severo-Kuril's**	**4.28**	**29**	*e*PN			**Pn**	**16 17 38.0**	**-2.6**
SKR				*e*S			Sn	16 18 20.1	-9.1
SKR				pmax			pmax		
	comp=Z,50nm,0.5s								
SKR				smax			smax		
	comp=N,110nm,0.5s								
SKR				smax			smax		
	comp=E,80nm,0.5s								
SKR				smax			smax		
	comp=Z,160nm,0.9s								
NEM2	**Nemuro 2**	**6.21**	**237**	P			**Pn**	**16 18 06.8**	**-0.2**
NEM2				*e*S			**Sn**	**16 19 13.3**	**-3.2**
JNK	**Nakash**	**6.69**	**243**	P			**Pn**	**16 18 15.0**	**+1.5**
JNK				*e*S			**Sn**	**16 19 29.3**	**+1.1**
PETK	**Petropavlovsk-**	**6.88**	**25**	PN			**Pn**	**16 18 16.7**	**+0.6**
PETK	**Petropavlovsk-**	**6.88**	**25**	P			**Pn**	**16 18 16.7**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=187,slow=12,SNR=11								
YSS	**Yuzh-Sakhalins**	**6.94**	**274**	*e*PN			Pn	16 18 21.1	+4.2
JTKR	**Abashiri--Toko**	**6.99**	**248**	P			**Pn**	**16 18 20.8**	**+3.1**
JAK	**Akkeshi**	**7.04**	**239**	P			**Pn**	**16 18 18.0**	**-0.4**
JAK				*e*S			**Sn**	**16 19 34.3**	**-2.6**
JMP	**Maruseppu**	**7.33**	**250**	P			Pn	16 18 25.7	+3.4
JAR	**Ashorobuto**	**7.42**	**244**	P			**Pn**	**16 18 25.4**	**+1.8**
JAR				*e*S			**Sn**	**16 19 49.2**	**+2.9**
ASAJ	**Asahikawa**	**7.77**	**252**	P			**Pn**	**16 18 31.3**	**+3.0**
	comp=Z,0.4nm,0.3s,baz=93,slow=27,SNR=6.3								
JKK2	**Kamakawa 2**	**7.78**	**250**	P			**Pn**	**16 18 31.6**	**+3.1**
JCH	**Churui**	**8.05**	**241**	P			**Pn**	**16 18 32.2**	**-0.1**
JCH				*e*S			**Sn**	**16 19 58.2**	**-3.6**
JFR	**Furan**	**8.22**	**246**	P			**Pn**	**16 18 37.1**	**+2.5**
JNBK	**Urakawa-nobuka**	**8.62**	**241**	P			**Pn**	**16 18 39.5**	**-0.4**
JNB	**Noboribetsu**	**9.56**	**246**	P			**Pn**	**16 18 53.7**	**+0.9**
JKB	**Kayabe**	**9.88**	**243**	P			**Pn**	**16 18 56.8**	**-0.5**
JANG	**Nango**	**10.55**	**235**	P			Pn	16 19 03.3	-3.0
FX1	**Attu Island--F**	**14.31**	**58**	P			**Pn**	**16 19 56.0**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=254,slow=15,SNR=2.6								
FX1				S			Sn	16 22 21.5	-13
	comp=Z,2.0nm,0.3s,baz=101,slow=20,SNR=2.2								
KSRS	**Korea Array**	**20.72**	**252**	P			Pn	16 21 15.5	-0.3
	comp=Z,1.1nm,0.8s,baz=46,slow=11,SNR=5.1								
SONM	**Songino Array**	**31.11**	**289**	P			**P**	**16 22 50.2**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=72,slow=11,SNR=2.5								
ILAR	**Eielson Array**	**36.47**	**39**	P			**P**	**16 23 37.0**	**+0.8**
	comp=Z,0.8nm,0.9s,baz=278,slow=10,SNR=7.9								
ILAR				pP			**pP**	**16 23 51.0**	**-1.4**
	comp=Z,0.7nm,0.9s,baz=257,slow=6.2,SNR=3.2								
INK	**Inuvik**	**41.54**	**33**	P			**P**	**16 24 19.1**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=264,slow=8.6,SNR=5.9								
TGY	**Tagaytay City**	**42.25**	**230**	LR			LR	16 39 27.2	
	comp=Z,12nm,21.1s,baz=278,slow=32								
ZALV	**Zalesovo Beam**	**42.35**	**306**	PcP			**PcP**	**16 26 17.4**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=111,slow=3.3,SNR=6.3								
MKAR	**Makanchi Array**	**46.70**	**297**	PcP			**PcP**	**16 26 32.6**	**0.0**
	comp=Z,0.5nm,0.7s,baz=55,slow=6.4,SNR=4.7								
KURK	**Kurchatov**	**47.11**	**303**	P			**P**	**16 25 02.3**	**-0.8**
KURK								16 26 34.2	
KURBB	**Kurchatov Arra**	**47.20**	**303**	P			**P**	**16 25 02.3**	**-1.6**
	comp=Z,0.1nm,0.2s,baz=62,slow=8.1,SNR=2.8								
KURBB				PcP			**PcP**	**16 26 34.2**	**0.0**
	comp=Z,0.3nm,0.6s,baz=63,slow=3.7,SNR=4.9								
YKA	**Yellowknife Ar**	**50.84**	**37**	P			**P**	**16 25 31.6**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=298,slow=7.2,SNR=4.7								
YKA				pP			**pP**	**16 25 48.4**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=296,slow=7.1,SNR=11								
CMAR	**Chiang Mai Arr**	**52.27**	**256**	P			**P**	**16 25 44.1**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=35,slow=8.4,SNR=4.3								
NVAR	**Mina Array Bea**	**62.47**	**62**	P			**P**	**16 26 55.8**	**+1.2**
	comp=Z,0.2nm,0.6s,baz=282,slow=6.1,SNR=3.8								
NVAR				pP			**pP**	**16 27 13.0**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=297,slow=7.2,SNR=5.1								
FINES	**FINESS Array B**	**63.77**	**335**	P			**P**	**16 27 01.6**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=25,slow=6.3,SNR=3.6								
PDAR	**Pinedale Array**	**64.74**	**54**	P			**P**	**16 27 10.2**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=215,slow=1.8,SNR=4.6								
PDAR				pP			**pP**	**16 27 27.6**	**+0.6**
	comp=Z,1.4nm,0.9s,baz=300,slow=1.2,SNR=0.2								
KIV	**Kislovodsk**	**70.53**	**314**	*e*P			**P**	**16 27 42.9**	**-2.9**
KIV				pmax			pmax		
	comp=Z,3.0nm,0.8s								
ASAR	**Alice Springs**	**72.37**	**198**	P			**P**	**16 27 58.4**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=19,slow=7.0,SNR=3.6								
TXAR	**Lajitas Array**	**77.52**	**60**	P			**P**	**16 28 27.0**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=316,slow=4.7,SNR=14								
TXAR				pP			**pP**	**16 28 45.0**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=288,slow=3.7,SNR=5.2								

MAN 27 16:19:42.10±0.40N×126.41E, h23km, mb4.6, ML3.5, MS3.4, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.54**	**260**	*e*P			Pn	16 20 08.6	+0.4
MSLP				*e*S			Sb	16 20 28.8	-0.3
PLP	**Palo**	**1.59**	**299**	*e*P			Pn	16 20 09.0	+0.2
PLP				*e*S			Sb	16 20 30.1	-0.5
OCLP	**Ormoc**	**1.88**	**290**	*e*P			Pb	16 20 16.0	+0.3
OCLP				*e*S			Sb	16 20 37.5	-1.2

IDC 27 16:33:36.2±3.2, 21.58S×177.76W, h327km±33km, mb3.5/6, mb1 3.6/7, mb1mx3.3/21, mbtmp3.5/7, Error ellipse: s-maj=28.4km s-min=19.7km az=170.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.52**	**38**	P			Pn	16 35 48.4	-0.2
	2.3nm,0.3s,baz=118,slow=21,SNR=1.6								
AFI				S			S	16 37 28.8	-8.0
	3.6nm,0.3s,baz=62,slow=23,SNR=6.8								
DZM	**Mont Dzumac**	**14.68**	**265**	P			Pn	16 36 54.2	+4.0
	0.2nm,0.3s,baz=66,slow=18,SNR=1.5								
STKA	**Stephens Creek**	**37.53**	**245**	P			P	16 40 20.2	+0.2
	2.0nm,0.4s,baz=95,slow=8.6,SNR=14								
ASAR	**Alice Springs**	**44.50**	**258**	P			P	16 41 16.4	0.0
	3.2nm,0.8s,baz=90,slow=8.0,SNR=31								
ASAR				PcP			PcP	16 42 52.9	-0.6
	0.2nm,0.6s,baz=104,slow=3.9,SNR=3.4								
WRA	**Warramunga Arr**	**44.69**	**263**	P			P	16 41 17.4	-0.5
	0.3nm,0.3s,baz=90,slow=5.9,SNR=16								
FITZ	**Fitzroy Crossi**	**53.12**	**263**	P			P	16 42 21.7	+0.4
	3.0nm,1.1s,baz=68,slow=11,SNR=3.4								
NWAO	**Narrogin (SRO)**	**58.09**	**244**	P			P	16 42 55.5	-0.9
	5.5nm,0.8s,baz=119,slow=10,SNR=3.7								
QSPA	**South Pole Qui**	**68.50**	**180**	P			P	16 44 03.8	+0.2
	1.6nm,0.9s,baz=59,slow=5.6,SNR=9.6								
ARCES	**ARCESS Array B**	**130.02**	**350**	PKP			PKPdf	16 52 06.5	-0.1
	2.6nm,0.8s,baz=63,slow=3.0,SNR=7.7								
BRTR	**Keskin Array B**	**147.72**	**311**	PKPbc			PKPbc	16 52 42.8	-0.2
	0.2nm,0.5s,baz=147,slow=4.3,SNR=2.5								
TORD	**Torodi Ar. Bea**	**171.60**	**176**	PKP			PKPdf	16 53 05.1	-1.4
	0.3nm,0.5s,baz=241,slow=2.9,SNR=2.9								
TORD				PKPab			PKPab	16 54 29.3	-0.3
	0.2nm,0.5s,baz=170,slow=3.7,SNR=2.7								

IDC 27 16:35:52.7±12.0, 1.15S×134.27E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.4/20, mbtmp3.7/4, ML3.2/1, Error ellipse: s-maj=181.9km s-min=68.4km az=163.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**15.22**	**123**	Pn			Pn	16 39 28.8	-0.3
	0.3nm,0.3s,baz=348,slow=19,SNR=2.7								
WRA	**Warramunga Arr**	**18.68**	**180**	P			Pn	16 40 13.2	+0.4
	0.1nm,0.3s,baz=358,slow=11,SNR=17								
ASAR	**Alice Springs**	**22.39**	**181**	P			P	16 40 52.7	-0.2
	0.7nm,0.6s,baz=11,slow=11,SNR=22								
STKA	**Stephens Creek**	**31.34**	**168**	P			P	16 42 14.7	-0.3
	1.2nm,0.6s,baz=349,slow=10,SNR=3.1								

**IDC 27 16:48:36.0

JNU	**Nakatsue**	**29.24**	**7**	P	**P**	**17 03 47.0**	**-0.1**
	4.9nm,0.9s,baz=229,slow=9.3,SNR=2.4						
CMAR	**Chiang Mai Arr**	**30.76**	**300**	P	**P**	**17 04 00.3**	**-0.4**
	0.7nm,0.6s,baz=116,slow=6.9,SNR=6.3						
KSRS	**Korea Array**	**33.33**	**2**	P	**P**	**17 04 23.5**	**+0.6**
	0.8nm,0.5s,baz=178,slow=9.6,SNR=4.8						
MJAR	**Matsushiro Arr**	**34.07**	**17**	P	**P**	**17 04 29.9**	**+0.4**
	1.6nm,1.1s,baz=185,slow=12,SNR=3.4						
STKA	**Stephens Creek**	**38.36**	**159**	P	**P**	**17 05 06.9**	**+0.8**
	2.4nm,0.5s,baz=5.0,slow=6.6,SNR=6.3						
SONM	**Songino Array**	**47.06**	**341**	P	**P**	**17 06 17.0**	**+0.4**
	0.9nm,0.9s,baz=164,slow=7.8,SNR=5.6						
SONM				PcP	**PcP**	**17 07 48.3**	**+0.1**
	0.3nm,0.6s,baz=181,slow=4.4,SNR=3.2						
SONM				LR	LR	17 26 09.2	
	comp=Z,28nm,18.1s,baz=70,slow=36						
MKAR	**Makanchi Array**	**57.36**	**325**	P	**P**	**17 07 31.7**	**-1.3**
	1.0nm,0.4s,baz=117,slow=7.4,SNR=30						
MKAR				PcP	**PcP**	**17 08 27.1**	**+0.5**
	0.7nm,0.7s,baz=173,slow=3.1,SNR=3.8						
MKAR				ScP	**ScP**	**17 12 26.6**	**+3.5**
	0.4nm,0.6s,baz=116,slow=4.6,SNR=6.5						
ZALV	**Zalesovo Beam**	**60.37**	**333**	P	**P**	**17 07 51.9**	**-1.8**
	0.4nm,0.4s,baz=126,slow=7.3,SNR=3.8						
ILAR	**Eielson Array**	**84.87**	**25**	P	**P**	**17 10 18.9**	**-0.1**
	0.6nm,0.8s,baz=243,slow=6.1,SNR=5.2						
ARCES	**ARCESS Array B**	**90.22**	**340**	P	**P**	**17 10 43.7**	**-1.0**
	2.0nm,0.8s,baz=87,slow=6.4,SNR=4.8						
FINES	**FINESS Array B**	**91.62**	**332**	P	**P**	**17 10 50.2**	**-1.1**
	1.8nm,0.8s,baz=62,slow=3.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**122.86**	**288**	PKP	**PKPdf**	**17 16 41.3**	**-0.2**
	0.3nm,0.7s,baz=29,slow=3.3,SNR=2.4						

IDC 27 17:13:30.3±2.8, 29°06S×138°55E, h0km, mb1 3.0/3, mb1mx2.9/15, mbtmp2.7/3, ML2.6/3, Error ellipse: s-maj=142.1km s-min=19.7km az=51.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.85**	**138**	Pn	Pn	17 14 30.9	+0.1
	0.1nm,0.3s,baz=325,slow=18,SNR=5.8						
STKA				Sn	Sn	17 15 14.9	-1.8
	1.7nm,0.3s,baz=304,slow=8.9,SNR=8.7						
STKA				Lg	Lg	17 15 32.5	
	1.3nm,0.3s,baz=234,slow=19,SNR=3.3						
ASAR	**Alice Springs**	**6.79**	**321**	Pn	Pn	17 15 10.7	-0.6
	0.1nm,0.3s,baz=148,slow=12,SNR=6.6						
ASAR				Sn	Sn	17 16 25.1	-4.4
	0.2nm,0.3s,baz=146,slow=23,SNR=4.9						
WRA	**Warramunga Arr**	**9.85**	**336**	Pn	Pn	17 15 53.8	+0.6
	0.1nm,0.3s,baz=152,slow=12,SNR=7.8						
WRA				Sn	Sn	17 17 40.9	-3.7
	0.1nm,0.3s,baz=163,slow=24,SNR=4.1						

PRE 27 17:16:40.0±1.7, 26°34S×27°46E, h2km, ML2.3, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.14**	**95**	*eP*	Pg	17 16 44.4	+1.4
KLOF				*eS*	Sg	17 16 46.0	+0.9
KLOF				AML	AML	17 16 46.1	
	comp=Z,1μm,0.1s						
PRYS	**Parys**	**0.59**	**188**	*eP*	Pg	17 16 51.4	-0.2
PRYS				*eS*	Sg	17 16 58.5	-0.9
PRYS				AML	AML	17 16 59.3	
	comp=Z,62nm,0.3s						
KSR	**Koster**	**0.70**	**314**	*eP*	Pg	17 16 53.3	-0.4
KSR				*eS*	Sg	17 17 03.1	+0.2
KSR				AML	AML	17 17 06.3	
	comp=Z,68nm,0.2s						
ERPM	**east rand prop**	**0.71**	**91**	*eP*	Pg	17 16 53.5	-0.3
ERPM				*eS*	Sg	17 17 02.9	-0.2
ERPM				AML	AML	17 17 03.4	
	comp=Z,37nm,0.2s						
BFSD	**Buffelsfontein**	**0.80**	**229**	*eP*	Pb	17 16 56.2	-0.6
BFSD				*eS*	Sg	17 17 05.6	-0.4
BFSD				AML	AML	17 17 12.5	
	comp=Z,74nm,0.3s						
TLEK	**Tau Lekoa**	**0.94**	**228**	*eP*	Pg	17 16 58.5	+0.3
TLEK				*eS*	Sb	17 17 11.6	-0.6
SLR	**Silverton**	**0.96**	**51**	*eP*	Pg	17 16 57.5	-1.1
SLR				*eS*	Sg	17 17 11.1	0.0
SLR				AML	AML	17 17 19.2	
	comp=Z,40nm,0.1s						
SWZ	**Schweizer**	**2.08**	**246**	*eP*	Pn	17 17 16.9	+0.9
SWZ				*eS*	Sn	17 17 43.6	+0.9
SWZ				AML	AML	17 17 46.2	
	comp=Z,26nm,0.6s						
LBTB	**Lobatse**	**2.13**	**308**	*eP*	Pn	17 17 17.4	+0.5
LBTB				*eS*	Sn	17 17 45.1	+1.1
LBTB				AML	AML	17 17 51.3	
	comp=Z,37nm,0.6s						
BOSA	**Boshof**	**2.99**	**220**	*eP*	Pn	17 17 29.2	+0.5
BOSA				*eS*	Sn	17 18 05.6	+0.3
BOSA				AML	AML	17 18 16.2	
	comp=Z,3.9nm,0.3s						

IDC 27 17:28:47.8±10.0, 2°46N×128°50E, h182km±115km, mb3.4/8, mb1 3.5/8, mb1mx3.4/22, mbtmp3.4/8, Error ellipse: s-maj=45.9km s-min=15.2km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.62**	**188**	P	P	17 33 12.4	-0.8
	1.3nm,0.5s,baz=17,slow=10,SNR=6.5						
WRA	**Warramunga Arr**	**22.99**	**166**	P	P	17 33 36.8	+0.1
	6.0nm,0.5s,baz=345,slow=10,SNR=82						
ASAR	**Alice Springs**	**26.49**	**169**	P	P	17 34 08.5	+0.1
	0.8nm,0.7s,baz=349,slow=7.8,SNR=17						
CMAR	**Chiang Mai Arr**	**33.03**	**301**	P	P	17 35 07.0	+0.8
	0.3nm,0.5s,baz=108,slow=5.6,SNR=5.1						
KSRS	**Korea Array**	**34.83**	**359**	P	P	17 35 21.5	+0.2
	0.8nm,0.4s,baz=175,slow=9.6,SNR=5.1						
STKA	**Stephens Creek**	**36.34**	**161**	P	P	17 35 34.4	+0.1
	1.7nm,0.3s,baz=333,slow=8.5,SNR=14						
SONM	**Songino Array**	**49.07**	**340**	P	P	17 37 16.2	-0.4
	0.5nm,0.5s,baz=151,slow=8.6,SNR=3.6						
MKAR	**Makanchi Array**	**59.60**	**325**	P	P	17 38 31.9	-0.6
	1.0nm,0.4s,baz=112,slow=7.3,SNR=7.4						

*NIED **27** 17:30:00, 36°50N×140°60E, h59km, Mw4.2 Best double couple: M0=2.56000×10^15 NP1:φs=27.00000°, δ69.00000°, λ95.00000°. NP2:φs=194.00000°, δ22.00000°, λ77.00000°.*

*ISCJB **27** 17:30:10.3±0.6, 36°37N±0°06×140°77E±0°07, h59km±4km, mb4.0/18, MS3.3/6, Error ellipse: s-maj=11.1km s-min=7.2km az=43.7*

*IDC **27** 17:30:11.6±1.8, 36°44N×140°59E, h49km±16km, mb3.7/17, mb1 3.9/20, mb1mx3.8/29, mbtmp3.8/20, ML3.3/2, MS3.2/10, Ms1 3.2/10, ms1mx3.0/38, Error ellipse: s-maj=17.2km s-min=13.0km az=101.0*

*JMA **27** 17:30:12.6±0.1, 36°45N×140°59E, h55km±1km, M4.2 Broadband fault plane solution: P waves. NP1: φs13.00000°, δ63.00000°, λ87.00000°. NP2:φs200.00000°, δ27.00000°, λ96.00000°. Principal axes: T Plg72.0000°, Azm275.0000°; N Plg3.0000°, Azm14.0000°; P Plg18.0000°, Azm105.0000°;*

JMA Felt II J1.

*BJI **27** 17:30:15.8, 36°90N×140°10E, h70km, mB4.8/1, mb4.5/4, Ms4.6/1*

ISC 27 17:30:11.7±0.7, 36°43N±0°06×140°66E±0°07, h53km±5km, n37, σ0s80/41, mb4.0/18, MS3.3/6, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.20**	**339**	↑P	**Pn**	**17 30 21.2**	**+0.9**
JHO				S	**Sn**	**17 30 27.2**	**+0.7**
JYT	**Yasato**	**0.42**	**242**	↓P	**Pn**	**17 30 23.1**	**+0.9**
JYT				S	**Sn**	**17 30 30.3**	**+0.5**
ONAJ	**Iwakimizuishiy**	**0.68**	**10**	↑P	**Pn**	**17 30 25.5**	**+0.1**
ONAJ				S	**Sn**	**17 30 34.8**	**-0.6**
JAG	**Ashikaga**	**0.97**	**270**	↓P	**Pn**	**17 30 29.7**	**+0.6**
JKT	**Katashina**	**1.18**	**287**	↓P	**Pn**	**17 30 32.6**	**+0.6**
JRY	**Ryogami san**	**1.48**	**254**	↓P	**Pn**	**17 30 36.6**	**+0.7**
MJAR	**Matsushiro Arr**	**1.97**	**274**	P	**Pn**	**17 30 43.2**	**+0.5**
	33nm,0.3s,baz=106,slow=7.8,SNR=321						
MJAR				S	Sn	17 30 58.5	-7.9
	52nm,0.3s,baz=82,slow=17,SNR=43						
MJAR				LR	LR	17 31 16.9	
	comp=Z,504nm,20.1s,baz=165,slow=35						
MAT	**Matsushiro**	**1.98**	**274**	P	**Pn**	**17 30 44.1**	**+1.4**
MAT				S	**Sn**	**17 31 07.8**	**+1.4**
ASAJ	**Asahikawa**	**7.82**	**10**	P	**Pn**	**17 32 01.8**	**-1.0**
	1.2nm,0.3s,baz=198,slow=15,SNR=12						
ASAJ				S	**Sn**	**17 33 29.2**	**-0.7**
	0.3nm,0.3s,baz=221,slow=20,SNR=2.7						
ASAJ				LR	LR	17 34 58.5	
	comp=Z,47nm,21.8s,baz=178,slow=37						
JNU	**Nakatsue**	**8.69**	**251**	P	**Pn**	**17 32 13.5**	**-1.3**
	0.1nm,0.3s,baz=157,slow=6.2,SNR=3.5						
JNU				LR	LR	17 35 45.6	
	comp=Z,116nm,21.1s,baz=62,slow=39						
CBIJ	**Chichi jima**	**9.39**	**172**	P	**Pn**	**17 32 22.9**	**-1.5**
	8.0nm,0.3s,baz=357,slow=18,SNR=7.5						
CBIJ				S	Sn	17 34 00.1	-8.5
	7.0nm,0.3s,baz=287,slow=20,SNR=4.5						
USRK	**Ussuriysk Arra**	**10.19**	**322**	P	Pn	17 32 40.1	+4.9
	0.1nm,0.3s,baz=131,slow=14,SNR=6.8						
USRK				LR	LR	17 36 17.2	
	comp=Z,101nm,20.5s,baz=282,slow=36						
KSRS	**Korea Array**	**10.24**	**280**	P	Pn	17 32 40.1	+4.2
	0.1nm,0.3s,baz=98,slow=13,SNR=9.1						
KSRS				S	**Sn**	**17 34 28.3**	**-1.0**
	0.3nm,0.3s,baz=94,slow=25,SNR=6.0						
KSRS				LR	LR	17 36 23.0	
	comp=Z,97nm,20.8s,baz=156,slow=36						
PETK	**Petropavlovsk-**	**20.52**	**30**	LR	LR	17 44 43.3	
	comp=Z,21nm,18.1s,baz=73,slow=42						
SONM	**Songino Array**	**27.63**	**305**	P	**P**	**17 35 53.8**	**-0.4**
	1.3nm,0.8s,baz=108,slow=9.3,SNR=11						
SONM				sP	**sP**	**17 36 13.1**	**-0.8**
	1.5nm,0.7s,baz=108,slow=8.7,SNR=6.3						
SONM				LR	LR	17 46 10.0	
	comp=Z,59nm,18.2s,baz=163,slow=35						
QIZ	**Qiongzhong**	**32.12**	**246**	P	**P**	**17 36 34.5**	**+0.3**
QIZ				S	**S**	**17 41 41.8**	**-1.2**
QIZ				pmax	pmax		
	comp=Z,11nm,1.2s						
ZALV	**Zalesovo Beam**	**41.88**	**313**	P	**P**	**17 37 56.2**	**-0.3**
	comp=Z,5.2nm,0.9s,baz=92,slow=7.4,SNR=24						
ZALV				pP	**pP**	**17 38 10.8**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=93,slow=6.5,SNR=4.9						
MKAR	**Makanchi Array**	**43.39**	**303**	P	**P**	**17 38 13.1**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=84,slow=8.4,SNR=21						
KURBB	**Kurchatov Arra**	**45.90**	**308**	LR	LR	17 57 11.3	
	comp=Z,15nm,19.5s,baz=345,slow=35						
AAK	**Ala-Archa**	**50.24**	**299**	LR	LR	18 00 27.8	
	comp=Z,40nm,18.4s,baz=187,slow=36						
ILAR	**Eielson Array**	**50.33**	**32**	P	**P**	**17 39 03.9**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=273,slow=6.2,SNR=14						
ILAR				PcP	**PcP**	**17 40 20.1**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=265,slow=5.3,SNR=2.2						
PSI	**Prapat**	**50.96**	**239**	LR	LR	18 01 54.0	
	comp=Z,123nm,21.1s,baz=236,slow=37						
INK	**Inuvik**	**55.20**	**27**	P	**P**	**17 39 39.8**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=280,slow=4.6,SNR=4.4						
WRA	**Warramunga Arr**	**56.38**	**187**	P	**P**	**17 39 47.6**	**0.0**
	comp=Z,2.1nm,0.8s,baz=3.5,slow=7.3,SNR=24						
WRA				LR	LR	18 03 50.3	
	comp=Z,101nm,20.7s,baz=35,slow=36						
ASAR	**Alice Springs**	**60.11**	**187**	P	**P**	**17 40 13.8**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=9.4,slow=6.9,SNR=12						
RES	**Resolute Bay**	**63.34**	**14**	P	**P**	**17 40 34.9**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=334,slow=4.5,SNR=8.8						
ARCES	**ARCESS Array B**	**64.35**	**339**	P	**P**	**17 40 40.9**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=49,slow=8.4,SNR=3.2						
YKA	**Yellowknife Ar**	**64.64**	**30**	P	**P**	**17 40 43.7**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=302,slow=6.9,SNR=4.3						
FINES	**FINESS Array B**	**69.07**	**332**	P	**P**	**17 41 11.5**	**-0.1**
	comp=Z,4.1nm,0.9s,baz=46,slow=5.5,SNR=7.5						
KBZ	**Khabaz**	**70.83**	**310**	P	**P**	**17 41 22.9**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=27,slow=9.0,SNR=4.7						
AKASG	**Malin Array Be**	**74.40**	**322**	P	**P**	**17 41 43.1**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=50,slow=6.5,SNR=4.6						
NB2	**NORSAR Subarra**	**74.51**	**337**	P	**P**	**17 41 44.1**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**74.51**	**337**	P	**P**	**17 41 44.3**	**0.0**
	comp=Z,2.4nm,0.8s,baz=40,slow=5.9,SNR=8.2						
NVAR	**Mina Array Bea**	**75.84**	**53**	P	**P**	**17 41 53.7**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=292,slow=5.7,SNR=4.2						
BRTR	**Keskin Array B**	**78.80**	**311**	P	**P**	**17 42 09.7**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=118,slow=8.3,SNR=3.9						
GERES	**GERESS Array B**	**82.90**	**328**	P	**P**	**17 42 30.6**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=59,slow=5.9,SNR=3.5						
SIV	**San Ignacio**	**151.94**	**49**	PKPbc	**PKPbc**	**17 50 02.2**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=272,slow=3.0,SNR=4.2						

*IDC **27** 17:43:02.4±0.6, 9°37N×125°52E, h0km, mb4.0/22, mb1 4.2/24, mb1mx4.1/30, mbtmp4.1/24, ML4.1/2, MS4.0/19, Ms1 4.0/19, ms1mx3.8/29, Error ellipse: s-maj=22.0km s-min=12.2km az=73.0*

*MAN **27** 17:43:04, 9°42N×125°47E, h3km, mb4.8, ML3.7, MS3.7*

MAN INTENSITY IV - MAINIT SURIGAO DEL NORTE; INTENSITY II - SURIGAO CITY; INTENSITY I - BISLIG SURIGAO DEL SUR.

*NEIC **27** 17:43:08.3±1.2, 9°42N×125°71E, h38km±11km, mb4.6/18, Error ellipse: s-maj=10.6km s-min=6.2km az=67.0*

NEIC Felt [IV PIVS] at Mainit, [II PIVS] at Surigao and [I PIVS] at Bislig.

ISC 27 17:43:04.8±1.3, 9°45N±0°03×125°54E±0°05, h13km±8km, n112, σ1638/105, mb4.4/42, MS4.0/18, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.49**	**170**	*eP*	**Pg**	**17 43 13.8**	**-0.6**
BUTP				*eS*	**Sb**	**17 43 27.7**	**+5.4**
CGP	**Cagayan de Oro**	**1.29**	**220**	↑*iP*	**Pn**	**17 43 28.2**	**-0.4**
CGP				*i* S	**Sn**	**17 43 45.9**	**+0.1**
BUKP	**Musuan**	**1.63**	**197**	*eP*	**Pn**	**17 43 33.5**	**+0.2**
BUKP				*eS*	**Sg**	**17 43 58.1**	**+0.7**
TBP	**Tagbilaran**	**1.67**	**278**	*eP*	**Pn**	**17 43 33.8**	**+0.1**
LLP	**Lapu-Lapu**	**1.77**	**299**	↑*iP*	**Pn**	**17 43 35.3**	**+0.1**
LLP				*i* S	**Sg**	**17 44 00.2**	**-1.6**
PLP	**Palo**	**1.79**	**342**	↓*iP*	**Pn**	**17 43 36.6**	**+1.2**
PLP				*eS*	**Sg**	**17 44 02.2**	**-0.1**
DCPH	**Dipolog City**	**2.32**	**248**	*eP*	**Pb**	**17 43 44.8**	**-1.7**
DAV	**Davao City (W)**	**2.37**	**179**	*eP*n	**Pb**	**17 43 46.0**	**-1.3**
DAV				*eS*n	Sg	17 44 28.6	+7.7
DAV	**Davao City (W)**	**2.37**	**179**	Pn	**Pb**	**17 43 47.5**	**+0.1**
	78nm,0.3s,baz=273,slow=5.9,SNR=16						
KCP	**Kidapawan**	**2.47**	**190**	↓*eP*	**Pn**	**17 43 45.1**	**+0.3**
KCP				*i* S	**Sg**	**17 44 23.9**	**-0.3**
CTBH	**Cotabato--PC H**	**2.56**	**210**	↓*eP*	**Pn**	**17 43 46.1**	**+0.1**
MATI	**Mati**	**2.59**	**164**	*eP*	**Pn**	**17 43 48.4**	**+1.9**
PAGZ	**Pagadian**	**2.66**	**233**	*eP*	**Pn**	**17 43 48.5**	**+1.1**
IPIL	**Ipil**	**3.37**	**241**	*eP*	**Pn**	**17 43 59.7**	**+2.6**
GSPH	**General Santos**	**3.39**	**190**	*eP*	Pb	17 44 01.3	-3.7
TGY	**Tagaytay City**	**6.45**	**316**	Pn	**Pn**	**17 44 39.7**	**0.0**
TGY	**Tagaytay City**	**6.45**	**316**	Pn	**Pn**	**17 44 39.7**	**0.0**
	23nm,0.3s,baz=65,slow=17,SNR=2.2						
KAPI	**Kappang**	**15.48**	**202**	LR	LR	17 53 55.2	
	comp=Z,373nm,18.2s,baz=121,slow=42						
YHNB	**Yeheng**	**15.64**	**346**	Pn	**Pn**	**17 46 47.0**	**+1.8**
JOW	**Kunigami**	**17.48**	**8**	P	**Pn**	**17 47 09.5**	**+1.0**
JOW	**Kunigami**	**17.48**	**8**	P	**Pn**	**17 47 09.5**	**+1.0**
	0.5nm,0.3s,baz=225,slow=17,SNR=1.9						
QIZ	**Qiongzhong**	**17.93**	**304**	P	**Pn**	**17 47 12.5**	**-1.6**
QIZ				S	Sn	17 50 11.0	-23
QIZ				pmax	pmax		
	comp=Z,8.0nm,1.9s						
QIZ				pmax	pmax		
	comp=Z,180nm,10.6s						
QIZ				LR	LR		
	comp=N,290nm,19.1s						
QIZ				LR	LR		
	comp=E,270nm,19.5s						
QIZ				LR	LR		
	comp=Z,590nm,20.8s						
CBIJ	**Chichi jima**	**23.57**	**40**	LR	LR	17 57 16.2	
	comp=Z,166nm,18.3s,baz=141,slow=36						
JNU	**Nakatsue**	**24.07**	**11**	LR	LR	17 56 38.3	
	comp=Z,234nm,20.6s,baz=226,slow=34						
ENH	**Enshi**	**25.57**	**326**	P	**P**	**17 48 35.0**	**+1.3**
	comp=Z,5.0nm,0.6s						
JHJ	**Hachijo jima 2**	**26.97**	**27**	LR	LR	17 57 35.8	
	comp=Z,321nm,20.2s,baz=228,slow=32						
CMAR	**Chiang Mai Arr**	**27.28**	**292**	P	**P**	**17 48 50.7**	**+1.4**
CMAR	**Chiang Mai Arr**	**27.28**	**292**	P	**P**	**17 48 50.7**	**+1.4**
	comp=Z,1.4nm,0.8s,baz=109,slow=8.0,SNR=8.7						
CMAR				LR	LR	18 00 00.9	
	comp=Z,350nm,19.3s,baz=272,slow=37						
FITZ	**Fitzroy Crossi**	**27.38**	**180**	P	**P**	**17 48 49.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**27.38**	**180**	P	**P**	**17 48 49.7**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=341,slow=9.8,SNR=3.6						
KSAR	**Wonju Array Be**	**27.95**	**4**	P	**P**	**17 48 55.3**	**+0.3**
KSRS	**Korea Array**	**27.96**	**4**	P	**P**	**17 48 55.3**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=183,slow=10,SNR=5.7						
KSRS				LR	LR	17 58 59.9	
	comp=Z,226nm,21.7s,baz=184,slow=34						
PMG	**Port Moresby**	**28.54**	**130**	P	**P**	**17 48 58.8**	**-1.7**
	comp=Z,12nm,1.0s						
COEN	**Coen**	**29.11**	**143**	*eP*	**P**	**17 49 05.5**	**-0.1**
	comp=Z,287nm,1.5s						
MJAR	**Matsushiro Arr**	**29.32**	**21**	P	**P**	**17 49 07.2**	**-0.1**
MJAR	**Matsushiro Arr**	**29.32**	**21**	P	**P**	**17 49 07.2**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=200,slow=10,SNR=4.8						
MJAR				LR	LR	17 59 18.2	
	comp=Z,317nm,20.8s,baz=205,slow=33						
WRAB	**Tennant Creek**	**30.46**	**163**	*eP*	**P**	17 49 21.0	+3.4
	comp=Z,3.2nm,0.7s						
WRA	**Warramunga Arr**	**30.47**	**164**	P	**P**	**17 49 15.7**	**-1.9**
WRA	**Warramunga Arr**	**30.47**	**164**	P	**P**	**17 49 15.7**	**-1.9**
	comp=Z,0.2nm,0.4s,baz=344,slow=9.4,SNR=4.7						
MBWA	**Marble Bar**	**30.95**	**191**	P	**P**	**17 49 21.1**	**-0.7**
ASAR	**Alice Springs**	**33.92**	**166**	P	**P**	**17 49 46.5**	**-1.3**
ASAR	**Alice Springs**	**33.92**	**166**	P	**P**	**17 49 46.5**	**-1.3**
	comp=Z,0.5nm,0.4s,baz=342,slow=7.2,SNR=33						
USRK	**Ussuriysk Arra**	**35.07**	**8**	P	**P**	**17 49 58.2**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=198,slow=7.6,SNR=6.6						
USRK				LR	LR	18 02 52.0	
	comp=Z,173nm,20.5s,baz=349,slow=34						
ASAJ	**Asahikawa**	**37.58**	**20**	P	**P**	**17 50 19.9**	**+0.9**
ASAJ	**Asahikawa**	**37.58**	**20**	P	**P**	**17 50 19.9**	**+0.9**
	comp=Z,9.9nm,1.0s,baz=172,slow=24,SNR=8.6						
LSA	**Lhasa**	**37.92**	**307**	*eP*	**P**	**17 50 24.9**	**+2.1**
	comp=Z,16nm,1.4s						
TAPN	**Taplejung**	**39.85**	**302**	*eP*	**P**	**17 50 39.8**	**+1.1**
	comp=Z,8.4nm,0.6s						
TAPN	**Taplejung**	**39.85**	**302**	*eP*	**P**	**17 50 39.8**	**+1.1**
	comp=Z,8.4nm,0.6s						
ODAN	**Odare**	**39.96**	**301**	*eP*	**P**	**17 50 42.0**	**+2.4**
	comp=Z,22nm,0.8s						
ODAN	**Odare**	**39.96**	**301**	*eP*	**P**	**17 50 42.0**	**+2.4**
	comp=Z,22nm,0.8s						
RAMN	**Ramite**	**40.66**	**301**	*eP*	**P**	**17 50 48.3**	**+2.9**
RAMN	**Ramite**	**40.66**	**301**	*eP*	**P**	**17 50 48.3**	**+2.9**
JIRN	**Jiri**	**41.23**	**301**	*eP*	**P**	**17 50 51.6**	**+1.4**
JIRN	**Jiri**	**41.23**	**301**	*eP*	**P**	**17 50 51.6**	**+1.4**
ULN	**Ulaanbaatar**	**41.35**	**341**	*eP*	**P**	**17 50 51.5**	**+0.8**
	comp=Z,1.4nm,0.6s						
SONM	**Songino Array**	**41.54**	**341**	P	**P**	**17 50 52.7**	**+0.5**
SONM	**Songino Array**	**41.54**	**341**	P	**P**	**17 50 52.7**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=155,slow=9.3,SNR=5.9						
SONM				LR	LR	18 10 55.9	
	comp=Z,138nm,19.4s,baz=143,slow=40						
GUN	**Gumba**	**41.57**	**302**	*eP*	**P**	**17 50 54.7**	**+1.7**
GUN	**Gumba**	**41.57**	**302**	*eP*	**P**	**17 50 54.7**	**+1.7**
KKN	**Kakani**	**42.03**	**301**	*eP*	**P**	**17 50 59.2**	**+2.5**
KKN	**Kakani**	**42.03**	**301**	*eP*	**P**	**17 50 59.2**	**+2.5**
DMN	**Daman**	**42.13**	**301**	*eP*	**P**	**17 50 59.8**	**+2.3**
DMN	**Daman**	**42.13**	**301**	*eP*	**P**	**17 50 59.8**	**+2.3**
NWAO	**Narrogin (SRO)**	**42.88**	**190**	P	**P**	**17 51 01.8**	**-1.3**
	comp=Z,8.2nm,0.8s						
KOLN	**Koldanda**	**43.45**	**301**	*eP*	P	17 51 11.5	+3.4
KOLN	**Koldanda**	**43.45**	**301**	*eP*	P	17 51 11.5	+3.4
DANN	**Dangsing**	**43.48**	**301**	*eP*	**P**	**17 51 11.5**	**+3.0**
DANN	**Dangsing**	**43.48**	**301**	*eP*	**P**	**17 51 11.5**	**+3.0**
STKA	**Stephens Creek**	**43.87**	**160**	P	**P**	**17 51 10.5**	**-0.6**
STKA	**Stephens Creek**	**43.87**	**160**	P	**P**	**17 51 10.5**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=330,slow=6.5,SNR=7.0						
PYUN	**Piuthan**	**44.06**	**301**	*eP*	P	17 51 17.2	+4.1
	comp=Z,15nm,0.7s						
PYUN	**Piuthan**	**44.06**	**301**	*eP*	P	17 51 17.2	+4.1
	comp=Z,15nm,0.7s						
PETK	**Petropavlovsk-**	**50.68**	**25**	P	**P**	**17 52 04.3**	**+0.4**
PETK	**Petropavlovsk-**	**50.68**	**25**	P	**P**	**17 52 04.3**	**+0.4**
	comp=Z,7.7nm,1.0s,baz=200,slow=7.3,SNR=8.7						
PETK				LR	LR	18 12 11.3	
	comp=Z,132nm,19.9s,baz=246,slow=34						
DZM	**Mont Dzumac**	**50.90**	**128**	P	**P**	**17 52 06.1**	**-0.1**
DZM	**Mont Dzumac**	**50.90**	**128**	P	**P**	**17 52 06.1**	**-0.1**
	comp=Z,3.1nm,0.6s,baz=300,slow=8.1,SNR=6.1						
MKAR	**Makanchi Array**	**52.24

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.83**	**192**	*i* P	**Pb**	**17 43 42.5**	**-0.3**
SHL				*e*S	**Sb**	**17 44 06.5**	**+0.8**
LSA	**Lhasa**	**2.54**	**337**	Pg	**Pb**	**17 43 55.3**	**+0.3**
LSA				Sg	**Sg**	**17 44 30.3**	**-0.8**
LSA				smax	smax		
	comp=E,110nm,0.9s						
CMAR	**Chiang Mai Arr**	**10.77**	**144**	Pn	**Pn**	**17 45 43.4**	**+0.2**
	comp=E,0.1nm,0.3s,baz=321,slow=14,SNR=7.0						
MKAR	**Makanchi Array**	**20.94**	**340**	P	**P**	**17 47 52.5**	**+0.8**
	comp=E,2.0nm,0.5s,baz=144,slow=13,SNR=40						
AAK	**Ala-Archa**	**21.03**	**321**	P	**P**	**17 47 54.4**	**+1.6**
	comp=E,1.2nm,0.6s,baz=127,slow=10,SNR=4.7						
SONM	**Songino Array**	**23.21**	**25**	P	**P**	**17 48 16.2**	**+0.3**
	comp=E,0.3nm,0.6s,baz=224,slow=9.5,SNR=4.0						
KURBB	**Kurchatov Arra**	**25.49**	**339**	P	**P**	**17 48 37.0**	**+0.1**
	comp=E,1.0nm,0.5s,baz=152,slow=10,SNR=20						
ZALV	**Zalesovo Beam**	**27.12**	**350**	P	**P**	**17 48 52.3**	**+0.6**
	comp=E,1.0nm,0.4s,baz=176,slow=8.4,SNR=8.6						
BRTR	**Keskin Array B**	**49.63**	**300**	P	**P**	**17 52 00.5**	**-0.2**
	comp=E,0.6nm,0.7s,baz=87,slow=8.2,SNR=3.5						
AKASG	**Malin Array Be**	**52.49**	**314**	P	**P**	**17 52 20.4**	**-1.3**
	comp=E,0.3nm,0.3s,baz=83,slow=8.0,SNR=4.3						
FINES	**FINESS Array B**	**55.02**	**328**	P	**P**	**17 52 40.4**	**+0.3**
	comp=E,2.4nm,1.0s,baz=120,slow=8.2,SNR=3.1						
WRA	**Warramunga Arr**	**62.20**	**135**	P	**P**	**17 53 30.4**	**-0.2**
	comp=E,0.3nm,0.4s,baz=323,slow=7.1,SNR=2.8						
GERES	**GERESS Array B**	**62.66**	**313**	P	**P**	**17 53 33.5**	**0.0**
	comp=E,0.5nm,0.5s,baz=79,slow=6.9,SNR=4.9						
ILAR	**Eielson Array**	**77.41**	**22**	P	**P**	**17 55 03.1**	**-0.6**
	comp=E,0.3nm,0.6s,baz=301,slow=4.8,SNR=3.7						

IDC 27 17:46:51.9±1.9, 4°54N×127°46E, *h0*km, mb3.5/5, mb1 3.7/5, mb1mx3.4/23, mbtmp3.5/5, Error ellipse: s-maj=184.7km s-min=20.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.25**	**165**	P	P	17 52 19.9	0.0
	1.3nm,0.9s,baz=344,slow=10,SNR=4.6						
ASAR	**Alice Springs**	**28.73**	**168**	P	P	17 52 51.5	+0.2
	0.4nm,0.7s,baz=347,slow=7.6,SNR=2.9						
STKA	**Stephens Creek**	**38.64**	**161**	P	P	17 54 16.8	-0.3
	1.1nm,0.6s,baz=327,slow=9.2,SNR=2.0						
MKAR	**Makanchi Array**	**57.31**	**325**	P	P	17 56 41.6	-0.1
	0.1nm,0.4s,baz=117,slow=7.5,SNR=4.8						
KURBB	**Kurchatov Arra**	**61.46**	**327**	P	P	17 57 10.2	0.0
	0.4nm,0.5s,baz=127,slow=6.3,SNR=4.4						

*IDC **27** 17:53:50.8±0.8, 21°.64S×175°.71W, h0km, mb3.9/10, mb1 4.2/11, mb1mx4.0/22, mbtmp3.9/11, ML1.9/1, Error ellipse: s-maj=33.7km s-min=18.2km az=145.0*
*ISCJB **27** 17:53:57.5±0.5, 21°.91S±0°.09×175°.7W±0°.1, h70km, mb3.9/15, Error ellipse: s-maj=15.5km s-min=11.2km az=42.6*
*NEIC **27** 17:53:58.0±2.2, 21°.90S×175°.61W, h60km±19km, mb4.5/5, Error ellipse: s-maj=17.6km s-min=12.2km az=111.0*
ISC 27 17:53:59.5±0.6, 21°.9S±0°.1×175°.7W±0°.1, h70km, n39, σ1§04/36, mb4.1/15, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.21**	**304**	*e*Pn	**Pn**	**17 55 42.4**	**+0.1**
	38nm,1.4s						
AFI	**Afiamalu**	**8.75**	**26**	Pn	Pn	17 55 53.8	-10
AFI				*e*Sn	Sn	17 57 22.3	-18
AFI				Sn	Sn	17 57 23.8	-17
AFI	**Afiamalu**	**8.75**	**26**	Pn	Pn	17 55 53.8	-10
	0.8nm,0.3s,baz=232,slow=18,SNR=2.0						
AFI				Sn	Sn	17 57 23.8	-17
	1.8nm,0.3s,baz=139,slow=20,SNR=2.4						
RAR	**Rarotonga**	**14.80**	**90**	T	T	18 11 55.5	
	29nm,0.3s,baz=198,slow=13,SNR=4.7						
URZ	**Urewera**	**17.47**	**199**	*e*P	**Pn**	**17 57 56.8**	**-1.6**
	33nm,1.1s						
SNZO	**South Karori**	**21.01**	**201**	P	**P**	**17 58 35.7**	**-1.5**
CTA	**Charters Tower**	**35.55**	**266**	P	**P**	**18 00 51.3**	**+1.2**
CTA	**Charters Tower**	**35.55**	**266**	P	**P**	**18 00 51.3**	**+1.2**
	12nm,1.1s,baz=116,slow=12,SNR=3.8						
STKA	**Stephens Creek**	**39.19**	**246**	P	**P**	**18 01 20.9**	**+0.1**
STKA	**Stephens Creek**	**39.19**	**246**	P	**P**	**18 01 20.9**	**+0.1**
	0.9nm,0.8s,baz=97,slow=8.1,SNR=2.1						
ASAR	**Alice Springs**	**46.34**	**258**	P	**P**	**18 02 18.4**	**-0.5**
ASAR	**Alice Springs**	**46.34**	**258**	P	**P**	**18 02 18.4**	**-0.5**
	0.3nm,0.5s,baz=101,slow=7.6,SNR=14						
WRAB	**Tennant Creek**	**46.57**	**263**	P	**P**	**18 02 19.3**	**-1.3**
	3.6nm,0.9s						
WRA	**Warramunga Arr**	**46.58**	**263**	P	**P**	**18 02 20.1**	**-0.7**
WRA	**Warramunga Arr**	**46.58**	**263**	P	**P**	**18 02 20.1**	**-0.7**
	0.4nm,0.6s,baz=101,slow=8.6,SNR=14						
FITZ	**Fitzroy Crossi**	**55.01**	**263**	P	**P**	**18 03 23.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**55.01**	**263**	P	**P**	**18 03 23.9**	**-0.3**
	1.3nm,0.7s,baz=74,slow=7.4,SNR=3.4						
QSPA	**South Pole Qui**	**68.19**	**180**	P	**P**	**18 04 54.2**	**+1.9**
QSPA	**South Pole Qui**	**68.19**	**180**	P	**P**	**18 04 54.2**	**+1.9**
	0.6nm,0.3s,baz=49,slow=8,SNR=14						
NVAR	**Mina Array Bea**	**80.55**	**42**	P	**P**	**18 06 04.8**	**+0.3**
NVAR	**Mina Array Bea**	**80.55**	**42**	P	**P**	**18 06 04.8**	**+0.3**
	0.9nm,0.8s,baz=228,slow=7.7,SNR=4.0						
TXAR	**Lajitas Array**	**85.98**	**56**	P	**P**	**18 06 33.5**	**+1.0**
TXAR	**Lajitas Array**	**85.98**	**56**	P	**P**	**18 06 33.5**	**+1.0**
	0.3nm,0.4s,baz=265,slow=4.5,SNR=6.0						
NEW	**Newport**	**87.23**	**35**	*e*P	**P**	**18 06 36.4**	**-1.7**
	2.3nm,1.0s						
TRF	**Thorofare Moun**	**87.36**	**11**	*e*P	**P**	**18 06 36.5**	**-2.0**
	7.1nm,0.7s						
MCK	**McKinley**	**87.86**	**12**	P	**P**	**18 06 40.0**	**-0.8**
	6.4nm,0.9s						
ILAR	**Eielson Array**	**89.19**	**12**	P	**P**	**18 06 46.6**	**-0.3**
ILAR	**Eielson Array**	**89.19**	**12**	P	**P**	**18 06 46.6**	**-0.3**
	1.2nm,1.0s,baz=210,slow=5.7,SNR=5.8						
WALA	**Waterton Lakes**	**89.42**	**35**	P	**P**	**18 06 47.0**	**-1.5**
	0.1nm,1.0s						
YKA	**Yellowknife Ar**	**96.86**	**24**	P	**P**	**18 07 21.6**	**-0.6**
YKA	**Yellowknife Ar**	**96.86**	**24**	P	**P**	**18 07 21.7**	**-0.6**
	0.5nm,0.7s,baz=238,slow=4.4,SNR=12						
ARCES	**ARCESS Array B**	**130.65**	**350**	PKP	**PKPdf**	**18 13 02.7**	**+1.0**
ARCES	**ARCESS Array B**	**130.65**	**350**	PKP	**PKPdf**	**18 13 02.7**	**+1.0**
	2.8nm,0.9s,baz=48,slow=1.8,SNR=5.4						
AKASG	**Malin Array Be**	**145.26**	**332**	PKPbc	**PKPdf**	**18 13 29.0**	**+0.1**
AKASG	**Malin Array Be**	**145.26**	**332**	PKPbc	**PKPdf**	**18 13 29.0**	**+0.1**
	0.6nm,0.4s,baz=43,slow=4.4,SNR=3.8						
BRTR	**Keskin Array B**	**149.38**	**312**	PKPbc	**PKPbc**	**18 13 41.3**	**+0.5**
BRTR	**Keskin Array B**	**149.38**	**312**	PKPbc	**PKPbc**	**18 13 41.3**	**+0.5**
	0.5nm,0.7s,baz=138,slow=4.0,SNR=4.5						
GERES	**GERESS Array B**	**152.08**	**347**	PKPbc	**PKPbc**	**18 13 47.6**	**+0.8**
GERES	**GERESS Array B**	**152.08**	**347**	PKPbc	**PKPbc**	**18 13 47.6**	**+0.8**
	0.3nm,0.4s,baz=20,slow=3.1,SNR=2.5						

IDC 27 18:08:23.7±1.2, 3°.05N×126°.00E, *h0*km, mb3.7/5, mb1 3.8/5, mb1mx3.6/21, mbtmp3.7/5, MS2.8/1, Ms1 2.8/1, ms1mx2.1/41, Error ellipse: s-maj=142.7km s-min=18.8km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**4.01**	**354**	LR	LR	18 10 40.0	
	comp=Z,109nm,18.1s,baz=61,slow=34						
WRA	**Warramunga Arr**	**24.28**	**161**	P	P	18 13 42.8	-0.2
	1.9nm,0.5s,baz=340,slow=10,SNR=24						
ASAR	**Alice Springs**	**27.65**	**164**	P	P	18 14 13.2	-0.2
	0.4nm,0.7s,baz=341,slow=6.9,SNR=9.9						
STKA	**Stephens Creek**	**37.77**	**158**	P	P	18 15 42.1	+0.5
	2.6nm,0.7s,baz=338,slow=7.8,SNR=8.4						
SONM	**Songino Array**	**47.71**	**342**	P	P	18 17 01.9	-0.5
	0.2nm,0.6s,baz=162,slow=7.5,SNR=4.2						
MKAR	**Makanchi Array**	**57.70**	**326**	P	P	18 18 16.2	-0.1
	0.3nm,0.4s,baz=128,slow=7.7,SNR=15						

IDC 27 18:14:57.1±1.1, 13°.83N×146°.35E, *h0*km, mb3.4/6, mb1 3.6/6, mb1mx3.5/23, mbtmp3.4/6, MS3.8/1, Ms1 3.8/1, ms1mx2.4/25, Error ellipse: s-maj=49.4km s-min=21.3km az=94.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**35.58**	**200**	P	P	18 21 56.0	-0.5
	0.5nm,0.8s,baz=20,slow=9.8,SNR=4.8						
ASAR	**Alice Springs**	**39.20**	**198**	P	P	18 22 27.3	+0.1
	0.1nm,0.5s,baz=29,slow=7.8,SNR=3.5						
DZM	**Mont Dzumac**	**40.76**	**151**	LR	LR	18 36 10.4	
	comp=Z,121nm,20.1s,baz=204,slow=31						
STKA	**Stephens Creek**	**45.67**	**186**	P	P	18 23 19.8	+0.1
	1.3nm,0.8s,baz=354,slow=10,SNR=2.3						
SONM	**Songino Array**	**47.38**	**324**	P	P	18 23 32.9	-0.3
	0.2nm,0.3s,baz=132,slow=5.9,SNR=4.7						
MKAR	**Makanchi Array**	**62.32**	**316**	P	P	18 25 21.6	+0.1
	0.2nm,0.5s,baz=90,slow=8.2,SNR=6.3						
ILAR	**Eielson Array**	**67.74**	**25**	P	P	18 25 56.2	0.0
	0.3nm,0.4s,baz=252,slow=5.9,SNR=10						

*NEIC **27** 18:26:33.4±1.9, 21°.57S×174°.89W, h88km±16km, mb4.5/3, Error ellipse: s-maj=29.6km s-min=13.5km az=171.0*
*IDC **27** 18:26:34.2±1.0, 20°.90S×175°.52W, h69km±7km, mb4.0/13, mb1 4.2/13, mb1mx4.0/22, mbtmp4.0/13, MS3.7/2, Ms1 3.7/2, ms1mx3.0/27, Error ellipse: s-maj=25.4km s-min=15.3km az=149.0*
ISC 27 18:26:34.0±0.8, 20°.8S±0°.1×175°.3W±0°.1, h70km±6km, h70km:pP-P, n59, σ1§66/57, mb4.3/15, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.00**	**295**	*e*Pn	Pn	18 28 22.6	+8.6
	212nm,1.3s						
AFI	**Afiamalu**	**7.64**	**27**	*e*Pn	**Pn**	**18 28 20.6**	**-2.1**
	22nm,0.6s						
AFI				P		18 28 20.8	
AFI				*e*Sn	Sn	18 29 32.0	-16
AFI				S		18 29 39.1	
AFI	**Afiamalu**	**7.64**	**27**	P	**Pn**	**18 28 20.8**	**-2.0**
	6.2nm,0.3s,baz=189,slow=13,SNR=5.8						
AFI				S	Sn	18 29 39.1	-8.8
	2.4nm,0.3s,baz=203,slow=13,SNR=2.3						
RAR	**Rarotonga**	**14.50**	**94**	Pn	Pn	18 29 48.1	-7.5
RAR				*e*Sn	Sn	18 32 12.6	-23
RAR	**Rarotonga**	**14.50**	**94**	T	T	18 44 27.2	
	8.7nm,0.3s,baz=188,slow=17,SNR=5.1						
DZM	**Mont Dzumac**	**17.05**	**262**	P	**P**	**18 30 31.9**	**+3.0**
DZM				*e*Pn	**Pn**	**18 30 32.0**	**+4.0**
DZM	**Mont Dzumac**	**17.05**	**262**	P	**P**	**18 30 31.9**	**+3.0**
	0.7nm,0.3s,baz=73,slow=20,SNR=18						
TBI	**Tubuai**	**24.06**	**101**	*e*LR	LR	18 37 16.2	
	217nm,29.5s						
TBI				*e*T	T	18 56 08.9	
	9.1nm,0.3s						
PAE	**Paea**	**24.47**	**87**	*e*T	T	18 56 30.0	
	6.1nm,0.3s						
PPT2	**Papeete2**	**24.48**	**87**	*e*LR	LR	18 37 29.2	
	263nm,28.5s						
MEH	**Mehetia**	**25.84**	**88**	*e*T	T	18 58 06.1	
	104nm,0.3s						
CTA	**Charters Tower**	**35.98**	**264**	P	**P**	**18 33 29.7**	**+1.2**
CTA	**Charters Tower**	**35.98**	**264**	P	**P**	**18 33 29.7**	**+1.2**
	3.3nm,0.7s,baz=88,slow=12,SNR=5.2						
CTAO	**Charters Tower**	**35.98**	**264**	*e*P	**P**	**18 33 29.2**	**+0.8**
	3.7nm,0.6s						
RKT	**Rikitea**	**37.38**	**101**	*e*T	T	19 12 47.3	
	8.3nm,0.3s						
PMG	**Port Moresby**	**37.89**	**282**	*e*P	**P**	**18 33 42.5**	**-2.1**
	17nm,0.9s						
PMG	**Port Moresby**	**37.89**	**282**	P	**P**	**18 33 42.9**	**-1.7**
	16nm,0.9s,baz=87,slow=8.4,SNR=8.7						
TAU	**Tasmania Unive**	**38.21**	**226**	P	**P**	**18 33 46.7**	**-0.3**
STKA	**Stephens Creek**	**39.95**	**245**	P	**P**	**18 34 00.4**	**-1.2**
STKA	**Stephens Creek**	**39.95**	**245**	P	**P**	**18 34 00.4**	**-1.2**
	2.6nm,0.5s,baz=92,slow=10,SNR=17						
ASAR	**Alice Springs**	**46.92**	**257**	P	**P**	**18 34 55.9**	**-2.0**
ASAR				pP	**pP**	**18 35 14.0**	**-1.5**
ASAR	**Alice Springs**	**46.92**	**257**	P	**P**	**18 34 55.9**	**-2.0**
	3.2nm,0.8s,baz=90,slow=8.8,SNR=29						
ASAR				pP	**pP**	**18 35 14.0**	**-1.5**
	7.7nm,0.8s,baz=98,slow=7.5,SNR=15						
WRAB	**Tennant Creek**	**47.06**	**262**	*e*P	**P**	**18 34 57.1**	**-1.9**
	3.6nm,0.8s						
WRA	**Warramunga Arr**	**47.07**	**262**	P	**P**	**18 34 57.2**	**-1.9**
WRA	**Warramunga Arr**	**47.07**	**262**	P	**P**	**18 34 57.2**	**-1.9**
	1.7nm,0.6s,baz=96,slow=8.0,SNR=25						
FITZ	**Fitzroy Crossi**	**55.50**	**262**	P	P	18 35 58.7	-3.5
FITZ	**Fitzroy Crossi**	**55.50**	**262**	P	**P**	**18 36 00.8**	**-1.4**
	3.9nm,1.0s,baz=90,slow=11,SNR=2.6						
FITZ				LR	LR	18 58 17.3	
	comp=Z,39nm,18.6s,baz=264,slow=34						
QSPA	**South Pole Qui**	**69.26**	**180**	P	**P**	**18 37 33.2**	**-0.2**
QSPA	**South Pole Qui**	**69.26**	**180**	P	**P**	**18 37 33.2**	**-0.2**
	4.9nm,0.8s,baz=23,slow=3.4,SNR=27						
MJAR	**Matsushiro Arr**	**71.99**	**322**	P	**P**	**18 37 50.3**	**0.0**
MJAR	**Matsushiro Arr**	**71.99**	**322**	P	**P**	**18 37 50.3**	**0.0**
	2.2nm,0.7s,baz=151,slow=5.7,SNR=8.6						
PETK	**Petropavlovsk-**	**77.25**	**344**	P	**P**	**18 38 20.7**	**+0.4**
PETK	**Petropavlovsk-**	**77.25**	**344**	P	**P**	**18 38 20.7**	**+0.4**
	2.1nm,0.6s,baz=124,slow=7.5,SNR=3.4						
YBH	**Yreka Blue Hor**	**78.97**	**37**	LR	LR	19 06 02.7	
	comp=Z,74nm,18.1s,baz=176,slow=30						
NVAR	**Mina Array Bea**	**79.53**	**42**	P	**P**	**18 38 35.2**	**+1.7**
NVAR	**Mina Array Bea**	**79.53**	**42**	P	**P**	**18 38 35.2**	**+1.7**
	4.2nm,0.8s,baz=223,slow=9.0,SNR=23						
TXAR	**Lajitas Array**	**85.10**	**56**	P	**P**	**18 39 04.1**	**+1.4**
TXAR	**Lajitas Array**	**85.10**	**56**	P	**P**	**18 39 04.1**	**+1.4**
	1.7nm,0.8s,baz=207,slow=7.9,SNR=8.6						
VNA3	**Neumayer Olymp**	**87.64**	**175**	*e*P	**P**	**18 39 13.1**	**-1.3**
ILAR	**Eielson Array**	**88.08**	**12**	P	**P**	**18 39 17.1**	**+0.8**
ILAR	**Eielson Array**	**88.08**	**12**	P	**P**	**18 39 17.1**	**+0.8**
	0.5nm,0.9s,baz=210,slow=5.4,SNR=4.0						
VNA2	**Neumayer--Watz**	**88.12**	**176**	*e*P	**P**	**18 39 16.4**	**-0.2**
	baz=205,slow=1.5						
CMAR	**Chiang Mai Arr**	**92.61**	**289**	P	**P**	**18 39 38.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**92.61**	**289**	P	**P**	**18 39 38.4**	**-0.1**
	0.9nm,0.9s,baz=105,slow=4.0,SNR=3.1						
YKA	**Yellowknife Ar**	**95.75**	**24**	P	**P**	**18 39 52.9**	**+1.0**
YKA				pP	**pP**	**18 40 12.2**	**+0.9**
YKA	**Yellowknife Ar**	**95.75**	**24**	P	**P**	**18 39 52.8**	**+1.0**
	0.4nm,0.8s,baz=238,slow=4.7,SNR=8.1						
YKA				pP	**pP**	**18 40 12.1**	**+0.9**
	0.3nm,0.7s,baz=238,slow=4.8,SNR=4.4						
MKAR	**Makanchi Array**	**113.26**	**313**	Pdif	**Pdif**	**18 41 07.0**	**-3.3**
MKAR				PKiKP	**PKiKP**	**18 45 02.6**	**-1.0**
MKAR	**Makanchi Array**	**113.26**	**313**	Pdiff	**Pdif**	**18 41 07.0**	**-3.3**
	0.4nm,0.9s,baz=90,slow=3.8,SNR=3.8						
MKAR				PKiKP	**PKiKP**	**18 45 02.6**	**-1.0**
	0.2nm,0.6s,baz=137,slow=1.0,SNR=3.0						
KURK	**Kurchatov**	**115.94**	**317**	PKP	**PKPdf**	**18 45 08.2**	**-0.4**
KURBB	**Kurchatov Arra**	**116.00**	**317**	PKP	**PKPdf**	**18 45 08.2**	**-0.5**
	0.3nm,0.6s,baz=102,slow=1.4,SNR=4.3						
BVAR	**Borovoye Array**	**120.95**	**320**	PKP	**PKPdf**	**18 45 18.1**	**-0.1**
BVAR				pPKP	**pPKPdf**	**18 45 36.8**	**-1.5**
BVAR	**Borovoye Array**	**120.95**	**320**	PKP	**PKPdf**	**18 45 18.1**	**-0.1**
	0.5nm,0.7s,baz=132,slow=2.1,SNR=3.8						
BVAR				pPKP	**pPKPdf**	**18 45 36.8**	**-1.5**
	0.3nm,0.4s,baz=251,slow=2.4,SNR=2.9						
AKASG	**Malin Array Be**	**144.48**	**333**	PKP	PKPbc	18 46 00.9	+0.1
AKASG	**Malin Array Be**	**144.48**	**333**	PKP	PKPbc	18 46 01.0	+0.1
	1.0nm,0.4s,baz=42,slow=3.8,SNR=5.0						
BRTR	**Keskin Array B**	**148.91**	**314**	PKPbc	**PKPbc**	**18 46 13.8**	**-0.4**
BRTR	**Keskin Array B**	**148.91**	**314**	PKPbc	**PKPbc**	**18 46 13.8**	**-0.4**
	1.3nm,0.8s,baz=90,slow=2.9,SNR=3.2						
KHC	**Kasperske Hory**	**150.87**	**348**	*e*PKP	**PKPbc**	**18 46 19.0**	**+0.5**
KHC				*ep*PKP	**pPKPdf**	**18 46 37.0**	**+4.0**
GERES	**GERESS Array B**	**151.12**	**348**	PKPbc	**PKPbc**	**18 46 19.7**	**+0.5**
GERES	**GERESS Array B**	**151.12**	**348**	PKPbc	**PKPbc**	**18 46 19.7**	**+0.5**
	0.6nm,0.8s,baz=28,slow=2.3,SNR=5.4						

*IDC **27** 18:31:46.2±0.5, 3°.32N×126°.63E, h0km, mb4.1/16, mb1 4.3/16, mb1mx4.2/25, mbtmp4.1/16, MS3.5/4, Ms1 3.6/4, ms1mx2.8/36, Error ellipse: s-maj=32.9km s-min=9.4km az=73.0*
*ISCJB **27** 18:31:51.5±0.3, 3°.29N±0°.06×126°.56E±0°.10, h53km, mb4.3/33, MS3.7/3, Error ellipse: s-maj=15.1km s-min=6.6km az=157.5*
*NEIC **27** 18:31:51.3±0.3, 3°.28N×126°.60E, h35km, mb4.5/17, Error ellipse: s-maj=11.7km s-min=5.6km az=70.0*
ISC 27 18:31:53.8±0.5, 3°.41N±0°.07×126°.7E±0°.1, h53km, n62, σ1§49/65, mb4.4/32, MS3.8/3, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.80**	**343**	LR	LR	18 34 41.6	
	comp=Z,353nm,18.0s,baz=102,slow=45						
CTBH	**Cotabato--PC H**	**4.51**	**327**	*i*P	**Pn**	**18 32 59.1**	**-0.5**
KSM	**Kuching**	**16.50**	**264**	Pn	**P**	**18 35 47.2**	**+3.5**
	14nm,1.0s						
FITZ	**Fitzroy Crossi**	**21.41**	**183**	P	**P**	**18 36 34.7**	**-2.6**
FITZ	**Fitzroy Crossi**	**21.41**	**183**	*e*P	**P**	**18 36 35.8**	**-1.5**
	3.3nm,1.0s,baz=9.5,slow=12,SNR=2.9						
YHNB	**Yeheng**	**21.75**	**347**	P	**P**	**18 36 40.9**	**-0.1**
	18nm,0.8s						
PMG	**Port Moresby**	**24.03**	**122**	P	**P**	**18 37 03.3**	**-0.9**
	13nm,1.1s						
WRAB	**Tennant Creek**	**24.39**	**162**	*e*P	**P**	**18 37 05.6**	**-1.8**
	20nm,0.9s						
WRA	**Warramunga Arr**	**24.39**	**162**	P	**P**	**18 37 05.6**	**-1.7**
WRA				S	**S**	**18 41 27.8**	**+4.2**
WRA	**Warramunga Arr**	**24.39**	**162**	P	**P**	**18 37 05.6**	**-1.7**
	6.3nm,0.4s,baz=341,slow=11,SNR=35						
WRA				S	**S**	**18 41 27.8**	**+4.2**
	0.9nm,0.8s,baz=339,slow=20,SNR=3.4						
MBWA	**Marble Bar**	**25.36**	**195**	*e*P	**P**	**18 37 11.8**	**-4.3**
QIS	**Mount Isa**	**26.98**	**153**	*e*P	**P**	**18 37 30.0**	**-0.8**
ASAR	**Alice Springs**	**27.82**	**166**	P	**P**	**18 37 37.1**	**-1.2**
ASAR				S	**S**	**18 42 20.8**	**+3.0**
ASAR	**Alice Springs**	**27.82**	**166**	P	**P**	**18 37 37.1**	**-1.2**
	2.5nm,0.7s,baz=350,slow=7.3,SNR=16						
ASAR				S	**S**	**18 42 20.8**	**+3.0**
	0.2nm,0.6s,baz=357,slow=15,SNR=3.2						
CMAR	**Chiang Mai Arr**	**31.01**	**301**	P	**P**	**18 38 05.8**	**-0.9**
CMAR	**Chiang Mai Arr**	**31.01**	**301**	P	**P**	**18 38 05.8**	**-0.9**
	0.6nm,0.7s,baz=125,slow=7.4,SNR=6.7						
CHTO	**Chiang Mai**	**31.16**	**302**	P	**P**	**18 38 06.0**	**-2.0**
	1.9nm,0.7s						
KSAR	**Wonju Array Be**	**33.88**	**2**	P	**P**	**18 38 32.1**	**+0.6**
KSRS	**Korea Array**	**33.90**	**2**	P	**P**	**18 38 32.1**	**+0.5**
	3.4nm,0.9s,baz=175,slow=9.6,SNR=8.9						
STKA	**Stephens Creek**	**37.84**	**159**	P	**P**	**18 39 04.5**	**-1.0**
STKA	**Stephens Creek**	**37.84**	**159**	*e*P	**P**	**18 39 04.6**	**-1.0**
STKA	**Stephens Creek**	**37.84**	**159**	P	**P**	**18 39 04.5**	**-1.0**
	12nm,0.7s,baz=336,slow=9.1,SNR=19						
ARMA	**Armidale**	**41.22**	**146**	*e*P	**P**	**18 39 33.3**	**-0.5**
	12nm,0.8s						
ARMA	**Armidale**	**41.22**	**146**	*e*P	**P**	**18 39 33.3**	**-0.5**
LSA	**Lhasa**	**42.63**	**312**	*e*P	**P**	**18 39 46.4**	**+0.6**
	3.7nm,0.7s						
ULN	**Ulaanbaatar**	**47.41**	**342**	*e*P	**P**	**18 40 21.6**	**-1.5**
	4.9nm,1.0s						
SONM	**Songino Array**	**47.59**	**342**	P	**P**	**18 40 24.3**	**-0.2**
SONM				PcP	**PcP**	**18 41 54.1**	**+0.5**
SONM	**Songino Array**	**47.59**	**342**	P	**P**	**18 40 24.3**	**-0.2**
	1.0nm,0.6s,baz=156,slow=8.1,SNR=11						
SONM				PcP	**PcP**	**18 41 54.1**	**+0.5**
	0.5nm,0.7s,baz=156,slow=4.8,SNR=2.6						
SONM				LR	LR	19 01 18.0	
	comp=Z,32nm,18.4s,baz=20,slow=37						
TLY	**Talaya**	**51.82**	**342**	P	**P**	**18 40 56.5**	**0.0**
	3.0nm,0.6s						
PETK	**Petropavlovsk-**	**55.73**	**22**	P	**P**	**18 41 24.8**	**-0.2**
PETK	**Petropavlovsk-**	**55.73**	**22**	P	**P**	**18 41 24.8**	**-0.2**
	4.3nm,0.9s,baz=219,slow=3.7,SNR=3.8						
MKAR	**Makanchi Array**	**57.80**	**325**	P	**P**	**18 41 39.7**	**-0.1**
MKAR	**Makanchi Array**	**57.80**	**325**	P	**P**	**18 41 39.7**	**-0.1**
	1.2nm,0.5s,baz=119,slow=7.9,SNR=26						
YAK	**Yakutsk**	**58.52**	**2**	*e*P	**P**	**18 41 46.5**	**+2.0**
	14nm,0.9s						
ZALV	**Zalesovo Beam**	**60.86**	**333**	P	**P**	**18 42 00.0**	**-0.7**
ZALV	**Zalesovo Beam**	**60.86**	**333**	P	**P**	**18 42 00.0**	**-0.7**
	0.8nm,0.6s,baz=112,slow

CASY	**Casey**	**58.88**	**207**	P		**P**	**19 06 36.1**	**-0.8**
QSPA	**South Pole Qui**	**62.94**	**180**	P		**P**	**19 07 06.5**	**+1.7**
	2.3nm,1.0s,baz=27,slow=2.3,SNR=6.3							
MJAR	**Matsushiro Arr**	**76.72**	**324**	P		**P**	**19 08 29.2**	**-0.5**
MJAR	**Matsushiro Arr**	**76.72**	**324**	P		**P**	**19 08 29.2**	**-0.5**
	1.9nm,0.8s,baz=157,slow=6.4,SNR=7.3							
MAJO	**Matsushiro**	**76.72**	**324**	P		P	19 08 26.1	-3.6
	3.8nm,0.8s							
CMAR	**Chiang Mai Arr**	**94.14**	**288**	P		**P**	**19 09 59.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**94.14**	**288**	P		**P**	**19 09 59.0**	**+1.5**
	0.6nm,0.8s,baz=135,slow=3.7,SNR=6.7							
NB2	**NORSAR Subarra**	**145.79**	**354**	PKP		**PKPbc**	**19 16 16.7**	**-0.2**
	comp=Z,22nm,2.0s,baz=16,slow=3.2							
NOA	**NORSAR Array B**	**145.79**	**354**	PKPbc		**PKPdf**	**19 16 15.0**	**-1.4**
NOA	**NORSAR Array B**	**145.79**	**354**	PKPbc		**PKPdf**	**19 16 15.0**	**-1.4**
	comp=Z,2.8nm,1.0s,baz=16,slow=2.5,SNR=4.0							
TORD	**Torodi Ar. Bea**	**165.87**	**170**	PKPab		**PKPab**	**19 17 45.2**	**+1.8**
	comp=Z,0.9nm,1.1s,baz=198,slow=3.4,SNR=2.9							

ISCJB ***27*** *19:03:11.6±0.5, 10°.56N±0°.04×62°.45W±0°.03, h81km±7km, Error ellipse: s-maj=6.9km s-min=4.3km az=157.3*
FUNV ***27*** *19:03:13.5, 10°.60N×62°.42W, h71km, MW3.2*
TRN ***27*** *19:03:15.8, 10°.61N×62°.20W, h85km, MD2.8*

ISC 27 19:03:11.9±1.3, 10°.57N±0°.04×62°.47W±0°.03, h82km±9km, n19, σ1°54/32, 2C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.25**	**73**	↑*iP*	**Pn**	**19 03 24.0**	**-0.1**
GUIV				*eS*	**Sn**	**19 03 31.9**	**-1.4**
GUNV	**Guanoco**	**0.62**	**229**	*eP*	**Pn**	**19 03 28.5**	**+1.5**
GUNV				*eS*	**Sn**	**19 03 39.0**	**+0.8**
CRUV	**Carupano**	**0.77**	**278**	↓*iP*	**Pn**	**19 03 28.5**	**0.0**
CRUV				*eS*	**Sn**	**19 03 39.9**	**-0.8**
TPP	**Pointe-a-Pierr**	**1.03**	**104**	*eP*	**Pn**	**19 03 33.9**	**+2.5**
TRN	**Trinidad (W)**	**1.05**	**86**	↑*iP*	**Pn**	**19 03 32.4**	**+0.8**
TRN				*i S*	**Sn**	**19 03 45.5**	**-0.9**
TBH	**Brigand Hill**	**1.38**	**94**	*eP*	**Pn**	**19 03 36.1**	**+0.3**
TBH				*eS*	**Sn**	**19 03 51.8**	**-2.0**
ORIV	**Oritupano**	**1.76**	**212**	*eP*	**Pn**	**19 03 42.5**	**+1.8**
ORIV				*eS*	**Sn**	**19 04 03.6**	**+1.0**
GRW	**Mount Saint Ca**	**1.76**	**26**	*eP*	**Pn**	**19 03 43.8**	**+2.9**
GRW				*eS*	**Sn**	**19 04 03.1**	**+0.3**
TPR	**Prospect**	**1.77**	**70**	*eP*	**Pn**	**19 03 41.5**	**+0.7**
TPR				*eS*	**Sn**	**19 04 01.2**	**-1.6**
TOSP	**Speyside**	**2.03**	**69**	*eP*	**Pn**	**19 03 45.1**	**+0.9**
TOSP				*eS*	**Sn**	**19 04 06.7**	**-2.2**
PCRV	**Puerto La Cruz**	**2.17**	**260**	*eP*	**Pn**	**19 03 46.6**	**+0.4**
RIOV	**Rio Grande**	**2.57**	**165**	*eP*	**Pn**	**19 03 52.8**	**+1.3**
RIOV				*eS*	**Sn**	**19 04 21.3**	**-0.6**
GURV	**El Guri**	**2.86**	**192**	*eP*	**Pn**	**19 03 56.3**	**+0.8**
GURV				*eS*	**Sn**	**19 04 27.9**	**-1.0**
CUPV	**Cœpira**	**3.31**	**261**	*eP*	**Pn**	**19 04 03.2**	**+1.6**
CUPV				*eS*	**Sn**	**19 04 39.4**	**-0.6**
BIRV	**Birongo**	**3.74**	**269**	*eP*	**Pn**	**19 04 08.4**	**+1.0**
MERV	**Las Mercedes**	**4.00**	**251**	*eP*	**Pn**	**19 04 11.8**	**+1.0**
LUEV	**Luepa**	**4.80**	**168**	*eP*	**Pn**	**19 04 22.1**	**+0.1**
TURV	**Turiamo**	**5.29**	**269**	*eP*	**Pn**	**19 04 29.1**	**+0.7**
BAUV	**El Baul**	**5.73**	**254**	*eP*	**Pn**	**19 04 34.8**	**+0.4**
BAUV				*eS*	**Sn**	**19 05 34.6**	**-4.3**

NEIC ***27*** *19:08:32.4±6.1, 27°.12S×176°.14W, h1km±36km, mb5.1/3, Error ellipse: s-maj=20.1km s-min=12.5km az=88.0*
IDC ***27*** *19:08:32.8±0.8, 27°.04S×176°.24W, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.2/17, mbtmp4.0/8, MS4.0/10, Ms1 4.1/10, ms1mx3.7/30, Error ellipse: s-maj=28.4km s-min=25.7km az=148.0*
ISCJB ***27*** *19:08:35.7±0.8, 27°.03S±0°.07×176°.2W±0°.1, h31km, mb4.3/11, MS4.1/9, Error ellipse: s-maj=17.6km s-min=9.4km az=17.7*

ISC 27 19:08:37.1±0.6, 27°.10S±0°.09×176°.1W±0°.1, h31km, n52, σ1°28/41, mb4.2/11, MS4.0/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.69**	**217**	*e*Pn	**Pn**	**19 09 15.6**	**-2.6**
RAO				*e*Sn	**Sn**	**19 09 51.3**	**+1.6**
MSVF	**Nonsavu**	**10.79**	**329**	*e*Pn	**Pn**	**19 11 08.1**	**-1.5**
AFI	**Afiamalu**	**13.73**	**18**	*e*Pn	Pn	19 11 41.7	-8.1
AFI	**Afiamalu**	**13.73**	**18**	Pn	Pn	19 11 42.0	-7.8
	5.8nm,0.3s,baz=237,slow=1.4,SNR=7.4						
DZM	**Mont Dzumac**	**16.66**	**284**	*e*P	**P**	**19 12 32.4**	**+1.7**
	56nm,1.6s						
DZM				*e*LR	LR	19 16 32.9	
	533nm,26.5s						
DZM	**Mont Dzumac**	**16.66**	**284**	Pn	**P**	**19 12 33.3**	**+2.6**
DZM	**Mont Dzumac**	**16.66**	**284**	Pn	**P**	**19 12 33.3**	**+2.6**
	0.3nm,0.3s,baz=141,slow=23,SNR=5.6						
DZM				LR	LR	19 17 25.8	
	comp=Z,346nm,19.5s,baz=205,slow=32						
TBI	**Tubuai**	**24.35**	**87**	*e*LR	LR	19 19 36.5	
	263nm,21.8s						
PPT2	**Papeete2**	**26.23**	**74**	*e*LR	LR	19 20 37.9	
	183nm,20.0s						
PPT	**Papeete**	**26.24**	**74**	LR	LR	19 22 46.6	
	comp=Z,345nm,19.5s,baz=239,slow=32						
CTA	**Charters Tower**	**35.12**	**273**	LR		19 28 07.1	
	comp=Z,276nm,19.0s,baz=121,slow=34						
CTAO	**Charters Tower**	**35.12**	**273**	*e*P	**P**	**19 15 28.9**	**+0.9**
	58nm,1.4s						
STKA	**Stephens Creek**	**36.98**	**252**	P	**P**	**19 15 43.4**	**-0.4**
STKA	**Stephens Creek**	**36.98**	**252**	P	**P**	**19 15 43.4**	**-0.4**
	1.0nm,0.5s,baz=83,slow=9.1,SNR=8.1						
STKA				LR	LR	19 29 37.3	
	comp=Z,237nm,18.7s,baz=29,slow=34						
ASAR	**Alice Springs**	**45.09**	**263**	P	**P**	**19 16 49.2**	**-1.5**
ASAR	**Alice Springs**	**45.09**	**263**	P	**P**	**19 16 49.2**	**-1.5**
	0.8nm,0.4s,baz=102,slow=6.8,SNR=34						
ASAR				LR	LR	19 36 04.6	
	comp=Z,221nm,18.5s,baz=283,slow=37						
WRAB	**Tennant Creek**	**45.78**	**268**	*e*P	**P**	**19 16 53.8**	**-2.3**
	13nm,1.3s						
WRA	**Warramunga Arr**	**45.78**	**268**	P	**P**	**19 16 54.7**	**-1.5**
WRA	**Warramunga Arr**	**45.78**	**268**	P	**P**	**19 16 54.7**	**-1.5**
	1.3nm,0.4s,baz=111,slow=6.4,SNR=45						
FITZ	**Fitzroy Crossi**	**54.15**	**267**	LR	LR	19 39 10.5	
	comp=Z,60nm,18.1s,baz=277,slow=34						
CASY	**Casey**	**58.83**	**207**	P	**P**	**19 18 33.1**	**+0.8**
	12nm,0.7s						
QSPA	**South Pole Qui**	**63.00**	**180**	P	**P**	**19 19 02.2**	**+1.4**
QSPA	**South Pole Qui**	**63.00**	**180**	P	**P**	**19 19 02.2**	**+1.4**
	4.9nm,1.0s,baz=44,slow=1.9,SNR=9.8						
MJAR	**Matsushiro Arr**	**76.55**	**324**	P	**P**	**19 20 25.0**	**+0.6**
MJAR	**Matsushiro Arr**	**76.55**	**324**	P	**P**	**19 20 25.0**	**+0.6**
	1.7nm,1.1s,baz=155,slow=6.4,SNR=3.0						
KSRS	**Korea Array**	**82.98**	**318**	P	**P**	**19 21 00.6**	**+1.5**
	0.7nm,0.6s,baz=128,slow=4.2,SNR=3.4						
KSAR	**Wonju Array Be**	**82.99**	**318**	P	**P**	**19 21 00.6**	**+1.4**
PLCA	**Paso Flores**	**83.50**	**133**	LR	LR	19 53 49.2	
	comp=Z,102nm,18.7s,baz=112,slow=32						
EFI	**East Falkland**	**84.61**	**146**	*e*P	**P**	**19 21 05.8**	**-1.7**
NVAR	**Mina Array Bea**	**84.67**	**42**	P	**P**	**19 21 08.7**	**+0.6**
NVAR	**Mina Array Bea**	**84.67**	**42**	P	**P**	**19 21 08.7**	**+0.6**
	0.2nm,0.4s,baz=224,slow=9.8,SNR=5.3						
NVAR				LR	LR	19 54 24.3	
	comp=Z,223nm,18.4s,baz=200,slow=32						
TXAR	**Lajitas Array**	**89.18**	**56**	LR	LR	19 53 01.0	
	comp=Z,98nm,18.1s,baz=0.0,slow=30						
CMAR	**Chiang Mai Arr**	**93.93**	**289**	P	**P**	**19 21 52.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**93.93**	**289**	P	**P**	**19 21 52.5**	**+0.2**
	1.0nm,0.9s,baz=130,slow=4.0,SNR=6.3						
LPAZ	**La Paz**	**97.90**	**113**	LR	LR	19 58 04.7	
	comp=Z,52nm,21.4s,baz=133,slow=30						
ZALV	**Zalesovo Beam**	**116.67**	**319**	PKP	**PKPdf**	**19 27 17.0**	**-0.8**
ZALV	**Zalesovo Beam**	**116.67**	**319**	PKP	**PKPdf**	**19 27 17.0**	**-0.8**
	0.4nm,0.6s,baz=90,slow=2.9,SNR=3.3						
MKAR	**Makanchi Array**	**116.92**	**311**	PKP	**PKPdf**	**19 27 18.0**	**-0.5**
MKAR	**Makanchi Array**	**116.92**	**311**	PKP	**PKPdf**	**19 27 18.0**	**-0.5**
	0.4nm,0.5s,baz=79,slow=0.7,SNR=4.7						
ARCES	**ARCESS Array B**	**135.71**	**349**	PKP	**PKPdf**	**19 27 54.5**	**+0.8**
ARCES	**ARCESS Array B**	**135.71**	**349**	PKP	**PKPdf**	**19 27 54.5**	**+0.8**
	4.9nm,1.0s,baz=0.0,slow=4.0,SNR=4.7						
FINES	**FINESS Array B**	**142.57**	**343**	PKPpre	PKPpre	19 28 03.2	
FINES	**FINESS Array B**	**142.57**	**343**	PKhKP	PKPpre	19 28 03.2	
	0.9nm,0.6s,baz=79,slow=4.1,SNR=5.5						
NB2	**NORSAR Subarra**	**145.71**	**354**	PKP	**PKPbc**	**19 28 12.1**	**-0.2**
	comp=Z,11nm,1.4s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**145.71**	**354**	PKPbc	**PKPdf**	**19 28 11.6**	**-0.3**
NOA	**NORSAR Array B**	**145.71**	**354**	PKPbc	**PKPdf**	**19 28 11.6**	**-0.3**
	comp=Z,6.7nm,1.1s,baz=6.1,slow=2.4,SNR=7.6						
AKASG	**Malin Array Be**	**149.57**	**328**	PKPbc	**PKPbc**	**19 28 23.2**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=42,slow=3.3,SNR=5.4						
BRTR	**Keskin Array B**	**152.32**	**305**	PKPbc	**PKPbc**	**19 28 29.6**	**-0.6**
BRTR	**Keskin Array B**	**152.32**	**305**	PKPbc	**PKPbc**	**19 28 29.6**	**-0.6**
	comp=Z,0.9nm,1.0s,baz=62,slow=2.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**165.96**	**171**	PKPab	**PKPab**	**19 29 40.0**	**+0.6**
TORD	**Torodi Ar. Bea**	**165.96**	**171**	PKPab	**PKPab**	**19 29 40.0**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=187,slow=4.1,SNR=8.4						

IDC 27 19:16:15.7±2.1, 3°.77N×126°.98E, h0km, mb3.1/3, mb1 3.3/3, mb1mx3.1/22, mbtmp3.1/3, Error ellipse: s-maj=164.1km s-min=25.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.65**	**163**	P	P	19 21 38.0	-0.3
	0.4nm,0.6s,baz=343,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**28.09**	**166**	P	P	19 22 09.8	+0.4
	0.1nm,0.4s,baz=341,slow=11,SNR=3.9						
MKAR	**Makanchi Array**	**57.66**	**325**	P	P	19 26 07.8	-0.2
	0.2nm,0.6s,baz=114,slow=8.3,SNR=2.8						

IDC 27 19:35:27.2±1.2, 3°.61N×126°.56E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/23, mbtmp3.6/6, Error ellipse: s-maj=137.6km s-min=17.2km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.94**	**327**	*eP*	S	19 37 07.7	
WRA	**Warramunga Arr**	**24.62**	**162**	P	P	19 40 49.5	-0.1
	1.3nm,0.5s,baz=341,slow=10,SNR=29						
ASAR	**Alice Springs**	**28.04**	**166**	P	P	19 41 20.6	+0.3
	0.1nm,0.4s,baz=350,slow=8.2,SNR=6.8						
STKA	**Stephens Creek**	**38.08**	**159**	P	P	19 42 47.6	-0.2
	1.3nm,0.8s,baz=324,slow=9.6,SNR=4.1						
SONM	**Songino Array**	**47.36**	**342**	P	P	19 44 02.8	-0.3
	0.2nm,0.3s,baz=164,slow=6.6,SNR=6.9						
MKAR	**Makanchi Array**	**57.56**	**325**	P	P	19 45 18.5	-0.3
	0.7nm,0.6s,baz=119,slow=7.1,SNR=14						
KURBB	**Kurchatov Arra**	**61.75**	**327**	P	P	19 45 47.8	+0.3
	0.8nm,0.5s,baz=131,slow=6.1,SNR=15						

IDC ***27*** *19:38:26.2±0.6, 3°.57N×126°.54E, h0km, mb4.2/15, mb1 4.3/15, mb1mx4.2/23, mbtmp4.2/15, MS3.4/4, Ms1 3.4/4, ms1mx3.1/39, Error ellipse: s-maj=37.6km s-min=12.1km az=73.0*
MOS ***27*** *19:38:29.7±1.3, 3°.53N×126°.50E, h33km, mb4.7/16, Error ellipse: s-maj=23.9km s-min=8.1km az=115.5*
NEIC ***27*** *19:38:31.3±0.4, 3°.56N×126°.65E, h35km, mb4.5/13, Error ellipse: s-maj=15.3km s-min=6.9km az=75.0*
ISCJB ***27*** *19:38:31.8±0.2, 3°.64N±0°.03×126°.71E±0°.05, h53km, mb4.4/40, MS3.5/4, Error ellipse: s-maj=7.1km s-min=3.6km az=161.9*
BJI ***27*** *19:38:31.2, 3°.50N×126°.70E, h52km, mB4.8/8, mb4.6/9*
DJA ***27*** *19:38:36, 3°.39N×126°.80E, h10km, MLv4.7/6*

ISC 27 19:38:33.7±0.4, 3°.62N±0°.05×126°.68E±0°.07, h53km, n99, σ1°24/96, mb4.4/40, MS3.3/4, 1C-2D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNI	**Manado**	**2.83**	**220**	P	**Pn**	**19 39 17.3**	**+0.8**
MNI				S	**Sn**	**19 39 51.6**	**+2.1**
TNTI	**Ternate**	**2.91**	**166**	P	**Pn**	**19 39 17.7**	**+0.2**
TNTI				S	**Sn**	**19 39 51.5**	**+0.2**
DAV	**Davao City (W)**	**3.60**	**342**	P	**Pn**	**19 39 27.9**	**+0.8**
DAV				Sn	Sn	19 40 20.8	+12
DAV	**Davao City (W)**	**3.60**	**342**	P	Pn	19 39 34.3	+7.2
DAV	**Davao City (W)**	**3.60**	**342**	Pn	Pn	19 39 33.5	+6.4
	26nm,0.3s,baz=223,slow=19,SNR=4.0						
DAV				Sn	Sn	19 40 20.8	+12
	32nm,0.3s,baz=262,slow=23,SNR=4.4						
DAV				LR	LR	19 41 15.9	
	comp=Z,636nm,18.5s,baz=4.1,slow=47						
LBMI	**Labuha**	**4.30**	**169**	P	**Pn**	**19 39 37.4**	**+0.7**
LBMI				S	**Sn**	**19 40 26.0**	**+0.3**
CTBH	**Cotabato--PC H**	**4.32**	**326**	↑*iP*	Pn	19 39 32.9	-4.1
LUWI	**Luwuk**	**6.05**	**220**	P	Pn	19 40 04.9	+4.2
	291nm,1.1s,3μm1.1nm						
SWI	**Sorong**	**6.38**	**134**	P	**Pn**	**19 40 05.5**	**+0.3**
	97nm,0.9s,1μm0.3nm						
SWI				S	**Sn**	**19 41 17.1**	**+0.3**
	97nm,0.9s,1μm0.3nm						
MSAI	**Masohi**	**7.27**	**162**	P	**Pn**	**19 40 18.9**	**+1.5**
	1.0nm,0.9s,0.0nm						
MYLDM	**Lahad Datu**	**8.30**	**281**	P	Pn	19 40 39.2	+7.7
	45nm,1.0s						
KDI	**Kendari**	**8.55**	**208**	P	**Pn**	**19 40 35.6**	**+0.7**
	36nm,0.7s,544nm						
FAKI	**Fak Fak**	**8.55**	**139**	P	Pn	19 40 38.3	+3.3
	35nm,1.2s						
KKM	**Kota Kinabalu**	**10.70**	**283**	*e*Pn	**Pn**	**19 41 06.8**	**+2.3**
	202nm,1.8s						
TLE	**Tual**	**11.00**	**147**	P	**Pn**	**19 41 10.4**	**+1.9**
	41nm,1.1s						
STKI	**Sintang**	**15.60**	**257**	P	P	19 42 23.4	+10
KSM	**Kuching**	**16.49**	**263**	*e*Pn	**Pn**	**19 42 21.5**	**-0.1**
	7.4nm,0.7s						
YHNB	**Yeheng**	**21.55**	**347**	P	**P**	**19 43 17.8**	**-1.0**
	32nm,1.0s						
FITZ	**Fitzroy Crossi**	**21.60**	**183**	P	**P**	**19 43 17.0**	**-2.3**
FITZ	**Fitzroy Crossi**	**21.60**	**183**	*eP*	**P**	**19 43 17.9**	**-1.4**
FITZ	**Fitzroy Crossi**	**21.60**	**183**	P	**P**	**19 43 17.0**	**-2.3**
	5.8nm,0.6s,baz=357,slow=11,SNR=14						
QIZ	**Qiongzhong**	**22.48**	**314**	P	**P**	**19 43 26.5**	**-2.3**
QIZ				S	**S**	**19 47 30.0**	**-2.2**
QIZ				pmax	pmax		
	comp=Z,7.0nm,1.9s						
QIZ				pmax	pmax		
	comp=Z,130nm,4.0s						
WRAB	**Tennant Creek**	**24.59**	**162**	*eP*	**P**	**19 43 47.2**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,48nm,0.8s						
WRAB	**Tennant Creek**	**24.59**	**162**	*eP*	**P**	**19 43 47.2**	**-1.8**
	comp=Z,48nm,0.8s						
WRA	**Warramunga Arr**	**24.59**	**162**	P	**P**	**19 43 47.4**	**-1.7**
WRA	**Warramunga Arr**	**24.59**	**162**	P	**P**	**19 43 47.4**	**-1.7**
	comp=Z,44nm,0.8s,baz=342,slow=10,SNR=111						
MBWA	**Marble Bar**	**25.55**	**195**	P	**P**	**19 43 57.0**	**-0.7**
	comp=Z,80nm,1.4s						
QIS	**Mount Isa**	**27.17**	**153**	*eP*	**P**	**19 44 11.7**	**-0.7**
CBIJ	**Chichi jima**	**27.66**	**31**	LR	LR	19 53 40.4	
	comp=Z,66nm,21.9s,baz=120,slow=33						
PSI	**Prapat**	**27.72**	**269**	LR	LR	19 54 56.2	
	comp=Z,67nm,18.1s,baz=23,slow=36						
ASAR	**Alice Springs**	**28.02**	**166**	P	**P**	**19 44 18.9**	**-1.1**
ASAR				PcP	**PcP**	**19 47 34.9**	**+0.9**
ASAR	**Alice Springs**	**28.02**	**166**	P	**P**	**19 44 18.9**	**-1.1**
	comp=Z,2.3nm,0.6s,baz=344,slow=6.6,SNR=41						
ASAR				PcP	**PcP**	**19 47 34.9**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=342,slow=2.1,SNR=6.0						
CMAR	**Chiang Mai Arr**	**30.89**	**301**	P	**P**	**19 44 45.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**30.89**	**301**	P	**P**	**19 44 45.2**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=119,slow=7.5,SNR=7.8						
CHTO	**Chiang Mai**	**31.04**	**301**	*eP*	**P**	**19 44 45.3**	**-1.5**
CHTO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
CHTO	**Chiang Mai**	**31.04**	**301**	*eP*	**P**	**19 44 45.3**	**-1.5**
	comp=Z,3.5nm,1.0s						
ENH	**Enshi**	**31.10**	**330**	P	P	19 44 42.4	-4.9
KSAR	**Wonju Array Be**	**33.68**	**2**	P	**P**	**19 45 10.2**	**+0.6**
KSRS	**Korea Array**	**33.70**	**2**	P	**P**	**19 45 10.2**	**+0.5**
	comp=Z,3.5nm,0.6s,baz=182,slow=10,SNR=16						
FORT	**Forrest**	**34.23**	**178**	*eP*	**P**	**19 45 13.7**	**-0.8**
MJAR	**Matsushiro Arr**	**34.45**	**17**	LR	LR	19 58 57.0	
	comp=Z,56nm,18.0s,baz=275,slow=36						
XAN	**Xi'an**	**34.49**	**333**	P	**P**	**19 45 16.3**	**-0.6**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XAN				pmax	pmax		
	comp=Z,12nm,4.3s						
KLBR	**Kellerberrin**	**36.03**	**193**	*eP*	**P**	**19 45 29.8**	**-0.2**
EIDS	**Eidsvold**	**37.29**	**142**	*eP*	**P**	**19 45 40.4**	**-0.5**
STKA	**Stephens Creek**	**38.04**	**159**	P	**P**	**19 45 46.5**	**-0.5**
STKA				PcP	**PcP**	**19 48 02.3**	**+0.6**
STKA	**Stephens Creek**	**38.04**	**159**	↓*iP*	**P**	**19 45 46.4**	**-0.7**
STKA	**Stephens Creek**	**38.04**	**159**	P	**P**	**19 45 46.5**	**-0.5**
	comp=Z,11nm,0.8s,baz=338,slow=8.3,SNR=32						
STKA				PcP	**PcP**	**19 48 02.3**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=307,slow=5.6,SNR=4.2						
CMSA	**Cobar Meteorol**	**39.37**	**154**	*eP*	**P**	**19 45 57.6**	**-0.6**
USRK	**Ussuriysk Arra**	**40.69**	**6**	P	**P**	**19 46 09.9**	**+0.9**
	comp=Z,2.4nm,0.7s,baz=208,slow=7.6,SNR=5.1						
MDJ	**Mudanjiang**	**40.91**	**3**	P	**P**	**19 46 10.3**	**-0.5**
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,73nm,4.7s						
MDJ	**Mudanjiang**	**40.91**	**3**	*eP*	**P**	**19 46 11.8**	**+0.9**
	comp=Z,5.4nm,0.8s						
LSA	**Lhasa**	**42.48**	**312**	P	**P**	**19 46 23.5**	**-0.9**
LSA	**Lhasa**	**42.48**	**312**	*eP*	**P**	**19 46 23.1**	**-1.4**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
LSA	**Lhasa**	**42.48**	**312**	*eP*	**P**	**19 46 23.1**	**-1.4**
	comp=Z,4.3nm,0.6s						
HIA	**Hailar**	**45.87**	**354**	P	**P**	**19 46 52.1**	**+1.4**
	comp=Z,14nm,1.2s						
ULN	**Ulaanbaatar**	**47.21**	**342**	*eP*	**P**	**19 47 01.0**	**-0.4**
	comp=Z,1.9nm,0.7s						
SONM	**Songino Array**	**47.39**	**341**	P	**P**	**19 47 02.0**	**-0.8**
SONM	**Songino Array**	**47.39**	**341**	P	**P**	**19 47 02.0**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=159,slow=9.1,SNR=11						
ZAK	**Zakamensk**	**50.62**	**341**	*eP*	P	19 47 33.6	+6.2
ZAK				pmax	pmax		
	comp=Z,1.0nm,2.2s						
BOD	**Bodaibo**	**54.97**	**352**	*eP*	**P**	**19 47 59.3**	**0.0**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.6s						
MKAR	**Makanchi Array**	**57.62**	**325**	*iP*	**P**	**19 48 17.8**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**57.62**	**325**	P	**P**	**19 48 17.6**	**-0.9**
MKAR	**Makanchi Array**	**57.62**	**325**	P	**P**	**19 48 17.6**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=119,slow=7.4,SNR=22						
TKM2	**Tokmak 2**	**59.80**	**319**	P	**P**	**19 48 33.5**	**-0.4**
TKM2	**Tokmak 2**	**59.80**	**319**	P	**P**	**19 48 33.5**	**-0.4**
ZALV	**Zalesovo Beam**	**60.67**	**333**	P	**P**	**19 48 37.5**	**-1.8**
ZALV	**Zalesovo Beam**	**60.67**	**333**	P	**P**	**19 48 37.5**	**-1.8**
ZALV	**Zalesovo Beam**	**60.67**	**333**	P	**P**	**19 48 37.5**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=123,slow=5.5,SNR=4.9						
EKS2	**Erkin-Say**	**60.90**	**318**	P	**P**	**19 48 39.9**	**-1.4**
EKS2				pmax	pmax		
	comp=Z,4.0nm,0.9s						
EKS2	**Erkin-Say**	**60.90**	**318**	P	**P**	**19 48 39.9**	**-1.4**
	comp=Z,4.0nm,0.9s						
KURBB	**Kurchatov Arra**	**61.81**	**327**	P	**P**	**19 48 46.9**	**-0.2**
	comp=Z,3.7nm,0.6s,baz=128,slow=6.3,SNR=21						
KURK	**Kurchatov**	**61.81**	**328**	P	**P**	**19 48 46.9**	**-0.2**
KURK	**Kurchatov**	**61.81**	**328**	P	**P**	**19 48 46.9**	**-0.2**
NVS	**Novosibirsk**	**61.95**	**333**	*eP*	**P**	**19 48 47.5**	**-0.4**
NVS				pmax	pmax		
	comp=Z,3.0nm,1.0s						
NVS				pmax	pmax		
	comp=N,1.0nm,0.4s						
NVS				pmax	pmax		
	comp=E,1.0nm,0.4s						
SEY	**Seymchan**	**62.16**	**13**	*eP*	**P**	**19 48 51.6**	**+2.4**
BRVK	**Borovoye**	**67.46**	**327**	*eP*	**P**	**19 49 23.0**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,11nm,1.1s						
BRVK	**Borovoye**	**67.46**	**327**	*eP*	**P**	**19 49 23.0**	**-0.9**
	comp=Z,11nm,1.1s						
BILL	**Bilibino**	**69.68**	**15**	*eP*	**P**	**19 49 39.1**	**+1.6**
BILL				*e*		19 49 59.7	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ABKAR	**Akbulak array**

comp=Z,31nm,0.1s
ERPM **east rand prop** 1.62 67 *e*P Pb 20 10 14.8 0.0
ERPM *e*S Sg 20 10 37.1 +0.7
ERPM AML AML 20 10 37.7
comp=Z,6.5nm,0.2s
SLR **Silverton** 1.97 51 *e*P Pn 20 10 19.3 +0.7
SLR *e*S Sn 20 10 44.6 +0.6
SLR AML AML 20 10 47.2
comp=Z,15nm,0.4s
BOSA **Boshof** 2.00 216 *e*P Pn 20 10 19.5 +0.4
BOSA *e*S Sn 20 10 45.4 +0.5
BOSA AML AML 20 10 46.9
comp=Z,5.8nm,0.2s
LBTB **Lobatse** 2.15 335 *e*P Pn 20 10 21.7 +0.6
LBTB *e*S Sn 20 10 49.1 +0.6
LBTB AML AML 20 10 53.4
comp=Z,8.1nm,0.2s

IDC 27 20:11:03.6±18.0, 12.65N×143.47E, h185km±174km, mb3.2/9, mb1 3.3/9, mb1mx3.2/26, mbtmp3.2/9, Error ellipse: s-maj=77.5km s-min=19.4km az=69.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.61**	**196**	P	P	20 17 26.3	-0.4
	0.8nm,0.6s,baz=19,slow=9.7,SNR=19						
ASAR	**Alice Springs**	**37.29**	**195**	P	P	20 17 58.0	0.0
	0.3nm,0.5s,baz=21,slow=12,SNR=12						
CMAR	**Chiang Mai Arr**	**43.20**	**284**	P	P	20 18 46.5	-0.2
	1.1nm,0.9s,baz=80,slow=5.6,SNR=6.5						
STKA	**Stephens Creek**	**44.31**	**182**	P	P	20 18 55.5	+0.3
	1.6nm,1.0s,baz=30,slow=8.1,SNR=2.9						
SONM	**Songino Array**	**46.73**	**326**	P	P	20 19 14.0	-0.2
	0.4nm,0.5s,baz=144,slow=8.0,SNR=9.4						
MKAR	**Makanchi Array**	**61.22**	**317**	P	P	20 20 59.4	+0.3
	0.4nm,0.7s,baz=91,slow=8.5,SNR=4.7						
KURBB	**Kurchatov Arra**	**64.46**	**320**	P	P	20 21 20.3	-0.1
	0.8nm,0.4s,baz=109,slow=6.8,SNR=4.5						
BVAR	**Borovoye Array**	**69.82**	**322**	P	P	20 21 54.3	+0.3
	0.9nm,0.4s,baz=111,slow=8.0,SNR=7.0						
FINES	**FINESS Array B**	**91.43**	**335**	P	P	20 23 47.8	-0.7
	0.9nm,0.8s,baz=79,slow=7.2,SNR=5.4						

DDA 27 20:21:51.5, 36.98N×28.29E, h8km, MD2.5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.28**	**113**	*i* P	Pg	20 21 55.5	-1.4
TURN				*i* S	Sg	20 21 59.0	-1.6
BDRM	**Kayabasi**	**0.68**	**277**	*i* P	Pb	20 22 06.6	+0.9
BDRM				*i* S	Sg	20 22 14.1	+0.5
AYDN	**Tasoluk**	**0.75**	**335**	*i* P	Pg	20 22 06.2	+0.1
AYDN				*i* S	Sg	20 22 16.2	+0.2

*ISCJB **27** 20:30:14.0±0.2, 49.22N±0.05×151.37E±0.07, h277km, mb3.5/25, Error ellipse: s-maj=8.3km s-min=2.8km az=138.1*
*MOS **27** 20:30:15.2±0.9, 49.02N×152.26E, h340km, mb3.6/16, Error ellipse: s-maj=15.2km s-min=8.3km az=71.9*
*KRSC **27** 20:30:15.0±2.9, 48.67N×152.99E, h362km±71km, ML4.7*
*IDC **27** 20:30:17.3±1.7, 49.31N×151.43E, h297km±17km, mb3.3/20, mb1 3.4/24, mb1mx3.3/34, mbtmp3.3/24, Error ellipse: s-maj=15.3km s-min=10.9km az=143.0*

ISC 27 20:30:14.4±0.5, 49.10N±0.08×151.58E±0.06, h277km, n95, σ1s59/103, mb3.6/25, 3C, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.33**	**60**	*e*PN	**Pn**	**20 31 11.3**	**-0.6**
SKR				*e*S	**S**	**20 31 56.6**	**-1.2**
SKR				pmax	pmax		
	comp=Z,40nm,0.4s						
SKR				smax	smax		
	comp=N,250nm,0.2s						
SKR				smax	smax		
	comp=E,120nm,0.2s						
MIPR	**Malaya Ipel'ka**	**4.58**	**44**	*e*P	**Pn**	**20 31 27.4**	**+1.5**
ASAK	**Asacha**	**5.19**	**48**	*e*P	**Pn**	**20 31 35.2**	**+2.0**
ASAK				*e*S	**S**	**20 32 33.4**	**-3.0**
APC	**Apacha**	**5.20**	**40**	*e*P	**Pn**	**20 31 34.6**	**+1.3**
MTVR	**Mutnovka**	**5.39**	**48**	*e*P	**Pn**	**20 31 37.0**	**+1.4**
MTVR				*i* S	**S**	**20 32 36.8**	**-4.0**
RUS	**Russkaya**	**5.52**	**50**	PN	**Pn**	**20 31 37.8**	**+0.7**
RUS				S	**S**	**20 32 38.4**	**-5.1**
RUS	**Russkaya**	**5.52**	**50**	*e*P	**Pn**	**20 31 37.8**	**+0.7**
RUS				*i* S	**S**	**20 32 38.4**	**-5.1**
PETK	**Petropavlovsk-**	**5.57**	**41**	*e*PN	**Pn**	**20 31 38.9**	**+1.3**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK	**Petropavlovsk-**	**5.57**	**41**	P	**Pn**	**20 31 39.0**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=214,slow=11,SNR=8.5						
PET	**Petropavlovsk**	**5.94**	**46**	*e*PN	**Pn**	**20 31 43.2**	**+1.0**
PET				*e*S	**S**	**20 32 51.7**	**-1.1**
PET				smax	smax		
	comp=N,29nm,0.5s						
PET				smax	smax		
	comp=E,25nm,0.6s						
PET	**Petropavlovsk**	**5.94**	**46**	*e*P	**Pn**	**20 31 43.4**	**+1.2**
PET				*e*S	**S**	**20 32 48.1**	**-4.7**
SDLR	**Sedlovina**	**6.21**	**45**	*e*P	**Pn**	**20 31 47.1**	**+1.5**
NLC	**Nalytchevo**	**6.36**	**47**	PN	**Pn**	**20 31 47.0**	**-0.3**
NLC				S	S	20 32 54.3	-7.8
NLC	**Nalytchevo**	**6.36**	**47**	P	**Pn**	**20 31 47.0**	**-0.3**
NLC				*i* S	S	20 32 54.3	-7.8
YUK	**Yuzh-Kuril'sk**	**6.42**	**220**	*i* PN	**Pn**	**20 31 49.6**	**+1.5**
YUK				pmax	pmax		
	comp=E,46nm,0.2s						
YUK				pmax	pmax		
	comp=Z,337nm,0.2s						
YUK				pmax	pmax		
	comp=N,44nm,0.2s						
SPN	**Mys Shipunski**	**6.66**	**50**	PN	**Pn**	**20 31 50.4**	**-0.5**
SPN				S	S	20 32 59.6	-9.1
SPN	**Mys Shipunski**	**6.66**	**50**	*e*P	**Pn**	**20 31 50.4**	**-0.5**
SPN				*i* S	S	20 32 59.6	-9.1
KII	**Karymskiy**	**6.96**	**42**	P	**Pn**	**20 31 56.1**	**+1.3**
NEM2	**Nemuro 2**	**7.02**	**217**	P	**Pn**	**20 31 53.5**	**-2.0**
NEM2				*e*S	S	20 33 09.9	-7.2
JNK	**Nakash**	**7.27**	**223**	P	**Pn**	**20 31 59.5**	**+0.8**
JTKR	**Abashiri--Toko**	**7.37**	**229**	P	**Pn**	**20 32 02.1**	**+2.3**
JMP	**Maruseppu**	**7.62**	**231**	P	**Pn**	**20 32 06.1**	**+3.1**
JAK	**Akkeshi**	**7.75**	**221**	P	**Pn**	**20 32 03.2**	**-1.5**
JAK				*e*S	S	20 33 27.3	-6.5
JAR	**Ashorobuto**	**7.94**	**226**	P	**Pn**	**20 32 07.9**	**+1.0**
ASAJ	**Asahikawa**	**7.94**	**235**	P	Pn	20 32 10.9	+3.9
ASAJ	**Asahikawa**	**7.94**	**235**	P	Pn	20 32 10.8	+3.8
	comp=N,4.5nm,0.3s,baz=45,slow=8.6,SNR=16						
JKK2	**Kamakawa 2**	**8.03**	**233**	P	**Pn**	**20 32 11.0**	**+2.9**
TUMR	**Tumrok**	**8.12**	**37**	P	**Pn**	**20 32 10.6**	**+1.4**
JOB	**Onbets**	**8.21**	**224**	P	**Pn**	**20 32 09.9**	**-0.4**
MKZ	**Mys Kozlova**	**8.33**	**45**	PN	**Pn**	**20 32 10.5**	**-1.1**
MKZ	**Mys Kozlova**	**8.33**	**45**	*e*P	**Pn**	**20 32 10.5**	**-1.1**
MKZ				*i* S	S	20 33 34.8	-12
KMNR	**Kamenistaya**	**8.51**	**35**	P	**Pn**	**20 32 15.6**	**+1.6**
JAB	**Ashibetsu**	**8.55**	**233**	P	Pn	20 32 18.2	+3.6
JFR	**Furan**	**8.61**	**230**	P	**Pn**	**20 32 16.6**	**+1.3**
JCH	**Churui**	**8.65**	**225**	P	**Pn**	**20 32 14.4**	**-1.4**
JCH				*e*S	S	20 33 47.1	-7.2
KPT	**Kopyto**	**8.66**	**34**	P	**Pn**	**20 32 17.1**	**+1.3**
SRDR	**Sredinnyy**	**8.75**	**31**	P	**Pn**	**20 32 18.5**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**8.82**	**36**	P	**Pn**	**20 32 18.9**	**+1.1**
ZLN	**Zelenaya**	**8.92**	**35**	P	**Pn**	**20 32 18.9**	**-0.1**
KRSR	**Krestovskiy**	**8.97**	**34**	*e*P	**Pn**	**20 32 21.2**	**+1.4**
JBT2	**Biratori 2**	**9.01**	**229**	P	**Pn**	**20 32 20.4**	**+0.2**
KLY	**Klyuchi**	**9.08**	**34**	PN	**Pn**	**20 32 22.4**	**+1.5**
KLY	**Klyuchi**	**9.08**	**34**	P	**Pn**	**20 32 22.4**	**+1.5**
JEW	**Eniwo**	**9.42**	**232**	P	**Pn**	**20 32 26.6**	**+1.2**
SRKR	**Sorokina**	**9.53**	**34**	*e*P	**Pn**	**20 32 27.3**	**+0.7**
SMKR	**Semkarok**	**9.58**	**35**	*e*P	**Pn**	**20 32 28.0**	**+0.7**
KBTR	**Krutoberegovo**	**9.86**	**39**	PN	**Pn**	**20 32 30.2**	**-0.4**
KBTR	**Krutoberegovo**	**9.86**	**39**	*e*P	**Pn**	**20 32 30.2**	**-0.4**
JNB	**Noboribetsu**	**9.90**	**232**	P	**Pn**	**20 32 31.0**	**-0.4**
JSH	**Shimam**	**10.31**	**236**	P	**Pn**	**20 32 37.7**	**+1.3**
JKB	**Kayabe**	**10.33**	**230**	P	**Pn**	**20 32 34.8**	**-1.8**
JKB				*e*S	S	20 34 23.7	-9.0
JYM2	**Yakumo 2**	**10.50**	**233**	P	**Pn**	**20 32 38.5**	**-0.3**
JSR	**Shiriuchi**	**10.90**	**230**	P	**Pn**	**20 32 42.7**	**-1.1**
JTM	**Tenmabayashi**	**11.15**	**226**	P	Pn	20 32 43.9	-2.9
JANG	**Nango**	**11.27**	**223**	P	**Pn**	**20 32 46.8**	**-1.6**
JANG				*e*S	S	20 34 41.6	-13
KLR	**Kul'dur**	**12.98**	**278**	*e*PN	**Pn**	**20 33 08.8**	**-0.3**
SEY	**Seymchan**	**13.88**	**2**	*e*P	**P**	**20 33 20.8**	**+0.9**
FX1	**Attu Island--F**	**14.10**	**66**	P	**Pn**	**20 33 24.7**	**+2.2**
	comp=N,1.5nm,0.3s,baz=225,slow=1.4,SNR=4.2						
FX1				S	**S**	**20 35 57.8**	**-0.1**
	comp=N,4.4nm,0.3s,baz=37,slow=20,SNR=9.6						
MJA0	**Matsu Arr-Jizo**	**15.88**	**223**	*e*P	**Pn**	**20 33 45.6**	**+1.7**
MJA0				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.89**	**223**	P	**Pn**	**20 33 45.6**	**+1.6**
	comp=Z,1.0nm,0.3s,baz=16,slow=11,SNR=21						
MAT	**Matsushiro**	**15.90**	**223**	P	**Pn**	**20 33 45.5**	**+1.4**
SONM	**Songino Array**	**29.65**	**285**	P	**P**	**20 35 54.7**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=56,slow=10.0,SNR=5.4						
ILAR	**Eielson Array**	**35.39**	**41**	P	**P**	**20 36 45.0**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=279,slow=7.4,SNR=5.7						
INK	**Inuvik**	**40.25**	**34**	P	**P**	**20 37 24.9**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=279,slow=7.6,SNR=7.6						
ZALV	**Zalesovo Beam**	**40.43**	**303**	P	**P**	**20 37 25.5**	**-0.3**
ZALV						20 39 22.2	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**40.43**	**303**	P	**P**	**20 37 25.5**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=64,slow=6.5,SNR=5.6						
ZALV				PcP	**PcP**	**20 39 22.2**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=77,slow=3.2,SNR=8.0						
MKAR	**Makanchi Array**	**44.99**	**295**	P	**P**	**20 38 02.0**	**-0.3**
MKAR						20 39 38.0	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**44.99**	**295**	P	**P**	**20 38 02.0**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=69,slow=8.1,SNR=39						
MKAR				PcP	**PcP**	**20 39 38.0**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=66,slow=4.5,SNR=9.7						
KURK	**Kurchatov**	**45.24**	**301**	*e*P	**P**	**20 38 03.9**	**-0.2**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.6s						
KURBB	**Kurchatov Arra**	**45.33**	**301**	P	**P**	**20 38 04.7**	**-0.2**
	comp=Z,3.3nm,0.3s,baz=68,slow=8.3,SNR=6.5						
BVAR	**Borovoye Array**	**48.59**	**307**	P	**P**	**20 38 30.1**	**+0.2**
BVAR						20 39 49.9	
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BVAR	**Borovoye Array**	**48.59**	**307**	P	**P**	**20 38 30.1**	**+0.2**
	comp=Z,4.1nm,0.5s,baz=57,slow=7.6,SNR=32						
BVAR				PcP	**PcP**	**20 39 49.9**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=77,slow=3.0,SNR=5.0						
YKA	**Yellowknife Ar**	**49.67**	**37**	P	**P**	**20 38 38.8**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=302,slow=7.3,SNR=3.4						
AAK	**Ala-Archa**	**51.91**	**294**	P	**P**	**20 38 55.0**	**0.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
AAK	**Ala-Archa**	**51.91**	**294**	P	**P**	**20 38 55.0**	**0.0**
	comp=Z,3.7nm,1.0s,baz=72,slow=5.3,SNR=7.0						
CMAR	**Chiang Mai Arr**	**51.99**	**253**	P	**P**	**20 38 57.1**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=28,slow=7.4,SNR=3.1						
ARU	**Arti**	**52.60**	**316**	*c* *i*P	**P**	**20 38 58.9**	**-0.7**
ARU						20 40 03.2	
ARU				S	**S**	**20 46 02.6**	**-1.9**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KEV	**Kevo**	**54.78**	**339**	*e*P	**P**	**20 39 13.1**	**-2.1**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KEV	**Kevo**	**54.78**	**339**	*e*p	**P**	**20 39 13.1**	**-2.1**
	comp=Z,0.5nm,0.3s						
ARCES	**ARCESS Array B**	**55.30**	**340**	P	**P**	**20 39 17.7**	**-1.1**
	comp=Z,4.3nm,0.9s,baz=16,slow=7.5,SNR=13						
AKTO	**Aktyubinsk**	**56.41**	**310**	P	**P**	**20 39 26.1**	**-0.9**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKTO	**Aktyubinsk**	**56.41**	**310**	P	**P**	**20 39 26.1**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=65,slow=10,SNR=5.7						
JOF	**Joensuu**	**58.77**	**332**	*e*P	**P**	**20 39 40.8**	**-2.4**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JOF	**Joensuu**	**58.77**	**332**	*e*p	**P**	**20 39 40.8**	**-2.4**
	comp=Z,0.5nm,0.3s						
KAF	**Kangasniemi**	**60.88**	**334**	*e*P	**P**	**20 39 56.0**	**-1.4**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KAF	**Kangasniemi**	**60.88**	**334**	*e*p	**P**	**20 39 56.0**	**-1.4**
	comp=Z,1.7nm,0.8s						
FINES	**FINESS Array B**	**61.48**	**334**	P	**P**	**20 40 00.0**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=38,slow=8.1,SNR=18						
NOA	**NORSAR Array B**	**65.67**	**340**	P	**P**	**20 40 27.2**	**-1.6**
	comp=Z,1.2nm,0.9s,baz=31,slow=6.5,SNR=4.0						
KBZ	**Khabaz**	**68.50**	**312**	P	**P**	**20 40 46.7**	**0.0**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KBZ	**Khabaz**	**68.50**	**312**	P	**P**	**20 40 46.7**	**0.0**
	comp=Z,1.2nm,0.6s,baz=51,slow=6.6,SNR=4.2						
WRA	**Warramunga Arr**	**70.42**	**197**	P	**P**	**20 40 59.7**	**+1.1**
	comp=Z,0.5nm,0.9s,baz=18,slow=7.4,SNR=3.5						
SCHQ	**Schefferville**	**71.53**	**22**	P	**P**	**20 41 04.9**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=342,slow=9.6,SNR=3.6						
ASAR	**Alice Springs**	**74.13**	**197**	P	**P**	**20 41 22.4**	**+2.0**
	comp=Z,0.3nm,0.4s,baz=7.4,slow=5.3,SNR=10.0						
BRTR	**Keskin Array B**	**75.98**	**315**	P	**P**	**20 41 30.7**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=58,slow=3.1,SNR=3.8						
MMAI	**Mount Meron Ar**	**80.50**	**310**	P	**P**	**20 41 55.9**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=61,slow=6.8,SNR=5.1						

IDC 27 20:38:46.5±1.0, 3.84N×126.77E, h0km, mb3.7/10, mb1 3.8/10, mb1mx3.7/25, mbtmp3.7/10, 1C, Error ellipse: s-maj=66.5km s-min=14.4km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.20**	**323**	*e*P	Pn	20 39 55.4	+3.6
BUKP	**Musuan**	**4.36**	**337**	*e*S	Sb	20 41 00.7	+3.4
PAGZ	**Pagadian**	**5.22**	**320**	*e*S	Sn	20 41 10.0	+3.1
FITZ	**Fitzroy Crossi**	**21.83**	**183**	P	P	20 43 40.0	-0.6
	2.7nm,0.8s,baz=9.5,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**24.77**	**163**	P	P	20 44 10.2	0.0
	3.2nm,0.8s,baz=344,slow=11,SNR=21						
ASAR	**Alice Springs**	**28.21**	**166**	P	P	20 44 42.8	+1.6
	0.4nm,0.6s,baz=333,slow=11,SNR=7.2						
CMAR	**Chiang Mai Arr**	**30.85**	**300**	P	P	20 45 05.2	+0.4
	0.4nm,0.7s,baz=108,slow=12,SNR=3.4						
STKA	**Stephens Creek**	**38.21**	**159**	P	P	20 46 06.9	-1.3
	1.0nm,0.6s,baz=327,slow=6.1,SNR=4.8						
SONM	**Songino Array**	**47.21**	**341**	P	P	20 47 21.6	+0.3
	0.3nm,0.7s,baz=163,slow=7.5,SNR=3.3						
MKAR	**Makanchi Array**	**57.49**	**325**	P	P	20 48 36.7	-0.9
	0.6nm,0.5s,baz=117,slow=8.5,SNR=20						
ZALV	**Zalesovo Beam**	**60.51**	**333**	P	P	20 48 58.7	+0.4
	0.4nm,0.3s,baz=157,slow=4.7,SNR=2.6						
KURBB	**Kurchatov Arra**	**61.67**	**327**	P	P	20 49 06.2	-0.1
	0.9nm,0.5s,baz=129,slow=6.5,SNR=8.5						
BVAR	**Borovoye Array**	**67.25**	**327**	P	P	20 49 42.5	-0.4
	0.5nm,0.5s,baz=134,slow=8.5,SNR=4.4						

*IDC **27** 20:39:32.4±0.8, 3.81N×126.62E, h0km, mb4.0/12, mb1 4.1/12, mb1mx4.0/26, mbtmp4.0/12, MS3.2/1, Ms1 3.2/1, ms1mx2.3/33, Error ellipse: s-maj=49.9km s-min=14.3km az=68.0*
*ISCJB **27** 20:39:36.6±0.5, 3.82N±0.08×126.78E±0.1, h45km, mb4.2/19, MS3.1/1, Error ellipse: s-maj=22.9km s-min=7.9km az=157.5*
*NEIC **27** 20:39:37.3±0.4, 3.79N×126.65E, h35km, mb4.4/8, Error ellipse: s-maj=24.4km s-min=7.2km az=69.0*
*MAN **27** 20:40:27.6, 2.95N×124.96E, h79km, mb4.3, ML3.2, MS3.0*

ISC 27 20:39:38.9±0.7, 3.83N±0.09×126.7E±0.2, h45km, n45, σ1s04/38, mb4.2/19, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**2.87**	**322**	*e*P	**Pn**	**20 40 23.9**	**+1.6**
DAV	**Davao City (W)**	**3.42**	**340**	Pn	**Pn**	**20 40 28.3**	**-1.5**
DMPH	**Davao City--Mi**	**3.46**	**339**	*e*P	Pn	20 40 23.0	-7.3
KCP	**Kidapawan**	**3.56**	**333**	‖*e*P	Pn	20 40 39.8	+8.0
BUKP	**Musuan**	**4.36**	**338**	*e*P	Pn	20 40 46.5	+3.8
PAGZ	**Pagadian**	**5.21**	**320**	*e*P	Pn	20 40 58.1	+3.8
KSM	**Kuching**	**16.58**	**262**	P	**P**	**20 43 31.4**	**+1.2**
	16nm,0.9s						
YHNB	**Yeheng**	**21.36**	**347**	P	**P**	**20 44 24.4**	**+1.8**
	40nm,1.2s						
FITZ	**Fitzroy Crossi**	**21.82**	**183**	P	**P**	**20 44 25.8**	**-1.6**
FITZ	**Fitzroy Crossi**	**21.82**	**183**	*e*P	**P**	**20 44 26.3**	**-1.1**
FITZ	**Fitzroy Crossi**	**21.82**	**183**	P	**P**	**20 44 25.8**	**-1.6**
	4.0nm,0.8s,baz=21,slow=6.2,SNR=5.1						
WRAB	**Tennant Creek**	**24.77**	**163**	*e*P	**P**	**20 44 55.3**	**-1.3**
	33nm,0.9s						
WRA	**Warramunga Arr**	**24.77**	**163**	P	**P**	**20 44 55.6**	**-1.0**
WRA	**Warramunga Arr**	**24.77**	**163**	P	**P**	**20 44 55.6**	**-1.0**
	11nm,0.9s,baz=343,slow=11,SNR=16						
MBWA	**Marble Bar**	**25.76**	**195**	P	P	20 45 11.1	+5.5
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**	**20 45 27.4**	**-0.1**
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**	**20 45 27.4**	**-0.1**
	0.7nm,0.3s,baz=342,slow=7.8,SNR=11						
CMAR	**Chiang Mai Arr**	**30.83**	**300**	P	**P**	**20 45 50.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**30.83**	**300**	P	**P**	**20 45 50.2**	**-0.7**
	0.6nm,0.8s,baz=108,slow=6.7,SNR=5.4						
CHTO	**Chiang Mai**	**30.98**	**301**	*e*P	**P**	**20 45 51.1**	**-1.2**
	6.0nm,1.2s						
KSRS	**Korea Array**	**33.49**	**2**	LR	LR	21 01 21.8	
	comp=Z,37nm,18.5s,baz=170,slow=39						
STKA	**Stephens Creek**	**38.22**	**159**	P	**P**	**20 46 54.8**	**+0.3**
STKA	**Stephens Creek**	**38.22**	**159**	*e*P	**P**	**20 46 54.3**	**-0.2**
STKA				*e*		20 47 12.2	
STKA	**Stephens Creek**	**38.22**	**159**	P	**P**	**20 46 54.8**	**+0.3**
	2.5nm,0.6s,baz=337,slow=10,SNR=6.9						
ARMA	**Armidale**	**41.54**	**147**	*e*P	**P**	**20 47 25.0**	**+2.7**
ARMA				*e*		20 47 40.4	
LSA	**Lhasa**	**42.38**	**311**	*e*P	**P**	**20 47 29.7**	**+0.1**
	2.0nm,0.6s						
ULN	**Ulaanbaatar**	**47.03**	**342**	P	**P**	**20 48 05.1**	**-1.0**
SONM	**Songino Array**	**47.21**	**341**	P	**P**	**20 48 07.3**	**-0.1**
SONM	**Songino Array**	**47.21**	**341**	P	**P**	**20 48 07.3**	**-0.1**
	0.4nm,0.5s,baz=158,slow=8.3,SNR=6.1						
MKAR	**Makanchi Array**	**57.48**	**325**	P	**P**	**20 49 23.4**	**-0.1**
MKAR	**Makanchi Array**	**57.48**	**325**	P	**P**	**20 49 23.4**	**-0.1**
	1.4nm,0.5s,baz=115,slow=7.1,SNR=12						
EKS2	**Erkin-Say**	**60.78**	**318**	P	**P**	**20 49 46.4**	**-0.2**
	2.2nm,0.7s						
KURBB	**Kurchatov Arra**	**61.66**	**327**	P	**P**	**20 49 51.2**	**-1.0**
	2.1nm,0.5s,baz=131,slow=6.4,SNR=12						
KURK	**Kurchatov**	**61.66**	**327**	P	**P**	**20 49 51.2**	**-1.0**
BVAR	**Borovoye Array**	**67.24**	**327**	P	**P**	**20 50 27.4**	**-1.2**
BVAR	**Borovoye Array**	**67.24**	**327**	P	**P**	**20 50 27.4**	**-1.2**
	1.3nm,0.5s,baz=140,slow=7.7,SNR=8.1						
BRVK	**Borovoye**	**67.32**	**327**	*e*P	**P**	**20 50 29.0**	**-0.1**
	7.3nm,1.3s						
ABKAR	**Akbulak array**	**72.08**	**321**	*e*P	**P**	**20 50 57.6**	**-0.9**
	1.6nm,0.6s						
AKTO	**Aktyubinsk**	**73.59**	**322**	P	**P**	**20 51 06.9**	**-0.5**
AKTO	**Aktyubinsk**	**73.59**	**322**	P	**P**	**20 51 06.9**	**-0.5**
	0.7nm,0.4s,baz=100,slow=1.6,SNR=3.5						
ARU	**Arti**	**74.86**	**328**	P	P	20 51 11.3	-3.4
ILAR	**Eielson Array**	**85.01**	**25**	P	**P**	**20 52 10.1**	**+0.6**
ILAR	**Eielson Array**	**85.01**	**25**	P	**P**	**20 52 10.1**	**+0.6**
	0.2nm,0.5s,baz=240,slow=5.3,SNR=4.9						
FINES	**FINESS Array B**	**91.75**	**332**	P	**P**	**20 52 41.9**	**+0.3**
FINES	**FINESS Array B**	**91.75**	**332**	P	**P**	**20 52 41.9**	**+0.3**
	2.0nm,0.9s,baz=71,slow=6.3,SNR=3.8						

*IDC **27** 20:39:50.4±0.6, 3.71N×126.66E, h0km, mb4.3/19, mb1 4.4/19, mb1mx4.3/27, mbtmp4.3/19, MS3.5/2, Ms1 3.5/2, ms1mx2.7/36, Error ellipse: s-maj=31.3km s-min=13.5km az=69.0*
*DJA **27** 20:39:51.3, 2.82N×128.12E, h142km, mb4.6/7*
*ISCJB **27** 20:39:55.8±0.4, 3.71N±0.07×126.6E±0.1, h53km, mb4.4/30, Error ellipse: s-maj=17.9km s-min=9.0km az=164.8*
*NEIC **27** 20:39:55.6±0.3, 3.69N×126.60E, h35km, mb4.8/11, Error ellipse: s-maj=13.4km s-min=6.3km az=74.0*

ISC 27 20:39:57.4±0.5, 3.69N±0.09×126.6E±0.2, h53km, n52, σ0s74/50, mb4.5/29, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**3.52**	**343**	LR	LR	20 42 23.0	
	comp=Z,402nm,18.2s,baz=277,slow=44						
KAPI	**Kappang**	**11.05**	**219**	LR	LR	20 47 22.5	
	comp=Z,314nm,19.6s,baz=333,slow=41						
FITZ	**Fitzroy Crossi**	**21

mb1 3.9/3,mb1mx3.5/21,mbtmp3.7/3,1D,Error ellipse: s-maj=171.4km s-min=67.6km az=72.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	4.51	334	⇓iP	Pn	20 48 21.7	+1.3
WRA	Warramunga Arr 2.3nm,0.5s,baz=340,slow=9.9,SNR=18	24.29	161	P	P	20 52 30.1	0.0
ASAR	Alice Springs 0.2nm,0.3s,baz=344,slow=11,SNR=3.6	27.68	165	P	P	20 53 01.4	+0.6
STKA	Stephens Creek 1.6nm,0.6s,baz=331,slow=9.2,SNR=4.7	37.77	158	P	P	20 54 28.0	-0.7

IDC 27 20:48:08.6±2.9,17°29N×95°01E,h0km,mb3.6/3, mb1 3.5/4,mb1mx3.3/27,mbtmp3.5/4,ML3.0/1,Error ellipse: s-maj=45.5km s-min=23.4km az=10.0,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr 0.3nm,0.3s,baz=257,slow=15,SNR=9.0	3.92	72	Pn	Pn	20 49 11.1	+0.9
CMAR	0.7nm,0.3s,baz=256,slow=18,SNR=4.5			Sn	Sn	20 49 53.2	-3.8
CMAR	1.2nm,0.3s,baz=254,slow=33,SNR=5.2			Lg	Lg	20 50 12.3	
MKAR	Makanchi Array 0.8nm,0.9s,baz=156,slow=8.3,SNR=5.0	31.25	343	P	P	20 54 29.6	-0.4
KURBB	Kurchatov Arra 0.5nm,0.3s,baz=149,slow=8.3,SNR=4.5	35.78	342	P	P	20 55 08.7	-0.7
ZALV	Zalesovo Beam 0.9nm,0.7s,baz=174,slow=7.7,SNR=5.0	37.43	350	P	P	20 55 24.1	+0.6

ISCJB 27 20:48:28.4±0.4,29°29N±0°05×139°54E±0°09, h422km±4km,mb3.8/20,Error ellipse: s-maj=12.6km s-min=6.4km az=160.1

IDC 27 20:48:28.6±0.7,29°27N×139°36E,h403km±8km,mb3.5/20, mb1 3.5/25,mb1mx3.5/34,mbtmp3.5/25,Error ellipse: s-maj=13.7km s-min=10.3km az=47.0

JMA 27 20:48:29.1±0.2,29°41N×139°97E,h432km±4km,M3.6

ISC 27 20:48:29.0±0.7,29°31N±0°06×139°50E±0°09,h410km±7km, n43,σ1s38/55,mb3.9/20,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.24	132	P	P	20 49 35.1	+0.2
CBIJ				eS	S	20 50 27.4	-1.0
CBIJ	Chichi jima 138nm,0.3s,baz=307,slow=2.5,SNR=88	3.24	132	P	P	20 49 35.5	+0.6
CBIJ	127nm,0.3s,baz=276,slow=22,SNR=15			S	S	20 50 27.4	-1.0
JHHJ	Haha-jima-NKT	3.57	138	P	P	20 49 38.0	+0.3
JHHJ				S	S	20 50 32.8	-0.8
BSO1	Boso 1	5.47	13	P	P	20 49 57.2	+1.8
BSO1				eS	S	20 51 06.1	-0.3
JIE	Ise	5.59	336	P	P	20 50 00.7	+3.4
HMMJ	Hamamatsu 2	5.73	345	P	P	20 50 01.0	+2.3
JNY	Yasuok	6.18	347	P	P	20 50 05.8	+2.1
JAO	Obara	6.23	343	P	P	20 50 06.7	+2.6
JRY	Ryogami san	6.71	356	P	P	20 50 10.3	+0.3
JWT	Wachi	6.89	331	P	P	20 50 14.4	+2.4
JAG	Ashikaga	7.09	360	P	P	20 50 13.2	-1.0
JAG				eS	S	20 51 34.6	-4.9
JAD	Aida	7.20	323	P	P	20 50 18.5	+3.1
MJAR	Matsushiro Arr 0.8nm,0.3s,baz=170,slow=11,SNR=8.2	7.29	352	P	P	20 50 16.1	-0.3
MJAR	0.3nm,0.3s,baz=186,slow=11,SNR=3.7			S	S	20 51 41.1	-2.4
MAT	Matsushiro	7.29	352	P	P	20 50 16.4	0.0
MAT				S	S	20 51 44.7	+1.1
MAT	Matsushiro	7.29	352	P	P	20 50 16.5	0.0
JHO	Hitachi	7.33	7	P	P	20 50 17.2	+0.3
JHO				eS	S	20 51 41.9	-2.5
JKSM	Kasumi	7.47	328	P	P	20 50 20.7	+2.3
JHS	Saijyo	7.83	318	P	P	20 50 24.1	+1.6
JHK	Hiroka	7.92	357	P	P	20 50 22.9	-0.5
JNU	Nakatsue 0.5nm,0.3s,baz=215,slow=16,SNR=6.4	8.30	299	P	P	20 50 27.7	+0.2
KSRS	Korea Array 0.1nm,0.3s,baz=125,slow=11,SNR=5.1	12.62	313	P	P	20 51 15.1	0.0
USRK	Ussuriysk Arra 1.5nm,0.3s,baz=141,slow=9.9,SNR=26	16.02	340	P	P	20 51 53.1	+1.3
SONM	Songino Array 2.2nm,0.4s,baz=126,slow=8.8,SNR=58	31.48	315	P	P	20 54 14.8	-0.1
SONM	0.4nm,0.7s,baz=132,slow=2.4,SNR=4.1			PcP	PcP	20 56 56.5	+0.2
CMAR	Chiang Mai Arr 0.6nm,0.5s,baz=97,slow=4.7,SNR=4.5	38.45	263	P	P	20 55 14.0	+0.1
ZALV	Zalesovo Beam 1.9nm,0.4s,baz=91,slow=7.2,SNR=15	46.26	318	P	P	20 56 14.8	-0.6
ZALV	1.2nm,0.6s,baz=110,slow=3.0,SNR=5.0			PcP	PcP	20 57 42.4	-0.5
MKAR	Makanchi Array 2.2nm,0.6s,baz=92,slow=8.9,SNR=31	47.24	308	P	P	20 56 22.4	-0.6
MKAR	0.9nm,0.8s,baz=77,slow=3.7,SNR=4.8			PcP	PcP	20 57 46.2	-0.5
WRA	Warramunga Arr 0.4nm,0.5s,baz=7.8,slow=8.0,SNR=5.2	49.22	186	P	P	20 56 37.9	-0.2
WRA	0.5nm,0.8s,baz=357,slow=3.4,SNR=3.2			PcP	PcP	20 57 54.7	+0.6
WRA	0.8nm,1.0s,baz=0.2,slow=4.6,SNR=5.6			ScP	ScP	21 01 07.5	-1.9
KURBB	Kurchatov Arra 6.0nm,0.5s,baz=91,slow=7.9,SNR=37	49.80	313	P	P	20 56 41.4	-0.7
AAK	Ala-Archa 1.3nm,0.5s,baz=130,slow=7.7,SNR=8.1	53.05	303	P	P	20 57 05.9	-0.3
KDAK	Kodiak Island 5.9nm,0.9s,baz=311,slow=6.3,SNR=5.7	54.05	38	P	P	20 57 13.8	+1.0
BVAR	Borovoye Array 5.9nm,0.5s,baz=93,slow=7.4,SNR=38	54.81	316	P	P	20 57 18.0	-0.3
BVAR	1.2nm,0.6s,baz=75,slow=3.3,SNR=4.2			PcP	PcP	20 58 14.7	-0.1
ILAR	Eielson Array 0.2nm,0.6s,baz=270,slow=5.9,SNR=6.1	56.93	29	P	P	20 57 34.1	+1.1
INK	Inuvik 0.8nm,0.4s,baz=217,slow=2.2,SNR=7.0	62.02	25	P	P	20 58 08.6	+1.4
AKTO	Aktyubinsk 3.6nm,0.7s,baz=75,slow=14,SNR=9.6	62.79	315	P	P	20 58 12.1	-0.6
ARCES	ARCESS Array B 3.0nm,0.5s,baz=76,slow=8.7,SNR=23	70.67	340	P	P	20 59 02.0	+0.7
YKA	Yellowknife Ar 0.3nm,0.5s,baz=298,slow=5.8,SNR=6.1	71.32	28	P	P	20 59 06.0	+0.7
FINES	FINESS Array B 7.0nm,0.7s,baz=97,slow=5.6,SNR=4.2	74.91	333	P	P	20 59 26.0	0.0
AKASG	Malin Array Be 4.1nm,0.8s,baz=54,slow=5.6,SNR=4.6	79.43	323	P	P	20 59 49.6	-1.5
HFS	Hagfors 2.4nm,0.5s,baz=43,slow=6.5,SNR=2.2	80.45	336	P	P	20 59 55.4	-0.8
NB2	NORSAR Subarra comp=Z,2.0nm,0.6s,baz=47,slow=5.1	80.67	337	P	P	20 59 57.2	-0.3
NOA	NORSAR Array B comp=Z,2.7nm,0.5s,baz=45,slow=5.1,SNR=4.6	80.67	337	P	P	20 59 57.2	-0.3
NVAR	Mina Array Bea comp=Z,1.1nm,0.8s,baz=291,slow=5.1,SNR=6.1	80.99	51	P	P	21 00 01.9	+2.1
BRTR	Keskin Array B comp=Z,2.8nm,0.8s,baz=82,slow=3.1,SNR=7.0	82.76	312	P	P	21 00 08.6	-0.3

IDC 27 20:48:57.1±1.2,3°34S×100°33E,h0km,mb4.3/13, mb1 4.3/13,mb1mx4.2/26,mbtmp4.3/13,MS3.0/1, Ms1 3.0/1,ms1mx2.3/38,Error ellipse: s-maj=43.6km s-min=14.4km az=55.0

NEIC 27 20:49:02.8±0.8,3°16S×100°53E,h35km,mb4.5/9,Error ellipse: s-maj=30.0km s-min=9.9km az=58.0

ISC 27 20:49:03.3±1.1,3°15S±0°1×100°8E±0°2,h28km,n50, σ1s43/45,mb4.4/23,1C,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim 9.6nm,0.8s	8.29	359	ePn	Pn	20 50 58.9	-2.8
KAPI	Kappang comp=Z,41nm,18.1s,baz=196,slow=40	19.03	96	LR	LR	21 01 48.8	
CMAR	Chiang Mai Arr	21.45	355	P	P	20 53 48.1	-1.4
CMAR	Chiang Mai Arr 2.2nm,0.8s,baz=187,slow=10,SNR=8.0	21.45	355	P	P	20 53 48.1	-1.4
CHTO	Chiang Mai 2.2nm,0.9s	21.80	355	P	P	20 53 53.5	+0.2
CGP	Cagayan de Oro	26.45	64	⇑iP	P	20 54 39.9	+1.7
FITZ	Fitzroy Crossi	28.59	123	P	P	20 54 56.7	-0.5
FITZ	Fitzroy Crossi 4.3nm,0.8s,baz=311,slow=11,SNR=3.7	28.59	123	P	P	20 54 56.7	-0.5
ODAN	Odare 5.7nm,0.4s	32.43	337	eP	P	20 55 33.8	+2.4
TAPN	Taplejung 6.2nm,0.3s	32.75	338	eP	P	20 55 34.8	+0.6
LSA	Lhasa 4.3nm,0.6s	33.85	345	P	P	20 55 40.9	-3.1
GUN	Gumba 14nm,0.4s	33.96	336	eP	P	20 55 46.2	+1.3
KKN	Kakani	34.10	335	eP	P	20 55 48.4	+2.4
KKN	Kakani	34.10	335	eP	P	20 55 48.4	+2.4
ENH	Enshi	34.17	13	P	P	20 55 46.2	-0.1
GKN	Gorkha 6.9nm,0.5s	34.56	334	eP	P	20 55 53.4	+3.5
GKN	Gorkha 6.9nm,0.5s	34.56	334	eP	P	20 55 53.4	+3.5
KOLN	Koldanda 6.0nm,0.6s	34.83	333	eP	P	20 55 55.7	+3.5
DANN	Dangsing 12nm,0.5s	35.25	333	eP	P	20 55 59.0	+3.0
DANN	Dangsing 12nm,0.5s	35.25	333	eP	P	20 55 59.0	+3.0
WRA	Warramunga Arr	36.80	120	P	P	20 56 08.6	-0.5
WRA	Warramunga Arr 1.0nm,0.4s,baz=305,slow=8.4,SNR=31	36.80	120	P	P	20 56 08.6	-0.5
WRAB	Tennant Creek 2.5nm,0.4s	36.80	120	eP	P	20 56 08.2	-0.9
ASAR	Alice Springs	38.01	126	P	P	20 56 19.0	-0.3
ASAR	Alice Springs 2.7nm,0.4s,baz=303,slow=7.2,SNR=36	38.01	126	P	P	20 56 19.0	-0.3
KSAR	Wonju Array Be	47.51	29	P	P	20 57 37.2	+1.2
KSRS	Korea Array 1.9nm,0.8s,baz=218,slow=10.0,SNR=7.0	47.54	29	P	P	20 57 37.2	+1.0
STKA	Stephens Creek	47.88	131	P	P	20 57 38.4	-0.7
STKA	Stephens Creek 1.7nm,0.6s,baz=316,slow=10.0,SNR=4.9	47.88	131	P	P	20 57 38.4	-0.7
SONM	Songino Array	50.91	5	P	P	20 58 03.6	+1.5
SONM				PcP	PcP	20 59 17.5	-0.8
SONM	Songino Array 5.9nm,0.6s,baz=190,slow=9.4,SNR=57	50.91	5	P	P	20 58 03.6	+1.5
SONM	0.8nm,0.5s,baz=192,slow=3.4,SNR=5.9			PcP	PcP	20 59 17.5	-0.8
ULN	Ulaanbaatar 2.9nm,0.7s	51.00	5	eP	P	20 58 03.9	+1.1
TKM2	Tokmak 2 3.8nm,0.5s	51.10	336	eP	P	20 58 02.8	-0.9
AAK	Ala-Archa 113nm,1.8s	51.31	335	P	P	20 58 03.6	-1.7
EKS2	Erkin-Say 4.8nm,0.9s	51.64	335	eP	P	20 58 05.5	-2.2
MKAR	Makanchi Array	52.24	344	P	P	20 58 11.8	-0.2
MKAR	Makanchi Array 4.6nm,0.5s,baz=155,slow=8.5,SNR=52	52.24	344	P	P	20 58 11.8	-0.2
TLY	Talaya 3.3nm,0.9s	54.58	2	P	P	20 58 30.5	+1.5
USRK	Ussuriysk Arra 5.8nm,0.7s,baz=225,slow=6.5,SNR=15	54.73	27	P	P	20 58 31.4	+1.3
KURBB	Kurchatov Arra 3.3nm,0.9s,baz=163,slow=6.9,SNR=18	56.77	343	P	P	20 58 44.0	-0.7
KURK	Kurchatov	56.83	343	P	P	20 58 44.0	-1.1
ZALV	Zalesovo Beam	58.34	349	P	P	20 58 55.2	-0.5
ZALV	Zalesovo Beam 6.0nm,0.8s,baz=172,slow=4.5,SNR=24	58.34	349	P	P	20 58 55.2	-0.5
BVAR	Borovoye Array	61.43	340	P	P	20 59 15.3	-1.7
BVAR	Borovoye Array 1.3nm,0.5s,baz=146,slow=10,SNR=6.3	61.43	340	P	P	20 59 15.3	-1.7
BRTR	Keskin Array B	74.60	313	P	P	21 00 37.1	-3.1
BRTR	Keskin Array B 1.1nm,0.8s,baz=134,slow=7.1,SNR=3.9	74.60	313	P	P	21 00 37.1	-3.1
TXAR	Lajitas Array	145.04	39	PKPbc	PKPdf	21 08 39.0	+0.1
TXAR	Lajitas Array 3.1nm,0.5s,baz=261,slow=0.8,SNR=20	145.04	39	PKPbc	PKPdf	21 08 39.0	+0.1
JCT	Junction City	146.49	33	ePKPbc	PKPdf	21 08 42.1	+0.8

SZGRF 27 20:52:42.6,34°35N×25°90E,h10km,mb4.7,Crete, Greece

BJI 27 20:52:43.3,34°50N×24°96E,h14km,mB5.0/23,mb4.8/34, Ms4.8/11,Ms7 4.5/11

ISCJB 27 20:52:44.5±0.5,34°18N±0°01×25°19E±0°01,h22km±3km, mb4.7/145,MS4.0/32,Error ellipse: s-maj=2.5km s-min=1.7km az=23.0

ISK 27 20:52:45.0,34°15N×25°09E,h44km,ML4.5

TEH 27 20:52:45.2,34°14N×25°17E,h10km,ML4.8

PDG 27 20:52:47.0±0.4,34°54N×24°92E,h5km±11km,ML4.6/10, Error ellipse: s-maj=12.5km s-min=8.2km az=90.0

MOS 27 20:52:47.5±1.0,34°31N×25°19E,h40km,mb5.0/59,Error ellipse: s-maj=5.0km s-min=2.6km az=106.5

ATH 27 20:52:47.4,34°22N×25°14E,h96km±2km,ML4.3

CSEM 27 20:52:47.3±0.1,34°15N×25°19E,h30km,mb4.8/79,Ms4.0, Mw4.1,Error ellipse: s-maj=2.2km s-min=1.5km az=26.0

HLW 27 20:52:48.6,34°24N×25°55E,h33km±30km,Md0.0,Ml4.3

IDC 27 20:52:48.5±1.7,34°32N×25°18E,h33km±12km,mb4.4/32, mb1 4.4/42,mb1mx4.4/45,mbtmp4.3/42,ML4.1/5,MS3.9/23, Ms1 3.9/23,ms1mx3.8/41,Error ellipse: s-maj=11.0km s-min=9.3km az=146.0

NEIC 27 20:52:48.1±1.2,34°29N×25°22E,h31km±8km,mb4.8/96, Error ellipse: s-maj=5.1km s-min=2.8km az=190.0

THE 27 20:52:51.2,34°33N×25°15E,h58km±1km,ML4.6/11,Error ellipse: s-maj=1.4km s-min=0.5km az=156.0

BGS 27 20:52:53.6±1.9,34°87N×24°95E,h33km,mb5.0

NIC 27 20:52:54.6±0.2,34°68N×25°91E,h61km,mb4.8,ML4.3, MW4.0

ISC 27 20:52:47.6±0.4,34°18N±0°03×25°22E±0°02,h30km±2km, h30km:pP-P,n1313,σ1s12/1383,mb4.8/145,MS4.0/32, 39C-37D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	0.90	338	P	Pb	20 53 05.0	+0.3
SIVA				S	Sb	20 53 16.4	0.0
SIVA	Sivas	0.90	338	eP	Pb	20 53 05.6	+0.9
SIVA				eS	Sb	20 53 20.9	+4.5
SIVA	Sivas	0.90	338	P	Pb	20 53 05.0	+0.3
SIVA				S	Sb	20 53 16.4	0.0
LAST	Lasithi	1.00	12	P	Pb	20 53 06.7	+0.3
LAST				S	Sb	20 53 19.5	+0.2
LAST	Lasithi	1.00	12	eP	Pb	20 53 07.2	+0.8
LAST				eS	Sb	20 53 22.9	+3.6
LAST	Lasithi	1.00	12	P	Pb	20 53 06.7	+0.3
LAST				S	Sb	20 53 19.5	+0.2
NPS	Neapolis	1.13	17	P	Pb	20 53 09.0	+0.5
NPS	Neapolis	1.13	17	eP	Pb	20 53 09.4	+0.9
NPS	Neapolis	1.13	17	P	Pb	20 53 09.0	+0.5
GVD	Gavdhos	1.14	305	ePn	Pb	20 53 08.6	-0.1
GVD				eSn	Sb	20 53 23.5	+0.2
GVD	Gavdhos	1.14	305	P	Pb	20 53 09.2	+0.4
GVD				S	Sb	20 53 22.1	-1.2
GVD	Gavdhos	1.14	305	eP	Pb	20 53 08.9	+0.1
GVD				eS	Sb	20 53 24.9	+1.6
GVD	Gavdhos	1.14	305	ePn	Pb	20 53 08.6	-0.1
GVD	Gavdhos	1.14	305	eP	Pb	20 53 08.9	+0.1
GVD				S	Sb	20 53 22.1	-1.2
GVD				eSn	Sb	20 53 23.5	+0.2
ZKR	Zakros	1.24	41	P	Pb	20 53 11.0	+0.5
ZKR	Zakros	1.24	41	eP	Pb	20 53 10.9	+0.5
ZKR				eS	Sb	20 53 29.2	+3.1
ZKR	Zakros	1.24	41	eP	Pb	20 53 10.9	+0.5
ZKR				eS	Sb	20 53 29.2	+3.1
VAM	Vamos	1.48	326	P	Pb	20 53 13.6	-0.9
VAM	Vamos	1.48	326	eP	Pb	20 53 13.8	-0.7
VAM				eS	Sb	20 53 31.9	-1.1
VAM	Vamos	1.48	326	P	Pb	20 53 13.6	-0.9
VAM				eS	Sb	20 53 31.9	-1.1
KARP	Karpathos	2.10	49	eP	Pb	20 53 23.2	-1.8
KARP				eS	Sb	20 53 48.7	-2.0
KARP	Karpathos	2.10	49	eP	Pb	20 53 23.3	-1.8
KARP				eS	Sb	20 53 48.7	-2.0
THR1	Thera Island	2.19	5	P	Pn	20 53 22.6	+0.6
THR1	Thera Island	2.19	5	P	Pn	20 53 22.6	+0.6
THR5	Thira Island,	2.23	3	P	Pn	20 53 23.6	+1.1
THR5	Thira Island,	2.23	3	P	Pn	20 53 23.6	+1.1
THR2	Thira Island,	2.27	4	P	Pn	20 53 23.5	+0.5
THR2	Thira Island,	2.27	4	P	Pn	20 53 23.5	+0.5
LTBQ	Tobruq 752nm,0.3s,SNR=37	2.38	208	iP	Pn	20 53 26.3	+1.8
LTBQ	SNR=37			eS	Sn	20 53 52.6	-0.1
KYTH	Kithira	2.75	320	P	Pn	20 53 30.6	+0.9
KYTH	Kithira	2.75	320	eP	Pn	20 53 31.0	+1.3
KYTH	Kithira	2.75	320	P	Pn	20 53 30.6	+0.9
APE	Apeiranthos	2.89	5	P	Pn	20 53 32.2	+0.6
APE				S	Sn	20 54 04.6	-0.8
APE	Apeiranthos	2.89	5	eP	Pn	20 53 32.4	+0.8
APE				eS	Sn	20 54 05.7	+0.3
APE	Apeiranthos	2.89	5	P	Pn	20 53 32.2	+0.6
APE				eS	Sn	20 54 05.7	+0.3
NIS1	Nisyros Isl.	2.90	33	P	Pn	20 53 33.3	+1.6
NIS1	Nisyros Isl.	2.90	33	P	Pn	20 53 33.3	+1.6
ARG	Arkhangelos	3.13	49	P	Pn	20 53 36.9	+2.1
ARG				S	Sn	20 54 12.5	+1.4
ARG	Arkhangelos	3.13	49	eP	Pn	20 53 37.2	+2.4
ARG				eS	Sn	20 54 12.2	+1.1
ARG	Arkhangelos	3.13	49	P	Pn	20 53 36.9	+2.1
ARG				eS	Sn	20 54 12.2	+1.1
VLI	Veliai	3.15	324	P	Pn	20 53 35.6	+0.6
VLI	Veliai	3.15	324	eP	Pn	20 53 35.7	+0.7
VLI				eS	Sn	20 54 10.9	-0.6
VLI	Veliai	3.15	324	P	Pn	20 53 35.6	+0.6
VLI				eS	Sn	20 54 10.9	-0.6
DAT	Datca	3.19	36	ePN	Pn	20 53 35.7	-0.1
DAT				eSN	Sn	20 54 12.5	-0.3
DAT	Datca	3.19	36	ePn	Pn	20 53 35.7	-0.1
DAT				eSn	Sn	20 54 12.5	-0.3
BODT	Bodrum	3.34	30	ePN	Pn	20 53 37.9	+0.1
BODT	Bodrum	3.34	30	ePn	Pn	20 53 37.9	+0.1
BDRM	Kayabasi	3.40	32	iP	Pn	20 53 40.1	+1.5
BDRM	Kayabasi	3.40	32	iP	Pn	20 53 40.1	+1.5
HMAT	Matruh	3.46	152	P	Pn	20 53 39.3	-0.1
HMAT				S	Sn	20 54 17.2	-2.1
DYR	Agios Nikonas	3.49	318	P	Pn	20 53 40.6	+0.8
DYR	Agios Nikonas	3.49	318	P	Pn	20 53 40.6	+0.8
DID	Didima	3.69	335	P	Pn	20 53 42.9	+0.3
DID				S	Sn	20 54 23.5	-1.5
DID	Didima	3.69	335	eP	Pn	20 53 42.7	+0.1
DID	Didima	3.69	335	P	Pn	20 53 42.9	+0.3
DID				S	Sn	20 54 23.5	-1.5
MLSB	Milas	3.74	33	ePN	Pn	20 53 43.4	+0.2
MLSB	Milas	3.74	33	ePn	Pn	20 53 43.4	+0.2
NAIG	Nisos Aigina	3.84	339	eP	Pn	20 53 44.4	-0.1
NAIG	Nisos Aigina	3.84	339	eP	Pn	20 53 44.4	-0.1
TURN	Turunc	3.85	45	iP	Pn	20 53 42.1	-2.6
TURN				iS	Sn	20 54 18.9	-10
TURN	Turunc	3.85	45	iP	Pn	20 53 42.1	-2.6
YER	Yerkesik	3.86	39	ePN	Pn	20 53 45.5	+0.6
YER	Yerkesik	3.86	39	ePn	Pn	20 53 45.5	+0.6
GCAM	G?zelcaml?	3.87	24	iP	Pn	20 53 45.9	+0.9
GCAM	G?zelcaml?	3.87	24	iP	Pn	20 53 45.9	+0.9
PYL	PYLOS	3.92	315	eP	Pn	20 53 46.2	+0.5
PYL	PYLOS	3.92	315	eP	Pn	20 53 46.2	+0.5
MRMA	Marmari	3.93	350	P	Pn	20 53 46.7	+0.9
MRMA	Marmari	3.93	350	P	Pn	20 53 46.7	+0.9
VLX	Vlachokerasia	3.93	325	P	Pn	20 53 46.9	+0.9
VLX				S	Sn	20 54 29.8	-1.3
VLX	Vlachokerasia	3.93	325	eP	Pn	20 53 46.8	+0.8
VLX	Vlachokerasia	3.93	325	eP	Pn	20 53 46.8	+0.8
VLX				S	Sn	20 54 29.8	-1.3
ATH	Athens Observa	3.98	343	P	Pn	20 53 47.2	+0.8
ATH	Athens Observa	3.98	343	eP	Pn	20 53 47.0	+0.6
ATH	Athens Observa	3.98	343	eP	Pn	20 53 47.0	+0.6
FETY	Fethiye	4.00	51	ePN	Pn	20 53 47.5	+0.7
FETY	Fethiye	4.00	51	ePn	Pn	20 53 47.5	+0.7
PTL	Penteli	4.01	345	P	Pn	20 53 47.6	+0.6
PTL				S	Sn	20 54 31.5	-1.5
PTL	Penteli	4.01	345	eP	Pn	20 53 47.7	+0.7
PTL	Penteli	4.01	345	P	Pn	20 53 47.6	+0.6
PTL				S	Sn	20 54 31.5	-1.5
ITM	Ithomi	4.02	319	P	Pn	20 53 47.3	+0.2
ITM	Ithomi	4.02	319	eP	Pn	20 53 47.2	+0.2
ITM	Ithomi	4.02	319	eP	Pn	20 53 47.2	+0.2
KSL	Kastellorizon	4.08	60	eP	Pn	20 53 49.2	+1.3
AYDN	Tasoluk	4.09	31	iP	Pn	20 53 50.1	+2.0
AYDN	Tasoluk	4.09	31	iP	Pn	20 53 50.1	+2.0
AKAS	Kas	4.13	59	iP	Pn	20 53 49.5	+0.7
AKAS	Kas	4.13	59	iP	Pn	20 53 49.5	+0.7
LTK	Loutraki	4.25	335	P	Pn	20 53 50.5	+0.3
LTK				S	Sn	20 54 37.3	-1.4
LTK	Loutraki	4.25	335	eP	Pn	20 53 50.0	-0.2
LTK	Loutraki	4.25	335	P	Pn	20 53 50.5	+0.3
LTK				S	Sn	20 54 37.3	-1.4
CHOS	Chios island	4.25	9	P	Pn	20 53 51.2	+0.9
CHOS				S	Sn	20 54 37.9	-1.1
CHOS	Chios island	4.25	9	eP	Pn	20 53 51.1	+0.8
CHOS	Chios island	4.25	9	eP	Pn	20 53 51.1	+0.8
CHOS				S	Sn	20 54 37.9	-1.1
URLA	Izmir	4.32	15	iP	Pn	20 53 52.0	+0.8
URLA	Izmir	4.32	15	iP	Pn	20 53 52.0	+0.8
AMT	Artemida-Makis	4.40	321	P	Pn	20 53 52.7	+0.4
AMT	Artemida-Makis	4.40	321	P	Pn	20 53 52.7	+0.4
ERET	Eretria	4.41	345	P	Pn	20 53 53.2	+0.8
ERET	Eretria	4.41	345	P	Pn	20 53 53.2	+0.8
GUR	Goura	4.41	329	P	Pn	20 53 52.7	+0.2
GUR				S	Sn	20 54 41.3	-1.7
GUR	Goura	4.41	329	eP	Pn	20 53 52.8	+0.2
GUR	Goura	4.41	329	eP	Pn	20 53 52.8	+0.2
GUR				S	Sn	20 54 41.3	-1.7
IZM	Izmir	4.52	21	ePN	Pn	20 53 54.5	+0.5
IZM	Izmir	4.52	21	ePn	Pn	20 53 54.5	+0.5
ELL	Elmali	4.61	55	ePN	Pn	20 53 56.2	+1.1
ELL	Elmali	4.61	55	ePn	Pn	20 53 56.3	+1.1
GOLH	Golhisar	4.67	48	iP	Pn	20 53 57.7	+1.6
GOLH				iS	Sn	20 54 48.5	-0.7
GOLH	Golhisar	4.67	48	iP	Pn	20 53 57.7	+1.6
GOLH				iS	Sn	20 54 48.5	-0.7
DNZL	Cakiroluk	4.68	40	iP	Pn	20 53 57.5	+1.2
DNZL	Cakiroluk	4.68	40	iP	Pn	20 53 57.5	+1.2
MRKA	Markates	4.71	344	P	Pn	20 53 56.7	+0.2
MRKA	Markates	4.71	344	P	Pn	20 53 56.7	+0.2
DENT	Denizli

SNR=36
KHL Karahalli 5.40 39 ePN Pn 20 54 06.8 +0.7
KHL Karahalli 5.40 39 ePn Pn 20 54 06.8 +0.7
KHAL Karahalli 5.42 38 i P Pn 20 54 07.2 +0.8
MAKR Makrakomi, Fth 5.43 334 P Pn 20 54 06.7 +0.3
MAKR Makrakomi, Fth 5.43 334 P Pn 20 54 06.7 +0.3
BCK Bucak 5.45 52 ePN Pn 20 54 08.3 +1.5
BCK Bucak 5.45 52 ePn Pn 20 54 08.3 +1.5
EVR Evrytania 5.47 331 eP Pn 20 54 08.5 +1.5
EVR Evrytania 5.47 331 eP Pn 20 54 08.5 +1.5
VLS Valsamata 5.47 318 P Pn 20 54 07.6 +0.5
VLS Valsamata 5.47 318 eP Pn 20 54 07.0 +0.5
VLS Valsamata 5.47 318 eP Pn 20 54 07.5 +0.5
DEMI Demirci 5.61 29 i P Pn 20 54 10.8 +1.8
ISP Isparta 5.63 48 ⇑P Pn 20 54 10.2 +0.9
ISP Isparta 5.63 48 ePn Pn 20 54 09.8 +0.5
comp=N,38nm,0.3s
ISP Isparta 5.63 48 ⇑i P Pn 20 54 10.2 +0.9
ISP Isparta 5.63 48 ePn Pn 20 54 09.8 +0.5
comp=N,38nm,0.3s
ISP Isparta 5.63 48 P Pn 20 54 10.2 +0.9
BOZC Bozcaada 5.69 6 i P Pn 20 54 10.5 +0.5
EZN Ezine 5.71 9 ePN Pn 20 54 10.3 +0.1
EZN Ezine 5.71 9 ePn Pn 20 54 10.3 +0.1
LIA Limnos Island 5.71 360 eP Pn 20 54 10.1 -0.1
LIA Limnos Island 5.71 360 eP Pn 20 54 10.1 -0.1
BALB Balikesir 5.85 21 ePN Pn 20 54 13.0 +0.8
BALB Balikesir 5.85 21 ePn Pn 20 54 13.0 +0.8
PAIG Paliouri 5.87 348 P Pn 20 54 13.2 +0.8
PAIG Paliouri 5.87 348 P Pn 20 54 13.2 +0.8
BALY Balya 5.87 18 i P Pn 20 54 13.2 +0.6
LKD2 Lefkada island 5.89 323 P Pn 20 54 13.4 +0.7
LKD2 Lefkada island 5.89 323 eP Pn 20 54 13.7 +1.0
LKD2 Lefkada island 5.89 323 P Pn 20 54 13.4 +0.7
PPCY Paphos 5.92 81 P Pn 20 54 12.3 -0.9
PPCY Paphos 5.92 81 P Pn 20 54 12.3 -0.9
THL Klokotos Trika 5.96 335 P Pn 20 54 13.8 +0.2
THL S Sn 20 55 18.6 -2.2
THL Klokotos Trika 5.96 335 eP Pn 20 54 14.0 +0.4
THL Klokotos Trika 5.96 335 eP Pn 20 54 14.0 +0.4
GDZ Gediz 5.98 34 i P Pn 20 54 14.5 +0.4
DURS Dursunbey 6.01 25 i P Pn 20 54 15.8 +1.4
LUJL Ujela 6.05 215 i P Pn 20 54 15.3 +0.3
SNR=36
DST Dursunbey 6.06 26 ePN Pn 20 54 15.8 +0.7
DST Dursunbey 6.06 26 ePn Pn 20 54 15.9 +0.7
SHUT Suhut-Afyon 6.13 43 ePN Pn 20 54 16.5 +0.4
SHUT Suhut-Afyon 6.13 43 ePn Pn 20 54 16.5 +0.4
ALFC Alevga 6.16 79 P Pn 20 54 15.2 -1.3
comp=N,5.6nm,0.3s
ALFC S Sn 20 55 18.8 -7.1
ALFC Alevga 6.16 79 P Pn 20 54 15.2 -1.3
comp=N,5.6nm,0.3s
GONE Gonen-Balikesi 6.18 18 ePN Pn 20 54 17.0 +0.3
GONE Gonen-Balikesi 6.18 18 ePn Pn 20 54 17.0 +0.3
OUR Ouranopolis 6.22 351 P Pn 20 54 17.9 +0.6
OUR Ouranopolis 6.22 351 P Pn 20 54 17.9 +0.6
ALT Altintas 6.25 38 ePN Pn 20 54 18.6 +0.7
ALT Altintas 6.25 38 ePn Pn 20 54 18.6 +0.7
TVSB Tavsanli 6.26 32 ePN Pn 20 54 18.6 +0.6
TVSB Tavsanli 6.26 32 ePn Pn 20 54 18.6 +0.6
GELI Tayfur-Gelibol 6.29 9 ePN Pn 20 54 18.3 +0.1
GELI Tayfur-Gelibol 6.29 9 ePn Pn 20 54 18.3 +0.1
LIT Litokhoron 6.30 341 P Pn 20 54 18.5 +0.1
LIT S Sn 20 55 27.3 -2.0
LIT Litokhoron 6.30 341 eP Pn 20 54 18.5 +0.1
LIT Litokhoron 6.30 341 P Pn 20 54 18.5 +0.1
LPK Lapseki 6.30 11 ePN Pn 20 54 18.6 +0.2
LPK Lapseki 6.30 11 ePn Pn 20 54 18.6 +0.2
PLG Polygyros 6.34 348 P Pn 20 54 19.0 0.0
PLG Polygyros 6.34 348 eP Pn 20 54 19.7 +0.7
PLG Polygyros 6.34 348 eP Pn 20 54 19.7 +0.7
SZAC Souni-Zanaja 6.36 83 P Pn 20 54 18.8 -0.4
comp=N,8.7nm,0.4s
SZAC S Sn 20 55 24.0 -6.8
SZAC Souni-Zanaja 6.36 83 P Pn 20 54 18.8 -0.4
comp=N,8.7nm,0.4s
LEF Lefka 6.39 79 ePN Pn 20 54 20.3 +0.7
LEF Lefka 6.39 79 ePn Pn 20 54 20.3 +0.7
KRBG Karabiga-Canak 6.42 14 ePN Pn 20 54 20.5 +0.5
KRBG Karabiga-Canak 6.42 14 ePn Pn 20 54 20.5 +0.5
HNAT Natroun 6.45 133 P Pn 20 54 19.6 -0.9
HNAT Natroun 6.45 133 P Pn 20 54 19.6 -0.9
baz=135
BOLV Bolvadin 6.47 44 i P Pn 20 54 21.8 +1.0
JAN Janina 6.49 329 P Pn 20 54 21.5 +0.5
JAN Janina 6.49 329 eP Pn 20 54 21.0 +0.0
JAN Janina 6.49 329 P Pn 20 54 21.5 +0.5
EDC Edincik 6.51 18 ePN Pn 20 54 21.7 +0.5
EDC Edincik 6.51 18 ePn Pn 20 54 21.7 +0.5
BNT Bandirma 6.53 18 ePN Pn 20 54 21.3 -0.2
BNT Bandirma 6.53 18 ePn Pn 20 54 21.3 -0.2
ERIK Erikli-Kesan 6.56 9 ePN Pn 20 54 22.2 +0.3
ERIK Erikli-Kesan 6.56 9 ePn Pn 20 54 22.2 +0.3
KCTX Karacabey (Bur 6.57 21 ePN Pn 20 54 22.1 0.0
KCTX Karacabey (Bur 6.57 21 ePn Pn 20 54 22.1 0.0
ENEZ Enez 6.59 6 ePN Pn 20 54 22.5 +0.2
ENEZ Enez 6.59 6 ePn Pn 20 54 22.5 +0.2
AWBH 6.64 151 P Pn 20 54 22.2 -0.9
AWBH 6.64 151 P Pn 20 54 22.2 -0.9
baz=153
SQR 6.64 129 P Pn 20 54 22.0 -1.1
SQR 6.64 129 P Pn 20 54 22.0 -1.1
baz=130
MAMC Mammari 6.66 79 P Pn 20 54 22.4 -1.0
MAMC Mammari 6.66 79 P Pn 20 54 22.4 -1.0
RKY Sarkoy-Tekirda 6.68 13 ePN Pn 20 54 23.9 +0.3
RKY Sarkoy-Tekirda 6.68 13 ePn Pn 20 54 23.9 +0.3
SART Tekirdag 6.68 13 i P Pn 20 54 24.3 +0.6
KZN Kozani 6.71 337 P Pn 20 54 25.2 +1.2
KZN S Sn 20 55 37.0 -2.4
KZN Kozani 6.71 337 eP Pn 20 54 24.7 +0.7
KZN Kozani 6.71 337 eP Pn 20 54 24.7 +0.7
CSS Prodhromos 6.74 81 P Pn 20 54 23.8 -0.6
comp=N,6.8nm,0.3s
CSS S Sn 20 55 33.9 -6.2
CSS Prodhromos 6.74 81 ePn Pn 20 54 23.8 -0.6
comp=N,71nm,0.7s
CSS eSn Sn 20 55 35.1 -5.0
CSS Prodhromos 6.74 81 P Pn 20 54 23.8 -0.6
comp=N,6.8nm,0.3s
ALN Alexandroupoli 6.74 5 P Pn 20 54 25.0 +0.6
ALN Alexandroupoli 6.74 5 eP Pn 20 54 25.4 +1.0
ALN Alexandroupoli 6.74 5 P Pn 20 54 25.0 +0.6
ERMK Ermenek 6.74 66 i P Pn 20 54 26.2 +1.6
HLW Helwan 6.75 128 P Pn 20 54 23.5 -1.1
HLW Helwan 6.75 128 P Pn 20 54 23.5 -1.1
baz=130
SOH Sokhos 6.79 348 eP Pn 20 54 26.2 +1.0
SOH Sokhos 6.79 348 eP Pn 20 54 26.2 +1.0
KONT Konya--Tatoy 6.90 55 ePN Pn 20 54 27.7 +1.1
KONT Konya--Tatoy 6.90 55 ePn Pn 20 54 27.7 +1.1
LFK Lefkose 6.93 79 ePN Pn 20 54 27.6 +0.6
LFK Lefkose 6.93 79 ePn Pn 20 54 27.7 +0.6
SEYT Eskypehyr 6.98 39 i P Pn 20 54 26.1 -1.8
ARMT Armutlu 7.00 23 ePN Pn 20 54 27.9 -0.2
ARMT Armutlu 7.00 23 ePn Pn 20 54 27.9 -0.2
KEK Kerkira 7.02 323 eP Pn 20 54 27.9 -0.4
KEK Kerkira 7.02 323 eP Pn 20 54 27.9 -0.4
KOT Kottamia 7.03 125 P Pn 20 54 26.9 -1.6
KOT Kottamia 7.03 125 P Pn 20 54 26.9 -1.6
baz=127
KOT S Sn 20 55 42.0 -5.4
baz=127
LADK Ladik-KONYA 7.03 53 ePN Pn 20 54 29.4 +0.8
LADK Ladik-KONYA 7.03 53 ePn Pn 20 54 29.4 +0.8
HSAF As Saff 7.05 128 P Pn 20 54 27.6 -1.1
HSAF As Saff 7.05 128 P Pn 20 54 27.6 -1.1
baz=130
KDHN Kadinhani 7.05 50 i P Pn 20 54 29.6 +0.8
NEST Nestorio 7.05 333 P Pn 20 54 28.8 0.0
NEST Nestorio 7.05 333 P Pn 20 54 28.8 0.0
BORA Eskisehir 7.06 35 i P Pn 20 54 29.4 +0.4
KIZT Kizilcal 7.12 47 ePN Pn 20 54 30.4 +0.7
KIZT Kizilcal 7.12 47 ePn Pn 20 54 30.5 +0.7
GLL Jalalah 7.17 128 P Pn 20 54 28.5 -2.0
GLL Jalalah 7.17 128 P Pn 20 54 28.5 -2.0
baz=130
YLV Yalova 7.18 26 ePN Pn 20 54 30.9 +0.4
YLV Yalova 7.18 26 ePn Pn 20 54 30.9 +0.4
HHAG Hagoal 7.20 124 S Sn 20 55 45.9 -5.6
baz=125
HHAG AMP 20 55 00.0
comp=E,170µm,0.2s,logA/T=5.8,baz=125
ADVT Abdulvahap 7.21 29 ePN Pn 20 54 31.1 +0.3
ADVT Abdulvahap 7.21 29 ePn Pn 20 54 31.1 +0.3
NVR Nevrokopi 7.24 352 P Pn 20 54 32.5 +1.2
NVR Nevrokopi 7.24 352 eP Pn 20 54 31.8 +0.5
NVR Nevrokopi 7.24 352 eP Pn 20 54 31.8 +0.5
FNA Florina 7.26 336 P Pn 20 54 31.8 +0.1
FNA Florina 7.26 336 P Pn 20 54 31.8 +0.1
SVRH Sivrihisar-ESK 7.29 42 ePN Pn 20 54 32.7 +0.6
SVRH Sivrihisar-ESK 7.29 42 ePn Pn 20 54 32.7 +0.6
HBNS Bani Suwayf 7.30 134 P Pn 20 54 31.5 -0.7
HBNS Bani Suwayf 7.30 134 P Pn 20 54 31.5 -0.7
baz=136
PHNC Paralimni 7.31 81 P Pn 20 54 37.1 +4.8
comp=E,5.5nm,0.8s
PHNC S Sn 20 55 48.6 -5.7
ELBA Catalca 7.41 19 i P Pn 20 54 35.0 +1.4
VAY Valandovo 7.43 344 ePn Pn 20 54 35.5 +1.6
KDZ Kurdzhali 7.46 1 eP Pn 20 54 34.8 +0.5
EREN Erenkoy 7.48 77 ePN Pn 20 54 35.3 +0.7
EREN Erenkoy 7.48 77 ePn Pn 20 54 35.3 +0.7
BIA Bitola 7.49 337 ePn Pn 20 54 34.1 -0.7
HFRF Wahat Farafira 7.50 158 AMP 20 56 00.0
comp=E,260µm,0.9s,logA/T=5.5,baz=160
RZN Rozhen 7.51 357 eP Pn 20 54 36.0 +0.9
CTKS Kestanelik-??a 7.51 19 ePN Pn 20 54 34.9 -0.1
CTKS Kestanelik-??a 7.51 19 ePn Pn 20 54 34.9 -0.1
ISK Istanbul-Kandi 7.52 23 ePN Pn 20 54 35.4 +0.3
ISK Istanbul-Kandi 7.52 23 ePn Pn 20 54 35.4 +0.3
GULT Gulveren 7.53 33 ePN Pn 20 54 35.8 +0.5
GULT Gulveren 7.53 33 ePn Pn 20 54 35.8 +0.5
BGKT Bogazkoy 7.54 21 ePN Pn 20 54 35.6 +0.3
BGKT Bogazkoy 7.54 21 ePn Pn 20 54 35.6 +0.3
CTYL Yal??k??y-??at 7.68 18 ePN Pn 20 54 37.4 +0.2
CTYL Yal??k??y-??at 7.68 18 ePn Pn 20 54 37.4 +0.2
EDRB Edirne 7.75 8 ePN Pn 20 54 38.2 0.0
EDRB Edirne 7.75 8 ePn Pn 20 54 38.2 0.0
SUZ 7.78 122 P Pn 20 54 37.5 -1.2
SUZ 7.78 122 P Pn 20 54 37.5 -1.2
baz=123
SULT Sultanhani-AKS 7.81 57 ePN Pn 20 54 39.8 +0.6
SULT Sultanhani-AKS 7.81 57 ePn Pn 20 54 39.8 +0.6
RSH 7.86 112 P Pn 20 54 37.7 -2.1
RSH 7.86 112 P Pn 20 54 37.7 -2.1
baz=113
MDUB Mudurnu 7.88 35 ePN Pn 20 54 40.5 +0.4
MDUB Mudurnu 7.88 35 ePn Pn 20 54 40.5 +0.4
ZAF 7.92 126 P Pn 20 54 40.0 -0.7
ZAF 7.92 126 P Pn 20 54 40.0 -0.7
baz=127
MERS Mersin 8.04 68 ePN Pn 20 54 43.0 +0.6
MERS Mersin 8.04 68 ePn Pn 20 54 43.0 +0.6
ZNM 8.09 124 P Pn 20 54 42.4 -0.5
ZNM 8.09 124 P Pn 20 54 42.4 -0.5
baz=125
AFSR Af˙ar-Bala (A 8.20 48 ePN Pn 20 54 45.0 +0.5
AFSR Af˙ar-Bala (A 8.20 48 ePn Pn 20 54 45.1 +0.5
BBAL Bala 8.29 48 i P Pn 20 54 45.8 0.0
LOD Lodumlu 8.30 44 ePN Pn 20 54 46.3 +0.5
LOD Lodumlu 8.30 44 ePn Pn 20 54 46.3 +0.5
TIR Tirane 8.32 331 eP Pn 20 54 45.0 -1.0
TIR e 20 56 10.2
TIR pmax pmax
comp=Z,40nm,0.6s
TIR Tirane 8.32 331 ePn Pn 20 54 45.0 -1.0
comp=Z,40nm,0.6s
TIR eSn Sn 20 56 10.2 -8.7
TIR Tirane 8.32 331 eP Pn 20 54 45.0 -1.0
comp=Z,40nm,0.6s
SKO Skopje 8.33 340 ePn Pn 20 54 44.8 -1.4
GULE Gulek 8.36 66 i P Pn 20 54 48.7 +1.8
GULE i S Sn 20 56 18.1 -2.3
TIP Timpagrande 8.43 309 ePn Pn 20 54 46.5 -1.2
comp=Z,66nm,0.5s
TIP eSn Sn 20 56 12.4 -9.4
TIP Timpagrande 8.43 309 ePn Pn 20 54 46.5 -1.2
comp=Z,66nm,0.5s
VTS Vitosha 8.55 350 ⇓P Pn 20 54 51.1 +1.8
VTS Vitosha 8.55 350 ⇓i P Pn 20 54 51.1 +1.8
VTS Vitosha 8.55 350 eP Pn 20 54 50.6 +1.3
VTS Vitosha 8.55 350 P Pn 20 54 51.1 +1.8
NIG Nigde 8.55 60 ePN Pn 20 54 49.7 +0.3
NIG Nigde 8.55 60 ePn Pn 20 54 49.7 +0.3
HNKL Nakhl 8.56 117 P Pn 20 54 48.4 -1.0
HNKL Nakhl 8.56 117 P Pn 20 54 48.4 -1.0
baz=118
KAMT Kaman 8.56 50 ePN Pn 20 54 49.8 +0.4
KAMT Kaman 8.56 50 ePn Pn 20 54 49.8 +0.4
MMAI Mount Meron Ar 8.57 95 Pn Pn 20 54 48.0 -1.7
MMAI Sn Sn 20 56 20.4 -5.0
MMAI Mount Meron Ar 8.57 95 Pn Pn 20 54 48.0 -1.7
comp=Z,14nm,0.3s,baz=279,slow=11,SNR=120
MMAI Sn Sn 20 56 20.4 -5.0
comp=Z,21nm,0.3s,baz=296,slow=21,SNR=5.8
MMAI Mount Meron Ar 8.57 95 Pn Pn 20 54 48.0 -1.7
LZLA Zalla 8.62 231 i P Pn 20 54 49.6 -0.6
SNR=34
KRTS Karatas 8.63 71 ePN Pn 20 54 50.7 +0.4
KRTS Karatas 8.63 71 ePn Pn 20 54 50.7 +0.4
BHL Bhannes 8.66 89 eP Pn 20 54 51.3 +0.3
BRTR Keskin Array B 8.72 48 Pn Pn 20 54 52.6 +0.9
BRTR Sn Sn 20 56 26.1 -2.9
BRTR Keskin Array B 8.72 48 Pn Pn 20 54 52.6 +0.9
comp=Z,0.7nm,0.3s,baz=221,slow=16,SNR=19
BRTR Sn Sn 20 56 26.1 -2.9
comp=Z,1.0nm,0.3s,baz=217,slow=25,SNR=4.9
BRTR Keskin Array B 8.72 48 i P Pn 20 54 52.5 +0.9
comp=Z,1.0nm,0.3s
RCY Rachaya 8.86 91 eP Pn 20 54 52.0 -1.6
HWQ Hawqa 8.88 86 eP Pn 20 54 53.3 -0.7
AVNT Avonos 9.01 57 i P Pn 20 54 56.7 +0.9
CEYT Ceyhan 9.03 69 ePN Pn 20 54 55.8 0.0
CEYT Ceyhan 9.03 69 ePn Pn 20 54 55.8 0.0
ELDT Eldivan 9.07 44 i P Pn 20 54 57.5 +0.9
ULC Ulcinj 9.09 331 ⇓i Pn Pn 20 54 54.4 -2.2
ULC eSn Sn 20 56 30.2 -7.6
ULC Ulcinj 9.09 331 ⇓i Pn Pn 20 54 54.4 -2.2
SZH Strazhica 9.09 3 eP Pn 20 54 55.5 -1.2
YAYL Yayladag 9.11 75 i P Pn 20 54 56.2 -0.9
CDAG Cicekdag 9.12 51 i P Pn 20 54 57.3 +0.2
HTY Hatay 9.15 75 ePN Pn 20 54 57.6 +0.2
HTY Hatay 9.15 75 ePn Pn 20 54 57.6 +0.2
PRD Provadia 9.17 10 eP Pn 20 54 57.8 +0.1
KOZT Kozan 9.22 66 ePN Pn 20 54 58.7 +0.3
KOZT Kozan 9.22 66 ePn Pn 20 54 58.7 +0.3
COBT Iskenderun 9.31 72 i P Pn 20 54 59.5 -0.4
PVY Plav 9.36 335 ⇓i Pn Pn 20 54 59.2 -1.3
PVY eSn Sn 20 56 37.8 -6.9
PVY Plav 9.36 335 ⇓i Pn Pn 20 54 59.2 -1.3
TTG Podgorica 9.47 332 ePn Pn 20 54 59.8 -2.0
TTG eSn Sn 20 56 39.7 -7.5
PDG Podgorica 9.47 332 ePn Pn 20 54 59.8 -2.1
LJFR Jufra 9.48 240 i P Pn 20 55 00.0 -2.1
SNR=34
CUC Castrococco 9.49 310 ePn Pn 20 55 01.6 -0.6
comp=Z,43nm,0.4s
CUC eSn Sn 20 56 31.8 -16
CUC Castrococco 9.49 310 ePn Pn 20 55 01.6 -0.6
comp=Z,43nm,0.4s
HBST Basata 9.49 119 P Pn 20 55 00.4 -1.8
HBST Basata 9.49 119 P Pn 20 55 00.4 -1.8
baz=120
SG1 Sgolgore (BA) 9.49 317 ePn Pn 20 55 00.7 -1.5
BUM Brajici-Budva 9.51 330 ⇑i Pn Pn 20 55 00.3 -2.2
BUM eSn Sn 20 56 41.7 -6.6
BUM Brajici-Budva 9.51 330 ⇑i Pn Pn 20 55 00.3 -2.2
BAI Bari 9.56 319 ePn Pn 20 55 02.4 -0.7
CORM Corum 9.60 49 ePN Pn 20 55 03.8 0.0
CORM Corum 9.60 49 ePn Pn 20 55 03.8 0.0
IVA Berane 9.62 336 ⇓i Pn Pn 20 55 02.7 -1.4
IVA eSn Sn 20 56 44.4 -6.8
BEY Berane 9.63 336 ⇓i Pn Pn 20 55 02.7 -1.4
ANDN Andirin 9.64 66 i P Pn 20 55 07.2 +2.9
HDHB Dhahab 9.69 122 P Pn 20 55 03.8 -1.1
HDHB Dhahab 9.69 122 P Pn 20 55 03.8 -1.1
baz=123
BNN Bunyan 9.74 58 ePN Pn 20 55 05.7 0.0
BNN Bunyan 9.74 58 ePn Pn 20 55 05.7 0.0
PSN Preselentsi 9.77 13 eP Pn 20 55 05.4 -0.5
BALT Daday 9.77 39 i P Pn 20 55 08.9 +2.8
HCY Herceg Novi 9.80 329 ⇑i Pn Pn 20 55 03.9 -2.4
HCY eSn Sn 20 56 47.5 -7.8
CDT Castel del Mon 9.88 317 ePn Pn 20 55 05.6 -2.0
NKY Niksic 9.90 332 ⇓i Pn Pn 20 55 05.5 -2.4
NKY eSn Sn 20 56 50.6 -7.4
HHRG Al Ghardaqah 9.98 132 P Pn 20 55 08.9 -0.1
HHRG Al Ghardaqah 9.98 132 P Pn 20 55 08.9 -0.1
baz=133
HHRG S Sn 20 56 55.0 -5.0
baz=133
ASF Jabal al Asfar 9.99 98 Pn Pn 20 55 09.0 -0.1
ASF Sn Sn 20 56 55.0 -5.2
ASF Jabal al Asfar 9.99 98 Pn Pn 20 55 09.0 -0.1
comp=Z,1.5nm,0.3s,baz=319,slow=11,SNR=17
ASF Sn Sn 20 56 55.0 -5.2
comp=Z,2.7nm,0.3s,baz=315,slow=2.9,SNR=3.8
KUZU Kuzuini 10.01 72 i P Pn 20 55 09.2 -0.1
PINB Pinarbasi 10.06 60 i P Pn 20 55 11.2 +0.9
LKFR Kufra 10.14 190 i P Pn 20 55 10.3 -0.8
comp=Z,14nm,1.0s,SNR=34
BRY Bratogost 10.15 331 ⇑i Pn Pn 20 55 09.5 -1.9
BRY eSn Sn 20 56 56.6 -7.7
BRY Bratogost 10.15 331 ⇑i Pn Pn 20 55 09.5 -1.9
GAZ Gaziantep 10.20 70 ePN Pn 20 55 11.8 -0.1
GAZ Gaziantep 10.20 70 ePn Pn 20 55 11.8 -0.1
PLE Pljevlja 10.21 335 ePn Pn 20 55 09.7 -2.3
PLE eSn Sn 20 56 57.2 -8.2
UPM Unac-Piva 10.27 333 ⇓i Pn Pn 20 55 10.6 -2.4
UPM eSn Sn 20 56 58.3 -8.8
STON Ston 10.48 328 i Pn Pn 20 55 12.3 -3.4
STON Sn Sn 20 56 59.0 -13
MS1 Monte Sant'Ang 10.49 318 ePn Pn 20 55 15.2 -0.7
GZT Gaziantep 10.52 69 i P Pn 20 55 13.6 -2.8
TIRR Tirgusor 10.56 13 ⇑P Pn 20 55 17.1 +0.4
TIRR Tirgusor 10.56 13 ePn Pn 20 55 16.3 -0.4
comp=Z,27nm,1.3s
TIRR Tirgusor 10.56 13 ⇑i P Pn 20 55 17.0 +0.4
TIRR Tirgusor 10.56 13 ePn Pn 20 55 16.3 -0.4
comp=Z,27nm,1.3s
TIRR Tirgusor 10.56 13 P Pn 20 55 17.1 +0.4
AKCD Akcadag 11.05 65 i P Pn 20 55 23.5 -0.1
CFR Carcaliu 11.21 11 ⇑P Pn 20 55 25.4 -0.2
CFR Carcaliu 11.21 11 ⇑i P Pn 20 55 25.4 -0.2
CFR Carcaliu 11.21 11 P Pn 20 55 25.4 -0.2
VOIR 11.24 359 ⇓P Pn 20 55 26.6 +0.4
VOIR 11.24 359 ⇓i P Pn 20 55 26.6 +0.4
VOIR 11.24 359 P Pn 20 55 26.6 +0.4
MLR Muntele Rosu 11.31 3 Pn Pn 20 55 27.9 +0.7
MLR Muntele Rosu 11.31 3 ⇑i P Pn 20 55 28.0 +0.8
MLR Muntele Rosu 11.31 3 Pn Pn 20 55 27.9 +0.7
comp=Z,0.1nm,0.3s,baz=176,slow=1.1,SNR=5.3
MLR Muntele Rosu 11.31 3 Pn Pn 20 55 27.9 +0.7
GZR Gura Zlata 11.36 351 ⇑P Pn 20 55 27.9 +0.2
GZR Gura Zlata 11.36 351 ⇑i P Pn 20 55 27.9 +0.2
GZR Gura Zlata 11.36 351 P Pn 20 55 27.9 +0.2
MALT Malatya 11.43 65 P Pn 20 55 30.8 +2.0
MALT Malatya 11.43 65 Pn Pn 20 55 30.8 +2.0
MALT Malatya 11.43 65 P Pn 20 55 30.8 +2.0
PLOR Plostina 11.71 5 ⇓P Pn 20 55 33.5 +1.0
PLOR Plostina 11.71 5 P Pn 20 55 33.5 +1.0
VRI Vrincioaia 11.73 5 ⇓P Pn 20 55 33.5 +0.7
VRI Vrincioaia 11.73 5 ⇓i P Pn 20 55 33.5 +0.7
VRI Vrincioaia 11.73 5 P Pn 20 55 33.5 +0.7
BZS Buzias 11.75 347 ⇓P Pn 20 55 32.5 -0.6
BZS Buzias 11.75 347 ⇓i P Pn 20 55 32.5 -0.6
BZS Buzias 11.75 347 P Pn 20 55 32.5 -0.6
SUSE Susehri 11.97 56 i P Pn 20 55 35.6 -0.7
LUMB Murzuk 12.09 231 i P Pn 20 55 35.8 -2.0
SNR=34
AQU L'Aquila 12.35 315 ePn Pn 20 55 40.7 -0.7
comp=Z,30nm,0.9s
AQU L'Aquila 12.35 315 ⇓i P Pn 20 55 43.8 +2.4
AQU L'Aquila 12.35 315 ePn Pn 20 55 40.7 -0.7
comp=Z,30nm,0.9s
AQU L'Aquila 12.35 315 P Pn 20 55 43.8 +2.4
TESR 12.37 5 ⇑i P Pn 20 55 41.4 -0.1
KELT Kelkit 12.68 58 i P Pn 20 55 48.4 +2.4
DRGR 12.74 352 ⇑P Pn 20 55 46.7 +0.1
DRGR 12.74 352 ⇑i P Pn 20 55 46.7 +0.1
DRGR 12.74 352 P Pn 20 55 46.7 +0.1
SIM Simferopol' 12.75 30 P P 20 55 58.2 +0.8
SIM S Sn 20 58 13.0 +5.5
SIM pmax pmax
comp=Z,10.0nm,1.1s
RHK3 Tenkes 12.85 338 ⇑ePn Pn 20 55 44.3 -3.8
PKSM Moragy 13.02 339 ⇓ePn Pn 20 55 48.6 -1.8
PKSM Moragy 13.02 339 ⇓eP Pn 20 55 48.6 -1.8
NVLJ Novalja 13.09 325 ePn Pn 20 55 47.9 -3.4
NVLJ Sn Sn 20 58 03.1 -13
KIS Kishinev 13.09 11 eP P 20 56 07.0 +5.8
KIS LRM MLR 21 01 32.0
comp=Z,1µm,10.0s
KEST Kesra 13.12 281 Pn Pn 20 55 52.2 +0.3
KEST Sn Sn 20 58 09.6 -7.2
KEST Kesra 13.12 281 Pn Pn 20 55 52.2 +0.3
comp=Z,0.1nm,0.3s,baz=21,slow=5.4,SNR=4.3
KEST Sn Sn 20 58 09.6 -7.2
comp=Z,0.1nm,0.3s,baz=81,slow=19,SNR=3.2
KEST Kesra 13.12 281 Pn Pn 20 55 52.2 +0.3
BURAR Bucovina Array 13.42 360 ⇑i P Pn 20 55 56.3 +0.3
PKS9 Tamasi 13.47 339 ⇑ePn Pn 20 55 51.3 -5.2
VSL Villasalto 13.75 297 ePn Pn 20 55 56.0 -4.3
comp=Z,54nm,1.4s
BEHE Becsehely 13.85 335 ⇓ePn P 20 56 08.3 -1.4
BEHE Becsehely 13.85 335 ⇓eP P 20 56 08.3 -1.4
TRPA Tarpa 14.08 353 ⇓i P Pn 20 56 04.8 0.0
TRPA Tarpa 14.08 353 ⇓ePn P 20 56 12.3 +0.1
TRPA Tarpa 14.08 353 ⇓eP P 20 56 12.3 +0.1
BUD Budapest 14.09 342 ePn Pn 20 56 05.3 +0.4
PKST T˜'s 14.15 340 ⇑ePn P 20 56 13.6 +0.6
PKST T˜'s 14.15 340 ⇑eP P 20 56 13.6 +0.6
PKSG 14.17 341 ePn P 20 56 13.8 +0.6
PKSG 14.17 341 eP P 20 56 13.8 +0.6
PDKS Podkum 14.20 330 i Pn Pn 20 56 02.3 -4.1
PSZ Piszkesteto 14.30 345 ⇓P Pn 20 56 07.0 -0.9
PSZ Piszkesteto 14.30 345 ePn Pn 20 56 03.6 -4.3
comp=Z,6.7nm,0.9s
PSZ Piszkesteto 14.30 345 ⇓i P Pn 20 56 07.0 -0.9
PSZ Piszkesteto 14.30 345 ⇓ePn Pn 20 56 04.1 -3.8
TRI Trieste 14.47 326 eP Pn 20 56 05.5 -4.6
TRI pmax pmax
comp=Z,16nm,0.6s
TRI Trieste 14.47 326 ePn Pn 20 56 05.5 -4.6
comp=Z,16nm,0.6s
UZH Uzhgorod 14.60 352 eP Pn 20 56 11.2 -0.7
PERS Pernice 14.61 331 i Pn Pn 20 56 07.1 -5.1
VOY Vojsko 14.65 327 ePn Pn 20 56 09.7 -3.0
VOY e 20 56 18.3
VOY eSn Sn 20 58 41.1 -13
VOY e 20 59 08.8
VOY e 20 59 18.4
SOC Sochi 14.67 46 eP Pn 20 56 12.9 +0.1
SOC e 20 58 50.9
SOC pmax pmax
comp=Z,10.0nm,0.7s
SOC MLR MLR
comp=Z,318nm,15.0s
SOKA Soboth 14.68 331 ⇑i Pn Pn 20 56 08.4 -4.7
OBKA Obir 14.74 330 ⇓i Pn Pn 20 56 10.2 -3.8
DAGI Agillar 14.90 58 i P Pn 20 56 16.9 +0.8
KOLS Kolonicke sedl 14.90 352 eP Pn 20 56 15.5 -0.5
KOLS Kolonicke sedl 14.90 352 ePN Pn 20 56 15.5 -0.5
KOLS Kolonicke sedl 14.90 352 ePn Pn 20 56 15.5 -0.5
ARSA Arzberg 14.97 334 ⇓i Pn Pn 20 56 13.2 -3.8
SNR=8.2
CRVS Cervenica-Dubn 14.97 350 eP P 20 56 22.1 -0.1
CRVS Cervenica-Dubn 14.97 350 eP P 20 56 22.1 -0.1
CRVS Cervenica-Dubn 14.97 350 eP P 20 56 22.1 -0.1
SOP Sopron 14.98 337 ⇓ePn Pn 20 56 17.9 +0.9
VYHS Vyhne 15.07 343 eP Pn 20 56 16.1 -2.2
VYHS Vyhne 15.07 343 ePN Pn 20 56 16.1 -2.2
VYHS Vyhne 15.07 343 eP P 20 56 23.9 +0.6
VYHS Vyhne 15.07 343 eP P 20 56 23.9 +0.6
PGF Pioggiola 15.20 308 eP P 20 56 25.3 +0.5
comp=Z,116nm,0.9s
PGF Pioggiola 15.20 308 eP P 20 56 25.3 +0.5
PGF pmax pmax
comp=Z,116nm,0.9s
PGF Pioggiola 15.20 308 eP P 20 56 25.3 +0.5
comp=Z,116nm,0.9s
PGF Pioggiola 15.20 308 eP P 20 56 25.3 +0.5
comp=Z,58nm,0.9s

SMOL **Smolenice** 15.46 340 *e*P P 20 56 27.3 -0.2
SMOL **Smolenice** 15.46 340 *e*P P 20 56 27.3 -0.2
SMOL **Smolenice** 15.46 340 *e*P P 20 56 27.3 -0.2
KWP **Kalwaria Pacla** 15.55 354 *e*P Pn 20 56 24.8 +0.3
KWP **Kalwaria Pacla** 15.55 354 *e*P Pn 20 56 24.8 +0.3
KWP **Kalwaria Pacla** 15.55 354 ⇓P Pn 20 56 24.2 -0.3
KWP **Kalwaria Pacla** 15.55 354 *e*P Pn 20 56 22.9 -1.6
comp=Z,23nm,1.0s
KWP **Kalwaria Pacla** 15.55 354 ⇓*i*P Pn 20 56 24.1 -0.4
KBA **Koelnbreinsper** 15.70 329 ⇑*i*Pn Pn 20 56 23.5 -3.1
SNR=10.0
ABTA **Abfaltersbach** 15.82 326 ⇓*i*Pn Pn 20 56 24.9 -3.2
SNR=40
MOA **Molln** 15.94 332 ⇑*i*Pn Pn 20 56 26.2 -3.3
SNR=13
AKH **Akhalkalaki** 16.13 58 P P 20 56 37.0 +1.8
SET **Setif** 16.33 283 P P 20 56 40.0 +2.6
VRAC **Vranov** 16.41 340 Pn Pn 20 56 35.8 +0.2
VRAC **Vranov** 16.41 340 ⇑*i*P Pn 20 56 36.0 +0.4
VRAC **Vranov** 16.41 340 Pn Pn 20 56 35.8 +0.2
comp=Z,1.1nm,0.3s,baz=144,slow=9.5,SNR=36
VRAC **Vranov** 16.41 340 Pn Pn 20 56 35.8 +0.2
OKC **Ostrava-Krasne** 16.49 344 *e*P Pn 20 56 37.2 +0.6
OKC **Ostrava-Krasne** 16.49 344 *e*P Pn 20 56 37.2 +0.6
OKC *ex* x 20 56 40.9
OKC **Ostrava-Krasne** 16.49 344 *e*P Pn 20 56 37.2 +0.6
OJC **Ojcow** 16.52 348 *e*P Pn 20 56 35.0 -1.8
OJC **Ojcow** 16.52 348 *e*P Pn 20 56 35.3 -1.6
ONI **Oni** 16.56 54 P P 20 56 39.0 -0.8
MORC **Moravsky Berou** 16.58 342 ⇑P Pn 20 56 36.6 -1.2
MORC **Moravsky Berou** 16.58 342 *e*Pn Pn 20 56 36.1 -1.6
comp=Z,21nm,1.0s
MORC **Moravsky Berou** 16.58 342 ⇑*i*P Pn 20 56 36.6 -1.2
MORC **Moravsky Berou** 16.58 342 *e*Pn Pn 20 56 36.1 -1.6
comp=Z,21nm,1.0s
WTTA **Wattenberg** 16.61 326 ⇑*i*Pn Pn 20 56 35.8 -2.4
SNR=15
GNI **Garni** 16.65 63 *e*Pn P 20 56 42.2 +1.3
comp=Z,46nm,1.1s
GNI **Garni** 16.65 63 Pn P 20 56 42.3 +1.3
comp=Z,0.5nm,0.3s,baz=312,slow=4.3,SNR=14
GNI LR LR 21 04 29.8
comp=Z,698nm,19.2s,baz=266,slow=42
GNI **Garni** 16.65 63 *i* P P 20 56 42.9 +1.9
comp=Z,36nm,1.7s
KIV **Kislovodsk** 16.68 49 ⇑*i*P P 20 56 42.6 +1.4
KIV pmax pmax
comp=Z,43nm,1.4s
KIV MLR MLR
comp=Z,200nm,18.0s
KIV **Kislovodsk** 16.68 49 *e*Pn P 20 56 42.0 +0.8
comp=Z,82nm,1.0s
KIV **Kislovodsk** 16.68 49 *e*Pn P 20 56 42.0 +0.8
comp=Z,82nm,1.0s
KIV **Kislovodsk** 16.68 49 *i* P P 20 56 42.6 +1.4
comp=Z,200nm,18.0s
WATA **Walderalm** 16.69 326 ⇓*i*Pn Pn 20 56 36.4 -2.7
KBZ **Khabaz** 16.70 50 P P 20 56 40.9 -0.4
KBZ **Khabaz** 16.70 50 Pn P 20 56 40.9 -0.4
KBZ **Khabaz** 16.70 50 Pn P 20 56 40.9 -0.4
comp=Z,0.8nm,0.3s,baz=244,slow=10,SNR=39
KBZ **Khabaz** 16.70 50 P P 20 56 40.9 -0.4
TREC **Trest** 16.73 337 *e*P Pn 20 56 40.1 +0.4
TREC **Trest** 16.73 337 *e*P Pn 20 56 40.1 +0.4
TREC **Trest** 16.73 337 *e*P Pn 20 56 40.1 +0.4
KIEV **Kiev** 16.76 9 *e*P Pn 20 56 38.7 -1.2
KIEV pmax pmax
comp=Z,52nm,0.8s
KIEV **Kiev** 16.76 9 *e*Pn Pn 20 56 38.7 -1.2
comp=Z,52nm,0.8s
KIEV **Kiev** 16.76 9 *e*Pn Pn 20 56 38.7 -1.2
comp=Z,52nm,0.8s
GOR **Gori** 16.77 57 P P 20 56 44.2 +2.1
AKASG **Malin Array Be** 16.77 9 P Pn 20 56 38.9 -1.2
AKASG **Malin Array Be** 16.77 9 Pn Pn 20 56 38.9 -1.2
AKASG ScP **ScP** 21 04 58.3 -1.5
AKASG **Malin Array Be** 16.77 9 Pn Pn 20 56 38.9 -1.2
comp=Z,13nm,0.3s,baz=201,slow=10,SNR=36
AKASG ScP **ScP** 21 04 58.3 -1.5
comp=Z,0.9nm,0.3s,baz=226,slow=2.4,SNR=4.0
AKASG **Malin Array Be** 16.77 9 Pn Pn 20 56 38.8 -1.2
AKASG ScP **ScP** 21 04 58.3 -1.5
SAOF **Saorge** 16.82 311 *e*P P 20 56 42.1 -0.6
SAOF **Saorge** 16.82 311 *e*P P 20 56 42.1 -0.6
SAOF **Saorge** 16.82 311 *e*P P 20 56 42.1 -0.6
SAOF **Saorge** 16.82 311 *e*P P 20 56 42.1 -0.6
SBF **Sospel** 16.84 310 *e*P Pn 20 56 39.3 -1.7
comp=Z,92nm,0.9s
SBF **Sospel** 16.84 310 *e*P Pn 20 56 39.3 -1.7
SBF pmax pmax
comp=Z,92nm,0.9s
SBF **Sospel** 16.84 310 *e*P Pn 20 56 39.3 -1.7
comp=Z,92nm,0.9s
ZEI **Tsey** 16.93 54 *e*P P 20 56 46.0 +1.9
ZEI pmax pmax
comp=Z,47nm,1.1s
ZEI **Tsey** 16.93 54 *e*P P 20 56 46.0 +1.9
comp=Z,47nm,1.1s
GEC2 **GERESS Array S** 16.97 333 *e*P Pn 20 56 41.2 -1.5
comp=Z,53nm,0.9s
GEC2 **GERESS Array S** 16.97 333 *e*P Pn 20 56 41.2 -1.5
GEC2 pmax pmax
comp=Z,53nm,0.9s
GERES **GERESS Array B** 16.97 333 Pn Pn 20 56 41.4 -1.3
GERES ScP **ScP** 21 04 58.7 -1.7
GERES **GERESS Array B** 16.97 333 Pn Pn 20 56 41.4 -1.3
comp=Z,3.8nm,0.3s,baz=149,slow=12,SNR=32
GERES ScP **ScP** 21 04 58.7 -1.7
comp=Z,0.1nm,0.3s,baz=130,slow=2.1,SNR=4.3
GERES **GERESS Array B** 16.97 333 Pn Pn 20 56 41.4 -1.3
GERES ScP **ScP** 21 04 58.7 -1.7
TOUF **Mont Tournerai** 17.03 311 *e*P Pn 20 56 43.9 +0.4
TOUF **Mont Tournerai** 17.03 311 *e*P Pn 20 56 43.9 +0.4
TOUF **Mont Tournerai** 17.03 311 *e*P Pn 20 56 43.9 +0.4
TOUF **Mont Tournerai** 17.03 311 *e*P Pn 20 56 43.9 +0.4
MVIF **Mont Vial** 17.03 310 *e*P P 20 56 46.5 +1.3
MVIF **Mont Vial** 17.03 310 *e*P P 20 56 46.5 +1.3
MVIF **Mont Vial** 17.03 310 *e*P P 20 56 46.5 +1.3
MVIF **Mont Vial** 17.03 310 *e*P P 20 56 46.5 +1.3
TBLG **Delisi** 17.12 58 *e*P P 20 56 46.6 +0.6
TBLG **Delisi** 17.12 58 P P 20 56 46.6 +0.6
TBLG **Delisi** 17.12 58 *e*P P 20 56 46.6 +0.6
DAVOX **Davos/Dischmat** 17.12 322 Pn Pn 20 56 45.1 +0.4
DAVOX **Davos/Dischmat** 17.12 322 Pn Pn 20 56 45.1 +0.4
baz=132,slow=11
DAVOX **Davos/Dischmat** 17.12 322 Pn Pn 20 56 45.1 +0.4
LMR **La Mourre** 17.19 308 *e*P P 20 56 46.7 0.0
comp=Z,92nm,1.3s
LMR **La Mourre** 17.19 308 *e*P P 20 56 46.7 0.0
LMR pmax pmax
comp=Z,92nm,1.3s
LMR **La Mourre** 17.19 308 *e*P P 20 56 46.7 0.0
comp=Z,92nm,1.3s
LMR **La Mourre** 17.19 308 *e*P P 20 56 46.7 0.0
comp=Z,46nm,1.3s
TUE **Stuetta** 17.20 320 *e*Pn Pn 20 56 44.7 -1.0
comp=Z,41nm,1.0s
TUE *e*S Sn 20 59 39.9 -16
TUE **Stuetta** 17.20 320 *e*Pn Pn 20 56 44.7 -1.0
comp=Z,41nm,1.0s
FRF **La Foret Royal** 17.20 308 *e*P P 20 56 46.7 -0.2
comp=Z,22nm,0.7s
FRF **La Foret Royal** 17.20 308 *e*P P 20 56 46.7 -0.2
FRF pmax pmax
comp=Z,22nm,0.7s
FRF **La Foret Royal** 17.20 308 *e*P P 20 56 46.7 -0.2
comp=Z,22nm,0.7s
FRF **La Foret Royal** 17.20 308 *e*P P 20 56 46.7 -0.2
comp=Z,11nm,0.7s
KHC **Kasperske Hory** 17.25 333 *e*P Pn 20 56 44.9 -1.3
KHC MLR MLR
comp=Z,900nm,14.9s
KHC **Kasperske Hory** 17.25 333 *e*Pn Pn 20 56 43.7 -2.5
comp=Z,78nm,1.3s
KHC **Kasperske Hory** 17.25 333 *e*P Pn 20 56 44.9 -1.3
KHC *ex* x 20 56 47.8
KHC AMS AMS 21 04 20.0
comp=Z,900nm,14.9s
DPC **Dobruska-Polom** 17.43 341 *e*P Pn 20 56 48.1 -0.2
DPC **Dobruska-Polom** 17.43 341 *e*P Pn 20 56 48.1 -0.2
DPC **Dobruska-Polom** 17.43 341 *e*P Pn 20 56 48.1 -0.2
FUR **Furstenfeldbru** 17.44 327 *e*P P 20 56 49.5 0.0
comp=Z,83nm,0.9s
FUR **Furstenfeldbru** 17.44 327 *e*P P 20 56 49.5 0.0
FUR pmax pmax
comp=Z,83nm,0.9s
DGRG **David-gareji** 17.48 60 P P 20 56 51.1 +1.1
WET **Wettzell** 17.53 332 *e*P P 20 56 50.4 -0.1
comp=Z,100nm,1.3s
WET **Wettzell** 17.53 332 *e*P P 20 56 50.4 -0.1
WET pmax pmax
comp=Z,100nm,1.3s
WET **Wettzell** 17.53 332 *e*P P 20 56 50.4 -0.1
comp=Z,100nm,1.3s
PRU **Pruhonice** 17.64 337 *e*P P 20 56 51.2 -0.5
PRU **Pruhonice** 17.64 337 *e*P P 20 56 51.2 -0.5
PRU *e*pP pP 20 56 58.0 -1.7
PRU **Pruhonice** 17.64 337 *e*P P 20 56 51.2 -0.5
IGHG **Ghaleghazi** 17.65 83 *e*P P 20 56 55.9 +3.7
UPC **Upice** 17.66 340 *e*P P 20 56 51.5 -0.3
UPC **Upice** 17.66 340 *e*P P 20 56 51.5 -0.3
UPC **Upice** 17.66 340 *e*P P 20 56 51.5 -0.3
MBDF **Montbardon** 17.68 312 *e*P P 20 56 52.0 -0.3
comp=Z,64nm,0.9s
MBDF **Montbardon** 17.68 312 *e*P P 20 56 52.0 -0.3
MBDF pmax pmax
comp=Z,64nm,0.9s
MBDF **Montbardon** 17.68 312 *e*P P 20 56 52.0 -0.3
comp=Z,64nm,0.9s
MBDF **Montbardon** 17.68 312 *e*P P 20 56 52.0 -0.3
comp=Z,32nm,0.9s
KSP **Ksiaz** 17.88 341 *e*P P 20 56 54.1 -0.2
KSP **Ksiaz** 17.88 341 *e*P P 20 56 54.1 -0.2
KSP **Ksiaz** 17.88 341 *e*P Pn 20 56 52.6 -1.3
KSP **Ksiaz** 17.88 341 *e*P Pn 20 56 52.6 -1.3
BNI **Bardonecchia** 17.90 313 *e*P P 20 56 54.8 +0.1
BNI pmax pmax
comp=Z,14nm,1.1s
BNI **Bardonecchia** 17.90 313 *e*Pn P 20 56 54.8 +0.1
comp=Z,14nm,1.1s
BNI **Bardonecchia** 17.90 313 *e*P P 20 56 54.8 +0.1
comp=Z,14nm,1.1s
SMRF **Simiane la Rot** 18.08 309 *e*P P 20 56 56.4 -0.2
comp=Z,67nm,1.2s
SMRF **Simiane la Rot** 18.08 309 *e*P P 20 56 56.4 -0.2
comp=Z,67nm,1.2s
SMRF **Simiane la Rot** 18.08 309 *e*P P 20 56 56.4 -0.2
comp=Z,33nm,1.2s
LPG **La Plagne** 18.09 314 *e*P Pn 20 56 56.3 -0.5
comp=Z,16nm,0.5s
LPG **La Plagne** 18.09 314 *e*P Pn 20 56 56.3 -0.5
LPG pmax pmax
comp=Z,16nm,0.5s
LPG **La Plagne** 18.09 314 *e*P Pn 20 56 56.3 -0.5
comp=Z,16nm,0.5s
LPG **La Plagne** 18.09 314 *e*P Pn 20 56 56.3 -0.5
comp=Z,8.1nm,0.5s
LPL **La Plagne** 18.11 314 *e*P Pn 20 56 55.9 -1.1
comp=Z,9.0nm,0.3s
LPL **La Plagne** 18.11 314 *e*P Pn 20 56 55.9 -1.1
LPL pmax pmax
comp=Z,9.0nm,0.3s
LPL **La Plagne** 18.11 314 *e*P Pn 20 56 55.9 -1.1
comp=Z,9.0nm,0.3s
LPL **La Plagne** 18.11 314 *e*P Pn 20 56 55.9 -1.1
comp=Z,4.5nm,0.3s
RSL **Roselend** 18.27 315 *e*P Pn 20 57 00.0 +1.2
RSL **Roselend** 18.27 315 *e*P Pn 20 57 00.0 +1.2
RSL **Roselend** 18.27 315 *e*P Pn 20 57 00.0 +1.2
RSL **Roselend** 18.27 315 *e*P Pn 20 57 00.0 +1.2
ROTZ **Rotzenmuhle** 18.29 332 *e*P P 20 56 58.2 -0.7
comp=Z,24nm,1.1s
ORIF **Oris-en-Rattie** 18.32 312 *e*P P 20 56 57.4 -1.9
comp=Z,36nm,1.0s
ORIF *e*R
comp=Z,565nm,19.8s
ORIF **Oris-en-Rattie** 18.32 312 *e*P P 20 56 57.4 -1.9
ORIF pmax pmax
comp=Z,36nm,1.0s
ORIF **Oris-en-Rattie** 18.32 312 *e*P P 20 56 57.4 -1.9
comp=Z,36nm,1.0s
ORIF **Oris-en-Rattie** 18.32 312 *e*P P 20 56 57.4 -1.9
comp=Z,18nm,1.0s
SPAK **Spaichingen-Ko** 18.56 323 *e*P Pn 20 57 02.5 +0.2
SPAK **Spaichingen-Ko** 18.56 323 *e*P Pn 20 57 02.5 +0.2
NKC **Novy Kostel** 18.58 334 *e*P P 20 57 01.1 -0.9
NKC MLR MLR
comp=Z,900nm,8.7s
NKC **Novy Kostel** 18.58 334 *e*P P 20 57 01.1 -0.9
NKC AMS AMS 21 05 10.0
comp=Z,900nm,8.7s
NKC **Novy Kostel** 18.58 334 *e*P P 20 57 01.1 -0.9
comp=Z,900nm,8.7s
BRG **Berggiesshubel** 18.60 337 *e*P Pn 20 57 02.1 -0.6
comp=Z,16nm,1.0s
BRG **Berggiesshubel** 18.60 337 *e*P P 20 57 01.7 -0.5
comp=Z,17nm,1.0s
BRG **Berggiesshubel** 18.60 337 *e*P Pn 20 57 02.1 -0.6
BRG pmax pmax
comp=Z,16nm,1.0s
BRG **Berggiesshubel** 18.60 337 *e*P Pn 20 57 02.1 -0.6
comp=Z,16nm,1.0s
GRFO **Grafenberg** 18.62 331 *e*P P 20 57 02.3 -0.2
GRFO pmax pmax
comp=Z,88nm,1.0s
GRFO **Grafenberg** 18.62 331 *e*P P 20 57 02.3 -0.2
comp=Z,88nm,1.0s
GRFO **Grafenberg** 18.62 331 *e*P P 20 57 02.3 -0.2
comp=Z,88nm,1.0s
GRA1 **Grafenberg Arr** 18.62 331 *e*P Pn 20 57 02.5 -0.5
comp=Z,136nm,1.3s
GRF **Grafenberg Arr** 18.62 331 *e*P Pn 20 57 02.5 -0.5
comp=Z,136nm,1.3s
GRF **Grafenberg Arr** 18.62 331 *e*P Pn 20 57 02.5 -0.5
GRF pmax pmax
comp=Z,136nm,1.3s
TANN **Tannenbergstha** 18.72 334 *e*P P 20 57 03.4 -0.3
comp=Z,73nm,0.9s
BBS **Basel-Blauen** 18.80 320 *e*P P 20 57 04.2 -0.3
BBS **Basel-Blauen** 18.80 320 *e*P P 20 57 04.2 -0.3
BBS **Basel-Blauen** 18.80 320 *e*P P 20 57 04.2 -0.3
FELD **Feldberg im Sc** 18.81 322 *e*P P 20 57 04.0 -0.7
FELD **Feldberg im Sc** 18.81 322 *e*P P 20 57 04.0 -0.7
STU **Stuttgart** 18.83 326 *e*P P 20 57 04.2 -0.6
comp=Z,34nm,1.0s
STU **Stuttgart** 18.83 326 *e*P P 20 57 03.9 -0.9
STU pmax pmax
comp=Z,33nm,0.8s
STU **Stuttgart** 18.83 326 *e*P P 20 57 03.9 -0.9
comp=Z,34nm,0.8s
STU **Stuttgart** 18.83 326 *e*P P 20 57 03.9 -0.9
comp=Z,34nm,0.8s
BFO **Black Forest** 18.94 323 *e*P Pn 20 57 06.3 -0.5
comp=Z,34nm,1.2s
BFO **Black Forest** 18.94 323 *e*P Pn 20 57 06.3 -0.5
BFO pmax pmax
comp=Z,34nm,1.2s
BFO **Black Forest** 18.94 323 *e*P P 20 57 06.0 -0.1
comp=Z,20nm,0.8s
BFO **Black Forest** 18.94 323 *e*P Pn 20 57 06.3 -0.5
comp=Z,34nm,1.2s
VIVF **Saint-Julien-l** 19.05 310 *e*P P 20 57 06.4 -0.9
comp=Z,51nm,1.2s
VIVF **Saint-Julien-l** 19.05 310 *e*P P 20 57 06.4 -0.9
VIVF pmax pmax
comp=Z,51nm,1.2s
VIVF **Saint-Julien-l** 19.05 310 *e*P P 20 57 06.4 -0.9
comp=Z,51nm,1.2s
VIVF **Saint-Julien-l** 19.05 310 *e*P P 20 57 06.4 -0.9
comp=Z,25nm,1.2s
OG35 **Corcelles** 19.08 314 *e*P P 20 57 06.4 -1.2
CABF **La Chapelle** 19.09 316 *e*P P 20 57 06.3 -1.4
comp=Z,36nm,0.5s
CABF **La Chapelle** 19.09 316 *e*P P 20 57 06.3 -1.4
CABF pmax pmax
comp=Z,37nm,0.5s
CABF **La Chapelle** 19.09 316 *e*P P 20 57 06.3 -1.4
comp=Z,36nm,0.5s
CABF **La Chapelle** 19.09 316 *e*P P 20 57 06.3 -1.4
comp=Z,18nm,0.5s
LOMF **Lomont** 19.10 319 *e*P P 20 57 07.6 -0.2
LOMF **Lomont** 19.10 319 *e*P P 20 57 07.6 -0.2
LOMF **Lomont** 19.10 319 *e*P P 20 57 07.6 -0.2
LOMF **Lomont** 19.10 319 *e*P P 20 57 07.6 -0.2
MOX **Moxa** 19.23 333 *e*P P 20 57 08.9 -0.2
comp=Z,18nm,0.7s
MOX **Moxa** 19.23 333 *e*P P 20 57 08.9 -0.2
MOX pmax pmax
comp=Z,18nm,0.7s
MOX **Moxa** 19.23 333 *e*P P 20 57 08.9 -0.2
comp=Z,18nm,0.7s
LASF **Ste Croix** 19.25 307 *e*P P 20 57 09.2 -0.2
comp=Z,73nm,1.1s
LASF **Ste Croix** 19.25 307 *e*P P 20 57 09.2 -0.2
comp=Z,73nm,1.1s
LASF **Ste Croix** 19.25 307 *e*P P 20 57 09.2 -0.2
comp=Z,36nm,1.1s
MIB **Mutribah** 19.25 97 *e*P Pn 20 57 10.5 -0.2
MIB AMb AMB 20 57 12.9
comp=Z,30nm,0.5s
MIB **Mutribah** 19.25 97 *e*P Pn 20 57 10.5 -0.2
comp=Z,30nm,0.5s
CLL **Collm** 19.28 336 *e*P P 20 57 09.0 -0.7
comp=Z,29nm,0.8s
CLL **Collm** 19.28 336 *i* P P 20 57 09.3 -0.4
comp=Z,28nm,0.8s
CLL *i* pP pP 20 57 16.4 -1.4
CLL *e*PP PnPn 20 57 25.0 +0.9
CLL L L 21 06 00.0
comp=Z,200nm,18.5s
SJAF **Saint Jean de** 19.35 302 *e*P P 20 57 10.8 +0.3
SJAF **Saint Jean de** 19.35 302 *e*P P 20 57 10.8 +0.3
SJAF **Saint Jean de** 19.35 302 *e*P P 20 57 10.8 +0.3
NAY **Al-Naaiem** 19.36 99 *e*P Pn 20 57 11.7 -0.2
NAY AMb AMB 20 57 24.7
comp=Z,42nm,0.9s
NAY **Al-Naaiem** 19.36 99 *e*P Pn 20 57 11.7 -0.2
comp=Z,42nm,0.9s
HINF **Hinteralfeld** 19.37 320 *e*P P 20 57 10.3 -0.4
comp=Z,56nm,1.0s
HINF **Hinteralfeld** 19.37 320 *e*P P 20 57 10.3 -0.4
HINF pmax pmax
comp=Z,56nm,1.0s
HINF **Hinteralfeld** 19.37 320 *e*P P 20 57 10.3 -0.4
comp=Z,56nm,1.0s
HINF **Hinteralfeld** 19.37 320 *e*P P 20 57 10.3 -0.4
comp=Z,28nm,1.0s
ECH **Echery** 19.46 322 *e*P P 20 57 11.8 +0.1
ECH *e*S S 21 00 37.8 -12
ECH pmax pmax
comp=Z,56nm,1.4s
ECH **Echery** 19.46 322 *e*P P 20 57 11.8 +0.1
comp=Z,56nm,1.4s
ECH *e*S S 21 00 37.8 -12
ECH **Echery** 19.46 322 *e*P Pn 20 57 13.7 +0.6
ECH **Echery** 19.46 322 *e*P P 20 57 11.8 +0.1
comp=Z,56nm,1.4s
MAK **Makhachkala** 19.46 57 *e*P Pn 20 57 14.1 +1.0
MAK *e*S S 21 00 48.8 -1.1
MAK MLR MLR
comp=Z,417nm,23.0s
MAK **Makhachkala** 19.46 57 *e*P Pn 20 57 14.1 +1.0
comp=Z,417nm,23.0s
CDF **Champ du Feu** 19.53 322 *e*P Pn 20 57 13.0 -0.9
comp=Z,60nm,1.0s
CDF **Champ du Feu** 19.53 322 *e*P Pn 20 57 13.0 -0.9
CDF pmax pmax
comp=Z,61nm,1.0s
CDF **Champ du Feu** 19.53 322 *e*P Pn 20 57 13.0 -0.9
comp=Z,60nm,1.0s
CDF **Champ du Feu** 19.53 322 *e*P Pn 20 57 13.0 -0.9
comp=Z,30nm,1.0s
FILF **Fillols** 19.60 302 *e*P Pn 20 57 15.2 +0.4
FILF **Fillols** 19.60 302 *e*P Pn 20 57 15.2 +0.4
FILF **Fillols** 19.60 302 *e*P Pn 20 57 15.2 +0.4
TOD **Tromm** 19.60 327 *e*P P 20 57 13.3 0.0
TOD **Tromm** 19.60 327 *e*P P 20 57 13.3 0.0
TOD **Tromm** 19.60 327 *e*P P 20 57 13.3 0.0
LANF **Langenberg** 19.64 324 *e*P Pn 20 57 14.1 -1.0
LANF **Langenberg** 19.64 324 *e*P Pn 20 57 14.1 -1.0
LANF **Langenberg** 19.64 324 *e*P Pn 20 57 14.1 -1.0
LANF **Langenberg** 19.64 324 *e*P Pn 20 57 14.1 -1.0
UMR **Umm Al-Rimmam** 19.64 97 *e*P P 20 57 14.2 +0.4
UMR AMb AMB 20 57 34.4
comp=Z,99nm,1.1s
UMR **Umm Al-Rimmam** 19.64 97 *e*P P 20 57 14.2 +0.4
comp=Z,99nm,1.1s
VORD **Divnogorie** 19.66 27 *e*P P 20 57 13.3 -0.5
VORD pmax pmax
comp=Z,9.0nm,0.4s
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,30nm,0.6s
VORD **Divnogorie** 19.66 27 *e*P P 20 57 13.3 -0.5
comp=E,10.0nm,1.0s
LRDF **Laroque-de-Fa** 19.73 303 *e*P P 20 57 15.0 +0.3
LRDF **Laroque-de-Fa** 19.73 303 *e*P P 20 57 15.0 +0.3
LRDF **Laroque-de-Fa** 19.73 303 *e*P P 20 57 15.0 +0.3
HAU **Haudompre** 19.75 320 *e*P P 20 57 15.1 +0.2
comp=E,55nm,0.8s
HAU *e*R
comp=E,524nm,20.0s
HAU **Haudompre** 19.75 320 *e*P P 20 57 15.1 +0.2
HAU pmax pmax
comp=Z,55nm,0.8s
HAU **Haudompre** 19.75 320 *e*P P 20 57 15.1 +0.2
comp=Z,55nm,0.8s
HAU **Haudompre** 19.75 320 *e*P P 20 57 15.1 +0.2
comp=Z,27nm,0.8s
VSR **Storozhevoye** 19.81 27 *e*P P 20 57 14.7 -0.8
VSR *e*S S 21 00 57.3 +0.4
VSR pmax pmax
comp=Z,8.0nm,0.5s
VSR pmax pmax
comp=N,6.0nm,1.0s
VSR pmax pmax
comp=E,4.0nm,0.9s
VSR smax smax
comp=N,20nm,1.1s
VSR smax smax
comp=Z,7.0nm,2.0s
VSR smax smax
comp=E,20nm,1.0s
VSR **Storozhevoye** 19.81 27 *e*P P 20 57 14.7 -0.8
comp=E,20nm,1.1s
SUW **Suwalki** 19.88 356 *e*P P 20 57 15.0 -1.1
SUW **Suwalki** 19.88 356 *e*P P 20 57 15.0 -1.1
SUW **Suwalki** 19.88 356 *e*P P 20 57 13.4 -2.8
SUW pmax pmax
comp=Z,189nm,0.8s
SUW **Suwalki** 19.88 356 *e*P P 20 57 13.4 -2.8
comp=Z,189nm,0.8s
SUW **Suwalki** 19.88 356 *e*P P 20 57 15.0 -1.1
GKP **Gorka Klasztor** 19.91 346 *e*P P 20 57 15.2 -1.3
GKP **Gorka Klasztor** 19.91 346 *e*P P 20 57 15.2 -1.3
GKP **Gorka Klasztor** 19.91 346 *e*P P 20 57 15.2 -1.3
VALF **Valcebollere** 19.93 301 *e*P Pn 20 57 17.7 -1.2
VALF **Valcebollere** 19.93 301 *e*P Pn 20 57 17.7 -1.2
VALF **Valcebollere** 19.93 301 *e*P Pn 20 57 17.7 -1.2
UBBA **Unterbreizbach** 19.99 331 *e*P P 20 57 17.1 -0.2
comp=Z,31nm,1.5s
RUE **Ruedersdorf** 20.05 339 *e*P P 20 57 15.7 -2.3
THEF **They Montfort** 20.08 320 *e*P P 20 57 18.7 +0.2
THEF **They Montfort** 20.08 320 *e*P P 20 57 18.7 +0.2
THEF **They Montfort** 20.08 320 *e*P P 20 57 18.7 +0.2
THEF **They Montfort** 20.08 320 *e*P P 20 57 18.7 +0.2
LBL **Lubilhac** 20.12 310 *e*P Pn 20 57 21.8 +0.8
LBL **Lubilhac** 20.12 310 *e*P Pn 20 57 21.8 +0.8
LBL **Lubilhac** 20.12 310 *e*P Pn 20 57 21.8 +0.8
TNS **Taunus Mts** 20.21 328 *e*P P 20 57 19.4 -0.5
comp=Z,38nm,0.6s
TNS **Taunus Mts** 20.21 328 *e*P P 20 57 19.4 -0.5
TNS pmax pmax
comp=Z,38nm,0.6s
TNS **Taunus Mts** 20.21 328 *e*P P 20 57 19.4 -0.5
comp=Z,38nm,0.6s
PLDF **La Plantade** 20.22 312 *e*P P 20 57 19.5 -0.6
PLDF **La Plantade** 20.22 312 *e*P P 20 57 19.5 -0.6
PLDF **La Plantade** 20.22 312 *e*P P 20 57 19.5 -0.6
PLDF **La Plantade** 20.22 312 *e*P P 20 57 19.5 -0.6
IRAZ **Razeghan** 20.32 80 *e*P Pn 20 57 23.7 +0.1
IRAZ **Razeghan** 20.32 80 *e*P Pn 20 57 23.7 +0.1
PAGF **Fort de Pagny** 20.42 321 *e*P P 20 57 22.1 0.0
comp=Z,58nm,1.1s
PAGF **Fort de Pagny** 20.42 321 *e*P P 20 57 22.1 0.0
comp=Z,58nm,1.1s
PAGF **Fort de Pagny** 20.42 321 *e*P P 20 57 22.1 0.0
comp=Z,29nm,1.1s
RUP **Ruppelstein** 20.48 325 *e*P P 20 57 23.0 +0.1
RUP **Ruppelstein** 20.48 325 *e*P P 20 57 23.0 +0.1
RUP **Ruppelstein** 20.48 325 *e*P P 20 57 23.0 +0.1
PYM **Petit Puy Mans** 20.50 311 *e*P P 20 57 23.2 +0.1

PYM **Petit Puy Mans** 20.50 311 *eP* P 20 57 23.2 +0.1
PYM **Petit Puy Mans** 20.50 311 *eP* P 20 57 23.2 +0.1
PYM **Petit Puy Mans** 20.50 311 *eP* P 20 57 23.2 +0.1
AGO **Saint Agoulin** 20.56 312 *eP* P 20 57 23.8 +0.1
AGO **Saint Agoulin** 20.56 312 *eP* P 20 57 23.8 +0.1
AGO **Saint Agoulin** 20.56 312 *eP* P 20 57 23.8 +0.1
SFTF **Sexfontaines** 20.58 319 *eP* P 20 57 22.8 -1.0
comp=Z,36nm,0.6s
SFTF **Sexfontaines** 20.58 319 *eP* P 20 57 22.8 -1.0
comp=Z,36nm,0.6s
SFTF **Sexfontaines** 20.58 319 *eP* P 20 57 22.8 -1.0
comp=Z,18nm,0.6s
SALF **Salau** 20.62 302 *eP* Pn 20 57 26.8 -0.1
SALF **Salau** 20.62 302 *eP* Pn 20 57 26.8 -0.1
SALF **Salau** 20.62 302 *eP* Pn 20 57 26.8 -0.1
CLZ **Clausthal** 20.65 333 *eP* P 20 57 23.4 -1.3
comp=Z,34nm,0.8s
CLZ **Clausthal** 20.65 333 *eP* P 20 57 23.4 -1.3
CLZ pmax pmax
comp=Z,34nm,0.8s
CLZ **Clausthal** 20.65 333 *eP* P 20 57 23.4 -1.3
comp=Z,34nm,0.8s
TAM **Tamanrasset** 20.66 242 *eP* Pn 20 57 26.4 -1.1
TAM pmax pmax
comp=Z,14nm,0.9s
TAM **Tamanrasset** 20.66 242 *eP* Pn 20 57 26.4 -1.2
comp=Z,14nm,0.9s
TAM **Tamanrasset** 20.66 242 *eP* Pn 20 57 26.4 -1.1
comp=Z,14nm,0.9s
VRHR **Novokhopersk** 20.69 30 *eP* P 20 57 25.9 +0.9
VRHR *eS* Sn 21 01 17.8 -2.1
VRHR pmax pmax
comp=Z,50nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.9s
VRHR smax smax
comp=N,150nm,1.8s
VRHR smax smax
comp=Z,10.0nm,1.0s
VRHR smax smax
comp=E,120nm,1.7s
VRHR **Novokhopersk** 20.69 30 *eP* P 20 57 25.9 +0.9
comp=E,150nm,1.8s
LOR **Lormes** 20.73 315 *eP* P 20 57 24.9 -0.6
comp=E,28nm,0.4s
LOR *eR*
comp=E,252nm,21.8s
LOR **Lormes** 20.73 315 *eP* P 20 57 24.9 -0.6
comp=E,28nm,0.4s
LOR **Lormes** 20.73 315 *eP* P 20 57 24.9 -0.6
comp=E,14nm,0.4s
MEZF **Maizieres J'vi** 20.75 320 *eP* P 20 57 25.3 -0.3
comp=E,156nm,0.9s
MEZF **Maizieres J'vi** 20.75 320 *eP* P 20 57 25.3 -0.3
comp=E,156nm,0.9s
MEZF **Maizieres J'vi** 20.75 320 *eP* P 20 57 25.3 -0.3
comp=E,78nm,0.9s
NACGM **Naroch** 20.75 3 *e* P 20 57 22.0 -3.6
CAF **Calviac** 20.76 308 *eP* P 20 57 25.7 -0.2
comp=E,43nm,0.9s
CAF **Calviac** 20.76 308 *eP* P 20 57 25.7 -0.2
CAF pmax pmax
comp=Z,43nm,0.9s
CAF **Calviac** 20.76 308 *eP* P 20 57 25.7 -0.2
comp=Z,43nm,0.9s
CAF **Calviac** 20.76 308 *eP* P 20 57 25.7 -0.2
comp=Z,21nm,0.9s
AVF **Avril sur Loir** 20.78 314 *eP* P 20 57 25.8 -0.2
comp=Z,44nm,0.9s
AVF **Avril sur Loir** 20.78 314 *eP* P 20 57 25.8 -0.2
AVF pmax pmax
comp=Z,44nm,0.9s
AVF **Avril sur Loir** 20.78 314 *eP* P 20 57 25.8 -0.2
comp=Z,44nm,0.9s
AVF **Avril sur Loir** 20.78 314 *eP* P 20 57 25.8 -0.2
comp=Z,22nm,0.9s
SSF **Saint Saulge** 20.83 315 *eP* P 20 57 26.0 -0.5
comp=Z,21nm,0.4s
SSF **Saint Saulge** 20.83 315 *eP* P 20 57 26.0 -0.5
SSF pmax pmax
comp=Z,21nm,0.4s
SSF **Saint Saulge** 20.83 315 *eP* P 20 57 26.0 -0.5
comp=Z,21nm,0.4s
SSF **Saint Saulge** 20.83 315 *eP* P 20 57 26.0 -0.5
comp=Z,10nm,0.4s
WLF **Walferdange** 20.90 323 P P 20 57 27.9 +0.6
comp=Z,37nm,1.2s
WLF **Walferdange** 20.90 323 *eP* P 20 57 27.9 +0.6
comp=Z,60nm,1.0s
WLF **Walferdange** 20.90 323 *eP* P 20 57 27.4 +0.1
WLF pmax pmax
comp=Z,49nm,0.9s
WLF **Walferdange** 20.90 323 *eP* P 20 57 27.4 +0.1
comp=Z,49nm,0.9s
WLF **Walferdange** 20.90 323 *eP* P 20 57 27.4 +0.1
comp=Z,49nm,0.9s
BGF **Bois d'Agland** 20.98 313 *eP* P 20 57 28.2 +0.1
comp=Z,89nm,0.6s
BGF **Bois d'Agland** 20.98 313 *eP* P 20 57 28.2 +0.1
BGF pmax pmax
comp=Z,89nm,0.6s
BGF **Bois d'Agland** 20.98 313 *eP* P 20 57 28.2 +0.1
comp=Z,89nm,0.6s
BGF **Bois d'Agland** 20.98 313 *eP* P 20 57 28.2 +0.1
comp=Z,45nm,0.6s
IR3 **Iran Long-Peri** 21.21 79 *eP* P 20 57 33.2 +2.4
IR3 **Iran Long-Peri** 21.21 79 *eP* P 20 57 33.2 +2.4
RESF **Ens** 21.24 301 *eP* P 20 57 32.5 +1.4
RESF **Ens** 21.24 301 *eP* P 20 57 32.5 +1.4
RESF **Ens** 21.24 301 *eP* P 20 57 32.5 +1.4
TCF **Toulx Ste Croi** 21.24 312 *eP* P 20 57 31.2 +0.2
comp=Z,75nm,1.1s
TCF **Toulx Ste Croi** 21.24 312 *eP* P 20 57 31.2 +0.2
TCF pmax pmax
comp=Z,75nm,1.1s
TCF **Toulx Ste Croi** 21.24 312 *eP* P 20 57 31.2 +0.2
comp=Z,75nm,1.1s
TCF **Toulx Ste Croi** 21.24 312 *eP* P 20 57 31.2 +0.2
comp=Z,38nm,1.1s
RJF **Les Rejaudoux** 21.27 309 *eP* P 20 57 31.6 +0.3
comp=Z,50nm,0.7s
RJF *eR*
comp=Z,393nm,18.8s
RJF **Les Rejaudoux** 21.27 309 *eP* P 20 57 31.6 +0.3
RJF pmax pmax
comp=Z,50nm,0.7s
RJF **Les Rejaudoux** 21.27 309 *eP* P 20 57 31.6 +0.3
comp=Z,50nm,0.7s
RJF **Les Rejaudoux** 21.27 309 *eP* P 20 57 31.6 +0.3
comp=Z,25nm,0.7s
NRDL **Niedersach Rie** 21.27 334 *eP* P 20 57 30.5 -0.7
comp=Z,31nm,1.0s
EPF **Esparros** 21.30 302 *eP* P 20 57 30.7 -1.0
comp=Z,26nm,0.9s
EPF **Esparros** 21.30 302 *eP* P 20 57 30.7 -1.0
EPF pmax pmax
comp=Z,26nm,0.9s
EPF **Esparros** 21.30 302 *eP* P 20 57 30.7 -1.0
comp=Z,26nm,0.9s
EPF **Esparros** 21.30 302 *eP* P 20 57 30.7 -1.0
comp=Z,13nm,0.9s
HYF **Humbligny** 21.44 314 *eP* P 20 57 34.6 +1.4
HYF **Humbligny** 21.44 314 *eP* P 20 57 34.6 +1.4
HYF **Humbligny** 21.44 314 *eP* P 20 57 34.6 +1.4
IPIR **Pirpir** 21.46 87 *eP* P 20 57 36.7 +2.9
MEM **Membach** 21.60 325 P P 20 57 35.2 +0.4
comp=Z,49nm,1.0s
MEM **Membach** 21.60 325 P P 20 57 35.1 +0.4
comp=Z,49nm,1.0s
BUG **Bochum-Univer** 21.60 328 *eP* P 20 57 34.9 +0.1
comp=Z,89nm,1.1s
LFF **La Frestale** 21.64 307 *eP* P 20 57 35.4 +0.1
comp=Z,63nm,0.8s
LFF **La Frestale** 21.64 307 *eP* P 20 57 35.4 +0.1
LFF pmax pmax
comp=Z,63nm,0.8s
LFF **La Frestale** 21.64 307 *eP* P 20 57 35.4 +0.1
comp=Z,63nm,0.8s
LFF **La Frestale** 21.64 307 *eP* P 20 57 35.4 +0.1
comp=Z,32nm,0.8s
HGN **Heimansgroeve** 21.74 325 *eP* P 20 57 36.6 +0.4
HGN *eS* S 21 01 35.3 +0.3
HGN *eL* L 21 07 42.3
comp=Z,391nm,18.1s

HGN **Heimansgroeve** 21.74 325 *eP* P 20 57 36.6 +0.4
HGN *eS* S 21 01 35.3 +0.3
BCLA **Clavier** 21.81 324 P P 20 57 38.2 +1.1
comp=Z,21nm,1.5s
BCLA **Clavier** 21.81 324 P P 20 57 38.1 +1.1
comp=Z,21nm,1.5s
GIVF **Givet** 21.84 323 *eP* P 20 57 37.0 -0.4
comp=Z,95nm,1.0s
GIVF **Givet** 21.84 323 *eP* P 20 57 37.0 -0.4
GIVF pmax pmax
comp=Z,95nm,1.0s
GIVF **Givet** 21.84 323 *eP* P 20 57 37.0 -0.4
comp=Z,95nm,1.0s
GIVF **Givet** 21.84 323 *eP* P 20 57 37.0 -0.4
comp=Z,48nm,1.0s
ETSF **Etsaut** 21.90 301 *eP* P 20 57 38.7 +0.5
comp=Z,26nm,0.7s
ETSF **Etsaut** 21.90 301 *eP* P 20 57 38.7 +0.5
ETSF pmax pmax
comp=Z,26nm,0.7s
ETSF **Etsaut** 21.90 301 *eP* P 20 57 38.7 +0.5
comp=Z,26nm,0.7s
ETSF **Etsaut** 21.90 301 *eP* P 20 57 38.7 +0.5
comp=Z,13nm,0.7s
IKLH **Kolahrood** 21.92 85 *eP* P 20 57 40.0 +1.3
IKLH **Kolahrood** 21.92 85 *eP* P 20 57 40.0 +1.3
DOU **Dourbes** 21.95 323 P P 20 57 38.3 -0.3
comp=Z,26nm,1.2s
DOU **Dourbes** 21.95 323 P P 20 57 38.2 -0.3
comp=Z,26nm,1.2s
IDMV **Damavand** 22.02 79 *eP* P 20 57 42.1 +2.3
IDMV **Damavand** 22.02 79 *eP* P 20 57 42.1 +2.3
IBBN **Ibbenburen** 22.04 331 *eP* P 20 57 39.4 0.0
comp=Z,97nm,1.1s
BAIF **Baives** 22.13 322 *eP* P 20 57 38.9 -1.5
comp=Z,56nm,0.8s
BAIF **Baives** 22.13 322 *eP* P 20 57 38.9 -1.5
BAIF pmax pmax
comp=Z,56nm,0.8s
BAIF **Baives** 22.13 322 *eP* P 20 57 38.9 -1.5
comp=Z,56nm,0.8s
BAIF **Baives** 22.13 322 *eP* P 20 57 38.9 -1.5
comp=Z,28nm,0.8s
BSD **Bornholm Skovb** 22.13 344 *i* P P 20 57 37.6 -2.8
comp=Z,20nm,0.9s
WTSB **Winterswijk** 22.19 329 *eP* P 20 57 40.8 -0.2
WTSB **Winterswijk** 22.19 329 *eP* P 20 57 40.8 -0.2
SNF **Seneffe** 22.37 323 P P 20 57 41.0 -2.1
SNF **Seneffe** 22.37 323 P P 20 57 40.9 -2.1
OBN **Obninsk** 22.38 17 *ij iP* P 20 57 43.2 +0.1
OBN *e* 20 57 52.8
OBN *e* 21 01 43.7
OBN pmax pmax
comp=Z,122nm,2.0s
OBN MLR MLR
comp=Z,400nm,20.0s
OBN **Obninsk** 22.38 17 *eP* P 20 57 43.0 -0.1
comp=Z,43nm,0.7s
OBN **Obninsk** 22.38 17 *i* P P 20 57 43.2 +0.1
comp=Z,122nm,2.0s
BSEG **Bad Segeberg** 22.38 336 *eP* P 20 57 41.1 -2.0
comp=Z,46nm,0.6s
BSEG **Bad Segeberg** 22.38 336 *eP* P 20 57 41.1 -2.0
BSEG pmax pmax
comp=Z,46nm,0.6s
BSEG **Bad Segeberg** 22.38 336 *eP* P 20 57 41.1 -2.0
comp=Z,46nm,0.6s
SJPF **Ste Jean** 22.43 301 *eP* P 20 57 43.5 -0.3
comp=Z,32nm,0.8s
SJPF **Ste Jean** 22.43 301 *eP* P 20 57 43.5 -0.3
SJPF pmax pmax
comp=Z,32nm,0.8s
SJPF **Ste Jean** 22.43 301 *eP* P 20 57 43.5 -0.3
comp=Z,32nm,0.8s
SJPF **Ste Jean** 22.43 301 *eP* P 20 57 43.5 -0.3
comp=Z,16nm,0.8s
IGAR **Gharneh** 22.47 87 *eP* P 20 57 46.5 +1.9
IZEF **Zefreh** 22.61 86 *eP* P 20 57 46.9 +0.8
IZEF **Zefreh** 22.61 86 *eP* P 20 57 46.9 +0.8
MFF **Saint Martin d** 22.85 310 *eP* P 20 57 47.8 -0.4
comp=Z,69nm,0.9s
MFF **Saint Martin d** 22.85 310 *eP* P 20 57 47.8 -0.4
MFF pmax pmax
comp=Z,69nm,0.9s
MFF **Saint Martin d** 22.85 310 *eP* P 20 57 47.8 -0.4
comp=Z,69nm,0.9s
MFF **Saint Martin d** 22.85 310 *eP* P 20 57 47.8 -0.4
comp=Z,34nm,0.9s
MOS **Moscow** 23.20 18 *eP* P 20 57 50.2 -1.5
MOS *e* 20 58 38.0
MOS *eS* S 21 01 59.6 -1.8
MOS pmax pmax
comp=Z,51nm,1.1s
MOS **Moscow** 23.20 18 *eP* P 20 57 50.2 -1.5
comp=Z,51nm,1.1s
COP **Copenhagen** 23.26 341 *i* P P 20 57 52.9 +0.7
comp=Z,24nm,0.8s
IANJ **Anjilo** 23.56 79 *eP* P 20 58 01.9 +6.2
LDF **La Druitiere** 23.71 315 *eP* P 20 57 56.1 -0.6
comp=Z,40nm,0.5s
LDF **La Druitiere** 23.71 315 *eP* P 20 57 56.1 -0.6
LDF pmax pmax
comp=Z,40nm,0.5s
LDF **La Druitiere** 23.71 315 *eP* P 20 57 56.1 -0.6
comp=Z,40nm,0.5s
ESDC **Sonseca Array** 23.91 292 P P 20 57 58.5 -0.3
ESDC **Sonseca Array** 23.91 292 P P 20 57 58.5 -0.3
comp=Z,2.7nm,0.4s,baz=83,slow=9.7,SNR=35
IPAR **Pars** 23.96 93 *eP* P 20 58 03.1 +3.5
FLN **La Foliniere** 24.00 315 *eP* P 20 57 58.7 -0.7
comp=Z,98nm,0.4s
FLN *eR*
comp=Z,262nm,21.0s
FLN **La Foliniere** 24.00 315 *eP* P 20 57 58.7 -0.7
FLN pmax pmax
comp=Z,98nm,0.4s
FLN **La Foliniere** 24.00 315 *eP* P 20 57 58.7 -0.7
comp=Z,98nm,0.4s
GRR **Gorron** 24.05 314 *eP* P 20 57 59.1 -0.8
comp=Z,30nm,0.5s
GRR **Gorron** 24.05 314 *eP* P 20 57 59.1 -0.8
GRR pmax pmax
comp=Z,31nm,0.5s
GRR **Gorron** 24.05 314 *eP* P 20 57 59.1 -0.8
comp=Z,30nm,0.5s
VSU **Vasula** 24.31 2 *ij iP* P 20 58 01.6 -0.6
VSU pmax pmax
comp=Z,70nm,1.8s
ICHK **Chekchek** 24.46 86 *eP* P 20 58 06.7 +2.6
MUD **Monsted U'grnd** 24.85 339 *i* P P 20 58 07.0 0.0
comp=Z,32nm,0.8s
MDT **Midelt** 24.88 275 P P 20 58 08.3 +0.6
MDT **Midelt** 24.88 275 P P 20 58 08.3 +0.6
comp=Z,5.0nm,0.5s,baz=98,slow=9.6,SNR=13
MDT LR LR 21 11 28.5
comp=Z,233nm,19.7s,baz=83,slow=45
LIJA **Lijar** 25.02 285 *i* P P 20 58 08.0 -0.9
SGMF **Saint Gilles** 25.02 313 *eP* P 20 58 08.0 -0.7
comp=Z,47nm,0.6s
SGMF **Saint Gilles** 25.02 313 *eP* P 20 58 08.0 -0.7
SGMF pmax pmax
comp=Z,47nm,0.6s
SGMF **Saint Gilles** 25.02 313 *eP* P 20 58 08.0 -0.7
comp=Z,47nm,0.6s
JSA **Saint Aubin** 25.18 315 *eP* P 20 58 09.8 -0.3
JSA AMB AMB 20 58 11.5
comp=Z,48nm,1.0s
JSA **Saint Aubin** 25.18 315 P P 20 58 09.8 -0.3
JSA AMB AMB 20 58 11.5
comp=Z,48nm,1.0s
JSA **Saint Aubin** 25.18 315 *eP* P 20 58 09.8 -0.3
QUIF **Quistinic** 25.26 311 *eP* P 20 58 10.6 -0.3
comp=Z,89nm,0.4s
QUIF **Quistinic** 25.26 311 *eP* P 20 58 10.6 -0.3
QUIF pmax pmax
comp=Z,89nm,0.4s
QUIF **Quistinic** 25.26 311 *eP* P 20 58 10.6 -0.3
comp=Z,89nm,0.4s
ROSF **Rostrenen** 25.49 312 *eP* P 20 58 11.2 -1.8
comp=Z,32nm,0.6s
ROSF **Rostrenen** 25.49 312 *eP* P 20 58 11.2 -1.8
ROSF pmax pmax
comp=Z,32nm,0.6s
ROSF **Rostrenen** 25.49 312 *eP* P 20 58 11.2 -1.8
comp=Z,32nm,0.6s
IBAF **Bafgh** 25.57 87 *eP* P 20 58 15.3 +1.2

WOL **Wolverton** 25.68 320 *eP* P 20 58 14.1 -0.6
WOL **Wolverton** 25.68 320 P P 20 58 14.1 -0.6
WOL **Wolverton** 25.68 320 *eP* P 20 58 14.1 -0.6
SWN1 **Swindon** 26.09 320 *eP* P 20 58 18.6 +0.1
SWN1 AMB AMB 20 58 19.2
comp=Z,92nm,1.4s
SWN1 **Swindon** 26.09 320 P P 20 58 18.6 +0.1
SWN1 AMB AMB 20 58 19.2
comp=Z,92nm,1.4s
SWN1 **Swindon** 26.09 320 *eP* P 20 58 18.5 +0.1
PBRG **Braganca** 26.20 296 *eP* P 20 58 19.7 +0.1
comp=Z,37nm,1.2s
PBRG **Braganca** 26.20 296 *eP* P 20 58 19.7 +0.1
comp=Z,37nm,1.2s
PBAR **Barrancos** 26.27 288 *eP* P 20 58 20.3 +0.1
comp=Z,42nm,1.3s
PBAR **Barrancos** 26.27 288 *eP* P 20 58 20.3 +0.1
comp=Z,42nm,1.3s
SSW **Stow on the Wo** 26.36 321 *eP* P 20 58 20.7 -0.1
SSW **Stow on the Wo** 26.36 321 P P 20 58 20.7 -0.1
SSW **Stow on the Wo** 26.36 321 *eP* P 20 58 20.7 -0.1
MVO **Moncorvo** 26.36 295 *eP* P 20 58 21.4 +0.4
comp=Z,50nm,1.0s
MVO **Moncorvo** 26.36 295 *eP* P 20 58 21.4 +0.4
comp=Z,50nm,1.0s
PMRV **Marv??o** 26.54 291 *eP* P 20 58 22.6 -0.1
comp=Z,27nm,1.4s
PMRV **Marv??o** 26.54 291 *eP* P 20 58 22.6 -0.1
comp=Z,27nm,1.4s
PCBR **Castelo Branco** 26.62 292 *eP* P 20 58 23.4 +0.1
comp=Z,32nm,1.7s
PCBR **Castelo Branco** 26.62 292 *eP* P 20 58 23.4 +0.1
comp=Z,32nm,1.7s
PESTR **Estremoz** 26.69 290 *eP* P 20 58 24.1 +0.1
comp=Z,36nm,1.0s
PESTR **Estremoz** 26.69 290 *eP* P 20 58 24.1 +0.1
comp=Z,36nm,1.0s
PVAQ **Vaqueiros** 26.84 286 *eP* P 20 58 25.3 0.0
comp=Z,39nm,1.7s
PVAQ **Vaqueiros** 26.84 286 *eP* P 20 58 25.3 0.0
comp=Z,39nm,1.7s
PVRL **Vila Real** 26.88 295 *eP* P 20 58 25.9 +0.2
comp=Z,18nm,1.3s
PVRL **Vila Real** 26.88 295 *eP* P 20 58 25.9 +0.2
comp=Z,18nm,1.3s
KBI1 **Birley Grange** 26.90 323 *eP* P 20 58 25.1 -0.6
KBI1 **Birley Grange** 26.90 323 P P 20 58 25.1 -0.6
KBI1 **Birley Grange** 26.90 323 *eP* P 20 58 25.0 -0.6
PBEJ **Beja** 26.93 288 *eP* P 20 58 26.3 +0.2
comp=Z,31nm,1.5s
PBEJ **Beja** 26.93 288 *eP* P 20 58 26.3 +0.2
comp=Z,31nm,1.5s
POLO **Lamas de Olo** 26.95 295 *eP* P 20 58 26.6 +0.2
comp=Z,11nm,1.3s
POLO **Lamas de Olo** 26.95 295 *eP* P 20 58 26.6 +0.2
comp=Z,11nm,1.3s
HEX **Exmoor** 26.97 318 *eP* P 20 58 26.5 +0.1
HEX **Exmoor** 26.97 318 P P 20 58 26.5 +0.1
HEX **Exmoor** 26.97 318 *eP* P 20 58 26.5 +0.1
PVIS **Viseu** 26.98 294 *eP* P 20 58 27.1 +0.5
comp=Z,36nm,1.4s
PVIS **Viseu** 26.98 294 *eP* P 20 58 27.1 +0.5
comp=Z,36nm,1.4s
MCH1 **Michaelchurch** 26.98 320 *eP* P 20 58 25.6 -0.8
MCH1 AMB AMB 20 58 32.8
comp=Z,56nm,5.4s
MCH1 **Michaelchurch** 26.98 320 P P 20 58 25.6 -0.8
MCH1 AMB AMB 20 58 32.8
comp=Z,56nm,5.4s
MCH1 **Michaelchurch** 26.98 320 *eP* P 20 58 25.6 -0.8
PBDV **Barranco-do-Ve** 27.02 286 *eP* P 20 58 27.3 +0.4
comp=Z,70nm,2.2s
PBDV **Barranco-do-Ve** 27.02 286 *eP* P 20 58 27.3 +0.4
comp=Z,70nm,2.2s
EVO **Evora** 27.03 289 *eP* P 20 58 27.5 +0.5
comp=Z,31nm,2.5s
EVO **Evora** 27.03 289 *eP* P 20 58 25.3 -1.7
comp=Z,26nm,1.0s
EVO *eR*
comp=Z,210nm,22.5s
EVO **Evora** 27.03 289 *eP* P 20 58 27.5 +0.5
comp=Z,31nm,2.5s
HFS **Hagfors** 27.04 347 P P 20 58 25.1 -1.7
HFS **Hagfors** 27.04 347 P P 20 58 25.1 -1.7
comp=Z,6.3nm,0.4s,baz=140,slow=9.4,SNR=47
HFS LR LR 21 09 52.7
comp=Z,304nm,18.3s,baz=166,slow=38
PCVE **Castro Verde** 27.08 287 *eP* P 20 58 27.7 +0.2
comp=Z,35nm,1.2s
PCVE **Castro Verde** 27.08 287 *eP* P 20 58 27.7 +0.2
comp=Z,35nm,1.2s
EVOP **Sao Brissos** 27.11 289 *eP* P 20 58 25.3 -2.5
EVOP pmax pmax
comp=Z,27nm,1.0s
EVOP **Sao Brissos** 27.11 289 *eP* P 20 58 25.3 -2.5
comp=Z,26nm,1.0s
STNC **Stoke** 27.14 322 *eP* P 20 58 28.0 +0.1
STNC AMB AMB 20 58 35.7
comp=Z,112nm,2.8s
STNC **Stoke** 27.14 322 P P 20 58 28.0 +0.1
STNC AMB AMB 20 58 35.7
comp=Z,112nm,2.8s
STNC **Stoke** 27.14 322 *eP* P 20 58 28.0 +0.1
PCAB **Cabril** 27.15 296 *eP* P 20 58 28.3 +0.2
comp=Z,37nm,1.8s
PCAB **Cabril** 27.15 296 *eP* P 20 58 28.3 +0.2
comp=Z,37nm,1.8s
PMTG **Montargil** 27.19 290 *eP* P 20 58 28.3 -0.1
comp=Z,20nm,1.8s
PMTG **Montargil** 27.19 290 *eP* P 20 58 28.3 -0.1
comp=Z,20nm,1.8s
LHO **Holmfirth** 27.22 324 *eP* P 20 58 27.8 -0.8
LHO **Holmfirth** 27.22 324 P P 20 58 27.8 -0.8
LHO **Holmfirth** 27.22 324 *eP* P 20 58 27.8 -0.8
FINES **FINESS Array B** 27.29 1 P P 20 58 26.9 -2.1
FINES **FINESS Array B** 27.29 1 P P 20 58 26.9 -2.1
comp=Z,8.7nm,0.7s,baz=161,slow=11,SNR=53
FINES LR LR 21 09 38.7
comp=Z,462nm,19.6s,baz=9.3,slow=37
PTOM **Tomar** 27.34 291 *eP* P 20 58 29.8 0.0
comp=Z,30nm,1.9s
PTOM **Tomar** 27.34 291 *eP* P 20 58 29.8 0.0
comp=Z,30nm,1.9s
PNCL **Nicolau / Gran** 27.45 288 *eP* P 20 58 29.7 -1.0
comp=Z,36nm,1.7s
PNCL **Nicolau / Gran** 27.45 288 *eP* P 20 58 29.7 -1.0
comp=Z,36nm,1.7s
KONO **Kongsberg** 27.48 343 *eP* P 20 58 29.6 -1.2
KONO **Kongsberg** 27.48 343 *eP* P 20 58 29.2 -1.6
KONO pmax pmax
comp=Z,23nm,0.8s
KONO **Kongsberg** 27.48 343 *eP* P 20 58 29.1 -1.6
comp=Z,23nm,0.8s
KONO **Kongsberg** 27.48 343 *eP* P 20 58 29.6 -1.2
SNR=32
FOEL **Foel Wylfa** 27.55 321 *eP* P 20 58 31.2 -0.3
FOEL AMB AMB 20 58 33.1
comp=Z,75nm,3.4s
FOEL **Foel Wylfa** 27.55 321 P P 20 58 31.2 -0.3
FOEL AMB AMB 20 58 33.1
comp=Z,75nm,3.4s
FOEL **Foel Wylfa** 27.55 321 *eP* P 20 58 31.2 -0.3
IPAY **Payeh** 27.58 76 *eP* P 20 58 37.7 +5.5
PTEO **Sao Teotonio** 27.63 287 *eP* P 20 58 32.8 +0.4
comp=Z,42nm,1.3s
PTEO **Sao Teotonio** 27.63 287 *eP* P 20 58 32.8 +0.4
comp=Z,42nm,1.3s
KAF **Kangasniemi** 27.96 1 *eP* P 20 58 32.4 -2.7
KAF pmax pmax
comp=Z,6.0nm,0.6s
KAF **Kangasniemi** 27.96 1 *ep* P 20 58 32.4 -2.7
comp=Z,6.1nm,0.6s
NC602 **NORSAR Array S** 28.01 346 *eP* P 20 58 33.9 -1.7
NC602 **NORSAR Array S** 28.01 346 *eP* P 20 58 33.9 -1.7
SNR=32
BLS5 **Blasjo** 28.13 340 *eP* P 20 58 36.6 0.0
BLS5 **Blasjo** 28.13 340 *eP* P 20 58 36.6 0.0
SNR=32
KLMR **Klimovskoe** 28.25 15 *eP* P 20 58 35.6 -2.1
KLMR pmax pmax
comp=Z,30nm,1.2s
KLMR MLR MLR
comp=Z,576nm,15.0s
NB2 **NORSAR Subarra** 28.36 346 P P 20 58 37.3 -1.4
comp=Z,0.7nm,0.4s,baz=149,slow=10
NB2 **NORSAR Subarra** 28.36 346 P P 20 58 37.3 -1.4

comp=Z,0.7nm,0.4s,baz=149,slow=10
NB2 NORSAR Subarra 28.36 346 P **P** **20 58 37.3 -1.4**
comp=Z,0.7nm,0.4s,SNR=9.0
NOA NORSAR Array B 28.36 346 P **P** **20 58 37.5 -1.2**
NOA NORSAR Array B 28.36 346 P **P** **20 58 37.5 -1.2**
comp=Z,4.5nm,0.5s,baz=152,slow=8.6,SNR=33
NOA LR LR 21 12 13.4
comp=Z,131nm,18.0s,baz=155,slow=41
IMYA Miami 28.47 76 *eP* P 20 58 29.6 -11
ODD1 Odda 28.48 340 *eP* **P** **20 58 39.7 -0.1**
ODD1 Odda 28.48 340 *eP* **P** **20 58 39.7 -0.1**
SNR=32
ESK Eskdalemuir 28.88 326 *eP* **P** **20 58 42.5 -0.9**
ESK AMB AMB 20 58 51.3
comp=Z,98nm,3.7s
ESK Eskdalemuir 28.88 326 P **P** **20 58 42.5 -0.9**
ESK AMB AMB 20 58 51.3
comp=Z,98nm,3.7s
ESK Eskdalemuir 28.88 326 *eP* **P** **20 58 42.4 -0.9**
ESK pmax pmax
comp=Z,41nm,1.1s
ESK Eskdalemuir 28.88 326 *eP* **P** **20 58 42.4 -0.9**
comp=Z,41nm,1.1s
ESK Eskdalemuir 28.88 326 *eP* **P** **20 58 42.5 -0.9**
AKTO Aktyubinsk 28.89 46 P **P** **20 58 42.0 -1.5**
AKTO Aktyubinsk 28.89 46 P **P** **20 58 42.0 -1.5**
AKTO Aktyubinsk 28.89 46 P **P** **20 58 42.0 -1.5**
comp=Z,2.3nm,0.4s,baz=261,slow=6.6,SNR=4.4
AKTO LR LR 21 13 58.4
comp=Z,166nm,18.7s,baz=71,slow=44
JOF Joensuu 29.02 6 *eP* **P** **20 58 41.7 -2.7**
JOF pmax pmax
comp=Z,5.0nm,0.4s
JOF Joensuu 29.02 6 *ep* **P** **20 58 41.7 -2.7**
comp=Z,4.5nm,0.4s
EBL Broad Law 29.08 327 *eP* **P** **20 58 44.7 -0.4**
EBL Broad Law 29.08 327 P **P** **20 58 44.7 -0.4**
EBL Broad Law 29.08 327 *eP* **P** **20 58 44.7 -0.4**
ABKAR Akbulak array 29.67 49 *eP* **P** **20 58 50.6 +0.2**
comp=Z,2.1nm,0.3s
TORD Torodi Ar. Bea 29.91 231 P **P** **20 58 53.2 +0.4**
TORD ScP **ScP** **21 05 34.2 -1.0**
TORD Torodi Ar. Bea 29.91 231 P **P** **20 58 53.2 +0.4**
comp=Z,13nm,0.6s,baz=31,slow=8.2,SNR=85
TORD ScP **ScP** **21 05 34.2 -1.0**
comp=Z,1.0nm,1.0s,baz=47,slow=4.0,SNR=3.6
TORD Torodi Ar. Bea 29.91 231 ScP **ScP** **21 05 34.2 -1.0**
EAB Aberfoyle 29.91 326 *eP* **P** **20 58 52.2 -0.3**
EAB Aberfoyle 29.91 326 P **P** **20 58 52.2 -0.3**
EAB Aberfoyle 29.91 326 *eP* **P** **20 58 52.2 -0.3**
WSAR Wadi Sarin 31.14 102 P **P** **20 59 04.1 +0.5**
WSAR Wadi Sarin 31.14 102 P **P** **20 59 04.1 +0.5**
comp=Z,2.2nm,0.7s,baz=330,slow=5.0,SNR=4.7
ARU Arti 31.82 35*c i*P **P** **20 59 08.6 -0.7**
ARU 21 00 11.2
ARU 21 01 54.4
ARU S **S** **21 04 13.6 -4.0**
ARU pmax pmax
comp=Z,20nm,1.7s
ARU Arti 31.82 35 *eP* **P** **20 59 07.6 -1.6**
comp=Z,11nm,0.7s
MOR8 Moi Rana 32.66 352 *eP* **P** **20 59 15.9 -0.7**
MOR8 Moi Rana 32.66 352 *eP* **P** **20 59 15.9 -0.7**
SNR=31
STOK Stokkvaagen 32.99 351 *eP* **P** **20 59 19.5 +0.1**
SVE Sverdlovsk 33.01 36⇑ *iP* **P** **20 59 19.9 +0.1**
SVE pmax pmax
comp=Z,27nm,0.9s
APA Apatity 33.77 6⇑ *iP* **P** **20 59 25.2 -1.0**
APA pmax pmax
comp=Z,14nm,0.5s
APA MLR MLR
comp=Z,1μm,24.0s
STEI Steigen 34.28 353 *eP* **P** **20 59 30.0 -0.6**
ARCES ARCESS Array B 35.41 0 P **P** **20 59 38.5 -1.9**
ARCES ARCESS Array B 35.41 0 P **P** **20 59 38.5 -1.9**
comp=Z,3.5nm,0.5s,baz=162,slow=9.7,SNR=41
ARCES LR LR 21 15 27.8
comp=Z,248nm,18.4s,baz=175,slow=38
ARE0 ARCESS Array S 35.41 0 *eP* P 20 59 36.2 -4.2
KEV Kevo 35.64 1 *eP* **P** **20 59 41.1 -1.2**
KEV Kevo 35.64 1 *eP* **P** **20 59 41.1 -1.2**
KEV Kevo 35.64 1 *ep* **P** **20 59 40.6 -1.7**
comp=Z,1.1nm,0.3s
KEV Kevo 35.64 1 *eP* **P** **20 59 41.1 -1.2**
TRO Tromso 35.68 356 *eP* **P** **20 59 41.1 -1.5**
TRO Tromso 35.68 356 *eP* **P** **20 59 41.1 -1.5**
SNR=31
KKAR Karatay Array 36.11 62 *eP* **P** **20 59 47.6 +0.8**
KKAR pmax pmax
comp=Z,13nm,0.9s
KKAR Karatay Array 36.11 62 *eP* **P** **20 59 47.6 +0.8**
comp=Z,12nm,0.9s
KKAR Karatay Array 36.11 62 *eP* **P** **20 59 47.6 +0.8**
comp=Z,12nm,0.9s
BRVK Borovoye 36.94 45 *eP* **P** **20 59 53.7 +0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.8s
BRVK Borovoye 36.94 45 *eP* **P** **20 59 53.7 +0.1**
comp=Z,4.5nm,0.8s
BRVK Borovoye 36.94 45 *eP* **P** **20 59 53.7 +0.1**
comp=Z,4.5nm,0.8s
BVAR Borovoye Array 36.99 45 P **P** **20 59 53.2 -0.9**
BVAR Borovoye Array 36.99 45 P **P** **20 59 53.2 -0.9**
BVAR Borovoye Array 36.99 45 P **P** **20 59 53.2 -0.9**
comp=Z,2.5nm,0.7s,baz=253,slow=6.7,SNR=9.6
BVAR LR LR 21 18 11.3
comp=Z,136nm,20.0s,baz=61,slow=41
BVAR Borovoye Array 36.99 45 P **P** **20 59 53.2 -0.9**
EKS2 Erkin-Say 38.53 63 *eP* **P** **21 00 07.2 -0.2**
EKS2 pmax pmax
comp=Z,5.0nm,0.6s
EKS2 Erkin-Say 38.53 63 *eP* **P** **21 00 07.2 -0.2**
comp=Z,5.1nm,0.6s
EKS2 Erkin-Say 38.53 63 *eP* **P** **21 00 07.2 -0.2**
comp=Z,5.1nm,0.6s
DBIC Dimbokro 39.00 232 P **P** **21 00 11.3 -0.1**
DBIC Dimbokro 39.00 232 P **P** **21 00 11.3 -0.1**
comp=Z,2.7nm,0.6s,baz=41,slow=10,SNR=6.8
DBIC LR LR 21 19 58.7
comp=Z,430nm,18.7s,baz=17,slow=42
DBIC Dimbokro 39.00 232 P **P** **21 00 11.3 -0.1**
AAK Ala-Archa 39.06 63*ce*P **P** **21 00 11.2 -0.7**
AAK pmax pmax
comp=Z,33nm,1.8s
AAK Ala-Archa 39.06 63 *eP* **P** **21 00 10.9 -1.0**
comp=Z,37nm,0.9s
AAK Ala-Archa 39.06 63 P **P** **21 00 11.6 -0.2**
comp=Z,2.3nm,0.5s,baz=265,slow=4.7,SNR=11
AAK LR LR 21 19 56.2
comp=Z,110nm,18.8s,baz=278,slow=42
AAK Ala-Archa 39.06 63 *eP* **P** **21 00 11.2 -0.7**
comp=Z,33nm,1.8s
LIC Lamto 39.45 232 *eP* **P** **21 00 14.9 -0.2**
comp=Z,31nm,1.0s
LIC *eR*
comp=Z,617nm,18.0s
LIC Lamto 39.45 232 *eP* **P** **21 00 14.9 -0.2**
comp=Z,31nm,1.0s
LIC Lamto 39.45 232 *eP* **P** **21 00 14.9 -0.2**
comp=Z,15nm,1.0s
TKM2 Tokmak 2 39.84 62 *eP* **P** **21 00 18.5 0.0**
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
TKM2 Tokmak 2 39.84 62 *eP* **P** **21 00 18.5 0.0**
comp=Z,6.2nm,0.8s
TKM2 Tokmak 2 39.84 62 *eP* **P** **21 00 18.5 0.0**
comp=Z,6.2nm,0.8s
KSH Kashi 40.52 67 *eP* **P** **21 00 23.0 -1.1**
KSH pP pP 21 00 27.5 -5.6
KSH sP sP 21 00 30.0 -6.7
KSH PP **PnPn** **21 01 59.8 -1.8**
KSH PcP **PcP** **21 02 27.5 +1.4**
KSH ScP **ScP** **21 06 14.8 +1.5**
KSH PcS **PcS** **21 06 17.3 +0.4**
KSH S **S** **21 06 30.0 -1.3**
KSH sS sS 21 06 37.0 -9.1
KSH SS SS 21 09 21.8 -10
KSH ScS **ScS** **21 10 27.5 -0.2**
KSH pmax pmax
comp=Z,110nm,5.0s
KSH LR LR
comp=N,95nm,5.2s
KSH LR LR
comp=E,130nm,6.4s
KSH LR LR
comp=Z,190nm,5.8s
KURBB Kurchatov Arra 41.70 50 P **P** **21 00 34.2 +0.8**
comp=Z,9.1nm,0.8s,baz=278,slow=8.7,SNR=54
KURBB S **S** **21 06 47.8 -0.4**
comp=Z,2.0nm,1.1s,baz=283,slow=16,SNR=4.4
KURBB LR LR 21 22 36.7
comp=Z,124nm,20.1s,baz=260,slow=43
KURK Kurchatov 41.76 50 P **P** **21 00 34.2 +0.3**
KURK S **S** **21 06 47.8 -1.3**
KURK pmax pmax
comp=Z,9.0nm,0.8s
KURK smax smax
comp=N,2.0nm,1.1s
KURK MLR MLR
comp=Z,124nm,20.1s
KURK Kurchatov 41.76 50 *eP* **P** **21 00 34.0 0.0**
comp=Z,14nm,1.0s
KURK S **S** **21 06 47.8 -1.3**
KURK Kurchatov 41.76 50 P **P** **21 00 34.2 +0.3**
comp=Z,9.0nm,0.8s
KURK S **S** **21 06 47.8 -1.3**
comp=Z,124nm,20.1s
HOPEN Hopen 42.42 360 *eP* **P** **21 00 37.9 -1.0**
HOPEN Hopen 42.42 360 *eP* **P** **21 00 37.9 -1.0**
SNR=29
SCO Scoresbysund 44.27 339 *i* P **P** **21 00 55.4 +1.5**
comp=Z,9.2nm,0.8s
SCO Scoresbysund 44.27 339 *i* P **P** **21 00 55.4 +1.5**
comp=Z,9.2nm,0.8s
SPA0 Spitsbergen Ar 44.27 357 *eP* **P** **21 00 52.0 -1.9**
SPA0 Spitsbergen Ar 44.27 357 *eP* **P** **21 00 52.0 -1.9**
SNR=28
SPITS Spitsbergen Ar 44.27 357 P **P** **21 00 53.2 -0.6**
SPITS Spitsbergen Ar 44.27 357 P **P** **21 00 53.2 -0.6**
comp=Z,1.9nm,0.3s,baz=147,slow=12,SNR=26
SPITS Spitsbergen Ar 44.27 357 P **P** **21 00 53.2 -0.6**
MKAR Makanchi Array 44.28 56 P **P** **21 00 54.9 +0.5**
MKAR Makanchi Array 44.28 56 P **P** **21 00 54.9 +0.5**
MKAR ScP **ScP** **21 06 27.9 -0.2**
MKAR Makanchi Array 44.28 56 P **P** **21 00 54.9 +0.5**
comp=Z,11nm,0.7s,baz=277,slow=6.2,SNR=94
MKAR ScP **ScP** **21 06 27.9 -0.2**
comp=Z,0.6nm,0.5s,baz=265,slow=4.4,SNR=6.6
MKAR Makanchi Array 44.28 56 P **P** **21 00 54.9 +0.5**
MKAR ScP **ScP** **21 06 27.9 -0.2**
NVS Novosibirsk 44.75 44 *eP* **P** **21 00 57.3 -0.7**
NVS *eS* **S** **21 07 29.3 -3.4**
NVS pmax pmax
comp=Z,16nm,1.0s
NVS pmax pmax
comp=N,2.0nm,0.6s
NVS pmax pmax
comp=E,8.0nm,1.0s
NVS smax smax
comp=N,4.0nm,1.3s
NVS smax smax
comp=E,3.0nm,1.3s
NVS Novosibirsk 44.75 44 *eP* **P** **21 00 57.3 -0.7**
comp=E,2.0nm,0.6s
KBS Kingsbay 45.20 356 *eP* **P** **21 01 01.1 -0.1**
KBS AMS AMS 21 20 05.8
comp=Z,349nm,19.6s
KBS Kingsbay 45.20 356*ce*P **P** **21 01 00.9 -0.3**
KBS pmax pmax
comp=Z,16nm,1.7s
KBS Kingsbay 45.20 356 *eP* **P** **21 01 00.8 -0.5**
comp=Z,10nm,0.6s
KBS Kingsbay 45.20 356 *eP* **P** **21 01 01.1 -0.1**
SNR=28
ZALV Zalesovo Beam 45.65 45 P **P** **21 01 04.8 -0.3**
ZALV Zalesovo Beam 45.65 45 P **P** **21 01 04.8 -0.3**
ZALV Zalesovo Beam 45.65 45 P **P** **21 01 04.8 -0.3**
comp=Z,6.2nm,0.3s,baz=266,slow=8.5,SNR=50
ZALV LR LR 21 23 37.9
comp=Z,79nm,19.9s,baz=247,slow=41
ZALV Zalesovo Beam 45.65 45 P **P** **21 01 04.8 -0.3**
DAG Danmarks Havn 47.02 347 *i* P **P** **21 01 15.3 -0.2**
comp=Z,54nm,0.8s
WMQ Urumqi 48.46 59 *eP* **P** **21 01 29.0 +1.7**
WMQ pP **pP** **21 01 35.3 -1.1**
WMQ sP **sP** **21 01 37.5 -2.6**
WMQ PcP **PcP** **21 02 56.0 +2.8**
WMQ S **S** **21 08 28.0 +1.7**
WMQ ScS **ScS** **21 11 19.0 +1.2**
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,160nm,4.1s
WMQ LR LR
comp=N,400nm,29.0s
WMQ LR LR
comp=E,300nm,27.4s
WMQ LR LR
comp=Z,340nm,23.2s
LSZ Lusaka 49.26 176 P **P** **21 01 34.9 +1.3**
LSZ Lusaka 49.26 176 P **P** **21 01 34.9 +1.3**
PYUN Piuthan 49.26 81 *eP* **P** **21 01 35.3 +1.5**
comp=Z,50nm,0.7s
PYUN Piuthan 49.26 81 *eP* **P** **21 01 35.3 +1.5**
comp=Z,50nm,0.7s
PYUN Piuthan 49.26 81 *eP* **P** **21 01 35.3 +1.5**
comp=Z,50nm,0.7s
DANN Dangsing 49.80 80 *eP* **P** **21 01 38.9 +0.9**
comp=Z,83nm,0.9s
DANN Dangsing 49.80 80 *eP* **P** **21 01 38.9 +0.9**
comp=Z,83nm,0.9s
DANN Dangsing 49.80 80 *eP* **P** **21 01 38.9 +0.9**
comp=Z,83nm,0.9s
KOLN Koldanda 49.88 81 *eP* **P** **21 01 38.8 +0.2**
comp=Z,12nm,0.6s
KOLN Koldanda 49.88 81 *eP* **P** **21 01 38.8 +0.2**
comp=Z,12nm,0.6s
KOLN Koldanda 49.88 81 *eP* **P** **21 01 38.8 +0.2**
comp=Z,12nm,0.6s
SUMG Summit 49.91 339 *eP* **P** **21 01 38.4 0.0**
SUMG pmax pmax
comp=Z,17nm,0.9s
SUMG Summit 49.91 339 *eP* **P** **21 01 38.4 0.0**
comp=Z,17nm,0.9s
SUMG Summit 49.91 339 *i* P **P** **21 01 38.9 +0.5**
comp=Z,5.3nm,0.9s
SUMG Summit 49.91 339 *eP* **P** **21 01 38.4 0.0**
comp=Z,17nm,0.9s
HYB Hyderabad 50.28 95 *i* P **P** **21 01 42.0 +0.5**
GKN Gorkha 50.64 80 *eP* **P** **21 01 45.1 +0.8**
GKN Gorkha 50.64 80 *eP* **P** **21 01 45.1 +0.8**
GKN Gorkha 50.64 80 *eP* **P** **21 01 45.1 +0.8**
DMN Daman 51.18 80 *eP* **P** **21 01 48.7 +0.3**
DMN Daman 51.18 80 *eP* **P** **21 01 48.7 +0.3**
DMN Daman 51.18 80 *eP* **P** **21 01 48.7 +0.3**
KKN Kakani 51.25 80 *eP* **P** **21 01 49.1 +0.2**
KKN Kakani 51.25 80 *eP* **P** **21 01 49.1 +0.2**
KKN Kakani 51.25 80 *eP* **P** **21 01 49.1 +0.2**
KKN Kakani 51.25 80 *eP* **P** **21 01 49.1 +0.2**
PKI Pulchoki 51.44 80 *eP* **P** **21 01 50.9 +0.4**
comp=Z,23nm,0.7s
PKI Pulchoki 51.44 80 *eP* **P** **21 01 50.9 +0.4**
PKI pmax pmax
comp=Z,23nm,0.7s
PKI Pulchoki 51.44 80 *eP* **P** **21 01 50.9 +0.4**
comp=Z,23nm,0.7s
PKI Pulchoki 51.44 80 *eP* **P** **21 01 50.9 +0.4**
comp=Z,23nm,0.7s
GUN Gumba 51.69 79 *eP* **P** **21 01 53.0 +0.6**
GUN Gumba 51.69 79 *eP* **P** **21 01 53.0 +0.6**
GUN Gumba 51.69 79 *eP* **P** **21 01 53.0 +0.6**
JIRN Jiri 52.04 80 *eP* **P** **21 01 54.6 -0.4**
comp=Z,7.9nm,0.7s
JIRN Jiri 52.04 80 *eP* **P** **21 01 54.6 -0.4**
comp=Z,7.9nm,0.7s
JIRN Jiri 52.04 80 *eP* **P** **21 01 54.6 -0.4**
comp=Z,7.9nm,0.7s
RAMN Ramite 52.66 80 *eP* **P** **21 01 59.4 -0.1**
RAMN Ramite 52.66 80 *eP* **P** **21 01 59.4 -0.1**
RAMN Ramite 52.66 80 *eP* **P** **21 01 59.4 -0.1**
ODAN Odare 53.34 80 *eP* **P** **21 02 04.5 0.0**
comp=Z,11nm,0.8s
ODAN Odare 53.34 80 *eP* **P** **21 02 04.5 0.0**
comp=Z,11nm,0.8s
ODAN Odare 53.34 80 *eP* **P** **21 02 04.5 0.0**
comp=Z,11nm,0.8s
TAPN Taplejung 53.41 79 *eP* **P** **21 02 04.7 -0.3**
TAPN Taplejung 53.41 79 *eP* **P** **21 02 04.7 -0.3**
TAPN Taplejung 53.41 79 *eP* **P** **21 02 04.7 -0.3**
SFJD Kangerlussuaq 53.56 332 *eP* **P** **21 02 04.4 -0.8**
comp=Z,17nm,1.1s
SFJD Kangerlussuaq 53.56 332 *eP* **P** **21 02 04.4 -0.8**
comp=Z,17nm,1.1s
TSUM Tsumeb 53.58 189 *eP* **P** **21 02 06.5 +0.6**
comp=Z,8.5nm,1.3s
TSUM Tsumeb 53.58 189 *eP* **P** **21 02 06.5 +0.6**
comp=Z,8.5nm,1.3s
LSA Lhasa 55.26 75 *eP* **P** **21 02 18.9 +0.2**
LSA pmax pmax
comp=Z,4.0nm,0.6s
LSA Lhasa 55.26 75 *eP* **P** **21 02 18.9 +0.2**
comp=Z,4.4nm,0.6s
LSA Lhasa 55.26 75 *eP* **P** **21 02 18.9 +0.2**
comp=Z,4.3nm,0.6s
MOY Mondy 55.64 47 *eP* **P** **21 02 22.5 +1.8**
MOY Mondy 55.64 47 *eP* **P** **21 02 22.5 +1.8**
OPO Ambohidratompo 56.48 155 P **P** **21 02 28.9 +2.0**
OPO Ambohidratompo 56.48 155 P **P** **21 02 28.9 +2.0**
comp=Z,1.4nm,0.6s,baz=290,slow=4.1,SNR=6.4
OPO Ambohidratompo 56.48 155 P **P** **21 02 28.9 +2.0**
TLY Talaya 57.24 46 *eP* **P** **21 02 31.8 -0.1**
TLY *eS* S 21 10 18.7 -6.9
TLY pmax pmax
comp=Z,5.0nm,0.9s
TLY MLR MLR
comp=Z,76nm,21.0s
TLY Talaya 57.24 46 *eP* **P** **21 02 32.9 +1.0**
comp=Z,5.7nm,0.9s
TLY Talaya 57.24 46 *eP* **P** **21 02 31.8 -0.1**
comp=Z,5.0nm,0.9s
ZAK Zakamensk 57.36 48⇑ *iP* **P** **21 02 34.3 +1.4**
ZAK pmax pmax
comp=Z,8.0nm,1.0s
ZAK Zakamensk 57.36 48 *i* P **P** **21 02 34.3 +1.4**
comp=Z,8.0nm,1.0s
IRK Irkutsk 57.47 46 *eP* **P** **21 02 33.5 0.0**
IRK pmax pmax
comp=Z,19nm,2.0s
IRK Irkutsk 57.47 46 *eP* **P** **21 02 33.5 0.0**
comp=Z,19nm,2.0s
GTA Gaotai 58.38 61 *eP* **P** **21 02 41.0 +0.7**
GTA pP **pP** **21 02 45.5 -4.1**
GTA sP sP 21 02 48.3 -4.9
GTA pmax pmax
comp=Z,5.0nm,0.9s
LBTB Lobatse 58.87 180 P **P** **21 02 45.2 +1.6**
LBTB Lobatse 58.87 180 P **P** **21 02 45.2 +1.6**
comp=Z,1.2nm,0.4s,baz=349,slow=8.9,SNR=8.3
LBTB Lobatse 58.87 180 P **P** **21 02 45.2 +1.6**
SONM Songino Array 60.07 50 P **P** **21 02 52.7 +0.9**
SONM Songino Array 60.07 50 P **P** **21 02 52.7 +0.9**
comp=Z,5.5nm,0.5s,baz=286,slow=7.8,SNR=88
SONM Songino Array 60.07 50 P **P** **21 02 52.7 +0.9**
ULN Ulaanbaatar 60.48 50 *eP* **P** **21 02 55.4 +0.7**
comp=Z,9.9nm,0.8s
ULN Ulaanbaatar 60.48 50 *eP* **P** **21 02 55.3 +0.7**
comp=Z,9.9nm,0.8s
BOD Bodaibo 61.20 38 *eP* **P** **21 02 58.7 -0.4**
BOD pmax pmax
comp=Z,10.0nm,0.9s
BOD Bodaibo 61.20 38 *eP* **P** **21 02 58.7 -0.4**
comp=Z,10.0nm,0.9s
BOSA Boshof 62.45 180 P **P** **21 03 08.9 +0.9**
BOSA Boshof 62.45 180 P **P** **21 03 08.9 +0.9**
comp=Z,2.8nm,0.6s,baz=1.0,slow=5.6,SNR=11
BOSA LR LR 21 32 48.1
comp=Z,170nm,18.1s,baz=346,slow=38
BOSA Boshof 62.45 180 P **P** **21 03 08.9 +0.9**
LZH Lanzhou 62.59 63 *eP* P 21 03 17.8 +8.7
LZH pP pP 21 03 23.3 +4.8
LZH sP sP 21 03 26.5 +4.4
LZH pmax pmax
comp=Z,20nm,1.2s
SCHQ Schefferville 63.97 320 P **P** **21 03 17.7 0.0**
SCHQ Schefferville 63.97 320 P **P** **21 03 17.7 0.0**
comp=Z,9.8nm,0.4s,baz=70,slow=5.2,SNR=74
SCHQ Schefferville 63.97 320 P **P** **21 03 17.7 0.0**
RES Resolute Bay 64.62 345 *eP* **P** **21 03 20.5 -1.2**
comp=Z,2.2nm,0.7s
RES Resolute Bay 64.62 345 P **P** **21 03 21.6 -0.1**
baz=29,slow=13
RES Resolute Bay 64.62 345 *eP* **P** **21 03 20.5 -1.2**
comp=Z,2.2nm,0.7s
HHC Hu-ho-hao-te 66.14 56 *eP* **P** **21 03 33.3 +1.1**
HHC pP **pP** **21 03 43.3 +1.6**
HHC sP **sP** **21 03 48.0 +2.8**
HHC PP **PP** **21 06 01.0 +3.3**
HHC S **S** **21 12 17.0 -1.9**
HHC sS **sS** **21 12 32.8 -1.7**
HHC ScS **SKSac** **21 13 22.8 -3.5**
HHC SS **SS** **21 16 34.0 -0.4**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,110nm,6.8s
HHC LR LR
comp=N,120nm,15.5s
HHC LR LR
comp=E,120nm,16.6s
HHC LR LR
comp=Z,110nm,17.8s
CHTO Chiang Mai 66.46 83 *eP* **P** **21 03 34.1 -0.3**
CHTO pmax pmax
comp=Z,4.0nm,1.0s
CHTO Chiang Mai 66.46 83 *eP* **P** **21 03 34.1 -0.3**
comp=Z,3.8nm,1.0s
CHTO Chiang Mai 66.46 83 *eP* **P** **21 03 34.1 -0.3**
comp=Z,3.8nm,1.0s
KMI Kunming 66.52 75 P P 21 03 40.8 +5.8
KMI pmax pmax
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 66.64 83 P **P** **21 03 35.9 +0.3**
CMAR Chiang Mai Arr 66.64 83 P **P** **21 03 35.9 +0.3**
comp=Z,0.9nm,0.8s,baz=303,slow=8.8,SNR=7.5
CMAR LR LR 21 34 58.6
comp=Z,36nm,20.4s,baz=291,slow=38
CMAR Chiang Mai Arr 66.64 83 P **P** **21 03 35.9 +0.3**
HIA Hailar 67.68 45 *eP* **P** **21 03 42.1 +0.3**
comp=Z,23nm,1.3s
HIA Hailar 67.68 45 *eP* **P** **21 03 42.1 +0.3**
comp=Z,23nm,1.3s
GYA Guiyang 69.00 72 *eP* P 21 03 53.8 +3.3
GYA pmax pmax
comp=Z,10.0nm,1.0s
RCBR Riachuelo 70.00 248 LR LR 21 32 53.7
comp=Z,95nm,21.4s,baz=47,slow=34
CN2 Changchun 73.79 48 *eP* **P** **21 04 19.8 +0.8**
CN2 *ep*P **pP** **21 04 30.0 +1.5**
CN2 *es*P **sP** **21 04 34.0 +1.9**
CN2 *eS* **SKiKP** **21 13 45.5 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=N,300nm,17.0s
CN2 LR LR
comp=E,200nm,17.0s
CN2 LR LR
comp=Z,200nm,19.0s
BILL Bilibino 74.00 14⇑ *iP* **P** **21 04 19.6 -0.2**
BILL *e* 21 04 28.3
BILL *e* 21 07 03.0
BILL pmax pmax
comp=Z,3.0nm,1.1s
BILL MLR MLR
comp=Z,200nm,19.0s
BILL Bilibino 74.00 14 *i* P **P** **21 04 19.6 -0.2**
comp=Z,3.0nm,1.1s
SEY Seymchan 74.44 22⇓ *iP* **P** **21 04 23.6 +1.2**
SEY Seymchan 74.44 22 *i* P **P** **21 04 23.6 +1.2**
KLR Kul'dur 74.47 41 *eP* P 21 04 18.7 -4.2
PSI Prapat 74.96 97 LR LR 21 43 12.6
comp=Z,66nm,19.6s,baz=172,slow=40
QIZ Qiongzhong 75.24 77 P **P** **21 04 28.8 +1.0**
QIZ S **S** **21 14 08.0 +2.8**
QIZ pmax pmax
comp=Z,16nm,1.8s
NJ2 Nanjing 75.48 61 *eP* **P** **21 04 29.5 +0.5**
NJ2 pmax pmax
comp=Z,20nm,0.9s
SADO Sadowa 75.76 315 P **P** **21 04 30.7 +0.3**
SADO Sadowa 75.76 315 P **P** **21 04 30.7 +0.3**
comp=Z,3.7nm,0.4s,baz=90,slow=4.0,SNR=6.0
SADO Sadowa 75.76 315 P **P** **21 04 30.7 +0.3**
MDJ Mudanjiang 75.85 46 P **P** **21 04 31.5 +0.6**
MDJ pmax pmax

	comp=Z,11nm,2.4s							
MDJ				pmax		pmax		
	comp=Z,61nm,4.7s							
INK	**Inuvik**	**76.59**	**352**	*e*P		**P**	**21 04 34.1**	**-0.5**
	comp=Z,6.6nm,0.9s							
INK	**Inuvik**	**76.59**	**352**	P		**P**	**21 04 34.6**	**0.0**
	comp=Z,3.0nm,0.5s,baz=17,slow=5.9,SNR=19							
INK	**Inuvik**	**76.59**	**352**	P		**P**	**21 04 34.6**	**0.0**
	comp=Z,3.0nm,0.5s							
USRK	**Ussuriysk Arra**	**77.50**	**45**	P		**P**	**21 04 40.3**	**+0.1**
	comp=Z,7.3nm,0.8s,baz=288,slow=5.5,SNR=18							
YKA	**Yellowknife Ar**	**78.39**	**342**	P		**P**	**21 04 44.8**	**-0.1**
YKA	**Yellowknife Ar**	**78.39**	**342**	P		**P**	**21 04 44.7**	**-0.1**
	comp=Z,1.4nm,0.4s,baz=32,slow=5.1,SNR=32							
YKA	**Yellowknife Ar**	**78.39**	**342**	P		**P**	**21 04 44.8**	**-0.1**
KSAR	**Wonju Array Be**	**78.82**	**52**	P		**P**	**21 04 48.7**	**+1.1**
KSAR	**Wonju Array Be**	**78.82**	**52**	P		**P**	**21 04 48.7**	**+1.1**
KSRS	**Korea Array**	**78.84**	**52**	P		**P**	**21 04 48.7**	**+1.0**
	comp=Z,3.3nm,0.6s,baz=305,slow=4.7,SNR=11							
KSRS				LR		LR	21 47 27.4	
	comp=Z,44nm,18.9s,baz=139,slow=42							
KSRS	**Korea Array**	**78.84**	**52**	P		**P**	**21 04 48.7**	**+1.0**
	comp=Z,44nm,18.9s							
COLD	**Coldfoot**	**78.85**	**358**	*e*P		**P**	**21 04 47.5**	**+0.2**
	comp=Z,13nm,1.2s							
COLD	**Coldfoot**	**78.85**	**358**	*e*P		**P**	**21 04 47.5**	**+0.2**
	comp=Z,13nm,1.2s							
TNA	**Tin City**	**80.06**	**6**	*e*P		**P**	**21 04 54.4**	**+0.6**
	comp=Z,6.4nm,0.9s							
TNA	**Tin City**	**80.06**	**6**	*e*P		**P**	**21 04 54.4**	**+0.6**
	comp=Z,6.4nm,0.9s							
FFC	**Flin Flon**	**80.52**	**332**	*e*P		**P**	**21 04 56.6**	**+0.1**
FFC				pmax		pmax		
	comp=Z,3.0nm,0.8s							
FFC	**Flin Flon**	**80.52**	**332**	*e*P		**P**	**21 04 56.6**	**+0.1**
	comp=Z,3.2nm,0.8s							
FFC	**Flin Flon**	**80.52**	**332**	*e*P		**P**	**21 04 56.6**	**+0.1**
	comp=Z,3.2nm,0.8s							
EGAK	**Eagle**	**80.79**	**354**	*e*P		**P**	**21 04 58.2**	**+0.4**
	comp=Z,5.7nm,1.0s							
EGAK	**Eagle**	**80.79**	**354**	*e*P		**P**	**21 04 58.2**	**+0.4**
	comp=Z,5.7nm,1.0s							
COLA	**College**	**81.12**	**357**	*e*P		**P**	**21 04 58.8**	**-0.8**
COLA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
COLA	**College**	**81.12**	**357**	*e*P		**P**	**21 04 58.8**	**-0.8**
	comp=Z,6.3nm,1.0s							
COLA	**College**	**81.12**	**357**	*e*P		**P**	**21 04 58.8**	**-0.8**
	comp=Z,6.2nm,1.0s							
ULM	**Lac du Bonnet**	**81.15**	**326**	P		**P**	**21 04 59.1**	**-0.9**
ULM	**Lac du Bonnet**	**81.15**	**326**	P		**P**	**21 04 59.1**	**-0.9**
	comp=Z,2.7nm,0.4s,baz=43,slow=5.6,SNR=5.4							
ULM				LR		LR	21 42 44.0	
	comp=Z,85nm,18.1s,baz=5.8,slow=37							
ULM	**Lac du Bonnet**	**81.15**	**326**	P		**P**	**21 04 59.1**	**-0.9**
ILAR	**Eielson Array**	**81.18**	**357**	P		**P**	**21 05 00.2**	**+0.3**
ILAR	**Eielson Array**	**81.18**	**357**	P		**P**	**21 05 00.2**	**+0.3**
	comp=Z,3.4nm,0.8s,baz=350,slow=4.1,SNR=36							
ILAR				LR		LR	21 40 32.0	
	comp=Z,95nm,18.0s,baz=354,slow=35							
ILAR	**Eielson Array**	**81.18**	**357**	P		**P**	**21 05 00.2**	**+0.3**
DAWY	**Dawson**	**81.33**	**353**	*e*P		**P**	**21 05 01.3**	**+0.5**
DAWY	**Dawson**	**81.33**	**353**	*e*P		**P**	**21 05 01.3**	**+0.5**
YSS	**Yuzh-Sakhalins**	**81.67**	**38**	*e*P		**P**	**21 05 04.0**	**+1.2**
YSS	**Yuzh-Sakhalins**	**81.67**	**38**	*e*P		**P**	**21 05 04.0**	**+1.2**
DOT	**Dot Lake**	**82.13**	**355**	*e*P		**P**	**21 05 05.8**	**+0.8**
	comp=Z,5.5nm,0.9s							
DOT	**Dot Lake**	**82.13**	**355**	*e*P		**P**	**21 05 05.8**	**+0.8**
	comp=Z,5.5nm,0.9s							
MCK	**McKinley**	**82.31**	**357**	P		**P**	**21 05 04.3**	**-1.6**
MCK				pmax		pmax		
	comp=Z,16nm,1.0s							
MCK	**McKinley**	**82.31**	**357**	P		**P**	**21 05 04.3**	**-1.6**
	comp=Z,16nm,1.0s							
MCK	**McKinley**	**82.31**	**357**	P		**P**	**21 05 04.3**	**-1.6**
	comp=Z,16nm,1.0s							
MENT	**Mentasta**	**82.81**	**355**	P		**P**	**21 05 10.1**	**+1.5**
MENT	**Mentasta**	**82.81**	**355**	P		**P**	**21 05 10.1**	**+1.5**
PETK	**Petropavlovsk-**	**83.76**	**27**	LR		LR	21 48 37.2	
	comp=Z,29nm,20.3s,baz=42,slow=40							
BDFB	**Brasilia**	**85.38**	**248**	P		**P**	**21 05 22.8**	**+0.4**
BDFB	**Brasilia**	**85.38**	**248**	P		**P**	**21 05 22.8**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=113,slow=7.7,SNR=3.6							
BDFB				LR		LR	21 43 21.4	
	comp=Z,120nm,19.6s,baz=29,slow=36							
BDFB	**Brasilia**	**85.38**	**248**	P		**P**	**21 05 22.8**	**+0.4**
MJAR	**Matsushiro Arr**	**85.94**	**48**	P		**P**	**21 05 25.2**	**+0.3**
MJAR	**Matsushiro Arr**	**85.94**	**48**	P		**P**	**21 05 25.2**	**+0.3**
	comp=Z,3.0nm,0.9s,baz=306,slow=4.2,SNR=6.8							
MJAR				LR		LR	21 51 48.8	
	comp=Z,41nm,18.2s,baz=300,slow=41							
MJAR	**Matsushiro Arr**	**85.94**	**48**	P		**P**	**21 05 25.2**	**+0.3**
ECSD	**EROS Data Cent**	**86.09**	**322**	*e*P		**P**	**21 05 25.7**	**+0.2**
	comp=Z,12nm,0.9s							
ECSD	**EROS Data Cent**	**86.09**	**322**	*e*P		**P**	**21 05 25.7**	**+0.2**
	comp=Z,12nm,0.9s							
LRAL	**Lakeview Retre**	**87.70**	**309**	*e*P		**P**	**21 05 33.8**	**+0.3**
	comp=Z,9.6nm,0.5s							
LRAL	**Lakeview Retre**	**87.70**	**309**	*e*P		**P**	**21 05 33.8**	**+0.3**
	comp=Z,9.6nm,0.5s							
KDAK	**Kodiak Island**	**88.37**	**359**	P		**P**	**21 05 37.0**	**+0.8**
KDAK	**Kodiak Island**	**88.37**	**359**	P		**P**	**21 05 37.0**	**+0.8**
	comp=Z,10nm,0.8s,baz=107,slow=6.0,SNR=5.5							
KDAK	**Kodiak Island**	**88.37**	**359**	P		**P**	**21 05 37.0**	**+0.8**
JTMT	**Jette**	**90.73**	**334**	*e*P		**P**	**21 05 48.9**	**+1.2**
	comp=Z,9.6nm,1.2s							
JTMT	**Jette**	**90.73**	**334**	*e*P		**P**	**21 05 48.8**	**+1.2**
	comp=Z,9.6nm,1.2s							
SWMT	**Swartz Lake**	**90.83**	**334**	*e*P		**P**	**21 05 48.3**	**+0.2**
	comp=Z,7.6nm,1.1s							
SWMT	**Swartz Lake**	**90.83**	**334**	*e*P		**P**	**21 05 48.3**	**+0.2**
	comp=Z,7.6nm,1.1s							
NEW	**Newport**	**91.29**	**336**	*e*P		**P**	**21 05 50.5**	**+0.4**
	comp=Z,2.9nm,0.7s							
NEW	**Newport**	**91.29**	**336**	*e*P		**P**	**21 05 50.5**	**+0.4**
	comp=Z,2.9nm,0.7s							
RRI2	**Red Ridge**	**93.24**	**330**	*e*P		**P**	**21 06 00.2**	**+0.7**
	comp=Z,2.8nm,0.8s							
RRI2	**Red Ridge**	**93.24**	**330**	*e*P		**P**	**21 06 00.2**	**+0.7**
	comp=Z,2.8nm,0.8s							
CPUP	**Villa Florida**	**98.64**	**244**	LR		LR	21 54 11.1	
	comp=Z,139nm,21.2s,baz=11,slow=37							
ASAR	**Alice Springs**	**117.82**	**101**	PKP		**PKPdf**	**21 11 31.7**	**+0.3**
ASAR	**Alice Springs**	**117.82**	**101**	PKP		**PKPdf**	**21 11 31.7**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=302,slow=1.5,SNR=5.5							

MAN 27 20:54:29.8±45.0N×125°20.2E, h2km, mb3.8, ML2.5, MS2.1, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**0.50**	**271**	*i* S	Sg	20 54 45.7	+0.6
BUKP	**Musuan**	**0.58**	**193**	*e*P	Pg	20 54 40.8	+0.6
BUKP				*e*S	Sg	20 54 49.1	+1.3
CTBH	**Cotabato--PC H**	**1.54**	**218**	⇓*e*P	Pn	20 54 55.2	-2.2
PAGZ	**Pagadian**	**1.89**	**252**	*e*P	Pn	20 55 02.9	+0.5
PAGZ				*e*S	P	20 55 08.1	

*ISK **27** 21:04:15.2, 36°.99N×28°.22E, h12km, MD1.9*
*DDA **27** 21:04:15.7, 36°.97N×28°.19E, h7km, MD2.7*
*CSEM **27** 21:04:15.4±0.2, 36°.94N×28°.24E, h2km, MD1.9, Error ellipse: s-maj=5.3km s-min=3.3km az=178.0*

ISC 27 21:04:14.7±1.1, 36°.93N±0°.04×28°.27E±0°.02, h7km±9km, n20, σ0°61/34, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.20**	**2**	*e*PG	**Pg**	**21 04 19.3**	**+0.5**
YER				*e*SG	**Sg**	**21 04 22.1**	**+0.5**
YER	**Yerkesik**	**0.20**	**2**	*e*Pg	**Pg**	**21 04 19.3**	**+0.5**
YER				*e*Sg	**Sg**	**21 04 22.1**	**+0.5**
TURN	**Turunc**	**0.27**	**103**	*i* P	**Pg**	**21 04 19.8**	**-0.2**
TURN				*i* S	**Sg**	**21 04 22.8**	**-0.8**
TURN	**Turunc**	**0.27**	**103**	*i* P	**Pg**	**21 04 19.8**	**-0.2**
TURN				*i* S	**Sg**	**21 04 22.8**	**-0.8**
MLSB	**Milas**	**0.54**	**313**	*e*PG	**Pg**	**21 04 25.1**	**0.0**
MLSB				*e*SG	**Sg**	**21 04 31.8**	**-0.3**
MLSB	**Milas**	**0.54**	**313**	*e*Pg	**Pg**	**21 04 25.1**	**0.0**
MLSB				*e*Sg	**Sg**	**21 04 31.8**	**-0.3**
DAT	**Datca**	**0.59**	**250**	*e*PG	**Pg**	**21 04 26.7**	**+0.6**
DAT	**Datca**	**0.59**	**250**	*e*Pg	**Pg**	**21 04 26.7**	**+0.6**
BDRM	**Kayabasi**	**0.68**	**282**	*i* P	**Pg**	**21 04 28.1**	**+0.4**
BDRM				*i* S	**Sg**	**21 04 36.7**	**+0.2**
BDRM	**Kayabasi**	**0.68**	**282**	*i* P	**Pg**	**21 04 28.1**	**+0.4**
BDRM				*i* S	**Sg**	**21 04 36.7**	**+0.2**
BODT	**Bodrum**	**0.78**	**280**	*e*PG	**Pg**	**21 04 29.9**	**+0.2**
BODT	**Bodrum**	**0.78**	**280**	*e*Pg	**Pg**	**21 04 29.9**	**+0.2**
AYDN	**Tasoluk**	**0.79**	**337**	*i* P	**Pb**	**21 04 30.1**	**-0.7**
AYDN				*i* S	**Sg**	**21 04 40.1**	**-0.1**
AYDN	**Tasoluk**	**0.79**	**337**	*i* P	**Pb**	**21 04 30.1**	**-0.7**
AYDN				*i* S	**Sg**	**21 04 40.1**	**-0.1**
DNZL	**Cakiroluk**	**0.98**	**39**	*i* P	**Pn**	**21 04 34.8**	**-0.2**
DNZL	**Cakiroluk**	**0.98**	**39**	*i* P	**Pn**	**21 04 34.8**	**-0.2**
GOLH	**Golhisar**	**1.07**	**73**	*i* P	**Pn**	**21 04 37.9**	**+1.7**
GOLH				*i* S	**Sn**	**21 04 51.6**	**+0.2**
GOLH	**Golhisar**	**1.07**	**73**	*i* P	**Pn**	**21 04 37.9**	**+1.7**
GOLH				*i* S	**Sn**	**21 04 51.6**	**+0.2**
GCAM	**G?zelcaml?**	**1.13**	**313**	*i* P	**Pn**	**21 04 36.7**	**-0.2**
GCAM				*i* S	**Sg**	**21 04 50.4**	**-0.6**
GCAM	**G?zelcaml?**	**1.13**	**313**	*i* P	**Pn**	**21 04 36.7**	**-0.2**
GCAM				*i* S	**Sg**	**21 04 50.4**	**-0.6**

*IDC **27** 21:10:58.0±9.7, 37°.28N×103°.72E, h0km, mb3.1/2, mb1 3.2/4, mb1mx3.1/26, mbtmp3.2/4, ML3.0/2, Error ellipse: s-maj=131.0km s-min=42.6km az=131.0*
*BJI **27** 21:10:57.7, 37°.17N×104°.07E, h19km, ML3.6/11, Ms3.1/2, Ms7 3.0/2*

ISC 27 21:11:01.4±1.1, 36°.83N±0°.09×103°.7E±0°.1, h35km, n8, σ2°80/9, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**0.75**	**171**	Pg	**Pn**	**21 11 14.8**	**-0.8**
LZH				Sg	**Sn**	**21 11 28.0**	**+2.2**
LZH				*s*max	*s*max		
	comp=N,970nm,0.7s						
LZH				*s*max	*s*max		
	comp=E,1μm,0.6s						
GTA	**Gaotai**	**4.00**	**311**	Pn	**Pn**	**21 12 01.0**	**+0.6**
GTA				Pg		21 12 11.0	
GTA				Sn	**Sn**	**21 12 49.3**	**+3.2**
GTA				Sg		21 13 05.3	
GTA				*s*max	*s*max		
	comp=N,470nm,0.5s						
GTA				*s*max	*s*max		
	comp=E,480nm,0.7s						
GTA				LR	LR		
	comp=N,250nm,7.4s						
GTA				LR	LR		
	comp=E,320nm,9.5s						
GTA				LR	LR		
	comp=Z,310nm,8.8s						
XAN	**Xi'an**	**5.09**	**122**	Pn	**Pn**	**21 12 13.8**	**-1.5**
XAN				Pg		21 12 25.5	
XAN				Sn	**Sn**	**21 13 16.3**	**+3.4**
XAN				Sg		21 13 30.0	
XAN				*s*max	*s*max		
	comp=N,20nm,1.1s						
XAN				*s*max	*s*max		
	comp=E,8.0nm,1.1s						
XAN				LR	LR		
	comp=N,100nm,7.5s						
XAN				LR	LR		
	comp=E,73nm,7.5s						
XAN				LR	LR		
	comp=Z,65nm,7.5s						
BTO	**Baotou**	**6.22**	**51**	*e*Pg	Pn	21 12 37.3	+6.5
SONM	**Songino Array**	**11.18**	**9**	Pn	Pn	21 13 33.4	-5.4
	comp=Z,0.2nm,0.3s,baz=189,slow=14,SNR=6.8						
SONM				Lg	Lg	21 16 39.0	
	comp=Z,0.2nm,0.3s,baz=193,slow=30,SNR=5.8						
MKAR	**Makanchi Array**	**18.75**	**309**	P	**P**	**21 15 16.0**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=115,slow=10,SNR=4.5						
ZALV	**Zalesovo Beam**	**21.54**	**329**	P	**P**	**21 15 44.1**	**-3.2**
	comp=Z,0.4nm,0.5s,baz=124,slow=9.2,SNR=3.2						
KURBB	**Kurchatov Arra**	**22.68**	**315**	P	**P**	**21 15 57.5**	**-2.2**
	comp=Z,0.5nm,0.6s,baz=117,slow=11,SNR=9.9						

IDC 27 21:23:48.7±1.5, 6°.04S×129°.73E, h0km, mb3.4/3, mb1 3.7/6, mb1mx3.5/20, mbtmp3.6/6, ML3.6/3, MS2.7/1, Ms1 2.7/1, ms1mx2.0/22, Error ellipse: s-maj=78.1km s-min=22.7km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.64**	**198**	Pn	Pn	21 26 49.2	-0.7
	0.3nm,0.3s,baz=21,slow=14,SNR=7.8						
FITZ				Sn	Sn	21 29 05.7	-5.8
	0.1nm,0.3s,baz=319,slow=20,SNR=3.0						
FITZ				LR	LR	21 32 20.8	
	comp=Z,29nm,18.9s,baz=189,slow=40						
WRA	**Warramunga Arr**	**14.53**	**162**	Pn	Pn	21 27 13.8	-2.0
	0.2nm,0.3s,baz=346,slow=13,SNR=13						
WRA				Sn	Sn	21 29 47.1	-11
	0.4nm,0.3s,baz=350,slow=22,SNR=6.3						
ASAR	**Alice Springs**	**17.98**	**168**	P	Pn	21 28 00.3	0.0
	0.2nm,0.3s,baz=348,slow=10,SNR=14						
ASAR				S	Sn	21 31 12.0	-10
	0.0nm,0.3s,baz=352,slow=24,SNR=4.2						
STKA	**Stephens Creek**	**28.00**	**158**	P	P	21 29 42.0	+0.5
	0.5nm,0.4s,baz=329,slow=14,SNR=3.2						
MKAR	**Makanchi Array**	**67.28**	**327**	P	P	21 34 45.5	+0.2
	0.3nm,1.0s,baz=123,slow=5.3,SNR=2.8						
KURBB	**Kurchatov Arra**	**71.56**	**328**	P	P	21 35 11.4	-0.2
	0.2nm,0.7s,baz=129,slow=5.0,SNR=2.5						

*IDC **27** 21:33:36.3±1.6, 10°.26N×126°.31E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.5/23, mbtmp3.5/6, MS4.5/1, Ms1 4.5/1, ms1mx2.6/25, Error ellipse: s-maj=188.7km s-min=21.7km az=70.0*
*ISCJB **27** 21:33:41.1±0.9, 10°.47N±0°.05×126°.44E±0°.07, h44km, mb3.5/6, Error ellipse: s-maj=9.9km s-min=7.0km az=3.3*
*MAN **27** 21:33:43, 10°.22N×126°.44E, h98km, mb4.6, ML3.5, MS3.4*

ISC 27 21:33:42.5±1.0, 10°.46N±0°.06×126°.4E±0°.1, h44km, n13, σ1°49/18, mb3.5/6, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.59**	**296**	⇓*e*P	**Pn**	**21 34 07.5**	**-0.7**
PLP				*e*S	**Sn**	**21 34 25.4**	**-2.1**
BUTP	**Butuan**	**1.68**	**208**	*e*P	**Pn**	**21 34 09.8**	**+0.3**
BUTP				*e*S	**Sn**	**21 34 31.8**	**+2.0**
LLP	**Lapu-Lapu**	**2.43**	**267**	*e*P	**Pn**	**21 34 20.2**	**+0.5**
LLP				*e*S	**Sn**	**21 34 48.1**	**-0.1**
CGP	**Cagayan de Oro**	**2.63**	**221**	⇓*e*P	**Pn**	**21 34 22.3**	**-0.1**
CGP				*e*S	**Sn**	**21 34 52.2**	**-0.8**
TBP	**Tagbilaran**	**2.64**	**253**	*e*P	**Pn**	**21 34 24.0**	**+1.3**
BUKP	**Musuan**	**2.90**	**208**	*e*P	**Pn**	**21 34 26.6**	**+0.4**
BUKP				*e*S	**Sn**	**21 34 57.5**	**-2.4**
JOW	**Kunigami**	**16.38**	**6**	LR	LR	21 41 55.4	
	comp=Z,2μm,21.9s,baz=145,slow=30						
WRA	**Warramunga Arr**	**31.20**	**166**	P	**P**	**21 39 55.1**	**-2.6**
	0.4nm,0.8s,baz=344,slow=9.6,SNR=2.7						
ASAR	**Alice Springs**	**34.69**	**168**	P	**P**	**21 40 26.9**	**-1.4**
	0.1nm,0.4s,baz=353,slow=7.2,SNR=3.9						
SONM	**Songino Array**	**40.90**	**339**	P	**P**	**21 41 20.1**	**-0.5**
	0.3nm,0.7s,baz=155,slow=7.3,SNR=3.3						
SONM				PcP	**PcP**	**21 43 22.3**	**+1.7**
	0.2nm,0.7s,baz=145,slow=5.3,SNR=2.9						
MKAR	**Makanchi Array**	**51.97**	**323**	P	**P**	**21 42 47.9**	**+0.5**
	0.6nm,0.7s,baz=122,slow=7.9,SNR=9.6						
ZALV	**Zalesovo Beam**	**54.54**	**331**	P	**P**	**21 43 06.7**	**+0.7**
	0.4nm,0.4s,baz=123,slow=7.5,SNR=3.4						
FINES	**FINESS Array B**	**85.80**	**332**	P	**P**	**21 46 18.7**	**+1.7**
	1.2nm,0.9s,baz=122,slow=5.1,SNR=3.6						

IDC 27 21:50:28.2±1.9, 8°.63S×127°.27E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, ML3.5/3, Error ellipse: s-maj=93.3km s-min=27.4km az=71.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.55**	**189**	Pn	Pn	21 52 47.3	+0.2
	0.2nm,0.3s,baz=10,slow=11,SNR=6.6						
FITZ				Sn	Sn	21 54 27.4	-7.8
	1.0nm,0.3s,baz=306,slow=17,SNR=4.0						
WRA	**Warramunga Arr**	**13.16**	**149**	Pn	Pn	21 53 36.3	-0.3
	0.4nm,0.3s,baz=322,slow=13,SNR=16						
WRA				Sn	Sn	21 55 58.5	-5.4
	0.6nm,0.3s,baz=321,slow=24,SNR=7.8						
ASAR	**Alice Springs**	**16.25**	**158**	Pn	Pn	21 54 18.1	+0.1
	0.2nm,0.3s,baz=342,slow=9.9,SNR=7.4						
MKAR	**Makanchi Array**	**68.14**	**328**	P	P	22 01 30.2	0.0
	0.2nm,0.5s,baz=128,slow=7.9,SNR=7.9						

IDC 27 21:50:37.2±1.6, 8°.76S×127°.14E, h0km, mb3.8/2, mb1 3.9/5, mb1mx3.7/19, mbtmp3.8/5, ML3.9/3, Error ellipse: s-maj=91.3km s-min=25.2km az=72.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.40**	**189**	Pn	Pn	21 52 54.1	0.0
	0.5nm,0.3s,baz=13,slow=11,SNR=9.1						
WRA	**Warramunga Arr**	**13.12**	**149**	Pn	Pn	21 53 45.6	+0.6
	1.0nm,0.3s,baz=322,slow=13,SNR=17						
WRA				Sn	Sn	21 56 08.2	-3.7
	1.1nm,0.3s,baz=318,slow=24,SNR=10						
ASAR	**Alice Springs**	**16.18**	**157**	Pn	Pn	21 54 25.4	-0.8
	0.4nm,0.3s,baz=337,slow=10,SNR=8.5						
MKAR	**Makanchi Array**	**68.18**	**329**	P	P	22 01 39.5	0.0
	0.4nm,0.5s,baz=126,slow=7.3,SNR=20						
ZALV	**Zalesovo Beam**	**71.94**	**335**	P	P	22 02 02.3	0.0
	0.5nm,0.5s,baz=137,slow=5.8,SNR=3.4						

*IDC **27** 21:51:50.2±14.0, 38°.70N×141°.90E, h82km±68km, mb3.2/2, mb1 3.1/5, mb1mx3.0/26, mbtmp3.1/5, ML2.6/3, MS3.7/1, Ms1 3.7/1, ms1mx2.2/28, Error ellipse: s-maj=172.6km s-min=48.3km az=89.0*
*ISCJB **27** 21:51:51.2±0.8, 38°.62N±0°.04×141°.51E±0°.08, h77km±5km, mb3.3/2, Error ellipse: s-maj=10.4km s-min=5.5km az=16.4*
*JMA **27** 21:51:52.0, 38°.62N×141°.46E, h73km±1km, MS3.1*
JMA Felt I J1.

ISC 27 21:51:52.0±1.3, 38°.62N±0°.05×141°.54E±0°.08, h74km±8km, n19, σ0°90/31, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.22**	**222**	P	**Pn**	**21 52 03.1**	**0.0**
JIO				S	**Sn**	**21 52 11.0**	**-0.2**
JMK	**Ichinoseki**	**0.41**	**324**	P	**Pn**	**21 52 04.1**	**-0.3**
JMK				S	**Sn**	**21 52 12.9**	**-0.6**
OFUJ	**Ofunato**	**0.47**	**13**	P	**Pn**	**21 52 05.1**	**+0.2**
OFUJ				S	**Sn**	**21 52 14.5**	**+0.1**
JOU	**Okura**	**0.73**	**250**	P	**Pn**	**21 52 07.2**	**-0.3**
JOU				S	**Sn**	**21 52 18.7**	**-0.2**
JOM	**Ohasama**	**0.88**	**348**	P	**Pn**	**21 52 09.1**	**-0.1**
JOM				S	**Sn**	**21 52 21.9**	**0.0**
JMM	**Marumori**	**0.95**	**218**	P	**Pn**	**21 52 09.4**	**-0.7**
JMM				S	**Sn**	**21 52 22.5**	**-1.0**
JYK	**Kaneyama**	**0.97**	**288**	P	**Pn**	**21 52 09.8**	**-0.5**
JYK				S	**Sn**	**21 52 23.0**	**-0.9**
JRG	**Rokugo**	**1.05**	**318**	P	**Pn**	**21 52 11.1**	**-0.2**
JRG				S	**Sn**	**21 52 26.0**	**+0.4**
JYS	**Shirataka**	**1.22**	**252**	P	**Pn**	**21 52 13.1**	**-0.3**
JYS				*e*S	**Sn**	**21 52 29.1**	**-0.4**
JFK	**Kawauchi**	**1.35**	**203**	P	**Pn**	**21 52 15.0**	**-0.2**
JFK				S	**Sn**	**21 52 32.0**	**-0.6**
JYA	**Atsumi**	**1.43**	**270**	P	**Pn**	**21 52 15.7**	**-0.4**
JYA				*e*S	**Sn**	**21 52 33.6**	**-0.7**
JFT	**Otama**	**1.45**	**221**	P	**Pn**	**21 52 16.7**	**+0.3**
JFT				S	**Sn**	**21 52 35.1**	**+0.3**
MAT	**Matsushiro**	**3.36**	**233**	P	**Pn**	**21 52 43.3**	**+1.2**
MAT				*e*S	**Sn**	**21 53 21.5**	**+0.6**
MJAR	**Matsushiro Arr**	**3.36**	**233**	P	**Pn**	**21 52 43.4**	**+1.3**
	0.8nm,0.3s,baz=42,slow=11,SNR=18						
USRK	**Ussuriysk Arra**	**9.08**	**311**	P	**Pn**	**21 54 01.0**	**+0.9**
	0.2nm,0.3s,baz=115,slow=14,SNR=6.1						
KSRS	**Korea Array**	**10.80**	**268**	P	**Pn**	**21 54 26.7**	**+3.1**
	0.1nm,0.3s,baz=72,slow=14,SNR=4.2						
ZALV	**Zalesovo Beam**	**40.93**	**311**	P	**P**	**21 59 25.5**	**-1.5**
	0.2nm,0.3s,baz=79,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**43.38**	**301**	P	**P**	**21 59 46.0**	**-1.0**
	0.4nm,0.6s,baz=84,slow=9.6,SNR=6.8						
KDAK	**Kodiak Island**	**45.87**	**43**	LR	LR	22 15 33.2	
	comp=Z,100nm,21.6s,baz=92,slow=31						

IDC 27 21:53:17.5±1.5, 8°.79S×126°.99E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML4.1/1, Error ellipse: s-maj=191.0km s-min=30.4km az=62.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.35**	**188**	Sn	Sn	21 57 14.6	-4.9
	0.8nm,0.3s,baz=307,slow=20,SNR=4.4						
WRA	**Warramunga Arr**	**13.17**	**148**	Pn	Pn	21 56 25.4	-0.6
	1.1nm,0.3s,baz=321,slow=13,SNR=5.5						
WRA				Sn	Sn	21 58 45.

G23A	**Biddle** baz=1.5,SNR=100	**1.54**	**357**	P	**Pn**	**22 04 07.8**	**-0.3**
H21A	**Big Horn, Sher** baz=1.6,SNR=45	**1.60**	**308**	⇑P	**Pn**	**22 04 09.1**	**+0.1**
J21A	**Lysite** baz=1.7,SNR=32	**1.62**	**260**	⇓P	**Pn**	**22 04 08.8**	**-0.4**
J21A	baz=1.7			⇑S	**Sn**	**22 04 31.1**	**+0.2**
G22A	**Birney** baz=1.7,SNR=62	**1.72**	**335**	⇑P	**Pn**	**22 04 10.9**	**+0.2**
G24A	**Alzada** baz=1.7,SNR=10	**1.77**	**20**	⇓P	**Pn**	**22 04 11.8**	**+0.5**
K21A	**Alcova** baz=1.9,SNR=287	**1.78**	**235**	P	**Pb**	**22 04 12.7**	**-0.2**
K21A	baz=1.9			⇑S	**Sb**	**22 04 36.5**	**+0.7**
L25A	**Engebretsen Ra** baz=1.8	**1.78**	**147**	⇓P	**Pg**	**22 04 13.6**	**+0.2**
K26A	**Motz Farm, Whi** baz=1.8	**1.80**	**121**	⇑P	**Pg**	**22 04 13.9**	**+0.2**
L22A	**Ellis Ranch, M** baz=1.9,SNR=21	**1.84**	**208**	⇓P	**Pb**	**22 04 14.0**	**+0.1**
F23A	**Volborg** baz=2.0,SNR=36	**2.06**	**357**	⇓P	**Pn**	**22 04 15.7**	**+0.5**
F23A	baz=2.0			⇑Sb	**Sb**	**22 04 44.4**	**+0.5**
J20A	**Shoshoni** baz=2.1	**2.07**	**262**	⇑Pb	**Pb**	**22 04 18.0**	**+0.1**
J20A	baz=2.1			⇑Sb	**Sb**	**22 04 45.5**	**+1.2**
G21A	**Lodge Grass** baz=2.1,SNR=24	**2.09**	**319**	⇑P	**Pn**	**22 04 15.9**	**+0.1**
G21A	baz=2.1			⇓Sb	**Sb**	**22 04 45.0**	**+0.2**
I20A	**Worland** baz=2.1,SNR=195	**2.09**	**279**	⇓P	**Pn**	**22 04 16.7**	**+1.0**
I20A	baz=2.1			⇑Sb	**Sb**	**22 04 45.0**	**+0.2**
H20A	**Greybull** baz=2.2,SNR=45	**2.14**	**294**	⇑P	**Pn**	**22 04 16.6**	**+0.3**
H20A	baz=2.2			⇓S	**Sn**	**22 04 43.5**	**-0.1**
M24A	**Cheyenne** baz=2.3	**2.21**	**171**	⇑P	**Pb**	**22 04 20.4**	**+0.1**
M24A	baz=2.3			⇑Sb	**Sg**	**22 04 53.1**	**+2.7**
M23A	**Laramie** baz=2.3	**2.22**	**189**	⇑P	**Pb**	**22 04 19.4**	**-0.9**
F22A	**Rosebud** baz=2.2,SNR=40	**2.23**	**342**	⇓P	**Pn**	**22 04 17.8**	**+0.2**
F22A	baz=2.2			⇑Sb	**Sb**	**22 04 49.0**	**+0.2**
F24A	**Ekalaka** baz=2.2	**2.26**	**15**	⇓Pb	**Pb**	**22 04 20.5**	**-0.5**
F24A	baz=2.2			⇓S	**Sn**	**22 04 47.3**	**+0.7**
L21A	**Rawlins** baz=2.4,SNR=40	**2.30**	**223**	⇑P	**Pb**	**22 04 20.2**	**-1.4**
L21A	baz=2.4			⇓S	**Sb**	**22 04 49.8**	**-0.9**
M25A	**Palm-Egli Farm** baz=2.4,SNR=14	**2.40**	**158**	⇑P	**Pb**	**22 04 22.8**	**-0.6**
M25A	baz=2.4			⇑Sb	**Sg**	**22 04 58.6**	**+2.4**
K27A	**Flueckinger Fa** baz=2.4	**2.41**	**112**	⇑P	**Pb**	**22 04 22.8**	**-0.8**
M22A	**Cedar Creek Ra** baz=2.5	**2.46**	**204**	⇑P	**Pb**	**22 04 23.7**	**-0.8**
K20A	**Yellowstone Ra** baz=2.5	**2.46**	**247**	⇑P	**Pn**	**22 04 22.5**	**+1.7**
M21A	**Separation Pea** baz=2.6	**2.57**	**218**	⇑P	**Pb**	**22 04 25.1**	**-1.3**
G20A	**Bridger** baz=2.6,SNR=94	**2.63**	**307**	P	**Pn**	**22 04 22.8**	**-0.3**
I19A	**Meeteetse** baz=2.8,SNR=53	**2.73**	**279**	⇑P	**Pn**	**22 04 25.4**	**+0.9**
K19A	**Absolon Red Bu** baz=2.8,SNR=79	**2.75**	**254**	⇓P	**Pn**	**22 04 26.3**	**+1.6**
J19A	**Crowheart** baz=2.8	**2.79**	**263**	⇓P	**Pn**	**22 04 27.1**	**+1.8**
L20A	**Wamsutter** baz=2.9	**2.80**	**235**	⇓Sb	**Sb**	**22 05 06.4**	**+1.2**
N23A	**Red Feather La** baz=2.9,SNR=33	**2.81**	**191**	⇓P	**Pb**	**22 04 28.2**	**-2.3**
N23A	baz=2.9			⇓Sb	**Sg**	**22 05 09.5**	**0.0**
E23A	**Ismay** baz=2.8	**2.84**	**359**	⇓P	**Pn**	**22 04 26.1**	**+0.2**
N24A	**Carr** baz=2.9	**2.84**	**174**	⇑Sb	**Sg**	**22 05 11.0**	**+0.3**
H19A	**Powell** baz=2.9,SNR=37	**2.86**	**292**	⇑P	**Pn**	**22 04 27.2**	**+0.9**
N25A	**Grover** baz=3.0	**2.98**	**163**	⇓Sb	**Sg**	**22 05 15.6**	**+0.8**
E24A	**Baker** baz=2.9	**2.98**	**13**	⇑P	**Pn**	**22 04 28.1**	**+0.3**
N22A	**Wattenberg Ran** baz=3.1	**2.99**	**198**	⇑Sb	**Sg**	**22 05 14.1**	**-1.2**
M27A	**Reverse DX Ran** baz=3.0	**3.01**	**134**	⇑S	**Sb**	**22 05 08.4**	**-2.7**
M20A	**Sweetwater, Wa** baz=3.1	**3.06**	**226**	⇓Pb	**Pb**	**22 04 35.3**	**+0.6**
M20A	baz=3.1			⇓Sb	**Sg**	**22 05 15.4**	**-2.1**
E21A	**Keefer Ranch,** baz=3.1	**3.15**	**337**	⇓P	**Pn**	**22 04 29.3**	**-1.0**
E21A	baz=3.1			⇑Sb	**Sb**	**22 05 16.3**	**+1.1**
N26A	**Koester Ranch,** baz=3.2	**3.21**	**151**	⇓Sb	**Sg**	**22 05 22.0**	**-0.3**
RLMT	**Red Lodge**	**3.22**	**298**	*e*Pn	**Pn**	**22 04 31.7**	**+0.4**
RLMT				*e*Sn	**Sn**	**22 05 12.7**	**+2.2**
RLMT	**Red Lodge** baz=3.2,SNR=27	**3.22**	**298**	⇑P	**Pn**	**22 04 31.8**	**+0.5**
RLMT	baz=3.2			⇑Sb	**Sb**	**22 05 18.3**	**+1.0**
RLMT	baz=3.2			⇑Sb	**Sb**	**22 05 18.3**	**+1.0**
BW06	**Boulder Array**	**3.26**	**256**	*e*Pn	**Pn**	**22 04 33.1**	**+1.2**
BW06				*e*Sn	**Sb**	**22 05 16.5**	**-2.1**
BW06	**Boulder Array** baz=3.3,SNR=27	**3.26**	**256**	P	**Pn**	**22 04 33.4**	**+1.5**
I18A	**Diamond G Ranc** baz=3.3	**3.30**	**272**	⇑Sb	**Sb**	**22 05 20.1**	**+0.4**
H18A	**Shoshone NF, C** baz=3.3	**3.33**	**289**	⇑P	**Pn**	**22 04 33.1**	**+0.3**
N21A	**Black Mountain** baz=3.4	**3.35**	**211**	⇓P	**Pn**	**22 04 35.7**	**+2.6**
L19A	**Farson** baz=3.5	**3.39**	**244**	⇑P	**Pn**	**22 04 34.9**	**+1.3**
F19A	**Roth Farm, Mol** baz=3.4,SNR=29	**3.42**	**311**	⇑P	**Pn**	**22 04 34.4**	**+0.5**
F19A	baz=3.4			⇓S	**Sn**	**22 05 15.7**	**+0.5**
O23A	**Lake Granby, G** baz=3.5	**3.48**	**188**	⇑Sb	**Sg**	**22 05 29.4**	**-1.6**
J18A	**Kendall Valley** baz=3.5	**3.49**	**264**	⇑Sb	**Sb**	**22 05 25.8**	**+0.7**
G18A	**Lazy EL Ranch,** baz=3.5,SNR=41	**3.49**	**300**	⇑P	**Pn**	**22 04 35.5**	**+0.5**
G18A	baz=3.5			⇑S	**Sn**	**22 05 17.5**	**+0.3**
D23A	**Lindsay** baz=3.5,SNR=14	**3.51**	**1**	⇑P	**Pn**	**22 04 35.6**	**+0.4**
D24A	**Glendive** baz=3.5	**3.52**	**10**	⇑P	**Pn**	**22 04 36.2**	**+1.0**
D24A	baz=3.5			⇓S	**Sn**	**22 05 18.6**	**+1.1**
O24A	**Longmont** baz=3.6	**3.54**	**178**	⇓Sb	**Sg**	**22 05 31.4**	**-1.5**
D22A	**Cohagen** baz=3.5	**3.55**	**350**	⇑P	**Pn**	**22 04 35.7**	**0.0**
D22A	baz=3.5			⇓S	**Sn**	**22 05 19.1**	**+0.7**
OGNE	**Ogallala** baz=3.6	**3.62**	**137**	⇓P	Pn	22 04 39.5	+2.8
O22A	**Kremmling** baz=3.7	**3.62**	**196**	⇓Sb	**Sg**	**22 05 33.4**	**-2.3**
K18A	**Toltan Ranch,** baz=3.7	**3.64**	**255**	⇑Sb	**Sb**	**22 05 30.6**	**+1.2**
O26A	**Horse Wrangler** baz=3.7	**3.71**	**156**	⇑Sb	**Sg**	**22 05 37.9**	**-0.6**
E19A	**Rath Farm, Rou** baz=3.7	**3.75**	**320**	⇓S	**Sn**	**22 05 23.8**	**+0.5**
GCMT	**Greycliff**	**3.79**	**306**	*e*Pn	**Pn**	**22 04 39.9**	**+0.8**
ISCO	**Idaho Springs** baz=3.9	**3.87**	**184**	⇑Sb	**Sg**	**22 05 41.0**	**-2.4**
LOHW	**Long Hollow**	**3.88**	**271**	*e*Pn	**Pn**	**22 04 42.4**	**+2.1**
F18A	**Big Timber** baz=3.9	**3.88**	**307**	⇓S	**Sn**	**22 05 26.9**	**+0.2**
C24A	**Savage** baz=3.8	**3.92**	**8**	⇓S	**Sn**	**22 05 28.6**	**+1.2**
FLWY	**Flagg Ranch**	**3.95**	**278**	*e*Pn	**Pn**	**22 04 42.7**	**+1.4**
MOOW	**Moose Ponds**	**3.98**	**273**	*e*Pn	**Pn**	**22 04 43.5**	**+1.9**
D20A	**Manuel Ranch,** baz=4.0,SNR=8.9	**3.98**	**330**	⇑P	**Pn**	**22 04 41.6**	**0.0**
D20A	baz=4.0			⇓S	**Sn**	**22 05 28.6**	**-0.4**
SNOW	**Snow King Moun**	**4.00**	**269**	*e*Pn	**Pb**	**22 04 48.0**	**-2.7**
N19A	**John Jarvie Ra** baz=4.1	**4.01**	**228**	⇓Sb	**Sg**	**22 05 44.4**	**-3.6**
YNR	**Norris Junctio**	**4.04**	**287**	Pn	Pn	22 04 45.9	+3.4
REDW	**Red Top Meadow**	**4.08**	**268**	*e*Pn	**Pn**	**22 04 45.4**	**+2.3**
YFT	**Old Faithful**	**4.09**	**283**	Pn	**Pn**	**22 04 45.1**	**+1.8**
C22A	**Vida** baz=4.1	**4.11**	**354**	⇑S	**Sn**	**22 05 32.7**	**+0.6**
IMW	**Indian Meadow**	**4.12**	**275**	*e*Pn	**Pn**	**22 04 46.4**	**+2.8**
TPAW	**Teton Pass**	**4.14**	**270**	*e*Pn	**Pn**	**22 04 46.0**	**+2.1**
C23A	**Lambert** baz=4.1	**4.14**	**1**	⇑S	**Sn**	**22 05 33.4**	**+0.4**
YMR	**Madison River**	**4.22**	**286**	Pn	**Pb**	**22 04 53.8**	**-0.8**
P26A	**Davis Ranch, A** baz=4.4,SNR=16	**4.34**	**160**	⇓P	**Pn**	**22 04 48.9**	**+2.3**
AHID	**Auburn Hatcher**	**4.36**	**260**	Pn	Pb	22 04 52.3	-4.5
RRI2	**Red Ridge**	**4.42**	**268**	*e*Pn	**Pn**	**22 04 48.8**	**+1.0**
F17A	**Fitzpatrick Pl** baz=4.5,SNR=7.6	**4.45**	**302**	⇓P	**Pn**	**22 04 49.4**	**+1.2**
P27A	**Ficken Ranch,** baz=4.6,SNR=6.6	**4.57**	**153**	⇓P	**Pn**	**22 04 51.5**	**+1.8**
QLMT	**Earthquake Lak**	**4.58**	**287**	Pn	**Pn**	**22 04 52.3**	**+2.3**
DGMT	**Dagmar**	**4.87**	**8**	Pn	Pn	22 04 57.8	+4.0
BOZ	**Bozeman (W)**	**4.96**	**296**	*e*Pn	**Pn**	**22 04 55.5**	**+0.5**
HWUT	**Hardware Ranch**	**5.08**	**248**	*e*Pn	**Pn**	**22 04 57.8**	**+0.9**
D17A	**Six Diamond Ra** baz=5.2,SNR=28	**5.17**	**314**	⇑P	**Pn**	**22 04 58.2**	**+0.1**
EGMT	**Eagleton**	**5.38**	**326**	*e*Pn	**Pn**	**22 05 00.9**	**+0.2**
P18A	**Preston Nutter** baz=5.6,SNR=30	**5.49**	**225**	⇓P	**Pn**	**22 05 04.1**	**+1.6**
DAU	**Daniels Canyon**	**5.52**	**236**	*e*Pn	Pn	22 05 06.5	+3.6
LRM	**Limekiln Ridge**	**5.56**	**295**	*e*Pn	**Pn**	**22 05 03.3**	**-0.1**
PV04	**Paradox Valley**	**5.94**	**209**	*e*Pn	**Pn**	**22 05 08.8**	**+0.3**
SRU	**San Rafael**	**6.02**	**223**	*e*Pn	**Pn**	**22 05 10.7**	**+0.9**
SRU	**San Rafael** baz=6.1,SNR=13	**6.02**	**223**	⇑P	**Pn**	**22 05 10.8**	**+1.1**
S25A	**Robets Cordova** baz=6.1,SNR=7.4	**6.03**	**174**	⇑P	**Pn**	**22 05 11.3**	**+1.4**
TMUT	**Trail Mountain**	**6.24**	**228**	*e*Pn	**Pn**	**22 05 14.8**	**+1.9**
ECSD	**EROS Data Cent**	**6.27**	**86**	*e*Pn	**Pn**	**22 05 14.6**	**+1.6**
R18A	**Canyonlands Na** baz=6.4,SNR=21	**6.32**	**215**	⇓P	**Pn**	**22 05 15.1**	**+1.2**
DUG	**Dugway**	**6.61**	**241**	*e*Pn	**Pn**	**22 05 19.4**	**+1.6**
DUG	**Dugway** baz=6.7,SNR=16	**6.61**	**241**	⇓P	**Pn**	**22 05 19.1**	**+1.3**
MSU	**Marysvale**	**7.33**	**228**	*e*Pn	**Pn**	**22 05 29.5**	**+1.8**
S17A	**Black Ridge (B** baz=7.4,SNR=14	**7.34**	**217**	⇑P	**Pn**	**22 05 29.7**	**+1.9**
ULM	**Lac du Bonnet**	**9.20**	**41**	Pn	**Pn**	**22 05 52.2**	**-0.9**
ULM				Lg	Lg	22 08 32.0	
ULM	**Lac du Bonnet** 1.5nm,0.3s,baz=232,slow=10,SNR=10.0	**9.20**	**41**	Pn	**Pn**	**22 05 52.2**	**-0.9**
ULM	0.3nm,0.3s,baz=318,slow=14,SNR=4.0			Lg	Lg	22 08 32.0	
SADO	**Sadowa**	**18.74**	**78**	P	**P**	**22 07 55.0**	**-4.4**
SADO	**Sadowa** 0.4nm,0.3s,baz=298,slow=15,SNR=4.5	**18.74**	**78**	P	**P**	**22 07 55.0**	**-4.4**
YKA	**Yellowknife Ar**	**19.64**	**347**	P	**Pn**	**22 08 13.0**	**+2.5**
YKA	**Yellowknife Ar** 0.2nm,0.4s,baz=152,slow=9.0,SNR=3.5	**19.64**	**347**	P	**Pn**	**22 08 13.0**	**+2.5**
ARCES	**ARCESS Array B**	**61.49**	**18**	P	**P**	**22 13 56.4**	**-0.8**
ARCES	**ARCESS Array B** 3.3nm,0.9s,baz=334,slow=8.0,SNR=4.0	**61.49**	**18**	P	**P**	**22 13 56.4**	**-0.8**
FINES	**FINESS Array B**	**68.10**	**23**	P	**P**	**22 14 39.7**	**-0.7**
FINES	**FINESS Array B** 4.5nm,1.1s,baz=328,slow=4.9,SNR=3.6	**68.10**	**23**	P	**P**	**22 14 39.7**	**-0.7**
SONM	**Songino Array**	**84.71**	**339**	P	**P**	**22 16 15.2**	**+0.1**
SONM	**Songino Array** 0.1nm,0.5s,baz=19,slow=4.9,SNR=4.4	**84.71**	**339**	P	**P**	**22 16 15.2**	**+0.1**
MKAR	**Makanchi Array**	**89.68**	**355**	P	**P**	**22 16 39.1**	**+0.1**
MKAR	**Makanchi Array** 0.1nm,0.6s,baz=21,slow=9.4,SNR=3.1	**89.68**	**355**	P	**P**	**22 16 39.2**	**+0.1**

NIED ***27*** *22:11:00,29.50N×141.40E,h59km,Mw3.9 Best double couple: M₀7.18000×10¹⁴ NP1:φs262.00000°,δ88.00000°, λ-134.00000°. NP2:φs170.00000°,δ44.00000°, λ-3.00000°.*

ISCJB ***27*** *22:11:51.5±0.4,29.38N±0.04×141.0E±0.1,h67km, mb4.0/20,Error ellipse: s-maj=15.5km s-min=4.3km az=164.3*

JMA ***27*** *22:11:52.6±0.1,29.46N×141.35E,h52km,M4.4*

IDC ***27*** *22:11:53.6±1.9,29.34N×140.92E,h70km±17km,mb3.8/17, mb1 3.9/21,mb1mx3.9/27,mbtmp3.8/21,MS2.8/5, Ms1 2.9/5,ms1mx2.5/42,Error ellipse: s-maj=18.6km s-min=11.8km az=79.0*

ISC 27 22:11:52.8±0.5,29.40N±0.06×141.1E±0.1,h67km,n46, σ1.968/48,mb4.1/20,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.48**	**157**	P		P	**Pn**	**22 12 31.5**	**+0.5**
CBIJ				S		*e*S	**Sn**	**22 12 57.9**	**-2.3**
CBIJ	**Chichi jima** 39nm,0.3s,baz=279,slow=19,SNR=112	**2.48**	**157**	P		P	**Pn**	**22 12 31.6**	**+0.6**
CBIJ	87nm,0.3s,baz=274,slow=24,SNR=9.0			S			**Sn**	**22 12 56.9**	**-3.3**
CBIJ	comp=Z,240nm,19.0s,baz=36,slow=31			LR		LR		22 13 11.1	
JHHJ	**Haha-jima-NKT**	**2.92**	**161**	P		P	**Pn**	**22 12 38.2**	**+1.3**
JHHJ				*e*S		S	**Sn**	**22 13 11.1**	**+0.3**
JHJ2	**Mitsune**	**3.86**	**344**	*e*S		S	**Sn**	**22 13 33.0**	**-0.8**
JHJ	**Hachijo jima 2** 16nm,0.3s,baz=68,slow=19,SNR=3.8	**3.88**	**343**	P		P	**Pn**	**22 12 51.8**	**+1.8**
JHJ	90nm,0.3s,baz=248,slow=18,SNR=6.2			S			**Sn**	**22 13 31.1**	**-3.1**
BSO1	**Boso 1**	**5.24**	**359**	P		P	**Pn**	**22 13 09.6**	**+1.6**
BSO3	**Boso 3**	**5.41**	**355**	P		P	**Pn**	**22 13 11.1**	**+0.5**
TTO1	**TONANKAI O.B.S**	**5.60**	**320**	P		P	Pn	22 13 16.8	+3.6
JOD2	**Odawara 2**	**6.09**	**344**	P		P	**Pn**	**22 13 22.7**	**+2.5**
JKN2	**Miekihoku**	**6.34**	**321**	P		P	Pn	22 13 27.6	+4.0
JHU	**Hanno**	**6.61**	**347**	P		P	**Pn**	**22 13 29.6**	**+2.2**
JHU				*e*S		S	**Sn**	**22 14 38.3**	**-3.0**
JRY	**Ryogami san**	**6.85**	**345**	P		P	**Pn**	**22 13 32.2**	**+1.5**
JRY				*e*S		S	**Sn**	**22 14 46.7**	**-0.6**
JAG	**Ashikaga**	**7.14**	**349**	P		P	**Pn**	**22 13 33.9**	**-0.7**
JHO	**Hitachi**	**7.20**	**357**	P		P	**Pn**	**22 13 35.3**	**-0.1**
JHO				*e*S		S	**Sn**	**22 14 49.8**	**-6.0**
MJAR	**Matsushiro Arr** 1.5nm,0.3s,baz=177,slow=5.2,SNR=16	**7.53**	**342**	P		P	**Pn**	**22 13 42.2**	**+2.3**
MAT	**Matsushiro**	**7.53**	**342**	P		P	**Pn**	**22 13 42.4**	**+2.5**
MAT	**Matsushiro**	**7.53**	**342**	P		P	Pn	22 13 43.5	+3.6
JFK	**Kawauchi**	**7.95**	**359**	*e*S		Sn	Sn	22 15 06.2	-7.8
JNU	**Nakatsue** 0.5nm,0.3s,baz=89,slow=19,SNR=3.8	**9.51**	**296**	P		P	Pn	22 14 12.3	+5.3
JNU	comp=Z,26nm,19.4s,baz=55,slow=38			LR		LR		22 17 47.7	
JOW	**Kunigami** comp=Z,35nm,18.9s,baz=63,slow=37	**11.62**	**260**	LR		LR		22 19 00.9	
USRK	**Ussuriysk Arra** 0.2nm,0.3s,baz=143,slow=10.0,SNR=10	**16.46**	**336**	P		P	**Pn**	**22 15 37.9**	**-1.4**
PETK	**Petropavlovsk-** comp=Z,25nm,20.7s,baz=242,slow=33	**26.64**	**23**	LR		LR		22 26 25.3	
SONM	**Songino Array** 0.3nm,0.4s,baz=129,slow=9.6,SNR=8.3	**32.41**	**314**	P		P	**P**	**22 18 15.8**	**-0.6**
CMAR	**Chiang Mai Arr** 1.0nm,0.4s,baz=66,slow=6.7,SNR=8.4	**39.86**	**264**	P		P	**P**	**22 19 19.6**	**-0.5**
CMAR	comp=Z,20nm,18.5s,baz=185,slow=38			LR		LR		22 36 55.8	
ZALV	**Zalesovo Beam** 1.0nm,0.4s,baz=92,slow=8.2,SNR=7.9	**47.14**	**318**	P		P	**P**	**22 20 17.1**	**-1.1**
ZALV	1.0nm,0.4s,baz=103,slow=3.0,SNR=8.2			PcP		PcP	**PcP**	**22 21 49.4**	**+0.5**
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=82,slow=10,SNR=20	**48.30**	**308**	P		P	**P**	**22 20 26.1**	**-1.2**
MKAR	0.7nm,0.7s,baz=78,slow=6.3,SNR=6.3			PcP		PcP	**PcP**	**22 21 53.2**	**0.0**
WRA	**Warramunga Arr** 1.4nm,0.4s,baz=5.2,slow=7.6,SNR=38	**49.49**	**188**	P		P	**P**	**22 20 36.2**	**-0.4**
WRA	0.5nm,0.6s,baz=3.8,slow=3.9,SNR=6.3			PcP		PcP	**PcP**	**22 21 58.7**	**+0.9**
ASAR	**Alice Springs** 0.6nm,0.5s,baz=5.3,slow=5.7,SNR=12	**53.22**	**188**	P		P	**P**	**22 21 04.2**	**-0.2**
ILAR	**Eielson Array** 0.6nm,0.6s,baz=263,slow=5.9,SNR=11	**56.16**	**29**	P		P	**P**	**22 21 26.1**	**+0.8**
STKA	**Stephens Creek** 1.3nm,0.9s,baz=0.0,slow=12,SNR=3.5	**60.94**	**180**	P		P	**P**	**22 21 57.9**	**-0.9**
INK	**Inuvik** 1.7nm,0.6s,baz=274,slow=5.5,SNR=7.5	**61.34**	**25**	P		P	**P**	**22 22 02.5**	**+1.4**
KEV	**Kevo** 4.8nm,0.8s	**70.50**	**340**	*ep*		P		22 22 56.4	-3.5
YKA	**Yellowknife Ar** 0.5nm,0.6s,baz=293,slow=6.1,SNR=9.2	**70.57**	**28**	P		P	**P**	**22 23 01.6**	**+1.1**
ARCES	**ARCESS Array B** 2.4nm,0.6s,baz=78,slow=7.6,SNR=8.7	**71.06**	**340**	P		P	**P**	**22 23 04.3**	**+1.0**
JOF	**Joensuu** 4.7nm,0.6s	**72.60**	**333**	*ep*		P	**P**	**22 23 11.5**	**-1.2**
KAF	**Kangasniemi** 4.3nm,0.5s	**74.99**	**334**	*ep*		P	**P**	**22 23 26.4**	**-0.2**
FINES	**FINESS Array B** 2.2nm,0.4s,baz=72,slow=5.0,SNR=43	**75.47**	**333**	P		P	**P**	**22 23 30.1**	**+0.7**
NVAR	**Mina Array Bea** 0.5nm,0.8s,baz=290,slow=5.7,SNR=3.6	**79.84**	**52**	P		P	**P**	**22 23 56.3**	**+1.8**
AKASG	**Malin Array Be** 3.7nm,0.5s,baz=53,slow=5.2,SNR=11	**80.21**	**323**	P		P	**P**	**22 23 56.1**	**+0.2**
NB2	**NORSAR Subarra** comp=Z,1.6nm,0.6s,baz=43,slow=5.3	**81.12**	**338**	P		P	**P**	**22 24 00.9**	**+0.2**
NOA	**NORSAR Array B** comp=Z,1.1nm,0.6s,baz=47,slow=5.2,SNR=6.8	**81.12**	**338**	P		P	**P**	**22 24 00.5**	**-0.2**
BRTR	**Keskin Array B** comp=Z,3.3nm,0.6s,baz=102,slow=3.7,SNR=21	**83.75**	**312**	P		P	**P**	**22 24 15.7**	**+0.7**
GERES	**GERESS Array B** comp=Z,0.5nm,0.7s,baz=40,slow=5.2,SNR=4.1	**89.06**	**328**	P		P	**P**	**22 24 40.2**	**-0.4**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.5s,baz=349,slow=2.2,SNR=7.8	**122.35**	**311**	PKP		**PKPdf**		**22 30 41.0**	**0.0**
LPAZ	**La Paz** comp=Z,1.1nm,0.6s,baz=30,slow=9.3,SNR=3.5	**150.16**	**71**	PKPbc		**PKPbc**		**22 31 37.5**	**0.0**
PLCA	**Paso Flores** comp=Z,1.8nm,1.0s,baz=246,slow=10,SNR=3.8	**151.87**	**122**	PKPbc		**PKPbc**		**22 31 41.8**	**+1.7**

BYKL ***27*** *22:42:33.4±0.2,55.44N×110.38E*

MOS 27 22:42:32.0±0.8,55.47N×110.41E,h8km,mb4.2/1,5C-3D, Error ellipse: s-maj=21.6km s-min=10.0km az=66.7, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.58**	**303**	⇑	*i*Pg		Pb	**22 42 44.3**	**-0.2**
NIZ					*e*			22 42 53.5	
NIZ	comp=Z,92nm,0.2s				pmax		pmax		
NIZ	comp=N,261nm,0.2s				smax		smax		
NIZ	**Nizh Angarsk**	**0.58**	**303**	⇑	*i*Pg		Pb	**22 42 44.4**	**-0.1**
NIZ					*e*Sg		Sb	**22 42 52.8**	**-0.1**
NIZ	comp=N,93nm,0.2s				Pmax				
NIZ	comp=N,263nm,0.2s				Smax				
KMO	**Kumora**	**0.62**	**46**	*e*	PG		Pg	**22 42 44.5**	**+0.5**
KMO				*e*				22 42 53.1	
KMO	comp=Z,142nm,0.3s				pmax		pmax		
KMO	comp=N,633nm,1.0s				smax		smax		
KMO	**Kumora**	**0.62**	**46**	⇓	*i*Pg		Pb	**22 42 44.7**	**-0.4**
KMO					*e*Sg		Sb	**22 42 53.4**	**-0.5**
KMO	comp=N,143nm,0.3s				Pmax				
KMO	comp=N,636nm,1.0s				Smax				
YLYR	**Ulyunkhan**	**0.73**	**144**	⇑	*i*Pg		Pg	**22 42 46.1**	**-0.1**
YLYR					*e*Sg		Sg	**22 42 55.8**	**+0.1**
YLYR	comp=N,78nm,0.1s				Pmax				
YLYR	comp=N,146nm,0.1s				Smax				
YOA	**Uoyan**	**1.00**	**47**	*e*	PG		Pb	**22 42 51.6**	**0.0**
YOA				*e*				22 43 06.6	
YOA	comp=Z,160nm,0.3s				pmax		pmax		
YOA	comp=N,986nm,0.5s				smax		smax		
YOA	**Uoyan**	**1.00**	**47**	*e*	Pg		Pb	**22 42 51.8**	**+0.2**
YOA				*e*	Sg		Sn	**22 43 06.6**	**-0.1**
YOA	comp=N,213nm,0.2s				Pmax				
YOA	comp=N,989nm,0.5s				Smax				
SYVR	**Suvo**	**1.83**	**188**	*e*	PN		Pb	**22 43 05.6**	**-0.1**
SYVR				*e*				22 43 31.1	
SYVR	comp=Z,102nm,0.4s				pmax		pmax		
SYVR	comp=N,233nm,0.6s				smax		smax		
SYVR	**Suvo**	**1.83**	**188**	⇓	*i*Pg		Pb	**22 43 05.7**	**0.0**
SYVR					*e*Sg		Sg	**22 43 30.0**	**-0.8**
SYVR	comp=N,101nm,0.4s				Pmax				
SYVR	comp=N,232nm,0.6s				Smax				
MXMB	**Maximikha**	**2.41**	**204**	*e*	Pn		Pb	**22 43 13.9**	**-1.8**
MXMB				*e*	Pg		Pg	**22 43 16.2**	**-2.1**
MXMB				*e*	Sg		Sg	**22 43 48.0**	**-1.6**
MXMB	comp=N,65nm,0.3s				Pmax				
MXMB	comp=N,269nm,0.8s				Smax				
OGRR	**Ongureny**	**2.45**	**223**	*e*	PN		Pb	**22 43 14.7**	**-1.7**
OGRR				*e*				22 43 18.1	
OGRR				*e*				22 43 49.2	
OGRR	comp=Z,43nm,0.4s				pmax		pmax		
OGRR	comp=E,125nm,0.6s				smax		smax		
OGRR	**Ongureny**	**2.45**	**223**	*e*	Pn		Pb	**22 43 14.7**	**-1.7**
OGRR				*e*	Pg		Pg	**22 43 16.6**	**-2.5**
OGRR				*e*	Sg		Sb	**22 43 48.2**	**+1.4**
OGRR	comp=E,43nm,0.3s				Pmax				
OGRR	comp=E,108nm,0.3s				Smax				
BOD	**Bodaibo**	**3.08**	**39**	*e*	Pn		Pn	**22 43 22.5**	**+1.6**
BOD				*e*	Sn		Sn	**22 43 58.2**	**+0.2**
BOD				*e*	Sg		Sg	**22 44 08.6**	**-2.4**
BOD	comp=E,97nm,0.4s				Smax				
NLYR	**Nelyaty**	**3.15**	**69**	*e*	PN		Pn	**22 43

LSTR	**Listvyanka**	**4.90**	**225**	*e*Pn	Pn	22 43 47.9	+2.0
LSTR				*e*Sn	Sn	22 44 42.0	-0.7
LSTR				*e*Sg	Sb	22 45 03.1	+6.1
LSTR				Smax			
	comp=N,26nm,0.4s						
TLY	**Talaya**	**5.53**	**230**	*e*PN	Pn	22 43 55.5	+0.9
TLY				*e*		22 44 11.3	
TLY				*e*S	Sn	22 44 56.3	-2.1
TLY				*e*		22 45 21.5	
TLY				pmax	pmax		
	comp=Z,13nm,0.8s						
TLY				smax	smax		
	comp=N,36nm,1.1s						
TLY	**Talaya**	**5.53**	**230**	*e*Pn	Pn	22 43 55.9	+1.3
TLY				*e*Pg	Pb	22 44 12.1	+3.3
TLY				*e*Sn	Sn	22 44 57.7	-0.7
TLY				*e*Sg	Sb	22 45 22.0	+6.7
TLY				Pmax			
	comp=N,13nm,0.4s						
TLY				Smax			
	comp=N,34nm,1.0s						
TUP	**Tupik**	**5.60**	**97** ⇓	*i*Pn	Pn	22 43 57.8	+2.2
TUP				*e*Pg	Pb	22 44 14.3	+4.3
TUP				*e*Sn	Sn	22 44 59.7	-0.4
TUP				*e*Sg	Sg	22 45 27.7	-4.1
TUP				Pmax			
	comp=N,7.0nm,0.3s						
TUP				Smax			
	comp=N,37nm,1.4s						
KPC	**Khapcheranga**	**5.89**	**167**	*e*PN	Pn	22 44 00.9	+1.2
KPC				*e*		22 44 18.8	
KPC				*e*S	Sn	22 45 05.1	-2.4
KPC				*e*		22 45 35.0	
KPC				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KPC				smax	smax		
	comp=E,51nm,1.2s						
KPC	**Khapcheranga**	**5.89**	**167**	*e*Pn	Pn	22 44 00.8	+1.1
KPC				*e*Pg	Pb	22 44 19.9	+4.8
KPC				*e*Sn	Sn	22 45 04.6	-2.9
KPC				*e*Sg	Sg	22 45 34.9	-6.5
KPC				Pmax			
	comp=E,5.0nm,0.7s						
KPC				Smax			
	comp=E,51nm,1.0s						
ARS	**Arshan**	**5.92**	**236**	*e*PN	Pn	22 44 01.9	+1.8
ARS				*e*		22 44 18.2	
ARS				*e*		22 45 34.8	
ARS				pmax	pmax		
	comp=Z,5.0nm,0.1s						
ARS				smax	smax		
	comp=E,128nm,0.5s						
ARS	**Arshan**	**5.92**	**236**	*e*Pn	Pn	22 44 01.7	+1.6
ARS				*e*Pg	Pb	22 44 20.1	+4.5
ARS				*e*Sn	Sn	22 45 07.0	-1.2
ARS				*e*Sg	Sg	22 45 35.5	-6.8
ARS				Pmax			
	comp=E,6.0nm,0.1s						
ARS				Smax			
	comp=E,129nm,0.5s						
ZAK	**Zakamensk**	**6.67**	**223**	*e*Pn	Pn	22 44 12.2	+1.9
ZAK				*e*Pg	Pb	22 44 32.1	+3.8
ZAK				*e*Sg	Sg	22 45 58.8	-7.5
ZAK				Pmax			
	comp=E,3.0nm,0.6s						
ZAK				Smax			
	comp=E,24nm,1.2s						
MOY	**Mondy**	**6.78**	**240**	*e*PN	Pn	22 44 14.6	+2.8
MOY				*e*		22 44 32.6	
MOY				*e*S	Sn	22 45 28.8	-0.4
MOY				*e*		22 45 59.2	
MOY				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MOY				smax	smax		
	comp=E,55nm,1.6s						
MOY	**Mondy**	**6.78**	**240** ⇑	*i*Pn	Pn	22 44 15.0	+3.2
MOY				*e*		22 45 31.5	
MOY				*e*Sg	Sg	22 46 02.4	-7.3
MOY				Smax			
	comp=E,53nm,1.5s						
ORL	**Orlik**	**6.90**	**249**	*e*PN	Pn	22 44 16.3	+2.8
ORL				*e*		22 44 38.1	
ORL				*e*		22 46 06.5	
ORL				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ORL				smax	smax		
	comp=N,57nm,1.1s						
ORL	**Orlik**	**6.90**	**249** ⇑	*i*Pn	Pn	22 44 16.4	+2.9
ORL				*e*Sn	Sn	22 45 31.2	-1.1
ORL				*e*Sg	Sg	22 46 06.5	-7.2
ORL				Smax			
	comp=N,56nm,1.3s						
IENR	**Iengra**	**8.17**	**79**	*e*Sg	Sg	22 46 46.3	-7.9

MEX 27 22:48:05.5±0.8, 16°.96N×100°.16W, h5km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.14**	**308**	*i* P	Pg	22 48 07.7	-0.6
CAIG				*i* S	Sg	22 48 10.5	+0.4
ACX	**Acapulco**	**0.30**	**108**	*i* P	Pg	22 48 09.8	-1.6
ACX				*i* S	Sg	22 48 13.8	-1.6
ARIG	**Puente Sto Nin**	**1.32**	**352**	*e*P	Pn	22 48 26.3	-4.4
ARIG				*e*S	Sg	22 48 43.9	-4.3
ZIIG	**Zihuatanejo**	**1.40**	**297**	*i* P	Pn	22 48 27.9	-3.9
ZIIG				*i* S	Sb	22 48 46.2	-4.2
PLIG	**Platanillo**	**1.55**	**24**	*i* P	Pn	22 48 30.0	-3.9
PLIG				*e*S	Sn	22 48 50.0	-4.6
PNIG	**Pinotepa**	**2.03**	**106**	*i* P	Pn	22 48 37.3	-3.1
PNIG				*e*S	Sn	22 49 02.7	-3.5
YAIG	**Yautepec**	**2.15**	**29**	*i* P	Pn	22 48 39.8	-2.5
YAIG				*i* S	Sn	22 49 04.5	-5.1
PPM	**Popocatepetl**	**2.55**	**35**	*i* P	Pn	22 48 45.3	-2.9
PPM				*i* S	Sn	22 49 16.1	-3.9

IDC 27 23:04:43.3±0.8, 7°.68S×108°.03E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/23, mbtmp3.8/7, Error ellipse: s-maj=40.1km s-min=18.3km az=46.0
ISCJB 27 23:04:50.9±0.8, 7°.99S±0°.09×107°.88E±0°.07, h70km, mb3.7/7, Error ellipse: s-maj=14.8km s-min=8.7km az=30.2
DJA 27 23:04:50.9±0.7, 8°.5S±6°×10°.8E±°, h20km±8km, M4.2/9, MLv4.2/9

ISC 27 23:04:52.1±0.8, 7°.9S±0°.1×107°.95E±0°.08, h70km, n17, σ1s40/19, mb3.9/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.35**	**338**	P	**Pn**	**23 05 02.5**	**-1.3**
CISI				S	**Sn**	**23 05 11.0**	**-1.2**
CLJI	**Cilicap**	**1.07**	**82**	P	**Pn**	**23 05 12.4**	**+0.9**
LEM	**Lembang**	**1.09**	**343**	P	**Pn**	**23 05 13.7**	**+1.7**
DBJI	**Dramaga**	**1.77**	**318**	P	**Pn**	**23 05 23.0**	**+2.2**
BJII	**Banjamegara**	**1.83**	**73**	P	**Pn**	**23 05 23.8**	**+2.2**
YOGI	**Yogyakarta**	**2.33**	**89**	P	**Pn**	**23 05 28.6**	**+0.4**
SMRI	**Semarang**	**2.60**	**72**	P	**Pn**	**23 05 33.5**	**+1.5**
SJI	**Sawahan**	**3.79**	**88**	P	**Pn**	**23 05 49.5**	**+1.3**
KAPI	**Kappang**	**12.07**	**77**	Pn	**Pn**	**23 07 39.4**	**-1.9**
	0.4nm,0.3s,baz=229,slow=20,SNR=3.0						
WRA	**Warramunga Arr**	**28.23**	**118**	P	**P**	**23 10 39.2**	**+0.4**
	0.4nm,0.4s,baz=293,slow=12,SNR=11						
ASAR	**Alice Springs**	**29.42**	**125**	P	**P**	**23 10 48.4**	**-0.9**
	0.3nm,0.6s,baz=307,slow=8.0,SNR=3.4						
STKA	**Stephens Creek**	**39.36**	**132**	P	**P**	**23 12 15.6**	**+0.7**
	1.3nm,0.4s,baz=313,slow=9.3,SNR=8.7						
SONM	**Songino Array**	**55.49**	**359**	P	**P**	**23 14 19.4**	**-0.5**
	0.3nm,0.6s,baz=180,slow=8.3,SNR=6.4						
SONM				PcP	**PcP**	**23 15 18.4**	**-0.8**
	0.5nm,0.5s,baz=175,slow=3.3,SNR=11						
WSAR	**Wadi Sarin**	**57.28**	**304**	P	**P**	**23 14 33.7**	**+0.7**
	1.6nm,0.7s,baz=90,slow=6.1,SNR=3.7						
MKAR	**Makanchi Array**	**59.03**	**340**	P	**P**	**23 14 43.2**	**-1.6**
	0.9nm,0.6s,baz=150,slow=7.9,SNR=20						
BOSA	**Boshof**	**79.88**	**242**	P	**P**	**23 16 55.3**	**+1.3**
	0.6nm,0.4s,baz=73,slow=8.3,SNR=4.2						
YKA	**Yellowknife Ar**	**117.35**	**21**	PKP	**PKPdf**	**23 23 29.3**	**0.0**
	0.1nm,0.5s,baz=341,slow=1.9,SNR=5.4						

ISK 27 23:13:20.3, 40°.98N×43°.30E, h2km, MD3.1
TIF 27 23:13:20.7, 40°.93N×43°.41E, h11km±2km
CSEM 27 23:13:21.3±0.3, 40°.98N×43°.35E, h8km, MD3.1, Error ellipse: s-maj=6.5km s-min=5.1km az=168.0

ISC 27 23:13:21.3±1.2, 40°.97N±0°.03×43°.33E±0°.03, h13km±10km, n27, σ1s25/42, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARS	**Kars**	**0.39**	**209**	*e*PG	**Pb**	**23 13 28.7**	**-1.3**
KARS				*e*SG	**Sb**	**23 13 35.1**	**-0.9**
KARS	**Kars**	**0.39**	**209**	*e*Pg	**Pb**	**23 13 28.7**	**-1.3**
KARS				*e*Sg	**Sb**	**23 13 35.1**	**-0.9**
AKH	**Akhalkalaki**	**0.46**	**16**	P	**Pb**	**23 13 30.7**	**-0.6**
AKH				S	**Sb**	**23 13 37.8**	**-0.4**
DAGI	**Agillar**	**1.07**	**276**	*i* P	**Pn**	**23 13 42.6**	**+0.5**
DAGI				*i* S	**Sn**	**23 13 57.6**	**+0.6**
ARTV	**Artvin**	**1.08**	**282**	*i* P	**Pn**	**23 13 42.0**	**-0.3**
ARTV				*i* S	**Sn**	**23 13 57.1**	**-0.1**
ARTV	**Artvin**	**1.08**	**282**	*i* P	**Pn**	**23 13 42.0**	**-0.3**
ARTV				*i* S	**Sn**	**23 13 57.1**	**-0.1**
GOR	**Gori**	**1.18**	**30**	P	**Pn**	**23 13 43.6**	**+0.1**
GOR				S	**Sn**	**23 14 00.2**	**+0.8**
DDEM	**Demirkent**	**1.20**	**267**	*i* P	**Pn**	**23 13 44.2**	**+0.4**
DDEM				*i* S	**Sn**	**23 14 02.4**	**+2.4**
DBAD	**Bademkaya**	**1.24**	**273**	*i* P	**Pn**	**23 13 44.9**	**+0.6**
DBAD				*i* S	**Sn**	**23 14 01.4**	**+0.5**
DBOC	**Borcka**	**1.31**	**287**	*i* P	**Pn**	**23 13 45.1**	**-0.1**
DBOC				*i* S	**Sn**	**23 14 02.9**	**+0.3**
TBLG	**Delisi**	**1.31**	**54**	P	**Pn**	**23 13 45.4**	**+0.1**
TBLG				S	**Sn**	**23 14 03.3**	**+0.7**
TBLG	**Delisi**	**1.31**	**54**	P	**Pn**	**23 13 45.4**	**+0.1**
TBLG				S	**Sn**	**23 14 03.3**	**+0.7**
BCA	**Borcka**	**1.37**	**291**	*e*PN	**Pb**	**23 13 46.7**	**-0.1**
BCA	**Borcka**	**1.37**	**291**	*e*Pn	**Pb**	**23 13 46.7**	**-0.1**
AGRB	**Hanur-Agry**	**1.41**	**191**	*e*PN	**Pg**	**23 13 47.8**	**-0.6**
AGRB	**Hanur-Agry**	**1.41**	**191**	*e*Pn	**Pg**	**23 13 47.8**	**-0.6**
DGRG	**David-gareji**	**1.62**	**72**	P	**Pg**	**23 13 51.3**	**-1.0**
DGRG				S	**Sg**	**23 14 14.4**	**+1.1**
ONI	**Oni**	**1.63**	**3**	P	**Pg**	**23 13 51.7**	**-0.8**
ONI				S	**Sg**	**23 14 14.5**	**+0.9**
ERZM	**Erzurum**	**1.83**	**235**	*i* P	**Pg**	**23 13 55.3**	**-1.1**
ERZM				*i* S	**Sg**	**23 14 24.5**	**+4.2**
ERZM	**Erzurum**	**1.83**	**235**	*i* P	**Pg**	**23 13 55.3**	**-1.1**
EZM	**Erzurum**	**1.83**	**235**	*e*PN	**Pb**	**23 13 54.1**	**-0.7**
CLDR	**Caldiran**	**1.88**	**166**	*e*PN	**Pn**	**23 13 54.5**	**+1.3**
CLDR	**Caldiran**	**1.88**	**166**	*e*Pn	**Pn**	**23 13 54.5**	**+1.3**
KOPT	**Kop Dagi**	**2.36**	**247**	*i* P	**Pn**	**23 13 57.3**	**-2.6**
KOPT	**Kop Dagi**	**2.36**	**247**	*i* P	**Pn**	**23 13 57.3**	**-2.6**
BAYT	**Ayd¨–ntepe-Bay**	**2.49**	**258**	*e*PN	**Pn**	**23 14 02.8**	**+1.2**
BAYT	**Ayd¨–ntepe-Bay**	**2.49**	**258**	*e*Pn	**Pn**	**23 14 02.8**	**+1.2**

IDC 27 23:22:03.4±2.2, 4°.86S×129°.78E, h0km, mb3.1/1, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=81.9km s-min=29.7km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.77**	**197**	Pn	Pn	23 25 22.1	+2.1
	0.1nm,0.3s,baz=19,slow=18,SNR=2.4						
FITZ				Sn	Sn	23 27 36.6	-17
	0.1nm,0.3s,baz=62,slow=15,SNR=2.3						
WRA	**Warramunga Arr**	**15.64**	**164**	Pn	Pn	23 25 45.3	0.0
	0.1nm,0.3s,baz=343,slow=12,SNR=11						
WRA				Sn	Sn	23 28 26.6	-13
	0.1nm,0.3s,baz=330,slow=23,SNR=4.7						
ASAR	**Alice Springs**	**19.12**	**168**	P	P	23 26 27.2	-0.9
	0.4nm,0.3s,baz=343,slow=9.2,SNR=25						
ASAR				S	Sn	23 29 43.6	-20
	0.1nm,0.3s,baz=350,slow=18,SNR=5.5						
MKAR	**Makanchi Array**	**66.33**	**326**	P	P	23 32 53.9	+0.1
	0.2nm,0.8s,baz=124,slow=7.7,SNR=2.6						

IDC 27 23:46:17.4±1.8, 9°.18S×126°.43E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, ML3.5/2, MS3.0/1, Ms1 3.0/1, ms1mx2.3/14, Error ellipse: s-maj=165.6km s-min=31.9km az=59.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.15**	**145**	Pn	Pn	23 49 25.6	0.0
	0.3nm,0.3s,baz=318,slow=13,SNR=14						
WRA				Sn	Sn	23 51 43.8	-9.0
	0.2nm,0.3s,baz=321,slow=24,SNR=6.0						
ASAR	**Alice Springs**	**16.08**	**154**	Pn	Pn	23 50 05.0	0.0
	0.1nm,0.3s,baz=334,slow=10,SNR=5.7						
ASAR				Sn	Sn	23 52 56.0	-8.2
	baz=318,slow=16,SNR=3.3						
KSRS	**Korea Array**	**46.41**	**2**	LR	LR	00 15 41.7	
	comp=Z,15nm,19.0s,baz=108,slow=38						
MKAR	**Makanchi Array**	**68.18**	**329**	P	P	23 57 19.6	0.0
	0.2nm,0.5s,baz=125,slow=7.1,SNR=7.7						

IDC 27 23:53:51.2±7.0, 20°.47N×94°.53E, h91km±57km, mb3.1/3, mb1 3.3/4, mb1mx3.0/26, mbtmp3.1/4, ML3.9/1, Error ellipse: s-maj=119.8km s-min=22.5km az=60.0

ISC 27 23:53:52.1±3.3, 20°.5N±0°.2×94°.0E±0°.2, h52km, n17, σ1s72/23, mb3.4/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**5.13**	**112**	P	Pn	23 54 58.6	-7.7
	1.6nm,0.3s,baz=294,slow=14,SNR=14						
SHL	**Shillong**	**5.39**	**340**	*i* PN	**Pn**	**23 55 12.0**	**+1.8**
SHL				*e*SN	**Sn**	**23 56 10.5**	**-0.6**
ODAN	**Odare**	**8.73**	**318**	*e*Pn	**Pn**	**23 55 58.1**	**+2.1**
TAPN	**Taplejung**	**8.89**	**321**	*e*Pn	**Pn**	**23 55 59.9**	**+1.6**
RAMN	**Ramite**	**9.30**	**315**	*e*Pn	**Pn**	**23 56 06.3**	**+2.5**
JIRN	**Jiri**	**10.05**	**317**	*e*Pn	**Pn**	**23 56 16.1**	**+1.9**
JIRN				*e*Sn	**Sn**	**23 58 05.4**	**-0.3**
	9.5nm,0.3s						
GUN	**Gumba**	**10.43**	**317**	*e*Pn	**Pn**	**23 56 21.0**	**+1.8**
GUN				*e*Sn	**Sn**	**23 58 14.9**	**+0.1**
	36nm,0.4s						
PKI	**Pulchoki**	**10.51**	**314**	*e*Pn	**Pn**	**23 56 21.9**	**+1.5**
PKI				*e*Sn	**Sn**	**23 58 17.5**	**+0.6**
	24nm,0.4s						
KKN	**Kakani**	**10.74**	**314**	*e*Pn	**Pn**	**23 56 25.1**	**+1.7**
KKN				*e*Sn	**Sn**	**23 58 22.2**	**-0.1**
	12nm,0.2s						
DMN	**Daman**	**10.74**	**313**	*e*Pn	**Pn**	**23 56 25.3**	**+1.8**
DMN				*e*Sn	**Sn**	**23 58 22.0**	**-0.4**
	24nm,0.5s						
GKN	**Gorkha**	**11.31**	**313**	*e*Pn	**Pn**	**23 56 32.6**	**+1.4**
GKN				*e*Sn	**Sn**	**23 58 35.3**	**-0.9**
	29nm,0.3s						
KOLN	**Koldanda**	**11.90**	**309**	*e*Pn	**Pn**	**23 56 41.0**	**+1.7**
KOLN				*e*Sn	**Sn**	**23 58 49.2**	**-1.5**
	24nm,0.3s						
DANN	**Dangsing**	**12.13**	**312**	*e*Pn	**Pn**	**23 56 43.2**	**+0.7**
DANN				*e*Sn	**Sn**	**23 58 53.6**	**-2.9**
	10nm,0.3s						
PYUN	**Piuthan**	**12.53**	**309**	*e*Pn	**Pn**	**23 56 49.2**	**+1.3**
MKAR	**Makanchi Array**	**27.91**	**343**	P	**P**	**23 59 34.3**	**-2.9**
	0.3nm,0.5s,baz=168,slow=8.6,SNR=8.4						
ZALV	**Zalesovo Beam**	**34.12**	**350**	P	P	00 00 28.0	-3.7
	0.2nm,0.3s,baz=165,slow=8.2,SNR=2.5						
WRA	**Warramunga Arr**	**56.38**	**133**	P	P	00 03 20.4	-8.0
	0.2nm,0.5s,baz=319,slow=7.6,SNR=6.8						

ISCJB 27 23:56:31.9±0.7, 6°.90N±0°.08×73°.04W±0°.09, h167km±8km, mb3.5/1, Error ellipse: s-maj=17.9km s-min=7.6km az=37.2
FUNV 27 23:56:32.7, 6°.78N×73°.12W, h165km, MW3.4
IDC 27 23:56:36.5±5.9, 6°.79N×73°.77W, h180km±23km, mb3.2/1, mb1 3.4/2, mb1mx2.9/23, mbtmp3.2/2, Error ellipse: s-maj=247.0km s-min=30.1km az=93.0

ISC 27 23:56:32.7±1.1, 6°.88N±0°.08×73°.02W±0°.09, h164km±9km, n17, σ1s03/22, 4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.20**	**36** ⇓	*i*P	**Pn**	**23 57 01.4**	**+0.6**
CAPV				*e*S	**Sn**	**23 57 22.3**	**-0.1**
ROSC	**El Rosal**	**2.40**	**213**	P	**Pn**	**23 57 14.1**	**+0.3**
	8.8nm,0.3s,baz=288,slow=20,SNR=26						
ROSC				S	**Sn**	**23 57 43.7**	**-1.8**
	20nm,0.3s,baz=90,slow=20,SNR=11						
VIGV	**El Vigia**	**2.54**	**40** ⇓	*i*P	**Pn**	**23 57 16.0**	**+0.9**
VIGV				*e*S	**Sn**	**23 57 48.0**	**-0.1**
SOCV	**Socops**	**2.56**	**57** ⇓	*i*P	**Pn**	**23 57 16.2**	**+1.0**
SOCV				*e*S	**Sn**	**23 57 47.9**	**-0.4**
VIRV	**Villa del Rosa**	**3.65**	**10**	*e*P	**Pn**	**23 57 28.4**	**-0.4**
VIRV				*e*S	**Sn**	**23 58 10.2**	**-2.4**
QARV	**Quebrada Arrib**	**4.12**	**37**	*e*P	**Pn**	**23 57 35.8**	**+0.8**
CURV	**Curarigua**	**4.34**	**44**	*e*P	**Pn**	**23 57 38.3**	**+0.5**
DABV	**Dabajuro**	**4.65**	**30**	*e*P	**Pn**	**23 57 42.9**	**+1.0**
TEPV	**Terepaima**	**4.87**	**51**	*i* P	**Pn**	**23 57 45.2**	**+0.5**
BAUV	**El Baul**	**5.34**	**67** ⇓	*e*P	**Pn**	**23 57 49.9**	**-0.9**
MAPV	**Macapo**	**5.38**	**57**	*e*P	**Pn**	**23 57 51.4**	**0.0**
MONV	**Montecano**	**5.87**	**31**	*e*P	**Pn**	**23 57 57.6**	**-0.2**
TURV	**Turiamo**	**6.23**	**55**	*e*P	**Pn**	**23 58 02.7**	**+0.1**
CUPV	**Cupira**	**7.82**	**66**	*e*P	**Pn**	**23 58 22.1**	**-1.7**
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**00 06 44.4**	**+1.1**
	0.4nm,0.6s,baz=133,slow=6.7,SNR=12						
ASAR	**Alice Springs**	**149.23**	**234**	PKPbc	**PKPbc**	**00 16 02.4**	**-0.4**
	0.3nm,0.5s,baz=126,slow=3.9,SNR=4.1						
WRA	**Warramunga Arr**	**150.45**	**241**	PKPbc	**PKPbc**	**00 16 05.8**	**+0.1**
	0.3nm,0.4s,baz=109,slow=2.6,SNR=19						

IDC 28 00:09:38.7±1.8, 18°.77S×173°.72W, h0km, mb3.9/4, mb1 4.3/5, mb1mx3.9/20, mbtmp4.0/5, ML2.1/1, MS3.9/1, Ms1 3.9/1, ms1mx3.2/37, Error ellipse: s-maj=85.5km s-min=24.1km az=145.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.18**	**21**	Pn	Pn	00 10 55.6	-2.1
	3.5nm,0.3s,baz=173,slow=17,SNR=2.8						
AFI				Sn	Sn	00 11 54.6	-3.7
	8.6nm,0.3s,baz=234,slow=17,SNR=3.2						
DZM	**Mont Dzumac**	**18.88**	**257**	P	Pn	00 14 04.0	+2.6
	0.3nm,0.3s,baz=81,slow=17,SNR=8.1						
PPT	**Papeete**	**22.96**	**91**	LR	LR	00 20 27.8	
	comp=Z,302nm,20.7s,baz=221,slow=28						
ASAR	**Alice Springs**	**48.86**	**255**	P	P	00 18 26.1	-0.4
	5.6nm,0.9s,baz=88,slow=8.2,SNR=44						
WRA	**Warramunga Arr**	**48.86**	**260**	P	P	00 18 25.4	-1.1
	0.7nm,0.3s,baz=97,slow=7.9,SNR=29						
TXAR	**Lajitas Array**	**82.74**	**56**	P	P	00 22 03.8	-1.2
	0.7nm,0.9s,baz=216,slow=5.6,SNR=5.8						
ILAR	**Eielson Array**	**85.79**	**11**	P	P	00 22 19.9	+0.3
	0.3nm,0.7s,baz=222,slow=5.3,SNR=7.2						
BRTR	**Keskin Array B**	**148.50**	**317**	PKPbc	PKPbc	00 29 28.9	+0.9
	0.8nm,0.7s,baz=124,slow=4.7,SNR=4.7						
KHC	**Kasperske Hory**	**149.15**	**351**	*e*P	PKPbc	00 29 30.5	+1.4
GERES	**GERESS Array B**	**149.41**	**350**	PKPbc	PKPbc	00 29 31.3	+1.4
	0.3nm,0.8s,baz=343,slow=3.1,SNR=4.8						

IDC 28 00:25:32.9±3.9, 16°.14S×173°.15W, h227km±39km, mb3.5/4, mb1 3.6/5, mb1mx3.3/22, mbtmp3.5/5, Error ellipse: s-maj=143.3km s-min=48.6km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.58**	**31**	P	Pn	00 26 19.6	0.0
	4.5nm,0.3s,baz=85,slow=21,SNR=10						
AFI				S	S	00 27 03.4	+7.3
	17nm,0.3s,baz=45,slow=20,SNR=17						
DZM	**Mont Dzumac**	**20.16**	**250**	P	P	00 29 50.4	-0.1
	1.5nm,0.5s,baz=93,slow=18,SNR=5.5						
STKA	**Stephens Creek**	**43.88**	**241**	P	P	00 33 17.2	0.0
	1.2nm,0.4s,baz=99,slow=12,SNR=5.5						
WRA	**Warramunga Arr**	**49.92**	**257**	P	P	00 34 03.8	-0.3
	0.7nm,0.5s,baz=95,slow=7.0,SNR=38						
ASAR	**Alice Springs**	**50.12**	**252**	P	P	00 34 05.5	0.0
	8.1nm,0.6s,baz=89,slow=8.1,SNR=122						

DJA 28 00:35:45, 42°.78N×142°.51E, h10km, mb5.4/20
BJI 28 00:35:54.5, 42°.55N×142°.15E, h106km, mB4.9/30, mb5.2/57
MOS 28 00:35:55.3±0.9, 42°.58N×142°.13E, h107km, mb5.6/138, MS4.4/14, Error ellipse: s-maj=5.9km s-min=3.9km az=103.7
BGS 28 00:35:55.6±1.5, 42°.31N×141°.67E, h105km, mb5.4
ISCJB 28 00:35:55.1±0.1, 42°.55N±0°.01×142°.12E±0°.01, h105km, mb5.5/452, Error ellipse: s-maj=1.8km s-min=1.3km az=148.6
JMA 28 00:35:55.0±0.1, 42°.58N×142°.19E, h113km±2km, M5.3 Broadband fault plane solution: P waves. NP1: ϕs92.00000°, δ89.00000°, λ107.00000°. NP2: ϕs184.00000°, δ17.00000°, λ2.00000°. Principal axes: T Plg43.0000°, Azm18.0000°; N Plg17.0000°, Azm272.0000°; P Plg42.0000°, Azm166.0000°;
JMA Felt IV J1.
SZGRF 28 00:35:56.8, 42°.90N×142°.85E, h107km, mb5.8, Hokkaido, Japan, region
NEIC 28 00:35:56.7±0.1, 42°.61N×142°.10E, mb5.5/250, MW5.5, MW5.5(NIED), Error ellipse: s-maj=2.7km s-min=1.8km az=154.0, Moment Tensor Solution. s52 Moment tensor: Scale 10^17Nm; Mrr0.56; Mθθ0.47; Mϕϕ-1.03; Mrθ1.65; Mθϕ-0.47; Mrϕ0.10; Best double couple: M0 1.90000×10^17 NP1:ϕs65.00000°, δ81.00000°, λ121.00000°. NP2: ϕs170.00000°, δ33.00000°, λ17.00000°. Principal axes: T 2.1900, Plg44.0000°, Azm6.0000°; N -0.6900, Plg30.0000°, Azm239.0000°; P -1.5000, Plg29.0000°, Azm130.0000°;
NEIC Recorded [4 JMA] in southwestern Hokkaido and [2 JMA] in southeastern Hokkaido. Also recorded [3 JMA] in Aomori and [2 JMA] in Iwate and Miyagi, Honshu.
IDC 28 00:35:56.1±0.5, 42°.62N×142°.13E, h100km±3km, mb5.0/33, mb1 5.1/37, mb1mx5.1/38, mbtmp5.0/37, MS4.3/24, Ms1 4.3/24, ms1mx4.1/38 Error ellipse: s-maj=8.9km s-min=7.3km az=123.0
NIED 28 00:36:00, 42°.60N×142°.20E, h113km, Mw5.5 Best double couple: M0 1.97000×10^17 NP1:ϕs71.00000°, δ81.00000°, λ130.00000°. NP2:ϕs172.00000°, δ41.00000°, λ14.00000°.

**ISC 28 00:35:56.1±0.2, 42°.57N±0°.02×142°.13E±0°.02, h101km,

| | | |

BILL eScP **ScP** **00 48 21.6 -1.0**
ENH Enshi 28.81 256 eP **P** **00 41 43.5 -1.2**
comp=Z,54nm,1.1s
MOY Mondy 29.09 303 eP **P** **00 41 47.5 +0.5**
MOY pmax pmax
comp=Z,225nm,2.3s
LZH Lanzhou 30.12 271 eP **P** **00 41 57.5 +1.1**
LZH pP **pP** **00 42 15.8 -3.1**
LZH sP **sP** **00 42 28.3 -2.3**
LZH S **S** **00 46 47.0 -0.9**
LZH sS **sS** **00 47 25.5 -1.5**
LZH pmax pmax
comp=Z,49nm,1.0s
LZH pmax pmax
comp=Z,110nm,4.0s
LZH LR LR
comp=N,790nm,13.7s
LZH LR LR
comp=E,670nm,14.5s
LZH LR LR
comp=Z,890nm,14.8s
GTA Gaotai 31.86 279 eP **P** **00 42 12.8 +1.3**
GTA PcP **PcP** **00 45 01.0 +1.1**
GTA S **S** **00 47 13.0 -1.8**
GTA ScP **ScP** **00 48 34.5 +0.5**
GTA PcS **PcS** **00 48 46.3 +1.6**
GTA ScS **ScS** **00 52 31.8 -0.8**
GTA pmax pmax
comp=Z,45nm,1.2s
GTA pmax pmax
comp=Z,79nm,5.2s
GTA LR LR
comp=N,510nm,10.9s
GTA LR LR
comp=E,620nm,14.3s
GTA LR LR
comp=Z,580nm,13.5s
CD2 Chengdu 32.61 262 P **P** **00 42 18.0 -0.1**
CD2 PP **PnPn** **00 43 26.5 -3.1**
CD2 PcP **PcP** **00 45 04.8 +2.8**
CD2 S S 00 47 32.8 +6.2
CD2 SS **SnSn** **00 49 28.8 -3.0**
CD2 pmax pmax
comp=Z,50nm,0.8s
CD2 pmax pmax
comp=Z,100nm,5.5s
CD2 LR LR
comp=N,980nm,12.0s
CD2 LR LR
comp=E,400nm,12.1s
CD2 LR LR
comp=Z,400nm,13.2s
GYA Guiyang 33.06 252 P **P** **00 42 21.8 -0.4**
GYA pP **pP** **00 42 44.0 -0.9**
GYA PP **PnPn** **00 43 34.8 -0.5**
GYA PcP **PcP** **00 45 04.8 +1.4**
GYA S **S** **00 47 30.5 -3.2**
GYA ScP **ScP** **00 48 38.8 +0.5**
GYA SS **SnSn** **00 49 35.0 -7.9**
GYA ScS **ScS** **00 52 36.3 -2.8**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,150nm,5.1s
GYA LR LR
comp=N,890nm,14.9s
GYA LR LR
comp=E,870nm,14.9s
GYA LR LR
comp=Z,2μm,14.9s
TGY Tagaytay City 33.75 219 P **P** **00 42 29.7 +1.6**
TGY Tagaytay City 33.75 219 P **P** **00 42 29.7 +1.6**
comp=Z,179nm,0.3s,baz=182,slow=8.2,SNR=13
GAMB Gambell 33.79 35 eP **P** **00 42 26.4 -1.4**
comp=Z,101nm,1.2s
TNA Tin City 35.84 33 eP **P** **00 42 46.1 +0.6**
comp=Z,408nm,1.2s
QIZ Qiongzhong 35.98 239 P **P** **00 42 48.3 +1.1**
QIZ S **S** **00 48 20.3 +1.9**
QIZ pmax pmax
comp=Z,29nm,2.0s
QIZ LR LR
comp=N,590nm,15.1s
QIZ LR LR
comp=E,410nm,14.2s
QIZ LR LR
comp=Z,800nm,12.6s
KMI Kunming 36.66 254 P **P** **00 42 54.0 +0.7**
KMI pP **pP** **00 43 19.8 +3.6**
KMI sP **sP** **00 43 32.8 +5.0**
KMI S S 00 48 22.5 -6.8
KMI sS **sS** **00 49 07.3 -1.7**
KMI pmax pmax
comp=Z,42nm,1.4s
KMI pmax pmax
comp=Z,170nm,3.1s
KMI LR LR
comp=N,590nm,14.1s
KMI LR LR
comp=E,410nm,15.8s
KMI LR LR
comp=Z,370nm,13.4s
DAV Davao City (W) 38.26 207 P **P** **00 43 07.2 +0.8**
DAV Davao City (W) 38.26 207 P **P** **00 43 07.2 +0.8**
comp=Z,108nm,0.4s,baz=217,slow=10,SNR=3.5
ZAA0 Zalesovo Array 38.79 307 eP **P** **00 43 10.4 -0.1**
ZAA0 ePcP **PcP** **00 45 20.0 +0.1**
ZAA0 eScP **ScP** **00 48 58.4 -0.3**
ZALV Zalesovo Beam 38.79 307 P **P** **00 43 10.7 +0.2**
ZALV *PP **pP** **00 43 33.2 -0.5**
ZALV 00 45 20.4
ZALV 00 48 58.7
ZALV Zalesovo Beam 38.79 307 P **P** **00 43 10.7 +0.2**
ZALV pP **pP** **00 43 33.2 -0.5**
ZALV PcP **PcP** **00 45 20.4 +0.6**
ZALV ScP **ScP** **00 48 58.6 0.0**
ZALV Zalesovo Beam 38.79 307 P **P** **00 43 10.7 +0.2**
comp=Z,60nm,0.7s,baz=86,slow=8.3,SNR=322
ZALV pP **pP** **00 43 33.2 -0.5**
comp=Z,25nm,0.7s,baz=80,slow=6.8,SNR=3.1
ZALV PcP **PcP** **00 45 20.4 +0.6**
comp=Z,26nm,0.7s,baz=99,slow=3.0,SNR=8.4
ZALV ScP **ScP** **00 48 58.6 0.0**
comp=Z,28nm,1.0s,baz=80,slow=3.3,SNR=18
ZALV LR LR 01 00 13.2
comp=Z,338nm,21.5s,baz=77,slow=38
WMQ Urumqi 39.10 291 P **P** **00 43 14.0 +0.6**
WMQ pP **pP** **00 43 36.5 0.0**
WMQ sP **sP** **00 43 47.0 -1.1**
WMQ PP **PnPn** **00 44 50.0 +1.7**
WMQ S **S** **00 49 06.0 +0.6**
WMQ sS **sS** **00 49 47.0 +1.6**
WMQ SS **SS** **00 51 58.0 -3.5**
WMQ pmax pmax
comp=Z,77nm,1.2s
WMQ pmax pmax
comp=Z,130nm,3.6s
WMQ LR LR
comp=N,2μm,16.4s
WMQ LR LR
comp=E,790nm,11.4s
WMQ LR LR
comp=Z,840nm,17.8s
NVS Novosibirsk 39.60 309⇑ *i*P **P** **00 43 16.4 -0.8**
NVS *e*PP **pP** **00 43 40.9 +0.4**
NVS ePPP PPP 00 45 18.6
NVS eSSS SSS 00 53 08.2
NVS pmax pmax
comp=E,181nm,1.8s
NVS pmax pmax
comp=Z,273nm,1.8s
NVS pmax pmax
comp=N,38nm,1.3s
SVW2 Sparrevohn 40.89 41 eP **P** **00 43 28.7 +0.8**
comp=N,45nm,1.0s
MK31 Makanchi Array 41.86 297 *i* P **P** **00 43 36.4 +0.4**
MK31 pmax pmax
comp=Z,64nm,0.6s
MK31 Makanchi Array 41.86 297 eP **P** **00 43 36.2 +0.1**
MK31 ePcP **PcP** **00 45 30.5 +0.5**
MK31 eScP **ScP** **00 49 10.8 -0.1**
MK31 eS **S** **00 49 45.6 -0.7**
MKAR Makanchi Array 41.86 297 *ce*P **P** **00 43 36.2 +0.2**
MKAR pmax pmax
comp=Z,43nm,0.6s
MKAR Makanchi Array 41.86 297 eP **P** **00 43 36.4 +0.3**
MKAR PcP **PcP** **00 45 30.8 +0.8**
MKAR ScP **ScP** **00 49 10.9 0.0**
MKAR S **S** **00 49 47.6 +1.2**
MKAR Makanchi Array 41.86 297 P **P** **00 43 36.3 +0.3**
comp=Z,43nm,0.6s,baz=83,slow=9.9,SNR=473
MKAR PcP **PcP** **00 45 30.8 +0.8**
comp=Z,6.8nm,0.5s,baz=72,slow=5.3,SNR=11
MKAR ScP **ScP** **00 49 10.9 0.0**
comp=Z,8.3nm,0.9s,baz=64,slow=5.5,SNR=8.8
MKAR S **S** **00 49 47.6 +1.2**
comp=Z,9.3nm,1.2s,baz=58,slow=14,SNR=6.5
MKAR LR LR 01 01 17.9
comp=Z,233nm,19.4s,baz=294,slow=36
KDM Kudat 41.95 219 P **P** **00 43 38.9 +2.0**
RSO Redoubt South 42.32 42 eP **P** **00 43 39.5 -0.2**
LSA Lhasa 42.53 270 P **P** **00 43 44.3 +2.1**
LSA Lhasa 42.53 270 eP **P** **00 43 43.8 +1.6**
LSA eS **S** **00 49 55.8 -1.6**
LSA pmax pmax
comp=Z,43nm,0.9s
LSA Lhasa 42.53 270 eP **P** **00 43 43.8 +1.6**
comp=Z,43nm,0.9s
LSA eS **S** **00 49 55.8 -1.6**
SPU Mount Spurr 42.59 41 eP **P** **00 43 42.2 +0.5**
KDAK Kodiak Island 42.73 46 eP **P** **00 43 41.9 -0.9**
comp=Z,91nm,1.0s
KDAK ScP **ScP** **00 49 13.6 -0.5**
KDAK Kodiak Island 42.73 46 P **P** **00 43 42.0 -0.9**
comp=Z,557nm,1.1s,SNR=26
KDAK Kodiak Island 42.73 46 P **P** **00 43 41.9 -0.9**
comp=Z,59nm,0.8s,baz=293,slow=3.2,SNR=62
KDAK ScP **ScP** **00 49 13.6 -0.5**
comp=Z,12nm,1.0s,baz=85,slow=2.3,SNR=4.8
MYLDM Lahad Datu 42.73 216 P **P** **00 43 43.4 +0.1**
MYLDM Lahad Datu 42.73 216 P **P** **00 43 45.8 +2.5**
comp=Z,63nm,1.4s,comp=Z,1μm
SDKM Sandakan 42.90 218 P **P** **00 43 46.2 +1.4**
KKM Kota Kinabalu 43.00 220 P **P** **00 43 47.6 +2.0**
COLD Coldfoot 43.11 32 eP **P** **00 43 45.0 -0.8**
comp=Z,158nm,1.1s
COLD ePP **PP** **00 45 27.8 +0.3**
KURK Kurchatov 43.13 304⇑ *i*P **P** **00 43 45.4 -0.8**
KURK pmax pmax
comp=Z,532nm,1.7s
KURK Kurchatov 43.13 304 eP **P** **00 43 46.4 +0.1**
comp=Z,409nm,1.2s
KURK eScP **ScP** **00 49 15.5 -0.3**
KURK eS **S** **00 50 00.0 -4.8**
KURK Kurchatov 43.13 304 P **P** **00 43 46.7 +0.6**
SNR=122
KURK Kurchatov 43.13 304 P **P** **00 43 46.8 +0.6**
comp=Z,2μm,0.8s
KURBB Kurchatov Arra 43.21 304 P **P** **00 43 47.1 +0.3**
comp=Z,313nm,0.8s,baz=76,slow=8.8,SNR=681
KURBB ScP **ScP** **00 49 16.2 0.0**
comp=Z,10nm,1.1s,baz=76,slow=3.5,SNR=12
KURBB S **S** **00 50 04.6 -1.3**
comp=Z,10nm,1.0s,baz=77,slow=16,SNR=10
TRF Thorofare Moun 43.23 37 eP **P** **00 43 46.1 -0.9**
comp=Z,76nm,0.8s
TRF ePcP **PcP** **00 45 33.7 -0.7**
TRF eScP **ScP** **00 49 14.0 -2.3**
CHTO Chiang Mai 43.42 251 eP **P** **00 43 49.6 +0.7**
CHTO pmax pmax
comp=Z,31nm,1.0s
CHTO Chiang Mai 43.42 251 eP **P** **00 43 49.6 +0.7**
comp=Z,31nm,1.0s
CHTO Chiang Mai 43.42 251 P **P** **00 43 50.2 +1.3**
SNR=15
CHTO Chiang Mai 43.42 251 P **P** **00 43 50.0 +1.1**
comp=Z,43nm,1.3s,comp=Z,500nm
SLKM Skilak Lake 43.56 42 eP **P** **00 43 48.7 -0.8**
SLKM Skilak Lake 43.56 42 eP **P** **00 43 48.7 -0.8**
CMAR Chiang Mai Arr 43.66 250 P **P** **00 43 51.7 +0.8**
CMAR pP **pP** **00 44 13.9 -0.5**
CMAR PcP **PcP** **00 45 38.0 +1.6**
CMAR ScP **ScP** **00 49 19.6 +1.0**
CMAR Chiang Mai Arr 43.66 250 P **P** **00 43 51.7 +0.8**
comp=Z,10nm,1.0s,baz=40,slow=7.5,SNR=31
CMAR pP **pP** **00 44 13.9 -0.5**
comp=Z,4.8nm,0.8s,baz=38,slow=10,SNR=2.3
CMAR PcP **PcP** **00 45 38.0 +1.6**
comp=Z,3.4nm,0.7s,baz=356,slow=2.1,SNR=4.7
CMAR ScP **ScP** **00 49 19.6 +1.0**
comp=Z,3.6nm,0.8s,baz=22,slow=3.4,SNR=9.6
CMAR LR LR 01 02 25.8
comp=Z,206nm,18.8s,baz=51,slow=36
TNTI Ternate 43.67 202 P **P** **00 43 51.5 +0.7**
comp=Z,127nm,1.7s,comp=Z,2μm
RC01 Rabbit Creek A 43.72 41 eP **P** **00 43 49.5 -1.3**
comp=Z,165nm,1.0s
RC01 ePcP **PcP** **00 45 35.0 -0.8**
MNI Manado 43.78 205 P **P** **00 43 52.4 +0.7**
comp=Z,188nm,1.2s,comp=Z,3μm
TSM Tawau 43.80 216 P **P** **00 43 53.7 +1.8**
MCK McKinley 43.80 37 eP **P** **00 43 51.1 -0.3**
MCK *e* 00 45 37.4
MCK pmax pmax
comp=Z,152nm,1.0s
MCK McKinley 43.80 37 eP **P** **00 43 51.1 -0.3**
comp=Z,152nm,1.0s
MCK ePcP **PcP** **00 45 37.4 +1.3**
MCK eScP **ScP** **00 49 18.0 -0.4**
PMR Palmer 43.95 40 eP **P** **00 43 51.7 -0.8**
PMR pmax pmax
comp=Z,112nm,1.0s
PMR Palmer 43.95 40 eP **P** **00 43 51.7 -0.8**
comp=Z,112nm,1.0s
PMR eScP **ScP** **00 49 18.3 -0.6**
SEW Seward 43.99 42 eP **P** **00 43 51.9 -1.0**
comp=Z,170nm,0.9s
SEW eScP **ScP** **00 49 18.7 -0.5**
COLA College 44.17 35 eP **P** **00 43 54.3 0.0**
COLA pmax pmax
comp=Z,211nm,1.0s
COLA College 44.17 35 eP **P** **00 43 54.2 0.0**
comp=Z,211nm,1.0s
SML Sawmill 44.30 40 eP **P** **00 43 55.3 -0.1**
SML eS **S** **00 50 21.7 +0.2**
SML pmax pmax
comp=Z,48nm,0.8s
SML Sawmill 44.30 40 eP **P** **00 43 55.3 -0.1**
comp=Z,48nm,0.8s
SML eScP **ScP** **00 49 20.4 -0.1**
SML eS **S** **00 50 21.7 +0.2**
SWI Sorong 44.33 196 P **P** **00 43 56.4 +0.3**
comp=Z,143nm,0.9s,comp=Z,2μm
ILAR Eielson Array 44.59 35 P **P** **00 43 56.9 -0.9**
ILAR Eielson Array 44.59 35 P **P** **00 43 56.9 -0.9**
comp=Z,90nm,0.9s,baz=270,slow=5.9,SNR=347
ILAR LR LR 01 02 02.9
comp=Z,280nm,21.0s,baz=125,slow=35
LBMI Labuha 44.98 201 P **P** **00 44 01.7 +0.4**
comp=Z,88nm,1.1s
PAX Paxson 45.45 38 eP **P** **00 44 04.2 -0.4**
PAX *e* 00 45 42.1
PAX eS **S** **00 50 36.8 -1.4**
PAX pmax pmax
comp=Z,36nm,0.9s
PAX Paxson 45.45 38 eP **P** **00 44 04.2 -0.4**
comp=Z,36nm,0.9s
PAX ePcP **PcP** **00 45 42.1 +0.2**
PAX eScP **ScP** **00 49 25.4 +0.1**
PAX eS **S** **00 50 36.8 -1.4**
DIV Divide 45.62 40 eP **P** **00 44 05.8 -0.1**
comp=Z,222nm,1.1s
DOT Dot Lake 45.97 37 eP **P** **00 44 07.0 -1.6**
comp=Z,70nm,0.7s
DOT eScP **ScP** **00 49 27.0 -0.4**
FAKI Fak Fak 46.15 194 P **P** **00 44 11.0 +0.5**
comp=Z,216nm,1.3s,comp=Z,2μm
BMRM Bremner River 46.20 40 eP **P** **00 44 10.4 -0.2**
comp=Z,153nm,1.0s
BMRM eScP **ScP** **00 49 28.4 0.0**
MENT Mentasta 46.24 38 eP **P** **00 44 10.8 0.0**
TAPN Taplejung 46.34 269 eP **P** **00 44 13.7 +1.4**
comp=Z,184nm,0.9s
TAPN Taplejung 46.34 269 eP **P** **00 44 13.7 +1.4**
comp=Z,184nm,0.9s
LUWI Luwuk 46.79 207 P **P** **00 44 13.9 -1.6**
comp=Z,131nm,1.4s,comp=Z,2μm
ODAN Odare 46.85 269 eP **P** **00 44 17.4 +1.1**
comp=Z,112nm,0.7s
ODAN Odare 46.85 269 eP **P** **00 44 17.4 +1.1**
comp=Z,112nm,0.7s
BTM Bintulu 46.98 222 P **P** **00 44 18.7 +1.7**
EGAK Eagle 47.02 35 eP **P** **00 44 16.1 -0.7**
comp=Z,220nm,1.0s
MSAI Masohi 47.24 198 P **P** **00 44 20.5 +1.5**
comp=Z,18nm,1.8s
JIRN Jiri 47.29 270 eP **P** **00 44 21.0 +1.2**
comp=Z,17nm,0.4s
JIRN Jiri 47.29 270 eP **P** **00 44 21.0 +1.2**
comp=Z,17nm,0.4s
GUN Gumba 47.38 271 eP **P** **00 44 21.4 +0.9**
comp=Z,308nm,0.6s
GUN Gumba 47.38 271 eP **P** **00 44 21.4 +0.9**
comp=Z,308nm,0.6s
RAMN Ramite 47.38 269 eP **P** **00 44 21.2 +0.8**
comp=Z,333nm,0.8s
RAMN Ramite 47.38 269 eP **P** **00 44 21.2 +0.8**
comp=Z,333nm,0.8s
BVA0 Borovoye Array 47.40 309 *i* P **P** **00 44 20.4 +0.6**
BVA0 pmax pmax
comp=Z,19nm,0.7s
BRVK Borovoye 47.45 309 eP **P** **00 44 20.9 +0.7**
BRVK eS **S** **00 51 06.7 -0.1**
BRVK pmax pmax
comp=Z,165nm,0.9s
BRVK Borovoye 47.45 309 eP **P** **00 44 20.9 +0.7**
comp=Z,165nm,0.9s
BRVK eScP **ScP** **00 49 33.8 +0.1**
BRVK eS **S** **00 51 06.7 -0.1**
BRVK Borovoye 47.45 309 P **P** **00 44 20.7 +0.5**
comp=Z,1μm,1.3s
BRVK Borovoye 47.45 309 P **P** **00 44 21.2 +0.9**
SNR=95
TKM2 Tokmak 2 47.67 294 eP **P** **00 44 23.2 +0.9**
TKM2 eS **S** **00 51 06.9 -3.8**
TKM2 pmax pmax
comp=Z,143nm,0.8s
TKM2 Tokmak 2 47.67 294 eP **P** **00 44 23.2 +0.9**
comp=Z,143nm,0.8s
TKM2 eS **S** **00 51 06.9 -3.8**
TKM2 Tokmak 2 47.67 294 P **P** **00 44 23.3 +0.9**
SNR=108
AAI Ambon 47.74 199 P **P** **00 44 23.8 +0.9**
comp=Z,124nm,1.2s,comp=Z,3μm
KKN Kakani 47.89 271 eP **P** **00 44 25.4 +1.1**
comp=Z,114nm,0.7s
KKN Kakani 47.89 271 eP **P** **00 44 25.4 +1.1**
KKN pmax pmax
comp=Z,114nm,0.7s
KKN Kakani 47.89 271 eP **P** **00 44 25.4 +1.1**
comp=Z,114nm,0.7s
DAWY Dawson 47.92 35 eP **P** **00 44 23.2 -0.6**
DAWY eScP **ScP** **00 49 35.0 -0.6**
PKI Pulchoki 47.92 271 eP **P** **00 44 25.3 +0.7**
comp=Z,93nm,0.6s
PKI Pulchoki 47.92 271 eP **P** **00 44 25.3 +0.7**
PKI pmax pmax
comp=Z,93nm,0.6s
PKI Pulchoki 47.92 271 eP **P** **00 44 25.3 +0.7**
comp=Z,93nm,0.6s
SBUM Sibu 48.05 222 P **P** **00 44 26.8 +1.5**
SBUM Sibu 48.05 222 P **P** **00 44 26.6 +1.3**
comp=Z,41nm,1.2s,comp=Z,1μm
DMN Daman 48.12 271 eP **P** **00 44 26.9 +0.8**
comp=Z,122nm,0.8s
DMN Daman 48.12 271 eP **P** **00 44 26.9 +0.8**
comp=Z,122nm,0.8s
CHMS Chumysh 48.20 295 P **P** **00 44 26.7 +0.4**
SNR=18
KBK Karagaybulak 48.21 294 P **P** **00 44 27.3 +0.8**
SNR=94
KZA Kyzart 48.24 293 P **P** **00 44 28.6 +1.5**
SNR=38
GKN Gorkha 48.25 272 eP **P** **00 44 27.6 +0.6**
comp=Z,126nm,0.6s
GKN Gorkha 48.25 272 eP **P** **00 44 27.6 +0.6**
comp=Z,126nm,0.6s
USP Ospenovka 48.27 295 P **P** **00 44 27.4 +0.6**
SNR=34
SMKI Samarinda 48.34 214 P **P** **00 44 28.9 +1.4**
comp=Z,110nm,1.1s,comp=Z,7μm
FRU Bishkek 48.36 295 *i* P **P** **00 44 28.0 +0.5**
FRU *e* 00 44 50.0
FRU pmax pmax
comp=Z,160nm,1.4s
AAK Ala-Archa 48.53 294 eP **P** **00 44 29.1 +0.1**
AAK eS **S** **00 51 21.8 -0.9**
AAK pmax pmax
comp=Z,168nm,0.8s
AAK Ala-Archa 48.53 294 eP **P** **00 44 29.1 +0.1**
comp=Z,168nm,0.8s
AAK eScP **ScP** **00 49 38.0 -0.7**
AAK eS **S** **00 51 21.8 -0.9**
AAK Ala-Archa 48.53 294 P **P** **00 44 29.0 +0.1**
comp=Z,282nm,0.5s,SNR=34
AAK Ala-Archa 48.53 294 P **P** **00 44 29.7 +0.8**
SNR=12
AAK Ala-Archa 48.53 294 P **P** **00 44 29.8 +0.8**
SNR=17
DANN Dangsing 48.71 273 eP **P** **00 44 31.9 +1.2**
comp=Z,482nm,0.7s
DANN Dangsing 48.71 273 eP **P** **00 44 31.9 +1.2**
comp=Z,482nm,0.7s
TLE Tual 48.73 192 P **P** **00 44 32.3 +1.8**
comp=Z,78nm,1.6s,comp=Z,63μm
KSH Kashi 48.84 290 P P 00 44 35.5 +4.2
KSH PP **PP** **00 46 30.0 +4.8**
KSH S S 00 51 40.5 +13
KSH SS SS 00 55 08.3 +10
KSH pmax pmax
comp=Z,29nm,0.8s
KSH pmax pmax
comp=Z,200nm,3.3s
KSH LR LR
comp=N,360nm,13.0s
KSH LR LR
comp=E,490nm,10.1s
KSH LR LR
comp=Z,610nm,17.0s
KSH Kashi 48.84 290 P P 00 44 35.8 +4.5
KSH pP pP 00 44 58.8 +3.5
KSH sP sP 00 45 09.3 +2.6
KSH PP **PP** **00 46 30.0 +4.8**
KSH ScP **ScP** **00 49 43.0 +3.0**
KSH PcS **PcS** **00 49 53.0 +2.1**
KSH S **S** **00 51 31.0 +3.9**
KSH pmax pmax
comp=Z,29nm,0.8s
KSH pmax pmax
comp=Z,190nm,2.9s
KSH LR LR
comp=N,360nm,13.0s
KSH LR LR
comp=E,490nm,10.1s
KSH LR LR
comp=Z,610nm,17.0s
EKS2 Erkin-Say 49.00 295 eP **P** **00 44 32.9 +0.4**
EKS2 *e* 00 45 55.6
EKS2 eS **S** **00 51 26.2 -3.0**
EKS2 pmax pmax
comp=Z,40nm,0.8s
EKS2 Erkin-Say 49.00 295 eP **P** **00 44 32.9 +0.4**
comp=Z,40nm,0.8s
EKS2 ePcP **PcP** **00 45 55.6 +0.6**
EKS2 eScP **ScP** **00 49 40.3 -0.3**
EKS2 eS **S** **00 51 26.2 -3.0**
EKS2 Erkin-Say 49.00 295 P **P** **00 44 32.9 +0.4**
SNR=36
PNL Peninsula 49.03 41 eP **P** **00 44 32.1 -0.3**
KOLN Koldanda 49.15 272 eP **P** **00 44 34.9 +1.0**
KOLN Koldanda 49.15 272 eP **P** **00 44 34.9 +1.0**
INK Inuvik 49.26 29 eP **P** **00 44 33.5 -0.3**
comp=Z,190nm,1.4s
INK ePcP **PcP** **00 45 55.1 -0.1**
INK eScP **ScP** **00 49 39.4 -1.7**
INK Inuvik 49.26 29 P **P** **00 44 33.5 -0.3**
comp=Z,36nm,0.4s,baz=287,slow=8.3,SNR=197
AML Almayashu 49.27 294 P **P** **00 44 35.5 +0.6**
SNR=29
PYUN Piuthan 49.41 273 eP **P** **00 44 37.1 +1.2**
comp=Z,197nm,0.8s
PYUN Piuthan 49.41 273 eP **P** **00 44 37.1 +1.2**
comp=Z,197nm,0.8s
KDI Kendari 49.57 206 P **P** **00 44 37.9 +1.0**
comp=Z,54nm,1.4s,comp=Z,838nm
KSM Kuching 49.85 224 eP **P** **00 44 40.6 +1.6**

comp=Z,117nm,1.2s
KSM Kuching 49.85 224 P **P** **00 44 40.8 +1.7**
KSM Kuching 49.85 224 P **P** **00 44 40.6 +1.6**
comp=Z,90nm,1.1s,comp=Z,1μm
STKI Sintang 50.48 221 P **P** **00 44 44.7 +0.9**
comp=Z,65nm,0.6s,comp=Z,13μm
KTGM Kuala Trenggan 50.66 234 P **P** **00 44 47.0 +1.9**
KK31 Karatay Array 50.98 297 *i* P **P** **00 44 47.3 -0.1**
KK31 pmax pmax
comp=Z,26nm,0.6s
KKAR Karatay Array 50.98 297 *e*P **P** **00 44 47.3 -0.1**
KKAR Karatay Array 50.98 297 *e*P **P** **00 44 47.3 -0.1**
SKAG Skagway 51.07 41 *e*P **P** **00 44 48.8 +1.1**
comp=Z,135nm,1.3s
SVE Sverdlovsk 51.46 316*d i*P **P** **00 44 51.2 +0.6**
SVE *e* 00 46 47.4
SVE *e*S **S** **00 52 02.4 -0.3**
SVE *e*SS **SS** **00 55 41.0 +1.9**
SVE pmax pmax
comp=Z,422nm,1.0s
SVE MLR MLR
comp=Z,648nm,14.0s
KAPI Kappang 51.53 209 *e*P **P** **00 44 51.4 -0.3**
comp=Z,134nm,1.3s
KAPI Kappang 51.53 209 P **P** **00 44 52.0 +0.3**
SNR=10
KAPI Kappang 51.53 209 P **P** **00 44 51.9 +0.3**
comp=Z,365nm,1.1s,SNR=7.6
KAPI Kappang 51.53 209 P **P** **00 44 51.6 0.0**
comp=Z,89nm,1.6s,comp=Z,1μm
DDI Dehra Dun 51.84 279 *e*PKP **P** **00 44 53.8 -0.1**
DDI *ex* x 00 45 31.0
PMG Port Moresby 51.92 174 *e*P **P** **00 44 54.6 0.0**
comp=Z,24nm,1.4s
PMG Port Moresby 51.92 174 P **P** **00 44 54.5 0.0**
comp=Z,7.3nm,0.7s,baz=348,slow=9.7,SNR=5.9
BBKI Banjar Baru 52.05 215 P **P** **00 44 55.9 +0.4**
comp=Z,84nm,1.5s,comp=Z,7μm
SMLA Simla 52.06 280 *i* P **P** **00 44 56.1 +0.7**
SMLA AMb AMB 00 44 57.4
comp=Z,1μm,0.4s
SMLA *i* x x 00 52 10.4
KULM Kulim 52.20 237 *e*P **P** **00 44 57.9 +1.2**
comp=Z,74nm,1.0s
KULM Kulim 52.20 237 P **P** **00 44 58.2 +1.5**
KULM Kulim 52.20 237 P **P** **00 44 58.1 +1.5**
comp=Z,75nm,1.1s,comp=Z,828nm
IPM Ipoh 52.61 236 *e*P **P** **00 45 00.2 +0.6**
IPM Ipoh 52.61 236 P **P** **00 45 00.7 +1.0**
IPM Ipoh 52.61 236 P **P** **00 45 00.3 +0.6**
comp=Z,42nm,1.3s,comp=Z,511nm
ARU Arti 52.67 316*c i*P **P** **00 44 59.6 -0.1**
ARU *e**PP **pP** **00 45 24.3 +0.4**
ARU *SP **sP** **00 45 36.0 +0.8**
ARU 00 46 06.7
ARU 00 46 57.6
ARU PPP PPP 00 48 09.3
ARU *e*S **S** **00 52 21.8 +2.6**
ARU *SS **sS** **00 53 05.9 +5.0**
ARU 00 54 37.1
ARU SS **SS** **00 55 57.3 -1.0**
ARU pmax pmax
comp=Z,500nm,1.2s
ARU Arti 52.67 316 *e*P **P** **00 44 59.5 -0.1**
comp=Z,358nm,1.0s
ARU *e*ScP **ScP** **00 49 54.6 -1.4**
ARU Arti 52.67 316 P **P** **00 44 59.2 -0.4**
comp=Z,2μm,1.0s
KKR Kurukshetra 52.94 279 *e*PKP **P** **00 45 02.0 0.0**
KKR AMb AMB 00 45 06.7
comp=Z,55nm,0.1s
MYKOM Kota Tinggi 53.09 231 P **P** **00 45 04.5 +1.3**
MYKOM Kota Tinggi 53.09 231 P **P** **00 45 04.7 +1.5**
comp=Z,43nm,1.3s,comp=Z,578nm
KGM Kluang 53.21 231 P **P** **00 45 06.0 +1.9**
FRIM Kepong 53.23 234 P **P** **00 45 05.5 +1.3**
NDI New Delhi 53.34 277 *e*PKP **P** **00 45 06.0 +1.0**
NDI *ex* x 00 52 21.0
AYAN Aya Nagar 53.52 277 *e*PKP **P** **00 45 06.6 +0.3**
AYAN AMb AMB 00 45 07.8
comp=Z,38nm,0.8s
BHGR Bahadurgarh 53.54 277 *e*PKP **P** **00 45 07.3 +0.9**
AGRA Agra 53.62 275 *e*PKP **P** **00 45 07.8 +0.9**
AGRA AMb AMB 00 45 08.8
comp=Z,79nm,0.3s
OPA Opana 53.66 93 *e*P **P** **00 45 07.8 +0.5**
OPA Opana 53.66 93 *e*P **P** **00 45 07.8 +0.5**
WRAK Wrangell Islan 53.68 43 *e*P **P** **00 45 08.1 +1.2**
comp=Z,130nm,1.5s
DLBC Dease Lake 54.00 41 *e*P **P** **00 45 10.5 +1.1**
DLBC *e*ScP **ScP** **00 50 02.8 +0.9**
DLBC Dease Lake 54.00 41 P **P** **00 45 10.5 +1.1**
comp=Z,43nm,1.0s,baz=291,slow=8.6,SNR=31
KUDL Kundal 54.17 277 *e*PKP **P** **00 45 11.1 +0.1**
KUDL AMb AMB 00 45 13.9
comp=Z,33nm,1.0s
ALE Alert 54.56 4 P **P** **00 45 12.0 -1.1**
comp=Z,2μm,1.1s
KHET Khetri 54.71 278 *e*PKP **P** **00 45 15.2 +0.3**
KHET AMb AMB 00 45 16.2
comp=Z,21nm,0.7s
HOPEN Hopen 54.83 345 *e*P **P** **00 45 14.9 -0.1**
AB31 Akbulak array 54.90 307 *e*P **P** **00 45 16.1 +0.1**
AB31 pmax pmax
comp=Z,44nm,0.4s
ABKAR Akbulak array 54.90 307 *e*P **P** **00 45 16.3 +0.3**
PPBI Pangkal Pinang 55.11 226 P **P** **00 45 19.4 +1.6**
comp=Z,67nm,1.0s,comp=Z,4μm
PSI Prapat 55.21 236 P **P** **00 45 19.6 +0.8**
comp=Z,38nm,1.2s,comp=Z,382nmcomp=Z,3μm
SPA0 Spitsbergen Ar 55.22 348 *e*P **P** **00 45 17.4 -0.5**
SPB4 Spitsbergen Ar 55.22 348 *e*P **P** **00 45 16.9 -1.0**
KBS Kingsbay 55.31 350 *e* **P** **00 45 17.0 -1.5**
KBS *e*S **S** **00 52 57.7 +3.5**
KBS Kingsbay 55.31 350*ce*P **P** **00 45 18.4 -0.1**
KBS pmax pmax
comp=Z,280nm,1.2s
KBS Kingsbay 55.31 350 *e*P **P** **00 45 18.2 -0.3**
comp=Z,229nm,1.1s
AKTO Aktyubinsk 55.49 309 P **P** **00 45 20.2 0.0**
AKTO pmax pmax
comp=Z,15nm,1.4s
RGRI Rengat 55.70 231 P **P** **00 45 24.0 +1.9**
comp=Z,122nm,1.0s,comp=Z,92μm
BKNI Bangkinang 55.90 233 P **P** **00 45 24.7 +1.1**
comp=Z,197nm,1.2s,comp=Z,2μm
TPTI 55.94 238 P **P** **00 45 25.4 +1.6**
comp=Z,57nm,1.5s
MTN Manton Dam 56.05 193 *e*P **P** **00 45 24.4 -0.1**
KBL Kabul 56.09 288 *e*P **P** **00 45 24.1 -0.9**
KBL pmax pmax
comp=Z,57nm,0.9s
KBL Kabul 56.09 288 *e*P **P** **00 45 24.1 -0.9**
comp=Z,57nm,0.9s
KHKI Kahang-Kahang 56.17 212 P **P** **00 45 25.0 -0.4**
comp=Z,130nm,1.4s,comp=Z,1μm
COEN Coen 56.25 179 *e*P **P** **00 45 26.4 +0.5**
comp=Z,1μm,1.3s
PMBI Palembang 56.48 227 P **P** **00 45 29.9 +2.3**
comp=Z,271nm,0.4s
RES Resolute Bay 57.12 15 *e*P **P** **00 45 30.5 -0.9**
comp=Z,450nm,0.9s
RES Resolute Bay 57.12 15 P **P** **00 45 30.4 -0.9**
comp=Z,460nm,0.9s,baz=304,slow=7.7,SNR=682
GSI Gunungsitoli 57.21 237 P **P** **00 45 33.8 +1.0**
comp=Z,79nm,1.3s,comp=Z,2μm
KRKI Karangkates 57.29 216 P **P** **00 45 33.2 -0.1**
comp=Z,196nm,0.8s
LVZ Lovozero 57.33 335*ce*P **P** **00 45 32.4 -0.6**
LVZ pmax pmax
comp=Z,40nm,1.0s
LVZ Lovozero 57.33 335 *e*P **P** **00 45 32.0 -1.0**
comp=Z,27nm,0.6s
TGJI Tegal 57.65 220 P **P** **00 45 36.9 +1.0**
comp=Z,98nm,1.4s,comp=Z,5μm
APA Apatity 57.90 335 ⇓*i*P **P** **00 45 37.0 0.0**
APA *i* *PP **pP** **00 46 02.8 +1.1**
APA pmax pmax
comp=Z,278nm,1.6s
APA MLR MLR
comp=Z,1μm,13.0s
UGM Wanagama 57.92 218 *e*P **P** **00 45 37.5 -0.3**
comp=Z,294nm,1.6s
YOGI Yogyakarta 57.94 218 P **P** **00 45 37.5 -0.4**
comp=Z,298nm,1.5s

TNG Tangerang 58.25 223 P **P** **00 45 40.4 +0.3**
comp=Z,657nm,0.5s
BLSI Bandar Lampung 58.28 225 P **P** **00 45 40.5 +0.2**
comp=Z,147nm,0.4s
LEM Lembang 58.34 221 P **P** **00 45 41.4 +0.5**
comp=Z,70nm,1.5s
KEV Kevo 58.49 338 *e*P **P** **00 45 40.3 -0.7**
KEV pmax pmax
comp=Z,53nm,0.8s
KEV Kevo 58.49 338 *e*P **P** **00 45 40.2 -0.7**
comp=Z,53nm,0.8s
KEV Kevo 58.49 338 *ep* **P** **00 45 39.3 -1.7**
comp=Z,25nm,0.5s
YKA Yellowknife Ar 58.79 32 P **P** **00 45 42.6 -0.6**
YKA pP **pP** **00 46 07.3 -0.6**
YKA P'P' 01 15 21.3
YKA Yellowknife Ar 58.79 32 P **P** **00 45 42.6 -0.6**
comp=Z,72nm,1.1s,baz=302,slow=7.1,SNR=331
YKA pP **pP** **00 46 07.3 -0.6**
comp=Z,15nm,0.9s,baz=304,slow=6.9,SNR=2.9
YKA PKPPKP **P'P'df** **01 15 21.3 +1.2**
comp=Z,0.2nm,0.7s,baz=133,slow=1.7,SNR=4.0
ARCES ARCESS Array B 59.04 338 P **P** **00 45 44.2 -0.6**
ARCES ARCESS Array B 59.04 338 P **P** **00 45 44.2 -0.6**
comp=Z,12nm,0.5s,baz=56,slow=7.5,SNR=102
ARCES LR LR 01 16 36.2
comp=Z,217nm,18.1s,baz=26,slow=41
ARE0 ARCESS Array S 59.04 338 *e*P **P** **00 45 43.3 -1.6**
HYB Hyderabad 59.04 266 *i* P **P** **00 45 45.0 -0.7**
comp=Z,45nm,1.0s
KLMR Klimovskoe 59.42 326*c i*P **P** **00 45 47.1 -0.5**
KLMR *i* *PP **pP** **00 46 12.7 +0.3**
KLMR pmax pmax
comp=Z,329nm,1.1s
KLMR pmax pmax
comp=Z,58nm,3.1s
KLMR MLR MLR
comp=Z,704nm,16.0s
DAG Danmarks Havn 60.32 355⇑*i*P **P** **00 45 52.7 -0.8**
TRO Tromso 60.68 340 *e*P **P** **00 45 55.7 -0.4**
TRO *e*S S 00 53 56.0 -8.2
JOF Joensuu 61.38 331 *e*P **P** **00 46 00.0 -0.9**
JOF pmax pmax
comp=Z,72nm,0.5s
JOF Joensuu 61.38 331 *ep* **P** **00 46 00.0 -0.9**
comp=Z,72nm,0.5s
JOF Joensuu 61.38 331 *ep* **S** **00 54 09.2 -4.1**
comp=Z,1.8nm,0.8s
ABKT Ailbek 61.74 297 P **P** **00 46 04.0 +0.2**
comp=Z,550nm,1.1s,SNR=34
POO Poona 61.82 270⇑*ix* **P** **00 46 03.5 -1.0**
comp=Z,100nm,1.0s
PGC Sidney 62.18 48 *e*P **P** **00 46 07.1 +0.6**
comp=Z,4.0nm,1.1s
FITZ Fitzroy Crossi 62.25 198 *e*P **P** **00 46 06.1 -1.1**
comp=Z,57nm,1.1s
FITZ *ep*P **pP** **00 46 32.4 +0.2**
FITZ Fitzroy Crossi 62.25 198 *e*P **P** **00 46 06.3 -0.9**
FITZ *ep*P **pP** **00 46 32.0 -0.2**
CTA Charters Tower 62.45 176 *e*P **P** **00 46 07.7 -0.8**
CTA *ep*P **pP** **00 46 37.1 +3.5**
CTAO Charters Tower 62.45 176 *e*P **P** **00 46 07.7 -0.8**
CTAO pmax pmax
comp=Z,67nm,1.4s
CTAO Charters Tower 62.45 176 *e*P **P** **00 46 07.7 -0.8**
comp=Z,67nm,1.4s
WRAB Tennant Creek 62.60 188 *e*P **P** **00 46 09.0 -0.5**
WRAB *e**PP **pP** **00 46 35.9 +1.4**
WRAB pmax pmax
comp=Z,70nm,1.2s
WRAB Tennant Creek 62.60 188 *e*P **P** **00 46 09.0 -0.5**
comp=Z,70nm,1.2s
WRAB *ep*P **pP** **00 46 35.9 +1.4**
WRAB Tennant Creek 62.60 188 P **P** **00 46 09.6 +0.1**
comp=Z,268nm,1.3s,SNR=14
WRA Warramunga Arr 62.61 188 P **P** **00 46 08.7 -0.9**
WRA pP **pP** **00 46 34.2 -0.3**
WRA S **S** **00 54 24.9 -4.8**
WRA ⇑*e* 01 15 18.3
WRA Warramunga Arr 62.61 188 P **P** **00 46 08.7 -0.9**
comp=Z,29nm,1.0s,baz=7.4,slow=6.8,SNR=139
WRA pP **pP** **00 46 34.2 -0.3**
comp=Z,13nm,0.6s,baz=6.0,slow=6.8,SNR=4.0
WRA S **S** **00 54 24.9 -4.8**
comp=Z,0.8nm,1.1s,baz=352,slow=11,SNR=4.8
WRA PKP2bc 01 15 18.3
comp=Z,1.6nm,1.1s,baz=187,slow=2.7,SNR=10
NLWA Neilton Lookou 62.65 50 *e*P **P** **00 46 10.5 +0.8**
comp=Z,104nm,1.1s
STEI Steigen 62.84 340 *e*P **P** **00 46 09.8 -0.8**
MOS Moscow 63.18 322 *e*P **P** **00 46 11.4 -1.6**
MOS *e**PP **pP** **00 46 38.1 +0.1**
MOS *e* 00 48 31.2
MOS *e*S **S** **00 54 34.2 -1.9**
MOS *e* 00 55 52.8
MOS pmax pmax
comp=Z,800nm,1.7s
MOS pmax pmax
comp=N,200nm,1.5s
MOS pmax pmax
comp=Z,467nm,1.5s
MOS pmax pmax
comp=N,212nm,1.4s
MOS pmax pmax
comp=E,150nm,1.2s
KAF Kangasniemi 63.67 332 *e*P **P** **00 46 14.9 -1.2**
KAF pmax pmax
comp=Z,51nm,0.6s
KAF Kangasniemi 63.67 332 *ep* **P** **00 46 14.9 -1.2**
comp=Z,51nm,0.6s
KAF Kangasniemi 63.67 332 *ep* **S** **00 54 39.1 -3.0**
comp=Z,7.3nm,0.8s
PUL Pulkovo 63.74 328*c i*P **P** **00 46 16.5 -0.1**
PUL pmax pmax
comp=Z,525nm,1.2s
VRHR Novokhopersk 64.01 316 *e*P **P** **00 46 17.0 -1.6**
VRHR *e* 00 46 44.5
VRHR *e*S **S** **00 54 43.7 -2.9**
VRHR pmax pmax
comp=Z,60nm,1.1s
VRHR pmax pmax
comp=N,50nm,0.8s
VRHR pmax pmax
comp=E,30nm,0.6s
VRHR smax smax
comp=E,80nm,1.4s
VRHR smax smax
comp=Z,30nm,2.6s
VRHR smax smax
comp=N,70nm,1.7s
OBN Obninsk 64.04 322*c i*P **P** **00 46 18.1 -0.5**
OBN *i* *PP **pP** **00 46 43.8 +0.1**
OBN *i* 00 46 53.2
OBN *e* 00 48 40.7
OBN *i* S **S** **00 54 44.5 -2.3**
OBN *e*SS **SS** **00 58 54.4 -2.0**
OBN pmax pmax
comp=Z,335nm,1.3s
OBN MLR MLR
comp=Z,500nm,15.0s
OBN Obninsk 64.04 322 *e*P **P** **00 46 18.3 -0.3**
comp=Z,328nm,1.3s
OBN *ep*P **pP** **00 46 44.2 +0.5**
OBN Obninsk 64.04 322 P **P** **00 46 18.7 +0.1**
comp=Z,1μm,1.3s,SNR=21
LON Longmire 64.17 49 *e*P **P** **00 46 20.1 +0.3**
LON pmax pmax
comp=Z,32nm,1.1s
LON Longmire 64.17 49 *e*P **P** **00 46 20.1 +0.3**
comp=Z,32nm,1.1s
TDL Tradedollar La 64.17 50 P **P** **00 46 20.6 +0.8**
FINES FINESS Array B 64.20 331 P **P** **00 46 19.0 -0.6**
FINES pP **pP** **00 46 44.5 -0.2**
FINES S **S** **00 54 47.5 -1.2**
FINES FINESS Array B 64.20 331 P **P** **00 46 19.0 -0.6**
comp=Z,104nm,0.5s,baz=52,slow=7.4,SNR=769
FINES pP **pP** **00 46 44.5 -0.2**
comp=Z,63nm,1.0s,baz=46,slow=8.2,SNR=2.2
FINES S **S** **00 54 47.5 -1.2**
comp=Z,8.3nm,0.8s,baz=53,slow=9.8,SNR=13
FINES LR LR 01 16 29.9
comp=Z,429nm,18.4s,baz=59,slow=38
MOR8 Moi Rana 64.38 339⇑*i*P **P** **00 46 19.0 -1.8**
MOR8 AMB AMB 00 46 20.9
comp=Z,340nm,1.1s
MOR8 *ep*P **pP** **00 46 44.6 -1.3**

ETW Entiat 64.50 48 P **P** **00 46 22.1 +0.1**
FLOS Flostrand 64.54 340 *e*P **P** **00 46 21.4 -0.3**
COR Corvallis 64.57 52 *e*P **P** **00 46 23.3 +1.0**
COR *e* 00 48 42.7
COR pmax pmax
comp=Z,88nm,1.0s
COR Corvallis 64.57 52 *e*P **P** **00 46 23.3 +1.0**
comp=Z,88nm,1.0s
COR *e*PP **PP** **00 48 42.7 -2.3**
STOK Stokkvaagen 64.63 340 *e*P **P** **00 46 21.7 -0.6**
EBG Eilensburg 64.77 49 P **P** **00 46 24.4 +0.7**
KEBM Edson Butte 64.95 54 *e*P **P** **00 46 26.5 +1.5**
comp=Z,119nm,1.2s
VLL Laurance Lake 64.99 51 P **P** **00 46 26.2 +1.0**
SUMG Summit 65.16 0 *e*P **P** **00 46 26.1 -0.1**
SUMG pmax pmax
comp=Z,190nm,0.9s
SUMG Summit 65.16 0 *e*P **P** **00 46 26.1 -0.1**
comp=Z,190nm,0.9s
SUMG Summit 65.16 0⇑*i*P **P** **00 46 26.4 +0.2**
comp=Z,187nm,0.8s
VSR Storozhevoye 65.18 318 *e*P **P** **00 46 26.1 0.0**
VSR *e* 00 46 52.6
VSR *e*S **S** **00 55 00.9 -0.1**
VSR pmax pmax
comp=Z,40nm,0.8s
VSR pmax pmax
comp=N,90nm,1.1s
VSR pmax pmax
comp=E,70nm,0.9s
VSR smax smax
comp=N,100nm,1.1s
VSR smax smax
comp=E,90nm,1.1s
VSR smax smax
comp=Z,10.0nm,1.0s
VFP Flag Point 65.20 51 P **P** **00 46 27.3 +0.6**
VORD Divnogorie 65.27 317 *e*P **P** **00 46 26.9 +0.2**
VORD *e* 00 46 54.1
VORD *e*S **S** **00 55 02.4 +0.3**
VORD pmax pmax
comp=Z,80nm,1.8s
VORD pmax pmax
comp=N,150nm,0.7s
VORD pmax pmax
comp=E,110nm,0.7s
VORD smax smax
comp=N,90nm,1.0s
VORD smax smax
comp=Z,6.0nm,0.6s
VORD smax smax
comp=E,30nm,0.7s
KBO Bosley Butte 65.40 55 *e*P **P** **00 46 28.5 +0.6**
comp=E,124nm,1.3s
OD2 Odessa Site #2 65.51 47 P **P** **00 46 28.3 -0.1**
MAK Makhachkala 65.55 307 P **P** **00 46 31.2 +2.6**
MAK *e* 00 47 05.0
MAK *e*S S 00 55 19.5 +14
MAK MLR MLR
comp=Z,495nm,16.0s
WRD Warden 65.62 48 P **P** **00 46 29.0 -0.1**
HAWA Hanford 65.65 49 *e*P **P** **00 46 29.8 +0.5**
comp=Z,67nm,1.0s
NEW Newport 65.84 46 *e*P **P** **00 46 30.2 -0.3**
comp=Z,58nm,1.0s
NEW *e*PP **PP** **00 48 55.6 -0.5**
NEW Newport 65.84 46 ⇓P **P** **00 46 30.6 +0.1**
baz=66,SNR=50
HUMO Hull Mountain 65.93 54 *e*P **P** **00 46 32.3 +1.1**
comp=Z,41nm,1.5s
HUMO *e*PcP **PcP** **00 47 01.8 +0.6**
VSU Vasula 65.99 329*c i*P **P** **00 46 31.1 -0.1**
VSU pmax pmax
comp=Z,328nm,1.1s
KRMB Red Mountain 66.00 55 *e*P **P** **00 46 33.1 +1.4**
comp=Z,85nm,1.5s
A12A Yaak River Ran 66.20 45⇑P **P** **00 46 33.3 +0.4**
baz=66,SNR=18
AS31 Alice Springs 66.33 188 *e*P **P** **00 46 33.7 -0.1**
ASAR Alice Springs 66.33 188 P **P** **00 46 33.8 -0.1**
ASAR pP **pP** **00 46 58.9 -0.2**
ASAR ⇑*e* 01 15 10.1
ASAR Alice Springs 66.33 188 P **P** **00 46 33.8 -0.1**
comp=Z,22nm,1.0s,baz=3.5,slow=4.9,SNR=98
ASAR pP **pP** **00 46 58.9 -0.2**
comp=Z,13nm,0.6s,baz=4.5,slow=6.4,SNR=3.5
ASAR LR LR 01 14 33.4
comp=Z,156nm,19.6s,baz=4.2,slow=35
ASAR PKP2bc 01 15 10.1
comp=Z,3.0nm,1.0s,baz=181,slow=3.0,SNR=14
KHMM Horse Mountain 66.49 56 *e*P **P** **00 46 35.9 +0.9**
comp=Z,64nm,1.2s
B12A Libby 66.52 45 ⇓P **P** **00 46 35.2 +0.3**
baz=66
C11A Tepee Creek (N 66.56 46⇑P **P** **00 46 35.7 +0.6**
baz=66
YBH Yreka Blue Hor 66.60 54 *e*P **P** **00 46 36.4 +0.8**
comp=Z,31nm,1.1s
YBH *e*PcP **PcP** **00 47 05.4 +1.3**
YBH Yreka Blue Hor 66.60 54 P **P** **00 46 36.2 +0.6**
comp=Z,22nm,1.0s,baz=336,slow=2.9,SNR=35
SCO Scoresbysund 66.67 354⇑*i*P **P** **00 46 35.4 0.0**
comp=Z,57nm,0.9s
MBWA Marble Bar 66.69 203 *e*P **P** **00 46 35.8 -0.3**
A13A Flathead Natio 66.84 44 ⇓P **P** **00 46 37.0 0.0**
baz=67
WALA Waterton Lakes 67.02 44 *e*P **P** **00 46 38.0 -0.2**
comp=Z,1.9nm,1.1s
WALA *e*PP **PP** **00 49 07.9 +1.4**
C12B Naegeli Ranch, 67.05 46⇑P **P** **00 46 38.6 +0.3**
baz=67,SNR=10
B13A Whitefish 67.16 45⇑P **P** **00 46 39.5 +0.5**
baz=67,SNR=44
KIPM Iron Peak 67.28 56 *e*P **P** **00 46 40.5 +0.5**
comp=Z,52nm,1.2s
KCPM Cahto Peak 67.29 57 *e*P **P** **00 46 40.7 +0.6**
comp=Z,37nm,1.3s
BSMT Bassoo Peak 67.32 45 *e*P **P** **00 46 40.6 +0.5**
A14A Double T Ranch 67.33 44 ⇓P **P** **00 46 39.8 -0.3**
baz=67,SNR=43
WDC Whiskeytown Da 67.39 55 *e*P **P** **00 46 40.1 -0.4**
WDC pmax pmax
comp=Z,29nm,1.1s
WDC Whiskeytown Da 67.39 55 *e*P **P** **00 46 40.0 -0.4**
comp=Z,29nm,1.1s
BLMT Blacktail Moun 67.45 45 *e*P **P** **00 46 41.5 +0.5**
D12A Red Ives Fores 67.53 46 ⇓P **P** **00 46 41.2 -0.1**
baz=67
C13A Hot Springs 67.54 45 ⇓P **P** **00 46 42.1 +0.7**
baz=67,SNR=39
JTMT Jette 67.66 45 *e*P **P** **00 46 42.5 +0.3**
A15A Johnson Ranch, 67.67 43⇑P **P** **00 46 41.7 -0.5**
baz=67,SNR=44
DGRG David-gareji 67.72 306 P **P** **00 46 43.3 +0.7**
YBMT Yellow Bay 67.72 45 *e*P **P** **00 46 43.2 +0.6**
KIV Kislovodsk 67.75 310*c i*P **P** **00 46 43.3 +0.5**
KIV *i* 00 47 07.1
KIV *i* 00 49 13.5
KIV *i* S **S** **00 55 36.6 +4.1**
KIV pmax pmax
comp=Z,246nm,1.0s
KIV Kislovodsk 67.75 310 *e*P **P** **00 46 43.5 +0.7**
comp=Z,188nm,0.9s
KIV *e*PcP **PcP** **00 47 09.7 +0.8**
KIV Kislovodsk 67.75 310 P **P** **00 46 43.9 +1.1**
SNR=37
KIV Kislovodsk 67.75 310 P **P** **00 46 43.0 +0.2**
comp=Z,1μm,0.8s,SNR=50
KBZ Khabaz 67.77 309 P **P** **00 46 43.5 +0.8**
KBZ Khabaz 67.77 309 P **P** **00 46 43.5 +0.8**
KBZ Khabaz 67.77 309 P **P** **00 46 43.5 +0.8**
comp=Z,59nm,0.8s,baz=55,slow=5.8,SNR=85
KBZ LR LR 01 21 36.9
comp=Z,271nm,18.9s,baz=204,slow=40
ZEI Tsey 67.78 308 *e*P **P** **00 46 42.9 -0.3**
ZEI pmax pmax
comp=Z,62nm,0.9s
B14A Marquette Ranc 67.79 44⇑P **P** **00 46 43.4 +0.3**
baz=68,SNR=19
E12A Beaver Dam Sad 67.81 47 ⇓P **P** **00 46 43.5 +0.3**
baz=68
BMO Blue Mountains 67.83 49 *e*P **P** **00 46 43.6 +0.3**
BMO pmax pmax
comp=Z,34nm,1.0s
BMO Blue Mountains 67.83 49 *e*P **P** **00 46 43.6 +0.3**
comp=Z,34nm,1.0s

C14A **Swan Lake** 67.92 45 ⇑P P 00 46 44.2 +0.4
baz=68
TBLG **Delisi** 67.93 307 P P 00 46 44.7 +0.8
TBLG **Delisi** 67.93 307 P P 00 46 44.7 +0.8
MOD **Modoc** 67.93 53 *e*P P 00 46 44.0 0.0
comp=Z,26nm,1.1s
SWMT **Swartz Lake** 67.95 45 *e*P P 00 46 44.3 +0.3
D13A **Huson** 67.97 46 ⇑P P 00 46 44.2 +0.1
baz=68,SNR=42
EIDS **Eidsvold** 68.10 171 *e*P P 00 46 45.8 +1.0
comp=Z,25nm,0.9s
DZM **Mont Dzumac** 68.12 156 *e*P P 00 46 46.2 +1.1
comp=Z,88nm,1.5s
DZM **Mont Dzumac** 68.12 156 P P 00 46 46.7 +1.6
comp=Z,25nm,1.1s,baz=17,slow=6.4,SNR=12
GOR **Gori** 68.14 307 P P 00 46 46.4 +1.2
ONI **Oni** 68.15 308 P P 00 46 46.4 +1.2
B15A **Bradely Ranch,** 68.19 44 ⇑P P 00 46 45.3 -0.1
baz=68,SNR=95
A16A **West Butte Ran** 68.27 43 ⇓P P 00 46 45.6 -0.4
baz=68
SLMT **Seeley Lake** 68.39 45 *e*P P 00 46 46.8 -0.1
F12A **Elk City** 68.39 47 ⇓P P 00 46 47.0 +0.1
baz=68,SNR=61
MSO **Missoula** 68.42 46 *e*P P 00 46 46.8 -0.1
comp=Z,31nm,1.1s
MSO **Missoula** 68.42 46 ⇑P P 00 46 46.8 -0.1
baz=68,SNR=37
NACGM **Naroch** 68.44 326 *e*P P 00 46 44.0 -2.8
D14A **Greenough** 68.48 45 ⇓P P 00 46 47.1 -0.3
baz=68,SNR=40
C15A **Salmond Ranch,** 68.51 44 ⇓P P 00 46 48.0 +0.4
baz=68,SNR=99
MSVF **Nonsavu** 68.52 143 *e*P P 00 46 49.1 +1.4
MSVF pmax pmax
comp=Z,36nm,1.3s
MSVF **Nonsavu** 68.52 143 *e*P P 00 46 49.1 +1.4
comp=Z,36nm,1.3s
E13A **Victor** 68.53 46 ⇑P P 00 46 47.3 -0.4
baz=68,SNR=14
B16A **M & M Farms, S** 68.56 43 ⇑P P 00 46 47.5 -0.2
baz=68,SNR=21
WVOR **Wild Horse Val** 68.57 52 *e*P P 00 46 48.1 +0.1
WVOR pmax pmax
comp=Z,51nm,1.2s
WVOR **Wild Horse Val** 68.57 52 *e*P P 00 46 48.1 +0.1
comp=Z,51nm,1.2s
A17A **Triple J Farms** 68.72 43 ⇑P P 00 46 48.4 -0.4
baz=68,SNR=18
CHMT **Chamberlain Mo** 68.72 45 *e*P P 00 46 48.5 -0.5
G12A **Big Creek, Yel** 68.75 48 ⇑P P 00 46 48.6 -0.5
baz=68
FFC **Flin Flon** 68.79 34 *e*P P 00 46 48.6 -0.3
FFC pmax pmax
comp=Z,58nm,0.9s
FFC **Flin Flon** 68.79 34 *e*P P 00 46 48.6 -0.3
comp=Z,58nm,0.9s
FFC **Flin Flon** 68.79 34 P P 00 46 48.9 0.0
comp=Z,357nm,0.9s,SNR=42
OHCM **Honcut** 68.79 56 *e*P P 00 46 49.1 -0.1
AKH **Akhalkalaki** 68.86 307 P P 00 46 51.4 +1.5
F13A **Darby** 68.87 47 ⇓P P 00 46 49.1 -0.8
baz=69,SNR=12
GNI **Garni** 68.90 305 *e*P P 00 46 50.5 +0.4
comp=Z,123nm,1.5s
GNI **Garni** 68.90 305 P P 00 46 52.0 +1.9
SNR=7.9
E14A **Clinton** 68.92 46 ⇑P P 00 46 49.9 -0.2
baz=69,SNR=22
C16A **Fuhringer Ranc** 68.94 44 ⇑P P 00 46 50.0 -0.1
baz=69,SNR=84
D15A **Lincoln** 69.03 45 ⇑P P 00 46 50.7 -0.1
baz=69,SNR=30
B17A **L&G Farms, Che** 69.10 43 ⇓P P 00 46 51.0 -0.1
baz=69,SNR=51
DOMB **Dombas** 69.10 338 *e*P P 00 46 50.9 0.0
DOMB AMB AMB 00 46 52.6
comp=Z,111nm,1.3s
A18A **Metzger Ranch,** 69.16 42 ⇑P P 00 46 51.2 -0.2
baz=69,SNR=29
NB2 **NORSAR Subarra** 69.31 337 P P 00 46 51.6 -0.6
baz=35,slow=6.5
NB2 **NORSAR Subarra** 69.31 337 P P 00 46 51.6 -0.6
comp=Z,119nm,0.7s,baz=35,slow=6.5
NOA **NORSAR Array B** 69.31 337 P P 00 46 51.5 -0.6
NOA pP pP 00 47 17.3 -0.3
NOA **NORSAR Array B** 69.31 337 P P 00 46 51.5 -0.6
comp=Z,189nm,1.0s,baz=36,slow=6.2,SNR=231
NOA pP pP 00 47 17.3 -0.3
comp=Z,68nm,1.1s,baz=36,slow=6.3,SNR=3.4
NOA LR LR 01 19 13.7
comp=Z,242nm,20.9s,baz=25,slow=38
E15A **Deer Lodge** 69.36 45 ⇓P P 00 46 52.6 -0.3
baz=69,SNR=50
G13A **Cobalt** 69.37 47 ⇓P P 00 46 52.4 -0.5
baz=69,SNR=23
F14A **Wisdom** 69.37 46 ⇑P P 00 46 52.5 -0.5
baz=69,SNR=6.9
H12A **Diamond D Ranc** 69.38 48 ⇑P P 00 46 52.9 -0.2
baz=69,SNR=61
NC602 **NORSAR Array S** 69.46 337 *e*P P 00 46 52.3 -0.7
D16A **Dana Ranch, Ca** 69.54 44 ⇓P P 00 46 53.6 -0.3
baz=69,SNR=43
B18A **Beardsley Farm** 69.54 43 ⇓P P 00 46 53.6 -0.2
baz=69,SNR=72
C17A **Wharram Farm,** 69.55 44 ⇓P P 00 46 53.4 -0.5
baz=69,SNR=54
MFID **Camas Ranch** 69.56 50 *e*P P 00 46 54.3 +0.3
comp=Z,56nm,1.3s
MFID **Camas Ranch** 69.56 50 ⇓P P 00 46 54.1 +0.1
baz=69,SNR=19
NAO01 **NORSAR Array S** 69.56 337 *e*P P 00 46 53.0 -0.6
comp=Z,92nm,0.9s
KARS **Kars** 69.59 307 *e*P P 00 46 54.8 +0.4
HRY **Holter Researc** 69.60 45 *e*P P 00 46 54.5 +0.3
SOC **Sochi** 69.66 311 *c i*P P 00 46 54.2 -0.3
SOC *e*PPP PPP 00 51 15.3
SOC *e*S S 00 55 54.0 -0.8
SOC *e*SS SS 01 00 20.4 -3.5
SOC pmax pmax
comp=Z,74nm,0.9s
SOC MLR MLR
comp=Z,317nm,15.0s
G14A **Jackson** 69.69 47 ⇑P P 00 46 54.1 -0.9
baz=69
H13A **Challis** 69.70 48 ⇑P P 00 46 54.7 -0.3
baz=69,SNR=57
A19A **Klindworth Far** 69.70 42 ⇓P P 00 46 54.8 0.0
baz=69,SNR=76
I12A **Atlanta** 69.71 49 ⇑P P 00 46 55.3 +0.2
baz=69,SNR=82
E16A **East Helena** 69.80 45 ⇑P P 00 46 55.6 +0.1
baz=70
EGMT **Eagleton** 69.80 43 *e*P P 00 46 55.5 0.0
comp=Z,122nm,1.0s
EGMT **Eagleton** 69.80 43 ⇑P P 00 46 55.6 +0.1
baz=70,SNR=85
F15A **Butte** 69.82 46 ⇑P P 00 46 55.6 -0.1
baz=70,SNR=47
LRM **Limekiln Ridge** 69.86 46 *e*P P 00 46 56.0 0.0
D17A **Six Diamond Ra** 69.90 44 ⇓P P 00 46 56.0 -0.2
baz=70,SNR=32
B19A **Brinkman Farms** 69.92 42 ⇓P P 00 46 56.1 0.0
baz=70,SNR=10
ARTV **Artvin** 69.92 308 *i*P P 00 46 57.1 +0.7
BCA **Borcka** 69.93 308 *e*P P 00 46 56.3 0.0
HMDM **Hanimaadhoo** 69.97 261 P P 00 46 57.8 +1.0
comp=Z,114nm,1.0s,comp=Z,1μm
CLDR **Caldiran** 70.02 305 *e*P P 00 46 57.5 +0.4
BANOM **Banah** 70.04 287 P P 00 46 57.6 +0.5
SNR=17
DLMT **Dillon** 70.08 46 *e*P P 00 46 57.3 0.0
comp=Z,88nm,1.1s
A20A **Cobblestone Ra** 70.13 41 ⇑P P 00 46 57.5 +0.1
baz=70,SNR=16
ANN **Anapa** 70.13 313 *c i*P P 00 46 54.5 -2.8
ANN *i* *PP PcP 00 47 18.6 -0.1
ANN *e* 00 49 32.0
ANN *e*S S 00 55 58.4 -1.9
ANN pmax pmax
comp=Z,137nm,1.4s
ANN MLR MLR
comp=Z,484nm,22.0s
H14A **Leadore** 70.15 47 ⇑P P 00 46 57.6 -0.2
baz=70,SNR=8.9
WBK **Wadi Bani Khal** 70.19 283 P P 00 46 59.9 +1.8
SNR=17

I13A **Wildhorse Cree** 70.19 48 ⇓P P 00 46 58.5 +0.4
baz=70,SNR=76
DDEM **Demirkent** 70.21 308 *i*P P 00 46 59.0 +0.9
HLID **Hailey** 70.25 49 *e*P P 00 46 58.6 +0.2
comp=Z,31nm,1.1s
HLID **Hailey** 70.25 49 ⇑P P 00 46 58.8 +0.3
baz=70,SNR=36
G15A **Dillon** 70.26 46 ⇑P P 00 46 58.5 0.0
baz=70,SNR=150
E17A **Martinsdale** 70.27 45 ⇑P P 00 46 58.7 +0.3
baz=70,SNR=78
CMB **Columbia Colle** 70.27 56 *e*P P 00 46 58.8 +0.3
CMB pmax pmax
comp=Z,63nm,1.1s
CMB **Columbia Colle** 70.27 56 *e*P P 00 46 58.8 +0.3
comp=Z,63nm,1.1s
AKASG **Malin Array Be** 70.29 322 P P 00 46 57.8 -0.4
AKASG *PP pP 00 47 23.5 -0.2
AKASG S S 00 56 01.4 -0.5
AKASG **Malin Array Be** 70.29 322 P P 00 46 57.8 -0.4
AKASG pP pP 00 47 23.5 -0.2
AKASG S S 00 56 01.4 -0.5
AKASG **Malin Array Be** 70.29 322 P P 00 46 57.8 -0.4
comp=Z,29nm,0.5s,baz=44,slow=6.4,SNR=115
AKASG pP pP 00 47 23.5 -0.2
comp=Z,79nm,1.0s,baz=42,slow=6.6,SNR=6.3
AKASG S S 00 56 01.4 -0.5
comp=Z,6.0nm,1.0s,baz=39,slow=12,SNR=10
AKASG LR LR 01 20 13.0
comp=Z,433nm,18.1s,baz=50,slow=38
AKBB **Malin Array Si** 70.29 322 *e*P P 00 46 57.6 -0.6
AKBB *e**PP pP 00 47 23.9 +0.2
AKBB **Malin Array Si** 70.29 322 *e*P P 00 46 57.6 -0.6
AKBB *e*pP pP 00 47 23.9 +0.2
MCMT **McKenzie Canyo** 70.29 47 *e*P P 00 46 58.3 -0.4
comp=Z,4.9nm,0.9s
KIEV **Kiev** 70.30 322 *e*P P 00 46 57.6 -0.7
KIEV *e**PP pP 00 47 23.9 +0.1
KIEV *e*S S 00 56 02.7 +0.6
KIEV pmax pmax
comp=Z,85nm,0.9s
KIEV **Kiev** 70.30 322 *e*P P 00 46 57.6 -0.7
comp=Z,85nm,0.9s
KIEV *e*pP pP 00 47 23.9 +0.1
KIEV *e*S S 00 56 02.7 +0.6
AGRB **Hanur-Agry** 70.31 306 *e*P P 00 47 00.1 +1.2
F16A **Kennard Place,** 70.32 46 ⇑P P 00 46 58.7 0.0
baz=70,SNR=32
D18A **Linhart Farms,** 70.33 44 ⇑P P 00 46 58.8 +0.1
baz=70,SNR=19
SFJD **Kangerlussuaq** 70.33 5 *e*P P 00 46 57.3 -0.9
comp=Z,103nm,1.0s
SFJD **Kangerlussuaq** 70.33 5 ⇑*i*P P 00 46 57.7 -0.5
comp=Z,61nm,1.0s
C19A **Slack Wire Ran** 70.35 43 ⇑P P 00 46 59.1 +0.4
baz=70,SNR=103
B20A **Solberg Farm,** 70.38 42 ⇑P P 00 46 59.1 +0.2
baz=70,SNR=34
BOZ **Bozeman (W)** 70.40 46 *e*P P 00 46 59.6 +0.3
BOZ pmax pmax
comp=Z,49nm,1.0s
BOZ **Bozeman (W)** 70.40 46 *e*P P 00 46 59.6 +0.3
comp=Z,49nm,1.0s
BOZ **Bozeman (W)** 70.40 46 ⇓P P 00 46 59.7 +0.5
baz=70,SNR=52
SAO **San Andreas Ge** 70.41 58 *e*P P 00 46 59.8 +0.5
SAO pmax pmax
comp=Z,31nm,1.4s
SAO **San Andreas Ge** 70.41 58 *e*P P 00 46 59.8 +0.5
comp=Z,30nm,1.4s
J13A **Cove Ranch, Pi** 70.50 49 ⇓P P 00 47 00.3 +0.5
baz=70,SNR=34
H15A **Lima** 70.54 47 ⇑P P 00 47 00.1 -0.1
baz=70,SNR=9.5
A21A **Bergtoll Ranch** 70.54 41 ⇓P P 00 46 59.8 -0.1
baz=70,SNR=48
SUW **Suwalki** 70.55 327 *e*P P 00 46 59.2 -0.5
comp=Z,100nm,1.2s
SUW *e*pP pP 00 47 25.1 -0.1
SUW **Suwalki** 70.55 327 *e*P P 00 46 59.2 -0.5
comp=Z,100nm,1.2s
SUW *e*pP pP 00 47 25.1 -0.1
SUW **Suwalki** 70.55 327 *e*P P 00 46 58.7 -1.0
SUW *e**PP pP 00 47 24.7 -0.5
SUW pmax pmax
comp=Z,137nm,1.2s
SUW **Suwalki** 70.55 327 *e*P P 00 46 58.7 -1.0
comp=Z,137nm,1.2s
SUW *e*pP pP 00 47 24.7 -0.5
I14A **Mackay** 70.55 48 ⇓P P 00 47 00.8 +0.6
baz=70
SMDO **Samad** 70.57 284 P P 00 47 02.1 +1.5
SNR=9.8
G16A **Mcks Hill, Enn** 70.59 46 ⇑P P 00 47 00.5 +0.1
baz=70,SNR=31
HYA **Hoyanger** 70.60 339 *e*P P 00 46 59.7 -0.3
BMN **Battle Mountai** 70.66 53 *e*P P 00 47 01.1 +0.2
BMN pmax pmax
comp=Z,46nm,1.1s
BMN **Battle Mountai** 70.66 53 *e*P P 00 47 01.1 +0.2
comp=Z,46nm,1.1s
E18A **Harlowton** 70.69 44 ⇓P P 00 47 01.1 +0.2
baz=70,SNR=12
F17A **Fitzpatrick Pl** 70.74 45 ⇓P P 00 47 01.7 +0.5
baz=70,SNR=33
HOQ **Hoqain** 70.77 285 P P 00 47 02.7 +1.0
SNR=19
D19A **Cripps Ranch,** 70.81 43 ⇑P P 00 47 01.6 0.0
baz=70,SNR=46
HATD **Hatta, Dubai** 70.83 286 P P 00 47 02.8 +0.8
SNR=34
B21A **Ellsworth Farm** 70.88 41 ⇓P P 00 47 01.7 -0.2
baz=71,SNR=13
C20A **Veseth Ranch,** 70.88 42 ⇑P P 00 47 02.0 0.0
baz=71,SNR=35
J14A **Carey** 70.91 48 ⇓P P 00 47 03.3 +1.0
baz=71
KONO **Kongsberg** 70.91 337 *e*P P 00 47 01.8 -0.1
KONO **Kongsberg** 70.91 337 *e*P P 00 47 01.5 -0.4
KONO *e**PP pP 00 47 27.2 -0.2
KONO pmax pmax
comp=Z,250nm,1.6s
KONO **Kongsberg** 70.91 337 *e*P P 00 47 01.5 -0.4
comp=Z,250nm,1.6s
KONO *e*pP pP 00 47 27.2 -0.2
JMDO **Jabal Madar** 70.96 283 P P 00 47 03.8 +1.0
SNR=15
ASHO **Ashiyiah** 70.98 286 P P 00 47 03.3 +0.4
SNR=29
A22A **Carney Farms,** 71.02 40 ⇓P P 00 47 02.6 -0.2
baz=71,SNR=97
I15A **Monteview** 71.03 47 ⇓P P 00 47 03.2 +0.1
baz=71
QLMT **Earthquake Lak** 71.05 46 *e*P P 00 47 03.6 +0.4
QLMT *e*PP PP 00 49 45.9 +4.4
EZM **Erzurum** 71.06 307 *e*P P 00 47 04.0 +0.6
NAZ **Nazwa, Dubai** 71.07 287 P P 00 47 04.5 +1.1
SNR=6.9
G17A **Pierce Place,** 71.09 45 ⇑P P 00 47 04.0 +0.6
baz=71,SNR=28
H16A **Russell Place,** 71.23 46 ⇓P P 00 47 04.9 +0.5
baz=71,SNR=37
F18A **Big Timber** 71.23 44 ⇑P P 00 47 04.5 +0.2
baz=71,SNR=70
D20A **Manuel Ranch,** 71.24 43 ⇓P P 00 47 04.2 0.0
baz=71,SNR=67
C21A **Desert Coulee** 71.25 42 ⇑P P 00 47 04.0 -0.2
baz=71,SNR=18
NVAR **Mina Array Bea** 71.29 55 P P 00 47 05.2 +0.4
NVAR **Mina Array Bea** 71.29 55 P P 00 47 05.2 +0.4
comp=Z,22nm,0.9s,baz=290,slow=5.8,SNR=122
GCMT **Greycliff** 71.33 45 *e*P P 00 47 05.3 +0.5
comp=Z,53nm,1.1s
GCMT *e*PP PP 00 49 45.3 +1.6
E19A **Rath Farm, Rou** 71.34 44 ⇓P P 00 47 04.9 +0.1
baz=71,SNR=53
BSY **Bisya** 71.38 284 P P 00 47 06.5 +1.2
SNR=19
YMR **Madison River** 71.40 46 *e*P P 00 47 05.8 +0.4
comp=Z,57nm,1.1s
YMR *e*PP PP 00 49 43.9 -0.6
CUKT **Cukurca** 71.41 304 *e*P P 00 47 05.1 -0.3
ASK **Askoy** 71.44 339 *e*P P 00 47 04.3 -0.7
ASK AMB AMB 00 47 05.2
comp=Z,312nm,1.1s
J15A **Blackfoot** 71.45 48 ⇑P P 00 47 06.4 +0.8
baz=71,SNR=30
RUND **Rundenannen** 71.45 339 *e*P P 00 47 04.3 -0.8
RUND AMB AMB 00 47 06.6
comp=Z,330nm,1.3s
B22A **Reddig Ranch S** 71.46 41 ⇑P P 00 47 05.4 -0.1
baz=71,SNR=5.9
BAYT **Ayd¯–ntepe-Bay** 71.47 308 *e*P P 00 47 05.7 -0.1
MLAC **Mammoth Lakes** 71.48 56 ⇓P P 00 47 06.7 +0.7
baz=71
VRTB **Varto-Mus** 71.49 306 *e*P P 00 47 05.8 -0.1
ARQ **Araqi** 71.49 285 P P 00 47 07.1 +1.1
SNR=19
KOPT **Kop Dagi** 71.50 308 *i*P P 00 47 07.7 +1.6
YNR **Norris Junctio** 71.53 46 *e*P P 00 47 07.0 +0.8
comp=Z,65nm,1.3s
ODD1 **Odda** 71.54 338 *e*P P 00 47 05.6 -0.1
ODD1 AMB AMB 00 47 07.0
comp=Z,212nm,1.6s
A23A **Redstone** 71.54 40 ⇓P P 00 47 05.6 -0.3
baz=71,SNR=9.9
K14A **Jones Ranch, D** 71.61 49 ⇑P P 00 47 07.2 +0.7
baz=71
EGD **Espegrend** 71.61 339 *e*P P 00 47 05.3 -0.7
EGD AMB AMB 00 47 07.7
comp=Z,226nm,1.5s
ELK **Elko** 71.61 51 *e*P P 00 47 07.4 +0.7
YFT **Old Faithful** 71.62 46 *e*P P 00 47 08.3 +1.6
comp=Z,63nm,1.1s
E20A **Meyer Farm, Mu** 71.64 43 ⇓P P 00 47 06.6 0.0
baz=71,SNR=38
I16A **Newdale** 71.65 47 ⇓P P 00 47 07.7 +0.8
baz=71,SNR=45
F19A **Roth Farm, Mol** 71.67 44 ⇑P P 00 47 07.1 +0.2
baz=71,SNR=64
G18A **Lazy EL Ranch,** 71.71 45 ⇑P P 00 47 06.8 -0.3
baz=71,SNR=14
LKWY **Lake** 71.77 46 *e*P P 00 47 09.5 +1.8
LKWY pmax pmax
comp=Z,45nm,1.1s
LKWY **Lake** 71.77 46 *e*P P 00 47 09.5 +1.8
comp=Z,46nm,1.1s
H17A **Grant Village** 71.79 46 ⇑P P 00 47 09.6 +1.8
baz=72,SNR=58
SIM **Simferopol'** 71.80 315 *ce*P P 00 47 07.5 0.0
SIM pmax pmax
comp=Z,73nm,1.0s
SIM MLR MLR
comp=Z,200nm,16.0s
BNGL **BINGOL** 71.80 306 *i*P P 00 47 09.4 +1.5
GUMT **Gumushane** 71.81 308 *e*P P 00 47 07.8 0.0
MTUM **Tungsten Hills** 71.82 56 *e*P P 00 47 08.5 +0.5
B23A **Brockton** 71.83 40 ⇓P P 00 47 07.6 -0.1
baz=72,SNR=73
K15A **Arbon** 71.87 48 ⇑P P 00 47 09.0 +0.9
baz=72,SNR=16
C22A **Vida** 71.90 41 ⇓P P 00 47 07.6 -0.5
baz=72,SNR=8.3
IMW **Indian Meadow** 71.93 47 *e*P P 00 47 09.6 +1.0
comp=Z,44nm,1.0s
IMW *e*PP PP 00 49 49.6 +0.5
FLWY **Flagg Ranch** 71.94 46 *e*P P 00 47 09.1 +0.5
comp=Z,72nm,1.4s
FLWY *e*PP PP 00 49 47.8 -1.3
ESPY **Espiye-Giresun** 71.94 309 *e*P P 00 47 07.2 -1.2
A24A **Westby** 71.98 39 ⇓P P 00 47 08.2 -0.3
baz=72,SNR=17
SIRN **S¯–rnak** 71.98 304 *i*P P 00 47 09.3 +0.5
J16A **Bone** 71.98 48 ⇓P P 00 47 09.6 +0.7
baz=72,SNR=78
RLMT **Red Lodge** 71.99 45 *e*P P 00 47 09.2 +0.3
comp=Z,47nm,1.1s
RLMT **Red Lodge** 71.99 45 ⇑P P 00 47 08.9 0.0
baz=72,SNR=30
BLS5 **Blasjo** 72.00 338 *e*P P 00 47 08.3 -0.1
BLS5 AMB AMB 00 47 10.6
comp=Z,72nm,1.4s
DCID1 **Drake Creek** 72.00 47 *e*P P 00 47 10.6 +1.6
comp=Z,111nm,1.1s
BNGB **Bing ¶ll** 72.06 307 *e*P P 00 47 09.6 +0.3
RCTC **Rector, Farmer** 72.07 57 ⇑P P 00 47 09.3 0.0
baz=72
H18A **Shoshone NF, C** 72.09 45 ⇑P P 00 47 09.5 0.0
baz=72,SNR=22
RRI2 **Red Ridge** 72.09 47 *e*P P 00 47 10.2 +0.6
comp=Z,99nm,1.1s
F20A **Billings** 72.11 44 ⇓P P 00 47 09.5 0.0
baz=72
I17A **Pilgrim Ck.** 72.11 46 ⇑P P 00 47 11.2 +1.5
baz=72,SNR=34
MOOW **Moose Sponds** 72.14 47 *e*P P 00 47 10.6 +0.8
comp=Z,69nm,1.2s
MOOW *e*PP PP 00 49 50.8 0.0
KELT **Kelkit** 72.14 308 *i*P P 00 47 10.9 +1.1
E21A **Keefer Ranch,** 72.15 43 ⇓P P 00 47 10.0 +0.4
baz=72,SNR=12
D22A **Cohagen** 72.17 42 ⇑P P 00 47 09.5 -0.2
baz=72,SNR=28
TPAW **Teton Pass** 72.20 47 *e*P P 00 47 11.2 +1.0
comp=Z,105nm,1.4s
C23A **Lambert** 72.20 41 ⇓P P 00 47 09.9 0.0
baz=72,SNR=37
DGMT **Dagmar** 72.20 40 *e*P P 00 47 09.9 0.0
comp=Z,106nm,0.9s
DGMT **Dagmar** 72.20 40 ⇑P P 00 47 09.7 -0.2
baz=72,SNR=14
TIN **Tinemaha** 72.22 56 ⇑P P 00 47 11.0 +0.7
baz=72,SNR=6.1
SMMC **Simmler** 72.24 58 ⇑P P 00 47 10.7 +0.3
baz=72,SNR=5.0
BORG **Borgarnes** 72.24 353 P P 00 47 11.6 +1.9
comp=Z,399nm,1.1s,SNR=6.0
K16A **Soda Springs** 72.29 48 ⇓P P 00 47 11.2 +0.4
baz=72,SNR=72
LOHW **Long Hollow** 72.30 47 *e*P P 00 47 11.6 +0.8
comp=Z,91nm,1.6s
SNOW **Snow King Moun** 72.32 47 *e*P P 00 47 11.5 +0.5
comp=Z,35nm,1.0s
HVU **Hansel Valley** 72.33 49 *e*P P 00 47 11.6 +0.7
HVU pmax pmax
comp=Z,37nm,1.0s
HVU **Hansel Valley** 72.33 49 *e*P P 00 47 11.6 +0.7
comp=Z,38nm,1.0s
REDW **Red Top Meadow** 72.34 47 *e*P P 00 47 11.7 +0.7
comp=Z,56nm,1.2s
L15A **Malad City** 72.40 49 ⇑P P 00 47 11.7 +0.4
baz=72
J17A **Brown Place, J** 72.41 47 ⇓P P 00 47 12.0 +0.5
baz=72,SNR=20
H19A **Powell** 72.45 45 ⇑P P 00 47 11.9 +0.3
baz=72,SNR=16
VES **Vestal, Richgr** 72.47 57 ⇑P P 00 47 11.2 -0.5
baz=72,SNR=15
G20A **Bridger** 72.47 44 ⇑P P 00 47 11.0 -0.7
baz=72,SNR=22
AHID **Auburn Hatcher** 72.60 48 *e*P P 00 47 12.6 0.0
comp=Z,38nm,1.1s
F21A **Absaloka Mine,** 72.62 43 ⇓P P 00 47 12.3 -0.1
baz=72
PKM **Peak Mountain** 72.62 59 ⇑P P 00 47 13.4 +0.6
baz=72,SNR=9.8
D23A **Lindsay** 72.63 41 ⇓P P 00 47 12.6 +0.1
baz=72,SNR=37
I18A **Diamond G Ranc** 72.67 46 ⇑P P 00 47 13.5 +0.5
baz=72,SNR=15
SNART **Snartemo** 72.70 337 ⇑*i*P P 00 47 12.6 +0.1
SNART AMB AMB 00 47 14.7
comp=Z,124nm,1.2s
CWC **Cottonwood Cre** 72.71 56 ⇓P P 00 47 13.1 -0.1
baz=72,SNR=17
K17A **Gardner Place,** 72.71 48 ⇑P P 00 47 13.3 +0.1
baz=72
M15A **Larsen Ranch,** 72.73 49 ⇓P P 00 47 13.4 +0.2
baz=72,SNR=30
C24A **Savage** 72.76 41 ⇑P P 00 47 13.0 -0.2
baz=72,SNR=12
E22A **Miles City** 72.78 42 ⇓P P 00 47 13.1 -0.2
baz=72,SNR=15
GRAC **Grapevine Rang** 72.78 55 ⇓P P 00 47 13.9 +0.4
baz=72,SNR=16
BSD **Bornholm Skovb** 72.85 331 *i*P P 00 47 13.2 -0.3
comp=Z,59nm,0.9s
BSD *i*pP pP 00 47 39.9 +0.8
I19A **Meeteetse** 72.88 46 ⇓P P 00 47 14.2 0.0
baz=73,SNR=17
J18A **Kendall Valley** 72.89 47 ⇓P P 00 47 14.4 +0.1
baz=73,SNR=23
L16A **Fish Haven** 72.92 48 ⇑P P 00 47 14.8 +0.3

baz=73,SNR=23
ISA Isabella 72.97 57 *e*P **P 00 47 14.0 -0.6**
ISA pmax pmax
comp=Z,25nm,1.1s
ISA Isabella 72.97 57 *e*P **P 00 47 14.0 -0.6**
comp=Z,25nm,1.1s
ISA Isabella 72.97 57 ⇑P **P 00 47 14.1 -0.6**
baz=73,SNR=18
R11A Troy Canyon, C 72.97 53 ⇑P **P 00 47 14.9 +0.1**
baz=73,SNR=46
SBC Santa Barbara 72.97 59 ⇑P **P 00 47 14.9 +0.3**
baz=73
G21A Lodge Grass 72.99 44 ⇑P **P 00 47 14.2 -0.5**
baz=73,SNR=21
E23A Ismay 73.06 42 ⇓P **P 00 47 15.0 0.0**
baz=73,SNR=10
KIS Kishinev 73.07 319 *i*P **P 00 47 14.0 -0.9**
KIS *e* 00 51 50.0
KIS *e*S **S 00 56 32.0 -2.0**
KIS *e*PS **PnS 00 57 20.0 +1.1**
KIS pmax pmax
comp=Z,200nm,1.4s
KIS pmax pmax
comp=Z,400nm,2.0s
KIS MLR MLR
comp=Z,800nm,16.0s
KIS Kishinev 73.07 319 ⇑*i*P **P 00 47 14.6 -0.3**
KIS Kishinev 73.07 319 ⇑*i*P **P 00 47 14.0 -0.9**
comp=Z,200nm,1.4s
KIS *e*S **S 00 56 32.0 -2.0**
N15A Stansbury Isla 73.07 50 ⇑P **P 00 47 15.7 +0.4**
baz=73,SNR=16
F22A Rosebud 73.08 43 ⇓P **P 00 47 15.0 -0.2**
baz=73,SNR=14
H20A Greybull 73.09 45 ⇑P **P 00 47 14.8 -0.5**
baz=73,SNR=22
MARD Mardin 73.09 305 *i*P **P 00 47 16.4 +1.0**
ARVC Arvin 73.09 58 ⇓P **P 00 47 14.8 -0.5**
baz=73
D24A Glendive 73.10 41 ⇓P **P 00 47 15.5 +0.3**
baz=73,SNR=42
HWUT Hardware Ranch 73.12 49 *e*P **P 00 47 16.1 +0.5**
comp=Z,68nm,1.1s
BEL Belsk 73.13 326 *e*P **P 00 47 15.8 +0.6**
comp=Z,300nm,1.2s
BEL *e*pP **pP 00 47 42.1 +1.2**
BEL *e*S **S 00 56 33.7 -0.8**
BEL Belsk 73.13 326 *e*P **P 00 47 15.8 +0.6**
comp=Z,300nm,1.2s
BEL *e*pP **pP 00 47 42.1 +1.2**
BEL *e*S **S 00 56 33.7 -0.8**
ARMA Armidale 73.15 171 *e*P **P 00 47 16.5 +1.0**
comp=Z,120nm,2.1s
ARMA *e*pP **pP 00 47 44.8 +3.5**
ARMA Armidale 73.15 171 *e*P **P 00 47 16.0 +0.4**
ARMA *e*pP **pP 00 47 43.8 +2.6**
KEMA Kemaliye 73.16 308 *i*P **P 00 47 16.8 +1.0**
L17A Cokeville 73.18 48 ⇑P **P 00 47 16.0 +0.1**
baz=73,SNR=8.2
ERBA Erbaa 73.22 310 *i*P **P 00 47 17.1 +1.0**
COP Copenhagen 73.25 333 *i*P **P 00 47 15.7 -0.1**
comp=Z,46nm,0.9s
COP *i* 00 47 42.7
LVV L'vov 73.25 323 *e*P **P 00 47 15.9 -0.1**
K18A Toltan Ranch, 73.27 47 ⇓P **P 00 47 17.0 +0.5**
baz=73,SNR=8.0
SVRC Sivrice-ELAZID 73.27 307 *e*P **P 00 47 16.6 +0.1**
M16A Huntsville 73.28 49 ⇑P **P 00 47 17.0 +0.3**
baz=73,SNR=20
BSC Santa Cruz Isl 73.31 59 ⇑P **P 00 47 16.8 +0.1**
baz=73
MPMC Manual Prospec 73.32 56 ⇑P **P 00 47 17.0 +0.1**
baz=73,SNR=56
KVT Kavak 73.35 311 *e*P **P 00 47 16.2 -0.6**
DUG Dugway 73.37 51 *e*P **P 00 47 17.5 +0.5**
DUG pmax pmax
comp=Z,78nm,1.1s
DUG Dugway 73.37 51 *e*P **P 00 47 17.5 +0.5**
comp=Z,78nm,1.1s
DUG Dugway 73.37 51 ⇓P **P 00 47 17.4 +0.3**
baz=73,SNR=70
J19A Crowheart 73.37 46 ⇑P **P 00 47 17.4 +0.3**
baz=73,SNR=55
I20A Worland 73.39 45 ⇑P **P 00 47 17.8 +0.7**
baz=73,SNR=35
PD01 Pinedale Array 73.42 47 *e*P **P 00 47 17.2 -0.3**
PD02 Pinedale Array 73.43 47 *e*P **P 00 47 17.2 -0.3**
PD02 *e*PP **PP 00 50 03.6 +1.9**
FURC Furnace Creek, 73.43 56 ⇓P **P 00 47 17.8 +0.5**
baz=73,SNR=30
BW06 Boulder Array 73.44 47 *e*P **P 00 47 17.3 -0.3**
comp=Z,43nm,0.9s
BW06 Boulder Array 73.44 47 ⇑P **P 00 47 17.3 -0.3**
baz=73,SNR=71
GKP Gorka Klasztor 73.44 329 *e*P **P 00 47 16.9 -0.1**
comp=Z,100nm,1.3s
GKP *e*pP **pP 00 47 43.5 +0.8**
GKP Gorka Klasztor 73.44 329 *e*P **P 00 47 16.9 -0.1**
comp=Z,100nm,1.3s
GKP *e*pP **pP 00 47 43.5 +0.8**
PDAR Pinedale Array 73.44 47 P **P 00 47 17.2 -0.3**
PDAR pP **pP 00 47 43.5 +0.3**
PDAR Pinedale Array 73.44 47 P **P 00 47 17.2 -0.3**
comp=Z,47nm,1.1s,baz=270,slow=1.1,SNR=142
PDAR pP **pP 00 47 43.5 +0.3**
comp=Z,15nm,1.0s,baz=336,slow=3.3,SNR=2.7
PDAR LR LR 01 20 51.2
comp=Z,90nm,20.0s,baz=130,slow=37
G22A Birney 73.46 43 ⇓P **P 00 47 17.3 -0.1**
baz=73,SNR=17
BHD Baghdad 73.47 300 *ex* **P 00 47 16.7 -0.8**
BHD *ex* S 00 56 32.3 -6.6
H21A Big Horn, Sher 73.48 44 ⇓P **P 00 47 17.7 +0.1**
baz=73,SNR=24
OSI Osito Adit 73.49 58 *e*P **P 00 47 17.7 0.0**
comp=Z,11nm,0.6s
OSI Osito Adit 73.49 58 ⇑P **P 00 47 18.1 +0.3**
baz=73
E24A Baker 73.50 41 ⇑P **P 00 47 17.5 -0.1**
baz=73,SNR=9.7
O15A The Old Anders 73.50 50 ⇓P **P 00 47 18.4 +0.5**
baz=73,SNR=9.7
IAS Iasi 73.53 320 ⇑*i*P **P 00 47 17.6 -0.1**
IAS Iasi 73.53 320 ⇑*i*P **P 00 47 17.6 -0.1**
F23A Volborg 73.55 42 ⇓P **P 00 47 17.6 -0.4**
baz=73,SNR=54
LRMC Laurel Mountai 73.57 57 ⇓P **P 00 47 18.0 -0.3**
baz=73,SNR=20
BLG Laguna Peak 73.60 59 ⇓P **P 00 47 18.1 -0.2**
baz=73
LLD Lille Linde 73.61 333 *i*P **P 00 47 18.8 +0.9**
comp=Z,7.6nm,0.9s
LLD *i* 00 47 44.6
UMR Umm Al-Rimmam 73.67 295 *e*P **P 00 47 18.4 -0.4**
UMR AMb AMB 00 47 19.5
comp=Z,134nm,0.5s
MUD Monsted U'grnd 73.67 335 *i*P **P 00 47 18.6 +0.3**
comp=Z,34nm,1.0s
N16A Rees Ranch, Co 73.68 49 ⇑P **P 00 47 19.3 +0.3**
baz=73,SNR=16
M17A Scullys Gap (B 73.71 48 ⇓P **P 00 47 19.1 -0.1**
baz=73,SNR=11
LEOM Leova 73.72 319 ⇑P **P 00 47 18.7 0.0**
LEOM Leova 73.72 319 ⇑*i*P **P 00 47 18.7 0.0**
L18A Fontenelle, Gr 73.75 48 ⇑P **P 00 47 19.5 +0.2**
baz=74,SNR=39
MIB Mutribah 73.76 296 *e*P **P 00 47 18.9 -0.4**
MIB AMb AMB 00 47 20.9
comp=Z,212nm,0.9s
EDW2 Edwards Air Fo 73.77 58 ⇑P **P 00 47 19.7 +0.3**
baz=74,SNR=30
K19A Absolon Red Bu 73.78 46 ⇑P **P 00 47 18.8 -0.7**
baz=74,SNR=16
J20A Shoshoni 73.82 46 ⇑P **P 00 47 19.9 +0.2**
baz=74,SNR=30
MYA Malataya 73.83 307 *e*P **P 00 47 20.5 +0.8**
H22A Clearmont 73.86 44 ⇑P **P 00 47 19.7 -0.1**
baz=74,SNR=9.7
JLU Jordanelle 73.87 49 *e*P **P 00 47 20.5 +0.4**
comp=Z,60nm,1.2s
I21A Big Trails, Te 73.92 45 ⇓P **P 00 47 20.3 +0.1**
baz=74,SNR=146
G23A Biddle 73.92 43 ⇑P **P 00 47 20.0 -0.1**
baz=74,SNR=22
KBD Kabd 73.92 295 *e*P **P 00 47 20.0 -0.3**
KBD AMb AMB 00 47 22.1
comp=Z,108nm,1.4s
F24A Ekalaka 73.94 42 ⇑P **P 00 47 20.0 -0.3**
baz=74,SNR=22
DECC Green Verdugo 73.97 58 ⇓P **P 00 47 20.1 -0.4**
baz=74
KWP Kalwaria Pacla 73.97 324 *e*P **P 00 47 20.8 +0.6**
comp=Z,200nm,1.3s
KWP *e*S **S 00 56 44.6 +0.5**
KWP Kalwaria Pacla 73.97 324 *e*P **P 00 47 20.8 +0.6**
comp=Z,200nm,1.3s
KWP *e*S **S 00 56 44.6 +0.5**
KWP Kalwaria Pacla 73.97 324 ⇑P **P 00 47 21.0 +0.8**
KWP Kalwaria Pacla 73.97 324 *e*P **P 00 47 20.6 +0.4**
comp=Z,255nm,1.1s
KWP Kalwaria Pacla 73.97 324 ⇑*i*P **P 00 47 21.0 +0.8**
N17A Moffit Pass 73.98 49 ⇓P **P 00 47 20.9 +0.1**
baz=74,SNR=55
L19A Farson 74.00 47 ⇑P **P 00 47 20.7 -0.1**
baz=74,SNR=10.0
R13A O'Grain Ranch, 74.04 53 ⇓P **P 00 47 21.5 +0.4**
baz=74,SNR=13
PRAR RASCA 74.05 321 ⇑*i*P **P 00 47 20.6 -0.1**
QRN Al-Qurain 74.05 294 *e*P **P 00 47 20.7 -0.3**
QRN AMb AMB 00 47 21.9
comp=Z,186nm,0.6s
M18A Lyman 74.08 48 ⇑P **P 00 47 21.1 -0.2**
baz=74,SNR=16
STKA Stephens Creek 74.08 180 *e*P **P 00 47 20.9 +0.1**
comp=Z,5.7nm,1.4s
STKA Stephens Creek 74.08 180 *e*P **P 00 47 21.0 +0.1**
STKA *e*pP **pP 00 47 48.5 +1.9**
STKA Stephens Creek 74.08 180 P **P 00 47 20.6 -0.2**
comp=Z,6.1nm,0.7s,baz=331,slow=8.2,SNR=13
P15A Leamington 74.09 51 ⇓P **P 00 47 21.5 +0.2**
baz=74,SNR=17
DAU Daniels Canyon 74.10 50 *e*P **P 00 47 22.1 +0.5**
DAU Daniels Canyon 74.10 50 *e*P **P 00 47 22.1 +0.5**
FORT Forrest 74.12 193 *e*P **P 00 47 21.7 +0.7**
comp=Z,140nm,1.4s
FORT Forrest 74.12 193 *e*P **P 00 47 21.8 +0.7**
AKCD Akcadag 74.14 308 *i*P **P 00 47 22.8 +1.2**
MPU Maple Canyon 74.16 50 *e*P **P 00 47 22.4 +0.6**
comp=Z,75nm,1.0s
MWC Mount Wilson 74.16 58 *e*P **P 00 47 22.3 +0.5**
MWC pmax pmax
comp=Z,70nm,1.4s
MWC Mount Wilson 74.16 58 *e*P **P 00 47 22.2 +0.5**
comp=Z,70nm,1.4s
SHOC Shoshone 74.16 56 ⇓P **P 00 47 21.6 0.0**
baz=74
J21A Lysite 74.17 45 ⇓P **P 00 47 21.5 -0.2**
baz=74,SNR=15
K20A Yellowstone Ra 74.17 46 ⇓P **P 00 47 20.8 -0.9**
baz=74,SNR=14
URFA Urfa 74.18 306 *e*P **P 00 47 21.6 -0.1**
NAY Al-Naaiem 74.18 295 *e*P **P 00 47 21.4 -0.4**
NAY AMb AMB 00 47 22.7
comp=Z,97nm,1.0s
RDF Al-Radifah 74.18 295 *e*P **P 00 47 22.2 +0.4**
RDF AMb AMB 00 47 23.7
comp=Z,249nm,1.1s
GSC Goldstone 74.23 57 *e*P **P 00 47 22.3 +0.2**
GSC *e* 00 50 07.2
GSC pmax pmax
comp=Z,42nm,1.1s
GSC Goldstone 74.23 57 *e*P **P 00 47 22.3 +0.2**
comp=Z,42nm,1.1s
GSC *e*PP **PP 00 50 07.2 -1.4**
GSC Goldstone 74.23 57 ⇓P **P 00 47 21.9 -0.2**
baz=74,SNR=14
I22A 9 Mile Ranch, 74.28 44 ⇓P **P 00 47 22.2 -0.2**
baz=74,SNR=23
BUR08 Bucovina Ar. S 74.32 321 *e*P **P 00 47 22.5 +0.1**
G24A Alzada 74.32 42 ⇑P **P 00 47 21.7 -0.8**
baz=74,SNR=9.1
BURAR Bucovina Array 74.33 321 ⇑*i*P **P 00 47 22.7 +0.2**
FMP Fort Macarthur 74.34 59 ⇓P **P 00 47 23.0 +0.3**
baz=74
TLCR 74.35 318 ⇓P **P 00 47 22.9 +0.4**
TLCR 74.35 318 ⇓*i*P **P 00 47 22.9 +0.4**
H23A Clabaugh Cattl 74.37 43 ⇓P **P 00 47 22.1 -0.6**
baz=74,SNR=5.6
RRX Edison Barstow 74.39 57 ⇓P **P 00 47 23.1 +0.1**
baz=74
BFSC Mount Baldy Ra 74.40 58 ⇓P **P 00 47 22.9 -0.3**
baz=74,SNR=14
P16A Fountain Green 74.42 50 ⇑P **P 00 47 23.7 +0.5**
baz=74,SNR=11
GHRR 74.42 319 ⇑*i*P **P 00 47 23.8 +0.9**
TESR 74.46 320 ⇑*i*P **P 00 47 23.1 0.0**
CIS Catalina Islan 74.47 59 ⇓P **P 00 47 23.3 -0.1**
baz=74
M19A Rock Springs 74.52 48 ⇑P **P 00 47 23.6 -0.2**
baz=74
O17A Robinson Place 74.54 49 ⇑P **P 00 47 24.6 +0.6**
baz=74,SNR=33
N18A Larsen Ranch, 74.60 48 ⇑P **P 00 47 24.0 -0.3**
baz=74,SNR=13
ULM Lac du Bonnet 74.61 34 P **P 00 47 22.9 -1.0**
ULM PP **PP 00 50 13.1 +1.9**
ULM Lac du Bonnet 74.61 34 P **P 00 47 22.9 -1.0**
comp=Z,29nm,0.9s,baz=316,slow=7.0,SNR=51
ULM PP **PP 00 50 13.1 +1.9**
comp=Z,10nm,1.0s,baz=302,slow=4.8,SNR=5.0
ULM LR LR 01 22 03.4
comp=Z,113nm,19.1s,baz=339,slow=37
ARUT Antelope Range 74.61 53 *e*P **P 00 47 25.0 +0.6**
ARUT pmax pmax
comp=Z,43nm,1.2s
ARUT Antelope Range 74.61 53 *e*P **P 00 47 25.0 +0.6**
comp=Z,43nm,1.2s
L20A Wamsutter 74.62 47 ⇓P **P 00 47 24.4 0.0**
baz=74,SNR=21
J22A Midwest 74.62 45 ⇑P **P 00 47 24.3 0.0**
baz=74,SNR=63
SCI San Clemente I 74.66 59 ⇓P **P 00 47 24.5 0.0**
baz=74
H24A Dirks Ranch, A 74.67 43 ⇑P **P 00 47 23.6 -0.9**
baz=74,SNR=32
KOLS Kolonicke sedl 74.68 324 *e*P **P 00 47 23.9 -0.5**
KOLS pmax pmax
comp=Z,40nm,1.1s
KOLS Kolonicke sedl 74.68 324 *e*P **P 00 47 23.9 -0.5**
TUQ Turquoise Moun 74.69 56 ⇑P **P 00 47 25.0 +0.2**
baz=74,SNR=36
CFR Carcaliu 74.69 318 ⇑P **P 00 47 24.4 0.0**
CFR Carcaliu 74.69 318 ⇑*i*P **P 00 47 24.4 0.0**
PETR 74.75 319 ⇓*i*P **P 00 47 25.9 +1.2**
I23A Meade Ranch, G 74.76 44 ⇑P **P 00 47 24.7 -0.4**
baz=74
K21A Alcova 74.76 46 ⇑P **P 00 47 24.9 -0.3**
baz=74,SNR=21
PINB Pinarbasi 74.77 309 *i*P **P 00 47 26.1 +0.7**
OJC Ojcow 74.77 326 *i*P **P 00 47 25.0 +0.2**
OJC *e*pP **pP 00 47 50.1 -0.5**
OJC Ojcow 74.77 326 ⇑*i*P **P 00 47 25.2 +0.4**
OJC *e*PP **pP 00 47 50.9 +0.3**
OJC Ojcow 74.77 326 *e*P **P 00 47 25.1 +0.2**
comp=Z,144nm,1.0s
MDND Maddock 74.78 38 ⇑P **P 00 47 24.8 -0.2**
baz=74,SNR=24
CCUT Cedar City 74.82 53 *e*P **P 00 47 26.1 +0.5**
comp=Z,33nm,1.1s
HEC Hector,Ludlow 74.84 57 ⇓P **P 00 47 25.7 +0.1**
baz=75,SNR=5.7
BBRC Big Bear Solar 74.84 57 ⇑P **P 00 47 25.4 -0.4**
baz=75
MSU Marysvale 74.86 51 *e*P **P 00 47 26.8 +0.9**
MSU Marysvale 74.86 51 *e*P **P 00 47 26.8 +0.9**
TMUT Trail Mountain 74.89 50 *e*P **P 00 47 26.3 +0.2**
comp=Z,55nm,1.0s
VRI Vrincioaia 74.89 319 ⇑P **P 00 47 26.0 +0.4**
VRI Vrincioaia 74.89 319 ⇑*i*P **P 00 47 26.0 +0.4**
O18A Roosevelt 74.90 49 ⇓P **P 00 47 26.6 +0.6**
baz=75,SNR=36
UZH Uzhgorod 74.90 323 *e*P **P 00 47 24.0 -1.6**
UZH *i* 00 47 55.0
UZH *e*S **S 00 56 50.0 -4.5**
UZH *e*PS PnS 00 57 24.0 -18
N19A John Jarvie Ra 74.93 48 ⇑P **P 00 47 25.9 -0.3**
baz=75,SNR=24
PLOR Plostina 74.94 319 ⇑P **P 00 47 26.4 +0.5**
PLOR Plostina 74.94 319 ⇑*i*P **P 00 47 26.4 +0.5**
BNN Bunyan 74.97 309 *e*P **P 00 47 26.1 -0.3**
GZT Gaziantep 74.98 307 *i*P **P 00 47 27.9 +1.4**
R15A Junction 75.01 52 ⇓P **P 00 47 27.7 +1.0**
baz=75
CANT Cankiri 75.03 312 *e*P **P 00 47 27.1 +0.6**
P17A Butcher Ranch, 75.03 50 ⇓P **P 00 47 27.2 +0.4**
baz=75,SNR=63
M20A Sweetwater, Wa 75.06 47 ⇑P **P 00 47 27.2 +0.3**
baz=75,SNR=13
CRVS Cervenica-Dubn 75.06 324 *e*P **P 00 47 26.2 -0.4**
CRVS pmax pmax
comp=Z,251nm,2.5s
CRVS Cervenica-Dubn 75.06 324 *e*P **P 00 47 26.2 -0.4**
TIRR Tirgusor 75.07 317 ⇑P **P 00 47 26.5 -0.2**
TIRR Tirgusor 75.07 317 *e*P **P 00 47 26.4 -0.2**
comp=Z,25nm,0.9s
TIRR *e*pP **pP 00 47 52.6 +0.2**
TIRR Tirgusor 75.07 317 ⇑*i*P **P 00 47 26.5 -0.2**
BMR Baia Mare 75.08 322 ⇓P **P 00 47 27.4 +0.8**
BMR Baia Mare 75.08 322 ⇓*i*P **P 00 47 27.4 +0.8**
SAFT Safranbolu 75.10 313 *e*P **P 00 47 28.1 +1.2**
MURC Murrieta 75.11 58 ⇑P **P 00 47 26.9 -0.2**
baz=75,SNR=7.5
J23A Dilts Ranch, B 75.11 44 ⇑P **P 00 47 26.6 -0.5**
baz=75
K22A Casper 75.13 45 ⇑P **P 00 47 27.0 -0.3**
baz=75,SNR=16
NIE Niedzica 75.16 325 ⇑*e*P **P 00 47 27.9 +0.7**
Q16A Castle Valley 75.16 51 ⇓P **P 00 47 28.1 +0.5**
baz=75,SNR=23
L21A Rawlins 75.17 46 ⇓P **P 00 47 27.3 -0.2**
baz=75,SNR=48
TRPA Tarpa 75.17 323 ⇓*i*P **P 00 47 27.7 +0.6**
TRPA Tarpa 75.17 323 ⇑P **P 00 47 27.8 +0.6**
P18A Presson Nutter 75.20 50 ⇑P **P 00 47 28.3 +0.3**
baz=75,SNR=64
BBOO Buckleboo 75.22 185 *e*P **P 00 47 27.8 +0.4**
comp=Z,925nm,1.3s
I24A Kuemmerle Ranc 75.26 43 ⇓P **P 00 47 27.2 -0.8**
baz=75,SNR=8.5
KMRS Kahramanmaras 75.27 307 *e*P **P 00 47 25.7 -2.3**
CDAG Cicekdag 75.28 310 *i*P **P 00 47 28.7 +0.6**
GMRC Granite Mounta 75.28 56 ⇑P **P 00 47 28.2 -0.1**
baz=75,SNR=24
GAZ Gaziantep 75.31 307 *e*P **P 00 47 28.0 -0.2**
RUE Ruedersdorf 75.35 330 *e*P **P 00 47 28.4 +0.4**
comp=Z,283nm,1.5s
O19A Miners Draw (B 75.37 48 ⇑P **P 00 47 28.6 -0.1**
baz=75,SNR=24
RSSD Black Hills 75.37 43 *e*P **P 00 47 27.9 -0.8**
RSSD pmax pmax
comp=Z,54nm,1.1s
RSSD Black Hills 75.37 43 *e*P **P 00 47 27.9 -0.8**
comp=Z,54nm,1.1s
BSEG Bad Segeberg 75.39 333 *e*P **P 00 47 28.6 +0.4**
comp=Z,175nm,1.1s
BSEG Bad Segeberg 75.39 333 *e*P **P 00 47 28.6 +0.4**
BSEG pmax pmax
comp=Z,175nm,1.1s
SRU San Rafael 75.40 50 *e*P **P 00 47 29.1 +0.2**
SRU pmax pmax
comp=Z,79nm,0.9s
SRU San Rafael 75.40 50 *e*P **P 00 47 29.1 +0.2**
comp=Z,79nm,0.9s
SRU San Rafael 75.40 50 ⇑P **P 00 47 28.8 -0.1**
baz=75,SNR=85
R16A Teasdale 75.42 51 ⇓P **P 00 47 29.8 +0.7**
baz=75,SNR=60
LDFC Landfair 75.42 56 *e*P **P 00 47 29.5 +0.5**
comp=Z,122nm,1.1s
M21A Separation Pea 75.42 47 ⇓P **P 00 47 29.0 0.0**
baz=75,SNR=44
RWWY Rawlins 75.44 46 *e*P **P 00 47 29.1 -0.1**
comp=Z,104nm,1.1s
PGOR Pogoanele 75.45 318 ⇓*i*P **P 00 47 30.1 +1.3**
DOPR Dopca 75.46 320 ⇓*i*P **P 00 47 30.2 +1.3**
N20A Spence Gulch, 75.47 48 ⇑P **P 00 47 29.9 +0.5**
baz=75,SNR=68
AMRR Amara 75.50 318 P **P 00 47 30.9 +1.8**
ISR Istrita 75.52 319 ⇓P **P 00 47 30.3 +1.0**
ISR Istrita 75.52 319 ⇓*i*P **P 00 47 30.3 +1.0**
K23A Bowen Ranch, D 75.53 45 ⇓P **P 00 47 28.4 -1.2**
baz=75,SNR=6.0
MLR Muntele Rosu 75.54 319 ⇑*i*P **P 00 47 29.7 +0.2**
ANDN Andirin 75.54 308 *i*P P 00 47 34.7 +5.1
PFO Pinyon Flat Ob 75.56 58 *e*P **P 00 47 29.7 -0.1**
comp=Z,51nm,1.2s
PFO Pinyon Flat Ob 75.56 58 P **P 00 47 30.0 +0.1**
comp=Z,127nm,1.1s,SNR=8.2
PFO Pinyon Flat Ob 75.56 58 ⇓P **P 00 47 29.8 0.0**
baz=75,SNR=14
AVNT Avonos 75.58 310 *i*P **P 00 47 30.4 +0.5**
BELC Belle Mtn. Jos 75.59 57 ⇑P **P 00 47 29.7 -0.3**
baz=75,SNR=14
L22A Ellis Ranch, M 75.62 46 ⇓P **P 00 47 30.3 +0.1**
baz=75,SNR=19
J24A Dixon Ranch, L 75.62 44 ⇑P **P 00 47 29.2 -0.8**
baz=75
BRTR Keskin Array B 75.62 311 P **P 00 47 30.2 +0.2**
BRTR PP **PP 00 50 21.5 +1.2**
BRTR Keskin Array B 75.62 311 P **P 00 47 30.2 +0.2**
comp=Z,13nm,0.9s,baz=66,slow=3.4,SNR=51
BRTR PP **PP 00 50 21.5 +1.2**
comp=Z,4.9nm,0.9s,baz=50,slow=6.6,SNR=3.8
BRTR LR LR 01 25 57.9
comp=Z,110nm,19.5s,baz=230,slow=40
Q18A Rafter H Ranch 75.63 50 ⇑P **P 00 47 29.8 -0.3**
baz=75,SNR=14
109C Camp Elliot, M 75.63 59 ⇓P **P 00 47 30.0 0.0**
baz=75
KUZU Kuzuini 75.66 307 *i*P **P 00 47 31.5 +1.2**
KSP Ksiaz 75.70 328 *e*P **P 00 47 30.6 +0.5**
comp=Z,100nm,1.3s
KSP *e*pP **pP 00 47 59.5 +3.5**
KSP Ksiaz 75.70 328 *e*P **P 00 47 30.6 +0.5**
comp=Z,100nm,1.3s
KSP *e*pP **pP 00 47 59.5 +3.5**
KSP Ksiaz 75.70 328 ⇑*i*P **P 00 47 30.5 +0.3**
KSP *e**PP **pP 00 47 55.4 -0.6**
KSP *e*S **S 00 57 00.5 -2.8**
S16A Weppner Ranch, 75.73 52 ⇑P **P 00 47 31.5 +0.7**
baz=76,SNR=53
PSN Preselentsi 75.74 317 P **P 00 47 30.6 +0.1**
OKC Ostrava-Krasne 75.74 326 ⇑*i*P **P 00 47 30.8 +0.4**
OKC *e**PP **pP 00 47 58.0 +1.8**
OKC Ostrava-Krasne 75.74 326 ⇑*i*P **P 00 47 30.8 +0.4**
OKC *e*pP **pP 00 47 58.0 +1.8**
OKC *e*PP PP 00 50 15.4 -5.4
R17A Hanksville Air 75.77 51 ⇑P **P 00 47 30.8 -0.2**
baz=76,SNR=48
SECR 75.81 319 ⇑*i*P **P 00 47 32.0 +1.1**
KAMT Kaman 75.83 311 *e*P **P 00 47 29.6 -1.7**
P19A Cripple Cowboy 75.91 49 ⇓P **P 00 47 31.9 +0.1**
baz=76,SNR=71
KOZT Kozan 75.91 308 *e*P **P 00 47 30.3 -1.4**
N21A Black Mountain 75.93 47 ⇓P **P 00 47 31.8 -0.1**
baz=76,SNR=25
NEE2 Needles Airpor 75.93 56 ⇓P **P 00 47 31.6 -0.1**
baz=76
O20A White River Ci 75.97 48 ⇓P **P 00 47 31.9 -0.3**
baz=76,SNR=28
K24A Anderson Ranch 75.97 44 ⇑P **P 00 47 30.8 -1.3**
baz=76
M22A Cedar Creek Ra 75.97 46 ⇑P **P 00 47 31.9 -0.3**
baz=76,SNR=33
SULR 75.98 319 ⇑*i*P **P 00 47 30.8 -1.0**
LOD Lodumlu 75.99 312 *e*P **P 00 47 30.9 -1.2**
MVH1 Achvaich 76.00 342 *e*P **P 00 47 31.3 -0.4**
MVH1 Achvaich 76.00 342 P **P 00 47 31.3 -0.4**
VOIR 76.01 320 ⇑P **P 00 47 32.6 +0.5**
VOIR 76.01 320 ⇑*i*P **P 00 47 32.6 +0.5**
IRM Iron Mountain 76.01 56 ⇓P **P 00 47 32.5 +0.2**
baz=76,SNR=26
MORC Moravsky Berou 76.04 327 ⇑P **P 00 47 32.7 +0.5**
MORC Moravsky Berou 76.04 327 *e*P **P 00 47 32.5 +0.3**
comp=Z,91nm,1.1s
MORC *e*pP **pP 00 47 58.4 +0.4**
MORC Moravsky Berou 76.04 327 ⇑*i*P **P 00 47 32.7 +0.5**
BAR Barrett 76.05 58 *e*P **P 00 47 32.8 +0.4**
comp=Z,25nm,1.3s
MONP Monument Peak 76.06 58 ⇑P **P 00 47 32.5 -0.4**
baz=76,SNR=5.3
UPC Upice 76.08 328 ⇑*i*P **P 00 47 32.6 +0.3**
UPC *e**PP **pP 00 48 00.4 +2.3**
UPC Upice 76.08 328 ⇑*i*P **P 00 47 32.6 +0.3**
UPC *e*pP **pP 00 48 00.4 +2.3**
DPC Dobruska-Polom 76.08 328 ⇑*i*P **P 00 47 33.1 +0.7**
DPC *e**PP **pP 00 47 58.6 +0.4**

DPC	Dobruska-Polom	76.08	328	eP		P	00 47 33.0	+0.6	
	comp=Z,148nnm,1.2s								
DPC	Dobruska-Polom	76.08	328	⇑iP		P	00 47 33.1	+0.7	
DPC				epP		pP	00 47 58.6	+0.4	
DPC				ex		x	00 50 13.6		
DRGR		76.09	322	⇑P		P	00 47 32.8	+0.3	
DRGR		76.09	322	⇑iP		P	00 47 32.8	+0.3	
AGMN	Agassiz Nation	76.10	36	eP		P	00 47 31.1	-1.4	
	comp=Z,44nm,1.0s								
AGMN				ePP		PP	00 50 22.6	-1.3	
AFSR	Af˙ar-Bala (A	76.13	311	eP		P	00 47 31.1	-1.9	
W13A	Hualapai Mount	76.15	55	⇓P		P	00 47 33.5	+0.2	
	baz=76,SNR=36								
BC3	Big Chuckawall	76.16	57	⇑P		P	00 47 33.2	0.0	
	baz=76,SNR=18								
NIG	Nigde	76.18	309	eP		P	00 47 31.3	-2.2	
U15A	North Rim	76.21	53	⇓P		P	00 47 34.4	+0.7	
	baz=76,SNR=92								
Q19A	Hogan Spring (	76.22	50	⇑P		P	00 47 33.4	0.0	
	baz=76,SNR=61								
S17A	Black Ridge (B	76.25	51	⇑P		P	00 47 33.7	0.0	
	baz=76,SNR=18								
R18A	Canyonlands Na	76.26	50	⇓P		P	00 47 33.7	-0.1	
	baz=76,SNR=46								
MME1	Meikle Cairn	76.27	341	eP		P	00 47 32.8	-0.5	
MME1	Meikle Cairn	76.27	341	P		P	00 47 32.8	-0.5	
P20A	De Beque	76.33	49	⇓P		P	00 47 33.8	-0.4	
	baz=76,SNR=12								
O21A	Pagoda	76.34	48	⇓P		P	00 47 34.0	-0.2	
	baz=76,SNR=11								
M23A	Laramie	76.39	46	⇓P		P	00 47 34.2	-0.4	
	baz=76,SNR=8.8								
L24A	Wheatland	76.40	45	⇑P		P	00 47 34.3	-0.1	
	baz=76								
DVTC	Desert V Tower	76.42	58	⇓P		P	00 47 34.9	+0.2	
	baz=76								
SWSC	Sam W. Stewart	76.42	58	⇓P		P	00 47 34.1	-0.4	
	baz=76,SNR=6.8								
MDUB	Mudurnu	76.44	313	eP		P	00 47 33.7	-1.0	
N22A	Wattenberg Ran	76.47	47	⇑P		P	00 47 35.5	+0.5	
	baz=76,SNR=39								
PRD	Provadia	76.48	317	P		P	00 47 35.1	+0.4	
PSZ	Piszkesteto	76.49	324	⇑P		P	00 47 35.4	+0.6	
PSZ	Piszkesteto	76.49	324	eP		P	00 47 34.6	-0.1	
	comp=Z,82nm,1.1s								
PSZ	Piszkesteto	76.49	324	⇑iP		P	00 47 35.4	+0.6	
PSZ	Piszkesteto	76.49	324	⇑P		P	00 47 35.3	+0.5	
VYHS	Vyhne	76.50	325	eP		P	00 47 34.7	0.0	
VYHS				pmax		pmax			
	comp=Z,41nm,1.4s								
VYHS	Vyhne	76.50	325	eP		P	00 47 34.7	0.0	
VYHS				epP		pP	00 48 03.3	+2.7	
PDMCI	Parker Dam,Lak	76.53	56	⇑P		P	00 47 35.4	+0.3	
	baz=76,SNR=15								
K25A	Mack Ranch, Ha	76.54	44	⇓P		P	00 47 34.7	-0.5	
	baz=76								
BRG	Berggiesshubel	76.58	329	iP		P	00 47 36.0	+0.8	
	comp=Z,52nm,1.3s								
BRG				ipP		pP	00 48 02.6	+1.6	
	comp=Z,120nm,1.7s								
BRG				sP		sP	00 48 14.0	+2.1	
BRG				ePP		PP	00 50 24.3	-3.5	
	comp=Z,16nm,1.3s								
BRG				S		S	00 57 12.0	-0.9	
BRG				e			00 57 46.0		
BRG				SS		SS	01 02 23.0	+14	
BRG				ePKPPKP		P'P'df	01 14 59.7	+9.5	
	comp=Z,11nm,0.5s								
BRG									
	comp=N,382nm,15.6s								
BRG									
	comp=E,217nm,14.2s								
BRG									
	comp=Z,622nm,17.4s								
BRG	Berggiesshubel	76.58	329	eP		P	00 47 35.3	+0.2	
	comp=Z,215nm,2.1s								
BRG				epP		pP	00 48 02.2	+1.2	
BRG	Berggiesshubel	76.58	329	iP		P	00 47 36.0	+0.8	
BRG				i*PP		pP	00 48 02.6	+1.6	
BRG				*SP		sP	00 48 14.0	+2.1	
BRG				e			00 50 24.3		
BRG				S		S	00 57 12.0	-0.9	
BRG				e			00 57 46.0		
BRG				pmax		pmax			
	comp=Z,52nm,1.3s								
BRG				pmax		pmax			
	comp=Z,16nm,1.3s								
BRG				MLR		MLR			
	comp=N,382nm,15.6s								
BRG				MLR		MLR			
	comp=E,217nm,14.2s								
BRG				MLR		MLR			
	comp=Z,622nm,17.4s								
CLL	Collm	76.58	330	eP		P	00 47 34.9	-0.2	
	comp=Z,86nm,1.0s								
CLL				epP		pP	00 48 01.7	+0.7	
CLL	Collm	76.58	330	⇑iP		P	00 47 34.8	-0.3	
	comp=Z,86nm,1.0s								
CLL				ePlp			00 47 35.0		
CLL				ePmax			00 47 35.0		
CLL				ipP		pP	00 48 02.7	+1.7	
	comp=Z,130nm,1.2s								
CLL				ePP		PP	00 50 30.0	+2.2	
CLL				eS		S	00 57 15.0	+2.1	
	comp=N,100nm,16.7s								
CLL				eS		S	00 57 15.0	+2.1	
	comp=E,100nm,23.2s								
CLL				eScS		ScS	00 57 46.0	+4.2	
CLL				eSS		SS	01 02 36.0	+27	
PVCC	Panska Ves	76.62	329	eP		P	00 47 36.1	+0.7	
PVCC				e*PP		pP	00 48 04.3	+3.1	
PVCC	Panska Ves	76.62	329	⇑eP		P	00 47 36.1	+0.7	
PVCC				epP		pP	00 48 04.3	+3.1	
KAC	Achnashellach	76.63	343	eP		P	00 47 35.0	-0.2	
KAC	Achnashellach	76.63	343	P		P	00 47 35.0	-0.2	
NRDL	Niedersach Rie	76.65	332	eP		P	00 47 35.5	+0.1	
	comp=Z,207nm,2.0s								
NRDL				epP		pP	00 48 02.4	+1.2	
PHWY	Pilot Hill	76.65	46	eP		P	00 47 35.9	-0.2	
	comp=Z,60nm,1.1s								
GULE	Gulek	76.66	309	iP		P	00 47 36.6	+0.6	
Y12C	Blythe	76.67	56	⇓P		P	00 47 36.3	+0.4	
	baz=76,SNR=17								
S18A	Hurst Farm, Bl	76.68	51	⇑P		P	00 47 36.1	-0.2	
	baz=76,SNR=46								
N23A	Red Feather La	76.68	46	⇓P		P	00 47 36.5	+0.2	
	baz=76,SNR=31								
R19A	Curley Farm, L	76.68	50	⇓P		P	00 47 36.3	+0.1	
	baz=76,SNR=29								
DEV	Deva	76.68	321	⇑P		P	00 47 36.3	+0.5	
DEV	Deva	76.68	321	⇑iP		P	00 47 36.3	+0.5	
T17A	Navajo Res., N	76.69	52	⇓P		P	00 47 35.9	-0.3	
	baz=76,SNR=13								
HUMR	Humele	76.71	319	⇑iP		P	00 47 36.1	+0.1	
SULT	Sultanhani-AKS	76.75	310	eP		P	00 47 34.8	-1.6	
Q20A	Ridgley Place,	76.76	49	⇑P		P	00 47 36.7	+0.1	
	baz=76,SNR=31								
VRAC	Vranov	76.79	327	⇑iP		P	00 47 37.1	+0.7	
PV04	Paradox Valley	76.81	50	eP		P	00 47 37.3	+0.4	
L25A	Engebretsen Ra	76.82	44	⇑P		P	00 47 36.6	-0.3	
	baz=76								
K26A	Motz Farm, Whi	76.83	43	⇓P		P	00 47 36.5	-0.4	
	baz=76,SNR=7.9								
P21A	Newcastle	76.83	48	⇑P		P	00 47 37.4	+0.3	
	baz=77,SNR=84								
GULT	Gulveren	76.84	313	eP		P	00 47 36.2	-0.7	
KPL	Plockton	76.86	343	eP		P	00 47 36.1	-0.4	
KPL				AMB		AMB	00 47 38.0		
	comp=Z,234nm,1.5s								
KPL	Plockton	76.86	343	P		P	00 47 36.1	-0.4	
KPL				AMB		AMB	00 47 38.0		
	comp=Z,234nm,1.5s								
M24A	Cheyenne	76.86	45	⇓P		P	00 47 37.6	+0.4	
	baz=77,SNR=28								
O22A	Kremmling	76.88	47	⇓P		P	00 47 37.2	-0.2	
	baz=77,SNR=58								
GLA	Glamis	76.95	57	eP		P	00 47 38.2	+0.6	
GLA				pmax		pmax			
	comp=Z,44nm,1.1s								
GLA	Glamis	76.95	57	eP		P	00 47 38.2	+0.6	
	comp=Z,44nm,1.1s								
GLA	Glamis	76.95	57	⇑P		P	00 47 38.1	+0.5	
	baz=77,SNR=9.9								
SVRH	Sivrihisar-ESK	76.99	312	eP		P	00 47 36.3	-1.4	
HRT	Hereke	77.02	314	eP		P	00 47 37.3	-0.5	
PRA	Prague	77.04	328	⇑P		P	00 47 38.0	+0.3	
PRA				pP		pP	00 48 05.0	+1.4	
PRA				S		S	00 57 21.0	+3.1	
PRU	Pruhonice	77.06	328	⇑iP		P	00 47 37.6	-0.2	
PRU				e*PP		pP	00 48 02.5	-1.2	
PRU				eS		S	00 57 17.0	-1.2	
PRU	Pruhonice	77.06	328	⇑iP		P	00 47 37.6	-0.2	
PRU				epP		pP	00 48 02.5	-1.2	
PRU				ePP		PP	00 50 26.3	-5.6	
PRU				eS		S	00 57 17.0	-1.2	
SMOL	Smolenice	77.07	326	eP		P	00 47 39.3	+1.4	
SMOL	Smolenice	77.07	326	eP		P	00 47 39.3	+1.4	
CLZ	Clausthal	77.09	332	eP		P	00 47 38.5	+0.4	
	comp=Z,121nm,1.1s								
CLZ				epP		pP	00 48 05.4	+1.5	
CLZ	Clausthal	77.09	332	eP		P	00 47 38.5	+0.4	
CLZ				e*PP		pP	00 48 05.4	+1.5	
CLZ				pmax		pmax			
	comp=Z,121nm,1.1s								
GZR	Gura Zlata	77.11	321	⇑P		P	00 47 38.4	+0.1	
GZR	Gura Zlata	77.11	321	⇑iP		P	00 47 38.4	+0.1	
KLBR	Kellerberrin	77.12	201	eP		P	00 47 38.7	+0.5	
S19A	Harvey Farm, M	77.13	50	⇓P		P	00 47 38.7	0.0	
	baz=77,SNR=64								
T18A	Mexican Hat	77.13	51	⇑P		P	00 47 38.4	-0.3	
	baz=77,SNR=44								
P22A	Eagle	77.16	48	⇑P		P	00 47 39.1	+0.2	
	baz=77,SNR=64								
SZH	Strazhica	77.17	318	P		P	00 47 38.3	-0.3	
O23A	Lake Granby, G	77.18	47	⇓P		P	00 47 39.6	+0.6	
	baz=77,SNR=30								
PV01	Paradox Valley	77.18	50	eP		P	00 47 39.2	+0.2	
	comp=Z,9µm,1.5s								
KIZT	Kizilcal	77.19	311	eP		P	00 47 38.8	-0.2	
BUD	Budapest	77.20	324	⇑P		P	00 47 39.2	+0.6	
TREC	Trest	77.24	327	⇑iP		P	00 47 39.4	+0.5	
TREC				e*PP		pP	00 48 05.4	+0.6	
TREC	Trest	77.24	327	⇑iP		P	00 47 39.4	+0.5	
TREC				epP		pP	00 48 05.4	+0.6	
Q21A	Lamborn Mesa,	77.25	49	⇓P		P	00 47 39.5	+0.1	
	baz=77,SNR=14								
R20A	Redvale	77.25	50	⇓P		P	00 47 39.9	+0.5	
	baz=77,SNR=31								
ADVT	Abdulvahap	77.25	314	eP		P	00 47 36.7	-2.4	
M25A	Palm-Egli Farm	77.29	45	⇓P		P	00 47 39.8	+0.3	
	baz=77,SNR=11								
N24A	Carr	77.29	46	⇓P		P	00 47 39.6	+0.1	
	baz=77								
K27A	Flueckinger Fa	77.30	43	⇓P		P	00 47 38.9	-0.6	
	baz=77								
SMCO	Snowmass	77.34	48	eP		P	00 47 40.4	+0.3	
	comp=Z,53nm,1.0s								
SMCO				epP		pP	00 48 08.9	+2.9	
L26A	Underwood Farm	77.36	44	⇓P		P	00 47 39.6	-0.2	
	baz=77								
CAVI	Cavuskoy	77.36	313	eP		P	00 47 38.3	-1.5	
WUAZ	Wupatki	77.37	53	eP		P	00 47 40.2	+0.2	
	comp=Z,65nm,1.1s								
WUAZ	Wupatki	77.37	53	⇑P		P	00 47 40.5	+0.5	
	baz=77,SNR=19								
LADK	Ladik-KONYA	77.39	311	eP		P	00 47 37.3	-2.8	
JMB	Yambol	77.43	317	P		P	00 47 40.8	+0.8	
ESY	Stoneypath	77.44	341	eP		P	00 47 39.5	-0.4	
ESY	Stoneypath	77.44	341	P		P	00 47 39.5	-0.4	
Y14A	Wickenburg	77.47	55	⇑P		P	00 47 40.8	+0.3	
	baz=77,SNR=14								
BZS	Buzias	77.48	322	⇑P		P	00 47 40.2	0.0	
BZS	Buzias	77.48	322	⇑iP		P	00 47 40.2	0.0	
TANN	Tannenbergstha	77.51	330	eP		P	00 47 40.7	+0.3	
	comp=Z,133nm,2.0s								
TANN				epP		pP	00 48 07.8	+1.5	
S20A	Disappointment	77.51	50	⇑P		P	00 47 41.1	+0.2	
	baz=77,SNR=52								
PKSG		77.54	325	⇑P		P	00 47 41.6	+1.0	
KONT	Konya--Tatoy	77.58	310	eP		P	00 47 37.9	-3.1	
R21A	Cimarron	77.59	49	⇓P		P	00 47 42.0	+0.7	
	baz=77,SNR=67								
Q22A	Crested Butte,	77.59	48	⇑P		P	00 47 41.8	+0.3	
	baz=77,SNR=47								
IBBN	Ibbenburen	77.60	333	eP		P	00 47 40.8	0.0	
	comp=Z,111nm,1.1s								
IBBN				epP		pP	00 48 07.7	+1.0	
EAB	Aberfoyle	77.61	342	eP		P	00 47 40.6	-0.2	
EAB	Aberfoyle	77.61	342	P		P	00 47 40.6	-0.2	
BRSD	Miller	77.62	40	⇓P		P	00 47 40.5	-0.6	
	baz=77,SNR=8.3								
ARMT	Armutlu	77.63	314	eP		P	00 47 39.1	-2.1	
ABTO	Aybut	77.63	282	P		P	00 47 42.1	+0.5	
	SNR=8.9								
MOX	Moxa	77.63	330	eP		P	00 47 41.3	+0.3	
	comp=Z,241nm,2.2s								
MOX				epP		pP	00 48 08.3	+1.3	
MOX	Moxa	77.63	330	eP		P	00 47 41.3	+0.3	
MOX				e*PP		pP	00 48 08.3	+1.3	
MOX				pmax		pmax			
	comp=Z,241nm,2.2s								
ISCO	Idaho Springs	77.64	47	eP		P	00 47 42.1	+0.4	
ISCO				pmax		pmax			
	comp=Z,72nm,1.4s								
ISCO	Idaho Springs	77.64	47	eP		P	00 47 42.1	+0.4	
	comp=Z,72nm,1.4s								
ISCO	Idaho Springs	77.64	47	⇓P		P	00 47 42.1	+0.4	
	baz=77,SNR=28								
PKS6	Bocsa	77.65	323	⇓P		P	00 47 41.7	+0.6	
NKC	Novy Kostel	77.66	330	⇑P		P	00 47 41.3	+0.1	
NKC				e*PP		pP	00 48 07.4	+0.3	
NKC	Novy Kostel	77.66	330	⇑iP		P	00 47 41.3	+0.1	
NKC				epP		pP	00 48 07.4	+0.3	
EBL	Broad Law	77.68	341	eP		P	00 47 41.0	-0.2	
EBL	Broad Law	77.68	341	P		P	00 47 41.0	-0.2	
O24A	Longmont	77.70	46	⇓P		P	00 47 42.4	+0.6	
	baz=77,SNR=9.5								
EAU	Auchinoon	77.71	341	eP		P	00 47 41.1	-0.3	
EAU	Auchinoon	77.71	341	P		P	00 47 41.1	-0.3	
L27A	T5 Ranch, Ells	77.72	43	⇓P		P	00 47 41.8	0.0	
	baz=77,SNR=5.9								
N25A	Grover	77.72	45	⇓P		P	00 47 41.8	-0.2	
	baz=77								
M26A	McRoberts Ranc	77.74	44	⇓P		P	00 47 42.3	+0.4	
	baz=77,SNR=8.3								
MDNY	Mudanya-Bursa	77.76	314	eP		P	00 47 41.6	-0.3	
CAN	Canberra	77.77	174	eP		P	00 47 42.5	+0.7	
CAN				pmax		pmax			
	comp=Z,36nm,1.4s								
CAN	Canberra	77.77	174	eP		P	00 47 42.5	+0.7	
	comp=Z,36nm,1.4s								
CNB	Canberra Magne	77.79	174	eP		P	00 47 42.7	+0.8	
CNB				epP		pP	00 48 11.6	+3.7	
PKST	T˜˜s	77.80	325	⇑P		P	00 47 42.2	+0.2	
113A	Mohawk Valley,	77.80	57	⇑P		P	00 47 42.3	+0.1	
	baz=78,SNR=5.6								
EDRB	Edirne	77.80	316	eP		P	00 47 40.5	-1.6	
CRLT	Corlu	77.81	315	eP		P	00 47 39.8	-2.4	
P23A	Jefferson	77.82	47	⇓P		P	00 47 43.4	+0.6	
	baz=78,SNR=32								
T19A	Beclabito	77.83	51	⇑P		P	00 47 42.8	+0.2	
	baz=78,SNR=30								
MVCO	Mesa Verde	77.87	50	eP		P	00 47 43.2	+0.3	
	comp=Z,60nm,1.1s								
MVCO	Mesa Verde	77.87	50	⇑P		P	00 47 43.1	+0.2	
	baz=78,SNR=22								
PKS2	Kecel	77.88	324	⇓P		P	00 47 43.0	+0.5	
Z14A	Wintersburg	77.90	56	⇓P		P	00 47 43.0	+0.1	
	baz=78,SNR=7.5								
S21A	Coal Bank Pass	77.95	50	⇓P		P	00 47 43.8	+0.4	
	baz=78,SNR=96								
PGBU	Glenifferbraes	77.99	341	eP		P	00 47 43.0	+0.2	
PGBU				AMB		AMB	00 47 44.5		
	comp=Z,259nm,1.4s								
PGBU	Glenifferbraes	77.99	341	P		P	00 47 43.0	+0.2	
PGBU				AMB		AMB	00 47 44.5		
	comp=Z,259nm,1.4s								
ALT	Altintas	78.04	312	eP		P	00 47 41.9	-1.7	
UBBA	Unterbreizbach	78.07	331	eP		P	00 47 43.7	+0.4	
	comp=Z,115nm,1.8s								
UBBA				epP		pP	00 48 11.1	+1.9	
M27A	Reverse DX Ran	78.08	44	⇑P		P	00 47 43.6	-0.2	
	baz=78,SNR=7.0								
X16A	Lo Mia Camp, P	78.09	54	⇑P		P	00 47 44.6	+0.5	
	baz=78,SNR=58								
U19A	Dine' College,	78.10	51	⇓P		P	00 47 44.2	0.0	
	baz=78,SNR=28								
TVSB	Tavsanli	78.11	313	eP		P	00 47 42.2	-1.8	
KCTX	Karacabey (Bur	78.11	314	eP		P	00 47 43.0	-0.9	
KHC	Kasperske Hory	78.12	328	⇑iP		P	00 47 43.9	+0.1	
KHC				e*PP		pP	00 48 09.6	-0.2	
KHC				eS		S	00 57 28.9	-0.9	
KHC				MLR		MLR			
	comp=Z,400nm,29.1s								
KHC	Kasperske Hory	78.12	328	eP		P	00 47 44.0	+0.2	
	comp=Z,76nm,1.2s								
KHC				epP		pP	00 48 10.2	+0.4	
KHC	Kasperske Hory	78.12	328	⇑iP		P	00 47 43.9	+0.1	
KHC				epP		pP	00 48 09.6	-0.2	
KHC				eS		S	00 57 28.9	-0.9	
KHC				AMS		AMS	01 22 40.0		
	comp=Z,400nm,29.1s								
R22A	Saguache, Gunn	78.13	49	⇑P		P	00 47 45.1	+0.7	
	baz=78,SNR=24								
ESK	Eskdalemuir	78.13	341	eP		P	00 47 42.9	-0.8	
ESK				AMB		AMB	00 47 43.4		
	comp=Z,78nm,2.0s								
ESK	Eskdalemuir	78.13	341	P		P	00 47 42.9	-0.8	
ESK				AMB		AMB	00 47 43.4		
	comp=Z,78nm,2.0s								
ESK	Eskdalemuir	78.13	341	iP		P	00 47 43.9	+0.2	
ESK	Eskdalemuir	78.13	341	P		P	00 47 43.4	-0.3	
	comp=Z,257nm,1.0s,SNR=7.1								
ROTZ	Rotzenmuhle	78.13	329	eP		P	00 47 44.6	+0.8	
	comp=Z,323nm,2.3s								
ROTZ				epP		pP	00 48 11.8	+2.0	
SHUT	Suhut-Afyon	78.15	312	eP		P	00 47 42.0	-2.3	
Q23A	Hartsel	78.16	48	⇓P		P	00 47 44.5	-0.1	
	baz=78								
N26A	Koester Ranch,	78.16	45	⇑P		P	00 47 44.1	-0.2	
	baz=78								
CONA	Conrad Observa	78.18	326	iP		P	00 47 45.0	+0.8	
	comp=Z,69nm,1.4s,SNR=22								
WTSB	Winterswijk	78.20	334	eP		P	00 47 44.1	0.0	
WTSB				epP		pP	00 48 12.6	+2.5	
EYMN	Ely	78.21	34	eP		P	00 47 43.3	-1.0	
	comp=Z,84nm,1.0s								
EYMN				ePcP		PcP	00 47 53.8	+0.3	
EYMN				ePP		PP	00 50 39.4	-2.1	
O25A	Wiggins	78.21	46	⇓P		P	00 47 44.5	-0.1	
	baz=78								
PKS9	Tamasi	78.22	324	⇓P		P	00 47 44.5	+0.2	
P24A	Kohler Place,	78.22	47	⇓P		P	00 47 45.1	+0.3	
	baz=78,SNR=9.2								
DIM	Dimitrovgrad	78.26	317	P		P	00 47 44.9	+0.2	
BNT	Bandirma	78.28	315	eP		P	00 47 44.4	-0.4	
GEC2	GERESS Array S	78.31	328	eP		P	00 47 44.6	-0.3	
	comp=Z,169nm,2.3s								
GEC2				epP		pP	00 48 12.3	+1.4	
GEC2	GERESS Array S	78.31	328	eP		P	00 47 44.6	-0.3	
GEC2				e*PP		pP	00 48 12.3	+1.4	
GEC2				pmax		pmax			
	comp=Z,169nm,2.3s								
GERES	GERESS Array B	78.31	328	P		P	00 47 44.9	-0.1	
GERES				PP		PP	00 50 34.5	-8.0	
GERES	GERESS Array B	78.31	328	P		P	00 47 44.9	-0.1	
	comp=Z,5.9nm,0.7s,baz=35,slow=4.9,SNR=62								
GERES				PP		PP	00 50 34.5	-8.0	
	comp=Z,3.2nm,0.9s,baz=12,slow=6.3,SNR=5.2								
GERES				LR		LR	01 23 06.0		
	comp=Z,336nm,20.7s,baz=16,slow=36								
EDC	Edincik	78.31	315	eP		P	00 47 46.6	+1.7	
PKSM	Moragy	78.35	324	⇑P		P	00 47 44.7	-0.4	
PKSM	Moragy	78.35	324	⇑iP		P	00 47 44.7	-0.4	
PKSM	Moragy	78.35	324	⇑P		P	00 47 44.6	-0.5	
WET	Wettzell	78.38	329	eP		P	00 47 45.2	-0.1	
	comp=Z,71nm,1.2s								
WET				epP		pP	00 48 13.2	+2.0	
WET	Wettzell	78.38	329	eP		P	00 47 45.2	-0.1	
WET				e*PP		pP	00 48 13.2	+2.0	
WET				pmax		pmax			
	comp=Z,71nm,1.2s								
SART	Tekirdag	78.42	315	iP		P	00 47 45.8	+0.2	
RKY	Sarkoy-Tekirda	78.42	315	eP		P	00 47 45.4	-0.3	
S22A	4UR Ranch, Cre	78.43	49	⇑P		P	00 47 46.7	+0.6	
	baz=78,SNR=47								
U20A	Newcomb	78.44	51	⇓P		P	00 47 46.2	+0.2	
	baz=78,SNR=11								
Q24A	Divide	78.48	47	⇑P		P	00 47 45.9	-0.4	
	baz=78,SNR=16								
BUG	Bochum--Univer	78.49	333	eP		P	00 47 45.6	-0.1	
	comp=Z,107nm,1.1s								
BUG				epP		pP	00 48 12.8	+1.1	
NWAO	Narrogin (SRO)	78.52	201	eP		P	00 47 46.7	+0.8	
	comp=Z,86nm,1.1s								
DURS	Dursunbey	78.53	314	iP		P	00 47 46.1	-0.2	
N27A	Anderson Farm,	78.53	44	⇑P		P	00 47 46.0	-0.4	
	baz=78,SNR=22								
O26A	Horse Wrangler	78.54	45	⇑P		P	00 47 45.9	-0.5	
	baz=78,SNR=14								
GRF	Grafenberg Arr	78.56	330	eP		P	00 47 46.9	+0.7	
	comp=Z,120nm,1.0s								
GRF				epP		pP	00 48 14.1	+1.9	
GRF	Grafenberg Arr	78.56	330	eP		P	00 47 46.9	+0.7	
GRF				e*PP		pP	00 48 14.1	+1.9	
GRF				pmax		pmax			
	comp=Z,120nm,1.0s								
GRFO	Grafenberg	78.56	330	eP		P	00 47 46.0	-0.2	
GRFO				e*PP		pP	00 48 14.1	+1.9	
GRFO				pmax		pmax			
	comp=Z,173n

baz=79,SNR=5.3
P26A Davis Ranch, A 79.02 46 ⇑P P 00 47 48.8 -0.3
baz=79,SNR=13
R24A Sanders Place, 79.03 48 ⇑P P 00 47 49.5 +0.2
baz=79,SNR=34
RAYN Ar Rayn 79.09 292 P P 00 47 49.9 +0.3
comp=Z,328nm,0.7s,SNR=30
CSS Prodhromos 79.11 308 *e*P P 00 47 49.3 -0.2
comp=Z,49nm,1.0s
CSS *e*PP PP 00 50 47.1 -2.4
TNS Taunus Mts 79.12 332 *e*P P 00 47 49.4 +0.1
comp=Z,96nm,1.4s
TNS *e*pP pP 00 48 16.7 +1.4
TNS Taunus Mts 79.12 332 *e*P P 00 47 49.4 +0.1
TNS *e**PP pP 00 48 16.7 +1.4
TNS pmax pmax
comp=Z,96nm,1.4s
KULA Kula-Manisa 79.21 313 *e*P P 00 47 45.8 -4.3
ECSD EROS Data Cent 79.26 39 *e*P P 00 47 49.4 -0.8
comp=Z,84nm,1.0s
ECSD *e*pP pP 00 48 16.4 +0.3
ECSD *e*PP PP 00 50 48.0 -2.4
W20A Ramah 79.33 52 ⇑P P 00 47 51.1 +0.1
baz=79,SNR=25
V21A Milan 79.35 51 ⇑P P 00 47 51.5 +0.5
baz=79,SNR=14
T23A Casias Ranch, 79.38 49 ⇓P P 00 47 51.5 +0.3
baz=79,SNR=7.6
LHO Holmfirth 79.39 339 *e*P P 00 47 50.4 -0.3
LHO Holmfirth 79.39 339 P P 00 47 50.4 -0.3
U22A Llaves 79.39 50 ⇑P P 00 47 51.7 +0.5
baz=79,SNR=9.9
Q26A Hugo 79.39 46 ⇑P P 00 47 51.0 -0.1
baz=79,SNR=8.2
S24A Houchin Ranch, 79.40 48 ⇑P P 00 47 51.6 +0.2
baz=79,SNR=36
AKHS Akhisar 79.40 314 *i* P P 00 47 50.2 -0.7
AKS Akhisar 79.40 314 *e*P P 00 47 51.2 +0.2
P27A Ficken Ranch, 79.43 45 ⇓P P 00 47 50.5 -0.7
baz=79
GROS Grobnik 79.50 326 *i* P P 00 47 51.2 -0.2
GROS *i* 00 48 18.1
MMB Musomiste 79.51 318 P P 00 47 51.9 +0.4
TOD Tromm 79.51 331 *e*P P 00 47 51.4 0.0
TOD Tromm 79.51 331 *e*P P 00 47 51.4 0.0
HGN Heimansgroeve 79.51 333 *e*P P 00 47 51.0 -0.4
comp=Z,113nm,1.3s
HGN *e*pP pP 00 48 17.5 +0.2
SOKA Soboth 79.52 326⇑*i*P P 00 47 51.5 0.0
comp=Z,91nm,1.2s
R25A Fountain Ranch 79.54 47 ⇑P P 00 47 51.6 -0.4
baz=79,SNR=5.4
KBI1 Birley Grange 79.56 339 *e*P P 00 47 50.8 -0.8
KBI1 Birley Grange 79.56 339 P P 00 47 50.8 -0.8
BEBN Eben Emael 79.57 334 P P 00 47 51.5 -0.1
comp=Z,30nm,1.4s
BEBN AP pP 00 48 19.1 +1.5
NVR Nevrokopi 79.62 318 *e*P P 00 47 52.5 +0.3
MEM Membach 79.62 333 P P 00 47 51.6 -0.3
comp=Z,44nm,1.5s
MEM AP pP 00 48 20.5 +2.6
V22A San Miguel Ran 79.69 50 ⇓P P 00 47 53.1 +0.2
baz=79,SNR=20
ABH Alteburg 79.72 332 *e*P P 00 47 52.3 -0.2
X20A Quemado 79.74 52 ⇑P P 00 47 54.2 +1.0
baz=80,SNR=25
GMM Mts of Mourne 79.77 342 *e*P P 00 47 52.4 -0.3
GMM Mts of Mourne 79.77 342 P P 00 47 52.4 -0.3
FUR Furstenfeldbru 79.80 329 *e*P P 00 47 53.4 +0.4
comp=Z,135nm,1.2s
FUR *e*pP pP 00 48 20.9 +1.9
FUR Furstenfeldbru 79.80 329 *e*P P 00 47 53.4 +0.4
FUR *e**PP pP 00 48 20.9 +1.9
FUR pmax pmax
comp=Z,135nm,1.2s
U23A El Rito 79.80 50 ⇓P P 00 47 54.3 +0.8
baz=80,SNR=42
KSCO Kaye Shedlock' 79.80 46 ⇓P P 00 47 52.9 -0.4
baz=80,SNR=10.0
SPMN St. Paul 79.81 36 ⇓P P 00 47 52.2 -0.8
baz=80,SNR=8.4
S25A Robets Cordova 79.81 48 ⇓P P 00 47 52.8 -0.7
baz=80,SNR=13
TOO Toolangi 79.82 177 *e*P P 00 47 54.3 +1.4
TOO *e*pP pP 00 48 24.7 +5.7
W21A San Fidel 79.83 51 ⇑P P 00 47 53.8 +0.1
baz=80
OBKA Obir 79.85 326⇑*i*P P 00 47 53.2 -0.2
comp=Z,30nm,1.2s,SNR=13
SCHQ Schefferville 79.88 17 P P 00 47 52.8 -0.4
SCHQ Schefferville 79.88 17 P P 00 47 52.8 -0.4
comp=Z,30nm,0.9s,baz=352,slow=6.0,SNR=42
SCHQ LR LR 01 25 34.8
comp=Z,143nm,18.8s,baz=79,slow=37
KBA Koelnbreinsper 79.88 327⇑*i*P P 00 47 53.9 +0.2
comp=Z,65nm,1.1s,SNR=44
R26A Arlington 79.88 47 ⇑P P 00 47 53.5 -0.2
baz=80,SNR=53
T24A Torres, Weston 79.90 48 ⇓P P 00 47 54.5 +0.5
baz=80,SNR=31
SISC Sisak 79.92 325 P P 00 47 53.8 +0.2
TUC Tucson 79.94 55 *e*P P 00 47 54.7 +0.6
TUC *e* 00 48 01.0
TUC pmax pmax
comp=Z,30nm,1.2s
TUC Tucson 79.94 55 *e*P P 00 47 54.6 +0.6
comp=Z,30nm,1.2s
TUC *e*PcP PcP 00 48 01.0 -0.3
BCLA Clavier 80.02 334 P P 00 47 53.6 -0.4
comp=Z,41nm,1.7s
BCLA AP pP 00 48 21.0 +0.9
LIA Limnos Island 80.03 316 *e*P P 00 47 54.8 +0.5
RUP Ruppelstein 80.04 332 *e*P P 00 47 53.8 -0.5
RUP Ruppelstein 80.04 332 *e*P P 00 47 53.8 -0.5
IZM Izmir 80.05 314 *e*P P 00 47 53.8 -0.8
STU Stuttgart 80.07 331 *e*P P 00 47 54.5 +0.1
comp=Z,91nm,1.1s
STU *e*pP pP 00 48 21.9 +1.5
STU Stuttgart 80.07 331 *e*P P 00 47 54.3 -0.1
STU *e**PP pP 00 48 23.1 +2.7
STU pmax pmax
comp=Z,83nm,1.1s
STU Stuttgart 80.07 331 *e*P P 00 47 54.3 -0.1
comp=Z,83nm,1.1s
STU *e*pP pP 00 48 23.1 +2.7
MYKA Terra Mystica 80.12 327⇑*i*P P 00 47 54.2 -0.6
comp=Z,53nm,1.3s
WME Myndd Eilian 80.15 340 *e*P P 00 47 53.7 -1.0
WME Myndd Eilian 80.15 340 P P 00 47 53.7 -1.0
WPM1 Penmaenmawr 80.17 340 *e*P P 00 47 53.6 -1.2
WPM1 Penmaenmawr 80.17 340 P P 00 47 53.6 -1.2
T25A Trinidad 80.20 48 ⇓P P 00 47 55.6 -0.1
baz=80,SNR=36
V23A Ortiz Mt. (NFS 80.22 50 ⇓P P 00 47 56.9 +1.2
baz=80,SNR=24
X21A Alamocita Cree 80.22 52 ⇑P P 00 47 56.7 +0.9
baz=80,SNR=30
LJU Ljubljana 80.23 326 *i* P P 00 47 54.8 -0.6
R27A Eads 80.24 46 ⇓P P 00 47 55.3 -0.3
baz=80,SNR=29
U24A Moreno Valley 80.25 49 ⇑P P 00 47 56.3 +0.4
baz=80,SNR=8.2
PLE Pljevlja 80.25 321⇑*i*P P 00 47 57.2 +1.6
AYDN Tasoluk 80.25 313 *i* P P 00 47 56.6 +0.9
Y20A Horse Springs, 80.26 53 ⇓P P 00 47 57.0 +1.0
baz=80,SNR=59
SNF Seneffe 80.27 334 P P 00 47 55.2 -0.2
comp=Z,48nm,1.8s
SNF AP pP 00 48 23.8 +2.3
VAY Valandovo 80.28 318 *i* P P 00 47 55.2 -0.5
BGNE Belgrade 80.30 42 ⇑P P 00 47 55.0 -0.8
baz=80,SNR=15
W22A Albuquerque 80.31 51 ⇓P P 00 47 57.1 +0.9
baz=80
FOEL Foel Wylfa 80.33 340 *e*P P 00 47 55.9 +0.2
FOEL AMB AMB 00 47 57.2
comp=Z,104nm,1.3s
FOEL Foel Wylfa 80.33 340 P P 00 47 55.9 +0.2
FOEL AMB AMB 00 47 57.2
comp=Z,104nm,1.3s
SKO Skopje 80.33 319 *i* P P 00 47 56.1 +0.1
BOJS Bojanci 80.36 325 *i* P P 00 47 55.7 -0.3
BOJS *i* 00 48 01.1
WATA Walderalm 80.36 328⇑*i*P P 00 47 56.4 +0.2
comp=Z,24nm,0.7s,SNR=13
S26A Kim 80.37 47 ⇓P P 00 47 55.9 -0.5
baz=80,SNR=16
IVA Berane 80.37 321⇑*i*P P 00 47 56.6 +0.4
WLF Walferdange 80.38 333 P P 00 47 55.9 -0.1
comp=Z,38nm,1.8s
WLF AP pP 00 48 22.9 +0.8
WLF Walferdange 80.38 333 *e*P P 00 47 56.3 +0.3
comp=Z,203nm,2.0s
WLF *e*pP pP 00 48 22.8 +0.8
WLF Walferdange 80.38 333 *e*P P 00 47 55.6 -0.4
WLF pmax pmax
comp=Z,111nm,1.6s
WLF Walferdange 80.38 333 *e*P P 00 47 55.6 -0.4
comp=Z,111nm,1.6s
WLF *e**PP PP 00 50 54.7 -4.7
LANF Langenberg 80.39 331 *e*P P 00 47 56.0 -0.1
LANF Langenberg 80.39 331 *e*P P 00 47 56.0 -0.1
LANF Langenberg 80.39 331 *e*P P 00 47 56.0 -0.1
GIVF Givet 80.45 334⇑*i*P P 00 47 55.8 -0.6
comp=Z,91nm,1.2s
GIVF *e*pP pP 00 48 23.7 +1.3
GIVF Givet 80.45 334⇑*i*P P 00 47 55.8 -0.6
GIVF *e**PP pP 00 48 23.7 +1.3
GIVF pmax pmax
comp=Z,91nm,1.2s
GIVF Givet 80.45 334⇑*i*P P 00 47 55.8 -0.6
comp=Z,91nm,1.2s
GIVF *e*pP pP 00 48 23.7 +1.3
ABTA Abfaltersbach 80.48 328⇑*i*P P 00 47 55.9 -0.8
comp=Z,36nm,1.4s,SNR=14
DOU Dourbes 80.53 334 P P 00 47 56.3 -0.5
comp=Z,31nm,1.9s
DOU AP pP 00 48 24.0 +1.2
MOTA Moosalm 80.54 329⇑*i*P P 00 47 57.1 0.0
comp=Z,134nm,1.2s,SNR=60
JAVS Javornik 80.55 326 *i* P P 00 47 56.0 -1.1
JAVS *i* 00 48 01.5
RETA Reutte 80.55 329⇑*i*P P 00 47 57.2 +0.1
comp=Z,87nm,1.2s,SNR=49
YRE Yr Eifl 80.56 340 *e*P P 00 47 56.7 -0.2
YRE Yr Eifl 80.56 340 P P 00 47 56.7 -0.2
PVY Plav 80.56 321⇑*i*P P 00 47 57.3 0.0
PLG Polygyros 80.56 317 *e*P P 00 47 57.1 -0.1
UPM Unac-Piva 80.58 322⇑*i*P P 00 47 57.8 +0.4
MLSB Milas 80.58 313 *e*P P 00 47 56.4 -0.9
Y21A Point of Rocks 80.60 52 ⇓P P 00 47 58.8 +1.0
baz=80,SNR=10
T26A Comanche Natio 80.63 48 ⇓P P 00 47 57.1 -0.8
baz=80,SNR=20
LAZ Ladron 80.63 52 *e*P P 00 47 58.8 +0.9
comp=Z,32nm,1.4s
LAZ *e*pP pP 00 48 28.4 +4.4
LAZ *e**PP PP 00 51 03.4 +1.1
S27A Las Animas 80.63 47 ⇓P P 00 47 57.3 -0.5
baz=80
X22A Bernardo 80.63 51 ⇑P P 00 47 59.0 +1.1
baz=80,SNR=6.7
ANMO Albuquerque 80.64 51 *e*P P 00 47 58.5 +0.5
comp=Z,46nm,1.2s
ANMO *e*PcP PcP 00 48 04.4 -0.1
ANMO Albuquerque 80.64 51 P P 00 47 58.4 +0.5
comp=Z,23nm,1.0s,baz=312,slow=7.9,SNR=53
COWI Conover 80.65 33 *e*P P 00 47 56.4 -1.2
comp=Z,78nm,1.5s
COWI *e*PP PP 00 51 01.5 -0.4
W23A Werner Place, 80.66 50 ⇓P P 00 47 58.8 +0.7
baz=80,SNR=21
BAIF Baives 80.68 334⇑*i*P P 00 47 57.1 -0.5
comp=Z,103nm,1.3s
BAIF Baives 80.68 334⇑*i*P P 00 47 57.1 -0.5
BAIF pmax pmax
comp=Z,103nm,1.3s
BAIF Baives 80.68 334⇑*i*P P 00 47 57.1 -0.5
comp=Z,103nm,1.3s
Z20A Nine Sixteen R 80.69 53 ⇑P P 00 47 58.8 +0.6
baz=80,SNR=54
CHOS Chios island 80.70 314 *e*P P 00 47 57.0 -1.1
U25A Circle Dot Ran 80.74 49 ⇑P P 00 47 58.6 +0.1
baz=80,SNR=8.3
V24A Rampart Ranch, 80.75 50 ⇓P P 00 47 59.3 +0.7
baz=80,SNR=30
BFO Black Forest 80.75 331 *e*P P 00 47 58.1 0.0
comp=Z,131nm,1.5s
BFO *e*pP pP 00 48 25.7 +1.5
BFO Black Forest 80.75 331 *e*P P 00 47 58.1 0.0
BFO *e**PP pP 00 48 25.7 +1.5
BFO pmax pmax
comp=Z,131nm,1.5s
BFO Black Forest 80.75 331 *e*P P 00 47 57.8 -0.3
comp=Z,85nm,1.3s
BFO *e*pP pP 00 48 24.9 +0.7
BFO Black Forest 80.75 331 P P 00 47 57.6 -0.5
comp=Z,245nm,1.5s,SNR=27
SPAK Spaichingen-Ko 80.78 330 *e*P P 00 47 58.1 -0.2
SSW Stow on the Wo 80.80 338 *e*P P 00 47 58.0 -0.2
SSW Stow on the Wo 80.80 338 P P 00 47 58.0 -0.2
TRI Trieste 80.82 326 *e*P P 00 47 57.3 -1.2
TRI pmax pmax
comp=Z,46nm,1.0s
TRI Trieste 80.82 326 *e*P P 00 47 57.2 -1.2
comp=Z,46nm,1.0s
NKY Niksic 80.84 321⇑*i*P P 00 47 58.1 -0.7
LENM Lemitar 80.89 52 *e*P P 00 47 58.9 -0.5
FETA Feichten 80.95 329 *i* P P 00 47 59.4 +0.1
comp=Z,57nm,1.1s,SNR=40
BRY Bratogost 80.98 322⇑*i*P P 00 47 58.7 -0.8
LPM Los Pinos Moun 80.99 51 *e*P P 00 48 00.9 +1.0
Y22D IRIS PASSCAL I 80.99 52 ⇓P P 00 48 01.0 +1.2
baz=81
TTG Podgorica 81.01 321⇑*i*P P 00 47 59.4 -0.1
V25A Rancho No Teng 81.03 49 ⇓P P 00 48 00.7 +0.6
baz=81,SNR=17
W24A Lazy 6 Ranch, 81.04 50 ⇑P P 00 48 01.0 +0.9
baz=81,SNR=36
X23A Hourglass Bar 81.05 51 ⇑P P 00 48 00.3 +0.1
baz=81
DAVA Damuels 81.05 329 *i* P P 00 47 59.8 -0.1
comp=Z,82nm,1.1s,SNR=24
CDF Champ du Feu 81.06 331⇑*i*P P 00 47 59.4 -0.4
comp=Z,125nm,1.2s
CDF *e*pP pP 00 48 27.5 +1.6
CDF Champ du Feu 81.06 331⇑*i*P P 00 47 59.4 -0.4
CDF *e**PP pP 00 48 27.5 +1.6
CDF pmax pmax
comp=Z,125nm,1.2s
CDF Champ du Feu 81.06 331⇑*i*P P 00 47 59.4 -0.4
comp=Z,125nm,1.2s
CDF *e*pP pP 00 48 27.5 +1.6
Y22A Socorro 81.06 52 ⇓P P 00 48 00.6 +0.4
baz=81,SNR=15
120A U Bar Ranch, L 81.07 54 ⇓P P 00 48 00.9 +0.6
baz=81,SNR=24
MCH1 Michaelchurch 81.08 339 *e*P P 00 47 59.2 -0.5
MCH1 AMB AMB 00 48 06.2
comp=Z,77nm,3.8s
MCH1 Michaelchurch 81.08 339 P P 00 47 59.2 -0.5
MCH1 AMB AMB 00 48 06.2
comp=Z,77nm,3.8s
Z21A St. Cloud Mine 81.10 53 ⇓P P 00 48 01.2 +0.8
baz=81,SNR=71
BNM Barren Site 81.11 51 *e*P P 00 48 01.1 +0.6
comp=Z,22nm,1.1s
U26A Atchley Ranch, 81.11 48 ⇓P P 00 48 00.1 -0.4
baz=81
BIA Bitola 81.12 319 *i* P P 00 47 58.3 -1.9
LIBD Limburg 81.16 331 *e*P P 00 48 00.3 +0.1
LIBD Limburg 81.16 331 *e*P P 00 48 00.3 +0.1
T27A Campo 81.18 47 ⇓P P 00 48 00.4 -0.3
baz=81
SWN1 Swindon 81.20 338 *e*P P 00 47 60.0 -0.4
SWN1 AMB AMB 00 48 05.3
comp=Z,171nm,1.9s
SWN1 Swindon 81.20 338 P P 00 47 60.0 -0.4
SWN1 AMB AMB 00 48 05.3
comp=Z,171nm,1.9s
WOL Wolverton 81.22 338 *e*P P 00 47 59.9 -0.5
WOL AMB AMB 00 48 01.4
comp=Z,142nm,1.9s
WOL Wolverton 81.22 338 P P 00 47 59.9 -0.5
WOL AMB AMB 00 48 01.4
comp=Z,142nm,1.9s
LIT Litokhoron 81.25 318 *e*P P 00 48 00.6 -0.3
FELD Feldberg im Sc 81.25 331 *e*P P 00 48 00.5 -0.4
ECH Echery 81.27 331 *e*P P 00 48 00.4 -0.4
ECH *e**PP pP 00 48 28.2 +1.3
ECH pmax pmax
comp=Z,68nm,1.3s
ECH Echery 81.27 331 *e*P P 00 48 00.4 -0.4
comp=Z,68nm,1.3s
ECH *e*pP pP 00 48 28.2 +1.3
ECH Echery 81.27 331 *e*P P 00 48 00.5 -0.4
NVLJ Novalja 81.28 325 P P 00 47 58.5 -2.3
BUM Brajici-Budva 81.28 321⇑*i*P P 00 47 59.7 -1.4
HCY Herceg Novi 81.35 321⇑*i*P P 00 47 59.0 -2.4
STON Ston 81.38 322 P P 00 47 59.3 -2.1
ULC Ulcinj 81.38 321⇑*i*P P 00 47 59.3 -2.2
FUORN Ofenpass-Fuorn 81.46 329 *e*P P 00 48 02.5 +0.4
comp=Z,97nm,1.0s
T28A Walsh 81.47 47 ⇓P P 00 48 01.6 -0.6
baz=81
PAGF Fort de Pagny 81.47 332⇑*i*P P 00 48 01.8 -0.1
comp=Z,58nm,1.1s
PAGF *e*pP pP 00 48 29.9 +1.9
PAGF Fort de Pagny 81.47 332⇑*i*P P 00 48 01.8 -0.1
comp=Z,58nm,1.1s
PAGF *e*pP pP 00 48 29.9 +1.9
X24A Lazy VL Ranch, 81.49 50 ⇑P P 00 48 03.1 +0.6
baz=81,SNR=12
319A Douglas 81.50 55 ⇑P P 00 48 02.8 +0.3
baz=81,SNR=16
V26A Tequesquite Ra 81.53 49 ⇓P P 00 48 02.4 -0.2
baz=81,SNR=20
Z22A Elephant Butte 81.55 52 ⇓P P 00 48 03.4 +0.6
baz=81,SNR=33
TIR Tirane 81.57 320 *e*P P 00 48 02.8 +0.3
TIR pmax pmax
comp=Z,95nm,1.0s
TIR Tirane 81.57 320 *e*P P 00 48 02.8 +0.3
comp=Z,95nm,1.0s
W25A X Bar L Ranch, 81.57 49 ⇑P P 00 48 03.4 +0.6
baz=81,SNR=57
121A Cookes Peak, D 81.58 53 ⇓P P 00 48 03.7 +0.7
baz=81,SNR=28
MOF Molkenrain 81.58 331 *e*P P 00 48 02.0 -0.6
MOF Molkenrain 81.58 331 *e*P P 00 48 02.0 -0.6
MOF Molkenrain 81.58 331 *e*P P 00 48 02.0 -0.6
220A Playas Peak, P 81.59 54 ⇑P P 00 48 03.4 +0.4
baz=81,SNR=20
Y23A Lovelace Mesa, 81.59 51 ⇑P P 00 48 03.6 +0.5
baz=81,SNR=23
THEF They Montfort 81.67 332 *e*P P 00 48 02.5 -0.4
THEF They Montfort 81.67 332 *e*P P 00 48 02.5 -0.4
THEF They Montfort 81.67 332 *e*P P 00 48 02.5 -0.4
HINF Hinteralfeld 81.71 331⇑*i*P P 00 48 02.4 -0.8
comp=Z,104nm,1.6s
HINF Hinteralfeld 81.71 331⇑*i*P P 00 48 02.4 -0.8
HINF pmax pmax
comp=Z,104nm,1.6s
HINF Hinteralfeld 81.71 331⇑*i*P P 00 48 02.4 -0.8
comp=Z,104nm,1.6s
HAU Haudompre 81.73 332⇑*i*P P 00 48 02.6 -0.7
comp=Z,54nm,1.1s
HAU *e*R
comp=Z,292nm,23.0s
HAU Haudompre 81.73 332⇑*i*P P 00 48 02.6 -0.7
HAU pmax pmax
comp=Z,55nm,1.1s
HAU Haudompre 81.73 332⇑*i*P P 00 48 02.6 -0.7
comp=Z,54nm,1.1s
MEZF Maizieres J'vi 81.75 333⇑*i*P P 00 48 03.2 -0.1
comp=Z,281nm,1.4s
MEZF *e*pP pP 00 48 31.4 +2.0
MEZF Maizieres J'vi 81.75 333⇑*i*P P 00 48 03.2 -0.1
comp=Z,281nm,1.4s
MEZF *e*pP pP 00 48 31.4 +2.0
BBS Basel-Blauen 81.78 331 *e*P P 00 48 03.3 -0.3
BBS Basel-Blauen 81.78 331 *e*P P 00 48 03.3 -0.3
122A Conniff Cattle 81.93 53 ⇑P P 00 48 05.5 +0.8
baz=82,SNR=6.4
TUE Stuetta 81.94 329 *e*P P 00 48 04.5 -0.1
comp=Z,46nm,1.1s
Y24A Capitan 81.95 51 ⇓P P 00 48 05.1 +0.2
baz=82,SNR=17
221A Mesquite Ranch 81.96 54 ⇑P P 00 48 05.2 +0.3
baz=82
X25A Clemmons Ranch 81.96 50 ⇓P P 00 48 05.3 +0.4
baz=82,SNR=30
Z23A Sita Site, Whi 81.97 52 ⇓P P 00 48 05.3 +0.4
baz=82,SNR=12
320A Kipp Ranch, An 81.99 55 ⇓P P 00 48 05.5 +0.4
baz=82,SNR=6.2
SFTF Sexfontaines 82.01 333⇑*i*P P 00 48 04.3 -0.4
comp=Z,242nm,1.3s
SFTF *e*pP pP 00 48 32.4 +1.6
SFTF Sexfontaines 82.01 333⇑*i*P P 00 48 04.3 -0.4
comp=Z,242nm,1.3s
SFTF *e*pP pP 00 48 32.4 +1.6
W26A Owens Ranch, T 82.05 49 ⇓P P 00 48 05.8 +0.5
baz=82,SNR=6.0
LOMF Lomont 82.12 331 *e*P P 00 48 05.3 -0.1
LOMF Lomont 82.12 331 *e*P P 00 48 05.3 -0.1
LOMF Lomont 82.12 331 *e*P P 00 48 05.3 -0.1
HEX Exmoor 82.14 339 *e*P P 00 48 04.8 -0.5
HEX Exmoor 82.14 339 P P 00 48 04.8 -0.5
SCIA State Center 82.25 38 *e*P P 00 48 06.2 +0.2
comp=Z,165nm,1.1s
222A Williams Famil 82.29 53 ⇓P P 00 48 06.9 +0.3
baz=82,SNR=6.6
Y25A Mesa, Roswell 82.38 50 ⇑P P 00 48 07.3 +0.2
baz=82,SNR=24
123A Bell Site, Whi 82.41 52 ⇓P P 00 48 07.7 +0.5
baz=82
V28A Channing 82.42 48 ⇑P P 00 48 07.0 -0.2
baz=82
X26A CR and CF Fran 82.42 49 ⇓P P 00 48 07.5 +0.2
baz=82,SNR=7.8
Z24A Sheeppen Canyo 82.42 51 ⇓P P 00 48 07.7 +0.3
baz=82,SNR=17
W27A Bowe Ranch, En 82.46 49 ⇑P P 00 48 07.4 0.0
baz=82,SNR=20
V29A Stinnett 82.71 47 ⇑P P 00 48 08.3 -0.4
baz=82
X27A F and S Farms, 82.75 49 ⇑P P 00 48 09.3 +0.3
baz=82,SNR=6.1
223A Chaparral, Ant 82.76 53 ⇑P P 00 48 09.2 +0.2
baz=82
SENIN Lac Senin/Sane 82.79 330 *e*P P 00 48 08.8 -0.3
comp=Z,189nm,2.1s
W28A Vega 82.79 48 ⇑P P 00 48 09.4 +0.2
baz=82,SNR=14
KSU1 Kansas State U 82.82 42 *e*P P 00 48 08.2 -0.9
comp=Z,42nm,0.8s
124A Stringfield Ra 82.83 52 ⇓P P 00 48 09.7 +0.1
baz=83,SNR=19
Z25A Roswell 82.83 51 ⇑P P 00 48 09.8 +0.4
baz=83,SNR=14
Y26A Elida 82.87 50 ⇑P P 00 48 09.3 -0.3
baz=83,SNR=9.5
CABF La Chapelle 83.02 331⇑*i*P P 00 48 09.7 -0.4
comp=Z,39nm,1.1s
CABF *e*pP pP 00 48 34.6 -1.7
CABF La Chapelle 83.02 331⇑*i*P P 00 48 09.7 -0.4
CABF *e**PP pP 00 48 34.6 -1.7
CABF pmax pmax
comp=Z,39nm,1.1s
CABF La Chapelle 83.02 331⇑*i*P P 00 48 09.7 -0.4
comp=Z,39nm,1.1s
CABF *e*pP pP 00 48 34.6 -1.7
W29A Amraillo 83.20 48 ⇑P P 00 48 11.0 -0.3
baz=83
LOR Lormes 83.22 333⇑*i*P P 00 48 10.5 -0.5
comp=Z,238nm,1.2s
LOR *e*pP pP 00 48 38.8 +1.6
LOR *e*R
comp=Z,229nm,22.2s
LOR Lormes 83.22 333⇑*i*P P 00 48 10.5 -0.5
comp=Z,238nm,1.2s
LOR *e*pP pP 00 48 38.8 +1.6
224A Cornudas Mount 83.24 52 ⇑P P 00 48 11.7 +0.1
baz=83,SNR=22
Z26A Caprock 83.26 50 ⇑P P 00 48 12.0 +0.4
baz=83,SNR=55
Y27A Causey 83.28 50 ⇑P P 00 48 11.4 -0.3
baz=83,SNR=23
FLN La Foliniere 83.28 336⇑*i*P P 00 48 10.6 -0.7
comp=Z,119nm,1.2s
FLN *e*pP pP 00 48 38.8 +1.3
FLN *e*R
comp=Z,210nm,21.5s
FLN La Foliniere 83.28 336⇑*i*P P 00 48 10.6 -0.7
FLN *e**PP pP 00 48 38.8 +1.3

FLN pmax pmax
comp=Z,119nm,1.2s
FLN La Foliniere 83.28 336⇑*i*P P 00 48 10.6 -0.7
comp=Z,119nm,1.2s
FLN *ep*P **pP 00 48 38.8 +1.3**
125A Gardner Draw, 83.32 51⇓P P 00 48 12.1 +0.1
baz=83,SNR=44
LDF La Druitiere 83.33 336⇑*i*P P 00 48 10.9 -0.6
comp=Z,203nm,1.4s
LDF La Druitiere 83.33 336⇑*i*P P 00 48 10.9 -0.6
LDF pmax pmax
comp=Z,203nm,1.4s
LDF La Druitiere 83.33 336⇑*i*P P 00 48 10.9 -0.6
comp=Z,203nm,1.4s
X28A Dimmitt 83.35 49⇓P P 00 48 11.9 -0.2
baz=83
AMTX Amarillo 83.36 48 *e*P P 00 48 11.8 -0.2
comp=Z,52nm,1.0s
AMTX Amarillo 83.36 48⇑P P 00 48 12.0 0.0
baz=83,SNR=9.5
JSA Saint Aubin 83.39 337 *e*P P 00 48 11.0 -0.8
JSA AMB AMB 00 48 12.3
comp=Z,57nm,1.3s
JSA Saint Aubin 83.39 337 P P 00 48 11.0 -0.8
JSA AMB AMB 00 48 12.3
comp=Z,57nm,1.3s
MSTX Muleshoe 83.43 49⇓P P 00 48 12.3 -0.1
baz=83,SNR=10
VLC Villacollemand 83.46 327 *e*P P 00 48 12.5 +0.2
comp=Z,77nm,1.2s
GLMI Grayling 83.50 31 *e*P P 00 48 11.7 -0.7
comp=Z,130nm,1.1s
SSF Saint Saulge 83.52 333⇑*i*P P 00 48 12.0 -0.5
comp=Z,79nm,1.1s
SSF Saint Saulge 83.52 333⇑*i*P P 00 48 12.0 -0.5
SSF pmax pmax
comp=Z,79nm,1.1s
SSF Saint Saulge 83.52 333⇑*i*P P 00 48 12.0 -0.5
comp=Z,79nm,1.1s
225A Deer Hill, Car 83.62 52⇑P P 00 48 13.8 +0.2
baz=83,SNR=14
HYF Humbligny 83.63 334⇑*i*P P 00 48 13.0 -0.1
HYF Humbligny 83.63 334⇑*i*P P 00 48 13.0 -0.1
Z27A Tatum 83.66 50⇓P P 00 48 13.7 0.0
baz=83,SNR=82
X29A Tulia 83.67 48⇑P P 00 48 13.5 -0.1
baz=83,SNR=7.8
126A Clayton Basin, 83.70 51⇓P P 00 48 13.7 -0.1
baz=83,SNR=18
AQU L'Aquila 83.70 324 *e*P P 00 48 14.2 +0.6
comp=Z,180nm,1.3s
AQU L'Aquila 83.70 324⇑*i*P P 00 48 13.7 +0.1
LPL La Plagne 83.72 330⇑*i*P P 00 48 13.8 -0.1
comp=Z,84nm,1.0s
LPL La Plagne 83.72 330⇑*i*P P 00 48 13.8 -0.1
LPL pmax pmax
comp=Z,84nm,1.0s
LPL La Plagne 83.72 330⇑*i*P P 00 48 13.8 -0.1
comp=Z,84nm,1.0s
324A Moseley Ranch, 83.72 53⇓P P 00 48 13.9 -0.1
baz=84,SNR=24
LPG La Plagne 83.73 330⇑*i*P P 00 48 14.0 0.0
comp=Z,110nm,1.0s
LPG La Plagne 83.73 330⇑*i*P P 00 48 14.0 0.0
LPG pmax pmax
comp=Z,110nm,1.0s
LPG La Plagne 83.73 330⇑*i*P P 00 48 14.0 0.0
comp=Z,110nm,1.0s
GRR Gorron 83.73 336⇑*i*P P 00 48 13.2 -0.4
comp=Z,181nm,1.2s
GRR *ep*P **pP 00 48 41.4 +1.6**
GRR Gorron 83.73 336⇑*i*P P 00 48 13.2 -0.4
GRR *e**PP **pP 00 48 41.4 +1.6**
GRR pmax pmax
comp=Z,181nm,1.2s
GRR Gorron 83.73 336⇑*i*P P 00 48 13.2 -0.4
comp=Z,181nm,1.2s
GRR *ep*P **pP 00 48 41.4 +1.6**
Y28A McKinney Farm, 83.77 49⇓P P 00 48 13.8 -0.4
baz=84
AVF Avril sur Loir 83.81 333⇑*i*P P 00 48 13.7 -0.3
comp=Z,247nm,1.1s
AVF *ep*P **pP 00 48 42.0 +1.8**
AVF Avril sur Loir 83.81 333⇑*i*P P 00 48 13.7 -0.3
AVF *e**PP **pP 00 48 42.0 +1.8**
AVF pmax pmax
comp=Z,247nm,1.1s
AVF Avril sur Loir 83.81 333⇑*i*P P 00 48 13.7 -0.3
comp=Z,247nm,1.1s
AVF *ep*P **pP 00 48 42.0 +1.8**
GDL2 Guadalupe Moun 83.82 51 *e*P P 00 48 14.9 +0.4
127A Arkansas Junct 84.05 50⇑P P 00 48 15.3 -0.4
baz=84,SNR=6.2
CLNB Carlsbad 84.06 51 *e*P P 00 48 15.6 0.0
325A Bean Ranch, Si 84.08 52⇓P P 00 48 16.0 +0.1
baz=84,SNR=26
Y29A Porterfield Fa 84.12 49⇓P P 00 48 15.7 -0.3
baz=84,SNR=5.7
BNI Bardonecchia 84.13 330 *e*P P 00 48 15.7 -0.2
BNI pmax pmax
comp=Z,26nm,1.0s
BNI Bardonecchia 84.13 330 *e*P P 00 48 15.7 -0.2
comp=Z,26nm,1.0s
Z28A Tucker Farm, M 84.15 49⇑P P 00 48 15.9 -0.2
baz=84,SNR=14
BGF Bois d'Agland 84.18 333⇑*i*P P 00 48 15.7 -0.2
comp=Z,178nm,1.5s
BGF Bois d'Agland 84.18 333⇑*i*P P 00 48 15.7 -0.2
BGF pmax pmax
comp=Z,178nm,1.5s
BGF Bois d'Agland 84.18 333⇑*i*P P 00 48 15.7 -0.2
comp=Z,178nm,1.5s
GDM Grand'Maison 84.21 330 *e*P P 00 48 16.2 -0.1
GDM Grand'Maison 84.21 330 *e*P P 00 48 16.2 -0.1
GRN Grenoble 84.31 331 *e*P P 00 48 17.1 +0.4
GRN Grenoble 84.31 331 *e*P P 00 48 17.1 +0.4
GRN Grenoble 84.31 331 *e*P P 00 48 17.1 +0.4
SGMF Saint Gilles 84.35 337⇑*i*P P 00 48 16.6 -0.1
comp=Z,29nm,0.6s
SGMF *ep*P **pP 00 48 44.9 +1.9**
SGMF Saint Gilles 84.35 337⇑*i*P P 00 48 16.6 -0.1
SGMF *e**PP **pP 00 48 44.9 +1.9**
SGMF pmax pmax
comp=Z,29nm,0.6s
SGMF Saint Gilles 84.35 337⇑*i*P P 00 48 16.6 -0.1
comp=Z,29nm,0.6s
SGMF *ep*P **pP 00 48 44.9 +1.9**
MBDF Montbardon 84.38 330⇑*i*P P 00 48 16.5 -0.6
comp=Z,53nm,0.9s
MBDF Montbardon 84.38 330⇑*i*P P 00 48 16.5 -0.6
MBDF pmax pmax
comp=Z,53nm,0.9s
MBDF Montbardon 84.38 330⇑*i*P P 00 48 16.5 -0.6
comp=Z,53nm,0.9s
PLDF La Plantade 84.43 332 *e*P P 00 48 17.2 -0.1
PLDF La Plantade 84.43 332 *e*P P 00 48 17.2 -0.1
PLDF La Plantade 84.43 332 *e*P P 00 48 17.2 -0.1
ROSF Rostrenen 84.48 338⇑*i*P P 00 48 17.4 0.0
comp=Z,304nm,1.3s
ROSF Rostrenen 84.48 338⇑*i*P P 00 48 17.4 0.0
ROSF pmax pmax
comp=Z,304nm,1.3s
ROSF Rostrenen 84.48 338⇑*i*P P 00 48 17.4 0.0
comp=Z,304nm,1.3s
425A Indio Mountain 84.49 53⇓P P 00 48 18.2 +0.3
baz=84,SNR=51
AGO Saint Agoulin 84.53 333 *e*P P 00 48 17.9 +0.2
AGO Saint Agoulin 84.53 333 *e*P P 00 48 17.9 +0.2
CUC Castrocucco 84.53 322 *e*P P 00 48 16.1 -1.8
comp=Z,46nm,1.3s
ORIF Oris-en-Rattie 84.54 330⇑*i*P P 00 48 17.9 0.0
comp=Z,124nm,1.3s
ORIF *e*R
comp=Z,242nm,21.5s
ORIF Oris-en-Rattie 84.54 330⇑*i*P P 00 48 17.9 0.0
ORIF pmax pmax
comp=Z,124nm,1.3s
ORIF Oris-en-Rattie 84.54 330⇑*i*P P 00 48 17.9 0.0
comp=Z,124nm,1.3s
Z29A Hungry Hill Ra 84.55 49⇑P P 00 48 18.3 +0.1
baz=84,SNR=53
SURF Saint Ours 84.57 330 *e*P P 00 48 17.9 -0.3
SURF Saint Ours 84.57 330 *e*P P 00 48 17.9 -0.3
128A Castleberry Fa 84.59 50⇑P P 00 48 18.4 0.0
baz=84,SNR=21
TCF Toulx Ste Croi 84.63 333⇑*i*P P 00 48 18.1 -0.1
comp=Z,188nm,1.4s
TCF *ep*P **pP 00 48 46.6 +2.1**
TCF Toulx Ste Croi 84.63 333⇑*i*P P 00 48 18.1 -0.1
TCF *e**PP **pP 00 48 46.6 +2.1**
TCF pmax pmax
comp=Z,188nm,1.4s
TCF Toulx Ste Croi 84.63 333⇑*i*P P 00 48 18.1 -0.1
comp=Z,188nm,1.4s
TCF *ep*P **pP 00 48 46.6 +2.1**
326A Caldwell Ranch 84.69 52⇓P P 00 48 18.9 +0.1
baz=84,SNR=16
SAOF Saorge 84.71 329 *e*P P 00 48 18.0 -0.7
SAOF Saorge 84.71 329 *e*P P 00 48 18.0 -0.7
SAOF Saorge 84.71 329 *e*P P 00 48 18.0 -0.7
BST Brest 84.73 338 *e*P P 00 48 19.1 +0.5
BST Brest 84.73 338 *e*P P 00 48 19.1 +0.5
TIP Timpagrande 84.74 320 *e*P P 00 48 19.1 +0.2
comp=Z,139nm,1.2s
TOUF Mont Tournerai 84.81 329 *e*P P 00 48 18.5 -0.8
TOUF Mont Tournerai 84.81 329 *e*P P 00 48 18.5 -0.8
TOUF Mont Tournerai 84.81 329 *e*P P 00 48 18.5 -0.8
QUIF Quistinic 84.83 337⇑*i*P P 00 48 18.9 -0.2
comp=Z,222nm,1.5s
QUIF Quistinic 84.83 337⇑*i*P P 00 48 18.9 -0.2
QUIF pmax pmax
comp=Z,222nm,1.5s
QUIF Quistinic 84.83 337⇑*i*P P 00 48 18.9 -0.2
comp=Z,222nm,1.5s
PYM Petit Puy Mans 84.83 333 *e*P P 00 48 19.5 +0.2
PYM Petit Puy Mans 84.83 333 *e*P P 00 48 19.5 +0.2
PYM Petit Puy Mans 84.83 333 *e*P P 00 48 19.5 +0.2
SBF Sospel 84.86 329⇑*i*P P 00 48 18.5 -1.0
comp=Z,224nm,1.2s
SBF Sospel 84.86 329⇑*i*P P 00 48 18.5 -1.0
SBF pmax pmax
comp=Z,225nm,1.2s
SBF Sospel 84.86 329⇑*i*P P 00 48 18.5 -1.0
comp=Z,224nm,1.2s
228A UT Block 9, Go 84.90 50⇓P P 00 48 19.9 0.0
baz=85,SNR=16
129A Stewart Farms, 84.93 50⇑P P 00 48 19.6 -0.5
baz=85
327A Balmorhea Ranc 84.94 51⇑P P 00 48 19.9 -0.2
baz=85
MVIF Mont Vial 84.94 329 *e*P P 00 48 19.3 -0.7
MVIF Mont Vial 84.94 329 *e*P P 00 48 19.3 -0.7
MVIF Mont Vial 84.94 329 *e*P P 00 48 19.3 -0.7
REVF Revere 84.99 329 *e*P P 00 48 19.3 -0.8
REVF Revere 84.99 329 *e*P P 00 48 19.3 -0.8
REVF Revere 84.99 329 *e*P P 00 48 19.3 -0.8
VIVF Saint-Julien-I 85.03 331⇑*i*P P 00 48 20.2 -0.1
comp=Z,185nm,1.2s
VIVF *ep*P **pP 00 48 48.1 +1.5**
VIVF Saint-Julien-I 85.03 331⇑*i*P P 00 48 20.2 -0.1
VIVF *e**PP **pP 00 48 48.1 +1.5**
VIVF pmax pmax
comp=Z,185nm,1.2s
VIVF Saint-Julien-I 85.03 331⇑*i*P P 00 48 20.2 -0.1
comp=Z,185nm,1.2s
VIVF *ep*P **pP 00 48 48.1 +1.5**
WMOK Wichita Mounta 85.04 46 *e*P P 00 48 20.0 -0.5
WMOK *e**PP **pP 00 48 47.3 +0.5**
WMOK pmax pmax
comp=Z,74nm,1.4s
WMOK Wichita Mounta 85.04 46 *e*P P 00 48 20.0 -0.5
comp=Z,74nm,1.4s
WMOK *ep*P **pP 00 48 47.3 +0.5**
MFF Saint Martin d 85.11 335⇑*i*P P 00 48 20.6 0.0
comp=Z,300nm,1.3s
MFF Saint Martin d 85.11 335⇑*i*P P 00 48 20.6 0.0
MFF pmax pmax
comp=Z,300nm,1.3s
MFF Saint Martin d 85.11 335⇑*i*P P 00 48 20.6 0.0
comp=Z,300nm,1.3s
426A McDonald Obser 85.14 52⇓P P 00 48 20.9 -0.3
baz=85,SNR=21
CALN Calern 85.16 329 *e*P P 00 48 20.4 -0.7
CALN Calern 85.16 329 *e*P P 00 48 20.4 -0.7
CALN Calern 85.16 329 *e*P P 00 48 20.4 -0.7
LBL Lubilhac 85.20 332 *e*P P 00 48 21.6 +0.4
LBL Lubilhac 85.20 332 *e*P P 00 48 21.6 +0.4
LBL Lubilhac 85.20 332 *e*P P 00 48 21.6 +0.4
328A Wristen Ranch, 85.32 51⇑P P 00 48 21.9 0.0
baz=85,SNR=25
PGF Pioggiola 85.36 327⇑*i*P P 00 48 21.1 -0.9
comp=Z,122nm,1.5s
PGF Pioggiola 85.36 327⇑*i*P P 00 48 21.1 -0.9
PGF pmax pmax
comp=Z,122nm,1.5s
PGF Pioggiola 85.36 327⇑*i*P P 00 48 21.1 -0.9
comp=Z,122nm,1.5s
427A Hayter Ranch, 85.37 52⇓P P 00 48 22.3 +0.1
baz=85,SNR=30
FRF La Foret Royal 85.42 329⇑*i*P P 00 48 21.4 -0.8
comp=Z,150nm,1.2s
FRF La Foret Royal 85.42 329⇑*i*P P 00 48 21.4 -0.8
FRF pmax pmax
comp=Z,150nm,1.2s
FRF La Foret Royal 85.42 329⇑*i*P P 00 48 21.4 -0.8
comp=Z,150nm,1.2s
229A Bryant Ranch, 85.46 50⇓P P 00 48 22.5 -0.2
baz=85,SNR=12
SMRF Simiane la Rot 85.46 330⇑*i*P P 00 48 22.3 -0.1
comp=Z,127nm,1.3s
SMRF Simiane la Rot 85.46 330⇑*i*P P 00 48 22.3 -0.1
comp=Z,127nm,1.3s
526A Mary Lane Ranc 85.55 53⇑P P 00 48 23.1 -0.1
baz=85,SNR=48
SADO Sadowa 85.55 28 LR LR 01 25 20.8
comp=Z,157nm,21.9s,baz=316,slow=35
LMR La Mourre 85.66 329⇑*i*P P 00 48 22.8 -0.6
comp=Z,288nm,1.2s
LMR La Mourre 85.66 329⇑*i*P P 00 48 22.8 -0.6
LMR pmax pmax
comp=Z,288nm,1.2s
LMR La Mourre 85.66 329⇑*i*P P 00 48 22.8 -0.6
comp=Z,288nm,1.2s
TUL1 Tulsa 85.70 44⇓P P 00 48 23.5 -0.2
baz=85,SNR=14
329A Wagon Wheel Ra 85.72 50⇑P P 00 48 23.9 -0.1
baz=86,SNR=25
RJF Les Rejaudoux 85.72 333⇑*i*P P 00 48 23.8 +0.1
comp=Z,221nm,1.5s
RJF *ep*P **pP 00 48 52.3 +2.3**
RJF *e*R
comp=Z,189nm,20.8s
RJF Les Rejaudoux 85.72 333⇑*i*P P 00 48 23.8 +0.1
RJF *e**PP **pP 00 48 52.3 +2.3**
RJF pmax pmax
comp=Z,221nm,1.5s
RJF Les Rejaudoux 85.72 333⇑*i*P P 00 48 23.8 +0.1
comp=Z,221nm,1.5s
RJF *ep*P **pP 00 48 52.3 +2.3**
527A Woodward Ranch 85.77 52⇓P P 00 48 24.2 -0.1
baz=86,SNR=15
CAF Calviac 85.88 333⇑*i*P P 00 48 25.0 +0.6
comp=Z,213nm,1.1s
CAF Calviac 85.88 333⇑*i*P P 00 48 25.0 +0.6
CAF pmax pmax
comp=Z,213nm,1.1s
CAF Calviac 85.88 333⇑*i*P P 00 48 25.0 +0.6
comp=Z,213nm,1.1s
428A Kincaid Ranch, 85.88 51⇑P P 00 48 24.8 +0.1
baz=86,SNR=42
626A Big Bend Ranch 85.89 53⇓P P 00 48 24.9 0.0
baz=86,SNR=38
LASF Ste Croix 86.00 331⇑*i*P P 00 48 25.3 +0.3
comp=Z,175nm,1.3s
LASF Ste Croix 86.00 331⇑*i*P P 00 48 25.3 +0.3
comp=Z,175nm,1.3s
AAM Ann Arbor 86.00 32 *e*P P 00 48 24.5 -0.6
AAM pmax pmax
comp=Z,100nm,1.1s
AAM Ann Arbor 86.00 32 *e*P P 00 48 24.5 -0.6
comp=Z,100nm,1.1s
ABTX Abilene, Hawle 86.17 48⇑P P 00 48 25.8 -0.3
baz=86,SNR=11
SFIN Scholer Farm 86.20 35⇑P P 00 48 25.2 -0.8
baz=86
SLM Saint Louis 86.23 38 *e*P P 00 48 25.8 -0.5
SLM pmax pmax
comp=Z,59nm,0.9s
SLM Saint Louis 86.23 38 *e*P P 00 48 25.8 -0.5
comp=Z,58nm,0.9s
528A Cox Ranch, San 86.23 52⇓P P 00 48 26.6 0.0
baz=86,SNR=37
LFF La Frestale 86.30 334⇑*i*P P 00 48 27.0 +0.5
comp=Z,515nm,1.4s
LFF La Frestale 86.30 334⇑*i*P P 00 48 27.0 +0.5
LFF pmax pmax
comp=Z,515nm,1.4s
LFF La Frestale 86.30 334⇑*i*P P 00 48 27.0 +0.5
comp=Z,515nm,1.4s
TXAR Lajitas Array 86.33 53 P P 00 48 27.0 -0.1
TXAR Lajitas Array 86.33 53 P P 00 48 27.0 -0.1
comp=Z,14nm,0.8s,baz=291,slow=4.1,SNR=102
627A Terlingua Ranc 86.41 53⇑P P 00 48 27.6 +0.2
baz=86,SNR=23
429A Davenport Ranc 86.41 51⇑P P 00 48 26.8 -0.5
baz=86,SNR=8.5
529A Stev Forest Ra 86.59 51⇓P P 00 48 27.9 -0.4
baz=86,SNR=16
PPT Papeete 86.65 117 LR LR 01 19 28.7
comp=Z,466nm,19.9s,baz=278,slow=30
430A Baggett Ranch, 86.66 50⇑P P 00 48 27.9 -0.7
baz=86,SNR=14
628A Black Gap, Mar 86.67 52⇑P P 00 48 28.3 -0.4
baz=86,SNR=17
MSNY Massena 86.77 25 *e*P P 00 48 27.9 -0.9
comp=Z,254nm,0.8s
DRLN Deer Lake 86.95 13 *e*P P 00 48 29.4 -0.2
comp=Z,62nm,1.3s
530A J-C Ranch, Com 87.08 51⇑P P 00 48 30.6 0.0
baz=87
431A Sonora 87.10 50⇑P P 00 48 30.0 -0.7
baz=87,SNR=11
OLIL Olney 87.11 37 *e*P P 00 48 30.7 +0.1
comp=Z,99nm,1.1s
OLIL *ep*P **pP 00 48 55.8 -1.1**
FRNY Flat Rock 87.32 25 *e*P P 00 48 30.3 -1.1
comp=Z,119nm,2.1s
432A Menard 87.41 49⇓P P 00 48 31.8 -0.4
baz=87
BLO Bloomington 87.44 36 *e*P P 00 48 32.1 0.0
BLO pmax pmax
comp=Z,120nm,1.6s
BLO Bloomington 87.44 36 *e*P P 00 48 32.1 0.0
comp=Z,120nm,1.6s
SIUC Southern Illin 87.44 38 *e*P P 00 48 31.8 -0.3
comp=Z,150nm,0.9s
SIUC *ep*P **pP 00 49 00.3 +1.8**
LRDF Laroque-de-Fa 87.46 332 *e*P P 00 48 32.4 +0.2
LRDF Laroque-de-Fa 87.46 332 *e*P P 00 48 32.4 +0.2
531A Rocksprings 87.52 50⇑P P 00 48 32.3 -0.4
baz=87,SNR=12
ERPA Erie 87.56 30 *e*P P 00 48 32.8 +0.2
comp=Z,85nm,1.1s
JCT Junction City 87.70 50 *e*P P 00 48 33.1 -0.5
JCT pmax pmax
comp=Z,40nm,1.2s
JCT Junction City 87.70 50 *e*P P 00 48 33.0 -0.5
comp=Z,40nm,1.2s
JCT Junction City 87.70 50⇓P P 00 48 33.1 -0.5
baz=87,SNR=8.9
CARF Carcanieres 87.80 332 *e*P P 00 48 33.9 0.0
CARF Carcanieres 87.80 332 *e*P P 00 48 33.9 0.0
WHTX Lake Whitney 87.85 47⇑P P 00 48 33.8 -0.4
baz=88,SNR=5.4
MIAR Mount Ida 87.89 43 *e*P P 00 48 34.2 -0.2
MIAR *e**PP **pP 00 49 01.3 +0.5**
MIAR pmax pmax
comp=Z,47nm,1.0s
MIAR Mount Ida 87.89 43 *e*P P 00 48 34.2 -0.2
comp=Z,47nm,1.0s
MIAR *ep*P **pP 00 49 01.2 +0.5**
532A Rocksprings 87.91 50⇓P P 00 48 34.1 -0.5
baz=88
MLS Moulis 87.94 332 *e*P P 00 48 35.0 +0.5
MLS Moulis 87.94 332 *e*P P 00 48 35.0 +0.5
USIN University of 87.94 37 *e*P P 00 48 34.5 0.0
comp=Z,60nm,1.0s
ACSO Alum Creek Sta 88.03 33 *e*P P 00 48 34.8 -0.1
comp=Z,64nm,0.9s
ACSO *ep*P **pP 00 49 01.2 -0.1**
PARMO Parma 88.05 39 *e*P P 00 48 34.7 -0.3
631A Perdido Creek 88.07 51⇑P P 00 48 34.8 -0.5
baz=88
VALF Valcebollere 88.11 332 *e*P P 00 48 35.5 0.0
VALF Valcebollere 88.11 332 *e*P P 00 48 35.5 0.0
EPF Esparros 88.13 333⇑*i*P P 00 48 35.2 -0.2
comp=Z,81nm,1.3s
EPF Esparros 88.13 333⇑*i*P P 00 48 35.2 -0.2
EPF pmax pmax
comp=Z,81nm,1.3s
EPF Esparros 88.13 333⇑*i*P P 00 48 35.2 -0.2
comp=Z,81nm,1.3s
MDV Middlebury 88.20 25 *e*P P 00 48 35.6 0.0
UALR University of 88.32 42 *e*P P 00 48 36.7 +0.3
comp=Z,162nm,2.3s
WCI Wyandotte Cave 88.33 36 *e*P P 00 48 36.1 -0.3
WCI pmax pmax
comp=Z,59nm,1.1s
WCI Wyandotte Cave 88.33 36 *e*P P 00 48 36.1 -0.3
comp=Z,59nm,1.1s
RESF Ens 88.33 333 *e*P P 00 48 37.5 +1.1
RESF Ens 88.33 333 *e*P P 00 48 37.5 +1.1
VIEF Viey 88.37 333 *e*P P 00 48 37.3 +0.7
VIEF Viey 88.37 333 *e*P P 00 48 37.3 +0.7
632A Uvalde 88.45 50⇑P P 00 48 36.7 -0.4
baz=88
HBAR Harrisburg 88.52 41 *e*P P 00 48 37.9 +0.6
ETSF Etsaut 88.55 334⇑*i*P P 00 48 38.0 +0.6
comp=Z,26nm,0.6s
ETSF Etsaut 88.55 334⇑*i*P P 00 48 38.0 +0.6
ETSF pmax pmax
comp=Z,26nm,0.6s
ETSF Etsaut 88.55 334⇑*i*P P 00 48 38.0 +0.6
comp=Z,26nm,0.6s
LARF Larrau 88.56 334 *e*P P 00 48 37.8 +0.4
LARF Larrau 88.56 334 *e*P P 00 48 37.8 +0.4
SJPF Ste Jean 88.57 334⇑*i*P P 00 48 37.4 0.0
comp=Z,56nm,1.3s
SJPF Ste Jean 88.57 334⇑*i*P P 00 48 37.4 0.0
SJPF pmax pmax
comp=Z,56nm,1.3s
SJPF Ste Jean 88.57 334⇑*i*P P 00 48 37.4 0.0
comp=Z,56nm,1.3s
ACCN Adirondack Com 88.60 25 *e*P P 00 48 37.6 0.0
comp=Z,49nm,1.1s
HNH Hanover 88.74 24 *e*P P 00 48 37.7 -0.4
HNH *ep*P **pP 00 49 05.4 +0.8**
HALT Halls 88.86 39 *e*P P 00 48 39.0 +0.1
BINY Binghamton 88.90 27 *e*P P 00 48 39.0 0.0
comp=Z,48nm,1.1s
732A Laxson Ranch, 88.93 51⇓P P 00 48 39.2 -0.2
baz=89
MET Memphis--Engin 89.22 40 *e*P P 00 48 43.1 +2.5
WVT Waverly 89.38 38 *e*P P 00 48 40.4 -0.9
WVT *e**PP **pP 00 49 08.0 +0.2**
WVT pmax pmax
comp=Z,30nm,1.0s
WVT Waverly 89.38 38 *e*P P 00 48 40.4 -0.9
comp=Z,30nm,1.0s
WVT *ep*P **pP 00 49 08.0 +0.2**
SSPA Standing Stone 89.62 29 *e*P P 00 48 42.6 +0.2
comp=Z,87nm,1.1s
SSPA *ep*P **pP 00 49 08.0 -0.9**
SSPA *e*PP PP 00 52 08.2 -6.2
OXF Oxford 89.96 40 *e*P P 00 48 43.9 -0.2
OXF pmax pmax
comp=Z,98nm,1.3s
OXF Oxford 89.96 40 *e*P P 00 48 43.9 -0.2
comp=Z,98nm,1.3s
HKT Hockley 90.31 47 *e*PP PP 00 52 27.9 +7.7
MVL Millersville 90.73 29 *e*P P 00 48 47.8 +0.3
comp=Z,54nm,1.2s
ODZ Otahua Downs 90.87 160 *e*P P 00 48 50.2 +2.5
comp=Z,65nm,1.5s
TZTN Tazewell 90.92 35 *e*P P 00 48 47.8 -0.8
comp=Z,37nm,1.0s
TZTN *ep*P **pP 00 49 15.2 +0.1**
KEST Kesra 90.94 323 *e*P P 00 48 47.9 -0.8
KEST PP **PP 00 52 26.7 +1.5**
KEST Kesra 90.94 323 P P 00 48 48.0 -0.7
comp=Z,4.1nm,1.0s,baz=288,slow=2.5,SNR=15
KEST PP **PP 00 52 26.7 +1.5**
comp=Z,6.9nm,1.2s,baz=184,slow=8.4,SNR=3.9
KEST LR LR 01 34 34.3
comp=Z,90nm,18.4s,baz=213,slow=39
SWET Sewanee 91.00 38 *e*P P 00 48 47.8 -1.1
comp=Z,47nm,1.2s
SWET *ep*P **pP 00 49 15.1 -0.4**

VBMS	**Vicksburg**	**91.28**	**42**	*e*P		**P**	**00 48 51.3**	**+1.1**
	comp=Z,60nm,1.1s								
CPCT	**Cooper Cave**	**91.43**	**36**	*e*P		**P**	**00 48 50.9**	**0.0**
PBRG	**Braganca**	**91.44**	**337**	*e*P		**P**	**00 48 50.5**	**-0.4**
	comp=Z,55nm,1.4s								
PBRG	**Braganca**	**91.44**	**337**	*e*PP	PP		00 52 28.0	-0.9
TKL	**Tuckaleechee C**	**91.58**	**36**	*e*P		**P**	**00 48 51.2**	**-0.4**
BLA	**Blacksburg**	**91.64**	**33**	*e*P		**P**	**00 48 51.0**	**-0.9**
BLA				pmax	pmax				
	comp=Z,105nm,1.8s								
BLA	**Blacksburg**	**91.64**	**33**	*e*P		**P**	**00 48 51.0**	**-0.9**
	comp=Z,105nm,1.8s								
PGAV	**Gavieira, Arco**	**91.72**	**338**	*e*P		**P**	**00 48 52.5**	**+0.3**
	comp=Z,57nm,1.7s								
PGAV	**Gavieira, Arco**	**91.72**	**338**	*e*PP	PP		00 52 24.9	-6.2
PGAV				*e*SKS	**SKSac**		**00 59 14.2**	**-1.6**
PGAV				*e*LR	LR		01 20 09.3	
	comp=Z,112nm,18.0s								
PCAB	**Cabril**	**91.89**	**338**	*e*P		**P**	**00 48 53.0**	**0.0**
	comp=Z,64nm,1.4s								
PCAB	**Cabril**	**91.89**	**338**	*e*PP	PP		00 52 31.5	-0.9
MVO	**Moncorvo**	**92.12**	**337**	*e*P		**P**	**00 48 54.3**	**+0.2**
	comp=Z,69nm,1.5s								
MVO	**Moncorvo**	**92.12**	**337**	*e*PP	PP		00 52 30.8	-3.4
MVO				*e*SKS	**SKSac**		**00 59 24.8**	**+6.8**
MVO				*e*LR	LR		01 20 19.1	
	comp=Z,169nm,18.0s								
POLO	**Lamas de Olo**	**92.14**	**338**	*e*P		**P**	**00 48 53.8**	**-0.4**
	comp=Z,32nm,1.5s								
POLO	**Lamas de Olo**	**92.14**	**338**	*e*PP	PP		00 52 33.5	-0.9
POLO				*e*SKS	**SKSac**		**00 59 18.3**	**+0.2**
PVRL	**Vila Real**	**92.21**	**338**	*e*P		**P**	**00 48 54.3**	**-0.1**
	comp=Z,77nm,1.5s								
PVRL	**Vila Real**	**92.21**	**338**	*e*PP	PP		00 52 33.5	-1.4
LRAL	**Lakeview Retre**	**92.32**	**39**	*e*P		**P**	**00 48 54.0**	**-1.0**
	comp=Z,8.9nm,1.1s								
ESDC	**Sonseca Array**	**92.56**	**334**	P		**P**	**00 48 55.5**	**-0.5**
ESDC				PP		**PP**	**00 52 36.1**	**-1.6**
ESDC	**Sonseca Array**	**92.56**	**334**	P		**P**	**00 48 55.5**	**-0.5**
	comp=Z,4.0nm,0.7s,baz=22,slow=3.5,SNR=43								
ESDC				PP		**PP**	**00 52 36.1**	**-1.6**
	comp=Z,10.0nm,1.2s,baz=24,slow=7.9,SNR=9.6								
ESDC				LR		LR	01 33 26.5		
	comp=Z,165nm,19.6s,baz=15,slow=37								
ESLA	**Sonseca Array**	**92.56**	**334**	*e*P		**P**	**00 48 55.2**	**-0.9**
	comp=Z,17nm,1.5s								
ESLA				*e*pP		**pP**	**00 49 23.3**	**+0.7**
PVIS	**Viseu**	**92.78**	**338**	*e*P		**P**	**00 48 57.3**	**+0.2**
	comp=Z,54nm,1.6s								
PVIS	**Viseu**	**92.78**	**338**	*e*PP	PP		00 52 38.8	-0.6
PAB	**San Pablo**	**92.80**	**335**	*e*P		**P**	**00 48 57.0**	**-0.2**
PAB				*e*			00 52 38.9	
PAB				pmax	pmax				
	comp=Z,23nm,1.2s								
PAB	**San Pablo**	**92.80**	**335**	*e*P		**P**	**00 48 57.0**	**-0.2**
	comp=Z,23nm,1.2s								
PAB				*e*PP		**PP**	**00 52 38.9**	**-0.7**
KMSC	**Kings Mountain**	**93.05**	**34**	⇑P		**P**	**00 48 57.7**	**-0.7**
	baz=93								
PCBR	**Castelo Branco**	**93.47**	**337**	*e*P		**P**	**00 48 59.8**	**-0.4**
	comp=Z,26nm,1.7s								
PCBR	**Castelo Branco**	**93.47**	**337**	*e*PP	PP		00 52 44.8	+0.1
GOGA	**Godfrey**	**93.61**	**37**	*e*P		**P**	**00 49 01.1**	**+0.1**
GOGA				*e*			00 52 46.8	
GOGA				pmax	pmax				
	comp=Z,9.0nm,1.0s								
GOGA	**Godfrey**	**93.61**	**37**	*e*P		**P**	**00 49 01.1**	**+0.1**
	comp=Z,8.9nm,1.0s								
GOGA				*e*PP		**PP**	**00 52 46.8**	**+0.7**
PMRV	**Marv??o**	**93.83**	**337**	*e*P		**P**	**00 49 01.1**	**-0.8**
	comp=Z,31nm,1.7s								
PMRV	**Marv??o**	**93.83**	**337**	*e*PP	PP		00 52 47.3	-0.3
PMRV				*e*SKS	**SKSac**		**00 59 31.6**	**+4.2**
PMRV				*e*LR	LR		01 20 02.6	
	comp=Z,109nm,20.0s								
PTOM	**Tomar**	**93.94**	**338**	*e*P		**P**	**00 49 02.4**	**0.0**
	comp=Z,45nm,1.7s								
PTOM	**Tomar**	**93.94**	**338**	*e*PP	PP		00 52 48.4	0.0
PMTG	**Montargil**	**94.40**	**337**	*e*P		**P**	**00 49 03.5**	**-1.0**
	comp=Z,28nm,1.7s								
PMTG	**Montargil**	**94.40**	**337**	*e*PP	PP		00 52 52.3	+0.3
PMTG				*e*SKS	**SKSac**		**00 59 29.2**	**-1.2**
PESTR	**Estremoz**	**94.41**	**337**	*e*P		**P**	**00 49 04.5**	**-0.1**
	comp=Z,25nm,1.6s								
PESTR	**Estremoz**	**94.41**	**337**	*e*PP	PP		00 52 52.8	+0.7
PESTR				*e*SKS	**SKSac**		**00 59 29.7**	**-0.8**
EVO	**Evora**	**94.84**	**337**	*e*P		**P**	**00 49 06.3**	**-0.3**
	comp=Z,30nm,1.8s								
EVO	**Evora**	**94.84**	**337**	*e*PP	PP		00 52 55.5	+0.1
EVO	**Evora**	**94.84**	**337**	*e*P		**P**	**00 49 06.2**	**-0.3**
	comp=Z,65nm,1.7s								
EVO				*e*R					
	comp=Z,188nm,19.5s								
EVOP	**Sao Brissos**	**94.88**	**337**	*e*P		**P**	**00 49 06.2**	**-0.5**
EVOP				pmax	pmax				
	comp=Z,65nm,1.7s								
EVOP	**Sao Brissos**	**94.88**	**337**	*e*P		**P**	**00 49 06.2**	**-0.5**
	comp=Z,65nm,1.7s								
PBAR	**Barrancos**	**94.88**	**336**	*e*P		**P**	**00 49 06.4**	**-0.3**
	comp=Z,28nm,1.7s								
PBAR	**Barrancos**	**94.88**	**336**	*e*PP	PP		00 52 53.3	-2.5
PBAR				*e*SKS	**SKSac**		**00 59 31.8**	**-1.2**
PBEJ	**Beja**	**95.27**	**337**	*e*P		**P**	**00 49 08.2**	**-0.3**
	comp=Z,21nm,1.7s								
PBEJ	**Beja**	**95.27**	**337**	*e*PP	PP		00 52 59.4	+0.7
PNCL	**Nicolau / Gran**	**95.38**	**337**	*e*PP	PP		00 53 00.5	+0.9
PNCL				*e*SKS	**SKSac**		**00 59 32.3**	**-3.3**
PCVE	**Castro Verde**	**95.68**	**337**	*e*P		**P**	**00 49 10.4**	**0.0**
	comp=Z,27nm,1.7s								
PCVE	**Castro Verde**	**95.68**	**337**	*e*PP	PP		00 53 02.8	+0.8
PCVE				*e*SKS	**SKSac**		**00 59 39.0**	**+1.7**
PVAQ	**Vaqueiros**	**95.80**	**336**	*e*PP	PP		00 53 04.6	+1.7
PVAQ				*e*SKS	**SKSac**		**00 59 44.7**	**+6.8**
PVAQ				*e*LR	LR		01 20 36.1	
	comp=Z,253nm,20.0s								
PFVI	**Vila Bisbo**	**96.38**	**337**	*e*PP	PP		00 53 05.3	-2.0
PFVI				*e*SKS	**SKSac**		**00 59 41.6**	**+0.7**
KMBO	**Kilima Mbogo**	**101.70**	**279**	*e*Pdif	**Pdif**		**00 49 37.6**	**-0.4**
KMBO				*e*PP	**PP**		**00 53 53.7**	**+4.2**
TORD	**Torodi Ar. Bea**	**113.73**	**317**	Pdif	**Pdif**		**00 50 38.2**	**+7.0**
TORD				PKiKP	**PKiKP**		**00 54 22.3**	**-0.9**
TORD				PP	**PP**		**00 55 11.6**	**-4.6**
TORD				PKKPab	**PKKPab**		**01 05 13.5**	**-2.0**
TORD	**Torodi Ar. Bea**	**113.73**	**317**	Pdiff	**Pdif**		**00 50 38.2**	**+7.0**
	comp=Z,0.6nm,0.9s,baz=51,slow=0.7,SNR=3.0								
TORD				PKiKP	**PKiKP**		**00 54 22.3**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=18,slow=1.5,SNR=51								
TORD				PP	**PP**		**00 55 11.6**	**-4.6**
	comp=Z,16nm,0.9s,baz=15,slow=6.4,SNR=18								
TORD				PKKPab	**PKKPab**		**01 05 13.5**	**-2.0**
	comp=Z,0.7nm,0.8s,baz=224,slow=1.5,SNR=4.6								
SDV	**Santo Domingo**	**120.69**	**38**	*e*PKPdf	**PKPdf**		**00 54 37.1**	**+0.3**
SDV				*e*PP	**PP**		**00 56 01.1**	**-3.7**
DBIC	**Dimbokro**	**122.52**	**320**	PKP	**PKPdf**		**00 54 39.5**	**-0.6**
DBIC				PP	PP		00 56 08.2	-8.8
DBIC	**Dimbokro**	**122.52**	**320**	PKP	**PKPdf**		**00 54 39.5**	**-0.6**
	comp=Z,5.1nm,0.5s,baz=17,slow=2.5,SNR=25								
DBIC				PP	PP		00 56 08.2	-8.8
	comp=Z,6.0nm,1.0s,baz=14,slow=4.1,SNR=4.9								
LIC	**Lamto**	**122.99**	**320**	*e*PKiKP	**PKPdf**		**00 54 39.9**	**-1.1**
	comp=Z,20nm,0.9s								
LIC				*e*R					
	comp=Z,192nm,21.0s								
LIC	**Lamto**	**122.99**	**320**	*e*PKPdf	**PKPdf**		**00 54 39.9**	**-1.1**
BOSA	**Boshof**	**127.93**	**264**	PKP	**PKPdf**		**00 54 50.0**	**-0.1**
BOSA	**Boshof**	**127.93**	**264**	PKP	**PKPdf**		**00 54 50.0**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=53,slow=0.8,SNR=4.1								
ATAH	**Atahualpa**	**129.82**	**57**	PKP	**PKPdf**		**00 54 54.7**	**+0.2**
ATAH	**Atahualpa**	**129.82**	**57**	PKP	**PKPdf**		**00 54 54.7**	**+0.2**
	comp=Z,5.8nm,1.0s,baz=53,slow=5.2,SNR=6.4								
QSPA	**South Pole Qui**	**132.30**	**180**	PKP	**PKPdf**		**00 54 57.0**	**-0.1**
QSPA				PP	**PP**		**00 57 20.7**	**-1.0**
QSPA	**South Pole Qui**	**132.30**	**180**	PKP	**PKPdf**		**00 54 57.0**	**-0.1**
	comp=Z,6.8nm,1.0s,baz=272,slow=1.9,SNR=10								
QSPA				PP	**PP**		**00 57 20.7**	**-1.0**
	comp=Z,5.4nm,1.0s,baz=342,slow=5.5,SNR=4.4								
SYO	**Syowa Base**	**133.35**	**209**	⇑*e*PP	PP		00 57 33.3	+5.0
NVL	**N'lazarevskaya**	**142.58**	**205**	*e*PKiKP	**PKPdf**		**00 55 19.0**	**+3.2**
NVL				pmax	pmax				
	comp=Z,15nm,0.9s								
LPAZ	**La Paz**	**143.19**	**54**	*e*PKPdf	PKPbc		00 55 16.1	-0.5
LPAZ				PKP	**PKPdf**		**00 55 17.3**	**-2.0**
LPAZ	**La Paz**	**143.19**	**54**	PKP	PKPbc		00 55 17.3	+0.7
	comp=Z,2.4nm,0.7s,baz=334,slow=2.2,SNR=7.7								
LVC	**Limon Verde**	**147.41**	**62**	*e*PKPbc	**PKPbc**		**00 55 27.8**	**-0.8**
BDFB	**Brasilia**	**151.79**	**21**	PKP	**PKPdf**		**00 55 33.0**	**+0.1**
BDFB				PKPbc	**PKiKP**		**00 55 39.4**	**-0.3**
BDFB	**Brasilia**	**151.79**	**21**	PKP	**PKPdf**		**00 55 33.0**	**+0.1**
	comp=Z,15nm,1.0s,baz=179,slow=2.1,SNR=6.0								
BDFB				PKPbc	**PKiKP**		**00 55 39.4**	**-0.3**
	comp=Z,21nm,1.0s,baz=354,slow=1.2,SNR=24								
CFAA	**Coronel Fontan**	**153.55**	**76**	PKPbc	**PKPbc**		**00 55 44.6**	**+1.8**
CFAA	**Coronel Fontan**	**153.55**	**76**	PKPbc	**PKPbc**		**00 55 44.6**	**+1.8**
	comp=Z,0.4nm,0.4s,baz=248,slow=5.4,SNR=3.8								

IDC ***28*** *00:50:07.2±0.6, 45°.20S×80°.74W, h0km, mb4.4/14, mb1 4.5/15, mb1mx4.4/20, mbtmp4.4/15, ML5.0/1, MS4.2/13, Ms1 4.2/13, ms1mx3.9/28, Error ellipse: s-maj=23.7km s-min=17.6km az=106.0*

NEIC ***28*** *00:50:08.6±0.4, 45°.11S×80°.70W, h10km, mb4.8/12, Error ellipse: s-maj=12.9km s-min=10.7km az=105.0*

ISCJB ***28*** *00:50:11.1±0.5, 45°.09S±0°.07×80°.67W±0°.10, h33km, mb4.5/19, MS4.3/10, Error ellipse: s-maj=10.0km s-min=9.6km az=17.6*

ISC 28 00:50:12.3±0.5, 45°.12S±0°.09×80°.74W±0°.08, h35km, n67, σ1§32/61, mb4.5/19, MS4.3/10, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLCA	**Paso Flores**	**8.67**	**63**	*e*Pn		**Pn**	**00 52 14.8**	**-0.4**
	36nm,0.8s							
PLCA				*e*Sn		**Sn**	**00 53 55.6**	**+3.9**
PLCA	**Paso Flores**	**8.67**	**63**	Pn		**Pn**	**00 52 14.5**	**-0.7**
	3.6nm,0.3s,baz=235,slow=12,SNR=71							
PLCA				Sn		Sn	00 54 01.1	+9.4
	baz=247,slow=9.7,SNR=3.8							
PLCA				LR		LR	00 55 13.1	
	comp=Z,2µm,20.2s,baz=242,slow=35							
USHA	**Ushuaia**	**12.52**	**145**	Pn		Pn	00 53 11.2	+3.5
USHA	**Ushuaia**	**12.52**	**145**	Pn		Pn	00 53 11.2	+3.5
	1.3nm,0.3s,baz=268,slow=12,SNR=13							
USHA				LR		LR	00 57 48.8	
	comp=Z,1µm,19.4s,baz=293,slow=37							
TRQA	**Tornquist**	**15.70**	**70**	*e*P		**P**	**00 53 53.6**	**-0.8**
	43nm,1.1s							
EFI	**East Falkland**	**16.39**	**122**	*e*Pn		**Pn**	**00 53 58.8**	**-0.5**
	187nm,1.2s							
CFAA	**Coronel Fontan**	**16.66**	**40**	Pn		**Pn**	**00 53 59.5**	**-3.4**
CFAA	**Coronel Fontan**	**16.66**	**40**	Pn		**Pn**	**00 53 59.5**	**-3.4**
	0.2nm,0.3s,baz=204,slow=11,SNR=9.3							
CFAA				LR		LR	00 59 35.8	
	comp=Z,100nm,21.0s,baz=202,slow=34							
LCO	**Las Campanas**	**17.94**	**30**	*e*Pn		**Pn**	**00 54 17.9**	**-1.3**
	46nm,1.3s							
CPUP	**Vila Florida**	**26.54**	**53**	*e*P		**P**	**00 55 46.7**	**0.0**
	81nm,0.8s							
CPUP	**Vila Florida**	**26.54**	**53**	P		**P**	**00 55 47.2**	**+0.5**
	16nm,0.7s,baz=214,slow=8.9,SNR=19							
CPUP				LR		LR	01 06 19.1	
	comp=Z,807nm,18.1s,baz=207,slow=37							
RPN	**Rapa Nui**	**29.03**	**299**	LR		LR	01 04 19.6	
	comp=Z,1µm,18.4s,baz=132,slow=29							
LPAZ	**La Paz**	**30.64**	**24**	P		**P**	**00 56 23.4**	**-0.5**
LPAZ	**La Paz**	**30.64**	**24**	P		**P**	**00 56 23.4**	**-0.5**
	4.8nm,0.8s,baz=198,slow=9.3,SNR=6.0							
NNA	**Nana**	**33.19**	**7**	LR		LR	01 06 25.9	
	comp=Z,502nm,20.7s,baz=163,slow=29							
SIV	**San Ignacio**	**33.43**	**36**	LR		LR	01 10 09.4	
	comp=Z,292nm,19.2s,slow=36							
ATAH	**Atahualpa**	**37.90**	**4**	P		**P**	**00 57 27.5**	**+1.0**
ATAH	**Atahualpa**	**37.90**	**4**	P		**P**	**00 57 27.5**	**+1.0**
	4.6nm,0.9s,baz=203,slow=1.4,SNR=4.2							
ATAH				LR		LR	01 09 02.3	
	comp=Z,578nm,20.7s,baz=28,slow=30							
BDFB	**Brasilia**	**40.27**	**54**	P		**P**	**00 57 46.2**	**+0.2**
BDFB	**Brasilia**	**40.27**	**54**	P		**P**	**00 57 46.2**	**+0.2**
	16nm,1.0s,baz=164,slow=9.0,SNR=3.3							
QSPA	**South Pole Qui**	**45.12**	**180**	P		**P**	**00 58 24.9**	**0.0**
QSPA	**South Pole Qui**	**45.12**	**180**	P		**P**	**00 58 24.9**	**0.0**
	7.8nm,1.0s,baz=125,slow=16,SNR=5.7							
QSPA				LR		LR	01 14 01.7	
	comp=Z,189nm,19.1s,baz=320,slow=32							
OTAV	**Otavalo**	**45.21**	**3**	*e*P		**P**	**00 58 26.7**	**+0.2**
	68nm,2.2s							
RKT	**Rikitea**	**48.95**	**278**	*e*LQ		LQ	01 10 39.9	
	576nm,30.2s							
RKT				*e*LR		LR	01 13 01.0	
	1µm,37.2s							
ROSC	**El Rosal**	**50.09**	**8**	*e*P		**P**	**00 59 06.5**	**+2.3**
ROSC	**El Rosal**	**50.09**	**8**	P		**P**	**00 59 06.3**	**+2.1**
	2.6nm,0.3s,baz=90,slow=22,SNR=4.4							
ROSC				LR		LR	01 17 57.9	
	comp=Z,666nm,19.0s,baz=175,slow=33							
VNDA	**Vanda**	**51.80**	**194**	P		**P**	**00 59 17.3**	**+1.3**
VNDA	**Vanda**	**51.80**	**194**	P		**P**	**00 59 17.3**	**+1.3**
	3.0nm,0.8s,baz=92,slow=8.4,SNR=3.6							
TBI	**Tubuai**	**59.04**	**267**	*e*LQ		LQ	01 14 50.7	
	678nm,30.0s							
TBI				*e*LR		LR	01 17 14.6	
	636nm,36.8s							
PPT2	**Papeete2**	**62.87**	**272**	*e*S		**S**	**01 09 02.3**	**0.0**
	159nm,27.2s							
CMIG	**Mmas Romero**	**63.24**	**345**	LR		LR	01 20 13.3	
	comp=Z,112nm,19.4s,baz=173,slow=28							
MAW	**Mawson**	**64.28**	**165**	LR		LR	01 26 10.2	
	comp=Z,370nm,19.3s,baz=206,slow=34							
TXAR	**Lajitas Array**	**76.99**	**340**	P		**P**	**01 02 01.7**	**+0.5**
TXAR	**Lajitas Array**	**76.99**	**340**	P		**P**	**01 02 01.7**	**+0.5**
	1.0nm,0.8s,baz=161,slow=8.1,SNR=8.2							
SWET	**Sewanee**	**80.10**	**356**	*e*P		**P**	**01 02 15.9**	**-2.2**
	8.8nm,1.0s							
BOSA	**Boshof**	**80.51**	**121**	LR		LR	01 30 43.1	
	comp=Z,154nm,20.4s,baz=223,slow=30							
LAZ	**Ladron**	**82.69**	**338**	*e*P		**P**	**01 02 31.1**	**-1.1**
	6.1nm,1.6s							
ANMO	**Albuquerque**	**83.04**	**339**	*e*P		**P**	**01 02 34.5**	**+0.6**
	9.1nm,1.4s							
ANMO	**Albuquerque**	**83.04**	**339**	P		**P**	**01 02 34.7**	**+0.8**
	1.3nm,0.8s,baz=174,slow=7.2,SNR=5.5							
LBTB	**Lobatse**	**83.32**	**119**	*e*P		**P**	**01 02 34.8**	**-1.0**
	10nm,1.4s							
LBTB	**Lobatse**	**83.32**	**119**	P		**P**	**01 02 35.3**	**-0.5**
	2.3nm,0.9s,baz=211,slow=8.9,SNR=3.4							
DBIC	**Dimbokro**	**84.84**	**75**	*e*P		**P**	**01 02 42.3**	**-1.1**
	7.8nm,1.0s							
DBIC	**Dimbokro**	**84.84**	**75**	P		**P**	**01 02 44.6**	**+1.3**
	5.7nm,0.9s,baz=186,slow=5.1,SNR=4.9							
SMCO	**Snowmass**	**87.18**	**340**	*e*P		**P**	**01 02 55.7**	**+0.9**
	11nm,1.4s							
DZM	**Mont Dzumac**	**89.47**	**239**	*e*LR		LR	01 31 52.9	
	318nm,26.4s							
DUG	**Dugway**	**89.68**	**336**	*e*P		**P**	**01 03 07.5**	**+1.2**
	8.5nm,1.4s							
NVAR	**Mina Array Bea**	**89.79**	**331**	P		**P**	**01 03 07.1**	**+0.1**
NVAR	**Mina Array Bea**	**89.79**	**331**	P		**P**	**01 03 07.1**	**+0.1**
	0.8nm,0.8s,baz=186,slow=6.4,SNR=3.4							
PDAR	**Pinedale Array**	**91.20**	**339**	P		**P**	**01 03 14.7**	**+1.2**
PDAR	**Pinedale Array**	**91.20**	**339**	P		**P**	**01 03 14.7**	**+1.2**
	0.3nm,0.4s,baz=168,slow=4.6,SNR=2.0							
TORD	**Torodi Ar. Bea**	**93.95**	**75**	P		**P**	**01 03 26.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**93.95**	**75**	P		**P**	**01 03 26.4**	**-0.1**
	0.8nm,1.0s,baz=217,slow=6.9,SNR=3.4							
ILAR	**Eielson Array**	**121.02**	**333**	PKP		**PKPdf**	**01 09 01.1**	**+1.3**
ILAR	**Eielson Array**	**121.02**	**333**	PKP		**PKPdf**	**01 09 01.1**	**+1.3**
	0.2nm,0.7s,baz=160,slow=2.9,SNR=3.4							
GERES	**GERESS Array B**	**124.50**	**53**	PKP		**PKPdf**	**01 09 06.3**	**-0.8**
GERES	**GERESS Array B**	**124.50**	**53**	PKP		**PKPdf**	**01 09 06.3**	**-0.8**
	0.4nm,0.6s,baz=211,slow=1.6,SNR=5.3							
BRTR	**Keskin Array B**	**132.45**	**72**	PKP		**PKPdf**	**01 09 22.9**	**+0.3**
BRTR	**Keskin Array B**	**132.45**	**72**	PKP		**PKPdf**	**01 09 22.9**	**+0.3**
	0.6nm,0.7s,baz=201,slow=3.8,SNR=3.2							
MJAR	**Matsushiro Arr**	**149.55**	**267**	PKPbc		**PKPbc**	**01 09 56.3**	**-1.2**
MJAR	**Matsushiro Arr**	**149.55**	**267**	PKPbc		**PKPbc**	**01 09 56.3**	**-1.2**
	0.7nm,0.3s,baz=96,slow=1.7,SNR=4.1							
ABKAR	**Akbulak array**	**153.18**	**67**	*e*PKPdf		**PKPdf**	**01 09 60.0**	**+1.9**
CMAR	**Chiang Mai Arr**	**153.41**	**179**	PKPbc		**PKPbc**	**01 10 06.2**	**-0.8**
CMAR	**Chiang Mai Arr**	**153.41**	**179**	PKPbc		**PKPbc**	**01 10 06.2**	**-0.8**
	0.9nm,0.3s,baz=210,slow=3.1,SNR=5.7							
ZALV	**Zalesovo Beam**	**167.14**	**41**	PKP		**PKPdf**	**01 10 12.2**	**-1.1**
ZALV				PKPab		**PKPab**	**01 11 20.2**	**+2.3**
ZALV	**Zalesovo Beam**	**167.14**	**41**	PKP		**PKPdf**	**01 10 12.2**	**-1.1**
	0.4nm,0.5s,baz=273,slow=2.5,SNR=3.7							
ZALV				PKPab		**PKPab**	**01 11 20.2**	**+2.3**
	0.3nm,0.5s,baz=293,slow=5.6,SNR=2.6							
MKAR	**Makanchi Array**	**168.07**	**76**	PKP		**PKPdf**	**01 10 14.4**	**0.0**
MKAR				PKPab		**PKPab**	**01 11 22.0**	**-0.4**
MKAR				PP		PP	01 15 18.2	+6.2
MKAR	**Makanchi Array**	**168.07**	**76**	PKP		**PKPdf**	**01 10 14.4**	**0.0**
	0.4nm,0.9s,baz=106,slow=2.9,SNR=3.5							
MKAR				PKPab		**PKPab**	**01 11 22.0**	**-0.4**
	0.8nm,0.8s,baz=260,slow=5.1,SNR=5.4							
MKAR				PP		PP	01 15 18.2	+6.2
	1.3nm,1.2s,baz=316,slow=6.0,SNR=3.7							

DDA 28 00:55:04.2, 37°.88N×29°.46E, h7km, MD2.4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DNZL	**Cakiroluk**	**0.38**	**240**	*e*P		Pg	00 55 12.2	+0.3
DNZL				*e*S		Sg	00 55 16.7	-0.4
KHAL	**Karahalli**	**0.49**	**3**	*e*P		Pg	00 55 14.4	+0.5
KHAL				*e*S		Sg	00 55 21.0	+0.6

IDC 28 01:10:03.5±3.0, 14°.78S×72°.23W, h148km±20km, mb3.1/3, mb1 3.3/6, mb1mx3.1/22, mbtmp3.1/6, Error ellipse: s-maj=137.6km s-min=19.8km az=29.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**4.23**	**111**	P		Pn	01 11 06.9	-0.6
	0.4nm,0.3s,baz=287,slow=7.5,SNR=5.4							
LPAZ				S		Sn	01 11 48.0	-9.1
	0.8nm,0.3s,baz=272,slow=7.4,SNR=4.7							
NNA	**Nana**	**5.28**	**301**	P		Pn	01 11 21.1	+0.4
	3.4nm,0.3s,baz=130,slow=12,SNR=5.0							
NNA				S		Sn	01 12 11.0	-10
	4.5nm,0.3s,baz=202,slow=20,SNR=4.7							
ATAH	**Atahualpa**	**9.71**	**321**	P		Pn	01 12 20.5	+0.2
	0.3nm,0.3s,baz=143,slow=20,SNR=3.1							
TXAR	**Lajitas Array**	**53.34**	**325**	P		P	01 19 07.0	-0.8
	0.1nm,0.5s,baz=155,slow=11,SNR=4.3							
TORD	**Torodi Ar. Bea**	**78.25**	**73**	P		P	01 21 47.8	+0.2
	0.6nm,0.7s,baz=259,slow=4.7,SNR=6.1							
TORD				pP		pP	01 22 17.9	-6.3
	0.8nm,0.9s,baz=256,slow=4.3,SNR=4.4							
YKA	**Yellowknife Ar**	**83.84**	**342**	P		P	01 22 16.0	0.0
	0.7nm,0.8s,baz=136,slow=5.1,SNR=13							
SONM	**Songino Array**	**147.02**	**2**	PKPbc		PKPbc	01 29 28.7	-0.4
	0.8nm,0.7s,baz=334,slow=2.8,SNR=7.8							

MAN 28 01:10:33, 11°.39N×125°.39E, h8km, mb4.2, ML3.1, MS2.8, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PLP	**Palo**	**0.46**	**242**⇓	*e*P		Pn	01 10 42.8	-0.6
PLP				*e*S		Sb	01 10 52.1	+1.7
CNP	**Catarman**	**1.33**	**328**	*e*P		Pn	01 10 56.6	-1.3
CNP				*e*S		Sg	01 11 19.4	+3.7
MSLP	**Maasin**	**1.35**	**203**	*e*P		Pn	01 10 57.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGN	**Heimansgroeve**	**0.18**	**234**	*e*Pg	**Pb**	**01 26 33.3**	**+1.1**
HGN				*e*Sg	**Sb**	**01 26 36.5**	**+0.9**
HGN	**Heimansgroeve**	**0.18**	**234**	Pg	**Pb**	**01 26 33.3**	**+1.1**
HGN				Sg	**Sb**	**01 26 36.5**	**+0.9**
BD08	**Hambach Funkst**	**0.21**	**87**⇑	*e*Pg	**Pb**	**01 26 33.5**	**+0.8**
DREG	**Dreilaegerbach**	**0.21**	**169**⇑	*i*Pg	**Pb**	**01 26 33.5**	**+0.8**
DREG				*e*Sg	**Sb**	**01 26 37.0**	**+0.6**
	312nm,0.1s						
DREG	**Dreilaegerbach**	**0.21**	**169**	Pg	**Pb**	**01 26 33.5**	**+0.8**
DREG				Sg	**Sb**	**01 26 37.0**	**+0.6**
	312nm,0.1s						
KLL	**Kalltalsperre**	**0.24**	**158**⇓	*i*Pg	**Pb**	**01 26 33.9**	**+0.7**
KLL				*e*Sg	**Sb**	**01 26 37.5**	**+0.2**
	213nm,0.1s						
KLL	**Kalltalsperre**	**0.24**	**158**	Pg	**Pb**	**01 26 33.9**	**+0.7**
KLL				Sg	**Sb**	**01 26 37.5**	**+0.2**
	213nm,0.1s						
BD11	**Borschemich**	**0.27**	**38**⇓	*i*Pg	**Pb**	**01 26 34.2**	**+0.5**
RODG	**Roetgen-Dahlhe**	**0.27**	**2**⇓	*e*Pg	**Pb**	**01 26 34.3**	**+0.6**
RODG				*i* Sg	**Sb**	**01 26 38.5**	**+0.4**
	243nm,0.4s						
RODG	**Roetgen-Dahlhe**	**0.27**	**2**	Pg	**Pb**	**01 26 34.3**	**+0.6**
RODG				Sg	**Sb**	**01 26 38.5**	**+0.4**
	243nm,0.4s						
MEM	**Membach**	**0.28**	**201**	⇑P	**Pb**	**01 26 34.7**	**+0.9**
MEM				S	**Sb**	**01 26 39.0**	**+0.7**
	comp=E,66nm,0.2s						
MEM	**Membach**	**0.28**	**201**	*e*Pg	**Pb**	**01 26 34.8**	**+0.9**
MEM				*e*Sg	**Sb**	**01 26 39.1**	**+0.7**
MEM	**Membach**	**0.28**	**201**	Pg	**Pb**	**01 26 34.8**	**+0.9**
MEM				Sg	**Sb**	**01 26 39.1**	**+0.7**
HKB	**Herkenbosch**	**0.32**	**0**	P	**Pb**	**01 26 35.0**	**+0.5**
HKB				S	**Sb**	**01 26 39.8**	**+0.4**
BEBN	**Eben Emael**	**0.32**	**256**	⇑P	**Pb**	**01 26 35.5**	**+1.0**
BEBN				S	**Sb**	**01 26 40.2**	**+0.7**
	comp=N,34nm,0.2s						
BEBN	**Eben Emael**	**0.32**	**256**	P	**Pb**	**01 26 35.5**	**+1.0**
BEBN				S	**Sb**	**01 26 40.1**	**+0.7**
	comp=N,34nm,0.2s						
BLCH	**La Chartreuse**	**0.43**	**237**	P	**Pn**	**01 26 37.5**	**-1.2**
BLCH				S	**Sb**	**01 26 43.4**	**+0.8**
BSTI	**Sart Tilman**	**0.48**	**233**	P	**Pn**	**01 26 38.4**	**-1.0**
STB	**Steinbach**	**0.51**	**123**⇓	*i*Pg	**Pb**	**01 26 38.5**	**+0.7**
STB				*e*Sg	**Sb**	**01 26 44.9**	**0.0**
	comp=N,35nm,0.4s						
STB	**Steinbach**	**0.51**	**123**	Pg	**Pb**	**01 26 38.5**	**+0.7**
STB				Sg	**Sb**	**01 26 44.9**	**0.0**
	comp=N,35nm,0.4s						
BNS	**Bensberg**	**0.65**	**82**	*e*Pg	**Pb**	**01 26 40.8**	**+0.7**
BNS				*i* Sg	**Sg**	**01 26 48.7**	**+0.2**
	comp=N,58nm,0.4s						
BNS	**Bensberg**	**0.65**	**82**	Pg	**Pb**	**01 26 40.8**	**+0.7**
BNS				Sg	**Sg**	**01 26 48.7**	**+0.2**
	comp=N,58nm,0.4s						
HILG	**Hillesheim**	**0.67**	**151**⇑	*i*Pg	**Pn**	**01 26 41.4**	**-0.6**
HILG				*i* Sg	**Sb**	**01 26 50.1**	**+0.6**
	comp=N,17nm,0.4s						
HILG	**Hillesheim**	**0.67**	**151**	Pg	**Pn**	**01 26 41.4**	**-0.6**
HILG				Sg	**Sb**	**01 26 50.1**	**+0.6**
	comp=N,17nm,0.4s						
LAUG	**Laupendahl**	**0.69**	**45**	*e*Pg	**Pg**	**01 26 40.6**	**0.0**
LAUG	**Laupendahl**	**0.69**	**45**	Pg	**Pg**	**01 26 40.6**	**0.0**
BCLA	**Clavier**	**0.71**	**231**	⇑P	**Pn**	**01 26 42.5**	**-0.1**
BCLA				S	**Sb**	**01 26 51.6**	**+0.8**
	comp=E,12nm,0.1s						
BCLA	**Clavier**	**0.71**	**231**	P	**Pn**	**01 26 42.5**	**-0.1**
BCLA				S	**Sb**	**01 26 51.5**	**+0.8**
	comp=E,12nm,0.1s						
HOBG	**Hohbusch**	**0.75**	**81**	*e*Pg	**Pb**	**01 26 42.5**	**+0.7**
HOBG	**Hohbusch**	**0.75**	**81**	Pg	**Pb**	**01 26 42.5**	**+0.7**
OPLO	**Oploo**	**0.75**	**343**	*e*Pg	**Pn**	**01 26 43.0**	**-0.1**
OPLO				*e*Sg	**Sn**	**01 26 54.0**	**-0.1**
OPLO	**Oploo**	**0.75**	**343**	*e*Pg	**Pn**	**01 26 43.1**	**-0.1**
	baz=163						
OPLO				*e*Sg	**Sb**	**01 26 52.9**	**+1.1**
OPLO	**Oploo**	**0.75**	**343**	Pg	**Pn**	**01 26 43.0**	**-0.1**
OPLO				Sg	**Sn**	**01 26 54.0**	**-0.1**
BMOL	**Mol**	**0.76**	**297**	P	**Pn**	**01 26 43.5**	**+0.2**
BMOL				S	**Sn**	**01 26 53.7**	**-0.7**
LKLB	**Kalborn**	**0.78**	**183**	P	**Pn**	**01 26 43.6**	**+0.1**
LKLB				S	**Sb**	**01 26 53.1**	**+0.5**
	comp=E,13nm,0.2s						
BGES	**Gesves**	**0.84**	**235**	P	**Pn**	**01 26 44.9**	**+0.5**
BGES				S	**Sn**	**01 26 56.0**	**-0.5**
BUG	**Bochum--Univer**	**0.90**	**50**	*e*Pg	**Pg**	**01 26 44.7**	**0.0**
BUG				*e*Sg	**Sn**	**01 26 57.4**	**-0.4**
LVIA	**Vianden**	**0.94**	**179**	P	**Pn**	**01 26 46.5**	**+0.8**
LVIA				S	**Sn**	**01 26 58.4**	**-0.4**
	comp=E,22nm,0.2s						
BGG	**Burgeitz**	**1.00**	**131**⇓	*i*Pg	**Pn**	**01 26 46.9**	**+0.3**
BGG				*e*Sg	**Sg**	**01 26 59.8**	**+0.1**
	comp=E,24nm,0.1s						
BGG	**Burgeitz**	**1.00**	**131**	Pg	**Pn**	**01 26 46.9**	**+0.3**
BGG				Sg	**Sg**	**01 26 59.8**	**+0.1**
	comp=E,24nm,0.1s						
GIVF	**Givet**	**1.15**	**229**	*e*Pg	**Pg**	**01 26 50.0**	**+0.5**
GIVF				*e*Sg	**Sg**	**01 27 05.1**	**+0.6**
	comp=E,44nm,0.2s						
GIVF	**Givet**	**1.15**	**229**	*e*Pg	**Pg**	**01 26 50.0**	**+0.5**
GIVF				*e*Sg	**Sg**	**01 27 05.1**	**+0.6**
	comp=E,22nm,0.2s						
WTSB	**Winterswijk**	**1.16**	**20**	*e*Pg	**Pg**	**01 26 49.6**	**-0.1**
WTSB				*e*Sg	**Sg**	**01 27 05.0**	**+0.1**
WTSB	**Winterswijk**	**1.16**	**20**	*e*Pg	**Pg**	**01 26 49.5**	**-0.1**
	baz=200						
WTSB				*e*Sg	**Sg**	**01 27 04.8**	**-0.1**
WTSB	**Winterswijk**	**1.16**	**20**	Pg	**Pg**	**01 26 49.6**	**-0.1**
WTSB				Sg	**Sg**	**01 27 05.0**	**+0.1**
WLF	**Walferdange**	**1.21**	**180**	⇓P	**Pg**	**01 26 50.9**	**+0.3**
WLF	**Walferdange**	**1.21**	**180**	*e*Pg	**Pg**	**01 26 51.0**	**+0.5**
WLF				*e*Sg	**Sg**	**01 27 06.8**	**+0.5**
WLF	**Walferdange**	**1.21**	**180**	P	**Pg**	**01 26 50.8**	**+0.3**
WLF				Sg	**Sg**	**01 27 06.8**	**+0.5**
DOU	**Dourbes**	**1.27**	**233**	⇑P	**Pg**	**01 26 51.7**	**0.0**
DOU				S	**Sg**	**01 27 08.0**	**-0.2**
	comp=N,13nm,0.2s						
DOU	**Dourbes**	**1.27**	**233**	P	**Pg**	**01 26 51.7**	**0.0**
DOU				S	**Sg**	**01 27 08.0**	**-0.2**
	comp=N,13nm,0.2s						
BSKQ	**Steenkerk**	**1.34**	**261**	P	**Pb**	**01 26 52.2**	**+0.2**
BSKQ				S	**Sg**	**01 27 09.7**	**-0.9**
BAIF	**Baives**	**1.49**	**238**	*e*P	**Pg**	**01 26 55.3**	**-0.6**
BAIF	**Baives**	**1.49**	**238**	*e*Pg	**Pg**	**01 26 56.7**	**+0.8**
BAIF				*e*Sg	**Sg**	**01 27 14.9**	**-0.5**
	comp=N,22nm,0.3s						
BAIF	**Baives**	**1.49**	**238**	*e*P	**Pg**	**01 26 55.3**	**-0.6**
BAIF	**Baives**	**1.49**	**238**	*e*Pg	**Pg**	**01 26 56.7**	**+0.8**
BAIF				*e*Sg	**Sg**	**01 27 14.9**	**-0.5**
	comp=N,11nm,0.3s						
TNS	**Taunus Mts**	**1.59**	**113**	*e*Sg	**Sb**	**01 27 17.4**	**+1.2**
TNS	**Taunus Mts**	**1.59**	**113**	Sg	**Sb**	**01 27 17.4**	**+1.2**
PAGF	**Fort de Pagny**	**2.34**	**187**	*e*Pg	**Pg**	**01 27 11.7**	**-0.3**
PAGF				*e*Sg	**Sg**	**01 27 41.5**	**-0.8**
	comp=N,0.8nm,0.3s						
MEZF	**Maizieres J'vi**	**2.48**	**197**	*e*Pg	**Pg**	**01 27 14.3**	**-0.5**
	baz=20						
MEZF				*e*Sg	**Sg**	**01 27 46.0**	**-0.9**
	comp=N,7.8nm,0.4s						
CDF	**Champ du Feu**	**2.57**	**163**	*e*Pn	**Pn**	**01 27 08.9**	**+0.7**
CDF	**Champ du Feu**	**2.57**	**163**	*e*Pg	**Pg**	**01 27 16.4**	**0.0**
CDF				*e*Sg	**Sg**	**01 27 48.8**	**-0.9**
	comp=N,1.6nm,0.2s						
CDF	**Champ du Feu**	**2.57**	**163**	*e*Pn	**Pn**	**01 27 08.9**	**+0.7**
CDF	**Champ du Feu**	**2.57**	**163**	*e*Pg	**Pg**	**01 27 16.4**	**0.0**
CDF				*e*Sg	**Sg**	**01 27 48.8**	**-0.9**
	comp=N,0.8nm,0.2s						
SFTF	**Sexfontaines**	**2.77**	**196**	*e*Sg	**Sg**	**01 27 55.1**	**-1.1**
	comp=N,5.2nm,0.2s						
SFTF	**Sexfontaines**	**2.77**	**196**	*e*Sg	**Sg**	**01 27 55.1**	**-1.1**
	comp=N,2.6nm,0.2s						
CLZ	**Clausthal**	**2.81**	**68**	*e*Pg	**Pg**	**01 27 19.3**	**-1.7**
LOR	**Lormes**	**3.91**	**204**	*e*Pn	**Pn**	**01 27 26.4**	**-0.2**
	baz=22						
LOR	**Lormes**	**3.91**	**204**	*e*Pg	**Pg**	**01 27 40.9**	**-1.2**
	baz=24						
LOR				*e*Sg	**Sg**	**01 28 30.9**	**-1.9**
	comp=N,1.8nm,0.2s						
LOR	**Lormes**	**3.91**	**204**	*e*Pn	**Pn**	**01 27 26.4**	**-0.2**
	baz=22						
LOR	**Lormes**	**3.91**	**204**	*e*Pg	**Pg**	**01 27 40.9**	**-1.2**
	baz=24						
LOR				*e*Sg	**Sg**	**01 28 30.9**	**-1.9**
	comp=N,0.9nm,0.2s						
SSF	**Saint Saulge**	**4.20**	**206**	*e*Pn	**Pn**	**01 27 30.9**	**+0.4**
SSF	**Saint Saulge**	**4.20**	**206**	*e*Pn	**Pn**	**01 27 30.9**	**+0.4**

IDC 28 01:32:47.6±1.4,5.°08S×151.°45E,h130km±10km, mb3.5/7, mb1 3.7/8,mb1mx3.5/20,mbtmp3.6/8,Error ellipse: s-maj=26.6km s-min=19.1km az=116.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.05**	**224**	P	Pn	01 34 15.1	+0.3
	3.9nm,0.3s,baz=69,slow=5.9,SNR=8.6						
PMG				S	Sn	01 35 21.4	-1.5
	8.0nm,0.3s,baz=3.7,slow=23,SNR=14						
WRA	**Warramunga Arr**	**22.26**	**227**	P	P	01 37 33.5	-0.7
	2.8nm,0.6s,baz=52,slow=9.7,SNR=27						
WRA				pP	pP	01 37 56.4	-1.9
	1.0nm,0.6s,baz=49,slow=11,SNR=2.8						
DZM	**Mont Dzumac**	**22.28**	**141**	P	P	01 37 34.7	+0.2
	2.5nm,0.6s,baz=139,slow=21,SNR=6.5						
ASAR	**Alice Springs**	**25.05**	**221**	P	P	01 38 00.1	+0.1
	2.0nm,0.4s,baz=56,slow=8.8,SNR=27						
ASAR				pP	pP	01 38 28.4	+0.8
	0.6nm,0.5s,baz=59,slow=8.5,SNR=2.7						
ASAR				sP	sP	01 38 43.3	+0.7
	0.6nm,0.7s,baz=56,slow=8.4,SNR=2.1						
STKA	**Stephens Creek**	**28.22**	**198**	P	P	01 38 28.9	+0.6
	1.3nm,0.8s,baz=0.0,slow=7.1,SNR=2.7						
FITZ	**Fitzroy Crossi**	**28.35**	**241**	P	P	01 38 29.2	-0.4
	2.3nm,0.3s,baz=49,slow=10,SNR=8.6						
SONM	**Songino Array**	**65.85**	**328**	P	P	01 43 20.8	+1.5
	0.2nm,0.5s,baz=119,slow=5.9,SNR=3.7						
ILAR	**Eielson Array**	**82.92**	**22**	P	P	01 44 56.5	-1.1
	0.3nm,0.6s,baz=242,slow=4.5,SNR=4.2						
TORD	**Torodi Ar. Bea**	**149.10**	**287**	PKPbc	PKPbc	01 52 21.2	-0.5
	0.8nm,0.6s,baz=82,slow=2.8,SNR=12						

*ISCJB **28** 01:33:50.5±0.7,32.°26N±0.°05×105.°69E±0.°07,h10km, mb3.1/2, Error ellipse: s-maj=9.8km s-min=5.5km az=42.8*
*IDC **28** 01:33:50.8±1.7,31.°48N×104.°39E,h0km,mb3.0/2, mb1 3.3/3,mb1mx3.1/27,mbtmp3.0/3,ML3.0/1, Error ellipse: s-maj=90.8km s-min=28.9km az=59.0*
*BJI **28** 01:33:51.0,32.°32N×105.°57E,h9km,mb3.8/1,ML3.5/14, Ms3.5/1,Ms7 3.5/1*
ISC 28 01:33:51.2±0.8,32.°20N±0.°05×105.°71E±0.°05,h10km,n8, σ1°29/15,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.10**	**233**	Pn	**Pb**	**01 34 28.3**	**-1.1**
CD2				Pg	**Pg**	**01 34 33.3**	**+1.9**
CD2				Sn	**Sg**	**01 34 57.5**	**-1.2**
CD2				Sg	Sb	01 35 00.8	+5.3
CD2				smax	smax		
	comp=N,860nm,0.6s						
CD2				smax	smax		
	comp=E,500nm,0.7s						
XAN	**Xi'an**	**3.27**	**55**	Pn	**Pn**	**01 34 43.5**	**+1.0**
XAN				Pg	**Pb**	**01 34 48.3**	**-1.0**
XAN				Sn	**Sn**	**01 35 21.0**	**-0.4**
XAN				Sg	**Sb**	**01 35 29.0**	**-0.1**
XAN				smax	smax		
	comp=N,210nm,0.7s						
XAN				smax	smax		
	comp=E,99nm,0.8s						
LZH	**Lanzhou**	**4.18**	**339**	*e*Pn	**Pn**	**01 34 57.0**	**+1.9**
LZH				Pg	**Pb**	**01 35 04.5**	**-0.4**
LZH				Sn	**Sn**	**01 35 43.5**	**-0.6**
LZH				Sg	**Sb**	**01 35 54.5**	**-0.9**
LZH				smax	smax		
	comp=N,220nm,1.0s						
LZH				smax	smax		
	comp=E,190nm,1.0s						
LZH				LR	LR		
	comp=N,370nm,6.0s						
LZH				LR	LR		
	comp=E,240nm,5.8s						
LZH				LR	LR		
	comp=Z,450nm,6.6s						
GYA	**Guiyang**	**5.78**	**171**	*e*Pg	**Pb**	**01 35 30.5**	**-1.7**
GYA				smax	smax		
	comp=N,40nm,0.9s						
GYA				smax	smax		
	comp=E,60nm,0.8s						
GTA	**Gaotai**	**8.64**	**328**	*e*P	**Pn**	**01 35 56.8**	**+0.4**
GTA				pP	pP	01 36 00.8	
GTA				sP		01 36 04.3	
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SONM	**Songino Array**	**15.63**	**2**	Pn	P	01 37 42.9	+7.1
	comp=Z,0.1nm,0.3s,baz=185,slow=12,SNR=2.6						
MKAR	**Makanchi Array**	**23.10**	**316**	P	**P**	**01 38 55.5**	**-1.6**
	comp=Z,0.2nm,0.6s,baz=122,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**58.65**	**148**	P	**P**	**01 43 50.0**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=340,slow=7.6,SNR=4.8						

*BJI **28** 01:43:25.1,3.°07N×126.°87E,h35km,mB5.2/34,mb5.0/52, Ms4.9/56,Ms7 4.8/53*
*IDC **28** 01:43:26.7±0.4,3.°64N×126.°59E,h0km,mb4.9/34, mb1 4.9/34,mb1mx4.9/36,mbtmp4.9/34,MS4.6/24, Ms1 4.6/24,ms1mx4.4/48,Error ellipse: s-maj=15.9km s-min=9.5km az=73.0*
*MOS **28** 01:43:30.1±1.0,3.°69N×126.°61E,h33km,mb5.4/52, MS4.7/15,Error ellipse: s-maj=9.8km s-min=4.8km az=116.1*
*NEIC **28** 01:43:32.0±0.1,3.°67N×126.°63E,h35km,mb5.2/71,Error ellipse: s-maj=5.7km s-min=3.7km az=68.0*
NEIC Felt [III] in the Kepulauan Talaud.
*ISCJB **28** 01:43:33.5±0.4,3.°68N±0.°02×126.°74E±0.°03,h64km±3km, mb5.1/153,Error ellipse: s-maj=4.4km s-min=3.1km az=162.8*
*DJA **28** 01:43:37.3,3.°61N×126.°89E,h71km,Mw5.0/30*
ISC 28 01:43:32.5±0.3,3.°66N±0.°03×126.°67E±0.°04,h41km±1km, h41km:pP-P,n511,σ1°61/574,mb5.2/149,MS4.7/59, 27C-30D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**2.86**	**220**	P	Pn	01 44 18.8	+3.1
TNTI	**Ternate**	**2.95**	**166**	P	**Pn**	**01 44 19.1**	**+2.2**
GSPH	**General Santos**	**2.96**	**325**⇓	*e*P	**Pn**	**01 44 19.2**	**+2.1**
MATI	**Mati**	**3.29**	**353**	*e*P	Pn	01 44 26.3	+4.7
DAV	**Davao City (W)**	**3.56**	**342**	*e*Pn	**Pn**	**01 44 28.3**	**+3.0**
DAV				Sn	Sn	01 45 16.6	+10
DAV	**Davao City (W)**	**3.56**	**342**	P	Pn	01 44 28.8	+3.6
	SNR=38						
DAV	**Davao City (W)**	**3.56**	**342**	P	Pn	01 44 31.7	+6.4
DAV	**Davao City (W)**	**3.56**	**342**	Pn	Pn	01 44 30.3	+5.1
	86nm,0.3s,baz=84,slow=5.9,SNR=10.0						
DAV				Sn	Sn	01 45 16.6	+10
	126nm,0.3s,baz=81,slow=12,SNR=3.9						
KCP	**Kidapawan**	**3.68**	**335**	⇓*i*P	Pn	01 44 36.4	+9.4
KCP				*i* S	Sn	01 45 24.7	+15
CTBH	**Cotabato--PC H**	**4.28**	**326**⇓	*e*P	**Pn**	**01 44 36.6**	**+1.4**
LBMI	**Labuha**	**4.35**	**169**	P	**Pn**	**01 44 38.1**	**+2.0**
BUKP	**Musuan**	**4.49**	**339**	*e*P	Pn	01 44 41.6	+3.6
CGP	**Cagayan de Oro**	**5.15**	**338**⇓	*e*P	Pn	01 44 51.4	+4.2
CGP				*e*S	Sn	01 45 53.1	+7.6
PAGZ	**Pagadian**	**5.29**	**322**	*e*P	**Pn**	**01 44 51.9**	**+2.8**
BUTP	**Butuan**	**5.38**	**349**	*e*P	Pn	01 44 55.1	+4.8
IPIL	**Ipil**	**5.78**	**315**	*e*P	**Pn**	**01 44 58.7**	**+2.9**
IPIL	**Ipil**	**5.78**	**315**	*e*P	Pn	01 44 52.0	-3.9
IPIL				*e*S	**Sn**	**01 46 04.7**	**+3.7**
LUWI	**Luwuk**	**6.08**	**220**	P	Pn	01 45 06.4	+6.5
	2μm,1.1s,15μm11nm						
SWI	**Sorong**	**6.42**	**134**	P	**Pn**	**01 45 05.3**	**+0.7**
	448nm,0.8s,5μm1.6nm						
MSLP	**Maasin**	**6.68**	**345**	*e*P	Pn	01 45 12.6	+4.4
LLP	**Lapu-Lapu**	**7.14**	**338**	*e*P	Pn	01 45 18.0	+3.6
LLP				*e*S	**Sn**	**01 46 40.1**	**+5.7**
MSAI	**Masohi**	**7.32**	**162**	P	Pn	01 45 20.8	+3.9
	49nm,1.1s,2μm0.2nm						
AAI	**Ambon**	**7.45**	**168**	P	**Pn**	**01 45 21.8**	**+3.0**
	190nm,0.6s,3μm0.9nm						
PLP	**Palo**	**7.64**	**347**⇓	*e*P	**Pn**	**01 45 24.1**	**+2.7**
GUIM	**Jordan**	**8.02**	**330**	*e*P	Pn	01 45 33.3	+6.8
MYLDM	**Lahad Datu**	**8.28**	**281**	P	Pn	01 45 35.2	+5.0
MYLDM	**Lahad Datu**	**8.28**	**281**	P	Pn	01 45 34.4	+4.2
	367nm,1.1s,6μm47μm						
KDI	**Kendari**	**8.58**	**208**	P	**Pn**	**01 45 35.6**	**+1.4**
	163nm,0.7s,2μm						
FAKI	**Fak Fak**	**8.59**	**139**	P	**Pn**	**01 45 35.8**	**+1.4**
	172nm,0.8s,2μm						
TSM	**Tawau**	**8.80**	**274**	P	Pn	01 45 40.7	+3.5
SDKM	**Sandakan**	**9.64**	**282**	P	**Pn**	**01 45 51.5**	**+2.6**
SMKI	**Samarinda**	**10.29**	**247**	P	Pn	01 46 03.5	+5.7
	202nm,0.9s						
KDM	**Kudat**	**10.31**	**289**	P	**Pn**	**01 46 00.1**	**+2.1**
BAKI	**Biak**	**10.59**	**117**	P	**Pn**	**01 46 02.2**	**+0.3**
	181nm,0.8s,3μm						
KKM	**Kota Kinabalu**	**10.68**	**283**	*e*Pn	Pn	01 46 07.5	+4.4
KKM	**Kota Kinabalu**	**10.68**	**283**	P	Pn	01 46 07.6	+4.4
KKM	**Kota Kinabalu**	**10.68**	**283**	P	Pn	01 46 07.9	+4.7
	135nm,1.1s,2μm						
KAPI	**Kappang**	**11.04**	**219**	*e*Pn	Pn	01 46 11.6	+3.6
	206nm,1.4s						
KAPI	**Kappang**	**11.04**	**219**	P	Pn	01 46 13.5	+5.5
	98nm,1.4s,985nm						
KAPI	**Kappang**	**11.04**	**219**	Pn	Pn	01 46 12.1	+4.1
	4.0nm,0.3s,baz=60,slow=8.3,SNR=13						
KAPI				LR	LR	01 51 05.6	
	comp=Z,5μm,19.2s,baz=38,slow=42						
TLE	**Tual**	**11.05**	**147**	P	**Pn**	**01 46 09.4**	**+1.3**
	208nm,1.2s,3μm						
TGY	**Tagaytay City**	**11.82**	**332**	LR	LR	01 51 28.0	
	comp=Z,38nm,19.9s,baz=0.1,slow=41						
MMRI	**Maumere**	**12.99**	**200**	P	Pn	01 46 39.1	+4.5
	225nm,0.8s,2μm						
BTM	**Bintulu**	**13.57**	**268**	P	P	01 46 47.2	-3.6
BBKI	**Banjar Baru**	**13.77**	**239**	P	**P**	**01 46 50.6**	**-2.4**
	230nm,1.5s,5μm						
SBUM	**Sibu**	**14.48**	**266**	P	**P**	**01 46 59.7**	**-1.2**
SBUM	**Sibu**	**14.48**	**266**	P	**P**	**01 46 59.8**	**-1.1**
	118nm,1.5s,2μm						
JAY	**Jayapura**	**15.31**	**113**	P	**Pn**	**01 47 05.1**	**-0.9**
	124nm,0.9s						
STKI	**Sintang**	**15.59**	**257**	P	**P**	**01 47 14.2**	**+0.9**
	151nm,1.1s,21μm						
KHKI	**Kahang-Kahang**	**16.26**	**223**	P	**P**	**01 47 20.0**	**-0.6**
	150nm,1.1s,2μm						
PBKI	**Pangkalan Bun**	**16.27**	**247**	P	**P**	**01 47 21.5**	**+0.7**
	230nm,0.9s						
KSM	**Kuching**	**16.48**	**263**	*e*Pn	**P**	**01 47 26.2**	**+3.0**
	164nm,1.3s						
KSM	**Kuching**	**16.48**	**263**	P	**P**	**01 47 25.7**	**+2.5**
KSM	**Kuching**	**16.48**	**263**	P	**P**	**01 47 25.6**	**+2.4**
	96nm,1.5s,2μm						
KMMI	**Kaliangket**	**16.55**	**230**	P	**P**	**01 47 26.5**	**+2.6**
	87nm,0.8s,3μm						
DNP	**Denpasar**	**16.75**	**223**	P	**P**	**01 47 28.3**	**+2.2**
	469nm,1.1s						
IGBI	**Denpasar**	**16.90**	**223**	P	**P**	**01 47 30.2**	**+2.5**
	89nm,0.6s,9μm						
NBBI	**Negara**	**16.95**	**225**	P	**P**	**01 47 29.8**	**+1.5**
	254nm,0.8s,3μm						
MTN	**Manton Dam**	**16.98**	**165**	*e*P	**Pn**	**01 47 24.4**	**-2.8**
JAGI	**Jajag, Banyuwa**	**17.35**	**226**	P	**P**	**01 47 35.4**	**+2.7**
	156nm,1.3s,2μm						
SJI	**Sawahan**	**18.68**	**233**	P	**P**	**01 47 47.7**	**+0.1**
	97nm,1.3s,3μm						
UGM	**Wanagama**	**19.79**	**234**	*e*P	**Pn**	**01 48 01.7**	**+0.3**
	1μm,2.4s						
UGM	**Wanagama**	**19.79**	**234**	P	**Pn**	**01 48 04.0**	**+2.6**
	132nm,0.8s						
TWG	**Pinlang**	**19.80**	**345**	*e*P	**P**	**01 47 58.3**	**-1.4**
	208nm,0.6s						
YOGI	**Yogyakarta**	**19.92**	**235**	P	**Pn**	**01 48 04.7**	**+1.8**
	343nm,1.1s						
BJII	**Banjamegara**	**20.14**	**237**	P	**P**	**01 48 03.4**	**-0.1**
	78nm,1.8s,2μm						
YULB	**Yu-li**	**20.29**	**346**	*e*P	**P**	**01 48 02.8**	**-2.2**
	57nm,0.8s						
TPUB	**Ta-pu**	**20.38**	**344**	*e*P	**P**	**01 48 03.6**	**-2.4**
	142nm,1.1s						
TGJI	**Tegal**	**20.40**	**239**	P	Pn	01 48 20.1	+12
GUMO	**Guam**	**20.50**	**60**	*e*P	**P**	**01 48 03.9**	**-3.4**
	327nm,1.2s						
GUMO	**Guam**	**20.50**	**60**	LR	LR	01 54 42.8	
	comp=Z,1μm,21.8s,baz=225,slow=33						
SSLB	**Suanglung**	**20.76**	**345**	*e*P	**P**	**01 48 09.7**	**-0.3**
	81nm,0.7s						
PPBI	**Pangkal Pinang**	**21.32**	**255**	P	**P**	**01 48 20.2**	**+4.0**
	55nm,1.4s,3μm						
YHNB	**Yeheng**	**21.50**	**347**	*e*P	**P**	**01 48 16.9**	**-1.2**
	76nm,0.7s						
FITZ	**Fitzroy Crossi**	**21.65**	**183**	*e*P	**P**	**01 48 18.6**	**-1.0**
	43nm,0.6s						
FITZ				*e*S	**S**	**01 52 12.7**	**-4.5**
FITZ				S	Sn	01

IPM	**Ipoh**	**25.59**	**273**	P	**P**	**01**	**48**	**59.4**	**+1.2**
IPM	**Ipoh**	**25.59**	**273**	P	**P**	**01**	**49**	**00.4**	**+2.2**
	comp=Z,93nm,1.0s,comp=Z,1µm								
BKNI	**Bangkinang**	**25.82**	**263**	P	**P**	**01**	**49**	**00.1**	**-0.2**
	comp=Z,136nm,1.1s,comp=Z,1µm								
KULM	**Kulim**	**25.99**	**275**	*e*P	**P**	**01**	**49**	**02.6**	**+0.8**
	comp=Z,76nm,1.1s								
KULM	**Kulim**	**25.99**	**275**	P	**P**	**01**	**49**	**02.6**	**+0.8**
KULM	**Kulim**	**25.99**	**275**	P	**P**	**01**	**49**	**02.7**	**+0.9**
	comp=Z,66nm,1.1s,comp=Z,908nm								
PPI	**Padang Panjang**	**26.57**	**262**	P	P	01	49	11.9	+4.9
	comp=Z,54nm,1.0s,comp=Z,706nm								
CBIJ	**Chichi jima**	**27.63**	**31**	P	**P**	**01**	**49**	**18.1**	**+1.7**
CBIJ	**Chichi jima**	**27.63**	**31**	P	**P**	**01**	**49**	**18.1**	**+1.7**
	comp=Z,61nm,0.6s,baz=288,slow=20,SNR=3.4								
CBIJ				LR	LR	01	58	11.1	
	comp=Z,2µm,21.2s,baz=134,slow=32								
PSI	**Prapat**	**27.71**	**269**	P	**P**	**01**	**49**	**18.1**	**+0.7**
PSI	**Prapat**	**27.71**	**269**	P	**P**	**01**	**49**	**17.2**	**-0.3**
	comp=Z,28nm,1.3s,comp=Z,459nm								
PSI	**Prapat**	**27.71**	**269**	P	**P**	**01**	**49**	**18.1**	**+0.7**
	comp=Z,5.8nm,0.4s,baz=121,slow=6.2,SNR=11								
SSE	**Sheshan**	**27.78**	**350**	*e*P	**P**	**01**	**49**	**18.8**	**+1.2**
SSE				pP	**pP**	**01**	**49**	**27.5**	**-1.3**
SSE				S	**S**	**01**	**53**	**58.5**	**+0.8**
SSE				sS	**sS**	**01**	**54**	**17.5**	**+1.2**
SSE				pmax	pmax				
	comp=Z,26nm,0.7s								
SSE				pmax	pmax				
	comp=Z,130nm,5.4s								
SSE				LR	LR				
	comp=N,880nm,22.3s								
SSE				LR	LR				
	comp=E,320nm,22.3s								
SSE				LR	LR				
	comp=Z,1µm,21.0s								
AS31	**Alice Springs**	**28.06**	**166**	*e*P	**P**	**01**	**49**	**19.8**	**-0.5**
ASAR	**Alice Springs**	**28.06**	**166**	P	**P**	**01**	**49**	**19.8**	**-0.5**
ASAR				PcP	**PcP**	**01**	**52**	**35.4**	**+1.0**
ASAR				S	S	01	54	10.3	+7.8
ASAR	**Alice Springs**	**28.06**	**166**	P	**P**	**01**	**49**	**19.8**	**-0.5**
	comp=Z,9.3nm,0.6s,baz=348,slow=7.5,SNR=90								
ASAR				PcP	**PcP**	**01**	**52**	**35.4**	**+1.0**
	comp=Z,3.7nm,0.4s,baz=338,slow=2.4,SNR=4.1								
ASAR				S	S	01	54	10.3	+7.8
	comp=Z,4.1nm,0.9s,baz=355,slow=19,SNR=4.5								
WHN	**Wuhan**	**29.16**	**338**	⇓P	**P**	**01**	**49**	**32.0**	**+2.0**
WHN				S	**S**	**01**	**54**	**18.0**	**-1.6**
WHN				LR	LR				
	comp=N,5µm,20.8s								
WHN				LR	LR				
	comp=E,6µm,23.8s								
WHN				LR	LR				
	comp=Z,7µm,20.2s								
NJ2	**Nanjing**	**29.18**	**346**	*e*P	P	01	49	33.3	+3.2
NJ2				pP	pP	01	49	41.0	-0.3
NJ2				sP	sP	01	49	45.0	-1.2
NJ2				S	**S**	**01**	**54**	**22.5**	**+2.7**
NJ2				sS	sS	01	54	37.5	-1.0
NJ2				pmax	pmax				
	comp=Z,30nm,1.0s								
NJ2				pmax	pmax				
	comp=Z,280nm,7.6s								
NJ2				LR	LR				
	comp=N,560nm,20.8s								
NJ2				LR	LR				
	comp=E,2µm,19.9s								
NJ2				LR	LR				
	comp=Z,500nm,20.4s								
JNU	**Nakatsue**	**29.57**	**7**	*e*P	**P**	**01**	**49**	**32.6**	**-1.0**
	comp=Z,16nm,1.0s								
JNU	**Nakatsue**	**29.57**	**7**	P	**P**	**01**	**49**	**33.2**	**-0.5**
	comp=Z,25nm,0.9s,baz=147,slow=5.4,SNR=9.0								
JNU				LR	LR	02	01	34.7	
	comp=Z,577nm,19.4s,baz=185,slow=37								
GYA	**Guiyang**	**29.68**	**322**	*e*P	**P**	**01**	**49**	**35.0**	**+0.1**
GYA				pP	**pP**	**01**	**49**	**45.8**	**-0.2**
GYA				PP	**PnPn**	**01**	**50**	**34.3**	**+3.1**
GYA				PcP	**PcP**	**01**	**52**	**40.3**	**+1.7**
GYA				S	**S**	**01**	**54**	**30.0**	**+1.8**
GYA				sS	**sS**	**01**	**54**	**45.8**	**-1.0**
GYA				ScP	**ScP**	**01**	**56**	**18.0**	**+0.5**
GYA				ScS	**ScS**	**02**	**00**	**11.3**	**-1.4**
GYA				pmax	pmax				
	comp=Z,20nm,0.8s								
GYA				pmax	pmax				
	comp=Z,130nm,5.0s								
GYA				LR	LR				
	comp=N,590nm,14.6s								
GYA				LR	LR				
	comp=E,540nm,14.8s								
GYA				LR	LR				
	comp=Z,2µm,14.0s								
CTA	**Charters Tower**	**30.45**	**142**	P	**P**	**01**	**49**	**43.2**	**+1.7**
CTA	**Charters Tower**	**30.45**	**142**	P	**P**	**01**	**49**	**43.2**	**+1.7**
	comp=Z,3.1nm,0.7s,baz=6.3,slow=9.2,SNR=3.2								
CTAO	**Charters Tower**	**30.45**	**142**	*e*P	**P**	**01**	**49**	**41.7**	**+0.2**
CTAO				pmax	pmax				
	comp=Z,18nm,1.0s								
CTAO	**Charters Tower**	**30.45**	**142**	*e*P	**P**	**01**	**49**	**41.7**	**+0.2**
	comp=Z,18nm,1.0s								
CMAR	**Chiang Mai Arr**	**30.85**	**301**	P	**P**	**01**	**49**	**45.9**	**+0.7**
CMAR				ScP	**ScP**	**01**	**56**	**26.0**	**+4.7**
CMAR	**Chiang Mai Arr**	**30.85**	**301**	P	**P**	**01**	**49**	**45.9**	**+0.7**
	comp=Z,9.4nm,0.8s,baz=114,slow=6.9,SNR=34								
CMAR				ScP	**ScP**	**01**	**56**	**26.0**	**+4.7**
	comp=Z,1.0nm,0.3s,baz=147,slow=1.6,SNR=7.6								
CHTO	**Chiang Mai**	**31.00**	**301**	*e*P	**P**	**01**	**49**	**46.6**	**+0.1**
CHTO				pmax	pmax				
	comp=Z,32nm,1.2s								
CHTO	**Chiang Mai**	**31.00**	**301**	*e*P	**P**	**01**	**49**	**46.6**	**+0.1**
	comp=Z,32nm,1.2s								
CHTO	**Chiang Mai**	**31.00**	**301**	P	**P**	**01**	**49**	**46.6**	**+0.1**
	SNR=15								
CHTO	**Chiang Mai**	**31.00**	**301**	P	**P**	**01**	**49**	**46.6**	**+0.1**
	comp=Z,25nm,0.8s,comp=Z,370nm								
ENH	**Enshi**	**31.06**	**330**	*e*P	**P**	**01**	**49**	**46.0**	**-0.8**
	comp=Z,36nm,0.8s								
KMI	**Kunming**	**31.39**	**315**	P	**P**	**01**	**49**	**51.8**	**+1.8**
KMI				pP	**pP**	**01**	**50**	**01.8**	**+0.6**
KMI				sP	**sP**	**01**	**50**	**06.5**	**+0.4**
KMI				PP	**PP**	**01**	**50**	**58.8**	**-2.6**
KMI				S	**S**	**01**	**54**	**54.3**	**-0.8**
KMI				sS	**sS**	**01**	**55**	**11.5**	**-2.2**
KMI				SS	**SnSn**	**01**	**56**	**46.0**	**+4.6**
KMI				pmax	pmax				
	comp=Z,12nm,0.8s								
KMI				pmax	pmax				
	comp=Z,150nm,5.0s								
KMI				LR	LR				
	comp=N,170nm,28.3s								
KMI				LR	LR				
	comp=E,950nm,21.8s								
KMI				LR	LR				
	comp=Z,1µm,23.9s								
JHJ	**Hachijo jima 2**	**31.77**	**21**	LR	LR	02	01	14.2	
	comp=Z,1µm,18.3s,baz=234,slow=34								
KSAR	**Wonju Array Be**	**33.64**	**2**	P	**P**	**01**	**50**	**09.9**	**+0.6**
KSRS	**Korea Array**	**33.65**	**2**	P	**P**	**01**	**50**	**09.9**	**+0.5**
	comp=Z,13nm,0.6s,baz=181,slow=10.0,SNR=27								
KSRS				LR	LR	02	05	15.1	
	comp=Z,723nm,19.2s,baz=180,slow=39								
FORT	**Forrest**	**34.27**	**178**	*e*P	**P**	**01**	**50**	**14.5**	**-0.3**
FORT	**Forrest**	**34.27**	**178**	*e*P	**P**	**01**	**50**	**14.4**	**-0.4**
MAJO	**Matsushiro**	**34.41**	**17**	*e*P	**P**	**01**	**50**	**15.2**	**-0.9**
MAJO				pmax	pmax				
	comp=Z,14nm,0.8s								
MAJO	**Matsushiro**	**34.41**	**17**	*e*P	**P**	**01**	**50**	**15.2**	**-0.9**
	comp=Z,14nm,0.8s								
MAT	**Matsushiro**	**34.41**	**17**	P	**P**	**01**	**50**	**13.6**	**-2.4**
MAT				S	S	01	55	30.0	-11
MJAR	**Matsushiro Arr**	**34.41**	**17**	P	**P**	**01**	**50**	**15.8**	**-0.3**
MJAR	**Matsushiro Arr**	**34.41**	**17**	P	**P**	**01**	**50**	**15.8**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=186,slow=10.0,SNR=8.3								
MJAR				LR	LR	02	01	44.2	
	comp=Z,874nm,21.9s,baz=200,slow=32								
XAN	**Xi'an**	**34.45**	**333**	P	**P**	**01**	**50**	**15.3**	**-1.2**
XAN				pP	**pP**	**01**	**50**	**25.3**	**-2.5**
XAN				sP	**sP**	**01**	**50**	**29.3**	**-3.3**
XAN				S	S	01	55	36.3	-5.8
XAN				pmax	pmax				
	comp=Z,8.0nm,1.0s								
XAN				LR	LR				
	comp=N,1µm,17.4s								
XAN				LR	LR				
	comp=E,510nm,18.9s								
XAN				LR	LR				
	comp=Z,660nm,19.7s								
CD2	**Chengdu**	**34.66**	**324**	P	**P**	**01**	**50**	**20.0**	**+1.6**
CD2				pP	**pP**	**01**	**50**	**30.0**	**+0.4**
CD2				sP	**sP**	**01**	**50**	**34.3**	**-0.2**
CD2				PP	**PP**	**01**	**51**	**37.8**	**+0.3**
CD2				PcP	**PcP**	**01**	**52**	**53.3**	**+1.3**
CD2				S	**S**	**01**	**55**	**47.0**	**+1.5**
CD2				sS	**sS**	**01**	**56**	**03.8**	**-0.5**
CD2				PcS	**PcS**	**01**	**56**	**38.8**	**+0.1**
CD2				pmax	pmax				
	comp=Z,20nm,0.5s								
CD2				pmax	pmax				
	comp=Z,130nm,5.1s								
CD2				LR	LR				
	comp=N,1µm,27.5s								
CD2				LR	LR				
	comp=E,2µm,20.1s								
CD2				LR	LR				
	comp=Z,2µm,20.6s								
EIDS	**Eidsvold**	**37.33**	**142**	*e*P	**P**	**01**	**50**	**40.4**	**-0.9**
	comp=Z,25nm,1.0s								
BBOO	**Buckleboo**	**37.35**	**167**	*e*P	**P**	**01**	**50**	**41.4**	**+0.2**
	comp=Z,516nm,0.9s								
BJT	**Baijiatuan**	**37.42**	**347**	*e*P	**P**	**01**	**50**	**42.4**	**+0.6**
	comp=Z,72nm,0.5s								
BJI	**Beijing**	**37.44**	**347**	P	**P**	**01**	**50**	**43.0**	**+1.1**
BJI				sP	**sP**	**01**	**50**	**56.5**	**-1.6**
BJI				S	**S**	**01**	**56**	**29.3**	**+1.7**
BJI				sS	**sS**	**01**	**56**	**50.3**	**+3.8**
BJI				pmax	pmax				
	comp=Z,95nm,1.1s								
BJI				pmax	pmax				
	comp=Z,310nm,3.6s								
BJI				LR	LR				
	comp=N,300nm,16.6s								
BJI				LR	LR				
	comp=E,680nm,22.1s								
BJI				LR	LR				
	comp=Z,530nm,22.2s								
STKA	**Stephens Creek**	**38.09**	**159**	P	**P**	**01**	**50**	**47.2**	**-0.2**
STKA	**Stephens Creek**	**38.09**	**159**	*e*P	**P**	**01**	**50**	**46.8**	**-0.7**
STKA	**Stephens Creek**	**38.09**	**159**	P	**P**	**01**	**50**	**47.2**	**-0.2**
	comp=Z,21nm,0.4s,baz=315,slow=11,SNR=110								
STKA				LR	LR	02	08	45.0	
	comp=Z,416nm,18.1s,baz=336,slow=40								
SNY	**Shenyang**	**38.10**	**356**	⇑P	**P**	**01**	**50**	**48.0**	**+0.5**
SNY				S	**S**	**01**	**56**	**37.8**	**+0.2**
SNY				SS	**SnSn**	**01**	**59**	**20.0**	**-3.4**
SNY				pmax	pmax				
	comp=Z,50nm,0.6s								
SNY				pmax	pmax				
	comp=Z,390nm,5.0s								
SNY				LR	LR				
	comp=N,330nm,23.0s								
SNY				LR	LR				
	comp=E,720nm,20.6s								
SNY				LR	LR				
	comp=Z,760nm,23.5s								
LZH	**Lanzhou**	**38.53**	**330**	⇑P	**P**	**01**	**50**	**52.8**	**+1.4**
LZH				pP	**pP**	**01**	**51**	**04.5**	**+1.7**
LZH				sP	**sP**	**01**	**51**	**08.8**	**+1.2**
LZH				PP	**PnPn**	**01**	**52**	**26.0**	**+3.7**
LZH				S	**ScP**	**01**	**56**	**50.8**	**+1.3**
LZH				sS	**sS**	**01**	**57**	**04.8**	**+1.2**
LZH				pmax	pmax				
	comp=Z,210nm,1.4s								
LZH				pmax	pmax				
	comp=Z,420nm,4.5s								
LZH				LR	LR				
	comp=N,2µm,15.2s								
LZH				LR	LR				
	comp=E,2µm,16.4s								
LZH				LR	LR				
	comp=Z,3µm,17.1s								
HHC	**Hu-ho-hao-te**	**39.45**	**342**	*e*P	**P**	**01**	**51**	**00.5**	**+1.6**
HHC				pP	**pP**	**01**	**51**	**10.5**	**+0.2**
HHC				sP	**sP**	**01**	**51**	**14.3**	**-0.9**
HHC				PP	**PnPn**	**01**	**52**	**36.3**	**+3.2**
HHC				PcP	**PcP**	**01**	**53**	**08.3**	**+1.9**
HHC				S	**S**	**01**	**57**	**01.5**	**+3.4**
HHC				sS	**sS**	**01**	**57**	**17.0**	**-0.1**
HHC				SS	**SS**	**01**	**59**	**50.3**	**-3.4**
HHC				pmax	pmax				
	comp=Z,15nm,0.7s								
HHC				pmax	pmax				
	comp=Z,120nm,6.5s								
HHC				LR	LR				
	comp=N,5µm,15.5s								
HHC				LR	LR				
	comp=E,650nm,17.8s								
HHC				LR	LR				
	comp=Z,1µm,21.4s								
SHL	**Shillong**	**39.87**	**307**	*e*PKP	**P**	**01**	**51**	**01.5**	**-1.2**
CN2	**Changchun**	**39.99**	**359**	*e*P	**P**	**01**	**51**	**03.5**	**+0.3**
CN2				*es*P	**sP**	**01**	**51**	**17.3**	**-2.2**
CN2				PP	**PnPn**	**01**	**52**	**40.3**	**+0.9**
CN2				*e*S	**S**	**01**	**57**	**06.3**	**+0.3**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
CN2				pmax	pmax				
	comp=Z,200nm,5.0s								
CN2				LR	LR				
	comp=N,500nm,19.0s								
CN2				LR	LR				
	comp=E,500nm,19.0s								
CN2				LR	LR				
	comp=Z,500nm,20.0s								
USRK	**Ussuriysk Arra**	**40.65**	**6**	P	**P**	**01**	**51**	**09.3**	**+0.6**
	comp=Z,10nm,0.6s,baz=185,slow=7.0,SNR=22								
MDJ	**Mudanjiang**	**40.87**	**3**	P	**P**	**01**	**51**	**11.3**	**+0.8**
MDJ				pP	**pP**	**01**	**51**	**20.0**	**-2.0**
MDJ				sP	**sP**	**01**	**51**	**23.8**	**-3.0**
MDJ				ScP	**ScP**	**01**	**56**	**58.5**	**+1.2**
MDJ				PcS	**PcS**	**01**	**57**	**02.3**	**+0.8**
MDJ				S	**S**	**01**	**57**	**21.3**	**+2.2**
MDJ				sS	**sS**	**01**	**57**	**36.5**	**-1.6**
MDJ				pmax	pmax				
	comp=Z,29nm,1.2s								
MDJ				pmax	pmax				
	comp=Z,120nm,3.3s								
MDJ				LR	LR				
	comp=N,540nm,26.1s								
MDJ				LR	LR				
	comp=E,290nm,26.1s								
MDJ				LR	LR				
	comp=Z,650nm,27.6s								
MDJ	**Mudanjiang**	**40.87**	**3**	*e*P	**P**	**01**	**51**	**11.1**	**+0.6**
	comp=Z,31nm,0.8s								
ARMA	**Armidale**	**41.44**	**147**	*e*P	**P**	**01**	**51**	**16.4**	**+0.8**
	comp=Z,22nm,0.7s								
ARMA	**Armidale**	**41.44**	**147**	*e*P	**P**	**01**	**51**	**15.9**	**+0.4**
LSA	**Lhasa**	**42.44**	**311**	P	**P**	**01**	**51**	**24.3**	**+0.1**
LSA	**Lhasa**	**42.44**	**311**	*e*P	**P**	**01**	**51**	**24.8**	**+0.6**
LSA				pmax	pmax				
	comp=Z,26nm,0.7s								
LSA	**Lhasa**	**42.44**	**311**	*e*P	**P**	**01**	**51**	**24.8**	**+0.6**
	comp=Z,26nm,0.7s								
ASAJ	**Asahikawa**	**42.68**	**17**	*e*P	**P**	**01**	**51**	**25.9**	**+0.6**
	comp=Z,14nm,0.8s								
ASAJ	**Asahikawa**	**42.68**	**17**	P	**P**	**01**	**51**	**26.3**	**+1.0**
	comp=Z,30nm,0.8s,baz=216,slow=8.4,SNR=12								
GTA	**Gaotai**	**43.13**	**329**	*e*P	**P**	**01**	**51**	**28.0**	**-1.2**
GTA				pP	**pP**	**01**	**51**	**37.5**	**-3.2**
GTA				sP	**sP**	**01**	**51**	**42.0**	**-3.5**
GTA				S	**S**	**01**	**57**	**49.3**	**-3.6**
GTA				pmax	pmax				
	comp=Z,8.0nm,1.6s								
GTA				pmax	pmax				
	comp=Z,65nm,5.0s								
GTA				LR	LR				
	comp=N,1µm,21.4s								
GTA				LR	LR				
	comp=E,2µm,21.2s								
GTA				LR	LR				
	comp=Z,3µm,21.6s								
YUK	**Yuzh-Kuril'sk**	**43.64**	**20**	*d*P	**P**	**01**	**51**	**32.5**	**-0.5**
YUK				*i*		01	53	16.9	
YUK				*i* PPP	PPP	01	53	49.1	
YUK				S	S	01	58	09.5	+10
YUK				MLR	MLR				
	comp=E,190nm,21.0s								
YUK				MLR	MLR				
	comp=N,312nm,20.0s								
YUK				MLR	MLR				
	comp=Z,776nm,22.0s								
TAPN	**Taplejung**	**44.01**	**306**	*e*P	**P**	**01**	**51**	**35.9**	**-0.8**
	comp=Z,24nm,0.4s								
ODAN	**Odare**	**44.06**	**306**	*e*P	**P**	**01**	**51**	**36.4**	**-0.6**
	comp=Z,36nm,0.5s								
ODAN	**Odare**	**44.06**	**306**	*e*P	**P**	**01**	**51**	**36.4**	**-0.6**
	comp=Z,36nm,0.5s								
CAN	**Canberra**	**44.08**	**153**	*e*P	**P**	**01**	**51**	**37.9**	**+1.2**
CAN				pmax	pmax				
	comp=Z,26nm,0.9s								
CAN	**Canberra**	**44.08**	**153**	*e*P	**P**	**01**	**51**	**37.9**	**+1.2**
	comp=Z,26nm,0.9s								
CNB	**Canberra Magne**	**44.23**	**153**	*e*P	**P**	**01**	**51**	**39.9**	**+1.8**
TOO	**Toolangi**	**44.60**	**159**	*e*P	**P**	**01**	**51**	**42.6**	**+1.7**
RAMN	**Ramite**	**44.74**	**305**	*e*P	**P**	**01**	**51**	**42.1**	**-0.4**
	comp=Z,26nm,0.5s								
RAMN	**Ramite**	**44.74**	**305**	*e*P	**P**	**01**	**51**	**42.1**	**-0.4**
	comp=Z,26nm,0.5s								
HABR	**Khabarovsk**	**45.22**	**8**	*e*P	**P**	**01**	**51**	**44.6**	**-1.0**
HABR				*e**PP	**pP**	**01**	**52**	**01.6**	**+4.4**
HABR				*e*		01	53	31.1	
HABR				*e*PPP	PPP	01	54	11.8	
HABR				*e*S	**S**	**01**	**58**	**20.3**	**-2.5**
HABR				*e*		02	01	34.0	
HABR				*e*SSS	SSS	02	02	36.3	
HABR				pmax	pmax				
	comp=E,53nm,2.7s								
HABR				pmax	pmax				
	comp=N,25nm,1.4s								
HABR				pmax	pmax				
	comp=Z,210nm,2.7s								
HABR				MLR	MLR				
	comp=Z,513nm,18.0s								
YSS	**Yuzh-Sakhalins**	**45.33**	**15**	⇓*e*P	**P**	**01**	**51**	**47.7**	**+1.2**
YSS				MLR	MLR				
	comp=E,600nm,19.0s								
YSS				MLR	MLR				
	comp=Z,600nm,19.0s								
YSS	**Yuzh-Sakhalins**	**45.33**	**15**	*e*P	**P**	**01**	**51**	**47.0**	**+0.5**
	comp=Z,24nm,0.6s								
JIRN	**Jiri**	**45.36**	**306**	*e*P	**P**	**01**	**51**	**47.2**	**-0.4**
	comp=Z,9.4nm,0.4s								
KLR	**Kul'dur**	**45.61**	**5**	*e*P	P	01	51	44.8	-3.9
KLR				pmax	pmax				
	comp=Z,48nm,1.4s								
GUN	**Gumba**	**45.72**	**306**	*e*P	**P**	**01**	**51**	**49.9**	**-0.4**
	comp=Z,44nm,0.4s								
HIA	**Hailar**	**45.82**	**354**	*e*P	**P**	**01**	**51**	**51.5**	**+1.1**
	comp=Z,54nm,1.0s								
PKI	**Pulchoki**	**45.96**	**305**	*e*P	**P**	**01**	**51**	**51.5**	**-0.7**
PKI	**Pulchoki**	**45.96**	**305**	*e*P	**P**	**01**	**51**	**51.5**	**-0.7**
PKI	**Pulchoki**	**45.96**	**305**	*e*P	**P**	**01**	**51**	**51.5**	**-0.7**
KKN	**Kakani**	**46.15**	**306**	*e*P	**P**	**01**	**52**	**52.3**	**-1.3**
KKN	**Kakani**	**46.15**	**306**	*e*P	**P**	**01**	**52**	**52.3**	**-1.3**
KKN	**Kakani**	**46.15**	**306**	*e*P	**P**	**01**	**52**	**52.3**	**-1.3**
DMN	**Daman**	**46.22**	**305**	*e*P	**P**	**01**	**51**	**53.3**	**-0.9**
DMN	**Daman**	**46.22**	**305**	*e*P	**P**	**01**	**51**	**53.3**	**-0.9**
DZM	**Mont Dzumac**	**46.55**	**125**	*e*P	**P**	**01**	**51**	**58.0**	**+1.4**
	comp=Z,27nm,0.7s								
DZM	**Mont Dzumac**	**46.55**	**125**	*e*P	**P**	**01**	**57**	**4.4**	**+0.8**
DZM	**Mont Dzumac**	**46.55**	**125**	P	**P**	**01**	**57**	**4.4**	**+0.8**
DZM	**Mont Dzumac**	**46.55**	**125**	P	**P**	**01**	**57**	**4.4**	**+0.8**
	comp=Z,19nm,0.6s,baz=311,slow=14,SNR=39								
GKN	**Gorkha**	**46.76**	**306**	*e*P	**P**	**01**	**51**	**57.3**	**-1.0**
	comp=Z,27nm,0.4s								
ULN	**Ulaanbaatar**	**47.17**	**342**	*e*P	**P**	**01**	**52**	**01.5**	**+0.3**
	comp=Z,13nm,0.7s								
ULN	**Ulaanbaatar**	**47.17**	**342**	P	**P**	**01**	**52**	**01.4**	**+0.3**
	SNR=11								
ULN	**Ulaanbaatar**	**47.17**	**342**	P	**P**	**01**	**52**	**01.3**	**+0.1**
	comp=Z,19nm,1.0s								
SONM	**Songino Array**	**47.34**	**341**	P	**P**	**01**	**52**	**02.2**	**-0.3**
SONM				PcP	**PcP**	**01**	**53**	**33.7**	**+0.8**
SONM	**Songino Array**	**47.34**	**341**	P	**P**	**01**	**52**	**02.2**	**-0.3**
	comp=Z,8.4nm,0.7s,baz=160,slow=8.4,SNR=51								
SONM				PcP	**PcP**	**01**	**53**	**33.7**	**+0.8**
	comp=Z,1.1nm,0.4s,baz=187,slow=4.1,SNR=2.3								
SONM				LR	LR	02	13	41.4	
	comp=Z,610nm,20.0s,baz=165,slow=38								
KOLN	**Koldanda**	**47.51**	**305**	*e*P	**P**	**01**	**52**	**04.2**	**-0.1**
	comp=Z,56nm,0.4s								
DANN	**Dangsing**	**47.61**	**306**	*e*P	**P**	**01**	**52**	**04.2**	**-0.9**
	comp=Z,59nm,0.4s								
PYUN	**Piuthan**	**48.14**	**305**	*e*P	**P**	**01**	**52**	**08.7**	**-0.4**
	comp=Z,52nm,0.5s								
PYUN	**Piuthan**	**48.14**	**305**	*e*P	**P**	**01**	**52**	**08.7**	**-0.4**
	comp=Z,52nm,0.5s								
HYB	**Hyderabad**	**49.08**	**290**	*i* P	**P**	**01**	**52**	**15.0**	**-1.3**
ZAK	**Zakamensk**	**50.57**	**341**	*e*P	**P**	**01**	**52**	**26.1**	**-1.1**
ZAK				pmax	pmax				
	comp=Z,5.0nm,1.1s								
LATR	**Latur**	**51.13**	**291**	*e*PKP	**P**	**01**	**52**	**32.5**	**+0.8**
TLY	**Talaya**	**51.58**	**342**	*e*P	**P**	**01**	**52**	**34.3**	**-0.3**
TLY				*e*S	S	01	59	46.0	-6.5
TLY				pmax	pmax				
	comp=Z,17nm,0.8s								
TLY				MLR	MLR				
	comp=Z,578nm,21.0s								
TLY	**Talaya**	**51.58**	**342**	*e*P	**P**	**01**	**52**	**35.3**	**+0.7**
	comp=Z,18nm,0.8s								
TLY	**Talaya**	**51.58**	**342**	P	**P**	**01**	**52**	**35.5**	**+0.9**
	SNR=13								
IRK	**Irkutsk**	**51.88**	**343**	*e*P	**P**	**01**	**52**	**37.2**	**+0.4**
IRK				*e*		01	53	49.8	
IRK				pmax	pmax				
	comp=Z,52nm,2.0s								
AGRA	**Agra**	**52.04**	**302**	*e*PKP	**P**	**01**	**52**	**37.4**	**-1.0**
AGRA				AMb	AMB	01	52	39.8	
	comp=Z,64nm,0.7s								
MOY	**Mondy**	**52.43**	**340**	*e*P	**P**	**01**	**52**	**42.1**	**+1.1**
MOY				pmax	pmax				
	comp=Z,33nm,2.3s

PETK **Petropavlovsk-** 55.52 22 P **P** 01 53 04.2 +0.8
PETK **Petropavlovsk-** 55.52 22 P **P** 01 53 04.2 +0.8
comp=Z,13nm,0.7s,baz=185,slow=4.6,SNR=24
PETK LR LR 02 18 43.8
comp=Z,328nm,18.8s,baz=216,slow=38
PET Petropavlovsk 55.82 23 *e*P **P** 01 53 06.8 +1.3
PET *e*S **S** 02 00 50.6 +0.9
PET pmax pmax
comp=Z,28nm,1.3s
PET pmax pmax
comp=Z,200nm,14.1s
PET MLR MLR
comp=Z,500nm,16.0s
PET MLR MLR
comp=Z,600nm,15.0s
MK31 Makanchi Array 57.58 325 *e*P **P** 01 53 17.5 -0.8
MK31 pmax pmax
comp=Z,13nm,0.6s
MKAR Makanchi Array 57.58 325 *e*P **P** 01 53 18.0 -0.2
MKAR Makanchi Array 57.58 325 *e*P **P** 01 53 18.0 -0.2
MKAR ScP **ScP** 01 58 11.7 +3.5
MKAR Makanchi Array 57.58 325 P **P** 01 53 17.7 -0.5
comp=Z,7.7nm,0.4s,baz=121,slow=7.6,SNR=129
MKAR ScP **ScP** 01 58 11.7 +3.5
comp=Z,2.4nm,0.7s,baz=120,slow=5.4,SNR=4.5
MKAR LR LR 02 19 59.0
comp=Z,1μm,19.1s,baz=249,slow=38
KSH Kashi 58.05 315 P **P** 01 53 22.8 +1.0
KSH pP **pP** 01 53 32.8 -0.9
KSH sP **sP** 01 53 37.0 -1.5
KSH PcP **PcP** 01 54 13.3 -0.1
KSH PP **PP** 01 55 33.0 +2.2
KSH ScP **ScP** 01 58 09.0 -1.5
KSH PcS **PcS** 01 58 13.3 -1.6
KSH S **S** 02 01 20.3 +0.3
KSH sS **sS** 02 01 37.3 -2.5
KSH ScS **ScS** 02 03 06.0 -2.5
KSH SS **SS** 02 05 13.3 +1.5
KSH pmax pmax
comp=Z,35nm,1.3s
KSH LR LR
comp=N,130nm,6.7s
KSH LR LR
comp=E,560nm,15.2s
KSH LR LR
comp=Z,780nm,20.9s
YAK Yakutsk 58.28 2 *e*P **P** 01 53 22.8 0.0
YAK *e* 01 54 08.4
YAK *e* 01 55 35.2
YAK *e*PPP PPP 01 57 03.3
YAK *e*S **S** 02 01 21.3 -0.6
YAK *e**SS **sS** 02 01 45.0 +3.3
YAK pmax pmax
comp=E,7.0nm,1.2s
YAK pmax pmax
comp=Z,59nm,0.9s
YAK pmax pmax
comp=N,22nm,1.1s
YAK pmax pmax
comp=Z,12nm,0.6s
YAK pmax pmax
comp=N,22nm,1.2s
YAK pmax pmax
comp=E,16nm,1.2s
YAK smax smax
comp=E,91nm,2.5s
YAK smax smax
comp=N,237nm,3.5s
YAK MLR MLR
comp=N,433nm,21.0s
YAK MLR MLR
comp=E,348nm,17.0s
YAK Yakutsk 58.28 2 *e*P **P** 01 53 24.4 +1.6
comp=E,49nm,0.7s
KZA Kyzart 59.62 318 P **P** 01 53 33.1 0.0
SNR=12
TKM2 Tokmak 2 59.76 319 *e*P **P** 01 53 34.4 +0.7
TKM2 pmax pmax
comp=Z,10.0nm,0.6s
TKM2 Tokmak 2 59.76 319 *e*P **P** 01 53 34.4 +0.7
comp=Z,10nm,0.6s
TKM2 Tokmak 2 59.76 319 P **P** 01 53 34.4 +0.7
SNR=19
KBK Karagaybulak 60.07 318 P **P** 01 53 36.8 +0.9
SNR=14
UCH Uchtor 60.18 317 P **P** 01 53 36.2 -0.8
SNR=6.0
AAK Ala-Archa 60.37 318 *i*P **P** 01 53 36.1 -1.8
AAK Ala-Archa 60.37 318 *e*P **P** 01 53 36.3 -1.6
comp=Z,102nm,1.3s
AAK Ala-Archa 60.37 318 P **P** 01 53 38.9 +1.1
comp=Z,69nm,1.6s,SNR=7.0
AAK Ala-Archa 60.37 318 P **P** 01 53 38.9 +1.1
SNR=9.3
AAK Ala-Archa 60.37 318 P **P** 01 53 36.1 -1.8
SNR=8.4
AAK Ala-Archa 60.37 318 P **P** 01 53 38.7 +0.9
comp=Z,5.4nm,0.8s,baz=112,slow=5.3,SNR=12
ZALV Zalesovo Beam 60.62 333 P **P** 01 53 38.1 -1.0
ZALV Zalesovo Beam 60.62 333 P **P** 01 53 38.1 -1.0
ZALV ⇑*e* 02 23 12.8
ZALV Zalesovo Beam 60.62 333 P **P** 01 53 38.1 -1.0
comp=Z,2.9nm,0.4s,baz=114,slow=6.9,SNR=19
ZALV LR LR 02 21 39.7
comp=Z,504nm,18.2s,baz=265,slow=38
ZALV PKP2bc 02 23 12.8
comp=Z,0.5nm,0.6s,baz=289,slow=4.5,SNR=3.7
USP Ospenovka 60.63 319 P **P** 01 53 40.1 +0.6
SNR=20
AML Almayashu 60.70 317 P **P** 01 53 41.7 +1.3
SNR=16
EKS2 Erkin-Say 60.86 318 *e*P **P** 01 53 41.5 +0.3
EKS2 pmax pmax
comp=Z,25nm,1.0s
EKS2 Erkin-Say 60.86 318 *e*P **P** 01 53 41.5 +0.3
comp=Z,25nm,1.0s
EKS2 Erkin-Say 60.86 318 P **P** 01 53 42.5 +1.3
SNR=12
KBL Kabul 61.52 308 *e*P **P** 01 53 45.2 -0.7
KBL pmax pmax
comp=Z,16nm,0.8s
KBL Kabul 61.52 308 *e*P **P** 01 53 45.2 -0.7
comp=Z,16nm,0.8s
RPZ Rata Peaks 61.74 145 *e*P P 01 53 50.3 +3.4
comp=Z,29nm,0.8s
KURBB Kurchatov Arra 61.77 327 P **P** 01 53 46.5 -0.5
comp=Z,15nm,0.4s,baz=129,slow=6.1,SNR=66
KURK Kurchatov 61.77 328*c* *i*P **P** 01 53 46.1 -0.9
KURK pmax pmax
comp=Z,77nm,1.3s
KURK Kurchatov 61.77 328 *e*P **P** 01 53 46.3 -0.6
comp=Z,49nm,0.9s
KURK Kurchatov 61.77 328 P **P** 01 53 46.5 -0.5
SNR=21
KURK Kurchatov 61.77 328 P **P** 01 53 46.0 -0.9
comp=Z,328nm,0.8s,SNR=43
NVS Novosibirsk 61.91 333 *e*P **P** 01 53 47.5 -0.3
NVS *e*S **S** 02 02 05.8 -2.9
NVS *e* 02 03 29.9
NVS pmax pmax
comp=N,7.0nm,0.9s
NVS pmax pmax
comp=E,8.0nm,0.9s
NVS pmax pmax
comp=Z,15nm,0.9s
NVS smax smax
comp=N,7.0nm,1.5s
NVS smax smax
comp=E,12nm,1.5s
SEY Seymchan 62.12 13*ce*P **P** 01 53 50.4 +1.4
FX1 Attu Island--F 62.17 30 P **P** 01 53 50.2 +0.6
FX1 Attu Island--F 62.17 30 P **P** 01 53 50.2 +0.6
comp=E,30nm,0.8s,baz=47,slow=12,SNR=4.5
FX1 LR LR 02 16 16.7
comp=E,472nm,20.5s,baz=253,slow=32
KK31 Karatay Array 63.24 317 P **P** 01 53 56.6 -0.4
KK31 pmax pmax
comp=Z,49nm,1.4s
KKAR Karatay Array 63.24 317 *e*P **P** 01 53 57.5 +0.5
KKAR pmax pmax
comp=Z,15nm,0.7s
KKAR Karatay Array 63.24 317 *e*P **P** 01 53 57.5 +0.5
comp=Z,15nm,0.7s
VOSK Vostochnaya 66.89 327 P **P** 01 54 18.8 -1.7
VOSK pmax pmax
comp=Z,20nm,0.8s

BVA0 Borovoye Array 67.34 327 *i*P **P** 01 54 22.3 -1.1
BVA0 pmax pmax
comp=Z,7.0nm,1.3s
BRVK Borovoye 67.42 327 *e*P **P** 01 54 23.2 -0.6
BRVK pmax pmax
comp=Z,28nm,0.7s
BRVK Borovoye 67.42 327 *e*P **P** 01 54 23.2 -0.6
comp=Z,28nm,0.7s
BRVK Borovoye 67.42 327 P **P** 01 54 23.5 -0.3
comp=Z,232nm,0.8s,SNR=19
BRVK Borovoye 67.42 327 P **P** 01 54 24.0 +0.2
SNR=22
JMDO Jabal Madar 68.80 292 P **P** 01 54 32.3 -0.9
SNR=5.2
BILL Bilibino 69.64 15⇓ *i*P **P** 01 54 37.0 -0.4
BILL *i* 01 55 01.0
BILL *i* 01 57 09.6
BILL pmax pmax
comp=Z,16nm,1.9s
BILL MLR MLR
comp=Z,200nm,17.0s
BILL Bilibino 69.64 15 *e*P **P** 01 54 37.5 +0.1
comp=Z,9.9nm,0.9s
DRV Dumont d'Urvil 70.81 174 P P 01 54 40.0 -4.5
DRV S S 02 03 50.0 -6.2
AB31 Akbulak array 72.17 321 *i*P **P** 01 54 52.0 -1.1
AB31 pmax pmax
comp=Z,14nm,0.7s
ABKAR Akbulak array 72.17 321 *e*P **P** 01 54 52.5 -0.6
comp=Z,8.3nm,0.6s
SVE Sverdlovsk 73.99 328⇑ *e*P **P** 01 55 03.5 -0.2
SVE *e*S **SKiKP** 02 04 22.6 -6.4
SVE pmax pmax
comp=Z,56nm,1.3s
SVE MLR MLR
comp=Z,404nm,17.0s
GAMB Gambell 74.49 24 *e*P **P** 01 55 06.7 +0.2
comp=Z,20nm,1.0s
ARU Arti 74.96 328 *d i*P **P** 01 55 08.8 -0.6
ARU 01 57 56.5
ARU PPP PPP 01 59 41.2
ARU S **S** 02 04 42.2 -1.7
ARU pmax pmax
comp=Z,33nm,1.2s
ARU MLR MLR
comp=Z,426nm,23.0s
ARU Arti 74.96 328 *e*P **P** 01 55 08.4 -1.0
comp=Z,24nm,0.9s
ARU Arti 74.96 328 P **P** 01 55 08.2 -1.2
comp=Z,175nm,0.6s,SNR=11
QRN Al-Qurain 78.39 298 *e*P **P** 01 55 28.6 -0.7
QRN AMb AMB 01 55 33.5
comp=Z,78nm,1.0s
UMR Umm Al-Rimmam 78.59 299 *e*P **P** 01 55 30.0 -0.4
KBD Kabd 78.60 299 *e*P **P** 01 55 30.5 0.0
KBD AMb AMB 01 55 37.1
comp=Z,42nm,1.1s
RDF Al-Radifah 78.72 299 *e*P **P** 01 55 30.6 -0.5
RDF AMb AMB 01 55 36.7
comp=Z,67nm,1.7s
MIB Mutribah 78.93 300 *e*P **P** 01 55 31.8 -0.5
MIB AMb AMB 01 55 44.8
comp=Z,44nm,0.7s
NAY Al-Naaiem 79.00 299 *e*P **P** 01 55 31.8 -0.9
NAY AMb AMB 01 55 42.3
comp=Z,25nm,0.7s
MAK Makhachkala 79.58 313 *e*P **P** 01 55 33.3 -2.2
MAK MLR MLR
comp=Z,514nm,21.0s
RAYN Ar Rayn 80.45 293 P **P** 01 55 40.0 -0.7
comp=Z,76nm,1.6s,SNR=8.8
ABPO Ambohimpanom 81.23 250 *e*P **P** 01 55 45.1 0.0
ABPO pmax pmax
comp=Z,13nm,0.8s
ABPO Ambohimpanom 81.23 250 *e*P **P** 01 55 45.1 0.0
comp=Z,13nm,0.8s
GNI Garni 81.48 310 *e*P **P** 01 55 47.4 +1.3
comp=Z,27nm,1.4s
GNI Garni 81.48 310 LR LR 02 38 59.9
comp=Z,232nm,20.2s,baz=74,slow=41
KDAK Kodiak Island 81.98 32 *e*P **P** 01 55 50.0 +2.0
comp=Z,139nm,1.8s
KDAK Kodiak Island 81.98 32 P **P** 01 55 49.0 +1.0
comp=Z,139nm,0.7s,SNR=7.0
KDAK Kodiak Island 81.98 32 P **P** 01 55 49.4 +1.3
comp=Z,11nm,0.6s,baz=233,slow=7.6,SNR=13
CLDR Caldiran 82.08 309 *e*P **P** 01 55 51.7 +2.4
ZEI Tsey 82.22 312 *e*P **P** 01 55 50.1 +0.1
ZEI pmax pmax
comp=Z,19nm,1.0s
CUKT Cukurca 82.27 307 *e*P **P** 01 55 50.3 +0.1
SPU Mount Spurr 82.60 29 *e*P **P** 01 55 51.6 +0.3
KARS Kars 82.77 310 *e*P **P** 01 55 54.8 +2.0
AGRB Hanur-Agry 82.81 309 *e*P **P** 01 55 53.4 +0.3
KBZ Khabaz 82.98 313 P **P** 01 55 55.3 +1.7
KBZ Khabaz 82.98 313 P **P** 01 55 55.2 +1.7
KBZ Khabaz 82.98 313 P **P** 01 55 55.2 +1.7
comp=Z,2.7nm,0.8s,baz=76,slow=8.1,SNR=6.9
KBZ LR LR 02 41 23.5
comp=Z,358nm,19.3s,baz=67,slow=42
KIV Kislovodsk 83.14 314 *e*P **P** 01 55 54.0 -0.6
KIV *e* 01 55 59.6
KIV *e*S **S** 02 06 09.9 -1.8
KIV pmax pmax
comp=Z,5.0nm,1.2s
KIV Kislovodsk 83.14 314 *e*P **P** 01 55 54.5 0.0
comp=Z,6.1nm,0.8s
ATD Arta Tunnel 83.23 281 LR LR 02 34 00.0
comp=Z,106nm,19.3s,baz=175,slow=36
VNDA Vanda 83.36 173 *e*P **P** 01 55 55.6 +0.8
comp=Z,15nm,1.0s
VNDA Vanda 83.36 173 P **P** 01 55 55.4 +0.5
comp=Z,3.2nm,0.5s,baz=318,slow=5.3,SNR=15
TRF Thorofare Moun 83.63 27 *e*P **P** 01 55 56.8 +0.1
comp=Z,17nm,1.0s
COLD Coldfoot 83.98 23 *e*P **P** 01 55 59.6 +1.4
comp=Z,18nm,0.9s
VRTB Varto-Mus 83.99 309 *e*P P 01 55 55.5 -3.6
PMR Palmer 84.04 29 *e*P **P** 01 55 59.2 +0.6
PMR Palmer 84.04 29 *e*P **P** 01 55 59.2 +0.6
VRHR Novokhopersk 84.06 321 *e*P **P** 01 55 58.5 -0.4
VRHR pmax pmax
comp=Z,30nm,1.5s
VRHR pmax pmax
comp=N,8.0nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,1.2s
EZM Erzurum 84.07 310 *e*P **P** 01 56 02.0 +2.4
MCK McKinley 84.25 26 *e*P **P** 01 55 59.9 +0.2
MCK pmax pmax
comp=Z,21nm,0.9s
MCK McKinley 84.25 26 *e*P **P** 01 55 59.9 +0.2
comp=Z,21nm,0.9s
SML Sawmill 84.43 28 *e*P **P** 01 56 00.6 -0.1
SML pmax pmax
comp=Z,16nm,1.3s
SML Sawmill 84.43 28 *e*P **P** 01 56 00.6 -0.1
comp=Z,16nm,1.3s
BNGB Bing˜ll 84.60 309 *e*P **P** 01 56 03.2 +1.1
COLA College 84.79 25 *e*P **P** 01 56 02.0 -0.3
COLA pmax pmax
comp=Z,2.0nm,0.4s
COLA College 84.79 25 *e*P **P** 01 56 02.0 -0.3
comp=Z,2.5nm,0.4s
BAYT Ayd¯ntepe-Bay 85.00 310 *e*P **P** 01 56 03.8 -0.4
PPT Papeete 85.15 108 LR LR 02 28 57.9
comp=Z,232nm,18.1s,baz=64,slow=32
PPT2 Papeete2 85.15 108 *e*S **S** 02 06 30.5 -2.2
comp=Z,204nm,27.5s
PPT2 *e*SS **SS** 02 12 06.0 -1.4
comp=Z,224nm,29.5s
PPT2 *e*LR LR 02 22 54.7
comp=Z,386nm,25.0s
ILAR Eielson Array 85.19 25 P **P** 01 56 03.7 -0.7
ILAR Eielson Array 85.19 25 P **P** 01 56 03.7 -0.7
comp=Z,1.2nm,0.5s,baz=250,slow=5.2,SNR=21
SOC Sochi 85.29 313 *e*P **P** 01 56 04.3 -1.0
SOC MLR MLR
comp=Z,568nm,21.0s
KLMR Klimovskoe 85.44 331 *e*P **P** 01 56 03.9 -1.8
KLMR pmax pmax
comp=Z,113nm,1.5s
KLMR MLR MLR
comp=Z,767nm,23.0s
GUMT Gumushane 85.51 310 *e*P **P** 01 56 06.1 -0.6
VORD Divnogorie 85.53 321 *e*P **P** 01 56 05.2 -1.1

VORD pmax pmax
comp=Z,30nm,1.3s
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,20nm,1.2s
VSR Storozhevoye 85.60 321 *e*P **P** 01 56 05.8 -0.9
VSR pmax pmax
comp=Z,40nm,1.3s
VSR pmax pmax
comp=N,9.0nm,1.0s
VSR pmax pmax
comp=E,20nm,1.3s
SVRC Sivrice-ELAZID 85.68 308 *e*P **P** 01 56 08.6 +0.9
PAX Paxson 85.79 27 *e*P **P** 01 56 08.6 +1.0
PAX pmax pmax
comp=Z,16nm,1.3s
PAX Paxson 85.79 27 *e*P **P** 01 56 08.6 +1.0
comp=Z,16nm,1.3s
TBI Tubuai 85.82 114 *e*S **S** 02 06 35.4 -3.5
comp=Z,125nm,26.0s
TBI *e*SS **SS** 02 12 15.0 -1.8
comp=Z,119nm,36.0s
TBI *e*LR LR 02 23 14.2
comp=Z,558nm,27.2s
BMRM Bremner River 86.21 29 *e*P **P** 01 56 10.8 +1.2
comp=Z,19nm,0.9s
ILIC ilic-Erzincan 86.23 309 *e*P **P** 01 56 10.6 +0.3
MOS Moscow 86.46 325 *e*P **P** 01 56 09.5 -1.3
MOS *e* 01 56 17.3
MOS *e* 02 06 45.0
MOS pmax pmax
comp=Z,128nm,1.7s
MOS MLR MLR
comp=Z,900nm,20.0s
MENT Mentasta 86.59 27 *e*P **P** 01 56 12.5 +1.1
ANN Anapa 86.90 315 *e*P **P** 01 56 11.9 -1.3
ANN pmax pmax
comp=Z,62nm,1.0s
OBN Obninsk 87.08 325 *d i*P **P** 01 56 13.6 -0.2
OBN *i* 01 56 19.2
OBN *i*S **S** 02 06 49.8 -0.2
OBN pmax pmax
comp=Z,123nm,1.7s
OBN MLR MLR
comp=Z,500nm,18.0s
OBN Obninsk 87.08 325 *e*P **P** 01 56 13.6 -0.2
comp=Z,89nm,1.2s
GAZ Gaziantep 87.38 307 *e*P **P** 01 56 16.8 +0.9
KMRS Kahramanmaras 87.61 307 *e*P **P** 01 56 17.6 +0.7
HTY Hatay 88.30 306 *e*P **P** 01 56 21.4 +1.3
BNN Bunyan 88.37 309 *e*P **P** 01 56 20.9 +0.2
DAWY Dawson 88.47 26 *e*P **P** 01 56 20.9 +0.5
JOF Joensuu 89.21 333 *e*P **P** 01 56 22.7 -1.1
JOF pmax pmax
comp=Z,19nm,0.7s
JOF Joensuu 89.21 333 *e*p **P** 01 56 22.7 -1.1
comp=Z,19nm,0.7s
CORM Corum 89.22 310 *e*P **P** 01 56 23.8 -0.8
NIG Nigde 89.39 308 *e*P **P** 01 56 24.4 -1.2
KMBO Kilima Mbogo 89.49 269 *e*P **P** 01 56 27.0 +0.5
comp=Z,33nm,1.4s
KMBO Kilima Mbogo 89.49 269 P **P** 01 56 27.8 +1.2
SNR=10
KEV Kevo 89.94 340 *e*P **P** 01 56 26.6 -0.5
KEV pmax pmax
comp=Z,5.0nm,0.6s
KEV Kevo 89.94 340 *e*p **P** 01 56 26.6 -0.5
comp=Z,5.4nm,0.6s
KAMT Kaman 89.99 309 *e*P **P** 01 56 26.8 -1.4
BR131 Keskin Array S 90.02 310 *e*P **P** 01 56 27.3 -1.1
comp=Z,7.2nm,0.8s
BRTR Keskin Array B 90.02 310 P **P** 01 56 27.4 -0.9
BRTR Keskin Array B 90.02 310 P **P** 01 56 27.4 -0.9
comp=Z,7.5nm,0.8s,baz=119,slow=4.6,SNR=25
BRTR LR LR 02 43 27.1
comp=Z,110nm,22.0s,baz=274,slow=40
INK Inuvik 90.25 21 *e*P **P** 01 56 27.9 -0.7
comp=Z,13nm,1.2s
INK Inuvik 90.25 21 P **P** 01 56 28.0 -0.6
comp=Z,2.9nm,1.0s,baz=258,slow=5.0,SNR=6.4
ARCES ARCESS Array B 90.49 340 P **P** 01 56 28.9 -0.8
ARCES ARCESS Array B 90.49 340 P **P** 01 56 28.9 -0.8
comp=Z,5.6nm,0.5s,baz=88,slow=7.2,SNR=50
ARCES LR LR 02 40 06.4
comp=Z,655nm,21.6s,baz=78,slow=38
ARE0 ARCESS Array S 90.49 340 *e*P **P** 01 56 28.4 -1.3
ARE0 ARCESS Array S 90.49 340 *e*P **P** 01 56 29.2 -0.5
SPA0 Spitsbergen Ar 90.54 349 *e*P **P** 01 56 30.3 +0.5
SPB4 Spitsbergen Ar 90.54 349 *e*P P 01 56 33.2 +3.4
KAF Kangasniemi 91.63 332 *e*P **P** 01 56 34.0 -1.1
KAF pmax pmax
comp=Z,5.0nm,0.5s
KAF Kangasniemi 91.63 332 *e*p **P** 01 56 34.0 -1.1
comp=Z,5.1nm,0.5s
FINES FINESS Array B 91.86 332 P **P** 01 56 35.7 -0.5
FINES FINESS Array B 91.86 332 P **P** 01 56 35.7 -0.5
comp=Z,2.1nm,0.5s,baz=55,slow=5.7,SNR=16
FINES LR LR 02 42 03.7
comp=Z,418nm,19.4s,baz=294,slow=38
AKASG Malin Array Be 91.91 321 P **P** 01 56 35.2 -1.5
AKASG Malin Array Be 91.91 321 P **P** 01 56 35.1 -1.5
AKASG Malin Array Be 91.91 321 P **P** 01 56 35.1 -1.5
comp=Z,3.7nm,0.7s,baz=71,slow=4.4,SNR=12
AKASG LR LR 02 43 29.2
comp=Z,391nm,21.2s,baz=65,slow=39
AKBB Malin Array Si 91.91 321 *e*P **P** 01 56 35.3 -1.4
AKBB Malin Array Si 91.91 321 *e*P **P** 01 56 35.3 -1.4
KIEV Kiev 91.92 321 *e*P **P** 01 56 35.3 -1.4
KIEV pmax pmax
comp=Z,14nm,1.0s
KIEV Kiev 91.92 321 *e*P **P** 01 56 35.3 -1.4
comp=Z,14nm,1.0s
SYO Syowa Base 92.34 201⇓ *e*P **P** 01 56 40.0 +1.8
TRO Tromso 92.70 340 *e*P **P** 01 56 39.5 -0.4
LEOM Leova 93.16 317 ⇓P P 01 56 46.2 +3.6
LEOM Leova 93.16 317 ⇓*i*P P 01 56 46.2 +3.6
TIRR Tirgusor 93.35 315 ⇓P **P** 01 56 44.8 +1.4
TIRR Tirgusor 93.35 315 ⇓*i*P P 01 56 44.8 +1.4
CFR Carcaliu 93.43 316 ⇑P **P** 01 56 43.8 0.0
CFR Carcaliu 93.43 316 ⇑*i*P **P** 01 56 43.8 0.0
DLBC Dease Lake 93.84 31 LR LR 02 33 05.2
comp=Z,530nm,21.9s,baz=324,slow=32
TESR 94.25 317 ⇓*i*P **P** 01 56 47.2 -0.4
VRI Vrincioaia 94.30 316 ⇓P **P** 01 56 48.2 +0.3
VRI Vrincioaia 94.30 316 ⇓*i*P **P** 01 56 48.2 +0.3
PLOR Plostina 94.36 316 ⇑P **P** 01 56 49.5 +1.3
PLOR Plostina 94.36 316 ⇑*i*P **P** 01 56 49.5 +1.3
PRAR RASCA 94.39 318 ⇑*i*P P 01 56 53.7 +5.5
MLR Muntele Rosu 94.91 316 ⇑*i*P **P** 01 56 49.7 -1.1
SUW Suwalki 94.94 325 *e*P P 01 56 53.8 +3.2
SUW Suwalki 94.94 325 *e*P P 01 56 53.8 +3.2
SUW Suwalki 94.94 325 *e*P **P** 01 56 50.6 0.0
SUW pmax pmax
comp=Z,47nm,1.0s
SUW Suwalki 94.94 325 *e*P **P** 01 56 50.6 0.0
comp=Z,47nm,1.0s
BURAR Bucovina Array 95.01 318 ⇑*i*P **P** 01 56 51.2 0.0
BUR08 Bucovina Ar. S 95.02 318 *e*P **P** 01 56 51.1 -0.1
VOIR 95.54 316 ⇑P **P** 01 56 53.4 -0.2
VOIR 95.54 316 ⇑*i*P **P** 01 56 53.4 -0.2
KWP Kalwaria Pacla 96.22 321 *e*P **P** 01 56 55.8 -0.7
KWP Kalwaria Pacla 96.22 321 *e*P **P** 01 56 55.8 -0.7
KWP Kalwaria Pacla 96.22 321 *e*P **P** 01 56 56.0 -0.5
KWP pmax pmax
comp=Z,17nm,0.9s
KWP Kalwaria Pacla 96.22 321 ⇓P **P** 01 56 56.6 +0.1
KWP Kalwaria Pacla 96.22 321 *e*P **P** 01 56 56.0 -0.5
comp=Z,17nm,0.9s
KWP Kalwaria Pacla 96.22 321 ⇓*i*P **P** 01 56 56.6 +0.1
KOLS Kolonicke sedl 96.66 320 *e*P **P** 01 56 59.8 +1.3
KOLS Kolonicke sedl 96.66 320 *e*P **P** 01 56 59.8 +1.3
UZH Uzhgorod 96.72 320 *e*P **P** 01 57 00.6 +1.8
UZH *e* 01 57 16.6
DRGR 96.85 318 ⇑P **P** 01 56 59.4 -0.2
DRGR 96.85 318 ⇑*i*P **P** 01 56 59.4 -0.2
GZR Gura Zlata 97.11 316 ⇓P **P** 01 57 00.3 -0.5
GZR Gura Zlata 97.11 316 ⇓*i*P **P** 01 57 00.3 -0.5
CRVS Cervenica-Dubn 97.19 320 *e*P **P** 01 57 01.0 +0.1
CRVS Cervenica-Dubn 97.19 320 *e*P **P** 01 57 01.0 +0.1
VTS Vitosha 97.40 314 ⇑P **P** 01 57 01.5 -0.7
VTS Vitosha 97.40 314 ⇑*i*P **P** 01 57 01.5 -0.7
RES Resolute Bay 97.89 10 *e*P Pdif 01 57 03.8 +0.2
comp=Z,4.9nm,1.0s

PSZ	**Piszkesteto**	**98.44**	**319**	*e*P	**P**	**01 57 06.4**	**-0.3**
PSZ				pmax	pmax		
	comp=Z,6.0nm,1.0s						
PSZ	**Piszkesteto**	**98.44**	**319**	*e*P	**P**	**01 57 06.4**	**-0.3**
	comp=Z,6.3nm,1.0s						
NB2	**NORSAR Subarra**	**98.82**	**334**	P	**P**	**01 57 06.8**	**-1.2**
	baz=69,slow=5.3						
NB2	**NORSAR Subarra**	**98.82**	**334**	P	**P**	**01 57 06.8**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=69,slow=5.3						
NOA	**NORSAR Array B**	**98.82**	**334**	P	**P**	**01 57 06.8**	**-1.2**
NOA	**NORSAR Array B**	**98.82**	**334**	P	**P**	**01 57 06.8**	**-1.2**
	comp=Z,2.3nm,0.8s,baz=67,slow=4.4,SNR=4.9						
NOA				LR	LR	02 46 48.4	
	comp=Z,609nm,19.6s,baz=50,slow=38						
VYHS	**Vyhne**	**98.97**	**320**	*e*P	**P**	**01 57 08.6**	**-0.4**
VYHS	**Vyhne**	**98.97**	**320**	PDIF	**P**	**01 57 08.6**	**-0.4**
NAO01	**NORSAR Array S**	**99.05**	**333**	*e*P	**Pdif**	**01 57 09.1**	**+0.1**
	comp=Z,4.9nm,0.7s						
LSZ	**Lusaka**	**99.13**	**255**	*e*P	**Pdif**	**01 57 09.3**	**-1.1**
	comp=Z,2.9nm,0.8s						
MORC	**Moravsky Berou**	**99.42**	**322**	*e*P	**Pdif**	**01 57 10.6**	**-0.4**
MORC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MORC	**Moravsky Berou**	**99.42**	**322**	⇑P	**Pdif**	**01 57 11.8**	**+0.8**
MORC	**Moravsky Berou**	**99.42**	**322**	*e*P	**Pdif**	**01 57 10.6**	**-0.4**
	comp=Z,5.3nm,1.1s						
MORC	**Moravsky Berou**	**99.42**	**322**	⇑*i*P	**Pdif**	**01 57 11.8**	**+0.8**
YKA	**Yellowknife Ar**	**99.59**	**24**	P	**Pdif**	**01 57 11.9**	**+0.6**
YKA				PP	**PP**	**02 01 15.3**	**+0.2**
YKA				PKKPbc	**PKKPbc**	**02 13 33.2**	**-2.4**
YKA	**Yellowknife Ar**	**99.59**	**24**	P	**Pdif**	**01 57 11.9**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=300,slow=4.4,SNR=10						
YKA				PP	**PP**	**02 01 15.3**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=304,slow=6.2,SNR=3.7						
YKA				PKKPbc	**PKKPbc**	**02 13 33.2**	**-2.4**
	comp=Z,0.1nm,0.4s,baz=119,slow=2.9,SNR=4.1						
KSP	**Ksiaz**	**99.86**	**323**	*e*P	**Pdif**	**01 57 11.9**	**-0.9**
KSP	**Ksiaz**	**99.86**	**323**	*e*P	**Pdif**	**01 57 11.9**	**-0.9**
DPC	**Dobruska-Polom**	**100.00**	**322**	*e*P	**Pdif**	**01 57 19.1**	**+5.6**
DPC	**Dobruska-Polom**	**100.00**	**322**	*e*PDIFF	**Pdif**	**01 57 19.1**	**+5.6**
VRAC	**Vranov**	**100.15**	**321**	⇑*i*P	**Pdif**	**01 57 18.0**	**+3.8**
TREC	**Trest**	**100.84**	**322**	AMS	AMS	02 49 00.0	
	comp=Z,400nm,14.9s						
PRU	**Pruhonice**	**101.20**	**322**	*e*P	**Pdif**	**01 57 25.0**	**+6.2**
PRU				MLR	MLR		
	comp=Z,300nm,20.6s						
PRU	**Pruhonice**	**101.20**	**322**	*e*PDIFF	**Pdif**	**01 57 25.0**	**+6.2**
PRU				AMS	AMS	02 44 30.0	
	comp=Z,300nm,20.6s						
BRG	**Berggiesshubel**	**101.26**	**323**	*e*PDIF	**Pdif**	**01 57 18.8**	**-0.2**
	comp=Z,3.3nm,1.1s						
BRG	**Berggiesshubel**	**101.26**	**323**	*e*P	**Pdif**	**01 57 18.8**	**-0.2**
BRG				pmax	pmax		
	comp=Z,3.0nm,1.1s						
CLL	**Collm**	**101.66**	**324**	*e*SS	SS	02 16 12.0	+11
CLL				LmV		02 49 00.0	
	comp=Z,400nm,21.1s						
KHC	**Kasperske Hory**	**102.08**	**322**	*e*P	**Pdif**	**01 57 26.8**	**+4.0**
KHC				MLR	MLR		
	comp=Z,300nm,15.0s						
KHC	**Kasperske Hory**	**102.08**	**322**	*e*PDIFF	**Pdif**	**01 57 21.0**	**-1.8**
KHC				*ex*	x	01 57 26.8	
KHC				AMS	AMS	02 52 30.0	
	comp=Z,300nm,15.0s						
GERES	**GERESS Array B**	**102.10**	**322**	P	**Pdif**	**01 57 23.3**	**+0.3**
GERES	**GERESS Array B**	**102.10**	**322**	P	**Pdif**	**01 57 23.3**	**+0.3**
	comp=Z,1.4nm,1.1s,baz=45,slow=4.0,SNR=6.0						
NKC	**Novy Kostel**	**102.38**	**323**	AMS	AMS	02 46 50.0	
	comp=Z,400nm,15.0s						
NVAR	**Mina Array Bea**	**107.00**	**48**	Pdif	**Pdif**	**01 57 49.5**	**+4.3**
NVAR				PKiKP	**PKiKP**	**02 01 53.0**	**-1.8**
NVAR				PKKPab	**PKKPab**	**02 13 28.9**	**+0.8**
NVAR	**Mina Array Bea**	**107.00**	**48**	Pdiff	**Pdif**	**01 57 49.5**	**+4.3**
	comp=Z,0.3nm,0.5s,baz=264,slow=5.2,SNR=3.4						
NVAR				PKiKP	**PKiKP**	**02 01 53.0**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=258,slow=4.2,SNR=2.5						
NVAR				PKKPab	**PKKPab**	**02 13 28.9**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=117,slow=4.3,SNR=4.6						
PDAR	**Pinedale Array**	**111.45**	**41**	PP	PP	02 02 42.6	-1.1
PDAR				PKKPab	**PKKPab**	**02 13 07.2**	**-1.1**
PDAR	**Pinedale Array**	**111.45**	**41**	PP	PP	02 02 42.6	-1.1
	comp=Z,0.4nm,0.7s,baz=314,slow=6.7,SNR=3.4						
PDAR				PKKPab	**PKKPab**	**02 13 07.2**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=114,slow=5.6,SNR=5.2						
T26A	**Comanche Natio**	**118.13**	**44**	⇑P	**PKPdf**	**02 02 16.2**	**+0.3**
	baz=118						
Y25A	**Mesa, Roswell**	**118.88**	**48**	⇓P	**PKPdf**	**02 02 17.9**	**+0.6**
	baz=119						
ECSD	**EROS Data Cent**	**118.88**	**35**	*e*PKPdf	**PKPdf**	**02 02 17.2**	**+0.3**
SCHQ	**Schefferville**	**120.65**	**9**	PKP	**PKPdf**	**02 02 20.3**	**+0.3**
SCHQ	**Schefferville**	**120.65**	**9**	PKP	**PKPdf**	**02 02 20.3**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=284,slow=8.3,SNR=2.9						
328A	**Wristen Ranch,**	**121.45**	**50**	⇑P	**PKPdf**	**02 02 22.3**	**0.0**
	baz=121						
TXAR	**Lajitas Array**	**121.69**	**52**	PKP	**PKPdf**	**02 02 23.4**	**+0.6**
TXAR				PKKPbc	**PKKPab**	**02 12 24.6**	**+1.5**
TXAR	**Lajitas Array**	**121.69**	**52**	PKP	**PKPdf**	**02 02 23.4**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=187,slow=1.0,SNR=8.0						
TXAR				PKKPbc	**PKKPab**	**02 12 24.6**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=126,slow=7.9,SNR=4.1						
428A	**Kincaid Ranch,**	**121.84**	**50**	⇑P	**PKPdf**	**02 02 23.6**	**+0.5**
	baz=122						
627A	**Terlingua Ranc**	**121.86**	**52**	⇑P	**PKPdf**	**02 02 23.4**	**+0.2**
	baz=122						
529A	**Stev Forest Ra**	**122.47**	**51**	⇓P	**PKPdf**	**02 02 25.1**	**+0.8**
	baz=122						
429A	**Davenport Ranc**	**122.50**	**50**	⇓P	**PKPdf**	**02 02 24.3**	**-0.1**
	baz=122						
TORD	**Torodi Ar. Bea**	**122.88**	**288**	PKP	**PKPdf**	**02 02 25.4**	**0.0**
TORD	**Torodi Ar. Bea**	**122.88**	**288**	PKP	**PKPdf**	**02 02 25.4**	**0.0**
	comp=Z,1.0nm,0.5s,baz=67,slow=1.7,SNR=15						
430A	**Baggett Ranch,**	**122.92**	**50**	⇓P	**PKPdf**	**02 02 25.8**	**+0.6**
	baz=123						
530A	**J-C Ranch, Com**	**123.14**	**50**	⇑P	**PKPdf**	**02 02 25.5**	**-0.1**
	baz=123						
431A	**Sonora**	**123.45**	**49**	⇓P	**PKPdf**	**02 02 26.7**	**+0.5**
	baz=123						
531A	**Rocksprings**	**123.74**	**50**	⇓P	**PKPdf**	**02 02 27.5**	**+0.8**
	baz=124						
631A	**Perdido Creek**	**124.07**	**51**	⇓P	**PKPdf**	**02 02 27.4**	**0.0**
	baz=124						
JCT	**Junction City**	**124.15**	**49**	*e*PKIKP	**PKPdf**	**02 02 28.2**	**+0.7**
JCT	**Junction City**	**124.15**	**49**	*e*PKPdf	**PKPdf**	**02 02 28.1**	**+0.7**
WVT	**Waverly**	**128.95**	**36**	*e*PKIKP	**PKPdf**	**02 02 37.3**	**+0.8**
WVT	**Waverly**	**128.95**	**36**	*e*PKPdf	**PKPdf**	**02 02 37.2**	**+0.8**
DBIC	**Dimbokro**	**130.53**	**282**	PKP	**PKPdf**	**02 02 40.1**	**+0.1**
DBIC				*e*PKPdf	**PKiKP**	**02 02 40.8**	**-0.1**
DBIC	**Dimbokro**	**130.53**	**282**	PKP	**PKPdf**	**02 02 40.1**	**+0.1**
	comp=Z,2.7nm,1.1s,baz=69,slow=1.8,SNR=3.2						
PLCA	**Paso Flores**	**139.96**	**160**	PKP	**PKPdf**	**02 02 57.1**	**+0.2**
PLCA				*e*PKPdf	**PKiKP**	**02 02 57.5**	**-1.9**
PLCA	**Paso Flores**	**139.96**	**160**	PKP	**PKPdf**	**02 02 57.1**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=288,slow=4.2,SNR=4.2						
TRQA	**Tornquist**	**144.86**	**168**	*e*PKPdf	**PKPdf**	**02 03 05.7**	**0.0**
JTS	**JuntasAbangare**	**145.60**	**66**	*e*PKPbc	**PKPab**	**02 03 09.8**	**+1.6**
LCO	**Las Campanas**	**149.87**	**149**	*e*PKPbc	**PKPbc**	**02 03 20.2**	**+0.8**
BCIP	**Isla Barro Col**	**150.67**	**64**	*e*PKPbc	**PKPbc**	**02 03 22.4**	**+1.0**
CPUP	**Villa Florida**	**157.13**	**171**	PKPbc	PKPdf	02 03 38.0	+13
CPUP				PKPab	**PKPab**	**02 03 56.5**	**+1.4**
CPUP	**Villa Florida**	**157.13**	**171**	PKPbc	PKPdf	02 03 38.0	+13
	comp=Z,3.1nm,0.8s,baz=152,slow=5.6,SNR=4.5						
CPUP				PKPab	**PKPab**	**02 03 56.5**	**+1.4**
	comp=Z,1.4nm,0.5s,baz=221,slow=2.4,SNR=5.1						
LPAZ	**La Paz**	**160.79**	**132**	*e*PKPdf	**PKPdf**	**02 03 31.4**	**+1.4**
LPAZ				PKP	PKP	02 03 34.6	
LPAZ				PKPab	**PKPab**	**02 04 16.5**	**+4.4**
LPAZ	**La Paz**	**160.79**	**132**	PKP	PKPdf	02 03 34.6	+4.6
	comp=Z,1.1nm,0.6s,baz=351,slow=11,SNR=3.5						
LPAZ				PKPab	**PKPab**	**02 04 16.5**	**+4.4**
	comp=Z,2.6nm,0.9s,baz=241,slow=1.5,SNR=2.9						
RCBR	**Riachuelo**	**162.50**	**262**	*e*PKPab	**PKPab**	**02 04 19.4**	**+0.3**

IDC 28 02:11:34.6±1.3,3.62N×126.89E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.5/21,mbtmp3.5/4,MS3.1/1,Ms1 3.1/1, ms1mx2.4/33,Error ellipse: s-maj=130.6km s-min=22.0km az=68.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.67**	**339**	LR	LR		02 13 44.8	
	comp=Z,271nm,18.6s,baz=200,slow=36							
WRA	**Warramunga Arr**	**24.53**	**163**	P	P		02 16 55.6	-0.5
	1.4nm,0.9s,baz=343,slow=10,SNR=9.1							
ASAR	**Alice Springs**	**27.97**	**166**	P	P		02 17 32.4	+5.2
	0.2nm,0.5s,baz=342,slow=11,SNR=4.4							
STKA	**Stephens Creek**	**37.97**	**159**	P	P		02 18 54.8	+0.5
	2.2nm,0.9s,baz=352,slow=13,SNR=3.0							
SONM	**Songino Array**	**47.45**	**341**	P	P		02 20 11.7	+0.3
	0.3nm,0.6s,baz=153,slow=7.4,SNR=2.6							
MKAR	**Makanchi Array**	**57.74**	**325**	P	P		02 21 26.9	-0.5
	0.3nm,0.5s,baz=117,slow=7.3,SNR=8.9							

IDC 28 02:18:48.0±1.1,4.00N×127.02E,h0km,mb3.7/8, mb1 3.8/8,mb1mx3.7/24,mbtmp3.7/8,Error ellipse: s-maj=105.6km s-min=15.0km az=71.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.01**	**183**	P	P		02 23 43.3	-0.8
	4.0nm,1.0s,baz=20,slow=12,SNR=7.4							
WRA	**Warramunga Arr**	**24.86**	**163**	P	P		02 24 12.4	-0.1
	3.6nm,0.6s,baz=344,slow=11,SNR=29							
ASAR	**Alice Springs**	**28.31**	**167**	P	P		02 24 42.9	-0.8
	0.1nm,0.3s,baz=346,slow=12,SNR=3.6							
STKA	**Stephens Creek**	**38.28**	**160**	P	P		02 26 11.1	+0.8
	2.3nm,0.6s,baz=330,slow=11,SNR=8.9							
SONM	**Songino Array**	**47.13**	**341**	P	P		02 27 20.9	-1.3
	0.3nm,0.8s,baz=168,slow=8.2,SNR=2.8							
MKAR	**Makanchi Array**	**57.50**	**325**	P	P		02 28 39.4	+0.3
	0.4nm,0.5s,baz=116,slow=7.6,SNR=13							
ZALV	**Zalesovo Beam**	**60.48**	**333**	P	P		02 28 59.5	-0.1
	0.4nm,0.4s,baz=138,slow=6.9,SNR=3.2							
KURBB	**Kurchatov Arra**	**61.66**	**327**	P	P		02 29 08.1	+0.3
	0.6nm,0.7s,baz=127,slow=6.5,SNR=4.7							
TORD	**Torodi Ar. Bea**	**123.10**	**288**	PKP	PKPdf		02 37 48.2	+0.5
	0.5nm,1.2s,baz=66,slow=3.0,SNR=2.6							

*IDC **28** 02:46:51.2±0.3,3.86N×126.67E,h0km,mb4.8/29, mb1 4.9/29,mb1mx4.8/32,mbtmp4.7/29,MS3.9/14, Ms1 4.0/14,ms1mx3.7/31,Error ellipse: s-maj=19.3km s-min=9.8km az=76.0*

*BJI **28** 02:46:51.4,3.41N×126.79E,h36km,mB5.0/30,mb4.9/45, Ms4.4/40,Ms7 4.3/40*

*NEIC **28** 02:46:52.1±2.6,3.84N×126.68E,h7km±15km,mb5.0/49, Error ellipse: s-maj=5.8km s-min=3.2km az=64.0*

*ISCJB **28** 02:46:54.3±0.2,3.91N±0.02×126.82E±0.04,h32km, mb5.0/119,MS4.0/29,Error ellipse: s-maj=5.8km s-min=2.9km az=163.0*

*MOS **28** 02:46:54.9±1.0,3.84N×126.60E,h33km,mb5.2/42,Error ellipse: s-maj=11.8km s-min=5.1km az=118.8*

*DJA **28** 02:47:02,3.78N×126.91E,h89km,mb4.9/27*

ISC 28 02:46:56.4±0.3,3.82N±0.03×126.75E±0.05,h34km±1km, h34km:pP-P,n446,σ1s25/545,mb5.0/116,MS4.0/30, 50C-44D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.88**	**321**	*e*P	**Pn**		**02 47 40.5**	**+0.4**
MNI	**Manado**	**3.04**	**219**	P	**Pn**		**02 47 44.9**	**+2.7**
MNI				S	**Sb**		**02 48 23.8**	**-2.7**
TNTI	**Ternate**	**3.09**	**168**	P	**Pn**		**02 47 45.1**	**+2.2**
TNTI				S	**Sn**		**02 48 21.0**	**+2.2**
DAV	**Davao City (W)**	**3.43**	**340**	Pn	**Pb**		**02 47 58.0**	**+1.4**
DAV				Sn	**Sb**		**02 48 42.3**	**+4.5**
DAV	**Davao City (W)**	**3.43**	**340**	Pn	**Pb**		**02 47 58.0**	**+1.4**
	34nm,0.3s,baz=237,slow=16,SNR=5.6							
DAV				Sn	**Sb**		**02 48 42.3**	**+4.5**
	67nm,0.3s,baz=283,slow=20,SNR=4.6							
BUKP	**Musuan**	**4.37**	**337**	*e*P	Pn		02 48 03.9	+3.4
LBMI	**Labuha**	**4.50**	**170**	P	Pn		02 48 06.6	+4.4
LBMI				S	**Sn**		**02 48 55.4**	**+2.0**
CGP	**Cagayan de Oro**	**5.03**	**336**	⇓*e*P	Pn		02 48 16.3	+6.6
CGP				*e*S	**Sb**		**02 49 20.1**	**-3.8**
PAGZ	**Pagadian**	**5.22**	**320**	*e*P	**Pn**		**02 48 15.2**	**+3.1**
LUWI	**Luwuk**	**6.26**	**220**	P	Pn		02 48 32.2	+5.7
	685nm,1.0s,6µm2.8nm							
MSAI	**Masohi**	**7.45**	**163**	P	Pn		02 48 47.8	+5.0
	16nm,0.6s,0.1nm							
MYLDM	**Lahad Datu**	**8.33**	**280**	P	Pn		02 49 01.0	+6.0
	185nm,1.1s,2µm							
PCI	**Palu**	**8.35**	**236**	P	Pb		02 49 08.6	-12
FAKI	**Fak Fak**	**8.66**	**141**	P	**Pn**		**02 49 00.7**	**+1.2**
	40nm,0.9s							
FAKI				S	**Sn**		**02 50 35.8**	**-0.4**
	40nm,0.9s							
KDI	**Kendari**	**8.76**	**208**	P	**Pn**		**02 49 02.2**	**+1.3**
	67nm,0.9s,1µm							
TLE	**Tual**	**11.14**	**147**	P	Pn		02 49 37.0	+3.5
	66nm,1.1s							
KAPI	**Kappang**	**11.22**	**219**	*e*Pn	Pn		02 49 40.4	+5.8
KAPI	**Kappang**	**11.22**	**219**	Pn	Pn		02 49 37.9	+3.4
	0.5nm,0.3s,baz=33,slow=12,SNR=3.5							
KAPI				LR	LR		02 54 43.1	
	comp=Z,1µm,18.6s,baz=59,slow=42							
BBKI	**Banjar Baru**	**13.93**	**239**	P	**P**		**02 50 18.5**	**-0.8**
	107nm,0.8s,3µm							
SBUM	**Sibu**	**14.57**	**265**	P	**P**		**02 50 25.1**	**-1.3**
	89nm,1.2s,1µm							
ABRA	**Dolores**	**14.96**	**337**	*e*P	S		02 53 39.0	+12
JAV	**Jayapura**	**15.30**	**114**	P	P		02 50 43.8	+9.2
STKI	**Sintang**	**15.71**	**257**	P	**P**		**02 50 42.7**	**+3.6**
	64nm,0.8s							
KHKI	**Kang-Kahang**	**16.43**	**223**	P	**P**		**02 50 48.9**	**+1.8**
	85nm,1.0s							
KSM	**Kuching**	**16.59**	**262**	*e*Pn	**P**		**02 50 50.8**	**+2.0**
KSM	**Kuching**	**16.59**	**262**	P	**P**		**02 50 51.2**	**+2.4**
	58nm,1.0s,809nm							
NBBI	**Negara**	**17.12**	**225**	P	**P**		**02 50 56.5**	**+1.8**
	103nm,1.0s							
MTN	**Manton Dam**	**17.12**	**165**	*e*P	Pn		02 50 46.0	-7.3
JAGI	**Jajag, Banyuwa**	**17.52**	**226**	P	**P**		**02 51 03.0**	**+3.8**
	93nm,1.7s							
SJI	**Sawahan**	**18.85**	**232**	P	**Pn**		**02 51 14.4**	**-0.2**
	52nm,0.7s,10µm							
YULB	**Yu-li**	**20.16**	**345**	*e*P	**P**		**02 51 25.1**	**-3.0**
	24nm,0.8s							
TPUB	**Ta-pu**	**20.25**	**344**	*e*P	**P**		**02 51 26.6**	**-2.4**
	59nm,1.0s							
SSLB	**Suanglung**	**20.62**	**345**	*e*P	**P**		**02 51 30.5**	**-2.6**
	59nm,1.0s							
FITZ	**Fitzroy Crossi**	**21.81**	**183**	*e*P	**P**		**02 51 44.8**	**-1.1**
	20nm,0.6s							
FITZ	**Fitzroy Crossi**	**21.81**	**183**	*e*P	**P**		**02 51 44.5**	**-1.4**
FITZ				*e*S	**S**		**02 55 42.1**	**-3.3**
FITZ	**Fitzroy Crossi**	**21.81**	**183**	P	**P**		**02 51 44.4**	**-1.4**
	21nm,0.5s,baz=22,slow=9.3,SNR=24							
QIZ	**Qiongzhong**	**22.39**	**314**	P	**P**		**02 51 51.8**	**-0.3**
QIZ				S	**S**		**02 55 56.0**	**-0.3**
QIZ				pmax	pmax			
	comp=Z,15nm,1.3s							
QIZ				LR	LR			
	comp=N,310nm,18.2s							
QIZ				LR	LR			
	comp=E,170nm,18.2s							
QIZ				LR	LR			
	comp=Z,490nm,19.5s							
JOW	**Kunigami**	**22.93**	**4**	P	**P**		**02 51 57.5**	**-0.2**
JOW	**Kunigami**	**22.93**	**4**	P	**P**		**02 51 57.5**	**-0.2**
	comp=Z,27nm,0.9s,baz=298,slow=4.7,SNR=4.6							
COEN	**Coen**	**24.03**	**138**	*e*P	**P**		**02 52 09.1**	**+0.4**
WRAB	**Tennant Creek**	**24.76**	**163**	*e*P	**P**		**02 52 13.6**	**-1.6**
WRAB				*e*S	**S**		**02 56 36.6**	**+1.1**
WRAB				pmax	pmax			
	comp=Z,128nm,0.9s							
WRAB	**Tennant Creek**	**24.76**	**163**	*e*P	**P**		**02 52 13.6**	**-1.6**
	comp=Z,128nm,0.9s							
WRAB				*e*S	**S**		**02 56 36.6**	**+1.1**
WRAB	**Tennant Creek**	**24.76**	**163**	P	**P**		**02 52 14.0**	**-1.2**
	comp=Z,689nm,0.7s,SNR=61							
WRA	**Warramunga Arr**	**24.77**	**163**	P	**P**		**02 52 13.8**	**-1.4**
WRA	**Warramunga Arr**	**24.77**	**163**	P	**P**		**02 52 13.8**	**-1.4**
	comp=Z,70nm,0.7s,baz=344,slow=11,SNR=308							
IPM	**Ipoh**	**25.66**	**272**	*e*P	**P**		**02 52 23.1**	**-0.4**
	comp=Z,42nm,1.1s							
IPM	**Ipoh**	**25.66**	**272**	P	**P**		**02 52 25.9**	**+2.4**
	comp=Z,29nm,1.6s,comp=Z,412nm							
MBWA	**Marble Bar**	**25.76**	**195**	*e*P	**P**		**02 52 24.0**	**-0.2**
	comp=Z,69nm,1.4s							
KULM	**Kulim**	**26.06**	**274**	*e*P	**P**		**02 52 27.3**	**+0.2**
	comp=Z,10nm,0.8s							
KULM	**Kulim**	**26.06**	**274**	P	**P**		**02 52 30.8**	**+3.7**
	comp=Z,20nm,1.4s,comp=Z,394nm							
CBIJ	**Chichi jima**	**27.45**	**31**	LR	LR		03 02 12.8	
	comp=Z,296nm,18.7s,baz=149,slow=34							
PSI	**Prapat**	**27.80**	**269**	P	**P**		**02 52 42.2**	**-0.6**
PSI	**Prapat**	**27.80**	**269**	P	**P**		**02 52 43.4**	**+0.5**
	comp=Z,21nm,1.1s							
PSI	**Prapat**	**27.80**	**269**	P	**P**		**02 52 42.2**	**-0.6**
	comp=Z,9.2nm,0.7s,baz=88,slow=4.9,SNR=10							
PSI				LR	LR		03 05 52.5	
	comp=Z,219nm,18.4s,baz=248,slow=41							
AS31	**Alice Springs**	**28.20**	**166**	*e*P	**P**		**02 52 45.6**	**-0.6**
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**		**02 52 45.2**	**-1.0**
ASAR				PcP	**PcP**		**02 55 59.8**	**+0.2**
ASAR				S	S		02 57 40.0	+10
ASAR	**Alice Springs**	**28.20**	**166**	P	**P**		**02 52 45.2**	**-1.0**
	comp=Z,5.3nm,0.9s,baz=350,slow=7.4,SNR=57							
ASAR				PcP	**PcP**		**02 55 59.8**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=325,slow=2.0,SNR=4.3							
ASAR				S	S		02 57 40.0	+10
	comp=Z,1.9nm,0.8s,baz=350,slow=16,SNR=5.0							
NJ2	**Nanjing**	**29.04**	**346**	*e*P	**P**		**02 52 54.5**	**+0.9**
NJ2				pP	**pP**		**02 53 04.3**	**+1.0**
NJ2				sP	**sP**		**02 53 07.0**	**-0.3**
NJ2				S	**S**		**02 57 46.0**	**+3.1**
NJ2				sS	**sS**		**02 58 02.0**	**+3.1**
NJ2				pmax	pmax			
	comp=Z,20nm,0.7s							
NJ2				pmax	pmax			
	comp=Z,240nm,4.2s							
NJ2				LR	LR			
	comp=N,460nm,24.3s							
NJ2				LR	LR			
	comp=E,530nm,26.4s							
NJ2				LR	LR			
	comp=Z,140nm,20.3s							
WHN	**Wuhan**	**29.04**	**338**	P	**P**		**02 52 54.0**	**+0.4**
WHN				*e*S	S		02 57 51.0	+8.1
WHN				LR	LR			
	comp=Z,1µm,18.4s							
GSI	**Gunungsitoli**	**29.25**	**266**	P	**P**		**02 52 57.5**	**+1.8**
	comp=Z,28nm,1.1s							
JNU	**Nakatsue**	**29.40**	**7**	P	**P**		**02 52 55.7**	**-1.1**
JNU	**Nakatsue**	**29.40**	**7**	P	**P**		**02 52 55.7**	**-1.1**
	comp=Z,9.5nm,0.8s,baz=205,slow=2.6,SNR=4.4							
JNU				LR	LR		03 02 49.6	
	comp=Z,139nm,20.6s,baz=39,slow=33							
GYA	**Guiyang**	**29.61**	**321**	*e*P	**P**		**02 53 00.3**	**+1.5**
GYA				pP	**pP**		**02 53 10.0**	**+1.5**
GYA				PP	**PnPn**		**02 53 56.8**	**+2.4**
GYA				PcP	**PcP**		**02 56 03.3**	**+0.1**
GYA				S	**S**		**02 57 52.0**	**-0.2**
GYA				sS	**sS**		**02 58 08.5**	**+0.3**
GYA				SS	**SnSn**		**02 59 27.0**	**+4.7**
GYA				ScP	**ScP**		**02 59 42.0**	**-0.8**
GYA				ScS	**ScS**		**03 03 35.8**	**-2.1**
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
GYA				pmax	pmax			
	comp=Z,120nm,5.0s							
GYA				LR	LR			
	comp=N,530nm,15.6s							
GYA				LR	LR			
	comp=E,490nm,16.8s							
GYA				LR	LR			
	comp=Z,2µm,15.0s							
CTAO	**Charters Tower**	**30.52**	**142**	*e*P	**P**		**02 53 07.1**	**+0.2**
CTAO				pmax	pmax			
	comp=Z,8.0nm,1.0s							
CTAO	**Charters Tower**	**30.52**	**142**	*e*P	**P**		**02 53 07.1**	**+0.2**
	comp=Z,8.5nm,1.0s							
CMAR	**Chiang Mai Arr**	**30.84**	**300**	P	**P**		**02 53 09.1**	**-0.7**
CMAR				PcP	**PcP**		**02 56 07.3**	**+0.9**
CMAR				ScP	**ScP**		**02 59 50.0**	**+3.1**
CMAR	**Chiang Mai Arr**	**30.84**	**300**	P	**P**		**02 53 09.1**	**-0.7**
	comp=Z,5.8nm,0.9s,baz=121,slow=7.5,SNR=28							
CMAR				PcP	**PcP**		**02 56 07.3**

comp=Z,110nm,22.8s
EIDS Eidsvold 37.41 142 *e*P **P 02 54 06.2 -0.4**
comp=Z,14nm,0.9s
BBOO Buckleboo 37.49 167 *e*P **P 02 54 06.2 -0.9**
comp=Z,212nm,0.6s
NWAO Narrogin (SRO) 37.65 193 P **P 02 54 08.6 +0.1**
NWAO Narrogin (SRO) 37.65 193 P **P 02 54 08.6 +0.1**
comp=Z,13nm,0.5s,baz=21,slow=9.6,SNR=20
SNY Shenyang 37.95 356 ⇓P **P 02 54 11.5 +0.7**
SNY pmax pmax
comp=Z,26nm,0.7s
SNY pmax pmax
comp=Z,190nm,3.5s
SNY LR LR
comp=N,200nm,20.4s
SNY LR LR
comp=Z,210nm,14.4s
STKA Stephens Creek 38.21 159 *e*P **P 02 54 12.7 -0.5**
comp=Z,6.9nm,0.7s
STKA *e*PcP **PcP 02 56 26.9 -0.4**
STKA PcP **PcP 02 56 27.4 +0.1**
STKA Stephens Creek 38.21 159 *e*P **P 02 54 12.9 -0.3**
STKA Stephens Creek 38.21 159 P **P 02 54 12.7 -0.5**
comp=Z,41nm,0.7s,baz=332,slow=7.8,SNR=122
STKA PcP **PcP 02 56 27.4 +0.1**
comp=Z,6.1nm,0.7s,baz=18,slow=7.5,SNR=3.5
LZH Lanzhou 38.43 330 ⇑P **P 02 54 15.3 0.0**
LZH pP **pP 02 54 25.5 +0.4**
LZH sP **sP 02 54 30.0 +0.9**
LZH S **S 03 00 08.3 -0.1**
LZH sS **sS 03 00 25.5 +0.9**
LZH pmax pmax
comp=Z,61nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.0s
LZH LR LR
comp=N,300nm,14.9s
LZH LR LR
comp=E,430nm,17.3s
LZH LR LR
comp=Z,930nm,18.6s
CN2 Changchun 39.83 359 *e*P **P 02 54 29.0 +2.4**
CN2 *ep*P **pP 02 54 38.8 +2.4**
CN2 PP **PnPn 02 56 05.8 +3.9**
CN2 PcP **PcP 02 56 33.5 +1.3**
CN2 *e*S **S 03 00 32.0 +3.2**
CN2 SS **SS 03 03 23.8 -2.1**
CN2 LR LR
comp=N,500nm,23.0s
CN2 LR LR
comp=E,300nm,23.0s
CN2 LR LR
comp=Z,200nm,24.0s
MDJ Mudanjiang 40.70 3 P **P 02 54 34.8 +1.0**
MDJ pP **pP 02 54 43.5 -0.2**
MDJ sP **sP 02 54 47.5 -0.2**
MDJ ScP **ScP 03 00 22.5 +0.3**
MDJ PcS **PcS 03 00 26.0 +0.4**
MDJ S **S 03 00 44.0 +2.1**
MDJ pmax pmax
comp=Z,15nm,1.0s
MDJ pmax pmax
comp=Z,100nm,4.3s
MDJ LR LR
comp=N,66nm,23.5s
MDJ LR LR
comp=E,82nm,21.9s
MDJ LR LR
comp=Z,110nm,21.1s
MDJ Mudanjiang 40.70 3 *e*P **P 02 54 33.6 -0.2**
comp=Z,16nm,1.0s
ARMA Armidale 41.53 147 *e*P **P 02 54 41.1 +0.1**
comp=Z,16nm,0.7s
ARMA Armidale 41.53 147 *e*P **P 02 54 41.3 +0.3**
LSA Lhasa 42.39 311 P **P 02 54 49.0 +0.5**
LSA Lhasa 42.39 311 *e*P **P 02 54 48.7 +0.2**
LSA pmax pmax
comp=Z,16nm,0.6s
LSA Lhasa 42.39 311 *e*P **P 02 54 48.7 +0.2**
comp=Z,16nm,0.6s
GTA Gaotai 43.03 329 *e*P **P 02 54 52.5 -0.6**
GTA pP **pP 02 55 01.8 -1.2**
GTA sP **sP 02 55 06.0 -1.0**
GTA PcP **PcP 02 56 44.5 +1.5**
GTA S **S 03 01 15.5 -1.2**
GTA sS **sS 03 01 32.3 -0.8**
GTA SS SS 03 04 21.0 -8.7
GTA pmax pmax
comp=Z,12nm,0.8s
GTA pmax pmax
comp=Z,83nm,5.9s
GTA LR LR
comp=N,260nm,19.5s
GTA LR LR
comp=E,280nm,19.7s
GTA LR LR
comp=Z,400nm,17.3s
TAPN Taplejung 43.98 306 *e*P **P 02 55 00.4 -0.7**
comp=Z,46nm,0.8s
TAPN Taplejung 43.98 306 *e*P **P 02 55 00.4 -0.7**
comp=Z,46nm,0.8s
ODAN Odare 44.03 305 *e*P **P 02 55 00.8 -0.7**
comp=Z,39nm,0.7s
ODAN Odare 44.03 305 *e*P **P 02 55 00.8 -0.7**
comp=Z,39nm,0.7s
CAN Canberra 44.19 154 *e*P **P 02 55 03.6 +1.3**
CAN pmax pmax
comp=Z,25nm,0.8s
CAN Canberra 44.19 154 *e*P **P 02 55 03.6 +1.3**
comp=Z,25nm,0.8s
CNB Canberra Magne 44.34 153 *e*P **P 02 55 05.1 +1.5**
RAMN Ramite 44.71 305 *e*P **P 02 55 06.1 -0.9**
comp=Z,22nm,0.6s
RAMN Ramite 44.71 305 *e*P **P 02 55 06.1 -0.9**
comp=Z,22nm,0.6s
TOO Toolangi 44.72 159 *e*P **P 02 55 08.0 +1.4**
HABR Khabarovsk 45.05 8 *e*P **P 02 55 07.4 -1.6**
HABR *e**PP **pP 02 55 16.5 -2.4**
HABR *e**SP **sP 02 55 20.7 -2.2**
HABR *e* 02 56 52.5
HABR *e*PPP PPP 02 57 31.5
HABR *e*S **S 03 01 45.2 -0.4**
HABR *e**SS **sS 03 02 00.8 -1.2**
HABR *e*SS **SS 03 05 08.3 -0.1**
HABR *e*SSS SSS 03 05 54.8
HABR pmax pmax
comp=E,50nm,3.0s
HABR pmax pmax
comp=N,17nm,1.9s
HABR pmax pmax
comp=Z,46nm,1.9s
HABR MLR MLR
comp=Z,164nm,19.0s
JIRN Jiri 45.33 306 *e*P **P 02 55 11.3 -0.7**
comp=Z,7.8nm,0.5s
JIRN Jiri 45.33 306 *e*P **P 02 55 11.3 -0.7**
comp=Z,7.8nm,0.5s
KLR Kul'dur 45.44 5 *e*P P 02 55 07.6 -4.5
HIA Hailar 45.67 354 *e*P **P 02 55 14.6 +0.7**
comp=Z,18nm,0.8s
HIA *e*PcP **PcP 02 56 52.3 +0.6**
GUN Gumba 45.69 306 *e*P **P 02 55 13.7 -1.1**
comp=Z,43nm,0.7s
GUN Gumba 45.69 306 *e*P **P 02 55 13.7 -1.1**
comp=Z,43nm,0.7s
PKI Pulchoki 45.93 305 *e*P **P 02 55 15.0 -1.7**
comp=Z,8.6nm,0.5s
PKI Pulchoki 45.93 305 *e*P **P 02 55 15.0 -1.7**
PKI pmax pmax
comp=Z,9.0nm,0.5s
PKI Pulchoki 45.93 305 *e*P **P 02 55 15.0 -1.7**
comp=Z,8.6nm,0.5s
KKN Kakani 46.12 306 *e*P **P 02 55 16.8 -1.3**
KKN Kakani 46.12 306 *e*P **P 02 55 16.8 -1.3**
KKN Kakani 46.12 306 *e*P **P 02 55 16.8 -1.3**
DMN Daman 46.19 305 *e*P **P 02 55 17.5 -1.2**
DMN Daman 46.19 305 *e*P **P 02 55 17.5 -1.2**
DZM Mont Dzumac 46.57 125 *e*P **P 02 55 23.1 +1.6**
comp=Z,11nm,0.9s
DZM Mont Dzumac 46.57 125 P **P 02 55 22.3 +0.8**
comp=Z,7.7nm,0.7s,baz=302,slow=8.1,SNR=11
GKN Gorkha 46.73 305 *e*P **P 02 55 21.2 -1.6**
GKN Gorkha 46.73 305 *e*P **P 02 55 21.2 -1.6**
ULN Ulaanbaatar 47.04 342 *e*P **P 02 55 24.5 -0.3**
comp=Z,31nm,1.4s
ULN *e*PcP **PcP 02 56 56.8 +0.1**
ULN Ulaanbaatar 47.04 342 P **P 02 55 25.3 +0.5**
SNR=8.4
SONM Songino Array 47.22 341 P **P 02 55 25.7 -0.5**
SONM PcP **PcP 02 56 57.9 +0.7**
SONM Songino Array 47.22 341 P **P 02 55 25.7 -0.5**
comp=Z,4.7nm,0.7s,baz=154,slow=9.8,SNR=46
SONM PcP **PcP 02 56 57.9 +0.7**
comp=Z,8.5nm,0.9s,baz=158,slow=3.8,SNR=13
SONM LR LR 03 16 40.1
comp=Z,161nm,20.7s,baz=194,slow=38
KOLN Koldanda 47.49 305 *e*P **P 02 55 28.2 -0.6**
comp=Z,25nm,0.3s
DANN Dangsing 47.58 305 *e*P **P 02 55 28.4 -1.2**
comp=Z,44nm,0.6s
DANN Dangsing 47.58 305 *e*P **P 02 55 28.4 -1.2**
comp=Z,44nm,0.6s
PYUN Piuthan 48.11 305 *e*P **P 02 55 32.3 -1.3**
comp=Z,45nm,0.7s
PYUN Piuthan 48.11 305 *e*P **P 02 55 32.3 -1.3**
comp=Z,45nm,0.7s
HYB Hyderabad 49.10 290 *i*P **P 02 55 39.5 -1.7**
ZAK Zakamensk 50.44 341 *e*P **P 02 55 49.3 -1.6**
ZAK *e* 02 57 08.9
ZAK pmax pmax
comp=Z,2.0nm,1.3s
TLY Talaya 51.45 342 *e*P **P 02 55 58.2 -0.2**
TLY pmax pmax
comp=Z,10.0nm,1.1s
TLY MLR MLR
comp=Z,84nm,18.0s
TLY Talaya 51.45 342 *e*P **P 02 55 57.5 -0.8**
comp=Z,6.3nm,0.6s
TLY Talaya 51.45 342 P **P 02 55 59.4 +1.1**
SNR=9.3
MOY Mondy 52.30 340 *e*P **P 02 56 05.5 +0.7**
MOY pmax pmax
comp=Z,26nm,2.3s
WMQ Urumqi 52.66 325 P **P 02 56 07.5 -0.1**
WMQ pP **pP 02 56 16.0 -1.7**
WMQ sP **sP 02 56 21.0 -0.7**
WMQ PcP **PcP 02 57 16.0 -1.2**
WMQ PP **PP 02 58 09.0 +2.0**
WMQ *e*S **S 03 03 31.0 -2.0**
WMQ ScS **ScS 03 05 51.0 -4.0**
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,140nm,4.6s
WMQ LR LR
comp=N,640nm,19.0s
WMQ LR LR
comp=E,460nm,22.2s
WMQ LR LR
comp=Z,450nm,20.5s
POO Poona 53.70 290 *ex* x 02 56 12.0
BOD Bodaibo 54.77 352 *e*P **P 02 56 22.4 -0.3**
BOD pmax pmax
comp=Z,13nm,1.7s
PETK Petropavlovsk- 55.34 22 P **P 02 56 26.6 -0.3**
PETK Petropavlovsk- 55.34 22 P **P 02 56 26.6 -0.3**
PETK Petropavlovsk- 55.34 22 P **P 02 56 26.6 -0.3**
comp=Z,8.8nm,0.8s,baz=190,slow=4.9,SNR=7.5
PETK LR LR 03 21 44.1
comp=Z,66nm,18.8s,baz=47,slow=38
PET Petropavlovsk 55.63 23 *e*P **P 02 56 26.6 -2.4**
PET *e*S **S 03 04 08.4 -4.3**
PET pmax pmax
comp=Z,23nm,1.3s
PET pmax pmax
comp=Z,100nm,11.4s
PET MLR MLR
comp=Z,200nm,16.0s
MK31 Makanchi Array 57.49 325 *e*P **P 02 56 41.2 -1.2**
MK31 pmax pmax
comp=Z,14nm,0.7s
MK31 Makanchi Array 57.49 325 *e*P **P 02 56 41.5 -0.9**
MK31 *e*PcP **PcP 02 57 34.6 -1.1**
MKAR Makanchi Array 57.49 325 P **P 02 56 41.7 -0.7**
MKAR 02 57 35.8
MKAR Makanchi Array 57.49 325 P **P 02 56 41.6 -0.7**
MKAR PcP **PcP 02 57 35.8 0.0**
MKAR ⇑*e* 03 26 41.8
MKAR Makanchi Array 57.49 325 P **P 02 56 41.6 -0.7**
comp=Z,6.3nm,0.5s,baz=116,slow=7.8,SNR=108
MKAR PcP **PcP 02 57 35.8 0.0**
comp=Z,6.9nm,0.7s,baz=114,slow=5.9,SNR=8.1
MKAR LR LR 03 23 28.5
comp=Z,228nm,18.9s,baz=124,slow=38
MKAR PKP2bc 03 26 41.8
comp=Z,0.9nm,1.1s,baz=248,slow=1.6,SNR=4.2
KSH Kashi 57.99 315 P **P 02 56 46.5 +0.3**
KSH pP **pP 02 56 57.5 +1.1**
KSH sP **sP 02 57 01.3 +1.0**
KSH PcP **PcP 02 57 38.0 0.0**
KSH PP **PP 02 58 58.5 +3.6**
KSH ScP **ScP 03 01 33.8 -2.1**
KSH PcS **PcS 03 01 38.0 -1.5**
KSH S **S 03 04 45.0 +0.4**
KSH sS **sS 03 05 01.5 0.0**
KSH ScS **ScS 03 06 29.5 -4.1**
KSH SS **SS 03 08 38.0 +1.8**
KSH pmax pmax
comp=Z,10.0nm,0.9s
KSH pmax pmax
comp=Z,36nm,2.2s
KSH LR LR
comp=N,110nm,6.8s
KSH LR LR
comp=E,130nm,5.2s
KSH LR LR
comp=Z,210nm,8.0s
YAK Yakutsk 58.12 2 *e*P **P 02 56 44.4 -2.0**
YAK pmax pmax
comp=Z,48nm,1.1s
YAK pmax pmax
comp=N,18nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK Yakutsk 58.12 2 *e*P **P 02 56 45.8 -0.6**
comp=E,28nm,0.8s
KZA Kyzart 59.56 317 P **P 02 56 58.1 +0.7**
SNR=5.8
TKM2 Tokmak 2 59.69 318 *e*P **P 02 56 56.5 -1.5**
TKM2 pmax pmax
comp=Z,9.0nm,0.9s
TKM2 Tokmak 2 59.69 318 *e*P **P 02 56 56.5 -1.5**
comp=Z,9.2nm,0.9s
TKM2 Tokmak 2 59.69 318 P **P 02 56 59.1 +1.1**
SNR=6.6
AAK Ala-Archa 60.30 318 *ce*P **P 02 57 02.4 +0.2**
AAK pmax pmax
comp=Z,30nm,1.7s
AAK Ala-Archa 60.30 318 *e*P **P 02 57 01.9 -0.2**
comp=Z,65nm,1.4s
ZAA0 Zalesovo Array 60.51 333 *e*P **P 02 57 01.6 -1.6**
ZAA0 *e*PcP **PcP 02 57 47.0 -0.5**
ZALV Zalesovo Beam 60.51 333 P **P 02 57 01.5 -1.6**
ZALV 02 57 46.6
ZALV Zalesovo Beam 60.51 333 P **P 02 57 01.5 -1.6**
ZALV PcP **PcP 02 57 46.6 -0.9**
ZALV ⇑*e* 03 26 32.5
ZALV Zalesovo Beam 60.51 333 P **P 02 57 01.5 -1.6**
comp=Z,5.1nm,0.4s,baz=122,slow=6.5,SNR=39
ZALV PcP **PcP 02 57 46.6 -0.9**
comp=Z,2.9nm,0.8s,baz=108,slow=4.7,SNR=4.3
ZALV LR LR 03 24 25.6
comp=Z,90nm,19.6s,baz=246,slow=37
ZALV PKP2bc 03 26 32.5
comp=Z,0.3nm,0.4s,baz=354,slow=1.4,SNR=3.8
USP Ospenovka 60.56 318 P **P 02 57 04.8 +1.0**
SNR=7.7
AML Almayashu 60.63 317 P **P 02 57 05.8 +1.0**
SNR=13
EKS2 Erkin-Say 60.79 318 *e*P **P 02 57 06.0 +0.5**
EKS2 pmax pmax
comp=Z,13nm,1.0s
EKS2 Erkin-Say 60.79 318 *e*P **P 02 57 06.0 +0.5**
comp=Z,14nm,1.0s
EKS2 Erkin-Say 60.79 318 P **P 02 57 06.5 +1.0**
SNR=6.9
KURK Kurchatov 61.67 327 *c i*P **P 02 57 09.9 -1.2**
KURK pmax pmax
comp=Z,23nm,1.2s
KURK Kurchatov 61.67 327 *e*P **P 02 57 10.3 -0.8**
comp=Z,17nm,0.8s
KURK Kurchatov 61.67 327 P **P 02 57 10.7 -0.3**
SNR=8.3
KURK Kurchatov 61.67 327 P **P 02 57 10.2 -0.8**
comp=Z,138nm,0.8s,SNR=19
SEY Seymchan 61.94 13 *ce*P **P 02 57 14.0 +1.4**
KK31 Karatay Array 63.18 317 *i*P **P 02 57 21.0 -0.3**
KK31 pmax pmax
comp=Z,15nm,0.9s
KKAR Karatay Array 63.18 317 *e*P **P 02 57 21.1 -0.3**
KKAR pmax pmax
comp=Z,12nm,0.9s
KKAR Karatay Array 63.18 317 *e*P **P 02 57 21.1 -0.3**
comp=Z,12nm,0.9s
VOSK Vostochnaya 66.80 327 P **P 02 57 43.3 -1.4**
VOSK pmax pmax
comp=Z,7.0nm,0.5s
BRVK Borovoye 67.32 327 *e*P **P 02 57 47.6 -0.4**
BRVK pmax pmax
comp=Z,9.0nm,0.7s
BRVK Borovoye 67.32 327 *e*P **P 02 57 47.6 -0.4**
comp=Z,9.3nm,0.7s
BRVK Borovoye 67.32 327 P **P 02 57 47.9 -0.1**
SNR=7.8
BILL Bilibino 69.46 15 ⇓*i*P **P 02 58 00.7 -0.4**
BILL *i* 02 58 26.8
BILL pmax pmax
comp=Z,3.0nm,1.0s
AB31 Akbulak array 72.09 321 P **P 02 58 16.4 -1.0**
AB31 pmax pmax
comp=Z,3.0nm,0.4s
ABKAR Akbulak array 72.09 321 *e*P **P 02 58 16.4 -1.0**
comp=Z,12nm,0.9s
ABTO Aybut 73.08 287 ⇓P **P 02 58 22.6 -1.4**
SVE Sverdlovsk 73.89 328 *e*P **P 02 58 27.4 -0.5**
SVE pmax pmax
comp=Z,24nm,1.2s
ARU Arti 74.87 328 *d i*P **P 02 58 32.8 -0.8**
ARU S **S 03 08 08.2 -0.1**
ARU SS **SS 03 12 53.6 -3.2**
ARU pmax pmax
comp=Z,7.0nm,0.6s
ARU Arti 74.87 328 *e*P **P 02 58 32.6 -1.1**
comp=Z,8.1nm,0.6s
ARU Arti 74.87 328 P **P 02 58 32.5 -1.1**
comp=Z,89nm,0.4s,SNR=5.7
UMR Umm Al-Rimmam 78.59 299 *e*P **P 02 58 54.4 -0.8**
UMR AMb AMB 02 58 55.8
comp=Z,35nm,1.2s
RDF Al-Radifah 78.71 299 *e*P **P 02 58 54.8 -1.1**
RDF AMb AMB 02 59 00.5
comp=Z,60nm,1.3s
MIB Mutribah 78.92 299 *e*P **P 02 58 56.0 -1.0**
MIB AMb AMB 02 58 57.6
comp=Z,47nm,0.9s
NAY Al-Naaiem 78.99 299 *e*P **P 02 58 56.1 -1.3**
NAY AMb AMB 02 58 57.8
comp=Z,27nm,1.0s
RAYN Ar Rayn 80.46 293 P **P 02 59 04.5 -1.1**
comp=Z,88nm,0.8s,SNR=8.9
ZEI Tsey 82.17 312 *e*P **P 02 59 13.9 -0.6**
ZEI pmax pmax
comp=Z,11nm,0.9s
KBZ Khabaz 82.93 313 P **P 02 59 17.7 -0.4**
KBZ Khabaz 82.93 313 P **P 02 59 17.7 -0.4**
KBZ Khabaz 82.93 313 P **P 02 59 17.7 -0.4**
comp=Z,3.4nm,1.0s,baz=87,slow=6.6,SNR=4.0
KIV Kislovodsk 83.09 314 *e*P **P 02 59 19.2 +0.1**
KIV pmax pmax
comp=Z,5.0nm,0.6s
KIV Kislovodsk 83.09 314 *e*P **P 02 59 19.2 +0.1**
comp=Z,5.4nm,0.6s
TRF Thorofare Moun 83.45 27 *e*P **P 02 59 19.3 -1.4**
comp=Z,12nm,1.0s
VNDA Vanda 83.52 173 *e*P **P 02 59 20.7 +0.3**
comp=Z,12nm,1.0s
VNDA Vanda 83.52 173 P **P 02 59 20.8 +0.3**
comp=Z,7.9nm,0.9s,baz=321,slow=4.8,SNR=7.6
COLD Coldfoot 83.80 23 *e*P **P 02 59 23.2 +1.1**
comp=Z,17nm,1.1s
VRHR Novokhopersk 83.98 321 *e*P **P 02 59 22.3 -1.0**
VRHR pmax pmax
comp=Z,10.0nm,1.0s
VRHR pmax pmax
comp=N,9.0nm,0.9s
VRHR pmax pmax
comp=E,3.0nm,0.4s
MCK McKinley 84.07 26 *e*P **P 02 59 23.5 -0.1**
MCK pmax pmax
comp=Z,17nm,1.1s
MCK McKinley 84.07 26 *e*P **P 02 59 23.5 -0.1**
comp=Z,17nm,1.1s
SML Sawmill 84.25 28 *e*P **P 02 59 24.7 +0.2**
SML pmax pmax
comp=Z,10.0nm,1.1s
SML Sawmill 84.25 28 *e*P **P 02 59 24.7 +0.2**
comp=Z,9.6nm,1.1s
ILAR Eielson Array 85.01 25 P **P 02 59 27.6 -0.8**
ILAR Eielson Array 85.01 25 P **P 02 59 27.6 -0.8**
comp=Z,2.6nm,1.0s,baz=250,slow=5.2,SNR=12
KLMR Klimovskoe 85.33 331 *e*P **P 02 59 27.8 -2.2**
KLMR pmax pmax
comp=Z,118nm,1.5s
VORD Divnogorie 85.45 321 *e*P **P 02 59 29.9 -0.8**
VORD pmax pmax
comp=Z,20nm,1.0s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.8s
VSR Storozhevoye 85.53 321 *e*P **P 02 59 30.2 -0.9**
VSR pmax pmax
comp=Z,20nm,1.2s
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.9s
PAX Paxson 85.61 27 *e*P **P 02 59 32.3 +0.9**
PAX pmax pmax
comp=Z,18nm,1.5s
PAX Paxson 85.61 27 *e*P **P 02 59 32.3 +0.9**
comp=Z,18nm,1.5s
MOS Moscow 86.37 325 *e*P **P 02 59 33.1 -2.1**
MOS pmax pmax
comp=Z,63nm,1.0s
ANN Anapa 86.85 315 *e*P P 02 59 31.6 -6.2
ANN pmax pmax
comp=Z,101nm,1.6s
OBN Obninsk 87.00 325 ⇑*i*P **P 02 59 36.8 -1.5**
OBN *i* 02 59 44.8
OBN pmax pmax
comp=Z,70nm,1.5s
OBN Obninsk 87.00 325 *e*P **P 02 59 37.4 -0.8**
comp=Z,44nm,1.1s
JOF Joensuu 89.11 333 *e*P **P 02 59 47.2 -1.0**
JOF pmax pmax
comp=Z,8.0nm,0.7s
JOF Joensuu 89.11 333 *ep* **P 02 59 47.2 -1.0**
comp=Z,7.8nm,0.7s
KMBO Kilima Mbogo 89.57 269 *e*P **P 02 59 51.9 +0.1**
comp=Z,15nm,1.1s
KMBO Kilima Mbogo 89.57 269 P **P 02 59 52.5 +0.8**
SNR=6.6
KEV Kevo 89.81 340 *e*P **P 02 59 51.1 -0.2**
KEV pmax pmax
comp=Z,4.0nm,0.6s
KEV Kevo 89.81 340 *ep* **P 02 59 51.1 -0.2**
comp=Z,4.2nm,0.6s
BRTR Keskin Array B 89.98 310 P **P 02 59 51.8 -1.2**
BRTR Keskin Array B 89.98 310 P **P 02 59 51.8 -1.2**
comp=Z,5.7nm,0.9s,baz=121,slow=4.9,SNR=24
BRTR LR LR 03 48 59.2
comp=Z,43nm,18.9s,baz=247,slow=42
INK Inuvik 90.07 21 *e*P **P 02 59 52.2 -0.3**
comp=Z,5.7nm,1.2s
ARCES ARCESS Array B 90.37 340 P **P 02 59 53.3 -0.7**
ARCES ARCESS Array B 90.37 340 P **P 02 59 53.3 -0.7**
comp=Z,5.1nm,0.6s,baz=88,slow=7.3,SNR=30
ARCES LR LR 03 41 19.3
comp=Z,72nm,18.9s,baz=129,slow=36
KAF Kangasniemi 91.52 332 *e*P **P 02 59 58.5 -1.0**
KAF pmax pmax
comp=Z,4.0nm,0.6s
KAF Kangasniemi 91.52 332 *ep* **P 02 59 58.5 -1.0**
comp=Z,4.2nm,0.6s
FINES FINESS Array B 91.76 332 P **P 02 59 59.6 -0.9**

FINES	**FINES Array B**	**91.76**	**332**	P		**P**	**02 59 59.6**	**-0.9**	
	comp=Z,5.1nm,0.8s,baz=60,slow=5.0,SNR=24								
FINES				LR		LR	03 45 25.7		
	comp=Z,103nm,19.2s,baz=138,slow=38								
AKASG	**Malin Array Be**	**91.83**	**321**	P		**P**	**02 59 59.4**	**-1.7**	
AKASG	**Malin Array Be**	**91.83**	**321**	P		**P**	**02 59 59.4**	**-1.7**	
AKASG	**Malin Array Be**	**91.83**	**321**	P		**P**	**02 59 59.4**	**-1.7**	
	comp=Z,7.2nm,0.8s,baz=69,slow=4.0,SNR=21								
AKBB	**Malin Array Si**	**91.83**	**321**	*e*P		**P**	**03 00 00.0**	**-1.2**	
AKBB	**Malin Array Si**	**91.83**	**321**	*e*P		**P**	**02 59 60.0**	**-1.2**	
KIEV	**Kiev**	**91.84**	**321**	*e*P		**P**	**02 59 59.7**	**-1.5**	
KIEV				pmax		pmax			
	comp=Z,15nm,1.3s								
KIEV	**Kiev**	**91.84**	**321**	*e*P		**P**	**02 59 59.7**	**-1.5**	
	comp=Z,15nm,1.3s								
LEOM	**Leova**	**93.10**	**317**	⇑P		**P**	**03 00 06.6**	**-0.5**	
LEOM	**Leova**	**93.10**	**317**	⇑*i*P		**P**	**03 00 06.6**	**-0.5**	
TIRR	**Tirgusor**	**93.29**	**315**	⇓P		**P**	**03 00 07.2**	**-0.8**	
TIRR	**Tirgusor**	**93.29**	**315**	⇓*i*P		**P**	**03 00 07.2**	**-0.8**	
CFR	**Carcaliu**	**93.38**	**316**	⇓P		**P**	**03 00 07.5**	**-0.9**	
CFR	**Carcaliu**	**93.38**	**316**	⇓*i*P		**P**	**03 00 07.5**	**-0.9**	
QSPA	**South Pole Qui**	**93.73**	**180**	P		**P**	**03 00 10.1**	**+0.4**	
QSPA	**South Pole Qui**	**93.73**	**180**	P		**P**	**03 00 10.1**	**+0.4**	
	comp=Z,3.8nm,0.9s,baz=244,slow=0.1,SNR=9.7								
TESR		**94.18**	**317**	⇑*i*P		**P**	**03 00 11.6**	**-0.5**	
VRI	**Vrincioaia**	**94.24**	**316**	⇓P		**P**	**03 00 12.2**	**-0.2**	
VRI	**Vrincioaia**	**94.24**	**316**	⇓*i*P		**P**	**03 00 12.2**	**-0.2**	
PLOR	**Plostina**	**94.30**	**316**	⇑P		**P**	**03 00 12.8**	**+0.1**	
PLOR	**Plostina**	**94.30**	**316**	⇑*i*P		**P**	**03 00 12.8**	**+0.1**	
PRAR	**RASCA**	**94.32**	**318**	⇑*i*P		**P**	**03 00 12.4**	**-0.3**	
MLR	**Muntele Rosu**	**94.85**	**316**	P		**P**	**03 00 14.7**	**-0.6**	
MLR	**Muntele Rosu**	**94.85**	**316**	⇑*i*P		**P**	**03 00 14.9**	**-0.4**	
MLR	**Muntele Rosu**	**94.85**	**316**	P		**P**	**03 00 14.7**	**-0.6**	
	comp=Z,2.6nm,0.8s,baz=62,slow=1.3,SNR=21								
SUW	**Suwalki**	**94.86**	**325**	*e*P		**P**	**03 00 14.6**	**-0.4**	
SUW	**Suwalki**	**94.86**	**325**	*e*P		**P**	**03 00 14.6**	**-0.4**	
SUW	**Suwalki**	**94.86**	**325**	*e*P		**P**	**03 00 14.4**	**-0.6**	
SUW				pmax		pmax			
	comp=Z,68nm,1.0s								
SUW	**Suwalki**	**94.86**	**325**	*e*P		**P**	**03 00 14.4**	**-0.6**	
	comp=Z,68nm,1.0s								
BURAR	**Bucovina Array**	**94.94**	**318**	⇑*i*P		**P**	**03 00 15.3**	**-0.4**	
BUR08	**Bucovina Ar. S**	**94.95**	**318**	*e*P		**P**	**03 00 15.3**	**-0.4**	
LVV	**L'vov**	**95.27**	**321**	*e*P		**P**	**03 00 15.9**	**-1.1**	
KWP	**Kalwaria Pacla**	**96.15**	**321**	*e*P		**P**	**03 00 21.2**	**+0.2**	
KWP	**Kalwaria Pacla**	**96.15**	**321**	*e*P		**P**	**03 00 21.2**	**+0.2**	
KWP	**Kalwaria Pacla**	**96.15**	**321**	⇓P		**P**	**03 00 21.7**	**+0.7**	
KWP	**Kalwaria Pacla**	**96.15**	**321**	*e*P		**P**	**03 00 20.9**	**-0.1**	
	comp=Z,21nm,1.1s								
KWP	**Kalwaria Pacla**	**96.15**	**321**	⇓*i*P		**P**	**03 00 21.7**	**+0.7**	
KOLS	**Kolonicke sedl**	**96.59**	**320**	*e*P		**P**	**03 00 23.3**	**+0.2**	
KOLS	**Kolonicke sedl**	**96.59**	**320**	*e*P		**P**	**03 00 23.2**	**+0.2**	
TRPA	**Tarpa**	**96.60**	**319**	⇑*i*P		**P**	**03 00 22.8**	**-0.3**	
UZH	**Uzhgorod**	**96.64**	**320**	*e*P		P	03 00 20.0	-3.3	
DRGR		**96.79**	**318**	⇑P		**P**	**03 00 23.6**	**-0.5**	
DRGR		**96.79**	**318**	⇑*i*P		**P**	**03 00 23.6**	**-0.5**	
BEL	**Belsk**	**96.79**	**323**	*e*P		**P**	**03 00 24.6**	**+0.8**	
BEL	**Belsk**	**96.79**	**323**	*e*P		**P**	**03 00 24.6**	**+0.8**	
GZR	**Gura Zlata**	**97.05**	**316**	⇓P		**P**	**03 00 24.9**	**-0.4**	
GZR	**Gura Zlata**	**97.05**	**316**	⇓*i*P		**P**	**03 00 24.9**	**-0.4**	
CRVS	**Cervenica-Dubn**	**97.11**	**320**	*e*P		**P**	**03 00 25.4**	**0.0**	
CRVS	**Cervenica-Dubn**	**97.11**	**320**	*e*P		**P**	**03 00 25.4**	**0.0**	
DAG	**Danmarks Havn**	**97.16**	**352**	*i* P		**P**	**03 00 23.6**	**-1.4**	
	comp=Z,48nm,0.9s								
VTS	**Vitosha**	**97.35**	**314**	⇓P		**P**	**03 00 25.9**	**-0.9**	
VTS	**Vitosha**	**97.35**	**314**	⇓*i*P		**P**	**03 00 25.9**	**-0.9**	
RES	**Resolute Bay**	**97.72**	**10**	*e*P		**P**	**03 00 27.4**	**-0.1**	
	comp=Z,4.2nm,1.2s								
BZS	**Buzias**	**97.80**	**317**	⇓P		**P**	**03 00 27.7**	**-0.8**	
BZS	**Buzias**	**97.80**	**317**	⇓*i*P		**P**	**03 00 27.7**	**-0.8**	
HFS	**Hagfors**	**97.94**	**332**	P		**P**	**03 00 28.1**	**-0.8**	
HFS	**Hagfors**	**97.94**	**332**	P		**P**	**03 00 28.1**	**-0.8**	
	comp=Z,3.1nm,0.9s,baz=113,slow=3.9,SNR=8.5								
PSZ	**Piszkesteto**	**98.37**	**319**	⇑P		**P**	**03 00 30.9**	**-0.3**	
PSZ	**Piszkesteto**	**98.37**	**319**	*e*P		**P**	**03 00 30.8**	**-0.4**	
	comp=Z,11nm,1.3s								
PSZ	**Piszkesteto**	**98.37**	**319**	⇑*i*P		**P**	**03 00 30.9**	**-0.3**	
NB2	**NORSAR Subarra**	**98.71**	**334**	P		**P**	**03 00 31.3**	**-1.1**	
	comp=Z,3.8nm,0.8s,baz=67,slow=4.6								
NOA	**NORSAR Array B**	**98.71**	**334**	P		**P**	**03 00 31.2**	**-1.1**	
NOA	**NORSAR Array B**	**98.71**	**334**	P		**P**	**03 00 31.2**	**-1.1**	
	comp=Z,2.7nm,0.7s,baz=66,slow=4.6,SNR=12								
NOA				LR		LR	03 48 54.4		
	comp=Z,93nm,18.2s,baz=90,slow=38								
OKC	**Ostrava-Krasne**	**98.95**	**322**	*e*P		Pdif	03 00 34.0	+0.4	
OKC	**Ostrava-Krasne**	**98.95**	**322**	*e*PDIFF		Pdif	03 00 34.0	+0.4	
LSZ	**Lusaka**	**99.25**	**255**	*e*P		**Pdif**	**03 00 34.7**	**-1.1**	
	comp=Z,2.5nm,0.8s								
MORC	**Moravsky Berou**	**99.34**	**322**	⇓P		**Pdif**	**03 00 35.4**	**-0.1**	
MORC	**Moravsky Berou**	**99.34**	**322**	*e*P		**Pdif**	**03 00 35.6**	**+0.2**	
	comp=Z,8.1nm,1.3s								
MORC	**Moravsky Berou**	**99.34**	**322**	⇓*i*P		**Pdif**	**03 00 35.4**	**-0.1**	
YKA	**Yellowknife Ar**	**99.41**	**24**	P		**Pdif**	**03 00 35.2**	**-0.2**	
YKA				PP		**PP**	**03 04 39.8**	**+1.3**	
YKA				PKiKP		**PKiKP**	**03 05 06.0**	**+1.3**	
YKA	**Yellowknife Ar**	**99.41**	**24**	P		**Pdif**	**03 00 35.2**	**-0.2**	
	comp=Z,0.2nm,0.7s,baz=298,slow=4.4,SNR=3.7								
YKA				PP		**PP**	**03 04 39.7**	**+1.3**	
	comp=Z,0.2nm,0.7s,baz=294,slow=5.4,SNR=3.6								
YKA				PKiKP		**PKiKP**	**03 05 06.0**	**+1.3**	
	comp=Z,0.3nm,0.6s,baz=293,slow=1.6,SNR=5.8								
PKSM	**Moragy**	**99.65**	**318**	⇑P		**Pdif**	**03 00 36.2**	**-0.6**	
PKSM	**Moragy**	**99.65**	**318**	⇑*i*P		**Pdif**	**03 00 36.2**	**-0.6**	
KSP	**Ksiaz**	**99.78**	**323**	*e*P		**Pdif**	**03 00 37.9**	**+0.5**	
KSP	**Ksiaz**	**99.78**	**323**	*e*P		**Pdif**	**03 00 37.9**	**+0.5**	
KSP	**Ksiaz**	**99.78**	**323**	*e*P		**Pdif**	**03 00 36.9**	**-0.4**	
DPC	**Dobruska-Polom**	**99.92**	**322**	*e*P		**Pdif**	**03 00 38.3**	**+0.3**	
DPC	**Dobruska-Polom**	**99.92**	**322**	*e*PDIFF		**Pdif**	**03 00 38.3**	**+0.3**	
UPC	**Upice**	**100.06**	**323**	*e*P		**Pdif**	**03 00 38.7**	**+0.1**	
UPC	**Upice**	**100.06**	**323**	*e*PDIFF		**Pdif**	**03 00 38.7**	**+0.1**	
VRAC	**Vranov**	**100.08**	**321**	P		**Pdif**	**03 00 38.6**	**-0.1**	
VRAC	**Vranov**	**100.08**	**321**	⇑*i*P		**Pdif**	**03 00 39.1**	**+0.4**	
VRAC	**Vranov**	**100.08**	**321**	P		**Pdif**	**03 00 38.6**	**-0.1**	
	comp=Z,4.1nm,0.9s,baz=98,slow=4.7,SNR=6.0								
TREC	**Trest**	**100.77**	**322**	*e*P		**Pdif**	**03 00 41.8**	**0.0**	
TREC	**Trest**	**100.77**	**322**	*e*PDIFF		**Pdif**	**03 00 41.8**	**0.0**	
PRU	**Pruhonice**	**101.12**	**322**	*e*P		**Pdif**	**03 00 43.5**	**+0.2**	
PRU	**Pruhonice**	**101.12**	**322**	*e*PDIFF		**Pdif**	**03 00 43.5**	**+0.2**	
BRG	**Berggiesshubel**	**101.17**	**323**	*e*PDIF		**Pdif**	**03 00 43.8**	**+0.3**	
	comp=Z,9.4nm,1.0s								
BRG	**Berggiesshubel**	**101.17**	**323**	*e*Pdiff		**Pdif**	**03 00 43.6**	**+0.1**	
BRG	**Berggiesshubel**	**101.17**	**323**	*e*P		**Pdif**	**03 00 43.8**	**+0.3**	
BRG				pmax		pmax			
	comp=Z,9.0nm,1.0s								
CLL	**Collm**	**101.58**	**324**	*e*Pdif		**Pdif**	**03 00 46.0**	**+0.7**	
	comp=Z,14nm,1.6s								
LBTB	**Lobatse**	**101.71**	**245**	*e*Pdif		**Pdif**	**03 00 47.4**	**+0.9**	
KHC	**Kasperske Hory**	**102.00**	**322**	*e*P		**Pdif**	**03 00 47.3**	**0.0**	
KHC	**Kasperske Hory**	**102.00**	**322**	*e*PDIFF		**Pdif**	**03 00 47.3**	**0.0**	
GEC2	**GERESS Array S**	**102.02**	**322**	*e*Pdiff		**Pdif**	**03 00 47.5**	**0.0**	
GEC2	**GERESS Array S**	**102.02**	**322**	*e*P		**Pdif**	**03 00 47.5**	**0.0**	
GERES	**GERESS Array B**	**102.02**	**322**	P		**Pdif**	**03 00 47.1**	**-0.4**	
GERES	**GERESS Array B**	**102.02**	**322**	P		**Pdif**	**03 00 47.1**	**-0.4**	
	comp=Z,3.7nm,1.1s,baz=74,slow=5.7,SNR=15								
ROTZ	**Rotzenmuhle**	**102.61**	**323**	*e*Pdiff		**Pdif**	**03 00 51.9**	**+2.0**	
MOX	**Moxa**	**102.64**	**324**	*e*Pdiff		**Pdif**	**03 00 51.2**	**+1.2**	
MOX	**Moxa**	**102.64**	**324**	*e*P		**Pdif**	**03 00 51.2**	**+1.2**	
CLZ	**Clausthal**	**102.89**	**325**	*e*Pdiff		**Pdif**	**03 00 52.0**	**+0.8**	
CLZ	**Clausthal**	**102.89**	**325**	*e*P		**Pdif**	**03 00 52.0**	**+0.8**	
NVAR	**Mina Array Bea**	**106.83**	**48**	PKiKP		**PKiKP**	**03 05 20.6**	**+1.3**	
NVAR				PKKP		**PKKPab**	**03 16 52.8**	**-0.8**	
NVAR	**Mina Array Bea**	**106.83**	**48**	PKiKP		**PKiKP**	**03 05 20.6**	**+1.3**	
	comp=Z,0.3nm,0.7s,baz=260,slow=2.6,SNR=3.2								
NVAR				PKKP		**PKKPab**	**03 16 52.8**	**-0.8**	
	comp=Z,0.8nm,0.7s,baz=148,slow=2.6,SNR=4.9								
C17A	**Wharram Farm,**	**108.28**	**37**	⇑P		**PKiKP**	**03 05 21.9**	**+0.4**	
	baz=108								
EGMT	**Eagleton**	**108.70**	**36**	⇓P		**PKiKP**	**03 05 22.9**	**+0.6**	
	baz=109								
C22A	**Vida**	**111.09**	**35**	⇓P		**PKiKP**	**03 05 26.7**	**0.0**	
	baz=111								
D22A	**Cohagen**	**111.23**	**36**	⇓P		**PKiKP**	**03 05 27.2**	**+0.2**	
	baz=111								
PDAR	**Pinedale Array**	**111.27**	**41**	PKKPab		PKKPab	03 16 32.7	-1.3	
PDAR	**Pinedale Array**	**111.27**	**41**	PKKPab		PKKPab	03 16 32.7	-1.3	
	comp=Z,1.2nm,1.0s,baz=111,slow=4.9,SNR=6.9								
K21A	**Alcova**	**112.84**	**40**	⇑P		**PKiKP**	**03 05 30.8**	**+0.3**	
	baz=113								
J22A	**Midwest**	**112.95**	**39**	⇑P		**PKiKP**	**03 05 30.5**	**-0.1**	
	baz=113								
N20A	**Spence Gulch,**	**113.02**	**42**	⇑P		**PKiKP**	**03 05 30.6**	**-0.3**	
	baz=113								
M21A	**Separation Pea**	**113.25**	**41**	⇓P		**PKiKP**	**03 05 31.1**	**-0.3**	
	baz=113								
H24A	**Dirks Ranch, A**	**113.46**	**37**	⇑P		**PKiKP**	**03 05 31.2**	**-0.2**	
	baz=113								
T18A	**Mexican Hat**	**113.51**	**47**	⇓P		**PKiKP**	**03 05 32.7**	**+0.9**	
	baz=114								
N21A	**Black Mountain**	**113.55**	**42**	⇓P		**PKiKP**	**03 05 31.2**	**-0.7**	
	baz=114								
RSSD	**Black Hills**	**114.10**	**38**	*e*PKiKP		PKPdf	03 05 33.1	+0.2	
RSSD	**Black Hills**	**114.10**	**38**	*e*PKP		PKPdf	03 05 33.0	+0.2	
ULM	**Lac du Bonnet**	**114.87**	**29**	PKP		PKPdf	03 05 34.0	+0.1	
ULM	**Lac du Bonnet**	**114.87**	**29**	PKP		PKPdf	03 05 34.0	+0.1	
	comp=Z,0.4nm,0.3s,baz=187,slow=3.5,SNR=3.4								
O23A	**Lake Granby, G**	**114.89**	**42**	⇑P		PKPdf	03 05 35.6	+1.0	
	baz=115								
Z20A	**Nine Sixteen R**	**116.12**	**50**	⇓P		**PKPdf**	**03 05 38.5**	**+1.5**	
	baz=116								
P25A	**Willow Gulch B**	**116.40**	**42**	⇓P		**PKPdf**	**03 05 38.3**	**+0.9**	
	baz=116								
TAM	**Tamanrasset**	**116.86**	**298**	*e*PKiKP		**PKPdf**	**03 05 39.8**	**+1.1**	
TAM	**Tamanrasset**	**116.86**	**298**	*e*PKPdf		**PKPdf**	**03 05 39.8**	**+1.1**	
P26A	**Davis Ranch, A**	**116.92**	**42**	⇓P		**PKPdf**	**03 05 38.4**	**0.0**	
	baz=117								
ANMO	**Albuquerque**	**116.95**	**48**	*e*PKPdf		**PKPdf**	**03 05 39.6**	**+1.1**	
Y22A	**Socorro**	**117.01**	**49**	⇑P		**PKPdf**	**03 05 38.8**	**+0.1**	
	baz=117								
Z22A	**Elephant Butte**	**117.30**	**49**	⇑P		**PKPdf**	**03 05 40.3**	**+1.1**	
	baz=117								
V24A	**Rampart Ranch,**	**117.46**	**46**	⇓P		**PKPdf**	**03 05 40.8**	**+1.2**	
	baz=117								
W24A	**Lazy 6 Ranch,**	**117.60**	**47**	⇑P		**PKPdf**	**03 05 39.9**	**+0.1**	
	baz=118								
U25A	**Circle Dot Ran**	**117.76**	**45**	⇓P		**PKPdf**	**03 05 40.6**	**+0.5**	
	baz=118								
V25A	**Rancho No Teng**	**117.88**	**46**	⇑P		**PKPdf**	**03 05 41.1**	**+0.7**	
	baz=118								
T26A	**Comanche Natio**	**117.96**	**44**	⇓P		**PKPdf**	**03 05 40.9**	**+0.5**	
	baz=118								
Y24A	**Capitan**	**118.16**	**48**	⇓P		**PKPdf**	**03 05 40.9**	**0.0**	
	baz=118								
PMSA	**Palmer Station**	**118.68**	**175**	*e*PKPdf		**PKPdf**	**03 05 40.0**	**-0.7**	
PMSA				PKP		**PKPdf**	**03 05 40.3**	**-0.3**	
PMSA	**Palmer Station**	**118.68**	**175**	PKP		**PKPdf**	**03 05 40.3**	**-0.3**	
	comp=Z,14nm,0.6s,baz=354,slow=14,SNR=12								
324A	**Moseley Ranch,**	**119.21**	**51**	⇓P		**PKPdf**	**03 05 43.5**	**+0.6**	
	baz=119								
BGNE	**Belgrade**	**119.21**	**37**	⇑P		**PKPdf**	**03 05 42.4**	**-0.1**	
	baz=119								
325A	**Bean Ranch, Si**	**119.63**	**51**	⇑P		**PKPdf**	**03 05 44.1**	**+0.3**	
	baz=120								
Y27A	**Causey**	**119.85**	**47**	⇓P		**PKPdf**	**03 05 45.0**	**+0.9**	
	baz=120								
425A	**Indio Mountain**	**119.87**	**51**	⇑P		**PKPdf**	**03 05 44.6**	**+0.3**	
	baz=120								
MSTX	**Muleshoe**	**120.10**	**47**	⇑P		**PKPdf**	**03 05 45.0**	**+0.5**	
	baz=120								
SCHQ	**Schefferville**	**120.47**	**9**	PKP		**PKPdf**	**03 05 45.1**	**+0.6**	
SCHQ	**Schefferville**	**120.47**	**9**	PKP		**PKPdf**	**03 05 45.1**	**+0.6**	
	comp=Z,8.8nm,0.7s,baz=21,slow=4.1,SNR=7.9								
526A	**Mary Lane Ranc**	**120.88**	**52**	⇓P		**PKPdf**	**03 05 46.9**	**+0.7**	
	baz=121								
626A	**Big Bend Ranch**	**121.06**	**52**	⇑P		**PKPdf**	**03 05 47.8**	**+1.3**	
	baz=121								
427A	**Hayter Ranch,**	**121.07**	**50**	⇓P		**PKPdf**	**03 05 46.9**	**+0.4**	
	baz=121								
527A	**Woodward Ranch**	**121.22**	**51**	⇑P		**PKPdf**	**03 05 47.1**	**+0.3**	
	baz=121								
Z29A	**Hungry Hill Ra**	**121.22**	**47**	⇑P		**PKPdf**	**03 05 47.1**	**+0.4**	
	baz=121								
129A	**Stewart Farms,**	**121.40**	**48**	⇓P		**PKPdf**	**03 05 47.8**	**+0.8**	
	baz=121								
TXAR	**Lajitas Array**	**121.53**	**52**	PKP		**PKPdf**	**03 05 48.0**	**+0.6**	
TXAR	**Lajitas Array**	**121.53**	**52**	PKP		**PKPdf**	**03 05 48.0**	**+0.6**	
	comp=Z,1.9nm,1.0s,baz=297,slow=1.1,SNR=12								
428A	**Kincaid Ranch,**	**121.67**	**50**	⇑P		**PKPdf**	**03 05 48.9**	**+1.3**	
	baz=122								
627A	**Terlingua Ranc**	**121.69**	**52**	⇑P		**PKPdf**	**03 05 48.4**	**+0.6**	
	baz=122								
528A	**Cox Ranch, San**	**121.85**	**51**	⇑P		**PKPdf**	**03 05 48.6**	**+0.6**	
	baz=122								
628A	**Black Gap, Mar**	**122.07**	**52**	⇑P		**PKPdf**	**03 05 48.1**	**-0.3**	
	baz=122								
529A	**Stev Forest Ra**	**122.31**	**51**	⇑P		**PKPdf**	**03 05 49.0**	**+0.2**	
	baz=122								
429A	**Davenport Ranc**	**122.33**	**50**	⇑P		**PKPdf**	**03 05 49.2**	**+0.3**	
	baz=122								
WMOK	**Wichita Mounta**	**122.55**	**44**	*e*PKiKP		**PKPdf**	**03 05 49.8**	**+0.6**	
WMOK	**Wichita Mounta**	**122.55**	**44**	*e*PKPdf		**PKPdf**	**03 05 49.8**	**+0.6**	
430A	**Baggett Ranch,**	**122.75**	**49**	⇓P		**PKPdf**	**03 05 50.4**	**+0.7**	
	baz=123								
TOA0	**Tordoi Ar. Sit**	**122.91**	**288**	*e*PKPdf		**PKPdf**	**03 05 49.6**	**-0.7**	
TORD	**Tordoi Ar. Bea**	**122.91**	**288**	PKP		**PKPdf**	**03 05 50.0**	**-0.3**	
TORD				PP		**PP**	**03 07 30.1**	**+1.1**	
TORD				PKKPab		**PKKPab**	**03 15 46.6**	**+3.9**	
TORD	**Tordoi Ar. Bea**	**122.91**	**288**	PKP		**PKPdf**	**03 05 50.0**	**-0.3**	
	comp=Z,3.8nm,0.7s,baz=82,slow=1.7,SNR=44								
TORD				PP		**PP**	**03 07 30.1**	**+1.1**	
	comp=Z,1.7nm,1.1s,baz=65,slow=5.6,SNR=3.7								
TORD				PKKPab		**PKKPab**	**03 15 46.6**	**+3.9**	
	comp=Z,1.3nm,1.3s,baz=257,slow=4.0,SNR=4.2								
530A	**J-C Ranch, Com**	**122.97**	**50**	⇑P		**PKPdf**	**03 05 50.8**	**+0.7**	
	baz=123								
431A	**Sonora**	**123.28**	**49**	⇑P		**PKPdf**	**03 05 51.0**	**+0.3**	
	baz=123								
531A	**Rocksprings**	**123.57**	**50**	⇓P		**PKPdf**	**03 05 51.8**	**+0.6**	
	baz=124								
631A	**Perdido Creek**	**123.90**	**51**	⇑P		**PKPdf**	**03 05 52.4**	**+0.5**	
	baz=124								
JCT	**Junction City**	**123.98**	**49**	*e*PKiKP		**PKPdf**	**03 05 52.1**	**+0.1**	
JCT	**Junction City**	**123.98**	**49**	*e*PKPdf		**PKPdf**	**03 05 52.1**	**+0.1**	
JCT	**Junction City**	**123.98**	**49**	⇑P		**PKPdf**	**03 05 52.6**	**+0.6**	
	baz=124								
532A	**Rocksprings**	**124.08**	**50**	⇓P		**PKPdf**	**03 05 52.8**	**+0.6**	
	baz=124								
632A	**Uvalde**	**124.46**	**50**	⇓P		**PKPdf**	**03 05 53.5**	**+0.6**	
	baz=124								
732A	**Laxson Ranch,**	**124.69**	**51**	⇓P		**PKPdf**	**03 05 54.2**	**+0.9**	
	baz=125								
MIAR	**Mount Ida**	**126.20**	**41**	*e*PKiKP		**PKPdf**	**03 05 57.3**	**+1.2**	
MIAR	**Mount Ida**	**126.20**	**41**	*e*PKPdf		**PKPdf**	**03 05 57.3**	**+1.2**	
OLIL	**Olney**	**126.81**	**34**	*e*PKPdf		**PKPdf**	**03 05 58.1**	**+1.0**	
HKT	**Hockley**	**127.21**	**48**	*e*PKiKP		**PKPdf**	**03 05 58.2**	**+0.2**	
HKT	**Hockley**	**127.21**	**48**	*e*PKPdf		**PKPdf**	**03 05 58.2**	**+0.2**	
WCI	**Wyandotte Cave**	**128.16**	**33**	*e*PKiKP		**PKPdf**	**03 06 00.2**	**+0.4**	
WCI	**Wyandotte Cave**	**128.16**	**33**	*e*PKPdf		**PKPdf**	**03 06 00.2**	**+0.4**	
WVT	**Waverly**	**128.77**	**36**	*e*PKiKP		**PKPdf**	**03 06 01.0**	**+0.1**	
WVT	**Waverly**	**128.77**	**36**	*e*PKPdf		**PKPdf**	**03 06 01.0**	**+0.1**	
DBIC	**Dimbokro**	**130.58**	**282**	*e*PKPdf		**PKPdf**	**03 06 04.9**	**-0.1**	
DBIC				PKP		**PKPdf**	**03 06 05.3**	**+0.4**	
DBIC	**Dimbokro**	**130.58**	**282**	PKP		**PKPdf**	**03 06 05.3**	**+0.4**	
	comp=Z,3.3nm,0.6s,baz=128,slow=1.9,SNR=10								
PLCA	**Paso Flores**	**140.09**	**159**	PKP		**PKPdf**	**03 06 21.5**	**-0.5**	
PLCA				*e*PKPdf		**PKiKP**	**03 06 21.8**	**-2.8**	
PLCA	**Paso Flores**	**140.09**	**159**	PKP		**PKPdf**	**03 06 21.5**	**-0.5**	
	comp=Z,3.4nm,0.9s,baz=230,slow=9.2,SNR=2.3								
TRQA	**Tornquist**	**145.01**	**168**	*e*PKPdf		**PKPab**	**03 06 29.6**	**-0.5**	
JTS	**JuntasAbangare**	**145.46**	**66**	*e*PKPbc		**PKPdf**	**03 06 32.0**	**-0.2**	
CFAA	**Coronel Fontan**	**148.98**	**155**	PKP		**PKPdf**	**03 06 37.2**	**-0.5**	
CFAA				PKPbc		**PKPbc**	**03 06 41.6**	**-0.1**	
CFAA	**Coronel Fontan**	**148.98**	**155**	PKP		**PKPdf**	**03 06 37.2**	**-0.5**	
	comp=Z,0.9nm,0.7s,baz=223,slow=3.7,SNR=22								
CFAA				PKPbc		**PKPbc**	**03 06 41.6**	**-0.1**	
	comp=Z,1.0nm,0.8s,baz=221,slow=2.9,SNR=11								
LCO	**Las Campanas**	**149.96**	**148**	*e*PKPdf		**PKPdf**	**03 06 39.5**	**-0.1**	
LCO				*e*PKPbc		**PKiKP**	**03 06 45.1**	**-0.3**	
LCO				*e*PKPab		**PKPab**	**03 06 50.7**	**+0.6**	
BCIP	**Isla Barro Col**	**150.53**	**64**	*e*PKPbc		**PKPbc**	**03 06 45.8**	**0.0**	
OTAV	**Otavalo**	**154.50**	**81**	*e*PKPbc		**PKPbc**	**03 06 54.9**	**-0.5**	
CPUP	**Villa Florida**	**157.28**	**170**	PKPab		**PKPab**	**03 07 21.8**	**+1.2**	
CPUP	**Villa Florida**	**157.28**	**170**	PKPab		**PKPab**	**03 07 21.8**	**+1.2**	
	comp=Z,4.3nm,0.7s,baz=171,slow=3.9,SNR=11								
SDV	**Santo Domingo**	**158.56**	**54**	*e*PKPdf		**PKPdf**	**03 06 52.5**	**+0.6**	
LPAZ	**La Paz**	**160.84**	**131**	*e*PKPdf		**PKPdf**	**03 06 56.0**	**+1.0**	
LPAZ				*e*PKPab		**PKPab**	**03 07 36.3**	**-0.9**	
LPAZ	**La Paz**	**160.84**	**131**	PKP		**PKPdf**	**03 06 56.0**	**+1.0**	
	comp=Z,4.0nm,1.0s,baz=14,slow=2.8,SNR=7.1								
SIV	**San Ignacio**	**165.67**	**148**	PKP		**PKPdf**	**03 06 59.4**	**+0.6**	
SIV				PKPab		**PKPab**	**03 07 58.6**	**+1.0**	
SIV	**San Ignacio**	**165.67**	**148**	PKP		**PKPdf**	**03 06 59.4**	**+0.6**	
	comp=Z,2.2nm,1.0s,baz=261,slow=1.3,SNR=4.6								
SIV				PKPab		**PKPab**	**03 07 58.6**	**+1.0**	
	comp=Z,1.5nm,0.9s,baz=240,slow=8.5,SNR=4.8								
SAML	**Samuel**	**168.90**	**118**	*e*PKPdf		**PKPdf**	**03 07 01.8**	**+0.7**	
SAML				*e*PKPab		**PKPab**	**03 08 12.7**	**+0.7**	

*IDC **28** 02:51:14.8±1.0,3˙.80N×126˙.66E, h0km, mb4.1/10, mb1 4

Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**15.54**	**95**	*e*Pn	**Pn**	**03 12 00.6**	**0.0**
PLCA	**Paso Flores**	**15.54**	**95**	LR	LR	03 16 31.4	
	comp=Z,160nm,20.4s,baz=264,slow=32						
USHA	**Ushuaia**	**20.32**	**140**	P	**P**	**03 12 56.7**	**-0.7**
USHA	**Ushuaia**	**20.32**	**140**	P	**P**	**03 12 56.7**	**-0.7**
	8.6nm,1.0s,baz=260,slow=11,SNR=3.0						
USHA				LR	LR	03 19 26.1	
	comp=Z,230nm,22.0s,baz=267,slow=33						
LCO	**Las Campanas**	**20.56**	**60**	*e*P	**P**	**03 13 00.7**	**+0.2**
	9.0nm,1.0s						
CFAA	**Coronel Fontan**	**20.67**	**70**	P	**P**	**03 13 01.1**	**-0.4**
CFAA	**Coronel Fontan**	**20.67**	**70**	P	**P**	**03 13 01.1**	**-0.4**
	0.3nm,0.8s,baz=236,slow=11,SNR=5.8						
CFAA				LR	LR	03 19 06.7	
	comp=Z,32nm,21.5s,baz=240,slow=31						
TRQA	**Tornquist**	**22.61**	**92**	*e*P	**P**	**03 13 25.1**	**+2.9**
	14nm,1.3s						
LVC	**Limon Verde**	**26.26**	**52**	*e*P	**P**	**03 13 56.7**	**-0.4**
	0.3nm,0.6s						
CPUP	**Villa Florida**	**31.51**	**73**	LR	LR	03 25 49.2	
	comp=Z,130nm,21.6s,baz=126,slow=33						
NNA	**Nana**	**31.62**	**27**	*e*P	**P**	**03 14 43.7**	**-0.9**
	10nm,0.8s						
NNA	**Nana**	**31.62**	**27**	P	**P**	**03 14 44.4**	**-0.2**
	7.6nm,0.8s,baz=234,slow=14,SNR=3.5						
NNA				LR	LR	03 24 01.1	
	comp=Z,216nm,19.0s,baz=133,slow=30						
LPAZ	**La Paz**	**31.73**	**45**	*e*P	**P**	**03 14 46.3**	**+0.1**
	3.8nm,0.7s						
LPAZ	**La Paz**	**31.73**	**45**	P	**P**	**03 14 46.9**	**+0.7**
	3.3nm,0.6s,baz=219,slow=4.6,SNR=8.4						
LPAZ				LR	LR	03 24 37.8	
	comp=Z,296nm,21.4s,baz=280,slow=31						
ATAH	**Atahualpa**	**35.70**	**22**	P	**P**	**03 15 21.2**	**+0.7**
ATAH	**Atahualpa**	**35.70**	**22**	P	**P**	**03 15 21.2**	**+0.7**
	3.4nm,0.8s,baz=241,slow=19,SNR=3.5						
SIV	**San Ignacio**	**36.06**	**55**	P	**P**	**03 15 21.7**	**-1.5**
SIV	**San Ignacio**	**36.06**	**55**	P	**P**	**03 15 21.7**	**-1.5**
	3.0nm,0.9s,baz=231,slow=7.3,SNR=9.9						
SIV				LR	LR	03 28 26.1	
	comp=Z,221nm,21.9s,slow=33						
SAML	**Samuel**	**40.47**	**45**	*e*P	**P**	**03 15 58.4**	**-2.0**
	4.1nm,1.1s						
OTAV	**Otavalo**	**42.75**	**19**	*e*P	**P**	**03 16 18.5**	**-1.0**
	5.7nm,1.0s						
ROSC	**El Rosal**	**48.27**	**23**	P	**P**	**03 17 04.0**	**+0.8**
ROSC	**El Rosal**	**48.27**	**23**	P	**P**	**03 17 04.0**	**+0.8**
	3.3nm,0.5s,baz=290,slow=21,SNR=3.6						
ROSC				LR	LR	03 35 55.2	
	comp=Z,177nm,18.5s,baz=160,slow=34						
QSPA	**South Pole Qui**	**49.10**	**180**	P	**P**	**03 17 08.8**	**0.0**
QSPA	**South Pole Qui**	**49.10**	**180**	P	**P**	**03 17 08.8**	**0.0**
	1.5nm,1.1s,baz=114,slow=2.6,SNR=3.0						
BCIP	**Isla Barro Col**	**51.11**	**14**	*e*P	**P**	**03 17 24.3**	**0.0**
	29nm,0.9s						
JTS	**JuntasAbangare**	**51.48**	**8**	*e*P	**P**	**03 17 27.5**	**+0.4**
	23nm,1.4s						
VNDA	**Vanda**	**53.74**	**195**	LR	LR	03 35 02.3	
	comp=Z,113nm,21.6s,baz=87,slow=30						
TXAR	**Lajitas Array**	**71.07**	**348**	P	**P**	**03 19 40.2**	**+0.5**
TXAR	**Lajitas Array**	**71.07**	**348**	P	**P**	**03 19 40.2**	**+0.5**
	1.3nm,0.9s,baz=169,slow=10,SNR=5.6						
JCT	**Junction City**	**71.71**	**352**	*e*P	**P**	**03 19 42.9**	**-0.6**
	9.0nm,1.3s						
TUC	**Tucson**	**75.30**	**343**	*e*P	**P**	**03 20 05.1**	**+0.5**
	2.7nm,1.0s						
WVT	**Waverly**	**76.95**	**3**	*e*P	**P**	**03 20 12.9**	**-0.8**
	4.4nm,1.0s						
ANMO	**Albuquerque**	**77.02**	**347**	*e*P	**P**	**03 20 14.6**	**+0.1**
	2.2nm,1.0s						
WCI	**Wyandotte Cave**	**79.11**	**4**	*e*P	**P**	**03 20 25.5**	**-0.3**
	7.0nm,0.9s						
NVAR	**Mina Array Bea**	**82.99**	**339**	P	**P**	**03 20 45.4**	**-1.3**
NVAR	**Mina Array Bea**	**82.99**	**339**	P	**P**	**03 20 45.4**	**-1.3**
	1.9nm,1.1s,baz=173,slow=5.8,SNR=6.9						
DAU	**Daniels Canyon**	**83.21**	**345**	*e*P	**P**	**03 20 47.6**	**-0.3**
	9.8nm,1.2s						
CMB	**Columbia Colle**	**83.21**	**337**	*e*P	**P**	**03 20 48.4**	**+0.8**
	4.8nm,1.2s						
DUG	**Dugway**	**83.32**	**343**	*e*P	**P**	**03 20 49.2**	**+1.0**
	6.3nm,1.2s						
ELK	**Elko**	**84.39**	**342**	*e*P	**P**	**03 20 54.5**	**+0.6**
HWUT	**Hardware Ranch**	**84.42**	**345**	*e*P	**P**	**03 20 54.7**	**+0.8**
	2.2nm,0.7s						
BW06	**Boulder Array**	**85.16**	**346**	*e*P	**P**	**03 20 56.9**	**-0.8**
	4.5nm,1.0s						
PDAR	**Pinedale Array**	**85.16**	**346**	P	**P**	**03 20 56.5**	**-1.2**
PDAR	**Pinedale Array**	**85.16**	**346**	P	**P**	**03 20 56.5**	**-1.2**
	1.3nm,0.9s,baz=139,slow=4.9,SNR=9.3						
PD02	**Pinedale Array**	**85.18**	**346**	*e*P	**P**	**03 20 58.4**	**+0.7**
RSSD	**Black Hills**	**85.67**	**351**	*e*P	**P**	**03 20 59.6**	**-0.6**
TPAW	**Teton Pass**	**86.12**	**346**	*e*P	**P**	**03 21 01.6**	**-0.9**
	3.9nm,0.9s						
WVOR	**Wild Horse Val**	**86.83**	**340**	*e*P	**P**	**03 21 05.5**	**-0.4**
	6.6nm,1.3s						
HLID	**Hailey**	**86.89**	**343**	*e*P	**P**	**03 21 06.3**	**+0.2**
	5.4nm,1.4s						
BOSA	**Boshof**	**89.01**	**128**	*e*P	**P**	**03 21 16.5**	**-0.4**
	3.8nm,1.1s						
TSUM	**Tsumeb**	**90.83**	**116**	*e*P	**P**	**03 21 25.4**	**-0.1**
	5.4nm,1.4s						
NEW	**Newport**	**91.95**	**343**	*e*P	**P**	**03 21 30.0**	**+0.4**
	2.9nm,1.0s						
STKA	**Stephens Creek**	**92.58**	**223**	LR	LR	03 55 23.6	
	comp=Z,42nm,18.2s,baz=204,slow=30						
CTA	**Charters Tower**	**99.16**	**233**	LR	LR	04 00 01.5	
	comp=Z,76nm,18.2s,baz=231,slow=31						
KAPI	**Kappang**	**126.09**	**219**	*e*PKPdf	**PKPdf**	**03 27 25.5**	**+1.1**
MALT	**Malatya**	**141.52**	**77**	*e*PKPdf	**PKPdf**	**03 27 51.6**	**-1.0**
KIV	**Kislovodsk**	**146.18**	**69**	*e*PKPbc	**PKPdf**	**03 28 01.1**	**+0.5**

JMA 28 03:23:46.0±0.6, 45°.13N×148°.86E, h30km, M3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.85**	**233**	P	Pn	03 24 28.6	-0.8
NEM2				*e*S	Sn	03 24 59.9	-2.8
JRA	**Rausu**	**2.93**	**247**	P	Pn	03 24 32.1	+1.7
JNK	**Nakash**	**3.35**	**244**	P	Pn	03 24 37.3	+1.0
JAK	**Akkeshi**	**3.68**	**236**	P	Pn	03 24 40.1	-0.7
JAK				*e*S	Sn	03 25 20.1	-3.1
JTKR	**Abashiri--Toko**	**3.73**	**254**	P	Pn	03 24 43.1	+1.7
JMP	**Maruseppu**	**4.09**	**256**	P	Pn	03 24 48.8	+2.3
JAR	**Ashorobuto**	**4.09**	**245**	P	Pn	03 24 47.7	+1.2
JOB	**Onbets**	**4.25**	**240**	P	Pn	03 24 49.1	+0.4
JCH	**Churui**	**4.70**	**240**	P	Pn	03 24 55.1	+0.2
JEM	**Erimo**	**5.18**	**235**	P	Pn	03 25 01.6	+0.2
JNBK	**Urakawa-nobuka**	**5.26**	**239**	P	Pn	03 25 01.4	-1.2
JKB	**Kayabe**	**6.55**	**243**	P	Pn	03 25 19.3	-0.9
JANG	**Nango**	**7.20**	**231**	*e*S	Sn	03 26 40.9	-8.9
JTH	**Tanohata**	**7.32**	**227**	*e*S	Sn	03 26 43.0	-10

MAN 28 03:43:33, 11°.70N×124°.45E, h38km, mb4.1, ML2.9, MS2.7, 2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.67**	**166**	*e*P	Pn	03 43 46.1	+0.1
OCLP				*e*S	Sn	03 43 58.6	+3.4
PLP	**Palo**	**0.75**	**136**	*e*P	Pn	03 43 48.2	+1.2
PLP				*e*S	Sn	03 44 01.9	+4.8
CNP	**Catarman**	**0.83**	**15**	*e*P	Pn	03 43 49.2	+1.0
CNP				*e*S	Sn	03 44 04.6	+5.3
LLP	**Lapu-Lapu**	**1.46**	**199**	*i*P	Pn	03 43 56.9	+0.1
LLP				*i*S	Sn	03 44 15.7	+1.1
MSLP	**Maasin**	**1.61**	**165**	*e*P	Pn	03 44 01.9	+3.0
PVCP	**Virac**	**1.90**	**351**	*e*P	Pn	03 44 05.5	+2.5

*ISCJB **28** 03:59:31.7±0.4, 26°.79N±0°.04×104°.19E±0°.04, h10km, mb3.9/18, MS3.5/6, Error ellipse: s-maj=6.1km s-min=5.0km az=150.8*
*IDC **28** 03:59:32.7±0.9, 26°.90N×104°.16E, h0km, mb3.9/16, mb1 4.0/16, mb1mx3.9/27, mbtmp3.9/16, MS3.4/7, Ms1 3.5/7, ms1mx2.9/49, Error ellipse: s-maj=26.0km s-min=16.9km az=45.0*
*BJI **28** 03:59:34.1, 26°.83N×104°.18E, h18km, mB4.7/4, mb4.5/6, ML3.8/14, Ms4.4/4, Ms7 4.0/4*

ISC 28 03:59:36.6±0.8, 26°.92N±0°.06×104°.08E±0°.06, h10km, n29, σ1§32/16, mb3.9/17, MS3.3/6, 3C-1D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.15**	**214**	Pg	**Pn**	**04 00 13.0**	**+0.2**
KMI				Sg	**Sn**	**04 00 41.3**	**+1.6**
KMI				*s*max	*s*max		
	comp=N,270nm,1.2s						
KMI				*s*max	*s*max		
	comp=E,240nm,1.2s						
GYA	**Guiyang**	**2.36**	**101**	Pg	**Pn**	**04 00 15.8**	**+0.3**
GYA				Sg	**Sn**	**04 00 45.3**	**+0.8**
GYA				*s*max	*s*max		
	comp=N,1μm,0.7s						
GYA				*s*max	*s*max		
	comp=E,2μm,0.7s						
CD2	**Chengdu**	**3.99**	**356**	Pn	**Pn**	**04 00 38.3**	**+0.5**
CD2				Pg	**Pb**	**04 00 48.5**	**+1.5**
CD2				Sg	**Sg**	**04 01 45.5**	**+0.8**
CD2				*s*max	*s*max		
	comp=N,570nm,0.6s						
CD2				*s*max	*s*max		
	comp=E,880nm,0.7s						
XAN	**Xi'an**	**8.23**	**29**	P	Pn	04 01 34.3	-1.9
XAN				*p*max	*p*max		
	comp=Z,5.0nm,0.5s						
LZH	**Lanzhou**	**9.14**	**359**	*e*P	**Pn**	**04 01 48.8**	**+0.1**
LZH				*p*P		04 01 57.0	
LZH				*s*P		04 02 01.0	
LZH				*p*max	*p*max		
	comp=Z,16nm,1.0s						
LZH				*p*max	*p*max		
	comp=Z,63nm,4.2s						
LZH				LR	LR		
	comp=N,1μm,12.0s						
LZH				LR	LR		
	comp=E,530nm,9.6s						
LZH				LR	LR		
	comp=Z,690nm,10.3s						
CMAR	**Chiang Mai Arr**	**9.66**	**210**	LR	LR	04 06 02.8	
	comp=Z,135nm,19.4s,baz=35,slow=40						
WHN	**Wuhan**	**9.71**	**66**	P	**Pn**	**04 01 58.3**	**+1.9**
WHN				S	**Sn**	**04 03 44.5**	**-1.0**
WHN				LR	LR		
	comp=N,1μm,5.7s						
WHN				LR	LR		
	comp=E,680nm,5.0s						
WHN				LR	LR		
	comp=Z,880nm,5.5s						
SONM	**Songino Array**	**20.96**	**4**	P	**P**	**04 04 18.7**	**-1.1**
	comp=Z,4.2nm,0.5s,baz=186,slow=10,SNR=43						
KSRS	**Korea Array**	**22.69**	**57**	P	**P**	**04 04 35.7**	**-2.6**
	comp=Z,1.7nm,0.5s,baz=243,slow=10,SNR=4.9						
KSRS				LR	LR	04 14 18.1	
	comp=Z,44nm,19.9s,baz=338,slow=39						
MKAR	**Makanchi Array**	**26.26**	**325**	P	**P**	**04 05 11.2**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=125,slow=9.1,SNR=1.7						
USRK	**Ussuriysk Arra**	**28.32**	**45**	P	P	04 05 27.5	-2.9
	comp=Z,1.7nm,0.8s,baz=248,slow=10,SNR=3.7						
AAK	**Ala-Archa**	**28.73**	**311**	LR	LR	04 19 05.4	
	comp=Z,44nm,19.4s,baz=180,slow=41						
ZALV	**Zalesovo Beam**	**30.52**	**337**	P	P	04 05 48.1	-1.7
	comp=Z,2.3nm,0.6s,baz=140,slow=8.2,SNR=13						
ZALV				LR	LR	04 18 37.8	
	comp=Z,50nm,19.0s,baz=324,slow=38						
KUR07	**Kurchatov Arra**	**30.64**	**327**	⇑Pn	**P**	**04 05 49.8**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=128,slow=10						
KUR07				⇓Lg	Lg	04 06 19.7	
	comp=Z,0.3nm,1.1s,baz=121,slow=52						
KURBB	**Kurchatov Arra**	**30.66**	**327**	P	**P**	**04 05 50.2**	**-0.8**
	comp=Z,3.7nm,0.6s,baz=131,slow=9.9,SNR=14						
KURK	**Kurchatov**	**30.67**	**328**	⇑Pn	P	04 05 50.0	-1.2
	comp=Z,5.9nm,0.9s						
KURK				⇑Lg	Lg	04 06 22.0	
	comp=Z,3.4nm,0.7s						
AKTO	**Aktyubinsk**	**42.07**	**317**	P	**P**	**04 07 27.4**	**-1.0**
	comp=Z,1.3nm,0.7s,baz=88,slow=13,SNR=6.8						
PETK	**Petropavlovsk-**	**47.27**	**41**	LR	LR	04 28 18.3	
	comp=Z,36nm,19.0s,baz=142,slow=36						
WRA	**Warramunga Arr**	**55.05**	**145**	P	P	04 09 05.9	-2.8
	comp=Z,2.1nm,1.0s,baz=334,slow=8.0,SNR=5.9						
ASAR	**Alice Springs**	**57.96**	**147**	P	P	04 09 27.6	-1.8
	comp=Z,0.3nm,0.5s,baz=326,slow=7.1,SNR=5.2						
BRTR	**Keskin Array B**	**58.86**	**302**	P	P	04 09 33.5	-2.3
	comp=Z,1.5nm,1.2s,baz=64,slow=9.8,SNR=3.7						
FINES	**FINESS Array B**	**61.05**	**328**	P	P	04 09 47.8	-2.4
	comp=Z,2.5nm,1.0s,baz=99,slow=8.6,SNR=3.2						
ARCES	**ARCESS Array B**	**61.07**	**337**	P	P	04 09 47.9	-2.4
	comp=Z,3.4nm,0.9s,baz=88,slow=7.7,SNR=17						
NOA	**NORSAR Array B**	**68.18**	**328**	P	P	04 10 33.9	-3.0
	comp=Z,1.0nm,0.8s,baz=75,slow=6.4,SNR=3.6						
VRAC	**Vranov**	**68.53**	**315**	LR	LR	04 44 22.9	
	comp=Z,49nm,18.1s,baz=308,slow=39						
GERES	**GERESS Array B**	**70.48**	**316**	P	P	04 10 49.3	-2.2
	comp=Z,0.2nm,0.5s,baz=46,slow=4.2,SNR=3.9						
ILAR	**Eielson Array**	**73.62**	**25**	P	P	04 11 06.7	-3.2
	comp=Z,0.3nm,0.4s,baz=284,slow=4.1,SNR=7.3						
BORG	**Borgarnes**	**79.35**	**339**	LR	LR	04 50 34.2	
	comp=Z,167nm,19.0s,baz=2.8,slow=39						
YKA	**Yellowknife Ar**	**85.69**	**17**	P	P	04 12 13.1	-2.2
	comp=Z,0.3nm,0.7s,baz=327,slow=5.2,SNR=7.3						

IDC 28 04:26:27.9±3.9, 1°.05S×134°.03E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/19, mbtmp3.2/3, MS3.8/1, Ms1 3.8/1, ms1mx2.8/11, Error ellipse: s-maj=204.0km s-min=27.2km az=76.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.78**	**179**	P	P	04 30 48.6	-0.3
	baz=358,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**22.48**	**180**	P	P	04 31 29.2	+0.2
	0.2nm,0.4s,baz=9.9,slow=11,SNR=4.7						
DZM	**Mont Dzumac**	**37.84**	**126**	LR	LR	04 46 49.6	
	comp=Z,133nm,20.7s,baz=359,slow=32						
MKAR	**Makanchi Array**	**65.66**	**324**	P	P	04 37 14.1	0.0
	0.5nm,0.6s,baz=118,slow=7.3,SNR=7.7						

*STR **28** 04:42:31.3±1.1, 53°.70N×15°.87E, h2km, Ml4.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*ISCJB **28** 04:42:40.2±0.2, 51°.55N±0°.01×16°.09E±0°.02, h0km, mb3.6/8, Error ellipse: s-maj=1.8km s-min=1.8km az=41.6*
*CSEM **28** 04:42:41.9±0.1, 51°.56N×16°.12E, h0km, ML4.3/17, Ms4.0, Error ellipse: s-maj=2.1km s-min=1.8km az=47.0*
*IPEC **28** 04:42:41.0±0.2, 51°.61N×16°.23E, h0km, ML3.5/4, Error ellipse: s-maj=1.5km s-min=1.4km az=107.0*
*IDC **28** 04:42:42.9±0.5, 51°.53N×16°.02E, h0km, mb3.7/8, mb1 3.8/16, mb1mx3.8/30, mbtmp3.7/16, ML3.6/8, Error ellipse: s-maj=9.0km s-min=5.7km az=102.0*
*LDG **28** 04:42:42.1±0.1, 51°.46N×16°.03E, h1km, Ml4.3/11, Error ellipse: s-maj=3.9km s-min=2.6km az=178.0, Suspected Mining induced.*
*BNS **28** 04:42:43.9±0.4, 51°.48N×16°.17E, h5km, ML3.6*
*PRU **28** 04:42:43.4, 51°.50N×16°.12E, h0km*
*BGR **28** 04:42:43.3±0.5, 51°.48N×16°.14E, h1km, ML3.9/15, Error ellipse: s-maj=5.6km s-min=3.3km az=16.0*
*WAR **28** 04:42:44.1, 51°.47N×16°.10E*
*VIE **28** 04:42:45.8±0.4, 51°.28N×15°.98E, h1km, mb3.2/11, ML3.5/11, Ms4.0/2, Error ellipse: s-maj=2.5km s-min=2.1km az=178.0 74 km WNW of Wroclaw Suspected Mining induced.*
*UPP **28** 04:42:45.9, 51°.73N×15°.45E, h0km, ML2.9, Suspected Mining explosion.*

ISC 28 04:42:42.7±0.5, 51°.49N±0°.02×16°.09E±0°.02, h0km, n239, σ1§12/294, mb3.6/8, 23C-26D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**168**	*e*Pg	**Pg**	**04 42 56.0**	**+0.6**
KSP				*e*Sg	**Sg**	**04 43 05.5**	**+1.6**
KSP	**Ksiaz**	**0.66**	**168**	*e*Pg	**Pg**	**04 42 56.0**	**+0.6**
KSP				*e*Sg	**Sg**	**04 43 05.5**	**+1.6**
KSP	**Ksiaz**	**0.66**	**168**	*e*L	L	04 43 08.0	
KSP	**Ksiaz**	**0.66**	**168**	*e*Pg	**Pg**	**04 42 56.2**	**+0.8**
KSP				*e*Sg	**Sg**	**04 43 05.6**	**+1.7**
KSP	**Ksiaz**	**0.66**	**168**	*e*Pg	**Pg**	**04 42 55.9**	**+0.6**
	baz=357						
KSP				*e*Sg	**Sg**	**04 43 05.5**	**+1.6**
	baz=357						
UPC	**Upice**	**0.98**	**183**	*e*PG	**Pg**	**04 43 02.0**	**+0.4**
UPC	**Upice**	**0.98**	**183**	Pg	**Pg**	**04 43 02.0**	**+0.4**
DPC	**Dobruska-Polom**	**1.15**	**172**	*e*Pg	**Pg**	**04 43 04.8**	**+0.1**
DPC				*e*Sg	**Sg**	**04 43 20.7**	**+1.1**
DPC	**Dobruska-Polom**	**1.15**	**172**	*e*PG	**Pg**	**04 43 04.9**	**+0.1**
DPC				*e*SG	**Sg**	**04 43 20.2**	**+0.6**
	comp=Z,269nm,0.4s						
DPC	**Dobruska-Polom**	**1.15**	**172**	Pg	**Pg**	**04 43 04.9**	**+0.1**
DPC				Sg	**Sg**	**04 43 20.7**	**+1.1**
PVCC	**Panska Ves**	**1.36**	**225**	*e*PG	**Pg**	**04 43 09.0**	**+0.3**
PVCC				*e*SG	**Sb**	**04 43 28.2**	**+1.3**
	comp=Z,2μm,0.2s						
PVCC	**Panska Ves**	**1.36**	**225**	Pg	**Pg**	**04 43 09.0**	**+0.3**
PVCC				Sg	**Sb**	**04 43 28.2**	**+1.3**
	2μm,0.2s						
BRG	**Berggiesshubel**	**1.48**	**246**	PN	**Pn**	**04 43 09.9**	**-0.7**
BRG				PG	**Pb**	**04 43 11.8**	**+0.7**
BRG				SG	**Sn**	**04 43 32.0**	**+1.4**
	778nm,0.7s						
BRG	**Berggiesshubel**	**1.48**	**246**	*e*Pn	**Pn**	**04 43 09.9**	**-0.7**
BRG				*e*Sg	**Sn**	**04 43 32.1**	**+1.4**
BRG	**Berggiesshubel**	**1.48**	**246**	Pn	**Pn**	**04 43 09.9**	**-0.7**
BRG				Sg	**Sn**	**04 43 32.1**	**+1.4**
PRU	**Pruhonice**	**1.79**	**214**	*e*PN	**Pn**	**04 43 14.5**	**-0.4**
PRU				*e*PG	**Pb**	**04 43 16.8**	**+0.4**
PRU				*e*SG	**Sg**	**04 43 41.0**	**+0.7**
	comp=Z,248nm,0.3s						
PRU				AMS	AMS	04 43 50.0	
	comp=Z,1μm,4.7s						
PRU	**Pruhonice**	**1.79**	**214**	Pn	**Pn**	**04 43 14.5**	**-0.4**
FBE	**Freiberg**	**1.81**	**253**	*e*Sg	**Sg**	**04 43 41.9**	**+1.1**
FBE	**Freiberg**	**1.81**	**253**	Sg	**Sg**	**04 43 41.9**	**+1.1**
GKP	**Gorka Klasztor**	**1.92**	**21**	*e*Pn	**Pn**	**04 43 16.5**	**-0.1**
GKP				*e*PP	PnPn	04 43 24.4	+0.5
GKP				*e*Sn	**Sn**	**04 43 40.7**	**-0.7**
GKP				*e*Sg	**Sb**	**04 43 44.5**	**+1.5**
GKP	**Gorka Klasztor**	**1.92**	**21**	*e*Pn	**Pn**	**04 43 16.5**	**-0.1**
GKP				*e*PP	PnPn	04 43 24.4	+0.5
GKP				*e*Sn	**Sn**	**04 43 40.7**	**-0.7**
GKP				*e*Sg	**Sb**	**04 43 44.5**	**+1.5**
GKP	**Gorka Klasztor**	**1.92**	**21**	*e*Pn	**Pn**	**04 43 16.5**	**-0.1**
GKP				*e*Sn	**Sn**	**04 43 40.7**	**-0.7**
GKP				*e*Sg	**Sb**	**04 43 44.5**	**+1.5**
CLL	**Collm**	**1.94**	**266**	*e*Pn	**Pn**	**04 43 15.8**	**-1.1**
CLL	**Collm**	**1.94**	**266**	*i* Pn	**Pn**	**04 43 15.9**	**-1.0**
	comp=Z,49nm,0.4s						
CLL				*i* Pg	**Pb**	**04 43 19.9**	**+1.0**
CLL				*i*		04 43 23.0	
CLL				*e*Sn	Sn	04 43 31.0	-11
CLL				*e*Sg	**Sg**	**04 43 46.0**	**+1.0**
	comp=Z,633nm,0.9s						
CLL	**Collm**	**1.94**	**266**	Pn	**Pn**	**04 43 15.8**	**-1.1**
RAC	**Raciborz**	**1.94**	**136**	*e*Pn	**Pn**	**04 43 15.6**	**-1.3**
RAC	**Raciborz**	**1.94**	**136**	*e*Pg	**Pb**	**04 43 19.3**	**+0.3**
RAC				*e*Sg	**Sg**	**04 43 46.1**	**+1.0**
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn	**Pn**	**04 43 16.4**	**-0.7**
MORC	**Moravsky Berou**	**1.95**	**151**	*i*P	**Pn**	**04 43 16.4**	**-0.7**
MORC	**Moravsky Berou**	**1.95**	**151**	S	**Sb**	**04 43 44.5**	**+0.5**
MORC	**Moravsky Berou**	**1.95**	**151**	*i*P	**Pn**	**04 43 16.4**	**-0.7**
MORC				*e*Sg	**Sb**	**04 43 44.4**	**+0.5**
	comp=Z,286nm,0.4s,baz=336						
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*Pn	**Pn**	**04 43 18.0**	**-1.2**
OKC				*e*Sg	**Sb**	**04 43 49.8**	**+1.2**
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*PG	**Pb**	**04 43 22.4**	**+0.6**
OKC				*e*SG	**Sb**	**04 43 49.1**	**+0.5**
OKC				AMS	AMS	04 44 00.0	
	comp=Z,800nm,4.0s						
OKC	**Ostrava-Krasne**	**2.11**	**141**	Pn	**Pn**	**04 43 18.0**	**-1.2**
OKC	**Ostrava-Krasne**	**2.11**	**141**	Pg	**Pb**	**04 43 22.4**	**+0.6**
OKC				Sg	**Sb**	**04 43 49.8**	**+1.2**
VRAC	**Vranov**	**2.21**	**171**	⇑*i*P	**Pn**	**04 43 21.0**	**+0.4**
VRAC	**Vranov**	**2.21**	**171**	S	**Sb**	**04 43 53.0**	**+1.6**
VRAC	**Vranov**	**2.21**	**171**	Pn	**Pn**	**04 43 21.0**	**+0.4**
	comp=Z,12nm,0.3s,baz=347,slow=14,SNR=103						
VRAC				Pg	**Pg**	**04 43 26.0**	**+1.0**
	comp=Z,23nm,0.3s,baz=352,slow=16,SNR=34						
VRAC				Sn	**Sn**	**04 43 46.0**	**-2.6**
	comp=Z,12nm,0.3s,baz=25,slow=23,SNR=5.6						
VRAC				Lg	Lg	04 43 53.1	
	comp=Z,58nm,0.3s,baz=65,slow=21,SNR=12						
VRAC	**Vranov**	**2.21**	**171**	⇑*i*P	**Pn**	**04 43 21.0**	**+0.4**
VRAC				*e*Sg	**Sb**	**04 43 52.9**	**+1.6**
	comp=Z,234nm,0.5s,baz=354						
TREC	**Trest**	**2.23**	**190**	*e*PN	**Pn**	**04 43 21.7**	**+0.8**
TREC				*e*PG	**Pb**	**04 43 24.8**	**+0.9**
TREC	**Trest**	**2.23**	**190**	Pn	**Pn**	**04 43 21.7**	**+0.8**
KRUC	**Moravsky**	**2.44**	**175**	*e*Pn	**Pn**	**04 43 24.2**	**+0.4**
	baz=358						
KRUC				*e*Sg	**Sg**	**04 44 00.9**	**-0.1**
	comp=Z,119nm,0.3s,baz=358						
TANN	**Tannenbergstha**	**2.53**	**246**	*e*Pn	**Pn**	**04 43 25.3**	**+0.2**

CLZ	**Clausthal**	**3.57 278**	*e*Pn	**Pn**	**04 43 39.8 +0.4**
CLZ			*e*Sg	**Sg**	**04 44 37.0 -0.5**
CLZ	**Clausthal**	**3.57 278**	*i* P	**Pn**	**04 43 39.8 +0.4**
CLZ			*i* Sg	**Sg**	**04 44 37.0 -0.5**
GRA1	**Grafenberg Arr**	**3.58 242**	Pn	**Pn**	**04 43 39.9 +0.4**
GRA1			Sg	**Sg**	**04 44 39.2 +1.4**
GRF	**Grafenberg Arr**	**3.58 242**	*e*Pn	**Pn**	**04 43 39.9 +0.4**
GRF			*e*Sg	**Sg**	**04 44 39.2 +1.4**
BSD	**Bornholm Skovb**	**3.70 350**	*i* P	Pn	04 43 39.0 -2.0
BSD			*i* S	**Sn**	**04 44 22.1 -3.2**
BSD	**Bornholm Skovb**	**3.70 350**	*i* P	Pn	04 43 39.0 -2.0
BSD			*i* S	**Sn**	**04 44 22.1 -3.2**
SOP	**Sopron**	**3.82 175** ⇑e		**Pn**	**04 43 43.1 +0.3**
SOP	**Sopron**	**3.82 175**⇓*e*P		**Pn**	**04 43 43.1 +0.3**
MOA	**Molln** SNR=23	**3.83 199** ⇑*i*Pn		**Pn**	**04 43 43.3 +0.4**
MOA			⇓*i*Sg	**Sg**	**04 44 45.9 +0.2**
	comp=Z,277nm,0.7s				
MOA	**Molln** SNR=23	**3.83 199**	Pn	**Pn**	**04 43 43.3 +0.4**
MOA			Sg	**Sg**	**04 44 45.9 +0.2**
	comp=Z,277nm,0.7s				
HROE	**Hohe Rhon--Fla**	**3.86 258** ⇓*i*Pn		**Pn**	**04 43 43.2 -0.2**
HROE	**Hohe Rhon--Fla**	**3.86 258**	Pn	**Pn**	**04 43 43.2 -0.2**
ARSA	**Arzberg** SNR=18	**4.26 185** ⇓*i*Pn		**Pn**	**04 43 49.1 +0.3**
ARSA			⇑*i*Sg	**Sg**	**04 45 00.1 +0.7**
	comp=Z,98nm,0.6s				
ARSA	**Arzberg** SNR=18	**4.26 185**	Pn	**Pn**	**04 43 49.1 +0.3**
ARSA			Sg	**Sg**	**04 45 00.1 +0.7**
	comp=Z,98nm,0.6s				
CRVS	**Cervenica-Dubn**	**4.32 125** *e*PN		**Pn**	**04 43 49.7 +0.1**
CRVS			*e*PG	**Pg**	**04 44 05.6 +0.2**
CRVS	**Cervenica-Dubn**	**4.32 125** *e*Pn		**Pn**	**04 43 49.7 +0.1**
PSZ	**Piszkesteto**	**4.35 144** ⇓*i* P		**Pn**	**04 43 50.3 +0.2**
PSZ	**Piszkesteto**	**4.35 144** *i* S		**Sg**	**04 45 00.7 -1.5**
PSZ	**Piszkesteto**	**4.35 144** ⇑e		**Pn**	**04 43 50.4 +0.3**
PSZ	**Piszkesteto**	**4.35 144**⇑*e*P		**Pn**	**04 43 50.4 +0.3**
PKSG		**4.37 159** ⇓e		**Pn**	**04 43 50.6 +0.3**
PKSG		**4.37 159**⇓*e*P		**Pn**	**04 43 50.6 +0.3**
PKST	**T"'s**	**4.42 163** ⇓e		**Pn**	**04 43 51.7 +0.7**
PKST	**T"'s**	**4.42 163**⇓*e*P		**Pn**	**04 43 51.7 +0.7**
LUNU	**Lund**	**4.44 340** P		Pn	04 43 48.7 -2.5
LUNU			S	Sn	04 44 36.9 -6.6
BUD	**Budapest**	**4.44 153** ⇑e		**Pn**	**04 43 51.9 +0.6**
BUD	**Budapest**	**4.44 153**⇑*e*P		**Pn**	**04 43 51.9 +0.6**
LLD	**Lille Linde**	**4.49 331** *i* P		Pn	04 43 49.1 -2.8
LLD			*i* S	**Sn**	**04 44 42.1 -2.7**
LLD	**Lille Linde**	**4.49 331** *i* P		Pn	04 43 49.1 -2.8
LLD			*i* S	**Sn**	**04 44 42.1 -2.7**
KWP	**Kalwaria Pacla**	**4.61 111** *e*Pn		**Pn**	**04 43 53.9 +0.3**
KWP			*e*		04 44 07.6
KWP	**Kalwaria Pacla**	**4.61 111** *e*Pn		**Pn**	**04 43 53.9 +0.3**
KWP			*e*		04 44 07.6
KWP	**Kalwaria Pacla**	**4.61 111** *e*Pn		**Pn**	**04 43 53.9 +0.3**
KOLS	**Kolonicke sedl**	**4.73 120** *e*PN		**Pn**	**04 43 54.3 -0.9**
KOLS			*e*PG	**Pg**	**04 44 15.8 +2.6**
KOLS			*e*SG	**Sg**	**04 45 12.9 -1.5**
KOLS	**Kolonicke sedl**	**4.73 120** *e*Pn		**Pn**	**04 43 54.3 -0.9**
COP	**Copenhagen**	**4.73 334** *i* P		Pn	04 43 52.3 -2.9
COP			*e*S	**Sn**	**04 44 48.6 -2.2**
COP	**Copenhagen**	**4.73 334** *e*P		Pn	04 43 52.3 -2.9
COP			*e*S	**Sn**	**04 44 48.6 -2.2**
KBA	**Koelnbreinsper** SNR=29	**4.76 203** ⇓*i*Pn		**Pn**	**04 43 56.6 +0.7**
KBA			⇑*i*Sg	**Sg**	**04 45 15.7 0.0**
	comp=Z,104nm,0.8s				
KBA	**Koelnbreinsper** SNR=29	**4.76 203**	Pn	**Pn**	**04 43 56.6 +0.7**
KBA			Sg	**Sg**	**04 45 15.7 0.0**
	comp=Z,104nm,0.8s				
PERS	**Pernice**	**4.90 188** *i* Pn		**Pn**	**04 43 59.2 +1.5**
PERS	**Pernice**	**4.90 188** *i* Pn		**Pn**	**04 43 59.2 +1.5**
BJUU	**Bjuv**	**4.94 340** P		Pn	04 43 55.2 -2.9
SUW	**Suwalki**	**5.00 57** *e*Pn		**Pn**	**04 43 57.5 -1.4**
SUW			*e*Sn	Sb	04 45 06.9 -4.6
SUW	**Suwalki**	**5.00 57** *e*Pn		**Pn**	**04 43 57.5 -1.4**
SUW			*e*Sn	Sb	04 45 06.9 -4.6
SUW	**Suwalki**	**5.00 57** *e*Pn		**Pn**	**04 43 57.5 -1.4**
TOD	**Tromm**	**5.01 251** P		**Pn**	**04 44 00.1 +1.0**
BEHE	**Becsehely**	**5.04 175** ⇓e		**Pn**	**04 44 01.5 +1.9**
BEHE	**Becsehely**	**5.04 175**⇓*e*P		**Pn**	**04 44 01.5 +1.9**
KOGS	**Kog**	**5.05 179** *i* Pn		**Pn**	**04 44 00.8 +1.2**
KOGS	**Kog**	**5.05 179** *i* Pn		**Pn**	**04 44 00.8 +1.2**
GROS	**Grobnik**	**5.05 185** *i* Pn		**Pn**	**04 44 00.7 +1.0**
GROS	**Grobnik**	**5.05 185** *i* Pn		**Pn**	**04 44 00.7 +1.0**
WATA	**Walderalm** SNR=10	**5.09 217** ⇑*i*Pn		**Pn**	**04 44 00.2 -0.2**
WATA			⇓*i*Sg	**Sg**	**04 45 26.6 +0.4**
	comp=Z,40nm,0.6s				
WATA	**Walderalm** SNR=10	**5.09 217**	Pn	**Pn**	**04 44 00.2 -0.2**
WATA			Sg	**Sg**	**04 45 26.6 +0.4**
	comp=Z,40nm,0.6s				
PKS9	**Tamasi**	**5.11 163** ⇓e		**Pn**	**04 44 01.1 +0.6**
PKS9	**Tamasi**	**5.11 163**⇓*e*P		**Pn**	**04 44 01.1 +0.6**
MOTA	**Moosalm** SNR=12	**5.27 220** ⇓*i*Pn		**Pn**	**04 44 03.1 +0.3**
MOTA			⇑*i*Sg	**Sg**	**04 45 32.9 +1.0**
	comp=Z,47nm,0.6s				
MOTA	**Moosalm** SNR=12	**5.27 220**	Pn	**Pn**	**04 44 03.1 +0.3**
MOTA			Sg	**Sg**	**04 45 32.9 +1.0**
	comp=Z,47nm,0.6s				
ABTA	**Abfaltersbach** SNR=18	**5.29 208** ⇑*i*Pn		**Pn**	**04 44 04.2 +1.1**
ABTA			⇑*i*Sg	**Sg**	**04 45 33.3 +0.6**
	comp=Z,59nm,0.7s				
ABTA	**Abfaltersbach** SNR=18	**5.29 208**	Pn	**Pn**	**04 44 04.2 +1.1**
ABTA			Sg	**Sg**	**04 45 33.3 +0.6**
	comp=Z,59nm,0.7s				
RETA	**Reutte** SNR=11	**5.30 223** ⇓*i*Pn		**Pn**	**04 44 03.0 -0.1**
RETA	**Reutte** SNR=11	**5.30 223**	Pn	**Pn**	**04 44 03.0 -0.1**
TRPA	**Tarpa**	**5.36 126** ⇓*i*P		**Pn**	**04 44 03.7 -0.2**
TRPA	**Tarpa**	**5.36 126** ⇑e		**Pn**	**04 44 03.6 -0.3**
TRPA	**Tarpa**	**5.36 126**⇑*e*P		**Pn**	**04 44 03.6 -0.3**
VXJU	**Vaexsjoe**	**5.48 353** P		Pn	04 44 03.7 -1.9
HOBG	**Hohbusch**	**5.52 268** *e*Pn		**Pn**	**04 44 06.8 +0.7**
HOBG	**Hohbusch**	**5.52 268** Pn		**Pn**	**04 44 06.8 +0.7**
PKSM	**Moragy**	**5.54 161** ⇓*i*P		**Pn**	**04 44 06.1 -0.3**
PKSM	**Moragy**	**5.54 161** ⇑e		**Pn**	**04 44 07.2 +0.8**
PKSM	**Moragy**	**5.54 161**⇑*e*P		**Pn**	**04 44 07.2 +0.8**
LJU	**Ljubljana**	**5.55 191** *e*Pn		**Pn**	**04 44 08.0 +1.5**
LJU	**Ljubljana**	**5.55 191** *e*Pn		**Pn**	**04 44 08.0 +1.5**
VOY	**Vojsko**	**5.65 196** *e*Pn		**Pn**	**04 44 08.5 +0.5**
VOY			*e*		04 44 29.2
VOY			*e*		04 45 45.9
VOY			*e*		04 45 50.4
VOY	**Vojsko**	**5.65 196** *e*Pn		**Pn**	**04 44 08.5 +0.5**
ABH	**Alteburg**	**5.66 257** P		**Pn**	**04 44 06.6 -1.5**
FETA	**Feichten**	**5.68 220** ⇓*i*Pn		**Pn**	**04 44 08.9 +0.4**
FETA			⇑*i*Sg	**Sg**	**04 45 46.9 +1.8**
	comp=Z,39nm,0.9s				
FETA	**Feichten**	**5.68 220**	Pn	**Pn**	**04 44 08.9 +0.4**
FETA			Sg	**Sg**	**04 45 46.9 +1.8**
	comp=Z,39nm,0.9s				
BGG	**Burgeitz**	**5.69 260** *e*Pn		**Pn**	**04 44 08.5 +0.1**
BGG	**Burgeitz**	**5.69 260** Pn		**Pn**	**04 44 08.5 +0.1**
OSKU	**Oskarshamn**	**5.72 0** P		**Pn**	**04 44 07.4 -1.4**
LAUG	**Laupendahl**	**5.72 272** *e*Pn		**Pn**	**04 44 08.7 -0.1**
LAUG	**Laupendahl**	**5.72 272** Pn		**Pn**	**04 44 08.7 -0.1**
WTSB	**Winterswijk**	**5.79 278** *e*P		**Pn**	**04 44 10.0 +0.2**
WTSB			*e*S	**Sg**	**04 45 53.9 +5.3**
WTSB	**Winterswijk**	**5.79 278** *e*P		**Pn**	**04 44 10.0 +0.2**
BYXU	**Byxelkrok**	**5.84 5** P		**Pn**	**04 44 09.0 -1.4**
DAVA	**Damuels** SNR=8.5	**5.84 226** ⇓*i*Pn		**Pn**	**04 44 10.3 -0.3**
DAVA	**Damuels** SNR=8.5	**5.84 226** Pn		**Pn**	**04 44 10.3 -0.3**
STB	**Steinbach**	**5.90 265** *e*Pn		**Pn**	**04 44 11.2 -0.1**
STB	**Steinbach**	**5.90 265** Pn		**Pn**	**04 44 11.2 -0.1**
BOJS	**Bojanci**	**6.02 186** *i* Pn		**Pn**	**04 44 13.9 +1.0**
BOJS	**Bojanci**	**6.02 186** *i* Pn		**Pn**	**04 44 13.9 +1.0**
RUP	**Ruppelstein**	**6.02 256** P		**Pn**	**04 44 11.8 -1.2**
HILG	**Hillesheim**	**6.07 262** *e*Pn		**Pn**	**04 44 13.8 +0.1**
HILG	**Hillesheim**	**6.07 262** Pn		**Pn**	**04 44 13.8 +0.1**
EKSU	**Eksjoe**	**6.11 356** P		**Pn**	**04 44 12.6 -1.6**
KLL	**Kalltalsperre**	**6.22 266** *e*Pn		**Pn**	**04 44 15.8 +0.1**
KLL	**Kalltalsperre**	**6.22 266** Pn		**Pn**	**04 44 15.8 +0.1**
DAVOX	**Davos/Dischmat**	**6.23 223** Pn		**Pn**	**04 44 16.9 +0.9**
	comp=Z,1.6nm,0.3s,baz=76,slow=14,SNR=23				
DAVOX			Sn	**Sn**	**04 45 27.4 -0.6**
	comp=Z,0.6nm,0.3s,baz=35,slow=22,SNR=1.6				
DAVOX			Lg	Lg	04 46 00.0
	comp=Z,1.3nm,0.3s,baz=169,slow=20,SNR=4.7				
DREG	**Dreilaegerbach**	**6.26 266** *e*Pn		**Pn**	**04 44 16.1 -0.2**
DREG			*e*Sn	**Sn**	**04 45 26.6 -2.0**
	comp=Z,16nm,0.6s				
DREG	**Dreilaegerbach**	**6.26 266** Pn		**Pn**	**04 44 16.1 -0.2**
DREG			Sn	**Sn**	**04 45 26.6 -2.0**
	comp=Z,16nm,0.6s				
DRGR		**6.40 135** ⇓*i*P		**Pn**	**04 44 18.3 0.0**
DRGR		**6.40 135** S		**Sn**	**04 45 27.5 -4.6**
DRGR		**6.40 135** ⇓*i*P		**Pn**	**04 44 18.3 0.0**
MEM	**Membach**	**6.42 266** PN		**Pn**	**04 44 18.1 -0.3**
MEM	**Membach**	**6.42 266** Pn		**Pn**	**04 44 18.1 -0.3**
MUD	**Monsted U'grnd**	**6.43 323** *i* P		**Pn**	**04 44 17.0 -1.5**
MUD			*e*S	Sn	04 45 26.6 -5.9
MUD	**Monsted U'grnd**	**6.43 323** *i* P		**Pn**	**04 44 17.0 -1.5**
HGN	**Heimansgroeve**	**6.43 267** *e*P		**Pn**	**04 44 19.7 +1.1**
HGN			*e*S	**Sg**	**04 46 09.4 +0.2**
HGN	**Heimansgroeve**	**6.43 267** *e*P		**Pn**	**04 44 19.7 +1.1**
CDF	**Champ du Feu**	**6.46 245** *e*Pn		Pn	04 44 16.5 -2.7
CDF	**Champ du Feu**	**6.46 245** *e*P		**Pn**	**04 44 19.6 +0.4**
CDF			*e*Sg	Sb	04 46 02.9 +9.0
	comp=Z,233nm,1.1s				
CDF	**Champ du Feu**	**6.46 245** *e*P		**Pn**	**04 44 19.6 +0.4**
WLF	**Walferdange**	**6.58 258** PN		**Pn**	**04 44 19.9 -0.8**
WLF	**Walferdange**	**6.58 258** Pn		**Pn**	**04 44 19.9 -0.8**
LNKU	**Linkoeping**	**6.76 357** P		Pn	04 44 21.3 -1.7
FKPU	**Falk**	**6.82 349** P		**Pn**	**04 44 22.6 -1.3**
BCLA	**Clavier**	**6.90 265** PN		**Pn**	**04 44 24.9 -0.1**
BCLA	**Clavier**	**6.90 265** Pn		**Pn**	**04 44 24.9 -0.1**
HINF	**Hinteralfeld**	**7.03 242** *e*Pn		Pn	04 44 24.7 -2.2
HINF			*e*Sg	Sg	04 46 20.6 -7.7
	comp=Z,158nm,1.2s				
HINF	**Hinteralfeld**	**7.03 242** *e*Pn		Pn	04 44 24.7 -2.2
BURAR	**Bucovina Array**	**7.09 120** ⇑*i*P		**Pn**	**04 44 27.6 -0.2**
BURAR	**Bucovina Array**	**7.09 120** ⇑*i*P		**Pn**	**04 44 27.6 -0.2**
HAU	**Haudompre**	**7.21 245** *e*Pn		Pn	04 44 27.3 -2.0
HAU			*e*Sg	Sg	04 46 26.3 -7.7
	comp=Z,55nm,0.8s				
HAU	**Haudompre**	**7.21 245** *e*Pn		Pn	04 44 27.3 -2.0
GIVF	**Givet**	**7.27 263** *e*Sg		Sg	04 46 28.7 -7.4
	comp=Z,56nm,0.8s				
NACGM	**Naroch**	**7.28 58** *e*		**Pg**	**04 45 03.0 +1.0**
DOU	**Dourbes**	**7.42 264** PN		**Pn**	**04 44 31.6 -0.6**
DOU	**Dourbes**	**7.42 264** Pn		**Pn**	**04 44 31.5 -0.6**
SNF	**Seneffe**	**7.51 267** PN		**Pn**	**04 44 32.5 -1.0**
SNF	**Seneffe**	**7.51 267** Pn		**Pn**	**04 44 32.4 -1.0**
NYNU	**Nynaeshamn**	**7.61 8** P		**Pn**	**04 44 33.2 -1.5**
MEZF	**Maizieres J'vi**	**7.71 252** *e*Sg		Sg	04 46 42.0 -8.2
	comp=Z,122nm,1.2s				
MICGM	**Minsk**	**7.73 62** *e*		Pb	04 45 05.0 +7.5
CABF	**La Chapelle**	**8.18 237** *e*Sg		Sg	04 46 57.5 -7.7
	comp=Z,152nm,1.2s				
FINU	**Finntorp**	**8.19 347** P		Pn	04 44 40.4 -2.3
AKASG	**Malin Array Be**	**8.31 90** Pn		Pn	04 44 42.0 -2.3
	comp=Z,4.4nm,0.3s,baz=278,slow=12,SNR=16				
AKASG			Sn	Sn	04 46 10.9 -8.0
	comp=Z,3.3nm,0.3s,baz=275,slow=23,SNR=4.8				
AKASG			Lg	Lg	04 47 08.2
	baz=278,slow=29,SNR=3.2				
LPG	**La Plagne**	**8.62 230** *e*P		**Pn**	**04 44 49.7 +0.8**
LPG			*e*Sg	Sg	04 47 10.5 -10
	comp=Z,113nm,1.4s				
LPG	**La Plagne**	**8.62 230** *e*P		**Pn**	**04 44 49.7 +0.8**
HFS	**Hagfors**	**8.77 352** Pn		Pn	04 44 48.6 -2.0
	comp=Z,0.5nm,0.3s,baz=165,slow=15,SNR=21				
HFS			Sn	Sn	04 46 23.2 -6.9
	comp=Z,0.6nm,0.3s,baz=164,slow=18,SNR=2.1				
LOR	**Lormes** baz=71	**9.02 247** *e*Pn		**Pn**	**04 44 52.7 -1.5**
LOR			*e*Sg	Sn	04 47 23.6 +47
	comp=Z,37nm,0.9s				
LOR	**Lormes** baz=71	**9.02 247** *e*Pn		**Pn**	**04 44 52.7 -1.5**
LOR			*e*Sg	Sn	04 47 23.6 +47
	comp=Z,19nm,0.9s				
MBDF	**Montbardon**	**9.19 226** *e*P		**Pn**	**04 44 57.6 +1.0**
MBDF			*e*Sg	Sn	04 47 26.8 +46
	comp=Z,18nm,0.8s				
MBDF	**Montbardon**	**9.19 226** *e*P		**Pn**	**04 44 57.6 +1.0**
SSF	**Saint Saulge**	**9.34 247** *e*Pn		**Pn**	**04 44 56.6 -1.9**
SSF	**Saint Saulge**	**9.34 247** *e*Pn		**Pn**	**04 44 56.6 -1.9**
NOA	**NORSAR Array B**	**9.95 346** Pn		Pn	04 45 02.9 -3.9
	comp=Z,0.4nm,0.3s,baz=163,slow=12,SNR=10				
NOA			Sn	Sn	04 46 47.6 -11
	comp=Z,0.4nm,0.3s,baz=223,slow=15,SNR=1.9				
BGF	**Bois d'Agland**	**9.99 246** *e*Sg		Sn	04 47 54.1 +54
	comp=Z,7nm,0.7s				
FRF	**La Foret Royal**	**10.17 222** *e*P		**Pn**	**04 45 11.5 +1.6**
FRF	**La Foret Royal**	**10.17 222** *e*P		**Pn**	**04 45 11.5 +1.6**
FINES	**FINESS Array B**	**11.39 25** Pn		Pn	04 45 23.0 -3.4
	comp=Z,0.9nm,0.3s,baz=210,slow=11,SNR=35				
FINES			Sn	Sn	04 47 20.1 -14
	comp=Z,0.3nm,0.3s,baz=218,slow=16,SNR=2.2				
KAF	**Kangasniemi**	**12.01 24** *e*p		Pn	04 45 30.5 -4.5
	comp=Z,1.5nm,0.5s				
JOF	**Joensuu**	**14.07 30** *e*p		Pn	04 45 57.7 -5.3
	comp=Z,1.2nm,0.5s				
BRTR	**Keskin Array B**	**16.95 127** P		**Pn**	**04 46 41.1 -0.3**
	comp=Z,0.1nm,0.3s,baz=333,slow=11,SNR=2.7				
ARCES	**ARCESS Array B**	**18.65 10** P		P	04 46 56.9 -4.8
	comp=Z,0.9nm,0.3s,baz=195,slow=13,SNR=23				
KEV	**Kevo**	**19.03 12** *e*p		P	04 47 02.0 -3.9
	comp=Z,3.9nm,0.6s				
AKTO	**Aktyubinsk**	**26.18 76** P		**P**	**04 48 18.1 -0.5**
	comp=Z,1.4nm,0.6s,baz=279,slow=9.2,SNR=8.5				
TORD	**Toroci Ar. Bea**	**39.98 202** P		**P**	**04 50 18.7 -0.2**
	comp=Z,1.4nm,0.9s,baz=6.1,slow=8.1,SNR=7.0				
ZALV	**Zalesovo Beam**	**40.22 59** P		**P**	**04 50 20.8 +0.2**
	comp=Z,0.5nm,0.5s,baz=296,slow=8.1,SNR=5.7				
MKAR	**Makanchi Array**	**42.24 69** P		**P**	**04 50 37.0 -0.3**
	comp=Z,0.3nm,0.4s,baz=304,slow=7.4,SNR=8.6				
SONM	**Songino Array**	**54.94 55** P		**P**	**04 52 15.4 +0.2**
	comp=Z,0.9nm,1.0s,baz=301,slow=6.1,SNR=7.3				
YKA	**Yellowknife Ar**	**59.87 336** P		**P**	**04 52 48.9 -0.6**
	comp=Z,0.8nm,0.6s,baz=29,slow=6.7,SNR=20				
PDAR	**Pinedale Array**	**74.95 322** P		**P**	**04 54 24.9 -0.7**
	comp=Z,0.4nm,0.8s,baz=46,slow=4.3,SNR=4.4				
TXAR	**Lajitas Array**	**83.72 310** P		**P**	**04 55 12.2 -1.4**
	comp=Z,0.4nm,0.8s,baz=64,slow=2.9,SNR=4.3				

IDC ***28*** *04:49:45.5±10.0, 24.09N×122.57E, h0km, mb3.7/5, mb1 3.7/5, mb1mx3.5/25, mbtmp3.7/5, Error ellipse: s-maj=231.7km s-min=97.4km az=104.0*
ISCJB ***28*** *04:49:50.5±0.4, 23.98N±0.02×122.34E±0.02, h19km±4km, mb3.5/5, Error ellipse: s-maj=3.8km s-min=2.4km az=160.7*
TAP ***28*** *04:49:50.6, 24.02N×122.33E, h23km, ML3.5, C*
JMA ***28*** *04:49:51.6±0.4, 24.31N×122.26E, h47km, M3.2*
ISC 28 04:49:50.6±1.0, 23.99N±0.02×122.32E±0.02, h28km±9km, n52, σ0s72/93, mb3.7/5, 2C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
HWA	**Hwalien** baz=253	**0.65**	**269**	*e*P	**Pb**	**04 50 03.5**	**+0.1**
HWA				S	**Sb**	**04 50 12.7**	**+0.5**
	baz=253						
TWD	**Chiawan** baz=275	**0.66**	**278**	*i* P	**Pb**	**04 50 03.5**	**-0.2**
TWD				*i* S	**Sb**	**04 50 13.0**	**+0.4**
	baz=275						
ENA	**Nanau** baz=318	**0.68**	**310**	⇑*i*P	**Pb**	**04 50 03.5**	**-0.5**
ENA				*e*S	**Sb**	**04 50 12.7**	**-0.4**
	baz=318						
TWC	**Suao** baz=323	**0.75**	**326**	⇑*i*P	**Pb**	**04 50 04.2**	**-0.9**
TWC				S	**Sb**	**04 50 14.4**	**-0.6**
	baz=323						
YOJ	**Yonaguni jima**	**0.79**	**53**	P	**Pb**	**04 50 05.3**	**-0.5**
YOJ				S	**Sb**	**04 50 14.9**	**-1.3**
ESL	**Shilin** baz=246	**0.83**	**258**	*e*P	**Pn**	**04 50 06.0**	**-0.4**
ESL				*e*S	**Sb**	**04 50 17.2**	**0.0**
	baz=246						
ILA	**Ilan** baz=324	**0.93**	**326**	*e*P	**Pb**	**04 50 08.2**	**0.0**
ILA				*e*S	**Sn**	**04 50 20.6**	**+0.3**
	baz=324						
TWE	**Neicheng** baz=327	**0.94**	**321**	P	**Pn**	**04 50 08.0**	**0.0**
TWE				S	**Sn**	**04 50 20.5**	**+0.1**
	baz=327						
ENTT	**Nioudou** baz=323	**0.94**	**314**	P	**Pb**	**04 50 08.3**	**-0.1**
ENTT				S	**Sn**	**04 50 20.8**	**+0.2**
	baz=323						
NNS	**Nan Shan** baz=282	**0.97**	**298**	⇓*i*P	**Pn**	**04 50 08.6**	**+0.1**
NNS				S	**Sn**	**04 50 22.0**	**+0.6**
	baz=282						
WHF	**Hehuan Shan** baz=277	**0.97**	**279**	P	**Pn**	**04 50 08.6**	**-0.2**
WHF				*e*S	**Sn**	**04 50 21.5**	**-0.4**
	baz=277						
EHY	**Hungye** baz=241	**1.03**	**242**	*e*P	**Pn**	**04 50 09.4**	**+0.2**
EHY				*e*S	**Sn**	**04 50 22.6**	**-0.1**
	baz=241						
TWB1	**Santiao Chiao** baz=329	**1.06**	**344**	P	**Pn**	**04 50 09.8**	**+0.2**
TWB1				S	**Sb**	**04 50 24.1**	**+0.3**
	baz=329						
TWT	**Tachien** baz=271	**1.07**	**284**	*e*P	**Pb**	**04 50 10.8**	**+0.2**
TWT				*e*S	**Sb**	**04 50 25.5**	**+1.1**
	baz=271						
NSK	**Sanguang** baz=305	**1.11**	**308**	P	**Pn**	**04 50 10.6**	**+0.3**
NSK				S	**Sb**	**04 50 26.1**	**+0.8**
	baz=305						
TWF1	**Yuli** baz=223	**1.13**	**236**	⇓P	**Pn**	**04 50 10.7**	**+0.1**
TWF1				*e*S	**Sn**	**04 50 25.8**	**+0.6**
	baz=223						
NWF	**Wu-fen Shan** baz=332	**1.18**	**336**	P	**Pn**	**04 50 11.8**	**+0.4**
NWF				S	**Sb**	**04 50 27.5**	**+0.1**
	baz=332						
TAP1	**Taipei** baz=322	**1.27**	**326**	*e*P	**Pb**	**04 50 13.9**	**0.0**
TAP1				*e*S	**Sb**	**04 50 30.8**	**+1.0**
	baz=322						
SMLT	**Sun Moon Lake** baz=254	**1.30**	**266**	*e*P	**Pn**	**04 50 13.6**	**+0.6**
SMLT				*e*S	**Sn**	**04 50 30.1**	**+0.5**
	baz=254						
TYC	**Yuchr** baz=265	**1.34**	**267**	*e*P	**Pn**	**04 50 14.2**	**+0.8**
TYC				*e*S	**Sn**	**04 50 30.8**	**+0.6**
	baz=265						
IRIF	**Iriomote-Funau**	**1.34**	**75**	P	**Pn**	**04 50 14.2**	**+0.8**
IRIF				*e*S	**Sb**	**04 50 31.7**	**-0.1**
YUS	**Yu-Shan** baz=237	**1.34**	**249**	*e*P	**Pn**	**04 50 15.1**	**+1.1**
NSTT	**Nanjuang** baz=296	**1.36**	**298**	P	**Pb**	**04 50 15.2**	**-0.2**
NSTT				S	**Sb**	**04 50 32.7**	**+0.3**
	baz=296						
HATJ	**Hateruma jima**	**1.36**	**87**	P	**Pb**	**04 50 15.9**	**+0.4**
HATJ				*e*S	**Sb**	**04 50 32.7**	**+0.2**
TWS1	**Kuangyinshan** baz=332	**1.38**	**324**	*e*P	**Pb**	**04 50 15.1**	**-0.7**
TWS1				*e*S	**Sb**	**04 50 33.8**	**+0.9**
	baz=332						
ELDTW	**Lidau** baz=236	**1.43**	**237**	*e*P	**Pn**	**04 50 14.7**	**-0.1**
ELDTW				*e*S	**Sn**	**04 50 32.0**	**-0.7**
	baz=236						
TWY	**Chenhua** baz=330	**1.44**	**333**	*e*P	**Pb**	**04 50 16.2**	**-0.6**
TWY				*e*S	**Sn**	**04 50 33.1**	**+0.3**
	baz=330						
TWQ1	**Liyutan** baz=282	**1.45**	**285**	P	**Pb**	**04 50 16.5**	**-0.5**
TWQ1				*e*S	**Sb**	**04 50 34.9**	**-0.2**
	baz=282						
ALS	**Alishan** baz=250	**1.46**	**251**	*e*P	**Pn**	**04 50 16.4**	**+1.0**
ALS				*e*S	**Sn**	**04 50 35.1**	**+1.3**
	baz=250						
WNT	**Mingjian** baz=265	**1.50**	**266**	*e*P	**Pb**	**04 50 17.5**	**-0.3**
WNT				*e*S	**Sb**	**04 50 37.1**	**+0.7**
	baz=265						
TCU	**Taichung** baz=274	**1.51**	**276**	*e*P	**Pb**	**04 50 17.8**	**-0.1**
TCU				*e*S	**Sb**	**04 50 37.0**	**+0.4**
	baz=274						
CHN5	**Tsauling** baz=244	**1.55**	**256**	*e*P	**Pb**	**04 50 18.1**	**-0.6**
CHN5				*e*S	**Sb**	**04 50 38.5**	**+0.5**
	baz=244						
JKRS	**Kuro-shima**	**1.57**	**81**	P	**Pn**	**04 50 17.4**	**+0.8**
JKRS				*e*S	**Sb**	**04 50 38.8**	**+0.4**
TWG	**Pinlang** baz=237	**1.63**	**225**	*e*P	**Pn**	**04 50 17.5**	**0.0**
TWG				*e*S	**Sn**	**04 50 37.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPR	**University Cam**	**0.08**	**211**	**P**	**Pg**	**04 52 56.2**	**-0.2**
UPR				S	Sg	04 52 58.2	+0.3
UPR	**University Cam**	**0.08**	**211**	*e*PG	**Pg**	**04 52 56.2**	**-0.2**
UPR				*e*SG	**Sg**	**04 52 58.1**	**+0.2**
UPR	**University Cam**	**0.08**	**211**	P	**Pg**	**04 52 56.2**	**-0.2**
UPR				S	**Sg**	**04 52 58.2**	**+0.3**
EFP	**Efpalio**	**0.10**	**35**	P	**Pg**	**04 52 56.6**	**-0.1**
EFP				S	**Sg**	**04 52 58.8**	**+0.4**
EFP	**Efpalio**	**0.10**	**35**	*e*PG	**Pg**	**04 52 56.7**	**0.0**
EFP				*e*SG	**Sg**	**04 52 58.2**	**-0.2**
EFP	**Efpalio**	**0.10**	**35**	P	**Pg**	**04 52 56.6**	**-0.1**
EFP				*e*Sg	**Sg**	**04 52 58.2**	**-0.2**
EFP				S		04 52 58.8	
LAKA	**Lakka**	**0.16**	**134**	P	**Pg**	**04 52 57.4**	**-0.3**
LAKA				S	**Sg**	**04 53 00.0**	**0.0**
LAKA	**Lakka**	**0.16**	**134**	P	**Pg**	**04 52 57.4**	**-0.3**
LAKA				S	**Sg**	**04 52 59.9**	**0.0**
TRIZ	**Trizonia**	**0.19**	**85**	P	**Pg**	**04 52 58.4**	**+0.2**
TRIZ	**Trizonia**	**0.19**	**85**	P	**Pg**	**04 52 58.1**	**-0.1**
TRIZ				S	**Sg**	**04 53 01.4**	**+0.6**
KALE	**Kalithea**	**0.24**	**80**	P	**Pg**	**04 52 59.3**	**0.0**
KALE				S	**Sg**	**04 53 03.4**	**+0.9**
KALE	**Kalithea**	**0.24**	**80**	P	**Pg**	**04 52 59.2**	**0.0**
KALE				S	**Sg**	**04 53 03.2**	**+0.7**
RLS	**Riolos of Patr**	**0.41**	**225**	P	**Pg**	**04 53 02.5**	**+0.2**
RLS	**Riolos of Patr**	**0.41**	**225**	*e*PB	**Pg**	**04 53 02.5**	**+0.2**
RLS				*e*SB	**Sb**	**04 53 09.3**	**-0.8**
RLS	**Riolos of Patr**	**0.41**	**225**	P	**Pg**	**04 53 02.5**	**+0.2**
RLS				S	**Sg**	**04 53 08.5**	**+0.8**
RLS				*e*Sb	**Sb**	**04 53 09.3**	**-0.8**
DSF	**Desfina**	**0.55**	**83**	P	**Pg**	**04 53 04.3**	**-0.6**
DSF				S	**Sb**	**04 53 13.7**	**-0.4**
DSF	**Desfina**	**0.55**	**83**	P	**Pg**	**04 53 04.3**	**-0.6**
DSF				S	**Sg**	**04 53 12.4**	**+0.3**
DESF	**Desfina**	**0.55**	**83**	P	**Pg**	**04 53 04.0**	**-1.0**
DESF	**Desfina**	**0.55**	**83**	P	**Pg**	**04 53 04.0**	**-1.0**
EVR	**Evrytania**	**0.57**	**358**	P	**Pg**	**04 53 05.3**	**0.0**
EVR	**Evrytania**	**0.57**	**358**	*e*PB	**Pg**	**04 53 05.3**	**0.0**
EVR				*e*SB	**Sb**	**04 53 14.8**	**+0.1**
EVR	**Evrytania**	**0.57**	**358**	P	**Pg**	**04 53 05.3**	**0.0**
EVR				S	**Sg**	**04 53 13.7**	**+0.9**
EVR				*e*Sb	**Sb**	**04 53 14.8**	**+0.1**
GUR	**Goura**	**0.57**	**136**	P	**Pg**	**04 53 04.6**	**-0.8**
GUR				S	**Sg**	**04 53 13.2**	**+0.2**
GUR	**Goura**	**0.57**	**136**	*e*PG	**Pg**	**04 53 04.7**	**-0.7**
GUR				*e*SB	**Sg**	**04 53 13.2**	**+0.2**
GUR	**Goura**	**0.57**	**136**	P	**Pg**	**04 53 04.6**	**-0.8**
GUR				S	**Sg**	**04 53 12.9**	**-0.1**
GUR				*e*Sb	**Sg**	**04 53 13.2**	**+0.2**
MAKR	**Makrakomi, Fth**	**0.70**	**19**	P	**Pg**	**04 53 08.0**	**+0.1**
MAKR	**Makrakomi, Fth**	**0.70**	**19**	P	**Pg**	**04 53 08.0**	**+0.1**
AXAR	**Agios Charalam**	**0.77**	**57**	P	**Pg**	**04 53 08.4**	**-0.7**
AXAR	**Agios Charalam**	**0.77**	**57**	P	**Pg**	**04 53 08.4**	**-0.7**
KFL	**Anninata**	**0.86**	**254**	P	**Pg**	**04 53 10.8**	**0.0**
KFL	**Anninata**	**0.86**	**254**	P	**Pg**	**04 53 10.8**	**0.0**
LTK	**Loutraki**	**0.95**	**110**	P	**Pb**	**04 53 13.0**	**0.0**
LTK	**Loutraki**	**0.95**	**110**	*e*PN	**Pb**	**04 53 12.9**	**0.0**
LTK				*e*SB	**Sg**	**04 53 24.8**	**-0.1**
LTK	**Loutraki**	**0.95**	**110**	P	**Pg**	**04 53 12.3**	**-0.2**
LTK	**Loutraki**	**0.95**	**110**	*e*Pn	**Pb**	**04 53 12.9**	**0.0**
LTK				*e*Sb	**Sg**	**04 53 24.8**	**-0.1**
LKR	**Lokris**	**0.96**	**71**	P	**Pg**	**04 53 11.9**	**-0.9**
LKR	**Lokris**	**0.96**	**71**	P	**Pg**	**04 53 11.9**	**-0.9**
ATAL	**Atalanti**	**0.99**	**69**	P	**Pg**	**04 53 12.6**	**-0.7**
ATAL	**Atalanti**	**0.99**	**69**	P	**Pg**	**04 53 12.6**	**-0.7**
VLS	**Valsamata**	**1.00**	**260**	P	**Pg**	**04 53 12.8**	**-0.6**
VLS	**Valsamata**	**1.00**	**260**	*e*PB	**Pg**	**04 53 12.8**	**-0.6**
VLS				*e*SB	**Sn**	**04 53 29.5**	**+0.8**
VLS	**Valsamata**	**1.00**	**260**	P	**Pg**	**04 53 12.8**	**-0.6**
VLS				*e*Sb	**Sn**	**04 53 29.5**	**+0.8**
VLX	**Vlachokerasia**	**1.07**	**156**	P	**Pg**	**04 53 13.6**	**-1.2**
VLX	**Vlachokerasia**	**1.07**	**156**	*e*PG	**Pg**	**04 53 13.8**	**-1.0**
VLX	**Vlachokerasia**	**1.07**	**156**	*e*Pg	**Pg**	**04 53 13.8**	**-1.0**
VLX				S	**Sb**	**04 53 29.4**	**+0.3**
ITM	**Ithomi**	**1.17**	**176**	*e*PB	**Pb**	**04 53 16.4**	**-0.3**
ITM	**Ithomi**	**1.17**	**176**	*e*Pb	**Pb**	**04 53 16.4**	**-0.3**
THL	**Klokotos Trika**	**1.22**	**6**	P	**Pb**	**04 53 17.4**	**-0.2**
THL	**Klokotos Trika**	**1.22**	**6**	*e*PG	**Pg**	**04 53 17.7**	**-0.1**
THL	**Klokotos Trika**	**1.22**	**6**	P	**Pb**	**04 53 17.4**	**-0.2**
THL	**Klokotos Trika**	**1.22**	**6**	*e*Pg	**Pg**	**04 53 17.7**	**-0.1**
DID	**Didima**	**1.39**	**127**	P	**Pn**	**04 53 19.5**	**-0.4**
DID	**Didima**	**1.39**	**127**	*e*PG	**Pn**	**04 53 19.9**	**0.0**
DID	**Didima**	**1.39**	**127**	P	**Pn**	**04 53 19.5**	**-0.4**
DID	**Didima**	**1.39**	**127**	*e*Pg	**Pn**	**04 53 19.9**	**0.0**
PYL	**PYLOS**	**1.45**	**183**	*e*PG	**Pn**	**04 53 20.8**	**+0.1**
PYL	**PYLOS**	**1.45**	**183**	*e*Pg	**Pn**	**04 53 20.8**	**+0.1**
ATH	**Athens Observa**	**1.53**	**104**	*e*PB	**Pb**	**04 53 23.0**	**+0.2**
ATH	**Athens Observa**	**1.53**	**104**	*e*Pb	**Pb**	**04 53 23.0**	**+0.2**
KYTH	**Kithira**	**2.27**	**155**	*e*PG	**Pb**	**04 53 35.7**	**+0.1**
KYTH	**Kithira**	**2.27**	**155**	*e*Pg	**Pb**	**04 53 35.7**	**+0.1**
BIA	**Bitola**	**2.70**	**352**	*e*Pn	**Pb**	**04 53 41.3**	**-1.4**
BIA	**Bitola**	**2.70**	**352**	*e*Pn	**Pb**	**04 53 41.3**	**-1.4**
VAY	**Valandovo**	**3.02**	**11**	*e*Pn	**Pb**	**04 53 45.4**	**-2.9**
VAY	**Valandovo**	**3.02**	**11**	*e*Pn	**Pb**	**04 53 45.9**	**-2.4**
BRTR	**Keskin Array B**	**9.29**	**78**	Pn	**Pn**	**04 55 11.0**	**+2.5**
	0.1nm,0.3s,baz=254,slow=13,SNR=3.8						
ESDC	**Sonseca Array**	**20.07**	**282**	P	Pn	04 57 29.4	-0.5
	0.6nm,0.7s,baz=73,slow=11,SNR=6.1						
TORD	**Torodi Ar. Bea**	**30.82**	**221**	P	**P**	**04 59 10.3**	**-0.4**
	0.2nm,0.8s,baz=11,slow=5.8,SNR=2.7						
KURBB	**Kurchatov Arra**	**41.29**	**54**	P	**P**	**05 00 41.1**	**+1.2**
	0.2nm,0.6s,baz=279,slow=8.1,SNR=3.6						
MKAR	**Makanchi Array**	**44.33**	**59**	P	**P**	**05 01 05.0**	**+0.4**
	0.2nm,0.4s,baz=282,slow=7.3,SNR=7.9						

IDC 28 04:56:40.9±1.5, 11°31S×12°04E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.5/24, mbtmp3.6/7, ML3.4/1, Error ellipse: s-maj=55.0km s-min=21.1km az=57.0, South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBTB	**Lobatse**	**18.73**	**139**	P	P	05 01 01.4	-0.1
	0.1nm,0.3s,baz=294,slow=12,SNR=1.9						
LBTB				S	Sn	05 04 20.1	-12
	0.1nm,0.3s,baz=65,slow=19,SNR=1.5						
BOSA	**Boshof**	**21.19**	**146**	P	P	05 01 28.4	0.0
	0.9nm,0.7s,baz=339,slow=14,SNR=1.6						
DBIC	**Dimbokro**	**24.53**	**316**	P	P	05 02 02.7	+0.3
	0.7nm,0.4s,baz=142,slow=11,SNR=3.6						
TORD	**Torodi Ar. Bea**	**26.38**	**337**	P	P	05 02 18.1	-1.1
	0.5nm,0.4s,baz=164,slow=9.8,SNR=20						
BRTR	**Keskin Array B**	**54.60**	**20**	P	P	05 06 10.9	-0.6
	0.7nm,1.0s,baz=221,slow=5.7,SNR=2.6						
GERES	**GERESS Array B**	**59.91**	**1**	P	P	05 06 50.5	+1.7
	0.4nm,0.7s,baz=161,slow=7.0,SNR=2.6						
MKAR	**Makanchi Array**	**85.06**	**40**	P	P	05 09 17.9	-0.8
	0.3nm,0.7s,baz=246,slow=4.9,SNR=3.6						

IDC 28 04:57:59.6±1.4, 4°14N×126°95E, h0km, mb3.6/7, mb1 3.7/7, mb1mx3.6/23, mbtmp3.6/7, MS3.4/1, Ms1 3.3/1, ms1mx2.2/39, Error ellipse: s-maj=195.4km s-min=16.7km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.00**	**163**	P	P	05 03 25.0	-0.4
	2.1nm,0.7s,baz=343,slow=10,SNR=7.5						
ASAR	**Alice Springs**	**28.45**	**167**	P	P	05 03 56.7	+0.3
	0.3nm,0.7s,baz=347,slow=7.5,SNR=2.9						
STKA	**Stephens Creek**	**38.43**	**160**	P	P	05 05 22.9	-0.2
	1.2nm,0.6s,baz=345,slow=9.9,SNR=4.4						
STKA				LR	LR	05 21 56.1	
	comp=Z,49nm,18.9s,baz=26,slow=37						
SONM	**Songino Array**	**46.99**	**341**	P	P	05 06 32.6	0.0
	0.3nm,0.8s,baz=142,slow=4.9,SNR=3.0						
MKAR	**Makanchi Array**	**57.35**	**325**	P	P	05 07 49.9	+0.2
	0.3nm,0.5s,baz=110,slow=7.4,SNR=7.6						
MKAR				PcP	PcP	05 08 44.4	+0.6
	0.3nm,0.7s,baz=113,slow=3.6,SNR=3.8						
ZALV	**Zalesovo Beam**	**60.33**	**333**	P	P	05 08 10.0	-0.2
	0.2nm,0.3s,baz=102,slow=6.6,SNR=2.8						
KURBB	**Kurchatov Arra**	**61.52**	**327**	P	P	05 08 17.6	-0.7
	0.5nm,0.5s,baz=130,slow=6.2,SNR=5.6						

*IDC **28** 05:09:20.7±3.2, 36°36N×142°03E, h0km, mb3.7/4, mb1 3.7/6, mb1mx3.4/28, mbtmp3.7/6, ML3.7/2, MS2.6/2,*

Ms1 2.6/2, ms1mx2.2/36, Error ellipse: s-maj=53.4km s-min=37.0km az=104.0
*JMA **28** 05:09:25.3±0.2, 36°41N×141°68E, h69km±4km, M3.2*
ISC 28 05:09:26.2±2.1, 36°40N±0°05×141°7E±0°.1, h47km±49km, n19, σ1s16/18, mb3.4/4, 1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.96**	**283**	||P	**Pn**	**05 09 42.4**	**-1.0**
JHO				*e*S	**Sn**	**05 09 56.4**	**+0.5**
CHOJ	**Chosi**	**0.99**	**226**	P	**Pn**	**05 09 43.7**	**-0.1**
CHOJ				S	**Sn**	**05 09 57.6**	**+0.9**
ONAJ	**Iwakimizuishiy**	**1.03**	**313**	P	**Pn**	**05 09 43.3**	**-1.0**
JFK	**Kawauchi**	**1.18**	**325**	P	**Pn**	**05 09 46.5**	**+0.1**
JFT	**Otama**	**1.58**	**315**	P	**Pn**	**05 09 52.3**	**+0.5**
JMM	**Marumori**	**1.64**	**333**	P	**Pn**	**05 09 52.6**	**-0.1**
JAG	**Ashikaga**	**1.84**	**271**	P	**Pn**	**05 09 55.1**	**-0.2**
BSO1	**Boso 1**	**1.85**	**200**	P	**Pn**	**05 09 54.6**	**-0.4**
BSO1				S	**Sn**	**05 10 19.1**	**+2.2**
BSO3	**Boso 3**	**1.88**	**212**	P	**Pn**	**05 09 56.1**	**+0.4**
JFY	**Yanaizu**	**1.91**	**302**	P	**Pn**	**05 09 57.4**	**+1.1**
MJAR	**Matsushiro Arr**	**2.84**	**274**	Pn	**Pn**	**05 10 10.6**	**+1.4**
	5.4nm,0.3s,baz=116,slow=8.1,SNR=33						
MJAR				Sn	Sn	05 10 47.8	+5.6
	3.3nm,0.3s,baz=122,slow=9.5,SNR=5.0						
MAT	**Matsushiro**	**2.84**	**274**	P	**Pn**	**05 10 09.9**	**+0.7**
MAT				S	**Sn**	**05 10 40.5**	**-1.7**
JHJ	**Hachijo jima 2**	**3.65**	**207**	Pn	**Pn**	**05 10 19.4**	**-0.8**
	31nm,0.3s,baz=75,slow=20,SNR=3.5						
JHJ				Sn	**Sn**	**05 11 00.1**	**-1.8**
	23nm,0.3s,baz=78,slow=23,SNR=2.3						
ASAJ	**Asahikawa**	**7.74**	**5**	LR	LR	05 15 06.0	
	comp=Z,40nm,18.8s,baz=313,slow=44						
KSRS	**Korea Array**	**11.11**	**280**	LR	LR	05 16 06.5	
	comp=Z,36nm,20.4s,baz=174,slow=36						
SONM	**Songino Array**	**28.35**	**305**	P	P	05 15 19.1	+3.3
	0.7nm,0.5s,baz=99,slow=8.5,SNR=9.6						
ZALV	**Zalesovo Beam**	**42.53**	**313**	P	P	05 17 19.3	+2.4
	0.2nm,0.3s,baz=116,slow=6.6,SNR=4.3						
MKAR	**Makanchi Array**	**44.67**	**303**	P	P	05 17 36.4	+2.1
	0.4nm,0.7s,baz=86,slow=8.1,SNR=4.5						
KURBB	**Kurchatov Arra**	**46.59**	**308**	P	P	05 17 51.4	+2.0
	0.6nm,0.5s,baz=85,slow=8.0,SNR=7.7						

*IDC **28** 05:20:07.8±1.1, 4°09N×127°28E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/25, mbtmp3.8/9, MS3.3/5, Ms1 3.4/5, ms1mx2.8/38, Error ellipse: s-maj=71.2km s-min=14.8km az=68.0*
*ISCJB **28** 05:20:12.2±0.7, 3°99N±0°06×126°83E±0°07, h36km, mb3.8/9, MS3.4/4, Error ellipse: s-maj=10.4km s-min=8.6km az=170.8*
*DJA **28** 05:20:19.1±0.7, 4°N±6°×12°7E±°, h46km±13km, M4.5/8, mB5.0/1, mb4.4/8, MLv4.6/7, Mw(mB)4.3/1*
ISC 28 05:20:14.2±0.9, 3°95N±0°08×126°85E±0°10, h36km, n21, σ1s47/15, mb3.9/9, MS3.3/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.34**	**259**	P	**Pn**	**05 20 34.9**	**-1.6**
MNI	**Manado**	**3.20**	**219**	P	**Pn**	**05 21 02.6**	**+0.6**
MNI				S	**Sn**	**05 21 38.0**	**-0.9**
TNTI	**Ternate**	**3.20**	**171**	P	**Pn**	**05 21 02.4**	**+0.4**
LUWI	**Luwuk**	**6.42**	**220**	P	**Pn**	**05 21 48.5**	**+2.2**
	136nm,1.0s,1µm0.6nm						
SWI	**Sorong**	**6.50**	**137**	P	Pn	05 21 51.1	+3.7
	35nm,0.9s,0.1nm						
AAI	**Ambon**	**7.70**	**170**	P	**Pn**	**05 22 04.5**	**+0.6**
	35nm,0.6s,0.3nm						
MYLDM	**Lahad Datu**	**8.41**	**279**	P	Pn	05 22 20.6	+6.9
	29nm,1.4s						
FAKI	**Fak Fak**	**8.70**	**142**	P	Pn	05 22 20.2	+2.6
	20nm,0.7s						
KAPI	**Kappang**	**11.38**	**219**	LR	LR	05 27 41.5	
	comp=Z,121nm,19.8s,baz=348,slow=39						
FITZ	**Fitzroy Crossi**	**21.94**	**183**	P	**P**	**05 25 03.9**	**-1.0**
	4.1nm,0.9s,baz=9.3,slow=14,SNR=7.0						
WRA	**Warramunga Ar**	**24.86**	**163**	P	**P**	**05 25 32.2**	**-1.3**
	5.2nm,0.7s,baz=343,slow=10,SNR=25						
PSI	**Prapat**	**27.90**	**269**	LR	LR	05 36 49.0	
	comp=Z,70nm,20.1s,baz=310,slow=35						
ASAR	**Alice Springs**	**28.30**	**166**	P	**P**	**05 26 03.2**	**-1.3**
	0.3nm,0.5s,baz=341,slow=8.0,SNR=3.7						
CMAR	**Chiang Mai Arr**	**30.87**	**300**	P	**P**	**05 26 30.5**	**+3.1**
	0.8nm,0.3s,baz=115,slow=6.1,SNR=4.6						
STKA	**Stephens Creek**	**38.29**	**160**	P	**P**	**05 27 31.0**	**-0.4**
	2.5nm,0.7s,baz=355,slow=12,SNR=7.3						
SONM	**Songino Array**	**47.13**	**341**	P	**P**	**05 28 43.4**	**+0.4**
	0.3nm,0.6s,baz=157,slow=8.0,SNR=3.7						
SONM				LR	LR	05 51 08.1	
	comp=Z,40nm,21.7s,baz=46,slow=40						
PETK	**Petropavlovsk-**	**55.18**	**22**	LR	LR	05 50 47.2	
	comp=Z,26nm,18.7s,baz=245,slow=34						
MKAR	**Makanchi Array**	**57.45**	**325**	P	**P**	**05 29 58.2**	**-1.3**
	0.2nm,0.4s,baz=119,slow=7.4,SNR=14						
KURBB	**Kurchatov Arra**	**61.62**	**327**	P	**P**	**05 30 27.5**	**-0.7**
	0.9nm,0.8s,baz=125,slow=6.2,SNR=6.7						
BVAR	**Borovoye Array**	**67.20**	**327**	P	**P**	**05 31 04.1**	**-0.6**
	0.8nm,0.8s,baz=116,slow=9.8,SNR=3.7						
NOA	**NORSAR Array B**	**98.64**	**334**	LR	LR	06 26 44.3	
	comp=Z,17nm,18.6s,baz=0.0,slow=40						

*ISCJB **28** 05:38:06.6±0.4, 39°27N±0°02×29°21E±0°03, h1km±5km, Error ellipse: s-maj=4.2km s-min=3.3km az=164.7*
*ISK **28** 05:38:06.5, 39°26N×29°25E, h8km, MD2.8*
*DDA **28** 05:38:06.8, 39°27N×29°20E, h7km, MD3.0*
*CSEM **28** 05:38:07.0±0.1, 39°26N×29°22E, h8km, MD2.8, Error ellipse: s-maj=2.2km s-min=2.0km az=147.0*
ISC 28 05:38:07.1±1.0, 39°27N±0°02×29°22E±0°02, h8km±9km, n62, σ0s47/82, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.26**	**46**	*e*PG	**Pg**	**05 38 11.8**	**-0.5**
TVSB				*e*SG	**Sg**	**05 38 15.7**	**-0.2**
TVSB	**Tavsanli**	**0.26**	**46**	*e*Pg	**Pg**	**05 38 11.9**	**-0.5**
TVSB				*e*Sg	**Sg**	**05 38 15.7**	**-0.2**
GDZ	**Gediz**	**0.27**	**131**	*i*P	**Pg**	**05 38 12.9**	**+0.4**
GDZ				*i*S	**Sg**	**05 38 17.3**	**+1.1**
GDZ	**Gediz**	**0.27**	**131**	*i*P	**Pg**	**05 38 12.9**	**+0.4**
GDZ				*i*S	**Sg**	**05 38 17.3**	**+1.1**
DEMI	**Demirci**	**0.45**	**240**	*i*P	**Pg**	**05 38 15.8**	**-0.1**
DEMI				*i*S	**Sg**	**05 38 21.8**	**0.0**
DEMI	**Demirci**	**0.45**	**240**	*i*P	**Pg**	**05 38 15.8**	**-0.1**
DEMI				*i*S	**Sg**	**05 38 21.8**	**0.0**
DST	**Dursunbey**	**0.57**	**306**	*e*PG	**Pb**	**05 38 19.5**	**0.0**
DST	**Dursunbey**	**0.57**	**306**	*e*Pg	**Pb**	**05 38 19.5**	**0.0**
DURS	**Dursunbey**	**0.67**	**300**	*i*P	**Pg**	**05 38 19.1**	**-0.9**
DURS				*i*S	**Sg**	**05 38 28.0**	**-0.7**
DURS	**Dursunbey**	**0.67**	**300**	*i*P	**Pg**	**05 38 19.1**	**-0.9**
DURS				*i*S	**Sg**	**05 38 28.0**	**-0.7**
ALT	**Altintas**	**0.72**	**107**	*e*PG	**Pg**	**05 38 21.3**	**+0.2**
ALT				*e*SG	**Sg**	**05 38 30.5**	**-0.1**
ALT	**Altintas**	**0.72**	**107**	*e*Pg	**Pg**	**05 38 21.3**	**+0.2**
ALT				*e*Sg	**Sg**	**05 38 30.5**	**-0.1**
ORLT	**Orhaneli**	**0.82**	**342**	*e*PG	**Pg**	**05 38 22.8**	**0.0**
ORLT	**Orhaneli**	**0.82**	**342**	*e*Pg	**Pg**	**05 38 22.8**	**0.0**
KULA	**Kula-Manisa**	**0.87**	**210**	*e*PG	**Pg**	**05 38 23.1**	**-0.7**
KULA	**Kula-Manisa**	**0.87**	**210**	*e*Pg	**Pg**	**05 38 23.1**	**-0.7**
KHAL	**Karahalli**	**0.92**	**166**	*i*P	**Pb**	**05 38 25.6**	**+0.2**
KHAL				*i*S	**Sb**	**05 38 37.9**	**0.0**
KHAL	**Karahalli**	**0.92**	**166**	*i*P	**Pb**	**05 38 25.6**	**+0.2**
KHAL				*i*S	**Sb**	**05 38 37.9**	**0.0**
MANT	**Manisa**	**0.93**	**214**	*i*P	**Pg**	**05 38 24.6**	**-0.4**
MANT				*i*S	**Sg**	**05 38 37.0**	**-0.1**
MANT	**Manisa**	**0.93**	**214**	*i*P	**Pg**	**05 38 24.6**	**-0.4**
MANT				*i*S	**Sg**	**05 38 37.0**	**-0.1**
KHL	**Karahalli**	**0.97**	**166**	*e*PG	**Pg**	**05 38 25.6**	**-0.2**
KHL	**Karahalli**	**0.97**	**166**	*e*Pg	**Pg**	**05 38 25.6**	**-0.2**
CAVI	**Cavuskoy**	**1.05**	**27**	*e*PG	**Pg**	**05 38 27.4**	**+0.1**
CAVI	**Cavuskoy**	**1.05**	**27**	*e*Pg	**Pg**	**05 38 27.4**	**+0.1**
BALB	**Balikesir**	**1.10**	**290**	*e*PN	**Pg**	**05 38 28.6**	**+0.3**
BALB	**Balikesir**	**1.10**	**290**	*e*Pn	**Pg**	**05 38 28.6**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.13**	**347**	*e*PN	**Pg**	**05 38 29.2**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.13**	**347**	*e*Pn	**Pg**	**05 38 29.2**	**+0.4**
BORA	**Eskisehir**	**1.13**	**57**	*i*P	**Pg**	**05 38 28.1**	**-0.8**
BORA				*i*S	**Sn**	**05 38 45.1**	**-0.2**
BORA	**Eskisehir**	**1.13**	**57**	*i*P	**Pg**	**05 38 28.1**	**-0.8**
BORA				*i*S	**Sn**	**05 38 45.1**	**-0.2**
AKHS	**Akhisar**	**1.16**	**251**	*e*P	**Pb**	**05 38 28.9**	**-0.6**
AKHS				*i*S	**Sb**	**05 38 45.2**	**+0.5**
AKHS	**Akhisar**	**1.16**	**251**	*e*P	**Pb**	**05 38 28.9**	**-0.6**
AKHS				*i*S	**Sb**	**05 38 45.2**	**+0.5**
AKS	**Akhisar**	**1.16**	**251**	*e*PN	**Pb**	**05 38 29.0**	**-0.5**
AKS	**Akhisar**	**1.16**	**251**	*e*Pn	**Pb**	**05 38 29.0**	**-0.5**
KCTX	**Karacabey (Bur**	**1.20**	**327**	*e*PN	**Pb**	**05 38 30.2**	**+0.1**
KCTX	**Karacabey (Bur**	**1.20**	**327**	*e*Pn	**Pb**	**05 38 30.2**	**+0.1**
ADVT	**Abdulvahap**	**1.23**	**19**	*e*PN	**Pn**	**05 38 30.6**	**-0.1**
ADVT	**Abdulvahap**	**1.23**	**19**	*e*Pn	**Pn**	**05 38 30.6**	**-0.1**
YLV	**Yalova**	**1.30**	**5**	*e*PN	**Pn**	**05 38 32.0**	**+0.2**
YLV	**Yalova**	**1.30**	**5**	*e*Pn	**Pn**	**05 38 32.0**	**+0.2**
GPA	**Golpazari**	**1.32**	**39**	*e*PN	**Pn**	**05 38 31.9**	**-0.1**
GPA	**Golpazari**	**1.32**	**39**	*e*Pn	**Pn**	**05 38 31.9**	**-0.1**
BALY	**Balya**	**1.32**	**291**	*i*P	**Pn**	**05 38 31.8**	**-0.2**
BALY				*i*S	**Sg**	**05 38 50.8**	**+1.1**
BALY	**Balya**	**1.32**	**291**	*i*P	**Pn**	**05 38 31.8**	**-0.2**
BALY				*i*S	**Sg**	**05 38 50.8**	**+1.1**
ARMT	**Armutlu**	**1.33**	**348**	*e*PN	**Pn**	**05 38 32.1**	**+0.1**
ARMT	**Armutlu**	**1.33**	**348**	*e*Pn	**Pn**	**05 38 32.1**	**+0.1**
GONE	**Gonen-Balikesi**	**1.42**	**304**	*e*PN	**Pn**	**05 38 33.6**	**+0.4**
GONE	**Gonen-Balikesi**	**1.42**	**304**	*e*Pn	**Pn**	**05 38 33.6**	**+0.4**
EDC	**Edincik**	**1.50**	**316**	*e*PN	**Pn**	**05 38 34.7**	**+0.3**
EDC	**Edincik**	**1.50**	**316**	*e*Pn	**Pn**	**05 38 34.7**	**+0.3**
GULT	**Gulveren**	**1.53**	**40**	*e*PN	**Pn**	**05 38 34.9**	**0.0**
GULT	**Gulveren**	**1.53**	**40**	*e*Pn	**Pn**	**05 38 34.9**	**0.0**
HRT	**Hereke**	**1.59**	**12**	*e*PN	**Pn**	**05 38 35.8**	**+0.1**
HRT	**Hereke**	**1.59**	**12**	*e*Pn	**Pn**	**05 38 35.8**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.80**	**84**	*e*PN	**Pn**	**05 38 37.9**	**-0.6**
SVRH	**Sivrihisar-ESK**	**1.80**	**84**	*e*Pn	**Pn**	**05 38 37.9**	**-0.6**
KRBG	**Karabiga-Canak**	**1.86**	**308**	*e*PN	**Pn**	**05 38 38.9**	**-0.4**
KRBG	**Karabiga-Canak**	**1.86**	**308**	*e*Pn	**Pn**	**05 38 38.9**	**-0.4**
RKY	**Sarkoy-Tekirda**	**2.11**	**313**	*e*PN	**Pn**	**05 38 43.6**	**+0.7**
RKY	**Sarkoy-Tekirda**	**2.11**	**313**	*e*Pn	**Pn**	**05 38 43.6**	**+0.7**
MFT	**Murefte**	**2.12**	**316**	*e*PN	**Pn**	**05 38 43.8**	**+0.8**
MFT	**Murefte**	**2.12**	**316**	*e*Pn	**Pn**	**05 38 43.8**	**+0.8**

*IDC **28** 05:49:03.4±0.7, 13°69N×146°71E, h0km, mb4.0/17, mb1 4.1/17, mb1mx4.0/31, mbtmp4.0/17, MS3.3/3, Ms1 3.3/3, ms1mx2.7/37, Error ellipse: s-maj=17.5km s-min=16.0km az=115.0*
*ISCJB **28** 05:49:05.2±0.5, 13°69N±0°07×146°79E±0°07, h26km, mb4.1/22, MS3.2/3, Error ellipse: s-maj=11.0km s-min=9.8km az=154.5*
*NEIC **28** 05:49:08.7±0.4, 13°68N×146°63E, h35km, mb4.4/5, Error ellipse: s-maj=10.3km s-min=8.3km az=90.0*
**ISC 28 05:49:07.3±0.6,

TRIZ				S		Sg	06 00 35.7	+1.5
TRIZ	**Trizonia**	**0.17**	**80**	P		**Pg**	**06 00 32.0**	**+0.1**
TRIZ				S		**Sg**	**06 00 35.7**	**+1.5**
KALE	**Kalithea**	**0.23**	**76**	P		**Pg**	**06 00 32.8**	**-0.2**
KALE	**Kalithea**	**0.23**	**76**	P		**Pg**	**06 00 32.8**	**-0.2**
RLS	**Riolos of Patr**	**0.42**	**228**	*e*PB		**Pb**	**06 00 38.2**	**-0.1**
RLS	**Riolos of Patr**	**0.42**	**228**	*e*Pb		**Pb**	**06 00 38.2**	**-0.1**
GUR	**Goura**	**0.55**	**136**	*e*PB		**Pg**	**06 00 38.3**	**-0.9**
GUR				*e*SB		**Sg**	**06 00 46.9**	**+0.6**
GUR	**Goura**	**0.55**	**136**	*e*Pb		**Pg**	**06 00 38.3**	**-0.9**
GUR				*e*Sb		**Sg**	**06 00 46.9**	**+0.6**
EVR	**Evrytania**	**0.58**	**356**	*e*PB		**Pg**	**06 00 40.0**	**+0.2**
EVR				*e*SB		**Sg**	**06 00 48.0**	**+0.6**
EVR	**Evrytania**	**0.58**	**356**	*e*Pb		**Pg**	**06 00 40.0**	**+0.2**
EVR				*e*Sb		**Sg**	**06 00 48.0**	**+0.6**
VLS	**Valsamata**	**1.01**	**261**	*e*PB		**Pn**	**06 00 49.2**	**-0.1**
VLS	**Valsamata**	**1.01**	**261**	*e*Pb		**Pn**	**06 00 49.2**	**-0.1**
ITM	**Ithomi**	**1.16**	**177**	*e*PB		**Pb**	**06 00 51.1**	**+0.2**
ITM	**Ithomi**	**1.16**	**177**	*e*Pb		**Pb**	**06 00 51.1**	**+0.2**
DID	**Didima**	**1.37**	**127**	*e*PB		**Pn**	**06 00 53.8**	**-0.4**
DID	**Didima**	**1.37**	**127**	*e*Pb		**Pn**	**06 00 53.8**	**-0.4**

*IDC **28** 06:06:13.6±0.8, 26°.92S×176°.33W, h0km, mb3.9/8, mb1 4.2/9, mb1mx4.0/20, mbtmp3.9/9, ML3.0/1, MS3.5/1, Ms1 3.4/1, ms1mx2.8/23, Error ellipse: s-maj=28.8km s-min=23.2km az=162.0*

*ISCJB **28** 06:06:14.2±0.8, 26°.47S±0°.09×176°.1W±0°.1, h32km, mb4.2/10, MS3.5/1, Error ellipse: s-maj=16.6km s-min=8.9km az=44.6*

*NEIC **28** 06:06:17.3±0.6, 26°.70S×176°.04W, h35km, mb4.7/4, Error ellipse: s-maj=22.7km s-min=13.5km az=152.0*

ISC 28 06:06:17.2±0.7, 26°.52S±0°.10×176°.1W±0°.1, h32km, n37, σ1ₜ76/35, mb4.0/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**13.19**	**19**	Pn	**Pn**	**06 09 23.7**	**+1.3**
AFI				Sn	**Sn**	**06 11 46.0**	**-2.0**
AFI	**Afiamalu**	**13.19**	**19**	Pn	**Pn**	**06 09 23.7**	**+1.3**
	1.8nm,0.3s,baz=300,slow=14,SNR=2.5						
AFI				Sn	**Sn**	**06 11 46.0**	**-2.0**
	1.0nm,0.3s,baz=204,slow=12,SNR=2.5						
RAR	**Rarotonga**	**15.83**	**74**	Pn	**Pn**	**06 09 55.6**	**-2.2**
RAR	**Rarotonga**	**15.83**	**74**	Pn	**Pn**	**06 09 55.6**	**-2.2**
	0.8nm,0.3s,baz=6.3,slow=1.5,SNR=4.6						
DZM	**Mont Dzumac**	**16.52**	**282**	Pn	**Pn**	**06 10 03.5**	**-3.2**
DZM	**Mont Dzumac**	**16.52**	**282**	Pn	**Pn**	**06 10 03.5**	**-3.2**
	0.1nm,0.3s,baz=151,slow=19,SNR=3.4						
STKA	**Stephens Creek**	**37.15**	**252**	*e*P	**P**	**06 13 24.5**	**-0.7**
	3.1nm,1.7s						
STKA	**Stephens Creek**	**37.15**	**252**	P	**P**	**06 13 24.6**	**-0.6**
	0.6nm,0.7s,baz=111,slow=17,SNR=2.4						
STKA				LR	LR	06 26 34.0	
	comp=Z,65nm,18.7s,baz=197,slow=33						
COEN	**Coen**	**40.04**	**280**	*e*P	**P**	**06 13 51.1**	**+1.5**
	93nm,1.4s						
ASAR	**Alice Springs**	**45.15**	**262**	P	**P**	**06 14 29.9**	**-1.3**
ASAR	**Alice Springs**	**45.15**	**262**	P	**P**	**06 14 29.9**	**-1.3**
	0.7nm,0.6s,baz=106,slow=8,SNR=12						
WRAB	**Tennant Creek**	**45.79**	**267**	*e*P	**P**	**06 14 35.1**	**-1.1**
	2.6nm,0.8s						
WRA	**Warramunga Arr**	**45.79**	**267**	P	**P**	**06 14 35.1**	**-1.1**
WRA	**Warramunga Arr**	**45.79**	**267**	P	**P**	**06 14 35.1**	**-1.1**
	1.9nm,0.7s,baz=106,slow=7.9,SNR=12						
FITZ	**Fitzroy Crossi**	**54.17**	**266**	*e*P	**P**	**06 15 38.3**	**-1.5**
	47nm,1.8s						
FITZ	**Fitzroy Crossi**	**54.17**	**266**	P	**P**	**06 15 38.4**	**-1.4**
	2.7nm,0.9s,baz=27,slow=4.5,SNR=3.2						
QSPA	**South Pole Qui**	**63.57**	**180**	P	**P**	**06 16 43.6**	**-1.0**
QSPA	**South Pole Qui**	**63.57**	**180**	P	**P**	**06 16 43.6**	**-1.0**
	0.7nm,0.8s,baz=38,slow=5.1,SNR=3.9						
MJAR	**Matsushiro Arr**	**76.08**	**324**	P	P	06 18 05.5	+3.9
MJAR	**Matsushiro Arr**	**76.08**	**324**	P	P	06 18 05.5	+3.9
	1.1nm,0.8s,baz=159,slow=5.6,SNR=4.2						
NVAR	**Mina Array Bea**	**84.25**	**42**	P	P	06 18 49.9	+3.9
NVAR	**Mina Array Bea**	**84.25**	**42**	P	P	06 18 49.9	+3.9
	0.5nm,0.8s,baz=222,slow=10,SNR=2.5						
CMAR	**Chiang Mai Arr**	**93.73**	**289**	P	**P**	**06 19 34.3**	**+3.0**
CMAR	**Chiang Mai Arr**	**93.73**	**289**	P	**P**	**06 19 34.3**	**+3.0**
	0.6nm,0.3s,baz=149,slow=3.8,SNR=7.2						
ZALV	**Zalesovo Beam**	**116.23**	**319**	PKP	**PKPdf**	**06 24 57.4**	**+0.6**
ZALV	**Zalesovo Beam**	**116.23**	**319**	PKP	**PKPdf**	**06 24 57.4**	**+0.6**
	0.2nm,0.3s,baz=90,slow=1.4,SNR=2.2						
MKAR	**Makanchi Array**	**116.53**	**311**	PKP	**PKPdf**	**06 24 59.1**	**+1.3**
MKAR	**Makanchi Array**	**116.53**	**311**	PKP	**PKPdf**	**06 24 59.1**	**+1.3**
	0.3nm,0.8s,baz=147,slow=1.1,SNR=3.3						
NB2	**NORSAR Subarra**	**145.14**	**354**	PKP	**PKPdf**	**06 25 53.2**	**+2.3**
	comp=Z,1.1nm,0.9s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**145.14**	**354**	PKPbc	**PKPdf**	**06 25 52.8**	**+1.9**
NOA	**NORSAR Array B**	**145.14**	**354**	PKPbc	**PKPdf**	**06 25 52.8**	**+1.9**
	comp=Z,1.0nm,0.8s,baz=354,slow=3.2,SNR=4.4						
HFS	**Hagfors**	**145.73**	**351**	PKPbc	**PKPab**	**06 25 54.5**	**+1.8**
HFS	**Hagfors**	**145.73**	**351**	PKPbc	**PKPab**	**06 25 54.5**	**+1.8**
	comp=Z,2.5nm,0.7s,baz=103,slow=6.5,SNR=7.0						
AKASG	**Malin Array Be**	**149.07**	**328**	PKPbc	**PKPbc**	**06 26 01.5**	**-0.3**
AKASG	**Malin Array Be**	**149.07**	**328**	PKPbc	**PKPbc**	**06 26 01.5**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=86,slow=29,SNR=3.9						
TORD	**Torodi Ar. Bea**	**166.53**	**171**	PKPab	**PKPab**	**06 27 21.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**166.53**	**171**	PKPbc	**PKPab**	**06 27 21.5**	**-0.4**
	comp=Z,0.5nm,0.9s,baz=183,slow=3.2,SNR=3.2						

*BEO **28** 06:09:40.1±1.9, 39°.72N×20°.06E, h5km±9km, ML3.2/6*

*TIR **28** 06:09:41.9±7.9, 39°.90N×19°.81E, h0km±21km, ML2.9*

*IDC **28** 06:09:42.5±1.3, 40°.16N×19°.92E, h0km, mb3.6/10, mb1 3.7/13, mb1mx3.6/30, mbtmp3.5/13, ML3.1/2, Error ellipse: s-maj=21.9km s-min=19.5km az=171.0*

*SKO **28** 06:09:42.7, 39°.98N×19°.58E, h2km*

*ATH **28** 06:09:43.6, 39°.98N×19°.73E, h13km±3km, MD3.4/6*

*PDG **28** 06:09:43.7±0.3, 39°.98N×19°.73E, h7km±1km, ML3.3/9, Error ellipse: s-maj=0.9km s-min=1.5km az=0.0*

*CSEM **28** 06:09:43.3±0.2, 39°.96N×19°.65E, h2km, ML3.4/3, Error ellipse: s-maj=5.3km s-min=2.6km az=54.0*

*THE **28** 06:09:44.2, 39°.97N×19°.72E, h0km±2km, ML3.4/3, Error ellipse: s-maj=3.1km s-min=1.3km az=261.0*

ISC 28 06:09:42.5±1.1, 39°.96N±0°.02×19°.65E±0°.02, h3km±8km, n137, σ1ₜ46/191, mb3.6/11, 10C-8D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEK	**Kerkira**	**0.27**	**155**	P	**Pg**	**06 09 48.7**	**+0.9**
KEK				S	**Sb**	**06 09 53.8**	**-1.4**
KEK	**Kerkira**	**0.27**	**155**	*e*PG	**Pg**	**06 09 48.9**	**+1.1**
KEK				*e*SG	**Sb**	**06 09 54.0**	**-1.2**
KEK	**Kerkira**	**0.27**	**155**	*e*Pb	**Pg**	**06 09 48.9**	**+1.1**
KEK				S	**Sb**	**06 09 53.8**	**-1.4**
SRN	**Sarande**	**0.28**	**106**	*e*PG	**Pg**	**06 09 47.6**	**-0.4**
SRN				*i* SG	**Sg**	**06 09 51.2**	**-0.5**
SRN	**Sarande**	**0.28**	**106**	P	**Pg**	**06 09 47.6**	**-0.4**
SRN				S	**Sg**	**06 09 51.0**	**-0.7**
SRN	**Sarande**	**0.28**	**106**	P	**Pg**	**06 09 47.6**	**-0.4**
SRN				S	**Sg**	**06 09 51.0**	**-0.7**
TPE	**Tepelena**	**0.43**	**40**	*i* PG	**Pg**	**06 09 50.1**	**+0.8**
TPE				*i* SG	**Sg**	**06 09 56.5**	**-0.1**
IGT	**Igoumenitsa**	**0.68**	**129**	P	**Pg**	**06 09 55.5**	**-0.1**
IGT				S	**Sb**	**06 10 06.7**	**-0.2**
IGT	**Igoumenitsa**	**0.68**	**129**	P	**Pg**	**06 09 55.5**	**-0.1**
IGT				S	**Sb**	**06 10 06.7**	**-0.2**
LSK	**Leskovik**	**0.76**	**75**	*i* PG	**Pg**	**06 09 56.1**	**-0.9**
LSK				*i* SG	**Sg**	**06 10 06.5**	**-0.3**
RGA	**Parga**	**0.84**	**139**	P	**Pg**	**06 09 58.2**	**-0.4**
RGA				S	**Sb**	**06 10 12.1**	**+0.6**
RGA	**Parga**	**0.84**	**139**	P	**Pg**	**06 09 58.2**	**-0.4**
RGA				S	**Sb**	**06 10 12.1**	**+0.6**
SCTE	**Santa Cesarea**	**0.91**	**277**	*e*Pn	**Pn**	**06 10 03.2**	**+0.9**
SCTE				*e*Sn	**Sn**	**06 10 18.2**	**+2.2**
JAN	**Janina**	**0.97**	**108**	P	**Pg**	**06 10 01.7**	**+0.5**
JAN				S	**Sg**	**06 10 15.0**	**+1.1**
JAN	**Janina**	**0.97**	**108**	*e*PB	**Pg**	**06 10 01.0**	**-0.2**
JAN				*e*SB	**Sg**	**06 10 13.1**	**-0.8**
JAN	**Janina**	**0.97**	**108**	*e*Pn	**Pg**	**06 10 01.0**	**-0.2**
JAN	**Janina**	**0.97**	**108**	P	**Pg**	**06 10 01.7**	**+0.5**
JAN				*e*Sn	**Sg**	**06 10 13.1**	**-0.8**
JAN				S	**Sg**	**06 10 15.0**	**+1.1**
NEST	**Nestorio**	**1.17**	**67**	P	**Pg**	**06 10 04.2**	**-0.7**
NEST	**Nestorio**	**1.17**	**67**	P	**Pg**	**06 10 04.2**	**-0.7**
MEV	**Metsovon**	**1.23**	**98**	P	**Pg**	**06 10 06.3**	**+0.2**
MEV	**Metsovon**	**1.23**	**98**	P	**Pg**	**06 10 06.3**	**+0.2**
TIR	**Tirane**	**1.40**	**7**	*e*PG	**Pb**	**06 10 10.2**	**+0.9**
TIR				*i* SG	**Sn**	**06 10 32.2**	**+4.3**
TIR	**Tirane**	**1.40**	**7**	*e*Pg	**Pb**	**06 10 09.7**	**+0.4**
TIR				*e*Sg	**Sn**	**06 10 32.5**	**+4.6**
TIR	**Tirane**	**1.40**	**7**	*e*Pg	**Pb**	**06 10 09.7**	**+0.4**
TIR	**Tirane**	**1.40**	**7**	*e*Pn	**Pb**	**06 10 10.8**	**+1.5**
TIR				*e*Sg	**Sn**	**06 10 32.5**	**+4.6**
LKD2	**Lefkada island**	**1.41**	**146**	P	**Pb**	**06 10 09.8**	**+0.3**
LKD2				S	**Sn**	**06 10 30.4**	**+2.2**
LKD2	**Lefkada island**	**1.41**	**146**	*e*PB	**Pb**	**06 10 10.0**	**+0.5**
LKD2				*e*SB	**Sn**	**06 10 29.2**	**+1.0**
LKD2	**Lefkada island**	**1.41**	**146**	P	**Pb**	**06 10 09.8**	**+0.3**
LKD2				*e*Sn	**Sn**	**06 10 29.2**	**+1.0**
LKD2				S	**Sn**	**06 10 30.4**	**+2.2**
FNA	**Florina**	**1.56**	**58**	P	**Pn**	**06 10 11.5**	**+0.3**
FNA	**Florina**	**1.56**	**58**	P	**Pn**	**06 10 11.5**	**+0.3**
BIA	**Bitola**	**1.66**	**50**	*i* Pn	**Pn**	**06 10 12.8**	**+0.1**
BIA				*i* Sg	**Sg**	**06 10 36.3**	**+0.5**
BIA	**Bitola**	**1.66**	**50**	*i* Pn	**Pn**	**06 10 12.7**	**+0.1**
BIA				*i* Sg	**Sg**	**06 10 36.3**	**+0.5**
KZN	**Kozani**	**1.66**	**77**	P	**Pb**	**06 10 14.3**	**+0.4**
KZN				S	**Sg**	**06 10 36.6**	**+0.6**
KZN	**Kozani**	**1.66**	**77**	*e*PB	**Pg**	**06 10 14.6**	**+0.2**
KZN	**Kozani**	**1.66**	**77**	P	**Pb**	**06 10 14.3**	**+0.4**
KZN	**Kozani**	**1.66**	**77**	*e*Pn	**Pg**	**06 10 14.6**	**+0.2**
KZN				S	**Sg**	**06 10 36.6**	**+0.6**
PHP	**Peshkopia**	**1.82**	**19**	*i* SN	**Sg**	**06 10 45.7**	**+4.5**
PHP	**Peshkopia**	**1.82**	**19**	P	**Pn**	**06 10 15.7**	**+0.8**
PHP				S	**Sb**	**06 10 40.3**	**+0.4**
PHP	**Peshkopia**	**1.82**	**19**	P	**Pn**	**06 10 15.7**	**+0.8**
PHP				S	**Sb**	**06 10 40.3**	**+0.4**
THL	**Klokotos Trika**	**1.87**	**101**	P	**Pb**	**06 10 16.9**	**-0.4**
THL	**Klokotos Trika**	**1.87**	**101**	*e*PG	**Pb**	**06 10 17.0**	**-0.4**
THL	**Klokotos Trika**	**1.87**	**101**	P	**Pn**	**06 10 16.9**	**-0.4**
EVR	**Evrytania**	**1.97**	**121**	*e*PG	**Pb**	**06 10 19.0**	**-0.1**
EVR	**Evrytania**	**1.97**	**121**	*e*Pn	**Pb**	**06 10 19.0**	**-0.1**
ULC	**Ulcinj**	**2.02**	**351**	⇑*i* Pn	**Pn**	**06 10 19.2**	**+1.6**
ULC				*e*Sn	**Sg**	**06 10 47.0**	**-0.6**
ULC	**Ulcinj**	**2.02**	**351**	⇑*i* Pn	**Pn**	**06 10 19.2**	**+1.6**
ULC				*e*Sn	**Sg**	**06 10 47.0**	**-0.6**
PUK	**Puka**	**2.09**	**5**	*e*PN	**Pn**	**06 10 19.3**	**+0.7**
PUK				*i* SN	**Sg**	**06 10 51.1**	**+1.5**
LIT	**Litokhoron**	**2.19**	**85**	P	**Pn**	**06 10 20.7**	**+0.8**
LIT	**Litokhoron**	**2.19**	**85**	*e*PN	**Pn**	**06 10 21.6**	**+1.7**
LIT	**Litokhoron**	**2.19**	**85**	P	**Pn**	**06 10 20.7**	**+0.8**
LIT	**Litokhoron**	**2.19**	**85**	*e*Pn	**Pn**	**06 10 21.6**	**+1.7**
GRG	**Griva**	**2.33**	**64**	P	**Pn**	**06 10 22.2**	**+0.4**
GRG	**Griva**	**2.33**	**64**	P	**Pn**	**06 10 22.2**	**+0.4**
BUM	**Brajici-Budva**	**2.41**	**347**	⇑*i* Pn	**Pn**	**06 10 24.5**	**+1.6**
BUM				*e*Sn	**Sb**	**06 10 56.3**	**-0.4**
BUM	**Brajici-Budva**	**2.41**	**347**	⇑*i* Pn	**Pn**	**06 10 24.5**	**+1.6**
BUM				*e*Sn	**Sb**	**06 10 56.3**	**-0.4**
BCI	**Bajram Curri**	**2.42**	**7**	*e*PN	**Pn**	**06 10 24.2**	**+1.1**
SKO	**Skopje**	**2.42**	**33**	*e*Pn	**Pn**	**06 10 24.0**	**+0.8**
SKO	**Skopje**	**2.42**	**33**	*e*Pg	**Pn**	**06 10 23.9**	**+0.8**
SKO				*e*Sg	**Sb**	**06 10 58.2**	**+1.1**
SKO	**Skopje**	**2.42**	**33**	*e*Pn	**Pn**	**06 10 24.4**	**+1.3**
SKO				*e*Sg	**Sb**	**06 10 58.2**	**+1.1**
SG1	**Sgolgore (BA)**	**2.43**	**292**	*e*Sn	**Sg**	**06 10 59.3**	**-1.3**
TTG	**Podgorica**	**2.48**	**353**	⇓*i* Pn	**Pn**	**06 10 24.7**	**+0.8**
TTG				*e*Sn	**Sb**	**06 10 57.8**	**-1.0**
PDG	**Podgorica**	**2.48**	**353**	*e*Pn	**Pn**	**06 10 24.4**	**+0.5**
PDG	**Podgorica**	**2.48**	**353**	⇓*i* Pn	**Pn**	**06 10 24.7**	**+0.8**
PDG				*e*Sn	**Sb**	**06 10 57.8**	**-1.0**
VAY	**Valandovo**	**2.61**	**58**	*e*Pn	**Pn**	**06 10 25.7**	**+0.2**
VAY	**Valandovo**	**2.61**	**58**	*e*Pn	**Pn**	**06 10 26.2**	**+0.6**
HCY	**Herceg Novi**	**2.63**	**341**	⇑*i* Pn	**Pn**	**06 10 27.2**	**+1.2**
HCY				*e*Sn	**Sb**	**06 11 01.9**	**-1.2**
HCY	**Herceg Novi**	**2.63**	**341**	⇑*i* Pn	**Pn**	**06 10 27.2**	**+1.2**
HCY				*e*Sn	**Sb**	**06 11 01.9**	**-1.2**
PVY	**Plav**	**2.64**	**5**	⇑*i* Pn	**Pn**	**06 10 27.7**	**+1.5**
PVY				*e*Sn	**Sn**	**06 11 01.4**	**+2.5**
PVY	**Plav**	**2.64**	**5**	⇑*i* Pn	**Pn**	**06 10 27.7**	**+1.5**
PVY				*e*Sn	**Sn**	**06 11 01.4**	**+2.5**
NKY	**Niksic**	**2.89**	**350**	⇓*i* Pn	**Pn**	**06 10 31.4**	**+1.8**
NKY				*e*Sn	**Sn**	**06 11 08.2**	**+3.2**
NKY	**Niksic**	**2.89**	**350**	⇓*i* Pn	**Pn**	**06 10 31.4**	**+1.8**
NKY				*e*Sn	**Sn**	**06 11 08.2**	**+3.2**
LKR	**Lokris**	**2.91**	**116**	*e*PN	**Pn**	**06 10 30.9**	**+1.1**
LKR	**Lokris**	**2.91**	**116**	*e*Pn	**Pn**	**06 10 30.9**	**+1.1**
BEY	**Berane**	**2.91**	**4**	⇑*i* Pn	**Pn**	**06 10 31.4**	**+1.5**
BEY				*e*Sn	**Sn**	**06 11 07.8**	**+2.3**
IVA	**Berane**	**2.91**	**4**	⇑*i* Pn	**Pn**	**06 10 31.4**	**+1.5**
IVA				*e*Sn	**Sn**	**06 11 07.8**	**+2.3**
GUR	**Goura**	**2.92**	**133**	P	**Pn**	**06 10 31.1**	**+1.2**
GUR	**Goura**	**2.92**	**133**	*e*PN	**Pn**	**06 10 31.7**	**+1.8**
GUR	**Goura**	**2.92**	**133**	P	**Pn**	**06 10 31.1**	**+1.2**
GUR	**Goura**	**2.92**	**133**	*e*Pn	**Pn**	**06 10 31.7**	**+1.8**
PLG	**Polygyros**	**2.94**	**81**	*e*Pn	**Pn**	**06 10 31.0**	**+0.8**
PLG	**Polygyros**	**2.94**	**81**	*e*Pn	**Pn**	**06 10 31.0**	**+0.8**
SOH	**Sokhos**	**2.96**	**72**	*e*PN	**Pn**	**06 10 31.4**	**+0.9**
SOH	**Sokhos**	**2.96**	**72**	*e*Pn	**Pn**	**06 10 31.4**	**+0.9**
BRY	**Bratogost**	**3.05**	**345**	⇓*i* Pn	**Pn**	**06 10 33.6**	**+1.7**
BRY				*e*Sn	**Sn**	**06 11 12.1**	**+3.1**
BRY	**Bratogost**	**3.05**	**345**	⇓*i* Pn	**Pn**	**06 10 33.6**	**+1.7**
BRY				*e*Sn	**Sn**	**06 11 12.1**	**+3.1**
LTK	**Loutraki**	**3.23**	**126**	*e*PN	**Pn**	**06 10 35.3**	**+1.1**
LTK	**Loutraki**	**3.23**	**126**	*e*Pn	**Pn**	**06 10 35.3**	**+1.1**
STON	**Ston**	**3.26**	**334**	*e*Pn	**Pn**	**06 10 34.2**	**-0.4**
STON				Sn	**Sn**	**06 11 12.6**	**-1.2**
STON	**Ston**	**3.26**	**334**	*e*Pn	**Pn**	**06 10 34.1**	**-0.4**
STON				Sn	**Sn**	**06 11 12.5**	**-1.2**
BARS	**Barje**	**3.29**	**29**	*e*Pn	**Pn**	**06 10 32.4**	**-2.6**
BARS	**Barje**	**3.29**	**29**	*e*Pn	**Pn**	**06 10 32.4**	**-2.6**
UPM	**Unac-Piva**	**3.29**	**350**	⇓*i* Pn	**Pn**	**06 10 36.1**	**+1.0**
UPM				*e*Sn	**Sn**	**06 11 17.4**	**+2.5**
UPM	**Unac-Piva**	**3.29**	**350**	⇓*i* Pn	**Pn**	**06 10 36.1**	**+1.0**
UPM				*e*Sn	**Sn**	**06 11 17.4**	**+2.5**
ITM	**Ithomi**	**3.30**	**147**	*e*PN	**Pn**	**06 10 36.4**	**+1.2**
ITM	**Ithomi**	**3.30**	**147**	*e*Pn	**Pn**	**06 10 36.4**	**+1.2**
SELS	**Selova**	**3.44**	**18**	*e*Pn	**Pn**	**06 10 37.2**	**+0.1**
NVR	**Nevrokopi**	**3.49**	**65**	*e*PN	**Pn**	**06 10 38.7**	**+0.9**
NVR	**Nevrokopi**	**3.49**	**65**	*e*Pn	**Pn**	**06 10 38.7**	**+0.9**
MMB	**Musomiste**	**3.50**	**61**	P	**Pn**	**06 10 38.9**	**+1.0**
MMB	**Musomiste**	**3.50**	**61**	P	**Pn**	**06 10 38.9**	**+1.0**
VTS	**Vitosha**	**3.76**	**44**	P	**Pn**	**06 10 42.1**	**+0.6**
VTS	**Vitosha**	**3.76**	**44**	*e*Pn	**Pn**	**06 10 39.3**	**-2.2**
VTS	**Vitosha**	**3.76**	**44**	*e*Pn	**Pn**	**06 10 39.3**	**-2.2**
VTS	**Vitosha**	**3.76**	**44**	P	**Pn**	**06 10 42.1**	**+0.6**
ZAPS	**Zapoj**	**4.00**	**33**	*e*Pn	**Pn**	**06 10 40.9**	**-1.8**
GRUS	**Gruza**	**4.00**	**11**	*e*Pn	**Pn**	**06 10 44.9**	**+0.1**
GRUS	**Gruza**	**4.00**	**11**	*e*Pn	**Pn**	**06 10 44.9**	**+0.1**
DIVS	**Divibare**	**4.14**	**3**	*e*Pn	**Pn**	**06 10 45.9**	**-0.9**
DIVS	**Divibare**	**4.14**	**3**	*e*Pn	**Pn**	**06 10 45.9**	**-0.9**
BOLS	**Boljevac**	**4.23**	**23**	*e*Pn	**Pn**	**06 10 45.7**	**-2.2**
BOLS	**Boljevac**	**4.23**	**23**	*e*Pn	**Pn**	**06 10 45.7**	**-2.2**
MPEP	**Malo Peshtene**	**4.57**	**41**	P	**Pn**	**06 10 55.1**	**+2.5**
NVLJ	**Novalja**	**5.80**	**324**	*i* Pn	**Pn**	**06 11 09.1**	**-0.5**
NVLJ				Sn	**Sn**	**06 12 13.8**	**-2.8**
NVLJ	**Novalja**	**5.80**	**324**	*i* Pn	**Pn**	**06 11 09.0**	**-0.5**
BZS	**Buzias**	**5.83**	**14**	*e*Pn	**Pn**	**06 11 08.2**	**-1.8**
BOJS	**Bojanci**	**6.42**	**331**	*i* Pn	**Pn**	**06 11 18.3**	**+0.4**
BOJS	**Bojanci**	**6.42**	**331**	Pn	**Pn**	**06 11 18.3**	**+0.4**
GBRS	**Gornja Briga**	**6.61**	**329**	*i* Pn	**Pn**	**06 11 20.8**	**+0.2**
SKDS	**Skadanscina**	**6.95**	**325**	*i* Pn	**Pn**	**06 11 24.6**	**-0.7**
SKDS	**Skadanscina**	**6.95**	**325**	*i* Pn	**Pn**	**06 11 24.6**	**-0.7**
MLR	**Muntele Rosu**	**7.21**	**38**	Pn	**Pn**	**06 11 26.8**	**-2.2**
	0.0nm,0.3s,baz=150,slow=20,SNR=2.5						
GERES	**GERESS Array B**	**9.85**	**336**	Pn	**Pn**	**06 12 05.3**	**+0.2**
	0.2nm,0.3s,baz=150,slow=14,SNR=7.5						
ESDC	**Sonseca Array**	**18.13**	**277**	P	**P**	**06 13 57.6**	**+1.8**
	baz=73,slow=11,SNR=3.5						
HFS	**Hagfors**	**20.54**	**351**	P	**P**	**06 14 20.9**	**-1.0**
	1.1nm,0.5s,baz=154,slow=11,SNR=9.1						
NB2	**NORSAR Subarra**	**21.74**	**349**	P	**P**	**06 14 33.6**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=153,slow=10						
NB2	**NORSAR Subarra**	**21.74**	**349**	P	**P**	**06 14 33.6**	**-1.3**
	comp=Z,1.6nm,0.7s,SNR=7.0						
NOA	**NORSAR Array B**	**21.74**	**349**	P	**P**	**06 14 33.4**	**-1.5**
	comp=Z,1.5nm,0.7s,baz=164,slow=10,SNR=6.9						
FINES	**FINESS Array B**	**21.87**	**8**	P	**P**	**06 14 34.2**	**-2.0**
	comp=Z,1.1nm,0.4s,baz=177,slow=11,SNR=11						
KAF	**Kangasniemi**	**22.55**	**8**	*ep*	**P**	**06 14 42.4**	**-1.1**
	comp=Z,1.2nm,0.5s						
JOF	**Joensuu**	**24.03**	**13**	*ep*	**P**	**06 14 55.6**	**-2.9**
	comp=Z,1.1nm,0.5s						
AKTO	**Aktyubinsk**	**28.70**	**56**	P	**P**	**06 15 38.5**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=246,slow=12,SNR=3.3						
ARCES	**ARCESS Array B**	**29.80**	**4**	P	**P**	**06 15 48.2**	**-2.1**
	comp=Z,1.0nm,0.4s,baz=188,slow=11,SNR=11						
TORD	**Torodi Ar. Bea**	**31.04**	**216**	P	**P**	**06 16 04.5**	**+2.8**
	comp=Z,0.5nm,0.8s,baz=25,slow=8.3,SNR=2.7						
MKAR	**Makanchi Array**	**44.97**	**60**	P	**P**	**06 17 57.0**	**-1.9**
	comp=Z,1.2nm,0.5s,baz=281,slow=7.8,SNR=30						
ZALV	**Zalesovo Beam**	**45.03**	**49**	P	**P**	**06 17 57.5**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=282,slow=7.4,SNR=3.6						
YKA	**Yellowknife Ar**	**71.48**	**339**	P	**P**	**06 21 03.5**	**-0.6**
	comp=Z,0.1nm,0.6s,baz=41,slow=5.3,SNR=6.0						
ILAR	**Eielson Array**	**75.07**	**354**	P	**P**	**06 21 25.7**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=351,slow=3.8,SNR=4.2						

BUC 28 06:25:59.7±0.1, 45°.06N×28°.23E, h5km, MD1.9/2, 6C, Error ellipse: s-maj=1.7km s-min=0.6km az=70.0, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFR	**Carcaliu**	**0.13**	**330**	⇑*i* P	**Pg**	**06 26 02.6**	**+0.2**
CFR				S	**Sg**	**06 26 04.6**	**+0.4**
CFR	**Carcaliu**	**0.13**	**330**	⇑*i* P	**Pg**	**06 26 02.6**	**+0.2**
CFR				*i* S	**Sg**	**06 26 04.6**	**+0.4**
TLCR		**0.43**	**73**	⇑*i* P	**Pg**	**06 26 08.4**	**+0.4**
TLCR		**0.43**	**73**	S	**Sg**	**06 26 14.

GELI	**Tayfur-Gelibol**	**2.27**	**335**	*e*PN	**Pn**	**07 02 44.1**	**+0.5**
GELI	**Tayfur-Gelibol**	**2.27**	**335**	*e*Pn	**Pn**	**07 02 44.1**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.37**	**350**	*e*PN	**Pn**	**07 02 45.6**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.37**	**350**	*e*Pn	**Pn**	**07 02 45.6**	**+0.5**
ARMT	**Armutlu**	**2.37**	**21**	*e*PN	**Pn**	**07 02 45.9**	**+0.8**
ARMT	**Armutlu**	**2.37**	**21**	*e*Pn	**Pn**	**07 02 45.9**	**+0.8**
MFT	**Murefte**	**2.46**	**352**	*e*PN	**Pn**	**07 02 46.8**	**+0.5**
MFT	**Murefte**	**2.46**	**352**	*e*Pn	**Pn**	**07 02 46.8**	**+0.5**
CAVI	**Cavuskoy**	**2.46**	**41**	*e*PN	**Pn**	**07 02 47.1**	**+0.9**
CAVI	**Cavuskoy**	**2.46**	**41**	*e*Pn	**Pn**	**07 02 47.2**	**+0.9**
ERIK	**Erikli-Kesan**	**2.50**	**338**	*e*PN	**Pn**	**07 02 47.4**	**+0.7**
ERIK	**Erikli-Kesan**	**2.50**	**338**	*e*Pn	**Pn**	**07 02 47.4**	**+0.7**
YLV	**Yalova**	**2.54**	**29**	*e*PN	**Pn**	**07 02 48.6**	**+1.2**
YLV	**Yalova**	**2.54**	**29**	*e*Pn	**Pn**	**07 02 48.7**	**+1.2**
GULT	**Gulveren**	**2.99**	**45**	*e*PN	**Pn**	**07 02 54.2**	**+0.7**
GULT	**Gulveren**	**2.99**	**45**	*e*Pn	**Pn**	**07 02 54.2**	**+0.7**

ISCJB ***28*** *07:07:06.9±0.4,24°.30N±0°.04×122°.96E±0°.02,h46km±9km, Error ellipse: s-maj=7.4km s-min=3.3km az=0.2*
TAP ***28*** *07:07:07.1,24°.29N×122°.92E,h41km±1km,ML3.3,D*
JMA ***28*** *07:07:07.3±0.1,24°.37N×122°.98E,h48km±1km,M2.7*

ISC 28 07:07:07.3±1.2,**24°.32N**±0°.05×**122°.96E**±0°.03,**h44**km±11km, **n30**,σ**0**:**66**/56,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.15**	**17**	P	**Pn**	**07 07 14.8**	**0.0**
YOJ				*e*S	**Sn**	**07 07 20.2**	**+0.3**
IRIF	**Iriomote-Funau**	**0.70**	**88**	P	**Pn**	**07 07 20.6**	**-0.3**
IRIF				*e*S	**Sn**	**07 07 30.6**	**-0.1**
HATJ	**Hateruma jima**	**0.81**	**108**	P	**Pn**	**07 07 22.5**	**+0.1**
JKRS	**Kuro-shima**	**0.96**	**95**	P	**Pn**	**07 07 24.6**	**+0.2**
JKRS				*e*S	**Sn**	**07 07 37.2**	**+0.3**
TWC	**Suao** baz=297	**1.05**	**286**	P	**Pn**	**07 07 24.9**	**-0.8**
TWC				S	**Sn**	**07 07 38.2**	**-1.0**
JIJ	**Ishigaki jima** baz=297	**1.08**	**87**	P	**Pn**	**07 07 25.6**	**-0.4**
JIJ				*e*S	**Sn**	**07 07 39.0**	**-0.8**
ENA	**Nanau** baz=286	**1.12**	**276**	*e*P	**Pn**	**07 07 26.4**	**-0.2**
ENA				*e*S	**Sn**	**07 07 40.4**	**-0.4**
TWB1	**Santiao Chiao** baz=320	**1.12**	**308**	P	**Pn**	**07 07 26.5**	**-0.1**
TWB1				S	**Sn**	**07 07 39.8**	**-1.1**
TWE	**Neicheng** baz=299	**1.25**	**289**	P	**Pn**	**07 07 28.5**	**+0.2**
TWE				S	**Sn**	**07 07 43.5**	**-0.4**
TWD	**Chiawan** baz=246	**1.27**	**260**	*e*P	**Pn**	**07 07 28.6**	**0.0**
TWD				*e*S	**Sn**	**07 07 44.0**	**-0.4**
NWF	**Wu-fen Shan** baz=306	**1.31**	**305**	P	**Pn**	**07 07 29.4**	**+0.2**
NWF				*e*S	**Sn**	**07 07 45.4**	**-0.2**
ENTT	**Nioudou** baz=293	**1.31**	**284**	P	**Pn**	**07 07 29.1**	**-0.1**
ENTT				*e*S	**Sn**	**07 07 46.2**	**+0.7**
NNS	**Nan Shan** baz=264	**1.45**	**275**	*e*P	**Pn**	**07 07 31.4**	**+0.2**
NNS				*e*S	**Sn**	**07 07 49.3**	**+0.1**
NSK	**Sanguang** baz=293	**1.50**	**284**	*e*P	**Pn**	**07 07 31.9**	**0.0**
NSK				*e*S	**Sn**	**07 07 51.3**	**+0.9**
WHF	**Hehuan Shan** baz=251	**1.56**	**264**	*e*P	**Pn**	**07 07 33.0**	**0.0**
WHF				*e*S	**Sn**	**07 07 52.1**	**-0.1**
JTJ	**Tarama** baz=237	**1.62**	**78**	P	**Pn**	**07 07 33.6**	**+0.2**
JTJ				*e*S	**Sn**	**07 07 53.4**	**+0.4**
EHY	**Hungye** baz=254	**1.70**	**242**	*e*P	**Pn**	**07 07 34.0**	**-0.6**
EHY				*e*S	**Sn**	**07 07 54.1**	**-1.1**
TWF1	**Yuli** baz=237	**1.80**	**238**	P	**Pn**	**07 07 35.4**	**-0.5**
TWF1				*e*S	**Sn**	**07 07 56.8**	**-0.8**
SMLT	**Sun Moon Lake** baz=257	**1.93**	**258**	*e*P	**Pn**	**07 07 38.3**	**+0.5**
SMLT				*e*S	**Sn**	**07 08 01.7**	**+0.7**
TYC	**Yuchr** baz=248	**1.97**	**258**	*e*P	**Pn**	**07 07 38.9**	**+0.7**
TYC				*e*S	**Sn**	**07 08 01.7**	**+0.1**
YUS	**Yu-Shan** baz=245	**2.02**	**246**	*e*P	**Pn**	**07 07 39.5**	**+0.2**
YUS				*e*S	**Sn**	**07 08 02.6**	**-0.9**
ELDTW	**Lidau** baz=237	**2.11**	**238**	*e*P	**Pn**	**07 07 39.3**	**-1.0**
WNT	**Mingjian** baz=258	**2.13**	**259**	*e*P	**Pn**	**07 07 41.3**	**+0.9**
ALS	**Alishan** baz=247	**2.13**	**248**	*e*P	**Pn**	**07 07 41.7**	**+1.0**
ALS				*e*S	**Sn**	**07 08 05.8**	**-0.3**
CHN5	**Tsauling** baz=251	**2.21**	**252**	*e*P	**Pn**	**07 07 43.3**	**+1.7**
CHN5				*e*S	**Sn**	**07 08 07.9**	**+0.1**
CHN4	**Tsaushan** baz=246	**2.37**	**247**	*e*P	**Pn**	**07 07 44.7**	**+1.0**
CHN4				*e*S	**Sn**	**07 08 13.4**	**+1.8**
WTP	**Ta-pu** baz=243	**2.40**	**244**	*e*P	**Pn**	**07 07 43.2**	**-1.0**
TWK	**Hsinying** baz=244	**2.50**	**246**	*e*P	**Pn**	**07 07 46.1**	**+0.6**
TWK				*e*S	**Sn**	**07 08 14.3**	**-0.5**
CHN1	**Nanshi** baz=242	**2.50**	**244**	*e*P	**Pn**	**07 07 45.3**	**-0.2**
CHN1				*e*S	**Sn**	**07 08 15.0**	**+0.2**
SCZT	**Fangliau** baz=220	**2.90**	**228**	*e*P	**Pn**	**07 07 51.5**	**+0.5**
SCZT				*e*S	**Sn**	**07 08 24.4**	**-0.2**

IDC ***28*** *07:17:57.0±0.9,19°.92S×173°.66W,h0km,mb4.2/14, mb1 4.4/15,mb1mx4.4/22,mbtmp4.2/15,ML4.1/1,MS3.8/2, Ms1 3.9/2,ms1mx3.1/23,Error ellipse: s-maj=42.4km s-min=17.0km az=153.0*
BJI ***28*** *07:17:58.4,20°.43S×173°.15W,h40km,mB5.2/6,mb5.0/15, Ms5.1/4,Ms7 4.7/4*
ISCJB ***28*** *07:17:59.3±0.6,20°.0S±0°.1×173°.7W±0°.1,h25km,mb4.5/27, MS4.0/3,Error ellipse: s-maj=20.6km s-min=9.9km az=136.3*
NEIC ***28*** *07:18:02.4±0.5,19°.83S×173°.70W,h35km,mb4.6/9,Error ellipse: s-maj=20.0km s-min=9.0km az=140.0*

ISC 28 07:18:00.6±0.6,**20°.0S**±0°.1×**173°.5W**±0°.1,**h25**km,**n90**, σ**1**:**68**/98,**mb4.5**/27,**MS4.0**/3,**4C-3D**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 124nm,0.5s	**6.28**	**16**	*e*Pn	**Pn**	**07 19 28.8**	**-2.9**
AFI				*e*Sn	Sn	07 20 31.6	-11
AFI	**Afiamalu** 15nm,0.3s,baz=158,slow=11,SNR=21	**6.28**	**16**	Pn	Pn	07 19 27.6	-4.2
AFI				Sn	Sn	07 20 28.5	-14
MSVF	**Nonsavu** 41nm,1.1s	**8.29**	**284**	*e*Pn	Pn	07 20 04.4	+5.0
RAR	**Rarotonga**	**12.93**	**98**	*e*Pn	Pn	07 20 54.8	-8.0
RAR				*e*Sn	Sn	07 23 06.2	-20
RAR	**Rarotonga** 3.4nm,0.3s,baz=266,slow=13,SNR=11	**12.93**	**98**	Pn	Pn	07 20 55.2	-7.6
RAR				Sn	Sn	07 23 06.2	-20
DZM	**Mont Dzumac** 31nm,1.4s	**18.82**	**260**	*e*P	**Pn**	**07 22 19.1**	**-0.1**
DZM				*e*LR	LR	07 26 48.9	
DZM	**Mont Dzumac** 142nm,20.9s	**18.82**	**260**	*e*P	**Pn**	**07 22 19.8**	**+0.5**
DZM	**Mont Dzumac** 12nm,0.8s	**18.82**	**260**	P	**Pn**	**07 22 18.9**	**-0.3**
URZ	**Urewera** 24nm,0.8s	**19.93**	**202**	*e*P	**P**	**07 22 31.8**	**+1.3**
TBI	**Tubuai** 88nm,23.8s	**22.60**	**103**	*e*LR	LR	07 28 18.0	
PPT2	**Papeete2** 109nm,21.2s	**22.79**	**88**	*e*LR	LR	07 28 29.4	
PPT	**Papeete** comp=Z,201nm,19.4s,baz=238,slow=32	**22.79**	**88**	LR	LR	07 30 11.9	
EIDS	**Eidsvold** 4.4nm,0.7s	**33.03**	**254**	*e*P	**P**	**07 24 33.8**	**-0.3**
ARMA	**Armidale** 5.0nm,0.7s	**33.08**	**245**	*e*P	**P**	**07 24 34.3**	**-0.3**
ARMA	**Armidale** 6.8nm,0.7s,baz=118,slow=9.8,SNR=4.5	**33.08**	**245**	*e*P	**P**	**07 24 34.6**	**0.0**
CNB	**Canberra Magne**	**36.01**	**237**	*e*P	**P**	**07 25 00.1**	**+0.3**
CTAO	**Charters Tower** 5.0nm,0.6s	**37.73**	**263**	*e*P	**P**	**07 25 13.5**	**-1.1**
PMG	**Port Moresby** 14nm,1.0s	**39.37**	**280**	*e*P	**P**	**07 25 27.4**	**-1.0**
PMG	**Port Moresby** 1.3nm,1.0s	**39.37**	**280**	P	**P**	**07 25 27.7**	**-0.7**
TOO	**Toolangi**	**39.60**	**235**	*e*P	**P**	**07 25 29.8**	**-0.4**
COEN	**Coen** 175nm,1.3s	**41.76**	**271**	*e*P	**P**	**07 25 46.8**	**-1.4**
STKA	**Stephens Creek** 1.3nm,1.0s	**41.79**	**244**	*e*P	**P**	**07 25 47.4**	**-0.9**
STKA	**Stephens Creek** 1.8nm,0.5s,baz=76,slow=9.6,SNR=7.4	**41.79**	**244**	*e*P	**P**	**07 25 47.2**	**-1.1**
STKA	**Stephens Creek** 1.8nm,0.5s,baz=76,slow=9.6,SNR=7.4	**41.79**	**244**	P	**P**	**07 25 47.2**	**-1.1**
AS31	**Alice Springs**	**48.72**	**256**	*e*P	**P**	**07 26 42.1**	**-1.3**
ASAR	**Alice Springs**	**48.72**	**256**	P	**P**	**07 26 42.1**	**-1.3**
ASAR				PcP	**PcP**	**07 28 09.2**	**+0.7**
ASAR	**Alice Springs** 3.5nm,0.6s,baz=95,slow=7.9,SNR=72	**48.72**	**256**	P	**P**	**07 26 42.1**	**-1.3**
ASAR				PcP	**PcP**	**07 28 09.2**	**+0.7**
WRAB	**Tennant Creek** 1.6nm,0.6s,baz=106,slow=4.0,SNR=6.2	**48.83**	**261**	*e*P	**P**	**07 26 42.6**	**-1.6**
WRA	**Warramunga Arr** 5.3nm,0.7s	**48.83**	**261**	P	**P**	**07 26 42.9**	**-1.4**
WRA	**Warramunga Arr** 4.6nm,0.8s,baz=97,slow=7.9,SNR=41	**48.83**	**261**	P	**P**	**07 26 42.9**	**-1.4**
FORT	**Forrest** 11nm,0.6s	**53.35**	**246**	*e*P	**P**	**07 27 17.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**57.26**	**261**	*e*P	**P**	**07 27 46.3**	**-0.1**
MJAR	**Matsushiro Arr**	**72.39**	**321**	P	**P**	**07 29 22.5**	**-2.1**
MJAR	**Matsushiro Arr** 1.9nm,0.5s,baz=169,slow=6.8,SNR=6.8	**72.39**	**321**	P	**P**	**07 29 22.5**	**-2.1**
PETK	**Petropavlovsk-**	**76.96**	**343**	P	**P**	**07 29 50.8**	**+0.1**
PETK	**Petropavlovsk-** 3.5nm,0.8s,baz=148,slow=8.5,SNR=4.0	**76.96**	**343**	P	**P**	**07 29 50.8**	**+0.1**
NVAR	**Mina Array Bea**	**77.82**	**41**	P	**P**	**07 29 56.6**	**+0.4**
NVAR	**Mina Array Bea** 1.9nm,0.9s,baz=220,slow=6.9,SNR=9.8	**77.82**	**41**	P	**P**	**07 29 56.6**	**+0.4**
KSRS	**Korea Array** 1.5nm,0.8s,baz=139,slow=5.9,SNR=5.1	**79.37**	**316**	P	**P**	**07 30 05.8**	**+1.4**
KSAR	**Wonju Array Be**	**79.39**	**316**	P	**P**	**07 30 05.8**	**+1.3**
MDJ	**Mudanjiang**	**82.59**	**323**	P	**P**	**07 30 22.0**	**+0.5**
MDJ	comp=Z,4.0nm,1.8s			pmax	pmax		
MDJ	comp=Z,24nm,3.1s			pmax	pmax		
NJ2	**Nanjing**	**82.85**	**308**	*e*P	**P**	**07 30 22.5**	**-0.6**
NJ2	comp=Z,10.0nm,0.7s			pmax	pmax		
TXAR	**Lajitas Array**	**83.27**	**56**	P	**P**	**07 30 27.8**	**+2.3**
TXAR	**Lajitas Array** comp=Z,1.6nm,1.0s,baz=207,slow=7.7,SNR=6.5	**83.27**	**56**	P	**P**	**07 30 27.8**	**+2.3**
QIZ	**Qiongzhong**	**84.52**	**292**	P	**P**	**07 30 31.5**	**-0.5**
QIZ				S	**S**	**07 40 57.5**	**-0.1**
QIZ	comp=Z,14nm,1.8s			pmax	pmax		
CN2	**Changchun**	**84.53**	**320**	*e*P	**P**	**07 30 30.0**	**-1.4**
PDAR	**Pinedale Array**	**85.76**	**42**	P	**P**	**07 30 38.6**	**+0.7**
PDAR	**Pinedale Array** comp=Z,0.6nm,0.9s,baz=214,slow=4.4,SNR=4.7	**85.76**	**42**	P	**P**	**07 30 38.6**	**+0.7**
ILAR	**Eielson Array**	**86.96**	**11**	P	**P**	**07 30 42.4**	**-0.7**
ILAR	**Eielson Array** comp=Z,0.9nm,0.8s,baz=221,slow=5.8,SNR=12	**86.96**	**11**	P	**P**	**07 30 42.4**	**-0.7**
GYA	**Guiyang**	**90.09**	**298**	*e*P	**P**	**07 30 58.0**	**-0.9**
GYA	comp=Z,10.0nm,1.0s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**92.06**	**313**	*e*P	**P**	**07 31 08.5**	**+0.8**
HHC				pP	**pP**	**07 31 19.5**	**+3.6**
HHC				sP	**sP**	**07 31 23.0**	**+4.2**
HHC				PP	**PP**	**07 34 52.5**	**+4.5**
HHC				SKS	**SKSac**	**07 41 38.0**	**-1.4**
HHC				S	**S**	**07 42 09.0**	**+0.5**
HHC				sS	**sS**	**07 42 25.5**	**+3.4**
HHC				SS	SS	07 48 23.8	+5.4
HHC	comp=Z,10.0nm,0.6s			pmax	pmax		
HHC	comp=Z,77nm,4.6s			pmax	pmax		
HHC	comp=N,82nm,17.8s			LR	LR		
HHC	comp=E,120nm,16.7s			LR	LR		
HHC	comp=Z,84nm,15.5s			LR	LR		
KMI	**Kunming**	**92.90**	**296**	P	**P**	**07 31 11.5**	**-0.6**
KMI				pP	**pP**	**07 31 22.8**	**+2.5**
KMI	comp=Z,10.0nm,1.4s			pmax	pmax		
CMAR	**Chiang Mai Arr**	**93.94**	**288**	P	**P**	**07 31 18.3**	**+1.5**
CMAR	**Chiang Mai Arr** comp=Z,1.4nm,0.4s,baz=106,slow=2.0,SNR=6.3	**93.94**	**288**	P	**P**	**07 31 18.3**	**+1.5**
YKA	**Yellowknife Ar**	**94.34**	**24**	P	**P**	**07 31 17.2**	**-0.4**
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.7s,baz=239,slow=4.3,SNR=8.3	**94.34**	**24**	P	**P**	**07 31 17.2**	**-0.4**
LZH	**Lanzhou**	**95.84**	**306**	*e*P	**P**	**07 31 25.0**	**-0.3**
LZH				pP	**pP**	**07 31 36.5**	**+3.0**
LZH				sP	**sP**	**07 31 40.8**	**+4.4**
LZH	comp=Z,20nm,1.2s			pmax	pmax		
SONM	**Songino Array**	**98.17**	**318**	P	**P**	**07 31 34.5**	**-1.0**
SONM	**Songino Array** comp=Z,0.2nm,0.8s,baz=280,slow=30,SNR=2.3	**98.17**	**318**	P	**P**	**07 31 34.5**	**-1.0**
LPAZ	**La Paz** comp=Z,44nm,19.5s,baz=319,slow=31	**98.33**	**111**	LR	LR	08 08 57.9	
WMQ	**Urumqi**	**109.79**	**311**	*e*PKP	**PKiKP**	**07 36 27.0**	**-2.6**
KURK	**Kurchatov**	**116.47**	**317**	PKP	**PKPdf**	**07 36 41.9**	**-0.2**
KURBB	**Kurchatov Arra** comp=Z,0.3nm,0.5s,baz=94,slow=1.5,SNR=4.6	**116.53**	**317**	PKP	**PKPdf**	**07 36 41.9**	**-0.3**
KSH	**Kashi**	**118.06**	**305**	*e*PKP	**PKPdf**	**07 36 43.8**	**-1.8**
KSH				sPKP		07 36 57.8	
KSH				PP	PP	07 38 07.5	+6.7
KSH				PKS	**PKSdf**	**07 40 18.5**	**-3.9**
KSH				SKS	**SKSdf**	**07 43 50.8**	**-5.5**
KSH				SKKS	**SKKSac**	**07 44 55.3**	**-4.4**
KSH				SS	SS	07 54 20.0	+5.7
KSH				AMB	AMB		
KSH	comp=Z,100nm,5.1s			LR	LR		
KSH	comp=N,93nm,6.3s			LR	LR		
KSH	comp=E,82nm,4.9s			LR	LR		
KSH	comp=Z,130nm,5.9s						
BVAR	**Borovoye Array**	**121.39**	**321**	PKP	**PKPdf**	**07 36 51.7**	**+0.2**
BVAR	**Borovoye Array** comp=Z,0.7nm,0.5s,baz=111,slow=2.0,SNR=6.3	**121.39**	**321**	PKP	**PKPdf**	**07 36 51.7**	**+0.2**
ARCES	**ARCESS Array B**	**129.12**	**352**	PKP	**PKPdf**	**07 37 06.2**	**+0.4**
ARCES	**ARCESS Array B** comp=Z,2.5nm,0.9s,baz=52,slow=3.5,SNR=4.5	**129.12**	**352**	PKP	**PKPdf**	**07 37 06.2**	**+0.4**
FINES	**FINESS Array B**	**136.38**	**346**	PKP	**PKPdf**	**07 37 21.0**	**+1.3**
FINES	**FINESS Array B** comp=Z,3.0nm,1.0s,baz=183,slow=34,SNR=3.7	**136.38**	**346**	PKP	**PKPdf**	**07 37 21.0**	**+1.3**
AKASG	**Malin Array Be**	**144.48**	**335**	PKP	**PKPab**	**07 37 32.8**	**-0.1**
AKASG	**Malin Array Be** comp=Z,2.0nm,0.6s,baz=42,slow=3.8,SNR=6.2	**144.48**	**335**	PKP	**PKPab**	**07 37 32.8**	**-0.1**
CLL	**Collm** comp=Z,4.0nm,0.8s	**148.34**	**352**	*i* PKPbc	**PKPbc**	**07 37 44.3**	**-0.2**
CLL				*e*PKPab	**PKPab**	**07 37 49.0**	**+1.3**
BURAR	**Bucovina Array**	**148.53**	**335**	*i* P	**PKPbc**	**07 37 47.0**	**+1.7**
BRG	**Berggiesshubel** comp=Z,3.0nm,0.7s	**148.63**	**351**	*e*PKP	**PKPbc**	**07 37 46.1**	**+0.8**
BRG				*e*		07 37 48.6	
BRG	comp=Z,4.3nm,0.8s			*e*		07 38 09.8	
TRPA	**Tarpa** comp=Z,5.8nm,1.0s	**149.08**	**339**	*i* P	**PKPbc**	**07 37 47.9**	**+1.4**
CFR	**Carcaliu**	**149.15**	**329**	*i* P	**PKPbc**	**07 37 47.9**	**+1.1**
BR131	**Keskin Array S**	**149.51**	**316**	*e*PKPbc	**PKPbc**	**07 37 48.6**	**+0.4**
BRTR	**Keskin Array B**	**149.51**	**316**	PKPbc	**PKPbc**	**07 37 47.7**	**-0.4**
BRTR	**Keskin Array B** comp=Z,3.4nm,1.0s,baz=116,slow=3.4,SNR=9.4	**149.51**	**316**	PKPbc	**PKPbc**	**07 37 47.7**	**-0.4**
TIRR	**Tirgusor**	**149.54**	**328**	*i* P	**PKPbc**	**07 37 47.0**	**-0.8**
MLR	**Muntele Rosu**	**149.92**	**332**	*i* P	**PKPbc**	**07 37 50.1**	**+1.2**
VOIR		**150.35**	**333**	*i* P	**PKPbc**	**07 37 51.5**	**+1.6**
KHC	**Kasperske Hory**	**150.38**	**351**	*e*PKPbc	**PKPbc**	**07 37 49.6**	**-0.2**
KHC	**Kasperske Hory**	**150.38**	**351**	*i* PKP	**PKPbc**	**07 37 50.5**	**+0.7**
GERES	**GERESS Array B**	**150.64**	**350**	PKPbc	**PKPbc**	**07 37 51.2**	**+0.7**
GERES	**GERESS Array B** comp=Z,1.3nm,0.8s,baz=30,slow=2.4,SNR=7.8	**150.64**	**350**	PKPbc	**PKPbc**	**07 37 51.2**	**+0.7**
TORD	**Torodi Ar. Bea**	**171.79**	**145**	PKP	**PKPdf**	**07 38 06.7**	**-1.3**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.8s,baz=250,slow=2.9,SNR=2.5	**171.79**	**145**	PKP	**PKPdf**	**07 38 06.7**	**-1.3**

THR ***28*** *07:22:37.6±1.1,36°.28N×53°.88E,h15km,ML3.5*
TEH ***28*** *07:22:37.3,36°.33N×53°.88E,h4km,ML3.5*
CSEM ***28*** *07:22:37.3±0.3,36°.30N×53°.80E,h2km,ML3.5,Error ellipse: s-maj=7.6km s-min=5.2km az=168.0*

ISC 28 07:22:37.2±1.4,**36°.31N**±0°.04×**53°.85E**±0°.03,**h0**km±12km, **n51**,σ**0**:**82**/65,**2C-2D**,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKIA	**Kiasar**	**0.17**	**234**	*i* P	**Pg**	**07 22 40.7**	**+0.3**
IKIA				*e*Sg	**Sg**	**07 22 43.9**	**+1.4**
IKIA	comp=Z,2μm,0.1s			*e*		07 22 45.6	
IKIA	**Kiasar**	**0.17**	**234**	*i* P	**Pg**	**07 22 40.7**	**+0.3**
IKIA				*e*Sg	**Sg**	**07 22 43.9**	**+1.4**
ISHM	**Shahmirzad**	**0.67**	**222**	*e*Pg	**Pg**	**07 22 49.8**	**-0.3**
ISHM				*e*Sg	**Sg**	**07 22 59.7**	**+0.9**
ISHM	comp=Z,47μm,0.1s			*e*		07 23 02.2	
ISHM	**Shahmirzad**	**0.67**	**222**	*e*Pg	**Pg**	**07 22 49.8**	**-0.3**
ISHM				*e*Sg	**Sg**	**07 22 59.7**	**+0.9**
IANJ	**Anjilo**	**0.84**	**176**	*i* P	**Pg**	**07 22 53.2**	**-0.1**
IANJ	comp=Z,15μm,0.1s			*e*		07 22 55.0	
IANJ	**Anjilo**	**0.84**	**176**	*i* P	**Pg**	**07 22 53.2**	**-0.1**
IALA	**Alasht**	**0.87**	**256**	*e*Pg	**Pg**	**07 22 53.2**	**-0.7**
IALA	comp=Z,22μm,0.1s			*e*		07 23 09.2	
IALA	**Alasht**	**0.87**	**256**	*e*Pg	**Pg**	**07 22 53.2**	**-0.7**
IFIR	**Firoozkooh**	**1.11**	**234**	*e*Pg	**Pg**	**07 22 57.7**	**-0.8**
IFIR	comp=Z,14μm,0.1s			*e*		07 23 00.5	
IFIR				*e*Sg	**Sg**	**07 23 13.2**	**+0.4**
IFIR	**Firoozkooh**	**1.11**	**234**	*e*Pg	**Pg**	**07 22 57.7**	**-0.8**
IFIR				*e*Sg	**Sg**	**07 23 13.2**	**+0.4**
ILAS	**Lasjerd**	**1.17**	**218**	*e*Pg	**Pg**	**07 22 58.9**	**-0.8**
ILAS	comp=Z,9μm,0.2s			*e*		07 23 02.2	
ILAS	**Lasjerd**	**1.17**	**218**	*e*Pg	**Pg**	**07 22 58.9**	**-0.8**
IPRN	**Peran**	**1.22**	**267**	*e*Pg	**Pg**	**07 22 59.3**	**-1.4**
IPRN	comp=Z,11μm,0.1s			*e*		07 23 02.7	
IPRN				*e*Sg	**Sn**	**07 23 18.8**	**-0.2**
IDMV	**Damavand** comp=Z,7μm,0.1s	**1.64**	**244**	*e*		07 23 12.0	
IDMV				*e*Pn	**Pn**	**07 23 07.6**	**0.0**
IDMV				*e*Sg	**Sn**	**07 23 29.7**	**+0.1**
DAMV	**Damavand**	**1.67**	**247**	*e*Pg	**Pn**	**07 23 07.8**	**-0.1**
DAMV	comp=E,410nm,0.6s			AML	AML	07 23 36.7	
DAMV	**Damavand**	**1.67**	**247**	*e*Pg	**Pn**	**07 23 07.8**	**-0.1**
IVRN	**Varamin**	**2.17**	**234**	*e*Pn	**Pn**	**07 23 14.7**	**+0.1**
IVRN				*e*Pn	**Pn**	**07 23 14.7**	**+0.1**
IVRN				*e*Sg	**Sb**	**07 23 45.6**	**+0.8**
IVRN				*e*Sg	**Sg**	**07 23 46.3**	**-0.5**
IVRN	comp=Z,8μm,0.2s			*e*		07 23 47.3	
IVRN	**Varamin**	**2.17**	**234**	*e*Pn	**Pn**	**07 23 14.7**	**+0.1**
IVRN				*e*Sg	**Sb**	**07 23 45.6**	**+0.8**
CHTH	**Charan**	**2.24**	**261**	*e*Pn	**Pb**	**07 23 17.3**	**-1.4**
CHTH	**Charan**	**2.24**	**261**	*e*Pn	**Pb**	**07 23 17.3**	**-1.4**
MRVT	**Maraveh tapeh**	**2.25**	**52**	*e*Pn	**Pn**	**07 23 15.9**	**+0.2**
MRVT	**Maraveh tapeh**	**2.25**	**52**	*e*Pn	**Pn**	**07 23 15.9**	**+0.2**
IR3	**Iran Long-Peri**	**2.44**	**251**	*e*Pn	**Pn**	**07 23 18.2**	**-0.2**
IR3				*e*Sg	**Sb**	**07 23 53.3**	**+0.6**
IR3	**Iran Long-Peri**	**2.44**	**251**	*e*Pn	**Pn**	**07 23 18.2**	**-0.2**
IR3				*e*Sg	**Sb**	**07 23 53.3**	**+0.6**
IMHD	**Mahdasht**	**2.65**	**257**	*e*Pn	**Pn**	**07 23 21.2**	**-0.2**
IMHD	comp=Z,1μm,0.1s			*e*		07 23 29.0	
IMHD	**Mahdasht**	**2.65**	**257**	*e*Pn	**Pn**	**07 23 21.2**	**-0.2**
GHVR	**GHOM**	**2.77**	**230**	*e*Pn	**Pn**	**07 23 24.3**	**+1.4**
GHVR	comp=N,168nm,0.5s			AML	AML	07 24 11.4	
GHVR	comp=E,184nm,0.6s			AML	AML	07 24 11.9	
GHVR	**GHOM**	**2.77**	**230**	*e*Pn	**Pn**	**07 23 24.3**	**+1.4**
IGZV	**Ghazvin**	**2.93**	**273**	*e*Sg	**Sb**	**07 24 09.4**	**+2.4**
IGZV	**Ghazvin**	**2.93**	**273**	*e*Sg	**Sb**	**07 24 09.4**	**+2.4**
BJRD	**Bojnurd**	**3.17**	**63**	*e*Pn	**Pn**	**07 23 29.3**	**+0.8**
BJRD	**Bojnurd**	**3.17**	**63**	*e*Pn	**Pn**	**07 23 29.3**	**+0.8**
IRAZ	**Razeghan**	**3.31**	**255**	*e*Pn	**Pn**	**07 23 30.1**	**-0.4**
IRAZ	comp=Z,745nm,0.1s			*e*		07 23 44.6	
IRAZ	**Razeghan**	**3.31**	**255**	*e*Pn	**Pn**	**07 23 30.1**	**-0.4**
IKLH	**Kolahrood**	**3.52**	**213**	*e*Pn	**Pn**	**07 23 33.1**	**-0.3**
IKLH	comp=Z,1μm,0.2s			*e*		07 23 46.9	
IKLH	**Kolahrood**	**3.52**	**213**	*e*Pn	**Pn**	**07 23 33.1**	**-0.3**
NASN	**Na'in**	**3.60**	**194**	*e*Pn	**Pn**	**07 23 35.1**	**+0.5**
NASN	**Na'in**	**3.60**	**194**	*e*Pn	**Pn**	**07 23 35.1**	**+0.5**
IZEF	**Zefreh**	**3.62**	**201**	*e*Pn	**Pn**	**07 23 34.7**	**-0.2**
IZEF	comp=Z,693nm,0.2s			*e*		07 24 34.5	
IZEF	**Zefreh**	**3.62**	**201**	*e*Pn	**Pn**	**07 23 34.7**	**-0.2**
IKRD	**Kardeh**	**3.79**	**81**	*e*Pn	**Pg**	**07 23 49.4**	**-0.4**
IKRD	comp=Z,148nm,0.1s			*e*		07 23 53.6	

comp=E,0.2nm,0.3s,baz=134,slow=10,SNR=3.0
BVAR LR LR 07 37 39.9
comp=E,22nm,20.2s,baz=256,slow=42
SONM Songino Array 22.62 48 P P 07 29 14.5 +1.5
comp=E,0.7nm,0.7s,baz=244,slow=10,SNR=6.0
ASAR Alice Springs 76.90 132 P P 07 36 04.0 -0.8
comp=E,0.3nm,0.6s,baz=314,slow=5.8,SNR=3.4
YKA Yellowknife Ar 81.87 7 P P 07 36 31.6 +0.3
comp=E,0.3nm,0.8s,baz=347,slow=4.8,SNR=5.2
BOSA Boshof 82.50 227 P P 07 36 35.6 +0.4
comp=E,2.8nm,1.0s,baz=52,slow=6.3,SNR=3.6

IDC 28 07:32:32.2±1.6, 3°17N×124°88E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.5/4, MS2.6/1, Ms1 2.6/1, ms1mx2.2/20, Error ellipse: s-maj=189.8km s-min=21.4km az=65.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.77**	**158**	P	P	07 37 54.2	-1.8
	0.7nm,0.3s,baz=337,slow=11,SNR=4.6						
PSI	**Prapat**	**25.92**	**270**	LR	LR	07 48 27.1	
	comp=Z,14nm,19.4s,baz=8.8,slow=37						
ASAR	**Alice Springs**	**28.08**	**162**	P	P	07 38 27.3	+1.5
	0.3nm,0.8s,baz=324,slow=9.2,SNR=3.4						
MKAR	**Makanchi Array**	**56.98**	**326**	P	P	07 42 20.0	+0.4
	0.4nm,0.4s,baz=119,slow=7.7,SNR=19						
KURBB	**Kurchatov Arra**	**61.23**	**328**	P	P	07 42 48.5	-0.6
	0.5nm,0.5s,baz=129,slow=6.4,SNR=7.5						

*CSEM **28** 08:10:07.7, 37°14N×20°70E, h22km, MD3.3, After ATH*
ATH 28 08:10:07.7, 37°14N×20°70E, h22km, MD3.3/14, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.87**	**106**	*e*PN	Pb	08 10 24.1	0.0
PYL				*e*SN	Sn	08 10 37.0	+0.4
PYL	**PYLOS**	**0.87**	**106**	*e*Pn	Pb	08 10 24.1	0.0
PYL				*e*Sn	Sn	08 10 37.0	+0.4
ITM	**Ithomi**	**0.98**	**87**	*e*PN	Pn	08 10 26.6	+0.4
ITM				*e*SN	Sn	08 10 39.9	+0.5
ITM	**Ithomi**	**0.98**	**87**	*e*Pn	Pn	08 10 26.6	+0.4
ITM				*e*Sn	Sn	08 10 39.9	+0.5
VLS	**Valsamata**	**1.04**	**355**	*e*PN	Pb	08 10 27.7	+0.7
VLS				*e*SN	Sn	08 10 43.0	+2.1
VLS	**Valsamata**	**1.04**	**355**	*e*Pn	Pb	08 10 27.7	+0.7
VLS				*e*Sn	Sn	08 10 43.0	+2.1
RLS	**Riolos of Patr**	**1.10**	**33**	*e*PN	Pb	08 10 28.7	+0.7
RLS				*e*SN	Sn	08 10 44.6	+2.3
RLS	**Riolos of Patr**	**1.10**	**33**	*e*Pn	Pb	08 10 28.7	+0.7
RLS				*e*Sn	Sn	08 10 44.6	+2.3
VLX	**Vlachokerasia**	**1.36**	**80**	*e*PN	Pb	08 10 33.6	+1.0
VLX				*e*SN	Sb	08 10 52.5	+2.8
VLX	**Vlachokerasia**	**1.36**	**80**	*e*Pn	Pb	08 10 33.6	+1.0
VLX				*e*Sn	Sb	08 10 52.5	+2.8
UPR	**University Cam**	**1.43**	**37**	*e*PN	Pb	08 10 34.6	+0.9
UPR				*e*SN	Sb	08 10 54.0	+2.5
UPR	**University Cam**	**1.43**	**37**	*e*Pn	Pb	08 10 34.6	+0.9
UPR				*e*Sn	Sb	08 10 54.0	+2.5
GUR	**Goura**	**1.53**	**58**	*e*PN	Pb	08 10 35.5	0.0
GUR				*e*SN	Sb	08 10 56.2	+1.7
GUR	**Goura**	**1.53**	**58**	*e*Pn	Pb	08 10 35.5	0.0
GUR				*e*Sn	Sb	08 10 56.2	+1.7
EFP	**Efpalio**	**1.60**	**36**	*e*SN	Sb	08 10 58.0	+1.6
EFP	**Efpalio**	**1.60**	**36**	*e*Sn	Sb	08 10 58.0	+1.6
LKD2	**Lefkada island**	**1.65**	**359**	*e*PN	Pb	08 10 37.4	0.0
LKD2	**Lefkada island**	**1.65**	**359**	*e*Pn	Pb	08 10 37.4	0.0
VLI	**Veliai**	**1.84**	**103**	*e*PN	Pb	08 10 40.8	+0.1
VLI				*e*SN	Sb	08 11 04.4	+1.1
VLI	**Veliai**	**1.84**	**103**	*e*Pn	Pb	08 10 40.8	+0.1
VLI				*e*Sn	Sb	08 11 04.4	+1.1
EVR	**Evrytania**	**1.98**	**26**	*e*PB	Pb	08 10 41.9	-1.3
EVR	**Evrytania**	**1.98**	**26**	*e*Pb	Pb	08 10 41.9	-1.3
LTK	**Loutraki**	**2.00**	**63**	*e*PN	Pb	08 10 42.8	-0.7
LTK	**Loutraki**	**2.00**	**63**	*e*Pn	Pb	08 10 42.8	-0.7
DID	**Didima**	**2.06**	**79**	*e*PN	Pb	08 10 43.4	-1.0
DID	**Didima**	**2.06**	**79**	*e*Pn	Pb	08 10 43.4	-1.0
KYTH	**Kithira**	**2.06**	**114**	*e*PN	Pb	08 10 43.9	-0.6
KYTH	**Kithira**	**2.06**	**114**	*e*Pn	Pb	08 10 43.9	-0.6

*CSEM **28** 08:10:34.7, 38°35N×21°82E, h9km, ML2.0/2, After THE*
THE 28 08:10:34.7, 38°35N×21°82E, h9km±2km, ML2.0/2, Error ellipse: s-maj=2.3km s-min=0.7km az=277.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.07**	**199**	P	Pg	08 10 36.9	+0.1
UPR				S	Sg	08 10 38.6	+0.2
UPR	**University Cam**	**0.07**	**199**	P	Pg	08 10 36.9	+0.1
UPR				S	Sg	08 10 38.6	+0.2
EFP	**Efpalio**	**0.10**	**43**	P	Pg	08 10 37.0	-0.3
EFP				S	Sg	08 10 38.9	-0.2
EFP	**Efpalio**	**0.10**	**43**	P	Pg	08 10 37.0	-0.3
EFP				S	Sg	08 10 38.9	-0.2
EFP	**Efpalio**	**0.10**	**43**	*e*PN	Pg	08 10 37.0	-0.3
EFP	**Efpalio**	**0.10**	**43**	*e*Pn	Pg	08 10 37.0	-0.3
LAKA	**Lakka**	**0.17**	**131**	P	Pg	08 10 38.1	-0.3
LAKA				S	Sg	08 10 40.6	-0.3
LAKA	**Lakka**	**0.17**	**131**	P	Pg	08 10 38.1	-0.3
LAKA				S	Sg	08 10 40.6	-0.3
TRIZ	**Trizonia**	**0.20**	**86**	P	Pg	08 10 39.0	+0.1
TRIZ				S	Sg	08 10 42.2	+0.5
TRIZ	**Trizonia**	**0.20**	**86**	P	Pg	08 10 39.0	+0.1
TRIZ				S	Sg	08 10 42.2	+0.5
KALE	**Kalithea**	**0.26**	**81**	P	Pg	08 10 39.6	-0.4
KALE				S	Sg	08 10 44.3	+0.7
KALE	**Kalithea**	**0.26**	**81**	P	Pg	08 10 39.6	-0.4
KALE				S	Sg	08 10 44.3	+0.7

*ISK **28** 08:30:15.8, 37°02N×28°25E, h22km, MD2.2*
*CSEM **28** 08:30:16.8±0.3, 36°93N×28°23E, h2km, MD2.2, Error ellipse: s-maj=8.6km s-min=4.5km az=20.0*
*DDA **28** 08:30:17.1, 36°98N×28°22E, h7km, MD2.6*
ISC 28 08:30:15.7±1.3, 36°90N±0°05×28°23E±0°03, h2km±12km, n18, σ0s55/28, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.24**	**11**	*e*PG	**Pg**	**08 30 20.4**	**+0.1**
YER				*e*SG	**Sg**	**08 30 24.2**	**+0.7**
YER	**Yerkesik**	**0.24**	**11**	*e*Pg	**Pg**	**08 30 20.4**	**+0.1**
YER				*e*Sg	**Sg**	**08 30 24.2**	**+0.7**
TURN	**Turunc**	**0.30**	**95**	*i* P	**Pg**	**08 30 21.4**	**-0.1**
TURN				*i* S	**Sg**	**08 30 24.6**	**-0.9**
TURN	**Turunc**	**0.30**	**95**	*i* P	**Pg**	**08 30 21.4**	**-0.1**
TURN				*i* S	**Sg**	**08 30 24.6**	**-0.9**
MLSB	**Milas**	**0.53**	**318**	*e*PG	**Pg**	**08 30 26.1**	**+0.2**
MLSB				*e*SG	**Sg**	**08 30 33.2**	**+0.4**
MLSB	**Milas**	**0.53**	**318**	*e*Pg	**Pg**	**08 30 26.1**	**+0.2**
MLSB				*e*Sg	**Sg**	**08 30 33.2**	**+0.4**
BDRM	**Kayabasi**	**0.65**	**285**	*i* P	**Pb**	**08 30 29.8**	**+0.1**
BDRM	**Kayabasi**	**0.65**	**285**	*i* P	**Pb**	**08 30 29.8**	**+0.1**
FETY	**Fethiye**	**0.74**	**111**	*e*PG	**Pb**	**08 30 31.3**	**0.0**
FETY	**Fethiye**	**0.74**	**111**	*e*Pg	**Pb**	**08 30 31.3**	**0.0**
BODT	**Bodrum**	**0.75**	**283**	*e*PG	**Pb**	**08 30 31.6**	**+0.1**
BODT	**Bodrum**	**0.75**	**283**	*e*Pg	**Pb**	**08 30 31.6**	**+0.1**
AYDN	**Tasoluk**	**0.81**	**340**	*i* P	**Pb**	**08 30 31.8**	**-0.7**
AYDN				*i* S	**Sg**	**08 30 41.1**	**-0.6**
AYDN	**Tasoluk**	**0.81**	**340**	*i* P	**Pb**	**08 30 31.8**	**-0.7**
AYDN				*i* S	**Sg**	**08 30 41.1**	**-0.6**
GOLH	**Golhisar**	**1.12**	**72**	*i* P	**Pn**	**08 30 39.5**	**+1.0**
GOLH				*i* S	**Sn**	**08 30 54.3**	**-0.3**
GOLH	**Golhisar**	**1.12**	**72**	*i* P	**Pn**	**08 30 39.5**	**+1.0**
GOLH				*i* S	**Sn**	**08 30 54.3**	**-0.3**
GCAM	**G?zelcaml?**	**1.12**	**316**	*i* P	**Pn**	**08 30 38.0**	**-0.4**
GCAM	**G?zelcaml?**	**1.12**	**316**	*i* P	**Pn**	**08 30 38.0**	**-0.4**

PRE 28 08:31:54.5±0.5, 26°44S×27°52E, h2km, ML1.6, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.12**	**44**	*e*P	Pg	08 31 57.4	+0.2
KLOF				*e*S	Sg	08 31 58.4	-0.5
KLOF				AML	AML	08 31 58.8	
	comp=Z,500nm,0.1s						

PRYS Parys 0.51 196 *e*P Pg 08 32 04.3 -0.1
PRYS *e*S Sg 08 32 11.6 +0.4
PRYS AML AML 08 32 18.7
comp=Z,6.7nm,0.2s
LBTB Lobatse 2.24 309 *e*P Pn 08 32 33.3 +0.5
LBTB *e*S Sn 08 33 02.0 +0.9
LBTB AML AML 08 33 06.6
comp=Z,4.2nm,0.3s
BOSA Boshof 2.96 222 *e*P Pn 08 32 43.3 +0.7
BOSA *e*S Sn 08 33 18.8 -0.1
BOSA AML AML 08 33 25.1
comp=Z,2.0nm,0.7s

*IDC **28** 08:43:31.8±0.6, 35°15N×81°38E, h0km, mb4.2/15, mb1 4.3/20, mb1mx4.2/27, mbtmp4.2/20, ML3.5/5, MS3.8/28, Ms1 3.8/28, ms1mx3.7/46, Error ellipse: s-maj=18.0km s-min=12.4km az=50.0*
*ISCJB **28** 08:43:33.9±0.2, 35°34N±0°03×81°51E±0°05, h15km, mb4.2/32, MS4.0/34, Error ellipse: s-maj=6.1km s-min=3.2km az=157.3*
*NEIC **28** 08:43:35.0±0.4, 35°32N×81°43E, h10km, mb4.2/6, Error ellipse: s-maj=12.9km s-min=5.0km az=62.0*
*BJI **28** 08:43:35.7, 35°40N×81°60E, h9km, mB4.7/6, mb4.4/10, ML4.7/6, Ms4.4/9, Ms7 4.2/8*
*MOS **28** 08:43:36.5±1.6, 35°40N×81°55E, h33km, mb4.6/11, MS4.1/5, Error ellipse: s-maj=11.6km s-min=5.1km az=109.2*
*NNC **28** 08:43:43.2±4.6, 35°98N×81°54E, h33km, mb4.2, mpv4.5, Error ellipse: s-maj=53.3km s-min=31.9km az=133.0*
ISC 28 08:43:35.4±0.4, 35°28N±0°04×81°48E±0°05, h15km, n166, σ1s66/148, mb4.3/32, MS4.0/35, 8C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDI	**Dehra Dun**	**5.72**	**211**	*e*PKP	**Pn**	**08 45 02.6**	**+2.7**
DDI				*e*S	Sg	08 46 46.5	+7.4
KSH	**Kashi**	**6.09**	**316**	Pn	**Pn**	**08 45 06.5**	**+1.6**
KSH				smax	smax		
	comp=N,610nm,0.9s						
KSH				smax	smax		
	comp=E,470nm,0.8s						
DANN	**Dangsing**	**7.18**	**164**	*e*P	**Pn**	**08 45 20.7**	**+0.6**
	comp=E,50nm,0.6s						
DANN	**Dangsing**	**7.18**	**164**	*e*P	**Pn**	**08 45 20.7**	**+0.6**
	comp=E,50nm,0.6s						
PYUN	**Piuthan**	**7.28**	**169**	*e*P	**Pn**	**08 45 19.3**	**-2.0**
	comp=E,58nm,0.6s						
PYUN	**Piuthan**	**7.28**	**169**	*e*P	**Pn**	**08 45 19.3**	**-2.0**
	comp=E,58nm,0.6s						
NDI	**New Delhi**	**7.51**	**210**	*e*PKP	**Pn**	**08 45 25.5**	**+1.2**
KOLN	**Koldanda**	**7.70**	**166**	*e*P	**Pn**	**08 45 27.3**	**+0.1**
	comp=E,32nm,0.6s						
KOLN	**Koldanda**	**7.70**	**166**	*e*P	**Pn**	**08 45 27.3**	**+0.1**
	comp=E,32nm,0.6s						
GKN	**Gorkha**	**7.74**	**159**	*e*P	**Pn**	**08 45 29.2**	**+1.5**
	comp=E,60nm,0.8s						
GKN	**Gorkha**	**7.74**	**159**	*e*P	**Pn**	**08 45 29.2**	**+1.5**
	comp=E,60nm,0.8s						
ULHL	**Ulahol**	**8.06**	**331**	P	Pn	08 45 38.9	+6.7
	SNR=5.9						
KKN	**Kakani**	**8.14**	**155**	*e*P	**Pn**	**08 45 36.1**	**+2.9**
	comp=E,24nm,0.5s						
KKN	**Kakani**	**8.14**	**155**	*e*P	**Pn**	**08 45 36.1**	**+2.9**
KKN				pmax	pmax		
	comp=Z,24nm,0.5s						
KKN	**Kakani**	**8.14**	**155**	*e*P	**Pn**	**08 45 36.1**	**+2.9**
	comp=Z,24nm,0.5s						
GUN	**Gumba**	**8.25**	**152**	*e*P	Pn	08 45 37.8	+2.9
	comp=Z,62nm,0.4s						
GUN	**Gumba**	**8.25**	**152**	*e*P	Pn	08 45 37.8	+2.9
	comp=Z,62nm,0.4s						
DMN	**Daman**	**8.25**	**157**	*e*P	**Pn**	**08 45 37.1**	**+2.3**
	comp=Z,72nm,1.0s						
DMN	**Daman**	**8.25**	**157**	*e*P	**Pn**	**08 45 37.1**	**+2.3**
	comp=Z,72nm,1.0s						
KZA	**Kyzart**	**8.35**	**326**	P	**Pn**	**08 45 37.5**	**+1.3**
	SNR=12						
PKI	**Pulchoki**	**8.39**	**155**	*e*P	**Pn**	**08 45 38.9**	**+2.2**
	comp=Z,31nm,0.4s						
PKI	**Pulchoki**	**8.39**	**155**	*e*P	**Pn**	**08 45 38.9**	**+2.2**
PKI				pmax	pmax		
	comp=Z,31nm,0.4s						
PKI	**Pulchoki**	**8.39**	**155**	*e*P	**Pn**	**08 45 38.9**	**+2.2**
	comp=Z,31nm,0.4s						
JIRN	**Jiri**	**8.60**	**151**	*e*P	**Pn**	**08 45 42.3**	**+2.7**
	comp=Z,17nm,0.4s						
JIRN	**Jiri**	**8.60**	**151**	*e*P	**Pn**	**08 45 42.3**	**+2.7**
	comp=Z,17nm,0.4s						
UCH	**Uchtor**	**8.81**	**324**	P	**Pn**	**08 45 43.4**	**+0.8**
	SNR=8.9						
TKM2	**Tokmak 2**	**8.89**	**331**	⇑Pn	**Pn**	**08 45 44.3**	**+0.8**
	comp=Z,12nm,1.1s						
TKM2				⇓Pg		08 46 17.4	
	comp=Z,36nm,0.9s						
TKM2				⇓Lg	Lg	08 48 11.8	
	comp=Z,44nm,0.8s						
TKM2	**Tokmak 2**	**8.89**	**331**	*e*P	**Pn**	**08 45 44.6**	**+1.1**
TKM2				pmax	pmax		
	comp=Z,92nm,0.4s						
TKM2	**Tokmak 2**	**8.89**	**331**	*e*Pn	**Pn**	**08 45 44.5**	**+1.1**
	comp=Z,92nm,0.4s						
TKM2	**Tokmak 2**	**8.89**	**331**	P	**Pn**	**08 45 45.2**	**+1.7**
	SNR=16						
AAK	**Ala-Archa**	**9.13**	**326**	P	**Pn**	**08 45 46.9**	**+0.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AAK				MLR	MLR		
	comp=Z,2μm,18.2s						
AAK	**Ala-Archa**	**9.13**	**326**	*e*Pn	**Pn**	**08 45 48.1**	**+1.4**
	comp=Z,322nm,0.8s						
AAK				Pg		08 46 16.3	
AAK	**Ala-Archa**	**9.13**	**326**	P	**Pn**	**08 45 47.9**	**+1.2**
	SNR=8.4						
AAK	**Ala-Archa**	**9.13**	**326**	Pn	**Pn**	**08 45 46.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=158,slow=19,SNR=12						
AAK				Pg		08 46 16.3	
	comp=Z,2.5nm,0.3s,baz=158,slow=14,SNR=11						
AAK				LR	LR	08 49 51.6	
	comp=Z,2μm,18.2s,baz=126,slow=41						
AML	**Almayashu**	**9.15**	**321**	P	**Pn**	**08 45 48.2**	**+1.0**
	SNR=27						
FRU	**Bishkek**	**9.23**	**327**	*e*P	Pn	08 45 51.0	+3.0
FRU				pmax	pmax		
	comp=Z,70nm,2.0s						
FRU				pmax	pmax		
	comp=E,980nm,2.2s						
CHMS	**Chumysh**	**9.31**	**328**	P	**Pn**	**08 45 50.6**	**+1.6**
	SNR=7.5						
RAMN	**Ramite**	**9.39**	**151**	*e*P	**Pn**	**08 45 51.6**	**+1.2**
	comp=E,127nm,0.9s						
RAMN	**Ramite**	**9.39**	**151**	*e*P	**Pn**	**08 45 51.6**	**+1.2**
	comp=E,127nm,0.9s						
EKS2	**Erkin-Say**	**9.50**	**323**	*e*P	**Pn**	**08 45 52.7**	**+1.0**
EKS2				pmax	pmax		
	comp=Z,31nm,0.8s						
EKS2	**Erkin-Say**	**9.50**	**323**	*e*P	**Pn**	**08 45 52.7**	**+1.0**
	comp=Z,31nm,0.8s						
EKS2	**Erkin-Say**	**9.50**	**323**	P	**Pn**	**08 45 53.0**	**+1.3**
	SNR=15						
TAPN	**Taplejung**	**9.53**	**144**	*e*P	**Pn**	**08 45 54.9**	**+2.5**
TAPN	**Taplejung**	**9.53**	**144**	*e*P	**Pn**	**08 45 54.9**	**+2.5**
WMQ	**Urumqi**	**9.78**	**27**	*e*P	**Pn**	**08 45 58.5**	**+3.0**
WMQ				S	**Sn**	**08 47 46.3**	**+1.2**
WMQ				smax	smax		
	comp=N,56nm,0.8s						
WMQ				smax	smax		
	comp=E,62nm,0.7s						
WMQ				LR	LR		
	comp=N,1μm,11.4s						
WMQ				LR	LR		
	comp=E,1μm,9.5s						
WMQ				LR	LR		
	comp=Z,1μm,9.7s						
ODAN	**Odare**	**9.80**	**147**	*e*P	**Pn**	**08 45 57.3**	**+1.2**
	comp=Z,23nm,0.5s						
ODAN	**Odare**	**9.80**	**147**	*e*P	**Pn**	**08 45 57.3**	**+1.2**
	comp=Z,23nm,0.5s						
LSA	**Lhasa**	**9.88**	**122**	P	Pn	08 46 04.8	+7.5
LSA	**Lhasa**	**9.88**	**122**	*e*P	Pn	08 46 03.9	+6.6
LSA				pmax	pmax		
	comp=Z,17nm,1.0s						
LSA	**Lhasa**	**9.88**	**122**	*e*Pn	Pn	08 46 03.9	+6.6
	comp=Z,17nm,1.0s						

MK31 Makanchi Array 11.52 3 Pn **Pn 08 46 17.6 -1.6**
comp=Z,6.2nm,0.6s,baz=178,slow=12,SNR=126
MK31 ⇑Sn Sn 08 48 19.1 -8.5
comp=Z,12nm,0.7s,baz=182,slow=23,SNR=4.5
MK31 Makanchi Array 11.52 3 *e*P **Pn 08 46 17.9 -1.3**
MK31 Makanchi Array 11.52 3 *e*Pn **Pn 08 46 17.9 -1.3**
MKAR Makanchi Array 11.52 3 P **Pn 08 46 18.2 -1.1**
MKAR 08 48 28.6
MKAR Makanchi Array 11.52 3 Pn **Pn 08 46 18.1 -1.1**
MKAR Sn **Sn 08 48 28.6 +1.0**
MKAR Makanchi Array 11.52 3 Pn **Pn 08 46 18.2 -1.1**
comp=Z,0.6nm,0.3s,baz=179,slow=13,SNR=47
MKAR Sn **Sn 08 48 28.6 +1.0**
comp=Z,1.1nm,0.3s,baz=190,slow=24,SNR=4.7
MKAR LR LR 08 51 33.0
comp=Z,456nm,18.1s,baz=177,slow=41
KK31 Karatay Array 11.54 316 ⇓Pn **Pn 08 46 19.3 -0.3**
comp=Z,4.9nm,0.8s,baz=134,slow=8.5,SNR=23
KK31 Pg 08 47 04.0
comp=Z,13nm,0.8s,baz=125,slow=18,SNR=8.6
KK31 ⇓Lg Lg 08 49 40.2
comp=Z,11nm,0.8s,baz=133,slow=27,SNR=4.2
KKAR Karatay Array 11.54 316 *e*P **Pn 08 46 20.0 +0.4**
KKAR pmax pmax
comp=Z,17nm,0.9s
KKAR Karatay Array 11.54 316 *e*Pn **Pn 08 46 20.0 +0.4**
comp=Z,17nm,0.9s
GTA Gaotai 15.15 69 *e*P **P 08 47 16.3 +2.3**
GTA pP **pP 08 47 20.5 +2.2**
GTA sP **sP 08 47 23.5 +3.3**
GTA S S 08 50 22.0 +8.4
GTA sS sS 08 50 28.0 +7.7
GTA SS Sn 08 50 42.5 +46
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,130nm,5.5s
GTA LR LR
comp=N,930nm,15.0s
GTA LR LR
comp=E,810nm,10.0s
GTA LR LR
comp=Z,720nm,9.5s
KURBB Kurchatov Arra 15.48 353 Pn **Pn 08 47 09.7 -3.3**
comp=Z,0.0nm,0.3s,baz=173,slow=12,SNR=30
KURBB LR LR 08 53 58.6
comp=Z,519nm,20.8s,baz=180,slow=40
KURK Kurchatov 15.56 353 ⇑Pn **Pn 08 47 11.2 -2.9**
comp=Z,18nm,1.3s
KURK Kurchatov 15.56 353*c i*P **Pn 08 47 10.8 -3.3**
KURK pmax pmax
comp=Z,17nm,1.7s
KURK Kurchatov 15.56 353 *e*P **Pn 08 47 11.2 -2.9**
comp=Z,10nm,0.9s
HYB Hyderabad 17.98 189 *i* P Pn 08 47 37.0 -7.9
HVS Khovu-Aksy 18.14 25 ⇓*i*P **P 08 47 47.0 0.0**
HVS *e*S **Sn 08 51 09.8 +1.0**
LZH Lanzhou 18.19 81 *e*P P 08 47 53.3 +5.6
LZH pmax pmax
comp=Z,14nm,1.1s
ZALV Zalesovo Beam 18.81 6 P **P 08 47 53.8 -0.4**
ZALV MLR MLR
comp=Z,60nm,18.7s
ZALV Zalesovo Beam 18.81 6 P **P 08 47 53.9 -0.4**
ZALV Zalesovo Beam 18.81 6 P **P 08 47 53.8 -0.4**
comp=Z,0.3nm,0.3s,baz=193,slow=11,SNR=14
ZALV LR LR 08 55 16.9
comp=Z,60nm,18.7s,baz=223,slow=37
VOSK Vostochnaya 18.96 340 ⇑P **P 08 47 55.3 -0.7**
comp=Z,8.9nm,0.8s
BVA0 Borovoye Array 19.40 340 ⇑P **Pn 08 48 02.3 +0.5**
comp=Z,1.4nm,0.8s
BVAR Borovoye Array 19.40 340 P **Pn 08 48 01.1 -0.8**
BVAR Borovoye Array 19.40 340 P **Pn 08 48 01.1 -0.8**
BVAR Borovoye Array 19.40 340 P **Pn 08 48 01.1 -0.8**
comp=Z,0.4nm,0.3s,baz=134,slow=10,SNR=17
BVAR LR LR 08 55 17.8
comp=Z,105nm,18.7s,baz=284,slow=36
BRVK Borovoye 19.46 339 ⇓P **Pn 08 48 03.3 +0.8**
comp=Z,20nm,0.8s
BRVK Borovoye 19.46 339 *e*P **P 08 47 58.9 -2.4**
BRVK Borovoye 19.46 339 *e*P **Pn 08 48 02.2 -0.3**
comp=Z,14nm,0.8s
NVS Novosibirsk 19.60 3 *e*P **P 08 48 00.9 -1.9**
NVS pmax pmax
comp=N,8.0nm,1.3s
NVS pmax pmax
comp=Z,13nm,1.3s
NVS pmax pmax
comp=E,6.0nm,1.5s
ZRNK Zerenda 19.75 337 ⇓P **P 08 48 03.6 -0.9**
comp=E,7.5nm,0.9s
KMI Kunming 20.94 113 P **P 08 48 19.5 +1.6**
KMI pmax pmax
comp=Z,28nm,0.8s
AB31 Akbulak array 21.09 318 *e*P **P 08 48 17.9 -1.2**
comp=Z,10nm,0.8s,baz=119,slow=10,SNR=127
ABKAR Akbulak array 21.09 318 *e*P **P 08 48 18.2 -0.9**
comp=Z,9.3nm,0.8s
ORY Orie 21.86 21 ⇓*i*P **P 08 48 27.5 +0.2**
ORY *e* 08 52 22.2
ORY *e*S **S 08 52 27.6 -0.8**
SONM Songino Array 22.36 48 P **P 08 48 34.8 +1.9**
SONM PcP **PcP 08 52 27.2 -0.6**
SONM Songino Array 22.36 48 P **P 08 48 34.8 +1.9**
comp=Z,5.3nm,1.0s,baz=243,slow=9.6,SNR=22
SONM PcP **PcP 08 52 27.2 -0.6**
comp=Z,0.8nm,0.9s,baz=236,slow=1.3,SNR=3.5
SONM LR LR 08 57 33.7
comp=Z,123nm,19.9s,baz=229,slow=37
CHTO Chiang Mai 22.55 132 *e*P **P 08 48 35.6 +0.6**
CHTO pmax pmax
comp=Z,7.0nm,0.8s
CHTO Chiang Mai 22.55 132 *e*P **P 08 48 35.6 +0.6**
comp=Z,7.2nm,0.8s
ULN Ulaanbaatar 22.77 49 *e*P **P 08 48 38.9 +1.6**
comp=Z,6.8nm,0.9s
AKTO Aktyubinsk 22.78 319 ⇑P **P 08 48 36.1 -1.0**
comp=Z,0.9nm,0.8s
AKTO Aktyubinsk 22.78 319 P **P 08 48 37.8 +0.6**
AKTO Aktyubinsk 22.78 319 P **P 08 48 37.8 +0.6**
AKTO Aktyubinsk 22.78 319 P **P 08 48 37.8 +0.6**
comp=Z,4.9nm,0.8s,baz=116,slow=11,SNR=14
AKTO LR LR 08 57 27.1
comp=Z,213nm,18.3s,baz=282,slow=37
CMAR Chiang Mai Arr 22.82 133 P **P 08 48 37.0 -0.8**
CMAR Chiang Mai Arr 22.82 133 P **P 08 48 37.0 -0.8**
comp=Z,1.0nm,0.4s,baz=320,slow=10,SNR=10
CMAR LR LR 08 58 27.3
comp=Z,181nm,19.5s,baz=315,slow=39
WSAR Wadi Sarin 23.20 245 LR LR 08 58 39.5
comp=Z,147nm,20.9s,baz=176,slow=39
SVE Sverdlovsk 25.75 333 *e*P **P 08 49 06.1 +0.9**
SVE *e*S **S 08 53 34.3 +0.8**
SVE pmax pmax
comp=Z,15nm,1.0s
SVE MLR MLR
comp=Z,659nm,16.0s
ARU Arti 26.27 331*c i*P **P 08 49 08.9 -0.9**
ARU 08 49 49.4
ARU S **S 08 53 38.9 -2.7**
ARU SS 08 54 43.7
ARU pmax pmax
comp=Z,11nm,2.5s
ARU Arti 26.27 331 *e*P **P 08 49 08.6 -1.2**
comp=Z,4.5nm,0.9s
GNI Garni 29.32 291 LR LR 09 03 03.0
comp=Z,117nm,21.4s,baz=95,slow=40
QIZ Qiongzhong 29.84 115 P P 08 49 39.0 -3.1
QIZ S **S 08 54 34.3 -4.3**
QIZ LR LR
comp=N,270nm,15.5s
QIZ LR LR
comp=E,130nm,14.5s
QIZ LR LR
comp=Z,330nm,11.1s
KBZ Khabaz 30.71 298 LR LR 09 05 10.9
comp=Z,126nm,19.0s,baz=273,slow=42
KIV Kislovodsk 30.88 298 *e*P P 08 49 45.8 -5.4
KIV *e* 08 50 56.7
KIV *e* 08 52 45.6
KIV pmax pmax
comp=Z,9.0nm,1.2s
KIV MLR MLR
comp=Z,200nm,16.0s
VSR Storozhevoye 34.15 311 *e*P **P 08 50 19.3 -0.3**

VSR pmax pmax
comp=N,2.0nm,0.6s
VSR pmax pmax
comp=Z,4.0nm,0.6s
PSI Prapat 36.15 149 LR LR 09 05 34.5
comp=Z,96nm,21.9s,baz=197,slow=37
OBN Obninsk 36.53 317 *eP* P 08 50 35.5 -4.5
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,400nm,16.0s
KLMR Klimovskoe 36.94 327 *eP* **P 08 50 43.9 +0.4**
KLMR pmax pmax
comp=Z,30nm,1.8s
KLMR MLR MLR
comp=Z,595nm,19.0s
KSAR Wonju Array Be 37.14 73 P **P 08 50 45.4 -0.1**
KSRS Korea Array 37.17 73 P **P 08 50 45.4 -0.3**
comp=Z,0.9nm,0.7s,baz=267,slow=7.3,SNR=4.3
KSRS LR LR 09 06 07.4
comp=Z,53nm,18.6s,baz=283,slow=36
BRTR Keskin Array B 37.86 291 P **P 08 50 53.0 +1.3**
BRTR Keskin Array B 37.86 291 P **P 08 50 53.0 +1.3**
comp=Z,1.3nm,0.8s,baz=98,slow=6.2,SNR=6.7
BRTR LR LR 09 09 16.7
comp=Z,69nm,19.6s,baz=216,slow=41
USRK Ussuriysk Arra 39.32 61 LR LR 09 08 57.0
comp=Z,139nm,18.6s,baz=12,slow=39
AKASG Malin Array Be 40.34 309 P **P 08 51 10.8 -1.3**
AKASG Malin Array Be 40.34 309 P **P 08 51 10.8 -1.3**
AKASG Malin Array Be 40.34 309 P **P 08 51 10.8 -1.3**
comp=Z,2.1nm,0.8s,baz=79,slow=7.8,SNR=4.2
JNU Nakatsue 40.58 78 LR LR 09 09 41.7
comp=Z,100nm,19.7s,baz=267,slow=39
JOW Kunigami 40.66 89 LR LR 09 11 00.2
comp=Z,136nm,18.2s,baz=304,slow=40
JOF Joensuu 41.31 328 *eP* **P 08 51 19.2 -0.8**
JOF pmax pmax
comp=Z,8.0nm,0.8s
JOF Joensuu 41.31 328 *ep* **P 08 51 19.2 -0.8**
comp=Z,8.4nm,0.8s
FINES FINESS Array B 43.32 325 P **P 08 51 36.0 -0.4**
FINES FINESS Array B 43.32 325 P **P 08 51 36.0 -0.4**
comp=Z,5.6nm,0.7s,baz=94,slow=10.0,SNR=14
FINES LR LR 09 10 38.9
comp=Z,366nm,20.8s,baz=321,slow=38
KAF Kangasniemi 43.35 326 *eP* **P 08 51 38.4 +1.8**
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 43.35 326 *ep* **P 08 51 38.4 +1.8**
comp=Z,1.9nm,0.6s
MJAR Matsushiro Arr 45.39 71 P **P 08 51 52.6 -0.7**
MJAR Matsushiro Arr 45.39 71 P **P 08 51 52.6 -0.7**
comp=Z,5.3nm,1.1s,baz=280,slow=10.0,SNR=10.0
ARCES ARCESS Array B 45.63 336 P **P 08 51 55.6 +0.9**
ARCES ARCESS Array B 45.63 336 P **P 08 51 55.6 +0.9**
comp=Z,5.0nm,0.8s,baz=88,slow=7.4,SNR=6.8
ARCES LR LR 09 11 47.3
comp=Z,204nm,18.0s,baz=124,slow=37
OKC Ostrava-Krasne 47.47 308 AMS AMS 09 14 00.0
comp=Z,300nm,14.4s
DPC Dobruska-Polom 48.57 309 *eP* P 08 52 21.0 +3.0
DPC *e* 08 52 26.3
DPC MLR MLR
comp=Z,600nm,16.7s
DPC Dobruska-Polom 48.57 309 *eP* P 08 52 21.0 +3.0
DPC *ex* x 08 52 26.3
DPC AMS AMS 09 14 30.0
comp=Z,600nm,16.7s
UPC Upice 48.74 309 *eP* **P 08 52 22.1 +2.8**
UPC Upice 48.74 309 *eP* **P 08 52 22.1 +2.8**
TREC Trest 49.26 308 AMS AMS 09 15 10.0
comp=Z,500nm,14.3s
PRU Pruhonice 49.76 309 AMS AMS 09 15 20.0
comp=Z,600nm,17.5s
BRG Berggiesshubel 49.99 310 *eP* **P 08 52 31.2 +2.4**
comp=Z,2.7nm,0.9s
BRG Berggiesshubel 49.99 310 *eP* **P 08 52 31.2 +2.4**
BRG pmax pmax
comp=Z,3.0nm,0.9s
NB2 NORSAR Subarra 50.45 324 P **P 08 52 31.5 -0.7**
comp=Z,5.0nm,0.8s,baz=89,slow=7.9
NOA NORSAR Array B 50.45 324 P **P 08 52 31.1 -1.1**
NOA NORSAR Array B 50.45 324 P **P 08 52 31.1 -1.1**
comp=Z,3.9nm,0.8s,baz=87,slow=7.5,SNR=9.1
NOA LR LR 09 14 58.7
comp=Z,273nm,20.4s,baz=85,slow=37
GERES GERESS Array B 50.50 308 P **P 08 52 34.1 +1.3**
GERES GERESS Array B 50.50 308 P **P 08 52 34.1 +1.3**
comp=Z,1.4nm,0.8s,baz=79,slow=6.3,SNR=8.2
GERES LR LR 09 17 42.9
comp=Z,138nm,18.8s,baz=248,slow=41
CLL Collm 50.50 311 *ep* P **P 08 52 35.0 +2.3**
CLL Lm MLR 09 15 00.0
comp=Z,400nm,20.6s
KHC Kasperske Hory 50.52 308 *eP* **P 08 52 35.5 +2.6**
KHC *e* 08 52 40.9
KHC MLR MLR
comp=Z,400nm,17.4s
KHC Kasperske Hory 50.52 308 *eP* **P 08 52 35.5 +2.6**
KHC *ex* x 08 52 40.9
KHC AMS AMS 09 15 50.0
comp=Z,400nm,17.4s
NKC Novy Kostel 51.04 310 AMS AMS 09 16 10.0
comp=Z,900nm,16.0s
CBIJ Chichi jima 51.88 81 LR LR 09 15 05.5
comp=Z,80nm,20.8s,baz=152,slow=36
KAPI Kappang 53.85 130 LR LR 09 20 35.6
comp=Z,51nm,18.2s,baz=122,slow=41
PETK Petropavlovsk- 54.81 46 LR LR 09 17 58.1
comp=Z,48nm,18.8s,baz=76,slow=38
LPG La Plagne 55.92 305 *eP* **P 08 53 15.8 +2.8**
comp=Z,8.4nm,0.8s
LPL La Plagne 55.93 305 *eP* **P 08 53 15.9 +2.9**
comp=Z,24nm,1.1s
ILAR Eielson Array 73.35 20 P **P 08 55 05.2 -1.0**
ILAR Eielson Array 73.35 20 P **P 08 55 05.2 -1.0**
comp=Z,0.8nm,0.7s,baz=321,slow=4.8,SNR=8.1
ILAR LR LR 09 28 23.0
comp=Z,81nm,19.6s,baz=319,slow=37
TORD Torodi Ar. Bea 74.26 275 P **P 08 55 10.7 -1.5**
TORD Torodi Ar. Bea 74.26 275 P **P 08 55 10.7 -1.5**
comp=Z,3.7nm,1.0s,baz=51,slow=5.3,SNR=17
TORD LR LR 09 29 21.0
comp=Z,55nm,19.9s,baz=85,slow=37
WRA Warramunga Arr 74.35 129 P **P 08 55 12.0 -0.6**
WRA Warramunga Arr 74.35 129 P **P 08 55 12.0 -0.6**
comp=Z,3.4nm,1.0s,baz=324,slow=6.0,SNR=16
ASAR Alice Springs 76.83 132 P **P 08 55 25.1 -1.6**
ASAR Alice Springs 76.83 132 P **P 08 55 25.1 -1.6**
comp=Z,1.4nm,0.8s,baz=316,slow=6.3,SNR=15
YKA Yellowknife Ar 81.70 7 P **P 08 55 51.4 -1.4**
YKA Yellowknife Ar 81.70 7 P **P 08 55 51.4 -1.4**
comp=Z,1.2nm,0.9s,baz=341,slow=4.9,SNR=20
BOSA Boshof 82.76 227 P **P 08 55 57.0 -1.9**
BOSA Boshof 82.76 227 P **P 08 55 57.0 -1.9**
comp=Z,9.8nm,0.9s,baz=37,slow=3.8,SNR=13
DBIC Dimbokro 83.21 273 LR LR 09 36 31.9
comp=Z,124nm,18.5s,baz=288,slow=38
STKA Stephens Creek 87.44 132 LR LR 09 35 57.0
comp=Z,79nm,21.2s,baz=206,slow=36
QSPA South Pole Qui 125.07 180 PKP **PKPdf 09 02 31.4 -2.7**
QSPA South Pole Qui 125.07 180 PKP **PKPdf 09 02 31.4 -2.7**
comp=Z,2.9nm,0.9s,baz=262,slow=2.9,SNR=7.2

PRE 28 08:48:30.1±0.5, 26°36S×27°72E, h2km, ML1.7, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.65**	**210**	*eP*	Pg	08 48 42.9	+0.1
PRYS				*eS*	Sg	08 48 51.8	+0.5
PRYS				AML	AML	08 48 55.0	
	comp=Z,19nm,0.4s						
SLR	**Silverton**	**0.80**	**39**	*eP*	Pg	08 48 45.4	-0.3
SLR				*eS*	Sg	08 48 56.8	+0.5
SLR				AML	AML	08 49 15.4	
	comp=Z,11nm,0.2s						
KSR	**Koster**	**0.90**	**304**	*eP*	Pg	08 48 47.5	0.0
KSR				*eS*	Sg	08 48 60.0	+0.6
KSR				AML	AML	08 49 08.5	
	comp=Z,18nm,0.1s						
SWZ	**Schweizer**	**2.29**	**248**	*eP*	Pn	08 49 09.9	+0.8
SWZ				*eS*	Sn	08 49 38.2	+0.3
SWZ				AML	AML	08 49 39.2	
	comp=Z,5.5nm,0.3s						
LBTB	**Lobatse**	**2.34**	**305**	*eP*	Pn	08 49 10.4	+0.7
LBTB				*eS*	Sn	08 49 39.7	+0.6
LBTB				AML	AML	08 49 43.9	
	comp=Z,9.9nm,0.2s						
BOSA	**Boshof**	**3.13**	**224**	*eP*	Pn	08 49 21.4	+0.7
BOSA				*eS*	Sn	08 49 58.5	-0.3
BOSA				AML	AML	08 50 03.4	
	comp=Z,1.4nm,0.3s						

IDC 28 08:49:13.4±1.7, 34°87N×81°33E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.4/24, mbtmp3.4/6, ML3.5/1, Error ellipse: s-maj=50.9km s-min=30.2km az=53.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**11.94**	**3**	Pn	Pn	08 52 01.0	-3.8
MKAR	0.2nm,0.3s,baz=188,slow=13,SNR=5.0						
				Sn	Sn	08 54 06.3	-12
	0.2nm,0.3s,baz=187,slow=23,SNR=4.4						
BVAR	**Borovoye Array**	**19.75**	**340**	P	P	08 53 43.7	-0.9
	0.1nm,0.3s,baz=144,slow=11,SNR=3.8						
SONM	**Songino Array**	**22.73**	**48**	P	P	08 54 17.4	+0.4
	0.6nm,0.9s,baz=240,slow=11,SNR=3.8						
FINES	**FINESS Array B**	**43.59**	**325**	P	P	08 57 19.4	+0.5
	1.8nm,0.8s,baz=111,slow=7.7,SNR=4.2						
ILAR	**Eielson Array**	**73.78**	**19**	P	P	09 00 49.4	+0.3
	0.3nm,0.7s,baz=310,slow=4.7,SNR=3.6						
ASAR	**Alice Springs**	**76.64**	**132**	P	P	09 01 06.2	0.0
	0.2nm,0.6s,baz=330,slow=5.4,SNR=4.6						
YKA	**Yellowknife Ar**	**82.13**	**7**	P	P	09 01 35.0	-0.6
	0.1nm,0.7s,baz=339,slow=5.3,SNR=5.3						

*NEIC **28** 08:52:06.7, 18°.20N×101°.82W, h5km, MD4.0(MEX), After MEX.*
MEX 28 08:52:06.8±0.9, 18°.20N×101°.82W, h6km±10km, MD4.0, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.68**	**150**	*i* P	Pg	08 52 18.6	-1.4
ZIIG				*eS*	Sg	08 52 29.2	+0.4
ZIIG	**Zihuatanejo**	**0.68**	**150**	*i* P	Pg	08 52 18.6	-1.4
ZIIG				*eS*	Sg	08 52 29.2	+0.4
ARIG	**Puente Sto Nin**	**1.41**	**87**	*i* P	Pn	08 52 29.5	-3.5
ARIG				*i* S	Sb	08 52 46.1	-5.6
MMIG	**Aquila**	**1.45**	**274**	*i* P	Pn	08 52 29.5	-4.0
MMIG				*eS*	Sn	08 52 49.1	-3.8
MMIG	**Aquila**	**1.45**	**274**	*i* P	Pn	08 52 29.5	-4.0
MMIG				*i* S	Sn	08 52 48.7	-4.2
CAIG	**El Cayaco**	**1.88**	**128**	*i* P	Pn	08 52 35.7	-3.7
CAIG				*eS*	Sn	08 52 58.7	-4.7
CAIG	**El Cayaco**	**1.88**	**128**	*i* P	Pn	08 52 35.7	-3.7
CAIG				*eS*	Sn	08 52 58.7	-4.7
PLIG	**Platanillo**	**2.21**	**85**	*i* P	Pn	08 52 41.8	-2.4
PLIG				*eS*	Sn	08 53 06.9	-5.1
PLIG	**Platanillo**	**2.21**	**85**	*i* P	Pn	08 52 41.8	-2.4
PLIG				*eS*	Sn	08 53 06.9	-5.1
YAIG	**Yautepec**	**2.70**	**75**	*i* P	Pn	08 52 48.8	-2.1
YAIG				*eS*	Sn	08 53 20.5	-3.6
YAIG	**Yautepec**	**2.70**	**75**	*i* P	Pn	08 52 48.8	-2.1
YAIG				*eS*	Sn	08 53 20.5	-3.6
PPM	**Popocatepetl**	**3.15**	**74**	*i* P	Pn	08 52 55.7	-1.9
PPM				*eS*	Sn	08 53 32.3	-3.8
PPM	**Popocatepetl**	**3.15**	**74**	*i* P	Pn	08 52 53.8	-3.9
PPM				*eS*	Sn	08 53 32.3	-3.8

IDC 28 08:56:29.3±4.4, 3°.44N×127°.53E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/22, mbtmp3.8/3, Error ellipse: s-maj=183.5km s-min=68.2km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.18**	**164**	P	P	09 01 46.4	-1.3
	2.6nm,0.7s,baz=344,slow=9.9,SNR=22						
ASAR	**Alice Springs**	**27.65**	**167**	P	P	09 02 20.4	+1.4
	0.2nm,0.3s,baz=346,slow=7.1,SNR=6.4						
STKA	**Stephens Creek**	**37.59**	**160**	P	P	09 03 45.6	-0.2
	3.3nm,1.0s,baz=334,slow=9.4,SNR=4.6						

*IDC **28** 09:02:47.0±0.6, 35°.16N×81°.39E, h0km, mb3.9/14, mb1 4.1/19, mb1mx4.0/28, mbtmp3.9/19, ML3.4/5, MS3.4/15, Ms1 3.5/15, ms1mx3.2/49, Error ellipse: s-maj=17.3km s-min=12.8km az=60.0*
*ISCJB **28** 09:02:48.8±0.3, 35°.33N±0°.03×81°.50E±0°.06, h15km, mb4.0/20, MS3.4/11, Error ellipse: s-maj=7.5km s-min=3.5km az=161.9*
*BJI **28** 09:02:51.6, 35°.50N×81°.50E, h10km, mB4.4/3, mb4.2/6, ML4.3/5, Ms4.0/5, Ms7 3.8/3*
*NNC **28** 09:02:52.0±3.4, 35°.72N×81°.80E, h0km, mb4.1, mpv4.3, Error ellipse: s-maj=39.1km s-min=24.3km az=143.0*
ISC 28 09:02:50.2±0.5, 35°.27N±0°.05×81°.43E±0°.06, h15km, n66, σ1s61/62, mb4.1/20, MS3.3/11, 6C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**6.07**	**316**	Pn	**Pn**	**09 04 21.5**	**+2.0**
KSH				Sn	**Sn**	**09 05 25.5**	**-3.2**
KSH				smax	smax		
	comp=N,430nm,1.0s						
KSH				smax	smax		
	comp=E,620nm,1.4s						
DANN	**Dangsing**	**7.18**	**163**	*eP*	**Pn**	**09 04 36.2**	**+1.3**
	comp=E,39nm,0.5s						
PYUN	**Piuthan**	**7.27**	**169**	*eP*	**Pn**	**09 04 35.8**	**-0.3**
	comp=E,48nm,0.7s						
KOLN	**Koldanda**	**7.71**	**166**	*eP*	**Pn**	**09 04 42.5**	**+0.4**
	comp=E,23nm,0.5s						
GKN	**Gorkha**	**7.75**	**158**	*eP*	**Pn**	**09 04 44.7**	**+2.1**
	comp=E,29nm,0.5s						
KKN	**Kakani**	**8.15**	**155**	*eP*	**Pn**	**09 04 51.0**	**+2.8**
	comp=E,25nm,0.5s						
KUDL	**Kundal**	**8.26**	**212**	*e*PKP	**Pn**	**09 04 51.3**	**+1.9**
KUDL				*eS*	**Sn**	**09 06 22.7**	**+0.3**
KUDL				AML	AML	09 06 33.8	
	comp=N,9.2nm,0.5s						
KUDL				AML	AML	09 06 36.5	
	comp=E,9.9nm,0.7s						
DMN	**Daman**	**8.26**	**157**	*eP*	**Pn**	**09 04 51.6**	**+1.9**
	comp=E,29nm,0.6s						
GUN	**Gumba**	**8.26**	**151**	*eP*	**Pn**	**09 04 52.9**	**+3.1**
	comp=E,30nm,0.4s						
KZA	**Kyzart**	**8.34**	**326**	P	**Pn**	**09 04 51.5**	**+0.7**
	SNR=10						
PKI	**Pulchoki**	**8.39**	**155**	*eP*	**Pn**	**09 04 54.3**	**+2.7**
	comp=E,46nm,0.7s						
JIRN	**Jiri**	**8.61**	**151**	*eP*	Pn	09 04 57.9	+3.3
	comp=E,17nm,0.6s						
KHET	**Khetri**	**8.63**	**215**	*ex*	**Pn**	**09 04 55.0**	**+0.5**
KHET				*ex*	**Sn**	**09 06 30.2**	**-1.4**
KHET				AML	AML	09 06 34.3	
	comp=N,5.7nm,0.1s						
KHET				AML	AML	09 06 36.3	
	comp=E,6.9nm,0.1s						
TKM2	**Tokmak 2**	**8.88**	**331**	⇓Pn	**Pn**	**09 04 59.7**	**+1.6**
	comp=E,7.0nm,0.8s						
TKM2				⇓Pg		09 05 33.4	
	comp=E,23nm,0.9s						
TKM2				⇑Lg	Lg	09 07 24.2	
	comp=E,61nm,1.1s						
TKM2	**Tokmak 2**	**8.88**	**331**	P	**Pn**	**09 05 00.1**	**+2.0**
	SNR=11						
AAK	**Ala-Archa**	**9.12**	**326**	P	**Pn**	**09 05 03.1**	**+1.8**
	SNR=7.9						
AAK	**Ala-Archa**	**9.12**	**326**	Pn	**Pn**	**09 05 03.3**	**+1.9**
	comp=E,0.2nm,0.3s,baz=136,slow=11,SNR=11						
AAK				Pg		09 05 33.3	
	comp=E,1.1nm,0.3s,baz=150,slow=16,SNR=7.3						
AAK				Lg	Lg	09 07 30.5	
	comp=E,0.5nm,0.3s,baz=311,slow=19,SNR=3.1						
AAK				LR	LR	09 09 06.0	
	comp=E,597nm,19.6s,baz=128,slow=41						
AML	**Almayashu**	**9.13**	**321**	P	**Pn**	**09 05 02.8**	**+1.1**
	SNR=15						
RAMN	**Ramite**	**9.40**	**151**	*eP*	**Pn**	**09 05 06.8**	**+1.4**
	comp=E,41nm,0.6s						
EKS2	**Erkin-Say**	**9.48**	**323**	P	**Pn**	**09 05 08.2**	**+1.9**
	SNR=10						
TAPN	**Taplejung**	**9.55**	**144**	*eP*	**Pn**	**09 05 10.0**	**+2.6**
WMQ	**Urumqi**	**9.81**	**28**	*eP*	**Pn**	**09 05 13.5**	**+2.8**
WMQ				S	**Sn**	**09 07 00.3**	**-0.3**
WMQ				smax	smax		
	comp=N,31nm,1.2s						
WMQ				smax	smax		
	comp=E,27nm,1.0s						
WMQ				LR	LR		
	comp=N,550nm,9.4s						
WMQ				LR	LR		
	comp=E,390nm,8.3s						
WMQ				LR	LR		
	comp=Z,460nm,9.4s						
ODAN	**Odare**	**9.82**	**147**	*eP*	**Pn**	**09 05 12.6**	**+1.6**
	comp=Z,25nm,0.6s						
LSA	**Lhasa**	**9.91**	**121**	P	Pn	09 05 19.5	+7.0
KK31	**Karatay Array**	**11.52**	**316**	⇑Pn	Pn	09 05 38.0	+3.9
	comp=Z,3.6nm,0.8s,baz=105,slow=6.9,SNR=9.5						
KK31				⇓Pg		09 06 19.5	
	comp=Z,10nm,0.9s,baz=135,slow=16,SNR=9.4						
KK31				⇑Lg	Lg	09 08 48.6	
	comp=Z,9.4nm,0.9s,baz=140,slow=26,SNR=3.6						
MK31	**Makanchi Array**	**11.53**	**3**	Pn	**Pn**	**09 05 33.1**	**-1.1**
	comp=Z,1.7nm,0.8s,baz=185,slow=13,SNR=46						
MK31				Sn	**Sn**	**09 07 42.6**	**0.0**
	comp=Z,4.5nm,0.9s,baz=182,slow=22,SNR=4.0						
MKAR	**Makanchi Array**	**11.53**	**3**	Pn	**Pn**	**09 05 33.1**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=177,slow=12,SNR=38						
MKAR				Sn	**Sn**	**09 07 39.0**	**-3.7**
	comp=Z,0.2nm,0.3s,baz=182,slow=22,SNR=2.8						
MKAR				LR	LR	09 10 56.0	
	comp=Z,103nm,18.6s,baz=176,slow=42						
IMP	**Imphal**	**15.04**	**131**	*ex*	**P**	**09 06 27.0**	**-0.6**
IMP				*ex*	x	09 08 46.0	
KURBB	**Kurchatov Arra**	**15.49**	**353**	Pn	**Pn**	**09 06 25.8**	**-2.1**
	comp=Z,0.0nm,0.3s,baz=174,slow=12,SNR=23						
KURBB				Lg	Lg	09 11 04.1	
	baz=182,slow=28,SNR=4.8						
KURBB				LR	LR	09 13 13.2	
	comp=Z,133nm,21.6s,baz=170,slow=40						
ZALV	**Zalesovo Beam**	**18.82**	**6**	P	**Pn**	**09 07 09.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=194,slow=12,SNR=7.9						
VOSK	**Vostochnaya**	**18.96**	**340**	⇑P	**Pn**	**09 07 12.2**	**+0.8**
	comp=Z,16nm,1.6s						
BVA0	**Borovoye Array**	**19.39**	**340**	⇓P	**Pn**	**09 07 17.4**	**+0.8**
	comp=Z,1.1nm,1.1s						
BVAR	**Borovoye Array**	**19.39**	**340**	P	**Pn**	**09 07 16.9**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=146,slow=10,SNR=6.1						
BVAR				LR	LR	09 14 53.9	
	comp=Z,79nm,19.5s,baz=322,slow=37						
BRVK	**Borovoye**	**19.45**	**339**	⇑P	**Pn**	**09 07 19.0**	**+1.7**
	comp=Z,23nm,1.1s						
ZRNK	**Zerenda**	**19.75**	**337**	⇓P	**P**	**09 07 19.5**	**+0.2**
	comp=Z,7.6nm,1.1s						
AB31	**Akbulak array**	**21.07**	**318**	⇓P	**P**	**09 07 35.3**	**+1.6**
	comp=Z,10nm,0.9s,baz=116,slow=9.9,SNR=60						
SONM	**Songino Array**	**22.39**	**48**	P	**P**	**09 07 49.8**	**+1.7**
	comp=Z,3.1nm,1.1s,baz=242,slow=10,SNR=14						
SONM				PcP	**PcP**	**09 11 42.7**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=221,slow=4.1,SNR=4.3						
AKTO	**Aktyubinsk**	**22.76**	**319**	⇑P	**P**	**09 07 54.4**	**+2.6**
	comp=Z,0.8nm,1.1s						
AKTO	**Aktyubinsk**	**22.76**	**319**	P	**P**	**09 07 53.3**	**+1.5**
	comp=Z,2.7nm,0.7s,baz=124,slow=10,SNR=12						
AKTO				LR	LR	09 17 36.2	
	comp=Z,336nm,18.3s,baz=290,slow=39						
CMAR	**Chiang Mai Arr**	**22.84**	**133**	P	**P**	**09 07 51.9**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=315,slow=8.9,SNR=6.0						
CMAR				LR	LR	09 17 57.5	
	comp=Z,67nm,18.9s,baz=310,slow=40						
PSI	**Prapat**	**36.16**	**149**	LR	LR	09 25 26.8	
	comp=Z,30nm,19.1s,baz=306,slow=38						
KSRS	**Korea Array**	**37.21**	**73**	LR	LR	09 26 52.6	
	comp=Z,43nm,18.3s,baz=314,slow=39						
BRTR	**Keskin Array B**	**37.82**	**291**	P	**P**	**09 10 08.9**	**+2.7**
	comp=Z,0.5nm,0.6s,baz=77,slow=11,SNR=3.8						
USRK	**Ussuriysk Arra**	**39.36**	**61**	LR	LR	09 27 53.2	
	comp=Z,47nm,21.0s,baz=287,slow=38						
JOF	**Joensuu**	**41.30**	**328**	*ep*	**P**	**09 10 35.2**	**+0.5**
	comp=Z,3.5nm,0.7s						
MLR	**Muntele Rosu**	**42.72**	**301**	LR	LR	09 32 11.1	
	comp=Z,31nm,19.7s,baz=243,slow=41						
FINES	**FINESS Array B**	**43.31**	**325**	P	**P**	**09 10 51.0**	**-0.1**
	comp=Z,3.6nm,0.7s,baz=116,slow=6.3,SNR=8.3						
MJAR	**Matsushiro Arr**	**45.43**	**71**	P	**P**	**09 11 07.8**	**-0.6**
	comp=Z,2.7nm,1.1s,baz=290,slow=7.7,SNR=3.6						
ARCES	**ARCESS Array B**	**45.62**	**336**	LR	LR	09 33 52.0	
	comp=Z,23nm,18.5s,baz=141,slow=41						
HFS	**Hagfors**	**49.24**	**322**	LR	LR	09 32 27.0	
	comp=Z,72nm,18.0s,baz=260,slow=36						
BRG	**Berggiesshubel**	**49.96**	**310**	*e*(P)	P	09 11 46.8	+3.4
	comp=Z,2.3nm,0.7s						
NB2	**NORSAR Subarra**	**50.43**	**324**	P	**P**	**09 11 46.3**	**-0.6**
	comp=Z,3.2nm,0.8s,baz=88,slow=7.9						
NOA	**NORSAR Array B**	**50.43**	**324**	P	**P**	**09 11 46.6**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=88,slow=7.6,SNR=5.7						
NOA				LR	LR	09 34 03.3	
	comp=Z,96nm,19.8s,baz=275,slow=37						
GERES	**GERESS Array B**	**50.47**	**308**	P	**P**	**09 11 47.5**	**0.0**
	comp=Z,0.3nm,0.2s,baz=87,slow=5.0,SNR=5.1						
SPITS	**Spitsbergen Ar**	**50.68**	**346**	LR	LR	09 36 52.7	
	comp=Z,74nm,19.8s,baz=60,slow=40						
CBIJ	**Chichi jima**	**51.92**	**81**	LR	LR	09 33 40.0	
	comp=Z,50nm,19.6s,baz=141,slow=36						
LPG	**La Plagne**	**55.89**	**305**	*eP*	**P**	**09 12 27.6**	**0.0**
	comp=Z,8.9nm,0.8s						
OPO	**Ambohidratompo**	**62.64**	**217**	P	**P**	**09 13 13.2**	**-1.1**
	comp=Z,2.7nm,0.9s,baz=45,slow=7.8,SNR=6.1						
ESDC	**Sonseca Array**	**65.40**	**302**	P	**P**	**09 13 31.2**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=67,slow=7.6,SNR=4.9						
ILAR	**Eielson Array**	**73.37**	**20**	P	**P**	**09 14 20.4**	**-0.7**
	comp=Z,1.0nm,1.0s,baz=330,slow=5.2,SNR=4.1						
ILAR				PP	**PP**	**09 17 03.7**	**-0.2**
	comp=Z,0.2nm,0.8s,baz=312,slow=8.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**74.22**	**275**	P	**P**	**09 14 25.4**	**-1.5**
	comp=Z,2.7nm,0.9s,baz=48,slow=5.2,SNR=16						
WRA	**Warramunga Arr**	**74.38**	**129**	P	**P**	**09 14 27.1**	**-0.4**
	comp=Z,1.9nm,1.1s,baz=328,slow=5.8,SNR=8.5						
ASAR	**Alice Springs**	**76.85**	**132**	P	**P**	**09 14 41.0**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=315,slow=5.7,SNR=20						
YKA	**Yellowknife Ar**	**81.72**	**7**	P	**P**	**09 15 06.6**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=341,slow=5.5,SNR=13						
BOSA	**Boshof**	**82.73**	**227**	P	**P**	**09 15 12.7**	**-0.9**
	comp=Z,9.3nm,0.7s,baz=32,slow=3.7,SNR=23						
QSPA	**South Pole Qui**	**125.06**	**180**	PKP	**PKPdf**	**09 21 46.8**	**-2.1**
	comp=Z,2.4nm,0.8s,baz=268,slow=2.3,SNR=8.9						

IDC 28 09:23:52.3±1.6, 18°.60N×145°.59E, h217km±16km, mb3.6/17, mb1 3.7/20, mb1mx3.6/30, mbtmp3.6/20, Error ellipse: s-maj=20.3km s-min=8.5km az=88.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.03**	**188**	P	Pn	09 25 07.4	-0.2
	9.8nm,0.3s,baz=53,slow=10,SNR=3.5						
GUMO				S	S	09 26 05.9	-1.1
	21nm,0.3s,baz=180,slow=20,SNR=4.2						
CBIJ	**Chichi jima**	**9.02**	**340**	P	Pn	09 25 59.1	+0.4
	4.5nm,0.3s,baz=333,slow=11,SNR=3.0				

MKAR	**Makanchi Array**	**58.45**	**314**	P	P	09 33 26.2	+0.7
	0.9nm,0.5s,baz=93,slow=6.9,SNR=15							
ILAR	**Eielson Array**	**63.78**	**26**	P	P	09 34 00.3	-0.6
	0.9nm,0.7s,baz=254,slow=4.9,SNR=13							
INK	**Inuvik**	**69.51**	**23**	P	P	09 34 37.2	+0.3
	0.4nm,0.3s,baz=261,slow=6.3,SNR=6.6							
YKA	**Yellowknife Ar**	**78.13**	**28**	P	P	09 35 27.4	+0.3
	0.6nm,0.5s,baz=289,slow=5.4,SNR=14							
YKA				pP	pP	09 36 18.2	-0.8
	0.5nm,0.6s,baz=289,slow=5.4,SNR=5.2							
KEV	**Kevo**	**81.99**	**342**	*e*p	P	09 35 48.8	+1.2
ARCES	**ARCESS Array B**	**82.55**	**342**	P	P	09 35 49.9	-0.7
	1.8nm,0.8s,baz=77,slow=7.9,SNR=8.5							
JOF	**Joensuu**	**84.06**	**335**	*e*p	P	09 35 57.2	-1.2
	2.3nm,0.4s							
FINES	**FINESS Array B**	**86.93**	**335**	P	P	09 36 10.6	-1.9
	1.3nm,0.4s,baz=59,slow=4.2,SNR=22							
HFS	**Hagfors**	**92.44**	**338**	P	P	09 36 36.2	-2.1
	1.8nm,0.8s,baz=94,slow=4.3,SNR=6.7							
BRTR	**Keskin Array B**	**94.10**	**314**	P	P	09 36 45.4	-1.2
	0.8nm,0.9s,baz=46,slow=6.2,SNR=3.5							
TORD	**Torodi Ar. Bea**	**132.43**	**309**	PKP	PKPdf	09 42 41.3	-0.4
	0.1nm,0.4s,baz=104,slow=1.6,SNR=3.8							

*ISCJB **28** 09:26:17.0±0.5,51˚.48N±0˚.03×16˚.09E±0˚.03,h0km, Error ellipse: s-maj=3.9km s-min=2.3km az=14.6*
*IPEC **28** 09:26:17.3±0.2,51˚.60N×16˚.18E,h0km,ML2.7/3, Error ellipse: s-maj=1.7km s-min=1.5km az=48.0*
*CSEM **28** 09:26:18.4±0.2,51˚.51N×16˚.11E,h2km,ML3.8/10, Error ellipse: s-maj=3.7km s-min=2.0km az=15.0*
*IDC **28** 09:26:19.4±0.8,51˚.47N×16˚.06E,h0km,mb1 3.5/5, mb1mx3.2/23,mbtmp3.4/5,ML2.5/4, Error ellipse: s-maj=17.7km s-min=7.9km az=101.0*
*PRU **28** 09:26:19.5,51˚.48N×16˚.07E,h0km*
*VIE **28** 09:26:19.8±0.3,51˚.37N×16˚.13E,h0km, mb2.6/4, ML3.1/4, Error ellipse: s-maj=2.3km s-min=2.2km az=43.0 69 km WNW of Wroclaw Suspected Mining induced.*
*WAR **28** 09:26:20.0,51˚.47N×16˚.10E*
*BGR **28** 09:26:20.2±0.5,51˚.49N×16˚.06E,h1km, ML3.1/16, Error ellipse: s-maj=6.7km s-min=3.3km az=14.0*

ISC 28 09:26:18.5±0.9,51˚.53N±0˚.04×16˚.13E±0˚.02,h0km,n73, σ0§81/121,2C-2D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.69**	**171**	*e*Pg		**Pg**	**09 26 31.9**	**+0.2**
KSP				*e*Sg		**Sg**	**09 26 41.2**	**+0.6**
KSP	**Ksiaz**	**0.69**	**171**	*e*Pg		**Pg**	**09 26 31.9**	**+0.2**
KSP				*e*Sg		**Sg**	**09 26 41.2**	**+0.6**
KSP	**Ksiaz**	**0.69**	**171**	eL		L	09 26 46.0	
KSP	**Ksiaz**	**0.69**	**171**	*e*Pg		**Pg**	**09 26 31.9**	**+0.2**
KSP				*e*Sg		**Sg**	**09 26 41.4**	**+0.8**
KSP	**Ksiaz**	**0.69**	**171**	Pg		**Pg**	**09 26 31.9**	**+0.2**
KSP				*e*Sg		**Sg**	**09 26 41.2**	**+0.6**
	baz=355							
UPC	**Upice**	**1.02**	**184**	*e*PG		**Pg**	**09 26 37.8**	**-0.2**
UPC	**Upice**	**1.02**	**184**	Pg		**Pg**	**09 26 37.8**	**-0.2**
DPC	**Dobruska-Polom**	**1.18**	**174**	*e*Pg		**Pg**	**09 26 40.7**	**-0.4**
DPC				*e*Sg		**Sg**	**09 26 56.6**	**+0.2**
DPC	**Dobruska-Polom**	**1.18**	**174**	*e*PG		**Pg**	**09 26 40.7**	**-0.4**
DPC				*e*SG		**Sg**	**09 26 56.0**	**-0.4**
	comp=Z,58nm,0.3s							
DPC	**Dobruska-Polom**	**1.18**	**174**	Pg		**Pg**	**09 26 40.7**	**-0.4**
DPC				Sg		**Sg**	**09 26 56.0**	**-0.4**
	58nm,0.3s							
PVCC	**Panska Ves**	**1.40**	**225**	*e*PG		**Pg**	**09 26 45.1**	**-0.2**
PVCC				*e*SG		**Sb**	**09 27 03.8**	**-0.1**
	comp=Z,370nm,0.2s							
PVCC	**Panska Ves**	**1.40**	**225**	Pg		**Pg**	**09 26 45.1**	**-0.2**
PVCC				Sg		**Sb**	**09 27 03.8**	**-0.1**
	370nm,0.2s							
KRLC	**Kraliky**	**1.51**	**164**	*e*PG		**Pn**	**09 26 46.0**	**-0.8**
KRLC				*e*SG		**Sg**	**09 27 06.8**	**-0.1**
KRLC	**Kraliky**	**1.51**	**164**	Pg		**Pn**	**09 26 46.0**	**-0.8**
KRLC				Sg		**Sg**	**09 27 06.8**	**-0.1**
BRG	**Berggiesshubel**	**1.52**	**245**	PN		**Pn**	**09 26 46.1**	**-0.8**
BRG				PG		**Pn**	**09 26 46.9**	**0.0**
BRG				SG		**Sg**	**09 27 07.0**	**-0.3**
	266nm,0.4s							
BRG	**Berggiesshubel**	**1.52**	**245**	*e*Pn		**Pn**	**09 26 46.9**	**0.0**
BRG				*e*Sg		**Sg**	**09 27 07.5**	**+0.2**
BRG	**Berggiesshubel**	**1.52**	**245**	Pn		**Pn**	**09 26 46.9**	**0.0**
BRG				Sg		**Sg**	**09 27 07.5**	**+0.2**
PRU	**Pruhonice**	**1.84**	**214**	*e*PN		**Pn**	**09 26 50.2**	**-1.1**
PRU				*e*PG		**Pb**	**09 26 52.1**	**-0.8**
PRU				*e*SG		**Sn**	**09 27 15.9**	**+0.7**
	comp=Z,110nm,0.6s							
PRU	**Pruhonice**	**1.84**	**214**	Pn		**Pn**	**09 26 50.2**	**-1.1**
FBE	**Freiberg**	**1.84**	**252**	*e*Pn		**Pn**	**09 26 51.3**	**0.0**
FBE				*e*Sg		**Sb**	**09 27 17.1**	**+0.5**
FBE	**Freiberg**	**1.84**	**252**	Pn		**Pn**	**09 26 51.3**	**0.0**
FBE				Sg		**Sb**	**09 27 17.1**	**+0.5**
CLL	**Collm**	**1.97**	**265**	*e*Pn		**Pn**	**09 26 51.6**	**-1.4**
CLL	**Collm**	**1.97**	**265**	*i* Pn		**Pn**	**09 26 51.4**	**-1.6**
	comp=Z,11nm,0.3s							
CLL				*i* Pg		**Pb**	**09 26 54.6**	**-0.5**
CLL				*i*			09 26 58.2	
CLL				*i* Sg		**Sn**	**09 27 20.3**	**+1.9**
	comp=Z,73nm,0.9s							
CLL	**Collm**	**1.97**	**265**	Pn		**Pn**	**09 26 51.6**	**-1.4**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*Pn		**Pn**	**09 26 52.2**	**-0.9**
MORC	**Moravsky Berou**	**1.97**	**152**	Pn		**Pn**	**09 26 52.2**	**-0.9**
MORC				*e*Sg		**Sb**	**09 27 20.8**	**+0.5**
	comp=Z,38nm,0.3s,baz=335							
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*Pn		**Pb**	**09 26 58.4**	**+0.6**
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*PG		**Pb**	**09 26 58.3**	**+0.5**
OKC				*e*SG		**Sb**	**09 27 25.9**	**+1.2**
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*Pn		**Pn**	**09 26 55.1**	**-0.1**
	baz=325							
OKC	**Ostrava-Krasne**	**2.12**	**142**	Pg		**Pb**	**09 26 58.3**	**+0.5**
OKC				Sg		**Sb**	**09 27 25.9**	**+1.2**
VRAC	**Vranov**	**2.24**	**172**	Pn		**Pn**	**09 26 56.9**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=339,slow=12,SNR=12							
VRAC				Lg		Lg	09 27 29.2	
	comp=Z,8.7nm,0.3s,baz=78,slow=19,SNR=5.8							
VRAC	**Vranov**	**2.24**	**172**	*e*Pn		**Pn**	**09 26 56.9**	**+0.1**
	baz=354							
VRAC				*e*Sg		**Sg**	**09 27 29.6**	**-0.8**
	comp=Z,45nm,0.5s,baz=354							
TREC	**Trest**	**2.27**	**191**	*e*PN		**Pn**	**09 26 57.7**	**+0.5**
TREC				*e*PG		**Pb**	**09 27 00.6**	**+0.3**
TREC	**Trest**	**2.27**	**191**	Pn		**Pn**	**09 26 57.7**	**+0.5**
KRUC	**Moravsky**	**2.47**	**176**	*e*Pn		**Pn**	**09 27 00.1**	**+0.1**
	baz=357							
KRUC				*e*Sg		**Sg**	**09 27 37.0**	**-0.8**
	comp=Z,32nm,0.5s,baz=357							
TANN	**Tannenbergstha**	**2.57**	**246**	*e*Pn		**Pn**	**09 27 00.8**	**-0.6**
TANN				*e*Sg		**Sb**	**09 27 39.7**	**+2.1**
TANN	**Tannenbergstha**	**2.57**	**246**	Pn		**Pn**	**09 27 00.8**	**-0.6**
TANN				Sg		**Sb**	**09 27 39.7**	**+2.1**
WERD	**Werda**	**2.64**	**247**	*e*Pn		**Pn**	**09 27 01.7**	**-0.6**
WERD				*e*Sg		**Sb**	**09 27 41.4**	**+1.7**
WERD	**Werda**	**2.64**	**247**	Pn		**Pn**	**09 27 01.7**	**-0.6**
WERD				Sg		**Sb**	**09 27 41.4**	**+1.7**
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN		**Pn**	**09 27 02.1**	**-0.5**
NKC				*e*PG		**Pb**	**09 27 08.3**	**+1.3**
NKC				*e*SG		**Sg**	**09 27 44.7**	**+0.7**
	comp=Z,207nm,0.3s							
NKC	**Novy Kostel**	**2.66**	**242**	Pn		**Pn**	**09 27 02.1**	**-0.5**
OJC	**Ojcow**	**2.67**	**118**	*e*Pn		**Pn**	**09 27 01.0**	**-1.7**
OJC				*e*Pg		**Pb**	**09 27 09.1**	**+2.0**
OJC				*e*Sg		**Sg**	**09 27 44.1**	**-0.1**
OJC	**Ojcow**	**2.67**	**118**	*e*Pn		**Pn**	**09 27 01.2**	**-1.5**
OJC				Sg		**Sg**	**09 27 45.8**	**+1.6**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN		**Pn**	**09 27 05.2**	**-0.7**
KHC				*e*PG		**Pb**	**09 27 11.1**	**+0.1**
KHC				*e*SN		**Sn**	**09 27 40.0**	**-1.5**
KHC				*e*SG		**Sg**	**09 27 50.2**	**-1.4**
	comp=Z,21nm,0.3s							
KHC	**Kasperske Hory**	**2.90**	**215**	Pn		**Pn**	**09 27 05.2**	**-0.7**
MOX	**Moxa**	**2.98**	**255**	*e*Pn		**Pn**	**09 27 06.1**	**-0.9**
MOX				*e*Sg		**Sg**	**09 27 54.1**	**+0.1**
MOX	**Moxa**	**2.98**	**255**	Pn		**Pn**	**09 27 06.1**	**-0.9**
MOX				Sg		**Sg**	**09 27 54.1**	**+0.1**
ROTZ	**Rotzenmuhle**	**3.05**	**236**	*e*Pn		**Pn**	**09 27 07.8**	**-0.2**
ROTZ	**Rotzenmuhle**	**3.05**	**236**	Pn		**Pn**	**09 27 07.8**	**-0.2**
GEC2	**GERESS Array S**	**3.10**	**211**	*e*Pn		**Pn**	**09 27 09.2**	**+0.5**
GEC2	**GERESS Array S**	**3.10**	**211**	Pn		**Pn**	**09 27 09.2**	**+0.5**
GERES	**GERESS Array B**	**3.10**	**211**	Pn		**Pn**	**09 27 08.9**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=32,slow=13,SNR=37							
GERES				Pg		**Pb**	**09 27 14.9**	**+0.4**
	comp=Z,2.4nm,0.3s,baz=31,slow=17,SNR=30							
GERES				Lg		Lg	09 27 54.0	
	comp=Z,8.3nm,0.3s,baz=35,slow=27,SNR=11							
SMOL	**Smolenice**	**3.13**	**164**	*e*PN		**Pb**	**09 27 14.3**	**-0.6**
WET	**Wettzell**	**3.16**	**222**	*e*Pn		**Pn**	**09 27 09.2**	**-0.3**
WET	**Wettzell**	**3.16**	**222**	Pn		**Pn**	**09 27 09.2**	**-0.3**
NIE	**Niedzica**	**3.41**	**127**	*e*P		**Pg**	**09 27 23.0**	**-0.7**
NIE				*e*S		**Sg**	**09 28 08.1**	**+0.2**
VYHS	**Vyhne**	**3.50**	**149**	*e*PN		**Pn**	**09 27 13.9**	**-0.2**
VYHS				*e*PG		**Pg**	**09 27 25.9**	**+0.4**
VYHS				*e*SG		**Sg**	**09 28 09.3**	**-1.6**
VYHS	**Vyhne**	**3.50**	**149**	*e*Pn		**Pn**	**09 27 13.9**	**-0.2**
VYHS	**Vyhne**	**3.50**	**149**	*e*Pg		**Pg**	**09 27 26.0**	**+0.4**
CLZ	**Clausthal**	**3.59**	**277**	*e*Pn		**Pn**	**09 27 15.3**	**-0.1**
CLZ	**Clausthal**	**3.59**	**277**	Pn		**Pn**	**09 27 15.3**	**-0.1**
CONA	**Conrad Observa**	**3.60**	**183**	⇓*i*Pn		**Pn**	**09 27 14.8**	**-0.9**
CONA				⇓*i*Sg		**Sg**	**09 28 13.7**	**-0.5**
	comp=Z,30nm,0.4s							
CONA	**Conrad Observa**	**3.60**	**183**	Pn		**Pn**	**09 27 14.8**	**-0.9**
CONA				Sg		**Sg**	**09 28 13.7**	**-0.5**
	comp=Z,30nm,0.4s							
GRA1	**Grafenberg Arr**	**3.62**	**241**	Pn		**Pn**	**09 27 16.1**	**+0.3**
GRA1				Sg		**Sg**	**09 28 14.5**	**-0.3**
GRF	**Grafenberg Arr**	**3.62**	**241**	*e*Pn		**Pn**	**09 27 16.1**	**+0.3**
GRF				*e*Sg		**Sg**	**09 28 14.5**	**-0.3**
MOA	**Molln**	**3.87**	**199**	⇑*i*Pn		**Pn**	**09 27 18.7**	**-0.5**
MOA				⇑*i*Sg		**Sg**	**09 28 23.0**	**+0.2**
	comp=Z,17nm,0.3s							
MOA	**Molln**	**3.87**	**199**	Pn		**Pn**	**09 27 18.7**	**-0.5**
MOA				Sg		**Sg**	**09 28 23.0**	**+0.2**
	comp=Z,17nm,0.3s							
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*PN		Pn	09 27 29.3	+4.0
CRVS				*e*PG		**Pg**	**09 27 41.4**	**+0.3**
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*Pn		Pn	09 27 29.3	+4.0
KOLS	**Kolonicke sedl**	**4.72**	**121**	*e*PN		**Pn**	**09 27 30.4**	**-0.5**
KOLS				*e*PG		**Pg**	**09 27 49.0**	**+0.1**
HFS	**Hagfors**	**8.74**	**352**	Pn		Pn	09 28 24.7	-1.2
	comp=Z,0.1nm,0.3s,baz=165,slow=12,SNR=3.1							
FINES	**FINESS Array B**	**11.35**	**25**	Pn		Pn	09 28 58.6	-3.0
	comp=Z,0.1nm,0.3s,baz=218,slow=10,SNR=2.7							
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn		**P**	**09 30 34.8**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=187,slow=12,SNR=3.6							

*ISK **28** 09:41:13.9,38˚.93N×41˚.29E,h8km,MD3.0*
*ISCJB **28** 09:41:14.8±0.6,38˚.95N±0˚.03×41˚.32E±0˚.04,h8km±4km, Error ellipse: s-maj=5.5km s-min=4.1km az=28.7*
*DDA **28** 09:41:14.5,38˚.94N×41˚.27E,h14km,MD3.2*
*CSEM **28** 09:41:14.4±0.2,38˚.94N×41˚.33E,h2km,MD3.0, Error ellipse: s-maj=6.2km s-min=4.9km az=104.0*

ISC 28 09:41:14.7±0.9,38˚.95N±0˚.02×41˚.29E±0˚.03,h13km±6km, n45,σ0§53/54,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BNGL	**BINGOL**	**0.11**	**271**	*i* P		**Pg**	**09 41 17.7**	**-0.5**
BNGL				*i* S		**Sg**	**09 41 20.4**	**-0.1**
VRTB	**Varto-Mus**	**0.25**	**31**	*e*PG		**Pg**	**09 41 19.9**	**-0.2**
VRTB				*e*SG		**Sg**	**09 41 24.9**	**+1.2**
VRTB	**Varto-Mus**	**0.25**	**31**	*e*Pg		**Pg**	**09 41 19.9**	**-0.2**
BNGB	**Bing¶ll**	**0.48**	**275**	*e*PG		**Pg**	**09 41 23.6**	**-0.6**
BNGB				*e*SG		**Sg**	**09 41 31.1**	**+0.4**
BTMT	**Batman**	**0.77**	**168**	*e*PG		**Pb**	**09 41 29.9**	**-0.1**
BTMT	**Batman**	**0.77**	**168**	*e*Pg		**Pb**	**09 41 29.9**	**-0.1**
ERZM	**Erzurum**	**0.96**	**3**	*i* P		**Pg**	**09 41 33.0**	**-0.3**
ERZM				*e*S		**Sg**	**09 41 44.8**	**-1.0**
ERZM	**Erzurum**	**0.96**	**3**	*i* P		**Pg**	**09 41 33.0**	**-0.3**
ERZM				*e*S		**Sg**	**09 41 44.8**	**-1.0**
EZM	**Erzurum**	**0.96**	**3**	*e*PG		**Pg**	**09 41 32.8**	**-0.4**
EZM	**Erzurum**	**0.96**	**3**	*e*Pg		**Pg**	**09 41 32.8**	**-0.4**
BEST	**Besiri**	**1.06**	**181**	*i* P		**Pg**	**09 41 34.1**	**-1.0**
BEST				*i* S		**Sn**	**09 41 49.6**	**-0.3**
KOPT	**Kop Dagi**	**1.23**	**330**	*i* P		**Pn**	**09 41 37.7**	**-0.2**
KOPT	**Kop Dagi**	**1.23**	**330**	*i* P		**Pn**	**09 41 37.7**	**-0.2**
DIY	**Diyarbakir**	**1.34**	**219**	*e*PN		**Pn**	**09 41 39.5**	**+0.3**
DIY	**Diyarbakir**	**1.34**	**219**	*e*Pn		**Pn**	**09 41 39.5**	**+0.3**
ERZN	**Erzincan**	**1.38**	**298**	*e*PN		**Pn**	**09 41 40.0**	**+0.3**
DIYA	**Diyarbakir**	**1.38**	**222**	*i* P		**Pb**	**09 41 40.2**	**-0.2**
DIYA				*i* S		**Sg**	**09 41 59.2**	**+0.1**
DIYA	**Diyarbakir**	**1.38**	**222**	*i* P		**Pb**	**09 41 40.2**	**-0.2**
DIYA				*i* S		**Sg**	**09 41 59.2**	**+0.1**
AGRB	**Hanur-Agry**	**1.46**	**64**	*e*PN		**Pn**	**09 41 41.0**	**+0.1**
AGRB	**Hanur-Agry**	**1.46**	**64**	*e*Pn		**Pn**	**09 41 41.0**	**+0.1**
MARD	**Mardin**	**1.68**	**194**	*i* P		**Pn**	**09 41 44.5**	**+0.5**
MARD				*i* S		**Sb**	**09 42 06.6**	**-0.1**
BAYT	**Ayd¨¬ntepe-Bay**	**1.69**	**329**	*e*PN		**Pn**	**09 41 44.8**	**+0.7**
BAYT	**Ayd¨¬ntepe-Bay**	**1.69**	**329**	*e*Pn		**Pn**	**09 41 44.8**	**+0.7**
ELZG	**Elazig**	**1.86**	**257**	*i* P		**Pb**	**09 41 49.1**	**+0.4**
ELZG	**Elazig**	**1.86**	**257**	*i* P		**Pb**	**09 41 49.1**	**+0.4**
DDEM	**Demirkent**	**1.97**	**10**	*i* P		**Pb**	**09 41 50.8**	**+0.3**
DDEM	**Demirkent**	**1.97**	**10**	*i* P		**Pb**	**09 41 50.8**	**+0.3**
KELT	**Kelkit**	**1.98**	**308**	*i* P		**Pb**	**09 41 50.6**	**-0.1**
KELT	**Kelkit**	**1.98**	**308**	*i* P		**Pb**	**09 41 50.6**	**-0.1**
CLDR	**Caldiran**	**2.05**	**84**	*e*PN		**Pn**	**09 41 49.6**	**+0.5**
CLDR	**Caldiran**	**2.05**	**84**	*e*Pn		**Pn**	**09 41 49.6**	**+0.5**
ILIC	**ilic-Erzincan**	**2.18**	**284**	*e*PN		**Pn**	**09 41 51.4**	**+0.7**
ILIC	**ilic-Erzincan**	**2.18**	**284**	*e*Pn		**Pn**	**09 41 51.4**	**+0.7**
KEMA	**Kemaliye**	**2.20**	**279**	*i* P		**Pb**	**09 41 54.3**	**-0.1**
KEMA	**Kemaliye**	**2.20**	**279**	*i* P		**Pb**	**09 41 54.3**	**-0.1**
MYA	**Malataya**	**2.33**	**255**	*e*PN		**Pn**	**09 41 53.5**	**+0.8**
MYA	**Malataya**	**2.33**	**255**	*e*Pn		**Pn**	**09 41 53.6**	**+0.8**
HAKT	**HAKKARI**	**2.35**	**125**	*i* P		**Pn**	**09 41 53.9**	**+0.6**
HAKT	**HAKKARI**	**2.35**	**125**	*i* P		**Pn**	**09 41 53.9**	**+0.6**
URFA	**Urfa**	**2.46**	**233**	*e*PN		**Pn**	**09 41 55.4**	**+0.8**
URFA	**Urfa**	**2.46**	**233**	*e*Pn		**Pn**	**09 41 55.4**	**+0.8**
CUKT	**Cukurca**	**2.49**	**132**	*e*PN		**Pn**	**09 41 55.8**	**+0.7**
CUKT	**Cukurca**	**2.49**	**132**	*e*Pn		**Pn**	**09 41 55.8**	**+0.7**
AKCD	**Akcadag**	**2.72**	**257**	*i* P		**Pb**	**09 42 03.5**	**+0.2**
AKCD	**Akcadag**	**2.72**	**257**	*i* P		**Pb**	**09 42 03.5**	**+0.2**

NNC 28 09:42:06.2±3.7,53˚.98N×87˚.00E,h0km,mb3.7,mpv3.1, 6C-3D,Error ellipse: s-maj=30.2km s-min=18.5km az=63.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KURK	**Kurchatov**	**6.09**	**241**	⇑Pn		Pn	09 43 37.9	+0.6
	1.9nm,1.2s							
KURK				⇑Sn		Sn	09 44 50.9	+3.3
	1.9nm,0.8s							
KURK				⇑Lg		Lg	09 45 21.1	
	7.1nm,1.2s							
MK31	**Makanchi Array**	**7.80**	**205**	⇓Pn		Pn	09 44 03.3	+2.4
	1.8nm,1.4s,baz=26,slow=12,SNR=8.3							
MK31				⇑Sn		Sn	09 45 36.0	+6.1
	0.6nm,0.7s,baz=27,slow=27,SNR=3.0							
MK31				Lg		Lg	09 46 13.8	
	3.9nm,1.0s,baz=37,slow=32,SNR=4.2							
VOSK	**Vostochnaya**	**9.66**	**269**	⇑Pn		Pn	09 44 27.1	+0.7
	3.5nm,1.4s							
VOSK				⇓Sn		Sn	09 46 13.3	-2.4
	0.9nm,0.5s							
ZRNK	**Zerenda**	**10.78**	**272**	⇑Pn		Pn	09 44 44.2	+2.6
	2.9nm,1.5s							
ZRNK				⇓Sn		Sn	09 46 39.4	-3.5
	1.9nm,0.9s							

*IDC **28** 09:49:10.8±0.7,4˚.08N×126˚.82E,h0km,mb3.9/10, mb1 4.0/10,mb1mx3.9/22,mbtmp3.9/10,MS3.1/1, Ms1 3.1/1,ms1mx2.1/36,Error ellipse: s-maj=45.3km s-min=14.2km az=78.0*
*ISCJB **28** 09:49:13.8±0.5,4˚.12N±0˚.07×126˚.9E±0˚.2,h36km, mb4.1/14,MS3.0/1,Error ellipse: s-maj=27.9km s-min=8.9km az=168.2*
*NEIC **28** 09:49:15.8±0.4,4˚.09N×126˚.93E,h35km,mb4.5/3,Error ellipse: s-maj=24.4km s-min=8.1km az=77.0*

ISC 28 09:49:16.0±0.7,4˚.08N±0˚.10×127˚.0E±0˚.2,h36km,n32, σ0§91/27,mb4.1/14,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTBH	**Cotabato--PC H**	**4.13**	**319**	⇑*i*P		Pn	09 50 24.1	+7.5
FITZ	**Fitzroy Crossi**	**22.08**	**183**	P		**P**	**09 54 09.4**	**+1.3**
FITZ	**Fitzroy Crossi**	**22.08**	**183**	P		**P**	**09 54 09.4**	**+1.3**
	4.1nm,0.8s,baz=16,slow=9.4,SNR=8.5							
WRAB	**Tennant Creek**	**24.94**	**163**	*e*P		**P**	**09 54 36.0**	**-0.2**
	9.3nm,0.8s							
WRA	**Warramunga Arr**	**24.95**	**163**	P		**P**	**09 54 36.2**	**0.0**
WRA	**Warramunga Arr**	**24.95**	**163**	P		**P**	**09 54 36.2**	**0.0**
	8.0nm,0.7s,baz=344,slow=11,SNR=69							
MBWA	**Marble Bar**	**26.07**	**196**	*e*P		**P**	**09 54 46.4**	**+0.1**
	44nm,1.3s							
CBIJ	**Chichi jima**	**27.11**	**31**	LR		LR	10 04 12.1	
	comp=Z,41nm,20.2s,baz=141,slow=33							
ASAR	**Alice Springs**	**28.40**	**167**	P		**P**	**09 55 07.0**	**-0.3**
ASAR	**Alice Springs**	**28.40**	**167**	P		**P**	**09 55 07.0**	**-0.3**
	0.7nm,0.6s,baz=352,slow=7.4,SNR=16							
CTAO	**Charters Tower**	**30.59**	**142**	*e*P		**P**	**09 55 25.7**	**-1.1**
KSAR	**Wonju Array Be**	**33.21**	**1**	P		**P**	**09 55 48.6**	**-0.9**
KSRS	**Korea Array**	**33.23**	**1**	P		**P**	**09 55 48.6**	**-1.0**
	0.8nm,0.6s,baz=180,slow=9.8,SNR=4.2							
STKA	**Stephens Creek**	**38.37**	**160**	P		**P**	**09 56 34.0**	**+0.1**
STKA	**Stephens Creek**	**38.37**	**160**	P		**P**	**09 56 34.0**	**+0.1**
	3.0nm,0.8s,baz=326,slow=8.8,SNR=8.5							
SONM	**Songino Array**	**47.04**	**341**	P		**P**	**09 57 44.8**	**+0.7**
SONM	**Songino Array**	**47.04**	**341**	P		**P**	**09 57 44.8**	**+0.7**
	0.4nm,0.5s,baz=162,slow=8.1,SNR=5.3							
POO	**Poona**	**53.82**	**290**	ex		x	09 58 18.0	
PETK	**Petropavlovsk-**	**55.02**	**22**	P		**P**	**09 58 45.6**	**+1.7**
PETK	**Petropavlovsk-**	**55.02**	**22**	P		**P**	**09 58 45.6**	**+1.7**
	3.3nm,0.9s,baz=237,slow=5.0,SNR=3.1							
MK31	**Makanchi Array**	**57.40**	**325**	*e*P		**P**	**09 59 01.3**	**+0.3**
MKAR	**Makanchi Array**	**57.40**	**325**	P		**P**	**09 59 00.9**	**-0.1**
MKAR	**Makanchi Array**	**57.40**	**325**	P		**P**	**09 59 00.9**	**-0.1**
	0.5nm,0.4s,baz=118,slow=7.4,SNR=11							
ZALV	**Zalesovo Beam**	**60.38**	**333**	P		**P**	**09 59 20.2**	**-1.3**
ZALV	**Zalesovo Beam**	**60.38**	**333**	P		**P**	**09 59 20.2**	**-1.3**
	0.5nm,0.5s,baz=134,slow=6.2,SNR=2.7							
KURK	**Kurchatov**	**61.57**	**327**	*e*P		**P**	**09 59 28.1**	**-1.6**
	1.4nm,0.5s							
ILAR	**Eielson Array**	**84.69**	**25**	P		**P**	**10 01 46.2**	**+0.3**
ILAR	**Eielson Array**	**84.69**	**25**	P		**P**	**10 01 46.2**	**+0.3**
	0.2nm,0.6s,baz=262,slow=6.3,SNR=4.0							
ARCES	**ARCESS Array B**	**90.20**	**340**	P		P	10 02 17.3	+4.8
ARCES	**ARCESS Array B**	**90.20**	**340**	P		P	10 02 17.3	+4.8
	3.8nm,0.9s,baz=80,slow=5.9,SNR=2.9							
TORD	**Torodi Ar. Bea**	**123.03**	**288**	PKP		**PKPdf**	**10 08 09.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**123.03**	**288**	PKP		**PKPdf**	**10 08 09.4**	**-0.3**
	0.4nm,0.9s,baz=66,slow=2.3,SNR=3.2

7.4nm,1.1s
QSPA South Pole Qui 78.30 180 LR LR 10 57 29.6
comp=Z,188nm,20.4s,baz=321,slow=31
SONM Songino Array 79.50 324 P **P** **10 29 27.0 -0.1**
SONM Songino Array 79.50 324 P **P** **10 29 27.0 -0.1**
0.7nm,0.8s,baz=153,slow=6.7,SNR=4.4
ILAR Eielson Array 83.97 18 P **P** **10 29 48.7 -1.4**
ILAR Eielson Array 83.97 18 P **P** **10 29 48.7 -1.4**
0.4nm,0.7s,baz=219,slow=7.0,SNR=3.4
MK31 Makanchi Array 94.35 317 *eP* **P** **10 30 39.1 -0.8**
MKAR Makanchi Array 94.35 317 P **P** **10 30 39.4 -0.6**
MKAR Makanchi Array 94.35 317 P **P** **10 30 39.4 -0.6**
1.5nm,0.6s,baz=96,slow=6.0,SNR=25
YKA Yellowknife Ar 95.32 27 P **P** **10 30 44.2 +0.3**
YKA Yellowknife Ar 95.32 27 P **P** **10 30 44.2 +0.3**
0.1nm,0.6s,baz=256,slow=5.0,SNR=3.1
ARCES ARCESS Array B 117.10 346 PKP **PKPdf** **10 36 06.5 +2.0**
ARCES ARCESS Array B 117.10 346 PKP **PKPdf** **10 36 06.5 +2.0**
1.7nm,0.8s,baz=63,slow=2.2,SNR=4.1

IDC 28 10:36:47.3±8.1, 56.04S×27.72W, h171km±72km, mb3.7/5, mb1 3.8/5, mb1mx3.5/16, mbtmp3.7/5, Error ellipse: s-maj=37.6km s-min=21.2km az=83.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**34.22 180**		P	P	10 43 16.0	-0.3
	2.4nm,0.6s,baz=156,slow=2.7,SNR=34						
QSPA				PcP	PcP	10 45 48.7	+0.1
	1.2nm,0.9s,baz=306,slow=6.8,SNR=2.1						
VNDA	**Vanda**	**46.57 183**		P	P	10 44 57.6	+0.4
	2.3nm,0.9s,baz=52,slow=3.2,SNR=3.7						
LPAZ	**La Paz**	**50.13 306**		P	P	10 45 25.4	-0.4
	1.1nm,0.6s,baz=75,slow=7.3,SNR=3.7						
TORD	**Torodi Ar. Bea**	**73.19 30**		P	P	10 47 59.3	+0.1
	0.5nm,0.4s,baz=200,slow=6.3,SNR=12						
ASAR	**Alice Springs**	**99.09 163**		P	Pdif	10 50 07.9	-0.9
	0.5nm,0.8s,baz=186,slow=4.7,SNR=6.2						
WRA	**Warramunga Arr**	**102.81 163**		P	Pdif	10 50 24.7	-0.7
	0.4nm,1.0s,baz=192,slow=4.2,SNR=4.2						
FINES	**FINESS Array B**	**124.51 28**		PKP	PKPdf	10 55 23.8	-0.7
	0.9nm,0.6s,baz=186,slow=1.7,SNR=3.7						
ARCES	**ARCESS Array B**	**131.04 22**		PKP	PKPdf	10 55 36.5	-0.2
	3.1nm,1.0s,baz=318,slow=1.2,SNR=3.3						
YKA	**Yellowknife Ar**	**135.96 318**		PKP	PKPdf	10 55 45.9	-0.3
	0.5nm,0.6s,baz=128,slow=2.4,SNR=1.1						
ILAR	**Eielson Array**	**149.88 312**		PKPbc	PKPbc	10 56 15.3	-0.3
	3.4nm,0.7s,baz=128,slow=2.6,SNR=39						
SONM	**Songino Array**	**151.02 87**		PKPbc	PKPbc	10 56 18.7	-0.3
	2.6nm,0.6s,baz=220,slow=3.6,SNR=32						

GUC 28 10:43:57.0±0.9, 30.66S×69.99W, h122km±18km, ML3.5, 3C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**1.01 239**	⇓	*i*P	Pn	10 44 19.6	+0.2
CMCH				*i* S	Sn	10 44 36.9	+0.6
CMCH				AML	AML	10 44 39.3	
	comp=N,2μm,0.7s						
CHNG	**Los Chungos**	**1.78 226**	⇑	*i*P	Pn	10 44 28.4	+0.7
CHNG				*i* S	Sn	10 44 51.5	+0.2
CHNG				AML	AML	10 45 00.9	
	comp=N,230nm,0.6s						
ROCH	**El Roble**	**2.46 200**	⇑	*i*P	Pn	10 44 37.0	+0.3
ROCH				*i* S	Sn	10 45 07.4	+0.2
ROCH				AML	AML	10 45 13.4	
	comp=N,219nm,0.6s						
PEL	**Peldehue**	**2.55 193**	⇑	*i*P	Pn	10 44 38.3	+0.7
PEL				*i* S	Sn	10 45 09.3	+0.6
PEL				AML	AML	10 45 13.6	
	comp=E,216nm,0.3s						

*BJI **28** 10:50:17.7, 3.45N×126.58E, h39km, mB5.1/40, mb5.1/52, Ms4.8/56, Ms7 4.7/56*
*MOS **28** 10:50:20.4±1.0, 3.88N×126.44E, h33km, mb5.5/53, MS4.5/11, Error ellipse: s-maj=10.0km s-min=4.8km az=116.2*
*IDC **28** 10:50:21.7±1.8, 3.85N×126.46E, h32km±12km, mb4.8/38, mb1 4.8/38, mb1mx4.8/40, mbtmp4.8/38, MS4.5/27, Ms1 4.5/27, ms1mx4.4/36, Error ellipse: s-maj=15.0km s-min=8.7km az=72.0*
*NEIC **28** 10:50:22.1±0.1, 3.83N×126.48E, h35km, mb5.4/75, Error ellipse: s-maj=5.1km s-min=3.2km az=69.0*
*TEH **28** 10:50:22.0, 3.91N×126.69E, h35km, ML5.4*
*ISCJB **28** 10:50:23.6±0.4, 3.87N±0.02×126.63E±0.02, h65km±3km, mb5.2/161, Error ellipse: s-maj=4.1km s-min=2.8km az=161.6*
*DJA **28** 10:50:27, 3.75N×126.74E, h71km, Mw5.2/38*

ISC 28 10:50:22.6±0.2, 3.88N±0.02×126.58E±0.03, h40km±1km, h40km:pP-P,n547,σ1§44/658, mb5.3/156, MS4.6/57, 40C-31D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.07 259**		P	**Pn**	**10 50 44.0**	**+2.8**
SGSI				S	**Sn**	**10 50 57.1**	**+2.2**
MNI	**Manado**	**2.98 216**		P	Pn	10 51 10.6	+3.1
MNI				S	**Sn**	**10 51 46.1**	**+4.0**
MATI	**Mati**	**3.06 354**	*e*	P	Pn	10 51 12.2	+3.6
TNTI	**Ternate**	**3.19 166**		P	**Pn**	**10 51 11.1**	**+0.8**
TNTI				S	**Sn**	**10 51 49.1**	**+2.0**
DAV	**Davao City (W)**	**3.32 343**	*e*	Pn	**Pn**	**10 51 11.9**	**-0.2**
DAV				Sn	Sn	10 51 58.3	+8.0
DAV	**Davao City (W)**	**3.32 343**		P	Pn	10 51 20.9	+8.8
DAV	**Davao City (W)**	**3.32 343**		Pn	Pn	10 51 15.6	+3.5
	38nm,0.3s,baz=274,slow=8.0,SNR=8.6						
DAV				Sn	Sn	10 51 58.3	+8.0
	219nm,0.3s,baz=274,slow=22,SNR=7.3						
DAV				LR	LR	10 52 38.0	
	comp=Z,2μm,21.7s,baz=308,slow=41						
KCP	**Kidapawan**	**3.44 334**	⇓	*e*P	Pn	10 51 24.0	+10
KCP				*i* S	Sn	10 52 07.4	+14
CTBH	**Cotabato--PC H**	**4.05 325**	⇑	*e*P	Pn	10 51 26.0	+3.9
BUKP	**Musuan**	**4.25 339**		*e*P	Pn	10 51 29.0	+4.1
LBMI	**Labuha**	**4.58 168**		P	**Pn**	**10 51 30.6**	**+1.1**
LBMI				S	**Sn**	**10 52 22.4**	**+0.8**
CGP	**Cagayan de Oro**	**4.91 338**	⇓	*i*P	Pn	10 51 38.7	+4.7
CGP				*i* S	**Sn**	**10 52 31.4**	**+1.7**
BUTP	**Butuan**	**5.14 349**		*e*P	Pn	10 51 42.9	+5.7
IPIL	**Ipil**	**5.56 314**	⇑	*e*P	**Pn**	**10 51 46.1**	**+3.1**
IPIL				*e*S	**Sn**	**10 52 47.6**	**+1.9**
LUWI	**Luwuk**	**6.20 218**		P	Pn	10 51 56.7	+5.0
	3μm,1.1s,32μm12nm						
LUWI				S	**Sn**	**10 53 04.9**	**+3.5**
	3μm,1.1s,32μm12nm						
MSLP	**Maasin**	**6.44 345**	*e*	P	Pn	10 52 00.6	+5.6
SWI	**Sorong**	**6.64 135**		P	**Pn**	**10 51 58.3**	**+0.6**
	500nm,1.0s,4μm1.8nm						
SWI				S	**Sn**	**10 53 12.0**	**-0.2**
	500nm,1.0s,4μm1.8nm						
LLP	**Lapu-Lapu**	**6.90 338**	*e*	P	Pn	10 52 05.8	+4.5
LLP				*e*S	**Sn**	**10 53 22.0**	**+3.4**
MSAI	**Masohi**	**7.55 162**		P	**Pn**	**10 52 13.0**	**+2.7**
	56nm,1.0s						
AAI	**Ambon**	**7.69 168**		P	Pn	10 52 19.0	+6.8
MYLDM	**Lahad Datu**	**8.16 279**		P	Pn	10 52 23.3	+4.7
MYLDM	**Lahad Datu**	**8.16 279**		P	Pn	10 52 25.2	+6.6
	499nm,1.2s,9μm34μm2.7nm						
TSM	**Tawau**	**8.70 273**		P	Pn	10 52 29.9	+3.9
KDI	**Kendari**	**8.74 207**		P	**Pn**	**10 52 27.4**	**+0.9**
	182nm,1.3s,3μm0.8nm						
KDI				S	**Sn**	**10 54 00.8**	**-3.0**
	182nm,1.3s,3μm0.8nm						
FAKI	**Fak Fak**	**8.82 140**		P	**Pn**	**10 52 28.0**	**+0.4**
	278nm,0.9s,3μm						
BNDI	**Bandanaira**	**8.99 158**		P	Pn	10 52 34.1	+4.2
	633nm,1.6s,9μm						
SDKM	**Sandakan**	**9.52 281**		P	Pn	10 52 42.0	+4.7
KDM	**Kudat**	**10.16 288**		P	Pn	10 52 51.7	+5.7
SMKI	**Samarinda**	**10.31 246**		P	Pn	10 52 54.9	+6.8
	210nm,1.2s						
KKM	**Kota Kinabalu**	**10.55 282**	*e*	Pn	Pn	10 52 56.5	+5.1
KKM			*e*	Sn	**Sn**	**10 54 51.2**	**+2.8**
KKM	**Kota Kinabalu**	**10.55 282**		P	Pn	10 52 56.3	+4.8
KKM	**Kota Kinabalu**	**10.55 282**		P	Pn	10 52 57.4	+5.9
	152nm,1.4s,3μm						
BAKI	**Biak**	**10.77 118**		P	Pn	10 52 58.6	+4.2
	378nm,1.4s,6μm						

KAPI	**Kappang**	**11.17 218**	*e*	Pn	**Pn**	**10 53 00.7**	**+0.9**
KAPI				Sn	Sn	10 55 08.9	+5.5
KAPI	**Kappang**	**11.17 218**		Pn	**Pn**	**10 53 01.7**	**+1.9**
	581nm,1.2s,SNR=6.9						
KAPI	**Kappang**	**11.17 218**		P	Pn	10 53 03.6	+3.8
	116nm,1.3s,2μm6μm						
KAPI	**Kappang**	**11.17 218**		Pn	**Pn**	**10 53 01.8**	**+2.0**
	2.4nm,0.3s,baz=19,slow=7.8,SNR=18						
KAPI				Sn	Sn	10 55 08.9	+5.5
	0.2nm,0.3s,baz=109,slow=23,SNR=2.6						
KAPI				LR	LR	10 57 50.1	
	comp=Z,8μm,19.5s,baz=52,slow=40						
TLE	**Tual**	**11.28 147**		P	**Pn**	**10 53 03.5**	**+2.1**
	201nm,1.3s,4μm						
MMRI	**Maumere**	**13.17 199**		P	P	10 53 42.7	+6.2
BTM	**Bintulu**	**13.49 268**		P	Pn	10 53 34.8	+3.1
BBKI	**Banjar Baru**	**13.82 238**		P	P	10 53 40.6	-3.1
	652nm,1.6s,11μm						
PLKI	**Palangkaraya**	**14.01 245**		P	**P**	**10 53 44.7**	**-1.1**
	742nm,0.8s,22μm						
SBUM	**Sibu**	**14.41 265**		P	Pn	10 53 47.3	+3.2
SBUM	**Sibu**	**14.41 265**		P	**P**	**10 53 48.5**	**-1.8**
	235nm,2.0s,5μm						
JAY	**Jayapura**	**15.48 114**		P	**P**	**10 54 02.7**	**+0.5**
STKI	**Sintang**	**15.56 256**		P	**P**	**10 54 05.1**	**+2.0**
	216nm,1.6s,17μm						
PBKI	**Pangkalan Bun**	**16.28 247**		P	**P**	**10 54 12.8**	**+1.8**
	406nm,1.0s,4μm						
KHKI	**Kahang-Kahang**	**16.37 222**		P	**P**	**10 54 13.0**	**+1.0**
	217nm,1.4s,3μm						
KSM	**Kuching**	**16.43 262**	*e*	P	**P**	**10 54 13.1**	**+0.4**
	315nm,1.3s						
KSM			*e*	S	**S**	**10 57 27.2**	**+4.6**
KSM	**Kuching**	**16.43 262**		P	**P**	**10 54 14.2**	**+1.5**
KSM	**Kuching**	**16.43 262**		P	**P**	**10 54 14.9**	**+2.2**
	209nm,1.4s,3μm						
KMMI	**Kalianget**	**16.63 229**		P	**P**	**10 54 16.8**	**+1.9**
	225nm,1.3s						
IGBI	**Denpasar**	**17.01 222**		P	**P**	**10 54 20.9**	**+1.8**
	107nm,1.0s						
NBBI	**Negara**	**17.05 224**		P	**P**	**10 54 20.0**	**+0.5**
	346nm,1.4s,4μm						
MTN	**Manton Dam**	**17.22 165**	*e*	P	**Pn**	**10 54 16.5**	**-3.8**
JAGI	**Jajag, Banyuwa**	**17.44 225**		P	**P**	**10 54 25.7**	**+1.8**
	215nm,1.4s,3μm9μm						
KRKI	**Karangkates**	**18.49 230**		P	Pn	10 54 40.4	+4.5
	349nm,1.0s						
SJI	**Sawahan**	**18.75 232**		P	**P**	**10 54 37.6**	**-0.9**
	202nm,1.5s						
TWG	**Pinang**	**19.57 345**	*e*	P	**P**	**10 54 46.1**	**-1.1**
	201nm,0.7s						
UGM	**Wanagama**	**19.85 234**		P	Pn	10 55 02.8	+11
YULB	**Yu-li**	**20.06 346**	*e*	P	**P**	**10 54 51.1**	**-1.4**
	44nm,0.8s						
TPUB	**Ta-pu**	**20.14 344**	*e*	P	**P**	**10 54 53.5**	**0.0**
	159nm,1.1s						
BJII	**Banjamegara**	**20.19 237**		P	**P**	**10 54 55.6**	**+1.4**
	109nm,1.4s,3μm						
GUMO	**Guam**	**20.47 61**		P	**P**	**10 54 54.9**	**-2.2**
GUMO	**Guam**	**20.47 61**		P	**P**	**10 54 54.9**	**-2.2**
	70nm,0.5s,baz=199,slow=10,SNR=1.6						
GUMO				LR	LR	11 01 29.9	
	comp=Z,3μm,21.9s,baz=197,slow=32						
SSLB	**Suanglung**	**20.52 345**	*e*	P	**P**	**10 54 57.0**	**-0.6**
YHNB	**Yeheng**	**21.27 347**	*e*	P	**P**	**10 55 06.0**	**+0.3**
PPBI	**Pangkal Pinang**	**21.30 254**		P	P	10 55 10.9	+4.8
	77nm,1.3s,5μm						
LEM	**Lembang**	**21.72 241**		P	**P**	**10 55 12.2**	**+1.5**
	136nm,0.9s,4μm						
FITZ	**Fitzroy Crossi**	**21.87 182**		P	**P**	**10 55 10.1**	**-2.0**
FITZ	**Fitzroy Crossi**	**21.87 182**	*e*	P	**P**	**10 55 11.4**	**-0.7**
FITZ			*e*	S	**S**	**10 59 05.4**	**-6.2**
FITZ	**Fitzroy Crossi**	**21.87 182**		P	**P**	**10 55 10.1**	**-2.0**
	12nm,0.5s,baz=27,slow=11,SNR=25						
CISI	**Cisompet, Garu**	**21.91 239**		P	**P**	**10 55 15.8**	**+3.2**
	169nm,1.2s						
QIZ	**Qiongzhong**	**22.23 314**		P	**P**	**10 55 12.3**	**-3.7**
QIZ				S	**S**	**10 59 18.3**	**-0.2**
QIZ				pmax	pmax		
	comp=Z,260nm,9.6s						
QIZ				LR	LR		
	comp=N,1μm,15.9s						
QIZ				LR	LR		
	comp=E,410nm,16.8s						
QIZ				LR	LR		
	comp=Z,2μm,22.2s						
QZH	**Quanzhou**	**22.31 341**		P	**P**	**10 55 20.0**	**+3.3**
QZH				S	**S**	**10 59 18.0**	**-1.7**
QZH				LR	LR		
	comp=N,2μm,14.2s						
QZH				LR	LR		
	comp=E,4μm,22.0s						
QZH				LR	LR		
	comp=Z,4μm,19.1s						
DBJI	**Dramaga**	**22.35 242**		P	**P**	**10 55 18.2**	**+0.8**
	comp=Z,156nm,1.7s						
SBJI	**Serang**	**22.71 244**		P	**P**	**10 55 24.0**	**+2.8**
	comp=Z,296nm,1.7s,comp=Z,6μm						
MYKOM	**Kota Tinggi**	**22.80 265**		P	**P**	**10 55 23.8**	**+1.7**
MYKOM	**Kota Tinggi**	**22.80 265**		P	**P**	**10 55 24.1**	**+2.0**
	comp=Z,98nm,1.0s,comp=Z,1μm						
JOW	**Kunigami**	**22.88 4**		P	**P**	**10 55 23.7**	**+0.9**
JOW	**Kunigami**	**22.88 4**		P	**P**	**10 55 23.7**	**+0.9**
	comp=Z,32nm,0.6s,baz=186,slow=7.8,SNR=17						
JOW				LR	LR	11 04 28.1	
	comp=Z,1μm,18.4s,baz=177,slow=37						
GZH	**Guangzhou**	**22.99 327**		P	**P**	**10 55 26.5**	**+2.5**
GZH				S	**S**	**10 59 31.8**	**+0.2**
GZH				LR	LR		
	comp=Z,3μm,22.0s						
KGM	**Kluang**	**23.31 266**		P	**P**	**10 55 28.9**	**+1.6**
LWLI	**Liwa**	**24.18 249**		P	P	10 55 42.1	+6.5
COEN	**Coen**	**24.19 137**	*e*	P	**P**	**10 55 33.9**	**-1.6**
	comp=Z,156nm,0.8s						
PMG	**Port Moresby**	**24.39 123**		P	**P**	**10 55 36.2**	**-1.1**
	comp=Z,2.7nm,1.0s						
PMG	**Port Moresby**	**24.39 123**		P	**P**	**10 55 36.2**	**-1.1**
	comp=Z,21nm,1.4s,comp=Z,542nm						
PMG	**Port Moresby**	**24.39 123**		P	**P**	**10 55 36.2**	**-1.1**
	comp=Z,9.6nm,0.9s,baz=286,slow=5.8,SNR=6.8						
WRAB	**Tennant Creek**	**24.87 162**	*e*	P	**P**	**10 55 40.4**	**-1.3**
WRAB			*e*	S	**S**	**10 59 59.9**	**-2.2**
WRAB				pmax	pmax		
	comp=Z,175nm,0.9s						
WRAB	**Tennant Creek**	**24.87 162**	*e*	P	**P**	**10 55 40.4**	**-1.3**
	comp=Z,175nm,0.9s						
WRAB			*e*	S	**S**	**10 59 59.9**	**-2.2**
WRAB	**Tennant Creek**	**24.87 162**		P	**P**	**10 55 40.0**	**-1.7**
	comp=Z,780nm,1.1s						
WRA	**Warramunga Arr**	**24.87 162**		P	**P**	**10 55 40.7**	**-1.0**
WRA	**Warramunga Arr**	**24.87 162**		P	**P**	**10 55 40.7**	**-1.0**
	comp=Z,84nm,0.9s,baz=341,slow=11,SNR=157						
FRIM	**Kepong**	**24.92 269**		P	**P**	**10 55 44.0**	**+1.8**
IPM	**Ipoh**	**25.50 272**	*e*	P	**P**	**10 55 47.2**	**-0.3**
	comp=Z,173nm,1.0s						
IPM			*e*	ScP	**ScP**	**11 02 54.7**	**-0.4**
IPM	**Ipoh**	**25.50 272**		P	**P**	**10 55 49.4**	**+1.9**
IPM	**Ipoh**	**25.50 272**		P	**P**	**10 55 50.0**	**+2.5**
	comp=Z,177nm,1.3s,comp=Z,2μm						
BKNI	**Bangkinang**	**25.77 263**		P	P	10 55 56.2	+6.3
	comp=Z,300nm,1.3s,comp=Z,3μm						
MBWA	**Marble Bar**	**25.78 195**	*e*	P	**P**	**10 55 49.6**	**-0.3**
	comp=Z,196nm,1.1s						
KULM	**Kulim**	**25.89 274**		P	**P**	**10 55 50.0**	**-1.0**
	comp=Z,121nm,1.0s						
KULM	**Kulim**	**25.89 274**		P	**P**	**10 55 53.2**	**+2.2**
KULM	**Kulim**	**25.89 274**		P	**P**	**10 55 54.5**	**+3.5**
	comp=Z,138nm,1.4s,comp=Z,2μm						
PPI	**Padang Panjang**	**26.52 261**		P	**P**	**10 55 59.7**	**+3.0**
	comp=Z,65nm,1.4s,comp=Z,1μm						
CBIJ	**Chichi jima**	**27.48 31**		P	**P**	**10 56 04.9**	**-0.3**
CBIJ	**Chichi jima**	**27.48 31**		P	**P**	**10 56 04.9**	**-0.3**
	comp=Z,64nm,0.6s,baz=321,slow=22,SNR=5.0						
CBIJ				LR	LR	11 05 08.5	
	comp=Z,1μm,20.2s,baz=226,slow=32						
SSE	**Sheshan**	**27.54 350**	*e*	P	**P**	**10 56 07.5**	**+1.8**
SSE				pP	**pP**	**10 56 16.5**	**-0.2**
SSE				S	**S**	**11 00 43.3**	**-0.9**
SSE				sS	**sS**	**11 01 00.0**	**-2.7**
SSE				pmax	pmax		
	comp=Z,20nm,0.8s						
SSE				pmax	pmax		
	comp=Z,190nm,8.3s						
SSE				LR	LR		
	comp=N,830nm,19.6s						
SSE				LR	LR		
	comp=E,360nm,19.6s						
SSE				LR	LR		
	comp=Z,1μm,22.8s						
PSI	**Prapat**	**27.63 269**		P	**P**	**10 56 06.6**	**-0.3**
PSI				ScP	**ScP**	**11 03 00.6**	**-0.9**
PSI	**Prapat**	**27.63 269**		P	**P**	**10 56 07.0**	**+0.1**
	comp=Z,50nm,1.2s,comp=Z,989nm						
PSI	**Prapat**	**27.63 269**		P	**P**	**10 56 06.6**	**-0.3**
	comp=Z,30nm,1.0s,baz=95,slow=4.7,SNR=17						
PSI				ScP	**ScP**	**11 03 00.6**	**-0.9**
	comp=Z,11nm,1.1s,baz=128,slow=4.2,SNR=5.5						
TSI	**Tuntungan**	**27.96 270**		P	P	10 56 21.0	+11
AS31	**Alice Springs**	**28.30 166**	*e*	P	**P**	**10 56 10.9**	**-1.7**
AS31			*e*	S	**S**	**11 00 50.6**	**-5.7**
ASAR	**Alice Springs**	**28.30 166**		P	**P**	**10 56 10.8**	**-1.7**
ASAR				PcP	**PcP**	**10 59 25.9**	**+0.8**
ASAR	**Alice Springs**	**28.30 166**		P	**P**	**10 56 10.8**	**-1.7**
	comp=Z,5.4nm,0.7s,baz=345,slow=7.1,SNR=49						
ASAR				PcP	**PcP**	**10 59 25.9**	**+0.8**
	comp=Z,1.1nm,0.5s,baz=339,slow=1.0,SNR=2.5						
WHN	**Wuhan**	**28.93 338**	⇓	P	**P**	**10 56 19.0**	**+1.0**
WHN				*e*S	**S**	**11 01 10.3**	**+4.3**
WHN				pmax	pmax		
	comp=Z,63nm,0.9s						
WHN				LR	LR		
	comp=N,4μm,23.9s						
WHN				LR	LR		
	comp=E,3μm,19.4s						
WHN				LR	LR		
	comp=Z,4μm,20.4s						
NJ2	**Nanjing**	**28.95 346**	*e*	P	**P**	**10 56 19.5**	**+1.3**
NJ2				pP	**pP**	**10 56 29.0**	**-0.3**
NJ2				sP	**sP**	**10 56 33.0**	**-1.2**
NJ2				S	**S**	**11 01 06.0**	**-0.3**
NJ2				sS	**sS**	**11 01 22.0**	**-2.8**
NJ2				pmax	pmax		
	comp=Z,40nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,220nm,6.6s						
NJ2				LR	LR		
	comp=N,940nm,17.5s						
NJ2				LR	LR		
	comp=E,1μm,22.5s						
NJ2				LR	LR		
	comp=Z,1μm,23.8s						
GSI	**Gunungsitoli**	**29.09 266**		P	**P**	**10 56 19.9**	**+0.2**
	comp=Z,57nm,1.3s						
JNU	**Nakatsue**	**29.36 7**		P	**P**	**10 56 22.2**	**+0.3**
JNU	**Nakatsue**	**29.36 7**		P	**P**	**10 56 22.2**	**+0.3**
	comp=Z,52nm,1.2s,baz=164,slow=5.4,SNR=10						
JNU				LR	LR	11 07 03.8	
	comp=Z,696nm,21.8s,baz=177,slow=34						
GYA	**Guiyang**	**29.46 322**	*e*	P	**P**	**10 56 23.3**	**+0.3**
GYA				pP	**pP**	**10 56 34.8**	**+0.7**
GYA				PP	**PnPn**	**10 57 21.3**	**+3.0**
GYA				PcP	**PcP**	**10 59 30.0**	**+1.9**
GYA				S	**S**	**11 01 15.5**	**+0.8**
GYA				sS	**sS**	**11 01 33.0**	**-0.3**
GYA				SS	**SnSn**	**11 02 50.8**	**+6.4**
GYA				pmax	pmax		
	comp=Z,30nm,0.8s						
GYA				pmax	pmax		
	comp=Z,140nm,4.8s						
GYA				LR	LR		
	comp=N,590nm,18.7s						
GYA				LR	LR		
	comp=E,800nm,19.0s						
GYA				LR	LR		
	comp=Z,1μm,19.0s						
CMAR	**Chiang Mai Arr**	**30.67 300**		P	**P**	**10 56 33.7**	**0.0**
CMAR				PcP	**PcP**	**10 59 28.9**	**-2.3**
CMAR				ScP	**ScP**	**11 03 11.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**30.67 300**		P	**P**	**10 56 33.7**	**0.0**
	comp=Z,16nm,1.1s,baz=122,slow=7.6,SNR=73						
CMAR				PcP	**PcP**	**10 59 28.9**	**-2.3**
	comp=Z,2.6nm,0.9s,baz=99,slow=5.6,SNR=3.1						
CMAR				ScP	**ScP**	**11 03 11.3**	**+0.4**
	comp=Z,8.7nm,1.1s,baz=143,slow=1.9,SNR=14						
CMAR				LR	LR	11 08 42.1	
	comp=Z,752nm,22.0s,baz=319,slow=36						
CTA	**Charters Tower**	**30.68 142**		ScP	**ScP**	**11 03 11.6**	**+0.8**
CTA	**Charters Tower**	**30.68 142**	*e*	P	**P**	**10 56 35.2**	**+1.5**
CTA	**Charters Tower**	**30.68 142**		ScP	**ScP**	**11 03 11.6**	**+0.8**
	comp=Z,20nm,1.1s,baz=296,slow=3.0,SNR=3.9						
CTAO	**Charters Tower**	**30.68 142**	*e*	P	**P**	**10 56 34.4**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,20nm,0.9s						
CTAO	**Charters Tower**	**30.68 142**	*e*	P	**P**	**10 56 34.4**	**+0.7**
	comp=Z,20nm,0.9s						
CHTO	**Chiang Mai**	**30.82 301**	*e*	P	**P**	**10 56 35.3**	**+0.3**
CHTO			*e*			11 03 11.0	
CHTO				pmax	pmax		
	comp=Z,33nm,0.9s						
CHTO	**Chiang Mai**	**30.82 301**	*e*	P	**P**	**10 56 35.3**	**+0.3**
	comp=Z,33nm,0.9s						
CHTO			*e*	PcP	PcP	10 59 50.0	+18
CHTO			*e*	ScP	**ScP**	**11 03 11.0**	**-0.4**
CHTO	**Chiang Mai**	**30.82 301**		P	**P**	**10 56 35.4**	**+0.5**
	SNR=20						
CHTO	**Chiang Mai**	**30.82 301**		P	**P**	**10 56 35.2**	**+0.3**
ENH	**Enshi**	**30.82 330**	*e*	P	**P**	**10 56 34.8**	**-0.1**
	comp=Z,55nm,1.1s						
KMI	**Kunming**	**31.17 315**		P	**P**	**10 56 40.3**	**+2.1**
KMI				pP	**pP**	**10 56 49.3**	**-0.1**
KMI				sP	**sP**	**10 56 54.3**	**+0.1**
KMI				PP	**PnPn**	**10 57 42.3**	**+1.3**
KMI				S	**S**	**11 01 40.3**	**-1.5**
KMI				sS	**sS**	**11 01 56.8**	**-3.6**
KMI				pmax	pmax		
	comp=Z,22nm,1.3s						
KMI				pmax	pmax		
	comp=Z,120nm,4.9s						
KMI				LR	LR		
	comp=N,300nm,18.4s				

CD2 LR LR
comp=Z,2µm,18.8s
FORT Forrest 34.50 178 *e*P **P 10 57 06.5 -0.5**
comp=Z,77nm,0.6s
FORT Forrest 34.50 178⇑ *i*P **P 10 57 06.4 -0.5**
KLBR Kellerberrin 36.27 193⇑ *i*P **P 10 57 21.8 -0.4**
BJT Baijiatuan 37.18 347 *e*P **P 10 57 30.6 +0.7**
comp=Z,54nm,0.5s
BJI Beijing 37.20 347 P **P 10 57 30.8 +0.8**
BJI pP **pP 10 57 39.5 -1.8**
BJI sP **sP 10 57 44.3 -1.8**
BJI S **S 11 03 11.8 -2.4**
BJI ScS **ScS 11 07 43.0 +1.9**
BJI pmax pmax
comp=Z,110nm,1.0s
BJI pmax pmax
comp=Z,220nm,3.7s
BJI LR LR
comp=N,400nm,25.1s
BJI LR LR
comp=E,580nm,22.1s
BJI LR LR
comp=Z,720nm,24.3s
BJI LR LR
comp=Z,2µm,21.4s
EIDS Eidsvold 37.56 142 *e*P **P 10 57 32.3 -1.0**
comp=Z,72nm,1.4s
BBOO Buckleboo 37.58 167 *e*P **P 10 57 33.0 -0.3**
comp=Z,472nm,0.6s
IMP Imphal 37.66 307 *ex* P 10 57 31.0 -3.3
IMP *ex* x 11 00 03.0
NWAO Narrogin (SRO) 37.67 193 *e*P **P 10 57 34.0 -0.1**
comp=Z,20nm,0.7s
SNY Shenyang 37.87 356⇑P **P 10 57 37.5 +1.8**
SNY S **S 11 03 26.3 +2.0**
SNY SS **SS 11 06 09.0 -2.0**
SNY pmax pmax
comp=Z,47nm,1.1s
SNY pmax pmax
comp=Z,420nm,3.5s
SNY LR LR
comp=E,790nm,22.4s
SNY LR LR
comp=Z,810nm,23.3s
LZH Lanzhou 38.30 330⇑P **P 10 57 40.0 +0.4**
LZH pP **pP 10 57 48.5 -2.4**
LZH sP **sP 10 57 52.0 -3.7**
LZH PP **PnPn 10 59 10.3 +0.7**
LZH S **S 11 03 32.5 +1.2**
LZH sS **sS 11 03 48.5 -1.5**
LZH pmax pmax
comp=Z,35nm,1.1s
LZH pmax pmax
comp=Z,170nm,4.2s
LZH LR LR
comp=N,2µm,16.7s
LZH LR LR
comp=E,1µm,17.3s
LZH LR LR
comp=Z,3µm,18.1s
STKA Stephens Creek 38.33 159 P **P 10 57 39.5 -0.1**
STKA Stephens Creek 38.33 159 *e*P **P 10 57 38.9 -0.7**
STKA *e*S **S 11 03 28.9 -2.5**
STKA Stephens Creek 38.33 159 P **P 10 57 39.5 -0.1**
comp=Z,48nm,1.0s,baz=339,slow=7.5,SNR=34
HHC Hu-ho-hao-te 39.21 342 *e*P **P 10 57 47.5 +0.4**
HHC pP **pP 10 57 57.5 -0.9**
HHC sP **sP 10 58 01.3 -1.9**
HHC PP **PnPn 10 59 22.0 +1.6**
HHC PcP **PcP 10 59 55.3 -0.5**
HHC S **S 11 03 47.3 +2.6**
HHC sS **sS 11 04 02.8 -0.8**
HHC SS **SS 11 06 35.0 -4.1**
HHC pmax pmax
comp=Z,19nm,1.0s
HHC pmax pmax
comp=Z,220nm,4.9s
HHC LR LR
comp=N,890nm,20.2s
HHC LR LR
comp=E,680nm,22.6s
HHC LR LR
comp=Z,1µm,21.4s
VLA Vladivostok 39.35 6*d i*P **P 10 57 48.7 +0.6**
VLA pmax pmax
comp=Z,23nm,1.7s
CN2 Changchun 39.76 359 *e*P **P 10 57 52.0 +0.5**
CN2 *es*P **sP 10 58 06.0 -1.7**
CN2 PP **PnPn 10 59 29.0 +2.2**
CN2 *e*S **S 11 03 54.8 +2.1**
CN2 SS **SS 11 06 47.0 -2.9**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,17.0s
CN2 LR LR
comp=E,500nm,17.0s
CN2 LR LR
comp=Z,500nm,19.0s
USRK Ussuriysk Arra 40.43 6 P **P 10 57 58.3 +1.3**
comp=Z,13nm,0.8s,baz=192,slow=7.8,SNR=21
MDJ Mudanjiang 40.65 3 P **P 10 57 59.8 +0.9**
MDJ pP **pP 10 58 08.5 -1.7**
MDJ sP **sP 10 58 12.5 -2.5**
MDJ ScP **ScP 11 03 48.0 +1.4**
MDJ PcS **PcS 11 03 51.5 +0.8**
MDJ S **S 11 04 09.0 +3.0**
MDJ sS **sS 11 04 24.0 -0.9**
MDJ pmax pmax
comp=Z,32nm,1.2s
MDJ pmax pmax
comp=Z,95nm,4.3s
MDJ LR LR
comp=N,540nm,29.2s
MDJ LR LR
comp=E,400nm,26.1s
MDJ LR LR
comp=Z,800nm,30.6s
MDJ Mudanjiang 40.65 3 *e*P **P 10 57 59.8 +0.9**
comp=Z,64nm,0.9s
ARMA Armidale 41.67 147 *e*P **P 10 58 08.4 +0.8**
comp=Z,42nm,0.9s
ARMA *e*ScP **ScP 11 03 52.2 +1.1**
ARMA Armidale 41.67 147 *e*P **P 10 58 08.4 +0.8**
LSA Lhasa 42.23 311 P **P 10 58 12.8 +0.2**
LSA Lhasa 42.23 311 *e*P **P 10 58 13.0 +0.4**
LSA pmax pmax
comp=Z,29nm,0.7s
LSA Lhasa 42.23 311 *e*P **P 10 58 13.0 +0.4**
comp=Z,29nm,0.7s
ASAJ Asahikawa 42.49 17 *e*P **P 10 58 15.1 +1.2**
comp=Z,15nm,0.9s
ASAJ Asahikawa 42.49 17 LR LR 11 14 09.1
comp=Z,806nm,21.3s,baz=205,slow=34
GTA Gaotai 42.89 329 *e*P **P 10 58 17.0 -0.4**
GTA pP **pP 10 58 26.3 -2.6**
GTA sP **sP 10 58 30.8 -2.8**
GTA S **S 11 04 38.0 -1.6**
GTA sS **sS 11 04 55.0 -3.5**
GTA ScS **ScS 11 08 14.3 -1.0**
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA pmax pmax
comp=Z,110nm,6.2s
GTA LR LR
comp=N,840nm,23.5s
GTA LR LR
comp=E,1µm,20.0s
GTA LR LR
comp=Z,2µm,21.9s
YUK Yuzh-Kuril'sk 43.46 20 *i* P P 10 58 17.2 -4.5
YUK *i* S **S 11 04 42.9 -4.5**
YUK *i* SS SS 11 07 50.8 -12
YUK pmax pmax
comp=E,83nm,1.3s
YUK pmax pmax
comp=Z,204nm,1.3s
YUK pmax pmax
comp=N,35nm,0.6s
YUK MLR MLR
comp=E,107nm,21.0s
YUK MLR MLR
comp=N,410nm,21.0s
YUK MLR MLR
comp=Z,575nm,20.0s
TAPN Taplejung 43.81 306 *e*P **P 10 58 25.0 -0.2**
comp=Z,70nm,0.9s
TAPN Taplejung 43.81 306 *e*P **P 10 58 25.0 -0.2**
comp=Z,70nm,0.9s
ODAN Odare 43.86 305 *e*P **P 10 58 25.4 -0.2**
comp=Z,70nm,0.6s
ODAN Odare 43.86 305 *e*P **P 10 58 25.4 -0.2**
comp=Z,70nm,0.6s
CAN Canberra 44.31 153 *e*P **P 10 58 30.0 +1.2**
CAN pmax pmax
comp=Z,110nm,1.5s
CAN Canberra 44.31 153 *e*P **P 10 58 30.0 +1.2**
comp=Z,110nm,1.5s
CNB Canberra Magne 44.47 153 *e*P **P 10 58 30.9 +0.8**
RAMN Ramite 44.54 305 *e*P **P 10 58 31.0 -0.1**
comp=Z,144nm,1.3s
RAMN Ramite 44.54 305 *e*P **P 10 58 31.0 -0.1**
comp=Z,144nm,1.3s
TOO Toolangi 44.84 159 *e*P **P 10 58 34.2 +1.3**
HABR Khabarovsk 45.01 8 *e*P **P 10 58 32.8 -1.3**
HABR *e**PP **pP 10 58 46.0 +0.4**
HABR *e* 11 00 12.6
HABR *e* 11 00 18.9
HABR *e*PPP PPP 11 00 58.1
HABR *e*S **S 11 05 08.6 -1.3**
HABR *e**SS **sS 11 05 31.7 +2.7**
HABR *e* 11 08 25.4
HABR pmax pmax
comp=Z,78nm,1.8s
HABR MLR MLR
comp=Z,310nm,20.0s
YSS Yuzh-Sakhalins 45.13 16⇑ *e*P **P 10 58 36.6 +1.5**
YSS *e**SP **sP 10 58 54.0 +2.6**
YSS *e*S **S 11 05 14.0 +2.3**
YSS *e*SS **ScS 11 08 28.0 -0.7**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,400nm,19.0s
YSS Yuzh-Sakhalins 45.13 16 *e*P **P 10 58 36.5 +1.4**
comp=Z,21nm,0.6s
JIRN Jiri 45.16 306 *e*P **P 10 58 35.8 -0.3**
comp=Z,12nm,0.6s
JIRN Jiri 45.16 306 *e*P **P 10 58 35.8 -0.3**
comp=Z,12nm,0.6s
KLR Kul'dur 45.40 5 *e*P P 10 58 33.9 -3.3
KLR *e*S **S 11 05 11.0 -4.5**
KLR pmax pmax
comp=Z,57nm,1.6s
GUN Gumba 45.52 306 *e*P **P 10 58 38.6 -0.3**
comp=Z,76nm,0.7s
GUN Gumba 45.52 306 *e*P **P 10 58 38.6 -0.3**
comp=Z,76nm,0.7s
HIA Hailar 45.59 354 *e*P **P 10 58 40.3 +1.6**
comp=Z,71nm,1.1s
PKI Pulchoki 45.76 305 *e*P **P 10 58 39.9 -0.9**
PKI Pulchoki 45.76 305 *e*P **P 10 58 39.9 -0.9**
PKI Pulchoki 45.76 305 *e*P **P 10 58 39.9 -0.9**
KKN Kakani 45.95 306 *e*P **P 10 58 41.5 -0.7**
comp=Z,43nm,0.8s
KKN Kakani 45.95 306 *e*P **P 10 58 41.5 -0.7**
KKN pmax pmax
comp=Z,43nm,0.8s
KKN Kakani 45.95 306 *e*P **P 10 58 41.5 -0.7**
comp=Z,43nm,0.8s
DMN Daman 46.02 305 *e*P **P 10 58 42.1 -0.7**
comp=Z,76nm,1.2s
DMN Daman 46.02 305 *e*P **P 10 58 42.1 -0.7**
comp=Z,76nm,1.2s
GKN Gorkha 46.56 306 *e*P **P 10 58 46.0 -0.9**
GKN Gorkha 46.56 306 *e*P **P 10 58 46.0 -0.9**
DZM Mont Dzumac 46.74 125 *e*P **P 10 58 49.3 +1.0**
comp=Z,147nm,1.2s
DZM *e*S **S 11 05 37.8 +2.0**
comp=Z,548nm,29.1s
DZM *e*LR LR 11 11 58.2
comp=Z,1µm,25.6s
DZM Mont Dzumac 46.74 125 *e*P **P 10 58 49.0 +0.8**
comp=Z,43nm,0.7s
DZM Mont Dzumac 46.74 125 P **P 10 58 49.1 +0.8**
comp=Z,51nm,1.0s
ULN Ulaanbaatar 46.93 342 *e*P **P 10 58 49.8 +0.3**
comp=Z,20nm,0.9s
ULN Ulaanbaatar 46.93 342 P **P 10 58 50.1 +0.6**
SNR=16
SONM Songino Array 47.11 341 P **P 10 58 50.7 -0.1**
SONM PcP **PcP 11 00 23.3 +1.1**
SONM ScP **ScP 11 04 12.9 -0.2**
SONM Songino Array 47.11 341 P **P 10 58 50.7 -0.1**
comp=Z,7.7nm,0.7s,baz=153,slow=9.1,SNR=49
SONM PcP **PcP 11 00 23.3 +1.1**
comp=Z,4.2nm,0.8s,baz=157,slow=8,SNR=3.7
SONM ScP **ScP 11 04 12.9 -0.2**
comp=Z,1.9nm,1.1s,baz=151,slow=3.3,SNR=4.2
KOLN Koldanda 47.32 305 *e*P **P 10 58 52.6 -0.3**
comp=Z,51nm,0.4s
KOLN Koldanda 47.32 305 *e*P **P 10 58 52.6 -0.3**
comp=Z,51nm,0.4s
DANN Dangsing 47.41 306 *e*P **P 10 58 53.2 -0.5**
comp=Z,112nm,0.7s
DANN Dangsing 47.41 306 *e*P **P 10 58 53.2 -0.5**
comp=Z,112nm,0.7s
PYUN Piuthan 47.94 305 *e*P **P 10 58 57.4 -0.3**
comp=Z,257nm,1.2s
PYUN Piuthan 47.94 305 *e*P **P 10 58 57.4 -0.3**
comp=Z,257nm,1.2s
HYB Hyderabad 48.93 290 *i* P **P 10 59 03.0 -2.3**
HYB *e*S **S 11 06 05.0 -1.8**
ZAK Zakamensk 50.33 341 *e*P **P 10 59 15.4 -0.1**
ZAK *e* 11 00 33.9
ZAK pmax pmax
comp=Z,7.0nm,1.2s
LATR Latur 50.97 291 *e*PKP **P 10 59 20.2 -0.5**
TLY Talaya 51.34 342 *e*P **P 10 59 23.3 +0.3**
TLY pmax pmax
comp=Z,26nm,0.9s
TLY MLR MLR
comp=Z,368nm,20.0s
TLY Talaya 51.34 342 *e*P **P 10 59 23.7 +0.8**
comp=Z,24nm,0.9s
TLY Talaya 51.34 342 P **P 10 59 23.8 +0.8**
SNR=11
IRK Irkutsk 51.64 343 *e*P **P 10 59 25.9 +0.7**
IRK pmax pmax
comp=Z,57nm,2.0s
AGRA Agra 51.85 302 *e*PKP **P 10 59 26.2 -1.0**
AGRA AMb AMB 10 59 27.9
comp=Z,55nm,0.4s
MOY Mondy 52.19 340 *e*P **P 10 59 30.1 +0.7**
MOY pmax pmax
comp=Z,23nm,1.5s
WMQ Urumqi 52.52 325 P **P 10 59 32.5 +0.6**
WMQ pP **pP 10 59 43.5 -0.1**
WMQ sP **sP 10 59 49.0 +0.7**
WMQ PcP **PcP 11 00 42.0 0.0**
WMQ PP **PP 11 01 33.0 +1.8**
WMQ S **S 11 06 55.0 -0.9**
WMQ ScS **ScS 11 09 17.0 -1.7**
WMQ pmax pmax
comp=Z,27nm,0.9s
WMQ pmax pmax
comp=Z,210nm,3.6s
WMQ LR LR
comp=N,2µm,20.2s
WMQ LR LR
comp=E,870nm,19.5s
WMQ LR LR
comp=Z,970nm,25.0s
DDI Dehra Dun 52.76 306 *e*PKP **P 10 59 32.2 -1.8**
CLNS Chul'man 52.82 359 *e*P **P 10 59 34.7 +0.8**
CLNS *e* 11 00 43.5
CLNS *e* 11 01 29.7
CLNS *e*PPP PPP 11 02 41.8
CLNS *e*S **S 11 06 59.9 +0.4**
CLNS pmax pmax
comp=Z,19nm,1.0s
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,1.1s
CLNS pmax pmax
comp=E,7.0nm,1.2s
CLNS pmax pmax
comp=Z,8.0nm,1.2s
CLNS pmax pmax
comp=N,14nm,1.1s
CLNS smax smax
comp=E,290nm,11.6s
CLNS smax smax
comp=N,196nm,12.9s
CLNS MLR MLR
comp=N,158nm,14.0s
CLNS MLR MLR
comp=E,91nm,12.0s
CLNS MLR MLR
comp=Z,143nm,16.0s
NDI New Delhi 52.91 303 *e*PKP **P 10 59 33.0 -2.1**
AYAN Aya Nagar 52.93 303 *e*PKP **P 10 59 34.5 -0.6**
AYAN AMb AMB 10 59 35.9
comp=Z,56nm,1.3s
KAD Karad 53.03 289 *e*PKP **P 10 59 34.9 -1.2**
BHGR Bahadurgarh 53.15 303 *e*PKP **P 10 59 35.7 -1.1**
KUDL Kundal 53.36 302 *e*PKP **P 10 59 37.0 -1.3**
KUDL AMb AMB 10 59 38.0
comp=Z,91nm,1.1s
POO Poona 53.52 290⇓ *i*x x 10 59 37.0
comp=Z,90nm,1.0s
KKR Kurukshetra 53.65 305 *e*PKP **P 10 59 40.1 -0.4**
SMLA Simla 53.76 306 *i* P **P 10 59 41.1 0.0**
KHET Khetri 53.91 302 *e*PKP **P 10 59 41.6 -0.8**
KHET AMb AMB 10 59 43.1
comp=Z,92nm,1.2s
SDNR Sundarnagar 54.04 307 *e*PKP **P 10 59 43.5 +0.2**
AJM Ajmer 54.47 300 *e*PKP **P 10 59 45.0 -1.5**
BOD Bodaibo 54.69 352⇓ *i*P **P 10 59 48.3 +0.8**
BOD pmax pmax
comp=Z,49nm,1.3s
MSVF Nonsavu 55.11 115 *e*P **P 10 59 52.5 +1.2**
MSVF pmax pmax
comp=Z,50nm,0.9s
MSVF Nonsavu 55.11 115 *e*P **P 10 59 52.5 +1.2**
comp=Z,50nm,0.9s
MSVF Nonsavu 55.11 115 P **P 10 59 52.9 +1.6**
comp=Z,322nm,0.9s,SNR=11
DLH Dalhousie 55.20 307 *e*PKP **P 10 59 51.0 -0.9**
PETK Petropavlovsk- 55.34 22 P **P 10 59 53.0 +0.7**
PETK Petropavlovsk- 55.34 22 P **P 10 59 53.0 +0.7**
PETK Petropavlovsk- 55.34 22 P **P 10 59 53.0 +0.7**
comp=Z,14nm,0.7s,baz=181,slow=5.0,SNR=19
PETK LR LR 11 22 54.6
comp=Z,208nm,19.9s,baz=216,slow=35
PET Petropavlovsk 55.64 23 *e*P **P 10 59 54.8 +0.4**
PET *e*S **S 11 07 38.5 +0.9**
PET *e*SS **SS 11 11 23.8 +0.5**
PET pmax pmax
comp=Z,25nm,1.3s
PET pmax pmax
comp=Z,100nm,13.4s
MK31 Makanchi Array 57.35 325 *e*P **P 11 00 06.1 -0.7**
MK31 *e*S **S 11 08 00.2 -0.3**
MK31 Makanchi Array 57.35 325 *e*P **P 11 00 06.1 -0.7**
MK31 *e*ScP **ScP 11 04 55.7 -1.6**
MK31 *e*S **S 11 08 00.2 -0.3**
MKAR Makanchi Array 57.35 325 P **P 11 00 06.2 -0.6**
MKAR Makanchi Array 57.35 325 P **P 11 00 06.2 -0.6**
MKAR ScP **ScP 11 04 56.7 -0.6**
MKAR Makanchi Array 57.35 325 P **P 11 00 06.2 -0.6**
comp=Z,6.2nm,0.4s,baz=119,slow=7.0,SNR=51
MKAR ScP **ScP 11 04 56.7 -0.6**
comp=Z,3.2nm,0.8s,baz=119,slow=4.7,SNR=4.9
MKAR LR LR 11 27 52.2
comp=Z,807nm,20.0s,baz=111,slow=39
KSH Kashi 57.83 315 P **P 11 00 11.8 +1.4**
KSH pP **pP 11 00 22.5 +0.2**
KSH sP **sP 11 00 25.8 -1.2**
KSH PcP **PcP 11 01 03.0 +0.3**
KSH PP **PP 11 02 22.5 +3.5**
KSH ScP **ScP 11 05 00.3 +0.5**
KSH PcS **PcS 11 05 03.0 -1.1**
KSH S **S 11 08 08.5 +1.2**
KSH sS **sS 11 08 25.5 -1.4**
KSH ScS **ScS 11 09 55.0 -2.1**
KSH SS **SS 11 12 01.5 +2.9**
KSH pmax pmax
comp=Z,45nm,1.2s
KSH LR LR
comp=N,510nm,17.2s
KSH LR LR
comp=E,180nm,8.1s
KSH LR LR
comp=Z,700nm,19.8s
YAK Yakutsk 58.06 2 *e*P **P 11 00 12.2 +0.8**
YAK *e**PP **pP 11 00 24.1 +0.9**
YAK *e* 11 01 00.1
YAK *e* 11 02 27.2
YAK *e*PPP PPP 11 03 45.2
YAK *e*S **S 11 08 11.7 +2.5**
YAK *e**SS **sS 11 08 30.0 +1.2**
YAK *e* 11 09 55.0
YAK *e*SS **SS 11 12 04.0 +3.0**
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=N,20nm,1.3s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=Z,29nm,1.5s
YAK pmax pmax
comp=N,50nm,1.8s
YAK pmax pmax
comp=E,32nm,1.6s
YAK smax smax
comp=E,282nm,2.4s
YAK smax smax
comp=N,180nm,1.8s
YAK Yakutsk 58.06 2 *e*P **P 11 00 12.1 +0.8**
comp=N,156nm,1.0s
ULHL Ulahol 58.81 318 P **P 11 00 17.7 +0.3**
SNR=13
KZA Kyzart 59.40 318 P **P 11 00 21.9 +0.2**
SNR=40
TKM2 Tokmak 2 59.53 319 *i* P **P 11 00 22.0 -0.3**
TKM2 Tokmak 2 59.53 319 *e*P **P 11 00 21.8 -0.6**
comp=N,33nm,1.0s
TKM2 Tokmak 2 59.53 319 P **P 11 00 22.0 -0.3**
SNR=38
KBK Karagaybulak 59.85 318 P **P 11 00 25.8 +1.4**
SNR=10
UCH Uchtor 59.96 317 P **P 11 00 27.2 +1.6**
SNR=8.7
CHMS Chumysh 60.13 318 P **P 11 00 26.9 +0.7**
SNR=9.2
AAK Ala-Archa 60.14 318*ce*P **P 11 00 26.3 -0.2**
AAK pmax pmax
comp=Z,79nm,1.7s
AAK Ala-Archa 60.14 318 *e*P **P 11 00 26.2 -0.2**
comp=Z,158nm,1.4s
AAK Ala-Archa 60.14 318 P **P 11 00 26.1 -0.4**
comp=Z,91nm,1.5s,SNR=13
AAK Ala-Archa 60.14 318 P **P 11 00 27.3 +0.8**
SNR=20
AAK Ala-Archa 60.14 318 P **P 11 00 27.2 +0.7**
SNR=16
AAK Ala-Archa 60.14 318 P **P 11 00 27.0 +0.5**
comp=Z,8.4nm,1.0s,baz=118,slow=5.7,SNR=27
AAK LR LR 11 27 32.0
comp=Z,507nm,21.2s,baz=82,slow=37
ZALV Zalesovo Beam 60.38 333 P **P 11 00 26.2 -1.5**
ZALV Zalesovo Beam 60.38 333 P **P 11 00 26.1 -1.5**
ZALV Zalesovo Beam 60.38 333 P **P 11 00 26.2 -1.5**
comp=Z,4.7nm,0.6s,baz=121,slow=5.9,SNR=20
ZALV LR LR 11 30 31.9
comp=Z,483nm,19.9s,baz=123,slow=40
USP Ospenovka 60.41 318 P **P 11 00 29.1 +0.9**
SNR=21
AML Almayashu 60.48 317 P **P 11 00 29.1 +0.1**
SNR=58
EKS2 Erkin-Say 60.64 318 *e*P **P 11 00 29.7 -0.1**
EKS2 pmax pmax
comp=Z,44nm,1.0s
EKS2 Erkin-Say 60.64 318 *e*P **P 11 00 29.7 -0.1**
comp=Z,44nm,1.0s
EKS2 Erkin-Say 60.64 318 P **P 11 00 29.6 -0.3**
SNR=41
KBL Kabul 61.31 307 *e*P **P 11 00 33.6 -1.1**
KBL pmax pmax
comp=Z,64nm,1.2s
KBL Kabul 61.31 307 *e*P **P 11 00 33.6 -1.1**

comp=Z,64nm,1.2s
KURBB **Kurchatov Arra** 61.53 327 P P 11 00 34.7 -0.8
comp=Z,33nm,0.9s,baz=126,slow=5.9,SNR=50
KURK **Kurchatov** 61.53 328*c*eP P 11 00 34.8 -0.7
KURK pmax pmax
comp=Z,56nm,1.0s
KURK **Kurchatov** 61.53 328 *e*P P 11 00 34.9 -0.6
KURK **Kurchatov** 61.53 328 P P 11 00 35.2 -0.3
SNR=25
KURK **Kurchatov** 61.53 328 P P 11 00 34.0 -1.5
comp=Z,297nm,1.2s,SNR=46
NVS **Novosibirsk** 61.67 333⇑*i*P P 11 00 34.6 -1.7
NVS *i* S S 11 08 51.1 -4.8
NVS *i* 11 10 18.7
NVS pmax pmax
comp=Z,36nm,1.5s
NVS pmax pmax
comp=N,24nm,1.3s
NVS pmax pmax
comp=E,26nm,1.2s
NVS smax smax
comp=N,23nm,2.0s
NVS smax smax
comp=E,53nm,2.0s
SEY **Seymchan** 61.92 13*c*eP P 11 00 40.0 +2.1
RPZ **Rata Peaks** 61.97 145 *e*P P 11 00 38.3 -0.3
comp=E,30nm,1.0s
KK31 **Karatay Array** 63.02 317 *i* P P 11 00 45.0 -0.7
KK31 pmax pmax
comp=Z,33nm,1.0s
KKAR **Karatay Array** 63.02 317 *e*P P 11 00 45.1 -0.6
KKAR pmax pmax
comp=Z,55nm,1.1s
KKAR **Karatay Array** 63.02 317 *e*P P 11 00 45.1 -0.6
comp=Z,55nm,1.1s
VOSK **Vostochnaya** 66.66 327 P P 11 01 08.1 -1.1
VOSK pmax pmax
comp=Z,21nm,0.8s
BVAR **Borovoye Array** 67.11 327 P P 11 01 11.2 -0.8
BVAR **Borovoye Array** 67.11 327 P P 11 01 11.2 -0.8
BVAR **Borovoye Array** 67.11 327 P P 11 01 11.2 -0.8
comp=Z,34nm,0.9s,baz=126,slow=7.7,SNR=74
BVAR LR LR 11 31 31.2
comp=Z,279nm,20.9s,baz=112,slow=37
BRVK **Borovoye** 67.18 327 *e*P P 11 01 12.1 -0.4
BRVK *e* 11 01 40.0
BRVK pmax pmax
comp=Z,69nm,1.0s
BRVK **Borovoye** 67.18 327 *e*P P 11 01 12.1 -0.4
comp=Z,69nm,1.0s
BRVK *e*PcP PcP 11 01 40.0 -0.3
BRVK **Borovoye** 67.18 327 P P 11 01 12.6 +0.1
comp=Z,348nm,1.1s,SNR=30
BRVK **Borovoye** 67.18 327 P P 11 01 12.2 -0.4
SNR=26
ZRNK **Zerenda** 67.84 327 P P 11 01 15.8 -0.8
ZRNK pmax pmax
comp=Z,43nm,1.0s
WSAR **Wadi Sarin** 68.23 293 P P 11 01 17.8 -1.9
WSAR **Wadi Sarin** 68.23 293 P P 11 01 17.8 -1.9
comp=Z,7.3nm,1.0s,baz=82,slow=5.4,SNR=4.2
WSAR LR LR 11 29 53.7
comp=Z,264nm,21.6s,baz=110,slow=35
IDAH **Dahanechah** 68.37 304 *e*P P 11 01 19.5 -1.2
JMDO **Jabal Madar** 68.64 292 P P 11 01 21.0 -1.3
SNR=5.7
IMYA **Miami** 68.83 307 *e*P P 11 01 23.1 -0.3
ISRO **Mashad** 69.32 307 *e*P P 11 01 25.7 -0.7
BILL **Bilibino** 69.44 15 *e*P P 11 01 27.9 +1.6
BILL *i* 11 01 50.9
BILL pmax pmax
comp=Z,5.0nm,0.9s
BILL **Bilibino** 69.44 15 *e*P P 11 01 27.6 +1.3
comp=Z,5.4nm,0.6s
IKRD **Kardeh** 70.17 308 *e*P P 11 01 26.4 -5.3
DRV **Dumont d'Urvil** 71.04 174 S S 11 10 30.0 -19
DRV SS SS 11 15 37.0 +14
AB31 **Akbulak array** 71.94 321 P P 11 01 40.8 -1.1
AB31 pmax pmax
comp=Z,7.0nm,0.6s
AKTO **Aktyubinsk** 73.45 322 P P 11 01 49.9 -0.9
AKTO pmax pmax
comp=Z,8.0nm,1.1s
AKTO **Aktyubinsk** 73.45 322 P P 11 01 50.4 -0.5
AKTO **Aktyubinsk** 73.45 322 P P 11 01 50.4 -0.5
comp=Z,26nm,0.9s,baz=109,slow=7.0,SNR=24
AKTO LR LR 11 34 42.4
comp=Z,222nm,21.0s,baz=281,slow=36
SVE **Sverdlovsk** 73.75 328⇑*i*P P 11 01 52.2 -0.3
SVE pmax pmax
comp=Z,53nm,1.2s
SVE MLR MLR
comp=Z,591nm,24.0s
GAMB **Gambell** 74.32 24 *e*P P 11 01 57.9 +2.3
comp=Z,27nm,1.2s
ARU **Arti** 74.73 328*c* *i*P P 11 01 57.0 -1.1
ARU 11 04 41.6
ARU S S 11 11 30.8 -0.7
ARU SS SS 11 16 18.9 -0.7
ARU pmax pmax
comp=Z,50nm,1.2s
ARU MLR MLR
comp=Z,435nm,25.0s
ARU **Arti** 74.73 328 *e*P P 11 01 57.1 -1.1
comp=Z,36nm,0.9s
ARU **Arti** 74.73 328 P P 11 01 57.1 -1.1
comp=Z,208nm,0.8s,SNR=13
RAYN **Ar Rayn** 80.29 293 P P 11 02 28.9 -1.1
comp=Z,102nm,0.9s,SNR=8.8
OPO **Ambohidratompo** 81.21 251 LR LR 11 36 51.8
comp=Z,353nm,18.7s,baz=169,slow=34
ABPO **Ambohimpanom** 81.22 250 *e*P P 11 02 34.2 -1.0
ABPO pmax pmax
comp=Z,31nm,1.2s
ABPO **Ambohimpanom** 81.22 250 *e*P P 11 02 34.1 -1.0
comp=Z,31nm,1.2s
KDAK **Kodiak Island** 81.84 32 *e*P P 11 02 37.3 -0.1
comp=Z,21nm,0.8s
ZEI **Tsey** 82.01 312 *e*P P 11 02 38.5 -0.5
ZEI pmax pmax
comp=Z,13nm,1.0s
KBZ **Khabaz** 82.77 313 P P 11 02 42.2 -0.4
KBZ **Khabaz** 82.77 313 P P 11 02 42.2 -0.4
KBZ **Khabaz** 82.77 313 P P 11 02 42.2 -0.4
comp=Z,4.8nm,0.9s,baz=125,slow=6.4,SNR=7.3
KBZ LR LR 11 45 40.7
comp=Z,353nm,21.0s,baz=177,slow=40
KIV **Kislovodsk** 82.93 314 *e*P P 11 02 47.1 +3.5
KIV *i* S S 11 13 01.9 +2.2
KIV *e*SS SS 11 18 24.6 +1.2
KIV pmax pmax
comp=Z,6.0nm,1.0s
SLKM **Skilak Lake** 83.28 30 *e*P P 11 02 45.7 +0.7
SLKM **Skilak Lake** 83.28 30 *e*P P 11 02 45.7 +0.7
TRF **Thorofare Moun** 83.47 27 *e*P P 11 02 46.0 -0.1
comp=Z,31nm,1.1s
RC01 **Rabbit Creek A** 83.56 29 *e*P P 11 02 47.0 +0.7
comp=Z,49nm,1.2s
VNDA **Vanda** 83.60 173 *e*P P 11 02 46.4 +0.2
comp=Z,8.1nm,0.8s
VNDA **Vanda** 83.60 173 P P 11 02 46.4 +0.2
comp=Z,7.4nm,1.1s,baz=310,slow=8.8,SNR=10
SEW **Seward** 83.64 30 *e*P P 11 02 47.5 +0.8
comp=Z,37nm,1.0s
COLD **Coldfoot** 83.81 23 *e*P P 11 02 49.5 +2.0
comp=Z,36nm,0.9s
VRHR **Novokhopersk** 83.83 321 *e*P P 11 02 46.5 -1.4
VRHR *e**SP sP 11 03 03.5 -1.3
VRHR *e*S SKSac 11 13 03.8 -3.9
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,20nm,0.8s
VRHR smax smax
comp=N,120nm,2.6s
VRHR smax smax
comp=E,100nm,2.6s
VRHR smax smax
comp=Z,60nm,2.6s
MAW **Mawson** 83.85 200 LR LR 11 37 13.9
comp=Z,192nm,18.9s,baz=216,slow=34
PMR **Palmer** 83.88 29 *e*P P 11 02 48.7 +0.8
PMR pmax pmax
comp=Z,39nm,1.2s
PMR **Palmer** 83.88 29 *e*P P 11 02 48.7 +0.8
comp=Z,39nm,1.2s
MCK **McKinley** 84.09 26 *e*P P 11 02 49.8 +0.7
MCK pmax pmax
comp=Z,41nm,1.0s
MCK **McKinley** 84.09 26 *e*P P 11 02 49.8 +0.7
comp=Z,41nm,1.0s
SML **Sawmill** 84.27 28 *e*P P 11 02 50.5 +0.5
SML pmax pmax
comp=Z,12nm,0.9s
SML **Sawmill** 84.27 28 *e*P P 11 02 50.5 +0.5
comp=Z,12nm,0.9s
COLA **College** 84.62 25 *e*P P 11 02 51.5 -0.1
COLA pmax pmax
comp=Z,9.0nm,0.9s
COLA **College** 84.62 25 *e*P P 11 02 51.5 -0.1
comp=Z,9.2nm,0.9s
ILAR **Eielson Array** 85.03 25 P P 11 02 53.3 -0.5
ILAR PKKPbc PKKPbc 11 21 00.0 -3.5
ILAR **Eielson Array** 85.03 25 P P 11 02 53.3 -0.5
comp=Z,3.4nm,0.9s,baz=265,slow=4.4,SNR=17
ILAR PKKPbc PKKPbc 11 21 00.0 -3.5
comp=Z,0.3nm,0.8s,baz=101,slow=1.8,SNR=4.1
ILAR LR LR 11 38 36.2
comp=Z,181nm,20.7s,baz=86,slow=34
KLMR **Klimovskoe** 85.20 331*c* *i*P P 11 02 54.3 -0.3
KLMR pmax pmax
comp=Z,200nm,1.5s
KLMR pmax pmax
comp=Z,78nm,4.7s
KLMR MLR MLR
comp=Z,532nm,22.0s
VORD **Divnogorie** 85.30 321 *e*P P 11 02 54.8 -0.5
VORD *e**PP pP 11 03 07.1 -0.6
VORD *e*S S 11 13 15.0 -7.9
VORD pmax pmax
comp=Z,30nm,1.1s
VORD pmax pmax
comp=N,60nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD smax smax
comp=N,450nm,4.1s
VORD smax smax
comp=E,270nm,4.1s
VORD smax smax
comp=Z,350nm,4.1s
PPT **Papeete** 85.30 108 LR LR 11 34 57.6
comp=Z,463nm,20.1s,baz=252,slow=31
PPT2 **Papeete2** 85.30 108 *e*S S 11 13 25.2 +0.8
comp=Z,182nm,24.8s
PPT2 *e*LR LR 11 29 56.7
comp=Z,747nm,25.5s,baz=286
VSR **Storozhevoye** 85.38 321 *e*P P 11 02 54.5 -1.2
VSR *e**PP pP 11 03 06.6 -1.5
VSR *e*S S 11 13 15.3 -8.4
VSR pmax pmax
comp=N,6.0nm,1.0s
VSR pmax pmax
comp=E,20nm,1.0s
VSR pmax pmax
comp=Z,40nm,1.0s
VSR smax smax
comp=N,180nm,2.8s
VSR smax smax
comp=Z,30nm,1.6s
VSR smax smax
comp=E,20nm,0.9s
DIV **Divide** 85.48 29 *e*P P 11 02 58.6 +2.4
comp=E,39nm,0.9s
PAX **Paxson** 85.63 27 *e*P P 11 02 58.0 +1.1
PAX pmax pmax
comp=Z,44nm,1.5s
PAX **Paxson** 85.63 27 *e*P P 11 02 58.0 +1.1
comp=Z,44nm,1.5s
TBI **Tubuai** 85.98 114 *e*PP PP 11 06 18.2 -1.6
comp=Z,62nm,24.9s
TBI *e*S S 11 13 31.8 +1.1
comp=Z,138nm,26.5s
TBI *e*SS SS 11 19 11.7 +2.3
comp=Z,124nm,28.5s
TBI *e*LR LR 11 30 09.2
comp=Z,978nm,28.8s
BMRM **Bremner River** 86.05 29 *e*P P 11 03 00.3 +1.3
comp=Z,45nm,1.2s
MOS **Moscow** 86.23 325 *e*P P 11 02 58.7 -1.1
MOS *e**PP pP 11 03 12.5 +0.3
MOS *e*S S 11 13 25.1 -6.8
MOS pmax pmax
comp=Z,138nm,1.3s
MOS pmax pmax
comp=Z,300nm,1.7s
MENT **Mentasta** 86.43 27 *e*P P 11 03 00.9 +0.2
OBN **Obninsk** 86.85 325 *e*P P 11 03 02.3 -0.6
OBN *i* 11 03 09.9
OBN *i* S 11 13 31.4 -6.5
OBN pmax pmax
comp=Z,199nm,2.0s
OBN MLR MLR
comp=Z,300nm,17.0s
OBN **Obninsk** 86.85 325 *e*P P 11 03 02.8 -0.1
comp=Z,137nm,1.4s
DAWY **Dawson** 88.30 26 *e*P P 11 03 11.2 +1.4
MMAI **Mount Meron Ar** 88.90 303 P P 11 03 13.9 +0.6
MMAI **Mount Meron Ar** 88.90 303 P P 11 03 13.9 +0.6
comp=Z,3.2nm,0.6s,baz=94,slow=6.8,SNR=3.1
JOF **Joensuu** 88.98 333 *e*P P 11 03 12.1 -0.8
JOF pmax pmax
comp=Z,13nm,0.6s
JOF **Joensuu** 88.98 333 *e*p P 11 03 12.1 -0.8
comp=Z,12nm,0.6s
KMBO **Kilima Mbogo** 89.41 269 *e*P P 11 03 16.4 +0.1
comp=Z,24nm,1.2s
KMBO **Kilima Mbogo** 89.41 269 P P 11 03 16.9 +0.6
SNR=11
KEV **Kevo** 89.70 340 *e*P P 11 03 17.1 +1.0
KEV pmax pmax
comp=Z,5.0nm,0.7s
KEV **Kevo** 89.70 340 *e*p P 11 03 17.1 +1.0
comp=Z,5.2nm,0.7s
BR131 **Keskin Array S** 89.81 310 *e*P P 11 03 16.4 -1.1
comp=Z,9.9nm,0.9s
BRTR **Keskin Array B** 89.81 310 P P 11 03 16.4 -1.1
BRTR **Keskin Array B** 89.81 310 P P 11 03 16.4 -1.1
comp=Z,9.9nm,0.9s,baz=120,slow=5.0,SNR=30
BRTR LR LR 11 51 32.4
comp=Z,78nm,20.4s,baz=61,slow=41
INK **Inuvik** 90.07 21 *e*P P 11 03 18.5 +0.6
comp=Z,17nm,1.1s
ARCES **ARCESS Array B** 90.25 340 P P 11 03 18.3 -0.5
ARCES **ARCESS Array B** 90.25 340 P P 11 03 18.3 -0.5
comp=Z,12nm,0.9s,baz=76,slow=5.3,SNR=29
ARCES LR LR 11 50 26.7
comp=Z,237nm,18.7s,baz=282,slow=40
SPITS **Spitsbergen Ar** 90.30 349 P P 11 03 20.8 +2.0
SPITS **Spitsbergen Ar** 90.30 349 P P 11 03 20.8 +2.0
comp=Z,13nm,0.9s,baz=102,slow=7.9,SNR=15
SPB4 **Spitsbergen Ar** 90.30 349 *e*P P 11 03 19.3 +0.4
KAF **Kangasniemi** 91.39 332 *e*P P 11 03 22.9 -1.3
KAF pmax pmax
comp=Z,7.0nm,0.8s
KAF **Kangasniemi** 91.39 332 *e*p P 11 03 22.9 -1.3
comp=Z,7.4nm,0.8s
FINES **FINESS Array B** 91.63 332 P P 11 03 25.4 +0.1
FINES **FINESS Array B** 91.63 332 P P 11 03 25.4 +0.1
comp=Z,7.0nm,0.8s,baz=54,slow=5.4,SNR=19
FINES LR LR 11 48 33.1
comp=Z,376nm,19.4s,baz=228,slow=38
AKASG **Malin Array Be** 91.68 321 P P 11 03 24.6 -1.1
AKASG **Malin Array Be** 91.68 321 P P 11 03 24.6 -1.1
AKASG **Malin Array Be** 91.68 321 P P 11 03 24.6 -1.1
comp=Z,8.1nm,0.7s,baz=72,slow=4.4,SNR=22
AKASG LR LR 11 50 29.9
comp=Z,270nm,21.8s,baz=85,slow=39
KIEV **Kiev** 91.69 321 *e*P P 11 03 24.3 -1.5
KIEV pmax pmax
comp=Z,7.0nm,0.8s
KIEV **Kiev** 91.69 321 *e*P P 11 03 24.3 -1.5
comp=Z,6.9nm,0.8s
MICGM **Minsk** 91.91 325 *e* P 11 03 26.0 -0.8
MNK **Minsk** 91.94 325 *e*P P 11 03 26.0 -0.9
NACGM **Naroch** 92.47 325 *e* P 11 03 26.0 -3.3
TIRR **Tirgusor** 93.13 315 ⇑P P 11 03 32.3 -0.3
TIRR **Tirgusor** 93.13 315 *e*P P 11 03 31.9 -0.7
comp=Z,8.4nm,0.9s
TIRR **Tirgusor** 93.13 315⇑*i*P P 11 03 32.3 -0.3
CFR **Carcaliu** 93.22 316 ⇑P P 11 03 32.7 -0.3
CFR **Carcaliu** 93.22 316⇑*i*P P 11 03 32.7 -0.3
QSPA **South Pole Qui** 93.79 180 *e*P P 11 03 35.4 +0.1
comp=Z,25nm,1.1s
QSPA **South Pole Qui** 93.79 180 P P 11 03 35.8 +0.5
comp=Z,4.2nm,0.9s,baz=332,slow=4.0,SNR=17
TESR 94.03 317⇑*i*P P 11 03 36.4 -0.3
VRI **Vrincioaia** 94.08 316 ⇑P P 11 03 37.1 +0.1
VRI **Vrincioaia** 94.08 316⇑*i*P P 11 03 37.1 +0.1
PLOR **Plostina** 94.14 316 ⇓P P 11 03 37.5 +0.2
PLOR **Plostina** 94.14 316⇓*i*P P 11 03 37.5 +0.2
MLR **Muntele Rosu** 94.69 316 P P 11 03 39.1 -0.9
MLR **Muntele Rosu** 94.69 316⇓*i*P P 11 03 39.8 -0.2
MLR **Muntele Rosu** 94.69 316 P P 11 03 39.1 -0.9
comp=Z,3.9nm,1.0s,baz=50,slow=1.3,SNR=16
SUW **Suwalki** 94.71 325 *e*P P 11 03 39.4 -0.3
SUW **Suwalki** 94.71 325 *e*P P 11 03 39.4 -0.3
SUW **Suwalki** 94.71 325 *e*P P 11 03 39.2 -0.5
SUW pmax pmax
comp=Z,79nm,0.9s
SUW **Suwalki** 94.71 325 *e*P P 11 03 39.2 -0.5
comp=Z,79nm,0.9s
BURAR **Bucovina Array** 94.79 318⇑*i*P P 11 03 40.1 -0.2
BUR08 **Bucovina Ar. S** 94.80 318 *e*P P 11 03 40.4 0.0
LVV **L'vov** 95.12 321 *e*P P 11 03 36.9 -4.7
VOIR 95.32 316 ⇑P P 11 03 42.3 -0.5
VOIR 95.32 316⇑*i*P P 11 03 42.3 -0.5
KWP **Kalwaria Pacla** 96.00 321 *e*P P 11 03 45.6 -0.1
KWP **Kalwaria Pacla** 96.00 321 *e*P P 11 03 45.6 -0.1
KOLS **Kolonicke sedl** 96.43 320 *e*P P 11 03 47.8 +0.1
KOLS pmax pmax
comp=Z,7.0nm,1.2s
KOLS **Kolonicke sedl** 96.43 320 *e*P P 11 03 47.8 +0.1
TRPA **Tarpa** 96.44 319 ⇑P P 11 03 47.3 -0.4
UZH **Uzhgorod** 96.49 320 *e*P P 11 03 50.2 +2.3
UZH *e* 11 03 59.4
DRGR 96.63 318 ⇑P P 11 03 48.7 0.0
DRGR 96.63 318⇑*i*P P 11 03 48.7 0.0
GZR **Gura Zlata** 96.89 316 ⇓P P 11 03 49.8 -0.1
GZR **Gura Zlata** 96.89 316⇓*i*P P 11 03 49.8 -0.1
CRVS **Cervenica-Dubn** 96.96 320 *e*P P 11 03 50.1 0.0
CRVS **Cervenica-Dubn** 96.96 320 *e*P P 11 03 50.1 0.0
BZS **Buzias** 97.64 317 ⇓P P 11 03 52.6 -0.6
BZS **Buzias** 97.64 317⇓*i*P P 11 03 52.6 -0.6
OJC **Ojcow** 97.67 322 *e*P P 11 03 53.0 -0.2
OJC **Ojcow** 97.67 322 *e*P Pdif 11 03 53.3 0.0
RES **Resolute Bay** 97.69 10 *e*P Pdif 11 03 53.3 +0.5
comp=Z,2.1nm,0.8s
HFS **Hagfors** 97.81 332 P P 11 03 52.8 -0.8
HFS **Hagfors** 97.81 332 P P 11 03 52.8 -0.8
comp=Z,4.6nm,0.9s,baz=129,slow=6.1,SNR=7.6
PSZ **Piszkesteto** 98.22 319 ⇓P Pdif 11 03 55.9 0.0
NB2 **NORSAR Subarra** 98.58 334 P P 11 03 55.8 -1.3
baz=65,slow=4.4
NB2 **NORSAR Subarra** 98.58 334 P P 11 03 55.8 -1.3
comp=Z,9.7nm,1.0s,baz=65,slow=4.4
NOA **NORSAR Array B** 98.58 334 P P 11 03 56.0 -1.1
NOA **NORSAR Array B** 98.58 334 P P 11 03 56.0 -1.1
comp=Z,3.7nm,0.9s,baz=66,slow=4.5,SNR=8.4
NOA LR LR 11 54 41.6
comp=Z,324nm,18.1s,baz=70,slow=39
VYHS **Vyhne** 98.75 320 *e*P P 11 03 57.5 -0.6
VYHS pmax pmax
comp=Z,8.0nm,1.7s
VYHS **Vyhne** 98.75 320 PDIF P 11 03 57.5 -0.6
OKC **Ostrava-Krasne** 98.80 322 *e*P Pdif 11 03 58.7 +0.4
OKC **Ostrava-Krasne** 98.80 322 *e*PDIFF Pdif 11 03 58.7 +0.4
BUD **Budapest** 98.90 319 ⇓*e*Pdiff Pdif 11 03 59.3 +0.5
LSZ **Lusaka** 99.10 255 *e*P **Pdif** **11 03 59.3 -1.2**
comp=Z,4.5nm,0.8s
MORC **Moravsky Berou** 99.19 322 ⇓P **Pdif** **11 04 00.5 +0.4**
MORC **Moravsky Berou** 99.19 322 *e*P **Pdif** **11 03 60.0 -0.2**
comp=Z,8.6nm,1.1s
MORC **Moravsky Berou** 99.19 322⇓*i*P **Pdif** **11 04 00.5 +0.4**
RKT **Rikitea** 99.27 113 *e*LR LR 11 36 17.3
comp=Z,676nm,31.0s
YKA **Yellowknife Ar** 99.42 24 P **Pdif** **11 04 01.4 +0.7**
YKA PKKPbc **PKKPbc** **11 20 26.3 0.0**
YKA **Yellowknife Ar** 99.42 24 P **Pdif** **11 04 01.4 +0.7**
comp=Z,1.6nm,0.9s,baz=301,slow=4.7,SNR=20
YKA PKKPbc **PKKPbc** **11 20 26.3 0.0**
comp=Z,0.3nm,0.8s,baz=101,slow=2.2,SNR=4.1
PKSM **Moragy** 99.50 318 ⇓*e*Pdiff **Pdif** **11 04 01.4 -0.1**
KRLC **Kraliky** 99.57 322 *e*PDIFF **Pdif** **11 04 01.6 -0.2**
KSP **Ksiaz** 99.63 323 *e*P **Pdif** **11 04 02.3 +0.3**
KSP **Ksiaz** 99.63 323 *e*P **Pdif** **11 04 02.3 +0.3**
KSP **Ksiaz** 99.63 323 *e*P **Pdif** **11 04 02.3 +0.3**
DPC **Dobruska-Polom** 99.77 322 *e*P **Pdif** **11 04 03.2 +0.5**
DPC *e* 11 04 11.6
DPC MLR MLR
comp=Z,400nm,16.8s
DPC **Dobruska-Polom** 99.77 322 *e*PDIFF **Pdif** **11 04 03.2 +0.5**
DPC *e*pP **pP** **11 04 11.6 -3.6**
DPC AMS AMS 11 52 40.0
comp=Z,400nm,16.8s
UPC **Upice** 99.91 323 *e*P **Pdif** **11 04 03.6 +0.4**
UPC *e* 11 04 11.8
UPC **Upice** 99.91 323 *e*PDIFF **Pdif** **11 04 03.6 +0.4**
UPC *e*pP **pP** **11 04 11.8 -3.9**
VRAC **Vranov** 99.92 321 P **Pdif** **11 04 03.7 +0.3**
VRAC **Vranov** 99.92 321 P **Pdif** **11 04 03.7 +0.3**
comp=Z,3.3nm,0.4s,baz=224,slow=3.5,SNR=7.0
TREC **Trest** 100.62 322 AMS AMS 11 55 40.0
comp=Z,400nm,20.7s
PRU **Pruhonice** 100.97 322 *e*P **Pdif** **11 04 08.5 +0.6**
PRU MLR MLR
comp=Z,500nm,23.6s
PRU **Pruhonice** 100.97 322 *e*PDIFF **Pdif** **11 04 08.5 +0.6**
PRU *e*pP pP 11 04 16.7 -3.8
PRU AMS AMS 11 53 40.0
comp=Z,500nm,23.6s
BRG **Berggiesshubel** 101.03 323 *e*PDIF **Pdif** **11 04 08.2 0.0**
comp=Z,14nm,1.1s
BRG **Berggiesshubel** 101.03 323 *e*Pdiff **Pdif** **11 04 08.4 +0.2**
BRG **Berggiesshubel** 101.03 323 *e*P **Pdif** **11 04 08.2 0.0**
BRG pmax pmax
comp=Z,14nm,1.1s
CLL **Collm** 101.43 324 *e*Pdiff **Pdif** **11 04 09.8 -0.1**
CLL **Collm** 101.43 324⇑*i*Pdif **Pdif** **11 04 09.8 -0.1**
comp=Z,10.0nm,1.2s
CLL *i* PKiKP **PKiKP** **11 08 35.3 +1.3**
CLL *e*Sdif Sdif 11 15 45.0 -2.2
CLL *e*SP **SP** **11 17 18.0 -0.2**
CLL *e* 11 27 48.0
CLL LmV 11 56 00.0
comp=Z,300nm,21.9s
BOSA **Boshof** 101.79 242 P **Pdif** **11 04 11.7 -0.5**
BOSA **Boshof** 101.79 242 P **Pdif** **11 04 11.7 -0.5**
comp=Z,3.8nm,1.1s,baz=162,slow=12,SNR=3.0
KHC **Kasperske Hory** 101.85 322 *e*P **Pdif** **11 04 12.2 +0.2**
KHC MLR MLR
comp=Z,400nm,21.9s
KHC **Kasperske Hory** 101.85 322 *e*Pdif **Pdif** **11 04 12.1 +0.2**
comp=Z,5.6nm,1.4s
KHC **Kasperske Hory** 101.85 322 *e*PDIFF **Pdif** **11 04 12.2 +0.2**
KHC *e*pP pP 11 04 21.0 -3.7
KHC AMS AMS 11 54 20.0
comp=Z,400nm,21.9s
GEC2 **GERESS Array S** 101.87 322 *e*Pdiff **Pdif** **11 04 12.0 -0.2**
GEC2 **GERESS Array S** 101.87 322 *e*P **Pdif** **11 04 12.0 -0.2**
GERES **GERESS Array B** 101.87 322 P **Pdif** **11 04 11.9 -0.2**
GERES **GERESS Array B** 101.87 322 P **Pdif** **11 04 11.9 -0.2**
comp=Z,6.1nm,1.1s,baz=69,slow=4.6,SNR=14
TANN **Tannenbergstha** 102.07 323 *e*Pdiff **Pdif** **11 04 12.9 0.0**
NKC **Novy Kostel** 102.15 323 *e*P **Pdif** **11 04 13.1 -0.1**
NKC **Novy Kostel** 102.15 323 *e*PDIFF **Pdif** **11 04 13.1 -0.1**
WET **Wettzell** 102.28 322 *e*Pdiff **Pdif** **11 04 14.1 +0.3**
WET **Wettzell** 102.28 322 *e*P **Pdif** **11 04 14.1 +0.3**
ROTZ **Rotzenmuhle** 102.46 323 *e*Pdiff **Pdif** **11 04 15.2 +0.6**
CLZ **Clausthal** 102.75 325 *e*Pdiff **Pdif** **11 04 16.5 +0.6**
CLZ **Clausthal** 102.75 325 *e*P **Pdif** **11 04 16.5 +0.6**
GRF **Grafenberg Arr** 103.08 323 *e*Pdiff **Pdif** **11 04 17.6 +0.2**
GRF **Grafenberg Arr** 103.08 323 *e*P **Pdif** **11 04 17.6 +0.2**
KEST **Kesra** 109.42 310 PP PP 11 09 19.5 +0.2
KEST **Kesra** 109.42 310 PP PP 11 09 19.5 +0.2
comp=Z,2.3nm,1.0s,baz=206,slow=7.8,SNR=4.5
PDAR **Pinedale Array** 111.33 41 PKKPbc PKKPbc 11 19 53.3 +3.6
PDAR **Pinedale Array** 111.33 41 PKKPbc PKKPbc 11 19 53.3 +3.6
comp=Z,1.3nm,0.9s,baz=123,slow=5.5,SNR=3.4
J22A **Midwest** 113.01 39 ⇓P **PKiKP** **11 08 55.9 -0.1**
baz=113
PV01 **Paradox Valley** 114.09 45 *e*PKPdf PKPdf 11 08 57.2 -1.1
P25A **Willow Gulch B** 116.47 42 ⇑P **PKPdf** **11 09 02.8 0.0**

	baz=116							
P26A	**Davis Ranch, A**	**116.99**	**42**	⇑P		**PKPdf**	**11 09 03.8**	**+0.1**
	baz=117							
ANMO	**Albuquerque**	**117.03**	**47**	*e*PKPdf		**PKPdf**	**11 09 03.6**	**-0.4**
R26A	**Arlington**	**117.56**	**43**	⇑P		**PKPdf**	**11 09 04.7**	**-0.2**
	baz=118							
T26A	**Comanche Natio**	**118.03**	**44**	⇑P		**PKPdf**	**11 09 05.8**	**-0.1**
	baz=118							
U26A	**Atchley Ranch,**	**118.31**	**45**	⇓P		**PKPdf**	**11 09 06.7**	**+0.3**
	baz=118							
Y25A	**Mesa, Roswell**	**118.79**	**48**	⇓P		**PKPdf**	**11 09 07.4**	**0.0**
	baz=119							
X26A	**CR and CF Fran**	**119.14**	**47**	⇓P		**PKPdf**	**11 09 08.2**	**+0.1**
	baz=119							
MNTX	**Cornudas Mount**	**119.26**	**50**	⇑P		**PKPdf**	**11 09 08.3**	**+0.1**
	baz=119							
Y27A	**Causey**	**119.93**	**47**	⇓P		**PKPdf**	**11 09 10.1**	**+0.5**
	baz=120							
Z27A	**Tatum**	**120.17**	**48**	⇑P		**PKPdf**	**11 09 10.0**	**0.0**
	baz=120							
Y28A	**McKinney Farm,**	**120.59**	**47**	⇓P		**PKPdf**	**11 09 10.9**	**+0.1**
	baz=121							
X29A	**Tulia**	**120.72**	**46**	⇓P		**PKPdf**	**11 09 11.6**	**+0.6**
	baz=121							
Z29A	**Hungry Hill Ra**	**121.30**	**47**	⇑P		**PKPdf**	**11 09 13.1**	**+1.0**
	baz=121							
129A	**Stewart Farms,**	**121.49**	**48**	⇑P		**PKPdf**	**11 09 12.9**	**+0.4**
	baz=122							
KSU1	**Kansas State U**	**121.58**	**39**	*e*PKPdf		**PKPdf**	**11 09 12.8**	**+0.4**
TXAR	**Lajitas Array**	**121.62**	**52**	PKP		**PKPdf**	**11 09 14.0**	**+1.1**
TXAR	**Lajitas Array**	**121.62**	**52**	PKP		**PKPdf**	**11 09 14.0**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=323,slow=1.2,SNR=7.4							
428A	**Kincaid Ranch,**	**121.76**	**50**	⇓P		**PKPdf**	**11 09 14.2**	**+1.1**
	baz=122							
529A	**Stev Forest Ra**	**122.39**	**51**	⇑P		**PKPdf**	**11 09 14.6**	**+0.2**
	baz=122							
429A	**Davenport Ranc**	**122.42**	**50**	⇑P		**PKPdf**	**11 09 14.8**	**+0.4**
	baz=122							
TORD	**Torodi Ar. Bea**	**122.73**	**288**	PKP		**PKPdf**	**11 09 15.1**	**-0.2**
TORD				PP		**PP**	**11 10 55.2**	**+2.0**
TORD				PKKPbc		**PKKPab**	**11 19 09.4**	**+0.6**
TORD	**Torodi Ar. Bea**	**122.73**	**288**	PKP		**PKPdf**	**11 09 15.1**	**-0.2**
	comp=Z,2.7nm,0.8s,baz=64,slow=1.6,SNR=13							
TORD				PP		**PP**	**11 10 55.2**	**+2.0**
	comp=Z,3.0nm,1.1s,baz=65,slow=3.6,SNR=3.6							
TORD				PKKPbc		**PKKPab**	**11 19 09.4**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=259,slow=2.1,SNR=3.5							
430A	**Baggett Ranch,**	**122.84**	**49**	⇑P		**PKPdf**	**11 09 16.1**	**+0.9**
	baz=123							
530A	**J-C Ranch, Com**	**123.06**	**50**	⇓P		**PKPdf**	**11 09 16.0**	**+0.4**
	baz=123							
431A	**Sonora**	**123.36**	**49**	⇑P		**PKPdf**	**11 09 16.6**	**+0.5**
	baz=123							
531A	**Rocksprings**	**123.66**	**50**	⇓P		**PKPdf**	**11 09 17.2**	**+0.5**
	baz=124							
JCT	**Junction City**	**124.07**	**49**	*e*PKIKP		**PKPdf**	**11 09 18.2**	**+0.7**
JCT	**Junction City**	**124.07**	**49**	*e*PKPdf		**PKPdf**	**11 09 18.2**	**+0.7**
JCT	**Junction City**	**124.07**	**49**	⇓P		**PKPdf**	**11 09 18.2**	**+0.7**
	baz=124							
532A	**Rocksprings**	**124.16**	**49**	⇓P		**PKPdf**	**11 09 19.0**	**+1.3**
	baz=124							
632A	**Uvalde**	**124.55**	**50**	⇓P		**PKPdf**	**11 09 19.8**	**+1.3**
	baz=125							
MIAR	**Mount Ida**	**126.26**	**41**	*e*PKIKP		**PKPdf**	**11 09 22.9**	**+1.4**
MIAR	**Mount Ida**	**126.26**	**41**	*e*PKPdf		**PKPdf**	**11 09 22.9**	**+1.4**
OLIL	**Olney**	**126.85**	**34**	*e*PKPdf		**PKPdf**	**11 09 24.4**	**+1.9**
DBIC	**Dimbokro**	**130.40**	**282**	PKP		**PKPdf**	**11 09 31.1**	**+1.3**
DBIC				*e*PKPdf		**PKPdf**	**11 09 31.2**	**+1.3**
DBIC				*e*PP		**PP**	**11 11 42.0**	**-2.2**
DBIC				SKPbc		**SKPab**	**11 12 49.5**	**-0.7**
DBIC	**Dimbokro**	**130.40**	**282**	PKP		**PKPdf**	**11 09 31.1**	**+1.3**
	comp=Z,1.0nm,0.4s,baz=29,slow=2.5,SNR=3.2							
DBIC				SKPbc		**SKPab**	**11 12 49.5**	**-0.7**
	comp=Z,5.6nm,0.8s,baz=42,slow=4.1,SNR=6.0							
PLCA	**Paso Flores**	**140.20**	**160**	PKP		**PKPdf**	**11 09 47.2**	**-0.4**
PLCA	**Paso Flores**	**140.20**	**160**	PKP		**PKPdf**	**11 09 47.2**	**-0.4**
	comp=Z,3.7nm,1.0s,baz=65,slow=3.7,SNR=3.0							
TRQA	**Tornquist**	**145.10**	**168**	*e*PKPbc		**PKPdf**	**11 09 56.4**	**+0.1**
JTS	**JuntasAbangare**	**145.58**	**66**	*e*PKPbc		**PKPab**	**11 09 60.0**	**+1.8**
CFAA	**Coronel Fontan**	**149.10**	**155**	PKPbc		**PKPbc**	**11 10 07.6**	**+0.3**
CFAA	**Coronel Fontan**	**149.10**	**155**	PKPbc		**PKPbc**	**11 10 07.6**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=198,slow=0.9,SNR=13							
LCO	**Las Campanas**	**150.10**	**149**	*e*PKPbc		**PKPbc**	**11 10 10.8**	**+0.6**
CPUP	**Villa Florida**	**157.37**	**171**	PKPab		**PKPab**	**11 10 46.7**	**+0.4**
CPUP	**Villa Florida**	**157.37**	**171**	PKPab		**PKPab**	**11 10 46.7**	**+0.4**
	comp=Z,3.9nm,0.7s,baz=169,slow=2.8,SNR=5.1							
ROSC	**El Rosal**	**157.38**	**68**	PKP		**PKPdf**	**11 10 18.4**	**+2.4**
ROSC				PKPab		**PKPab**	**11 10 49.2**	**+1.8**
ROSC	**El Rosal**	**157.38**	**68**	PKP		**PKPdf**	**11 10 18.4**	**+2.4**
	comp=Z,4.0nm,0.4s,baz=258,slow=22,SNR=2.5							
ROSC				PKPab		**PKPab**	**11 10 49.2**	**+1.8**
	comp=Z,5.0nm,0.4s,baz=134,slow=17,SNR=4.7							
LPAZ	**La Paz**	**161.00**	**131**	*e*PKPdf		**PKPdf**	**11 10 20.9**	**+0.5**
LPAZ				PKP		PKP	11 10 21.7	
LPAZ	**La Paz**	**161.00**	**131**	PKP		**PKPdf**	**11 10 21.7**	**+1.3**
	comp=Z,1.8nm,1.0s,baz=6.8,slow=3.3,SNR=3.7							
SIV	**San Ignacio**	**165.81**	**148**	PKP		**PKPdf**	**11 10 24.0**	**-0.2**
SIV				PKPab		**PKPab**	**11 11 24.2**	**+0.7**
SIV	**San Ignacio**	**165.81**	**148**	PKP		**PKPdf**	**11 10 24.0**	**-0.2**
	comp=Z,0.6nm,0.2s,baz=206,slow=15,SNR=5.0							
SIV				PKPab		**PKPab**	**11 11 24.2**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=223,slow=4.9,SNR=4.2							
BDFB	**Brasilia**	**167.16**	**204**	PKP		**PKPdf**	**11 10 26.6**	**+1.3**
BDFB				PKPab		**PKPab**	**11 11 30.5**	**+1.0**
BDFB	**Brasilia**	**167.16**	**204**	PKP		**PKPdf**	**11 10 26.6**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=194,slow=7.9,SNR=2.4							
BDFB				PKPab		**PKPab**	**11 11 30.5**	**+1.0**
	comp=Z,1.5nm,0.4s,baz=18,slow=15,SNR=2.4							
SAML	**Samuel**	**169.07**	**118**	*e*PKPdf		**PKPdf**	**11 10 26.9**	**+0.3**
SAML				*e*PKPab		**PKPab**	**11 11 38.0**	**-0.2**

IDC 28 11:00:20.7±3.0, 2°40.5S×101°06.6E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/23, mbtmp3.6/6, Error ellipse: s-maj=139.4km s-min=20.4km az=54.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**36.36**	**121**	P	P	11 07 26.2	-0.8
	0.1nm,0.4s,baz=304,slow=8.9,SNR=3.8						
ASAR	**Alice Springs**	**37.68**	**127**	P	P	11 07 38.5	+0.4
	0.2nm,0.7s,baz=306,slow=7.8,SNR=3.3						
SONM	**Songino Array**	**50.20**	**4**	P	P	11 09 19.5	+1.1
	0.5nm,0.5s,baz=186,slow=7.5,SNR=4.5						
MKAR	**Makanchi Array**	**51.88**	**343**	P	P	11 09 30.9	0.0
	0.4nm,0.6s,baz=150,slow=8.7,SNR=7.8						
ZALV	**Zalesovo Beam**	**57.88**	**348**	P	P	11 10 14.1	-0.2
	0.6nm,0.4s,baz=142,slow=7.3,SNR=5.2						
BVAR	**Borovoye Array**	**61.14**	**339**	P	P	11 10 35.8	-1.0
	0.6nm,0.5s,baz=139,slow=7.5,SNR=4.2						

KRSC 28 11:11:59.0±1.5, 49°83N×157°28E, h10km±10km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIPR	**Malaya Ipel'ka**	**2.47**	**353**	*e*P	Pn	11 12 39.7	+0.4
MIPR				S	Sn	11 13 09.2	-0.4
ASAK	**Asacha**	**2.59**	**8**	*e*P	Pn	11 12 42.8	+1.8
ASAK				S	Sn	11 13 15.0	+2.4
MTVR	**Mutnovka**	**2.72**	**12**	*e*P	Pn	11 12 45.1	+2.2
MTVR				*e*S	Sn	11 13 18.6	+2.7
RUS	**Russkaya**	**2.72**	**16**	*e*P	Pn	11 12 44.5	+1.8
RUS				*e*S	Sn	11 13 17.8	+2.2
PET	**Petropavlovsk**	**3.31**	**15**	S	Sn	11 13 33.1	+2.9
UGLR	**Uglovaya**	**3.52**	**15**	*e*P	Pn	11 12 56.6	+2.8
AVH	**Avacha**	**3.56**	**14**	P	Pn	11 12 57.3	+2.9
SMAR	**Somma**	**3.57**	**15**	*e*P	Pn	11 12 57.1	+2.4
KOK	**Koryaka**	**3.57**	**13**	P	Pn	11 12 57.2	+2.7
SDLR	**Sedlovina**	**3.59**	**16**	*e*P	Pn	11 12 57.1	+2.2
SPN	**Mys Shipunski**	**3.69**	**27**	P	Pn	11 12 59.0	+2.9
SPN				*e*S	Sn	11 13 42.8	+3.1
KBTR	**Krutoberegovo**	**7.21**	**25**	P	Pn	11 13 45.9	+1.6

*IDC **28** 11:14:55.0±3.7, 8°18S×113°96E, h147km±30km, mb3.5/7, mb1 3.7/8, mb1mx3.5/21, mbtmp3.5/8, Error ellipse: s-maj=104.8km s-min=12.6km az=53.0*
*DJA **28** 11:15:03, 7°59S×113°07E, h10km, MLv4.4/7*
ISC 28 11:14:52.5±1.9, 8°0S±0°4×113°7E±0°1, h150km, n17, σ1=30/10, mb3.8/7, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**0.65**	**140**	P	Pn	11 15 11.1	-3.6
JAGI				S	Sn	11 15 24.9	-6.7
NBBI	**Negara**	**0.96**	**114**	P	**Pn**	**11 15 18.2**	**+1.3**
NBBI				S	**Sn**	**11 15 33.9**	**-1.7**
KRKI	**Karangkates**	**1.28**	**261**	P	Pn	11 15 18.8	-1.0
DNP	**Denpasar**	**1.62**	**116**	P	Pn	11 15 20.1	-3.2
DNP				S	Sn	11 15 42.3	-4.7
IGBI	**Denpasar**	**1.63**	**121**	P	Pn	11 15 21.0	-2.4
IGBI				S	Sn	11 15 41.5	-5.7
KHKI	**Kahang-Kahang**	**1.90**	**102**	P	**Pn**	**11 15 25.8**	**-0.6**
SJI	**Sawahan**	**1.96**	**277**	P	**Pn**	**11 15 27.1**	**-0.1**
UGM	**Wanagama**	**3.18**	**271**	P	**Pn**	**11 15 41.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**15.35**	**132**	P	**Pn**	**11 18 20.6**	**-0.7**
	0.3nm,0.3s,baz=295,slow=15,SNR=12						
FITZ				S	Sn	11 20 54.8	-17
	0.5nm,0.3s,baz=207,slow=23,SNR=6.4						
WRA	**Warramunga Arr**	**23.24**	**123**	P	**P**	**11 19 46.2**	**-0.4**
	0.7nm,0.4s,baz=296,slow=11,SNR=24						
ASAR	**Alice Springs**	**24.85**	**131**	P	**P**	**11 20 01.2**	**0.0**
	1.7nm,0.5s,baz=305,slow=8.5,SNR=49						
ASAR				ScP	**ScP**	**11 27 01.1**	**+2.5**
	0.2nm,0.5s,baz=323,slow=2.5,SNR=4.8						
CMAR	**Chiang Mai Arr**	**30.04**	**331**	P	P	11 20 53.9	+6.4
	2.4nm,0.5s,baz=161,slow=8.4,SNR=18						
STKA	**Stephens Creek**	**35.18**	**136**	P	**P**	**11 21 32.6**	**+0.5**
	3.6nm,0.5s,baz=311,slow=8.3,SNR=11						
SONM	**Songino Array**	**55.94**	**354**	P	P	11 24 20.2	+5.1
	0.5nm,0.5s,baz=177,slow=8.0,SNR=7.5						
MKAR	**Makanchi Array**	**61.28**	**336**	P	P	11 24 56.0	+4.2
	0.8nm,0.5s,baz=151,slow=7.9,SNR=16						
DRV	**Dumont d'Urvil**	**61.31**	**168**	R		11 25 00.0	
ZALV	**Zalesovo Beam**	**66.33**	**342**	P	P	11 25 28.6	+3.9
	0.2nm,0.3s,baz=134,slow=4.2,SNR=2.4						

*ISCJB **28** 11:38:43.7±0.8, 39°39N±0°05×28°14E±0°05, h0km, Error ellipse: s-maj=8.1km s-min=4.7km az=31.1*
*ISK **28** 11:38:43.2, 39°41N×28°14E, h2km, MD2.7*
*DDA **28** 11:38:44.1, 39°45N×28°12E, h7km, MD2.7*
*CSEM **28** 11:38:44.1±0.2, 39°42N×28°14E, h1km, MD2.7, Error ellipse: s-maj=6.1km s-min=3.4km az=40.0*
ISC 28 11:38:44.5±1.2, 39°42N±0°04×28°14E±0°03, h0km, n18, σ0=74/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.30**	**317**	*e*PG	**Pg**	**11 38 50.2**	**0.0**
BALB				*e*SG	**Sg**	**11 38 55.3**	**+1.3**
BALB	**Balikesir**	**0.30**	**317**	*e*Pg	**Pg**	**11 38 50.2**	**0.0**
BALB				*e*Sg	**Sg**	**11 38 55.3**	**+1.3**
DURS	**Dursunbey**	**0.31**	**55**	*i* P	**Pg**	**11 38 50.1**	**-0.4**
DURS				*i* S	**Sg**	**11 38 55.5**	**+0.9**
DURS	**Dursunbey**	**0.31**	**55**	*i* P	**Pg**	**11 38 50.1**	**-0.4**
DURS				*i* S	**Sg**	**11 38 55.5**	**+0.9**
BALY	**Balya**	**0.51**	**308**	*i* P	**Pg**	**11 38 53.7**	**-0.6**
BALY				*i* S	**Sg**	**11 39 01.9**	**+0.9**
BALY	**Balya**	**0.51**	**308**	*i* P	**Pg**	**11 38 53.7**	**-0.6**
BALY				*i* S	**Sg**	**11 39 01.9**	**+0.9**
DEMI	**Demirci**	**0.59**	**130**	*i* P	**Pg**	**11 38 56.3**	**+0.6**
DEMI	**Demirci**	**0.59**	**130**	*i* P	**Pg**	**11 38 56.3**	**+0.6**
GONE	**Gonen-Balikesi**	**0.72**	**331**	*e*PG	**Pg**	**11 38 57.6**	**-0.6**
GONE	**Gonen-Balikesi**	**0.72**	**331**	*e*Pg	**Pg**	**11 38 57.6**	**-0.6**
KCTX	**Karacabey (Bur**	**0.86**	**11**	*e*PG	**Pg**	**11 39 00.9**	**-0.1**
KCTX	**Karacabey (Bur**	**0.86**	**11**	*e*Pg	**Pg**	**11 39 00.9**	**-0.1**
KULA	**Kula-Manisa**	**0.99**	**156**	*e*PG	**Pg**	**11 39 02.8**	**-0.7**
KULA	**Kula-Manisa**	**0.99**	**156**	*e*Pg	**Pg**	**11 39 02.8**	**-0.7**
TVSB	**Tavsanli**	**1.02**	**88**	*e*PG	**Pg**	**11 39 03.6**	**-0.5**
TVSB	**Tavsanli**	**1.02**	**88**	*e*Pg	**Pg**	**11 39 03.6**	**-0.5**
YLV	**Yalova**	**1.48**	**39**	*e*PN	**Pn**	**11 39 11.9**	**-0.6**
YLV	**Yalova**	**1.48**	**39**	*e*Pn	**Pn**	**11 39 11.9**	**-0.6**

*NEIC **28** 11:56:12.5, 19°18N×64°41W, h15km, MD3.2(RSPR), After RSPR.*
RSPR 28 11:56:12.5, 19°18N×64°41W, h15km±8km, MD3.2/9, 24C-6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABV	**Anegada**	**0.46**	**171**	*e*P	Pg	11 56 21.4	-0.2
ABV				*e*S	Sb	11 56 28.7	-0.1
ABV	**Anegada**	**0.46**	**171**	*e*P	Pg	11 56 21.4	-0.2
ABV				*e*S	Sb	11 56 28.7	-0.1
ABVI	**Anegada Island**	**0.46**	**171**	*e*P	Pg	11 56 21.4	-0.2
ABVI				*e*S	Sb	11 56 28.7	-0.1
TBVI	**Tortola**	**0.79**	**194**	*e*P	Pg	11 56 25.3	-2.4
TBVI				*e*S	Sg	11 56 35.8	-2.3
TBVI	**Tortola**	**0.79**	**194**	*e*P	Pg	11 56 25.3	-2.4
TBVI				*e*S	Sg	11 56 35.8	-2.3
TBVI	**Tortola**	**0.79**	**194**	*e*P	Pg	11 56 25.3	-2.4
TBVI				*e*S	Sg	11 56 35.8	-2.3
STVI	**Saint Thomas**	**0.97**	**212**	*e*P	Pb	11 56 27.9	-3.1
STVI	**Saint Thomas**	**0.97**	**212**	*e*P	Pb	11 56 27.9	-3.1
STVI				*e*S	Sb	11 56 41.0	-2.7
STVI	**Saint Thomas**	**0.97**	**212**	*e*P	Pb	11 56 27.9	-3.1
STVI				*e*S	Sb	11 56 41.0	-2.7
CDVI	**St. Croix**	**1.46**	**193**	*e*P	Pn	11 56 37.3	-1.1
CDVI	**St. Croix**	**1.46**	**193**	*e*P	Pn	11 56 37.3	-1.1
CDVI	**St. Croix**	**1.46**	**193**	*e*P	Pn	11 56 37.3	-1.1
HUMP	**Col San Antoni**	**1.71**	**233**	*e*P	Pn	11 56 38.7	-3.1
HUMP	**Col San Antoni**	**1.71**	**233**	*e*P	Pn	11 56 38.7	-3.1
HUMP				*e*S	Sn	11 56 59.5	-4.0
HUMP	**Col San Antoni**	**1.71**	**233**	*e*P	Pn	11 56 38.7	-3.1
HUMP				*e*S	Sn	11 56 59.5	-4.0
CPD	**Cerro la Pandu**	**1.82**	**232**	*e*P	Pn	11 56 41.0	-2.4
CPD				*e*S	Sn	11 57 02.6	-3.7
CPD	**Cerro la Pandu**	**1.82**	**232**	*e*P	Pn	11 56 41.0	-2.4
CPD				*e*S	Sn	11 57 02.6	-3.7
CPD	**Cerro la Pandu**	**1.82**	**232**	*e*P	Pn	11 56 41.0	-2.4
CPD				*e*S	Sn	11 57 02.6	-3.7
SJG	**San Juan**	**1.96**	**237**	*e*Pn	Pn	11 56 42.8	-2.4
SJG				Sn	Sn	11 57 06.3	-3.4
CELP	**Cerrillos**	**2.33**	**242**	*e*P	Pn	11 56 47.7	-2.6
CELP	**Cerrillos**	**2.33**	**242**	*e*P	Pn	11 56 47.7	-2.6
CELP	**Cerrillos**	**2.33**	**242**	*e*P	Pn	11 56 47.7	-2.6
AOPR	**Arecibo Observ**	**2.37**	**250**	*e*P	Pn	11 56 48.1	-2.8
AOPR	**Arecibo Observ**	**2.37**	**250**	*e*P	Pn	11 56 48.1	-2.8
AOPR	**Arecibo Observ**	**2.37**	**250**	*e*P	Pn	11 56 48.1	-2.8
LSP	**Las Mesas**	**2.73**	**249**	*e*P	Pn	11 56 53.4	-2.4
LSP	**Las Mesas**	**2.73**	**249**	*e*P	Pn	11 56 53.4	-2.4
LSP	**Las Mesas**	**2.73**	**249**	*e*P	Pn	11 56 53.4	-2.4
CRPR	**Cabo Rojo, PR**	**2.81**	**246**	*e*P	Pn	11 56 55.1	-1.9
CRPR	**Cabo Rojo, PR**	**2.81**	**246**	*e*P	Pn	11 56 55.1	-1.9
CRPR	**Cabo Rojo, PR**	**2.81**	**246**	*e*P	Pn	11 56 55.9	-1.1

IDC 28 11:58:08.7±1.4, 3°94N×126°63E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.3/22, mbtmp3.2/4, Error ellipse: s-maj=143.6km s-min=21.6km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.91**	**163**	P	P	12 03 33.1	-0.6
	0.7nm,0.8s,baz=343,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**28.34**	**166**	P	P	12 04 05.1	+0.5
	0.1nm,0.4s,baz=341,slow=11,SNR=3.0						
SONM	**Songino Array**	**47.07**	**341**	P	P	12 06 42.5	+0.1
	0.2nm,0.6s,baz=134,slow=4.2,SNR=2.7						
MKAR	**Makanchi Array**	**57.33**	**325**	P	P	12 07 58.4	-0.3
	0.2nm,0.5s,baz=118,slow=8.9,SNR=5.4						

IDC 28 12:00:01.1±5.9, 18°83S×179°92W, h687km±66km, mb3.2/6, mb1 3.4/7, mb1mx3.0/20, mbtmp3.2/7, Error ellipse: s-maj=43.8km s-min=29.8km az=60.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.18**	**254**	P	P	12 02 50.2	-0.1
	0.4nm,0.3s,baz=211,slow=3.1,SNR=7.0						
CTA	**Charters Tower**	**31.89**	**262**	P	P	12 05 35.8	+0.8
	5.6nm,0.9s,baz=119,slow=16,SNR=5.7						
WRA	**Warramunga Arr**	**43.06**	**261**	P	P	12 07 04.6	-0.2
	2.4nm,0.3s,baz=96,slow=7.5,SNR=84						
ASAR	**Alice Springs**	**43.16**	**255**	P	P	12 07 04.5	-1.1
	5.6nm,0.5s,baz=96,slow=7.6,SNR=123						
ASAR				PcP	PcP	12 08 37.2	-1.3
	0.8nm,0.5s,baz=109,slow=3.7,SNR=8.2						
FITZ	**Fitzroy Crossi**	**51.47**	**262**	P	P	12 08 08.1	+1.1
	0.7nm,0.3s,baz=200,slow=20,SNR=7.3						
VNDA	**Vanda**	**59.41**	**185**	P	P	12 09 00.7	+0.2
	1.0nm,0.5s,baz=75,slow=12,SNR=6.6						
ILAR	**Eielson Array**	**87.11**	**14**	P	P	12 11 35.8	-0.7
	0.2nm,0.3s,baz=218,slow=5.6,SNR=4.8						
MKAR	**Makanchi Array**	**108.74**	**314**	PKiKP	PKiKP	12 17 13.8	-0.9
	0.2nm,0.5s,baz=101,slow=1.5,SNR=3.3						
FINES	**FINESS Array B**	**133.66**	**343**	PKP	PKPdf	12 18 02.8	+1.0
	2.0nm,0.8s,baz=256,slow=5.7,SNR=2.9						
HFS	**Hagfors**	**137.60**	**350**	PKhKP	PKPpre	12 18 01.8	
	0.4nm,0.3s,baz=329,slow=1.7,SNR=4.9						
AKASG	**Malin Array Be**	**140.68**	**331**	PKhKP	PKPpre	12 18 11.2	
	2.7nm,0.4s,baz=43,slow=4.1,SNR=12						
BRTR	**Keskin Array B**	**144.38**	**313**	PKP	PKPab	12 18 23.8	+0.4
	1.0nm,0.6s,baz=136,slow=5.1,SNR=5.7						

IDC 28 12:01:56.5±3.1, 2°92S×137°20E, h0km, mb2.9/2, mb1 3.2/3, mb1mx3.1/16, mbtmp3.0/3, ML3.1/1, Error ellipse: s-maj=120.7km s-min=29.8km az=82.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.15**	**189**	P	Pn	12 05 57.8	0.0
	0.1nm,0.3s,baz=11,slow=11,SNR=7.9						
ASAR	**Alice Springs**	**20.87**	**189**	P	P	12 06 40.0	-0.3
	0.1nm,0.5s,baz=16,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**69.04**	**323**	P	P	12 13 04.4	+0.1
	0.1nm,0.5s,baz=123,slow=7.2,SNR=3.7						

MEX 28 12:02:29.0±0.7, 18°98N×102°37W, h76km±19km, MD3.5, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**1.15**	**234**	*e*P	Pn	12 02 47.8	-2.0
MMIG				*e*S	Sn	12 03 03.6	-1.7
EZ5V		**1.27**	**293**	*e*P	Pn	12 02 49.7	-1.9
EZ5V				*e*S	Sn	12 03 06.4	-2.0
R15V		**1.54**	**277**	*e*P	Pn	12 02 54.0	-0.8
R15V				*e*S	Sn	12 03 13.4	-0.9
ZIIG	**Zihuatanejo**	**1.61**	**148**	*e*P	Pn	12 02 54.3	-1.4
ZIIG				*e*S	Sn	12 03 14.2	-1.7
ARIG	**Puente Sto Nin**	**2.04**	**110**	*e*P	Pn	12 03 00.6	-0.8
ARIG				*e*S	Sn	12 03 24.1	-1.9
PLIG	**Platanillo**	**2.78**	**102**	*i* P	Pn	12 03 10.9	-0.6
PLIG				*e*S	Sn	12 03 42.6	-1.4

*TRN **28** 12:15:37.4, 18°47N×64°67W, h73km*
*NEIC **28** 12:15:38.2, 18°52N×64°64W, h79km, MD2.9(RSPR), After RSPR.*
RSPR 28 12:15:38.2, 18°52N×64°64W, h79km, 12C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBVI	**Tortola**	**0.10**	**170**	*e*P	Pn	12 15 49.0	-0.7
TBVI				*e*S	Sn	12 15 57.5	-0.5
TBVI				*e*S	Sn	12 15 58.4	+0.4
TBVI	**Tortola**	**0.10**	**170**	*e*P	Pn	12 15 49.0	-0.7
TBVI				*e*S	Sn	12 15 57.5	-0.5
TBVI	**Tortola**	**0.10**	**170**	*e*P	Pn	12 15 49.0	-0.7
TBVI				*e*S	Sn	12 15 57.5	-0.5
STVI	**Saint Thomas**	**0.34**	**241**	*e*P	Pn	12 15 50.2	-0.4
STVI	**Saint Thomas**	**0.34**	**241**	*e*P	Pn	12 15 50.2	-0.4
STVI				*e

*IDC **28** 12:17:36.2±2.0,43˚.50N×126˚.52W,h0km,mb3.6/4, mb1 4.0/7,mb1mx3.7/30,mbtmp3.8/7,ML3.7/3,MS3.3/2, Ms1 3.3/2,ms1mx2.8/44,Error ellipse: s-maj=44.6km s-min=12.5km az=42.0*

ISC 28 12:17:36.1±0.7,**43˚28N**±0˚.06×**126˚84W**±0˚.06,**h11**km±3km, **n92**,σ1§**66**/99,**mb4.1**/11,**MS4.4**/3,**Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**1.88**	**102**	*e*Pn	**Pn**	**12 18 06.1**	**-2.2**
KEBM				*e*Sn	**Sb**	**12 18 34.0**	**-0.1**
KBO	**Bosley Butte**	**2.20**	**118**	*e*Pn	**Pn**	**12 18 11.0**	**-1.8**
KBO				*e*Sn	**Sn**	**12 18 37.3**	**-2.7**
RNO	**Roman Nose**	**2.34**	**73**	P	**Pn**	**12 18 13.2**	**-1.4**
DBO	**Dodson Butte**	**2.63**	**92**	P	**Pn**	**12 18 17.3**	**-1.4**
KRMB	**Red Mountain**	**2.79**	**128**	*e*Pn	**Pn**	**12 18 18.4**	**-2.4**
KRMB				*e*Sn	**Sn**	**12 18 52.7**	**-2.0**
EUO	**Eugene**	**2.84**	**73**	P	**Pn**	**12 18 20.4**	**-1.0**
COR	**Corvallis**	**2.87**	**62**	*e*Pn	**Pn**	**12 18 20.7**	**-1.1**
COR				*e*Sn	**Sn**	**12 18 57.0**	**+0.6**
HUMO	**Hull Mountain**	**2.93**	**102**	*e*Pn	**Pn**	**12 18 21.2**	**-1.4**
HUMO				*e*Sn	**Sn**	**12 18 56.4**	**-1.5**
BROR	**Big Rock Looko**	**3.33**	**71**	P	**Pn**	**12 18 27.6**	**-0.6**
KHMM	**Horse Mountain**	**3.33**	**135**	*e*Pn	**Pn**	**12 18 26.6**	**-1.8**
KHMM				*e*Sn	**Sb**	**12 19 11.2**	**-4.8**
IRO	**Indian Ridge**	**3.41**	**76**	P	**Pn**	**12 18 28.8**	**-0.6**
YBH	**Yreka Blue Hor**	**3.42**	**115**	*e*Pn	**Pn**	**12 18 29.5**	**-0.1**
YBH				*e*Sn	**Sn**	**12 19 07.7**	**-2.4**
YBH				Sn	**Sn**	**12 19 11.7**	**+1.5**
YBH	**Yreka Blue Hor**	**3.42**	**115**	Pn	**Pn**	**12 18 29.6**	**+0.1**
	2.6nm,0.3s,baz=300,slow=11,SNR=83						
YBH				Sn	**Sn**	**12 19 11.7**	**+1.5**
	0.7nm,0.3s,baz=86,slow=19,SNR=6.9						
TDH	**Tom, Dick, Har**	**4.15**	**59**	P	**Pn**	**12 18 39.8**	**+0.2**
VLL	**Laurance Lake**	**4.30**	**58**	P	**Pn**	**12 18 42.0**	**+0.4**
FL2	**Flat Top 2**	**4.33**	**46**	P	**Pn**	**12 18 42.2**	**+0.2**
NLWA	**Neilton Lookou**	**4.62**	**26**	*e*Pn	**Pn**	**12 18 44.8**	**-1.1**
NLWA				*e*Sn	**Sn**	**12 19 35.0**	**-4.6**
LON	**Longmire**	**4.98**	**44**	*e*Pn	**Pn**	**12 18 51.0**	**+0.1**
LON				*e*Sn	**Sn**	**12 19 49.7**	**+1.3**
MOD	**Modoc**	**5.02**	**104**	*e*Pn	**Pn**	**12 18 51.3**	**-0.2**
OHCM	**Honcut**	**5.64**	**133**	*e*Pn	Pn	12 19 03.2	+3.3
PGC	**Sidney**	**5.87**	**23**	*e*Pn	**Pn**	**12 19 02.4**	**-0.6**
HAWA	**Hanford**	**6.06**	**57**	*e*Pn	**Pn**	**12 19 05.7**	**0.0**
WVOR	**Wild Horse Val**	**6.09**	**95**	*e*Pn	**Pn**	**12 19 05.3**	**-0.9**
	6.3nm,0.8s						
BMO	**Blue Mountains**	**7.05**	**74**	*e*Pn	**Pn**	**12 19 18.9**	**-0.4**
CMB	**Columbia Colle**	**7.17**	**135**	*e*Pn	Pn	12 19 24.5	+3.4
MFID	**Camas Ranch**	**8.03**	**85**	*e*Pn	**Pn**	**12 19 33.7**	**+0.9**
NEW	**Newport**	**8.42**	**50**	*e*Pn	**Pn**	**12 19 38.0**	**-0.1**
BBB	**Bella Bella**	**8.95**	**355**	Pn	**Pn**	**12 19 47.0**	**+1.7**
BBB				Sn	**Sn**	**12 21 21.7**	**-4.4**
BBB	**Bella Bella**	**8.95**	**355**	Pn	**Pn**	**12 19 47.0**	**+1.7**
	1.3nm,0.3s,baz=174,slow=17,SNR=14						
BBB				Sn	**Sn**	**12 21 21.7**	**-4.4**
	0.2nm,0.3s,baz=103,slow=10,SNR=1.2						
BBB				LR	LR	12 22 42.0	
	comp=Z,139nm,18.6s,baz=244,slow=35						
HLID	**Hailey**	**9.05**	**84**	*e*Pn	**Pn**	**12 19 47.6**	**+0.7**
BSMT	**Bassoo Peak**	**9.61**	**57**	*e*Pn	**Pn**	**12 19 55.6**	**+1.0**
MSO	**Missoula**	**9.79**	**64**	*e*Pn	**Pn**	**12 19 57.1**	**+0.1**
JTMT	**Jette**	**9.88**	**59**	*e*Pn	**Pn**	**12 19 58.6**	**+0.4**
BLMT	**Blacktail Moun**	**9.93**	**57**	*e*Pn	**Pn**	**12 20 00.1**	**+1.1**
SWMT	**Swartz Lake**	**9.97**	**60**	*e*Pn	**Pn**	**12 19 59.5**	**0.0**
ISA	**Isabella**	**9.98**	**137**	*e*Pn	Pn	12 20 04.1	+4.6
MCMT	**McKenzie Canyo**	**10.19**	**76**	*e*Pn	**Pn**	**12 20 02.2**	**-0.3**
	3.2nm,0.7s						
SLMT	**Seeley Lake**	**10.21**	**63**	*e*Pn	**Pn**	**12 20 02.3**	**-0.4**
CHMT	**Chamberlain Mo**	**10.27**	**65**	*e*Pn	**Pn**	**12 20 03.5**	**-0.1**
DLMT	**Dillon**	**10.42**	**74**	*e*Pn	**Pn**	**12 20 07.2**	**+1.6**
LRM	**Limekiln Ridge**	**10.58**	**71**	*e*Pn	**Pn**	**12 20 08.4**	**+0.4**
WALA	**Waterton Lakes**	**10.66**	**53**	*e*Pn	**Pn**	**12 20 09.2**	**+0.3**
	0.4nm,1.0s						
DUG	**Dugway**	**10.93**	**102**	*e*Pn	**Pn**	**12 20 12.6**	**+0.1**
BOZ	**Bozeman (W)**	**11.13**	**72**	*e*Pn	**Pn**	**12 20 15.9**	**+0.7**
HRY	**Holter Researc**	**11.17**	**67**	Pn	Pn	12 20 08.8	-7.1
	3.0nm,0.5s						
DCID1	**Drake Creek**	**11.39**	**83**	*e*Pn	Pn	12 20 22.7	+3.8
YMR	**Madison River**	**11.53**	**78**	*e*Pn	**Pn**	**12 20 19.0**	**-1.8**
	33nm,1.5s						
AHID	**Auburn Hatcher**	**11.54**	**87**	*e*Pn	**Pn**	**12 20 23.6**	**+2.7**
IMW	**Indian Meadow**	**11.55**	**81**	*e*Pn	Pn	12 20 24.7	+3.4
TPAW	**Teton Pass**	**11.57**	**83**	*e*Pn	Pn	12 20 24.4	+3.0
ARUT	**Antelope Range**	**11.57**	**114**	*e*Pn	Pn	12 20 25.1	+3.7
	5.8nm,0.7s						
REDW	**Red Top Meadow**	**11.65**	**84**	*e*Pn	Pn	12 20 25.5	+2.9
MOOW	**Moose Ponds**	**11.70**	**82**	*e*Pn	**Pn**	**12 20 25.6**	**+2.4**
SNOW	**Snow King Moun**	**11.71**	**84**	*e*Pn	Pn	12 20 26.4	+3.0
FLWY	**Flagg Ranch**	**11.72**	**81**	*e*Pn	Pn	12 20 27.0	+3.5
YNR	**Norris Junctio**	**11.73**	**77**	*e*Pn	**Pn**	**12 20 23.0**	**-0.7**
	6.1nm,0.7s						
CCUT	**Cedar City**	**11.75**	**115**	*e*Pn	Pn	12 20 28.3	+4.4
LKWY	**Lake**	**11.93**	**78**	*e*Pn	Pn	12 20 30.0	+3.6
MSU	**Marysvale**	**12.07**	**108**	*e*Pn	**Pn**	**12 20 30.4**	**+2.1**
	4.7nm,1.2s						
TMUT	**Trail Mountain**	**12.41**	**103**	*e*Pn	Pn	12 20 38.8	+5.8
BW06	**Boulder Array**	**12.66**	**86**	*e*Pn	**Pn**	**12 20 37.3**	**+1.0**
PDAR	**Pinedale Array**	**12.66**	**86**	Pn	**Pn**	**12 20 38.5**	**+2.1**
PDAR	**Pinedale Array**	**12.66**	**86**	Pn	**Pn**	**12 20 38.5**	**+2.1**
	0.1nm,0.3s,baz=279,slow=13,SNR=23						
RLMT	**Red Lodge**	**12.75**	**76**	*e*Pn	**Pn**	**12 20 39.1**	**+1.7**
EGMT	**Eagleton**	**12.86**	**62**	*e*Pn	**Pn**	**12 20 39.7**	**+0.9**
PV01	**Paradox Valley**	**14.77**	**104**	*e*Pn	**Pn**	**12 21 06.5**	**+1.3**
	508nm,1.4s						
DLBC	**Dease Lake**	**15.31**	**354**	Pn	**P**	**12 21 18.8**	**+1.9**
DLBC	**Dease Lake**	**15.31**	**354**	Pn	**P**	**12 21 18.8**	**+1.9**
	0.3nm,0.3s,baz=176,slow=11,SNR=17						
ISCO	**Idaho Springs**	**16.26**	**95**	*e*Pn	**Pn**	**12 21 25.3**	**+0.5**
	6.7nm,1.1s						
DGMT	**Dagmar**	**16.58**	**64**	*e*Pn	**P**	**12 21 30.3**	**-0.7**
	20nm,0.9s						
ANMO	**Albuquerque**	**17.84**	**111**	P	**P**	**12 21 45.8**	**+0.6**
ANMO	**Albuquerque**	**17.84**	**111**	P	**P**	**12 21 45.8**	**+0.6**
	0.1nm,0.3s,baz=307,slow=12,SNR=9.3						
BNM	**Barren Site**	**18.18**	**113**	*e*Pn	**P**	**12 21 50.0**	**+1.0**
	6.4nm,1.2s						
YKA	**Yellowknife Ar**	**20.55**	**16**	P	**P**	**12 22 14.4**	**0.0**
YKA	**Yellowknife Ar**	**20.55**	**16**	P	**P**	**12 22 14.4**	**0.0**
	0.6nm,0.6s,baz=201,slow=8.3,SNR=16						
AMTX	**Amarillo**	**21.20**	**105**	*e*Pn	**P**	**12 22 23.6**	**+1.8**
	6.3nm,0.8s						
KDAK	**Kodiak Island**	**21.69**	**321**	P	**P**	**12 22 27.9**	**+1.2**
KDAK	**Kodiak Island**	**21.69**	**321**	P	**P**	**12 22 27.9**	**+1.2**
	7.2nm,0.9s,baz=151,slow=6.9,SNR=2.1						
ECSD	**EROS Data Cent**	**21.88**	**78**	*e*P	**P**	**12 22 29.9**	**+0.9**
	11nm,1.2s						
MENT	**Mentasta**	**22.01**	**339**	*e*P	**P**	**12 22 32.1**	**+1.8**
AGMN	**Agassiz Nation**	**22.09**	**66**	*e*P	**P**	**12 22 32.0**	**+0.8**
	28nm,1.1s						
SML	**Sawmill**	**22.50**	**333**	*e*P	**P**	**12 22 37.6**	**+2.1**
	3.3nm,1.1s						
KSU1	**Kansas State U**	**23.07**	**90**	*e*P	**P**	**12 22 44.6**	**+3.0**
	12nm,1.0s						
WMOK	**Wichita Mounta**	**23.33**	**102**	*e*P	**P**	**12 22 45.4**	**+1.1**
	26nm,1.3s						
ILAR	**Eielson Array**	**24.33**	**339**	P	**P**	**12 22 54.0**	**+0.4**
ILAR	**Eielson Array**	**24.33**	**339**	P	**P**	**12 22 54.0**	**+0.4**
	1.9nm,0.8s,baz=150,slow=9.1,SNR=25						
INK	**Inuvik**	**25.34**	**354**	P	**P**	**12 23 02.4**	**-0.3**
INK	**Inuvik**	**25.34**	**354**	P	**P**	**12 23 02.4**	**-0.3**
	1.3nm,0.9s,baz=175,slow=9.5,SNR=3.6						
INK				LR	LR	12 32 38.5	
	comp=Z,97nm,19.1s,baz=114,slow=36						
MDJ	**Mudanjiang**	**69.16**	**312**	P	**P**	**12 28 41.5**	**-0.9**
MDJ				pP	**pP**	**12 28 44.8**	**-1.1**
MDJ				sP	**sP**	**12 28 46.0**	**-1.2**
MDJ				S	**S**	**12 37 46.0**	**-1.9**
MDJ				sS	**sS**	**12 37 51.5**	**-2.1**
MDJ				ScS	**SKSac**	**12 38 41.5**	**-0.8**
MDJ				pmax	pmax		
	comp=Z,3.0nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,53nm,4.7s						
MDJ				LR	LR		
	comp=N,260nm,29.7s						
MDJ				LR	LR		
	comp=E,140nm,28.2s						
MDJ				LR	LR		
	comp=Z,350nm,29.3s						
HHC	**Hu-ho-hao-te**	**81.09**	**319**	*e*P	**P**	**12 29 52.5**	**+1.0**
HHC				PP	**PP**	**12 32 59.0**	**+3.2**
HHC				S	**S**	**12 39 59.0**	**-2.0**
HHC				SS	**SS**	**12 45 16.3**	**+1.8**
HHC				LR	LR		
	comp=Z,180nm,16.7s						
KURK	**Kurchatov**	**83.80**	**344**	*e*P	P	12 30 09.3	+4.0
	comp=Z,9.1nm,1.4s						
LZH	**Lanzhou**	**88.52**	**321**	*e*P	**P**	**12 30 28.5**	**-0.6**
LZH				sP	**sP**	**12 30 36.5**	**+2.6**

*ISK **28** 12:17:43.6,38˚.82N×41˚.27E,h6km,MD2.7*
*DDA **28** 12:17:47.6,39˚.01N×41˚.25E,h7km,MD2.7*

CSEM 28 12:17:40.4±1.1,**38˚69N**×**41˚01E**,**h5**km,**MD2.7**,**Error ellipse: s-maj=23.3km s-min=13.1km az=176.0**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNGL	**BINGOL**	**0.28**	**23**	*i* Pg	Pb	12 17 49.7	+1.4
BNGL				*i* Sg	Sb	12 17 52.2	-1.3
VRTB	**Varto-Mus**	**0.58**	**37**	*e*Pg	Pg	12 17 51.3	-0.5
VRTB				*e*SG	Sg	12 17 56.9	-2.7
VRTB	**Varto-Mus**	**0.58**	**37**	*e*Pg	Pg	12 17 51.3	-0.5
VRTB				*e*Sg	Sg	12 17 56.9	-2.7
EZM	**Erzurum**	**1.24**	**13**	*e*PN	Pn	12 18 04.9	+0.1
ERZM	**Erzurum**	**1.24**	**13**	*e*P	Pn	12 18 05.0	+0.2
ERZM				*e*S	Sg	12 18 16.0	-5.0
ERZM	**Erzurum**	**1.24**	**13**	*e*P	Pn	12 18 05.0	+0.2
ERZM				*e*S	Sg	12 18 16.0	-5.0
ERZN	**Erzincan**	**1.34**	**312**	*e*PN	Pg	12 18 10.0	+3.7
ERZN				*e*SN	Sn	12 18 30.4	+6.1
KOPT	**Kop Dagi**	**1.38**	**343**	*e*P	Pg	12 18 10.1	+2.8
KOPT				*e*S	Sn	12 18 26.3	+0.6
KOPT	**Kop Dagi**	**1.38**	**343**	*e*P	Pg	12 18 10.1	+2.8
KOPT				*e*S	Sn	12 18 26.3	+0.6
EZC	**Erzincan**	**1.67**	**310**	*e*Pn	Pn	12 18 10.0	-0.5
EZC				*e*Sn	Sn	12 18 30.4	-2.0
AGRB	**Hanur-Agry**	**1.77**	**60**	*e*PN	Pn	12 18 12.3	+0.3
AGRB	**Hanur-Agry**	**1.77**	**60**	*e*Pn	Pn	12 18 12.3	+0.3

PRE 28 12:19:37.8±0.9,**25˚70S**×**27˚46E**,**h2**km,**ML1.7**,**South Africa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSR	**Koster**	**0.53**	**253**	*e*P	Pg	12 19 47.6	-0.7
KSR				*e*S	Sg	12 19 55.0	-0.4
KSR				AML	AML	12 19 55.9	
	comp=Z,27nm,0.2s						
ERPM	**east rand prop**	**0.95**	**133**	*e*P	Pg	12 19 54.7	-1.7
ERPM				*e*S	Sg	12 20 07.1	-1.9
ERPM				AML	AML	12 20 15.0	
	comp=Z,15nm,0.7s						
PRYS	**Parys**	**1.23**	**184**	*e*P	Pg	12 20 01.7	+0.1
PRYS				*e*S	Sn	12 20 19.2	-0.4
PRYS				AML	AML	12 20 21.7	
	comp=Z,12nm,0.2s						
LBTB	**Lobatse**	**1.82**	**292**	*e*P	Pb	12 20 11.5	-0.4
LBTB				*e*S	Sb	12 20 35.0	-0.3
LBTB				AML	AML	12 20 39.1	
	comp=Z,4.8nm,0.5s						

*ISCJB **28** 12:19:55.3±0.4,6˚.79S±0˚.06×125˚.13E±0˚.07,h543km, mb3.8/13,Error ellipse: s-maj=9.7km s-min=7.4km az=136.8*
*DJA **28** 12:19:55,6˚.77S×125˚.07E,h574km,MLv4.9/7*
*IDC **28** 12:19:56.4±1.4,6˚.84S×125˚.13E,h545km±19km,mb3.3/13, mb1 3.3/17,mb1mx3.3/27,mbtmp3.3/17,Error ellipse: s-maj=21.4km s-min=10.5km az=54.0*

ISC 28 12:19:56.1±0.6,**6˚86S**±0˚.08×**125˚19E**±0˚.08,**h543**km,**n26**, σ1§**23**/27,**mb3.8**/13,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDI	**Kendari**	**3.86**	**318**	P	**P**	**12 21 17.1**	**+0.6**
KDI	**Kendari**	**3.86**	**318**	P	**P**	**12 21 17.2**	**+0.7**
BNDI	**Bandanaira**	**5.24**	**64**	P	**P**	**12 21 29.5**	**+1.9**
KAPI	**Kappang**	**5.71**	**288**	P	**P**	**12 21 31.9**	**+0.1**
	169nm,0.9s,1μm0.5nm						
KAPI	**Kappang**	**5.71**	**288**	P	**P**	**12 21 31.9**	**+0.1**
	6.2nm,0.3s,baz=146,slow=6.0,SNR=63						
TLE	**Tual**	**7.60**	**81**	P	**P**	**12 21 51.5**	**+1.8**
	75nm,1.1s,0.5nm						
TLE	**Tual**	**7.60**	**81**	S	**S**	**12 23 19.1**	**-3.7**
	47nm,0.8s						
FAKI	**Fak Fak**	**8.05**	**61**	P	**P**	**12 21 53.7**	**-0.5**
SWI	**Sorong**	**8.50**	**46**	P	**P**	**12 21 59.3**	**+0.6**
JAGI	**Jajag, Banyuwa**	**11.05**	**261**	P	**P**	**12 22 22.2**	**-2.7**
FITZ	**Fitzroy Crossi**	**11.18**	**178**	P	**P**	**12 22 25.7**	**-0.4**
	1.6nm,0.3s,baz=23,slow=7.8,SNR=8.3						
WRA	**Warramunga Arr**	**15.74**	**147**	P	**P**	**12 23 12.5**	**-0.9**
	0.7nm,0.3s,baz=328,slow=11,SNR=9.1						
WRA				S	**S**	**12 25 53.9**	**-1.1**
	baz=331,slow=16,SNR=4.9						
ASAR	**Alice Springs**	**18.69**	**154**	P	**P**	**12 23 41.5**	**+0.8**
	0.4nm,0.3s,baz=334,slow=8.0,SNR=12						
PMG	**Port Moresby**	**21.89**	**98**	P	**P**	**12 24 10.8**	**+1.0**
	6.2nm,0.9s,baz=299,slow=5.0,SNR=2.8						
STKA	**Stephens Creek**	**29.22**	**151**	P	**P**	**12 25 14.8**	**+0.6**
	2.0nm,0.5s,baz=324,slow=10,SNR=4.6						
CMAR	**Chiang Mai Arr**	**36.10**	**315**	P	**P**	**12 26 13.0**	**+0.3**
	1.2nm,0.8s,baz=136,slow=6.7,SNR=8.5						
KSRS	**Korea Array**	**44.16**	**3**	P	**P**	**12 27 16.8**	**+0.1**
	2.0nm,0.9s,baz=187,slow=8.4,SNR=4.6						
MJAR	**Matsushiro Arr**	**44.87**	**15**	P	**P**	**12 27 21.6**	**-0.7**
	1.5nm,0.7s,baz=192,slow=9.4,SNR=6.6						
SONM	**Songino Array**	**56.94**	**345**	P	**P**	**12 28 49.9**	**0.0**
	1.6nm,0.7s,baz=162,slow=9.0,SNR=17						
MKAR	**Makanchi Array**	**65.58**	**329**	P	**P**	**12 29 46.3**	**0.0**
	3.4nm,0.8s,baz=127,slow=7.7,SNR=28						
PETK	**Petropavlovsk-**	**65.79**	**21**	P	**P**	**12 29 47.5**	**+0.1**
	3.1nm,1.0s,baz=193,slow=12,SNR=4.6						
ZALV	**Zalesovo Beam**	**69.43**	**336**	P	**P**	**12 30 08.8**	**-0.9**
	3.4nm,0.6s,baz=135,slow=4.5,SNR=21						
RAR	**Rarotonga**	**73.63**	**110**	P	**P**	**12 30 35.8**	**+1.0**
	12nm,0.7s,baz=77,slow=12,SNR=2.4						
BVAR	**Borovoye Array**	**75.46**	**329**	P	**P**	**12 30 44.3**	**-0.2**
	3.2nm,0.9s,baz=140,slow=7.7,SNR=9.4						
AKTO	**Aktyubinsk**	**81.08**	**323**	P	**P**	**12 31 14.7**	**0.0**
	1.5nm,0.7s,baz=84,slow=4.0,SNR=9.1						
QSPA	**South Pole Qui**	**83.11**	**180**	P	**P**	**12 31 25.1**	**+0.2**
	1.0nm,1.0s,baz=336,slow=2.9,SNR=2.2						

*BJI **28** 12:24:03.5,2˚.98N×126˚.99E,h48km,mB4.9/32,mb4.9/44, Ms4.5/39,Ms7 4.3/38*
*MOS **28** 12:24:09.3±0.9,3˚.85N×126˚.42E,h33km,mb5.1/33,Error ellipse: s-maj=11.9km s-min=5.6km az=114.7*
*IDC **28** 12:24:10.7±2.3,3˚.83N×126˚.45E,h31km±16km,mb4.4/33, mb1 4.5/33,mb1mx4.5/36,mbtmp4.4/33,MS4.1/21, Ms1 4.1/21,ms1mx3.9/38,Error ellipse: s-maj=16.6km s-min=9.1km az=78.0*
*NEIC **28** 12:24:12.9±0.9,3˚.90N×126˚.52E,h49km±8km,mb5.0/52, Error ellipse: s-maj=6.8km s-min=4.2km az=70.0*
NEIC Felt [II] at Melonguanne.
*ISCJB **28** 12:24:12.6±0.4,3˚.84N±0˚.02×126˚.63E±0˚.03,h65km±4km, mb4.8/121,Error ellipse: s-maj=5.1km s-min=3.3km az=160.8*
*DJA **28** 12:24:17,3˚.77N×126˚.77E,h81km,mb5.0/30*

ISC 28 12:24:14.6±0.5,**3˚84N**±0˚.03×**126˚62E**±0˚.04,**h63**km±4km, **n335**,σ1§**49**/312,**mb4.9**/120,**11C-9D**,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.10**	**262**	P	Sn	12 24 46.8	-1.8
MNI	**Manado**	**2.97**	**217**	P	Pn	12 24 58.7	-0.7
MNI				S	**Sn**	**12 25 32.1**	**-1.8**
MATI	**Mati**	**3.11**	**353**	*e*P	Pn	12 25 01.6	+0.3
TNTI	**Ternate**	**3.13**	**166**	P	**Pn**	**12 25 00.3**	**-1.3**
DAV	**Davao City (W)**	**3.38**	**342**	Pn	Pn	12 25 01.5	-3.4
DAV	**Davao City (W)**	**3.38**	**342**	P	Pn	12 25 10.9	+6.0
DAV	**Davao City (W)**	**3.38**	**342**	Pn	Pn	12 25 10.6	+5.7
	89nm,0.3s,baz=68,slow=8.5,SNR=8.0						
KCP	**Kidapawan**	**3.50**	**334**	*i* eP	Pn	12 25 11.7	+5.0
KCP				*i* S		12 26 59.6	
CTBH	**Cotabato--PC H**	**4.11**	**325**	*i* eP	Pn	12 25 13.1	-1.9
BUKP	**Musuan**	**4.30**	**339**	*e*P	Pn	12 25 17.4	-0.4
LBMI	**Labuha**	**4.53**	**169**	P	**Pn**	**12 25 19.8**	**-1.0**
CGP	**Cagayan de Oro**	**4.97**	**337**	*i* eP	**Pn**	**12 25 28.1**	**+1.3**
CGP				*e*S	**Sn**	**12 26 24.3**	**+1.3**
PAGZ	**Pagadian**	**5.12**	**321**	*e*P	Pn	12 25 28.2	-0.7
BUTP	**Butuan**	**5.19**	**349**	*e*P	**Pn**	**12 25 31.0**	**+1.2**
IPIL	**Ipil**	**5.63**	**314**	*i* eP	Pn	12 25 34.5	-1.2
IPIL				*e*S	Sn	12 26 35.5	-3.5
LUWI	**Luwuk**	**6.19**	**219**	P	Pn	12 25 46.8	+3.3
	907nm,1.6s,10μm3.5nm						
MSLP	**Maasin**	**6.50**	**344**	*e*P	**Pn**	**12 25 50.6**	**+3.0**
SWI	**Sorong**	**6.58**	**135**	P	**Pn**	**12 25 47.6**	**-1.2**
	129nm,0.7s,0.4nm						
PLP	**Palo**	**7.46**	**347**	*i* eP	Pn	12 25 58.6	-2.3
GUIM	**Jordan**	**7.84**	**330**	*e*P	Pn	12 26 10.3	+4.2
MYLDM	**Lahad Datu**	**8.21**	**280**	P	**Pn**	**12 26 12.7**	**+1.6**
MYLDM	**Lahad Datu**	**8.21**	**280**	P	Pn	12 26 14.5	+3.4
	222nm,0.9s,2μm1.1nm						
KDI	**Kendari**	**8.72**	**207**	P	Pn	12 26 15.4	-2.7
	105nm,0.9s,849nm						
TSM	**Tawau**	**8.74**	**273**	P	Pn	12 26 19.4	+1.0
FAKI	**Fak Fak**	**8.76**	**140**	P	**Pn**	**12 26 17.9**	**-0.7**
	54nm,0.8s,650nm						
BNDI	**Bandanaira**	**8.93**	**158**	P	**Pn**	**12 26 19.3**	**-1.7**
	89nm,1.6s,3μm						
SDKM	**Sandakan**	**9.56**	**281**	P	**Pn**	**12 26 31.1**	**+1.3**
KDM	**Kudat**	**10.21**	**288**	P	**Pn**	**12 26 39.8**	**+1.2**
SMKI	**Samarinda**	**10.33**	**246**	P	**Pn**	**12 26 42.7**	**+2.6**
	151nm,0.5s						
KKM	**Kota Kinabalu**	**10.60**	**282**	*e*Pn	Pn	12 26 40.2	-3.7
KKM				*e*Sn	Sn	12 28 39.5	-1.7
KKM	**Kota Kinabalu**	**10.60**	**282**	P	**Pn**	**12 26 45.3**	**+1.4**
KKM	**Kota Kinabalu**	**10.60**	**282**	P	**Pn**	**12 26 46.5**	**+2.6**
	97nm,1.0s,940nm						
BAKI	**Biak**	**10.71**	**118**	P	**Pn**	**12 26 45.8**	**+0.4**
	146nm,1.0s						
KAPI	**Kappang**	**11.15**	**218**	*e*Pn	**Pn**	**12 26 52.0**	**+0.6**
KAPI	**Kappang**	**11.15**	**218**	P	**Pn**	**12 26 51.5**	**+0.1**
	45nm,1.4s,606nm						
KAPI	**Kappang**	**11.15**	**218**	Pn	**Pn**	**12 26 54.0**	**+2.5**
	0.9nm,0.3s,baz=11,slow=8.2,SNR=11						
TLE	**Tual**	**11.22**	**147**	P	**Pn**	**12 26 51.9**	**-0.4**
	77nm,1.3s						
MMRI	**Maumere**	**13.14**	**199**	P	P	12 27 30.6	+4.1
BBKI	**Banjar Baru**	**13.83**	**239**	P	**Pn**	**12 27 30.2**	**+2.4**
	241nm,1.7s,4μm						
PLKI	**Palangkaraya**	**14.03**	**245**	P	Pn	12 27 33.5	+3.0
	181nm,1.2s						
SBUM	**Sibu**	**14.45**	**265**	P	**Pn**	**12 27 37.7**	**+1.7**
SBUM	**Sibu**	**14.45**	**265**	P	**Pn**	**12 27 37.7**	**+1.7**
	65nm,0.9s,2μm						
JAY	**Jayapura**	**15.42**	**114**	P	**P**	**12 27 49.8**	**-2.1**
	46nm,1.0s,5μm						
STKI	**Sintang**	**15.59**	**256**	P	**Pn**	**12 27 54.7**	**+4.0**
	51nm,1.2s						
PBKI	**Pangkalan Bun**	**16.30**	**247**	P	P	12 28 08.3	+6.7
KHKI	**Kahang-Kahang**	**16.36**	**222**	P	**P**	**12 28 05.8**	**+3.5**
	98nm,0.8s						
KSM	**Kuching**	**16.46**	**262**	*e*Pn	**Pn**	**12 28 02.4**	**+0.6**
	43nm,0.8s						
KSM				*e*S	**S**	**12 31 15.2**	**+2.5**
KSM	**Kuching**	**16.46**	**262**	P	**Pn**	**12 28 04.0**	**+2.3**
KSM	**Kuching**	**16.46**	**262**	P	**Pn**	**12 28 04.7**	**+3.0**
	63nm,1.2s,819nm						
MTN	**Manton Dam**	**17.17**	**165**	*e*P	**Pn**	**12 28 06.2**	**-4.2**
JAGI	**Jajag, Banyuwa**	**17.44**	**225**	P	**P**	**12 28 16.2**	**+1.9**
	102nm,0.7s						
SJI	**Sawahan**	**18

JNU LR LR 12 40 51.8
comp=Z,285nm,22.0s,baz=172,slow=34
GYA Guiyang 29.52 322 *e*P P 12 30 16.8 +3.4
GYA pP pP 12 30 26.5 -2.2
GYA sP sP 12 30 33.3 -2.8
GYA PP **PnPn** **12 31 12.0 +1.5**
GYA S **S** **12 35 05.5 +1.6**
GYA sS sS 12 35 26.0 -4.1
GYA ScS **ScS** **12 40 48.8 -0.4**
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,480nm,17.7s
GYA LR LR
comp=E,440nm,18.0s
GYA LR LR
comp=Z,510nm,17.0s
CTA Charters Tower 30.61 142 P P 12 30 26.4 +3.3
CTA Charters Tower 30.61 142 P P 12 30 26.3 +3.3
comp=Z,5.1nm,0.8s,baz=314,slow=12,SNR=4.0
CM31 Chiang Mai Arr 30.73 300 *e*P **P** **12 30 23.1 -1.0**
comp=Z,4.8nm,0.6s
CM31 *e*PcP PcP 12 33 36.6 +16
CMAR Chiang Mai Arr 30.73 300 P **P** **12 30 23.0 -1.1**
CMAR PcP PcP 12 33 36.9 +16
CMAR ScP ScP 12 37 08.4 +10
CMAR Chiang Mai Arr 30.73 300 P **P** **12 30 23.0 -1.1**
comp=Z,3.5nm,0.6s,baz=110,slow=7.0,SNR=21
CMAR PcP PcP 12 33 36.9 +16
comp=Z,1.7nm,0.7s,baz=115,slow=0.8,SNR=5.8
CMAR ScP ScP 12 37 08.4 +10
comp=Z,1.7nm,0.8s,baz=133,slow=1.8,SNR=6.4
CMAR LR LR 12 42 30.2
comp=Z,235nm,21.7s,baz=306,slow=36
CHTO Chiang Mai 30.88 301 *e*P P 12 30 23.7 -1.7
CHTO pmax pmax
comp=Z,15nm,0.7s
CHTO Chiang Mai 30.88 301 *e*P P 12 30 23.7 -1.7
comp=Z,15nm,0.7s
CHTO Chiang Mai 30.88 301 P **P** **12 30 24.4 -1.0**
comp=Z,25nm,0.8s
ENH Enshi 30.88 330 *e*P **P** **12 30 24.0 -1.3**
comp=Z,16nm,0.6s
KMI Kunming 31.23 315 P P 12 30 32.0 +3.3
KMI pP pP 12 30 45.0 +1.0
KMI sP sP 12 30 50.0 -1.4
KMI S **S** **12 35 32.5 +1.6**
KMI pmax pmax
comp=Z,12nm,1.1s
KMI pmax pmax
comp=Z,100nm,3.3s
KMI LR LR
comp=N,150nm,20.6s
KMI LR LR
comp=E,250nm,25.7s
KMI LR LR
comp=Z,390nm,25.3s
MEEK Meekatharra 31.27 194 *e*P **P** **12 30 27.3 -1.4**
KSAR Wonju Array Be 33.46 2 P **P** **12 30 47.5 -0.3**
KSRS Korea Array 33.48 2 P **P** **12 30 47.5 -0.4**
comp=Z,5.8nm,0.7s,baz=181,slow=10.0,SNR=28
KSRS LR LR 12 44 47.5
comp=Z,231nm,19.6s,baz=187,slow=37
MAT Matsushiro 34.25 17 P **P** **12 30 52.8 -1.9**
MAT S S 12 36 25.0 +7.8
MJAR Matsushiro Arr 34.25 17 P **P** **12 30 53.0 -1.7**
MJAR Matsushiro Arr 34.25 17 P **P** **12 30 53.0 -1.7**
comp=Z,2.6nm,0.6s,baz=187,slow=10,SNR=10
MJAR LR LR 12 42 54.2
comp=Z,374nm,21.9s,baz=200,slow=33
XAN Xi'an 34.27 333 P P 12 30 53.3 -1.6
XAN pmax pmax
comp=Z,8.0nm,0.7s
XAN pmax pmax
comp=Z,14nm,5.6s
XAN LR LR
comp=N,320nm,20.0s
XAN LR LR
comp=E,73nm,20.5s
XAN LR LR
comp=Z,120nm,19.1s
FORT Forrest 34.45 178 *e*P **P** **12 30 55.6 -0.8**
CD2 Chengdu 34.49 324 P **P** **12 30 56.3 -0.6**
CD2 pP pP 12 31 06.0 -6.4
CD2 sP sP 12 31 09.8 -10
CD2 PP **PnPn** **12 32 12.8 -1.1**
CD2 PcP **PcP** **12 33 31.0 +0.1**
CD2 S **S** **12 36 21.5 +0.3**
CD2 PcS **PcS** **12 37 16.5 -1.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,90nm,5.0s
CD2 LR LR
comp=N,480nm,20.1s
CD2 LR LR
comp=E,410nm,23.0s
CD2 LR LR
comp=Z,560nm,21.1s
BLDU Ballidu 35.55 195 *e*P **P** **12 31 04.5 -1.4**
KLBR Kellerberrin 36.23 193 *e*P **P** **12 31 09.1 -2.6**
BJT Baijiatuan 37.24 347 *e*P **P** **12 31 19.8 -0.3**
comp=Z,59nm,0.5s
BJI Beijing 37.26 347 P **P** **12 31 20.0 -0.3**
BJI S **S** **12 37 05.8 +2.7**
BJI SS **SnSn** **12 39 44.8 +0.6**
BJI pmax pmax
comp=Z,69nm,0.5s
BJI pmax pmax
comp=Z,120nm,3.4s
BJI LR LR
comp=N,170nm,25.8s
BJI LR LR
comp=E,180nm,20.1s
BJI LR LR
comp=Z,220nm,23.6s
EIDS Eidsvold 37.50 142 *e*P **P** **12 31 22.0 -0.6**
comp=Z,12nm,0.8s
EIDS Eidsvold 37.50 142 *e*P **P** **12 31 21.7 -0.9**
BBOO Buckleboo 37.53 167 *e*P **P** **12 31 22.0 -0.7**
comp=Z,161nm,0.5s
NWAO Narrogin (SRO) 37.63 193 P **P** **12 31 22.5 -1.1**
NWAO Narrogin (SRO) 37.63 193 P **P** **12 31 22.5 -1.1**
comp=Z,9.1nm,0.5s,baz=22,slow=10.0,SNR=13
NWAO LR LR 12 46 27.8
comp=Z,132nm,21.8s,baz=9.6,slow=36
SNY Shenyang 37.92 356 ||P **P** **12 31 26.0 +0.1**
SNY S **S** **12 37 15.0 +1.9**
SNY pmax pmax
comp=Z,25nm,0.6s
SNY pmax pmax
comp=Z,160nm,3.5s
SNY LR LR
comp=E,330nm,19.8s
SNY LR LR
comp=Z,300nm,25.3s
STKA Stephens Creek 38.27 159 P **P** **12 31 28.1 -0.9**
STKA Stephens Creek 38.27 159 *e*P **P** **12 31 27.8 -1.2**
STKA Stephens Creek 38.27 159 P **P** **12 31 28.1 -0.9**
comp=Z,6.8nm,0.5s,baz=338,slow=8.4,SNR=16
LZH Lanzhou 38.36 330 *e*P **P** **12 31 30.5 +0.6**
LZH pP pP 12 31 42.8 -2.8
LZH sP sP 12 31 50.0 -2.9
LZH PP **PP** **12 33 01.0 +2.3**
LZH S **ScP** **12 37 26.0 +0.7**
LZH sS sS 12 37 48.0 +1.1
LZH pmax pmax
comp=Z,24nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.2s
LZH LR LR
comp=N,390nm,16.5s
LZH LR LR
comp=E,440nm,16.6s
LZH LR LR
comp=Z,710nm,17.0s
HHC Hu-ho-hao-te 39.26 342 *e*P **P** **12 31 36.5 -0.8**
HHC pP pP 12 31 49.3 -3.8
HHC sP sP 12 31 55.3 -5.1
HHC PP **PP** **12 33 11.5 +3.0**
HHC S **S** **12 37 34.3 +0.7**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,120nm,4.3s
HHC LR LR
comp=N,200nm,16.7s
HHC LR LR
comp=E,170nm,15.5s
HHC LR LR
comp=Z,180nm,15.5s
CMSA Cobar Meteorol 39.59 154 *e*P **P** **12 31 40.1 +0.1**
CN2 Changchun 39.81 359 *e*P **P** **12 31 40.8 -0.9**
CN2 *es*P sP 12 31 58.5 -6.2
CN2 PP **PP** **12 33 17.8 +3.5**
CN2 *e*S **S** **12 37 43.0 +1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,80nm,4.0s
CN2 LR LR
comp=N,200nm,17.0s
CN2 LR LR
comp=E,300nm,17.0s
CN2 LR LR
comp=Z,200nm,19.0s
USRK Ussuriysk Arra 40.48 6 P **P** **12 31 47.1 -0.1**
comp=Z,4.0nm,0.6s,baz=191,slow=8.4,SNR=14
MDJ Mudanjiang 40.70 3 P **P** **12 31 49.0 0.0**
MDJ pP pP 12 32 00.3 -4.5
MDJ sP sP 12 32 05.5 -6.6
MDJ S **S** **12 37 57.0 +2.3**
MDJ SS **SS** **12 40 58.3 +0.9**
MDJ pmax pmax
comp=Z,22nm,1.0s
MDJ pmax pmax
comp=Z,63nm,5.1s
MDJ LR LR
comp=N,260nm,30.0s
MDJ LR LR
comp=E,140nm,26.3s
MDJ LR LR
comp=Z,350nm,30.0s
MDJ Mudanjiang 40.70 3 *e*P **P** **12 31 49.0 0.0**
comp=Z,16nm,0.8s
ARMA Armidale 41.61 147 *e*P **P** **12 31 57.2 +0.3**
comp=Z,16nm,0.7s
ARMA Armidale 41.61 147 *e*P **P** **12 31 57.2 +0.3**
LSA Lhasa 42.29 311 P **P** **12 32 02.3 -0.6**
LSA Lhasa 42.29 311 *e*P **P** **12 32 02.4 -0.4**
LSA pmax pmax
comp=Z,14nm,0.6s
LSA Lhasa 42.29 311 *e*P **P** **12 32 02.4 -0.4**
comp=Z,14nm,0.6s
ASAJ Asahikawa 42.52 17 P **P** **12 32 04.3 +0.3**
ASAJ Asahikawa 42.52 17 P **P** **12 32 04.3 +0.3**
comp=Z,7.4nm,0.8s,baz=243,slow=24,SNR=8.8
ASAJ LR LR 12 48 08.6
comp=Z,265nm,21.7s,baz=184,slow=34
ARPS Mount Arapiles 42.82 162 *e*P **P** **12 32 06.0 -0.5**
GTA Gaotai 42.95 329 *e*P P 12 32 04.5 -3.2
GTA pP pP 12 32 16.5 -7.1
GTA sP sP 12 32 21.8 -9.0
GTA S **S** **12 38 26.5 -2.0**
GTA ScS **ScS** **12 42 03.8 +1.0**
GTA pmax pmax
comp=Z,2.0nm,0.5s
GTA pmax pmax
comp=Z,47nm,6.2s
GTA LR LR
comp=N,350nm,20.4s
GTA LR LR
comp=E,320nm,18.3s
GTA LR LR
comp=Z,540nm,20.7s
ODAN Odare 43.92 305 *e*P **P** **12 32 14.5 -1.3**
comp=Z,39nm,0.7s
ODAN Odare 43.92 305 *e*P **P** **12 32 14.5 -1.3**
comp=Z,39nm,0.7s
CAN Canberra 44.26 154 *e*P **P** **12 32 19.3 +1.2**
RAMN Ramite 44.60 305 *e*P P 12 32 19.7 -1.6
comp=Z,30nm,0.7s
RAMN Ramite 44.60 305 *e*P P 12 32 19.7 -1.6
comp=Z,30nm,0.7s
HABR Khabarovsk 45.05 8 P **P** **12 32 23.3 -0.9**
HABR *e**SP sP 12 32 35.9 -11
HABR *e* 12 34 07.8
HABR S **S** **12 38 59.6 +1.1**
HABR *SS sS 12 39 16.3 -9.3
HABR *e* 12 42 16.1
HABR *e*SSS SSS 12 43 10.5
HABR pmax pmax
comp=N,26nm,2.1s
HABR pmax pmax
comp=E,6.0nm,0.7s
HABR pmax pmax
comp=Z,29nm,1.6s
HABR MLR MLR
comp=Z,99nm,18.0s
YSS Yuzh-Sakhalins 45.17 16‖ *e*P **P** **12 32 25.6 +0.5**
JIRN Jiri 45.22 306 *e*P P 12 32 24.6 -1.8
comp=Z,6.8nm,0.5s
JIRN Jiri 45.22 306 *e*P P 12 32 24.6 -1.8
comp=Z,6.8nm,0.5s
KLR Kul'dur 45.44 5 *e*P P 12 32 22.0 -5.2
GUN Gumba 45.58 306 *e*P P 12 32 27.3 -1.8
comp=Z,33nm,0.5s
GUN Gumba 45.58 306 *e*P P 12 32 27.3 -1.8
comp=Z,33nm,0.5s
HIA Hailar 45.64 354 *e*P **P** **12 32 29.4 +0.5**
comp=Z,20nm,0.9s
PKI Pulchoki 45.82 305 *e*P P 12 32 29.0 -2.0
PKI Pulchoki 45.82 305 *e*P P 12 32 29.0 -2.0
PKI Pulchoki 45.82 305 *e*P P 12 32 29.0 -2.0
DMN Daman 46.08 305 *e*P P 12 32 31.1 -1.9
DMN Daman 46.08 305 *e*P P 12 32 31.1 -1.9
GKN Gorkha 46.62 306 *e*P P 12 32 34.8 -2.3
comp=Z,16nm,0.5s
GKN Gorkha 46.62 306 *e*P P 12 32 34.8 -2.3
comp=Z,16nm,0.5s
DZM Mont Dzumac 46.68 125 *e*P **P** **12 32 39.5 +1.9**
comp=Z,23nm,0.8s
DZM *e*S S 12 39 28.8 +5.9
comp=Z,248nm,30.9s
DZM *e*LR LR 12 45 59.5
comp=Z,305nm,26.1s
DZM Mont Dzumac 46.68 125 P **P** **12 32 38.2 +0.6**
comp=Z,0.8nm,0.7s
DZM Mont Dzumac 46.68 125 P **P** **12 32 38.2 +0.6**
comp=Z,13nm,0.7s,baz=259,slow=2.1,SNR=17
ULN Ulaanbaatar 46.98 342 *e*P **P** **12 32 39.3 -0.3**
comp=Z,8.9nm,0.8s
ULN *e*PcP **PcP** **12 34 08.0 -3.2**
ULN Ulaanbaatar 46.98 342 P **P** **12 32 40.4 +0.8**
SONM Songino Array 47.16 341 P **P** **12 32 40.6 -0.3**
SONM PcP **PcP** **12 34 15.0 +3.3**
SONM Songino Array 47.16 341 P **P** **12 32 40.6 -0.3**
comp=Z,5.0nm,0.6s,baz=157,slow=8.6,SNR=48
SONM PcP **PcP** **12 34 15.0 +3.3**
comp=Z,2.0nm,0.7s,baz=163,slow=4.7,SNR=3.2
KOLN Koldanda 47.38 305 *e*P P 12 32 41.3 -1.8
comp=Z,57nm,0.5s
KOLN Koldanda 47.38 305 *e*P P 12 32 41.3 -1.8
comp=Z,57nm,0.5s
DANN Dangsing 47.47 306 *e*P P 12 32 41.8 -2.1
comp=Z,72nm,0.6s
DANN Dangsing 47.47 306 *e*P P 12 32 41.8 -2.1
comp=Z,72nm,0.6s
PYUN Piuthan 48.00 305 *e*P P 12 32 46.2 -1.7
comp=Z,30nm,0.5s
PYUN Piuthan 48.00 305 *e*P P 12 32 46.2 -1.7
comp=Z,30nm,0.5s
ZAK Zakamensk 50.39 341 *e*P **P** **12 33 04.6 -1.0**
ZAK *e* 12 34 23.3
ZAK pmax pmax
comp=Z,3.0nm,1.3s
TLY Talaya 51.39 342 *e*P **P** **12 33 12.4 -0.7**
TLY *e*S **S** **12 40 28.9 +0.9**
TLY pmax pmax
comp=Z,6.0nm,0.7s
TLY MLR MLR
comp=Z,109nm,20.0s
TLY Talaya 51.39 342 *e*P **P** **12 33 12.7 -0.4**
MOY Mondy 52.24 340 *e*P **P** **12 33 20.4 +0.9**
WMQ Urumqi 52.58 325 *e*P **P** **12 33 22.5 +0.4**
WMQ pP pP 12 33 35.0 -3.4
WMQ sP sP 12 33 40.0 -5.5
WMQ PcP **PcP** **12 34 32.0 +0.4**
WMQ *e*S **S** **12 40 44.0 -0.6**
WMQ ScS **ScS** **12 43 06.0 -0.3**
WMQ pmax pmax
comp=Z,10.0nm,1.0s
WMQ pmax pmax
comp=Z,100nm,6.0s
WMQ LR LR
comp=N,570nm,19.2s
WMQ LR LR
comp=E,280nm,12.8s
WMQ LR LR
comp=Z,270nm,22.6s
POO Poona 53.58 290 *e*PKP P 12 33 25.0 -4.8
BOD Bodaibo 54.74 352 *e*P **P** **12 33 37.4 -0.1**
BOD pmax pmax
comp=Z,9.0nm,1.7s
MSVF Nonsavu 55.05 115 *e*P **P** **12 33 42.5 +2.0**
MSVF pmax pmax
comp=Z,15nm,0.9s
MSVF Nonsavu 55.05 115 *e*P **P** **12 33 42.5 +2.0**
comp=Z,15nm,0.9s
PETK Petropavlovsk- 55.37 22 P **P** **12 33 42.5 +0.3**
PETK Petropavlovsk- 55.37 22 P **P** **12 33 42.5 +0.3**
PETK Petropavlovsk- 55.37 22 P **P** **12 33 42.5 +0.3**
comp=Z,11nm,0.6s,baz=188,slow=4.6,SNR=24
PETK LR LR 12 56 52.6
comp=Z,64nm,19.5s,baz=214,slow=35
PET Petropavlovsk 55.67 23 *e*P **P** **12 33 45.1 +0.8**
PET *e*S S 12 41 31.7 +5.9
PET pmax pmax
comp=Z,20nm,1.5s
PET pmax pmax
comp=Z,100nm,14.9s
MK31 Makanchi Array 57.41 325 *e*P **P** **12 33 55.0 -1.8**
MK31 pmax pmax
comp=Z,4.0nm,0.5s
MK31 Makanchi Array 57.41 325 *e*P **P** **12 33 55.1 -1.8**
MKAR Makanchi Array 57.41 325 *e*P **P** **12 33 55.3 -1.5**
MKAR 12 34 50.9
MKAR Makanchi Array 57.41 325 *e*P **P** **12 33 55.3 -1.5**
MKAR PcP **PcP** **12 34 50.9 +0.8**
MKAR ScP **ScP** **12 38 46.7 +2.0**
MKAR Makanchi Array 57.41 325 P **P** **12 33 55.2 -1.6**
comp=Z,3.9nm,0.4s,baz=119,slow=7.0,SNR=55
MKAR PcP **PcP** **12 34 50.9 +0.8**
comp=Z,4.7nm,0.7s,baz=117,slow=4.8,SNR=3.9
MKAR ScP **ScP** **12 38 46.7 +2.0**
comp=Z,2.1nm,0.7s,baz=114,slow=4.8,SNR=5.6
KSH Kashi 57.89 315 P **P** **12 34 01.3 +0.8**
KSH pP pP 12 34 12.5 -4.6
KSH sP sP 12 34 18.5 -5.7
KSH PcP **PcP** **12 34 52.0 -0.3**
KSH PP **PP** **12 36 11.0 +1.6**
KSH ScP **ScP** **12 38 46.5 -0.7**
KSH PcS **PcS** **12 38 52.0 -1.8**
KSH S **S** **12 41 56.0 +0.1**
KSH ScS **ScS** **12 43 43.3 -1.5**
KSH pmax pmax
comp=Z,7.0nm,1.0s
KSH LR LR
comp=N,140nm,6.5s
KSH LR LR
comp=E,86nm,5.8s
KSH LR LR
comp=Z,110nm,10.3s
YAK Yakutsk 58.10 2 *e*P **P** **12 34 00.9 -0.4**
YAK *e**PP **pP** **12 34 17.8 -0.1**
YAK *e* 12 34 51.7
YAK *e* 12 36 11.7
YAK *e*S **S** **12 42 01.4 +3.8**
YAK *e* 12 43 43.5
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,215nm,23.0s
YAK pmax pmax
comp=Z,4.0nm,0.5s
YAK smax smax
comp=E,88nm,2.5s
YAK smax smax
comp=N,54nm,1.8s
YAK Yakutsk 58.10 2 *e*P **P** **12 34 01.2 -0.1**
comp=N,36nm,0.8s
KZA Kyzart 59.46 318 P **P** **12 34 12.2 +0.5**
SNR=12
TKM2 Tokmak 2 59.59 319 *i* P P 12 34 12.3 0.0
TKM2 Tokmak 2 59.59 319 *e*P P 12 34 10.5 -1.9
comp=N,25nm,0.6s
TKM2 Tokmak 2 59.59 319 P **P** **12 34 12.4 0.0**
SNR=17
KBK Karagaybulak 59.91 318 P **P** **12 34 14.0 -0.5**
SNR=7.0
AAK Ala-Archa 60.21 318*ce*P **P** **12 34 15.0 -1.5**
AAK pmax pmax
comp=Z,10.0nm,0.7s
AAK Ala-Archa 60.21 318 *e*P **P** **12 34 15.3 -1.2**
comp=Z,18nm,0.6s
ZALV Zalesovo Beam 60.44 333 P P 12 34 15.6 -2.0
ZALV Zalesovo Beam 60.44 333 P P 12 34 15.6 -2.0
ZALV Zalesovo Beam 60.44 333 P P 12 34 15.6 -2.0
comp=Z,2.5nm,0.4s,baz=127,slow=7.0,SNR=15
USP Ospenovka 60.47 318 P **P** **12 34 18.3 +0.2**
SNR=16
AML Almayashu 60.54 317 P **P** **12 34 19.3 +0.3**
SNR=35
EKS2 Erkin-Say 60.70 318 *e*P **P** **12 34 19.0 -0.8**
EKS2 pmax pmax
comp=Z,15nm,0.7s
EKS2 Erkin-Say 60.70 318 *e*P **P** **12 34 19.0 -0.8**
comp=Z,15nm,0.7s
EKS2 Erkin-Say 60.70 318 P **P** **12 34 20.1 +0.2**
SNR=25
KBL Kabul 61.37 307 *e*P **P** **12 34 23.5 -1.2**
KBL pmax pmax
comp=Z,18nm,0.6s
KBL Kabul 61.37 307 *e*P **P** **12 34 23.5 -1.2**
comp=Z,18nm,0.6s
KURK Kurchatov 61.59 328 *e*P **P** **12 34 24.0 -1.5**
KURK pmax pmax
comp=Z,20nm,0.6s
KURK Kurchatov 61.59 328 *e*P **P** **12 34 23.8 -1.7**
comp=Z,27nm,0.7s
NVS Novosibirsk 61.73 333 *e*P P 12 34 23.7 -2.6
NVS *e*S **S** **12 42 40.7 -3.7**
NVS *e* 12 44 07.1
NVS pmax pmax
comp=Z,6.0nm,0.7s
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS pmax pmax
comp=E,4.0nm,0.8s
NVS smax smax
comp=E,8.0nm,1.4s
SEY Seymchan 61.95 13*ce*P **P** **12 34 28.5 +0.8**
KK31 Karatay Array 63.08 317 *i* P **P** **12 34 34.4 -1.3**
KK31 pmax pmax
comp=Z,15nm,0.8s
KKAR Karatay Array 63.08 317 *e*P **P** **12 34 35.4 -0.3**
KKAR pmax pmax
comp=Z,15nm,0.8s
KKAR Karatay Array 63.08 317 *e*P **P** **12 34 35.4 -0.3**
comp=Z,15nm,0.8s
BVAR Borovoye Array 67.17 327 P **P** **12 35 00.8 -1.2**
BVAR Borovoye Array 67.17 327 P **P** **12 35 00.8 -1.2**
BVAR Borovoye Array 67.17 327 P **P** **12 35 00.8 -1.2**
comp=Z,4.0nm,0.6s,baz=136,slow=10,SNR=18
BRVK Borovoye 67.24 327 *e*P **P** **12 35 01.1 -1.3**
BRVK pmax pmax
comp=Z,13nm,0.8s
BRVK Borovoye 67.24 327 *e*P **P** **12 35 01.1 -1.3**
comp=Z,13nm,0.8s
BILL Bilibino 69.48 15 *e*P **P** **12 35 16.3 +0.2**
BILL *i* 12 37 50.2
BILL pmax pmax
comp=Z,3.0nm,1.2s
AB31 Akbulak array 72.00 321 *i* P **P** **12 35 29.9 -1.9**
AB31 pmax pmax
comp=Z,5.0nm,0.5s
ABKAR Akbulak array 72.00 321 *e*P **P** **12 35 29.9 -1.8**
comp=Z,4.7nm,0.4s
AKTO Aktyubinsk 73.51 322 P **P** **12 35 38.9 -1.8**
AKTO pmax pmax
comp=Z,2.0nm,0.9s
AKTO Aktyubinsk 73.51 322 P **P** **12 35 39.3 -1.4**

AKTO	**Aktyubinsk**	**73.51**	**322**	P	**P**	**12 35 39.3**	**-1.4**
	comp=Z,9.9nm,0.7s,baz=101,slow=9.9,SNR=35						
SVE	**Sverdlovsk**	**73.81**	**328**	*eP*	**P**	**12 35 41.4**	**-0.9**
SVE				pmax	pmax		
	comp=Z,16nm,0.8s						
ARU	**Arti**	**74.79**	**328**	*d iP*	**P**	**12 35 46.6**	**-1.5**
ARU				PPP	PPP	12 40 14.6	
ARU				S	**S**	**12 45 21.7**	**+1.9**
ARU				SS	**SS**	**12 50 04.3**	**-4.3**
ARU				pmax	pmax		
	comp=Z,15nm,1.0s						
ARU	**Arti**	**74.79**	**328**	*eP*	**P**	**12 35 46.1**	**-1.9**
ARU	**Arti**	**74.79**	**328**	P	**P**	**12 35 46.5**	**-1.5**
	comp=Z,100nm,0.9s,SNR=7.0						
RAR	**Rarotonga**	**76.18**	**113**	LR	LR	13 03 33.6	
	comp=Z,146nm,20.9s,baz=79,slow=31						
QRN	**Al-Qurain**	**78.26**	**298**	*eP*	P	12 36 06.2	-2.1
QRN				AMb	AMB	12 36 08.2	
	comp=Z,72nm,0.7s						
UMR	**Umm Al-Rimmam**	**78.47**	**299**	*eP*	**P**	**12 36 07.5**	**-1.9**
UMR				AMb	AMB	12 36 09.9	
	comp=Z,71nm,0.9s						
RDF	**Al-Radifah**	**78.59**	**299**	*eP*	P	12 36 08.0	-2.1
RDF				AMb	AMB	12 36 18.5	
	comp=Z,135nm,1.7s						
MIB	**Mutribah**	**78.81**	**299**	*eP*	**P**	**12 36 09.2**	**-2.0**
MIB				AMb	AMB	12 36 11.8	
	comp=Z,60nm,0.6s						
NAY	**Al-Naaiem**	**78.87**	**299**	*eP*	P	12 36 09.3	-2.3
NAY				AMb	AMB	12 36 11.4	
	comp=Z,29nm,0.8s						
GNI	**Garni**	**81.33**	**310**	LR	LR	13 18 59.3	
	comp=Z,72nm,21.4s,baz=210,slow=40						
KDAK	**Kodiak Island**	**81.86**	**32**	P	**P**	**12 36 27.9**	**+0.9**
KDAK	**Kodiak Island**	**81.86**	**32**	P	**P**	**12 36 27.9**	**+0.9**
	comp=Z,9.0nm,0.7s,baz=277,slow=3.3,SNR=6.7						
RSO	**Redoubt South**	**82.05**	**30**	*eP*	P	12 36 24.0	-4.3
	comp=Z,19nm,0.5s						
KBZ	**Khabaz**	**82.83**	**313**	LR	LR	13 19 17.4	
	comp=Z,111nm,20.0s,baz=240,slow=40						
KIV	**Kislovodsk**	**82.99**	**314**	*eP*	**P**	**12 36 32.7**	**-0.6**
KIV				*e*		12 39 47.2	
KIV				*eS*	S	12 46 53.6	+5.8
KIV				pmax	pmax		
	comp=Z,9.0nm,1.5s						
VNDA	**Vanda**	**83.55**	**173**	P	**P**	**12 36 35.3**	**-0.1**
VNDA	**Vanda**	**83.55**	**173**	P	**P**	**12 36 35.3**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=342,slow=10,SNR=5.4						
RC01	**Rabbit Creek A**	**83.58**	**29**	*eP*	**P**	**12 36 36.0**	**+0.1**
	comp=Z,13nm,0.9s						
VRHR	**Novokhopersk**	**83.89**	**321**	*eP*	**P**	**12 36 36.1**	**-1.6**
VRHR				pmax	pmax		
	comp=N,7.0nm,0.7s						
VRHR				pmax	pmax		
	comp=E,8.0nm,0.7s						
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PMR	**Palmer**	**83.90**	**29**	*eP*	**P**	**12 36 37.0**	**-0.5**
PMR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
PMR	**Palmer**	**83.90**	**29**	*eP*	**P**	**12 36 37.0**	**-0.5**
	comp=Z,7.6nm,0.8s						
MCK	**McKinley**	**84.11**	**26**	*eP*	**P**	**12 36 38.8**	**+0.2**
MCK				pmax	pmax		
	comp=Z,24nm,1.1s						
MCK	**McKinley**	**84.11**	**26**	*eP*	**P**	**12 36 38.8**	**+0.2**
	comp=Z,24nm,1.1s						
SML	**Sawmill**	**84.29**	**28**	*eP*	**P**	**12 36 39.9**	**+0.3**
SML				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SML	**Sawmill**	**84.29**	**28**	*eP*	**P**	**12 36 39.9**	**+0.3**
	comp=Z,7.0nm,1.1s						
ILAR	**Eielson Array**	**85.05**	**25**	P	**P**	**12 36 43.5**	**+0.2**
ILAR	**Eielson Array**	**85.05**	**25**	P	**P**	**12 36 43.5**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=246,slow=5.2,SNR=17						
ILAR				LR	LR	13 09 19.0	
	comp=Z,115nm,21.9s,baz=266,slow=32						
PPT	**Papeete**	**85.25**	**108**	LR	LR	13 11 19.1	
	comp=Z,94nm,19.6s,baz=249,slow=33						
PPT2	**Papeete2**	**85.25**	**108**	*e*LR	LR	13 03 49.1	
	comp=Z,253nm,25.8s						
KLMR	**Klimovskoe**	**85.26**	**331**	*eP*	**P**	**12 36 42.6**	**-1.8**
KLMR				pmax	pmax		
	comp=Z,56nm,1.3s						
VSR	**Storozhevoye**	**85.44**	**321**	*eP*	P	12 36 41.9	-3.6
VSR				pmax	pmax		
	comp=N,3.0nm,0.5s						
VSR				pmax	pmax		
	comp=E,2.0nm,0.5s						
VSR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
TBI	**Tubuai**	**85.93**	**114**	*e*LR	LR	13 04 07.2	
	comp=Z,284nm,28.8s						
BMRM	**Bremner River**	**86.08**	**29**	*eP*	**P**	**12 36 49.9**	**+1.4**
	comp=Z,5.6nm,0.7s						
ANN	**Anapa**	**86.75**	**315**	*eP*	**P**	**12 36 51.1**	**-1.0**
ANN				*e**PP	PcP	12 37 03.4	+9.1
ANN				pmax	pmax		
	comp=Z,84nm,1.2s						
OBN	**Obninsk**	**86.91**	**325**	*eP*	**P**	**12 36 52.1**	**-0.5**
OBN				*i*		12 37 06.4	
OBN				pmax	pmax		
	comp=Z,17nm,1.1s						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s						
ASF	**Jabal al Asfar**	**87.75**	**302**	LR	LR	13 23 20.2	
	comp=Z,62nm,18.7s,baz=76,slow=40						
JOF	**Joensuu**	**89.03**	**333**	*eP*	**P**	**12 37 01.8**	**-0.8**
JOF				pmax	pmax		
	comp=Z,10.0nm,0.6s						
JOF	**Joensuu**	**89.03**	**333**	*ep*	**P**	**12 37 01.8**	**-0.8**
	comp=Z,9.8nm,0.6s						
KEV	**Kevo**	**89.75**	**340**	*eP*	**P**	**12 37 04.9**	**-0.9**
KEV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
KEV	**Kevo**	**89.75**	**340**	*ep*	**P**	**12 37 04.9**	**-0.9**
	comp=Z,5.0nm,0.7s						
BR131	**Keskin Array S**	**89.87**	**310**	*eP*	**P**	**12 37 06.6**	**-0.6**
	comp=Z,3.1nm,0.9s						
BRTR	**Keskin Array B**	**89.87**	**310**	P	**P**	**12 37 06.5**	**-0.6**
BRTR	**Keskin Array B**	**89.87**	**310**	P	**P**	**12 37 06.5**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=130,slow=5.7,SNR=7.9						
BRTR				LR	LR	13 27 23.7	
	comp=Z,53nm,18.4s,baz=248,slow=42						
INK	**Inuvik**	**90.10**	**21**	P	**P**	**12 37 07.0**	**-0.5**
	comp=Z,1.5nm,1.0s						
INK	**Inuvik**	**90.10**	**21**	P	**P**	**12 37 07.0**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=260,slow=5.9,SNR=8.4						
ARCES	**ARCESS Array B**	**90.31**	**340**	P	**P**	**12 37 08.1**	**-0.3**
ARCES	**ARCESS Array B**	**90.31**	**340**	P	**P**	**12 37 08.1**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=79,slow=5.7,SNR=19						
ARCES				LR	LR	13 24 14.5	
	comp=Z,69nm,18.9s,baz=175,slow=40						
KAF	**Kangasniemi**	**91.45**	**332**	*eP*	**P**	**12 37 12.1**	**-1.8**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KAF	**Kangasniemi**	**91.45**	**332**	*ep*	**P**	**12 37 12.1**	**-1.8**
	comp=Z,4.1nm,0.6s						
FINES	**FINESS Array B**	**91.69**	**332**	P	**P**	**12 37 14.1**	**-0.8**
FINES	**FINESS Array B**	**91.69**	**332**	P	**P**	**12 37 14.1**	**-0.8**
	comp=Z,4.1nm,0.7s,baz=52,slow=6.2,SNR=16						
FINES				LR	LR	13 22 21.6	
	comp=Z,139nm,18.9s,baz=99,slow=38						
AKASG	**Malin Array Be**	**91.74**	**321**	P	**P**	**12 37 13.8**	**-1.7**
AKASG	**Malin Array Be**	**91.74**	**321**	P	**P**	**12 37 13.8**	**-1.7**
AKASG	**Malin Array Be**	**91.74**	**321**	P	**P**	**12 37 13.8**	**-1.7**
	comp=Z,3.9nm,0.6s,baz=68,slow=4.6,SNR=15						
AKASG				LR	LR	13 19 59.3	
	comp=Z,72nm,20.6s,baz=75,slow=36						
KIEV	**Kiev**	**91.75**	**321**	*eP*	**P**	**12 37 14.0**	**-1.5**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KIEV	**Kiev**	**91.75**	**321**	*eP*	**P**	**12 37 14.0**	**-1.5**
	comp=Z,3.1nm,0.8s						
QSPA	**South Pole Qui**	**93.74**	**180**	P	**P**	**12 37 24.8**	**+0.3**
QSPA	**South Pole Qui**	**93.74**	**180**	P	**P**	**12 37 24.8**	**+0.3**
	comp=Z,2.6nm,0.7s,baz=314,slow=2.1,SNR=17						
TESR		**94.09**	**317**	⇑*iP*	**P**	**12 37 25.5**	**-0.9**
VRI	**Vrincioaia**	**94.14**	**316**	⇓P	**P**	**12 37 26.9**	**+0.2**
VRI	**Vrincioaia**	**94.14**	**316**	⇓*iP*	**P**	**12 37 26.9**	**+0.2**
MLR	**Muntele Rosu**	**94.75**	**316**	P	**P**	**12 37 29.0**	**-0.6**
MLR	**Muntele Rosu**	**94.75**	**316**	P	**P**	**12 37 29.0**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=113,slow=4.3,SNR=6.5						
BURAR	**Bucovina Array**	**94.85**	**318**	⇑*iP*	**P**	**12 37 29.2**	**-0.8**
BUR08	**Bucovina Ar. S**	**94.86**	**318**	*eP*	**P**	**12 37 28.8**	**-1.2**
VOIR		**95.38**	**316**	⇑P	**P**	**12 37 31.2**	**-1.2**
VOIR		**95.38**	**316**	⇑*iP*	**P**	**12 37 31.2**	**-1.2**
DRGR		**96.69**	**318**	⇑P	**P**	**12 37 37.5**	**-0.9**
DRGR		**96.69**	**318**	⇑*iP*	**P**	**12 37 37.5**	**-0.9**
BZS	**Buzias**	**97.70**	**317**	⇓P	**P**	**12 37 41.6**	**-1.2**
BZS	**Buzias**	**97.70**	**317**	⇓*iP*	**P**	**12 37 41.6**	**-1.2**
HFS	**Hagfors**	**97.87**	**332**	LR	LR	13 23 48.9	
	comp=Z,201nm,18.4s,baz=66,slow=37						
NB2	**NORSAR Subarra**	**98.64**	**334**	P	**P**	**12 37 44.6**	**-2.2**
	comp=Z,2.5nm,0.6s,baz=68,slow=4.6						
NOA	**NORSAR Array B**	**98.64**	**334**	P	**P**	**12 37 45.6**	**-1.2**
NOA	**NORSAR Array B**	**98.64**	**334**	P	**P**	**12 37 45.6**	**-1.2**
	comp=Z,2.3nm,0.6s,baz=67,slow=4.6,SNR=12						
NOA				LR	LR	13 28 48.6	
	comp=Z,128nm,18.5s,baz=70,slow=39						
YKA	**Yellowknife Ar**	**99.44**	**24**	P	**Pdif**	**12 37 50.6**	**+0.4**
YKA	**Yellowknife Ar**	**99.44**	**24**	P	**Pdif**	**12 37 50.6**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=301,slow=4.6,SNR=8.5						
BRG	**Berggiesshubel**	**101.09**	**323**	*e*PDIF	**Pdif**	**12 37 57.4**	**-0.4**
	comp=Z,2.9nm,0.7s						
BRG	**Berggiesshubel**	**101.09**	**323**	*eP*	**Pdif**	**12 37 57.4**	**-0.4**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CLL	**Collm**	**101.49**	**324**	*e*Sdif	Sdif	12 49 36.0	+0.9
CLL				L	L	13 31 00.0	
	comp=Z,100nm,18.3s						
GERES	**GERESS Array B**	**101.94**	**322**	P	**Pdif**	**12 38 01.1**	**-0.7**
GERES	**GERESS Array B**	**101.94**	**322**	P	**Pdif**	**12 38 01.1**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=71,slow=5.8,SNR=5.3						
EGMT	**Eagleton**	**108.76**	**36**	*e*PKPdf		12 42 36.1	
TORD	**Torodi Ar. Bea**	**122.78**	**288**	PKP	**PKPdf**	**12 43 03.6**	**-1.0**
TORD	**Torodi Ar. Bea**	**122.78**	**288**	PKP	**PKPdf**	**12 43 03.6**	**-1.0**
	comp=Z,1.1nm,0.6s,baz=51,slow=2.1,SNR=10						
DBIC	**Dimbokro**	**130.45**	**282**	PKP	**PKPdf**	**12 43 19.8**	**+0.5**
DBIC				SKPbc	**SKPab**	**12 46 39.1**	**+1.6**
DBIC	**Dimbokro**	**130.45**	**282**	PKP	**PKPdf**	**12 43 19.8**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=26,slow=4.4,SNR=3.8						
DBIC				SKPbc	**SKPab**	**12 46 39.1**	**+1.6**
	comp=Z,7.1nm,0.7s,baz=72,slow=4.1,SNR=14						
PLCA	**Paso Flores**	**140.14**	**160**	PKP	**PKPdf**	**12 43 38.0**	**+1.3**
PLCA	**Paso Flores**	**140.14**	**160**	PKP	**PKPdf**	**12 43 38.0**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=257,slow=7.9,SNR=3.3						
TRQA	**Tornquist**	**145.05**	**168**	*e*PKPbc	**PKPdf**	**12 43 47.0**	**+1.5**
JTS	**JuntasAbangare**	**145.56**	**66**	*e*PKPbc	**PKPdf**	**12 43 49.1**	**+1.7**
CPUP	**Villa Florida**	**157.32**	**171**	PKPab	**PKPab**	**12 44 37.2**	**+1.8**
CPUP	**Villa Florida**	**157.32**	**171**	PKPab	**PKPab**	**12 44 37.2**	**+1.8**
	comp=Z,0.8nm,0.5s,baz=144,slow=4.3,SNR=5.0						

*ATH **28** 12:26:43.3, 40.65N×21.35E, h14km±1km, MD3.3/5*
*SKO **28** 12:26:47.4, 40.18N×21.64E, h9km*
*ISCJB **28** 12:26:48.7±1.1, 40.31N±0.05×21.57E±0.07, h10km, Error ellipse: s-maj=8.9km s-min=6.0km az=148.6*
*CSEM **28** 12:26:49.4±0.5, 40.45N×21.80E, h2km, MD3.3, Error ellipse: s-maj=12.4km s-min=9.4km az=89.0*

ISC 28 12:26:49.2±1.1, 40.45N±0.04×21.62E±0.05, h10km, n14, σ1s84/25, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	**0.19**	**140**	*e*PG	**Pg**	**12 26 52.4**	**-0.8**
KZN				*e*SB	**Sg**	**12 26 59.8**	**+3.8**
KZN	**Kozani**	**0.19**	**140**	*e*Pg	**Pg**	**12 26 52.4**	**-0.8**
KZN				*e*Sb	**Sg**	**12 26 59.8**	**+3.8**
BIA	**Bitola**	**0.61**	**339**	*e*Pg	**Pn**	**12 27 02.8**	**-1.3**
BIA				*e*Sg	**Sn**	**12 27 15.0**	**+1.1**
BIA	**Bitola**	**0.61**	**339**	*e*Pg	**Pn**	**12 27 02.7**	**-1.3**
BIA				*e*Sg	**Sn**	**12 27 15.0**	**+1.1**
LIT	**Litokhoron**	**0.76**	**117**	*e*PB	**Pg**	**12 27 02.8**	**-1.0**
LIT	**Litokhoron**	**0.76**	**117**	*e*Pb	**Pg**	**12 27 02.8**	**-1.0**
THL	**Klokotos Trika**	**0.94**	**161**	*e*PG	**Pg**	**12 27 05.7**	**-1.5**
THL				*e*SB	**Sn**	**12 27 22.6**	**+0.7**
THL	**Klokotos Trika**	**0.94**	**161**	*e*Pg	**Pg**	**12 27 05.7**	**-1.5**
THL				*e*Sb	**Sn**	**12 27 22.6**	**+0.7**
VAY	**Valandovo**	**1.13**	**39**	*e*Pn	**Pn**	**12 27 11.1**	**-0.1**
VAY				*e*Sg	**Sn**	**12 27 30.7**	**+4.0**
VAY	**Valandovo**	**1.13**	**39**	*e*Pn	**Pn**	**12 27 11.5**	**+0.4**
VAY				*e*Sg	Sn	12 27 31.1	+4.4
SOH	**Sokhos**	**1.37**	**74**	*e*PB	**Pn**	**12 27 12.4**	**-2.1**
SOH				*e*SB	**Sg**	**12 27 33.1**	**-0.3**
SOH	**Sokhos**	**1.37**	**74**	*e*Pb	**Pn**	**12 27 12.4**	**-2.1**
SOH				*e*Sb	**Sg**	**12 27 33.1**	**-0.3**
PLG	**Polygyros**	**1.40**	**93**	*e*PG	**Pn**	**12 27 13.3**	**-1.5**
PLG				*e*SB	**Sg**	**12 27 34.8**	**+0.6**
PLG	**Polygyros**	**1.40**	**93**	*e*Pg	**Pn**	**12 27 13.3**	**-1.5**
PLG				*e*Sb	**Sg**	**12 27 34.8**	**+0.6**

IGQ 28 12:45:13.5, 1.35S×81.15W, h12km±173km, Mb4.0, Ms3.8, 3C-4D, Error ellipse: s-maj=8.5km s-min=6.0km az=5.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHIS	**Cerro-Chispas-**	**0.52**	**55**	⇓S	Sg	12 45 29.8	-1.0
CHIS	**Cerro-Chispas-**	**0.52**	**55**	⇓P	Pg	12 45 23.7	-0.1
JAMA	**Jama**	**1.44**	**41**	P	Pn	12 45 39.0	-0.5
IGUA	**Igualata**	**2.52**	**93**	P	Pn	12 45 55.8	+0.8
BMAS	**Trigal station**	**2.68**	**93**	P	Pn	12 45 58.2	+1.3
PAT1	**Patacocha**	**2.72**	**93**	P	Pn	12 45 59.4	+1.8
BMOR	**Cotopaxi Volca**	**2.76**	**77**	P	Pn	12 45 58.7	+0.4
PISA	**Pisayambo**	**2.78**	**84**	P	Pn	12 46 00.4	+1.9
JUA2	**San Juan 2**	**2.79**	**66**	P	Pn	12 46 00.4	+1.9
BREF	**Cotopaxi Volca**	**2.79**	**76**	P	Pn	12 45 58.7	-0.2
TERV	**Terraza Guagua**	**2.80**	**65**	P	Pn	12 46 01.4	+2.5
PINO	**Pino**	**2.81**	**65**	⇑P	Pn	12 46 00.5	+1.6
GGP	**Refugio Guagua**	**2.81**	**65**	⇑P	Pn	12 45 59.3	+0.2
BVC2	**Cotopaxi Volca**	**2.82**	**76**	⇑P	Pb	12 46 02.1	-2.5
BVC2				P		13 00 34.5	
PITA	**Cotopaxi Volc**	**2.83**	**74**	⇑P	Pn	12 46 01.4	+2.3
BTAM	**Cotopaxi Volca**	**2.83**	**76**	P	Pn	12 46 01.2	+1.9
VC1	**Cotopaxi 1**	**2.84**	**76**	P	Pb	12 46 02.6	-2.2
TAMB	**Tambo**	**2.86**	**77**	P	Pn	12 46 01.9	+2.3
COV1	**Cotopaxi Volc**	**2.89**	**76**	P	Pn	12 46 02.4	+2.2
ANTI	**Antisana**	**3.12**	**73**	P	Pn	12 46 06.0	+2.7
OTAV	**Otavalo**	**3.13**	**60**	P	Pn	12 46 03.9	+0.7
CAYR	**Refugio Cayamb**	**3.42**	**67**	P	Pb	12 46 11.4	-3.5
CAYA	**Cayambe**	**3.46**	**66**	⇓P	Pn	12 46 11.4	+3.4

*CSEM **28** 12:52:19.7, 45.64N×26.52E, h138km±8km, MD3.5/2, After BUC*

BUC 28 12:52:19.7±0.9, 45.64N×26.52E, h138km±8km, MD3.5/2, 27C-12D, Error ellipse: s-maj=6.5km s-min=5.2km az=331.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.23**	**24**	⇑*iP*	Pn	12 52 38.7	+0.1
PLOR	**Plostina**	**0.23**	**24**	⇑*iP*	Pn	12 52 38.7	+0.1
PLOR				*i* S	Sn	12 52 52.4	-0.7
PLOR	**Plostina**	**0.23**	**24**	⇑*iP*	Pn	12 52 38.7	+0.1
PLOR				*i* S	Sn	12 52 52.4	-0.7
VRI	**Vrincioaia**	**0.27**	**33**	⇑*iP*	Pn	12 52 39.0	+0.3
VRI	**Vrincioaia**	**0.27**	**33**	⇑*iP*	Pn	12 52 39.0	+0.3
VRI				*i* S	Sn	12 52 53.0	-0.2
VRI	**Vrincioaia**	**0.27**	**33**	⇑*iP*	Pn	12 52 39.0	+0.3
VRI				*i* S	Sn	12 52 53.0	-0.2
MLR	**Muntele Rosu**	**0.43**	**250**	⇑*iP*	Pn	12 52 39.7	+0.2
MLR	**Muntele Rosu**	**0.43**	**250**	⇑*iP*	Pn	12 52 39.7	+0.2
MLR				*i* S	Sn	12 52 54.0	-0.5
MLR	**Muntele Rosu**	**0.43**	**250**	⇑*iP*	Pn	12 52 39.7	+0.2
MLR				*i* S	Sn	12 52 54.0	-0.5
PETR		**0.51**	**81**	*i* S	Sn	12 52 55.3	+0.5
PETR		**0.51**	**81**	*i* S	Sn	12 52 55.3	+0.5
PETR		**0.51**	**81**	*i* S	Sn	12 52 55.3	+0.5
ISR	**Istrita**	**0.52**	**178**	⇑*iP*	Pn	12 52 40.4	+0.5
ISR	**Istrita**	**0.52**	**178**	⇑*iP*	Pn	12 52 40.4	+0.5
ISR				*i* S	Sn	12 52 55.8	+0.6
ISR	**Istrita**	**0.52**	**178**	⇑*iP*	Pn	12 52 40.4	+0.5
ISR				*i* S	Sn	12 52 55.8	+0.6
SECR		**0.68**	**208**	⇑*iP*	Pn	12 52 41.5	+0.7
SECR		**0.68**	**208**	⇑*iP*	Pn	12 52 41.5	+0.7
SECR				*i* S	Sn	12 52 57.5	+0.7
SECR		**0.68**	**208**	⇑*iP*	Pn	12 52 41.5	+0.7
SECR				*i* S	Sn	12 52 57.5	+0.7
GHRR		**0.75**	**56**	*i* S	Sn	12 52 58.1	+0.5
GHRR		**0.75**	**56**	*i* S	Sn	12 52 58.1	+0.5
GHRR		**0.75**	**56**	*i* S	Sn	12 52 58.1	+0.5
DOPR	**Dopca**	**0.85**	**293**	⇑*iP*	Pn	12 52 42.2	+0.1
DOPR	**Dopca**	**0.85**	**293**	⇑*iP*	Pn	12 52 42.2	+0.1
DOPR				*i* S	Sn	12 52 58.6	-0.5
DOPR	**Dopca**	**0.85**	**293**	⇑*iP*	Pn	12 52 42.2	+0.1
DOPR				*i* S	Sn	12 52 58.6	-0.5
TESR		**0.88**	**6**	⇓*iP*	Pn	12 52 42.1	-0.1
TESR		**0.88**	**6**	⇓*iP*	Pn	12 52 42.1	-0.1
TESR				*i* S	Sn	12 52 58.6	-0.9
TESR		**0.88**	**6**	⇓*iP*	Pn	12 52 42.1	-0.1
TESR				*i* S	Sn	12 52 58.6	-0.9
SULR		**0.98**	**191**	S	Sn	12 53 00.1	-0.8
SULR		**0.98**	**191**	*i* S	Sn	12 53 00.1	-0.8
SULR		**0.98**	**191**	*i* S	Sn	12 53 00.1	-0.8
VOIR		**1.05**	**259**	⇑*iP*	Pn	12 52 44.1	+0.2
VOIR		**1.05**	**259**	⇑*iP*	Pn	12 52 44.1	+0.2
VOIR				*i* S	Sn	12 53 02.9	+0.6
VOIR		**1.05**	**259**	⇑*iP*	Pn	12 52 44.1	+0.2
VOIR				*i* S	Sn	12 53 02.9	+0.6
CFR	**Carcaliu**	**1.23**	**112**	⇑*iP*	Pn	12 52 45.7	+0.2
CFR	**Carcaliu**	**1.23**	**112**	⇑*iP*	Pn	12 52 45.7	+0.2
CFR				*i* S	Sn	12 53 03.9	-1.2
CFR	**Carcaliu**	**1.23**	**112**	⇑*iP*	Pn	12 52 45.7	+0.2
CFR				*i* S	Sn	12 53 03.9	-1.2
BUC1	**Bucharest**	**1.34**	**195**	S	Sn	12 53 07.1	0.0
BUC1	**Bucharest**	**1.34**	**195**	*i* S	Sn	12 53 07.1	0.0
BUC1	**Bucharest**	**1.34**	**195**	*i* S	Sn	12 53 07.1	0.0
LEOM	**Leova**	**1.46**	**55**	⇓*iP*	Pn	12 52 48.5	+0.6
LEOM	**Leova**	**1.46**	**55**	⇓*iP*	Pn	12 52 48.5	+0.6
LEOM				*i* S	Sn	12 53 08.8	-0.7
LEOM	**Leova**	**1.46**	**55**	⇓*iP*	Pn	12 52 48.5	+0.6
LEOM				*i* S	Sn	12 53 08.8	-0.7
HUMR	**Humele**	**1.56**	**225**	S	Sn	12 53 10.5	-0.8
HUMR	**Humele**	**1.56**	**225**	*i* S	Sn	12 53 10.5	-0.8
HUMR	**Humele**	**1.56**	**225**	*i* S	Sn	12 53 10.5	-0.8
TLCR		**1.68**	**105**	⇓*iP*	Pn	12 52 51.2	+0.9
TLCR		**1.68**	**105**	⇓*iP*	Pn	12 52 51.2	+0.9
TLCR				*i* S	Sn	12 53 12.9	-0.9
TLCR		**1.68**	**105**	⇓*iP*	Pn	12 52 51.2	+0.9
TLCR				*i* S	Sn	12 53 12.9	-0.9
TIRR	**Tirgusor**	**1.79**	**131**	⇑*iP*	Pn	12 52 52.0	+0.4
TIRR	**Tirgusor**	**1.79**	**131**	⇑*iP*	Pn	12 52 52.0	+0.4
TIRR				*i* S	Sn	12 53 15.5	-0.5
TIRR	**Tirgusor**	**1.79**	**131**	⇑*iP*	Pn	12 52 52.0	+0.4
TIRR				*i* S	Sn	12 53 15.5	-0.5
GZR	**Gura Zlata**	**2.64**	**266**	⇓*iP*	Pn	12 53 02.9	+0.8
GZR	**Gura Zlata**	**2.64**	**266**	⇓*iP*	Pn	12 53 02.9	+0.8
GZR	**Gura Zlata**	**2.64**	**266**	⇓*iP*	Pn	12 53 02.9	+0.8

IDC 28 12:55:00.1±7.2, 19.82S×68.84W, h130km±49km, mb3.2/2, mb1 3.3/4, mb1mx3.2/17, mbtmp3.1/4, Error ellipse: s-maj=72.4km s-min=33.0km az=39.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.57**	**11**	P	Pn	12 55 56.2	+1.1
	1.2nm,0.3s,baz=196,slow=7.1,SNR=23						
LPAZ				S	Sn	12 56 37.5	0.0
	0.4nm,0.3s,baz=203,slow=8.9,SNR=3.9						
SIV	**San Ignacio**	**8.32**	**64**	P	Pn	12 56 56.2	-1.7
	0.5nm,0.3s,baz=267,slow=9.4,SNR=12						
TORD	**Torodi Ar. Bea**	**76.74**	**71**	P	P	13 06 38.3	+0.6
	0.1nm,0.3s,baz=264,slow=5.6,SNR=3.4						
YKA	**Yellowknife Ar**	**89.63**	**341**	P	P	13 07 42.1	-0.6
	0.4nm,0.7s,baz=133,slow=4.9,SNR=9.7						
SONM	**Songino Array**	**151.78**	**7**	PKPbc	PKPbc	13 14 39.4	-0.2
	0.2nm,0.4s,baz=315,slow

1.3nm,0.6s,baz=156,slow=23,SNR=3.3
KURBB **Kurchatov Arra 13.96 23** Pn Pn 13 14 25.6 -3.5
0.0nm,0.3s,baz=215,slow=12,SNR=7.5
KURBB LR LR 13 20 30.9
comp=Z,40nm,20.8s,baz=110,slow=40
VOSK Vostochnaya 14.69 2 ⇑Pn **Pn 13 14 38.8 -0.2**
1.9nm,1.1s
BVAR Borovoye Array 14.97 1 Pn **P 13 14 45.8 -2.2**
0.2nm,0.3s,baz=169,slow=9.3,SNR=5.5
AKTO Aktyubinsk 15.03 329 ⇓Pn **P 13 14 46.1 -2.5**
0.6nm,0.8s
AKTO Aktyubinsk 15.03 329 Pn **P 13 14 47.4 -1.2**
0.4nm,0.3s,baz=136,slow=13,SNR=11
AKTO Sn **Sn 13 17 31.1 +2.3**
0.1nm,0.3s,baz=158,slow=21,SNR=2.6
ZALV Zalesovo Beam 18.88 28 P **P 13 15 30.4 -0.6**
0.3nm,0.3s,baz=218,slow=11,SNR=10
SONM Songino Array 28.16 58 P **P 13 17 03.0 +0.1**
0.1nm,0.5s,baz=260,slow=8.9,SNR=4.0
FINES FINESS Array B 35.74 325 P P 13 18 12.9 +3.9
1.0nm,0.7s,baz=140,slow=7.4,SNR=3.6
HFS Hagfors 41.35 321 P P 13 18 59.3 +3.2
0.6nm,0.4s,baz=95,slow=11,SNR=6.6
NOA NORSAR Array B 42.66 322 P P 13 19 10.6 +3.8
0.2nm,0.3s,baz=97,slow=7.9,SNR=2.8
MJAR Matsushiro Arr 53.15 69 LR LR 13 46 24.3
comp=Z,39nm,19.7s,baz=35,slow=40
YKA Yellowknife Ar 79.73 2 P **P 13 23 20.3 +2.5**
0.1nm,0.5s,baz=351,slow=5.1,SNR=3.6
WRA Warramunga Arr 83.49 121 P **P 13 23 37.2 -1.0**
0.2nm,0.8s,baz=316,slow=5.9,SNR=3.7
ASAR Alice Springs 85.80 124 P **P 13 23 50.3 +0.4**
0.2nm,0.7s,baz=330,slow=5.4,SNR=3.4

IDC 28 13:25:48.5±2.3, 6.00S×125.92E, h0km, mb3.2/1, mb1 4.0/3, mb1mx3.5/21, mbtmp3.7/3, ML4.2/2, Error ellipse: s-maj=479.8km s-min=29.2km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.09**	**150**	Pn	Pn	13 29 38.0	+1.7
	0.8nm,0.3s,baz=336,slow=11,SNR=25						
ASAR	**Alice Springs**	**19.17**	**157**	P	P	13 30 13.1	-0.7
	0.8nm,0.3s,baz=341,slow=12,SNR=36						
MKAR	**Makanchi Array**	**65.22**	**329**	P	P	13 36 31.9	0.0
	0.1nm,0.4s,baz=119,slow=7.4,SNR=5.3						

*IDC **28** 13:38:42.5±1.3, 49.49N×18.83E, h0km, mb1 3.3/6, mb1mx3.1/23, mbtmp3.2/6, ML2.8/6, Error ellipse: s-maj=23.3km s-min=8.9km az=156.0*
*ISCJB **28** 13:38:42.4±0.4, 49.82N±0.03×18.46E±0.03, h0km, Error ellipse: s-maj=3.8km s-min=2.4km az=9.5*
*CSEM **28** 13:38:43.9±0.2, 49.79N×18.48E, h1km, ML2.8/7, Error ellipse: s-maj=3.7km s-min=2.5km az=14.0*
*VIE **28** 13:38:43.7±0.4, 49.65N×18.52E, h0km, mb2.1/4, ML2.4/4, Error ellipse: s-maj=2.8km s-min=2.3km az=98.0 28 km SE of Ostrava Suspected Mining induced.*
*PRU **28** 13:38:44.9, 49.83N×18.49E, h0km*
*IPEC **28** 13:38:44.0±0.2, 49.78N×18.57E, h0km, ML2.2/3, Error ellipse: s-maj=2.1km s-min=1.1km az=161.0*
ISC 28 13:38:43.5±0.7, 49.80N±0.03×18.50E±0.02, h0km, n43, σ0.86/73, 3C-1D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.23**	**279**	*e*PG	**Pg**	**13 38 49.7**	**+1.7**
OKC				*e*SG	**Sg**	**13 38 52.8**	**+1.8**
	comp=Z,309nm,0.6s						
OKC	**Ostrava-Krasne**	**0.23**	**279**	*e*Pg	**Pg**	**13 38 49.4**	**+1.4**
	baz=101						
OKC				Sg	**Sg**	**13 38 52.8**	**+1.8**
	309nm,0.6s						
RAC	**Raciborz**	**0.35**	**325**	*e*Pg	**Pb**	**13 38 52.1**	**-0.5**
RAC				*e*Sg	**Sb**	**13 38 57.6**	**-1.0**
MORC	**Moravsky Berou**	**0.62**	**268**	*e*Pg	**Pb**	**13 38 57.0**	**-0.3**
	baz=89						
MORC				*e*Sg	**Sg**	**13 39 04.8**	**+1.3**
	49nm,0.4s,baz=89						
OJC	**Ojcow**	**0.94**	**63**	*e*Pg	**Pg**	**13 39 01.1**	**-0.4**
OJC				*e*Sg	**Sg**	**13 39 14.0**	**+0.4**
OJC	**Ojcow**	**0.94**	**63**	*e*Pg	**Pg**	**13 39 01.5**	**0.0**
	baz=242						
OJC				*e*Sg	**Sg**	**13 39 14.2**	**+0.6**
KRLC	**Kraliky**	**1.15**	**285**	*e*PG	**Pg**	**13 39 05.1**	**-0.4**
KRLC				*e*SG	**Sg**	**13 39 21.2**	**+0.9**
KRLC	**Kraliky**	**1.15**	**285**	Pg	**Pg**	**13 39 05.1**	**-0.4**
KRLC				Sg	**Sg**	**13 39 21.2**	**+0.9**
NIE	**Niedzica**	**1.24**	**107**	*e*Pg	**Pn**	**13 39 08.0**	**-0.1**
NIE				*e*Sg	**Sn**	**13 39 26.0**	**+0.5**
NIE	**Niedzica**	**1.24**	**107**	*e*Pg	**Pn**	**13 39 08.2**	**+0.1**
NIE				*e*Sg	**Sn**	**13 39 26.4**	**+0.8**
VYHS	**Vyhne**	**1.33**	**170**	*e*PN	**Pn**	**13 39 09.4**	**+0.1**
VYHS				*e*SN	**Sn**	**13 39 27.7**	**0.0**
VYHS	**Vyhne**	**1.33**	**170**	*e*Pg	**Pn**	**13 39 09.4**	**+0.1**
VYHS				*e*Sg	**Sn**	**13 39 27.7**	**0.0**
VRAC	**Vranov**	**1.34**	**249**	Pn	**Pg**	**13 39 09.3**	**+0.2**
	16nm,0.3s,baz=70,slow=15,SNR=94						
VRAC				Lg	Lg	13 39 28.6	
	16nm,0.3s,baz=354,slow=22,SNR=12						
VRAC	**Vranov**	**1.34**	**249**	*e*Pg	**Pg**	**13 39 09.4**	**+0.2**
	baz=69						
VRAC				*e*Sg	**Sg**	**13 39 27.0**	**+0.5**
	34nm,0.3s,baz=69						
SMOL	**Smolenice**	**1.47**	**209**	*e*PG	**Pb**	**13 39 11.7**	**0.0**
SMOL				*e*SG	**Sn**	**13 39 31.5**	**+0.3**
SMOL	**Smolenice**	**1.47**	**209**	*e*Pg	**Pb**	**13 39 11.7**	**0.0**
SMOL				*e*Sg	**Sn**	**13 39 31.5**	**+0.3**
DPC	**Dobruska-Polom**	**1.51**	**292**	*e*PG	**Pn**	**13 39 12.0**	**+0.1**
DPC				*e*SG	**Sn**	**13 39 32.7**	**+0.4**
	comp=Z,14nm,0.4s						
DPC	**Dobruska-Polom**	**1.51**	**292**	Pg	**Pn**	**13 39 12.0**	**+0.1**
DPC				*e*Sg	**Sn**	**13 39 32.9**	**+0.6**
	baz=111						
KRUC	**Moravsky**	**1.56**	**243**	*e*Pg	**Pn**	**13 39 12.8**	**+0.2**
	baz=62						
KRUC				*e*Sg	**Sg**	**13 39 34.2**	**+0.5**
	15nm,0.2s,baz=62						
UPC	**Upice**	**1.75**	**295**	*e*PG	**Pn**	**13 39 16.1**	**+0.9**
UPC	**Upice**	**1.75**	**295**	Pg	**Pn**	**13 39 16.1**	**+0.9**
KSP	**Ksiaz**	**1.76**	**307**	*e*Pn	**Pn**	**13 39 14.1**	**-1.2**
KSP				*e*Pg	**Pb**	**13 39 17.0**	**+0.3**
KSP				*e*Sg	**Sb**	**13 39 40.1**	**+0.8**
KSP	**Ksiaz**	**1.76**	**307**	*e*Pn	**Pn**	**13 39 14.9**	**-0.4**
CRVS	**Cervenica-Dubn**	**2.13**	**114**	*e*PN	**Pg**	**13 39 24.9**	**+0.5**
CRVS				*e*SN	**Sg**	**13 39 53.0**	**+1.0**
CRVS	**Cervenica-Dubn**	**2.13**	**114**	*e*Pg	**Pg**	**13 39 24.9**	**+0.5**
CRVS				*e*Sg	**Sg**	**13 39 53.0**	**+1.0**
CONA	**Conrad Observa**	**2.56**	**224**	⇑*i*Pn	**Pn**	**13 39 24.8**	**-1.6**
CONA				⇓*i*Sn	**Sn**	**13 39 56.7**	**-1.5**
CONA	**Conrad Observa**	**2.56**	**224**	Pn	**Pn**	**13 39 24.8**	**-1.6**
CONA				Sn	**Sn**	**13 39 56.7**	**-1.5**
PRU	**Pruhonice**	**2.57**	**276**	*e*SG	**Sg**	**13 40 06.0**	**0.0**
	comp=Z,7.3nm,0.6s						
PRU	**Pruhonice**	**2.57**	**276**	Sg	**Sg**	**13 40 06.0**	**0.0**
	7.3nm,0.6s						
KOLS	**Kolonicke sedl**	**2.61**	**108**	*e*PN	**Pn**	**13 39 28.1**	**+1.1**
KOLS	**Kolonicke sedl**	**2.61**	**108**	*e*Pn	**Pn**	**13 39 28.1**	**+1.1**
BRG	**Berggiesshubel**	**3.11**	**292**	PG	**Pb**	**13 39 41.0**	**+1.3**
BRG				SG	**Sg**	**13 40 22.9**	**-0.6**
	8.6nm,0.7s						
KHC	**Kasperske Hory**	**3.28**	**260**	*e*PN	**Pn**	**13 39 36.7**	**+0.5**
KHC				*e*PG	**Pb**	**13 39 43.5**	**+0.9**
KHC				*e*SG	**Sg**	**13 40 28.8**	**-0.1**
	comp=Z,5.9nm,0.4s						
KHC	**Kasperske Hory**	**3.28**	**260**	Pn	**Pn**	**13 39 36.7**	**+0.5**
KHC				Sg	**Sg**	**13 40 28.8**	**-0.1**
	5.9nm,0.4s						
GERES	**GERESS Array B**	**3.28**	**255**	Pn	**Pn**	**13 39 37.1**	**+0.8**
	0.4nm,0.3s,baz=71,slow=14,SNR=4.1						
GERES				Pg	**Pg**	**13 39 45.3**	**-1.1**
	1.7nm,0.3s,baz=68,slow=16,SNR=16						
GERES				Lg	Lg	13 40 29.9	
	1.7nm,0.3s,baz=69,slow=26,SNR=11						
MOA	**Molln**	**3.41**	**237**	⇑*i*Pn	**Pn**	**13 39 37.6**	**-0.4**
MOA				⇑*i*Sg	**Sg**	**13 40 34.0**	**+0.9**
	8.2nm,0.6s						
MOA	**Molln**	**3.41**	**237**	Pn	**Pn**	**13 39 37.6**	**-0.4**
MOA				Sg	**Sg**	**13 40 34.0**	**+0.9**
	8.2nm,0.6s						
CLL	**Collm**	**3.82**	**295**	*i* Pg	**Pg**	**13 39 57.3**	**+0.6**
CLL				*e*Sg	**Sg**	**13 40 46.0**	**-0.1**
	comp=Z,10.0nm,1.0s						
DAVOX	**Davos/Dischmat**	**6.50**	**246**	Pn	**Pn**	**13 40 21.9**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=351,slow=13,SNR=1.3						
DAVOX				Lg	Lg	13 42 17.1	
	comp=Z,0.2nm,0.3s,baz=195,slow=18,SNR=2.3						
AKASG	**Malin Array Be**	**6.94**	**78**	Pn	Pn	13 40 21.2	-5.1
	comp=Z,0.6nm,0.3s,baz=230,slow=15,SNR=4.1						
HFS	**Hagfors 10.71 347**			Pn	**Pn**	**13 41 16.0**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=320,slow=39,SNR=1.8						
NOA	**NORSAR Array B 11.99 343**			Pn	**Pn**	**13 41 34.4**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=223,slow=2.1,SNR=1.3						
FINES	**FINESS Array B 12.42 17**			Pn	Pn	13 41 37.1	-4.2
	comp=Z,0.1nm,0.3s,baz=190,slow=9.7,SNR=3.7						

IDC 28 13:40:54.0±2.0, 3.89N×126.61E, h0km, mb3.2/4, mb1 3.3/4, mb1mx3.2/23, mbtmp3.2/4, MS3.0/1, Ms1 3.0/1, ms1mx2.5/13, Error ellipse: s-maj=199.4km s-min=21.7km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.88**	**182**	LR	LR	13 53 52.6	
	comp=Z,39nm,21.2s,baz=87,slow=36						
WRA	**Warramunga Arr**	**24.87**	**162**	P	P	13 46 17.8	-0.8
	0.5nm,0.7s,baz=342,slow=10,SNR=6.3						
ASAR	**Alice Springs**	**28.30**	**166**	P	P	13 46 50.2	+0.7
	0.1nm,0.3s,baz=350,slow=14,SNR=3.7						
MKAR	**Makanchi Array**	**57.36**	**325**	P	P	13 50 44.2	+0.1
	0.1nm,0.3s,baz=120,slow=7.6,SNR=6.5						
KURBB	**Kurchatov Arra**	**61.54**	**327**	P	P	13 51 12.7	-0.2
	0.2nm,0.5s,baz=131,slow=6.7,SNR=3.2						

IDC 28 13:43:53.1±2.6, 14.66S×71.06W, h0km, mb4.0/1, mb1 4.0/3, mb1mx3.7/17, mbtmp3.8/3, ML3.5/2, Error ellipse: s-maj=113.0km s-min=25.8km az=35.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.26**	**120**	Pn	Pn	13 44 46.7	+0.4
	4.2nm,0.3s,baz=299,slow=14,SNR=52						
LPAZ				Sn	Sn	13 45 25.3	-1.1
	baz=318,slow=19,SNR=1.8						
SIV	**San Ignacio**	**9.73**	**99**	Pn	Pn	13 46 14.6	+0.1
	0.2nm,0.3s,baz=291,slow=13,SNR=6.8						
YKA	**Yellowknife Ar**	**84.09**	**341**	P	P	13 56 25.5	0.0
	0.8nm,0.6s,baz=134,slow=5.2,SNR=23						
SONM	**Songino Array**	**146.85**	**3**	PKPbc	PKPdf	14 03 36.6	+0.8
	0.2nm,0.5s,baz=358,slow=1.3,SNR=4.7						

IDC 28 13:55:19.0±1.9, 4.08N×126.88E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/23, mbtmp3.3/4, MS3.0/1, Ms1 3.0/1, ms1mx2.5/13, Error ellipse: s-maj=106.6km s-min=24.5km az=70.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.07**	**183**	P	P	14 00 16.5	+0.7
	1.9nm,0.8s,baz=351,slow=13,SNR=2.7						
FITZ				LR	LR	14 09 24.9	
	comp=Z,40nm,18.7s,baz=231,slow=38						
WRA	**Warramunga Arr**	**24.97**	**163**	P	P	14 00 43.9	-0.6
	0.5nm,0.5s,baz=342,slow=10,SNR=10						
ASAR	**Alice Springs**	**28.41**	**166**	P	P	14 01 15.6	0.0
	0.2nm,0.6s,baz=342,slow=7.4,SNR=5.4						
MKAR	**Makanchi Array**	**57.36**	**325**	P	P	14 05 09.1	0.0
	0.1nm,0.3s,baz=122,slow=7.4,SNR=6.5						

IDC 28 14:00:38.0±18.0, 18.89S×178.21W, h650km±234km, mb2.9/3, Error ellipse: s-maj=96.9km s-min=33.4km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**33.48**	**262**	P	P	14 06 26.4	-0.4
	baz=113,slow=7.7						
WRA	**Warramunga Arr**	**44.64**	**260**	P	P	14 07 55.8	0.0
	0.7nm,0.4s,baz=98,slow=6.3,SNR=24						
ASAR	**Alice Springs**	**44.71**	**255**	P	P	14 07 56.8	+0.5
	1.3nm,0.7s,baz=89,slow=8.6,SNR=35						
QSPA	**South Pole Qui**	**71.17**	**180**	P	P	14 10 53.4	+0.2
	1.6nm,1.0s,baz=48,slow=5.7,SNR=6.1						
ILAR	**Eielson Array**	**86.80**	**13**	P	P	14 12 14.9	+0.1
	baz=212,slow=4.9						

IDC 28 14:05:29.7±0.7, 59.53S×25.69W, h0km, mb4.0/9, mb1 4.2/9, mb1mx4.1/17, mbtmp4.0/9, Error ellipse: s-maj=29.5km s-min=19.0km az=60.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**18.44**	**237**	Pn	P	14 09 53.8	+7.5
	0.3nm,0.3s,baz=56,slow=11,SNR=2.5						
PMSA				Sn	Sn	14 13 11.3	-1.3
	0.6nm,0.3s,baz=7.6,slow=15,SNR=3.3						
QSPA	**South Pole Qui**	**30.71**	**180**	P	P	14 11 46.9	+0.8
	1.0nm,0.5s,baz=220,slow=2.5,SNR=22						
QSPA				PcP	PcP	14 14 42.8	-0.6
	0.4nm,0.5s,baz=242,slow=5.8,SNR=3.9						
PLCA	**Paso Flores**	**33.51**	**284**	P	P	14 12 11.0	+0.3
	2.1nm,0.8s,baz=118,slow=2.9,SNR=5.9						
CFAA	**Coronel Fontan**	**39.73**	**295**	P	P	14 13 03.3	-0.5
	0.3nm,0.4s,baz=155,slow=5.7,SNR=7.2						
CPUP	**Villa Florida**	**39.74**	**313**	P	P	14 13 04.6	+0.8
	0.4nm,0.4s,baz=120,slow=14,SNR=3.1						
VNDA	**Vanda**	**43.12**	**182**	P	P	14 13 30.5	-0.5
	2.0nm,0.8s,baz=229,slow=3.6,SNR=4.9						
LPAZ	**La Paz**	**53.06**	**306**	P	P	14 14 49.2	-0.1
	1.2nm,0.4s,baz=67,slow=7.6,SNR=5.4						
TORD	**Torodi Ar. Bea**	**75.74**	**28**	P	P	14 17 16.8	-0.2
	0.7nm,0.4s,baz=197,slow=6.4,SNR=13						
ASAR	**Alice Springs**	**95.42**	**161**	P	P	14 18 55.6	-0.4
	0.6nm,0.7s,baz=183,slow=4.9,SNR=12						
WRA	**Warramunga Arr**	**99.14**	**161**	P	Pdif	14 19 11.3	-1.5
	0.3nm,1.0s,baz=196,slow=3.9,SNR=2.8						
ARCES	**ARCESS Array B 133.88**	**22**		PKP	PKPdf	14 24 47.5	+0.7
	4.7nm,1.0s,baz=199,slow=2.6,SNR=5.6						
YKA	**Yellowknife Ar**	**139.25**	**315**	PKP	PKPdf	14 24 56.1	-0.8
	0.2nm,0.5s,baz=132,slow=2.2,SNR=4.7						
ZALV	**Zalesovo Beam**	**143.09**	**67**	PKhKP	PKPpre	14 25 00.7	
	0.4nm,0.4s,baz=245,slow=3.5,SNR=4.4						
SONM	**Songino Array**	**149.99**	**91**	PKPbc	PKPbc	14 25 21.7	+0.6
	1.5nm,0.6s,baz=216,slow=3.5,SNR=19						
ILAR	**Eielson Array**	**152.94**	**306**	PKPbc	PKPbc	14 25 25.7	-1.5
	0.4nm,0.8s,baz=137,slow=1.7,SNR=5.4						

*ISCJB **28** 14:22:08.3±0.8, 47.87N±0.04×23.89E±0.05, h6km±6km, Error ellipse: s-maj=6.6km s-min=4.5km az=36.4*
*BUC **28** 14:22:08.1±1.8, 47.84N×23.93E, h8km±15km, MD2.6/4, Error ellipse: s-maj=19.3km s-min=7.8km az=353.0*
*CSEM **28** 14:22:09.0±0.2, 47.85N×23.89E, h5km, MD2.6/4, Error ellipse: s-maj=5.8km s-min=3.4km az=35.0*
ISC 28 14:22:08.5±1.2, 47.84N±0.03×23.94E±0.03, h9km±9km, n37, σ1.06/57, 11C-18D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BMR	**Baia Mare**	**0.34**	**241**	⇑*i*P	**Pg**	**14 22 15.3**	**+0.1**
BMR				S	**Sg**	**14 22 19.6**	**0.0**
BMR	**Baia Mare**	**0.34**	**241**	⇓*i*P	**Pg**	**14 22 15.3**	**+0.1**
BMR				*i* S	**Sg**	**14 22 19.6**	**0.0**
BMR	**Baia Mare**	**0.34**	**241**	⇑*i*P	**Pg**	**14 22 15.3**	**+0.1**
BMR				*i* S	**Sg**	**14 22 19.6**	**0.0**
BURAR	**Bucovina Array**	**0.89**	**104**	⇓*i*P	**Pb**	**14 22 26.2**	**0.0**
BURAR	**Bucovina Array**	**0.89**	**104**	⇓*i*P	**Pb**	**14 22 26.2**	**0.0**
BURAR				*i* S	**Sn**	**14 22 39.3**	**-1.2**
BURAR	**Bucovina Array**	**0.89**	**104**	⇓*i*P	**Pb**	**14 22 26.2**	**0.0**
BURAR				*i* S	**Sn**	**14 22 39.3**	**-1.2**
TRPA	**Tarpa**	**0.98**	**288**	⇓*i*P	**Pb**	**14 22 27.5**	**-0.2**
TRPA	**Tarpa**	**0.98**	**288**	⇓*i*P	**Pb**	**14 22 27.5**	**-0.2**
TRPA				*i* S	**Sn**	**14 22 41.3**	**-1.2**
TRPA	**Tarpa**	**0.98**	**288**	⇑ePn	**Pb**	**14 22 27.4**	**-0.2**
TRPA				⇑eSn	**Sn**	**14 22 41.7**	**-0.8**
TRPA	**Tarpa**	**0.98**	**288**	⇓*i*P	**Pb**	**14 22 27.5**	**-0.2**
TRPA				*i* S	**Sn**	**14 22 41.3**	**-1.2**
DRGR		**1.34**	**219**	⇓*i*P	**Pn**	**14 22 33.1**	**-0.3**
DRGR		**1.34**	**219**	⇓*i*P	**Pn**	**14 22 33.1**	**-0.3**
DRGR				*i* S	**Sg**	**14 22 51.4**	**-0.1**
DRGR		**1.34**	**219**	⇓*i*P	**Pn**	**14 22 33.1**	**-0.3**
DRGR				*i* S	**Sg**	**14 22 51.4**	**-0.1**
KOLS	**Kolonicke sedl**	**1.56**	**315**	*e*PG	**Pg**	**14 22 38.4**	**0.0**
KOLS				*e*SG	**Sb**	**14 22 57.1**	**-0.3**
KOLS	**Kolonicke sedl**	**1.56**	**315**	*e*Pg	**Pg**	**14 22 38.4**	**0.0**
KOLS				*e*Sg	**Sb**	**14 22 57.1**	**-0.3**
MDB	**Medias**	**1.72**	**170**	S	**Sb**	**14 23 02.2**	**+0.1**
MDB	**Medias**	**1.72**	**170**	*i* S	**Sb**	**14 23 02.2**	**+0.1**
MDB	**Medias**	**1.72**	**170**	*i* S	**Sb**	**14 23 02.2**	**+0.1**
CRVS	**Cervenica-Dubn**	**1.96**	**304**	*e*PG	**Pn**	**14 22 42.7**	**+0.7**
CRVS				*e*SG	**Sg**	**14 23 12.9**	**+1.3**
CRVS	**Cervenica-Dubn**	**1.96**	**304**	*e*Pg	**Pn**	**14 22 42.7**	**+0.7**
CRVS				*e*Sg	**Sg**	**14 23 12.9**	**+1.3**
DOPR	**Dopca**	**2.12**	**151**	⇑*i*P	**Pb**	**14 22 45.5**	**-1.6**
DOPR	**Dopca**	**2.12**	**151**	⇑*i*P	**Pb**	**14 22 45.5**	**-1.6**
DOPR				*i* S	**Sb**	**14 23 12.7**	**-0.8**
DOPR	**Dopca**	**2.12**	**151**	⇑*i*P	**Pb**	**14 22 45.5**	**-1.6**
DOPR				*i* S	**Sb**	**14 23 12.7**	**-0.8**
VOIR		**2.52**	**162**	⇑*i*P	**Pn**	**14 22 51.3**	**+1.6**
VOIR		**2.52**	**162**	⇑*i*P	**Pn**	**14 22 51.3**	**+1.6**
VOIR				*i* S	**Sn**	**14 23 22.2**	**+1.6**
VOIR		**2.52**	**162**	⇑*i*P	**Pn**	**14 22 51.3**	**+1.6**
VOIR				*i* S	**Sn**	**14 23 22.2**	**+1.6**
GZR	**Gura Zlata**	**2.57**	**199**	⇓*i*P	**Pn**	**14 22 51.8**	**+1.4**
GZR	**Gura Zlata**	**2.57**	**199**	⇓*i*P	**Pn**	**14 22 51.8**	**+1.4**
GZR	**Gura Zlata**	**2.57**	**199**	⇓*i*P	**Pn**	**14 22 51.8**	**+1.4**
MLR	**Muntele Rosu**	**2.72**	**149**	⇓*i*P	**Pb**	**14 22 55.3**	**-2.1**
MLR	**Muntele Rosu**	**2.72**	**149**	⇓*i*P	**Pb**	**14 22 55.3**	**-2.1**
MLR	**Muntele Rosu**	**2.72**	**149**	⇓*i*P	**Pb**	**14 22 55.3**	**-2.1**
BZS	**Buzias**	**2.73**	**217**	⇓*i*P	**Pn**	**14 22 53.7**	**+1.2**
BZS	**Buzias**	**2.73**	**217**	⇓*i*P	**Pn**	**14 22 53.7**	**+1.2**
BZS				*i* S	**Sn**	**14 23 26.7**	**+1.0**
BZS	**Buzias**	**2.73**	**217**	⇓*i*P	**Pn**	**14 22 53.7**	**+1.2**
BZS				*i* S	**Sn**	**14 23 26.7**	**+1.0**
VYHS	**Vyhne**	**3.48**	**283**	*e*PN	**Pn**	**14 23 02.1**	**-0.7**
VYHS	**Vyhne**	**3.48**	**283**	*e*Pn	**Pn**	**14 23 02.1**	**-0.7**

PRE 28 14:24:36.1±0.5, 25.04S×27.08E, h2km, ML1.8, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSR	**Koster**	**0.83**	**192**	*e*P	Pg	14 24 52.5	+0.2
KSR				*e*S	Sg	14 25 03.5	+0.3
KSR				AML	AML	14 25 04.5	
	comp=Z,56nm,0.7s						
SLR	**Silverton**	**1.29**	**123**	*e*P	Pg	14 25 00.7	-0.3
SLR				*e*S	Sn	14 25 18.9	-0.4
SLR				AML	AML	14 25 28.0	
	comp=Z,10nm,0.7s						
LBTB	**Lobatse**	**1.35**	**271**	*e*P	Pn	14 25 02.0	-0.1
LBTB				*e*S	Sn	14 25 20.8	+0.1
LBTB				AML	AML	14 25 24.4	
	comp=Z,8.0nm,0.7s						
PRYS	**Parys**	**1.90**	**173**	*e*P	Pn	14 25 10.2	+0.5
PRYS				*e*S	Sb	14 25 35.3	-0.7
PRYS				AML	AML	14 25 50.5	
	comp=Z,2.7nm,1.0s						

PRE 28 14:27:04.7±1.2, 26.42S×27.58E, h2km, ML2.4, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRYS	**Parys**	**0.54**	**201**	*e*P	Pb	14 27 16.5	-0.6
PRYS				*e*S	Sg	14 27 23.3	+0.7
PRYS				AML	AML	14 27 27.5	
	comp=Z,54nm,0.1s						
ERPM	**east rand prop**	**0.60**	**83**	*e*P	Pg	14 27 16.2	-0.3
ERPM				*e*S	Sg	14 27 24.4	+0.1
ERPM				AML	AML	14 27 24.8	
	comp=Z,90nm,0.1s						
KSR	**Koster**	**0.84**	**312**	*e*P	Pg	14 27 20.6	-0.4
KSR				*e*S	Sg	14 27 32.6	+0.6
KSR				AML	AML	14 27 40.9	
	comp=Z,116nm,0.1s						
BFSD	**Buffelsfontein**	**0.84**	**238**	*e*P	Pg	14 27 21.1	0.0
BFSD				*e*S	Sg	14 27 32.8	+0.7
BFSD				AML	AML	14 27 39.5	
	comp=Z,116nm,0.3s						
SLR	**Silverton**	**0.93**	**43**	*e*P	Pg	14 27 23.1	+0.4
SLR				*e*S	Sb	14 27 36.1	-0.5
SLR				AML	AML	14 27 42.2	
	comp=Z,64nm,0.3s						
TLEK	**Tau Lekoa**	**0.98**	**236**	*e*P	Pg	14 27 23.4	-0.3
TLEK				*e*S	Sg	14 27 36.7	+0.2
SWZ	**Schweizer**	**2.15**	**249**	*e*P	Pn	14 27 42.3	+0.5
SWZ				*e*S	Sn	14 28 09.5	+0.3
SWZ				AML	AML	14 28 14.5	
	comp=Z,35nm,0.6s						
LBTB	**Lobatse**	**2.27**	**308**	*e*P	Pn	14 27 44.2	+0.8
LBTB				*e*S	Sn	14 28 12.9	+0.8

AMAG	**Maghara** baz=137	**6.61**	**138**	P	**Pn**	**14 28 48.8**	**+0.6**
RSH		**6.67**	**133**	P	**Pn**	**14 28 50.0**	**+1.1**
RSH	baz=132	**6.67**	**133**	P	**Pn**	**14 28 50.0**	**+1.1**
HSAF	**As Saff**	**6.70**	**153**	P	**Pn**	**14 28 50.5**	**+1.1**
HSAF	**As Saff** baz=153	**6.70**	**153**	P	**Pn**	**14 28 50.5**	**+1.1**
GLL	**Jalalah**	**6.79**	**152**	P	**Pn**	**14 28 52.3**	**+1.6**
GLL	**Jalalah** baz=152	**6.79**	**152**	P	**Pn**	**14 28 52.3**	**+1.6**
SUZ		**7.05**	**144**	P	**Pn**	**14 28 55.9**	**+1.6**
SUZ	baz=143	**7.05**	**144**	P	**Pn**	**14 28 55.9**	**+1.6**
HDHB	**Dhahab**	**8.87**	**139**	P	**Pn**	**14 29 20.7**	**+1.7**
HDHB	**Dhahab** baz=139	**8.87**	**139**	P	**Pn**	**14 29 20.7**	**+1.7**

DJA ***28*** *14:27:54.8±1.8,2˝N±7˝×9˝6E±˝, h4km±15km, M4.1/8, mb4.5/2, mB5.0/1, MLv3.9/8, Mw(mB)4.3/1*

ISCJB ***28*** *14:27:55.7±0.9,2˝.26N±0˝.06×96˝.09E±0˝.08, h25km, mb3.9/6, Error ellipse: s-maj=13.3km s-min=7.5km az=151.5*

IDC ***28*** *14:28:01.0±9.1,2˝.39N×96˝.31E, h47km±71km, mb3.6/6, mb1 3.7/8, mb1mx3.4/26, mbtmp3.6/8, ML3.8/2, Error ellipse: s-maj=111.1km s-min=19.5km az=59.0*

ISC 28 14:27:57.6±1.1,2˝.31N±0˝.08×96˝.1E±0˝.1, h25km, n16, σ1 27/18, mb3.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		**1.44**	**49**	P	**Pn**	**14 28 19.7**	**-2.4**
GSI	**Gunungsitoli**	**1.79**	**124**	P	**Pn**	**14 28 26.8**	**-0.1**
TSI	**Tuntungan**	**2.74**	**64**	P	**Pn**	**14 28 41.7**	**+1.8**
PSI	**Prapat**	**2.87**	**80**	P	**Pn**	**14 28 40.7**	**-1.2**
PSI	**Prapat** 6.8nm,0.3s,baz=303,slow=7.9,SNR=19	**2.87**	**80**	P	**Pn**	**14 28 41.0**	**-0.9**
LHMI	**Lhok Sumawe**	**3.02**	**16**	P	**Pn**	**14 28 43.0**	**-0.9**
LHMI				S	**Sn**	**14 29 21.8**	**+2.5**
BSI	**Banda Aceh**	**3.27**	**346**	P	**Pn**	**14 28 46.4**	**-0.8**
BSI				S	**Sn**	**14 29 26.6**	**+1.3**
IPM	**Ipoh** 32nm,0.8s,0.1nm	**5.37**	**66**	P	**Pn**	**14 29 15.6**	**-0.7**
KULM	**Kulim**	**5.42**	**57**	P	**Pn**	**14 29 16.2**	**-0.7**
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=200,slow=11,SNR=12	**16.29**	**10**	P	**P**	**14 31 46.3**	**-1.4**
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=301,slow=9.2,SNR=6.3	**43.56**	**122**	P	**P**	**14 35 59.7**	**-0.2**
ASAR	**Alice Springs** 0.6nm,0.9s,baz=303,slow=8.4,SNR=4.8	**44.94**	**127**	P	**P**	**14 36 10.5**	**-0.4**
MKAR	**Makanchi Array** 1.9nm,0.5s,baz=157,slow=9.1,SNR=40	**45.91**	**347**	P	**P**	**14 36 18.6**	**+0.4**
SONM	**Songino Array** 1.2nm,0.6s,baz=191,slow=8.9,SNR=13	**46.22**	**10**	P	**P**	**14 36 20.4**	**-0.3**
ZALV	**Zalesovo Beam** 2.5nm,0.5s,baz=176,slow=6.4,SNR=17	**52.30**	**352**	P	**P**	**14 37 07.2**	**+0.2**
FINES	**FINESS Array B** 0.7nm,0.9s,baz=131,slow=7.6,SNR=3.5	**78.51**	**333**	P	**P**	**14 39 57.3**	**+0.8**

IDC 28 14:32:00.1±2.9,18˝.94S×169˝.20E, h230km±26km, mb3.4/9, mb1 3.6/10, mb1mx3.5/17, mbtmp3.4/10, Error ellipse: s-maj=33.6km s-min=20.9km az=139.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.04**	**219**	*e*P	Pn	14 33 03.3	-0.4
DZM	**Mont Dzumac** 7.3nm,0.3s,baz=53,slow=19,SNR=52	**4.04**	**219**	P	Pn	14 33 03.9	+0.2
NOUC	**Port Laguerre**	**4.15**	**220**	*e*P	Pn	14 33 05.0	+0.1
PMG	**Port Moresby** 4.3nm,0.6s,baz=201,slow=8.6,SNR=3.3	**23.36**	**291**	P	P	14 36 47.5	-0.7
STKA	**Stephens Creek** 1.3nm,0.7s,baz=43,slow=13,SNR=3.6	**27.97**	**237**	P	P	14 37 30.4	+0.8
WRA	**Warramunga Arr** 0.5nm,0.4s,baz=89,slow=8.5,SNR=11	**32.86**	**262**	P	P	14 38 11.6	-1.0
WRA	0.2nm,0.8s,baz=93,slow=3.2,SNR=3.9			PcP	PcP	14 40 51.8	0.0
ASAR	**Alice Springs** 3.9nm,0.4s,baz=82,slow=8.8,SNR=105	**33.17**	**256**	P	P	14 38 15.3	0.0
MJAR	**Matsushiro Arr** 0.4nm,0.4s,baz=155,slow=5.9,SNR=3.7	**62.48**	**332**	P	P	14 41 59.5	+0.3
PETK	**Petropavlovsk-** 2.5nm,0.7s,baz=145,slow=7.7,SNR=4.6	**72.44**	**353**	P	P	14 43 01.8	+0.7
CMAR	**Chiang Mai Arr** 0.4nm,0.6s,baz=127,slow=5.1,SNR=4.1	**78.35**	**294**	P	P	14 43 36.0	+0.5
SONM	**Songino Array** 0.8nm,0.7s,baz=149,slow=6.6,SNR=9.0	**86.97**	**323**	P	P	14 44 19.6	+0.3
ILAR	**Eielson Array** 0.3nm,0.4s,baz=238,slow=5.0,SNR=12	**99.96**	**17**	P	P	14 44 31.1	-1.7
YKA	**Yellowknife Ar** 0.3nm,0.6s,baz=253,slow=4.7,SNR=4.9	**100.42**	**27**	P	Pdif	14 45 20.7	+0.3
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=122,slow=4.8,SNR=2.6	**101.50**	**316**	P	Pdif	14 45 26.6	+1.0
ARCES	**ARCESS Array B** 3.8nm,1.0s,baz=92,slow=2.5,SNR=8.0	**124.78**	**345**	PKP	PKPdf	14 50 30.7	-1.0
GERES	**GERESS Array B** 0.3nm,0.3s,baz=35,slow=4.9,SNR=4.7	**144.22**	**332**	PKP	PKPbc	14 51 07.4	0.0
DAVOX	**Davos/Dischmat** 3.0nm,0.6s,baz=315,slow=11,SNR=6.0	**147.46**	**333**	PKPbc	PKPbc	14 51 16.9	-0.2

BJI ***28*** *14:33:03.4, 60˝.50S×24˝.80W, h20km, mB6.3/29, Ms6.4/53, Ms7 6.2/51*

IDC ***28*** *14:33:04.5±0.3, 60˝.60S×24˝.86W, h0km, mb5.8/28, mb1 5.8/28, mb1mx5.8/29, mbtmp5.8/28, MS6.1/22, Ms1 6.0/22, ms1mx5.9/28, Error ellipse: s-maj=11.8km s-min=10.3km az=47.0*

ISCJB ***28*** *14:33:05.2±0.2, 60˝.52S±0˝.03×24˝.83W±0˝.06, h15km, mb5.9/91, MS6.0/232, Error ellipse: s-maj=5.3km s-min=4.2km az=37.8*

NEIC ***28*** *14:33:06.3±0.1, 60˝.53S×24˝.80W, h15km, mb6.1/63, ME6.0, MS6.1/175, MW6.3, MW6.3, MW6.2(USGS), Error ellipse: s-maj=6.4km s-min=5.1km az=46.0 Broadband fault plane solution: P waves. NP1:ϕs200.00000°, δ85.00000°, λ-110.00000°. NP2:ϕs97.00000°, δ21.00000°, λ-14.00000°. Principal axes: T Plg37.0000°, Azm308.0000°; N Plg0.0000°, Azm0.0000°; P Plg46.0000°, Azm89.0000°; Moment Tensor Solution. s35 Moment tensor: Scale 10¹⁸ Nm; Mrr-2.02; Mθθ1.14; Mϕϕ0.88; Mrθ0.14; Mrϕ1.69; Mθϕ1.72; Best double couple: Mo3.00000×10¹⁸ NP1:ϕs202.00000°, δ64.00000°, λ-118.00000°. NP2:ϕs73.00000°, δ37.00000°, λ-46.00000°. Principal axes: T 3.0500, Plg15.0000°, Azm312.0000°; N -0.1300, Plg24.0000°, Azm215.0000°; P -2.9200, Plg60.0000°, Azm70.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

MOS ***28*** *14:33:08.5±1.1, 60˝.56S×24˝.91W, h33km, mb6.1/33, MS6.0/55 Error ellipse: s-maj=19.8km s-min=9.3km az=96.1*

DJA ***28*** *14:33:12.0±5.4, 60˝S±22˝×2˝5W±3˝6, h43km±53km, M6.2/11, mb6.0/11, mB6.5/10, Mw(mB)6.3/10, Mwp5.5/2*

NEIC ***28*** *14:33:17.0±0.0, 60˝.98S×24˝.23W, h22km, Moment Tensor Solution. s161 Moment tensor: Scale 10¹⁸Nm; Mrr-2.35; Mθθ1.05; Mϕϕ1.29; Mrθ0.86; Mθϕ2.36; Mrϕ2.00; Best double couple: Mo3.70000×10¹⁸ NP1:ϕs67.00000°, δ32.00000°, λ-53.00000°. NP2:ϕs206.00000°, δ65.00000°, λ-109.00000°. Principal axes: T 4.1800, Plg17.0000°, Azm310.0000°; N -0.9500, Plg17.0000°, Azm215.0000°; P -3.2400, Plg64.0000°, Azm82.0000°;*

ISC 28 14:33:06.4±0.2, 60˝.57S±0˝.04×24˝.92W±0˝.04, h15km, n1168, σ1 80/1167, mb6.1/87, MS6.0/237, 200C-242D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAIT	**Maitri**	**17.88**	**140**	*e*P	**Pn**	**14 37 13.4**	**-0.8**
MAIT				*e*S	**Sn**	**14 40 34.4**	**+1.5**
NVL	**N'lazarevskaya**	**17.91**	**140**	*i*P	**Pn**	**14 37 12.6**	**-1.9**
NVL				*i* S	**Sn**	**14 40 33.1**	**-0.5**
NVL	comp=Z,234nm,0.4s			pmax	pmax		
NVL	comp=Z,39μm,16.0s			MLR	MLR		
PMSA	**Palmer Station** comp=Z,641nm,1.0s	**18.23**	**240**	*e*Pn	**P**	**14 37 20.8**	**+2.2**
PMSA	**Palmer Station**	**18.23**	**240**	P	**P**	**14 37 21.0**	**+2.5**
PMSA	comp=Z,9.8nm,0.3s,baz=87,slow=12,SNR=111			S	**Sn**	**14 40 42.8**	**+1.5**
PMSA	comp=Z,1.0nm,0.3s,baz=143,slow=20,SNR=2.0			LR	LR	14 43 29.9	
EFI	**East Falkland** comp=Z,43μm,19.2s,baz=90,slow=34	**20.30**	**281**	*c i*P	Pn	14 37 42.2	-1.2
EFI	**East Falkland** comp=Z,2μm,0.9s	**20.30**	**281**	*e*P	**P**	**14 37 41.7**	**+0.3**
EFI	comp=Z,40μm,22.0s			LR	LR		
USHA	**Ushuaia**	**23.59**	**265**	P	**P**	**14 38 18.0**	**+1.9**
USHA				S	**S**	**14 42 29.2**	**-0.4**
USHA	**Ushuaia** comp=Z,2μm,1.1s,baz=103,slow=10,SNR=141	**23.59**	**265**	P	**P**	**14 38 18.0**	**+1.9**
USHA	comp=Z,9.1nm,0.8s,baz=61,slow=14,SNR=1.6			S	**S**	**14 42 29.2**	**-0.4**
USHA	comp=Z,77μm,20.5s,baz=91,slow=32			LR	LR	14 45 33.5	
TRIS	**Tristan da Cun** comp=Z,1μm,1.2s	**24.85**	**25**	*e*P	**P**	**14 38 25.9**	**-2.0**
TRIS	comp=Z,20μm,22.0s			LR	LR		
SYO	**Syowa Base**	**27.41**	**135**	*i*P	**P**	**14 38 49.2**	**-1.6**
QSPA	**South Pole Qui** comp=Z,959nm,1.2s	**29.67**	**180**	*e*P	**P**	**14 39 12.2**	**+1.0**
QSPA				PP	**PnPn**	**14 40 05.7**	**-0.2**
QSPA				S	S	14 44 13.2	+7.1
QSPA	comp=Z,22μm,20.0s			LR	LR		
QSPA	**South Pole Qui** comp=Z,250nm,1.1s,baz=203,slow=4.6,SNR=190	**29.67**	**180**	P	**P**	**14 39 12.8**	**+1.6**
QSPA				PP	**PnPn**	**14 40 05.7**	**-0.2**
QSPA	comp=Z,572nm,0.9s,baz=166,slow=10,SNR=6.9			S	S	14 44 13.2	+7.1
TRQA	**Tornquist** comp=Z,16nm,0.9s,baz=218,slow=19,SNR=1.7	**32.34**	**297**	*e*P	**P**	**14 39 35.1**	**+0.3**
TRQA	comp=Z,18μm,19.0s			LR	LR		
ILCA	**Isla Las Cabra**	**34.08**	**281**	*i*P	P	14 39 45.6	-4.3
PLCA	**Paso Flores** comp=Z,207nm,0.9s	**34.14**	**285**	*e*P	**P**	**14 39 49.9**	**-0.6**
PLCA				S	S	14 45 06.6	-9.4
PLCA	**Paso Flores** comp=Z,95nm,0.6s,baz=147,slow=8.2,SNR=144	**34.14**	**285**	P	**P**	**14 39 50.0**	**-0.6**
PLCA	comp=Z,4.6nm,1.0s,baz=352,slow=19,SNR=1.7			S	S	14 45 06.6	-9.4
PLCA	comp=Z,53μm,18.3s,baz=38,slow=36			LR	LR	14 53 49.7	
MAW	**Mawson**	**35.86**	**139**	P	**P**	**14 40 05.8**	**+0.9**
MAW				S	S	14 45 29.9	-12
MAW	**Mawson**	**35.86**	**139**	*e*P	**P**	**14 40 05.6**	**+0.7**
MAW	**Mawson** comp=Z,249nm,1.0s,baz=239,slow=9.5,SNR=17	**35.86**	**139**	P	**P**	**14 40 05.8**	**+0.9**
MAW				S	S	14 45 29.9	-12
MAW	comp=Z,22nm,1.0s,baz=172,slow=14,SNR=1.5			LR	LR	14 53 30.9	
CCHI	**Chillan**	**38.14**	**287**	*i*P	**P**	**14 40 24.4**	**-0.2**
ELIM	**Elim**	**38.62**	**68**	*e*P	**P**	**14 40 29.2**	**+0.4**
CER	**Ceres**	**39.45**	**67**	*i*P	**P**	**14 40 35.4**	**-0.3**
CER	comp=Z,51nm,3.4s			AMB	AMB	14 40 43.4	
SPB	**Sao Paulo** comp=Z,215nm,1.0s	**40.13**	**327**	*e*P	**P**	**14 40 41.0**	**-0.3**
SPB	comp=Z,16μm,20.0s			LR	LR		
PEL	**Peldehue**	**40.34**	**292**	*i*P	**P**	**14 40 43.4**	**+0.3**
CFAA	**Coronel Fontan** comp=Z,1.1nm,1.0s,baz=83,slow=6.2,SNR=6.2	**40.53**	**296**	S	S	14 46 43.6	-10
ROCH	**El Roble**	**40.63**	**292**	*e*P	**P**	**14 40 45.6**	**-0.2**
CPUP	**Villa Florida**	**40.73**	**313**	P	**P**	**14 40 45.5**	**-0.8**
CPUP				S	S	14 46 43.3	-13
CPUP	**Villa Florida** comp=Z,58nm,0.6s,baz=139,slow=7.3,SNR=116	**40.73**	**313**	P	**P**	**14 40 45.5**	**-0.8**
CPUP	comp=Z,3.2nm,0.6s,baz=128,slow=19,SNR=2.7			S	S	14 46 43.3	-13
CPUP	comp=Z,18μm,21.6s,baz=152,slow=33			LR	LR	14 55 46.0	
SUR	**Sutherland** comp=Z,122nm,0.8s	**40.96**	**68**	*e*P	**P**	**14 40 49.1**	**+0.7**
SUR	**Sutherland** SNR=7.6	**40.96**	**68**	P	**P**	**14 40 50.5**	**+2.0**
SUR	**Sutherland** comp=Z,28μm,19.1s,baz=209,slow=30	**40.96**	**68**	LR	LR	14 53 43.3	
SUR	**Sutherland**	**40.96**	**68**	*i*P	**P**	**14 40 49.8**	**+1.4**
SUR	comp=Z,183nm,3.6s			AMB	AMB	14 40 51.0	
BUFB	**Buffelsbos**	**41.32**	**73**	*i*P	**P**	**14 40 52.2**	**+1.1**
BUFB	comp=Z,250nm,1.2s			AMB	AMB	14 40 54.2	
SBA	**Scott Base**	**41.64**	**184**	*e*P	**P**	**14 40 55.5**	**+2.2**
SBA	comp=Z,218nm,1.2s			pmax	pmax		
SBA	comp=Z,9μm,20.0s			MLR	MLR		
SBA	**Scott Base** comp=Z,218nm,1.2s	**41.64**	**184**	*e*P	**P**	**14 40 55.5**	**+2.2**
SBA	comp=Z,9μm,20.0s			LR	LR		
VNDA	**Vanda** comp=Z,179nm,1.0s	**42.10**	**182**	*e*P	**P**	**14 40 59.1**	**+2.1**
VNDA				S	**S**	**14 47 09.6**	**-5.8**
VNDA	comp=Z,8μm,20.0s			LR	LR		
VNDA	**Vanda** comp=Z,88nm,0.9s,baz=187,slow=7.3,SNR=110	**42.10**	**182**	P	**P**	**14 40 58.3**	**+1.3**
VNDA	comp=Z,4.9nm,1.0s,baz=278,slow=15,SNR=2.1			S	**S**	**14 47 09.6**	**-5.8**
GRM	**Grahamstown**	**42.85**	**74**	*e*P	**P**	**14 41 03.9**	**+0.2**
GRM	comp=Z,211nm,1.3s			AMB	AMB	14 41 05.1	
SOE	**Somerset East**	**42.89**	**73**	*e*P	**P**	**14 41 04.7**	**+0.6**
SOE	comp=Z,190nm,1.2s			AMB	AMB	14 41 06.7	
LCO	**Las Campanas**	**43.84**	**295**	*e*P	**P**	**14 41 11.9**	**-0.1**
LCO	comp=Z,26μm,19.0s			LR	LR		
MIR	**Mirnyy**	**45.23**	**150**	*i*P	**P**	**14 41 22.5**	**+0.2**
MIR				*i*		14 43 09.0	
MIR				*e*S	S	14 47 51.0	-10
MIR	comp=Z,271nm,1.0s			pmax	pmax		
MIR	comp=Z,3μm,4.0s			pmax	pmax		
MIR	comp=N,1μm,3.0s			pmax	pmax		
MIR	comp=E,1010μm,4.0s			smax	smax		
MIR	comp=N,12μm,12.0s			smax	smax		
MIR	comp=E,13μm,16.0s			MLR	MLR		
MIR	comp=N,39μm,16.0s			MLR	MLR		
MIR	comp=E,35μm,16.0s			MLR	MLR		
MIR	comp=Z,57μm,16.0s			MLR	MLR		
BOSA	**Boshof** comp=Z,215nm,0.7s	**46.18**	**69**	*e*P	**P**	**14 41 29.7**	**-0.8**
BOSA				PcP	**PcP**	**14 43 07.0**	**+0.9**
BOSA				S	**S**	**14 48 18.8**	**+2.7**
BOSA	**Boshof** comp=Z,217nm,0.7s,baz=210,slow=8.2,SNR=171	**46.18**	**69**	P	**P**	**14 41 30.8**	**+0.3**
BOSA				PcP	**PcP**	**14 43 07.0**	**+0.9**
BOSA	comp=Z,43nm,0.9s,baz=154,slow=6.2,SNR=3.7			S	**S**	**14 48 18.8**	**+2.7**
BOSA	comp=Z,3.3nm,0.9s,baz=79,slow=16,SNR=2.0			LR	LR	14 56 20.9	
BOSA	**Boshof** comp=Z,37μm,21.2s,baz=208,slow=30	**46.18**	**69**	*i*P	**P**	**14 41 29.7**	**-0.8**
BOSA	comp=Z,234nm,1.4s			AMB	AMB	14 41 32.7	
SHEL	**Horse Pasture** comp=Z,12μm,21.0s	**46.66**	**26**	*e*P	**P**	**14 41 33.2**	**-1.0**
SHEL				MLR	MLR		
SHEL	**Horse Pasture** comp=Z,12μm,21.0s	**46.66**	**26**	*e*P	**P**	**14 41 33.2**	**-1.0**
SHEL				LR	LR		
SWZ	**Schweizer**	**47.44**	**68**	*i*P	**P**	**14 41 40.4**	**+0.1**
SWZ	comp=Z,276nm,0.8s			AMB	AMB	14 41 43.1	
BDFB	**Brasilia**	**47.88**	**329**	P	**P**	**14 41 43.9**	**+0.1**
BDFB	**Brasilia** comp=Z,164nm,0.8s,baz=149,slow=7.1,SNR=67	**47.88**	**329**	P	**P**	**14 41 43.9**	**+0.1**
BDFB				LR	LR	15 00 28.5	
PRYS	**Parys** comp=Z,21μm,18.4s,baz=155,slow=34	**48.59**	**70**	*i*P	**P**	**14 41 49.3**	**+0.1**
PRYS				AMB	AMB	14 41 51.3	
CASY	**Casey** comp=Z,296nm,1.2s	**49.25**	**158**	*e*P	**P**	**14 41 54.7**	**+1.1**
CASY	comp=Z,217nm,0.9s			LR	LR		
CASY	**Casey** comp=Z,30μm,20.0s	**49.25**	**158**	*e*P	**P**	**14 41 54.7**	**+1.1**
KSR	**Koster**	**49.29**	**69**	*i*P	**P**	**14 41 54.8**	**+0.1**
KSR	comp=Z,192nm,0.8s			AMB	AMB	14 41 57.6	
LBTB	**Lobatse** comp=Z,292nm,0.8s	**49.41**	**67**	*e*P	**P**	**14 41 55.8**	**+0.3**
LBTB				S	**S**	**14 48 60.0**	**-1.9**
LBTB	**Lobatse** comp=Z,2.4nm,0.9s,baz=146,slow=15,SNR=1.9	**49.41**	**67**	S	**S**	**14 48 60.0**	**-1.9**
LBTB	comp=Z,15μm,18.0s,baz=220,slow=32			LR	LR	14 59 06.6	
LBTB	**Lobatse**	**49.41**	**67**	*i*P	**P**	**14 41 55.4**	**-0.1**
LBTB	comp=Z,323nm,0.9s			AMB	AMB	14 41 58.4	
ERPM	**east rand prop**	**49.50**	**71**	*e*P	**P**	**14 41 56.8**	**+0.6**
ERPM	comp=Z,330nm,0.9s			AMB	AMB	14 41 59.7	
SLR	**Silverton**	**50.03**	**70**	*i*P	**P**	**14 41 59.9**	**-0.4**
SLR	comp=Z,279nm,1.1s			AMB	AMB	14 42 02.3	
PAF	**Port-aux-Franc**	**51.03**	**123**	*e*P	**P**	**14 42 07.6**	**+0.3**
PAF	comp=Z,795nm,1.8s			pmax	pmax		
PAF	comp=Z,40μm,22.0s			MLR	MLR		
PAF	**Port-aux-Franc** comp=Z,795nm,1.8s	**51.03**	**123**	*e*P	**P**	**14 42 07.6**	**+0.3**
PAF	comp=Z,40μm,22.0s			LR	LR		
TSUM	**Tsumeb** comp=Z,206nm,1.6s	**51.07**	**55**	*e*P	**P**	**14 42 07.7**	**-0.4**
TSUM	comp=Z,16μm,20.0s			LR	LR		
TSUM	**Tsumeb**	**51.07**	**55**	*i*P	**P**	**14 42 08.7**	**+0.6**
SIV	**San Ignacio** comp=Z,4.0nm,1.0s,baz=261,slow=13,SNR=2.2	**51.57**	**314**	S	S	14 49 20.0	-12
SIV	comp=Z,11μm,18.8s,slow=36			LR	LR	15 04 20.4	
DRV	**Dumont d'Urvil**	**52.59**	**173**	P	P	14 42 10.0	-8.7
DRV	**Dumont d'Urvil**	**52.59**	**173**	PP	PP	14 44 15.0	-2.2
DRV				S	S	14 49 37.0	-7.6
DRV				SS	**SS**	**14 53 25.0**	**+3.1**
DRV				R		14 58 00.0	
MSNA	**Messina**	**53.75**	**70**	*i*P	**P**	**14 42 27.8**	**-0.1**
MSNA	comp=Z,250nm,1.0s			AMB	AMB	14 42 30.3	
LPAZ	**La Paz** comp=Z,467nm,1.0s	**53.98**	**306**	*e*P	**P**	**14 42 30.6**	**+0.4**
LPAZ				S	S	14 49 57.9	-7.9
LPAZ				*e*S	S	14 50 03.4	-2.6
LPAZ				P'P'		15 12 49.2	
LPAZ	**La Paz** comp=Z,478nm,1.1s,baz=149,slow=6.2,SNR=240	**53.98**	**306**	P	**P**	**14 42 30.8**	**+0.5**
LPAZ				S	S	14 49 57.9	-7.9
LPAZ	comp=Z,2.4nm,1.0s,baz=198,slow=13,SNR=1.4			LR	LR	15 05 21.0	
LPAZ	comp=Z,11μm,21.7s,baz=163,slow=36			PKPPKP	**P'P'df**	**15 12 49.2**	**+4.6**
RCBR	**Riachuelo** comp=Z,95nm,0.9s	**55.24**	**347**	*e*P	**P**	**14 42 36.5**	**-2.2**
RCBR				S	**S**	**14 50 20.6**	**-1.1**
RCBR	**Riachuelo** comp=Z,4.8nm,1.0s,baz=85,slow=11,SNR=1.7	**55.24**	**347**	S	**S**	**14 50 20.6**	**-1.1**
RCBR	comp=Z,8μm,20.6s,baz=160,slow=32			LR	LR	15 02 37.9	
SAML	**Samuel** comp=Z,467nm,0.9s	**58.84**	**314**	*e*P	**P**	**14 43 03.8**	**-0.4**
SAML				*e*S	**S**	**14 51 08.3**	**-0.7**
SAML	comp=Z,10μm,19.0s			LR	LR		
LSZ	**Lusaka** comp=Z,154nm,0.9s	**59.08**	**64**	*e*P	**P**	**14 43 06.1**	**+0.1**
LSZ	comp=Z,26μm,19.0s			LR	LR		
LSZ	**Lusaka** SNR=60	**59.08**	**64**	P	**P**	**14 43 06.5**	**+0.5**
LSZ	**Lusaka**	**59.08**	**64**	*i*P	**P**	**14 43 05.8**	**-0.2**
NNA	**Nana** comp=Z,262nm,0.9s	**61.48**	**299**	*e*P	**P**	**14 43 22.5**	**+0.2**
NNA	comp=Z,13μm,22.0s			LR	LR		
NNA	**Nana** comp=Z,190nm,0.8s,baz=152,slow=5.1,SNR=39	**61.48**	**299**	P	**P**	**14 43 23.8**	**+1.4**
RPN	**Rapa Nui**	**64.08**	**260**	PFAKE		14 43 50.0	+11
RPN	comp=Z,8μm,20.0s			LR	LR		
ABPO	**Ambohimpanom**	**64.86**	**84**	*e*P	**P**	**14 43 43.9**	**-1.0**
ABPO				*e*		14 44 16.9	
ABPO	comp=Z,67nm,1.1s			pmax	pmax		
ABPO	comp=Z,19μm,19.0s			MLR	MLR		
ABPO	**Ambohimpanom** comp=Z,67nm,1.1s	**64.86**	**84**	*e*P	**P**	**14 43 43.9**	**-1.0**
ABPO				*e*PcP	**PcP**	**14 44 16.9**	**-1.2**
ABPO	comp=Z,19μm,19.0s			LR	LR		
OPO	**Ambohidratompo**	**65.22**	**84**	P	**P**	**14 43 48.6**	**+1.4**
OPO	**Ambohidratompo** comp=Z,25nm,0.9s,baz=217,slow=5.4,SNR=33	**65.22**	**84**	P	**P**	**14 43 48.6**	**+1.4**
ATAH	**Atahualpa**	**66.48**	**300**	P	**P**	**14 43 57.8**	**+2.1**
ATAH	**Atahualpa** comp=Z,119nm,0.9s,baz=161,slow=4.3,SNR=68	**66.48**	**300**	P	**P**	**14 43 57.8**	**+2.1**
RER	**Riviere de l'E** comp=Z,105nm,1.1s	**67.24**	**93**	*e*P	**P**	**14 43 58.6**	**-1.5**
RER	comp=Z,20μm,21.0s			LR	LR		
LIC	**Lamto** comp=Z,336nm,1.0s,baz=206	**68.40**	**21**	*i*P	**P**	**14 44 08.6**	**+1.4**
LIC	**Lamto** comp=Z,336nm,1.0s	**68.40**	**21**	*i*P	**P**	**14 44 08.6**	**+1.4**
MRIV	**Mauritius Mete**	**68.84**	**94**	*e*P	**P**	**14 44 09.8**	**-0.3**
DBIC	**Dimbokro** comp=Z,148nm,1.0s	**68.87**	**21**	*e*P	**P**	**14 44 09.0**	**-1.2**
DBIC				S	**S**	**14 53 15.3**	**+1.8**
DBIC				P'P'ab	**P'P'ab**	**15 12 21.9**	**+3.6**
DBIC	**Dimbokro** comp=Z,78nm,0.8s,baz=166,slow=7.4,SNR=74	**68.87**	**21**	P	**P**	**14 44 11.4**	**+1.3**
DBIC	comp=Z,2.4nm,1.0s,baz=251,slow=23,SNR=3.5			S	**S**	**14 53 15.3**	**+1.8**
DBIC	comp=Z,7μm,21.9s,baz=180,slow=30			LR	LR	15 06 54.9	
DBIC	comp=Z,6.2nm,1.2s,baz=263,slow=5.7,SNR=3.4			PKP2ab		15 12 21.9	
DBIC	**Dimbokro**	**68.87**	**21**	*i*P	**P**	**14 44 11.2**	**+1.1**
KIG	**Kigali**	**71.77**	**60**	*i*P	**P**	**14 44 26.3**	**-1.9**
KIG	comp=Z,69nm,3.3s			AMB	AMB	14 44 31.6	
OTAV	**Otavalo** comp=Z,455nm,1.3s	**73.14**	**303**	*e*P	**P**	**14 44 37.7**	**+1.0**
OTAV				*e*PP	**PP**	**14 47 19.4**	**-0.2**
OTAV	comp=Z,5μm,19.0s			LR	LR		
MBAR	**Mbarara**	**73.28**	**60**	PFAKE		14 44 50.0	+13
MBAR	comp=Z,590nm,22.0s			LR	LR		
MBAR	**Mbarara**	**73.28**	**60**	*e*P	**P**	**14 44 39.3**	**+2.1**
RPZ	**Rata Peaks** comp=Z,84nm,1.0s	**75.25**	**192**	*e*P	**P**	**14 44 48.4**	**+0.2**
BBTS	**Babate**	**75.27**	**8**	P	**P**	**14 44 50.1**	**+1.8**
BBTS	**Babate** comp=Z,97nm,0.9s,baz=9.1,slow=1.2,SNR=11	**75.27**	**8**	P	**P**	**14 44 50.1**	**+1.8**
SACV	**Santiago Islan** comp=Z,131nm,1.0s	**75.28**	**1**	*e*P	**P**	**14 44 46.5**	**-2.0**
SACV	comp=Z,4μm,20.0s			LR	LR		
KMBO	**Kilima Mbogo** comp=Z,2μm,3.3s	**75.67**	**66**	*e*P	P	14 44 55.0	+3.8
KMBO	comp=Z,13μm,19.0s			LR	LR		
KMBO	**Kilima Mbogo** SNR=25	**75.67**	**66**	P	P	14 44 55.3	+4.1
KMBO	**Kilima Mbogo**	**75.67**	**66**	*e*P	P	14 44 55.3	+4.1
ROSC	**El Rosal**	**75.69**	**309**	P	**P**	**14 44 52.0**	**+

ROSC S **S** **14 54 30.0 -2.6**
comp=Z,4.0nm,0.4s,baz=270,slow=20,SNR=3.4
ROSC LR LR 15 17 50.6
comp=Z,10µm,21.3s,baz=180,slow=36
TBH Brigand Hill 76.41 323 *e*P **P** **14 44 57.0 +2.0**
TORD Torodi Ar. Bea 76.49 27 P **P** **14 44 56.9 +1.5**
TORD Torodi Ar. Bea 76.49 27 P **P** **14 44 56.9 +1.5**
comp=Z,248nm,0.9s,baz=199,slow=5.8,SNR=358
TORD LR LR 15 13 18.6
comp=Z,7µm,18.9s,baz=140,slow=32
TRN Trinidad (W) 76.66 323 *e*P P 14 45 00.1 +3.8
TAU Tasmania Unive 76.68 174 *e*P **P** **14 44 56.5 +0.2**
TAU *e* 14 45 07.9
TAU pmax pmax
comp=Z,319nm,1.1s
TAU MLR MLR
comp=Z,11µm,19.0s
TAU Tasmania Unive 76.68 174 *e*P **P** **14 44 56.5 +0.2**
comp=Z,319nm,1.1s
TAU *e*PcP **PcP** **14 45 07.9 +0.2**
TAU LR LR
comp=Z,11µm,19.0s
BOT Bacolet 76.95 324 *e*P **P** **14 44 55.1 -2.8**
TPR Prospect 76.99 324 *e*P **P** **14 44 55.4 -2.8**
MOO Moorlands 77.14 174 *e*P **P** **14 44 59.0 +0.1**
SNZO South Karori 77.21 195 *e*P **P** **14 44 57.3 -2.0**
comp=Z,143nm,1.0s
SNZO LR LR
comp=Z,8µm,19.0s
PAYG Puerto Ayora 77.53 291 PFAKE 14 45 10.0 +8.6
PAYG LR LR
comp=Z,11µm,20.0s
SDV Santo Domingo 78.03 314 *e*P **P** **14 45 04.3 -0.1**
comp=Z,240nm,0.9s
SDV *e*PP **PP** **14 47 57.7 -3.1**
SDV LR LR
comp=Z,5µm,19.0s
GRGR Grenville 78.14 323 *e*P **P** **14 45 04.0 -0.6**
comp=Z,459nm,1.3s
GRGR LR LR
comp=Z,9µm,20.0s
BBGH Gun Hill 78.50 326 PFAKE 14 45 20.0 +13
BBGH LR LR
comp=Z,10µm,20.0s
RKT Rikitea 79.42 242 *e*P P 14 45 15.9 +4.1
comp=Z,78nm,0.9s
RKT *e*S **S** **14 55 11.5 -0.6**
comp=Z,8µm,28.2s
RKT *e*LQ LQ 15 06 18.4
comp=Z,14µm,33.2s
RKT *e*LR LR 15 09 41.3
comp=Z,15µm,23.8s,baz=152
URZ Urewera 79.88 197 *e*P **P** **14 45 14.5 +0.4**
comp=Z,76nm,1.0s
FDF Fort de France 80.46 325 *e*P **P** **14 45 15.8 -1.5**
FDF pmax pmax
comp=Z,731nm,1.3s
FDF MLR MLR
comp=Z,5µm,20.0s
FDF Fort de France 80.46 325 *e*P **P** **14 45 15.8 -1.5**
comp=Z,731nm,1.3s
FDF LR LR
comp=Z,5µm,20.0s
FDF Fort de France 80.46 325 *e*P **P** **14 45 19.2 +1.8**
MSEY Mahe Island 81.23 84 *e*PP PP 14 48 24.7 -2.3
comp=Z,99nm,1.0s
MSEY LR LR
comp=Z,19µm,20.0s
MSEY Mahe Island 81.23 84 P **P** **14 45 23.5 +1.9**
SNR=6.3
MGG Marie-Galante 81.63 325 *e*P **P** **14 45 24.6 +1.1**
TBG Guadaloupe-3 81.67 324 *e*P **P** **14 45 25.0 +1.3**
BCIP Isla Barro Col 81.80 305 *e*P **P** **14 45 24.1 -0.4**
comp=Z,169nm,1.3s
BCIP *e*PP **PP** **14 48 31.2 -0.6**
BCIP LR LR
comp=Z,4µm,22.0s
HMG Houelmont 81.81 324 *e*P **P** **14 45 26.1 +1.6**
NWAO Narrogin (SRO) 81.81 149 P **P** **14 45 24.4 0.0**
NWAO S S 14 55 30.2 -6.8
NWAO Narrogin (SRO) 81.81 149 P **P** **14 45 24.4 0.0**
comp=Z,27nm,0.8s,baz=186,slow=4.8,SNR=9.1
NWAO S S 14 55 30.2 -6.8
comp=Z,7.1nm,0.9s,baz=0.0,slow=20,SNR=2.2
NWAO LR LR 15 19 18.1
comp=Z,6µm,18.9s,baz=189,slow=34
PHG Guadaloupe-2 81.82 324 *e*P **P** **14 45 26.1 +1.5**
DOG Dongo Capester 81.83 325 *e*P **P** **14 45 26.4 +1.8**
TOO Toolangi 81.89 172 *e*P **P** **14 45 24.9 0.0**
LZG Guadaloupe-1 81.98 324 *e*P **P** **14 45 26.9 +1.6**
SEG Port Louis 82.15 325 *e*P **P** **14 45 27.6 +1.4**
KLBR Kellerberrin 83.22 149 *e*P **P** **14 45 31.4 -0.4**
OUZ Omahuta 83.35 195 *e*P **P** **14 45 31.8 -0.6**
comp=Z,128nm,1.0s
OUZ *e*PP **PP** **14 48 45.5 +2.1**
ANWB Willy Bob 83.43 325 *e*P **P** **14 45 33.0 +0.2**
comp=Z,310nm,1.1s
ANWB LR LR
comp=Z,4µm,21.0s
CAN Canberra 84.33 175 *e*P **P** **14 45 36.3 -1.2**
CAN pmax pmax
comp=Z,158nm,1.2s
CAN MLR MLR
comp=Z,16µm,19.0s
CAN Canberra 84.33 175 *e*P **P** **14 45 36.3 -1.2**
comp=Z,158nm,1.2s
CAN LR LR
comp=Z,16µm,19.0s
CAN Canberra 84.33 175 *e*P **P** **14 45 38.0 +0.5**
CDVI St. Croix 84.38 322 *e*P **P** **14 45 37.6 -0.1**
comp=Z,241nm,1.1s
JTS JuntasAbangare 84.92 301 *e*P **P** **14 45 40.4 -0.2**
comp=Z,255nm,1.3s
JTS *e*PP PP 14 48 39.8 -18
JTS LR LR
comp=Z,4µm,19.0s
MTP Monte Pirata 84.95 322 *e*P **P** **14 45 40.4 -0.1**
comp=Z,197nm,1.2s
STVI Saint Thomas 85.01 322 *e*P **P** **14 45 40.0 -0.8**
comp=Z,218nm,1.1s
TBI Tubuai 85.11 229 *e*P P 14 45 45.0 +3.5
comp=Z,336nm,1.2s
TBI *e*S **S** **14 56 07.1 -3.3**
comp=Z,8µm,26.8s
TBI *e*LQ LQ 15 08 40.2
comp=Z,4µm,36.5s
TBI *e*LR LR 15 12 11.0
comp=Z,7µm,25.0s,baz=161
SJG San Juan 85.15 321 *e*P **P** **14 45 41.0 -0.5**
comp=Z,184nm,1.4s
SJG San Juan 85.15 321 P **P** **14 45 40.8 -0.7**
comp=Z,36nm,0.8s,baz=86,slow=0.8,SNR=9.9
SJG LR LR 15 23 23.6
comp=Z,6µm,19.9s,baz=90,slow=35
CBYP Canovanas 85.21 321 *e*P **P** **14 45 41.8 -0.1**
comp=Z,354nm,1.3s
FURI Furi 85.22 63 *i* P P 14 45 46.1 +3.6
FURI S PP 14 49 05.8 +5.6
OBIP Obispado Ponce 85.22 321 *e*P **P** **14 45 40.5 -1.5**
comp=Z,86nm,1.2s
OBIP *e*PP PP 14 48 48.9 -11
CELP Cerrillos 85.25 321 *e*P **P** **14 45 41.6 -0.5**
CRPR Cabo Rojo, PR 85.35 320 *e*P **P** **14 45 41.7 -0.9**
comp=Z,143nm,1.2s
CRPR *e*PP **PP** **14 48 58.0 -2.9**
LSP Las Mesas 85.50 320 *e*P **P** **14 45 41.7 -1.6**
LRS Lares 85.53 320 *e*P **P** **14 45 42.2 -1.4**
LRS *e*PP PP 14 48 57.2 -5.3
BBOO Buckleboo 85.66 164 *e*P **P** **14 45 43.6 -0.6**
comp=Z,665nm,0.8s
FORT Forrest 86.33 157 *e*P **P** **14 45 47.2 -0.3**
comp=Z,150nm,0.8s
FORT *e*PP **PP** **14 49 04.5 -3.2**
FORT Forrest 86.33 157 *e*P **P** **14 45 47.7 +0.2**
TAM Tamanrasset 86.67 28 *e*P **P** **14 45 49.4 +0.2**
TAM pmax pmax
comp=Z,67nm,1.1s
TAM MLR MLR
comp=Z,6µm,19.0s
TAM Tamanrasset 86.67 28 *e*P **P** **14 45 49.4 +0.2**
comp=Z,67nm,1.1s
TAM LR LR
comp=Z,6µm,19.0s
DGAR Diego Garcia 87.22 100 PFAKE 14 46 00.0 +8.0
DGAR LR LR
comp=Z,18µm,21.0s

STKA Stephens Creek 87.23 169 P **P** **14 45 51.9 0.0**
STKA S S 14 56 19.5 -12
STKA Stephens Creek 87.23 169 *e*P **P** **14 45 51.7 -0.2**
STKA Stephens Creek 87.23 169 P **P** **14 45 51.9 0.0**
comp=Z,53nm,0.9s,baz=164,slow=6.2,SNR=50
STKA S S 14 56 19.5 -12
comp=Z,1.3nm,0.9s,baz=296,slow=18,SNR=2.3
STKA LR LR 15 22 52.0
comp=Z,6µm,18.1s,baz=183,slow=34
SDDR Presa de Saban 87.63 317 *e*P **P** **14 45 51.6 -2.2**
comp=Z,95nm,1.1s
SDDR LR LR
comp=Z,6µm,21.0s
RAO Raoul Island 87.81 203 PFAKE 14 46 10.0 +15
RAO LR LR
comp=Z,4µm,19.0s
HOJ Hope 88.66 312 *i* P **P** **14 46 00.2 +1.6**
STH Stony Hill 88.75 312 *i* P P 14 46 02.8 +3.7
MTDJ Mount Denham 89.16 311 PFAKE 14 46 10.0 +8.9
MTDJ LR LR
comp=Z,9µm,22.0s
ARMA Armidale 89.30 177 *e*P **P** **14 46 01.1 -0.8**
comp=Z,64nm,1.1s
ARMA *e*PP **PP** **14 49 36.0 +4.4**
ARMA Armidale 89.30 177 *e*P **P** **14 46 01.9 0.0**
ATD Arta Tunnel 89.40 65 P P 14 46 06.1 +3.8
ATD Arta Tunnel 89.40 65 P P 14 46 06.1 +3.8
comp=Z,94nm,1.0s,baz=252,slow=4.9,SNR=14
MEH Mehetia 89.54 233 *e*P P 14 46 06.4 +3.4
comp=Z,134nm,1.2s
GTBY Guantanamo Bay 89.83 314 *e*P **P** **14 46 03.3 -0.8**
comp=Z,54nm,1.1s
GTBY LR LR
comp=Z,7µm,22.0s
GRTK Grand Turk 89.93 318 *e*P **P** **14 46 03.9 -0.6**
comp=Z,418nm,1.4s
GRTK LR LR
comp=Z,5µm,19.0s
TIAR Tiarei 90.33 232 *e*P P 14 46 09.8 +3.1
comp=Z,49nm,1.0s
PPT2 Papeete2 90.39 232 *e*S **S** **14 56 57.9 -3.3**
PPT2 comp=Z,7µm,25.8s
*e*LR LR 15 14 30.0
comp=Z,8µm,23.0s,baz=161
PPT Papeete 90.41 232 LR LR 15 20 46.5
comp=Z,10µm,18.4s,baz=160,slow=32
RAR Rarotonga 90.70 221 P **P** **14 46 10.2 +1.8**
RAR LR LR
comp=Z,4µm,20.0s
RAR Rarotonga 90.70 221 P **P** **14 46 10.2 +1.8**
comp=Z,16nm,0.8s,baz=238,slow=10.0,SNR=4.5
PMOR Pomariorio Ree 92.07 234 *e*P P 14 46 17.8 +3.0
comp=Z,125nm,1.3s
RMQ Roma 93.11 174 *e*P **P** **14 46 19.8 +0.3**
MBWA Marble Bar 93.67 147 *e*P **P** **14 46 20.9 -1.2**
comp=Z,48nm,1.0s
MBWA LR LR
comp=Z,9µm,19.0s
COCO West Island 94.11 124 PFAKE 14 46 40.0 +16
COCO LR LR
comp=Z,8µm,20.0s
ASAR Alice Springs 94.31 161 P **P** **14 46 24.6 -0.6**
ASAR PP PP 14 49 58.4 -13
ASAR PKKPbc **PKKPbc** **15 03 25.4 +3.2**
ASAR P'P' 15 11 27.1
ASAR Alice Springs 94.31 161 P **P** **14 46 24.6 -0.6**
comp=Z,23nm,0.7s,baz=190,slow=4.2,SNR=170
ASAR PP PP 14 49 58.4 -13
comp=Z,6.8nm,1.1s,baz=188,slow=7.3,SNR=5.0
ASAR PKKPbc **PKKPbc** **15 03 25.4 +3.2**
comp=Z,3.5nm,0.8s,baz=15,slow=2.2,SNR=19
ASAR PKPPKP P'P'df 15 11 27.1 -15
comp=Z,1.4nm,1.1s,baz=203,slow=0.7,SNR=5.7
ASAR LR LR 15 25 10.3
comp=Z,28µm,21.6s,baz=183,slow=33
AS31 Alice Springs 94.31 161 *e*P **P** **14 46 23.2 -2.0**
EIDS Eidsvold 94.31 176 *e*P **P** **14 46 24.8 -0.3**
comp=Z,38nm,1.2s
MDT Midelt 94.53 17 P **P** **14 46 27.2 +1.5**
MDT Midelt 94.53 17 P **P** **14 46 27.2 +1.5**
comp=Z,14nm,1.0s,baz=186,slow=3.7,SNR=12
TEIG Tepich 95.21 303 *e*P **P** **14 46 28.9 -0.1**
comp=Z,151nm,0.8s
TEIG LR LR
comp=Z,4µm,21.0s
TEIG Tepich 95.21 303 P **P** **14 46 30.3 +1.4**
comp=Z,158nm,0.8s,baz=200,slow=0.4,SNR=37
CMIG Matias Romero 95.29 296 P **P** **14 46 30.5 +1.1**
CMIG Matias Romero 95.29 296 P **P** **14 46 30.5 +1.1**
comp=Z,28nm,0.9s,baz=143,slow=3.4,SNR=17
RTC Rabat Centre 95.38 15 PFAKE 14 46 40.0 +11
RTC LR LR
comp=Z,6µm,20.0s
DZM Mont Dzumac 97.14 191 *e*P Pdif 14 46 38.3 +0.1
comp=Z,56nm,1.2s
DZM *e*S **S** **14 57 57.3 -3.5**
comp=Z,4µm,26.9s
DZM *e*SS SS 15 04 23.6 -13
comp=Z,3µm,29.0s
DZM *e*LR LR 15 17 23.8
comp=Z,7µm,21.8s
DZM Mont Dzumac 97.14 191 *e*P Pdif 14 46 38.0 -0.1
comp=Z,24nm,1.0s
DZM Mont Dzumac 97.14 191 P Pdif 14 46 38.3 +0.1
comp=Z,19nm,1.0s,baz=48,slow=4.0,SNR=10
CMLA Cha da Macela 97.98 360 PFAKE 14 46 50.0 +8.8
CMLA LR LR
comp=Z,4µm,21.0s
WRA Warramunga Arr 98.03 160 P **P** **14 46 40.9 -1.1**
WRA PP **PP** **14 50 35.1 -4.9**
WRA PKKP **PKKPdf** **15 03 13.8 +0.5**
WRA P'P' 15 11 23.1
WRA Warramunga Arr 98.03 160 P **P** **14 46 40.9 -1.1**
comp=Z,12nm,0.9s,baz=198,slow=4.0,SNR=66
WRA PP **PP** **14 50 35.1 -4.9**
comp=Z,3.0nm,0.9s,baz=190,slow=5.6,SNR=3.2
WRA PKKP **PKKPdf** **15 03 13.8 +0.5**
comp=Z,5.9nm,1.1s,baz=357,slow=3.0,SNR=8.4
WRA PKPPKP P'P'df 15 11 23.1 -12
comp=Z,0.8nm,1.0s,baz=22,slow=1.8,SNR=5.3
WRAB Tennant Creek 98.04 160 *e*P **P** **14 46 41.1 -1.0**
WRAB *e* 14 50 41.2
WRAB pmax pmax
comp=Z,27nm,1.1s
WRAB MLR MLR
comp=Z,25µm,22.0s
WRAB Tennant Creek 98.04 160 *e*P **P** **14 46 41.1 -1.0**
comp=Z,27nm,1.1s
WRAB *e*PP **PP** **14 50 41.2 +1.1**
WRAB LR LR
comp=Z,25µm,22.0s
FITZ Fitzroy Crossi 98.08 152 P Pdif 14 46 42.3 0.0
FITZ Fitzroy Crossi 98.08 152 P Pdif 14 46 42.3 +0.1
comp=Z,7.3nm,0.8s,baz=176,slow=6.0,SNR=9.0
FITZ LR LR 15 28 16.1
comp=Z,8µm,19.5s,baz=196,slow=34
BBSR BB Station 98.17 327 PFAKE 14 46 50.0 +7.9
BBSR LR LR
comp=Z,4µm,20.0s
QIS Mount Isa 98.19 165 *e*P **P** **14 46 41.8 -1.0**
MORF Marmelete 98.44 13 *e*P Pdif 14 46 44.7 +1.4
MORF Marmelete 98.44 13 *e*PP PP 14 50 50.4 +6.3
MORF *e*SKS SKSac 14 58 27.6 +68
MORF Marmelete 98.44 13 *e*P Pdif 14 46 43.9 +0.6
MORF *e*S **SKSac** **14 57 22.2 +2.2**
MORF *e*SS **SS** **15 04 57.3 +1.2**
PBDV Barranco-do-Ve 98.46 14 *e*P Pdif 14 46 46.4 +3.1
PBDV *e*SKS SKSac 14 58 26.9 +67
PVAQ Vaqueiros 98.64 14 *e*Pdif Pdif 14 46 47.3 +3.2
PVAQ *e*LQ LQ 15 14 24.8
PVAQ *e*LR LR 15 20 27.9
comp=Z,2µm,18.0s
PCVE Castro Verde 98.83 13 *e*Pdif Pdif 14 46 46.5 +1.6
PCVE Castro Verde 98.83 13 *e*PP PP 14 50 49.7 +2.6
PCVE *e*SKS SKSac 14 58 29.1 +67
MESJ Messejana 99.01 13 *e*P **Pdif** **14 46 46.5 +0.8**
MESJ *e*S **SKSac** **14 57 23.6 +0.9**
MESJ *e*SS **SS** **15 05 04.2 +0.2**
MESJ AMS AMS 15 25 07.1
comp=Z,2µm,21.2s
MESJ Messejana 99.01 13 *e*P **Pdif** **14 46 46.5 +0.8**
MESJ *e*S **SKSac** **14 57 23.6 +0.9**
MESJ *e*SS **SS** **15 05 04.2 +0.2**
PNCL Nicolau / Gran 99.25 13 *e*Pdif **Pdif** **14 46 47.9 +1.2**
PNCL Nicolau / Gran 99.25 13 *e*PP PP 14 50 48.1 -2.1

PNCL *e*SKS SKSac 14 58 32.9 +69
CTA Charters Tower 99.31 172 P **Pdif** **14 46 47.0 -0.7**
CTA Charters Tower 99.31 172 *e*P **Pdif** **14 46 48.0 +0.2**
CTA Charters Tower 99.31 172 P **Pdif** **14 46 47.0 -0.7**
comp=Z,17nm,1.0s,baz=234,slow=5.9,SNR=8.2
CTA LR LR 15 31 26.1
comp=Z,6µm,18.2s,baz=187,slow=35
CTAO Charters Tower 99.31 172 *e*P **Pdif** **14 46 48.0 +0.2**
CTAO *e* 14 50 55.2
CTAO pmax pmax
comp=Z,56nm,1.4s
CTAO MLR MLR
comp=Z,6µm,19.0s
CTAO Charters Tower 99.31 172 *e*P **Pdif** **14 46 48.0 +0.2**
comp=Z,56nm,1.4s
CTAO *e*PP PP 14 50 55.2 +5.4
CTAO LR LR
comp=Z,6µm,19.0s
PBAR Barrancos 99.48 14 *e*Pdif **Pdif** **14 46 50.8 +3.0**
PBAR Barrancos 99.48 14 *e*PP PP 14 50 54.0 +2.0
PBAR *e*SKS SKSac 14 58 36.6 +72
EVOP Sao Brissos 99.70 13 *e*P **Pdif** **14 46 49.9 +1.1**
EVOP pmax pmax
comp=Z,21nm,1.2s
EVOP Sao Brissos 99.70 13 *e*P **Pdif** **14 46 49.9 +1.1**
comp=Z,21nm,1.2s
EVO Evora 99.72 13 *e*Pdif Pdif 14 47 01.2 +12
EVO Evora 99.72 13 *e*P **Pdif** **14 46 49.9 +1.0**
comp=Z,21nm,1.2s
LIS Lisbon 99.78 12 *e*P **Pdif** **14 46 50.6 +1.5**
LIS *e*S **SKSac** **14 57 28.2 +1.7**
LIS AMS AMS 15 27 22.0
comp=Z,3µm,24.9s
LIS Lisbon 99.78 12 *e*P **Pdif** **14 46 50.6 +1.5**
LIS *e*S **SKSac** **14 57 28.1 +1.7**
MSVF Nonsavu 99.80 202 PFAKE 14 47 00.0 +10
MSVF LR LR
comp=Z,4µm,20.0s
KEST Kesra 99.99 28 P **Pdif** **14 46 52.5 +2.3**
KEST Kesra 99.99 28 P **Pdif** **14 46 52.5 +2.3**
comp=Z,4.1nm,1.0s,baz=212,slow=3.0,SNR=6.6
PESTR Estremoz 100.10 14 *e*Pdif **Pdif** **14 46 51.2 +0.6**
PESTR *e*SKS 14 58 39.6
PMTG Montargil 100.23 13 *e*Pdif **Pdif** **14 46 54.3 +3.2**
PMTG Montargil 100.23 13 *e*PP PP 14 50 59.6 +1.9
PMTG *e*SKS 14 58 42.6
PMRV Marv??o 100.68 14 *e*Pdif **Pdif** **14 46 52.2 -0.9**
PMRV Marv??o 100.68 14 *e*PP PP 14 51 00.8 -0.3
PMRV *i* P **Sdif** **14 58 30.0 +0.8**
PMRV *e*LQ LQ 15 15 07.2
PMRV *e*LR LR 15 21 09.1
comp=Z,3µm,20.0s
AFI Afiamalu 101.18 213 PFAKE 14 47 10.0 +14
AFI LR LR
comp=Z,3µm,20.0s
PAB San Pablo 101.18 16 *e*P **Pdif** **14 46 53.9 -1.5**
PAB pmax pmax
comp=Z,14nm,1.2s
PAB MLR MLR
comp=Z,4µm,19.0s
PAB San Pablo 101.18 16 *e*Pdif **Pdif** **14 46 53.9 -1.5**
comp=Z,14nm,1.2s
PAB LR LR
comp=Z,4µm,19.0s
ESDC Sonseca Array 101.36 16 P **Pdif** **14 46 58.4 +2.2**
ESDC Sonseca Array 101.36 16 P **Pdif** **14 46 58.4 +2.2**
comp=Z,5.9nm,1.1s,baz=161,slow=5.0,SNR=10
ESLA Sonseca Array 101.36 16 *e*Pdif **Pdif** **14 46 51.3 -4.9**
comp=Z,8.5nm,1.5s
ESLA LR LR
comp=Z,18µm,19.0s
WDD Wield Dalam 101.39 32 PFAKE 14 47 10.0 +14
WDD LR LR
comp=Z,5µm,20.0s
MVO Moncorvo 102.43 14 *e*Pdif **Pdif** **14 47 09.0 +8.0**
MVO Moncorvo 102.43 14 *e*PP PP 14 51 15.7 +1.3
MVO *e*LQ LQ 15 15 43.9
MVO *e*LR LR 15 25 22.1
comp=Z,3µm,18.0s
POLO Lamas de Olo 102.55 13 *e*Pdif **Pdif** **14 47 02.4 +0.9**
POLO Lamas de Olo 102.55 13 *e*PP PP 14 51 13.1 -2.3
POLO *e*SKS 14 58 59.2
PGAV Gavieira, Arco 103.08 13 *e*Pdif **Pdif** **14 47 05.3 +1.4**
PGAV *e*LQ LQ 15 16 01.0
PGAV *e*LR LR 15 22 14.7
comp=Z,3µm,20.0s
PBRG Braganca 103.10 14 *e*PP PP 14 51 19.4 0.0
VSL Villasalto 103.60 27 PFAKE 14 47 20.0 +14
VSL LR LR
comp=Z,7µm,20.0s
NHSC New Hope 103.68 315 PFAKE 14 47 20.0 +13
NHSC LR LR
comp=Z,5µm,22.0s
BRAL Brewton 104.33 308 PFAKE 14 47 20.0 +10
BRAL LR LR
comp=Z,3µm,21.0s
CNNC Cliffs of the 104.83 317 PFAKE 14 47 20.0 +8.3
CNNC LR LR
comp=Z,4µm,22.0s
ETSF Etsaut 105.02 18 *e*P **Pdif** **14 47 13.6 +1.2**
comp=Z,19nm,1.1s
ETSF Etsaut 105.02 18 *e*P **Pdif** **14 47 13.6 +1.2**
ETSF pmax pmax
comp=Z,19nm,1.1s
ETSF Etsaut 105.02 18 *e*P **Pdif** **14 47 13.6 +1.2**
comp=Z,19nm,1.1s
TIP Timpagrande 105.09 32 PFAKE 14 51 40.0
TIP LR LR
comp=Z,5µm,21.0s
SJPF Ste Jean 105.13 18 *e*P **Pdif** **14 47 13.5 +0.7**
comp=Z,35nm,1.4s
SJPF Ste Jean 105.13 18 *e*P **Pdif** **14 47 13.5 +0.7**
SJPF pmax pmax
comp=Z,35nm,1.4s
SJPF Ste Jean 105.13 18 *e*P **Pdif** **14 47 13.5 +0.7**
comp=Z,35nm,1.4s
GOGA Godfrey 105.13 312 *e*PKPdf **PKiKP** **14 51 27.6 +0.3**
GOGA LR LR
comp=Z,4µm,20.0s
CUC Castrocucco 105.61 31 PFAKE 14 51 40.0
CUC LR LR
comp=Z,2µm,20.0s
KVTX Kingsville 105.76 298 PFAKE 14 51 40.0
KVTX LR LR
comp=Z,5µm,20.0s
KMSC Kings Mountain 105.92 315 ||P **PKiKP** **14 51 30.1 +1.4**
baz=106
LRAL Lakeview Retre 106.11 309 PFAKE 14 51 40.0
LRAL LR LR
comp=Z,3µm,20.0s
CSS Prodhromos 106.41 47 PFAKE 14 51 40.0
CSS LR LR
comp=Z,4µm,19.0s
WBK Wadi Bani Khal 106.49 73 P PKiKP 14 51 44.4 +14
SNR=8.0
VBMS Vicksburg 106.76 306 PFAKE 14 51 40.0
VBMS LR LR
comp=Z,3µm,22.0s
AQU L'Aquila 107.24 29 PFAKE 14 51 40.0
AQU LR LR
comp=Z,5µm,20.0s
TKL Tuckaleechee C 107.25 313 PKiKP **PKiKP** **14 51 33.1 +1.9**
TKL Tuckaleechee C 107.25 313 PKiKP **PKiKP** **14 51 33.1 +1.9**
comp=Z,12nm,1.2s,baz=139,slow=11,SNR=2.4
VWCC Virginia Weste 107.36 317 *e*PKPdf **PKiKP** **14 51 30.1 -1.3**
CBN Corbin 107.36 319 PFAKE 14 51 40.0
CBN LR LR
comp=Z,3µm,21.0s
BLA Blacksburg 107.47 316 *e*PP PP 14 51 51.0 -0.8
BLA LR LR
comp=Z,4µm,20.0s
TIR Tirane 107.96 34 PFAKE 14 51 40.0
TIR LR LR
comp=Z,5µm,19.0s
TZTN Tazewell 107.97 314 *e*PKPdf **PKiKP** **14 51 31.2 -1.3**
TZTN *e*PP **PP** **14 51 51.5 -3.9**
ISP Isparta 108.01 43 PFAKE 14 51 40.0
ISP LR LR
comp=Z,2µm,22.0s
NATX Nacogdoches 108.05 303 PFAKE 14 51 40.0
NATX LR LR
comp=Z,2µm,19.0s
PLAL Pickwick Lake 108.25 310 PFAKE 14 51 40.0
PLAL LR LR
comp=Z,6µm,22.0s

VLC	**Villacollemand**	**108.27**	**26**	PFAKE			14 51 40.0			
VLC				LR	LR					
	comp=Z,3μm,21.0s									
632A	**Uvalde**	**108.28**	**298**	⇑P		**PKiKP**	**14 51 35.0**	**+1.7**		
	baz=108									
OXF	**Oxford**	**108.35**	**308**	PFAKE			14 51 40.0			
OXF				LR	LR					
	comp=Z,4μm,22.0s									
BNI	**Bardonecchia**	**108.37**	**23**	PFAKE			14 51 40.0			
BNI				LR	LR					
	comp=Z,6μm,19.0s									
PSI	**Prapat**	**108.48**	**119**	PKKPbc	PKKPbc		15 02 44.9	+3.5		
PSI				PKKPab	**PKKPab**		**15 02 59.9**	**+2.1**		
PSI	**Prapat**	**108.48**	**119**	PKKPbc	PKKPbc		15 02 44.9	+3.5		
	comp=Z,9.8nm,0.8s,baz=287,slow=5.3,SNR=6.4									
PSI				PKKPab	**PKKPab**		**15 02 59.9**	**+2.1**		
	comp=Z,22nm,0.9s,baz=322,slow=2.6,SNR=8.3									
532A	**Rocksprings**	**108.87**	**298**	⇑P		**PKiKP**	**14 51 35.7**	**+1.3**		
	baz=109									
KAPI	**Kappang**	**109.02**	**142**	PFAKE			14 51 50.0			
KAPI				LR	LR					
	comp=Z,4μm,22.0s									
JCT	**Junction City**	**109.13**	**298**	PFAKE			14 51 50.0			
JCT				LR	LR					
	comp=Z,3μm,22.0s									
WVT	**Waverly**	**109.17**	**310**	*e*PKPdf		**PKiKP**	**14 51 30.9**	**-3.9**		
531A	**Rocksprings**	**109.18**	**297**	⇑P		**PKiKP**	**14 51 36.7**	**+1.7**		
	baz=109									
530A	**J-C Ranch, Com**	**109.52**	**297**	⇓P		**PKiKP**	**14 51 37.0**	**+1.3**		
	baz=110									
628A	**Black Gap, Mar**	**109.64**	**295**	⇓P		**PKiKP**	**14 51 37.2**	**+1.2**		
	baz=110									
431A	**Sonora**	**109.65**	**298**	⇑P		**PKiKP**	**14 51 38.0**	**+2.1**		
	baz=110									
627A	**Terlingua Ranc**	**109.83**	**295**	⇓P		**PKiKP**	**14 51 37.9**	**+1.5**		
	baz=110									
TXAR	**Lajitas Array**	**109.86**	**294**	PKiKP		**PKiKP**	**14 51 38.2**	**+1.8**		
TXAR				PKKPbc	**PKKPbc**		**15 02 40.4**	**+2.9**		
TXAR	**Lajitas Array**	**109.86**	**294**	PKiKP		**PKiKP**	**14 51 38.2**	**+1.8**		
	comp=Z,1.7nm,0.5s,baz=186,slow=4.2,SNR=3.5									
TXAR				PKKPbc	**PKKPbc**		**15 02 40.4**	**+2.9**		
	comp=Z,4.0nm,0.9s,baz=250,slow=2.5,SNR=6.5									
529A	**Stev Forest Ra**	**109.89**	**296**	⇑P		**PKiKP**	**14 51 38.1**	**+1.6**		
	baz=110									
PMG	**Port Moresby**	**109.97**	**172**	PP	PP		14 52 07.8	-1.2		
PMG				LR	LR					
	comp=Z,9μm,19.0s									
PMG	**Port Moresby**	**109.97**	**172**	PP	PP		14 52 07.8	-1.2		
	comp=Z,5.1nm,0.7s,baz=23,slow=3.9,SNR=3.9									
MIAR	**Mount Ida**	**110.03**	**305**	PFAKE			14 51 50.0			
MIAR				LR	LR					
	comp=Z,3μm,20.0s									
HNR	**Honiara**	**110.12**	**185**	PFAKE			14 51 50.0			
HNR				LR	LR					
	comp=Z,5μm,19.0s									
429A	**Davenport Ranc**	**110.17**	**297**	⇑P		**PKiKP**	**14 51 37.8**	**+0.8**		
	baz=110									
TUE	**Stuetta**	**110.26**	**25**	PFAKE			14 51 50.0			
TUE				LR	LR					
	comp=Z,3μm,19.0s									
527A	**Woodward Ranch**	**110.52**	**295**	⇑P		**PKiKP**	**14 51 39.5**	**+1.7**		
	baz=111									
BINY	**Binghamton**	**110.57**	**322**	PFAKE			14 51 50.0			
BINY				LR	LR					
	comp=Z,5μm,21.0s									
428A	**Kincaid Ranch,**	**110.61**	**296**	⇑P		**PKiKP**	**14 51 39.4**	**+1.6**		
	baz=111									
BOJS	**Bojanci**	**110.66**	**29**	*i* PP		PP	14 52 15.5	+0.7		
526A	**Mary Lane Ranc**	**110.67**	**294**	⇑P		**PKiKP**	**14 51 39.5**	**+1.5**		
	baz=111									
DAVOX	**Davos/Dischmat**	**110.67**	**25**	PKiKP		**PKiKP**	**14 51 38.6**	**+1.1**		
DAVOX	**Davos/Dischmat**	**110.67**	**25**	PKiKP		**PKiKP**	**14 51 38.6**	**+1.1**		
	comp=Z,3.7nm,0.9s,baz=94,slow=12,SNR=4.7									
JAVS	**Javornik**	**110.74**	**28**	*i* PP		PP	14 52 15.1	-0.4		
BR131	**Keskin Array S**	**110.78**	**45**	PFAKE			14 51 50.0			
BR131				LR	LR					
	comp=Z,2μm,19.0s									
BRTR	**Keskin Array B**	**110.78**	**45**	PKiKP		**PKiKP**	**14 51 37.9**	**0.0**		
BRTR				PP		**PP**	**14 52 16.5**	**+0.5**		
BRTR				PKKP		**PKKPdf**	**15 02 48.5**	**-4.4**		
BRTR	**Keskin Array B**	**110.78**	**45**	PKiKP		**PKiKP**	**14 51 37.9**	**0.0**		
	comp=Z,1.8nm,0.9s,baz=202,slow=3.0,SNR=5.2									
BRTR				PP		**PP**	**14 52 16.5**	**+0.5**		
	comp=Z,3.4nm,0.9s,baz=194,slow=6.2,SNR=4.3									
BRTR				PKKP		**PKKPdf**	**15 02 48.5**	**-4.4**		
	comp=Z,1.7nm,0.8s,baz=52,slow=3.7,SNR=5.0									
VISS	**Visnje**	**110.84**	**29**	*i* PP		PP	14 52 16.3	+0.2		
IPM	**Ipoh**	**110.89**	**120**	*e*PKPdf		**PKiKP**	**14 51 39.6**	**+0.8**		
ABTX	**Abilene, Hawle**	**110.90**	**299**	⇓P		**PKiKP**	**14 51 40.2**	**+2.0**		
	baz=111									
427A	**Hayter Ranch,**	**111.03**	**295**	⇓P		**PKiKP**	**14 51 40.2**	**+1.6**		
	baz=111									
ACSO	**Alum Creek Sta**	**111.06**	**316**	PFAKE			14 51 50.0			
ACSO				LR	LR					
	comp=Z,5μm,22.0s									
426A	**McDonald Obser**	**111.16**	**295**	⇑P		**PKiKP**	**14 51 40.7**	**+1.7**		
	baz=111									
328A	**Wristen Ranch,**	**111.22**	**296**	⇑P		**PKiKP**	**14 51 40.4**	**+1.5**		
	baz=112									
LBNH	**Lisbon**	**111.25**	**326**	PFAKE			14 51 50.0			
LBNH				LR	LR					
	comp=Z,3μm,20.0s									
MALT	**Malatya**	**111.26**	**49**	PFAKE			14 51 50.0			
MALT				LR	LR					
	comp=Z,89nm,20.0s									
229A	**Bryant Ranch,**	**111.28**	**297**	⇑P		**PKiKP**	**14 51 40.7**	**+1.7**		
	baz=112									
XMAS	**Kiritimati**	**111.37**	**232**	PFAKE			14 51 50.0			
XMAS				LR	LR					
	comp=Z,11μm,19.0s									
KULM	**Kulim**	**111.45**	**120**	PFAKE			14 51 50.0			
KULM				LR	LR					
	comp=Z,10μm,20.0s									
ECH	**Echery**	**111.50**	**22**	PFAKE			14 51 50.0			
ECH				LR	LR					
	comp=Z,5μm,19.0s									
GROS	**Grobnik**	**111.62**	**29**	*e*PP		PP	14 52 21.4	-0.4		
HYB	**Hyderabad**	**111.62**	**93**	*i* Pdiff		**Pdif**	**14 47 44.0**	**+1.6**		
HYB				*e*			14 51 40.0			
HYB				*e*PP		**PP**	**14 52 20.0**	**-1.9**		
HYB				*e*SKS		SKSdf	14 58 16.0	-35		
HYB				*e*SP		**SP**	**15 01 48.0**	**-4.4**		
HYB				*e*PKKP		**PKKPbc**	**15 02 28.0**	**-3.4**		
HYB				*e*PKKP		**PKKPab**	**15 02 40.0**	**-2.3**		
HYB				*e*SS		**SS**	**15 07 58.0**	**+1.5**		
HYB				LR	LR		15 27 50.0			
	comp=Z,11nm,22.0s									
326A	**Caldwell Ranch**	**111.69**	**295**	⇓P		**PKiKP**	**14 51 41.7**	**+1.9**		
	baz=112									
425A	**Indio Mountain**	**111.69**	**294**	⇓P		**PKiKP**	**14 51 41.5**	**+1.6**		
	baz=112									
ERPA	**Erie**	**111.75**	**319**	PFAKE			14 51 50.0			
ERPA				LR	LR					
	comp=Z,4μm,20.0s									
BFO	**Black Forest**	**111.84**	**23**	*e*PP		PP	14 52 24.2	+0.9		
BFO	**Black Forest**	**111.84**	**23**	*e*PKiKP		**PKiKP**	**14 51 39.4**	**0.0**		
BFO				MLR	MLR					
	comp=Z,5μm,20.0s									
BFO	**Black Forest**	**111.84**	**23**	*e*PKPdf		**PKiKP**	**14 51 39.4**	**0.0**		
BFO				LR	LR					
	comp=Z,5μm,20.0s									
KSM	**Kuching**	**111.88**	**131**	*e*PP		PP	14 52 22.1	-1.1		
KSM				LR	LR					
	comp=Z,6μm,20.0s									
128A	**Castleberry Fa**	**112.13**	**297**	⇑P		**PKiKP**	**14 51 42.5**	**+1.9**		
	baz=112									
FUR	**Furstenfeldbru**	**112.28**	**25**	*e*PP		PP	14 52 26.9	+0.5		
FUR				*e*PS		PKKPbc	15 02 14.5	-15		
WMOK	**Wichita Mounta**	**112.34**	**301**	PFAKE			14 51 50.0			
WMOK				LR	LR					
	comp=Z,2μm,19.0s									
LONY	**Lake Ozonia**	**112.36**	**324**	PFAKE			14 51 50.0			
LONY				LR	LR					
	comp=Z,4μm,20.0s									
BZS	**Buzias**	**112.39**	**33**	⇑PKiKP		**PKiKP**	**14 51 41.3**	**+0.8**		
BZS	**Buzias**	**112.39**	**33**	⇑*i*P		**PKiKP**	**14 51 41.3**	**+0.8**		
STU	**Stuttgart**	**112.43**	**24**	*e*PP		PP	14 52 28.5	+1.0		
STU				*e*PS		PKKPbc	15 02 14.6	-15		
STU				*e*SS		SS	15 08 04.5	-2.5		
324A	**Moseley Ranch,**	**112.47**	**294**	⇓P		**PKiKP**	**14 51 42.5**	**+1.1**		
	baz=113									
127A	**Arkansas Junct**	**112.56**	**297**	⇓P		**PKiKP**	**14 51 42.9**	**+1.4**		
	baz=113									
MNTX	**Cornudas Mount**	**112.64**	**294**	*e*PKPdf		**PKiKP**	**14 51 42.2**	**+0.7**		
MNTX				LR	LR					
	comp=Z,8μm,22.0s									
MNTX	**Cornudas Mount**	**112.64**	**294**	⇑P		**PKiKP**	**14 51 42.9**	**+1.4**		
	baz=113									
SFIN	**Scholer Farm**	**112.64**	**313**	⇑P		**PKiKP**	**14 51 43.4**	**+2.2**		
	baz=113									
Z28A	**Tucker Farm, M**	**112.66**	**298**	⇑P		**PKiKP**	**14 51 43.5**	**+1.9**		
	baz=113									
WLF	**Walferdange**	**112.71**	**21**	*e*PP		PP	14 52 31.6	+2.1		
WLF				*e*PS		PKKPbc	15 02 16.4	-12		
WLF	**Walferdange**	**112.71**	**21**	PFAKE			14 51 50.0			
WLF				LR	LR					
	comp=Z,4μm,21.0s									
225A	**Deer Hill, Car**	**112.74**	**295**	⇑P		**PKiKP**	**14 51 43.1**	**+1.2**		
	baz=113									
126A	**Clayton Basin,**	**112.83**	**296**	⇓P		**PKiKP**	**14 51 43.3**	**+1.3**		
	baz=113									
Y29A	**Porterfield Fa**	**112.83**	**298**	⇑P		**PKiKP**	**14 51 44.3**	**+2.4**		
	baz=113									
224A	**Cornudas Mount**	**113.02**	**294**	⇓P		**PKiKP**	**14 51 44.4**	**+2.0**		
	baz=113									
Z27A	**Tatum**	**113.04**	**297**	⇓P		**PKiKP**	**14 51 44.3**	**+1.9**		
	baz=113									
CPRX	**Cap Rock**	**113.09**	**296**	*e*PKPdf			14 51 40.8			
Y28A	**McKinney Farm,**	**113.12**	**298**	⇑P		**PKiKP**	**14 51 44.0**	**+1.5**		
	baz=113									
125A	**Gardner Draw,**	**113.13**	**296**	⇓P		**PKiKP**	**14 51 44.8**	**+2.3**		
	baz=113									
AAM	**Ann Arbor**	**113.14**	**316**	PFAKE			14 51 50.0			
AAM				LR	LR					
	comp=Z,5μm,22.0s									
VOIR		**113.19**	**36**	⇓PKiKP		**PKiKP**	**14 51 44.0**	**+1.8**		
VOIR		**113.19**	**36**	⇓*i*P		**PKiKP**	**14 51 44.0**	**+1.8**		
TIRR	**Tirgusor**	**113.31**	**39**	⇓PKiKP		**PKiKP**	**14 51 42.6**	**+0.3**		
TIRR	**Tirgusor**	**113.31**	**39**	*e*PKPdf		**PKiKP**	**14 51 41.4**	**-0.9**		
TIRR	**Tirgusor**	**113.31**	**39**	⇓*i*P		**PKiKP**	**14 51 42.6**	**+0.3**		
X29A	**Tulia**	**113.34**	**299**	⇑P		**PKiKP**	**14 51 45.3**	**+2.4**		
	baz=114									
Z26A	**Caprock**	**113.34**	**296**	⇓P		**PKiKP**	**14 51 45.3**	**+2.3**		
	baz=114									
MSTX	**Muleshoe**	**113.41**	**298**	⇑P		**PKiKP**	**14 51 45.6**	**+2.5**		
	baz=114									
GEC2	**GERESS Array S**	**113.44**	**27**	*e*PP		PP	14 52 35.1	+0.2		
GEC2				*e*PS		**PS**	**15 02 16.8**	**+6.9**		
GERES	**GERESS Array B**	**113.44**	**27**	PKiKP		**PKiKP**	**14 51 42.6**	**+0.1**		
GERES				PP		**PP**	**14 52 35.2**	**+0.3**		
GERES	**GERESS Array B**	**113.44**	**27**	PKiKP		**PKiKP**	**14 51 42.6**	**+0.1**		
	comp=Z,2.6nm,0.7s,baz=188,slow=3.6,SNR=10									
GERES				PP		**PP**	**14 52 35.2**	**+0.3**		
	comp=Z,8.0nm,1.1s,baz=191,slow=6.3,SNR=6.6									
MLR	**Muntele Rosu**	**113.50**	**37**	PKiKP		**PKiKP**	**14 51 42.2**	**-0.6**		
MLR	**Muntele Rosu**	**113.50**	**37**	⇑*i*P		**PKiKP**	**14 51 43.3**	**+0.5**		
MLR	**Muntele Rosu**	**113.50**	**37**	PKiKP		**PKiKP**	**14 51 42.2**	**-0.6**		
	comp=Z,1.1nm,0.7s,baz=240,slow=1.9,SNR=7.5									
Y27A	**Causey**	**113.50**	**297**	⇑P		**PKiKP**	**14 51 44.8**	**+1.5**		
	baz=114									
124A	**Stringfield Ra**	**113.52**	**295**	⇓P		**PKiKP**	**14 51 45.4**	**+1.9**		
	baz=114									
WET	**Wettzell**	**113.55**	**26**	*e*PP		PP	14 52 36.9	+1.4		
WET				*e*PS		PKKPbc	15 02 18.9	-6.8		
WET				*e*SS		SS	15 08 24.9	+3.0		
TNS	**Taunus Mts**	**113.67**	**23**	*e*PP		PP	14 52 37.9	+1.5		
TNS				*e*PS		**PKKPbc**	**15 02 22.1**	**-3.3**		
Z25A	**Roswell**	**113.68**	**296**	⇑P		**PKiKP**	**14 51 45.8**	**+2.2**		
	baz=114									
KHC	**Kasperske Hory**	**113.69**	**27**	*e*PKiKP		**PKiKP**	**14 51 43.5**	**+0.5**		
KHC	**Kasperske Hory**	**113.69**	**27**	*e*PKPdf		**PKiKP**	**14 51 43.5**	**+0.5**		
KHC	**Kasperske Hory**	**113.69**	**27**	*e*PKP		**PKiKP**	**14 51 43.8**	**+0.8**		
KHC				*ex*		x	14 52 03.5			
KHC				*ex*		x	14 52 23.5			
KHC				*e*XS			15 00 26.1			
KHC				*e*PS		**PS**	**15 02 17.9**	**+5.9**		
KHC				*e*SS		**SS**	**15 08 22.9**	**-0.8**		
KHC				AMS		AMS	15 36 20.0			
	comp=Z,2μm,19.6s									
AMTX	**Amarillo**	**113.71**	**299**	*e*PKPdf		**PKiKP**	**14 51 43.3**	**-0.2**		
AMTX				LR	LR					
	comp=Z,3μm,20.0s									
AMTX	**Amarillo**	**113.71**	**299**	⇓P		**PKiKP**	**14 51 45.8**	**+2.2**		
	baz=114									
GRF	**Grafenberg Arr**	**113.72**	**25**	*e*PP		PP	14 52 36.9	+0.2		
GRF				*e*PS		**PKKPbc**	**15 02 21.0**	**-4.1**		
GRF				*e*L		L	15 34 49.6			
	comp=Z,3μm,21.1s									
222A	**Williams Famil**	**113.76**	**293**	⇓P		**PKiKP**	**14 51 45.8**	**+2.0**		
	baz=114									
320A	**Kipp Ranch, An**	**113.76**	**292**	⇓P		**PKiKP**	**14 51 45.3**	**+1.5**		
	baz=114									
DRGR		**113.77**	**34**	⇑PKiKP		**PKiKP**	**14 51 43.8**	**+0.6**		
DRGR		**113.77**	**34**	⇑*i*P		**PKiKP**	**14 51 43.8**	**+0.6**		
123A	**Bell Site, Whi**	**113.83**	**294**	⇓P		**PKiKP**	**14 51 45.8**	**+1.9**		
	baz=114									
Y26A	**Elida**	**113.83**	**297**	⇑P		**PKiKP**	**14 51 45.7**	**+1.8**		
	baz=114									
W29A	**Amraillo**	**113.89**	**299**	⇓P		**PKiKP**	**14 51 45.9**	**+2.0**		
	baz=114									
221A	**Mesquite Ranch**	**113.99**	**293**	⇑P		**PKiKP**	**14 51 46.6**	**+2.3**		
	baz=114									
ROTZ	**Rotzenmuhle**	**113.99**	**25**	*e*PP		PP	14 52 39.8	+1.2		
ROTZ				*e*PS		**PKKPbc**	**15 02 23.8**	**-0.4**		
Z24A	**Sheeppen Canyo**	**114.01**	**295**	⇓P		PKPdf	14 51 46.3	+2.0		
	baz=114									
PSZ	**Piszkesteto**	**114.06**	**31**	PFAKE			14 52 00.0	+16		
PSZ				LR	LR					
	comp=Z,3μm,21.0s									
X27A	**F and S Farms,**	**114.12**	**298**	⇓P		PKPdf	14 51 46.7	+2.3		
	baz=114									
319A	**Douglas**	**114.14**	**291**	⇑P		PKPdf	14 51 46.7	+2.1		
	baz=114									
Y25A	**Mesa, Roswell**	**114.21**	**296**	⇑P		PKPdf	14 51 46.0	+1.4		
	baz=114									
122A	**Conniff Cattle**	**114.21**	**294**	⇓P		PKPdf	14 51 46.5	+1.9		
	baz=114									
220A	**Playas Peak, P**	**114.24**	**292**	⇓P		PKPdf	14 51 46.2	+1.4		
	baz=114									
W28A	**Vega**	**114.25**	**299**	⇑P		PKPdf	14 51 46.4	+1.8		
	baz=114									
TREC	**Trest**	**114.27**	**28**	*e*PKiKP		PKPdf	14 51 43.7	-0.3		
TREC				MLR	MLR					
	comp=Z,4μm,19.8s									
TREC	**Trest**	**114.27**	**28**	*e*PKP		PKPdf	14 51 43.7	-0.3		
TREC				*e*XS			15 00 32.5			
TREC				*ex*		x	15 02 22.6			
TREC				*e*SS		**SS**	**15 08 30.7**	**-0.7**		
TREC				*ex*		x	15 12 27.3			
TREC				AMS		AMS	15 37 00.0			
	comp=Z,4μm,19.8s									
VYHS	**Vyhne**	**114.33**	**30**	*i* PKiKP		PKPdf	14 51 43.5	-0.7		
VYHS	**Vyhne**	**114.33**	**30**	*e*PKP		PKPdf	14 51 43.5	-0.7		
Z23A	**Rita Site, Whi**	**114.34**	**295**	⇓P		PKPdf	14 51 46.6	+1.7		
	baz=115									
X26A	**CR and CF Fran**	**114.35**	**297**	⇓P		PKPdf	14 51 46.6	+1.7		
	baz=115									
121A	**Cookes Peak, D**	**114.43**	**293**	⇑P		PKPdf	14 51 46.6	+1.5		
	baz=115									
W27A	**Bowe Ranch, En**	**114.46**	**298**	⇑P		PKPdf	14 51 46.6	+1.6		
	baz=115									
V29A	**Stinnett**	**114.48**	**300**	⇓P		PKPdf	14 51 46.6	+1.6		
	baz=115									
NKC	**Novy Kostel**	**114.48**	**25**	*e*PP		**PP**	**14 52 41.1**	**-1.0**		
NKC				*e*XS			15 00 34.0			
NKC				*ex*		x	15 02 26.9			
UBBA	**Unterbreizbach**	**114.54**	**24**	*e*PP		**PP**	**14 52 44.8**	**+2.5**		
UBBA				*e*PS		PKKPab	15 02 30.8	+4.8		
VRAC	**Vranov**	**114.54**	**28**	PKP		PKPdf	14 51 45.2	+0.6		
VRAC	**Vranov**	**114.54**	**28**	⇓*i*P		PKPdf	14 51 46.9	+2.4		
VRAC	**Vranov**	**114.54**	**28**	PKP		PKPdf	14 51 45.2	+0.6		
	comp=Z,6.7nm,0.8s,baz=125,slow=2.7,SNR=8.6									
Y24A	**Capitan**	**114.54**	**296**	⇑P		PKPdf	14 51 47.1	+1.7		
	baz=115									
BUG	**Bochum--Univer**	**114.62**	**22**	*e*PP		**PP**	**14 52 44.8**	**+1.9**		
BUG				*e*PS		PKKPab	15 02 30.9	+5.2		
TANN	**Tannenbergstha**	**114.66**	**25**	*e*PP		PP	14 52 45.4	+2.0		
TANN				*e*PS		PKKPab	15 02 30.8	+5.1		
Z22A	**Elephant Butte**	**114.67**	**294**	⇓P		PKPdf	14 51 46.5	+1.0		
	baz=115									
V28A	**Channing**	**114.68**	**299**	⇑P		PKPdf	14 51 46.8	+1.4		
	baz=115									
MOX	**Moxa**	**114.70**	**25**	*e*PP		**PP**	**14 52 44.8**	**+1.2**		
MOX				*e*PS		PKKPab	15 02 31.2	+5.7		
X25A	**Clemmons Ranch**	**114.71**	**297**	⇓P		PKPdf	14 51 46.9	+1.3		
	baz=115									
PRU	**Pruhonice**	**114.71**	**27**	*e*PKiKP		PKPdf	14 51 45.2	+0.4		
PRU				MLR	MLR					
	comp=Z,2μm,20.7s									
PRU	**Pruhonice**	**114.71**	**27**	*e*PKP		PKPdf	14 51 45.2	+0.4		
PRU				*e*PP		**PP**	**14 52 39.8**	**-3.8**		
PRU				*e*XS			15 00 36.6			
PRU				*e*PS		**PKKPab**	**15 02 24.7**	**-0.7**		
PRU				*ex*		x	15 08 48.4			
PRU				*ex*		x	15 12 21.7			
PRU				AMS		AMS	15 39 30.0			
	comp=Z,2μm,20.7s									
PRA	**Prague**	**114.76**	**27**	PKP		PKPdf	14 51 46.0	+1.1		
PRA				PP		**PP**	**14 52 43.0**	**-1.0**		
W26A	**Owens Ranch, T**	**114.79**	**298**	⇓P		PKPdf	14 51 46.7	+1.1		
	baz=115									
Y23A	**Lovelace Mesa,**	**114.83**	**295**	⇓P		PKPdf	14 51 46.9	+1.0		
	baz=115									
120A	**U Bar Ranch, L**	**114.83**	**292**	⇑P		PKPdf	14 51 46.9	+1.0		
	baz=115									
TRPA	**Tarpa**	**114.95**	**33**	⇓*i*P		PKPdf	14 51 45.4	+0.1		
Z21A	**St. Cloud Mine**	**115.03**	**294**	⇓P		**PKPdf**	**14 51 47.6**	**+1.3**		
	baz=115									
KSU1	**Kansas State U**	**115.18**	**305**	PFAKE			14 52 00.0	+14		
KSU1				LR	LR					
	comp=Z,4μm,21.0s									
W25A	**X Bar L Ranch,**	**115.20**	**297**	⇑P		**PKPdf**	**14 51 47.8**	**+1.4**		
	baz=116									
MORC	**Moravsky Berou**	**115.20**	**29**	⇑PKiKP		**PKPdf**	**14 51 46.8**	**+0.9**		
MORC	**Moravsky Berou**	**115.20**	**29**	*e*PKPdf		**PKPdf**	**14 51 46.4**	**+0.5**		
MORC	**Moravsky Berou**	**115.20**	**29**	⇑*i*P		**PKPdf**	**14 51 46.8**	**+0.9**		
BURAR	**Bucovina Array**	**115.22**	**35**	⇑*i*P		**PKPdf**	**14 51 46.6**	**+0.6**		
Y22A	**Socorro**	**115.24**	**294**	⇓P		**PKPdf**	**14 51 48.3**	**+1.7**		
	baz=116,SNR=15									
GNI	**Garni**	**115.27**	**53**	PFAKE			14 52 00.0	+14		
GNI				LR	LR					
	comp=Z,7μm,19.0s									
Z20A	**Nine Sixteen R**	**115.28**	**293**	⇓P		**PKPdf**	**14 51 48.0**	**+1.2**		
	baz=116									
CRVS	**Cervenica-Dubn**	**115.37**	**32**	*i* PKiKP		PKPdf	14 51 53.4	+7.2		
CRVS	**Cervenica-Dubn**	**115.37**	**32**	*e*PKP		PKPdf	14 51 53.4	+7.2		
V26A	**Tequesquite Ra**	**115.39**	**298**	⇑P		**PKPdf**	**14 51 48.2**	**+1.4**		
	baz=116									
OKC	**Ostrava-Krasne**	**115.41**	**29**	*e*PKiKP		**PKPdf**	**14 51 46.6**	**+0.4**		
OKC				*e*			14 52 48.7			
OKC				*e*			15 02 30.0			
OKC				MLR	MLR					
	comp=Z,2μm,15.1s									
OKC	**Ostrava-Krasne**	**115.41**	**29**	*e*PKP		**PKPdf**	**14 51 46.6**	**+0.4**		
OKC				*e*PP		**PP**	**14 52 48.7**	**+0.1**		
OKC				*e*PS		**PS**	**15 02 30.0**	**+2.5**		
OKC				*ex*		x	15 12 35.1			
OKC				AMS		AMS	15 44 50.0			
	comp=Z,2μm,15.1s									
BRG	**Berggiesshubel**	**115.41**	**26**	PDIF		**Pdif**	**14 48 04.0**	**+5.7**		
BRG	**Berggiesshubel**	**115.41**	**26**	*e*PKP		**PKPdf**	**14 51 46.8**	**+0.6**		
	comp=Z,9.9nm,1.2s									
BRG				PP		**PP**	**14 52 50.0**	**+1.4**		
BRG				SDIF			15 00 44.0			
BRG				SS		**SS**	**15 08 43.0**	**-3.2**		
BRG										
	comp=N,1μm,19.1s									
BRG										
	comp=

baz=116
W23A Werner Place, 115.90 296 ⇓P PKPdf 14 51 49.4 +1.4
baz=116
KSP Ksiaz 115.91 28 ePKP PKPdf 14 51 49.8 +2.7
KSP ePP PP 14 52 51.2 -0.9
KSP eSS SS 15 09 04.6 +12
KSP LMZ LR 15 37 37.9
comp=Z,3µm,19.7s
KSP Ksiaz 115.91 28 ePKP PKPdf 14 51 49.8 +2.7
KSP ePP PP 14 52 51.2 -0.9
KSP eSS SS 15 09 04.6 +12
KSP LMZ LR 15 37 37.9
comp=Z,3µm,19.7s
KSP Ksiaz 115.91 28 i PKIKP PKPdf 14 51 49.7 +2.6
KSP e 14 52 51.0
KSP eSP SP 15 02 36.5 +6.1
KSP eSS SS **15 08 48.0 -4.8**
V24A Rampart Ranch, 115.98 297 ⇑P PKPdf 14 51 49.3 +1.2
baz=116
T27A Campo 116.00 300 ⇓P PKPdf 14 51 49.6 +1.6
baz=116
X21A Alamocita Cree 116.03 294 ⇓P PKPdf 14 51 49.4 +1.2
baz=116
W22A Albuquerque 116.14 295 ⇑P PKPdf 14 51 49.9 +1.6
baz=116
NRDL Niedersach Rie 116.15 23 ePP PP 14 52 55.4 +1.7
NRDL ePS **PKKPdf 15 02 45.2 +2.4**
U25A Circle Dot Ran 116.17 298 ⇓P PKPdf 14 51 49.7 +1.3
baz=116
SCIA State Center 116.25 309 PFAKE 14 52 00.0 +12
SCIA LR LR
comp=Z,3µm,19.0s
214A Organ Pipe Nat 116.27 289 ⇑P PKPdf 14 51 50.0 +1.5
baz=116
SOC Sochi 116.33 47 i PKIKP PKPdf 14 51 46.6 -1.6
SOC e 14 52 53.3
SOC ePPP PPP 14 55 20.1
SOC ePS **PS 15 02 38.1 +2.0**
SOC MLR MLR
comp=Z,2µm,17.0s
KWP Kalwaria Pacla 116.37 32 ePKP PKPdf 14 51 46.2 -1.8
KWP LMZ LR 15 40 02.2
comp=Z,5µm,19.5s
KWP Kalwaria Pacla 116.37 32 ePKP PKPdf 14 51 46.2 -1.8
KWP LMZ LR 15 40 02.2
comp=Z,5µm,19.5s
KWP Kalwaria Pacla 116.37 32 PFAKE 14 52 00.0 +12
KWP LR LR
comp=Z,5µm,20.0s
V23A Ortiz Mt. (NFS 116.40 296 ⇑P PKPdf 14 51 50.3 +1.5
baz=117
X20A Quemado 116.44 294 ⇑P PKPdf 14 51 50.3 +1.3
baz=117
T26A Comanche Natio 116.47 299 ⇑P PKPdf 14 51 50.4 +1.4
baz=117
U24A Moreno Valley 116.56 297 ⇑P PKPdf 14 51 50.5 +1.3
baz=117
ANN Anapa 116.58 45 i P Pdif 14 48 02.8 -0.8
ANN i 14 51 50.4
ANN e 14 52 57.9
ANN eSP SP 15 02 38.6 +1.8
ANN pmax pmax
comp=Z,302nm,7.2s
TBLG Delisi 116.62 52 P PP 14 52 58.4 +1.1
DGRG David-gareji 116.63 52 P PP 14 52 47.8 -10
S26A Kim 116.79 299 ⇓P PKPdf 14 51 50.9 +1.4
baz=117
T25A Trinidad 116.79 298 ⇑P PKPdf 14 51 50.9 +1.3
baz=117
ESK Eskdalemuir 116.82 14 PFAKE 14 52 00.0 +11
ESK LR LR
comp=Z,3µm,19.0s
ONI Oni 116.86 50 P PKPdf 14 51 48.8 -0.5
V22A San Miguel Ran 116.87 296 ⇑P PKPdf 14 51 50.9 +1.1
baz=117
U23A El Rito 116.89 296 ⇓P PKPdf 14 51 51.0 +1.2
baz=117
LVV L'vov 116.90 33 ePKIKP PKPdf 14 51 42.7 -6.3
LVV e 14 51 55.2
W20A Ramah 116.92 294 ⇑P PKPdf 14 51 51.3 +1.4
baz=117,SNR=12
T24A Torres, Weston 117.02 298 ⇑P PKPdf 14 51 51.2 +1.1
baz=117
R27A Eads 117.06 300 ⇓P PKPdf 14 51 51.3 +1.4
baz=117
X18A Snowflake 117.08 293 ⇑P PKPdf 14 51 52.1 +1.9
baz=117,SNR=17
V21A Milan 117.10 295 ⇓P PKPdf 14 51 51.4 +1.1
baz=117
ZEI Tsey 117.19 51 i PKIKP PKPdf 14 51 50.0 -0.2
ZEI pmax pmax
comp=Z,9.0nm,1.1s
U22A Llaves 117.23 296 ⇓P PKPdf 14 51 51.7 +1.3
baz=118
S25A Robets Cordova 117.24 299 ⇑P PKPdf 14 51 51.6 +1.3
baz=118
R26A Arlington 117.35 300 ⇑P PKPdf 14 51 52.0 +1.5
baz=118
113A Mohawk Valley, 117.39 288 ⇑P PKPdf 14 51 52.3 +1.7
baz=118
T23A Casias Ranch, 117.42 297 ⇓P PKPdf 14 51 52.0 +1.1
baz=118
V20A Brimhall 117.47 294 ⇓P PKPdf 14 51 52.1 +1.2
baz=118
W18A Petrified Fore 117.48 293 ⇑P PKPdf 14 51 52.3 +1.4
baz=118
Z14A Wintersburg 117.50 289 ⇓P PKPdf 14 51 52.0 +1.2
baz=118
S24A Houchin Ranch, 117.56 298 ⇑P PKPdf 14 51 52.5 +1.3
baz=118
BSEG Bad Segeberg 117.56 23 ePP PP 14 53 05.7 +2.2
BSEG ePS PS 15 02 57.8 +11
R25A Fountain Ranch 117.58 299 ⇓P PKPdf 14 51 52.1 +1.1
baz=118
U21A Nageezi 117.63 295 ⇑P PKPdf 14 51 52.4 +1.1
baz=118
KBZ Khabaz 117.63 49 PKIKP PKPdf 14 51 49.7 -0.9
KBZ Khabaz 117.63 49 PKP PKPdf 14 51 49.6 -0.9
KBZ PKKPbc **PKKPab 15 02 17.8 +4.3**
KBZ Khabaz 117.63 49 PKP PKPdf 14 51 49.6 -0.9
comp=Z,8.7nm,0.9s,baz=357,slow=0.7,SNR=10.0
KBZ PKKPbc **PKKPab 15 02 17.8 +4.3**
comp=Z,4.0nm,0.9s,baz=163,slow=9.3,SNR=4.2
X16A Lo Mia Camp, P 117.67 291 ⇓P PKPdf 14 51 52.7 +1.4
baz=118
KIV Kislovodsk 117.75 49 i PKIKP PKPdf 14 51 51.2 +0.2
KIV pmax pmax
comp=Z,39nm,1.2s
KIV MLR MLR
comp=Z,4µm,16.0s
KIV Kislovodsk 117.75 49 ePKPdf PKPdf 14 51 51.0 0.0
KIV LR LR
comp=Z,4µm,19.0s
BGNE Belgrade 117.76 306 ⇓P PKPdf 14 51 52.7 +1.6
baz=118
T22A Edith 117.78 296 ⇑P PKPdf 14 51 52.8 +1.2
baz=118
BEL Belsk 117.90 30 ePKP PKPdf 14 51 53.8 +3.0
BEL LMZ LR 15 39 10.9
comp=Z,3µm,20.6s
BEL Belsk 117.90 30 ePKP PKPdf 14 51 53.8 +3.0
BEL LMZ LR 15 39 10.9
comp=Z,3µm,20.6s
Q26A Hugo 117.90 300 ⇑P PKPdf 14 51 53.2 +1.6
baz=118
U20A Newcomb 117.97 295 ⇓P PKPdf 14 51 53.2 +1.4
baz=118,SNR=11
Y14A Wickenburg 118.00 290 ⇑P PKPdf 14 51 53.1 +1.3
baz=118
R24A Sanders Place, 118.01 298 ⇑P PKPdf 14 51 53.2 +1.3
baz=118
P27A Ficken Ranch, 118.03 301 ⇓P PKPdf 14 51 53.3 +1.5
baz=118
T21A Navajo Lake 118.04 296 ⇑P PKPdf 14 51 53.3 +1.3
baz=118
GLA Glamis 118.12 288 ePKIKP PKPdf 14 51 51.8 -0.2
GLA Glamis 118.12 288 ePKPdf PKPdf 14 51 51.8 -0.2
GLA Glamis 118.12 288 ⇓P PKPdf 14 51 53.4 +1.3
baz=118
Q25A Bedland, Calha 118.20 300 ⇓P PKPdf 14 51 53.3 +1.1
baz=118
U19A Dine' College, 118.21 294 ⇓P PKPdf 14 51 53.3 +0.9
baz=118,SNR=16
KKM Kota Kinabalu 118.25 135 PFAKE 14 52 00.0 +7.0
KKM LR LR
comp=Z,6µm,20.0s
R23A Moffat 118.29 298 ⇑P PKPdf 14 51 53.6 +1.1
baz=119
S22A 4UR Ranch, Cre 118.36 297 ⇓P PKPdf 14 51 53.9 +1.2
baz=119
P26A Davis Ranch, A 118.36 301 ⇑P PKPdf 14 51 53.8 +1.4
baz=119
COWI Conover 118.36 315 ePKPdf PKPdf 14 51 52.0 -0.1
COWI LR LR
comp=Z,3µm,20.0s
GKP Gorka Klasztor 118.38 27 ePKP PKPdf 14 51 53.6 +1.8
GKP e 14 51 59.1
GKP LMZ LR 15 38 37.1
comp=Z,3µm,19.8s
GKP Gorka Klasztor 118.38 27 ePKP PKPdf 14 51 53.6 +1.8
GKP e 14 51 59.1
GKP LMZ LR 15 38 37.1
comp=Z,3µm,19.8s
DVTC Desert V Tower 118.40 287 ⇓P PKPdf 14 51 54.0 +1.4
baz=119
SWSC Sam W. Stewart 118.49 287 ⇓P PKPdf 14 51 54.2 +1.5
baz=119
O27A Beecher Island 118.52 302 ⇓P PKPdf 14 51 54.3 +1.6
baz=119
WUAZ Wupatki 118.55 292 ePKPdf PKPdf 14 51 52.0 -0.9
WUAZ LR LR
comp=Z,5µm,19.0s
WUAZ Wupatki 118.55 292 ⇓P PKPdf 14 51 54.0 +1.1
baz=119
Y12C Blythe 118.56 288 ⇓P PKPdf 14 51 54.4 +1.6
baz=119
T19A Beclabito 118.57 295 ⇓P PKPdf 14 51 54.0 +1.0
baz=119,SNR=21
Q24A Divide 118.64 299 ⇑P PKPdf 14 51 54.1 +0.9
baz=119
MVCO Mesa Verde 118.65 295 ePKPdf PKPdf 14 51 53.4 +0.2
MVCO ePP PP **14 53 09.3 -2.4**
MVCO LR LR
comp=Z,8µm,19.0s
MVCO Mesa Verde 118.65 295 ⇓P PKPdf 14 51 54.1 +1.0
baz=119
P25A Willow Gulch B 118.67 300 ⇓P PKPdf 14 51 54.6 +1.5
baz=119
BAR Barrett 118.69 286 ePKPdf PKPdf 14 51 52.1 -1.0
S21A Coal Bank Pass 118.71 296 ⇑P PKPdf 14 51 54.8 +1.4
baz=119
R22A Saguache, Gunn 118.72 297 ⇑P PKPdf 14 51 54.9 +1.5
baz=119
MONP Monument Peak 118.74 286 ⇑P PKPdf 14 51 54.8 +1.3
baz=119
MAK Makhachkala 118.75 53 i P Pdif 14 48 16.3 +3.0
MAK i 14 51 52.1
MAK ePPP PPP 14 55 46.3
MAK e 14 58 46.4
MAK e 14 59 04.4
MAK ePS **PS 15 02 59.2 +1.2**
MAK e 15 09 44.6
MAK pmax pmax
comp=Z,213nm,1.4s
MAK MLR MLR
comp=Z,8µm,16.0s
PDMCI Parker Dam,Lak 118.83 289 ⇓P PKPdf 14 51 54.9 +1.6
Q23A Hartsel 118.88 298 ⇑P PKPdf 14 51 55.1 +1.4
baz=119
O26A Horse Wrangler 118.91 301 ⇓P PKPdf 14 51 55.1 +1.6
baz=119
BC3 Big Chuckawall 118.91 288 ⇓P PKPdf 14 51 55.2 +1.6
baz=119
SPMN St. Paul 118.93 312 ⇑P PKPdf 14 51 55.2 +2.1
baz=119
OGNE Ogallala 118.96 302 PFAKE 14 52 10.0 +17
OGNE LR LR
comp=Z,4µm,22.0s
OGNE Ogallala 118.96 302 ⇑P PKPdf 14 51 55.1 +1.6
baz=119
P24A Kohler Place, 118.99 299 ⇓P PKPdf 14 51 55.5 +1.8
baz=119
N27A Anderson Farm, 119.06 302 ⇓P PKPdf 14 51 55.4 +1.8
baz=119
109C Camp Elliot, M 119.06 286 ⇑P PKPdf 14 51 55.5 +1.7
baz=119
S20A Disappointment 119.10 296 ⇑P PKPdf 14 51 55.4 +1.3
baz=119
ECSD EROS Data Cent 119.11 308 ePKPdf PKPdf 14 51 53.0 -0.5
ECSD LR LR
comp=Z,3µm,19.0s
KIEV Kiev 119.14 36 ePKIKP PKPdf 14 51 51.9 -1.4
KIEV MLR MLR
comp=Z,2µm,20.0s
KIEV Kiev 119.14 36 ePKPdf PKPdf 14 51 51.9 -1.4
KIEV LR LR
comp=Z,2µm,20.0s
O25A Wiggins 119.15 300 ⇑P PKPdf 14 51 55.6 +1.7
baz=119
AKASG Malin Array Be 119.15 36 PKIKP PKPdf 14 51 52.0 -1.3
AKASG 14 53 19.7
AKASG Malin Array Be 119.15 36 PKP PKPdf 14 51 52.0 -1.3
AKASG PP PP 14 53 19.7 +5.1
AKASG PKKPbc **PKKPbc 15 02 01.1 -4.8**
AKASG Malin Array Be 119.15 36 PKP PKPdf 14 51 52.0 -1.3
comp=Z,6.0nm,0.5s,baz=239,slow=1.6,SNR=23
AKASG PP PP 14 53 19.7 +5.1
comp=Z,10nm,1.0s,baz=210,slow=7.5,SNR=5.5
AKASG PKKPbc **PKKPbc 15 02 01.1 -4.8**
comp=Z,0.5nm,0.4s,baz=23,slow=3.7,SNR=4.1
IRM Iron Mountain 119.19 288 ⇓P PKPdf 14 51 55.6 +1.6
baz=119
R21A Cimarron 119.19 297 ⇑P PKPdf 14 51 55.3 +1.1
baz=120
T18A Mexican Hat 119.21 294 ⇑P PKPdf 14 51 55.8 +1.7
baz=120,SNR=34
P23A Jefferson 119.27 299 ⇓P PKPdf 14 51 55.8 +1.4
baz=120
Q22A Crested Butte, 119.32 298 ⇑P PKPdf 14 51 55.8 +1.3
baz=120
PFO Pinyon Flat Ob 119.35 287 ePKPdf PKPdf 14 51 54.9 +0.4
PFO LR LR
comp=Z,5µm,19.0s
PFO Pinyon Flat Ob 119.35 287 ⇓P PKPdf 14 51 55.9 +1.4
baz=120
W13A Hualapai Mount 119.37 290 ⇓P PKPdf 14 51 56.1 +1.5
baz=120
TARA Tarawa 119.37 201 PFAKE 14 52 10.0 +15
TARA LR LR
comp=Z,3µm,22.0s
S19A Harvey Farm, M 119.38 295 ⇑P PKPdf 14 51 56.2 +1.6
baz=120,SNR=15
R20A Redvale 119.41 296 ⇓P PKPdf 14 51 56.2 +1.6
baz=120
PV01 Paradox Valley 119.45 296 ePKPdf PKPdf 14 51 54.9 +0.2
PV01 ePP PP **14 53 16.8 -0.4**
BELC Belle Mtn. Jos 119.45 287 ⇓P PKPdf 14 51 56.1 +1.4
baz=120
T17A Navajo Res., N 119.51 293 ⇓P PKPdf 14 51 56.5 +1.7
baz=120,SNR=18
ISCO Idaho Springs 119.53 299 ePKIKP PKPdf 14 51 54.5 -0.4
ISCO e 14 53 18.3
ISCO MLR MLR
comp=Z,3µm,20.0s
ISCO Idaho Springs 119.53 299 ePKPdf PKPdf 14 51 54.5 -0.4
ISCO ePP PP **14 53 18.3 +0.5**
ISCO LR LR
comp=Z,3µm,20.0s
ISCO Idaho Springs 119.53 299 ⇓P PKPdf 14 51 56.3 +1.4
baz=120
O24A Longmont 119.56 300 ⇓P PKPdf 14 51 56.4 +1.7
baz=120
Q21A Lamborn Mesa, 119.58 297 ⇑P PKPdf 14 51 56.3 +1.5
baz=120
M27A Reverse DX Ran 119.59 303 ⇑P PKPdf 14 51 56.4 +1.7
baz=120
SMCO Snowmass 119.61 298 ePKPdf PKPdf 14 51 56.5 +1.3
MURC Murrieta 119.69 286 ⇓P PKPdf 14 51 56.5 +1.4
baz=120
S18A Hurst Farm, Bl 119.72 294 ⇑P PKPdf 14 51 56.6 +1.3
baz=120,SNR=28
U15A North Rim 119.72 292 ⇑P PKPdf 14 51 56.6 +1.2
baz=120
PV04 Paradox Valley 119.81 296 eP PKPdf 14 51 56.0 +0.7
SCI San Clemente I 119.83 285 ⇓P PKPdf 14 51 56.8 +1.6
baz=120
P22A Eagle 119.86 298 ⇑P PKPdf 14 51 56.8 +1.3
baz=120
R19A Curley Farm, L 119.89 295 ⇓P PKPdf 14 51 56.7 +1.2
baz=120,SNR=24
GMRC Granite Mounta 119.93 288 ⇓P PKPdf 14 51 57.0 +1.4
baz=120
O23A Lake Granby, G 120.00 299 ⇑P PKPdf 14 51 57.4 +1.7
baz=120
Q20A Ridgley Place, 120.00 297 ⇓P PKPdf 14 51 57.1 +1.5
baz=120
S17A Black Ridge (B 120.04 294 ⇑P PKPdf 14 51 57.4 +1.7
baz=120
N24A Carr 120.06 300 ⇓P PKPdf 14 51 57.4 +1.7
baz=120
P21A Newcastle 120.10 298 ⇑P PKPdf 14 51 57.6 +1.7
baz=120
BBRC Big Bear Solar 120.10 287 ⇑P PKPdf 14 51 57.5 +1.4
baz=120
CIS Catalina Islan 120.11 285 ⇑P PKPdf 14 51 57.8 +1.9
baz=120
M25A Palm-Egli Farm 120.22 301 ⇓P PKPdf 14 51 57.7 +1.8
baz=120
O22A Kremmling 120.23 299 ⇓P PKPdf 14 51 57.9 +1.6
baz=120
R18A Canyonlands Na 120.25 295 ⇓P PKPdf 14 51 57.3 +1.2
baz=120,SNR=26
HEC Hector,Ludlow 120.29 288 ⇑P PKPdf 14 51 57.9 +1.7
baz=120
L26A Underwood Farm 120.30 302 ⇑P PKPdf 14 51 58.0 +2.0
baz=121
Q19A Hogan Spring (120.43 296 ⇓P PKPdf 14 51 57.1 +0.7
baz=121,SNR=24
BFSC Mount Baldy Ra 120.43 286 ⇑P PKPdf 14 51 57.6 +1.0
baz=121
S16A Weppner Ranch, 120.47 293 ⇓P PKPdf 14 51 58.1 +1.5
baz=121
SUW Suwalki 120.48 31 ePKP PKPdf 14 51 55.8 +0.1
SUW e 14 51 57.4
SUW LMZ LR 15 42 07.5
comp=Z,3µm,22.6s
SUW Suwalki 120.48 31 ePKP PKPdf 14 51 55.8 +0.1
SUW e 14 51 57.4
SUW LMZ LR 15 42 07.5
comp=Z,3µm,22.6s
SUW Suwalki 120.48 31 ePKIKP PKPdf 14 51 55.6 -0.2
SUW e 14 53 22.9
SUW Suwalki 120.48 31 ePKPdf PKPdf 14 51 55.6 -0.2
SUW ePP PP **14 53 22.9 -0.8**
P20A De Beque 120.49 297 ⇑P PKPdf 14 51 57.8 +1.2
baz=121
K27A Flueckinger Fa 120.51 303 ⇓P PKPdf 14 51 57.8 +1.4
baz=121
M24A Cheyenne 120.57 301 ⇓P PKPdf 14 51 58.3 +1.7
baz=121
N23A Red Feather La 120.57 300 ⇓P PKPdf 14 51 57.8 +1.0
baz=121
TUQ Turquoise Moun 120.59 288 ⇑P PKPdf 14 51 58.0 +1.2
baz=121
MWC Mount Wilson 120.61 286 ePKIKP PKPdf 14 51 57.9 +0.9
MWC Mount Wilson 120.61 286 ePKPdf PKPdf 14 51 57.9 +0.9
BRSD Miller 120.63 307 ⇓P PKPdf 14 51 58.1 +1.6
baz=121
PASC Pasadena Art C 120.63 286 ePKPdf PKPdf 14 51 59.0 +2.2
R17A Hanksville Air 120.64 294 ⇓P PKPdf 14 51 57.4 +0.6
baz=121,SNR=21
O21A Pagoda 120.68 298 ⇑P PKPdf 14 51 58.6 +1.6
baz=121
PHWY Pilot Hill 120.70 300 ePKPdf PKPdf 14 51 57.3 +0.2
N22A Wattenberg Ran 120.72 299 ⇓P PKPdf 14 51 58.7 +1.6
baz=121
DECC Green Verdugo 120.76 286 ⇓P PKPdf 14 51 58.7 +1.7
baz=121
L25A Engebretsen Ra 120.77 302 ⇓P PKPdf 14 51 58.7 +1.8
baz=121
EYMN Ely 120.78 314 ePKPdf PKPdf 14 51 56.1 -0.5
EYMN ePP PP **14 53 22.2 -3.7**
EYMN LR LR
comp=Z,3µm,20.0s
P19A Cripple Cowboy 120.86 297 ⇓P PKPdf 14 51 58.6 +1.3
baz=121,SNR=17
R16A Teasdale 120.88 294 ⇑P PKPdf 14 51 58.8 +1.3
baz=121,SNR=36
K26A Motz Farm, Whi 120.89 303 ⇓P PKPdf 14 51 58.9 +1.7
baz=121
GSC Goldstone 120.90 288 ePKIKP PKPdf 14 51 58.9 +1.5
GSC Goldstone 120.90 288 ePKPdf PKPdf 14 51 58.9 +1.5
GSC Goldstone 120.90 288 ⇓P PKPdf 14 51 59.4 +2.0
baz=121
Q18A Rafter H Ranch 120.94 295 ⇓P PKPdf 14 51 58.9 +1.5
baz=121,SNR=14
O20A White River Ci 120.95 297 ⇑P PKPdf 14 51 58.9 +1.5
baz=121
M23A Laramie 120.95 300 ⇑P PKPdf 14 51 59.0 +1.6
baz=121
L24A Wheatland 121.09 301 ⇓P PKPdf 14 51 59.2 +1.6
baz=121
K25A Mack Ranch, Ha 121.11 302 ⇑P PKPdf 14 51 59.3 +1.7
baz=121
EDW2 Edwards Air Fo 121.11 286 ⇓P PKPdf 14 51 59.7 +1.9
baz=121
SRU San Rafael 121.12 295 ePKIKP PKPdf 14 51 57.2 -0.6
SRU San Rafael 121.12 295 ePKPdf PKPdf 14 51 57.2 -0.6
SRU San Rafael 121.12 295 ⇓P PKPdf 14 51 58.6 +0.8
baz=121,SNR=21
CCUT Cedar City 121.13 292 ePKPdf PKPdf 14 51 57.7 -0.3
N21A Black Mountain 121.14 298 ⇑P PKPdf 14 51 59.8 +1.9
baz=121
BSC Santa Cruz Isl 121.17 285 ⇑P PKPdf 14 51 59.2 +1.4
baz=121
R15A Junction 121.18 293 ⇓P PKPdf 14 51 59.6 +1.6
baz=121
OSI Osito Adit 121.25 286 ⇑P PKPdf 14 52 00.2 +2.2
baz=122
Q16A Castle Valley 121.25 294 ⇓P PKPdf 14 51 59.5 +1.4
baz=122,SNR=14
KBL Kabul 121.26 74 ePKIKP PKPdf 14 51 57.2 -1.0
KBL Kabul 121.26 74 ePKPdf PKPdf 14 51 57.2 -1.0
M22A Cedar Creek Ra 121.27 299 ⇑P PKPdf 14 51 60.0 +1.8
baz=122
ARUT Antelope Range 121.36 292 ePKIKP PKPdf 14 52 01.2 +2.9
ARUT Antelope Range 121.36 292 ePKPdf PKPdf 14 52 01.2 +2.9
MSU Marysvale 121.38 293 ePKIKP PKPdf 14 52 00.0 +1.6
MSU e 14 53 29.5
MSU Marysvale 121.38 293 ePKPdf PKPdf 14 52 00.0 +1.6
MSU ePP PP **14 53 29.5 -0.8**
P18A Preston Nutter 121.42 296 ⇑P PKPdf 14 51 59.6 +1.0
baz=122,SNR=27
LRMC Laurel Mountai 121.46 287 ⇓P PKPdf 14 51 59.9 +1.4
baz=122
O19A Miners Draw (B 121.47 297 ⇓P PKPdf 14 51 59.2 +0.8
baz=122,SNR=35
P17A Butcher Ranch, 121.51 295 ⇑P PKPdf 14 51 59.6 +1.1
baz=122
N20A Spence Gulch, 121.53 298 ⇑P PKPdf 14 51 59.9 +1.3
baz=122
SBC Santa Barbara 121.58 285 ⇑P PKPdf 14 52 00.2 +1.6
baz=122
TMUT Trail Mountain 121.58 295 ePKPdf PKPdf 14 52 00.6 +1.7
K24A Anderson Ranch 121.60 302 ⇑P PKPdf 14 52 00.2 +1.6
baz=122
L22A Ellis Ranch, M 121.72 300 ⇓P PKPdf 14 52 00.7 +1.8
baz=122
M21A Separation Pea 121.77 299 ⇑P PKPdf 14 52 00.3 +1.3
baz=122
RWWY Rawlins 121.77 299 ePKPdf PKPdf 14 51 58.7 -0.4
O18A Roosevelt 121.83 296 ⇓P PKPdf 14 52 00.5 +1.4
baz=122,SNR=21
MPMC Manual Prospec 121.84 288 ⇓P PKPdf 14 52 01.7 +2.4
baz=122
FURC Furnace Creek, 121.88 288 ⇑P PKPdf 14 52 01.7 +2.6
baz=122
R13A O'Grain Ranch, 121.92 292 ⇑P PKPdf 14 52 02.0 +2.5
baz=122
K23A Bowen Ranch, D 121.97 301 ⇑P PKPdf 14 52 00.7 +1.4
baz=122
N19A John Jarvie Ra 121.98 297 ⇓P PKPdf 14 52 01.5 +2.1
baz=122
ISA Isabella 121.98 287 ePKIKP PKPdf 14 52 00.5 +1.1
ISA Isabella 121.98 287 ePKPdf PKPdf 14 52 00.5 +1.1
ISA Isabella 121.98 287 ⇓P PKPdf 14 52 01.6 +2.1
baz=122
PKM Peak Mountain 122.00 285 ⇓P PKPdf 14 52 02.1 +2.4
baz=122
J24A Dixon Ranch, L 122.03 302 ⇓P PKPdf 14 52 01.2 +1.9
baz=122
M20A Sweetwater, Wa 122.03 298 ⇓P PKPdf 14 52 01.5 +2.0
baz=122
P16A Fountain Green 122.04 295 ⇑P PKPdf 14 52 01.9 +2.3
baz=122,SNR=12
DAC Darwin (Calif) 122.06 288 PFAKE 14 52 10.0 +10
DAC LR LR
comp=Z,3µm,22.0s

L21A	Rawlins	122.06	299	⇓P		PKPdf	14 52 01.4	+1.8	
	baz=122								
O17A	Robinson Place	122.10	296	⇓P		PKPdf	14 52 01.2	+1.5	
	baz=122,SNR=25								
MNK	Minsk	122.14	33	*e*PKIKP		PKPdf	14 51 57.0	-1.9	
MICGM	Minsk	122.15	33	*e*P		PKPdf	14 51 57.0	-2.0	
DDI	Dehra Dun	122.19	85	*ex*		PKKPbc	15 01 57.5	+3.3	
DAV	Davao City (W)	122.20	145	PFAKE			14 52 10.0	+10	
DAV				LR	LR				
	comp=Z,2µm,20.0s								
NACGM	Naroch	122.21	32	*e*PKP		PKPdf	14 51 57.0	-2.1	
K22A	Casper	122.26	300	⇑P		PKPdf	14 52 01.6	+1.7	
	baz=122								
N18A	Larsen Ranch,	122.26	297	⇑P		PKPdf	14 52 01.4	+1.5	
	baz=122,SNR=14								
P15A	Leamington	122.28	294	⇓P		PKPdf	14 52 02.3	+2.3	
	baz=122								
CM31	Chiang Mai Arr	122.33	111	*e*PKPdf		PKPdf	14 52 00.7	+0.2	
CM31				LR	LR				
	comp=Z,6µm,21.0s								
CMAR	Chiang Mai Arr	122.33	111	PKP		PKPdf	14 51 59.9	-0.7	
CMAR				PKKPab		PKKPab	15 01 58.7	+2.3	
CMAR	Chiang Mai Arr	122.33	111	PKP		PKPdf	14 51 59.9	-0.7	
	comp=Z,19nm,0.9s,baz=229,slow=3.4,SNR=54								
CMAR				PKKPab		PKKPab	15 01 58.7	+2.3	
	comp=Z,9.4nm,1.1s,baz=358,slow=4.0,SNR=24								
MPU	Maple Canyon	122.35	295	*e*PKPdf		PKPdf	14 52 00.6	+0.4	
VES	Vestal, Richgr	122.41	286	⇑P		PKPdf	14 52 02.3	+2.2	
	baz=123								
RSSD	Black Hills	122.42	303	*e*PKIKP		PKPdf	14 51 59.8	-0.4	
RSSD				*e*			14 53 35.7		
RSSD	Black Hills	122.42	303	*e*PKPdf		PKPdf	14 51 59.8	-0.4	
RSSD				*e*PP		PP	14 53 35.6	-1.7	
SMMC	Simmler	122.42	285	⇓P		PKPdf	14 52 02.8	+2.6	
	baz=123								
CWC	Cottonwood Cre	122.42	287	⇓P		PKPdf	14 52 02.5	+2.1	
	baz=123								
I24A	Kuemmerle Ranc	122.45	302	⇑P		PKPdf	14 52 01.5	+1.4	
	baz=123								
J23A	Dilts Ranch, B	122.46	302	⇑P		PKPdf	14 52 01.9	+1.8	
	baz=123								
M19A	Rock Springs	122.47	298	⇑P		PKPdf	14 52 02.2	+1.9	
	baz=123								
DAU	Daniels Canyon	122.51	295	*e*PKIKP		PKPdf	14 52 01.0	+0.4	
DAU	Daniels Canyon	122.51	295	*e*PKPdf		PKPdf	14 52 01.0	+0.4	
L20A	Wamsutter	122.52	299	⇑P		PKPdf	14 52 01.7	+1.2	
	baz=123,SNR=19								
GRAC	Grapevine Rang	122.55	288	⇑P		PKPdf	14 52 01.5	+1.1	
	baz=123								
NIL	Nilore	122.56	78	PFAKE			14 52 10.0	+9.5	
NIL				LR	LR				
	comp=Z,77nm,19.0s								
K21A	Alcova	122.56	300	⇑P		PKPdf	14 52 02.3	+1.8	
	baz=123								
CHTO	Chiang Mai	122.64	111	*e*PKIKP		PKPdf	14 51 59.5	-1.6	
CHTO				MLR	MLR				
	comp=Z,7µm,21.0s								
CHTO	Chiang Mai	122.64	111	*e*PKPdf		PKPdf	14 51 59.5	-1.6	
CHTO				LR	LR				
	comp=Z,7µm,21.0s								
AGMN	Agassiz Nation	122.66	311	*e*PKPdf		PKPdf	14 52 00.0	-0.1	
AGMN				*e*PP		PP	14 53 37.2	-1.5	
AGMN				LR	LR				
	comp=Z,4µm,19.0s								
VSR	Storozhevoye	122.70	42	*e*PKIKP		PKPdf	14 52 00.0	-0.1	
VSR				*e*			14 53 37.5		
VSR				pmax	pmax				
	comp=N,10.0nm,0.9s								
VSR				pmax	pmax				
	comp=Z,30nm,0.9s								
VSR				pmax	pmax				
	comp=E,2.0nm,0.5s								
VSR				pmax	pmax				
	comp=Z,260nm,3.3s								
VSR				pmax	pmax				
	comp=N,30nm,1.1s								
VSR				pmax	pmax				
	comp=E,150nm,3.3s								
VSR				MLR	MLR				
	comp=N,1µm,20.0s								
VSR				MLR	MLR				
	comp=E,1µm,20.0s								
VSR				MLR	MLR				
	comp=Z,2µm,20.0s								
JLU	Jordanelle	122.75	295	*e*PKPdf		PKPdf	14 52 01.2	+0.2	
JLU				*e*PP		PP	14 53 40.2	+0.5	
N17A	Moffit Pass	122.75	296	⇓P		PKPdf	14 52 02.3	+1.4	
	baz=123,SNR=14								
PYUN	Piuthan	122.79	90	*e*P		PKKPbc	15 01 55.2	+3.2	
	comp=Z,35nm,1.0s								
M18A	Lyman	122.80	297	⇑P		PKPdf	14 52 02.5	+1.5	
	baz=123								
R11A	Troy Canyon, C	122.81	291	⇓P		PKPdf	14 52 03.2	+2.2	
	baz=123								
KOLN	Koldanda	122.82	91	*e*P		PKKPbc	15 01 55.5	+3.6	
	comp=Z,14nm,0.9s								
KONO	Kongsberg	122.85	20	PFAKE			14 52 10.0	+10	
KONO				LR	LR				
	comp=Z,3µm,21.0s								
J22A	Midwest	122.86	301	⇑P		PKPdf	14 52 02.0	+1.0	
	baz=123								
O15A	The Old Anders	122.94	294	⇓P		PKPdf	14 52 03.5	+2.3	
	baz=123								
N16A	Rees Ranch, Co	122.97	296	⇓P		PKPdf	14 52 03.3	+1.9	
	baz=123								
DUG	Dugway	123.03	294	*e*PKIKP		PKPdf	14 52 01.7	+0.3	
DUG				*e*			14 53 40.7		
DUG				MLR	MLR				
	comp=Z,5µm,19.0s								
DUG	Dugway	123.03	294	*e*PKPdf		PKPdf	14 52 01.7	+0.3	
DUG				*e*PP		PP	14 53 40.7	-0.7	
DUG				LR	LR				
	comp=Z,5µm,19.0s								
DUG	Dugway	123.03	294	⇑P		PKPdf	14 52 03.3	+1.9	
	baz=123								
L19A	Farson	123.04	298	⇓P		PKPdf	14 52 03.1	+1.7	
	baz=123								
K20A	Yellowstone Ra	123.05	299	⇑P		PKPdf	14 52 02.6	+1.2	
	baz=123,SNR=24								
M17A	Scullys Gap (B	123.10	297	⇑P		PKPdf	14 52 02.7	+1.1	
	baz=123,SNR=16								
H24A	Dirks Ranch, A	123.14	303	⇓P		PKPdf	14 52 02.7	+1.4	
	baz=123								
L18A	Fontenelle, Gr	123.19	297	⇑P		PKPdf	14 52 03.1	+1.3	
	baz=124,SNR=14								
J21A	Lysite	123.22	300	⇓P		PKPdf	14 52 03.2	+1.5	
	baz=124								
I22A	9 Mile Ranch,	123.25	301	⇑P		PKPdf	14 52 03.1	+1.5	
	baz=124								
TPH	Tonopah	123.34	289	PFAKE			14 52 10.0	+7.9	
TPH				LR	LR				
	comp=Z,3µm,19.0s								
DANN	Dangsing	123.38	91	*e*P		PKKPbc	15 01 54.0	+4.2	
	comp=Z,43nm,0.8s								
K19A	Absolon Red Bu	123.40	299	⇑P		PKPdf	14 52 03.2	+1.2	
	baz=124,SNR=26								
M16A	Huntsville	123.40	296	⇓P		PKPdf	14 52 04.1	+2.0	
	baz=124								
VRHR	Novokhopersk	123.43	44	*e*PKIKP		PKPdf	14 52 01.8	+0.3	
VRHR				pmax	pmax				
	comp=N,3.0nm,0.6s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.6s								
VRHR				pmax	pmax				
	comp=Z,50nm,0.6s								
VRHR				pmax	pmax				
	comp=Z,170nm,2.8s								
VRHR				pmax	pmax				
	comp=N,50nm,1.4s								
VRHR				pmax	pmax				
	comp=E,80nm,2.8s								
VRHR				MLR	MLR				
	comp=N,640nm,20.0s								
VRHR				MLR	MLR				
	comp=E,1µm,20.0s								
VRHR				MLR	MLR				
	comp=Z,2µm,20.0s								
DMN	Daman	123.43	93	*e*P		PKKPbc	15 01 53.5	+3.9	
	comp=Z,34nm,0.9s								
N15A	Stansbury Isla	123.46	295	⇑P		PKPdf	14 52 04.1	+1.9	
	baz=124								
J20A	Shoshoni	123.50	300	⇑P		PKPdf	14 52 04.0	+1.8	
	baz=124								
GKN	Gorkha	123.53	92	*e*P		PKKPbc	15 01 52.8	+3.7	
	comp=Z,32nm,1.1s								
I21A	Big Trails, Te	123.53	301	⇓P		PKPdf	14 52 03.1	+0.8	
	baz=124								
PKI	Pulchoki	123.55	93	*e*P		PKKPbc	15 01 52.7	+3.5	
	comp=Z,17nm,0.7s								
G24A	Alzada	123.56	304	⇑P		PKPdf	14 52 03.5	+1.4	
	baz=124								
HWUT	Hardware Ranch	123.61	296	*e*PKPdf		PKPdf	14 52 03.5	+1.0	
HWUT				*e*PP		PP	14 53 45.4	0.0	
HWUT				LR	LR				
	comp=Z,4µm,19.0s								
RAMN	Ramite	123.62	94	*e*P		PKKPbc	15 01 52.8	+4.0	
	comp=Z,53nm,1.0s								
BW06	Boulder Array	123.66	298	PFAKE			14 52 10.0	+7.4	
BW06				LR	LR				
	comp=Z,7µm,20.0s								
BW06	Boulder Array	123.66	298	⇓P		PKPdf	14 52 03.5	+0.8	
	baz=124,SNR=15								
KKN	Kakani	123.67	93	*e*P		PKKPbc	15 01 52.5	+3.9	
	comp=Z,22nm,0.9s								
MDND	Maddock	123.70	309	⇓P		PKPdf	14 52 04.0	+1.8	
	baz=124								
L17A	Cokeville	123.70	297	⇑P		PKPdf	14 52 04.3	+1.6	
	baz=124								
MLAC	Mammoth Lakes	123.74	288	⇓P		PKPdf	14 52 04.6	+1.7	
	baz=124								
H22A	Clearmont	123.77	302	⇓P		PKPdf	14 52 03.9	+1.3	
	baz=124								
K18A	Toltan Ranch,	123.77	298	⇑P		PKPdf	14 52 04.4	+1.6	
	baz=124,SNR=13								
J19A	Crowheart	123.84	299	⇑P		PKPdf	14 52 04.1	+1.2	
	baz=124,SNR=21								
G23A	Biddle	123.86	303	⇓P		PKPdf	14 52 04.2	+1.5	
	baz=124								
L16A	Fish Haven	123.88	296	⇑P		PKPdf	14 52 04.7	+1.7	
	baz=124,SNR=16								
M15A	Larsen Ranch,	123.89	295	⇑P		PKPdf	14 52 04.6	+1.7	
	baz=124								
F24A	Ekalaka	123.99	304	⇓P		PKPdf	14 52 04.5	+1.5	
	baz=124								
I20A	Worland	124.00	300	⇓P		PKPdf	14 52 04.1	+1.0	
	baz=124,SNR=22								
JIRN	Jiri	124.01	93	*e*P		PKKPbc	15 01 51.9	+4.5	
	comp=Z,4.8nm,0.9s								
HFS	Hagfors	124.03	22	PKP		PKPdf	14 52 01.7	-0.7	
HFS	Hagfors	124.03	22	PKP		PKPdf	14 52 01.7	-0.7	
	comp=Z,19nm,0.8s,baz=150,slow=3.3,SNR=21								
GUN	Gumba	124.06	93	*e*P		PKKPbc	15 01 51.3	+4.1	
	comp=Z,53nm,0.9s								
H21A	Big Horn, Sher	124.08	301	⇓P		PKPdf	14 52 04.5	+1.3	
	baz=124								
NAO01	NORSAR Array S	124.19	20	*e*PKPdf		PKPdf	14 52 01.5	-1.2	
J18A	Kendall Valley	124.22	298	⇑P		PKPdf	14 52 04.9	+1.2	
	baz=124,SNR=14								
K17A	Gardner Place,	124.25	297	⇑P		PKPdf	14 52 05.3	+1.6	
	baz=124,SNR=19								
G22A	Birney	124.25	302	⇓P		PKPdf	14 52 04.9	+1.4	
	baz=124								
SAO	San Andreas Ge	124.28	285	*e*PKIKP		PKPdf	14 52 04.0	+0.3	
SAO	San Andreas Ge	124.28	285	*e*PKPdf		PKPdf	14 52 04.0	+0.3	
F23A	Volborg	124.28	303	⇓P		PKPdf	14 52 04.9	+1.4	
	baz=125								
HVU	Hansel Valley	124.29	295	*e*PKIKP		PKPdf	14 52 04.1	+0.4	
HVU	Hansel Valley	124.29	295	*e*PKPdf		PKPdf	14 52 04.1	+0.4	
L15A	Malad City	124.29	296	⇓P		PKPdf	14 52 05.6	+1.8	
	baz=125								
AHID	Auburn Hatcher	124.34	297	*e*PKPdf		PKPdf	14 52 03.5	-0.3	
AHID				*e*PP		PP	14 53 49.6	-0.7	
AHID				LR	LR				
	comp=Z,7µm,19.0s								
H20A	Greybull	124.38	301	⇓P		PKPdf	14 52 04.3	+0.6	
	baz=125,SNR=23								
NB2	NORSAR Subarra	124.43	20	PKPdf		PKPdf	14 52 03.5	+0.3	
	baz=202,slow=1.9								
NB2	NORSAR Subarra	124.43	20	PKPdf		PKPdf	14 52 03.5	+0.3	
	comp=Z,15nm,0.9s,baz=202,slow=1.9								
NOA	NORSAR Array B	124.43	20	PKP		PKPdf	14 52 03.7	+0.5	
NOA				PKKPbc		PKKPbc	15 01 47.4	+1.5	
NOA	NORSAR Array B	124.43	20	PKP		PKPdf	14 52 03.7	+0.5	
	comp=Z,18nm,0.8s,baz=187,slow=1.6,SNR=46								
NOA				PKKPbc		PKKPbc	15 01 47.4	+1.5	
	comp=Z,2.2nm,0.9s,baz=20,slow=2.9,SNR=4.0								
I19A	Meeteetse	124.44	300	⇓P		PKPdf	14 52 05.3	+1.3	
	baz=125,SNR=18								
TAPN	Taplejung	124.50	95	*e*P		PKKPbc	15 01 49.4	+4.0	
	comp=Z,41nm,1.4s								
E24A	Baker	124.51	305	⇓P		PKPdf	14 52 05.8	+1.9	
	baz=125								
I18A	Diamond G Ranc	124.53	299	⇑P		PKPdf	14 52 05.9	+1.6	
	baz=125,SNR=17								
ELK	Elko	124.57	293	*e*PKPdf		PKPdf	14 52 04.1	-0.4	
ELK				*e*PP		PP	14 53 51.0	-1.0	
K16A	Soda Springs	124.60	297	⇑P		PKPdf	14 52 06.6	+2.2	
	baz=125								
G21A	Lodge Grass	124.64	302	⇓P		PKPdf	14 52 05.9	+1.6	
	baz=125								
J17A	Brown Place, J	124.64	298	⇑P		PKPdf	14 52 06.6	+2.1	
	baz=125								
F22A	Rosebud	124.68	303	⇓P		PKPdf	14 52 05.9	+1.6	
	baz=125								
REDW	Red Top Meadow	124.70	298	*e*PKPdf		PKPdf	14 52 05.3	+0.7	
SNOW	Snow King Moun	124.74	298	*e*PKPdf		PKPdf	14 52 02.2	-2.5	
CMB	Columbia Colle	124.80	287	*e*PKIKP		PKPdf	14 52 05.8	+1.1	
CMB	Columbia Colle	124.80	287	*e*PKPdf		PKPdf	14 52 05.8	+1.1	
LOHW	Long Hollow	124.80	298	*e*PKPdf		PKPdf	14 52 05.1	+0.4	
TPAW	Teton Pass	124.85	298	*e*PKPdf		PKPdf	14 52 04.7	-0.2	
TPAW				*e*PP		PP	14 53 53.8	0.0	
E23A	Ismay	124.87	304	⇓P		PKPdf	14 52 06.3	+1.8	
	baz=125								
RRI2	Red Ridge	124.90	297	*e*PKPdf		PKPdf	14 52 04.6	-0.4	
K15A	Arbon	124.90	296	⇑P		PKPdf	14 52 07.2	+2.3	
	baz=125								
H19A	Powell	124.94	300	⇑P		PKPdf	14 52 06.9	+2.0	
	baz=125,SNR=18								
MOOW	Moose Ponds	124.97	298	*e*PKPdf		PKPdf	14 52 05.8	+0.7	
J16A	Bone	124.97	297	⇑P		PKPdf	14 52 07.1	+2.0	
	baz=125,SNR=18								
D24A	Glendive	124.97	305	⇑P		PKPdf	14 52 06.9	+2.2	
	baz=125								
BORG	Borgarnes	125.03	2	PKP		PKPdf	14 52 06.0	+1.8	
BORG				LR	LR				
	comp=Z,4µm,21.0s								
BORG	Borgarnes	125.03	2	PKP		PKPdf	14 52 06.0	+1.8	
	comp=Z,33nm,1.0s,baz=194,slow=2.7,SNR=4.9								
I17A	Pilgrim Ck.	125.03	298	⇑P		PKPdf	14 52 07.7	+2.5	
	baz=125,SNR=20								
DCID1	Drake Creek	125.04	298	*e*PKPdf		PKPdf	14 52 05.1	-0.1	
G20A	Bridger	125.06	301	⇓P		PKPdf	14 52 06.4	+1.3	
	baz=125,SNR=19								
K14A	Jones Ranch, D	125.08	295	⇑P		PKPdf	14 52 07.5	+2.3	
	baz=125								
F21A	Absaloka Mine,	125.08	302	⇑P		PKPdf	14 52 06.6	+1.6	
	baz=125								
E22A	Miles City	125.09	303	⇓P		PKPdf	14 52 06.6	+1.7	
	baz=125								
IMW	Indian Meadow	125.17	298	*e*PKPdf		PKPdf	14 52 06.7	+1.1	
IMW				*e*PP		PP	14 53 50.5	-5.5	
OBN	Obninsk	125.19	38	*i* PKIKP		PKPdf	14 52 04.9	+0.2	
OBN				*i*			14 52 11.5		
OBN				*e*			14 59 09.6		
OBN				*i* PS		PS	15 03 47.2	-7.8	
OBN				*e*SS		SS	15 10 54.0	+2.3	
OBN				pmax	pmax				
	comp=Z,49nm,0.7s								
OBN				MLR	MLR				
	comp=Z,3µm,18.0s								
OBN	Obninsk	125.19	38	*e*PKPdf		PKPdf	14 52 04.7	-0.1	
OBN				LR	LR				
	comp=Z,3µm,20.0s								
FLWY	Flagg Ranch	125.21	298	*e*PKPdf		PKPdf	14 52 06.2	+0.6	
FLWY				*e*PP		PP	14 53 54.9	-1.3	
BMN	Battle Mountai	125.23	291	*e*PKIKP		PKPdf	14 52 05.0	-0.6	
BMN				MLR	MLR				
	comp=Z,4µm,20.0s								
BMN	Battle Mountai	125.23	291	*e*PKPdf		PKPdf	14 52 05.0	-0.6	
BMN				LR	LR				
	comp=Z,4µm,20.0s								
H18A	Shoshone NF, C	125.24	300	⇓P		PKPdf	14 52 07.1	+1.5	
	baz=126,SNR=17								
C24A	Savage	125.34	305	⇓P		PKPdf	14 52 07.5	+2.1	
	baz=126								
D23A	Lindsay	125.37	304	⇓P		PKPdf	14 52 07.6	+2.1	
	baz=126								
I16A	Newdale	125.39	298	⇑P		PKPdf	14 52 08.5	+2.7	
	baz=126								
H17A	Grant Village	125.41	299	⇑P		PKPdf	14 52 08.4	+2.5	
	baz=126,SNR=10								
RLMT	Red Lodge	125.43	300	*e*PKPdf		PKPdf	14 52 02.9	-3.0	
RLMT				LR	LR				
	comp=Z,6µm,19.0s								
RLMT	Red Lodge	125.43	300	⇓P		PKPdf	14 52 07.8	+1.9	
	baz=126,SNR=15								
J15A	Blackfoot	125.43	297	⇑P		PKPdf	14 52 08.7	+2.8	
	baz=126								
LKWY	Lake	125.47	299	*e*PKIKP		PKPdf	14 52 06.2	+0.2	
LKWY				MLR	MLR				
	comp=Z,8µm,20.0s								
LKWY	Lake	125.47	299	*e*PKPdf		PKPdf	14 52 06.2	+0.2	
LKWY				LR	LR				
	comp=Z,8µm,20.0s								
F20A	Billings	125.49	301	⇑P		PKPdf	14 52 07.6	+1.7	
	baz=126								
YFT	Old Faithful	125.57	299	*e*PKPdf		PKPdf	14 52 05.9	-0.4	
E21A	Keefer Ranch,	125.64	303	⇓P		PKPdf	14 52 08.2	+2.1	
	baz=126								
G18A	Lazy EL Ranch,	125.71	300	⇓P		PKPdf	14 52 08.5	+2.1	
	baz=126								
YNR	Norris Junctio	125.71	299	*e*PKPdf		PKPdf	14 52 09.3	+2.8	
D22A	Cohagen	125.75	304	⇓P		PKPdf	14 52 08.5	+2.3	
	baz=126								
YMR	Madison River	125.80	299	*e*PKPdf		PKPdf	14 52 06.1	-0.5	
J14A	Carey	125.85	296	⇓P		PKPdf	14 52 09.5	+2.8	
	baz=126								
C23A	Lambert	125.87	305	⇓P		PKPdf	14 52 08.7	+2.3	
	baz=126								
F19A	Roth Farm, Mol	125.87	301	⇓P		PKPdf	14 52 08.2	+1.6	
	baz=126,SNR=20								
I15A	Monteview	125.93	297	⇓P		PKPdf	14 52 09.5	+2.7	
	baz=126								
H16A	Russell Place,	125.95	298	⇑P		PKPdf	14 52 09.3	+2.4	
	baz=126,SNR=12								
DGMT	Dagmar	126.00	306	*e*PKPdf		PKPdf	14 52 06.1	-0.6	
DGMT				LR	LR				
	comp=Z,5µm,21.0s								
DGMT	Dagmar	126.00	306	⇓P		PKPdf	14 52 08.9	+2.2	
	baz=126								
D21A	La Casta Ranch	126.02	303	⇑P		PKPdf	14 52 08.9	+2.1	
	baz=126								
MOS	Moscow	126.04	38	*e*PKIKP		PKPdf	14 52 05.7	-0.7	
MOS				*e*			14 52 12.9		
MOS				*e*			14 53 59.0		
MOS				*e*PS		PS	15 04 08.6	+6.1	
MOS				pmax	pmax				
	comp=Z,57nm,0.8s								
MOS				MLR	MLR				
	comp=Z,2µm,21.0s								
E20A	Meyer Farm, Mu	126.05	302	⇓P		PKPdf	14 52 08.6	+1.8	
	baz=126,SNR=18								
C22A	Vida	126.11	304	⇓P		PKPdf	14 52 08.9	+2.0	
	baz=126,SNR=25								
QLMT	Earthquake Lak	126.13	298	*e*PKPdf		PKPdf	14 52 09.7	+2.4	
GCMT	Greycliff	126.13	300	*e*PKPdf		PKPdf	14 52 08.2	+1.1	
J13A	Cove Ranch, Pi	126.20	295	⇓P		PKPdf	14 52 09.8	+2.5	
	baz=126								
G17A	Pierce Place,	126.22	299	⇓P		PKPdf	14 52 10.2	+2.8	
	baz=126								
F18A	Big Timber	126.24	300	⇑P		PKPdf	14 52 09.5	+2.2	
	baz=126,SNR=22								
E19A	Rath Farm, Rou	126.29	301	⇓P		PKPdf	14 52 09.2	+1.9	
	baz=127,SNR=13								
A24A	Westby	126.29	307	⇑P		PKPdf	14 52 09.3	+2.1	
	baz=127								
I14A	Mackay	126.30	296	⇓P		PKPdf	14 52 09.9	+2.3	
	baz=127								
B23A	Brockton	126.32	306	⇓P		PKPdf	14 52 09.4	+2.1	
	baz=127								
HLID	Hailey	126.44	295	*e*PKPdf		PKPdf	14 52 07.8	-0.1	
HLID				LR	LR				
	comp=Z,5µm,20.0s								
HLID	Hailey	126.44	295	⇓P		PKPdf	14 52 10.5	+2.6	
	baz=127								
H15A	Lima	126.49	297	⇓P		PKPdf	14 52 10.6	+2.6	
	baz=127								
D20A	Manuel Ranch,	126.51	302	⇓P		PKPdf	14 52 09.5	+1.8	
	baz=127,SNR=32								
I13A	Wildhorse Cree	126.58	296	⇑P		PKPdf	14 52 10.5	+2.4	
	baz=127								
B22A	Reddig Ranch S	126.59	305	⇓P		PKPdf	14 52 10.1	+2.3	
	baz=127								
G16A	Moss Hill, Enn	126.60	298	⇑P		PKPdf	14 52 10.5	+2.4	
	baz=127								
F17A	Fitzpatrick Pl	126.64	300	⇑P		PKPdf	14 52 10.5	+2.4	
	baz=127,SNR=24								
C21A	Desert Coulee	126.67	304	⇑P		PKPdf	14 52 09.7	+1.7	
	baz=127,SNR=24								
A23A	Redstone	126.67	306	⇑P		PKPdf	14 52 10.6	+2.7	
	baz=127								
MCMT	McKenzie Canyo	126.74	297	*e*PKPdf		PKPdf	14 52 04.8	-3.7	
H14A	Leadore	126.80	297	⇓P		PKPdf	14 52 10.9	+2.3	
	baz=127								
E18A	Harlowton	126.85	301	⇓P		PKPdf	14 52 10.6	+2.2	
	baz=127,SNR=16								
G15A	Dillon	126.85	298	⇑P		PKPdf	14 52 10.9	+2.3	
	baz=127								
BOZ	Bozeman (W)	126.86	299	*e*PKIKP		PKPdf	14 52 08.0	-0.6	
BOZ				MLR	MLR				
	comp=Z,5µm,19.0s								
BOZ	Bozeman (W)	126.86	299	*e*PKPdf		PKPdf	14 52 08.0	-0.6	
BOZ				LR	LR				
	comp=Z,5µm

QIZ	**Qiongzhong**	**127.65**	**122**	PFAKE		14 52 20.0	+9.3		
QIZ				LR	LR				
	comp=Z,7μm,20.0s								
F14A	**Wisdom**	**127.74**	**298**	⇓P	**PKPdf**	**14 52 12.6**	**+2.4**		
	baz=128								
HRY	**Holter Researc**	**127.78**	**300**	*e*PKPdf	**PKPdf**	**14 52 11.6**	**+1.4**		
MOD	**Modoc**	**127.82**	**290**	*e*PKPdf	**PKPdf**	**14 52 11.7**	**+1.2**		
FINES	**FINESS Array B**	**127.82**	**28**	PKPpre	PKPpre	14 52 01.8			
FINES				PKP	**PKiKP**	**14 52 09.9**	**-0.3**		
FINES	**FINESS Array B**	**127.82**	**28**	PKhKP	PKPpre	14 52 01.8			
	comp=Z,2.1nm,0.7s,baz=210,slow=4.2,SNR=4.5								
FINES				PKP	**PKiKP**	**14 52 09.9**	**-0.3**		
	comp=Z,82nm,0.7s,baz=164,slow=1.1,SNR=140								
WDC	**Whiskeytown Da**	**127.83**	**287**	*e*PKIKP	**PKPdf**	**14 52 11.5**	**+1.1**		
WDC	**Whiskeytown Da**	**127.83**	**287**	*e*PKPdf	**PKPdf**	**14 52 11.5**	**+1.1**		
A20A	**Cobblestone Ra**	**127.84**	**304**	⇑P	**PKPdf**	**14 52 12.4**	**+2.2**		
	baz=128,SNR=21								
E15A	**Deer Lodge**	**127.91**	**299**	⇓P	**PKPdf**	**14 52 12.9**	**+2.4**		
	baz=128								
D16A	**Dana Ranch, Ca**	**127.91**	**300**	⇑P	**PKPdf**	**14 52 13.0**	**+2.5**		
	baz=128								
B19A	**Brinkman Farms**	**127.92**	**303**	⇑P	**PKPdf**	**14 52 12.4**	**+2.1**		
	baz=128,SNR=23								
EGMT	**Eagleton**	**127.92**	**302**	*e*PKPdf	**PKPdf**	**14 52 10.6**	**+0.2**		
EGMT				LR	LR				
	comp=Z,4μm,20.0s								
EGMT	**Eagleton**	**127.92**	**302**	⇓P	**PKPdf**	**14 52 12.7**	**+2.3**		
	baz=128,SNR=30								
C17A	**Wharram Farm,**	**128.04**	**301**	⇓P	**PKPdf**	**14 52 12.5**	**+1.9**		
	baz=128,SNR=18								
G12A	**Big Creek, Yel**	**128.07**	**296**	⇓P	**PKPdf**	**14 52 12.9**	**+2.0**		
	baz=128								
LSA	**Lhasa**	**128.13**	**96**	PKP	**PKPdf**	**14 52 11.0**	**-0.9**		
LSA	**Lhasa**	**128.13**	**96**	*e*PKIKP	**PKPdf**	**14 52 11.9**	**0.0**		
LSA				MLR	MLR				
	comp=Z,6μm,19.0s								
LSA	**Lhasa**	**128.13**	**96**	*e*PKPdf	**PKPdf**	**14 52 11.8**	**0.0**		
LSA				LR	LR				
	comp=Z,6μm,19.0s								
F13A	**Darby**	**128.15**	**297**	⇑P	**PKPdf**	**14 52 13.1**	**+2.1**		
	baz=128								
A19A	**Klindworth Far**	**128.21**	**303**	⇑P	**PKPdf**	**14 52 13.2**	**+2.3**		
	baz=128,SNR=18								
B18A	**Beardsley Farm**	**128.22**	**302**	⇓P	**PKPdf**	**14 52 13.1**	**+2.2**		
	baz=128,SNR=19								
E14A	**Clinton**	**128.27**	**298**	⇑P	**PKPdf**	**14 52 13.4**	**+2.2**		
	baz=128								
D15A	**Lincoln**	**128.33**	**299**	⇑P	**PKPdf**	**14 52 13.7**	**+2.4**		
	baz=129								
KAF	**Kangasniemi**	**128.46**	**28**	*e*PKIKP	**PKPdf**	**14 52 10.4**	**-0.4**		
KAF				pmax	pmax				
	comp=Z,50nm,0.7s								
KAF	**Kangasniemi**	**128.46**	**28**	*ep*	**PKPdf**	**14 52 10.4**	**-0.4**		
	comp=Z,50nm,0.7s								
F12A	**Elk City**	**128.53**	**297**	⇓P	**PKPdf**	**14 52 13.6**	**+1.9**		
	baz=129								
CHMT	**Chamberlain Mo**	**128.55**	**299**	*e*PKPdf	**PKPdf**	**14 52 12.4**	**+0.6**		
KSH	**Kashi**	**128.55**	**76**	PKP	**PKPdf**	**14 52 11.5**	**-0.4**		
KSH				PP	**PP**	**14 54 18.5**	**+0.3**		
KSH				PKS	**PKSdf**	**14 55 46.5**	**-2.0**		
KSH				SKS	**SKSdf**	**14 59 21.3**	**-1.4**		
KSH				AMB	AMB				
	comp=Z,2μm,9.2s								
KSH				LR	LR				
	comp=N,4μm,17.7s								
KSH				LR	LR				
	comp=E,4μm,17.4s								
KSH				LR	LR				
	comp=E,5μm,20.8s								
B17A	**L&G Farms, Che**	**128.57**	**302**	⇓P	**PKPdf**	**14 52 13.6**	**+2.0**		
	baz=129								
E13A	**Victor**	**128.59**	**298**	⇓P	**PKPdf**	**14 52 14.3**	**+2.6**		
	baz=129								
C16A	**Fuhringer Ranc**	**128.59**	**301**	⇑P	**PKPdf**	**14 52 13.6**	**+1.8**		
	baz=129								
KHMM	**Horse Mountain**	**128.62**	**286**	*e*PKPdf	**PKPdf**	**14 52 12.6**	**+0.5**		
SFJD	**Kangerlussuaq**	**128.66**	**347**	*e*PKPdf	**PKPdf**	**14 52 11.1**	**+0.1**		
SFJD				PKP	**PKPdf**	**14 52 12.5**	**+1.5**		
SFJD				LR	LR				
	comp=Z,5μm,20.0s								
SFJD	**Kangerlussuaq**	**128.66**	**347**	*i* P	**PKPdf**	**14 52 12.6**	**+1.5**		
	comp=Z,43nm,1.0s								
SFJD				*i*		15 01 14.1			
SFJD				*i*		15 04 23.8			
SFJD									
	comp=Z,4μm,18.0s								
SFJD	**Kangerlussuaq**	**128.66**	**347**	PKP	**PKPdf**	**14 52 12.5**	**+1.5**		
	comp=Z,48nm,1.2s,baz=165,slow=1.8,SNR=8.1								
A18A	**Metzger Ranch,**	**128.66**	**303**	⇓P	**PKPdf**	**14 52 13.9**	**+2.2**		
	baz=129								
BMO	**Blue Mountains**	**128.74**	**294**	*e*PKIKP	**PKPdf**	**14 52 12.9**	**+0.8**		
BMO				MLR	MLR				
	comp=Z,4μm,21.0s								
BMO	**Blue Mountains**	**128.74**	**294**	*e*PKPdf	**PKPdf**	**14 52 12.9**	**+0.8**		
BMO				LR	LR				
	comp=Z,4μm,21.0s								
MSO	**Missoula**	**128.78**	**298**	*e*PKPdf	**PKPdf**	**14 52 13.0**	**+0.9**		
MSO				LR	LR				
	comp=Z,5μm,20.0s								
MSO	**Missoula**	**128.78**	**298**	⇓P	**PKPdf**	**14 52 14.3**	**+2.2**		
	baz=129								
D14A	**Greenough**	**128.79**	**299**	⇑P	**PKPdf**	**14 52 14.1**	**+2.0**		
	baz=129								
YBH	**Yreka Blue Hor**	**128.81**	**288**	*e*PKPdf	**PKPdf**	**14 52 13.1**	**+0.8**		
ABKAR	**Akbulak array**	**128.90**	**57**	*e*PKPdf	**PKPdf**	**14 52 11.6**	**-0.4**		
SLMT	**Seeley Lake**	**128.91**	**299**	*e*PKPdf	**PKPdf**	**14 52 13.5**	**+1.1**		
C15A	**Salmond Ranch,**	**128.94**	**300**	⇑P	**PKPdf**	**14 52 14.1**	**+1.7**		
	baz=129								
AKTO	**Aktyubinsk**	**129.02**	**55**	PKIKP	PKPdf	14 52 05.8	-6.5		
AKTO						14 52 12.2			
AKTO	**Aktyubinsk**	**129.02**	**55**	PKPpre	PKPpre	14 52 05.8			
AKTO				PKP	**PKPdf**	**14 52 12.2**	**-0.1**		
AKTO	**Aktyubinsk**	**129.02**	**55**	PKhKP	PKPpre	14 52 05.8			
	comp=Z,0.4nm,0.5s,baz=90,slow=1.0,SNR=3.7								
AKTO				PKP	**PKPdf**	**14 52 12.2**	**-0.1**		
	comp=Z,45nm,1.0s,baz=180,slow=3.1,SNR=59								
A17A	**Triple J Farms**	**129.04**	**302**	⇓P	**PKPdf**	**14 52 14.6**	**+2.1**		
	baz=129								
B16A	**M & M Farms, S**	**129.05**	**301**	⇑P	**PKPdf**	**14 52 14.2**	**+1.7**		
	baz=129								
KIP	**Kipapa**	**129.06**	**241**	PFAKE		14 52 20.0	+6.7		
KIP				LR	LR				
	comp=Z,6μm,20.0s								
E12A	**Beaver Dam Sad**	**129.18**	**297**	⇑P	**PKPdf**	**14 52 14.5**	**+1.5**		
	baz=129								
D13A	**Huson**	**129.21**	**298**	⇑P	**PKPdf**	**14 52 14.8**	**+1.9**		
	baz=130								
SWMT	**Swartz Lake**	**129.33**	**299**	*e*PKPdf	**PKPdf**	**14 52 14.0**	**+0.8**		
SWMT				*e*PP	**PP**	**14 54 23.8**	**+0.5**		
B15A	**Bradely Ranch,**	**129.34**	**300**	⇓P	**PKPdf**	**14 52 14.6**	**+1.5**		
	baz=130								
JOHN	**Johnston Islan**	**129.39**	**226**	PFAKE		14 52 30.0	+16		
JOHN				LR	LR				
	comp=Z,31nm,20.0s								
A16A	**West Butte Ran**	**129.42**	**302**	⇓P	**PKPdf**	**14 52 15.1**	**+1.8**		
	baz=130								
C14A	**Swan Lake**	**129.42**	**299**	⇓P	**PKPdf**	**14 52 14.9**	**+1.6**		
	baz=130								
AML	**Almayashu**	**129.51**	**72**	P	**PKPdf**	**14 52 14.5**	**+0.4**		
	SNR=5.9								
D12A	**Red Ives Fores**	**129.57**	**297**	⇓P	**PKPdf**	**14 52 15.2**	**+1.6**		
	baz=130								
HUMO	**Hull Mountain**	**129.60**	**288**	*e*PKPdf	**PKPdf**	**14 52 13.9**	**+0.2**		
YBMT	**Yellow Bay**	**129.61**	**299**	*e*PKPdf	**PKPdf**	**14 52 13.1**	**-0.6**		
JTMT	**Jette**	**129.64**	**299**	*e*PKPdf	**PKPdf**	**14 52 14.4**	**+0.6**		
B14A	**Marquette Ranc**	**129.68**	**300**	⇓P	**PKPdf**	**14 52 15.2**	**+1.4**		
	baz=130								
C13A	**Hot Springs**	**129.71**	**299**	⇓P	**PKPdf**	**14 52 15.7**	**+1.9**		
	baz=130								
KMI	**Kunming**	**129.84**	**111**	Pdif	**Pdif**	**14 49 10.5**	**+7.0**		
KMI				PKP	**PKiKP**	**14 52 15.0**	**-0.8**		
KMI				PKP	**PKPdf**	**14 52 15.5**	**+0.5**		
KMI				pPKP	**pPKPdf**	**14 52 22.3**	**+2.2**		
KMI				sPKP		14 52 26.0			
KMI				PP	**PP**	**14 54 24.8**	**-1.8**		
KMI				PKS	PKSdf	14 55 40.5	-11		
KMI				SS	SS	15 11 36.8	-13		
KMI				AMB	AMB				
	comp=Z,860nm,7.9s								
KMI				LR	LR				
	comp=N,1μm,20.6s								
KMI				LR	LR				
	comp=E,4μm,18.2s								
KMI				LR	LR				
	comp=Z,5μm,19.4s								
BLMT	**Blacktail Moun**	**129.88**	**299**	*e*PKPdf	**PKPdf**	**14 52 14.2**	**-0.1**		
KBO	**Bosley Butte**	**129.90**	**287**	*e*PKPdf	**PKPdf**	**14 52 15.3**	**+1.0**		
A15A	**Johnson Ranch,**	**129.92**	**301**	⇓P	**PKPdf**	**14 52 15.8**	**+1.6**		
	baz=130								
BSMT	**Bassoo Peak**	**129.94**	**299**	*e*PKPdf	**PKPdf**	**14 52 14.4**	**0.0**		
EKS2	**Erkin-Say**	**129.96**	**72**	*e*PKPpre	PKPpre	14 52 05.3			
EKS2				*e*PKPdf	**PKPdf**	**14 52 14.1**	**-0.4**		
EKS2				LR	LR				
	comp=Z,6μm,20.0s								
EKS2	**Erkin-Say**	**129.96**	**72**	P	**PKPdf**	**14 52 15.4**	**+0.9**		
	SNR=11								
VIPM	**Ingram Point**	**129.98**	**292**	PKIKP	**PKPdf**	**14 52 17.6**	**+3.0**		
VIPM	**Ingram Point**	**129.98**	**292**	P	**PKPdf**	**14 52 17.6**	**+3.0**		
FFC	**Flin Flon**	**130.10**	**312**	*e*PKIKP	**PKPdf**	**14 52 14.7**	**+0.5**		
FFC				*e*		14 54 26.3			
FFC				MLR	MLR				
	comp=Z,4μm,19.0s								
FFC	**Flin Flon**	**130.10**	**312**	*c i*PKIKP	**PKPdf**	**14 52 15.4**	**+1.2**		
FFC	**Flin Flon**	**130.10**	**312**	*e*PKPdf	**PKPdf**	**14 52 14.7**	**+0.5**		
FFC				*e*PP	**PP**	**14 54 26.3**	**-1.7**		
FFC				LR	LR				
	comp=Z,4μm,19.0s								
C12B	**Naegeli Ranch,**	**130.13**	**298**	⇑P	**PKPdf**	**14 52 16.1**	**+1.6**		
	baz=130								
B13A	**Whitefish**	**130.20**	**299**	⇓P	**PKPdf**	**14 52 16.4**	**+1.7**		
	baz=130								
A14A	**Double T Ranch**	**130.21**	**300**	⇑P	**PKPdf**	**14 52 16.7**	**+1.9**		
	baz=130								
AAK	**Ala-Archa**	**130.27**	**73**	*c i*PKIKP	**PKPdf**	**14 52 15.5**	**+0.3**		
AAK				pmax	pmax				
	comp=Z,83nm,1.0s								
AAK	**Ala-Archa**	**130.27**	**73**	PFAKE		14 52 30.0	+15		
AAK				LR	LR				
	comp=Z,5μm,19.0s								
AAK	**Ala-Archa**	**130.27**	**73**	P	**PKPdf**	**14 52 16.1**	**+0.9**		
	SNR=14								
JOF	**Joensuu**	**130.35**	**30**	*e*PKIKP	**PKPdf**	**14 52 14.5**	**+0.1**		
JOF				pmax	pmax				
	comp=Z,29nm,0.7s								
JOF	**Joensuu**	**130.35**	**30**	*ep*	**PKPdf**	**14 52 14.5**	**+0.1**		
	comp=Z,29nm,0.7s								
KEBM	**Edson Butte**	**130.46**	**288**	*e*PKPdf	**PKPdf**	**14 52 14.8**	**-0.5**		
FRU	**Bishkek**	**130.48**	**73**	*e*P	Pdif	14 49 18.0	+12		
FRU				*e*		14 52 15.0			
FRU				*e*		14 54 30.0			
FRU				*e*PS	**PS**	**15 04 32.0**	**-10**		
FRU				MLR	MLR				
	comp=N,5μm,18.5s								
WALA	**Waterton Lakes**	**130.48**	**300**	*e*PKPpre	PKPpre	14 52 06.7			
WALA				*e*PKPdf	**PKiKP**	**14 52 15.9**	**-0.2**		
C11A	**Tepee Creek (N**	**130.57**	**298**	⇑P	**PKPdf**	**14 52 17.2**	**+1.8**		
	baz=131								
A13A	**Flathead Natio**	**130.60**	**300**	⇑P	**PKPdf**	**14 52 17.3**	**+1.9**		
	baz=131								
CHMS	**Chumysh**	**130.67**	**72**	P	**PKPdf**	**14 52 16.2**	**+0.5**		
	SNR=7.4								
B12A	**Libby**	**130.76**	**299**	⇑P	**PKPdf**	**14 52 17.6**	**+1.9**		
	baz=131								
USP	**Ospenovka**	**130.76**	**72**	P	**PKPdf**	**14 52 15.3**	**-0.6**		
	SNR=6.1								
SCO	**Scoresbysund**	**130.78**	**1**	*i* P	**PKPdf**	**14 52 16.8**	**+1.8**		
	comp=N,17nm,1.1s								
KLMR	**Klimovskoe**	**130.84**	**36**	*e*PKIKP	**PKPdf**	**14 52 15.6**	**+0.2**		
KLMR				pmax	pmax				
	comp=Z,120nm,1.4s								
HAWA	**Hanford**	**130.93**	**294**	*e*PKPpre	PKPpre	14 52 10.8			
HAWA				*e*PKPdf	**PKiKP**	**14 52 16.9**	**-0.1**		
HAWA				LR	LR				
	comp=Z,4μm,22.0s								
TKM2	**Tokmak 2**	**131.01**	**73**	PFAKE		14 52 30.0	+13		
TKM2				LR	LR				
	comp=Z,5μm,20.0s								
A12A	**Yaak River Ran**	**131.14**	**299**	⇑P	**PKPdf**	**14 52 18.4**	**+2.0**		
	baz=131								
NEW	**Newport**	**131.27**	**297**	*e*PKPpre	PKPpre	14 52 06.1			
NEW				*e*PKPdf	**PKPdf**	**14 52 16.5**	**-0.2**		
NEW				LR	LR				
	comp=Z,6μm,21.0s								
OD2	**Odessa Site #2**	**131.31**	**295**	P	**PKPdf**	**14 52 19.6**	**+2.8**		
LON	**Longmire**	**132.23**	**293**	*e*PKIKP	PKPdf	14 52 11.4	-7.2		
LON				*e*		14 52 18.0			
LON	**Longmire**	**132.23**	**293**	*e*PKPpre	PKPpre	14 52 11.4			
LON				*e*PKPdf	**PKPdf**	**14 52 18.0**	**-0.6**		
GUMO	**Guam**	**132.50**	**166**	PFAKE		14 52 30.0	+10		
GUMO				LR	LR				
	comp=Z,3μm,20.0s								
NLW	**Nelson Butte**	**132.56**	**295**	P	**PKPdf**	**14 52 20.9**	**+1.6**		
GYA	**Guiyang**	**132.78**	**114**	Pdif	**Pdif**	**14 49 17.0**	**+0.6**		
GYA				PKP	**PKPdf**	**14 52 20.3**	**-0.1**		
GYA				PP	**PP**	**14 54 42.8**	**-2.6**		
GYA				PKS	PKSdf	14 55 48.8	-8.2		
GYA				SKS	**SKSdf**	**14 59 30.3**	**-0.7**		
GYA				SKKS	SKKSac	15 01 48.0	+7.4		
GYA				SS	SS	15 12 45.0	+19		
GYA				AMB	AMB				
	comp=Z,660nm,7.8s								
GYA				LR	LR				
	comp=N,3μm,19.9s								
GYA				LR	LR				
	comp=E,3μm,18.4s								
GYA				LR	LR				
	comp=Z,5μm,18.7s								
SUMG	**Summit**	**133.19**	**354**	*e*PKHKP	PKPpre	14 52 07.1			
SUMG				*e*		14 52 20.0			
SUMG	**Summit**	**133.19**	**354**	*e*PKPpre	PKPpre	14 52 07.1			
SUMG				*e*PKPdf	**PKPdf**	**14 52 20.0**	**-0.1**		
SUMG	**Summit**	**133.19**	**354**	*i* P	**PKPdf**	**14 52 20.5**	**+0.4**		
	comp=Z,35nm,1.1s								
NLWA	**Neilton Lookou**	**133.65**	**292**	*e*PKPdf	**PKPdf**	**14 52 21.1**	**-0.1**		
NLWA				LR	LR				
	comp=Z,3μm,19.0s								
ARU	**Arti**	**133.78**	**50**	*i* PKIKP	**PKPdf**	**14 52 19.6**	**-1.5**		
ARU				MLR	MLR				
	comp=Z,5μm,20.0s								
ARU	**Arti**	**133.78**	**50**	*e*PKPpre	PKPpre	14 52 05.5			
ARU				*e*PKPdf	**PKPdf**	**14 52 20.8**	**-0.3**		
ARU				*e*PP	**PP**	**14 54 50.5**	**-1.1**		
ARU				LR	LR				
	comp=Z,5μm,21.0s								
ARCES	**ARCESS Array B**	**134.69**	**22**	PKPpre	PKPpre	14 52 09.4			
ARCES				PKP	**PKiKP**	**14 52 23.7**	**-0.2**		
ARCES	**ARCESS Array B**	**134.69**	**22**	PKhKP	PKPpre	14 52 09.4			
	comp=Z,5.0nm,0.8s,baz=151,slow=3.9,SNR=6.6								
ARCES				PKP	**PKiKP**	**14 52 23.7**	**-0.2**		
	comp=Z,24nm,0.8s,baz=197,slow=2.8,SNR=23								
ARE0	**ARCESS Array S**	**134.69**	**22**	*e*PKPpre	PKPpre	14 52 07.9			
ARE0				*e*PKPdf	**PKiKP**	**14 52 22.9**	**-1.0**		
APA	**Apatity**	**134.70**	**27**	*i*PKIKP	**PKPdf**	**14 52 22.6**	**+0.1**		
APA				*i*		14 55 00.0			
APA				pmax	pmax				
	comp=Z,52nm,0.9s								
SVE	**Sverdlovsk**	**134.85**	**51**	*i* PKIKP	**PKPdf**	**14 52 23.2**	**+0.1**		
SVE				*e*		14 54 57.0			
SVE				*e*SP	SP	15 05 08.5	-8.6		
SVE				*e*SS	**SS**	**15 12 46.2**	**-4.4**		
SVE				*e*SSS	SSS	15 17 49.4			
SVE				pmax	pmax				
	comp=Z,49nm,0.9s								
KEV	**Kevo**	**135.16**	**23**	*e*PKIKP	**PKPdf**	**14 52 24.5**	**+1.2**		
KEV				pmax	pmax				
	comp=Z,13nm,0.9s								
KEV	**Kevo**	**135.16**	**23**	PFAKE		14 52 30.0	+6.7		
KEV				LR	LR				
	comp=Z,3μm,21.0s								
KEV	**Kevo**	**135.16**	**23**	*ep*	**PKPdf**	**14 52 24.5**	**+1.2**		
	comp=Z,12nm,0.9s								
CD2	**Chengdu**	**135.21**	**108**	PKP	**PKPdf**	**14 52 25.8**	**+1.1**		
CD2				PKS	**PKSdf**	**14 56 00.8**	**-0.3**		
CD2				SKS	**SKSdf**	**14 59 34.0**	**-1.0**		
CD2				AMB	AMB				
	comp=Z,3μm,13.7s								
CD2				LR	LR				
	comp=N,4μm,17.6s								
CD2				LR	LR				
	comp=E,4μm,18.6s								
CD2				LR	LR				
	comp=Z,5μm,20.1s								
LVZ	**Lovozero**	**135.25**	**28**	PFAKE		14 52 40.0	+16		
LVZ				LR	LR				
	comp=Z,3μm,22.0s								
BRVK	**Borovoye**	**136.08**	**60**	*e*PKHKP	PKPpre	14 52 12.9			
BRVK				*e*		14 52 25.2			
BRVK				*e*		14 55 04.6			
BRVK				MLR	MLR				
	comp=Z,6μm,20.0s								
BRVK	**Borovoye**	**136.08**	**60**	*e*PKPpre	PKPpre	14 52 12.9			
BRVK				*e*PKPdf	**PKPdf**	**14 52 25.2**	**-0.3**		
BRVK				*e*PP	**PP**	**14 55 04.5**	**-1.7**		
BRVK				LR	LR				
	comp=Z,6μm,20.0s								
BVAR	**Borovoye Array**	**136.10**	**60**	PKHKP	PKPpre	14 52 12.9			
BVAR						14 52 26.0			
BVAR	**Borovoye Array**	**136.10**	**60**	PKPpre	PKPpre	14 52 12.9			
BVAR				PKP	**PKiKP**	**14 52 26.0**	**-1.2**		
BVAR				SKPbc	**SKPbc**	**14 55 57.7**	**+1.1**		
BVAR	**Borovoye Array**	**136.10**	**60**	PKhKP	PKPpre	14 52 12.9			
	comp=Z,4.8nm,0.8s,baz=182,slow=3.9,SNR=20								
BVAR				PKP	**PKiKP**	**14 52 26.0**	**-1.2**		
	comp=Z,16nm,0.7s,baz=212,slow=2.3,SNR=19								
BVAR				SKPbc	**SKPbc**	**14 55 57.7**	**+1.1**		
	comp=Z,7.4nm,1.0s,baz=210,slow=4.8,SNR=4.0								
QZH	**Quanzhou**	**136.48**	**128**	*i* PKP	**PKPdf**	**14 52 28.3**	**+1.2**		
QZH				PP	**PP**	**14 55 10.0**	**+1.5**		
QZH				SS	SS	15 13 11.3	+1.6		
QZH				LR	LR				
	comp=N,8μm,17.7s								
QZH				LR	LR				
	comp=E,3μm,17.0s								
QZH				LR	LR				
	comp=Z,10μm,18.6s								
MK31	**Makanchi Array**	**137.07**	**74**	*e*PKHKP	PKPpre	14 52 16.3			
MK31				*e*		14 52 26.1			
MK31	**Makanchi Array**	**137.07**	**74**	*e*PKPpre	PKPpre	14 52 16.3			
MK31				*e*PKPdf	**PKPdf**	**14 52 26.1**	**-1.5**		
MKAR	**Makanchi Array**	**137.07**	**74**	PKHKP	PKPpre	14 52 15.9			
MKAR						14 52 26.8			
MKAR	**Makanchi Array**	**137.07**	**74**	PKPpre	PKPpre	14 52 15.8			
MKAR				PKP	**PKPdf**	**14 52 26.8**	**-0.8**		
MKAR	**Makanchi Array**	**137.07**	**74**	PKhKP	PKPpre	14 52 15.8			
	comp=Z,5.8nm,1.1s,baz=240,slow=3.9,SNR=10.0								
MKAR				PKP	**PKPdf**	**14 52 26.8**	**-0.8**		
	comp=Z,22nm,1.0s,baz=245,slow=4.0,SNR=18								
DAG	**Danmarks Havn**	**137.15**	**2**	*i* P	**PKPdf**	**14 52 22.6**	**-4.2**		
	comp=Z,224nm,0.8s								
DAG				*i*		15 13 23.0			
YHNB	**Yeheng**	**137.28**	**132**	PFAKE		14 52 40.0	+11		
YHNB				LR	LR				
	comp=Z,3μm,19.0s								
ENH	**Enshi**	**137.32**	**114**	*e*PKPpre	PKPpre	14 52 16.2			
ENH				*e*PKPdf	**PKiKP**	**14 52 29.9**	**-0.6**		
ENH				LR	LR				
	comp=Z,6μm,19.0s								
WMQ	**Urumqi**	**137.51**	**82**	PKP	**PKPdf**	**14 52 26.0**	**-2.6**		
WMQ				PP	**PP**	**14 55 15.0**	**-0.4**		
WMQ				PKS	**PKSdf**	**14 56 00.0**	**-4.7**		
WMQ				SKS	**SKSdf**	**14 59 32.0**	**-6.3**		
WMQ				AMB	AMB				
	comp=Z,1μm,12.0s								
WMQ				LR	LR				
	comp=N,4μm,20.8s								
WMQ				LR	LR				
	comp=E,4μm,20.8s								
WMQ				LR	LR				
	comp=Z,4μm,24.1s								
TATO	**Taipei**	**137.60**	**132**	PFAKE		14 52 40.0	+11		
TATO				LR	LR				
	comp=Z,3μm,20.0s								
WAKE	**Wake Island**	**137.94**	**196**	PFAKE		14 52 40.0	+10		
WAKE				LR	LR				
	comp=Z,3μm,19.0s								
KURBB	**Kurchatov Arra**	**138.03**	**68**	PKhKP	PKPpre	14 52 19.3			
	comp=Z,9.1nm,0.7s,baz=234,slow=3.4,SNR=28								
KURK	**Kurchatov**	**138.13**	**68**	*c i*PKIKP	**PKPdf**	**14 52 28.3**	**-1.1**		
KURK				pmax	pmax				
	comp=Z,22nm,1.0s								
KURK	**Kurchatov**	**138.13**	**68**	*e*PKPpre	PKPpre	14 52 16.3			
KURK				PKPpre	PKPpre	14 52 19.3			
KURK				LR	LR				
	comp=Z,6μm,20.0s								
LZH	**Lanzhou**	**139.50**	**103**	*e*PKP	PKPdf	14 52 26.5	-6.1		
LZH				sPKP		14 52 39.3			
LZH				AMB	AMB				
	comp=Z,950nm,12.5s								
LZH				LR	LR				
	comp=N,3μm,18.5s								
LZH				LR	LR				
	comp=E,3μm,19.4s								
LZH				LR	LR				
	comp=Z,4μm,20.2s								
WHN	**Wuhan**	**139.69**	**120**	PKPbc	PKPdf	14 52 23.8	-9.1		
WHN				PP	**PP**	**14 55 27.3**	**-1.2**		
WHN				SS	SS	15 14 12.0	+24		
WHN				LR	L

comp=Z,13nm,0.5s,baz=230,slow=3.5,SNR=68
WRAK Wrangell Islan 143.62 297 *e*PKPdf **PKPdf 14 52 37.9 -1.2**
WRAK LR LR
comp=Z,4μm,22.0s
DLBC Dease Lake 143.83 301 *e*PKPdf **PKPdf 14 52 39.2 -0.3**
TIY Taiyuan 144.86 111 *e*PKP PKPbc 14 52 41.0 -0.2
TIY LR LR
comp=N,4μm,17.6s
TIY LR LR
comp=E,2μm,16.2s
TIY LR LR
comp=Z,5μm,19.4s
SIT Sitka 145.32 296 *e*PKIKP **PKPab 14 52 41.8 -0.2**
SIT Sitka 145.32 296 *e*PKPdf **PKPab 14 52 41.8 -0.2**
CBIJ Chichi jima 145.40 159 PKPbc **PKPbc 14 52 40.7 -2.4**
CBIJ Chichi jima 145.40 159 PKPbc **PKPbc 14 52 40.7 -2.4**
comp=Z,458nm,0.6s,baz=179,slow=1.6,SNR=23
TIA Tai'an 145.73 118 PKPbc **PKPab 14 52 44.8 +0.5**
TIA PP **PP 14 56 03.8 -1.3**
TIA LR LR
comp=N,3μm,27.5s
TIA LR LR
comp=E,3μm,25.5s
TIA LR LR
comp=Z,5μm,27.5s
BTO Baotou 146.03 105 *e*PKPbc **PKPab 14 52 45.5 +0.1**
SKAG Skagway 146.67 299 *e*PKPab **PKPab 14 52 47.4 +0.3**
HHC Hu-ho-hao-te 146.96 107 *e*PKPbc **PKPdf 14 52 45.0 -0.5**
HHC sPKP 14 52 53.8
HHC PP **PP 14 56 16.0 +3.4**
HHC PKS **PKSdf 14 56 19.5 -1.3**
HHC SKS **SKSdf 14 59 47.5 -5.9**
HHC SKKS **SKKSac 15 03 01.5 -1.6**
HHC SS **SS 15 15 13.5 +1.3**
HHC AMB AMB
comp=Z,190nm,5.8s
HHC LR LR
comp=N,3μm,19.0s
HHC LR LR
comp=E,2μm,20.2s
HHC LR LR
comp=Z,3μm,20.2s
JNU Nakatsue 148.31 139 *e*PKPdf **PKPdf 14 52 46.5 -1.4**
JNU *e*PKPbc **PKPbc 14 52 51.4 +0.1**
JNU PKPbc **PKPbc 14 52 51.6 +0.3**
JNU Nakatsue 148.31 139 PKPbc **PKPbc 14 52 51.6 +0.3**
comp=Z,48nm,0.9s,baz=62,slow=2.1,SNR=18
BJT Baijiatuau 148.44 113 *e*PKPdf **PKPdf 14 52 48.2 +0.4**
BJT *e*PKPbc **PKPbc 14 52 51.6 +0.2**
BJT LR LR
comp=Z,4μm,21.0s
BJI Beijing 148.46 113 PKPbc **PKPdf 14 52 48.0 +0.2**
BJI PP **PP 14 56 20.0 -1.1**
BJI AMB AMB
comp=Z,2μm,12.1s
BJI LR LR
comp=N,3μm,24.9s
BJI LR LR
comp=E,1μm,27.2s
BJI LR LR
comp=Z,4μm,34.0s
PNL Peninsula 148.55 298 *e*PKPdf **PKPdf 14 52 47.4 0.0**
PNL *e*PKPab **PKPab 14 52 54.6 -0.1**
MOY Mondy 149.40 82 *e*PKHKP **PKPdf 14 52 49.2 +0.1**
MOY pmax pmax
comp=Z,545nm,2.8s
SONM Songino Array 149.57 92 PKP **PKPdf 14 52 48.8 -0.7**
SONM PKPbc **PKPbc 14 52 54.0 -0.2**
SONM Songino Array 149.57 92 PKP **PKPdf 14 52 48.8 -0.7**
comp=Z,7.6nm,1.0s,baz=211,slow=0.7,SNR=32
SONM PKPbc **PKPbc 14 52 54.0 -0.2**
comp=Z,109nm,0.9s,baz=215,slow=2.4,SNR=108
ZAK Zakamensk 149.71 86 *e*PKIKP **PKPdf 14 52 49.2 -0.5**
ZAK *e* 14 52 54.4
ZAK pmax pmax
comp=Z,106nm,1.1s
ULN Ulaanbaatar 149.91 93 *e*PKPdf **PKPdf 14 52 49.4 -0.8**
ULN *e*PKPbc **PKiKP 14 52 55.1 -0.8**
ULN *e*PKPab **PKPab 14 53 00.8 0.0**
ULN LR LR
comp=Z,3μm,20.0s
DL2 Dalian 149.93 121 PKPbc **PKPdf 14 52 47.5 -2.7**
DL2 PP **PP 14 56 29.5 -0.1**
DL2 SKKS 15 03 14.8
DL2 SS **SS 15 15 46.8 +1.8**
DL2 LR LR
comp=N,1μm,21.0s
DL2 LR LR
comp=E,1μm,18.6s
DL2 LR LR
comp=Z,2μm,20.0s
INK Inuvik 149.97 315 *e*PKPdf **PKPdf 14 52 47.4 -1.9**
INK *e*PKPbc **PKiKP 14 52 54.7 -0.4**
INK *e*PKPab **PKPab 14 52 59.7 -0.4**
DAWY Dawson 150.56 305 *e*PKPdf **PKPdf 14 52 49.6 -0.9**
DAWY *e*PKPbc **PKiKP 14 52 56.2 -0.4**
TLY Talaya 150.71 84 *i* PKIKP **PKPdf 14 52 50.2 -0.9**
TLY *e* 14 52 56.4
TLY *e* 14 56 40.2
TLY pmax pmax
comp=Z,92nm,1.1s
TLY Talaya 150.71 84 *e*PKPdf **PKPdf 14 52 51.8 +0.7**
TLY *e*PKPbc **PKiKP 14 52 56.8 -0.4**
TLY *e*PKPab **PKPab 14 53 04.2 +0.4**
TLY LR LR
comp=Z,5μm,19.0s
INCN Inchon 150.73 129 *e*PKPdf **PKPdf 14 52 51.9 +0.3**
INCN *e*PKPbc **PKiKP 14 52 57.1 -0.7**
INCN LR LR
comp=Z,4μm,21.0s
KSAR Wonju Array Be 151.17 131 PKP **PKPdf 14 52 52.0 -0.2**
KSAR PKPbc **PKiKP 14 52 58.0 -0.6**
KSRS Korea Array 151.19 131 PKP **PKPdf 14 52 52.0 -0.2**
comp=Z,5.8nm,0.9s,baz=198,slow=2.1,SNR=14
KSRS PKPbc **PKPbc 14 52 58.0 -0.2**
comp=Z,57nm,0.9s,baz=201,slow=1.8,SNR=53
IRK Irkutsk 151.36 84⇓ *i* PKIKP **PKPdf 14 52 51.2 -0.8**
IRK *e* 14 56 35.2
IRK pmax pmax
comp=Z,163nm,2.2s
BMRM Bremner River 151.45 298 *e*PKPdf **PKPdf 14 52 51.5 -0.4**
BMRM *e*PKPbc **PKiKP 14 52 58.7 +0.1**
BMRM *e*PKPab **PKPab 14 53 06.5 -0.1**
EGAK Eagle 151.55 306 *e*PKPdf **PKPdf 14 52 50.7 -1.2**
EGAK *e*PKPbc **PKPbc 14 52 57.8 -0.4**
EGAK LR LR
comp=Z,3μm,21.0s
MENT Mentasta 151.89 302 *e*PKPdf **PKPdf 14 52 53.4 +0.8**
MENT *e*PKPbc **PKiKP 14 53 00.0 +0.6**
MENT *e*PKPab **PKPab 14 53 08.3 -0.1**
DIV Divide 152.03 297 *e*PKPdf **PKPdf 14 52 53.2 +0.3**
DOT Dot Lake 152.31 303 *e*PKPdf **PKPdf 14 52 52.3 -0.9**
DOT *e*PKPbc **PKPbc 14 52 59.3 -0.7**
DOT *e*PKPab **PKPab 14 53 10.2 +0.1**
PAX Paxson 152.64 301 *e*PKIKP **PKPdf 14 52 52.1 -1.7**
PAX *e* 14 53 01.8
PAX Paxson 152.64 301 *e*PKPdf **PKPdf 14 52 52.1 -1.7**
PAX *e*PKPbc **PKiKP 14 53 01.8 +0.8**
SEW Seward 153.23 294 *e*PKPdf **PKPdf 14 52 54.6 +0.1**
SEW *e*PKPbc **PKiKP 14 53 02.3 +0.2**
SML Sawmill 153.43 298 *e*PKIKP **PKPdf 14 52 54.0 -0.8**
SML *e* 14 53 03.5
SML Sawmill 153.43 298 *e*PKPdf **PKPdf 14 52 54.0 -0.8**
SML *e*PKPbc **PKiKP 14 53 03.5 +0.9**
KDAK Kodiak Island 153.62 287 *e*PKPbc **PKPbc 14 53 03.6 +0.7**
KDAK LR LR
comp=Z,4μm,22.0s
KDAK Kodiak Island 153.62 287 PKPbc **PKPbc 14 53 04.1 +1.2**
comp=Z,113nm,0.6s,baz=134,slow=2.6,SNR=18
MJAR Matsushiro Arr 153.65 148 PKP **PKPdf 14 52 55.9 -0.1**
MJAR PKPbc **PKPbc 14 53 02.9 -0.9**
MJAR PP **PP 14 56 52.0 +1.4**
MJAR Matsushiro Arr 153.65 148 PKP **PKPdf 14 52 55.9 -0.1**
comp=Z,3.3nm,1.0s,baz=216,slow=4.9,SNR=6.2
MJAR PKPbc **PKPbc 14 53 02.9 -0.9**
comp=Z,31nm,0.9s,baz=191,slow=2.9,SNR=32
MJAR PP **PP 14 56 52.0 +1.4**
comp=Z,6.8nm,1.1s,baz=197,slow=6.7,SNR=4.2
MAJO Matsushiro 153.65 148 PFAKE 14 53 10.0 +6.2
MAJO LR LR
comp=Z,4μm,22.0s
MAT Matsushiro 153.65 148 PKP **PKPdf 14 52 55.1 -0.9**
PMR Palmer 153.69 297 *e*PKIKP **PKPdf 14 52 53.8 -1.3**
PMR *e* 14 53 03.5
PMR Palmer 153.69 297 *e*PKPdf **PKPdf 14 52 53.8 -1.3**
PMR *e*PKPbc **PKiKP 14 53 03.5 +0.5**
RC01 Rabbit Creek A 153.76 296 *e*PKPdf **PKPdf 14 52 56.1 +0.8**
RC01 *e*PKPbc **PKiKP 14 53 03.2 -0.1**
ILAR Eielson Array 153.85 304 PKP **PKPdf 14 52 53.1 -2.2**
ILAR PKPbc **PKiKP 14 53 04.8 +1.5**
ILAR Eielson Array 153.85 304 PKP **PKPdf 14 52 53.1 -2.2**
comp=Z,4.6nm,1.1s,baz=301,slow=1.4,SNR=15
ILAR PKPbc **PKiKP 14 53 04.8 +1.5**
comp=Z,272nm,1.1s,baz=56,slow=0.5,SNR=77
COLA College 154.28 304 PFAKE 14 53 10.0 +5.9
COLA LR LR
comp=Z,3μm,20.0s
MCK McKinley 154.38 301 *e*PKIKP **PKPdf 14 52 54.4 -1.7**
MCK *e* 14 53 03.4
MCK McKinley 154.38 301 *e*PKPdf **PKPdf 14 52 54.4 -1.7**
MCK *e*PKPbc **PKPbc 14 53 03.4 -1.1**
TRF Thorofare Moun 154.86 300 *e*PKPdf **PKPdf 14 52 53.6 -3.4**
RSO Redoubt South 154.88 293 *e*PKPdf **PKPdf 14 52 56.9 -0.2**
RSO *e*PKPbc **PKiKP 14 53 05.6 -0.2**
RSO PKPab **PKPab 14 53 21.4 +0.1**
CN2 Changchun 155.59 120 *e*PKP **PKPdf 14 52 55.5 -2.9**
CN2 *e*PKPab **PKPab 14 53 24.3 -0.2**
CN2 AMB AMB
comp=Z,2μm,13.0s
CN2 LR LR
comp=N,2μm,20.0s
CN2 LR LR
comp=E,2μm,20.0s
CN2 LR LR
comp=Z,2μm,22.0s
COLD Coldfoot 155.78 309 *e*PKPdf **PKPdf 14 52 53.0 -4.9**
CIT Chita 155.80 92 *e*PKIKP **PKPdf 14 52 57.4 -1.1**
CIT *e* 14 53 25.3
CIT pmax pmax
comp=Z,277nm,2.9s
HIA Hailar 157.06 104 *e*PKPdf **PKPdf 14 52 59.1 -1.1**
HIA LR LR
comp=Z,6μm,19.0s
MDJ Mudanjiang 157.98 125 PKP **PKPdf 14 53 00.0 -1.4**
MDJ AMB AMB
comp=Z,2μm,14.0s
MDJ LR LR
comp=N,3μm,20.5s
MDJ LR LR
comp=E,2μm,22.4s
MDJ LR LR
comp=Z,4μm,21.6s
MDJ Mudanjiang 157.98 125 *e*PKPdf **PKPdf 14 53 00.4 -1.0**
MDJ LR LR
comp=Z,5μm,20.0s
USRK Ussuriysk Arra 158.58 129 PKP **PKPdf 14 53 01.4 -0.8**
comp=Z,3.3nm,0.9s,baz=325,slow=2.3,SNR=5.8
USRK PKPab **PKPab 14 53 36.9 -0.5**
comp=Z,9.1nm,0.9s,baz=236,slow=3.4,SNR=7.8
BOD Bodaibo 159.03 79 *e*PKIKP **PKPdf 14 53 00.1 -2.1**
BOD *e* 14 53 37.3
BOD pmax pmax
comp=Z,22nm,1.2s
BOD pmax pmax
comp=Z,27nm,1.8s
ERM Erimo 160.04 153 PFAKE 14 53 10.0 +6.1
ERM LR LR
comp=Z,3μm,19.0s
YUK Yuzh-Kuril'sk 162.54 157 *i* PKIKP PKPdf 14 52 58.8 -7.7
YUK *i* SS SS 15 17 54.6 -5.4
YUK *i* SSS SSS 15 24 17.5
KLR Kul'dur 162.54 120 *e*PKIKP **PKPdf 14 53 01.7 -4.6**
KLR pmax pmax
comp=Z,130nm,2.2s
KLR pmax pmax
comp=Z,3μm,11.5s
HABR Khabarovsk 163.30 128 *e*PKP2 **PKPab 14 53 58.4 +0.5**
HABR *e* 14 57 43.9
HABR *e* 15 00 11.2
HABR *e*PPP PPP 15 01 31.3
HABR *e*SS SS 15 18 12.2 +3.7
HABR *e*SSS SSS 15 24 32.5
CLNS Chul'man 163.96 90 *e*PKIKP **PKPdf 14 53 07.1 -0.4**
CLNS pmax pmax
comp=Z,27nm,1.2s
CLNS pmax pmax
comp=E,9.0nm,1.1s
CLNS pmax pmax
comp=N,17nm,1.2s
YSS Yuzh-Sakhalins 164.58 147 *e*PKIKP **PKPdf 14 53 06.0 -2.3**
YSS *e* 14 53 16.0
YSS *e* 14 54 04.5
YSS *e* 14 57 50.0
YSS *e* 15 11 30.0
YSS pmax pmax
comp=Z,1μm,8.0s
YSS Yuzh-Sakhalins 164.58 147 *e*PKPdf **PKPdf 14 53 09.4 +1.1**
YSS LR LR
comp=Z,1μm,19.0s
SMY Shemya 166.96 241 *e*PKPab **PKPab 14 54 14.4 +0.5**
YAK Yakutsk 167.73 72 *d i*PKIKP **PKPdf 14 53 08.5 -1.8**
YAK pmax pmax
comp=Z,1μm,19.1s
YAK Yakutsk 167.73 72 *e*PKPdf **PKPdf 14 53 10.6 +0.3**
YAK LR LR
comp=Z,5μm,21.0s
SKR Severo-Kuril's 170.07 184 *i* PKIKP **PKPdf 14 53 10.0 -2.1**
SKR *e* 14 58 18.0
SKR pmax pmax
comp=Z,3μm,12.0s
PET Petropavlovsk 172.19 196 *i* PKIKP **PKPdf 14 53 10.5 -2.6**
PET *e* 14 54 37.2
PET *e*SSS SSS 15 26 25.2
PET pmax pmax
comp=Z,1μm,15.8s
PET pmax pmax
comp=N,2μm,18.6s
PET Petropavlovsk 172.19 196 PFAKE 14 53 20.0 +6.9
PET LR LR
comp=Z,5μm,20.0s
PETK Petropavlovsk- 172.38 192 PKIKP **PKPdf 14 53 12.4 -0.9**
PETK 14 54 37.7
PETK 14 58 33.6
PETK Petropavlovsk- 172.38 192 PKP **PKPdf 14 53 12.3 -0.9**
PETK PKPab **PKPab 14 54 37.7 -0.2**
PETK PP **PP 14 58 33.5 +4.1**
PETK Petropavlovsk- 172.38 192 PKP **PKPdf 14 53 12.3 -0.9**
comp=Z,17nm,1.0s,baz=101,slow=4.7,SNR=11
PETK PKPab **PKPab 14 54 37.7 -0.2**
comp=Z,14nm,0.8s,baz=137,slow=4.5,SNR=7.4
PETK PP **PP 14 58 33.5 +4.1**
comp=Z,5.8nm,0.9s,baz=167,slow=8.9,SNR=3.6

THE 28 14:36:14.1, 38.36N×21.99E, h10km±1km, ML1.3/3, Error ellipse: s-maj=2.2km s-min=0.4km az=17.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRIZ	**Trizonia**	**0.06**	**85**	P	Pg	14 36 16.2	0.0
TRIZ				S	Sg	14 36 17.8	0.0
EFP	**Efpalio**	**0.10**	**315**	P	Pg	14 36 16.6	-0.1
EFP				S	Sg	14 36 18.5	0.0
KALE	**Kalithea**	**0.12**	**75**	P	Pg	14 36 16.9	-0.2
KALE				S	Sg	14 36 19.2	0.0

IDC 28 14:46:15.3±44.0, 16.88S×170.35W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/17, mbtmp3.8/3, Error ellipse: s-maj=878.4km s-min=196.3km az=81.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**45.88**	**242**	P	P	14 54 39.9	+0.2
	0.7nm,0.3s,baz=59,slow=5.9,SNR=4.3						
WRA	**Warramunga Arr**	**52.38**	**258**	P	P	14 55 29.1	-0.7
	0.3nm,0.5s,baz=97,slow=6.6,SNR=7.1						
ASAR	**Alice Springs**	**52.46**	**253**	P	P	14 55 30.5	+0.2
	1.0nm,0.4s,baz=90,slow=8.4,SNR=20						

*ISCJB **28** 14:48:46.0±1.8, 39.89N±0.09×78.7E±0.1, h10km, Error ellipse: s-maj=16.8km s-min=9.6km az=38.3*
*NNC **28** 14:48:49.3±16.0, 40.10N×78.93E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=139.5km s-min=108.4km az=173.0*
ISC 28 14:48:49.7±2.9, 39.9N±0.1×78.6E±0.1, h10km, n12, σ1§10/7, 6C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.03**	**259**	Pn	Pn	14 49 21.0	-3.1
KSH				Sn	**Sn**	**14 49 50.0**	**+0.5**
KSH				smax	smax		
	comp=N,620nm,0.6s						
KSH				smax	smax		
	comp=E,310nm,0.3s						
ULHL	**Ulahol**	**2.89**	**324**	P	Pn	14 49 31.4	-4.6
	SNR=36						
KZA	**Kyzart**	**3.29**	**312**	P	Pn	14 49 37.1	-4.5
	SNR=26						
KNDC	**Almaty**	**3.49**	**341**⇑	Pn	Pn	14 49 42.3	-1.8
	comp=E,20nm,0.7s						
KNDC				⇑Sn	**Sn**	**14 50 26.5**	**+1.0**
	comp=E,55nm,0.7s						
TKM2	**Tokmak 2**	**3.72**	**324**⇓	Pn	Pn	14 49 45.8	-1.6
	comp=E,4.3nm,0.4s						
TKM2				⇑Sn	**Sn**	**14 50 30.6**	**-0.7**
	comp=E,20nm,0.5s						
TKM2	**Tokmak 2**	**3.72**	**324**	P	Pn	14 49 46.0	-1.4
	SNR=14						
KBK	**Karagaybulak**	**3.84**	**316**	P	**Pn**	**14 49 47.8**	**-1.2**
	SNR=11						
AAK	**Ala-Archa**	**4.07**	**313**	P	**Pn**	**14 49 51.8**	**-0.4**
	SNR=11						
AML	**Almayashu**	**4.28**	**302**	P	Pn	14 49 49.4	-5.9
	SNR=15						
USP	**Ospenovka**	**4.50**	**319**	P	**Pn**	**14 49 59.2**	**+1.2**
	SNR=7.3						
KK31	**Karatay Array**	**6.81**	**300**⇑	Pn	Pn	14 50 39.3	+10
	comp=E,1.9nm,0.8s,baz=131,slow=16,SNR=8.2						
KK31				⇑Sn	Sb	14 52 01.9	-7.7
	comp=E,20nm,1.1s,baz=130,slow=32,SNR=18						
MK31	**Makanchi Array**	**7.38**	**20**⇑	Pn	**Pn**	**14 50 37.3**	**-0.2**
	comp=E,0.7nm,0.7s,baz=201,slow=14,SNR=4.8						

IDC 28 14:51:39.1±1.2, 3.93N×126.54E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/23, mbtmp3.8/6, Error ellipse: s-maj=122.4km s-min=17.8km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.93**	**162**	P	P	14 57 03.5	-0.7
	5.2nm,0.8s,baz=343,slow=10,SNR=16						
ASAR	**Alice Springs**	**28.35**	**166**	P	P	14 57 35.5	+0.5
	0.5nm,0.9s,baz=343,slow=8.1,SNR=4.1						
STKA	**Stephens Creek**	**38.38**	**159**	P	P	14 59 02.5	+0.2
	1.6nm,0.7s,baz=331,slow=10,SNR=5.5						
SONM	**Songino Array**	**47.05**	**342**	P	P	15 00 14.1	+1.4
	0.7nm,0.8s,baz=161,slow=7.8,SNR=4.2						
MKAR	**Makanchi Array**	**57.29**	**325**	P	P	15 01 28.0	-0.7
	0.3nm,0.4s,baz=120,slow=6.8,SNR=7.9						
KURBB	**Kurchatov Arra**	**61.47**	**327**	P	P	15 01 56.8	-0.7
	1.0nm,0.8s,baz=128,slow=6.3,SNR=4.4						

IDC 28 14:52:28.8±0.8, 3.93N×126.70E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.9/24, mbtmp4.0/9, Error ellipse: s-maj=56.8km s-min=15.1km az=74.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.92**	**183**	P	P	14 57 24.6	+0.7
	3.2nm,1.0s,baz=333,slow=11,SNR=2.7						
WRA	**Warramunga Arr**	**24.89**	**163**	P	P	14 57 53.4	-0.2
	6.4nm,0.7s,baz=343,slow=10,SNR=10						
ASAR	**Alice Springs**	**28.32**	**166**	P	P	14 58 24.1	-0.4
	0.5nm,0.8s,baz=341,slow=8.7,SNR=2.9						
STKA	**Stephens Creek**	**38.33**	**159**	P	P	14 59 51.4	-0.1
	2.4nm,0.8s,baz=353,slow=12,SNR=4.8						
SONM	**Songino Array**	**47.10**	**341**	P	P	15 01 03.3	+0.6
	1.1nm,0.9s,baz=160,slow=9.6,SNR=5.0						
PETK	**Petropavlovsk-**	**55.26**	**22**	P	P	15 02 03.5	-0.2
	5.2nm,1.0s,baz=160,slow=4.6,SNR=4.2						
MKAR	**Makanchi Array**	**57.37**	**325**	P	P	15 02 18.0	-1.0
	0.4nm,0.4s,baz=115,slow=7.3,SNR=7.3						
ZALV	**Zalesovo Beam**	**60.40**	**333**	P	P	15 02 40.9	+1.0
	0.5nm,0.4s,baz=153,slow=7.3,SNR=2.1						
KURBB	**Kurchatov Arra**	**61.55**	**327**	P	P	15 02 47.1	-0.7
	0.9nm,0.4s,baz=128,slow=6.3,SNR=7.9						

IDC 28 15:08:20.3±2.0, 0.08S×132.97E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=79.5km s-min=26.0km az=74.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.31**	**202**	P	P	15 12 47.1	0.0
	0.1nm,0.3s,baz=10,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**19.79**	**176**	P	P	15 12 52.0	-0.4
	0.2nm,0.3s,baz=356,slow=11,SNR=16						
WRA				S	S	15 16 23.2	-13
	0.1nm,0.3s,baz=359,slow=22,SNR=4.3						
ASAR	**Alice Springs**	**23.46**	**178**	P	P	15 13 31.4	-0.3
	2.0nm,0.6s,baz=0.8,slow=9.7,SNR=42						
STKA	**Stephens Creek**	**32.66**	**166**	P	P	15 14 54.7	+0.4
	0.7nm,0.6s,baz=346,slow=8.3,SNR=3.2						
MKAR	**Makanchi Array**	**64.26**	**324**	P	P	15 18 57.5	0.0
	0.2nm,0.5s,baz=115,slow=8.2,SNR=3.6						

*ISCJB **28** 15:10:41.4±0.5, 33.44N±0.05×138.92E±0.08, h251km±4km, mb3.1/5, Error ellipse: s-maj=10.9km s-min=8.1km az=160.1*
*JMA **28** 15:10:41.4±0.3, 33.42N×138.91E, h253km±3km, M3.3*
*IDC **28** 15:10:41.4±1.1, 33.34N×138.83E, h228km±21km, mb2.9/5, mb1 3.1/8, mb1mx2.9/25, mbtmp3.0/8, Error ellipse: s-maj=57.9km s-min=12.4km az=65.0*
ISC 28 15:10:42.7±0.9, 33.47N±0.06×138.86E±0.08, h244km±7km, n27, σ0§93/35, mb3.1/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**0.85**	**114**	P	**Pn**	**15 11 15.7**	**-0.7**
	20nm,0.3s,baz=73,slow=20,SNR=4.4						
JHJ				S	**S**	**15 11 42.8**	**+0.1**
	20nm,0.3s,baz=73,slow=19,SNR=3.4						
JHJ2	**Mitsune**	**0.88**	**114**	P	**Pn**	**15 11 15.8**	**-0.7**
JHJ2				S	**S**	**15 11 42.9**	**0.0**
TK02	**Tokai 2**	**1.04**	**298**	P	**Pn**	**15 11 17.5**	**+0.5**
TK04	**Tokai 4**	**1.23**	**318**	P	**Pn**	**15 11 19.0**	**+0.6**
TTO4	**TONANKAI O.B.S**	**1.23**	**296**	P	**Pn**	**15 11 18.4**	**+0.2**
TTO5	**TONANKAI O.B.S**	**1.23**	**310**	P	**Pn**	**15 11 18.8**	**+0.5**
JIZS	**Izushimoda**	**1.24**	**1**	P	**Pn**	**15 11 18.9**	**+0.3**
JIZS				S	**S**	**15 11 47.2**	**+0.3**
TTO1	**TONANKAI O.B.S**	**1.74**	**276**	P	**Pn**	**15 11 22.2**	**+0.1**
JOD2	**Odawara 2**	**1.80**	**6**	P	**Pn**	**15 11 23.1**	**+0.2**
JOD2				S	**S**	**15 11 55.1**	**+0.5**
JIE	**Ise**	**2.01**	**298**	P	**Pn**	**15 11 24.7**	**-0.1**
JYN	**Shimob**	**2.04**	**353**	P	**Pn**	**15 11 25.9**	**+0.8**
BSO1	**Boso 1**	**2.12**	**56**	P	**Pn**	**15 11 24.9**	**-0.2**
BSO1				S	**S**	**15 11 58.1**	**-0.5**
JRY	**Ryogami san**	**2.54**	**1**	P	**Pn**	**15 11 31.0**	**+1.0**
JRY				S	**S**	**15 12 07.4**	**+0.1**
JWZ	**Kozaga**	**2.63**	**272**	P	**Pn**	**15 11 30.3**	**-0.6**
JWY	**Kouya**	**2.82**	**286**	P	**Pn**	**15 11 32.8**	**-0.2**
JAG	**Ashikaga**	**2.99**	**9**	P	**Pn**	**15 11 34.2**	**-0.5**
JAG				S	**S**	**15 12 11.5**	**-4.3**
MJAR	**Matsushiro Arr**	**3.11**	**350**	P	**Pn**	**15 11 36.0**	**0.0**
	1.2nm,0.3s,baz=174,slow=11,SNR=27						
MJAR				S	**S**	**15 12 17.6**	**-0.6**
	0.5nm,0.3s,baz=125,slow=22,SNR=3.1						
MAT	**Matsushiro**	**3.11**	**350**	P	**Pn**	**15 11 36.3**	**+0.3**
MAT				S	**S**	**15 12 17.5**	**-0.8**
MAT	**Matsushiro**	**3.11**	**350**	P	**Pn**	**15 11 36.3**	**+0.3**
JWT	**Wachi**	**3.38**	**303**	P	**Pn**	**15 11 39.2**	**+0.1**
CBIJ	**Chichi jima**	**6.97**	**155**	P	Pn	15 12 18.5	-4.6
	6.0nm,0.3s,baz=202,slow=17,SNR=9.1						
CBIJ				S	S	15 13 32.0	-11
	4.8nm,0.3s,baz=294,slow=20,SNR=3.3						
KSRS	**Korea Array**	**9.77**	**297**	P	**Pn**	**15 12 57.8**	**-0.5**
	0.2nm,0.3s,baz=112,slow=14,SNR=10						
SONM	**Songino Array**	**28.26**	**310**	P	**P**	**15 16 14.6**	**+1.1**
	0.2nm,0.4s,baz=120,slow=8.5,SNR=3.7						
ZALV	**Zalesovo Beam**	**42.87**	**315**	P	**P**	**15 18 16.5**	**-0.4**
	0.3nm,0.5s,baz=80,slow=10,SNR=2.3						
MKAR	**Makanchi Array**	**44.34**	**305**	P	**P**	**15 18 29.3**	**+0.5**
	0.7nm,0.4s,baz=85,slow=9.5,SNR=29						
WRA	**Warramunga Arr**	**53.29**	**185**	P	**P**	**15 19 36.0**	**-0.7**
	0.3nm,0.4s,baz=1.0,slow=7.7,SNR=13						

ASAR	**Alice Springs**	**57.02**	**185**	P		**P**	**15 20 03.4**	**+0.1**
	0.3nm,0.7s,baz=16,slow=10,SNR=7.4								

MEX 28 15:12:29.8±1.1, 16°27N×96°27W, h25km±33km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
HUIG	**Huatulco**	**0.53**	**163**	*e*P	Pb		15 12 38.1	-2.4
HUIG				*i* S	Sb		15 12 46.5	-1.3
VHO	**Vista Hermosa**	**0.91**	**331**	*e*P	Pb		15 12 43.6	-3.6
VHO				*i* S	Sb		15 12 56.1	-3.0
CMIG	**Matias Romero**	**1.56**	**58**	*e*P	Pn		15 12 54.0	-2.0
CMIG				*i* S	Sn		15 13 12.1	-3.4
PNIG	**Pinotepa**	**1.79**	**274**	*e*P	Pn		15 12 57.0	-2.1
PNIG				*e*S	Sn		15 13 17.9	-3.1
UTMO	**Huajuapan**	**2.13**	**317**	*e*P	Pn		15 13 02.6	-1.5
UTMO				*e*S	Sn		15 13 27.0	-3.0
PCIG		**2.99**	**100**	*i* P	Pn		15 13 13.3	-2.4
PCIG				*i* S	Sn		15 13 48.7	-2.0

*IDC **28** 15:16:44.3±0.5, 9°.78N×126°.34E, h0km, mb4.1/18, mb1 4.2/18, mb1mx4.1/28, mbtmp4.1/18, MS3.5/1, Ms1 3.5/1, ms1mx2.5/45, Error ellipse: s-maj=30.7km s-min=12.2km az=69.0*
*MAN **28** 15:16:51, 9°.73N×126°.30E, h29km, mb4.9, ML3.8, MS3.9 MAN INTENSITY III - SOCORRO BUCAS GRANDE SURIGAO DEL SUR.*
*NEIC **28** 15:16:54.4±1.8, 9°.66N×126°.21E, h81km±16km, mb4.2/2, Error ellipse: s-maj=21.2km s-min=8.1km az=69.0*
NEIC Felt [III PIVS] at Socorro.

ISC 28 15:16:49.2±1.8, 9°.79N±0°.04×126°.41E±0°.07, h30km±13km, n62, σ1$47/69, mb4.1/23, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
BUTP	**Butuan**	**1.13**	**224**	*e*P	**Pn**		**15 17 08.8**	**-0.1**
BUTP				*e*S	**Sn**		**15 17 22.9**	**-0.5**
MSLP	**Maasin**	**1.57**	**283**	*e*P	**Pn**		**15 17 16.1**	**+1.1**
PLP	**Palo**	**1.97**	**314**	⇓*e*P	**Pn**		**15 17 22.1**	**+1.6**
PLP				*e*S	**Sn**		**15 17 46.3**	**+2.1**
CGP	**Cagayan de Oro**	**2.15**	**232**	⇑*i*P	**Pn**		**15 17 24.1**	**+1.1**
CGP				*i* S	**Sn**		**15 17 48.4**	**-0.4**
OCLP	**Ormoc**	**2.18**	**305**	*e*P	**Pb**		**15 17 26.4**	**-1.5**
BUKP	**Musuan**	**2.32**	**215**	*e*P	**Pn**		**15 17 27.4**	**+2.0**
LLP	**Lapu-Lapu**	**2.47**	**283**	⇑*i*P	**Pn**		**15 17 29.8**	**+2.4**
LLP				*i* S	**Sn**		**15 17 59.4**	**+2.8**
TBP	**Tagbilaran**	**2.52**	**268**	*e*P	**Pn**		**15 17 30.0**	**+1.9**
TBP				*e*S	**Sn**		**15 17 58.7**	**+0.9**
DAV	**Davao City (W)**	**2.82**	**197**	Pn	**Pn**		**15 17 35.1**	**+2.8**
DAV	**Davao City (W)**	**2.82**	**197**	Pn	**Pn**		**15 17 35.1**	**+2.8**
	39nm,0.3s,baz=40,slow=7.9,SNR=2.8							
DAV				LR	LR		15 18 45.8	
	comp=Z,954nm,21.8s,baz=131,slow=44							
MATI	**Mati**	**2.83**	**183**	*e*P	**Pn**		**15 17 34.7**	**+2.3**
KCP	**Kidapawan**	**3.05**	**206**	⇓*e*P	**Pb**		**15 17 43.4**	**+0.5**
KCP				*i* S	**Sb**		**15 18 20.4**	**+0.6**
CNP	**Catarman**	**3.21**	**328**	*e*P	**Pn**		**15 17 39.6**	**+2.0**
CTBH	**Cotabato--PC H**	**3.33**	**220**	⇑*i*P	**Pn**		**15 17 41.0**	**+1.8**
PAGZ	**Pagadian**	**3.56**	**238**	*e*P	**Pn**		**15 17 44.5**	**+2.1**
GUIM	**Jordan**	**3.86**	**283**	*e*P	**Pn**		**15 17 49.5**	**+3.0**
KSAR	**Wonju Array Be**	**27.57**	**3**	P	**P**		**15 22 35.6**	**+2.0**
KSRS	**Korea Array**	**27.58**	**3**	P	**P**		**15 22 35.6**	**+1.9**
	0.9nm,0.8s,baz=185,slow=10,SNR=3.5							
FITZ	**Fitzroy Crossi**	**27.72**	**182**	P	**P**		**15 22 34.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**27.72**	**182**	P	**P**		**15 22 34.8**	**-0.3**
	3.9nm,0.6s,baz=11,slow=11,SNR=7.3							
CMAR	**Chiang Mai Arr**	**27.97**	**291**	P	**P**		**15 22 37.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**27.97**	**291**	P	**P**		**15 22 37.3**	**-0.1**
	1.1nm,0.8s,baz=102,slow=7.7,SNR=8.2							
COEN	**Coen**	**28.86**	**145**	*e*P	P		15 22 40.9	-4.5
	11nm,0.7s							
WRAB	**Tennant Creek**	**30.55**	**165**	*e*P	**P**		**15 22 59.1**	**-1.1**
	1.3nm,0.7s							
WRA	**Warramunga Arr**	**30.55**	**165**	P	**P**		**15 22 58.6**	**-1.7**
WRA	**Warramunga Arr**	**30.55**	**165**	P	**P**		**15 22 58.6**	**-1.7**
	1.1nm,0.7s,baz=344,slow=9.5,SNR=15							
ASAR	**Alice Springs**	**34.04**	**168**	P	**P**		**15 23 30.2**	**-0.7**
ASAR	**Alice Springs**	**34.04**	**168**	P	**P**		**15 23 30.2**	**-0.7**
	0.7nm,0.5s,baz=353,slow=6.8,SNR=32							
SONM	**Songino Array**	**41.52**	**340**	P	**P**		**15 24 34.8**	**+0.9**
SONM	**Songino Array**	**41.52**	**340**	P	**P**		**15 24 34.8**	**+0.9**
	0.5nm,0.8s,baz=147,slow=8.1,SNR=4.8							
NWAO	**Narrogin (SRO)**	**43.37**	**191**	P	**P**		**15 24 48.5**	**-0.5**
NWAO	**Narrogin (SRO)**	**43.37**	**191**	P	**P**		**15 24 48.5**	**-0.5**
	4.4nm,0.6s,baz=17,slow=9.1,SNR=5.6							
STKA	**Stephens Creek**	**43.90**	**161**	P	**P**		**15 24 52.8**	**-0.5**
STKA	**Stephens Creek**	**43.90**	**161**	P	**P**		**15 24 52.8**	**-0.5**
	2.4nm,0.7s,baz=293,slow=7.7,SNR=5.7							
DZM	**Mont Dzumac**	**50.43**	**129**	P	**P**		**15 25 45.8**	**+1.3**
DZM	**Mont Dzumac**	**50.43**	**129**	P	**P**		**15 25 45.8**	**+1.3**
	4.4nm,0.7s,baz=301,slow=23,SNR=5.3							
MKAR	**Makanchi Array**	**52.50**	**323**	P	**P**		**15 25 58.7**	**-0.9**
MKAR				PcP	**PcP**		**15 27 09.3**	**-0.5**
MKAR	**Makanchi Array**	**52.50**	**323**	P	**P**		**15 25 58.7**	**-0.9**
	0.7nm,0.5s,baz=125,slow=8.0,SNR=21							
MKAR				PcP	**PcP**		**15 27 09.3**	**-0.5**
	0.6nm,0.7s,baz=105,slow=5.8,SNR=3.4							
ZALV	**Zalesovo Beam**	**55.12**	**331**	P	**P**		**15 26 16.2**	**-2.3**
ZALV	**Zalesovo Beam**	**55.12**	**331**	P	**P**		**15 26 16.2**	**-2.3**
	0.5nm,0.4s,baz=100,slow=6.2,SNR=4.7							
KURK	**Kurchatov**	**56.55**	**326**	P	**P**		**15 26 27.8**	**-1.1**
KURBB	**Kurchatov Arra**	**56.55**	**326**	P	**P**		**15 26 27.8**	**-1.1**
	1.0nm,0.7s,baz=127,slow=6.7,SNR=6.6							
BVAR	**Borovoye Array**	**62.14**	**325**	P	**P**		**15 27 08.4**	**+0.9**
BVAR	**Borovoye Array**	**62.14**	**325**	P	**P**		**15 27 08.4**	**+0.9**
	0.4nm,0.4s,baz=106,slow=4.8,SNR=4.5							
ILAR	**Eielson Array**	**79.81**	**26**	P	**P**		**15 28 54.5**	**+0.1**
ILAR	**Eielson Array**	**79.81**	**26**	P	**P**		**15 28 54.5**	**+0.1**
	0.4nm,0.5s,baz=241,slow=4.8,SNR=11							
JOF	**Joensuu**	**83.68**	**333**	*ep*	**P**		**15 29 14.0**	**-0.9**
	1.0nm,0.4s							
ARCES	**ARCESS Array B**	**84.69**	**340**	P	**P**		**15 29 19.9**	**0.0**
ARCES	**ARCESS Array B**	**84.69**	**340**	P	**P**		**15 29 19.9**	**0.0**
	7.4nm,1.0s,baz=84,slow=7.0,SNR=12							
KAF	**Kangasniemi**	**86.12**	**332**	*ep*	**P**		**15 29 25.6**	**-1.5**
	1.6nm,0.7s							
FINES	**FINESS Array B**	**86.38**	**332**	P	**P**		**15 29 27.6**	**-0.9**
FINES	**FINESS Array B**	**86.38**	**332**	P	**P**		**15 29 27.6**	**-0.9**
	1.6nm,0.4s,baz=78,slow=5.0,SNR=34							
AKASG	**Malin Array Be**	**87.03**	**321**	P	**P**		**15 29 30.2**	**-1.6**
AKASG	**Malin Array Be**	**87.03**	**321**	P	**P**		**15 29 30.2**	**-1.6**
	0.7nm,0.5s,baz=69,slow=4.8,SNR=3.6							
HFS	**Hagfors**	**92.54**	**332**	P	**P**		**15 29 55.6**	**-1.9**
HFS	**Hagfors**	**92.54**	**332**	P	**P**		**15 29 55.6**	**-1.9**
	0.8nm,0.4s,baz=72,slow=4.8,SNR=5.8							
YKA	**Yellowknife Ar**	**94.14**	**24**	P	**P**		**15 30 05.0**	**+0.1**
YKA	**Yellowknife Ar**	**94.14**	**24**	P	**P**		**15 30 04.9**	**+0.1**
	0.5nm,0.6s,baz=299,slow=4.5,SNR=9.4							
TORD	**Torodi Ar. Bea**	**120.58**	**292**	PKP	**PKPdf**		**15 35 41.2**	**+2.1**
TORD	**Torodi Ar. Bea**	**120.58**	**292**	PKP	**PKPdf**		**15 35 41.2**	**+2.1**
	0.5nm,0.8s,baz=50,slow=1.5,SNR=3.6							
PLCA	**Paso Flores**	**145.71**	**157**	PKPbc	**PKPdf**		**15 36 25.0**	**-0.2**
PLCA	**Paso Flores**	**145.71**	**157**	PKPbc	**PKPdf**		**15 36 25.0**	**-0.2**
	1.1nm,0.7s,baz=295,slow=3.9,SNR=3.2							

*MOS **28** 15:22:59.5±1.1, 55°.13N×110°.06E, h11km, mb4.3/1, Error ellipse: s-maj=14.2km s-min=8.4km az=74.1*
*BYKL **28** 15:22:59.6±0.2, 55°.13N×109°.96E*
*IDC **28** 15:23:02.6±7.9, 55°.05N×109°.67E, h0km, mb3.3/1, mb1 3.5/5, mb1mx3.3/27, mbtmp3.5/5, ML3.4/4, Error ellipse: s-maj=108.1km s-min=30.7km az=78.0*

ISC 28 15:22:59.0±0.9, 55°.11N±0°.02×110°.02E±0°.02, h0km±7km, n50, σ1$87/71, 4C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
YLYR	**Ulyunkhan**	**0.70**	**109**	⇑*i*PG	**Pg**		**15 23 12.6**	**+0.2**
YLYR				*i*			15 23 22.1	
YLYR				pmax	pmax			
	comp=Z,60nm,0.1s							
YLYR				smax	smax			
	comp=N,668nm,0.4s							
YLYR	**Ulyunkhan**	**0.70**	**109**	⇑*i*Pg	**Pg**		**15 23 12.6**	**+0.2**
YLYR				*e*Sg	**Sg**		**15 23 22.5**	**+1.1**
YLYR				Pmax				
	comp=N,61nm,0.1s							
YLYR				Smax				
	comp=N,665nm,0.4s							
NIZ	**Nizh Angarsk**	**0.72**	**338**	*e*PG	**Pg**		**15 23 12.6**	**-0.2**
NIZ				*e*			15 23 22.2	
NIZ				pmax	pmax			
	comp=Z,142nm,0.2s							
NIZ				smax	smax			
	comp=N,404nm,0.6s							
NIZ	**Nizh Angarsk**	**0.72**	**338**	⇓*i*Pg	**Pg**		**15 23 12.6**	**-0.2**
NIZ				*e*Sg	**Sg**		**15 23 22.3**	**+0.1**
NIZ				Pmax				
	comp=N,144nm,0.2s							
NIZ				Smax				
	comp=N,405nm,0.5s							
KMO	**Kumora**	**1.03**	**40**	*e*PG	**Pg**		**15 23 18.0**	**-0.8**
KMO	**Kumora**	**1.03**	**40**	⇑*i*Pg	**Pg**		**15 23 18.3**	**-0.5**
KMO				*e*Sg	**Sg**		**15 23 32.1**	**-0.1**
KMO				Pmax				
	comp=N,224nm,0.4s							
KMO				Smax				
	comp=N,1μm,0.8s							
YOA	**Uoyan**	**1.42**	**43**	⇑*i*PG	**Pn**		**15 23 25.5**	**-0.4**
YOA				*i*			15 23 45.4	
YOA				pmax	pmax			
	comp=Z,364nm,0.3s							
YOA				smax	smax			
	comp=N,4μm,0.6s							
YOA	**Uoyan**	**1.42**	**43**	*e*Pg	**Pn**		**15 23 25.6**	**-0.4**
YOA				*e*Sg	**Sb**		**15 23 45.1**	**+0.3**
YOA				Pmax				
	comp=N,306nm,0.5s							
YOA				Smax				
	comp=N,4μm,0.5s							
SYVR	**Suvo**	**1.45**	**180**	*e*PG	**Pn**		**15 23 26.4**	**0.0**
SYVR				*e*			15 23 43.6	
SYVR				pmax	pmax			
	comp=Z,73nm,0.2s							
SYVR				smax	smax			
	comp=N,448nm,0.7s							
SYVR	**Suvo**	**1.45**	**180**	⇓*i*Pg	**Pn**		**15 23 26.6**	**+0.2**
SYVR				*e*Sg	**Sb**		**15 23 46.6**	**+0.8**
SYVR				Pmax				
	comp=N,72nm,0.3s							
SYVR				Smax				
	comp=N,363nm,0.6s							
MXMB	**Maximikha**	**1.99**	**203**	*e*Pg	**Pb**		**15 23 36.1**	**+0.1**
MXMB				*e*Sg	**Sg**		**15 24 02.9**	**0.0**
MXMB				Pmax				
	comp=N,78nm,0.4s							
MXMB				Smax				
	comp=N,594nm,1.0s							
OGRR	**Ongureny**	**2.04**	**225**	*e*PN	**Pn**		**15 23 35.6**	**+1.1**
OGRR				*e*			15 23 38.1	
OGRR				*e*			15 24 03.1	
OGRR				pmax	pmax			
	comp=Z,63nm,0.7s							
OGRR				smax	smax			
	comp=E,377nm,0.9s							
OGRR	**Ongureny**	**2.04**	**225**	*e*Pn	**Pn**		**15 23 35.4**	**+0.9**
OGRR				*e*Pg	**Pb**		**15 23 36.4**	**-0.4**
OGRR				*e*Sg	**Sb**		**15 24 03.1**	**+0.4**
OGRR				Pmax				
	comp=E,57nm,0.3s							
OGRR				Smax				
	comp=E,345nm,0.4s							
ZRHB	**Zarechye**	**3.07**	**215**	*e*Pg	**Pb**		**15 23 54.8**	**+0.4**
ZRHB				*e*Sg	**Sg**		**15 24 35.5**	**-1.9**
ZRHB				Pmax				
	comp=E,49nm,0.7s							
ZRHB				Smax				
	comp=E,406nm,1.2s							
TRG	**Tyrgan**	**3.20**	**224**	*e*Pn	**Pn**		**15 23 51.8**	**+1.3**
TRG				*e*Pg	**Pb**		**15 23 56.3**	**-0.3**
TRG				*e*Sn	**Sn**		**15 24 27.9**	**-1.3**
TRG				*e*Sg	**Sb**		**15 24 38.0**	**+1.9**
TRG				Pmax				
	comp=E,11nm,0.2s							
TRG				Smax				
	comp=E,90nm,0.4s							
NLYR	**Nelyaty**	**3.50**	**64**	*e*PN	**Pn**		**15 23 55.5**	**+0.9**
NLYR				*e*			15 24 05.2	
NLYR				*e*			15 24 48.6	
NLYR				pmax	pmax			
	comp=Z,94nm,0.7s							
NLYR				smax	smax			
	comp=E,219nm,1.1s							
NLYR	**Nelyaty**	**3.50**	**64**	*e*Pn	**Pn**		**15 23 55.8**	**+1.2**
NLYR				*e*Pg	**Pb**		**15 24 01.6**	**-0.1**
NLYR				*e*			15 24 05.9	
NLYR				*e*Sg	**Sb**		**15 24 48.4**	**+3.7**
NLYR				max				
	comp=E,95nm,0.7s							
NLYR				Smax				
	comp=E,220nm,1.1s							
BOD	**Bodaibo**	**3.51**	**37**	*e*PN	**Pn**		**15 23 55.8**	**+1.1**
BOD				*e*			15 24 04.1	
BOD				*e*			15 24 46.4	
BOD				pmax	pmax			
	comp=Z,19nm,0.9s							
BOD				smax	smax			
	comp=E,213nm,1.5s							
BOD	**Bodaibo**	**3.51**	**37**	*e*Pn	**Pn**		**15 23 56.1**	**+1.4**
BOD				*e*Pg	**Pb**		**15 24 02.1**	**+0.3**
BOD				*e*Sn	**Sn**		**15 24 34.7**	**-2.1**
BOD				*e*Sg	**Sb**		**15 24 47.0**	**+2.1**
BOD				Pmax				
	comp=E,17nm,0.4s							
BOD				Smax				
	comp=E,180nm,1.1s							
KAB	**Kabansk**	**3.66**	**215**	*e*Sg	**Sg**		**15 24 53.5**	**-2.9**
KAB				Smax				
	comp=E,250nm,0.8s							
CIT	**Chita**	**3.74**	**144**	*e*PN	**Pb**		**15 24 06.2**	**+0.3**
CIT				*e*S	**Sn**		**15 24 41.9**	**-0.8**
CIT				*e*			15 24 53.4	
CIT				pmax	pmax			
	comp=Z,69nm,0.4s							
CIT				smax	smax			
	comp=E,303nm,1.5s							
CIT	**Chita**	**3.74**	**144**	*e*Sg	**Sb**		**15 24 55.9**	**+4.2**
CIT				Smax				
	comp=E,254nm,1.0s							
IRK	**Irkutsk**	**4.46**	**232**	*e*PN	**Pb**		**15 24 18.6**	**+0.5**
IRK				*e*			15 25 16.4	
IRK				pmax	pmax			
	comp=Z,42nm,0.1s							
IRK				smax	smax			
	comp=N,217nm,0.5s							
IRK	**Irkutsk**	**4.46**	**232**	*e*Sg	**Sg**		**15 25 17.3**	**-4.8**
IRK				Smax				
	comp=N,214nm,0.5s							
LSTR	**Listvyanka**	**4.48**	**226**	*e*Pn	**Pn**		**15 24 08.6**	**+0.5**
LSTR				*e*Pg	**Pb**		**15 24 19.6**	**+1.1**
LSTR				*e*Sg	Sb		15 25 17.6	+4.6
LSTR				Pmax				
	comp=N,7.0nm,0.4s							
LSTR				Smax				
	comp=N,222nm,1.6s							
CRS	**Chara**	**4.97**	**65**	*e*PN	**Pb**		**15 24 27.7**	**+0.9**
CRS				*e*			15 25 33.9	
CRS				pmax	pmax			
	comp=Z,57nm,1.1s							
CRS				smax	smax			
	comp=E,115nm,1.5s							
CRS	**Chara**	**4.97**	**65**	*e*Pn	**Pn**		**15 24 16.5**	**+1.7**
CRS				*e*Pg	**Pb**		**15 24 28.0**	**+1.2**
CRS				*e*Sg	**Sg**		**15 25 33.8**	**-4.7**
CRS				Pmax				
	comp=E,66nm,1.1s							
CRS				Smax				
	comp=E,116nm,1.6s							
TLY	**Talaya**	**5.13**	**231**	*e*PN	**Pn**		**15 24 14.3**	**-2.7**
TLY				*e*			15 24 29.0	
TLY				*e*S	**Sn**		**15 25 12.8**	**-4.0**
TLY				pmax	pmax			
	comp=Z,8.0nm,0.4s							
TLY				smax	smax			
	comp=N,65nm,0.9s							
TLY	**Talaya**	**5.13**	**231**	*e*Pg	Pb		15 24 31.4	+1.9
TLY				*e*Sn	**Sn**		**15 25 14.6**	**-2.2**
TLY				*e*Sg	Sb		15 25 37.4	+5.8
TLY				Pmax				
	comp=N,8.0nm,0.4s							
TLY				Smax				
	comp=N,64nm,0.8s							
ARS	**Arshan**	**5.54**	**238**	*e*PN	**Pb**		**15 24 38.2**	**+1.7**
ARS				*e*			15 25 48.3	
ARS				pmax	pmax			
	comp=Z,8.0nm,0.1s							
ARS				smax	smax			
	comp=E,159nm,0.8s							
ARS	**Arshan**	**5.54**	**238**	*e*Pn	**Pn**		**15 24 23.6**	**+0.9**
ARS				*e*			15 24 41.0	
ARS				*e*Sn	**Sn**		**15 25 23.9**	**-3.1**
ARS				*e*Sg	Sb		15 25 49.5	+6.0
ARS				Smax				
	comp=E,159nm,0.8s							
KPC	**Khapcheranga**	**5.60**	**164**	*e*PN	Pn		15 24 25.8	+2.3
KPC				*e*			15 24 42.0	
KPC				*e*			15 25 54.2	
KPC				pmax	pmax			
	comp=Z,10.0nm,0.5s							
KPC				smax	smax			
	comp=E,65nm,1.2s							
KPC	**Khapcheranga**	**5.60**	**164**	*e*Pn	**Pn**		**15 24 24.4**	**+0.9**
KPC				*e*			15 24 34.5	
KPC				*e*Pg	Pb		15 24 41.8	+4.2
KPC				*e*Sn	**Sn**		**15 25 26.3**	**-2.2**
KPC				*e*Sg	**Sg**		**15 25 54.2**	**-4.5**
KPC				Pmax				
	comp=E,5.0nm,0.6s							
KPC				Smax				
	comp=E,66nm,1.2s							
TUP	**Tupik**	**5.79**	**93**	*e*PN	**Pn**		**15 24 26.5**	**+0.4**
TUP				*e*			15 24 44.5	
TUP				*e*			15 26 00.9	
TUP				pmax	pmax			
	comp=Z,9.0nm,0.6s							
TUP				smax	smax			
	comp=N,111nm,0.9s							
TUP	**Tupik**	**5.79**	**93**	*e*Pn	**Pn**		**15 24 26.8**	**+0.7**
TUP				*e*Pg	Pb		15 24 43.8	+3.0
TUP				*e*Sg	**Sg**		**15 26 00.3**	**-4.7**
TUP				Pmax				
	comp=N,10.0nm,1.0s							
TUP				Smax				
	comp=N,164nm,1.3s							
ZAK	**Zakamensk**	**6.25**	**224**	*e*Pn	**Pn**		**15 24 33.9**	**+1.4**
ZAK				*e*			15 24 53.8	
ZAK				*e*Sg	Sg		15 26 11.9	-7.7
ZAK				Smax				
	comp=N,20nm,0.9s							
MOY	**Mondy**	**6.40**	**241**	*e*PN	**Pn**		**15 24 36.2**	**+1.7**
MOY				*e*			15 24 54.4	
MOY				*e*			15 26 17.3	
MOY				pmax	pmax			
	comp=Z,7.0nm,0.3s							
MOY				smax	smax			
	comp=N,54nm,1.5s							
MOY	**Mondy**	**6.40**	**241**	*e*Pn	**Pn**		**15 24 36.3**	**+1.7**
MOY				*e*			15 24 45.9	
MOY				*e*			15 25 47.7	
MOY				*e*Sg	Sg		15 26 17.8	-6.6
MOY				Smax				
	comp=N,54nm,1.3s							
ORL	**Orlik**	**6.57**	**251**	*e*PN	**Pn**		**15 24 38.4**	**+1.7**
ORL				*e*			15 24 58.3	
ORL				*e*			15 26 22.8	
ORL				pmax	pmax			
	comp=Z,20nm,1.0s							
ORL				smax	smax			
	comp=N,58nm,1.3s							
ORL	**Orlik**	**6.57**	**251**	*e*Pn	**Pn**		**15 24 38.5**	**+1.7**
ORL				*e*			15 24 48.4	
ORL				*e*			15 25 52.0	
ORL				*e*Sg	Sg		15 26 21.4	-8.3
ORL				Smax				
	comp=N,55nm,0.8s							
SONM	**Songino Array**	**7.62**	**199**	Pn	Pn		15 24 53.4	+2.1
	comp=N,0.2nm,0.3s,baz=7.7,slow=14,SNR=10							
SONM				Lg	Lg		15 27 01.2	
	comp=N,0.6nm,0.3s,baz=13,slow=25,SNR=12							
HIA	**Hailar**	**8.36**	**130**	*e*Sg	Sg		15 27 18.7	-8.4
ZALV	**Zalesovo Beam**	**14.65**	**276**	P	P		15 26 30.4	-3.4
ZALV	**Zalesovo Beam**	**14.65**	**276**	Pn	P		15 26 30.4	-3.4
	comp=N,0.1nm,0.3s,baz=88,slow=12,SNR=4.9							
MKAR	**Makanchi Array**	**19.24**	**256**	P	**Pn**		**15 27 26.3**	**+0.8**
MKAR	**Makanchi Array**	**19.24**	**256**	P	**Pn**		**15 27 26.3**	**+0.8**
	comp=N,0.1nm,0.3s,baz=69,slow=10,SNR=6.9							
KURK	**Kurchatov**	**19.34**	**270**	P	**Pn**		**15 27 27.0**	**+0.4**
KURBB	**Kurchatov Arra**	**19.43**	**270**	P	**Pn**		**15 27 27.0**	**-0.7**
	comp=N,0.1nm,0.3s,baz=61,slow=12,SNR=8.5							
BVAR	**Borovoye Array**	**23.14**	**281**	P	**P**		**15 28 08.1**	**+1.7**
BVAR	**Borovoye Array**	**23.14**	**281**	P	**P**		**15 28 08.1**	**+1.7**
	comp=N,0.6nm,0.6s,baz=80,slow=8.1,SNR=3.6							

*ISCJB **28** 15:34:07.3±0.3, 58°.88N±0°.02×15°.27E±0°.04, h0km, mb3.5/3, Error ellipse: s-maj=3.4km s-min=2.7km az=28.1*
*IDC **28** 15:34:08.4±1.1, 58°.75N×14°.94E, h0km, mb3.4/3, mb1 3.4/6, mb1mx3.2/25, mbtmp3.4/6, ML3.1/3, Error ellipse: s-maj=12.7km s-min=7.1km az=37.0*
*CSEM **28** 15:34:08.7±0.1, 58°.84N×15°.12E, h2km, ML3.2, Error ellipse: s-maj=3.6km s-min=2.7km az=119.0, Mining explosion.*
*UPP **28** 15:34:08.6, 58°.82N×15°.11E, h0km, ML3.2, Mining explosion.*
*HEL **28** 15:34:09.4±0.1, 58°.82N×15°.12E, h0km, ML2.5, ML3.2(UPP), ML2.5(NAO)*
*NAO **28** 15:34:09.6±2.1, 58°.83N×15°.09E, ML2.5*
*BER **28** 15:34:12.1±5.0, 58°.92N×15°.23E, h0km, ML2.5(NAO), Suspected explosion*

ISC 28 15:34:07.1±0.6, 58°.83N±0°.02×15°.08E±0°.02, h0km, n107, σ1$59/142, mb3.4/3, Sweden

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
LNKU	**Linkoeping**	**0.65**	**160**	*i* P	**Pg**		**15 34 20.5**	**+1.0**
LNKU				*i* S	**Sg**		**15 34 28.7**	**+0.9**
LNKU	**Linkoeping**	**0.65**	**160**	P	**Pg**		**15 34 20.5**	**+1.0**
LNKU				S	**Sg**		**15 34 28.7**	**+0.9**
NRAU	**Nora**	**0.74**	**358**	*i* P	**Pb**		**15 34 22.9**	**0.0**
NRAU	**Nora**	**0.74**	**358**	P	**Pb**		**15 34 22.9**	**0.0**
ESKU	**Eskilstuna**	**0.79**	**59**	*i* P	**Pb**		**15 34 23.3**	**-0.3**
ESKU	**Eskilstuna**	**0.79**	**59**	P	**Pb**		**15 34 23.3**	**-0.3**
VIKU	**Vikbolandet**	**0.91**	**111**	*i* P	**Pg**		**15 34 25.1**	**+

BYXU	**Byxelkrok**	**1.85**	**146**	P		**Pb**	**15 34 42.0 +0.3**
VXJU	**Vaexsjoe**	**1.92**	**182**	*e*P		**Pb**	**15 34 43.1 +0.3**
VXJU	**Vaexsjoe**	**1.92**	**182**	P		**Pb**	**15 34 43.1 +0.3**
FLYU	**Flymyra**	**1.93**	**46**	*e*P		**Pb**	**15 34 43.8 +0.6**
FLYU	**Flymyra**	**1.93**	**46**	P		**Pb**	**15 34 43.7 +0.6**
TJOU	**Tjoern**	**1.99**	**248**	*e*P		**Pb**	**15 34 44.0 0.0**
TJOU	**Tjoern**	**1.99**	**248**	P		**Pb**	**15 34 44.0 0.0**
GOTU	**Gotland**	**2.17**	**120**	*e*P		**Pb**	**15 34 47.2 0.0**
GOTU	**Gotland**	**2.17**	**120**	P		**Pb**	**15 34 47.1 0.0**
FABU	**Falkenberg**	**2.23**	**216**	*e*P		**Pb**	**15 34 47.8 -0.3**
FABU	**Falkenberg**	**2.23**	**216**	P		**Pb**	**15 34 47.8 -0.3**
DEL	**Delary**	**2.46**	**196**	*e*P		**Pb**	**15 34 50.5 -1.5**
DEL	**Delary**	**2.46**	**196**	P		**Pb**	**15 34 50.5 -1.5**
BLEU	**Blekinge**	**2.56**	**171**	*e*P		**Pb**	**15 34 52.2 -1.6**
BLEU	**Blekinge**	**2.56**	**171**	P		**Pb**	**15 34 52.2 -1.6**
AAL	**Aland**	**2.84**	**60**	*e*P		**Pn**	**15 34 56.1 +2.4**
AAL				*e*PG		**Pg**	**15 35 00.6 -0.9**
AAL				*e*SB		**Sb**	**15 35 35.2 +1.3**
AAL				MSG			15 35 38.0
	comp=Z,1.0nm,1.0s						
AAL	**Aland**	**2.84**	**60**	P		**Pn**	**15 34 56.0 +2.4**
NB2	**NORSAR Subarra**	**2.95**	**320**	Pn		**Pn**	**15 34 56.1 +1.0**
	baz=139,slow=14						
NB2				Sn		**Sn**	**15 35 34.1 +2.8**
NB2	**NORSAR Subarra**	**2.95**	**320**	Pn		**Pn**	**15 34 56.1 +1.0**
	baz=139,slow=14						
NB2				Sn		**Sn**	**15 35 34.1 +2.8**
NB2	**NORSAR Subarra**	**2.95**	**320**	*e*P		**Pn**	**15 34 56.1 +1.0**
NB2				*e*S		**Sn**	**15 35 34.1 +2.8**
NB2	**NORSAR Subarra**	**2.95**	**320**	Pn		**Pn**	**15 34 56.2 +1.0**
	baz=139,slow=14,SNR=50						
NB2				S		**Sn**	**15 35 34.0 +2.8**
NOA	**NORSAR Array B**	**2.95**	**320**	Pn		**Pn**	**15 34 56.2 +1.0**
	comp=Z,1.3nm,0.3s,baz=139,slow=14,SNR=27						
NOA				Lg	Lg		15 35 39.5
	comp=Z,4.0nm,0.3s,baz=351,slow=15,SNR=7.9						
BSD	**Bornholm Skovb**	**3.73**	**181**	*i* P		**Pn**	**15 35 07.2 +1.4**
BSD				*i* S		**Sn**	**15 35 52.2 +1.9**
BSD	**Bornholm Skovb**	**3.73**	**181**	*i* P		**Pn**	**15 35 07.2 +1.4**
BSD				*i* S		**Sn**	**15 35 52.2 +1.9**
BSD				*i* Lg		Lg	15 36 04.8
RAF	**Rauma**	**4.02**	**54**	*e*P		**Pn**	**15 35 11.5 +1.8**
RAF				*e*S		**Sn**	**15 35 57.2 -0.3**
RAF				MSG			15 36 15.0
	comp=Z,15nm,0.3s						
RAF	**Rauma**	**4.02**	**54**	P		**Pn**	**15 35 11.5 +1.8**
RAF				S		**Sn**	**15 35 57.1 -0.3**
MTSE	**Matsula**	**4.55**	**88**	*e*P		**Pn**	**15 35 19.0 +2.0**
MTSE	**Matsula**	**4.55**	**88**	P		**Pn**	**15 35 19.0 +2.0**
MEF	**Metsahovi**	**4.94**	**70**	*e*P		**Pn**	**15 35 24.2 +1.8**
MEF				*e*S		**Sn**	**15 36 18.9 -1.3**
MEF				MSG			15 36 40.6
	comp=Z,5.2nm,0.2s						
MEF	**Metsahovi**	**4.94**	**70**	*e*P		**Pn**	**15 35 24.0 +1.6**
	SNR=51						
MEF				*e*S		**Sn**	**15 36 20.8 +0.6**
	comp=Z,11nm,0.5s,SNR=51						
VAF	**Ylistaro**	**5.61**	**38**	*e*P		**Pn**	**15 35 34.5 +2.9**
VAF				*e*S		**Sn**	**15 36 37.1 +0.4**
VAF				MSG			15 37 05.2
	comp=Z,3.7nm,0.3s						
VAF	**Ylistaro**	**5.61**	**38**	P		**Pn**	**15 35 34.5 +2.9**
VAF				S		**Sn**	**15 36 37.1 +0.4**
PVF	**Pernaja**	**5.72**	**68**	*e*P		**Pn**	**15 35 34.5 +1.3**
PVF				*e*S		**Sn**	**15 36 38.4 -1.1**
PVF				MSG			15 37 13.9
	comp=Z,3.8nm,0.2s						
PVF	**Pernaja**	**5.72**	**68**	P		**Pn**	**15 35 34.4 +1.3**
PVF				S		**Sn**	**15 36 38.3 -1.1**
KEF	**Keuruu**	**5.88**	**51**	*e*P		**Pn**	**15 35 37.2 +1.9**
KEF				*e*S		**Sn**	**15 36 42.1 -1.2**
KEF				MSG			15 37 12.6
	comp=Z,3.2nm,0.3s						
KEF	**Keuruu**	**5.88**	**51**	P		**Pn**	**15 35 37.2 +1.9**
KEF				S		**Sn**	**15 36 42.1 -1.2**
FIA0	**FINESS Array S**	**6.08**	**60**	Pn		**Pn**	**15 35 40.8 +2.7**
	baz=237,slow=12						
FIA0				Sn		**Sn**	**15 36 48.1 -0.2**
	baz=242,slow=22						
FIA0				Lg	Lg		15 37 16.0
	baz=245,slow=28						
FIA0	**FINESS Array S**	**6.08**	**60**	Pn		**Pn**	**15 35 40.8 +2.7**
	baz=237,slow=12						
FIA0				Sn		**Sn**	**15 36 48.1 -0.2**
	baz=242,slow=22						
FIA0				Sg	Sg		15 37 16.0 -6.3
	baz=245,slow=28						
FIA0	**FINESS Array S**	**6.08**	**60**	*e*P		**Pn**	**15 35 40.5 +2.4**
FIA0				*e*S		**Sn**	**15 36 47.4 -1.0**
FIA0				MSG			15 37 23.2
	comp=Z,7.0nm,0.4s						
FIA0	**FINESS Array S**	**6.08**	**60**	P		**Pn**	**15 35 40.5 +2.4**
FIA0	**FINESS Array S**	**6.08**	**60**	Pn		**Pn**	**15 35 40.8 +2.7**
	baz=237,slow=12,SNR=50						
FIA0				S		**Sn**	**15 36 47.3 -1.0**
FIA0				Sn	Sb		15 36 48.1 -19
	baz=242,slow=20,SNR=50						
FIA0				Lg	Lg		15 37 16.0
	baz=245,slow=26,SNR=3.1						
FINES	**FINESS Array B**	**6.08**	**60**	Pn		**Pn**	**15 35 40.8 +2.7**
	comp=Z,1.7nm,0.3s,baz=243,slow=12,SNR=62						
FINES				Sn		**Sn**	**15 36 50.5 +2.2**
	comp=Z,1.4nm,0.3s,baz=248,slow=20,SNR=10.0						
FINES				Lg	Lg		15 37 18.8
	comp=Z,1.5nm,0.3s,baz=258,slow=26,SNR=6.4						
VSU	**Vasula**	**6.10**	**88**	Sn		**Sn**	**15 36 50.4 +1.7**
VSU				Lg	Lg		15 37 15.6
VSU	**Vasula**	**6.10**	**88**	Sn		**Sn**	**15 36 50.4 +1.7**
VSU				Sg		Sg	15 37 15.6 -7.1
VSU	**Vasula**	**6.10**	**88**	*e*S		**Sn**	**15 36 50.4 +1.7**
VSU				*e*SG		Sg	15 37 15.6 -7.1
VSU	**Vasula**	**6.10**	**88**	S		**Sn**	**15 36 50.3 +1.7**
VSU				Lg	Lg		15 37 15.6
KAF	**Kangasniemi**	**6.45**	**55**	*e*P		**Pn**	**15 35 45.4 +2.3**
KAF				*e*S		**Sn**	**15 36 56.2 -1.2**
KAF				MSG			15 37 34.5
	comp=Z,2.5nm,0.3s						
KAF	**Kangasniemi**	**6.45**	**55**	P		**Pn**	**15 35 45.4 +2.3**
KAF				S		**Sn**	**15 36 56.1 -1.2**
SUF	**Sumiainen**	**6.67**	**50**	*e*P		**Pn**	**15 35 48.1 +1.9**
SUF				*e*S		**Sn**	**15 37 01.4 -1.4**
SUF				MSG			15 37 35.6
	comp=Z,4.4nm,0.3s						
SUF	**Sumiainen**	**6.67**	**50**	P		**Pn**	**15 35 48.1 +1.9**
KJN	**Kajaani**	**8.01**	**44**	*e*P		**Pn**	**15 36 06.1 +1.6**
KJN				*e*S		**Sn**	**15 37 32.4 -3.4**
KJN				MSG			15 38 19.2
	comp=Z,4.2nm,0.4s						
KJN	**Kajaani**	**8.01**	**44**	P		**Pn**	**15 36 06.1 +1.6**
OUL	**Oulu**	**8.07**	**34**	*e*P		**Pn**	**15 36 06.0 +0.7**
OUL				*e*S		**Sn**	**15 37 34.4 -2.8**
OUL	**Oulu**	**8.07**	**34**	P		**Pn**	**15 36 06.0 +0.7**
JOF	**Joensuu**	**8.90**	**56**	*e*P		**Pn**	**15 36 17.8 +1.0**
JOF				*e*S		**Sn**	**15 37 54.4 -3.2**
JOF	**Joensuu**	**8.90**	**56**	P		**Pn**	**15 36 17.7 +1.0**
RNF	**Rovaniemi**	**9.26**	**28**	*e*P		**Pn**	**15 36 22.4 +0.7**
RNF				*e*S		**Sn**	**15 36 52.6 -3.8**
RNF	**Rovaniemi**	**9.26**	**28**	P		**Pn**	**15 36 22.4 +0.7**
MSF	**Maaselka**	**9.59**	**36**	*e*P		**Pn**	**15 36 25.9 -0.3**
MSF				*e*S		**Sn**	**15 38 10.2 -4.4**
MSF	**Maaselka**	**9.59**	**36**	P		**Pn**	**15 36 25.9 -0.3**
KU6	**Riekki**	**9.93**	**37**	*e*P		**Pn**	**15 36 30.6 -0.3**
KU6				*e*S		**Sn**	**15 38 18.1 -4.8**
KU6	**Riekki**	**9.93**	**37**	P		**Pn**	**15 36 30.6 -0.3**
SGF	**Sodankyl**	**10.05**	**26**	*e*S		**Sn**	**15 38 20.6 -5.2**
ARA0	**ARCESS Array S**	**11.64**	**18**	Pn		**Pn**	**15 36 53.2 -1.0**
	baz=200,slow=16						
ARA0				Sn		Sn	15 38 56.3 -8.3
	baz=202,slow=28						
ARA0	**ARCESS Array S**	**11.64**	**18**	P		**Pn**	**15 36 53.2 -1.0**
	baz=200,slow=16						
ARA0				Sn		Sn	15 38 56.3 -8.3
	baz=202,slow=28						
ARA0	**ARCESS Array S**	**11.64**	**18**	*e*P		**Pn**	**15 36 53.2 -1.0**
ARA0				*e*S		Sn	15 38 56.3 -8.3
ARCES	**ARCESS Array B**	**11.64**	**18**	Pn		**Pn**	**15 36 52.5 -1.6**
	comp=Z,0.1nm,0.3s,baz=205,slow=14,SNR=6.3						
KURBB	**Kurchatov Arra**	**36.24**	**75**	P		**P**	**15 41 11.9 +0.5**
	comp=Z,0.3nm,0.3s,baz=315,slow=9.1,SNR=2.6						
MKAR	**Makanchi Array**	**40.62**	**77**	P		**P**	**15 41 49.3 +0.9**
	comp=Z,0.3nm,0.3s,baz=312,slow=6.6,SNR=16						
TORD	**Torodi Ar. Bea**	**46.69**	**198**	P		**P**	**15 42 37.8 +0.4**
	comp=Z,0.2nm,0.7s,baz=10,slow=8.8,SNR=2.6						

IDC ***28*** *15:37:37.6±6.9, 36°.55N×142°.47E, h0km, mb3.3/3, mb1 3.3/4, mb1mx3.1/23, mbtmp3.2/4, ML3.0/1, MS3.5/1, Ms1 3.5/1, ms1mx3.3/21, Error ellipse: s-maj=134.0km s-min=50.1km az=156.0*

JMA ***28*** *15:37:46.6±0.2, 37°.02N×141°.77E, h47km±3km, M2.9*

ISC 28 15:37:44.0±2.3, 37°.09N±0°.06×141°.83E±0°.09, h2km±12km, n15, σ1s00/23, mb3.2/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**0.81**	**290**	P		**Pb**	**15 38 01.4**	**+0.6**
JFK				*e*S		**Sb**	**15 38 12.0**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.82**	**271**	P		**Pb**	**15 38 01.4**	**+0.4**
ONAJ				*e*S		**Sb**	**15 38 11.8**	**-0.7**
JHO	**Hitachi**	**1.11**	**245**	P		**Pg**	**15 38 04.8**	**-0.5**
JHO				*e*S		**Sg**	**15 38 18.4**	**-1.3**
JMM	**Marumori**	**1.13**	**314**	P		**Pb**	**15 38 06.5**	**+0.3**
JFT	**Otama**	**1.26**	**290**	P		**Pg**	**15 38 08.9**	**+0.7**
JFT				*e*S		**Sg**	**15 38 25.0**	**+0.5**
JIO	**Ouri**	**1.42**	**345**	P		**Pn**	**15 38 10.8**	**+0.1**
JIO				*e*S		**Sb**	**15 38 28.1**	**-1.5**
JOU	**Okura**	**1.57**	**325**	P		**Pb**	**15 38 13.7**	**-0.1**
JOU				*e*S		**Sb**	**15 38 33.9**	**-0.3**
JFY	**Yanaizu**	**1.72**	**281**	P		**Pn**	**15 38 15.4**	**+0.4**
JFY				*e*S		**Sn**	**15 38 36.3**	**-1.3**
JYS	**Shirataka**	**1.80**	**310**	P		**Pb**	**15 38 16.9**	**-0.7**
MJAR	**Matsushiro Arr**	**2.95**	**260**	Pn		**Pn**	**15 38 32.6**	**+0.7**
	1.4nm,0.3s,baz=88,slow=15,SNR=21							
MJAR				Sn		**Sb**	**15 39 12.4**	**-1.5**
	0.9nm,0.3s,baz=102,slow=15,SNR=4.2							
MAT	**Matsushiro**	**2.95**	**260**	P		**Pn**	**15 38 33.5**	**+1.6**
MAT				S		**Sn**	**15 39 08.1**	**+0.1**
JHJ	**Hachijo jima 2**	**4.30**	**204**	LR		LR	15 40 34.0	
	comp=Z,550nm,18.3s,baz=323,slow=43							
SONM	**Songino Array**	**28.03**	**304**	P		**P**	**15 43 38.4**	**+1.8**
	0.2nm,0.5s,baz=100,slow=8.5,SNR=4.6							
MKAR	**Makanchi Array**	**44.37**	**302**	P		**P**	**15 45 54.8**	**-0.9**
	0.2nm,0.8s,baz=88,slow=10,SNR=2.4							
KURBB	**Kurchatov Arra**	**46.23**	**308**	P		**P**	**15 46 09.4**	**-1.0**
	0.2nm,0.3s,baz=82,slow=7.8,SNR=3.1							

IDC 28 15:38:18.9±5.6, 29°.45S×177°.96W, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.4/16, mbtmp3.2/2, Error ellipse: s-maj=317.7km s-min=79.5km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**43.20**	**266**	P		P	15 46 22.1	+0.1
	0.2nm,0.8s,baz=101,slow=7.0,SNR=3.4							
WRA	**Warramunga Arr**	**44.10**	**271**	P		P	15 46 28.8	-0.5
	0.7nm,1.0s,baz=110,slow=8.1,SNR=5.1							
FINES	**FINESS Array B**	**144.26**	**340**	PKP		PKPdf	15 57 55.6	-0.6
	1.1nm,0.9s,baz=46,slow=4.3,SNR=6.2							

IDC 28 15:48:08.7±2.0, 7°.91S×129°.30E, h0km, mb3.4/1, mb1 3.2/3, mb1mx3.1/18, mbtmp3.0/3, ML3.1/1, Error ellipse: s-maj=102.8km s-min=32.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.92**	**158**	Pn		Pn	15 51 13.0	-0.8
	0.1nm,0.3s,baz=337,slow=13,SNR=8.2							
WRA				Sn		Sn	15 53 30.5	-7.9
	0.2nm,0.3s,baz=336,slow=21,SNR=7.1							
ASAR	**Alice Springs**	**16.28**	**165**	Pn		Pn	15 51 59.8	+0.8
	0.1nm,0.3s,baz=346,slow=9.6,SNR=6.9							
ASAR				Sn		Sn	15 54 54.3	-6.1
	0.1nm,0.3s,baz=346,slow=24,SNR=4.0							
MKAR	**Makanchi Array**	**68.61**	**327**	P		P	15 59 13.6	0.0
	0.2nm,0.5s,baz=126,slow=7.5,SNR=6.6							

PRE 28 15:53:48.0±0.7, 26°.35S×27°.47E, h2km, ML2.2, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PRYS	**Parys**	**0.58**	**190**	*e*P		Pg	15 53 58.9	-0.5
PRYS				*e*S		Sg	15 54 07.9	+0.8
PRYS				AML		AML	15 54 12.7	
	comp=Z,80nm,0.5s							
ERPM	**east rand prop**	**0.69**	**89**	*e*P		Pg	15 54 01.2	-0.3
ERPM				*e*S		Sg	15 54 11.1	+0.4
ERPM				AML		AML	15 54 12.4	
	comp=Z,24nm,0.3s							
KSR	**Koster**	**0.72**	**314**	*e*P		Pg	15 54 01.9	-0.1
KSR				*e*S		Sg	15 54 11.8	+0.3
KSR				AML		AML	15 54 22.7	
	comp=Z,88nm,0.1s							
BFSD	**Buffelsfontein**	**0.80**	**230**	*e*P		Pg	15 54 03.8	+0.2
BFSD				*e*S		Sg	15 54 14.4	+0.3
BFSD				AML		AML	15 54 21.7	
	comp=Z,78nm,0.1s							
SLR	**Silverton**	**0.95**	**50**	*e*P		Pg	15 54 05.9	-0.6
SLR				*e*S		Sb	15 54 20.1	-0.6
SLR				AML		AML	15 54 26.8	
	comp=Z,33nm,0.2s							
SWZ	**Schweizer**	**2.08**	**246**	*e*P		Pn	15 54 24.5	+0.3
SWZ				*e*S		Sn	15 54 51.4	+0.6
SWZ				AML		AML	15 54 56.7	
	comp=Z,18nm,0.3s							
LBTB	**Lobatse**	**2.15**	**308**	*e*P		Pn	15 54 25.6	+0.6
LBTB				*e*S		Sn	15 54 53.2	+0.7
LBTB				AML		AML	15 55 00.4	
	comp=Z,35nm,0.5s							
BOSA	**Boshof**	**2.99**	**221**	*e*P		Pn	15 54 37.0	+0.3
BOSA				*e*S		Sn	15 55 13.2	-0.1
BOSA				AML		AML	15 55 28.5	
	comp=Z,5.3nm,0.3s							

IDC 28 16:04:07.4±3.6, 2°.91S×100°.99E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/23, mbtmp3.5/5, Error ellipse: s-maj=154.7km s-min=21.2km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**36.68**	**120**	P		P	16 11 16.1	-0.2
	0.1nm,0.3s,baz=305,slow=8.3,SNR=6.1							
ASAR	**Alice Springs**	**37.92**	**126**	P		P	16 11 26.6	-0.2
	0.3nm,0.4s,baz=299,slow=7.7,SNR=17							
SONM	**Songino Array**	**50.76**	**5**	P		P	16 13 11.2	+1.8
	0.5nm,0.7s,baz=188,slow=9.3,SNR=6.6							
MKAR	**Makanchi Array**	**52.17**	**344**	P		P	16 13 19.6	-0.2
	0.4nm,0.5s,baz=157,slow=7.9,SNR=5.1							
ZALV	**Zalesovo Beam**	**58.24**	**349**	P		P	16 14 02.2	-1.3
	0.3nm,0.2s,baz=157,slow=7.7,SNR=3.1							

IDC ***28*** *16:06:25.0±1.0, 39°.36N×73°.84E, h0km, mb3.7/5, mb1 3.7/8, mb1mx3.4/28, mbtmp3.6/8, ML3.2/4, MS3.8/2, Ms1 3.8/2, ms1mx3.5/59, Error ellipse: s-maj=20.3km s-min=13.2km az=98.0*

NNC ***28*** *16:06:32.0±3.6, 39°.84N×73°.70E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=28.1km s-min=12.8km az=171.0*

ISC 28 16:06:26.0±1.0, 39°.48N±0°.07×74°.10E±0°.06, h10km, n24, σ2s01/27, mb3.6/5, 5C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**1.45**	**88**	Pg		Pn	16 06 52.0	-0.4
KSH				Sg		**Sn**	**16 07 12.5**	**+0.9**
KSH				smax		smax		
	comp=N,240nm,0.8s							
KSH				smax		smax		
	comp=E,200nm,0.7s							
AML	**Almayashu**	**2.67**	**353**	P		**Pb**	**16 07 12.7**	**-1.5**
	SNR=56							
KZA	**Kyzart**	**2.74**	**18**	P		**Pb**	**16 07 15.4**	**0.0**
	SNR=9.8							
UCH	**Uchtor**	**2.77**	**6**	P		**Pb**	**16 07 16.1**	**+0.3**
	SNR=5.5							
AAK	**Ala-Archa**	**3.17**	**5**	P		**Pb**	**16 07 20.9**	**-1.6**
	SNR=35							
AAK	**Ala-Archa**	**3.17**	**5**	Pn		**Pb**	**16 07 20.8**	**-1.8**
	comp=E,5.4nm,0.3s,baz=162,slow=6.6,SNR=94							
AAK				Sn		**Sb**	**16 08 02.0**	**+0.8**
	comp=E,3.9nm,0.3s,baz=340,slow=20,SNR=6.8							
AAK				Lg		Lg	16 08 08.3	
	comp=E,12nm,0.3s,baz=55,slow=16,SNR=17							
AAK				LR		LR	16 08 53.9	
	comp=E,308nm,21.0s,baz=2.8,slow=45							
EKS2	**Erkin-Say**	**3.19**	**356**	P		**Pb**	**16 07 20.4**	**-2.5**
	SNR=7.4							
ULHL	**Ulahol**	**3.21**	**30**	P		**Sg**	**16 08 11.0**	**+1.9**
	SNR=5.4							
KBK	**Karagaybulak**	**3.24**	**11**	P		**Pb**	**16 07 22.8**	**-1.0**
	SNR=18							
TKM2	**Tokmak 2**	**3.62**	**18**	⇓Pn		**Pb**	**16 07 27.7**	**-2.6**
	comp=E,1.5nm,0.3s							
TKM2				⇑Pg		**Pg**	**16 07 34.8**	**-0.6**
	comp=E,9.9nm,0.8s							
TKM2				⇑Sn		**Sn**	**16 08 07.7**	**+2.3**
	comp=E,6.9nm,0.6s							
TKM2				⇑Lg		Lg	16 08 20.7	
	comp=E,15nm,0.6s							
TKM2	**Tokmak 2**	**3.62**	**18**	P		**Pb**	**16 07 28.1**	**-2.2**
	SNR=13							
USP	**Ospenovka**	**3.80**	**4**	P		Pb	16 07 29.7	-3.5
	SNR=5.6							
KK31	**Karatay Array**	**4.52**	**324**	Pn		**Pn**	**16 07 36.8**	**+2.2**
	comp=E,1.2nm,0.2s,baz=137,slow=13,SNR=93							
KK31				Pg		**Pb**	**16 07 47.7**	**+2.2**
	comp=E,5.4nm,0.5s,baz=148,slow=16,SNR=9.4							
KK31				⇑Sn		**Sn**	**16 08 30.0**	**+2.8**
	comp=E,3.7nm,0.3s,baz=142,slow=25							
KK31				⇓Lg		Lg	16 08 42.7	
	comp=E,6.2nm,0.4s,baz=129,slow=24							
MKAR	**Makanchi Array**	**9.45**	**37**	Pn		Pn	16 08 48.5	+6.4
	comp=E,0.0nm,0.3s,baz=218,slow=18,SNR=3.4							
BVAR	**Borovoye Array**	**13.79**	**351**	Pn		**Pn**	**16 09 42.0**	**+0.5**
	comp=E,0.1nm,0.3s,baz=164,slow=14,SNR=5.4							
AB31	**Akbulak array**	**14.05**	**319**	Pn		**Pn**	**16 09 43.5**	**-1.6**
	comp=E,1.2nm,0.8s,baz=126,slow=14,SNR=15							
AB31				⇑Sn		**Sn**	**16 12 15.1**	**-5.9**
	comp=E,0.6nm,0.6s							
AKTO	**Aktyubinsk**	**15.77**	**319**	⇓Pn		**Pn**	**16 10 07.8**	**-0.3**
	comp=E,0.3nm,0.9s							
AKTO	**Aktyubinsk**	**15.77**	**319**	Pn		**Pn**	**16 10 07.0**	**-1.1**
	comp=E,0.1nm,0.3s,baz=121,slow=14,SNR=4.1							
FINES	**FINESS Array B**	**36.48**	**323**	P		**P**	**16 13 31.3**	**+0.4**
	comp=E,0.7nm,0.4s,baz=112,slow=9.2,SNR=12							
HFS	**Hagfors**	**42.31**	**320**	P		**P**	**16 14 19.4**	**-0.2**
	comp=E,0.4nm,0.3s,baz=103,slow=6.4,SNR=5.0							
KAPI	**Kappang**	**61.05**	**126**	LR		LR	16 47 02.7	
	comp=E,437nm,21.2s,baz=217,slow=40							
TORD	**Torodi Ar. Bea**	**68.22**	**269**	P		**P**	**16 17 26.2**	**-0.9**
	comp=E,0.2nm,0.5s,baz=36,slow=6.4,SNR=3.1							
WRA	**Warramunga Arr**	**81.56**	**124**	P		**P**	**16 18 44.7**	**+0.7**
	comp=E,0.3nm,0.5s,baz=323,slow=4.8,SNR=6.5							
ASAR	**Alice Springs**	**84.02**	**127**	P		**P**	**16 18 57.6**	**+0.8**
	comp=E,0.2nm,0.6s,baz=316,slow=4.6,SNR=4.9							

PRE 28 16:08:46.3±0.3, 27°.02S×26°.60E, h2km, ML1.4, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BFSD	**Buffelsfontein**	**0.22**	**47**	*e*P		Pg	16 08 50.8	-0.1
BFSD				*e*S		Sg	16 08 53.9	0.0
BFSD				AML		AML	16 08 55.2	
	comp=Z,45nm,0.1s							
PRYS	**Parys**	**0.68**	**82**	*e*P		Pg	16 08 59.5	-0.1
PRYS				*e*S		Sg	16 09 09.1	+0.5
PRYS				AML		AML	16 09 14.8	
	comp=Z,6.7nm,0.8s							
SWZ	**Schweizer**	**1.15**	**262**	*e*P		Pg	16 09 08.5	0.0
SWZ				*e*S		Sb	16 09 24.4	-0.1
SWZ				AML		AML	16 09 27.5	
	comp=Z,8.2nm,0.3s							
KSR	**Koster**	**1.19**	**13**	*e*P		Pg	16 09 09.0	-0.4
KSR				*e*S		Sb	16 09 25.9	0.0
KSR				AML		AML	16 09 28.9	
	comp=Z,9.4nm,0.2s							
BOSA	**Boshof**	**1.99**	**217**	*e*P		Pn	16 09 21.6	+0.5
BOSA				*e*S		Sn	16 09 47.6	+0.8
BOSA				AML		AML	16 09 49.1	
	comp=Z,1.2nm,0.5s							
LBTB	**Lobatse**	**2.19**	**335**	*e*P		Pn	16 09 24.5	+0.6
LBTB				*e*S		Sn	16 09 52.4	+0.6
LBTB				AML		AML	16 09 56.0	
	comp=Z,2.4nm,0.4s							

ISCJB ***28*** *16:29:01.4±0.6, 10°.90N±0°.04×62°.16W±0°.03, h107km±7km, Error ellipse: s-maj=6.6km s-min=4.7km az=141.2*

FUNV ***28*** *16:29:02.3, 11°.01N×62°.06W, h99km, MW3.4*

TRN ***28*** *16:29:04.1, 10°.94N×62°.02W, h102km, MD3.2*

ISC 28 16:29:00.9±1.4, 10°.90N±0°.04×62°.14W±0°.04, h117km±9km, n22, σ1s44/37, 3C-1D, Near coast of Venezuela

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

DURS	Dursunbey	0.59	295	*i* P	Pg	16 30 42.3	-0.3
DURS				*i* S	Sg	16 30 50.2	-0.2
DURS	Dursunbey	0.59	295	*i* P	Pg	16 30 42.3	-0.3
DURS				*i* S	Sg	16 30 50.2	-0.2
ORLT	Orhaneli	0.72	343	*e*PG	Pg	16 30 44.8	-0.3
ORLT	Orhaneli	0.72	343	*e*Pg	Pg	16 30 44.8	-0.3
ULDT	Uludag	0.79	358	*i* P	Pg	16 30 45.1	-1.3
ULDT	Uludag	0.79	358	*i* P	Pg	16 30 45.1	-1.3
ALT	Altintas	0.79	112	*e*PG	Pg	16 30 45.3	-1.1
ALT	Altintas	0.79	112	*e*Pg	Pg	16 30 45.3	-1.1
KULA	Kula-Manisa	0.93	205	*e*PG	Pg	16 30 47.6	-1.4
KULA	Kula-Manisa	0.93	205	*e*Pg	Pg	16 30 47.6	-1.4
MANT	Manisa	0.98	209	*i* P	Pg	16 30 49.5	-0.6
MANT				*i* S	Sg	16 31 02.3	-0.6
MANT	Manisa	0.98	209	*i* P	Pg	16 30 49.5	-0.6
MANT				*i* S	Sg	16 31 02.3	-0.6
CAVI	Cavuskoy	0.99	31	*e*PG	Pg	16 30 49.5	-0.8
CAVI	Cavuskoy	0.99	31	*e*Pg	Pg	16 30 49.5	-0.8
KHAL	Karahalli	1.01	165	*i* P	Pg	16 30 50.4	-0.3
KHAL				*i* S	Sg	16 31 03.5	-0.3
KHAL	Karahalli	1.01	165	*i* P	Pg	16 30 50.4	-0.3
KHAL				*i* S	Sg	16 31 03.5	-0.3
BALB	Balikesir	1.04	286	*e*PG	Pg	16 30 50.8	-0.3
BALB	Balikesir	1.04	286	*e*Pg	Pg	16 30 50.8	-0.3
MDNY	Mudanya-Bursa	1.04	348	*e*PG	Pg	16 30 50.5	-0.6
MDNY	Mudanya-Bursa	1.04	348	*e*Pg	Pg	16 30 50.5	-0.6
KHL	Karahalli	1.07	165	*e*PG	Pg	16 30 50.6	-1.1
KHL	Karahalli	1.07	165	*e*Pg	Pg	16 30 50.6	-1.1
GEMT	Gemlik	1.08	1	*e*PN	Pg	16 30 51.7	-0.2
GEMT	Gemlik	1.08	1	*e*Pn	Pg	16 30 51.7	-0.2
KCTX	Karacabey (Bur	1.10	326	*e*PN	Pg	16 30 52.0	-0.4
KCTX	Karacabey (Bur	1.10	326	*e*Pn	Pg	16 30 52.0	-0.4
BORA	Eskisehir	1.12	62	*i* P	Pg	16 30 52.1	-0.6
BORA				*i* S	Sg	16 31 08.0	+0.6
BORA	Eskisehir	1.12	62	*i* P	Pg	16 30 52.1	-0.6
BORA				*i* S	Sg	16 31 08.0	+0.6
AKHS	Akhisar	1.16	246	*i* P	Pg	16 30 53.1	-0.3
AKHS				*i* S	Sb	16 31 08.9	+0.4
AKHS	Akhisar	1.16	246	*i* P	Pg	16 30 53.1	-0.3
AKHS				*i* S	Sb	16 31 08.9	+0.4
AKS	Akhisar	1.16	246	*e*PN	Pg	16 30 52.2	-1.1
AKS	Akhisar	1.16	246	*e*Pn	Pg	16 30 52.2	-1.1
ADVT	Abdulvahap	1.16	22	*e*PN	Pg	16 30 52.4	-1.1
ADVT	Abdulvahap	1.16	22	*e*Pn	Pg	16 30 52.4	-1.1
YLV	Yalova	1.22	7	*e*PN	Pg	16 30 54.3	-0.3
YLV	Yalova	1.22	7	*e*Pn	Pg	16 30 54.3	-0.3
ARMT	Armutlu	1.23	349	*e*PN	Pg	16 30 54.0	-0.8
ARMT	Armutlu	1.23	349	*e*Pn	Pg	16 30 54.0	-0.8
BALY	Balya	1.26	288	*i* P	Pg	16 30 55.0	-0.3
BALY				*i* S	Sn	16 31 12.7	+0.5
BALY	Balya	1.26	288	*i* P	Pg	16 30 55.0	-0.3
BALY				*i* S	Sn	16 31 12.7	+0.5
GPA	Golpazari	1.28	43	*e*PN	Pn	16 30 55.3	-0.1
GPA	Golpazari	1.28	43	*e*Pn	Pn	16 30 55.3	-0.1
ESKT	Eskisehir	1.31	82	*e*PN	Pn	16 30 55.5	-0.4
ESKT	Eskisehir	1.31	82	*e*Pn	Pn	16 30 55.5	-0.4
SEYT	Eskypehyr	1.31	82	*i* P	Pn	16 30 56.4	+0.5
SEYT				*i* S	Sg	16 31 14.0	+0.6
SEYT	Eskypehyr	1.31	82	*i* P	Pn	16 30 56.4	+0.5
SEYT				*i* S	Sg	16 31 14.0	+0.6
GONE	Gonen-Balikesi	1.34	302	*e*PN	Pn	16 30 55.9	-0.2
GONE	Gonen-Balikesi	1.34	302	*e*Pn	Pn	16 30 55.9	-0.2
SHUT	Suhut-Afyon	1.34	126	*e*PN	Pn	16 30 55.9	-0.4
SHUT	Suhut-Afyon	1.34	126	*e*Pn	Pn	16 30 55.9	-0.4
BNT	Bandirma	1.39	317	*e*PN	Pn	16 30 56.9	+0.1
BNT	Bandirma	1.39	317	*e*Pn	Pn	16 30 56.9	+0.1
EDC	Edincik	1.41	315	*e*PN	Pn	16 30 58.2	+1.0
EDC	Edincik	1.41	315	*e*Pn	Pn	16 30 58.2	+1.0
GULT	Gulveren	1.50	43	*e*PN	Pn	16 30 58.8	+0.4
GULT	Gulveren	1.50	43	*e*Pn	Pn	16 30 58.8	+0.4
HRT	Hereke	1.52	15	*e*PN	Pn	16 30 58.9	+0.3
HRT	Hereke	1.52	15	*e*Pn	Pn	16 30 58.9	+0.3
BOLV	Bolvadin	1.53	114	*e*P	Pn	16 30 59.5	+0.7
BOLV				*i* S	Sn	16 31 19.9	+1.0
BOLV	Bolvadin	1.53	114	*e*P	Pn	16 30 59.5	+0.7
BOLV				*i* S	Sn	16 31 19.9	+1.0
SPNC	Sapanca-Adapaz	1.59	33	*e*PN	Pn	16 31 00.2	+0.6
SPNC	Sapanca-Adapaz	1.59	33	*e*Pn	Pn	16 31 00.2	+0.6
DENT	Denizli	1.60	184	*e*PN	Pn	16 30 59.7	-0.1
DENT	Denizli	1.60	184	*e*Pn	Pn	16 30 59.7	-0.1
DNZL	Cakiroluk	1.66	183	*i* P	Pn	16 31 01.2	+0.4
DNZL				*i* S	Sg	16 31 25.3	+0.6
DNZL	Cakiroluk	1.66	183	*i* P	Pn	16 31 01.2	+0.4
DNZL				*i* S	Sg	16 31 25.3	+0.6
ISK	Istanbul-Kandi	1.71	357	*e*PN	Pn	16 31 01.8	+0.5
ISK	Istanbul-Kandi	1.71	357	*e*Pn	Pn	16 31 01.8	+0.5
IZM	Izmir	1.77	238	*e*PN	Pn	16 31 01.4	-0.7
IZM	Izmir	1.77	238	*e*Pn	Pn	16 31 01.4	-0.7
KRBG	Karabiga-Canak	1.77	306	*e*PN	Pn	16 31 02.5	+0.4
KRBG	Karabiga-Canak	1.77	306	*e*Pn	Pn	16 31 02.5	+0.4
SVRH	Sivrihisar-ESK	1.83	86	*e*PN	Pn	16 31 02.9	-0.1
SVRH	Sivrihisar-ESK	1.83	86	*e*Pn	Pn	16 31 02.9	-0.1
SILT	Sile	1.83	11	*e*PN	Pn	16 31 03.4	+0.5
SILT	Sile	1.83	11	*e*Pn	Pn	16 31 03.4	+0.5
BGKT	Bogazkoy	1.85	351	*e*PN	Pn	16 31 03.9	+0.7
BGKT	Bogazkoy	1.85	351	*e*Pn	Pn	16 31 03.9	+0.7
ISP	Isparta	1.86	145	ǁ *i*P	Pn	16 31 03.3	-0.1
ISP				S	Sn	16 31 27.6	+0.5
ISP	Isparta	1.86	145	ǁ *i*P	Pn	16 31 03.3	-0.1
ISP				S	Sn	16 31 27.6	+0.5
MDUB	Mudurnu	1.92	54	*e*PN	Pn	16 31 04.4	+0.2
MDUB	Mudurnu	1.92	54	*e*Pn	Pn	16 31 04.4	+0.2
AYVA	Ayvalik	1.92	269	*i* P	Pn	16 31 04.9	+0.8
AYVA				*i* S	Sg	16 31 32.9	0.0
AYVA	Ayvalik	1.92	269	*i* P	Pn	16 31 04.9	+0.8
AYVA				*i* S	Sg	16 31 32.9	0.0
CTKS	Kestanelik-??a	1.95	345	*e*PN	Pn	16 31 05.1	+0.6
CTKS	Kestanelik-??a	1.95	345	*e*Pn	Pn	16 31 05.1	+0.6
AYDN	Tasoluk	1.97	211	*i* P	Pn	16 31 04.9	0.0
AYDN	Tasoluk	1.97	211	*i* P	Pn	16 31 04.9	0.0
SLVT	Silivri	2.01	339	*e*PN	Pn	16 31 06.2	+0.8
SLVT	Silivri	2.01	339	*e*Pn	Pn	16 31 06.2	+0.8
RKY	Sarkoy-Tekirda	2.03	312	*e*PN	Pn	16 31 06.3	+0.6
RKY	Sarkoy-Tekirda	2.03	312	*e*Pn	Pn	16 31 06.3	+0.6
SART	Tekirdag	2.03	312	*e*P	Pn	16 31 07.0	+1.3
SART	Tekirdag	2.03	312	*e*P	Pn	16 31 07.0	+1.3
MFT	Murefte	2.04	315	*e*PN	Pn	16 31 06.9	+1.1
MFT	Murefte	2.04	315	*e*Pn	Pn	16 31 06.9	+1.1
TKR	Tekirdag	2.06	323	*e*PN	Pn	16 31 06.6	+0.6
TKR	Tekirdag	2.06	323	*e*Pn	Pn	16 31 06.6	+0.6
CRLT	Corlu	2.08	329	*e*PN	Pn	16 31 07.3	+0.9
CRLT	Corlu	2.08	329	*e*Pn	Pn	16 31 07.3	+0.9
LPK	Lapseki	2.11	300	*e*PN	Pn	16 31 07.6	+0.8
LPK	Lapseki	2.11	300	*e*Pn	Pn	16 31 07.6	+0.8
GOLH	Golhisar	2.14	172	*i* P	Pn	16 31 08.1	+0.9
GOLH	Golhisar	2.14	172	*i* P	Pn	16 31 08.1	+0.9
KIZT	Kizilcal	2.16	102	*e*PN	Pn	16 31 07.7	+0.2
KIZT	Kizilcal	2.16	102	*e*Pn	Pn	16 31 07.7	+0.2
BCK	Bucak	2.19	149	*e*PN	Pn	16 31 07.9	-0.1
BCK	Bucak	2.19	149	*e*Pn	Pn	16 31 07.9	-0.1
CTYL	Yal??k??y-??at	2.22	343	*e*PN	Pn	16 31 09.1	+0.8
CTYL	Yal??k??y-??at	2.22	343	*e*Pn	Pn	16 31 09.1	+0.8
URLA	Izmir	2.24	245	*i* P	Pb	16 31 11.8	-0.1
URLA				*i* S	Sg	16 31 42.9	-0.2
URLA	Izmir	2.24	245	*i* P	Pb	16 31 11.8	-0.1
GCAM	G?zelcaml?	2.24	223	*i* P	Pb	16 31 12.2	+0.3
GCAM				*i* S	Sg	16 31 44.4	+1.2
GCAM	G?zelcaml?	2.24	223	*i* P	Pb	16 31 12.2	+0.3
EZN	Ezine	2.25	283	*e*PN	Pn	16 31 09.4	+0.8
EZN	Ezine	2.25	283	*e*Pn	Pn	16 31 09.4	+0.8
PRK	Paraskevi	2.25	268	P	Pn	16 31 09.0	+0.4
PRK	Paraskevi	2.25	268	*e*P	Pn	16 31 09.0	+0.4
PRK	Paraskevi	2.25	268	P	Pn	16 31 09.0	+0.4
GELI	Tayfur-Gelibol	2.32	298	*e*PN	Pn	16 31 10.5	+0.9
GELI	Tayfur-Gelibol	2.32	298	*e*Pn	Pn	16 31 10.5	+0.9
YER	Yerkesik	2.32	198	*e*PN	Pn	16 31 10.0	+0.3
YER	Yerkesik	2.32	198	*e*Pn	Pn	16 31 10.0	+0.3
MLSB	Milas	2.33	208	*e*PN	Pn	16 31 10.1	+0.3
MLSB	Milas	2.33	208	*e*Pn	Pn	16 31 10.1	+0.3
ERIK	Erikli-Kesan	2.43	304	*e*PN	Pn	16 31 12.0	+0.9
ERIK	Erikli-Kesan	2.43	304	*e*Pn	Pn	16 31 12.0	+0.9
BOZC	Bozcaada	2.46	282	*i* P	Pn	16 31 12.1	+0.6
BOZC				*i* S	Sn	16 31 44.2	+2.6
BOZC				*i* S	Sb	16 31 44.4	-1.5
KORT	Korkueli	2.53	158	*i* P	Pn	16 31 13.7	+1.1
KORT	Korkueli	2.53	158	*i* P	Pn	16 31 13.7	+1.1
CHOS	Chios island	2.62	249	P	Pn	16 31 13.5	-0.2
CHOS				S	Sn	16 31 45.2	-0.5
CHOS	Chios island	2.62	249	*e*P	Pn	16 31 15.5	+1.8
CHOS	Chios island	2.62	249	P	Pn	16 31 13.5	-0.2
CHOS				S	Sn	16 31 45.2	-0.5
KDZE	Karadeniz Ereo	2.62	41	*e*PN	Pn	16 31 14.6	+0.9
KDZE	Karadeniz Ereo	2.62	41	*e*Pn	Pn	16 31 14.6	+0.9
BDRM	Kayabasi	2.66	211	*e*P	Pn	16 31 14.2	-0.1
BDRM	Kayabasi	2.66	211	*e*P	Pn	16 31 14.2	-0.1
ELL	Elmali	2.67	167	*e*PN	Pn	16 31 14.8	+0.3
ELL	Elmali	2.67	167	*e*Pn	Pn	16 31 14.8	+0.3
ENEZ	Enez	2.69	302	*e*PN	Pn	16 31 15.9	+1.2
ENEZ	Enez	2.69	302	*e*Pn	Pn	16 31 15.9	+1.2
FETY	Fethiye	2.71	181	*e*PN	Pn	16 31 15.5	+0.4
FETY	Fethiye	2.71	181	*e*Pn	Pn	16 31 15.5	+0.4
BODT	Bodrum	2.72	213	*e*PN	Pn	16 31 15.6	+0.5
BODT	Bodrum	2.72	213	*e*Pn	Pn	16 31 15.6	+0.5
LADK	Ladik-KONYA	2.75	114	*e*PN	Pn	16 31 16.2	+0.5
LADK	Ladik-KONYA	2.75	114	*e*Pn	Pn	16 31 16.2	+0.5
LOD	Lodumlu	2.83	78	*e*PN	Pn	16 31 17.4	+0.7
LOD	Lodumlu	2.83	78	*e*Pn	Pn	16 31 17.4	+0.7
ALN	Alexandroupoli	2.85	304	P	Pn	16 31 17.4	+0.6
ALN				S	Sn	16 31 50.5	-0.8
ALN	Alexandroupoli	2.85	304	*e*P	Pn	16 31 17.5	+0.6
ALN	Alexandroupoli	2.85	304	P	Pn	16 31 17.4	+0.6
ALN				S	Sn	16 31 50.5	-0.8
KONT	Konya--Tatoy	2.87	118	*e*PN	Pn	16 31 17.7	+0.5
KONT	Konya--Tatoy	2.87	118	*e*Pn	Pn	16 31 17.7	+0.5
AFSR	Af˙ar-Bala (A	3.02	87	*e*PN	Pn	16 31 20.2	+0.8
AFSR	Af˙ar-Bala (A	3.02	87	*e*Pn	Pn	16 31 20.2	+0.8
EDRB	Edirne	3.10	324	*e*PN	Pn	16 31 20.9	+0.6
EDRB	Edirne	3.10	324	*e*Pn	Pn	16 31 20.9	+0.6
LIA	Limnos Island	3.12	281	P	Pn	16 31 19.3	-1.4
LIA	Limnos Island	3.12	281	*e*P	Pn	16 31 21.5	+0.8
LIA	Limnos Island	3.12	281	P	Pn	16 31 19.3	-1.4
ARG	Arkhangelos	3.24	195	*e*P	Pb	16 31 28.0	-0.9
SAFT	Safranbolu	3.29	54	*e*PN	Pn	16 31 24.1	+1.2
SAFT	Safranbolu	3.29	54	*e*Pn	Pn	16 31 24.1	+1.2
KAMT	Kaman	3.52	88	*e*PN	Pn	16 31 27.3	+1.0
KAMT	Kaman	3.52	88	*e*Pn	Pn	16 31 27.3	+1.0
SULT	Sultanhani-AKS	3.59	107	*e*PN	Pn	16 31 28.2	+1.0
SULT	Sultanhani-AKS	3.59	107	*e*Pn	Pn	16 31 28.2	+1.0
CANT	Cankiri	3.64	69	*e*PN	Pn	16 31 29.1	+1.2
APE	Apeiranthos	3.66	233	*e*P	Pg	16 31 39.5	-1.8
APE	Apeiranthos	3.66	233	ǁ *i*P	Pg	16 31 40.4	-0.9
APE	Apeiranthos	3.66	233	S	Sg	16 32 33.0	+4.2
KDZ	Kurdzhali	3.67	310	P	Pn	16 31 29.8	+1.7
KDZ	Kurdzhali	3.67	310	P	Pn	16 31 29.8	+1.7
JMB	Yambol	3.67	329	P	Pn	16 31 31.6	+3.4
JMB	Yambol	3.67	329	P	Pn	16 31 31.6	+3.4
DIM	Dimitrovgrad	3.86	315	P	Pn	16 31 32.3	+1.6
DIM	Dimitrovgrad	3.86	315	P	Pn	16 31 32.3	+1.6
KAVA	Kavala	3.92	296	P	Pn	16 31 31.2	-0.5
KAVA				S	Sn	16 32 15.0	-2.9
KAVA	Kavala	3.92	296	P	Pn	16 31 31.2	-0.5
KAVA				S	Sn	16 32 15.0	-2.9
CORM	Corum	4.29	77	*e*PN	Pn	16 31 38.0	+1.2
CORM	Corum	4.29	77	*e*Pn	Pn	16 31 38.0	+1.2
NIG	Nigde	4.43	105	*e*PN	Pn	16 31 40.2	+1.3
NIG	Nigde	4.43	105	*e*Pn	Pn	16 31 40.2	+1.3
NVR	Nevrokopi	4.52	298	*e*P	Pn	16 31 41.5	+1.6
PLG	Polygyros	4.52	285	*e*P	Pn	16 31 41.0	+1.1
MMB	Musomiste	4.71	300	P	Pn	16 31 44.0	+1.5
MMB	Musomiste	4.71	300	P	Pn	16 31 44.0	+1.5
NPS	Neapolis	4.97	216	*e*P	Pn	16 31 48.0	+1.9
TIRR	Tirgusor	5.13	354	ǁ *i*P	Pn	16 31 49.0	+0.8
TIRR	Tirgusor	5.13	354	ǁ *i*P	Pn	16 31 49.0	+0.8
TIRR				S	Sn	16 32 44.6	-3.0
LIT	Litokhoron	5.20	280	*e*P	Pn	16 31 51.5	+2.2
VTS	Vitosha	5.55	308	ǁ *i*P	Pn	16 31 56.3	+2.2
VTS	Vitosha	5.55	308	S	Sb	16 33 16.0	+2.1
VTS	Vitosha	5.55	308	P	Pn	16 31 56.5	+2.4
VTS	Vitosha	5.55	308	ǁ *i*P	Pn	16 31 56.3	+2.2
MPEP	Malo Peshtene	5.71	316	P	Pn	16 31 58.0	+1.7
CFR	Carcaliu	5.87	353	ǁ *i*P	Pn	16 31 59.3	+0.9
CFR	Carcaliu	5.87	353	S	Sn	16 33 03.8	-2.0
CFR	Carcaliu	5.87	353	ǁ *i*P	Pn	16 31 59.3	+0.9
BIA	Bitola	6.23	288	*e*Pn	Pn	16 32 05.2	+1.8
MLR	Muntele Rosu	6.58	340	ǁ *i*P	Pn	16 32 10.8	+2.5
MLR	Muntele Rosu	6.58	340	ǁ *i*P	Pn	16 32 10.8	+2.5
VRI	Vrincioaia	6.75	345	ǁ *i*P	Pn	16 32 12.7	+2.2
VRI	Vrincioaia	6.75	345	ǁ *i*P	Pn	16 32 12.7	+2.2
VOIR		6.80	335	ǁ *i*P	Pn	16 32 13.3	+2.1
VOIR		6.80	335	ǁ *i*P	Pn	16 32 13.3	+2.1
GZR	Gura Zlata	7.67	324	ǁ *i*P	Pn	16 32 25.7	+2.6
GZR	Gura Zlata	7.67	324	ǁ *i*P	Pn	16 32 25.7	+2.6
GZR				S	Sn	16 33 50.3	+0.2
BURAR	Bucovina Array	8.74	342	ǁ *i*P	Pn	16 32 40.3	+2.4
BURAR	Bucovina Array	8.74	342	ǁ *i*P	Pn	16 32 40.3	+2.4

IDC 28 16:30:41.5±2.1, 4˚.42N×126˚.83E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/22, mbtmp3.3/3, MS3.1/1, Ms1 3.1/1, ms1mx3.1/21, Error ellipse: s-maj=161.9km s-min=26.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	2.92	335	LR	LR		16 32 10.1	
	comp=Z,318nm,19.4s,baz=337,slow=30							
WRA	Warramunga Arr	25.30	163	P	P		16 36 09.9	-0.1
	0.3nm,0.6s,baz=343,slow=10,SNR=6.3							
ASAR	Alice Springs	28.75	166	P	P		16 36 41.1	+0.1
	0.3nm,0.9s,baz=351,slow=7.9,SNR=4.4							
MKAR	Makanchi Array	57.06	325	P	P		16 40 29.4	-0.1
	0.3nm,0.4s,baz=107,slow=7.6,SNR=7.3							

*ISK **28** 16:47:43.1, 39˚.34N×29˚.13E, h8km, MD2.6*
*DDA **28** 16:47:44.7, 39˚.31N×29˚.16E, h7km, ML3.1*
*CSEM **28** 16:47:44.1±0.2, 39˚.36N×29˚.15E, h8km, MD2.6, Error ellipse: s-maj=4.0km s-min=3.3km az=124.0*

ISC 28 16:47:44.1±1.0, 39˚.35N±0.02×29˚.15E±0.02, h8km±9km, n40, σ0s67/60, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TVSB	Tavsanli	0.26	67	*e*PG	Pg		16 47 49.1	-0.2
TVSB				*e*Sg	Sg		16 47 53.2	+0.3
TVSB	Tavsanli	0.26	67	*e*Pg	Pg		16 47 49.1	-0.2
TVSB				*e*Sg	Sg		16 47 53.2	+0.3
GDZ	Gediz	0.37	136	*i* P	Pg		16 47 51.9	+0.6
GDZ				*i* S	Sg		16 47 56.3	+0.1
GDZ	Gediz	0.37	136	*i* P	Pg		16 47 51.9	+0.6
GDZ				*i* S	Sg		16 47 56.3	+0.1
DEMI	Demirci	0.46	228	*i* P	Pb		16 47 59.7	-0.6
DEMI				*i* S	Sg		16 47 59.7	+0.7
DEMI	Demirci	0.46	228	*i* P	Pb		16 47 53.9	-0.6
DEMI				*i* S	Sg		16 47 59.7	+0.7
ALT	Altintas	0.80	111	*e*PG	Pg		16 47 59.3	-0.2
ALT				*e*SG	Sb		16 48 11.1	-0.3
ALT	Altintas	0.80	111	*e*Pg	Pg		16 47 59.3	-0.2
ALT				*e*Sg	Sb		16 48 11.1	-0.3
KULA	Kula-Manisa	0.92	205	*e*PG	Pg		16 48 01.0	-0.8
KULA				*e*SG	Sg		16 48 13.5	-0.2
KULA	Kula-Manisa	0.92	205	*e*Pg	Pg		16 48 01.0	-0.8
KULA				*e*Sg	Sg		16 48 13.5	-0.2
MANT	Manisa	0.98	209	*i* P	Pb		16 48 03.4	0.0
MANT				*i* S	Sb		16 48 15.8	-0.8
MANT	Manisa	0.98	209	*i* P	Pb		16 48 03.4	0.0
MANT				*i* S	Sb		16 48 15.8	-0.8
CAVI	Cavuskoy	1.00	32	*e*PG	Pg		16 48 02.7	-0.7
CAVI	Cavuskoy	1.00	32	*e*Pg	Pg		16 48 02.7	-0.7
KHAL	Karahalli	1.01	165	*i* P	Pn		16 48 05.0	+0.2
KHAL				*i* S	Sb		16 48 17.4	-0.2
KHAL	Karahalli	1.01	165	*i* P	Pn		16 48 05.0	+0.2
KHAL				*i* S	Sb		16 48 17.4	-0.2
BALB	Balikesir	1.03	287	*e*PG	Pg		16 48 02.9	-0.9
BALB	Balikesir	1.03	287	*e*Pg	Pg		16 48 02.9	-0.9
MDNY	Mudanya-Bursa	1.04	349	*e*PG	Pg		16 48 03.9	-0.2
MDNY	Mudanya-Bursa	1.04	349	*e*Pg	Pg		16 48 03.9	-0.2
KHL	Karahalli	1.07	164	*e*PN	Pg		16 48 04.3	-0.3
KHL	Karahalli	1.07	164	*e*Pn	Pg		16 48 04.3	-0.3
GEMT	Gemlik	1.08	1	*e*PN	Pg		16 48 04.3	-0.6
GEMT	Gemlik	1.08	1	*e*Pn	Pg		16 48 04.3	-0.6
KCTX	Karacabey (Bur	1.10	326	*e*PN	Pg		16 48 05.2	-0.1
KCTX	Karacabey (Bur	1.10	326	*e*Pn	Pg		16 48 05.2	-0.1
BORA	Eskisehir	1.14	62	*i* P	Pn		16 48 07.7	+1.2
BORA				*i* S	Sn		16 48 22.1	-0.2
BORA	Eskisehir	1.14	62	*i* P	Pn		16 48 07.7	+1.2
BORA				*i* S	Sn		16 48 22.1	-0.2
AKHS	Akhisar	1.14	246	*i* P	Pn		16 48 06.6	+0.1
AKHS				*i* S	Sn		16 48 22.4	+0.1
AKHS	Akhisar	1.14	246	*i* P	Pn		16 48 06.6	+0.1
AKHS				*i* S	Sn		16 48 22.4	+0.1
ADVT	Abdulvahap	1.17	22	*e*PN	Pg		16 48 05.9	-0.7
ADVT	Abdulvahap	1.17	22	*e*Pn	Pg		16 48 05.9	-0.7
YLV	Yalova	1.23	8	*e*PN	Pn		16 48 08.0	+0.3
YLV	Yalova	1.23	8	*e*Pn	Pn		16 48 08.0	+0.3
ARMT	Armutlu	1.23	350	*e*PN	Pg		16 48 07.3	-0.5
ARMT	Armutlu	1.23	350	*e*Pn	Pg		16 48 07.3	-0.5
BALY	Balya	1.25	289	*i* P	Pn		16 48 09.6	+1.6
BALY				*i* S	Sn		16 48 26.6	+1.6
BALY	Balya	1.25	289	*i* P	Pn		16 48 09.6	+1.6
BALY				*i* S	Sn		16 48 26.6	+1.6
GULT	Gulveren	1.51	44	*e*PN	Pn		16 48 11.1	-0.4
GULT	Gulveren	1.51	44	*e*Pn	Pn		16 48 11.1	-0.4

*IDC **28** 16:51:31.0±0.9, 1˚.26S×99˚.78E, h0km, mb4.3/14, mb1 4.3/15, mb1mx4.2/26, mbtmp4.3/15, ML4.5/1, Error ellipse: s-maj=33.4km s-min=13.8km az=56.0*
*ISCJB **28** 16:51:40.0±0.8, 1˚.14S±0˚.06×99˚.92E±0˚.07, h82km±6km, mb4.4/25, Error ellipse: s-maj=13.7km s-min=6.3km az=141.8*
*DJA **28** 16:51:39.6±1.1, 1˚S±5˚×10˚0E±˚, h27km±11km, M4.4/10, mb4.4/4, mB5.0/2, MLv4.4/10, Mw(mB)4.4/2*
*NEIC **28** 16:51:40.6±1.4, 1˚.15S×99˚.98E, h71km±11km, mb4.4/16, Error ellipse: s-maj=15.5km s-min=5.9km az=51.0*
NEIC Felt [III] at Padang, Pariaman and Sumpur, Sumatra.
ISC 28 16:51:39.6±1.5, 1˚.18S±0˚.07×99˚.81E±0˚.07, h64km±13km, n88, σ1s22/90, mb4.5/25, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PPI	Padang Panjang	0.93	40	P	Pn		16 51 56.8	-0.1
KRJI	Kerinci	1.89	119	P	Pn		16 52 10.7	+1.0
BKNI	Bangkinang	1.94	40	P	Pn		16 52 10.9	+0.6
RGRI	Rengat	2.66	72	P	Pn		16 52 20.9	+0.8
GSI	Gunungsitoli	3.32	318

GERES	GERESS Array B	88.31	319	P	P	17 04 24.0	-0.5	
	0.3nm,0.6s,baz=140,slow=4.7,SNR=3.5							
QSPA	South Pole Qui	88.78	180	eP	P	17 04 27.4	+1.1	
	1.2nm,0.7s							
TXAR	Lajitas Array	144.16	36	PKP	PKPbc	17 11 08.1	+0.8	
TXAR	Lajitas Array	144.16	36	PKP	PKPbc	17 11 08.1	+0.8	
	1.7nm,0.7s,baz=294,slow=2.5,SNR=6.7							
CPUP	Villa Florida	144.86	217	PKP	PKPdf	17 11 10.3	0.0	
CPUP	Villa Florida	144.86	217	PKP	PKPdf	17 11 10.3	0.0	
	1.8nm,0.7s,baz=100,slow=2.2,SNR=5.3							

IDC 28 16:54:02.3±1.1, 27.70S×72.15W, h0km, mb3.7/1, mb1 3.6/4, mb1mx3.5/17, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=42.2km s-min=39.0km az=166.0, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	Coronel Fontan	5.17	140	Pn	Pn	16 55 19.9	-1.2
	0.3nm,0.3s,baz=330,slow=8.9,SNR=30						
CFAA				Sn	Sn	16 56 15.1	-6.3
	0.6nm,0.3s,baz=273,slow=22,SNR=3.2						
CPUP	Villa Florida	13.28	87	Pn	Pn	16 57 12.3	+0.1
	0.2nm,0.3s,baz=270,slow=19,SNR=2.0						
SIV	San Ignacio	15.53	44	Pn	Pn	16 57 41.9	-0.9
	0.3nm,0.3s,baz=254,slow=14,SNR=5.4						
TORD	Torodi Ar. Bea	82.19	71	P	P	17 06 27.3	+1.6
	0.4nm,0.5s,baz=234,slow=4.3,SNR=4.6						
ASAR	Alice Springs	123.08	209	PKP	PKPdf	17 13 01.4	-0.1
	0.1nm,0.6s,baz=130,slow=1.5,SNR=7.2						
WRA	Warramunga Arr	126.14	211	PKP	PKPdf	17 13 07.8	+0.4
	0.4nm,0.6s,baz=158,slow=1.7,SNR=9.3						
ZALV	Zalesovo Beam	148.79	27	PKPbc	PKPbc	17 13 50.6	-0.7
	1.4nm,0.6s,baz=317,slow=2.6,SNR=10						
MKAR	Makanchi Array	152.32	40	PKPbc	PKPbc	17 13 58.6	-1.4
	0.5nm,0.5s,baz=325,slow=1.6,SNR=13						

DDA 28 17:06:14.2, 37.93N×29.31E, h7km, MD1.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DNZL	Cakiroluk	0.31	221	*i* P	Pg	17 06 18.8	-1.8
DNZL				*i* S	Sg	17 06 25.2	+0.2

*UPP **28** 17:14:49.9, 59.07N×9.53E, h0km, ML1.8, Suspected Mining explosion.*
*CSEM **28** 17:14:51.4±0.2, 59.05N×9.70E, h2km, ML1.3, Error ellipse: s-maj=6.5km s-min=3.4km az=25.0, Suspected Mining explosion.*

BER 28 17:14:54.2±3.0, 59.10N×9.60E, h0km, MD2.0, ML1.3, Suspected explosion, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KONO	Kongsberg	0.55	0	eP	Pg	17 15 03.2	-1.5
KONO				eS	Sg	17 15 11.3	-0.6
KONO	Kongsberg	0.55	0	eP	Pg	17 15 03.2	-1.5
	SNR=90						
KONO				eS	Sg	17 15 11.3	-0.5
	SNR=90						
STRU	Stroemstad	0.82	94	P	Pg	17 15 06.0	-3.9
VANU	Vaenersborg	1.43	114	P	Pn	17 15 16.3	-5.0
SNART	Snartemo	1.46	239	eP	Pn	17 15 18.8	-3.0
SNART				eS	Sg	17 15 38.1	-3.0
SNART				AML	AML	17 15 40.8	
	comp=Z,8.8nm,0.1s						
FINU	Finntorp	1.51	77	P	Pn	17 15 18.4	-4.1
TJOU	Tjoern	1.51	134	P	Pn	17 15 17.9	-4.6
BLS5	Blasjo	1.64	283	eP	Pn	17 15 22.0	-2.4
BLS5				eS	Sn	17 15 45.1	-1.1
BLS5				AML	AML	17 15 46.7	
	comp=Z,3.5nm,0.5s						
BLS5	Blasjo	1.64	283	eP	Pn	17 15 22.0	-2.4
	SNR=50						
BLS5				eS	Sn	17 15 45.1	-1.1
	comp=Z,3.5nm,0.5s,SNR=50						
ODD1	Odda	1.72	299	eP	Pn	17 15 23.4	-2.1
ODD1				eSg	Sn	17 15 47.4	-0.7
ODD1	Odda	1.72	299	eP	Pn	17 15 23.4	-2.0
	SNR=50						
ODD1				eSg	Sn	17 15 47.4	-0.7
	SNR=90						
NASU	Vaermlandsnaes	1.86	94	P	Pn	17 15 24.1	-3.2
BORU	Boraas	2.23	130	P	Pn	17 15 27.9	-4.4
KMY	Karmoy	2.24	275	eP	Pn	17 15 30.9	-1.6
KMY	Karmoy	2.24	275	eP	Pn	17 15 30.9	-1.6
	SNR=50						
UDD	Uddeholm	2.27	62	P	Pn	17 15 29.0	-3.9
FKPU	Falk	2.36	112	P	Pn	17 15 31.4	-2.7
ASK	Askoy	2.62	304	eP	Pn	17 15 38.5	+0.8
ASK				eSg	Sb	17 16 14.2	-0.5

*ISK **28** 17:18:40.8, 38.49N×40.60E, h16km, MD2.9*
*DDA **28** 17:18:40.6, 38.51N×40.72E, h7km, MD2.9*
*CSEM **28** 17:18:41.6±0.4, 38.51N×40.73E, h10km, MD2.9, Error ellipse: s-maj=9.8km s-min=8.7km az=166.0*

ISC 28 17:18:41.5±1.1, 38.50N±0.03×40.75E±0.03, h18km±8km, n23, σ1°12/35, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNGL	BINGOL	0.55	34	*i* P	Pg	17 18 50.9	-1.6
BNGL				*i* S	Sg	17 18 59.3	-0.7
BTMT	Batman	0.65	118	ePG	Pb	17 18 54.4	0.0
BTMT				eSG	Sb	17 19 03.9	+0.7
BTMT	Batman	0.65	118	ePg	Pb	17 18 54.4	0.0
BTMT				eSg	Sb	17 19 03.9	+0.7
BEST	Besiri	0.73	146	*i* P	Pb	17 18 55.6	-0.1
BEST				*i* S	Sn	17 19 07.1	-0.7
DIYA	Diyarbakir	0.76	221	*i* P	Pb	17 18 56.4	+0.2
DIYA				*i* S	Sn	17 19 07.9	-0.6
DIYA	Diyarbakir	0.76	221	*i* P	Pb	17 18 56.4	+0.2
DIYA				*i* S	Sn	17 19 07.9	-0.6
MARD	Mardin	1.18	179	*i* P	Pb	17 19 03.4	-0.1
MARD				*i* S	Sg	17 19 20.2	+0.3
ERZN	Erzincan	1.35	324	ePN	Pn	17 19 04.7	-0.9
ERZN				eSN	Sn	17 19 22.3	-0.8
ELZG	Elazig	1.39	271	*i* P	Pb	17 19 06.9	-0.1
ELZG				*i* S	Sg	17 19 28.3	+1.9
ELZG	Elazig	1.39	271	*i* P	Pb	17 19 06.9	-0.1
ELZG				*i* S	Sg	17 19 28.3	+1.9
EZM	Erzurum	1.48	18	ePN	Pb	17 19 08.3	-0.4
ERZM	Erzurum	1.48	19	*i* P	Pb	17 19 08.3	-0.4
ERZM	Erzurum	1.48	19	*i* P	Pb	17 19 08.3	-0.4
KOPT	Kop Dagi	1.53	353	*i* P	Pg	17 19 10.1	-0.9
KOPT				*i* S	Sg	17 19 33.8	+2.9
KOPT	Kop Dagi	1.53	353	*i* P	Pg	17 19 10.1	-0.9
KOPT				*i* S	Sg	17 19 33.8	+2.9
KEMA	Kemaliye	1.93	294	*i* P	Pn	17 19 13.7	+0.3
KEMA	Kemaliye	1.93	294	*i* P	Pn	17 19 13.7	+0.3
ILIC	ilic-Erzincan	1.95	300	ePN	Pn	17 19 12.6	-1.3
ILIC	ilic-Erzincan	1.95	300	ePn	Pn	17 19 12.6	-1.3
KELT	Kelkit	2.02	325	*i* P	Pb	17 19 17.7	0.0
KELT	Kelkit	2.02	325	*i* P	Pb	17 19 17.7	0.0
AGRB	Hanur-Agry	2.05	58	ePN	Pn	17 19 16.5	+1.3
AGRB	Hanur-Agry	2.05	58	ePn	Pn	17 19 16.5	+1.3

*NOU **28** 17:27:12.1±1.1, 20.58S×169.68E, h30km, MD3.1, ML4.6*
*ISCJB **28** 17:27:13.4±2.2, 21.7S±0.2×169.8E±0.1, h74km±17km, mb3.7/5, Error ellipse: s-maj=34.0km s-min=19.1km az=179.4*
*SZGRF **28** 17:27:13.7, 20.73S×168.77E, h33km, Loyalty Islands*
*IDC **28** 17:27:13.8±6.6, 21.53S×169.82E, h61km±51km, mb3.5/5, mb1 3.6/5, mb1mx3.4/18, mbtmp3.5/5, ML4.4/1, MS3.5/1, Ms1 3.5/1, ms1mx3.1/22, Error ellipse: s-maj=45.3km s-min=31.3km az=58.0*

ISC 28 17:27:13.8±4.3, 21.5S±0.2×169.9E±0.2, h65km±33km, n22, σ0°47/26, mb3.9/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLUM	Mont Dore	3.08	255	eP	Pn	17 27 59.8	-0.2
LASL	Noumea	3.16	256	eP	Pn	17 28 01.4	+0.3
LASL				eS	Sn	17 28 37.4	-0.2
NORM	Noumea	3.21	257	eP	Pn	17 28 02.0	+0.2
NORM				eS	Sn	17 28 38.6	-0.2
DZM	Mont Dzumac	3.21	260	eP	Pn	17 28 02.1	+0.1
DZM				eS	Sn	17 28 39.0	-0.2
DZM				AMP		17 28 41.4	
	comp=Z,4μm,3.7s						
DZM	Mont Dzumac	3.21	260	P	Pn	17 28 02.3	+0.3
	comp=Z,46nm,0.3s,baz=91,slow=15,SNR=894						
DZM				S	Sn	17 28 38.3	-0.9
	comp=Z,88nm,0.3s,baz=198,slow=23,SNR=25						
NOUC	Port Laguerre	3.35	259	eP	Pn	17 28 04.0	+0.3
NOUC				eS	Sn	17 28 42.2	-0.1
NOUC				AMP		17 28 44.4	
	comp=Z,207nm,6.2s						
CTA	Charters Tower	22.10	269	LR	LR	17 39 49.3	
	comp=Z,124nm,20.1s,baz=266,slow=34						
PMG	Port Moresby	24.93	295	P	P	17 32 31.7	+0.6
	comp=Z,6.7nm,0.7s,baz=104,slow=4.5,SNR=6.1						
ASAR	Alice Springs	33.20	259	P	P	17 33 45.5	+0.8
	comp=Z,0.2nm,0.5s,baz=76,slow=8.0,SNR=10						
WRA	Warramunga Arr	33.21	266	P	P	17 33 44.5	-0.3
	comp=Z,0.4nm,0.9s,baz=97,slow=8.5,SNR=8.3						
VNDA	Vanda	56.18	182	P	P	17 36 46.5	0.0
	comp=Z,1.5nm,1.0s,baz=342,slow=9.6,SNR=5.0						
SONM	Songino Array	89.38	323	P	P	17 40 03.4	+0.1
	comp=Z,0.7nm,0.9s,baz=119,slow=5.9,SNR=5.2						
BRG	Berggiesshubel	145.16	333	ePKP	PKPbc	17 46 43.1	-0.3
	comp=Z,7.1nm,0.8s						
BRG	Berggiesshubel	145.16	333	ePKPbc	PKPbc	17 46 42.9	-0.5
CLL	Collm	145.22	334	ePKPbc	PKPbc	17 46 42.8	-0.8
CLL	Collm	145.22	334	*i* PKP	PKPbc	17 46 42.8	-0.8
	comp=Z,5.0nm,0.8s						
ROHR	Rohrbach	146.32	334	ePKPbc	PKPbc	17 46 46.9	-0.2
KHC	Kasperske Hory	146.61	331	eP	PKPbc	17 46 47.5	-0.5
KHC				ex	x	17 47 06.0	
ROTZ	Rotzenmuhle	146.73	333	ePKPbc	PKPbc	17 46 48.0	-0.2
GEC2	GERESS Array S	146.76	331	ePKPbc	PKPbc	17 46 47.9	-0.6
GERES	GERESS Array B	146.76	331	PKPbc	PKPbc	17 46 48.3	-0.2
	comp=Z,3.5nm,0.7s,baz=30,slow=2.8,SNR=35						
DAVOX	Davos/Dischmat	150.02	332	PKPbc	PKPbc	17 46 56.8	-0.4
	comp=Z,4.2nm,0.4s,baz=95,slow=1.8,SNR=14						

*ISCJB **28** 17:27:32.0±0.5, 22.93N±0.03×123.13E±0.03, h26km, Error ellipse: s-maj=4.9km s-min=2.7km az=148.7*
*TAP **28** 17:27:33.5, 22.90N×122.99E, h105km±2km, ML3.5, D*
*JMA **28** 17:27:33.5±0.2, 22.98N×123.23E, h69km, M2.7*

ISC 28 17:27:31.4±1.4, 22.86N±0.05×123.19E±0.04, h26km, n40, σ1°21/75, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	Hateruma jima	1.32	25	P	Pn	17 27 54.6	+0.5
HATJ				S	Sn	17 28 10.4	-0.5
IRIF	Iriomote-Funau	1.55	18	P	Pn	17 27 57.9	+0.6
IRIF				eS	Sn	17 28 15.8	-0.8
JKRS	Kuro-shima	1.56	28	P	Pn	17 27 58.3	+0.8
JKRS				S	Sn	17 28 16.5	-0.4
YOJ	Yonaguni jima	1.61	354	P	Pn	17 27 58.6	+0.5
YOJ				S	Sn	17 28 17.4	-0.6
CHKT	Chengkung	1.70	279	eP	Pn	17 27 58.7	-0.7
	baz=281						
CHKT				eS	Sn	17 28 18.0	-2.3
	baz=281						
LAY	Lan-yu	1.72	242	eP	Pn	17 27 59.7	0.0
	baz=237						
LAY				eS	Sn	17 28 19.1	-1.8
	baz=237						
JIJ	Ishigaki jima	1.73	30	P	Pn	17 28 00.0	+0.2
JIJ				S	Sn	17 28 20.2	-0.9
TWF1	Yuli	1.81	286	eP	Pn	17 28 00.8	-0.2
	baz=284						
TWF1				eS	Sn	17 28 21.7	-1.5
	baz=284						
EHY	Hungye	1.84	291	eP	Pn	17 28 01.6	+0.3
	baz=291						
EHY				eS	Sn	17 28 23.1	-0.6
	baz=291						
ESL	Shilin	1.88	301	eP	Pn	17 28 01.8	-0.1
	baz=302						
ESL				eS	Sn	17 28 21.9	-2.8
	baz=302						
TWD	Chiawan	1.91	310	eP	Pn	17 28 02.2	0.0
	baz=313						
TWD				eS	Sn	17 28 22.9	-2.4
	baz=313						
TWG	Pinlang	1.96	269	eP	Pn	17 28 03.6	+0.7
	baz=266						
TWG				eS	Sn	17 28 25.6	-1.1
	baz=266						
ELDTW	Lidau	2.03	280	eP	Pn	17 28 04.2	+0.1
	baz=282						
ELDTW				eS	Sn	17 28 27.6	-1.1
	baz=282						
ENA	Nanau	2.06	320	eP	Pn	17 28 05.1	+0.9
	baz=328						
ENA				eS	Sn	17 28 28.8	-0.2
	baz=328						
ECL	Taimali	2.08	263	eP	Pn	17 28 05.0	+0.3
	baz=261						
ECL				eS	Sn	17 28 27.9	-1.8
	baz=261						
TWC	Suao	2.14	325	eP	Pn	17 28 06.6	+1.2
	baz=334						
TWC				eS	Sn	17 28 29.7	-1.3
	baz=334						
YUS	Yu-Shan	2.16	287	eP	Pn	17 28 07.0	+0.9
	baz=287						
YUS				eS	Sn	17 28 30.9	-1.3
	baz=287						
WHF	Hehuan Shan	2.19	306	eP	Pn	17 28 06.5	0.0
	baz=308						
WHF				eS	Sn	17 28 32.0	-0.9
	baz=308						
EAST	Anshuo	2.22	258	eP	Pn	17 28 07.5	+1.0
	baz=260						
EAST				eS	Sn	17 28 31.9	-1.2
	baz=260						
JTJ	Tarama	2.25	38	P	Pn	17 28 07.5	+0.6
JTJ				eS	Sn	17 28 32.8	-1.0
ALS	Alishan	2.29	287	eP	Pn	17 28 08.5	+0.7
	baz=286						
NNS	Nan Shan	2.30	314	eP	Pn	17 28 08.8	+1.2
	baz=316						
NNS				eS	Sn	17 28 34.2	-0.9
	baz=316						
TWT	Tachien	2.32	307	eP	Pn	17 28 08.3	+0.4
	baz=309						
TWT				eS	Sn	17 28 35.4	-0.3
	baz=309						
ENTT	Nioudou	2.32	320	eP	Pn	17 28 07.2	-0.7
	baz=329						
ENTT				eS	Sn	17 28 35.5	0.0
	baz=329						
TWE	Neicheng	2.32	323	eP	Pn	17 28 09.0	+1.1
	baz=331						
TWE				eS	Sn	17 28 33.1	-2.5
	baz=331						
SMLT	Sun Moon Lake	2.34	296	eP	Pn	17 28 09.2	+0.9
	baz=299						
SSD	Sandimen	2.37	268	eP	Pn	17 28 09.5	+1.0
	baz=265						
TYC	Yuchr	2.39	296	eP	Pn	17 28 09.0	+0.2
	baz=299						
TWK1	Hengchun	2.39	248	eP	Pn	17 28 09.7	+0.9
	baz=249						
TWK1				eS	Sn	17 28 36.4	-0.9
	baz=249						
WTP	Ta-pu	2.41	280	eP	Pn	17 28 11.4	+2.3
	baz=281						
WTP				eS	Sn	17 28 37.9	+0.1
	baz=281						
SGST	Jiashian	2.42	276	eP	Pn	17 28 10.6	+1.3
	baz=281						
SGST				eS	Sn	17 28 38.6	+0.6
	baz=281						
CHN5	Tsauling	2.43	288	eP	Pn	17 28 10.6	+1.1
	baz=288						
CHN5				eS	Sn	17 28 38.2	-0.2
	baz=288						
CHN4	Tsaushan	2.44	282	eP	Pn	17 28 10.8	+1.2
	baz=283						
CHN4				eS	Sn	17 28 39.2	+0.5
	baz=283						
NSK	Sanguang	2.47	317	eP	Pn	17 28 11.2	+1.1
	baz=320						
NSK				eS	Sn	17 28 37.5	-1.9
	baz=320						
CHN1	Nanshi	2.48	278	eP	Pn	17 28 12.4	+2.3
	baz=277						
CHN1				eS	Sn	17 28 40.0	+0.5
	baz=277						
TWK	Hsinying	2.53	280	eP	Pn	17 28 12.9	+2.1
	baz=279						
TWK				eS	Sn	17 28 41.3	+0.6
	baz=279						
TWM1	Shoushan	2.56	270	eP	Pn	17 28 14.1	+3.0
	baz=268						
TWQ1	Liyutan	2.67	304	eP	Pn	17 28 15.3	+2.5
	baz=305						
TWQ1				eS	Sn	17 28 43.7	-0.6
	baz=305						
NSTT	Nanjuang	2.67	312	eP	Pn	17 28 14.1	+1.3
	baz=313						
NSTT				eS	Sn	17 28 44.3	0.0
	baz=313						
TWS1	Kuangyinshan	2.76	324	eP	Pn	17 28 15.2	+1.2
	baz=317						
TWS1				eS	Sn	17 28 46.3	-0.2
	baz=317						

*TIR **28** 17:36:19.2, 41.40N×19.50E, h0km, ML3.5*
*IDC **28** 17:36:28.0±1.1, 41.56N×19.65E, h0km, mb3.8/7, mb1 3.8/10, mb1mx3.6/27, mbtmp3.7/10, ML3.2/3, Error ellipse: s-maj=21.8km s-min=13.9km az=47.0*
*BEO **28** 17:36:28.5±0.7, 41.44N×19.38E, h1km±4km, ML3.7/1*
*CSEM **28** 17:36:29.0±0.1, 41.44N×19.43E, h2km, ML3.5, Ms3.4, Error ellipse: s-maj=3.6km s-min=2.7km az=28.0*
*PDG **28** 17:36:29.3±0.4, 41.39N×19.52E, h12km, MD3.6/5, ML3.6/10, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*
*LDG **28** 17:36:29.6±0.1, 41.49N×19.53E, h10km, Ml3.7/4, Error ellipse: s-maj=2.8km s-min=1.7km az=9.0*
*SKO **28** 17:36:29.8, 41.39N×19.49E, h4km, M3.3, ML3.8*
*VIE **28** 17:36:30.7±0.2, 41.49N×19.32E, h10km, mb3.0/4, Ms3.4/4, Error ellipse: s-maj=2.7km s-min=2.0km az=83.0 24 km NNW of Durres*
*THE **28** 17:36:31.7, 41.45N×19.55E, h13km±4km, ML3.7/4, Error ellipse: s-maj=4.7km s-min=1.3km az=295.0*

ISC 28 17:36:29.1±0.7, 41.42N±0.02×19.47E±0.02, h11km±4km, n242, σ1°45/303, mb3.9/8, 30C-24D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	Tirane	0.30	104	ePG	Pg	17 36 35.3	+0.1
TIR				*i* SG	Sg	17 36 40.0	+0.7
TIR	Tirane	0.30	104	ePg	Pg	17 36 35.3	+0.1
TIR				eSg	Sg	17 36 40.1	+0.7
TIR	Tirane	0.30	104	ePg	Pg	17 36 35.3	+0.1
TIR				*i* Sg	Sg	17 36 40.0	+0.7
ULC	Ulcinj	0.57	343	↓*i* Pg	Pg	17 36 40.6	+0.4
ULC				eSg	Sb	17 36 50.2	+1.0
ULC	Ulcinj	0.57	343	↓*i* Pg	Pg	17 36 40.6	+0.4
ULC				eSg	Sb	17 36 50.2	+1.0
PUK	Puka	0.70	27	ePG	Pg	17 36 41.6	-1.0
PUK				*i* SG	Sb	17 36 53.6	+0.6
PUK	Puka	0.70	27	ePg	Pg	17 36 41.6	-1.0
PHP	Peshkopia	0.77	70	ePG	Pg	17 36 42.4	-1.6
PHP				*i* SG	Sg	17 36 54.6	+0.4
PHP	Peshkopia	0.77	70	ePg	Pg	17 36 42.4	-1.6
PHP				*i* Sg	Sg	17 36 54.6	+0.4
BUM	Brajici-Budva	0.98	334	↓*i* Pg	Pb	17 36 48.8	+0.7
BUM				eSg	Sn	17 37 04.6	+1.8
TTG	Podgorica	1.02	351	↑*i* Pg	Pg	17 36 48.2	-0.5
TTG				eSg	Sn	17 37 05.6	+2.0
PDG	Podgorica	1.02	351	ePn	Pg	17 36 48.3	-0.5
PDG	Podgorica	1.02	351	eSg	Sn	17 37 05.6	+1.9
BCI	Bajram Curri	1.04	25	ePG	Pb	17 36 47.6	-1.6
BCI				*i* SG	Sb	17 37 03.5	+0.6
BCI	Bajram Curri	1.04	25	ePg	Pb	17 36 47.6	-1.6
BCI				*i* Sg	Sb	17 37 03.5	+0.6
PVY	Plav	1.23	17	↑*i* Pg	Pn	17 36 51.2	-1.1
PVY				eSg	Sn	17 37 11.5	+2.5
PVY	Plav	1.23	17	↑*i* Pg	Pn	17 36 51.2	-1.1
PVY				eSg	Sn	17 37 11.5	+2.5
HCY	Herceg Novi	1.26	325	↑*i* Pg	Pg	17 36 53.8	+0.5
HCY				eSg	Sg	17 37 13.6	+3.9
HCY	Herceg Novi	1.26	325	↑*i* Pg	Pg	17 36 53.8	+0.5
NKY	Niksic	1.44	346	↑*i* Pg	Pb	17 36 56.2	+0.3
NKY				eSg	Sg	17 37 17.8	+2.4
NKY	Niksic	1.44	346	↑*i* Pg	Pb	17 36 56.2	+0.3
NKY				eSg	Sg	17 37 17.8	+2.4
BIA	Bitola	1.45	105	ePn	Pn	17 36 55.7	+0.4
BIA	Bitola	1.45	105	ePn	Pn	17 36 55.7	+0.4
BEY	Berane	1.48	12	↑*i* Pg	Pn	17 36 56.2	+0.4
BEY				eSg	Sg	17 37 19.0	+2.1
IVA	Berane	1.48	12	↑*i* Pg	Pn	17 36 56.2	+0.4
IVA				eSg	Sg	17 37 19.0	+2.1
NEST	Nestorio	1.56	130	P	Pb	17 36 58.5	+0.5
NEST				S	Sb	17 37 18.9	+1.1
NEST	Nestorio	1.56	130	P	Pb	17 36 58.5	+0.5
NEST				S	Sb	17 37 18.9	+1.1
FNA	Florina	1.57	113	P	Pn	17 36 57.9	+0.9
FNA				S	Sb	17 37 19.2	+1.1
FNA	Florina	1.57	113	P	Pn	17 36 57.9	+0.9
FNA				S	Sb	17 37 19.2	+1.1
SKO	Skopje	1.57	69	ePn	Pb	17 36 58.2	+0.1
SKO				*i* Sg	Sg	17 37 20.0	+0.3
SKO				eLg	Lg	17 37 21.4	
	comp=N,1μm,0.7s						
SKO				eLg	Lg	17 37 22.1	
	comp=E,1μm,0.9s						
SKO	Skopje	1.57	69	ePg	Pb	17 36 58.2	+0.1
SKO				eSg	Sg	17 37 20.8	+1.1
SRN	Sarande	1.59	165	ePG	Pg	17 36 59.5	-0.1
SRN	Sarande	1.59	165	ePg	Pg	17 36 59.5	-0.1
BRY	Bratogost	1.64	335	↓*i* Pn	Pb	17 36 59.3	0.0
BRY				eSn	Sg	17 37 23.6	+1.9
KEK	Kerkira	1.72	172	eP	Pb	17 37 01.5	+0.8
UPM	Unac-Piva	1.83	347	↑*i* Pn	Pb	17 37 02.5	-0.2
UPM				eSn	Sg	17 37 28.4	+0.4
SJES	Sjenica	1.88	11	ePn	Pb	17 37 03.2	-0.2
SJES	Sjenica	1.88	11	ePn	Pb	17 37 03.2	-0.2
PLE	Pljevlja	1.91	358	↑*i* Pn	Pb	17 37 03.9	-0.1
PLE				eSn	Sg	17 37 29.8	-0.7
STON	Ston	1.96	318	ePn	Pn	17 37 03.6	+1.4
STON				Sn	Sg	17 37 32.7	+0.6
STON	Ston	1.96	318	ePn	Pn	17 37 03.6	+1.4
BAI	Bari	1.98	262	ePn	Pn	17 37 03.7	+1.2
BAI				eSn	Sn	17 37 28.4	+1.2
IGT	Igoumenitsa	2.00	161	P	Pb	17 37 04.5	+1.8
IGT				S	Sb	17 37 30.3	+0.1
IGT	Igoumenitsa	2.00	161	P	Pn	17 37 04.5	+1.8
IGT				S	Sb	17 37 30.3	+0.1
JAN	Janina	2.05	149	eP	Pb	17 37 06.5	+0.2
KZN	Kozani	2.07	122	P	Pn	17 37 05.6	+1.8
KZN				S	Sn	17 37 31.1	+1.5
KZN	Kozani	2.07	122	eP	Pb	17 37 06.0	-0.6
KZN	Kozani	2.07	122	P	Pn	17 37 05.6	+1.8
KZN				S	Sn	17 37 31.1	+1.5
MEV	Metsovon	2.11	140	P	Pb	17 37 06.5	-0.9
MEV	Metsovon	2.11

TRUS	Trudelj	2.88	13	*e*Pn		Pn	17 37 15.5	+0.5
TRUS	Trudelj	2.88	13	*e*Pn		Pn	17 37 15.5	+0.5
ZAPS	Zavoj	2.99	51	*e*Pn		Pn	17 37 17.9	+1.5
ZAPS				*e*Sn		Sn	17 37 54.2	+2.0
ZAPS	Zavoj	2.99	51	*e*Pn		Pn	17 37 17.9	+1.5
ZAPS				*e*Sn		Sn	17 37 54.2	+2.0
SOH	Sokhos	2.99	100	*e*P		Pn	17 37 16.0	-0.5
VTS	Vitosha	3.02	66	P		Pn	17 37 18.4	+1.5
VTS	Vitosha	3.02	66	⇑*i*P		Pb	17 37 21.0	-1.9
VTS	Vitosha	3.02	66	*e*Pn		Pn	17 37 18.0	+1.1
VTS				*e*Sn		Sn	17 37 54.5	+1.3
VTS	Vitosha	3.02	66	*e*Pn		Pn	17 37 18.0	+1.1
VTS	Vitosha	3.02	66	P		Pn	17 37 18.4	+1.5
VTS				*e*Sn		Sn	17 37 54.5	+1.3
VTS				S		Sb	17 37 58.8	-1.1
BOLS	Boljevac	3.02	36	*e*Pn		Pn	17 37 16.8	-0.1
BOLS	Boljevac	3.02	36	*e*Pn		Pn	17 37 16.8	-0.1
EVR	Evrytania	3.07	144	*e*P		Pn	17 37 20.5	+2.9
SRS	Serrai	3.12	94	P		Pn	17 37 19.1	+0.9
SRS	Serrai	3.12	94	P		Pn	17 37 19.1	+0.9
SVIS	Svilajnac	3.12	24	*e*Pn		Pn	17 37 18.0	-0.1
TEKS	Tekeris	3.13	1	*e*Pn		Pn	17 37 17.6	-0.7
TEKS	Tekeris	3.13	1	*e*Pn		Pn	17 37 17.6	-0.7
PLG	Polygyros	3.19	108	P		Pn	17 37 20.2	+1.1
PLG	Polygyros	3.19	108	*e*P		Pn	17 37 20.5	+1.4
PLG	Polygyros	3.19	108	P		Pn	17 37 20.2	+1.1
NVR	Nevrokopi	3.30	90	P		Pn	17 37 22.3	+1.6
NVR	Nevrokopi	3.30	90	P		Pn	17 37 22.3	+1.6
VLS	Valsamata	3.35	165	*e*P		Pn	17 37 22.0	+0.6
EFP	Efpalio	3.53	147	*e*P		Pn	17 37 27.0	+3.3
NEO	Neokhori	3.56	125	*e*P		Pn	17 37 24.5	+0.3
OUR	Ouranopolis	3.59	106	P		Pn	17 37 25.3	+0.7
OUR	Ouranopolis	3.59	106	P		Pn	17 37 25.3	+0.7
RLS	Riolos of Patr	3.69	155	P		Pn	17 37 27.8	+1.8
RLS	Riolos of Patr	3.69	155	P		Pn	17 37 27.8	+1.8
FGSL	Fruska Gora	3.74	4	*e*Pn		Pn	17 37 27.0	+0.2
FRGS	Fruska Gora	3.75	4	*e*Pn		Pn	17 37 27.0	+0.2
LKR	Lokris	3.87	134	*e*P		Pn	17 37 23.0	-5.5
GUR	Goura	4.12	147	*e*P		Pn	17 37 33.0	+0.9
LTK	Loutraki	4.33	140	*e*P		Pn	17 37 35.5	+0.6
BZS	Buzias	4.48	20	⇓*i*P		Pn	17 37 37.5	+0.7
BZS	Buzias	4.48	20	*e*Pn		Pn	17 37 37.1	+0.3
BZS	Buzias	4.48	20	*e*Pn		Pn	17 37 37.1	+0.3
BZS	Buzias	4.48	20	⇓*i*P		Pn	17 37 37.5	+0.7
BZS				S		Sn	17 38 30.1	+1.3
RHK3	Tenkes	4.55	349	*e*PP		Pn	17 37 39.5	+1.6
RHK3	Tenkes	4.55	349	*e*P		Pn	17 37 39.5	+1.6
NVLJ	Novalja	4.61	314	*e*Pn		Pn	17 37 39.6	+1.0
NVLJ				S		Sn	17 38 33.5	+1.4
NVLJ	Novalja	4.61	314	*e*Pn		Pn	17 37 39.6	+1.0
NVLJ				Sn		Sn	17 38 33.5	+1.4
AQU	L'Aquila	4.63	284	⇓*i*P		Pn	17 37 41.3	+2.4
AQU	L'Aquila	4.63	284	⇓*i*P		Pn	17 37 41.3	+2.4
AQU				S		Sn	17 38 35.0	+2.3
VLX	Vlachokerasia	4.63	150	*e*P		Pn	17 37 41.5	+2.5
ITM	Ithomi	4.64	155	*e*P		Pn	17 37 40.5	+1.4
GZR	Gura Zlata	4.64	30	⇑*i*P		Pn	17 37 40.3	+1.1
GZR	Gura Zlata	4.64	30	S		Sn	17 38 35.3	+2.2
GZR	Gura Zlata	4.64	30	⇑*i*P		Pn	17 37 40.3	+1.1
PKSM	Moragy	4.83	353	⇑*i*P		Pn	17 37 42.5	+0.9
PKSM	Moragy	4.83	353	*e*Pn		Pn	17 37 41.9	+0.3
PKSM	Moragy	4.83	353	⇓e		Pn	17 37 42.2	+0.6
PKSM	Moragy	4.83	353	*e*Pn		Pn	17 37 41.9	+0.3
PKSM	Moragy	4.83	353	⇓*e*P		Pn	17 37 42.2	+0.6
PKSM				S		Sn	17 38 36.0	-1.5
PYL	PYLOS	4.85	158	*e*P		Pn	17 37 42.5	+0.6
DID	Didima	4.87	142	*e*P		Pn	17 37 43.0	+0.7
ALN	Alexandroupoli	4.99	94	*e*P		Pn	17 37 44.5	+0.7
PKS2	Kecel	5.08	358	*e*		Pn	17 37 46.8	+1.8
PKS2	Kecel	5.08	358	*e*P		Pn	17 37 46.8	+1.8
BOJS	Bojanci	5.11	324	*i* Pn		Pn	17 37 46.5	+1.0
BOJS				*i* Sn		Sn	17 38 44.4	0.0
BOJS	Bojanci	5.11	324	*i* Pn		Pn	17 37 46.5	+1.0
BOJS				*i* Sn		Sn	17 38 44.4	0.0
PKS9	Tamasi	5.24	351	*e*		Pn	17 37 46.2	-1.0
PKS9	Tamasi	5.24	351	*e*P		Pn	17 37 46.2	-1.0
BEHE	Becsehely	5.41	340	⇓e		Pn	17 37 56.5	+6.9
VISS	Visnje	5.52	324	*i* Pn		Pn	17 37 52.3	+1.1
VISS				*i* Sn		Sn	17 38 53.9	-0.8
VISS	Visnje	5.52	324	*i* Pn		Pn	17 37 52.3	+1.1
VISS				*i* Sn		Sn	17 38 53.9	-0.8
PDKS	Podkum	5.66	327	*i* Pn		Pn	17 37 54.0	+0.9
PDKS	Podkum	5.66	327	*i* Pn		Pn	17 37 54.0	+0.9
VOIR		5.71	43	⇑*i*P		Pn	17 37 56.0	+2.2
VOIR		5.71	43	⇑*i*P		Pn	17 37 56.0	+2.2
VOIR				S		Sn	17 39 02.7	+3.3
SKDS	Skadanscina	5.72	318	*i* Pn		Pn	17 37 54.1	+0.1
SKDS	Skadanscina	5.72	318	*i* Pn		Pn	17 37 54.1	+0.1
GROS	Grobnik	5.80	332	*i* Pn		Pn	17 37 55.6	+0.6
GROS				*i* Sn		Sn	17 39 01.0	-0.5
GROS	Grobnik	5.80	332	*i* Pn		Pn	17 37 55.6	+0.6
GROS				*i* Sn		Sn	17 39 01.0	-0.5
KYTH	Kithira	5.84	150	P		Pn	17 37 59.0	+3.5
KYTH	Kithira	5.84	150	*e*P		Pn	17 37 57.0	+1.5
DRGR		5.85	22	⇑*i*P		Pn	17 37 56.7	+0.9
DRGR		5.85	22	⇑*i*P		Pn	17 37 56.7	+0.9
DRGR				S		Sn	17 39 02.6	-0.3
PKST	T"s	5.93	350	*e*		Pn	17 37 58.4	+1.6
PKST	T"s	5.93	350	*e*P		Pn	17 37 58.4	+1.6
JAVS	Javornik	5.95	321	*i* Pn		Pn	17 37 57.6	+0.5
JAVS				*i* Sn		Sn	17 39 04.2	-1.0
JAVS	Javornik	5.95	321	*i* Pn		Pn	17 37 57.6	+0.5
JAVS				*i* Sn		Sn	17 39 04.2	-1.0
PKSG		6.02	353	*e*		Sn	17 38 00.5	+2.5
PKSG		6.02	353	*e*P		Pn	17 38 00.5	+2.5
VOY	Vojsko	6.13	321	*e*Pn		Pn	17 38 00.3	+0.7
VOJS	Vojsko	6.13	321	*i* Pn		Pn	17 38 00.1	+0.4
VOJS				*i* Sn		Sn	17 39 08.4	-1.5
VOJS	comp=Z,8.0nm,0.2s							
VOJS	Vojsko	6.13	321	*i* Pn		Pn	17 38 00.1	+0.4
VOJS				*i* Sn		Sn	17 39 08.4	-1.5
	comp=Z,8.0nm,0.2s							
SOKA	Soboth	6.15	330	⇑*i*Pn		Pn	17 38 00.7	+0.8
SOKA	Soboth	6.15	330	Pn		Pn	17 38 00.7	+0.8
OBKA	Obir	6.21	327	⇑Pn		Pn	17 39 00.2	+0.1
OBKA				⇑*i*Sn		Sn	17 39 11.2	-0.3
OBKA	Obir	6.21	327	Pn		Pn	17 38 00.7	+0.1
OBKA				Sn		Sn	17 39 11.2	-0.3
MLR	Muntele Rosu	6.22	47	⇓*i*P		Pn	17 38 03.3	+2.4
MLR	Muntele Rosu	6.22	47	S		Sn	17 39 16.7	+4.6
MLR	Muntele Rosu	6.22	47	Pn		Pn	17 38 04.5	+3.6
MLR	comp=Z,0.3nm,0.3s,baz=145,slow=18,SNR=4.6			Sn		Sn	17 39 11.7	-0.4
MLR	comp=Z,0.2nm,0.3s,baz=247,slow=15,SNR=1.8	6.22	47	⇓*i*P		Pn	17 38 03.3	+2.4
DOPR	Dopca	6.25	41	⇑*i*P		Pn	17 38 03.9	+2.7
DOPR	Dopca	6.25	41	S		Sn	17 39 15.0	+2.5
DOPR	Dopca	6.25	41	⇑*i*P		Pn	17 38 03.9	+2.7
ARSA	Arzberg	6.48	335	⇓*i*Pn		Pn	17 38 04.9	+0.5
ARSA	Arzberg	6.48	335	Pn		Pn	17 38 04.9	+0.5
PSZ	Piszkesteto	6.50	3	⇑*i*P		Pn	17 38 05.9	+1.2
PSZ	Piszkesteto	6.50	3	S		Sn	17 39 16.9	-2.0
PSZ	Piszkesteto	6.50	3	⇓e		Pn	17 38 07.5	+2.8
PSZ	Piszkesteto	6.50	3	⇓*e*P		Pn	17 38 07.5	+2.8
PLOR	Plostina	6.83	47	⇑*i*P		Pn	17 38 12.4	+3.2
PLOR	Plostina	6.83	47	⇑*i*P		Pn	17 38 12.4	+3.2
PLOR				S		Sn	17 39 30.8	+3.8
VRI	Vrincioaia	6.89	47	⇑*i*P		Pn	17 38 13.0	+3.1
VRI	Vrincioaia	6.89	47	⇑*i*P		Pn	17 38 13.0	+3.1
TRPA	Tarpa	7.05	17	⇓e		Pn	17 38 14.2	+2.0
TRPA	Tarpa	7.05	17	⇓*e*P		Pn	17 38 14.2	+2.0
VYHS	Vyhne	7.09	357	*e*PN		Pn	17 38 15.6	+2.9
VYHS				*e*SN		Sn	17 39 28.9	-4.3
VYHS	Vyhne	7.09	357	*e*Pn		Pn	17 38 15.6	+2.9
CFR	Carcaliu	7.35	56	⇓*i*P		Pn	17 38 18.2	+2.0
CRVS	Cervenica-Dubn	7.61	10	*e*PN		Pn	17 38 22.1	+2.2
CRVS	Cervenica-Dubn	7.61	10	*e*Pn		Pn	17 38 22.1	+2.2
KOLS	Kolonicke sedl	7.77	14	*e*PN		Pn	17 38 24.1	+2.1
KOLS				*e*SN		Sn	17 39 47.6	-2.3
KOLS	Kolonicke sedl	7.77	14	*e*Pn		Pn	17 38 24.1	+2.1
TLCR		7.78	58	⇓*i*P		Pn	17 38 25.1	+2.9
TLCR		7.78	58	⇓*i*P		Pn	17 38 25.1	+2.9
PGF	Pioggiola	7.88	282	*e*Pn		Pn	17 38 22.0	-1.7
PGF	Pioggiola	7.88	282	*e*P		Pn	17 38 26.8	+3.1
PGF	Pioggiola	7.88	282	*e*P		Pn	17 38 26.8	+3.1
WTTA	Wattenberg	8.10	319	⇑*i*Pn		Pn	17 38 26.5	-0.2
WTTA	SNR=8.0			⇓*i*Sn		Sn	17 39 57.5	-0.9
WTTA	Wattenberg	8.10	319	Pn		Pn	17 38 26.5	-0.2
WTTA	SNR=8.0			Sn		Sn	17 39 57.5	-0.9
WATA	Walderalm	8.18	319	⇓*i*Pn		Pn	17 38 27.7	-0.1
WATA				⇓*i*Sn		Sn	17 40 00.1	-0.2
WATA	Walderalm	8.18	319	Pn		Pn	17 38 27.7	-0.1
WATA				Sn		Sn	17 40 00.1	-0.2
GERES	GERESS Array B	8.47	333	Pn		Pn	17 38 32.0	+0.3
GERES	comp=Z,0.2nm,0.3s,baz=155,slow=14,SNR=7.9			Sn		Sn	17 40 08.6	+1.4
DAVOX	comp=Z,0.3nm,0.3s,baz=156,slow=22,SNR=4.0 Davos/Dischmat	8.73	311	Pn		Pn	17 38 33.8	-1.7
DAVOX	comp=Z,0.2nm,0.3s,baz=126,slow=19,SNR=2.1			Sn		Sn	17 40 14.2	+0.3
KHC	comp=Z,0.6nm,0.3s,baz=313,slow=17,SNR=3.8 Kasperske Hory	8.76	334	*e*PN		Pn	17 38 37.7	+2.1
KHC				*ex*		x	17 38 54.6	
KHC				*e*SN		Sn	17 40 11.7	-2.5
KHC	Kasperske Hory	8.76	334	Pn		Pn	17 38 37.7	+2.1
FRF	La Foret Royal	9.71	287	*e*Pn		Pn	17 38 47.9	-0.8
FRF	La Foret Royal	9.71	287	*e*Pn		Pn	17 38 47.9	-0.8
MBDF	Montbardon	9.86	294	*e*Pn		Pn	17 38 49.6	-1.3
MBDF	comp=Z,1.7nm,0.4s			*e*Sn		Sn	17 40 33.9	-7.7
MBDF	Montbardon	9.86	294	*e*Pn		Pn	17 38 49.6	-1.3
LPG	La Plagne	10.11	298	*e*Pn		Pn	17 38 52.6	-1.7
LPG	comp=Z,7.1nm,0.6s			*e*Sn		Sn	17 40 39.5	-8.2
LPL	La Plagne	10.12	298	*e*Pn		Pn	17 38 53.7	-0.8
LPL	comp=Z,4.8nm,0.4s			*e*Sn		Sn	17 40 40.1	-8.0
LPL	La Plagne	10.12	298	*e*Pn		Pn	17 38 53.7	-0.8
ORIF	Oris-en-Rattie	10.53	294	*e*Pn		Pn	17 38 59.6	-0.3
ORIF	Oris-en-Rattie	10.53	294	*e*Pn		Pn	17 38 59.6	-0.3
CABF	La Chapelle	10.94	303	*e*Pn		Pn	17 39 03.3	-2.3
HINF	Hinteralfeld	11.03	310	*e*Pn		Pn	17 39 04.8	-1.9
CDF	Champ du Feu	11.11	313	*e*Pn		Pn	17 39 05.7	-2.2
HAU	Haudompre	11.42	310	*e*Pn		Pn	17 39 11.1	-0.9
HAU	comp=Z,2.0nm,0.2s			*e*Sn		Sn	17 41 10.3	-9.2
HAU	Haudompre	11.42	310	*e*Pn		Pn	17 39 11.1	-0.9
SMF	Signal de Mont	12.40	300	*e*Pn		Pn	17 39 23.9	-1.5
SMF	Signal de Mont	12.40	300	*e*Pn		Pn	17 39 23.9	-1.5
LOR	Lormes	12.61	303	*e*Pn		Pn	17 39 26.5	-1.7
HFS	Hagfors	19.08	351	P		P	17 40 49.0	-2.2
FINES	comp=Z,0.1nm,0.3s,baz=201,slow=11,SNR=4.0 FINESS Array B	20.45	9	P		P	17 41 04.9	-1.3
KAF	comp=Z,2.6nm,0.6s,baz=187,slow=9.8,SNR=26 Kangasniemi	21.13	9	*e*P		P	17 41 11.5	-2.1
JOF	comp=Z,3.6nm,0.7s Joensuu	22.65	14	*e*P		P	17 41 29.6	-0.3
JOF	comp=Z,3.1nm,0.6s Joensuu	22.65	14	*e*P		P	17 41 29.6	-0.3
TORD	comp=Z,3.1nm,0.6s Torodi Ar. Bea	32.16	214	P		P	17 43 00.9	+4.1
BVAR	comp=Z,0.3nm,0.6s,baz=12,slow=8.2,SNR=3.0 Borovoye Array	35.74	53	P		P	17 43 27.6	0.0
ZALV	comp=Z,1.1nm,0.7s,baz=285,slow=5.8,SNR=7.6 Zalesovo Beam	44.19	50	P		P	17 44 36.8	-0.9
MKAR	comp=Z,3.3nm,0.6s,baz=280,slow=8.4,SNR=25 Makanchi Array	44.36	61	P		P	17 44 38.5	-0.8
PYUN	comp=Z,2.7nm,0.6s,baz=284,slow=7.1,SNR=56 Piuthan	52.77	83	*e*P		P	17 45 42.4	-2.0
DANN	comp=Z,8.7nm,0.7s Dangsing	53.21	83	*e*P		P	17 45 46.0	-1.8
GKN	comp=Z,15nm,0.8s Gorkha	54.05	82	*e*P		P	17 45 51.5	-2.3
DMN	comp=Z,8.9nm,0.7s Daman	54.61	83	*e*P		P	17 45 56.1	-1.9
KKN	comp=Z,10nm,0.8s Kakani	54.64	82	*e*P		P	17 45 56.0	-2.1
PKI	Pulchoki	54.85	82	*e*P		P	17 45 57.8	-2.0
GUN	Gumba	55.02	82	*e*P		P	17 45 59.1	-2.0
JIRN	comp=Z,16nm,0.9s Jiri	55.39	82	*e*P		P	17 46 01.8	-1.9
RAMN	comp=Z,2.2nm,0.6s Ramite	56.08	82	*e*P		P	17 46 06.3	-2.3
TAPN	comp=Z,18nm,0.7s Taplejung	56.69	81	*e*P		P	17 46 10.9	-2.1
ODAN	comp=Z,3.9nm,0.7s Odare	56.72	82	*e*P		P	17 46 11.2	-1.9
SONM	comp=Z,7.8nm,0.7s Songino Array	59.05	52	P		P	17 46 28.7	-0.4
YKA	comp=Z,0.8nm,0.8s,baz=288,slow=8.7,SNR=8.1 Yellowknife Ar	70.07	339	P		P	17 47 40.2	-0.5
ASAR	comp=Z,0.2nm,0.8s,baz=35,slow=5.3,SNR=4.2 Alice Springs	151.25	93	PKP		PKPdf	17 55 24.2	-1.9
	comp=Z,0.2nm,0.6s,baz=304,slow=1.5,SNR=5.4							

IDC 28 18:01:32.9±1.1, 3°.67N×126°.76E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.8/23, mbtmp3.9/8, 1C, Error ellipse: s-maj=106.6km s-min=15.4km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**4.33**	**325**	⇑*e*P	Pb	18 02 45.5	-4.3
FITZ	**Fitzroy Crossi**	**21.66**	**183**	P	P	18 06 25.2	0.0
	0.9nm,0.5s,baz=20,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**24.62**	**163**	P	P	18 06 54.6	-0.7
	1.6nm,0.3s,baz=344,slow=9.7,SNR=32						
ASAR	**Alice Springs**	**28.05**	**166**	P	P	18 07 26.2	0.0
	0.3nm,0.4s,baz=338,slow=7.0,SNR=21						
STKA	**Stephens Creek**	**38.06**	**159**	P	P	18 08 54.0	+0.6
	1.6nm,0.3s,baz=342,slow=6.5,SNR=7.9						
SONM	**Songino Array**	**47.36**	**341**	P	P	18 10 09.0	+0.2
	0.3nm,0.6s,baz=160,slow=8.0,SNR=6.3						
MKAR	**Makanchi Array**	**57.62**	**325**	P	P	18 11 24.9	0.0
	0.6nm,0.4s,baz=117,slow=7.4,SNR=24						
ZALV	**Zalesovo Beam**	**60.65**	**333**	P	P	18 11 45.8	+0.1
	0.3nm,0.4s,baz=120,slow=8.5,SNR=2.5						
ARCES	**ARCESS Array B**	**90.51**	**340**	P	P	18 14 35.5	-0.9
	4.9nm,1.0s,baz=72,slow=6.0,SNR=4.1						

IDC 28 18:03:58.6±1.2, 15°.14N×147°.50E, h47km±8km, mb3.4/10, mb1 3.6/11, mb1mx3.5/25, mbtmp3.4/11, ML3.3/1, Error ellipse: s-maj=22.6km s-min=12.5km az=120.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.98**	**239**	P	Pn	18 04 43.0	-0.5
	4.0nm,0.3s,baz=86,slow=19,SNR=5.0						
GUMO				S	Sn	18 05 18.3	+0.2
	16nm,0.3s,baz=204,slow=23,SNR=4.9						
MJAR	**Matsushiro Arr**	**22.87**	**340**	P	P	18 08 56.3	-1.9
	1.1nm,0.8s,baz=164,slow=9.9,SNR=4.3						
KSRS	**Korea Array**	**28.20**	**326**	P	P	18 09 45.6	-1.3
	0.8nm,0.6s,baz=147,slow=9.4,SNR=5.2						
WRA	**Warramunga Arr**	**37.19**	**201**	P	P	18 11 05.0	-0.6
	0.4nm,0.7s,baz=24,slow=9.6,SNR=4.9						
ASAR	**Alice Springs**	**40.80**	**199**	P	P	18 11 35.5	-0.2
	0.2nm,0.6s,baz=27,slow=8.5,SNR=4.3						
ASAR				pP	pP	18 11 48.2	-0.1
	0.2nm,0.5s,baz=18,slow=13,SNR=2.6						
CMAR	**Chiang Mai Arr**	**46.50**	**281**	P	P	18 12 22.7	+1.0
	0.6nm,0.4s,baz=79,slow=6.1,SNR=6.0						
SONM	**Songino Array**	**47.00**	**323**	P	P	18 12 26.1	+0.7
	1.1nm,0.7s,baz=137,slow=6.7,SNR=9.6						
SONM				pP	pP	18 12 38.7	+0.6
	1.0nm,1.0s,baz=126,slow=6.0,SNR=3.8						
ZALV	**Zalesovo Beam**	**61.88**	**323**	P	P	18 14 12.2	-1.0
	0.4nm,0.6s,baz=108,slow=4.8,SNR=3.8						
MKAR	**Makanchi Array**	**62.17**	**315**	P	P	18 14 16.2	+0.9
	0.5nm,0.5s,baz=93,slow=7.4,SNR=9.5						
MKAR				pP	pP	18 14 28.5	0.0
	0.3nm,0.5s,baz=99,slow=7.9,SNR=3.7						
YKA	**Yellowknife Ar**	**80.31**	**28**	P	P	18 16 04.6	+0.1
	0.2nm,0.6s,baz=285,slow=5.4,SNR=4.1						
FINES	**FINESS Array B**	**90.82**	**336**	P	P	18 16 55.3	-1.5
	1.4nm,0.8s,baz=54,slow=3.6,SNR=3.8						
DBIC	**Dimbokro**	**145.07**	**306**	PKPbc	PKPdf	18 23 31.8	-0.2
	1.4nm,0.7s,baz=15,slow=6.2,SNR=3.8						

IDC 28 18:07:07.1±6.8, 20°.08S×70°.12W, h66km±51km, mb3.3/2, mb1 3.5/4, mb1mx3.3/17, mbtmp3.4/4, ML3.6/2, Error ellipse: s-maj=69.3km s-min=51.3km az=18.0, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.21**	**27**	P	Pn	18 08 10.1	+0.5
	1.0nm,0.3s,baz=199,slow=7.0,SNR=10.0						
SIV	**San Ignacio**	**9.52**	**66**	P	Pn	18 09 20.7	-0.7
	1.0nm,0.3s,baz=266,slow=11,SNR=14						
TORD	**Torodi Ar. Bea**	**77.96**	**71**	P	P	18 18 58.6	-0.1
	0.5nm,0.7s,baz=250,slow=4.1,SNR=7.2						
YKA	**Yellowknife Ar**	**89.48**	**341**	P	P	18 19 55.5	-0.9
	0.1nm,0.4s,baz=138,slow=9.5,SNR=3.8						
ASAR	**Alice Springs**	**130.62**	**209**	PKP	PKPdf	18 26 11.1	-0.3
	0.2nm,1.1s,baz=146,slow=2.2,SNR=2.8						
WRA	**Warramunga Arr**	**133.57**	**213**	PKP	PKPdf	18 26 16.7	-0.2
	0.1nm,0.6s,baz=142,slow=1.8,SNR=3.5						
MKAR	**Makanchi Array**	**145.12**	**34**	PKPbc	PKPbc	18 26 36.6	-0.1
	0.5nm,0.6s,baz=332,slow=4.5,SNR=7.5						

IDC 28 18:07:24.1±53.0, 16°.51S×176°.12W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=991.6km s-min=175.7km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.21**	**240**	P	P	18 15 11.2	+0.3
	1.5nm,0.8s,baz=95,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**47.05**	**258**	P	P	18 15 57.5	-0.4
	0.3nm,0.6s,baz=95,slow=7.3,SNR=8.1						
ASAR	**Alice Springs**	**47.28**	**253**	P	P	18 15 59.5	-0.3
	2.8nm,0.6s,baz=89,slow=7.9,SNR=99						

IDC 28 18:22:52.0±2.1, 0°.84S×127°.46E, h0km, mb3.0/3, mb1 3.3/3, mb1mx3.1/20, mbtmp3.1/3, Error ellipse: s-maj=174.7km s-min=25.7km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.14**	**161**	P	P	18 27 28.0	0.0
	0.4nm,0.7s,baz=340,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**23.54**	**165**	P	P	18 28 04.1	0.0
	0.4nm,0.8s,baz=339,slow=10,SNR=7.4						
MKAR	**Makanchi Array**	**61.72**	**326**	P	P	18 33 12.2	0.0
	0.3nm,0.9s,baz=131,slow=5.9,SNR=2.8						

*CSEM **28** 18:31:54.7±0.2, 50°.33N×18°.68E, h2km, ML2.5/5, Error ellipse: s-maj=6.0km s-min=3.0km az=172.0*
*IPEC **28** 18:31:55.3±0.2, 50°.27N×18°.76E, h3km±2km, ML1.6/3, Error ellipse: s-maj=2.5km s-min=1.1km az=167.0*
*PRU **28** 18:31:57.3±0.2, 50°.27N×18°.55E, h0km*
WAR 28 18:31:54.7, 50°.26N×18°.76E, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.57**	**223**	*e*PG	Pg	18 32 06.6	+0.9
OKC				*e*SG	Sg	18 32 13.0	-0.2
	comp=Z,8.3nm,0.2s						
OKC	**Ostrava-Krasne**	**0.57**	**223**	*e*Pg	Pg	18 32 06.5	+0.8
	baz=42						
OKC				Sg	Sg	18 32 13.0	-0.2
	8.3nm,0.2s						
OJC	**Ojcow**	**0.67**	**93**	*e*Pg	Pg	18 32 08.0	+0.4
OJC				*e*Sg	Sb	18 32 18.0	-1.1
OJC	**Ojcow**	**0.67**	**93**	*e*Pg	Pg	18 32 08.2	+0.6
	baz=274						
MORC	**Moravsky Berou**	**0.92**	**239**	*e*Pg	Pg	18 32 12.6	+0.2
	baz=58						
MORC				*e*Sg	Sg	18 32 24.9	+0.5
	7.2nm,0.2s,baz=58						
KRLC	**Kraliky**	**1.28**	**263**	*e*PG	Pg	18 32 18.5	-0.9
KR

DBIC			Sn	Sn	18 52 39.5	-7.0
	0.8nm,0.3s,baz=40,slow=19,SNR=8.4					
DBIC			Lg	Lg	18 53 50.5	
	0.9nm,0.3s,baz=36,slow=20,SNR=8.9					
TORD	**Torodi Ar. Bea**	**11.41 105**	Pn	Pn	18 50 54.0	+0.2
	0.1nm,0.3s,baz=286,slow=13,SNR=14					
TORD			Sn	Sn	18 52 55.8	-6.3
	0.1nm,0.3s,baz=292,slow=20,SNR=5.2					
TORD			Lg	Lg	18 54 12.8	
	0.0nm,0.3s,baz=290,slow=25,SNR=2.7					
GERES	**GERESS Array B**	**37.49 25**	P	P	18 55 24.4	-0.6
	0.1nm,0.3s,baz=202,slow=10,SNR=5.1					
MKAR	**Makanchi Array**	**79.47 44**	P	P	19 00 18.0	-0.1
	0.3nm,0.7s,baz=292,slow=4.8,SNR=4.1					
ASAR	**Alice Springs**	**145.05 108**	PKPbc	PKPbc	19 07 48.7	-0.3
	0.7nm,0.9s,baz=264,slow=2.6,SNR=5.6					
WRA	**Warramunga Arr**	**145.61 101**	PKPbc	PKPdf	19 07 50.5	-0.2
	0.5nm,0.9s,baz=293,slow=2.2,SNR=4.4					

*IDC **28** 18:55:11.2±2.1, 17.04S×178.84W, h477km±24km, mb3.6/10, mb1 3.9/12, mb1mx3.6/21, mbtmp3.6/12, Error ellipse: s-maj=32.6km s-min=12.9km az=152.0*
*ISCJB **28** 18:55:14.9±0.6, 17.1S±0.2×179.0W±0.2, h533km, mb4.0/10, Error ellipse: s-maj=33.0km s-min=11.6km az=146.4*
ISC 28 18:55:15.8±0.7, 17.1S±0.2×178.9W±0.2, h533km, n21, σ0.98/20, mb3.9/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.61**	**66**	P		P		18 57 02.4	-7.0
	2.8nm,0.3s,baz=330,slow=10,SNR=6.4								
DZM	**Mont Dzumac**	**14.62**	**248**	P		**P**		**18 58 20.6**	**-1.1**
	0.2nm,0.3s,baz=78,slow=14,SNR=3.5								
ARMA	**Armidale**	**29.90**	**238**	*e*P		**P**		**19 00 40.2**	**-0.3**
CTA	**Charters Tower**	**33.08**	**259**	*e*P		**P**		**19 01 08.5**	**+0.8**
CNB	**Canberra Magne**	**33.51**	**231**	*e*P		**P**		**19 01 10.3**	**-0.9**
TOO	**Toolangi**	**37.27**	**230**	*e*P		**P**		**19 01 41.3**	**-1.1**
STKA	**Stephens Creek**	**38.56**	**240**	P		**P**		**19 01 52.5**	**-0.5**
	7.3nm,0.8s,baz=80,slow=9.9,SNR=17								
WRA	**Warramunga Arr**	**44.28**	**259**	P		**P**		**19 02 38.3**	**-0.1**
	2.5nm,0.5s,baz=95,slow=7.0,SNR=76								
ASAR	**Alice Springs**	**44.52**	**254**	P		**P**		**19 02 40.1**	**-0.1**
	26nm,0.6s,baz=89,slow=7.9,SNR=778								
NVAR	**Mina Array Bea**	**79.22**	**44**	P		**P**		**19 06 25.9**	**-0.2**
	2.6nm,0.8s,baz=221,slow=8.7,SNR=7.4								
PMSA	**Palmer Station**	**84.72**	**157**	P		**P**		**19 06 54.6**	**+1.4**
	12nm,0.4s,baz=242,slow=4.1,SNR=13								
ILAR	**Eielson Array**	**85.25**	**13**	P		**P**		**19 06 55.2**	**-0.5**
	0.7nm,0.5s,baz=223,slow=5.2,SNR=14								
TXAR	**Lajitas Array**	**86.01**	**58**	P		**P**		**19 07 00.2**	**-0.1**
	2.0nm,0.8s,baz=219,slow=6.2,SNR=9.9								
PDAR	**Pinedale Array**	**87.14**	**44**	P		**P**		**19 07 04.7**	**-0.9**
	1.2nm,0.6s,baz=210,slow=3.3,SNR=4.7								
CMAR	**Chiang Mai Arr**	**88.14**	**290**	P		**P**		**19 07 13.2**	**+2.8**
	1.2nm,0.9s,baz=129,slow=2.6,SNR=10								
YKA	**Yellowknife Ar**	**93.84**	**25**	P		**P**		**19 07 35.1**	**-0.5**
	0.4nm,0.7s,baz=248,slow=4.4,SNR=6.8								
MKAR	**Makanchi Array**	**108.23**	**314**	PKiKP		**PKiKP**		**19 12 42.5**	**-0.9**
	0.1nm,0.4s,baz=67,slow=0.3,SNR=4.0								
BRTR	**Keskin Array B**	**143.88**	**315**	PKP		**PKPdf**		**19 13 51.0**	**+0.1**
	1.1nm,0.9s,baz=92,slow=3.7,SNR=3.6								
CLL	**Collm**	**144.60**	**347**	*i* P		**PKPab**		**19 13 51.9**	**-0.3**
	comp=Z,3.0nm,0.7s								
MMAI	**Mount Meron Ar**	**145.29**	**304**	PKPbc		**PKPab**		**19 13 55.6**	**0.0**
	comp=Z,1.3nm,0.4s,baz=61,slow=5.2,SNR=6.8								
GERES	**GERESS Array B**	**146.73**	**345**	PKPbc		**PKPbc**		**19 13 58.3**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=17,slow=2.8,SNR=10								

*ISK **28** 19:07:12.4, 38.00N×38.14E, h5km, MD3.7*
*DDA **28** 19:07:13.2, 38.01N×38.13E, h9km, ML3.7*
*CSEM **28** 19:07:13.1±0.2, 37.97N×38.15E, h2km, ML3.7, Error ellipse: s-maj=4.6km s-min=3.5km az=140.0*
ISC 28 19:07:13.7±1.0, 38.00N±0.02×38.16E±0.02, h8km±9km, n66, σ1.97/81, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.35**	**328**	*i* P		**Pg**		**19 07 20.2**	**-0.4**
AKCD				*i* S		**Sg**		**19 07 25.4**	**+0.2**
AKCD	**Akcadag**	**0.35**	**328**	*i* P		**Pg**		**19 07 20.2**	**-0.4**
AKCD				*i* S		**Sg**		**19 07 25.4**	**+0.2**
MYA	**Malataya**	**0.39**	**33**	*e*PG		**Pg**		**19 07 21.0**	**-0.4**
MYA				*e*SG		**Sg**		**19 07 26.9**	**+0.5**
MYA	**Malataya**	**0.39**	**33**	*e*Pg		**Pg**		**19 07 21.0**	**-0.4**
MYA				*e*Sg		**Sg**		**19 07 27.0**	**+0.5**
URFA	**Urfa**	**0.77**	**136**	*e*PG		**Pg**		**19 07 27.8**	**-0.7**
URFA	**Urfa**	**0.77**	**136**	*e*Pg		**Pg**		**19 07 27.8**	**-0.7**
GZT	**Gaziantep**	**0.80**	**216**	*i* P		**Pg**		**19 07 28.7**	**-0.3**
GZT				*i* S		**Sn**		**19 07 42.5**	**-1.0**
DARE	**Darende-Malaty**	**0.99**	**344**	*e*PG		Pg		19 07 27.6	-5.1
DARE				*e*SG		Sg		19 07 38.5	-7.1
DARE	**Darende-Malaty**	**0.99**	**344**	*e*Pg		Pg		19 07 27.6	-5.1
KMRS	**Kahramanmaras**	**1.11**	**244**	*e*PN		**Pg**		**19 07 33.7**	**-1.3**
KMRS	**Kahramanmaras**	**1.11**	**244**	*e*Pn		**Pg**		**19 07 33.7**	**-1.3**
GAZ	**Gaziantep**	**1.12**	**223**	*e*PN		**Pg**		**19 07 34.1**	**-1.0**
GAZ	**Gaziantep**	**1.12**	**223**	*e*Pn		**Pg**		**19 07 34.1**	**-1.0**
KEMA	**Kemaliye**	**1.29**	**12**	*i* P		**Pn**		**19 07 37.3**	**-0.9**
KEMA				*i* S		**Sn**		**19 07 56.0**	**+0.2**
KEMA	**Kemaliye**	**1.29**	**12**	*i* P		**Pn**		**19 07 37.3**	**-0.9**
KEMA				*i* S		**Sn**		**19 07 56.0**	**+0.2**
ILIC	**ilic-Erzincan**	**1.49**	**12**	*e*PN		**Pn**		**19 07 40.3**	**-0.6**
ILIC	**ilic-Erzincan**	**1.49**	**12**	*e*Pn		**Pn**		**19 07 40.3**	**-0.6**
ANDN	**Andirin**	**1.49**	**254**	*i* P		**Pg**		**19 07 44.1**	**+1.8**
ANDN				*i* S		**Sg**		**19 08 06.1**	**+4.4**
KUZU	**Kuzuini**	**1.50**	**215**	*e*P		**Pn**		**19 07 40.9**	**0.0**
KUZU				*i* S		**Sn**		**19 08 00.6**	**-0.1**
KUZU	**Kuzuini**	**1.50**	**215**	*e*P		**Pn**		**19 07 40.9**	**0.0**
KUZU				*i* S		**Sn**		**19 08 00.6**	**-0.1**
PINB	**Pinarbasi**	**1.54**	**297**	*i* P		**Pn**		**19 07 41.8**	**+0.1**
PINB				*i* S		**Sg**		**19 08 03.4**	**+0.3**
PINB	**Pinarbasi**	**1.54**	**297**	*i* P		**Pn**		**19 07 41.8**	**+0.1**
PINB				*i* S		**Sg**		**19 08 03.4**	**+0.3**
DIYA	**Diyarbakir**	**1.56**	**92**	*e*P		**Pb**		**19 07 42.5**	**-0.3**
DIYA				*i* S		**Sg**		**19 08 05.2**	**+1.5**
DIYA	**Diyarbakir**	**1.56**	**92**	*e*P		**Pb**		**19 07 42.5**	**-0.3**
DIY	**Diyarbakir**	**1.64**	**93**	*e*PN		**Pn**		**19 07 43.0**	**0.0**
DIY	**Diyarbakir**	**1.64**	**93**	*e*Pn		**Pn**		**19 07 43.0**	**0.0**
KOZT	**Kozan**	**1.92**	**255**	*e*PN		**Pn**		**19 07 47.0**	**+0.3**
KOZT	**Kozan**	**1.92**	**255**	*e*Pn		**Pn**		**19 07 47.0**	**+0.3**
EZC	**Erzincan**	**1.98**	**28**	*e*Pn		**Pn**		**19 07 48.0**	**+0.3**
ERZN	**Erzincan**	**2.00**	**37**	*e*PN		**Pn**		**19 07 48.0**	**0.0**
BNN	**Bunyan**	**2.00**	**296**	*e*PN		**Pn**		**19 07 47.9**	**-0.1**
BNN	**Bunyan**	**2.00**	**296**	*e*Pn		**Pn**		**19 07 47.9**	**-0.1**
MARD	**Mardin**	**2.19**	**107**	*i* P		**Pn**		**19 07 51.1**	**+0.6**
MARD				*i* S		**Sb**		**19 08 19.9**	**-1.2**
SUSE	**Susehri**	**2.21**	**1**	*i* P		**Pb**		**19 07 52.6**	**-1.4**
SUSE	**Susehri**	**2.21**	**1**	*i* P		**Pb**		**19 07 52.6**	**-1.4**
KELT	**Kelkit**	**2.31**	**21**	*i* P		**Pn**		**19 07 54.1**	**+1.8**
KELT				*i* S		**Sn**		**19 08 22.3**	**+1.3**
KELT	**Kelkit**	**2.31**	**21**	*i* P		**Pn**		**19 07 54.1**	**+1.8**
KELT				*i* S		**Sn**		**19 08 22.3**	**+1.3**
BEST	**Besiri**	**2.46**	**92**	*e*P		**Pb**		**19 07 56.4**	**-1.9**
HTY	**Hatay**	**2.47**	**221**	*e*PN		**Pn**		**19 07 54.6**	**+0.3**
HTY	**Hatay**	**2.47**	**221**	*e*Pn		**Pn**		**19 07 54.6**	**+0.3**
RSDY	**Resadiye-TOKAT**	**2.48**	**345**	*e*PN		**Pn**		**19 07 54.7**	**+0.3**
RSDY	**Resadiye-TOKAT**	**2.48**	**345**	*e*Pn		**Pn**		**19 07 54.7**	**+0.3**
BNGL	**BINGOL**	**2.54**	**67**	*e*P		**Pg**		**19 08 01.6**	**-0.7**
BNGL				*i* S		**Sg**		**19 08 39.3**	**+4.1**
KRTS	**Karatas**	**2.63**	**238**	*e*PN		**Pn**		**19 07 56.9**	**+0.4**
KRTS	**Karatas**	**2.63**	**238**	*e*Pn		**Pn**		**19 07 56.9**	**+0.4**
BTMT	**Batman**	**2.64**	**85**	*e*PN		**Pn**		**19 07 54.7**	**-1.9**
BTMT	**Batman**	**2.64**	**85**	*e*Pn		**Pn**		**19 07 54.7**	**-1.9**
GUMT	**Gumushane**	**2.66**	**22**	*e*PN		**Pn**		**19 07 57.5**	**+0.4**
GUMT	**Gumushane**	**2.66**	**22**	*e*Pn		**Pn**		**19 07 57.5**	**+0.4**
NIG	**Nigde**	**2.80**	**273**	*e*PN		**Pn**		**19 07 59.1**	**0.0**
NIG	**Nigde**	**2.80**	**273**	*e*Pn		**Pn**		**19 07 59.1**	**0.0**
VRTB	**Varto-Mus**	**2.83**	**65**	*e*PN		**Pn**		**19 07 59.9**	**+0.5**
VRTB	**Varto-Mus**	**2.83**	**65**	*e*Pn		**Pn**		**19 07 59.9**	**+0.5**
BAYT	**Ayd¨–ntepe-Bay**	**2.84**	**32**	*e*PN		**Pn**		**19 08 00.1**	**+0.5**
BAYT	**Ayd¨–ntepe-Bay**	**2.84**	**32**	*e*Pn		**Pn**		**19 08 00.1**	**+0.5**
ESPY	**Espiye-Giresun**	**2.95**	**8**	*e*PN		**Pn**		**19 08 01.4**	**+0.6**
ESPY	**Espiye-Giresun**	**2.95**	**8**	*e*Pn		**Pn**		**19 08 01.5**	**+0.6**
MERS	**Mersin**	**3.10**	**250**	*e*PN		**Pn**		**19 08 03.6**	**+0.5**
MERS	**Mersin**	**3.10**	**250**	*e*Pn		**Pn**		**19 08 03.6**	**+0.5**
EZM	**Erzurum**	**3.14**	**52**	*e*PN		**Pn**		**19 08 04.4**	**+0.6**
CORM	**Corum**	**3.50**	**310**	*e*PN		**Pn**		**19 08 09.0**	**+0.4**
CORM	**Corum**	**3.50**	**310**	*e*Pn		**Pn**		**19 08 09.0**	**+0.4**
SULT	**Sultanhani-AKS**	**3.67**	**275**	*e*PN		**Pn**		**19 08 11.5**	**+0.7**
SULT	**Sultanhani-AKS**	**3.67**	**275**	*e*Pn		**Pn**		**19 08 11.5**	**+0.7**
CUKT	**Cukurca**	**4.39**	**98**	*e*PN		**Pn**		**19 08 22.2**	**+1.4**
CUKT	**Cukurca**	**4.39**	**98**	*e*Pn		**Pn**		**19 08 22.3**	**+1.4**

IDC 28 19:25:25.0±2.2, 6.63S×129.88E, h0km, mb3.4/1, mb1 3.4/4, mb1mx3.3/19, mbtmp3.3/4, ML3.1/3, Error ellipse: s-maj=90.8km s-min=28.8km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.13**	**200**	P		**Pn**		19 28 19.8	+0.6
	0.1nm,0.3s,baz=29,slow=15,SNR=6.8								
FITZ					Sn	Sn		19 30 21.2	-14
	0.2nm,0.3s,baz=92,slow=22,SNR=5.7								
WRA	**Warramunga Arr**	**13.92**	**162**	P		Pn		19 28 42.5	-1.2
	0.1nm,0.3s,baz=344,slow=14,SNR=5.5								
WRA					Sn	Sn		19 31 01.9	-17
	0.4nm,0.3s,baz=338,slow=22,SNR=8.8								
ASAR	**Alice Springs**	**17.38**	**168**	P		Pn		19 29 29.4	+0.4
	0.0nm,0.3s,baz=342,slow=8.1,SNR=4.6								
ASAR					S	Sn		19 32 26.8	-16
	0.1nm,0.3s,baz=352,slow=27,SNR=4.8								
MKAR	**Makanchi Array**	**67.85**	**327**	P		P		19 36 25.2	0.0
	0.2nm,0.5s,baz=121,slow=7.5,SNR=5.7								

*CSEM **28** 19:36:38.5, 37.83N×29.14E, h8km, MD2.8, After ISK*
ISK 28 19:36:38.5, 37.83N×29.14E, h8km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.11**	**228**	*e*PG		Pg		19 36 41.8	+0.7
DENT				*e*SG		Sg		19 36 43.6	+0.7
DENT	**Denizli**	**0.11**	**228**	*e*Pg		Pg		19 36 41.8	+0.7
DENT				*e*Sg		Sg		19 36 43.6	+0.7
KHL	**Karahalli**	**0.58**	**32**	*e*PG		Pg		19 36 50.3	+0.4
KHL	**Karahalli**	**0.58**	**32**	*e*Pg		Pg		19 36 50.3	+0.4
KULA	**Kula-Manisa**	**0.78**	**332**	*e*PG		Pg		19 36 53.8	+0.1
KULA				*e*SG		Sb		19 37 05.5	+0.1
KULA	**Kula-Manisa**	**0.78**	**332**	*e*Pg		Pg		19 36 53.8	+0.1
KULA				*e*Sg		Sb		19 37 05.5	+0.2
YER	**Yerkesik**	**0.97**	**225**	*e*PG		Pg		19 36 56.9	-0.3
YER	**Yerkesik**	**0.97**	**225**	*e*Pg		Pg		19 36 56.9	-0.3
FETY	**Fethiye**	**1.19**	**182**	*e*PN		Pg		19 37 01.4	0.0
FETY	**Fethiye**	**1.19**	**182**	*e*Pn		Pb		19 37 01.4	0.0
BCK	**Bucak**	**1.21**	**107**	*e*PN		Pg		19 37 02.4	+0.5
BCK	**Bucak**	**1.21**	**107**	*e*Pn		Pg		19 37 02.4	+0.5
SHUT	**Suhut-Afyon**	**1.33**	**57**	*e*PN		Pg		19 37 04.1	-0.1
SHUT	**Suhut-Afyon**	**1.33**	**57**	*e*Pn		Pg		19 37 04.1	-0.1
ALT	**Altintas**	**1.45**	**32**	*e*PN		Pn		19 37 05.4	+0.3
ALT	**Altintas**	**1.45**	**32**	*e*Pn		Pn		19 37 05.4	+0.3
AKS	**Akhisar**	**1.48**	**316**	*e*PN		Pn		19 37 05.4	-0.1
AKS	**Akhisar**	**1.48**	**316**	*e*Pn		Pn		19 37 05.4	0.0
TVSB	**Tavsanli**	**1.64**	**9**	*e*PN		Pb		19 37 08.6	-0.6
TVSB	**Tavsanli**	**1.64**	**9**	*e*Pn		Pb		19 37 08.6	-0.6

IDC 28 19:40:13.8±1.7, 9.58S×117.33E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.4/22, mbtmp3.5/6, ML3.3/3, Error ellipse: s-maj=59.4km s-min=21.3km az=58.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.13**	**28**	Pn		Pn		19 41 32.9	+0.9
	1.5nm,0.3s,baz=212,slow=9.2,SNR=3.5								
KAPI					Sn	Sn		19 42 25.4	-6.5
	9.5nm,0.3s,baz=112,slow=23,SNR=18								
FITZ	**Fitzroy Crossi**	**11.69**	**137**	Pn		Pn		19 43 01.3	-0.8
	0.2nm,0.3s,baz=342,slow=13,SNR=5.1								
FITZ					Sn	Sn		19 45 01.6	-12
	0.4nm,0.3s,baz=197,slow=10,SNR=6.8								
WRA	**Warramunga Arr**	**19.39**	**124**	P		P		19 44 40.6	-0.9
	0.1nm,0.3s,baz=300,slow=12,SNR=3.3								
ASAR	**Alice Springs**	**21.14**	**134**	P		P		19 45 00.6	0.0
	1.0nm,0.6s,baz=316,slow=11,SNR=12								
STKA	**Stephens Creek**	**31.59**	**138**	P		P		19 46 39.3	+0.9
	1.2nm,0.4s,baz=293,slow=12,SNR=6.8								
MKAR	**Makanchi Array**	**64.24**	**334**	P		P		19 50 50.4	-0.4
	0.2nm,0.6s,baz=142,slow=5.1,SNR=3.2								

*NOU **28** 19:42:22.2±2.0, 21.44S×170.92E, h30km, MD3.4, ML4.0*
*IDC **28** 19:42:23.3±1.4, 23.31S×170.46E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, ML4.0/1, Error ellipse: s-maj=37.1km s-min=30.2km az=32.0*
*ISCJB **28** 19:42:26.8±1.2, 23.45S±0.2×170.14E±0.1, h32km, mb3.9/7, Error ellipse: s-maj=34.3km s-min=9.2km az=26.1*
ISC 28 19:42:28.4±1.3, 23.3S±0.2×170.4E±0.1, h32km, n12, σ0.86/16, mb3.9/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NORM	**Noumea**	**3.75**	**285**	*e*P		**Pn**		**19 43 22.5**	**-1.6**
NORM				*e*S		**Sn**		**19 44 07.7**	**+0.6**
DZM	**Mont Dzumac**	**3.83**	**287**	*e*P		**Pn**		**19 43 24.3**	**-1.0**
DZM				*e*S		**Sn**		**19 44 09.9**	**+0.5**
DZM				AMP				19 44 19.0	
	comp=Z,683nm,2.5s								
DZM	**Mont Dzumac**	**3.83**	**287**	Pn		**Pn**		**19 43 24.6**	**-0.7**
	comp=Z,11nm,0.3s,baz=93,slow=22,SNR=444								
DZM					Sn	**Sn**		**19 44 09.2**	**-0.1**
	comp=Z,8.2nm,0.3s,baz=136,slow=23,SNR=10								
NOUC	**Port Laguerre**	**3.95**	**286**	*e*P		**Pn**		**19 43 25.8**	**-1.0**
NOUC				*e*S		**Sn**		**19 44 12.7**	**+0.7**
NOUC				AMP				19 44 25.5	
	comp=Z,38nm,9.3s								
STKA	**Stephens Creek**	**26.87**	**245**	P		**P**		**19 48 06.4**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=78,slow=12,SNR=7.1								
ASAR	**Alice Springs**	**33.41**	**262**	P		**P**		**19 49 04.7**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=92,slow=9.3,SNR=21								
WRA	**Warramunga Arr**	**33.63**	**269**	P		**P**		**19 49 05.0**	**-1.3**
	comp=Z,0.4nm,0.6s,baz=101,slow=8.3,SNR=4.2								
FITZ	**Fitzroy Crossi**	**42.06**	**268**	P		**P**		**19 50 18.0**	**+0.6**
	comp=Z,2.7nm,0.7s,baz=44,slow=19,SNR=5.7								
QSPA	**South Pole Qui**	**66.81**	**180**	P		**P**		**19 53 16.3**	**-0.4**
	comp=Z,3.4nm,1.0s,baz=22,slow=4.1,SNR=7.5								
CMAR	**Chiang Mai Arr**	**81.13**	**294**	P		**P**		**19 54 42.1**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=146,slow=3.8,SNR=5.0								
SONM	**Songino Array**	**91.06**	**323**	P		**P**		**19 55 29.7**	**0.0**
	comp=Z,0.5nm,1.0s,baz=104,slow=3.0,SNR=2.9								
GERES	**GERESS Array B**	**148.51**	**330**	PKPbc		**PKPbc**		**20 02 11.6**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=81,slow=4.2,SNR=9.3								

WEL 28 19:43:12.1±0.4, 37.73S×175.86E, h256km±6km, ML3.6/9, 1D, Error ellipse: s-maj=11.2km s-min=9.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**1.45**	**115**	PN		PN		19 43 50.8	+0.2
MWZ				SN		S		19 44 20.6	-0.5
BKZ	**Black Stump Fm**	**1.52**	**161**	PN		Pn		19 43 51.1	0.0
BKZ				SN		S		19 44 21.3	-0.7
WNVZ	**Wahianoa**	**1.61**	**187**	PN		Pn		19 43 52.4	+0.4
WNVZ				SN		S		19 44 23.8	+0.3
BHHZ	**Black Hill Sta**	**1.76**	**175**	PN		Pn		19 43 53.1	0.0
BHHZ				SN		S		19 44 24.1	-1.4
MCHZ	**McNeill Hill**	**1.83**	**159**	PN		Pn		19 43 54.0	+0.4
MCHZ				SN		S		19 44 26.4	0.0
CNGZ	**Carnagh Statio**	**2.00**	**113**	PN		Pn		19 43 55.1	+0.1
KAHZ	**Kahuranaki**	**2.21**	**159**	PN		Pn		19 43 56.8	-0.2
KAHZ				SN		S		19 44 33.0	+0.4
TSZ	**Takapari Road**	**2.33**	**178**	PN		Pn		19 43 57.3	-0.8
TSZ				SN		S		19 44 32.9	-1.7
PRHZ	**Porangahau**	**2.60**	**167**	PN		Pn		19 43 59.9	-0.9
MRZ	**Mangatainoka R**	**2.94**	**184**	PN		Pn		19 44 02.6	-1.6
MRZ				SN		S		19 44 42.8	-2.8
BFZ	**Birch Farm**	**2.96**	**174**	PN		Pn		19 44 02.9	-1.6
OGWZ	**Otaki Gorge**	**3.13**	**190**	PN		Pn		19 44 04.8	-1.5
HOWZ	**Holdsworth Sta**	**3.17**	**185**	PN		Pn		19 44 04.9	-1.9
KIW	**Kapiti Island**	**3.21**	**193**	PN		Pn		19 44 05.4	-1.8
CAW	**Cannon Point**	**3.43**	**190**	PN		Pn		19 44 07.6	-2.0
MTW	**Mount Morrison**	**3.44**	**184**	PN		Pn		19 44 07.3	-2.3
TCW	**Tory Channel**	**3.69**	**199**	PN		Pn		19 44 10.6	-1.9
NNZ	**Nelson**	**3.98**	**208**	PN		Pn		19 44 13.4	-2.3
QRZ	**Quartz Range**	**4.03**	**219**	PN		Pn		19 44 13.7	-2.8
BSWZ	**Blackbirch Sta**	**4.26**	**200**	*e*PN		Pn		19 44 17.4	-1.8
THZ	**Tophouse**	**4.63**	**209**	PN		Pn		19 44 21.3	-2.3
KHZ	**Kahutara**	**5.01**	**200**	PN		Pn		19 44 25.3	-2.7

*ISCJB **28** 19:48:01.4±0.5, 53.39N±0.05×159.20E±0.09, h134km±3km, mb3.0/5, Error ellipse: s-maj=10.8km s-min=5.8km az=135.7*
*KRSC **28** 19:48:02.0±1.2, 53.45N×159.15E, h128km±28km, ML3.6*
*IDC **28** 19:48:02.1±0.9, 53.55N×158.84E, h132km±6km, mb2.9/5, mb1 3.2/6, mb1mx3.0/25, mbtmp3.0/6, Error ellipse: s-maj=30.2km s-min=18.2km az=147.0*
ISC 28 19:48:01.8±0.8, 53.42N±0.06×159.16E±0.06, h134km±6km, n27, σ1.02/41, mb3.1/5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SDLR	**Sedlovina**	**0.21**	**230**	*i* P		**Pn**		**19 48 20.2**	**-0.1**
SDLR				*e*S		**Sn**		**19 48 33.3**	**-0.9**
SMAR	**Somma**	**0.26**	**234**	*i* P		**Pn**		**19 48 20.6**	**0.0**
SMAR				*e*S		**Sn**		**19 48 34.4**	**-0.3**
NLC	**Nalytchevo**	**0.27**	**155**	*i* P		**Pn**		**19 48 20.3**	**0.0**
NLC				*e*S		**Sn**		**19 48 34.6**	**+0.4**
UGLR	**Uglovaya**	**0.29**	**224**	*i* P		**Pn**		**19 48 20.7**	**+0.2**
UGLR				*e*S		**Sn**		**19 48 34.6**	**0.0**
AVH	**Avacha**	**0.29**	**239**	*i* P		**Pn**		**19 48 20.5**	**0.0**
AVH				*e*S		**Sn**		**19 48 34.5**	**0.0**
KOK	**Koryaka**	**0.34**	**248**	*i* P		**Pn**		**19 48 20.6**	**0.0**
KOK				*e*S		**Sn**		**19 48 34.6**	**-0.3**
PET	**Petropavlovsk**	**0.49**	**218**	*i* P		**Pn**		**19 48 21.1**	**-0.1**
PET				*e*S		**Sn**		**19 48 35.4**	**-0.5**
SPN	**Mys Shipunski**	**0.61**	**121**	*i* P		**Pn**		**19 48 22.0**	**+0.1**
SPN				*e*S		**Sn**		**19 48 36.7**	**-0.5**
PETK	**Petropavlovsk-**	**0.93**	**251**	P		**Pn**		**19 48 23.8**	**-0.6**
	103nm,0.3s,baz=72,slow=13,SNR=7039								
PETK					S	**Sn**		**19 48 40.7**	**-0.8**
	5.1nm,0.3s,baz=255,slow=27,SNR=5.2								
RUS	**Russkaya**	**1.06**	**202**	*i* P		**Pn**		**19 48 25.2**	**-0.4**
RUS				*e*S		**Sn**		**19 48 42.3**	**-1.3**
MTVR	**Mutnovka**	**1.10**	**213**	*i* P		**Pn**		**19 48 26.6**	**+0.4**
MTVR				*e*S		**Sn**		**19 48 44.9**	**+0.2**
ASAK	**Asacha**	**1.28**	**217**	*i* P		**Pn**		**19 48 28.3**	**+0.4**
ASAK				*e*S		**Sn**		**19 48 47.4**

1µm,0.3s,baz=285,slow=0.8,SNR=418
GUMO S **Sn** **20 00 58.6 -0.3**
1µm,0.3s,baz=332,slow=22,SNR=50
SWI Sorong **19.82 224** P **P** **20 04 42.8 +2.0**
64nm,1.2s,766nm
JOW Kunigami **20.15 312** P Pn 20 04 46.5 -1.4
JOW Kunigami **20.15 312** P Pn 20 04 46.5 -1.4
27nm,0.6s,baz=140,slow=13,SNR=9.3
FAKI Fak Fak **20.77 218** P **P** **20 04 52.4 +1.3**
99nm,1.0s,1µm
SGSI Sangihe **21.52 244** P **P** **20 05 01.5 +2.4**
1µm,0.8s,62µm
TLE Tual **22.74 213** P **P** **20 05 14.3 +3.2**
116nm,1.0s
JNU Nakatsue **23.02 329** *eP* **P** **20 05 14.4 +0.8**
15nm,1.0s
JNU Nakatsue **23.02 329** P **P** **20 05 14.8 +1.2**
23nm,0.8s,baz=121,slow=2.6,SNR=18
MJAR Matsushiro Arr **23.38 347** P **P** **20 05 16.2 -0.6**
MJAR PcP **PcP** **20 08 59.0 0.0**
MJAR Matsushiro Arr **23.38 347** P **P** **20 05 16.2 -0.6**
1.3nm,0.5s,baz=229,slow=12,SNR=14
MJAR PcP **PcP** **20 08 59.0 0.0**
1.2nm,0.5s,baz=186,slow=4.2,SNR=7.8
MAJO Matsushiro **23.38 347** *eP* **P** **20 05 16.3 -0.6**
4.5nm,0.6s
MAT Matsushiro **23.38 347** P **P** **20 05 13.7 -3.2**
AAI Ambon **23.95 225** P **P** **20 05 23.2 +0.9**
118nm,0.8s
YULB Yu-li **24.18 297** *eP* **P** **20 05 23.2 -1.1**
28nm,1.1s
SSLB Suanglung **24.61 297** *eP* **P** **20 05 27.9 -0.3**
82nm,1.4s
KSRS Korea Array **27.92 330** P **P** **20 05 56.7 -1.0**
4.9nm,0.9s,baz=140,slow=11,SNR=12
KSRS PcP **PcP** **20 09 10.8 +1.5**
0.4nm,0.5s,baz=151,slow=2.9,SNR=4.9
KSAR Wonju Array Be **27.93 330** P **P** **20 05 56.7 -1.1**
KSAR PcP **PcP** **20 09 10.8 +1.4**
NJ2 Nanjing **29.87 312** *eP* **P** **20 06 15.8 +0.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
MDJ Mudanjiang **33.31 340** P **P** **20 06 46.3 +1.3**
MDJ pP **pP** **20 07 18.3 +0.4**
MDJ sP **sP** **20 07 35.8 +0.2**
MDJ S **S** **20 11 56.3 +2.2**
MDJ sS **ScP** **20 12 53.3 -0.3**
MDJ ScP ScP 20 12 54.5 +0.9
MDJ PcS **PcS** **20 13 10.5 +1.4**
MDJ pmax pmax
comp=Z,4.0nm,0.8s
MDJ pmax pmax
comp=Z,38nm,5.3s
CTAO Charters Tower **33.73 178** P **P** **20 06 50.4 +1.5**
QIZ Qiongzhong **33.88 284** P **P** **20 06 49.5 -0.8**
QIZ S **S** **20 12 01.8 -1.7**
QIZ pmax pmax
comp=Z,20nm,1.5s
SBUM Sibu **34.11 254** P **P** **20 06 53.2 +0.9**
comp=Z,12nm,0.7s
CN2 Changchun **34.17 335** *eP* **P** **20 06 50.5 -1.9**
CN2 *ePP* **pP** **20 07 25.0 -0.3**
CN2 PP PP 20 08 10.3 -2.7
WRAB Tennant Creek **35.08 197** *eP* **P** **20 07 00.8 +0.2**
comp=Z,13nm,0.8s
WRA Warramunga Arr **35.09 197** P **P** **20 07 01.1 +0.4**
WRA S **S** **20 12 19.1 -2.9**
WRA ScP **ScP** **20 13 01.2 +0.9**
WRA Warramunga Arr **35.09 197** P **P** **20 07 01.1 +0.4**
comp=Z,12nm,0.6s,baz=21,slow=9.7,SNR=93
WRA S **S** **20 12 19.1 -2.9**
comp=Z,0.6nm,0.8s,baz=17,slow=16,SNR=2.8
WRA ScP **ScP** **20 13 01.2 +0.9**
comp=Z,1.3nm,0.9s,baz=15,slow=4.0,SNR=6.5
BJT Baijiatuan **36.20 321** *eP* **P** **20 07 09.0 -0.9**
comp=Z,18nm,0.7s
BJI Beijing **36.21 322** P **P** **20 07 10.5 +0.5**
BJI pmax pmax
comp=Z,20nm,0.7s
BJI LR LR
comp=Z,19nm,30.5s
KSM Kuching **36.24 253** *eP* **P** **20 07 08.8 -1.8**
comp=Z,7.1nm,0.9s
ENH Enshi **36.40 303** P **P** **20 07 12.0 +0.2**
comp=Z,10nm,0.9s
GYA Guiyang **37.79 295** *eP* **P** **20 07 23.8 +0.1**
GYA pP **pP** **20 07 57.5 +0.4**
GYA sP **sP** **20 08 14.8 +0.2**
GYA PP PP 20 08 55.0 +1.8
GYA PcP **PcP** **20 09 38.8 +1.5**
GYA S **S** **20 13 01.3 -2.0**
GYA ScP **ScP** **20 13 11.0 +0.5**
GYA ScS **ScS** **20 17 18.0 -2.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s
AS31 Alice Springs **38.75 196** *eP* **P** **20 07 31.2 -0.3**
ASAR Alice Springs **38.75 196** P **P** **20 07 31.9 +0.3**
ASAR S **S** **20 13 15.3 -2.1**
ASAR Alice Springs **38.75 196** P **P** **20 07 31.9 +0.3**
comp=Z,2.2nm,0.4s,baz=16,slow=13,SNR=56
ASAR S **S** **20 13 15.3 -2.1**
comp=Z,0.8nm,1.0s,baz=19,slow=24,SNR=5.2
HHC Hu-ho-hao-te **39.54 319** *eP* **P** **20 07 39.5 +1.4**
HHC pP **pP** **20 08 11.0 -0.7**
HHC sP **sP** **20 08 29.0 -0.2**
HHC PP PP 20 09 16.5 +4.4
HHC S **S** **20 13 32.3 +3.1**
HHC sS **sS** **20 14 28.0 +0.1**
HHC ScS **ScS** **20 17 30.0 +0.3**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,110nm,4.8s
HIA Hailar **40.90 335** *eP* **P** **20 07 49.6 +0.6**
comp=Z,12nm,1.2s
KMI Kunming **41.05 292** P **P** **20 07 48.0 -2.9**
KMI pmax pmax
comp=Z,6.0nm,1.4s
MBWA Marble Bar **42.59 216** *eP* **P** **20 08 02.8 -0.3**
comp=Z,4.7nm,0.6s
LZH Lanzhou **42.81 309** *eP* **P** **20 08 07.5 +2.6**
LZH pP **pP** **20 08 40.5 +1.5**
LZH sP **sP** **20 08 57.3 +0.9**
LZH pmax pmax
comp=Z,17nm,1.0s
CMAR Chiang Mai Arr **44.19 282** P **P** **20 08 16.7 +0.7**
CMAR ScP **ScP** **20 13 36.0 +0.2**
CMAR Chiang Mai Arr **44.19 282** P **P** **20 08 16.7 +0.7**
comp=Z,1.3nm,0.7s,baz=84,slow=6.0,SNR=12
CMAR ScP **ScP** **20 13 36.0 +0.2**
comp=Z,0.7nm,0.8s,baz=78,slow=3.5,SNR=4.4
STKA Stephens Creek **45.54 184** P **P** **20 08 26.1 -0.3**
STKA Stephens Creek **45.54 184** *eP* **P** **20 08 26.6 +0.2**
STKA Stephens Creek **45.54 184** P **P** **20 08 26.1 -0.3**
comp=Z,2.6nm,0.7s,baz=348,slow=10,SNR=7.5
ULN Ulaanbaatar **46.15 325** *eP* **P** **20 08 31.2 0.0**
comp=Z,7.4nm,1.0s
ULN Ulaanbaatar **46.15 325** P **P** **20 08 32.4 +1.2**
SONM Songino Array **46.50 325** P **P** **20 08 35.1 +1.2**
SONM ScP **ScP** **20 13 44.6 -0.3**
SONM Songino Array **46.50 325** P **P** **20 08 35.1 +1.2**
comp=Z,2.3nm,0.5s,baz=122,slow=5.5,SNR=34
SONM ScP **ScP** **20 13 44.6 -0.3**
comp=Z,0.8nm,0.9s,baz=146,slow=4.2,SNR=4.4
GTA Gaotai **46.96 311** *eP* **P** **20 08 38.8 +1.2**
GTA pP **pP** **20 09 09.5 -2.8**
GTA sP **sP** **20 09 26.3 -3.2**
GTA pmax pmax
comp=Z,10.0nm,0.9s
FORT Forrest **47.17 200** *eP* **P** **20 08 39.7 +0.6**
TLY Talaya **50.12 328** *eP* **P** **20 09 02.3 +0.9**
comp=Z,5.0nm,0.8s
LSA Lhasa **51.82 297** *eP* **P** **20 09 15.7 +0.7**
comp=Z,2.6nm,0.4s
WMQ Urumqi **56.92 314** *eP* **P** **20 09 51.0 -0.2**
WMQ pP **pP** **20 10 24.0 -3.1**
WMQ pmax pmax
comp=Z,7.0nm,0.7s
WMQ pmax pmax
comp=Z,170nm,5.0s
MKAR Makanchi Array **61.27 316** P **P** **20 10 21.6 +0.6**
MKAR Makanchi Array **61.27 316** P **P** **20 10 21.6 +0.6**
comp=Z,3.8nm,0.6s,baz=90,slow=8.5,SNR=107
ZALV Zalesovo Beam **61.39 324** P **P** **20 10 21.5 -0.1**
ZALV Zalesovo Beam **61.39 324** P **P** **20 10 21.5 -0.1**
comp=Z,1.2nm,0.5s,baz=106,slow=7.0,SNR=8.9
KDAK Kodiak Island **63.91 32** P **P** **20 10 37.6 -0.6**
KDAK Kodiak Island **63.91 32** P **P** **20 10 37.6 -0.6**
comp=Z,6.1nm,0.9s,baz=145,slow=22,SNR=5.7
KURK Kurchatov **64.36 320** *eP* **P** **20 10 40.9 -0.4**
comp=Z,15nm,0.9s
KURBB Kurchatov Arra **64.40 320** P **P** **20 10 41.6 +0.1**
comp=Z,9.8nm,0.6s,baz=103,slow=6.9,SNR=106
KSH Kashi **65.04 307** *eP* **P** **20 10 45.3 -0.8**
KSH PcP **PcP** **20 11 15.8 -2.0**
KSH pP **pP** **20 11 24.0 +1.1**
KSH sP **sP** **20 11 41.0 +1.4**
KSH PP **PP** **20 13 13.0 +1.9**
KSH ScP 20 15 01.8
KSH PcS 20 15 18.8
KSH S **S** **20 19 14.3 -2.0**
KSH sS **sS** **20 20 20.0 +0.1**
KSH ScS **SKSac** **20 20 21.3 -5.2**
KSH SS **SS** **20 23 31.0 -0.1**
KSH pmax pmax
comp=Z,29nm,4.4s
KSH LR LR
comp=N,94nm,5.9s
KSH LR LR
comp=E,74nm,4.8s
KSH LR LR
comp=Z,130nm,6.3s
ILAR Eielson Array **68.39 25** P **P** **20 11 04.5 -2.2**
ILAR Eielson Array **68.39 25** P **P** **20 11 04.5 -2.2**
comp=Z,1.0nm,0.4s,baz=252,slow=5.5,SNR=20
DLBC Dease Lake **75.83 33** P **P** **20 11 50.9 -0.3**
DLBC Dease Lake **75.83 33** P **P** **20 11 50.9 -0.3**
comp=Z,0.7nm,0.6s,baz=151,slow=8.4,SNR=4.4
ARU Arti **76.53 325** P **P** **20 11 54.5 -0.5**
comp=Z,2.1nm,0.6s
YKA Yellowknife Ar **82.69 27** P **P** **20 12 27.4 -0.7**
YKA Yellowknife Ar **82.69 27** P **P** **20 12 27.4 -0.7**
comp=Z,0.3nm,0.4s,baz=287,slow=5.0,SNR=7.4
RES Resolute Bay **84.34 13** P **P** **20 12 36.8 +0.5**
RES Resolute Bay **84.34 13** P **P** **20 12 36.8 +0.5**
comp=Z,1.3nm,0.9s,baz=324,slow=8.4,SNR=3.9
NVAR Mina Array Bea **86.83 51** P **P** **20 12 48.5 -1.2**
NVAR Mina Array Bea **86.83 51** P **P** **20 12 48.5 -1.2**
comp=Z,0.6nm,0.4s,baz=258,slow=7.1,SNR=4.0
ARCES ARCESS Array B **86.84 342** P **P** **20 12 49.0 +0.2**
ARCES ARCESS Array B **86.84 342** P **P** **20 12 49.0 +0.2**
comp=Z,3.1nm,0.8s,baz=64,slow=5.5,SNR=5.2
FINES FINESS Array B **90.92 335** P **P** **20 13 06.7 -1.4**
FINES FINESS Array B **90.92 335** P **P** **20 13 06.7 -1.4**
comp=Z,0.8nm,0.5s,baz=56,slow=3.0,SNR=9.5
AKASG Malin Array Be **94.78 325** P **P** **20 13 26.1 0.0**
AKASG Malin Array Be **94.78 325** P **P** **20 13 26.1 0.0**
comp=Z,0.4nm,0.4s,baz=80,slow=5.5,SNR=2.9
SUW Suwalki **96.25 330** P **P** **20 13 34.5 +1.8**
TORD Torodi Ar. Bea **134.67 305** PKP **PKPdf** **20 19 23.6 +0.3**
TORD Torodi Ar. Bea **134.67 305** PKP **PKPdf** **20 19 23.6 +0.3**
comp=Z,0.6nm,0.8s,baz=57,slow=3.5,SNR=4.9
DBIC Dimbokro **143.63 302** PKP PKPbc 20 19 38.2 +0.8
DBIC Dimbokro **143.63 302** PKP PKPbc 20 19 38.2 +0.8
comp=Z,3.8nm,0.6s,baz=76,slow=4.2,SNR=4.5
CFAA Coronel Fontan **144.96 126** PKP **PKPdf** **20 19 42.1 +0.6**
CFAA Coronel Fontan **144.96 126** PKP **PKPdf** **20 19 42.1 +0.6**
comp=Z,0.5nm,0.7s,baz=232,slow=1.4,SNR=7.8
LPAZ La Paz **148.13 99** PKPbc **PKPbc** **20 19 51.3 0.0**
LPAZ La Paz **148.13 99** PKPbc **PKPbc** **20 19 51.3 0.0**
comp=Z,2.0nm,0.5s,baz=352,slow=6.4,SNR=3.1
SIV San Ignacio **154.92 98** PKP **PKPdf** **20 19 58.4 +1.0**
SIV San Ignacio **154.92 98** PKP **PKPdf** **20 19 58.4 +1.0**
comp=Z,1.3nm,0.5s,baz=227,slow=2.7,SNR=7.7

*BJI **28** 20:01:35.8, 32.°41N×101.°70E, h16km, ML3.4/10, Ms3.3/1, Ms? 3.2/1*
*IDC **28** 20:01:36.3±1.1, 32.°45N×101.°66E, h0km, mb3.0/4, mb1 3.3/6, mb1mx3.2/25, mbtmp3.1/6, ML3.0/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/14, Error ellipse: s-maj=64.0km s-min=20.5km az=64.0*
ISC 28 20:01:37.1±1.1, 32.°45N±0.°07×101.°34E±0.°08, h10km, n11, σ2s15/11, mb3.2/3, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.57**	**126**	Pn	Pn	20 02 13.3	-5.5
CD2				Pg	Pb	20 02 19.0	-4.3
CD2				Sg	**Sn**	**20 02 48.8**	**-1.3**
CD2				smax	smax		
	comp=N,860nm,0.8s						
CD2				smax	smax		
	comp=E,630nm,0.9s						
LZH	**Lanzhou**	**4.18**	**29**	*e*Pg	**Pb**	**20 02 50.3**	**-0.6**
LZH				Sg	**Sb**	**20 03 41.0**	**-0.5**
LZH				smax	smax		
	comp=N,290nm,1.1s						
LZH				smax	smax		
	comp=E,260nm,1.2s						
LZH				LR	LR		
	comp=N,190nm,5.0s						
LZH				LR	LR		
	comp=E,210nm,6.0s						
LZH				LR	LR		
	comp=Z,210nm,6.4s						
XAN	**Xi'an**	**6.54**	**74**	Pn	Pn	20 03 06.3	-7.2
XAN				Pg	**Pb**	**20 03 29.0**	**-2.1**
XAN				Sn	**Sn**	**20 04 27.0**	**-1.2**
XAN				Sg	**Sb**	**20 04 54.3**	**+4.9**
XAN				smax	smax		
	comp=N,14nm,1.2s						
XAN				smax	smax		
	comp=E,5.0nm,1.1s						
GTA	**Gaotai**	**7.06**	**350**	pP	Pb	20 03 34.5	-5.4
GTA				sP		20 03 38.3	
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**14.10**	**189**	Pn	**Pn**	**20 04 57.5**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=4.8,slow=12,SNR=3.7						
SONM	**Songino Array**	**15.84**	**13**	Pn	**Pn**	**20 05 19.9**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=192,slow=13,SNR=2.6						
SONM				LR	LR	20 11 31.9	
	comp=Z,35nm,18.3s,baz=15,slow=38						
MKAR	**Makanchi Array**	**20.44**	**320**	P	Pn	20 06 17.1	+0.4
	comp=Z,0.1nm,0.5s,baz=122,slow=12,SNR=3.5						
ZALV	**Zalesovo Beam**	**24.52**	**336**	P	**P**	**20 06 58.1**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=133,slow=8.1,SNR=2.4						
JHJ	**Hachijo jima 2**	**32.21**	**78**	LR	LR	20 20 42.1	
	comp=Z,88nm,19.1s,baz=73,slow=36						
WRA	**Warramunga Arr**	**60.91**	**144**	P	**P**	**20 11 49.1**	**-1.2**
	comp=Z,0.1nm,0.6s,baz=337,slow=7.0,SNR=2.7						
ASAR	**Alice Springs**	**63.88**	**147**	P	**P**	**20 12 10.9**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=326,slow=5.8,SNR=3.4						

*LDG **28** 20:04:26.1±0.4, 31.°16N×8.°84W, h10km, Ml4.1/9, ms2.9/4, Error ellipse: s-maj=12.6km s-min=7.4km az=124.0*
*IDC **28** 20:04:26.5±0.9, 31.°45N×9.°33W, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.8/29, mbtmp3.9/10, ML4.5/2, MS3.4/7, Ms1 3.4/7, ms1mx3.0/43, Error ellipse: s-maj=23.2km s-min=18.0km az=123.0*
*CSEM **28** 20:04:27.6±0.1, 31.°33N×9.°34W, h10km, mb4.3/5, Error ellipse: s-maj=5.1km s-min=3.4km az=125.0*
*SFS **28** 20:04:27.0, 31.°36N×9.°42W, h0km, ML4.6*
*NEIC **28** 20:04:28.8±1.2, 31.°35N×9.°37W, h17km±8km, mb4.2/7, Error ellipse: s-maj=11.8km s-min=4.8km az=103.0*
*MDD **28** 20:04:29.3±0.5, 31.°31N×9.°28W, h15km±4km, mb4.5/54, Error ellipse: s-maj=4.9km s-min=3.5km az=116.0*
*CNRM **28** 20:04:29.5, 31.°28N×9.°26W, h2km, MD4.6*
*CRAAG **28** 20:04:30.5, 31.°38N×9.°47W, Mb4.6*
*IGIL **28** 20:04:31.1, 31.°36N×9.°34W, h14km, ML3.8*
*INMG **28** 20:04:31.0±2.9, 31.°56N×9.°44W, h13km±36km, MD4.3, ML3.7, Error ellipse: s-maj=21.3km s-min=11.1km az=154.0*
ISC 28 20:04:29.6±0.9, 31.°37N±0.°02×9.°36W±0.°03, h26km±7km, n350, σ2s02/437, mb4.0/12, MS3.1/6, 3D, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHA	**Jbel Lahdid**	**0.38**	**347**	*i* P	**Pb**	**20 04 38.0**	**0.0**
JHA				*i* S	**Sb**	**20 04 45.0**	**+1.4**
JHA	**Jbel Lahdid**	**0.38**	**347**	P	**Pb**	**20 04 37.9**	**0.0**
JHA				S	**Sb**	**20 04 45.0**	**+1.4**
JHA	**Jbel Lahdid**	**0.38**	**347**	*i* P	**Pb**	**20 04 37.9**	**0.0**
JHA				*i* S	**Sb**	**20 04 45.0**	**+1.4**
CIA	**Chichaoua**	**0.55**	**69**	P	**Pb**	**20 04 38.0**	**-2.7**
CIA				S	**Sb**	**20 04 45.5**	**-2.7**
CIA	**Chichaoua**	**0.55**	**69**	*i* P	**Pb**	**20 04 38.0**	**-2.7**
CIA				*i* S	**Sb**	**20 04 45.5**	**-2.7**
AFS	**Agadir Fac de**	**0.95**	**187**	*i* P	**Pb**	**20 04 47.0**	**-0.4**
AFS				*i* S	**Sb**	**20 04 59.0**	**-0.6**
AFS	**Agadir Fac de**	**0.95**	**187**	P	**Pb**	**20 04 46.5**	**-0.9**
AFS				S	**Sb**	**20 04 58.0**	**-1.6**
AFS	**Agadir Fac de**	**0.95**	**187**	*i* P	**Pb**	**20 04 46.5**	**-0.9**
AFS				*i* S	**Sb**	**20 04 58.0**	**-1.6**
YBT	**Youssef Ben Ta**	**1.52**	**185**	*i* P	**Pn**	**20 04 55.0**	**0.0**
YBT				*i* S	**Sn**	**20 05 12.0**	**-2.0**
YBT	**Youssef Ben Ta**	**1.52**	**185**	P	**Pn**	**20 04 54.0**	**-1.0**
YBT				S	**Sn**	**20 05 12.5**	**-1.5**
YBT	**Youssef Ben Ta**	**1.52**	**185**	*i* P	**Pn**	**20 04 54.0**	**-1.0**
YBT				*i* S	**Sn**	**20 05 12.5**	**-1.5**
TZC	**Tazercounte**	**2.56**	**72**	P	**Pn**	**20 05 10.0**	**+0.4**
TZC				S	**Sn**	**20 05 40.0**	**0.0**
TZC	**Tazercounte**	**2.56**	**72**	*i* P	**Pn**	**20 05 10.0**	**+0.4**
TZC				*i* S	**Sn**	**20 05 40.0**	**0.0**
RTC	**Rabat Centre**	**3.36**	**38**	*e*Pn	**Pn**	**20 05 21.3**	**+1.0**
RTC				*e*Pg	Pb	20 05 32.1	+3.7
RTC				*e*Sg	Sb	20 06 17.2	+8.4
RTC	**Rabat Centre**	**3.36**	**38**	*e*Pn	**Pn**	**20 05 21.3**	**+1.0**
CZD	**Col de Zad**	**4.02**	**64**	*i* P	Pn	20 05 34.0	+4.4
CZD				*i* S	**Sb**	**20 06 25.0**	**-3.0**
CZD	**Col de Zad**	**4.02**	**64**	P	**Pn**	**20 05 32.0**	**+2.4**
CZD				S	**Sn**	**20 06 16.0**	**0.0**
CZD	**Col de Zad**	**4.02**	**64**	*i* P	**Pn**	**20 05 32.0**	**+2.4**
CZD				*i* S	**Sn**	**20 06 16.0**	**0.0**
EFAM	**Famara**	**4.24**	**239**	P	**Pn**	**20 05 30.2**	**-2.3**
EFAM	**Famara**	**4.24**	**239**	P	**Pn**	**20 05 30.2**	**-2.3**
	50nm,0.4s,SNR=10						
EFAM				S	**Sn**	**20 06 19.4**	**-1.8**
	136nm,0.4s,SNR=5.6						
EFAM				T	T	20 09 04.2	
	SNR=7.9						
EFAM	**Famara**	**4.24**	**239**	P	**Pn**	**20 05 30.2**	**-2.3**
	50nm,0.4s,SNR=10						
EFAM				S	**Sn**	**20 06 19.4**	**-1.8**
	136nm,0.4s,SNR=5.6						
MDT	**Midelt**	**4.28**	**69**	Pn	**Pn**	**20 05 32.7**	**-0.4**
MDT				Pg	Pb	**20 05 45.1**	**+0.9**
MDT				Lg	Lg	20 06 40.2	
MDT	**Midelt**	**4.28**	**69**	Pn	**Pn**	**20 05 32.7**	**-0.4**
	8.5nm,0.3s,baz=240,slow=8.4,SNR=243						
MDT				Pg	**Pb**	**20 05 45.1**	**+0.9**
	10nm,0.3s,baz=242,slow=18,SNR=42						
MDT				Lg	Lg	20 06 40.2	
	50nm,0.3s,baz=162,slow=19,SNR=6.0						
MDT	**Midelt**	**4.28**	**69**	Pn	**Pn**	**20 05 32.7**	**-0.4**
ZFT	**Errachidia**	**4.32**	**80**	*i* P	Pn	20 05 37.0	+3.3
ZFT				*i* S	**Sb**	**20 06 31.0**	**-5.6**
ZFT	**Errachidia**	**4.32**	**80**	P	**Pn**	**20 05 34.0**	**+0.3**
ZFT				S	**Sn**	**20 06 22.0**	**-1.3**
ZFT	**Errachidia**	**4.32**	**80**	*i* P	**Pn**	**20 05 34.0**	**+0.3**
ZFT				*i* S	**Sn**	**20 06 22.0**	**-1.3**
RSA	**Sarsar**	**4.58**	**39**	P	**Pn**	**20 05 39.0**	**+1.8**
RSA				S	**Sn**	**20 06 31.0**	**+1.3**
RSA	**Sarsar**	**4.58**	**39**	*e*P	**Pn**	**20 05 39.0**	**+1.8**
RSA				*e*S	**Sn**	**20 06 31.0**	**+1.3**
CFUE	**Fuerteventura**	**4.81**	**237**	P	**Pn**	**20 05 38.1**	**-2.1**
	1.2nm,0.1s,SNR=7.9						
CFUE				S	**Sn**	**20 06 32.4**	**-2.7**
	98nm,0.4s,SNR=7.9						
CFUE				T	T	20 09 34.1	
	SNR=7.9						
CFUE	**Fuerteventura**	**4.81**	**237**	P	**Pn**	**20 05 38.1**	**-2.1**
	1.2nm,0.1s,SNR=7.9						
CFUE				S	**Sn**	**20 06 32.4**	**-2.7**
	98nm,0.4s,SNR=7.9						
CNIL	**Conil**	**5.70**	**28**	P	**Pn**	**20 05 54.9**	**+2.5**
CNIL				S	**Sn**	**20 06 54.0**	**-2.9**
CNIL	**Conil**	**5.70**	**28**	P	**Pn**	**20 05 54.9**	**+2.5**
SFS	**San Fernando**	**5.72**	**26**	P	Pn	20 05 45.0	-7.8
SFS				S	**Sn**	**20 06 56.6**	**-0.9**
TOU	**Touzarine**	**5.91**	**51**	P	**Pn**	**20 05 57.0**	**+1.5**
TOU				S	**Sn**	**20 07 01.0**	**-1.4**
TOU	**Touzarine**	**5.91**	**51**	*e*P	**Pn**	**20 05 57.0**	**+1.5**
TOU				*e*S	S	20 06 01.0	
MPAL	**Palemas**	**5.95**	**48**	P	**Pn**	**20 05 58.0**	**+2.1**
MPAL				S	**Sn**	**20 07 02.0**	**-1.2**
MPAL	**Palemas**	**5.95**	**48**	*e*P	**Pn**	**20 05 58.0**	**+2.1**
MPAL				*e*S	**Sn**	**20 07 02.0**	**-1.2**
MORF	**Marmelete**	**5.95**	**5**	*e*Pn	**Pn**	**20 05 56.1**	**+0.1**
MORF				*e*Sn	**Sn**	**20 06 59.9**	**-3.5**
MORF				A	A	20 07 04.8	
	71nm,0.2s						
MORF	**Marmelete**	**5.95**	**5**	P	**Pn**	**20 05 56.1**	**+0.1**
MORF				S	**Sn**	**20 06 59.9**	**-3.5**
	71nm,0.2s						
MORF	**Marmelete**	**5.95**	**5**	P	**Pn**	**20 05 56.1**	**+0.1**
PBDV	**Barranco-do-Ve**	**5.98**	**11**	*e*Pn	**Pn**	**20 05 56.4**	**0.0**
PBDV				*e*Sn	**Sn**	**20 07 00.7**	**-3.3**
PBDV				A	A	20 07 11.2	
	44nm,0.4s						
PBDV	**Barranco-do-Ve**	**5.98**	**11**	P	**Pn**	**20 05 56.4**	**0.0**
PBDV				S	**Sn**	**20 07 00.7**	**-3.3**
	44nm,0.4s						
PBDV	**Barranco-do-Ve**	**5.98**	**11**	P	**Pn**	**20 05 56.4**	**0.0**
EJIF	**Jimena Fronter**	**6.01**	**31**	P	**Pn**	**20 05 57.9**	**+1.1**
	13nm,0.3s,SNR=7.9						
EJIF				S	**Sn**	**20 07 02.1**	**-2.7**
	62nm,0.4s,SNR=7.9						
EJIF	**Jimena Fronter**	**6.01**	**31**	P	**Pn**	**20 05 57.9**	**+1.1**
	13nm,0.3s,SNR=7.9						
PMPS	**Porto Santo**	**6.15**	**288**	*e*Pn	**Pn**	**20 05 59.7**	**+1.1**
PMPS				*e*Sn	**Sn**	**20 07 05.9**	**-2.2**
PMPS				A	A	20 07 26.3	
	31nm,0.4s						
PMPS	**Porto Santo**	**6.15**	**288**	P	**Pn**	**20 05 59.7**	**+1.1**
PMPS				S	**Sn**	**20 07 05.9**	**-2.2**
	16nm,0.4s						
PMPS	**Porto Santo**	**6.15**	**288**	P	**Pn**	**20 05 59.7**	**+1.1**
PMPST	**Porto Santo, M**	**6.15**	**288**	*e*Pn	Pb	20 06 19.6	+3.6
REAL	**Reales**	**6.16**	**33**	P	**Pn**	**20 05 61.0**	**+2.7**
REAL				S	**Sn**	**20 07 09.8**	**+1.1**
PVAQ	**Vaqueiros**	**6.17**	**12**	*e*Pn	**Pn**	**20 05 58.9**	**-0.1**
PVAQ				*e*Sn	**Sn**	**20 07 06.5**	**-2.2**
PVAQ				A	A	20 07 14.7	
	69nm,0.3s						
PVAQ	**Vaqueiros**	**6.17**	**12**	P	**Pn**	**20 05 58.9**	**-0.1**
PVAQ				S	**Sn**	**20 07 06.5**	**-2.2**
	69nm,0.3s						
PVAQ	**Vaqueiros**	**6.17**	**12**	P	**Pn**	**20 05 58.9**	**-0.1**
PTEO	**Sao Teotonio**	**6.19**	**5**	*e*Pn	**Pn**	**20 05 59.5**	**+0.3**
PTEO				*e*Sn	**Sn**	**20 07 04.8**	**-4.2**
PTEO				A	A	20 07 24.9	
	63nm,0.3s						
PTEO	**Sao Teotonio**	**6.19**	**5**	P	**Pn**	**20 05 59.5**	**+0.3**
PTEO				S	**Sn**	**20 07 04.8**	**-4.2**
	31nm,0.3s						
PTEO	**Sao Teotonio**	**6.19**	**5**	P	**Pn**	**20 05 59.5**	**+0.3**
ESPR	**Espera**	**6.21**	**27**	P	**Pn**	**20 05 59.6**	**+0.1**
	6.9nm,0.2s,SNR=38						
ESPR				S	**Sn**	**20 07 06.0**	**-3.6**
	112nm,0.5s,SNR=5.7						
ESPR	**Espera**	**6.21**	**27**	P	**Pn**	**20 05 59.6**	**+0.1**
	6.9nm,0.2s,SNR=38						
EGRO	**El Granado**	**6.34**	**14**	P	**Pn**	**20 06 01.1**	**-0.2**
	8.3nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**20 07 08.6**	**-4.3**
	56nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**6.34**	**14**	P	**Pn**	**20 06 01.1**	**-0.2**
	8.3nm,0.2s,SNR=7.9						
PCVE	**Castro Verde**	**6.34**	**10**	*e*Pn	**Pn**	**20 06 01.6**	**+0.3**
PCVE				*e*Sn	**Sn**	**20 07 09.2**	**-3.7**
PCVE				A	A	20 07 27.9	
	56nm,0.4s						
PCVE	**Castro Verde**	**6.34**	**10**	P	**Pn**	**20 06 01.6**	**+0.3**
PCVE				S	**Sn**	**20 07 09.2**	**-3.7**
	56nm,0.4s						
PCVE	**Castro Verde**	**6.34**	**10**	P	**Pn**	**20 06 01.6**	**+0.3**
**LIJ

FUL	**Funchal**	**6.53**	**283**	P	**Pn**	**20 06 05.0**	**+1.2**
FUL				S	**Sn**	**20 07 15.8**	**-1.6**
FUL	**Funchal**	**6.53**	**283**	P	**Pn**	**20 06 05.0**	**+1.2**
MESJ	**Messejana**	**6.53**	**8**	*e*P	**Pn**	**20 06 04.1**	**+0.3**
MESJ				*e*S	**Sn**	**20 07 12.2**	**-5.2**
MESJ				AML	AML	20 07 22.6	
	comp=E,53nm,0.2s						
MESJ	**Messejana**	**6.53**	**8**	*e*P	**Pn**	**20 06 04.1**	**+0.3**
MESJ				*e*S	**Sn**	**20 07 12.2**	**-5.2**
MESJ	**Messejana**	**6.53**	**8**	P	**Pn**	**20 06 04.1**	**+0.3**
MESJ				S	**Sn**	**20 07 12.2**	**-5.2**
MESJ	**Messejana**	**6.53**	**8**	*e*P	**Pn**	**20 06 04.1**	**+0.3**
PMAR	**Madeira**	**6.56**	**284**	*e*Pn	**Pn**	**20 06 05.5**	**+1.1**
PMAR				*e*Sn	**Sn**	**20 07 15.7**	**-2.7**
PMAR				A	A	20 07 30.4	
	comp=E,67nm,0.5s						
PMAR	**Madeira**	**6.56**	**284**	P	**Pn**	**20 06 05.5**	**+1.1**
PMAR				S	**Sn**	**20 07 15.7**	**-2.7**
	comp=E,33nm,0.5s						
PMAR	**Madeira**	**6.56**	**284**	P	**Pn**	**20 06 05.5**	**+1.1**
ZAI	**Zaio**	**6.61**	**55**	P	**Pn**	**20 06 07.0**	**+2.0**
ZAI				S	**Sn**	**20 07 19.0**	**-0.5**
ZAI	**Zaio**	**6.61**	**55**	*e*P	**Pn**	**20 06 07.0**	**+2.0**
ZAI				*e*S	**Sn**	**20 07 19.0**	**-0.5**
EBAJ	**Bajamar**	**6.68**	**247**	P	**Pn**	**20 06 04.9**	**-1.2**
	comp=E,5.2nm,0.3s,SNR=11						
EBAJ				S	Sn	20 07 15.2	-6.2
	comp=E,6.6nm,0.2s,SNR=7.9						
EBAJ	**Bajamar**	**6.68**	**247**	P	**Pn**	**20 06 04.9**	**-1.2**
	comp=E,5.2nm,0.3s,SNR=11						
PBEJ	**Beja**	**6.76**	**10**	*e*Pn	**Pn**	**20 06 07.2**	**+0.2**
PBEJ				*e*Sn	**Sn**	**20 07 19.5**	**-3.6**
PBEJ				A	A	20 07 26.0	
	comp=E,37nm,0.6s						
PBEJ	**Beja**	**6.76**	**10**	P	**Pn**	**20 06 07.2**	**+0.2**
PBEJ				S	**Sn**	**20 07 19.5**	**-3.6**
	comp=E,18nm,0.6s						
PBEJ	**Beja**	**6.76**	**10**	P	**Pn**	**20 06 07.2**	**+0.2**
EMAL	**Malaga-Limoner**	**6.76**	**36**	P	**Pn**	**20 06 07.0**	**0.0**
EMAL				S	Sn	20 07 14.6	-8.5
EMAL	**Malaga-Limoner**	**6.76**	**36**	P	**Pn**	**20 06 07.0**	**0.0**
EMIN	**Mina Concepcio**	**6.76**	**18**	P	**Pn**	**20 06 06.3**	**-0.7**
	comp=E,5.6nm,0.3s,SNR=32						
EMIN				S	Sn	20 07 17.1	-6.0
	comp=E,16nm,0.2s,SNR=6.3						
EMIN	**Mina Concepcio**	**6.76**	**18**	P	**Pn**	**20 06 06.3**	**-0.7**
	comp=E,5.6nm,0.3s,SNR=32						
PNCL	**Nicolau / Gran**	**6.76**	**6**	*e*Pn	**Pn**	**20 06 07.4**	**+0.3**
PNCL				*e*Sn	**Sn**	**20 07 19.4**	**-3.8**
PNCL				A	A	20 07 38.0	
	comp=E,49nm,0.5s						
PNCL	**Nicolau / Gran**	**6.76**	**6**	*e*Pn	**Pn**	**20 06 07.4**	**+0.3**
PMOZ	**Porto Moniz, M**	**6.81**	**284**	*e*Pn	**Pn**	**20 06 08.9**	**+1.1**
PMOZ				*e*Sn	**Sn**	**20 07 21.0**	**-3.5**
PMOZ				A	A	20 07 34.2	
	comp=E,84nm,0.4s						
PMOZ	**Porto Moniz, M**	**6.81**	**284**	*e*Pn	**Pn**	**20 06 08.9**	**+1.1**
EALB	**Alboran**	**6.97**	**47**	P	**Pn**	**20 06 11.1**	**+1.2**
	comp=E,2.8nm,0.2s,SNR=4.0						
EALB				S	**Sn**	**20 07 24.9**	**-3.4**
	comp=E,13nm,0.4s,SNR=7.9						
EALB	**Alboran**	**6.97**	**47**	P	**Pn**	**20 06 11.1**	**+1.2**
	comp=E,2.8nm,0.2s,SNR=4.0						
CRAJ	**Montana Rajada**	**7.01**	**246**	S	**Sn**	**20 07 25.2**	**-4.5**
	comp=E,31nm,0.2s,SNR=5.3						
CCAN	**Las Canadas**	**7.03**	**245**	P	**Pn**	**20 06 10.0**	**-1.1**
	comp=E,3.2nm,0.4s,SNR=7.9						
CCAN				S	Sn	20 07 23.5	-6.9
	comp=E,2.7nm,0.2s,SNR=7.9						
CCAN	**Las Canadas**	**7.03**	**245**	P	**Pn**	**20 06 10.0**	**-1.1**
	comp=E,3.2nm,0.4s,SNR=7.9						
PBAR	**Barrancos**	**7.05**	**15**	*e*Pn	**Pn**	**20 06 11.6**	**+0.5**
PBAR				*e*Sn	**Sn**	**20 07 25.2**	**-5.2**
PBAR				A	A	20 07 44.0	
	comp=E,46nm,0.4s						
PBAR	**Barrancos**	**7.05**	**15**	P	**Pn**	**20 06 11.6**	**+0.5**
PBAR				S	**Sn**	**20 07 25.2**	**-5.2**
	comp=E,46nm,0.4s						
PBAR	**Barrancos**	**7.05**	**15**	P	**Pn**	**20 06 11.6**	**+0.5**
MOE	**Montemor**	**7.19**	**6**	*e*Pn	**Pn**	**20 06 14.8**	**+1.9**
MOE				*e*Sn	**Sn**	**20 07 30.3**	**-3.4**
MOE	**Montemor**	**7.19**	**6**	P	**Pn**	**20 06 14.8**	**+1.9**
MOE				S	**Sn**	**20 07 30.3**	**-3.4**
MOE	**Montemor**	**7.19**	**6**	P	**Pn**	**20 06 14.8**	**+1.9**
EVOP	**Sao Brissos**	**7.22**	**8**	*e*Pn	**Pn**	**20 06 12.9**	**-0.4**
EVOP				*e*Sn	**Sn**	**20 07 30.1**	**-4.3**
EVOP	**Sao Brissos**	**7.22**	**8**	*e*Pn	**Pn**	**20 06 12.9**	**-0.4**
EVO	**Evora**	**7.23**	**8**	*e*Pn	**Pn**	**20 06 12.9**	**-0.6**
EVO				*e*Sn	**Sn**	**20 07 30.1**	**-4.7**
	comp=E,57nm,0.2s						
EVO				*e*R			
	comp=E,194nm,19.0s						
EVO	**Evora**	**7.23**	**8**	*e*Pn	**Pn**	**20 06 13.5**	**0.0**
EVO				*e*Sn	**Sn**	**20 07 30.4**	**-4.4**
EVO				A	A	20 07 44.0	
	comp=E,48nm,0.4s						
EVO	**Evora**	**7.23**	**8**	P	**Pn**	**20 06 13.5**	**0.0**
EVO				S	**Sn**	**20 07 30.4**	**-4.4**
	comp=E,48nm,0.4s						
EVO	**Evora**	**7.23**	**8**	P	**Pn**	**20 06 13.5**	**0.0**
EGUA	**Guajares**	**7.27**	**40**	P	**Pn**	**20 06 12.9**	**-1.1**
	comp=E,14nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**20 07 31.6**	**-4.0**
	comp=E,54nm,0.4s,SNR=7.9						
EGUA	**Guajares**	**7.27**	**40**	P	**Pn**	**20 06 12.9**	**-1.1**
	comp=E,14nm,0.2s,SNR=7.9						
LIS	**Lisbon**	**7.33**	**1**	*e*P	**Pn**	**20 06 15.8**	**+0.9**
LIS				*e*S	Sn	20 07 30.4	-6.9
LIS				AML	AML	20 07 34.0	
	comp=N,91nm,0.3s						
LIS	**Lisbon**	**7.33**	**1**	*e*P	**Pn**	**20 06 15.8**	**+0.9**
LIS				*e*S	Sn	20 07 30.4	-6.9
LIS	**Lisbon**	**7.33**	**1**	P	**Pn**	**20 06 15.8**	**+0.9**
LIS				S	Sn	20 07 30.4	-6.9
LIS	**Lisbon**	**7.33**	**1**	*e*P	**Pn**	**20 06 15.8**	**+0.9**
ELUQ	**Luque**	**7.47**	**33**	P	**Pn**	**20 06 17.0**	**+0.1**
	comp=N,6.5nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**20 07 36.8**	**-4.0**
	comp=N,9.8nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**7.47**	**33**	P	**Pn**	**20 06 17.0**	**+0.1**
	comp=N,6.5nm,0.2s,SNR=7.9						
EGOM	**La Gomera**	**7.54**	**247**	P	**Pn**	**20 06 16.0**	**-1.7**
	comp=N,4.4nm,0.5s,SNR=7.3						
EGOM				S	Sn	20 07 35.9	-6.4
	comp=N,71nm,0.5s,SNR=7.9						
PMAFR	**Mafra**	**7.57**	**0**	*e*Pn	**Pn**	**20 06 18.8**	**+0.6**
PMAFR				*e*Sn	**Sn**	**20 07 39.7**	**-3.4**
PMAFR				A	A	20 07 42.4	
	comp=N,112nm,0.5s						
PMAFR	**Mafra**	**7.57**	**0**	P	**Pn**	**20 06 18.9**	**+0.6**
	comp=N,8.1nm,0.2s,SNR=7.8						
PMAFR				S	Sn	20 07 37.2	-5.9
	comp=N,128nm,0.5s,SNR=6.8						
PMAFR	**Mafra**	**7.57**	**0**	*e*Pn	**Pn**	**20 06 18.8**	**+0.6**
EBAD	**Badajoz**	**7.62**	**14**	P	**Pn**	**20 06 18.2**	**-0.6**
	comp=N,2.5nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**20 07 39.8**	**-4.4**
	comp=N,40nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**7.62**	**14**	P	**Pn**	**20 06 18.2**	**-0.6**
	comp=N,2.5nm,0.2s,SNR=7.9						
PESTR	**Estremoz**	**7.62**	**10**	*e*Pn	**Pn**	**20 06 19.1**	**+0.2**
PESTR				*e*Sn	**Sn**	**20 07 39.6**	**-4.8**
PESTR				A	A	20 08 16.4	
	comp=N,26nm,0.6s						
PESTR	**Estremoz**	**7.62**	**10**	P	**Pn**	**20 06 19.1**	**+0.2**
PESTR				S	**Sn**	**20 07 39.6**	**-4.8**
	comp=N,26nm,0.6s						
PESTR	**Estremoz**	**7.62**	**10**	P	**Pn**	**20 06 19.1**	**+0.2**
EBER	**Berja**	**7.69**	**42**	P	**Pn**	**20 06 18.9**	**-1.1**
	comp=N,5.9nm,0.3s,SNR=31						
EBER				S	**Sn**	**20 07 42.3**	**-4.0**
	comp=N,20nm,0.5s						
EBER	**Berja**	**7.69**	**42**	P	**Pn**	**20 06 18.9**	**-1.1**
	comp=N,5.9nm,0.3s,SNR=31						
PMTG	**Montargil**	**7.74**	**7**	*e*Pn	**Pn**	**20 06 21.1**	**+0.6**
PMTG				*e*Sn	**Sn**	**20 07 42.6**	**-4.7**
PMTG				A	A	20 07 58.9	
	comp=N,29nm,0.7s						
PMTG	**Montargil**	**7.74**	**7**	*e*Pn	**Pn**	**20 06 21.1**	**+0.6**
EADA	**Adamuz**	**7.84**	**29**	P	**Pn**	**20 06 21.1**	**-0.8**
	comp=N,11nm,0.2s,SNR=90						
EADA				S	**Sn**	**20 07 44.4**	**-5.4**
	comp=N,21nm,0.3s,SNR=4.1						
EADA	**Adamuz**	**7.84**	**29**	P	**Pn**	**20 06 21.1**	**-0.8**
	comp=N,11nm,0.2s,SNR=90						
EHIG	**Higuera**	**7.84**	**251**	P	**Pn**	**20 06 21.4**	**-0.7**
	comp=N,6.3nm,0.2s,SNR=7.9						
EHIG				S	**Sn**	**20 07 46.2**	**-3.8**
	comp=N,21nm,0.2s,SNR=7.9						
EHIG	**Higuera**	**7.84**	**251**	P	**Pn**	**20 06 21.4**	**-0.7**
	comp=N,6.3nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**8.14**	**45**	P	**Pn**	**20 06 27.7**	**+1.6**
	comp=N,4.4nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**8.14**	**45**	P	**Pn**	**20 06 27.7**	**+1.6**
	comp=N,4.4nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**8.18**	**33**	P	**Pn**	**20 06 25.7**	**-0.9**
	comp=N,29nm,0.2s,SNR=21						
EBAN				S	Sn	20 07 50.5	-7.8
	comp=N,37nm,0.4s,SNR=5.8						
EBAN	**Banos Encina**	**8.18**	**33**	P	**Pn**	**20 06 25.7**	**-0.9**
	comp=N,29nm,0.2s,SNR=21						
PMRV	**Marv??o**	**8.20**	**11**	*e*Pn	**Pn**	**20 06 26.7**	**-0.1**
PMRV				*e*Sn	Sn	20 07 53.0	-5.7
PMRV				A	A	20 08 32.7	
	comp=N,23nm,0.4s						
PMRV	**Marv??o**	**8.20**	**11**	P	**Pn**	**20 06 26.7**	**-0.1**
PMRV				S	Sn	20 07 53.0	-5.7
	comp=N,23nm,0.4s						
PMRV	**Marv??o**	**8.20**	**11**	P	**Pn**	**20 06 26.7**	**-0.1**
EQES	**Quesada**	**8.25**	**37**	P	**Pn**	**20 06 26.7**	**-0.9**
	comp=N,14nm,0.3s,SNR=71						
EQES				S	**Sn**	**20 07 54.7**	**-5.3**
	comp=N,8.1nm,0.2s						
EQES	**Quesada**	**8.25**	**37**	P	**Pn**	**20 06 26.7**	**-0.9**
	comp=N,14nm,0.3s,SNR=71						
PTOM	**Tomar**	**8.27**	**5**	*e*Pn	**Pn**	**20 06 28.2**	**+0.5**
PTOM				*e*Sn	**Sn**	**20 07 54.9**	**-5.4**
PTOM				A	A	20 08 17.8	
	comp=N,44nm,0.6s						
PTOM	**Tomar**	**8.27**	**5**	P	**Pn**	**20 06 28.2**	**+0.5**
PTOM				S	**Sn**	**20 07 54.9**	**-5.4**
	comp=N,22nm,0.6s						
PTOM	**Tomar**	**8.27**	**5**	P	**Pn**	**20 06 28.2**	**+0.5**
EHUE	**Huescar**	**8.51**	**39**	P	**Pn**	**20 06 31.1**	**-0.1**
	comp=N,2.7nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**20 08 02.7**	**-3.7**
	comp=N,5.9nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**8.51**	**39**	P	**Pn**	**20 06 31.1**	**-0.1**
	comp=N,2.7nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**8.59**	**10**	*e*Pn	**Pn**	**20 06 32.4**	**+0.2**
PCBR				*e*Sn	**Sn**	**20 08 02.9**	**-5.3**
PCBR				A	A	20 08 19.4	
	comp=N,20nm,0.4s						
PCBR	**Castelo Branco**	**8.59**	**10**	P	**Pn**	**20 06 32.4**	**+0.2**
PCBR				S	**Sn**	**20 08 02.9**	**-5.3**
	comp=N,10nm,0.4s						
PCBR	**Castelo Branco**	**8.59**	**10**	P	**Pn**	**20 06 32.4**	**+0.2**
EPLA	**Plasencia**	**9.08**	**16**	P	**Pn**	**20 06 39.4**	**+0.5**
	comp=N,2.1nm,0.2s,SNR=12						
EPLA				S	Sn	20 08 14.0	-6.2
	comp=N,15nm,0.3s,SNR=7.9						
EPLA	**Plasencia**	**9.08**	**16**	P	**Pn**	**20 06 39.4**	**+0.5**
	comp=N,2.1nm,0.2s,SNR=12						
PAB	**San Pablo**	**9.12**	**25**	*e*Pn	**Pn**	**20 06 39.3**	**-0.3**
	comp=N,9.5nm,0.6s						
PAB				*e*Sn	Sn	20 08 08.8	-13
PAB	**San Pablo**	**9.12**	**25**	*e*Pn	**Pn**	**20 06 39.3**	**-0.3**
	comp=N,9.5nm,0.6s						
EVIA	**Vianos**	**9.18**	**36**	P	**Pn**	**20 06 38.9**	**-1.4**
	comp=N,17nm,0.2s,SNR=27						
EVIA				S	**Sn**	**20 08 17.0**	**-5.7**
	comp=N,38nm,0.4s						
EVIA	**Vianos**	**9.18**	**36**	P	**Pn**	**20 06 38.9**	**-1.4**
	comp=N,17nm,0.2s,SNR=27						
EMUR	**La Murta**	**9.30**	**44**	P	**Pn**	**20 06 43.5**	**+1.6**
	comp=N,1.0nm,0.3s,SNR=5.3						
EMUR	**La Murta**	**9.30**	**44**	P	**Pn**	**20 06 43.5**	**+1.6**
	comp=N,1.0nm,0.3s,SNR=5.3						
ESDC	**Sonseca Array**	**9.38**	**26**	Pn	**Pn**	**20 06 41.6**	**-1.4**
ESDC				Sn	Sn	20 08 17.6	-10
ESDC	**Sonseca Array**	**9.38**	**26**	P	**Pn**	**20 06 41.4**	**-1.6**
	comp=N,3.2nm,0.3s,baz=213,slow=13,SNR=27						
ESDC				S	Sn	20 08 17.6	-10
	comp=N,3.8nm,0.3s,baz=210,slow=24,SNR=6.0						
ESDC	**Sonseca Array**	**9.38**	**26**	Pn	**Pn**	**20 06 41.6**	**-1.4**
	comp=N,2.1nm,0.3s,baz=211,slow=13,SNR=57						
ESDC				Sn	Sn	20 08 17.6	-10
	comp=N,1.8nm,0.3s,baz=206,slow=23,SNR=3.2						
ESDC	**Sonseca Array**	**9.38**	**26**	P	**Pn**	**20 06 41.4**	**-1.6**
	comp=N,3.2nm,0.3s,slow=13,SNR=27						
ESDC	**Sonseca Array**	**9.38**	**26**	Pn	**Pn**	**20 06 41.7**	**-1.4**
ESLA	**Sonseca Array**	**9.38**	**26**	*e*Pn	**Pn**	**20 06 41.9**	**-1.1**
	comp=N,1.1nm,0.4s						
ESLA				*e*Sn	Sn	20 08 14.2	-14
ESLA	**Sonseca Array**	**9.38**	**26**	*e*Pn	**Pn**	**20 06 41.9**	**-1.1**
	comp=N,1.1nm,0.4s						
PVIS	**Viseu**	**9.40**	**7**	*e*Sn	**Sn**	**20 08 24.2**	**-4.0**
PVIS	**Viseu**	**9.40**	**7**	S	**Sn**	**20 08 24.2**	**-4.0**
ETOB	**Tobarra**	**9.68**	**39**	P	**Pn**	**20 06 45.9**	**-1.2**
	comp=N,24nm,0.3s,SNR=68						
ETOB				S	Sn	20 08 29.0	-6.0
	comp=N,10nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**9.68**	**39**	P	**Pn**	**20 06 45.9**	**-1.2**
	comp=N,24nm,0.3s,SNR=68						
ETRT	**Tiaret**	**9.77**	**63**	P	Pn	20 06 42.0	-6.5
EANR	**'Ain N'Sour**	**9.84**	**60**	P	Pn	20 06 43.0	-6.4
MVO	**Moncorvo**	**9.96**	**10**	*e*Pn	**Pn**	**20 06 51.2**	**+0.2**
MVO				*e*Sn	Sn	20 08 35.5	-6.3
MVO				A	A	20 09 04.0	
	comp=N,20nm,0.5s						
MVO	**Moncorvo**	**9.96**	**10**	P	**Pn**	**20 06 51.1**	**+0.2**
	comp=N,3.4nm,0.2s,SNR=12						
MVO				S	Sn	20 08 35.7	-6.1
	comp=N,12nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**9.96**	**10**	*e*Pn	**Pn**	**20 06 51.2**	**+0.2**
PVRL	**Vila Real**	**9.98**	**7**	*e*Pn	**Pn**	**20 06 54.2**	**+3.0**
PVRL				*e*Sn	**Sn**	**20 08 38.2**	**-4.1**
PVRL	**Vila Real**	**9.98**	**7**	P	**Pn**	**20 06 54.2**	**+3.0**
PVRL				S	**Sn**	**20 08 38.2**	**-4.1**
POLO	**Lamas de Olo**	**10.07**	**7**	*e*Pn	**Pn**	**20 06 53.3**	**+0.8**
POLO				*e*Sn	Sn	20 08 38.8	-5.7
POLO				A	A	20 08 52.0	
	comp=N,5.3nm,0.4s						
POLO	**Lamas de Olo**	**10.07**	**7**	*e*Pn	**Pn**	**20 06 53.3**	**+0.8**
GUD	**Guadarrama**	**10.17**	**23**	P	**Pn**	**20 06 53.3**	**-0.6**
	comp=N,2.5nm,0.3s,SNR=13						
GUD				S	Sn	20 08 39.6	-7.5
	comp=N,6.0nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**10.17**	**23**	P	**Pn**	**20 06 53.3**	**-0.6**
	comp=N,2.5nm,0.3s,SNR=13						
PCAB	**Cabril**	**10.38**	**6**	*e*Pn	Pn	20 07 00.9	+4.2
PCAB				*e*Sn	**Sn**	**20 08 47.4**	**-4.7**
PCAB				A	A	20 09 05.2	
	comp=N,13nm,0.7s						
PCAB	**Cabril**	**10.38**	**6**	P	Pn	20 07 00.9	+4.2
PCAB				S	**Sn**	**20 08 47.4**	**-4.7**
	comp=N,6.5nm,0.7s						
EBEN	**Beniarda**	**10.46**	**43**	P	**Pn**	**20 06 58.7**	**+0.8**
	comp=N,3.4nm,0.5s,SNR=7.9						
EBEN				S	**Sn**	**20 08 50.5**	**-3.8**
	comp=N,1.1nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**10.46**	**43**	P	**Pn**	**20 06 58.7**	**+0.8**
	comp=N,3.4nm,0.5s,SNR=7.9						
ELOB	**Lobios**	**10.53**	**5**	P	**Pn**	**20 06 58.2**	**-0.6**
	comp=N,1.1nm,0.4s,SNR=16						
ELOB				S	Sn	20 08 50.2	-5.8
	comp=N,8.1nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**10.53**	**5**	P	**Pn**	**20 06 58.2**	**-0.6**
	comp=N,1.1nm,0.4s,SNR=16						
PGAV	**Gavieira, Arco**	**10.61**	**4**	*e*Pn	**Pn**	**20 07 00.8**	**+0.8**
PGAV				*e*Sn	Sn	20 08 52.5	-5.5
PGAV				A	A	20 09 18.4	
	comp=N,11nm,0.5s						
PGAV	**Gavieira, Arco**	**10.61**	**4**	*e*Pn	**Pn**	**20 07 00.8**	**+0.8**
PBRG	**Braganca**	**10.63**	**11**	*e*Pn	**Pn**	**20 07 02.8**	**+2.7**
PBRG				*e*Sn	**Sn**	**20 08 53.0**	**-5.2**
PBRG				A	A	20 09 20.1	
	comp=N,9.5nm,0.6s						
PBRG	**Braganca**	**10.63**	**11**	P	**Pn**	**20 07 02.8**	**+2.7**
PBRG				S	**Sn**	**20 08 53.0**	**-5.2**
	comp=N,4.8nm,0.6s						
PBRG	**Braganca**	**10.63**	**11**	*e*Pn	**Pn**	**20 07 02.8**	**+2.7**
ECHE	**Chera**	**10.68**	**37**	P	**Pn**	**20 06 59.4**	**-1.4**
	comp=N,9.7nm,0.6s,SNR=6.8						
ECHE				S	**Sn**	**20 08 54.6**	**-4.9**
	comp=N,2.9nm,0.3s,SNR=7.9						
ECHE	**Chera**	**10.68**	**37**	P	**Pn**	**20 06 59.4**	**-1.4**
	comp=N,9.7nm,0.6s,SNR=6.8						
ECAL	**Calabor**	**10.76**	**11**	P	**Pn**	**20 07 02.9**	**+0.9**
	comp=N,2.8nm,0.3s,SNR=8.6						
ECAL				S	Sn	20 08 55.9	-5.7
	comp=N,11nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**10.76**	**11**	P	**Pn**	**20 07 02.9**	**+0.9**
	comp=N,2.8nm,0.3s,SNR=8.6						
EZAM	**Zamans**	**10.78**	**3**	P	**Pn**	**20 07 02.0**	**-0.1**
	comp=N,10nm,0.7s,SNR=7.9						
EZAM				S	Sn	20 08 55.8	-5.9
	comp=N,7.5nm,0.3s,SNR=7.9						
EZAM	**Zamans**	**10.78**	**3**	P	**Pn**	**20 07 02.0**	**-0.1**
	comp=N,10nm,0.7s,SNR=7.9						
ETOR	**Torete**	**11.12**	**30**	P	**Pn**	**20 07 05.2**	**-1.8**
	comp=N,36nm,0.4s,SNR=52						
ETOR				S	Sn	20 09 02.0	-8.4
	comp=N,26nm,0.4s,SNR=7.9						
ETOR	**Torete**	**11.12**	**30**	P	**Pn**	**20 07 05.2**	**-1.8**
	comp=N,36nm,0.4s,SNR=52						
EMOS	**Mosqueruela**	**11.51**	**36**	P	**Pn**	**20 07 11.7**	**-0.5**
	comp=N,12nm,0.5s,SNR=27						
EMOS				S	Sn	20 09 13.5	-6.5
	comp=N,3.4nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**11.51**	**36**	P	**Pn**	**20 07 11.7**	**-0.5**
	comp=N,12nm,0.5s,SNR=27						
EMAZ	**Mazaricos**	**11.56**	**1**	P	**Pn**	**20 07 13.4**	**+0.5**
	comp=N,2.0nm,0.4s,SNR=9.6						
EMAZ				S	Sn	20 09 12.5	-8.7
	comp=N,7.5nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**11.56**	**1**	P	**Pn**	**20 07 13.4**	**+0.5**
	comp=N,2.0nm,0.4s,SNR=9.6						
EPON	**Pontenova**	**12.07**	**8**	P	Pn	20 07 23.7	+3.9
	comp=N,0.4nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**12.36**	**37**	P	**Pn**	**20 07 23.5**	**-0.3**
	comp=N,13nm,0.6s,SNR=11						
ERTA				S	Sn	20 09 34.3	-6.2
	comp=N,0.9nm,0.5s,SNR=7.9						
ERTA	**Horta de San J**	**12.36**	**37**	P	**Pn**	**20 07 23.5**	**-0.3**
	comp=N,13nm,0.6s,SNR=11						
EARI	**Arriondas**	**12.36**	**14**	P	**Pn**	**20 07 26.8**	**+3.0**
	comp=N,0.2nm,0.2s,SNR=7.8						
EARI				S	Sn	20 09 33.2	-7.5
	comp=N,0.7nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**12.55**	**32**	P	**Pn**	**20 07 26.4**	**-0.1**
	comp=N,23nm,0.7s,SNR=6.9						
ESAC				S	Sn	20 09 39.6	-5.9
	comp=N,19nm,0.5s,SNR=7.9						
ESAC	**San Caprasio**	**12.55**	**32**	P	**Pn**	**20 07 26.4**	**-0.1**
	comp=N,23nm,0.7s,SNR=6.9						
ELAN	**Lanestosa**	**12.74**	**20**	P	**Pn**	**20 07 30.0**	**+1.1**
	comp=N,1.0nm,0.3s,SNR=6.9						
ELAN				S	Sn	20 09 41.1	-8.8
	comp=N,0.9nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**12.74**	**20**	P	**Pn**	**20 07 30.0**	**+1.1**
	comp=N,1.0nm,0.3s,SNR=6.9						
EARA	**Aranguren**	**12.96**	**26**	P	**Pn**	**20 07 33.5**	**+1.6**
	comp=N,1.0nm,0.3s,SNR=4.0						
EARA	**Aranguren**	**12.96**	**26**	P	**Pn**	**20 07 33.5**	**+1.6**
	comp=N,1.0nm,0.3s,SNR=4.0						
ETOS	**Mallorca**	**12.97**	**46**	P	**Pn**	**20 07 34.0**	**+1.9**
	comp=N,0.8nm,0.3s,SNR=4.0						
ETOS	**Mallorca**	**12.97**	**46**	P	**Pn**	**20 07 34.0**	**+1.9**
	comp=N,0.8nm,0.3s,SNR=4.0						
IUNC	**Unciti**	**12.98**	**27**	P	**Pn**	**20 07 34.1**	**+1.9**
	comp=N,1.1nm,0.1s,SNR=4.0						
IUNC	**Unciti**	**12.98**	**27**	P	**Pn**	**20 07 34.1**	**+1.9**
	comp=N,1.1nm,0.1s,SNR=4.0						
EPOB	**Poblet**	**13.03**	**37**	P	**Pn**	**20 07 32.5**	**-0.5**
	comp=N,2.6nm,0.3s,SNR=19						
EPOB	**Poblet**	**13.03**	**37**	P	**Pn**	**20 07 32.5**	**-0.5**
	comp=N,2.6nm,0.3s,SNR=19						
IZUN	**Zunzarren**	**13.08**	**27**	P	**Pn**	**20 07 35.5**	**+1.8**
	comp=N,0.6

TCF	**Toulx Ste Croi**	**17.38**	**28**	*e*P		**Pn**	**20 08 30.4 +0.2**
TCF	**Toulx Ste Croi**	**17.38**	**28**	*e*P		**Pn**	**20 08 30.4 +0.2**
ROSF	**Rostrenen**	**17.57**	**14**	*e*P		**P**	**20 08 33.3 -0.1**
ROSF	**Rostrenen**	**17.57**	**14**	*e*P		**P**	**20 08 33.3 -0.1**
ROSF	**Rostrenen**	**17.57**	**14**	*e*P		**P**	**20 08 33.3 -0.1**
AGO	**Saint Agoulin**	**17.57**	**30**	*e*P		**P**	**20 08 35.4 +2.0**
AGO	**Saint Agoulin**	**17.57**	**30**	*e*P		**P**	**20 08 35.4 +2.0**
SGMF	**Saint Gilles**	**17.64**	**15**	*e*P		**P**	**20 08 34.1 -0.1**
SGMF	**Saint Gilles**	**17.64**	**15**	*e*P		**P**	**20 08 34.1 -0.1**
SGMF	**Saint Gilles**	**17.64**	**15**	*e*P		**P**	**20 08 34.1 -0.1**
BGF	**Bois d'Agland**	**17.86**	**28**	*e*P		**P**	**20 08 36.7 +0.1**
BGF				*e*Sn		Sn	20 11 40.3 -14
	comp=N,8.6nm,0.7s						
BGF	**Bois d'Agland**	**17.86**	**28**	*e*P		**P**	**20 08 36.7 +0.1**
BGF				*e*Sn		Sn	20 11 40.3 -14
BGF	**Bois d'Agland**	**17.86**	**28**	*e*P		**P**	**20 08 36.7 +0.1**
BBTS	**Babate**	**17.88**	**203**	P		**P**	**20 08 41.2 +4.2**
BBTS	**Babate**	**17.88**	**203**	P		**P**	**20 08 41.2 +4.2**
	comp=N,2.8nm,0.3s,baz=20,slow=4.3,SNR=5.0						
BBTS				LR		LR	20 15 51.3
	comp=N,70nm,18.4s,baz=338,slow=38						
GRR	**Gorron**	**18.19**	**18**	*e*Pn		**Pn**	**20 08 40.2 +0.1**
GRR	**Gorron**	**18.19**	**18**	*e*Pn		**Pn**	**20 08 40.2 +0.1**
GRR	**Gorron**	**18.19**	**18**	*e*Pn		**Pn**	**20 08 40.2 +0.1**
AVF	**Avril sur Loir**	**18.25**	**29**	*e*P		**P**	**20 08 43.1 +2.2**
AVF	**Avril sur Loir**	**18.25**	**29**	*e*P		**P**	**20 08 43.1 +2.2**
AVF	**Avril sur Loir**	**18.25**	**29**	*e*P		**P**	**20 08 43.1 +2.2**
SMF	**Signal de Mont**	**18.34**	**30**	*e*P		**Pn**	**20 08 43.1 +1.1**
SMF	**Signal de Mont**	**18.34**	**30**	*e*P		**Pn**	**20 08 43.1 +1.1**
SMF	**Signal de Mont**	**18.34**	**30**	*e*P		**Pn**	**20 08 43.1 +1.1**
SSF	**Saint Saulge**	**18.53**	**29**	*e*P		**P**	**20 08 44.2 +0.2**
SSF	**Saint Saulge**	**18.53**	**29**	*e*P		**P**	**20 08 44.2 +0.2**
SSF	**Saint Saulge**	**18.53**	**29**	*e*P		**P**	**20 08 44.2 +0.2**
LDF	**La Druitiere**	**18.58**	**20**	*e*Pn		**Pn**	**20 08 45.3 +0.5**
LDF	**La Druitiere**	**18.58**	**20**	*e*Pn		**Pn**	**20 08 45.3 +0.5**
LDF	**La Druitiere**	**18.58**	**20**	*e*Pn		**Pn**	**20 08 45.3 +0.5**
TORD	**Torodi Ar. Bea**	**20.79**	**148**	P		**P**	**20 09 08.8 -0.1**
TORD	**Torodi Ar. Bea**	**20.79**	**148**	P		**P**	**20 09 08.8 -0.1**
	comp=N,1.4nm,0.4s,baz=327,slow=11,SNR=46						
TORD				LR		LR	20 17 37.8
	comp=N,67nm,19.0s,baz=310,slow=38						
TORD	**Torodi Ar. Bea**	**20.79**	**148**	P		**P**	**20 09 08.8 -0.1**
BAIF	**Baives**	**21.25**	**25**	*e*P		**P**	**20 09 16.5 +2.9**
BAIF	**Baives**	**21.25**	**25**	*e*P		**P**	**20 09 16.5 +2.9**
GIVF	**Givet**	**21.51**	**25**	*e*P		**P**	**20 09 18.6 +2.3**
GIVF	**Givet**	**21.51**	**25**	*e*P		**P**	**20 09 18.6 +2.3**
GIVF	**Givet**	**21.51**	**25**	*e*P		**P**	**20 09 18.6 +2.3**
WLF	**Walferdange**	**21.67**	**28**	*e*Pn		**P**	**20 09 19.4 +1.3**
	comp=N,15nm,1.2s						
WLF	**Walferdange**	**21.67**	**28**	*e*Pn		**P**	**20 09 19.4 +1.3**
	comp=N,15nm,1.2s						
GERES	**GERESS Array B**	**24.66**	**38**	P		**P**	**20 09 46.3 -1.8**
GERES	**GERESS Array B**	**24.66**	**38**	P		**P**	**20 09 46.3 -1.8**
	comp=N,3.1nm,1.0s,baz=234,slow=8.4,SNR=5.9						
GERES				LR		LR	20 19 10.4
	comp=N,45nm,18.5s,baz=219,slow=36						
GERES	**GERESS Array B**	**24.66**	**38**	P		**P**	**20 09 46.3 -1.8**
KHC	**Kasperske Hory**	**24.77**	**38**	*e*P		**P**	**20 09 49.5 +0.4**
	comp=N,3.6nm,1.1s						
KHC	**Kasperske Hory**	**24.77**	**38**	*e*P		**P**	**20 09 50.0 +1.0**
KHC	**Kasperske Hory**	**24.77**	**38**	*e*P		**P**	**20 09 49.5 +0.4**
	comp=N,3.6nm,1.1s						
DBIC	**Dimbokro**	**24.93**	**169**	*e*P		**P**	**20 09 50.9 +0.2**
	comp=N,9.7nm,0.7s						
DBIC	**Dimbokro**	**24.93**	**169**	P		**P**	**20 09 51.5 +0.8**
	comp=N,5.8nm,0.6s,baz=339,slow=11,SNR=15						
DBIC				LR		LR	20 20 22.1
	comp=N,70nm,18.8s,baz=338,slow=38						
DBIC	**Dimbokro**	**24.93**	**169**	*e*P		**P**	**20 09 50.8 +0.2**
	comp=N,9.7nm,0.7s						
LIC	**Lamto**	**25.34**	**170**	⇓ *i*P		**P**	**20 09 55.2 +0.8**
	comp=N,25nm,0.6s,baz=350						
LIC				*e*R			
	comp=N,67nm,18.0s						
LIC	**Lamto**	**25.34**	**170**	⇓ *i*P		**P**	**20 09 55.2 +0.8**
	comp=N,25nm,0.6s						
LIC	**Lamto**	**25.34**	**170**	⇓ *i*P		**P**	**20 09 55.2 +0.8**
	comp=N,12nm,0.6s,baz=350						
MORC	**Moravsky Berou**	**27.26**	**40**	P		**P**	**20 10 13.0 +1.4**
	comp=N,3.3nm,1.1s						
MORC	**Moravsky Berou**	**27.26**	**40**	P		**P**	**20 10 13.0 +1.4**
	comp=N,3.2nm,1.1s						
NOA	**NORSAR Array B**	**32.62**	**18**	LR		LR	20 26 15.6
	comp=N,38nm,19.4s,baz=255,slow=40						
FINES	**FINESS Array B**	**37.89**	**27**	P		**P**	**20 11 42.7 -1.4**
FINES	**FINESS Array B**	**37.89**	**27**	P		**P**	**20 11 42.7 -1.4**
	comp=N,2.0nm,0.8s,baz=237,slow=9.1,SNR=2.0						
FINES	**FINESS Array B**	**37.89**	**27**	P		**P**	**20 11 42.7 -1.4**
ARCES	**ARCESS Array B**	**42.97**	**17**	LR		LR	20 30 30.9
	comp=N,59nm,18.3s,baz=178,slow=36						
LSZ	**Lusaka**	**58.74**	**137**	P		**P**	**20 14 26.1 +0.6**
	comp=N,3.3nm,1.2s						
LSZ	**Lusaka**	**58.74**	**137**	P		**P**	**20 14 26.1 +0.6**
	comp=N,3.3nm,1.2s						
KURBB	**Kurchatov Arra**	**65.20**	**45**	P		**P**	**20 15 09.9 +1.5**
	comp=N,1.1nm,0.8s,baz=292,slow=7.4,SNR=4.3						
KURK	**Kurchatov**	**65.23**	**44**	P		**P**	**20 15 09.9 +1.3**
KURK	**Kurchatov**	**65.23**	**44**	P		**P**	**20 15 09.9 +1.3**
BOSA	**Boshof**	**68.15**	**147**	P		P	20 15 31.0 +3.4
MKAR	**Makanchi Array**	**68.93**	**47**	P		**P**	**20 15 34.0 +1.7**
MKAR	**Makanchi Array**	**68.93**	**47**	P		**P**	**20 15 34.0 +1.7**
	comp=N,0.3nm,0.7s,baz=291,slow=6.8,SNR=3.5						
MKAR	**Makanchi Array**	**68.93**	**47**	P		**P**	**20 15 34.0 +1.7**
PDAR	**Pinedale Array**	**76.18**	**312**	P		**P**	**20 16 16.7 +1.0**
PDAR	**Pinedale Array**	**76.18**	**312**	P		**P**	**20 16 16.7 +1.0**
	comp=N,0.9nm,0.8s,baz=78,slow=9.2,SNR=6.9						
PDAR	**Pinedale Array**	**76.18**	**312**	P		**P**	**20 16 16.7 +1.0**
SONM	**Songino Array**	**82.39**	**38**	P		**P**	**20 16 50.2 +0.8**
SONM	**Songino Array**	**82.39**	**38**	P		**P**	**20 16 50.2 +0.8**
	comp=N,0.4nm,1.0s,baz=316,slow=6.0,SNR=3.1						
SONM	**Songino Array**	**82.39**	**38**	P		**P**	**20 16 50.2 +0.8**
CMAR	**Chiang Mai Arr**	**95.28**	**65**	LR		LR	21 04 46.7
	comp=N,49nm,18.2s,baz=157,slow=38						
WRA	**Warramunga Arr**	**145.50**	**80**	PKPbc		**PKPab**	**20 24 07.2 +1.0**
WRA	**Warramunga Arr**	**145.50**	**80**	PKPbc		**PKPab**	**20 24 07.2 +1.0**
	comp=N,0.6nm,0.8s,baz=314,slow=2.6,SNR=11						
WRA	**Warramunga Arr**	**145.50**	**80**	PKPbc		**PKPab**	**20 24 07.2 +1.0**
ASAR	**Alice Springs**	**146.64**	**86**	PKPbc		**PKPab**	**20 24 10.9 +0.4**
ASAR	**Alice Springs**	**146.64**	**86**	PKPbc		**PKPab**	**20 24 10.9 +0.4**
	comp=N,0.4nm,0.7s,baz=293,slow=2.3,SNR=6.2						
ASAR	**Alice Springs**	**146.64**	**86**	PKPbc		**PKPab**	**20 24 10.9 +0.4**

***PRE* 28 20:14:02.7±0.8, 26°.41S×27°.52E, *h*2km, ML 1.9, South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PRYS	**Parys**	**0.54**	**196**	*e*P			Pg	20 14 13.5	+0.2
PRYS				*e*S			Sg	20 14 20.7	+0.2
PRYS				AML			AML	20 14 29.8	
	comp=Z,18nm,0.4s								
ERPM	**east rand prop**	**0.65**	**85**	*e*P			Pg	20 14 15.3	-0.1
ERPM				*e*S			Sg	20 14 24.6	+0.6
ERPM				AML			AML	20 14 26.5	
	comp=Z,35nm,0.5s								
KSR	**Koster**	**0.79**	**314**	*e*P			Pg	20 14 17.8	-0.3
KSR				*e*S			Sg	20 14 28.5	0.0
KSR				AML			AML	20 14 29.7	
	comp=Z,28nm,0.1s								
TLEK	**Tau Lekoa**	**0.94**	**234**	*e*P			Pg	20 14 21.4	+0.3
TLEK				*e*S			Sg	20 14 33.2	-0.2
SLR	**Silverton**	**0.95**	**46**	*e*P			Pg	20 14 20.6	-0.6
SLR				*e*S			Sb	20 14 34.6	-0.8
SLR				AML			AML	20 14 41.2	
	comp=Z,11nm,0.1s								
SWZ	**Schweizer**	**2.11**	**248**	*e*P			Pn	20 14 40.0	+0.8
SWZ				*e*S			Sn	20 15 06.7	+0.6
SWZ				AML			AML	20 15 09.2	
	comp=Z,17nm,0.6s								
LBTB	**Lobatse**	**2.22**	**308**	*e*P			Pn	20 14 41.6	+0.9
LBTB				*e*S			Sn	20 15 10.0	+1.1
LBTB				AML			AML	20 15 14.5	
	comp=Z,15nm,0.5s								
BOSA	**Boshof**	**2.98**	**222**	*e*P			Pn	20 14 51.9	+0.7
BOSA				*e*S			Sn	20 15 27.7	0.0
BOSA				AML			AML	20 15 37.1	
	comp=Z,2.6nm,0.5s								

***IDC* 28 20:14:08.6±1.4, 1°.66N×99°.39E, *h*170km±5km, *mb* 3.4/8, *mb*1 3.4/9, *mb*1*mx*3.2/26, *mbtmp*3.3/9, Error ellipse: s-maj=60.4km s-min=14.1km az=56.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.23**	**338**	P			Pn	20 14 37.6	+0.3
	11nm,0.3s,baz=119,slow=7.5,SNR=44								
PSI				S			Sn	20 14 58.0	-1.5
	3.9nm,0.3s,baz=59,slow=23,SNR=19								
CMAR	**Chiang Mai Arr**	**16.70**	**359**	P			P	20 17 52.5	+0.1
	0.1nm,0.3s,baz=182,slow=11,SNR=4.1								
WRA	**Warramunga Arr**	**40.44**	**124**	P			P	20 21 30.6	-0.3
	1.0nm,0.4s,baz=302,slow=9.1,SNR=22								
ASAR	**Alice Springs**	**41.95**	**129**	P			P	20 21 42.8	-0.3
	0.1nm,0.4s,baz=297,slow=7.8,SNR=4.3								
SONM	**Songino Array**	**46.40**	**7**	P			P	20 22 18.2	0.0
	0.4nm,0.4s,baz=191,slow=9.0,SNR=11								
SONM				PcP			PcP	20 23 50.3	+0.1
	0.5nm,0.4s,baz=192,slow=4.2,SNR=14								
MKAR	**Makanchi Array**	**47.37**	**344**	P			P	20 22 25.6	0.0
	1.9nm,0.4s,baz=154,slow=8.6,SNR=86								
KURBB	**Kurchatov Arra**	**51.90**	**343**	P			P	20 22 59.7	0.0
	1.1nm,0.6s,baz=161,slow=7.1,SNR=9.7								
ZALV	**Zalesovo Beam**	**53.49**	**349**	P			P	20 23 11.1	-0.2
	3.1nm,0.7s,baz=177,slow=6.8,SNR=17								
FINES	**FINESS Array B**	**80.61**	**332**	P			P	20 26 02.0	-0.1
	0.5nm,0.3s,baz=114,slow=5.9,SNR=11								
ARCES	**ARCESS Array B**	**82.85**	**340**	P			P	20 26 13.3	-0.5
	1.8nm,0.9s,baz=356,slow=4.9,SNR=4.6								

ISK ***28*** *20:23:12.7, 39°.30N×29°.17E, h7km, MD 2.6*
ISCJB ***28*** *20:23:13.7±0.6, 39°.34N±0°.04×29°.18E±0°.04, h10km±8km, Error ellipse: s-maj=7.4km s-min=5.0km az=8.0*
CSEM ***28*** *20:23:13.9±0.2, 39°.34N×29°.19E, h10km, MD 2.6, Error ellipse: s-maj=6.0km s-min=3.8km az=14.0*
DDA ***28*** *20:23:14.2, 39°.33N×29°.16E, h7km, MD 2.6*
ISC 28 20:23:13.7±1.2, 39°.35N±0°.05×29°.21E±0°.03, h18km±4km, n14, σ0°76/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TVSB	**Tavsanli**	**0.22**	**63**	*e*PG			**Pb**	**20 23 19.0**	**-0.1**
TVSB				*e*SG			**Sb**	**20 23 22.9**	**+0.3**
TVSB	**Tavsanli**	**0.22**	**63**	*e*Pg			**Pb**	**20 23 19.0**	**-0.1**
TVSB				*e*Sg			**Sb**	**20 23 22.9**	**+0.3**
GDZ	**Gediz**	**0.34**	**140**	*i* P			**Pg**	**20 23 21.5**	**+0.5**
GDZ				*i* S			**Sg**	**20 23 26.1**	**+0.2**
GDZ	**Gediz**	**0.34**	**140**	*i* P			**Pg**	**20 23 21.5**	**+0.5**
GDZ				*i* S			**Sg**	**20 23 26.1**	**+0.2**
DEMI	**Demirci**	**0.49**	**231**	*i* P			**Pg**	**20 23 23.4**	**-0.2**
DEMI				*i* S			**Sg**	**20 23 29.4**	**-0.8**
DEMI	**Demirci**	**0.49**	**231**	*i* P			**Pg**	**20 23 23.4**	**-0.2**
DEMI				*i* S			**Sg**	**20 23 29.4**	**-0.8**
DST	**Dursunbey**	**0.52**	**300**	*e*PG			**Pg**	**20 23 23.3**	**-0.9**
DST				*e*SG			**Sg**	**20 23 30.9**	**-0.3**
DST	**Dursunbey**	**0.52**	**300**	*e*Pg			**Pg**	**20 23 23.3**	**-0.9**
DST				*e*Sg			**Sg**	**20 23 30.9**	**-0.3**
ALT	**Altintas**	**0.76**	**112**	*e*PG			**Pb**	**20 23 27.7**	**-0.8**
ALT				*e*SG			**Sb**	**20 23 39.2**	**+0.7**
ALT	**Altintas**	**0.76**	**112**	*e*Pg			**Pb**	**20 23 27.7**	**-0.8**
ALT				*e*Sg			**Sb**	**20 23 39.2**	**+0.7**
ARMT	**Armutlu**	**1.24**	**348**	*e*PN			**Pb**	**20 23 37.7**	**+1.0**
ARMT	**Armutlu**	**1.24**	**348**	*e*Pn			**Pb**	**20 23 37.7**	**+1.0**
BALY	**Balya**	**1.29**	**288**	*i* P			**Pb**	**20 23 38.7**	**+1.3**
BALY				*i* S			**Sn**	**20 23 52.9**	**-0.7**
BALY	**Balya**	**1.29**	**288**	*i* P			**Pb**	**20 23 38.7**	**+1.3**
BALY				*i* S			**Sn**	**20 23 52.9**	**-0.7**

NNC ***28*** *20:35:01.9±2.6, 42°.77N×76°.25E, h0km, mb 2.7, mpv 2.1, Error ellipse: s-maj=28.2km s-min=3.9km az=169.0*
ISCJB ***28*** *20:35:03.4±0.8, 43°.19N±0°.05×76°.11E±0°.04, h8km±8km, Error ellipse: s-maj=9.2km s-min=5.3km az=169.1*
KNET ***28*** *20:35:04.7±1.2, 43°.11N×76°.00E, h22km±13km, ml 1.6, Error ellipse: s-maj=10.2km s-min=3.2km az=37.0*
ISC 28 20:35:03.9±1.1, 43°.10N±0°.06×76°.12E±0°.04, h16km±10km, n11, σ0°72/18, 6C-12D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.42**	**246**	⇓P			**Pg**	**20 35 12.4**	**-0.1**
	1.7nm,0.4s								
TKM2				⇑S			**Sb**	**20 35 18.7**	**-0.5**
	2.4nm,0.1s								
TKM2	**Tokmak 2**	**0.42**	**246**	⇓P			**Pg**	**20 35 12.5**	**-0.1**
	5.4nm,0.1s,SNR=54								
TKM2				⇑S			**Sb**	**20 35 18.9**	**-0.4**
	91nm,0.1s								
KNDC	**Almaty**	**0.63**	**79**	⇓P			**Pg**	**20 35 15.4**	**-1.0**
	0.5nm,0.1s								
KNDC				⇓S			**Sg**	**20 35 25.2**	**+0.4**
	19nm,0.6s								
ULHL	**Ulahol**	**0.85**	**174**	⇓P			**Pn**	**20 35 21.3**	**-0.2**
	2.3nm,0.1s,SNR=19								
ULHL				⇑S			**Sn**	**20 35 33.6**	**-0.1**
	3.3nm,0.1s								
KBK	**Karagaybulak**	**0.96**	**243**	⇓P			**Pn**	**20 35 22.9**	**0.0**
	4.2nm,0.2s,SNR=10								
KBK				⇓S			**Sn**	**20 35 36.2**	**-0.1**
	20nm,0.2s								
CHMS	**Chumysh**	**1.01**	**265**	⇓P			**Pb**	**20 35 22.1**	**-0.8**
	1.9nm,0.1s,SNR=9.8								
CHMS				⇑S			**Sb**	**20 35 35.4**	**-0.5**
	22nm,0.2s								
USP	**Ospenovka**	**1.20**	**279**	⇓P			**Pn**	**20 35 25.7**	**-0.3**
	3.1nm,0.1s,SNR=13								
USP				⇑S			**Sb**	**20 35 40.3**	**-1.1**
	11nm,0.2s								
KZA	**Kyzart**	**1.20**	**212**	⇓P			**Pg**	**20 35 27.6**	**+0.4**
	1.5nm,0.1s,SNR=5.8								
EKS2	**Erkin-Say**	**1.77**	**257**	⇓P			**Pb**	**20 35 36.4**	**+0.3**
	1.7nm,0.1s,SNR=14								
KK31	**Karatay Array**	**4.11**	**272**	⇓Pg			**Pb**	**20 36 17.0**	**+1.3**
	0.3nm,0.6s,baz=91,slow=15,SNR=4.3								
KK31				⇑Lg			Lg	20 37 09.7	
	0.5nm,0.3s,baz=84,slow=30,SNR=9.6								
MK31	**Makanchi Array**	**5.73**	**48**	Pn			**Pn**	**20 36 29.6**	**+1.2**
	0.1nm,0.3s,baz=225,slow=15,SNR=9.9								

IDC ***28*** *20:35:05.5±0.7, 0°.54S×132°.84E, h0km, mb 4.5/9, mb1 4.6/11, mb1mx4.4/22, mbtmp4.5/11, ML 4.5/2, MS 3.4/5, Ms1 3.4/5, ms1mx3.0/34, Error ellipse: s-maj=31.3km s-min=11.8km az=73.0*
DJA ***28*** *20:35:11.1±1.1, 1°.5S×3°.3E±°, h30km±10km, M 5.0/17, mB 5.7/5, mb 4.8/17, ML v 4.9/10, Mw(mB) 5.2/5*
ISCJB ***28*** *20:35:15.2±0.3, 0°.68S±0°.03×132°.78E±0°.04, h95km, mb 4.6/48, Error ellipse: s-maj=5.7km s-min=3.6km az=179.8*
BJI ***28*** *20:35:15.7, 0°.50S×132°.60E, h82km, mB 4.8/15, mb 4.5/25, Ms 4.4/9, Ms7 4.1/9*
NEIC ***28*** *20:35:16.6±1.7, 0°.61S×132°.79E, h91km±16km, mb 4.7/26, Error ellipse: s-maj=10.4km s-min=4.9km az=47.0*
ISC 28 20:35:16.6±0.4, 0°.67S±0°.04×132°.85E±0°.06, h94km±2km, n119, σ1°57/150, mb 4.6/48, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**1.60**	**263**	P			Pn	20 35 39.0	-4.9
SWI				S			**Sn**	**20 36 00.3**	**-4.3**
FAKI	**Fak Fak**	**2.32**	**195**	P			Pn	20 35 48.8	-4.4
FAKI				S			**Sn**	**20 36 18.2**	**-3.0**
BAKI	**Biak**	**3.29**	**99**	P			Pn	20 35 58.3	-7.9
BAKI				S			Sn	20 36 35.5	-9.0
MSAI	**Masohi**	**4.74**	**236**	P			**Pn**	**20 36 24.9**	**-0.9**
MSAI				S			**Sn**	**20 37 19.6**	**0.0**
BNDI	**Bandanaira**	**4.83**	**218**	P			**Pn**	**20 36 24.0**	**-3.0**
BNDI				S			**Sn**	**20 37 23.6**	**+1.8**
TLE	**Tual**	**4.94**	**181**	P			**Pn**	**20 36 25.6**	**-2.9**
TLE				S			**Sn**	**20 37 24.3**	**-0.2**
LBMI	**Labuha**	**5.35**	**270**	P			Pn	20 36 30.3	-3.8
	143nm,0.9s,2μm0.5nm								
AAI	**Ambon**	**5.54**	**237**	P			**Pn**	**20 36 34.3**	**-2.4**
	345nm,1.0s,4μm1.5nm								
AAI				S			**Sn**	**20 37 37.5**	**-1.5**
	345nm,1.0s,4μm1.5nm								
TNTI	**Ternate**	**5.67**	**285**	P			**Pn**	**20 36 36.1**	**-2.3**
	64nm,1.1s,0.2nm								
MNI	**Manado**	**8.28**	**285**	P			Pn	20 37 17.5	+3.4
KAPI	**Kappang**	**13.78**	**251**	Pn			**Pn**	**20 38 28.3**	**+0.3**
KAPI	**Kappang**	**13.78**	**251**	P			**Pn**	**20 38 27.5**	**-0.5**
	26nm,1.1s								
KAPI	**Kappang**	**13.78**	**251**	Pn			**Pn**	**20 38 28.3**	**+0.3**
	0.7nm,0.3s,baz=102,slow=13,SNR=4.3								
KAPI				LR			LR	20 43 56.2	
	comp=Z,133nm,19.3s,baz=187,slow=38								
MYLDM	**Lahad Datu**	**15.47**	**292**	P			**P**	**20 38 52.8**	**+0.7**
PMG	**Port Moresby**	**16.68**	**122**	Pn			**P**	**20 39 07.2**	**+1.6**
PMG	**Port Moresby**	**16.68**	**122**	Pn			**P**	**20 39 07.2**	**+1.6**
	0.3nm,0.3s,baz=336,slow=18,SNR=2.2								
GUMO	**Guam**	**18.50**	**40**	LR			LR	20 45 40.9	
	comp=Z,73nm,19.5s,baz=330,slow=34								
FITZ	**Fitzroy Crossi**	**18.72**	**202**	P			**P**	**20 39 26.6**	**-1.4**
FITZ				S			S	20 42 46.8	-9.4
FITZ	**Fitzroy Crossi**	**18.72**	**202**	P			**P**	**20 39 26.6**	**-1.4**
	0.9nm,0.3s,baz=23,slow=12,SNR=12								
FITZ				S			S	20 42 46.8	-9.4
	0.3nm,0.3s,baz=98,slow=15,SNR=2.7								
FITZ				LR			LR	20 47 07.3	
	comp=Z,168nm,21.2s,baz=20,slow=38								
WRAB	**Tennant Creek**	**19.20**	**176**	*e*P			**P**	**20 39 32.7**	**-0.6**
	29nm,0.8s								
WRAB				*e*S			S	20 42 57.6	-8.5
WRA	**Warramunga Arr**	**19.21**	**176**	P			**P**	**20 39 33.1**	**-0.3**
WRA				S			**S**	**20 43 00.7**	**-5.6**
WRA	**Warramunga Arr**	**19.21**	**176**	P			**P**	**20 39 33.1**	**-0.3**
	1.9nm,0.3s,baz=355,slow=11,SNR=135								
WRA				S			**S**	**20 43 00.7**	**-5.6**
	0.4nm,0.3s,baz=357,slow=23,SNR=6.8								
SBUM	**Sibu**	**20.86**	**279**	P			**P**	**20 39 52.2**	**+0.9**
	28nm,1.6s								
STKI	**Sintang**	**21.39**	**272**	P			**P**	**20 39 56.1**	**-0.8**
	27nm,2.8s,11μm								
KSM	**Kuching**	**22.64**	**275**	*e*P			**P**	**20 40 10.1**	**-0.1**
	39nm,1.3s								
KSM	**Kuching**	**22.64**	**275**	P			**P**	**20 40 10.6**	**+0.4**
	25nm,1.2s								
AS31	**Alice Springs**	**22.89**	**178**	*e*P			**P**	**20 40 13.1**	**+0.5**
ASAR	**Alice Springs**	**22.89**	**178**	P			**P**	**20 40 12.9**	**+0.4**
ASAR				S			S	20 44 23.9	+8.7
ASAR	**Alice Springs**	**22.89**	**178**	P			**P**	**20 40 12.9**	**+0.4**
	37nm,0.8s,baz=357,slow=10,SNR=224								
ASAR				S			S	20 44 23.9	+8.7
	3.2nm,0.9s,baz=360,slow=25,SNR=4.4								
CTA	**Charters Tower**	**23.34**	**147**	P			**P**	**20 40 18.3**	**+1.4**
CTA	**Charters Tower**	**23.34**	**147**	*e*P			**P**	**20 40 17.9**	**+1.0**
CTA	**Charters Tower**	**23.34**	**147**	P			**P**	**20 40 18.3**	**+1.4**
	17nm,0.9s,baz=326,slow=11,SNR=9.6								
CTA				LR			LR	20 50 18.6	
	comp=Z,197nm,19.0s,baz=325,slow=39								
CTAO	**Charters Tower**	**23.34**	**147**	*e*P			**P**	**20 40 18.4**	**+1.6**
	54nm,0.8s								
CTAO				*e*				20 40 23.8	
BJII	**Banjamegara**	**24.01**	**253**	P			**P**	**20 40 27.7**	**+4.7**
	46nm,0.9s								
MBWA	**Marble Bar**	**24.06**	**211**	*e*P			**P**	**20 40 24.1**	**+0.8**
	53nm,1.1s								
TGJI	**Tegal**	**24.46**	**255**	P			**P**	**20 40 29.9**	**+2.8**
	68nm,1.5s								
CISI	**Cisompet, Garu**	**25.88**	**254**	P			**P**	**20 40 41.7**	**+1.6**
	106nm,0.9s								
QIZ	**Qiongzhong**	**29.89**	**312**	P			**P**	**20 41 15.0**	**-0.7**
QIZ				sP			**sP**	**20 41 46.5**	**-1.3**
QIZ				S			**S**	**20 46 07.5**	**+1.1**
QIZ				pmax			pmax		
	comp=Z,26nm,2.0s								
EIDS	**Eidsvold**	**30.22**	**146**	*e*P			**P**	**20 41 19.5**	**+

	comp=Z,21nm,1.0s								
ODAN	Odare	51.59	306	*e*P		P	20	44	13.6 -0.4
	comp=Z,21nm,1.0s								
RAMN	Ramite	52.27	305	*e*P		P	20	44	18.9 -0.1
RAMN	Ramite	52.27	305	*e*P		P	20	44	18.9 -0.1
JIRN	Jiri	52.89	306	*e*P		P	20	44	23.6 -0.2
JIRN	Jiri	52.89	306	*e*P		P	20	44	23.6 -0.2
GUN	Gumba	53.24	306	*e*P		P	20	44	26.1 -0.2
	comp=Z,25nm,0.9s								
GUN	Gumba	53.24	306	*e*P		P	20	44	26.1 -0.2
	comp=Z,25nm,0.9s								
ULN	Ulaanbaatar	53.30	339	*e*P		P	20	44	26.1 0.0
	comp=Z,7.6nm,1.5s								
ULN	Ulaanbaatar	53.30	339	P		P	20	44	26.9 +0.8
PKI	Pulchoki	53.49	306	*e*P		P	20	44	27.7 -0.4
PKI	Pulchoki	53.49	306	*e*P		P	20	44	27.7 -0.4
SONM	Songino Array	53.52	338	P		P	20	44	28.2 +0.5
SONM	Songino Array	53.52	338	P		P	20	44	28.2 +0.5
	comp=Z,0.7nm,1.0s,baz=174,slow=11,SNR=5.0								
KKN	Kakani	53.68	306	*e*P		P	20	44	28.9 -0.5
KKN	Kakani	53.68	306	*e*P		P	20	44	28.9 -0.5
DMN	Daman	53.75	305	*e*P		P	20	44	29.5 -0.4
	comp=Z,30nm,1.2s								
DMN	Daman	53.75	305	*e*P		P	20	44	29.5 -0.4
	comp=Z,30nm,1.2s								
GKN	Gorkha	54.28	306	*e*P		P	20	44	33.5 -0.2
GKN	Gorkha	54.28	306	*e*P		P	20	44	33.5 -0.2
KOLN	Koldanda	55.04	305	*e*P		P	20	44	39.2 0.0
	comp=Z,25nm,0.9s								
KOLN	Koldanda	55.04	305	*e*P		P	20	44	39.2 0.0
	comp=Z,25nm,0.9s								
DANN	Dangsing	55.13	306	*e*P		P	20	44	39.7 -0.3
	comp=Z,31nm,0.9s								
DANN	Dangsing	55.13	306	*e*P		P	20	44	39.7 -0.3
	comp=Z,31nm,0.9s								
PYUN	Piuthan	55.66	305	*e*P		P	20	44	43.8 +0.1
	comp=Z,50nm,0.9s								
PYUN	Piuthan	55.66	305	*e*P		P	20	44	43.8 +0.1
	comp=Z,50nm,0.9s								
WMQ	Urumqi	59.84	324	*e*P		P	20	45	12.8 +0.3
WMQ				pP		pP	20	45	37.0 +1.2
WMQ				pmax	pmax				
	comp=Z,9.0nm,1.8s								
WMQ				pmax	pmax				
	comp=Z,140nm,4.2s								
YAK	Yakutsk	62.58	358	*e*P		P	20	45	28.1 -2.4
	comp=Z,8.0nm,0.6s								
MK31	Makanchi Array	64.66	324	*e*P		P	20	45	44.8 +0.2
MKAR	Makanchi Array	64.66	324	P		P	20	45	44.4 -0.2
MKAR	Makanchi Array	64.66	324	P		P	20	45	44.4 -0.2
	comp=Z,2.6nm,0.9s,baz=115,slow=8.0,SNR=20								
KSH	Kashi	65.46	315	P		P	20	45	52.3 +2.2
KSH				pP		pP	20	46	15.8 +2.1
KSH				PcP		PcP	20	46	21.5 +0.2
KSH				sP		sP	20	46	27.0 +3.0
KSH				PP		PP	20	48	18.8 +3.5
KSH				ScP			20	50	14.5
KSH				PcS			20	50	24.5
KSH				S		S	20	54	27.3 -0.4
KSH				sS		sS	20	55	10.0 +1.9
KSH				ScS		SKSac	20	55	34.0 -3.1
KSH				SS		SS	20	58	45.3 +2.3
KSH				pmax	pmax				
	comp=Z,7.0nm,1.0s								
KSH				pmax	pmax				
	comp=Z,45nm,4.8s								
KSH				LR	LR				
	comp=N,99nm,5.2s								
KSH				LR	LR				
	comp=E,88nm,4.6s								
KSH				LR	LR				
	comp=Z,140nm,5.6s								
ZAA0	Zalesovo Array	67.30	332	*e*P		P	20	46	00.5 -0.7
ZALV	Zalesovo Beam	67.30	332	P		P	20	46	00.8 -0.5
ZALV	Zalesovo Beam	67.30	332	P		P	20	46	00.8 -0.5
	comp=Z,5.7nm,1.1s,baz=112,slow=6.6,SNR=17								
EKS2	Erkin-Say	68.21	317	*e*P		P	20	46	06.5 -0.9
	comp=Z,1.3nm,0.8s								
KURK	Kurchatov	68.74	326	*e*P		P	20	46	10.5 +0.2
	comp=Z,15nm,1.4s								
KBL	Kabul	69.03	308	*e*P		P	20	46	12.3 -0.6
	comp=Z,2.9nm,0.9s								
KKAR	Karatay Array	70.60	317	*e*P		P	20	46	21.9 -0.1
	comp=Z,3.4nm,0.9s								
BRVK	Borovoye	74.41	326	*e*P		P	20	46	44.6 +0.3
	comp=Z,5.4nm,0.8s								
VNDA	Vanda	78.38	174	P		P	20	47	08.0 +1.7
VNDA	Vanda	78.38	174	P		P	20	47	08.0 +1.7
	comp=Z,2.1nm,0.8s,baz=265,slow=5.2,SNR=5.9								
ABKAR	Akbulak array	79.41	320	*e*P		P	20	47	12.4 -0.2
	comp=Z,4.4nm,0.9s								
ARU	Arti	81.91	327	*e*P		P	20	47	24.2 -1.5
MCK	McKinley	85.38	26	P		P	20	47	42.5 -0.9
ILAR	Eielson Array	86.44	25	P		P	20	47	47.9 -0.7
ILAR	Eielson Array	86.44	25	P		P	20	47	47.9 -0.7
	comp=Z,0.3nm,0.8s,baz=298,slow=5.7,SNR=4.0								
TORD	Torodi Ar. Bea	130.07	287	PKP		PKPdf	20	54	17.4 +0.7
TORD	Torodi Ar. Bea	130.07	287	PKP		PKPdf	20	54	17.4 +0.7
	comp=Z,0.6nm,0.8s,baz=93,slow=1.4,SNR=3.4								
CPUP	Villa Florida	151.42	161	PKPbc		PKPbc	20	55	02.9 +2.5
CPUP	Villa Florida	151.42	161	PKPbc		PKPbc	20	55	02.9 +2.5
	comp=Z,2.9nm,0.7s,baz=95,slow=1.3,SNR=9.0								

*ISCJB **28** 20:36:34.0±0.5, 39.32N±0.02×29.17E±0.03, h7km±4km, Error ellipse: s-maj=4.3km s-min=3.2km az=151.5*
*ISK **28** 20:36:33.7, 39.30N×29.20E, h10km, MD2.8*
*CSEM **28** 20:36:33.9±0.1, 39.33N×29.18E, h5km, MD2.8, Error ellipse: s-maj=2.5km s-min=2.3km az=146.0*
*DDA **28** 20:36:34.3, 39.32N×29.17E, h7km, MD2.9*

ISC 28 20:36:33.6±0.9, 39.33N±0.02×29.16E±0.02, h13km±8km, n56, σ0.83/80, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TVSB	Tavsanli	0.26	63	*e*PG	Pb	20 36 39.4	-0.9
TVSB				*e*SG	Sg	20 36 43.0	0.0
TVSB	Tavsanli	0.26	63	*e*Pg	Pb	20 36 39.4	-0.9
TVSB				*e*Sg	Sg	20 36 43.0	0.0
GDZ	Gediz	0.34	134	*i* P	Pb	20 36 41.4	-0.3
GDZ				*i* S	Sg	20 36 45.7	+0.2
GDZ	Gediz	0.34	134	*i* P	Pb	20 36 41.4	-0.3
GDZ				*i* S	Sg	20 36 45.7	+0.2
DEMI	Demirci	0.45	231	*i* P	Pb	20 36 43.5	0.0
DEMI				*i* S	Sb	20 36 49.0	-1.1
DEMI	Demirci	0.45	231	*i* P	Pb	20 36 43.5	0.0
DEMI				*i* S	Sb	20 36 49.0	-1.1
ALT	Altintas	0.79	110	*e*PG	Pb	20 36 48.7	-0.5
ALT				*e*SG	Sb	20 36 59.8	0.0
ALT	Altintas	0.79	110	*e*Pg	Pb	20 36 48.7	-0.5
ALT				*e*Sg	Sb	20 36 59.8	0.0
ULDT	Uludag	0.81	359	*i* P	Pb	20 36 49.6	-0.1
ULDT				*i* S	Sg	20 36 58.3	-1.8
ULDT	Uludag	0.81	359	*i* P	Pb	20 36 49.6	-0.1
ULDT				*i* S	Sg	20 36 58.3	-1.8
KULA	Kula-Manisa	0.90	206	*e*PG	Pb	20 36 51.4	+0.2
KULA				*e*SG	Sb	20 37 03.1	0.0
KULA	Kula-Manisa	0.90	206	*e*Pg	Pb	20 36 51.4	+0.2
KULA				*e*Sg	Sb	20 37 03.1	0.0
MANT	Manisa	0.96	210	*i* P	Pn	20 36 52.7	-0.3
MANT				*i* S	Sb	20 37 05.2	+0.2
MANT	Manisa	0.96	210	*i* P	Pn	20 36 52.7	-0.3
MANT				*i* S	Sb	20 37 05.2	+0.2
KHAL	Karahalli	0.99	165	*i* P	Pn	20 36 54.5	+1.2
KHAL				*i* S	Sg	20 37 05.2	-0.5
KHAL	Karahalli	0.99	165	*i* P	Pn	20 36 54.5	+1.2
KHAL				*i* S	Sg	20 37 05.2	-0.5
BALB	Balikesir	1.04	288	*e*PN	Pn	20 36 55.5	+1.6
BALB	Balikesir	1.04	288	*e*Pn	Pn	20 36 55.5	+1.6
KHL	Karahalli	1.04	164	*e*PG	Pb	20 36 53.5	-0.1
KHL	Karahalli	1.04	164	*e*Pg	Pb	20 36 53.5	-0.1
MDNY	Mudanya-Bursa	1.06	348	*e*PN	Pn	20 36 55.0	+0.8
MDNY	Mudanya-Bursa	1.06	348	*e*Pn	Pn	20 36 55.0	+0.8
GEMT	Gemlik	1.10	1	*e*PN	Pn	20 36 55.7	+0.9
GEMT	Gemlik	1.10	1	*e*Pn	Pn	20 36 55.7	+0.9
KCTX	Karacabey (Bur	1.12	327	*e*PN	Pn	20 36 56.8	+1.7
KCTX	Karacabey (Bur	1.12	327	*e*Pn	Pn	20 36 56.8	+1.7
BORA	Eskisehir	1.14	61	*i* P	Pb	20 36 54.6	-0.6
BORA				*i* S	Sn	20 37 10.7	-0.2
BORA	Eskisehir	1.14	61	*i* P	Pb	20 36 54.6	-0.6
BORA				*i* S	Sn	20 37 10.7	-0.2
AKHS	Akhisar	1.14	247	*i* P	Pn	20 36 56.5	+1.2
AKHS				*i* S	Sg	20 37 08.9	-1.6
AKS	Akhisar	1.14	247	*e*PN	Pn	20 36 56.4	+1.0
AKS	Akhisar	1.14	247	*e*Pn	Pn	20 36 56.4	+1.0
ADVT	Abdulvahap	1.19	22	*e*PN	Pg	20 36 56.6	+0.1
ADVT	Abdulvahap	1.19	22	*e*Pn	Pg	20 36 56.6	+0.1
ARMT	Armutlu	1.26	349	*e*PN	Pg	20 36 58.4	+0.6
ARMT	Armutlu	1.26	349	*e*Pn	Pg	20 36 58.4	+0.6
BALY	Balya	1.26	289	*i* P	Pg	20 36 58.7	+0.8
BALY				*i* S	Sn	20 37 13.9	+0.1
BALY	Balya	1.26	289	*i* P	Pg	20 36 58.7	+0.8
BALY				*i* S	Sn	20 37 13.9	+0.1
SEYT	Eskypehyr	1.32	81	*i* P	Pg	20 37 00.1	+1.0
SEYT				*i* S	Sn	20 37 15.8	+0.4
SEYT	Eskypehyr	1.32	81	*i* P	Pg	20 37 00.1	+1.0
SEYT				*i* S	Sn	20 37 15.8	+0.4
SHUT	Suhut-Afyon	1.33	125	*e*PN	Pg	20 36 58.8	-0.5
SHUT	Suhut-Afyon	1.33	125	*e*Pn	Pg	20 36 58.8	-0.5
GONE	Gonen-Balikesi	1.34	303	*e*PN	Pg	20 36 59.6	+0.1
GONE	Gonen-Balikesi	1.34	303	*e*Pn	Pg	20 36 59.6	+0.1
GULT	Gulveren	1.52	43	*e*PN	Pb	20 37 01.7	0.0
GULT	Gulveren	1.52	43	*e*Pn	Pb	20 37 01.7	0.0
KRBG	Karabiga-Canak	1.79	307	*e*PN	Pb	20 37 06.3	+0.1
KRBG	Karabiga-Canak	1.79	307	*e*Pn	Pb	20 37 06.3	+0.1
SVRH	Sivrihisar-ESK	1.83	86	*e*PN	Pn	20 37 05.8	+0.9
SVRH	Sivrihisar-ESK	1.83	86	*e*Pn	Pn	20 37 05.8	+0.9
MDUB	Mudurnu	1.94	53	*e*PN	Pb	20 37 08.1	-0.7
MDUB	Mudurnu	1.94	53	*e*Pn	Pb	20 37 08.1	-0.7
RKY	Sarkoy-Tekirda	2.04	312	*e*PN	Pb	20 37 09.1	-1.5
RKY	Sarkoy-Tekirda	2.04	312	*e*Pn	Pb	20 37 09.1	-1.5
BCK	Bucak	2.18	149	*e*PN	Pn	20 37 09.5	-0.1
BCK	Bucak	2.18	149	*e*Pn	Pn	20 37 09.5	-0.1

*IDC **28** 20:47:50.0±1.9, 59.92N×153.74W, h98km±27km, mb2.6/1, mb1 3.2/6, mb1mx3.0/28, mbtmp3.0/6, Error ellipse: s-maj=34.4km s-min=11.8km az=105.0*
*ISCJB **28** 20:47:52.1±0.4, 59.89N±0.04×153.28W±0.08, h134km±4km, mb2.9/1, Error ellipse: s-maj=7.2km s-min=4.6km az=39.1*
*NEIC **28** 20:47:54.3, 59.86N×153.36W, h123km, MG2.7(AEIC), After AEIC.*

ISC 28 20:47:51.8±0.9, 59.86N±0.04×153.37W±0.05, h134km±7km, n62, σ1.27/74, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IVS	Iliamna South	0.21	44	P	Pn	20 48 10.9	+0.4
OPT	Oil Point	0.22	161	P	Pn	20 48 10.8	+0.5
ILW	Iliamna West	0.23	30	P	Pn	20 48 10.7	+0.2
INE	Iliamna NE	0.26	37	P	Pn	20 48 10.8	+0.3
AUL	Augustine Lava	0.48	184	P	Pn	20 48 12.2	+0.9
AUL				S	Sn	20 48 26.2	+0.2
AUW	Augustine West	0.49	186	P	Pn	20 48 12.1	+0.7
RSO	Redoubt South	0.68	27	*e*Pn	Pn	20 48 12.7	0.0
RSO				*e*Sn	Sn	20 48 27.0	-1.6
RDN	Redoubt North	0.72	24	P	Pn	20 48 13.7	+0.7
NCT	North Crescent	0.74	17	P	Pn	20 48 13.6	+0.6
DFR	Drift River	0.81	25	P	Pn	20 48 14.2	+0.7
RDT	Redoubt	0.86	33	P	Pn	20 48 14.5	+0.6
BRLK	Bradley Lake	1.26	93	P	Pn	20 48 18.2	+0.6
BRLK				S	Sn	20 48 37.2	-0.1
CKL	Chakachamna La	1.44	20	P	Pn	20 48 20.6	+1.0
KAHC	Katmai Hardscr	1.48	215	P	Pn	20 48 20.6	+0.6
SPU	Mount Spurr	1.48	26	P	Pn	20 48 20.8	+0.8
BGL	Barrier Glacie	1.49	18	P	Pn	20 48 21.4	+1.2
KAWH	Katmai	1.65	207	P	Pn	20 48 22.8	+0.8
SLKM	Skilak Lake	1.70	66	*e*Pn	Pn	20 48 22.8	+0.3
SLKM				*e*Sn	Sn	20 48 41.9	-4.0
KCE	Katmai Mt Cerb	1.87	211	P	Pn	20 48 25.9	+1.3
KELA	Mount Kelaz	1.88	222	P	Pn	20 48 25.2	+0.6
KABR	Katmai Barrier	1.92	206	P	Pn	20 48 25.9	+0.8
SEW	Seward	1.99	81	P	Pn	20 48 26.5	+0.7
SEW				S	Sn	20 48 51.2	-0.5
ANCK	Angle Creek	2.00	214	P	Pn	20 48 27.1	+1.1
SUA	Susitna One	2.06	38	P	Pn	20 48 28.0	+1.2
SUA				S	Sn	20 48 54.4	+0.7
KDAK	Kodiak Island	2.12	169	P	Pn	20 48 27.3	-0.2
KDAK				S	Sn	20 48 52.6	-2.1
KDAK				S		20 48 54.1	
KDAK	Kodiak Island	2.12	169	P	Pn	20 48 27.3	-0.2
	6.9nm,0.3s,baz=7.9,slow=6.6,SNR=79						
KDAK				S	Sn	20 48 52.6	-2.1
	29nm,0.3s,baz=108,slow=23,SNR=31						
PMR	Palmer	2.71	48	P	Pn	20 48 36.0	+1.2
PMR				S	Sn	20 49 06.1	-1.8
TRAP	Trapper Creek	2.91	30	P	Pn	20 48 38.2	+0.9
PPLA	Purkeypile	3.10	10	P	Pn	20 48 41.7	+1.7
SML	Sawmill	3.15	49	P	Pn	20 48 40.3	-0.1
SML				S	Sn	20 49 16.4	-1.7
TT01	Tatalina	3.31	339	P	Pn	20 48 43.1	+0.6
SCM	Sheep Creek Mo	3.56	54	P	Pn	20 48 45.9	+0.1
VLZ	Valdez	3.71	67	P	Pn	20 48 49.0	+1.4
TRF	Thorofare Moun	3.89	21	P	Pn	20 48 50.4	+0.1
DIV	Divide	3.97	68	P	Pn	20 48 52.5	+1.3
RND	Reindeer	4.16	29	P	Pn	20 48 54.2	+0.4
DHY	Denali Highway	4.32	39	P	Pn	20 48 56.3	+0.3
MCK	McKinley	4.42	27	P	Pn	20 48 58.1	+1.0
BMRM	Bremner River	4.49	72	*e*Pn	Pn	20 48 58.9	+0.8
BMRM				*e*Sn	Sn	20 49 47.7	-1.8
PAX	Paxson	4.91	47	*e*Pn	Pn	20 49 04.1	+0.4
PAX				*e*Sn	Sn	20 49 57.4	-2.4
DDM	Donnelly Dome	5.31	39	P	Pn	20 49 09.7	+0.7
CCB	Clear Creek Bu	5.46	26	P	Pn	20 49 11.0	+0.1
BARK	Barkley Ridge	5.47	80	P	Pn	20 49 12.8	+1.7
BALM	Baldy	5.58	73	P	Pn	20 49 14.2	+1.5
MDM	Murphy Dome	5.65	23	P	Pn	20 49 14.0	+0.5
COLA	College	5.65	25	*e*Pn	Pn	20 49 13.1	-0.4
MESA	MESA	5.74	82	P	Pn	20 49 16.2	+1.3
IL1	Eielson Array	5.78	29	P	Pn	20 49 15.4	+0.1
ILAR	Eielson Array	5.78	29	P	Pn	20 49 15.4	+0.2
ILAR				S	Sn	20 50 17.1	-3.3
ILAR	Eielson Array	5.78	29	P	Pn	20 49 15.4	+0.2
	2.9nm,0.3s,baz=216,slow=14,SNR=169						
ILAR				S	Sn	20 50 17.1	-3.3
	0.5nm,0.3s,baz=195,slow=17,SNR=4.6						
TABL	Table Mountain	6.13	79	P	Pn	20 49 22.2	+2.0
IM3	Indian Mountai	6.15	359	P	Pn	20 49 21.6	+1.3
PNL	Peninsula	7.06	86	P	Pn	20 49 34.1	+1.6
BM3	Burnt Mountain	8.52	23	P	Pn	20 49 52.4	+0.3
DLBC	Dease Lake	12.05	87	P	Pn	20 50 42.5	+3.5
DLBC	Dease Lake	12.05	87	P	Pn	20 50 42.5	+3.5
	0.3nm,0.3s,baz=263,slow=16,SNR=9.0						
INK	Inuvik	12.06	37	P	Pn	20 50 40.5	+1.5
INK	Inuvik	12.06	37	P	Pn	20 50 40.5	+1.5
	0.1nm,0.3s,baz=241,slow=15,SNR=3.2						
YKA	Yellowknife Ar	18.68	65	P	Pn	20 52 01.5	+0.4
YKA	Yellowknife Ar	18.68	65	P	Pn	20 52 01.5	+0.4
	0.0nm,0.3s,baz=277,slow=11,SNR=9.3						
MKAR	Makanchi Array	64.42	321	P	P	20 58 13.9	+0.6
MKAR	Makanchi Array	64.42	321	P	P	20 58 13.9	+0.6
	0.1nm,0.5s,baz=20,slow=6.4,SNR=2.6						

*BJI **28** 20:55:21.5, 32.49N×101.78E, h12km, ML3.3/12, Ms3.4/1, Ms7 3.3/1*
*ISCJB **28** 20:55:22.1±0.6, 32.57N±0.03×102.10E±0.06, h10km, mb3.2/4, Error ellipse: s-maj=7.1km s-min=4.8km az=165.5*
*IDC **28** 20:55:22.1±1.1, 32.57N×102.28E, h0km, mb3.0/4, mb1 3.2/6, mb1mx3.1/26, mbtmp3.0/6, ML2.9/2, Error ellipse: s-maj=61.9km s-min=18.7km az=62.0*

ISC 28 20:55:24.7±1.0, 32.54N±0.05×101.99E±0.08, h10km, n11, σ1.88/13, mb3.4/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	Chengdu	2.21	137	Pn	Pn	20 55 59.8	-1.7
CD2				Pg	Pb	20 56 04.3	-0.5
CD2				Sn	Sn	20 56 27.3	-1.6
CD2				Sg	Sb	20 56 33.8	+1.5
CD2				smax	smax		
	comp=N,770nm,0.8s						
CD2				smax	smax		
	comp=E,560nm,0.8s						
LZH	Lanzhou	3.86	23	*e*Pg	Pb	20 56 36.0	+3.1
LZH				Sn	Sb	20 57 16.8	-2.9
LZH				Sg	Sg	20 57 28.0	-0.5
LZH				smax	smax		
	comp=N,290nm,1.0s						
LZH				smax	smax		
	comp=E,260nm,1.1s						
LZH				LR	LR		
	comp=N,210nm,5.1s						
LZH				LR	LR		
	comp=E,250nm,5.3s						
LZH				LR	LR		
	comp=Z,270nm,6.9s						
XAN	Xi'an	5.99	74	Pn	Pn	20 56 51.8	-1.6
XAN				Pg	Pb	20 57 14.3	+5.1
XAN				Sg	Sg	20 58 39.5	+2.5
XAN				smax	smax		
	comp=N,13nm,1.0s						
XAN				smax	smax		
	comp=E,5.0nm,1.1s						
GTA	Gaotai	7.08	346	*e*P	Pb	20 57 34.8	+7.0
GTA				pP	pP	20 57 39.0	
GTA				sP	sP	20 57 42.5	
GTA				pmax	pmax		
	comp=Z,4.0nm,1.4s						
CMAR	Chiang Mai Arr	14.29	192	Pn	Pn	20 58 48.4	+1.3
	comp=Z,0.0nm,0.3s,baz=13,slow=12,SNR=2.8						
SONM	Songino Array	15.64	11	Pn	Pn	20 59 04.3	-0.9
	comp=Z,0.0nm,0.3s,baz=190,slow=14,SNR=3.0						
MKAR	Makanchi Array	20.72	319	P	P	21 00 05.5	+0.4
	comp=Z,0.3nm,0.6s,baz=118,slow=11,SNR=4.3						
ZALV	Zalesovo Beam	24.66	335	P	P	21 00 45.3	-0.1
	comp=Z,0.3nm,0.4s,baz=153,slow=13,SNR=2.9						
KURBB	Kurchatov Arra	25.02	323	P	P	21 00 48.0	-0.7
	comp=Z,0.3nm,0.3s,baz=127,slow=9.4,SNR=4.4						
WRA	Warramunga Arr	60.67	145	P	P	21 05 33.7	-2.5
	comp=Z,0.2nm,0.6s,baz=339,slow=7.2,SNR=2.8						
ASAR	Alice Springs	63.66	147	P	P	21 05 55.0	-1.2
	comp=Z,0.1nm,0.6s,baz=338,slow=7.0,SNR=2.7						

*NEIC **28** 21:01:55.7, 19.07N×64.82W, h17km, MD3.3(RSPR), After RSPR.*

RSPR 28 21:01:55.7, 19.07N×64.82W, h17km±3km, MD3.4/10, 18C-15D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABV	Anegada	0.57	126	*e*P	Pg	21 02 05.6	-1.4
ABV				*e*S	Sg	21 02 13.7	-1.0
ABV	Anegada	0.57	126	*e*P	Pg	21 02 05.6	-1.4
ABV				*e*S	Sg	21 02 13.7	-1.0
ABVI	Anegada Island	0.57	126	*e*P	Pg	21 02 05.6	-1.4
ABVI				*e*S	Sg	21 02 13.7	-1.0
TBVI	Tortola	0.67	163	*i* P	Pg	21 02 07.5	-1.4
TBVI				*e*S	Sg	21 02 16.5	-1.4
TBVI	Tortola	0.67	163	*i* Pu		21 02 07.5	
TBVI				*e*S	Sg	21 02 16.5	-1.4
TBVI	Tortola	0.67	163	*i* P	Pg	21 02 07.5	-1.4
TBVI				*e*S	Sg	21 02 16.5	-1.4
STVI	Saint Thomas	0.72	190	*e*P	Pb	21 02 07.9	-1.9
STVI	Saint Thomas	0.72	190	*e*Pb	Pb	21 02 07.9	-1.9
STVI				*e*Sb	Sb	21 02 17.8	-1.6
STVI	Saint Thomas	0.72	190	*e*P	Pb	21 02 07.9	-1.9
STVI				*e*S	Sb	21 02 17.3	-2.0
MTP	Monte Pirata	1.19	216	*e*P	Pn	21 02 14.7	-2.8
MTP	Monte Pirata	1.19	216	*e*P	Pn	21 02 14.7	-2.8
MTP				*e*S	Sb	21 02 29.5	-3.3
MTP	Monte Pirata	1.19	216	*e*P	Pn	21 02 14.7	-2.8
MTP				*e*S	Sb	21 02 29.5	-3.3
CBYP	Canovanas	1.26	231	*e*P	Pn	21 02 15.6	-3.0
CBYP	Canovanas	1.26	231	*e*Pn	Pn	21 02 15.3	-3.3
CBYP				*e*Sn	Sb	21 02 32.2	-2.8
CBYP	Canovanas	1.26	231	*e*P	Pn	21 02 15.6	-3.0
CBYP				*e*S	Sb	21 02 30.9	-4.2
CDVI	St. Croix	1.31	178	*e*P	Pn	21 02 16.7	-2.5
CDVI	St. Croix	1.31	178	*e*Pn	Pn	21 02 18.0	-1.1
CDVI				*e*Sn	Sn	21 02 35.5	-0.7
CDVI	St. Croix	1.31	178	*e*P	Pn	21 02 16.7	-2.5
CDVI				*e*S	Sn	21 02 32.6	-3.5
HUMP	Col San Antoni	1.34	227	*e*P	Pn	21 02 16.7	-2.9
HUMP	Col San Antoni	1.34	227	*e*P	Pn	21 02 16.7	-2.9
HUMP				*e*S	Sn	21 02 33.3	-3.7
HUMP	Col San Antoni	1.34	227	*e*P	Pn	21 02 16.7	-2.9
HUMP				*e*S	Sn	21 02 33.3	-3.7
CPD	Cerro la Pandu	1.46	226	*e*P	Pn	21 02 18.7	-2.5
CPD	Cerro la Pandu	1.46	226	*e*P	Pn	21 02 18.7	-2.5
CPD				*e*S	Sn	21 02 36.1	-3.9
CPD	Cerro la Pandu	1.46	226	*e*P	Pn	21 02 18.7	-2.5
CPD				*e*S	Sn	21 02 36.1	-3.9
SJG	San Juan	1.58

*NEIC **28** 21:04:54.9, 19.01N×64.85W, h38km, MD3.0(RSPR), After RSPR.*

RSPR 28 21:04:54.9, 19.01N×64.85W, h38km±14km, 3C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABVI	**Anegada Island**	**0.56**	**119**	*e*P	Pn	21 05 05.1	-1.4
ABVI				eS	Sn	21 05 13.5	-1.1
ABV	**Anegada**	**0.56**	**119**	*e*P	Pn	21 05 05.1	-1.4
ABV				eS	Sn	21 05 13.5	-1.1
ABV	**Anegada**	**0.56**	**119**	*e*P	Pn	21 05 05.1	-1.4
ABV				eS	Sn	21 05 13.5	-1.1
STVI	**Saint Thomas**	**0.66**	**188**	eS	Sn	21 05 15.7	-1.3
STVI	**Saint Thomas**	**0.66**	**188**	ePn	Pn	21 05 06.2	-1.6
STVI				eSn	Sn	21 05 15.5	-1.5
STVI	**Saint Thomas**	**0.66**	**188**	eS	Sn	21 05 15.7	-1.3
MTP	**Monte Pirata**	**1.12**	**216**	*e*P	Pn	21 05 13.4	-0.7
MTP	**Monte Pirata**	**1.12**	**216**	ePn	Pn	21 05 13.5	-0.6
MTP				eSn	Sn	21 05 28.3	-0.1
MTP	**Monte Pirata**	**1.12**	**216**	*e*P	Pn	21 05 13.4	-0.7
MTP				eS	Sn	21 05 27.2	-1.1
CBYP	**Canovanas**	**1.20**	**233**	P	Pn	21 05 12.4	-2.8
CBYP				eSn	Sn	21 05 28.5	-1.9
HUMP	**Col San Antoni**	**1.28**	**228**	*e*P	Pn	21 05 14.8	-1.5
HUMP	**Col San Antoni**	**1.28**	**228**	*e*P	Pn	21 05 14.8	-1.5
HUMP				eS	Sn	21 05 31.1	-1.1
HUMP	**Col San Antoni**	**1.28**	**228**	*e*P	Pn	21 05 14.8	-1.5
HUMP				eS	Sn	21 05 31.9	-0.3

*BEO **28** 21:11:03.4±0.9, 41.82N×23.18E, h6km±4km, ML2.4/6*
*CSEM **28** 21:11:04.5±0.2, 41.91N×23.07E, h10km, MD2.7, Error ellipse: s-maj=4.3km s-min=2.8km az=58.0*
*THE **28** 21:11:04.8, 41.89N×23.12E, h6km±2km, ML2.6/2, Error ellipse: s-maj=2.7km s-min=1.0km az=287.0*
*ISCJB **28** 21:11:04.0±0.4, 41.93N±0.02×23.05E±0.03, h8km±5km, Error ellipse: s-maj=4.2km s-min=3.2km az=151.3*
*SKO **28** 21:11:05.6, 41.90N×23.07E, h8km, M2.1, ML2.4*
*SOF **28** 21:11:05.2, 41.95N×23.21E, h0km, MD2.7*

ISC 28 21:11:04.9±0.8, 41.90N±0.02×23.12E±0.02, h17km±6km, n52, σ0s68/83, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.04**	**225**	*i* Pg	**Pg**	**21 11 07.8**	**-0.2**
KKB	**Krupnik**	**0.04**	**225**	*i* Pg	**Pg**	**21 11 07.8**	**-0.2**
MMB	**Musomiste**	**0.55**	**124**	*i* Pg	**Pb**	**21 11 16.4**	**+0.4**
MMB	**Musomiste**	**0.55**	**124**	*i* Pg	**Pb**	**21 11 16.4**	**+0.4**
VTS	**Vitosha**	**0.70**	**5**	P	**Pg**	**21 11 18.3**	**-0.3**
VTS				S	**Sg**	**21 11 27.4**	**-0.5**
VTS	**Vitosha**	**0.70**	**5**	*i* Pg	**Pg**	**21 11 18.3**	**-0.3**
VTS	**Vitosha**	**0.70**	**5**	*e*Pg	**Pg**	**21 11 18.3**	**-0.3**
VTS				eSg	**Sg**	**21 11 27.6**	**-0.3**
VTS	**Vitosha**	**0.70**	**5**	P	**Pg**	**21 11 18.3**	**-0.3**
VTS				S	**Sg**	**21 11 27.4**	**-0.5**
VAY	**Valandovo**	**0.71**	**216**	*i* Pg	**Pg**	**21 11 18.4**	**-0.3**
VAY				*i* Sg	**Sg**	**21 11 28.0**	**-0.2**
VAY				eLg	Lg	21 11 28.4	
	comp=N,93nm,0.3s						
VAY				eLg	Lg	21 11 28.5	
	comp=E,94nm,0.2s						
VAY	**Valandovo**	**0.71**	**216**	*i* Pg	**Pb**	**21 11 18.9**	**+0.1**
VAY				*i* Sg	**Sb**	**21 11 28.4**	**+0.2**
VAY				eLg	Lg	21 11 28.9	
	comp=E,94nm,0.2s						
KNT	**Kendrikon**	**0.75**	**193**	P	**Pg**	**21 11 19.2**	**-0.4**
KNT	**Kendrikon**	**0.75**	**193**	P	**Pg**	**21 11 19.2**	**-0.4**
NVR	**Nevrokopi**	**0.78**	**134**	P	**Pg**	**21 11 20.0**	**-0.1**
NVR				S	**Sg**	**21 11 30.2**	**-0.2**
NVR	**Nevrokopi**	**0.78**	**134**	P	**Pg**	**21 11 20.0**	**-0.1**
NVR				S	**Sg**	**21 11 30.2**	**-0.2**
SRS	**Serrai**	**0.85**	**156**	P	**Pb**	**21 11 21.3**	**0.0**
SRS				S	**Sg**	**21 11 32.5**	**-0.3**
SRS	**Serrai**	**0.85**	**156**	P	**Pb**	**21 11 21.3**	**0.0**
SRS				S	**Sg**	**21 11 32.5**	**-0.3**
PGB	**Panagyurishte**	**1.01**	**50**	*i* Pg	**Pb**	**21 11 23.6**	**-0.4**
PGB	**Panagyurishte**	**1.01**	**50**	*i* Pg	**Pb**	**21 11 23.6**	**-0.4**
GRG	**Griva**	**1.09**	**210**	P	**Pn**	**21 11 25.5**	**+0.2**
GRG				S	**Sg**	**21 11 39.9**	**-0.2**
GRG	**Griva**	**1.09**	**210**	P	**Pn**	**21 11 25.5**	**+0.2**
GRG				S	**Sg**	**21 11 39.9**	**-0.2**
SOH	**Sokhos**	**1.09**	**171**	P	**Pb**	**21 11 25.2**	**-0.1**
SOH				S	**Sg**	**21 11 40.1**	**-0.1**
SOH	**Sokhos**	**1.09**	**171**	P	**Pb**	**21 11 25.2**	**-0.1**
SOH				S	**Sg**	**21 11 40.1**	**-0.1**
PLD	**Plovdiv**	**1.20**	**79**	P	**Pg**	**21 11 28.1**	**+0.1**
PLD				S	**Sg**	**21 11 44.5**	**+0.9**
PLD	**Plovdiv**	**1.20**	**79**	Pg	**Pg**	**21 11 28.3**	**+0.3**
PLD	**Plovdiv**	**1.20**	**79**	Pg	**Pg**	**21 11 28.3**	**+0.3**
PLD				S	**Sg**	**21 11 44.5**	**+0.9**
RZN	**Rozhen**	**1.21**	**99**	Pg	**Pg**	**21 11 28.0**	**-0.2**
RZN	**Rozhen**	**1.21**	**99**	Pg	**Pg**	**21 11 28.0**	**-0.2**
BARS	**Barje**	**1.34**	**314**	*e*Pg	**Pb**	**21 11 29.6**	**+0.1**
BARS				eSg	**Sb**	**21 11 47.0**	**+0.7**
BARS	**Barje**	**1.34**	**314**	*e*Pg	**Pb**	**21 11 29.6**	**+0.1**
BARS				eSg	**Sb**	**21 11 47.0**	**+0.7**
KAVA	**Kavala**	**1.38**	**130**	P	**Pb**	**21 11 30.4**	**+0.2**
KAVA				S	**Sg**	**21 11 48.8**	**-0.6**
KAVA	**Kavala**	**1.38**	**130**	P	**Pb**	**21 11 30.4**	**+0.2**
KAVA				S	**Sg**	**21 11 48.8**	**-0.6**
ZAPS	**Zavoj**	**1.42**	**345**	*e*Pg	**Pb**	**21 11 31.6**	**+0.6**
ZAPS				eSg	**Sg**	**21 11 52.2**	**+1.4**
MPEP	**Malo Peshtene**	**1.53**	**17**	*i* Pg	**Pg**	**21 11 33.9**	**-0.4**
OUR	**Ouranopolis**	**1.69**	**157**	P	**Pn**	**21 11 33.5**	**-0.1**
OUR	**Ouranopolis**	**1.69**	**157**	P	**Pn**	**21 11 33.5**	**-0.1**
KDZ	**Kurdzhali**	**1.73**	**97**	P	**Pb**	**21 11 36.6**	**+0.4**
KDZ	**Kurdzhali**	**1.73**	**97**	P	**Pb**	**21 11 36.6**	**+0.4**
DIM	**Dimitrovgrad**	**1.80**	**84**	P	**Pg**	**21 11 38.9**	**-0.6**
SELS	**Selova**	**1.98**	**312**	*e*Pg	**Pb**	**21 11 40.3**	**-0.3**
SELS				eSg	**Sg**	**21 12 07.7**	**-1.1**
PVL	**Pavlikeni**	**2.10**	**50**	P	**Pb**	**21 11 42.0**	**-0.4**
PVL	**Pavlikeni**	**2.10**	**50**	P	**Pb**	**21 11 42.0**	**-0.4**
BOLS	**Boljevac**	**2.11**	**336**	*e*Pg	**Pn**	**21 11 40.9**	**+1.5**
BOLS				eSn	**Sb**	**21 12 09.6**	**+0.9**
BOLS	**Boljevac**	**2.11**	**336**	*e*Pg	**Pn**	**21 11 40.9**	**+1.5**
BOLS				eSn	**Sb**	**21 12 09.6**	**+0.9**
SZH	**Strazhica**	**2.48**	**56**	P	**Pg**	**21 11 51.4**	**-1.1**
GRUS	**Gruza**	**2.66**	**319**	*e*Pg	**Pg**	**21 11 54.4**	**-1.5**
GRUS				eSg	**Sg**	**21 12 30.0**	**-0.5**
GRUS	**Gruza**	**2.66**	**319**	*e*Pg	**Pg**	**21 11 54.4**	**-1.5**
GRUS				eSg	**Sg**	**21 12 30.0**	**-0.5**
IVAS	**Ivanjica**	**2.76**	**308**	*e*Pg	**Pb**	**21 11 54.6**	**+0.8**
IVAS				eSg	**Sg**	**21 12 34.6**	**+1.1**
IVAS	**Ivanjica**	**2.76**	**308**	*e*Pg	**Pb**	**21 11 54.6**	**+0.8**
IVAS				eSg	**Sg**	**21 12 34.6**	**+1.1**
DIVS	**Divibare**	**3.18**	**315**	*e*Pn	**Pn**	**21 11 54.1**	**-0.1**
DIVS				eSg	**Sg**	**21 12 48.3**	**+1.2**
DIVS	**Divibare**	**3.18**	**315**	*e*Pn	**Pn**	**21 11 54.1**	**-0.1**
DIVS				eSg	**Sg**	**21 12 48.3**	**+1.2**
BZS	**Buzias**	**3.88**	**344**	*e*Pn	**Pn**	**21 12 02.3**	**-1.3**
BZS				eSg	**Sg**	**21 13 08.1**	**-1.2**
BZS	**Buzias**	**3.88**	**344**	*e*Pn	**Pn**	**21 12 02.3**	**-1.3**
BZS				eSg	**Sg**	**21 13 08.1**	**-1.2**

*ISCJB **28** 21:18:16.7±0.5, 3.79N±0.09×32.49W±0.09, h10km, mb4.0/18, MS3.9/15, Error ellipse: s-maj=16.8km s-min=9.4km az=44.5*
*IDC **28** 21:18:17.0±0.6, 3.89N×32.57W, h0km, mb4.0/15, mb1 4.2/16, mb1mx4.1/27, mbtmp4.0/16, ML4.0/1, MS3.9/17, Ms1 3.9/17, ms1mx3.8/40, Error ellipse: s-maj=23.4km s-min=13.7km az=138.0*
*NEIC **28** 21:18:18.6±0.4, 3.83N×32.53W, h10km, mb4.4/1, Error ellipse: s-maj=13.9km s-min=8.0km az=135.0*
*SZGRF **28** 21:18:33.4, 5.61N×32.01W, h33km, mb4.5, Central Mid-Atlantic Ridge*

ISC 28 21:18:18.5±0.5, 3.38N±0.1×32.5W±0.1, h10km, n44, σ0s75/36, mb4.1/18, MS3.9/15, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.18**	**199**	*e*Pn	**Pn**	**21 20 44.1**	**-0.8**
RCBR				eSn	Sn	21 22 31.6	-7.6
RCBR	**Riachuelo**	**10.18**	**199**	Pn	**Pn**	**21 20 44.0**	**-0.8**
	1.4nm,0.3s,baz=360,slow=15,SNR=10						
RCBR				Sn	Sn	21 22 32.0	-7.1
	1.3nm,0.3s,baz=263,slow=19,SNR=7.1						
RCBR				LR	LR	21 23 56.6	
	comp=Z,410nm,18.5s,baz=359,slow=33						
SACV	**Santiago Islan**	**14.13**	**38**	*e*Pn	Pn	21 21 35.1	-3.9
BBTS	**Babate**	**19.09**	**55**	LR	LR	21 28 09.2	
	comp=Z,429nm,20.1s,baz=59,slow=31						
BDFB	**Brasilia**	**24.69**	**218**	P	**P**	**21 23 39.9**	**-0.3**
BDFB	**Brasilia**	**24.69**	**218**	P	**P**	**21 23 39.9**	**-0.3**
	0.5nm,0.3s,baz=90,slow=13,SNR=1.9						
BDFB				LR	LR	21 32 20.9	
	comp=Z,337nm,19.0s,baz=9.6,slow=34						
DBIC	**Dimbokro**	**27.70**	**83**	P	**P**	**21 24 06.9**	**-0.3**
DBIC	**Dimbokro**	**27.70**	**83**	P	**P**	**21 24 06.9**	**-0.3**
	2.0nm,0.8s,baz=240,slow=14,SNR=3.6						
DBIC				LR	LR	21 32 56.7	
	comp=Z,305nm,18.9s,baz=252,slow=32						
SIV	**San Ignacio**	**34.43**	**234**	P	**P**	**21 25 06.9**	**+0.3**
SIV	**San Ignacio**	**34.43**	**234**	P	**P**	**21 25 06.9**	**+0.3**
	0.6nm,0.6s,baz=63,slow=11,SNR=3.0						
TORD	**Torodi Ar. Bea**	**35.05**	**73**	P	**P**	**21 25 10.6**	**-1.4**
TORD				PcP	**PcP**	**21 27 43.9**	**-0.2**
TORD	**Torodi Ar. Bea**	**35.05**	**73**	P	**P**	**21 25 10.6**	**-1.4**
	2.8nm,0.9s,baz=258,slow=7.0,SNR=12						
TORD				PcP	**PcP**	**21 27 43.9**	**-0.2**
	0.5nm,0.9s,baz=290,slow=2.5,SNR=3.6						
TORD				LR	LR	21 37 34.1	
	comp=Z,458nm,19.7s,baz=260,slow=33						
SDV	**Santo Domingo**	**38.18**	**279**	*e*P	**P**	**21 25 39.4**	**+0.4**
	8.6nm,1.1s						
CPUP	**Villa Florida**	**38.41**	**217**	P	**P**	**21 25 41.0**	**+0.5**
CPUP	**Villa Florida**	**38.41**	**217**	P	**P**	**21 25 41.0**	**+0.5**
	0.4nm,0.4s,baz=27,slow=9.0,SNR=2.4						
CPUP				LR	LR	21 41 17.7	
	comp=Z,317nm,19.8s,baz=21,slow=36						
MDT	**Midelt**	**38.90**	**39**	P	**P**	**21 25 45.8**	**+1.2**
MDT	**Midelt**	**38.90**	**39**	P	**P**	**21 25 45.8**	**+1.2**
	4.5nm,1.0s,baz=259,slow=7.5,SNR=6.2						
MDT				LR	LR	21 40 26.1	
	comp=Z,229nm,19.5s,baz=74,slow=34						
LPAZ	**La Paz**	**40.48**	**239**	LR	LR	21 41 57.1	
	comp=Z,322nm,20.6s,baz=34,slow=35						
ROSC	**El Rosal**	**41.68**	**273**	LR	LR	21 44 29.6	
	comp=Z,191nm,19.1s,baz=0.4,slow=38						
ESDC	**Sonseca Array**	**44.06**	**32**	P	**P**	**21 26 26.6**	**-0.2**
ESDC	**Sonseca Array**	**44.06**	**32**	P	**P**	**21 26 26.6**	**-0.2**
	4.4nm,1.0s,baz=228,slow=8.5,SNR=22						
ESDC				LR	LR	21 43 21.1	
	comp=Z,65nm,18.6s,baz=315,slow=34						
CFAA	**Coronel Fontan**	**48.96**	**221**	LR	LR	21 48 34.3	
	comp=Z,15nm,20.0s,baz=328,slow=37						
KEST	**Kesra**	**49.98**	**45**	LR	LR	21 48 59.5	
	comp=Z,102nm,19.1s,baz=172,slow=37						
GRF	**Grafenberg Arr**	**58.76**	**32**	*e*P	**P**	**21 28 16.7**	**-0.1**
	comp=Z,6.0nm,1.2s						
GERES	**GERESS Array B**	**59.61**	**34**	P	**P**	**21 28 22.6**	**-0.2**
GERES	**GERESS Array B**	**59.61**	**34**	P	**P**	**21 28 22.6**	**-0.2**
	comp=Z,1.3nm,1.0s,baz=218,slow=6.1,SNR=10						
GERES				LR	LR	21 51 30.2	
	comp=Z,76nm,18.2s,baz=101,slow=33						
VRAC	**Vranov**	**61.47**	**34**	P	**P**	**21 28 35.5**	**+0.1**
VRAC	**Vranov**	**61.47**	**34**	P	**P**	**21 28 35.5**	**+0.1**
	comp=Z,2.0nm,0.9s,baz=305,slow=12,SNR=3.3						
LBTB	**Lobatse**	**63.26**	**120**	LR	LR	21 50 43.8	
	comp=Z,200nm,19.8s,baz=299,slow=31						
BOSA	**Boshof**	**64.16**	**124**	P	**P**	**21 28 55.1**	**+1.3**
BOSA	**Boshof**	**64.16**	**124**	P	**P**	**21 28 55.1**	**+1.3**
	comp=Z,5.0nm,1.0s,baz=234,slow=9.5,SNR=4.4						
BOSA				LR	LR	21 51 48.8	
	comp=Z,135nm,18.9s,baz=304,slow=31						
MLR	**Muntele Rosu**	**65.53**	**41**	P	**P**	**21 29 03.1**	**+0.6**
MLR	**Muntele Rosu**	**65.53**	**41**	P	**P**	**21 29 03.1**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=180,slow=10,SNR=4.4						
NOA	**NORSAR Array B**	**65.86**	**22**	LR	LR	21 56 03.5	
	comp=Z,59nm,18.3s,baz=105,slow=34						
BRTR	**Keskin Array B**	**69.31**	**49**	P	**P**	**21 29 27.4**	**+0.8**
BRTR	**Keskin Array B**	**69.31**	**49**	P	**P**	**21 29 27.4**	**+0.8**
	comp=Z,2.5nm,0.9s,baz=234,slow=4.2,SNR=8.9						
BRTR				LR	LR	21 59 25.9	
	comp=Z,66nm,19.5s,baz=208,slow=36						
TXAR	**Lajitas Array**	**71.69**	**300**	P	**P**	**21 29 41.9**	**+0.7**
TXAR	**Lajitas Array**	**71.69**	**300**	P	**P**	**21 29 41.9**	**+0.7**
	comp=Z,0.4nm,0.5s,baz=104,slow=5.3,SNR=3.7						
PDAR	**Pinedale Array**	**77.88**	**313**	P	**P**	**21 30 16.2**	**-0.8**
PDAR	**Pinedale Array**	**77.88**	**313**	P	**P**	**21 30 16.2**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=99,slow=7.7,SNR=10						
YKA	**Yellowknife Ar**	**82.94**	**332**	P	**P**	**21 30 42.6**	**-0.9**
YKA	**Yellowknife Ar**	**82.94**	**332**	P	**P**	**21 30 42.6**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=95,slow=5.5,SNR=15						
ILAR	**Eielson Array**	**96.67**	**337**	P	P	21 31 56.9	+8.0
ILAR	**Eielson Array**	**96.67**	**337**	P	P	21 31 56.9	+8.0
	comp=Z,0.6nm,1.0s,baz=80,slow=4.4,SNR=4.1						

*IDC **28** 21:18:48.2±0.7, 16.68S×177.25E, h0km, mb4.4/19, mb1 4.5/20, mb1mx4.5/24, mbtmp4.4/20, MS4.3/24, Ms1 4.3/24, ms1mx4.2/38, Error ellipse: s-maj=24.0km s-min=14.7km az=139.0*
*SZGRF **28** 21:18:51.7, 17.83S×176.46E, h33km, Fiji Islands region*
*ISCJB **28** 21:18:52.9±0.2, 16.72S±0.05×177.11E±0.04, h35km, mb4.4/24, MS4.4/23, Error ellipse: s-maj=7.8km s-min=5.2km az=157.2*
*NEIC **28** 21:18:53.3±0.4, 16.76S×177.17E, h35km, mb4.7/6, Error ellipse: s-maj=13.5km s-min=10.0km az=161.0*

ISC 28 21:18:53.9±0.4, 16.73S±0.08×177.20E±0.07, h35km, n366, σ0s74/353, mb4.4/24, MS4.5/23, 135C-134D, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.29**	**141**	*e*Pg	**Pn**	**21 19 13.0**	**-2.5**
MSVF				eSn	**Sn**	**21 19 32.9**	**+1.3**
AFI	**Afiamalu**	**11.00**	**77**	LR	LR	21 24 38.8	
	comp=Z,502nm,19.0s,baz=258,slow=32						
DZM	**Mont Dzumac**	**11.45**	**241**	eLQ	LQ	21 23 56.7	
	4μm,25.8s						
DZM				eLR	LR	21 24 30.5	
	4μm,25.9s						
DZM	**Mont Dzumac**	**11.45**	**241**	Pn	**Pn**	**21 21 34.6**	**-0.5**
	baz=114,slow=20,SNR=1.9						
RAR	**Rarotonga**	**22.23**	**105**	LR	LR	21 29 44.2	
	comp=Z,772nm,21.6s,baz=155,slow=30						
ARMA	**Armidale**	**27.03**	**235**	*e*P	**P**	**21 24 35.7**	**+2.7**
CTA	**Charters Tower**	**29.53**	**259**	P	**P**	**21 24 55.7**	**+0.4**
CTA	**Charters Tower**	**29.53**	**259**	P	**P**	**21 24 55.7**	**+0.4**
	4.1nm,0.8s,baz=82,slow=14,SNR=3.5						
CTA				LR	LR	21 34 31.6	
	comp=Z,357nm,19.5s,baz=80,slow=32						
YNG	**Young**	**31.17**	**230**	*e*P	**P**	**21 25 11.5**	**+1.8**
PPT2	**Papeete2**	**31.74**	**97**	eLQ	LQ	21 32 17.3	
	2μm,26.8s						
PPT2				eLR	LR	21 33 36.7	
	2μm,28.5s,baz=267						
PPT	**Papeete**	**31.74**	**96**	LR	LR	21 34 31.2	
	comp=Z,582nm,19.8s,baz=262,slow=30						
TBI	**Tubuai**	**31.96**	**107**	*e*S	**S**	**21 30 26.4**	**+0.5**
	162nm,27.0s						
TBI				eLQ	LQ	21 32 23.0	
	1μm,26.0s						
TBI				eLR	LR	21 33 47.0	
	2μm,30.5s,baz=276						
QLP	**Quilpie**	**32.08**	**247**	*e*P	**P**	**21 25 19.1**	**+1.3**
CMSA	**Cobar Meteorol**	**32.17**	**237**	*i*P	P	21 25 20.5	+2.0
STKA	**Stephens Creek**	**35.59**	**238**	*e*P	**P**	**21 25 49.9**	**+1.7**
	6.1nm,1.4s						
STKA	**Stephens Creek**	**35.59**	**238**	*e*P	**P**	**21 25 50.2**	**+2.0**
STKA	**Stephens Creek**	**35.59**	**238**	P	**P**	**21 25 49.2**	**+1.0**
	8.7nm,0.9s,baz=68,slow=7.1,SNR=11						
STKA				LR	LR	21 39 08.2	
	comp=Z,790nm,19.6s,baz=57,slow=34						
BBOO	**Buckleboo**	**40.36**	**239**	*e*P	**P**	**21 26 29.4**	**+1.0**
WRAB	**Tennant Creek**	**40.72**	**259**	*e*P	**P**	**21 26 30.4**	**-1.2**
	5.4nm,0.9s						
WRA	**Warramunga Arr**	**40.73**	**259**	P	**P**	**21 26 30.9**	**-0.7**
WRA	**Warramunga Arr**	**40.73**	**259**	P	**P**	**21 26 30.9**	**-0.7**
	2.5nm,0.7s,baz=93,slow=9.0,SNR=29						
WRA				LR	LR	21 41 20.2	
	comp=Z,247nm,19.6s,baz=80,slow=33						
AS31	**Alice Springs**	**41.09**	**253**	*e*P	**P**	**21 26 34.1**	**-0.6**
ASAR	**Alice Springs**	**41.09**	**253**	P	**P**	**21 26 34.5**	**-0.2**
ASAR				PcP	**PcP**	**21 28 33.5**	**-0.4**
ASAR	**Alice Springs**	**41.09**	**253**	P	**P**	**21 26 34.5**	**-0.2**
	4.6nm,0.8s,baz=82,slow=9.3,SNR=50						
ASAR				PcP	**PcP**	**21 28 33.5**	**-0.4**
	2.2nm,1.1s,baz=96,slow=3.2,SNR=4.5						
ASAR				LR	LR	21 43 22.3	
	comp=Z,371nm,20.1s,baz=88,slow=36						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**45.26**	**106**	*e*LR	LR	21 39 51.2	
	1μm,27.5s						
FITZ	**Fitzroy Crossi**	**49.08**	**260**	P	**P**	**21 27 38.4**	**+0.3**
	3.9nm,1.1s,baz=117,slow=9.0,SNR=3.8						
NWAO	**Narrogin (SRO)**	**56.07**	**241**	P	**P**	**21 28 29.9**	**+0.2**
	8.6nm,0.9s,baz=198,slow=6.8,SNR=3.1						
VNDA	**Vanda**	**61.30**	**184**	LR	LR	21 50 58.4	
	comp=Z,286nm,18.7s,baz=26,slow=32						
MJAR	**Matsushiro Arr**	**64.52**	**326**	P	**P**	**21 29 26.3**	**-1.0**
MJAR	**Matsushiro Arr**	**64.52**	**326**	P	**P**	**21 29 26.3**	**-1.0**
	3.8nm,1.0s,baz=167,slow=7.0,SNR=5.8						
MJAR				LR	LR	21 51 50.8	
	comp=Z,194nm,22.0s,baz=140,slow=31						
JNU	**Nakatsue**	**66.43**	**319**	P	**P**	**21 29 39.0**	**-0.8**
JNU	**Nakatsue**	**66.43**	**319**	P	**P**	**21 29 39.0**	**-0.8**
	14nm,1.1s,baz=304,slow=3.6,SNR=3.5						
RPN	**Rapa Nui**	**68.12**	**113**	LR	LR	21 51 45.0	
	comp=Z,439nm,19.2s,baz=279,slow=29						
KSRS	**Korea Array**	**71.08**	**320**	P	**P**	**21 30 08.8**	**+0.2**
	0.8nm,0.6s,baz=148,slow=5.9,SNR=4.3						
KSAR	**Wonju Array Be**	**71.09**	**320**	P	**P**	**21 30 08.8**	**+0.1**
PETK	**Petropavlovsk-**	**71.56**	**348**	P	**P**	**21 30 10.7**	**-0.4**
PETK	**Petropavlovsk-**	**71.56**	**348**	P	**P**	**21 30 10.7**	**-0.4**
	13nm,1.1s,baz=144,slow=8.6,SNR=3.6						
PETK				LR	LR	21 55 02.4	
	comp=Z,102nm,21.4s,baz=162,slow=30						
QSPA	**South Pole Qui**	**73.32**	**180**	P	**P**	**21 30 21.2**	**-0.6**
QSPA	**South Pole Qui**	**73.32**	**180**	P	**P**	**21 30 21.2**	**-0.6**
	12nm,1.0s,baz=20,slow=3.6,SNR=17						
QSPA				LR	LR	21 59 02.7	
	comp=Z,155nm,18.8s,baz=44,slow=33						
USRK	**Ussuriysk Arra**	**73.33**	**328**	P	**P**	**21 30 22.9**	**+1.0**
	2.9nm,1.0s,baz=115,slow=6.7,SNR=7.0						
KDAK	**Kodiak Island**	**78.35**	**16**	LR	LR	21 57 42.2	
	comp=Z,227nm,21.2s,baz=262,slow=30						
PKM	**Peak Mountain** baz=79	**78.77**	**48**	⇑P	**P**	**21 30 53.9**	**+0.6**
SCI	**San Clemente I** baz=79	**78.77**	**51**	⇑P	**P**	**21 30 54.2**	**+1.1**
KRMB	**Red Mountain** 42nm,1.4s	**79.47**	**41**	*e*P	**P**	**21 30 57.5**	**+0.6**
VES	**Vestal, Richgr** baz=80	**79.75**	**48**	⇓P	**P**	**21 30 59.5**	**+1.1**
WDC	**Whiskeytown Da** 21nm,1.5s	**79.83**	**42**	*e*P	**P**	**21 31 00.2**	**+1.4**
CMB	**Columbia Colle** 10nm,1.2s	**79.93**	**45**	*e*P	**P**	**21 30 59.3**	**-0.2**
BFSC	**Mount Baldy Ra** baz=80	**80.01**	**50**	⇑P	**P**	**21 31 00.6**	**+0.5**
MURC	**Murrieta** baz=80	**80.05**	**51**	⇓P	**P**	**21 31 00.9**	**+0.7**
EDW2	**Edwards Air Fo** baz=80	**80.07**	**49**	⇑P	**P**	**21 31 01.1**	**+0.8**
ISA	**Isabella** baz=80	**80.10**	**48**	⇑P	**P**	**21 31 00.8**	**+0.3**
MONP	**Monument Peak** baz=80	**80.31**	**51**	⇑P	**P**	**21 31 02.2**	**+0.4**
YBH	**Yreka Blue Hor**	**80.34**	**41**	LR	LR	21 57 10.4	
	comp=Z,272nm,21.0s,baz=300,slow=29						
DVTC	**Desert V Tower** baz=81	**80.44**	**52**	⇑P	**P**	**21 31 02.9**	**+0.5**
LRMC	**Laurel Mountai** baz=81	**80.57**	**49**	⇑P	**P**	**21 31 03.8**	**+0.7**
PFO	**Pinyon Flat Ob** baz=81	**80.61**	**51**	⇑P	**P**	**21 31 04.3**	**+1.0**
SWSC	**Sam W. Stewart** baz=81	**80.80**	**52**	⇓P	**P**	**21 31 04.8**	**+0.6**
TIN	**Tinemaha** baz=81	**80.94**	**47**	⇓P	**P**	**21 31 05.8**	**+0.8**
MPMC	**Manual Prospec** baz=81	**80.99**	**48**	⇑P	**P**	**21 31 05.8**	**+0.4**
BELC	**Belle Mtn. Jos** baz=81	**81.12**	**51**	⇑P	**P**	**21 31 06.6**	**+0.5**
GSC	**Goldstone** baz=81	**81.13**	**49**	⇑P	**P**	**21 31 06.9**	**+0.8**
HEC	**Hector,Ludlow** baz=81	**81.26**	**50**	⇑P	**P**	**21 31 07.4**	**+0.7**
BC3	**Big Chuckawall** baz=82	**81.38**	**51**	⇓P	**P**	**21 31 08.0**	**+0.6**
GRAC	**Grapevine

	baz=87							
Y20A	Horse Springs,	86.84	53	⇑P	P	21 31 35.5	+0.1	
	baz=87							
R17A	Hanksville Air	86.88	48	⇓P	P	21 31 36.1	+0.8	
	baz=87							
I13A	Wildhorse Cree	86.91	42	⇑P	P	21 31 35.1	-0.3	
	baz=87							
K14A	Jones Ranch, D	86.92	44	⇓P	P	21 31 36.1	+0.7	
	baz=87,SNR=8.3							
M15A	Larsen Ranch,	86.94	45	⇓P	P	21 31 35.1	-0.4	
	baz=87							
T18A	Mexican Hat	86.97	50	⇑P	P	21 31 35.9	+0.1	
	baz=87,SNR=7.0							
X20A	Quemado	86.99	53	⇑P	P	21 31 35.7	-0.4	
	baz=87							
F12A	Elk City	87.02	40	⇑P	P	21 31 36.4	+0.6	
	baz=87,SNR=14							
J14A	Carey	87.03	43	⇓P	P	21 31 36.3	+0.3	
	baz=87							
NEW	Newport	87.09	38	⇑P	P	21 31 36.5	+0.6	
	baz=87							
S18A	Hurst Farm, Bl	87.11	49	⇑P	P	21 31 36.6	0.0	
	baz=87							
H13A	Challis	87.11	42	⇓P	P	21 31 37.0	+0.6	
	baz=87							
U19A	Dine' College,	87.13	51	⇓P	P	21 31 37.1	+0.3	
	baz=87							
E12A	Beaver Dam Sad	87.14	40	⇑P	P	21 31 35.5	-0.9	
	baz=87							
L15A	Malad City	87.21	45	⇑P	P	21 31 37.3	+0.4	
	baz=87,SNR=5.2							
W20A	Ramah	87.21	52	⇑P	P	21 31 36.7	-0.5	
	baz=87							
SRU	San Rafael	87.30	48	⇑P	P	21 31 37.4	0.0	
	baz=88							
I14A	Mackay	87.34	43	⇓P	P	21 31 38.2	+0.7	
	baz=88							
G13A	Cobalt	87.36	41	⇓P	P	21 31 38.2	+0.6	
	baz=88,SNR=7.6							
N16A	Rees Ranch, Co	87.39	46	⇓P	P	21 31 38.1	+0.3	
	baz=88							
C11A	Tepee Creek (N	87.39	38	⇑P	P	21 31 37.9	+0.4	
	baz=88							
K15A	Arbon	87.41	44	⇓P	P	21 31 38.3	+0.5	
	baz=88							
Y21A	Point of Rocks	87.42	53	⇓P	P	21 31 38.1	-0.1	
	baz=88							
M16A	Huntsville	87.43	46	⇓P	P	21 31 38.6	+0.5	
	baz=88							
R18A	Canyonlands Na	87.46	49	⇓P	P	21 31 38.5	+0.3	
	baz=88							
T19A	Beclabito	87.48	50	⇓P	P	21 31 38.8	+0.5	
	baz=88							
D12A	Red Ives Fores	87.56	39	⇓P	P	21 31 38.7	+0.3	
	baz=88							
Q18A	Rafter H Ranch	87.57	48	⇓P	P	21 31 38.7	0.0	
	baz=88							
O17A	Robinson Place	87.59	47	⇓P	P	21 31 39.2	+0.3	
	baz=88,SNR=12							
F13A	Darby	87.61	41	⇓P	P	21 31 39.4	+0.7	
	baz=88,SNR=11							
Z22A	Elephant Butte	87.69	54	⇑P	P	21 31 39.5	+0.1	
	baz=88							
H14A	Leadore	87.70	42	⇓P	P	21 31 39.5	+0.3	
	baz=88,SNR=5.5							
P18A	Preston Nutter	87.70	48	⇓P	P	21 31 39.9	+0.4	
	baz=88							
S19A	Harvey Farm, M	87.75	50	⇑P	P	21 31 39.9	+0.2	
	baz=88							
J15A	Blackfoot	87.78	43	⇓P	P	21 31 40.4	+0.8	
	baz=88,SNR=9.7							
L16A	Fish Haven	87.86	45	⇓P	P	21 31 40.4	+0.3	
	baz=88,SNR=9.6							
R19A	Curley Farm, L	87.88	49	⇑P	P	21 31 41.0	+0.7	
	baz=88							
G14A	Jackson	87.92	41	⇑P	P	21 31 40.9	+0.6	
	baz=88,SNR=5.4							
Y22A	Socorro	87.94	54	⇓P	P	21 31 40.8	+0.2	
	baz=88							
K16A	Soda Springs	88.10	44	⇓P	P	21 31 41.7	+0.6	
	baz=88							
MCMT	McKenzie Canyo	88.12	42	eP	P	21 31 41.5	+0.1	
D13A	Huson	88.13	39	⇓P	P	21 31 41.7	+0.6	
	baz=88							
Q19A	Hogan Spring (	88.14	48	⇑P	P	21 31 42.0	+0.6	
	baz=88							
M17A	Scullys Gap (B	88.16	46	⇓P	P	21 31 41.7	+0.2	
	baz=88							
H15A	Lima	88.17	42	⇑P	P	21 31 41.8	+0.4	
	baz=88,SNR=11							
324A	Moseley Ranch,	88.21	57	⇑P	P	21 31 41.9	0.0	
	baz=88							
F14A	Wisdom	88.23	41	⇓P	P	21 31 42.1	+0.4	
	baz=88,SNR=5.7							
A12A	Yaak River Ran	88.26	37	⇑P	P	21 31 42.2	+0.6	
	baz=88							
J16A	Bone	88.27	44	⇑P	P	21 31 41.9	-0.1	
	baz=88,SNR=10							
C13A	Hot Springs	88.32	39	⇓P	P	21 31 42.2	+0.3	
	baz=88							
MSO	Missoula	88.32	40	⇑P	P	21 31 42.0	0.0	
	baz=88							
S20A	Disappointment	88.35	50	⇑P	P	21 31 42.5	-0.1	
	baz=88							
425A	Indio Mountain	88.38	57	⇑P	P	21 31 43.0	+0.3	
	baz=88							
MNTX	Cornudas Mount	88.38	56	⇑P	P	21 31 42.5	0.0	
	baz=88							
224A	Cornudas Mount	88.40	56	⇓P	P	21 31 42.9	+0.1	
	baz=89							
E14A	Clinton	88.42	40	⇓P	P	21 31 42.7	+0.1	
	baz=89,SNR=6.1							
G15A	Dillon	88.50	42	⇓P	P	21 31 43.4	+0.4	
	baz=89,SNR=8.6							
K17A	Gardner Place,	88.51	44	⇓P	P	21 31 43.9	+0.8	
	baz=89							
M18A	Lyman	88.55	46	⇑P	P	21 31 43.3	0.0	
	baz=89							
325A	Bean Ranch, Si	88.59	57	⇑P	P	21 31 43.9	+0.1	
	baz=89							
P19A	Cripple Cowboy	88.60	48	⇑P	P	21 31 44.2	+0.5	
	baz=89							
I16A	Newdale	88.60	43	⇑P	P	21 31 43.6	+0.1	
	baz=89							
Y23A	Lovelace Mesa,	88.64	54	⇑P	P	21 31 43.7	-0.3	
	baz=89							
N18A	Larsen Ranch,	88.64	46	⇓P	P	21 31 44.3	+0.5	
	baz=89							
626A	Big Bend Ranch	88.65	59	⇑P	P	21 31 43.7	-0.2	
	baz=89							
ANMO	Albuquerque	88.70	53	LR	LR	22 02 13.3		
	comp=Z,213nm,21.3s,baz=235,slow=29							
D14A	Greenough	88.70	40	⇑P	P	21 31 44.4	+0.5	
	baz=89							
B13A	Whitefish	88.70	38	⇓P	P	21 31 44.6	+0.9	
	baz=89							
S21A	Coal Bank Pass	88.70	50	⇓P	P	21 31 44.9	+0.6	
	baz=89							
O19A	Miners Draw (B	88.76	47	⇑P	P	21 31 45.0	+0.7	
	baz=89							
L18A	Fontenelle, Gr	88.77	45	⇓P	P	21 31 44.6	+0.2	
	baz=89							
CHMT	Chamberlain Mo	88.78	40	eP	P	21 31 44.2	-0.2	
F15A	Butte	88.79	41	⇓P	P	21 31 44.8	+0.4	
	baz=89,SNR=5.6							
Q20A	Ridgley Place,	88.83	49	⇓P	P	21 31 44.9	+0.2	
	baz=89,SNR=6.0							
C14A	Swan Lake	88.86	39	⇓P	P	21 31 44.8	+0.2	
	baz=89							
J17A	Brown Place, J	88.90	44	⇓P	P	21 31 44.9	-0.1	
	baz=89							
E15A	Deer Lodge	88.95	41	⇑P	P	21 31 45.3	+0.2	
	baz=89							
TXAR	Lajitas Array	88.95	59	P	P	21 31 46.3	+0.9	
TXAR	Lajitas Array	88.95	59	P	P	21 31 46.3	+0.9	
	1.0nm,0.8s,baz=182,slow=4.4,SNR=6.2							
TXAR				LR	LR	22 04 52.2		
	comp=Z,170nm,18.6s,baz=345,slow=31							
N19A	John Jarvie Ra	88.96	47	⇓P	P	21 31 45.4	+0.1	
	baz=89							
G16A	Moss Hill, Enn	88.97	42	⇓P	P	21 31 45.5	+0.3	
	baz=89							
Z24A	Sheeppen Canyo	88.97	55	⇑P	P	21 31 45.7	+0.1	
	baz=89							
225A	Deer Hill, Car	88.97	56	⇑P	P	21 31 45.4	-0.1	
	baz=89							
P20A	De Beque	88.97	48	⇓P	P	21 31 45.6	+0.3	
	baz=89							
A13A	Flathead Natio	88.99	38	⇑P	P	21 31 45.4	+0.3	
	baz=89							
QLMT	Earthquake Lak	89.04	42	eP	P	21 31 46.5	+0.9	
K18A	Toltan Ranch,	89.06	45	⇑P	P	21 31 45.8	+0.1	
	baz=89,SNR=5.3							
H16A	Russell Place,	89.11	43	⇓P	P	21 31 46.1	+0.2	
	baz=89,SNR=11							
426A	McDonald Obser	89.11	58	⇓P	P	21 31 45.7	-0.6	
	baz=89							
T22A	Edith	89.12	51	⇓P	P	21 31 46.6	+0.4	
	baz=89							
Y24A	Capitan	89.12	54	⇑P	P	21 31 45.6	-0.6	
	baz=89							
R21A	Cimarron	89.15	49	⇑P	P	21 31 46.7	+0.4	
	baz=89							
V23A	Ortiz Mt. (NFS	89.20	52	⇑P	P	21 31 46.8	+0.2	
	baz=89							
I17A	Pilgrim Ck.	89.22	43	⇑P	P	21 31 47.0	+0.5	
	baz=89							
627A	Terlingua Ranc	89.22	59	⇑P	P	21 31 46.7	0.0	
	baz=89							
BOZ	Bozeman (W)	89.25	42	⇓P	P	21 31 46.6	+0.1	
	baz=90,SNR=8.1							
527A	Woodward Ranch	89.27	58	⇑P	P	21 31 47.1	+0.2	
	baz=89							
D15A	Lincoln	89.29	40	⇓P	P	21 31 47.0	+0.4	
	baz=90,SNR=8.3							
J18A	Kendall Valley	89.30	44	⇓P	P	21 31 46.9	0.0	
	baz=90,SNR=13							
Q21A	Lamborn Mesa,	89.31	49	⇓P	P	21 31 47.7	+0.7	
	baz=90							
L19A	Farson	89.31	46	⇓P	P	21 31 47.5	+0.6	
	baz=90							
O20A	White River Ci	89.32	48	⇑P	P	21 31 47.5	+0.5	
	baz=90							
U23A	El Rito	89.40	52	⇑P	P	21 31 47.7	+0.2	
	baz=90							
B14A	Marquette Ranc	89.41	39	⇓P	P	21 31 47.7	+0.6	
	baz=90,SNR=5.7							
H17A	Grant Village	89.42	43	⇑P	P	21 31 48.2	+0.7	
	baz=90							
BW06	Boulder Array	89.44	45	⇓P	P	21 31 48.0	+0.5	
	baz=90							
PDAR	Pinedale Array	89.44	45	P	P	21 31 47.5	0.0	
PDAR	Pinedale Array	89.44	45	P	P	21 31 47.5	0.0	
	4.3nm,1.2s,baz=242,slow=3.2,SNR=11							
PDAR				LR	LR	22 03 29.4		
	comp=Z,187nm,19.6s,baz=192,slow=30							
S22A	4UR Ranch, Cre	89.44	50	⇑P	P	21 31 47.7	-0.1	
	baz=90							
Z25A	Roswell	89.46	55	⇓P	P	21 31 47.2	-0.5	
	baz=90							
C15A	Salmond Ranch,	89.56	39	⇓P	P	21 31 48.1	+0.3	
	baz=90,SNR=9.9							
ULN	Ulaanbaatar	89.56	321	eP	P	21 31 47.5	-0.3	
	9.3nm,1.5s							
N20A	Spence Gulch,	89.57	47	⇑P	P	21 31 48.3	+0.1	
	baz=90							
A14A	Double T Ranch	89.59	38	⇑P	P	21 31 48.8	+0.8	
	baz=90							
E16A	East Helena	89.60	41	⇓P	P	21 31 48.8	+0.7	
	baz=90,SNR=6.6							
W24A	Lazy 6 Ranch,	89.60	53	⇑P	P	21 31 48.9	+0.5	
	baz=90							
I18A	Diamond G Ranc	89.64	44	⇓P	P	21 31 49.2	+0.7	
	baz=90							
628A	Black Gap, Mar	89.65	59	⇓P	P	21 31 49.2	+0.7	
	baz=90							
P21A	Newcastle	89.65	48	⇑P	P	21 31 49.2	+0.6	
	baz=90							
R22A	Saguache, Gunn	89.68	50	⇑P	P	21 31 49.5	+0.7	
	baz=90							
427A	Hayter Ranch,	89.68	58	⇓P	P	21 31 49.2	+0.4	
	baz=90							
Y25A	Mesa, Roswell	89.70	54	⇑P	P	21 31 48.8	0.0	
	baz=90							
USHA	Ushuaia	89.74	148	LR	LR	22 04 28.2		
	comp=Z,210nm,21.6s,baz=92,slow=30							
Q22A	Crested Butte,	89.80	49	⇑P	P	21 31 50.0	+0.6	
	baz=90							
B15A	Bradely Ranch,	89.81	39	⇑P	P	21 31 49.3	+0.3	
	baz=90							
M20A	Sweetwater, Wa	89.88	46	⇑P	P	21 31 49.9	+0.3	
	baz=90							
D16A	Dana Ranch, Ca	89.89	40	⇑P	P	21 31 50.1	+0.8	
	baz=90,SNR=8.3							
K19A	Absolon Red Bu	89.94	45	⇑P	P	21 31 50.0	+0.1	
	baz=90							
SONM	Songino Array	89.95	320	P	P	21 31 49.2	-0.4	
SONM	Songino Array	89.95	320	P	P	21 31 49.2	-0.4	
	1.3nm,1.0s,baz=158,slow=3.6,SNR=9.7							
SONM				LR	LR	22 08 12.7		
	comp=Z,120nm,19.8s,baz=82,slow=33							
528A	Cox Ranch, San	89.95	59	⇑P	P	21 31 50.2	+0.1	
	baz=90							
L20A	Wamsutter	89.97	46	⇓P	P	21 31 50.6	+0.6	
	baz=90,SNR=6.4							
J19A	Crowheart	89.97	45	⇑P	P	21 31 50.2	+0.3	
	baz=90							
F17A	Fitzpatrick Pl	89.98	42	⇓P	P	21 31 51.3	+1.4	
	baz=90							
A15A	Johnson Ranch,	90.00	38	⇓P	P	21 31 50.3	+0.5	
	baz=90							
Z26A	Caprock	90.04	55	⇑P	P	21 31 51.1	+0.7	
	baz=90							
N21A	Black Mountain	90.07	47	⇓P	P	21 31 50.8	+0.2	
	baz=90							
E17A	Martinsdale	90.08	41	⇑P	P	21 31 50.5	+0.2	
	baz=90							
C16A	Fuhringer Ranc	90.09	40	⇓P	P	21 31 50.8	+0.6	
	baz=90							
P22A	Eagle	90.18	49	⇓P	P	21 31 51.2	+0.2	
	baz=90							
I19A	Meeteetse	90.31	44	⇓P	P	21 31 51.7	+0.2	
	baz=90							
W25A	X Bar L Ranch,	90.33	53	⇓P	P	21 31 52.3	+0.5	
	baz=90							
328A	Wristen Ranch,	90.34	57	⇑P	P	21 31 52.0	+0.2	
	baz=90							
R23A	Moffat	90.34	50	⇑P	P	21 31 52.3	+0.3	
	baz=90							
B16A	M & M Farms, S	90.37	39	⇓P	P	21 31 52.2	+0.6	
	baz=91							
V25A	Rancho No Teng	90.42	53	⇓P	P	21 31 52.2	0.0	
	baz=91							
G18A	Lazy EL Ranch,	90.45	43	⇓P	P	21 31 53.1	+1.0	
	baz=91							
D17A	Six Diamond Ra	90.47	41	⇓P	P	21 31 53.2	+1.1	
	baz=91							
M21A	Separation Pea	90.49	47	⇓P	P	21 31 53.2	+0.7	
	baz=91							
T24A	Torres, Weston	90.52	51	⇓P	P	21 31 53.3	+0.5	
	baz=91							
O22A	Kremmling	90.53	48	⇑P	P	21 31 53.5	+0.7	
	baz=91							
RLMT	Red Lodge	90.56	43	⇓P	P	21 31 53.4	+0.7	
	baz=91							
H19A	Powell	90.57	43	⇑P	P	21 31 54.0	+1.4	
	baz=91							
F18A	Big Timber	90.58	42	⇓P	P	21 31 53.5	+0.8	
	baz=91							
S24A	Houchin Ranch,	90.60	51	⇓P	P	21 31 53.7	+0.5	
	baz=91							
L21A	Rawlins	90.62	46	⇓P	P	21 31 53.4	+0.3	
	baz=91							
C17A	Wharram Farm,	90.62	40	⇑P	P	21 31 53.7	+0.9	
	baz=91,SNR=6.8							
Z27A	Tatum	90.65	55	⇓P	P	21 31 53.5	+0.2	
	baz=91							
J20A	Shoshoni	90.66	45	⇓P	P	21 31 53.5	+0.4	
	baz=91							
A16A	West Butte Ran	90.67	39	⇑P	P	21 31 53.8	+0.8	
	baz=91							
E18A	Harlowton	90.72	41	⇑P	P	21 31 54.4	+1.1	
	baz=91,SNR=5.9							
P23A	Jefferson	90.76	49	⇑P	P	21 31 53.7	-0.2	
	baz=91							
429A	Davenport Ranc	90.83	58	⇓P	P	21 31 55.0	+0.9	
	baz=91							
N22A	Wattenberg Ran	90.83	48	⇑P	P	21 31 54.8	+0.7	
	baz=91							
I20A	Worland	90.86	44	⇓P	P	21 31 55.0	+1.0	
	baz=91							
B17A	L&G Farms, Che	90.87	39	⇑P	P	21 31 54.8	+1.0	
	baz=91							
Y27A	Causey	90.88	55	⇓P	P	21 31 55.2	+0.8	
	baz=91							
R24A	Sanders Place,	90.89	50	⇓P	P	21 31 54.8	+0.4	
	baz=91							
K21A	Alcova	90.95	46	⇑P	P	21 31 55.1	+0.6	
	baz=91							
O23A	Lake Granby, G	91.00	48	⇓P	P	21 31 55.3	+0.4	
	baz=91							
128A	Castleberry Fa	91.00	56	⇑P	P	21 31 55.2	+0.3	
	baz=91							
T25A	Trinidad	91.03	52	⇑P	P	21 31 55.4	+0.3	
	baz=91							
329A	Wagon Wheel Ra	91.04	58	⇑P	P	21 31 55.9	+0.8	
	baz=91							
D18A	Linhart Farms,	91.04	41	⇓P	P	21 31 56.0	+1.2	
	baz=91							
F19A	Roth Farm, Mol	91.06	42	⇑P	P	21 31 55.7	+0.8	
	baz=91							
ISCO	Idaho Springs	91.07	49	⇑P	P	21 31 55.9	+0.6	
	baz=91							
Q24A	Divide	91.11	50	⇓P	P	21 31 56.6	+1.0	
	baz=91							
S25A	Robets Cordova	91.19	51	⇑P	P	21 31 56.6	+0.9	
	baz=91							
A17A	Triple J Farms	91.20	39	⇓P	P	21 31 56.5	+1.1	
	baz=91							
MSTX	Muleshoe	91.22	55	⇓P	P	21 31 56.6	+0.7	
	baz=91							
N23A	Red Feather La	91.23	48	⇓P	P	21 31 56.8	+0.8	
	baz=91							
U26A	Atchley Ranch,	91.28	52	⇓P	P	21 31 57.0	+0.8	
	baz=91							
G20A	Bridger	91.28	43	⇑P	P	21 31 56.7	+0.8	
	baz=92							
L22A	Ellis Ranch, M	91.30	46	⇑P	P	21 31 57.0	+0.8	
	baz=92							
Z28A	Tucker Farm, M	91.30	56	⇑P	P	21 31 57.0	+0.7	
	baz=92							
I21A	Big Trails, Te	91.36	45	⇓P	P	21 31 57.2	+0.8	
	baz=92							
E19A	Rath Farm, Rou	91.39	42	⇑P	P	21 31 57.3	+1.0	
	baz=92							
EGMT	Eagleton	91.40	40	⇑P	P	21 31 57.3	+0.9	
	baz=92							
K22A	Casper	91.46	46	⇓P	P	21 31 57.0	+0.1	
	baz=92							
631A	Perdido Creek	91.53	60	⇑P	P	21 31 57.6	+0.3	
	baz=92							
B18A	Beardsley Farm	91.54	40	⇓P	P	21 31 57.9	+0.9	
	baz=92							
M23A	Laramie	91.59	47	⇓P	P	21 31 58.3	+0.7	
	baz=92							
D19A	Cripps Ranch,	91.61	41	⇓P	P	21 31 58.3	+1.0	
	baz=92							
A18A	Metzger Ranch,	91.71	39	⇓P	P	21 31 58.6	+0.9	
	baz=92							
C19A	Slack Wire Ran	91.73	40	⇓P	P	21 31 58.9	+1.0	
	baz=92							
Q25A	Bedland, Calha	91.76	50	⇑P	P	21 31 58.8	+0.4	
	baz=92							
J22A	Midwest	91.77	45	⇑P	P	21 31 58.9	+0.6	
	baz=92							
531A	Rocksprings	91.79	59	⇓P	P	21 31 59.2	+0.6	
	baz=92							
I22A	9 Mile Ranch,	91.94	45	⇑P	P	21 31 59.7	+0.7	
	baz=92							
P25A	Willow Gulch B	92.02	49	⇓P	P	21 32 00.6	+1.1	
	baz=92							
D20A	Manuel Ranch,	92.05	41	⇑P	P	21 32 00.1	+0.8	
	baz=92							
B19A	Brinkman Farms	92.07	40	⇓P	P	21 32 00.5	+1.1	
	baz=92							
K23A	Bowen Ranch, D	92.11	46	⇓P	P	21 32 00.4	+0.5	
	baz=92							
R26A	Arlington	92.14	51	⇑P	P	21 32 00.9	+0.8	
	baz=92							
H22A	Clearmont	92.28	44	⇑P	P	21 32 01.3	+0.7	
	baz=92							
Q26A	Hugo	92.29	50	⇑P	P	21 32 01.3	+0.5	
	baz=92							
532A	Rocksprings	92.31	59	⇓P	P	21 32 01.3	+0.4	
	baz=92							
A19A	Klindworth Far	92.38	39	⇑P	P	21 32 01.4	+0.6	
	baz=93							
432A	Menard	92.63	59	⇑P	P	21 32 02.5	+0.1	
	baz=93							
A20A	Cobblestone Ra	92.86	40	⇑P	P	21 32 04.3	+1.3	
	baz=93							
KSCO	Kaye Shedlock'	92.98	50	⇓P	P	21 32 05.3	+1.3	
	baz=93							
F23A	Volborg	93.31	43	⇓P	P	21 32 06.1	+0.9	
	baz=94							
D22A	Cohagen	93.31	42	⇓P	P	21 32 06.9	+1.7	
	baz=94							
A21A	Bergtoll Ranch	93.51	40	⇑P	P	21 32 07.4	+1.4	
	baz=94							
H24A	Dirks Ranch, A	93.54	44	⇑P	P	21 32 06.9	+0.6	
	baz=94							
C23A	Lambert	94.17	41	⇓P	P	21 32 10.4	+1.3	
	baz=94							
C24A	Savage	94.56	42	⇓P	P	21 32 12.2	+1.3	
	baz=95							
YKA	Yellowknife Ar	95.06	26	P	P	21 32 10.4	-2.3	
YKA	Yellowknife Ar	95.06	26	P	P	21 32 10.4	-2.3	
	0.6nm,0.9s,baz=244,slow=4.7,SNR=8.2							
PLCA	Paso Flores	95.15	135	LR	LR	22 04 57.0		
	comp=Z,215nm,20.9s,baz=337,slow=29							
UPC	Upice	143.06	340	ePKP	PKPdf	21 38 26.8	+2.8	
DPC	Dobruska-Polom	143.09	340	ePKPdf	PKPbc	21 38 19.9	-1.1	
CLL	Collm	143.26	343	ePKiKP	PKiKP	21 38 28.0	+0.4	
VYHS	Vyhne	143.71	336	ePKP	PKPdf	21 38 24.7	-0.5	
PRU	Pruhonice	143.99	341	ePKP	PKPbc	21 38 23.7	+0.2	
PRU				epPKP	pPKPdf	21 38 34.7	-2.4	
TANN	Tannenbergstha	144.22	343	ePKPbc	PKPbc	21 38 24.1	-0.2	
TREC	Trest	144.28	339	ePKP	PKPdf	21 38 25.7	-0.5	
TREC				epPKP	pPKPdf	21 38 37.4	-0.3	
ROTZ	Rotzenmuhle	144.88	343	ePKPbc	PKPdf	21 38 27.6	+0.4	
KHC	Kasperske Hory	145.04	341	ePKP	PKPdf	21 38 27.1	-0.5	
KHC				epPKP	pPKPdf	21 38 38.3	-0.7	
GRF	Grafenberg Arr	145.21	344	ePKPbc	PKPdf	21 38 27.6	-0.2	
WET	Wettzell	145.24	342	ePKPbc	PKPdf	21 38 28.3	+0.4	
GEC2	GERESS Array S	145.25	341	ePKPbc	PKPdf	21 38 27.3	-0.7	
GERES	GERESS Array B	145.25	341	PKPbc	PKPbc	21 38 26.6	-1.1	
GERES	GERESS Array B	145.25	341	PKPbc	PKPbc	21 38 26.6	-1.1	
	1.4nm,0.9s,baz=35,slow=3.3,SNR=12							
SOP	Sopron	145.26	337	⇑ePKPbc	PKPdf	21 38 29.0	+1.1	
CONA	Conrad Observa	145.31	338	i PKPdf	PKPdf	21 38 28.4	+0.2	
	15nm,1.1s,SNR=8.6							
TNS	Taunus Mts	145.38	347	ePKPbc	PKPab	21 38 29.6	+1.4	
PKSM	Moravy	145.61	333	⇑ePKPdf	PKPab	21 38 28.6	-0.5	
MOA	Molln	145.94	339	⇑iPKPab	PKPab	21

13nm,0.3s,baz=280,slow=7.5,SNR=104
LPAZ S Sn 21 26 42.0 +0.2
baz=79,slow=16
SIV San Ignacio 7.87 90 P Pn 21 27 42.3 +1.1
0.7nm,0.3s,baz=277,slow=15,SNR=9.1
TORD Torodi Ar. Bea 75.94 72 P P 21 37 16.0 -0.6
0.2nm,0.6s,baz=240,slow=4.6,SNR=2.5
YKA Yellowknife Ar 86.10 341 P P 21 38 09.3 +0.2
0.2nm,0.5s,baz=135,slow=5.2,SNR=5.5
SONM Songino Array 148.24 6 PKPbc PKPbc 21 45 14.2 +0.2
0.2nm,0.4s,baz=334,slow=1.1,SNR=5.3

*IDC **28** 21:26:49.5±0.9, 3.00N×95.94E, h0km, mb4.3/12, mb1 4.3/13, mb1mx4.1/26, mbtmp4.3/13, ML4.4/1, MS3.7/2, Ms1 3.8/2, ms1mx3.1/38, Error ellipse: s-maj=33.3km s-min=15.5km az=51.0*
*DJA **28** 21:26:50.7±1.1, 3.7N±6.9×9.7E±1.1°0, h19km, M4.4/8, mb4.7/4, mB4.8/3, MLv4.3/8, Mw(mB)4.1/3*
*ISCJB **28** 21:26:53.5±1.2, 2.86N±0.07×95.70E±0.07, h49km±10km, mb4.5/32, MS3.8/1, Error ellipse: s-maj=15.4km s-min=6.7km az=138.7*
*NEIC **28** 21:26:57.5±2.0, 3.02N×95.92E, h63km±16km, mb4.5/11, Error ellipse: s-maj=21.4km s-min=7.8km az=55.0*

ISC 28 21:26:54.6±0.6, **3.09N**±0.06×**96.01E**±0.05, **h31**km, **n88,** σ1§**25**/80, **mb4.6**/32, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		**1.19**	**82**	P	**Pb**	**21 27 19.3**	**+2.8**
LHMI	**Lhok Sumawe**	**2.33**	**24**	P	**Pb**	**21 27 35.2**	**-0.7**
GSI	**Gunungsitoli**	**2.36**	**138**	P	**Pn**	**21 27 31.3**	**0.0**
BSI	**Banda Aceh**	**2.50**	**344**	P	**Pn**	**21 27 32.4**	**-0.8**
TSI	**Tuntungan**	**2.59**	**81**	P	**Pb**	**21 27 39.9**	**-0.5**
PSI	**Prapat**	**2.93**	**95**	Pn	Pb	21 27 43.4	-2.9
PSI				Sn	**Sb**	**21 28 19.6**	**-2.1**
PSI	**Prapat**	**2.93**	**95**	P	**Pb**	**21 27 43.9**	**-2.3**
PSI	**Prapat**	**2.93**	**95**	Pn	Pb	21 27 43.4	-2.9
	12nm,0.3s,baz=286,slow=5.5,SNR=39						
PSI				Sn	**Sb**	**21 28 19.6**	**-2.1**
	4.7nm,0.3s,baz=303,slow=19,SNR=4.5						
KULM	**Kulim**	**5.12**	**65**	*e*Pn	**Pn**	**21 28 11.9**	**+2.6**
	105nm,0.9s						
KULM	**Kulim**	**5.12**	**65**	P	Pn	21 28 15.1	+5.8
KULM	**Kulim**	**5.12**	**65**	P	Pn	21 28 14.7	+5.4
	136nm,0.9s,1µm						
IPM	**Ipoh**	**5.20**	**74**	*e*Pn	Pn	21 28 15.2	+4.9
	54nm,0.8s						
IPM	**Ipoh**	**5.20**	**74**	P	Pn	21 28 15.8	+5.5
IPM	**Ipoh**	**5.20**	**74**	P	Pn	21 28 15.8	+5.5
	62nm,0.9s,677nm0.2nm						
FRIM	**Kepong**	**5.61**	**88**	P	Pn	21 28 21.3	+5.3
PPI	**Padang Panjang**	**5.62**	**129**	P	**Pn**	**21 28 18.3**	**+2.1**
	36nm,1.2s,670nm0.2nm						
BKNI	**Bangkinang**	**5.73**	**118**	P	**Pn**	**21 28 19.0**	**+1.4**
KGM	**Kluang**	**7.38**	**98**	P	Pn	21 28 45.4	+5.0
MYKOM	**Kota Tinggi**	**7.94**	**99**	P	Pn	21 28 53.0	+5.0
CM31	**Chiang Mai Arr**	**15.55**	**10**	*e*P	**P**	**21 30 36.3**	**+0.5**
	22nm,1.0s						
CMAR	**Chiang Mai Arr**	**15.55**	**10**	Pn	**Pn**	**21 30 33.5**	**+1.8**
CMAR	**Chiang Mai Arr**	**15.55**	**10**	Pn	**Pn**	**21 30 33.5**	**+1.8**
	0.5nm,0.3s,baz=201,slow=11,SNR=57						
CMAR				LR	LR	21 36 51.4	
	comp=Z,174nm,19.4s,baz=195,slow=38						
CHTO	**Chiang Mai**	**15.89**	**10**	*e*Pn	**Pn**	**21 30 37.1**	**+0.9**
	15nm,1.1s						
SBUM	**Sibu**	**16.21**	**92**	P	**P**	**21 30 46.1**	**+3.0**
KKM	**Kota Kinabalu**	**20.36**	**81**	P	Pn	21 31 33.1	+2.0
KDM	**Kudat**	**21.09**	**79**	P	**P**	**21 31 41.0**	**+4.3**
MYLDM	**Lahad Datu**	**22.53**	**84**	P	**P**	**21 31 56.3**	**+4.1**
ODAN	**Odare**	**25.04**	**342**	*e*P	**P**	**21 32 16.6**	**+0.1**
	38nm,1.0s						
ODAN	**Odare**	**25.04**	**342**	*e*P	**P**	**21 32 16.6**	**+0.1**
	38nm,1.0s						
KAPI	**Kappang**	**25.05**	**109**	P	**P**	**21 32 16.0**	**-0.4**
KAPI	**Kappang**	**25.05**	**109**	P	**P**	**21 32 16.0**	**-0.4**
	10.0nm,0.8s,baz=265,slow=13,SNR=5.7						
RAMN	**Ramite**	**25.38**	**340**	*e*P	**P**	**21 32 20.1**	**+0.5**
	27nm,0.6s						
RAMN	**Ramite**	**25.38**	**340**	*e*P	**P**	**21 32 20.1**	**+0.5**
	27nm,0.6s						
TAPN	**Taplejung**	**25.40**	**343**	*e*P	**P**	**21 32 20.1**	**+0.3**
	15nm,0.4s						
TAPN	**Taplejung**	**25.40**	**343**	*e*P	**P**	**21 32 20.1**	**+0.3**
	15nm,0.4s						
JIRN	**Jiri**	**26.18**	**340**	*e*P	**P**	**21 32 27.2**	**+0.3**
	12nm,0.6s						
JIRN	**Jiri**	**26.18**	**340**	*e*P	**P**	**21 32 27.2**	**+0.3**
	12nm,0.6s						
PKI	**Pulchoki**	**26.37**	**338**	*e*P	**P**	**21 32 28.5**	**-0.1**
PKI	**Pulchoki**	**26.37**	**338**	*e*P	**P**	**21 32 28.5**	**-0.1**
GUN	**Gumba**	**26.51**	**340**	*e*P	**P**	**21 32 29.9**	**0.0**
	59nm,0.6s						
GUN	**Gumba**	**26.51**	**340**	*e*P	**P**	**21 32 29.9**	**0.0**
	59nm,0.6s						
DMN	**Daman**	**26.52**	**338**	*e*P	**P**	**21 32 30.8**	**+0.9**
	13nm,0.7s						
DMN	**Daman**	**26.52**	**338**	*e*P	**P**	**21 32 30.8**	**+0.9**
	13nm,0.7s						
KKN	**Kakani**	**26.62**	**338**	*e*P	**P**	**21 32 30.9**	**+0.2**
	30nm,0.9s						
KKN	**Kakani**	**26.62**	**338**	*e*P	**P**	**21 32 30.9**	**+0.2**
	30nm,0.9s						
LSA	**Lhasa**	**26.87**	**351**	*e*P	**P**	**21 32 33.3**	**0.0**
	10nm,0.8s						
GKN	**Gorkha**	**27.05**	**337**	*e*P	**P**	**21 32 34.7**	**+0.1**
	59nm,0.9s						
GKN	**Gorkha**	**27.05**	**337**	*e*P	**P**	**21 32 34.7**	**+0.1**
	59nm,0.9s						
KOLN	**Koldanda**	**27.26**	**335**	*e*P	**P**	**21 32 36.9**	**+0.4**
	23nm,0.6s						
KOLN	**Koldanda**	**27.26**	**335**	*e*P	**P**	**21 32 36.9**	**+0.4**
	23nm,0.6s						
DANN	**Dangsing**	**27.70**	**336**	*e*P	**P**	**21 32 40.6**	**0.0**
	26nm,0.6s						
DANN	**Dangsing**	**27.70**	**336**	*e*P	**P**	**21 32 40.6**	**0.0**
	26nm,0.6s						
PYUN	**Piuthan**	**27.80**	**335**	*e*P	**P**	**21 32 42.0**	**+0.6**
PYUN	**Piuthan**	**27.80**	**335**	*e*P	**P**	**21 32 42.0**	**+0.6**
BJT	**Baijiatuau**	**41.05**	**24**	*e*P	**P**	**21 34 37.5**	**+2.2**
	23nm,0.7s						
AAK	**Ala-Archa**	**43.81**	**337**	*e*P	**P**	**21 34 56.2**	**-1.7**
	7.0nm,0.6s						
WRA	**Warramunga Arr**	**44.05**	**123**	P	**P**	**21 34 59.7**	**-0.3**
WRA	**Warramunga Arr**	**44.05**	**123**	P	**P**	**21 34 59.7**	**-0.3**
	3.1nm,0.8s,baz=300,slow=9.2,SNR=25						
WRAB	**Tennant Creek**	**44.05**	**123**	*e*P	**P**	**21 34 59.5**	**-0.5**
EKS2	**Erkin-Say**	**44.12**	**336**	*e*P	**P**	**21 34 59.9**	**-0.5**
	2.9nm,0.7s						
JNU	**Nakatsue**	**44.23**	**43**	LR	LR	21 53 15.8	
	comp=Z,122nm,20.4s,baz=67,slow=36						
KSAR	**Wonju Array Be**	**44.99**	**36**	P	**P**	**21 35 07.7**	**+0.5**
KSRS	**Korea Array**	**45.02**	**37**	P	**P**	**21 35 07.7**	**+0.2**
	1.6nm,0.8s,baz=217,slow=9.9,SNR=6.9						
MK31	**Makanchi Array**	**45.14**	**347**	*e*P	**P**	**21 35 07.8**	**-0.5**
MKAR	**Makanchi Array**	**45.14**	**347**	P	**P**	**21 35 08.1**	**-0.2**
MKAR	**Makanchi Array**	**45.14**	**347**	P	**P**	**21 35 08.1**	**-0.2**
	15nm,0.7s,baz=165,slow=8.0,SNR=193						
SONM	**Songino Array**	**45.47**	**10**	P	**P**	**21 35 11.7**	**+0.6**
SONM				PcP	**PcP**	**21 36 49.9**	**+0.2**
SONM	**Songino Array**	**45.47**	**10**	P	**P**	**21 35 11.7**	**+0.6**
	7.2nm,0.8s,baz=189,slow=8.7,SNR=70						
SONM				PcP	**PcP**	**21 36 49.9**	**+0.2**
	1.6nm,0.7s,baz=193,slow=3.4,SNR=6.2						
ASAR	**Alice Springs**	**45.48**	**128**	P	**P**	**21 35 11.0**	**-0.4**
ASAR	**Alice Springs**	**45.48**	**128**	P	**P**	**21 35 11.0**	**-0.4**
	1.0nm,0.7s,baz=299,slow=7.7,SNR=12						
ULN	**Ulaanbaatar**	**45.62**	**10**	*e*P	**P**	**21 35 12.3**	**0.0**
	3.2nm,0.8s						
KKAR	**Karatay Array**	**45.85**	**334**	*e*P	**P**	**21 35 12.6**	**-1.4**
	3.6nm,0.7s						
KURK	**Kurchatov**	**49.68**	**346**	*e*P	**P**	**21 35 42.5**	**-0.9**
	4.2nm,0.7s						
ZAA0	**Zalesovo Array**	**51.53**	**352**	*e*P	**P**	**21 35 57.0**	**-0.4**
ZALV	**Zalesovo Beam**	**51.53**	**352**	P	**P**	**21 35 57.3**	**-0.1**
ZALV	**Zalesovo Beam**	**51.53**	**352**	P	**P**	**21 35 57.3**	**-0.1**
	11nm,0.6s,baz=180,slow=7.4,SNR=84						
BRVK	**Borovoye**	**54.15**	**341**	*e*P	**P**	**21 36 15.4**	**-1.4**
	6.5nm,1.0s						
ABKAR	**Akbulak array**	**55.30**	**332**	*e*P	**P**	**21 36 23.7**	**-1.5**
	5.4nm,0.8s						
STKA	**Stephens Creek**	**55.50**	**132**	P	**P**	**21 36 25.6**	**-1.3**
	2.5nm,0.9s,baz=313,slow=6.1,SNR=3.6						
YAK	**Yakutsk**	**63.97**	**17**	*e*P	**P**	**21 37 24.6**	**-0.1**
	24nm,0.9s						
BRTR	**Keskin Array B**	**66.97**	**312**	P	**P**	**21 37 45.0**	**+0.3**
BRTR	**Keskin Array B**	**66.97**	**312**	P	**P**	**21 37 45.0**	**+0.3**
	0.4nm,0.7s,baz=132,slow=6.4,SNR=2.6						
FINES	**FINESS Array B**	**77.79**	**332**	P	**P**	**21 38 47.4**	**-1.2**
FINES	**FINESS Array B**	**77.79**	**332**	P	**P**	**21 38 47.4**	**-1.2**
	1.4nm,0.7s,baz=84,slow=5.9,SNR=4.0						
ARCES	**ARCESS Array B**	**80.37**	**340**	P	**P**	**21 39 01.3**	**-1.3**
ARCES	**ARCESS Array B**	**80.37**	**340**	P	**P**	**21 39 01.3**	**-1.3**
	2.6nm,1.0s,baz=107,slow=7.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**93.50**	**283**	P	**P**	**21 40 09.1**	**+0.9**
TORD	**Torodi Ar. Bea**	**93.50**	**283**	P	**P**	**21 40 09.1**	**+0.9**
	0.2nm,0.7s,baz=91,slow=8.6,SNR=2.7						

*ISCJB **28** 21:37:38.8±0.3, 3.60N±0.05×126.61E±0.08, h33km, mb4.6/54, MS3.8/2, Error ellipse: s-maj=11.6km s-min=6.8km az=157.5*
*MOS **28** 21:37:38.8±0.8, 3.62N×126.58E, h33km, mb4.9/23, Error ellipse: s-maj=19.2km s-min=7.2km az=116.2*
*NEIC **28** 21:37:40.8±0.2, 3.61N×126.63E, h35km, mb4.6/13, Error ellipse: s-maj=9.0km s-min=4.4km az=58.0*
*IDC **28** 21:37:40.8±2.9, 3.61N×126.52E, h32km±20km, mb4.2/18, mb1 4.3/18, mb1mx4.2/25, mbtmp4.2/18, Error ellipse: s-maj=27.9km s-min=10.2km az=76.0*

ISC 28 21:37:41.0±0.8, **3.66N**±0.06×**126.6E**±0.1, **h34**km±2km, **n115,** σ0§**91**/123, **mb4.6**/53, **4C-3D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**3.27**	**355**	*e*P	Pn	21 38 33.8	+3.9
MATI				*e*S	**Sb**	**21 39 16.1**	**-1.9**
DAV	**Davao City (W)**	**3.52**	**344**	Pn	Pn	21 38 37.8	+4.5
	52nm,0.3s,baz=11,slow=13,SNR=3.9						
KCP	**Kidapawan**	**3.63**	**336**	*e*P	**Pb**	**21 38 45.7**	**+1.1**
CTBH	**Cotabato--PC H**	**4.21**	**327**	*e*P	Pb	21 38 49.8	-4.7
BUKP	**Musuan**	**4.44**	**341**	*e*P	Pn	21 38 50.3	+4.2
PAGZ	**Pagadian**	**5.22**	**323**	*e*P	Pn	21 39 01.7	+5.1
FITZ	**Fitzroy Crossi**	**21.65**	**182**	P	**P**	**21 42 27.9**	**-0.7**
	5.7nm,0.8s,baz=16,slow=7.3,SNR=14						
WRAB	**Tennant Creek**	**24.67**	**162**	*e*P	**P**	**21 42 57.5**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,32nm,0.8s						
WRAB	**Tennant Creek**	**24.67**	**162**	*e*P	**P**	**21 42 57.5**	**-1.3**
	comp=Z,32nm,0.8s						
WRA	**Warramunga Arr**	**24.67**	**162**	P	**P**	**21 42 57.4**	**-1.5**
WRA				S	**S**	**21 47 19.1**	**+0.5**
WRA				ScP	**ScP**	**21 50 11.4**	**-0.9**
WRA	**Warramunga Arr**	**24.67**	**162**	P	**P**	**21 42 57.4**	**-1.5**
	comp=Z,33nm,0.8s,baz=344,slow=10,SNR=178						
WRA				S	**S**	**21 47 19.1**	**+0.5**
	comp=Z,2.0nm,1.0s,baz=333,slow=20,SNR=5.3						
WRA				ScP	**ScP**	**21 50 11.4**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=336,slow=3.2,SNR=5.0						
AS31	**Alice Springs**	**28.09**	**166**	*e*P	**P**	**21 43 29.0**	**-0.8**
ASAR	**Alice Springs**	**28.09**	**166**	P	**P**	**21 43 29.6**	**-0.2**
ASAR				PcP	**PcP**	**21 46 44.4**	**+0.6**
ASAR				S	**S**	**21 48 13.6**	**+0.9**
ASAR	**Alice Springs**	**28.09**	**166**	P	**P**	**21 43 29.6**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=348,slow=7.5,SNR=22						
ASAR				PcP	**PcP**	**21 46 44.4**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=353,slow=2.1,SNR=4.6						
ASAR				S	**S**	**21 48 13.6**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=347,slow=20,SNR=4.6						
CMAR	**Chiang Mai Arr**	**30.75**	**301**	P	**P**	**21 43 54.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**30.75**	**301**	P	**P**	**21 43 54.8**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=114,slow=7.2,SNR=19						
CHTO	**Chiang Mai**	**30.91**	**301**	*e*P	**P**	**21 43 56.3**	**+1.5**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CHTO	**Chiang Mai**	**30.91**	**301**	*e*P	**P**	**21 43 56.3**	**+1.5**
	comp=Z,6.1nm,1.1s						
KSAR	**Wonju Array Be**	**33.64**	**2**	P	**P**	**21 44 19.6**	**+1.2**
KSRS	**Korea Array**	**33.65**	**2**	P	**P**	**21 44 19.6**	**+1.1**
	comp=Z,4.7nm,0.7s,baz=182,slow=9.6,SNR=18						
BJT	**Baijiatuau**	**37.39**	**347**	*e*P	**P**	**21 44 51.8**	**+1.2**
	comp=Z,60nm,1.1s						
STKA	**Stephens Creek**	**38.13**	**159**	*e*P	**P**	**21 44 56.2**	**-0.8**
	comp=Z,2.3nm,0.6s						
STKA	**Stephens Creek**	**38.13**	**159**	P	**P**	**21 44 56.9**	**-0.2**
	comp=Z,11nm,0.6s,baz=334,slow=9.9,SNR=38						
USRK	**Ussuriysk Arra**	**40.66**	**6**	P	**P**	**21 45 18.9**	**+1.0**
	comp=Z,3.3nm,0.7s,baz=184,slow=6.8,SNR=14						
LSA	**Lhasa**	**42.35**	**312**	*e*P	**P**	**21 45 34.0**	**+1.4**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
LSA	**Lhasa**	**42.35**	**312**	*e*P	**P**	**21 45 34.0**	**+1.4**
	comp=Z,7.5nm,0.6s						
ASAJ	**Asahikawa**	**42.71**	**17**	*e*P	**P**	**21 45 34.3**	**-0.4**
ASAJ	**Asahikawa**	**42.71**	**17**	P	**P**	**21 45 35.4**	**+0.7**
	comp=Z,7.3nm,0.6s,baz=258,slow=5.4,SNR=8.6						
TAPN	**Taplejung**	**43.91**	**306**	*e*P	**P**	**21 45 45.6**	**+0.5**
	comp=Z,8.2nm,0.6s						
TAPN	**Taplejung**	**43.91**	**306**	*e*P	**P**	**21 45 45.6**	**+0.5**
	comp=Z,8.2nm,0.6s						
ODAN	**Odare**	**43.97**	**306**	*e*P	**P**	**21 45 46.0**	**+0.5**
	comp=Z,11nm,0.6s						
ODAN	**Odare**	**43.97**	**306**	*e*P	**P**	**21 45 46.0**	**+0.5**
	comp=Z,11nm,0.6s						
RAMN	**Ramite**	**44.64**	**305**	*e*P	**P**	**21 45 51.7**	**+0.8**
	comp=Z,8.4nm,0.5s						
RAMN	**Ramite**	**44.64**	**305**	*e*P	**P**	**21 45 51.7**	**+0.8**
	comp=Z,8.4nm,0.5s						
HABR	**Khabarovsk**	**45.23**	**8**	*e*P	**P**	**21 45 54.4**	**-0.5**
HABR				*e**PP	**pP**	**21 46 04.2**	**-0.8**
HABR				*e**SP	**sP**	**21 46 08.4**	**-0.7**
HABR				*e*S	**S**	**21 52 33.1**	**+0.4**
HABR				*e**SS	**sS**	**21 52 50.0**	**+0.6**
HABR				*e*		21 52 48.4	
HABR				*e*SSS	SSS	21 56 46.0	
HABR				pmax	pmax		
	comp=Z,37nm,1.8s						
HABR				pmax	pmax		
	comp=N,11nm,1.1s						
HABR				pmax	pmax		
	comp=E,38nm,2.7s						
HABR				MLR	MLR		
	comp=Z,77nm,15.0s						
JIRN	**Jiri**	**45.27**	**306**	*e*P	**P**	**21 45 56.5**	**+0.5**
	comp=Z,3.3nm,0.7s						
JIRN	**Jiri**	**45.27**	**306**	*e*P	**P**	**21 45 56.5**	**+0.5**
	comp=Z,3.3nm,0.7s						
KLR	**Kul'dur**	**45.62**	**5**	*e*P	P	21 45 54.2	-3.7
GUN	**Gumba**	**45.62**	**306**	*e*P	**P**	**21 45 59.4**	**+0.6**
	comp=Z,16nm,0.7s						
GUN	**Gumba**	**45.62**	**306**	*e*P	**P**	**21 45 59.4**	**+0.6**
	comp=Z,16nm,0.7s						
PKI	**Pulchoki**	**45.86**	**306**	*e*P	**P**	**21 46 00.7**	**0.0**
PKI	**Pulchoki**	**45.86**	**306**	*e*P	**P**	**21 46 00.7**	**0.0**
PKI	**Pulchoki**	**45.86**	**306**	*e*P	**P**	**21 46 00.7**	**0.0**
KKN	**Kakani**	**46.06**	**306**	*e*P	**P**	**21 46 02.2**	**+0.1**
	comp=Z,4.0nm,0.4s						
KKN	**Kakani**	**46.06**	**306**	*e*P	**P**	**21 46 02.2**	**+0.1**
KKN				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KKN	**Kakani**	**46.06**	**306**	*e*P	**P**	**21 46 02.2**	**+0.1**
	comp=Z,4.0nm,0.4s						
DMN	**Daman**	**46.12**	**305**	*e*P	**P**	**21 46 02.7**	**0.0**
DMN	**Daman**	**46.12**	**305**	*e*P	**P**	**21 46 02.7**	**0.0**
DZM	**Mont Dzumac**	**46.64**	**125**	*e*P	**P**	**21 46 05.3**	**-1.2**
GKN	**Gorkha**	**46.66**	**306**	*e*P	**P**	**21 46 06.6**	**-0.2**
GKN	**Gorkha**	**46.66**	**306**	*e*P	**P**	**21 46 06.6**	**-0.2**
ULN	**Ulaanbaatar**	**47.13**	**342**	*e*P	**P**	**21 46 10.4**	**+0.4**
	comp=Z,2.2nm,0.6s						
SONM	**Songino Array**	**47.30**	**342**	P	**P**	**21 46 11.7**	**+0.3**
SONM				PcP	**PcP**	**21 47 43.0**	**+0.9**
SONM	**Songino Array**	**47.30**	**342**	P	**P**	**21 46 11.7**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=156,slow=8.7,SNR=24						
SONM				PcP	**PcP**	**21 47 43.0**	**+0.9**
	comp=Z,1.6nm,0.9s,baz=156,slow=2.9,SNR=4.7						
KOLN	**Koldanda**	**47.42**	**305**	*e*P	**P**	**21 46 13.3**	**+0.6**
	comp=Z,21nm,0.6s						
KOLN	**Koldanda**	**47.42**	**305**	*e*P	**P**	**21 46 13.3**	**+0.6**
	comp=Z,21nm,0.6s						
DANN	**Dangsing**	**47.51**	**306**	*e*P	**P**	**21 46 14.0**	**+0.5**
	comp=Z,23nm,0.5s						
DANN	**Dangsing**	**47.51**	**306**	*e*P	**P**	**21 46 14.0**	**+0.5**
	comp=Z,23nm,0.5s						
PYUN	**Piuthan**	**48.04**	**305**	*e*P	**P**	**21 46 18.2**	**+0.6**
	comp=Z,20nm,0.7s						
PYUN	**Piuthan**	**48.04**	**305**	*e*P	**P**	**21 46 18.2**	**+0.6**
	comp=Z,20nm,0.7s						
ZAK	**Zakamensk**	**50.53**	**341**	*e*P	P	21 46 28.6	-7.5
ZAK				*e*		21 47 53.7	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.5s						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s						
TLY	**Talaya**	**51.54**	**342**	*e*P	**P**	**21 46 43.0**	**-0.5**
TLY				*e*S	S	21 53 51.9	-10
TLY				pmax	pmax		
	comp=Z,3.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,109nm,20.0s						
BOD	**Bodaibo**	**54.91**	**352**	*e*P	**P**	**21 47 08.1**	**0.0**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.6s						
PETK	**Petropavlovsk-**	**55.56**	**22**	P	**P**	**21 47 12.5**	**-0.4**
PETK	**Petropavlovsk-**	**55.56**	**22**	P	**P**	**21 47 12.5**	**-0.4**
PETK	**Petropavlovsk-**	**55.56**	**22**	P	**P**	**21 47 12.5**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=197,slow=4.4,SNR=5.8						
MK31	**Makanchi Array**	**57.51**	**325**	*e*P	**P**	**21 47 27.1**	**+0.1**
MK31	**Makanchi Array**	**57.51**	**325**	*e*P	**P**	**21 47 27.1**	**+0.1**
MKAR	**Makanchi Array**	**57.51**	**325**	P	**P**	**21 47 27.3**	**+0.3**
MKAR	**Makanchi Array**	**57.51**	**325**	P	**P**	**21 47 27.2**	**+0.3**
MKAR	**Makanchi Array**	**57.51**	**325**	P	**P**	**21 47 27.2**	**+0.3**
	comp=Z,4.4nm,0.5s,baz=124,slow=8.2,SNR=70						
YAK	**Yakutsk**	**58.28**	**2**	*e*P	**P**	**21 47 31.9**	**-0.1**
YAK				pmax	pmax		
	comp=Z,14nm,0.9s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.2s						
TKM2	**Tokmak 2**	**59.68**	**319**	*e*P	**P**	**21 47 42.6**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TKM2	**Tokmak 2**	**59.68**	**319**	*e*P	**P**	**21 47 42.6**	**+0.2**
	comp=Z,2.1nm,0.6s						
AAK	**Ala-Archa**	**60.29**	**318**	*ce*P	**P**	**21 47 46.6**	**+0.1**
AAK				pmax	pmax		
	comp=Z,12nm,1.7s						
AAK	**Ala-Archa**	**60.29**	**318**	*e*P	**P**	**21 47 47.7**	**+1.1**
	comp=Z,11nm,1.0s						
ZALV	**Zalesovo Beam**	**60.57**	**333**	P	**P**	**21 47 47.2**	**-0.8**
ZALV	**Zalesovo Beam**	**60.57**	**333**	P	**P**	**21 47 47.2**	**-0.8**
ZALV	**Zalesovo Beam**	**60.57**	**333**	P	**P**	**21 47 47.2**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=122,slow=7.6,SNR=9.8						
EKS2	**Erkin-Say**	**60.78**	**318**	*e*P	**P**	**21 47 50.0**	**+0.1**
EKS2				pmax	pmax		
	comp=Z,4.0nm,0.7s						
EKS2	**Erkin-Say**	**60.78**	**318**	*e*P	**P**	**21 47 50.0**	**+0.1**
	comp=Z,3.7nm,0.7s						
KURK	**Kurchatov**	**61.70**	**328**	*ce*P	**P**	**21 47 56.5**	**+0.8**
KURK				pmax	pmax		
	comp=Z,12nm,0.6s						
KURK	**Kurchatov**	**61.70**	**328**	*e*P	**P**	**21 47 55.7**	**0.0**
	comp=Z,12nm,0.6s						
SEY	**Seymchan**	**62.14**	**13**	*ce*P	**P**	**21 48 00.9**	**+2.5**
KKAR	**Karatay Array**	**63.16**	**317**	*e*P	**P**	**21 48 05.7**	**0.0**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KKAR	**Karatay Array**	**63.16**	**317**	*e*P	**P**	**21 48 05.7**	**0.0**
	comp=Z,3.6nm,0.7s						
BRVK	**Borovoye**	**67.35**	**327**	*e*P	**P**	**21 48 32.6**	**0.0**
BRVK				pmax	pmax		
	comp=Z,11nm,1.0s						
BRVK	**Borovoye**	**67.35**	**327**	*e*P	**P**	**21 48 32.6**	**0.0**
	comp=Z,11nm,1.0s						
ABKAR	**Akbulak array**	**72.09**	**321**	*e*P	**P**	**21 49 01.7**	**-0.2**
	comp=Z,2.4nm,0.6s						
SVE	**Sverdlovsk**	**73.92**	**329**	*e*P	**P**	**21 49 12.6**	**0.0**
SVE				pmax	pmax		
	comp=Z,13nm,1.1s						
ARU	**Arti**	**74.90**	**328**	*d*iP	**P**	**21 49 18.2**	**-0.1**
ARU						21 52 03.6	
ARU				S	**S**	**21 58 51.5**	**-1.6**
ARU				SS	**SS**	**22 03 36.5**	**-5.2**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ARU	**Arti**	**74.90**	**328**	*e*P	**P**	**21 49 17.9**	**-0.3**
	comp=Z,4.5nm,0.6s						
RDF	**Al-Radifah**	**78.61**	**299**	*e*P	**P**	**21 49 40.3**	**+0.4**
RDF				AMb	AMB	21 49 44.1	
	comp=Z,48nm,1.5s						
MIB	**Mutribah**	**78.83**	**300**	*e*P	**P

IRO	**Indian Ridge**	**3.45**	**77**	P	**Pn**	**22 25 33.9**	**-0.7**
YBH	**Yreka Blue Hor**	**3.49**	**116**	*e*Pn	**Pn**	**22 25 34.9**	**-0.1**
YBH				*e*Sn	**Sn**	**22 26 13.7**	**-2.5**
YBH				Sn	**Sn**	**22 26 17.5**	**+1.4**
YBH	**Yreka Blue Hor**	**3.49**	**116**	Pn	**Pn**	**22 25 34.9**	**-0.1**
	3.1nm,0.3s,baz=320,slow=13,SNR=69						
YBH				Sn	**Sn**	**22 26 17.5**	**+1.4**
	2.3nm,0.3s,baz=88,slow=16,SNR=6.6						
YBH				LR	LR	22 26 26.0	
	comp=Z,160nm,20.0s,baz=291,slow=31						
NLO	**Nicolai Mounta**	**3.71**	**41**	P	**Pn**	**22 25 37.4**	**-0.6**
TDH	**Tom, Dick, Har**	**4.17**	**60**	P	**Pn**	**22 25 44.6**	**+0.1**
MTMW	**Mount Mitchell**	**4.31**	**49**	P	**Pn**	**22 25 46.0**	**-0.3**
VLL	**Laurance Lake**	**4.32**	**58**	P	**Pn**	**22 25 46.8**	**+0.3**
FL2	**Flat Top 2**	**4.34**	**47**	P	**Pn**	**22 25 46.7**	**0.0**
TDL	**Tradedollar La**	**4.51**	**46**	P	**Pn**	**22 25 49.0**	**-0.1**
NLWA	**Neilton Lookou**	**4.61**	**27**	*e*Pn	**Pn**	**22 25 49.5**	**-0.8**
NLWA				*e*Sn	**Sn**	**22 26 41.6**	**-2.0**
LON	**Longmire**	**4.99**	**45**	*e*Pn	**Pn**	**22 25 55.7**	**+0.2**
LON				*e*Sn	**Sn**	**22 26 53.2**	**+0.2**
MOD	**Modoc**	**5.08**	**104**	*e*Pn	**Pn**	**22 25 56.8**	**-0.1**
WPW	**White Pass**	**5.09**	**47**	P	**Pn**	**22 25 57.1**	**+0.2**
HOPS	**Hopland**	**5.20**	**145**	*e*Pn	**Pn**	**22 25 59.1**	**+0.6**
HTW	**Haystack Looko**	**5.76**	**37**	P	**Pn**	**22 26 05.7**	**-0.5**
PGC	**Sidney**	**5.85**	**23**	*e*Pn	**Pn**	**22 26 06.5**	**-0.8**
PGC				*e*Sn	**Sn**	**22 27 11.0**	**-3.2**
MCCM	**Marconi Confer**	**6.01**	**148**	*e*Pn	**Pn**	**22 26 08.6**	**-0.8**
HAWA	**Hanford**	**6.08**	**57**	*e*Pn	**Pn**	**22 26 10.6**	**+0.1**
BMO	**Blue Mountains**	**7.09**	**74**	*e*Pn	**Pn**	**22 26 23.9**	**-0.5**
NVAR	**Mina Array Bea**	**8.15**	**124**	Pn	**Pn**	**22 26 41.8**	**+2.7**
NVAR	**Mina Array Bea**	**8.15**	**124**	Pn	**Pn**	**22 26 41.8**	**+2.7**
	0.1nm,0.3s,baz=293,slow=14,SNR=3.6						
NVAR				LR	LR	22 29 33.7	
	comp=Z,54nm,21.1s,baz=54,slow=36						
NEW	**Newport**	**8.44**	**51**	*e*Pn	**Pn**	**22 26 42.3**	**-0.6**
HLID	**Hailey**	**9.10**	**84**	*e*Pn	**Pn**	**22 26 54.6**	**+2.5**
BSMT	**Bassoo Peak**	**9.63**	**58**	*e*Pn	**Pn**	**22 27 00.4**	**+1.0**
MSO	**Missoula**	**9.83**	**65**	*e*Pn	**Pn**	**22 27 02.0**	**0.0**
JTMT	**Jette**	**9.91**	**59**	*e*Pn	**Pn**	**22 27 03.5**	**+0.4**
BLMT	**Blacktail Moun**	**9.96**	**58**	*e*Pn	**Pn**	**22 27 04.9**	**+1.1**
SWMT	**Swartz Lake**	**10.00**	**61**	*e*Pn	**Pn**	**22 27 04.0**	**-0.4**
YBMT	**Yellow Bay**	**10.12**	**59**	*e*Pn	**Pn**	**22 27 05.7**	**-0.3**
MCMT	**McKenzie Canyo**	**10.24**	**77**	*e*Pn	**Pn**	**22 27 09.1**	**+1.3**
SLMT	**Seeley Lake**	**10.24**	**63**	*e*Pn	**Pn**	**22 27 07.2**	**-0.5**
CHMT	**Chamberlain Mo**	**10.31**	**65**	*e*Pn	**Pn**	**22 27 08.4**	**-0.2**
DLMT	**Dillon**	**10.46**	**74**	*e*Pn	**Pn**	**22 27 12.1**	**+1.3**
LRM	**Limekiln Ridge**	**10.62**	**71**	*e*Pn	**Pn**	**22 27 13.3**	**+0.3**
WALA	**Waterton Lakes**	**10.68**	**53**	*e*Pn	**Pn**	**22 27 14.1**	**+0.4**
	0.2nm,0.6s						
BOZ	**Bozeman (W)**	**11.17**	**73**	*e*Pn	**Pn**	**22 27 20.3**	**-0.1**
GSC	**Goldstone**	**11.19**	**132**	*e*Pn	Pn	22 27 25.3	+4.6
QLMT	**Earthquake Lak**	**11.25**	**77**	*e*Pn	**Pn**	**22 27 23.6**	**+2.1**
	0.6nm,0.8s						
RRI2	**Red Ridge**	**11.37**	**85**	*e*Pn	**Pn**	**22 27 26.0**	**+2.8**
YMR	**Madison River**	**11.57**	**78**	*e*Pn	**Pn**	**22 27 28.5**	**+2.5**
	38nm,1.6s						
TPAW	**Teton Pass**	**11.62**	**84**	*e*Pn	**Pn**	**22 27 29.6**	**+2.9**
LOHW	**Long Hollow**	**11.86**	**83**	*e*Pn	**Pn**	**22 27 31.5**	**+1.6**
GCMT	**Greycliff**	**12.55**	**73**	*e*Pn	**Pn**	**22 27 41.9**	**+2.6**
	4.0nm,0.8s						
BW06	**Boulder Array**	**12.72**	**87**	*e*Pn	**Pn**	**22 27 39.6**	**-2.1**
PDAR	**Pinedale Array**	**12.72**	**87**	Pn	**Pn**	**22 27 42.9**	**+1.3**
PDAR	**Pinedale Array**	**12.72**	**87**	Pn	**Pn**	**22 27 42.9**	**+1.3**
	0.0nm,0.3s,baz=269,slow=14,SNR=8.6						
DLBC	**Dease Lake**	**15.26**	**354**	Pn	**P**	**22 28 20.6**	**-0.2**
DLBC	**Dease Lake**	**15.26**	**354**	Pn	**P**	**22 28 20.6**	**-0.2**
	0.2nm,0.3s,baz=183,slow=9.6,SNR=9.5						
DLBC				LR	LR	22 33 14.6	
	comp=Z,106nm,19.1s,baz=147,slow=34						
DGMT	**Dagmar**	**16.61**	**64**	*e*P	**P**	**22 28 34.7**	**-1.2**
	168nm,2.2s						
ANMO	**Albuquerque**	**17.91**	**111**	P	**P**	**22 28 51.3**	**+0.9**
ANMO	**Albuquerque**	**17.91**	**111**	P	**P**	**22 28 51.3**	**+0.9**
	0.1nm,0.3s,baz=306,slow=12,SNR=3.9						
FFC	**Flin Flon**	**19.82**	**46**	*e*P	**P**	**22 29 11.5**	**+0.4**
	160nm,2.9s						
YKA	**Yellowknife Ar**	**20.52**	**16**	P	**P**	**22 29 18.9**	**+0.3**
YKA	**Yellowknife Ar**	**20.52**	**16**	P	**P**	**22 29 18.9**	**+0.3**
	1.6nm,0.7s,baz=206,slow=10,SNR=17						
ECSD	**EROS Data Cent**	**21.92**	**78**	*e*P	**P**	**22 29 34.9**	**+1.0**
	42nm,2.0s						
AGMN	**Agassiz Nation**	**22.12**	**66**	*e*P	**P**	**22 29 36.8**	**+0.8**
	83nm,1.9s						
TXAR	**Lajitas Array**	**23.26**	**119**	P	**P**	**22 29 49.7**	**+1.5**
TXAR	**Lajitas Array**	**23.26**	**119**	P	**P**	**22 29 49.7**	**+1.5**
	0.5nm,0.7s,baz=341,slow=5.2,SNR=3.0						
LPIG	**La Paz**	**23.55**	**139**	LR	LR	22 37 26.8	
	comp=Z,7.4nm,21.3s,baz=186,slow=32						
ILAR	**Eielson Array**	**24.27**	**339**	P	**P**	**22 29 57.5**	**0.0**
ILAR	**Eielson Array**	**24.27**	**339**	P	**P**	**22 29 57.5**	**0.0**
	2.2nm,0.7s,baz=150,slow=9.0,SNR=29						
ILAR				LR	LR	22 37 36.0	
	comp=Z,137nm,20.4s,baz=178,slow=32						
EYMN	**Ely**	**25.05**	**67**	*e*P	**P**	**22 30 05.6**	**+0.9**
	71nm,2.3s						
INK	**Inuvik**	**25.29**	**354**	P	**P**	**22 30 06.2**	**-0.4**
INK	**Inuvik**	**25.29**	**354**	P	**P**	**22 30 06.2**	**-0.4**
	1.3nm,0.8s,baz=167,slow=12,SNR=5.4						
INK				LR	LR	22 38 39.5	
	comp=Z,79nm,19.1s,baz=46,slow=33						
TKL	**Tuckaleechee C**	**33.86**	**88**	LR	LR	22 45 39.8	
	comp=Z,129nm,20.9s,baz=117,slow=38						
SADO	**Sadowa**	**33.99**	**71**	LR	LR	22 46 21.6	
	comp=Z,61nm,18.2s,baz=126,slow=39						
MDJ	**Mudanjiang**	**69.09**	**312**	P	**P**	**22 35 47.0**	**+0.6**
MDJ				pP	**pP**	**22 35 50.0**	**-0.8**
MDJ				sP	**sP**	**22 35 51.3**	**-1.1**
MDJ				S	**S**	**22 44 52.8**	**+1.6**
MDJ				sS	**sS**	**22 44 58.3**	**-0.2**
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.3s						
MDJ				pmax	pmax		
	comp=Z,58nm,5.5s						
MDJ				LR	LR		
	comp=N,73nm,27.6s						
MDJ				LR	LR		
	comp=E,15nm,29.8s						
CN2	**Changchun**	**71.86**	**313**	*e*P	**P**	**22 36 02.3**	**-1.0**
CN2				PP	**PP**	**22 38 43.5**	**+1.2**
FINES	**FINESS Array B**	**73.32**	**13**	P	**P**	**22 36 13.3**	**+1.6**
FINES	**FINESS Array B**	**73.32**	**13**	P	**P**	**22 36 13.3**	**+1.6**
	comp=E,1.6nm,0.9s,baz=350,slow=16,SNR=2.7						
HHC	**Hu-ho-hao-te**	**81.03**	**319**	*e*P	**P**	**22 36 54.5**	**-1.0**
HHC				sP	**sP**	**22 37 00.5**	**-1.1**
HHC				PP	**PP**	**22 40 00.5**	**+0.8**
HHC				S	**S**	**22 47 01.5**	**-2.9**
HHC				SKS	**SKSac**	**22 47 08.5**	**-5.6**
HHC				SS	**SS**	**22 52 17.8**	**+0.1**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				LR	LR		
	comp=N,53nm,15.5s						
HHC				LR	LR		
	comp=E,110nm,17.8s						
HHC				LR	LR		
	comp=Z,2μm,17.8s						
NJ2	**Nanjing**	**83.88**	**309**	*e*P	**P**	**22 37 10.3**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WMQ	**Urumqi**	**87.89**	**336**	*e*P	**P**	**22 37 28.3**	**-1.8**
WMQ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LZH	**Lanzhou**	**88.46**	**321**	*e*P	**P**	**22 37 33.8**	**+0.7**
LZH				pP	**pP**	**22 37 38.5**	**+0.9**
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
GYA	**Guiyang**	**94.90**	**314**	*e*P	**P**	**22 38 03.5**	**+0.4**
GYA				PP	**PP**	**22 41 53.5**	**+2.2**
GYA				SKS	**SKSac**	**22 48 38.8**	**+0.1**
GYA				S	**S**	**22 49 13.5**	**-3.6**
GYA				SS	**SS**	**22 55 41.0**	**+0.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,90nm,5.3s						
GYA				LR	LR		
	comp=N,390nm,19.4s						
GYA				LR	LR		
	comp=E,410nm,18.8s						
GYA				LR	LR		
	comp=Z,330nm,18.4s						
KSH	**Kashi**	**94.98**	**342**	*e*P	**P**	**22 38 03.0**	**-0.3**
KSH				pP	**pP**	**22 38 08.5**	**+0.7**
KSH				sP	**sP**	**22 38 10.0**	**+0.6**
KSH				PP	**PP**	**22 41 55.0**	**+3.6**
KSH				SKS	**SKSac**	**22 48 38.0**	**-0.7**
KSH				S	**S**	**22 49 15.5**	**-1.9**
KSH				sS	**sS**	**22 49 23.8**	**-1.1**
KSH				SS	**SS**	**22 55 45.3**	**+4.8**
KSH				LR	LR		
	comp=N,68nm,4.9s						
KSH				LR	LR		
	comp=E,60nm,4.2s						
KSH				LR	LR		
	comp=Z,160nm,5.9s						
KMI	**Kunming**	**98.03**	**316**	P	Pdif	22 38 17.3	-0.2
KMI				pmax	pmax		
	comp=Z,6.0nm,1.5s						

IDC 28 22:27:06.7±3.1, 41.43S×16.97W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/14, mbtmp3.9/4, MS3.6/3, Ms1 3.6/3, ms1mx3.3/17, Error ellipse: s-maj=153.1km s-min=31.7km az=135.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**36.39**	**282**	LR	LR	22 46 17.9	
	comp=Z,42nm,19.2s,baz=306,slow=32						
PLCA	**Paso Flores**	**39.85**	**253**	P	P	22 34 41.3	-0.6
	2.8nm,1.1s,baz=123,slow=8.5,SNR=2.9						
DBIC	**Dimbokro**	**49.14**	**16**	P	P	22 35 55.5	-0.6
	2.1nm,1.0s,baz=202,slow=11,SNR=2.7						
LPAZ	**La Paz**	**50.46**	**284**	LR	LR	22 54 14.8	
	comp=Z,63nm,19.2s,baz=280,slow=32						
TORD	**Torodi Ar. Bea**	**56.98**	**22**	P	P	22 36 53.0	-1.0
	0.9nm,0.8s,baz=188,slow=8.1,SNR=5.0						
ROSC	**El Rosal**	**69.59**	**296**	LR	LR	23 06 55.8	
	comp=Z,68nm,21.2s,baz=352,slow=34						
ESDC	**Sonseca Array**	**81.59**	**10**	P	P	22 39 27.4	+1.3
	0.9nm,0.9s,baz=182,slow=5.2,SNR=7.6						
YKA	**Yellowknife Ar**	**129.07**	**324**	PKP	PKPdf	22 46 15.5	+0.1
	0.4nm,0.8s,baz=107,slow=2.4,SNR=7.7						
INK	**Inuvik**	**137.47**	**331**	PKP	PKPdf	22 46 31.2	+0.2
	1.1nm,1.0s,baz=144,slow=1.4,SNR=4.2						
SONM	**Songino Array**	**139.97**	**61**	PKP	PKPdf	22 46 34.6	-1.9
	0.4nm,0.9s,baz=258,slow=1.1,SNR=4.3						
ILAR	**Eielson Array**	**143.36**	**327**	PKP	PKPbc	22 46 40.4	+1.3
	0.9nm,0.8s,baz=161,slow=1.3,SNR=5.2						

IDC 28 22:34:19.5±1.5, 6.77S×128.85E, h0km, mb3.6/4, mb1 4.1/7, mb1mx3.8/20, mbtmp3.9/7, ML4.3/3, Error ellipse: s-maj=79.2km s-min=23.5km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.69**	**195**	Pn	Pn	22 37 07.5	-0.2
	2.6nm,0.3s,baz=36,slow=12,SNR=50						
FITZ				Sn	Sn	22 39 03.4	-16
	1.3nm,0.3s,baz=125,slow=16,SNR=6.1						
WRA	**Warramunga Arr**	**14.14**	**158**	Pn	Pn	22 37 41.4	+0.1
	0.9nm,0.3s,baz=339,slow=10,SNR=44						
WRA				Sn	Sn	22 40 06.1	-13
	0.8nm,0.3s,baz=326,slow=23,SNR=11						
ASAR	**Alice Springs**	**17.49**	**164**	P	Pn	22 38 25.4	+0.4
	1.1nm,0.3s,baz=338,slow=10.0,SNR=123						
ASAR				S	Sn	22 41 29.6	-11
	0.3nm,0.3s,baz=345,slow=24,SNR=8.2						
SONM	**Songino Array**	**57.87**	**342**	P	P	22 44 15.1	+1.9
	0.2nm,0.4s,baz=147,slow=4.3,SNR=4.7						
MKAR	**Makanchi Array**	**67.41**	**327**	P	P	22 45 16.9	0.0
	0.3nm,0.4s,baz=124,slow=8.1,SNR=15						
ZALV	**Zalesovo Beam**	**70.88**	**334**	P	P	22 45 37.0	-1.2
	0.4nm,0.5s,baz=127,slow=3.8,SNR=3.5						
KURBB	**Kurchatov Arra**	**71.72**	**329**	P	P	22 45 42.7	-0.7
	0.3nm,0.6s,baz=122,slow=5.4,SNR=5.9						

*NIED **28** 22:58:00, 45.10N×149.50E, h119km, Mw4.6 Best double couple: M0 9.21000×10^15 NP1:φs 80.00000°, δ 76.00000°, λ -93.00000°. NP2:φs 273.00000°, δ 15.00000°, λ -77.00000°.*

*SKHL **28** 22:58:38.9±0.1, 45.71N×149.74E, h125km±14km, mb6.2/1, mbh5.7/1, Ms4.6/1, msh5.6/2*

*ISCJB **28** 22:58:39.2±0.3, 45.69N±0.03×149.42E±0.03, h131km±3km, mb4.4/118, Error ellipse: s-maj=5.4km s-min=2.9km az=158.2*

*MOS **28** 22:58:39.4±1.0, 45.82N×149.38E, h128km, mb4.6/37, Error ellipse: s-maj=8.6km s-min=5.8km az=65.6*

*NEIC **28** 22:58:41.3±0.5, 45.83N×149.34E, h132km±5km, mb4.7/76, Error ellipse: s-maj=6.5km s-min=3.0km az=158.0*

*IDC **28** 22:58:42.3±1.6, 45.95N×149.26E, h140km±15km, mb3.9/23, mb1 4.1/28, mb1mx4.0/33, mbtmp3.9/28, MS3.2/6, Ms1 3.2/6, ms1mx2.8/53, Error ellipse: s-maj=13.7km s-min=8.2km az=152.0*

*JMA **28** 22:58:42.6±0.6, 45.10N×149.51E, h161km, M4.4*

*BJI **28** 22:58:44.1, 46.20N×149.30E, h182km, mB4.6/23, mb4.2/30*

ISC 28 22:58:40.4±0.6, 45.67N±0.05×149.40E±0.04, h131km±5km, n674, o0 98/717, mb4.6/118, 157C-177D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.16**	**249**	*i* PN	**Pn**	**22 59 05.4**	**+0.5**
KUR				*e*S	**Sn**	**22 59 25.4**	**+1.9**
KUR				pmax	pmax		
	comp=Z,14μm,1.4s						
KUR				pmax	pmax		
	comp=N,2μm,1.0s						
KUR				pmax	pmax		
	comp=E,5μm,1.4s						
KUR				smax	smax		
	comp=N,14μm,1.8s						
KUR				smax	smax		
	comp=E,9μm,1.8s						
KUR				smax	smax		
	comp=N,8μm,1.0s						
KUR				smax	smax		
	comp=E,7μm,1.0s						
KUR	**Kuril'sk**	**1.16**	**249**	⇑ *i* P	**Pn**	**22 59 05.4**	**+0.5**
KUR				⇑ *i* P	**Pn**	**22 59 05.4**	**+0.5**
KUR				⇓ *i* P	**Pn**	**22 59 05.4**	**+0.5**
KUR				⇓ *i* P	**Pn**	**22 59 05.4**	**+0.5**
KUR				AMB	AMB	22 59 06.2	
	comp=E,2μm,1.0s						
KUR				AMB	AMB	22 59 06.2	
	comp=E,14μm,1.4s						
KUR				AMB	AMB	22 59 06.2	
	comp=E,5μm,1.4s						
KUR				*e*S	**Sn**	**22 59 25.4**	**+1.9**
KUR				A	A	22 59 29.0	
	comp=E,14μm,1.8s						
KUR				A	A	22 59 29.0	
	comp=E,9μm,1.8s						
KUR				A	A	22 59 29.0	
	comp=E,3μm,0.4s						
KUR				A	A	22 59 29.0	
	comp=E,4μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.00**	**238**	*i* PN	**Pn**	**22 59 28.5**	**+1.6**
YUK				*i* S	**Sn**	**23 00 05.7**	**+2.9**
YUK				pmax	pmax		
	comp=E,288nm,0.5s						
YUK				pmax	pmax		
	comp=Z,1μm,0.5s						
YUK				pmax	pmax		
	comp=N,146nm,0.2s						
YUK				smax	smax		
	comp=N,815nm,0.7s						
YUK				smax	smax		
	comp=E,1μm,0.7s						
YUK				pmax	pmax		
	comp=E,5μm,1.9s						
YUK	**Yuzh-Kuril'sk**	**3.00**	**238**	⇓ *i* P	**Pn**	**22 59 28.6**	**+1.6**
YUK				AMB	AMB	22 59 29.6	
	comp=E,150nm,0.5s						
YUK				AMB	AMB	22 59 29.6	
	comp=E,288nm,0.5s						
YUK				AMB	AMB	22 59 29.6	
	comp=E,1μm,0.5s						
YUK				*i* S	**Sn**	**23 00 05.8**	**+2.9**
YUK				A	A	23 00 10.6	
	comp=E,815nm,0.7s						
YUK				A	A	23 00 10.6	
	comp=E,1μm,0.7s						
YUK				A	A	23 00 15.0	
	comp=E,5μm,1.9s						
NEM2	**Nemuro 2**	**3.48**	**230**	P	**Pn**	**22 59 33.2**	**-0.1**
NEM2				*e*S	**Sn**	**23 00 12.9**	**-1.3**
JRA	**Rausu**	**3.50**	**242**	P	**Pn**	**22 59 35.2**	**+1.7**
JNK	**Nakash**	**3.93**	**240**	P	**Pn**	**22 59 40.8**	**+1.5**
JTKR	**Abashiri--Toko**	**4.26**	**248**	P	**Pn**	**22 59 45.3**	**+1.8**
JTKR				*e*S	**Sn**	**23 00 35.7**	**+3.2**
JAK	**Akkeshi**	**4.30**	**233**	P	**Pn**	**22 59 44.0**	**-0.1**
JAK				*e*S	**Sn**	**23 00 32.3**	**-1.3**
JMP	**Maruseppu**	**4.60**	**251**	P	**Pn**	**22 59 50.1**	**+1.9**
JAR	**Ashorobuto**	**4.67**	**242**	P	**Pn**	**22 59 50.8**	**+1.7**
YSS	**Yuzh-Sakhalins**	**4.78**	**288**	⇓ *e*PN	**Pn**	**22 59 53.1**	**+2.6**
YSS				*i* S	**Sn**	**23 00 46.4**	**+1.4**
YSS				pmax	pmax		
	comp=E,50nm,0.8s						
YSS				pmax	pmax		
	comp=Z,50nm,0.8s						
YSS				smax	smax		
	comp=N,110nm,1.1s						
YSS				smax	smax		
	comp=E,180nm,1.1s						
YSS	**Yuzh-Sakhalins**	**4.78**	**288**	*e*Pn	**Pn**	**22 59 52.5**	**+2.1**
YSS				*e*Sn	**Sn**	**23 00 46.9**	**+1.9**
YSS	**Yuzh-Sakhalins**	**4.78**	**288**	⇓ *e*P	**Pn**	**22 59 53.1**	**+2.6**
YSS				AMB	AMB	22 59 54.0	
	comp=E,50nm,0.8s						
YSS				AMB	AMB	22 59 54.0	
	comp=E,50nm,0.8s						
YSS				*es*P	Sn	23 00 20.0	-25
YSS				*i* S		23 00 46.4	
YSS				A	A	23 00 50.0	
	comp=E,110nm,1.1s						
YSS				A	A	23 00 50.0	
	comp=E,180nm,1.1s						
JOB	**Onbets**	**4.85**	**237**	P	**Pn**	**22 59 52.4**	**+0.9**
JOB				*e*S	**Sn**	**23 00 46.5**	**-0.3**
JKK2	**Kamakawa 2**	**5.06**	**252**	P	**Pn**	**22 59 56.6**	**+2.3**
ASAJ	**Asahikawa**	**5.07**	**255**	*e*Pn	**Pn**	**22 59 57.2**	**+2.7**
ASAJ				*e*Sn	**Sn**	**23 00 52.6**	**+0.5**
ASAJ				S		23 00 54.9	
ASAJ	**Asahikawa**	**5.07**	**255**	P	**Pn**	**22 59 57.1**	**+2.7**
ASAJ	**Asahikawa**	**5.07**	**255**	P	**Pn**	**22 59 57.1**	**+2.7**
	comp=E,7.0nm,0.3s,baz=80,slow=13,SNR=80						
ASAJ				S	**Sn**	**23 00 54.9**	**+2.8**
	baz=116,slow=20,SNR=1.8						
ASAJ				LR	LR	23 01 36.6	
	comp=E,126nm,18.9s,baz=297,slow=34						
JWK2	**Keihoku**	**5.28**	**269**	P	Pn	23 00 00.7	+3.4
JCH	**Churui**	**5.30**	**237**	P	**Pn**	**22 59 57.5**	**-0.1**
JCH				*e*S	**Sn**	**23 00 54.0**	**-3.7**
JFR	**Furan**	**5.48**	**245**	P	**Pn**	**23 00 01.9**	**+2.0**
JAB	**Ashibetsu**	**5.56**	**250**	P	**Pn**	**23 00 04.1**	**+3.1**
ERM	**Erimo**	**5.80**	**233**	*e*PN	**Pn**	**23 00 05.3**	**+1.1**
ERM				*e*		23 01 06.4	
ERM	**Erimo**	**5.80**	**233**	*e*Pn	**Pn**	**23 00 05.3**	**+1.1**
ERM				*e*Sn	**Sn**	**23 01 06.3**	**-3.2**
JEM	**Erimo**	**5.80**	**233**	P	**Pn**	**23 00 05.1**	**+0.9**
JEM				*e*S	**Sn**	**23 01 08.0**	**-1.6**
JBT2	**Biratori 2**	**5.82**	**243**	P	**Pn**	**23 00 05.2**	**+0.7**
JBT2				*e*S	**Sn**	**23 01 10.1**	**+0.1**
JNBK	**Urakawa-nobuka**	**5.87**	**237**	P	**Pn**	**23 00 04.2**	**-0.9**
UGL	**Uglegorsk**	**6.04**	**307**	*e*P	**Pn**	**23 00 08.9**	**+1.6**
UGL				AMB	AMB	23 00 11.5	
	comp=E,60nm,0.7s						
JEW	**Eniwo**	**6.37**	**246**	P	**Pn**	**23 00 13.7**	**+1.9**
SKR	**Severo-Kuril's**	**6.74**	**39**	*e*PN	Pn	23 00 12.5	-4.2
SKR				*e*		23 01 28.0	
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR	**Severo-Kuril's**	**6.74**	**39**	*e*P	Pn	23 00 12.5	-4.2
SKR				AMB	AMB	23 00 13.6	
	comp=E,60nm,0.5s						
SKR				AMB	AMB	23 00 13.6	
	comp=E,80nm,0.5s						
JNB	**Noboribetsu**	**6.81**	**245**	P	**Pn**	**23 00 17.7**	**-0.1**
JNB				*e*S	**Sn**	**23 01 31.3**	**-2.7**
TYV	**Tymovskoe**	**6.88**	**322**	*e*P	**Pn**	**23 00 19.0**	**+0.4**
TYV				AMB	AMB	23 00 20.5	
	comp=Z,18nm,0.8s						
TYV				AMB	AMB	23 00 20.5	
	comp=Z,22nm,0.8s						
TYV				AMB	AMB	23 00 20.5	
	comp=Z,35nm,0.8s						
JKB	**Kayabe**	**7.13**	**241**	P	**Pn**	**23 00 21.3**	**-0.8**
JKB				*e*S	**Sn**	**23 01 37.2**	**-4.5**
JSH	**Shimam**	**7.37**	**249**	P	**Pn**	**23 00 26.7**	**+1.4**
JYM2	**Yakumo 2**	**7.42**	**245**	P	**Pn**	**23 00 25.8**	**-0.2**
JTM	**Tenmabayashi**	**7.79**	**234**	P	**Pn**	**23 00 28.8**	**-2.2**
JTM				*e*S	Sn	23 01 50.5	-7.2
JANG	**Nango**	**7.83**	**230**	P	**Pn**	**23 00 29.0**	**-2.5**
JTH	**Tanohata**	**7.96**	**227**	P	Pn	23 00 30.4	-2.9
JOSM	**Okushiri--Mats**	**8.01**	**247**	P	**Pn**	**23 00 33.8**	**-0.1**
OFUJ	**Ofunato**	**8.71**	**224**	P	**Pn**	**23 00 41.2**	**-2.2**
OFUJ				*e*S	Sn	23 02 13.6	-6.4
OKH	**Okha**	**8.94**	**334**	*e*P	**Pn**	**23 00 46.4**	**+0.2**
JRG	**Rokugo**	**9.00**	**229**	P	**Pn**	**23 00 45.4**	**-1.9**
JRG				*e*S	**Sn**	**23 02 21.4**	**-5.5**
PEA0B	**Petropavlovsk-**	**9.20**	**33**	*e*Pn	**Pn**	**23 00 48.5**	**-1.4**
PETK	**Petropavlovsk-**	**9.20**	**33**	PN	Pn	**23 00 48.3**	**-1.6**
PETK	**Petropavlovsk-**	**9.20**	**33**	P	**Pn**	**23 00 48.3**	**-1.6**
PETK	**Petropavlovsk-**	**9.20**	**33**	P	Pn	**23 00 48.3**	**-1.6**
	comp=Z,5.4nm,0.3s,baz=205,slow=13,SNR=45						
PETK				LR	LR	23 04 32.7	
	comp=Z,

FX1 Attu Island--F 17.06 56 P **Pn** **23 02 31.8 +1.1**
comp=Z,5.2nm,0.3s,baz=357,slow=1.5,SNR=13
SEY Seymchan 17.39 5 *de*P **P** **23 02 33.5 -0.5**
KSRS Korea Array 18.00 250 P **Pn** **23 02 41.9 -0.4**
comp=Z,0.3nm,0.3s,baz=60,slow=11,SNR=8.7
KSAR Wonju Array Be 18.04 250 P **Pn** **23 02 41.9 -0.8**
INCN Inchon 18.85 252 *e*Pn P 23 02 44.6 -5.6
comp=Z,47nm,1.4s
YAK Yakutsk 19.96 332 *e*P **P** **23 02 59.8 -2.1**
YAK *e*S **S** **23 06 34.6 -4.4**
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=E,15nm,1.4s
YAK pmax pmax
comp=N,21nm,1.4s
YAK smax smax
comp=N,64nm,2.8s
YAK smax smax
comp=E,26nm,2.1s
YAK Yakutsk 19.96 332 *e*Pn **P** **23 03 01.1 -0.8**
comp=E,37nm,0.9s
BOD Bodaibo 24.75 312 *e*P P 23 03 40.2 -9.2
BOD pmax pmax
comp=Z,4.0nm,1.3s
BJI Beijing 24.88 269 P **P** **23 03 51.5 +0.7**
BJI pmax pmax
comp=Z,9.0nm,1.0s
BJI LR LR
comp=Z,23nm,24.5s
NJ2 Nanjing 27.21 251 *e*P **P** **23 04 12.0 +0.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s
HHC Hu-ho-hao-te 27.79 274 *e*P **P** **23 04 16.5 -0.6**
HHC PP PP 23 05 09.0 -13
HHC PcP **PcP** **23 07 31.8 +1.8**
HHC S **S** **23 08 49.0 -1.2**
HHC pmax pmax
comp=Z,150nm,5.2s
SONM Songino Array 29.27 290 P **P** **23 04 31.4 +1.3**
SONM Songino Array 29.27 290 P **P** **23 04 31.4 +1.3**
comp=Z,0.5nm,0.8s,baz=74,slow=12,SNR=3.5
SONM LR LR 23 17 19.3
comp=Z,45nm,19.3s,baz=215,slow=38
TNA Tin City 30.37 34 *e*P **P** **23 04 39.8 +0.3**
comp=Z,24nm,1.2s
XAN Xi'an 32.84 264 P **P** **23 05 02.0 +0.5**
XAN pmax pmax
comp=Z,2.0nm,0.9s
XAN pmax pmax
comp=Z,14nm,4.6s
LZH Lanzhou 35.33 271 *e*P **P** **23 05 24.8 +1.6**
LZH PP PP 23 06 44.5 -1.3
LZH S **S** **23 10 48.5 +0.8**
LZH pmax pmax
comp=Z,19nm,1.0s
LZH pmax pmax
comp=Z,110nm,4.6s
RSO Redoubt South 36.47 45 *e*P **P** **23 05 33.6 +1.0**
GTA Gaotai 36.58 278 *e*P **P** **23 05 34.8 +1.1**
GTA pmax pmax
comp=Z,8.0nm,0.8s
KDAK Kodiak Island 36.78 49 P **P** **23 05 33.7 -1.3**
KDAK Kodiak Island 36.78 49 P **P** **23 05 33.7 -1.3**
comp=Z,30nm,0.8s,baz=288,slow=0.7,SNR=11
SPU Mount Spurr 36.78 44 *e*P **P** **23 05 35.6 +0.5**
TRF Thorofare Moun 37.54 40 *e*P **P** **23 05 41.2 -0.3**
comp=Z,8.1nm,0.7s
COLD Coldfoot 37.67 34 *e*P **P** **23 05 42.5 +0.1**
comp=Z,14nm,0.7s
COLD *e*PcP **PcP** **23 07 57.5 +0.7**
RC01 Rabbit Creek A 37.91 44 *e*P **P** **23 05 44.2 -0.3**
comp=Z,44nm,1.1s
RC01 *e*PcP **PcP** **23 07 58.1 +0.4**
MCK McKinley 38.14 39 *e*P **P** **23 05 46.5 +0.1**
MCK pmax pmax
comp=Z,16nm,0.8s
MCK McKinley 38.14 39 *e*P **P** **23 05 46.5 +0.1**
comp=Z,16nm,0.8s
SEW Seward 38.14 45 *e*P **P** **23 05 45.4 -1.0**
comp=Z,16nm,0.9s
PMR Palmer 38.16 43 *e*P **P** **23 05 46.4 -0.2**
PMR pmax pmax
comp=Z,18nm,1.1s
PMR Palmer 38.16 43 *e*P **P** **23 05 46.4 -0.2**
comp=Z,18nm,1.1s
CD2 Chengdu 38.20 264 P **P** **23 05 49.0 +1.6**
CD2 PP PP 23 07 23.3 +6.0
CD2 S **S** **23 11 33.5 +2.3**
CD2 SS SS 23 14 19.0 -5.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,90nm,5.2s
SML Sawmill 38.52 42 *e*P **P** **23 05 49.6 -0.1**
SML pmax pmax
comp=Z,13nm,0.8s
SML Sawmill 38.52 42 *e*P **P** **23 05 49.6 -0.1**
comp=Z,13nm,0.8s
COLA College 38.58 37 *e*P **P** **23 05 50.0 0.0**
COLA pmax pmax
comp=Z,30nm,0.8s
COLA College 38.58 37 *e*P **P** **23 05 50.0 0.0**
comp=Z,30nm,0.8s
GYA Guiyang 38.95 255 P **P** **23 05 53.8 +0.1**
GYA PP PP 23 07 28.5 +2.9
GYA PcP **PcP** **23 08 03.3 +1.7**
GYA S **S** **23 11 42.8 +0.2**
GYA pmax pmax
comp=Z,10.0nm,0.8s
ILAR Eielson Array 38.99 38 P **P** **23 05 52.9 -0.7**
ILAR PcP **PcP** **23 08 00.4 -0.6**
ILAR Eielson Array 38.99 38 P **P** **23 05 52.9 -0.7**
comp=Z,8.7nm,0.8s,baz=268,slow=7.7,SNR=69
ILAR PcP **PcP** **23 08 00.4 -0.6**
comp=Z,1.1nm,0.9s,baz=286,slow=4.1,SNR=4.6
PAX Paxson 39.75 40 *e*P **P** **23 05 59.9 0.0**
PAX *e* 23 08 04.1
PAX pmax pmax
comp=Z,10.0nm,1.0s
PAX Paxson 39.75 40 *e*P **P** **23 05 59.9 0.0**
comp=Z,9.7nm,1.0s
PAX *e*PcP **PcP** **23 08 04.1 +0.6**
DIV Divide 39.82 43 *e*P **P** **23 06 00.2 -0.3**
comp=Z,19nm,0.7s
DOT Dot Lake 40.31 39 *e*P **P** **23 06 03.5 -0.9**
comp=Z,9.8nm,0.7s
BMRM Bremner River 40.41 43 *e*P **P** **23 06 05.6 +0.3**
comp=Z,21nm,0.8s
MENT Mentasta 40.55 40 *e*P **P** **23 06 07.1 +0.7**
ZALV Zalesovo Beam 41.15 306 P **P** **23 06 10.0 -1.4**
ZALV 23 08 08.1
ZALV Zalesovo Beam 41.15 306 P **P** **23 06 10.0 -1.4**
ZALV PcP **PcP** **23 08 08.1 0.0**
ZALV Zalesovo Beam 41.15 306 P **P** **23 06 10.0 -1.4**
comp=Z,0.2nm,0.3s,baz=74,slow=6.2,SNR=2.8
ZALV PcP **PcP** **23 08 08.1 0.0**
comp=Z,3.4nm,0.7s,baz=80,slow=2.8,SNR=19
EGAK Eagle 41.44 37 *e*P **P** **23 06 13.2 -0.5**
comp=Z,65nm,1.6s
DAWY Dawson 42.30 38 *e*P **P** **23 06 20.3 -0.4**
KMI Kunming 42.49 257 P **P** **23 06 23.5 +0.5**
KMI pmax pmax
comp=Z,5.0nm,1.2s
WMQ Urumqi 42.90 291 *e*P **P** **23 06 24.5 -1.4**
WMQ pmax pmax
comp=Z,5.0nm,0.6s
INK Inuvik 43.94 31 *e*P **P** **23 06 33.7 0.0**
comp=Z,20nm,1.0s
INK Inuvik 43.94 31 P **P** **23 06 33.4 -0.3**
comp=Z,13nm,0.8s,baz=297,slow=7.6,SNR=54
MKAR Makanchi Array 45.13 297 P **P** **23 06 43.2 -0.4**
MKAR 23 08 22.1
MKAR Makanchi Array 45.13 297 P **P** **23 06 43.2 -0.4**
MKAR PcP **PcP** **23 08 22.1 +0.3**
MKAR Makanchi Array 45.13 297 P **P** **23 06 43.2 -0.4**
comp=Z,0.7nm,0.7s,baz=68,slow=8.0,SNR=8.8
MKAR PcP **PcP** **23 08 22.1 +0.3**
comp=Z,1.4nm,0.6s,baz=236,slow=2.4,SNR=8.8
MKAR LR LR 23 26 28.7
comp=Z,27nm,18.1s,baz=247,slow=37
KURK Kurchatov 45.80 303 P **P** **23 06 47.0 -1.7**
KURK 23 08 24.2
KURK pmax pmax
comp=Z,1.0nm,0.8s
KURK pmax pmax
comp=Z,0.0nm,0.8s
KURK Kurchatov 45.80 303 *e*P **P** **23 06 46.0 -2.7**
comp=Z,22nm,2.3s
KURK *e*PcP **PcP** **23 08 24.0 +0.1**
KURBB Kurchatov Arra 45.89 303 P **P** **23 06 47.0 -2.5**
comp=Z,1.3nm,0.8s,baz=70,slow=8.6,SNR=9.2
KURBB PcP **PcP** **23 08 24.2 -0.1**
comp=Z,2.4nm,0.8s,baz=77,slow=3.3,SNR=12
DLBC Dease Lake 48.19 44 P **P** **23 07 08.2 +1.0**
DLBC Dease Lake 48.19 44 P **P** **23 07 08.2 +1.0**
comp=Z,4.1nm,0.8s,baz=282,slow=9.9,SNR=9.1
CHTO Chiang Mai 49.35 254 *e*P **P** **23 07 16.5 0.0**
CHTO pmax pmax
comp=Z,3.0nm,0.8s
CHTO Chiang Mai 49.35 254 *e*P **P** **23 07 16.5 0.0**
comp=Z,3.1nm,0.8s
BVAR Borovoye Array 49.54 309 PcP **PcP** **23 08 37.2 -0.1**
BVAR Borovoye Array 49.54 309 PcP **PcP** **23 08 37.2 -0.1**
comp=Z,2.7nm,0.9s,baz=90,slow=7.4,SNR=9.2
CMAR Chiang Mai Arr 49.60 254 P **P** **23 07 20.0 +1.6**
CMAR Chiang Mai Arr 49.60 254 P **P** **23 07 20.0 +1.6**
comp=Z,0.8nm,0.4s,baz=35,slow=8.1,SNR=6.6
TAPN Taplejung 51.56 271 *e*P **P** **23 07 34.3 +0.9**
comp=Z,8.2nm,1.0s
TAPN Taplejung 51.56 271 *e*P **P** **23 07 34.3 +0.9**
comp=Z,8.2nm,1.0s
AAK Ala-Archa 51.98 295 *ce*P **P** **23 07 36.5 +0.3**
AAK pmax pmax
comp=Z,12nm,2.5s
AAK Ala-Archa 51.98 295 P **P** **23 07 35.8 -0.4**
AAK Ala-Archa 51.98 295 P **P** **23 07 35.8 -0.4**
comp=Z,0.7nm,0.6s,baz=108,slow=3.1,SNR=6.4
JIRN Jiri 52.44 273 *e*P **P** **23 07 40.9 +0.9**
comp=Z,4.4nm,0.9s
JIRN Jiri 52.44 273 *e*P **P** **23 07 40.9 +0.9**
comp=Z,4.4nm,0.9s
GUN Gumba 52.50 273 *e*P **P** **23 07 41.0 +0.6**
comp=Z,19nm,1.0s
GUN Gumba 52.50 273 *e*P **P** **23 07 41.0 +0.6**
comp=Z,19nm,1.0s
RAMN Ramite 52.59 272 *e*P **P** **23 07 41.5 +0.6**
comp=Z,4.1nm,0.4s
RAMN Ramite 52.59 272 *e*P **P** **23 07 41.5 +0.6**
comp=Z,4.1nm,0.4s
KSH Kashi 52.66 291 *e*P P 23 07 44.5 +3.4
KSH PcP **PcP** **23 08 52.8 +3.5**
KSH PP PP 23 09 46.0 +4.7
KSH PcS **PcS** **23 12 49.0 +0.9**
KSH S **S** **23 15 00.5 +2.0**
KSH SS SS 23 18 39.0 +0.8
KSH pmax pmax
comp=Z,61nm,4.0s
KSH LR LR
comp=N,77nm,4.6s
KSH LR LR
comp=E,91nm,5.4s
KSH LR LR
comp=Z,190nm,5.3s
RES Resolute Bay 52.67 18 *e*P **P** **23 07 39.5 -0.9**
comp=Z,12nm,0.9s
RES *e*PcP **PcP** **23 08 48.4 -0.1**
RES Resolute Bay 52.67 18 P **P** **23 07 39.6 -0.9**
comp=Z,10.0nm,0.8s,baz=328,slow=8.0,SNR=47
RES PcP **PcP** **23 08 48.9 +0.3**
comp=Z,2.8nm,0.7s,baz=330,slow=3.6,SNR=6.2
KKN Kakani 53.00 274 *e*P **P** **23 07 44.7 +0.8**
KKN Kakani 53.00 274 *e*P **P** **23 07 44.7 +0.8**
KKN Kakani 53.00 274 *e*P **P** **23 07 44.7 +0.8**
PKI Pulchoki 53.04 273 *e*P **P** **23 07 44.6 +0.3**
PKI Pulchoki 53.04 273 *e*P **P** **23 07 44.6 +0.3**
PKI Pulchoki 53.04 273 *e*P **P** **23 07 44.6 +0.3**
DMN Daman 53.23 273 *e*P **P** **23 07 46.4 +0.8**
comp=Z,25nm,1.1s
DMN Daman 53.23 273 *e*P **P** **23 07 46.4 +0.8**
comp=Z,25nm,1.1s
GKN Gorkha 53.32 274 *e*P **P** **23 07 46.8 +0.6**
comp=Z,21nm,0.9s
GKN Gorkha 53.32 274 *e*P **P** **23 07 46.8 +0.6**
comp=Z,21nm,0.9s
YKA Yellowknife Ar 53.32 35 P **P** **23 07 45.0 -0.5**
YKA PcP **PcP** **23 08 51.3 +0.1**
YKA Yellowknife Ar 53.32 35 P **P** **23 07 44.9 -0.5**
comp=Z,8.2nm,0.8s,baz=298,slow=6.9,SNR=32
YKA PcP **PcP** **23 08 51.3 +0.1**
comp=Z,0.9nm,0.8s,baz=306,slow=3.8,SNR=5.4
DANN Dangsing 53.72 275 *e*P **P** **23 07 50.4 +1.2**
comp=Z,28nm,0.9s
DANN Dangsing 53.72 275 *e*P **P** **23 07 50.4 +1.2**
comp=Z,28nm,0.9s
KOLN Koldanda 54.18 275 *e*P **P** **23 07 53.5 +1.0**
comp=Z,16nm,0.9s
KOLN Koldanda 54.18 275 *e*P **P** **23 07 53.5 +1.0**
comp=Z,16nm,0.9s
PYUN Piuthan 54.41 275 *e*P **P** **23 07 55.0 +0.8**
comp=Z,44nm,1.0s
PYUN Piuthan 54.41 275 *e*P **P** **23 07 55.0 +0.8**
comp=Z,44nm,1.0s
ABKAR Akbulak array 57.12 309 *e*P **P** **23 08 13.3 +0.5**
ABKAR *e*PcP **PcP** **23 09 05.2 -1.0**
NEW Newport 59.87 50 *e*P **P** **23 08 32.2 +0.2**
comp=Z,9.7nm,1.0s
NEW Newport 59.87 50 ⇓P **P** **23 08 32.0 -0.1**
baz=60,SNR=7.3
A12A Yaak River Ran 60.26 49 ⇓P **P** **23 08 35.4 +0.6**
baz=60
YBH Yreka Blue Hor 60.52 59 P **P** **23 08 37.5 +0.8**
YBH Yreka Blue Hor 60.52 59 P **P** **23 08 37.5 +0.8**
comp=Z,4.6nm,1.0s,baz=292,slow=2.4,SNR=8.4
C11A Tepee Creek (N 60.59 50 ⇑P **P** **23 08 37.5 +0.5**
baz=60
A13A Flathead Natio 60.92 49 ⇓P **P** **23 08 39.8 +0.6**
baz=61
C12B Naegeli Ranch, 61.09 50 ⇓P **P** **23 08 40.6 +0.3**
baz=61
B13A Whitefish 61.23 49 ⇑P **P** **23 08 41.5 +0.2**
baz=61,SNR=11
BSMT Bassoo Peak 61.37 50 *e*P **P** **23 08 43.1 +0.7**
A14A Double T Ranch 61.41 48 ⇓P **P** **23 08 42.6 0.0**
baz=61,SNR=7.4
BLMT Blacktail Moun 61.50 49 *e*P **P** **23 08 43.9 +0.6**
D12A Red Ives Fores 61.55 51 ⇓P **P** **23 08 43.9 +0.4**
baz=61
C13A Hot Springs 61.59 50 ⇓P **P** **23 08 44.1 +0.4**
baz=61,SNR=8.3
JTMT Jette 61.71 50 *e*P **P** **23 08 45.2 +0.6**
A15A Johnson Ranch, 61.77 48 ⇓P **P** **23 08 44.4 -0.6**
baz=61,SNR=5.7
YBMT Yellow Bay 61.78 49 *e*P **P** **23 08 45.7 +0.6**
comp=Z,2.6nm,0.8s
BMO Blue Mountains 61.81 54 *e*P **P** **23 08 46.3 +1.0**
BMO pmax pmax
comp=Z,10.0nm,1.6s
BMO Blue Mountains 61.81 54 *e*P **P** **23 08 46.2 +1.0**
comp=Z,9.6nm,1.6s
E12A Beaver Dam Sad 61.82 51 ⇓P **P** **23 08 45.6 +0.2**
baz=62,SNR=12
MOD Modoc 61.86 58 *e*P **P** **23 08 47.0 +1.2**
comp=Z,47nm,2.1s
B14A Marquette Ranc 61.87 49 ⇓P **P** **23 08 46.2 +0.5**
baz=62
C14A Swan Lake 61.98 49 ⇓P **P** **23 08 46.8 +0.5**
baz=62
SWMT Swartz Lake 62.01 50 *e*P **P** **23 08 47.1 +0.6**
SWMT *e*PcP **PcP** **23 09 25.0 -0.8**
D13A Huson 62.01 50 ⇑P **P** **23 08 46.7 +0.1**
baz=62,SNR=6.6
B15A Bradely Ranch, 62.27 48 ⇓P **P** **23 08 48.1 -0.2**
baz=62,SNR=7.6
A16A West Butte Ran 62.38 47 ⇑P **P** **23 08 49.2 +0.1**
baz=62
F12A Elk City 62.40 52 ⇑P **P** **23 08 49.8 +0.5**
baz=62,SNR=6.6
SLMT Seeley Lake 62.44 50 *e*P **P** **23 08 50.0 +0.4**
MSO Missoula 62.46 50 *e*P **P** **23 08 49.8 +0.3**
comp=Z,8.7nm,1.1s
MSO Missoula 62.46 50 ⇓P **P** **23 08 49.9 +0.3**
baz=62,SNR=10
D14A Greenough 62.53 50 ⇑P **P** **23 08 50.3 +0.2**
baz=62,SNR=14
E13A Victor 62.56 51 ⇓P **P** **23 08 50.8 +0.5**
baz=62
C15A Salmond Ranch, 62.58 49 ⇓P **P** **23 08 51.0 +0.5**
baz=62,SNR=14
B16A M & M Farms, S 62.65 48 ⇑P **P** **23 08 50.8 0.0**
baz=62
G12A Big Creek, Yel 62.75 52 ⇓P **P** **23 08 51.4 -0.3**
baz=62
A17A Triple J Farms 62.84 47 ⇑P **P** **23 08 52.0 -0.1**
baz=62,SNR=6.6
F13A Darby 62.89 51 ⇓P **P** **23 08 52.5 0.0**
baz=63,SNR=5.5
E14A Clinton 62.95 50 ⇑P **P** **23 08 53.3 +0.3**
baz=63
C16A Fuhringer Ranc 63.02 48 ⇓P **P** **23 08 53.6 +0.3**
baz=63,SNR=23
D15A Lincoln 63.09 49 ⇓P **P** **23 08 54.0 +0.2**
baz=63
B17A L&G Farms, Che 63.20 47 ⇓P **P** **23 08 54.3 -0.2**
baz=63,SNR=6.7
FFC Flin Flon 63.21 38 *ce*P **P** **23 08 54.4 +0.1**
FFC Flin Flon 63.21 38 *e*P **P** **23 08 54.2 0.0**
comp=Z,14nm,0.8s
A18A Metzger Ranch, 63.29 47 ⇓P **P** **23 08 55.0 0.0**
baz=63
H12A Diamond D Ranc 63.37 53 ⇓P **P** **23 08 56.0 +0.2**
baz=63
G13A Cobalt 63.38 52 ⇓P **P** **23 08 55.6 -0.1**
baz=63,SNR=8.6
F14A Wisdom 63.40 51 ⇓P **P** **23 08 56.1 +0.1**
baz=63
E15A Deer Lodge 63.41 50 ⇓P **P** **23 08 55.9 -0.1**
baz=63,SNR=6.6
MFID Camas Ranch 63.53 54 ⇑P **P** **23 08 57.0 +0.2**
baz=63
D16A Dana Ranch, Ca 63.61 49 ⇑P **P** **23 08 57.8 +0.5**
baz=63,SNR=8.1
C17A Wharram Farm, 63.64 48 ⇓P **P** **23 08 57.4 +0.1**
baz=63,SNR=11
B18A Beardsley Farm 63.66 47 ⇑P **P** **23 08 57.9 +0.5**
baz=63,SNR=7.7
HRY Holter Researc 63.66 49 *e*P **P** **23 08 58.0 +0.4**
I12A Atlanta 63.69 54 ⇓P **P** **23 08 58.1 +0.2**
baz=63
H13A Challis 63.70 52 ⇑P **P** **23 08 58.0 +0.1**
baz=63,SNR=8.5
G14A Jackson 63.71 51 ⇓P **P** **23 08 57.4 -0.6**
baz=63
A19A Klindworth Far 63.84 46 ⇓P **P** **23 08 59.0 +0.3**
baz=64,SNR=5.9
E16A East Helena 63.85 49 ⇑P **P** **23 08 58.9 +0.1**
baz=64,SNR=6.0
F15A Butte 63.86 50 ⇓P **P** **23 08 59.3 +0.4**
baz=64,SNR=12
FINES FINESS Array B 63.89 333 P **P** **23 08 55.6 -3.0**
FINES FINESS Array B 63.89 333 P **P** **23 08 55.6 -3.0**
comp=Z,1.4nm,0.8s,baz=340,slow=14,SNR=5.0
LRM Limekiln Ridge 63.89 50 *e*P **P** **23 08 59.7 +0.5**
EGMT Eagleton 63.91 47 *e*P **P** **23 08 59.5 +0.4**
comp=Z,18nm,1.1s
EGMT Eagleton 63.91 47 ⇓P **P** **23 08 59.3 +0.2**
baz=64,SNR=8.2
D17A Six Diamond Ra 63.98 48 ⇓P **P** **23 08 59.7 0.0**
baz=64,SNR=5.6
B19A Brinkman Farms 64.05 46 ⇓P **P** **23 09 00.2 +0.2**
baz=64,SNR=7.3
H14A Leadore 64.16 52 ⇓P **P** **23 09 01.0 0.0**
baz=64
I13A Wildhorse Cree 64.18 53 ⇓P **P** **23 09 01.7 +0.5**
baz=64
CMB Columbia Colle 64.19 61 *e*P **P** **23 09 02.0 +0.9**
CMB pmax pmax
comp=Z,7.0nm,1.0s
CMB Columbia Colle 64.19 61 *e*P **P** **23 09 02.0 +0.9**
comp=Z,7.2nm,1.0s
HLID Hailey 64.24 53 *e*P **P** **23 09 02.0 +0.5**
comp=Z,7.4nm,1.3s
HLID Hailey 64.24 53 ⇓P **P** **23 09 01.7 +0.2**
baz=64,SNR=5.2
A20A Cobblestone Ra 64.28 46 ⇓P **P** **23 09 01.7 +0.2**
baz=64,SNR=9.4
G15A Dillon 64.29 51 ⇑P **P** **23 09 02.3 +0.5**
baz=64,SNR=12
MCMT McKenzie Canyo 64.31 51 *e*P **P** **23 09 00.7 -1.3**
comp=Z,1.2nm,1.0s
E17A Martinsdale 64.34 49 ⇓P **P** **23 09 02.5 +0.5**
baz=64,SNR=9.0
F16A Kennard Place, 64.36 50 ⇑P **P** **23 09 02.2 +0.1**
baz=64,SNR=5.8
D18A Linhart Farms, 64.42 48 ⇓P **P** **23 09 02.4 -0.1**
baz=64
BOZ Bozeman (W) 64.45 50 *e*P **P** **23 09 03.6 +0.8**
BOZ pmax pmax
comp=Z,6.0nm,0.6s
BOZ Bozeman (W) 64.45 50 *e*P **P** **23 09 03.5 +0.8**
comp=Z,5.7nm,0.6s
BOZ Bozeman (W) 64.45 50 ⇑P **P** **23 09 03.5 +0.8**
baz=64,SNR=8.2
C19A Slack Wire Ran 64.46 47 ⇓P **P** **23 09 03.0 +0.3**
baz=64,SNR=9.7
J13A Cove Ranch, Pi 64.48 53 ⇑P **P** **23 09 03.8 +0.8**
baz=64,SNR=5.5
B20A Solberg Farm, 64.53 46 ⇓P **P** **23 09 03.7 +0.6**
baz=64,SNR=9.2
I14A Mackay 64.55 53 ⇑P **P** **23 09 04.2 +0.7**
baz=64,SNR=8.0
H15A Lima 64.55 52 ⇓P **P** **23 09 03.9 +0.4**
baz=64
G16A Moss Hill, Enn 64.62 51 ⇓P **P** **23 09 04.4 +0.5**
baz=64,SNR=10
OBN Obninsk 64.71 324 *e*P **P** **23 09 03.4 -0.6**
OBN *e* 23 09 36.5
OBN pmax pmax
comp=Z,4.0nm,1.0s
A21A Bergtoll Ranch 64.71 45 ⇑P **P** **23 09 04.6 +0.3**
baz=64,SNR=10.0
E18A Harlowton 64.77 49 ⇑P **P** **23 09 05.1 +0.3**
baz=64
F17A Fitzpatrick Pl 64.80 49 ⇓P **P** **23 09 05.1 0.0**
baz=64,SNR=5.3
J14A Carey 64.90 53 ⇓P **P** **23 09 06.7 +1.0**
baz=65
D19A Cripps Ranch, 64.92 48 ⇑P **P** **23 09 05.9 +0.2**
baz=65
C20A Veseth Ranch, 65.01 47 ⇓P **P** **23 09 06.6 +0.4**
baz=65
QLMT Earthquake Lak 65.08 51 *e*P **P** **23 09 07.4 +0.5**
G17A Pierce Place, 65.14 50 ⇑P **P** **23 09 08.0 +0.8**
baz=65,SNR=5.1
A22A Carney Farms, 65.21 45 ⇓P **P** **23 09 07.7 +0.2**
baz=65,SNR=9.9
NVAR Mina Array Bea 65.22 60 P **P** **23 09 08.4 +0.5**
NVAR PcP **pP** **23 09 40.6 +1.0**
NVAR Mina Array Bea 65.22 60 P **P** **23 09 08.4 +0.5**
comp=Z,5.1nm,0.9s,baz=290,slow=6.9,SNR=21
NVAR PcP **pP** **23 09 40.6 +1.0**
comp=Z,1.3nm,0.7s,baz=298,slow=5.3,SNR=3.9
H16A Russell Place, 65.26 51 ⇑P **P** **23 09 08.7 +0.6**
baz=65,SNR=5.7
F18A Big Timber 65.30 49 ⇑P **P** **23 09 08.9 +0.7**
baz=65,SNR=7.6
D20A Manuel Ranch, 65.35 47 ⇑P **P** **23 09 08.6 +0.1**
baz=65,SNR=6.9
C21A Desert Coulee 65.39 46 ⇑P **P** **23 09 08.8 +0.1**
baz=65
E19A Rath Farm, Rou 65.43 48 ⇓P **P** **23 09 09.7 +0.7**
baz=65,SNR=5.1
J15A Blackfoot 65.45 52 ⇑P **P** **23 09 09.7 +0.4**
baz=65,SNR=5.3
K14A Jones Ranch, D 65.59 54 ⇑P **P** **23 09 11.0 +0.8**
baz=65
B22A Reddig Ranch S 65.63 45 ⇑P **P** **23 09 10.8 +0.6**
baz=65
I16A Newdale 65.67 52 ⇓P **P** **23 09 11.6 +0.9**
baz=65
A23A Redstone 65.74 44 ⇑P **P** **23 09 11.7 +0.8**
baz=65
E20A Meyer Farm, Mu 65.74 48 ⇑P **P** **23 09 11.7 +0.7**
baz=65
F19A Roth Farm, Mol 65.74 49 ⇓P **P** **23 09 11.5 +0.5**
baz=65,SNR=8.4
G18A Lazy EL Ranch, 65.77 49 ⇑P **P** **23 09 11.9 +0.6**
baz=65
PTRM Twissleman Ran 65.81 63 *e*P **P** **23 09 12.7 +1.2**
LKWY Lake 65.81 50 *e*P **P** **23 09 14.0 +2.3**
LKWY pmax pmax
comp=Z,5.0nm,0.9s
LKWY Lake 65.81 50 *e*P **P** **23 09 14.0 +2.3**
comp=Z,4.5nm,0.9s
H17A Grant Village 65.83 51 ⇓P **P** **23 09 13.4 +1.6**
baz=66,SNR=11
K15A Arbon 65.86 53 ⇓P **P** **23 09 12.7 +0.8**
baz=66
D21A La Casta Ranch 65.95 47 ⇓P **P** **23 09 12.5 +0.2**
baz=66

IMW	Indian Meadow	65.95	51	eP		P	23 09 13.8	+1.1
	comp=Z,6.9nm,1.0s							
FLWY	Flagg Ranch	65.96	51	eP		P	23 09 13.6	+1.0
	comp=Z,47nm,2.1s							
J16A	Bone	65.99	52	⇓P		P	23 09 13.4	+0.5
	baz=66,SNR=7.8							
B23A	Brockton	66.02	45	⇓P		P	23 09 13.1	+0.5
	baz=66							
RLMT	Red Lodge	66.05	49	eP		P	23 09 13.9	+0.7
	comp=Z,11nm,1.3s							
RLMT	Red Lodge	66.05	49	⇑P		P	23 09 13.7	+0.5
	baz=66,SNR=6.8							
C22A	Vida	66.06	46	⇑P		P	23 09 12.7	-0.3
	baz=66							
RRI2	Red Ridge	66.10	52	eP		P	23 09 14.9	+1.3
	comp=Z,13nm,0.9s							
H18A	Shoshone NF, C	66.13	50	⇑P		P	23 09 14.1	+0.3
	baz=66							
I17A	Pilgrim Ck.	66.14	51	⇑P		P	23 09 15.3	+1.5
	baz=66,SNR=5.4							
MOOW	Moose Ponds	66.16	51	eP		P	23 09 15.3	+1.4
	comp=Z,9.0nm,1.2s							
A24A	Westby	66.19	44	⇑P		P	23 09 14.2	+0.4
	baz=66							
TPAW	Teton Pass	66.21	52	eP		P	23 09 15.7	+1.3
	comp=Z,12nm,0.9s							
K16A	Soda Springs	66.29	53	⇑P		P	23 09 15.7	+0.9
	baz=66,SNR=5.5							
D22A	Cohagen	66.31	46	⇑P		P	23 09 14.4	-0.1
	baz=66							
LOHW	Long Hollow	66.32	51	eP		P	23 09 16.0	+1.1
	comp=Z,15nm,1.4s							
REDW	Red Top Meadow	66.35	52	eP		P	23 09 15.8	+0.7
	comp=Z,16nm,1.3s							
C23A	Lambert	66.37	45	⇓P		P	23 09 15.2	+0.2
	baz=66							
L15A	Malad City	66.39	54	⇑P		P	23 09 15.6	+0.3
	baz=66							
VES	Vestal, Richgr	66.39	62	⇑P		P	23 09 15.5	+0.3
	baz=66							
DGMT	Dagmar	66.40	44	eP		P	23 09 15.3	+0.2
	comp=Z,17nm,0.8s							
DGMT	Dagmar	66.40	44	⇑P		P	23 09 15.3	+0.2
	baz=66							
J17A	Brown Place, J	66.43	52	⇑P		P	23 09 16.1	+0.5
	baz=66,SNR=5.0							
PKM	Peak Mountain	66.54	64	⇓P		P	23 09 16.7	+0.2
	baz=66							
G20A	Bridger	66.55	49	⇓P		P	23 09 16.2	-0.1
	baz=66							
I18A	Diamond G Ranc	66.69	51	⇑P		P	23 09 17.9	+0.6
	baz=66							
GRAC	Grapevine Rang	66.70	60	⇑P		P	23 09 17.8	+0.5
	baz=66							
M15A	Larsen Ranch,	66.70	54	⇓P		P	23 09 17.2	0.0
	baz=66,SNR=11							
WRA	Warramunga Arr	66.71	195	P		P	23 09 18.4	+1.1
WRA	Warramunga Arr	66.71	195	P		P	23 09 18.4	+1.1
	comp=Z,3.2nm,0.6s,baz=10,slow=6.5,SNR=38							
D23A	Lindsay	66.78	46	⇓P		P	23 09 17.7	+0.1
	baz=66							
ISA	Isabella	66.89	62	eP		P	23 09 17.9	-0.6
ISA				pmax		pmax		
	comp=Z,4.0nm,1.0s							
ISA	Isabella	66.89	62	eP		P	23 09 17.9	-0.6
	comp=Z,3.7nm,1.0s							
ISA	Isabella	66.89	62	⇑P		P	23 09 18.4	-0.1
	baz=67							
E22A	Miles City	66.91	47	⇑P		P	23 09 18.7	+0.4
	baz=67							
R11A	Troy Canyon, C	66.91	58	⇑P		P	23 09 18.7	0.0
	baz=67,SNR=8.8							
J18A	Kendall Valley	66.91	51	⇑P		P	23 09 18.8	+0.1
	baz=67							
L16A	Fish Haven	66.92	53	⇓P		P	23 09 18.4	-0.3
	baz=67							
I19A	Meeteetse	66.92	50	⇑P		P	23 09 18.7	0.0
	baz=67							
C24A	Savage	66.93	45	⇓P		P	23 09 18.8	+0.3
	baz=67							
N15A	Stansbury Isla	67.04	55	⇓P		P	23 09 19.5	+0.1
	baz=67							
HWUT	Hardware Ranch	67.11	54	eP		P	23 09 20.2	+0.3
	comp=Z,12nm,1.2s							
L17A	Cokeville	67.17	53	⇑P		P	23 09 20.5	+0.2
	baz=67							
E23A	Ismay	67.19	46	⇑P		P	23 09 20.4	+0.2
	baz=67							
F22A	Rosebud	67.19	47	⇑P		P	23 09 20.3	+0.1
	baz=67							
MPMC	Manual Prospec	67.24	61	⇓P		P	23 09 21.1	+0.2
	baz=67,SNR=10.0							
D24A	Glendive	67.26	45	⇑P		P	23 09 21.1	+0.5
	baz=67							
M16A	Huntsville	67.27	54	⇑P		P	23 09 21.4	+0.5
	baz=67							
K18A	Toltan Ranch,	67.28	52	⇓P		P	23 09 21.8	+0.8
	baz=67							
DUG	Dugway	67.33	55	eP		P	23 09 22.1	+0.8
DUG				pmax		pmax		
	comp=Z,9.0nm,1.1s							
DUG	Dugway	67.33	55	eP		P	23 09 22.1	+0.8
	comp=Z,9.0nm,1.1s							
DUG	Dugway	67.33	55	⇓P		P	23 09 21.6	+0.4
	baz=67,SNR=7.3							
FURC	Furnace Creek,	67.36	61	⇑P		P	23 09 22.0	+0.8
	baz=67,SNR=6.9							
J19A	Crowheart	67.40	51	⇑P		P	23 09 22.0	+0.3
	baz=67,SNR=6.2							
I20A	Worland	67.44	50	⇓P		P	23 09 22.2	+0.4
	baz=67							
BW06	Boulder Array	67.46	51	⇑P		P	23 09 22.2	0.0
	baz=67,SNR=6.9							
PDAR	Pinedale Array	67.46	51	P		P	23 09 22.3	+0.1
PDAR	Pinedale Array	67.46	51	P		P	23 09 22.3	+0.1
	comp=Z,4.5nm,0.8s,baz=283,slow=1.5,SNR=35							
O15A	The Old Anders	67.47	55	⇑P		P	23 09 22.5	+0.3
	baz=67							
LRMC	Laurel Mountai	67.49	62	⇑P		P	23 09 22.7	+0.4
	baz=67							
G22A	Birney	67.55	48	⇑P		P	23 09 22.8	+0.2
	baz=67							
H21A	Big Horn, Sher	67.56	49	⇓P		P	23 09 22.7	+0.1
	baz=67,SNR=6.9							
N16A	Rees Ranch, Co	67.66	54	⇑P		P	23 09 22.9	-0.5
	baz=67							
F23A	Volborg	67.67	47	⇑P		P	23 09 23.0	-0.3
	baz=67,SNR=5.7							
EDW2	Edwards Air Fo	67.69	63	⇑P		P	23 09 23.6	+0.1
	baz=67,SNR=9.5							
M17A	Scullys Gap (B	67.70	53	⇓P		P	23 09 23.5	-0.2
	baz=67,SNR=5.1							
L18A	Fontenelle, Gr	67.75	52	⇓P		P	23 09 23.9	-0.1
	baz=67							
K19A	Absolon Red Bu	67.81	51	⇓P		P	23 09 24.1	-0.2
	baz=68							
J20A	Shoshoni	67.87	50	⇑P		P	23 09 24.6	0.0
	baz=68							
N17A	Moffit Pass	67.96	54	⇓P		P	23 09 25.7	+0.3
	baz=68,SNR=8.5							
R13A	O'Grain Ranch,	67.98	58	⇓P		P	23 09 25.8	+0.3
	baz=68							
I21A	Big Trails, Te	67.98	49	⇓P		P	23 09 25.7	+0.4
	baz=68							
L19A	Farson	68.01	52	⇑P		P	23 09 25.4	-0.2
	baz=68							
G23A	Biddle	68.03	47	⇑P		P	23 09 25.6	+0.1
	baz=68							
P15A	Leamington	68.05	56	⇑P		P	23 09 26.2	+0.4
	baz=68							
M18A	Lyman	68.07	53	⇓P		P	23 09 26.2	+0.2
	baz=68							
DAU	Daniels Canyon	68.08	54	eP		P	23 09 26.6	+0.4
DAU				pmax		pmax		
	comp=Z,12nm,1.4s							
DAU	Daniels Canyon	68.08	54	eP		P	23 09 26.6	+0.4
	comp=Z,12nm,1.4s							
F24A	Ekalaka	68.08	46	⇑P		P	23 09 26.0	+0.2
	baz=68							
SHOC	Shoshone	68.08	61	⇓P		P	23 09 26.5	+0.6
	baz=68							
MPU	Maple Canyon	68.12	55	eP		P	23 09 27.1	+0.8
	comp=Z,6.8nm,1.0s							
GSC	Goldstone	68.15	62	eP		P	23 09 26.3	-0.1
GSC				pmax		pmax		
	comp=Z,7.0nm,1.0s							
GSC	Goldstone	68.15	62	eP		P	23 09 26.3	-0.1
	comp=Z,7.0nm,1.0s							
GSC	Goldstone	68.15	62	⇑P		P	23 09 26.3	-0.1
	baz=68,SNR=5.4							
K20A	Yellowstone Ra	68.19	51	⇑P		P	23 09 26.6	0.0
	baz=68							
J21A	Lysite	68.21	50	⇓P		P	23 09 26.7	-0.1
	baz=68							
BFSC	Mount Baldy Ra	68.32	63	⇓P		P	23 09 27.7	+0.1
	baz=68							
NB2	NORSAR Subarra	68.38	340	P		P	23 09 26.4	-1.0
	comp=Z,2.2nm,0.8s,baz=30,slow=6.5							
NOA	NORSAR Array B	68.38	340	P		P	23 09 25.0	-2.4
NOA	NORSAR Array B	68.38	340	P		P	23 09 25.0	-2.4
	comp=Z,1.2nm,0.8s,baz=5.9,slow=3.7,SNR=4.6							
O17A	Robinson Place	68.52	54	⇑P		P	23 09 28.9	+0.1
	baz=68							
HFS	Hagfors	68.53	338	LR		LR	23 41 30.0	
	comp=Z,49nm,20.1s,baz=250,slow=38							
N18A	Larsen Ranch,	68.59	53	⇑P		P	23 09 28.8	-0.4
	baz=68							
TUQ	Turquoise Moun	68.61	61	⇓P		P	23 09 29.5	+0.2
	baz=68							
L20A	Wamsutter	68.64	51	⇑P		P	23 09 29.2	-0.3
	baz=68							
CCUT	Cedar City	68.75	58	eP		P	23 09 31.4	+1.1
	comp=Z,36nm,2.3s							
HEC	Hector,Ludlow	68.76	62	⇑P		P	23 09 30.8	+0.6
	baz=68							
H24A	Dirks Ranch, A	68.78	47	⇑P		P	23 09 30.1	0.0
	baz=68							
K21A	Alcova	68.80	50	⇓P		P	23 09 30.5	0.0
	baz=68							
MSU	Marysvale	68.81	56	eP		P	23 09 31.5	+0.9
MSU	Marysvale	68.81	56	eP		P	23 09 31.5	+0.9
TMUT	Trail Mountain	68.85	55	eP		P	23 09 31.7	+0.8
	comp=Z,11nm,1.1s							
O18A	Roosevelt	68.88	54	⇑P		P	23 09 31.5	+0.6
	baz=69							
N19A	John Jarvie Ra	68.92	53	⇑P		P	23 09 31.5	+0.3
	baz=69							
R15A	Junction	68.95	57	⇑P		P	23 09 31.4	-0.2
	baz=69							
P17A	Butcher Ranch,	69.00	55	⇓P		P	23 09 31.8	+0.1
	baz=69							
MURC	Murrieta	69.03	63	⇓P		P	23 09 32.0	+0.2
	baz=69							
MDND	Maddock	69.04	42	⇓P		P	23 09 31.3	-0.4
	baz=69							
M20A	Sweetwater, Wa	69.07	52	⇓P		P	23 09 32.0	-0.2
	baz=69							
Q16A	Castle Valley	69.12	55	⇓P		P	23 09 33.1	+0.6
	baz=69							
P18A	Preston Nutter	69.18	54	⇓P		P	23 09 32.9	-0.1
	baz=69,SNR=5.2							
GMRC	Granite Mounta	69.20	61	⇓P		P	23 09 33.3	+0.3
	baz=69							
SRU	San Rafael	69.36	55	eP		P	23 09 34.3	+0.3
SRU				pmax		pmax		
	comp=Z,12nm,1.0s							
SRU	San Rafael	69.36	55	eP		P	23 09 34.3	+0.3
	comp=Z,12nm,1.0s							
SRU	San Rafael	69.36	55	⇑P		P	23 09 34.2	+0.3
	baz=69							
R16A	Teasdale	69.37	56	⇓P		P	23 09 35.0	+0.9
	baz=69							
N20A	Spence Gulch,	69.47	52	⇑P		P	23 09 34.7	-0.1
	baz=69,SNR=5.3							
RSSD	Black Hills	69.48	47	eP		P	23 09 34.6	-0.1
RSSD				pmax		pmax		
	comp=Z,5.0nm,0.8s							
RSSD	Black Hills	69.48	47	eP		P	23 09 34.6	-0.1
	comp=Z,5.4nm,0.8s							
PFO	Pinyon Flat Ob	69.49	63	⇓P		P	23 09 34.9	+0.1
	baz=69							
BELC	Belle Mtn. Jos	69.51	62	⇓P		P	23 09 34.8	-0.1
	baz=69							
Q18A	Rafter H Ranch	69.59	55	⇑P		P	23 09 35.1	-0.2
	baz=69							
KIV	Kislovodsk	69.67	312	eP		P	23 09 39.1	+3.4
KIV				e			23 12 11.8	
KIV				pmax		pmax		
	comp=Z,4.0nm,1.0s							
S16A	Weppner Ranch,	69.68	57	⇓P		P	23 09 36.3	+0.4
	baz=69,SNR=6.5							
KBZ	Khabaz	69.72	312	P		P	23 09 35.9	+0.1
KBZ	Khabaz	69.72	312	P		P	23 09 35.9	+0.1
KBZ	Khabaz	69.72	312	P		P	23 09 35.9	+0.1
	comp=Z,2.7nm,0.9s,baz=210,slow=2.9,SNR=4.2							
KBZ				LR		LR	23 42 42.7	
	comp=Z,29nm,18.2s,baz=192,slow=38							
R17A	Hanksville Air	69.72	56	⇓P		P	23 09 36.6	+0.4
	baz=69,SNR=7.4							
P19A	Cripple Cowboy	69.89	54	⇓P		P	23 09 37.0	-0.3
	baz=70,SNR=6.0							
IRM	Iron Mountain	69.93	62	⇑P		P	23 09 38.0	+0.6
	baz=70,SNR=7.2							
MONP	Monument Peak	69.99	63	⇓P		P	23 09 38.1	+0.2
	baz=70							
W13A	Hualapai Mount	70.07	60	⇓P		P	23 09 38.7	+0.2
	baz=70							
BC3	Big Chuckawall	70.08	62	⇑P		P	23 09 38.4	0.0
	baz=70							
U15A	North Rim	70.14	58	⇓P		P	23 09 39.2	+0.3
	baz=70,SNR=5.7							
Q19A	Hogan Spring (	70.19	54	⇓P		P	23 09 39.0	0.0
	baz=70,SNR=8.4							
S17A	Black Ridge (B	70.20	56	⇓P		P	23 09 39.4	+0.3
	baz=70,SNR=17							
R18A	Canyonlands Na	70.22	55	⇓P		P	23 09 39.2	-0.1
	baz=70,SNR=8.6							
P20A	De Beque	70.31	53	⇓P		P	23 09 39.8	0.0
	baz=70							
AS31	Alice Springs	70.42	195	eP		P	23 09 42.4	+2.1
ASAR	Alice Springs	70.42	195	P		P	23 09 42.5	+2.2
ASAR	Alice Springs	70.42	195	P		P	23 09 42.5	+2.2
	comp=Z,3.6nm,0.7s,baz=7.6,slow=5.3,SNR=62							
AGMN	Agassiz Nation	70.45	40	eP		P	23 09 39.5	-0.7
PDMCI	Parker Dam,Lak	70.45	61	⇓P		P	23 09 41.0	+0.5
	baz=70							
Y12C	Blythe	70.59	61	⇑P		P	23 09 41.6	+0.3
	baz=70							
S18A	Hurst Farm, BI	70.63	56	⇑P		P	23 09 41.6	-0.2
	baz=70,SNR=8.4							
T17A	Navajo Res., N	70.63	57	⇓P		P	23 09 41.4	-0.4
	baz=70							
Q20A	Ridgley Place,	70.74	54	⇓P		P	23 09 42.1	-0.3
	baz=70							
PV04	Paradox Valley	70.78	55	eP		P	23 09 43.4	+0.8
P21A	Newcastle	70.83	53	⇓P		P	23 09 42.8	-0.2
	baz=70,SNR=5.5							
GLA	Glamis	70.87	62	⇓P		P	23 09 43.0	-0.1
	baz=71							
AKASG	Malin Array Be	70.97	324	P		P	23 09 42.7	-0.6
AKASG	Malin Array Be	70.97	324	P		P	23 09 42.7	-0.6
AKASG	Malin Array Be	70.97	324	P		P	23 09 42.7	-0.6
	comp=Z,1.1nm,0.5s,baz=35,slow=6.3,SNR=4.0							
T18A	Mexican Hat	71.08	56	⇓P		P	23 09 44.4	-0.1
	baz=71,SNR=7.1							
S19A	Harvey Farm, M	71.09	55	⇑P		P	23 09 44.5	-0.1
	baz=71,SNR=14							
PV01	Paradox Valley	71.15	55	eP		P	23 09 45.5	+0.5
	comp=Z,424nm,1.0s							
P22A	Eagle	71.16	52	⇓P		P	23 09 45.0	-0.1
	baz=71							
O23A	Lake Granby, G	71.20	51	⇓P		P	23 09 45.6	+0.3
	baz=71,SNR=5.5							
Q21A	Lamborn Mesa,	71.23	53	⇓P		P	23 09 45.8	+0.4
	baz=71							
WUAZ	Wupatki	71.30	58	⇑P		P	23 09 46.3	+0.5
	baz=71							
SMCO	Snowmass	71.33	53	eP		P	23 09 46.9	+0.7
	comp=Z,3.9nm,0.8s							
Y14A	Wickenburg	71.39	60	⇓P		P	23 09 46.7	+0.4
	baz=71							
S20A	Disappointment	71.48	55	⇓P		P	23 09 46.8	-0.1
	baz=71,SNR=5.6							
R21A	Cimarron	71.57	54	⇓P		P	23 09 47.8	+0.3
	baz=71,SNR=12							
Q22A	Crested Butte,	71.59	53	⇓P		P	23 09 47.8	+0.1
	baz=71,SNR=5.4							
ISCO	Idaho Springs	71.65	52	eP		P	23 09 48.8	+0.8
ISCO				pmax		pmax		
	comp=Z,6.0nm,1.0s							
ISCO	Idaho Springs	71.65	52	eP		P	23 09 48.8	+0.8
	comp=Z,6.4nm,1.0s							
ISCO	Idaho Springs	71.65	52	⇑P		P	23 09 48.2	+0.2
	baz=71,SNR=5.4							
113A	Mohawk Valley,	71.72	62	⇑P		P	23 09 48.5	+0.3
	baz=72							
T19A	Beclabito	71.79	56	⇑P		P	23 09 48.6	-0.1
	baz=72							
M26A	McRoberts Ranc	71.81	49	⇓P		P	23 09 48.5	-0.3
	baz=72							
P23A	Jefferson	71.83	52	⇑P		P	23 09 48.4	-0.7
	baz=72							
MVCO	Mesa Verde	71.83	55	eP		P	23 09 49.5	+0.4
	comp=Z,7.6nm,1.0s							
MVCO	Mesa Verde	71.83	55	⇓P		P	23 09 49.1	0.0
	baz=72							
S21A	Coal Bank Pass	71.92	54	⇓P		P	23 09 50.3	+0.7
	baz=72,SNR=13							
X16A	Lo Mia Camp, P	72.01	59	⇑P		P	23 09 50.7	+0.6
	baz=72,SNR=6.5							
U19A	Dine' College,	72.05	56	⇓P		P	23 09 50.8	+0.4
	baz=72,SNR=7.7							
R22A	Saguache, Gunn	72.11	53	⇓P		P	23 09 51.3	+0.5
	baz=72,SNR=5.6							
O25A	Wiggins	72.25	51	⇓P		P	23 09 51.4	0.0
	baz=72							
S22A	4UR Ranch, Cre	72.41	54	⇑P		P	23 09 52.9	+0.3
	baz=72,SNR=8.3							
Q24A	Divide	72.50	52	⇓P		P	23 09 53.5	+0.5
	baz=72							
T21A	Navajo Lake	72.53	55	⇓P		P	23 09 53.8	+0.6
	baz=72							
O26A	Horse Wrangler	72.59	50	⇑P		P	23 09 53.9	+0.5
	baz=72							
N27A	Anderson Farm,	72.60	49	⇓P		P	23 09 53.8	+0.4
	baz=72							
EYMN	Ely	72.64	38	eP		P	23 09 52.4	-1.0
	comp=Z,13nm,1.0s							
P25A	Willow Gulch B	72.65	51	⇑P		P	23 09 54.3	+0.5
	baz=72							
R23A	Moffat	72.66	53	⇑P		P	23 09 54.5	+0.4
	baz=72,SNR=6.1							
OGNE	Ogallala	72.77	49	⇓P		P	23 09 54.7	+0.3
	baz=72							
V20A	Brimhall	72.82	56	⇑P		P	23 09 55.3	+0.4
	baz=72							
X18A	Snowflake	72.83	58	⇑P		P	23 09 55.4	+0.4
	baz=72							
U21A	Nageezi	72.86	55	⇓P		P	23 09 55.6	+0.4
	baz=73							
214A	Organ Pipe Nat	72.86	62	⇓P		P	23 09 55.5	+0.5
	baz=73							
T22A	Edith	72.88	54	⇑P		P	23 09 55.4	+0.1
	baz=73,SNR=5.2							
R24A	Sanders Place,	73.03	53	⇑P		P	23 09 56.4	+0.2
	baz=73							
O27A	Beecher Island	73.07	50	⇓P		P	23 09 56.4	+0.2
	baz=73							
W20A	Ramah	73.27	57	⇑P		P	23 09 58.1	+0.5
	baz=73							
V21A	Milan	73.30	56	⇓P		P	23 09 58.1	+0.3
	baz=73							
U22A	Llaves	73.35	55	⇓P		P	23 09 58.6	+0.5
	baz=73							
S24A	Houchin Ranch,	73.39	53	⇑P		P	23 09 58.7	+0.3
	baz=73							
Q26A	Hugo	73.42	51	⇓P		P	23 09 58.5	+0.2
	baz=73							
ECSD	EROS Data Cent	73.47	44	eP		P	23 09 57.9	-0.5
	comp=Z,7.9nm,0.8s							
R25A	Fountain Ranch	73.55	52	⇓P		P	23 09 59.4	+0.3
	baz=73							
V22A	San Miguel Ran	73.65	55	⇑P		P	23 09 60.0	+0.2
	baz=73							
X20A	Quemado	73.68	57	⇓P		P	23 10 00.3	+0.3
	baz=73,SNR=5.7							
U23A	El Rito	73.77	55	⇑P		P	23 10 01.2	+0.7
	baz=74,SNR=10							
T24A	Torres, Weston	73.89	53	⇓P		P	23 10 01.2	-0.1
	baz=74							
R26A	Arlington	73.90	51	⇑P		P	23 10 01.1	0.0
	baz=74,SNR=5.4							
SPMN	St. Paul	74.14	41	⇑P		P	23 10 02.0	-0.3
	baz=74							
X21A	Alamocita Cree	74.17	57	⇓P		P	23 10 03.8	+1.0
	baz=74,SNR=6.6							
V23A	Ortiz Mt. (NFS	74.18	55	⇓P		P	23 10 03.0	+0.1
	baz=74							
Y20A	Horse Springs,	74.20	58	⇑P		P	23 10 04.0	+1.0
	baz=74,SNR=6.1							
T25A	Trinidad	74.20	53	⇓P		P	23 10 03.1	+0.1
	baz=74							
R27A	Eads	74.27	51	⇓P		P	23 10 03.1	-0.1
	baz=74							
S26A	Kim	74.38	52	⇑P		P	23 10 03.6	-0.3
	baz=74							
Y21A	Point of Rocks	74.54	57	⇑P		P	23 10 05.9	+0.9
	baz=74,SNR=6.1							
X22A	Bernardo	74.58	56	⇓P		P	23 10 05.7	+0.6
	baz=74							
ANMO	Albuquerque	74.59	56	eP		P	23 10 06.0	+0.8
	comp=Z,2.2nm,0.7s							
W23A	Werner Place,	74.62	55	⇑P		P	23 10 05.8	+0.3
	baz=74							
Z20A	Nine Sixteen R	74.62	58	⇑P		P	23 10 06.4	+1.0
	baz=74							
V24A	Rampart Ranch,	74.72	54	⇑P		P	23 10 06.1	0.0
	baz=74							
U25A	Circle Dot Ran	74.73	53	⇓P		P	23 10 06.0	-0.1
	baz=74							
120A	U Bar Ranch, L	75.00	59	⇑P		P	23 10 08.1	+0.5
	baz=75,SNR=5.0							
BUR08	Bucovina Ar. S	75.01	325	eP		P	23 10 06.2	-1.1
W24A	Lazy 6 Ranch,	75.01	55	⇑P		P	23 10 08.1	+0.5
	baz=75,SNR=8.1							
V25A	Rancho No Teng	75.01	54	⇓P		P	23 10 08.0	+0.3
	baz=75							
Z21A	St. Cloud Mine	75.03	58	⇑P		P	23 10 08.7	+0.8
	baz=75,SNR=11							
BNM	Barren Site	75.05	56	eP		P	23 10 07.5	-0.4
	comp=Z,0.9nm,0.6s							
319A	Douglas	75.43	60	⇓P		P	23 10 10.4	+0.4
	baz=75,SNR=7.8							
T28A	Walsh	75.48	52	⇑P		P	23 10 10.5	+0.3
	baz=75							
Z22A	Elephant Butte	75.49	57	⇑P		P	23 10 11.0	+0.6
	baz=75,SNR=7.3							
V26A	Tequesquite Ra	75.51	53	⇓P		P	23 10 10.1	-0.3
	baz=75							
220A	Playas Peak, P	75.51	59	⇓P		P	23 10 10.4	-0.2
	baz=75							
121A	Cookes Peak, D	75.52

baz=77
BRTR **Keskin Array B** 77.36 315 P P 23 10 19.6 -1.2
BRTR **Keskin Array B** 77.36 315 P P 23 10 19.6 -1.2
comp=Z,0.7nm,0.8s,baz=45,slow=9.3,SNR=3.9
MSTX **Muleshoe** 77.41 54 ⇓P P 23 10 21.1 0.0
baz=77
MNTX **Cornudas Mount** 77.54 57 ⇓P P 23 10 22.0 +0.2
baz=77
225A **Deer Hill, Car** 77.57 57 ⇑P P 23 10 22.4 +0.2
baz=77
Z27A **Tatum** 77.63 55 ⇓P P 23 10 22.4 0.0
baz=77,SNR=15
126A **Clayton Basin,** 77.65 56 ⇓P P 23 10 22.8 +0.3
baz=77
324A **Moseley Ranch,** 77.66 58 ⇓P P 23 10 22.5 -0.1
baz=77
X29A **Tulia** 77.66 53 ⇓P P 23 10 22.5 0.0
baz=77
GDL2 **Guadalupe Moun** 77.77 56 eP P 23 10 23.3 +0.1
325A **Bean Ranch, Si** 78.01 57 ⇑P P 23 10 24.2 -0.4
baz=78
KHC **Kasperske Hory** 78.04 332 eP P 23 10 24.1 -0.2
KHC **Kasperske Hory** 78.04 332 eP P 23 10 24.1 -0.2
GERES **GERESS Array B** 78.25 332 P P 23 10 23.7 -1.8
GERES **GERESS Array B** 78.25 332 P P 23 10 23.7 -1.8
comp=Z,0.4nm,0.4s,baz=27,slow=6.7,SNR=4.4
425A **Indio Mountain** 78.43 58 ⇓P P 23 10 27.2 +0.3
baz=78,SNR=5.4
Z29A **Hungry Hill Ra** 78.53 54 ⇓P P 23 10 27.7 +0.4
baz=78,SNR=5.4
128A **Castleberry Fa** 78.55 55 ⇓P P 23 10 27.4 -0.1
baz=78,SNR=6.3
326A **Caldwell Ranch** 78.64 57 ⇑P P 23 10 28.4 +0.5
baz=78
228A **UT Block 9, Go** 78.86 55 ⇓P P 23 10 29.4 +0.3
baz=79
129A **Stewart Farms,** 78.90 55 ⇑P P 23 10 29.4 +0.1
baz=79
426A **McDonald Obser** 79.08 57 ⇑P P 23 10 30.6 +0.1
baz=79
328A **Wristen Ranch,** 79.27 56 ⇑P P 23 10 31.7 +0.4
baz=79
427A **Hayter Ranch,** 79.32 57 ⇑P P 23 10 32.0 +0.3
baz=79
229A **Bryant Ranch,** 79.42 55 ⇓P P 23 10 32.0 -0.2
baz=79
526A **Mary Lane Ranc** 79.48 58 ⇓P P 23 10 32.7 +0.1
baz=79,SNR=5.4
329A **Wagon Wheel Ra** 79.68 55 ⇑P P 23 10 33.6 +0.1
baz=79
527A **Woodward Ranch** 79.70 57 ⇓P P 23 10 33.6 -0.2
baz=79
TUL1 **Tulsa** 79.78 48 ⇓P P 23 10 33.7 -0.3
baz=79
428A **Kincaid Ranch,** 79.83 56 ⇓P P 23 10 34.7 +0.3
baz=80
626A **Big Bend Ranch** 79.83 58 ⇑P P 23 10 34.5 0.0
baz=80,SNR=5.9
ABTX **Abilene, Hawle** 80.16 53 ⇓P P 23 10 36.6 +0.5
baz=80
528A **Cox Ranch, San** 80.18 57 ⇑P P 23 10 36.5 +0.2
baz=80,SNR=5.1
TXAR **Lajitas Array** 80.27 58 P P 23 10 37.3 +0.5
TXAR **Lajitas Array** 80.27 58 P P 23 10 37.3 +0.5
comp=Z,6.4nm,0.8s,baz=299,slow=4.1,SNR=34
627A **Terlingua Ranc** 80.34 58 ⇑P P 23 10 37.3 +0.1
baz=80
429A **Davenport Ranc** 80.36 56 ⇑P P 23 10 37.4 +0.1
baz=80
529A **Stev Forest Ra** 80.54 56 ⇓P P 23 10 38.6 +0.4
baz=80
SFIN **Scholer Farm** 80.54 40 ⇑P P 23 10 37.6 -0.3
baz=80
628A **Black Gap, Mar** 80.61 57 ⇑P P 23 10 38.7 +0.1
baz=80
430A **Baggett Ranch,** 80.62 55 ⇓P P 23 10 38.7 +0.1
baz=80
CDF **Champ du Feu** 80.63 336 eP P 23 10 39.5 +1.1
comp=Z,12nm,0.9s
CDF **Champ du Feu** 80.63 336 eP P 23 10 39.5 +1.1
CDF pmax pmax
comp=Z,12nm,0.9s
CDF **Champ du Feu** 80.63 336 eP P 23 10 39.5 +1.1
comp=Z,12nm,0.9s
ECH **Echery** 80.84 335 eP P 23 10 40.5 +1.1
ECH pmax pmax
comp=Z,5.0nm,1.0s
ECH **Echery** 80.84 335 eP P 23 10 40.5 +1.1
comp=Z,5.4nm,1.0s
PAGF **Fort de Pagny** 80.94 337 eP P 23 10 41.1 +1.2
comp=Z,2.3nm,0.7s
PAGF **Fort de Pagny** 80.94 337 eP P 23 10 41.1 +1.2
comp=Z,2.3nm,0.7s
530A **J-C Ranch, Com** 81.03 56 ⇓P P 23 10 41.0 +0.1
baz=81
431A **Sonora** 81.06 55 ⇑P P 23 10 40.8 -0.1
baz=81
MEZF **Maizieres J'vi** 81.17 337 eP P 23 10 42.0 +0.9
MEZF **Maizieres J'vi** 81.17 337 eP P 23 10 42.0 +0.9
HAU **Haudompre** 81.26 336 eP P 23 10 42.3 +0.6
comp=Z,10nm,0.8s
HAU **Haudompre** 81.26 336 eP P 23 10 42.3 +0.6
HAU pmax pmax
comp=Z,10.0nm,0.8s
HAU **Haudompre** 81.26 336 eP P 23 10 42.3 +0.6
comp=Z,10nm,0.8s
HINF **Hinteralfeld** 81.29 336 eP P 23 10 42.4 +0.6
comp=Z,14nm,1.2s
HINF **Hinteralfeld** 81.29 336 eP P 23 10 42.4 +0.6
HINF pmax pmax
comp=Z,14nm,1.2s
HINF **Hinteralfeld** 81.29 336 eP P 23 10 42.4 +0.6
comp=Z,14nm,1.2s
432A **Menard** 81.38 54 ⇑P P 23 10 42.9 +0.2
baz=81
531A **Rocksprings** 81.48 55 ⇑P P 23 10 43.2 0.0
baz=81
JCT **Junction City** 81.67 55 ⇓P P 23 10 44.2 0.0
baz=81
SIUC **Southern Illin** 81.68 43 eP P 23 10 44.6 +0.6
comp=Z,16nm,0.8s
532A **Rocksprings** 81.88 55 ⇑P P 23 10 45.2 0.0
baz=82
MIAR **Mount Ida** 81.99 48 eP P 23 10 46.1 +0.4
MIAR pmax pmax
comp=Z,9.0nm,0.9s
MIAR **Mount Ida** 81.99 48 eP P 23 10 46.1 +0.4
comp=Z,9.4nm,0.9s
FLN **La Foliniere** 82.35 340 eP P 23 10 46.7 -0.6
FLN **La Foliniere** 82.35 340 eP P 23 10 46.7 -0.6
FLN **La Foliniere** 82.35 340 eP P 23 10 46.7 -0.6
632A **Uvalde** 82.41 55 ⇑P P 23 10 48.0 +0.1
baz=82
LDF **La Druitiere** 82.42 340 eP P 23 10 47.9 +0.2
LDF **La Druitiere** 82.42 340 eP P 23 10 47.9 +0.2
LDF **La Druitiere** 82.42 340 eP P 23 10 47.9 +0.2
CABF **La Chapelle** 82.60 335 eP P 23 10 49.3 +0.5
CABF **La Chapelle** 82.60 335 eP P 23 10 49.3 +0.5
CABF **La Chapelle** 82.60 335 eP P 23 10 49.3 +0.5
LOR **Lormes** 82.63 337 eP P 23 10 48.8 0.0
LOR **Lormes** 82.63 337 eP P 23 10 48.8 0.0
GRR **Gorron** 82.78 341 eP P 23 10 49.7 +0.2
comp=Z,60nm,1.3s
GRR **Gorron** 82.78 341 eP P 23 10 49.7 +0.2
GRR pmax pmax
comp=Z,60nm,1.3s
GRR **Gorron** 82.78 341 eP P 23 10 49.7 +0.2
comp=Z,60nm,1.3s
732A **Laxson Ranch,** 82.88 56 ⇑P P 23 10 50.7 +0.2
baz=83
SSF **Saint Saulge** 82.92 337 eP P 23 10 50.3 0.0
comp=Z,8.5nm,0.9s
SSF **Saint Saulge** 82.92 337 eP P 23 10 50.3 0.0
SSF pmax pmax
comp=Z,9.0nm,0.9s
SSF **Saint Saulge** 82.92 337 eP P 23 10 50.3 0.0
comp=Z,8.5nm,0.9s
AVF **Avril sur Loir** 83.21 337 eP P 23 10 51.8 +0.1
comp=Z,6.6nm,0.8s
AVF **Avril sur Loir** 83.21 337 eP P 23 10 51.8 +0.1
AVF pmax pmax
comp=Z,7.0nm,0.8s
AVF **Avril sur Loir** 83.21 337 eP P 23 10 51.8 +0.1
comp=Z,6.6nm,0.8s
SGMF **Saint Gilles** 83.30 342 eP P 23 10 51.5 -0.7
SGMF **Saint Gilles** 83.30 342 eP P 23 10 51.5 -0.7
SGMF **Saint Gilles** 83.30 342 eP P 23 10 51.5 -0.7
LPL **La Plagne** 83.40 335 eP P 23 10 53.5 +0.4
comp=Z,10nm,0.9s
LPL **La Plagne** 83.40 335 eP P 23 10 53.5 +0.4
LPL pmax pmax
comp=Z,10.0nm,0.9s
LPL **La Plagne** 83.40 335 eP P 23 10 53.5 +0.4
comp=Z,10nm,0.9s
LPG **La Plagne** 83.41 335 eP P 23 10 53.9 +0.7
comp=Z,29nm,1.3s
LPG **La Plagne** 83.41 335 eP P 23 10 53.9 +0.7
LPG pmax pmax
comp=Z,29nm,1.3s
LPG **La Plagne** 83.41 335 eP P 23 10 53.9 +0.7
comp=Z,29nm,1.3s
QUIF **Quistinic** 83.75 342 eP P 23 10 54.3 -0.2
QUIF **Quistinic** 83.75 342 eP P 23 10 54.3 -0.2
QUIF **Quistinic** 83.75 342 eP P 23 10 54.3 -0.2
TCF **Toulx Ste Croi** 83.97 338 eP P 23 10 56.2 +0.5
TCF **Toulx Ste Croi** 83.97 338 eP P 23 10 56.2 +0.5
TCF **Toulx Ste Croi** 83.97 338 eP P 23 10 56.2 +0.5
ORIF **Oris-en-Rattie** 84.20 335 eP P 23 10 57.3 +0.3
comp=Z,12nm,0.7s
ORIF **Oris-en-Rattie** 84.20 335 eP P 23 10 57.3 +0.3
ORIF pmax pmax
comp=Z,12nm,0.7s
ORIF **Oris-en-Rattie** 84.20 335 eP P 23 10 57.3 +0.3
comp=Z,12nm,0.7s
RJF **Les Rejaudoux** 85.07 338 eP P 23 11 00.9 -0.3
RJF **Les Rejaudoux** 85.07 338 eP P 23 11 00.9 -0.3
RJF **Les Rejaudoux** 85.07 338 eP P 23 11 00.9 -0.3
FRF **La Foret Royal** 85.19 334 eP P 23 11 01.9 0.0
FRF **La Foret Royal** 85.19 334 eP P 23 11 01.9 0.0
FRF **La Foret Royal** 85.19 334 eP P 23 11 01.9 0.0
SWET **Sewanee** 85.26 43 eP P 23 11 01.9 -0.5
comp=Z,242nm,2.9s
CAF **Calviac** 85.27 337 eP P 23 11 02.4 +0.1
comp=Z,24nm,1.1s
CAF **Calviac** 85.27 337 eP P 23 11 02.4 +0.1
CAF pmax pmax
comp=Z,24nm,1.1s
CAF **Calviac** 85.27 337 eP P 23 11 02.4 +0.1
comp=Z,24nm,1.1s
LMR **La Mourre** 85.44 334 eP P 23 11 02.5 -0.6
LMR **La Mourre** 85.44 334 eP P 23 11 02.5 -0.6
LMR **La Mourre** 85.44 334 eP P 23 11 02.5 -0.6
LFF **La Frestale** 85.61 338 eP P 23 11 03.8 -0.1
comp=Z,7.0nm,0.7s
LFF **La Frestale** 85.61 338 eP P 23 11 03.8 -0.1
LFF pmax pmax
comp=Z,7.0nm,0.7s
LFF **La Frestale** 85.61 338 eP P 23 11 03.8 -0.1
comp=Z,7.0nm,0.7s
KMSC **Kings Mountain** 87.44 39 ⇓P P 23 11 12.8 -0.2
baz=87
EPF **Esparros** 87.50 338 eP P 23 11 12.9 -0.3
comp=Z,3.9nm,0.7s
EPF **Esparros** 87.50 338 eP P 23 11 12.9 -0.3
EPF pmax pmax
comp=Z,4.0nm,0.7s
EPF **Esparros** 87.50 338 eP P 23 11 12.9 -0.3
comp=Z,3.9nm,0.7s
ETSF **Etsaut** 87.85 338 eP P 23 11 13.9 -1.0
comp=Z,4.6nm,0.7s
ETSF **Etsaut** 87.85 338 eP P 23 11 13.9 -1.0
ETSF pmax pmax
comp=Z,5.0nm,0.7s
ETSF **Etsaut** 87.85 338 eP P 23 11 13.9 -1.0
comp=Z,4.6nm,0.7s
VNDA **Vanda** 123.15 177 PKP PKPdf 23 17 21.5 +1.6
VNDA **Vanda** 123.15 177 PKP PKPdf 23 17 21.5 +1.6
comp=Z,1.8nm,0.8s,baz=137,slow=1.5,SNR=4.1
QSPA **South Pole Qui** 135.40 180 PKP PKPdf 23 17 45.4 +1.9
QSPA **South Pole Qui** 135.40 180 PKP PKPdf 23 17 45.3 +1.9
comp=Z,1.5nm,0.9s,baz=19,slow=3.5,SNR=6.7
LCO **Las Campanas** 144.47 76 ePKPdf PKPdf 23 18 00.7 -0.7
BDFB **Brasilia** 146.69 32 ePKPbc PKPbc 23 18 06.9 -0.2
BDFB **Brasilia** 146.69 32 PKPbc PKPbc 23 18 07.2 0.0
comp=Z,7.2nm,1.0s,baz=94,slow=5.4,SNR=8.4
PLCA **Paso Flores** 150.69 95 PKPbc PKPbc 23 18 17.7 +1.0
PLCA **Paso Flores** 150.69 95 PKPbc PKPbc 23 18 17.7 +1.0
comp=Z,9.4nm,0.8s,baz=246,slow=3.6,SNR=18
CPUP **Villa Florida** 151.24 57 PKPbc PKPbc 23 18 18.1 -0.2
CPUP **Villa Florida** 151.24 57 PKPbc PKPbc 23 18 18.1 -0.2
comp=Z,3.7nm,0.7s,baz=318,slow=3.1,SNR=14

IDC 28 23:06:23.9±2.2, 0.°54S×132.°84E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=118.7km s-min=25.5km az=71.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.34**	**176**	P	P	23 10 50.8	-0.2
	0.1nm,0.3s,baz=354,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**23.01**	**178**	P	P	23 11 30.6	0.0
	1.4nm,0.8s,baz=8.1,slow=9.9,SNR=7.0						
STKA	**Stephens Creek**	**32.25**	**166**	P	P	23 12 54.2	0.0
	1.7nm,1.0s,baz=350,slow=11,SNR=1.9						
MKAR	**Makanchi Array**	**64.55**	**324**	P	P	23 17 03.0	+0.1
	0.3nm,0.6s,baz=112,slow=8.4,SNR=4.9						

IDC 28 23:12:53.8±1.0, 0.°42S×133.°39E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.8/23, mbtmp3.8/8, ML3.8/2, MS3.5/3, Ms1 3.6/3, ms1mx2.7/43, Error ellipse: s-maj=52.0km s-min=17.9km az=80.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.15**	**203**	P	P	23 17 18.5	-0.4
	0.2nm,0.3s,baz=24,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**19.42**	**177**	P	P	23 17 22.4	+0.4
	0.3nm,0.3s,baz=354,slow=11,SNR=13						
ASAR	**Alice Springs**	**23.11**	**179**	P	P	23 18 02.0	+0.4
	4.3nm,0.8s,baz=6.7,slow=10,SNR=5.5						
JOW	**Kunigami**	**27.54**	**350**	LR	LR	23 28 27.2	
	comp=Z,41nm,20.4s,baz=131,slow=34						
STKA	**Stephens Creek**	**32.23**	**167**	P	P	23 19 23.6	-0.4
	0.9nm,0.6s,baz=333,slow=8.8,SNR=4.0						
NWAO	**Narrogin (SRO)**	**35.74**	**204**	LR	LR	23 33 12.8	
	comp=Z,65nm,21.5s,baz=21,slow=34						
MKAR	**Makanchi Array**	**64.78**	**324**	P	P	23 23 34.9	+0.5
	0.5nm,0.7s,baz=110,slow=7.2,SNR=7.0						
KURBB	**Kurchatov Arra**	**68.84**	**326**	P	P	23 24 00.3	+0.2
	0.9nm,0.8s,baz=120,slow=6.1,SNR=6.9						
BVAR	**Borovoye Array**	**74.43**	**326**	P	P	23 24 33.6	-0.2
	1.0nm,0.8s,baz=125,slow=13,SNR=3.9						
VNDA	**Vanda**	**78.56**	**174**	LR	LR	00 02 15.8	
	comp=Z,90nm,18.1s,baz=59,slow=38						
ILAR	**Eielson Array**	**85.99**	**25**	P	P	23 25 35.3	-0.6
	0.4nm,0.8s,baz=280,slow=5.2,SNR=4.0						

*IDC **28** 23:23:30.8±1.0, 52.°25N×161.°09E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.2/26, mbtmp3.7/3, ML3.9/1, Error ellipse: s-maj=26.8km s-min=10.6km az=0.0*
KRSC 28 23:23:31.0±0.7, 54.°69N×160.°46E, h9km±10km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.75**	**100**	eP	Pn	23 23 48.3	+0.6
MKZ				eS	Sn	23 24 00.6	+1.4
KMNR	**Kamenistaya**	**1.08**	**353**	eP	Pn	23 23 54.3	+1.9
KMNR				eS	Sn	23 24 11.6	+4.0
BZGR	**Bezymyannyi-Gr**	**1.26**	**6**	eP	Pg	23 23 56.3	+0.9
BZGR				eS	Sn	23 24 14.5	+2.4
KIRR	**Kirishev**	**1.27**	**357**	eP	Pg	23 23 56.4	+0.8
KIRR				eS	Sn	23 24 15.3	+2.9
BZWR	**Bezymyannyi-We**	**1.28**	**1**	eP	Pg	23 23 56.7	+0.9
BZWR				eS	Sn	23 24 15.5	+2.8
KPT	**Kopyto**	**1.29**	**354**	eP	Pg	23 23 56.4	+0.6
ZLN	**Zelenaya**	**1.34**	**8**	eP	Pg	23 23 57.7	+0.7
ZLN				eS	Sg	23 24 16.9	+2.4
LGNR	**Loginova**	**1.40**	**5**	eS	Sg	23 24 18.7	+1.9
KOZ	**Kozyrevsk**	**1.41**	**347**	eP	Pg	23 23 58.1	0.0
KOZ				eS	Sg	23 24 18.0	+1.5
CIRR	**Tsirk**	**1.44**	**6**	eP	Pg	23 23 58.9	+0.1
CIRR				eS	Sg	23 24 18.9	+1.3
KRSR	**Krestovskiy**	**1.53**	**2**	eP	Pb	23 23 59.2	-0.5
KRSR				eS	Sg	23 24 20.1	-0.4
ESO	**Esso**	**1.59**	**322**	eP	Pb	23 24 01.0	+0.3
SPN	**Mys Shipunski**	**1.62**	**189**	eP	Pn	23 23 59.7	+0.1
SPN				eS	Sn	23 24 20.8	+0.2
KLY **Klyuchi** 1.63 4 eP Pb 23 24 01.0 -0.2
KLY eS Sg 23 24 23.1 -0.3
NLC **Nalytchevo** 1.66 204 eP Pb 23 24 01.5 -0.2
NLC eS Sg 23 24 23.7 -0.6
SRDR **Sredinnyy** 1.69 346 eP Pn 23 24 01.0 +0.3
SRDR eS Sn 23 24 23.0 +0.5
SDLR **Sedlovina** 1.69 214 eP Pb 23 24 02.8 +0.4
SDLR eS Sg 23 24 26.2 +0.5
KRER **Koryakskii** 1.72 217 eP Pg 23 24 03.9 -0.2
SMAR **Somma** 1.73 215 eP Pb 23 24 03.7 +0.5
SMAR eS Sg 23 24 27.6 +0.4
AVH **Avacha** 1.75 216 eP Pg 23 24 04.2 -0.5
AVH eS Sg 23 24 28.9 +1.4
KOK **Koryaka** 1.77 218 eP Pb 23 24 04.2 +0.6
UGLR **Uglovaya** 1.77 214 eP Pb 23 24 04.1 +0.4
SMKR **Semkarok** 1.98 16 eP Pn 23 24 04.9 +0.1
SMKR eS Sn 23 24 29.7 -0.1
PET **Petropavlovsk** 1.98 213 eP Pb 23 24 06.7 -0.5
PET eS Sb 23 24 32.6 +0.6
SRKR **Sorokina** 2.01 11 eP Pn 23 24 05.7 +0.5
SRKR eS Sn 23 24 30.8 +0.3
KBTR **Krutoberegovo** 2.03 40 eP Pn 23 24 04.4 -0.9
KBTR eS Sn 23 24 28.8 -2.0
PETK **Petropavlovsk-** 2.28 227 Pg Pb 23 24 10.7 -1.5
2.4nm,0.3s,baz=64,slow=16,SNR=35
PETK Lg Lg 23 24 42.4
2.0nm,0.3s,baz=83,slow=19,SNR=5.7
RUS **Russkaya** 2.54 208 eP Pn 23 24 13.4 +1.1
RUS eS Sn 23 24 44.0 +0.6
MTVR **Mutnovka** 2.59 212 eP Pn 23 24 15.2 +2.1
APC **Apacha** 2.64 229 eP Pb 23 24 16.2 -2.2
ASAK **Asacha** 2.77 214 eP Pn 23 24 17.3 +1.8
ASAK eS Sn 23 24 50.9 +1.6
FX1 **Attu Island--F** 7.74 98 Pn Pn 23 25 19.3 -4.4
6.0nm,0.3s,baz=265,slow=19,SNR=32
FX1 Sn Sn 23 26 38.8 -13
4.5nm,0.3s,baz=139,slow=14,SNR=12
WRA **Warramunga Arr** 77.62 205 P P 23 35 17.4 -10
0.2nm,0.4s,baz=18,slow=6.1,SNR=8.0
ASAR **Alice Springs** 81.31 204 P P 23 35 37.3 -10
0.2nm,0.4s,baz=14,slow=5.7,SNR=3.4

IDC 28 23:23:44.4±1.6, 2.°04N×125.°55E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.6/22, mbtmp3.8/5, Error ellipse: s-maj=107.7km s-min=22.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.01**	**180**	P	P	23 28 19.0	0.0
	3.1nm,1.1s,baz=20,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**23.48**	**159**	P	P	23 28 55.9	-0.2
	2.8nm,0.5s,baz=337,slow=10,SNR=43						
ASAR	**Alice Springs**	**26.81**	**163**	P	P	23 29 26.9	+0.3
	1.1nm,0.5s,baz=340,slow=7.0,SNR=26						
STKA	**Stephens Creek**	**37.01**	**157**	P	P	23 30 55.5	-0.4
	1.3nm,0.5s,baz=340,slow=9.7,SNR=3.6						
MKAR	**Makanchi Array**	**58.28**	**326**	P	P	23 33 41.0	0.0
	0.1nm,0.4s,baz=122,slow=8.4,SNR=3.7						

*ISK **28** 23:24:47.3, 37.°89N×27.°33E, h5km, MD3.6*
*DDA **28** 23:24:49.2, 37.°91N×27.°45E, h7km, MD2.9*
*CSEM **28** 23:24:49.6±0.3, 37.°93N×27.°47E, h2km, MD2.9, Error ellipse: s-maj=8.1km s-min=6.4km az=99.0*
*ATH **28** 23:24:50.0, 38.°12N×27.°71E, h42km±5km, MD3.3/7*
ISC 28 23:24:49.8±1.0, 37.°91N±0.°02×27.°43E±0.°03, h9km±11km, n69, σ0.°91/80, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GCAM	**G?zelcaml?**	**0.26**	**217**	*i* P	**Pg**	**23 24 54.9**	**0.0**
GCAM				*i* S	**Sg**	**23 24 58.8**	**+0.4**
GCAM	**G?zelcaml?**	**0.26**	**217**	*i* P	**Pg**	**23 24 54.9**	**0.0**
GCAM				*i* S	**Sg**	**23 24 58.8**	**+0.4**
AYDN	**Tasoluk**	**0.43**	**124**	*i* Pg	**Pg**	**23 24 58.2**	**-0.1**
IZM	**Izmir**	**0.51**	**345**	*e*PG	**Pg**	**23 24 58.5**	**-1.3**
MLSB	**Milas**	**0.67**	**156**	*e*PG	**Pg**	**23 25 01.8**	**-0.9**
MLSB				*e*SG	**Sb**	**23 25 12.3**	**-0.8**
URLA	**Izmir**	**0.80**	**305**	*i* P	**Pg**	**23 25 05.2**	**0.0**
URLA				*i* S	**Sg**	**23 25 16.6**	**+1.0**
URLA	**Izmir**	**0.80**	**305**	*i* P	**Pg**	**23 25 05.2**	**0.0**
URLA				*i* S	**Sg**	**23 25 16.6**	**+1.0**
BDRM	**Kayabasi**	**0.84**	**179**	*e*P	**Pg**	**23 25 05.1**	**-0.8**
BDRM	**Kayabasi**	**0.84**	**179**	*e*P	**Pg**	**23 25 05.1**	**-0.8**
BODT	**Bodrum**	**0.85**	**187**	*e*PG	**Pg**	**23 25 03.8**	**-2.3**
AKHS	**Akhisar**	**1.02**	**17**	*i* P	**Pg**	**23 25 08.5**	**-0.9**
AKHS				*i* S	**Sb**	**23 25 23.0**	**-0.2**
AKHS	**Akhisar**	**1.02**	**17**	*i* P	**Pg**	**23 25 08.5**	**-0.9**
AKHS				*i* S	**Sb**	**23 25 23.0**	**-0.2**
AKS	**Akhisar**	**1.02**	**17**	*e*PG	**Pg**	**23 25 08.6**	**-0.8**
YER	**Yerkesik**	**1.02**	**138**	*e*PG	**Pg**	**23 25 09.7**	**-0.4**
MANT	**Manisa**	**1.06**	**56**	*i* P	**Pb**	**23 25 10.2**	**-0.3**
MANT	**Manisa**	**1.06**	**56**	*i* P	**Pb**	**23 25 10.2**	**-0.3**
KULA	**Kula-Manisa**	**1.15**	**57**	*e*PN	**Pb**	**23 25 11.6**	**-0.3**
CHOS	**Chios island**	**1.19**	**294**	*e*P	**Pn**	**23 25 13.2**	**+0.5**
CHOS	**Chios island**	**1.19**	**294**	*e*P	**Pn**	**23 25 13.2**	**+0.5**
DENT	**Denizli**	**1.28**	**96**	*e*PN	**Pn**	**23 25 14.0**	**+0.1**
AYVA	**Ayvalik**	**1.52**	**338**	*i* P	**Pb**	**23 25 18.4**	**+0.2**
AYVA				*i* S	**Sg**	**23 25 38.8**	**+0.2**
AYVA	**Ayvalik**	**1.52**	**338**	*i* P	**Pb**	**23 25 18.4**	**+0.2**
AYVA				*i* S	**Sg**	**23 25 38.8**	**+0.2**
DEMI	**Demirci**	**1.52**	**41**	*i* P	**Pb**	**23 25 17.9**	**-0.3**
DEMI	**Demirci**	**1.52**	**41**	*i* P	**Pb**	**23 25 17.9**	**-0.3**
PRK	**Paraskevi**	**1.62**	**326**	*e*P	**Pn**	**23 25 17.0**	**-1.6**
PRK	**Paraskevi**	**1.62**	**326**	*e*P	**Pn**	**23 25 17.0**	**-1.6**
KHL	**Karahalli**	**1.70**	**75**	*e*PN	**Pb**	**23 25 20.6**	**-0.7**
APE	**Apeiranthos**	**1.73**	**242**	*e*P	**Pg**	**23 25 23.5**	**+0.6**
APE	**Apeiranthos**	**1.73**	**242**	*e*P	**Pg**	**23 25 23.5**	**+0.6**
BALB	**Balikesir**	**1.77**	**11**	*e*PN	**Pn**	**23 25 20.8**	**+0.2**
ARG	**Arkhangelos**	**1.77**	**162**	*e*P	**Pb**	**23 25 21.9**	**-0.6**
ARG				*e*S	**Sb**	**23 25 45.3**	**+0.4**
ARG	**Arkhangelos**	**1.77**	**162**	*e*P	**Pb**	**23 25 21.9**	**-0.6**
ARG				*e*S	**Sb**	**23 25 45.3**	**+0.4**
DURS	**Dursunbey**	**1.88**	**25**	*e*P	**Pn**	**23 25 21.1**	**-1.2**
DURS	**Dursunbey**	**1.88**	**25**	*e*P	**Pn**	**23 25 21.1**	**-1.2**
DST	**Dursunbey**	**1.94**	**28**	*e*PN	**Pn**	**23 25 23.5**	**+0.5**
EZN	**Ezine**	**2.10**	**336**	*e*PN	**Pn**	**23 25 24.8**	**-0.4**
GONE	**Gonen-Balikesi**	**2.15**	**5**	*e*PN	**Pn**	**23 25 26.1**	**+0.3**
TVSB	**Tavsanli**	**2.21**	**45**	*e*PN	**Pn**	**23 25 27.8**	**+0.9**
ELL	**Elmali**	**2.29**	**120**	*e*PN	**Pn**	**23 25 28.6**	**+0.7**
ALT	**Altintas**	**2.40**	**61**	*e*PN	**Pn**	**23 25 30.5**	**+1.1**
ORLT	**Orhaneli**	**2.42**	**28**	*e*PN	**Pn**	**23 25 30.4**	**+0.7**
EDC	**Edincik**	**2.46**	**8**	*e*PN	**Pn**	**23 25 30.6**	**+0.4**
KCTX	**Karacabey (Bur**	**2.46**	**17**	*e*PN	**Pn**	**23 25 30.8**	**+0.5**
BNT	**Bandirma**	**2.48**	**9**	*e*PN	**Pn**	**23 25 30.8**	**+0.4**
KRBG	**Karabiga-Canak**	**2.49**	**358**	*e*PN	**Pn**	**23 25 30.2**	**+0.3**
LPK	**Lapseki**	**2.52**	**348**	*e*PN	**Pn**	**23 25 31.0**	**+0.0**
GELI	**Tayfur-Gelibol**	**2.60**	**344**	*e*PN	**Pn**	**23 25 32.0**	**-0.1**
LIA	**Limnos Island**	**2.65**	**319**	*e*P	**Pn**	**23 25 32.3**	**-0.5**
MDNY	**Mudanya-Bursa**	**2.71**	**24**	*e*PN	**Pn**	**23 25 34.6**	**+1.0**
RKY	**Sarkoy-Tekirda**	**2.79**	**356**	*e*PN	**Pn**	**23 25 35.0**	**+0.3**
ERIK	**Erikli-Kesan**	**2.85**	**346**	*e*PN	**Pn**	**23 25 35.7**	**+0.2**
GEMT	**Gemlik**	**2.87**	**28**	*e*PN	**Pn**	**23 25 36.9**	**+1.1**
ARMT	**Armutlu**	**2.88**	**22**	*e*PN	**Pn**	**23 25 37.2**	**+1.2**
ENEZ	**Enez**	**3.00**	**341**	*e*PN	**Pn**	**23 25 37.6**	**+0.1**
TKR	**Tekirdag**	**3.08**	**1**	*e*PN	**Pn**	**23 25 39.3**	**+0.6**
ALN	**Alexandroupoli**	**3.17**	**341**	*e*P	**Pn**	**23 25 37.5**	**-2.5**
ALN	**Alexandroupoli**	**3.17**	**341**	*e*P	**Pn**	**23 25 37.5**	**-2.5**
SLVT	**Silivri**	**3.38**	**10**	*e*PN	**Pn**	**23 25 43.8**	**+1.0**
HRT	**Hereke**	**3.39**	**30**	*e*PN	**Pn**	**23 25 44.2**	**+1.3**
ISK	**Istanbul-Kandi**	**3.40**	**21**	*e*PN	**Pn**	**23 25 44.2**	**+1.2**
CTKS	**Kestanelik-??a**	**3.43**	**14**	*e*PN	**Pn**	**23 25 44.6**	**+1.1**
BGKT	**Bogazkoy**	**3.43**	**17**	*e*PN	**Pn**	**23 25 44.6**	**+1.1**
GULT	**Gulveren**	**3.48**	**43**	*e*PN	**Pn**	**23 25 45.7**	**+1.5**
SVRH	**Sivrihisar-ESK**	**3.55**	**63**	*e*PN	**Pn**	**23 25 47.0**	**+1.7**
CTYL	**Yal??k??y-??at**	**3.63**	**10**	*e*PN	**Pn**	**23 25 47.3**	**+1.1**
MDUB	**Mudurnu**	**3.89**	**48**	*e*PN	**Pn**	**23 25 51.6**	**+1.7**
EDRB	**Edirne**	**3.97**	**353**	*e*PN	**Pn**	**23 25 51.8**	**+0.9**
NVR	**Nevrokopi**	**4.41**	**322**	*e*P	**Pn**	**23 25 56.7**	**-0.2**
NVR	**Nevrokopi**	**4.41**	**322**	*e*P	**Pn**	**23 25 56.7**	**-0.2**

ISC Computed Locations for February 2009

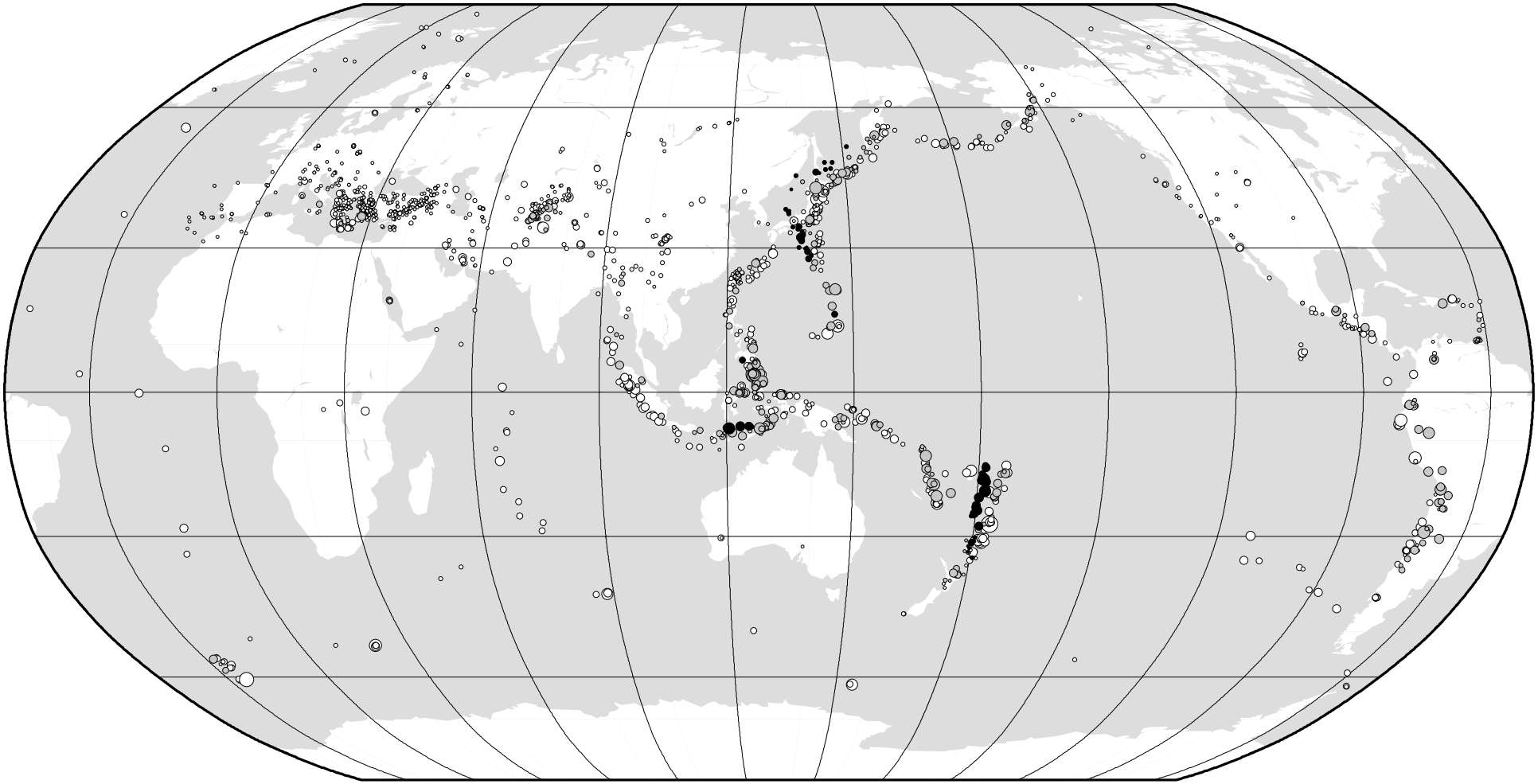

Depth (km)	0-70	70-300	>300
M=8			
M=6.5			
M=4			

Robinson Projection, centred on 0˚N,130˚E

2347 Events